

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

WITNESSETH

WHEREAS, County desires that Contractor provide professional engineering services for the construction of a four-lane concrete curb and gutter boulevard with storm sewer drainage, including a traffic signal at Bay Hill Boulevard and in-line detention, from Westheimer Parkway to the Harris County line for the Roesner Road – Segment 2 Project, Number 17306, under 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 preliminary engineering and final design as well as associated additional services for the project as described Contractor's proposal dated May 7, 2018 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 nine hundred three thousand three hundred ninety-five dollars and no/100 (\$903,395.00) 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 nine hundred three thousand three hundred ninety-five dollars and no/100 (\$903,395.00) 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 nine hundred three thousand three hundred ninety-five dollars and no/100 (\$903,395.00).

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 Attn: County Engineer 301 Jackson Street Richmond, Texas 77469
With a copy to:	Fort Bend County Attn: County Judge 401 Jackson Street, 1 st Floor Richmond, Texas 77469
Contractor:	Costello, Inc. Attn: Samuel W. Kruse, Jr., P.E. 2107 City West Boulevard, 3rd Floor 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.

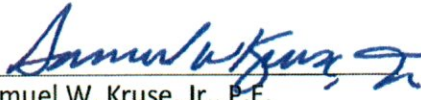
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IN WITNESS WHEREOF, the parties hereto have signed or have caused their respective names to be signed to multiple counterparts to be effective on the date signed by the last party hereto.

FORT BEND COUNTY

COSTELLO, INC

Robert E. Hebert, County Judge



Samuel W. Kruse, Jr., P.E.
Vice President – Municipal Services

Date

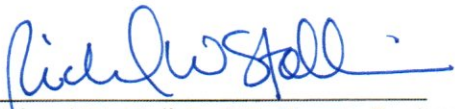
5/14/18

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

May 7, 2018



Mr. Richard Stolleis, P.E.
Fort Bend County Engineer
310 Jackson St., #101
Rosenberg, Texas 77469

RE: Proposal for Engineering Services for
Roesner Road Segment 2 (Westheimer Parkway – Harris County Line)
Fort Bend County, Texas
2017 Mobility Project 17306

Dear Mr. Stolleis:

Costello, Inc., (CI), is pleased to provide this proposal to provide Engineering services for the referenced project. Within this proposal letter are the project scope, scope of services, compensation, and the schedule for proposed services.

PROJECT OBJECTIVE

Fort Bend County Precinct Three is planning for the construction of Roesner Road (Westheimer Parkway – Harris County Line) as primarily a four lane reinforced concrete boulevard section with curb and gutter drainage (unless limited in areas by ROW). It is understood that any associated public utility adjustments, drainage (including anticipated 4 outfalls), and required detention considerations will be included with the project. The project includes a Traffic Signal @ Bay Hill, 4 private pipeline crossings, inline detention considerations, and the relocation of public and private utilities. This proposal is for preliminary engineering and final design basic services as well as associated additional services for the project.

Engineering services will be performed in accordance with Harris County, and Fort Bend County (where applicable) design criteria, specifications, details, and standards, as well as the TxDOT Manual for Uniform Traffic Control Devices.

■

SCOPE OF SERVICES

BASIC SERVICES

A Preliminary Engineering

1. Tasks associated with the development of a preliminary engineering letter report in accordance with Harris County standards. The letter report will include preliminary drawings (30% level), a construction cost estimate, and preliminary schedule.
2. The report will reflect the preliminary design of approximately 6,700 linear feet of four lane concrete roadway (except in areas limited by available ROW) with storm sewer drainage.
3. Coordinate with the various MUDs and private utility companies whose facilities may be affected by the proposed construction and obtain the location of their existing and planned facilities. When necessary, we will assist the County in negotiations with the MUDs and pipeline companies and authorities for adjustment of their facilities.
4. Develop a 30% set of construction drawings basically including all existing information in plan and profile views and proposed information in plan view only with no details.
5. Develop a preliminary engineering cost estimate.
6. Provide 3 draft copies of the engineering letter report for Fort Bend County review.
7. Receive Fort Bend County, Fort Bend County Drainage District, and agency review comments and incorporate into the final design phase of the project.

B. Final Design

1. Upon approval of the preliminary engineering report, develop final construction plans, project specifications, and project manual.
2. Prepare an engineer's estimate of construction cost based on the final contract documents.
3. Provide a 70% and 95% set of plans and specifications for review by the County and agencies of jurisdiction.
4. Receive review comments from County and agencies of jurisdiction and incorporate into the 100% submittal.
5. Pursue approvals of agencies with jurisdiction over the project as well as utility companies and other authorities.

ADDITIONAL SERVICES

- A. MBCO Company will provide surveying services (see attached proposal) including:
 - 1. Verify existing Right- of- Way (ROW) and identify property owners
 - 2. Perform abstracting as necessary
 - 3. Tie soils boring locations
 - 4. Tie coordinate geometry to monument system desired by Fort Bend County
 - 5. Provide topographical survey and cross sections (cross sections @ 100' intervals and extend for the proposed ROW width plus 20' on either side for the project length and for 200 feet through transitions on the east and west end of the project.
 - 6. Provide a Survey Control Index Sheet and Horizontal/Vertical Control Sheet
- B. Costello will provide an H&H Study (see attached proposal)
- C. Transcend will provide Traffic Signal Design (see attached proposal)
- D. Earth will provide geotechnical services (see attached proposal)
- E. CI/ZE will provide SW3P Plan (see attached proposal)
- F. CI/ZE will provide Traffic Control Plan (see attached proposal)
- G. CI will provide a Route Study for the entire Roesner Road alignment from the existing 4 lane roadway (south end of Segment 1) north to the I10 east bound feeder road in Harris County. (see attached proposal)

COMPENSATION

BASIC SERVICES

CI's Basis Services fee will be on a lump sum based on the attached levels of effort for preliminary, final design, and construction phases of the project:

1.	Preliminary Engineering	= \$ 234,550
2.	Final Design	= \$427,205
	Total Basic Service	= \$ 661,755

ADDITIONAL SERVICES

1.	Surveying (MBCO) (LS)	\$ 56,388
2.	Geotechnical Engineering (Earth) (LS)	\$ 49,437
3.	SWPPP (CI/ZE) (LS)	\$ 7,000
4.	Traffic Control Plans (CI/ZE) (LS)	\$ 20,000
5.	Traffic Signal Design (Transcend) (LS)	\$ 31,350
6.	H&H Study (LS)	\$ 40,000
7.	Roesner Road Preliminary Route Analysis (LS @ 50% Total Effort)	\$ 37,465
	Total Additional Services	\$241,640

Total Engineering Services Fees anticipated from the above scope of work are \$903,395. Project Representation Services will be negotiated later if desired by the County. The attached Exhibit "A" indicates the current billing rates we propose for T&M compensation.

PROJECT SCHEDULE

A.	Roesner Route Study	60 Calendar Days
B.	Preliminary Engineering	90 Calendar Days*
C.	Final Design – 70%	90 Calendar Days**
	– 95%	45 Calendar Days**
	– 100%	45 Calendar Days**

* Calendar Days to draft of PER from written NTP

Costello Engineering & Surveying


Mr. Richard Stolleis, P.E.
May 7, 2018

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** Calendar Days to complete milestone after receiving all written comments

We are pleased to provide this proposal to the County for this important infrastructure project and will be glad to answer any questions you may have.

Sincerely,
Costello, Inc.


