

February 26, 2025

Castulo Estrada
Utilities Manager
City of Coachella
53462 Enterprise Way
Coachella, California 92236

DUDEK OFFICE LOCATION

*Headquarters - Encinitas
605 Third Street
Encinitas, California 92024*

Subject: Proposal to Provide Hydrogeological Oversight for Drilling, Construction, and Testing of Well 20

Dear Mr. Estrada,

Dudek is pleased to provide the following proposal to the City of Coachella (City) to provide professional hydrogeological services for the drilling, construction and testing of proposed Well 20. This proposal also includes scope and fee for hydrogeological services including assisting the City with bidding (including pre-bid and pre-con meeting), review of RFI's, field oversight during drilling, construction and testing of Well 20, well design, and well completion report.

Scope of Work

Task 1: Project Management and Meetings

Dudek will provide project management by providing regular updates to the City to verify the project is on schedule and budget. This will include formal meetings throughout the duration of the bidding, construction and testing, including a final well design meeting.

Task 3: Bidding Services

Dudek will attend a pre-bid meeting and discuss any technical issues, logistical concerns, or questions regarding the bid specifications with the drilling contractors and the City. An addendum to the bid RFP will be developed based on the questions received, which the City will publish similarly to the bid RFP. Dudek understands that the City will select the drilling contractor and contract directly with the drilling contractor; however, we will assist in reviewing the received contractor bids, evaluating estimated costs, and providing a recommendation to the City. Dudek's services will also include facilitating the pre-construction meeting with the selected contractor and assisting the City in answering any questions from the contractor. Dudek will respond to Requests for Information (RFI) and technical questions during well drilling work. Dudek will also review change orders, contractor invoices, and project schedules. Dudek will work closely with the City to ease the administrative tasks of coordinating the well construction efforts.

Task 4: Hydrogeological Construction Support Services

Dudek will provide construction management and oversight during drilling and construction and work with the City and the State Water Resources Control Board/Division of Drinking Water on final well design. Dudek will provide shift reports and remain in close contact with the drilling contractor and the City during the drilling and construction phases. Dudek's experience has shown that full-time oversight during the well construction and well development phases is critical for proper construction per the final well design and to ensure maximum well production and efficiency. Our experienced hydrogeologists have identified and corrected critical construction and well development errors that otherwise would have resulted in wells not built to the approved design or meeting the standard of care. Dudek's field staff will be well versed in the technical specifications and will identify any deviations from the specifications and communicate these

deviations to the drilling contractor and the City. Dudek will work with the project team to reconcile these deviations and move the project forward while maintaining the desired technical plans. Major well construction tasks include the following:

Conductor Casing Installation

Dudek will oversee installation of the conductor casing and sanitary seal for the extraction well and two nested monitoring wells that will be drilled using the mud rotary drilling method or another approved method recommended by the City and the project team. Dudek will inspect the conductor casing for dimensions and material. Dudek will observe and confirm that calculated volumes of sealing materials are used.

Borehole Drilling

Dudek will observe and document drilling operations. This will include, but not be limited to, a lithological log, making independent records of pipe tallies and confirming the driller's records, drilling mud characteristics, field observations, and progress reporting.

Geophysical Logging

Dudek will be on site to witness the geophysical logging of the completed boreholes. A full suite of geophysical logs will be acquired in each borehole. Additionally, a caliper log will be collected in the boreholes. Our staff will receive the results of the logging and transmit the results to the project team immediately after they are available.

Zone Testing

Dudek will be on site to supervise and document depth specific zone testing to better define contaminants of concern (COCs), focusing on contaminants which are potentially present in the aquifer, such as hexavalent chromium. Work performed includes constructing successive temporary wells in the pilot borehole starting from the bottom of the borehole and working upwards. For bidding purposes, it is assumed four (4) zone tests will be performed during drilling of new extraction Well 20.

Well Construction

Dudek will document and oversee well construction activities. Casing will be inspected when delivered to verify that the material is the same as the final well design, including casing diameter, wall thickness, screen schedule, blank lengths, and slot size. As the well casing is installed, Dudek will verify that screen and blank sections are assembled in order according to the final design. During filter pack and annular sealing-material placement, Dudek will verify that the volume of annular material placed matches the caliper survey volume. Dudek recommends that the drilling contractor make frequent depth measurements using a tag weight to identify and document any volume deficiencies and to prevent bridging. During placement of the upper cement annular seals, Dudek will obtain copies of cement load tickets, verify the correct mix design on cement load tickets, verify the seal placement method (via tremie pipe or placement between advanced casing and well casing), and verify that volume placed is in concordance with annular volume as determined from the borehole caliper survey.

