TASK ORDER No. 30

East Loop Natural Gas Main

This Task Order pertains to an agreement by and between The City of Boerne, (CITY or OWNER) and HDR Engineering, Inc. (ENGINEER) dated January 30, 2017 (the Agreement). ENGINEER will perform services on the project described below as provided herein and in the Agreement. This Task Order will not be binding until it has been properly signed by both parties. Upon execution, this Task Order will supplement the Agreement as it pertains to the project described below.

TASK ORDER NUMBER: 30

PROJECT NAME: East Loop Natural Gas Main

PART 1.0 PROJECT DESCRIPTION:

ENGINEER will perform professional services associated with the design of approximately three miles of new eight-inch natural gas distribution main. The gas main will connect to the CITY's existing system near Cascade Caverns and follow Ranch Road and the former railroad right-of-way (ROW). The main will connect back into the CITY's existing system near Champion High School.

ENGINEER anticipates the Cibolo Creek crossing will utilize an existing beam for an aerial crossing. Design of a new beam is not included, and design of a crossing by horizontal directional drill (HDD) is not included.

This scope of services includes a geotechnical investigation, topographic survey, and environmental assessment. ENGINEER anticipates the line will be constructed within existing easements or ROW, and real estate acquisition services will not be required.

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

Task 1: Project Kickoff, Management, Coordination, Data Acquisition, and Review

- ENGINEER will provide overall project management of tasks including budget monitoring, scheduling, invoicing, internal project quality assurance reviews, correspondence and communication, coordination with subconsultants, and documentation of project assumptions and deliverables.
- ENGINEER will attend one project kickoff meeting with the OWNER to review project scope, schedule, goals, roles, data needs, and communication procedures. Meeting will be in person at OWNER's offices, and attended by ENGINEER's Project Manager, Project Principal-in-Charge, and Design Engineer.
- Participate in regularly scheduled biweekly conference calls during design of the project.
- Participate in regularly scheduled weekly conference calls/meetings during construction of the project.
- ENGINEER will perform design records research on existing pipelines and facilities prior to beginning design efforts for this project. As part of this effort, ENGINEER would review readily available pipeline or associated facilities documentation and/or drawings provided by OWNER. Examples of existing documentation and/or drawings include:

    - Design or as-built drawings of existing beam spanning Cibolo Creek.
    - Existing easements and/or landowner information.
    - Existing as-built and record drawings.
    - MAOP verification studies.
    - AC interference studies and mitigation designs associated with existing pipelines or facilities.
    - Cathodic protection (CP) design elements associated with existing pipelines or facilities.
    - Previous environmental surveys, geotechnical reports, etc.
    - Publicly available data that could also prove beneficial to project development.

ENGINEER DELIVERABLES:

- List of existing data requested of OWNER.
- Results of records research will be incorporated into design.
- Kickoff meeting materials, agenda, invoices, monthly progress reports, and meeting notes.

Task 2: Topographic Survey and Utility Investigation

- ENGINEER will subcontract the services of a surveyor to obtain a topographical survey of the proposed alignment. Topographic data will consist of aerial LiDAR data for a 300-footwide corridor along the project limits.
- ENGINEER will subcontract the services of a surveyor to field survey the I-beam crossing Cibolo Creek to obtain detailed dimensions of the beam and abutments.
- ENGINEER will subcontract the services of a surveyor to obtain a tree survey. Existing trees within the ROW or adjacent to survey limits and accessible that are eight inches in diameter or larger, will be located and tagged. Trees will be represented on the survey plans and a table will list each tag number, common name, and size.
- ENGINEER will subcontract the services of a surveyor to research and obtain current deeds or plats for each property along the route and contact the appropriate agencies for other ROW data.
- ENGINEER will subcontract the services of a subsurface utility engineer (SUE) to perform an exploration of existing utilities.
    - SUE activities will include Quality Service Level (QL) D, C, and B within the project limits, in accordance with American Society of Civil Engineers (ASCE) C-1-38-22. QL-D will include records research to obtain as-built location information from utility providers. QL-C will include field surveying to obtain the horizontal position of visible utility surface features associated with underground utility systems. QL-B will include horizontal location of subsurface utilities using geophysical prospecting techniques, including electromagnetic, sonic, and acoustical techniques. The QL-B services will be limited to the existing 16-inch water line owned by Kendall West Utilities.

