

AGREEMENT FOR ENGINEERING & DESIGN SERVICES

for

Design Services for Drainage Projects in Deer Park

This Agreement is made and entered into in Deer Park, Harris County, Texas on the 16th day of July, 2019; by and between

The City of Deer Park, a Municipal Corporation in the State of Texas

And

Cobb, Fendley and Associates, Inc. (CobbFendley) ENGINEER(s) duly licensed, and practicing under the laws of the State of Texas.

Said Agreement being executed by the City pursuant to the City Charter, Ordinances, and Resolutions of the City Council, and by the Engineer for engineering services hereinafter set forth in connection with the above-designated Project for the City of Deer Park.

DEER PARK retains **CobbFendley** to perform engineering analysis services related to drainage projects in Deer Park on a task order basis, in return for consideration to be paid by DEER PARK under terms and conditions set forth below.

ARTICLE 1. SCOPE OF WORK

- 1.1 ENGINEER will provide engineering, design, consultation, project management, and other services as required to perform and complete the Scope of Work & Services specifically identified in Exhibit A of this Agreement. The Services Scope of Work (the "Work") and the time schedules set forth in Exhibit A are based on information provided by DEER PARK and ENGINEER. The schedule of milestones and deliverables are essential terms of this Agreement.
- 1.2 If this information is incomplete or inaccurate, or if site conditions are encountered which materially vary from those indicated by DEER PARK, or if DEER PARK directs ENGINEER to change the original Scope of Work shown in Attachment A, a written amendment equitably adjusting the costs, performance time and/or terms and conditions, shall be executed by DEER PARK and ENGINEER.

ARTICLE 2. COMPENSATION

- 2.1 ENGINEER bills for its services on a time and materials basis using the Schedule of Rates and Terms entitled Estimated Level of Effort (“Schedule of Rates”) attached as Exhibit A of this Agreement. As requested, ENGINEER has provided cost for basic and additional services and reimbursable expenses in the Scope of Services dated June 25, 2019 for the Heritage Addition, Deer Park Manor and Del-Elaine Subdivisions. ENGINEER will not exceed that estimate without prior approval from DEER PARK. ENGINEER will notify DEER PARK, for approval, of any proposed revisions to the Schedule of Rates and effective date thereof which shall not be less than thirty (30) days after such notice.
- 2.2 ENGINEER will submit monthly invoices for Services rendered, and DEER PARK will make payment within thirty (30) days of receipt of ENGINEER’S invoices. If DEER PARK objects to all or any portion of an invoice, it will notify ENGINEER of the same within fifteen (15) days from the date of receipt of the invoice and will pay that portion of the invoice not in dispute, and the parties shall immediately make every effort to settle the disputed portion of the invoice. Prices or rates quoted do not include state or local taxes.

ARTICLE 3. DEER PARK’S RESPONSIBILITIES

- 3.1 DEER PARK will designate in writing the person or persons with authority to act on DEER PARK’S behalf on all matters concerning the work to be performed.
- 3.2 DEER PARK will furnish to ENGINEER all existing studies, reports, data and other information available to DEER PARK necessary for performance of the Work, authorize ENGINEER to obtain additional data as required, and furnish the services of others where necessary for the performance of the Work. ENGINEER will be entitled to use and rely upon all such information and services.
- 3.3 Where necessary to performance of the Work, DEER PARK shall arrange for ENGINEER to have access to any site or property.

ARTICLE 4. PERFORMANCE OF SERVICE

- 4.1 ENGINEER’S services will be performed within the schedule and time period set forth in Schedule A.
- 4.2 ENGINEER shall perform the Work, and any additional services as may be required, for the development of the Project to completion.
- 4.3 If required, additional services will be performed and completed within the time period agreed to in writing by the parties at the time such services are authorized.

- 4.4 If any time period within or date by which any of ENGINEER's services are to be performed is exceeded for reasons outside of ENGINEER's reasonable control, all rates, measures and amounts of compensation and the time for completion of performance shall be subject to equitable adjustment.

ARTICLE 5. CONFIDENTIALITY

- 5.1 ENGINEER will hold confidential all information obtained from DEER PARK, not previously known by ENGINEER or in the public domain.

ARTICLE 6. STANDARD OF CARE & WARRANTY

- 6.1 Standard of Care. In performing services, ENGINEER agrees to exercise professional judgment, made on the basis of the information available to ENGINEER, and to perform its engineering services with the professional skill and care of competent design professionals practicing in the same or similar locale and under the same or similar circumstances and professional license. ENGINEER also agrees to perform its engineering services as expeditiously as is prudent considering this standard of care. This standard of care shall be judged as of the time and place the services are rendered, and not according to later standards.
- 6.2 Warranty. If any failure to meet the foregoing standard of care Warranty appears during one year from the date of completion of the service and ENGINEER is promptly notified thereof in writing, ENGINEER will at its expense re-perform the nonconforming work.
- 6.3 The foregoing Warranty is the sole and express warranty obligation of ENGINEER and is provided in lieu of all other warranties, whether written, oral, implied or statutory, including any warranty of merchantability. Engineer does not warrant any products or services of others. ENGINEER, however, expressly acknowledges that these warranty obligations do not eliminate the applicability of the standard of care to all of its work and that the OWNER may still retain remedies against ENGINEER following the expiration of the warranty period in contract, tort, or otherwise as the law allows.

ARTICLE 7. INSURANCE

- 7.1 ENGINEER will procure and maintain insurance as required by law. At a minimum, ENGINEER will have the following coverage:
- (1) Workers compensation and occupational disease insurance in statutory amounts.
 - (2) Employer's liability insurance in the amount of \$1,000,000.

- (3) Automobile liability in the amount of \$1,000,000.
- (4) Commercial General Liability insurance for bodily injury, death or loss of or damage to property of third persons in the amount of \$1,000,000 per occurrence, \$2,000,000 in the aggregate.
- (5) Professional errors and omissions insurance in the amount of \$1,000,000.

7.2 ENGINEER has provided a Statement of Insurance to DEER PARK demonstrating and reflecting that ENGINEER has procured and maintains insurance coverage in accordance with the requirements stated above. That Statement of Insurance is Attachment C of this Agreement.

ARTICLE 8. INDEMNITY

8.1 THE ENGINEER SHALL INDEMNIFY AND HOLD HARMLESS THE CITY, ITS OFFICERS, OFFICIALS, AGENTS AND EMPLOYEES FROM AND AGAINST ALL CLAIMS, CAUSES OF ACTION, LOSSES, LAWSUITS, JUDGMENTS, FINES, PENALTIES, COSTS, DAMAGES, OR LIABILITY OF ANY CHARACTER, TYPE OR DESCRIPTION INCLUDING WITHOUT LIMITATION, ALL EXPENSES OF LITIGATION, INCLUDING EXPERT OR CONSULTANT FEES, COURT COSTS, AND ATTORNEY'S FEES, RESULTING FROM PERSONAL INJURY (INCLUDING DEATH), PROPERTY DAMAGE OR OTHER HARM, BUT ONLY TO THE EXTENT THAT SUCH PERSONAL INJURY, PROPERTY DAMAGE OR HARM IS CAUSED BY OR RESULTS FROM AN ACT OF NEGLIGENCE, INTENTIONAL TORT, INTELLECTUAL PROPERTY INFRINGEMENT, OR FAILURE TO PAY A SUBCONTRACTOR OR SUPPLIER COMMITTED BY THE ENGINEER OR THE ENGINEER'S AGENT, CONSULTANT UNDER CONTRACT, OR ANOTHER ENTITY OVER WHICH THE ENGINEER EXERCISES CONTROL.

