Borrego Springs Watermaster
Regular Board Meeting
March 19, 2025 @ 4:00 p.m.
Meeting Available by Remote Access Only*

Please join my meeting from your computer, tablet or smartphone.
https://meet.goto.com/349440365

You can also dial in using your phone.
United States (Toll Free): 1 877 309 2073 or United States: +1 (646) 749-3129

Access Code: 349-440-365

New to GoToMeeting? Get the app now and be ready when your first meeting starts:
https://global.gotomeeting.com/install

Instructions for Public Comment

The public may address the Board on items within the Watermaster's Jurisdiction that are included or not included on the meeting agenda.

To address the Board on items that are not included on the meeting agenda, the public may request to speak during ***Agenda Item II – Public Correspondence***. Comments may be limited to three minutes per speaker.

To address the Board on items that are included on the meeting agenda, the Board Chairperson will call for public comments immediately following the agenda item's staff report presentation and prior to Board discussion.

AGENDA

Items with supporting documents in the Board Package are denoted with a page number.

I. OPENING PROCEDURES (Chair)

A. Call to Order and Begin Meeting Recording
B. Pledge of Allegiance
C. Roll Call
D. Approval of Agenda

II. PUBLIC CORRESPONDENCE/COMMENT (Chair)

The Board may direct staff to include topics brought forward during Public Correspondence and Comment on a future meeting agenda. No action or discussion is otherwise taken by the Board. Written correspondence includes items received between February 13, 2025 and March 12, 2025.

A. Correspondence Received - *None*
B. Public Comment

III. CONSENT CALENDAR (Chair)

Action Item: All items may be approved with a single motion

A. Approval of Minutes: Regular Meeting – February 19, 2025 ..... **Page 3**

MINUTES
BORREGO SPRINGS WATERMASTER BOARD MEETING
Conducted Virtually via GoToMeeting
Wednesday, February 19, 2025, 3:00 p.m.

The following individuals were present at the meeting:

Directors Present	Chair Dave Duncan – Borrego Water District (BWD)
	Vice Chair Tyler Bilyk – Agricultural Sector
	Secretary and Treasurer Shannon Smith – Recreational Sector
	Mark Jorgensen – Community Representative
	Jim Bennett – County of San Diego
Watermaster Staff Present	James M. Markman, Legal Counsel
	Samantha Adams, Executive Director, West Yost
	Andrew Malone, Lead Technical Consultant, West Yost
	Lauren Salberg, Staff Geologist, West Yost
Others Present	Bri Fordhem, Borrego Valley Stewardship Council
	Cathy Milkey, representing Rams Hill
	Diane Johnson, BWD Board Member
	Geoff Poole, BWD General Manager
	George Peraza, DWR
	Holly Smit Kicklighter, Borrego Valley Stewardship Council
	Howard Blackson, Borrego Valley Stewardship Council
	Jessica Clabaugh, BWD Finance Officer
	Jim Dax, Board Alternate – Community Representative
	Kathy Dice, Board Alternate - BWD
	Leanne Crow, Board Alternate – County of San Diego
	Rich Pinel, Board Alternate – Recreational Sector
	Steve Anderson, BB&K, representing BWD
	Tammy Baker, BWD Board Member
	Travis Brooks, Land IQ
	Trey Driscoll, Intera, TAC Member representing BWD
	Trevor Jones, Intera

Please visit the Watermaster's Website[1] to access the Agenda Packet, recording, and presentation for the February 19, 2025 Meeting.

I. **Opening Procedures**

A. Chair Duncan called the meeting to order at 3:00 PM at which time the meeting recording was started.

B. Chair Duncan led the meeting participants in the Pledge of Allegiance.

C. Samantha Adams, Executive Director (ED) called roll and confirmed that a quorum of four of the five members of the Board were present. Director Smith was absent during roll call due to technical issues and joined the meeting at 3:03pm.

[1] https://borregospringswatermaster.com/past-watermaster-meetings/

D. Approval of Agenda.

Motion: Motioned by Vice Chair Bilyk, seconded by Director Bennett to approve the Agenda. *Motion carried unanimously by voice vote (4-0-0). Director Smith was absent from the vote.*

II. **Public Correspondence**

A. Correspondence Received. No correspondence was received.

B. Public Comments. Chair Duncan called for public comments. There were no public comments.

III. **Consent Calendar.** Chair Duncan called for any discussion on the Consent Calendar items included in the February 19, 2025 agenda package.

Motion: Motioned by Director Bennett, seconded by Vice Chair Bilyk to approve the Consent Calendar items A and B. *Motion carried unanimously by roll-call vote (5-0-0).*

Motion: Motioned by Vice Chair Bilyk, seconded by Director Smith to receive and file the Watermaster Staff invoices for December 2024. *Motion carried unanimously by roll-call vote (5-0-0).*

IV. **BORREGO VALLEY STEWARDSHIP COUNCIL PRESENTATION ON PROPOSITION 68 WHITE PAPER: TOWARDS AN INTEGRATED WATERSHED SCALE MASTER COMMUNITY PLAN AND RESILIENT COMMUNITY.** Bri Fordem, Holly Smit Kicklighter, and Howard Blackson of the Borrego Valley Stewardship Council (BVSC) gave an overview of the draft White Paper developed using Proposition 68 grant funding (draft available as a Handout linked in the agenda package) and solicited feedback from the public and the Board. Public comment was made by Rich Pinel, Cathy Milkey, and Jim Dax.

Public questions and comments, including Board and staff response if any, included:

- Is the White Paper intended to be an additional source of information for the public beyond the Watermaster and its Board? Members of the public expressed confusion on the audience intended for the White Paper.
- Recommendation to highlight some of the accomplishments achieved in the Basin in addition to describing the challenges.
- Feedback that the report contains a lot of information that is not easily accessible or digestible in its current form.

The key points of discussion by the Board included:

- The draft White Paper seems like it was written prior to SGMA and the Basin's adjudication because there are several issues discussed in the White Paper that appear unresolved but have been or are currently being addressed through SGMA and the Judgment.
- The draft White Paper seems focused on the negative challenges faced by the Basin and doesn't discuss how the Watermaster and community are addressing the challenges.
- Feedback to avoid making assertions without proper citation or references to build credibility of the report.

- The finding that off-roading in the Basin may be contributing to air dust pollution, as described on page 19 of the White Paper, is something that the public may not be aware of.
- Significant editing is needed prior to finalizing and distributing the White Paper.
- The draft makes factual misstatements about water in the Basin, such as implying that the community must reduce water use by 70% (page 1 of the report). The Borrego Water District (BWD) has secured water rights to serve its customers without interruptions and without the expectation that its customers reduce water use.

Following Board discussion, members of the BVSC requested that any additional feedback on the draft report be submitted to Bri Fordhem ahead of the March 31, 2025 grant deadline.

V. **Items for Board Consideration and Possible Action**

A. *Biological Restoration of Fallowed Lands Project.* Travis Brooks of Land IQ gave a presentation on the multi-year work performed for the Biological Restoration of Fallowed Lands project, including methods, conclusions, and recommendations for fallowing strategies. At the conclusion of the presentation, Chair Duncan opened the floor to public comment, followed by Board discussion. Public comment was made by Leanne Crow and Rich Pinel.

Public questions and comments, including Board and staff response if any, included:

- Are the temporary fences listed on the flow chart on slide 35 of the Board presentation actually temporary (*i.e.* could they eventually be removed)?
  - Yes, these fences could be removed at some point, dependent on potential Watermaster policy.
- Are the trees that line properties in the North and Central Management Areas acting as natural wind barriers? If so, should these trees not be fallowed?
  - The majority of the trees in these areas are salt cedar trees, which have deep roots. Mr. Brooks recommends not investing in the fallowing of these trees because once irrigation ends, the trees will naturally die over time. In the interim these trees will act as a natural wind barrier.

The key points of discussion by the Board included:

- Why is mulch spreading a recommendation for areas at risk of flooding when tree fences are not recommended? Isn't there concern that streamflow could carry away the mulch?
  - The initial recommendation for the use of tree fences was modified to restrict their use on sites at risk of flooding based on comments from the County of San Diego. The tree fences represent liability risks if the tree fences were carried offsite, whereas it is unlikely that the mulch would be carried offsite. This conclusion is based on observations at the Viking Ranch site, in which flooding led to the mixing of the spread mulch with the natural soil and sands.
- Does spreading mulch (and therefore introducing carbon) assist in reducing salinity in the soil? Was this studied as part of the project?
  - Because this is a desert environment, there is little biological or chemical decomposition. Therefore, spreading mulch did not have a significant benefit of

reducing salinity in the soils. Salinity reductions are typically observed in wetter climates or in managed agricultural areas with irrigation.

- Recommendation to update the maps in the draft report to identify the study sites.
- The Co-generation plant in Borrego Springs has closed and is no longer an option for wood disposal.
- Recommendation to reference 2018 study published by Dudek which included the cost per acre to fallow land in Borrego Springs.
- Land IQ anticipates completing the field work for Task 3 by the end of February. Nearly all the sand fence treatments have been installed and all that remains is finishing installation of the treatments and installing monitoring equipment.
- Director Smith asked if Land IQ would have enough data to provide the Board with recommendations so that Board members may begin considering which fallowing methods they would recommend incorporating in the Judgment. Mr. Brooks replied that enough data has been collected on some benefits of the fallowing methods, like dust control, to make recommendations to the Board. For other metrics, more monitoring data is needed before making a recommendation. Masters' students at the University of California Irvine (UCI) will continue to monitor the study areas and collect data.
- Recommendation for Land IQ to present to the Borrego Springs Community Planning Group so that the public can review the methods and consider the potential impacts to the community (*i.e.* flood and/or fire risk, aesthetics).
- Comments on the presentation and draft report are due to Land IQ by March 5, 2025.

No Board action was taken.

B. *Hearing to Receive Comments on the Water Year 2024 Annual Report for the Borrego Springs Subbasin.* ED Adams gave an overview of the Water Year 2024 Annual Report for the Borrego Springs Subbasin that was noticed and distributed to the public on January 29, 2025 and was linked in the Agenda package. At the conclusion of the presentation, Chair Duncan opened the floor to public comment, followed by Board discussion. There were no public comments and limited Board discussion primarily identifying that the Report was thorough and in need of little additional work.

No Board action was taken.

C. *WY 2025 – Q1 Watermaster Budget Status Report (as of December 31, 2024).* ED Adams provided a summary of the memo included in the agenda package. At the conclusion of the presentation, Chair Duncan opened the floor to public comment, followed by Board discussion. There were no Board or public comments.

The key points of discussion by the Board included:

- The WY 2024 Annual Report is longer, in terms of number of pages, than last year's report. Was the WY 2024 Annual Report more expensive to prepare? ED Adams responded that the main driver for the increased number of pages is the time-series figures in the appendices of the Annual Report, which are produced through a cost-effective automated tool. The WY 2024 Annual Report is on-track to be completed on-budget.

No Board action was taken.

D. Semi-Annual Report of Groundwater-Level and Quality Results for the Borrego Springs Subbasin: Fall 2024. Lauren Salberg provided a summary of the Fall 2024 Monitoring Event, which was detailed in a report included in the Agenda package. At the conclusion of the presentation, Chair Duncan opened the floor to public comment, followed by Board discussion. There were no public comments.

The key points of discussion by the Board included:

- Recommendation to revise the time-series charts of groundwater-quality to begin in 2000 to more clearly observe recent trends.
- The effort to reevaluate the Minimum Thresholds is being performed as part of the 5-year assessment of the GMP and will be supported by the model projections of future pumping at the Sustainable Yield.

No Board action was taken.

VI. **Reports.**

A. Legal Counsel Report. Mr. Markman reported on the following items:

- All three motions of Party intervention to the Judgment were approved by the Judge at the February 13, 2025 hearing.
- The February 20, 2025 Status Conference has been rescheduled to August 1, 2025. A joint statement was filed with the Court documenting the Board actions taken to meet the January 1, 2025 deadlines in the Judgment. The Court approved the motions filed and continued the Status Conference to August 2025. This indicates the Judge has no concerns about progress being made by the Watermaster.

Board questions and comments included:

- Are motions ever held to remove Parties to the Judgment who have sold their BPA? No, in Mr. Markman's experience he has never seen a Party be relieved of the Judgment.

B. Technical Consultant Report. Mr. Malone reported on the items listed in the agenda package memo (see slides 79 through 82 of the Board presentation slides). There were no additional topics discussed.

Public questions and comments included:

- Thank you to the Watermaster and the public for their collaborative efforts to find and add wells to the monitoring network.
- What does well destruction entail? Mr. Malone described the process for the proper destruction of well, which is intended to prevent contamination of the aquifer.

Board questions and comments included:

- It's exciting to see the results of the conversion of inactive/abandoned wells, especially considering the delays in schedule.
- If the Board recommends changes to the fallowing standards in the GMP, do those changes need to be approved by the Court? Mr. Markman responded that yes, any changes to the fallowing standards in the GMP are considered a Judgment amendment and must be filed as a motion with the Court and are subject to Court approval.
- Is an amendment to the GMP considered a separate action from the 5-year Assessment Report? Mr. Markman responded that changes to the GMP (and therefore Judgment) can be made at any time. ED Adams described that DWR gives agencies the discretion to determine what constitutes a "change" to their GMP, but does offer some guidance on what might constitute a significant change. It is likely that changes will be recommended to the GMP and the goal is to make all the changes to the GMP at the same time as the 5-year Assessment Report because if done off-cycle an additional assessment report is required to accompany any change to a DWR-approved management plan.
- Are there budget concerns to completing the 5-year GMP Assessment Report? Watermaster staff is maximizing the use of DWR SGM funding to work on the Assessment Report, but the GMP can't be fully completed due to i) lack of DWR comments, and ii) additional data in 2025 that will need to get incorporated into the draft due in June 2026. Watermaster staff is preparing a framework document for the 5-yr GMP Assessment Report to assist the Board in making policy decisions and finalizing the report to meet the June deadline (assuming DWR comments are delivered).

C. Executive Director Reports. ED Adams reported on the items listed in the agenda package memo (see slides 83 through 84 of the Board presentation slides.) There were no additional topics discussed. There were no Board or public comments.

D. Chairperson's Report. NONE

VII. **Approval of Agenda Items for March 19, 2025 Board Meeting.** ED Adams reviewed the potential agenda items for the next Board meetings listed in the agenda package. The Board discussed items to be included on the March 19, 2025 Board meeting agenda, in addition to items listed in the Agenda package. Discussion included:

- ED Adams updated the proposed Agenda for the March 19, 2025 meeting on the meeting screen based on discussion, noting it now includes the following items:
  - Consideration of Approval of the WY 2024 Annual Report to the DWR

- Biological Restoration Projection Final Report
- Presentation of the 5-Year GMP Assessment Framework
- Consideration of approval of April TAC Agenda
- DWR Review of 2020 GMP (if available)

Motion: Motioned by Director Jorgensen seconded by Vice Chair Bilyk, to approve the March 19, 2025 agenda as presented on slide 88 of the Board presentation slides. *Motion carried unanimously by roll-call vote (5-0-0).*

VIII. **Board Member Comments.** Chair Duncan called for comments.

- Director Bennett congratulated Alternative Director Crow who has accepted a new position and will no longer be serve as the County Alternate or participate in the Watermaster process.
- Director Jorgensen thanked Director Duncan for running an efficient meeting.

IX. **Next Meetings of the Borrego Springs Watermaster.** Chair Duncan reviewed the meetings listed in the agenda package.

X. **Adjournment**

A. Chair Duncan adjourned the meeting at 5:36 PM.

Recorded by:
Lauren Salberg, Staff Geologist, West Yost

Attest:
Shannon Smith, Secretary and Treasurer of the Board

11:04 AM

03/07/25

Accrual Basis

Borrego Springs Watermaster
Profit & Loss for Fiscal Year 2024-2025
October 2024 through February 2025

	Oct 24	Nov 24	Dec 24	Jan 25	Feb 25	TOTAL
Ordinary Income/Expense						
Income						
DWR Grant Reimbursement t	0.00	408,323.49	0.00	0.00	239,810.24	648,133.73
Pumping Assessment	(824.30)	164,335.46	0.00	0.00	0.00	163,511.16
Services Rendered	0.00	0.00	0.00	2,691.75	0.00	2,691.75
WY 2024 - Expected Grant Reimb v	0.00	(408,323.49)	0.00	0.00	(239,810.24)	(648,133.73)
WY 2025 - Expected Grant Reimb	136,962.85	49,880.97	62,393.97	224,085.28	212,398.73	685,721.80
Total Income	136,138.55	214,216.43	62,393.97	226,777.03	212,398.73	851,924.71
Expense						
Audit	0.00	0.00	6,448.00	806.00	0.00	7,254.00
Bank Service Charges	0.00	0.00	27.00	25.00	0.00	52.00
Consult Serv Land IQ-Grant Reim **	40,541.61	22,282.97	13,094.22	78,843.89	30,072.97	184,835.66
Consult Serv WY-Grant Reim **	96,421.24	27,598.00	49,299.75	132,526.39	182,325.76	488,171.14
Consulting Services *	27,124.75	27,751.35	18,892.27	17,707.75	11,272.19	102,748.31
Consulting Services- Meter Read	517.50	(155.25)	51.75	161.25	303.00	878.25
Insurance	3,579.54	3,579.54	3,579.54	3,579.54	3,579.54	17,897.70
Interest Expense	5,897.50	5,691.39	5,249.59	3,092.56	3,526.73	23,457.77
Legal	4,500.00	4,865.00	3,000.00	13,210.00	8,312.50	33,887.50
Meter Accuracy Test–Grant Reim **	0.00	0.00	0.00	12,715.00	0.00	12,715.00
Meter Read Expenses	0.00	0.00	0.00	1,188.22	0.00	1,188.22
Reimbursed to BWD for GSP	0.60	0.00	4.66	0.00	0.00	5.26
Total Expense	178,582.74	91,613.00	99,646.78	263,855.60	239,392.69	873,090.81
Net Ordinary Income	(42,444.19)	122,603.43	(37,252.81)	(37,078.57)	(26,993.96)	(21,166.10)
Net Income	**(42,444.19)**	**122,603.43**	**(37,252.81)**	**(37,078.57)**	**(26,993.96)**	**(21,166.10)**

* Represents Consulting services by West Yost that are not grant reimbursable.

** Represents expenses that can be reimbursed with grant funding from DWR.

t Reflects actual reimbursement received from DWR.

v Reflects reversal of estimated reimbursement amounts in prior WYs.

10:51 AM
03/07/25
Accrual Basis

Borrego Springs Watermaster
Balance Sheet for Fiscal Year 2024-2025
As of February 28, 2025

	Feb 28, 25
ASSETS	
Current Assets	
Checking/Savings	
US Bank	1,057,085.76
Total Checking/Savings	1,057,085.76
Accounts Receivable	
Accounts Receivable	5,726.09
Total Accounts Receivable	5,726.09
Other Current Assets	
Accrued Grant Reimburse 2024	295,964.79
Accrued Grant Reimburse 2025	685,721.80
Prepaid Expenses	10,738.58
Total Other Current Assets	992,425.17
Total Current Assets	2,055,237.02
TOTAL ASSETS	**2,055,237.02**
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Accounts Payable	
Accounts Payable	749,823.09
Total Accounts Payable	749,823.09
Other Current Liabilities	
Accrued Payables	213,663.58
Total Other Current Liabilities	213,663.58
Total Current Liabilities	963,486.67
Total Liabilities	963,486.67
Equity	
Retained Earnings	1,112,916.45
Net Income	-21,166.10
Total Equity	1,091,750.35
TOTAL LIABILITIES & EQUITY	**2,055,237.02**

11:02 AM

03/07/25

Accrual Basis

Borrego Springs Watermaster
Expense Distribution Detail
February 2025

Type	Date	Num	Memo	Account	Amount
Land IQ, LLC					
General Journal	02/01/2025	92R	Land IQ Estimate for January 1, 2025 to January 31, 2025	Consult Serv Land IQ-Grant Reim	(44,668.91)
Bill	02/28/2025	6525	Services from January 1, 2025 to January 31, 2025	Consult Serv Land IQ-Grant Reim	61,106.42
Bill	02/28/2025	LandIQ Int Feb25	February 2025 Final Interest, Including Payments	Interest Expense	0.00
General Journal	02/28/2025	95	Land IQ Estimate for February 1, 2025 to February 28, 2025	Consult Serv Land IQ-Grant Reim	13,635.46
Total Land IQ, LLC					30,072.97
RWG Law					
General Journal	02/01/2025	92R	RWG Estimate for January 1, 2025 to January 31, 2025	Legal	(8,750.00)
Bill	02/12/2025	251691	Services rendered through January 31, 2025	Legal	8,312.50
General Journal	02/28/2025	95	RWG Estimate for February 1, 2025 to February 28, 2025	Legal	8,750.00
Total RWG Law					8,312.50
West Yost & Associates					
General Journal	02/01/2025	92R	WY Estimate for January 1, 2025 to January 31, 2025	Consulting Services	(16,322.25)
General Journal	02/01/2025	92R	WY Estimate for January 1, 2025 to January 31, 2025	Consulting Services- Meter Read	(161.25)
General Journal	02/01/2025	92R	WY Estimate for January 1, 2025 to January 31, 2025	Consult Serv WY-Grant Reim	(113,234.39)
Bill	02/28/2025	Interest Feb25 Est	February 2025 Estimated Interest	Interest Expense	2,574.09
Bill	02/28/2025	2061686	West Yost Consulting Services January 1, 2025 to January 31, 2025	Consulting Services	16,105.44
Bill	02/28/2025	2061686	West Yost Consulting Services January 1, 2025 to January 31, 2025	Consulting Services- Meter Read	107.50
Bill	02/28/2025	2061687	West Yost Consulting Services January 1, 2025 to January 31, 2025	Consult Serv WY-Grant Reim	67,041.53
Bill	02/28/2025	2061687	West Yost Vendor Portion – Well Tec Services	Consult Serv WY-Grant Reim	44,197.00
Bill	02/28/2025	2061688	West Yost Consulting Services January 1, 2025 to January 31, 2025	Consult Serv WY-Grant Reim	4,889.25
Bill	02/28/2025	Interest Feb25 Final	February 2025 Final Interest, Including Payments	Interest Expense	952.64
General Journal	02/28/2025	95	WY Estimate for February 1, 2025 to February 28, 2025	Consulting Services	11,489.00
General Journal	02/28/2025	95	WY Estimate for February 1, 2025 to February 28, 2025	Consulting Services- Meter Read	356.75
General Journal	02/28/2025	95	WY Estimate for February 1, 2025 to February 28, 2025	Consult Serv WY-Grant Reim	179,432.37
Total West Yost & Associates					197,427.68
TOTAL					**235,813.15**

Borrego Springs Watermaster

Register: US Bank
From 02/01/2025 through 02/28/2025
Sorted by: Date, Type, Number/Ref

Date	Number	Payee	Account	Memo	Payment	C	Deposit	Balance
2/4/2025			Undeposited Funds	Deposit		X	204.51	885,107.10
2/11/2025		Land IQ, LLC	Accounts Payable	QuickBooks generated zero amount transaction for bill payment stub		X		885,107.10
2/11/2025	2180	Borrego Water Dist	Accounts Payable	December 2024 Meter reads	1,188.22			883,918.88
2/11/2025	2181	C.J. Brown & Company CPAs	Accounts Payable	Audit services rendered during the month of January 2025	806.00			883,112.88
2/11/2025	2182	McCall's Meter Sales & Service	Accounts Payable	Meter Accuracy Testing–Grant Reimbursable	11,515.00			871,597.88
2/11/2025	2183	McKeever Water Well & Pump Service, Inc.	Accounts Payable	Meter Accuracy Testing – Grant Reimbursable	1,200.00			870,397.88
2/11/2025	2184	RWG Law	Accounts Payable	Services rendered through December 31, 2024	7,460.00			862,937.88
2/11/2025	2185	West Yost & Associates	Accounts Payable		47,876.24	X		815,061.64
2/13/2025			-split-	Deposit		X	2,093.58	817,155.22
2/20/2025			DWR Grant Reimbursement	Deposit		X	239,810.24	1,056,965.46
2/21/2025			Undeposited Funds	Deposit		X	120.30	1,057,085.76

West Yost Associates
2020 Research Park Drive, Suite 100
Davis, CA 95618

To: Borrego Springs Watermaster
c/o West Yost Associates
25 Edelman, Suite 120
Irvine, CA 92618

Interest Schedule: 2/28/2025

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
2059873	8/31/2024	$ 42,064.50				$ 42,064.50
	9/19/2024		10.00%	$ 218.97	$ 42,064.50	$ 42,283.47
	9/30/2024		10.00%	$ 127.43	$ 42,283.47	$ 42,410.90
	10/28/2024	$ (741.38)	10.00%	$ 325.34	$ 41,669.52	$ 41,994.86
	10/31/2024		10.00%	$ 34.52	$ 41,994.86	$ 42,029.38
	11/8/2024		9.75%	$ 89.82	$ 42,029.38	$ 42,119.19
	11/12/2024	$ (345.58)	9.75%	$ 45.00	$ 41,773.61	$ 41,818.62
	11/30/2024		9.75%	$ 201.07	$ 41,818.62	$ 42,019.69
	12/19/2024		9.50%	$ 207.80	$ 42,019.69	$ 42,227.49
	12/31/2024		9.50%	$ 131.89	$ 42,227.49	$ 42,359.37
	1/29/2025	$ (3,441.63)	9.50%	$ 319.73	$ 38,917.74	$ 39,237.47
	1/31/2025		9.50%	$ 20.42	$ 39,237.47	$ 39,257.89
	2/27/2025	$ (268.34)	9.50%	$ 275.88	$ 38,989.55	$ 39,265.44
	2/28/2025		9.50%	$ 10.22	$ 39,265.44	$ 39,275.65
2060199	9/30/2024	$ 17,084.00				$ 17,084.00
	10/31/2024		10.00%	$ 145.10	$ 17,084.00	$ 17,229.10
	11/8/2024		9.75%	$ 36.82	$ 17,229.10	$ 17,265.92
	11/12/2024	$ (286.71)	9.75%	$ 18.45	$ 16,979.21	$ 16,997.65
	11/30/2024		9.75%	$ 81.73	$ 16,997.65	$ 17,079.38
	12/19/2024		9.50%	$ 84.46	$ 17,079.38	$ 17,163.84
	12/31/2024		9.50%	$ 53.61	$ 17,163.84	$ 17,217.45
	1/29/2025	$ (277.06)	9.50%	$ 129.96	$ 16,940.39	$ 17,070.35
	1/31/2025		9.50%	$ 8.89	$ 17,070.35	$ 17,079.23
	2/27/2025	$ (124.50)	9.50%	$ 120.02	$ 16,954.73	$ 17,074.76
	2/28/2025		9.50%	$ 4.44	$ 17,074.76	$ 17,079.20
2060200	9/30/2024	$ 43,078.25				$ 43,078.25
	10/31/2024		10.00%	$ 365.87	$ 43,078.25	$ 43,444.12
	11/8/2024		9.75%	$ 92.84	$ 43,444.12	$ 43,536.96
	11/12/2024	$ (722.94)	9.75%	$ 46.52	$ 42,814.02	$ 42,860.54
	11/30/2024		9.75%	$ 206.08	$ 42,860.54	$ 43,066.62
	12/19/2024		9.50%	$ 212.97	$ 43,066.62	$ 43,279.59
	12/31/2024		9.50%	$ 135.17	$ 43,279.59	$ 43,414.77
	1/29/2025	$ (698.61)	9.50%	$ 327.69	$ 42,716.16	$ 43,043.85
	1/31/2025		9.50%	$ 22.41	$ 43,043.85	$ 43,066.26
	2/27/2025	$ (313.93)	9.50%	$ 302.64	$ 42,752.33	$ 43,054.97
	2/28/2025		9.50%	$ 11.21	$ 43,054.97	$ 43,066.18

West Yost Associates
2020 Research Park Drive, Suite 100
Davis, CA 95618

To: Borrego Springs Watermaster
c/o West Yost Associates
25 Edelman, Suite 120
Irvine, CA 92618

Interest Schedule: 2/28/2025

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
2060589	10/31/2024	$ 29,146.60				$ 29,146.60
	11/8/2024		9.75%	$ 62.29	$ 29,146.60	$ 29,208.89
	11/30/2024		9.75%	$ 171.65	$ 29,208.89	$ 29,380.54
	12/19/2024		9.50%	$ 145.29	$ 29,380.54	$ 29,525.83
	12/31/2024		9.50%	$ 92.22	$ 29,525.83	$ 29,618.05
	1/29/2025	$ (728.86)	9.50%	$ 223.56	$ 28,889.19	$ 29,112.74
	1/31/2025		9.50%	$ 15.15	$ 29,112.74	$ 29,127.90
	2/27/2025	$ (212.33)	9.50%	$ 204.69	$ 28,915.57	$ 29,120.26
	2/28/2025		9.50%	$ 7.58	$ 29,120.26	$ 29,127.84
2060590	10/31/2024	$ 69,680.24				$ 69,680.24
	11/8/2024		9.75%	$ 148.91	$ 69,680.24	$ 69,829.15
	11/30/2024		9.75%	$ 410.37	$ 69,829.15	$ 70,239.51
	12/19/2024		9.50%	$ 347.35	$ 70,239.51	$ 70,586.86
	12/31/2024		9.50%	$ 220.46	$ 70,586.86	$ 70,807.32
	1/29/2025	$ (6,404.42)	9.50%	$ 534.45	$ 64,402.90	$ 64,937.35
	1/31/2025		9.50%	$ 33.80	$ 64,937.35	$ 64,971.16
	2/27/2025	$ (44,670.61)	9.50%	$ 456.58	$ 20,300.55	$ 20,757.13
	2/28/2025		9.50%	$ 5.40	$ 20,757.13	$ 20,762.53
2060952	11/30/2024	$ 23,069.82				$ 23,069.82
	12/19/2024		9.50%	$ 114.09	$ 23,069.82	$ 23,183.91
	12/31/2024		9.50%	$ 72.41	$ 23,183.91	$ 23,256.32
	1/29/2025	$ (374.23)	9.50%	$ 175.54	$ 22,882.09	$ 23,057.62
	1/31/2025		9.50%	$ 12.00	$ 23,057.62	$ 23,069.62
	2/27/2025	$ (168.17)	9.50%	$ 162.12	$ 22,901.46	$ 23,063.58
	2/28/2025		9.50%	$ 6.00	$ 23,063.58	$ 23,069.58
2060953	11/30/2024	$ 58,791.75				$ 58,791.75
	12/19/2024		9.50%	$ 290.74	$ 58,791.75	$ 59,082.49
	12/31/2024		9.50%	$ 184.53	$ 59,082.49	$ 59,267.02
	1/29/2025	$ (10,605.70)	9.50%	$ 447.34	$ 48,661.32	$ 49,108.66
	1/31/2025		9.50%	$ 25.56	$ 49,108.66	$ 49,134.23
	2/27/2025	$ (358.16)	9.50%	$ 345.29	$ 48,776.06	$ 49,121.35
	2/28/2025		9.50%	$ 12.79	$ 49,121.35	$ 49,134.13

West Yost Associates
2020 Research Park Drive, Suite 100
Davis, CA 95618

To: Borrego Springs Watermaster
c/o West Yost Associates
25 Edelman, Suite 120
Irvine, CA 92618

Interest Schedule: 2/28/2025

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
2060954	11/30/2024	$ 4,754.25				$ 4,754.25
	12/19/2024		9.50%	$ 23.51	$ 4,754.25	$ 4,777.76
	12/31/2024		9.50%	$ 14.92	$ 4,777.76	$ 4,792.68
	1/29/2025	$ (77.12)	9.50%	$ 36.17	$ 4,715.56	$ 4,751.74
	1/31/2025		9.50%	$ 2.47	$ 4,751.74	$ 4,754.21
	2/27/2025	$ (34.66)	9.50%	$ 33.41	$ 4,719.56	$ 4,752.97
	2/28/2025		9.50%	$ 1.24	$ 4,752.97	$ 4,754.20
2061512	12/31/2024	$ 23,351.45				$ 23,351.45
	1/31/2025		9.50%	$ 188.41	$ 23,351.45	$ 23,539.86
	2/27/2025	$ (360.00)	9.50%	$ 165.42	$ 23,179.86	$ 23,345.28
	2/28/2025		9.50%	$ 6.08	$ 23,345.28	$ 23,351.36
2061513	12/31/2024	$ 56,628.00				$ 56,628.00
	1/31/2025		9.50%	$ 456.90	$ 56,628.00	$ 57,084.90
	2/27/2025	$ (1,333.02)	9.50%	$ 401.16	$ 55,751.88	$ 56,153.04
	2/28/2025		9.50%	$ 14.62	$ 56,153.04	$ 56,167.65
2061514	12/31/2024	$ 2,109.25				$ 2,109.25
	1/31/2025		9.50%	$ 17.02	$ 2,109.25	$ 2,126.27
	2/27/2025	$ (32.52)	9.50%	$ 14.94	$ 2,093.75	$ 2,108.69
	2/28/2025		9.50%	$ 0.55	$ 2,108.69	$ 2,109.24
2061686	1/31/2025	$ 16,212.94				$ 16,212.94
	2/28/2025		9.50%	$ 118.15	$ 16,212.94	$ 16,331.09
2061687	1/31/2025	$ 111,238.53				$ 111,238.53
	2/28/2025		9.50%	$ 810.67	$ 111,238.53	$ 112,049.20

West Yost Associates
2020 Research Park Drive, Suite 100
Davis, CA 95618

To: Borrego Springs Watermaster
c/o West Yost Associates
25 Edelman, Suite 120
Irvine, CA 92618

Interest Schedule: 2/28/2025

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
2061688	1/31/2025	$ 4,889.25				$ 4,889.25
	2/28/2025		9.50%	$ 35.63	$ 4,889.25	$ 4,924.88

Total Invoices (Less Pymts)	**$ 429,518.35**	
Current Month Interest (*Estimated*)		**$ 2,574.09**
Current Month Interest (*Final, including payments*)		**$ 3,526.73**
Prior Month Interest Adjustment		**$ -**
Adjusted Monthly Interest		**$ 952.64**
Total Interest Charges		**$ 11,684.40**

Grand Total **$ 441,202.73**

2020 L St, Suite 210
Sacramento, CA 95811

To: Borrego Springs Watermaster
c/o West Yost Associates
25 Edelman, Suite 120
Irvine, CA 92618

Interest Schedule: 2/28/2025

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
6189	7/31/2024	$ 37,799.66				$ 37,799.66
	8/31/2024		10.50%	$ 337.09	$ 37,799.66	$ 38,136.75
	9/19/2024		10.00%	$ 198.52	$ 38,136.75	$ 38,335.27
	9/30/2024	$ (647.27)	10.00%	$ 115.53	$ 37,688.00	$ 37,803.53
	10/31/2024		10.00%	$ 321.07	$ 37,803.53	$ 38,124.60
	11/8/2024		9.75%	$ 81.47	$ 38,124.60	$ 38,206.07
	11/14/2024	$ (17,094.23)	9.75%	$ 61.23	$ 21,111.84	$ 21,173.08
	11/19/2024	$ (830.17)	9.75%	$ 28.28	$ 20,342.91	$ 20,371.19
	11/30/2024		9.75%	$ 59.86	$ 20,371.19	$ 20,431.05
	12/19/2024		9.50%	$ 101.04	$ 20,431.05	$ 20,532.08
	12/31/2024		9.50%	$ 64.13	$ 20,532.08	$ 20,596.21
No Interest to Accrue	1/31/2025		0.00%	$ -	$ 20,596.21	$ 20,596.21
No Interest to Accrue	2/28/2025		0.00%	$ -	$ 20,596.21	$ 20,596.21
6244	8/31/2024	$ 55,493.54				$ 55,493.54
	9/19/2024		10.00%	$ 288.87	$ 55,493.54	$ 55,782.41
	9/30/2024		10.00%	$ 168.11	$ 55,782.41	$ 55,950.52
	10/31/2024		10.00%	$ 475.20	$ 55,950.52	$ 56,425.72
	11/8/2024		9.75%	$ 120.58	$ 56,425.72	$ 56,546.30
	11/14/2024	$ (475.38)	9.75%	$ 90.63	$ 56,070.92	$ 56,161.55
	11/19/2024	$ (463.95)	9.75%	$ 75.01	$ 55,697.60	$ 55,772.61
	11/30/2024		9.75%	$ 163.88	$ 55,772.61	$ 55,936.49
	12/19/2024		9.50%	$ 276.62	$ 55,936.49	$ 56,213.11
	12/31/2024		9.50%	$ 175.57	$ 56,213.11	$ 56,388.68
No Interest to Accrue	1/31/2025		0.00%	$ -	$ 56,388.68	$ 56,388.68
No Interest to Accrue	2/28/2025		0.00%	$ -	$ 56,388.68	$ 56,388.68

2020 L St, Suite 210
Sacramento, CA 95811

To: Borrego Springs Watermaster
c/o West Yost Associates
25 Edelman, Suite 120
Irvine, CA 92618

Interest Schedule: 2/28/2025

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
6290	9/30/2024	$ 50,880.24				$ 50,880.24
	10/31/2024		10.00%	$ 432.13	$ 50,880.24	$ 51,312.37
	11/8/2024		9.75%	$ 109.65	$ 51,312.37	$ 51,422.03
	11/14/2024	$ (432.13)	9.75%	$ 82.42	$ 50,989.90	$ 51,072.31
	11/19/2024	$ (421.75)	9.75%	$ 68.21	$ 50,650.56	$ 50,718.78
	11/30/2024		9.75%	$ 149.03	$ 50,718.78	$ 50,867.81
	12/19/2024		9.50%	$ 251.55	$ 50,867.81	$ 51,119.36
	12/31/2024		9.50%	$ 159.66	$ 51,119.36	$ 51,279.02
No Interest to Accrue	1/31/2025		0.00%	$ -	$ 51,279.02	$ 51,279.02
No Interest to Accrue	2/28/2025		0.00%	$ -	$ 51,279.02	$ 51,279.02
6353	10/31/2024	$ 40,790.41				$ 40,790.41
	11/8/2024		9.75%	$ 87.17	$ 40,790.41	$ 40,877.58
	11/30/2024		9.75%	$ 240.23	$ 40,877.58	$ 41,117.80
	12/19/2024		9.50%	$ 203.34	$ 41,117.80	$ 41,321.14
	12/31/2024		9.50%	$ 129.06	$ 41,321.14	$ 41,450.20
No Interest to Accrue	1/31/2025		0.00%	$ -	$ 41,450.20	$ 41,450.20
No Interest to Accrue	2/28/2025		0.00%	$ -	$ 41,450.20	$ 41,450.20
6427	11/30/2024	$ 22,757.10				$ 22,757.10
	12/19/2024		9.50%	$ 112.54	$ 22,757.10	$ 22,869.64
	12/31/2024		9.50%	$ 71.43	$ 22,869.64	$ 22,941.07
No Interest to Accrue	1/31/2025		0.00%	$ -	$ 22,941.07	$ 22,941.07
No Interest to Accrue	2/28/2025		0.00%	$ -	$ 22,941.07	$ 22,941.07

2020 L St, Suite 210
Sacramento, CA 95811

To: Borrego Springs Watermaster
c/o West Yost Associates
25 Edelman, Suite 120
Irvine, CA 92618

Interest Schedule: 2/28/2025

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
6487	12/31/2024	$ 46,546.27				$ 46,546.27
No Interest to Accrue	1/31/2025		0.00%	$ -	$ 46,546.27	$ 46,546.27
No Interest to Accrue	2/28/2025		0.00%	$ -	$ 46,546.27	$ 46,546.27
6525	1/31/2025	$ 61,106.42				$ 61,106.42
No Interest to Accrue	2/28/2025		0.00%	$ -	$ 61,106.42	$ 61,106.42

Total Invoices (Less Pymts)	**$ 295,008.76**	
Current Month Interest (*Estimated*)		**$ -**
Current Month Interest (*Final, including payments*)		**$ -**
Prior Month Interest Adjustment		**$ -**
Adjusted Monthly Interest		**$ -**
Total Interest Charges		**$ 5,299.10**
Grand Total		**$ 300,307.86**

Description of Land IQ and UCI Invoices

November 2024

No payments on approved invoices will be paid until demonstration of successful completion of project by March 31, 2025.

Total Amount Invoiced: **$22,757.10**

Approved February 28, 2025

Amount Invoiced by Land IQ: **$14,736.68**

Description of Land IQ Expenses:

- Time billed by Land IQ staff on Component Administration, and Tasks 3, 4, and 6.
- (see pages 3-5 of invoice).

Amount Invoiced by UCI: **$8,020.42**

Description of UCI Time & Expenses – Income and Expense Report: Total time and expenses of $8,020.42 (pg. 11-14 of invoice) were calculated as follows:

- Time billed by UCI staff on tasks 3 and 6 (see page 7).
- Summary of Labor Per Hour – monthly rate divided by working hours per month (see page 9). Note: GAEL rates have been adjusted for F24-25.

SUMMARY OF LABOR PER HOUR (DETAILED)

Nov-24				
Individual	**Time (h)**	**Salary Total**	**Rate (h)**	**GAEL***
Post-Doctoral Researcher 1 (Fiore)**	33.60000	$ 1,196.15	$ 35.60	$ 14.59
Post-Doctoral Researcher 2 (Brigham)**	33.60000	$ 1,196.15	$ 35.60	$ 14.59
Research Associate 1 (Rood)**	26.63742	$ 1,111.21	$ 41.73	$ 13.56
Research Associate 2 (Coffey)**	44.01264	$ 1,747.93	$ 39.71	$ 21.32
Research Associate 2 (Perea-Vega)**	-0.00013	$ -	$ -	$ (0.62)
Senior Scientist 2 (Lulow)**	9.08580	$ 512.26	$ 56.38	$ 5.57
*GAEL rates have been adjusted for FY24-25:		**$ 5,763.70**		**$ 69.01**

*GAEL rates have been adjusted for FY24-25:

- **Note:** The table shows dollar amounts and hours not rounded to show the breakdown of labor costs.

- UCPath Salaries by Fund Report:
  - SWG2 – Salaries & Wages General Assistance: $5,763.70
  - BENF – Benefits: $2,187.71
  - GENX – General Expenses: $69.01
  - **Note:** The UCPath Salaries by Fund Report rounds to the nearest hundredth digit (see pages 13-15). This report is auto generated from UCI's payroll system and is limited on what adjustments can be made to it.
    - Example: Salary $1,392.25 / FTE Comp Rate $7,008.33 = 0.198656 (Percent Total Pay) which is rounded to 0.1987.

- Similarly, the 36.69 hours are multiplied by a rate of $33.16516 rather than $33.17.

LAND IQ

INVOICE

Land IQ, LLC
2020 L Street
Suite 210
Sacramento, CA 95811
www.landIQ.com

Borrego Springs Watermaster
c/o West Yost & Associates
23692 Birtcher Drive
Lake Forest, CA 92630

Invoice Date:	11/30/24
Total Amount:	$22,757.10
Invoice Number:	6427
Invoice Period:	11/01/24 - 11/30/24
Engagement:	Borrego Springs Watermaster

Summary of Charges

Description	Amount
Task A. LIQ (WY23/24) Project Management	$165.00
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	$2,080.00
Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	$480.00
Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	$11,288.75
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study Expenses	$227.80
Task 3: UCI (WY23/24) Brush Pile Wildlife Sand Fence Case Study Expenses	$3,920.42
Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings Expenses	$495.13
Task 6: UCI (WY23/24) Conduct Environmental Working Group (EWG) Meetings Expenses	$4,100.00
TOTAL AMOUNT DUE	**$22,757.10**

LAND IQ

INVOICE

Land IQ, LLC
2020 L Street
Suite 210
Sacramento, CA 95811
www.landIQ.com

Invoice Date:	11/30/24
Total Amount:	$22,757.10
Invoice Number:	6427
Invoice Period:	11/01/24 - 11/30/24
Engagement:	Borrego Springs Watermaster

Borrego Springs Watermaster
c/o West Yost & Associates
23692 Birtcher Drive
Lake Forest, CA 92630

SUMMARY OF FEES

Source	Hrs	Rate	Amount
Task A. LIQ (WY23/24) Project Management			
Laura Jackson – Accounting Assistant	1.50	$110.00	$165.00
Task A. LIQ (WY23/24) Project Management	**1.50**		**$165.00**
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study			
Robert Travis Brooks – Project Ecologist	13.00	$160.00	$2,080.00
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	**13.00**		**$2,080.00**
Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies			
Robert Travis Brooks – Project Ecologist	3.00	$160.00	$480.00
Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	**3.00**		**$480.00**
Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings			
Robert Travis Brooks – Project Ecologist	29.00	$160.00	$4,640.00
Melissa Riedel-Lehrke – Project Ecologist	14.00	$165.00	$2,310.00
Stephanie Tillman – Senior Scientist II	22.25	$195.00	$4,338.75
Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	**65.25**		**$11,288.75**
TOTAL FEES & EXPENSES	**82.75**		**$22,757.10**

TIME & EXPENSE DETAIL

Date	Task	Description	Hrs	Rate	Amount
Robert Travis Brooks					
11/7/24	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Coordination with contractor	2.00	$160.00	$320.00
11/8/24	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Site check with contractor	10.00	$160.00	$1,600.00
11/26/24	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Coordination with Fredericks Construction	1.00	$160.00	$160.00
11/5/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	Review of Task 4 Report and distribute to reviewers by Google Doc	3.00	$160.00	$480.00
11/11/24	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	Prep for Nov 20 meeting	3.00	$160.00	$480.00
11/14/24	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	Prepare Agenda Packet for EWG Meeting	4.00	$160.00	$640.00
11/18/24	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	Prepare Slides for Meeting on Wednesday	6.00	$160.00	$960.00
11/19/24	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	Prepare Slides for EWG Meeting	4.00	$160.00	$640.00
11/20/24	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	Travel to/from and presentation at EWG Meeting	12.00	$160.00	$1,920.00
		Robert Travis Brooks	**45.00**		**$7,200.00**
Laura Jackson					
11/18/24	Task A. LIQ (WY23/24) Project Management	Project Management Support	0.25	$110.00	$27.50
11/20/24	Task A. LIQ (WY23/24) Project Management	Project Management Support	0.25	$110.00	$27.50
11/21/24	Task A. LIQ (WY23/24) Project Management	Project Management Support	0.25	$110.00	$27.50
11/26/24	Task A. LIQ (WY23/24) Project Management	Project Management Support	0.50	$110.00	$55.00
11/7/24	Task A. LIQ (WY23/24) Project Management	Project Management Support	0.25	$110.00	$27.50
		Laura Jackson	**1.50**		**$165.00**
Melissa Riedel-Lehrke					
11/20/24	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	Attend EWG Meeting	14.00	$165.00	$2,310.00
		Melissa Riedel-Lehrke	**14.00**		**$2,310.00**

Date	Task	Description	Hrs	Rate	Amount
Stephanie Tillman					
11/19/24	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	EWG mtg prep/travel	4.50	$195.00	$877.50
11/20/24	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	EWG mtg	8.00	$195.00	$1,560.00
11/21/24	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	travel time	7.00	$195.00	$1,365.00
11/25/24	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	follow-up with Travis and Melissa; field trip; documented notes from EWG mtg and field tour and sent to Andy and Travis	1.00	$195.00	$195.00
11/27/24	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	follow-up travel time	1.75	$195.00	$341.25
		Stephanie Tillman	**22.25**		**$4,338.75**
		TOTAL FEES	**82.75**		**$14,013.75**

Date	Code	Task	Description	Amount
Land IQ Expenses				
11/30/24	Professional Services	Task 3: UCI (WY23/24) Brush Pile Wildlife Sand Fence Case Study	UCIrvine: November 1, 2024 - November 30, 2024 (Invoice No: 25928029-58786)	$3,920.42
11/30/24	Professional Services	Task 6: UCI (WY23/24) Conduct Environmental Working Group (EWG) Meetings	UCIrvine: November 1, 2024 - November 30, 2024 (Invoice No: 25928029-58786)	$4,100.00
			Land IQ Expenses	**$8,020.42**
Land IQ Subaru Forester				
11/20/24	Mileage-Auto 2024	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	Travel Round Trip (389 miles total) from Los Angeles, CA to Anza Borrego, CA to attend Environmental Working Group Meeting with driver Melissa Riedel-Lehrke	$260.63
			Land IQ Subaru Forester	**$260.63**
Robert Travis Brooks				
11/8/24	Mileage-Auto 2024	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Travel Round Trip (340 miles total) to Borrego Springs Project Site; Start at LA Office; End Sand Fence Project Site in Borrego Springs for Field Visit of Sand Fence Construction and Coordination with Contractor with driver Travis Brooks	$227.80
11/20/24	Mileage-Auto 2024	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	Travel Round Trip (350 miles total) to Borrego Springs Project Site; Start at LA Office; End Sand Fence Project Site in Borrego Springs for Field Visit of Sand Fence Construction and Coordination with Contractor with driver Travis Brooks	$234.50
			Robert Travis Brooks	**$462.30**
			TOTAL EXPENSES	**$8,743.35**

INVOICE

TOTAL AMOUNT DUE	**$22,757.10**

LAND IQ PERSONAL VEHICLE USAGE LOG

Date	**Project Name**	**Phase/Task**	**Total Mileage**	**Mileage Rate**	**Total Amount**	**Driver**	**Location**	**Purpose**
11/8/2024	Borrego Springs Watermaster	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	340	0.67	$ 227.80	Travis Brooks	Roundtrip to Borrego Springs Project Site; Start at LA Office (3773 Moore Street, Los Angeles, CA 90066);End Sand Fence Project Site in Borrego Springs	Field Visit of Sand Fence Construction and Coordination with Contractor START MILEAGE: 248,523 END MILEAGE: 248,863
11/20/2024	Borrego Springs Watermaster	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	350	0.67	$ 234.50	Travis Brooks	Roundtrip to Borrego Springs Project Site; Start at LA Office (3773 Moore Street, Los Angeles, CA 90066);End Sand Fence Project Site in Borrego Springs	Field Visit of Sand Fence Construction and Coordination with Contractor START MILEAGE: 249,163 END MILEAGE: 249,513
				TOTAL	**$ 462.30**			

VEHICLE USAGE/MILEAGE LOG
November 1, 2024 to November 30, 2024
Name: Land IQ Company Subaru

Date	Project Name	Budget Item	Start Mileage	End Mileage	Total Mileage	Mileage Rate	Total Amount	Driver	Location	Purpose
11/20/2024	Borrego Springs Watermaster	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	163256	163645	389	0.670	$ 260.63	Melissa Riedel-Lehrke	Roundtrip travel from Los Angeles, CA (3773 Moore Street, Los Angeles, CA 90066) to Anza Borrego, CA	Attend Environmental Working Group Meeting
							$ 260.63			

UCIRVINE

Contracts and Grants Accounting
228 Aldrich Hall
Irvine, CA 92697-1050
Fax: (949) 824-3895

Invoice No: 25928029-58786

Date: 12/16/2024
Federal Tax ID: 95-2226406
Proposal Number: 105753
UC Fund Number: 58786
Reference:

LAND IQ, LLC
2020 L STREET, SUITE 210
SACRAMENTO, CA 95811

Please Include Invoice Number with Check or Wire Payment

Award Number: 225754
Project Title: Concept Feasibility Plan for Rehabilitation of Fallowed Irrigated Agricultural Land in the Borrego Valley Groundwater Basin
Principal Investigator: Lulow, Megan
Project Title: 01/02/2023 to 03/31/2025

Billing Period: 11/01/2024-11/30/2024

Expense Category	Cumulative To Date	Previously Billed	Current Expenses
Labor - Task A	$9,463.55	$9,463.55	$0.00
Labor - Task 1	$16,250.00	$16,250.00	$0.00
Labor - Task 2	$96,543.92	$96,543.92	$0.00
Labor - Task 3	$60,607.40	$56,686.98	$3,920.42
Labor - Task 4	$0.00	$11,539.72	$0.00
Labor - Task 6	$11,562.78	$11,562.78	$4,100.00
Direct Expense	$13,622.97	$9,522.97	$0.00
	$219,590.34	$211,569.92	$8,020.42
Indirect Costs (0%)	$0.00	$0.00	$0.00
	$219,590.34	$211,569.92	$8,020.42
Current Invoice Total			**$8,020.42**

Please make your check payable to The Regents of the University of California Irvine, CONTRACTS AND GRANTS ACCOUNTING 228 ALDRICH HALL, IRVINE, CALIFORNIA 92697-1050. Include a reference to the invoice number and mail your payment to the above address. If you have any questions regarding this invoice, please contact Ashley Vuong for assistance at (949) 824-3406 or email avuong6@uci.edu

By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and objectives set forth in the terms and conditions of the Federal award. I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise. (U.S. Code Title 18, Section 1001 and Title 31, Sections 3729-3730 and 3801-3812).

