

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 PGAL, (hereinafter "Contractor"), a company authorized to conduct business in the State of Texas.

**WITNESSETH**

WHEREAS, County desires that Contractor provide professional engineering services for paving and drainage improvements to a portion of Owens Road from the Sugar Land City limit to FM 1464 under the Owens Road, Segment 2 Project, Number 17407 of the 2017 Mobility Bond Program (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, including the surveying, right-of-way mapping, geotechnical investigations, roadway design, drainage design, traffic control design and utility coordination for the project as described Scope of Services 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 three hundred thirty-four thousand nine hundred sixteen dollars and no/100 (\$334,916.00) 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 three hundred thirty-four thousand nine hundred sixteen dollars and no/100 (\$334,916.00) 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 three hundred thirty-four thousand nine hundred sixteen dollars and no/100 (\$334,916.00).

### **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, 2022. 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. 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.

10.1.2 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.

10.1.3 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.

10.1.4 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<br>Attn: County Engineer<br>301 Jackson Street<br>Richmond, Texas 77469 |
| With a copy to: | Fort Bend County<br>Attn: County Judge<br>401 Jackson Street, 1 <sup>st</sup> Floor<br>Richmond, Texas 77469    |
| Contractor:     | PGAL<br>Attn: Costas Georghiou, P.E., Principal<br>3131 Briarpark Drive, Suite 200<br>Houston, Texas 77042      |

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 2270 Texas Government Code: By signature below, Contractor verifies 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.

[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

PGAL

\_\_\_\_\_  
Robert E. Hebert, County Judge

\_\_\_\_\_  
Costas Georghiou, P.E., Principal

 Digitally signed by Costas Georghiou  
DN: c=US,  
E=georghiou@pgal.com,  
O=PGAL, CN="Costas Georghiou"  
Date: 2018.08.14 09:48:59-05'00'

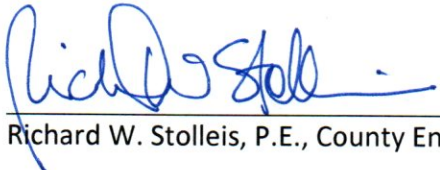
\_\_\_\_\_  
Date

8/14/2018  
\_\_\_\_\_  
Date

ATTEST:

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

APPROVED:

  
\_\_\_\_\_  
Richard W. Stolleis, P.E., County Engineer

APPROVED AS TO LEGAL FORM:

\_\_\_\_\_  
Marcus D. Spencer, First Assistant County Attorney

#### 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

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# EXHIBIT A



July 26, 2018

Richard W. Stolleis, PE  
Fort Bend County Engineer  
301 Jackson St.  
Richmond, Texas 77469

Attention: Robert W. Barnett, PE

Ref: Owens Road Segment 2; Revised Fee proposal for engineering services

Dear Robert:

PGAL is pleased to submit this revised proposal for engineering services for the construction of Owens Road Segment 2. The following is a summarized scope of services and a draft of the overall budget for the complete design effort.

The scope includes project management and engineering services required for the preparation of preliminary engineering report, final construction plans, specifications and bid documents for the proposed Owens Road Segment 2 between the City of Sugarland City limit on the east and approximately 500 LF west of FM 1464 on the west. The project includes the design of a new signal at the intersection of Owens Road with FM 1464, an approximately 2 ac-ft detention pond and an outfall into Oyster Creek. A summary of services to be provided include, but are not limited to the following:

- Topographic Surveys. Topographic surveys will include the project limits, an approximately 2-acre parcel for the proposed detention pond and required cross sections for the outfall at Oyster Creek. Topographic surveys will also include information along FM 1464. A detailed scope of services is included in the Tejas Surveying, Inc. proposal which is attached for your review. The estimated cost of topographic surveys is approximately 28,050.00.
- ROW maps. Parcel Acquisition Documents will be prepared for an estimated 7 parcels. The estimated cost of this services is approximately \$31,700.00. Please see attached proposal from Tejas Surveying Inc. for cost breakdown. Based on further coordination and research, the number of parcels seems to be correct but will be established during the preliminary engineering phase. Billing will be based on actual number of parcels.
- Traffic engineering studies. A signal warrant will be prepared to establish whether one is warranted at the intersection. The estimated cost of this service is \$8,238.00. Attached please find a proposal from EPIC Transportation Group, LP for your review.

- Signal Design. The design for the traffic signal at the intersection of Owens Road and FM 1464 will be developed based on the ultimate intersection layout. The signal will be designed to TxDOT standards. The estimated cost of this service is approximately \$34,417.50. Attached please find a proposal from EPIC Transportation Group, LP for your review.
- Geotechnical Borings and Investigations. The scope includes a geotechnical report that evaluates the existing soil conditions and provides recommendations for pavement and utility design, detention pond design including slope stability and recommendations for the storm sewer outfall. The estimated cost of this service is approximately \$22,274.50. Attached please find a proposal from Geotech Engineering and Testing for your review.
- Plans and Bid documents. Plans will be developed based on the 2017 mobility Bond Program Summary of Design Process. A preliminary engineering report will be developed based on the above requirements and appropriate copies submitted for review. Once the PER is approved, the final plans and specifications will be developed and submitted for review at the required stages. Once the final plans are approved, the project manual will be prepared. The engineer will assist the county during the bidding of the project. The estimated cost of the design services is approximately \$185,236.00. An effort level spreadsheet is attached for your review.
- Construction Phase Services. As directed, a budget of \$25,000 is proposed for the provision of construction phase services.

The estimated overall cost for all services is approximately \$334,916.00. It is anticipated that the design effort will take approximately 9 months. The preliminary engineering report will be submitted 90 days after notice to proceed.

We very much appreciate the confidence of Fort Bend County in allowing us to execute this critically important project for Precinct 4 and are ready to meet and discuss any comments at your convenience.

Very truly yours,



Costas Georghiou, PE  
Principal

attachments

**FORT BEND COUNTY  
2017 MOBILITY PROJECTS  
OWENS ROAD SEGMENT 2  
UPDATED EFFORT LEVEL (JULY 26, 2018)**

| TASK  | MHRS<br>PROJECT<br>MANAGER | MHRS<br>SENIOR<br>ENGINEER | MHRS<br>ENGINEER | MHRS EIT   | MHRS<br>CLERICAL | TOTAL COST           |
|---|----------------------------|----------------------------|------------------|------------|------------------|----------------------|
|   | \$ 275                     | \$ 180                     | \$ 144           | \$ 105     | \$ 84            |                      |
| DATA COLLECTION                                   | 2                          | 4                          | 4                | 4          | 4                | \$ 2,602.00          |
| COORDINATION WITH CITY OF SUGARLAND               | 2                          | 4                          | 4                |            |                  | \$ 1,846.00          |
| COORDINATION WITH TxDOT                           | 4                          | 12                         | 4                |            | 4                | \$ 4,172.00          |
| COORDINATION WITH PRIVATE UTILITIES               | 2                          | 6                          |                  | 6          | 6                | \$ 2,764.00          |
| COORDINATION WITH MANAGEMENT CONSULTANT           | 16                         | 16                         |                  |            |                  | \$ 7,280.00          |
| COORDINATION WITH DRAINAGE DISTRICT               | 2                          | 6                          |                  |            | 0                | \$ 1,630.00          |
| SUB-CONSULTANT COORDINATION AND CONTRACT HANDLING | 4                          | 20                         | 8                |            | 16               | \$ 7,196.00          |
| INVOICING   | 12                         |                            |                  |            | 12               | \$ 4,308.00          |
| COVER SHEET                                       |                            | 1                          |                  | 4          |                  | \$ 600.00            |
| INDEX OF DRAWINGS                                 |                            | 1                          |                  | 4          |                  | \$ 600.00            |
| GENERAL AND PRIVATE UTILITY NOTES                 | 1                          | 2                          | 4                | 4          |                  | \$ 1,631.00          |
| LEGEND, ABBREVIATIONS AND KEY NOTES               |                            | 1                          |                  | 4          |                  | \$ 600.00            |
| SURVEY CONTROL SHEETS                             |                            | 2                          |                  |            |                  | \$ 360.00            |
| PROJECT LAYOUT                                    |                            | 1                          |                  | 4          |                  | \$ 600.00            |
| TYPICAL SECTIONS                                  | 1                          | 2                          |                  | 6          |                  | \$ 1,265.00          |
| OVERALL DRAINAGE AREA MAP                         | 1                          | 4                          | 12               | 8          |                  | \$ 3,563.00          |
| DRAINAGE AREA MAPS                                | 1                          | 4                          | 24               | 24         |                  | \$ 6,971.00          |
| DRAINAGE CALCULATIONS                             |                            | 2                          | 8                | 4          |                  | \$ 1,932.00          |
| PLAN AND PROFILES                                 | 9                          | 72                         | 36               | 180        |                  | \$ 39,519.00         |
| INTERSECTION LAYOUT                               | 1                          | 2                          | 4                | 8          |                  | \$ 2,051.00          |
| INTERSECTION GRADING                              | 1                          | 2                          | 8                | 16         |                  | \$ 3,467.00          |
| CULVERT PLAN AND PROFILE                          | 1                          | 2                          | 12               | 16         |                  | \$ 4,043.00          |
| DETENTION POND LAYOUT                             | 2                          | 4                          | 12               | 16         |                  | \$ 4,678.00          |
| DETENTION POND GRADING                            | 1                          | 4                          | 16               | 8          |                  | \$ 4,139.00          |
| OUTFALL PLAN AND PROFILE                          | 0                          | 4                          | 8                | 12         |                  | \$ 3,132.00          |
| DETENTION POND DETAILS                            | 2                          | 8                          | 16               | 16         |                  | \$ 5,974.00          |
| UTILITY COORDINATION AND CONFLICT TABLE           | 2                          | 12                         |                  | 12         | 12               | \$ 4,978.00          |
| TRAFFIC CONTROL PLANS                             | 1                          | 2                          | 4                | 8          |                  | \$ 2,051.00          |
| SIGNING & STRIPING PLANS                          | 2                          | 2                          | 12               | 24         |                  | \$ 5,158.00          |
| SWPPP PLANS                                       | 1                          | 4                          | 16               | 12         |                  | \$ 4,559.00          |
| CROSS SECTIONS                                    | 2                          | 4                          | 48               |            |                  | \$ 8,182.00          |
| DETAILS   | 2                          | 4                          | 4                | 12         |                  | \$ 3,106.00          |
| PRELIMINARY ENGINEERING REPORT                    | 12                         | 16                         | 8                | 8          | 16               | \$ 9,516.00          |
| PROJECT MANUAL                                    | 8                          | 48                         |                  |            | 32               | \$ 13,528.00         |
| QUANTITY TAKE-OFFS                                | 2                          | 4                          | 6                | 18         |                  | \$ 4,024.00          |
| COST ESTIMATE                                     | 2                          | 4                          |                  | 4          |                  | \$ 1,690.00          |
| BID FORM  | 6                          | 12                         | 4                |            | 12               | \$ 5,394.00          |
| PROJECT MANUAL AND DRAWING FILES                  | 1                          | 1                          |                  |            | 8                | \$ 1,127.00          |
| PRE-BID MEETING                                   | 0                          | 0                          | 0                | 0          | 0                | \$ -                 |
| ADDENDA   | 0                          | 0                          | 0                | 0          | 0                | \$ -                 |
| EXPENSES  |                            |                            |                  |            |                  | \$ 5,000.00          |
|   | <b>106</b>                 | <b>299</b>                 | <b>282</b>       | <b>442</b> | <b>122</b>       |                      |
|   |                            |                            |                  |            |                  | <b>\$ 185,236.00</b> |

**TEJAS SURVEYING, INC.**

*Firm No. 10031300  
1810 First Oaks St., Suite 220  
Richmond, TX 77406-1666*

July 23, 2018

Mr. Costas Georghiou, P.E.  
PGAL  
3131 Briarpark, Suite 200  
Houston, TX 77042

Dear Costas:

We hereby propose to provide the following surveying services described in the attached Exhibit "A" in connection with the design of Fort Bend County Mobility Project: Owens Road Project No. 4-07, From: FM 1464 to City Limits of Sugar Land, being approximately 3360 linear feet as graphically shown on the schematic prepared by LJA and also in accordance with the Fort Bend County 2017 Mobility Bond Program Summary of Design Specifications for an amount not to exceed FIFTY NINE THOUSAND SEVEN HUNDRED FIFTY DOLLARS (\$59,750.00).

