

STATE OF TEXAS           §  
  §  
COUNTY OF FORT BEND   §

**AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES**

THIS AGREEMENT is made and entered into by and between Fort Bend County, (hereinafter “County”), a body corporate and politic under the laws of the State of Texas, and AIG Technical Services, LLC, (hereinafter “Contractor”), a company authorized to conduct business in the State of Texas.

WITNESSETH

WHEREAS, County desires that Contractor provide professional engineering services for improvements to Evergreen Street, Segment 2 from 100 feet west of Mustang Bayou to FM 521 under 2020 Mobility Bond Project No. 20123x (hereinafter “Services”) pursuant to SOQ 14-025; and

WHEREAS, County has determined Contractor is the most highly qualified provider of the desired Services on the basis of demonstrated competence and qualifications, and County and Contractor have negotiated to reach a fair and reasonable amount of compensation for the provision of such Services, as required under Chapter 2254 of the Texas Government Code; and

WHEREAS, Contractor represents that it is qualified and desires to perform such services.

NOW, THEREFORE, in consideration of the mutual covenants and conditions set forth below, the parties agree as follows:

**AGREEMENT**

**Section 1. Scope of Services**

Contractor shall render the professional engineering services as described in Contractor’s proposal dated August 9, 2021, attached hereto as Exhibit A, and incorporated herein for all purposes.

**Section 2. Personnel**

2.1 Contractor represents that it presently has, or is able to obtain, adequate qualified personnel in its employment for the timely performance of the Scope of Services required under this Agreement and that Contractor shall furnish and maintain, at its own expense, adequate and sufficient personnel, in the opinion of County, to perform the Scope of Services when and as required and without delays.

2.2 All employees of Contractor shall have such knowledge and experience as will enable them to perform the duties assigned to them. Any employee of Contractor who, in the

opinion of County, is incompetent or by his conduct becomes detrimental to the project shall, upon request of County, immediately be removed from association with the project.

### **Section 3. Compensation and Payment**

3.1 Contractor's fees shall be calculated at the rates set forth in the attached Exhibit A. The Maximum Compensation for the performance of Services within the Scope of Services described in Exhibit A is eight hundred nine thousand four hundred ninety-eight dollars and 78/100 (\$809,498.78) as set forth in Exhibit A. In no case shall the amount paid by County under this Agreement exceed the Maximum Compensation without a written agreement executed by the parties.

3.2 All performance of the Scope of Services by Contractor including any changes in the Scope of Services and revision of work satisfactorily performed will be performed only when approved in advance and authorized by County.

3.3 County will pay Contractor based on the following procedures: Upon completion of the tasks identified in the Scope of Services, Contractor shall submit to County staff person designated by the County Engineer, one (1) electronic (pdf) copy of the invoice showing the amounts due for services performed in a form acceptable to County. County shall review such invoices and approve them within 30 calendar days with such modifications as are consistent with this Agreement and forward same to the Auditor for processing. County shall pay each such approved invoice within thirty (30) calendar days. County reserves the right to withhold payment pending verification of satisfactory work performed.

### **Section 4. Limit of Appropriation**

4.1 Contractor clearly understands and agrees, such understanding and agreement being of the absolute essence of this Agreement, that County shall have available the total maximum sum of eight hundred nine thousand four hundred ninety-eight dollars and 78/100 (\$809,498.78) specifically allocated to fully discharge any and all liabilities County may incur.

4.2 Contractor does further understand and agree, said understanding and agreement also being of the absolute essence of this Agreement, that the total maximum compensation that Contractor may become entitled to and the total maximum sum that County may become liable to pay to Contractor shall not under any conditions, circumstances, or interpretations thereof exceed eight hundred nine thousand four hundred ninety-eight dollars and 78/100 (\$809,498.78).

### **Section 5. Time of Performance**

Time for performance of the Scope of Services under this Agreement shall begin with receipt of the Notice to Proceed and end no later than December 31, 2025. Contractor shall complete the tasks described in the Scope of Services, within this time or within such additional time as may be extended by the County.

## **Section 6. Modifications and Waivers**

6.1 The parties may not amend or waive this Agreement, except by a written agreement executed by both parties.

6.2 No failure or delay in exercising any right or remedy or requiring the satisfaction of any condition under this Agreement, and no course of dealing between the parties, operates as a waiver or estoppel of any right, remedy, or condition.

6.3 The rights and remedies of the parties set forth in this Agreement are not exclusive of, but are cumulative to, any rights or remedies now or subsequently existing at law, in equity, or by statute.

## **Section 7. Termination**

7.1 Termination for Convenience – County may terminate this Agreement at any time upon forty-eight (48) hours written notice.

7.2 Termination for Default

7.2.1 County may terminate the whole or any part of this Agreement for cause in the following circumstances:

7.2.1.1 If Contractor fails to perform services within the time specified in the Scope of Services or any extension thereof granted by the County in writing;

7.2.1.2 If Contractor materially breaches any of the covenants or terms and conditions set forth in this Agreement or fails to perform any of the other provisions of this Agreement or so fails to make progress as to endanger performance of this Agreement in accordance with its terms, and in any of these circumstances does not cure such breach or failure to County's reasonable satisfaction within a period of ten (10) calendar days after receipt of notice from County specifying such breach or failure.

7.2.2 If, after termination, it is determined for any reason whatsoever that Contractor was not in default, or that the default was excusable, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the County in accordance with Section 7.1 above.

7.3 Upon termination of this Agreement, County shall compensate Contractor in accordance with Section 3, above, for those services which were provided under this Agreement prior to its termination and which have not been previously invoiced to County. Contractor's final invoice for said services will be presented to and paid by County in the same manner set forth in Section 3 above.

7.4 If County terminates this Agreement as provided in this Section, no fees of any type, other than fees due and payable at the Termination Date, shall thereafter be paid to Contractor.

## **Section 8. Ownership and Reuse of Documents**

All documents, data, reports, research, graphic presentation materials, etc., developed by Contractor as a part of its work under this Agreement, shall become the property of County upon completion of this Agreement, or in the event of termination or cancellation thereof, at the time of payment under Section 3 for work performed. Contractor shall promptly furnish all such data and material to County on request.

## **Section 9. Inspection of Books and Records**

Contractor will permit County, or any duly authorized agent of County, to inspect and examine the books and records of Contractor for the purpose of verifying the amount of work performed under the Scope of Services. County's right to inspect survives the termination of this Agreement for a period of four years.

## **Section 10. Insurance**

10.1 Prior to commencement of the Services, Contractor shall furnish County with properly executed certificates of insurance which shall evidence all insurance required and provide that such insurance shall not be canceled, except on 30 days' prior written notice to County. Contractor shall provide certified copies of insurance endorsements and/or policies if requested by County. Contractor shall maintain such insurance coverage from the time Services commence until Services are completed and provide replacement certificates, policies and/or endorsements for any such insurance expiring prior to completion of Services. Contractor shall obtain such insurance written on an Occurrence form (or a Claims Made form for Professional Liability insurance) from such companies having Best's rating of A/VII or better, licensed or approved to transact business in the State of Texas, and shall obtain such insurance of the following types and minimum limits:

10.1.1 Workers' Compensation insurance. Substitutes to genuine Workers' Compensation Insurance will not be allowed.

10.1.2 Employers' Liability insurance with limits of not less than \$1,000,000 per injury by accident, \$1,000,000 per injury by disease, and \$1,000,000 per bodily injury by disease.

10.1.3 Commercial general liability insurance with a limit of not less than \$1,000,000 each occurrence and \$2,000,000 in the annual aggregate. Policy shall cover liability for bodily injury, personal injury, and property damage and products/completed operations arising out of the business operations of the policyholder.

10.1.4 Business Automobile Liability insurance with a combined Bodily Injury/Property Damage limit of not less than \$1,000,000 each accident. The policy shall cover liability arising from the operation of licensed vehicles by policyholder.

10.1.5 Professional Liability insurance may be made on a Claims Made form with limits not less than \$1,000,000.

10.2 County and the members of Commissioners Court shall be named as additional insured to all required coverage except for Workers' Compensation and Professional Liability. All Liability policies including Workers' Compensation written on behalf of Contractor shall contain a waiver of subrogation in favor of County and members of Commissioners Court.

10.3 If required coverage is written on a claims-made basis, Contractor warrants that any retroactive date applicable to coverage under the policy precedes the effective date of the contract; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of 2 years beginning from the time that work under the Agreement is completed.

### **Section 11. Indemnity**

**CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS COUNTY AGAINST LOSSES, LIABILITIES, CLAIMS, AND CAUSES OF ACTION, INCLUDING THE REIMBURSEMENT OF COUNTY'S REASONABLE ATTORNEYS FEES IN PROPORTION TO CONTRACTOR'S LIABILITY, ARISING FROM ACTIVITIES OF CONTRACTOR, ITS AGENTS, SERVANTS OR EMPLOYEES, PERFORMED UNDER THIS AGREEMENT THAT RESULT FROM THE NEGLIGENT ACT, INTENTIONAL TORT, ERROR, OR OMISSION OF CONTRACTOR OR ANY OF CONTRACTOR'S AGENTS, SERVANTS OR EMPLOYEES.**

### **Section 12. Confidential and Proprietary Information**

12.1 Contractor acknowledges that it and its employees or agents may, in the course of performing their responsibilities under this Agreement, be exposed to or acquire information that is confidential to County. Any and all information of any form obtained by Contractor or its employees or agents from County in the performance of this Agreement shall be deemed to be confidential information of County ("Confidential Information"). Any reports or other documents or items (including software) that result from the use of the Confidential Information by Contractor shall be treated with respect to confidentiality in the same manner as the Confidential Information. Confidential Information shall be deemed not to include information that (a) is or becomes (other than by disclosure by Contractor) publicly known or is contained in a publicly available document; (b) is rightfully in Contractor's possession without the obligation of nondisclosure prior to the time of its disclosure under this Agreement; or (c) is independently developed by employees or agents of Contractor who can be shown to have had no access to the Confidential Information.

