

TASK ORDER

Task Order No. CDM-20-009-TO,  
consisting of 21 pages.

**Task Order**

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In accordance with paragraph 1.01 of the Master Services Agreement between Owner and CDM Smith, Inc. ("Engineer") for Professional Services – Task Order Edition, dated September 30, 2016, ("Agreement"), Owner and Engineer agree as follows:

1. **Specific Project Data**

A. Title: South Lake WTP and 1178 Transmission Main

Description: Preliminary Engineering, Final Design, Bidding and Construction Services for the new South Lake Water Treatment Plant (SLWTP) and 1178 Transmission Main. The plant will have a treatment capacity of 22 million gallons per day (MGD) with capabilities for expanding to 44 MGD in the future. The 1178 Transmission Main will carry water from the SLWTP to the water distribution system in the 1178 pressure plane. The SLWTP and 1178 Transmission Main will be designed and packaged as two sets of construction documents. The work will be constructed in two separate construction contracts.

C. City of Georgetown Project Number: 2BN

D. City of Georgetown General Ledger Account No.: 660-9-0580-90-178

E. City of Georgetown Purchase Order No.: \_\_\_\_\_

F. Master Services Agreement, Contract Number: 2016-738-MSA

2. **Services of Engineer**

**BACKGROUND**

The project includes a new South Lake Water Treatment Plant (SLWTP) constructed on property currently owned by the City of Georgetown (OWNER) near Lake Georgetown. The plant will have a treatment capacity of 22 million gallons per day (MGD) with capabilities for expanding to 44 MGD in the future. The project will also include a 40,000 LF treated water pipeline to carry water from the SLWTP to the 1178 pressure plane of the City's water distribution system. The raw water supply facilities, including a raw water intake and pump station and 3,800 LF of raw water pipeline to carry water to the SLWTP, are being designed and constructed under separate contracts.

The SLWTP will have conventional processes consisting of rapid mix, flocculation, sedimentation and filtration located in one treatment structure; a treated water clearwell; a high service pump station; liquid chemical storage and feed facilities for alum, cationic polymer,

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sodium hypochlorite, liquid ammonium sulfate (LAS), fluosilicic acid, and potentially caustic and potassium permanganate; washwater recovery facilities; gravity thickener; and a sludge dewatering building with belt filter press.

This scope of work includes engineering services associated with the preliminary and final design of the new South Lake Water Treatment Plant and the treated water pipeline described above. The scope of work also includes services during the bidding and construction phases of these facilities.

The SLWTP will be designed and packaged as one single set of construction documents. The associated treated water pipeline will be designed and packaged as a second separate set of construction documents. The work will be constructed in two separate construction contracts.

### **SCOPE OF SERVICES**

ENGINEER shall provide for OWNER the following specific Services:

#### **Phase 1 - Preliminary Engineering**

Under Phase 1, ENGINEER will develop the treatment processes and associated plant facilities for the new South Lake WTP. A Preliminary Engineering Report with 30% complete drawings will be prepared documenting the new plant and providing a basis for final design. The following tasks will be performed as part of Phase 1.

##### ***1.0 General Tasks***

***Task 1.0.1 – Project Management.*** ENGINEER will provide general project management throughout the project to include oversight and coordination of all of ENGINEER's efforts executing the work internally and with OWNER. ENGINEER will monitor scope, schedule and budget and will prepare a project management plan. ENGINEER will provide a project status report to the OWNER with the monthly invoice.

**Deliverables:** Monthly invoices and status reports (electronic copies)

***Task 1.0.2 – Project Meetings.*** Project progress meetings will be held during the course of the Preliminary Design Phase with the OWNER's staff to discuss aspects of the project presently underway, project schedule, and upcoming issues. These meetings will generally be about two to three hours in duration and are not intended to be formal presentations. The appropriate ENGINEER team members will attend the meetings to discuss pertinent issues. Two progress meetings are planned for this phase of the project.

**Deliverables:** Meeting agenda and meeting summaries (electronic copies)

***Task 1.0.3 – Workshops.*** ENGINEER will conduct the following workshop during the Preliminary Design.

- **Workshop 1-01 – Process Control, Instrumentation, and SCADA Development.** A 4-hour workshop will be conducted to cover the project I&C

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topics including: system architecture; control strategies; communications network and SCADA system; hardware, software and programming issues; standard equipment; security issues; system maintenance and staffing; procurement; integrating new system with existing system. The scope of work does not include an evaluation process for pre-selecting a process control system.

**Deliverables:** Workshop agenda and workshop summary (electronic copies)

**Task 1.0.4 – Quality Assurance/Quality Control.** ENGINEER will follow internal Quality Management procedures throughout the project related to checking and reviewing procedures. The Preliminary Engineering Report and 30% Drawings will be submitted to the ENGINEER Technical Review Committee (TRC) for review. The review will provide comments and suggestions concerning process viability and implementation, site planning, and project scheduling.