Please allow approximately 60 days for the preparation of the topographic route survey, once we have received notice to proceed. Payment for services rendered shall be due and payable monthly, based on percentage of completion as invoiced for services rendered, within 10 days of receipt of payment from Fort Bend County for same. Tejas Surveying, Inc shall receive copies of progress billing to Fort Bend County that includes surveying expenses when billed.

Respectfully submitted:

Accepted by CLIENT:

\_\_\_\_\_  
Randy S. McClendon, RPLS

\_\_\_\_\_  
By:  
Title:  
Dated: \_\_\_\_\_

**EXHIBIT "A"**  
**OWENS ROAD - SCOPE**  
**TOPOGRAPHIC SURVEY AND**  
**PROPOSED ROW ACQUISITION**  
Rev. 7-23-2018

Topographic survey shall be completed during preliminary design, right-of-way acquisition will be required for the road construction. Part of the preliminary design will determine the location and geometry of the right-of-way. The topographic survey shall be performed along the centerline of a proposed alignment as illustrated in the LJA Schematic, at least 100 feet each side of the centerline. Horizontal and vertical controls shall be set with inter visibility, not exceed 1000 foot spacing.

Static GPS observations shall be taken on the control points for use in Geo-Referencing the project and tying into both NAD83 (2011) Horizontal Datum and NAVD 88 (2001) vertical datum. Abstracting shall be performed to gain a preliminary determination of property ownership only. Structures within 100 feet of the existing right-of-way shall be located.

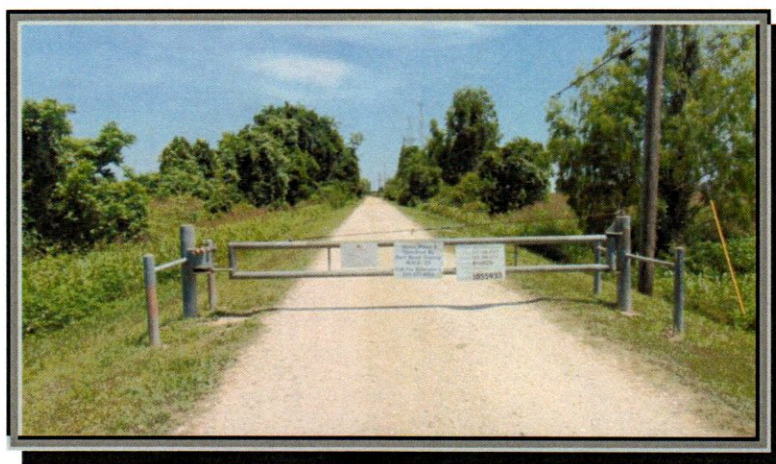
Elevations on natural ground shall be taken by cross sections of the route at 100 foot intervals, plus grade breaks. All visible and apparent improvements shall be located. Utility coordination will consist of an 811 call for marking and a reasonable interpretation of the markings. Subsurface utility exploration to determine exact locations and depths of lines not otherwise accessible by manholes or inlets is specifically excluded from the scope of work. The route survey shall also extend 100 feet along Owen Road to the west of FM 1464, and 200 feet each way north and south along FM 1464 from its intersection with Owen Road. The cost of the topographic route survey is \$22,350.

In addition to the route survey, topographic surveying for the proposed 3.5 acre detention pond site shall be performed by taking spot elevations of natural ground on a 50' grid. Three (3) cross sections of Oyster Creek shall also be taken to facilitate the design of the drainage outfall. The fee for this additional service item is \$5,700.

Upon acceptance of the proposed right-of-way by Fort Bend County, parcel maps and metes and bounds descriptions shall be provided for each parcel to be acquired. These will be paid for on a per-parcel basis based on small, medium or large parcels. Tracts less than 1 acre being small, larger than 1 acre but less than 5 acres being medium, and greater than 5 acres being large. The fee for this additional service item is estimated to be \$31,700 based on 3 small parcels at a cost of \$2,600 per parcel, 1 medium parcel at a cost of \$3,500 per parcel, and 3 large parcels at a cost of \$6,800 per parcel.

**REVISED  
PROPOSAL FOR  
DESKTOP GEOLOGIC FAULT STUDY AND  
GEOTECHNICAL STUDY  
OWENS ROAD PAVING IMPROVEMENTS  
FORT BEND COUNTY, TEXAS  
REVISION II**

**PROPOSAL NO. P18-100**



**TO**

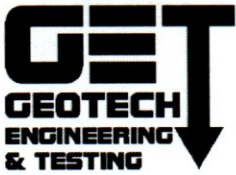
**PGAL  
HOUSTON, TEXAS**

**BY**

**GEOTECH ENGINEERING AND TESTING**

***[www.geotecheng.com](http://www.geotecheng.com)***

**JULY 2018**



# GEOTECH ENGINEERING and TESTING

*Geotechnical, Environmental, Construction Materials, and Forensic Engineering*



ACCREDITED  
CERTIFICATE #0075-01  
#0075-02

PGAL  
3131 Briarpark Drive, Suite 200  
Houston, Texas 77042

Proposal No. P18-100  
July 16, 2018  
Tel.: 713-968-9351

E-mail: [cgeorghiou@pgal.com](mailto:cgeorghiou@pgal.com)

Attention: Mr. Costas Georghiou, P.E.  
Principal

**REVISED  
PROPOSAL FOR  
DESKTOP GEOLOGIC FAULT STUDY AND  
GEOTECHNICAL STUDY  
OWENS ROAD PAVING IMPROVEMENTS  
FORT BEND COUNTY, TEXAS  
REVISION II**

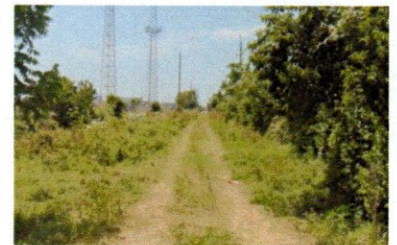
Gentlemen:

At your request, we are pleased to submit this proposal for the Owens Road Paving/Drainage Improvement project. The roadway extension will be 3,300- linear feet east of FM 1464, Fort Bend County, Texas. The length of proposed paving improvement alignment is approximately 3,300-ft. The planned paving improvements were discussed in detail with Mr. Costas Georghiou, P.E. in order to plan a study that would provide the necessary design and construction data.

### INTRODUCTION

It is planned to improve approximately 3,300 linear feet of Owens Road, Fort Bend County, Texas. A site visit was conducted by Mr. Raul Gokhale, M.S.CE. of GET. We understand that the proposed improvement will consist of concrete pavement, underground utilities and a detention pond. Furthermore, the proposed facilities will consist of the following:

| Facility       | Remarks   |
|----------------|---|
| Storm Sewers   | The underground utilities will consist of storm sewer laterals. We assumed that the depth of the underground utilities will be less than 10-ft deep.  |
| Paving         | The roadway will be about 3,300-ft long, concrete paving. We understand, client will provide the traffic loading in a form of Equivalent Single Axial Load (ESAL). Furthermore, we understand that 20-year design life will be used for concrete pavement design. |
| Detention Pond | There will be a need for one off-site detention pond. The pond will be approximately 6- to 8-ft deep. The pond site will be about two acres.  |



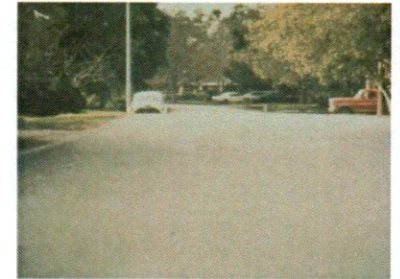
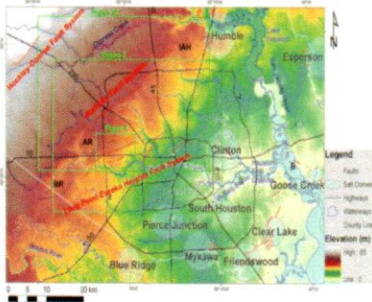
This proposal is divided into two sections. Each section will be discussed and estimated separately. These sections are as follows:

- o Desktop Geologic Fault Study.
- o Geotechnical Exploration Study for the pavement improvements.

We will not perform the geotechnical exploration for the road in accordance with the Harris County, TxDOT or City of Houston (COH) Guidelines. We understand that the scope of our work will not include review of plans and specifications prior to the final design.

### DESKTOP GEOLOGIC FAULTING

The project site is located in Fort Bend County, Texas. Geologic faults are scattered throughout Houston. In general, faults are caused by groundwater and oil removal from the underlying surface. Faults originate several thousand feet below the ground surface and can often cause displacement of the ground surface, causing broken pavement, water lines, and damage to residential and commercial structures.



A Desktop Geologic Fault Study will be conducted. A desktop fault study will include a study of published data on surface faults in the area of the site from the Geotech Engineering and Testing Library. A report of our findings will be provided.

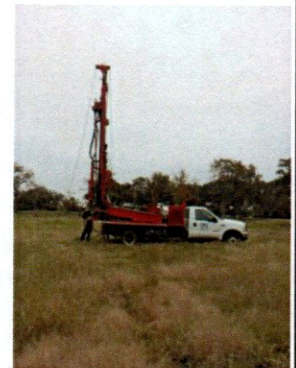
### GEOTECHNICAL STUDY

#### Field Exploration

Site Access. We will drill all borings using a truck-mounted drilling rig along the project alignment in the grass. Due to presence of soft subgrade soils and potential access problems, an ATV rig may have to be used. The client will provide right of entry to the project alignment.

Surveying. The client will establish and provide GET the boring coordinates and ground surface elevations. GET will mark the boring locations in the field so that the survey crew can locate them.

Checking for Utilities. GET will call Texas 811-Call for the locations of utilities. GET will coordinate these activities. GET will not hire a contractor to conduct subsurface utility studies to find location of any and all utilities. This is not the scope of GET work. We recommend the scope of our work to include subsurface utility investigation at boring locations to assess that underground utilities are not hit during field exploration.



Drilling and Sampling. At the request of Mr. Bob Barnett, P.E. with LJA Engineering, we will evaluate the soil stratigraphy and groundwater conditions for the proposed paving improvements by conducting ten (10) soil borings to a depth of 15-ft depth from existing grade. A plan of borings is shown on Plate 1. The borings schedule is as follows:

| <u>Facility</u>                  | <u>Borings</u> | <u>Depth, ft</u> | <u>Remark</u>  |
|----------------------------------|----------------|------------------|--|
| Paving and Underground Utilities | B-1 thru B-7   | 15               | A truck-mounted drilling rig. An ATV rig may be needed, if wet and soft soils are encountered. |
| Detention Pond                   | B-8 and B-9    | 15               | Slope and erosion protection recommendations.  |

The samples will be obtained continuously from the surface to the completion depth of borings. The cohesive soils will be sampled, using a Shelby Tube sampler. Standard Penetration Tests (SPT) will be performed in sands, if encountered. Shear strengths of the clays will be measured in the field with a hand penetrometer and correlations between this data and laboratory unconfined compression and Torvane tests used to supplement laboratory shear strength data.