12.2 Contractor agrees to hold Confidential Information in strict confidence, using at least the same degree of care that Contractor uses in maintaining the confidentiality of its own confidential information, and not to copy, reproduce, sell, assign, license, market, transfer or otherwise dispose of, give, or disclose Confidential Information to third parties or use Confidential Information for any purposes whatsoever other than the provision of Services to County hereunder, and to advise each of its employees and agents of their obligations to keep Confidential Information confidential. Contractor shall use its best efforts to assist County in identifying and preventing any unauthorized use or disclosure of any Confidential Information. Without limitation of the foregoing, Contractor shall advise County

immediately in the event Contractor learns or has reason to believe that any person who has had access to Confidential Information has violated or intends to violate the terms of this Agreement and Contractor will at its expense cooperate with County in seeking injunctive or other equitable relief in the name of County or Contractor against any such person. Contractor agrees that, except as directed by County, Contractor will not at any time during or after the term of this Agreement disclose, directly or indirectly, any Confidential Information to any person, and that upon termination of this Agreement or at County's request, Contractor will promptly turn over to County all documents, papers, and other matter in Contractor's possession which embody Confidential Information.

12.3 Contractor acknowledges that a breach of this Section, including disclosure of any Confidential Information, or disclosure of other information that, at law or in equity, ought to remain confidential, will give rise to irreparable injury to County that is inadequately compensable in damages. Accordingly, County may seek and obtain injunctive relief against the breach or threatened breach of the foregoing undertakings, in addition to any other legal remedies that may be available. Contractor acknowledges and agrees that the covenants contained herein are necessary for the protection of the legitimate business interest of County and are reasonable in scope and content.

12.4 Contractor in providing all services hereunder agrees to abide by the provisions of any applicable Federal or State Data Privacy Act.

12.5 Contractor expressly acknowledges that County is subject to the Texas Public Information Act, TEX. GOV'T CODE ANN. §§ 552.001 *et seq.*, as amended, and notwithstanding any provision in the Agreement to the contrary, County will make any information related to the Agreement, or otherwise, available to third parties in accordance with the Texas Public Information Act. Any proprietary or confidential information marked as such provided to County by Consultant shall not be disclosed to any third party, except as directed by the Texas Attorney General in response to a request for such under the Texas Public Information Act, which provides for notice to the owner of such marked information and the opportunity for the owner of such information to notify the Attorney General of the reasons why such information should not be disclosed.

### **Section 13. Independent Contractor**

13.1 In the performance of work or services hereunder, Contractor shall be deemed an independent contractor, and any of its agents, employees, officers, or volunteers performing work required hereunder shall be deemed solely as employees of contractor or, where permitted, of its subcontractors.

13.2 Contractor and its agents, employees, officers, or volunteers shall not, by performing work pursuant to this Agreement, be deemed to be employees, agents, or servants of County and shall not be entitled to any of the privileges or benefits of County employment.

**Section 14. Notices**

14.1 Each party giving any notice or making any request, demand, or other communication (each, a “Notice”) pursuant to this Agreement shall do so in writing and shall use one of the following methods of delivery, each of which, for purposes of this Agreement, is a writing: personal delivery, registered or certified mail (in each case, return receipt requested and postage prepaid), or nationally recognized overnight courier (with all fees prepaid).

14.2 Each party giving a Notice shall address the Notice to the receiving party at the address listed below or to another address designated by a party in a Notice pursuant to this Section:

County: Fort Bend County Engineering Department  
Attn: County Engineer  
301 Jackson Street  
Richmond, Texas 77469

With a copy to: Fort Bend County  
Attn: County Judge  
401 Jackson Street, 1<sup>st</sup> Floor  
Richmond, Texas 77469

Contractor: AIG Technical Services, LLC  
1500 South Dairy Ashford Road, Suite 445  
Houston, Texas 77077

14.3 A Notice is effective only if the party giving or making the Notice has complied with subsections 14.1 and 14.2 and if the addressee has received the Notice. A Notice is deemed received as follows:

14.3.1 If the Notice is delivered in person, or sent by registered or certified mail or a nationally recognized overnight courier, upon receipt as indicated by the date on the signed receipt.

14.3.2 If the addressee rejects or otherwise refuses to accept the Notice, or if the Notice cannot be delivered because of a change in address for which no Notice was given, then upon the rejection, refusal, or inability to deliver.

**Section 15. Compliance with Laws**

Contractor shall comply with all federal, state, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative bodies or tribunals in any matter affecting the performance of this Agreement, including, without limitation, Worker’s Compensation laws, minimum and maximum salary and wage statutes and regulations, licensing laws and regulations. When required by County, Contractor shall furnish County with certification of compliance with said laws, statutes, ordinances, rules, regulations, orders, and decrees above specified.

**Section 16. Standard of Care**

Contractor represents shall perform the Services to be provided under this Agreement with the professional skill and care ordinarily provided by competent engineers practicing under the same or similar circumstances and professional license. Further, Contractor shall perform the Services as expeditiously as is prudent considering the ordinary professional skill and care of a competent engineer.

**Section 17. Assignment**

17.1 Neither party may assign any of its rights under this Agreement, except with the prior written consent of the other party. That party shall not unreasonably withhold its consent. All assignments of rights are prohibited under this subsection, whether they are voluntarily or involuntarily, by merger, consolidation, dissolution, operation of law, or any other manner.

17.2 Neither party may delegate any performance under this Agreement.

17.3 Any purported assignment of rights or delegation of performance in violation of this Section is void.

**Section 18. Applicable Law**

The laws of the State of Texas govern all disputes arising out of or relating to this Agreement. The parties hereto acknowledge that venue is proper in Fort Bend County, Texas, for all legal actions or proceedings arising out of or relating to this Agreement and waive the right to sue or be sued elsewhere. Nothing in the Agreement shall be construed to waive the County's sovereign immunity.

**Section 19. Successors and Assigns**

County and Contractor bind themselves and their successors, executors, administrators and assigns to the other party of this Agreement and to the successors, executors, administrators and assigns of the other party, in respect to all covenants of this Agreement.

**Section 20. Third Party Beneficiaries**

This Agreement does not confer any enforceable rights or remedies upon any person other than the parties.

**Section 21. Severability**

If any provision of this Agreement is determined to be invalid, illegal, or unenforceable, the remaining provisions remain in full force, if the essential terms and conditions of this Agreement for each party remain valid, binding, and enforceable.

**Section 22. Publicity**

Contact with citizens of Fort Bend County, media outlets, or governmental agencies shall be the sole responsibility of County. Under no circumstances whatsoever, shall Contractor release any material or information developed or received in the performance of the Services hereunder without the express written permission of County, except where required to do so by law.

**Section 23. Captions**

The section captions used in this Agreement are for convenience of reference only and do not affect the interpretation or construction of this Agreement.

**Section 24. Conflict**

In the event there is a conflict between this Agreement and the attached exhibits, this Agreement controls.

**Section 25. Certain State Law Requirements for Contracts**

25.1 Agreement to Not Boycott Israel Chapter 2271 Texas Government Code: By signature below, Contractor verifies that if Contractor employs ten (10) or more full-time employees and this Agreement has a value of \$100,000 or more, Contractor does not boycott Israel and will not boycott Israel during the term of this Agreement.

25.2 Texas Government Code Section 2251.152 Acknowledgment: By signature below, Contractor represents pursuant to Section 2252.152 of the Texas Government Code, that Contractor is not listed on the website of the Comptroller of the State of Texas concerning the listing of companies that are identified under Section 806.051, Section 807.051 or Section 2253.153.

**Section 26. Human Trafficking**

BY ACCEPTANCE OF AGREEMENT, CONTRACTOR ACKNOWLEDGES THAT THE COUNTY IS OPPOSED TO HUMAN TRAFFICKING AND THAT NO COUNTY FUNDS WILL BE USED IN SUPPORT OF SERVICES OR ACTIVITIES THAT VIOLATE HUMAN TRAFFICKING LAWS.

[THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK.]

IN WITNESS WHEREOF, the parties hereto have signed or have caused their respective names to be signed to multiple counterparts to be effective on the date signed by the last party hereto.

FORT BEND COUNTY

AIG Technical Services, LLC

\_\_\_\_\_  
KP George, County Judge

\_\_\_\_\_  
Authorized Agent – Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Authorized Agent – Printed Name

ATTEST:

\_\_\_\_\_  
Title

\_\_\_\_\_  
Laura Richard, County Clerk

\_\_\_\_\_  
Date

APPROVED:

\_\_\_\_\_  
J. Stacy Slawinski, P.E., County Engineer

**AUDITOR'S CERTIFICATE**

I hereby certify that funds are available in the amount of \$\_\_\_\_\_ to accomplish and pay the obligation of Fort Bend County under this contract.

\_\_\_\_\_  
Robert Ed Sturdivant, County Auditor

# EXHIBIT A

August 9, 2021

Mr. Kevin Mineo, P.E.  
Sr. Project Manager  
Binkley & Barfield, Inc.  
1710 Seamist Dr., Houston TX 77008

**RE:** Proposal for Professional Engineering Services  
Evergreen Street Segment 2: From 100 ft West of Mustang Bayou to FM 521  
Precinct 1  
Fort Bend County

Dear Mr. Mineo:

AIG Technical Services, LLC (AIG Tech), is pleased to submit our proposal for Professional Services to develop Plans, Specifications and Estimates (PS&E) for the above referenced project. This proposal is based upon our project understanding and the terms and conditions of the Fort Bend County Standard Professional Services Agreement.

**PROJECT UNDERSTANDING:**

**Project Assignment**

The Design assignment will involve preparing Plans, Specifications and Estimates (PS&E) for a single contract for the complete reconstruction and widening of Evergreen Street – Phase 2, from 100' west of the Mustang Bayou bridge crossing to the intersection with FM 521 and the at-grade crossing of the Union Pacific Railroad tracks. This section of Evergreen Street is approximately 5,730 linear feet long consisting of a two-lane asphalt pavement with roadside ditches, including two bridge crossings. The plan is to widen to a 3-lane asphalt roadway cross section (two 12-ft traffic lanes with 6-ft outside shoulders) with improved roadside ditches, including two new bridges requiring land acquisition to accommodate the improvements by increasing the street right-of-way from 60 feet to a uniform width of 80 feet. The work includes control, design and metes and bounds surveys as well as coordination with adjacent designers, representatives for Fresno TX (City of Houston ETJ), the Union Pacific Railroad, and the Texas Department of Transportation (TxDOT) Houston District. The project does appear to be located within the 100-year or 500-year floodplains based on the current published FEMA map: 48157C0315L revised 04/02/2014. As per BBI direction, this proposal includes the price to relocate the existing watermain and service connections to private property.