**Deliverables:** Review Comment Response Memorandum and tracking spreadsheet (electronic copies)

**Task 1.0.5 – Review Meetings.** A review meeting with OWNER's staff will be conducted for the PER and 30% Design documents. This meeting will be held approximately one to two weeks following submittal of the drawings to provide time for review. The review meeting will be approximately 4 hours. Following their review, OWNER's staff will provide written comments to ENGINEER. ENGINEER will provide written responses to these questions.

**Deliverables:** Review Comment Response Memorandum and tracking spreadsheet (electronic copies)

**Task 1.0.6 – Surveying.** ENGINEER will conduct a topographical survey for the water treatment plant site and the treated water pipeline route. Ten (10) primary survey control monuments will be established along the project route. Coordinate values will be reconciled with NAD 83 State Plane Coordinates, Central Zone 4203, US Survey feet and NAVD 88 for vertical control datums.

ENGINEER will also provide boundary survey for the water treatment plant site and up to 39 permanent easements with survey plats for the treated water pipeline route. It is assumed that temporary construction easements will be referenced as adjacent to and parallel with the permanent easements.

**Deliverables:** None

**Task 1.0.7 – Geotechnical Engineering.** ENGINEER will take soil borings and perform geotechnical work for the water treatment plant site and treated water pipeline. Thirty-two borings will be taken on the WTP site. Laboratory analyses will be prepared on the soil samples. A geotechnical report will be prepared to include the results of the analyses and geotechnical recommendations for the design of foundations for the proposed structures. Clearing of the site for access by drilling equipment is not included in the scope.

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**Deliverables:** Geotechnical Report (One hard copy and electronic copy in .pdf format)

**Task 1.0.8 – Environmental and Archaeological Services.** ENGINEER will perform environmental and archaeological services of the plant site and treated water pipeline route. The following assessments will be provided:

- Jurisdictional Waters Assessment
- Endangered Songbird Habitat Assessment
- Karst Feature Survey
- Spring Survey Report to comply with the City of Georgetown Water Quality Ordinance
- Archaeological Survey and THC Antiquities Code permit application
- Hazardous Materials Screen

Memorandum or reports will be prepared and submitted presenting the findings.

**Deliverables:** Environmental and Archaeological Report (one hard copy)

### **1.1 Evaluation Tasks**

Several items will be evaluated during the Preliminary Design Phase to determine the best means for implementation into the Final Design. ENGINEER will review findings for these evaluations with OWNER's staff and, after agreement is reached, incorporate agreed upon changes within the Preliminary Design.

**Task 1.1.1 – Electrical Power Assessment and Evaluation.** A new electrical power delivery system will be required for the new South Lake Water Treatment Plant and raw water pump station to provide sufficient reliable power to these facilities. ENGINEER is conducting an evaluation of alternatives for power delivery to plant site under the separate raw water intake and pump station contract. ENGINEER will update this evaluation and further develop the electrical loads for the new plant facilities to confirm the initial and ultimate power requirements for the new plant.

ENGINEER shall update the memorandum provided under the raw water intake and pump station contract summarizing and documenting the selected alternative for power delivery.

**Deliverables:** Electrical Power Assessment Technical Memorandum Update (electronic copy)

**Task 1.1.2 – Process Instrumentation and Control Plan Development.** ENGINEER will develop a plan for the instrumentation and control systems for the new South Lake WTP and means for communication with the OWNER's existing SCADA system to allow for remote monitoring and control. OWNER, with ENGINEER's assistance, will determine and provide direction for the HMI to be used for the South Lake WTP. ENGINEER will prepare preliminary system architectural drawings for the proposed system and prepare a technical memorandum presenting the I&C system.

**Deliverables:** Process Instrumentation and Control System Technical Memorandum. (electronic copy)

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**Task 1.1.3 – Plant Hydraulics.** ENGINEER will perform hydraulic evaluations and analyses for the water treatment plant and high service pump station and treated water pipelines. Hydraulic profiles will be developed through the plant processes, both treatment and residuals handling facilities, so that the structures and piping are sized and elevations set properly for minimum, average, and maximum day plant flows.

In addition, system head curves will be developed for various operating conditions so that the new high service pumps can be sized for the desired flow rates. ENGINEER will evaluate the number of pumps and pump capacity to be used for the new high service pump station. Transient and surge analyses will be conducted for the high service pump station and treated water pipelines.