Samuel W. Kruse, Jr., P.E.
Vice President, Municipal Services

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FORT BEND COUNTY
LEVEL OF EFFORT ESTIMATE
PRELIMINARY ENGINEERING
ROESNER ROAD - SEG 2

Task	Manhours							Total
	PIC/PM	PE / QA/QC	Staff Engr	CADD	Admin	Consult		
BASIC SERVICES *								
Coord., Sched., Budgets, QA/QC	30	60	35	0	6		\$	22,540
Records Collection	8	38	20	0	0		\$	11,040
Initial Agency/Utility Coord	8	38	20	0	0		\$	11,040
Site Visits	8	38	20	0	0		\$	11,040
Base Sheet Preparation	40	50	115	130	6		\$	44,390
Prelim Paving Design	16	60	65	120	0		\$	33,350
Prelim Det/ Channel Imp Des	8	16	24	40	0		\$	11,320
Prelim Water/San Swr Relocates	8	16	24	40	0		\$	11,320
Prelim Storm Sewer Design	12	60	70	120	0		\$	32,900
Sight Distance Exhibits	4	16	8	24	0		\$	7,040
Prepare Draft PER	6	36	24	0	6		\$	11,010
Incorporate Review Comments	8	16	24	40	0		\$	11,320
Reimbursable Expenses						\$ 5,000		5,000
Consultant Management	12	36	16	0	0		\$	11,240
ADDITIONAL SERVICES								
Design Survey						\$ 56,388		56,388
Geotech						\$ 49,437		49,437
H&H Study	32	75	170	0	0		\$	40,000
Prelim Traffic Control Des*	0	8	20	24	0	\$ 4,000		10,000
Prelim Traffic Signal Des						\$ 6,090		6,090
Prelim SW3P*	0	0	4	16	0	\$ 1,500		3,500
0.5 x Roesner Alignment Study							\$	37,465
TOTAL MANHOURS								
	200	563	659	554	18			
HOURLY RATE @ 3.0 MULT.								
	\$ 250	\$ 180	\$ 110	\$ 95	\$ 65			
FEES								
	\$ 50,000	\$ 101,340	\$ 72,490	\$ 52,630	\$ 1,170	\$ 122,415	\$	437,430

* - includes Zarinkolk

Prepared for: Fort Bend County
 Prepared by: Costello, Inc.
 Roesner Road Segment 2 Phase 2/3 LOE

Manhour Estimate
 Fort Bend County
 Roesner Road, Seg 2
 Phase 2/3 Services

Description	PIC/PM	PE	EIT	CADD Operator	Word Processor	Sub Consultant	
	Hours	Hours	Hours	Hours	Hours	S	
BASIC SERVICES*							
FINAL DESIGN							
MEETINGS - 6; MGMT	16	30	60	8	6		\$17,150
UTILITY/AGENCY COOR	16	30	60	8	6		\$17,150
FINAL PAVING DESIGN	24	150	200	0	0		\$55,000
FINAL DRAINAGE DESIGN	40	150	200	0	0		\$59,000
FINAL WWW RELOCATIONS	12	60	80	0	0		\$22,600
70% PLANS	8	80	140	450	8		\$75,070
95% PLANS	12	40	80	275	4		\$45,385
PROJECT MANUAL	24	100	100	0	8		\$35,520
CONST COST EST	12	40	100	0	2		\$21,330
REVIEW COMMENTS	8	40	60	60	4		\$21,760
100% DOCUMENTS	8	40	80	60	4		\$23,960
OBTAIN APPROVALS	4	24	60	16	0		\$13,440
CONSULTANT MGMT	8	40	24	0	0		\$11,840
EXPENSES							\$8,000
SUBTOTAL FINAL DESIGN							\$427,205
ADDITIONAL SERVICES*							
TRAFFIC CONTROL DESIGN*	0	8	20	24	0	\$4,000	\$10,000
TRAFFIC SIGNAL (TEMP)							\$0
TRAFFIC SIGNAL (PERMANENT)						\$25,260	\$25,260
SW3P DESIGN*	0	0	4	16	0	\$1,500	\$3,500
SUBTOTAL ADDTL SERVICES							\$38,760
Hours	192.00	832.00	1,268.00	917.00	42.00		
Billing Rate = Raw Labor Rate * Overhead Multiplier (3.0)	\$250.00	\$180.00	\$110.00	\$95.00	\$65.00		
Total Labor Costs	\$48,000	\$149,760	\$139,480	\$87,115	\$2,730	\$30,760	
Total Labor & Direct Cost							\$465,965

* Includes Zarinkelk

Roesner Drainage Impact Analysis Scope

The drainage impact analysis for the Roesner Road reconstruction is divided into multiple phases to match the construction phasing of the overall project. The entire project is within the Buffalo Bayou (Willow Fork) watershed which ultimately drains to Barker Reservoir. It is assumed that the DIA will be required to be reviewed and approved by both FBCDD and the Willow Fork Drainage District. FBCDD recently completed a watershed evaluation of Buffalo Bayou/Willow Fork and submitted a Letter of Map Revision to FEMA. The base model and methodologies established in this LOMR will be utilized for the hydrologic and hydraulic evaluations associated with the roadway improvements. All remaining drainage analysis and criteria will be in accordance with the Fort Bend County Drainage District's Drainage Criteria Manual dated 2011.

Below is a description and budget for each phase of the DIA:

Phase 2: Westheimer Parkway to County Line

The Phase 2 improvements include reconstruction of an existing 2-lane asphalt roadway from Westheimer Parkway to the county line (approximately 1,000 feet southwest of Katy-Gap Road). The roadway improvements include reconstruction of the existing 2-lane asphalt road with roadside ditch drainage to concrete curb and gutter with storm sewer. This segment of Roesner has limited to no available right-of-way for conventional detention ponds due to the development on both sides of the road right-of-way. Preliminary design anticipates oversizing of storm sewers to provide underground detention to mitigate the effects of the increase in roadway pavement. Three existing outfall locations have been identified for the roadway, Westheimer Parkway and two tributaries of Willow Fork.

An existing condition SWMM model will be developed for each outfall with the overall drainage areas taken from the Willow Fork watershed model and further subdivided based on topography and field observations. The proposed roadway improvements, along with associated underground detention, will then be simulated within the SWMM model to demonstrate no adverse impacts to the downstream facilities in the 10 and 100-year, 24-hour storm events. A report will be prepared and submitted to the county for review and approval. The above scope will require a project budget of \$40,000 for the Phase 2 DIA.

Roesner Road Alignment Study Scope of Work

Prior to the preliminary engineering work for Roesner Road Segments 1 and 2, an alignment study will be performed on the entire length of Roesner (Segments 1,2, and 3) which extends into Harris County from the existing Boulevard Section south of Westheimer Parkway north to the East Bound I-10 Feeder Road. This will allow for a new pavement section to extend from the southern end of Segment 1 north to a tie in to I-10 and provide an alternative north/south route through the region.

Segments 1 and 2 have been pretty much defined in previous planning work while three alternatives have been previously defined for Segment 3. Those 3 alternatives will be examined further (and modified as deemed beneficial) and coordination w/ Harris County will occur in hopes of acquiring an agreement between the two counties for a Segment 3 alignment that completes the Roesner Road project alignment and improves mobility for the region.

Tasks associated with the Alignment Study will include:

1. Review of the previously planned Segments 1 & 2 as well as the previously defined alignments for Segment 3
2. Development of any desired modifications, or additional alternatives
3. Provide an alternative analysis including both economic and noneconomic factors
4. Determine preliminary ROW and Environmental requirements for the alignment alternatives
5. Review the tie in to East Bound I-10 Feeder Road and coordinate with Harris County and TxDOT as required.
6. Develop preliminary pavement sections for the alternatives and available ROW
7. Meetings as needed with Ft. Bend County, Harris County, and TxDOT (up to 3 meetings)
8. Perform Initial ROW determination including landowner's research and takings
9. Develop Initial cost estimates for Segment 3 utilizing the existing FBC Mobility excel spreadsheet used in the previous 2017 Mobility Bond Program
10. Develop a report identifying the alternatives, the alternative analysis, document coordination efforts, and recommendations/conclusions of the study

FORT BEND COUNTY
LEVEL OF EFFORT ESTIMATE
ROUTE ANALYSIS
ROESNER ROAD

Task	MANHOURS						Total
	PIC/PM	PE /QA/QC	Staff Engr	CADD	Admin	Consult	
BASIC SERVICES							
Review Previous Alignments	4	24	8	0	0	0	\$ 6,200
Develop Modifications	4	12	8	16	0	0	\$ 5,560
Alternative Analysis	8	16	24	0	0	0	\$ 7,520
Prelim ROW Reqmts.	12	24	8	8	0	0	\$ 8,960
110 Tie In: Tx Dot Coord	4	12	8	0	0	0	\$ 4,040
Prelim Pavement Sections	4	8	16	8	0	0	\$ 4,960
Meetings w/ FBG,H,C,TxDOT (6)	12	24	18	0	0	0	\$ 9,300
Level of Mag Cost Estimates	8	16	16	0	0	0	\$ 6,640
Prepare Draft Route Analysis	16	32	24	16	4	0	\$ 14,180
Incorporate Review Comments	8	12	16	16	2	0	\$ 7,570
TOTAL MANHOURS							
	80	180	146	64	6		
HOURLY RATE @ 30 MULT							
	\$ 250	\$ 180	\$ 110	\$ 95	\$ 65		
FEES	\$ 20,000	\$ 32,400	\$ 16,060	\$ 6,080	\$ 390	\$ 407.5	\$ 74,930

SCOPE OF SERVICES

Roesner Road - Segment 2

Fort Bend Mobility Bond 2017; Project Number 17-306

PROJECT UNDERSTANDING

The proposed project includes approximately 2,000 feet of 4-lane boulevard with concrete curb and gutter and storm drainage.

