

September 13, 2024

City of Laredo TX
1110 Houston St
Laredo, TX 78040-8019

Attn: Ramon Chavez, P.E.
P: (956) 791-7346
E: rchavez@ci.laredo.tx.us

RE: Proposal for Geotechnical Engineering Services
World Trade Bridge Expansion
11459-11705 FM Road 1472
Laredo, Texas
Terracon Proposal No. P89245052

Dear Mr. Chavez:

We appreciate the opportunity to submit this proposal to City of Laredo TX (City of Laredo) to provide Geotechnical Engineering services for the above referenced project. We understand that we have been chosen to provide these services for this publicly funded project. Therefore, by providing cost information we are not in violation of the Texas Professional Services Procurement Act. The following are exhibits to the attached Agreement for Services.

Exhibit A	Project Understanding
Exhibit B	Scope of Services
Exhibit C	Compensation and Project Schedule
Exhibit D	Site Location
Exhibit E	Anticipated Exploration Plan

Our base fee to perform the Scope of Services described in this proposal is reflected in Exhibit C, which includes details of our fees and consideration of additional services as well as a general breakdown of our anticipated schedule.

Your authorization for Terracon to proceed in accordance with this proposal can be issued by signing and returning a copy of the Agreement for Services to our office.

Sincerely,
Terracon



Jesus Alexis Gonzalez
Field Engineer



Juan Carlos Rendon, M.S.
Office Manager

Mike T. Ghazawi, P.E.
Senior Principal

AGREEMENT FOR SERVICES

This AGREEMENT is between City of Laredo TX ("Client") and Terracon Consultants, Inc. ("Consultant") for Services to be provided by Consultant for Client on the World Trade Bridge Expansion project ("Project"), as described in Consultant's Proposal dated 09/03/2024 ("Proposal"), including but not limited to the Project Information section, unless the Project is otherwise described in Exhibit A to this Agreement (which section or Exhibit is incorporated into this Agreement).

