



**WORK ORDER NO. E038  
UNDER GLO CONTRACT NO. 22-004-022**

Pursuant to **GLO CONTRACT NO. 22-004-022** (“Contract”) between the **GENERAL LAND OFFICE** (“the GLO”) and **MOTT MACDONALD, LLC** (“Provider”), each a “Party” and collectively “the Parties,” Provider is authorized to perform the services described herein, subject to the terms of this Work Order No. E038 (“Work Order”).

**I. PROJECT DESCRIPTION**

- a) Provider shall perform, or cause to be performed, engineering services for CEPRA 1730 Boggy Nature Park Shoreline Protection Phase 2 (“the Project”), as described in Provider’s Proposal attached hereto as **Attachment A**.
- b) Provider must perform all work in accordance with the Contract and all its Attachments; the Solicitation; the Solicitation Response; and this Work Order and all its Attachments.

**II. INSURANCE**

- a) Prior to commencing work or incurring any charges under this Work Order, Provider must submit directly to the GLO Contract Management Division, certificates of insurance in the amounts required for the Project and in strict conformance with the requirements of **Attachment B** of this Work Order, Required Insurance and Form.
- b) Provider must submit certificates of insurance to the GLO Contract Management Division at the email address: [insurance@glo.texas.gov](mailto:insurance@glo.texas.gov). Submission by any other means may delay the Project.
- c) The GLO shall notify Provider of deficient certificates and specify a period of time for Provider to correct deficiencies. If Provider does not obtain acceptable insurance within the time specified, the GLO may, in its sole discretion, declare this Work Order void.

**III. TASKS, DELIVERABLES, AND DELIVERABLE DUE DATES**

Provider must perform all tasks and submit all deliverables in strict conformance with **Attachment A**. Provider must submit all deliverables in accordance with the due dates/schedules established in **Attachment A**, or as directed by the GLO if no due date or schedule is established in **Attachment A** for a given deliverable.

**IV. COMPENSATION AND REIMBURSEMENT**

- a) The total compensation due to Provider for services performed and costs incurred pursuant to this Work Order is not to exceed **\$649,739.00**.
- b) The GLO will not reimburse Provider for travel expenses of any kind without prior written GLO approval. The GLO will only reimburse travel expenses directly attributable to Provider’s performance of this Work Order at the rates established or adopted by the Comptroller of the State of Texas, as outlined in the Travel Regulations.

- c) Subject to the maximum Work Order amount authorized and upon specific, prior, written approval by the GLO, lodging, travel, and other incidental direct expenses may be reimbursed under this Work Order for professional or technical personnel who are working away from the cities in which they are permanently assigned and conducting business specifically authorized in the scope of services in the applicable Work Order.
- d) The limits for reimbursements are the rates established or adopted by the Comptroller, as outlined in the Travel Regulations. **Provider understands and acknowledges that any travel-expense reimbursement by the GLO is not a per diem. The GLO will only reimburse actual, allowable expenses in accordance with the Travel Regulations. Provider must submit itemized receipts to support any request for travel-expense reimbursement.**

#### V. SUBMISSION OF INVOICES

- a) Provider must submit invoices to the GLO in accordance with this Work Order and Provider's Proposal in **Attachment A**. Failure to submit invoices as instructed below may significantly delay payment under the Work Order.
- b) **Invoices must:**
  - (i) be submitted to [vendorinvoices@glo.texas.gov](mailto:vendorinvoices@glo.texas.gov);
  - (ii) be supported by documentation that, in the judgment of the GLO, allows for full substantiation of the costs incurred; and
  - (iii) prominently display **"GLO Work Order No. E038 under GLO Contract No. 22-004-022."**

#### VI. PERFORMANCE PERIOD, TERMINATION, AMENDMENTS

- a) This Work Order is effective on the date last signed and shall terminate upon the earlier of the completion of the Project, in the GLO's sole determination, or August 31, 2026 ("Performance Period").
- b) Notwithstanding the effective date of this Work Order, Provider must not incur charges or begin work before the date indicated on the GLO's written Notice to Proceed (NTP). The GLO may deliver the NTP to Provider by email or fax. Any services Provider performs or costs Provider incurs before the date established in the NTP or after the Contract's or Work Order's termination or expiration are performed at Provider's sole risk and the GLO may choose not to compensate Provider for such services.
- c) The GLO reserves the right to, at any time during the Performance Period, terminate, halt, or defer all or any portion of the work included in the Scope of Services of this Work Order. If such an event occurs: (1) Provider must follow all directions included in the GLO's notice; and (2) the Parties agree that the Work Order may require revision by written Amendment.
- d) Material changes to this Work Order may be made only by written agreement of the Parties. **Notwithstanding the preceding**, the GLO Project Manager may approve extensions to Deliverable Due Dates within the confines of the Performance Period. Such approvals must be in writing, may be delivered by regular mail, electronic mail, or facsimile transmission, and shall become part of the GLO's Project file.

**VII. MISCELLANEOUS**

- a) This Work Order amends and forms a part of the Contract, all provisions of which not amended herein remain in force and effect.
- b) Except as otherwise expressly provided in this Work Order, terms defined in the Contract have the same meanings in this Work Order.
- c) If the Contract, this Work Order, or any Attachments conflict, such conflicts shall be resolved in the order of priority established in the Contract. If the Work Order and Attachments to the Work Order conflict, such conflicts shall be resolved in the following order of priority: first, the Work Order; then Attachment B to the Work Order; then Attachment A to the Work Order.
- d) Subject to the terms and conditions of the Contract, Provider may subcontract with others for performance of some or all of the services described herein. Whether or not it is included in Attachment A, no subcontract, Subcontractor's proposal, nor any terms or conditions attached to such subcontract or proposal shall apply to the GLO. The GLO does not agree to and is not bound by any subcontract, Subcontractor's proposal, nor any terms or conditions attached to such subcontract or proposal.

**SIGNATURE PAGE FOLLOWS**

**SIGNATURE PAGE FOR WORK ORDER NO. E038  
UNDER GLO CONTRACT NO. 22-004-022**

**GENERAL LAND OFFICE**

**MOTT MACDONALD, LLC**

DocuSigned by:



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Mark A. Havens, Chief Clerk

DocuSigned by:



89D801D47126...  
Name: David Skipper

Title: Senior Vice President

Date of execution: 1/16/2024

Date of execution: 1/12/2024

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**ATTACHMENTS TO THIS WORK ORDER:**

- ATTACHMENT A – PROVIDER’S PROPOSAL**
- ATTACHMENT B – REQUIRED INSURANCE AND FORM**

**ATTACHMENTS FOLLOW**



110 Wild Basin Ste 100  
Austin, TX 78746  
T (512) 342-9516  
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December 7, 2023

Mr. Carver Wray  
Coastal Resources Program  
Texas General Land Office  
1700 North Congress Ave.  
Austin, TX 78701  
512-463-1864

RE: **Scope of Work**  
**Boggy Nature Park Shoreline Protection – CEPRA 1730**  
**Phase 2 – Permitting and Final Design**  
Rev2

Dear Mr. Wray,

The Mott MacDonald Team (Provider) is pleased to submit this scope of work for engineering services for Phase 2 of the Boggy Nature Park Shoreline Protection Project. This scope of work includes preliminary design, permitting, and final design for protecting approximately 3,500-ft of Matagorda Bay shoreline of the Boggy Nature Park.

