HANSON
Engineering | Planning | Allied Services

Hanson Professional Services Inc.
4501 Gollihar Road
Corpus Christi, TX 78411
(361) 814-9900
Fax: (361) 814-4401
www.hanson-inc.com

September 16, 2022

Mr. Jeff H. Edmonds, P.E.
Director of Capital Programs
City of Corpus Christi
P.O. Box 9277
Corpus Christi, Texas 78469-9277

Re: Cefe F. Valenzuela Landfill
Development of Sector 2A

Dear Mr. Edmonds:

Hanson Professional Services, Inc. (Hanson) wants to thank the City of Corpus Christi (City) for selecting our firm to provide professional engineering services for the Sector 2A expansion project at the City's Cefe F. Valenzuela municipal solid waste landfill (Landfill). The following outlines our proposal to complete this work.

Sector 2A is approximately 26 acres in size and the Solid Waste staff has elected to use the compacted clay soil liner option for the lining system. Our staff is familiar with the Cefe F. Valenzuela landfill and we have copies of the relevant permit documentation from the Texas Commission on Environmental Quality (TCEQ) governing the design and construction of the project. Based on this understanding of the work, we propose to perform the following specific tasks:

Engineering Design and Assistance with Bidding

Schematic Design

The schematic design is based upon the specific liner configuration as depicted in the landfill permit narrative and related drawings consisting of the following components (from bottom to top): dewatering system/underdrain, prepared subgrade, compacted clay liner, 60 mil High Density Polyethylene (HDPE) geomembrane, drainage geocomposite/leachate collection system, and protective cover, including drainage chimneys. The finished liner system will also include a tie-in to the existing liner systems for Sectors 3C and 1C. Hanson will prepare a schematic design package in Adobe Acrobat electronic format and host a design workshop with the City to review the package. The package will include:

- A plan view layout of the proposed construction, including the proposed cell configuration as well as cell-related components that will be a part of the project.
- A technical memo outlining construction work items for the bid package, approximate quantities and preliminary opinion of probable construction costs, and a description of additional requirements (e.g., TCEQ mandated construction inspection/quality assurance testing, regulatory submittals, required infrastructure extensions, changes in financial assurance, required additional monitoring, and appurtenances required.).
- A proposed project schedule.

60% Construction Documents Package

Based on the comments received from the City on the Schematic Design, Hanson will prepare draft construction documents representing approximately 60% design completion and will meet with the City in a design review workshop. The package will include:

- Construction drawings, including plans, sections, and details, for the construction components identified in the schematic design. Drawings will include the record drawing number as provided by the City.
- Construction specifications for construction components identified in the schematic design.
- Contract documents, including instructions to bidders, agreements, bonds, general conditions and special conditions, using City standard forms with information required to render those forms suitable for the project.

All documents will be prepared in City standard format and drawings will be developed in electronic format (AutoCAD Civil 3D®, updated through 2017 or higher). Final drawings will be archived from AutoCAD Civil 3D as Adobe Acrobat Portable Document Format (.pdf) set up as full size 22" x 34" sheets printable at a standard engineering scale and capable of being reproduced on half size 11" x 17" sheets. Contract documents and specifications will be prepared in Microsoft Word and will be archived as .pdf.

90% Construction Documents Package

Based on the comments received from the City on the 60% Construction Documents Package, Hanson will prepare a 90% design submittal package of construction documents and will meet with the City in a design review workshop to review the package. The package will include updated versions of the documents furnished for the 60% submittal along with an opinion of probable construction cost.

100% Construction Documents Package

Following the incorporation of any comments from the 90% construction documents review, Hanson will prepare and deliver to the City Engineer final reproducible drawings, specifications and contract documents. This package will include:

- An electronic version of all documents in PDF format on Digital Video Disk (DVD) or on other comparable electronic media acceptable to the City.
- Three (3) hard copy sets of 22" x 34" full size drawings.
- Three (3) hard copy sets of 11" x 17" half-size drawings.
- Three (3) hard copy sets of contract documents and specifications.
- One (1) hard copy of the opinion of probable construction cost.