ENGINEER DELIVERABLES:

- Topographic survey and SUE information in electronic CAD format.

ASSUMPTIONS:

- Rights of entry are not required. If rights of entry become necessary, the CITY will coordinate with landowners.
- Since ENGINEER has no influence over survey permissions and landowner issues, this has not been accounted for in this Task Order.
- This Task Order does not include standby time, holiday, or weather days (force majeure).
- Probing of utilities has not been accounted for in this proposal.
- Data collected from the ENGINEER's survey subconsultant's SUE Level services will be included on the corresponding engineering design drawings. The responsibility of locating, exposing, and/or protecting utilities during construction is the sole responsibility of OWNER's construction contractor as defined in OWNER's construction agreement.
- Extent of access roads, laydown yards, extra workspaces, and/or parking areas will be surveyed once these areas have been defined by ENGINEER and/or OWNER. These areas have not been accounted for in this proposal.
- CITY will provide available information on existing utilities.
- Traffic management will be provided by subconsultant, if required.
- LiDAR data will include five ground control and 20 ground truthing locations.
- Horizontal and vertical control will be established using Global Positioning System (GPS) with a tolerance of +/- 0.1 feet.
- SUE work will not include QL-A effort, which includes locating the horizontal and vertical position of subsurface utilities by excavating test holes using vacuum excavation techniques. QL-A would be considered additional services.

Task 3: Geotechnical Investigation

ENGINEER will subcontract the services of a geotechnical firm to perform a geotechnical investigation.

- The investigation is anticipated to include approximately ten boring locations, each approximately 10 feet deep
- The investigation will include index properties and strength tests to characterize subsurface conditions.
- The subconsultant will provide a geotechnical data report containing boring logs and test results.
- ENGINEER will perform engineering analyses of the field and laboratory data from subconsultant to provide design and construction recommendations.

ENGINEER DELIVERABLES:

- Geotechnical data report and boring logs in electronic PDF and CAD formats.

ASSUMPTIONS:

- Rights of entry are not required. If rights of entry become necessary, the CITY will coordinate with landowners.
- The subconsultant will be responsible for proper disposal of drill cuttings.
- The subconsultant will be responsible for utility locate calls prior to drilling bores.
- The boring locations will be accessible by truck-mounted drill rig.
- Traffic management will be provided by subconsultant, if required.
- ENGINEER anticipates the Cibolo Creek crossing will be an aerial crossing. An HDD installation would require additional deep geotechnical borings at Cibolo Creek. These deep borings for HDD are not included in this Task Order and would be considered additional services.

Task 4: Environmental and Cultural Resources Evaluation

- ENGINEER will conduct a site visit within a single, one-day mobilization to delineate potential waters of the United States. The site visit will also include a general habitat evaluation to assess potential environmental permit requirements.
- ENGINEER will collect sub-meter GPS data of the ordinary high water mark of streams and wetland boundary, if needed, for use in potential avoidance by design and construction.
- ENGINEER will review information from the engineering design and construction to evaluate potential impacts and permit requirements.
- ENGINEER will prepare a Technical Memorandum summarizing the findings of the preliminary permitting evaluation.
- ENGINEER will perform a desktop database review of the Texas Historical Commission (THC) Archaeological Sites Atlas, Historical Sites Atlas and the Texas General Land Office. This research will define previous cultural resources sites, archaeological sites, cemeteries, historic markers, or other, located within a one-mile buffer of the project area.
- ENGINEER will consult data from the US Department of Agriculture Natural Resources Conservation Soil Service, the Geologic Map of Texas, and the Texas Department of Transportation's Potential Archaeological Liability Maps to assess the potential for the project area to contain preserved archaeological deposits.
- ENGINEER will review historical maps and aerial photography to identify potential historic archaeological sites and architectural resources.
- The proposed alignment potentially includes a known archaeological site, and field work is anticipated to determine the presence or absence of archaeological resources to mitigate during design. Per the Antiquities Code of Texas, ENGINEER will obtain a THC Antiquities Permit and evaluate identified resources for their eligibility for inclusion in the National Register of Historic Places (NRHP) or as a designated State Antiquities Landmark (SAL). A report will be prepared.