The work outlined in this scope of work consists of new data collection, developing a preliminary design of the preferred alternative from Phase 1, developing a regulatory permitting package, coordinating regulatory approval through the permitting process, and developing a final design for-construction bid package.

#### **Task 1. Project Initiation and Project Management**

Mott MacDonald as the Professional Service Provider (PSP) will organize and attend a project kickoff meeting in Port O'Conner to discuss project site history, goals and expectations, schedule, and milestones. A site visit will be held at Boggy Nature Park to observe conditions at the site and to identify project extents. PSP will develop meeting agenda, provide handouts, and compile the kickoff meeting minutes for distribution to the project team. Meeting minutes will be prepared and include a summary of the meeting discussion and decisions, along with observations and photos from the site visit.

Mott MacDonald will provide overall project management throughout the execution of this scope of work. This includes management of the delivery team, internal coordination meetings at key intervals throughout project delivery, management of subconsultants, and preparation of monthly progress reports to the Texas General Land Office (GLO).

#### **Task 1 Schedule:**

- Kickoff meeting within 3 weeks of NTP, or as soon as all team member schedules allow



- Kickoff meeting minutes: 1 week after completion of kickoff meeting
- Project Management: throughout project delivery

**Task 1 Deliverables:**

- Minutes from Kickoff meeting and site visit
- Monthly progress reports

**Task 2. New Data Collection****Task 2.1. Coastal Boundary Survey**

A coastal boundary survey will be performed by a Licensed State Land Surveyor to delineate the boundary of submerged lands for the purposes of delineating GLO mineral rights. The survey will be performed in accordance with Section 33.136, Natural Resources Code, for the purpose of evidencing location of the shoreline in the area depicted in this survey as the shoreline that existed before commencement of erosion response activity. The line depicted on the survey fixes the shoreline for the purpose of locating a shoreline boundary, subject to erosion landward as approved by section 33.136. An initial discussion with the survey division of GLO will be scheduled to determine if there are any other issues at the site. An on the ground survey will then be completed to determine the boundary. The appropriate coastal boundary lines will be calculated, and preliminary plat and report compiled. Provider will meet with the GLO as required for final submission of the plat and report.

Note that the Coastal Boundary Survey is anticipated to be conducted after submission of permit application and receipt of public comments, when the timeline for permitting and project completion is more certain.

**Task 2.1 Deliverables**

- Coastal boundary survey in AutoCAD drawing format and PDF format.

**Task 2.2. Project Site Geotechnical Investigation**

A geotechnical subsurface investigation plan will be developed to obtain data on sediment and soil characteristics, bearing capacity, and settlement of soils necessary for design, permitting, environmental compliance, and construction at the project site. Geotechnical evaluation of borrow sites are addressed in the Borrow Site task.

The geotechnical data collection will be performed in two field investigative phases. The first initial phase will consist of performing seven cone penetration test (CPT) soundings to refusal depth along the beach area using an amphibious CPT rig capable of working in areas of up to 3 feet of water. The primary objective of the CPTs is to obtain detailed, nearly continuous, information on the stratigraphy at the site. The results of the CPTs will be used to evaluate the presence of soft foundation soils that could potentially impact the short- and long-term performance of the proposed structures. If soft foundation soils are identified, a second phase geotechnical field investigation program will be conducted to further evaluate the strength and compressibility characteristics of the soft foundation soils. The second phase investigation will consist of advancing up to three geotechnical boreholes to a termination depth of 50 feet along the dry beach areas of the project site using an All-Terrain Vehicle mounted drill rig.



At least 14 days prior to mobilizing to the site, Texas 811, a service managed by Underground Service Alert (USA), will be notified of the proposed exploration locations. USA will notify utility companies that may have underground lines at the locations where the proposed explorations will occur. Utility companies will then mark the locations of their underground lines or will contact the investigation subcontractor if their utilities conflict with the proposed exploration locations and the locations will be relocated if necessary. The exploration points will be located in the field using hand-held GPS unit with submeter accuracy to position the rig over the investigation location.

### **Phase 1: CPT investigation**

The CPT will be performed using a 15-ton CPT rig mounted on a marsh buggy. Testing and equipment specifications will be in accordance with ASTM D5778 "Standard Test Method for Electronic Friction Cone and Piezocone Penetration Testing of Soils". The cone tip and adjoining rods will have the same diameter for at least 400mm above the cone tip. The cone will have a nominal cross section area of 10 or 15 cm<sup>2</sup>. The CPT equipment will have a capacity of at least 1,000 Bar on the tip. The CPT equipment will be capable of controlling the rate of penetration into the soil at a rate of 2 cm/sec with an accuracy of 5 mm/sec. Readings of all channels will be taken at least once per second, and zero readings will be recorded before and after each test and checked. The filters of the pore pressure transduced will be fully saturated and the system will be able to measure an instantaneous response to changes in pore pressure.

The CPT testing equipment will be capable of displaying, recording, and generating a soft copy of all generated parameters in real time, including tip penetration and inclination below ground surface. Preliminary CPT data processing and interpretation will be performed off site and presented both graphically and digitally in Excel and raw data files (e.g., ASCII), including cone resistance, sleeve friction, excess pore water pressure, friction ratio, and interpreted soil classification, undrained shear strength using  $N_{kt}$  factor, effective friction angle, and total unit weight. All CPTs will include one pore pressure dissipation test in sandy soils if encountered below 25 feet. The duration of the pore pressure dissipation test will be limited to 10 minutes.

Beach grab samples will be collected at each of the CPT locations for laboratory grain size distribution testing as part of the first phase investigation

### **Phase 2: Geotechnical Borings**

Drilling, sampling, and testing of the geotechnical boreholes will be performed under the guidance of a geotechnical engineer licensed in state of Texas. A geotechnical engineer will monitor the drilling, will classify the soils encountered in accordance with ASTM standards, and will maintain a continuous log of the borehole. The geotechnical engineer will communicate subsurface conditions encountered with the project team to facilitate revisions to the exploration and sampling program.

During soil sampling operations, the geotechnical engineer will document soil type, color, texture, plasticity, moisture content, consistency and/or density, as applicable, and apparent changes in material index properties based upon visual observations. Significant features from the soil samples and rock cores observed during visual inspection of the samples will be recorded, clearly identifying the depth of sample collection. Field logging will be performed in accordance



with ASTM D5434 “Standard Guide for Field Logging of Subsurface Explorations of Soil and Rock.”

Stratigraphic contacts will be determined in the field at the time of drilling. Sharp contacts that are visible in collected samples or that caused a noticeable change in drilling rig behavior will be noted in the field logs with a solid horizontal line. Similarly, gradational contacts will be noted with a dashed horizontal line. Contacts inferred between samples will be marked with a slanted line that extends across the depth range in which the contact is judged to be presents

The boreholes will be advanced using rotary wash drilling with recirculating drilling fluid techniques in accordance with ASTM D5783 “Standard Guide for Use of Direct Rotary Drilling with Water-Based Drilling Fluid for Geoenvironmental Exploration and the Installation of Subsurface Water-Quality Monitoring Devices.”