IF THE CITY DEFENDS AN ACTION, CLAIM, LAWSUIT OR OTHERWISE INCURS ATTORNEY'S FEES AS A RESULT OF AN INDEMNIFIED CLAIM AS STATED ABOVE, ENGINEER AGREES TO REIMBURSE THE CITY IN PROPORTION TO THE ENGINEERS LIABILITY.

8.2 ENGINEER agrees to and shall contractually require its consultants and subcontractors of any tier to assume the same indemnification obligations to Indemnities as stated herein.

ARTICLE 9. OWNERSHIP OF DOCUMENTS

9.1 As long as DEER PARK is current in the payment of all undisputed invoices, all work product prepared by the ENGINEER pursuant to this Agreement, including, but not limited to, all Contract Documents, Plans and Specifications and any computer aided design, shall be the sole and exclusive property of DEER PARK, subject to the ENGINEER's reserved rights.

- 9.2 ENGINEER's technology, including without limitation customary techniques and details, skill, processes, knowledge, and computer software developed or acquired by ENGINEER or its Consultants to prepare and manipulate the data which comprises the instruments of services shall all be and remain the property of the ENGINEER.

ARTICLE 10. INDEPENDENT CONTRACTOR

- 10.1 The ENGINEER is an independent contractor and shall not be regarded as an employee or agent of the DEER PARK.

ARTICLE 11. COMPLIANCE WITH FEDERAL, STATE AND LOCAL LAWS

- 11.1 The ENGINEER shall observe all applicable provisions of the federal, state and local laws and regulations, including those relating to equal opportunity employment.

ARTICLE 12. SAFETY

- 12.1 DEER PARK shall inform the ENGINEER and its employees of any applicable site safety procedures and regulations known to DEER PARK as well as any special safety concerns or dangerous conditions at the site. The ENGINEER and its employees will be obligated to adhere to such procedures and regulations once notice has been given.
- 12.2 ENGINEER shall not have any responsibility for overall job safety at the site. If in ENGINEER's opinion, its field personnel are unable to access required locations or perform required services in conformance with applicable safety standards, ENGINEER may immediately suspend performance until such safety standards can be attained. If within a reasonable time site operations or conditions are not brought into compliance with such safety standards, ENGINEER may in its discretion terminate its performance, in which event, DEER PARK shall pay for services and termination expenses as provided in Article 18.

ARTICLE 13. LITIGATION

- 13.1 At the request of DEER PARK, ENGINEER agrees to provide testimony and other evidence in any litigation, hearings or proceedings to which DEER PARK is or becomes a party in connection with the work performed under this Agreement, unless DEER PARK and the ENGINEER are adverse to one-another in any such litigation.
- 13.2 Any litigation arising out of this Agreement between DEER PARK and ENGINEER shall be heard by the state district courts of Harris County.

ARTICLE 14. NOTICE

14.1 All notices to either party by the other shall be deemed to have been sufficiently given when made in writing and delivered in person, by electronic mail, facsimile, certified mail or courier to the address of the respective party or to such other address as such party may designate.

ARTICLE 15. TERMINATION

15.1 The performance of work may be terminated or suspended by DEER PARK, for any reason. Such suspension or termination shall be subject to notice of DEER PARK's election to either suspend or terminate the Agreement fifteen (15) days' prior to the effective suspension or termination date. The Notice shall specify the extent to which performance of work is suspended or terminated and the date upon which such action shall become effective. In the event work is terminated or suspended by DEER PARK prior to the completion of services contemplated hereunder, ENGINEER shall be paid for (i) the services rendered to the date of termination or suspension and reasonable services provided to effectuate a professional and timely project termination or suspension.

ARTICLE 16. SEVERABILITY

16.1 If any term, covenant, condition or provision of this Agreement is found by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of this Agreement shall remain in full force and effect, and shall in no way be affected, impaired or invalidated thereby.

ARTICLE 17. WAIVER

17.1 Any waiver by either party or any provision or condition of this Agreement shall not be construed or deemed to be a waiver of a subsequent breach of the same provision or condition, unless such waiver is so expressed in writing and signed by the party to be bound.

ARTICLE 18. GOVERNING LAW

18.1 This Agreement will be governed by and construed and interpreted in accordance with the laws of the State of Texas.

ARTICLE 19. CAPTIONS

19.1 The captions contained herein are intended solely for the convenience of reference and shall not define, limit or affect in any way the provisions, terms and conditions hereof or their interpretation.

ARTICLE 20. ENTIRE AGREEMENT

20.1 This Agreement, its articles, provision, terms, and attached Schedules represent the entire understanding and agreement between DEER PARK and ENGINEER and supersede any and all prior agreements, whether written or oral, and may be amended or modified only by a written amendment signed by both parties.

This Agreement is effective on the last day signed.

Cobb, Fendley & Associates, Inc.

By 
Name Charles M. Eastland
Title Vice President
Date 7/10/19

The City of Deer Park

By _____
Name _____
Title _____
Date _____

EXHIBIT 'A'



June 25, 2019

Mr. Bill Pedersen, P.E.
Public Works Director
City of Deer Park
710 E San Augustine
Deer Park, Texas 77536

Re: Proposal for Professional Engineering Services for
Drainage Improvements for Heritage Addition, Deer Park Manor, and Delo-Elaine
Subdivisions

Dear Mr. Pedersen:

Cobb, Fendley & Associates, Inc. (CobbFendley) is pleased to submit this proposal to provide Professional Engineering Services for the above-mentioned drainage improvement projects in Deer Park, Texas. CobbFendley proposes to provide the Scope of Services and Compensation as outlined in the attached Exhibit A and B.

If this proposal is agreeable to you, please indicate your acceptance by signing in the space provided below and return one copy to us for our file. The opportunity to propose professional survey and engineering service to the City of Deer Park is appreciated and we look forward to serving you on this project. Please advise if you have any questions or require additional information.

Sincerely,

COBB, FENDLEY & ASSOCIATES, INC.

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

Charles M. Eastland, P.E.
Vice President – Regional Manager

Attachments

This proposal accepted by:

CITY OF DEER PARK, TEXAS

Signature

Print Name

Title

Date of Authorization

EXHIBIT A
SCOPE OF SERVICES & COMPENSATION

Cobb, Fendley & Associates, Inc.
Proposal for Professional Engineering Services for
Drainage Improvements for Heritage Addition, Deer Park Manor, and Delo-Elaine
Subdivisions

Project/Limits

Heritage Addition

The Heritage Addition Drainage Improvements project provides for the construction of drainage improvements identified in the Addendum to Preliminary Engineering Report for Heritage Addition Drainage Improvements – Alternative C Analysis, dated June 14 2019, prepared by CobbFendley. This includes the construction of junction boxes along Jefferson Avenue and intersecting streets south of E Lambuth to create hydraulic connections between the existing parallel CMP and RCP storm sewers. Additionally, flow from south of E Lambuth will be diverted west down E Lambuth to a proposed detention pond in a 5'x3' box sewer and then back to Jefferson Ave in a 24" storm sewer. The 36" storm sewer between E. Lambuth Lane and Strey Court will also be replaced and 24" storm sewer will be added on Lincoln Street from Grant Street to Temperance Lane.

