



MEMORANDUM

TO: Northern & Central Region Management Committees and Central GSA Members and Alternates

FROM: John Brodie, Water Resources Program Manager

DATE: April 18, 2023

RE: Approval of Task Order Amendment and Budget Increase for EKI Environment and Water to Respond to the Delta-Mendota Subbasin's GSPs Inadequate Determination

BACKGROUND

On March 2, 2023, the California Department of Water Resources (DWR) issued its final Determination on the six Delta-Mendota Subbasin GSPs as Inadequate. The Determination shifted the Subbasin to the jurisdiction of the California Water Resources Control Board (SWRCB). The SWRCB has authority granted by SGMA legislation to accept or reject DWR's findings and identify its own deficiencies in the GSPs. In an as yet unknown timeframe, the SWRCB will hold a public hearing to determine whether to place the Subbasin on probation while local efforts are underway to make amendments to the GSPs that will satisfy the identified deficiencies. If the Subbasin fails to achieve approved status for the revised GSPs, the SWRCB may place the Subbasin under an interim plan of its own after one year.

ISSUES FOR DECISION

The Committees must decide whether to direct their representatives to the Coordination Committee to approve a task order amendment and budget increase for EKI Environment and Water, Inc. to begin the process of revising specific aspects of the GSP Common Chapter to achieve approved status for the Subbasin GSPs.

RECOMMENDATION

Staff recommends that the Committees direct their representatives to the Coordination Committee to approve the amended task order and budget increase for EKI. In addition to the Coordination Committee, the budget increase must be approved by the SLDMWA Board.

ANALYSIS

At its meeting on March 27, 2023, the Coordination Committee identified three measures of success for the Subbasin in responding to the Inadequate Determination:

- Maintaining local control.
- Avoiding SWRCB fees (to the extent feasible).
- Avoiding an imposed interim plan.

Also at that meeting, the Committee directed EKI to develop a scope and fee for amended Sustainable Management Criteria and water budget. The scope and budget were put together with the assumption that work on these items should be completed by the end of July, 2023. It is also assumed that the deliverables from this amended task order can be used in the 2025 Plan Update.

BUDGET

The budget to complete the scope of work in the amended task order is \$200,000. The total cost under this task order will be split evenly between the six GSP groups.

6 April 2023

John Brodie
Water Resources Program Manager
San Luis & Delta-Mendota Water Authority
842 6th Street, PO Box 2157
Los Banos, CA 93635

Subject: Proposal to Initiate Response to the Inadequate Determination
Delta-Mendota Subbasin
(EKI C3-114)

Dear Mr. Brodie:

EKI Environment and Water, Inc. (EKI) is pleased to submit this proposal to support the Delta-Mendota Subbasin (Subbasin) to initiate response to the California Department of Water Resources (DWR's) "Inadequate" determination issued on 3 March 2023. This proposal is submitted in response to San Luis & Delta-Mendota Water Authority's (SLDMWA's or Client's) request on 27 March 2023.

BACKGROUND

On 20 July 2022, the GSAs submitted a revised Subbasin Plan consisting of a Coordination Agreement and six GSPs (collectively, the Plan) in response to DWR's "incomplete" determination of the original Subbasin Plan submitted in January 2020. On 3 March 2023, DWR issued a final determination, finding the Subbasin's 2022 Revised Plan to be "inadequate" and transferring oversight of the Subbasin to the State Water Resources Control Board (State Board).

Key deficiencies identified by DWR included:

- **Deficiency #1:** "The Agencies did not provide sufficient information to demonstrate [that] water budget, change in storage, and sustainable yield, are or will use the same data or methodologies"
 - The coordination agreement and various technical memoranda that are part of the proposed management program remain unchanged, making it unclear how or whether certain revisions in some GSPs would be carried through on a basinwide scale.
- **Deficiency #2:** "The GSPs have not established common definitions of undesirable results in the Subbasin"
 - No new supporting information is provided within the Common Chapter or within the revised GSPs to justify the new groundwater management approach. (i.e., the coordinated Undesirable Results definitions)
 - No justification for setting a 50 percent threshold for groundwater levels or water quality is provided, details regarding modifying wells and pumps are absent from the resubmitted material, ... (i.e., part of revised significant and unreasonable definition)

- ... lack of specific, quantitative details, or a more defined and transparent decision-making process for establishing definitions of sustainability
- **Deficiency #3:** “The GSPs in the Subbasin have not set sustainable management criteria in accordance with the GSP regulations”
 - The Plan does not indicate when the historic low groundwater levels (which are part of the minimum threshold definitions) were observed.
 - No analysis was provided explaining or justifying why 50 percent was chosen as the threshold or what impacts would occur to the Subbasin’s pumping wells or the beneficial uses and users of groundwater if that threshold is approached or exceeded.
 - There is no discussion in the Plan related to continued overdraft or subsidence, migration of contamination plumes, degradation of water quality, or depletions of interconnected surface water if groundwater levels approach or exceed to new minimum thresholds, especially for those wells located near the San Joaquin River.
 - The revised Plan does not provide an explanation as to how the GSAs have determined that managing the Subbasin to near historical low groundwater elevations would avoid undesirable results for the other applicable sustainability indicators.
 - It is unclear if the minimum thresholds have been selected to avoid undesirable results.