Electrical Design (Sump Power Supply)

This project will include the provision of a leachate sump pump along with the necessary power requirements and leachate discharge piping extending from the sump to an existing tee in the 4-inch leachate discharge piping adjacent to Sector 3C. Hanson will employ a sub-consultant (Bath Group, Inc., Corpus Christi) for the electrical engineering design of these features.

Assistance with Bidding

The City will utilize the CivCastUSA website for managing the bidding process and will be responsible for uploading documents, managing the project on the website, and conducting

the public bidding process. Hanson will provide the City with the following services during the bidding phase:

- Attend the pre-bid meeting including a site visit to the landfill.
- Evaluate questions from bidders and prepare for the City Engineer written answers to questions or requests for additional information.
- Prepare written addenda for the City Engineer as warranted for any additional information or bid document revisions to be conveyed to potential bidders.
- Attend the bid opening.
- Review bids received, including a review of each bid to ensure it contained the minimum information to be considered responsive, and prepare a tabulation of bids.
- Prepare a written evaluation of the bids and recommendation for award.

Support Services

Pre-Construction Topographic Surveying

Hanson will perform a pre-construction topographic survey of the proposed Sector 2A construction area to obtain information on existing conditions necessary for design, including estimation of excavation and/or fill volumes. The City will expose the existing liner at specific locations along the west edge of Sector 3C and the south edge of Sector 1C. This survey will be performed using conventional surveying equipment, based on the survey datum provided in the TCEQ permit documents. There will be no separate deliverable of the pre-construction topographic survey; the results will be incorporated into the schematic design and construction documents.

Construction Administration and Quality Assurance

Construction Administration

Hanson will provide the following services during the construction phase of this project:

- The construction administration services outlined below are based on a construction contract term of nine (9) months from Notice to Proceed to substantial completion.
- Attend and assist the City with the pre-construction conference.
- Review up to fifteen (15) material and other submittals customarily provided by the contractor or required by the contract documents during the course of construction. Submittals requiring more than two (2) reviews by Hanson will be performed on a time and materials basis, noted separately on Hanson's billing to the City. The contract documents will specify that the contractor reimburse the City for the cost of these additional reviews. Hanson's review of the contractor's submittals shall only be for the purpose of checking for general conformance with the design concept expressed in the contract documents. Hanson shall not be responsible for any deviations between the shop drawings, the contract documents, and field conditions.
- Provide interpretations and clarifications of the plans and specifications for the contractor and authorize minor changes which do not affect the contractor's price or the duration of the construction contract and are not contrary to the general interest of the City under the contract.
- Review and evaluate up to three (3) change order proposals that may be necessary during the progress of the work including a recommendation to accept or reject.
- Consult with the City and exchange oral status reports on a weekly basis during construction.
- Make weekly visits to the project site to observe the general progress and quality of the work, and determine, in general, if the work is being done in accordance with the

contract documents and in accordance with the quantities of work represented in current contractor requests for payment. Weekly site visits will not constitute or be confused with resident project representative services or continuous monitoring of the progress of construction. Hanson sub-consultants may also make up to three (3) site visits during construction. Additional on-site observation will be provided by our subcontractor, Modern Technology/Modern Environment (MTME) of Corpus Christi, Texas as a portion of the Geotechnical Quality Assurance (QA) services as described below.

- Conduct an inspection in anticipation of substantial completion and prepare a punch list of items for correction, repair or installation by the contractor prior to final inspection.
- Conduct a final inspection with the City and contractor, to include an orientation by the contractor to familiarize City personnel with the mechanical and control systems.
- On the basis of contractor's field set of "red-line" drawings, Hanson's field observations, approved change orders, and documented changes reported by the City's inspector(s), Hanson will prepare a set of record drawings to be provided in both electronic format (as described for the 60% submittal) and in one (1) hard copy.
- Hanson is not responsible for the contractor's means and methods of construction.