See *Exhibit C - Project Limits*

Deer Park Manor/Delo-Elaine

The Deer Park Manor/Delo-Elaine Drainage Improvements project provides for the construction of drainage improvements identified in the Preliminary Engineering Report for Deer Meadows Drainage Improvements, dated April 2019, prepared by CobbFendley. This includes the construction of storm sewer and a new outfall to Willowspring Creek (B112-00-00) on Kittie Street in the Delo-Elaine Subdivision, the construction of a new outfall ditch from Luella Avenue to B112-00-00 along the southern boundary of the Delo-Elaine Subdivision, and the construction of a new detention pond connecting to B112-00-00 to be located in a vacant property between Pine Lane and Dalmatian Lane on the north side of E. Pasadena Boulevard. The outfall ditch will also require the reconstruction of a short segment of Luella Avenue in order to direct storm drainage sheet flow to the new outfall ditch.

See *Exhibit D – Project Limits*

General

Cobb, Fendley & Associates, Inc. (CobbFendley) will perform professional engineering services as follows: topographic survey, design phase services, bid phase services, and construction phase services.

Sub Consultants

CobbFendley shall subcontract the geotechnical investigation and any other services not specifically offered by CobbFendley to perform the tasks described in this scope of service. Below is a list of the consultants that we anticipate on using for this project:

- Geotechnical Investigation – Terracon
- Environmental - Terracon

Construction Estimate

The preliminary Opinion of Probable Construction Costs for these projects are attached as Exhibit E.

BASIC SERVICES

CobbFendley will provide the following engineering services as part of its basic service. The specific items of service include:

Design Phase Services:

1. Data collection, including “as-built plans”, existing schematics, right-of-way maps, floodplain information, existing channel and drainage easement data, special specifications, and standard drawings.
2. Conduct field reconnaissance and collect data including a photographic record of notable existing features.
3. Prepare topographic drawings from survey data of the proposed alignment.
4. Perform the utility and investigation work involving the research and identification of all private and public utilities within the projects limits.
 - a. Research the existence of public utilities such as sanitary, storm sewer and waterlines.
 - b. Request any additional information from private utilities (CenterPoint Gas, CenterPoint Electric, AT&T and Others) and pipeline.
 - c. Identify potential conflicts between the existing utilities and the proposed project improvements.
 - d. Coordinate with utility companies on plans for relocations and provide updated project design information.
5. Provide construction plan drawings. The plans will include, at a minimum, the following.
 - Cover Sheet
 - Overall Project Layout
 - Typical Cross Sections
 - SWPP Plan
 - Demolition Plan
 - General Notes and Details
 - Drainage Area Map
 - Storm Sewer Layout
 - Survey Control Map
 - Plan and Profiles Sheets
 - Traffic Control Plan
 - Harris County ERS

6. CobbFendley will provide typical sections sheets prepared for the existing and proposed roadway. Typical section information will include:
 - a. Station Limits
 - b. Profile Grade Line Location
 - c. Centerline and Baseline Locations
 - d. Pavement Section
 - e. Pavement Cross Slopes
 - f. Curbs
 - g. Sidewalks
 - h. Green Space (Mow Strips)

7. CobbFendley will provide roadway plan and profile drawings using CADD standards as required by the City. The drawings will consist of a plan and profile view of existing features and proposed improvements.

Plan view will include:

- a. Roadway centerlines and baselines
- b. Pavement edges for all improvements
- c. Lane and pavement width dimensions
- d. Sidewalks
- e. Proposed structure locations
- f. Direction of traffic flow on all roadway, and arrows indicating the number of lanes
- g. Existing utilities and structures
- h. Benchmark information
- i. Proposed radius callouts
- j. Proposed curb locations
- k. Pavement Details

Profile view will include:

- a. Existing and proposed profiles along the proposed centerline
- b. Existing and Proposed Grade Lines for pavement and natural ground along the project centerline.

Notes: Storm Sewer Plan and Profiles and Roadway Plan and Profiles will be included on the same Sheet. Plan and Profile sheets will be prepared on 22"x34" format sheets.

8. Develop an earthwork analysis to determine earthwork quantities for the detention ponds.
9. Prepare Survey Control Sheets based on information provided by Project Surveyor.
10. Review Geotechnical Report and incorporate into the pavement design, storm sewer trench design, channel design and detention pond design as recommended.

11. Update drainage area boundaries, hydrologic runoff rates and resultant flows for the systems included in the project area as necessary based on survey data.
12. Size proposed storm sewer to meet City's 2-year rainfall event.
13. Coordinate with Harris County Flood Control (HCFCD) for work performed within HCFCD facilities and obtain approvals.
14. CobbFendley will prepare Storm Water Pollution Prevention Plan (SW3P) sheets and details based on the latest NPDES, Harris County Stormwater Quality Standards and City standards to minimize the potential impact to receiving waterways. The SW3P sheets will include:
 - a. Erosion control measures to be used
 - b. Locations of erosion control devices
 - c. Phasing of erosion control measures
 - d. Permanent erosion control measures
 - e. Erosion control measure detail sheet(s)
15. CobbFendley will prepare Traffic Control Plan (TCP) sheets in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD) for Streets and Highways (latest edition). Plans sheets will include the following:
 - a. Written narrative of the construction sequencing and work activities per phase.
 - b. Existing and proposed traffic control devices (regulatory signs, warning signs, guide signs, route markers, construction pavement markings, barricades, flag personnel, temporary traffic signals, etc.) to be used to handle traffic during each construction sequence.
 - c. Typical sections for each phase
 - d. Proposed traffic control devices at grade intersections during each construction phase (stop signs, flag person, signals, etc.).
 - e. Temporary structures and detours required to maintain lane continuity throughout the construction phasing.
 - f. Continuous, safe access to each adjacent property during all phases of construction and to preserve existing access.
 - g. Temporary drainage to replace existing drainage disturbed by construction activities or to drain detour pavement.
 - h. Interim signing for every phase of construction. Interim signing must include regulatory, warning, construction, route, and guide signs.

- i. Maintain continuous access to abutting properties during all phases of the TCP.
16. Coordinate and submit plans to Harris County Flood Control District for Approval. (Express Review Sheet)
17. Prepare contract bidding documents consisting of technical specifications and contract documents outlining the construction contract requirements.
18. CobbFendley will provide construction documents based on the milestone submittals below:
 - a. 60% Milestone Submittal:
 - i. 1 set of 22"x34" plan sheets for City review.
 - ii. Opinion of Probable Construction Cost
 - iii. Digital Copy of the previous items in .pdf format
 - b. 90% Milestone Submittal:
 - i. 2 sets of 22"x34 plan sheets for City review.
 - ii. 1 project manual with specifications for City Review.
 - iii. Opinion of Probable Construction Cost
 - iv. Digital Copy of the previous items in .pdf format
 - c. Final Milestone Submittal:
 - i. 2 sets of 22"x34" plan sheets for City review.
 - ii. 1 project manual with specifications for City Review.
 - iii. Opinion of Probable Construction Cost
 - iv. Construction schedule.
 - v. Digital Copy of the previous items in .pdf format
19. Once all comments are received by all entities involved, CobbFendley will finalize the construction documents for bidding.

Bid Phase Services:

1. Distribute digital plans and specifications to City for placement in PublicPurchase.com.
2. Respond in writing to questions from Bidders and prepare Addenda as necessary.
3. Conduct Pre-Bid and attend the Bid Opening.
4. Prepare Engineer's Recommendation of Award Letter that includes the following required content:
 - a. Check for math errors and reconcile any mathematical discrepancies
 - b. Review for unbalance bid items and determine responsiveness and responsibility of low bidders.
 - c. Certify Bid Tabulation including Engineer's estimate

- d. Review of Bidder's financial standing and references provided
 - e. Explanation of discrepancies between the Engineer's estimate and bids
 - f. Recommendation to award
5. Prepare and provide the City with three (3) sets of hard copy award documents and plans.