ENGINEER DELIVERABLES:

- Technical Memorandum summarizing the findings of the preliminary environmental permitting evaluation.
- Technical Memorandum summarizing the cultural resources survey, in compliance with the guidelines published by the Council of Texas Archaeologists, the THC, and the Secretary of the Interior's Guidelines.

ASSUMPTIONS:

- ENGINEER assumes a pre-construction notification (PCN) to and/or other coordination with the United States Army Corps of Engineers (USACE) is not anticipated and is not included in this scope of services.
- No permit applications, agency coordination, or species-specific surveys are included.

Task 5: Preliminary Engineering

- Evaluate findings of data collection, topographic survey, SUE investigation, geotechnical investigation, and environmental assessment to prepare preliminary engineering design recommendations.
- Develop a draft Technical Memorandum to summarize findings of preliminary engineering phase, including:
    - ENGINEER's design parameters for the new pipeline.
    - Plan views of recommended gas main horizontal alignment, reflecting a design stage of approximately 50%. Including connections and approximate number and locations of proposed pipeline tie-ins.
    - Pipe size and materials.
    - Anticipated construction methods.
    - Utility conflict resolution.
    - ENGINEER'S opinion of probable construction cost (EOPCC).
- Attend the following preliminary design meetings (ENGINEER's Project Manager and other lead personnel):
    - Preliminary horizontal alignment review.

ENGINEER DELIVERABLES:

- Draft and Final Technical Memorandums in electronic PDF format.

ASSUMPTIONS:

- The CITY will provide staff knowledge on existing pipeline locations and condition.
- The EOPCC will be a Class 5 estimate with the associated level of expected accuracy as defined by the Association for the Advancement of Cost Engineering (AACE) Recommended Practice No. 18R (2016). ENGINEER's OPCCs are to be made on the basis of ENGINEER's experience, qualifications, and general familiarity with the construction industry. However, because ENGINEER has no influence over the cost of labor, materials, equipment, or services furnished by others; contractors' methods of determining prices; competitive bidding; or market conditions, ENGINEER cannot and does not promise proposals, bids, or actual construction cost will not vary from OPCCs prepared by ENGINEER. If OWNER requires greater confidence as to OPCC, then OWNER agrees to obtain an independent cost estimate. No environmental, historical, or archaeological investigations are required.
- The proposed gas main will be located within existing easements or ROW. No real estate or easement acquisition services are required, including temporary construction easements.
- No deed research on adjacent property owners is required.
- ENGINEER will not attend public information meetings.

Task 6: Final Design and Bid Documents

ENGINEER will prepare pipeline alignment drawings, details, bid documents, and specifications for the proposed gas main. The alignment drawings will include pipeline alignment, a cover sheet, index sheet, and bill of materials (BOM). ENGINEER's detailed design activities associated with the pipeline will include:

- Design of up to three miles of new eight-inch polyethylene piping.
- Developing final BOM for the pipeline.
- Developing and maintaining a KMZ file of the pipeline route.
- Generating general drawing sheets (i.e., cover sheet, drawing index sheet, legend sheet, general notes, and general site plan).
- Developing alignment drawings that will include plan and profile views, topographic lines, pipeline centerline and relative dimensions to easements, valve locations, ROW, easement, and property boundaries.
- Attend the following design meetings (ENGINEER's Project Manager and other lead personnel):
    - 50% alignment review.

