

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 Cobb, Fendley & Associates, 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 widening of Moore Road from 5th Street to Independence Boulevard for the Moore Road Project, Number 17218x, 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 the preliminary engineering and final design services for the project as described Contractor's proposal dated January 13, 2020 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 five hundred five thousand three hundred twenty-four dollars and no/100 (\$505,324.00) 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 five hundred five thousand three hundred twenty-four dollars and no/100 (\$505,324.00) 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 five hundred five thousand three hundred twenty-four dollars and no/100 (\$505,324.00).

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.

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

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

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

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

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

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

Section 11. Indemnity

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

Section 12. Confidential and Proprietary Information

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

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

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

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

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

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

Section 13. Independent Contractor

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

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

Section 14. Notices

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

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

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

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

Contractor: Cobb, Fendley & Associates, Inc.
13430 Northwest Freeway, Suite 1100
Houston, Texas 77040

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

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

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

Section 15. Compliance with Laws

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

Section 16. Standard of Care

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

Section 17. Assignment

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

17.2 Neither party may delegate any performance under this Agreement.

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

Section 18. Applicable Law

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

Section 19. Successors and Assigns

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

Section 20. Third Party Beneficiaries

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

Section 21. Severability

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

Section 22. Publicity

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

Section 23. Captions

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

Section 24. Conflict

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

Section 25. Certain State Law Requirements for Contracts

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

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

Section 26. Human Trafficking

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

[THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK.]

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

FORT BEND COUNTY

COBB, FENDLEY & ASSOCIATES, INC

KP George, County Judge

Authorized Agent – Signature

Date

Authorized Agent – Printed Name

ATTEST:

Title

Laura Richard, County Clerk

Date

APPROVED:

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

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

EXHIBIT A



January 13, 2020

Mr. Stacy Slawinsky, P.E.
Fort Bend County Engineer
C/O Raul Fung, P.E.
RPS Professional Group
575 N Dairy Ashford Suite 700
Houston, Texas 77079

Re: Moore Road Improvements from 5th St. to Court Road/Independence Parkway
FBC 2017 Mobility Bond Program Project No. 17218x
Subject: Proposal for Preliminary Engineering and Final Design Professional Services

Dear Mr. Slawinsky:

Enclosed are Cobb, Fendley & Associates, Inc. (CobbFendley) proposed budget, manpower, and direct expense breakdown and scope of services for completing preliminary engineering, final design, geotechnical, surveying, bidding, and limited construction phase services for the above referenced project.

CobbFendley proposed budget for the referenced project as follow:

Basic Services

Phase I – Preliminary Design Services (Lump-Sum)	\$129,202
Phase II- Final Design Services (Lump-Sum)	\$248,730
Phase III – Limited Construction Phase Services (Time & Material)	\$ 25,000

Subtotal Basic Services Fee	\$402,931
-----------------------------------	-----------

Additional Services

Geotechnical Investigation (Lump-Sum)	\$13,265
Topographical Surveying (Lump-Sum)	\$12,160
Water & Wastewater Design (Lump-Sum)	\$40,000
ROW Mapping (Lump-Sum)	\$36,480

Subtotal Additional Services Fee.....	\$61,905
---------------------------------------	----------

Optional Services for Detention site (if Required)

Geotechnical Investigation (Lump-Sum)	\$10,000
Topographical Surveying (Lump-Sum)	\$10,000
Design & Construction Phase Services (Lump-Sum)	\$15,000
ROW Mapping 1 Parcel @ \$4560 (Lump-Sum)	\$ 4,560

Subtotal Optional Services Fee (If Required)	\$39,560
--	----------

Reimbursable Direct Expenses

Direct Expenses	\$928
-----------------------	-------

Subtotal Reimbursable Direct Expenses.....	\$928
--	-------

Total Fee for Basic, Additional & Optional Services and Reimbursables	\$ 505,324
--	-------------------



We respectfully request a total budget of \$505,324.00 for the abovementioned professional services. Detailed scope of services and the level of effort for the basic, additional and optional services are attached. Also attached are the proposals from subconsultants for the surveying, geotechnical, and water & wastewater engineering design services. Please note that optional services fee for the surveying, engineering design and construction of a potential detention site are for budgetary purposes, if deemed necessary, as determined by the H&H analysis. The optional services will only be performed with prior written authorization by the County Engineer or the Fort Bend County Managing Consultant. Upon receipt of the written notice to proceed we will commence work. Please call at your earliest convenience should you have any questions, or require additional information,

Sincerely,

COBB, FENDLEY & ASSOCIATES, INC.

