CHAPTER 5
PLAN IMPLEMENTATION

5.1 GROUNDWATER MANAGEMENT PLAN IMPLEMENTATION AND ESTIMATED COSTS

The Physical Solution (Plan) will be implemented by the Watermaster under the Judgment. The following sections include cost estimates previously developed by the GSA for Plan implementation including annual reporting, periodic updates, monitoring protocols, and projects and management actions (PMAs). The Watermaster's costs for Physical Solution implementation are likely less than those GSP implementation costs estimated by the GSA due to anticipated efficiencies entailed by the negotiated terms of the Physical Solution that have been agreed to by participating pumpers.

As a potential worst case cost assessment, the following sections include potential Physical Solution implementations costs, as developed for the GSA/GSP process. Potential funding sources and mechanisms are presented along with a tentative schedule for implementing the Plan's primary components. In addition, annual reporting and 5-year update procedures for the Borrego Springs Groundwater Subbasin (Subbasin, Plan Area) are described.

Standards for Plan Implementation

Under the GSP Regulations (23 California Code of Regulations (CCR) Section 350, et seq.), a GSP is to include the following:

- An estimate of the cost of implementing the Plan and a general description of how the Agency plans to meet those costs (23 CCR Section 354.6(e)).
- Schedule for Implementation (23 CCR Sections 352.4(c)(2) and 355.4(b)(2)).

Annual Reporting

The Watermaster shall submit an annual report to the Court and Department of Water Resources (DWR) by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:

1. General information, including an executive summary and a location map depicting the basin covered by the report.
2. A detailed description and graphical representation of the following conditions of the basin managed in the Plan:
    a. Groundwater elevation data from monitoring wells identified in the monitoring network shall be analyzed and displayed as follows:

i. Groundwater elevation contour maps for each principal aquifer in the basin illustrating, at a minimum, the seasonal high and seasonal low groundwater conditions.

ii. Hydrographs of groundwater elevations and water year type using historical data to the greatest extent available, including from January 1, 2015, to current reporting year.

b. Groundwater extraction for the preceding water year. Data shall be collected using the best available measurement methods and shall be presented in a table that summarizes groundwater extractions by water use sector, and identifies the method of measurement (direct or estimate) and accuracy of measurements, and a map that illustrates the general location and volume of groundwater extractions.

c. Surface water supply used or available for use, for groundwater recharge or in-lieu use shall be reported based on quantitative data that describes the annual volume and sources for the preceding water year.

d. Total water use shall be collected using the best available measurement methods and shall be reported in a table that summarizes total water use by water use sector, water source type, and identifies the method of measurement (direct or estimate) and accuracy of measurements.

e. Change in groundwater in storage shall include the following:

i. Change in groundwater in storage maps for each principal aquifer in the basin.

ii. A graph depicting water year type, groundwater use, the annual change in groundwater in storage, and the cumulative change in groundwater in storage for the basin based on historical data to the greatest extent available, including from January 1, 2015, to the current reporting year.

3. A description of progress towards implementing the Plan, including achieving interim milestones, and implementation of projects or management actions since the previous annual report (CCR Section 356.2).

5-Year Evaluation

The Watermaster shall evaluate its Plan at least every 5 years and whenever the Plan implementation is amended, and provide a written assessment to DWR as part of its Annual Report. The assessment shall describe whether the Plan implementation, including implementation of PMAs, are meeting the sustainability goal in the Subbasin, and shall include the following:

1. A description of current groundwater conditions for each applicable sustainability indicator relative to measurable objectives, interim milestones and minimum thresholds.

2. A description of the implementation of any projects or management actions, and the effect on groundwater conditions resulting from those projects or management actions.
3. Elements of the Plan, including the basin setting, management areas, or the identification of undesirable results and the setting of minimum thresholds and measurable objectives, shall be reconsidered and revisions proposed, if necessary.
4. An evaluation of the basin setting in light of significant new information or changes in water use, and an explanation of any significant changes. If the Agency's evaluation shows that the basin is experiencing overdraft conditions, the Agency shall include an assessment of measures to mitigate that overdraft.
5. A description of the monitoring network within the basin, including whether data gaps exist, or any areas within the basin are represented by data that does not satisfy the requirements of the GSP Regulations (23 CCR Sections 352.4 and 354.34(c)). The description shall include the following:
    a. An assessment of monitoring network function with an analysis of data collected to date, identification of data gaps, and the actions necessary to improve the monitoring network, consistent with the requirements of Section 354.38.
    b. If the Agency identifies data gaps, the Plan shall describe a program for the acquisition of additional data sources, including an estimate of the timing of that acquisition, and for incorporation of newly obtained information into the Plan.
    c. The Plan shall prioritize the installation of new data collection facilities and analysis of new data based on the needs of the basin.
6. A description of significant new information that has been made available since Plan adoption or amendment of the Plan's implementation, or the last 5-year assessment. The description shall also include whether new information warrants changes to any aspect of the Plan's implementation, including the evaluation of the basin setting, measurable objectives, minimum thresholds, or the criteria defining undesirable results.
7. A description of relevant actions taken by the Watermaster, including a summary of Rules and Regulations related to the Plan.
8. Information describing any enforcement or legal actions taken by the Agency in furtherance of the sustainability goal for the basin.
9. A description of completed or proposed Plan amendments.
10. Where appropriate, a summary of coordination that occurred between multiple Agencies in a single basin, Agencies in hydrologically connected basins, and land use agencies.
11. Other information the Agency deems appropriate, along with any information required by DWR to conduct a periodic review as required by California Water Code (CWC) Section 10733 (CCR Section 356.4).