**Deliverables:** Summary Technical Memorandum for Hydraulics (including hydraulic profile drawings and high service pump station system curves) and Transient and surge analyses report (electronic copies)

**Task 1.1.4 – Architectural Concept Evaluation.** ENGINEER will discuss potential architectural ideas with OWNER staff and develop architectural concepts for the plant facilities. ENGINEER will develop and produce architectural elevations for submittal.

**Deliverables:** Architectural concept sketches and drawings, preliminary architectural elevations, preliminary landscape architecture drawing.

**Task 1.1.5 – Permits / Code Review.** ENGINEER/Architect will conduct a preliminary assessment of all project related code and permit requirements and develop a memorandum outlining the issues to be included during the design phase of the project.

**Deliverables:** Permits and Code Review Memorandum

### 1.2 Preliminary Design

**Task 1.2.1 – Project Planning and Design Development.** ENGINEER will select and develop the treatment process based on water quality and regulatory requirements. It is assumed that a conventional treatment process will be used for the South Lake Water Treatment Plant (SLWTP) based on understanding of water quality and treatability from the existing Georgetown Lake WTP and other area water treatment plants that obtain raw water from the same source. A review of available raw water quality will be conducted to determine if process modifications or chemical additions may be required to treat regulated constituents beyond standard treatment issues. A water quality report, including corrosivity analysis, will be prepared and submitted to TCEQ for approval. A disinfection scheme will be developed to enable the plant to meet CT requirements.

As part of the raw water intake and pump station project, a conceptual design of the new SLWTP is being developed, including preparation of a process flow diagram, water balance, preliminary design criteria for the plant processes, and civil site layouts for the new plant facilities. ENGINEER will update the conceptual design with any necessary changes prior to developing the Preliminary Engineering Report.

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**Deliverables:** Raw Water Quality Report, CT Study, Updated Conceptual Design Memorandum

**Task 1.2.2 - Preliminary Engineering Report and 30% Drawings.** ENGINEER will prepare a Preliminary Engineering Report (PER) and 30% complete design drawings for the South Lake WTP project that will incorporate the work performed during Task 1.2.1 and items evaluated in Task 1.1. The PER will include all plant design criteria and the proposed list of major equipment, electrical load list. The 30% drawings will include site plan, yard piping plans, preliminary paving and grading plans, layouts of facilities, structures and buildings, process, mechanical and instrumentation diagrams (PMIDs), electrical one-line diagrams, I&C system architecture and preliminary plans for the transmission main. The PER will serve as the guide for developing the detailed final design.

**Deliverables:** Preliminary Engineering Report and 30% Drawings (five hard copies of report and ½ size drawings and electronic copies)

**Task 1.2.3 – Preliminary Project Cost Estimates.** ENGINEER will develop preliminary opinions of probable construction costs for the plant facilities and transmission main. A memorandum will be prepared documenting the cost estimating assumptions and cost summaries.

**Deliverables:** 30% Opinion of Probable Cost

### Phase 2 - Final Design

ENGINEER will develop contract documents for bidding and construction of the South Lake WTP projects. The final design will be based on the work developed in Phase 1 – Preliminary Engineering.

#### 2.0 General Tasks

**Task 2.0.1 – Project Management.** ENGINEER will perform project management duties through the Final Design Phase, including tracking budget and schedule, producing monthly status reports and invoicing.

**Deliverables:** Monthly invoices and project status reports (electronic copies)

**Task 2.0.2 – Project Meetings.** Project progress meetings will be held during the course of the Final Design Phase with the OWNER's staff to discuss aspects of the project presently underway, project schedule, and upcoming issues. These meetings will generally be about two to three hours in duration and are not intended to be formal presentations. The appropriate ENGINEER team members shall attend the meetings to discuss pertinent issues. Eight progress meetings are planned for this phase of the project.

**Deliverables:** Meeting agenda and summaries (electronic copies)

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**Task 2.0.3 – Workshops.** ENGINEER will conduct the following workshops during Phase 3.

- **Workshop No. 2-01 – Equipment Selection and Maintenance.** A ½-day workshop will be conducted with plant O&M staff to discuss issues related to proposed equipment and facility maintenance. The purpose of this workshop is to ensure that OWNER standards are maintained, while keeping the project bid competitive, and to minimize operational and maintenance requirements.
- **Workshop No. 2-02 – Electrical Facilities.** A ½-day workshop will be conducted with the OWNER’s electrical group to ensure that OWNER’s standards are being followed and to reach consensus on equipment manufacturers and materials used for the new facilities.

**Deliverables:** Workshop agenda and summaries (electronic copies)

**Task 2.0.4 – Quality Assurance/Quality Control.** The 60% complete plans and specifications will be submitted to the ENGINEER Technical Review Committee (TRC) for review. The review will include process and technical feasibility, constructability, discipline coordination, and plans and specification coordination. The 90% complete plans and specifications will be submitted to senior level staff for a “red-yellow-green” quality check to ensure coordination and constructability.