ENGINEER assumes the gas main will cross Cibolo Creek on top of an existing I-beam that spans the creek. No design or as-built information is available on the beam, and its condition, structural integrity and strength are

unknown. ENGINEER assumes the existing beam is adequate to support the proposed gas main under full tested load.

- ENGINEER will obtain measurements to estimate the beam's self-weight, as part of the survey included in Task 2. ENGINEER assumes the beam can support approximately five percent of its self-weight. No further field testing to assess the beam's condition or strength is included in this scope of services. If the proposed gas main under full tested weight is determined to be more than five percent of the beam self-weight, ENGINEER will coordinate with CITY on how to proceed with design of the crossing. Possible alternatives include design of a new beam, and an HDD installation below the creek.
- Design of a new beam is not included in this scope of services, and would be considered additional services.
- Design of an HDD creek crossing below Cibolo Creek is not included in this scope of services, and would be considered additional services.

ENGINEER DELIVERABLES:

- 50% alignment drawings, in electronic PDF format.
- 100% design unsigned drawings, specifications and EOPCC. Documents will be provided in electronic PDF format and three half-size printed copies.
- Issued for Bid (IFB) documents. Documents will be provided in electronic PDF format and three half-size printed copies.
- BOM at 100% unsigned and IFB design stages.

ASSUMPTIONS:

- The CITY owns the existing beam across Cibolo Creek, or will obtain the necessary agreements to utilize the beam for the gas main crossing.
- ENGINEER has excluded trenchless crossing design in this proposal. ENGINEER will work with CITY during preliminary engineering to identify the location and number of trenchless crossing and associated geotechnical investigation locations.
- The 100% level EOPCC will be a Class 1 estimate, with the associated level of expected accuracy as defined by the AACE Recommended Practice No. 18R (2016). ENGINEER's OPCCs are to be made on the basis of ENGINEER's experience, qualifications, and general familiarity with the construction industry. However, because ENGINEER has no influence over the cost of labor, materials, equipment, or services furnished by others; contractors' methods of determining prices; competitive bidding; or market conditions, ENGINEER cannot and does not promise proposals, bids, or actual construction cost will not vary from OPCCs prepared by ENGINEER. If the OWNER requires greater confidence as to OPCC, then OWNER agrees to obtain an independent cost estimate.
- Alignment sheets will be produced at 1:50 scale.
- Specifications will be based on ENGINEER's master specifications and will conform to the 50-division format of the Construction Specifications Institute (CSI).
- Drawings will be created in AutoCAD using ENGINEER's CADD standards.
- ENGINEER will produce existing piping drawings using OWNER-provided electronic information, such as AutoCAD or geographic information system (GIS) files. ENGINEER assumes it does not need to draw or model existing gas piping.
- ENGINEER assumes profiles are required for the pipeline design drawings.
- ENGINEER assumes profiles will not be included in the 50% alignment drawings.
- ENGINEER has excluded cathodic protection design, assuming piping material to be polyethylene.
- Service design and transfers are not considered part of ENGINEER's scope.
- CITY comments will be received within one week of submission of the 50 percent alignment documents.
- CITY comments will be received within one week of submission of the 100 percent design documents.
- The contractor will furnish a storm water pollution prevention plan (SWPPP) and submit a Notice of Intent (NOI) to Texas Commission on Environmental Quality (TCEQ) for compliance with the Texas Pollutant Discharge Elimination System (TPDES) Stormwater General Permit TXR150000.
- No real estate, ROW, or temporary or permanent easements are required.
- No regulatory design submittals are required.

- ENGINEER excludes incorporation of operational technology (OT) cybersecurity within the design. Where provided, OWNER standards will be applied; however, further risk evaluation or development of cybersecurity mitigations is excluded.