Certified By

DocuSigned by:
A5C03A9D5EAD46F...
Griselda Duran
Manager, Contracts & Grants Accounting

November 2024 UCI Activities

Task 3 Activities:

- Monthly refarm meeting
- Prepping for field trip Dec dust control and seed plots
- Create flight plan for Task 3 and submit to UC Drone safety

Task 6 Activities:

- Monthly refarm meeting
- Prep for EWG meeting
- Meeting with LandIQ

SUMMARY OF LABOR PER HOUR (DETAILED)

Nov-24 Individual	Time (h)	Salary Total	Rate (h)	GAEL*
Post-Doctoral Researcher 1 (Fiore)**	33.60000	$ 1,196.15	$ 35.60	$ 14.59
Post-Doctoral Researcher 2 (Brigham)**	33.60000	$ 1,196.15	$ 35.60	$ 14.59
Research Associate 1 (Rood)**	26.63742	$ 1,111.21	$ 41.73	$ 13.56
Research Associate 2 (Coffey)**	44.01264	$ 1,747.93	$ 39.71	$ 21.32
Research Associate 2 (Perea-Vega)**	-0.00013	$ -	$ -	$ (0.62)
Senior Scientist 2 (Lulow)**	9.08580	$ 512.26	$ 56.38	$ 5.57
		$ 5,763.70		**$ 69.01**

*GAEL rates have been adjusted for FY24-25: https://www.accounting.uci.edu/cost-analysis/campus-assessment.php#gael

**monthly rate divided by working hours per month

***Moises Perea-Vega did not work on the project during November 2024 and personnel expenses were credited

SUMMARY OF LABOR PER HOUR

Nov-24				
Individual	**Time (h)**	**Salary Total**	**Rate (h)**	**GAEL***
Post-Doctoral Researcher 1 (Fiore)**	33.60	$ 1,196.15	$ 35.60	$ 14.59
Post-Doctoral Researcher 2 (Brigham)**	33.60	$ 1,196.15	$ 35.60	$ 14.59
Research Associate 1 (Rood)**	26.64	$ 1,111.21	$ 41.72	$ 13.56
Research Associate 2 (Coffey)**	44.01	$ 1,747.93	$ 39.71	$ 21.32
Research Associate 2 (Perea-Vega)**	0.00	$ -	$ -	$ (0.62)
Senior Scientist 2 (Lulow)**	9.09	$ 512.26	$ 56.38	$ 5.57
		$ 5,763.70		**$ 69.01**

*GAEL rates have been adjusted for FY24-25: https://www.accounting.uci.edu/cost-analysis/campus-assessment.php#gael

**monthly rate divided by working hours per month

***Moises Perea-Vega did not work on the project during November 2024 and personnel expenses were credited

UCI Decision Support

KFS Account Transactions - Income and Expense Report

FS0100-Detail General Ledger

Fiscal Year: 2025 **Period(s) Selected:** 05 - NOV. 2024

Run Date/Time: 12/12/2024 6:09:59 PM
Page #: 1 of 1
Run by: Daniel S Nguyen

Chart:	**IR**	**Control Account - UC Account:**	**UC58786 - 486369**	**Sub Fund Grp Type**	**Private Contracts-Restricted**
Org:	**6191**	**Agency Name:**	**LAND IQ, LLC**	**Award #:**	**-**
Org Title:	**OFFICE OF UCI-NATURE**	**Fiscal Officer:**	**Daniel S Nguyen**	**Award Begin Date:**	**01/03/2023**
Account:	**PC15547**	**Account Manager:**	**Emilia Castaneda**	**Award End Date:**	**03/31/2025**
Account Name:	**486369-58786 UCI-Nature/LAND IQ**	**Project Director:**	**Megan E Lulow**	**ICR Rate:**	**0.00%**

GEC Doc#	Period	Object Type	Object Level	Object Code	Doc Type	Origin	Doc No	Description	Post Date	Ledger Entry ID	Org Doc No	Project	OrgRefID	Doc Ref No	Budget	Actuals	Encumbrances
Account - PC15547																	
Consolidation - SWG2																	
	05	EX	SWGN	1200	IBI	UP	20241130	MONTHLY Check Date 11/27/2024	12/02/24	156128168	-	-	-	-	$0.00	$2,859.14	$0.00
	05	EX	SWGN	1211	IBI	UP	20241101	MONTHLY Check Date 11/15/2024	11/19/24	155712861	-	-	-	-	$0.00	($232.95)	$0.00
	05	EX	SWGN	1211	IBI	UP	20241130	MONTHLY Check Date 11/27/2024	12/02/24	156128169	-	-	-	-	$0.00	$3,030.61	$0.00
	05	EX	SWGN	1285	IBI	UP	20241130	MONTHLY Check Date 11/27/2024	12/02/24	156128170	-	-	-	-	$0.00	$106.90	$0.00
Consolidation Summary - SWG2 for period 05															**$0.00**	**$5,763.70**	**$0.00**
Consolidation - BENF																	
	05	EX	BENE	1627	IBI	UP	20241101	MONTHLY Check Date 11/15/2024	11/19/24	155712862	-	-	-	-	$0.00	($17.47)	$0.00
	05	EX	BENE	1627	IBI	UP	20241130	MONTHLY Check Date 11/27/2024	12/02/24	156128171	-	-	-	-	$0.00	($106.90)	$0.00
	05	EX	BENE	1627	IBI	UP	20241130	MONTHLY Check Date 11/27/2024	12/02/24	156128172	-	-	-	-	$0.00	$262.30	$0.00
	05	EX	BENE	1678	IBI	UP	20241101	MONTHLY Check Date 11/15/2024	11/19/24	155712863	-	-	-	-	$0.00	($1.54)	$0.00
	05	EX	BENE	1678	IBI	UP	20241130	MONTHLY Check Date 11/27/2024	12/02/24	156128173	-	-	-	-	$0.00	$23.79	$0.00
	05	EX	BENE	1685	IBI	UP	20241101	MONTHLY Check Date 11/15/2024	11/19/24	155712864	-	-	-	-	$0.00	($105.76)	$0.00
	05	EX	BENE	1685	IBI	UP	20241130	MONTHLY Check Date 11/27/2024	12/02/24	156128174	-	-	-	-	$0.00	$2,133.29	$0.00
Consolidation Summary - BENF for period 05															**$0.00**	**$2,187.71**	**$0.00**
Consolidation - GENX																	
	05	EX	SRVC	7065	IBI	UP	20241101	MONTHLY Check Date 11/15/2024	11/19/24	155712865	-	-	-	-	$0.00	($2.84)	$0.00
	05	EX	SRVC	7065	IBI	UP	20241130	MONTHLY Check Date 11/27/2024	12/02/24	156128175	-	-	-	-	$0.00	$71.85	$0.00
Consolidation Summary - GENX for period 05															**$0.00**	**$69.01**	**$0.00**
Total Expense for period 05															**$0.00**	**$8,020.42**	**$0.00**

UCI Decision Support

UCPath Salaries by Fund Report

Fiscal Year: 2025 **Period(s) Selected:** 5 - November

Run Date/Time: 12/16/2024 6:49:47 AM
Page #: 1 of 3

Control Account: IR - UC58786 LAND IQ 225754 LULOW G0 CR 3/25

Accounting Date	KFS Org	UC Account	UC Fund	KFS Consolidation Code	KFS Object Code	KFS Project	Line Description	KFS Account	Employee ID	Employee Name	Job Code	Job Code Description	Pay End Date	UC Earn End Date	Earn Code	FTE	Comp Frequency	Comp Rate	FTE Comp Rate	Percent Total Pay	Hours	Salary Amount	Fringe Amount
11/30/2024	6191	486369	58786	SWG2	1200			PC15547	10286318	Coffey,Julie Ellen	006239	FIELD RESEARCHER 4	11/30/2024	11/30/2024	REG	1	M	6,672.00	6,672.00	0.2620	44.01	1,747.93	0.00
11/30/2024	6191	486369	58786	SWG2	1200			PC15547	10308213	Rood,Sicco Herman	005189	FIELD RESEARCHER 3	11/30/2024	11/30/2024	REG	0.6	M	4,205.00	7,008.33	0.1586	26.64	1,111.21	0.00
11/30/2024	6191	486369	58786	SWG2	1211			PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	11/30/2024	11/30/2024	REG	1	UC_FY	5,980.75	5,980.75	0.2000	33.60	1,196.15	0.00
11/30/2024	6191	486369	58786	SWG2	1211			PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/01/2024	04/30/2024	REG	1	UC_FY	10,208.33	10,208.33	(0.0181)	(3.18)	(232.95)	0.00
11/30/2024	6191	486369	58786	SWG2	1211			PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2024	10/31/2024	REG	1	UC_FY	10,208.33	10,208.33	(0.0052)	(0.95)	(55.68)	0.00
11/30/2024	6191	486369	58786	SWG2	1211			PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2024	11/30/2024	REG	1	UC_FY	10,208.33	10,208.33	0.0730	12.26	745.21	0.00
11/30/2024	6191	486369	58786	SWG2	1211			PC15547	10327413	Perea-Vega,Moises Raymundo	003320	ASST SPECIALIST	11/30/2024	10/31/2024	REG	0.5	UC_FY	2,695.83	5,391.67	(0.0090)	(1.65)	(51.22)	0.00
11/30/2024	6191	486369	58786	SWG2	1211			PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	11/30/2024	11/30/2024	REG	1	UC_FY	5,980.75	5,980.75	0.2000	33.60	1,196.15	0.00
11/30/2024	6191	486369	58786	SWG2	1285			PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2024	10/31/2024	VAC	1	UC_FY	10,208.33	10,208.33	0.0052	0.95	55.68	0.00
11/30/2024	6191	486369	58786	SWG2	1285			PC15547	10327413	Perea-Vega,Moises Raymundo	003320	ASST SPECIALIST	11/30/2024	10/31/2024	VAC	0.5	UC_FY	2,695.83	5,391.67	0.0090	1.65	51.22	0.00
SWG2 - SALARIES & WAGES GENERAL ASSISTANCE																					**146.94**	**5,763.70**	**0.00**
11/30/2024	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/01/2024	04/30/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	(17.47)
11/30/2024	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2024	10/31/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	(4.18)
11/30/2024	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2024	11/30/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	55.89
11/30/2024	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	006239	FIELD RESEARCHER 4	11/30/2024	11/30/2024		1	M	6,672.00	6,672.00		0.00	0.00	131.09
11/30/2024	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	005189	FIELD RESEARCHER 3	11/30/2024	11/30/2024		0.6	M	4,205.00	7,008.33		0.00	0.00	83.34
11/30/2024	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10327413	Perea-Vega,Moises Raymundo	003320	ASST SPECIALIST	11/30/2024	10/31/2024		0.5	UC_FY	2,695.83	5,391.67		0.00	0.00	(3.84)
11/30/2024	6191	486369	58786	BENF	1627		Vacation Usage Fringe Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2024	10/31/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	(55.68)
11/30/2024	6191	486369	58786	BENF	1627		Vacation Usage Fringe	PC15547	10327413	Perea-Vega,Moises Raymundo	003320	ASST SPECIALIST	11/30/2024	10/31/2024		0.5	UC_FY	2,695.83	5,391.67		0.00	0.00	(51.22)

UCI Decision Support

UCPath Salaries by Fund Report

Fiscal Year: 2025 **Period(s) Selected:** 5 - November

Accounting Date	KFS Org	UC Account	UC Fund	KFS Consolidation Code	KFS Object Code	KFS Project	Line Description	KFS Account	Employee ID	Employee Name	Job Code	Job Code Description	Pay End Date	UC Earn End Date	Earn Code	FTE	Comp Frequency	Comp Rate	FTE Comp Rate	Percent Total Pay	Hours	Salary Amount	Fringe Amount
							Expense																
11/30/2024	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/01/2024	04/30/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	(1.54)
11/30/2024	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2024	10/31/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	0.00
11/30/2024	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2024	11/30/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	4.92
11/30/2024	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10286318	Coffey,Julie Ellen	006239	FIELD RESEARCHER 4	11/30/2024	11/30/2024		1	M	6,672.00	6,672.00		0.00	0.00	11.54
11/30/2024	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10308213	Rood,Sicco Herman	005189	FIELD RESEARCHER 3	11/30/2024	11/30/2024		0.6	M	4,205.00	7,008.33		0.00	0.00	7.33
11/30/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	11/30/2024	11/30/2024		1	UC_FY	5,980.75	5,980.75		0.00	0.00	272.72
11/30/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/01/2024	04/30/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	(105.76)
11/30/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2024	10/31/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	(25.28)
11/30/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2024	11/30/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	338.33
11/30/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	006239	FIELD RESEARCHER 4	11/30/2024	11/30/2024		1	M	6,672.00	6,672.00		0.00	0.00	793.56
11/30/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	005189	FIELD RESEARCHER 3	11/30/2024	11/30/2024		0.6	M	4,205.00	7,008.33		0.00	0.00	504.49
11/30/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10327413	Perea-Vega,Moises Raymundo	003320	ASST SPECIALIST	11/30/2024	10/31/2024		0.5	UC_FY	2,695.83	5,391.67		0.00	0.00	(23.25)
11/30/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	11/30/2024	11/30/2024		1	UC_FY	5,980.75	5,980.75		0.00	0.00	272.72
BENF - BENEFITS																					**0.00**	**0.00**	**2,187.71**
11/30/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	11/30/2024	11/30/2024		1	UC_FY	5,980.75	5,980.75		0.00	0.00	14.59
11/30/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/01/2024	04/30/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	(2.84)
11/30/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2024	10/31/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	(0.68)
11/30/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2024	11/30/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	9.09
11/30/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	006239	FIELD RESEARCHER 4	11/30/2024	11/30/2024		1	M	6,672.00	6,672.00		0.00	0.00	21.32

UCI Decision Support

UCPath Salaries by Fund Report

Fiscal Year: 2025 **Period(s) Selected:** 5 - November

Run Date/Time: 12/16/2024 6:49:47 AM
Page #: 3 of 3

Accounting Date	KFS Org	UC Account	UC Fund	KFS Consolidation Code	KFS Object Code	KFS Project	Line Description	KFS Account	Employee ID	Employee Name	Job Code	Job Code Description	Pay End Date	UC Earn End Date	Earn Code	FTE	Comp Frequency	Comp Rate	FTE Comp Rate	Percent Total Pay	Hours	Salary Amount	Fringe Amount
11/30/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	005189	FIELD RESEARCHER 3	11/30/2024	11/30/2024		0.6	M	4,205.00	7,008.33		0.00	0.00	13.56
11/30/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10327413	Perea-Vega,Moises Raymundo	003320	ASST SPECIALIST	11/30/2024	10/31/2024		0.5	UC_FY	2,695.83	5,391.67		0.00	0.00	(0.62)
11/30/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	11/30/2024	11/30/2024		1	UC_FY	5,980.75	5,980.75		0.00	0.00	14.59
GENX - GENERAL EXPENSES																					**0.00**	**0.00**	**69.01**
PC15547 - 486369-58786 UCI-Nature/LAND IQ																					**146.94**	**5,763.70**	**2,256.72**
58786 - LAND IQ 225754 LULOW G0 CR 3/25																					**146.94**	**5,763.70**	**2,256.72**

Certificate Of Completion

Envelope Id: 9C1B94E4-9DF8-4B4F-BF9B-BD897DEAC13B
Status: Completed
Subject: Complete with Docusign: 25928029_58786_LAND IQ_NOV 2024 INVOICE.pdf
Source Envelope:
Document Pages: 8
Signatures: 1
Certificate Pages: 2
Initials: 0
AutoNav: Enabled
EnvelopeId Stamping: Enabled
Time Zone: (UTC-08:00) Pacific Time (US & Canada)

Envelope Originator:
Ashley Vuong
415 Aldrich Hall
Irvine, CA 92697-1025
avuong6@uci.edu
IP Address: 99.48.30.232

Record Tracking

Status: Original
12/17/2024 7:46:54 AM
Holder: Ashley Vuong
avuong6@uci.edu
Location: DocuSign

Signer Events	Signature	Timestamp
Griselda Duran griseld@uci.edu C&G Accounting & Operations Manager UCI Account Security Level: Email, Account Authentication (None)	DocuSigned by:  A5C03A9D5EAD46F... Signature Adoption: Uploaded Signature Image Using IP Address: 172.90.87.71	Sent: 12/17/2024 7:49:17 AM Viewed: 12/17/2024 8:14:32 AM Signed: 12/17/2024 8:17:41 AM
Electronic Record and Signature Disclosure: Not Offered via DocuSign		

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp
Daniel Nguyen dsnguyen@uci.edu Finance Manager, Office of Research UCI Account Security Level: Email, Account Authentication (None)	 COPIED	Sent: 12/17/2024 7:49:17 AM
Electronic Record and Signature Disclosure: Not Offered via DocuSign		

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	12/17/2024 7:49:17 AM
Certified Delivered	Security Checked	12/17/2024 8:14:32 AM
Signing Complete	Security Checked	12/17/2024 8:17:41 AM
Completed	Security Checked	12/17/2024 8:17:41 AM

Payment Events	Status	Timestamps

University of California, Irvine

Invoice No: 25928029-58786

Contracts and Grants Accounting
228 Aldrich Hall
Irvine, CA 92697-1050

Date: 12/17/2024
Federal Tax ID: 95-2226406
Proposal Number: 105753
UC Fund Number: 58786
Reference:

LAND IQ, LLC
2020 L STREET, SUITE 210
SACRAMENTO, CA 95811

Please Include Invoice Number with Check or Wire Payment

Award Number: 225754
Project Title: Concept Feasibility Plan for Rehabilitation of Fallowed Irrigated Agricultural Land in the Borrego Valley Groundwater Basin

Principal Investigator: Lulow, Megan
Project Period: 01/02/2023 to 03/31/2025

Billing Period: 11/01/2024 to 11/30/2024

Expense Category	Cumulative To Date	Previously Billed	Current Expenses
Salaries and Wages	$141,394.97	$135,631.27	$5,763.70
Fringe Benefits	$49,951.93	$47,764.22	$2,187.71
Supplies and Materials	$25,489.99	$25,489.99	$0.00
Equipment	$0.00	$0.00	$0.00
Travel	$31.76	$31.76	$0.00
Other Direct Costs	$2,721.69	$2,652.68	$69.01
Subawards	$0.00	$0.00	$0.00
	$219,590.34	$211,569.92	$8,020.42
Indirect Costs (0%)	$0.00	$0.00	$0.00
	$219,590.34	$211,569.92	$8,020.42
Current Invoice Total			**$8,020.42**

Please make your check payable to The Regents of the University of California Irvine, CONTRACTS AND GRANTS ACCOUNTING 228 ALDRICH HALL, IRVINE, CALIFORNIA 92697-1050. Include a reference to the invoice number and mail your payment to the above address. If you have any questions regarding this invoice, please contact Ashley Vuong for assistance at (949) 824-3406 or email avuong6@uci.edu

By signing this report, I certify to the best of my knowledge and belief that the information provided herein is true, complete, and accurate. I am aware that the provision of false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil, or administrative consequences including, but not limited to violations of U.S. Code Title 18, Sections 2, 1001, 1343 and Title 31, Sections 3729-3730 and 3801-3812.

Certified By

Griselda Duran
Manager, Contracts & Grants Accounting

☐ Attachment

Description of Services Rendered
Project 940-80-23-08
Grant Component No. 6: Biological Restoration of Fallowed Lands
Water Year 2025 - Invoice Period: November 1, 2024, to November 30, 2024

The services billed in this invoice are for work performed on the tasks included in Grant Component No. 6: Biological Restoration of Fallowed Lands. The work is the Land IQ portion of the total scope of work. The remainder of the scope of work is being performed by West Yost.

CATEGORY (A) COMPONENT ADMINISTRATION. The work performed for this task includes monthly project management of the tasks included in Component 6 and preparation of quarterly grant progress reports for submittal to the Borrego Water District (BWD). The work performed during the invoice period includes:

- Performed monthly project management to review scope, schedule, and budget progress.

CATEGORY (D) MONITORING, ASSESSMENT. The work performed for this task includes the monitoring and reporting portion of the Component 6 tasks. The work performed in this reporting period included:

TASK 1 - DATA REVIEW.

- No work performed in this reporting period. This task is complete.

TASK 2 - HABITAT FIELD STUDY.

- No work performed in this reporting period. This task is complete.

TASK 3 - SAND FENCE CASE STUDY.

- Internal meetings
- Task coordination and communication
- Preparation for December Field Investigation and installation of dust control monitors and seed plots
- Plan a drone flight plan for submission to UCI Drone Safety approval
- Coordination with Sand Fence Subcontractor (Fredricks Construction) to request updated work schedule and a change order that the subcontractor would like to submit for additional work they encountered during implementation of the original agreement.
- Field visit to check work of Contractor on November 8

TASK 4 - FALLOWING REHAB STRATEGIES.

- Internal meetings
- Review of Draft Task 4 Report
- Distribution of Draft Task 4 Report to reviewers for feedback via Google Doc

TASK 5 - FALLOWING PRIORITIZATION.

- No work performed in this reporting period.

CATEGORY (E) STAKEHOLDER OUTREACH. The work performed for this task includes stakeholder outreach activities to support the implementation and communication of the Component 6 tasks. The work performed in this reporting period included:

TASK 6 - ENVIRONMENTAL WORKING GROUP MEETINGS.

- Internal meetings
- Preparation of materials for November 20 EWG Meeting
- Presentation on November 20 at EWG Meeting
- Meeting notes prepared and shared with Watermaster Staff (Andy Malone) for consolidation and distribution to EWG

Grant Component No. 6: Biological Restoration of Fallowed Lands

Land IQ November 2024 **Invoiced by Category and Task** [(a)]

Task	Nov-24
Totals	**$22,757.10**
Category (a) Component Administration - Category 7	**$165.00**
Component Administration	$165.00
Category (d) Monitoring, Assessment	**$6,708.22**
Task 1 - Data Review	$0.00
Task 2 - Habitat Field Study	$0.00
Task 3 - Sand Fence Case Study	$6,228.22
Task 4 - Fallowing Rehab Strategies	$480.00
Task 5 - Fallowing Prioritization	$0.00
Category (e) Stakeholder Outreach	**$15,883.88**
Task 6 - EWG Meetings	$15,883.88

Notes:

(a) Does not include work performed by West Yost

Description of Land IQ and UCI Invoices

December 2024

No payments on approved invoices will be paid until demonstration of successful completion of project by March 31, 2025.

Total Amount Invoiced: **$46,546.27**

Approved February 28, 2025

Amount Invoiced by Land IQ: **$3,342.50**

Description of Land IQ Expenses:

- Time billed by Land IQ staff on Component Administration, and Tasks 3, 4, 5 and 6.
- (see pages 3-4 of invoice).

Amount Invoiced by UCI: **$9,028.79**

Description of UCI Time & Expenses – Income and Expense Report: Total time and expenses of $9,028.79 (pg. 15-17 of invoice) were calculated as follows:

- Time billed by UCI staff on tasks 3, 5 and 6 (see page 8).
- Summary of Labor Per Hour – monthly rate divided by working hours per month (see page 9). Note: GAEL rates have been adjusted for F24-25.

SUMMARY OF LABOR PER HOUR (DETAILED)

Dec-24				
Individual	**Time (h)**	**Salary Total**	**Rate (h)**	**GAEL***
Post-Doctoral Researcher 1 (Fiore)**	35.20000	$ 1,196.15	$ 33.98	$ 14.59
Post-Doctoral Researcher 2 (Brigham)**	35.20000	$ 1,196.15	$ 33.98	$ 14.59
Research Associate 1 (Rood)**	27.90586	$ 1,111.21	$ 39.83	$ 13.56
Research Associate 2 (Coffey)**	46.10847	$ 1,747.93	$ 37.91	$ 21.32
Senior Scientist 2 (Lulow)**	17.63168	$ 1,022.67	$ 58.00	$ 12.48

*GAEL rates have been adjusted for FY24-25:

- **Note:** The table shows dollar amounts and hours not rounded to show the breakdown of labor costs.

- UCPath Salaries by Fund Report:
  - SWG2 – Salaries & Wages General Assistance: $6,274.11
  - BENF – Benefits: $2,624.53
  - GENX – General Expenses: $76.54
  - **Note:** The UCPath Salaries by Fund Report rounds to the nearest hundredth digit (see pages 14-16). This report is auto generated from UCI's payroll system and is limited on what adjustments can be made to it.
    - Example: Salary $1,392.25 / FTE Comp Rate $7,008.33 = 0.198656 (Percent Total Pay) which is rounded to 0.1987.
    - Similarly, the 36.69 hours are multiplied by a rate of $33.16516 rather than $33.17.

LAND IQ

INVOICE

Land IQ, LLC
2020 L Street
Suite 210
Sacramento, CA 95811
www.landIQ.com

Borrego Springs Watermaster
c/o West Yost & Associates
23692 Birtcher Drive
Lake Forest, CA 92630

Invoice Date:	12/31/24
Total Amount:	$46,546.27
Invoice Number:	6487
Invoice Period:	12/01/24 - 12/31/24
Engagement:	Borrego Springs Watermaster

Summary of Charges

Description	Amount
Task A. LIQ (WY23/24) Project Management	$590.00
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	$640.00
Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	$1,280.00
Task 5: LIQ (WY23/24) Farmland Fallowing Prioritization	$247.50
Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	$585.00
Task A. UCI (WY23/24) Project Management Expenses	$286.45
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study Expenses	$34,174.98
Task 4: UCI (WY23/24) Farmland Fallowing Rehabilitation Strategies Expenses	$653.61
Task 5: UCI (WY23/24) Farmland Fallowing Prioritization Expenses	$5,888.73
Task 6: UCI (WY23/24) Conduct Environmental Working Group (EWG) Meetings Expenses	$2,200.00
TOTAL AMOUNT DUE	**$46,546.27**

LAND IQ

INVOICE

Land IQ, LLC
2020 L Street
Suite 210
Sacramento, CA 95811
www.landIQ.com

Borrego Springs Watermaster
c/o West Yost & Associates
23692 Birtcher Drive
Lake Forest, CA 92630

Invoice Date:	12/31/24
Total Amount:	$46,546.27
Invoice Number:	6487
Invoice Period:	12/01/24 - 12/31/24
Engagement:	Borrego Springs Watermaster

SUMMARY OF FEES

Source	Hrs	Rate	Amount
Task A. LIQ (WY23/24) Project Management			
Laura Jackson – Accounting Assistant	1.00	$110.00	$110.00
Robert Travis Brooks – Project Ecologist	3.00	$160.00	$480.00
Task A. LIQ (WY23/24) Project Management	**4.00**		**$590.00**
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study			
Robert Travis Brooks – Project Ecologist	4.00	$160.00	$640.00
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	**4.00**		**$640.00**
Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies			
Robert Travis Brooks – Project Ecologist	8.00	$160.00	$1,280.00
Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	**8.00**		**$1,280.00**
Task 5: LIQ (WY23/24) Farmland Fallowing Prioritization			
Justin Sitton - Project Analyst	1.50	$165.00	$247.50
Task 5: LIQ (WY23/24) Farmland Fallowing Prioritization	**1.50**		**$247.50**
Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings			
Stephanie Tillman – Senior Scientist II	3.00	$195.00	$585.00
Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	**3.00**		**$585.00**
TOTAL FEES & EXPENSES	**20.50**		**$46,546.27**

TIME & EXPENSE DETAIL

Date	Task	Description	Hrs	Rate	Amount
Robert Travis Brooks					
12/10/24	Task A. LIQ (WY23/24) Project Management	Internal Meeting on Budget and Schedule; call with Rodney Bruce about Jake Fredericks; budgeting	2.00	$160.00	$320.00
12/20/24	Task A. LIQ (WY23/24) Project Management	Project Management	1.00	$160.00	$160.00
12/19/24	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Reaching out to Subcontractor on status of change order to finish the work	1.00	$160.00	$160.00
12/2/24	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Summary of activity to report to Watermaster Staff on progress	3.00	$160.00	$480.00
12/22/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	Draft Grant Completion Report	8.00	$160.00	$1,280.00
		Robert Travis Brooks	**15.00**		**$2,400.00**
Laura Jackson					
12/19/24	Task A. LIQ (WY23/24) Project Management	Project Management Support	0.25	$110.00	$27.50
12/18/24	Task A. LIQ (WY23/24) Project Management	Project Management Support	0.25	$110.00	$27.50
12/20/24	Task A. LIQ (WY23/24) Project Management	Project Management Support	0.50	$110.00	$55.00
		Laura Jackson	**1.00**		**$110.00**
Justin Sitton					
12/9/24	Task 5: LIQ (WY23/24) Farmland Fallowing Prioritization	Recap meeting with Stephanie and Travis	1.50	$165.00	$247.50
		Justin Sitton	**1.50**		**$247.50**
Stephanie Tillman					
12/9/24	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	coordination with Dana re expenses; mtg with Travis and Justin re maps	1.25	$195.00	$243.75
12/10/24	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	reviewed Watermaster letter; mtg regarding subcontractor	0.50	$195.00	$97.50
12/3/24	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	reviewed EWG meeting notes from Andy	0.25	$195.00	$48.75
12/4/24	Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	mtg with Andy and Travis	1.00	$195.00	$195.00
		Stephanie Tillman	**3.00**		**$585.00**
		TOTAL FEES	**20.50**		**$3,342.50**

INVOICE

Date	Code	Task	Description	Amount
Land IQ Expenses				
12/23/24	Office Supplies	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	The Home Depot: MidWest Air Tech Fencing (Order # H1028-379947)	$13,101.06
12/31/24	Professional Services	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Frederick's Services Inc: Sand Fence Study - 6 days	$21,073.92
12/31/24	Professional Services	Task 4: UCI (WY23/24) Farmland Fallowing Rehabilitation Strategies	UCIrive: December 1-December 31, 2024 (Invoice No: 26165699-58786)	$653.61
12/31/24	Professional Services	Task 5: UCI (WY23/24) Farmland Fallowing Prioritization	UCIrive: December 1-December 31, 2024 (Invoice No: 26165699-58786)	$5,888.73
12/31/24	Professional Services	Task 6: UCI (WY23/24) Conduct Environmental Working Group (EWG) Meetings	UCIrive: December 1-December 31, 2024 (Invoice No: 26165699-58786)	$2,200.00
12/31/24	Professional Services	Task A. UCI (WY23/24) Project Management	UCIrive: December 1-December 31, 2024 (Invoice No: 26165699-58786)	$286.45
			Land IQ Expenses	**$43,203.77**
			TOTAL EXPENSES	**$43,203.77**

TOTAL AMOUNT DUE **$46,546.27**

Customer Receipt

12/23/2024, 1:29 PM PST

Sales Person JSD804 **Store Phone #** (951) 303-2198

Store # 1028 **Location** 32020 TEMECULA PARKWAY, TEMECULA, CA 92592

Customer Information

JAKE FREDRICKS
(951) 970-2199
JTFREDERICKS@MSN.COM

JAKE FREDRICKS
680 PALM CANYON DRIVE
BORREGO SPRINGS, CA 92004

Order # H1028-379947

PO / Job Name Snow Fence

Delivery

Delivery Address
680 Palm Canyon Dr
Borrego Springs , CA 92004

Delivery Options
Outside Delivery

Estimated Arrival

	Item Description	Model #	SKU #	Unit Price	Qty	Subtotal
01	Everbilt Galvanized Steel 12-Gauge T-Post Fence Clips (25 per Bag)	901169BEB	355113	$4.52 / each	58	$262.16
02	Outside Delivery	N/A	515663	$79.00 / each	1	$79.00

Delivery

Delivery Address
680 Palm Canyon Dr
Borrego Springs, CA 92004

Delivery Options
MidWest Air Tech Fencing

Delivery Date
14 Days

	Special Order Products	Model #	SKU #	Unit Price	Qty	Subtotal
	MidWest Air Tech Fencing					
03	MidWest Air Tech Fencing 1-3/4"x3-1/2"x6' Everbilt Fence T-Post w/ Anchor Plate (Steel Green 901176EB) [QC:41545027] | 1-3/4"x3-1/2"x6' Everbilt Fence T-Post w/ Anchor Plate (Steel Green 901176EB) [QC:41545027] **DISCOUNT $0.38 OFF EACH**	901176EB	1001241167	~~$7.64 / each~~ $7.26 / each	480	$3,484.80

Delivery

Delivery Address
680 Palm Canyon Dr
Borrego Springs, CA 92004

Delivery Options
Mutual Industries Inc.

Delivery Date
16 Days

	Special Order Products	Model #	SKU #	Unit Price	Qty	Subtotal
	Mutual Industries Inc.					
04	Mutual Industries Inc. 4'x50' Mutual Industries Snow/Sand Fence (14910-9-48) [QC:41545027] | 4'x50' Mutual Industries Snow/Sand Fence (14910-9-48) [QC:41545027]	14910-9-48	1001338417	$104.16 / each	80	$8,332.80

Customer Receipt

12/23/2024, 1:29 PM PST

Sales Person JSD804 **Store Phone #** (951) 303-2268

Store # 1028 **Location** 32020 TEMECULA PARKWAY, TEMECULA, CA 92592

90 DAY RETURN POLICY. The Home Depot reserves the right to limit / deny returns. Please see the return policy sign in the stores for details.

Pro Xtra 2024
Member Statement (as of 12/23)

Pro Xtra Spend	Pro Xtra Savings
$9,376.33	$168.76

Visit ProXtra: https://www.homedepot.com/c/Pro_Xtra

Subtotal	$12,341.16
Discounts	-$182.40
Sales Tax	$942.30
Invoice Total	$13,101.06
Balance Due	$0.00

Fredericks Services Inc.
General Engineering License #987706
Email jtfredericks@gmail.com
PO Box 1320 Borrego Springs Ca. 92004

Date 1/15/25

SAND FENCE STUDY

Invoice

To: Land IQ LLC
2020 L Street Suite 210
Sacramento Ca.

Description	Product/Service	HOURS	Rate	Amount
Load and move chips, move fence material around site	Backhoe	48	$75.00	$3600.00
	Operator	48	$116.31	$5582.88
haul and move chips, install fence materials	Labor	96	$88.24	$8471.04
	Supervisor	48	$65.00	$3120.00
	truck and tools	6	$50.00	$300.00
6 DAYS				$0.00
			Amount Due	**$21073.92**

If you have any question please feel free to call Jake 951-970-2199

Wiring Info Wiring Instructions:

Community Valley Bank
571 “A” Palm Canyon Drive
Borrego Springs Ca 92004

Routing # 122244676

Account # 205001472

Fredericks Services Inc.

UCIRVINE

Invoice No: 26165699-58786

Contracts and Grants Accounting
228 Aldrich Hall
Irvine, CA 92697-1050
Fax: (949) 824-3895

Date: 01/17/2025
Federal Tax ID: 95-2226406
Proposal Number: 105753
UC Fund Number: 58786
Reference:

LAND IQ, LLC
2020 L STREET, SUITE 210
SACRAMENTO, CA 95811

Please Include Invoice Number with Check or Wire Payment

Award Number:	225754
Project Title:	Concept Feasibility Plan for Rehabilitation of Fallowed Irrigated Agricultural Land in the Borrego Valley Groundwater Basin
Principal Investigator:	Lulow, Megan
Project Title:	01/02/2023 to 03/31/2025

Billing Period: 12/01/2024-12/31/2024

Expense Category	Cumulative To Date	Previously Billed	Current Expenses
Labor - Task A	$9,750.00	$9,463.55	$286.45
Labor - Task 1	$16,250.00	$16,250.00	$0.00
Labor - Task 2	$96,543.92	$96,543.92	$0.00
Labor - Task 3	$60,607.40	$60,607.40	$0.00
Labor - Task 4	$12,193.33	$11,539.72	$653.61
Labor - Task 5	$5,888.73	$0.00	$5,888.73
Labor - Task 6	$17,862.78	$15,662.78	$2,200.00
Direct Expense	$9,522.97	$9,522.97	$0.00
	$228,619.13	$219,590.34	$9,028.79
Indirect Costs (0%)	$0.00	$0.00	$0.00
	$228,619.13	$219,590.34	$9,028.79
Current Invoice Total			**$9,028.79**

Please make your check payable to The Regents of the University of California Irvine, CONTRACTS AND GRANTS ACCOUNTING 228 ALDRICH HALL, IRVINE, CALIFORNIA 92697-1050. Include a reference to the invoice number and mail your payment to the above address. If you have any questions regarding this invoice, please contact Ashley Vuong for assistance at (949) 824-3406 or email avuong6@uci.edu

By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and objectives set forth in the terms and conditions of the Federal award. I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise. (U.S. Code Title 18, Section 1001 and Title 31, Sections 3729-3730 and 3801-3812).

Certified By

DocuSigned by:
A5C03A9D5EAD46F...

Griselda Duran
Manager, Contracts & Grants Accounting

December 2024 UCI Activities

Task 4 Activities:

- Monthly refarm meeting
- Multi-day field trip (dust collectors and seeding with capstone group), tree fence measurements
- Test drone flight

Task 5 Activities:

- Meeting discussions pertinent data and findings
- Data analysis, writing

Task 6 Activities:

- Data summary and analysis for EWG meeting
- Meeting and correspondence with LandIQ

SUMMARY OF LABOR PER HOUR

Dec-24 Individual	Time (h)	Salary Total	Rate (h)	GAEL*
Post-Doctoral Researcher 1 (Fiore)**	35.20	$ 1,196.15	$ 33.98	$ 14.59
Post-Doctoral Researcher 2 (Brigham)**	35.20	$ 1,196.15	$ 33.98	$ 14.59
Research Associate 1 (Rood)**	27.91	$ 1,111.21	$ 39.82	$ 13.56
Research Associate 2 (Coffey)**	46.11	$ 1,747.93	$ 37.91	$ 21.32
Senior Scientist 2 (Lulow)**	17.63	$ 1,022.67	$ 58.00	$ 12.48
		$ 6,274.11		**$ 76.54**

*GAEL rates have been adjusted for FY24-25: https://www.accounting.uci.edu/cost-analysis/campus-assessment.php#gael

**monthly rate divided by working hours per month

SUMMARY OF LABOR PER HOUR (DETAILED)

Dec-24				
Individual	**Time (h)**	**Salary Total**	**Rate (h)**	**GAEL***
Post-Doctoral Researcher 1 (Fiore)**	35.20000	$ 1,196.15	$ 33.98	$ 14.59
Post-Doctoral Researcher 2 (Brigham)**	35.20000	$ 1,196.15	$ 33.98	$ 14.59
Research Associate 1 (Rood)**	27.90586	$ 1,111.21	$ 39.83	$ 13.56
Research Associate 2 (Coffey)**	46.10847	$ 1,747.93	$ 37.91	$ 21.32
Senior Scientist 2 (Lulow)**	17.63168	$ 1,022.67	$ 58.00	$ 12.48
		$ 6,274.11		**$ 76.54**

*GAEL rates have been adjusted for FY24-25: https://www.accounting.uci.edu/cost-analysis/campus-assessment.php#gael

**monthly rate divided by working hours per month

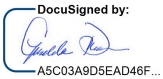
Certificate Of Completion

Envelope Id: 4139A5D2-62E9-4FA3-8A3F-BAD2CFD2C0E7
Status: Completed
Subject: Complete with Docusign: 26165699_58786_LAND IQ_DEC 2024 INVOICE.pdf
Source Envelope:
Document Pages: 4
Signatures: 1
Certificate Pages: 2
Initials: 0
AutoNav: Enabled
EnvelopeId Stamping: Enabled
Time Zone: (UTC-08:00) Pacific Time (US & Canada)

Envelope Originator:
Ashley Vuong
415 Aldrich Hall
Irvine, CA 92697-1025
avuong6@uci.edu
IP Address: 99.48.30.232

Record Tracking

Status: Original
1/17/2025 4:08:10 PM
Holder: Ashley Vuong
avuong6@uci.edu
Location: DocuSign

Signer Events	Signature	Timestamp
Griselda Duran griseld@uci.edu C&G Accounting & Operations Manager UCI Account Security Level: Email, Account Authentication (None)	DocuSigned by:  A5C03A9D5EAD46F... Signature Adoption: Uploaded Signature Image Using IP Address: 172.90.87.71	Sent: 1/17/2025 4:12:03 PM Viewed: 1/21/2025 8:38:29 AM Signed: 1/21/2025 8:39:16 AM

Electronic Record and Signature Disclosure:
Not Offered via DocuSign

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp
Daniel Nguyen dsnguyen@uci.edu Finance Manager, Office of Research UCI Account Security Level: Email, Account Authentication (None)	COPIED	Sent: 1/17/2025 4:12:03 PM

Electronic Record and Signature Disclosure:
Not Offered via DocuSign

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	1/17/2025 4:12:03 PM
Certified Delivered	Security Checked	1/21/2025 8:38:29 AM
Signing Complete	Security Checked	1/21/2025 8:39:16 AM
Completed	Security Checked	1/21/2025 8:39:16 AM

Payment Events	Status	Timestamps

University of California, Irvine

Invoice No: 26165699-58786

Contracts and Grants Accounting
228 Aldrich Hall
Irvine, CA 92697-1050

Date: 01/21/2025
Federal Tax ID: 95-2226406
Proposal Number: 105753
UC Fund Number: 58786
Reference:

LAND IQ, LLC
2020 L STREET, SUITE 210
SACRAMENTO, CA 95811

Please Include Invoice Number with Check or Wire Payment

Award Number: 225754
Project Title: Concept Feasibility Plan for Rehabilitation of Fallowed Irrigated Agricultural Land in the Borrego Valley Groundwater Basin

Principal Investigator: Lulow, Megan
Project Period: 01/02/2023 to 03/31/2025

Billing Period: 12/01/2024 to 12/31/2024

Expense Category	Cumulative To Date	Previously Billed	Current Expenses
Salaries and Wages	$147,669.08	$141,394.97	$6,274.11
Fringe Benefits	$52,576.46	$49,951.93	$2,6,24.53
Supplies and Materials	$25,489.99	$25,489.99	$0.00
Equipment	$0.00	$0.00	$0.00
Travel	$85.42	$31.76	$53.66
Other Direct Costs	$2,798.18	$2,721.69	$76.49
Subawards	$0.00	$0.00	$0.00
	$228,619.13	$219,590.34	$9,028.79
Indirect Costs (0%)	$0.00	$0.00	$0.00
	$228,619.13	$219,590.34	$9,028.79
Current Invoice Total			**$9,028.79**

Please make your check payable to The Regents of the University of California Irvine, CONTRACTS AND GRANTS ACCOUNTING 228 ALDRICH HALL, IRVINE, CALIFORNIA 92697-1050. Include a reference to the invoice number and mail your payment to the above address. If you have any questions regarding this invoice, please contact Ashley Vuong for assistance at (949) 824-3406 or email avuong6@uci.edu

I certify to the best of my knowledge and belief that the information provided herein is true, complete, and accurate. I am aware that the provision of false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil, or administrative consequences including, but not limited to violations of U.S. Code Title 18, Sections 2, 1001, 1343 and Title 31, Sections 3729-3730 and 3801-3812.

Certified By

Griselda Duran
Manager, Contracts & Grants Accounting

☐ Attachment

KFS Account Transactions - Income and Expense Report

FS0100-Detail General Ledger

Fiscal Year: 2025 **Period(s) Selected:** 06 - DEC. 2024

Run Date/Time: 01/10/2025 3:19:08 PM
Page #: 1 of 1
Run by: Daniel S Nguyen

Chart: IR
Org: 6191
Org Title: OFFICE OF UCI-NATURE
Account: PC15547
Account Name: 486369-58786 UCI-Nature/LAND IQ

Control Account - UC Account: UC58786 - 486369
Agency Name: LAND IQ, LLC
Fiscal Officer: Daniel S Nguyen
Account Manager: Emilia Castaneda
Project Director: Megan E Lulow

Sub Fund Grp Type Private Contracts-Restricted
Award #: -
Award Begin Date: 01/03/2023
Award End Date: 03/31/2025
ICR Rate: 0.00%

GEC Doc#	Period	Object Type	Object Level	Object Code	Doc Type	Origin	Doc No	Description	Post Date	Ledger Entry ID	Org Doc No	Project	OrgRefID	Doc Ref No	Budget	Actuals	Encumbrances
Account - PC15547																	
Consolidation - SWG2																	
	06	EX	SWGN	1200	IBI	UP	20241231	MONTHLY Check Date 01/02/2025	01/02/25	157624033	-	-	-	-	$0.00	$2,859.14	$0.00
	06	EX	SWGN	1211	IBI	UP	20241231	MONTHLY Check Date 01/02/2025	01/02/25	157624034	-	-	-	-	$0.00	$3,414.97	$0.00
Consolidation Summary - SWG2 for period 06															**$0.00**	**$6,274.11**	**$0.00**
Consolidation - BENF																	
	06	EX	BENE	1627	IBI	UP	20241231	MONTHLY Check Date 01/02/2025	01/02/25	157624035	-	-	-	-	$0.00	$291.13	$0.00
	06	EX	BENE	1678	IBI	UP	20241231	MONTHLY Check Date 01/02/2025	01/02/25	157624036	-	-	-	-	$0.00	$25.62	$0.00
	06	EX	BENE	1685	IBI	UP	20241231	MONTHLY Check Date 01/02/2025	01/02/25	157624037	-	-	-	-	$0.00	$2,307.78	$0.00
Consolidation Summary - BENF for period 06															**$0.00**	**$2,624.53**	**$0.00**
Consolidation - TRVL																	
	06	EX	TRAV	8350	TRCA	01	25972109	M Lulow - REFARM Travel 12/3/24	12/23/24	157396365	T-507752	-	-	-	$0.00	$53.66	$0.00
Consolidation Summary - TRVL for period 06															**$0.00**	**$53.66**	**$0.00**
Consolidation - GENX																	
	06	EX	SRVC	7065	GEC	01	25939800	MONTHLY Check Date 11/27/2024	12/17/24	157144978	-	-	-	-	$0.00	($71.85)	$0.00
	06	EX	SRVC	7065	GEC	01	25939800	MONTHLY Check Date 11/27/2024	12/17/24	157144979	-	-	-	-	$0.00	$71.80	$0.00
	06	EX	SRVC	7065	IBI	UP	20241231	MONTHLY Check Date 01/02/2025	01/02/25	157624038	-	-	-	-	$0.00	$76.54	$0.00
Consolidation Summary - GENX for period 06															**$0.00**	**$76.49**	**$0.00**
Total Expense for period 06															**$0.00**	**$9,028.79**	**$0.00**

UCI Decision Support

UCPath Salaries by Fund Report

Fiscal Year: 2025 **Period(s) Selected:** 6 - December

Run Date/Time: 01/21/2025 9:27:22 AM
Page #: 1 of 2

Control Account: IR - UC58786 LAND IQ 225754 LULOW G0 CR 3/25

Accounting Date	KFS Org	UC Account	UC Fund	KFS Consolidation Code	KFS Object Code	KFS Project	Line Description	KFS Account	Employee ID	Employee Name	Job Code	Job Code Description	Pay End Date	UC Earn End Date	Earn Code	FTE	Comp Frequency	Comp Rate	FTE Comp Rate	Percent Total Pay	Hours	Salary Amount	Fringe Amount
12/31/2024	6191	486369	58786	SWG2	1200			PC15547	10286318	Coffey,Julie Ellen	006239	FIELD RESEARCHER 4	12/31/2024	12/31/2024	REG	1	M	6,672.00	6,672.00	0.2620	46.11	1,747.93	0.00
12/31/2024	6191	486369	58786	SWG2	1200			PC15547	10308213	Rood,Sicco Herman	005189	FIELD RESEARCHER 3	12/31/2024	12/31/2024	REG	0.6	M	4,205.00	7,008.33	0.1586	27.91	1,111.21	0.00
12/31/2024	6191	486369	58786	SWG2	1211			PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	12/31/2024	12/31/2024	REG	1	UC_FY	5,980.75	5,980.75	0.2000	35.20	1,196.15	0.00
12/31/2024	6191	486369	58786	SWG2	1211			PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	12/31/2024	12/31/2024	REG	1	UC_FY	10,208.33	10,208.33	0.1002	17.63	1,022.67	0.00
12/31/2024	6191	486369	58786	SWG2	1211			PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	12/31/2024	12/31/2024	REG	1	UC_FY	5,980.75	5,980.75	0.2000	35.20	1,196.15	0.00
SWG2 - SALARIES & WAGES GENERAL ASSISTANCE																					**162.05**	**6,274.11**	**0.00**
12/31/2024	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	12/31/2024	12/31/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	76.70
12/31/2024	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	006239	FIELD RESEARCHER 4	12/31/2024	12/31/2024		1	M	6,672.00	6,672.00		0.00	0.00	131.09
12/31/2024	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	005189	FIELD RESEARCHER 3	12/31/2024	12/31/2024		0.6	M	4,205.00	7,008.33		0.00	0.00	83.34
12/31/2024	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	12/31/2024	12/31/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	6.75
12/31/2024	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10286318	Coffey,Julie Ellen	006239	FIELD RESEARCHER 4	12/31/2024	12/31/2024		1	M	6,672.00	6,672.00		0.00	0.00	11.54
12/31/2024	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10308213	Rood,Sicco Herman	005189	FIELD RESEARCHER 3	12/31/2024	12/31/2024		0.6	M	4,205.00	7,008.33		0.00	0.00	7.33
12/31/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	12/31/2024	12/31/2024		1	UC_FY	5,980.75	5,980.75		0.00	0.00	272.72
12/31/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	12/31/2024	12/31/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	464.29
12/31/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	006239	FIELD RESEARCHER 4	12/31/2024	12/31/2024		1	M	6,672.00	6,672.00		0.00	0.00	793.56
12/31/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	005189	FIELD RESEARCHER 3	12/31/2024	12/31/2024		0.6	M	4,205.00	7,008.33		0.00	0.00	504.49
12/31/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	12/31/2024	12/31/2024		1	UC_FY	5,980.75	5,980.75		0.00	0.00	272.72
BENF - BENEFITS																					**0.00**	**0.00**	**2,624.53**
12/31/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	12/31/2024	12/31/2024		1	UC_FY	5,980.75	5,980.75		0.00	0.00	14.59
12/31/2024	6191	486369	58786	GENX	7065		GAEL GA	PC15547	10283754	Lulow,Megan	003403	PROJ	12/31/2024	12/31/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	12.48

UCI Decision Support

UCPath Salaries by Fund Report

Fiscal Year: 2025 **Period(s) Selected:** 6 - December

Run Date/Time: 01/21/2025 9:27:22 AM
Page #: 2 of 2

Accounting Date	KFS Org	UC Account	UC Fund	KFS Consolidation Code	KFS Object Code	KFS Project	Line Description	KFS Account	Employee ID	Employee Name	Job Code	Job Code Description	Pay End Date	UC Earn End Date	Earn Code	FTE	Comp Frequency	Comp Rate	FTE Comp Rate	Percent Total Pay	Hours	Salary Amount	Fringe Amount
							Assessment - Expense			E		SCIENTIST-FY NON REP											
12/31/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	006239	FIELD RESEARCHER 4	12/31/2024	12/31/2024		1	M	6,672.00	6,672.00		0.00	0.00	21.32
12/31/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	005189	FIELD RESEARCHER 3	12/31/2024	12/31/2024		0.6	M	4,205.00	7,008.33		0.00	0.00	13.56
12/31/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	12/31/2024	12/31/2024		1	UC_FY	5,980.75	5,980.75		0.00	0.00	14.59
GENX - GENERAL EXPENSES																					**0.00**	**0.00**	**76.54**
PC15547 - 486369-58786 UCI-Nature/LAND IQ																					**162.05**	**6,274.11**	**2,701.07**
58786 - LAND IQ 225754 LULOW G0 CR 3/25																					**162.05**	**6,274.11**	**2,701.07**

Description of Services Rendered
Project 940-80-23-08
Grant Component No. 6: Biological Restoration of Fallowed Lands
Water Year 2025 - Invoice Period: December 1, 2024, to December 31, 2024

The services billed in this invoice are for work performed on the tasks included in Grant Component No. 6: Biological Restoration of Fallowed Lands. The work is the Land IQ portion of the total scope of work. The remainder of the scope of work is being performed by West Yost.