1. **Scope of Services.** The scope of Consultant's services is described in the Proposal, including but not limited to the Scope of Services section ("Services"), unless Services are otherwise described in Exhibit B to this Agreement (which section or exhibit is incorporated into this Agreement). Portions of the Services may be subcontracted. When Consultant subcontracts to other individuals or companies, then consultant will collect from Client on the Subcontractors' behalf. Consultant's Services do not include the investigation or detection of, nor do recommendations in Consultant's reports address the presence or prevention of biological pollutants (e.g., mold, fungi, bacteria, viruses, or their byproducts) or occupant safety issues, such as vulnerability to natural disasters, terrorism, or violence. If Services include purchase of software, Client will execute a separate software license agreement. Consultant's findings, opinions, and recommendations are based solely upon data and information obtained by and furnished to Consultant at the time of the Services.
2. **Acceptance/ Termination.** Client agrees that execution of this Agreement is a material element of the consideration Consultant requires to execute the Services, and if Services are initiated by Consultant prior to execution of this Agreement as an accommodation for Client at Client's request, both parties shall consider that commencement of Services constitutes formal acceptance of all terms and conditions of this Agreement. Additional terms and conditions may be added or changed only by written amendment to this Agreement signed by both parties. In the event Client uses a purchase order or other form to administer this Agreement, the use of such form shall be for convenience purposes only and any additional or conflicting terms it contains are stricken. This Agreement shall not be assigned by either party without prior written consent of the other party. Either party may terminate this Agreement or the Services upon written notice to the other. In such case, Consultant shall be paid costs incurred and fees earned to the date of termination plus reasonable costs of closing the Project.
3. **Change Orders.** Client may request changes to the scope of Services by altering or adding to the Services to be performed. If Client so requests, Consultant will return to Client a statement (or supplemental proposal) of the change setting forth an adjustment to the Services and fees for the requested changes. Following Client's review, Client shall provide written acceptance. If Client does not follow these procedures, but instead directs, authorizes, or permits Consultant to perform changed or additional work, the Services are changed accordingly and Consultant will be paid for this work according to the fees stated or its current fee schedule. If project conditions change materially from those observed at the site or described to Consultant at the time of proposal, Consultant is entitled to a change order equitably adjusting its Services and fee.
4. **Compensation and Terms of Payment.** Client shall pay compensation for the Services performed at the fees stated in the Proposal, including but not limited to the Compensation section, unless fees are otherwise stated in Exhibit C to this Agreement (which section or Exhibit is incorporated into this Agreement). If not stated in either, fees will be according to Consultant's current fee schedule. Fee schedules are valid for the calendar year in which they are issued. Fees do not include sales tax. Client will pay applicable sales tax as required by law. Consultant may invoice Client at least monthly and payment is due upon receipt of invoice. Client shall notify Consultant in writing, at the address below, within 15 days of the date of the invoice if Client objects to any portion of the charges on the invoice, and shall promptly pay the undisputed portion. Client shall pay a finance fee of 1.5% per month, but not exceeding the maximum rate allowed by law, for all unpaid amounts 30 days or older. Client agrees to pay all collection-related costs that Consultant incurs, including attorney fees. Consultant may suspend Services for lack of timely payment. It is the responsibility of Client to determine whether federal, state, or local prevailing wage requirements apply and to notify Consultant if prevailing wages apply. If it is later determined that prevailing wages apply, and Consultant was not previously notified by Client, Client agrees to pay the prevailing wage from that point forward, as well as a retroactive payment adjustment to bring previously paid amounts in line with prevailing wages. Client also agrees to defend, indemnify, and hold harmless Consultant from any alleged violations made by any governmental agency regulating prevailing wage activity for failing to pay prevailing wages, including the payment of any fines or penalties.
5. **Third Party Reliance.** This Agreement and the Services provided are for Consultant and Client's sole benefit and exclusive use with no third party beneficiaries intended. Reliance upon the Services and any work product is limited to Client, and is not intended for third parties other than those who have executed Consultant's reliance agreement, subject to the prior approval of Consultant and Client.
6. **LIMITATION OF LIABILITY. CLIENT AND CONSULTANT HAVE EVALUATED THE RISKS AND REWARDS ASSOCIATED WITH THIS PROJECT, INCLUDING CONSULTANT'S FEE RELATIVE TO THE RISKS ASSUMED, AND AGREE TO ALLOCATE CERTAIN OF THE ASSOCIATED RISKS. TO THE FULLEST EXTENT PERMITTED BY LAW, THE TOTAL AGGREGATE LIABILITY OF CONSULTANT (AND ITS RELATED CORPORATIONS AND EMPLOYEES) TO CLIENT AND THIRD PARTIES GRANTED RELIANCE IS LIMITED TO THE GREATER OF \$50,000 OR CONSULTANT'S FEE, FOR ANY AND ALL INJURIES, DAMAGES, CLAIMS, LOSSES, OR EXPENSES (INCLUDING ATTORNEY AND EXPERT FEES) ARISING OUT OF CONSULTANT'S SERVICES OR THIS AGREEMENT. PRIOR TO ACCEPTANCE OF THIS AGREEMENT AND UPON WRITTEN REQUEST FROM CLIENT, CONSULTANT MAY NEGOTIATE A HIGHER LIMITATION FOR ADDITIONAL CONSIDERATION IN THE FORM OF A SURCHARGE TO BE ADDED TO THE AMOUNT STATED IN THE COMPENSATION SECTION OF THE PROPOSAL. THIS LIMITATION SHALL APPLY REGARDLESS OF AVAILABLE PROFESSIONAL LIABILITY INSURANCE COVERAGE, CAUSE(S), OR THE THEORY OF LIABILITY, INCLUDING NEGLIGENCE, INDEMNITY, OR OTHER RECOVERY. THIS LIMITATION SHALL NOT APPLY TO THE EXTENT THE DAMAGE IS PAID UNDER CONSULTANT'S COMMERCIAL GENERAL LIABILITY POLICY.**
7. **Indemnity/Statute of Limitations.** Consultant and Client shall indemnify and hold harmless the other and their respective employees from and against legal liability for claims, losses, damages, and expenses to the extent such claims, losses, damages, or expenses are legally determined to be caused by their negligent acts, errors, or omissions. In the event such claims, losses, damages, or expenses are legally determined to be caused by the joint or concurrent negligence of Consultant and Client, they shall be borne by each party in proportion to its own negligence under comparative fault principles. Neither party shall have a duty to defend the other party, and no duty to defend is hereby created by this indemnity provision and such duty is explicitly waived under this Agreement. Causes of action arising out of Consultant's Services or this Agreement regardless of cause(s) or the theory of liability, including negligence, indemnity or other recovery shall be deemed to have accrued and the applicable statute of limitations shall commence to run not later than the date of Consultant's substantial completion of Services on the project.
8. **Warranty.** Consultant will perform the Services in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. **EXCEPT FOR THE STANDARD OF CARE PREVIOUSLY STATED, CONSULTANT MAKES NO WARRANTIES OR GUARANTEES, EXPRESS OR IMPLIED, RELATING TO CONSULTANT'S SERVICES AND CONSULTANT DISCLAIMS ANY IMPLIED WARRANTIES OR WARRANTIES IMPOSED BY LAW, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**
9. **Insurance.** Consultant represents that it now carries, and will continue to carry: (i) workers' compensation insurance in accordance with the laws of the states having jurisdiction over Consultant's employees who are engaged in the Services, and employer's liability insurance (\$1,000,000); (ii) commercial general liability insurance (\$2,000,000 occ / \$4,000,000 agg); (iii) automobile liability insurance (\$2,000,000 B.I. and P.D. combined single

limit); (iv) umbrella liability (\$5,000,000 occ / agg); and (v) professional liability insurance (\$1,000,000 claim / agg). Certificates of insurance will be provided upon request. Client and Consultant shall waive subrogation against the other party on all general liability and property coverage.