Post-Construction Topographic Surveying

Hanson will perform post-construction topographic surveys to document the horizontal and vertical placement of construction elements required by TCEQ regulations, the facility's permit and the construction QA documents. These will include surveys of the subgrade, the compacted clay liner, the geomembrane liner panel seams, the protective cover layer and the waste for ballast layer. To accommodate construction sequencing, the survey of the subgrade, compacted clay liner, and protective cover components will include up to three (3) mobilizations for completing the survey. We will also coordinate with the contractor's surveyor to confirm location and information for the Landfill's existing survey control system.

Geotechnical QA Services (SLER, GLER, BER)

TCEQ regulations and the facility permit require that during landfill construction, the City provides geotechnical QA services to confirm that the landfill liner materials meet the required material properties and that the construction and installation procedures comply with the requirements identified in the permit and QA documents. Additionally, it is required that a qualified technician or engineer be present on site at all times when liner construction is occurring (consisting of the compacted clay liner, geomembranes, leachate collection system, and protective cover placement). This on-site observation will be supplemented with the field and laboratory testing program outlined in the permit and QA documents. Properly credentialed personnel and analytical laboratories will be used for all testing, as outlined in the permit and the QA documents. The results of all field and laboratory testing will be included in the appropriate reports submitted to the TCEQ.

MTME will provide construction Quality Assurance (QA) services and preparation of the documentation for TCEQ submittal. MTME staff will be on site to observe and document construction, as well as coordinate sampling and field and laboratory testing of construction materials. As the professional of record, MTME will prepare the Soil Liner Evaluation Report (SLER), and the Geomembrane Liner Evaluation Report (GLER) for submittal to TCEQ. A Ballast Evaluation Report (BER) is required to demonstrate that the landfill has placed adequate waste in the cell to provide ballast to prevent uplift of the landfill liner, based on the design established in the TCEQ permit. Because the QA effort is greatly influenced by the schedule and productivity of the contractor, the fee for geotechnical QA services is recognized as an estimate and billing will be on a time and materials (T&M) basis for actual hours worked plus reimbursable costs (materials testing, shipping, vehicle and equipment usage, etc.). The

fee estimate for the QA services is based on a construction contract term of nine (9) months from Notice to Proceed to substantial completion, working twelve (12) hours per day, seven (7) days per week.

Schedule

This schedule was developed in consultation with City staff and includes a timeline with the objective of providing the City with uninterrupted disposal space at the landfill. The proposed schedule for the project is presented below.

Project Schedule	
Design Start	October 31, 2022
Topographic Design Survey	November 2022
Draft ELR Submittal	November 14, 2022
City Draft ELR Review Complete	November 25, 2022
Final ELR Submittal	December 5, 2022
60% Design Submittal	January 9, 2023
City 60% Design Review Complete	January 20, 2023
90% Design Review Submittal	February 13, 2023
City 90% Design Review Complete	February 24, 2023
100% Pre-ATA Submittal	March 20, 2023
Final Sealed Bid Package	April 2023
Advertise For Bids	April 2023
Pre-bid Conference	May 2023
Receive Bids	May 2023
Contract Award	June 2023
Begin Construction	July 2023
Complete Construction	March 2024

Compensation

Based on the tasks outlined above, the proposed fee for these services will be as follows:

Project Component	Fee
Basic Services	
Design Phase	$195,128.00
Bid Phase	$11,828.00
Construction Administration Phase	$98,692.00
Subtotal Basic Services	**$305,648.00**
Additional Services	
Topographic Surveying	$43,813.00
Geotechnical QA Services (Time and Materials Estimate)	$454,018.40
Subtotal Additional Services	**$497,831.40**
Summary of Fees	
Basic Services Fees	$305,648.00
Additional Services Fees	$497,831.40
Total Authorized Fees	**$803,479.40**

We value our on-going relationship with the City of Corpus Christi and appreciate the opportunity to submit this proposal to you. We look forward to working with you on this important project. If you have questions or need additional information, please do not hesitate to contact us.

Sincerely,

HANSON PROFESSIONAL SERVICES INC.

Willie Rivera, Jr., P.E.
Vice President/Senior Project Manager

cc: Philip Aldridge, Assistant Director of Solid Waste Services

I:\21jobs\21L0229D\Admin\03-Proposal\Cefe Sector 2A Proposal (Rev 2).docx