**Deliverables:** TRC Comment Response Memo and tracking spreadsheet (electronic copies)

**Task 2.0.5 – Review Meetings.** Review meetings with OWNER staff will be conducted for the 60% and 90% complete plans and specifications. These meetings will be held approximately two weeks following submittal of the documents to provide time for review. It is anticipated that review meetings, approximately 4 hours each, will be conducted at both the 60% and 90% completion. Following their review, OWNER staff will provide written comments to ENGINEER. ENGINEER will provide written responses to these questions.

**Deliverables:** Review Comment Response Memoranda and tracking spreadsheet (electronic copies)

### **2.1 Regulatory and Permitting Tasks**

**Task 2.1.1 – TCEQ Coordination.** ENGINEER will review documents for compliance with TCEQ rules and regulations. ENGINEER will meet with the Texas Commission on Environmental Quality (TCEQ) in Austin to review specific critical design items for the South Lake WTP project to promote timely review and approval. ENGINEER will submit the PER and 100% complete plans and specifications to TCEQ for review. Upon receipt of plan review comments, ENGINEER will respond in writing and make necessary changes to the contract documents.

**Deliverables:** Letter response to TCEQ review comments. (electronic copy)

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### **Task 2.1.2 – Texas Department of Licensing and Regulation (TDLR) Coordination.**

ENGINEER will include necessary provisions within the South Lake WTP design to provide accessibility compliance per the TDLR. ENGINEER will obtain the services of a Registered Accessibility Specialist (RAS) and submit 100% plans and specifications to the RAS for review to obtain approval through TDLR. Upon receipt of comments, ENGINEER will make necessary changes in the contract documents to ensure accessibility compliance. RAS will also provide follow-up review following construction.

**Deliverables:** Copy of TDLR permit application (electronic copy)

**Task 2.1.3 – Miscellaneous Permits.** Based on the results of Task 1.1.5, ENGINEER will apply for any necessary permits required for construction of the South Lake WTP, including those required for County and State agencies.

**Deliverables:** Copy of permit applications (one hard copy and electronic copy)

**Task 2.1.4 – Stormwater Pollution Prevention Plan (SWPPP).** ENGINEER will prepare SWPPPs for the South Lake WTP and treated water pipeline to be used by the Contractors during construction of the two projects.

**Deliverables:** SWPPPs

**Task 2.1.5 – Edwards Aquifer Permits.** ENGINEER will prepare necessary water pollution abatement plan (WPAP) and above ground storage tank (AST) permits for TCEQ as related to the Edwards Aquifer.

**Deliverables:** WPAP and AST permits

## **2.2 South Lake Water Treatment Plant Design**

The design services for the South Lake WTP include those tasks necessary to design a new 22-mgd water treatment plant and associated high service pump station on a greenfield site and one treated water pipeline.

The water treatment plant design will include the following items:

- Treatment structure (rapid mix, flocculation, and sedimentation basins and filters)
- Liquid chemical storage and feed facilities within a building
- Clearwell structure
- High Service Pump Station with high service pumps and backwash pumps
- Sludge gravity thickener
- Sludge Dewatering Building
- Washwater recovery basin and recycle pump station
- Administration Building
- Electrical Building
- Maintenance Building
- Treated water pipeline (40,000 LF) to 1178 Pressure Plane



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This project will also include: yard piping; plant roadways and sidewalks; site grading and drainage; landscaping; miscellaneous meter vaults and valve vaults; plant electrical; high voltage power supply system; plant I&C system; and HVAC and plumbing.

The treated water pipeline project will include the plan and profile sheets for the 40,000 LF of pipeline from the SLWTP to the 1178 Pressure Plane. The design will also include pipeline details and notes.

**Task 2.2.1 – 60% Plans and Specifications.** The plans and specifications for the South Lake WTP and treated water pipeline will be completed to a 60% level and submitted to OWNER for review and comment. ENGINEER will use General Conditions approved by the OWNER and modify as necessary in Supplementary Conditions to fit this project. Documents shall include General and Special Conditions, Bid Proposal Forms, Instructions to Bidders, and all other sections generally considered to be necessary for solicitation of bids. The 60% review documents for the SLWTP shall be defined and consist of the minimum level of completion by the following disciplines:

- General/Standard Sheets - 70%
- Process Mechanical - 70%
- Civil - 70%
- Structural - 60%
- Architectural – 60%
- HVAC and Plumbing – 50%
- Instrumentation & Control - 70%
- Electrical - 50%
- Specifications - 40%