Construction Administration Services:

1. Attend and conduct preconstruction conference.
2. Calculate quantities and assist in preparing change orders as necessary.
3. Review and approval of submittals and shop drawings.
4. Respond to request for information (RFI's) regarding the project improvements.
5. Attend field meetings and make visits to the site. Site visits will be various stages of construction to observe the progress and quality of executed work and to determine in general if such work is proceeding in accordance with the contract documents. Estimated based on the information provided below:
 - a. Construction Contract Estimate
 - b. Senior PM – 1 Visit per month
 - c. Project Engineer – 2 Visit per month
 - d. Estimated 4hrs per Visit
6. Prepare Pay Applications for Approval.
7. Attend a Substantial Completion Inspection and prepare one Punch List.
8. Attend and conduct Final Acceptance Inspection of the project and prepare punch list as necessary.
9. Prepare Record Drawings based on Contractor Mark-up.
10. Provide City with necessary close out documents, including certificate of completion, record drawings, and contractor warranty documents on the project.

ADDITIONAL SERVICES

Surveying

CobbFendley, as the project surveyor shall:

1. Establish horizontal and vertical project control throughout the site. Vertical control will be tied to current TSARP datum.
2. Perform a Category 6, Condition II topographical survey of the project area in accordance with the requirements of the Texas Society of Professional Surveyors to locate existing utilities, appurtenances and pavement providing

cross sections of the following existing features: natural ground, concrete curbs and pavement. Elevations will be obtained at a maximum of 50-ft intervals, right-of-way to right-of-way, plus 10 feet on each side.

3. Prepare a survey drawing on a plan style sheet at a scale of 1"=20' horizontally or at the direction of the engineer. The drawing will depict the obtained field information and any record information provided by outside sources.

Geotechnical Investigation

1. The geotechnical investigation will be performed by Terracon in accordance with the attached proposal. A geotechnical report will include geotechnical engineering recommendations on subgrade preparation, pavement design for concrete streets, storm sewer construction considerations, and detention pond and drainage channel recommendations.

Environmental Review

1. Phase 1 ESA for project area to be performed by Terracon, excluding the detention pond sites that have already been studied by Terracon. Provide wetlands delineation as needed for approval of the new channel outfalls.

Exclusions for the Scope of Services:

The services described above are the identified **BASIC AND ADDITIONAL SERVICES** for this assignment. Other items that may arise during the course of the project that the City may wish to add to the scope of services shall be deemed as **SUPPLEMENTAL ADDITIONAL SERVICES**. CobbFendley shall undertake such supplemental additional services as assigned by the City upon written direction from the City. Examples of such items are as follows:

1. Quality Control (QC) inspections, full or part time, during the construction phase of the project.
2. Materials Testing Services
3. Public Meetings
4. Obtaining Construction Permits
5. Platting
6. Preparation of Easements
7. Right-of-way Acquisition
8. TDLR Accessibility Review and Inspection
9. Bidding project more than once
10. Urban Forestry Services – Tree Preservation Plan
11. Any other services not specifically included within the description of the Basic Services and Additional Services as described above.

If supplemental services are requested by the City, CobbFendley will provide the City with a separate proposal for the supplemental work.

EXHIBIT B

BASIS OF COMPENSATION

HERITAGE ADDITION

BASIC SERVICES

The Compensation to be paid to CobbFendley for providing the BASIC SERVICES rendered under this agreement shall be based on Lump sum fees for overall phases of the work as shown below. Reimbursable items and subconsultant invoices will be subject to a 10% administration charge.

1.	Design Phase Services (Lump Sum)	\$192,665
2.	Bid Phase Services (Lump Sum)	\$12,255
3.	Construction Administration Services (Lump Sum)	\$43,440

ADDITIONAL SERVICES

4.	Surveying (Lump Sum)	\$33,410
5.	Geotechnical Investigation (including 10% markup)	\$8,140
6.	Environmental Services (including 10% markup)	\$3,850

Reimbursable Expenses

1.	Reproduction, mileage, delivery charges, etc.	\$3,500
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TOTAL, Basic & Additional Services incl. Reimbursables \$297,260

DEER PARK MANOR/DELO-ELAINE

BASIC SERVICES

The Compensation to be paid to CobbFendley for providing the BASIC SERVICES rendered under this agreement shall be based on Lump sum fees for overall phases of the work as shown below. Reimbursable items and subconsultant invoices will be subject to a 10% administration charge.

7.	Design Phase Services (Lump Sum)	\$117,555
8.	Bid Phase Services (Lump Sum)	\$12,255
9.	Construction Administration Services (Lump Sum)	\$35,670

ADDITIONAL SERVICES

10.	Surveying (Lump Sum)	\$19,420
11.	Geotechnical Investigation (including 10% markup).....	\$12,430
12.	Environmental Services (including 10% markup)	\$7,700

Reimbursable Expenses

2.	Reproduction, mileage, delivery charges, etc.	\$2,000
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TOTAL, Basic & Additional Services incl. Reimbursables \$207,030

**GRAND TOTAL – Heritage Addition,
Deer Park Manor, and Delo-Elaine Subdivisions \$504,290**

ADDITIONAL SERVICES

The Compensation to be paid to CobbFendley for providing any ADDITIONAL SERVICES under this agreement shall be based on the rate schedule included in the Agreement. Reimbursable items and subconsultant invoices will be subject to a 10% administration charge. Services will be charged according to those personnel directly involved in providing the service, and will be rounded to the nearest half hour.

Lump sum fees will be negotiated for particular, defined assignments at the request of the City. When an occasion arises which the City desires to be covered by a lump sum fee, CobbFendley will negotiate an acceptable fee with the City and prepare an addendum to this Agreement which describes the scope of services to be provided and the fee. The addendum will be effective only after its signature by both parties.

Direct Personnel Expense means salaries and wages paid to CobbFendley's employees plus payroll related costs and benefits such as payroll taxes, worker's compensation, health and retirement benefits, bonuses, sick leave, vacation, and holiday pay applicable hereto. Reimbursable Direct Expenses shall be those costs incurred on or directly for the CLIENT'S project, including but not limited to necessary transportation costs including mileage at the current IRS rate, meals and lodging, laboratory tests and analyses, and printing and binding charges.



Heritage Addition Drainage Improvements
 Alternative C - Recommended Improvements

EXHIBIT C

Date: June 2019

CobbFendley
 Texas Registration No. 24
 15430 Northwest Freeway, Suite 1100
 Houston, Texas 77040
 713.466.4444
 www.cobbfendley.com



1 inch = 400 feet

Legend

- Proposed Channel
- Remaining Existing
- ▲ Proposed
- ▲ Streams
- Pond

CobbFendley
 13430 Northwest Freeway, Suite 1100
 Houston, Texas 77040
 713-462-2542 | fax 713-462-2562
 www.cobbhendley.com

