TASK ORDER No. 39
WTP GAC Design

This Task Order pertains to an Agreement by and between The City of Boerne, Texas ("CITY"), and HDR Engineering, Inc. ("ENGINEER"), dated October 10, 2023 ("the Agreement"). ENGINEER shall perform services on the project described below as provided herein and in the Agreement. This Task Order shall not be binding until it has been properly signed by both parties. Upon execution, this Task Order shall supplement the Agreement as it pertains to the project described below.

TASK ORDER NUMBER: 39

PROJECT NAME: WTP GAC Design

PART 1.0 PROJECT DESCRIPTION:

The CITY operates the Boerne Lake Water Treatment Plant ("WTP"), which requires enhancements to the water treatment process to meet regulatory requirements. ENGINEER will develop a design package, including construction drawings and technical specifications, for the CITY's consideration, for the construction of a new granular activated carbon ("GAC") contactor treatment system, and modifications and upgrades to plant systems ("System") for Total Organic Carbon ("TOC") removal. Collectively, such design package and all of its components as described herein are referred to as the "project."

System will generally consist of the following major components:

1. Skid-based GAC filtration system to treat 0.65 million gallons per day (mgd) (450 to 500 gallons per minute (gpm).
2. GAC filtration system will be secured to a concrete slab at-grade.
3. Increase System pressure through new booster pump (provided on the GAC skid by the manufacturer, if needed).
4. Piping to convey GAC backwash waste to lagoons.
5. System piping to connect from filters to GAC, GAC to clearwells and backwash waste existing pipes on site to existing residual lagoons.
6. Small diameter pipe will be insulated and heat traced on the GAC skid provided by the manufacturer.
7. Flow control will be done manually using manually actuated valves and flow meters on the GAC skid provided by the manufacturer.
8. Disinfection feed point will be included at the GAC skid discharge. Existing chlorine piping will be modified to provide feed to this location.
9. Provide storm drainage around new structures.
10. Ancillary electrical, structural, and civil engineering systems to support System. Instrumentation and control will be provided on the GAC skid provided by the manufacturer.

PART 2.0 SCOPE OF SERVICES TO BE PERFORMED BY ENGINEER ON THE PROJECT:

TASK 1. Project Management – ENGINEER will:

a. Establish the project within ENGINEER'S financial and project management system;
b. Prepare and share with CITY monthly project updates;
c. Plan for resources;
d. Manage the ongoing work of the project;
e. Communicate with the CITY regarding status of the project;
f. Complete financial accounting procedures and submit monthly invoices;
g. Schedule and execute quality control reviews of work products;
h. Lead a kickoff meeting with CITY and prepare materials for this meeting; and
i. Request data from the CITY needed by ENGINEER to perform the work.

Deliverables:

1. Data needs requested of the CITY, in email format.
2. Kickoff meeting materials, agenda, invoices, monthly progress reports, and meeting notes, in electronic PDF format.

Meetings:

1. One kickoff meeting, at a mutually agreed upon time by the parties, to review project scope, schedule, goals, roles, data needs and communication procedures. Meeting will be in person at CITY's offices, up to two hours in duration, and will be attended by ENGINEER'S project manager, lead process engineer, up to three other project engineers, and one engineer in training ("EIT"). Meeting will be followed by a WTP site visit, up to an additional two hours on site.

TASK 2. Pre-Design Development

a. Geotechnical Exploration and Engineering:
    i. ENGINEER will coordinate with a subcontractor to perform a geotechnical investigation (e.g., soil borings), including:
        1. (1) - 20-foot-deep boring
    ii. The subcontractor will prepare and submit a geotechnical data report with the findings of the field and laboratory testing programs and provide to ENGINEER.
    iii. ENGINEER will review the geotechnical data report provided by the subcontractor and will use its findings to prepare geotechnical engineering recommendations and a geotechnical design report.
        1. The report will contain recommendations to support design of the proposed System, including, but not limited to, type of foundation, allowable bearing capacity, estimated settlement, pavement, and earthwork recommendations.
b. Topographic Surveying – ENGINEER via a subconsultant will:
    i. Establish horizontal and vertical control to be used for survey work.
        1. Horizontal control will be based upon Texas Coordinate System, South Central Zone, NAD83.