CATEGORY (A) COMPONENT ADMINISTRATION. The work performed for this task includes monthly project management of the tasks included in Component 6 and preparation of quarterly grant progress reports for submittal to the Borrego Water District (BWD). The work performed during the invoice period includes:

- Performed monthly project management to review scope, schedule, and budget progress.

CATEGORY (D) MONITORING, ASSESSMENT. The work performed for this task includes the monitoring and reporting portion of the Component 6 tasks. The work performed in this reporting period included:

TASK 1 - DATA REVIEW.

- No work performed in this reporting period. This task is complete.

TASK 2 - HABITAT FIELD STUDY.

- No work performed in this reporting period. This task is complete.

TASK 3 - SAND FENCE CASE STUDY.

- Internal meetings
- Task coordination and communication
- Tree fence porosity measurements and data collection from dust collector monitors
- Test drone flight to prepare for final data collection
- Purchase of sand fence materials
- Services from subcontractor, Fredericks Construction, for installing mulch rows at T2 Borrego Property and delivering sand fence materials

TASK 4 - FALLOWING REHAB STRATEGIES.

- Internal meetings
- Review of feedback from EWG members on Draft Report

TASK 5 - FALLOWING PRIORITIZATION.

- Internal meetings
- Data management of geospatial dataset for preparation of prioritization model and maps

- Data analysis and report language writing

CATEGORY (E) STAKEHOLDER OUTREACH. The work performed for this task includes stakeholder outreach activities to support the implementation and communication of the Component 6 tasks. The work performed in this reporting period included:

TASK 6 - ENVIRONMENTAL WORKING GROUP MEETINGS.

- Internal meetings
- Preparation of materials for January 23, 2025 Meeting
- Coordination with Watermaster staff for meeting

Grant Component No. 6: Biological Restoration of Fallowed Lands

Land IQ December 2024 **Invoiced by Category and Task** [(a)]

Task	Dec-24
Totals	**$46,546.27**
Category (a) Component Administration - Category 7	**$876.45**
Component Administration	$876.45
Category (d) Monitoring, Assessment	**$42,884.82**
Task 1 - Data Review	$0.00
Task 2 - Habitat Field Study	$0.00
Task 3 - Sand Fence Case Study	$34,814.98
Task 4 - Fallowing Rehab Strategies	$1,933.61
Task 5 - Fallowing Prioritization	$6,136.23
Category (e) Stakeholder Outreach	**$2,785.00**
Task 6 - EWG Meetings	$2,785.00

Notes:

(a) Does not include work performed by West Yost

To: Board of Directors

From: Samantha Adams, Executive Director

Date: March 14, 2025

Subject: Sustainable Groundwater Management Grant Reimbursement Request Report for the October 1, 2024 to December 31, 2024 Reporting Period (Reimbursement Request #8)

The Watermaster was awarded grant funding for two projects as a subgrantee to the Borrego Water District (BWD), by the California Department of Resources (DWR) under the Proposition 68 Sustainable Groundwater Management Implementation grant program (SGM grant). Watermaster is one of four grant-funded entities under the BWD's master SGM grant agreement with DWR. The two Watermaster SGM grant projects are listed in Table 1.

Table 1. SGM Grant Projects awarded to Borrego Springs Watermaster

Grant Package Component	Project Name	Grant Award (as Amended)[1]
Component 6	Biological Restoration of Fallowed Lands	$790,340
Component 7	Monitoring, Reporting, and Groundwater Management Plan Update	$1,948,250

Watermaster staff submitted the eighth SGM grant quarterly reimbursement request documentation to the BWD on February 15, 2025 and BWD submitted the complete quarterly reporting package for the eight grant components to DWR prior to the due date on February 28, 2025. Watermaster Staff provided the BWD with detailed documents summarizing work performed during the eighth grant reimbursement period (October 1, 2024 to December 31, 2024), including annotated invoices for grant eligible expenses, organized by the two SGM grant components. The total reimbursement request for the reporting period was **$302,704.77**.

The materials submitted to the BWD for the SGM Grant Reimbursement Request included:

1. **Progress Report.** This document describes the work performed during the grant reimbursement period for each task under Component 6 and Component 7. For each component, tasks are categorized into five component categories: (A) Component Administration, (B) Planning, Design, and Environmental, (C) Construction and Implementation, (D) Monitoring Assessment, and (E) Stakeholder Outreach. For each task, the Progress Report summarizes the work performed, identifies milestones or deliverables completed, any identifies any impediments to completing the task and any the associated impacts to the schedule or budget.

[1] An amendment to transfer $35,000 from Component 7 to Component 6 was submitted to DWR on January 16, 2025. DWR has reviewed the amendment request and provided questions, which Watermaster staff have responded to. However, at time of this writing, approval of the grant amendment is still pending.

2. **Invoice Package for Component 6: Biological Restoration of Fallowed Lands**. The package includes tables of the reimbursable expenses, by task and invoice, for each vendor. Annotated versions of each individual vendor invoice received by the Watermaster during the grant reimbursement period are also included as documentation of the expenditures. The reimbursement request for the reporting period was **$117,604.78.** The reimbursement amounts by category are summarized in Table 2.
3. **Invoice Package for Component 7: Monitoring, Reporting, and Groundwater Management Plan Update.** The package includes a summary table of the reimbursable expenses, by task and invoice, for each vendor. Annotated versions of each individual vendor invoice received by the Watermaster during the grant reimbursement period are also included as documentation of the expenditures. The reimbursement request for the reporting period was **$185,099.99**. The reimbursement amounts by category are summarized in Table 2.

The materials submitted have been compiled in to a PDF for your review and are on available on the Watermaster's website at: https://borregospringswatermaster.com/wp-content/uploads/2025/03/HANDOUT-III.D.pdf

Table 2. Summary of Requested Reimbursement Amounts by Component and Task for the October 1, 2024 to December 31, 2024 Reporting Period

SGM Grant Component Category		Component 6. Biological Restoration of Fallowed Lands	Component 7. Monitoring Reporting and GMP Update	Total Amount Requested for Components 6 and 7
a)	Component Administration	$1,729.70	$17,604.00	$19,333.70
b)	Environmental/Engineering Design	$0.00	$2,431.50	$2,431.50
c)	Implementation/Administration	$0.00	$15,268.25	$15,268.25
d)	Monitoring/Assessment	$84,332.92	$120,743.74	$205,076.66
e)	Engagement/Outreach	$31,542.16	$29,052.50	$60,594.66
	Total	**$117,604.78**	**$185,099.99**	**$302,704.77**

Table 3 summarizes the reimbursements requested to date and the status of review, approval, and payment of each request.

Table 3. Summary of Reimbursement Amounts Requested and Paid

Reimbursement Request and Period		Component 6. Biological Restoration of Fallowed Lands	Component 7. Monitoring Reporting and GMP Update	Total Reimbursement Requested	Status of Request and Payment
1	Jan 2022 to Mar 2023	$168,272.54	$456,607.83	$624,880.37	Approved and Paid
2	Apr to Jun 2023	$40,278.94	$106,402.75	$146,681.69	Approved and Paid
3	July to Sep 2023	$49,196.04	$64,918.25	$114,114.29	Approved and Paid
4	Oct to Dec 2023	$53,986.66	$174,521.28	$228,507.94	Approved and Paid
5	Jan to Mar 2024	$36,074.30	$143,741.25	$179,815.55	Approved and Paid
6	Apr to Jun 2024	$60,757.35	$179,052.89	$239,810.24	Approved and Paid
7	July to Sep 2024	$147,972.19	$147,992.60	$295,964.79	Under Review
8	Oct to Dec 2024	$117,604.78	$185,099.99	$302,704.77	Submitted
	Total	**$674,142.80**	**$1,458,336.84**	**$2,132,479.64**	

Borrego Springs Watermaster
Board of Directors Meeting
March 19, 2025
AGENDA ITEM IV.A

To: Board of Directors

From: Samantha Adams, Executive Director

Date: March 14, 2025

Subject: Consideration of Approval of the Financial Audit for WY 2024

✓ **Recommended Action**	☐ **Provide Direction to Staff**	☐ **Information and Discussion**
☐ **Fiscal Impact**	☐ **Cost Estimate: $**	

Recommended Action

Approve the WY 2024 Financial Audit prepared by C.J. Brown & Company, CPAs and include with the *Water Year 2024 Annual Report for the Borrego Springs Subbasin*

Fiscal Impact: None

Background and Discussion

Section E.5 of the Judgment requires the Watermaster to file an Annual Report with the Court. Among other topics, the Annual Report must include a financial audit of all assessments and expenditures by Watermaster during the reporting period.

Watermaster contracted with C.J. Brown & Company, CPAs to perform the financial audit for WY 2024. This is the second financial audit performed by C.J. Brown & Company, CPAs, who were approved by the Watermaster Board to perform the audit during the October 10, 2024 Board meeting.

The WY 2024 Financial Audit by C.J. Brown & Company, CPAs is enclosed for review and approval. The draft audit was reviewed by the Watermaster Treasurer, Director Smith, and the enclosed final version incorporates Director Smith's comments and feedback.

A representative from C.J. Brown & Company will give a brief overview of the audit and be available to answer questions.

Enclosures

WY 2024 Financial Audit by C.J. Brown & Company, CPAs

Borrego Springs Watermaster Management Report by C.J. Brown & Company, CPAs

Borrego Springs Watermaster
Board of Directors Meeting
March 19, 2025
AGENDA ITEM IV.B

To: Board of Directors

From: Samantha Adams, Executive Director

Date: March 14, 2025

Subject: Consideration of Approval of the *Water Year 2024 Annual Report for the Borrego Springs Subbasin*

✓ **Recommended Action**	☐ **Provide Direction to Staff**	☐ **Information and Discussion**
☐ **Fiscal Impact**	☐ **Cost Estimate: $**	

Recommended Action

Approve the *Water Year 2024 Annual Report for the Borrego Springs Subbasin* and file it with the Court and DWR.

Fiscal Impact: None

Background and Previously Related Actions by the Board

Pursuant to Section IV.E.G of the Judgment, the Watermaster is required to prepare and file an Annual Report with the Court not later than April 1 following the end of each Water Year (WY).[1] Watermaster is also required to file the Annual Report with the California State Department of Water Resources (DWR) pursuant to the requirements of the Sustainable Groundwater Management Act (SGMA), specifically Article 7, Section 356.2. The Annual Report must also be submitted to the DWR by April 1.

The draft Annual Report was published on January 29, 2025. The Watermaster held a hearing to receive comments on the draft Annual Report during the February 19, 2025 Board Meeting. Additional written comments were accepted through February 26, 2025.

Discussion

The draft Final Annual Report has been updated to address the comments received (1) from the February 19, 2025 hearing and (2) in writing. Appendix H has been added to Annual Report to document the comments received and how they were addressed in the report.

[1] At its October 13, 2022 regular Board meeting, the Board voted to amend the Judgment to extend the filing deadline of the Annual Report to April 1st to allow sufficient time to complete, review, and respond to comments on the draft Annual Report. A motion to amend the Judgment to extend the Annual Report filing deadline to April 1st was filed with the Superior Court of Orange County on January 13, 2023 and was approved at an April 20, 2023 hearing.

The Annual Report functions to report out the key activities, work products, and formal recommendations to the Board during the reporting period. Some of the comments received were outside the scope of work of the Annual Report, rather than the content of the report itself. These comments are noted in Appendix H, but were not addressed in the Annual Report, including:

- Descriptions of work completed outside of the reporting period (*i.e.* in the current WY 2025), such as:
    - Board approval of the redetermination of the 2025 Sustainable Yield of 7,952 acre-feet per year (afy), and the associated update to the Rampdown schedule, which occurred at the December 5, 2024 meeting (in WY 2025). A footnote was added to the report for clarity, that the Sustainable Yield in WY 2024 was 5,700 afy and as such, all text, tables, and figures in the WY 2024 Annual Report refer to the Sustainable Yield as 5,700 afy.
    - Analysis of Carryover rules
    - Conclusions from the Biological Restoration of Fallowed Lands project
- Analyses/Details not that are either not required by the Annual Report, or are not part of Staff's approved scope of work and budget, such as:
    - Evaluation of land subsidence, which will be reported in the GMP assessment report
    - The reason(s) for changes in pumping volume by sectors.
    - Quantifying the impact of land fallowing on the reduction of groundwater pumping.
- Technical recommendations unrelated to reporting:
    - Recommendation to decrease frequency of measurement by pressure transducers from 15-minutes to 1-hour.
- Useful recommendations on improvements to figures that were not addressed due to schedule and budgetary constraints, but will be considered to improve future reports.

Next Steps

The next steps are as follows:

- If approved at the March 19, 2025 meeting, Watermaster Staff will incorporate any final Board comments and file the final WY 2024 Annual Report with the Court and DWR no later than April 1, 2025.
- If deemed necessary, a Special Meeting can be called by the Chair later in the month for final approval by the Board if additional substantial edits to the report are directed.

Enclosures

Due to length of the document, the Draft Final Water Year 2024 Annual Report for the Borrego Springs Subbasin is available online. The report can be accessed at the following link: https://borregospringswatermaster.com/wp-content/uploads/2025/03/R-940-Water-Year-2024-Annual-Report-250306-ch.pdf

Borrego Springs Watermaster
Board of Directors Meeting
March 19, 2025
AGENDA ITEM IV.C

To: Board of Directors

From: Andy Malone, Technical Consultant

Date: March 14, 2025

Subject: Biological Restoration of Fallowed Lands Project

☐ **Recommended Action** ☐ **Provide Direction to Staff** ✓ **Information and Discussion**

☐ **Fiscal Impact** ☐ **Cost Estimate: $0**

Recommended Actions

Board discussion.

Fiscal Impact: None. This project is funded by DWR's Sustainable Groundwater Management (SGM) grant.

Background and Discussion

The Biological Restoration of Fallowed Lands project is being led by Land IQ, is DWR grant funded, and is planned to be complete by March 31, 2025.

At the February 2025 Board meeting, Land IQ provided a status update on the following:

- The key findings and recommendations in the draft report titled: *Recommended Retired Farmland Rehabilitation Strategies*. The draft report described the results of the entire project, including various fallowing strategies that were evaluated in the project, but are not currently in the Minimum Fallowing Standards in the Judgment. The Board was advised that they can consider including these fallowing strategies in the Judgment and/or Groundwater Management Plan based on the project recommendations. The draft report was provided to the Board for review, and written comments from the Board were requested by March 5, 2025.
- The construction of the experimental sand fences that is being completed by the Land IQ subcontractor and the installation of the final monitoring equipment by UCI (Task 3 - *Brush Pile Wildlife Sand Fence Case Study*). Construction was nearing completion at the time of the Board meeting.

One set of comments on the draft report was submitted by AAWARE (web link). The draft report is being updated and finalized by Land IQ to address the AAWARE comments.

The construction of the experimental sand fences is now complete. UCI has installed all dust-control monitoring equipment, and monitoring will continue through May 2025 by UCI graduate students.

Next Steps

- At the March 19, 2025 Open House, Land IQ will present the key findings and recommendations of the project. Land IQ will also be present at the March 19, 2025 Board meeting to answer questions.
- The final report will be submitted to the Watermaster and the DWR before March 31, 2025 to comply with the SGM grant requirements.

Enclosures

AAWARE Comments on Draft Report Regarding Biological Restoration of Fallowed Lands in Borrego Valley, California.

Jackson Tidus
A LAW CORPORATION

March 4, 2025

Direct Dial: 949.851.7409
Email: mstaples@jacksontidus.law
Reply to: Irvine Office
File No: 7588-122439

VIA EMAIL (tbrooks@landiq.com; amalone@westyost.com)

Travis Brooks
Land IQ
2020 L Street, Suite 210
Sacramento, CA 95811

Andy Malone
Borrego Springs Watermaster
c/o West Yost
25 Edelman, Suite 120
Lake Forest, CA 92630

Re: AAWARE Comments on Draft Report Regarding Biological Restoration of Fallowed Lands in Borrego Valley, California

Dear Mr. Brooks and Mr. Malone:

The following comments on the January 2025 Draft Report Regarding Biological Restoration of Fallowed Lands in Borrego Valley, California, are submitted on behalf of the Agricultural Alliance for Water and Resource Education ("AAWARE").

p. iv – Background – The Background should clarify the purpose of the study consistent with the attached scope of work approved by the Borrego Springs Watermaster ("Watermaster") and Department of Water Resources ("DWR"). The recommended rehabilitation strategies are to be added to the Groundwater Management Plan ("GMP"), not the Judgment. The Judgment includes minimum fallowing standards that the landowner must comply with in transferring BPA. The biological restoration standards would not become landowner obligations, but rather would describe biological restoration methods for fallowing farmland that Watermaster may choose to implement on certain priority land parcels.

pp. iv, 3, 8, 13, 42, 49 – The report explains that the project is aimed at exploring various biological restoration/rehabilitation techniques in the northern management area. Figures 4, 5, 19, 20, 21, 22, 23, and 24 should be revised to show the boundary of the northern management area.

pp. v, 37 – The recommendation for invasive plant control should be deleted. Invasive plants are prevalent throughout the region on public and private nonagricultural land and throughout the adjacent Park. Requiring invasive plant abatement on fallowed agricultural lands when that is not a normal part of land management in the region imposes an undue burden that would make the biological restoration measures infeasible. Page 105 goes so far as to say, "The landowner ***shall*** maintain their property so that it does not contain noxious weeds or highly invasive plants, such as Sahara mustard and Volutaria." This is another example of the report's misunderstanding of the purpose of the recommendations. The attached scope of work approved by the Watermaster and DWR does not authorize the imposition of additional fallowing

requirements on individual agricultural landowners. Imposing a requirement for agricultural landowners who have fallowed their land to control invasive plants at their own cost is an unrealistic, unreasonable and potentially unconstitutional regulatory taking. No other public or private landowners are required to control the spread of invasive species on their land.

pp. 19, 34 – Tables 1 and 2-B – The projected costs of complying with the recommendations appear to be significantly underestimated. For example, complying with the recommendations for invasive plant abatement and the specifications for wood chip size, height of mulch, and distribution standards would require hiring outside contractors, making the recommendations economically infeasible. Also, the referenced CoGen plant is no longer open, so all the methods related to CoGen are irrelevant and should be deleted or revised, and the associated costs should be reevaluated.

p. 26 – The report says that mulched trees break down more quickly than stacking trees, and suggests that soil salinity is a major barrier to native revegetation. The report should discuss the added benefit that mulching trees would expedite the carbon cycle, thus reducing salinity and promoting native regrowth. Adding carbon to soil, usually in the form of organic matter, can help reduce soil salinity by improving soil structure, increasing water holding capacity, and promoting microbial activity, which in turn helps leach salts deeper into the soil profile, effectively lowering the salt concentration near the root zone.

pp. 28, 29 – The photos of tree fences and scattered trees could be considered visual blight and / or fire hazard under local ordinances. The report should discuss whether the tree fences and scattered trees comply with relevant ordinances.

p. 32 – The flow chart further indicates that tree fences and scattered trees are considered visual blight by weighting the outcome importance of sightlines as a guide to mulching instead of tree fences (accounting for blight). The study seems to drift between primary focus on aesthetics (sight lines), airborne dust emission and environmental recovery, but does not clearly prioritize the competing interests. The report should be clarified to provide a definitive understanding of the weighted importance of each.

p. 35 – Recommended Fallowing Strategies, last sentence, “For example, fallowing standards could include a maximum timeframe after active farming ceases in which fallowing standards must be implemented.” This example indicates a mistaken understanding of how the recommendations would be implemented. The Judgment’s fallowing standards apply only if BPA is permanently transferred to another Party by way of permanently fallowing irrigated crops. (Judgment p. 32.) The report’s recommendations would not change the Judgment’s minimum fallowing standards or impose restoration obligations on agricultural landowners. Rather, the recommendations would describe biological restoration methods for fallowing farmland that the Watermaster may choose to implement on certain priority land parcels. The example of including a maximum timeframe for implementing fallowing standards should be deleted.

p. 36 – Recommendation 1 – Mulch. Please amend the mulch recommendations to discuss the Imperial County fallowing standards. The recommendations specifying wood chip size, height of mulch and distribution are not workable in the field. Complying with these specifications would require hiring an outside contractor, making the recommendations economically infeasible. The mulch recommendations should be revised to accommodate the method used statewide: the farmer's grinding in place, spreading and seeding.

p. 50 – References. The references do not include the attached August 25, 2018 Dudek Technical Memorandum regarding Viking Ranch Agricultural Fallowing Analysis and Restoration Potential. Land IQ should consider the Dudek Technical Memorandum and analyze how the Land IQ recommendations compare. For example, the costs in Tables 1 and 2-B of the draft Land IQ report (pp. 19, 34) are significantly lower than the costs estimated in Dudek's Technical Memorandum, for example:

Table 3.
Probable Fallowing Treatment Costs

Treatment	Low Range (cost per acre)	High Range (cost per acre)
Basic Land Fallowing	$1,000	$10,000
Bonded Fiber Matrix	$5,000	$8,500
Passive Restoration	$15,000	$35,000
Active Restoration	$25,000	$50,000

Thank you for the opportunity to comment on the January 2025 Draft Report Regarding Biological Restoration of Fallowed Lands in Borrego Valley, California. If you have any questions, please contact me.

Sincerely,

Michele A. Staples

MAS/ay

Attachments:
1. DWR approved scope of work for biological restoration of fallowed lands study
2. August 25, 2018 Dudek Technical Memorandum regarding Viking Ranch Agricultural Fallowing Analysis and Restoration Potential

Cc: Samantha Adams (via email sadams@westyost.com, w/Attachments)
Lauren Salberg (via email lsalberg@westyost.com, w/Attachments)

“Attachment 1”

- Report on participant survey and recommendations for moving forward.

COMPONENT 6: BIOLOGICAL RESTORATION OF FALLOWED LANDS

Implementing Agency: Borrego Springs Watermaster

The Borrego Springs GMP defines a Sustainability Goal of operating the Basin within its sustainable yield by 2040. Achieving this goal requires implementation of an aggressive pumping ramp down of approximately 75 percent over the next twenty years. The GMP recognizes that fallowing of agricultural lands will be key to achieving the Sustainability Goal, but also recognizes the potential adverse environmental effects of fallowing, including airborne emissions through wind-blown dust, the introduction or spreading of invasive plant species, and changes to the landscape that could adversely affect visual quality, among others. The standard farmland fallowing practices identified in the GMP and used statewide (e.g., mulching orchard trees on site) provide temporary dust mitigation, but do not lead to long term recovery of the fragile native arid plant communities that are unique to the Sonoran Desert ecosystem, and protected on adjacent Anza-Borrego Desert State Park lands. New farmland fallowing guidelines that address the unique needs of the desert ecosystem and Borrego Springs are required to facilitate the reduction in groundwater pumping that is necessary to achieve the sustainable use of the Basin.

Component 6 will develop guidance on techniques to mitigate the potential adverse impacts associated with the fallowing of lands that is expected to occur within the Basin. Component 6 will analyze existing data and information, conduct field reconnaissance, and test cases of biological restoration techniques at existing fallowed lands within the Basin. A final technical report will describe and document the results, conclusions, and recommendations; the biological restoration strategies that are expected to be most effective within the Basin; and a prioritization of land parcels for biological restoration.

Category (a): Component Administration

Prepare reports detailing Component 6 work completed during reporting period as outlined in Exhibit F, “Report Formats and Requirements” of this Agreement, for inclusion in Component 1 Quarterly Progress Reports. Quarterly Progress Reports will include sufficient information for the DWR Grant Manager to understand and review backup documentation submitted with invoices. Quarterly invoices will accompany the Quarterly Progress Reports. Collect and organize backup documentation by Component 6 budget category and task and prepare a summary Excel document detailing contents of the backup documentation organized by task.

Prepare the Draft Component Completion Report and submit to the DWR Grant Manager for comment and review 90 days before the end date for Component 6 as outlined in Exhibit C. DWR’s Grant Manager will review the Draft Component Completion Report and provide comments and edits within 30 days of receipt, when possible. Prepare a Final Component Completion Report addressing the DWR Grant Manager’s comments within 30 days before the Component 6 end date outlined in Exhibit C. The report shall be prepared and presented in accordance with the provisions of Exhibit F, “Report Formats and Requirements” and approved by the DWR Grant Manager within 30 days after the end date. All deliverables listed within the Work Plan shall be submitted with the Final Component Completion Report unless a new deliverable due date was approved by the DWR Grant Manager.

Deliverables:

- Component reporting to be included in Quarterly Progress Reports and Invoices
- Draft and Final Component Completion Reports

Category (b): Environmental / Engineering / Design
Not applicable to this Component

Category (c): Implementation / Construction
Not applicable to this Component

Category (d): Monitoring / Assessment

Task 1: Review and Analysis of Existing Data
Perform a kick-off meeting with the key team members. Review literature and data mine existing reports for a written summary of relevant information to be included in the final technical report. Conduct interviews with local and subject-matter experts. Create project geodatabase for relevant land use and environmental thematic layers, including but not limited to topography, flow accumulation, soil characteristics, and wind patterns. Collect water consumption data from the Grantee; update parcel level Geographic Information System (GIS) data, as necessary; calculate water consumption by parcel; and digitize new data layers, as necessary.

Review historical maps and available records. Synthesize information to describe site specific historical ecology and include comparison of historical current vegetation cover densities. Provide guidance on feasible restoration targets. Develop a technical memo summarizing the existing data and a final prioritization map of the Basin identifying good locations within the Basin for land fallowing.

Deliverables:
- Technical Memo Summarizing Existing Data
- Initial Fallowed Farmland Rehabilitation Opportunities and Prioritization Map

Task 2: Existing Fallowed Farmland and Reference Natural Habitat Field Study
Perform field observations of existing fallowed farmland. Interview past and current Grantee staff about experience with fallowed lands, field visits, and data collection of existing conditions. Use GIS layers to stratify landscape in the Basin, including the agricultural land into similar geomorphic features for sampling. Determine a sampling design to collect more detailed information on plant cover and “greenness” utilizing drones and multispectral imagery over hundreds of acres. Sample cover data to analyze and interpret reference conditions to identify a range of reasonable habitat restoration targets for fallowed farmland. Summarize activities in a technical report.

Deliverables:
- Technical Report of Field Study Results

Task 3: Brush Pile Wildlife Sand Fence Case Study
Identify manipulative sites for sand fences. Identify one or more site(s), based on feasibility, for construction of sample sand fences. Identify the most economical method of construction for sand fences and build variations on the design, as appropriate. Take baseline observation data of sand fences for comparison to future datasets and to characterize the habitat and dust control value of the sand fences. Establish an initial study with promising plant species to help understand plant response to sand fences. Summarize results of the study in a technical report.

Deliverables:
- Construction sample of sand fences
- Design Plans
- Construction Permits, if applicable
- Technical Report

Task 4: Farmland Fallowing Rehabilitation Strategies
Develop conceptual models of key processes involved in dust, native recruitment, and habitat restoration of fallowed farmland based on literature review, geodatabase indices and analysis, field study results and expert interviews. Develop rehabilitation strategies for fallowed farmland based on conceptual models, the range of potential for rehabilitation based on site level measurements across the study area, and project goals. Recommend best practice language for fallowing of farmland to be incorporated into the GMP. Identify gaps in knowledge for future monitoring and study to improve best practice adaptively as land begins to be fallowed for water conservation.

Deliverables:
- Draft Rehabilitation Strategies and Best Practice for Fallowing
- Final Rehabilitation Strategies and Best Practice for Fallowing

Task 5: Farmland Fallowing Prioritization
Develop a model for prioritizing farmland for fallowing based on the reduction of water consumption, and likelihood of success of the rehabilitation strategies.

Deliverables:
- Prioritization of Farmland Fallowing Report
- Prioritization of Farmland Fallowing Map

Category (e): Interested Parties Outreach/Education

Task 6: Conduct Environmental Working Group (EWG) Meetings
Perform a minimum of two (2) EWG meetings per year for the EWG to: receive updates on project progress; receive input from the public and interested parties; provide guidance and input to the Watermaster Technical Consultant and subcontractors; review draft and final project deliverables and make recommendations to the Watermaster Board.

Deliverables:
- Meeting agendas/packets
- PowerPoint presentations
- Summary meeting notes
- Memorandums with recommendations to the Watermaster Board.

COMPONENT 7: MONITORING, REPORTING, AND GROUNDWATER MANAGEMENT PLAN UPDATE

Implementing Agency: Borrego Springs Watermaster

Component 7 will provide comprehensive, updated datasets for groundwater pumping, groundwater levels, groundwater quality, and surface-water flow through Water Year 2024; provide maintenance of these datasets in a data management system that will be used to report these data to the California Statewide Groundwater Elevation Monitoring (CASGEM), California Environmental Data Exchange Network (CEDEN), and Groundwater Ambient Monitoring and Assessment (GAMA) platforms on a semi-annual basis; construct two new surface-water monitoring stations on Coyote Creek; construct two new multi-completion monitoring wells; properly abandon a minimum of two (2) inactive production wells; convert a minimum of one (1) inactive production wells to monitoring wells; develop and submit annual reports to the DWR pursuant to SGMA for 2023, 2024, and 2025; progress towards the redetermination of the Sustainable Yield of the Basin which is due by 2025; and conduct a minimum of 20 interested party engagement and outreach meetings.

“Attachment 2”

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 T 800.450.1818 F 760.632.0164

WORKING DRAFT TECHNICAL MEMORANDUM

To:	Geoff Poole, General Manager Borrego Water District
From:	Trey Driscoll, PG, CHG; Michael Sweesy
Subject:	Agricultural Land Fallowing Analysis and Restoration Potential
Date:	August 25, 2018
cc:	Jim Bennett and Leanne Crow, County of San Diego
Attachment(s):	Figure 1 – Fallowed Sites Figure 2 – Case Study: Viking Citrus Ranch Appendix A Soil Sample Results

1 BACKGROUND

The Sustainable Groundwater Management Act (SGMA) was enacted to implement sustainable management of California's groundwater basins by local public agencies and Groundwater Sustainability Agency (GSA). The County of San Diego (County) and the Borrego Water District (BWD, District) have established a Memorandum of Understanding (MOU) to cooperatively develop and implement the Groundwater Sustainability Plan (GSP) for the Borrego Springs Groundwater Subbasin (Subbasin) of the Borrego Valley Groundwater Basin (BVGB).

SGMA legislation provides groundwater agencies the authority and the technical and financial assistance necessary to sustainably manage groundwater. SGMA legislation paved the way for the formation of the GSA allowing the District and County to manage the medium priority Subbasin. The GSA has statutory authorities that are essential to groundwater management as well as SGMA compliance (MOU 2016).

The intent of the GSP is to meet the overarching sustainability goal of the SGMA to operate the Subbasin within sustainable yield without causing an undesirable result. The District has implemented a "water credit policy" that encourages voluntary reduction of water use. Based on the current water uses in the Subbasin, fallowing of irrigated agricultural land has been considered a key component of the strategy to reduce water consumption. Fallowing of agricultural land has been documented in the Subbasin for the District Water Credit program. Approximately 560 acres have been permanently fallowed from 2006 to 2017 (Figure 1). Additionally, there are currently two fallowing projects under consideration: 1) The Burnand parcels totaling about 254 acres (total

parcel area); and 2) and a portion of the JM Roadrunner totaling about 20 acres (final fallowing acreage to be determined).

While fallowing of agricultural properties primarily consisting of citrus and ornamental palm or date orchards addresses the goal to reduce groundwater overdraft and unsustainable groundwater extraction, the practice may result in potential environmental impacts, such as invasive weed infestation and seed population dispersal, visual blight, increased airborne dust, and erosion.

Agricultural fallowing standards and best management practices should take into consideration the post-agricultural land use options that minimize potential impacts. One potential option is restoration of native desert habitat. If successful, this option would address each of the stated potential impacts of land fallowing. Restoration would be particularly relevant for lands that have high ecological value and that may be desirable as conserved natural open space (e.g., areas adjacent to ABDSP lands that could be transferred or managed consistent with ABDSP objectives). However, native habitat restoration can require extensive active land manipulation and maintenance effort to be successful, and may not be practical for some locations. Potential negative effects on downstream private property should be considered when evaluating restoration potential.

If the future use of the fallowed land is incompatible with habitat restoration, then alternative measures may be better suited to address potential issues. This could include surface land stabilization with tree mulch or soil tackifiers to reduce potential for dust emissions and invasive weed infestations. The effectiveness of these types of applications for reducing dust emissions and weed infestations varies considerably with the methods, approach, and materials. Therefore, a set of uniform standards and best management practices should be defined to guide existing and future fallowing efforts.

2 CASE STUDY

In order to develop fallowing standards and best management practices, a recently fallowed property, referred to as the Viking Ranch Citrus Farm (Viking Ranch), was evaluated as a case study (Figure 2). The property is located generally at the north end of the groves in the Borrego Valley, east of DiGiorgio Road. The property is within the floodplain influence of the Coyote Creek wash, which only flows during substantial rain events.

2.1 Site Background

Viking Ranch consists of two water credits land fallowing sites referred to as Viking 1 and Viking 2, both owned by the District. The Viking 1 site comprises 62.5 acres located on assessor's parcel number (APN) 140-030-09. Sixty acres of citrus were fallowed on Viking 1 and the site received

294 AG-1 approved water credits in September 2013. The Viking 2 site comprises 97.25 acres located on APN 140-030-11. Sixty acres of citrus were fallowed on Viking 2 and the site received 294 AG-1 approved water credits in December 2014. When the Viking 1 and 2 water credits land fallowing was performed in 2013-2014, limited due diligence was completed as part of the transaction. Additionally, specific land fallowing standards to stabilize site soils and minimize potential for wind-blown dust were not developed or implemented other than chipping the former citrus grove located on both site parcels and spreading the chipped mulch over portions of the property.

The fields that were fallowed consist of three approximately 40-acre square areas that were planted with citrus trees. The timing and methods of fallowing appears to have varied slightly between the three areas, which are referred to as the northwest field, northeast field, and the southeast field (Figure 2).

The northwest and northeast fields were planted in the early 1990's, whereas the southeast field was planted between 1996 and 2002. Lemon trees were planted in these fields. The trees were removed between 2013 and 2014. Therefore, the age of the orchard was approximately 25 to 30 years. The size of the trees at the time they were cut was approximately 15-feet tall, with a 4- to 6-inch diameter trunks. The general condition of the orchard when it was removed was generally good, with the exception that the earthen berm on the western edge, which was compromised, and portions of the northwest and southeast fields that were subjected to flooding from Coyote Creek. From a field investigation, it appears that some native and non-native shrubs and trees had recruited within the orchard before it was fallowed, as evident by cut stumps out of alignment with the regular citrus tree spacing.

The fallowing process consisted of allowing the trees to desiccate and die, removing the above-ground irrigation infrastructure, and cutting and shredding the trees. The tree removal process was implemented with a tractor and tree shredder (Pers. comm. Jim Engelke July 2, 2018). The process resulted in an uneven distribution of course shredded tree material generally dispersed in rows and occasionally in piles.

2.2 Field Reconnaissance

A field reconnaissance of the Viking Ranch was conducted by Andy Thomson, biologist/restoration ecologist, on June 1, 2018. The observation from the field reconnaissance has been separated into field areas. Field areas include the northwest, southeast, northeast fields as shown on Figure 2. Table 1 includes a summary of the field reconnaissance observations.

2.2.1 Northwest Field

The northwest field appears to have been the first of the three that was fallowed. There has been flood flows through portions of this field originating from Coyote Creek wash and through low points in the western earthen berm. Additionally, wind-blown sand is abundant, which has resulted in naturally re-establishing a variable landform. There are irregular mulch mounds found throughout this area that are now largely covered in sand. There is no evidence of remaining stumps. The mulch material is very coarse, and consists of wood chips that mostly range in size from 3- to 6-inches, but with variable branch segments up to two feet in length. There is excellent natural recruitment in this field, particularly along the areas influenced by flood flows. Native cover is variable, but is approximately 20% shrub cover and 30% annual forb cover. Weed cover is low, at less than 5% cover. Common desert species recruiting within this field include saltbush (*Atriplex canescens, A. lentiformis*), cryptantha (*Cryptantha* sp.), creosote bush (*Larrea tridentada*), desert marigold (*Baileya* sp.), tiquila (*Tiquilia* sp.), burro-weed (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), and smoke tree (*Psorothamnus spinosus*). Common weeds include Sahara mustard (*Brassica tournefortii*), Russian thistle (*Salsola tragus*), tumble mustard (*Sisymbrium altissimum*), and Mediterranean grass (*Schismus* spp.).

2.2.2 Southeast Field

The southeast field is similar to the northwest field, having been subjected to flood flows. There are braided channel patterns running in a northwest to southeast direction traversing this field. The surface flows coalesce at the south edge of the field as it abuts an earthen berm at the north edge of active citrus groves. The water flows along this southern edge have cut an incised channel that runs west to east at the southern boundary. The tree mulch is course and variable in size from 2- to 24-inches long. The stumps of the trees that were cut are still present, extending to approximately six inches above the ground. The mulch has been pushed up into piles in many places due to water flows. There has been excellent natural recruitment, with approximately 50% cover of native woody shrubs and trees, and 20% cover of native forbs. Weed cover is low, at less than 10%, but there are some medium and large size salt cedar (*Tamarisk ramosissima, T. aphylla*) trees present. Common desert species recruiting within this field include scalebroom (*Lepidospartum squamatum*), arrowweed (*Pluchea sericea*), desert willow (*Chilopsis linearis*), odora (*Porophyllum gracile*), desert holly (*Atriplex hymenelytra*), saltbush, creosote bush, burro-weed, brittlebush, and smoke tree. Common weeds include Sahara mustard, Russian thistle, tumble mustard, Mediterranean grass, and salt cedar.

2.2.3 Northeast Field

The northeast field is substantially different from the other two. Natural recruitment of native species is much lower, and there is no evidence of surface hydrology patterns. The northern earthen berm is still intact, with a moderately incised channel on the northern (outer) side of the berm. The berm height is variable, but is approximately 6-10 feet high on the north side, and approximately 3-4 feet high on the south side. The tree chippings are spread in even rows, and the tree stumps are still present 6-12 inches above the ground surface. Native shrub cover is very low (~1%), while native forb cover is approximately 5-10%, composed primarily of tiquilia. Common desert species recruiting within this field include tiquilia, cryptantha, baileya, and sun cup (*Camissonia* sp.). Brittlebush, creosote bush, burro-bush, and croton (*Croton* sp.) are present but widely scattered and uncommon. Common weeds include Sahara mustard, Russian thistle, tumble mustard, Mediterranean grass, and Kochia (*Kochia scoparia*). Mediterranean grass is particularly prevalent.

Table 1
Viking Ranch Field Vegetation Analysis

Location	Flood Flows	Wind-blown sand	Native cover	Weed cover	Native Species	Weed Species
Northwest field	Yes	High	50%	5%	saltbush, creosote bush, desert marigold, tequila, burro-weed, brittlebush, and smoke tree	Sahara mustard, Russian thistle, tumble mustard, Mediterranean grass, and salt cedar
Southeast field	Yes	Low	70%	10%	Scalebroom, arrowweed, desert willow, odora, desert holly, saltbush, creosote bush, burro-weed, brittlebush, and smoke tree	Sahara mustard, Russian thistle, tumble mustard, Mediterranean grass, and salt cedar
Northeast field	No	Low	6-11%	10%	tiquilia, cryptantha, baileya, and sun cup, Brittlebush, creosote bush, burro-bush, and croton	Sahara mustard, Russian thistle, tumble mustard, Mediterranean grass, and Kochia

Notes: Field reconnaissance conducted on 6/1/2018 by Andy Thomson.

2.3 Soil Sampling

Soil samples were collected from each of the three fields and sent to a laboratory for testing (Figure 2). Soil compaction was also measured with a penetrometer. The soils were comparable, with an alkaline pH (7.7-8.0) and modest salinity (0.9-3.5 millimho/cm). The surface soils were mildly compacted, but not at a level that would preclude plant growth. The soil texture is loamy sand,

with approximately 83-91% sand, 5-9% silt, and 4-7% clay (Table 2 and Appendix A). Soil texture is important to understanding the relative risk of contributing to air quality issues from wind-blown soil particulates. Soil types composed of finer soil particles may promote a higher incidence of wind-blown dust due to the smaller soil particles within the soil matrix. Likewise, soil types composed of coarser soil particles (e.g., course sands) would have a lower risk of becoming suspended and contributing to wind-blown dust problems. Because the soil type at the Viking 2 property consists primarily of coarse soil texture predominantly composed of sand-size particles, the risk of wind-blown dust would be lower compared to sites with finer textured soils.

Table 2
Soil Particle Analysis Results

Soil Sample	Sand Content (%)	Silt Content (%)	Clay Content (%)
1	84.6	8.2	7.2
2	91.1	5.1	3.7
3	83.2	9.4	7.4

2.4 Case Study Results

It is clear that the influence of hydrological flows through the site had a significant influence on native species recruitment. Areas within the influence of the floodplain flows have excellent natural recruitment, whereas areas outside of them have much lower levels of natural recruitment and a higher prevalence of weeds. The landform is also largely recovering as a braided channel system where there have been flood flows, whereas areas not subjected to flood flows still retain the unnatural orchard surface topography.

For comparison, the old vineyard areas formerly occupied by DiGiorgio Fruit Corporation located several miles to the south of Viking 2 were also reviewed. These areas were fallowed decades ago. The current condition of the fallowed vineyard areas is disturbed land dominated by invasive weeds. There has been no natural recruitment of native shrubs, and very low levels of recruitment of native forbs. Some of these areas still retain some of the old vineyard infrastructure (e.g., vineyard lattice), whereas others are flat, barren fields. Many of these areas are still bordered by salt cedar trees that are now mostly desiccated. The surface topography is generally flat, and there is no evidence of any surface hydrology.

2.4.1 Fallowing Effectiveness

The effectiveness of the existing fallowing practices at water credits sites and for sites previously fallowed in the Subbasin are highly variable. The Viking Ranch is an exception due to its location

within the flood zone of Coyote Creek that has resulted in high passive recruitment of native vegetation as a result of episodic flooding. Overall, passive restoration is occurring over about 42% of the Viking Ranch land area with about 5 to 10% covered in weeds and the remainder of the area is unvegetated. While the Viking Ranch is an exceptional candidate for passive restoration, fallowed sites outside the hydrologic influence of Coyote Creek have shown low potential for passive recruitment of native vegetation. Active restoration will likely be required to restore sites outside the influence of episodic flooding.

3 RESTORATION FRAMEWORK

Site restoration options include passive restoration, active restoration, passive/active restoration, and consideration of transfer of the District-owned parcel(s) to the ABDSP. Additionally, there is potential to establish marketable mitigation credits for the Viking Ranch property though an in-lieu fee program or outright purchase of mitigation rights by a third party. An In-Lieu Fee program would need to cover a larger area of fallowed land due to the upfront cost of developing such a program.

Based on the field reconnaissance, the Viking Ranch is an exceptional candidate for passive/active restoration approach. While portions of the property exhibit high native recruitment where the hydrologic regime of Coyote Creek has returned to a natural state, areas of the property remain isolated from episodic flooding due to the presence of constructed berms that alter flood flows of the braided Coyote Creek alluvial fan. Given the size of the existing berms along the northern edge of the property, it is unlikely that the hydrologic regime on a portion of the site will be restored without re-establishing the natural grade though removal of the berm. Additionally, active weed management is recommended to remove invasive species documented on the site.

For sites fallowed outside the influence of episodic flooding along Coyote Creek, passive restoration will not be an effective means of land restoration as evidenced by properties such as the DiGiorgio Fruit site where native plant recruitment after many decades has been low. Additionally, inspection of the fallowed water credits sites indicate most are covered with weed species such as those listed in Table 1; however detailed field reconnaissance of these properties has not been conducted by a biologist and was not part of this effort. For sites not ideal for passive restoration, the primary focus is soil stabilization and weed management. Sites should also be prioritized through a master planning process to determine parcels best suited for active restoration (e.g. contiguous with ABDSP boundary) versus those further removed.

3.1 PROPOSED STANDARDS

Standards for land fallowing could be incorporated into the GSP or adopted as an independent ordinance by the GSA. In addition to the standards discussed in this section, key components of a land fallowing program include:

- Identification and relationship of existing jurisdictional regulations in place for vacant land
- Stakeholder buy-in
- Land inspection procedures, including Phase 1 environmental site assessments
- Future land use alternatives determination process
- Identification and establishment of conservation easements
- Potential use for compensatory mitigation
- Land sales or transfers, and funding opportunities
- Interim and long-term treatments based on final land use

There is a wide array of approaches that can be used for fallowing orchards. However, to address the potential indirect negative effects from fallowing, potential approaches are divided into two categories: stabilizing the land surface and habitat restoration. There is potential for substantial variation in the means and methods to accomplish either of these alternatives. The variable means and methods will also likely lead to highly variable results. Therefore, the standards provided herein are intended to create consistency in treatments and results. This section sets forth the minimum standards that should be sufficient to address the post-fallowing site conditions.

3.1.1 Surface Stabilization:

1. All agricultural infrastructure should be removed, including irrigation lines, posts, pumps, wells and wellheads, structures, etc.

2. Trees should be cut at grade to eliminate remnant tree stumps. The tree root system should be left intact and undisturbed.

3. Woody material should be chipped to a 4 to 6 inch size and spread evenly across the surface. Wood chips should be a minimum of two inches thick on the surface. There should be 100% coverage of the surface with woody material.

4. If there is inadequate woody material to create a mulch layer over 100% of the surface or to the desired thickness, any bare areas should be sprayed with a hydraulic mulch material and a tackifier (e.g., bonded fiber matrix).

3.1.2 Habitat Restoration:

Prior to implementing active or passive restoration, consideration of the compensatory mitigation value should be assessed and, if desired, agreements should be obtained with appropriate resource and/or wildlife agencies to recognize mitigation credits in advance of implementation. Credit is not likely to be recognized after-the-fact.

1. All agricultural infrastructure should be removed, including irrigation lines, posts, pumps, wells and wellheads, structures, paving, pads, etc.

2. The pre-agricultural natural landform should be re-established, including removing all impediments to surface flow, unnatural berms, drainage ditches, culverts, graded roads, or other unnatural features (potential downstream affects would need to be evaluated for berm removal).

3. Any compacted areas should be de-compacted (e.g., cross-ripped) to a depth of at least 12 inches.

4. If surface hydrology has been re-introduced through restoring the landform, a passive restoration approach is appropriate, wherein native species are allowed to recruit naturally. Passive restoration should be coupled with invasive species control to reduce the spread and proliferation of weeds. Passive restoration may be supplemented with active restoration measures should localized areas fail to passively restore.

5. If the location of the site will not be subjected to flood flows, an active restoration approach should be implemented. The surface should be seeded with an imprinter or drill seeder in the fall with a native seed mix consisting of appropriate species for the site. Invasive weeds should be controlled within the site until the natural desert habitat species composition has been achieved. Additional methods of restoration that could increase the rate of establishment or likelihood of success such as use of irrigated container plants would require further evaluation.

3.2 PROBABLE COST ESTIMATE

Best practices for fallowing agricultural land involves different costs to achieve a range of soil stabilization from treatments that are somewhat temporary to those treatments that would establish

native self-sustaining desert vegetation and provide a more permanent stabilizing effect. Table 3 summarizes the probable cost for each treatment. The range of costs presented reflect non-prevailing wages and prevailing wage work. Other factors may affect the overall cost of fallowing. Treatments do not reflect regulatory costs associated with compensatory mitigation scenarios that would require additional activities such as monitoring and maintenance over a 5-year period following implementation of passive or active restoration.

Table 3.
Probable Fallowing Treatment Costs

Treatment	Low Range (cost per acre)	High Range (cost per acre)
Basic Land Fallowing	$1,000	$10,000
Bonded Fiber Matrix	$5,000	$8,500
Passive Restoration	$15,000	$35,000
Active Restoration	$25,000	$50,000

3.2.1 Basic Land Fallowing

Basic land fallowing activities would include tree removal, chipping trees to recommended 4- to 6-inch size, and spreading the orchard mulch in a continuous 2-inch thick layer. All tree stumps to remain should but be cut at grade. All agricultural features such as roads, pipes, wells, ditches, culverts, and other agricultural features would be removed from the site. Cost estimate: $1,000-$10,000 per acre for tree removal and chipping. The cost to remove agricultural features cannot be estimated based on this preliminary review because the number of these features is highly variable between fields. Additional parcel specific analysis would be required to determine estimated cost to remove agricultural features and infrastructure.

3.2.2 Bonded Fiber Matrix

Apply bonded fiber matrix to stabilize soils where on-site mulch production is not sufficient for desired cover and thickness. Cost estimate: $5,000-$8,500 per acre

3.2.3 Passive Restoration

Passive Restoration (Weed Management): If the ultimate goal of the fallowed land is to convert to native habitat, a passive restoration approach could be implemented on parcels that are subject to periodic flooding associated with Coyote Creek Wash. This approach would establish the fundamental site conditions that would put the site on a trajectory towards reestablishment of native desert wash habitat. This approach could include site contouring, soil decompaction, and

three years of weed control. It does not include monitoring. A passive restoration approach can take many years, and even decades, in a desert environment. Cost estimate: $15,000-$35,000 per acre.

3.2.4 Active Restoration

Active Restoration: An active restoration approach would be appropriate if the goal of the site is to restore site to natural habitat that would be appropriate for areas removed from the influence of Coyote Creek Wash and/or intended future open space (e.g. ABDSP, open space trails, etc.). This approach would require full restoration of the site including site preparation as described for passive restoration, plus native seed collection and installation, horizontal/vertical mulch, maintenance, monitoring, and remedial actions and performance goals. While active restoration is more labor intensive and expensive than passive restoration, it could take as little as three years and up to ten years to establish and meet success criteria. Cost estimate: $25,000-$50,000 per acre. This cost estimate does not include monitoring or other soft costs related to coordination with the resource agencies.

Borrego Springs Watermaster
Board of Directors Meeting
March 19, 2025
AGENDA ITEM IV.D

To: Board of Directors

From: Samantha Adams, Executive Director

Date: March 14, 2025

Subject: DWR Comments on the Borrego Springs Alternative Plan (Judgment/GMP)

☐ **Recommended Action**	✓ **Provide Direction to Staff**	✓ **Information and Discussion**
☐ **Fiscal Impact**	☐ **Cost Estimate: $**	

Recommended Action

Board discussion and provide direction to staff to publish a press release announcing DWR's approval of the Borrego Springs Judgment and GMP as an Alternative to a Groundwater Sustainability Plan.