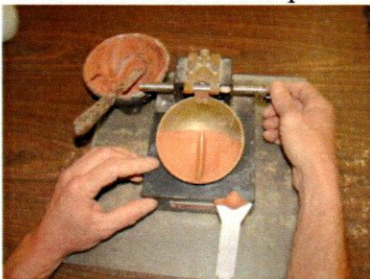
Groundwater. Depth to groundwater will be important for design and construction of the proposed facilities. For this reason, borings will be drilled dry and the depth at which groundwater is encountered will be recorded.



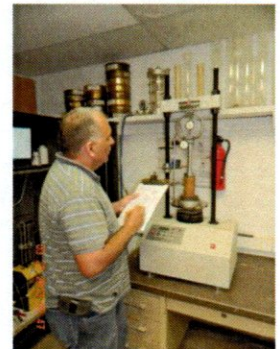
Borehole Backfilling. All of the geotechnical boreholes will be backfilled and mounded with on-site soils, after drilling and sampling.

#### Laboratory Testing

Laboratory tests will vary with the soils encountered but will be planned to evaluate soils design parameters for the proposed pavements, underground utilities and detention pond.



It is anticipated that the tests will include hand penetrometer, torvane, unconfined compression, unit weight, moisture content, liquid and plastic limit tests, gradation, and hydrometers.



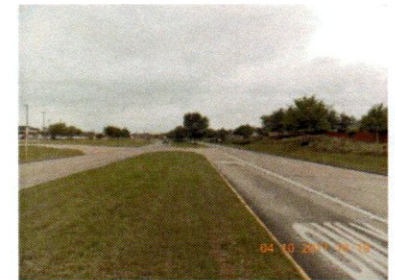
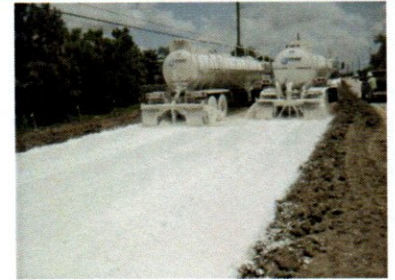
We will conduct Double Hydrometer Tests and Crumb Tests to evaluate the dispersive characteristics of the on-site soils.

All of the subsoils will be classified in general accordance with the American Society of Testing Materials (ASTM) Soil Classification System. All tests will be performed in general accordance with the ASTM Procedures.

## ENGINEERING ANALYSES AND REPORTING

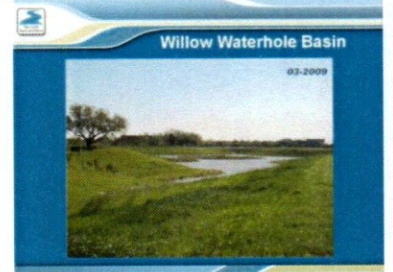
The field and laboratory data will be summarized in an engineering report. Analyses of these data will be presented and recommendations made relative to the following:

| Facility     | Recommendations  |
|--------------|--|
| General      | <ul style="list-style-type: none"><li>○ Summary.</li><li>○ Project site pictures.</li><li>○ Geology.</li><li>○ Results of the Desktop Geologic Fault Study and recommendations for Phase I Study, if warranted.</li><li>○ Generalized soils stratigraphy and groundwater levels.</li><li>○ Boring logs per GET format.</li></ul>   |
| Road Paving  | <ul style="list-style-type: none"><li>○ Estimated subgrade properties (based on correlations) including CBR and Resilient Modulus values for natural soils.</li><li>○ Concrete pavement design, using AASHTO 1993 pavement design method. The client will provide traffic loading in the form of ESAL.</li><li>○ Pavement recommendations.</li><li>○ Soil stabilization requirements for the pavements.</li><li>○ Potential construction problems.</li><li>○ Recommendations on site drainage.</li></ul> |
| Storm Sewers | <ul style="list-style-type: none"><li>○ In the event that open excavation is used, we will provide bedding, backfilling, excavation wall and bottom stability, thrust restraint, dewatering, pipe design parameters.</li><li>○ In the event that augering is used, we will provide, soil design parameters, ground stability, auger pit excavation stability and dewatering.</li><li>○ OSHA soil classification for the trench safety.</li></ul>   |



Detention Pond

- Recommendations on design of the detention pond, including the recommended slope ratios based on the furnished cross sections. A slope-stability analysis will not be conducted.
- Boring logs per GET format.
- Recommended slope ratios and erosion protection.
- Recommendations on subsoil dispersive characteristics.
- Seepage and bottom blow up recommendations.
- Recommendations on subsoil stabilization, if necessary.
- Recommendations on the use of excavated materials as fill.
- Recommendations on earthwork, select fill and construction procedures.



**COST ESTIMATE**

General

Based on the scope of work outlined above, we estimate the cost for field, laboratory, and engineering services based on the Harris County Fee Schedule as shown on Plates 2 and 3. At the request of Mr. Bob Barnett, our level of effort was reduced to keep the cost down. This estimate assumes underground obstructions will not be encountered that require boring relocations. GET is not responsible for damages to underground utilities, man-made utilities, etc. In the event that concrete, rock/rubble is encountered, the boring(s) will be terminated. We understand that all of the boring elevations will be provided by the client prior to completion of GET report. Our cost estimate includes one draft report copy and one final report copy. A digital copy of the report will also be provided. Additional report copies will be provided at a separate charge.



Underground Utilities

The cost estimate for geotechnical services assumes that underground obstructions will not be encountered during boring that requires boring relocation(s). GET will contact Texas 811 for the presence of underground utilities. However, Texas 811 does not have information regarding the presence of underground utilities inside the properties. GET is not responsible for damage to underground utilities, man-made objects, etc., that are not identified by Texas 811. The scope of our work does not include subsurface utility engineering. We recommend the scope of our work to include subsurface utility investigation at boring locations to assess that underground utilities are not hit during field exploration.



Summary Cost Estimate

A summary of project cost is presented below:

| <u>Scope of Work</u>         | <u>Estimated Cost</u> | <u>Cost Breakdown, Plate(s)</u> |
|------------------------------|-----------------------|---------------------------------|
| Desktop Geologic Fault Study | \$ 478.50             | 2                               |
| Basic Geotechnical Report    | 20,715.00             | 2 – 3                           |
| Project Allowance            |                       |                                 |
| ATV Rig                      | <u>1,081.00</u>       | 3                               |
| Estimated Total              | \$ <u>22,274.50</u>   |                                 |

**REPORT REVIEWS AND COMMENTS**

Our report will be submitted to PGAL in a draft form for comments. Once these reviews are completed, a final report will be issued. All of these comments will be incorporated in the final report. The client agrees that all reviews are complete once a notice for a final report is issued. Any changes to the final report will be outside the scope of our study. We will incorporate any future comments after the final report is issued on a time and materials basis per the applicable fee schedule.

**TIME SCHEDULES**

We estimate that the field work can be started about One (1) week after authorization is received. The project schedule will be as follows:

| <u>No. of Working Days</u> |                          |            |                    |              |
|----------------------------|--------------------------|------------|--------------------|--------------|
| <u>Utility Clearance</u>   | <u>Field Exploration</u> | <u>Lab</u> | <u>Engineering</u> | <u>Total</u> |
| 5                          | 5                        | 15         | 15                 | 40           |

Preliminary recommendations will be submitted during the course of the exploration, if required to expedite design.

We appreciate the opportunity to submit this proposal and look forward to being of service to you on this project. Formal acceptance of this proposal and our general conditions can be acknowledged by signing below and returning one copy for our files.

Very truly yours,

GEOTECH ENGINEERING AND TESTING  
TBPE Registration Number F-001183



David A. Eastwood, P.E., C.A.P.M., F. ASCE.  
Principal Engineer

ACCEPTED BY: \_\_\_\_\_

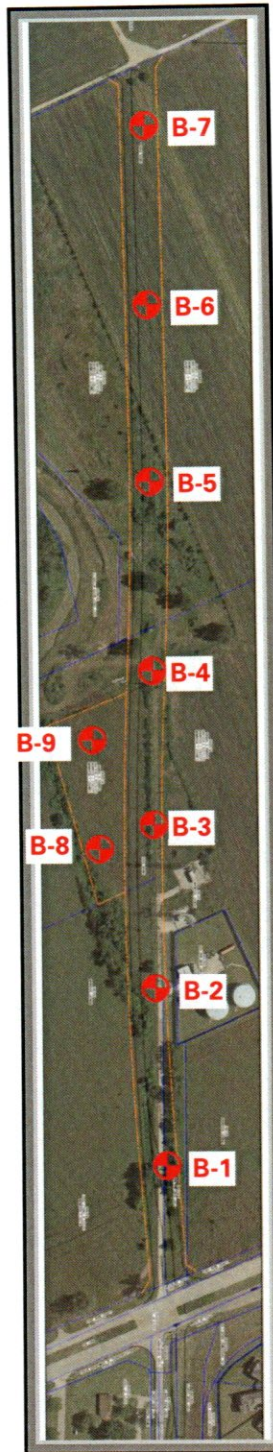
COMAPANY NAME: \_\_\_\_\_

PRINTED NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

Enclosures: Cost Estimate – Plates 1 and 2  
General Conditions  
Harris County Fee Schedule

Copies Submitted: (1) PGAL – Mr. Costas Georghiou, P.E.  
(1) DAE



Legend: Soil Borings B-1 through B-7 for Roadway/Underground Utilities Improvement to a depth of 15-ft  
 Soil Borings B-8 and B-9 for Detention Pond to a depth of 15-ft

|   |                 |                       |
|---|-----------------|-----------------------|
| <b>PLAN OF BORINGS</b> (boring dimensions and locations are approximate)    |                 |                       |
| PROJECT: Proposed Owens Road Paving Improvements<br>Fort Bend County, Texas |                 |                       |
| SCALE: NOT TO SCALE   | DATE: JULY 2018 | PROPOSAL NO.: P18-100 |

NORTH

**Estimated Cost Summary (Detailed)**  
**Desktop Geologic Fault Study and Geotechnical Study**  
**Owens Road Extension**  
**Fort Bend County, Texas**