10. **CONSEQUENTIAL DAMAGES. NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR LOSS OF PROFITS OR REVENUE; LOSS OF USE OR OPPORTUNITY; LOSS OF GOOD WILL; COST OF SUBSTITUTE FACILITIES, GOODS, OR SERVICES; COST OF CAPITAL; OR FOR ANY SPECIAL, CONSEQUENTIAL, INDIRECT, PUNITIVE, OR EXEMPLARY DAMAGES.**
11. **Dispute Resolution.** Client shall not be entitled to assert a Claim against Consultant based on any theory of professional negligence unless and until Client has obtained the written opinion from a registered, independent, and reputable engineer, architect, or geologist that Consultant has violated the standard of care applicable to Consultant's performance of the Services. Client shall provide this opinion to Consultant and the parties shall endeavor to resolve the dispute within 30 days, after which Client may pursue its remedies at law. This Agreement shall be governed by and construed according to Texas law.
12. **Subsurface Explorations.** Subsurface conditions throughout the site may vary from those depicted on logs of discrete borings, test pits, or other exploratory services. Client understands Consultant's layout of boring and test locations is approximate and that Consultant may deviate a reasonable distance from those locations. Consultant will take reasonable precautions to reduce damage to the site when performing Services; however, Client accepts that invasive services such as drilling or sampling may damage or alter the site. Site restoration is not provided unless specifically included in the Services.
13. **Testing and Observations.** Client understands that testing and observation are discrete sampling procedures, and that such procedures indicate conditions only at the depths, locations, and times the procedures were performed. Consultant will provide test results and opinions based on tests and field observations only for the work tested. Client understands that testing and observation are not continuous or exhaustive, and are conducted to reduce - not eliminate - project risk. Client shall cause all tests and inspections of the site, materials, and Services performed by Consultant to be timely and properly scheduled in order for the Services to be performed in accordance with the plans, specifications, contract documents, and Consultant's recommendations. No claims for loss or damage or injury shall be brought against Consultant by Client or any third party unless all tests and inspections have been so performed and Consultant's recommendations have been followed. Unless otherwise stated in the Proposal, Client assumes sole responsibility for determining whether the quantity and the nature of Services ordered by Client is adequate and sufficient for Client's intended purpose. Client is responsible (even if delegated to contractor) for requesting services, and notifying and scheduling Consultant so Consultant can perform these Services. Consultant is not responsible for damages caused by Services not performed due to a failure to request or schedule Consultant's Services. Consultant shall not be responsible for the quality and completeness of Client's contractor's work or their adherence to the project documents, and Consultant's performance of testing and observation services shall not relieve Client's contractor in any way from its responsibility for defects discovered in its work, or create a warranty or guarantee. Consultant will not supervise or direct the work performed by Client's contractor or its subcontractors and is not responsible for their means and methods. The extension of unit prices with quantities to establish a total estimated cost does not guarantee a maximum cost to complete the Services. The quantities, when given, are estimates based on contract documents and schedules made available at the time of the Proposal. Since schedule, performance, production, and charges are directed and/or controlled by others, any quantity extensions must be considered as estimated and not a guarantee of maximum cost.
14. **Sample Disposition, Affected Materials, and Indemnity.** Samples are consumed in testing or disposed of upon completion of the testing procedures (unless stated otherwise in the Services). Client shall furnish or cause to be furnished to Consultant all documents and information known or available to Client that relate to the identity, location, quantity, nature, or characteristic of any hazardous waste, toxic, radioactive, or contaminated materials ("Affected Materials") at or near the site, and shall immediately transmit new, updated, or revised information as it becomes available. Client agrees that Consultant is not responsible for the disposition of Affected Materials unless specifically provided in the Services, and that Client is responsible for directing such disposition. In no event shall Consultant be required to sign a hazardous waste manifest or take title to any Affected Materials. Client shall have the obligation to make all spill or release notifications to appropriate governmental agencies. The Client agrees that Consultant neither created nor contributed to the creation or existence of any Affected Materials conditions at the site and Consultant shall not be responsible for any claims, losses, or damages allegedly arising out of Consultant's performance of Services hereunder, or for any claims against Consultant as a generator, disposer, or arranger of Affected Materials under federal, state, or local law or ordinance.
15. **Ownership of Documents.** Work product, such as reports, logs, data, notes, or calculations, prepared by Consultant shall remain Consultant's property. Proprietary concepts, systems, and ideas developed during performance of the Services shall remain the sole property of Consultant. Files shall be maintained in general accordance with Consultant's document retention policies and practices.
16. **Utilities.** Unless otherwise stated in the Proposal, Client shall provide the location and/or arrange for the marking of private utilities and subterranean structures. Consultant shall take reasonable precautions to avoid damage or injury to subterranean structures or utilities. Consultant shall not be responsible for damage to subterranean structures or utilities that are not called to Consultant's attention, are not correctly marked, including by a utility locate service, or are incorrectly shown on the plans furnished to Consultant.
17. **Site Access and Safety.** Client shall secure all necessary site related approvals, permits, licenses, and consents necessary to commence and complete the Services and will execute any necessary site access agreement. Consultant will be responsible for supervision and site safety measures for its own employees, but shall not be responsible for the supervision or health and safety precautions for any third parties, including Client's contractors, subcontractors, or other parties present at the site. In addition, Consultant retains the right to stop work without penalty at any time Consultant believes it is in the best interests of Consultant's employees or subcontractors to do so in order to reduce the risk of exposure to unsafe site conditions. Client agrees it will respond quickly to all requests for information made by Consultant related to Consultant's pre-task planning and risk assessment processes.