**Deliverables:** Electronic copy and five hard copies of half-size plans and specifications (60% Complete)

**Task 2.2.2 – 90% Plans and Specifications.** The plans and specifications for the South Lake WTP and treated water pipeline will be completed to a 90% level and submitted to OWNER for review and comment. The 90% review documents for the SLWTP shall be defined and consist of the minimum level of completion by the following disciplines:

- General/Standard Sheets - 95%
- Mechanical - 95%
- Civil - 95%
- Structural - 90%
- Architectural – 90%
- HVAC and Plumbing – 90%
- Instrumentation & Control - 90%
- Electrical - 90%
- Specifications - 90%

**Deliverables:** Electronic copy and five hard copies of half-size plans and

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specifications (90% Complete)

**Task 2.2.3 – Final Plans and Specifications.** The plans and specifications for the South Lake WTP and the treated water pipeline will be finalized based on comments from OWNER and ENGINEER reviewers. ENGINEER will seal and sign the completed documents. ENGINEER will provide five sets of 100% sealed documents to OWNER for final review. These documents will also be submitted to TCEQ, TDLR, and other agencies for review/approval per Tasks 2.1.1, 2.1.2, 2.1.3, 2.1.4 and 2.1.5. ENGINEER shall update plans and specifications with any final comments prior to bidding.

**Deliverables:** Electronic copy and five sets of final documents

**Task 2.2.4 – Cost Estimates.** ENGINEER will prepare opinions of probable construction cost for the South Lake WTP and treated water pipeline construction projects based upon 60% complete documents and the 90% documents.

**Deliverables:** Opinions of Probable Construction Cost (60% and 90%)

### Phase 3 - Bidding Phase

After acceptance by OWNER of the ENGINEER's Drawings, Specifications and other Design Phase documentation (including the most recent Opinion of Probable Construction Cost), and upon written authorization to proceed, ENGINEER shall perform bidding services as presented in the Phase 3 tasks below. The Bidding Phase is assumed to last for three months.

#### 3.0 General Tasks

**Task 3.01 – Project Management.** ENGINEER will perform project management duties, similar to those in previous phases, throughout the Bidding Phase of the project.

**Deliverables:** Monthly invoices and status reports (electronic copies).

#### 3.1 Bidding Tasks

**Task 3.1.1 – Advertisement and Document Distribution.** ENGINEER will prepare Advertisement for Bid for use by the OWNER in advertising the South Lake WTP and treated water pipeline projects. ENGINEER will reproduce and distribute contract documents to prospective bidders and vendors and maintain a log of distribution for the South Lake WTP project and the treated water pipeline projects. ENGINEER will provide 100 sets of half-size drawings and specifications for the South Lake WTP project and 20 sets of half-size drawings and specifications for the treated water pipeline project for distribution. In addition, ENGINEER will provide 20 sets of full-size drawings for both projects for distribution. Ten of these sets will be for Contractor use. ENGINEER will submit documents to plan rooms. ENGINEER will maintain a list of plan holders for distribution.

**Deliverables:** Advertisement for Bid, Plans and Specifications for Distribution, Plan Holders List.

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**Task 3.1.2 – Pre-Bid Conference.** ENGINEER will attend the pre-bid conference for each of the two construction projects and answer, by written addenda, contractors' and suppliers' functional and technical questions during bidding phase.

**Deliverables:** Pre-bid meeting agenda and meeting minutes

**Task 3.1.3 – Clarifications and Addenda.** ENGINEER will provide clarifications and answer questions from prospective bidders and vendors during the bidding phase for each of the two construction projects. If necessary, such clarifications will be included in addenda.

**Deliverables:** Addenda

**Task 3.1.4 – Bid Openings and Evaluation.** ENGINEER will attend bid openings, review bids, and assist with recommendations of contract award for the two construction projects.

**Deliverables:** Bid tabulations and recommendations of award

**Task 3.1.5 – Conformed Documents.** ENGINEER will prepare conformed documents for the two construction projects, incorporating addenda items into the plans and specifications, and provide 20 sets of ½ size plans and specifications and 10 sets of full-size plans for use by OWNER staff and Contractor during construction.

**Deliverables:** Conformed documents

**Task 3.16 – Contract Documents.** ENGINEER shall prepare eight sets of contract documents for each of the construction contracts, with appropriate bonds, insurance, contracts, and other forms, for contracts between the OWNER and Contractor.

**Deliverables:** Construction contract documents

## Phase 4 – Construction Services

Under Phase 4 of the project, ENGINEER will provide general services during the construction of the South Lake WTP and the treated water pipeline projects. The construction phase is assumed to last for 36 months.

### 4.0 General Tasks

**Task 4.0.1 – Project Management.** ENGINEER will perform project management duties, similar to those in previous phases, throughout the Construction Phase of the project.