5.1.1 Groundwater Sustainability Agency Annual Budget

The GSA previously performed substantial work toward estimating the cost of contemplated GSP implementation. Summaries of the tasks and costs previously estimated by the GSA to undertake the draft GSP are provided in the following subsections. The cost estimates below do not reflect the cost of Watermaster implementation of the Physical Solution. The Initial Watermaster Budget is attached to the Judgment and subsequent year projected costs will be developed as part of the Watermaster Annual Budget process.

5.1.1.1 Operations and Monitoring Costs

Annual operations include semi-annual monitoring of groundwater levels, water quality, and streamflow monitoring, and annual review of land subsidence data, if necessary, in accordance with the monitoring plan (described in Chapter 3, Section 3.5). Other tasks include data management system maintenance, update of the groundwater model, and monitoring equipment maintenance. The required annual report will be produced in accordance with Section 356.2 of the GSP Regulations. The total annual cost of these tasks is estimated to be $303,261 per year starting in fiscal year (FY) 2020; however, some tasks such as the Borrego Valley Hydrologic Model update or land subsidence review may not occur annually throughout GMP implementation but have been included annually to provide a conservative estimate. A task list and related estimated annual costs are provided in Table 5-1.

Table 5-1
Operations and Monitoring Costs

Expense Item		Estimated Annual Costs (FY 2020)
Task 1:	Semi-Annual Groundwater Level Monitoring	$29,616 *
Task 2:	Semi-Annual Water Quality Monitoring	$69,131
Task 3:	Semi-Annual Stream Monitoring	$11,302
Task 4:	Pump Metering	$10,927 *
Task 5:	Land Subsidence Review	$9,168
Task 6:	Operation and Maintenance	$20,739
Task 7:	Data Management System	$19,508
Task 8:	Annual Groundwater Model Update	$79,375 *
Task 9:	Annual Comprehensive DWR Reporting	$16,444
Task 10:	Project Management and Coordination	$37,051
	Total	**$303,261**

Notes: FY = fiscal year; DWR = Department of Water Resources. * Task Costs above do not necessarily reflect Watermaster costs for implementing the Physical Solution

A summary of the scope of each task previously described by the GSA for implementation of the draft GSP is as follows. The following tasks do not necessarily describe Watermaster implementation costs for the Physical Solution:

12. **Semi-Annual Groundwater Level Monitoring** Monitoring of groundwater levels conducted semi-annually throughout the well network within the Subbasin. This may consist of multiple days of field monitoring annually in which trained professionals will manually measure depth to groundwater, or, collect data from transducer data loggers. Management of data, as well as annual preparation of groundwater level monitoring summary memorandum.
13. **Semi-Annual Water Quality Monitoring** Collection, testing, and analysis of groundwater samples from designated monitoring wells on a semi-annual basis. A trained professional will visit designated wells, perform field testing of select water quality parameters, collect samples, and send samples to laboratory for water quality testing. Test results will be tabulated and reported per the GSP guidelines. Management of data, as well as annual preparation of water quality monitoring summary.
14. **Semi-Annual Stream Monitoring** Inspection and monitoring of streams within basin on a semi-annual basis. Tasks may include measuring flow rates, visual inspection of streams, noting changes in geomorphology, and preparation of stream monitoring summary.
15. **Pump Metering** Quality assurance and quality control of supplied metering data of groundwater extraction, annual meter reads (non-self-reporting wells), meter calibration and validation, and new meter installations in accordance with the Metering Plan (Appendix E). Preparation of annual groundwater extraction summary.
16. **Land Subsidence Monitoring** Evaluation of existing monument survey to examine and estimate any changes in land subsidence. Management of data and preparation of periodic land subsidence summary, if necessary.
17. **Operation and Maintenance** Maintenance and minor repairs to various monitoring instruments including: transducers, dataloggers, well heads, etc. This task may also include inspections of fallowed lands.
18. **Data Management System** Maintenance and hosting of data management system. Updates and quality assurance of organization and viability of stored data.
19. **Annual Groundwater Model Update** Annual updates to groundwater model as a result of new and higher resolution data within the Subbasin. Preparation of periodic groundwater model summary, as necessary.
20. **Annual Comprehensive Department of Water Resources (DWR) Reporting** Preparation of draft DWR annual reports as outlined in the draft GSP. Review and edits of draft annual reports. Preparation and submittal of final DWR annual reports as outlined in the draft GSP.
21. **Project Management and Coordination** Correspondence between GSA and consultants, including GSA and Borrego Town Hall or GSP implementation update

meetings. Project management and as-needed correspondence to complete annual draft GSP requirements.