SCOPE OF SERVICES

This scope includes a preliminary design, and final design phase service. Guidelines and overall scope of services are outlined in the 2017 Mobility Bond Program Fort Bend County, Texas Summary of Design Process document.

Following are the basic service phases that will be required for this project:

Preliminary Design

The preliminary design will include the following:

- Kick off and progress meetings
- Field investigations along the preliminary alignment
- Development of a typical section
- Preparation of preliminary cost estimate
- Preparation of report and exhibits
- 30% design plan set

Design

The design phase will include the following:

- Design Drawings including: cover sheet; general notes; index; overall layout; P&P drawings at 20 scale; typical sections; culvert design; drainage design; channel improvements; advanced warning, traffic control; signing and stripping; SWPPP; and roadway cross sections
- Design drawing submittals at 70 percent, 95 percent and final
- An opinion of the probable construction cost will be prepared in a format as directed
- Technical specifications utilizing provided Fort Bend County table of contents.

Costello will provide Survey information, Geotech, Environmental and H & H.

Traffic Control drawings will cover the entire segment

May 7, 2018
Scope of Services
Roesner Road-Segment 2
Fort Bend Mobility Bond 2017; PN 17306

Plans will be done in Microstation format. Utility coordination and pipeline coordination is not part of scope. Land acquisition services are not included.

Construction Phase Services is not part of scope.

SCHEDULE

The Preliminary Design Report will be submitted for review within 120 days from NTP. Phase II final design will take 150 days not including County review time.

FEE BREAKDOWN

The fees for Phase I and Phase II will be paid on a lump sum basis

The following table gives a breakdown of the total fee by phase:

Phase	Fee
Phase I	\$62,201.10
Phase II	\$134,332.89
Total	\$196,533.99

Roemer Road Segment 2
Fort Bend Mobility Bond 2017, Project Number 306

TASK DESCRIPTION	Principal	Project Manager	Senior Engineer	Sr. Hydr. Structural Engineer	Design Engineer	Senior Designer/	CADD Operator/Technician	QA/QC Review	Clerical	Total Labor Hours & Costs
ITEM D (BASIC SERVICES PHASE D)										
FIELD VISIT / COORDINATION / MEETINGS										
COLLECT AND REVIEW EXISTING DATA	1	1	2		2					
CONDUCT FIELD RECONNAISSANCE		2	2	0		0	0		2	
Preliminary ROW Investigation		1	2		4		2	4		
Utility Coordination		0	0		0	0	0		0	
Pipeline Coordination		0	0		0	0	0		0	
Progress Meetings		4	4		4				4	
HOURS SUB-TOTALS	1	8	10	0	10	0	2	4	6	41
LABOR RATE PER HOUR	\$105.00	\$75.00	\$70.00	\$60.00	\$50.00	\$40.00	\$36.00	\$70.00	\$24.00	
DIRECT LABOR COSTS	\$105.00	\$600.00	\$700.00	\$0.00	\$500.00	\$0.00	\$72.00	\$280.00	\$144.00	2,401.00
JOB MULTIPLIER	3	3	3	3	3	3	3	3	3	
TOTAL LABOR COSTS	\$315.00	\$1,800.00	\$2,100.00	\$0.00	\$1,500.00	\$0.00	\$216.00	\$840.00	\$432.00	7,203.00
TOTAL ITEM D										\$7,203.00

Roesner Road Segment 2
Fort Bend Mobility Bond 2017, Project Number 306

TASK DESCRIPTION	Principal	Project Manager	Senior Engineer	Sen. Hydr. Structural Engineer	Design Engineer	Senior Designer	CADD Operator/Technician	QA/QC Review	Clerical	Total Labor Hours & Costs
ITEM E (BASIC SERVICES PHASE D)										
FINALIZE ALIGNMENT & TYPICAL SECTION										
Typical Section	1	2	4		4	0	8	1	0	
HOURS SUB-TOTALS	1	2	4	0	4	0	8	1	0	20
LABOR RATE PER HOUR	\$105.00	\$75.00	\$70.00	\$60.00	\$50.00	\$40.00	\$36.00	\$70.00	\$24.00	
DIRECT LABOR COSTS	\$105.00	\$150.00	\$280.00	\$0.00	\$200.00	\$0.00	\$288.00	\$70.00	\$0.00	\$1,093.00
JOB MULTIPLIER	3	3	3	3	3	3	3	3	3	
TOTAL LABOR COSTS	\$315.00	\$450.00	\$840.00	\$0.00	\$600.00	\$0.00	\$864.00	\$210.00	\$0.00	\$3,279.00
ITEM F (BASIC SERVICES PHASE D)										
DRAINAGE STUDY AND NO IMPACT ANALYSES										
Site Culverts		8	8	24	0	0	36	2		
HOURS SUB-TOTALS	0	8	8	24	0	0	36	2	0	78
LABOR RATE PER HOUR	\$105.00	\$75.00	\$70.00	\$60.00	\$50.00	\$40.00	\$36.00	\$70.00	\$24.00	
DIRECT LABOR COSTS	\$0.00	\$600.00	\$560.00	\$1,440.00	\$0.00	\$0.00	\$1,296.00	\$140.00	\$0.00	\$4,036.00
JOB MULTIPLIER	3	3	3	3	3	3	3	3	3	
TOTAL LABOR COSTS	\$0.00	\$1,800.00	\$1,680.00	\$4,320.00	\$0.00	\$0.00	\$3,888.00	\$420.00	\$0.00	\$12,108.00
ITEM G (BASIC SERVICES PHASE D)										
PRELIMINARY OPINION OF PROBABLE COST										
HOURS SUB-TOTALS	1	2	6	0	16		0	1		26
LABOR RATE PER HOUR	\$105.00	\$75.00	\$70.00	\$60.00	\$50.00	\$40.00	\$36.00	\$70.00	\$24.00	
DIRECT LABOR COSTS	\$105.00	\$150.00	\$420.00	\$0.00	\$800.00	\$0.00	\$0.00	\$70.00	\$0.00	\$1,545.00
JOB MULTIPLIER	3	3	3	3	3	3	3	3	3	
TOTAL LABOR COSTS	\$315.00	\$450.00	\$1,260.00	\$0.00	\$2,400.00	\$0.00	\$0.00	\$210.00	\$0.00	\$4,635.00
TOTAL ITEM G										\$4,635.00

