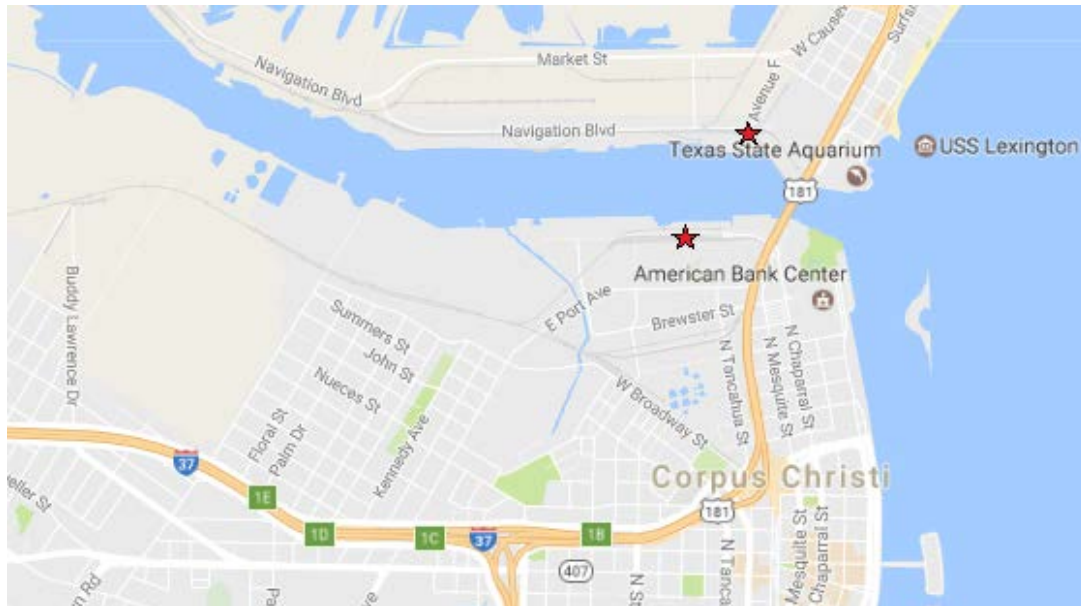


SCOPE OF WORK

This solicitation covers the installation of 48” diameter drilled shafts for the Tower 1NT and 1ST and 42” diameter shafts for the Temporary Support Piers of the New Harbor Bridge as part of the US 181 Harbor Bridge Project in Corpus Christi, Texas. Approximate locations of the work area are depicted with red stars in the following map image:



1.0 Scope of Work

Subcontractor shall be responsible for the installation of drilled shafts including the activities listed below:

- Subcontractor shall provide all necessary instruments in executing and installing high quality work, including, but not limited to, labor, equipment, permanent casing, fuel, and consumable materials such as temporary casing, slurry and storage tanks, tie wire, stakes, tremie pipe, submersible pumps, and any other items required to drill and place concrete for the drilled shafts.
- Subcontractor shall mobilize two independent crews, one for each tower, and should be able to perform all work simultaneously in both towers.
- Subcontractor shall provide equipment associated with receiving and unloading of materials.
- Subcontractor shall provide a 55' Permanent casing for each 48"-diameter shaft of the Tower 1NT and 1ST. This casing shall have adequate dimensions to support the loads during the work and to allow the pass of the drilling tools. Material shall comply with the Buy America provisions in the Project. The use of permanent casing in the 42"-diameter shafts of the Temporary Support Piers is at the discretion of the Subcontractor.
- Subcontractor shall provide crane mats to work on the existing ground and on top of the footing without damaging the concrete.
- Subcontractor shall properly stockpile the drill spoils.
- Subcontractor shall supply, handle, and dispose of slurry as required for drilling.
- Subcontractor shall provide all submittals pertaining to Scope of Work including, Contractor Form 10, Request for Material Approval, work reports, three-week look-ahead schedules, work meetings, job site specific safety orientation, daily job hazard analysis meetings, and attend all jobsite safety meetings while working on the Project.