5.1.1.2 Management, Administration, and Other Costs

The GSA previously anticipated that it would incur additional costs for internal management and administration by Borrego Water District (BWD) and County staff. The following discussion does not reflect Watermaster administration and other costs. Initial Watermaster costs are included in the Initial Watermaster Budget attached to the Judgment and subsequent year projected costs will be developed as part of the Watermaster Annual Budget process. The level of effort in fulltime equivalent (FTE) employees and corresponding fully burdened rates is still being estimated, but at this state the GSA estimates it will require two FTEs at a fully burdened rate of $120,000 per FTE. The GSA may also incur costs related to repair and replacement of capital assets such as well meters, vehicles, equipment, and supplies, as well as potential legacy costs of well abandonment. It is assumed that the GSA will lease office and other space from BWD for operations and administration. Rent is roughly estimated at $500 per month or $6,000 per year. Legal fees are estimated at $30,000 per year based on legal fees currently paid to develop the draft GSP. Other expenses include audit services, insurance, office supplies, etc. and are roughly estimated based on comparable agency costs. Cost estimates for these items require additional evaluation; however, these other expenses are expected to be a fraction of personnel and legal expenses. Additional variable costs include engineering services, permits and fees, and land management/stewardship expenses that are expected to be incurred once PMAs are fully developed. Once PMAs are developed the GSA will update annual management, administration and other costs. Table 5-2 provides a comprehensive list of line item expense types that the GSA was expected to incur.

Table 5-2
Management, Administration, and Other Costs

	Expense Item	Estimated Annual Costs (FY 2020)
1	Administrative Personnel (two FTE)	$240,000
2	Rent/Leases (BWD space)	$6,000
3	Utilities	$500
4	Consulting Services	$10,000
5	Audit and Professional Services	$5,000
6	Legal	$30,000
7	Insurance	$3,750
8	Public Outreach	$6,000
9	Repairs and Maintenance	$1,500
10	Supplies and Equipment	$750
11	Office Supplies	$500
12	Miscellaneous Expenses	$1,500

Table 5-2
Management, Administration, and Other Costs

Expense Item	Estimated Annual Costs (FY 2020)
Total	**$305,500**

Notes: FY = fiscal year; FTE = fulltime equivalent; BWD = Borrego Water District. * Costs above do not reflect Watermaster costs for implementing the Physical Solution

5.1.2 Reserves and Contingencies

In addition to covering the operations budget, the Watermaster budget includes a reserves policy which is expressly authorized by the Sustainable Groundwater Management Act (SGMA) (CWC Sections 10730(a) and 10730.2(a)(1)). Reasonable and achievable reserves are a prudent financial tool to aid in cash flow timing and unforeseen expenditures. Generally, a reserve for operations targets a specific percentage of annual operating costs or days of cash on hand. The reserve target is influenced by several factors including the frequency of billing and the recurrence of expenses. Comparable agencies use a reserve percentage of 50% of operating budget if billing semi-annually, less if more frequent. The bases and values for reserves are presented in the Initial Watermaster Budget attached to the Judgment. Subsequent years' reserves will be included in the Watermaster's Annual Budget process.

5.1.3 Periodic (5-Year) Groundwater Sustainability Plan Update Costs

Every fifth year of Physical Solution implementation and whenever the Physical Solution implementation is amended, the Watermaster will prepare and submit a Watermaster Evaluation and Assessment Report to the Court and DWR together with the annual report for that year. The assessment and report will be prepared as described in California Code of Regulations (CCR) Section 356.10. Table 5-3 provides a list of tasks and estimated cost that the GSA expected to incur to complete 5-year updates as part of the draft GSP.

Table 5-3
Groundwater Sustainability Plan 5-Year Update Costs

Expense Item		Estimated 5-Year Additional Costs
Task 1	Updated Water Budget, Groundwater Model and Sustainable Yield	$31,430
Task 2	Assessment of Pumping Allocations	$14,450
Task 3	5-Year Plan Evaluation and Assessment Report	$19,120
Total		**$65,000**

. * Costs above do not necessarily reflect Watermaster costs for implementing the Physical Solution

5.1.4 Projects and Management Actions Development Costs

Details of the proposed PMAs are presented in Chapter 4, Projects and Management Actions. Task descriptions and estimated costs associated with the GSA's development of each PMA for the draft GSP are summarized in Table 5-4. Proposed PMAs are presented at the planning level and additional costs will be incurred with full implementation.

Table 5-4
Projects and Management Actions Development Costs

PMA Number	PMA	Estimated Cost	Level of Project Development
1	Water Trading Program	$122,065	Planning and trading system development*
2	Water Conservation Program (Demand Management)	$130,390	Planning, field surveys and cost development*
3	Pumping Reduction Program	$82,430	Planning and outreach*
4	Voluntary Fallowing of Agricultural Land	$103,175	Planning and outreach*
5	Water Quality Optimization	$124,060	Planning and preliminary engineering*
6	Intra-Basin Transfers	$89,545	Planning and preliminary engineering*

Notes: PMA = Projects and Management Action. . * Costs above do not necessarily reflect Watermaster costs for implementing the Physical Solution 5.1.5 Total Costs

Annual implementation costs may vary from year to year as a result of the status of PMAs, significance of new data, and increased milestone reporting requirements every fifth year of implementation. For planning purposes, the estimated annual budget for GSA operations and monitoring have been adjusted for annual inflation assumed at 2.8% per year to determine the total GSP implementation cost. The GSA's previously estimated draft GSP implementation cost for the anticipated 20-year implementation period for operations and monitoring, management, administration and other costs, 5-year annual reviews and 10% contingency is approximately $19,200,000 as summarized in Table 5-5.