**Consultant Proposal Breakdown**

| GEOTECH ENGINEERING AND TESTING   |   | Principal Engineer       | Senior Engineer | Graduate Engineer | Field Technician | Typing/Drafting | Unit of Measure | Estimated Quantity | Rate     | Subtotal (Cost \$) |
|---|---|--------------------------|-----------------|-------------------|------------------|-----------------|-----------------|--------------------|----------|--------------------|
| Date: July 16, 2018   |   |                          |                 |                   |                  |                 |                 |                    |          |                    |
| <b>PER HARRIS COUNTY FEE SCHEDULE</b>   |   | \$206.00                 | \$149.00        | \$101.00          | \$65.00          | \$60.00         |                 |                    |          |                    |
|   |   | <b>* LEVEL OF EFFORT</b> |                 |                   |                  |                 |                 |                    |          |                    |
| <b>Task No.</b>   | <b>Task Description</b>   |                          |                 |                   |                  |                 |                 |                    |          |                    |
| <b>Desktop Geologic Fault Study</b>   |   |                          |                 |                   |                  |                 |                 |                    |          |                    |
| 1   | Review of Existing Published Fault Maps by Staff Engineer   |                          | 0.5             | 3                 |                  |                 |                 |                    |          | \$303.00           |
| 2   | Reporting   |                          |                 | 1                 |                  |                 |                 |                    |          | \$175.50           |
| <b>Total:</b>   |   |                          |                 |                   |                  |                 |                 |                    |          | <b>\$478.50</b>    |
| <b>Project Initiation upon Receiving NTP</b>  |   |                          |                 |                   |                  |                 |                 |                    |          |                    |
| 3   | Review of the scope of the work (Including Project Manager Site Visit)  | 2                        | 4               | 4                 |                  |                 |                 |                    |          | \$1,412.00         |
| 4   | Coordinate with Client, in obtaining the updated information of the project                                       |                          |                 | 1                 |                  |                 |                 |                    |          | \$101.00           |
| <b>Paving Improvements, Sidewalk and Bridge Foundations along project alignment, 10 Borings</b> |   |                          |                 |                   |                  |                 |                 |                    |          |                    |
| <b>Field Investigation</b>  |   |                          |                 |                   |                  |                 |                 |                    |          |                    |
| 5   | Develop a Drilling Plan   |                          |                 | 1                 |                  |                 |                 |                    |          | \$101.00           |
| 6   | Staking the Nine (9) Borings in the Field   |                          |                 | 7.5               |                  |                 | HR              | 7.5                | \$10.00  | \$75.50            |
| 7   | Vehicle Charge  |                          |                 |                   |                  |                 |                 |                    | \$75.00  | \$101.00           |
| 8   | Coordinate with Surveyors to Locate & Tie in Borings at Site  |                          |                 | 1                 |                  |                 |                 |                    |          | \$101.00           |
| 9   | Field Coordination during Drilling Including Utility Clearance, Texas One Call, and/or obtain drilling permission |                          |                 | 7                 |                  |                 |                 |                    |          | \$707.00           |
| 10  | Mobilization / Demobilization   |                          |                 |                   |                  |                 | LS              | 1                  | \$349.00 | \$349.00           |
| 11  | Drilling and Sampling Nine (9) Borings  |                          |                 |                   |                  |                 | LF              | 135                | \$21.00  | \$2,835.00         |
| 12  | Continuous (0' - 15')   |                          |                 |                   |                  |                 |                 |                    |          | \$1,170.00         |
| 13  | Technician, Logging Borings, Borehole cleaning and Water Level Reading  |                          |                 |                   | 18               |                 |                 |                    |          | \$180.00           |
| 14  | Vehicle Charge  |                          |                 |                   |                  |                 | HR              | 18                 | \$10.00  | \$180.00           |
| <b>Subtotal</b>   |   |                          |                 |                   |                  |                 |                 |                    |          | <b>\$7,788.50</b>  |
| <b>Laboratory Testing</b>   |   |                          |                 |                   |                  |                 |                 |                    |          |                    |
| 15  | Assign Laboratory Tests, Looking at Soil Samples  |                          |                 | 4                 |                  |                 |                 |                    |          | \$404.00           |
| 16  | Data Reduction and Evaluation   |                          |                 | 1                 |                  |                 | EA              | 27                 | \$9.00   | \$101.00           |
| 17  | Water Content   |                          |                 |                   |                  |                 | EA              | 13                 | \$62.00  | \$243.00           |
| 18  | Liquid and Plastic Limits   |                          |                 |                   |                  |                 | EA              | 13                 | \$806.00 | \$806.00           |
| 19  | Percent Passing #200 Sieve  |                          |                 |                   |                  |                 | EA              | 13                 | \$48.00  | \$624.00           |
| 20  | Tonvane   |                          |                 |                   |                  |                 | EA              | 68                 | \$4.00   | \$272.00           |
| 21  | Hand Penetrometer   |                          |                 |                   |                  |                 | EA              | 68                 | \$3.00   | \$204.00           |
| 22  | Unconfined Compression  |                          |                 |                   |                  |                 | EA              | 13                 | \$45.00  | \$585.00           |
| 23  | Crumb Test  |                          |                 |                   |                  |                 | EA              | 4                  | \$132.00 | \$132.00           |
| 24  | Double Hydrometer Tests   |                          |                 |                   |                  |                 | EA              | 2                  | \$152.00 | \$304.00           |
| <b>Subtotal</b>   |   |                          |                 |                   |                  |                 |                 |                    |          | <b>\$3,675.00</b>  |

**Estimated Cost Summary (Detailed)**

**Desktop Geologic Fault Study and Geotechnical Study**

Owens Road Extension

Fort Bend County, Texas

**GEOTECH ENGINEERING AND TESTING**

Date: July 16, 2018

**Consultant Proposal Breakdown**

| Task No.                              | Task Description | Principal Engineer | Senior Engineer | Graduate Engineer | Field Technician | Typing/Drafting | Unit of Measure | Estimated Quantity | Rate | Subtotal (Cost \$) |
|---------------------------------------|------------------|--------------------|-----------------|-------------------|------------------|-----------------|-----------------|--------------------|------|--------------------|
| <b>PER HARRIS COUNTY FEE SCHEDULE</b> |                  | \$206.00           | \$149.00        | \$101.00          | \$65.00          | \$60.00         |                 |                    |      |                    |
| <b>* LEVEL OF EFFORT</b>              |                  |                    |                 |                   |                  |                 |                 |                    |      |                    |
| Billing Rate per Hour                 |                  |                    |                 |                   |                  |                 |                 |                    |      |                    |

| Engineering Analysis and Report |  |     |     |    |  |   |  |  |  |                    |
|---------------------------------|--|-----|-----|----|--|---|--|--|--|--------------------|
| 25                              | Prepare Plan of Borings  |     |     | 1  |  |   |  |  |  | \$101.00           |
| 26                              | Analyze field and laboratory test results  |     |     | 3  |  |   |  |  |  | \$303.00           |
| 27                              | Prepare summary of laboratory test data  |     |     | 1  |  |   |  |  |  | \$101.00           |
| 28                              | Edit and prepare final boring log profiles   |     |     | 9  |  |   |  |  |  | \$909.00           |
| 29                              | Prepare and develop boring log profiles  |     |     | 1  |  |   |  |  |  | \$101.00           |
| 30                              | Develop concrete pavement design based on traffic loading  | 0.5 | 1   | 6  |  |   |  |  |  | \$858.00           |
| 31                              | Recommendations on underground utilities   |     | 1   | 5  |  |   |  |  |  | \$654.00           |
| 32                              | OSHA soil classification for the trench safety and Trench Safety   | 2   | 3   | 6  |  |   |  |  |  | \$1,465.00         |
| 33                              | Document the results of soil exploration, laboratory testing and geotechnical recommendations in a geotechnical draft report | 2   | 5.5 | 18 |  |   |  |  |  | \$3,049.50         |
| 34                              | Responding to comments from PGAL   | 1   | 2   | 6  |  |   |  |  |  | \$1,110.00         |
| 35                              | Technical Typing/Drafting  |     |     |    |  | 5 |  |  |  | \$300.00           |
| 36                              | Report Reproduction Allowance  |     |     |    |  |   |  |  |  | \$300.00           |
| <b>Subtotal</b>                 |  |     |     |    |  |   |  |  |  | <b>\$9,251.50</b>  |
| <b>Total:</b>                   |  |     |     |    |  |   |  |  |  | <b>\$20,715.00</b> |

| Project Allowance - ATV Rig |                            |  |  |  |  |  |    |     |  |                    |
|-----------------------------|----------------------------|--|--|--|--|--|----|-----|--|--------------------|
| 37                          | ATV Mobilization Surcharge |  |  |  |  |  | LS | 1   |  | \$136.00           |
| 38                          | ATV Drilling Surcharge     |  |  |  |  |  | FT | 135 |  | \$945.00           |
| <b>Subtotal</b>             |                            |  |  |  |  |  |    |     |  | <b>\$1,081.00</b>  |
| <b>Total:</b>               |                            |  |  |  |  |  |    |     |  | <b>\$1,081.00</b>  |
| <b>Grand Total:</b>         |                            |  |  |  |  |  |    |     |  | <b>\$22,274.50</b> |

## GENERAL CONDITIONS

**PAYMENT TERMS** - The entire payment is due upon receipt of our invoice. Any retainers are for the sole purpose of the securing part of the expenses. Upon completion of the project, any overpayment will be issued back to client, including the retainer paid (if applicable). If payment is not received within ten (10) days from the invoice date, Client agrees to pay a finance charge on the principal amount of the past due account of one and one-half percent per month (18% per annum). If one and one-half percent per month exceeds the maximum allowed by law, the charge shall automatically be reduced to the maximum legally allowable. Reasonable attorney fees, David Eastwood's hourly charges spent on collections, or any other cost incurred in collecting delinquent counts will be charged to the client. All sums are due and payable in Harris County, Texas. In the event of any dispute concerning this contract, venue for such dispute shall be in the County and State of GET's principal office location, Harris County, Texas, and shall be determined by binding arbitration conducted by the American Arbitration Association, if and only if, the amount in controversy exceeds the jurisdictional limits of the Small Claims Courts of Harris County, Texas. All disputes not exceeding the Small Claims Court's jurisdictional limit shall be litigated in the Small Claims Courts Precinct 2, located at 101 S. Richey, Suite B, Pasadena, Harris County, Texas 77506. By signing this document, the client agrees this will be the venue for the litigation and it will override any other venues.

In the event Client requests termination of the services prior to completion, a termination charge in an amount equal to all charges incurred through the date services are stopped plus any shutdown costs may, at the discretion of GEOTECH ENGINEERING AND TESTING ("GET"), be made. If during the execution of the services, GET is required to stop operations as a result of changes in the scope of services, such as requests by the Client or requirements of third parties, additional charges will be applicable.

**INSURANCE** - GET maintains Worker's Compensation and Employer's Liability Insurance in conformance with applicable state law. In addition, we maintain Comprehensive General Liability Insurance and Automobile Liability Insurance with bodily injury and property damage. A certificate of insurance can be supplied evidencing such coverage upon written request. The certificate contains a clause providing fifteen days written notice is given prior to cancellation by the Insurer. Cost of providing such certificate is included in our quoted fees.

**STANDARD OF CARE** - The only warranty or guarantee made by GET in connection with the services requested or performed hereunder is that we will use that degree of care and skill ordinarily exercised under similar conditions by reputable members of our profession practicing in the same or similar locality. No other warranty, expressed or implied, is made or intended by our proposal for consulting services or by our furnishing oral or written reports.

**LIMITATION OF LIABILITY** - Client agrees that GET's liability for any damage on account of any error, omission or other professional negligence will be limited to a sum not to exceed GET's fee. If Client prefers to have higher limits on professional liability, GET agrees to increase the limits up to a maximum of \$250,000 (Annual claims made) upon Client's written request at the time of accepting our proposal provided that Client agrees to pay an additional consideration of five percent of our total fee, or \$100.00, whichever is greater. The additional charge for the higher liability limits is because of the greater risk assumed and is not strictly a charge for additional professional liability insurance.

**SAMPLING OR TESTING LOCATION** - The fees included in this proposal do not include costs associated with surveying of the site or the accurate horizontal and vertical locations of tests. Field tests or boring locations described in GET's report, or shown on sketches, are based on specific information furnished by others or estimates made in the field by our technicians. Such dimensions, depths, or elevations should be considered as approximations unless otherwise specified in our report.