**City of Deer Park - Deer Park Manor and Delo Elaine
 Alternative 2C**

Date: June 2019

EXHIBIT D

**EXHIBIT E - PRELIMINARY COST ESTIMATE
HERITAGE ADDITIONAL DRAINAGE IMPROVMENTS**

Item No.	Item Description	Unit Measure	Unit Quantity	Unit Price	Total
BASE PROJECT: STORM REPLACEMENT AND STREET REPAIR					
GENERAL BID ITEMS					
1	Mobilization	LS	1	\$100,000.00	\$100,000.00
2	Traffic Control and Regulation	LS	1	\$20,000.00	\$20,000.00
3	Salvage Existing Signs and Reinstall Permanent Traffic Signs	LS	1	\$500.00	\$500.00
4	Tree and Plant Protection	LS	1	\$2,500.00	\$2,500.00
5	SWPPP	LS	1	\$5,000.00	\$5,000.00
6	Block Sodding	SY	818	\$5.00	\$4,090.00
GENERAL BID ITEMS SUBTOTAL					\$132,090.00
DETENTION POND & CHANNEL BID ITEMS					
7	Detention Pond Excavation	CY	61,307	\$15.00	\$919,605.00
8	Backslope swales	LS	1	\$50,000.00	\$50,000.00
9	Hydromulch	AC	6.23	\$1,500.00	\$9,345.00
DETENTION POND & CHANNEL SUBTOTAL					\$978,950.00
PAVING BID ITEMS					
9	Roadway Excavation	CY	687.0	\$15.00	\$10,305.00
10	Remove and Dispose of Pavement, All Thicknesses including Base and Subgrade, w/ or w/o Curb, All Depths)	SY	3,483	\$6.00	\$20,898.00
11	Remove and Dispose of Driveways, All Materials and Thicknesses	SY	475	\$5.00	\$2,375.00
12	Remove and Dispose of Concrete Sidewalk, All Thicknesses	SY	150	\$4.00	\$600.00
13	Concrete Driveways, 6-inch Thick and Including Excavation	SF	4,271	\$8.00	\$34,168.00
14	5-Foot Concrete Sidewalks	SF	150	\$7.00	\$1,050.00
15	Curb Ramps	EA	8	\$2,000.00	\$16,000.00
16	6-inch Thick Reinforced Concrete Pavement	SY	3,483	\$52.00	\$181,116.00
17	6-inch Cement Stabilized Sand	SY	3,728	\$6.50	\$24,232.00
18	6-inch Concrete Curb	LF	1,860	\$5.00	\$9,300.00
PAVING BID ITEMS SUBTOTAL					\$300,044.00

**EXHIBIT E - PRELIMINARY COST ESTIMATE
HERITAGE ADDITIONAL DRAINAGE IMPROVMENTS**

Item No.	Item Description	Unit Measure	Unit Quantity	Unit Price	Total
STORM SEWER BID ITEMS					
19	Remove and Dispose of Storm Sewer Inlets and Manholes, All Sizes and Depths	EA	7	\$450.00	\$3,150.00
20	Remove and Dispose Storm Sewer	LF	1,840	\$15.00	\$27,600.00
21	Tie-in Existing Storm Sewer to Junction boxes	LS	1	\$20,000.00	\$20,000.00
22	Type C Manhole	EA	2	\$3,500.00	\$7,000.00
24	Junction Box (Small)	EA	4	\$5,000.00	\$20,000.00
25	Junction Box (Large)	EA	2	\$12,000.00	\$24,000.00
23	Type C Inlet 5' Extention	EA	2	\$3,500.00	\$7,000.00
26	Area Inlet	EA	0	\$1,500.00	\$0.00
27	Curb Inlet	EA	1	\$3,100.00	\$3,100.00
28	24-inch Reinforced Concrete Pipe by Open Cut	LF	1,690	\$160.00	\$270,400.00
29	36-inch Reinforced Concrete Pipe by Open Cut	LF	290	\$180.00	\$52,200.00
30	5'x3' Reinforced Concrete Box by Open Cut	LF	280	\$230.00	\$64,400.00
31	Dewatering for Storm Sewer, Authorization Required	LF	0	\$25.00	\$0.00
32	Trench Safety System for Trench Excavations	LF	2,260	\$2.00	\$4,520.00
33	5'x3' RCB Outfall (E. Lambuth Pond)	EA	1	\$30,000.00	\$30,000.00
34	Relocate/Restore Sprinkler Heads and Irrigation Lines in Conflict with Construction	LS	0	\$2,000.00	\$0.00
STORM SEWER BID ITEMS SUBTOTAL					\$533,370.00
TOTAL					\$1,944,454
20% CONTINGENCY					\$388,891
GRAND TOTAL					\$2,333,345

**EXHIBIT E - PRELIMINARY COST ESTIMATE
DEER PARK MANOR / DELO-ELAINE DRAINAGE IMPROVMENTS**

Item No.	Item Description	Unit Measure	Unit Quantity	Unit Price	Total
BASE PROJECT: STORM REPLACEMENT AND STREET REPAIR					
GENERAL BID ITEMS					
1	Mobilization	LS	1	\$22,000.00	\$22,000.00
2	Traffic Control and Regulation	LS	1	\$25,000.00	\$25,000.00
3	Salvage Existing Signs and Reinstall Permanent Traffic Signs	LS	1	\$500.00	\$500.00
4	Tree and Plant Protection	LS	1	\$2,500.00	\$2,500.00
5	SWPPP	LS	1	\$10,000.00	\$10,000.00
6	Block Sodding	SY	304	\$5.00	\$1,522.22
GENERAL BID ITEMS SUBTOTAL					\$61,522.22
DETENTION POND & CHANNEL BID ITEMS					
7	Detention Pond Excavation	CY	28,000	\$15.00	\$420,000.00
8	Backslope swales	LS	1	\$30,000.00	\$30,000.00
9	Channel Excavation	CY	3,800	\$15.00	\$57,000.00
10	Hydromulch	AC	3.65	\$1,500.00	\$5,475.00
DETENTION POND & CHANNEL SUBTOTAL					\$512,475.00
PAVING BID ITEMS					
11	Roadway Excavation	CY	438	\$15.00	\$6,570.00
12	Remove and Dispose of Pavement, All Thicknesses including Base and Subgrade, w/ or w/o Curb, All Depths)	SY	2,540	\$6.00	\$15,240.00
13	Remove and Dispose of Driveways, All Materials and Thicknesses	SY	229	\$5.00	\$1,145.00
14	Remove and Dispose of Concrete Sidewalk, All Thicknesses	SY	1,960	\$4.00	\$7,840.00
15	Concrete Driveways, 6-inch Thick and Including Excavation	SF	2,057	\$8.00	\$16,456.00
16	5-Foot Concrete Sidewalks	SF	1,960	\$7.00	\$13,720.00
17	Curb Ramps	EA	4	\$2,000.00	\$8,000.00
18	6-inch Thick Reinforced Concrete Pavement	SY	2,540	\$52.00	\$132,080.00
19	6-inch Cement Stabilized Sand	SY	2,721	\$6.50	\$17,689.29
20	6-inch Concrete Curb	LF	450	\$5.00	\$2,250.00
PAVING BID ITEMS SUBTOTAL					\$220,990.29

**EXHIBIT E - PRELIMINARY COST ESTIMATE
DEER PARK MANOR / DELO-ELAINE DRAINAGE IMPROVMENTS**

Item No.	Item Description	Unit Measure	Unit Quantity	Unit Price	Total
STORM SEWER BID ITEMS					
21	Remove and Dispose of Storm Sewer Inlets and Manholes, All Sizes and Depths	EA	3	\$450.00	\$1,350.00
22	Cut, plug and abandon existing storm sewer in-place	EA	2	\$500.00	\$1,000.00
23	Remove and Dispose Storm Sewer	LF	30	\$15.00	\$450.00
24	Type C Manhole	EA	1	\$3,500.00	\$3,500.00
25	Junction Box	EA	0	\$12,000.00	\$0.00
26	Area Inlet	EA	0	\$1,500.00	\$0.00
27	Curb Inlet	EA	4	\$3,100.00	\$12,400.00
28	24-inch Reinforced Concrete Pipe by Open Cut	LF	740	\$110.00	\$81,400.00
29	Dewatering for Storm Sewer, Authorization Required	LF	0	\$25.00	\$0.00
30	Trench Safety System for Trench Excavations	LF	740	\$2.00	\$1,480.00
31	24-inch RCP Outfall Structure	EA	2	\$5,000.00	\$10,000.00
32	Relocate/Restore Sprinkler Heads and Irrigation Lines in Conflict with Construction	LS	0	\$10,000.00	\$0.00
STORM SEWER BID ITEMS SUBTOTAL					\$111,580.00
TOTAL					\$906,568
20% CONTINGENCY					\$181,314
GRAND TOTAL					\$1,087,881