Roesner Road-Segment 2
Fort Bend Mobility Bond 2017; Project Number 306

TASK DESCRIPTION	Principal	Project Manager	Senior Engineer	Sen. Hyd. Structural Engineer	Design Engineer	Senior Designer/	CADD Operator/ Technician	QA/QC Review	Chertical	Total Labor Hours & Costs
ITEM H (BASIC SERVICES PHASE I)										
PRELIMINARY DESIGN REPORT										
(30% DRAWINGS NOT INCLUDED HERE)										
HOURS SUB-TOTALS	1	4	10	8	8	2	8	2	8	51
LABOR RATE PER HOUR	\$105.00	\$75.00	\$70.00	\$60.00	\$50.00	\$40.00	\$36.00	\$70.00	\$24.00	
DIRECT LABOR COSTS	\$105.00	\$300.00	\$700.00	\$480.00	\$400.00	\$80.00	\$288.00	\$140.00	\$192.00	\$ 2,685.00
JOB MULTIPLIER	3	3	3	3	3	3	3	3	3	
TOTAL LABOR COSTS	\$315.00	\$900.00	\$2,100.00	\$1,440.00	\$1,200.00	\$240.00	\$864.00	\$420.00	\$576.00	\$ 8,055.00
TOTAL ITEM H										\$ 8,055.00
ITEM I (BASIC SERVICES PHASE II)										
DESIGN DRAWINGS (30% TO PHASE I)										
(30% TO BE INCLUDED WITH PRELIMINARY DESIGN REPORT)										
COVER, GENERAL NOTES, INDEX	4	2	4		4	2	32			
TYPICAL SECTIONS		2	4		4	4	40		2	
OVERALL LAYOUT		1	2		4	1	16			
QUANTITIES		0	0		0	0	0			
MITIGATION DESIGN		2	4	8	3	4	48		2	
CHANNEL IMPROVEMENTS		4	4	10	4	4	48		2	
PLAN AND PROFILES		10	30	8	40	6	80		5	
COORDINATION WITH PIPELINE COMPANIES										
SIGHT TRIANGLES		2	4		3	1	6			
CROSS CULVERT DESIGN		2	3	10	6	2	10			
STRIPPING AND SIGNAGE		2	3		6	2	10		1	
SWPPP		1	4		4	2	4			
STANDARD DETAILS		1	2		4	1	4			
GEOPAC CROSS SECTIONS		4	24	36	12	2	30	4		
HOURS SUB-TOTALS	4	33	88	36	90	31	328	16419	0	626
LABOR RATE PER HOUR	\$105.00	\$75.00	\$70.00	\$60.00	\$50.00	\$40.00	\$36.00	\$70.00	\$24.00	
DIRECT LABOR COSTS	\$420.00	\$2,475.00	\$6,160.00	\$2,160.00	\$4,500.00	\$1,240.00	\$11,808.00	\$1,149.33	\$0.00	\$ 29,912.33
JOB MULTIPLIER	3	3	3	3	3	3	3	3	3	
TOTAL LABOR COSTS	\$1,260.00	\$7,425.00	\$18,480.00	\$6,480.00	\$13,500.00	\$3,720.00	\$35,424.00	\$3,447.99	\$0.00	\$ 89,736.99
TOTAL ITEM I										\$ 89,736.99

Roesner Road-Segment 2
Fort Bend Mobility Bond 2017; Project Number 306

TASK DESCRIPTION	Principal	Project Manager	Senior Engineer	Sen. Hydr. Structural Engineer	Design Engineer	Senior Designer/	CADD Operator/ Technician	QA/QC Review	Clerical	Total Labor Hours & Costs
PHASING, TRAFFIC CONTROL, ADV WARNING										
HOURS SUB-TOTALS	0	8	60		96	1	160	2		327
LABOR RATE PER HOUR	\$105.00	\$75.00	\$70.00	\$60.00	\$50.00	\$40.00	\$36.00	\$70.00	\$24.00	
DIRECT LABOR COSTS	\$0.00	\$600.00	\$4,200.00	\$0.00	\$4,800.00	\$40.00	\$5,760.00	\$140.00	\$0.00	\$ 15,540.00
JOB MULTIPLIER	3	3	3	3	3	3	3	3	3	
TOTAL LABOR COSTS	\$0.00	\$1,800.00	\$12,600.00	\$0.00	\$14,400.00	\$120.00	\$17,280.00	\$420.00	\$0.00	\$ 46,620.00
TOTAL ITEM K										\$ 46,620.00

Roesner Road-Segment 2
Fort Bend Mobility Bond 2017, Project Number 306

TASK DESCRIPTION	Principal	Project Manager	Senior Engineer	Sen. Hyd. Structural Engineer	Design Engineer	Senior Designer/	CADD Operator/ Technician	QA/QC Review	Clerical	Total Labor Hours & Costs
ITEM N (BASIC SERVICES PHASE II)										
OPINION OF PROBABLE CONSTRUCTION COST										
HOURS SUB-TOTALS	1	4	12		20	1	4	2		44
LABOR RATE PER HOUR	\$105.00	\$75.00	\$70.00	\$60.00	\$50.00	\$40.00	\$36.00	\$70.00	\$24.00	
DIRECT LABOR COSTS	\$105.00	\$300.00	\$840.00	\$0.00	\$1,000.00	\$40.00	\$144.00	\$140.00	\$0.00	\$ 2,569.00
JOB MULTIPLIER	3	3	3	3	3	3	3	3	3	
TOTAL LABOR COSTS	\$315.00	\$900.00	\$2,520.00	\$0.00	\$3,000.00	\$120.00	\$432.00	\$420.00	\$0.00	\$ 7,707.00
TOTAL ITEM N										\$ 7,707.00
ITEM O (BASIC SERVICES PHASE II)										
PROJECT MANUAL, SPECIFICATION OUTLINE & BID FORM										
HOURS SUB-TOTALS	1	4	12	0	12	0	0	2	4	35
LABOR RATE PER HOUR	\$105.00	\$75.00	\$70.00	\$60.00	\$50.00	\$40.00	\$36.00	\$70.00	\$24.00	
DIRECT LABOR COSTS	\$105.00	\$300.00	\$840.00	\$0.00	\$600.00	\$0.00	\$0.00	\$140.00	\$96.00	\$ 2,081.00
JOB MULTIPLIER	3	3	3	3	3	3	3	3	3	
TOTAL LABOR COSTS	\$315.00	\$900.00	\$2,520.00	\$0.00	\$1,800.00	\$0.00	\$0.00	\$420.00	\$288.00	\$ 6,243.00
TOTAL ITEM O										\$ 6,243.00
ITEM P (BASIC SERVICES PHASE II)										
SUBMITTALS AT 70, AND 95% AND FINAL										
HOURS SUB-TOTALS	1	4	12		16	8	16	6	12	75
LABOR RATE PER HOUR	\$105.00	\$75.00	\$70.00	\$60.00	\$50.00	\$40.00	\$36.00	\$70.00	\$24.00	
DIRECT LABOR COSTS	\$105.00	\$300.00	\$840.00	\$0.00	\$800.00	\$320.00	\$576.00	\$420.00	\$288.00	\$ 3,649.00
JOB MULTIPLIER	3	3	3	3	3	3	3	3	3	
TOTAL LABOR COSTS	\$315.00	\$900.00	\$2,520.00	\$0.00	\$2,400.00	\$960.00	\$1,728.00	\$1,260.00	\$864.00	\$ 10,947.00
TOTAL ITEM P										\$ 10,947.00

Roesner Road-Segment 2
Fort Bend Mobility Bond 2017, Project Number 306

TASK DESCRIPTION	Principal	Project Manager	Senior Engineer	Sen. Hydr. Structural Engineer	Design Engineer	Senior Designer/	CADD Operator/ Technician	QA/QC Review	Clerical	Total Labor Hours & Costs
ITEM Q (BASIC SERVICES PHASE III)										
BID PHASE SERVICES										
HOURS SUB-TOTALS	0	0	0		0				0	0
LABOR RATE PER HOUR	\$105.00	\$75.00	\$70.00	\$60.00	\$50.00	\$40.00	\$36.00	\$70.00	\$24.00	\$
DIRECT LABOR COSTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$
JOB MULTIPLIER	3	3	3	3	3	3	3	3	3	\$
TOTAL LABOR COSTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$
TOTAL ITEM Q										
ITEM S (BASIC SERVICES PHASE III)										
CONSTRUCTION PHASE SERVICES										
HOURS SUB-TOTALS	0	0	0		0	0	0		0	0
LABOR RATE PER HOUR	\$105.00	\$75.00	\$70.00	\$60.00	\$50.00	\$40.00	\$36.00	\$70.00	\$24.00	\$
DIRECT LABOR COSTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$
JOB MULTIPLIER	3	3	3	3	3	3	3	3	3	\$
TOTAL LABOR COSTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$
TOTAL ITEM S										
ITEM T (BASIC SERVICES PHASE III)										
PROJECT AS-BUILT DRAWINGS										
HOURS SUB-TOTALS	0	0	0		0	0	0	0		0
LABOR RATE PER HOUR	\$105.00	\$75.00	\$70.00	\$60.00	\$50.00	\$40.00	\$36.00	\$70.00	\$24.00	\$
DIRECT LABOR COSTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$
JOB MULTIPLIER	3	3	3	3	3	3	3	3	3	\$
TOTAL LABOR COSTS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$
TOTAL ITEM T										
TOTAL										