2. Vertical control will be based upon NAVD 1988 datum.

ii. Survey elevations of the site including spot elevations at regular intervals and at major grade breaks will be obtained.
    1. Survey will be limited to an area of approximately 175' x 155'.
        a. Included as Attachment A.
    2. A 3D DTM surface will be produced and the site topography with contours will be shown.

iii. Surveyor will locate the observable above ground visible existing improvements including, but not limited to buildings, tanks, walls, sidewalk, curb and gutter, edge of pavement, fences, signs and other physical objects within the boundary area identified in Attachment A. No subsurface utility exploration will be performed.

iv. Surveyor will locate observable above ground evidence of utilities including: utility poles, guy wires, light poles, electric transformers, junction boxes, hand holes, meters, water meters, water valves, fire hydrants, clean outs, telephone manholes, pedestals, manholes and cabinets.

v. Surveyor will locate existing sanitary sewer or storm sewer pipes on or adjacent to the site including top of structure elevation, invert elevation and pipe sizes noted, including one structure upstream and downstream if accessible.

vi. Surveyor will establish two (2) benchmarks and horizontal control on or near the property located at the City's Water Treatment Plant and will be shown on the site plan for Contractor's use during construction.

vii. Limitations:
    1. No subsurface utility exploration is included in this scope of work.
    2. No interior surveying of existing interior equipment is included.

TASK 3. System Design and Milestones

a. Design Kickoff
    i. A design kickoff meeting will coincide with the project kickoff meeting identified in Task 1, during which ENGINEERwill review anticipated System equipment options with CITY staff.
    ii. System controls and operation (e.g., process flow diagrams) will be reviewed with CITY staff.
    iii. ENGINEER will document this meeting, and the decisions made therein, in a Technical Memorandum to be shared with CITY upon completion.

b. WTP Hydraulic Analysis
    i. ENGINEER will review the existing WTP hydraulics to determine the hydraulic conditions and how the System will be integrated into the overall WTP system.
    ii. ENGINEER assumes the existing pumps will not be of sufficient capacity or rating to convey flows to and through the GAC contactors.
    iii. Hydraulic improvements, if needed (e.g., piping, valving, etc.), would include a new booster pump. If required, it would be provided by GAC skid manufacturer as part of its system.
    iv. ENGINEER and CITY agree to meet at a mutually agreed upon time to review the results of the analysis and subsequent recommended improvements.

Meeting will be virtual and attended by ENGINEER'S Project Manager, Lead Process Engineer, Senior Process Project Engineer, and EIT.

c. Basis of Design – ENGINEER will:
    i. Prepare a basis of design report ("BODR") to document preliminary design activities to include:
        1. Skid mounted GAC filtration system with backwash and associated controls and instrumentation;
        2. New booster pumps located on skid mounted GAC filtration system;
        3. Process flow diagram;
        4. Piping layouts;
        5. Hydraulic profile;
        6. Site layout;
        7. Preliminary one-line diagram;
        8. Yard piping layout;
        9. Plant drain to existing Lagoons; and
        10. Opinion of Probable Construction Cost ("OPCC") consistent with Association for the Advancement of Cost Engineering ("AACE") Class 4 estimate.
    ii. BODR will be submitted to CITY for review and comment.
    iii. ENGINEER and CITY will meet to review and resolve CITY's comments on BODR.
        1. Meeting will be virtual and attended by ENGINEER's Project Manager, Lead Process Engineer, Senior Process Project Engineer, Lead Electrical Engineer, and EIT.
        2. This meeting is expected to last up to 2 hours.
    iv. This meeting will be completed within thirty (30) calendar days of notice to proceed.
d. 60% Design Milestone – ENGINEER will:
    i. Submit draft construction drawings and include specifications to the CITY for review and comment.
        1. Submitted document will be in electronic PDF format and one full size set of drawings.
    ii. Submit revised OPCC consistent with AACE Class 3 estimate.
    iii. ENGINEER and CITY will meet to review and resolve CITY's comments on 60% Design Milestone submittals.
        1. Meeting will be held in person at CITY offices, and attended by ENGINEER'S Project Manager, Lead Process Engineer, Senior Project Engineer, and EIT.
        2. This meeting is expected to last up to 2 hours.
    iv. This milestone will be completed within eighty-three (83) calendar days from review and acceptance of BODR.
e. 100% Design Milestone – ENGINEER will:
    i. Submit pre-final construction drawings and include specifications to the CITY for review and comment.
        1. Submitted document will be in electronic PDF format and one full size set of drawings.
    ii. Submit revised OPCC consistent with AACE Class 2 estimate.