June 21, 2019

CobbFendley & Associates
13430 Northwest Freeway, Suite 1100
Houston, Texas 77040

Attn: Mr. Charles M. Eastland, P.E.
Vice President – Regional Manager

Re: Cost Estimate for Geotechnical Engineering Services
Deer Park Drainage and Paving
Deer Park, Texas
Terracon Document No. P91195049.Revision 1

Dear Mr. Eastland:

Terracon understands we have been selected based on qualifications to provide Geotechnical Engineering services for the above referenced project. The following are exhibits to the attached proposal.

Exhibit A	Project Understanding
Exhibit B	Scope of Services
Exhibit C	Compensation and Project Schedule
Exhibit D	Site Location and Proposed Boring Locations

Our base fee to perform the scope of services described in this proposal is **\$18,700**. This includes two-day traffic control fee of \$1,600 for the borings on streets and a site clearing fee of \$2,500 to clear the wooded areas at the Manor site. See Exhibit C for consideration of additional services.

The geotechnical services for this project will be performed under the client's "Subcontract for Professional Services" between Cobb Fendley and Terracon which will be signed once the budget estimate is accepted.

Sincerely,
Terracon Consultants, Inc.
(Texas Registration No. F-3272)

Rehan Khan, E.I.T.
Staff Geotechnical Engineer

Bobbie S. Hood, P.E.
Geotechnical Services Manager

Terracon Consultants, Inc. 551 League City Parkway, Suite F League City, Texas 77573
Registration No. F-3273

Environmental ■ Facilities ■ Geotechnical ■ Materials

EXHIBIT A - PROJECT UNDERSTANDING

Our scope of work is based on our understanding of the project after discussion with the client. Aspects of the project that are undefined or assumed are highlighted as shown below. We request the design team provide input to verify this information prior to our initiation of field exploration activities.

This project consists of the following three sites in Deer Park, Texas. We assume that all sites and proposed boring locations (as shown in the attached Exhibit D) are accessible by truck-mounted and all-terrain vehicle (ATV)-mounted drilling equipment during normal business hours and that a drilling permit is not required for our field program.

Heritage Addition

Item	Description
Site location and proposed improvements	<ul style="list-style-type: none"> ■ Pavement reconstruction and utility installation <ul style="list-style-type: none"> ○ Jefferson Avenue: From Lincoln Street extending south for about 880 feet to East Lambuth Lane. ○ Lincoln Street: From West Grant Street extending east for about 1,300 feet to East Temperance Lane. ■ A detention pond at the northwest quadrant of the intersection of East Lambuth Lane and Jefferson Avenue. The size and depth of the proposed pond are approximately 6.3 acres and 6 feet, respectively.
Existing condition	All streets are two lane concrete roads in residential neighborhoods. The proposed pond site is vacant and covered in grass.

Manor

Item	Description
Site location and proposed improvements	A detention pond at the northeast quadrant of the intersection of East Pasadena Boulevard and Pine Lane. The size and depth of the proposed pond are 3.3 acres and 6 feet, respectively.
Existing condition	This site is partly wooded and requires clearing. The entrance is off of East Pasadena Boulevard through a gate. We request the client provide access to our drilling equipment and bulldozer through the gate.

Delo-Elaine

Item	Description
<p>Site location and proposed improvements</p>	<ul style="list-style-type: none"> ■ Pavement reconstruction and utility installation <ul style="list-style-type: none"> ○ Kitty Street: From Luella Avenue extending east for about 1,000 feet. ○ Luella Avenue: From Kitty Street extending south for about 250 feet. ■ A grass-lined outfall channel with a maximum depth of 6 feet extending parallel to and about 175 feet south of Kitty Street in between Luella Avenue and the concrete drainage channel.
<p>Existing improvements</p>	<p>Luella Avenue is a four-lane concrete road and Kitty Street is a two-lane concrete road. The site for the proposed outfall channel is a vacant grassy tract of land.</p>

We understand that

- The proposed roads will consist of a rigid pavement system;
- Utilities will be installed using open excavation methods; and
- The maximum depth of utility installation is 10 feet.

EXHIBIT B - SCOPE OF SERVICES

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

Field Exploration

The field exploration program is planned to consist of the following:

Site	Number of Borings	Planned Boring Depth (feet) ¹	Planned Location
Heritage	5	15	Proposed detention pond
	4	15	Proposed street reconstruction
Manor	3	15	Proposed detention pond
Delo-Elaine	3	15	Proposed street reconstruction
	2	15	Proposed outfall channel

¹. Below existing grade.

Boring Layout and Elevations: We use handheld GPS equipment to locate borings with an estimated horizontal accuracy of +/-25 feet. Field measurements from existing site features are also utilized.

Subsurface Exploration Procedures: We advance soil borings with truck-mounted and ATV-mounted drilling equipment using continuous flight augers (solid stem). Five samples are obtained in the upper 10 feet of each boring. The existing roadway will be augered to access the underlying subgrade. Soil samples are generally recovered using open-tube samplers. Hand penetrometer tests are performed on samples of cohesive soils to serve as a general measure of consistency. Granular soils and soils for which good quality open-tube samples could not be recovered are generally sampled by means of the Standard Penetration Test (SPT). This test consists of measuring the number of blows (N) required for a 140-pound hammer free falling 30 inches to drive a standard split-spoon sampler 12 inches into the subsurface material after being seated six inches. This blow count or SPT N-value is used to evaluate the stratum.

The samples are placed in appropriate containers, taken to our soil laboratory for testing, and classified by a geotechnical engineer. In addition, we observe and record groundwater levels during drilling and sampling.

Our exploration team prepares field boring logs as part of standard drilling operations. Field boring logs also include sampling depths, penetration distances, and other relevant sampling information. Field logs include visual classifications of materials observed during drilling and our interpretation

Cost Estimate for Geotechnical Engineering Services

Deer Park Drainage and Paving ■ Deer Park, Texas

June 21, 2019 ■ Terracon Document No. P91195049.Revision 1



of subsurface conditions between samples. Final boring logs, prepared from field logs, represent the geotechnical engineer's interpretation and include modifications based on observations and laboratory tests.

Since the borings will be located on existing pavements we anticipate that traffic control will be needed during our field activities. We plan to arrange for traffic control, which will consist of cones, signs, and flaggers provided by a sub-contractor familiar with local traffic safety ordinances.

Clearing of Pathways: Based on a site visit, the Manor site is wooded and is inaccessible to drilling equipment. Therefore, clearing of pathways will be required to access the proposed boring locations. We assume that there are no conflicts with regard to clearing of pathways. If there are any restricted areas, trees, facilities, etc. on-site that are sensitive to clearing, Terracon should be notified in advance so that we can avoid these areas during our clearing activities.