A handwritten signature in blue ink, appearing to read "M. Salehi".

Mahmoud Salehi, P.E.

Principal | Senior Project Manager

Attachment "A"
Scope of Services
Moore Road Paving and Drainage Improvements from 5th Street to Independence Boulevard
Project No. 17218x

Existing Conditions

The existing Moore Road is a 2-lane asphalt road with roadside ditches from 5th Street to Independence Boulevard for approximately 4,300 linear feet (0.81 miles) in length. The existing right-of-way (ROW) for the majority of the Moore Road appears to be 60-ft wide. There is a total of seven (7) non-signalized intersections within the project limits.

The posted speed limit is 30 MPH and there are 19 driveways accessing the roadway comprised of both residential homesteads and commercial businesses.

There are several existing dry and wet utilities within the ROW for the entirety of the project limits. The following represent the buried and aerial utilities that are designated by markers:

1. Water main service line along the west ROW line
2. Wastewater trunk line along east edge of pavement
3. AT&T Fiber Optic buried lines along the east ROW line
4. CenterPoint Electric Power Poles staggered along east and west ROW lines

There are four (4) existing pipelines within a 60-ft wide pipeline easement. A listing of the pipelines is below:

1. Kinder Morgan 30" Gas Pipeline
2. Kinder Morgan 30" Crude Oil Pipeline
3. Kinder Morgan 18" Gas Pipeline
4. CenterPoint 16" Gas Pipeline (appears to be Abandoned)

Moore Road has two primary outfalls that ultimately drain to the Stafford Run drainage ditch. The first drainage outfall is along a ditch located approximately 2,000-ft south of 5th Street flowing west. The second drainage outfall is at the Independence Boulevard intersection via storm sewer into an adjacent detention pond.

Proposed Scope

The proposed scope is comprised of 3 phases: Study (PER)/preliminary design, final design, and bidding/construction phase services. The scope of services will include professional engineering, surveying ROW mapping, and geotechnical investigation services. The project will involve constructing 6-ft sidewalks along both the east and west ROW lines, reconstruction of an approximately 4,300 LF of a 2-lane undivided asphalt pavement to provide shoulders on both sides and maintaining the open ditch drainage system. The scope of the project extends from the 5th Street roadway apron to approximately 130-ft north of the Independence Boulevard intersection. Final Posted speed will be determined after the completion of the project. Based on the initial kick-off meeting with FBC PCT 2 commissioner Grady Prestage, the following constitute the primary goals of the study phase:

1. Prepare and evaluate proposed typical section alternatives,
2. Determine right-of-way parcel acquisition needs,
3. Evaluation and potential reconstruction of existing water and gravity wastewater systems along the corridor
4. Determine potential conflicts with existing utilities and associated resolution,
5. Early identification of critical path items,
6. Identify drainage problem areas, mitigation efforts, and potential resolution(s),
7. Prepare probable construction cost estimate for the proposed typical section alternatives
8. Determine permit and regulatory requirements.

The project will be designed to meet Fort Bend County design criteria per the 2017 Mobility Standards.

The Preliminary Engineering Report (PER)

The purpose of the PER is to clearly depict refined horizontal and vertical alignments and to document the eight goals stated above. CobbFendley will not prepare a presentation quality document as the report will remain internal to Fort Bend County Engineering staff and the County's project management consultant. The PER/Technical Memorandum will include an executive summary, preliminary schematics of the proposed typical section alternatives, a drainage report, construction cost estimates for the proposed alternatives, and a geotechnical report as applicable. CobbFendley will deliver three copies of the report to the County. At 30% completion, a review/ presentation with Fort Bend County and CobbFendley will be held. CobbFendley will draft a separate proposal with associated compensation for any further requirements or additional scope of work requested by Fort Bend County. A 30% plan set will be prepared, consisting of all existing features (seen and unseen) shown in plan and profile. These plans along with typical sections are the only drawings that will be prepared as part of the PER.