The drilling fluid will consist of brackish water obtained from the bay using a 2-in. diameter screened suction hose attached to the rig pump or a centrifugal pump (trash pump). If needed, an NSF/ANSI 60 certified viscosifier (ZEOGEL™) will be mixed with the drilling fluid to increase its viscosity and create a drilling mud to assist with borehole wall stabilization and cuttings’ removal.

The Driller will use the appropriate biodegradable drilling fluids (i.e., water, drilling mud, and drilling additive) for obtaining high-quality samples, maintaining the integrity of the hole, minimizing the amount of drill cuttings in the bottom of the hole, and maintaining safe drill and sample operations.

Geotechnical sampling will be conducted continuously to 20 feet below existing grade, and every five feet thereafter until the borehole termination depth is reached or top of bedrock is encountered. The geotechnical engineer will closely monitor drilling conditions and modify the sampling approach, in consultation with the geotechnical manager, as appropriate to collect sufficient, high-quality samples of the major soil units.

Disturbed geotechnical sampling of soils will be conducted using the standard penetration tests sampler in accordance with ASTM D1586 “Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils” The split-spoon sampler will be equipped with sample catchers to improve sample recovery. The rig hammer will be calibrated in accordance with ASTM D4633 “Standard Test Method for Energy Measurement for Dynamic Penetrometers” prior to mobilization.

Undisturbed sampling of soils will be performed using a thin-walled (Shelby tube) sampler in accordance with ASTM D1587 “Standard Practice for Thin-Walled Tube Sampling of Fine-Grained Soils for Geotechnical Purposes”, and ASTM D6519 “Standard Practice for Sampling of Soil Using the Hydraulically Operated Stationary Piston Sampler.” After the tube is pushed to the bottom of the sample interval, the tube will be allowed to rest for five to twenty minutes (depending on the type of material being sampled) prior to withdrawal to reduce the potential for disturbance and to improve sample recovery. The driller and geotechnical engineer will monitor the time and hydraulic pressures utilized to push the tubes.





Soils classification will be done in accordance with ASTM D2487 “Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)”, and ASTM D2488 “Standard Practice for Description and Identification of Soils (Visual-Manual Procedures).” At a minimum, soil sample descriptions will include the following items in the order listed:

- Group symbol
- Color and field moisture conditions
- Particle size range
- Group name
- Consistency/density
- Moisture condition
- Structure
- Geologic origin
- Additional comments indicating soil characteristics which might affect engineering properties (organics, root holes, mica, gypsum, caving, sloughing, loss of drilling water, contamination, etc.)

Field Torvane™ tests in accordance with ASTM D8121 “Standard Test Method for Approximating the Shear Strength of Cohesive Soils by the Handheld Vane Shear Device” will be performed on all soft fine-grained samples. Pocket penetrometer tests will be used on all fine-grained samples that are too stiff for Torvane™ tests.

Disturbed geotechnical soil samples will be handled, packaged, and transported in accordance with ASTM D4220 “Standard Practices for Preserving and Transporting Soil Samples” guidelines for Class B type soil samples. Undisturbed soil samples will be immediately sealed by applying melted wax, voids will be filled with paper to reduce risk of the sample shifting in the tube, and plastic caps at each end of the tube will be secured with tape. The tubes will be stored in an upright position in a padded rack constructed in accordance with ASTM D4220 “Standard Practices for Preserving and Transporting Soil Samples” guidelines for transporting Class D type soil samples.

Upon completion, each borehole will be backfilled with a neat cement grout placed by tremie method. Backfilling will be performed to the surface.

Upon completion of the geotechnical investigation, a laboratory testing program on selected samples representative of mayor strata identified from the field investigation to characterize the subsurface soils and develop design parameters for engineering analyses.

The laboratory testing program will consist of:

- Index tests, such as moisture content (ASTM D2216), density (ASTM D2216), specific gravity (ASTM D854), Atterberg limits (ASTM D4318 – wet method sample preparation), organic content (ASTM D2974 – Method C), and grain size distribution analyses (ASTM D6913) to aide in soil classification, evaluate soil consistency, and correlate with other engineering parameters



- One-dimensional, incremental-loading consolidation tests (ASTM D2435) to evaluate the compressibility characteristics, and past geologic-stress history of fine-grained soils.
- Unconsolidated undrained triaxial compression tests (ASTM D2850) for evaluating the in situ undrained strength characteristics of fine-grained soils

### **Task 2.3. Cultural Resources Investigation**

The goal of the Cultural Resources Investigation is to determine the potential for intact and significant historic properties to be present within the project's Area of Potential Effect (APE), and to provide management recommendations for these resources, if identified.

Based on a preliminary review, the APE is along the western shoreline of Matagorda Bay, and extends out into the bay with maximum water depths of approximately -2.5 feet. The shallow water depth may restrict the ability to conduct a remote sensing marine survey.

The scale of the proposed undertaking may require a marine archaeological survey of the location to determine existing hazards/obstructions, generally characterize the substrate type as it relates to archaeological deposition and potential for archaeological site presence/absence, and document any magnetic anomalies or sonar images that could represent historic shipwrecks and/or other submerged cultural resources within the APE. Due to the expected difficulty in obtaining remote sensing survey data at state-specified standards, this scope of work has been broken into two separate tasks. Task 2.3.A will consist of agency coordination and literature review for determining if survey is necessary, and Texas Antiquities Committee (TAC) Permit Coordination to determine, if survey is required, the area(s) where survey is needed and the methods to be used given the shallow waters, and Task 2.3.B, which will consist of Field Investigation and Report Preparation that is anticipated to include terrestrial survey work, and Task 2.3.C to include marine survey work. The field investigation will be conducted only if required by regulatory agencies and is assumed to be required in this Scope of Work.

#### **Task 2.3.A. Agency Coordination, Literature Review, and TAC Permit Coordination**

The PSP's archaeological subconsultant will seek to eliminate the requirement for marine survey due to the shallow water, dynamic environment, and low probability of locating intact potentially significant resources within the submerged APE. Specifically, land masses or shoal water within the surf line will prevent remote sensing survey. This will require coordination with the agencies. In the event that THC requires a marine survey, this scope of work and cost estimate will include costs for the marine survey option. It is anticipated that all agency coordination will be conducted via letter, email, and telephone. Should agency consultation result in any additional actions not outlined in this proposal, costs will be determined under a separate estimate.

The PSP's archaeological subconsultant will prepare a scope of work and application for a Texas Antiquities Permit for a marine survey, if required. A representative of the sponsoring (funding) entity and the GLO will be required to sign the permit application for the marine portion of the project. The PSP's archaeological subconsultant will also prepare a scope of work and application for a Texas Antiquities Permit for the terrestrial survey through agency coordination. It is understood that the terrestrial project area extends across properties owned and controlled by the Texas Parks and Wildlife Department (TPWD) and Calhoun County, as such a representative of the sponsoring (funding) entity and the TPWD and Calhoun County will be required to sign the permit application for the terrestrial portion of the project. The THC and U.S. Army Corps of Engineers (USACE) will be provided with a scope of work to review prior to fieldwork



mobilization. All parties must sign the permit application form, USACE and THC review the scope of work, and issuance of an Antiquities Permit number, and is a process that may take between three and 30 days. Fieldwork will be scheduled after the permit number has been received via email.