Table 5-5
Groundwater Sustainability Plan Estimated Implementation Cost Through 2040

Fiscal Year	Operations and Monitoring Costs	Management, Administration and Other Costs	5-Year Annual Reviews	10% Contingency	Total
2020	$303,261	$305,500	$0	$60,876	$669,637
2021	$311,752	$314,054	$0	$62,581	$688,387
2022	$320,481	$322,848	$0	$64,333	$707,662
2023	$329,455	$331,887	$0	$66,134	$727,476
2024	$338,680	$341,180	$0	$67,986	$747,846
2025	$348,163	$350,733	$72,592	$77,149	$848,636
2026	$357,911	$360,554	$0	$71,846	$790,311
2027	$367,933	$370,649	$0	$73,858	$812,440
2028	$378,235	$381,027	$0	$75,926	$835,188
2029	$388,825	$391,696	$0	$78,052	$858,574

Table 5-5
Groundwater Sustainability Plan Estimated Implementation Cost Through 2040

Fiscal Year	Operations and Monitoring Costs	Management, Administration and Other Costs	5-Year Annual Reviews	10% Contingency	Total
2030	$399,712	$402,664	$83,340	$88,572	$974,287
2031	$410,904	$413,938	$0	$82,484	$907,327
2032	$422,410	$425,528	$0	$84,794	$932,732
2033	$434,237	$437,443	$0	$87,168	$958,849
2034	$446,396	$449,692	$0	$89,609	$985,696
2035	$458,895	$462,283	$95,679	$101,686	$1,118,543
2036	$471,744	$475,227	$0	$94,697	$1,041,668
2037	$484,953	$488,533	$0	$97,349	$1,070,835
2038	$498,532	$502,212	$0	$100,074	$1,100,818
2039	$512,490	$516,274	$0	$102,876	$1,131,641
2040	$526,840	$530,730	$109,846	$116,742	$1,284,157
	$8,511,809	**$8,574,653**	**$361,456**	**$1,744,792**	**$19,192,710**

Notes: Assumes inflation factor of 2.8% per year.* Costs above do not necessarily reflect Watermaster costs for implementing the Physical Solution

Estimated total draft final GSP implementation costs previously estimated by the GSA assumes the following general components:

- Data collection, management, and evaluation
- Annual reporting
- 5-year review assessment and reporting
- Data gap analysis and additional evaluation
- PMAs development and implementation of components as funding allows
- Management, administration, and other costs
- 10% contingency assumed over 20-year plan implementation period

In addition to the $19,200,000 required for 20-year draft final GSP implementation costs, an additional $652,000 was estimated to be required for PMAs development costs as previously provided in Table 5-4. In addition, $500,000 was budgeted for preparation of the Environmental Impact Report (EIR) for GSP implementation. Budget for the EIR has been secured though funding provided by Proposition 1 Severely Disadvantaged Community grant. Thus, the current total estimated draft final GSP implementation cost was approximately $20,352,000, including a contingency of $1,745,000. It is emphasized that this estimate does not include the implementation of all PMAs nor final costs incurred by BWD for internal management and administration. BWD intends to request reimbursement from the GSA for some of its GSA creation and GSP development related expenses and these costs are not included in the estimates.

Additional budget will be required to implement PMAs once they have been developed. Implementation of PMAs such as the water conservation program will be highly dependent upon securing funding such as through state or federal grants. Administrative costs to implement the primary water reduction programs that include the Water Trading Program, Pumping Reduction Program and Voluntary Fallowing of Agricultural Land was expected to be covered by the costs estimated in Table 5-5.

5.1.6 Funding Sources

In general, the GSA planned to fund draft final GSP implementation using a combination of groundwater extraction charges, including monthly fixed charges and variable pumping fees, assessments/parcel taxes, and grants. Because of Constitutional limitations imposed through California Propositions 13, 218, and 26, there are strict rules about what constitutes a fee versus a tax. Taxes and assessments require voter approval. Water rates passed under Proposition 218 are subject to mandatory noticing and a potential majority protest. Regulatory fees identified as an exemption from taxes under Proposition 26 can be passed by the vote of the governing body of the agency imposing the fee. An example is a $/AF pumping charge levied by a groundwater management agency. Assessments for special benefit are also governed by Proposition 218 and can be assessed to pay for a public improvement or service if it provides a special benefit to the properties. A benefit nexus is required to determine the amount of special benefit to each property. Grants from DWR have funded the majority of the GSP costs to date and it is expected that grants available from general obligation bonds such as Proposition 68 will be available to fund GSP implementation and development of PMAs. Potential funding sources specific to PMAs are presented in Chapter 4.