Well Development

Experienced Dudek field staff will oversee the mechanical, chemical and pump development of Well 20. Dudek will provide independent equipment (separately from the drilling contractor) to make measurements

of water levels, turbidity, sand content (as detected with an Imhoff cone), electrical conductance, and other measurements as needed. Discharge water quality will be recorded using a calibrated water-quality meter equipped with a flow-through cell. Total volume of water purged from each monitoring well will be recorded. Dudek will also record the drilling contractor's activities to determine billable contractor hours based on the actual time the contractor spends performing development, excluding the tripping in and pulling of pipe, pumps, and bailers.

Pump Testing and Title 22 Water Quality Sampling

Experienced Dudek field staff will supervise the 12-hour step-drawdown test and 24-hour constant rate test (minimum 24-hour recovery period before constant rate pump test), plus a minimum of 24-hour recovery after constant rate pumping ends. We will monitor water levels and water quality parameters during pump testing using programmable transducers and a water quality meter, respectively. Title 22 water quality samples will be collected and delivered to a certified laboratory of the City's choosing. The samples will be delivered under standard chain-of-custody procedures to the lab. We assume that the laboratory costs will be included as a line item in the driller's contract.

Demobilization (Including Surface Completion Installation)

Dudek field staff will be present during site demobilization and confirm that all well vaults and surface completions have been installed according to the approved specifications.

Preparation of Well Completion Summary Reports and Final Drinking Water Source Assessment Program Documents (DWSAP)

Upon completion of the well construction phase, Dudek will compile the information gathered during the well drilling, construction, and testing into a draft and final well construction report. The well construction report will summarize all field activities, a lithologic log, geophysical interpretation, as-built well design, aquifer testing and analysis, baseline water quality data, and all material collected during the drilling, construction, and testing phases. In addition to a summary of all materials and activities from well drilling, construction, and testing, Dudek will include all analyses from the aquifer testing and recommendations for pump setting, design discharge rate, and estimated drawdown. The final DWSAP documents will be prepared and submitted during this phase of work.

Fee

The total fee for the above referenced work is **\$266,342**. A detailed breakdown of the fee table is provided on the following page.

This proposal is valid for 90 days. On behalf of the Dudek team, we appreciate the opportunity to submit this proposal to the City. Please do not hesitate to contact me at 760.415.9052 or kilkhani@pouir@dudek.com should you have questions or require further information. We look forward to the opportunity to discuss our proposal with the City staff in greater detail and to continue our working relationship.

Sincerely,



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

Fee Table

Project Team Role:		Dudek Labor Hours and Rates					TOTAL DUDEK	DUDEK LABOR COSTS	OTHER DIRECT COSTS	TOTAL FEE
		Hydro PM	Senior Hydrogeologist IV	Senior Hydrogeologist I	Project Hydrogeologist IV	Project Hydrogeologist I				
		K. Ilkhanipour	P. Rentz, S. Dickey	H. McManus, D Pritchard- Peterson	B. Page	S. Little, S. Williams, C. Smith	HOURS			
Billable Rate :		\$300	\$265	\$235	\$215	\$185				
Task 1	Project Management									
1.1	Project Management	50	24	16			90	\$ 25,120		\$ 25,120
	Subtotal Task 1	50	24	16			90	\$ 25,120	\$ -	\$ 25,120
Task 2	Bidding Services									
2.1	Bidding Services	4	28	20			52	\$ 13,320	\$ 400	\$ 13,720
	Subtotal Task 2	4	28	20			52	\$ 13,320	\$ 400	\$ 13,720
Task 3	Construction Support Services									
3.1	Hydrogeology Construction Inspection and	24	72	272	220	272	860	\$ 187,820	\$ 20,042	\$ 207,862
3.2	Well Completion Report and DWSAP	4	8	60		12	84	\$ 19,640		\$ 19,640
	Subtotal Task 3	28	80	332	220	284	944	\$ 207,460	\$ 20,042	\$ 227,502
Total Non-Optional Hours and Fee		82	132	368	220	284	1086	\$ 245,900	\$ 20,442	\$ 266,342
Percent of Hours:		8%	12%	34%	20%	26%	100%			