**Deliverables:** Monthly invoices and status reports (electronic copies).

**Task 4.0.2 – Monthly Construction Meetings.** ENGINEER will attend monthly construction progress meetings with OWNER, and Contractor for the South Lake WTP and treated water pipeline projects. ENGINEER will provide, on average, one person per meeting over a 36-month construction period for the South Lake WTP and 12-month construction period for the

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treated water pipeline project. It is assumed that these meetings will last four hours, including pre and post meetings at the site.

**Deliverables:** Meeting agenda and summaries (electronic copies)

**Task 4.0.3 – Site Visits.** ENGINEER will make periodic visits to the project site to observe the progress and quality of various aspects of the construction contractors' work for the project. ENGINEER will participate in substantial completion and final completion inspections.

**Deliverables:** None

### **4.1 Submittal Review Tasks**

**Task 4.1.1 – Submittal Log.** ENGINEER will log-in, track, and distribute submittals to the various disciplines and subconsultants.

**Deliverables:** None

**Task 4.1.2 – Shop Drawings.** ENGINEER will perform technical and functional review of all shop drawings and other submittals. The engineering fee is based on estimates of 500 shop drawings being submitted for the South Lake WTP project and 50 shop drawings for the treated water pipeline project.

**Deliverables:** Shop drawing review comments (electronic copies)

**Task 4.1.3 – RFIs.** ENGINEER will respond to all RFIs submitted by the contractor and subcontractors. The engineering fee is based on estimates of 100 RFIs being submitted for the South Lake WTP project and 20 RFIs for the treated water pipeline project.

**Deliverables:** RFI responses (electronic copies)

**Task 4.1.4 – Change Order Requests.** ENGINEER will review and comment on all Change Order requests and initiate Change Order requests when appropriate. It is estimated that 30 Change Order Requests will be submitted for the South Lake WTP project and 10 Change Order Requests for the treated water pipeline project.

**Deliverables:** Change request documents (electronic copies)

### **4.2 Testing Tasks**

**Task 4.2.1 – Instrumentation and Control Testing.** ENGINEER will provide instrumentation and control system coordination and testing during construction of the South Lake WTP project. Testing will include 3 days for Witness Factory Tests, 3 days for Functional Demonstration Tests, and 5 days for I&C assistance during construction.

**Deliverables:** Documentation memoranda for approved tests (electronic copies)

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### Phase 5 – Start-up and Operations Services

Under Phase 5 of the project, ENGINEER will assist the OWNER in the start-up of the new South Lake Water Treatment Plant and provide record documentation. These services will be provided during the last three months of construction.

#### 5.0 General Tasks

**Task 5.0.1 – Project Management.** ENGINEER will perform project management duties, similar to those in previous phases, throughout the Start-up and Operations Phase of the project.

**Deliverables:** Monthly invoices and project status reports.

**Task 5.0.2 – Plant Start-Up.** ENGINEER will provide up to 160 hours of assistance during plant start-up to ensure the plant is operating as designed.

**Deliverables:** None

**Task 5.0.3 – Plant Staff Consultation.** ENGINEER will consult with the OWNER's plant and engineering staff on a monthly basis, for a period not to exceed 12 months, to review outstanding issues, problems with plant and related matters, and advise on possible solutions and actions to be undertaken by the OWNER.

**Deliverables:** None

#### 5.1 Records and Documentation

**Task 5.1.1 – Record Drawings.** ENGINEER will prepare Record Drawings for the two construction projects based on Contractor's red-line markups of the conformed field plans. The Record Drawings will be produced with AutoCad. The Record Drawings will be delivered to the OWNER in electronic and hard copy format.

**Deliverables:** Electronic and five hard copies of Record Drawings

### Phase 6 – Resident Project Representative (RPR) Services

Under Phase 6 of the project, ENGINEER will provide full-time RPR services during construction of the South Lake Water Treatment Plant. RPR services have been planned for the 36-month construction period. RPR services for the treated water pipeline project will not be performed as part of this project. The responsibilities of the RPR are presented below:

#### RPR Responsibilities:

1. *Schedules:* Review the progress schedule, schedule of Shop Drawing submittals and schedule of values prepared by Contractor and consult with ENGINEER concerning acceptability.
2. *Conferences and Meetings:* Attend meetings with Contractor, such as

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preconstruction conferences, progress meetings, job conferences and other project-related meetings.

### 3. *Liaison:*

- a. Serve as ENGINEER's liaison with Contractor, working principally through Contractor's superintendent and assist in understanding the intent of Contract Documents; and assist ENGINEER in serving as OWNER's liaison with Contractor when Contractor's operations affect OWNER's on-site operations.
- b. Assist in obtaining from OWNER additional details or information, when required for proper execution of the Work.