It is understood that the State Board, in its review of the Subbasin’s Plan may identify additional deficiencies that will have to be addressed by the GSAs to avoid or remove probationary status. It is further understood that the Subbasin now has roughly one year to prepare a revised Plan that meets the requirements of the Sustainable Groundwater Management Act (SGMA) to avoid implementation of an Interim Plan developed by the State Board. While the exact timeline of State Board intervention is unknown of, it appears that in roughly the same time frame (i.e., by January 2025), the GSAs will be required to conduct their periodic evaluation of the Subbasin Plan and provide a written assessment to DWR that satisfies the requirements of CCR § 356.4. *Periodic Evaluation by Agency.*

The following Scope of Work addresses initial efforts to respond to the DWR deficiencies through July 2023, as it is understood that on-going coordination with DWR and the State Board and completion of the 2025 GSP Update will be subject to a Request for Proposals (RFP).

SCOPE OF WORK

Task 1 – Revise the Sustainable Management Criteria

EKI will support the GSAs to develop revised Sustainable Management Criteria (SMCs) for relevant Sustainability Indicators based on the requirements of California Code of Regulations (CCR) §354.22 - §354.30 (GSP SMC Regulations), the best available data, review of the approaches used in other basins, and review of the DWR deficiency letters.

As part of this task EKI will work with the GSAs to:

- Review and potentially revise the *Sustainability Goal* for the Subbasin;
- At a minimum, justify, and potentially revise the definitions of *Undesirable Results* (URs) for selected applicable SGMA Sustainability Indicators, and continue to demonstrate why seawater intrusion is not applicable;
- At a minimum, justify, and potentially revise the *Minimum Thresholds* (MTs) for each applicable Sustainability Indicator at each representative monitoring site;
- At a minimum, justify, and potentially revise the *Measurable Objectives* (MOs) and establish a *Margin of Operational Flexibility* for each applicable Sustainability Indicator at each representative monitoring site; and
- Develop *Interim Milestones* (IMs) at 5-year intervals through 2040 (beginning in 2025) for each applicable Sustainability Indicator based on the *Minimum Thresholds*, *Measurable Objectives*, and *Margin of Operational Flexibility* defined at each representative monitoring site.

EKI's approach to the above tasks will be to start with the SMC framework contained in the Revised Common Chapter, which was agreed upon and adopted by all GSAs, and to systematically and objectively identify (with consideration of the DWR inadequacy determination) the areas of deficiency with respect to conformance with the GSP SMC Regulations.

This systematic process will involve creating a summary table for each applicable Sustainability Indicator that presents in succinct terms (i.e., bullets) how the Common Chapter addresses each requirement (or not). For example, EKI will summarize how the existing Undesirable Results section in the Common Chapter describes: (a) the causes of groundwater conditions throughout the Subbasin that would lead to URs, (b) the potential effects of URs on beneficial uses/users, and (c) the criteria that define when URs occur (based on a quantitative description of MT exceedances that cause significant and unreasonable effects).

Similarly, for MTs, EKI will summarize the existing Common Chapter with respect to: (a) MT justification supported by information in the Basin Setting and other data or models as appropriate, (b) describing the relationships between MTs for each Sustainability Indicator, (c) how the MTs have been selected to avoid URs in adjacent basins, (d) how they may affect the interests of beneficial uses/users of groundwater or land use and property interests, (e) how (if at all) state, local, or federal standards relate to the sustainability Indicator, and (f) how each MT will be measured. EKI will conduct a similar Regulations-driven assessment for MOs and IMs.

With the above objective deficiency assessment complete, EKI will then examine SMC content from each of the six revised Subbasin GSPs that may be useful in addressing identified gaps and supporting the justification of SMCs. Where potentially supporting content from multiple GSPs is contradictory, EKI will identify these instances and bring them before the GSAs for consideration. Where consistent supporting content is not available, EKI will supplement this content with additional analyses, as appropriate (e.g., well impacts analysis, spatiotemporal analysis of historical data, groundwater modeling to assess conditions likely to occur once overdraft is ceased). EKI will also consider approaches to SMC development/establishment and justification from other GSPs in other basins that were approved by DWR and will assess whether such approaches may be appropriate for use in the Subbasin.