Consultant: Terracon Consultants, Inc.

Client: City of Laredo TX

By:  Date: 9/19/2024

By: _____ Date: _____

Name/Title: Juan Carlos Rendon Prado / Office Manager I

Name/Title: Ramon Chavez, P.E. / City Engineer

Address: 615 Gale St, Bldg B Ste B
Laredo, TX 78041

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Laredo, TX 78041

Phone: (956) 729-1100 Fax: (956) 791-1071

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Email: rchavez@ci.laredo.tx.us

Exhibit A – Project Understanding

Our Scope of Services is based on our understanding of the project as described by client and the expected subsurface conditions as described below. We have not visited the project site to confirm the information provided. Aspects of the project, undefined or assumed, are highlighted as shown below. We request City of Laredo and/or the design team verify all information prior to our initiation of field exploration activities.

Planned Construction

Item	Description
Information Provided	This proposal for a geotechnical engineering study is based on the information provided by Ms. Lorena L. Lopez-Mata through email dated August 30, 2024. The request included a copy of the Request for Geotechnical Services with the described scope of work for this project. This document also includes attachments related to the existing Laredo International Bridge. Coordination with (SEA, KCI, City, CBP, BP, Fasken Oil & Ranch) will be required to schedule to proceed any activity in the site.
Project Description	We understood that the project will include the construction of a New World Trade International Bridge, located about 750 ft to the south of the existing Laredo International Bridge that will have a Bridge Widening. Additionally, a retaining wall and embankment will be required for the New World Trade International Bridge.
Deep foundations	<p>The bridge will be supported by Drilled Shaft Foundation based on the plans by SEA (Structural Engineering Associates). SEA requested the following:</p> <ul style="list-style-type: none"> ■ Strength Testing (Texas Cone Penetrometer, Unconfined Compressive Strength, Split Spoon sampling) ■ Borehole Groundwater measurements during drilling and after 24 hours ■ Drilled shaft Capacity (skin friction & end bearing) charts for 18", 36", 48" and 60" ■ Scour Analysis Parameters (D50) ■ Wincore Logs ■ LPile Parameters ■ TxDot FDN Sheet

Item	Description
Expected Loads	<ul style="list-style-type: none"> ■ 500 tons / Ds at interior bents. ■ 300 tons / Ds at abutments.
Retaining Wall	<ul style="list-style-type: none"> ■ Global Stability ■ Bearing Capacity ■ RW (MSE) DD sheet (Signed & sealed) ■ Benching/ Construction Stability
Finished Elevation	Match existing elevations.
Pavement	Concrete over Asphalt pavement will be considered according to the existing Port of Entry Concrete Pavement Design.
Traffic Loads	According to the Laredo Northwest International Bridge plans, the Special Truck Load is 170,840 Lbs. Expected daily traffic should be provided by the client.

Site Location and Anticipated Conditions

Item	Description
Parcel Information	<p>The project is located at the Existing World Trade International Bridge in Laredo, Texas.</p> <p>Approx. GPS coordinates: Latitude: 27.5977893° N Longitude: -99.5359885° W.</p> <p>The proposed New Bridge will be located about 750 ft to the south of the existing World Trade International Bridge in Laredo, Texas.</p> <p>Latitude: 27.5960280° N Longitude: -99.5346821° W.</p> <p>See Site Location</p>
Improvements	<p>The proposed bridge widening will be on the existing World Trade International Bridge.</p> <p>The proposed New Bridge area is undeveloped and will be located about 750 feet to the south of the existing bridge.</p>
Current Ground Cover	Based on available public aerial photos, the existing bridge is covered by Concrete pavement.
Existing Topography	Based on SEA profile plan, the site elevations range between 445 feet at the highest point of the existing bridge to 360 feet at the bottom of the river.
Site Access	We expect the site, and all exploration locations, at the landslide to be accessible with our truck-mounted drilling equipment and support vehicles. And for the exploration locations on the river a Pontoon Drill Rig or a Marsh Drill Rig (depending on the water levels of the river) will be necessary and a boat launch installation to move the pontoon up or down river.
Expected Subsurface Conditions	Based on the provided Boring Logs of the previous core borings, the subsurface conditions may consist of Lean Clay (CL), Clayey Sand (SC), Silty Sand (SM) and Sandstone at deeper depths.