Roesner Road Segment 2
Fort Bend Mobility Bond 2017; Project Number 306

TASK DESCRIPTION	Principal	Project Manager	Senior Engineer	Sen. Hyd. Structural Engineer	Design Engineer	Senior Designer/	CADD Operator Technician	QA/QC Review	Clerical	Total Labor Hours & Costs
PROJECT TOTALS										
SUB CONSULTANTS										\$ -
PRELIMINARY ENGINEERING (+ 30% DESIGN PLANS)										\$ 62,201.10
FINAL DESIGN (- 30% DESIGN PLANS)										\$ 134,332.89
ENGINEERING SERVICES IN CONSTRUCTION										\$ -
TOTAL ALL SERVICES										\$ 196,533.99



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PROPOSAL FOR LAND SURVEYING SERVICES

March 19, 2018 Rev. 4-4-18

Costello Engineering & Surveying
9990 Richmond Ave., Suite 450 North Building
Houston, TX 77042

Attn: Sam Kruse P.E. |
Ref: Fort Bend County, Roesner Road Segment 2

Dear Mr. Kruse:

MBCO Engineering, LLC. (MBCO) is pleased to submit this proposal for professional surveying services on the referenced project in accordance Mobility Design Standards. MBCO will provide a full design survey and establish the ROW with acquisition documents for the length of +/- 6800 linear feet from Westheimer Parkway to the Ft. Bend/Harris County Line plus an additional 2000 linear feet of intersecting streets.

SCOPE OF BASIC SERVICES

I. BASE MAP/ROE

MBCO will perform boundary research for all of the adjacent properties and subdivisions along the project length and prepare a base map. MBCO will find and tie in the existing boundary corners and establish the existing ROW of Roesner Road; Prepare Right-of-Entry Letters for a maximum of 112 parcels (to include 2 attempts); Set Primary Control at 1000' intervals.

II. DESIGN SURVEY

MBCO will perform a design level survey of the Proposed 100' ROW as defined by the exhibits provided by Fort Bend County and will include topo 30' beyond the Proposed ROW for a total design width of 160' as defined in the Mobility Design Standards. We will tie in the back of curb, gutter, natural ground, centerline of road, fences, street lights, signs, pipeline crossings and other improvements within the Proposed ROW. We will make a call to the Texas one-call system and request utility locates and field tie underground utilities that have been marked by the Texas one-call (811). MBCO will complete 100' cross sections throughout the project. Our field crew will also complete inverts on all sanitary and storm sewer manholes, and storm sewer outfalls, that are within the project area. We will locate trees 18" and up in diameter. We will prepare signed and sealed Survey Control maps. We will also locate at 1 mobilization geotechnical bore holes.

DELIVERABLES:

We will submit a sealed survey control map; AutoCAD Civil 3D 2016 format with x,y, and z coordinates in a CSV file; AutoCAD Civil 3D 2016 file with complete topo; a .CSV file of the geotechnical bore holes.

TO BE PROVIDED BY THE DESIGN ENGINEER AND/OR COUNTY:

- An Auto CAD file with the Proposed ROW limits.
- A map and estimated lat/long w/ descriptions of the bore hole location which will be marked by the Geotechnical Engineer by a wood hub flush with the ground and a wood lathe labeling the location within 48 hours of drill completion.

ITEMS TO BE SPECIFICALLY EXCLUDED:

- We will not provide SUE services
- We will not include any As-Built plans of utilities linework in our files

SCHEDULE:

MBCO will complete the Design Survey services listed above within forty-five (45) calendar days when we receive the signed contract. ROW Mapping deliverables listed above will be delivered in an additional forty-five (45) calendar days.

COMPENSATION:

The estimated cost for the above described professional services shall be a one-time Lump Sum fee and will be billed by the 5th day of each month based on a percent complete of the total project and will not be based solely on deliverables for Task II and Direct Cost.

Task I \$8,640.00

Task II \$43,897.50

Direct Cost of \$3,850.00

Total Fee of \$56,387.50

This cost proposal is valid for 30 days, and may be re-evaluated after such time to account for any changes with the project scope, environmental factors and/or the general rate schedule.

13111 Westheimer Rd., Suite 307 • Houston, TX 77077 • www.mbcengineering.com
TBPE Firm Registration No. F-16850 | TBPLS Firm Registration No. 10194112



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If this proposal is acceptable, please sign and return a copy. If you have any questions you may reach me at trisha.lund@mbcoengineering.com.

Thank you for the opportunity and we appreciate doing business with you.

Sincerely,

A handwritten signature in blue ink, appearing to read "Trisha Lund".

Trisha Lund, RPLS

Acceptance: If this proposal meets with your approval, please so indicate your acceptance by executing it in the space provided below and return two originals. Your written acceptance of this proposal will consummate the Agreement which can be terminated by either party upon receipt of written notice. Upon termination, all fees currently earned under the terms of this Agreement will be due and promptly paid.

"OWNER"

BY: _____

DATE: _____

NAME: _____

TITLE: _____

ADDRESS: _____

MBCO ENGINEERING, LLC.
"ENGINEER"

BY: _____

DATE: _____

NAME: _____

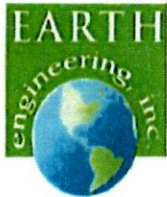
TITLE: _____

ADDRESS: 13111 Westheimer Rd, Suite 307
Houston, TX 77077

13111 Westheimer Rd., Suite 307 • Houston, TX 77077 • www.mbcengineering.com
TBPE Firm Registration No. F-16850 | TBPLS Firm Registration No. 10194112

EXHIBIT D
Fee Schedule
 MBGO ENGINEERING, LLC
 Rosemead Road Segment 2

TASK DESCRIPTION	SURVEY PROJECT MANAGER	PRLS	SURVEY TECHNICIAN	SURVEY TECHNICIAN - GPS, ST	2 MAN SURVEY CREW	3 MAN SURVEY CREW	ABSTRACTOR	ADMIN/ CLERICAL	TOTAL HRS.	TOTAL LABOR HRS. & COSTS
ROW MAPPING										
Right-of Entry (max 112 parcels)	4			40			40	30	114	\$ 8,640.00
										\$ -
										\$ -
										\$ -
										\$ -
										\$ -
HOURS SUB-TOTALS	4	0	0	40	0	0	40	30	114	114
CONTRACT RATE PER HOUR	\$ 186.00	\$ 150.00	\$ 86.00	\$ 100.00	\$ 136.00	\$ 176.00	\$ 80.00	\$ 60.00		
TOTAL LABOR COSTS	\$740.00	\$0.00	\$0.00	\$4,000.00	\$0.00	\$0.00	\$2,400.00	\$1,800.00		\$ 8,640.00
% DISTRIBUTION OF STAFF HOURS	3.5%	0.0%	0.0%	36.1%	0.0%	0.0%	36.1%	26.3%		
SUBTOTAL Task	\$740.00	\$0.00	\$0.00	\$4,000.00	\$0.00	\$0.00	\$2,400.00	\$1,800.00		\$ 8,640.00
DESIGN SURVEYING										
Establish Primary & Secondary Control	2	4		8		30			44	\$ 7,020.00
Design topo w/ improvements-100 sections includes side st.	6	10	70	20		100			206	\$ 27,876.00
Survey Control Maps	2	6	20	10					38	\$ 3,976.00
Time 1P & 1P	0.5	0.5	2	0.5		4			7.5	\$ 1,287.50
									0	\$ -
Geotechnical Bore Hole Locations	1	1	2	2	24				30	\$ 3,946.00
									0	\$ -
									0	\$ -
									0	\$ -
									0	\$ -
HOURS SUB-TOTALS	10.5	21.5	94	40.5	24	134	0	0	324.5	324.5
CONTRACT RATE PER HOUR	\$ 186.00	\$ 150.00	\$ 86.00	\$ 100.00	\$ 136.00	\$ 176.00	\$ 80.00	\$ 60.00		
TOTAL LABOR COSTS	\$1,942.50	\$3,226.00	\$7,990.00	\$4,050.00	\$3,240.00	\$23,456.00	\$0.00	\$1,882.00		\$ 43,897.50
% DISTRIBUTION OF STAFF HOURS	3.2%	6.6%	29.0%	12.6%	7.4%	41.3%	0.0%	0.0%		
SUBTOTAL Task	\$1,942.50	\$3,226.00	\$7,990.00	\$4,050.00	\$3,240.00	\$23,456.00	\$0.00	\$1,882.00		\$ 43,897.50
Direct Cost										
Property Record Fees										Total Cost
Mileage				\$25.00						\$ 2,800.00
Certified Letters (includes 2 attempts)				\$0.56	2		70			\$ 1,050.00
				\$7.50						\$ -
Direct Cost Totals										\$ 3,850.00
Project Totals										\$ 56,387.50



*down to earth solutions
for your complex projects*

EARTH ENGINEERING, INC.

