



July 6, 2016  
Project No. 12-0046

Monterey Peninsula Water Management District  
5 Harris Court, Building G  
Monterey, California 93940

Attention: Mr. Joe Oliver, Water Resources Manager  
Mr. Jon Lear, Senior Hydrogeologist

Subject: Monterey Peninsula ASR Project; Proposal for Fiscal Year 2016-2017 Operational Support Services

Dear Mr. Oliver and Mr. Lear:

In accordance with your request, Pueblo Water Resources, Inc. (PWR) is pleased to submit this proposal for the provision of operational support services for the Monterey Peninsula ASR Project. Presented in this proposal is a detailed scope of work, estimated costs, and schedule to provide ASR operational support tasks during Fiscal Year 2016-2017 (FY 2016-2017).

### **PURPOSE AND SCOPE**

The purpose of the proposed work is to provide needed operational and maintenance services related to the Monterey Peninsula ASR Project during FY 2016-2017. It is noted that PWR currently has two previously authorized Contract Amendments (CAs), which include various ASR operations-related tasks that have not been completed for various reasons<sup>1</sup>, but are planned to be completed in FY 2016-2017. The tasks presented in this proposal are intended to supplement the existing CAs only as necessary to complete the work planned and budgeted by the District for FY 2016-2017, and include the following.

- Preparation of WY 2016 Summary of Operations Report
- Provision of WY 2017 as-needed / as-requested ASR system operational support
- Implementation of ASR-3 well rehabilitation
- Implementation of ASR-4 baseline injection testing
- Project management and meetings

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<sup>1</sup> The primary reasons the previous CAs have not been completed include the relatively dry hydrologic conditions since WY 2012 and the corresponding limited injections seasons, as well as reallocations of existing operations task budgets to needed supplemental water-quality investigations.



## **Scope of Services**

### **Task 1 – Water Year 2016 Summary of Operations Report**

This task consists of preparing a Summary of Operations Report (SOR) documenting the recharge operations and analysis of well performance, water-quality and water-level data collected during WY 2016. The annual preparation and submittal of SORs is a requirement of the Central Coast RWQCB for the ASR Project, and the overall scope, content, and format of the WY 2016 SOR will be similar to previous annual SORs prepared by PWR. Conclusions and recommendations will also be made regarding the ongoing operation and maintenance of the ASR wells.

### **Task 2 – Water Year 2017 Operational Support**

This task consists of providing operational support for the ASR Project during WY 2017. This includes providing assistance with the startup of WY 2017 ASR recharge season and the provision of field assistance on an as-needed/requested basis to address critical project needs as they arise. This task also includes providing routine monitoring and evaluation of ASR system performance. It is assumed that District staff will provide PWR with ASR operational, water-level and water-quality data collected during WY 2017 on a routine basis (approximate monthly basis) to facilitate our evaluations. PWR will process and evaluate the data on an ongoing basis and provide routine operational recommendations during the course of WY 2017 operations.

### **Task 3 – ASR-3 Well Rehabilitation**

This task will involve the coordination and oversight of the downhole rehabilitation of the ASR-3 well located at the Seaside Middle School (SMS) ASR Facility. PWR will develop a project work plan, which will include identification of materials and methods to be utilized, logistical constraints, and schedule considerations. Technical specifications for the rehabilitation of the well will then be prepared. The technical specifications are intended to provide adequate detail for bidding by competent, licensed (C-57) well contractors. The specifications will include the following minimum items:

- Minimum Contractor Qualifications
- Contractor Equipment Requirements
- Traffic Control Requirements
- Materials Requirements
- Rehabilitation Technical Procedures
- NPDES Discharge Requirements and Limitations
- Site Restoration

Prior to contractor mobilization, PWR will coordinate a pre-construction meeting to introduce involved parties, establish chain-of-command and communications protocols, review



the key work elements and safety procedures, and develop a schedule of the work to be performed. During the rehabilitation of the well, PWR will oversee and document contractor activities to ensure adherence to the project specifications. We will document materials and quantities of well rehabilitation chemicals, field water quality parameters, and production rates during airlifting and pumping. PWR will also monitor and document the handling and discharge of fluids produced from the well during rehabilitation. Following well rehabilitation and replacement of the permanent pump assembly, PWR will perform performance tests through which the success of the rehabilitation work can be evaluated. Upon completion, a brief technical memorandum will be prepared to summarize the well rehabilitation work.

While the work plan and associated costs have not been completed as of this writing, for budgetary purposes, we have allocated \$85,000 for direct contractor costs (\$97,750 including PWR markup). This budgetary estimate is based on the costs for performing similar rehabilitations of ASR-1 and ASR-2, as well as our more recent experience with other similar projects. For purposes of this proposal, it is assumed the PWR will retain the contractor on behalf of the District; however, as the work planning advances, although not required it may be determined to be in the District's best interest to retain the contractor via public procurement process, in which case this budget amount would then be reallocated from PWR to the District.

#### **Task 4 – ASR-4 Baseline Injection Testing**

This task consists of performing baseline injection testing of ASR-4 during WY 2017. The primary purpose of the testing is to establish the baseline injection well hydraulics and performance of the new well. Primary issues to be investigated include:

- Determination of injection well efficiency and specific capacity;
- Evaluation of injection well plugging rates (both active and residual);
- Determination of optimal rates, frequency, and duration of backflushing in order to maintain long-term injection capacity, and;
- Determination of long-term sustainable injection rates.

The baseline testing program is planned to include the following steps:

1. 8-hr variable rate injection testing (combined with downhole velocity surveys);
2. 24-hr constant rate injection test;
3. 7-day constant rate injection test;
4. Backflushing between each injection test, and;
5. Post-injection production performance testing.

