

December 12, 2023

Castulo Estrada
Utilities Manager
City of Coachella
87075 Avenue 54
Coachella, California 92236

Subject: Proposal to Review Existing Information and Prepare Bid Document Package for Well 16 Rehabilitation Work

Dear Mr. Estrada,

Dudek is pleased to submit this proposal to the City of Coachella to support the City's Well 16 rehabilitation project and prepare bid documentation for the solicitation of licensed C-57 contractors. As part of this well rehabilitation effort, Dudek will review the recent video survey and inspection report performed by Southwest Pump and Drilling on September 1st, 2023 at Well 16. Additionally, we will review the well rehabilitation recommendations, scope and cost submitted by Southwest Drilling and Pump to the City dated October 4th, 2023. Dudek's team of experience hydrogeologists and engineers have advised numerous well rehabilitation projects in desert basins and will provide input and recommendations to refine the approach and scope of well rehabilitation work at Well 16. Following the review of existing data and discussion with the City, Dudek will prepare a bid document package for the City to advertise in order to receive competitive bids from C-57 licensed contractors to perform the Well 16 rehabilitation work.



Figure 1: Severe corrosion and oxidation on Well 16 pump column pipe.

Based on initial data provided by the City, it appears that significant corrosion and iron bacteria oxidation has impacted the pumping equipment in Well 16, as shown in **Figure 1**, and will need to be replaced. Based on the condition of the downhole pumping equipment, it is likely that the well casing is impacted by iron bacteria and some degree of corrosion as well. Therefore, the rehabilitation approach will focus on de-scaling and removing the iron bacteria from the well casing via several techniques including mechanical development and chemical development.

Dudek's project manager, Kayvan Ilkhanipour, PG, CHg, will serve as the point of contact for the City and Patrick Rentz, PG will serve and the senior hydrogeologist on the project. This letter outlines our anticipated scope to provide hydrogeological support for the Well 16 rehabilitation project and includes our assumptions of the level of effort required.

Scope of Work

Task 1: Project Management and Meetings

Dudek will proactively manage the activities under Task 1 to complete the proposed scope on schedule and within the approved budget. We will identify project risks that have the potential to delay the project schedule or result in increased project costs. We will develop a submittal schedule with the District and provide monthly invoicing. Task 1 work will include the following:

- Preparation of monthly invoices and progress reports.
- Monthly budget and schedule tracking.
- Regular communication between the Dudek project manager, City, and project team.
- Facilitation of quality control reviews for deliverables.
- Meetings:
 - Kickoff Meeting: In-person kick off meeting including Dudek project manager, senior hydrogeologist and appropriate City of Coachella engineering, management, and operations staff. The meeting will be followed by a site visit to Well 16.
 - Technical Specifications and bid documentation package meeting: Zoom technical report meeting to review the rehabilitation specifications, bid document submittal and City comments.

Deliverables:

- Meeting agendas in hard copy format for in person meetings and PDF for online meetings.
- Meeting minutes in PDF format for all meetings.

Task 2: Data Request and Review Downhole Well Inspection Video Survey & Report

- Request/review Well 16 as-built and well completion information
- Request/review historical Well 16 water quality and production information
- Review recent downhole color video and inspection report of Well 16

Assumptions:

- City to provide all available data for Well 16.

Task 3: Review Rehabilitation Recommendations and Quote Provided by Southwest Pump and Drilling

Dudek will review the previous rehabilitation performed, recommendations and the quote to perform rehabilitation provided by Southwest Pump and Drilling for Well 16. Dudek will summarize the review in a technical memorandum and discuss the results with the City. Dudek will use the results of the review as well as coordination with the City to finalize the well rehabilitation scope of work that will ultimately be used to prepare bid documents and technical specifications for competitive bidding to perform the approved rehabilitation work.

Deliverables:

- Technical memorandum detailing review of data and recommendations for rehabilitation approach.

Task 4: Prepare Technical Specifications and Bid Documents for Rehabilitation of Well 16

Using the results from work performed in Tasks 2 and 3, Dudek will prepare technical specifications and bidding documents to perform the City approved rehabilitation work. It is assumed that the City will finalize the bid package with their front-end documents and solicit the request for bids through their procurement department. Dudek will coordinate with prospective bidders and attend a pre-bid conference and site inspection to address any questions/concerns from the prospective bidders prior to bid submittal. Dudek will assist the District with written responses to bidders’ questions or requests for information (RFIs) regarding the project and provide bidding support to assist the District with selecting a qualified contractor to perform the rehabilitations

Deliverables:

- Preliminary and final bidding documents and technical plans and specifications .