Geotechnical, Materials Testing & Environmental Consultants

4877 Langfield Road • Houston, TX 77040 • T: (713) 681-5311 • F: (713) 681-5411 • www.eartheng.com

April 9, 2018

Mr. Sam Kruse, P.E.
Partner / Vice President
Costello Engineering and Surveying
Municipal Division
9990 Richmond Avenue
Suite 450 North Building
Houston, TX.
Phone: 713.783.7788

Proposal No.: P-EE1813202-G

Sent Via E-Mail: skruse@costelloinc.com

GEOTECHNICAL EXPLORATION WORK FOR ROESNER ROAD, SEGMENT 2 – FORT BEND COUNTY, PRECINCT 3 IN KATY, TX

Dear Mr. Kruse,

Earth Engineering, Inc. is pleased to present this proposal to perform geotechnical Investigation for above project in Houston, Texas.

Fort Bend County is planning to expand Roesner Road into 4-lane Boulevard. The project will comprise concrete curb and gutter with storm water Drainage.

The approximate total length of the road (from Westheimer Parkway to County Line) is 1.25 miles.

This proposal was prepared in accordance with Harris County Criteria and City of Houston Department of Public Works and Engineering. Also 2017 Mobility Bond Program Summary of Design Process was followed.

Please note, due to the size of the drilling rig in comparison to the width of the road and since the road is only two (2) lane and mostly without shoulders, two (2) traffic controllers must be utilized at the same time for drilling at the sideways and the center of the road.

SCOPE OF WORK

The scope of our services was specified based on Harris County Criteria and City of Houston Department of Public Works and Engineering as follows:

The scope of our services was specified by the client as follows:

- Cut two (2) cores prior to drilling for soil samples at the centerline of Roesner Road
- Drilling and sampling 11 borings to a depth of 25-feet at the existing Roesner Road sideways (the proposed road area).
- Drilling and sampling 2 borings to a depth of 10-feet at the centerline of Roesner Road.
- Obtaining continuous soil samples to a depth of 15 feet, and then at five (5) foot intervals thereafter to the borings' termination depths.
- Earth Engineering will perform granular soil sampling utilizing the Standard Penetration Test (split spoon sampler) by driving. Blow counts will be recorded as produced by a 140-pound weight falling 30 inches (ASTM D-1558). Cohesive soils will be sampled using a thin walled sampler (Shelby Tube) hydraulically pushed into the soil (ASTM D-1587).
- Performing laboratory tests on selected representative soil samples to develop the engineering properties of the soil. These tests may include: pocket penetrometers, unconfined compression, present moisture content, percent passing 200 sieves, dry densities, Atterberg Limits, Unconsolidated-Undrained Triaxial test, California Bearing Ratio (CBR), and OMD Standard Compaction as deemed appropriate.
- Utilizing the results of observations both in the field and in limited laboratory tests, Earth Engineering will author a report that will include the following subjects:
 - soil stratigraphy: soil encountered up to 25 feet
 - groundwater conditions and groundwater control during construction
 - boring log information will include all laboratory test results and field observations
 - develop design recommendations for the underground utilities. The recommendations will include buried structures such as manhole etc.
 - classify the soils types in accordance to OSHA requirements based on the characteristics of the soils along the alignment
 - recommend the utilities bedding in accordance with City of Houston



specifications

- present subgrade stabilization option such as lime/fly-ash for cohesion-less soils and lime for cohesive soils
 - Equivalent Single Axle Load (ESAL) calculation for standard pavement design of 8-inches with 8-inches of subgrade
 - recommend construction considerations, as deemed necessary
 - recommend back-fill material specifications
 - discuss effects of poor drainage and presence of trees on the performance of the structures and pavement
- Incorporating all of the above into a geotechnical engineering report which is performed under the direction of, and signed by, a professional engineer registered in the State of Texas.

SCHEDULING

We anticipate that we can commence the fieldwork within two (2) to three (3) business days subsequent to our receiving your formal written authorization to proceed.

We anticipate that the field exploration and limited laboratory testing will require about 15 business days. Engineering analyses and report preparation will require approximately (15) business days. *Consequently, we anticipate our final report could be submitted within approximately six (6) weeks subsequent to successful drilling of the borings.*

We will work with you to meet your deadline.



ESTIMATED FEES

The total cost for the geotechnical study is estimated to be **\$ 49,437.00.**

SERVICE DESCRIPTION	UNIT FEE		AMOUNT		ESTIMATED COST
Field Exploration					
Mobilization/Demobilization	\$349	Mob	4	Mob	\$1,396.00
Drilling and Sampling (11 borings at 25 feet at the sideways and 2 at 10 feet at the center)	\$19	foot	295	feet	\$5,605.00
Asphlat coring 6"	\$150	each	2	each	\$300.00
Grouting of completed borings	\$10	foot	20	feet	\$200.00
Traffic Control	\$150	hour	75	hours	\$11,250.00
Field Engineer supervision and layout	\$101.00	hour	35	hours	\$3,535.00
Vehicle Charge	\$10.00	hour	35	hours	\$350.00
			Subtotal:		\$22,636.00
Laboratory Testing					
Measuring the length of core	\$13.00	test	2	tests	\$26.00
Atterberg Limits (LL, PI's)	\$62.00	test	55	tests	\$3,410.00
Moisture Contents	\$9.00	test	48	tests	\$432.00
Percent Finer than No. 200 Sieve	\$48.00	test	10	tests	\$480.00
Unconfined Compressive Strength	\$45.00	test	20	tests	\$900.00
Unconsolidated-Undrained Triaxial test	\$63.00	test	10	tests	\$630.00
California Bearing Ratio (CBR)	\$215.00	test	2	tests	\$430.00
OMD Standard Compaction	\$204.00	test	2	tests	\$408.00
			Subtotal:		\$6,716.00
Engineering and Report Writing					
Principal Engineer, P.E.	\$203.00	hour	35	hours	\$7,105.00
Project Engineer, EIT	\$101.00	hour	120	hours	\$12,120.00
Support Personnel	\$43.00	hour	20	hours	\$860.00
			Subtotal		\$20,085.00
			TOTAL		\$49,437.00

Notes:

1. Please note, due to the size of the drilling rig in comparison to the width of the road and since the road is only two (2) lane and mostly without shoulders, two (2) traffic controllers must be utilized at the same time for drilling at the sideways and the center of the road.
2. Additional site visits, drilling, concrete coring, engineering analysis, and/or consultation beyond the scope of work specified in this proposal will be charged as additional fees using the above rates.



INSURANCE

Earth Engineering inc. maintains the following insurance:

- Professional Liability (errors and omissions): one **million**.
- General Liability: **two million**.
- Workman's Compensation: **one million**.
- Commercial Auto Insurance: **one million**.
- Umbrella Insurance: **five million**

CLIENT RESPONSIBILITIES

Earth Engineering, Inc. requests that you provide the following information prior to the site visit and our site activities:

- Formal written authorization.
- Name and telephone number of a responsible client contact, if other than yourself.
- Any geotechnical, environmental, geologic, and hydrological report previously prepared for the study area, to which you have access, as well as information regarding any similar report currently being undertaken.
- Any restrictions or limitations to, or requirements for site access to be adhered to by Earth Engineering personnel.