Property Disturbance: We backfill borings with auger cuttings and patch the surface with concrete. Our services do not include repair of the site beyond backfilling our borings. Excess auger cuttings are dispersed in the general vicinity of the borings. Because backfill material often settles below the surface after a period, we recommend borings be checked periodically and backfilled, if necessary. We can provide this service or grout the holes for additional fees, at your request.

Laboratory Testing

The project engineer reviews field data and assigns various laboratory tests to better understand the engineering properties of various soil strata. Procedural standards noted below are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practices and professional judgement. Standards noted below include reference to other related standards. Such references are not necessarily applicable to describe the specific test performed.

- ASTM D2216 Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
- ASTM D4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
- ASTM D1140 Standard Test Methods for Amount of Materials in Soils Finer than the No. 200 Sieve
- ASTM D2166/D2166M Standard Test Method for Unconfined Compressive Strength of Cohesive Soil

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

Safety

Terracon is currently not aware of any environmental concerns at this project site that would create health or safety hazards associated with our exploration program; thus, our scope considers standard OSHA Level D Personal Protection Equipment (PPE) appropriate. Our scope of services does not include any level of environmental site assessment services, but identification of unusual or unnatural materials encountered while drilling will be noted on our logs and discussed in our report.

Exploration efforts require borings into the subsurface, therefore Terracon complies with local regulations to request a utility location service through Texas 811. We consult with the owner/client regarding potential utilities, or other unmarked underground hazards. Based upon the results of this consultation, we consider the need for alternative subsurface exploration methods, as the safety of our field crew is a priority.

All private utilities should be marked by the owner/client prior to commencement of field exploration. Terracon will not be responsible for damage to private utilities that are not made aware to us. If the owner/client is not able to accurately locate private utilities, Terracon can assist the owner/client by coordinating or subcontracting with a private utility locating services. Fees associated with these additional services are not included in our current scope of services. The detection of underground utilities is dependent upon the composition and construction of the utility line; some utilities are comprised of non-electrically conductive materials and may not be readily detected. The use of a private utility locate service would not relieve the owner of their responsibilities in identifying private underground utilities.

Site Access: By acceptance of this proposal, without information to the contrary, we consider this as authorization to access the property for conducting field exploration in accordance with the scope of services. We request the client provide access to our drilling equipment and bulldozer inside the gated Manor site.

Engineering and Project Delivery

Results of our field and laboratory programs are evaluated by a professional engineer licensed in the State of Texas. The engineer develops a geotechnical site characterization, performs the engineering calculations necessary to evaluate foundation alternatives, and develops appropriate geotechnical engineering design criteria for earth-related phases of the project.

Cost Estimate for Geotechnical Engineering Services

Deer Park Drainage and Paving ■ Deer Park, Texas

June 21, 2019 ■ Terracon Document No. P91195049.Revision 1



Your project will be delivered using our **GeoReport** system. Upon initiation we will provide you and your design team the necessary link and password to access the website (if you don't already have one). Each project includes a calendar to track the schedule, an interactive site map, a listing of team members, access to all project documents as they are uploaded to the site, and a collaboration portal. A typical delivery process includes three basic stages:

- Stage 1: Project Planning
- Stage 2: Site Characterization
- Stage 3: Geotechnical Engineering

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

When services are complete, we will upload a printable version of our complete final geotechnical engineering report. This includes the professional engineer's seal and signature, which documents our services. All previous submittals, collaboration, and final report will be maintained in our system indefinitely. This allows future reference and integration into subsequent aspects of our services, as the project goes through final design and construction.

The final Geotechnical Engineering report provides the following:

- Site plan and exploration plan;
- Computer generated boring logs with field and laboratory data;
- Stratification based on visual soil classification;
- Groundwater levels observed in borings during drilling and at 5-minute intervals for 15 minutes;
- Pavement design guidelines;
- Utility construction considerations using open excavation; and
- Detention pond and channel construction considerations.

EXHIBIT C - COMPENSATION

Based upon our understanding of the site, the project as summarized in **Exhibit A** and our planned scope of services outlined in **Exhibit B**, our base fee for each site is shown in the following table:

Site	Lump Sum Fee
Heritage ¹	\$7,400
Manor ²	\$6,100
Delo-Elaine ¹	\$5,200
Total	\$18,700

¹ Includes traffic control fee. The total traffic control fee is \$1,600 for 2 days.

² Includes a site clearing fee of \$2,500.

Our scope of services does not include services associated with surveying of boring locations, special equipment for wet ground conditions, obtaining permit to drill, or repair of damage to existing landscape. If such services are desired by the owner/client, we should be notified so we can adjust our scope of services.

Additional consultation (such as attendance on a project conference call, engineering analysis, review of project documents, etc.) requested will be performed on a time-and-materials basis. The fee to provide additional consultation services will be in excess of the above provided fee to complete the geotechnical services and will not be incurred without prior approval of the client.

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

Project Schedule

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

GeoReport Stage	Posting Date from Notice to Proceed ^{1,2}
Project Planning	4 working days

GeoReport Stage	Posting Date from Notice to Proceed ^{1,2}
Site Characterization	20 working days
Geotechnical Engineering	25 working days

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



700 ft

A-9

A-8

A-7

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A-6

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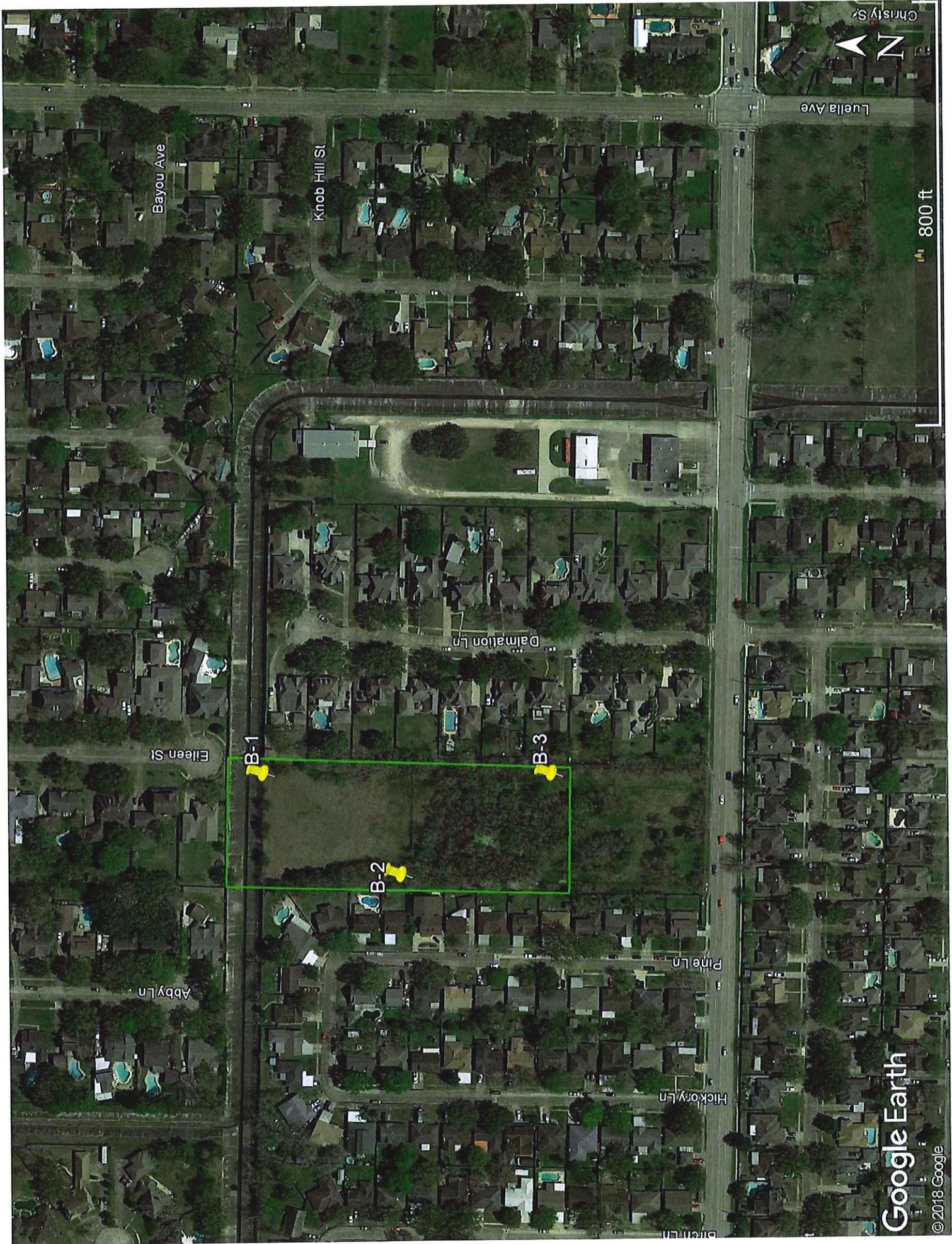
Srey Ct