Fiscal Impact: TBD

Background

On April 8, 2021, the honorable Judge Peter Wilson of the CA Superior Court for the County of Orange granted the motion for entry of the Borrego Springs Judgment. The Court found that the Physical Solution for the Basin, which is comprised of the Judgment and GMP[1], is consistent with CWC §10737.8 and is a prudent, legal, and durable means to achieve sustainable groundwater management within the Basin as intended by SGMA. As part of the Judgment Findings and Order, the Court ordered the submittal of the final approved Judgment to the CA Department of Water Resources (DWR) for evaluation and assessment. On June 25, 2021, pursuant to the Court order, the Watermaster re-submitted[2] a complete GSP Alternative submission package to the DWR documenting the Judgment's Physical Solution (including the GMP) as its Alternative to a GSP (Alternative Plan)[3].

At its May 2024 meeting, the Board appointed a subcommittee comprised of Directors Duncan and Smith, to serve as the main point of contact with DWR in discussions related to DWR Review of the Alternative Plan.

DWR Approval of Alternative Plan

On February 25, 2025, DWR staff requested a meeting with Watermaster to discuss the impending release of its review of the Alternative Plan. A meeting was held that afternoon with Directors Duncan

[1] The GMP is included in the Judgment as Exhibit 1.

[2] The original submission to DWR was done in January 2020, following the filing of the proposed Stipulated Judgment with the Court.

[3] The submission package is available for review on the DWR's SGMA Portal

and Smith, Jim Markman, and the attorneys to the Settling Parties (Michele Staples, Steve Anderson, and Russ McGlothin). During the meeting, DWR staff announced that (i) the Borrego Springs Alternative Plan had been approved by DWR, (ii) DWR would be imminently publishing their approval letter and associated Assessment of the Alternative Plan, and (iii) the CA Attorney General would be filing notice to the Court of the approval. Enclosed for your review are the following documents:

- February 25, 2025 DWR Letter to Watermaster approving Alternative Plan, including Exhibit A: Staff Assessment, Sustainable Groundwater Management Program Alternative Assessment Staff Report – Borrego Valley – Borrego Springs Subbasin
- February 26, 2025 Court Notice – Non-Party Department of Water Resources' Assessment and Recommended Corrective Actions Approving SGMA Alternative

The DWR's Staff Assessment Report provides a very detailed review of the Alternative Plan, including praise for the Watermaster's successes to date and identification of seven main areas of recommended improvements to the Judgment/GMP (Recommended Corrective Actions, or RCAs). The Staff Assessment Report confirms the need to complete and submit the Periodic Evaluation of the Judgment/GMP (e.g. 5-Year Assessment) by June 25, 2026, including a discussion of how the RCAs are being addressed by the Watermaster.

Subsequent to receiving the February 25, 2025 letter, the subcommittee and attorneys met to determine if a follow-up meeting with DWR would be helpful in short-order to support use of grant funding to address their questions. Given the clarity of the DWR Assessment Report, and the limited time remaining to spend grant funds, the group determined a follow-up with DWR was not needed at this time.

The subcommittee is recommending Watermaster publish a press Release announcing the approval of the Alternative Plan. The draft press release is enclosed for your consideration of approval at the meeting.

Next Steps

At Wednesday's meeting, the Executive Director will (i) share highlights from the DWR Assessment, including an overview of the seven RCAs, (ii) seek approval for a press release, and (iii) request Board Discussion on potential next steps to addressing the DWR RCAs.

Enclosures

February 25, 2025 DWR Letter to Watermaster approving Alternative Plan, including Exhibit A: Staff Assessment, Sustainable Groundwater Management Program Alternative Assessment Staff Report – Borrego Valley – Borrego Springs Subbasin

Non-Party Department of Water Resources' Assessment and Recommended Corrective Actions Approving SGMA Alternative

Draft Press Release - Borrego Springs Watermaster Board announces DWR's approval of its Groundwater Management Plan

CALIFORNIA DEPARTMENT OF WATER RESOURCES

SUSTAINABLE GROUNDWATER MANAGEMENT OFFICE

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

February 25, 2025

Borrego Springs Watermaster
c/o Samantha Adams
23692 Birtcher Drive
Lake Forest, CA 92630
BorregospringsWM@westyost.com

RE: Borrego Valley–Borrego Springs Subbasin [No. 7.024-01] - Assessment of Alternative Groundwater Sustainability Plan

Dear Samantha Adams,

The Department of Water Resources (Department) has evaluated the alternative to a groundwater sustainability plan (Alternative or Plan) submitted for the Borrego Valley – Borrego Springs Subbasin [No. 7.024-01] and has determined the Alternative is approved. The approval is based on recommendations from the Staff Assessment, included here as an exhibit to the attached Statement of Findings, which describes that the Subbasin Alternative satisfies the objectives of the Sustainable Groundwater Management Act (SGMA) and substantially complies with the Groundwater Sustainability Plan (GSP) Regulations. The Staff Assessment also proposes recommended corrective actions that will enhance the Plan and facilitate future evaluation by the Department. The Department strongly encourages the recommended corrective actions be given due consideration and suggests incorporating all resulting changes to the Plan in future updates.

The Alternative is the first approved under Water Code section 10733.6(b)(2), which authorizes SGMA compliance via “management pursuant to an adjudication action.” Accordingly, as required by Water Code section 10737.6, the Department intends to promptly submit its assessment to the court with jurisdiction over the adjudication action for further consideration. The Department recognizes that addressing its recommended corrective actions may entail additional procedures before the court or Watermaster. If you believe it would be helpful, please reach out to discuss ways the Department may be able to further assist in any such efforts.

Recognizing SGMA sets a long-term horizon for groundwater sustainability agencies (GSAs) or the managers of SGMA alternatives to achieve their basin sustainability goals, monitoring progress is fundamental for successful implementation. SGMA requires alternatives be resubmitted to the Department every five years. (Wat. Code 10733.6(c).) Accordingly, like GSPs, approved Alternatives must be evaluated at least every five years and whenever they are amended, and a written local assessment must be submitted to the Department. The Department will evaluate approved Alternatives

and issue an assessment at least every five years. The Department will initiate the first periodic review of the Borrego Valley – Borrego Springs Subbasin Alternative no later than June 25, 2026.

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

Thank You,

Paul Gosselin

Paul Gosselin
Deputy Director
Sustainable Groundwater Management

Attachment:

1. Statement of Findings Regarding the Approval Ofthe Borrego Spring Alternative

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

STATEMENT OF FINDINGS REGARDING THE APPROVAL OFTHE BORREGO SPRING ALTERNATIVE

The Department of Water Resources (Department) is required to evaluate and assess whether submitted alternatives to groundwater sustainability plans satisfy the objectives of the Sustainable Groundwater Management Act (SGMA) (Water Code Section 10733.6). This Statement of Findings explains the Department's decision regarding the alternative (Alternative) submitted by the Borrego Water District and Borrego Springs Watermaster (Watermaster) for the Borrego Valley – Borrego Springs Subbasin (Basin No. 7-024.01) under Water Code Section 10737.4(a)(1) as "management pursuant to an adjudication action," a category of SGMA alternative authorized by Water Code Section 10733.6(b)(2).

The Department has reviewed the Department staff report, entitled Sustainable Groundwater Management Program Alternative Assessment Staff Report – Borrego Springs (Staff Report), attached as Exhibit A, recommending approval of the Alternative. Based on its review of the Staff Report, the Department is satisfied that staff have conducted a thorough evaluation and assessment of the Alternative and concurs with staff's recommendation and all the recommended corrective actions, and thus hereby approves the Alternative on the following grounds:

1. The Alternative was submitted on June 25, 2021. Water Code Section 10737.4 states that a judgment, like the alternative here, may be submitted for evaluation after January 1, 2017. Therefore, the Alternative was submitted in a timely manner. (23 CCR Section 358.2(b)).

2. The Alternative is within a subbasin that is in compliance with Part 2.11 (commencing with Water Code Section 10920) as required by Water Code Section 10733.6(d). (23 CCR Section 358.4(a)(2)).

3. The Alternative was submitted by the Borrego Water District and Borrego Springs Watermaster (Watermaster) pursuant to Water Code Sections 10737.4 and 10733.6(b)(2). The Alternative submittal is comprised of information demonstrating that the adjudication submitted as an Alternative is a comprehensive adjudication as defined by Chapter 7 of Title 10 of the code of Civil Procedure (commencing with Section 830) and a Stipulated Judgement, which includes a groundwater management plan (GMP). Thus, the Alternative was submitted in compliance with 23 CCR Section 358.2(c)(2).

4. The Borrego Basin is not being managed pursuant to an adopted GSP and therefore no conflict exists that would prevent the Department's evaluation or approval of the Alternative.

5. The Watermaster submitted an "Alternative Elements Guide" which explains how the elements of the stipulated judgment and management thereunder are functionally equivalent to a groundwater sustainability plan, as required by Articles 5 and 7 of the GSP Regulations, 23 CCR Section 350 et seq.

6. Based on Paragraphs 3 through 5 above, the Alternative is considered complete and includes the information required by SGMA and the GSP Regulations, sufficient to warrant a full evaluation by the Department. (23 CCR Section 358.4(a)(3)).

7. The Alternative applies to and covers the entire subbasin as required by 23 CCR Sections 358.2(a) and 358.4(a)(4), respectively, and as discussed in Section 3.4 of the Staff Report.

8. The Stipulated Judgment provides the Borrego Springs Watermaster with all the powers of a Groundwater Sustainability Agency (Agency) and is binding on all parties and property within the Subbasin. Additionally, the Court has retained continuing jurisdiction to ensure implementation and enforce all requirements. Thus, the Watermaster has the legal authority and financial resources necessary to implement the Alternative. (23 CCR 355.4(b)(9)).

9. The Department has received public comments on the Alternative and has considered them in the evaluation of the Alternative as required by 23 CCR Section 358.2(f).

The Department makes the following additional findings based on the evaluation and assessment of the Alternative prepared by Department staff:

1. The Alternative has demonstrated an understanding of groundwater conditions in the basin and has acknowledged the basin's historic and ongoing overdraft. By establishing a reasonable plan to reduce and gradually eliminate overdraft, which includes an incremental 20-year process to reduce groundwater extractions, the groundwater management proposed by the Alternative is consistent with SGMA's timeline, which provides up to 20 years of plan implementation for a basin to reach its sustainability goal.

2. The Alternative satisfies the objectives of SGMA even though it is a final judgment in a comprehensive adjudication and does not follow or include the precise organization or elements of a groundwater sustainability plan prescribed in SGMA and the GSP Regulations. The Alternative includes a groundwater management plan (GMP), which is described as being intended to guide groundwater management in the Basin. Under the Stipulated Judgment, the Court retains

discretion to direct the Watermaster to manage the basin in ways not described in the Plan. If the Court orders changes to that Plan's description of basin management efforts and processes, those changes should be identified and discussed in annual reports or periodic updates, as appropriate.

3. In light of Paragraphs 1-11 above, the Alternative satisfies the objectives of SGMA.

In addition to the grounds listed above, the Department also finds that:

1. The Department developed its GSP Regulations consistent with and intending to further the State's human right to water policy through implementation of SGMA and the GSP Regulations, primarily by achieving sustainable groundwater management in a basin. By ensuring substantial compliance with the GSP Regulations, the Department has considered the state policy regarding the human right to water in its evaluation of the Alternative (Water Code Section 106.3; 23 CCR Section 350.4(g)).

2. The California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000 et seq.) does not apply to the Department's evaluation, assessment, and approval of the Alternative. It is clear that there is no potential for the Department's approval to cause environmental effects and therefore no possibility of causing any significant effects on the environment. The Department's evaluation, assessment, and approval of the Alternative is also statutorily and categorically exempt from CEQA.

Accordingly, the Alternative submitted by the Agency for the Borrego Valley – Borrego Springs Subbasin is hereby **APPROVED**. The recommended corrective actions identified in the attached Staff Assessment will assist the Department's future review of the Alternative's implementation for consistency with SGMA, and the Department, therefore, recommends the Agency address them in the next Periodic Evaluation, which is set to be submitted on June 25, 2026, as required by Water Code Section 10733.6(c). Department staff will continue to monitor and evaluate the progress toward achieving the basin's sustainability goal through continued Annual Reporting and future revisions to the Alternative. Failure to address the Department's recommended corrective actions before future, subsequent Alternative evaluations, may lead to the Alternative being determined incomplete or inadequate.

Signed:

Karla Nemeth

Karla Nemeth, Director
Date: February 25, 2025

Exhibit A: Staff Assessment, Sustainable Groundwater Management Program Alternative Assessment Staff Report – Borrego Valley – Borrego Springs Subbasin

State of California
Department of Water Resources
Sustainable Groundwater Management Program
Alternative Assessment – Staff Report

Groundwater Basin Name:	Borrego Valley – Borrego Springs Subbasin (Basin No. 7-024.01
Submitting Agency:	Borrego Springs Watermaster
Recommendation:	Approve
Date:	February 25, 2025

This Alternative Assessment – Staff Report includes seven sections:

1 SUMMARY

The Borrego Springs Watermaster (Watermaster)[1] on June 25, 2021, submitted to the Department of Water Resources (Department or DWR) a court-entered judgment (Stipulated Judgment) in the comprehensive adjudication (pursuant to Code of Civil Procedure Section 850) of the Borrego Springs Subbasin of the Borrego Valley Groundwater Basin for evaluation and assessment as a Sustainable Groundwater Management Act (SGMA) alternative under Water Code Section 10737.4.[2] The Department posted this submission on the Alternatives webpage of its SGMA Portal,[3] opened a public comment period, and began evaluating the alternative submittal.

[1] In this document, the Department of Water Resources (Department or DWR) will use the acronyms or short identifiers that are used in the Stipulated Judgment.
[2] Water Code § 10720 *et seq*.
[3] https://sgma.water.ca.gov/portal/alternative/print/39

Based on its review, Department staff have determined that the alternative submittal (hereafter referred to as the Borrego Alternative) for the Borrego Springs Subbasin (hereafter referred to as Subbasin or Basin) demonstrates, at this time, a reasonable overall understanding of groundwater conditions in the Subbasin, reasonably quantifies and mitigates overdraft, and proposes a commensurate level of management actions, primarily through permanently reducing and limiting groundwater extractions, to satisfy the objectives of SGMA as identified in applicable statutes and the Department's Groundwater Sustainability Plan Regulations (GSP Regulations).[4]

Department staff note that the Borrego Alternative, largely owing to the fact that it is a final judgment in a comprehensive adjudication, does not follow the precise organization or include the identical elements as a groundwater sustainability plan (GSP). However, differences between the elements of the Borrego Alternative and the generally required elements of a GSP, as prescribed in the GSP Regulations, do not preclude the Department from determining that the existing water management regime established by the Stipulated Judgment satisfies the objectives of SGMA. In fact, the Borrego Alternative includes a groundwater management plan (GMP) as an attached exhibit (Exhibit 1) to the Stipulated Judgment, which is intended to play a role in Subbasin management.[5] However, unlike a GSP, which defines the scope of groundwater management for a basin, in the Stipulated Judgement the Court retains discretion to direct the Watermaster to manage the basin in ways not described in the Plan. Although the Department does not expect this to result in management actions that significantly depart from those described in the Plan, the views expressed in this report are limited to technical information and the projects and management actions included and as described in the Plan. As discussed below, if the Court orders changes to that Plan's description of basin management efforts and processes, those changes should be identified and discussed in annual reports or periodic updates, as appropriate.

Department staff have reviewed the GMP and have recommendations specific to the GMP to more closely align basin management with the requirements of SGMA and the GSP Regulations. A critical component of managing this Subbasin under the Borrego Alternative is reducing pumping to eliminate overdraft, but sustainable groundwater management under SGMA requires consideration of more than the elimination of overdraft over a set period of time. Accordingly, staff's recommended corrective actions are geared towards broadening the focus of management under the Borrego Alternative to encompass quantified definitions of sustainability that will allow for better management and monitoring of progress towards achieving sustainability as defined by SGMA.

Department staff do not believe that the deficiencies described in this Report should preclude approval of the Borrego Alternative at this time. As documented throughout this

[4] 23 CCR § 350 *et seq*.
[5] *Draft Final Groundwater Management Plan for the Borrego Springs Groundwater Subbasin* (January 2020). The GMP is attached as Exhibit 1 in the Stipulated Judgment, pp. 54-1652.

assessment, the Borrego Alternative represents a substantial, locally driven, technical, legal, and policy effort. The enforceable and locally funded management framework it establishes has already accomplished significant milestones, changes, and improvements in Subbasin management and conditions. Management under the Borrego Alternative has initiated and implemented management actions with documented beneficial outcomes in this Subbasin faster than some other basins where a GSP has been adopted. Accordingly, Department staff believe approval, while requiring and allowing time for further refinements and improvements in basin management (as recommended in this staff report), is warranted at this time to support continued implementation of the Borrego Alternative. Department staff will have further opportunities to evaluate management under this alternative, including when it is resubmitted to comply with SGMA's five-year resubmission requirement for alternatives.[6]

In sum, staff recommend that the Department **APPROVE** the Borrego Alternative and require implementation of the recommended corrective actions by June 25, 2026.

2 ALTERNATIVE MATERIALS SUBMITTED

The Borrego Alternative was submitted to the Department by the Watermaster, the local management entity established in the comprehensive adjudication of the Borrego Springs Subbasin of the Borrego Valley Groundwater Basin.[7] The Watermaster uploaded multiple documents to the Department's SGMA Portal as part of its submission, including a "Judgment Findings and Order" signed and filed by the Orange County Superior Court (Hon. Peter J. Wilson) on April 8, 2021,[8] and a Stipulated Judgment (also file stamped April 8, 2021) with the following nine exhibits, which can be accessed on the SGMA Portal and are collectively referred to in this staff report as the "Alternative" or "Judgment" or "Borrego Alternative":

- Exhibit 1: Groundwater Management Plan (referred to herein as the "GMP")
- Exhibit 2: Stipulation for Judgment (dated April 8, 2021)
- Exhibit 3: Minimum Fallowing Standards
- Exhibit 4: Baseline Pumping Allocations
- Exhibit 5: Rules and Regulations
- Exhibit 6: Declaration of Covenants, Conditions & Restrictions
- Exhibit 7: Process for Selecting Watermaster Representatives

[6] Water Code §§ 10733.6(c), 10733.8; 23 CCR § 358.2(b).
[7] County of Orange Superior Court Case No. 37-2020-00005776-CU-TT-CTL.
[8] County of Orange Superior Court Case No. 37-2020-00005776-CU-TT-CTL.

- Exhibit 8: Entry Permit
- Exhibit 9: Facility Standards for Mutual Water Companies Formed After Entry of Judgment

In addition to the materials identified above, the Watermaster also submitted an "Alternative Elements Guide," a document intended to be used as a reference by the Department to facilitate its evaluation by providing descriptions and references explaining how or which parts of the Borrego Alternative satisfy the specific requirements for elements of a GSP established by the Department's GSP Regulations.[9] For this evaluation and assessment, Department staff reviewed and utilized all these submitted materials, other readily available information including annual reports for the Subbasin, and relevant public comments submitted to the Department.

3 REQUIRED CONDITIONS FOR EVALUATION

Before conducting an in-depth evaluation of an alternative, Department staff initially need to determine whether the submittal meets certain minimum conditions. As explained here, the Judgment satisfies these minimum conditions, warranting a thorough evaluation.

3.1 SUBMISSION DEADLINE

Water Code Section 10733.6(c) mandates that an alternative shall be submitted no later than January 1, 2017, and every five years thereafter.[10] The Judgment was submitted after this deadline, but it was submitted pursuant to Water Code Section 10737.4, which states that a judgment, like the alternative here, may be submitted for evaluation after January 1, 2017. Thus, the alternative was timely submitted.

3.2 COMPLIANCE WITH CALIFORNIA STATEWIDE GROUNDWATER ELEVATION MONITORING (CASGEM) PROGRAM

Water Code Section 10733.6(d) requires the Department's alternative assessments to "include an assessment of whether the alternative is within a basin that is in compliance with [CASGEM]." CASGEM is found in Part 2.11 of Division 6 of the Water Code and requires that groundwater elevations in all groundwater basins be regularly and systematically monitored and that groundwater elevation reports be submitted to the Department.[11] If the basin is not in compliance with CASGEM requirements, "the department shall find the alternative does not satisfy the objectives of this part [i.e., SGMA]."[12] Department staff have confirmed that the Subbasin was in compliance with

[9] 23 CCR § 358.2(d).
[10] Pursuant to Water Code § 10722.4(d), a different deadline applies to a basin that has been elevated from low- or very low-priority to high- or medium-priority after January 31, 2015.
[11] Water Code § 10920 et seq.
[12] Water Code § 10733.6(d).

the CASGEM requirements prior to submitting the alternative and have confirmed the Subbasin remains in compliance with CASGEM (through the last reporting deadline).

3.3 COMPLETENESS

The Department fully evaluates an alternative if it generally appears complete (i.e., appears to include the information required by SGMA and the GSP Regulations).[13] The Subbasin's Watermaster submitted an "Alternative Elements Guide" that explains how the elements of the Judgment and management thereunder are functionally equivalent to a GSP. Initial review by Department staff indicated the alternative generally contained the required information, as applicable, sufficient to warrant a full evaluation.

3.4 BASIN COVERAGE

An alternative must cover the entire basin.[14] An alternative that is intended to cover the entire basin may be presumed to do so if the basin is fully contained within the jurisdictional boundaries of the submitting agency.

Here, the Superior Court's April 8, 2021, Judgment Finding and Order (at paragraph 1) expressly includes a finding of fact and law that the comprehensive adjudication covers all claims to groundwater rights in the Borrego Valley Groundwater Subbasin (No. 7.024-01):

> "The proposed stipulated judgment ("Judgment") … shall be the judgment of the Court in this Comprehensive Adjudication and shall be binding on the parties to the comprehensive adjudication and all of their successors in interest, including, but not limited to, their heirs, executors, administrators, assigns, lessees, licensees, agents and employees, all other successors in interest, and all landowners or other persons claiming rights to extract groundwater from the Basin."

Department staff, therefore, conclude that the alternative covers the entire Subbasin.

4 EVALUATION OVERVIEW AND PRINCIPLES

Department staff's evaluation of the Borrego Alternative for adequacy as a SGMA alternative involves application of Water Code Section 10737.4(a), which provides, in part, that:

> "Chapter 11 (commencing with Section 10735) shall not apply to a judgment approved by the court pursuant to Section 850 of the Code of Civil Procedure if both of the following apply:

[13] 23 CCR § 358.4(a)(3)
[14] 23 CCR § 358.4(a)(4)

1. A local agency or a party directed by the court to file the submission submits the judgment to the department for evaluation and assessment pursuant to paragraph (2) of subdivision (b) of Section 10733.6. [and]

2. The department determines that the judgment satisfies the objectives of this part for the basin."

SGMA provides that a local agency "may submit the alternative to the department for evaluation and assessment of whether the alternative satisfies the objectives of this part for the basin."[15] The Legislature identified its objectives in enacting SGMA, the first of which is "[t]o provide for the sustainable management of groundwater basins."[16] The Legislature defined sustainable groundwater management as "the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results." [17]

The Department's GSP Regulations, specifically Article 9, include additional provisions regarding evaluation of alternatives under SGMA.[18] The GSP Regulations require the Department to evaluate an alternative "in accordance with Sections 355.2, 355.4(b), and Section 355.6, *as applicable*, to determine whether the alternative complies with the objectives of the Act."[19] In evaluating the Borrego Alternative and preparing this assessment, Department staff considered and applied, where applicable, the standards identified in these statutes and regulations with the ultimate purpose being to determine whether the Borrego Alternative satisfies the objectives of SGMA.[20]

An agency or other entity submitting an alternative must explain how the elements of the alternative are "functionally equivalent" to the elements of a GSP required by Articles 5 and 7 of the GSP Regulations and are sufficient to demonstrate the ability of the alternative to achieve the objectives of SGMA. The explanation of how elements of an alternative are functionally equivalent to elements of a GSP furthers the purpose of demonstrating that an alternative satisfies the objectives of SGMA. Alternatives, although required to satisfy the objectives of SGMA, are not necessarily expected to conform to the precise format and content of a GSP. This assessment is thus focused on the ability of the Borrego Alternative to satisfy the objectives of SGMA as demonstrated by information provided by Borrego Springs Watermaster; it is not a determination of the degree to which the Borrego Alternative matches the specific requirements of the GSP Regulations.

When evaluating whether an alternative satisfies the objectives of SGMA and thus is likely to achieve the sustainability goal for the basin, Department staff review the information

[15] Water Code § 10733.6(a).
[16] Water Code § 10720.1.
[17] Water Code Section 10721(v).
[18] 23 CCR § 358 *et seq*.
[19] 23 CCR § 358.4(b) (emphasis added).
[20] 23 CCR § 358.2(d); Water Code § 10733.6(a).

provided by and relied upon by the submitting entity or agency for sufficiency, credibility, and consistency with scientific and engineering professional standards of practice.[21] The Department's review considers whether there is a reasonable relationship between the information provided and the assumptions and conclusions made by the submitting entity or agency, whether sustainable management criteria and projects and management actions described in an alternative are commensurate with the level of understanding of the basin setting, and whether those projects and management actions are feasible and likely to prevent undesirable results.[22] Department staff will recommend that an alternative be approved if staff determine, in light of these factors, that the alternative has achieved or is likely to achieve the sustainability goal for the basin.[23]

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

Finally, the Borrego Alternative, which is based on management pursuant to an adjudication action submitted under Water Code Section 10737.4, is the first SGMA alternative of its kind reviewed by Department staff. Alternatives previously submitted to the Department were either groundwater management plans developed pursuant to Part 2.75 of Division 6 of the Water Code (commencing with Section 10750) or other law authorizing groundwater management, or analyses of basin conditions attempting to demonstrate that a basin was operated within its sustainable yield over a period of at least 10 years.[24] In almost every previous case, the local agency that submitted an alternative also formed a groundwater sustainability agency (GSA), but in no case was an alternative submitted by one entity while a different entity had become an exclusive GSA authorized to implement the provisions of SGMA, which had adopted and submitted a GSP for the same basin, thus no conflict existed that would have prevented Department evaluation of those alternatives.[25] For similar reasons here, because the Borrego Alternative does not substantially impair or otherwise interfere with an existing GSP (none was ever locally

[21] 23 CCR § 351(h).
[22] 23 CCR § 355.4(b)(1), (3), and (5).
[23] 23 CCR § 355.4(b).
[24] Water Code §§ 10733.6(b)(1) and (b)(3).
[25] The Borrego Water District initially submitted a notice of intent to become a GSA for the basin and prepare a GSP, but Borrego Water District later withdrew its notice of intent.

adopted or subsequently submitted to and approved by the Department), evaluation of the Borrego Alternative by the Department is appropriate.[26]

In sum, this staff report evaluates the adequacy of the Judgment to satisfy the objectives of SGMA by serving as an alternative to a GSP for the Subbasin (Water Code 10733.6.). Department staff have also included information, and recommended corrective actions, in this staff report to further assist the Watermaster, Court, and interested parties with the timely achievement of sustainable groundwater management in the Subbasin as required under SGMA.

5 TECHNICAL EVALUATION OF THE GMP

Under the assumption that the *Groundwater Management Plan for the Borrego Springs Subbasin, January 2020* (GMP), included as Exhibit 1 in the Stipulated Judgment, is intended to and will significantly guide the Watermaster's (and Court's) groundwater management decisions during implementation of the Borrego Alternative, this section of the staff report focuses on whether the following elements of the Stipulated Judgment, relying upon the GMP, substantially comply with, and are functionally equivalent to, the requirements for GSPs set forth in the GSP Regulations:[27]

- **Basin Setting**. The description of the Subbasin, including a hydrogeologic conceptual model and water budget in context with the understanding of the current groundwater conditions in the Subbasin.
- **Sustainable Management Criteria**. The criteria proposed to measure and define sustainability in the Subbasin.

[26] Department staff note that for a basin with an approved GSP that becomes subject to a comprehensive adjudication, SGMA states that the court shall not approve entry of judgment in the adjudication action unless the court finds that the judgment will not substantially impair the ability of a GSA, the State Water Resources Control Board, or the Department to comply with SGMA and to achieve sustainable groundwater management. (Water Code § 10737.8) SGMA mandates that "all" basins designated as medium- or high-priority "shall be managed under a groundwater sustainability plan" by certain deadlines now past (Water Code § 10720.7.) Accordingly, a judgment that affects a GSA's ability to implement and manage under its GSP runs the risk of violating section 10737.8, because it may substantially impair the GSA's ability to comply with the mandate of section 10720.7. While any such conflict would require a case-specific analysis, an adjudication judgment that precludes or interferes with achieving the sustainable management criteria established in a GSP by, for instance, attempting to establish higher groundwater extraction amounts, less protective management criteria or thresholds for undesirable results, or empowering an entity other than the GSA to act as watermaster to regulate or authorize groundwater pumping in a basin runs a significant risk of substantially impairing the ability of the GSA to comply with SGMA and therefore violating section 10737.8.. Amendments to the streamlined adjudication statutes that became effective in 2024 contain the same prohibition on adjudication judgments and, importantly, allow a court and parties in an adjudication to seek assistance from, and preparation of a joint report by, the State Water Resources Control Board and the Department assessing this particular issue. (Code of Civil Procedure § 850(b)-(c).)

[27] 23 CCR §§ 355.4(b), 358.2(d).

- **Monitoring Networks**. The proposed means of collecting short-term, seasonal, and long-term data of sufficient quality, frequency, and distribution to characterize and evaluate conditions in the basin to evaluate implementation of the management program.
- **Projects and Management Actions**. The proposed efforts that may be necessary to bring the Subbasin under sustainable groundwater management.

5.1 Basin Setting

The basin setting should contain detailed information about the physical setting and characteristics of a basin to serve, among other things, as the basis for local agencies to develop and assess the need for, and reasonableness of, sustainable management criteria and projects and management actions.[28] This information also provides a foundation to facilitate the Department's review of the management regime presented in a GSP or an alternative.

The Subbasin's GMP, included as Exhibit 1 in the Stipulated Judgment, contains much of the information about the Subbasin required by the GSP Regulations. This includes information about groundwater conditions and hydrogeology, types of land uses, a hydrogeologic conceptual model, past and current water demands, and descriptions of beneficial uses and users of groundwater within the Subbasin. The following four major elements comprising the basin setting are discussed below: the hydrogeologic conceptual model, groundwater and basin conditions, water budget, and management areas.

5.1.1 Hydrogeologic Conceptual Model

The hydrogeologic conceptual model is a non-numerical model of the physical setting, characteristics, and processes that govern groundwater occurrence within a basin. The hydrogeologic conceptual model represents a local agency's understanding of the geology and hydrology of the basin that forms the basis of geologic assumptions used in developing numerical groundwater flow models, such as those that allow for quantification of the water budget.[29]

The GMP includes a hydrogeologic conceptual model that is largely based on technical studies conducted by the U.S. Geological Survey dating from the 1980s to 2015.[30] The Subbasin is described in the GMP as being comprised of continental and lacustrine sediments and divides the water-bearing strata into three units simply termed the upper, middle, and lower aquifers, although they are not confined by regionally extensive aquitards. The hydraulic properties, such as hydraulic conductivity and specific yield of

[28] 23 CCR § 354.12.
[29] 2016 Best Management Practices for the Sustainable Management of Groundwater—Hydrogeologic Conceptual Model (DRAFT); https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Sustainable-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents/Files/BMP-3-Hydrogeologic-Conceptual-Model_ay_19.pdf.
[30] GMP, Section 2.2.1, pp. 131-144.

the sediments, decrease from the upper to the lower aquifer. The upper aquifer is mainly coarser alluvium with a moderate ability to store and produce groundwater. The middle aquifer consists of finer grained sediments that are moderately consolidated and cemented with the ability to produce moderate quantities of water in wells. The lower aquifer consists of partly consolidated continental and lacustrine sediments with a higher portion of fine-grained sediments and yields smaller quantities of water than the upper and middle aquifers.[31]

Department staff consider the hydrogeologic conceptual model presented in the GMP to be reasonable and to have relied on the best available data in depicting the current understanding of the characteristics, distribution, and groundwater conditions of the system of aquifers within the Subbasin. The hydrogeologic conceptual model relies on numerous independent studies and reports, including investigations carried out by the U.S. Geological Survey, and utilizes reasonable methods and assumptions, including reviewing and comparing historical groundwater budget studies in the Subbasin and quantifying historical groundwater overdraft for several time periods.

5.1.2 Groundwater and Basin Conditions

The GMP describes the current and historical groundwater conditions based on groundwater data collected from the established monitoring network and data collected from the 1940s and 1950s. The GMP provides groundwater elevation contour maps for historical conditions and for spring and autumn of 2018, which are used to represent "current" conditions.[32] The historical groundwater elevation contour maps show declining groundwater levels from 1945 to 2010, with pumping depressions evident in data from the western portion of the Subbasin. The GMP acknowledges that human influence on groundwater levels is most pronounced in the northern part of the Subbasin, where the 2018 contour map shows a pumping depression in the general vicinity of the pumping depression in the 2010 map, although the groundwater elevation of the depression in the 2018 contour map is lower.[33]

The GMP estimates that groundwater elevations in the Northern Management Area declined by as much as 133 feet, with an average rate of 2.05 feet per year, between 1953 and 2018. Over the same period, the estimated decline in the Central Management Area was 88 feet, averaging 1.35 feet per year. The Southern Management Area has been pumped to a lesser extent; thus, groundwater elevations have remained relatively stable.[34]

The groundwater in storage in the Subbasin prior to initiation of widespread groundwater extraction was estimated to have been 5.5 million acre-feet. A subsequent investigation estimated the amount of readily available groundwater to be approximately 2.1 million

[31] GMP, Section 2.2.1.3, pp. 140-142.
[32] GMP, Figures 2.2-13A to 2.2-13D, pp. 231-237.
[33] GMP, Section 2.2.2.1, pp. 148-150; Figures 2.2-13A to 2.2-13D, pp. 231-237.
[34] GMP, Section 2.2.2.1, p. 150; Figure 2.2-13E, p. 239.

acre-feet in 1945 and 1.9 million acre-feet in 1980. The Borrego Valley Hydrologic Model (BVHM) estimates the reduction in groundwater in storage from 1980 to 2016 to be 334,293 acre-feet, leaving approximately 1.6 million acre-feet remaining in the aquifers.[35]

The groundwater quality constituents of concern in the Subbasin include total dissolved solids, nitrate, arsenic, sulfate, and fluoride.[36] The GMP describes anthropogenic and natural sources of the constituents of concern. Anthropogenic activities affecting total dissolved solids include agricultural use of irrigation, fertilizers, pesticides, and return flow from septic systems and wastewater treatment. Natural sources of total dissolved solids include interactions of groundwater with minerals that comprise the aquifer material, including evaporative enrichment near dry lake beds such as the Borrego Sink. The historical concentrations of total dissolved solids ranged from 500 to 2,330 mg/L, with 2018 concentrations below the secondary maximum contaminant level upper limit for drinking water in all but two wells. The wells with highest concentrations of total dissolved solids tend to be in the shallow aquifer in the Northern Management Area and near the Borrego Sink.[37]

Sources of nitrate are primarily associated with fertilizer application and septic tank return flows. Historical exceedances of nitrate, ranging from 10-155 mg/L, have occurred in five wells adjacent to areas of agricultural use in the northern part of the valley. Available nitrate data in the current monitoring network show neutral or declining trends of nitrate concentrations or are insufficient to establish a trend. The GMP describes historical wells that were taken out of potable service due to elevated nitrate. Mitigation of the impacted wells included drilling and screening the well in a deeper zone or connecting to municipal well supplies.[38]

Arsenic is naturally occurring and associated with mineral chemistry and pH. Arsenic has been detected in wells in all management areas of the Subbasin, but only some wells in the Southern Management Area are above the maximum contaminant level of 10 µg/L, with a maximum detected concentration of 22 µg/L.[39] Although Figure 2.2-14D appears to show that exceedances of the maximum contaminant level are in wells associated with the Rams Hill Golf Course, the GMP does not explain whether these wells produce potable or non-potable water or the extent of the impacts to beneficial uses and users, if any.

Sulfate sources include natural deposits of gypsum and fertilizers. Sulfate analyses in a 2015 USGS study indicated no wells exceeded the secondary maximum contaminant level for sulfate; historical data show exceedances in some wells near the Borrego Sink,

[35] GMP, Section 2.2.2.2, p. 152.
[36] GMP, Section 2.2.2.4, p. 153; Groundwater Monitoring Plan for the Borrego Springs Subbasin, Section 3.1, p. 18.
[37] GMP, Section 2.2.2.4, pp. 154-156; Figure 2.2-14B, p. 245.
[38] GMP, Section 2.2.2.4, pp. 154-155; Figure 2.2-14A, p. 243.
[39] GMP, Section 2.2.2.4, pp. 157-158; Figure 2.2-14D, p. 249.

ranging from 650-2,300 mg/L. The GMP correlates elevated sulfate concentrations with elevated total dissolved solids concentrations near the Borrego Sink. Two wells, RH-1 and ID1-8, appear to show increasing trends.[40]

Fluoride is a naturally occurring element in groundwater and has historically been detected in three wells above the maximum contaminant level of 2 mg/L. The fluoride concentration exceedances ranged from 2.2-4.87 mg/L. However, typical fluoride concentrations in the Subbasin are below one-half of the maximum contaminant level. No figure was provided showing the wells analyzed for fluoride.[41]

The GMP discusses land subsidence evaluation using data between 1978 and 2009. The investigation included analyzing data measured by interferometric synthetic aperture radar (InSAR) and global positioning system stations that concluded changes of land surface elevation of fewer than 0.54 feet. The investigation identified a consistent and seasonal pattern southeast of agricultural fields between 2003 and 2007, where land subsidence in the summer was followed by a smaller increase in land elevation by the end of the year; the increase was about half the amount of subsidence in the summer, resulting in an average decline of 0.15 inch per year during this period. InSAR data from 2015 to 2018 showed a decrease in elevation by 0.023 feet, or fewer than 0.1 inch per year in the Borrego Springs Resort area, while a larger area of the Subbasin experienced an increase in elevation during the same period. The GMP concludes that, based on the groundwater level declining by more than 100 feet, the land subsidence that has occurred in the Subbasin is minimal and has not substantially interfered with surface land uses in the past and is not anticipated to substantially interfere with land uses in the foreseeable future.[42]

The GMP explains that streams in the Subbasin are predominantly disconnected from the groundwater table, which is typical of an arid desert environment, because stream flows of moderate magnitude and short duration do not percolate deep enough to reach the underlying aquifer.[43] The Water Year 2023 Annual Report for the Borrego Springs Subbasin describes an investigation of surface water flow in the perennial and ephemeral segments of Coyote Creek, the primary drainage feature recharging the Subbasin. The perennial extent of streamflow measured at five sites indicate streamflow decreasing from upstream to downstream and is completely infiltrated by the First Crossing (approximately two miles into the Subbasin from the northwestern boundary),[44] suggesting that the Coyote Creek drainage system loses water to the underlying aquifer system. By fall 2020, Watermaster staff observed all five sites on Coyote Creek to be dry; to be not accessible

[40] GMP, Section 2.2.2.4, pp. 156-157; Figure 2.2-14C, p. 247.
[41] GMP, Section 2.2.2.4, p. 158.
[42] GMP, Section 2.2.2.5, pp. 162-164; Figure 2.2-17, p. 257.
[43] GMP, Section 2.2.2.6, pp. 164-165; Figure 2.2-18, p. 259.
[44] Borrego Springs Subbasin 1st Annual Report: Covering Water Years 2016 through 2019, Figure 2, p. 35; Table 1-2, p. 13; Water Year 2023 Annual Report for the Borrego Springs Subbasin, Section 3.1.3, p. 47; Figure 3, p. 74.

due to excessive vegetation growth; or to shallow flows, resulting in the determination that continued streamflow measurements were impractical but would continue to conduct semiannual visual and qualitative observations of flow conditions. The GMP attributes perennial sections of creeks that are upgradient and outside of the Subbasin to be supported by groundwater flowing from bedrock aquifers into the channels, which then become ephemeral streams when entering the Subbasin.[45]

The GMP describes the historical conditions of surface water entering the Subbasin and states that since the beginning of large-scale pumping in the Subbasin decades ago, groundwater has not been observed discharging onto the valley floor in the form of seeps, springs, or gaining streams. Old Borrego Springs dried up before 1963 and Pup Fish Pond Spring, which extends a short distance into the Subbasin, is an artificial spring sustained by Anza-Borrego Desert State Park.[46]

Regarding groundwater dependent ecosystems (GDEs), groundwater monitoring closest to creek segments entering the northern and western margins of the Subbasin indicates a separation of hundreds of feet between the creek beds and the groundwater table. The GMP describes the evaluation of the Natural Communities Commonly Associated with Groundwater dataset, which divided the Subbasin into three geographic units.[47] The northernmost Coyote Creek Unit includes plant types along the riparian corridor of Coyote Creek. The investigation included analysis of stream gage data, aerial photographs, and remotely-sensed vegetation data and concluded that the reach of Coyote Creek with potential GDEs is a losing stream and not supported by groundwater from the Subbasin.[48]

The Palm Canyon Unit at the western margin of the Subbasin shows no significant change in the extent of the GDE since 1954 and no significant change in health of the GDE since 1985. The GMP explains that the depth to groundwater in the nearest well, measured in 2018, of 348 feet below ground surface and the fluctuations in vegetation metrics that moderately correlate to precipitation indicate that GDEs in the Palm Canyon Unit are supported by surface water flows originating outside the Subbasin and entering the Subbasin via Borrego Palm Creek instead of being supported by groundwater in the Subbasin.[49]

The Mesquite Bosque Unit near the Borrego Sink historically contained 450 acres of honey mesquite, which the GMP describes can be tolerant of droughts. The 44 feet of groundwater decline in the past 65 years have resulted in a mostly desiccated area of mesquite by or around January 2015, with groundwater levels ranging from about 55-134 feet below ground surface, deeper than the stated approximate 20 feet rooting depth of

[45] GMP, Section 2.2.2.7, p. 168; Water Year 2023 Annual Report for the Borrego Springs Subbasin, Section 3.1.3, p. 47.
[46] GMP, Section 2.2.2.6, pp. 164-166.
[47] GMP, Figure 2.2-20, p. 263.
[48] GMP, Section 2.2.2.7, pp. 166-169.
[49] GMP, Section 2.2.2.7, pp. 169-171; Figure 2.2-20, p. 263.

the mesquite in the area. The GMP correlates precipitation and intermittent surface water flows with vegetation metrics instead of groundwater.[50]

5.1.3 Water Budget

The GMP uses a numerical groundwater flow model to produce a groundwater budget suggesting that the average rate of groundwater removed from storage between 1945 and 2016 was 7,300 acre-feet per year, with an increased rate of removal during the last 10 years of approximately 13,140 acre-feet per year.[51] The GMP provides an initial estimate for "sustainable yield" of the Subbasin as 5,700 acre-feet per year,[52] compared with the Subbasin's "current" baseline pumping of 24,215 acre-feet per year.[53] Department staff note that the GMP's estimate of current baseline pumping does not reflect actual, current extractions in the Subbasin, but rather was determined based on maximum annual water use by individual (non-de minimis) pumpers over the period January 1, 2010 to January 1, 2015. Baseline pumping also includes municipal water use previously reduced through end-use efficiency and conservation efforts, and recreational use curtailed prior to GMP adoption. The GMP reports that baseline pumping allocations are distributed to water use sectors as follows: 70 percent agriculture, 18 percent recreation, 12 percent municipal; 1 percent other.

Department staff consider the water budget information presented in the GMP to be consistent with current understanding of the hydrology and hydrogeology of the Subbasin and to have utilized appropriate and reasonable methods and assumptions, including reviewing and comparing historical groundwater budget studies in the Subbasin, and quantifying historical groundwater overdraft for several time periods (1945-2010, 1945-2016, 1997-2016, and 2007-2016).[54] However, the sustainable yield is derived using estimated inflows and outflows from model simulations that utilized data from different time periods; the inflow component is based on model simulations of data from 1945 to 2016, whereas the outflow component is based on data from 2007 to 2016.[55] The GMP justifies using inflow and outflow components based on different date ranges as a reasonable approach to an "initial estimate" that will be updated at each five-year evaluation during Physical Solution implementation.[56] Department staff regard the use of historical calculations to be sufficient based upon the best available information to inform the model and estimate. Provided that estimates are within the range of error, the overall reliance on such estimates appears acceptable.

[50] GMP, Section 2.2.2.7, pp. 169-171; Figure 2.2-20, p. 263.
[51] GMP, Section 2.2.3.3, p. 179; Table 2.2-8, p. 173. The reported volume of groundwater removed from storage differs between text in Section 2.2.3.3 and Table 2.2-8.
[52] GMP, Section 2.2.3.6, p. 182.
[53] GMP, Section 3.3.1.4, p. 301.
[54] GMP, Table 2.2-8, p.173.
[55] GMP, Table 2.2-8, p. 173.
[56] GMP, Section 2.2.3.6, pp. 180-182.

Department staff consider this adaptive management approach of incorporating periodic evaluation of new data and management strategies to be appropriate for this Subbasin and consistent with SGMA's implementation horizon for achieving sustainable groundwater management; however, as explained further below, the current emphasis on updating inflow and outflow data suggests the primary management focus is on balancing extractions with natural recharge rather than on the sustainable yield of the Subbasin, which is the achievement of "sustainability" by avoiding "undesirable results" as defined by the GMP's sustainable management criteria (see discussion below, under Section 6.2, Sustainable Management Criteria).

5.1.4 Management Areas

The GSP Regulations allow management areas within a basin, for which an agency may identify different minimum thresholds, measurable objectives, monitoring, or projects and management actions based on differences in water use sector, water source type, geology, aquifer characteristics, or other factors, provided that undesirable results are defined consistently throughout the basin.[57]

The GMP divides the Subbasin into three management areas (North, Central, and South) based on differences in hydrogeology, water quality, and overlying land uses. The North Management Area overlies the more productive upper aquifer that supports widespread agricultural activities, resulting in the most groundwater extraction and the greatest historical decline in groundwater levels of the three management areas. The Central Management Area predominantly contains extractions of groundwater from the middle aquifer to supply municipal and recreational users. The groundwater level decline in the Central Management Area has been recorded for decades and is widespread, although the rate of decline is less than the rate of groundwater level decline observed in the North Management Area. The South Management Area is predominantly open space but includes a golf course and a small rural residential area supported by groundwater extractions from the lower aquifer. In the South Management Area, groundwater levels near the Ram's Hill golf course appear connected to activity of the facility; however, groundwater levels near the isolated residential area of Borrego Air Ranch do not appear to be affected by the golf course extractions and have been relatively stable through time.[58]

The GMP contains a general description of the three management areas and provides maps that show their boundaries. However, the GMP does not clearly explain the reason for establishing different sustainable management criteria based on these management areas or how those criteria are appropriate and will not interfere with efforts to achieve the sustainability goal for the Subbasin. Department staff are unable to fully evaluate the approach to sustainability for these three areas without a more complete and detailed

[57] 23 CCR § 354.20.
[58] GMP, Section 2.2.2.1, p. 97; Figure 2.2-13E, p. 186.

discussion of the conditions in each of the areas, and how and why the areas are proposed to be separately managed to address those conditions.

Accordingly, if the management areas identified in the GMP were developed for the purposes outlined in the GSP Regulations,[59] additional information describing and justifying the establishment and use of management areas is necessary.[60] However, if, the GMP and Stipulated Judgment developed management areas to address other issues such as practical aspects of implementation (e.g., jurisdictional or financial responsibilities), the GMP and/or Stipulated Judgment should clearly explain this distinction. Even so, the GMP must demonstrate that management areas created for administrative convenience will not impair the ability of any portion of the Subbasin to achieve sustainability (see Recommended Corrective Action 1).

5.2 Sustainable Management Criteria

SGMA defines sustainable groundwater management as the "management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results."[61] The avoidance of undesirable results is thus explicitly the central concept of sustainable groundwater management and critical to the adequacy of a GSP or alternative. Under SGMA, undesirable results are "one or more" of six specific "effects caused by groundwater conditions occurring throughout the basin."[62]

As used in SGMA, undesirable results refer to specific unwanted effects, as determined by the local agency, that could be caused by groundwater conditions occurring throughout the basin. Although lowering groundwater levels and depleting supply are among the effects that could lead to undesirable results, the other categories of undesirable results defined in SGMA must also be considered and defined for purposes of basin management when applicable.

GSP Regulations require the development of several elements under the heading of "Sustainable Management Criteria," including sustainability goal, undesirable results, minimum thresholds, and measurable objectives. Except for the sustainability goal, the components of sustainable management criteria must be quantified so that progress towards sustainability can be monitored and evaluated consistently, quantitatively, and objectively to ensure that significant and unreasonable conditions and adverse impacts

[59] 23 CCR § 354.20.
[60] Where management areas are created, as appears to be the intent in the GMP, the GSP Regulations require the plan to establish minimum thresholds and measurable objectives for each management area and to provide the rationale for selecting those values. If, however, the Subbasin is to be managed at large, it would be helpful for the GMP to clearly state which minimum thresholds and measurable objectives apply to specific management areas and which apply to the entire Subbasin (see Recommended Corrective Action 1).
[61] Water Code § 10721(v).
[62] Water Code § 10721(x).

to beneficial uses and users (the SGMA definition of undesirable results[63]) are not occurring. A local agency should rely on and explain, among other factors, local experience, public outreach, involvement, and input, and information about the basin setting (e.g., hydrogeologic conceptual model, current and historical groundwater conditions, and water budget, etc.) that it used to develop criteria for defining undesirable results and setting minimum thresholds and measurable objectives.[64]

As mentioned in Section 5.1.3 above, the GMP employs the term "sustainable yield" in a sense more consistent with eliminating overdraft (i.e., balancing extractions with natural recharge) or achieving the traditional concept of "safe yield" rather than as defined in SGMA as achieving sustainability by avoiding "undesirable results" for all applicable sustainability indicators.[65] Department staff note that managing a basin to eliminate overdraft within 20 years does not necessarily mean that the basin has achieved sustainable groundwater management as required under SGMA. For example, gradually or incrementally reducing rates of subsidence to achieve no further subsidence after 20 years of management could allow and result in unreasonable and significant cumulative amounts of subsidence during the implementation period, resulting in ongoing, permanent, or long-term undesirable results such as damaged infrastructure, increased flood risk, or altered flood flow patterns that a more aggressive implementation regime would avoid. To achieve sustainable groundwater management under SGMA, the basin must achieve the sustainability goal (i.e., experience no undesirable results associated with six sustainability indicators) by the end of the 20-year plan implementation period and be able to demonstrate an ability to maintain those defined sustainable conditions over the 50-year planning and implementation horizon.

SGMA provides general definitions of the undesirable results that are to be avoided. However, it is up to each local agency or GSA implementing SGMA to develop and

---

[63] Water Code § 10721(x).

[64] 2017 Best Management Practices for the Sustainable Management of Groundwater—Sustainable Management Criteria (DRAFT); https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Sustainable-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents/Files/BMP-6-Sustainable-Management-Criteria-DRAFT_ay_19.pdf, accessed August 17, 2022.