Should you have any questions concerning this proposal or other services we may provide, please feel free to contact us at (713) 681-5311 or by e-mail at moes@eartheng.com. We will be pleased to discuss them with you.

Yours very truly,
EARTH ENGINEERING, INC.

Moe A. Shihadeh

Moe A. Shihadeh, P.E., D.GE
Principal - Diplomate Geotechnical Engineering



EARTH ENGINEERING, INC.
PROFESSIONAL SERVICES AGREEMENT

THIS AGREEMENT, entered into on the 9th day of April 2018 by and between **Costello Engineering and Surveying** (hereinafter referred to as "Client") and **Earth Engineering, Inc.** a Texas Corporation (hereinafter referred to as "EEI"), is as follows:

For mutual consideration stated herein, Client engages Earth Engineering, Inc. to perform professional services as presented in our proposal number P-EE1813203-G. The general Conditions agreed to by the parties are as follows:

1. **PARTIES:** Earth Engineering, Inc. (hereinafter "CONSULTANT") refers to the company performing the scope of work described herein. "Client" refers to the person or business entity ordering the scope of work to be performed by CONSULTANT. If the Client is ordering work on behalf of another, Client represents and warrants the duly authorized agency from the party that will benefit from the work. Unless otherwise stated in writing, Client assumes sole responsibility for the sufficiency of the work ordered. Client shall communicate these General Conditions to any third party to whom Client transmits any part of CONSULTANT's work. CONSULTANT shall have no duty or obligation to any third party greater than that set forth in this Agreement.
2. **SCOPE OF WORK:** "Work" means the specific environmental, geotechnical, analytical, construction materials testing or another service to be performed by CONSULTANT as mentioned above including necessary field and laboratory testing as well as providing geotechnical recommendations in a report form. CONSULTANT will commence the services upon CLIENT's written notification to proceed.
3. **AMENDMENTS:** The client, without validating this Agreement, may request changes within the general scope of the services required by this Agreement by altering or adding to the Services to be performed, and any such changes in Services shall be performed subject to this agreement. Upon receiving client's request, CONSULTANT shall return to CLIENT a change proposal setting forth an adjustment to the Services and Project Cost estimated by CONSULTANT to represent the value of the requested changes. Following CLIENT's review of CONSULTANT's changes proposal, CLIENT shall execute a written change order or contract amendment directing CONSULTANT to perform the changes in services.
4. **TESTS AND INSPECTIONS:** Client shall ensure all tests and inspections of the site, all materials provided, and work performed by others are delivered in a timely manner in accordance with the plans, specifications, contract documents, and CONSULTANT's recommendations. No claims for loss, damage or injury shall be brought against CONSULTANT by Client or any third party unless all reviews, tests, and inspections have been so performed and unless CONSULTANT's recommendations have been followed. If CLIENT objects to all or any portion of any invoice, it shall notify CONSULTANT in writing of the same within fifteen (15) days from the date of actual receipt of the invoice and shall pay timely that portion of the invoice not in dispute.
5. **SCHEDULING OF WORK:** The services in the proposal will be accomplished in a timely, workmanlike and professional manner by CONSULTANT personnel or authorized subcontractors. If CONSULTANT is required to delay commencement of work or if, upon undertaking work, CONSULTANT is required to halt work due to changes in the scope of work, interruptions in other aspects of the Project, or other causes beyond the reasonable control of CONSULTANT, additional charges will be applicable and payable by the Client.
6. **ACCESS TO SITE:** Client will provide access to the site for CONSULTANT to perform the work. CONSULTANT shall take reasonable measures to minimize damage to the site and any improvements as the result of its work; however, CONSULTANT has not included in its fee the cost of restoration of damage, which may occur. CONSULTANT will restore the site to its former condition upon written request from Client that provides for payment to CONSULTANT for the cost thereof.
7. **DAMAGE TO EXISTING MAN-MADE OBJECTS:** Unless CONSULTANT assumes in writing the responsibility of locating subsurface or latent conditions, Client agrees to indemnify and save CONSULTANT harmless from all claims, suits, losses, cost and expenses, including reasonable attorneys' fees as a result of personal injury, death or property damage occurring with respect to CONSULTANT's performance of its work and arising from subsurface or latent conditions, or damage to subsurface or latent objects, structures, lines or conduits where the actual presence and location thereof was not revealed to CONSULTANT by Client.
8. **CONFIDENTIALITY:** During the Project, CONSULTANT and its employees may obtain, directly or indirectly, secret and confidential information considered proprietary by Client. CONSULTANT agrees, on behalf of itself and its employees, to maintain the confidentiality of all proprietary information unless directed by Client in writing to disclose the information to others.
9. **LIABILITY:** With respect to the services performed by CONSULTANT, its employees, agents, affiliates and subcontractors, damage, costs, expenses, or other liability, direct or indirect, shall be limited to \$49,437.00 or CONSULTANT'S FEE under paragraph 3, whichever is less. In no cases shall CONSULTANT be liable for punitive, special, incidental, exemplary or consequential damages.
10. **RESPONSIBILITY:** CONSULTANT's work shall not include determining or implementing the means, methods, techniques, sequences or procedures of construction. CONSULTANT will not be responsible for evaluating, reporting or affecting job conditions relative to the health, safety or welfare of any persons other than its own employees. CONSULTANT's work or failure to perform same shall not in any way excuse any contractor, subcontractor or supplier from the performance of its work in accordance with the contract documents.



CONSULTANT RESPONSIBILITIES

11. **SAMPLE DISPOSAL:** Unless otherwise agreed, test specimens or samples will be disposed immediately upon completion of the test. All drilling samples or specimens will be disposed thirty (30) days after submission of CONSULTANT's report. All archaeological samples will be returned to Client for permanent curation following submittal of CONSULTANT's final report.
12. **PAYMENT:** Client shall be invoiced once the report is completed. Client agrees to pay the invoice upon receipt. Reports will be mailed once the payment is received. Client further agrees to pay interest on all amounts invoiced and not paid or objected to for valid cause within thirty (30) days at the rate of eighteen percent (18%) per annum (or the maximum interest rate permitted under applicable law, whichever is the lesser) until paid. Client agrees to pay CONSULTANT's cost of collection of all amounts due and unpaid after sixty (60) days, including court costs and reasonable attorney's fees. Remedies available to CONSULTANT for collection of amounts due, including mechanic's liens, shall not be limited by a contractual provision or other agreement that is not specifically made apart of this Agreement.
13. **TERMINATION:** This Agreement may be terminated by either party upon forty-eight (48) hours written notice. In the event of termination, CONSULTANT shall be compensated by Client for all services performed up to and including the termination date, including reimbursable expenses, and or the completion of such services and records as are necessary to place CONSULTANT's files in order and/or to protect his professional reputation. In the event Services cannot be performed on or before the projected due date because of circumstances beyond the control of CONSULTANT, including, but not limited to, strike, fire, riot, excessive precipitation, act of God, environmental conditions, governmental action, third party action or action or omission by CLIENT, the Services shall be amended by CLIENT and CONSULTANT in accordance with paragraph 2 of this agreement.
14. **WARRANTY:** CONSULTANT's services will be performed, its finds obtained, and its reports prepared in accordance with the proposal, Client's acceptance thereof, this Agreement, and with generally accepted engineering principles and practices. In performing its professional services, CONSULTANT will use that degree of care and skill ordinarily exercised under similar circumstances by members of its profession. This warranty is in lieu of all other warranties, either express or implied. Should CONSULTANT, or any of its professional employees be found to have been negligent in the performance of professional services or to have breached the express warranty made herein, Client and all third parties claiming through Client agree that the maximum, aggregate liability of CONSULTANT and its professional employees shall be limited to the total amount of the fee paid to CONSULTANT for professional services with respect to the Project.
15. **ARBITRATION:** CONSULTANT shall not be bound by any contractual provision or other agreement requiring or providing for arbitration of disputes or controversies arising out of CONSULTANT's work, which is not specifically made a part of this Agreement.
16. **PRIORITY OF DOCUMENTS:** The terms of this Agreement shall control over any conflicting provisions within purchase orders, work orders, letters of intent, or other similar documents.
17. **APPLICABLE LAW:** This Agreement shall be governed by and construed according to the laws of the State of Texas. The venue for all claims asserted under this Agreement shall be Harris County, Texas.
18. **WAIVER OF SUBROGATION:** In the event, the client requests Waiver of Subrogation as part of the insurance coverage, an additional fee of \$200 will be invoiced to cover the additional insurance charges.
19. **COLLECTIONS/MECHANIC'S LIEN:** In the event that client fails to pay for the said report, an additional fee of \$200.00 will be assessed to invoice to cover the cost of collections and filing fees of mechanic's lien with the courts.