AIG Tech will adhere to the Fort Bend County Drainage District requirements, including providing a drainage impact analysis letter report and a practical drainage detention mitigation design will be prepared and included with the Preliminary Engineering Report.

A geotechnical report will be prepared in accordance with the current Fort Bend County Engineering Department Engineering Design Manual (EDM), dated May 2021 Draft.

It is our understanding that any required environmental services will be provided by Fort Bend County via an independent consultant, not included in this proposal. A stormwater pollution prevention report is not included in this proposal.

AIG Tech shall initiate coordination with UPRR and TxDOT once BBI and Fort Bend County consider opportune and prepare the necessary exhibits to facilitate the permitting process. It is understood that the TxDOT FM 521 project is underway.

### **Introduction of the AIG Team**

AIG Technical is the lead firm. Serving as your single point of contact will be Abraham Rebollar, P.E. Project Manager focused on roadway, bridge hydraulics, and drainage design aspects of the project as well as coordination, quality control, schedule, and team compliance with Fort Bend County Design and Construction standards.

Landtech, Inc. (Landtech) will provide control, design, and right of way survey services, including preparing metes and bounds surveys and parcel mapping for appraisals and land acquisition by others.

Terracon will provide geotechnical engineering services.

iGET Services LLC (iGET) will provide bridge structural and hydraulic design services for the Mustang Bayou and American Canal Bridges.

### **Management Structure**

AIG Technical understands Binkley & Barfield, Inc. will serve as Program Manager; and, as an extension of Fort Bend County Engineering Department and will continue as our single point of contact with the county through the duration of the design phase of this project.

### **SCOPE OF BASIC SERVICES:**

Basic services will generally follow the design process outlined in the Fort Bend County Engineering Department EDM, dated May 2021 Draft.

### **Preliminary Design Phase**

AIG Tech will prepare the design to a 30% level of completion, based on updated topographic surveys. The 30% milestone will include a Preliminary Engineering Report (PER) documenting the analysis of up to three (3) alternate roadway options leading to a preferred design. Also included will be findings and recommendations for the final design phase, a roadway schematic roll plot, bridge layouts, drainage impact analysis, detention recommendations and drainage report, ROW acquisition needs, identification of potential utility conflicts, preliminary construction cost estimate, and geotechnical report. AIG Tech will attend progress meetings with BBI.

### **Roadway**

AIG Tech shall develop up to three (3) roadway alignment options at plan view level and recommend a preferred alternative based on geometry, utility, and environmental constraints. Roadway design shall

comply with the latest edition of the AASHTO “Geometric Design of Highways and Streets”. AIG shall advance the preferred alternative, identify ROW requirements, develop a preliminary roadway profile, and construction phase traffic control plan (for preferred alternative only), in accordance with the Fort Bend County Engineering Department EDM May 2021 Draft.

As part of the 30% drawing submittal, AIG Tech shall provide preliminary typical sections, plan sheets, as well as identifying the total footprint of the proposed project.

### **Bridge**

During the initial phase of work, layouts of bridges over Mustang Bayou and American Canal will be developed in accordance with the Fort Bend County Engineering Department EDM May 2021 Draft. Both bridges are to be designed to a minimum of HL-93 loading. Design details shall be prepared in accordance with Texas Department of Transportation’s “Bridge Design Manual – LRFD”, latest edition. See attached proposal by iGET for additional details.

### **Utilities**

The team shall research and obtain record documents for all known existing utilities within the road ROW. AIG Tech will prepare and maintain utility log through the Final Design phase. AIG Tech will establish contact with utility companies and provide plan set roadway drawings to the applicable utility companies for their use in developing any utility adjustment plans. It is understood that AIG Tech will identify major utilities and coordinate directly with utility companies; BBI will assist in facilitating utility adjustment process during the construction phase as required to verify the utilities are relocated. AIG Tech to provide utility relocation plan review once plans are finalized by the utility entities.

### **Metes and Bounds Right of Way Taking Mapping**

Per Fort Bend County Engineering Department EDM May 2021 Draft, Unrestricted Visibility Easements (UVEs) should not be acquired as separate easements, but instead included in the proposed right-of-way acquisition. Parcel Plats and Metes and Bounds for UVEs are not included in this proposal. The following surveying services are included in this proposal and further described in the attached proposal from Landtech:

- Vertical and Horizontal Control
- Topographic Survey and Mapping
- Parcel Plat and Metes and Bounds Mapping for Land Acquisitions

### **Geotechnical**

The work involves field and laboratory investigations, testing, and analysis, including producing a project geotechnical report in accordance with the Fort Bend County Engineering Department EDM May 2021 draft guidelines. The geotechnical report will include a description of subsurface conditions, groundwater information, boring logs, and pavement recommendations in typical FBCED format. Boring

logs will become part of the final PS&E package for the construction contractor's use. See attached proposal by Terracon for additional details.

### **Final Design Phase**

Based on FBC concurrence of PER, AIG Tech will proceed with completing the PS&E, including for 70%, 95%, and 100% submittals to BBI. AIG Tech will address comments presented in the Preliminary Design Phase review meeting and provide responses to 70% and 95% BBI review comments. Per the Fort Bend County Engineering Department EDM May 2021 Draft, 70% and 95% submittals shall include cover sheet, typical and non-standard cross-sections, overall project layout, survey control map, drainage area map with hydraulic calculations, plan and profile sheets, traffic control plan, storm water pollution prevention plan, cross sections at 100' intervals, specification table of contents, and bid form with estimated unit and total costs. A digital copy (Adobe Acrobat format, PDF) at each design milestone will be submitted for BBI's review in 11"x17" sheets including the drawings, cross sections at 100-foot intervals, Specifications Table of Contents (AIG to use Harris County Specifications - TxDOT Specifications to be used as necessary depending on FBC guidance), Construction Cost Estimate (PDF and Excel format), Bid Form (PDF and Excel format), KMZ file, and Review Checklists.

In addition to the 70% requirements, the 95% submittal shall also include general notes sheet, signage and pavement marking plans, verification of earthwork quantities, with cross sections at 100-foot intervals, standard construction details, project manual, responses to 70% comments and 95% Review Checklist.

The 100% submittal shall consist of one sealed and signed set of drawings, along with a PDF submittal of the drawings, specifications, and estimate and shall be provided to BBI.

AIG Tech will provide monthly progress reports per BBI requirements.

### **Utilities**

AIG Tech will identify all known existing utilities on the plan and utilities larger than 4" diameter in profiles. AIG Tech will coordinate with BBI's utility coordinator for the project and identify conflicts between the proposed improvements and the existing utilities. AIG Tech to submit each milestone submittal to utility companies that are identified to be in conflict.

One watermain and new service connections adjustment plans are included as part of this proposal.

### **Drainage**

AIG Tech will meet with and incorporate the Fort Bend County Drainage District requirements into preparation of the PS&E package. The drainage analysis will follow the effective Fort Bend County Interim Atlas 14 Design Criteria Manual per Fort Bend County Drainage District. Based on scoping discussions with the drainage district, it is understood that a simplified method will be conducted for the drainage model and Atlas 14 rain data will be compared to the model to acquire the necessary detention for the proposed roadway.



The project does appear to be in the 100-year, or 500-year floodplains based on the current published FEMA maps: 48157C0135L revised 04/02/2014. A FEMA submittal for the project is not included in this proposal. Providing or obtaining a “no impact letter” is not part of this proposal.

AIG Tech shall provide Storm Water Pollution Prevention Plan and details.

**Traffic**

AIG Tech will prepare the construction phase traffic control plans to accommodate the existing traffic during the construction of the proposed road improvements. Based on existing conditions and scoping discussions with BBI, no traffic signal design services are included as part of this proposal. Based on scoping information received, no proposed sidewalk is to be included in the project.

**Railroad and TxDOT Coordination**

AIG Tech to coordinate and provide exhibits and design plan documents to adjacent project consultant team should the Exhibit “A” and permitting process has been initiated with UPRR.

**Fort Bend County Support**

Fort Bend County is expected to provide, but not limited to, the following data:

1. As-builts & Right-of-Way maps
2. Pertinent engineering studies
3. Available drainage data and stream crossing FEMA models
4. Environmental constraint map (i.e., Wetlands)
5. Design and construction standards and details

**Additional Services**

AIG Tech *will not* provide Bid and Construction phase services (review shop drawings and RFI(s)) as part of this proposal.

**COMPENSATION**

Except for mapping and parcel acquisition, the preliminary and final design efforts will be a lump-sum contract fee to be billed monthly based on a Schedule of Value basis and percent complete basis by work task.

A level of effort estimate is enclosed based on the scope of work described herein. The Lump-Sum Fee amount, including subconsultants, reimbursable expenses, and ROW mapping and parcel acquisition is \$ 809,498.78.

<b>FEE SUMMARY</b>					
	<b>AIG TECH</b>	<b>TERRACON</b>	<b>LANDTECH</b>	<b>IGET</b>	<b>TOTAL FEE</b>
<b>ENGINEERING FEE - PHASE I AND II</b>	\$ 380,793.60	\$ 45,000.00	\$ 83,206.05	\$ 175,920.00	\$ 684,919.65
<b>PROPOSED ROW SURVEY &amp; MAPPING &amp; PARCEL ACQUISITION</b>			\$ 124,579.13		\$ 124,579.13
<b>TOTAL</b>	<b>\$ 380,793.60</b>	<b>\$ 45,000.00</b>	<b>\$ 207,785.18</b>	<b>\$ 175,920.00</b>	<b>\$ 809,498.78</b>

## **SCHEDULE**

AIG Tech anticipates the project will follow the following timeline schedule:

- a) Contract execution and NTP by end of August 2021
- b) Survey to be provided by November 2021
- c) PER submittal by December 2021 (based on LiDAR)
- d) Preliminary Parcel roll plot by December 2021
- e) 70% milestone submittal July 2022, including preliminary metes and bounds parcel mapping
- f) 95% milestone submittal October 2022
- g) Final submittal November 2022
- h) Final metes and bounds parcel mapping March 2022; Begin ROW acquisition
- i) Utility adjustment/relocation beginning July 2022
- j) Complete ROW acquisition June 2023

A detailed project design schedule has been prepared and is included as Attachment A.