EKI will then synthesize the concepts and content identified through previous tasks into a recommended approach for updated SMCs for each applicable Sustainability Indicator, including URs, MTs, MOs, and IMs. To ensure compliance with the GSP SMC Regulations, EKI will first consider each Sustainability Indicator independently, and then will assess whether use of groundwater levels as a proxy for any other indicators is justifiable and appropriate. EKI will assess the relationships between indicators and will adjust MTs preliminarily established for a given indicator if they would result in URs for another indicator. EKI will use the exact language of the GSP SMC Regulations, as well as the SMC Best Management Practices document (DWR, 2017), as a guiding framework to developing compliant SMCs. For example, in accordance with the Regulations, the MOs and IMs will use the same metrics (i.e., units) as the MTs.

EKI will present key information to the GSAs during regular meetings (see Task 3) for direction and decisions. EKI will then prepare a draft SMC proposal for each Sustainability Indicator for GSA review. Comments provided by the GSAs will be incorporated.

Deliverables

- Draft Summary Table of Common Chapter SMC Approach and Identified Deficiencies
- Draft SMC proposal for each Sustainability Indicator
- PowerPoint presentation of proposed SMC approach

Assumptions

- SLDMWA will provide one consolidated set of review comments on each deliverable.
- Additional deficiencies identified by the State Board may impact the level of effort anticipated herein.
- To the extent possible, proposed approaches will be vetted with the State Board and DWR for feedback.
- Work efforts on the Interconnected Surface Water SMCs will be deferred to the 2025 GSP Update process pending forthcoming guidance from DWR.
- Work efforts on the Water Quality SMCs may have to be deferred to the 2025 GSP Update process pending receipt of data from the GSAs and potential budget /timing constraints.
- SMCs may be further revised as part of the 2025 GSP Update process based on groundwater modeling results and feedback provided by the GSAs, State Board and DWR.

Task 2 – Develop Subbasin Water Budget

Under this Task, EKI will develop an initial set of Subbasin-wide current, historical, and projected water budgets (GSP water budgets) that comply with the requirements of CCR Title 23 § 354.18 and address the deficiencies outlined by the DWR. EKI will rely on the Central Valley Hydrologic Model Version 2 (CVHM2), which was recently developed by the US Geological Survey (USGS) and the US Bureau of Reclamation (USBR). In its utilization of the CVHM2 and development of the GSP water budgets, EKI will apply scientifically sound methodologies consistent with DWR guidelines and ensure the use of the best available data and information obtained from accepted and reliable resources.

As part of this Task, EKI will:

- Gather and review information and data used to develop previous Subbasin-wide and GSA-specific water budgets;
- Review underlying data for the available models, California Central Valley Groundwater-Surface Water Simulation Model Fine-Grid (C2VSIM-FG) and CVHM2, and assess their performances compared to previously developed GSP water budgets;
- Propose a water budget development framework that details the data and methodology used and how they will respond to the identified deficiencies;
- Revise current, historical, and projected water budgets' timelines, as needed; and,
- Develop initial GSP water budgets using the proposed methodology.

Based on the agreed-upon timeline of deliverables between EKI and the GSAs, EKI will develop the historical, current and future water budgets to secure feedback from the State Board. Since CVHM2 is not yet publicly released and peer-reviewed, it cannot be directly referenced. Therefore, EKI intends to use the CVHM2 draft version and its publicly released input data to conduct its water budget analysis, consistent with CVHM2 methodologies and results. This will facilitate the incorporation of the CVHM2 into the 2025 GSP Update if it is publicly released and can be directly cited. EKI does not expect significant departures from the CVHM2 simulated water budgets and will not substantially modify the input data to avoid inconsistencies in data and methodology. Any desired/required addition or modification of data will be incorporated as uncertainty sources to be potentially addressed in the 2025 GSP update.

In order to develop the projected water budget, EKI will coordinate with the GSAs to select a methodology and a historical period to be considered as the future baseline. EKI will use the future baseline to develop projected water budget and Climate Change Scenario water budgets using DWR's Central Tendency Climate Change Projections (i.e., 2030 and 2070 Central Tendency)¹. Any additional water budgets or simulation of different operational or climate change scenarios or implementation of Projects and Management Actions (P/MAs) is outside of the current scope and is assumed to be completed as part of the 2025 GSP Update effort.