[65] Pre-SGMA cases applied the term "safe yield" in the context of overdraft. The California Supreme Court explained: "'Safe yield' is defined as 'the maximum quantity of water which can be withdrawn annually from a ground water supply under a given set of conditions without causing an undesirable result.' The phrase 'undesirable result' is understood to refer to a gradual lowering of the ground water levels resulting eventually in depletion of the supply." (*City of Los Angeles v. City of San Fernando*, 537 P.2d 1250, 1308, 123 Cal.Rptr. 1, 59, 14 Cal.3d 199, 278 (Cal. 1975), quoting *City of Pasadena v. City of Alhambra*, 207 P.2d 17, 30, 33 Cal.2d 908, 929 (Cal., 1949)) As noted above, SGMA uses the related but different term "sustainable yield" and defines it as "the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result." (Wat. Code § 10721(w)). SGMA further defines undesirable results as significant and unreasonable effects caused by groundwater conditions occurring throughout the basin (Wat. Code § 10721(x)). Although chronic lowering of groundwater levels is one of those effects, SGMA includes five other effects that are not part of the traditional definition of "safe yield."

describe in a GSP or, as here, in an alternative, the specific effects that would constitute undesirable results in its basin and to define the groundwater conditions that would produce those results in the basin.[66] Management under an alternative should establish and be guided and judged using the same metrics. The local definition and description of undesirable results needs to be quantitative and must describe the effects of undesirable results on the beneficial uses and users of groundwater in the basin. Using these definitions, quantitative minimum thresholds can be defined that, when exceeded individually or in combination with minimum thresholds at other monitoring sites, may indicate the basin is experiencing undesirable results.[67] If undesirable results and the associated minimum thresholds are not quantitatively defined by basin managers, they, the Department, interested parties, and the general public will not be fully informed regarding the intended groundwater management program in the basin and will have no objective way to determine whether the basin is being managed sustainably as required by SGMA.

Generally, SGMA leaves the task of establishing definitions and setting minimum thresholds for undesirable results largely at the discretion of the local agency, subject to review by the Department. Absent a clear explanation of the conditions and adverse impacts the local agency is trying to avoid, and the agency's stated rationale for setting objective and quantitative sustainable groundwater management criteria that the local agency believes will successfully prevent those conditions from occurring, the Department cannot assess whether a proposed groundwater management program will achieve sustainability because there is no unambiguous way to know what basin conditions the GSP seeks to avoid and the monitoring needed to assess whether the agency is succeeding in that effort when implementing its groundwater management program.

Although the GMP appears to reasonably quantify the water budget and identify the extent and rate of overdraft in the Subbasin, and while the GMP proposes reductions in groundwater extractions that appear likely to eliminate overdraft in the Subbasin within approximately 20 years, the GMP does not provide quantified sustainable management criteria for all applicable sustainability indicators and does not explain how these criteria would avoid significant and unreasonable impacts to beneficial uses and users in the Subbasin as required by SGMA. The GMP's treatment of each of SGMA's defined undesirable results is discussed individually below.

[66] 23 CCR § 354.26.
[67] 23 CCR § 354.28. See also DWR Best Management Practices for the Sustainable Management of Groundwater: Sustainable Management Criteria (DRAFT), November 2017.

5.2.1 Chronic Lowering of Groundwater Levels

The GMP discusses historical and current groundwater level conditions[68] and presents its most extensive discussion of sustainable management criteria for the category of "chronic lowering of groundwater levels." The GMP states:

- "Failure to address and reverse the current rate of groundwater level decline could put the agricultural, recreational, and water supply availability for other beneficial uses at risk."[69]
- "Depletions leading to a complete dewatering of the Basin's upper aquifer in the [Central Management Area] would be considered significant and unreasonable…"[70]
- "Groundwater level declines would be significant and unreasonable if they are sufficient in magnitude to lower the rate of production of pre-existing extraction wells below that needed to meet the minimum required to support the overlying beneficial use(s) and that alternative means of obtaining sufficient groundwater resources are not technically or financially feasible."[71]

5.2.1.1 Mitigation of Impacts to De Minimis Users from Declining Groundwater Levels

The GMP recognizes that domestic and de minimis users have the greatest sensitivity to adverse effects of continued, declining groundwater levels.[72] Consequently, the GMP establishes a goal of protecting de minimis wells (extractions of less than two acre-feet per year) as much as possible.[73] Because the pumping rampdown described in the Physical Solution is expected to incrementally progress until the annual pumped volume matches natural recharge, projected to be around 2040, groundwater levels are expected to continue to decline because of annual overdrafting of the basin until that time.[74]

The GMP states that impacts to these beneficial users from groundwater level declines during program implementation could be mitigated because, in most cases, connecting impacted domestic and de minimis users to the Borrego Water District's municipal water system is technically and financially feasible.[75] However, the GMP does not provide specific information describing the mitigation measures that would be offered, events that would trigger access to mitigation assistance, or provide a detailed estimate of the cost and source of funding for such mitigation. Furthermore, the GMP states there are domestic and de minimis well users that are not in close proximity to existing Borrego

[68] GMP, Section 2.2.2.1, pp. 148-150.
[69] GMP, Section 3.2.1, p. 284.
[70] GMP, Section 3.2.1, p. 284.
[71] GMP, Section 3.2.1, p. 284.
[72] GMP, Section, 3.2.1, pp. 284-285.
[73] GMP, Section 3.2.1, pp. 284-286.
[74] The basin may eliminate overdraft before 2040, but for purposes of this evaluation, staff must evaluate the projected pumping that would be allowed to occur under the implementation and rampdown schedule presented in the Judgment.
[75] GMP, Section 3.3.2.1, p. 303.

Water District service lines, but the GMP does not discuss whether or how well location would affect the ability of the District to offer mitigation services to those wells.[76]

In sum, the GMP does not provide a firm commitment or critical details of how this suggested mitigation would be implemented to avoid circumstances that the GMP defines as undesirable results. Department staff recommend the GMP clearly describe the suggested mitigation program and who and how it will be implemented to prevent impacts to de minimis users and/or other beneficial users as a result of groundwater use under control of the Watermaster and subject to the terms of the Stipulated Judgment. Among other improvements, the GMP, or the stipulated judgement, as appropriate, should clarify the monitoring or other processes to objectively determine when these locally-defined undesirable results have occurred (or are likely to occur) and specifically describe and explain what is considered technically or financially feasible and who will bear the responsibility (e.g., cost and implementation) to mitigate or avoid these undesirable results by, for instance, connecting users to the municipal water system as suggested in the GMP (see Recommended Corrective Action 2).

5.2.1.2 Groundwater Level Minimum Thresholds

The GMP establishes the minimum thresholds for groundwater levels based on a management policy of allowing groundwater levels to drop below 2015 levels, until groundwater levels are stabilized by 2040. However, the minimum thresholds would maintain groundwater levels above the saturated screen intervals for pre-existing municipal wells during a multi-year drought scenario, which would be protective of municipal (non de minimis) beneficial users and uses in the Subbasin and, in most cases, would be protective of non-potable irrigation beneficial uses. The GMP also states that the groundwater level minimum thresholds would protect against significant and unreasonable impacts to groundwater storage volumes and water quality.[77]

The minimum thresholds for key municipal wells are based on the groundwater elevation at the top of the respective well screen.[78] The GMP conducted a uncertainty analysis based on climate change scenarios using a Monte Carlo Simulation mode over the 20-year implementation period varying hydrologic conditions to evaluate impact on groundwater storage and correlative water levels for key indicator wells and resolved that values below the 20th percentile hydrology/recharge occurred 20% of the time where possible exceedances of the minimum thresholds may occur based on 53 model simulations. The GMP continues to describe that the Water master would evaluate the minimum thresholds, interim milestones, and measurable objectives at least every 5 years, which would include the preceding climatic conditions and realized pumping reductions, and consider adjusting the rate of pumping reduction, revisit minimum

[76] GMP, Section 3.2.1, p. 285.
[77] GMP, Section 3.3.1.1, pp 293-294.
[78] GMP, Section 3.3.1.1, p. 294; Table 3-4, p. 295.

thresholds, and/or evaluate additional PMAs if minimum thresholds are exceeded.[79] The GMP explains that the minimum thresholds "are based principally on the documented screen intervals of key municipal water wells and domestic/de minimis wells" in the Subbasin.[80] However, the GMP does not provide a clear rationale and justification for how the tops of well screens of key indicator wells correlate with the range of domestic well screens and the GMP's definition of an undesirable result for this sustainability indicator, which (as described above) is dewatering of aquifers or lowering the rate of groundwater production below the minimum rate required for the use(s) of the well, particularly for de minimis users. In general, domestic wells are shallower than municipal wells, so without knowing the screened interval depths of domestic/de minimis wells to compare to the minimum thresholds for the key well shown in Table 3-4 of the GMP, Department staff cannot assess and the GMP does not disclose the extent of potential adverse impacts to beneficial uses and users, primarily domestic well users, based on the basin being managed using the established minimum thresholds. For example, the GMP does not address to what extent domestic well users or other beneficial users may be impacted based upon the projected groundwater level declines described in model results from the planned ramp down schedule in the respective management areas,[81] which would reach the minimum thresholds at the key municipal wells and likely affect de minimis or other wells in the management area, adjacent management areas, and the beneficial uses and users that rely on those wells. Thus, the extent of the impacts to beneficial uses and users that would occur at the minimum thresholds, in respective management areas and the entire Subbasin, have not been clearly described and incorporated into an explanation of how it was determined that the established minimum thresholds are appropriate or sufficient to avoid significant and unreasonable impacts, which is required in SGMA.[82] (see Recommended Corrective Action 3).

The GMP states that the Subbasin has been experiencing chronic groundwater level decline and remains in overdraft, and the GMP acknowledges the Subbasin is experiencing undesirable results caused by the lowering of groundwater levels and reduction of groundwater in storage.[83] Department staff note that inherent in the management regime presented in the GMP is the fact that, until groundwater pumping matches the natural recharge of the Subbasin, the Subbasin will continue to be in overdraft, groundwater levels will continue to decline, and existing and additional undesirable results will likely be experienced in the Subbasin. The GMP expects implementation of the pumping reduction program, described in the Stipulated Judgment and in the GMP,[84] to gradually reduce groundwater production to a level that matches

[79] GMP, Section 3.3.1.1, p. 298; Table 3-5, p. 299.
[80] GMP, Section 3.3.1.1, p. 294.
[81] GMP, Table 3-4, p. 295.
[82] 23 CCR §§ 354.26(b)(3), 354.26(b)(4).
[83] GMP, Table 3-1, p. 282; Section 3.1.4, p. 281.
[84] GMP, Executive Summary, Section ES 4.0, p. 76; Section 4.4, pp. 364-370.

natural recharge by the end of the implementation period (year 2040).[85] But the GMP does not appear to fully consider and describe potential undesirable results that will occur before 2040 during implementation of the gradual rampdown that could nevertheless have lasting effects in the Subbasin, even once overdraft is eliminated in 2040. For instance, if groundwater level declines result in the inability of beneficial users to obtain groundwater using their existing wells (if not mitigated as discussed above), those beneficial users and their properties will have been permanently affected or changed even if overdraft is eliminated years later. Similarly, if lower groundwater levels in the next two decades cause degradation of water quality or subsidence that constitutes undesirable results, those undesirable results will remain in the Subbasin even after the current overdraft is eliminated.

The GMP also does not clearly articulate the process to evaluate progress towards achieving interim milestones. The GMP states that "the Watermaster will use the BVHM, including the model improvements as new data become available, to evaluate progress toward meeting interim milestones based on average conditions by management area."[86] Department staff interpret this statement to imply that the numerical model's estimates of groundwater elevations will be used, instead of actual measured water levels, to compare to the interim milestone elevations to determine progress towards achieving the sustainability goal. Department staff believe that using actual measured groundwater levels will be more accurate and reliable than using model simulations to estimate measured progress towards sustainability. Department staff recommend the GMP clearly articulate the rationale and method used to establish measurable objectives and interim milestones and clarify how measured groundwater levels will be used to support model refinements and analysis of progress toward sustainability. (see Recommended Corrective Action 3).

5.2.2 Reduction of Groundwater Storage

The GMP defines undesirable results for reduction of groundwater storage as the same as those established for chronic lowering of groundwater levels. The GMP states that "reduction in groundwater storage is significant and unreasonable if it is sufficient in magnitude to lower the rate of production of pre-existing groundwater wells below that needed to meet the minimum required to support the overlying beneficial use(s), and where means of obtaining sufficient groundwater or imported resources are not technically or financially feasible for the well owner to absorb, either independently or with assistance from the Watermaster, or other available assistance/grant program(s)."[87]

The GMP used the BVHM to identify the minimum threshold for reduction in groundwater storage as the 20th percentile of 53 model runs calculating change in storage in the

[85] GMP, Section 3.1.4, p. 281.
[86] GMP, Section 3.4.1, p. 310.
[87] GMP, Section 3.3.2.1, p. 303.

Subbasin.[88] The GMP presents a graph that shows the cumulative loss of groundwater in storage from 1945 to 2010 for seven of the model runs, including the 20th percentile model run, though the specific value for the cumulative change in storage associated with that model run is not provided.[89] The GMP reports that the cumulative overdraft from 1945 to 2016 totaled an estimated 520,000 acre-feet[90] and that the net deficit in storage of 72,000 AF over the implementation period at the prescribed pumping reduction plan, equivalent to the 55th percentile of the Monte Carlo Simulation analysis, the GMP does not provide a quantitative value representing the minimum threshold, 20th percentile modeled value for reduction of groundwater in storage that, if exceeded, would constitute an undesirable result. The GSP Regulations require a quantitative minimum threshold[91] and an annual report that quantifies the annual change in storage and cumulative change in storage[92] to eliminate ambiguity or confusion regarding whether the Subbasin is being sustainably managed. A threshold solely depicted as a line on a graph without quantification[93] introduces ambiguity when tracking progress towards this sustainability indicator (see Recommended Corrective Action 4).

5.2.3 Seawater Intrusion

The GMP explains that the Subbasin is at least 15 miles from a saline surface water body and is separated from a seawater source by mountain ranges and faults that act as a barrier to groundwater flow.[94] Consequently, the GMP asserts that seawater intrusion has not and is not likely to occur in the basin and therefore is not an applicable sustainability indicator.[95] Department staff agree that the GMP's determination is reasonable and adequately supported.

5.2.4 Degraded Water Quality

The GMP defines the undesirable result for degraded water quality (i.e., significant and unreasonable impacts) in the Subbasin to be when groundwater quality degradation "is sufficient in magnitude to affect use of pre-existing groundwater wells such that the water quality precludes the use of groundwater to support the overlying beneficial use(s), and that alternative means of obtaining sufficient groundwater resources are not technically or financially feasible."[96]

The GSP Regulations explain that, for degraded water quality, "The minimum threshold shall be based on the number of supply wells, a volume of water, or a location of an

[88] GMP, Section 3.3.2.1, pp. 303-304.
[89] GMP, Figure 3.3-3, p. 342.
[90] GMP, Section 3.3.2.1, p. 303.
[91] 23 CCR § 354.28(c)(2).
[92] 23 CCR § 356.2(b)(5).
[93] GMP, Figure 3.3-3, p. 342.
[94] GMP, Section 2.2.2.3, pp. 152-153.
[95] GMP, Section 3.3.3, p. 306.
[96] GMP, Section 3.3.4, p. 306.

isocontour that exceeds concentrations of constituents determined by the agency to be of concern for the basin."[97]

The GMP states that the minimum threshold for municipal and domestic wells will be Title 22 drinking water standards. However, for irrigation wells, the GMP is not clear, stating that the Colorado River Region Basin Plan does not set specific water quality objectives for groundwater and that groundwater quality should generally be suitable for agricultural use, which is industry and crop-specific, and can be "gaged through conformance with generally accepted threshold limits for irrigation used by State Water Resources Control Board and/or through continued engagement with growers within the Subbasin."[98]

Regarding measurable objectives, the GMP states that, "Since the aforementioned standards are minimum thresholds, the GMP's measurable objective is for groundwater quality for the identified [constituents of concern] within municipal and domestic wells to exhibit a stable or improving trend, as measured at each 5-year evaluation. For irrigation wells, the measurable objective is the same as the minimum threshold (i.e., that water quality be of suitable quality for agricultural use)."[99]

Department staff conclude that the GMP does not clearly set quantitative minimum thresholds and a measurable objective for all components of the degraded water quality sustainability indicator.[100] Although the GMP discusses Title 22 drinking water standards for potable supply wells and the management areas where these exist, the GMP does not set quantitative minimum thresholds for water quality in irrigation wells or specify what standards would apply to those wells or management areas.[101] As a result, the GMP does not clearly describe what specific, quantified water quality conditions or concentrations would result in agriculture (or production of certain crops) being at risk of no longer being viable in the Subbasin (see Recommended Corrective Actions 3 and 5). Also, the GMP does not provide a clear explanation regarding whether water quality minimum thresholds for domestic and municipal supply wells apply to specific management areas or to the entire Subbasin (see Recommended Corrective Action 1).

Finally, if different parts of the Subbasin will have different water quality measurable objectives based on whether the area is currently being used, predominantly or exclusively, for agriculture, the GMP does not indicate a consideration of, or discuss the implications of, potential impairments to the underlying aquifer(s) by setting water quality objectives or thresholds based on the current beneficial use(s) of groundwater in the respective management areas. For example, if the GMP intends that water quality objectives for current agricultural wells be set such that the groundwater quality in those areas may become degraded to the extent that the groundwater would not be suitable for

[97] 23 CCR § 354.28(c)(4).
[98] GMP, Section 3.4.4, p. 313.
[99] GMP, Section 3.4.4, p. 313.
[100] 23 CCR §§ 354.28(a), 354.28(c)(4), 354.30.
[101] GMP, Section 3.4.4, p. 313.

domestic uses or cultivating certain crops, then the GMP should fully consider that issue, including how that may impact or conflict with local land use planning or zoning, and explain the rationale for finding that this would not be an undesirable result of water quality degradation.[102] In doing so, the GMP should evaluate and discuss whether there are other types of beneficial users (e.g., domestic or municipal) in those areas whose property values, land use options, or water use would be affected, which includes disclosing and discussing the potential of degrading groundwater quality such that future use of the groundwater for potable or domestic use would be precluded in parts of the Subbasin (see Recommended Corrective Action 5).

5.2.5 Land Subsidence

The GMP concludes that "…the degree of land subsidence occurring in the Plan Area is minimal, has not substantially interfered with surface land uses in the past, and is not anticipated to substantially interfere with surface land uses in the foreseeable future…"[103] Based on this, the GMP does not propose minimum thresholds or measurable objectives for land subsidence.[104] The GMP also does not intend to monitor for land subsidence.[105]

Department staff conclude the decision to not develop sustainable management criteria or monitor land subsidence is not supported by adequate evidence. Unlike seawater intrusion, which the GMP adequately explains is not present and not likely to occur in the basin, the GMP does not provide similarly sufficient evidence with regard to land subsidence, and acknowledges that some subsidence has occurred in the past,[106] referencing studies that document as much as 0.59 inches per year between 2003 and 2007 and less than 0.1 inch per year from 2015 to 2018.[107] If subsidence over the next 20 years occurred at the rate observed between 2003 and 2007, the basin could experience an additional foot of subsidence.

Although an additional foot of subsidence may not give rise to basin conditions that are considered significant and unreasonable or substantially interfere with surface land uses, the issue has not been fully evaluated or supported in the GMP. Furthermore, the GMP explains that past subsidence was minimal, at least in part because of historical dewatering of predominantly coarse-grained aquifer materials that are less prone to

[102] GSP Regulation 354.28(b)(4) requires a discussion of how minimum thresholds may affect the interests of beneficial uses and users of groundwater *or land uses and property interests*. SGMA requires that plans consider applicable county and city general plans and take into account the most recent planning assumptions stated in local general plans of jurisdictions overlying the basin. (Wat. Code 10726.9, 10727.2(g).)
[103] GMP, Section 2.2.2.5, pp. 162-164; Section 3.2.5, p. 291.
[104] GMP, Section 3.2.5, p. 291.
[105] The GMP proposes to use groundwater levels as a proxy for actual measurements of subsidence. (GMP Section 3.5.1.5, p. 319) As an initial matter, the GMP does not provide any data or analysis that would support the use of groundwater elevation as a proxy for subsidence, but regardless of the measurement method, the GMP does not explain the purpose of this monitoring in the absence of quantitative minimum thresholds or measurable objectives regarding subsidence.
[106] GMP, Section 2.2.2.5, pp. 162-164.
[107] GMP, Section 2.2.2.5, p. 163.

inelastic compaction. However, the lithology of the aquifers in the Subbasin generally becomes finer with depth,[108] meaning that further groundwater level declines to new historic lows, which will occur during implementation of the GMP, will probably dewater increasingly finer-grained aquifer materials. This increases the probability of, and potential for, subsidence in the Subbasin at rates different from (and possibly greater than) what has been previously experienced during the period when coarser-grained materials were dewatered.

Given the past occurrence of land subsidence in the Subbasin and the expectation that dewatering of increasingly finer-grained aquifer materials is likely to occur in varying degrees for at least the next 20 years or until the pumping reduction program has been fully implemented to eliminate overdraft,[109] Department staff recommend that additional information be developed and included in the GMP to at least annually monitor for subsidence using InSAR data or other reliable methods and reconsider whether and where any subsidence could adversely impact surface land uses in the Subbasin so that managers are prepared to quickly act if further overdraft during plan implementation causes unexpected increases in subsidence rate or extent. The Department also recommends that the Watermaster set an objective, quantitative standard for subsidence monitoring (for each management area) that, if triggered, would require further assessment of whether any undesirable results related to subsidence might be occurring and whether projects or management actions are necessary to mitigate or avoid such impacts (see Recommended Corrective Action 6).

5.2.6 Depletions of Interconnected Surface Water

The GMP discusses the historical context of interconnected surface water systems[110] and groundwater dependent ecosystems in the Subbasin.[111] The GMP reports that the historical Old Borrego Spring ceased to flow prior to the early 1960s and that surface water systems in the Subbasin are disconnected from groundwater, except for short perennial stretches of streams at the edges of the Subbasin. The GMP reports that the springs and seeps that partially supply perennial flow in the streams are outside of the Subbasin and are not connected to groundwater in the Subbasin. Furthermore, the GMP states that groundwater pumping in the Subbasin does not affect the springs located outside of the Subbasin. Consequently, the GMP states that there are no undesirable results associated with depletion of interconnected surface waters and they are not expected to occur within the Subbasin and therefore does not establish sustainable management criteria for depletion of interconnected surface waters.[112] Department staff consider the discussion in the GMP to be supported and consistent with other information

[108] GMP, Section 2.2.1.3; pp. 141-142.
[109] GMP, Table 3.6, p. 302; Table 3-8, p. 312.
[110] GMP, Section 2.2.2.6, pp. 164-166.
[111] GMP, Section 2.2.2.7, pp. 166-172.
[112] GMP, Section 3.2.6, p. 291.

presented regarding the Subbasin setting and have no recommendations related to this portion of the GSP Regulations at this time.

5.3 MONITORING NETWORKS

GSP Regulations require that each basin establish a monitoring network that includes monitoring objectives, monitoring protocols, and data reporting requirements that promote the collection of data of sufficient quality, frequency, and distribution to characterize groundwater and related surface water conditions in the basin and evaluate changing conditions.[113]

Section VI.B of the Stipulated Judgment requires the Watermaster to develop a Water Quality Monitoring Plan within 24 months of entry of the Judgment.[114] In April 2023, the Watermaster adopted a Groundwater Monitoring Plan for the Borrego Springs Subbasin, which includes groundwater quality and satisfies the Judgment's requirement. Although Department staff reviewed the GMP's monitoring network information, this assessment relies primarily on the 2023 Groundwater Monitoring Plan adopted by the Watermaster and the Water Year 2023 Annual Report, which contain more recent information.

The primary objectives of the Subbasin's groundwater monitoring programs are to demonstrate progress toward meeting the sustainability goal without causing undesirable results, to inform adaptive management of the Subbasin to achieve the sustainability goal, and to improve the BVHM.[115] The Groundwater Monitoring Plan discusses monitoring protocols, quality assurance and control, and database management for groundwater level and groundwater quality monitoring.[116] The groundwater level monitoring network consists of 52 wells, with 19 of them equipped with pressure transducers. Of the 52 wells, 16 are representative wells with minimum thresholds for groundwater levels. Measurement frequency ranges from semiannual to every 15 minutes. The groundwater quality monitoring network includes 34 of these wells.[117] In addition to the constituents of concern discussed above in Section 5.1.2, the analytes include major cations and anions and total alkalinity.[118] Groundwater quality analysis occurs semiannually in the spring and fall.

[113] 23 CCR §354.32.
[114] Stipulated Judgment, Section VI.B, p. 45.
[115] Groundwater Monitoring Plan for the Borrego Springs Subbasin, Section 1.0, p. 6.
[116] Groundwater Monitoring Plan for the Borrego Springs Subbasin, Section 2.2.2, pp. 10-12; Section 3.2.2, pp. 20-23.
[117] Water Year 2023 Annual Report for the Borrego Springs Subbasin, Section 3.1.2.2, pp. 42-45; Figure 2, p. 43; Table 8, p. 44.
[118] Groundwater Monitoring Plan for the Borrego Springs Subbasin, Section 3.2.2, p. 20.

The Water Year 2023 Annual Report discussed the monitoring network data gaps associated with areas that would benefit from more monitoring and the efforts made to improve those data gaps. The efforts to improve the monitoring network include:[119]

- Adding four additional wells in the Northern Management Area, two of which were newly constructed via the Department's Technical Support Services program.
- Installing seven new transducers and a new Barologger for calculating groundwater levels with consideration for local barometric pressure.
- Engaging with the public to solicit interest in participating in the monitoring program and identifying 35 potential wells to add to the monitoring program. Of the 35 wells, 14 would improve the groundwater level monitoring network and 24 wells would improve the groundwater quality monitoring network.

Regarding groundwater in storage, the Stipulated Judgment and the Water Year 2023 Annual Report discuss the mandatory well metering program for all non-de minimis pumpers to measure, record, and report monthly groundwater pumping volumes to the Watermaster. Of the 42 Parties with pumping rights, 27 Parties (64 percent) are active pumpers that operate a cumulative total of 68 pumping wells—all of which are metered. Twelve Parties (29 percent) are not active pumpers, while three parties have an unknown status but are assumed to be active pumpers. The Watermaster estimates the pumped volumes for these wells and will continue attempting to contact these Parties.[120]

The Watermaster has conducted semiannual surface water monitoring in Coyote Creek from spring 2018 to fall 2023. The measurements were quantitative from 2018 to 2019, then determined to be impractical due to low flow or dry conditions and transitioned to visual and qualitative observations in 2020.[121]

Department staff believe the monitoring network appears to be sufficient to evaluate groundwater conditions in the basin consistent with the objectives of the GMP and the Stipulated Judgement.

5.4 Projects and Management Actions

A GSP is required to include a description of the projects and management actions the local agency has determined are necessary to achieve the sustainability goal for the basin, including projects and management actions to respond to changing conditions in the basin.[122] The GMP proposes six projects and management actions (PMAs) that are

[119] Water Year 2023 Annual Report for the Borrego Springs Subbasin, Section 3.1.2.2, pp. 42-45; 3.1.2.3, p. 46.
[120] Water Year 2023 Annual Report for the Borrego Springs Subbasin, Section 3.1, pp. 38-39.
[121] GMP, Section 3.1.3, p. 47.
[122] 23 CCR §354.44.

intended to achieve the sustainability goal and to sustainably manage the Subbasin during the planning and implementation horizon.[123] These PMAs include programs for:

- Water Trading
- Water Conservation
- Pumping Reduction
- Voluntary Fallowing of Agricultural Land
- Water Quality Optimization
- Intra-Subbasin Water Transfers

The GMP identifies groundwater as the sole source of water and explains that importing water to this remote area is infeasible.

The Stipulated Judgment acknowledges the substantial historic and ongoing overdraft present in the basin, and has developed an incremental, 20-year process to reduce groundwater extractions to the currently estimated sustainable yield of 5,700 acre-feet per year. This is consistent with the timeline established by SGMA, which provides up to 20 years of plan implementation for a basin to reach its sustainability goal. The GMP states that "the Pumping Reduction Program is the central tool to implement the Physical Solution and achieve the sustainability goal for the Subbasin."[124] The GMP proposes to implement this pumping reduction program by taking the initial Baseline Pumping Allocation (BPA – the allocation for each non-de minimis pumper) and reducing the BPA of each pumper incrementally each year to reach the estimated "sustainable yield" of 5,700 acre-feet per year. No future groundwater extractions from new wells, including from new de minimis domestic wells, are authorized without application to the Watermaster. The GMP reports that this pumping reduction program will be reviewed at least every five years and adjusted so that the sustainability goals are reached by the end of the implementation period.[125] Department staff examined annual reports submitted in 2022, 2023, and 2024, which cover water years (WY) 2021, 2022, and 2023. The annual reports indicate that the pumping reduction program is off to a very good start, decreasing by 37 percent since the start of GMP implementation (WY 2020) and by 20 percent relative to WY 2022. Almost all extractions are metered and reported to the Watermaster and actual reported groundwater extraction rates in the Subbasin are well below the anticipated scheduled BPA rampdown, with total pumping in WY 2023 being 10,430 acre-feet, which was approximately 50% less that the annual allocation of 20,694 acre-feet. Furthermore, it appears that other projects or actions to provide operating flexibility, such

[123] GMP, Section 4, pp. 294-332.
[124] GMP, Section 4.4, p. 364.
[125] GMP, Section 4.4.1, pp. 366-368.

as fallowing and allocation trading, have also occurred in addition to administrative and technical advances.

Finally, when evaluating GSPs or alternatives, Department staff assess whether the local agency or GSA has the legal authority and financial resources necessary to implement the respective plan. Here, the primary implementing entity of the Borrego Alternative will be the Watermaster, as identified in the Judgment. The Stipulated Judgment provides the Watermaster with all the powers of a GSA.[126] Also, the Judgment is binding on all parties and property in the Subbasin, and the Court has retained continuing jurisdiction to ensure implementation and enforce all requirements.[127] The annual reports describe many actions and milestones that have occurred so far, further confirming the authority and ability of the Watermaster to implement the alternative. Therefore, the legal authority and financial resources of the Watermaster to implement the management proposed under the alternative are considered adequate. At this time, Department staff conclude that management under the alternative is progressing very well and at a rate at least comparable to, if not faster than, other basins where only GSPs are in place, which may be a result of the compromises and terms in the Stipulated Judgment and regularly scheduled local implementation (Watermaster, Technical Advisory Committee, and Environmental Working Group) and Court meetings.

5.5 Impacts to Adjacent Basins

When evaluating GSPs or alternatives under SGMA, Department staff assess whether the respective plan will adversely affect the ability of an adjacent basin to implement its plan or impede achievement of its sustainability goal. The Subbasin is currently not adjacent to any basins subject to SGMA and Department staff has, therefore, not further evaluated this issue.

6 Evaluation of the Relationship Between the GMP and The Stipulated Judgment

6.1 Overview

Water Code Section 10733.6(b)(2) provides that management pursuant to an adjudication action that satisfies the objectives of SGMA may be submitted to the Department as an alternative to a GSP, and that is what Department staff have been tasked to evaluate here. Among the materials submitted in support of this alternative are the Stipulated Judgment and a GMP.[128] The Stipulated Judgment is a formal, legal document approved by the Court; it often uses legal words and phrases and reads very much like a contract.

[126] Stipulated Judgment Section IV.E.1, p. 37:7-12.
[127] Stipulated Judgment Sections VII.A, VII.B, and IX.
[128] *Draft Final Groundwater Management Plan for the Borrego Springs Groundwater Subbasin* (January 2020). The GMP is attached as Exhibit 1 in the Stipulated Judgment, pp. 54-1652.

In contrast, the GMP is a technical document that derives its authority for basin management by virtue of being incorporated into the terms of the Stipulated Judgment.

The dual submission of the Stipulated Judgment and GMP, with affiliated and overlapping provisions and commitments, required a detailed staff evaluation.[129] Department staff reviewed both documents to understand not only the technical aspects of the GMP, but whether its terms or those of the Stipulated Judgment defined the plan for basin management. As explained below, where the GMP and Stipulated Judgment apply different criterion to the same aspects of basin management, the ability of Department staff to determine whether the Borrego Alternative is consistent with SGMA is complicated or impaired. Although Department staff do not regard the issues discussed below to preclude approval of the Borrego Alternative at this time, staff believe this is an important issue that should be addressed.

6.2 Uncertainty Regarding Role of GMP in Subbasin Management

The Borrego Alternative includes an intent for the GMP to provide the technical foundation for sustainable groundwater management in the Subbasin, as stated, for example, in the following provisions:

- "Technical Approach to Basin Management. The Physical Solution, including this Judgment and the GMP attached as Exhibit "1," will serve as the technical approach for Basin management, subject to modification as appropriate for Adaptive Management by order of this Court pursuant to this Court's continuing jurisdiction under Section VII, including periodic updates of Sustainable Yield through the processes described herein." (Stipulated Judgment, p. 19:4-8.)

- "The purpose of this GMP is to refine and expedite implementation of the Physical Solution.... Specifically, this GMP is adopted as part of the Physical Solution by means of a Judgment Pursuant to Stipulation.... The intent of the Physical Solution is to meet the requirements of SGMA. To this end, this Plan includes the scientific and other background information about the Subbasin required by SGMA and its implementing regulations. The Plan is also intended to provide a roadmap for how sustainability is to be reached in the Subbasin...." (Stipulated Judgment, GMP Executive Summary pp. 72-73.)

[129] The Stipulated Judgment states that it is intended "to provide a physical solution for the perpetual management of the Basin, which long-term management will achieve Sustainable Groundwater Management for the Basin consistent with the substantive objectives of [SGMA]" and that "this [Stipulated] Judgment considered together with the [GMP] constitutes the Physical Solution... ." (Stipulated Judgment p.5:2-12.) "Physical Solution" is accordingly defined as "[t]he terms of this [Stipulated] Judgment, including the GMP attached hereto as Exhibit '1', which are intended to achieve Sustainable Groundwater Management for the Basin consistent with the substantive objectives of SGMA and Article X, Section 2 of the California Constitution, and which may be modified over time in compliance with the procedures described herein." (Stipulated Judgment pp. 11-12.)

However, although these provisions state the GMP will "serve as the technical approach for Basin management" and "is also intended to provide a roadmap for how sustainability is to be reached," the Stipulated Judgment and GMP also include other provisions, such as the following, that create uncertainty as to the actual role of the GMP in making future management decisions in the Subbasin:

- "This judgment considered together with the Groundwater Management Plan ('GMP') attached hereto as Exhibit '1' constitutes the Physical Solution; provided, however, that *the provisions of this Judgment control over and supersede any contrary provisions contained in the GMP*." (Stipulated Judgment p. 5:9-12 [italics added].)
- "The 'Physical Solution' proposed for the Basin consists of the GMP and the Stipulated Judgment, as overseen by the Court; provided, however, *that the provisions of the Stipulated Judgment control over and supersede any contrary provisions contained in the GMP*." (GMP Cover Page p. 54 [italics added].)
- "This GMP includes and is to be interpreted and implemented consistent with and subject to the provisions of the Judgment. *The provisions of the Judgment control over and supersede any contrary provisions contained in this GMP*." (GMP Executive Summary p. 72 [italics added].)

Although the court retains jurisdiction over an adjudicated basin and may be called upon to resolve disputes regarding groundwater management, language in the Stipulated Judgment creates some uncertainty about the ability of Department staff to rely on the GMP as defining the technical parameters of that management. Because SGMA defines this kind of alternative as "management under an adjudication action,"[130] Department staff believe that the explanation of that management would benefit from a clarification of the role of the GMP in the Physical Solution.

6.2.1 The Role of the GMP in the Watermaster's Process for Calculating Sustainable Yield Every Five Years is Uncertain

The core of SGMA is its mandate to achieve "sustainability." While alternative submittals need not exactly match the contents of a GSP, the requirements for locally establishing and quantitatively describing basin-specific sustainable management criteria are essential to any evaluation of proposed sustainable groundwater management under SGMA. Basin-specific criteria are needed to define and describe sustainability for a basin, which will guide local groundwater managers in their decision making and enable the Department to monitor and evaluate the basin's progress towards achieving sustainability under SGMA.

[130] Water Code Section 10733.6(b)(2).

The Stipulated Judgment incorporates SGMA's general statutory definitions for sustainable yield and undesirable results,[131] but it does not include locally established quantitative descriptions of conditions for this Subbasin that would constitute or indicate the potential for undesirable results to occur, or conditions or indicators to maintain in the Subbasin to avoid undesirable results (i.e., sustainable management criteria). In contrast, as discussed earlier in this assessment, the GMP generally follows the GSP Regulations by establishing and describing local conditions and metrics for use as sustainable management criteria for the Subbasin (except for the inapplicable seawater intrusion and depletions of interconnected surface water sustainability indicators).[132] For instance, the GMP describes adverse impacts to well performance as one of the conditions in the Subbasin that would constitute an undesirable result for chronic lowering of groundwater levels:

- "Undesirable results associated with chronic (i.e., persistent and long-term) lowering of groundwater levels are most directly indicated by loss of access to adequate water resources for support of current and/or potential future beneficial uses and users." (Stipulated Judgment, GMP p. 284 [Sec.3.2.1].)
- "Groundwater level declines would be significant and unreasonable if they are sufficient in magnitude to lower the rate of production of pre-existing groundwater extraction wells below that needed to meet the minimum required to support the overlying beneficial use(s)...." (Stipulated Judgment, GMP p. 284 [Sec. 3.2.1].)
- "Because many of the domestic groundwater users not connected to [Borrego Water District] rely on continued access to the upper aquifer or upper portions of the middle aquifer, an important objective in this GSP is that access to the upper aquifer or upper middle aquifer be maintained, as much as is practicable, in areas with *de minimis* and other domestic wells not currently served by municipal supply." (Stipulated Judgment, GMP p. 286 [Sec. 3.2.1].)

To avoid such undesirable results, the GMP establishes minimum thresholds "intended to protect against significant and unreasonable impacts to groundwater storage volumes and water quality" and the groundwater level thresholds "are based principally on the documented screen intervals of key municipal water wells and domestic/*de minimis* wells" located in the Subbasin.[133] The GMP includes a list of nine municipal wells and their corresponding minimum thresholds, as well as 12 key indicator wells for each of the Subbasin's management areas, which are intended to be protective of the beneficial uses

[131] Stipulated Judgment Section I.A Definitions, paragraphs 56 ["Sustainable Groundwater Management], 57 ["Sustainable Yield"], and 60 ["Undesirable Results"].
[132] GMP, Section 3.2, p. 283. (Application of Standards in the Borrego Subbasin – Each of the sustainability indicators for the Subbasin is discussed as follows, in the context of undesirable results.)
[133] GMP, Section 3.3.1.1, p. 294.

and users of groundwater in the Subbasin."[134] The GMP describes the management process to avoid the aforementioned undesirable results (e.g., well dewatering) as one involving the Watermaster making adjustments to the rate of pumping in the Subbasin to avoid exceedances of the minimum thresholds and to achieve interim milestones:

> "The Watermaster will evaluate the minimum thresholds, interim milestones, and measurable objectives at least every 5 years ... to determine the likelihood that the Plan will attain sustainability goals. The Watermaster will adjust the rate of pumping reduction, revisit minimum thresholds, and/or evaluate additional [Projects and Management Actions] if the minimum thresholds in Table 3-4 or Table 3-5, as updated are exceeded or if the interim milestones in Table 3-7, as updated are not being achieved."[135]

In contrast, the Stipulated Judgment does not require the Watermaster to implement the management process described in the GMP. Instead, the Stipulated Judgment requires the Watermaster to consider several factors other than the GMP and does not specifically mention the GMP. This leaves the role of the GMP's sustainable management criteria in determining the Subbasin's sustainable yield and making any related pumping adjustments uncertain. Specifically, Stipulated Judgment Section III.F, titled "Process for Determining Sustainable Yield and Implementation of Subsequent Rampdown," states that beginning January 2025 and every five years until 2040:

> "[T]he Watermaster will, following receipt of input and recommendations from the Technical Advisory Committee, revise the determination of Sustainable Yield.... The revised determination of Sustainable Yield will consider all sources of replenishment, including return flows and underflows, and all outflows from the Basin, and will consider among other data, information derived from updated runs of the [Borrego Valley Hydrologic Model]. Any disagreement with [the] Watermaster's determination may be appealed to this Court for review, subject to the provisions of Section VII. The revised estimate of Sustainable Yield will determine the Rampdown Rate...." (Stipulated Judgment pp. 20-22 [Sec. III.F par. 3, 7, 10].)

[134] Table 3-4 (pp. 295-296) in the GMP shows Borrego Water District wells that are key indicator wells with established minimum thresholds based on the top of the well screen. Table 3-5 (p. 299) shows minimum thresholds for key indicator wells in each management area. Department staff note that none of the key wells are screened in the upper aquifer.

[135] GMP, Section 3.3.1.1, p. 299. Department staff note that other sections of this assessment focus solely on the contents of the GMP and discuss technical uncertainties or deficiencies regarding the GMP's establishment and discussion of the sustainable management criteria themselves under the assumption that the GMP is intended to and will be used in Subbasin management decisions and by the Department in future evaluations to determine whether the Subbasin is on track to reach sustainability as required by SGMA.

Thus, the approaches to calculating and managing for sustainable yield in the Stipulated Judgment and the GMP, respectively, are not described similarly and appear inconsistent. For example, the Stipulated Judgment expressly requires the Watermaster to consider only 1) "all sources of replenishment," 2) "all outflows from the Basin," and 3) "information derived from updated model runs of the BVHM." In contrast, the GMP's process expressly requires evaluation of the Subbasin's conditions against the minimum thresholds, interim milestones, and measurable objectives described and established in the GMP. The Stipulated Judgment's process for calculating sustainable yield does not appear to reference or incorporate the GMP's minimum thresholds for groundwater elevations, or the previously discussed commitment in the GMP to adjust the Subbasin's management regime based on an evaluation of actual groundwater level conditions in the Subbasin. While the Stipulated Judgment suggests the Watermaster "will consider … other data," perhaps leaving open the possibility that the GMP would be among the other data considered by the Watermaster, such consideration, by no means, seems to be required. Furthermore, the term "consider" does not indicate that the Watermaster would, or must, follow the GMP's sustainable management criteria, even if they were among the other data considered.

6.2.2 The Role of the GMP in the Watermaster's Process for Adjusting Pumping in Between the Five-Year Periods is Uncertain

The Stipulated Judgment includes the following provision providing for management adjustments at any time:

> "Notwithstanding the Rampdown schedule described herein, this Court, pursuant to motion of any Party or sua sponte, may adjust the rate of Rampdown up or down for any 5-year period or subdivision thereof, upon a finding that an adjustment to the Rampdown Rate is appropriate, and taking into account the limitations on Pumping necessary to avoid an Undesirable Result." (Stipulated Judgment, Section F.12, p. 22:23-27.)

Department staff appreciate the need for flexibility to effectively address issues that may arise during implementation of any groundwater management plan, but caution that some aspects of the Stipulated Judgment could be at odds with SGMA's expectations of an alternative. First, the process described above appears potentially inconsistent with the process established in the Stipulated Judgment for the Borrego Alternative's periodic evaluation, which is required by SGMA and the GSP Regulations to occur at least every five years.[136] The rationale for having two different processes associated with establishing pumping allocations is unclear, and no technical explanation seems to be provided; both processes relate to determinations of the rampdown schedule necessary to achieve sustainability and they, therefore, should ideally be the same.

[136] Water Code § 10733.8; 23 CCR § 358.2(b).

Second, like the five-year increment process, the interim adjustment process to define pumping allocations also does not appear to depend on the sustainable management criteria established in the GMP when calculating sustainable yield or the necessary pumping rampdown to achieve sustainability and thus lacks quantitative standards required by the GSP Regulations.[137]

Third, it does not appear that the Watermaster is authorized to invoke provision F.12, as referenced above, to adjust the "Rampdown" rate at times between the five-year increments, but that this process must be initiated either by the Court or by a motion of any Party, a term that is defined in the Stipulated Judgment but does not include the Watermaster.[138] Department staff believe this situation could create the potential that interim management adjustments that may be necessary to avoid undesirable results or achieve interim milestones may not be implemented, even if the Watermaster believes such actions are necessary.

6.2.3 The Role of the GMP in Judicial Review of Watermaster Decisions Is Uncertain

Department staff note that the Stipulated Judgment does not appear to afford the GMP any weight or control if the Watermaster's management decisions are contested by a groundwater pumper or other party. Specifically, the Stipulated Judgment provides:

> "Contested Watermaster decisions or other matters of disagreement will be reviewed by this Court upon noticed motion of any Party, any Watermaster Board member or the Watermaster. The Court review shall be de novo, without evidentiary weight to the Watermaster action or decision." (Stipulated Judgment p. 46:11-14.)

Thus, even if the Stipulated Judgment required the Watermaster to follow the GMP when making decisions involving sustainable management criteria, if a party challenged a Watermaster decision where the Watermaster had expressly followed provisions of the GMP (to avoid exceedance of minimum thresholds for groundwater levels or water quality for instance), the Stipulated Judgment expressly states that the Watermaster's reliance on the GMP would receive no deference from the Court. If the GMP is intended to provide the "technical approach" or "roadmap" for Subbasin management, as is indicated in one provision of the Stipulated Judgment and as stated in the GMP, it seems that management decisions consistent with or required by the GMP should generally be upheld by the Court or at least afforded some evidentiary weight.[139]

[137] 23 CCR § 354 et seq.
[138] Stipulated Judgment, Section I.40, p. 11:13-15.
[139] Stipulated Judgment, Section III.C., p. 19; GMP, Executive Summary, p. 73.

6.2.4 The Role of the GMP in Managing to Avoid Degraded Water Quality is Similarly Uncertain

The previous sections of this staff report, as they pertain to chronic lowering of groundwater levels, have provided several examples identifying the lack of technical clarity in the Stipulated Judgment and inconsistencies when compared to the GMP's implementation structure. Without delving into as much detail, it is important to note that similar issues and concerns arise with respect to degradation of water quality, another one of SGMA's six undesirable results and sustainability indicators. Specifically, as demonstrated by the following provision, the Stipulated Judgment appears to establish an open-ended, subjective process for the Watermaster to determine whether a certain amount of water quality degradation constitutes an undesirable result:

> "The Watermaster will determine if changes in water quality are significant and unreasonable following consideration of the cause of the impact, the affected beneficial use, potential remedies, input from the Technical Advisory Committee, and subject to approval by this Court exercising independent judgment." (Stipulated Judgment p. 45:13-16.)

This provision in the Stipulated Judgment does not reference or incorporate the parts of the GMP that discuss and establish sustainable management criteria for degraded water quality, or the projects and management actions intended to prevent undesirable results in the Subbasin from occurring.[140] As such, this provision is not clear as to how the prescribed thresholds and actions of the GMP relate to the Watermaster's decisions and management under the adjudication action when addressing water quality degradation.

6.3 Conclusion

Department staff conclude that although there appears to be an intent to use the GMP as the technical "roadmap" for management of the Subbasin, there are uncertainties and inconsistencies in the express provisions of the Stipulated Judgment and the GMP that cast confusion or doubt as to whether this is actually how the Borrego Alternative (i.e., "management under an adjudication action") will be implemented in the Subbasin. While flexibility under the rubric of adaptive management is desirable in a groundwater management program, at this time Department staff cannot assume or predict with sufficient certainty how the GMP will influence management decisions under the Borrego Alternative. This issue should be addressed to ensure that Department staff will be able to quantitatively track whether implementation of the Borrego Alternative is meeting the Subbasin's sustainability goal and the objectives of SGMA (see Recommended Corrective Action 7).

[140] GMP, Section 3.2.4 (Degraded Water Quality-Undesirable Results), pp. 289-290; Section 3.3.4 (Degraded Water Quality-Minimum Thresholds), pp. 306-308; Section 3.4.4 (Degraded Water Quality-Measurable Objectives), pp. 312-313; and Section 4.6 (Projects and Management Actions for Water Quality Optimization), pp. 373-378.

7 DETERMINATION STATUS AND RECOMMENDATIONS

Department staff recommend **APPROVAL** of the Stipulated Judgment as a SGMA alternative with several recommended corrective actions that should be implemented before the deadline for the next periodic submission and evaluation of the Borrego Alternative, which is June 25, 2026.

As explained in detail above, Department staff conclude that the GMP reflects a reasonable understanding of the geology and hydrology of the Subbasin based on decades of technical studies performed by objective third parties. That understanding is combined with a forthright discussion of the historical and current difficulties and challenges in eliminating overdraft and achieving sustainable groundwater management in the Subbasin. The Stipulated Judgment and GMP, while requiring refinement for clarity and consistency, establish a quantitative value for the initial sustainable yield as a goal to manage the groundwater extractions of the Subbasin and establish an enforceable program and general process for reducing extractions to reach the currently estimated sustainable yield in approximately 20 years. The program includes, among other attributes, the following:

- Robust local involvement through a regularly updated website and regular and public meetings of the Watermaster, Technical Advisory Committee, and Environmental Working Group;
- Quantitative measurement of groundwater extractions by metering virtually all non de minimis wells;
- Tracking and enforcing (with fees or Court orders) required reductions in tiered and allotted extractions;
- Allowing the voluntary transfer of pumping allocations within the Subbasin; and
- Monitoring groundwater levels throughout the implementation period.

Department staff believe these activities are reasonably designed to help the Watermaster manage the Subbasin towards the stated sustainability goals. Furthermore, efforts in the first several years of implementation of the Stipulated Judgment are proceeding rapidly and very well, putting this Subbasin ahead of efforts in many other overdrafted basins in the state that have only GSAs and GSPs.[141] For example, groundwater extractions have decreased 37 percent since water year 2020 when the GMP was first implemented, including metered reductions in pumping from 2022 to 2023 of 20 percent. Many of these reductions have come from the agricultural sector, which,

[141] Department staff note, for instance, that few, if any, other critically-overdrafted basins subject to SGMA have achieved equivalent levels of implementing the following measures: (1) metering and reporting of over 95 percent of groundwater extractions; (2) well-defined and enforceable pumping allocations and extraction fees; and (3) actual, substantial reductions in extractions.

historically, consumptively used over 70 percent of the Subbasin's groundwater. For critically overdrafted basins like the Borrego Springs Subbasin here, Department staff consider the option to utilize demand reduction to be appropriate, reasonable, and the most straightforward way to eliminate overdraft in the Subbasin. However, as explained above, SGMA is not focused on elimination of overdraft alone. SGMA requires that quantified sustainable management criteria be determined for each of the applicable sustainability indicators so that objective metrics can be used to define and determine whether a basin is being sustainably managed. The eventual elimination of overdraft over two decades does not automatically equate to the absence or avoidance of undesirable results under SGMA.

7.1 Recommended Corrective Actions

Based on evaluation of the Borrego Alternative, and as discussed above, Department staff recommend the following corrective actions for some sections of the Stipulated Judgment and/or GMP, and related components, in order to improve implementation of the Borrego Alternative and basin management thereunder, and ensure that the requirements of SGMA, especially sustainable groundwater management, are likely to be achieved within 20 years in the Subbasin.[142]

Recommended Corrective Action 1

- Provide more figures, maps, and supporting information to clarify the rationale for creating management areas and establishing different minimum thresholds and measurable objectives based on the management areas.[143]
- Discuss how the established sustainable management criteria are appropriate for each management area, why the minimum thresholds are appropriate to avoid significant and unreasonable impacts to beneficial uses and users, including any mitigation actions, and will facilitate implementation of the Stipulated Judgment.[144]
- Clarify which sustainability indicators have minimum thresholds that apply to a specific management area and which minimum thresholds apply to the entire Subbasin.