Surveying and ROW Mapping

1. Topographic survey

Topographic survey will be performed and completed during preliminary design. Horizontal & Vertical Control and Topographical Surveying and Roadway Cross-Sections will include but are not limited to the following:

- a. Horizontal and vertical project control shall be established relative to the North American Datum of 1983 (NAD 83, 2001 adjustment) and the North American Vertical Datum of 1988 (NAVD 88, 2001 adjustment/TSARP datum).
- b. Temporary benchmarks and baseline controls will be set, both with 1,000-foot maximum spacing between points.
- c. During topographic survey, found property corners will be documented in order to determine the approximate location and width of the right-of-way. Visible property delineators such as fence corners and other existing monumentations will also be tied in order to evaluate alignment alternatives within project limits.

- d. The Topographical survey shall be along Moore Road from the 5th Street intersection to the Independence Boulevard intersection for approximately 4,500 feet. The topographical survey will also extend along all major & minor intersecting streets for 200-ft in E-W directions.
- e. Roadway cross sections will be obtained at 100 ft. intervals. Cross-sections shall extend 25 feet beyond the existing rights-of-way lines as applicable but not behind the platted subdivision fence.
- f. Topographic survey will identify locations and elevations of physical features to include buildings, fences, walls, trees, sidewalks, driveways and driveway curbs, power poles, light poles, water meters, water wells, ponds, sprinklers, off-site drain pipes as applicable.
- g. Topographic survey of any/all existing structures in clear view and within 100 feet of the existing right-of-way.
- h. The survey data collection and survey base map will include: Horizontal and vertical location of existing utilities within, crossing and adjoining project limits. Utilities will be located and tied based on visual evidence and utilities based on maps and plans provided by the utility owners and marked by "One Call" within the project limits, Flow line elevations, sizes, material types and directions of pipes will be obtained on storm sewer lines, sanitary sewer lines and culverts. The rim (top) and flow line elevations will be obtained on inlets, manholes, and drainage structures as applicable.
- i. A 3D topographical survey base map including a digital terrain model (DTM) and triangular irregular network (TIN) will be created for the existing roadway surface features.
- j. The survey line work and surface TIN shall be provided to the Client in Microstation/Geopak CADD platform.

2. Right of Way Mapping

Existing ROW envelope Determination

The existing ROW envelope will be performed upon completion and acceptance of the study phase findings and will include the following tasks:

- a. Perform abstract survey; obtain deeds of records, and plats for Moore Road right-of way, streets intersecting Moore Road and tracts of land adjoining Moore Road.
- b. Establish the existing right-of-way of Moore Road and intersecting streets.
- c. Prepare existing Right-of Way Map of the project.
- d. Prepare Survey Control Sheet(s) for the project.
- e. Establish a recoverable existing and proposed iron rods and/or monumentation set for cutback corners along Moore Road and at intersecting streets.

Proposed ROW Maps

Once right-of-way needs have been determined and approved by the County. The Engineer shall provide services including surveying in accordance with Category IA Condition II Land Title Survey must be performed to produce parcel map and metes-and-bounds descriptions for any

proposed parcel to be acquired in the project, overall project map showing existing and proposed ROW, KMZ file (used by Google Earth) showing existing ROW with ownership information and proposed takings with parcel numbers and a preliminary roadway layout". These documents will be submitted separately from other design documents and will be paid for on a per-parcel basis.

Drainage Study & Report

The drainage study report is prepared to document the existing conditions and provide basic design considerations along with estimated construction cost of drainage related items.

The following tasks will be performed and will be included in the drainage study report:

1. We will request, obtain, review and evaluate available data for the study area including FBCDD Drainage Study(s), as-built plans, the latest version of the reference standards and criteria and other information.
 - a. Obtain, review, and evaluate available existing public and private utility information relevant to the characteristic of the existing storm sewer systems and outfall drainage channels/systems for the study area.
2. We will perform field visits to the study area and vicinity to photograph and adequately document existing conditions and special concerns.
 - a. Research and review the reported findings of all available, previous studies related to the study area and vicinity.
 - b. Gather existing roadside ditch, culvert, and overland flow information using LiDAR and collected survey data. The survey shall include the location of all drainage appurtenances (i.e., ditches, culverts, equalizers, inlets, manholes, and detention facilities) to be adequately identified to display their respective geometric positions within the right-of-way. In addition, the identification of high points in roadways and ditches shall be determined from the best management practices during the site visits.
3. Perform Existing Condition Analysis:
 - a. Analyze LiDAR Data to determine existing condition overland sheet flow patterns
 - b. Identify and locate existing condition outfall locations and drainage systems
 - c. Analyze existing terrain for overland flow paths
 - d. Determine Existing Condition drainage areas, create drainage area maps and compare to Fort Bend County Masterplan Drainage areas - modify where necessary
 - e. Perform existing condition hydrologic calculations based upon Fort Bend County Drainage District ("FBCDD") drainage criteria
 - f. Analyze conveyance capacity of existing condition roadside ditches, culverts and contributing storm sewer systems (where applicable)
4. Perform Proposed Condition Analysis:
 - a. Determine proposed condition drainage areas and create drainage area map
 - b. Perform proposed condition hydrologic calculations per FBCDD drainage criteria

- c. Perform comparison between existing and proposed condition hydrology to determine impervious cover storage volume required
 - d. Determine required outfall size
 - e. Estimate detention volume required to offset impervious cover and reduced roadside ditch ("RSD") storage volume
 - f. Determine drainage system size required to convey flow within the ROW
 - g. increase estimated ditch sizes to provide additional conveyance capacity and volume to offset impervious cover and reduced RSD storage volume (where possible)
 - h. Develop measures to mitigate increases in HGL associated with the proposed roadway improvement project within the County ROW
5. We will prepare a report with maps, exhibits and an estimated construction cost for drainage related items (including acquisition of additional ROW). Drainage meeting will determine which option the county would like to move forward with, and the final analysis will be done to the one option. The study/report will conform to FCBDD standards and approved by FBCDD.

Utilities

CobbFendley will:

Research to determine the existence and location of underground utilities (pipelines, duct banks, etc.) is the design consultant's responsibility. A reasonable amount of research should be conducted, including but not limited to contact with companies identified on above-ground markers, Railroad Commission website research, and map requests from prominent companies (CenterPoint, AT&T, etc.). CenterPoint Energy and AT&T I.D. numbers should be obtained. An appropriate attempt must be made to depict underground utilities accurately in the plan and profile drawings, and potential conflicts between existing utilities and proposed features should be identified. Prepare a utility conflict table. Coordinate with Oil/Gas pipeline owners for depth requirements. Any subsurface utility investigation (SUI) should be at the expense of the utility company. Contact with utility companies (both overhead and underground) to coordinate relocation of existing utilities will be made by the project management consultant. Submit milestone-level drawings to applicable utility companies for their review.

Geotechnical Report

1. Field Investigation

Seven 5-foot soil borings will be drilled (at 500-foot intervals) along the project alignment (Moore Road). In addition, two 15-foot borings will be drilled at the location of the outfall structures. The boring locations will be determined in consultation with CobbFendley and soil borings will be conducted after the invert depths have been established. The borings will be sampled continuously to a depth of 15 feet, and at maximum five-foot intervals thereafter. Samples of cohesive soils will be obtained using three-inch diameter pushed tubes. Cohesionless soils (sands and gravels) will be sampled and evaluated in-situ by use of the Standard Penetration Test (SPT). The borings will be grouted at the completion of field operations. In addition, one 15-foot piezometer will be installed to monitor the groundwater conditions along the project alignment. It is important to note that additional soil borings may be required for design and construction of a detention site upon results and recommendation of H&H engineering analysis. Geotechnical investigations will be completed during the preliminary design and in accordance with Harris County criteria.

2. Laboratory Testing

Upon completion of the subsurface exploration, a general testing program will be designed to define the moisture condition, classification, strength, and shrink/swell characteristics of the subsurface soil samples. The laboratory testing program is anticipated to include moisture content determination. Upon return to the laboratory, all samples will be visually classified by the project engineer or engineering geologist in accordance with the Unified Soil Classification System (USCS). Each sample of cohesive soil will be evaluated for consistency by use of a pocket penetrometer test.

Selected samples will be subjected to classification tests and tests to evaluate strength, deformation, and shrink/swell characteristics. Anticipated classification tests consist of Atterberg Limits, moisture content, unit dry weight, and grain size determinations. Strength and deformation will be evaluated by use of unconfined compression tests.