**RIGHT-OF-ENTRY** - Unless otherwise agreed, Client will furnish right-of-entry to the property for GET to make the planned borings, surveys, tests, and/or explorations. We will take reasonable precautions to minimize damage to the property caused by our operations, but have not included in our fee the cost of restoration of damage which may result. If client desires restoration of the property to its former condition, an additional fee will be required and notice of such desire must be provided in writing to GET, prior to our completion of services under this contract.

**DAMAGE TO EXISTING MAN-MADE OBJECTS** - It shall be the responsibility of the Client or his duly authorized representative, to disclose the presence and accurate location of all hidden or obscure man-made objects on the property where the field tests or boring will be performed. GET's field personnel are trained to recognize clearly identifiable stakes or markings in the field, and without special written instructions, to initiate field testing, drilling and/or sampling within a reasonable distance of each designated location. If GET is cautioned, advised, or given data, in writing, revealing the presence or potential presence of underground or overground obstructions, such as utilities, GET will give special instructions to its field personnel. As evidenced by Client's acceptance of this proposal, Client agrees to indemnify and hold GET harmless from all claims, suits, losses, personal injury, death and property liability resulting from unusual subsurface conditions or damages to subsurface structures, owned by Client or third parties, occurring in the performance of the proposed services, whose presence and exact locations were not revealed to GET in writing, or to reimburse GET for expenses incurred defending any such claims or suits, including reasonable attorneys' fees.

**SAMPLE DISPOSAL AGREEMENT** - Unless otherwise requested, test specimens or samples will be disposed of immediately upon completion of tests. Drilling samples or other specimens will be disposed of 14 days after submission of our report. Upon written request, GET will retain test specimens or drilling samples for a specified period of time, to be determined at the time of the writing. An acceptable storage charge will be determined prior to such storage.

**OWNERSHIP OF DOCUMENTS** - All documents, including, but not limited to, drawings, specifications, reports, boring logs, field notes, laboratory data, calculations and estimates, prepared by GET as instruments of service pursuant to this Agreement, shall be the sole property of GET. Client agrees that all documents of any nature furnished to Client or Client's agents or designees, if not paid for, will be returned upon demand and will not be used by Client for any purpose whatsoever. Client further agrees that under no circumstances shall any documents produced by GET, pursuant to this Agreement be used at any location or for any project not expressly provided for in this Agreement without the written permission of GET. At the request and expense of Client, GET will provide copies of documents created in the performance of the work for a period not exceeding five years following submission of the report contemplated by this Agreement.

**SAFETY** - Should GET provide periodic observations or monitoring services at the job site during construction, Client agrees that, in accordance with generally accepted construction practices, the contractor will be solely and completely responsible for working conditions on the job site, including safety of all persons and property during the performance of the work and compliance with OSHA regulations, and that these requirements will apply continuously and not be limited to normal working hours. Any monitoring of the contractor's procedures conducted by GET is not intended to include review of the adequacy of the contractor's safety measures in, on, adjacent to, or near the construction site.

**SITE VISIT** - Client agrees that GET will not be expected to make exhaustive or continuous on-site inspections but that periodic observations appropriate to the construction stage shall be performed. It is further agreed that GET will not assume responsibility for the contractor's means, methods, techniques, sequences, or procedures of construction, and it is understood that field services provided by GET will not relieve the contractor of his responsibilities for performing the work in accordance with the plans and specifications. The words "supervision", "inspection", or "control" are used to mean periodic observation of the work and the conducting of tests by GET to verify substantial compliance with the plans, specifications and design concepts. Continuous inspections by our employees do not mean that GET is observing placement of all materials. Full-time inspections mean that an employee of GET has been assigned for eight-hour days during regular business hours. Any alteration of plans, including but not limited to; alteration of blueprints, specifications, recommendations, etc. by the Client or a third party, shall relieve GET of all liability for damages incurred, directly or indirectly, from such changes.

Initial \_\_\_\_\_

**Harris County Fee Schedule  
Construction Materials Engineering Services  
Labor and Unit Rates  
Effective: January 1, 2015**

| <b>Code</b> | <b>Description</b>   | <b>Unit</b> | <b>Current Fee</b> |
|-------------|--|-------------|--------------------|
| 10100       | Principal, P.E.  | Hr.         | 206.00             |
| 10200       | Senior Engineer, P.E. (10 yrs experience)  | Hr.         | 183.00             |
| 10300       | Project Engineer, P.E. or Project Geologist, P.G.  | Hr.         | 149.00             |
| 10400       | Graduate Engineer and Graduate Geologist   | Hr.         | 101.00             |
| 10500       | Technician, NICET IV   | Hr.         | 84.00              |
| 10600       | Technician, NICET III, HMA-II  | Hr.         | 75.00              |
| 10700       | Technician, NICET II, ACI Construction Inspector, HMA-1A or HMA-1B, NDT II, Logger or both: TxDOT Soil SB-101 and SB-102 | Hr.         | 65.00              |
| 10800       | Technician, ACI Field Grade I, TxDOT Soil SB-101 or SB-102   | Hr.         | 51.00              |
| 10900       | Technician (Non-Certified)   | Hr.         | 43.00              |
| 11000       | Senior Welding Inspector, SCWI   | Hr.         | 115.00             |
| 11100       | Welding Inspector, CWI, ACCP II  | Hr.         | 91.00              |
| 11200       | Associate Welding Inspector  | Hr.         | 65.00              |
| 11300       | Inspector, ASNT III  | Hr.         | 112.00             |
| 11400       | NDT Inspector Level II with asst. (2 man crew)   | Hr.         | 112.00             |
| 11500       | Engineering Assistant  | Hr.         | 60.00              |
| 15000       | Vehicle Charge   | Hr.         | 10.00              |
| 15100       | Reimbursable Expenses  |             | Cost + 10%         |
| 15200       | Services provided by quotation   |             | Cost + 10%         |

**Harris County Fee Schedule  
Construction Materials Engineering Services  
Labor and Unit Rates  
Effective: January 1, 2015**

**Aggregates**

| <b>Code</b> | <b>Description</b>                     | <b>Standard</b> | <b>Unit</b> | <b>Current Fee</b> |
|-------------|--|-----------------|-------------|--------------------|
| 20100       | Sieve Analysis - Coarse Aggregates     | C 136 - C       | Ea          | 54.00              |
| 20200       | Sieve Analysis - Fine Aggregates       | C 136 - F       | Ea          | 54.00              |
| 20300       | Rel Density & Abs. - Coarse Aggregates | C 127           | Ea          | 81.00              |
| 20400       | Rel Density & Abs. - Fine Aggregates   | C 128           | Ea          | 99.00              |
| 20500       | Bulk Density & Voids in Aggregate      | C 29            | Ea          | 38.00              |
| 20600       | Absorption - Coarse Aggregates         | C 127           | Ea          | 45.00              |
| 20700       | Absorption - Fine Aggregates           | C 128           | Ea          | 45.00              |
| 20800       | Finer than 75-um (No. 200) Sieve       | C 117           | Ea          | 49.00              |
| 20900       | Organic Impurities in Fine Aggregates  | C 40            | Ea          | 48.00              |
| 21000       | L.A. Abrasion                          | C 131 / C 535   | Ea          | 208.00             |
| 21100       | Clay Lumps and Friable Particles       | C 142           | Ea          | 55.00              |
| 21200       | Lightweight Particles                  | C 123           | Ea          | 64.00              |
| 21300       | Sand Equivalent                        | D 2419          | Ea          | 65.00              |
| 21400       | Na/Mg Sulfate Soundness (5 cycles)     | C 88            | Ea          | 354.00             |
| 21500       | Na/Mg Sulfate Soundness (Add'l cycles) | C 88            | Ea          | 204.00             |

**Harris County Fee Schedule  
Construction Materials Engineering Services  
Labor and Unit Rates  
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Portland Cement Concrete

| <b>Code</b> | <b>Description</b>   | <b>Standard</b> | <b>Unit</b> | <b>Current Fee</b> |
|-------------|--|-----------------|-------------|--------------------|
| 30100       | Compressive Str. (Cylinder)                                | C 39            | Ea          | 17.00              |
| 30200       | Flexural Str. (Beam)                                       | C 78            | Ea          | 27.00              |
| 30300       | Split Tensile Str. (Incl prep)                             | C 496           | Ea          | 109.00             |
| 30400       | Time of Set by Penetration                                 | C 403           | Ea          | 320.00             |
| 30500       | Linear Shrinkage & Thermal Coef (Bar)                      | C 531           | Set 3       | 328.00             |
| 30600       | Length Change of Hydraulic-Cement Mortar and Concrete      | C 490 & C 157   | Set 3       | 116.00             |
| 30700       | Density of Structural Ltwt. Concrete                       | C 567           | Ea          | 81.00              |
| 30800       | Concrete Coring, Minimum Charge                            | C 42            | Min         | 338.00             |
| 30900       | Concrete Coring (4" diameter to 6" Thickness)              | C 42            | Ea          | 105.00             |
| 31000       | Concrete Coring, 4", additional thickness (over 6" to 12") | C 42            | In          | 9.00               |
| 31100       | Concrete Coring, 4", additional thickness (over 12")       | C 42            | In          | 12.00              |
| 31110       | Concrete Coring (6" diameter to 6" Thickness)              | C 42            | Ea          | 150.00             |
| 31112       | Concrete Coring, 6", additional thickness (over 6" to 12") | C 42            | In          | 13.50              |
| 31113       | Concrete Coring, 6",additional thickness (over 12")        | C 42            | In          | 18.00              |
| 31200       | Preparation of Core, Cap & Test                            | C 42            | Ea          | 78.00              |
| 31300       | Measuring Length of Core                                   | C 174           | Ea          | 13.00              |
| 31400       | Pachometer Survey (Magnetic Induction)                     | None            | Day         | 91.00              |
| 31500       | Probe Penetration Test Equipment (plus probes)             | C 803           | Day         | 92.00              |

**Harris County Fee Schedule  
Construction Materials Engineering Services  
Labor and Unit Rates  
Effective: January 1, 2015**

HMAC

| Code  | Description                                | Standard      | Unit | Current Fee |
|-------|--|---------------|------|-------------|
| 40100 | Mix Design Review                          |               | Ea   | 218.00      |
| 40200 | HMAC Design (In-Place)                     |               | Ea   | 2177.00     |
| 40300 | Trail Batch (up to 5 points)               |               | Ea   | 1633.00     |
| 40400 | Additional Points                          |               | Ea   | 235.00      |
| 40500 | Extraction/Gradation                       | Tex-210F      | Ea   | 203.00      |
| 40600 | Specific Gravity                           | D 2041 & 201F | Ea   | 72.00       |
| 40700 | HVEEM Stability                            | Tex-208F      | Set  | 95.00       |
| 40800 | Bulk Density - Lab Molded or Core          | Tex-207F      | Set  | 54.00       |
| 40900 | Bulk Density Core                          | Tex-207F      | Ea   | 48.00       |
| 41000 | Molding Specimens                          | Tex-206F      | Set  | 63.00       |
| 41100 | Maximum Theoretical Specific Gravity       | Tex-227F      | Ea   | 91.00       |
| 41200 | Apparent Specific Gravity                  | Tex-202F      | Ea   | 68.00       |
| 41300 | Abson Recovery                             | Tex-211F      | Ea   | 327.00      |
| 41400 | Moisture Susceptibility                    | Tex-531C      | Ea   | 476.00      |
| 41500 | Penetration                                | D 5           | Ea   | 86.00       |
| 41600 | Ductility                                  | D 113         | Ea   | 115.00      |
| 41700 | Viscosity                                  | D 2170        | Ea   | 95.00       |
| 41800 | Asphalt Coring, Minimum Charge             |               | Min  | 338.00      |
| 41900 | Asphalt Coring (4"Dia. to 6" Thickness)    |               | Ea   | 93.00       |
| 42000 | Asphalt Coring (4"Dia. over 6" Thickness)  |               | In   | 8.00        |
| 42150 | Asphalt Coring (6" Dia. to 6" Thickness)   |               | Ea   | 140.00      |
| 42160 | Asphalt Coring (6" Dia. Over 6" Thickness) |               | In.  | 12.00       |
| 42200 | Measuring Thickness of Asphalt             |               | Ea   | 8.00        |
| 42300 | PMA Extraction/Gradation                   | D 2172        | Ea   | 272.00      |
| 42400 | PMA Extraction/Gradation                   | D 6307        | Ea   | 169.00      |
| 42500 | Asphalt Content                            | D 4125        | Ea   | 81.00       |