### 4. *Review of Work, Rejection of Defective Work, Inspections and Tests:*

- a. Conduct on-site observations of the Work in progress to assist ENGINEER in determining if the Work is in general proceeding in accordance with the Contract Documents.
- b. Report to ENGINEER whenever RPR believes that any Work will not produce a completed Project that conforms generally to the Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise ENGINEER of work that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
- c. Verify that test, equipment and systems start-ups are conducted in the presence of appropriate personnel, and that Contractor maintains adequate records thereof; and observe, record and report to ENGINEER appropriate details relative to the test procedures and start-ups.
- d. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections and report to ENGINEER.

### 5. *Interpretation of Contract Documents:* Report to ENGINEER when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by ENGINEER.

### 6. *Modifications:* Consider and evaluate Contractor's suggestions for modifications to the Drawings or Specifications and report with RPR's recommendations to ENGINEER. Transmit to Contractor in writing decisions as issued by ENGINEER .

### 7. *Records:*

- a. Maintain at the job site orderly files for correspondence, reports of job conferences, Shop Drawings and Samples, reproductions of original Contract Documents including all Work Changes, Addenda, Change Orders, Field Orders, additional Drawings issued subsequent to the execution of the Contract, ENGINEER's clarifications and interpretations of the Contract Documents, progress reports, Shop Drawing submittals received from and delivered to Contractor and other Project related documents.

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- b. Prepare a daily report or keep a diary or log book, recording Contractor's hours on the job site, weather conditions, data relative to questions of Work Change Directives, Change Orders or changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to ENGINEER.
  - c. Record names, addresses and telephone numbers of all Contractors, subcontractors and major suppliers of materials and equipment.
8. *Reports:*
- a. Furnish to ENGINEER periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and Sample submittals.
  - b. Consult with ENGINEER in advance of scheduled major tests, inspections or start of important phases of the Work.
  - c. Report immediately to ENGINEER and OWNER the occurrence of any accident.
9. *Payment Requests:* Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to ENGINEER, noting particularly the relationship of the payment requested to the schedule of values, Work completed and materials and equipment delivered at the site but not incorporated in the Work.

The RPR has limitations to his authority on the project. These are listed below:

### **Limitation of Authority by RPR**

Resident Project Representative:

1. Shall not authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items), unless authorized by ENGINEER.
2. Shall not exceed limitations of ENGINEER's authority as set forth in the Agreement of the Contract Documents.
3. Shall not undertake any of the responsibilities of Contractor, Subcontractors, Suppliers, or Contractor's superintendent.
4. Shall not advise on, issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction unless such advice or directions are specifically required by the Contract Documents.
5. Shall not advise on, issue directions regarding or assume control over safety precautions and programs in connection with the Work.
6. Shall not accept Shop Drawing or Sample submittals from anyone other than Contractor.
7. Shall not authorize OWNER to occupy the Project in whole or in part.
8. Shall not participate in specialized field or laboratory tests or inspection conducted by

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others except as specifically authorized by ENGINEER.

9. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings.

### 3. **Owner's Responsibilities**

OWNER shall have those responsibilities set forth in the Agreement subject to the following:

1. Designate a person to act as OWNER's representative with respect to the services to be performed or furnished by the ENGINEER. This representative will have authority to transmit instructions, receive information, interpret and define OWNER's policies and decisions with respect to ENGINEER's services.
2. Provide all criteria and full information as to OWNER's requirements for the project, including objectives and constraints, space, capacity and performance requirements, flexibility and expandability, and furnish copies of all design and construction standards which OWNER will require to be included in the Project Drawings and Specifications.
3. Assist ENGINEER by placing all available information pertinent to the Project, including previous reports and any other data relative to the design or construction of the Project at the ENGINEER's disposal.
4. Furnish to ENGINEER, as requested for performance of basic services or as required by the Contract Documents, the following:
  - a) Data prepared by or services of others, including without limitation explorations and tests of subsurface conditions at or contiguous to the site, drawings of physical conditions in or relating to existing surface of subsurface structures at or contiguous to the site;
  - b) The services of an independent testing laboratory to perform all inspections, test and approvals of samples, materials and equipment;
  - c) Environmental assessments, audits, investigations and impact statements, and other relevant environmental or cultural studies as to the Project, the site and adjacent areas;
  - d) Arrange for access to and make all provisions for ENGINEER to enter upon public and private property as required for ENGINEER to perform services under this Task Order;
  - e) Examine all alternate solutions, studies, reports, sketches, proposals and other documents presented by ENGINEER;
  - f) Provide such accounting, bond and financial advisory, independent cost estimating and insurance counseling services and such legal services as OWNER may require or ENGINEER may reasonably request with regard to legal issues pertaining to the Project;



TASK ORDER

- g) Provide labor and safety equipment to open electrical/instrumentation cabinets, open and protect manholes and/or to operate valves and hydrants as required by the ENGINEER; and
- h) Give prompt notice to ENGINEER whenever OWNER observes or otherwise becomes aware of any development that affects the scope or time of performance or furnishing of ENGINEER's services, or any defect or nonconformance in ENGINEER's services in the work of any Contractor.

