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August 3, 2018

Ms. Rosa Lau-Staggs
Wastewater Manager
City of Fresno
5607 W. Jensen Avenue
Fresno, CA 93706

Subject: Phase 3 Groundwater Remedial Design/Remedial Action
Request for Additional Funding – Amendment No. 2

Dear Rosa:

The purpose of this letter is to request additional funding from the City of Fresno (City) for the ongoing Phase 3 Groundwater Remedial Design/Remedial Action project. Provided below is a description of the expanded scope of work and cost estimate. This proposed scope of work and cost estimate is Amendment No. #2 to the existing agreement between the City of Fresno and CDM Smith.

Expanded Scope of Work

The expanded scope of work includes additional activities under Construction Period Services, Design Period Services, and Project Management. Detailed descriptions of these activities are provided below. In addition, we are proposing an Optional Additional Services task that is also described below.

Construction Period Services

Construction Period activities will include several categories of activities, as described below.

- **Extended Well Development Activities:** The well drilling program is underway utilizing the mud rotary drilling technology. We are finding that well development is a much more extensive operation with the use of this drilling technology. The City is in the process of developing a change order for the drilling contractor for the expanded level of effort required for the well development activities. This Amendment #2 includes additional hours for CDM Smith field oversight staff specifically for well development.
- **Well Permitting:** With initiation of the well drilling and well construction activities, it became apparent that the new monitoring and extraction wells had not been permitted in accordance with City protocols. As directed by City staff, CDM Smith expedited preparation of the twelve required well permit applications for submittal to the City Water Division for review and approval. The well permit applications were subsequently approved by the Water Division.



- Submittal Review: Review of Contractor submittals for both the Groundwater Wells and Integration projects has required a greater level of effort than anticipated under the original scope of work, including providing direction to the drilling contractor (Groundwater Wells project) in terms of submittal procedures. Additionally, CDM Smith staff have been required to provide input for multiple re-submittals.

Design Services

Re-design for the Extraction Well Control Systems – The electrical subcontractor performing work under the Integration project submitted a request-for-information (RFI#10 addressing the existing control system for the Groundwater Treatment Plant (GTP). As indicated in RFI#10, and confirmed by CDM Smith, the communication protocol for the existing system is becoming obsolete. Several elements of the existing system are no longer available for purchase and/or are no longer supported by Allen-Bradley (manufacturer for existing system components). The electrical subcontractor developed and proposed design changes which would require upgrades to the existing control system. CDM Smith has investigated the issue with electrical vendors and manufacturers. Based on input from the electrical contractor, CDM Smith can develop a modified design that will facilitate continued operation of the existing control system element while upgrading the control system elements for the new wells.

In order to construct the upgraded control system for the two newly installed wells (PW-1C and PW-6C) as proposed by the electrical subcontractor, it will be necessary to document the proposed design modifications. Under this task, CDM Smith will include perform the following elements of work:

Changes to Design Drawings:

- Sheet E-3, Extraction Well Single Line Diagram and Control Panel Elevation: Update panel elevations and nameplate schedule.
- Sheet E-4, Power and Instrumentation Plans: Update conduit callouts and notes.
- Sheet E-5, Electrical Duct Bank Plan: Update conduit callouts and notes.
- Sheet E-6, Control Schematics: Update control schematic.
- Sheet E-7, Conduit and Panelboard Schedules: Update conduit schedule and notes.
- Sheet E-8, Electrical Standard Details: Add mounting details for antenna.
- Sheet I-2, Groundwater Treatment System Wellhead Facility PW-1C P&ID: Update P&ID (e.g., elimination of panel lights) and notes.
- Sheet I-3, Groundwater Treatment System Wellhead Facility PW-6C P&ID: Update P&ID (e.g., elimination of panel lights) and notes.
- Sheet I-4, Control System Architecture Diagram: Update diagram to show new wireless network.

Changes to Technical Specifications:

- Section 13300 – Process Instrumentation and Controls: Update specs to wireless network communications; update control strategies for the two new wells.

- Section 13315 – Process Instrumentation and Controls – Products: Update specs to include equipment such as PLC, HMI, wireless hardware and antenna.
- Section 13315 – Process Instrumentation and Controls – Appendices: Update spreadsheets accordingly to reflect revisions.

Provided below is a listing of assumptions associated with the efforts to re-design and upgrade of the existing system.

- Programming of the remote PLCs for CP-9 (PW-1C) and CP-10 (PW-6C) will be provided by the Integration Contractor.
- SCADA system application work will be provided by the City.
- City will coordinate with the Integration Contractor regarding PLC communications between the groundwater treatment plant and for both CP-9 and CP-10.
- Integration Contractor will develop screens for HMI at CP-9 and CP-10 per the City's standard.
- City will identify antenna location at GTP.

Project Management

The schedule extension includes additional routine project management activities, with a higher level of activity through the end of the construction period. The Integration project construction completion is estimated to occur during December 2018.

Optional Additional Services

The objective of this task provides the City with a contractual mechanism to request CDM Smith to complete currently unidentified out of scope activities that may arise during this project. The proposed approach for this task is described below.

Approach:

The City may require additional services from CDM Smith beyond what is included in the defined scope of work tasks. Prior to performing any additional service, CDM Smith will prepare a proposal for each specific activity consisting of a scope, schedule and budget.

The City will review the proposal for each additional subtask, and provide written response to CDM Smith that:

1. Authorizes CDM Smith to initiate the additional services. The written authorization will state the agreed upon scope of services requested, associated not-to-exceed fees for the subtask and revised project upper limit, and revised schedule; or



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2. Rejects the additional services proposal and directs CDM Smith not to conduct the proposed services.

For each new activity authorized by Zone 7, CDM Smith will assign a separate subtask number.

Cost Estimate

The total requested additional funding for the work described above is \$84,400. Table 1 provides a breakdown of individual cost elements.

Fresno Sanitary Landfill Phase 3 Groundwater Remedial Design/Remedial Action Request for Amendment #2 Funding	
	Requested Funding
Construction Period Services	
Extended Well Development	\$14,500
Submittal Review	\$29,700
Well Permitting	\$3,600
Design Services	\$17,900
Project Management	\$8,700
Optional Additional Services	\$10,000
Total	\$84,400

Please don't hesitate to contact Yash Nyznyk if you have any questions or would like to discuss further.

Sincerely,

John P. Nyznyk, P.E
Associate
CDM Smith Inc.

Servando Molina
Vice President
CDM Smith Inc.