## **ATTACHMENTS**

**Attachment A – AIG Technical Services, LLC’s Proposal Fee**

**Attachment B – Project Anticipated Design Schedule**

**Attachment C – iGET Services LLC’s Bridge and H&H Impact Assessment Services Proposal**

**Attachment D – Landtech, Inc.’s Surveying Services Proposal**

**Attachment E – Terracon’s Geotechnical Services Proposal**

Thank you and Regard’s,



**Gabriel Y. Johnson**

*Principal*

**AIG Technical Service, LLC**

[Gabe.Johnson@AIGtechnical.com](mailto:Gabe.Johnson@AIGtechnical.com)

Cell: 832.875.5923



## **Attachment A**

### **AIG Technical Services, LLC's Proposal Fee**



<b>FINAL DESIGN - CONSTRUCTION PLANS (70%, 95% &amp; FINAL)</b>														
Cover Sheet	0.5	0.5												
Index of Sheets		0.5		0.5	2			4				4		9
General Notes	2	1		4	4			8				8		15
Survey Control Sheets	1	1	1	1	4			8				4		20
Existing Typical Sections	1	0.5		2	4			4				4		6
Proposed Typical Sections	2	1		1	4			4				4		11.5
Removal (Demolition) Plans	2	2		8	2			12				12		18
Roadway/Drainage Plan & Profile (1"=40' Scale 11"x17") Sheets)					16			16				36		80
Evergreen Street	16	16		16	36			64				80		296
Cross Streets (3 Cross Streets)	4	4		8	12			12				12		74
Driveway Profile Table (32 Driveways)	2	2		8	20			12				34		107
Roadway Details (Intersection Grading Sheets)	1	1		2	4			4				8		20
Typical Roadway Details & Standards	1	1		4	6			6				12		30
Miscellaneous Drainage and Ditch Details	1	1		4				4				16		50
Drainage Area Maps	1	1		3				20				28		42
Culvert Layouts (2 Culverts)	2	2		4				24				8		66
Traffic Control Plans														
Phasing Layout with General Notes	1	1		4	8			8				8		30
Typical Construction Cross-sections	2	1		4	8			8				8		32
Advanced Warning Signs Layouts	1	2		4	12			8				8		35
Phase One Layouts (1"=50' scale)	4	4		12	16			20				40		97
Phase Two Layouts (1"=50' scale)	4	4		12	16			20				40		97
TCP Standards & Details	1	1		4	6			8				10		30
Storm Water Pollution Prevention Plans (1"=50' Scale)	2	4		8	16			24				24		78
Storm Water Pollution Prevention Plan Details	1	1		2	4			4				4		16
Signing and Pavement Marking Plans (1"=50' Scale)	4	4		8	16			24				4		80
Pavement Marking Details	1	1		8	16			24				4		46
Waterline Relocation Plan & Profiles (1"=40' Scale)	2	2		8	16			28				36		109
Waterline Details	1	1		4	4			6				4		26
Bridge Layouts (Plan & Profile at 1"=40' Scale) - 2 Bridges														0
Construction Cost Estimate (70%, 95% & Final)	4	4		6	12			12				8		48
Project Manual (Bid Form, Specs TOC, Special Specs)	4	4		8	16									46
HOURS SUB-TOTALS	138.5	109.5		183.5	306			266				4.30		2010.5
CONTRACT RATE PER HOUR (INCLUDE AVG HOURLY RATE OVERHEAD AND FF)	\$75.00	\$75.00		\$72.00	\$64.00			\$56.00				\$54.00		\$42.00
TOTAL LABOR COSTS	\$10,387.50	\$8,212.50		\$13,212.00	\$19,584.00			\$14,896.00				\$23,220.00		\$1,232.00
<b>SUBTOTAL - PHASE II</b>														<b>\$115,876.00</b>

<b>Prime Summary - AIG Technical Services, LLC.</b>	
PHASE I - PRELIMINARY DESIGN PHASE (PER)	\$42,788.00
PHASE II - FINAL DESIGN PHASE	\$115,876.00
TOTAL COSTS FOR PRIME ONLY	
NON-SALARY (OTHER DIRECT EXPENSES) FOR PRIME ONLY	\$0.00
RATE MULTIPLIER + PROFIT	2.40
<b>GRAND TOTAL</b>	<b>\$380,793.60</b>

<b>Bridge Design And H&amp;H Impact Assessment Services - iGET Services, LLC.</b>	
Design Phase Services	\$136,580.00
ADDITIONAL SERVICES - H&H IMPACT ASSESSMENTS	\$39,340.00
<b>Total</b>	<b>\$175,920.00</b>

<b>Survey - LandTech, Inc.</b>	
1. Control Surveying (Lump Sum)	\$14,591.99
2. Topographic Surveying and Mapping (Lump Sum)	\$58,843.26
3. 1./3.2. Proposed ROW Surveying & Mapping (Lump Sum)	\$27,255.08
3.3. Proposed Acquisition Parcels (Lump Sum Per Parcel) Anticipated)	\$97,324.05
4. Optional Additional Services – ROW Staking	\$9,770.80
<b>Total</b>	<b>\$207,785.18</b>

<b>Geotechnical Services - Terracon</b>	
Subsurface Exploration, Laboratory Testing, Geotechnical Consulting and Reporting. *	\$31,000.00
Traffic Control (5 days)	\$14,000.00
<b>Total</b>	<b>\$45,000.00</b>

\* This cost assumes that our scope associated with roadway and detention pond will be completed concurrently, and that one geotechnical engineering report will be submitted. As stated previously, we request the opportunity to review and revise our scope based on the actual size and depth of the detention pond, if needed.

<b>Total Professional Services Budget</b>	<b>\$684,919.65</b>
<b>Proposed ROW Survey &amp; Mapping and Parcel Acquisition</b>	<b>\$124,579.13</b>

## **Attachment B**

### **Project Anticipated Design Schedule**

Attachment B  
Anticipated Design Schedule  
FBC Evergreen Street Segment 2

ID	Task Name	Duration	Start	Finish
1	Contract Execution and NTP	0 days	Tue 8/24/21	Tue 8/24/21
2	Project Kick-off Meeting	0 days	Thu 9/9/21	Thu 9/9/21
3	<b>Data Collection</b>	<b>70 days?</b>	<b>Mon 8/30/21</b>	<b>Fri 12/3/21</b>
4	Survey (Existing ROW map)	30 days?	Mon 8/30/21	Fri 10/8/21
5	Survey (Topo Survey)	60 days	Mon 8/30/21	Fri 11/19/21
6	Geotechnical Investigation	70 days?	Mon 8/30/21	Fri 12/3/21
7	Review Geotechnical Report	15 days	Mon 8/30/21	Fri 9/17/21
8	<b>Preliminary Design Phase</b>	<b>90 days?</b>	<b>Mon 10/11/21</b>	<b>Fri 2/11/22</b>
9	Preliminary Engineering Report (PER)	60 days	Mon 10/11/21	Fri 12/31/21
10	Drainage Study	40 days?	Tue 10/26/21	Mon 12/20/21
11	Drainage Detention Pond Location Selection and Design	40 days?	Tue 10/26/21	Mon 12/20/21
12	Review PER	15 days?	Mon 1/3/22	Fri 1/21/22
13	PER Review with County	0 days	Mon 1/24/22	Mon 1/24/22
14	Final PER	14 days	Tue 1/25/22	Fri 2/11/22
15	<b>Final Design Phase</b>	<b>350 days?</b>	<b>Mon 2/14/22</b>	<b>Fri 6/16/23</b>
16	Survey - Preliminary ROW and Survey Control Map	20 days	Mon 2/14/22	Fri 3/11/22
17	Survey - Approved ROW and Survey Control Map	0 days	Mon 4/11/22	Mon 4/11/22
18	ROW Acquisitions (By Others)	310 days	Mon 4/11/22	Fri 6/16/23
19	Utility Coordination	241 days	Mon 2/14/22	Mon 1/16/23
20	Utility Relocation	235 days	Mon 7/25/22	Fri 6/16/23
21	70% Plan Development	105 days	Mon 2/14/22	Fri 7/8/22
22	QA/QC	9 days	Mon 7/11/22	Thu 7/21/22
23	70% Submittal	0 days	Fri 7/22/22	Fri 7/22/22
24	County/BBI Review Period - 70%	25 days	Mon 7/25/22	Fri 8/26/22
25	City/TXDOT Review Period - 70%	20 days?	Mon 7/25/22	Fri 8/19/22
26	95% Plan Development	25 days	Mon 8/22/22	Fri 9/23/22
27	QA/QC	10 days	Mon 9/26/22	Fri 10/7/22
28	95% Submittal	0 days	Fri 10/7/22	Fri 10/7/22
29	County/BBI Review Period - 95%	15 days	Mon 10/10/22	Fri 10/28/22
30	City/TXDOT Review Period - 95%	20 days?	Mon 10/10/22	Fri 11/4/22
31	100% Plan Development	20 days	Mon 11/7/22	Fri 12/2/22
32	QA/QC	10 days	Mon 12/5/22	Fri 12/16/22
33	100% Submittal (Drawings, Specifications & Estimate)	0 days	Mon 12/19/22	Mon 12/19/22
34	County/BBI Review Period - 100%	15 days?	Tue 12/20/22	Mon 1/9/23
35	City/TXDOT Review Period - 100%	20 days?	Tue 12/20/22	Mon 1/16/23
36	<b>Project Management</b>	<b>365 days</b>	<b>Tue 8/24/21</b>	<b>Mon 1/16/23</b>
37	Project Management	365 days	Tue 8/24/21	Mon 1/16/23

Project: 20123x FBC Evergreen St. Schedule  
Date: Fri 8/6/21

Task Split Milestone

Summary Project Summary Inactive Task

Inactive Milestone Inactive Summary Manual Task

Duration-only Manual Summary Manual Summary

Start-only Finish-only External Tasks

External Milestone Deadline Progress

Manual Progress

## **Attachment C**

### **iGET Services LLC's Bridge and H&H Impact Assessment Services Proposal**



August 09, 2021

Ref: iGET-21-1-AIG-RevD

Mr. Abraham Rebollar, P.E.  
AIG Technical LLC  
1500 S Dairy Ashford, Suite 445  
Houston, Texas 77077

Re: Proposal for Professional Engineering Services for the Design of two 4-lane Bridges from the Fort Bend County Mobility Bond Program - 201XX Evergreen Seg 2 (East)

Dear Abraham:

In response to AIG Technical LLC's request to prepare plans for the structural design and H&H impact assessments for the two of the 4-lane concrete bridges on the Evergreen Street, iGET Services LLC ("iGET") is pleased to submit this proposal to provide professional engineering services for the referenced project. The subject bridges are a part of the Evergreen St. Improvement project, from the Fort Bend County Mobility Bond Program. This proposal is in accordance with the scoping meeting held with AIG Technical on July 7, 2021, subsequent communications on July 8<sup>th</sup>, July 13<sup>th</sup> and August 4<sup>th</sup>.