SCOPE OF WORK

- Subcontractor shall submit a Drilled Shaft installation plan for review as required in US181 Harbor Bridge Project Technical Provisions Item 416. The installation plan shall account for the Project singularities described in the corresponding section below.
- Subcontractor shall pay special attention to the plan specifications and maintain high quality work, and control material handling as any material breakage will be the responsibility of the Subcontractor. All material should be inspected and approved prior to the unloading of delivered material.
- Subcontractor shall keep all drainage and site maintenance in the work areas clean and level with adequate drainage at all times.
- Subcontractor shall keep lay down areas to a minimum, with a preference of “just-in-time” deliveries.
- The Subcontractor shall be responsible for survey for the correct line, level, verticality, and depth of each shaft.
- Subcontractor shall install the rebar cages into the drilled shafts. The rebar cages will be fabricated in two sections of 110’ approx. Cages will be provided in a horizontal position by the Contractor and Subcontractor will be responsible for the rotation of the cages to vertical. Subcontractor will be responsible for securing the bottom cage to the top of the casing while the second cage is installed. Contractor will be responsible for the splice between the cages. Subcontractor is responsible for preparing adequate lifting plans, including all the specific details of this operation (crane capacity, radius, rigging configuration, connections to the cages, ...). Subcontractor shall avoid or minimize deformations of the cages during the operations and will be responsible for any damage done to the rebar cages or csl pipes during the installation. Subcontractor shall provide a crawler crane for the performance of these activities.
- Subcontractor will be responsible for the proper placement of the concrete in the drilled shaft. Subcontractor will give enough notice to the Contractor for a proper coordination of the concrete placement, including schedule and frequency of concrete delivery. Subcontractor shall control the final top elevation of the concrete in the shaft. Subcontractor shall remove any contaminated concrete with a concrete vacuum while the concrete is still fresh. Final top elevation after extraction of the contaminated concrete shall be 1’ above the theoretical top elevation.

The following materials and/or services are specifically excluded from the Scope of Subcontractor’s Work and shall be furnished by Contractor:

- Supply of rebar cages, including rebar, CSL pipes, ties and rebar spacers.
- Supply of concrete, mixer trucks and concrete pump.
- Spoil load, transportation, and disposal
- Initial survey location for the drilled shafts and reference points to be used by the Subcontractor for the verification of the several parameters during the construction of the shafts.
- Storm water pollution prevention measures.
- Drilled Shaft integrity testing as required by the Technical Provisions.
- Supply of construction water as required for drilled shafts installation.



SCOPE OF WORK

Drawings and Specifications:

- Additional Drilled Shafts Tower 1NT and 1ST Package. (Drawings are not final and subject to minor changes)
- Drilled Shafts Temporary Support Piers. (Drawings are not final and subject to minor changes)
- US181 Harbor Bridge Project Technical Provisions Attachment 13-1, with special attention to Item 416, Item 421 and Item 440.

Project singularities:

- **Drilled Shafts at Tower 1NT and 1ST:**
 - 55' Permanent casing with adequate dimensions to support the loads during the work and to allow the pass of the drilling tools. Bottom of the permanent casing will be installed to a depth such that the elevation is - 38.3' approx.
 - Slurry will consist of a pre-mixed bentonite slurry with EZ-MUD GOLD polymer additive with proportions of 500 bbl for each one. Slurry will be allowed to hydrate a minimum of 8 hours after mixing prior to use.
 - Crane attached type drill rigs with multi-element telescopic kelly bar should be used on the project.
 - Available space is limited at both locations. The drilled shafts located in the extension of the water side of the footing shall be done from the top of the footing. Pictures and sketches with the available space are include in the file "Available working areas".
 - The deck of the new bridge will be partially built before the drilled shaft work starts. For crane boom dimensions, clearance below the new deck will be 190' approx.
- **Drilled Shafts at Temporary Support Piers:**
 - Use of permanent casing is at the discretion of the Subcontractor
 - Slurry used may be pure bentonite slurry at the discretion of the Subcontractor