iii. ENGINEER and CITY will meet to review and resolve CITY's comments on 100% Design Milestone submittals.
    1. Meeting will be virtual and attended by ENGINEER'S Project Manager and Lead Discipline Project Engineers.
    2. This meeting is expected to last up to 2 hours.
iv. This meeting will be completed within eighty-two (82) calendar days from the City's review and acceptance of 60% design.
v. The 100% design milestone construction drawings and specifications will be utilized for submittal to the Texas Commission on Environmental Quality ("TCEQ") for review.
vi. Submit signed and sealed construction drawings and technical specifications to the CITY for their project use, 100% deliverable will be used for bidding.
    1. Submitted documents will be in electronic PDF format.
    2. Three 11" x 17" paper copies and one full size set of drawings will be provided to CITY.

f. Anticipated List of Drawings - This scope of work is based on the System requiring the following drawings:

Discipline	Sheet Title
General	Cover Sheet/Location Map/Drawing Index/Key Map
General	General Construction Notes
General	Abbreviations and Symbols
Civil	General Civil Notes
Civil	Existing Conditions
Civil	Site and Dimension Control Plan
Civil	Grading, Drainage & Erosion Control Plan
Civil	Erosion Control Details
Process	Overall Plan
Process	GAC Area
Process	Sections & Details
Structural	Foundation Plan
Structural	Sections and Details
Structural	General Notes
Structural	Standard Details
Elec	Symbols and Legend
Elec	Electrical Details
Elec	One-line Diagram
I&C	P&ID 1

g. Design Assumptions
    i. The design flow for the System is 0.65 million gallons per day (approximately 450-500 gpm).
    ii. The CITY selected GAC as the preferred treatment process.
    iii. GAC media selection will be based off of existing water quality data.
    iv. No onsite storage for additional GAC media.
    v. No platform or access to top of GAC contactors.
    vi. The GAC contactors system will be manually operated.
    vii. Booster pump and associated controls, if required based on hydraulic analysis, will be provided by a vendor, no modifications or replacement of the filter feed pumps will be required.
    viii. The backwash pump is assumed to be incorporated into the new GAC filtration system.
    ix. Due to the financial constraints of the project, a new generator will not be incorporated. It is assumed that the GAC filtration system would be bypassed in a power outage/emergency condition.
    x. No permits are required for the geotechnical investigation and the boring locations are accessible with truck-mounted drilling equipment. The site has no contaminated soils or materials.
    xi. No federal permits are assumed required for the work.
    xii. Basis for the structural design is a shallow foundation, such as a slab-on-grade mat foundation/stiffened slab-on-grade. These systems may require over-excavation and select fill replacement for adequate performance, which will be validated by the geotechnical boring and testing. Deep foundations such as drilled piers are not included in the project design scope. No cover over the skid will be included in the design.
    xiii. Structural repairs or assessments are not included in the current scope. Existing structures are assumed to be in good working condition and able to withstand the loadings as originally designed.
    xiv. Structural modifications to existing structures beyond penetrations for piping and some slab-on-grade modifications are not anticipated. No modifications to walls or other major structural elements are anticipated or included in the project design scope.
    xv. Thrust restraint supports and anchorage of equipment is provided by the manufacturer.
    xvi. Detention design is not required.
    xvii. Coordination with electric utility will not be required.
    xviii. Final electrical studies (short circuit, coordination and arc-flash) will be provided by the contractor.
    xix. No subsurface utilities expected onsite of GAC system installation footprint.
    xx. Photographs, sketches and dimensions will be utilized to illustrate construction changes within existing buildings. Interior survey or laser scanning will not be necessary.
    xxi. Drawings provided by the CITY will be sufficient to establish project backgrounds and drawings. LiDAR scanning is not included in the scope and would be additional services if required.
    xxii. No additional site access included in scope