Recommended Corrective Action 2

Describe how the mitigation measures,[145] projects and management actions, and sustainable management criteria would avoid significant and unreasonable impacts to

[142] Department staff express no opinion and leave it to the Watermaster, local agencies and parties, and other local interests to determine what changes to make to which documents (e.g., Stipulated Judgment, GMP, etc.) to best carry out all of the recommended corrective actions.
[143] 23 CCR §354.12.
[144] 23 CCR §354.20.
[145] GMP, Table 3-1, p. 282.

beneficial uses and users, specifically domestic well owners. Describe in detail how the GMP's mitigation process to address undesirable results of impacts to domestic and de minimis users as groundwater levels continue to decline will be funded and implemented, including what is considered technically or financially feasible; the process in which feasibility will be determined; specific mitigation measures that will be considered or applied; and who will bear the responsibility and costs to mitigate the undesirable result.[146]

RECOMMENDED CORRECTIVE ACTION 3

Discuss the impacts to beneficial uses and users, including de minimis users, at the established minimum thresholds, interim milestones, and measurable objectives for each sustainability indicator in each management area, as applicable. Clarify the expected impacts to beneficial uses and users if all representative monitoring points in the Subbasin are at their respective minimum thresholds and interim milestones. Clarify the monitoring that will be performed in each management area that can be used objectively to track progress towards sustainability.[147]

RECOMMENDED CORRECTIVE ACTION 4

Provide more information regarding the minimum threshold and measurable objective for groundwater in storage, including quantified values for this sustainability indicator as they relate to the BVHM projected conditions.[148]

RECOMMENDED CORRECTIVE ACTION 5

Quantify the "generally accepted threshold limits for [crop] irrigation used by State Water Resources Control Board," and discuss how those limits will be used to track progress in the Subbasin to avoid undesirable results associated with degradation of groundwater quality. Describe the groundwater conditions and the associated impacts to beneficial uses and users of the Subbasin at those limits.[149]

RECOMMENDED CORRECTIVE ACTION 6

Until pumping reductions have been fully implemented to the point where overdraft is eliminated and groundwater pumping equals the sustainable yield, monitor for land subsidence and evaluate, at least every five years, whether land subsidence is interfering with property interests and surface uses or otherwise impacting beneficial uses and users (e.g., flood depths, flows, or risks, well casings or other infrastructure, etc.). Describe the

[146] GMP, Section 3.3.2.1, p. 303.
[147] 23 CCR § 354.34(d).
[148] 23 CCR § 354.28(c)(2).
[149] GMP, Section 3.4.4, p. 313.

amount of land subsidence or impacts that would be significant and unreasonable and therefore cause or constitute undesirable results in the basin.

RECOMMENDED CORRECTIVE ACTION 7

Eliminate inconsistencies or ambiguities between the Stipulated Judgment and GMP, and resolve or clarify the intended role of the GMP in Subbasin management and make appropriate amendments to the GMP and/or Stipulated Judgment (as needed) to clearly and expressly reflect (and enforce) that intent, especially, but not limited to the following issues detailed in Section 6 of this assessment:

a. Application and use of the GMP's sustainable management criteria to calculate the sustainable yield and making management decisions to avoid undesirable results within the Subbasin.

- Reconcile or explain the inconsistencies between the process and factors considered for making the periodic five-year calculations of sustainable yield and those for adjustments to sustainable yield in between the five-year periods.
- Reconsider and clarify the role of the GMP in guiding Watermaster and Court decisions in implementing the Borrego Alternative and managing groundwater in the Subbasin.
- Include in all annual reports and periodic evaluations submitted to the Department a description of Watermaster or court decisions (e.g., sustainable yield calculations, amended or new judgments[150], other orders of consequence, etc.) that impact basin management.

7.2 CONCLUSION

Although Department staff have included several recommended corrective actions, staff do not believe this precludes approval of the Borrego Alternative, at this time, because the Subbasin is currently being managed under the adjudication action and recent information demonstrates that significant progress towards sustainability has been, and continues to be, made. In particular, the following factors militate strongly in favor of an approval, at this time, while allowing additional time to complete the corrective actions during continued implementation of the alternative:

- This is a high-priority basin designated by the Department as in a condition of critical overdraft; therefore, addressing overdraft is of paramount importance. The

[150] In issuing new or amended judgments, the Court, Watermaster, and other parties may consider availing themselves of the provisions of section 850, subdivision (c), of the Code of Civil Procedure, which authorizes the Court to refer and request a joint report from the State Water Resources Control Board and the Department on how any such judgment could affect the ability of the State Water Resources Control Board or the Department to comply with the Sustainable Groundwater Management Act and to achieve sustainable groundwater management in the Subbasin.

Borrego Alternative does that through the Stipulated Judgment, which establishes a robust and enforceable procedure to reduce overdraft (by restricting extractions) every year for the next 20 years, if needed, to achieve sustainability. That procedure has been in place for the past two years and actual pumping in the Subbasin during that time has decreased faster than required by the pumping rampdown schedule in the Stipulated Judgment. Therefore, one of the major challenges facing this critically overdrafted basin has been addressed and is off to a very good start in relation to the 20-year timeline SGMA envisions for a GSP or alternative to achieve sustainability.

- Almost all extractions (about 95 percent) in the Subbasin are currently metered and reported to the Watermaster.
- The Watermaster has a functioning and enforceable fee structure in place to raise funds necessary to implement the Subbasin's management program.
- There have been no major controversies regarding implementation of the management program since the Judgment was entered and the fact that it is a court-ordered and enforceable judgment minimizes the risk of future controversies or lawsuits that could delay implementation (e.g., disputes over fees or water rights allocations).
- The deadline for resubmission of the Borrego Alternative is June 25, 2026, at which time the Department will be able to reassess management in the Subbasin with sufficient time to trigger state intervention, if necessary, to allow for full SGMA compliance within statutory timeframes.

ROB BONTA
Attorney General of California
ERIC M. KATZ
Supervising Deputy Attorney General
NOAH GOLDENKRASNER
Supervising Deputy Attorney General
State Bar No. 217556
300 South Spring Street, Suite 1702
Los Angeles, CA 90013-1230
Telephone: (213) 269-6343
Fax: (916) 731-2128
E-mail: Noah.GoldenKrasner@doj.ca.gov
Attorneys for Non-Party Department of Water Resources

EXEMPT FROM FILING FEES PER GOV. CODE, § 6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF ORANGE

BORREGO WATER DISTRICT, **Plaintiff.** **v.** **ALL PERSONS, et al.** **Defendants.**	Case No. 37-2020-00005776 **NON-PARTY DEPARTMENT OF WATER RESOURCES' ASSESSMENT AND RECOMMEDED CORRECTIVE ACTIONS APPROVING SGMA ALTERNATIVE** **[Wat. Code, § 10737.6]** Dept: CX104 Judge: The Hon. Melissa R. McCormick

As authorized and required by Water Code section 10737.6, non-party Department of Water Resources (DWR) submits this notice and explanation to the Court that it has APPROVED the judgment entered on April 8, 2021, as an alternative under the Sustainable Groundwater Management Act, Water Code section 10720 et seq. (SGMA).

SGMA BACKGROUND

The Legislature enacted SGMA to "provide for the sustainable management of groundwater basins," among other reasons. (Wat. Code, § 10720.1, subd. (a).) The Borrego Springs Subbasin of the Borrego Valley Groundwater Basin (Bulletin 118 No. 7.024-01, hereafter "Subbasin") is a high-priority groundwater basin that is designated in DWR's Bulletin 118 as subject to critical conditions of overdraft. SGMA requires all basins so designated to be managed

under a groundwater sustainability plan (GSP) by January 31, 2020. (Wat. Code, § 10720.7, subd. (a)(1).) However, SGMA also provides that "[m]anagement pursuant to an adjudication action" may serve as an alternative to a GSP if it satisfies the objectives of SGMA for a basin. (Wat. Code, § 10733.6(b)(2).) Failure to have a GSP or alternative that DWR has approved for the Subbasin could result in the State Water Resources Control Board (SWRCB) designating the Subbasin as probationary and taking other regulatory actions (i.e., state intervention). (see e.g., Wat. Code, §§ 10735.2, 10735.8.) SGMA delegates to DWR the role of determining whether an alternative submittal satisfies the objectives of SGMA. (Wat. Code, §§ 10733.6, 10737.4, subd. (a)(2).)

I. ALTERNATIVE SUBMITTAL FOR THE SUBBASIN

On June 15, 2021, the Borrego Springs Watermaster (Watermaster) and Borrego Water District, pursuant to Water Code section 10737.4(a)(1), submitted to DWR a final judgment, entered April 8, 2021, by the Court in the above-captioned comprehensive groundwater adjudication of the Subbasin, which incorporated various other documents as exhibits, including, for instance, a groundwater management plan (GMP) and a stipulated judgment (collectively "Alternative Submittal" or "Judgment"). The Watermaster requested that DWR evaluate and assess the Judgment for adequacy as a SGMA alternative for the Subbasin under Water Code section 10737.4. Upon receipt, the Department posted the Judgment on the alternatives webpage of its SGMA Portal, opened a public comment period, and subsequently evaluated the Alternative Submittal as "[m]anagement pursuant to an adjudication action," which is one of three kinds of alternatives authorized by SGMA. (Wat. Code, § 10733.6(b)(2).)

II. DWR'S ASSESSMENT AND RECOMMENDED CORRECTIVE ACTIONS

DWR makes this submission in accordance with Water Code section 10737.6, which provides that DWR submit to the Court its assessment and any recommended corrective actions that DWR issues pursuant to Water Code section 10733.8 when approving a SGMA alternative that is "management under an adjudication action" like the Alternative Submittal here. Attachment 1 to this filing is DWR's approval package for the Alternative Submittal, consisting of the following three documents: (1) a Cover Letter, (2) DWR Findings, and (3) DWR's

Alternative Assessment-Staff Report. These materials provide details regarding DWR's evaluation, assessment, and approval.

In conjunction with approving the Alternative Submittal, DWR has also exercised its authority and discretion to provide several recommended corrective actions (RCAs), which DWR maintains should be implemented to improve management under the Alternative Submittal and will continue to ensure that it satisfies the objectives of SGMA as it is implemented over the coming decades. The attached Alternative Assessment Staff Report identifies and provides details regarding these RCAs (see Alternative Assessment-Staff Report Section 7.1), which are briefly summarized below:

RCA 1: Better explain and justify the apparent use of management areas.

RCA 2: Develop details regarding how the mitigation process discussed in the GMP to address undesirable results of impacts to domestic and de minimis groundwater users as groundwater levels continue to decline will be funded and implemented.

RCA 3: Discuss the impacts to beneficial uses and users, including de minimis users, at the established minimum thresholds in each management area and clarify the monitoring that will be performed in each management area.

RCA 4: Provide more information regarding the minimum threshold and measurable objective for groundwater in storage.

RCA 5: Quantify and discuss how "generally accepted threshold limits for [crop] irrigation used by State Water Resources Control Board," will be used to avoid undesirable results associated with degradation of groundwater quality.

RCA 6: Monitor for land subsidence and discuss and evaluate whether and how land subsidence could interfere with surface uses or otherwise impact beneficial uses and users as groundwater levels reach new historic lows during the implementation period before overdraft is eliminated.

RCA 8: Eliminate inconsistencies or ambiguities between the Stipulated Judgment and GMP, and resolve or clarify the intended and proper roles of the Stipulated Judgment and GMP, respectively, in Subbasin management.

As explained in the attached Staff Alternative Assessment, despite these RCAs, DWR approved the Judgment based on numerous factors and considerations. For example, the Judgment establishes a robust and enforceable procedure to reduce overdraft by annually reducing groundwater extractions in the Subbasin over the next 20 years, which amount to a cumulative reduction of approximately 75 percent as compared to pre-SGMA pumping levels. That procedure has been in place for the past several years and actual pumping in the Subbasin during that time has decreased even faster than required. Thus, one of the major challenges facing this critically overdrafted basin has been forthrightly addressed and is off to a very good start. Furthermore, almost all groundwater extractions (~95 percent) in the Subbasin are currently metered and reported to the Watermaster, providing very accurate information for management purposes. Finally, the Judgment establishes a functioning and enforceable fee structure, based in part on the amount of water extracted by pumpers, to raise funds necessary to implement the groundwater management program established in the Judgment.

Water Code section 10737.6 states that the Court, after notice and, if necessary, an evidentiary hearing, shall determine whether to amend the judgment pursuant to Section 852 of the Code of Civil Procedure to adopt DWR's recommended corrective actions. DWR leaves the specific methods and means by which to implement the RCAs to resolution by the Court, Watermaster, and parties in recognition of SGMA's intent to "manage groundwater basins through the actions of local governmental agencies to the greatest extent feasible, while minimizing state intervention to only when necessary to ensure that local agencies manage groundwater in a sustainable manner." (Wat. Code, § 10720.1, subd. (h).) Nevertheless, DWR encourages earnest consideration and swift implementation/incorporation of these RCAs into Subbasin management.

III. FUTURE ACTIONS

To remain compliant and avoid potential state intervention, the Subbasin must continue to comply with SGMA requirements. DWR notes the following future actions for which DWR has a statutory role with respect to the Subbasin:

A. Annual Reports

The Judgment appropriately incorporates the requirement that annual reports will be filed pursuant to Water Code 10728 and California Code of Regulations, title 23, section 356.2, and specifies additional information that will be included and filed with the Court and with DWR. (See Judgment, § IV.E.5, at p. 40.) As with GSPs, DWR will review these annual reports to track implementation of the Alternative Submittal.

B. Five-Year Reevaluation

SGMA also requires that alternatives be resubmitted to DWR every five years. (Wat. Code, § 10733.6, subd. (c); Cal. Code Regs., tit. 23, § 358.2, subd. (b).) The Watermaster's deadline for resubmission of this alternative is June 15, 2026. In conducting subsequent evaluations, DWR will focus on whether implementation of the groundwater sustainability program under the Judgment continues to satisfy the objectives of SGMA for the Subbasin with an emphasis on assessing progress in achieving the sustainability goal. (see e.g., Wat. Code, §§ 10733.8; 10737.4;10737.6; Cal. Code Regs., tit. 23, § 358.2, subd. (b).)

C. Amendments or Modifications to the Judgment

The assessment and approval transmitted here is limited to the Judgment that was submitted to DWR for evaluation. DWR recognizes that the Court may amend the Judgment from time to time in the future to, for example, incorporate DWR's recommended corrective actions. Because the materiality of any amendment to SGMA compliance may not be readily apparent, DWR requests that if this Court amends or otherwise modifies the Judgment, that the Court also order the Watermaster to immediately notify DWR of the amendment or modification, and provide DWR with a copy of the new operative amended or modified judgment accompanied by an explanation of the reason for and effect of the changes.

Furthermore, if this Court considers amending or modifying the Judgment, SGMA provides that "the court shall not approve entry of judgment in an adjudication action for a basin required to have a groundwater sustainability plan under this part unless the court finds that the judgment will not substantially impair the ability of a [GSA], the [SWRCB], or [DWR] to comply with [SGMA] and to achieve sustainable groundwater management." (Wat. Code, § 10737.8.)

The Legislature amended Code of Civil Procedure section 850 to incorporate this requirement and added additional considerations regarding a judgment's effect on disadvantaged communities and small farmers. (see AB 779, 2023 session.) Those amendments also included a provision authorizing the court to refer a matter to the SWRCB in order to assist the court in making the required findings, in which case the SWRCB and DWR would jointly investigate and submit a report on the matter to the court. (Code Civ. Proc., § 850 subd. (c).) If questions arise regarding whether or how entry of a new or amended judgment in this action implicates these requirements, DWR stands ready to assist the SWRCB with any such investigation and report in the future if requested by the Court.

CONCLUSION

As detailed in Attachment 1 hereto, DWR has approved the Judgment as a SGMA alternative for the Subbasin. DWR looks forward to reviewing annual reports and five-year resubmissions to track groundwater management in the Subbasin, and DWR stands ready to provide additional technical assistance to the Court and Watermaster as needed.

Dated: February 26, 2025

Respectfully submitted,

ROB BONTA
Attorney General of California
ERIC M. KATZ
Supervising Deputy Attorney General

NOAH GOLDENKRASNER
Deputy Attorney General
Attorneys for Non-Party
Department of Water Resources

LA2024601182
67453855.docx

ATTACHMENT 1

CALIFORNIA DEPARTMENT OF WATER RESOURCES

SUSTAINABLE GROUNDWATER MANAGEMENT OFFICE

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

February 25, 2025

Borrego Springs Watermaster
c/o Samantha Adams
23692 Birtcher Drive
Lake Forest, CA 92630
BorregospringsWM@westyost.com

RE: Borrego Valley–Borrego Springs Subbasin [No. 7.024-01] - Assessment of Alternative Groundwater Sustainability Plan

Dear Samantha Adams,

The Department of Water Resources (Department) has evaluated the alternative to a groundwater sustainability plan (Alternative or Plan) submitted for the Borrego Valley – Borrego Springs Subbasin [No. 7.024-01] and has determined the Alternative is approved. The approval is based on recommendations from the Staff Assessment, included here as an exhibit to the attached Statement of Findings, which describes that the Subbasin Alternative satisfies the objectives of the Sustainable Groundwater Management Act (SGMA) and substantially complies with the Groundwater Sustainability Plan (GSP) Regulations. The Staff Assessment also proposes recommended corrective actions that will enhance the Plan and facilitate future evaluation by the Department. The Department strongly encourages the recommended corrective actions be given due consideration and suggests incorporating all resulting changes to the Plan in future updates.

The Alternative is the first approved under Water Code section 10733.6(b)(2), which authorizes SGMA compliance via “management pursuant to an adjudication action.” Accordingly, as required by Water Code section 10737.6, the Department intends to promptly submit its assessment to the court with jurisdiction over the adjudication action for further consideration. The Department recognizes that addressing its recommended corrective actions may entail additional procedures before the court or Watermaster. If you believe it would be helpful, please reach out to discuss ways the Department may be able to further assist in any such efforts.

Recognizing SGMA sets a long-term horizon for groundwater sustainability agencies (GSAs) or the managers of SGMA alternatives to achieve their basin sustainability goals, monitoring progress is fundamental for successful implementation. SGMA requires alternatives be resubmitted to the Department every five years. (Wat. Code 10733.6(c).) Accordingly, like GSPs, approved Alternatives must be evaluated at least every five years and whenever they are amended, and a written local assessment must be submitted to the Department. The Department will evaluate approved Alternatives

and issue an assessment at least every five years. The Department will initiate the first periodic review of the Borrego Valley – Borrego Springs Subbasin Alternative no later than June 25, 2026.

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

Thank You,

Paul Gosselin

Paul Gosselin
Deputy Director
Sustainable Groundwater Management

Attachment:

1. Statement of Findings Regarding the Approval Ofthe Borrego Spring Alternative

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

STATEMENT OF FINDINGS REGARDING THE APPROVAL OFTHE BORREGO SPRING ALTERNATIVE

The Department of Water Resources (Department) is required to evaluate and assess whether submitted alternatives to groundwater sustainability plans satisfy the objectives of the Sustainable Groundwater Management Act (SGMA) (Water Code Section 10733.6). This Statement of Findings explains the Department's decision regarding the alternative (Alternative) submitted by the Borrego Water District and Borrego Springs Watermaster (Watermaster) for the Borrego Valley – Borrego Springs Subbasin (Basin No. 7-024.01) under Water Code Section 10737.4(a)(1) as "management pursuant to an adjudication action," a category of SGMA alternative authorized by Water Code Section 10733.6(b)(2).

The Department has reviewed the Department staff report, entitled Sustainable Groundwater Management Program Alternative Assessment Staff Report – Borrego Springs (Staff Report), attached as Exhibit A, recommending approval of the Alternative. Based on its review of the Staff Report, the Department is satisfied that staff have conducted a thorough evaluation and assessment of the Alternative and concurs with staff's recommendation and all the recommended corrective actions, and thus hereby approves the Alternative on the following grounds:

1. The Alternative was submitted on June 25, 2021. Water Code Section 10737.4 states that a judgment, like the alternative here, may be submitted for evaluation after January 1, 2017. Therefore, the Alternative was submitted in a timely manner. (23 CCR Section 358.2(b)).

2. The Alternative is within a subbasin that is in compliance with Part 2.11 (commencing with Water Code Section 10920) as required by Water Code Section 10733.6(d). (23 CCR Section 358.4(a)(2)).

3. The Alternative was submitted by the Borrego Water District and Borrego Springs Watermaster (Watermaster) pursuant to Water Code Sections 10737.4 and 10733.6(b)(2). The Alternative submittal is comprised of information demonstrating that the adjudication submitted as an Alternative is a comprehensive adjudication as defined by Chapter 7 of Title 10 of the code of Civil Procedure (commencing with Section 830) and a Stipulated Judgement, which includes a groundwater management plan (GMP). Thus, the Alternative was submitted in compliance with 23 CCR Section 358.2(c)(2).

4. The Borrego Basin is not being managed pursuant to an adopted GSP and therefore no conflict exists that would prevent the Department's evaluation or approval of the Alternative.

5. The Watermaster submitted an "Alternative Elements Guide" which explains how the elements of the stipulated judgment and management thereunder are functionally equivalent to a groundwater sustainability plan, as required by Articles 5 and 7 of the GSP Regulations, 23 CCR Section 350 et seq.

6. Based on Paragraphs 3 through 5 above, the Alternative is considered complete and includes the information required by SGMA and the GSP Regulations, sufficient to warrant a full evaluation by the Department. (23 CCR Section 358.4(a)(3)).

7. The Alternative applies to and covers the entire subbasin as required by 23 CCR Sections 358.2(a) and 358.4(a)(4), respectively, and as discussed in Section 3.4 of the Staff Report.

8. The Stipulated Judgment provides the Borrego Springs Watermaster with all the powers of a Groundwater Sustainability Agency (Agency) and is binding on all parties and property within the Subbasin. Additionally, the Court has retained continuing jurisdiction to ensure implementation and enforce all requirements. Thus, the Watermaster has the legal authority and financial resources necessary to implement the Alternative. (23 CCR 355.4(b)(9)).

9. The Department has received public comments on the Alternative and has considered them in the evaluation of the Alternative as required by 23 CCR Section 358.2(f).

The Department makes the following additional findings based on the evaluation and assessment of the Alternative prepared by Department staff:

1. The Alternative has demonstrated an understanding of groundwater conditions in the basin and has acknowledged the basin's historic and ongoing overdraft. By establishing a reasonable plan to reduce and gradually eliminate overdraft, which includes an incremental 20-year process to reduce groundwater extractions, the groundwater management proposed by the Alternative is consistent with SGMA's timeline, which provides up to 20 years of plan implementation for a basin to reach its sustainability goal.

2. The Alternative satisfies the objectives of SGMA even though it is a final judgment in a comprehensive adjudication and does not follow or include the precise organization or elements of a groundwater sustainability plan prescribed in SGMA and the GSP Regulations. The Alternative includes a groundwater management plan (GMP), which is described as being intended to guide groundwater management in the Basin. Under the Stipulated Judgment, the Court retains

discretion to direct the Watermaster to manage the basin in ways not described in the Plan. If the Court orders changes to that Plan's description of basin management efforts and processes, those changes should be identified and discussed in annual reports or periodic updates, as appropriate.

3. In light of Paragraphs 1-11 above, the Alternative satisfies the objectives of SGMA.

In addition to the grounds listed above, the Department also finds that:

1. The Department developed its GSP Regulations consistent with and intending to further the State's human right to water policy through implementation of SGMA and the GSP Regulations, primarily by achieving sustainable groundwater management in a basin. By ensuring substantial compliance with the GSP Regulations, the Department has considered the state policy regarding the human right to water in its evaluation of the Alternative (Water Code Section 106.3; 23 CCR Section 350.4(g)).

2. The California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000 et seq.) does not apply to the Department's evaluation, assessment, and approval of the Alternative. It is clear that there is no potential for the Department's approval to cause environmental effects and therefore no possibility of causing any significant effects on the environment. The Department's evaluation, assessment, and approval of the Alternative is also statutorily and categorically exempt from CEQA.

Accordingly, the Alternative submitted by the Agency for the Borrego Valley – Borrego Springs Subbasin is hereby **APPROVED**. The recommended corrective actions identified in the attached Staff Assessment will assist the Department's future review of the Alternative's implementation for consistency with SGMA, and the Department, therefore, recommends the Agency address them in the next Periodic Evaluation, which is set to be submitted on June 25, 2026, as required by Water Code Section 10733.6(c). Department staff will continue to monitor and evaluate the progress toward achieving the basin's sustainability goal through continued Annual Reporting and future revisions to the Alternative. Failure to address the Department's recommended corrective actions before future, subsequent Alternative evaluations, may lead to the Alternative being determined incomplete or inadequate.

Signed:

Karla Nemeth

Karla Nemeth, Director
Date: February 25, 2025

Exhibit A: Staff Assessment, Sustainable Groundwater Management Program Alternative Assessment Staff Report – Borrego Valley – Borrego Springs Subbasin

State of California
Department of Water Resources
Sustainable Groundwater Management Program
Alternative Assessment – Staff Report

Groundwater Basin Name:	Borrego Valley – Borrego Springs Subbasin (Basin No. 7-024.01
Submitting Agency:	Borrego Springs Watermaster
Recommendation:	Approve
Date:	February 25, 2025

This Alternative Assessment – Staff Report includes seven sections:

1 SUMMARY

The Borrego Springs Watermaster (Watermaster)[1] on June 25, 2021, submitted to the Department of Water Resources (Department or DWR) a court-entered judgment (Stipulated Judgment) in the comprehensive adjudication (pursuant to Code of Civil Procedure Section 850) of the Borrego Springs Subbasin of the Borrego Valley Groundwater Basin for evaluation and assessment as a Sustainable Groundwater Management Act (SGMA) alternative under Water Code Section 10737.4.[2] The Department posted this submission on the Alternatives webpage of its SGMA Portal,[3] opened a public comment period, and began evaluating the alternative submittal.

[1] In this document, the Department of Water Resources (Department or DWR) will use the acronyms or short identifiers that are used in the Stipulated Judgment.
[2] Water Code § 10720 *et seq*.
[3] https://sgma.water.ca.gov/portal/alternative/print/39

Based on its review, Department staff have determined that the alternative submittal (hereafter referred to as the Borrego Alternative) for the Borrego Springs Subbasin (hereafter referred to as Subbasin or Basin) demonstrates, at this time, a reasonable overall understanding of groundwater conditions in the Subbasin, reasonably quantifies and mitigates overdraft, and proposes a commensurate level of management actions, primarily through permanently reducing and limiting groundwater extractions, to satisfy the objectives of SGMA as identified in applicable statutes and the Department's Groundwater Sustainability Plan Regulations (GSP Regulations).[4]

Department staff note that the Borrego Alternative, largely owing to the fact that it is a final judgment in a comprehensive adjudication, does not follow the precise organization or include the identical elements as a groundwater sustainability plan (GSP). However, differences between the elements of the Borrego Alternative and the generally required elements of a GSP, as prescribed in the GSP Regulations, do not preclude the Department from determining that the existing water management regime established by the Stipulated Judgment satisfies the objectives of SGMA. In fact, the Borrego Alternative includes a groundwater management plan (GMP) as an attached exhibit (Exhibit 1) to the Stipulated Judgment, which is intended to play a role in Subbasin management.[5] However, unlike a GSP, which defines the scope of groundwater management for a basin, in the Stipulated Judgement the Court retains discretion to direct the Watermaster to manage the basin in ways not described in the Plan. Although the Department does not expect this to result in management actions that significantly depart from those described in the Plan, the views expressed in this report are limited to technical information and the projects and management actions included and as described in the Plan. As discussed below, if the Court orders changes to that Plan's description of basin management efforts and processes, those changes should be identified and discussed in annual reports or periodic updates, as appropriate.

Department staff have reviewed the GMP and have recommendations specific to the GMP to more closely align basin management with the requirements of SGMA and the GSP Regulations. A critical component of managing this Subbasin under the Borrego Alternative is reducing pumping to eliminate overdraft, but sustainable groundwater management under SGMA requires consideration of more than the elimination of overdraft over a set period of time. Accordingly, staff's recommended corrective actions are geared towards broadening the focus of management under the Borrego Alternative to encompass quantified definitions of sustainability that will allow for better management and monitoring of progress towards achieving sustainability as defined by SGMA.

Department staff do not believe that the deficiencies described in this Report should preclude approval of the Borrego Alternative at this time. As documented throughout this

[4] 23 CCR § 350 *et seq*.
[5] *Draft Final Groundwater Management Plan for the Borrego Springs Groundwater Subbasin* (January 2020). The GMP is attached as Exhibit 1 in the Stipulated Judgment, pp. 54-1652.

assessment, the Borrego Alternative represents a substantial, locally driven, technical, legal, and policy effort. The enforceable and locally funded management framework it establishes has already accomplished significant milestones, changes, and improvements in Subbasin management and conditions. Management under the Borrego Alternative has initiated and implemented management actions with documented beneficial outcomes in this Subbasin faster than some other basins where a GSP has been adopted. Accordingly, Department staff believe approval, while requiring and allowing time for further refinements and improvements in basin management (as recommended in this staff report), is warranted at this time to support continued implementation of the Borrego Alternative. Department staff will have further opportunities to evaluate management under this alternative, including when it is resubmitted to comply with SGMA's five-year resubmission requirement for alternatives.[6]

In sum, staff recommend that the Department **APPROVE** the Borrego Alternative and require implementation of the recommended corrective actions by June 25, 2026.

2 ALTERNATIVE MATERIALS SUBMITTED

The Borrego Alternative was submitted to the Department by the Watermaster, the local management entity established in the comprehensive adjudication of the Borrego Springs Subbasin of the Borrego Valley Groundwater Basin.[7] The Watermaster uploaded multiple documents to the Department's SGMA Portal as part of its submission, including a "Judgment Findings and Order" signed and filed by the Orange County Superior Court (Hon. Peter J. Wilson) on April 8, 2021,[8] and a Stipulated Judgment (also file stamped April 8, 2021) with the following nine exhibits, which can be accessed on the SGMA Portal and are collectively referred to in this staff report as the "Alternative" or "Judgment" or "Borrego Alternative":

- Exhibit 1: Groundwater Management Plan (referred to herein as the "GMP")
- Exhibit 2: Stipulation for Judgment (dated April 8, 2021)
- Exhibit 3: Minimum Fallowing Standards
- Exhibit 4: Baseline Pumping Allocations
- Exhibit 5: Rules and Regulations
- Exhibit 6: Declaration of Covenants, Conditions & Restrictions
- Exhibit 7: Process for Selecting Watermaster Representatives

[6] Water Code §§ 10733.6(c), 10733.8; 23 CCR § 358.2(b).
[7] County of Orange Superior Court Case No. 37-2020-00005776-CU-TT-CTL.
[8] County of Orange Superior Court Case No. 37-2020-00005776-CU-TT-CTL.

- Exhibit 8: Entry Permit
- Exhibit 9: Facility Standards for Mutual Water Companies Formed After Entry of Judgment

In addition to the materials identified above, the Watermaster also submitted an "Alternative Elements Guide," a document intended to be used as a reference by the Department to facilitate its evaluation by providing descriptions and references explaining how or which parts of the Borrego Alternative satisfy the specific requirements for elements of a GSP established by the Department's GSP Regulations.[9] For this evaluation and assessment, Department staff reviewed and utilized all these submitted materials, other readily available information including annual reports for the Subbasin, and relevant public comments submitted to the Department.

3 REQUIRED CONDITIONS FOR EVALUATION

Before conducting an in-depth evaluation of an alternative, Department staff initially need to determine whether the submittal meets certain minimum conditions. As explained here, the Judgment satisfies these minimum conditions, warranting a thorough evaluation.

3.1 SUBMISSION DEADLINE

Water Code Section 10733.6(c) mandates that an alternative shall be submitted no later than January 1, 2017, and every five years thereafter.[10] The Judgment was submitted after this deadline, but it was submitted pursuant to Water Code Section 10737.4, which states that a judgment, like the alternative here, may be submitted for evaluation after January 1, 2017. Thus, the alternative was timely submitted.

3.2 COMPLIANCE WITH CALIFORNIA STATEWIDE GROUNDWATER ELEVATION MONITORING (CASGEM) PROGRAM

Water Code Section 10733.6(d) requires the Department's alternative assessments to "include an assessment of whether the alternative is within a basin that is in compliance with [CASGEM]." CASGEM is found in Part 2.11 of Division 6 of the Water Code and requires that groundwater elevations in all groundwater basins be regularly and systematically monitored and that groundwater elevation reports be submitted to the Department.[11] If the basin is not in compliance with CASGEM requirements, "the department shall find the alternative does not satisfy the objectives of this part [i.e., SGMA]."[12] Department staff have confirmed that the Subbasin was in compliance with

[9] 23 CCR § 358.2(d).
[10] Pursuant to Water Code § 10722.4(d), a different deadline applies to a basin that has been elevated from low- or very low-priority to high- or medium-priority after January 31, 2015.
[11] Water Code § 10920 et seq.
[12] Water Code § 10733.6(d).

the CASGEM requirements prior to submitting the alternative and have confirmed the Subbasin remains in compliance with CASGEM (through the last reporting deadline).

3.3 COMPLETENESS

The Department fully evaluates an alternative if it generally appears complete (i.e., appears to include the information required by SGMA and the GSP Regulations).[13] The Subbasin's Watermaster submitted an "Alternative Elements Guide" that explains how the elements of the Judgment and management thereunder are functionally equivalent to a GSP. Initial review by Department staff indicated the alternative generally contained the required information, as applicable, sufficient to warrant a full evaluation.

3.4 BASIN COVERAGE

An alternative must cover the entire basin.[14] An alternative that is intended to cover the entire basin may be presumed to do so if the basin is fully contained within the jurisdictional boundaries of the submitting agency.

Here, the Superior Court's April 8, 2021, Judgment Finding and Order (at paragraph 1) expressly includes a finding of fact and law that the comprehensive adjudication covers all claims to groundwater rights in the Borrego Valley Groundwater Subbasin (No. 7.024-01):

> "The proposed stipulated judgment ("Judgment") … shall be the judgment of the Court in this Comprehensive Adjudication and shall be binding on the parties to the comprehensive adjudication and all of their successors in interest, including, but not limited to, their heirs, executors, administrators, assigns, lessees, licensees, agents and employees, all other successors in interest, and all landowners or other persons claiming rights to extract groundwater from the Basin."

Department staff, therefore, conclude that the alternative covers the entire Subbasin.

4 EVALUATION OVERVIEW AND PRINCIPLES

Department staff's evaluation of the Borrego Alternative for adequacy as a SGMA alternative involves application of Water Code Section 10737.4(a), which provides, in part, that:

> "Chapter 11 (commencing with Section 10735) shall not apply to a judgment approved by the court pursuant to Section 850 of the Code of Civil Procedure if both of the following apply:

[13] 23 CCR § 358.4(a)(3)
[14] 23 CCR § 358.4(a)(4)

1. A local agency or a party directed by the court to file the submission submits the judgment to the department for evaluation and assessment pursuant to paragraph (2) of subdivision (b) of Section 10733.6. [and]

2. The department determines that the judgment satisfies the objectives of this part for the basin."

SGMA provides that a local agency "may submit the alternative to the department for evaluation and assessment of whether the alternative satisfies the objectives of this part for the basin."[15] The Legislature identified its objectives in enacting SGMA, the first of which is "[t]o provide for the sustainable management of groundwater basins."[16] The Legislature defined sustainable groundwater management as "the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results." [17]

The Department's GSP Regulations, specifically Article 9, include additional provisions regarding evaluation of alternatives under SGMA.[18] The GSP Regulations require the Department to evaluate an alternative "in accordance with Sections 355.2, 355.4(b), and Section 355.6, *as applicable*, to determine whether the alternative complies with the objectives of the Act."[19] In evaluating the Borrego Alternative and preparing this assessment, Department staff considered and applied, where applicable, the standards identified in these statutes and regulations with the ultimate purpose being to determine whether the Borrego Alternative satisfies the objectives of SGMA.[20]

An agency or other entity submitting an alternative must explain how the elements of the alternative are "functionally equivalent" to the elements of a GSP required by Articles 5 and 7 of the GSP Regulations and are sufficient to demonstrate the ability of the alternative to achieve the objectives of SGMA. The explanation of how elements of an alternative are functionally equivalent to elements of a GSP furthers the purpose of demonstrating that an alternative satisfies the objectives of SGMA. Alternatives, although required to satisfy the objectives of SGMA, are not necessarily expected to conform to the precise format and content of a GSP. This assessment is thus focused on the ability of the Borrego Alternative to satisfy the objectives of SGMA as demonstrated by information provided by Borrego Springs Watermaster; it is not a determination of the degree to which the Borrego Alternative matches the specific requirements of the GSP Regulations.

When evaluating whether an alternative satisfies the objectives of SGMA and thus is likely to achieve the sustainability goal for the basin, Department staff review the information

[15] Water Code § 10733.6(a).
[16] Water Code § 10720.1.
[17] Water Code Section 10721(v).
[18] 23 CCR § 358 *et seq*.
[19] 23 CCR § 358.4(b) (emphasis added).
[20] 23 CCR § 358.2(d); Water Code § 10733.6(a).

provided by and relied upon by the submitting entity or agency for sufficiency, credibility, and consistency with scientific and engineering professional standards of practice.[21] The Department's review considers whether there is a reasonable relationship between the information provided and the assumptions and conclusions made by the submitting entity or agency, whether sustainable management criteria and projects and management actions described in an alternative are commensurate with the level of understanding of the basin setting, and whether those projects and management actions are feasible and likely to prevent undesirable results.[22] Department staff will recommend that an alternative be approved if staff determine, in light of these factors, that the alternative has achieved or is likely to achieve the sustainability goal for the basin.[23]

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

Finally, the Borrego Alternative, which is based on management pursuant to an adjudication action submitted under Water Code Section 10737.4, is the first SGMA alternative of its kind reviewed by Department staff. Alternatives previously submitted to the Department were either groundwater management plans developed pursuant to Part 2.75 of Division 6 of the Water Code (commencing with Section 10750) or other law authorizing groundwater management, or analyses of basin conditions attempting to demonstrate that a basin was operated within its sustainable yield over a period of at least 10 years.[24] In almost every previous case, the local agency that submitted an alternative also formed a groundwater sustainability agency (GSA), but in no case was an alternative submitted by one entity while a different entity had become an exclusive GSA authorized to implement the provisions of SGMA, which had adopted and submitted a GSP for the same basin, thus no conflict existed that would have prevented Department evaluation of those alternatives.[25] For similar reasons here, because the Borrego Alternative does not substantially impair or otherwise interfere with an existing GSP (none was ever locally

[21] 23 CCR § 351(h).
[22] 23 CCR § 355.4(b)(1), (3), and (5).
[23] 23 CCR § 355.4(b).
[24] Water Code §§ 10733.6(b)(1) and (b)(3).
[25] The Borrego Water District initially submitted a notice of intent to become a GSA for the basin and prepare a GSP, but Borrego Water District later withdrew its notice of intent.

adopted or subsequently submitted to and approved by the Department), evaluation of the Borrego Alternative by the Department is appropriate.[26]

In sum, this staff report evaluates the adequacy of the Judgment to satisfy the objectives of SGMA by serving as an alternative to a GSP for the Subbasin (Water Code 10733.6.). Department staff have also included information, and recommended corrective actions, in this staff report to further assist the Watermaster, Court, and interested parties with the timely achievement of sustainable groundwater management in the Subbasin as required under SGMA.

5 TECHNICAL EVALUATION OF THE GMP

Under the assumption that the *Groundwater Management Plan for the Borrego Springs Subbasin, January 2020* (GMP), included as Exhibit 1 in the Stipulated Judgment, is intended to and will significantly guide the Watermaster's (and Court's) groundwater management decisions during implementation of the Borrego Alternative, this section of the staff report focuses on whether the following elements of the Stipulated Judgment, relying upon the GMP, substantially comply with, and are functionally equivalent to, the requirements for GSPs set forth in the GSP Regulations:[27]

- **Basin Setting**. The description of the Subbasin, including a hydrogeologic conceptual model and water budget in context with the understanding of the current groundwater conditions in the Subbasin.
- **Sustainable Management Criteria**. The criteria proposed to measure and define sustainability in the Subbasin.

[26] Department staff note that for a basin with an approved GSP that becomes subject to a comprehensive adjudication, SGMA states that the court shall not approve entry of judgment in the adjudication action unless the court finds that the judgment will not substantially impair the ability of a GSA, the State Water Resources Control Board, or the Department to comply with SGMA and to achieve sustainable groundwater management. (Water Code § 10737.8) SGMA mandates that "all" basins designated as medium- or high-priority "shall be managed under a groundwater sustainability plan" by certain deadlines now past (Water Code § 10720.7.) Accordingly, a judgment that affects a GSA's ability to implement and manage under its GSP runs the risk of violating section 10737.8, because it may substantially impair the GSA's ability to comply with the mandate of section 10720.7. While any such conflict would require a case-specific analysis, an adjudication judgment that precludes or interferes with achieving the sustainable management criteria established in a GSP by, for instance, attempting to establish higher groundwater extraction amounts, less protective management criteria or thresholds for undesirable results, or empowering an entity other than the GSA to act as watermaster to regulate or authorize groundwater pumping in a basin runs a significant risk of substantially impairing the ability of the GSA to comply with SGMA and therefore violating section 10737.8.. Amendments to the streamlined adjudication statutes that became effective in 2024 contain the same prohibition on adjudication judgments and, importantly, allow a court and parties in an adjudication to seek assistance from, and preparation of a joint report by, the State Water Resources Control Board and the Department assessing this particular issue. (Code of Civil Procedure § 850(b)-(c).)

[27] 23 CCR §§ 355.4(b), 358.2(d).

- **Monitoring Networks**. The proposed means of collecting short-term, seasonal, and long-term data of sufficient quality, frequency, and distribution to characterize and evaluate conditions in the basin to evaluate implementation of the management program.
- **Projects and Management Actions**. The proposed efforts that may be necessary to bring the Subbasin under sustainable groundwater management.

5.1 Basin Setting

The basin setting should contain detailed information about the physical setting and characteristics of a basin to serve, among other things, as the basis for local agencies to develop and assess the need for, and reasonableness of, sustainable management criteria and projects and management actions.[28] This information also provides a foundation to facilitate the Department's review of the management regime presented in a GSP or an alternative.

The Subbasin's GMP, included as Exhibit 1 in the Stipulated Judgment, contains much of the information about the Subbasin required by the GSP Regulations. This includes information about groundwater conditions and hydrogeology, types of land uses, a hydrogeologic conceptual model, past and current water demands, and descriptions of beneficial uses and users of groundwater within the Subbasin. The following four major elements comprising the basin setting are discussed below: the hydrogeologic conceptual model, groundwater and basin conditions, water budget, and management areas.

5.1.1 Hydrogeologic Conceptual Model

The hydrogeologic conceptual model is a non-numerical model of the physical setting, characteristics, and processes that govern groundwater occurrence within a basin. The hydrogeologic conceptual model represents a local agency's understanding of the geology and hydrology of the basin that forms the basis of geologic assumptions used in developing numerical groundwater flow models, such as those that allow for quantification of the water budget.[29]

The GMP includes a hydrogeologic conceptual model that is largely based on technical studies conducted by the U.S. Geological Survey dating from the 1980s to 2015.[30] The Subbasin is described in the GMP as being comprised of continental and lacustrine sediments and divides the water-bearing strata into three units simply termed the upper, middle, and lower aquifers, although they are not confined by regionally extensive aquitards. The hydraulic properties, such as hydraulic conductivity and specific yield of

[28] 23 CCR § 354.12.
[29] 2016 Best Management Practices for the Sustainable Management of Groundwater—Hydrogeologic Conceptual Model (DRAFT); https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Sustainable-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents/Files/BMP-3-Hydrogeologic-Conceptual-Model_ay_19.pdf.
[30] GMP, Section 2.2.1, pp. 131-144.

the sediments, decrease from the upper to the lower aquifer. The upper aquifer is mainly coarser alluvium with a moderate ability to store and produce groundwater. The middle aquifer consists of finer grained sediments that are moderately consolidated and cemented with the ability to produce moderate quantities of water in wells. The lower aquifer consists of partly consolidated continental and lacustrine sediments with a higher portion of fine-grained sediments and yields smaller quantities of water than the upper and middle aquifers.[31]

Department staff consider the hydrogeologic conceptual model presented in the GMP to be reasonable and to have relied on the best available data in depicting the current understanding of the characteristics, distribution, and groundwater conditions of the system of aquifers within the Subbasin. The hydrogeologic conceptual model relies on numerous independent studies and reports, including investigations carried out by the U.S. Geological Survey, and utilizes reasonable methods and assumptions, including reviewing and comparing historical groundwater budget studies in the Subbasin and quantifying historical groundwater overdraft for several time periods.

5.1.2 Groundwater and Basin Conditions

The GMP describes the current and historical groundwater conditions based on groundwater data collected from the established monitoring network and data collected from the 1940s and 1950s. The GMP provides groundwater elevation contour maps for historical conditions and for spring and autumn of 2018, which are used to represent "current" conditions.[32] The historical groundwater elevation contour maps show declining groundwater levels from 1945 to 2010, with pumping depressions evident in data from the western portion of the Subbasin. The GMP acknowledges that human influence on groundwater levels is most pronounced in the northern part of the Subbasin, where the 2018 contour map shows a pumping depression in the general vicinity of the pumping depression in the 2010 map, although the groundwater elevation of the depression in the 2018 contour map is lower.[33]

The GMP estimates that groundwater elevations in the Northern Management Area declined by as much as 133 feet, with an average rate of 2.05 feet per year, between 1953 and 2018. Over the same period, the estimated decline in the Central Management Area was 88 feet, averaging 1.35 feet per year. The Southern Management Area has been pumped to a lesser extent; thus, groundwater elevations have remained relatively stable.[34]

The groundwater in storage in the Subbasin prior to initiation of widespread groundwater extraction was estimated to have been 5.5 million acre-feet. A subsequent investigation estimated the amount of readily available groundwater to be approximately 2.1 million

[31] GMP, Section 2.2.1.3, pp. 140-142.
[32] GMP, Figures 2.2-13A to 2.2-13D, pp. 231-237.
[33] GMP, Section 2.2.2.1, pp. 148-150; Figures 2.2-13A to 2.2-13D, pp. 231-237.
[34] GMP, Section 2.2.2.1, p. 150; Figure 2.2-13E, p. 239.

acre-feet in 1945 and 1.9 million acre-feet in 1980. The Borrego Valley Hydrologic Model (BVHM) estimates the reduction in groundwater in storage from 1980 to 2016 to be 334,293 acre-feet, leaving approximately 1.6 million acre-feet remaining in the aquifers.[35]

The groundwater quality constituents of concern in the Subbasin include total dissolved solids, nitrate, arsenic, sulfate, and fluoride.[36] The GMP describes anthropogenic and natural sources of the constituents of concern. Anthropogenic activities affecting total dissolved solids include agricultural use of irrigation, fertilizers, pesticides, and return flow from septic systems and wastewater treatment. Natural sources of total dissolved solids include interactions of groundwater with minerals that comprise the aquifer material, including evaporative enrichment near dry lake beds such as the Borrego Sink. The historical concentrations of total dissolved solids ranged from 500 to 2,330 mg/L, with 2018 concentrations below the secondary maximum contaminant level upper limit for drinking water in all but two wells. The wells with highest concentrations of total dissolved solids tend to be in the shallow aquifer in the Northern Management Area and near the Borrego Sink.[37]

Sources of nitrate are primarily associated with fertilizer application and septic tank return flows. Historical exceedances of nitrate, ranging from 10-155 mg/L, have occurred in five wells adjacent to areas of agricultural use in the northern part of the valley. Available nitrate data in the current monitoring network show neutral or declining trends of nitrate concentrations or are insufficient to establish a trend. The GMP describes historical wells that were taken out of potable service due to elevated nitrate. Mitigation of the impacted wells included drilling and screening the well in a deeper zone or connecting to municipal well supplies.[38]

Arsenic is naturally occurring and associated with mineral chemistry and pH. Arsenic has been detected in wells in all management areas of the Subbasin, but only some wells in the Southern Management Area are above the maximum contaminant level of 10 µg/L, with a maximum detected concentration of 22 µg/L.[39] Although Figure 2.2-14D appears to show that exceedances of the maximum contaminant level are in wells associated with the Rams Hill Golf Course, the GMP does not explain whether these wells produce potable or non-potable water or the extent of the impacts to beneficial uses and users, if any.