2.0 Schedule

The commencement of work shall be estimated for Jan-Feb 2023. That date may vary depending on final approval of the RFC drawings. Contractor will give a 4-week Notice of Mobilization to Subcontractor independently for each tower. Subcontractor shall be ready to start the installation of the drilled shaft after that 4-week period (i.e., the mobilization of the equipment is included in that Notice).

Subcontractor shall install the drilled shafts according to the following durations:

- Installation of the 14 shafts in the Tower 1NT shall be accomplished in 5 weeks. (i.e. 9 weeks after Notice of Mobilization is issued)
- Installation of the 8 shafts in the Tower 1ST shall be accomplished in 3 weeks. (i.e. 7 weeks after Notice of Mobilization is issued)
- Installation of the 8 shafts in each Temporary Support Pier shall be accomplished in 3 weeks. This work will be done once the drilled shafts at each Tower are completed.



SCOPE OF WORK

3.0 General Requirements

Subcontractor's construction safe work practices, job procedures and etc. are to conform to the following standards: Occupational Health & Safety Regulations (OSHA), Texas Department of Transportation "Standard Specification for Construction and Maintenance of Highway, Streets, and Bridges", Port of Corpus Christi and Contractor's health safety policies and standards.

Subcontractor shall comply with Contractor's safety plan and procedures and forms at all time. A formal Project Safety Orientation is required for each Subcontractor's employees including all on-site personnel regularly employed by consultants and vendors prior to working on the Project.

Onsite Safety, Quality and Environmental Training, is a requirement of the Project and provided by Contractor at 4 hours per person. This training is on Monday afternoon unless prior arrangements are made.

Subcontractor shall assume toward the Contractor all obligations and responsibilities which the Contractor has assumed toward the Owner under the Contract to the extent such obligations and liabilities relate to the Service Provider's Work. In case of conflict between the terms of this Subcontract and Contract, the Subcontract shall control. The Contract has been and remains available to the Subcontractor for review via web link: <http://www.txdot.gov/business/partnerships/current-cda/harbor-bridge/executed-version.html>

Subcontractor shall be responsible for all deliveries to and from the working location defined by the Contractor's Authorized Representative.

Subcontractor shall communicate and coordinate all aspects of its works with the Contractor's Authorized Representative.

4.0 Subcontractor's Report

For a progressive execution of the scope of work, Subcontractor shall submit a narrative progress report detailing: (a) all activities accomplished during the current period and; (b) all activities planned for the next period. Also, Subcontractor shall close its invoicing period by the 20th day of each month and submit the narrative progress report not later than the 22nd day of the month, with a draft proposed invoice that will be used to facilitate the revision and approval process prior to the Contractor submitting its monthly progress report to the Owner for the Owner's approval and payment.

If applicable, as per Section 11.2.2 (a) of the CDA, the Contractor is required to provide a monthly report of personnel hours. Subcontractor shall submit a man-hours report that details the number of employees working on the project and the number of hours reported during the period.



SCOPE OF WORK

5.0 List of Second-Tier Subcontractors

Subcontractor shall provide a list of all Second-Tier Subcontractors are going to be providing services under this agreement. Second-Tier Subcontractors are subject to the approval of the Contractor. List provided below includes all the Second-Tier Subcontractors that will potentially being providing services. In case a new Second-Tier Subcontractors is identify during the execution of the services, Second-Tier Subcontractors shall request written approval from Contractor Authorized Representative prior to perform any work.

Second-Tier Subcontractors	Scope of Work	Contact Info
		Name: Phone: Email:

6.0 Subcontractor's DBE Commitment:

Subcontractor's DBE agreed commitment under this agreement is 9%.