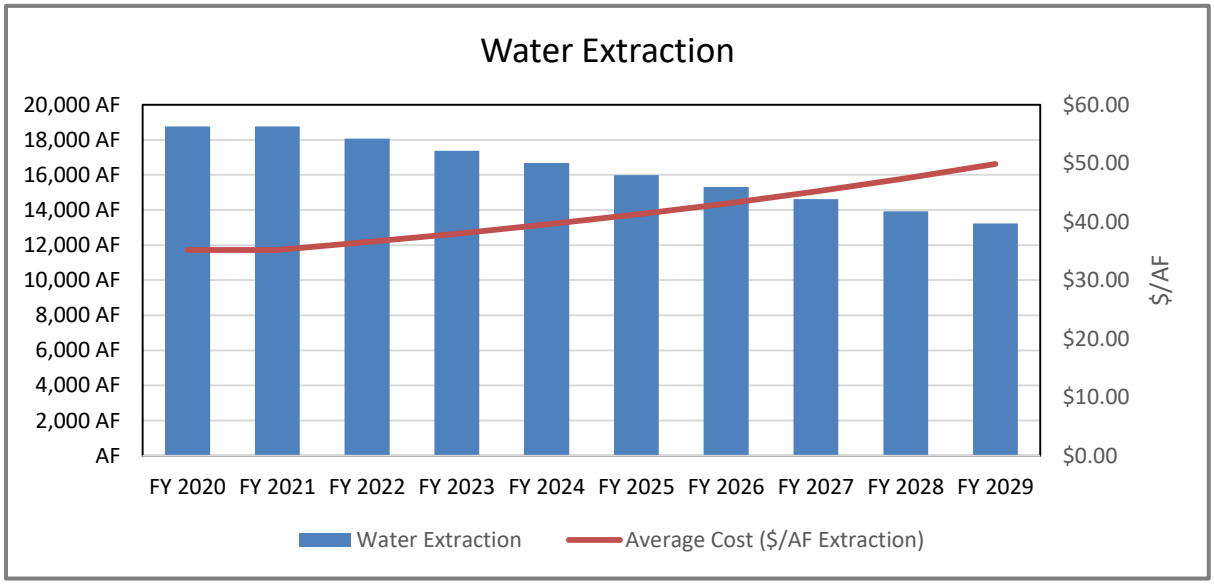
The GSA performed a preliminary financing plan options evaluation to determine a funding structure to fund the proposed GSA activities and expected financial commitments throughout GSP implementation. Development of the funding mechanism(s) is critical to facilitate successful implementation of the GSP consistent with the requirements of SGMA. A key success factor is preparing a cost allocation that is equitable to GSA members and stakeholders. Subsequent to the evaluation of financing plan options, a preliminary financing model was developed to determine revenue required to fund the operating plan, reserve balances and to evaluate required adjustments to the fee structure over time as pumping ramps down to the estimated sustainable yield.

The working draft Financing Plan identified the following proposed cost allocation structure:

- Monthly fixed charge based on well meter size (i.e., specific meter fee based on meter pipe diameter; 0–2 inches, 2–4 inches, 4–6 inches, 6–8 inches, and more than 8 inches; all non-*de minimis* extraction wells to be registered with the GSA)
- Variable pumping fee based on volume of groundwater extracted (all non *de minimis* wells to be metered)

It was expected that a portion of the pumping cost would be apportioned though the monthly meter fee and a portion applied at least semi-annually based on metered production. The intent of the meter fee was to provide regular cash flow to the GSA in order for it to meet its financial obligations. Monthly regular cash flow would also minimize the reserve target that would need to be greater if based solely on variable pumping revenues. Over the first 10 years of plan implementation, it was expected that up to $50/AF will be required to cover operations and monitoring costs, management, administration and other costs such as reserves (Exhibit 1). This cost did not include additional potential fees required to implement specific PMAs nor internal management and administration. Additional PMA planning, stakeholder outreach and detailed cost development is required to determine additional costs associated with PMAs implementation. Cost per acre-foot to cover GSA expenses was expected to continue to increase through 2040 as required revenue is spread over less groundwater extraction as a result of pumping ramp down. Exhibit 1 shows the estimated groundwater extracted and average cost per acre-foot.

Exhibit 1. Estimated Groundwater Extracted and Average Cost (dollar per acre-foot)



Notes: AF = acre-feet; FY = fiscal year. * Costs above do not necessarily reflect Watermaster costs for implementing the Physical Solution FY 2020 groundwater extraction is estimated based on recent agriculture, municipal, recreation, and other non-*de minimis* pumping. Pumping is assumed to ram down annually over time to the estimated sustainable yield. The cost per acre-foot pumped increases as revenue is spread over less groundwater extraction.

5.2 IMPLEMENTATION SCHEDULE

The Physical Solution will be operated on an interim basis in connection with Court and DWR filing of the Judgment (including this GMP) no later than January 31, 2020. Figure 5.2-1 through 5.2-4 provides the GSA's preliminary schedule for implementation of the primary draft GSP components. The GMP schedule will be advanced by interim operation of the Physical Solution under Court supervision and continuing thereafter as the process proceeds. Each annual and

periodic report will include a reevaluation and update of the schedule components based on progress toward the sustainability goal or other factors.

Routine annual and 5-year reporting of Physical Solution progress will be performed in accordance with SGMA requirements. Annual Reports will be prepared and submitted to the Court and DWR by April 1 of each year. Periodic Reports (5-Yearly or following substantial GSP amendments) will be submitted to the DWR by April 1 at least every 5 years (i.e., 2025, 2030, 2035, and 2040). The contents of Annual and Periodic Reports are described in the following Sections 5.3 and 5.4.