### **Basic Services**

- iGET will evaluate the field conditions of the creek and the situation of the existing bridges and provide optimal engineering approaches and create construction plan sets for the proposed bridges. The design of the proposed bridges will match the latest TXDOT Standards, and the Fort Bend County's latest specifications and standard drawings.
- The work scope for this project includes: (1) design of a 4-lane concrete bridge on the Evergreen St at the Mustang Bayou Crossing, where the creek is about 100 ft. wide from high-bank to high-bank, (2) design of a 4-lane concrete bridge on the Evergreen St at the GCWA channel crossing, where the creek is about 60 ft. wide from high-bank to high-bank
- At the crossing, Mustang Bayou has a floodway of about 450 ft wide, and a BFE at 70.1 ft, which is about 1 ft above the existing road elevation of 69 ft. The proposed bridge deck at the Mustang Bayou crossing is likely to be at a higher elevation than the existing roadway. The bridge's low chord may be set at the BFE or above, or the bridge may be designed to take lateral forces, allowing it to submerge during an extreme event.
- From our discussions with AIG Technical, a proposed Bridge length of 100 ft, and a width of 60 ft will be baselined for the Mustang Bayou Crossing. The baseline length of the proposed bridge will be less than the width of the floodway. As such, the floodway

obstruction at the approach roads on either side of the bridge might warrant additional design features for restoring pre-development hydraulic conditions. Based on the AJD's recommendations, should the bridge length be increased to more than 120 ft, supplemental engineering effort by iGET will become necessary, which is not covered in this cost proposal. Such a delta fee will be authorized by the Prime consultant AIG Technical as a separate line item.

- It appears that the Evergreen St. pavement elevation at GCWA crossing is about 1 ft above the BFE. As such the H&H effort will be limited to the normal bridge hydraulics. The proposed bridge at the GCWA channel crossing is expected to be 60 ft long, 60 ft wide, and be at a slightly higher elevation than the existing roadway.
- Proposed Plans to be provided by iGET shall include:
  - Basis of Estimate (List of Materials)
  - Existing Layout and Demolition Plans
    - Incorporation of County Record information
    - Incorporation of new survey information
  - Proposed Bridge Layout, including:
    - Typical sections
    - Bridge abutment structural details
    - Cement stabilized abutment backfill
    - I-Girder or Beam-slab structural details
    - I-Girder or Beam-slab design for non-standard spans
    - Pier and bent structural details
    - Bridge approach slab structural details
    - Foundation structural details
    - Railing details
    - Pavement marking details
    - Delineator and object marker installation
    - Bridge lighting details
    - Sealed joints
    - Standard details
    - General Notes for construction
  - Proposed Bridge Elevation Modification
  - County Bridge Standards
- iGET will coordinate with AIG Technical for developing a schedule for the Bridge design of this project.
- iGET will work with AIG Technical to discuss proposed concepts prior to the development of the plan sets.
- iGET will perform scouring analysis.



## Compensation

Compensation is noted on the attached cost basis Excel sheets as Appendix A and Appendix B and will be on lump sum basis as shown below:

- (i) For the bridge on Mustang bayou, a lump sum fee of **\$114,940.00**
- (ii) For the bridge on GCWA channel, a lump sum fee of **\$60,980.00**

A screenshot of the FEMA Flood Map is attached as Appendix C for a visual exhibit of the locations of the bridge crossings.

Please contact me at (832) 858-3982 or, via email at [drsatyapilla@igetsservices.com](mailto:drsatyapilla@igetsservices.com) if you have any questions or require additional information.

We thank you for the opportunity to team with you, and look forward to working with you and provide our best on this important project.

Sincerely,

A handwritten signature in blue ink that reads 'S. Pilla'.

Dr. Satya Pilla, P.E., PMP, ENV SP

Principal

**iGET Services LLC**

# APPENDIX A

Fort Bend County Mobility Bond Program 2020								
4-lane Bridge on Evergreen St at Mustang Bayou Crossing, Fresno, TX - Fort Bend County								
Engineerin Fee - Basis of Estimate								
Prime Consultant: AIG Technical LLC					Width of Floodway: 450 ft			
Bridge Design SubConsultant: iGET Services LLC					Bridge Length: 100 ft			
					Bridge Width: 60 ft			
FUNCTION CODE / TASK DESCRIPTION	No. of sheets	Principal	Project Manager	Engineer- in- Training	QA/QC Engineer	Senior CADD Operator	Clerical/ Admin	Total
Burdened Rate		\$ 230.00	\$ 200.00	\$ 120.00	\$ 180.00	\$ 100.00	\$ 55.00	
Design Phase Services								
<b>Bridge Layout</b>		6	36	36	8	48	12	\$ 19,800.00
General Notes & Design Criteria	2							
Bridge Layout and Profile	1							
Bridge Typical Section	1							
Quantities & Bearing Seat Elevations								
Preliminary Design Calcs								
<b>Bridge Detailed Design</b>		16	64	120	16	120	12	\$ 46,420.00
Bridge Foundation Layout	1							
Bridge Foundation Details	2							
Bridge Framing Plan	1							
Bridge Abutments	2							
Bridge Abutment Details	2							
Bridge Pier and Bent Details	3							
Prestresses Beam Slab Details	3							
Beam-Slab End Details	3							
Misc Deck Details	2							
Approach Slab	1							
Railings, Flex Beam Guardrails	2							
Sealed Expansion Joints	1							
Elastometric Bearing and End Details	1							
Erection and Bracing Details	2							
Delineator & Object Marker	1							
Bridge Lighting Details	1							
Bridge Plaque	1							
Slope Protection	1							
Scouring Protection Design	1							
Engineering Calcs, Reports								
<b>Project Coordination</b>		16	40	40		16	12	\$ 18,740.00
<b>SUBTOTAL</b>								<b>\$ 84,960.00</b>
CPS								
<b>Bidding Phase</b>								\$ -
<b>Construction Phase</b>								\$ -
<b>SUBTOTAL</b>								<b>\$ -</b>
ADDITIONAL SERVICES - H&H IMPACT ASSESSMENTS								
<b>Hydrology, Bridge Hydraulics, HEC-RAS Modeling, Mitigation</b>		18	42	54	6	12	0	\$ 21,300.00
<b>Coordination Meetings and AJD Approvals</b>		4	16	24	6	6	0	\$ 8,680.00
<b>SUBTOTAL</b>								<b>\$ 29,980.00</b>
Total Sheets/Labor Hours/Tasks	35	60	198	274	36	202	36	
Burdened Rate		\$ 230.00	\$ 200.00	\$ 120.00	\$ 180.00	\$ 100.00	\$ 55.00	
<b>4-lane Bridge Design &amp; Fees</b>		<b>\$ 13,800.00</b>	<b>\$ 39,600.00</b>	<b>\$ 32,880.00</b>	<b>\$ 6,480.00</b>	<b>\$ 20,200.00</b>	<b>\$ 1,980.00</b>	<b>\$ 114,940.00</b>

Fort Bend County Mobility Bond Program 2020								
4-lane Bridge on Evergreen St at GCWA Channel Crossing, Fresno, TX - Fort Bend County								
Engineerin Fee - Basis of Estimate								
Prime Consultant: AIG Technical LLC Bridge Design SubConsultant: iGET Services LLC					Width of Floodway: NA Bridge Length: 60 ft Bridge Width: 60 ft			
FUNCTION CODE / TASK DESCRIPTION	No. of sheets	Principal	Project Manager	Engineer- in- Training	QA/QC Engineer	Senior CADD Operator	Clerical/ Admin	Total
Burdened Rate		\$ 230.00	\$ 200.00	\$ 120.00	\$ 180.00	\$ 100.00	\$ 55.00	
<b>Design Phase Services</b>								
<b>Bridge Layout</b>		4	16	16	8	28	8	\$ 10,720.00
General Notes & Design Criteria	2							
Bridge Layout and Profile	1							
Bridge Typical Section	1							
Quantities & Bearing Seat Elevations								
Preliminary Design Calcs								
<b>Bridge Detailed Design</b>		8	52	68	12	68	8	\$ 29,800.00
Bridge Foundation Layout	1							
Bridge Foundation Details	2							
Bridge Framing Plan	1							
Bridge Abutments	2							
Bridge Abutment Details	2							
Prestresses Beam Slab Details	3							
Beam-Slab End Details	3							
Misc Deck Details	2							
Approach Slab	1							
Railings, Flex Beam Guardrails	2							
Sealed Expansion Joints	1							
Elastometric Bearing and End Details	1							
Erection and Bracing Details	2							
Delineator & Object Marker	1							
Bridge Lighting Details	1							
Bridge Plaque	1							
Scouring Protection Design	1							
Engineering Calcs, Reports								
<b>Project Coordination</b>		8	20	20	8	12	4	\$ 11,100.00
<b>SUBTOTAL</b>								<b>\$ 51,620.00</b>
<b>CPS</b>								
<b>Bidding Phase</b>								\$ -
<b>Construction Phase</b>								\$ -
<b>SUBTOTAL</b>								<b>\$ -</b>
<b>ADDITIONAL SERVICES - H&amp;H IMPACT ASSESSMENTS</b>								
<b>Hydrology, Bridge Hydraulics, HEC-RAS Modeling, Mitigation</b>		2	8	20	4	4	0	\$ 5,580.00
<b>Coordination Meetings and AJD Approvals</b>		2	8	8	2	4		\$ 3,780.00
<b>SUBTOTAL</b>								<b>\$ 9,360.00</b>
Total Sheets/Labor Hours/Tasks	31	24	104	132	34	116	20	
Burdened Labor Rate		\$ 230.00	\$ 200.00	\$ 120.00	\$ 180.00	\$ 100.00	\$ 55.00	
<b>4-lane Bridge Design Fees</b>		\$ 5,520.00	\$ 20,800.00	\$ 15,840.00	\$ 6,120.00	\$ 11,600.00	\$ 1,100.00	<b>\$ 60,980.00</b>