Site file research will take place by consulting the online Texas Sites Atlas and the Automated Wreck and Obstruction Information System (AWOIS) and result in a listing of all cemeteries, archaeological sites, marine wrecks, and National Register properties within and near the APE. Site file research will be used to supplement the development of a historic context to the area. Additional documentary research will be conducted in order to provide an understanding of the development and history of the surrounding area, and to develop a regional context of the area and discuss the significance of previously identified National Register properties. Literature and site file research will determine the likelihood that these, or other recorded sites in close proximity, are within the APE

### **Task 2.3.B. Terrestrial Field Investigations**

#### **Mobilization:**

The terrestrial field investigations will consist of pedestrian survey and shovel test excavation within the terrestrial APE. The interval and number of shovel tests will be increased in areas with a higher potential for containing intact cultural resources, based on background research or field observation. Shovel tests will be excavated along transects at an interval of approximately 30 meters (100 feet) in the areas of highest potential to contain archaeological sites, primarily those areas along the bayou and tidal margins. This testing interval will be increased in sections of the property as required by variations in topography and degree of prior disturbance or decreased as needed for site delineation. Shovel tests will generally be terminated at relatively shallow depths due to inundation but may extend to a maximum depth of approximately 1 meter (3 feet) if deep alluvial sediments on topographic rises are present. When possible, all soil will be screened through ¼ inch wire mesh; clay soils will be hand sorted.

The need for deep testing will be assessed by the Principal Investigator based on soils data gathered during shovel testing, and an assessment of planned land use impacts provided by the client. If deep testing is required, the cost for doing so will be determined separately. The PSP's archaeological subconsultant will pursue a no-collect strategy for non-diagnostic artifacts encountered during the survey phase. The cost estimate assumes that field conditions will allow the survey of the 70.5-acre terrestrial area to be completed within three workdays by a three-person crew. Confirmation of the presence or absence of archaeological sites, and site location and dimensions, if present, will be provided to the client as soon as possible following fieldwork. Adverse field conditions and/or the need to delineate large archaeological sites. This proposal assumes that no more than one archaeological site will be discovered within the APE.

### **Task 2.3.C. Marine Survey and Analysis**

The PSP's archaeological subconsultant's recent experience in the project area indicates that the marine portion of the project area is non-navigable with a standard survey vessel deploying remote sensing gear. Therefore, alternate methods are required. The two methods proposed for the shallow near-shore area are deploying an Autonomous Surface Vehicle (ASV) designed to work in shallow waters, and/or probing and coring via wading the shallows. Only waters of Matagorda Bay will be examined via the proposed methods. Aqueous areas of Boggy Bayou within the APE will be examined by a shoreline survey examining for eroding sites. Additionally,



the probes will be utilized to examine along the bayou shoreline within the APE. Occasional cores will be collected to confirm probe data acquired along the shoreline.

The PSP's archaeological subconsultant will provide a qualified marine archaeologist (Principal Investigator) to be present at the project site during all marine survey and data collection activities for the Project. The PSP's archaeological subconsultant will provide a support vessel, with pilot, for deploying the ASV and monitoring of real time data being collected. Remote sensing data suitable for archaeological investigation suitable to THC requirements will be acquired. The survey area/APE will include the project footprint as well as 50-meter (164-foot) buffers around the APE within Matagorda Bay, as required by the THC. The survey will be conducted only in safely navigable areas, which are defined as presenting no hazard to crew, vessel or equipment. Shallow waters area and surf conditions may prevent full survey of the entire defined APE and buffer area. These areas will be waded and probed.

The budget supports a mobilization and demobilization day and ASV survey within two, 8-hour workdays and four, 8-hour workdays of probing/coring. There is no provision for a down day or delays due to weather, equipment issues, access to the APE, or heavy watercraft traffic. Should more than one day be required, or additional mobilizations/demobilizations be needed, additional budget may be necessary.

To allow for the detection of subtle magnetic anomalies typically associated with smaller wooden vessels and to satisfy Texas state marine archaeology survey requirements, it is anticipated that survey lane spacing across the survey area will not exceed 20 meters (65 feet). All survey data will be presented in State Plane coordinates. Magnetic data will normally be contour plotted at five and/or 10 gamma intervals. Sonar records will be inspected for potential man-made features present on the bottom surface. Copies of the geophysical data collected will be in standard survey format. The PSP's archaeological subconsultant will have access to both raw and post processed data and has qualified data processing personnel to ensure accurate analysis of the data. Mapping products associated with archaeological survey results and recommendations will be created by Gray & Pape for report presentation.

#### **Task 2.3.D. Report Preparation**

A draft report of investigations for marine survey will be provided for review and approval by the THC, to satisfy Texas Antiquities Code and USACE permit requirements, and will include a full representation of the proposed project, background research, methods, analysis, results and recommendations, and appropriate data appendices. The draft report will be prepared within two to three weeks following completion of the survey. Draft review by the agencies can take between 30 and 45 days. Final reports are submitted once the draft has been approved and once all records curation activities have been completed.

#### **Task 2.4. Habitat Surveys**

Provider will conduct Habitat Surveys at the project site in preparation of a USACE Section 10/404 regulatory permit application. Task 2.4 will include a waters and wetlands delineation, tidal elevation survey, and submerged aquatic resources survey, and tidal boundary survey.

#### **Task 2.4.A Habitat Survey Planning and Development**

Prior to conducting the waters and wetlands delineation survey and habitat characterization, tidal elevation survey, and submerged aquatic resources survey, readily available desktop data



including survey boundaries provided by the client, prior Approved Jurisdictional Determinations (AJDs) related to the survey area, USACE AJD regulations and guidance documents, TPWD's published seagrass and oyster data, historical tide data, GLO resource management codes, GLO state tract boundaries, available bird rookery data, United States Fish and Wildlife Services' (USFWS) relevant listed species literature, regional and local studies, existing bathymetric and topographic data, current and historical aerial imagery, nautical charts, soils data, floodplain maps, National Wetland Inventory Maps, United States Geological Survey benchmarks, surveyor benchmarks and other pertinent data will be reviewed and analyzed.

Examination of all available desktop data will assist to refine the scope of field work for the waters and wetlands delineation and habitat characterization survey, tidal elevation survey, and submerged aquatic resources survey. Information gathered above will allow creation of survey and sampling plans, including establishment of survey area boundaries, GPS data loading, development of survey transects, preliminary terrestrial and marine survey observation point locations, onsite access and marine vessel routes, pinpoint probable areas of sensitive resources (wetlands, seagrasses, oyster reefs, etc.), hydrologic features, probable hydrologic connections, property boundary coordinates, benchmark coordinates, USACE SOP requirements for GPS use, and other components required by USACE guidance. The survey plans will be coordinated with the client for approval prior to conducting surveying activities.