Exhibit B - Scope of Services

Our proposed Scope of Services consists of field exploration, laboratory testing, and engineering/project delivery. According to the RFP document, all field work will be performed on the USA side of the border. These services are described in the following sections.

Field Exploration

Based on the WTB Expansion Request for Geotechnical Services document from the client, the following boring field exploration is planned for this geotechnical study

Existing Bridge

Number of Borings ³	Planned Boring Depth (feet) ^{1,2}	Planned Location
W-1	80	Below the existing bridge (River area)
B-1, B-2	80	Bridge (Landside)

1. The planned boring locations are shown on the attached **Anticipated Exploration Plan**.
2. Depth is below existing ground surface at land locations and below the water surface at the river location.
3. TxDOT Cone Penetration Test (TCP) and Standard Penetration Test (SPT)

New Bridge

Number of Borings ³	Planned Boring Depth (feet) ^{1,2}	Planned Location
W-2	80	Below the proposed new bridge (River area)
B-3	80	Bridge (Landside)
B-4	80	Proposed Retaining Wall (Landside)
B-5, and B-6	40	Embankment Area

1. The planned boring locations are shown on the attached **Anticipated Exploration Plan**.
2. Depth is below existing ground surface at land locations and below the water surface at the river location.
3. TxDOT Cone Penetration Test (TCP) Standard Penetration Test (SPT)

Boring Layout and Elevations: We will use handheld GPS equipment to locate borehole locations with an estimated horizontal accuracy of ± 20 feet. Field measurements from existing site features may be utilized. If available, approximate elevations of land locations will be obtained by interpolation from a site specific, surveyed topographic map.

Terracon will place labeled wooden stakes at the onshore locations where borings are performed so they can be surveyed by others, if needed. Terracon will provide latitude, longitude, and elevation on the boring locations based on information provided by the surveyor or coordinates collected using our hand-held GPS. The locations may need to be adjusted somewhat based on access conditions at the time of our field activities.

Subsurface Exploration Procedures: Drilling services will be performed using a truck-mounted drill rig for the land borings. For the borings drilled in the river, we will use a Pontoon Drill, wet-rotary (slurry/mud rotary) drill rig mounted on a support boat. We have assumed in our budget estimate that permission will be provided by CBP to overnight the Pontoon at a nearby amicable location to reduce daily mobilization time. The TxDOT cone penetration test will be performed in accordance with TxDOT Method Tex-132-E (TCP). Samples will be placed in appropriate containers, taken to our soil laboratory for testing, and classified by a Geotechnical Engineer. In addition, we will observe and record groundwater levels during drilling and sampling. If rock is encountered, NX rock coring will be performed. The percent recovery and Rock Quality Designation (RQD) will be recorded. 3 Core samples (4-inch diameter) will be obtained at Port of Entry location as requested in the RFP to help determine pavement material types and approximate layer thicknesses.

Sampling for land borings will be performed at about 2-foot intervals in the upper 20 feet and at about 5-foot intervals thereafter. We will collect open-tube and/or split-barrel samples. We intend to collect open-tube samples in predominantly cohesive soils in which quality recovered samples can be obtained. Split-barrel samples will generally be collected in cohesionless soils or in instances where good-quality open-tube samples cannot be recovered.

For the borings, soil samples will generally be collected utilizing either open-tube samplers or the Standard Penetration Test. Sampling will be in general accordance with industry standard procedures wherein Shelby tube samplers will typically be used in clay materials or split-barrel samplers in granular material in general accordance with the standard penetration test (SPT).

Property Disturbance: Terracon will take reasonable efforts to reduce damage to the property. However, it should be understood that in the normal course of our work some disturbance could occur including rutting of the ground surface and damage to landscaping and/or crops.

We will backfill the landside borings with cement/grout upon completion. Our services do not include repair of the site beyond backfilling our boreholes. Excess auger cuttings will be dispersed in the general vicinity of the borehole. Because backfill material often settles below the surface after a period, we recommend boreholes to be periodically checked and backfilled, if necessary. We can provide this service or grout the boreholes for additional fees at your request. The boring located in the existing pavement will be patched with asphalt/concrete to match existing pavement.