TASK 4. Bid Phase Services

a. Owner will provide ENGINEER with CITY'S construction contractor procurement documents (e.g., "front end" documents).
b. ENGINEER will provide Bid Phase services to the CITY, including:
    i. Distribution of "Bid Documents" (i.e., construction drawings, technical specifications and Owner-provided procurement documents), by uploading documents to the CivCast website, to which ENGINEER shall provide CITY access. Hard copies of bid documents will not be provided to bidders.
    ii. Develop agenda for and conduct one pre-bid meeting. The pre-bid meeting will be held in person at the project site or CITY's offices, attended by ENGINEER'S project manager and project engineer.
    iii. Preparation and distribution of up to 2 addenda containing clarifications and modifications to the Bid Documents.
c. ENGINEER will attend bid opening.
d. Following the bid opening, ENGINEER will:
    i. Review bids received for inclusion of required information and correct bid price tabulation.
    ii. Review contractor qualifications for performing the required work.
    iii. Evaluate the apparent low bidder in accordance with the Bid Documents.
    iv. Provide written recommendation to the CITY for the award of the contract.
    v. Recommendation will be made based on the lowest responsive and responsible bid.
e. ENGINEER will prepare "Conformed Documents" (i.e., Addenda changes incorporated into Bid Documents).

Deliverables:

1. Pre-bid meeting agenda, in electronic Word format.
2. Up to 2 Addenda, in electronic PDF format. ENGINEER will upload the addenda to CivCast.
3. Written recommendation of award, in PDF format.
4. Bid Documents (consisting of final design drawings and specifications), in electronic PDF format and three half-size printed versions.
5. Conformed Documents (consisting of final design drawings and specifications, incorporating changes made by addenda), in electronic PDF format.

Assumptions:

1. The CITY will issue contract documents to the selected contractor.
2. ENGINEER will provide digital conformed documents in PDF format the CITY for distribution to selected contractor.
3. The CITY will receive, and review executed documents and Certificate(s) of Insurance
4. The pre-bid meeting will be at CITY'S offices and followed by a site visit. The combined duration of the pre-bid meeting and site visit is anticipated to be up to two hours. The pre-bid meeting will be attended by ENGINEER'S project manager and project engineer.

5. The bid opening will be at CITY's offices and attended by ENGINEER'S project manager.
6. ENGINEER will not be required to attend a CITY Council meeting to present the recommendation of award.
7. HDR will not provide contractor with electronic AutoCAD files.

PART 3.0 ADDITIONAL SERVICES

a. The following services are not included in this scope of work, and will be considered additional services if authorized in writing by CITY:
    i. Stakeholder outreach and support
    ii. Design of a new single, or multi-cell lagoon(s) for GAC backwash
    iii. Roadway
    iv. Additional generator capacity
    v. Construction phase services
    vi. Claim dispute
    vii. Record drawings
    viii. Value engineering
    ix. Factory equipment testing
    x. Permitting
    xi. Startup and commissioning
    xii. O&M manual
    xiii. Training
    xiv. Additional site access

PART 4.0 CITY'S RESPONSIBILITIES

The CITY shall be responsible for the following:

a. Provide, upon specific request, data pertinent to the project.
b. Provide existing design or as-built drawings.
c. Participate in teleconferences and in-person meetings.
d. Review and approve, where appropriate, ENGINEER invoices.
e. Review preliminary engineering, Basis of Design, 60-percent, and 100-percent design drawings and technical specifications (as applicable) and provide comments.

PART 5.0 PERIODS OF SERVICE:

ENGINEER is authorized to begin rendering services as of the date of Notice to Proceed ("NTP"). ENGINEER shall complete its obligations per the following schedule:

Task	Duration
Project Management	Ongoing throughout the project
Pre-Design Development	90 calendar days from NTP
System Design and Milestones	195 calendar days from NTP
Basis of Design	30 calendar days

60% Design	83 calendar days (from acceptance of BODR)
100% Design	82 calendar days (from acceptance of 60% design)
Bid Phase Services	Dependent on bid phase duration, anticipated to be 60 calendar days

Unless otherwise stated in this Agreement, the rates of compensation for ENGINEER'S services have been agreed to in anticipation of the orderly and continuous progress of the project through completion. If any specified dates for the completion of ENGINEER'S services are exceeded through no fault of the ENGINEER, the time for performance of those services shall be extended, upon reasonable written notice to and approval by CITY, for a period which may be reasonably required for their completion, and all rates, measures and amounts of ENGINEER'S compensation shall be equitably adjusted as agreed upon in writing by CITY.