Task 7: Bid Phase Services

ENGINEER will provide bid phase services to the OWNER, including:

- Distribution of bid documents, by uploading documents to the CivCast website.
- Development of agenda for and attendance at one pre-bid meeting. The pre-bid meeting will be held in person at the project site or OWNER's offices and attended by ENGINEER's Project Manager and Project Engineer.
- Preparation and distribution of up to two addenda containing clarifications and modifications to the bid documents.
- Review of bids received for inclusion of required information and correct bid price tabulation.
- Review contractor qualifications for performing the required work. Evaluate the apparent low bidder in accordance with the bid documents. Make a written recommendation to the OWNER for the award of the contract. Recommendation will be made based on the lowest responsive and responsible bid.
- Attend bid opening. The bid opening will be attended by ENGINEER's Project Manager or representative.
- Prepare contract documents (bid documents with addenda attached).
- Prepare conformed documents (courtesy set with addenda changes incorporated into bid documents).

ENGINEER DELIVERABLES:

- Pre-bid meeting agenda in electronic format.
- Up to two addenda in electronic format. ENGINEER will upload the addenda to CivCast.
- Written recommendation of award in electronic format.
- Contract documents in electronic format and two half-size printed versions of the original executed documents.
- IFC documents and BOM in electronic format and four half-size printed versions.

ASSUMPTIONS:

- OWNER will issue contract documents to the low responsive bidder. The OWNER will provide conformed documents as a courtesy to the contractor who is awarded the contract.
- OWNER will receive and review executed documents and insurance certificates.
- The pre-bid meeting will be at OWNER's offices.
- The bid opening will be at OWNER's offices.

Task 8: Construction Phase Services

ENGINEER will provide construction phase services to OWNER, including:

- Development of agenda for and attendance at one pre-construction meeting. The pre-bid meeting will be attended by ENGINEER's Project Manager and Project Engineer.
- Attend up to six construction coordination meetings, as requested by OWNER. Meeting interval will be determined based on construction schedule. Additional meeting attendance will be considered additional services.
- Review of up to 30 technical submittals.
- Review and respond to up to 12 contractor requests for information (RFIs).
- Review and respond to up to six Change Proposal Requests (CPRs) and three Change Orders (COs).
- Maintain a log of submittals, RFIs, CPRs, COs, and other pertinent correspondence.
- Review up to six monthly Contractor Pay Applications with accompanying information and provide recommendation for payment to CITY.
- Attend substantial completion walk-through meeting after notice from the contractor that work is substantially finished.
- Preparation of Issued for Construction (IFC) documents and record drawings.

ENGINEER DELIVERABLES:

- Preconstruction meeting agenda and notes.

- Reviewed submittals (up to 30).
- RFI responses (up to 12).
- IFC documents and record drawings in electronic PDF format.

ASSUMPTIONS:

- ENGINEER has excluded as-built survey, MAOP data collection, MAOP verification and as-built/record drawings from our scope of services and fee estimate. This work can be provided but will be considered additional services.
- Pressure testing documents are to be prepared by the construction contractor or its testing company. ENGINEER will provide support as needed.
- OWNER will provide construction observation services.
- Record drawings depicting the finished project, or a specific portion of the finished project, prepared by ENGINEER based on contractor's record copy of drawings, specifications, addenda, COs, work change directives, field orders, and written interpretations and clarifications, as delivered to ENGINEER and annotated by contractor to show changes made during construction.
- ENGINEER will not perform site observation unless requested by OWNER. Site observation will be considered additional services.
- Construction progress meetings will be scheduled and led by the contractor and held in person at either the project site or OWNER's office. Progress meetings will be up to one hour in duration and attended by ENGINEER'S Project Manager or representative and one Project Engineer.
- ENGINEER's recommendation of contractor pay applications will be dependent on CITY input when ENGINEER has not made a monthly site visit.
- The CITY will attend and perform the Final Completion Walk-Through Meeting. ENGINEER'S attendance at a final walk-through is not required.
- ENGINEER will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the work or to perform special inspections as defined in the applicable codes or required by the authorities having jurisdiction. ENGINEER neither guarantees the performance of contractor nor assumes responsibility for contractor's failure to furnish or perform the work, or a portion of the Work, in accordance with the construction contract documents.
- ENGINEER will rely on its judgment in providing advice to the CITY so, when finished, the project will be in general conformance to the contract documents. ENGINEER will not be responsible for the failure of contractor to perform construction work in accordance with contract documents and the contract for construction; however, ENGINEER will report to the CITY deficiencies in the work actually detected by the ENGINEER.
- After contractor's review and approval, ENGINEER will review and take appropriate action on contractor's submittals, such as shop drawings, product data, and samples, but only for conformance with the design concept of the project and compliance with the information given in the contract documents. Such reviews will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions and programs incident thereto. The review of a specific item will not indicate review of an assembly of which the item is a component.