## **Attachment D**

### **Landtech, Inc.'s Surveying Services Proposal**

August 5, 2021

Mr. Abraham Rebollar, P.E.  
Project Engineer  
AIG Technical  
1500 S. Dairy Ashford Suite 445  
Houston, Texas 77077

RE: Proposal to Provide Professional Surveying Services – Fort Bend County Pct. 1  
201XX - Evergreen Segment 2 (East) from 100 Feet West of Mustang Bayou to FM 521  
Topographic and Right-of-Way Surveying

Dear Mr. Rebollar:

It is my pleasure to submit the following proposal for providing professional surveying services for the above referenced project. The route is along Evergreen Street from 100 feet west of Mustang Bayou to FM 521 (5,730 linear feet). Intersecting roads will also be surveyed in both directions as follows:

Nail Road	175' from CL Evergreen	350 l.f.
Kentucky Road	175' from CL Evergreen	350 l.f.
FM 521	175' from CL Evergreen	<u>350 l.f.</u>
Total		1,050 l.f.

The Surveying Services will be performed in accordance with Chapters 6 and 7 of the August 2020 Draft version of the Fort Bend County Engineering Department Engineering Design Manual (Design Manual):

1. Perform Control Surveys and Prepare Signed and Sealed Survey Control Maps:
  - 1.1. Project Control will be established in compliance with the Design Manual. Prior to use, the project horizontal and vertical datum will be approved by the Project Design Consultant. Control points will be spaced at a maximum of 1,000 feet through the project limits.
  - 1.2. Stake the project baseline alignment in field at all PCs, PTs, PIs, and 1,000-foot stations. The baseline alignment will be provided to Landtech by AIG Technical.
  - 1.3. Prepare a signed and sealed survey control map consisting of:
    - 1.3.1. Cover/index sheet showing the project datum statement, approximate existing right of way (ROW) lines, the baseline alignment including monumentation, alignment bearings and distances and curve data, side street construction centerlines, project control point locations, and coordinate tables for alignment monumentation and control points.
    - 1.3.2. Control monument detail sheet showing ties to planimetric features and monument details.

2. Perform Topographic Surveys and prepare CAD file deliverables:
  - 2.1. Prepare Right of Entry (ROE) letters and mail to landowners along route to request permission to enter private properties for surveying purposes. Track responses to coordinate field survey efforts on private properties. Properties without ROE will not be surveyed. Approximately 31 properties adjoin the project route and channels within the survey limits.
  - 2.2. Collect Topographic Survey data within the project limits along Evergreen Street and along intersecting roadways. Cross sections will be collected along the route every 100 feet and will extend 20 feet beyond existing and proposed ROW. Survey visible surface features. Surveys within intersecting roadways will be confined to public right of way. In wooded areas we will survey the tree line; individual trees will not be picked up. Mustang Bayou drainage channel and American Canal will be surveyed 200 feet up and downstream beyond the proposed ROW. Existing bridge decks will be surveyed at gutter line and centerline for the following locations: construction joints and armor or expansion joints, bents, and bridge limits. We will also survey the low-chord elevations, abutments, columns, and obtain additional channel cross sections at bridge faces and centerline. Deliverables will consist of plan view CAD file in AutoCAD DWG or Microstation DGN format and Digital Terrain Model with 1-ft contours.
  - 2.3. Survey visible indications of surface utilities. Texas811 (One Call) will be contacted to request marking of underground utilities, and survey said markings. Identify all visible underground structures, such as inlets, manholes, and junction boxes, with size, depth, and type. Mapping of underground utilities between visible underground structures is not included. However, underground utility locations marked in the field by Texas811 will be shown according to said markings without any other field verification. Utility research of record drawings is also included.
  - 2.4. Determine ownership of properties along the roadway within the project limits. Survey front property corners for right of way (ROW) location. Adjoining property ownership information and existing ROW lines will be shown in the CAD file deliverable. Easements along the existing ROW and within the proposed ROW will be shown in the CAD deliverable.
  - 2.5. Locate approximately 16 Geotechnical Borings after they are drilled.
3. Perform proposed ROW surveys and prepare Proposed ROW Map and parcel document deliverables. Deliverables will conform to Texas Society of Professional Surveyors Category 1B, Condition II standards and will be signed and sealed by a Texas Registered Professional Land Surveyor.
  - 3.1. Prepare Proposed ROW Map showing existing and proposed ROW and proposed acquisition parcels. This will include field survey of back corners of parent tracts of proposed acquisition parcels. Easements along the existing ROW and within the proposed ROW will be shown. Assume 27 parcels.
  - 3.2. Prepare KMZ file showing existing ROW with ownership information, proposed takings with parcel numbers, and a preliminary roadway layout. The preliminary roadway layout will be provided to Landtech by AIG Technical.
  - 3.3. Prepare parcel map and metes and bounds description for each proposed ROW parcel to be acquired for the project. Includes field staking of acquisition parcel corners along the proposed ROW at angle points, PCs, PTs, and intersecting property lines. Additionally, Landtech will locate the railroad mile post marker and prepare a Union Pacific Railroad Company franchise crossing exhibit and metes and bounds.
4. Optional Additional Services - Stake ROW lines every 100 feet, at angle points, and at the beginning and end of curves.

Lump Sum Fees for the services described above are as follows (see attached spreadsheet 'Evergreen Seg2\_2021-07-13.pdf' for breakdown of tasks, hours, and rates):

1. Control Surveying	=	\$ 14,591.99
2. Topographic Surveying and Mapping	=	\$ 58,843.26
3.1./3.2. Proposed ROW Surveying & Mapping	=	\$ 27,255.08
3.3. Proposed Acquisition Parcels (Lump Sum Per Parcel)		
24 Standard Parcels (0 to 600-ft) x \$3,344.63	=	\$80,271.12
1 Parcel (900-ft)	\$	3,844.64
1 Parcel (1500-ft)	\$	4,344.64
1 Parcel (2300-ft)	\$	4,844.65
1 UPRR Franchise Crossing Exhibit	\$	4,019.00
	=	\$ 97,324.05
4. Optional Additional Services – ROW Staking	=	<u>\$ 9,770.80</u>
Total Estimated Fee Tasks 1-4 based on estimated 27 Parcels + One (1) UPRR Franchise Crossing	=	\$207,785.18

The anticipated schedule to complete this work will be as follows:

- Tasks 1 and 2 will be submitted 11-12 weeks after written receipt of Notice to Proceed.
- Task 3 preliminary deliverables will be submitted 4-5 weeks after authorization and receipt of final Proposed Right of Way file and alignment from AIG Technical.
- Task 4 will be performed once during the design phase of the project. We will require minimum advance notification of 1 week prior to start of this work.

Thank you for the opportunity to submit this proposal. We look forward to working with you.

Sincerely,

Landtech, Inc.



Dennis Chalaire, R.P.L.S.  
Vice President

Evergreen Seg2\_2021-08-05.docx

Attachments: Spreadsheet 'Evergreen Seg2\_2021-08-05.pdf'  
Survey Limits.pdf

LANDTECH, INC.  
 PROPOSAL FOR TOPOGRAPHIC, RIGHT-OF-WAY, AND CONSTRUCTION SURVEYING SERVICES  
 CLIENT: AIG Technical  
 PROJECT: Evergreen Street from 100 Feet West of Mustang Bayou to FM 521 - Fort Bend County  
 DATE: 8/5/2021  
 LENGTH (ft): Evergreen Street 5,730  
 FM 521 350  
 Nail Road 350  
 Kentucky Road 350  
 Mustang Bayou 400  
 American Canal 400  
 Total = 7,580 ft

- Notes:  
 1. Surveys will be performed per Chapters 6 and 7 of the Fort Bend County Mobility Bond Design Manual  
 2. Please refer to Letter of Proposal of same date for detailed scope of work.