PART 6.0 ENGINEER'S FEE:

Compensation shall be on a lump sum basis for Tasks 1 through 3, and on a time and materials basis for Task 4, as follows:

TASK No.	FEE
Task 1: Kickoff Meeting and Project Management	$39,600
Task 2: Pre-Design Development	$12,600
Task 3: System Design and Milestones	$236,000
Task 4: Bid Services (Time and Materials)	$26,600
Sub-Consultants	$13,800
Expenses – Travel and Mileage	$1,300
Total Professional Services	**$329,900**

ENGINEER will submit itemized monthly invoices listing the amount of work completed to date as a percentage of the lump fee for Tasks 1 through 3. ENGINEER will submit monthly invoices listing the hours charged and using the billing rates listed in Attachment B, attached hereto and incorporated herein, for Task 4. Billing rates shall be updated annually at the beginning of each calendar year to reflect changes in personnel compensation. The Total Professional Services amount shall not exceed the amount described herein.

This Task Order is executed this _____ day of _____, 2025. Execution of this Task Order shall serve as ENGINEER'S Notice to Proceed.

CITY OF BOERNE		HDR ENGINEERING, INC.	
"OWNER"		"ENGINEER"	
BY:		BY:	
NAME:	Ben Thatcher	NAME:	Mark Borenstein, PE
TITLE:	City Manager	TITLE:	Senior Vice President
ADDRESS:	447 N. Main St. Boerne, TX 78006	ADDRESS:	613 NW Loop 410, Suite 700 San Antonio, TX 78216

Attachment A
Survey Area

Attachment B

HDR Engineering, Inc. Hourly Rates Fee Schedule Effective through December 31, 2026			
Principal	$350		
Senior Project Manager	$280	to	$340
Senior Reviewer	$290	to	$360
Project Manager	$230	to	$280
Deputy Project Manager	$170	to	$230
Senior Project Engineer	$275	to	$365
Project Engineer	$215	to	$275
Graduate Engineer I	$100	to	$140
Graduate Engineer II	$140	to	$180
Graduate Engineer III	$180	to	$215
BIM (CADD) Operator	$100	to	$140
Senior BIM (CADD) Operator	$140	to	$210
Designer	$210	to	$265
GIS Analyst	$121	to	$185
Senior GIS Analyst	$158	to	$200
Electrical Engineer I	$135	to	$175
Electrical Engineer II	$175	to	$215
Electrical Engineer III	$215	to	$285
Electrical Designer	$190	to	$245
Senior Electrical Engineer	$285	to	$335
Structural Engineer I	$110	to	$165
Structural Engineer II	$165	to	$215
Structural Engineer III	$215	to	$270
Structural Designer	$135	to	$190
Senior Structural Engineer	$270	to	$350
Mechanical Engineer I	$145	to	$190
Mechanical Engineer II	$190	to	$265
Mechanical Designer	$165	to	$190
Mechanical Engineer III	$265	to	$295
Senior Mechanical Engineer	$295	to	$350

Senior Hydraulic Modeler	$260	to	$310
Hydraulic Modeler II	$185	to	$260
Hydraulic Modeler I	$125	to	$185
Economist	$220	to	$260
Geologist	$270	to	$340
Hydrologist	$175	to	$225
Geotechnical Engineer	$280	to	$340
Senior Inspector	$175	to	$235
Inspector	$130	to	$175
Senior Environmental Scientist	$250	to	$310
Environmental Scientist I	$105	to	$165
Environmental Scientist II	$165	to	$185
Sr. Environmental Specialist	$185	to	$250
Cultural Resource Specialist I	$90	to	$135
Cultural Resource Specialist II	$135	to	$190
Cutural Resources Specialist III	$190	to	$270
Senior Cultural Resource Specialist	$270	to	$300
Senior Project Architect	$250	to	$300
Project Architect	$215	to	$250
Staff Architect	$160	to	$215
Intern Architect	$130	to	$175
Senior Right of Way Agent	$240	to	$295
Right of Way Relocation/Negotiation Agent I	$120	to	$160
Right of Way Relocation/Negotiation Agent II	$160	to	$200
Right of Way Appraiser	$215	to	$255
Project Coordinator	$125	to	$155
Senior Project Coordinator	$145	to	$175
Clerical	$90	to	$130
Senior Accounting Manager	$205	to	$230
Sr. Accountant	$140	to	$180
Accountant	$110	to	$140