Sulfate sources include natural deposits of gypsum and fertilizers. Sulfate analyses in a 2015 USGS study indicated no wells exceeded the secondary maximum contaminant level for sulfate; historical data show exceedances in some wells near the Borrego Sink,

[35] GMP, Section 2.2.2.2, p. 152.
[36] GMP, Section 2.2.2.4, p. 153; Groundwater Monitoring Plan for the Borrego Springs Subbasin, Section 3.1, p. 18.
[37] GMP, Section 2.2.2.4, pp. 154-156; Figure 2.2-14B, p. 245.
[38] GMP, Section 2.2.2.4, pp. 154-155; Figure 2.2-14A, p. 243.
[39] GMP, Section 2.2.2.4, pp. 157-158; Figure 2.2-14D, p. 249.

ranging from 650-2,300 mg/L. The GMP correlates elevated sulfate concentrations with elevated total dissolved solids concentrations near the Borrego Sink. Two wells, RH-1 and ID1-8, appear to show increasing trends.[40]

Fluoride is a naturally occurring element in groundwater and has historically been detected in three wells above the maximum contaminant level of 2 mg/L. The fluoride concentration exceedances ranged from 2.2-4.87 mg/L. However, typical fluoride concentrations in the Subbasin are below one-half of the maximum contaminant level. No figure was provided showing the wells analyzed for fluoride.[41]

The GMP discusses land subsidence evaluation using data between 1978 and 2009. The investigation included analyzing data measured by interferometric synthetic aperture radar (InSAR) and global positioning system stations that concluded changes of land surface elevation of fewer than 0.54 feet. The investigation identified a consistent and seasonal pattern southeast of agricultural fields between 2003 and 2007, where land subsidence in the summer was followed by a smaller increase in land elevation by the end of the year; the increase was about half the amount of subsidence in the summer, resulting in an average decline of 0.15 inch per year during this period. InSAR data from 2015 to 2018 showed a decrease in elevation by 0.023 feet, or fewer than 0.1 inch per year in the Borrego Springs Resort area, while a larger area of the Subbasin experienced an increase in elevation during the same period. The GMP concludes that, based on the groundwater level declining by more than 100 feet, the land subsidence that has occurred in the Subbasin is minimal and has not substantially interfered with surface land uses in the past and is not anticipated to substantially interfere with land uses in the foreseeable future.[42]

The GMP explains that streams in the Subbasin are predominantly disconnected from the groundwater table, which is typical of an arid desert environment, because stream flows of moderate magnitude and short duration do not percolate deep enough to reach the underlying aquifer.[43] The Water Year 2023 Annual Report for the Borrego Springs Subbasin describes an investigation of surface water flow in the perennial and ephemeral segments of Coyote Creek, the primary drainage feature recharging the Subbasin. The perennial extent of streamflow measured at five sites indicate streamflow decreasing from upstream to downstream and is completely infiltrated by the First Crossing (approximately two miles into the Subbasin from the northwestern boundary),[44] suggesting that the Coyote Creek drainage system loses water to the underlying aquifer system. By fall 2020, Watermaster staff observed all five sites on Coyote Creek to be dry; to be not accessible

[40] GMP, Section 2.2.2.4, pp. 156-157; Figure 2.2-14C, p. 247.
[41] GMP, Section 2.2.2.4, p. 158.
[42] GMP, Section 2.2.2.5, pp. 162-164; Figure 2.2-17, p. 257.
[43] GMP, Section 2.2.2.6, pp. 164-165; Figure 2.2-18, p. 259.
[44] Borrego Springs Subbasin 1st Annual Report: Covering Water Years 2016 through 2019, Figure 2, p. 35; Table 1-2, p. 13; Water Year 2023 Annual Report for the Borrego Springs Subbasin, Section 3.1.3, p. 47; Figure 3, p. 74.

due to excessive vegetation growth; or to shallow flows, resulting in the determination that continued streamflow measurements were impractical but would continue to conduct semiannual visual and qualitative observations of flow conditions. The GMP attributes perennial sections of creeks that are upgradient and outside of the Subbasin to be supported by groundwater flowing from bedrock aquifers into the channels, which then become ephemeral streams when entering the Subbasin.[45]

The GMP describes the historical conditions of surface water entering the Subbasin and states that since the beginning of large-scale pumping in the Subbasin decades ago, groundwater has not been observed discharging onto the valley floor in the form of seeps, springs, or gaining streams. Old Borrego Springs dried up before 1963 and Pup Fish Pond Spring, which extends a short distance into the Subbasin, is an artificial spring sustained by Anza-Borrego Desert State Park.[46]

Regarding groundwater dependent ecosystems (GDEs), groundwater monitoring closest to creek segments entering the northern and western margins of the Subbasin indicates a separation of hundreds of feet between the creek beds and the groundwater table. The GMP describes the evaluation of the Natural Communities Commonly Associated with Groundwater dataset, which divided the Subbasin into three geographic units.[47] The northernmost Coyote Creek Unit includes plant types along the riparian corridor of Coyote Creek. The investigation included analysis of stream gage data, aerial photographs, and remotely-sensed vegetation data and concluded that the reach of Coyote Creek with potential GDEs is a losing stream and not supported by groundwater from the Subbasin.[48]

The Palm Canyon Unit at the western margin of the Subbasin shows no significant change in the extent of the GDE since 1954 and no significant change in health of the GDE since 1985. The GMP explains that the depth to groundwater in the nearest well, measured in 2018, of 348 feet below ground surface and the fluctuations in vegetation metrics that moderately correlate to precipitation indicate that GDEs in the Palm Canyon Unit are supported by surface water flows originating outside the Subbasin and entering the Subbasin via Borrego Palm Creek instead of being supported by groundwater in the Subbasin.[49]

The Mesquite Bosque Unit near the Borrego Sink historically contained 450 acres of honey mesquite, which the GMP describes can be tolerant of droughts. The 44 feet of groundwater decline in the past 65 years have resulted in a mostly desiccated area of mesquite by or around January 2015, with groundwater levels ranging from about 55-134 feet below ground surface, deeper than the stated approximate 20 feet rooting depth of

[45] GMP, Section 2.2.2.7, p. 168; Water Year 2023 Annual Report for the Borrego Springs Subbasin, Section 3.1.3, p. 47.
[46] GMP, Section 2.2.2.6, pp. 164-166.
[47] GMP, Figure 2.2-20, p. 263.
[48] GMP, Section 2.2.2.7, pp. 166-169.
[49] GMP, Section 2.2.2.7, pp. 169-171; Figure 2.2-20, p. 263.

the mesquite in the area. The GMP correlates precipitation and intermittent surface water flows with vegetation metrics instead of groundwater.[50]

5.1.3 Water Budget

The GMP uses a numerical groundwater flow model to produce a groundwater budget suggesting that the average rate of groundwater removed from storage between 1945 and 2016 was 7,300 acre-feet per year, with an increased rate of removal during the last 10 years of approximately 13,140 acre-feet per year.[51] The GMP provides an initial estimate for "sustainable yield" of the Subbasin as 5,700 acre-feet per year,[52] compared with the Subbasin's "current" baseline pumping of 24,215 acre-feet per year.[53] Department staff note that the GMP's estimate of current baseline pumping does not reflect actual, current extractions in the Subbasin, but rather was determined based on maximum annual water use by individual (non-de minimis) pumpers over the period January 1, 2010 to January 1, 2015. Baseline pumping also includes municipal water use previously reduced through end-use efficiency and conservation efforts, and recreational use curtailed prior to GMP adoption. The GMP reports that baseline pumping allocations are distributed to water use sectors as follows: 70 percent agriculture, 18 percent recreation, 12 percent municipal; 1 percent other.

Department staff consider the water budget information presented in the GMP to be consistent with current understanding of the hydrology and hydrogeology of the Subbasin and to have utilized appropriate and reasonable methods and assumptions, including reviewing and comparing historical groundwater budget studies in the Subbasin, and quantifying historical groundwater overdraft for several time periods (1945-2010, 1945-2016, 1997-2016, and 2007-2016).[54] However, the sustainable yield is derived using estimated inflows and outflows from model simulations that utilized data from different time periods; the inflow component is based on model simulations of data from 1945 to 2016, whereas the outflow component is based on data from 2007 to 2016.[55] The GMP justifies using inflow and outflow components based on different date ranges as a reasonable approach to an "initial estimate" that will be updated at each five-year evaluation during Physical Solution implementation.[56] Department staff regard the use of historical calculations to be sufficient based upon the best available information to inform the model and estimate. Provided that estimates are within the range of error, the overall reliance on such estimates appears acceptable.

[50] GMP, Section 2.2.2.7, pp. 169-171; Figure 2.2-20, p. 263.
[51] GMP, Section 2.2.3.3, p. 179; Table 2.2-8, p. 173. The reported volume of groundwater removed from storage differs between text in Section 2.2.3.3 and Table 2.2-8.
[52] GMP, Section 2.2.3.6, p. 182.
[53] GMP, Section 3.3.1.4, p. 301.
[54] GMP, Table 2.2-8, p.173.
[55] GMP, Table 2.2-8, p. 173.
[56] GMP, Section 2.2.3.6, pp. 180-182.

Department staff consider this adaptive management approach of incorporating periodic evaluation of new data and management strategies to be appropriate for this Subbasin and consistent with SGMA's implementation horizon for achieving sustainable groundwater management; however, as explained further below, the current emphasis on updating inflow and outflow data suggests the primary management focus is on balancing extractions with natural recharge rather than on the sustainable yield of the Subbasin, which is the achievement of "sustainability" by avoiding "undesirable results" as defined by the GMP's sustainable management criteria (see discussion below, under Section 6.2, Sustainable Management Criteria).

5.1.4 Management Areas

The GSP Regulations allow management areas within a basin, for which an agency may identify different minimum thresholds, measurable objectives, monitoring, or projects and management actions based on differences in water use sector, water source type, geology, aquifer characteristics, or other factors, provided that undesirable results are defined consistently throughout the basin.[57]

The GMP divides the Subbasin into three management areas (North, Central, and South) based on differences in hydrogeology, water quality, and overlying land uses. The North Management Area overlies the more productive upper aquifer that supports widespread agricultural activities, resulting in the most groundwater extraction and the greatest historical decline in groundwater levels of the three management areas. The Central Management Area predominantly contains extractions of groundwater from the middle aquifer to supply municipal and recreational users. The groundwater level decline in the Central Management Area has been recorded for decades and is widespread, although the rate of decline is less than the rate of groundwater level decline observed in the North Management Area. The South Management Area is predominantly open space but includes a golf course and a small rural residential area supported by groundwater extractions from the lower aquifer. In the South Management Area, groundwater levels near the Ram's Hill golf course appear connected to activity of the facility; however, groundwater levels near the isolated residential area of Borrego Air Ranch do not appear to be affected by the golf course extractions and have been relatively stable through time.[58]

The GMP contains a general description of the three management areas and provides maps that show their boundaries. However, the GMP does not clearly explain the reason for establishing different sustainable management criteria based on these management areas or how those criteria are appropriate and will not interfere with efforts to achieve the sustainability goal for the Subbasin. Department staff are unable to fully evaluate the approach to sustainability for these three areas without a more complete and detailed

[57] 23 CCR § 354.20.
[58] GMP, Section 2.2.2.1, p. 97; Figure 2.2-13E, p. 186.

discussion of the conditions in each of the areas, and how and why the areas are proposed to be separately managed to address those conditions.

Accordingly, if the management areas identified in the GMP were developed for the purposes outlined in the GSP Regulations,[59] additional information describing and justifying the establishment and use of management areas is necessary.[60] However, if, the GMP and Stipulated Judgment developed management areas to address other issues such as practical aspects of implementation (e.g., jurisdictional or financial responsibilities), the GMP and/or Stipulated Judgment should clearly explain this distinction. Even so, the GMP must demonstrate that management areas created for administrative convenience will not impair the ability of any portion of the Subbasin to achieve sustainability (see Recommended Corrective Action 1).

5.2 Sustainable Management Criteria

SGMA defines sustainable groundwater management as the "management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results."[61] The avoidance of undesirable results is thus explicitly the central concept of sustainable groundwater management and critical to the adequacy of a GSP or alternative. Under SGMA, undesirable results are "one or more" of six specific "effects caused by groundwater conditions occurring throughout the basin."[62]

As used in SGMA, undesirable results refer to specific unwanted effects, as determined by the local agency, that could be caused by groundwater conditions occurring throughout the basin. Although lowering groundwater levels and depleting supply are among the effects that could lead to undesirable results, the other categories of undesirable results defined in SGMA must also be considered and defined for purposes of basin management when applicable.

GSP Regulations require the development of several elements under the heading of "Sustainable Management Criteria," including sustainability goal, undesirable results, minimum thresholds, and measurable objectives. Except for the sustainability goal, the components of sustainable management criteria must be quantified so that progress towards sustainability can be monitored and evaluated consistently, quantitatively, and objectively to ensure that significant and unreasonable conditions and adverse impacts

[59] 23 CCR § 354.20.
[60] Where management areas are created, as appears to be the intent in the GMP, the GSP Regulations require the plan to establish minimum thresholds and measurable objectives for each management area and to provide the rationale for selecting those values. If, however, the Subbasin is to be managed at large, it would be helpful for the GMP to clearly state which minimum thresholds and measurable objectives apply to specific management areas and which apply to the entire Subbasin (see Recommended Corrective Action 1).
[61] Water Code § 10721(v).
[62] Water Code § 10721(x).

to beneficial uses and users (the SGMA definition of undesirable results[63]) are not occurring. A local agency should rely on and explain, among other factors, local experience, public outreach, involvement, and input, and information about the basin setting (e.g., hydrogeologic conceptual model, current and historical groundwater conditions, and water budget, etc.) that it used to develop criteria for defining undesirable results and setting minimum thresholds and measurable objectives.[64]

As mentioned in Section 5.1.3 above, the GMP employs the term "sustainable yield" in a sense more consistent with eliminating overdraft (i.e., balancing extractions with natural recharge) or achieving the traditional concept of "safe yield" rather than as defined in SGMA as achieving sustainability by avoiding "undesirable results" for all applicable sustainability indicators.[65] Department staff note that managing a basin to eliminate overdraft within 20 years does not necessarily mean that the basin has achieved sustainable groundwater management as required under SGMA. For example, gradually or incrementally reducing rates of subsidence to achieve no further subsidence after 20 years of management could allow and result in unreasonable and significant cumulative amounts of subsidence during the implementation period, resulting in ongoing, permanent, or long-term undesirable results such as damaged infrastructure, increased flood risk, or altered flood flow patterns that a more aggressive implementation regime would avoid. To achieve sustainable groundwater management under SGMA, the basin must achieve the sustainability goal (i.e., experience no undesirable results associated with six sustainability indicators) by the end of the 20-year plan implementation period and be able to demonstrate an ability to maintain those defined sustainable conditions over the 50-year planning and implementation horizon.

SGMA provides general definitions of the undesirable results that are to be avoided. However, it is up to each local agency or GSA implementing SGMA to develop and

---

[63] Water Code § 10721(x).

[64] 2017 Best Management Practices for the Sustainable Management of Groundwater—Sustainable Management Criteria (DRAFT); https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Sustainable-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents/Files/BMP-6-Sustainable-Management-Criteria-DRAFT_ay_19.pdf, accessed August 17, 2022.

[65] Pre-SGMA cases applied the term "safe yield" in the context of overdraft. The California Supreme Court explained: "'Safe yield' is defined as 'the maximum quantity of water which can be withdrawn annually from a ground water supply under a given set of conditions without causing an undesirable result.' The phrase 'undesirable result' is understood to refer to a gradual lowering of the ground water levels resulting eventually in depletion of the supply." (*City of Los Angeles v. City of San Fernando*, 537 P.2d 1250, 1308, 123 Cal.Rptr. 1, 59, 14 Cal.3d 199, 278 (Cal. 1975), quoting *City of Pasadena v. City of Alhambra*, 207 P.2d 17, 30, 33 Cal.2d 908, 929 (Cal., 1949)) As noted above, SGMA uses the related but different term "sustainable yield" and defines it as "the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result." (Wat. Code § 10721(w)). SGMA further defines undesirable results as significant and unreasonable effects caused by groundwater conditions occurring throughout the basin (Wat. Code § 10721(x)). Although chronic lowering of groundwater levels is one of those effects, SGMA includes five other effects that are not part of the traditional definition of "safe yield."

describe in a GSP or, as here, in an alternative, the specific effects that would constitute undesirable results in its basin and to define the groundwater conditions that would produce those results in the basin.[66] Management under an alternative should establish and be guided and judged using the same metrics. The local definition and description of undesirable results needs to be quantitative and must describe the effects of undesirable results on the beneficial uses and users of groundwater in the basin. Using these definitions, quantitative minimum thresholds can be defined that, when exceeded individually or in combination with minimum thresholds at other monitoring sites, may indicate the basin is experiencing undesirable results.[67] If undesirable results and the associated minimum thresholds are not quantitatively defined by basin managers, they, the Department, interested parties, and the general public will not be fully informed regarding the intended groundwater management program in the basin and will have no objective way to determine whether the basin is being managed sustainably as required by SGMA.

Generally, SGMA leaves the task of establishing definitions and setting minimum thresholds for undesirable results largely at the discretion of the local agency, subject to review by the Department. Absent a clear explanation of the conditions and adverse impacts the local agency is trying to avoid, and the agency's stated rationale for setting objective and quantitative sustainable groundwater management criteria that the local agency believes will successfully prevent those conditions from occurring, the Department cannot assess whether a proposed groundwater management program will achieve sustainability because there is no unambiguous way to know what basin conditions the GSP seeks to avoid and the monitoring needed to assess whether the agency is succeeding in that effort when implementing its groundwater management program.

Although the GMP appears to reasonably quantify the water budget and identify the extent and rate of overdraft in the Subbasin, and while the GMP proposes reductions in groundwater extractions that appear likely to eliminate overdraft in the Subbasin within approximately 20 years, the GMP does not provide quantified sustainable management criteria for all applicable sustainability indicators and does not explain how these criteria would avoid significant and unreasonable impacts to beneficial uses and users in the Subbasin as required by SGMA. The GMP's treatment of each of SGMA's defined undesirable results is discussed individually below.

[66] 23 CCR § 354.26.
[67] 23 CCR § 354.28. See also DWR Best Management Practices for the Sustainable Management of Groundwater: Sustainable Management Criteria (DRAFT), November 2017.

5.2.1 Chronic Lowering of Groundwater Levels

The GMP discusses historical and current groundwater level conditions[68] and presents its most extensive discussion of sustainable management criteria for the category of "chronic lowering of groundwater levels." The GMP states:

- "Failure to address and reverse the current rate of groundwater level decline could put the agricultural, recreational, and water supply availability for other beneficial uses at risk."[69]
- "Depletions leading to a complete dewatering of the Basin's upper aquifer in the [Central Management Area] would be considered significant and unreasonable…"[70]
- "Groundwater level declines would be significant and unreasonable if they are sufficient in magnitude to lower the rate of production of pre-existing extraction wells below that needed to meet the minimum required to support the overlying beneficial use(s) and that alternative means of obtaining sufficient groundwater resources are not technically or financially feasible."[71]

5.2.1.1 Mitigation of Impacts to De Minimis Users from Declining Groundwater Levels

The GMP recognizes that domestic and de minimis users have the greatest sensitivity to adverse effects of continued, declining groundwater levels.[72] Consequently, the GMP establishes a goal of protecting de minimis wells (extractions of less than two acre-feet per year) as much as possible.[73] Because the pumping rampdown described in the Physical Solution is expected to incrementally progress until the annual pumped volume matches natural recharge, projected to be around 2040, groundwater levels are expected to continue to decline because of annual overdrafting of the basin until that time.[74]

The GMP states that impacts to these beneficial users from groundwater level declines during program implementation could be mitigated because, in most cases, connecting impacted domestic and de minimis users to the Borrego Water District's municipal water system is technically and financially feasible.[75] However, the GMP does not provide specific information describing the mitigation measures that would be offered, events that would trigger access to mitigation assistance, or provide a detailed estimate of the cost and source of funding for such mitigation. Furthermore, the GMP states there are domestic and de minimis well users that are not in close proximity to existing Borrego

[68] GMP, Section 2.2.2.1, pp. 148-150.
[69] GMP, Section 3.2.1, p. 284.
[70] GMP, Section 3.2.1, p. 284.
[71] GMP, Section 3.2.1, p. 284.
[72] GMP, Section, 3.2.1, pp. 284-285.
[73] GMP, Section 3.2.1, pp. 284-286.
[74] The basin may eliminate overdraft before 2040, but for purposes of this evaluation, staff must evaluate the projected pumping that would be allowed to occur under the implementation and rampdown schedule presented in the Judgment.
[75] GMP, Section 3.3.2.1, p. 303.

Water District service lines, but the GMP does not discuss whether or how well location would affect the ability of the District to offer mitigation services to those wells.[76]

In sum, the GMP does not provide a firm commitment or critical details of how this suggested mitigation would be implemented to avoid circumstances that the GMP defines as undesirable results. Department staff recommend the GMP clearly describe the suggested mitigation program and who and how it will be implemented to prevent impacts to de minimis users and/or other beneficial users as a result of groundwater use under control of the Watermaster and subject to the terms of the Stipulated Judgment. Among other improvements, the GMP, or the stipulated judgement, as appropriate, should clarify the monitoring or other processes to objectively determine when these locally-defined undesirable results have occurred (or are likely to occur) and specifically describe and explain what is considered technically or financially feasible and who will bear the responsibility (e.g., cost and implementation) to mitigate or avoid these undesirable results by, for instance, connecting users to the municipal water system as suggested in the GMP (see Recommended Corrective Action 2).

5.2.1.2 Groundwater Level Minimum Thresholds

The GMP establishes the minimum thresholds for groundwater levels based on a management policy of allowing groundwater levels to drop below 2015 levels, until groundwater levels are stabilized by 2040. However, the minimum thresholds would maintain groundwater levels above the saturated screen intervals for pre-existing municipal wells during a multi-year drought scenario, which would be protective of municipal (non de minimis) beneficial users and uses in the Subbasin and, in most cases, would be protective of non-potable irrigation beneficial uses. The GMP also states that the groundwater level minimum thresholds would protect against significant and unreasonable impacts to groundwater storage volumes and water quality.[77]

The minimum thresholds for key municipal wells are based on the groundwater elevation at the top of the respective well screen.[78] The GMP conducted a uncertainty analysis based on climate change scenarios using a Monte Carlo Simulation mode over the 20-year implementation period varying hydrologic conditions to evaluate impact on groundwater storage and correlative water levels for key indicator wells and resolved that values below the 20th percentile hydrology/recharge occurred 20% of the time where possible exceedances of the minimum thresholds may occur based on 53 model simulations. The GMP continues to describe that the Water master would evaluate the minimum thresholds, interim milestones, and measurable objectives at least every 5 years, which would include the preceding climatic conditions and realized pumping reductions, and consider adjusting the rate of pumping reduction, revisit minimum

[76] GMP, Section 3.2.1, p. 285.
[77] GMP, Section 3.3.1.1, pp 293-294.
[78] GMP, Section 3.3.1.1, p. 294; Table 3-4, p. 295.

thresholds, and/or evaluate additional PMAs if minimum thresholds are exceeded.[79] The GMP explains that the minimum thresholds "are based principally on the documented screen intervals of key municipal water wells and domestic/de minimis wells" in the Subbasin.[80] However, the GMP does not provide a clear rationale and justification for how the tops of well screens of key indicator wells correlate with the range of domestic well screens and the GMP's definition of an undesirable result for this sustainability indicator, which (as described above) is dewatering of aquifers or lowering the rate of groundwater production below the minimum rate required for the use(s) of the well, particularly for de minimis users. In general, domestic wells are shallower than municipal wells, so without knowing the screened interval depths of domestic/de minimis wells to compare to the minimum thresholds for the key well shown in Table 3-4 of the GMP, Department staff cannot assess and the GMP does not disclose the extent of potential adverse impacts to beneficial uses and users, primarily domestic well users, based on the basin being managed using the established minimum thresholds. For example, the GMP does not address to what extent domestic well users or other beneficial users may be impacted based upon the projected groundwater level declines described in model results from the planned ramp down schedule in the respective management areas,[81] which would reach the minimum thresholds at the key municipal wells and likely affect de minimis or other wells in the management area, adjacent management areas, and the beneficial uses and users that rely on those wells. Thus, the extent of the impacts to beneficial uses and users that would occur at the minimum thresholds, in respective management areas and the entire Subbasin, have not been clearly described and incorporated into an explanation of how it was determined that the established minimum thresholds are appropriate or sufficient to avoid significant and unreasonable impacts, which is required in SGMA.[82] (see Recommended Corrective Action 3).

The GMP states that the Subbasin has been experiencing chronic groundwater level decline and remains in overdraft, and the GMP acknowledges the Subbasin is experiencing undesirable results caused by the lowering of groundwater levels and reduction of groundwater in storage.[83] Department staff note that inherent in the management regime presented in the GMP is the fact that, until groundwater pumping matches the natural recharge of the Subbasin, the Subbasin will continue to be in overdraft, groundwater levels will continue to decline, and existing and additional undesirable results will likely be experienced in the Subbasin. The GMP expects implementation of the pumping reduction program, described in the Stipulated Judgment and in the GMP,[84] to gradually reduce groundwater production to a level that matches

[79] GMP, Section 3.3.1.1, p. 298; Table 3-5, p. 299.
[80] GMP, Section 3.3.1.1, p. 294.
[81] GMP, Table 3-4, p. 295.
[82] 23 CCR §§ 354.26(b)(3), 354.26(b)(4).
[83] GMP, Table 3-1, p. 282; Section 3.1.4, p. 281.
[84] GMP, Executive Summary, Section ES 4.0, p. 76; Section 4.4, pp. 364-370.

natural recharge by the end of the implementation period (year 2040).[85] But the GMP does not appear to fully consider and describe potential undesirable results that will occur before 2040 during implementation of the gradual rampdown that could nevertheless have lasting effects in the Subbasin, even once overdraft is eliminated in 2040. For instance, if groundwater level declines result in the inability of beneficial users to obtain groundwater using their existing wells (if not mitigated as discussed above), those beneficial users and their properties will have been permanently affected or changed even if overdraft is eliminated years later. Similarly, if lower groundwater levels in the next two decades cause degradation of water quality or subsidence that constitutes undesirable results, those undesirable results will remain in the Subbasin even after the current overdraft is eliminated.

The GMP also does not clearly articulate the process to evaluate progress towards achieving interim milestones. The GMP states that "the Watermaster will use the BVHM, including the model improvements as new data become available, to evaluate progress toward meeting interim milestones based on average conditions by management area."[86] Department staff interpret this statement to imply that the numerical model's estimates of groundwater elevations will be used, instead of actual measured water levels, to compare to the interim milestone elevations to determine progress towards achieving the sustainability goal. Department staff believe that using actual measured groundwater levels will be more accurate and reliable than using model simulations to estimate measured progress towards sustainability. Department staff recommend the GMP clearly articulate the rationale and method used to establish measurable objectives and interim milestones and clarify how measured groundwater levels will be used to support model refinements and analysis of progress toward sustainability. (see Recommended Corrective Action 3).

5.2.2 Reduction of Groundwater Storage

The GMP defines undesirable results for reduction of groundwater storage as the same as those established for chronic lowering of groundwater levels. The GMP states that "reduction in groundwater storage is significant and unreasonable if it is sufficient in magnitude to lower the rate of production of pre-existing groundwater wells below that needed to meet the minimum required to support the overlying beneficial use(s), and where means of obtaining sufficient groundwater or imported resources are not technically or financially feasible for the well owner to absorb, either independently or with assistance from the Watermaster, or other available assistance/grant program(s)."[87]

The GMP used the BVHM to identify the minimum threshold for reduction in groundwater storage as the 20th percentile of 53 model runs calculating change in storage in the

[85] GMP, Section 3.1.4, p. 281.
[86] GMP, Section 3.4.1, p. 310.
[87] GMP, Section 3.3.2.1, p. 303.

Subbasin.[88] The GMP presents a graph that shows the cumulative loss of groundwater in storage from 1945 to 2010 for seven of the model runs, including the 20th percentile model run, though the specific value for the cumulative change in storage associated with that model run is not provided.[89] The GMP reports that the cumulative overdraft from 1945 to 2016 totaled an estimated 520,000 acre-feet[90] and that the net deficit in storage of 72,000 AF over the implementation period at the prescribed pumping reduction plan, equivalent to the 55th percentile of the Monte Carlo Simulation analysis, the GMP does not provide a quantitative value representing the minimum threshold, 20th percentile modeled value for reduction of groundwater in storage that, if exceeded, would constitute an undesirable result. The GSP Regulations require a quantitative minimum threshold[91] and an annual report that quantifies the annual change in storage and cumulative change in storage[92] to eliminate ambiguity or confusion regarding whether the Subbasin is being sustainably managed. A threshold solely depicted as a line on a graph without quantification[93] introduces ambiguity when tracking progress towards this sustainability indicator (see Recommended Corrective Action 4).

5.2.3 Seawater Intrusion

The GMP explains that the Subbasin is at least 15 miles from a saline surface water body and is separated from a seawater source by mountain ranges and faults that act as a barrier to groundwater flow.[94] Consequently, the GMP asserts that seawater intrusion has not and is not likely to occur in the basin and therefore is not an applicable sustainability indicator.[95] Department staff agree that the GMP's determination is reasonable and adequately supported.

5.2.4 Degraded Water Quality

The GMP defines the undesirable result for degraded water quality (i.e., significant and unreasonable impacts) in the Subbasin to be when groundwater quality degradation "is sufficient in magnitude to affect use of pre-existing groundwater wells such that the water quality precludes the use of groundwater to support the overlying beneficial use(s), and that alternative means of obtaining sufficient groundwater resources are not technically or financially feasible."[96]

The GSP Regulations explain that, for degraded water quality, "The minimum threshold shall be based on the number of supply wells, a volume of water, or a location of an

[88] GMP, Section 3.3.2.1, pp. 303-304.
[89] GMP, Figure 3.3-3, p. 342.
[90] GMP, Section 3.3.2.1, p. 303.
[91] 23 CCR § 354.28(c)(2).
[92] 23 CCR § 356.2(b)(5).
[93] GMP, Figure 3.3-3, p. 342.
[94] GMP, Section 2.2.2.3, pp. 152-153.
[95] GMP, Section 3.3.3, p. 306.
[96] GMP, Section 3.3.4, p. 306.

isocontour that exceeds concentrations of constituents determined by the agency to be of concern for the basin."[97]

The GMP states that the minimum threshold for municipal and domestic wells will be Title 22 drinking water standards. However, for irrigation wells, the GMP is not clear, stating that the Colorado River Region Basin Plan does not set specific water quality objectives for groundwater and that groundwater quality should generally be suitable for agricultural use, which is industry and crop-specific, and can be "gaged through conformance with generally accepted threshold limits for irrigation used by State Water Resources Control Board and/or through continued engagement with growers within the Subbasin."[98]

Regarding measurable objectives, the GMP states that, "Since the aforementioned standards are minimum thresholds, the GMP's measurable objective is for groundwater quality for the identified [constituents of concern] within municipal and domestic wells to exhibit a stable or improving trend, as measured at each 5-year evaluation. For irrigation wells, the measurable objective is the same as the minimum threshold (i.e., that water quality be of suitable quality for agricultural use)."[99]

Department staff conclude that the GMP does not clearly set quantitative minimum thresholds and a measurable objective for all components of the degraded water quality sustainability indicator.[100] Although the GMP discusses Title 22 drinking water standards for potable supply wells and the management areas where these exist, the GMP does not set quantitative minimum thresholds for water quality in irrigation wells or specify what standards would apply to those wells or management areas.[101] As a result, the GMP does not clearly describe what specific, quantified water quality conditions or concentrations would result in agriculture (or production of certain crops) being at risk of no longer being viable in the Subbasin (see Recommended Corrective Actions 3 and 5). Also, the GMP does not provide a clear explanation regarding whether water quality minimum thresholds for domestic and municipal supply wells apply to specific management areas or to the entire Subbasin (see Recommended Corrective Action 1).

Finally, if different parts of the Subbasin will have different water quality measurable objectives based on whether the area is currently being used, predominantly or exclusively, for agriculture, the GMP does not indicate a consideration of, or discuss the implications of, potential impairments to the underlying aquifer(s) by setting water quality objectives or thresholds based on the current beneficial use(s) of groundwater in the respective management areas. For example, if the GMP intends that water quality objectives for current agricultural wells be set such that the groundwater quality in those areas may become degraded to the extent that the groundwater would not be suitable for

[97] 23 CCR § 354.28(c)(4).
[98] GMP, Section 3.4.4, p. 313.
[99] GMP, Section 3.4.4, p. 313.
[100] 23 CCR §§ 354.28(a), 354.28(c)(4), 354.30.
[101] GMP, Section 3.4.4, p. 313.

domestic uses or cultivating certain crops, then the GMP should fully consider that issue, including how that may impact or conflict with local land use planning or zoning, and explain the rationale for finding that this would not be an undesirable result of water quality degradation.[102] In doing so, the GMP should evaluate and discuss whether there are other types of beneficial users (e.g., domestic or municipal) in those areas whose property values, land use options, or water use would be affected, which includes disclosing and discussing the potential of degrading groundwater quality such that future use of the groundwater for potable or domestic use would be precluded in parts of the Subbasin (see Recommended Corrective Action 5).

5.2.5 Land Subsidence

The GMP concludes that "…the degree of land subsidence occurring in the Plan Area is minimal, has not substantially interfered with surface land uses in the past, and is not anticipated to substantially interfere with surface land uses in the foreseeable future…"[103] Based on this, the GMP does not propose minimum thresholds or measurable objectives for land subsidence.[104] The GMP also does not intend to monitor for land subsidence.[105]

Department staff conclude the decision to not develop sustainable management criteria or monitor land subsidence is not supported by adequate evidence. Unlike seawater intrusion, which the GMP adequately explains is not present and not likely to occur in the basin, the GMP does not provide similarly sufficient evidence with regard to land subsidence, and acknowledges that some subsidence has occurred in the past,[106] referencing studies that document as much as 0.59 inches per year between 2003 and 2007 and less than 0.1 inch per year from 2015 to 2018.[107] If subsidence over the next 20 years occurred at the rate observed between 2003 and 2007, the basin could experience an additional foot of subsidence.

Although an additional foot of subsidence may not give rise to basin conditions that are considered significant and unreasonable or substantially interfere with surface land uses, the issue has not been fully evaluated or supported in the GMP. Furthermore, the GMP explains that past subsidence was minimal, at least in part because of historical dewatering of predominantly coarse-grained aquifer materials that are less prone to

[102] GSP Regulation 354.28(b)(4) requires a discussion of how minimum thresholds may affect the interests of beneficial uses and users of groundwater *or land uses and property interests*. SGMA requires that plans consider applicable county and city general plans and take into account the most recent planning assumptions stated in local general plans of jurisdictions overlying the basin. (Wat. Code 10726.9, 10727.2(g).)
[103] GMP, Section 2.2.2.5, pp. 162-164; Section 3.2.5, p. 291.
[104] GMP, Section 3.2.5, p. 291.
[105] The GMP proposes to use groundwater levels as a proxy for actual measurements of subsidence. (GMP Section 3.5.1.5, p. 319) As an initial matter, the GMP does not provide any data or analysis that would support the use of groundwater elevation as a proxy for subsidence, but regardless of the measurement method, the GMP does not explain the purpose of this monitoring in the absence of quantitative minimum thresholds or measurable objectives regarding subsidence.
[106] GMP, Section 2.2.2.5, pp. 162-164.
[107] GMP, Section 2.2.2.5, p. 163.

inelastic compaction. However, the lithology of the aquifers in the Subbasin generally becomes finer with depth,[108] meaning that further groundwater level declines to new historic lows, which will occur during implementation of the GMP, will probably dewater increasingly finer-grained aquifer materials. This increases the probability of, and potential for, subsidence in the Subbasin at rates different from (and possibly greater than) what has been previously experienced during the period when coarser-grained materials were dewatered.

Given the past occurrence of land subsidence in the Subbasin and the expectation that dewatering of increasingly finer-grained aquifer materials is likely to occur in varying degrees for at least the next 20 years or until the pumping reduction program has been fully implemented to eliminate overdraft,[109] Department staff recommend that additional information be developed and included in the GMP to at least annually monitor for subsidence using InSAR data or other reliable methods and reconsider whether and where any subsidence could adversely impact surface land uses in the Subbasin so that managers are prepared to quickly act if further overdraft during plan implementation causes unexpected increases in subsidence rate or extent. The Department also recommends that the Watermaster set an objective, quantitative standard for subsidence monitoring (for each management area) that, if triggered, would require further assessment of whether any undesirable results related to subsidence might be occurring and whether projects or management actions are necessary to mitigate or avoid such impacts (see Recommended Corrective Action 6).

5.2.6 Depletions of Interconnected Surface Water

The GMP discusses the historical context of interconnected surface water systems[110] and groundwater dependent ecosystems in the Subbasin.[111] The GMP reports that the historical Old Borrego Spring ceased to flow prior to the early 1960s and that surface water systems in the Subbasin are disconnected from groundwater, except for short perennial stretches of streams at the edges of the Subbasin. The GMP reports that the springs and seeps that partially supply perennial flow in the streams are outside of the Subbasin and are not connected to groundwater in the Subbasin. Furthermore, the GMP states that groundwater pumping in the Subbasin does not affect the springs located outside of the Subbasin. Consequently, the GMP states that there are no undesirable results associated with depletion of interconnected surface waters and they are not expected to occur within the Subbasin and therefore does not establish sustainable management criteria for depletion of interconnected surface waters.[112] Department staff consider the discussion in the GMP to be supported and consistent with other information

[108] GMP, Section 2.2.1.3; pp. 141-142.
[109] GMP, Table 3.6, p. 302; Table 3-8, p. 312.
[110] GMP, Section 2.2.2.6, pp. 164-166.
[111] GMP, Section 2.2.2.7, pp. 166-172.
[112] GMP, Section 3.2.6, p. 291.

presented regarding the Subbasin setting and have no recommendations related to this portion of the GSP Regulations at this time.

5.3 MONITORING NETWORKS

GSP Regulations require that each basin establish a monitoring network that includes monitoring objectives, monitoring protocols, and data reporting requirements that promote the collection of data of sufficient quality, frequency, and distribution to characterize groundwater and related surface water conditions in the basin and evaluate changing conditions.[113]

Section VI.B of the Stipulated Judgment requires the Watermaster to develop a Water Quality Monitoring Plan within 24 months of entry of the Judgment.[114] In April 2023, the Watermaster adopted a Groundwater Monitoring Plan for the Borrego Springs Subbasin, which includes groundwater quality and satisfies the Judgment's requirement. Although Department staff reviewed the GMP's monitoring network information, this assessment relies primarily on the 2023 Groundwater Monitoring Plan adopted by the Watermaster and the Water Year 2023 Annual Report, which contain more recent information.

The primary objectives of the Subbasin's groundwater monitoring programs are to demonstrate progress toward meeting the sustainability goal without causing undesirable results, to inform adaptive management of the Subbasin to achieve the sustainability goal, and to improve the BVHM.[115] The Groundwater Monitoring Plan discusses monitoring protocols, quality assurance and control, and database management for groundwater level and groundwater quality monitoring.[116] The groundwater level monitoring network consists of 52 wells, with 19 of them equipped with pressure transducers. Of the 52 wells, 16 are representative wells with minimum thresholds for groundwater levels. Measurement frequency ranges from semiannual to every 15 minutes. The groundwater quality monitoring network includes 34 of these wells.[117] In addition to the constituents of concern discussed above in Section 5.1.2, the analytes include major cations and anions and total alkalinity.[118] Groundwater quality analysis occurs semiannually in the spring and fall.

[113] 23 CCR §354.32.
[114] Stipulated Judgment, Section VI.B, p. 45.
[115] Groundwater Monitoring Plan for the Borrego Springs Subbasin, Section 1.0, p. 6.
[116] Groundwater Monitoring Plan for the Borrego Springs Subbasin, Section 2.2.2, pp. 10-12; Section 3.2.2, pp. 20-23.
[117] Water Year 2023 Annual Report for the Borrego Springs Subbasin, Section 3.1.2.2, pp. 42-45; Figure 2, p. 43; Table 8, p. 44.
[118] Groundwater Monitoring Plan for the Borrego Springs Subbasin, Section 3.2.2, p. 20.

The Water Year 2023 Annual Report discussed the monitoring network data gaps associated with areas that would benefit from more monitoring and the efforts made to improve those data gaps. The efforts to improve the monitoring network include:[119]

- Adding four additional wells in the Northern Management Area, two of which were newly constructed via the Department's Technical Support Services program.
- Installing seven new transducers and a new Barologger for calculating groundwater levels with consideration for local barometric pressure.
- Engaging with the public to solicit interest in participating in the monitoring program and identifying 35 potential wells to add to the monitoring program. Of the 35 wells, 14 would improve the groundwater level monitoring network and 24 wells would improve the groundwater quality monitoring network.

Regarding groundwater in storage, the Stipulated Judgment and the Water Year 2023 Annual Report discuss the mandatory well metering program for all non-de minimis pumpers to measure, record, and report monthly groundwater pumping volumes to the Watermaster. Of the 42 Parties with pumping rights, 27 Parties (64 percent) are active pumpers that operate a cumulative total of 68 pumping wells—all of which are metered. Twelve Parties (29 percent) are not active pumpers, while three parties have an unknown status but are assumed to be active pumpers. The Watermaster estimates the pumped volumes for these wells and will continue attempting to contact these Parties.[120]

The Watermaster has conducted semiannual surface water monitoring in Coyote Creek from spring 2018 to fall 2023. The measurements were quantitative from 2018 to 2019, then determined to be impractical due to low flow or dry conditions and transitioned to visual and qualitative observations in 2020.[121]

Department staff believe the monitoring network appears to be sufficient to evaluate groundwater conditions in the basin consistent with the objectives of the GMP and the Stipulated Judgement.

5.4 Projects and Management Actions

A GSP is required to include a description of the projects and management actions the local agency has determined are necessary to achieve the sustainability goal for the basin, including projects and management actions to respond to changing conditions in the basin.[122] The GMP proposes six projects and management actions (PMAs) that are

[119] Water Year 2023 Annual Report for the Borrego Springs Subbasin, Section 3.1.2.2, pp. 42-45; 3.1.2.3, p. 46.
[120] Water Year 2023 Annual Report for the Borrego Springs Subbasin, Section 3.1, pp. 38-39.
[121] GMP, Section 3.1.3, p. 47.
[122] 23 CCR §354.44.

intended to achieve the sustainability goal and to sustainably manage the Subbasin during the planning and implementation horizon.[123] These PMAs include programs for:

- Water Trading
- Water Conservation
- Pumping Reduction
- Voluntary Fallowing of Agricultural Land
- Water Quality Optimization
- Intra-Subbasin Water Transfers

The GMP identifies groundwater as the sole source of water and explains that importing water to this remote area is infeasible.

The Stipulated Judgment acknowledges the substantial historic and ongoing overdraft present in the basin, and has developed an incremental, 20-year process to reduce groundwater extractions to the currently estimated sustainable yield of 5,700 acre-feet per year. This is consistent with the timeline established by SGMA, which provides up to 20 years of plan implementation for a basin to reach its sustainability goal. The GMP states that "the Pumping Reduction Program is the central tool to implement the Physical Solution and achieve the sustainability goal for the Subbasin."[124] The GMP proposes to implement this pumping reduction program by taking the initial Baseline Pumping Allocation (BPA – the allocation for each non-de minimis pumper) and reducing the BPA of each pumper incrementally each year to reach the estimated "sustainable yield" of 5,700 acre-feet per year. No future groundwater extractions from new wells, including from new de minimis domestic wells, are authorized without application to the Watermaster. The GMP reports that this pumping reduction program will be reviewed at least every five years and adjusted so that the sustainability goals are reached by the end of the implementation period.[125] Department staff examined annual reports submitted in 2022, 2023, and 2024, which cover water years (WY) 2021, 2022, and 2023. The annual reports indicate that the pumping reduction program is off to a very good start, decreasing by 37 percent since the start of GMP implementation (WY 2020) and by 20 percent relative to WY 2022. Almost all extractions are metered and reported to the Watermaster and actual reported groundwater extraction rates in the Subbasin are well below the anticipated scheduled BPA rampdown, with total pumping in WY 2023 being 10,430 acre-feet, which was approximately 50% less that the annual allocation of 20,694 acre-feet. Furthermore, it appears that other projects or actions to provide operating flexibility, such

[123] GMP, Section 4, pp. 294-332.
[124] GMP, Section 4.4, p. 364.
[125] GMP, Section 4.4.1, pp. 366-368.

as fallowing and allocation trading, have also occurred in addition to administrative and technical advances.

Finally, when evaluating GSPs or alternatives, Department staff assess whether the local agency or GSA has the legal authority and financial resources necessary to implement the respective plan. Here, the primary implementing entity of the Borrego Alternative will be the Watermaster, as identified in the Judgment. The Stipulated Judgment provides the Watermaster with all the powers of a GSA.[126] Also, the Judgment is binding on all parties and property in the Subbasin, and the Court has retained continuing jurisdiction to ensure implementation and enforce all requirements.[127] The annual reports describe many actions and milestones that have occurred so far, further confirming the authority and ability of the Watermaster to implement the alternative. Therefore, the legal authority and financial resources of the Watermaster to implement the management proposed under the alternative are considered adequate. At this time, Department staff conclude that management under the alternative is progressing very well and at a rate at least comparable to, if not faster than, other basins where only GSPs are in place, which may be a result of the compromises and terms in the Stipulated Judgment and regularly scheduled local implementation (Watermaster, Technical Advisory Committee, and Environmental Working Group) and Court meetings.

5.5 Impacts to Adjacent Basins

When evaluating GSPs or alternatives under SGMA, Department staff assess whether the respective plan will adversely affect the ability of an adjacent basin to implement its plan or impede achievement of its sustainability goal. The Subbasin is currently not adjacent to any basins subject to SGMA and Department staff has, therefore, not further evaluated this issue.

6 Evaluation of the Relationship Between the GMP and The Stipulated Judgment

6.1 Overview

Water Code Section 10733.6(b)(2) provides that management pursuant to an adjudication action that satisfies the objectives of SGMA may be submitted to the Department as an alternative to a GSP, and that is what Department staff have been tasked to evaluate here. Among the materials submitted in support of this alternative are the Stipulated Judgment and a GMP.[128] The Stipulated Judgment is a formal, legal document approved by the Court; it often uses legal words and phrases and reads very much like a contract.

[126] Stipulated Judgment Section IV.E.1, p. 37:7-12.
[127] Stipulated Judgment Sections VII.A, VII.B, and IX.
[128] *Draft Final Groundwater Management Plan for the Borrego Springs Groundwater Subbasin* (January 2020). The GMP is attached as Exhibit 1 in the Stipulated Judgment, pp. 54-1652.

In contrast, the GMP is a technical document that derives its authority for basin management by virtue of being incorporated into the terms of the Stipulated Judgment.

The dual submission of the Stipulated Judgment and GMP, with affiliated and overlapping provisions and commitments, required a detailed staff evaluation.[129] Department staff reviewed both documents to understand not only the technical aspects of the GMP, but whether its terms or those of the Stipulated Judgment defined the plan for basin management. As explained below, where the GMP and Stipulated Judgment apply different criterion to the same aspects of basin management, the ability of Department staff to determine whether the Borrego Alternative is consistent with SGMA is complicated or impaired. Although Department staff do not regard the issues discussed below to preclude approval of the Borrego Alternative at this time, staff believe this is an important issue that should be addressed.

6.2 Uncertainty Regarding Role of GMP in Subbasin Management

The Borrego Alternative includes an intent for the GMP to provide the technical foundation for sustainable groundwater management in the Subbasin, as stated, for example, in the following provisions:

- "Technical Approach to Basin Management. The Physical Solution, including this Judgment and the GMP attached as Exhibit "1," will serve as the technical approach for Basin management, subject to modification as appropriate for Adaptive Management by order of this Court pursuant to this Court's continuing jurisdiction under Section VII, including periodic updates of Sustainable Yield through the processes described herein." (Stipulated Judgment, p. 19:4-8.)

- "The purpose of this GMP is to refine and expedite implementation of the Physical Solution.... Specifically, this GMP is adopted as part of the Physical Solution by means of a Judgment Pursuant to Stipulation.... The intent of the Physical Solution is to meet the requirements of SGMA. To this end, this Plan includes the scientific and other background information about the Subbasin required by SGMA and its implementing regulations. The Plan is also intended to provide a roadmap for how sustainability is to be reached in the Subbasin...." (Stipulated Judgment, GMP Executive Summary pp. 72-73.)

[129] The Stipulated Judgment states that it is intended "to provide a physical solution for the perpetual management of the Basin, which long-term management will achieve Sustainable Groundwater Management for the Basin consistent with the substantive objectives of [SGMA]" and that "this [Stipulated] Judgment considered together with the [GMP] constitutes the Physical Solution... ." (Stipulated Judgment p.5:2-12.) "Physical Solution" is accordingly defined as "[t]he terms of this [Stipulated] Judgment, including the GMP attached hereto as Exhibit '1', which are intended to achieve Sustainable Groundwater Management for the Basin consistent with the substantive objectives of SGMA and Article X, Section 2 of the California Constitution, and which may be modified over time in compliance with the procedures described herein." (Stipulated Judgment pp. 11-12.)

However, although these provisions state the GMP will "serve as the technical approach for Basin management" and "is also intended to provide a roadmap for how sustainability is to be reached," the Stipulated Judgment and GMP also include other provisions, such as the following, that create uncertainty as to the actual role of the GMP in making future management decisions in the Subbasin:

- "This judgment considered together with the Groundwater Management Plan ('GMP') attached hereto as Exhibit '1' constitutes the Physical Solution; provided, however, that *the provisions of this Judgment control over and supersede any contrary provisions contained in the GMP*." (Stipulated Judgment p. 5:9-12 [italics added].)
- "The 'Physical Solution' proposed for the Basin consists of the GMP and the Stipulated Judgment, as overseen by the Court; provided, however, *that the provisions of the Stipulated Judgment control over and supersede any contrary provisions contained in the GMP*." (GMP Cover Page p. 54 [italics added].)
- "This GMP includes and is to be interpreted and implemented consistent with and subject to the provisions of the Judgment. *The provisions of the Judgment control over and supersede any contrary provisions contained in this GMP*." (GMP Executive Summary p. 72 [italics added].)

Although the court retains jurisdiction over an adjudicated basin and may be called upon to resolve disputes regarding groundwater management, language in the Stipulated Judgment creates some uncertainty about the ability of Department staff to rely on the GMP as defining the technical parameters of that management. Because SGMA defines this kind of alternative as "management under an adjudication action,"[130] Department staff believe that the explanation of that management would benefit from a clarification of the role of the GMP in the Physical Solution.

6.2.1 The Role of the GMP in the Watermaster's Process for Calculating Sustainable Yield Every Five Years is Uncertain

The core of SGMA is its mandate to achieve "sustainability." While alternative submittals need not exactly match the contents of a GSP, the requirements for locally establishing and quantitatively describing basin-specific sustainable management criteria are essential to any evaluation of proposed sustainable groundwater management under SGMA. Basin-specific criteria are needed to define and describe sustainability for a basin, which will guide local groundwater managers in their decision making and enable the Department to monitor and evaluate the basin's progress towards achieving sustainability under SGMA.

[130] Water Code Section 10733.6(b)(2).

The Stipulated Judgment incorporates SGMA's general statutory definitions for sustainable yield and undesirable results,[131] but it does not include locally established quantitative descriptions of conditions for this Subbasin that would constitute or indicate the potential for undesirable results to occur, or conditions or indicators to maintain in the Subbasin to avoid undesirable results (i.e., sustainable management criteria). In contrast, as discussed earlier in this assessment, the GMP generally follows the GSP Regulations by establishing and describing local conditions and metrics for use as sustainable management criteria for the Subbasin (except for the inapplicable seawater intrusion and depletions of interconnected surface water sustainability indicators).[132] For instance, the GMP describes adverse impacts to well performance as one of the conditions in the Subbasin that would constitute an undesirable result for chronic lowering of groundwater levels:

- "Undesirable results associated with chronic (i.e., persistent and long-term) lowering of groundwater levels are most directly indicated by loss of access to adequate water resources for support of current and/or potential future beneficial uses and users." (Stipulated Judgment, GMP p. 284 [Sec.3.2.1].)
- "Groundwater level declines would be significant and unreasonable if they are sufficient in magnitude to lower the rate of production of pre-existing groundwater extraction wells below that needed to meet the minimum required to support the overlying beneficial use(s)...." (Stipulated Judgment, GMP p. 284 [Sec. 3.2.1].)
- "Because many of the domestic groundwater users not connected to [Borrego Water District] rely on continued access to the upper aquifer or upper portions of the middle aquifer, an important objective in this GSP is that access to the upper aquifer or upper middle aquifer be maintained, as much as is practicable, in areas with *de minimis* and other domestic wells not currently served by municipal supply." (Stipulated Judgment, GMP p. 286 [Sec. 3.2.1].)

To avoid such undesirable results, the GMP establishes minimum thresholds "intended to protect against significant and unreasonable impacts to groundwater storage volumes and water quality" and the groundwater level thresholds "are based principally on the documented screen intervals of key municipal water wells and domestic/*de minimis* wells" located in the Subbasin.[133] The GMP includes a list of nine municipal wells and their corresponding minimum thresholds, as well as 12 key indicator wells for each of the Subbasin's management areas, which are intended to be protective of the beneficial uses

[131] Stipulated Judgment Section I.A Definitions, paragraphs 56 ["Sustainable Groundwater Management], 57 ["Sustainable Yield"], and 60 ["Undesirable Results"].
[132] GMP, Section 3.2, p. 283. (Application of Standards in the Borrego Subbasin – Each of the sustainability indicators for the Subbasin is discussed as follows, in the context of undesirable results.)
[133] GMP, Section 3.3.1.1, p. 294.

and users of groundwater in the Subbasin."[134] The GMP describes the management process to avoid the aforementioned undesirable results (e.g., well dewatering) as one involving the Watermaster making adjustments to the rate of pumping in the Subbasin to avoid exceedances of the minimum thresholds and to achieve interim milestones:

> "The Watermaster will evaluate the minimum thresholds, interim milestones, and measurable objectives at least every 5 years ... to determine the likelihood that the Plan will attain sustainability goals. The Watermaster will adjust the rate of pumping reduction, revisit minimum thresholds, and/or evaluate additional [Projects and Management Actions] if the minimum thresholds in Table 3-4 or Table 3-5, as updated are exceeded or if the interim milestones in Table 3-7, as updated are not being achieved."[135]

In contrast, the Stipulated Judgment does not require the Watermaster to implement the management process described in the GMP. Instead, the Stipulated Judgment requires the Watermaster to consider several factors other than the GMP and does not specifically mention the GMP. This leaves the role of the GMP's sustainable management criteria in determining the Subbasin's sustainable yield and making any related pumping adjustments uncertain. Specifically, Stipulated Judgment Section III.F, titled "Process for Determining Sustainable Yield and Implementation of Subsequent Rampdown," states that beginning January 2025 and every five years until 2040:

> "[T]he Watermaster will, following receipt of input and recommendations from the Technical Advisory Committee, revise the determination of Sustainable Yield.... The revised determination of Sustainable Yield will consider all sources of replenishment, including return flows and underflows, and all outflows from the Basin, and will consider among other data, information derived from updated runs of the [Borrego Valley Hydrologic Model]. Any disagreement with [the] Watermaster's determination may be appealed to this Court for review, subject to the provisions of Section VII. The revised estimate of Sustainable Yield will determine the Rampdown Rate...." (Stipulated Judgment pp. 20-22 [Sec. III.F par. 3, 7, 10].)