**Harris County Fee Schedule  
Construction Materials Engineering Services  
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Structural Steel

| <b>Code</b> | <b>Description</b>                     | <b>Standard</b>               | <b>Unit</b> | <b>Current Fee</b> |
|-------------|--|-------------------------------|-------------|--------------------|
| 50100       | Radiographic Source, Iridium           |                               | Day         | 123.00             |
| 50200       | Radiographic Source, Cobalt 60         |                               | Day         | 142.00             |
| 50300       | Ultrasonic equipment                   | E 114, E 273,<br>E 587, E 797 | Day         | 91.00              |
| 50400       | Magnetic Particle Inspection Equipment | E 709                         | Day         | 34.00              |
| 50500       | Skidmore-Wilhelm Tension Indicator     |                               | Day         | 136.00             |
| 50600       | Torque Wrench                          |                               | Day         | 50.00              |
| 50700       | Discontinuity (Holiday) Equipment      |                               | Day         | 95.00              |
| 50800       | Dry Film Thickness Equipment (Tooke    | D 4138                        | Day         | 34.00              |
| 50900       | Dry Film Thickness Equipment           | D 7091                        | Day         | 34.00              |

**Harris County Fee Schedule  
Construction Materials Engineering Services  
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**Masonry**

| <b>Code</b> | <b>Description</b>                             | <b>Standard</b> | <b>Unit</b> | <b>Current Fee</b> |
|-------------|--|-----------------|-------------|--------------------|
| 60100       | Compressive Strength, Mortar Cubes             | C 109           | Set 6       | 140.00             |
| 60200       | Compressive Strength, Mortar Cubes             | C 109           | Ea          | 23.00              |
| 60300       | Compressive Strength, Mortar or Grout Cylinder | C 780/C 39      | Ea          | 23.00              |
| 60400       | Compressive Strength, Grout Prism              | C 1019          | Set 3       | 140.00             |
| 60500       | Measurement, Brick                             | C 67            | Ea          | 55.00              |
| 60600       | Compressive Strength Test, Brick               | C 67            | Ea          | 33.00              |
| 60700       | Flexural Strength Test, Brick                  | C 67            | Ea          | 43.00              |
| 60800       | Absorption of Brick, 24 hr.                    | C 67            | Ea          | 72.00              |
| 60900       | Absorption of Brick, 5 hr.                     | C 67            | Ea          | 71.00              |
| 61000       | Measurement, CMU                               | C 140           | Ea          | 29.00              |
| 61100       | Weight, CMU                                    | C 140           | Ea          | 81.00              |
| 61200       | Moisture Content, CMU                          | C 140           | Ea          | 81.00              |
| 61300       | Compressive Strength, CMU                      | C 140           | Ea          | 87.00              |
| 61400       | Compressive Strength, CMU Hollow Prism         | C 1314          | Ea          | 136.00             |
| 61500       | Compressive Strength, CMU Grouted Prism        | C 1314          | Ea          | 195.00             |

**Harris County Fee Schedule  
Construction Materials Engineering Services  
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Fireproofing

| <b>Code</b> | <b>Description</b>        | <b>Standard</b> | <b>Unit</b> | <b>Current Fee</b> |
|-------------|---------------------------|-----------------|-------------|--------------------|
| 70100       | Density of SFRM           | E 605           | Ea          | 38.00              |
| 70200       | Cohesion/Adhesion of SFRM | E 736           | Ea          | 29.00              |

**Harris County Fee Schedule  
Construction Materials Engineering Services  
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Roofing

| <b>Code</b> | <b>Description</b>                           | <b>Standard</b> | <b>Unit</b> | <b>Current Fee</b> |
|-------------|--|-----------------|-------------|--------------------|
| 80100       | Cut Out Roofing Sample Evaluation            | D 2928          | Ea          | 353.00             |
| 80200       | Moisture in Mineral Aggregate for BUR        | D 1864          | Ea          | 59.00              |
| 80300       | Analysis of New Built-Up Roof Membranes      | D 3617          | Ea          | 325.00             |
| 80400       | Compressive Strength of Lwt. Insul. Concrete | C 495           | Set of 4    | 114.00             |
| 80500       | Compressive Strength of Lwt. Insul. Concrete | C 495           | Ea          | 30.00              |
| 80600       | Unit Weight of Lwt. Insul. Concrete          | C 495           | Set of 2    | 51.00              |

**Harris County Fee Schedule  
Construction Materials Engineering Services  
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Soils

| <b>Code</b> | <b>Description</b>                            | <b>Standard</b> | <b>Unit</b> | <b>Current Fee</b> |
|-------------|---|-----------------|-------------|--------------------|
| 90100       | Liquid & Plastic Limits                       | D 4318          | Ea          | 62.00              |
| 90200       | Moisture Content of Soils by Mass             | D 2216          | Ea          | 9.00               |
| 90300       | Moisture Content by Microwave                 | D 4643          | Ea          | 30.00              |
| 90400       | Sieve Analysis                                | D 422           | Ea          | 57.00              |
| 90500       | Sieve Analysis w/ Hydrometer                  | D 422           | Ea          | 128.00             |
| 90600       | Percent Passing #200 Sieve                    | D 1140          | Ea          | 48.00              |
| 90700       | Specific Gravity                              | D 854           | Ea          | 59.00              |
| 90800       | pH of Soils                                   | D 4972          | Ea          | 17.00              |
| 90900       | Unconfined Compressive Strength               | D 2166          | Ea          | 45.00              |
| 91100       | Unconsolidated-undrained Triaxial Compression | D 2850          | Ea          | 63.00              |
| 91200       | One-Dimension Consolidation                   | D 2435          | Ea          | 361.00             |
| 91300       | Consolidation, Additional Increment           | D 2435          | Ea          | 51.00              |
| 91400       | Dispersive Characteristic by Pinhole Test     | D 4647          | Ea          | 286.00             |
| 91500       | Dispersive Characteristic by Crumb Test       | D 6572          | Ea          | 38.00              |
| 91600       | Double Hydrometer                             | D 4221          | Ea          | 177.00             |
| 91700       | Soil Suction - Filter Paper                   |                 | Ea          | 57.00              |
| 91900       | California Bearing Ratio                      | D 1883          | Ea          | 215.00             |
| 92000       | Soil Shrinkage Factors by Mercury Method      | D 427           | Ea          | 63.00              |
| 92100       | Soil Shrinkage Factors by Wax Method          | D 4943          | Ea          | 76.00              |
| 92200       | One-Dimensional Swell, Cohesive Soil          | D 4546          | Ea          | 292.00             |
| 92300       | OMD Standard Compaction                       | D 698           | Ea          | 204.00             |
| 92400       | OMD Modified Compaction                       | D 1557          | Ea          | 218.00             |
| 92500       | Max. & Min. Density - Sand                    | D 4253/D 4254   | Ea          | 212.00             |
| 92600       | Percent Solids in Lime Slurry                 |                 | Ea          | 43.00              |
| 92700       | Optimum Lime Content - pH Method              | D 6276          | Ea          | 235.00             |
| 92800       | Optimum Lime Content - PI Method              |                 | Ea          | 242.00             |
| 94100       | Cement Sand Compressive Strength              | D 1633          | Ea          | 71.00              |
| 94200       | Cement Content of Soil-Cement                 | D 806           | Ea          | 313.00             |
| 94300       | Sieve Analysis - Base Material                | C 136           | Ea          | 95.00              |
| 94400       | Compressive Strength Treated Base             | Tex-120E        | Ea          | 258.00             |
| 94500       | OMD Standard Compaction, Treated              | D 698           | Ea          | 225.00             |
| 94600       | OMD Standard Compaction, Treated              | D 1557          | Ea          | 239.00             |
| 95100       | Nuclear Density Gauge                         | D 6938          | Hr          | 10.50              |

**Harris County Fee Schedule  
Construction Materials Engineering Services  
Labor and Unit Rates  
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Slip-Lining and Manhole Repair

| <b>Code</b> | <b>Description</b>                               | <b>Standard</b> | <b>Unit</b> | <b>Current Fee</b> |
|-------------|--|-----------------|-------------|--------------------|
| 100100      | Coring/Drilling of Manhole Grout                 |                 | Hole        | 61.00              |
| 100200      | Coring and Strength of Gunite Panel              |                 | Core        | 122.00             |
| 100300      | Flexural Strength/Modulus of Elasticity of Liner | D 790           | Coupon      | 343.00             |

**Harris County Fee Schedule  
Construction Materials Engineering Services  
Labor and Unit Rates  
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Subsurface Exploration

| <b>Code</b> | <b>Description</b>   | <b>Standard</b> | <b>Unit</b> | <b>Current Fee</b> |
|-------------|--|-----------------|-------------|--------------------|
| 11010       | Soil Boring, Intermittent 3-in. dia. (0 to 50')                                      |                 | Ft          | 19.00              |
| 11020       | Soil Boring, Intermittent 3-in. dia. (50' to 100')                                   |                 | Ft          | 21.00              |
| 11030       | Soil Boring, Continuous 3-in. (0 to 20')   |                 | Ft          | 21.00              |
| 11031       | Soil Boring, Continuous 3-in. (20 to 50')  |                 | Ft          | 25.00              |
| 11032       | Soil Boring, Continuous 3-in. (50 to 100')   |                 | Ft          | 35.00              |
| 11040       | Soil Boring over 100' (Surcharge)  |                 | Ft          | 7.00               |
| 11050       | Wash Boring  |                 | Ft          | 9.00               |
| 11060       | Auger Boring   |                 | Ft          | 10.50              |
| 11070       | Undisturbed/Split-Spoon in Wash/Auger Borings  |                 | Ea          | 39.00              |
| 11071       | Piezometer Installation  |                 | Ft          | 16.00              |
| 11072       | Piezometer Abandonment   |                 | Ft          | 16.00              |
| 11080       | Grouting of Completed Boring   |                 | Ft          | 10.00              |
| 11090       | A.T.V. Surcharge   |                 | Ft          | 7.00               |
| 11100       | Minimum Charge for the Exploration<br>(to be used if charges are less than \$782.00) |                 | LS          | 782.00             |
| 11110       | Mobilization/Demobilization  |                 | LS          | 349.00             |
| 11120       | TDH Cone Penetration Test  |                 | Ea          | 27.00              |
| 11130       | ATV Mobilization Surcharge   |                 | LS          | 136.00             |
| 11140       | Portable Rig Drilling (Crew of two)  |                 | Hr          | 177.00             |
| 11150       | Standby (Crew of Two)  |                 | Hr          | 170.00             |

## Harris County Fee Schedule "General Notes" - 2015

### 1. General

- 1.1 All construction materials engineering services including sampling, field and laboratory testing, and inspection services ("Services") performed by Consultant for Harris County must be authorized by Harris County.
- 1.2 Services not specifically authorized by Harris County will not be paid for.
- 1.3 Failure to perform specified services in accordance with Harris County requirements may result in cancellation of Consultant's purchase order.
- 1.4 Harris County is using internet-based software "Capital Projects Management and Tracking System (CAPTRAC)" to maintain consistent administrative and technical control for its projects through the County.