Our fee is based on the site being accessible to our drill rigs and additional costs may result if the site cannot be accessed. This scope does not include services associated with surveying of boring locations, obtaining permits, location of on-site underground utilities (besides the 811 one-call service), wet/unusually soft ground conditions, site clearing, or repair to damage of landscape. If such conditions are known to exist on the site or for this project, Terracon should be notified so that we may adjust our scope of services and fee, if necessary.

Safety

Terracon is not aware of environmental concerns at this project site that would create health or safety hazards associated with our exploration program; thus, our Scope considers only standard personal protective equipment (PPE) consisting of steel-toed boots, hard hat, safety vest, fire resistant clothing, eye protection, hearing protection, and gloves, as well as life vests and barricade lines for marine borings. We further assume that no additional equipment, safety training, or certification will be necessary. If any additional PPE, equipment, safety training, or certifications are necessary, Terracon should be contacted to revise the scope and costs presented in this proposal. Furthermore, our Scope of Services do not include environmental site assessment services, but identification of unusual or unnatural materials observed while drilling will be noted on our logs.

Our budget does not include any safety training besides Terracon's standard safety requirements. If any safety training, certification, and orientation is required for the field exploration, Terracon needs to be notified and additional fees will be required based on the requirement. Additionally, we have not budgeted for any necessary permits required for work at the site. We have assumed any necessary permits will be arranged by others, and an escort will be provided, if required.

Exploration efforts require borings (and possibly excavations) into the subsurface, therefore Terracon will comply with local regulations to request a utility location service Texas811. We will consult with the landowner/client regarding potential utilities or other unmarked underground hazards. Based upon the results of this consultation, we will consider the need for alternative subsurface exploration methods as the safety of our field crew is a priority.

Consultant will be responsible for supervision and site safety measures for its own employees but shall not be responsible for the supervision or health and safety precautions for any third parties, including Client's contractors, subcontractors, or other parties present at the site.

Site Access: Terracon must be granted access to the site by the owner and also provide a boat launch installation to move the pontoon/marsh drill rig up or down river.

Laboratory Testing

The project engineer will review field data and assign laboratory tests to understand the engineering properties of various soil strata. Exact types and number of tests cannot be defined until completion of fieldwork, but we anticipate the following laboratory testing may be performed:

- Tex-103-E Determining Moisture Content in Soil Materials
- Tex-104-E Determining Liquid Limit of Soils
- Tex-105-E Determining Plastic Limit of Soils
- Tex-106-E Calculating the Plasticity Index of Soils
- Tex-111-E Determining the Amount of Materials in Soils Finer than the 75 μm (no. 200) Sieve.
- Tex 145-E Determining Sulfate Content in Soils - Colorimetric Method
- ASTM D-2166 Standard Test Method for Unconfined Compressive Strength of Cohesive Soil (if applicable and soil is recovered with Shelby tube)
- Evaluating Laboratory Corrosion Tests in Soils (ASTM G162-18)
- Tex-110-E Particle Size Analysis of Soils (Hydrometer)
- Unconfined Compressive Strength (UCS)
- Unconsolidated Undrained (UU) triaxial

Our laboratory testing program often includes examination of soil samples by an engineer. Based on the results of our field and laboratory programs, we will describe and classify soil samples in accordance with the Unified Soil Classification System (USCS).

Engineering and Project Delivery

The results of our field and laboratory programs will be evaluated, and a geotechnical engineering report will be prepared under the supervision of a licensed professional engineer. The geotechnical engineering report will provide the following:

- Boring logs with field and laboratory data
- Stratification based on visual soil classification
- Groundwater levels observed during, after completion drilling and after 24 hours of drilling
- Site and Boring location plans
- Subsurface exploration procedures
- Description of subsurface conditions
- Subgrade preparation/earthwork recommendations
- LPILE parameters
- Recommendation for drilled shaft including Wincore logs and capacity curves
- Estimated settlement of foundations
- Lateral earth pressure for retaining walls
- Global stability analysis for the planned retaining wall and embankment
- Seismic site classification based on IBC
- Pavement thickness recommendations
- Parameters for scour analysis

In addition to an emailed report, your project will also be delivered using our Client Portal. Upon initiation, we provide you and your design team the necessary link and password to access the website (if not previously registered). Each project includes a calendar to track the schedule, an interactive site map, a listing of team members, access to the project documents as they are uploaded to the site, and a collaboration portal. We welcome the opportunity to have project kickoff conversations with the team to discuss key elements of the project and demonstrate features of the portal. The typical delivery process includes the following:

- Project Planning – Proposal information, schedule and anticipated exploration plan
- Site Characterization – Findings of the site exploration and laboratory results
- Geotechnical Engineering Report

When services are complete, we upload a printable version of our completed Geotechnical Engineering report, including the professional engineer's seal and signature, which documents our services. Previous submittals, collaboration, and the report are maintained in our system. This allows future reference and integration into subsequent aspects of our services as the project goes through final design and construction.

