

PRE-CONSTRUCTION PHASE SERVICES SCOPE EXECUTIVE SUMMARY

The City will deliver the Corpus Christi Inner Harbor Seawater Desalination Treatment Plant Project (Project) through the progressive design-build (PDB) collaborative delivery method. The PDB method is intended to increase collaboration and efficiency during all phases of the Project. The City will contract directly with a single Design-Builder for all aspects of the Design-Build Contract Services, which are divided into three phases:

- Phase 1, or Pre-Construction Phase Services, will provide final facility planning, design and other preconstruction phase services necessary to finalize a guaranteed maximum price (GMP) proposal for Phase 2 services.
- Phase 2, or Construction Phase Services, will provide the construction necessary to achieve a final completion of the facility to transition into Phase 3 services.
- Phase 3, or Interim Operations and Maintenance (O&M) and Handover Services, will operate the facility for approximately one year and transition the facility over to City staff operations.

Throughout the Project, the Design-Builder will be the single point of contact and have contractual responsibility for all design, construction, and operational transition services contracted by the City. In general, these services include:

- Planning, piloting, design, permitting, construction, start-up, testing, and outfitting of the Project during its Phase 1 and Phase 2 Services.
- Operation, maintenance, asset management planning, and short-term repair and replacement of all Project equipment during Phase 3 Services.
- O&M training for City or other O&M contractor staff, and services needed to effectively transfer the O&M of the Plant from the Design Builder to the City at the end of the Phase 3 Services. This includes working alongside City operations personnel who will shadow Design-Builder's staff during Phase 3.

The Pre-Construction Phase Services of Phase 1 are broken into two parts, Phase 1A and Phase 1B. Phase 1A includes the finalizing the pilot protocol, procuring the pilot equipment, and providing a detailed facility plan and treatment approach that establishes the Project's full-scale design requirements. This phase will also include the development of the Project's detailed Cost Model. Phase 1B includes the services the Design-Builder will perform to develop the facility design to the point where a GMP for construction of the facility can be negotiated and will include necessary pre-purchase of equipment to facilitate the design and on-schedule delivery of the Project.

Specifically, Phase 1A will include the following efforts:

1. Pilot Study: A pilot study will be required to comply with the Texas Commission on Environmental Quality (TCEQ) requirements for innovative treatment technologies. The Design-Builder, in partnership with the City, will be responsible to finalize the pilot study protocol, execute the pilot study, and prepare a pilot report for review and approval by the TCEQ. In addition, the Design-Builder shall confirm raw Seawater Quality and finished water compatibility with the City's distribution system.

2. Evaluation: The Design-BUILDER, as part of their Phase 1A responsibilities, will prepare the following deliverables that will be used to inform and guide the design of the Project:
 - Preliminary Facility Plan
 - General Form and Function of the Plant
 - General Form/Architectural Concept of the Plant Buildings/Facility Features
 - Process Flow Diagrams
 - Clear Design Concept
 - Preliminary Control Narrative
 - Philosophy of the Plant Operations
 - Preliminary Process and Instrumentation Diagram (P&ID) for treatment components
 - Process Design of the Facility
 - Electrical One-Line of the Facility and Associated Power Requirements
 - Baseline Project Cost Model and Project Schedule
3. Environmental Protection/Enhancement: The Design-BUILDER will perform evaluations necessary to define project requirements to protect and enhance the marine and terrestrial environments associated with the Project for incorporation into Phase 1B, Phase 2 and Phase 3 services.
4. Basis of Design Report: The Design-BUILDER will prepare a Basis of Design report summarizing the evaluations, reviewed water quality and flow data, and defining the basis of design for each of the major project units.
5. Survey: The Design-BUILDER will evaluate available survey data and determine whether and when additional survey information will be required. Design-BUILDER will subcontract the services of a licensed surveyor to complete requisite survey of the selected project site, including a complete boundary and topographic survey.
6. Geotechnical: The Design-BUILDER will evaluate the geotechnical baseline report and determine whether and when additional geotechnical information is required. Design-BUILDER will provide additional geotechnical services that include the development of a geotechnical report or memorandum to support the design for new structures associated with the Project.
7. Cost Modeling: The Design-BUILDER shall perform cost modeling to develop the Opinion of Probable Construction Cost for the Basis of Design Report, and also to support alternative evaluation processes during detailed design.
8. Safety by Design Planning: Design-BUILDER shall develop an initial health & safety plan submission defining how safety will be incorporated into the design and approaches that will be used to ensure public safety through design and construction services.
9. Project Management: The Design-BUILDER shall provide project management of all Phase 1A services as well as preparation of project management and

coordination recommendations for Phase 1B. Items include, but are not limited to, document management, BIM/CAD requirements, risk development/modeling, schedule development, procurement plan development, Early Works Packages recommendations, and submission requirements for Phase 1B.

Phase 1B services will include design development of the project to what is known in the industry as a 60% to 70% level of design development suitable for negotiation of a GMP proposal for finalization of the design and construction of the Project, and will generally address detailed design and planning for the following:

- Onsite improvements including site roadways, parking, lighting, wayfinding, sidewalks, landscaping, site security, site access control features, and facilities needed to supply the site utilities required for the operation of the Plant, including construction of a step-down substation to provide electrical power to the Plant.
- Offsite improvements including access easement roadways; an offsite Product Water transmission line up to the POC; and two 10 MG ground storage tanks.
- Coordination with AEP on substation design and construction schedule to provide electrical power to the Plant. AEP will be responsible for designing and building their 138kV substation adjacent to the Plant Site. The Design-Builder shall be required to coordinate the design of the City's' step down substation with AEP's design of their 138kV substation.
- Prepurchase of long lead time items such as electrical equipment and process equipment to facilitate the Project's schedule.
- Plant commissioning planning indicating the steps required to demonstrate that the Plant can reliably produce Product Water and has all relevant Governmental Approvals and that will additionally indicate what coordination steps will be required to prepare the new source of supply to be safely integrated into the City's system.
- Permitting and other Governmental Approvals necessary for the performance of the Contract Services on behalf of the City with the exception of permits the City will retain the responsibility for obtaining such as: the water right (diversion) authorization for raw water, the Texas Pollutant Discharge Elimination System (TPDES) permit for the discharge into the ship channel, and the US Army Corps of Engineers (USACE) permit(s).
- Stakeholder outreach and public information services to support the City's ongoing outreach efforts. The Design-Builder shall be responsible, at a minimum, for ensuring project activities are managed in a manner that maintains a positive and safe environment for the community, as well as providing routine updates on the Project's progress to local community groups, maintaining the Project schedule and activities on the Project website, and attending/participating in other functions held by the City to promote the Project and to maintain community support.
- Project management/coordination of all Phase 1B services as well as preparation of project management and coordination recommendations for Phase 2.