#### **Task 2.4.B. Waters and Wetlands Delineation Survey and Habitat Characterization**

The PSP's environmental survey subconsultant will perform a waters and wetlands delineation survey and habitat characterization within the Boggy Bayou Park Shoreline Protection PRA (approx. 171.31-acres) boundary provided by the PSP. The waters of the U.S. and wetlands survey will be conducted in accordance with the USACE Wetlands Delineation Manual, 1987, the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Regional Supplement (Version 2.0), November 2010 and USACE Regulatory Guidance Letters (RGL) and policies. In addition to delineating waters and wetlands, a habitat characterization will also be conducted. Data collected as part of the waters and wetlands delineation will be necessary for preliminary design to minimize impacts to sensitive habitats. The collected data will be utilized during regulatory coordination to calculate waters and wetlands impacts of the proposed design and to determine any mitigation that may be required.

Field data collected from the survey effort will be used to prepare maps and GIS files to determine and quantify the location, boundaries, size, and types of potentially jurisdictional waters and wetlands. Provider will prepare a summary report of findings to document methods and locations of potentially jurisdictional waters and wetlands areas within the survey area.

#### **Task 2.4.C. Tidal Elevation Survey**

A tidal elevation survey will be conducted to determine location of the High Tide Line (HTL) and Mean High Water (MHW) elevations to be delineated along the beach. Databases will be reviewed and calculated based on best available data (i.e., accessible NOAA and TCOON stations). The PSP's environmental survey subconsultant will utilize either a sub-centimeter Trimble RTK or Geo 7X GPS. Locations of HTL and MHW will be included within the waters and wetlands delineation and habitat survey report and also within the submerged aquatic resources survey report.



#### **Task 2.4.D. Submerged Aquatic Resources Survey**

A submerged aquatic resources survey to identify the presence/absence of seagrass and oysters, will be performed as part of this task with data taken along the bathymetric/wading transects to delineate extents of these resources within the proposed project site. The PSP's environmental survey subconsultant will sample along transects spaced at 100-ft intervals. To determine the presence/absence of seagrass, Triton will conduct wading hand detection samples every 20-ft in waters shallower than -3.0 ft NAVD 88 or utilize a 6-inch diameter core in waters deeper than -3.0 ft NAVD 88, every 60-ft. If hard substrate is encountered by sounding, Triton will collect 6-inch diameter core samples from the bottom to determine if a live reef, shell reef, shell hash, or other shell is present. The boundaries (i.e., acreage extents) of any seagrass beds and/or live oyster reef present will be mapped within the 171.31-acre survey boundary.

Field data collected from the survey effort will be used to prepare maps and GIS files to determine and quantify the location, boundaries, and size of submerged aquatic resources. Provider will prepare a summary report of findings to document methods and locations of submerged aquatic resources within the survey area.

#### **Task 2 Schedule:**

- 4 months from NTP
- Geotechnical analysis to be completed after completion of 30% design

#### **Task 2 Deliverables:**

- Hydrographic and Topographic Survey data files
- Summary of data collection will be included as a Section in the Preliminary Design Report (Task 3).
- Appendices to Preliminary Design Report include:
  - Hydrographic and Topographic (1) electronic file in PDF format.
  - Geotechnical Investigation Report, one (1) electronic file in PDF format.
  - Cultural Resource Investigation Report, one (1) electronic file in PDF format.
  - Waters and Wetlands Delineation and Habitat Characterization Survey Report, one (1) electronic file in PDF format.
  - Submerged Aquatic Resources Survey Report, one (1) electronic file in PDF format.

#### **Task 3. Preliminary Engineering Design**

The preferred concept selected under the previous study will be developed to a preliminary (30% design) level. The preferred alternative consists of a rock breakwater system and a beach and dune nourishment. This task includes an upland borrow source investigation along with preliminary design of the project features.

#### **Task 3.1. Upland Borrow Source Investigation**

The borrow source investigation include identification of potential upland beach nourishment sand sources that are suitable for the proposed beach and dune nourishment. Three existing sources are known and available, including: Vulcan Materials in Victoria (formerly Fordyce Materials), the Port of Bay City disposal area, and the Weideman Ranch, a dredged material disposal area on the Colorado River. These are three sources that have a known quantity and



quality of material sufficient to build the proposed project. However, all are a large distance away from the site and will therefore have a relatively high cost for delivery.

First, a desktop identification of possible active sand sources will be conducted. Mott MacDonald will reach out to contractors, pits, concrete plants, and similar to identify potential sources. Mott MacDonald will catalog the potential sand sources, contact them and obtain historical data and sand origin information.

A site visit will be conducted to identify potential additional sources closer to the site. Provider will conduct site visits for up to the four (4) potentially suitable sand sources based on the desktop review. Provider will verify on site the available material at each source and visually evaluate the consistency of the material. Provider will collect grab samples at each site and if possible collect grab samples over the depth of the pit. Up to five (5) samples will be taken from each pit and will undergo soil sieve analysis following ASTM D422, for a total of twenty (20) samples. Provider will attempt to quantify material extents and volumes using simple field estimates.

Provider will compile borrow source investigation data into a technical memo to describe the borrow sources. The memo will describe each site, quantity of material, quality of material at that quantity, uncertainty of quality and quantity of material, possibility/capability of pit operator to process the sand, distance and travel path to project site, and unit cost of material. The memo will provide recommendations on the sand source(s) to include in the project design.

### **Task 3.2. Upland Borrow Source Geotechnical Investigation**

Should the site visits indicate high probability of a good borrow source, a geotechnical data collection effort will be conducted. Provider assumes that two of the four sites will require borings to define quantity of material that is of sufficient quality to meet project requirements. We assume a borrow source boring program will be conducted for 2 sites. At each site, 6 borings will be collected to a depth of 15 ft below the ground surface. Coordination with the Texas 811 system will be performed to identify underground utilities in the proximity of the boring locations. The borings will be relocated if necessary.

The geotechnical scope of work at the borrow site includes the following:

- Coordination with the Texas 811 system will be performed to identify underground utilities in the proximity of the boring locations. The borings will be relocated if necessary.
- An experienced soil technician will log the borings in the field full-time during the drilling operations.
- The boring will be sampled continuous to a depth 3 feet then at 2½-foot intervals to the boring termination depths.
- Disturbed soil samples will be obtained employing split-barrel sampling procedures in general accordance with the procedures for “Penetration Test and Split-Barrel Sampling of Soils, (ASTM D1586).”
- Relatively undisturbed soil samples will be obtained using thin-wall tube sampling procedures in accordance with “Thin Walled Tube Sampling of Soils, (ASTM D1587),” if applicable.



- GPS coordinates, obtained in the field at the boring locations
- After completion of drilling operations, the open boreholes will be allowed to collapse upon themselves.

Scope of Laboratory Testing Program:

- Supplementary Visual Classification (ASTM D2487)
- Sieve Analysis without Hydrometer (ASTM D6913)
- Percent Material Finer Than The #200 Sieve Tests (ASTM D1140)

Results of the site visit, boring program, and lab evaluation of material will be used to evaluate each borrow site's material quality, quantity and uncertainty of same.

If this task is undertaken, Provider will compile results of the boring program into a section of the borrow source investigation technical memo from Task 3.1 to describe the borings and overall borrow sources.

### **Task 3.3. Preliminary (30%) Design**

The preferred concept selected under the previous study will be developed to a preliminary (30% design) level. The proposed rubble mound cross-section geometry and orientation will be sized for stability during a 25-year event. The cross-section(s) will be developed based on the stable stone size and coastal processes. The proposed beach fill will be designed to integrate into the existing shoreline and not preclude park user's access along the site.