4. **Times for Rendering Services**

<u>Phase</u>	<u>Completion Date</u>
Preliminary Engineering	180 days following Notice to Proceed
Final Design	245 days following Completion of Preliminary
Bidding	90 days following Completion of Final Design
Construction	To be Concurrent with the Construction Schedule

5. **Payments to Engineer**

A. Owner shall pay Engineer for services rendered as follows:

<i>Category of Services</i>	<i>Compensation Method</i>	<i>Lump Sum or Not to Exceed Amount of Compensation for Services</i>
<hr/>		
<b><u>BASIC SERVICES</u></b>		
<b>Preliminary Engineering</b>	<b>(Lump Sum)</b>	<b>\$ 865,000</b>
<b>Water Treatment Plant</b>		
Final Design		\$ 2,685,000
Bidding		\$ 161,000
Construction Services		\$ 1,219,000
Operations and Start-up Services		\$ 129,000
<b>Total Basic Services</b>	<b>(Lump Sum)</b>	<b>\$ 4,194,000</b>
<b>1178 Transmission Main</b>		
Final Design		\$ 354,000
Bidding		\$ 39,000
Construction Services		\$ 119,000
Operations and Start-up Services		\$ 11,000
<b>Total Basic Services</b>	<b>(Lump Sum)</b>	<b>\$ 523,000</b>
<b><u>SPECIAL SERVICES</u></b>		
Surveying		\$ 375,000
Geotechnical		\$ 40,000

TASK ORDER

Environmental and Archaeological Services \$ 34,800

**Total Special Services (Time and Materials) \$ 535,000**

**Resident Project Representative (Billing Rate) \$ 1,084,000**

**TOTAL CONTRACT VALUE \$ 7,201,000**

B. The terms of payment are set forth in Article 4 of the Agreement unless modified in this Task Order.

6. **Consultants:**

Terracon (Geotechnical)  
Inland Geodetics (Surveying)  
aci Consulting (Environmental)

7. **Other Modifications to Agreement:**

A. Article 6.02 Ownerships of Documents. Insert Paragraph 6.02 B as follows:

“B. Notwithstanding any other provision of this Agreement to the contrary, Engineer shall retain its rights in its pre-existing standard drawing details, designs, specifications, databases, computer software, proprietary information, documents, templates, and any other property owned by Engineer on the date of this Agreement or developed outside of this Agreement.”

8. **Attachments:**

Billing Rate Schedule for Resident Project Representative Services

9. **Documents Incorporated By Reference:** The Agreement effective September 30, 2016.

TASK ORDER

Terms and Conditions: Execution of this Task Order by Owner and Engineer shall make it subject to the terms and conditions of the Agreement (as modified above), which Agreement is incorporated by this reference. Engineer is authorized to begin performance upon its receipt of a copy of this Task Order signed by Owner.

The Effective Date of this Task Order is \_\_\_\_\_, 2020.

OWNER:

ENGINEER:

By: \_\_\_\_\_

By: \_\_\_\_\_

Name: Dale Ross

Name: Allen Woelke, P.E.

Title: Mayor

Title: Vice President

Engineer License or Firm's  
Certificate No. F-3043

State of: Texas

Date: \_\_\_\_\_

Date: \_\_\_\_\_

APPROVED AS TO FORM:

\_\_\_\_\_  
City Attorney

TASK ORDER

DESIGNATED REPRESENTATIVE FOR  
TASK ORDER:

DESIGNATED REPRESENTATIVE FOR  
TASK ORDER:

Name: Michael Hallmark

Name: Allen Woelke

Title: CIP Manager

Title: Vice President

Address: 300-1 Industrial Ave.  
Georgetown, TX 78626

Address: 9430 Research Boulevard  
Suite 1-200  
Austin, TX 78759

E-Mail  
Address: Michael.hallmark@georgetown.org

E-Mail  
Address: woelkead@cdmsmith.com

Phone: 512-930-3569

Phone: 512-346-1100

Fax: \_\_\_\_\_

Fax: 512-345-1483

TASK ORDER

NORTH LAKE WATER TREATMENT PLANT EXPANSION  
RESIDENT PROJECT REPRESENTATIVE SERVICES  
BILLING RATE SCHEDULE

<u>Category</u>	<u>Billing Rate</u>
Resident Project Representative	\$ 135/hr
RPR Supervisor	\$ 200/hr
Contract Admin	\$ 100/hr
Other RPR Expenses	At Cost