DIRECT EXPENSES		Project Manager	Project Surveyor	Survey Tech	CADD Tech	Abstractor	Admin/ Clerical	2-Person Crew	3-Person Crew	TOTAL HR PER TASK	TOTAL FEE PER TASK
TASKS	DESCRIPTION	(RPLS)	(RPLS)	Tech	Tech						
		\$204.00	\$148.11	\$105.41	\$103.00	\$75.93	\$68.23	\$150.00	\$180.00		
<b>1. CONTROL SURVEYS</b>											
1.1.	Project Control will be established in compliance with Design Manual and tied in to existing control in the vicinity of the project if available. If existing control is not available, the project will be tied to an NGS monument. Use of existing control and project horizontal and vertical datum is subject to approval by the Project Design Consultant. Control points will be spaced at a maximum of 1,000 feet through the project limits.	1	4	12				32		49	\$6,861.36
1.2.	Stake the project baseline alignment in field at all PCs, PTs, Pls, and 1,000-foot stations. The baseline alignment will be provided to Landtech by AIG Technical.		1	4				16		21	\$2,969.75
1.3.	Prepare a signed and sealed survey control map		2	6	24					32	\$3,400.68
<b>SUBTOTAL HOURS</b>		<b>1</b>	<b>7</b>	<b>22</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>48</b>	<b>0</b>	<b>102</b>	
<b>REIMBURSABLE EXPENSES</b>											
	GPS Receiver	5	days	x	\$225.00	=		\$1,125.00			
	Mileage	420	miles	x	\$0.560	=		\$235.20			
										SubTotal Reimbursable Expenses	\$1,360.20
										<b>SUBTOTAL LUMP SUM FEE TASK 1</b>	<b>\$14,591.99</b>
<b>2. TOPOGRAPHIC SURVEYING AND MAPPING</b>											
2.1.	Prepare Right of Entry Letters and mail them to affected property owners (approximately 32). Track responses.		2	5		16	4			27	\$2,311.07
2.2.	Collect Topographic Survey data within the project limits along Evergreen and along intersecting roadways 100 feet beyond proposed improvements. Cross sections will be collected along the route every 100 feet and will extend 20 feet beyond existing and proposed ROW. Survey visible surface features. Surveys within intersecting roadways will be confined to public right of way. In wooded areas we will survey the tree line; individual trees will not be picked up. Survey existing bridges. Deliverables will consist of plan view CAD file in DWG or DGN format and Digital Terrain Model with 1-ft contours.	2	12	24	72			84		194	\$24,731.16
	Mustang Bayou drainage channel and American Canal will be surveyed 200 feet beyond the proposed ROW. Obtain additional channel cross sections at bridge faces and centerline.		2	4	20			24		50	\$6,377.86
2.3.	Visible surface utilities and visible underground utility structures will be surveyed and mapped. Texas811 (One Call) will be contacted to mark underground utilities, and said markings will be surveyed and mapped. Perform initial utility research		4	12	16			20		52	\$6,505.36
2.4.	Perform Property Title Abstracting for preliminary ownership determination. Survey front property corners for right of way (ROW) location. Adjoining property ownership information and existing ROW lines will be shown in the CAD file deliverable.	4	12	32	24	28		24		124	\$14,164.48
2.5.	Locate 16 Geotechnical Borings after drilling.		1	2	2			8		13	\$1,764.93
<b>SUBTOTAL HOURS</b>		<b>6</b>	<b>33</b>	<b>79</b>	<b>134</b>	<b>44</b>	<b>4</b>	<b>160</b>		<b>460</b>	
<b>REIMBURSABLE EXPENSES</b>											
	GPS Receiver	7	days	x	\$225.00	=		\$1,575.00			
	Mileage	1400	miles	x	\$0.560	=		\$784.00			
	Certified Letter Return Receipt	31	letters	x	\$7.40	=		\$229.40			
	Deed Copies	150	pages	x	\$2.00	=		\$300.00			
	Plat Copies	20	sheets	x	\$5.00	=		\$100.00			
										SubTotal Reimbursable Expenses	\$2,988.40
										<b>SUBTOTAL LUMP SUM FEE TASK 2</b>	<b>\$58,843.26</b>
<b>3. PROPOSED RIGHT-OF-WAY SURVEYS</b>											
3.1.	Prepare Proposed ROW Map showing existing and proposed ROW and proposed acquisition parcels. Assume 27 parcels.	8	40	48	112					208	\$24,152.08
3.2.	Prepare KMZ file showing existing ROW with ownership information, proposed takings with parcel numbers, and a preliminary roadway layout. The preliminary roadway layout will be provided to Landtech by AIG Technical.		4	16	8					28	\$3,103.00
										<b>SUBTOTAL LUMP SUM FEE TASKS 3.1. &amp; 3.2.</b>	<b>\$27,255.08</b>
3.3.	Prepare parcel map and metes and bounds description for each proposed ROW parcel to be acquired for the project. ROW map and proposed acquisition parcel deliverables will conform with Texas Society of Professional Surveyors Category 1B, Condition II standards and will be signed and sealed by a Texas Registered Professional Land Surveyor. Includes field survey of back corners of parent tracts of proposed acquisition parcels and field staking of acquisition parcel corners along the proposed ROW at angle points, PCs, PTs, and intersecting property lines.	36	143	228	228	8	0	96		739	\$91,048.65



# Evergreen Street

FROM 100 FEET WEST OF MUSTANG BAYOU  
TO FM 521

SURVEY LIMITS

Mustang Bayou



## **Attachment E**

### **Terracon's Geotechnical Services Proposal**

July 14, 2021



AIG Technical Services, LLC  
1500 South Dairy Ashford Road Suite 445  
Houston, Texas 77077

Attn: Mr. Abraham Rebollar, P.E.

Re: Cost Estimate for Geotechnical Engineering Services  
Evergreen Street Reconstruction Segment 2  
Fort Bend County, Texas  
Terracon Document No. P92215321.Revision1

Dear Mr. Rebollar:

Terracon Consultants, Inc. (Terracon) understands that we have been selected based on qualifications to provide geotechnical services for the above referenced project. This document outlines our understanding of the scope of services to be performed by Terracon for this project and provides an estimate of the cost of our services. 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 document is **\$45,000**. See **Exhibit C** for more details of our fees and consideration of additional services.

We understand that these services are planned to be performed under a mutually agreed upon agreement for services between Terracon Consultants, Inc. and AIG Technical Services, LLC. If you have any questions regarding our planned scope of services, please do not hesitate to contact us.

Sincerely,

**Terracon Consultants, Inc.**

(Texas Firm Registration No.: F-3272)

Rebecca L. Cummins, P.E.  
Project Engineer

  
FOR: Patrick M. Beecher, P.E.  
Geotechnical Services Manager

## EXHIBIT A - PROJECT UNDERSTANDING

Our Scope of Services is based on our understanding of the project as described by AIG Technical Services. We have not visited the project site to confirm the information provided. Terracon plans to perform a site visit prior to the start of our field program. Aspects of the project, undefined or assumed, are highlighted as shown below. We request the design team verify all information prior to our initiation of field exploration activities.

### Site Location

Item	Description
Project location	The project site is located along Evergreen Street that extends approximately one mile from the Mustang Bayou crossing to its intersection with FM 521 in Fort Bend County, Texas.
Existing improvements	Based on available aerial photographs, we understand that Evergreen Street is a two-lane asphaltic concrete roadway with shallow bar ditches on either side. Two wooden bridges are located along the alignment at the Mustang Bayou and American Canal crossings. Mustang Bayou has an estimated depth of 7 feet at the bridge crossing and American Canal has an estimated depth of 4 feet at the bridge crossing.
Existing topography	Relatively level.
Site access	We expect the site and exploration locations are accessible with our truck-mounted drilling equipment during the hours of 9 am and 3 pm utilizing traffic control services.

### Planned Construction

Item	Description
Project description	We understand the segment of Evergreen Street between Mustang Bayou and FM 521 is planned to be widened to a three-lane road, and that utilities along the roadway may be relocated as part of the road reconstruction. We also understand the two bridges at each of the channel crossings along the alignment are planned to be widened. In addition, we understand a detention pond is planned with a maximum capacity of 1.7 acre-feet. The location of the pond is unknown at the time of this cost estimate. The location of the pond will be determined by the County; we request the location be provided to us prior to the start of our field program.

**Cost Estimate for Geotechnical Engineering Services**

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Item	Description
<b>Proposed improvements</b>	<p>We understand the following improvements are planned to be designed and constructed in accordance with Fort Bend County standards:</p> <ul style="list-style-type: none"><li>■ Asphaltic concrete pavements are planned along Evergreen Street. We request the proposed pavement section be provided to us.</li><li>■ We assume the proposed utilities that may be relocated are planned to have maximum embedment depths of 10 feet and are to be constructed using open-cut construction methods.</li><li>■ We assume the bridges are planned to be supported by drilled straight shafts, and that the channel cross-sections are not planned to be modified as part of the proposed improvements.</li><li>■ We assume the detention pond footprint will be a maximum of 2 acres in size and that the depth will be no greater than 10 feet. Once the location of the pond is determined by the County, we request the location be provided to us. We request the opportunity to review and revise the number and depth of the borings based on the actual size of the detention pond, once available.</li></ul>
<b>Anticipated traffic loads (assumed)</b>	Local roadways with residential traffic consisting of passenger vehicles, delivery and garbage trucks, and school buses.

## EXHIBIT B - SCOPE OF SERVICES

Our proposed Scope of Services consists of field exploration, laboratory testing, and engineering/project delivery. These services are described in the following sections.

### Field Exploration

The field exploration program consists of the following:

Planned Location	Number of Borings	Planned Boring Depth <sup>1</sup> (feet)
Mustang Bayou bridge	2	90
American Canal bridge	2	90
Evergreen Street alignment	10	15
Detention pond <sup>2</sup>	2	15
<b>Total</b>	<b>16</b>	<b>540</b>

1. Below grade at the time of our field program.
2. Location to be determined by the County prior to our field exploration. We request the opportunity to review and revise the number and depth of the borings based on the actual size of the detention pond, once available.

**Boring Layout and Elevations:** We will use handheld GPS equipment to locate borings with an estimated horizontal accuracy of +/-25 feet. Field measurements from existing site features may be utilized. If available, approximate elevations will be obtained by interpolation from a site specific, surveyed topographic map. Terracon plans to perform a site visit prior to the start of our field program. In addition, Terracon plans to mark the boring upon completion of drilling.

**Subsurface Exploration Procedures:** We will advance the soil borings along Evergreen Street with a truck-mounted drill rig and the detention pond borings with an ATV mounted drill rig using solid stem continuous flight augers. We plan to core the existing pavement along Evergreen Street to access the underlying subgrade. Samples will be obtained continuously in the upper 12 feet of each boring and at intervals of 5 feet thereafter. Soil sampling is performed using open-tube and/or split-barrel sampling procedures. The split-barrel samplers are driven in accordance with the standard penetration test (SPT). The 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.

Our exploration team will prepare field boring logs as part of standard drilling operations including sampling depths, penetration distances, and other relevant sampling information. Field logs include visual classifications of materials observed during drilling, and our interpretation of subsurface conditions between samples. Final boring logs, prepared from field logs, represent the

## Cost Estimate for Geotechnical Engineering Services

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Geotechnical Engineer's interpretation, and include modifications based on observations and laboratory tests.

**Property Disturbance:** We will backfill borings with auger cuttings upon completion and patch the pavements with an asphaltic concrete patch where applicable. Our services do not include repair of the site beyond backfilling our boreholes and cold patching existing pavements. Excess auger cuttings will be dispersed in the general vicinity of the borehole or in nearby grassy areas. 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.