Numerical modeling will be conducted to inform the design of the proposed structure. Provider will utilize modeling results from Phase 1. Extreme storm wave conditions are required for use in development of the design of coastal structures. A numerical wave model (SWAN, or similar) will be developed to simulate wave generation and transformation to the project shoreline, and wave analysis will be conducted to develop a statistically representative characterization of the wave climate that drives shoreline morphology. Waves from extreme storm events will also be generated at the project. We assume that extreme storm of a 25-yr return period will be evaluated.

A combination of analytical and numerical modeling methods will be developed to simulate the existing and future shoreline change expected to occur with the project and used to develop the appropriate breakwater field geometry and estimate the resulting shoreline response.

The circulation model developed during Phase 1 will be used to evaluate flow conditions in and out of Boggy Bayou with and without the project features to evaluate the adequacy of the proposed project features to not impede flow out of the site.

A rainfall-runoff model will be developed to quantify the changes to drainage capacity of Boggy Bayou and test the adequacy of the proposed project in providing the same drainage capacity as the existing conditions. Provider will utilize existing drainage models if available.

Provider will develop a preliminary opinion on probably construction cost for capital and maintenance requirements. Preliminary level plans will be developed for the preferred alternative designs. The results of this preliminary design will be developed into a technical memorandum





and presentation. Provider will hold a video conference call with the GLO and project partners to discuss the results.

**Task 3 Schedule:**

- Borrow Source Investigation Report: 4 months from NTP
- Preliminary Design Report: 6 months from NTP

**Task 3 Deliverables:**

- Borrow Source Report in digital PDF format
- Preliminary Design Report including Preliminary Design Plans in digital PDF format
- Preliminary Design presentation, one (1) electronic file in PDF format
- Preliminary Design conference call meeting minutes, one (1) electronic file in PDF format

**Task 4. Regulatory Permitting and Coordination**

**Task 4.1 Development of USACE Section 10/404 Permit Application**

Provider will prepare a USACE Section 10/404 regulatory permit application to seek authorization for construction of the proposed project. Prior to development of the permit application, field surveys for waters of the U.S. and wetlands, seagrass, and oysters will be conducted at the proposed project site (performed by subcontractor and included under Task 2.4) including habitat characterization. Survey results will be documented in reports to be submitted with the USACE permit application for this project. The reports will include maps showing the location and types of waters of the U.S. and wetlands, seagrass, and oysters, if present.

In order to initiate the permitting process, a pre-application meeting will be held with the USACE-Galveston District Office. During this meeting, the proposed project will be discussed, and feedback obtained before submittal of the USACE permit application. Subsequently, a USACE Individual Permit (IP) permit application, including a cover letter, permit application form (ENG Form 4345), permit-level drawings, habitat survey reports, Coastal Management Program (CMP) consistency review form, and 404(b)(1) Alternatives Analysis will be submitted to USACE for review and processing. Provider will coordinate directly with the Texas Commission on Environmental Quality (TCEQ) to seek a 401 Water Quality (WQ) Certification for this project and will develop and submit a 401 Water Quality Certification Questionnaire and Alternatives Analysis directly to TCEQ.

After submittal of the USACE permit application, a Joint Evaluation Meeting (JEM) will be scheduled to present the project to USACE and other local, state, and federal resource agencies. The purpose of the JEM is to present the project to resource agencies to obtain feedback that will be useful to address agency comments resulting from the 30-day Public Notice (PN). Meeting notes summarizing resource agency comments/concerns discussed during the JEM will be developed and provided as a deliverable.

Once USACE places the project on 30-day PN and comments are received, a Response to Comments document will be developed and submitted to USACE to address resource agency and public concerns. This task assumes two (2) rounds of Requests for Information (RFI). We assume the RFI response will be able to be generated from work conducted in previous tasks and will not



require substantial new analysis or modeling to be conducted. Should substantial new analysis or modeling need to be conducted, it will be conducted under a separate Scope of Work. Mott MacDonald will coordinate with USACE in attempt to facilitate issuance of the IP authorization. This task includes responding to minor information requests by USACE.

#### **Task 4.2 Development of Biological Assessment**

If formal consultation under Section 7 of the Endangered Species Act (ESA) is requested by USFWS or NMFS during the 30-day PN period, Provider will develop a draft Biological Assessment (BA) report in support of Section 7 compliance with the ESA and submit to USACE for review and comment. The draft BA will include a list of threatened and endangered species that occur within Matagorda County and potential effects of the proposed project on these species and/or their critical habitats known to occur within the proposed Boggy Bayou project area. The draft BA will also include proposed conservation measures to minimize impacts to threatened and endangered species and their habitats resulting from the proposed project.

Once USACE reviews the draft BA and provides comments to Provider, Provider will incorporate their requested changes and submit a Final BA to USACE for their submittal to USFWS and NMFS for review. Provider will coordinate with USACE and USFWS to seek issuance of a Biological Opinion (BO) for potential effect to threatened and endangered species occurring on land. The BA will also be submitted to NMFS to obtain permission to use the Gulf Regional Biological Opinion (GRBO) for potential sea turtle takes within the water. Provider will coordinate with USFWS to seek issuance of the Final BO and with NMFS to seek concurrence for use of the GRBO or issuance of a separate BO for potential sea turtle takes within the water.

#### **Task 4.3 Development of Essential Fish Habitat Assessment Report**

Should an Essential Fish Habitat (EFH) Assessment report be requested by NFMS during the 30-day PN period, Provider will develop this report and submit to USACE and NMFS. Provider will consult with USACE and NMFS regarding resolving potential impacts to EFH and incorporation of any special conditions within the USACE permit to avoid potential impacts.

#### **Task 4.4 Development of USACE Real Estate License/Section 408 Application**

If USACE Real Estate/Operation Divisions identify the proposed project to be located within a federal easement or federally-operated area, such as borrow source from a USACE owned/operated dredged material placement area, Provider will assist with development and submittal of a USACE Real Estate License/Section 408 application. The USACE Real Estate License/Section 408 application will include a cover letter, Multi-Purpose Application for Real Estate grants and Civil Work Alteration projects (SWG-Form 701i), a copy of the approved USACE regulatory permit, W-9, Articles of Incorporation, and GIS shapefiles for the proposed project. Provider will coordinate with USACE Real Estate/Operations Divisions to seek issuance of a Real Estate License of Section 408 approval, whichever instrument is selected by USACE to authorize the project.

#### **Task 4.5 Development of a Submerged Land Lease Application**

For those portions of the proposed project located on submerged land, Provider will assist in development and submittal of a lease application. The lease application will include a lease application form and project drawings. Coordination with landowner will be accomplished to seek issuance of the lease for portions of the project located on submerged land.

**Task 4 Schedule:**

- Develop Section 10/404 permit application completed 6 weeks from completion of Task 3 (Preliminary Engineering Design). Permit acquisition is expected to take 12 months (but potentially as much as 18+ months, depending upon resource agency review time and level of effort to respond to public and resource agency comments).
- Attend Joint Evaluation Meeting completed 10 weeks from completion of Task 3 (Preliminary Engineering Design).
- Respond to resource agency and public comments completed approximately 30 days from official receipt of comments from USACE.
- Develop Biological Assessment Report (If requested during 30-day PN)
- Develop EFH Assessment Report (If requested during 30-day PN)
- Develop USACE Section 408/Real Estate License application (If requested during 30-day PN)
- Develop GLO CL application completed 8 weeks from complete of Task 3 (Preliminary Engineering Design). Lease acquisition is expected to take 3-6 months.
- Issuance of Individual Permit authorization is expected to take 12 months (but potentially as much as 18+ months, depending upon resource agency review time and level of efforts to respond to public and resource agency comments).