The consultant is required to use CAPTRAC for reporting of "All reports relating to field sample, inspection, field and laboratory testing" in accordance with procedures provided (the user's Guide and Quick Reference Guide in Construct-it under Help link) by the County.

At no cost to the consultant, the County will provide system login account(s) and provide training for consultant personnel. The consultant must update CAPTRAC with any new or revised information within 24 hours of that information becoming known to consultant.

### 2. Engineering Services

- 2.1 Engineering Services shall be performed by a professional engineer licensed in the State of Texas and employed full-time by the Consultant ("Engineer").
- 2.2 All construction materials engineering reports ("Reports") relating to Services performed by the Consultant shall be reviewed and signed by Consultant's Engineer. The Consultant's Engineer does not need to sign specimen pick-ups or project cancellation reports.
- 2.3 For review of Reports by Consultant's Engineer, Harris County will compensate the Consultant at the signing engineer's rate (Project Engineer) for ¼ (0.25) hour of engineering review time for each Report.
- 2.4 Harris County shall also compensate Consultant when Consultant's Engineer attends Project-related on-site and progress meetings at the request of the Harris County.
- 2.5 Overtime will not be allowed for any Engineering Service.

### 3. Field Services

- 3.1 "Sampling" is defined as the process of procuring materials for subsequent testing or examination that is performed by a certified technician with knowledge of appropriate sampling procedures.

- 3.2 "Specimen Pickup" is defined as the process of retrieving "specimens," usually pre-fabricated in the field such as cylinders, beams, or cubes, and transporting those specimens to the laboratory for subsequent testing or examination.
- 3.3 Field Services shall be performed by Consultant's certified engineering technicians in accordance with the Fee Schedule.
  - 3.3.1 A non-certified technician maybe allowed to assist a certified technician on a Project provided two or more technicians are required.
  - 3.3.2 Specimen Pickup shall be performed, whenever possible, as a part of a scheduled field trip or by the full-time technician assigned to the Project.
  - 3.3.3 Specimen Pickup not performed as a part of a scheduled field trip or by the technician assigned to the Project shall be compensated at the technician rate.
  - 3.3.4 Field sieve analysis and lime slurry percent-solids determination shall be performed in the field as part of the field inspection without an additional testing charge.
  - 3.3.5 The rates for coring of Portland cement concrete or asphaltic concrete are inclusive of the field representative's time, all equipment , and patching of the core hole with a conventional concrete mixture for concrete or cold-patching asphaltic materials for asphaltic concrete. The rates for coring do not include a Vehicle Charge. Patching with specialty materials (such as non-shrink repair mortar) must be approved in advanced by Harris County and any approved specialty patching materials will be reimbursed by Harris County at cost plus 10%.
  - 3.3.6 A minimum of 30-minute unpaid lunch shall be taken by the field technician for work over eight (8) hours unless otherwise approved in writing by the Harris County.
  - 3.3.7 Certified technicians shall carry their certification wallet cards with them on the Project.
- 3.4 Harris County shall compensate Consultant for Services on a portal-to-portal basis between the Consultant's facility and the Harris County Project or other Project-related location.

#### **4. Laboratory Services**

- 4.1 Fees for laboratory tests are inclusive of sample preparation unless specifically noted in this Attachment. Compensation shall not be paid for personnel services and/or materials related to such testing, except as specifically noted in this Attachment.
- 4.2 Unless otherwise requested by Harris County, an aggregate correction factor will not be determined for use in adjusting the aggregate gradation and asphalt content when testing HMAC in accordance with ASTM D6307. Laboratory reports should include a note indicating that an aggregate correction factor was not used.

## **5. Other Services**

### **5.1 Geotechnical Services**

- 5.1.1 All geotechnical borings shall be staked by Consultant and shall be compensated at the rate not to exceed that for a Graduate Engineer.
- 5.1.2 Geotechnical logging shall be performed by a technician certified in soils or a Graduate Engineer or Graduate Geologist. Unless the services of an Engineer or Geologist are approved by Harris County in advance, logging shall be compensated at the NICET Level II technician rate. Costs for logging services shall be in addition to fees for geotechnical drilling and sampling services.
- 5.1.3 Geotechnical borings shall be drilled at increments of 5-ft.

### **5.2 Traffic Control**

- 5.2.1 If traffic control is necessary during geotechnical field operations, qualified personnel or a qualified subcontractor should be engaged to provide traffic control. Proposed use of traffic control must be approved in advance by the Director.

## **6. Reporting**

Consultant shall document all field and laboratory Services in a written report prepared in accordance with Project Specifications and standard methods.

### **6.1 Reports shall contain the following:**

- 6.1.1 Project Name, Consultant Report number, and Harris County Job No.
  - 6.1.2 Personnel name and certification typed or printed legibly.
  - 6.1.3 Time of departure from Consultant's facility.
  - 6.1.4 Time of arrival at Project.
  - 6.1.5 Standby time, if any.
  - 6.1.6 Services requested and performed.
  - 6.1.7 Time of departure from Harris County Project.
  - 6.1.8 Time of arrival at Consultant's facility.
  - 6.1.9 Overtime hours, if any.
  - 6.1.10 Appropriate Specification and/or Test Method.
  - 6.1.11 Signature of Engineer reviewing Report.
- 6.2 Reports shall contain hours of service for each visit to the Harris County Project including Specimen Pickup.
- 6.3 All Reports must be received by the Harris County within 14 calendar days of the original date of service or completion of required laboratory tests.
- 6.4 Final reports presenting strength test results shall be sent to Harris County within three (3) business days following the test date.

## 7. Compensation and Invoicing

- 7.1 Compensation of Consultant for personnel performing sampling, testing, inspection, and traffic control services shall be as stated in the Fee Schedule and shall include reasonable travel time, as agreed to by Harris County, between Consultant's facility and the Harris County Project.
- 7.2 Fees for Services are inclusive of all tools, equipment and consumable supplies needed to perform the subject services, except as specifically noted in this Attachment.
- 7.3 Fees for Services performed on an hourly basis shall be recorded to the nearest  $\frac{1}{4}$  (0.25) hour and will be compensated at the applicable rate.
- 7.4 Overtime for field services is applicable for any hours work before 6:00 a.m. or after 6:00p.m., Monday through Friday, and any hours worked on Saturday, Sunday or a holiday or over 8 hours per day.
- 7.5 A minimum charge of four (4) hours for field technician, vehicle, and equipment (where charged on an hourly rate) shall apply to each visit to the Project site or to an authorized off-site location for sampling, observation, inspection, or testing as outlined in the Fee Schedule. The maximum Vehicle Charge shall be eight (8) hours at the rate outlined in the Fee Schedule.
- 7.6 All hourly services invoiced shall be accompanied by the Company representative's signed time sheet or daily report, including the name and classification of the individual. Hourly services shall be invoiced to the nearest  $\frac{1}{4}$  hour.
- 7.7 A minimum of 30-minute lunch shall be taken for continuous work of eight (8) hours or more on a single Project.
- 7.8 If a technician has departed for the Project, prior to receipt of a cancellation notice by Consultant, Consultant shall be compensated at the applicable technician rate for the time required to Consultant's facility plus applicable Vehicle Charge. A four (4) hour minimum shall apply.
- 7.9 If a technician/inspector is assigned to more than one Harris County Project in one day, his or her actual time on both Projects shall be charged (i.e. no minimum charge for both Projects), provided the total time exceeds four (4) hours. All hours invoiced must be supported by copies of Reports and a signed time-sheet or daily activity report sheets, which contains the name of the personnel and their certification, shall be signed by third-party inspector or contractor, if available.
- 7.10 Consultant may be reimbursed by Harris County for services of a qualified subcontractor or consultant, authorized in advance by the Harris County, at cost plus 10%.
- 7.11 Reproduction charges shall be compensated at current commercial rates.
- 7.12 All reimbursable expenses of Consultant shall be supported by documentation acceptable to the Harris County. Reimbursables such as photographs, reproduction material, delivery, background checks, safety training/orientation, traffic control, parking, and badging, etc., shall be invoiced and reimbursed at cost plus 10%. Receipts for reimbursable expenses must be submitted with the Consultant's invoice for the reimbursable expense.



TRANSPORTATION GROUP, LP

Engineering . Planning . Infrastructure . Construction  
800 Wilcrest Drive, Suite 240, Houston, TX 77042

TBPE Firm No. F-11000

May 7, 2018

**Revised May 21, 2018**

**Revised July 23, 2018**



**COSTAS GEORGHIOU PE**  
Principal

Houston

Tel: 713-622-1444

**Re: Fort Bend County 2017 Mobility Bond Program  
Owens Road – Section 2 – Fort Bend County Precinct 3  
Owens Road at FM 1464 Traffic Signal**

Dear Costas:

EPIC Transportation Group, LP (EPIC) appreciates the opportunity to submit this proposal for engineering services to Fort Bend County (FBC) and PGAL related to Owens Road reconstruction in Precinct 3. We understand that the roadway will be widened to a four-lane concrete boulevard section at the intersection with FM 1464, and transitioned back to two-lane (half boulevard) on either side of FM 1464.

**SCOPE OF SERVICES:**

Following is our understanding of the traffic-related services EPIC is tasked to perform:

- FC 110 - Traffic Signal Warrant Study (at FM 1464 intersection)
- FC 162 - Traffic Signal Design at Owens Road and FM 1464 intersection

Prepare all work in accordance with the latest version of the applicable FBC procedures, specifications, manuals, guidelines, standard drawings, etc. Guides include the Texas Manual on Uniform Traffic Control Devices (TMUTCD), Highway Capacity Manual, Institute of Transportation Engineers (ITE) Trip Generation Manual, Americans with Disabilities Act Accessibility Guidelines (ADAAG), the Texas Accessibility Standards (TAS), AASHTO's A Policy on Geometric Design of Highways and Streets, and applicable traffic software.

**FC 110 - SIGNAL WARRANT STUDY AT FM 1464 INTERSECTION**

Conduct traffic signal study at the intersection of Owens Road and FM 1464 for opening year traffic conditions and provide recommendations for signalization and related improvements.

The study will contain the following:

- Perform manual intersection traffic movement counts during a weekday (Tuesday, Wednesday or Thursday) for 12-hours (6 AM to 6 PM). Counts will be recorded at 15-minute and hourly intervals. Totals will be provided for the AM and PM periods along with the overall 12-hours.

- Simultaneously perform pedestrian volume counts on each approach for the time period mentioned above.
- Perform 2-hour spot speed data collection on the major street (FM 1464).
- Prepare a site map of the area where the study is requested. Information shall consist of existing control devices at the intersection and all existing signals for one mile.
- Conduct site inspection and record traffic characteristics observed in the field. The field work may include but not limited to taking measurements, locating utilities, locating existing traffic control equipment, identifying existing conditions and taking photographs (minimum of three photographs per approach).
- Prepare a condition diagram showing details from site inspection and field work mentioned above.
- Obtain and analyze crash records for the study location or section of roadway from the State or FBC during the most recent thirty six (36) month period.
- Prepare collision diagram from crash records showing crash experience by type, location, direction of movement, severity, weather, time of day and date.
- Project traffic data to opening year using an annual growth rate obtained from H-GAC or a rate preferred by FBC. Analyze the projected traffic and pedestrian data and complete the latest version of the Traffic Survey County Analysis form for inclusion in the report.
- Provide findings and recommendations based on the analysis.