3. Engineering Services and Geotechnical Report Preparation

The results of the field and laboratory investigations will be evaluated and presented with our recommendations in a bound report. The report will address the following:

1. Description of the soil and ground water conditions as they relate to the performance and construction of the project;
2. Groundwater control and dewatering recommendations;
3. Excavation wall and bottom stability recommendations;
4. Bearing pressures, lateral pressures excavation stability and dewatering recommendations for appurtenance;
5. Slope stability analysis will be performed on critical sections to determine the steepest stable slopes of proposed roadway side ditches;
6. Asphaltic concrete pavement and rigid pavement sections (thickness) recommendations;
7. Pavement subgrade conditions and recommended stabilization if applicable; and
8. Earthwork and testing recommendations.

The soils boring logs will be presented in the report. Three copies of the final report will be provided for distribution to appropriate project team members.

Environmental Site Assessment (ESA)

Preliminary wetlands investigations and project notification to the Texas Historical Commission will be performed by the County on a program-wide basis, so these efforts should not be needed on a project level. CobbFendley will also be notified if a Phase I Environmental Site Assessment (ESA I) is needed for the project, which can be performed by the County designated environmental/geotechnical consultant.

Traffic Engineering

Traffic Control Plans - Detailed traffic control plans (TCP) will be prepared based on the approach and the number of construction phases decided in the conceptual TCP as part of the study. TCP will be designed according to the latest edition of The Texas Manual on Uniform Traffic Control Devices.

SWPPP

Storm water pollution prevention plans (SWPPP) will be prepared and included in the construction documents and project manual based on FBC and/or HCFCF criteria.

Schedule

The PER is to be concluded 120 days from NTP and Final Design is to be concluded in 180 days from the PER review meeting. It must be noted that abovementioned document delivery durations do not include County's intermediate review time and acceptance by the County Engineer's office.

Compensations

It is mutually agreed that the fee for the preliminary and final design efforts will be paid in lump-sum basis to be billed monthly on a percent complete basis by respective tasks performed. The invoices to the County will also accompany itemized major tasks for preliminary design, final design, survey, geotechnical, etc. performed within each billing cycle.

Design Criteria

Applicable design criteria include, in order of priority, (1) *Fort Bend County Drainage Criteria Manual* (Fort Bend County Drainage District, November 1987, revised April 1999), (2) Municipal design criteria if the project is located within the limits of a municipality and/or ETJ that has design criteria, (3) *Guidelines for Engineers Having Contracts with Harris County, Texas* (Harris County Public Infrastructure Department, 1987), (4) applicable Texas Department of Transportation design criteria (all County maintained traffic signals, other items as applicable), and (5) the *Infrastructure Design Manual* (City of Houston Department of Public Works and Engineering, current version, used for infrastructure for which design criteria do not exist in the preceding criteria documents). Municipalities contributing funds to the project may review the submittals.

Final Design Deliverables (70%, 95%, and Final Submittal)

The goal is to prepare construction drawings and specifications accurately and efficiently. CobbFendley will deliver 70 percent, 95 percent, 100 percent completed plans, and the final bid ready submittal at the scheduled milestones. These submittals will include but not limited to design drawings, a specification table of contents (and/or special specifications, as applicable), and a construction cost estimate.

The 70 percent submittal will include the following deliverables:

Cover sheet (Fort Bend County name and seal, project name with limits, vicinity and location maps, names of County Judge and Commissioners, signature line for County Engineer, design firm name and registration number)

1. Existing and proposed typical sections (not-to-scale proposed sections with station limits for each section; show pavement/subgrade material and thickness, right-of-way and roadway width, applicable dimensions, profile grade line, and general location of existing and proposed utilities)
2. Overall project layout (scale as appropriate with sheet references left blank since they are subject to change in subsequent submittals)
3. Survey control map

4. Drainage area map with hydraulic calculations (display calculations clearly for future use by area developers)
5. Plan and profile sheets (1" = 20' plan scale (full size) but printed half-size at a 1" = 40' scale; all existing and proposed facilities correctly shown in plan and profile; separate drawings for water and sanitary to be produced if needed; detailed callouts not required at 70%)
6. Verify earthwork quantities with cross sections at 100-foot intervals. Cross sections will be incorporated into the final plans for contractor's information.
7. Traffic control plan (phasing and traffic control; avoid detours unless approved by the County; use of construction zone standards is encouraged)
8. Storm Water Pollution Prevention Plan (drawings and text including details)
9. Specification table of contents (Use Harris County specifications)
10. Bid form with estimated unit and total costs (spreadsheet based)
11. CobbFendley will submit electronic copy of the 70% plans in PDF format for the County review in addition to 3 hard copies of 11-inch x 17-inch paper submittals.