**Task 4 Deliverables:**

- USACE Section 10/404 permit application
- Meeting notes from JEM
- Response to Comments document to address resource agency and public concerns
- Draft and Final Biological Assessment Reports
- EFH Assessment Report
- Section 408 Approval or Real Estate License
- GLO Coastal Lease
- Section 10/404 Individual Permit authorization

**Task 5. Final Design**

This task includes work necessary to develop the design of the project features and develop a final design and 95% level construction contract documents. The final design task will include the following:

- Specific parameters for the structures and beach nourishment shall be refined for constructability and to meet project goals. Parameters include structure crest height, crest width, slope, and beach and dune nourishment height, berm width, and slope.
- Elements will be evaluated to add longevity to the breakwater structures including bedding stone, toe, and geotextile, as appropriate.
- The toe of the groins and breakwater will be designed to mitigate for scour from waves and passing vessels.
- Quantities of construction materials will be estimated.



- Logistical transportation of materials to the site and staging/stockpiling areas will be evaluated.
- Construction templates will be finalized, and estimates made to determine project costs.
- All in water structures are anticipated to require navigation aids in accordance with USCG regulations for private aids to navigation. The navigation aids are anticipated to be pile-mounted daymarks or buoys.

A 70% level completion set of technical specifications in CSI format (most recent version), plans, and cost estimate will be submitted to GLO for review and comment. Comments from the review will be incorporated into the plans and specifications at 100% completion.

A 95% design completion set of special provisions, technical specifications, plans, and cost estimate along with a basis of design document will be submitted to GLO for review and comment. The design will provide details on all project features, limits for access to the project site, and estimates of project quantities. The 95% design documents will be submitted to GLO for review and comment. Provider will attend one conference call at the time of the 95% submittal to discuss the features and details of the project. Comments from the design review and meeting will be captured in comment/response records. Comments on the basis of design document will be incorporated into the document and finalized. The Final 100% Design plans, specifications, and cost estimate will not be compiled and will be left to completed upon the startup of the next project phase to allow for incorporation of potential changes between completion of this scope and start of subsequent phase.

**Task 5 Schedule:** 2 months from receipt of permit

**Task 5 Deliverables:**

- 70% level completion set of technical specifications, plans, and cost estimate, in electronic file in PDF format
- 95% level completion set of construction documents (contract documents, plans, specifications, environmental compliance documents, and cost estimate, in electronic file in PDF format
- Basis of Design Document, in electronic file in PDF format

**Assumptions**

- Proposed project schedule assumes 2 weeks for stakeholder comments between draft and final deliverables.
- No construction administration or inspection services are provided under this scope of work.
- No procurement services are provided under this scope of work.
- Access (right of entry) will be coordinated and secured by GLO.
- Unless stated otherwise, all deliverables to be delivered electronically in PDF format via email.
- This scope of work includes waters and wetlands delineation, seagrass, and oyster survey data collection only. No other supplementary studies, evaluation, or data collection are included for the purposes of permitting. This scope of work does not include development of a compensatory mitigation plan. If required by the U.S. Army Corps of Engineers, a separate



Scope of Work can be developed and submitted to Calhoun County and GLO, prior to initiation of services.

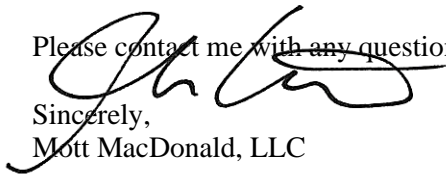
- No grant administration is included in this scope of work.
- The proposed schedule is contingent upon resource agency review and permit procurement timeline and is subject to change. Permit acquisition timeline is estimated based on experience with similar permits.
- The current scope of work does not include mitigation or management of potential cultural resources beyond what is defined by Task 2.3. Cultural Resource Investigation. If cultural resources are found, the associated management and mitigation will be negotiated and conducted under a separate scope of work. During scoping discussions, the Cultural Resource subconsultant has indicated based on their experience that it is possible and likely for cultural resources to be found at the project site.



**Fee Estimate**

Task 1. Project Initiation and Project Management .....	\$29,026
Task 2. New Data Collection.....	\$279,126
Task 3. Preliminary Design .....	\$180,117
Task 4. Regulatory Permitting and Coordination.....	\$75,374
Task 5. Final Design.....	\$86,096
<b>Total.....</b>	<b>\$649,739</b>

Please contact me with any questions.

  
Sincerely,  
Mott MacDonald, LLC

Josh Carter, PE, D.CE  
Vice President and Principal Coastal Engineer

110 Wild Basin Dr., Ste 100  
Austin TX 78746  
T (504) 383-9785  
Joshua.carter@mottmac.com

Attachments:

1. Mott MacDonald Rate Table
2. Mott MacDonald Manhour and Fee Estimate

**BILLING RATES**

Classification	2023	2024	2025	2026
	Billing Rate/hr			
Principal Engineer II	\$ 354.00	\$ 372.00	\$ 391.00	\$ 411.00
Principal Engineer I	\$ 298.00	\$ 313.00	\$ 329.00	\$ 345.00
Senior Project Manager	\$ 280.00	\$ 294.00	\$ 309.00	\$ 324.00
Project Manager	\$ 212.00	\$ 223.00	\$ 234.00	\$ 246.00
Senior Project Engineer	\$ 257.00	\$ 270.00	\$ 284.00	\$ 298.00
Engineer VII	\$ 212.00	\$ 223.00	\$ 234.00	\$ 246.00
Engineer VI	\$ 192.00	\$ 202.00	\$ 212.00	\$ 223.00
Engineer V	\$ 180.00	\$ 189.00	\$ 198.00	\$ 208.00
Engineer IV	\$ 163.00	\$ 171.00	\$ 180.00	\$ 189.00
Engineer III	\$ 148.00	\$ 155.00	\$ 163.00	\$ 171.00
Engineer II	\$ 134.00	\$ 141.00	\$ 148.00	\$ 155.00
Engineer I	\$ 129.00	\$ 135.00	\$ 142.00	\$ 149.00
Specialist VI / Designer VI	\$ 186.00	\$ 195.00	\$ 205.00	\$ 215.00
Specialist V / Designer V	\$ 180.00	\$ 189.00	\$ 198.00	\$ 208.00
Specialist IV / Designer IV	\$ 171.00	\$ 180.00	\$ 189.00	\$ 198.00
Specialist III / Designer III	\$ 162.00	\$ 170.00	\$ 179.00	\$ 188.00
Specialist II / Designer II	\$ 148.00	\$ 155.00	\$ 163.00	\$ 171.00
Specialist I/ Designer I	\$ 129.00	\$ 135.00	\$ 142.00	\$ 149.00
GIS - CADD	\$ 117.00	\$ 123.00	\$ 129.00	\$ 135.00
CADD Drafter	\$ 108.00	\$ 113.00	\$ 119.00	\$ 125.00
Administrative	\$ 111.00	\$ 117.00	\$ 123.00	\$ 129.00

Billing rates subject to an annual escalation of 5% per year (rounded to nearest whole dollar).