The parties hereto have accepted the terms and conditions stated herein and have caused this Agreement to be executed by their duly authorized representatives, as follows:

EARTH ENGINEERING, INC.

Costello Engineering and Surveying.

Moe A. Shihadeh

Signature

Signature

Moe A. Shihadeh, P.E., D.GE

Print Name

Print Name

Principal - Diplomate Geotechnical Engineering

Title

Title

9th April 2018

Date

Date



May 7, 2018

Mr. Sam Kruse, P.E.
Partner/Vice President Municipal Division
Costello Engineering & Surveying
9990 Richmond Avenue, Suite 450 North Building
Houston, Texas 77042

Subject: Project No. 3-06: Roesner Road Segment 2
Signalization at Bay Hill Boulevard

Dear Sam,

Transcend Engineers & Planners, LLC (Transcend) is pleased to submit this proposal to provide engineering services for Signal Design at the intersection of Roesner Road and Bay Hill Boulevard in Katy, TX including traffic signal support for Preliminary Engineering. Based on information received from you, we understand that the project will:

- Design and construct a proposed 4-lane boulevard within a 100' ROW from Westheimer Parkway to Fort Bend - Harris County Line
- Cross a total of 4 pipelines with In-line detention within oversized storm sewer from Westheimer Parkway to Fort Bend-Harris County line.
- Install a signal at Bay Hill Boulevard.

Assumptions

- Fort Bend County has performed operational analysis of the subject intersection and has established required Level of Service (LOS) in the design year.
- Fort Bend County has performed signal warrant study and left turn phasing analysis for the subject intersection.
- Signal Timing and Crosswalk Locations have been identified by Fort Bend County based on previously performed engineering studies.
- The engineering design shall be performed in accordance with Fort Bend County and TxDOT design guidelines, standards and specifications and generally accepted procedures, including approved variances.
- The intersection is unsignalized at this time and shall receive a new conventional signal system controlled by Econolite Cobalt controller or similar in a ground-mounted cabinet.
- In addition to the design of the signal, Transcend shall provide contract and construction support.
- Interim reviews shall be at the 70% and 95% submittals.

Scope of Work

PER Support Services

Transcend shall support the Preliminary Engineering Report (PER) preparation to include the following:

- Present an analysis of the intersection traffic operation and LOS for the AM and PM peak hours for existing traffic/geometric conditions and proposed traffic/geometric conditions
- Develop schematic of the proposed signal layout [up to two (2) layouts]
- Develop Construction Cost estimate for the approved signal layout

Design Services

Transcend shall design the SIGNAL to include the following:

- Mast arm configuration and horizontal LED vehicle signal heads
- Four pole-mounted LED luminaires, one at each corner, for safety lighting.
- Wireless magnetometer vehicle detection system (WMVDS) for vehicles, and push buttons for pedestrians and be fully actuated
- Protected/permissive phasing with flashing yellow indications for left turns
- Pedestrian related LED countdown signals, push buttons, signing and crosswalks
- New wheelchair ramp (perpendicular or diagonal) in compliance with the Americans with Disabilities Act Accessibility Guidelines (ADAAG) as adopted by Fort Bend County/TxDOT in the southeast corner of the intersection. Utilize existing ramps in the northeast, northwest and southeast corners as much as possible or modify as needed.
- New pavement markings up to 200 feet on each leg of the intersection

Transcend shall develop Plan layouts to include the following sheets:

- Title Sheet & Index of sheets
- General Notes
- Basis of Estimate
- Existing Conditions Layout
- Proposed Traffic Signal Layout
- Signal Standards and Details
- Signing and Pavement Markings Layout

Transcend shall prepare Plan Layouts per Fort Bend County and TxDOT signal design guidelines as one bid-ready package as follows:

- Prepare at 1"=40' scale in English Units as 11" x 17" layouts
- Submit one set of bond layouts and one PDF copy submitted at each interim review
- Sign and Seal bond set of plans for final submittal
- Prepare all design drawings using MicroStation consistent with the level structure required by Fort Bend County
- Provide basis of estimate in Fort Bend County format
- Provide computer files containing all required design drawings

Exclusions

The following are NOT included in Transcend's scope of work:

- Left Turn Lane modifications/extensions
- Interconnect Layout/ Traffic signal timing adjustment
- Site-specific traffic control plans
- Topographic Survey/Construction Staking/ROW Abstracting
- Geotechnical Engineering
- Drainage Design/Storm Water Pollution Prevention Plans (SW3P)
- Expert Testimony
- Record drawings
- Design changes outside scope of services
- Coordination on Easements and Mast Arm Style
- Coordination with power company, electric company, HOA and Utilities



- Review shop drawings or perform final inspection
- Contract Support Services
- Construction Support Services

Compensation

Transcend's estimated fixed fee is as follows which includes labor and non-labor reimbursable expenses. The hours estimate and cost breakdown are shown in Attachment A.

Task	Fee
PER Support Services	\$6,090
Design Services	\$25,260
TOTAL	\$31,350

Transcend shall submit monthly Invoices as lumpsum showing percent work complete. Transcend will consider work not specifically stated above as additional with a right to negotiate.

Schedule

Transcend estimates that the Design Services for the subject signal can be completed within 120 calendar days from Notice to Proceed (NTP). This schedule includes a reasonable time required for topographic survey, utility coordination and agency review. If the schedule needs to be revised, Transcend will defer to you and Fort Bend County. Note that Transcend shall not proceed with any work or additional services without written NTP from Fort Bend County.

Please contact me at 832.492.4499 or at raj@transcendengineers.com with any questions. We appreciate the opportunity to serve Fort Bend County by working with you and look forward to NTP.

Regards,

Transcend Engineers & Planners, LLC.

Raj Basavaraju, P.E., PTOE
Principal

Attachment A: Hours Estimate & Cost Breakdown

ATTACHMENT A
HOURS ESTIMATE & COST BREAKDOWN
PROJECT NO. 3-06: ROESNER ROAD SEGMENT 2
SIGNALIZATION AT BAY HILL BOULEVARD

Task Description	No. of Sheets	Project Manager	Project Engineer	Traffic Engineer	CADD Technician	Project Admin.	Total Hours	Cost
PER SUPPORT SERVICES								
Project Management (incl. QA/QC)	n/a	1	2	6		1	2	\$300.00
Operational Analysis Summary	n/a		4	6			8	\$1,140.00
Signal Schematics (2 Proposed Layouts)	2	2	4	6	18		30	\$3,780.00
Construction Cost Estimate (1 Approved Layout)	n/a		2	4			6	\$870.00
PER SUPPORT SERVICES HOURS/COST	2	3	8	16	18	1	46	\$6,090.00
DESIGN SERVICES								
Project Management (incl. QA/QC)	n/a	4	4	4		2	6	\$1,020.00
Site Inventory	n/a		2	2			8	\$1,200.00
Meetings (Kick-off, Coordination)	n/a						4	\$750.00
Title Sheet & Index of sheets	1	1	1	1	4		5	\$555.00
General Notes	1	1	1	2	4		8	\$1,065.00
Basis of Estimate	1	1	6	6	4		17	\$2,430.00
Existing Conditions Layout	1	1	3	4	8		16	\$2,085.00
Proposed Traffic Signal Layout	3	4	8	12	60		84	\$10,080.00
Signal Standards and Details	10		2	2	6		10	\$1,230.00
Signing and Pavement Markings Layout	1	1	3	8	16		28	\$3,465.00
Submittals (70%, 95%, 100%)	n/a		1	3	6	2	12	\$1,380.00
DESIGN SERVICES HOURS/COST	18	14	30	42	108	4	198	\$25,260.00
GRAND TOTAL								\$31,350.00