PART 3.0 OWNER'S RESPONSIBILITIES:

OWNER will be responsible for the following:

- Provide data pertinent to the project.
- Participate in teleconferences and meetings.
- Timely review and approval of ENGINEER's invoices.

PART 4.0 PERIODS OF SERVICE:

ENGINEER is authorized to begin rendering services as of the date of notice to proceed (NTP). ENGINEER proposes to perform its obligations per the following schedule:

TASK	DATE
Task 1: Project Kickoff, Management, Coordination, Data Acquisition and Review	Ongoing throughout project
Task 2: Topographic Survey and Utility Investigation	50 business days after NTP
Task 3: Geotechnical Investigation	50 business days after NTP
Task 4: Environmental and Cultural Resources Investigation	50 business days after NTP
Task 5: Preliminary Engineering	60 business days after NTP
Task 6: Final Design and Bid Documents	60 business days after completion of Task 5. ENGINEER anticipates 50 percent review meeting with OWNER will be held one week following the deliverable to maintain the project schedule.
Task 7: Bid Phase Services	Dependent on bid phase duration (anticipated to be approximately 30 business days)
Task 8: Construction Phase Services	Dependent on construction duration (anticipated to be approximately 60 business days)

Unless otherwise stated in the 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 specified dates for finishing ENGINEER's services are exceeded through no fault of ENGINEER, the time for performance of those services will be automatically extended for a period reasonably required for completion, and rates, measures, and amounts of ENGINEER's compensation will be equitably adjusted.

PART 5.0 ENGINEER'S FEE:

Compensation will be on a lump sum basis as follows:

TASK	FEE
Task 1: Project Kickoff, Management, Coordination, Data Acquisition and Review (Lump Sum)	$27,404.82
Task 2: Topographic Survey and Utility Investigation (Lump Sum)	$162,331.10
Task 3: Geotechnical Investigation (Lump Sum)	$30,551.38
Task 4: Environmental and Cultural Resources Investigation (Lump Sum)	$33,821.18
Task 5: Preliminary Engineering (Lump Sum)	$23,492.32
Task 6: Final Design and Bid Documents (Lump Sum)	$89,234.76
Task 7: Bid Phase Services (Hourly)	$7,805.44
Task 8: Construction Phase Services (Hourly)	$27,583.36
Direct Expenses	***$5,162.50***
TOTAL PROFESSIONAL SERVICES	**$407,386.86**

ENGINEER will submit monthly invoices listing the amount of work performed to date as a percentage of the lump sum fee for Tasks 1 to 5. ENGINER will submit monthly invoices listing the hours charged and using the billing rates listed in Exhibit A of the Agreement for Tasks 7 and 8. Billing rates will be updated annually at the beginning of each calendar year to reflect changes in personnel compensation.

This Task Order is executed this _____ day of _____, 2023. Execution of this Task Order will serve as ENGINEER'S NTP.

CITY OF BOERNE		HDR ENGINEERING, INC.	
"OWNER"		"ENGINEER"	
BY:		BY:	
NAME:	Ben Thatcher	NAME:	Mark Borenstein
TITLE:	City Manager	TITLE:	Senior Vice President
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