The six PMAs the GSA proposed and their implementation schedules are presented in Figure 5.2-3. The GSA anticipated that activities that might cause physical change to the environment requires California Environmental Quality Act (CEQA) review. There are CEQA exemptions that could apply for some of these activities. Regardless, the GSA would still have needed to go through the process of CEQA review to determine which exemptions would apply, and then file for the exemption. PMA No. 1 – Water Trading Program, PMA No. 3 – Pumping Reduction Program, and PMA No. 4 – Voluntary Fallowing of Agricultural Land, all were considered as activities to undergo CEQA. The GSA thought it was likely an Environmental Impact Report (EIR) will be required to be prepared and adopted. It was anticipated an EIR would take approximately two years to develop. PMA No. 5 – Water Quality Optimization and PMA No. 6 – Intra-Subbasin Water Transfer, have no definitive timeframe for implementation. The GSA would evaluate projects on a case-by-case basis to determine CEQA requirements. The Physical Solution is being undertaken by private pumpers and the Court-appointed Watermaster under the Judgment, and is not subject to CEQA.

5.3 ANNUAL REPORTING

The annual report will, at a minimum, include the components described as required pursuant to CCR Section 356.2. In addition to being available from DWR, the Watermaster will make annual reports available to the Court, the public and stakeholders through the methods described in Chapter 2 (Section 2.1.5, Notice and Communication), primarily through the Watermaster's website, but also through email announcements, newsletters/columns, and/or water bill inserts.

5.3.1 General Information

An executive summary will be prepared to summarize the findings of the Annual Report and include a location map similar to Figure 1-1. This section will include a description of significant progress and pertinent findings of the reporting period and key recommendations for going forward.

5.3.2 Description and Graphical Representations of Groundwater Information

Groundwater Elevation Data

Detailed descriptions and graphical representations will be included to demonstrate the following conditions of the Subbasin in accordance with the monitoring plan and monitoring network described in Section 3.5, and attached as Appendix E. Groundwater elevation data for each management area will be depicted and summarized using groundwater contour maps similar to those included as Figures 2.2-13A. The contour maps will include delineation of the primary aquifers (Figure 2.2-10) and groundwater contours for seasonal high and low conditions. Hydrographs depicting current and historical data for each management area will be included (Figure 2.2-13E). The written section will include a description and interpretation of the data shown in the figures and a discussion of observed data gaps and recommendations for modifications to the monitoring network, if warranted.

Groundwater Extraction

Groundwater extraction information for the preceding water year will be presented. Data sources will include BWD pumping records and metered extraction data from private agricultural, golf courses and other non-*de minimis* wells (i.e., pumpers extracting greater than 2 acre-feet per year). All non-*de minimis* groundwater users will be required to register their wells with the Watermaster upon initial GMP implementation in accordance with the Metering Plan (Appendix E). Data will be presented in a table that summarizes groundwater extractions by water use sector and management area, and identifies the measurement method (direct or estimated) and accuracy of measurements. A map of general location and volume of groundwater extractions will be provided. Groundwater extraction will be documented in conformance with the Metering Plan (Appendix E).

Surface Water Supply

Currently, there are only natural sources of groundwater recharge to the basin. The annual report will note developments or studies in regard to surface water supplies. The contribution from natural sources of recharge are presented in Section 2.2.3, Water Budget, and will be quantified as part of the water budget.

Sources of imported water and recycled water from wastewater treatment plant upgrades have been evaluated and determined to be infeasible at this time as explained in Section 2.2.3.8, Surface Water Available for Groundwater Recharge or In-Lieu Use.

Total Water Use

The total water use for the Basin will be reported in tabular format including water use by sector (agriculture, recreation, and municipal) and geographically by management area. Sources of data will include BWD production and delivery records and metered well use for the private sector. Where direct measurement is not possible, indirect methods will be used to estimate water use.

Changes in Groundwater Storage

Estimated changes in storage will be evaluated for each management area and each principal aquifer and this information will be depicted on maps. This section will include a graph of climate, groundwater use, and annual and cumulative change in storage for the period of available record through the reporting period.

5.3.3 Plan Implementation Progress

A description of progress toward implementing the Physical Solution will be included, including achieving interim milestones and implementation of PMAs since the previous report. Current progress will be compared to the planned schedule using the chart shown in Figures 5.2-1 through 5.2-4.

5.4 PERIODIC EVALUATION AND REPORTING

The Watermaster will evaluate its Plan implementation at least every 5 years and whenever the Plan implementation is amended and provide a written assessment to the DWR. The evaluation will include the elements of the annual reports and an assessment of the progress toward the sustainability goal as defined in Section 3.1.3, Sustainability Goal consistent with the Judgment. At a minimum, the Periodic Evaluations will include the elements required Pursuant to CCR Section 356.4. In addition to being available from DWR, the Watermaster will make periodic evaluations available to the public and stakeholders through the methods described in Chapter 2 (Section 2.1.5, Notice and Communication), primarily through the Watermaster's website, but also through the County's SGMA website, email announcements, newsletters/columns, and/or water bill inserts. In addition, the assessment will include the following components:

5.4.1 Current Groundwater Conditions

A description of current groundwater conditions will be included for each applicable sustainability indicator relative to measurable objectives, interim milestones, and minimum thresholds defined in Section 3.2, Undesirable Results. For example, hydrographs showing groundwater elevations for key wells in relation to the measurable objective and minimum threshold will be prepared.