[134] Table 3-4 (pp. 295-296) in the GMP shows Borrego Water District wells that are key indicator wells with established minimum thresholds based on the top of the well screen. Table 3-5 (p. 299) shows minimum thresholds for key indicator wells in each management area. Department staff note that none of the key wells are screened in the upper aquifer.

[135] GMP, Section 3.3.1.1, p. 299. Department staff note that other sections of this assessment focus solely on the contents of the GMP and discuss technical uncertainties or deficiencies regarding the GMP's establishment and discussion of the sustainable management criteria themselves under the assumption that the GMP is intended to and will be used in Subbasin management decisions and by the Department in future evaluations to determine whether the Subbasin is on track to reach sustainability as required by SGMA.

Thus, the approaches to calculating and managing for sustainable yield in the Stipulated Judgment and the GMP, respectively, are not described similarly and appear inconsistent. For example, the Stipulated Judgment expressly requires the Watermaster to consider only 1) "all sources of replenishment," 2) "all outflows from the Basin," and 3) "information derived from updated model runs of the BVHM." In contrast, the GMP's process expressly requires evaluation of the Subbasin's conditions against the minimum thresholds, interim milestones, and measurable objectives described and established in the GMP. The Stipulated Judgment's process for calculating sustainable yield does not appear to reference or incorporate the GMP's minimum thresholds for groundwater elevations, or the previously discussed commitment in the GMP to adjust the Subbasin's management regime based on an evaluation of actual groundwater level conditions in the Subbasin. While the Stipulated Judgment suggests the Watermaster "will consider … other data," perhaps leaving open the possibility that the GMP would be among the other data considered by the Watermaster, such consideration, by no means, seems to be required. Furthermore, the term "consider" does not indicate that the Watermaster would, or must, follow the GMP's sustainable management criteria, even if they were among the other data considered.

6.2.2 The Role of the GMP in the Watermaster's Process for Adjusting Pumping in Between the Five-Year Periods is Uncertain

The Stipulated Judgment includes the following provision providing for management adjustments at any time:

> "Notwithstanding the Rampdown schedule described herein, this Court, pursuant to motion of any Party or sua sponte, may adjust the rate of Rampdown up or down for any 5-year period or subdivision thereof, upon a finding that an adjustment to the Rampdown Rate is appropriate, and taking into account the limitations on Pumping necessary to avoid an Undesirable Result." (Stipulated Judgment, Section F.12, p. 22:23-27.)

Department staff appreciate the need for flexibility to effectively address issues that may arise during implementation of any groundwater management plan, but caution that some aspects of the Stipulated Judgment could be at odds with SGMA's expectations of an alternative. First, the process described above appears potentially inconsistent with the process established in the Stipulated Judgment for the Borrego Alternative's periodic evaluation, which is required by SGMA and the GSP Regulations to occur at least every five years.[136] The rationale for having two different processes associated with establishing pumping allocations is unclear, and no technical explanation seems to be provided; both processes relate to determinations of the rampdown schedule necessary to achieve sustainability and they, therefore, should ideally be the same.

[136] Water Code § 10733.8; 23 CCR § 358.2(b).

Second, like the five-year increment process, the interim adjustment process to define pumping allocations also does not appear to depend on the sustainable management criteria established in the GMP when calculating sustainable yield or the necessary pumping rampdown to achieve sustainability and thus lacks quantitative standards required by the GSP Regulations.[137]

Third, it does not appear that the Watermaster is authorized to invoke provision F.12, as referenced above, to adjust the "Rampdown" rate at times between the five-year increments, but that this process must be initiated either by the Court or by a motion of any Party, a term that is defined in the Stipulated Judgment but does not include the Watermaster.[138] Department staff believe this situation could create the potential that interim management adjustments that may be necessary to avoid undesirable results or achieve interim milestones may not be implemented, even if the Watermaster believes such actions are necessary.

6.2.3 The Role of the GMP in Judicial Review of Watermaster Decisions Is Uncertain

Department staff note that the Stipulated Judgment does not appear to afford the GMP any weight or control if the Watermaster's management decisions are contested by a groundwater pumper or other party. Specifically, the Stipulated Judgment provides:

> "Contested Watermaster decisions or other matters of disagreement will be reviewed by this Court upon noticed motion of any Party, any Watermaster Board member or the Watermaster. The Court review shall be de novo, without evidentiary weight to the Watermaster action or decision." (Stipulated Judgment p. 46:11-14.)

Thus, even if the Stipulated Judgment required the Watermaster to follow the GMP when making decisions involving sustainable management criteria, if a party challenged a Watermaster decision where the Watermaster had expressly followed provisions of the GMP (to avoid exceedance of minimum thresholds for groundwater levels or water quality for instance), the Stipulated Judgment expressly states that the Watermaster's reliance on the GMP would receive no deference from the Court. If the GMP is intended to provide the "technical approach" or "roadmap" for Subbasin management, as is indicated in one provision of the Stipulated Judgment and as stated in the GMP, it seems that management decisions consistent with or required by the GMP should generally be upheld by the Court or at least afforded some evidentiary weight.[139]

[137] 23 CCR § 354 et seq.
[138] Stipulated Judgment, Section I.40, p. 11:13-15.
[139] Stipulated Judgment, Section III.C., p. 19; GMP, Executive Summary, p. 73.

6.2.4 The Role of the GMP in Managing to Avoid Degraded Water Quality is Similarly Uncertain

The previous sections of this staff report, as they pertain to chronic lowering of groundwater levels, have provided several examples identifying the lack of technical clarity in the Stipulated Judgment and inconsistencies when compared to the GMP's implementation structure. Without delving into as much detail, it is important to note that similar issues and concerns arise with respect to degradation of water quality, another one of SGMA's six undesirable results and sustainability indicators. Specifically, as demonstrated by the following provision, the Stipulated Judgment appears to establish an open-ended, subjective process for the Watermaster to determine whether a certain amount of water quality degradation constitutes an undesirable result:

> "The Watermaster will determine if changes in water quality are significant and unreasonable following consideration of the cause of the impact, the affected beneficial use, potential remedies, input from the Technical Advisory Committee, and subject to approval by this Court exercising independent judgment." (Stipulated Judgment p. 45:13-16.)

This provision in the Stipulated Judgment does not reference or incorporate the parts of the GMP that discuss and establish sustainable management criteria for degraded water quality, or the projects and management actions intended to prevent undesirable results in the Subbasin from occurring.[140] As such, this provision is not clear as to how the prescribed thresholds and actions of the GMP relate to the Watermaster's decisions and management under the adjudication action when addressing water quality degradation.

6.3 Conclusion

Department staff conclude that although there appears to be an intent to use the GMP as the technical "roadmap" for management of the Subbasin, there are uncertainties and inconsistencies in the express provisions of the Stipulated Judgment and the GMP that cast confusion or doubt as to whether this is actually how the Borrego Alternative (i.e., "management under an adjudication action") will be implemented in the Subbasin. While flexibility under the rubric of adaptive management is desirable in a groundwater management program, at this time Department staff cannot assume or predict with sufficient certainty how the GMP will influence management decisions under the Borrego Alternative. This issue should be addressed to ensure that Department staff will be able to quantitatively track whether implementation of the Borrego Alternative is meeting the Subbasin's sustainability goal and the objectives of SGMA (see Recommended Corrective Action 7).

[140] GMP, Section 3.2.4 (Degraded Water Quality-Undesirable Results), pp. 289-290; Section 3.3.4 (Degraded Water Quality-Minimum Thresholds), pp. 306-308; Section 3.4.4 (Degraded Water Quality-Measurable Objectives), pp. 312-313; and Section 4.6 (Projects and Management Actions for Water Quality Optimization), pp. 373-378.

7 DETERMINATION STATUS AND RECOMMENDATIONS

Department staff recommend **APPROVAL** of the Stipulated Judgment as a SGMA alternative with several recommended corrective actions that should be implemented before the deadline for the next periodic submission and evaluation of the Borrego Alternative, which is June 25, 2026.

As explained in detail above, Department staff conclude that the GMP reflects a reasonable understanding of the geology and hydrology of the Subbasin based on decades of technical studies performed by objective third parties. That understanding is combined with a forthright discussion of the historical and current difficulties and challenges in eliminating overdraft and achieving sustainable groundwater management in the Subbasin. The Stipulated Judgment and GMP, while requiring refinement for clarity and consistency, establish a quantitative value for the initial sustainable yield as a goal to manage the groundwater extractions of the Subbasin and establish an enforceable program and general process for reducing extractions to reach the currently estimated sustainable yield in approximately 20 years. The program includes, among other attributes, the following:

- Robust local involvement through a regularly updated website and regular and public meetings of the Watermaster, Technical Advisory Committee, and Environmental Working Group;
- Quantitative measurement of groundwater extractions by metering virtually all non de minimis wells;
- Tracking and enforcing (with fees or Court orders) required reductions in tiered and allotted extractions;
- Allowing the voluntary transfer of pumping allocations within the Subbasin; and
- Monitoring groundwater levels throughout the implementation period.

Department staff believe these activities are reasonably designed to help the Watermaster manage the Subbasin towards the stated sustainability goals. Furthermore, efforts in the first several years of implementation of the Stipulated Judgment are proceeding rapidly and very well, putting this Subbasin ahead of efforts in many other overdrafted basins in the state that have only GSAs and GSPs.[141] For example, groundwater extractions have decreased 37 percent since water year 2020 when the GMP was first implemented, including metered reductions in pumping from 2022 to 2023 of 20 percent. Many of these reductions have come from the agricultural sector, which,

[141] Department staff note, for instance, that few, if any, other critically-overdrafted basins subject to SGMA have achieved equivalent levels of implementing the following measures: (1) metering and reporting of over 95 percent of groundwater extractions; (2) well-defined and enforceable pumping allocations and extraction fees; and (3) actual, substantial reductions in extractions.

historically, consumptively used over 70 percent of the Subbasin's groundwater. For critically overdrafted basins like the Borrego Springs Subbasin here, Department staff consider the option to utilize demand reduction to be appropriate, reasonable, and the most straightforward way to eliminate overdraft in the Subbasin. However, as explained above, SGMA is not focused on elimination of overdraft alone. SGMA requires that quantified sustainable management criteria be determined for each of the applicable sustainability indicators so that objective metrics can be used to define and determine whether a basin is being sustainably managed. The eventual elimination of overdraft over two decades does not automatically equate to the absence or avoidance of undesirable results under SGMA.

7.1 Recommended Corrective Actions

Based on evaluation of the Borrego Alternative, and as discussed above, Department staff recommend the following corrective actions for some sections of the Stipulated Judgment and/or GMP, and related components, in order to improve implementation of the Borrego Alternative and basin management thereunder, and ensure that the requirements of SGMA, especially sustainable groundwater management, are likely to be achieved within 20 years in the Subbasin.[142]

Recommended Corrective Action 1

- Provide more figures, maps, and supporting information to clarify the rationale for creating management areas and establishing different minimum thresholds and measurable objectives based on the management areas.[143]
- Discuss how the established sustainable management criteria are appropriate for each management area, why the minimum thresholds are appropriate to avoid significant and unreasonable impacts to beneficial uses and users, including any mitigation actions, and will facilitate implementation of the Stipulated Judgment.[144]
- Clarify which sustainability indicators have minimum thresholds that apply to a specific management area and which minimum thresholds apply to the entire Subbasin.

Recommended Corrective Action 2

Describe how the mitigation measures,[145] projects and management actions, and sustainable management criteria would avoid significant and unreasonable impacts to

[142] Department staff express no opinion and leave it to the Watermaster, local agencies and parties, and other local interests to determine what changes to make to which documents (e.g., Stipulated Judgment, GMP, etc.) to best carry out all of the recommended corrective actions.
[143] 23 CCR §354.12.
[144] 23 CCR §354.20.
[145] GMP, Table 3-1, p. 282.

beneficial uses and users, specifically domestic well owners. Describe in detail how the GMP's mitigation process to address undesirable results of impacts to domestic and de minimis users as groundwater levels continue to decline will be funded and implemented, including what is considered technically or financially feasible; the process in which feasibility will be determined; specific mitigation measures that will be considered or applied; and who will bear the responsibility and costs to mitigate the undesirable result.[146]

RECOMMENDED CORRECTIVE ACTION 3

Discuss the impacts to beneficial uses and users, including de minimis users, at the established minimum thresholds, interim milestones, and measurable objectives for each sustainability indicator in each management area, as applicable. Clarify the expected impacts to beneficial uses and users if all representative monitoring points in the Subbasin are at their respective minimum thresholds and interim milestones. Clarify the monitoring that will be performed in each management area that can be used objectively to track progress towards sustainability.[147]

RECOMMENDED CORRECTIVE ACTION 4

Provide more information regarding the minimum threshold and measurable objective for groundwater in storage, including quantified values for this sustainability indicator as they relate to the BVHM projected conditions.[148]

RECOMMENDED CORRECTIVE ACTION 5

Quantify the "generally accepted threshold limits for [crop] irrigation used by State Water Resources Control Board," and discuss how those limits will be used to track progress in the Subbasin to avoid undesirable results associated with degradation of groundwater quality. Describe the groundwater conditions and the associated impacts to beneficial uses and users of the Subbasin at those limits.[149]

RECOMMENDED CORRECTIVE ACTION 6

Until pumping reductions have been fully implemented to the point where overdraft is eliminated and groundwater pumping equals the sustainable yield, monitor for land subsidence and evaluate, at least every five years, whether land subsidence is interfering with property interests and surface uses or otherwise impacting beneficial uses and users (e.g., flood depths, flows, or risks, well casings or other infrastructure, etc.). Describe the

[146] GMP, Section 3.3.2.1, p. 303.
[147] 23 CCR § 354.34(d).
[148] 23 CCR § 354.28(c)(2).
[149] GMP, Section 3.4.4, p. 313.

amount of land subsidence or impacts that would be significant and unreasonable and therefore cause or constitute undesirable results in the basin.

RECOMMENDED CORRECTIVE ACTION 7

Eliminate inconsistencies or ambiguities between the Stipulated Judgment and GMP, and resolve or clarify the intended role of the GMP in Subbasin management and make appropriate amendments to the GMP and/or Stipulated Judgment (as needed) to clearly and expressly reflect (and enforce) that intent, especially, but not limited to the following issues detailed in Section 6 of this assessment:

a. Application and use of the GMP's sustainable management criteria to calculate the sustainable yield and making management decisions to avoid undesirable results within the Subbasin.

- Reconcile or explain the inconsistencies between the process and factors considered for making the periodic five-year calculations of sustainable yield and those for adjustments to sustainable yield in between the five-year periods.

- Reconsider and clarify the role of the GMP in guiding Watermaster and Court decisions in implementing the Borrego Alternative and managing groundwater in the Subbasin.

- Include in all annual reports and periodic evaluations submitted to the Department a description of Watermaster or court decisions (e.g., sustainable yield calculations, amended or new judgments[150], other orders of consequence, etc.) that impact basin management.

7.2 CONCLUSION

Although Department staff have included several recommended corrective actions, staff do not believe this precludes approval of the Borrego Alternative, at this time, because the Subbasin is currently being managed under the adjudication action and recent information demonstrates that significant progress towards sustainability has been, and continues to be, made. In particular, the following factors militate strongly in favor of an approval, at this time, while allowing additional time to complete the corrective actions during continued implementation of the alternative:

- This is a high-priority basin designated by the Department as in a condition of critical overdraft; therefore, addressing overdraft is of paramount importance. The

[150] In issuing new or amended judgments, the Court, Watermaster, and other parties may consider availing themselves of the provisions of section 850, subdivision (c), of the Code of Civil Procedure, which authorizes the Court to refer and request a joint report from the State Water Resources Control Board and the Department on how any such judgment could affect the ability of the State Water Resources Control Board or the Department to comply with the Sustainable Groundwater Management Act and to achieve sustainable groundwater management in the Subbasin.

Borrego Alternative does that through the Stipulated Judgment, which establishes a robust and enforceable procedure to reduce overdraft (by restricting extractions) every year for the next 20 years, if needed, to achieve sustainability. That procedure has been in place for the past two years and actual pumping in the Subbasin during that time has decreased faster than required by the pumping rampdown schedule in the Stipulated Judgment. Therefore, one of the major challenges facing this critically overdrafted basin has been addressed and is off to a very good start in relation to the 20-year timeline SGMA envisions for a GSP or alternative to achieve sustainability.

- Almost all extractions (about 95 percent) in the Subbasin are currently metered and reported to the Watermaster.
- The Watermaster has a functioning and enforceable fee structure in place to raise funds necessary to implement the Subbasin's management program.
- There have been no major controversies regarding implementation of the management program since the Judgment was entered and the fact that it is a court-ordered and enforceable judgment minimizes the risk of future controversies or lawsuits that could delay implementation (e.g., disputes over fees or water rights allocations).
- The deadline for resubmission of the Borrego Alternative is June 25, 2026, at which time the Department will be able to reassess management in the Subbasin with sufficient time to trigger state intervention, if necessary, to allow for full SGMA compliance within statutory timeframes.

DECLARATION OF SERVICE BY E-MAIL

Case Name: **Borrego Water District v. All Persons, et al.**

Case Nos.: **37-2020-00005776**

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter; my business address is 300 South Spring Street, Suite 1702, Los Angeles, CA 90013.

On February 26, 2025, I served the **NON-PARTY DEPARTMENT OF WATER RESOURCES' ASSESSMENT AND RECOMMEDED CORRECTIVE ACTIONS APPROVING SGMA ALTERNATIVE** by transmitting a true copy via electronic mail, addressed as follows:

SEE ATTACHED SERVICE LIST

I declare under penalty of perjury under the laws of the State of California and the United States of America the foregoing is true and correct and that this declaration was executed on February 26, 2025, at Los Angeles, California.

Beatriz Davalos
Declarant


Signature

LA2024601182
67453863.docx

SERVICE LIST

Borrego Water District vs. All Persons Who Claim a Right to Extract Groundwater, et al.
Case No. 37-2020-00005776

PARTY/COUNSEL	EMAIL ADDRESS FOR E-SERVICE
JAMES B. GILPIN STEVE M. ANDERSON SARAH CHRISTOPHER FOLEY BEST BEST & KRIEGER LLP 655 West Broadway, 15th Floor San Diego, CA 92101 **Attorneys for Plaintiff** BORREGO WATER DISTRICT	james.gilpin@bbklaw.com steve.anderson@bbklaw.com sarah.foley@bbklaw.com sabrina.rattay@bbklaw.com
RICHARDS, WATSON & GERSHON JAMES L. MARKMAN B. TILDEN KIM JACOB C. METZ 350 South Grand Avenue, 37th Floor Los Angeles, CA 90071 **Attorneys for Petitioner** BORREGO SPRINGS WATERMASTER	jmarkman@rwglaw.com tkim@rwglaw.com jmetz@rwglaw.com
Russell McGlothlin O'MELVENY & MYERS LLP 1999 Avenue of the Stars, 7th Floor Los Angeles, CA 90067 **Attorneys for Defendants** T2 BORREGO LLC T2 FARMS LLC, and T2 HOLDING LLC	rmcglothlin@omm.com Shannon@ramshill.com (Shannon Smith, Vice President)
Matthew Soleimanpour SOLEIMAN, APC 5771 La Jolla Boulevard, Suite 4 La Jolla, CA 92037 **Attorneys for Defendants** DESERT STAR FARM, LLC; SCOTT M. CRUMRINE, individually and as trustee of THE SCOTT M. CRUMRINE FAMILY TRUST dated September 26, 2019 (erroneously sued as Scott M. Crumrine, co-trustee of the Crumrine Family Trust 04-19-06)	matt@soleimanlaw.com
CARPENTER FAMILY TRUST 12-11-07 Raymond A. Carpenter 2145 E. Belt Street San Diego, CA 92113	rayc@restaite.net

PARTY/COUNSEL	EMAIL ADDRESS FOR E-SERVICE
JOHN DOLJANIN 84346 Falco Ct. Indio, CA 92203	john@wctrees.com
Timothy D. Cohelan COHELAN KHOURY & SINGER 605 C Street, Suite 200 San Diego, CA 92101 **Attorneys for Defendant** DE ANZA DESERT COUNTRY CLUB	tcohelan@ckslaw.com
BORREGO NAZARETH LLC (Maiser Aboneaaj, Manager)	jcbambach@saindustries.com
BORREGO UNIFIED SCHOOL DISTRICT (Mark Stevens, Superintendent)	mstevens@bsusd.net
CWC CASA DEL ZORRO, LLC	jmcgrory@ljmjm.com
LANCE LUNDBERG, TRUSTEE OF THE LUNDBERG FAMILY TRUST 10-01-98 6 Fraser Road Westport, CT 06880	lancelundberg@yahoo.com
THE ROADRUNNER CLUB AT BORREGO, LP 1010 Palm Canyon Drive Borrego Springs, CA 92004	eli@BoaVidaCommunities.com rich@Boavidary.com aric@theBoaVidaGroup.com
THE SPRINGS RV AND GOLF RESORT, LP 2255 DiGiorgio Road PO Box 70 Borrego Springs, CA 92004	eli@BoaVidaCommunities.com rich@Boavidary.com aric@theBoaVidaGroup.com
BHLC, LCC 1401 Quail Street, Suite 120 Newport Beach, CA 92660	jlight@cjlight.net
MARY A. ANDERSON BRUCE A. ANDERSON ANDERSON FAMILY TRUST 4-6-98 4239 Cherokee Lane Borrego Springs, CA 92004	marya88w@gmail.com
MARY JANET JOHNSON JANET JOHNSON REVOCABLE TRUST 613 Eton Boulevard Fairbanks, AK 99709	fishandwhistle65@gmail.com
CHARLES S. SMITH	Smithnsmith2000@gmail.com

PARTY/COUNSEL	EMAIL ADDRESS
PATRICIA SMITH CHARLES A. SMITH AND PATRICIA SMITH TRUST 1-25-12 PO Box 1849 Alpine, CA 91903	
MARILEE HAWKINS CHERRY DONALD M. HAWKINS JERI CULLEN 102 Smart Court Encinitas, CA 92024	dmhawkins@gmail.com
Xavier Becerra Attorney General of California Andrew M. Vogel Supervising Deputy Attorney General Wyatt Sloan-Tribe Deputy Attorney General 300 South Spring Street, Suite 1702 Los Angeles, CA 90013 **Attorneys for Defendant** DEPARTMENT OF PARKS & RECREATION	Wyatt.Sloan-Tribe@doj.ca.gov
David G. Leibert and Cynthia A. Wood Trust PO Box 525 2220 Hoberg Road Borrego Springs, CA 92004	david@thepalmsatindianhead.com
Robert B. Gerard LAW OFFICES OF ROBERT B. GERARD 1516 Front Street San Diego, CA 92101 **Attorneys for Defendant** NATALIE J. GINSBURG	rgerard@gerardlaw.com
BORREGO SPRING UNIFIED SCHOOL DISTRICT Mark Stevens 2281 Diegueno Road Borrego Springs, CA 92004	mstevens@bsusd.net
Provident Trust Group LLC FBO Judith Nelson 401k 2150 Comstock Street #710-182 San Diego, CA 92171	kissjanx@gmail.com
Michael L. Meeks	mmeeks@buchalter.com

PARTY/COUNSEL	EMAIL ADDRESS FOR E-SERVICE
Douglas E. Wance BUCHALTER 18400 Von Karman Avenue Suite 800 Irvine, CA 92612-0514 **Attorneys for Defendant** WESTCORE BORREGO, LLC	dwance@buchalter.com
Hayden I. and Sherri R. Dubay 2788 River Road Virginia Beach, VA 23454	hdubay@injurylawcenter.com
Geoffrey Spreter SPRETER & PETIPRIN 601 Third Street Coronado, CA 92118 **Attorneys for Defendant** Patrick Spreter	geoff@spreterlaw.com
Nancy Lynn Dubonnet 2082 Michelson Drive Suite 450 Irvine, CA 92612 **Attorney for Defendant** RTA BORREGO VALLEY, LLC	nancy@dubonnet.law
Keith R. Solar PARKS & SOLAR, LLP 501 West Broadway Suite 1540 San Diego, CA 92101 **Attorneys for Defendant** BORREGO AIR RANCH MUTUAL WATER & IMPROVEMENT CO., JAMIE JO LEWIS	ksolar@parksandsolar.com
NESSA ERIC & NICOLE FAMILY TRUST 05-23-19 26675 Cuenca Drive Mission Viejo, CA 92691	Ericnessa8@aol.com
Cary D. Lowe 3517 Garrison Street San Diego, CA 92106	carylowe@cox.net
Joel Vanasdlen 1153 Tilting T Drive PO Box 2205 Borrego Springs, CA 92004-2205	vanasdlen@gmail.com
Eric M. Schieffer SCHIFFER & BUUS, APC	pstarr@schifferbuus.com

PARTY/COUNSEL	EMAIL ADDRESS FOR E-SERVICE
959 South Coast Drive, Suite 385 Costa Mesa, CA 92626 **Attorneys for Defendant** MURDIA ROGERS	eschieffer@schifferbuus.com
Glen R. Mozingo THE MOZINGO LAW GROUP, APC 4695 MacArthur Court 11th Floor, Newport Beach, CA 92660 **Attorneys for Defendant** THE MATHES FAMILY LIMITED PARTNERSHIP	grmozingoesq@gmail.com
Jacob Ayres GUPTA EVANS & ASSOCIATES, PC 1620 Fifth Avenue, Suite 650 San Diego, CA 92101 **Attorneys for Defendant** William Bauer	ja@socal.law
KENT R. SMITH TRUSTEE OF THE SMITH KENT R. REVOCABLE TRUST 01-04-90 8 Kiopa'a Street #102 Pukalani, Hawaii 96768	krs@mnhawaii.net
DAVID BAUER AND JULI BAUER TRUSTEES OF THE D&J BAUER FAMILY TRUST 11-18-04 32540 Cousar Canyon Rd. Valley Center, CA 92082	borregofarms@gmail.com
Ashley Bilyk Lee Tyler Bilyk PO. Box 3070 Valley Center, CA 92082	tylerb@hassmgmt.com

[Not For] Immediate Release

Borrego Springs Watermaster Board announces DWR's approval of its Groundwater Management Plan

March [X], 2025, Borrego Springs, California.

On February 25, 2025, the California Department of Water Resources Sustainable Groundwater Management Office (DWR) issued its approval and finding that Borrego's Stipulated Judgment and its Groundwater Management Plan for the Borrego Springs Subbasin (Basin) satisfies the objectives of the Sustainable Groundwater Management Act (SGMA).

Originally filed with DWR on January 31, 2020, the Borrego Springs Watermaster Board and its technical consultant, West Yost, have implemented the aggressive water management plan embraced by local water users and as set forth in the Stipulated Judgment to address the Basin's critically over drafted status. The local water users and owners in the Basin came together to implement the requirements of SGMA on an expedited and accelerated basis for the benefit of the Basin and the community that relies upon it.

Having reviewed Watermaster performance since 2020, DWR reported that "efforts in the first several years of implementation of the Stipulated Judgment are ***proceeding rapidly and very well***, putting ***this Subbasin ahead of efforts in many other over drafted basins in the state***…" The Stipulated Judgment provided for immediate and key steps to advance sustainable management of this groundwater dependent Basin. As DWR reviewed the landscape of critically over drafted basins, they found that Borrego Springs stood out from the others in three specific ways:

> "few, if any, other critically-over drafted basins subject to SGMA have achieved equivalent levels of implementing the following measures: (1) metering and reporting of over 95 percent of groundwater extractions; (2) well-defined and enforceable pumping allocations and extraction fees; and (3) ***actual, substantial reductions in extractions***."

Our success and progress to date is due to the dedication and commitment of the Basin stakeholders. We believe that our results place the ***Borrego Springs Subbasin as a leader in sustainability management*** for the following measures:

- ✓ Achieved 90% compliance with metering requirements before the Judgment was approved by the Court and for the most recent water year 99% of the estimated total pumping was based on meter read data.

- ✓ Decreased groundwater pumping by 34% since water year 2020.

The Borrego Springs Watermaster Board is committed to the Judgment and its Groundwater Management Program and the process of adaptive management to ensure that our Basin is managed sustainably for generations to come.

The Watermaster Board meets in public each month and offers open houses to provide an opportunity for the public to engage with our professional experts and become more informed on why we can say that the water crisis in Borrego Springs was solved on April 8, 2021 when the Stipulated Judgment

became effective. Our next meeting is Wednesday, March 19, 2025 at 4 pm and will be preceded by a Virtual Open House from 1 to 3:30 pm. Please visit our website at https://borregospringswatermaster.com/ for more information.

Your Borrego Springs Watermaster Board:

Directors:	Alternates:
Dave Duncan, Chairman, retired professional mariner, current high school teacher and Borrego Water District Representative	Kathy Dice, retired Superintendent of Anza-Borrego Desert State Park, Borrego Water District President
Tyler Bilyk, Vice Chairman, JM Roadrunner Enterprises, and Agricultural Representative	Mike Seeley, [TBD]
Shannon Smith, Director, Treasurer and Secretary, Chief Executive Officer Rams Hill and Recreational Representative	Rich Pinel [TBD]
Mark Jorgenson, Director, retired Park Superintendent for Anza Borrego State Park and Community Representative	Jim Dax [TBD]
Jim Bennett, Director, licensed California Professional Geologist and California Certified Hydrogeologist and San Diego County Representative	Leanne Crow, Senior Hydrogeologist, San Diego County

The Watermaster Board's Technical Consultants and General Counsel since inception:

Samantha Adams, Executive Director for the Borrego Springs Watermaster and Business Sector Leader, Groundwater, West Yost
Andy Malone, PG Technical Consultant for the Borrego Springs Watermaster and Principal Geologist, West Yost
Lauren Salberg, PG Associate Geologist, West Yost
James L. Markman, Esq., Richards, Watson & Gershon

Primary authoring attorneys:

Steve M. Anderson, Best, Best and Krieger
Michele A. Staples, Jackson Tidus
Russell M. McGlothlin, O'Melveny & Myers

Borrego Springs Watermaster
Board of Directors Meeting
March 19, 2025
AGENDA ITEM IV.E

To: Board of Directors

From: Andy Malone, Technical Consultant

Date: March 14, 2025

Subject: Consideration of Approval of the Agenda for Next Technical Advisory Committee Meeting

---

✓ Recommended Action **☐ Provide Direction to Staff** **☐ Information and Discussion**

☐ Fiscal Impact **☐ Cost Estimate: $0**

Recommended Actions

Approve the agenda for the next Technical Advisory Committee meeting, with any recommended changes.

Fiscal Impact: None. TAC meetings were included in the approved Water Year 2025 budget.

Background and Previously Related Actions by the Board

The TAC meets at the direction of the Watermaster Board. The Board approved a specific scope of work and budget for the TAC to perform in water year (WY) 2025, which includes periodic meetings to coordinate work and discuss results.

Recommended TAC Agenda

The next regular TAC meeting will be a two-hour meeting scheduled for mid-April 2025. The recommended agenda items (and estimated time for each item) are:

1. **WY 2026-27 Draft Scope and Budget to Redetermine the 2030 Sustainable Yield.** At the December 16, 2024 Special Board meeting, the Board approved a scope of work for water years (WY) 2026-2029 to redetermine the Sustainable Yield by January 1, 2030 (2030 Sustainable Yield). The scope of work includes the following:
    - **Groundwater Dependent Ecosystem (GDE) Study Results.** The final UCI report on the potential GDE in the Borrego Sink area will be reviewed to determine if improvements should be made to the BVHM to improve its ability to simulate the evapotranspiration of shallow groundwater. This task should be completed in WY 2026.
    - **Monitoring Program Data.** Groundwater-level and groundwater-pumping data will be analyzed to determine if improvements should be made to the BVHM to improve its ability to estimate pumping and/or simulate groundwater levels. This task should be completed in WY 2027 and/or WY 2028.

- **Redetermine the 2030 Sustainable Yield.** The BVHM will be extended from WY 2022 to WY 2028 with the following data/information: metered pumping data; land use; crop type; temperature; potential evapotranspiration; precipitation; and surface water inflows. The BVHM will be run over the historical period of WY 1930 through WY 2028 to produce an annual water budget for the Basin. The 2030 Sustainable Yield will be determined using the following formula: *2030 Sustainable Yield = Long-term Natural Inflows – Short-term Natural Outflows.* This task should be completed in WY 2029. The scope of work to complete this task will be dependent on the outcomes of the work to assess the GDE study and monitoring program data in WYs 2026 and 2027.

At the TAC meeting in April, the TAC and Technical Consultant will discuss a line-item scope of work and cost estimate for the Board to consider as part of its WY 2026 budget, which will likely include review of the GDE study only in WY 2026. This is timely work as the draft WY 2026 budget is due to be presented to the Board during its May 2025 regular meeting.

Estimated time: 60 minutes

2. **Discuss DWR Comments on the 2020 Groundwater Management Plan**. On February 25, 2025, the DWR notified the Watermaster that it has approved the Alternative GSP for the Borrego Springs Subbasin. The DWR also recommended seven corrective actions that "are geared towards broadening the focus of management under the Borrego Alternative to encompass quantified definitions of sustainability that will allow for better management and monitoring of progress towards achieving sustainability as defined by SGMA."

   At the TAC meeting in April, the TAC and Technical Consultant would discuss the corrective actions, and recommendations for addressing the corrective actions, for Board consideration. The scope of the TAC discussion will be informed by Board discussions on the DWR approval letter.

   Estimated time: 60 minutes

Borrego Springs Watermaster
Board of Directors Meeting
March 19, 2025
AGENDA ITEM IV.F

To: Board of Directors

From: Samantha Adams, Executive Director

Date: March 14, 2025

Subject: Progress Toward Completion of 5-Year GMP Assessment Report

☐ **Recommended Action**	☐ **Provide Direction to Staff**	✓ **Information and Discussion**
☐ **Fiscal Impact**	☐ **Cost Estimate: $**	

Recommended Action

Board discussion.

Fiscal Impact: The work through March 31, 2025 is grant funded. Additional work is required to complete this effort, largely related to addressing DWR Recommended Corrective Actions (RCA). The DWR comments were only just received and so the cost to address the RCAs is to be determined following Board discussions.

Background and Discussion

Title 23 § 356.4 of the California Code of Regulations requires an assessment of Groundwater Sustainability Plans (GSP)s once every five years, including plans submitted to the DWR as alternatives to GSPs. The DWR refers to this effort as a Periodic Evaluation. The California Code of Regulations lists the minimum requirements for 5-year assessments of the GSPs and the DWR has produced a Guidance Document on the Preparation of Annual Reports, Periodic Evaluations, and Plan Amendments[1].

Watermaster obtained funding to support the development of the Periodic Evaluation of its groundwater management plan (GMP). Staff have been referring to this evaluation as the 5-Year Assessment of the GMP. As documented in DWR's February 25, 2025 letter approving the Borrego Springs Judgment and GMP, the 5-year Assessment is due to the DWR on June 25, 2026.

In coordination with the TAC, Watermaster developed an annotated outline for the 5-Year Assessment Report that complies with Title 23 § 356.4 and is consistent with DWR guidance document. The report contains the following sections:

[1] https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Sustainable-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents/Files/GSP-Implementation-Guidance-Report.pdf

- Executive Summary
- Introduction to Borrego Springs Watermaster
- Administration, Engagement, and Coordination Activities
- Recommended Corrective Actions to the Judgment/GMP
- Status of Projects and Management Actions
- New Information
- Basin Setting Based on New Information
- Monitoring Networks
- Basin Conditions Relative to Sustainable Management Criteria
- Summary and Recommended Changes to the Judgment/GMP

Watermaster is about 60-75% complete with the report. The two main gaps in the report are:

- Items related to the DWR's seven RCAs
- Inclusion of data from the Spring 2025 and Fall 2025 monitoring events as part of the Basin Conditions section

It has been discussed on many occasions that it is not possible to complete the assessment without the DWR Approval of the Judgment/GMP and their recommendations for improvements. As presented in an earlier agenda item, the Watermaster only received the DWR Approval and Assessment Report on February 25, 2025. Thus, the scope of work to address the seven DWR RCAs has yet to be discussed.

To assist the Board in understanding the status of the 5-Year Assessment and the work to complete it, Table 1 (enclosed) summarizes the following for each of the report sections:

- Section reporting objectives
- Section percent complete on March 31, 2025
- Work required after March 31, 2025 to complete the 5-year Assessment

The deliverable to DWR will be presented as a "Framework to Complete the 5-Year Assessment", whereby an annotated outline will be provided with examples of charts, tables, and maps, a description of the work done on each section, and the remaining work to complete the assessment by the June 25, 2026 deadline.

Next Steps

The Executive Director will present an overview of the work completed at the Board meeting. The cost to complete the effort will be determined following discussions with the Board on how to address each RCA. The goal would be to finalize the scope and cost by May, so that any costs that need to be incurred in water year 2026 will be included in the Watermaster budget package.

Enclosures

Table 1 – Status of Assessment Report and Work to Complete After March 31, 2025

Table 1 – Status of Assessment Report and Work to Complete After March 31, 2025

Assessment Report Section Title	Section Reporting Objective	% Complete by March 31, 2025	Work to be Completed After March 31, 2025
Executive Summary	Provides an overview of the entire report, including highlighting key findings and recommendations.	0%	Since this section is a summary of the entire report and its key highlights, it cannot be completed until all other sections have been finalized.
Introduction to Borrego Springs Watermaster	Provides introductory information on the Watermaster, Judgment, and GMP.	95%	No anticipated changes are expected to be needed to the section, other than addressing edits recommended during report comment period.
Administration, Engagement, and Coordination Activities	Provides background information about Watermaster's authorities and activities pursuant to the Judgment, how Watermaster makes decisions and engages with interested stakeholders, and any coordination activities with local agencies (such as the County of San Diego). Describes key activities during the reporting period, including any policies or procedures that were adopted related to administration, engagement, or coordination activities.	95%	No anticipated changes are expected to be needed to the section, other than addressing edits recommended during report comment period.
Recommended Corrective Actions to the Judgment/GMP	Describes each of the seven RCAs listed in the DWR's Staff Assessment Letter and documents how the Watermaster has or plans to address each RCA.	0%	The RCAs were not provided by DWR until February 25, 2025 and have yet to be discussed with the Board. Thus, no work on this section could be performed. This section will be developed following discussions with the Board on how to address each of the RCAs. A portion of the work will likely be done in coordination with the TAC.

Table 1 – Status of Assessment Report and Work to Complete After March 31, 2025

Assessment Report Section Title	Section Reporting Objective	% Complete by March 31, 2025	Work to be Completed After March 31, 2025
Status of Projects and Management Actions	Describes each PMA and progress to date on implementing each, including a discussion of how implementation has benefited the Basin and contributed to achieving sustainability. To the extent that any PMA will be modified to address an RCA, the changes would be discussed and the status would be presented relative to the revised PMA.	70 – 90%	All of the PMAs in the GMP, and how they map to the Judgment, have been summarized, and the implementation status and outcomes to date have been described. Some of the DWR RCAs relate to the PMAs and it may be necessary to clarify and/or modify one or more PMAs. Changes to PMAs have not been discussed yet by the Board. PMAs are a policy decision and thus must be vetted through a Board process, following receipt of technical recommendations from Watermaster staff and/or the TAC or EWG. This section will be updated after changes have been approved by the Board, if any. If no changes to the PMAs are made, then no anticipated changes are needed to the section, other than addressing edits recommended during the report comment period.
New Information	Describes all significant new information available to the Watermaster during the reporting period, how the new information is used by Watermaster, and how it informed any recommended changes to the management program.	90%	This section is nearly complete. The only potential updates would be to include more detail on new information that becomes available before publishing the report. If no additional new information is made available, no anticipated changes are expected to be needed to the section, other than addressing edits recommended during the report comment period.

Table 1 – Status of Assessment Report and Work to Complete After March 31, 2025

Assessment Report Section Title	Section Reporting Objective	% Complete by March 31, 2025	Work to be Completed After March 31, 2025
Basin Setting Based on New Information	Provides an evaluation of the basin setting based on new information developed/received during the reporting period and how any changes to the basin setting may impact the management program. For example, this section describes the updates to the BVHM, the history of pumping and storage changes in the Basin, the revised 2025 Sustainable Yield, and updated model projections under the Rampdown to the 2025 Sustainable Yield.	90%	No anticipated changes are expected to be needed to the section, other than addressing edits recommended during report comment period. The lower percent complete relative to sections with a similar status is due to an assumption that this section will generate more review comments than other sections.
Monitoring Networks	Describes the monitoring networks, improvements that have been made to the monitoring network over the reporting period, identifies data gaps, and provides recommendations for improvements to the monitoring network.	90%	This section is nearly complete. The only major item to address is to finalize the list of Representative Monitoring Wells in coordination with the TAC. Other potential updates would be to include any changes to the monitoring network that arise out of the spring or fall 2025 monitoring events.

Table 1 – Status of Assessment Report and Work to Complete After March 31, 2025

Assessment Report Section Title	Section Reporting Objective	% Complete by March 31, 2025	Work to be Completed After March 31, 2025
Basin Conditions Relative to Sustainable Management Criteria	For relevant sustainability indicators, this section characterizes current basin conditions relative to groundwater levels, groundwater storage, and groundwater quality and compares the conditions to the associated Sustainable Management Criteria, including minimum thresholds, interim milestones, and measurable objectives. Also assesses land subsidence over the reporting period to reaffirm that it is not a relevant sustainability indicator.	60-85%	Watermaster staff have analyzed all available data through Fall 2024 and generated charts, tables, and maps depicting the data and trends. The charts tables and maps will be updated to include the results of monitoring events through Fall 2025 once the data is available. The templates are set up to compare the groundwater level, storage, and quality information to the relevant SMCs, which may change from what is in the current GMP. The DWR RCAs recommend improvements to the SMCs, particularly adding quantifiable metrics for several of the sustainability indicators. This has also been a recommendation of Watermaster staff. All technical information to support the update of the SMCs will be complete by March 31, 2025. The establishment of SMCs requires TAC and stakeholder input. The TAC and Stakeholder input will be obtained through the TAC and Open House process, following discussions with the Board on how to address the DWR RCAs. The DWR RCAs also recommend development of SMCs or other similar criteria for land subsidence. More work may be needed to complete the land subsidence portion of this section depending on direction to address this RCA. This work will need to be in coordination with the TAC.
Summary and Recommended Changes to the Judgment/GMP	Provide a summary of key findings and description of any recommended changes to the Judgment or GMP, if any	0%	Since this section is a summary of the entire report and contains recommendations on changes to the Judgment or GMP (if any), it cannot be completed until the remaining report sections are complete and changes have been discussed with and approved by the Board.

To: Board of Directors

From: Andy Malone, Technical Consultant

Date: March 14, 2025

Subject: Technical Consultant Report – March 2025

Overview

The purpose of the monthly Technical Consultant Report is to share information with the Board on the status of technical efforts being performed with guidance and input from the Technical Advisory Committee (TAC) and Environmental Working Group (EWG). Additional details and topics that may arise after publishing this report will be presented during the Board meeting.

At the March 19, 2025 Board meeting, I intend to report out on the following topics:

- TAC Meeting Report (for meetings held on February 25 and March 18, 2025)
- Inactive/Abandoned Wells Conversion Project

TAC Meeting Reports

TAC meeting held on February 25, 2025. This TAC meeting covered three main topics:

1. **Pumping Projections for Simulation with the BVHM**. The Watermaster recently updated and recalibrated the Borrego Valley Hydrologic Model (BVHM), and then used the recalibrated BVHM to redetermine the Sustainable Yield of the Borrego Springs Subbasin (Basin) at 7,952 acre-feet per year (afy). As a next step, the BVHM is being used to predict future groundwater conditions in the Basin under future groundwater pumping plans to assess the long-term groundwater sustainability under the Rampdown to the 2025 Sustainable Yield by 2040 and through the planning and implementation horizon (i.e., through 2070). At the TAC meeting, the Technical Consultant explained the pumping projections and the methods used to prepare the pumping projections. The results of the BVHM projections through 2070 will be used to assess the sustainability of the Rampdown to the 2025 Sustainable Yield by comparing expected changes in groundwater levels and storage to the Sustainable Management Criteria in the Groundwater Management Plan (GMP). The model results will also inform recommendations to revise the SMC in the 5-year GMP Assessment Report.
2. **Discussion of the 5-Year GMP Assessment Report: Updating Sustainable Management Criteria**. The Watermaster is required to submit an assessment report on the GMP (GMP Assessment Report) once every five years. The first GMP Assessment Report is due to the DWR by June 25, 2026. At the TAC meeting, the Technical Consultant described the current Sustainable Management Criteria (SMC) in the GMP (e.g., Minimum Thresholds for chronic lowering of groundwater levels), described the needs to improve SMC (e.g., new information) so they are quantifiable, and described proposed methods for revising SMC. TAC members submitted written comments on the proposed methods following the TAC meeting.
3. **Status Update: Monitoring Network Gaps and the Inactive/Abandoned Well Conversion Program**. On April 6, 2023, the Watermaster adopted an updated Groundwater Monitoring Plan for the Basin that defined (1) a new, expanded groundwater monitoring network of wells and (2) the actions and schedule to fill gaps in the monitoring network. At the TAC meeting, the Technical Consultant described the expansion of the groundwater monitoring network:

- The *groundwater-level* monitoring network was expanded from 48 to 63 wells. There are seven areas that remain where additional monitoring is recommended.
- The *groundwater-quality* monitoring network was expanded from 29 to 45 wells. There are nine areas that remain where additional monitoring is recommended.
- For the remaining gaps in the monitoring network, Watermaster staff will continue to explore options to fill these areas, such as continued public outreach or identifying grant funding to support construction of new monitoring wells.

The expansion of the monitoring networks was accomplished through public outreach, tremendous help from the major pumpers in the Basin, and the conversion of several abandoned wells into monitoring wells. In addition, several abandoned wells that were already being used by the Watermaster for monitoring were secured at the well head to improve safety and facilitate long-term monitoring.

The next semi-annual monitoring event is scheduled for March 17-21, 2025, where all wells in the current groundwater monitoring program will be visited to collect groundwater-level measurements and/or groundwater-quality samples. Additionally, transducers purchased with SGM funding will be installed in select wells.

Ad-Hoc TAC meeting held on March 18, 2025. This TAC meeting will be held the day before the March 19, 2025 Board meeting, and will cover two main topics related to the evaluation of the 2025 Sustainable Yield:

1. **Draft Results of BVHM Projections (2023-2070) under the Rampdown to the 2025 Sustainable Yield**. The BVHM is being used to predict future groundwater conditions in the Basin under future groundwater pumping plans to assess the long-term groundwater sustainability under the Rampdown to the 2025 Sustainable Yield (i.e. response of groundwater-levels and change in groundwater storage). At the TAC meeting, the Technical Consultant will review the preliminary model results with the TAC, discuss the technical work in progress before the SGM grant funding expires, and receive TAC feedback.
2. **Review TAC Feedback on the Proposed Methods to Revise SMC**. The TAC provided feedback on the proposed methods for revising SMC that was discussed at the February 25, 2025 TAC meeting. At the March 18 TAC meeting, the Technical Consultant will review the TAC feedback and discuss next steps.

To: Board of Directors
From: Samantha Adams, Executive Director
Date: March 14, 2025
Subject: Executive Director Report – March 2025

Overview

The purpose of the monthly Executive Director (ED) Report is to share information with the Board on the status of key administrative items, including identifying recommended items for future discussion and action. At our March 19, 2025 Board meeting, I intend to report out on the following items. Some information for each item is provided herein, where available. Additional details and topics that arise after publishing this report may be presented during the meeting. The March 2025 ED Report topics include:

- SGM Grant Status
- WY 2025 Pumping Assessments
- Annual Meter Verification Status
- BPA and Party Updates

Status Updates

SGM Grant Status

- Status of outstanding Reimbursement Requests:
    - Reimbursement Request #6 was paid by DWR in February.
    - Reimbursement Request #7 is under review. The financial model assumes payment in June 2025.
    - Reimbursement Request #8 was submitted to DWR on February 14, 2025 and is pending DWR review.
- A draft Grant Completion Report was prepared and submitted to DWR pursuant to the grant agreement on December 31, 2024. DWR is reviewing the draft report and was expected to provide feedback in February 2025. No feedback has been received as of this writing.
- An amendment to transfer funds between projects and tasks was submitted to DWR on January 16, 2025. DWR submitted questions on the amendment request and their questions have been addressed. No formal approval has been received as of this writing.

WY 2025 Pumping Assessments

- As of the date of this memo, more than 99 percent of the 1st installment of the WY 2025 Pumping Assessments have been paid. The payments were due by December 31, 2024. The outstanding balance owed by the three parties who have not yet issued payment is $105.99. Reminders were sent to each party that payment is past due.

Annual Meter Verification Status

- Annual meter testing is nearly complete. To date 90% of the 56 wells requiring testing have performed and passed the testing requirements to confirm meter accuracy. Testing is outstanding at 6 wells, all of which are scheduled to be completed the week of March 17th.

BPA and Party Updates

- There is one Party that remains out of compliance with the Judgment and is not in contact with the Watermaster.
    - The Party has not metered its wells (that we know of) and has not paid any assessments owed.
    - The outstanding balance of assessments owed is $358.13.
    - Alternate Director Dax, who represents the Community, has familiarity with the Party and may be able to assist with communications with the Party.
    - There have been a couple of Board members requesting for the Watermaster to take action to resolve this non-compliance.
    - I would like to request to have this added to a future Board agenda for discussion.

Borrego Springs Watermaster
Board of Directors Meeting
March 19, 2025
AGENDA ITEM VI

To: Board of Directors

From: Samantha Adams, Executive Director

Date: March 14, 2025

Subject: Establishing Agenda for April 16, 2025 Regular Board Meeting

---

Process

To set the April agenda, the Board will:

1. Review the initial April agenda topics planned by Staff, as listed below
2. Review the May and June tentative topics planned by Staff and previously requested items by Board members, as listed below
3. List out additional items that have arisen during the March 2025 Board meeting (such as during public comment)
4. Call on Directors to request additional items for consideration of inclusion on the April 2025 or other future agenda
5. Consider motion(s) to approve the agenda (the agenda can be approved in a single motion or multiple motions to cover each item). The Agenda/items are approved by majority vote (3 of 5 directors)

Staff's Initial Agenda for April Regular Meeting

The April 16, 2025 Regular meeting (held virtually) will include all standard items of: public correspondence, consent calendar (meeting minutes, financial reports, staff invoices, etc.), verbal Staff and Chair reports, establishing the agenda for the subsequent meeting, Board member comments, listing of future meeting dates, and adjournment.

In addition to the standard items, the initial agenda planned by Staff for April 2025 includes the following business items for consideration and possible action:

1. Final BPA Party out of Compliance
2. Final Overview of Work Completed with SGM Implementation Grant Funding
3. 2nd Quarter WY 2025 Budget Status Review
4. WY 2026 Budget Scoping
5. Assessment Report and Addressing DWR Comments on the Judgment/GMP (new standing item)

Staff's Tentative Topics for May and June

May Agenda Topics

1. Draft WY 2026 Budget
2. WY 2025 Mid-Year Pumping Report
3. Assessment Report and Addressing DWR Comments on the Judgment/GMP

June Agenda Topics

1. Draft Final WY 2026 Budget
2. Spring 2025 Semi-Annual Monitoring Report
3. Assessment Report and Addressing DWR Comments on the Judgment/GMP