The 95 percent completed plans will be stamped with 95 percent review and are considered complete. This deliverable will encompass all 70 percent requirements plus the following:

1. General notes sheets
2. Verify earthwork quantities with cross sections at 100-foot intervals. Cross sections will be incorporated into the final plans for contractor's information.
3. Signage and pavement marking plans (use of pavement marking standards is encouraged)
4. Standard construction details
5. Project manual (bid form, specification table of contents, any special specifications or conditions; contract documents excluded)
6. Responses to 70 percent comments
7. CobbFendley will submit electronic copy of the 95 percent completed plans in PDF format for the County review in addition to the same physical submittal requirements from the 70%.

Final Submittal

Final Design shall consist of one signed and sealed set delivered to the project management consultant, along with a PDF submittal of drawings, specifications and estimate. Final design efforts will be considered complete when comments to the 95 percent submittal have been addressed. CobbFendley will submit electronic copy of the 100 percent final completed plans and 3 sets of hard copies in 11-inch x 17-inch format for the County Engineer signature.

Bid and Construction Phase Services

Upon completion of final design services, the County will determine an advertisement and bid opening schedule. All administrative project manual documents (cover page, Notice to Bidders, etc.) will be prepared by the County and CobbFendley will be provided with the document in Adobe Acrobat (pdf) format.

A single project manual file in Adobe Acrobat format will be prepared which will include the following:

1. Administrative documents,
2. The bid form (prepared by CobbFendley),

3. A sealed specification table of contents, and
4. Applicable specifications and documents.

CobbFendley will prepare and provide to the County with a single file in Adobe Acrobat format for the entire drawing set excluding the cover sheet, which contains approval signature(s), all drawings will be printed directly to Adobe Acrobat format with electronic seal and signature.

CobbFendley will provide the following services during the Bid phase services:

1. Prepare 27 compact discs, each containing the project manual file and the entire plan set. Of these, 25 compact discs will be delivered to the County Purchasing Agent for advertising, and two discs will be provided to the County's project management consultant. Hard copies of these documents are not required and will not be produced.
2. Attend a pre-bid meeting at the County Purchasing Office.
3. Briefly describe the project and will not prepare meeting minutes.
4. Receive bidder questions and clarifications from the County's Purchasing Agent.
5. Answers to questions and clarifications as well as any other required changes and prepare an addendum to include the responses and changes. The addendum will be distributed by the County's Purchasing Agent.

After the bid, the County's project management consultant will prepare a bid tabulation and provide a copy to the design consultant for filing.

Prior to the meeting, the project management consultant will inform CobbFendley of how many drawing and project manual sets are required, and the design consultant will provide these documents at the pre-construction meeting. CobbFendley will re-establish the horizontal & vertical control points prior to start of the construction.

The following services will be performed by CobbFendley during the construction phase services:

1. Attend a pre-construction meeting with the County, project management consultant, general contractor, and construction materials testing contractor. Review Shop Drawings (including detailed structural components)
2. Review contractor submittals and responding to Requests for Information (RFI)
3. Respond to contractors RFI's (justifiable number of RFI's)
4. Participate in a substantial completion walkthrough
5. Prepare record drawings after project completion based on contractor as-built markups, the record drawings will be printed on paper and delivered to the County
6. Field visits and progress meetings will not be required unless requested by the County as an additional service.

The construction duration for this project is estimated to take 12 months. It is our mutual understanding that the construction phase services will be paid on a time-and-materials basis. The not-to-exceed fee for these services will be determined by the County and/or its project management consultant and CobbFendley. The construction phase services will be performed and continued with prior Fort Bend County authorization. Monthly billing will include a breakdown of hours spent by personnel in the various employee categories, at billing rates agreed to by the County and the design consultant. Reimbursable expenses, such as scanning and reproduction, will be billed at actual cost (no markup).