5.4.2 Implementation of Projects or Management Actions

A description will be provided to summarize the implementation and status of PMAs, and the effect on groundwater conditions or other socioeconomic effects resulting from those PMAs. The success of PMAs will be evaluated in terms of whether implementation is achieving Subbasin sustainability goals. If not, PMAs would require re-evaluation or potentially accelerated implementation. Major deviations to the PMAs implementation schedule would be coordinated with the Subbasin stakeholders through an outreach process.

5.4.3 Plan Elements

Elements of this Plan, including the basin setting, management areas, or the identification of undesirable results and the setting of minimum thresholds and measurable objectives, will be reconsidered and revisions proposed, if necessary. Such considerations will include the extent to which this Plan is progressing toward achievement of the sustainability goal and meeting interim milestones.

5.4.4 Basin Evaluation

Each Periodic Evaluation will include an assessment of unanticipated changes that have occurred, or new information impacting water use, and how they may impact the plan implementation and achievement of the sustainability goal. Such changes may include unanticipated climate extremes. Changes will be evaluated in regard to impacts on overdraft conditions and adjustments made to mitigate overdraft and conditions contributing to undesirable effects.

Water Balance Review

The data collected to date will be reviewed to determine a revision in the estimated sustainable yield value by a future projection scenario analysis using the BVHM, as updated, on a schedule consistent with the Judgment.

The report will describe the impact of revised sustainable yield value on the following:

- Pumping allowances
- Measurable objectives/interim milestones
- Other pertinent components of the Physical Solution

5.4.5 Monitoring Network

The Watermaster's periodic evaluation will include a description of the monitoring network within the Basin, including whether data gaps exist, or whether areas within the Basin are

represented by data that do not satisfy the Data and Reporting Standards. The descriptions shall include the following:

- An assessment of monitoring network function with an analysis of data collected to date, identification of data gaps, and the actions necessary to improve the monitoring network, consistent with the requirements of CWC Section 354.38.
    - The periodic evaluation will provide an update of data gaps. The evaluation shall include options for obtaining additional data sources, an estimate of timing to obtain new data sources, and for potential incorporation of newly obtained information into the GMP.
    - The evaluation will prioritize the installation of new data collection facilities and analysis of new data based on the needs of the Basin.
- An assessment of whether areas within the Basin are represented by data that does not satisfy the requirements of CCR Section 352.4 and Section 354.34(c), Data and Reporting Standards.

5.4.6 Pumping Allowance

The primary mechanism for achieving sustainability in the Basin is establishing Baseline Pumping Allocations and pumping ramp down (Basin-wide percentage reduction in cumulative pumping (from total BPA) effective in any particular Water Year, which when subtracted from 100 percent will determine the effective Pumping Percentage applicable to the BPAs that year). A summary will be provided to describe the status of pumping allocations and allowance in the Basin, including adjustments based on potential changes in the estimated sustainable yield of the Basin.

5.4.7 New Information

A description will be provided for significant new information that has been made available since Physical Solution adoption or implementation amendment, or the last 5-year assessment. The description will also include whether new information warrants changes to any aspect of the Physical Solution implementation, including the evaluation of the Basin setting, measurable objectives, minimum thresholds, or the specific criteria defining undesirable results.

5.4.8 Relevant Actions

A description will be provided for relevant actions taken by the Watermaster since the prior Periodic Report (or GMP adoption for the initial Periodic Report). Relevant actions may include rules and regulations related to the Physical Solution, development of additional PMAs, or other actions pertinent to the implementation of the Physical Solution.

5.4.9 Enforcement or Legal Actions

Information will be provided to describe enforcement or legal actions taken by Watermaster in furtherance of the sustainability goal for the Basin. Information will include a description of enforcement or legal actions, penalties, resolutions, or any other relevant information.

5.4.10 Plan Amendments

Descriptions will be provided for completed or proposed Physical Solution implementation amendments.

5.4.11 Summary of Coordination

Where appropriate, a summary will be provided to describe coordination activities that occurred during the reporting period with local agencies.

At the time of Physical Solution adoption, no other GSAs exist within the BVGB or adjoining basins. Therefore, if new GSAs are subsequently formed in these relevant areas a summary will be provided in the Periodic Report.

Coordination with the County of San Diego is anticipated throughout implementation of the Physical Solution, including any CEQA review and approval that may be required by the County or BWD as lead agency, and modification of land use designations, local ordinances, etc. This section will provide detailed summaries of relevant coordination with the County of San Diego as the land use agency.

5.4.12 Other Information

The Periodic Report should include other information the Watermaster deems appropriate and relevant, along with any information required by the DWR to conduct a periodic review as required by CWC Section 10733.