Rates beyond the years shown will be adjusted accordingly.

Billing rates valid from January 1 through December 31 of the specified year.

- a. Subcontractors = Cost +10%
- b. Delivery = Cost
- c. Reproduction (Outside) = Cost
- d. Equipment and Misc. = Cost
- e. Mileage = State Rate
- f. Meals = State Rate
- g. Lodging = State Rate
- h. Rental Vehicle = Cost
- i. Air Fare = Cost
- j. Mylar Plots = we do not provide mylar plots
- k. Color Plots = \$7.85/SF
- l. Vellum Plots = we do not provide vellum plots
- m. Bond Plots = \$1.00/SF
- n. Xerox (8 1/2 x 11) = \$0.15/sheet
- o. Color Xerox (8 1/2 x 11) = \$0.20/sheet
- p. Xerox (11 x 17) = \$0.22/sheet

## REQUIRED INSURANCE

GENERALLY. Provider shall, at its sole expense, acquire, maintain, and keep in force for the duration of this Contract, insurance in the amounts attached herein and under the requirements specified herein. Furthermore, unless specified or otherwise agreed to by the GLO, the required insurance shall be in effect prior to the commencement of work by Provider and shall continue in full force until the earlier as appropriate of (i) the expiration of this Contract; or (ii) such time as the GLO notifies Provider that such insurance is no longer required. Any insurance or self-insurance available to the GLO shall be in excess of, and non-contributing with, any insurance required from Provider. Provider's insurance policies shall apply on a primary basis. If, at any time during the Contract, an insurer or surety fails to provide insurance to Provider or otherwise fails to comply with the requirements of this Contract, Provider shall immediately notify the GLO and replace such insurance or bond with an insurer meeting such requirements. General aggregate limits of Provider's Commercial General Liability policy shall apply per project. Provider's auto insurance policy shall apply to "any auto."

Approval. Prior approval of the insurance policies by the GLO shall be a condition precedent to any payment of consideration under this Contract and insurance must be submitted for review and approval by the GLO prior to the commencement of work. Any failure of the GLO to timely approve or failure to disapprove the insurance furnished by Provider shall not relieve Provider of Provider's full responsibility to provide the insurance required by this Contract.

Continuing Coverage. The GLO's approval of any changes to insurance coverage during the course of performance shall constitute an ongoing condition subsequent to this Contract.

Renewal. Provider shall provide the GLO with renewal or replacement certificates no less than thirty (30) days before the expiration or replacement of the required insurance.

Additional Insured Endorsement. The GLO, its officers, employees, and authorized agents shall be named as additional insureds for all liability arising under this Contract except on Workers' Compensation and Professional Liability policies. **An original additional insured endorsement signed by an authorized insurance company representative must be submitted to the GLO to evidence the endorsement of the GLO as an additional insured on all policies, and the certificate(s) must reference the related GLO Contract Number.**

Subrogation. Each liability insurance policy, except Professional Liability, shall provide for a waiver of subrogation as to the State of Texas, the GLO, and their officers, employees, and authorized agents, and shall be issued by insurance companies authorized to do business in the State of Texas, and currently rated by A.M. Best as "A-" or better.

Policy Cancellation Endorsement. Except for ten (10) days' notice for non-payment of premium, each insurance policy shall be endorsed to specify that without 30 days' prior



written notice to the GLO, the policy shall not be canceled, non-renewed, or coverage and/or limits reduced or materially altered, and shall provide that notices required by this paragraph shall be sent by certified mail to the address specified in this Contract. A copy of this signed endorsement must be attached to this Contract.

Alternative Insurability. Notwithstanding the requirements of this Attachment, the GLO reserves the right to consider reasonable alternative methods of insuring the contract in lieu of the insurance policies and/or bonds required. It will be Provider's responsibility to recommend to the GLO alternative methods of insuring the Contract. Any alternatives proposed by Provider should be accompanied by a detailed explanation regarding Provider's inability to obtain insurance coverage as described in this Contract. The GLO shall be the sole and final judge as to the adequacy of any substitute form of insurance coverage.

**INSURANCE REQUIRED:**

**\$1 MILLION COMMERCIAL GENERAL LIABILITY (EACH OCCURRENCE)**

**\$2 MILLION COMMERCIAL GENERAL LIABILITY (AGGREGATE LIMIT)**

**\$1 MILLION CSL AUTOMOBILE INSURANCE**

**\$1 MILLION ERRORS AND OMISSIONS, PER CLAIM**

**STATUTORY WORKERS' COMPENSATION & EMPLOYERS LIABILITY**

- \$1 MILLION EACH ACCIDENT
- \$1 MILLION DISEASE EACH EMPLOYEE
- \$1 MILLION DISEASE POLICY LIMIT

**NOTE:** Insurance certificates must be in the form approved by the Texas Attorney General, a sample of which follows this page.

Insurance Certificates must:

- (a) be submitted to [insurance@GLO.TEXAS.GOV](mailto:insurance@GLO.TEXAS.GOV)
- (b) **prominently display "GLO Contract No. 22-004-022 and Work Order No. E038."** and
- (c) Name the General Land Office as an additional insured.

Failure to submit required insurance forms as instructed may significantly delay the start of work under the Contract.

**REQUIRED FORM OF CERTIFICATE FOLLOWS THIS PAGE**



Contract No. \*\*\*\*\*

DATE (MM/DD/YYYY)

# CERTIFICATE OF LIABILITY INSURANCE

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	<b>Required form of Insurance</b>		CONTACT NAME:		
			PHONE (A/C, No, Ext):	FAX (A/C, No):	
INSURED	E-MAIL ADDRESS:		INSURER(S) AFFORDING COVERAGE		NAIC #
	INSURER A :		INSURER B :		
	INSURER C :		INSURER D :		
	INSURER E :		INSURER F :		

**COVERAGES**                      **CERTIFICATE NUMBER:**                      **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	<b>GENERAL LIABILITY</b> <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC						EACH OCCURRENCE	\$
							DAMAGE TO RENTED PREMISES (Ea occurrence)	\$
							MED EXP (Any one person)	\$
							PERSONAL & ADV INJURY	\$
							GENERAL AGGREGATE	\$
							PRODUCTS - COMP/OP AGG	\$
								\$
	<b>AUTOMOBILE LIABILITY</b> <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident)	\$
							BODILY INJURY (Per person)	\$
							BODILY INJURY (Per accident)	\$
							PROPERTY DAMAGE (Per accident)	\$
								\$
	<b>UMBRELLA LIAB</b> <input type="checkbox"/> OCCUR <b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE DED    RETENTION \$						EACH OCCURRENCE	\$
							AGGREGATE	\$
								\$
	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICE/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						WC STATUTORY LIMITS	OTHER
							E.L. EACH ACCIDENT	\$
							E.L. DISEASE - EA EMPLOYEE	\$
							E.L. DISEASE - POLICY LIMIT	\$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER	<b>CANCELLATION</b>
	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE