

3. SCOPE

Civiltec will ensure that this project is initiated successfully and completed as scheduled. We believe, executed at the management level by our highly qualified team members, will lead to successful completion to the benefit of the City, key stakeholders, and your customers. Based on the scope of services outlined in the request for proposal (RFP) and during the pre-submittal meeting, our detailed work plan is described in the following phases and tasks.

Task 1 – Project Management

A kick-off meeting will be scheduled with the City to introduce team members and formalize lines of communications as well as discuss project information, goals, schedules, potential conflicts, and requirements. We will request and obtain any records, data, and/or documents pertinent to the project.

Meetings will also be scheduled monthly via video conference to provide progress updates to the City. It is anticipated that a total of six (6) additional meetings, following the initial kick-off meeting, will be scheduled, and conducted for the City by *Civiltec*. Agenda and meeting minutes will be prepared and distributed to the project team for the kick-off and in-person meetings. Communication will be made with the City frequently to keep personnel well informed. This task also includes coordinating the project on a management level to ensure budgets and schedules are met, quality of deliverables, and accurate invoicing.

Deliverables. *Electronic copy of the schedule, agenda, and meeting minutes will be sent via email. Monthly invoices will also be sent via email unless required in hard copy format.*

Task 2 – Data Research and Review

We will obtain the City’s relevant documents and thoroughly review them to verify drilling, casing installation, equipping, and the ultimate operation to ensure we meet the City’s goals.

Recommended Documents to be Collected and/or Updated as Soon as Possible

Driller’s logs, well construction reports and electric logs (E-logs), as available (RCS already has this data in their company files).

Southern California Edison (SCE) and/or pump check well efficiency test records.

Well rehabilitation records, including available video logs.

Historic static water levels, pumping water levels, pumping rates and specific capacity data, if available, from City Supervisory Control and Data Acquisition (SCADA) records, or from pumping contractors who may have either installed or serviced each permanent pump.

Historic water quality data. These data will also be culled from the State Water Resources Control Board (SWRCB), Division of Drinking Water (DDW) online water quality database records.

Task 3 – Hydrological Services

Civiltec will coordinate the field efforts with BEST to perform the initial field work during pump removal and testing of each well and will have an onsite observer during this work. RCS will obtain the data generated from *Civiltec* and/or BEST and review it for analysis of down well conditions. This will enable RCS to preliminarily identify a course of rehabilitation action for each of the three wells.

Hydrologic Services

Remove 220 to 310 feet of 10-/ 12-inch column with oil lube tube and shaft assemblies at three unique well locations (assumes assemblies are in a condition that will allow reasonable removal and that all parts of proper condition to be reinstalled into the well).

Initial video surveys of Well Nos. 16, 19, and 21

CITM surveys of Well Nos. 16, 19, and 21.

Static spinner surveys of Well Nos. 16, 19, and 21.

Option to replace 200-feet of 10-/ 12-inch column with oil lube tube and shaft assemblies at three unique well locations (assumes all removed assemblies can be returned to the well and additional parts or materials for proper reinstallation are not required).



Hydrologic Services
Brush and bail three wells with wire brush and hydrogen peroxide.
Five (5) 265-gallon totes of 34% NSF hydrogen peroxide.

Task 4 – Prepare Reports (Technical Memorandum)

Civiltec and RCS will prepare a Technical Memoranda outlining our findings and conclusions regarding evaluation and review of the available data and conducting a detailed assessment (evaluation) of each well. It is envisioned that a separate Technical Memorandum will be prepared and submitted for each well.

Technical Memoranda(s) Shall Include
Introduction, stating purpose and scope of our work.
History of previous well rehabilitation efforts, if any.
Review of any previously performed well video survey logs.
Plotting of static and pumping water levels and specific capacities, as available (e.g., from SCE and/or pump check tests and/or City records), to determine any changes in these parameters over time.
Static and pumping water level data and information on the depth of the permanent pump in each well, as available from the City or its prior pumping contractors.
The “as-built” construction details of the well, as available from driller’s logs, well construction reports (if available) and/or video survey logs.
Review of available water quality data.
Based on our assessment of down well conditions, options for rehabilitation of each well will be presented. These options might include a recommendation for sampling of any biological growths/encrustation and inorganic scaling that might occur on the well casing and/or pump column/bowls.
Possible rehabilitation operations that can be performed on each well. These rehabilitation operations will be tailored to each well and its particular issues/problems.