Upon development of the GSP water budgets, EKI will provide estimates of the changes in storage per each principal aquifer (Upper and Lower aquifers) using CVHM2 simulations. In coordination with Task 1, EKI will also provide estimates of sustainable yield for each principal aquifer.

EKI will present key information to the GSAs during regular meetings (see Task 3) for direction and decisions. These presentations will include, at the minimum, discussion of the proposed water budget development framework and presentation of GSP water budgets. Comments provided by the GSAs during these meetings will be incorporated. EKI expects one set of consolidated comments per deliverable and assumes timely submission of such comments to stay on schedule.

GSP water budgets, changes in storage, and sustainable yields developed under this Task will be on a Subbasin-wide scale. EKI will not develop fine-scale and/or GSA-specific water budgets, changes in

¹ <https://data.cnra.ca.gov/dataset/climate-change-projections-wsip-2030-2070>

storage, or sustainable yields under this scope of work. EKI will not modify or recalibrate CVHM2 to address regional or GSA-wide data gaps and uncertainties.

Deliverables

- Draft Water Budget Estimates
- PowerPoint presentation of Water Budget approach
- Basin Model files

Assumptions

- EKI will rely on CVHM2 for preparation of the Subbasin water budget in its current form and will not be re-calibrating the model or significantly modifying any model inputs.
- SLDMWA will provide one consolidated set of review comments on each deliverable.
- To the extent possible, proposed approaches will be vetted with the State Board and DWR for feedback.
- Additional deficiencies identified by the State Board may impact the level of effort anticipated herein.
- Extension of the model to WY 2023 and inclusion of P/MAs and additional climate change or other scenarios will be done as part of the 2025 GSP Update.

Task 3 – Project Management and Coordination

Task 3 involves facilitating near-term Subbasin coordination efforts during Task 1 and Task 2 preparation, assumed to be completed within four months (i.e., April through July 2023). Specifically, EKI will:

- Provide support including developing meeting agendas, presentations, and packets as applicable, and participate in the following meeting venues:
 - Up to eight bi-weekly Subbasin Coordination Committee meetings, assuming in-person attendance;
 - Up to eight bi-weekly one-hour planning meetings conducted virtually.
- Participate in inter-basin coordination efforts with GSAs in the adjacent Subbasins on an as-needed basis; assumes up to two 1-hour meetings conducted remotely.
- Participate in monthly meetings with DWR and the State Board; Assumes up to six 1-hour meetings, conducted remotely and up to two 1-hour meetings conducted in person.

Deliverables

- Meeting materials
- Monthly invoices and progress summary reports
- Project Schedule, regularly updated

Assumptions

- Bi-weekly coordination committee meetings, conducted in-person
- Remaining meetings will be conducted remotely

PERSONNEL

EKI's staff members who will lead this project include Anona Dutton, PG, CHg (Officer), Christopher Heppner, PhD, PG (Supervising 1), Amir Mani, PhD, PG (Senior 1), Nigel Chen, PhD, PE (Grade 1), Sarah Gerenday, PhD (Grade 2), and Sarah Hodson, PE (Grade 4); grades in parentheses are for purposes of billing in accordance with the attached Schedule of Charges (see **Attachment A**). Other EKI staff members will be assigned to assist with the performance of the tasks as required to meet project commitments.

TERMS AND CONDITIONS

All work performed by EKI under this scope will be performed pursuant to our existing Agreement with SLDMWA for Professional Services.

COMPENSATION

Inasmuch as the exact level of effort required to complete the above Scope of Work cannot be known precisely, EKI proposes to perform the work on a time and materials expense reimbursement basis in accordance with our current Schedule of Charges (**Attachment A**). The estimated budget for this scope of work is estimated to be \$200,000 (**Attachment B**).

SCHEDULE

EKI is prepared to start work on the above Scope of Work immediately upon authorization to proceed and will continue through July 2023. EKI will inform SLDMWA of any issues that arise that may affect the schedule for completion or impact the anticipated level of effort.

We are very excited about the opportunity to work with SLDMWA and the Subbasin GSAs on this project.

Please do not hesitate to contact me with any questions.

Very truly yours,

EKI ENVIRONMENT & WATER, INC.



Anona L. Dutton, PG, CHg
Vice President / Principal-In-Charge

AUTHORIZATION
SAN LUIS & DELTA-MENDOTA WATER AUTHORITY (CLIENT)

By _____

Title _____

Date _____

Attachments

Attachment A. Schedule of Charges, dated 1 January 2023

Attachment B. Detailed Budget Estimate

ATTACHMENT A

EKI 2023 Schedule of Charges and Detailed Budget Table

SCHEDULE OF CHARGES FOR EKI ENVIRONMENT & WATER, INC.

