

6 PLAN IMPLEMENTATION

The implementation of the GSP and associated costs are summarized in this chapter of the GSP. As discussed in previous chapters of this GSP, implementation will include monitoring activities and further analysis of groundwater conditions during the implementation period from 2020 through 2040. The schedule for implementation is illustrated in **Table 6-1**. These activities and their associated costs for reporting are described below.

Table 6-1: Schedule for Implementations - Overview

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Submittal to DWR	●																				
Plan Adoption	●																				
CEQA Review	■	■	■																		
Operations & Monitoring	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Management & Administration	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Plan Updates						●					●					●					●
Annual Reporting	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Periodic Evaluation and Reporting	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

6.1 Estimate of GSP Implementation Costs (354.6)

Costs associated with implementing the FWD GSA and GSP will occur over the 20-year implementation period. These costs include operations, monitoring, reporting, management, and administration, with additional costs resulting from plan updates and periodic reporting. These costs are estimated on an annual basis and presented herein.

6.1.1 Operations and Monitoring Costs

Monitoring tasks, as described in Chapter 4, will incur costs through semi-annual and annual data collection activities and review of groundwater levels, water quality, and surface water elevations and annual monitoring of subsidence and groundwater storage data, as necessary, for the entire monitoring network. Other related tasks, that will also result in annual costs, include data analysis and management, metering of groundwater extractions, and annual reporting to DWR. These tasks are described in detail below with the estimated annual cost for each task presented in **Table 6-2**.

Operations and monitoring tasks can be described as follows:

- 1. Groundwater Level Monitoring:** Depth to groundwater data will be collected, managed, and reviewed on a semi-annual or more frequent basis. Existing monitoring programs will be utilized for this task. This task includes analysis of data and presenting the information in the annual report to DWR.
- 2. Groundwater Quality Monitoring:** Water samples will be collected on an annual basis from the designated monitoring wells and sent to a certified analytical laboratory. Existing monitoring programs will be utilized for this task as much as possible. Costs are primarily the analysis of data and presentation of information in annual reports.
- 3. Pump Metering:** Groundwater pumping data will be obtained from meters per the Monitoring Plan, and data will be reviewed, managed, and presented in the annual report. This task also includes meter calibration, validation, maintenance, and replacements, as needed.
- 4. Subsidence Monitoring:** Subsidence data collected from existing monitoring programs will be analyzed and presented in the annual reports.
- 5. Data Management System (DMS):** Professionals trained in the maintenance and organization of the DMS will process data, update the DMS, and check for accuracy, as needed.
- 6. Annual DWR Reporting:** Annual reports will be prepared and submitted to DWR by April 1st of each year.
- 7. Project Management and Coordination:** GSA and GSP management and correspondence between FWD and adjacent GSAs, and stakeholder outreach will occur as necessary.

Table 6-2: Operations and Monitoring Costs

Task No.	Description	Estimated Annual Cost
1	Groundwater Level Monitoring	\$880
2	Water Quality Monitoring	\$1,860
3	Pump Metering	\$3,520
4	Subsidence Monitoring	\$1,760
5	Data Management System	\$7,040
6	Annual Comprehensive DWR Reporting	\$14,080
7	Project Management and Coordination	\$7,040
	Total	\$36,180

6.1.2 Management, Administration, and Other Costs

The implementation of this GSP will result in additional administration and management costs. This includes the hours of 0.05 full time employees, with a full time equivalent (FTE) of approximately \$16,000 and repair and replacement of capital assets such as well meters, vehicles, and monitoring equipment costs.

Other additional expenses include potential legal fees, audit services, insurance, permits and fees, and public outreach. These costs will all vary depending on the implementation schedule, needs that arise during implementation, monitoring, and system management, thus additional evaluation will be needed throughout the implementation period. The estimated costs, on an annual basis, are shown in **Table 6-3** below.