Assumptions:

- It is assumed the pre-bid meeting will be held in person.

Task 5: Optional - Field Oversight During Rehabilitation

Dudek will coordinate with the awarded bidder and District staff during a pre-construction conference after award of bid to determine logistics and schedule involved with performing the approved scope of work. Dudek will provide full field oversight during well rehabilitation and will make sure the selected contractor maintains compliance with the approved technical specifications. The final well rehabilitation plan will be determined in Tasks 2 and 3, however, based on our current understanding of Well 16 and previous well rehabilitation experience, rehabilitation activities may include the following: removal of existing pump, video survey, mechanical and chemical rehabilitation, well redevelopment by swabbing, poly brushing, airlifting, pumping and surging. A water quality meter will be used during development activities to document pH, electrical conductance (EC), ORP, and turbidity. Dudek will take appropriate measurements and maintain records of well rehabilitation.

Deliverables:

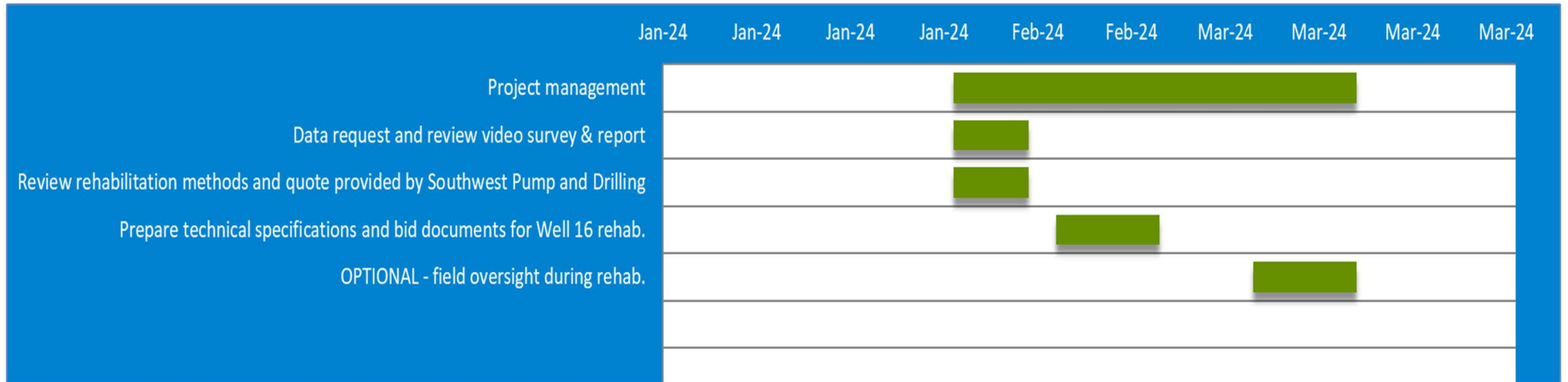
- Daily inspection forms documenting pay items and photographs documenting progress of rehabilitation

Assumptions:

- For purposes of bidding, assume full-time oversight for all rehabilitation.
- This scope assumes 10 total field days (2 weeks) to complete the well rehabilitation work. If the City determines that additional time is necessary to complete rehabilitation of Well 16 to the City’s satisfaction, approval of additional scope and budget may be necessary. Dudek can provide an updated cost for any additional time requested by the City as rehabilitation progress warrants. Conversely, if less time is required to complete the rehabilitation work than estimated here, the City will only be billed for the actual time spent to complete the work.

Schedule

Dudek proposes the following draft project schedule.



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The table below summarizes the anticipated level of effort for each task.