Additional Services

In addition to the services noted above, the following are often associated with geotechnical engineering services. Fees for services noted above do not include the following:

Review of Plans and Specifications: Our geotechnical report and associated verbal and written communications will be used by others in the design team to develop plans and specifications for construction. Review of project plans and specifications is a vital part of our geotechnical engineering services. This consists of review of project plans and specifications related to site preparation, foundation, and pavement construction. Our review will include a written statement conveying our opinions relating to the plans and specifications' consistency with our geotechnical engineering recommendations.

Observation and Testing of Pertinent Construction Materials: Development of our geotechnical engineering recommendations and report relies on an interpretation of soil conditions. Our assessment is based on widely spaced exploration locations and the assumption that construction methods will be performed in a manner sufficient to meet our expectations and consistent with recommendations made at the time the geotechnical engineering report is issued. We should be retained to conduct construction observations, and perform/document associated materials testing, for site preparation, foundation, and pavement construction. These services allow a more comprehensive understanding of subsurface conditions and necessary documentation of construction to confirm and/or modify (when necessary) the assumptions and recommendations made by our engineers.

Perform Environmental Assessments: Our Scope for this project does not include, either specifically or by implication, an environmental assessment of the site intended to identify or quantify potential site contaminants. If the client/owner is concerned about the potential for such conditions, an environmental site assessment should be conducted. We can provide a proposal for an environmental assessment, if desired.

Exhibit C - Compensation and Project Schedule

Compensation

Based upon our understanding of the site, the project as summarized in Exhibit A, and our planned Scope of Services outlined in Exhibit B, our base fee is shown in the following table:

Base Task	Lump Sum Fee
New Bridge Landside Investigation	
Consulting and Geotechnical Report New World Trade International Bridge	\$16,900
Land Borings (includes SPT and TCP including logger, Mob/Demob of Drill Rig	\$17,400
Laboratory testing	\$5,660
Coordination with (SEA, KCI, City, CBP, BP, Fasken Oil & Ranch)	\$1,000
Retaining walls/ Global Stability	\$14,900
Subtotal	\$55,860
Bridge Widening Landside Investigation	
Consulting and Geotechnical Report World Trade International Bridge Widening	\$14,900
Land Borings (includes SPT and TCP) including logger, Mob/Demob of Drill Rig	\$11,600
Laboratory testing	\$3,770
Core at Port of Entry (3 samples)	\$1,200
Traffic Control	\$2,500
Private Utility	\$2,500
Subtotal	\$36,470

Base Task	Lump Sum Fee
River Investigation	
Consulting and Geotechnical Report	\$12,900
Water Borings including logger, Mob/Demob of Pontoon Drill Rig and Support Boat (New/Widening Bridge)	\$77,500
Laboratory testing	\$3,770
Coordination with (SEA, KCI, City, CBP, BP, Fasken Oil & Ranch)	\$3,200
Subtotal	\$97,370
Total Lump Sum Fee	\$189,700

Notes:

- 1. Night drilling will not be considered for this project.*
- 2. Terracon is considering 5 days of drilling for the water borings including (SPT and TCP), if more days are required, we will charge \$7,350 additional per day. For less days, a credit per day will be issued to the client.*
- 3. Terracon is considering 8 days of drilling for the land borings including (SPT and TCP), if more days are required, we will charge \$3,500 additional per day.*
- 4. If mobilization and demobilization of the crew and equipment for the water borings is required due to unforeseen conditions, an additional charge of \$14,800 will be incurred.*
- 5. Stand by time for Land borings crew will be at rate of \$400 per hour.*
- 6. Stand by time for River borings crew will be at rate of \$850 per hour.*
- 7. If execution of project is broken down, we recommend the River Investigation to be done together in the first part of the project in order to save additional Mob/Demob.*

Our Scope of Services does not include services associated with site clearing, wet ground conditions, tree or shrub clearing, or repair of/damage to existing landscape or crops. If such services are desired by the owner/client, we should be notified so we can adjust our Scope of Services.

Unless instructed otherwise, we will submit our invoice(s) to the address shown at the beginning of this proposal. If conditions are encountered that require Scope of Services revisions and/or result in higher fees, we will contact you for approval, prior to initiating services. A supplemental proposal stating the modified Scope of Services as well as its effect on our fee will be prepared. We will not proceed without your authorization.

Project Schedule

We developed a schedule to complete the Scope of Services based upon our existing availability and understanding of your project schedule. However, our schedule does not account for delays in field exploration beyond our control, such as weather conditions, delays resulting from utility clearance, permit delays, or lack of permission to access the boring locations. In the event the schedule provided is inconsistent with your needs, please contact us so we may consider alternatives.