Table 6-3: Management, Administration, and Other Costs

Task No.	Description	Estimated Annual Cost
1	Administrative Personnel (0.05 FTE)	\$16,000
2	Repairs and Maintenance	\$2,000
3	Supplies and Equipment	\$500
4	Engineering & Consulting Services	\$6,400
5	Audit and Professional Services	\$2,000
6	Insurance	\$2,000
7	Legal Expenses	\$10,000
8	Public Outreach	\$2,000
9	Miscellaneous	\$2,000
Total		\$42,900

6.1.3 Plan Update Costs

Every five years, and any instances when the GSP is amended during the implementation period, an update to the GSP will be prepared in coordination with the other GSAs in the Subbasin and submitted to DWR with the Annual Report for that year. The update will include additional costs for that year such as professional services needed for reviewing and updating the Water Budget, Sustainable Yield, overdraft, and the preparation the Plan Evaluation and Assessment Report to be submitted to DWR. The estimated values of these costs are summarized in **Table 6-4**.

Table 6-4: Plan Update Costs

Task No.	Description	Estimated Additional Cost for 5-Year Plan Update
1	GSP Update	\$300,000
2	Public Outreach and Coordination	\$25,000
Total		\$325,000

6.1.4 Projects and Management Actions Development and Implementation Costs

FWD has not formally developed any PMAs. The projected water budget indicates that sustainable conditions will exist over the GSP implantation period. If undesirable conditions are projected in GSP updates, PMAs, along with associated costs, will be developed. Ongoing coordination with adjacent GSAs are already included in the Public Outreach and Coordination costs presented in **Table 6-4**.

6.1.5 Total Costs

Annual implementation costs of this GSP are expected to vary based on implementation status, updates to data management and modeling systems, management needs, reporting requirements, professional services, and other various sources that could affect the cost. Since the GSP will be implemented over a 20-year period, an annual inflation value of 3% and 10% contingency was assumed for planning and budgeting purposes. The total estimated cost of implementing the FWD GSP is approximately \$4.3 million dollars as summarized in **Table 6-5** below.

Table 6-5: Total Costs

Fiscal Year	Operations & Monitoring Costs	Management, Administration, & Other Costs	5-Year Annual Reviews & Updates	10% Contingency	Total
2020	\$36,180	\$42,900	\$0	\$7,908	\$86,988
2021	\$37,265	\$44,187	\$0	\$8,145	\$89,598
2022	\$38,383	\$45,513	\$0	\$8,390	\$92,286
2023	\$39,535	\$46,878	\$0	\$8,641	\$95,054
2024	\$40,721	\$48,284	\$0	\$8,901	\$97,906
2025	\$41,943	\$49,733	\$325,000	\$41,668	\$458,343
2026	\$43,201	\$51,225	\$0	\$9,443	\$103,868
2027	\$44,497	\$52,762	\$0	\$9,726	\$106,984
2028	\$45,832	\$54,344	\$0	\$10,018	\$110,194
2029	\$47,207	\$55,975	\$0	\$10,318	\$113,500

2030	\$48,623	\$57,654	\$373,750	\$48,003	\$528,030
2031	\$50,082	\$59,384	\$0	\$10,947	\$120,412
2032	\$51,584	\$61,165	\$0	\$11,275	\$124,024
2033	\$53,132	\$63,000	\$0	\$11,613	\$127,745
2034	\$54,725	\$64,890	\$0	\$11,962	\$131,577
2035	\$56,367	\$66,837	\$429,813	\$55,302	\$608,318
2036	\$58,058	\$68,842	\$0	\$12,690	\$139,590
2037	\$59,800	\$70,907	\$0	\$13,071	\$143,778
2038	\$61,594	\$73,034	\$0	\$13,463	\$148,091
2039	\$63,442	\$75,225	\$0	\$13,867	\$152,534
2040	\$65,345	\$77,482	\$494,284	\$63,711	\$700,823
Total	\$1,037,515	\$1,230,221	\$1,622,847	\$389,058	\$4,279,642

6.1.6 Funding Sources

The source of funding for GSP implementation will be land-based assessments on members of FWD.