| | | Principal | | | | | Project | | | |
|-----------------------------|--|---------------------|-----------------------|------------------------|----------------------|--------------------|-------------------|-------------------|---------------------|------------------|
| Project Team Role: | | Hydrogeologist (PM) | Sr. Hydrogeologist IV | Sr. Hydrogeologist III | Sr. Hydrogeologist I | Hydrogeologist III | TOTAL DUDEK STAFF | DUDEK LABOR COSTS | OTHER DIRECT COSTS* | TOTAL FEE |
| | | K. Ilkhanipour | P. Rentz | S. Dickey | H. McManus | B. Page/S. Little | HOURS | | | |
| Billable Rate : | | \$290 | \$255 | \$245 | \$225 | \$195 | | | | |
| Task 1 | Project Management and Meetings | | | | | | | | | |
| 1.1 | Project Management | 4 | | | | | 4 | \$ 1,160 | | \$ 1,160 |
| 1.2 | Kickoff Meeting | 1 | 1 | | | | 2 | \$ 545 | | \$ 545 |
| 1.3 | Bid Package Meeting | 1 | 1 | | 2 | | 4 | \$ 995 | | \$ 995 |
| | Subtotal Task 1 | 6 | 2 | | 2 | | 10 | \$ 2,700 | \$ - | \$ 2,700 |
| Task 2 | Data Request and Review Downhole Well Inspection Video Survey and Report | | | | | | | | | |
| 2.1 | Review Existing Data and Well Video | 1 | 2 | | 4 | | 7 | \$ 1,700 | | \$ 1,700 |
| | Subtotal Task 2 | 1 | 2 | | 4 | | 7 | \$ 1,700 | \$ - | \$ 1,700 |
| Task 3 | Review Rehabilitation Recommendations and Quote Provided by Southwest Pump and Drilling | | | | | | | | | |
| 3.1 | Review Rehabilitation Recommendation and Quote | 1 | 2 | 2 | | | 5 | \$ 1,290 | | \$ 1,290 |
| 3.2 | Technical Memorandum with Recommended Rehabilitation Approach | 2 | 4 | 8 | 6 | | 20 | \$ 4,910 | | \$ 4,910 |
| | Subtotal Task 3 | 3 | 6 | 10 | 6 | | 25 | \$ 6,200 | \$ - | \$ 6,200 |
| Task 4 | Prepare Technical Specifications and Bid Documents for Rehabilitation of Well 16 | | | | | | | | | |
| 4.1 | Prepare Technical Specifications and Bid Documents | 2 | 8 | 2 | 40 | 16 | 68 | \$ 15,230 | | \$ 15,230 |
| 4.2 | Attend Pre-Bid Meeting | | 8 | | 4 | | 12 | \$ 2,940 | \$ 129 | \$ 3,069 |
| 4.3 | Response to Bidders (RFIs)/Review Bids/Bid Support | 1 | 4 | | 8 | 12 | 25 | \$ 5,450 | | \$ 5,450 |
| | Subtotal Task 4 | 3 | 20 | 2 | 52 | 28 | 105 | \$ 23,620 | \$ 129 | \$ 23,749 |
| | Total Non-Optional Hours and Fee | 13 | 30 | 12 | 64 | 28 | 147 | \$ 34,220 | \$ 129 | \$ 34,349 |
| | Percent of Hours: | 9% | 20% | 8% | 44% | 19% | 100% | | | |
| Optional Scope Items | | | | | | | | | | |
| Task 5 | Optional - Field Oversight During Rehabilitation | | | | | | | | | |
| 5.1 | Attend Pre-Construction Meeting | 2 | 2 | | 12 | 20 | 36 | \$ 7,690 | \$ 129 | \$ 7,819 |
| 5.2 | Field Oversight During Well Rehabilitation Activities | 2 | 8 | 8 | 20 | 50 | 88 | \$ 18,830 | \$ 2,024 | \$ 20,854 |
| 5.3 | Well Rehabilitation Summary Report | 2 | 2 | 2 | 16 | 4 | 26 | \$ 5,960 | | \$ 5,960 |
| | Subtotal Task 5 | 6 | 12 | 10 | 48 | 74 | 150 | \$ 32,480 | \$ 2,153 | \$ 34,633 |
| | Total Optional Hours and Fee | 6 | 12 | 10 | 48 | 74 | 150 | \$ 32,480 | \$ 2,153 | \$ 34,633 |
| | Total Combined Non-Optional and Optional Hours and Fee | 19 | 42 | 22 | 112 | 102 | 297 | \$ 66,700 | \$ 2,282 | \$ 68,982 |

* Other direct costs include equipment rental, GSA per diem for lodging/meals and mileage/travel.

Total Combined Non-Optional and Optional Time and Materials Not to Exceed.....\$68,982.00

Closing

We appreciate the City of Coachella's consideration of the above proposed scope of work. Should you have any questions please reach out to Kayvan Ilkhanipour at 760.479.4129 or kilkhanipour@dudek.com. We look forward to working with the City on this project.

Sincerely,



Kayvan Ilkhanipour, PG No. 8461, CHG No. 948
Principal Hydrogeologist/Project Manager

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