At the conclusion of the baseline testing program, recommendations for the long-term injection operations during the remainder of the WY 2017 recharge season will be provided.



## **Task 5 – Project Management and Meetings**

PWR will review existing conditions at the site and meet with District staff to discuss FY 2016-2017 program goals and scheduling for the ASR Project. In addition, it is anticipated that on-going “ASR Coordination” meetings between the District and CAW will be required during the FY 2016-2017 period. Consistent with past practice, it is assumed that meetings will be held on an approximate bi-monthly basis and will be attended by a PWR Principal Engineer and/or Hydrogeologist, depending on meeting agenda and project needs at the time. To the extent feasible, PWR attendance at meetings will be coordinated with other project tasks to minimize project costs.

## **Services Not Included**

Services which are (or may be) necessary for the completion of this project, which are not included in our proposal include the following:

- Water-level transducer / datalogger programming and monitoring (assumed District provided);
- Water-quality sampling and analyses (assumed District and/or CAW provided);
- Construction of site facilities (except as noted);
- Permit fees;
- Cost of water, electricity, or other utilities;
- Any others items not specifically included in PWR’s scope of services.

## **Estimated Fees and Schedule**

Based on the scope of services presented herein, we estimate the fees for our services will be approximately \$167,953, which will be billed on a time-plus-expenses basis in accordance with our current Fee Schedule (attached). An estimated fee summary worksheet is attached summarizing the estimated man-hours and costs per task/work item. A 10 percent contingency has been noted in the attached budget summary (total with contingency is \$184,748) in the event that unforeseen project complications or constraints arise. We recommend the contingency be held for authorization by District staff upon written justification by PWR.

We understand that in order to authorize this work, your Board must first approve a formal contract amendment. Based on our current workload, we believe that we can commence work within two weeks of your authorization and that the work will be completed by the end of the fiscal year (June 30, 2017).

**EXHIBIT 4-A**

Monterey Peninsula Water Management District  
Monterey Peninsula ASR Project - FY 2016-2017 Operational Support  
July 6, 2016 (12-0046)

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We appreciate the opportunity to provide ongoing assistance to the District on this important community water-supply project. If you require additional information regarding this or other matters, please contact me.

Sincerely,

PUEBLO WATER RESOURCES, INC.

Robert C. Marks, P.G., C.Hg  
Principal Hydrogeologist

RCM

Attachments: Cost Estimation Spreadsheet  
2016 Fee Schedule

## EXHIBIT 4-A

### MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

#### Professional Services for Monterey Peninsula ASR Project - Operational Support

Fiscal Year 2016-2017

PWR Project No.: 12-0046



#### ESTIMATED FEE SUMMARY

LABOR		Principal Professional	Senior Professional	Drafting	WP	Hours by Task	Estimated Task Cost
Hourly Fee		\$195	\$180	\$110	\$90		
Task No.	Task Description						
1	WY 2016 SOR	30	50	2	2	84	\$15,250
2	WY 2017 Operational Support	20	30	-	-	50	\$9,300
3	ASR-3 Rehabilitation	50	75	2	2	129	\$23,650
4	ASR-4 Baseline Injection Testing	20	40	-	-	60	\$11,100
5	PM and Meetings	25	-	-	-	25	\$4,875
		-	-	-	-		
		-	-	-	-		
		-	-	-	-		
		-	-	-	-		
		-	-	-	-		
Hours by Labor Category:		145	195	4	4		
Costs by Labor Category:		\$28,275	\$35,100	\$440	\$360		
Total Labor Hours:						348	
Total Labor Costs:						\$64,175	

OTHER DIRECT COSTS (ODC's)		Units	Unit Price	No. of Units	Fee
Task No.	Item				
	Vehicle	Daily	\$75	25	\$1,875
	Travel Per Diem	Daily	\$150	25	\$3,750
					\$0
					\$0
					\$0
Subtotal ODCs:					\$5,625

OUTSIDE SERVICES		Units	Unit Price	No. of Units	Fee
Task No.	Item				
1	SOR Reproduction	Lump Sum	\$350	1	\$350
3	Well Rehabilitation Contractor	Lump Sum	\$85,000	1	\$85,000
					\$0
					\$0
					\$0
Subtotal Outside Services:					\$85,350
Subtotal Outside Services w/ Markup (15%):					\$98,153

COST SUMMARY	
Labor	\$64,175
Other Direct Costs	\$5,625
Outside Services	\$98,153
Subtotal:	\$167,953
10 % Contingency	\$16,795
TOTAL ESTIMATED PROJECT COST:	\$184,748



**PUEBLO WATER RESOURCES, INC  
2016 FEE SCHEDULE**

***Professional Services***

Principal Professional.....	\$195/hr
Senior Professional.....	\$180/hr
Project Professional.....	\$165/hr
Staff Professional.....	\$135/hr
Technician.....	\$125/hr
Illustrator.....	\$110/hr
Word Processing.....	\$90/hr

***Other Direct Charges***

Subcontracted Services.....	Cost Plus 15%
Outside Reproduction.....	Cost Plus 15%
Travel Expenses.....	Cost Plus 15%
Per Diem*.....	\$150/day
Vehicle .....	\$75/day

***Equipment Charges***

Drilling Fluid Test Kit.....	\$100/day, \$400/week
Field Water Quality Meter (Hach DR890).....	\$75/day, \$275/week
Orion ORP/pH/Temp Probe.....	\$75/day, \$275/week
Water Level Probes (In-Situ Mini-Troll/Level Troll).....	\$100/day, \$300/week
Fuji Ultrasonic Flowmeter.....	\$200/day, \$750/week

\*Regionally and seasonally specific to project.