6.2 Reporting

The GSA will submit an Annual Report to DWR each year following the adoption of the GSP. Annual reporting will include the measurements for the preceding water year, as described in the Monitoring Plan, including groundwater levels, water quality, stage in the Mendota Pool, meter readings, meter calibration, and subsidence, as necessary. The Annual Report will also include any model and data management system updates and progress of the GSP implementation. Annual Reports will be prepared and submitted to DWR by April 1st every year in coordination with the five other GSAs in the Subbasin. GSP updates will be prepared and submitted by January 31 on 2025, 2030, 2035, and 2040. The Annual Report will include:

- 1. General Information:** An executive summary will be prepared to discuss any significant findings or recommendations from the reporting period. A basin map, similar to or the same as the one provided in this GSP, will also be provided.
- 2. Monitoring Data:** All data collected for the reporting period; groundwater levels, water quality, surface water levels, and subsidence will be provided. Groundwater elevation data will also be presented using contour maps that depict the seasonal high and seasonal low groundwater levels and through hydrographs of current and historical conditions, with a written description of the interpretation of the data, observed data gaps, and recommendations, as needed.
- 3. Groundwater Extraction Data:** Groundwater extraction data will be obtained from pumping records and metered extractions for the preceding water year and presented in tables, a map,

and a written description. The measurement method, accuracy of measurements, and locations and volume of groundwater extractions will also be presented and discussed.

4. Total Water Use: Total water use within the GSA will distinguish between the water extracted for irrigation and the water extracted for transfer purposes.

5. Changes in Groundwater Storage: Estimated change in groundwater storage for each aquifer will be determined using the same method as presented earlier in this GSP. This information will be presented on a map of each aquifer and on graphs that show the water year type (wet, dry, or normal), groundwater use, annual change in storage, and cumulative change in storage.

6. Implementation Progress: Progress toward implementing the GSP will be evaluated, discussed, and updated as necessary; milestones, significant updates and changes, the implementation schedule, and implementation tasks and costs.

6.3 Periodic Evaluation and Reporting

FWD will evaluate the GSP every five years, at a minimum, with additional evaluation if the plan is amended. A report will be provided to DWR which will include the elements of the Annual Reports, implementation progress, and progress toward reaching the sustainability goal. The periodic evaluations will also be available to stakeholders and the public. Periodic evaluations will be inclusive of annual report items and the following:

1. Current Groundwater Conditions: An evaluation and description of groundwater conditions over the reporting period relative to the interim milestone, measurable objectives, minimum thresholds, and undesirable results will be presented via graphs, figures, and a written description.

2. Implementation of Project and Management Actions: Each PMA will be evaluated to determine the implementation status, progress toward reaching the GSP sustainability goal, and the effect of the PMA on groundwater conditions. Re-evaluation of the PMA will occur if necessary.

3. Plan Elements: The basin setting, management areas, and sustainable management criteria will be evaluated, as necessary, for any reconsiderations or revisions. This will also include the progress of the plan toward meeting the sustainability goal and interim milestones for each sustainability indicator.

4. Basin Setting Evaluation: The basin setting will be evaluated for any significant changes or new information that may have developed during the reporting period. This will include significant changes in water use and potential overdraft conditions.

5. Monitoring Network: The monitoring network will be evaluated for its functionality, potential data gaps, and areas that are not meeting data and reporting standards set by SGMA. This will

also include a discussion of potential improvements and new data collection facilities, if necessary.

6. New Information: Any new information that may have developed since the Plan adoption, last amendment, or last periodic evaluation will be presented.

7. Relevant Actions: Any actions taken by the GSA that impact the implantation of the GSP such as regulations or ordinances related to the plan, development of new PMAs, or other changes will be provided.

8. Enforcement or Legal Actions: A description of any enforcement or legal actions taken by the GSA will be included.

9. Plan Amendments: Any amendments, completed or proposed, to the plan since the previous periodic evaluation will be discussed.

10. Summary of Coordination: A description of GSA coordination and land use agencies will be presented if necessary.

11. Other Information: Any other appropriate and relevant information pursuant to SGMA, the Plan Implementation, and DWR review will be included.

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