Deliverables. A draft Technical Memorandum, of each well, will be provided as a PDF. Following receipt of any comments from the City, we will finalize the documents and provide the City with final PDF versions.

Task 5 – Replace Column Pipe (Optional Task)

Best will replace a total of 200 feet of column pipe shaft and shaft tube as is necessary to reinstall the pumping system. At this time, it is unknown whether column pipe will need to be replaced due to condition or other issues. In light of this Best will replace these elements in each of the wells up to 200 feet total. Due to scheduling and material supply issues, it is envisioned that Well 19 would be pulled first as it is out of service and an immediate return to service is not necessary. If it is determined that materials downhole need to be replaced a minimum of 200 feet of column pipe, shaft, and shaft tubing will be ordered to address the needs of Well 19 as well as have materials on hand for the remaining wells. The material supplier requires a minimum 200 feet order. In light of this a total of 200 feet will be replaced if any column pipe, shaft or shaft tubing at any one well is required to be replaced.

Phase 2 – Engineering Design for Rehabilitation of Well 19 (Optional Task)

Civiltec will prepare the base map of the existing Well No. 19 site, building, mechanical, and electrical improvements. We will build upon the recommendations made in the final report to identify the necessary pump, motor, and electrical improvements to refurbish the Well No. 19 equipment. Due to the unknown condition of Well No. 19 equipment, it is assumed that a new pump and motor will be required. This may require a moderate amount of piping modifications, utility water supply improvements and electrical control system upgrades. Alternatively, it may be recommended to only rehabilitate the existing pump and motor. Either scenario is considered in our efforts.

In addition, technical specifications will be prepared for the rehabilitation of only Well No. 19. For this task, specifications will address the



actual rehabilitation tasks that will need to be performed on the well. Approximate line-item bid sheets will also be provided.

Envisioned Tasks for Well No. 19 Rehabilitation
Installation of a casing liner/gravel pack, if deemed necessary. This will be an optional task and will only be used if deemed necessary based on our review of the data from the initial testing (see Task 3).
Chemical treatment.
Swabbing and airlifting.
A post-chemical treatment video survey.
Pumping development.
Production testing.
Dynamic spinner survey.
Final video, static spinner survey and well disinfection (chlorination).

At this time, a full casing liner for the well is not envisioned. However, should it be deemed that such a liner is necessary, then this task will be added to the technical specifications. If needed, field personnel will be provided during installation of the liner casing.

Final bid package items will also include bid sheets, and probable estimate of costs, and the technical portion with the City's "boiler plate" up-front documents.

Our team will also be available to attend one pre-bid meeting, answer any contractor questions, preparing addendums and review the bid packages.

Deliverables. Four (4) sets each of the 60%, 90%, 99% and 100% bid plans, specifications, bid sheets, probable estimate of costs, and the City's boiler plate up-front documents will be submitted. We will submit the final deliverable on Mylar of the plans and the project specifications. All original AutoCAD and documents will be provided.

Phase 3 – Drilling Construction Management and Inspection Services (Optional Task)

Civiltec will provide construction phase services to support the City's well rehabilitation efforts with respect to contractor oversight, monitoring,

adherence to the specifications and contract, documenting activities, providing recommendations for final completions based on field conditions. Our construction observer (Bryan Hellein) will provide full time observations during the implementation of the work. Based on our recent experience on Well No. 21 the improvement will require approximately 40 working days to complete. RCS will provide limited observation services during rehabilitation by providing a field groundwater geologist.

For this task we have assumed two online meetings, review of progress billings, and review of possible change order requests by the contractor. RCS will prepare a Summary of Well Rehabilitation Operations Report to help document the work performed on the well, and it will include an assessment of new testing data, and recommendations for a final pumping rate for Well No. 19. This report will be replete with all tables, figures, well construction documents, and photographs for supporting documentation.

- 1. Preconstruction Meeting.** *Civiltec* will arrange and conduct a preconstruction meeting, under supervision of the construction manager. We will distribute an agenda and minutes of meeting to the project team. The project team will also video record the site prior to construction and post construction and provide the DVD to the City. We will document the condition of the existing roadways to ensure that any existing damage is well documented. We will perform this same review at the end of the construction project and document any changes to streets and areas adjacent.
- 2. Job Meetings.** *Civiltec* will arrange and conduct regular and weekly job site meetings with the City, observer, contractor, and participating outside consultants and agencies. We will coordinate a central conference call number so that all project participants can be involved in the meetings. Our construction manager will be available through this conference call number. We will



develop an agenda of issues to be discussed and minutes of the meeting outlining action items for the contractor and each project team member. We believe these weekly jobsite meetings keep the contractor focused on the tasks at hand and upcoming tasks.