#### **FC 110 - DELIVERABLE**

Prepare and submit two (2) draft reports for review and two (2) final reports after review. The reports shall include findings and recommendations along with a site map, existing condition diagram, field photographs, traffic and speed counts, traffic analysis, and any recommended improvements.

#### **FC 162 – TRAFFIC SIGNAL DESIGN**

Services to be provided by EPIC are for the Design Phase only. The engineering design shall be performed in accordance with generally accepted procedures, approved variances, FBC and TxDOT design guidelines, standards and specifications. Work specific to the location is described below:

Based on Traffic Signal Warrant Study, if a signal is warranted and recommended this intersection shall receive a new conventional signal system with ground-mounted controller, cabinet and BBUs.

The new signal system shall be fully actuated with a) radar detection for vehicles on asphalt pavement, b) loop detection system for vehicles on concrete pavement, and 3) push buttons for pedestrians.

The new signal shall have mast arm configuration and horizontal LED vehicle signal heads. Left turn signals will have protected/permissive phasing with flashing yellow indications. The intersection will receive two (2) pole-mounted LED luminaires for safety lighting. Pedestrian related LED countdown signals, push buttons, signing and crosswalks will be applied all around the intersection.

The intersection shall receive new wheelchair ramps (perpendicular or diagonal) at applicable intersection corners with curb, and pedestrian access pads where there is no curb. These ramps and pads shall be in compliance with the Americans with Disabilities Act Accessibility Guidelines (ADAAG) as adopted by FBC/TxDOT and designed by PGAL.

Overhead power lines currently exist at the intersection, and depending on their location after widening, the power lines may have to be raised to allow for signal construction. Request to the power company to raise the power lines shall be made through FBC, if required.

Coordination with Centerpoint Energy will be done by EPIC and Power Service Outlet and Data Statement will be obtained and submitted.

Coordination with Home Owners Association, if any, will be done for any irrigation, plants, controller location and utility easements, if required.

### **FC 162 - DELIVERABLE**

Plan layouts shall be prepared in English units at 1"=40' scale on 11"x17" layouts. Interim reviews shall be at the 70%, 95% and 100% submittals. For which, one set of bond layouts and one PDF copy shall be submitted as requested by FBC. The final submittal will be the sealed and signed bond set of plans. All design drawings shall be prepared using Microstation V8i graphics software and shall be consistent with the level structure required by FBC. Basis of estimate will be provided in FBC format. Computer files containing all design drawings required for the Project shall be provided. Plan layouts shall be prepared per FBC and TxDOT Signal Design Guidelines and shall be designed as part of the bid package put together by PGAL.

Following are the anticipated sheets:

- Construction Notes and Traffic Signal Notes
- Basis of Estimate
- Existing Conditions Layout
- Proposed Signal Layouts (including Notes)
- Standard Detail Drawings (as required)

### **EXCLUSIONS**

The following services are not part of the scope:

- Survey – PGAL will provide survey through one of its sub-consultants.
- Signing and pavement markings design.
- Pedestrian wheel chair ramp design.
- Geotechnical engineering - Soil and foundation investigations, soil tests, coring and analysis of test results for design and construction are not required.
- Temporary signalization (during construction) is not required since the location does not have an existing signal.
- Signal timing.
- Expert testimony.
- Construction Phase services.

## **SCHEDULE**

EPIC shall follow the schedule developed by PGAL and agreed by FBC for this project. EPIC is assuming there is adequate time for review and coordination in the proposed schedule.

## **ADDITIONAL SERVICES**

Any work beyond the Scope is considered additional is subject to negotiation. No work shall be done under Additional Services without prior consent from FBC.

## **COMPENSATION**

Please see Exhibit D – Fee Schedule for further details on man-hours and cost breakdown. The amount shown includes all necessary direct expenses estimated to complete the effort as described above. The fee includes all labor and non-labor reimbursable expenses required for this project. EPIC's Labor Classification and Hourly Rates is included as Attachment A.

We trust that the information provided is sufficient for you to complete your evaluation of this proposal. However, should you have any questions, please let me know.

Sincerely,  
EPIC Transportation Group, LP



Harish Narayanappa, P.E., PTOE  
President

Attachments:  
Exhibit D – Fee Schedule

PROJECT NAME: OWENS ROAD  
 FORT BEND COUNTY PROJECT NO.:  
 SUBPROVIDER NAME: EPIC TRANSPORTATION GROUP, LP

EXHIBIT D - FEE SCHEDULE

| TASK DESCRIPTION                                      | SENIOR PROJECT MANAGER | PROJECT MANAGER | SENIOR PROJECT ENGINEER | GRADUATE ENGINEER | CADD TECHNICIAN | ADMIN/ CLERICAL | TOTAL HRS. & COSTS | COST PER TASK | NO OF DWGS | HRS PER SHEET |
|---|------------------------|-----------------|-------------------------|-------------------|-----------------|-----------------|--------------------|---------------|------------|---------------|
| <b>TRAFFIC ENGINEERING STUDIES (FC 110)</b>           |                        |                 |                         |                   |                 |                 |                    |               |            |               |
| Contract Rate per Hour                                | \$258.00               | \$237.00        | \$204.00                | \$132.00          | \$117.00        | \$90.00         |                    |               |            |               |
| Data Collection/Inspection                            |                        | 2               | 4                       | 8                 |                 |                 | 14                 | \$ 2,346.00   | N/A        | N/A           |
| Field Visit/State Inventory                           |                        |                 | 4                       |                   |                 |                 | 4                  | \$ 816.00     | N/A        | N/A           |
| Crash Analysis  |                        |                 |                         | 8                 |                 |                 | 8                  | \$ 1,056.00   | N/A        | N/A           |
| Traffic Signal Warrant Analysis                       |                        | 4               | 2                       | 4                 |                 |                 | 6                  | \$ 996.00     | N/A        | N/A           |
| Reporting   |                        |                 | 4                       | 6                 |                 |                 | 20                 | \$ 3,094.00   | N/A        | N/A           |
| <b>HOURS SUB-TOTALS</b>                               | 0                      | 6               | 12                      | 26                | 8               | 0               | 52                 |               | 0          |               |
| <b>SUBTOTAL (FC 110)</b>                              | \$0.00                 | \$1,422.00      | \$2,448.00              | \$3,432.00        | \$936.00        | \$0.00          | \$8,238.00         |               |            |               |
| <b>SIGNALIZATION (FC 162)</b>                         |                        |                 |                         |                   |                 |                 |                    |               |            |               |
| Basis of Estimate                                     |                        | 2               | 4                       | 12                |                 |                 | 18                 | \$ 2,874.00   | 1          | 18            |
| Construction and Traffic Signal Notes                 |                        |                 | 2                       | 4                 |                 |                 | 14                 | \$ 1,872.00   | 2          | 7             |
| Existing Condition Layout                             |                        |                 | 2                       | 4                 |                 |                 | 14                 | \$ 1,872.00   | 1          | 14            |
| Proposed Signal Layouts                               |                        | 8               | 40                      | 18                | 60              |                 | 126                | \$ 18,452.00  | 4          | 32            |
| Proposed Signal Elevation Layouts                     |                        | 2               | 4                       | 4                 | 12              |                 | 22                 | \$ 3,222.00   | 2          | 11            |
| <b>HOURS SUB-TOTALS</b>                               | 0                      | 12              | 52                      | 42                | 88              | 0               | 194                |               |            |               |
| <b>SUBTOTAL (FC 162)</b>                              | \$0.00                 | \$2,244.00      | \$10,608.00             | \$5,544.00        | \$10,296.00     | \$0.00          | \$29,292.00        |               |            |               |
| <b>PROJECT MANAGEMENT AND ADMINISTRATION (FC 164)</b> |                        |                 |                         |                   |                 |                 |                    |               |            |               |
| Coordination with Prime                               |                        | 4               | 2                       |                   |                 |                 | 4                  | \$ 948.00     | N/A        | N/A           |
| Prepare Monthly Invoices and Progress Reports         |                        |                 | 2                       | 4                 |                 | 2               | 4                  | \$ 588.00     | N/A        | N/A           |
| Site Visits/Meetings                                  |                        | 2               | 4                       |                   |                 |                 | 6                  | \$ 1,290.00   | N/A        | N/A           |
| Utility Coordination                                  |                        |                 | 3                       |                   |                 |                 | 3                  | \$ 612.00     | N/A        | N/A           |
| Submittals (70%/65%/100%)                             |                        |                 | 2                       | 2                 | 4               |                 | 8                  | \$ 1,140.00   | N/A        | N/A           |
| <b>HOURS SUB-TOTALS</b>                               | 0                      | 6               | 11                      | 2                 | 4               | 2               | 25                 |               |            |               |
| <b>SUBTOTAL (FC 164)</b>                              | \$0.00                 | \$1,422.00      | \$2,244.00              | \$264.00          | \$468.00        | \$180.00        | \$4,578.00         |               |            |               |
| <b>TOTAL HOURS</b>                                    | 0                      | 24              | 75                      | 70                | 100             | 2               | 271                |               |            |               |
| <b>CONTRACT RATE PER HOUR</b>                         | \$258.00               | \$237.00        | \$204.00                | \$132.00          | \$117.00        | \$90.00         |                    |               |            |               |
| <b>SUBTOTAL LABOR EXPENSES</b>                        | \$0.00                 | \$5,688.00      | \$15,300.00             | \$9,240.00        | \$11,700.00     | \$180.00        | \$42,108.00        |               |            |               |
| <b>DIRECT EXPENSES</b>                                |                        |                 |                         |                   |                 |                 |                    |               |            |               |
| Message   | 500                    | UNIT            | RATE                    |                   |                 |                 | TOTAL              |               |            |               |
| Overnight Mail - Covered Box                          | 3                      | EACH            | \$0.535                 |                   |                 |                 | \$ 267.50          |               |            |               |
| Photocopiers B&W (8 1/2" X 11")                       | 300                    | EACH            | \$0.10                  |                   |                 |                 | \$ 30.00           |               |            |               |
| Photocopiers B&W (11" X 17")                          | 500                    | EACH            | \$0.20                  |                   |                 |                 | \$ 100.00          |               |            |               |
| Photocopiers Color (8 1/2" X 11")                     | 100                    | EACH            | \$0.50                  |                   |                 |                 | \$ 50.00           |               |            |               |
| CD Archive  | 2                      | EACH            | \$5.00                  |                   |                 |                 | \$ 10.00           |               |            |               |
| <b>SUBTOTAL DIRECT EXPENSES</b>                       |                        |                 |                         |                   |                 |                 | \$ 547.50          |               |            |               |
| <b>TOTAL</b>  |                        |                 |                         |                   |                 |                 | \$42,655.50        |               |            |               |



Fort Bend County Engineering  
FORT BEND COUNTY, TEXAS

Richard W. Stolleis, P.E.  
County Engineer

**MEMORANDUM**

August 28, 2018

**TO: Members of the Commissioners Court**

**RE: Schaumburg & Polk 2nd Amendment – Project Management, 2013 Mobility**

The total cost of the Amendment is \$115,000. The funding will be transferred from the following projects:

| <b>Project No.</b> | <b>Project Name</b> | <b>Amount</b> |
|--------------------|---------------------|---------------|
| 13312              | Greenbusch          | \$40,000      |
| 13313              | Huggins Drive       | \$20,000      |
| 13316              | Katy-Flewellen      | \$35,000      |
| 13317              | Katy Fulshear       | \$20,000      |