**Site Access:** Terracon must be granted access by Fort Bend County. By acceptance of this cost estimate, without information to the contrary, we consider this as authorization to access the area of the proposed road alignment for conducting field exploration in accordance with the Scope of Services.

**Traffic Control:** Based on our observations of the area of improvements, we anticipate that traffic control services will be required for our field program along the existing roadway. Traffic control is planned to consist of cones, signs, and a police officer for lane closures in accordance with the Texas Manual on Uniform Traffic Control Devices (Texas MUTCD). The cost associated with traffic control is included in our base fee.

**Clearing of Pathways:** We understand that the detention pond location is unknown at the time of this cost estimate, and that the site chosen by the County may not be accessible to our drilling equipment and that bulldozer clearing may be needed. The cost to provide this service is included as an additional item in our cost estimate. The tree/shrub debris would only be moved away from the cleared pathways but not moved from the site.

## 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 standard OSHA Level D Personal Protection Equipment (PPE) appropriate. If additional safety requirements, training, etc. are required to access this site to perform our services, Terracon should be notified to so that we may adjust our Scope of Services and estimated fees, if necessary. Our Scope of Services does not include environmental site assessment services, but identification of unusual or unnatural materials encountered while drilling will be noted on our logs and discussed in our report.

Exploration efforts require borings (and possibly excavations) into the subsurface, therefore Terracon will comply with Texas 811, a free utility locating service, to help locate public utilities within dedicated public easements. We will consult with the owner/client regarding potential utilities, or other unmarked underground hazards. Based upon the results of this consultation, we

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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. 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 COVID-19. 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. Client acknowledges its responsibility for notifying Consultant of any circumstances that present a risk of exposure to the coronavirus or individuals who have tested positive for COVID-19 or are self-quarantining due to exhibiting symptoms associated with COVID-19.

### Laboratory Testing

The project engineer will review field data and assign laboratory tests to understand the engineering properties of various soil strata. The anticipated laboratory testing may include the following:

- Moisture content
- Dry unit weight
- Atterberg Limits
- Percent finer than No. 200 sieve
- Sieve and hydrometer analysis
- Unconfined compressive strength
- Unconsolidated undrained (UU) triaxial

Our laboratory testing program 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

Results of our field and laboratory programs will be evaluated by a professional engineer. The engineer will develop a geotechnical site characterization, perform the engineering calculations necessary to evaluate foundation alternatives, and develop appropriate geotechnical engineering design criteria for earth-related phases of the project.

Your project will be delivered using our **GeoReport®** system. 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

## Cost Estimate for Geotechnical Engineering Services

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listing of team members, access to the project documents as they are uploaded to the site, and a collaboration portal. The typical delivery process includes the following:

- Project Planning – Proposal information, schedule and anticipated exploration plan will be posted for review and verification
- Site Characterization – Findings of the site exploration
- Geotechnical Engineering – Recommendations and geotechnical engineering report

When utilized, our collaboration portal documents communication, eliminating the need for long email threads. This collaborative effort allows prompt evaluation and discussion of options related to the design and associated benefits and risks of each option. With the ability to inform all parties as the work progresses, decisions and consensus can be reached faster. In some cases, only minimal uploads and collaboration will be required, because options for design and construction are limited or unnecessary. This is typically the case for uncomplicated projects with no anomalies found at the site.

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.

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 drilling and sampling
- Site and boring location plans
- Subsurface exploration procedures
- Description of subsurface conditions
- Subgrade preparation/earthwork recommendations
- Recommendations for foundation design and construction
- D50 and D90 values to support a scour analysis (to be performed by others)
- Axial capacity parameters
- LPILE parameters
- Recommendations for excavations and temporary groundwater control
- Utility bedding and backfill
- Detention pond construction considerations
- Slope protection and erosion control
- Pavement design guidelines

## Cost Estimate for Geotechnical Engineering Services

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### Additional Services

In addition to the services noted above, we understand Terracon may be requested to perform an LPILE analysis for the proposed bridge foundations for an additional fee presented in **Exhibit C**. We request the structural engineer provide us the anticipated loads and the size and depth of installation of the chosen deep foundation system. The output will consist of top of pile head deflection, maximum moment within the pile, and maximum shear within the pile. If a group analysis is desired, Terracon should be contact to provide a separate cost.

## 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:

Task	Lump Sum Fee
Subsurface Exploration, Laboratory Testing, Geotechnical Consulting and Reporting <sup>1</sup>	\$31,000
Traffic Control (6 days)	\$14,000
<b>Total</b>	<b>\$45,000</b>

1. This cost assumes that the detention pond location will not be available at the time of the Evergreen Street field program and subsequent engineering and reporting. We plan to revise our report to include the boring logs and recommendations associated with the detention pond once completed. As stated previously, we request the opportunity to review and revise our scope based on the actual size and depth of the detention pond, if needed.

Additional services that are not included in the base fee are provided below:

Task	Lump Sum Fee
Clearing of Pathways (1 day) <sup>1</sup>	\$3,000
LPILE Analysis (per case) <sup>2</sup>	\$2,000

1. If the detention pond site is heavily wooded at the time of our field program.
2. A case is defined as one combination of the foundation type, size, depth of installation, and anticipated load.

Our Scope of Services does not include services associated with survey of boring locations, special equipment for wet/soft ground conditions, or repair of/damage to the existing landscape. 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 cost estimate. 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.

## Cost Estimate for Geotechnical Engineering Services

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## Project Schedule

We developed a schedule to complete the Scope of Services based upon our existing availability and understanding of your project schedule. However, this does not account for delays in field exploration beyond our control, such as weather conditions, 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.

<b>GeoReport® Delivery</b>	<b>Posting Schedule <sup>1, 2</sup></b>
Project Planning	5 working days from notice to proceed
Field Work Mobilization	10 working days from notice to proceed
Site Characterization	15 working days from completion of field program
Geotechnical Engineering Report	25 working days from completion of field program

1. Upon receipt of your notice to proceed we will activate the schedule component of our **GeoReport®** website with specific, anticipated calendar days for the three delivery points noted above as well as other pertinent events such as field exploration crews on-site, etc.
2. We will maintain a current calendar of activities within our **GeoReport®** website. In the event of a need to modify the schedule, the schedule will be updated to maintain a current awareness of our plans for delivery.

**EXHIBIT D – SITE LOCATION**

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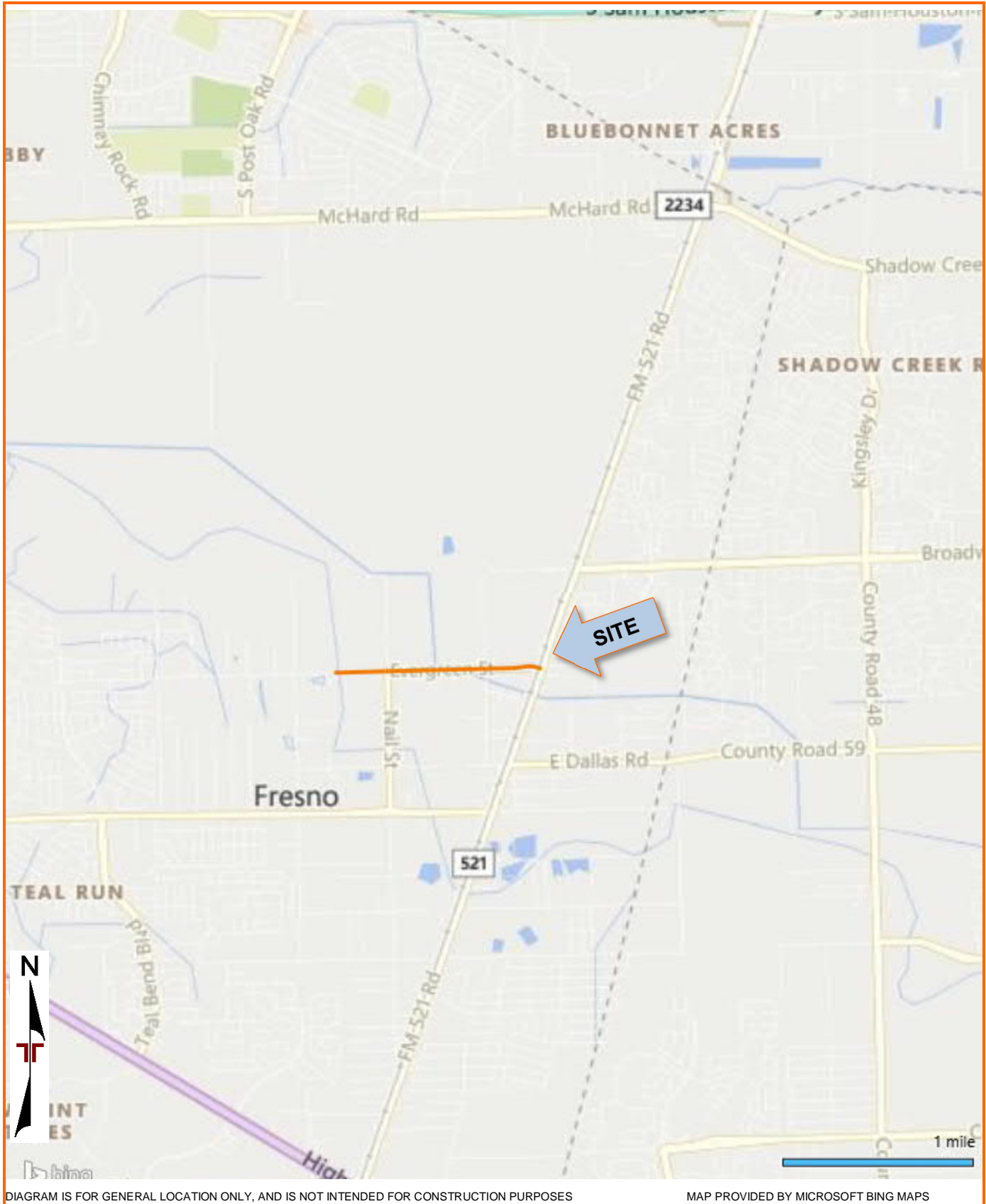


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

**EXHIBIT E – ANTICIPATED EXPLORATION PLAN**

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MAP PROVIDED BY MICROSOFT BING MAPS