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E Lambuth Ln

Google Earth

© 2018 Google



800 ft



1000 ft

Google Earth

© 2018 Google



May 31, 2019

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

Attention: Mr. Charles M. Eastland, P.E.
P: (713) 462-3242
E: CEastland@cobbhendley.com

RE: Proposal for a Preliminary Waters of U. S. Assessment
Four Deer Park Drainage and Paving Projects
Deer Park, Harris County, Texas
Terracon Proposal No. P91197082

Dear Mr. Eastland:

Terracon Consultants, Inc. (**Terracon**) appreciates the opportunity to submit this proposal to Cobb, Fendley & Associates, Inc. (**Cobb, Fendley**) to conduct a Preliminary Waters of U.S. (WOTUS) Assessment of four properties located within the City of Deer Park further described below. The purpose of the service is to evaluate the existing wash located onsite to determine if it is considered a WOTUS and if so, then determine if the proper permits were obtain by the U.S. Army Corps of Engineers when historic ground disturbance occurred.

A. PROJECT INFORMATION

We understand that the four project properties and conditions are as described below:

- Deer Park Manor – an approximate 5 acre tract of undeveloped land and proposed outfall at the adjacent north drainage channel, located north of East Pasadena Boulevard.
- Heritage Addition - an approximate 6.1 acres tract of undeveloped land located north of East Lambuth and the Heritage residential subdivision including portions of the following roadways: Jefferson Avenue, Boone Ct, North/South Crockett, North/South Travis, and East Lambuth.
- Delo Elaine – a portion of the Delo Elain residential subdivision including portions of the following roadways: Velma Street, Kitty Street, Luella Avenue, and an approximate 0.21 mile channel located to the adjacent south of the subdivision, and a proposed outfall to the adjacent east drainage channel.

Terracon Consultants, Inc. 551 League City Pkwy, Suite F League City, Texas 77573
P [281] 557 2900 F [281] 557 2990 terracon.com



Proposal for Preliminary WOTUS Assessment

Four Deer Park Drainage and Paving Projects ■ Deer Park, Harris County, TX
May 31, 2019 ■ Terracon Proposal No. P91197082



- Deer Meadows – a portion of the Deer Meadows residential subdivision including portions of the following roadways: Henderson Lane, Tyler Lane, Lufkin Lane, Albany Street, Marshall Street, and San Augustin Avenue.

Please note that kmz. maps for the specific site boundaries were provided by the client to Terracon.

Based on information provided, Terracon understands the following services are being requested:

- β Conduct a Preliminary Waters of U.S. Assessment

Should our project information or understanding not be accurate, or if **Cobb, Fendley** has additional information that may be useful or relevant to complete the services presented in this proposal, **Cobb, Fendley** should notify us prior to authorizing the services presented here-in.

B. SCOPE OF SERVICES

Our proposed Scope of Services includes the following:

Desktop Review

Terracon will review readily available resource to assist with the identifying suspect WOTUS and suspect wetland areas on the site or in the immediate vicinity of the site. These sources include the current USGS Topographic Map, National Wetland Inventory (NWI) Map, Natural Resources Conservation Service (NRCS) Soil Survey Map, historic aerial photographs and other informational maps.

Site Reconnaissance

Terracon will mobilize to the site and identify potential WOTUS within the four (4) project sites by assessing the field conditions and apparent field indicators observed during the each of the site visits, including hydrophytic vegetation, hydrology and hydric soils indicators.

The results of the background review, site visit, and supporting data will be presented in a letter report with our findings, potential permitting requirements, and recommendations.

Please understand that this proposal does not include performing a formal wetland delineation in accordance with the 1987 Corps Manual and Regional Supplement; therefore, the results may not be suitable for submittal to the U.S. Army Corps of Engineers obtain a formal determination. Additional services may be required if potential wetland areas and/or other potential waters of the U.S. (e.g., dry or flowing streams) are identified. If potential wetlands and/or other potential waters of the U.S. are identified, Terracon will submit a supplemental scope of services to perform a wetland/waters of the U.S. delineation based on USACE guidelines including the 1987 Corps Manual and Regional Supplement, as appropriate.

Schedule

Services will be initiated upon receipt of authorization, per below, and written notice to proceed. The initial submittal will be emailed to **Cobb, Fendley** for review and/or approval within 15 business days of initiation. This report will include the findings of the preliminary assessment. Please coordinate at the time of authorization to confirm schedule, however, as backlog may vary.

Report Preparation

A PDF-formatted copy of the final report will be submitted that presents the results of this assessment, based upon the scope of services and limitations described herein.

C. COMPENSATION

The Scope of Services outlined in this proposal will be conducted based on a lump sum basis for the amount of \$3,500 for each site for a lump sum total amount of **\$14,000 assuming Notice to Proceed will occur for the four sites in one time**. If, as a result of these services, additional services are required outside the scope of this proposal, you will be contacted to discuss associated costs. Client authorization will be obtained prior to commencement of additional services outside the scope of this proposal.

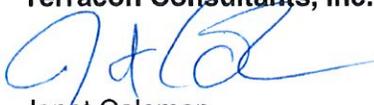
Task	Fee
Preliminary WOTUS Assessment (\$3,500 each site)	\$14,000

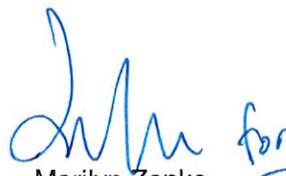
The fees presented are based on performing the services discussed in this proposal and assume that field work can be completed in approximately eight hours of on-site time. Should field work require more than one 8-hour day, Terracon will contact the client regarding additional services and fees.

D. AUTHORIZATION

The work will be performed under a mutually agreed upon client’s Agreement for Services which will be signed once the lump sum budget is accepted, and upon completion of review by our legal department. We will provide you with our comments, once our review is completed.

We look forward to working with you on this project. If you have any questions or require additional information, please feel free to contact me by email, phone, fax or mail.

Sincerely,
Terracon Consultants, Inc.

Janet Coleman
Senior Staff Geologist


Marilyn Zenko
Natural and Cultural Resources Group Manger