1 January 2023

<u>Personnel Classification</u>	<u>Hourly Rate</u>
Officer and Chief Engineer-Scientist	332
Principal Engineer-Scientist	320
Supervising I, Engineer-Scientist	309
Supervising II, Engineer-Scientist	298
Senior I, Engineer-Scientist	286
Senior II, Engineer-Scientist	275
Associate I, Engineer-Scientist	264
Associate II, Engineer-Scientist	248
Engineer-Scientist, Grade 1	231
Engineer-Scientist, Grade 2	218
Engineer-Scientist, Grade 3	200
Engineer-Scientist, Grade 4	178
Engineer-Scientist, Grade 5	157
Engineer-Scientist, Grade 6	138
Project Assistant	130
Technician	125
Senior GIS / Database Analyst	162
CADD Operator / GIS Analyst	144
Senior Administrative Assistant	159
Administrative Assistant	124
Secretary	104

Direct Expenses

Reimbursement for direct expenses, as listed below, incurred in connection with the work will be at cost plus fifteen percent (15%) for items such as:

- a. Maps, photographs, reproductions, printing, equipment rental, and special supplies related to the work.
- b. Consultants, soils engineers, surveyors, drillers, laboratories, and contractors.
- c. Rented vehicles, local public transportation and taxis, travel, and subsistence.
- d. Special fees, insurance, permits, and licenses applicable to the work.
- e. Outside computer processing, computation, and proprietary programs purchased for the work.

A Communication charge for e-mail access, web conferencing, cellphone calls, messaging and data access, file sharing, local and long distance telephone calls and conferences, facsimile transmittals, standard delivery U.S. postage, and incidental in-house copying will be charged at a rate of 4% of labor charges. Large volume copying of project documents, e.g., bound reports for distribution or project-specific reference files, will be charged as a project expense as described above.

Reimbursement for company-owned automobiles, except trucks and four-wheel drive vehicles, used in connection with the work will be at the rate of sixty cents (\$0.60) per mile. The rate for company-owned trucks and four-wheel drive vehicles will be seventy-five cents (\$0.75) per mile. There will be an additional

charge of thirty dollars (\$30.00) per day for vehicles used for field work. Reimbursement for use of personal vehicles will be at the federally allowed rate plus fifteen percent (15%).

CADD and other specialized software computer time will be charged at twenty dollars (\$20.00) per hour. In-house material and equipment charges will be in accordance with the current rate schedule or special quotation. Excise taxes, if any, will be added as a direct expense.

Rate for professional staff for legal proceedings or as expert witnesses will be at a rate of one and one-half times the Hourly Rates specified above.

The foregoing Schedule of Charges is incorporated into the Agreement for the Services of EKI Environment & Water, Inc. and may be updated annually.

ATTACHMENT B
Detailed Budget Estimate

Table 1. Detailed Estimated Budget

TASKS	EKI Labor (hrs)						Total EKI Labor, including 4% Comm. Charge ⁽¹⁾	Expenses	Total Requested Budget
	Anona Dutton, PG, CHG	Christopher Heppner, PhD, PG	Amir Mani, PhD, PE	Nigel Chen, PhD	Sarah Gerenday, PhD	Sarah Hodson		Other Direct Costs ⁽²⁾	
	\$332	\$309	\$286	\$231	\$218	\$178	(\$)	(\$)	(\$)
Task 1 – Revise the Sustainable Management Criteria	24	96	0	0	96	128	\$84,598	\$0	\$85,000
Task 2 – Develop Subbasin Water Budget	24	0	64	96	0	128	\$74,081	\$0	\$74,000
Task 3 – Project Management and Coordination	90	24	0	0	0	0	\$38,788	\$2,000	\$41,000
Total	138	120	64	96	96	256	\$197,467	\$2,000	\$200,000

Notes:

- (1) A communications charge of 4% of labor costs covers e-mail access, web conferencing, cellphone calls, messaging and data access, file sharing, local and long-distance telephone calls and conferences, facsimile transmittals, standard delivery U.S. postage, and incidental in-house copying.
- (2) "Other Direct Costs" includes direct expenses, as listed below, incurred in connection with the work and will be reimbursed at cost plus ten percent (10%) for items such as:
- a. Maps, photographs, reproductions, printing, equipment rental, and special supplies related to the work.
 - b. Consultants, soils engineers, surveyors, drillers, laboratories, and contractors.
 - c. Rented vehicles, local public transportation and taxis, travel and subsistence.
 - d. Special fees, insurance, permits, and licenses applicable to the work.
 - e. Outside computer processing, computation, and proprietary programs purchased for the work.