



MLJ Environmental Scope of Work for the Southeast Sacramento County Agricultural Water Authority – Cosumnes Subbasin Well Monitoring

APRIL 11, 2021

Project Background and Description

MLJ Environmental (MLJ) was asked to develop a project scope and cost estimate to monitor wells identified within the Cosumnes Subbasin as part of the Groundwater Sustainability Plan (GSP).

Project Scope

MLJ Environmental staff will perform well monitoring and submit samples requiring water quality analysis to Caltest Laboratory (Napa, CA). The cost estimate includes expenses for vehicles, sampling equipment, meters and laboratory analysis. Based on information provided by EKI, MLJ Environmental staff will collect water levels from 25 wells and water quality plus water levels from 6 wells. A single field duplicate and field blank sample are included in the estimate.

Sampling will occur in May and October 2021. We have estimated 4 days to collect the water levels and water quality samples. Water levels can be collected by a single person; however, two samplers are needed to collect the water samples and purge the wells. Due to Covid-19, MLJ Environmental sends out samplers in separate vehicles; vehicle charges are included in the Other Direct Costs in Table 1 and detailed in Table 2. There is a single well which will require the rental of a submersible pump. We have estimated that it may take up to 6 hours to purge this well; therefore, this well will be sampled by itself and the other 5 wells on a different day.

Task 1. Well Scheduling

MLJ Environmental will receive well network details from EKI and use this information to upload the well network into our Monitoring Information System (MIS). The MIS allows the samplers to record information regarding when each well will be sampled and the estimated drive time between each well. This system allows the sampling coordinator to record ancillary information regarding the best time to contact the well owner and any other pertinent information regarding well access and scheduling. This information is also used to pre-populate Chain of Custody forms and field sheets reducing potential transcription errors in the field. The budget

estimates more time for the first sampling event in May and less time in October assuming that most of the well network information will remain the same.

Task 2. Laboratory Coordination

MLJ Environmental will be responsible for coordinating with Caltest Laboratory to receive bottles, coordinate courier pickup of samples and receive laboratory results. Caltest will provide a laboratory report (pdf) and standard Electronic Data Deliverable (EDD) once the analysis is complete. MLJ Environmental will check that all the samples were received and analyzed prior to sending the results to EKI. If any issues are found with the report, MLJ Environmental will coordinate with Caltest to revise the report prior to submitting to EKI. EKI will be responsible for further data management tasks.

Task 3. Well Monitoring

It is expected that all wells will be monitored over 4 days in May and then again in October. Prior to the first event in May, MLJ Environmental will visit wells that have not been previously visited to ensure that the well can be accessed for water levels and water quality (when water quality samples are required). MLJ Environmental will prepare all necessary sampling equipment including field meters, sampling tools and submersible pump (when needed) following standard operating procedures. Water levels will be collected on Day 1 and 2 and water quality samples collected on Day 3 and 4.

Task 4. Project Management

Ms. Melissa Turner will coordinate with both EKI and Southeast Sacramento County Agriculture Water Authority. Time includes attending meetings as necessary and communicating via email and/or phone calls. Invoices will be submitted monthly by the 15th of the following month.



Table 1. Budget for Monitoring Wells in the Cosumnes Subbasin in May and October 2021.

Task	Subtask	Project Role	Hourly Rate	Hours	Cost
Task 1. Well Scheduling	Well Network Updates and Schedule	Data Analyst	\$135.00	6.00	\$810.00
Task 1. Well Scheduling	Well Network Updates and Schedule	Staff Scientist II	\$115.00	17.00	\$1,870.00
Task 2. Laboratory Coordination	Tracking/Filing Reports	Staff Scientist II	\$115.00	2.00	\$220.00
Task 2. Laboratory Coordination	Data Completeness Review	Staff Scientist II	\$115.00	2.00	\$220.00
Task 3. Well Monitoring	Reconnaissance	Staff Scientist II	\$115.00	8.00	\$880.00
Task 3. Well Monitoring	Sampling including Preparation / Cleanup	Staff Scientist II	\$115.00	103.00	\$11,330.00
Task 4. Project Management	Project Management	Senior Project Manager	\$165.00	8.00	\$1,320.00
Other Direct Costs¹	Sampling Supplies including Submersible Pump				\$4,450.00
Analytical Costs¹					\$2,411.20
				TOTAL	\$23,511.20

¹ See Table 2 for details regarding ODCs and Analytical Costs.



Table 2. Budget Details Associated with Table 1 for Other Direct Costs and Analytical Costs.

Budget Details	Sampling Day	Rate	Count	Cost
Other Direct Costs				
Water Level Meter	1,2,3,4	\$50.00	4.00	\$200.00
Turbidimeter	3,4	\$50.00	2.00	\$100.00
YSI	3,4	\$75.00	2.00	\$150.00
Truck	1,2,3,4	\$135.00	6.00	\$810.00
Gas	1,2,3,4	\$50.00	6.00	\$300.00
Ice	3,4	\$25.00	2.00	\$50.00
Filters	3,4	\$30.00	3.00	\$90.00
Submersible Pump (GeoTech)	4	\$185.00	1.00	\$185.00
Tubing	4	\$0.58	500.00	\$290.00
Miscellaneous (batteries, rite n rain paper, calibration liquid)				\$50.00
Subtotal per event				\$2,225.00
Total Cost for 2 events				\$4,450.00
Analytical Costs				
Nitrate + Nitrite	3,4	\$40.00	8.00	\$320.00
Arsenic	3,4	\$30.00	8.00	\$240.00
Total Dissolved Solids	3,4	\$44.00	8.00	\$352.00
Metal Digestion (required if samples are turbid)	3,4	\$23.00	8.00	\$184.00
Laboratory Management Fee (10%)				\$109.60
Subtotal per event				\$1,205.60
Total Cost for 2 events				\$2,411.20