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Plan Submittal to DWR			●																				
Plan Adoption			●																				
CEQA Review		▬	▬	▬	▬																		
1.0 Operations and Monitoring Cost		▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	
2.0 Project and Management Actions			▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	
3.0 Periodic GSP Updates			▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	

FIGURE 5.2-1

Schedule for Implementation - Overview

Groundwater Management Plan for the Borrego Springs Groundwater Subbasi
n

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
1.0 Operations and Monitoring Cost																						
1.1 Semi-Annual Groundwater Level Monitoring	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1.2 Semi-Annual Groundwater Quality Monitoring	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1.3 Semi-Annual Stream Monitoring	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1.4 Pump Metering	12 1	12 1	12 1	12 1	12 1	12 1	12 1	12 1	12 1	12 1	12 1	12 1	12 1	12 1	12 1	12 1	12 1	12 1	12 1	12 1	12 1	12 1
1.5 Land Subsidence Review	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1.6 Operations and Maintenance																						
1.7 Data Management System	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1.8 Groundwater Model Update	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1.9 Annual Comprehensive DWR Reporting	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1.10 Project and Management Coordination																						

2 Occurs twice a year in spring and fall

12 1 Monthly recording with annual reporting

1 Occurs once a year anytime of the year

Ongoing

FIGURE 5.2-2

Schedule for Implementation - Operations and Monitoring Cost

Groundwater Management Plan for the Borrego Springs Groundwater Subbasin

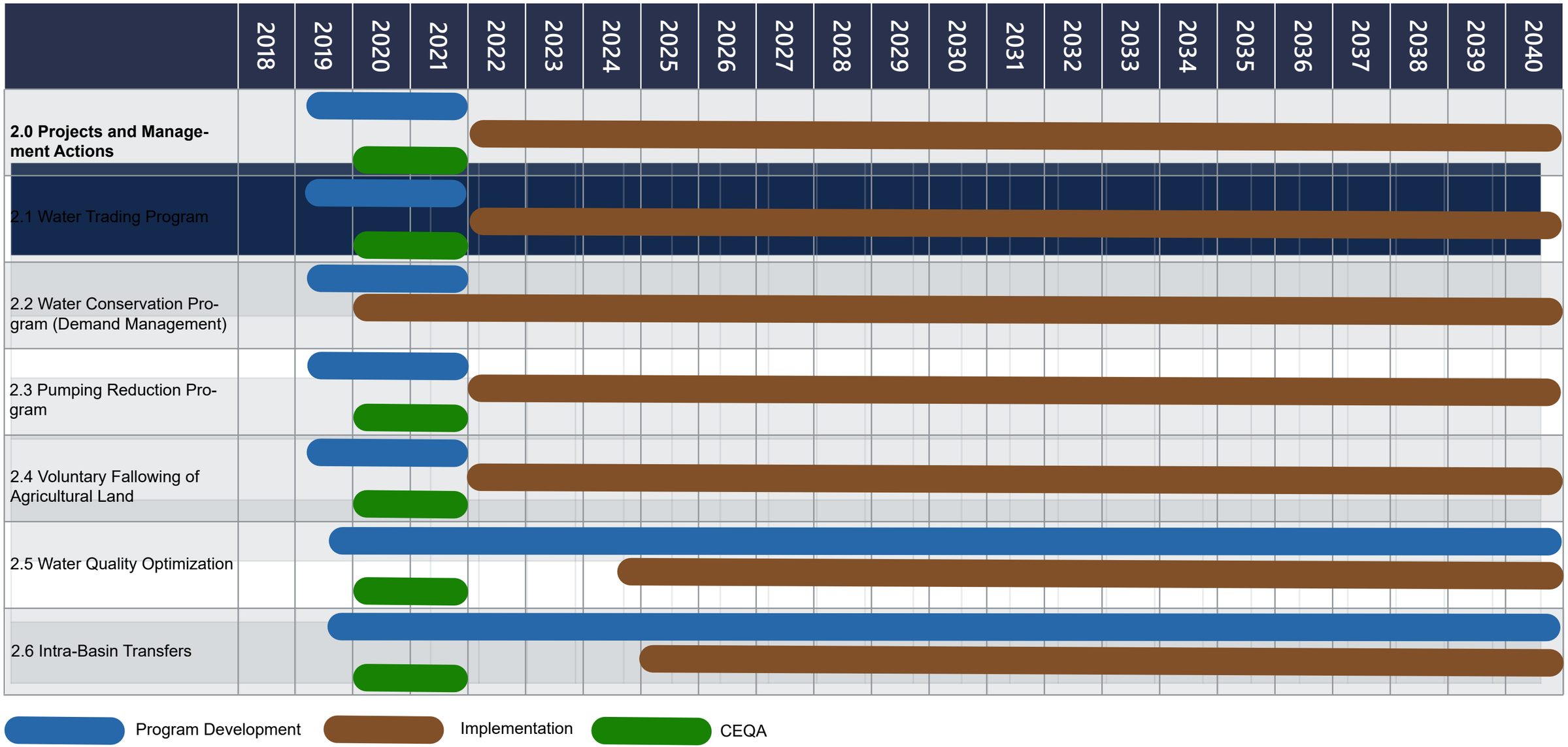


FIGURE 5.2-3

Schedule for Implementation - Project and Management Actions

Groundwater Management Plan for the Borrego Springs Groundwater Subbasin

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
3.0 Periodic GSP Updates																							
Year-5 Update							☆																
Year-10 Update												☆											
Year-15 Update																	☆						
Year-20 Update																						☆	

* All updates will include the following: Update Budget, Groundwater Model, and Sustainable Yield; Assessment of Pumping Allocations; Five-year Plan Evaluation and Assessment

☆ Deliverable Milestone for Submittal of 5-year Updates

FIGURE 5.2-4

Schedule for Implementation - Periodic GSP Updates

Groundwater Management Plan for the Borrego Springs Groundwater Subbasin