Delivery on Compass Manager	Estimated Completed Schedule ^{1, 2}
Project Planning/ Kick off meeting	7 working days from notice to proceed (NTP)
Utility Locate/Field Work Mobilization	12 days after (NTP)
Field Work	22 days after (NTP)
Laboratory Testing	40 days after (NTP)
Preliminary Geotechnical Engineering Information	60 days after (NTP)
Design Level Geotechnical Engineering Report	70 days after (NTP)

1. Upon receipt of your notice to proceed we will activate the schedule component on Compass Manager with specific, anticipated dates for the delivery points noted above as well as other pertinent events.
2. Standard workdays. We will maintain an activities calendar within on Compass Manager. The schedule will be updated to maintain a current awareness of our plans for delivery.

Exhibit D – Site Location

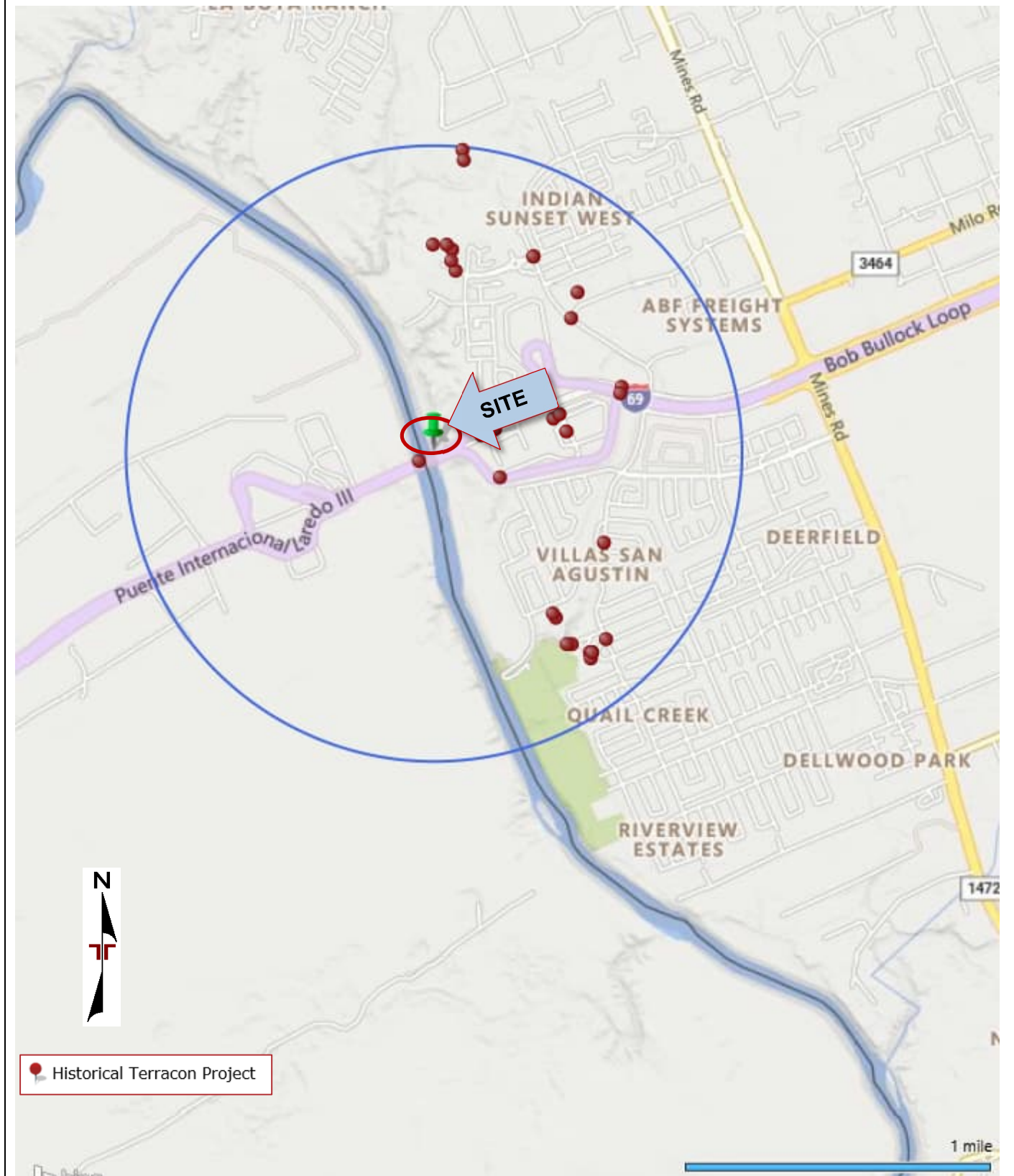


Exhibit E –Anticipated Exploration Plan