3. **Project Schedule.** *Civiltec* will maintain the master construction schedule, continually develop methods to expedite work progress, monitor the contractor's progress with work in relation to the schedule, and provide solutions, as necessary. We will notify all parties involved of critical path issues as they arise. We will ensure the contractor issues monthly schedule updates and ensure the schedule reflects actual work performed. We will tie the progress schedule to the expenditures/invoicing by the contractor monthly to ensure the contract and budget controls are in compliance.
4. **Submittals and Shop Drawings.** *Civiltec* will obtain, manage, review, and distribute shop drawings, manufacturer's submittals, and safety instructions on each phase of the work. We will continually track progress of submittals and approvals to ensure contractual compliance and issue monthly reports on the status of submittals. It is assumed that all contractor submittals will be distributed to the appropriate parties electronically.
5. **Coordination.** *Civiltec* will coordinate multiple contractor's interfacing on the project in the same time frame; coordinate construction activities with adjacent land owners, agencies, utility companies, the public and parties utilizing the site and adjacent streets, coordinate contractor's requirements for supplemental water, document contractor's relations with any outside parties; observe and record the physical condition of any temporary site security measures provided by the contractor, provide and coordinate the need for field geotechnical, geologic, and technical personnel to conduct excavation observations, concrete cylinder break tests and compaction testing at the project site, and coordinate laboratory services for soil compaction, concrete break tests and rebar sample tests, and report all results of testing.
6. **Observation.** *Civiltec* will provide on-going, full-time observation of construction work identified herein to ensure quality of construction and adherence to specifications, drawings, California Environmental Quality Act (CEQA) documents, approved Stormwater Pollution Prevention Plans (SWPPPs), and submittals. We will monitor and ensure the contractor's compliance with all requirements of the project, document daily work progress with written logs, digital photographs, and video logs as well as monitor all major equipment deliveries in accordance with approved shop drawings, maintain and continually organize the required folders and binders during construction so all field documents are readily available to the City, provide weekly summary reports to the City and project team documenting progress that will include daily reports, test results, and an updated schedule, observe the contractor for compliance with site and job safety requirements, and inform the City of any concerns or problems concerning site or job safety observed. *Civiltec* can provide off-site observation, as necessary, to ensure quality control and compliance with submittals, as requested by the City. All observer duties listed in the March 25, 2021 RFP will be accomplished. We developed observer hours based on an approximate 40 working day contract time that equates to 320 working hours.
7. **RFIs and Changed Conditions.** *Civiltec* will manage and review RFIs and change orders submitted by the contractor and submit RFIs and requests for change orders with documentation and responses to the City for review and consideration, and implement changes, as required, and directed, to the project team.



8. **Pay Estimates.** *Civiltec* will obtain, verify, analyze, and process contractor's request for monthly progress pay estimates and the final pay request. We will also obtain conditional and unconditional lien releases from contractors and receive and provide certified payroll to the City as required for compliance with the contract.
9. **Record Drawings.** *Civiltec* will maintain the official construction record drawings indicating any changes in the design, materials, dimensions, and details. This work will be done in concert with the contractor. The redline drawings will be issued to the City for production of the final record drawings. *Civiltec* will prepare the as-built drawings in AutoCAD for final approval by the City.
10. **Final Observation.** *Civiltec* will arrange and conduct the start-up testing, pre-final observation, and final observation of work placed into service to be witnessed by the project team; ensure all operational manuals and warranties are reviewed and approved; prepare a "punch list" of all items to be completed by the contractor to obtain final completion; and ensure items are completed.
11. **Project Closeout.** *Civiltec* will resolve all outstanding payment issues and recommend final payment to contractor. We will work with the City to prepare and record the Notice of Completion; prepare and provide a completion report to the City consisting of a discussion of construction activities, final schedule, contractor evaluation, photographs, reports, test results, change orders, and miscellaneous documentation; and meet with the City to close out the project.

Deliverables. *A draft version of the report as a PDF will be submitted to the City for review. Following receipt of possible comments, a final version of the report will be prepared and transmitted to the City in PDF format.*





Civil, Water, Wastewater, Drainage, Transportation and
 Electrical/Controls Engineering • Construction Management • Surveying
 California • Arizona

City of Garden Grove
 13802 Newhope Street
 Garden Grove, CA 92843

Revised June 3, 2021

Attention: Rebecca Li, PE | Senior Civil Engineer

Subject: Proposal for Engineering and Condition Evaluation of Well Nos. 16, 19 and 25 (Rev. 1)

Dear Ms. Li:

Civiltec engineering, inc. (Civiltec) proposes to provide the scope of services per our proposal dated April 29, 2021 for the above-mentioned project on time and materials not to exceed the following total budgets without prior authorization from the City of Garden Grove (City).

Phase 1 - Engineering and Condition Evaluation

Task 1 - Project Management	\$21,120.00
Task 2 - Data Research and Review	\$14,223.00
Task 3 - Hydrological Services	\$139,333.00
Task 4 - Prepare Reports (Technical Memorandum)	\$27,064.00
Total (w/o Optional Tasks)	\$201,740.00
Phase 1 - Preliminary Scope Contingency (15%).....	\$30,261.00
Total Project Fee (w/Contingency).....	\$232,001.00

Optional Tasks

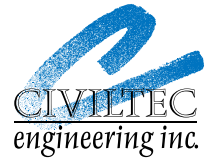
Phase 1 - Replace 200' of Column Pipe, Shaft & Shaft Tube*.....	\$45,250.00
Phase 1 - Optional Phase Contingency (15%)	\$6,788.00
Phase 2 - Engineering Design for Rehabilitation of Well 19	\$58,418.00
Phase 2 - Optional Phase Contingency (15%).....	\$8,763.00
Phase 3 - Drilling Construction Mgt. & Inspection Services.....	\$102,075.00
Phase 3 - Optional Phase Contingency (15%).....	\$15,311.00
Total (w/ Optional Tasks)	\$407,483.00
15% Contingency	\$61,123.00
Total Project Fee (w/Optional Tasks and Contingency)	\$468,606.00

*Installation of 200' of column pipe, shaft and shaft tubing is valid for 30 days due to market volatility. This component is limited to 200' of replacement and assumes approximately 70' pipe, shaft and tubing are needed per well.

Evaluation of Well Nos. 16, 19 and 25

Revised June 3, 2021

Page 2



The project budget worksheet is included as an attachment. The City will be responsible for any permit or plan check fees. Please contact me with any questions you may have. We are available to discuss this proposal at your convenience. This cost proposal is valid for a period of 90 days.

Sincerely,

A handwritten signature in blue ink that reads 'C. Shem Hawes'.

C. Shem Hawes, PE

Principal, Senior Engineer

CSH:cmsw:\Proposals\2021 Proposals\Fullerton Proposals\PF21027.00-Garden Grove-Eval of Wells 16, 19, 25\Final Proposal\Civiltec's GG Well Eval Proposal-REV 2021-06-03.docx

Attachment A
Breakdown of Hours and Fees

City of Garden Grove
Engineering and Condition Evaluation of Well Nos. 16, 19 and 25
Time and Fee Estimate

Date June 2, 2021

Scope of Work	HOURS BY SrE	HOURS BY PrEE	HOURS BY SrPE	HOURS BY Sr. D	HOURS BY SE	HOURS BY CADT	HOURS BY Admin	HOURS BY CO	RCS Hydrogeologist (x1.05)	BEST Drilling Contractor (x1.02)	TOTAL COST
Phase 1 - Engineering and Condition Evaluation											\$ 201,740.00
Task 1 - Project Management	24		16				4		\$ 12,160.00		\$ 21,120.00
Task 2 - Data Research and Review	2	4	8		24				\$ 7,783.00		\$ 14,223.00
Task 3 - Hydrological Services	4							40	\$ 1,413.00	\$ 132,600.00	\$ 139,333.00
Task 4 - Prepare Reports (Technical Memorandum)	4	4	12		32		4		\$ 17,864.00		\$ 27,064.00
Task 5 - Replace 200' of Column Pipe, Shaft & Shaft Tube (Optional Task)										\$ 45,250.00	\$ 45,250.00
Phase 2 - Engineering Design for Rehabilitation of Well 19 (Optional Task)											\$ 58,418.00
Task 1 - Well Conditioning and Development Procedure	4								\$ 5,271.00		\$ 6,191.00
Task 2 - Draft Plans, Specifications and Contract Documents	8	12	24	24	40	16	4		\$ 9,162.00		\$ 30,582.00
Task 3 - Final Plans, Specifications and Contract Documents	4	8	12	12	16	8			\$ 4,953.00		\$ 15,313.00
Task 4 - Bidding Assistance	4		4		6				\$ 3,732.00		\$ 6,332.00
Phase 3 - Drilling Construction Mgt. & Inspection Services (Optional Task)											\$ 102,075.00
Task 1 - Preconstruction Meeting	6		4		4				\$ 1,605.00		\$ 4,365.00
Task 2 - Job Meetings	8				24				\$ 2,407.00		\$ 7,847.00
Task 3 - Project Schedule	1				8						\$ 1,430.00
Task 4 - Submittals and Shop Drawings	2				8				\$ 2,407.00		\$ 4,067.00
Task 5 - Coordination	1				4						\$ 830.00
Task 6 - Observation								320	\$ 32,033.00		\$ 67,233.00
Task 7 - RFIs and Changed Conditions	1				8				\$ 1,605.00		\$ 3,035.00
Task 8 - Pay Estimates	2				8						\$ 1,660.00
Task 9 - Record Drawings	2				4	4					\$ 1,480.00
Task 10 - Final Observation	2				4				\$ 4,004.00		\$ 5,064.00
Task 11 - Project Closeout	2				4				\$ 4,004.00		\$ 5,064.00
HOURS	81	28	80	36	194	28	12	360			819
Phase 1 - 15% Contingency											\$ 30,261.00
Phase 1 Cost (No Optional Tasks)											\$ 232,001.00
BUDGET (w/ Optional Tasks)	\$ 18,630.00	\$ 5,740.00	\$ 15,600.00	\$ 6,660.00	\$ 29,100.00	\$ 2,940.00	\$ 960.00	\$ 39,600.00	\$ 110,403.00	\$ 177,850.00	\$ 407,483.00
15% Contingency (w/ Optional Tasks)											\$ 61,123.00
TOTAL COST (w/ Optional Tasks and Contingency)											\$ 468,606.00

SR - PIC = Sr. Principal Engineer
 SrPM = Sr. Project Manager
 SrPE = Sr. Project Engineer
 SE = Staff Engineer
 CADT = CAD Technician
 Admin = Administrative Assistant/Clerical
 SM = Survey Manager
 PIC = Principal Engineer
 PrEE = Principal Electrical Engineer
 PE = Project Engineer
 D = Designer
 JE = Junior Engineer
 CO = Resident Eng./Const. Observer
 SLS = Staff Land Surveyor
 SE = Senior Engineer
 PM = Project Manager
 SdD = Sr. Designer
 DD = Designer/Drafter
 PT = Planning Technician
 2M5 = Two Person Survey Crew

Attachment B
Rate Schedule



Civil, Water, Wastewater, Drainage, Transportation and
 Electrical/Controls Engineering • Construction Management • Surveying
 California • Arizona

RATE SCHEDULE

EFFECTIVE UNTIL DECEMBER 31, 2021

Senior Principal Engineer	\$250.00
Principal Engineer.....	\$240.00
Principal Engineer - Expert Witness Testimony.....	\$375.00
Senior Engineer.....	\$230.00
Senior Project Manager.....	\$220.00
Principal Electrical Engineer	\$205.00
Project Manager	\$200.00
Senior Project Engineer	\$195.00
Project Engineer.....	\$190.00
Senior Designer.....	\$185.00
Staff Engineer	\$150.00
Designer	\$140.00
Designer/Drafter	\$125.00
Planning Technician.....	\$110.00
Resident Engineer/Observer	\$110.00
CAD Technician	\$105.00
Junior Engineer.....	\$80.00
Administrative Assistant/Clerical	\$80.00
Two Man Survey Party	\$240.00
Survey Manager	\$180.00
Staff Land Surveyor.....	\$125.00
Subcontracted Services.....	Cost plus 15%
Mileage.....	\$0.545/mile

NOTE: All rates are effective until December 31, 2021. Any increases in rates after that date will be limited to 5% maximum.

W:\Documents\Corporate\Rate Schedules\2020 CA Rate Schedule.docx