

## **AGREEMENT FOR ENGINEERING & DESIGN SERVICES**

**for**

### **Boggy Bayou Watershed Project**

This Agreement is made and entered into in Deer Park, Harris County, Texas on June 2, 2020, by and between

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

**And**

**Cobb Fendley and Associates. (Cobb Fendley)** 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 **Cobb Fendley** 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 **Exhibit 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 an estimate of the fees for the

Work amounting **\$84,560.00 (eighty-four thousand, five-hundred and sixty dollars and zero cents)**. 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 INDENMIFIED CLAIM AS STATED ABOVE, ENGINEER AGREES TO REIMBURSE THE CITY IN PROPORTION TO THE ENGINEERS LAIBILITY.

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**

By 

Name Charles M. Eastland

Title Executive Vice President

Date 5/19/2020

**The City of Deer Park**

By \_\_\_\_\_

Name \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

## SCOPE OF WORK

### Work Tasks

The following work tasks have been identified to accomplish the scope of services as described above.

A. The Engineer shall perform project management and attend meetings:

1. The Engineer shall manage the efforts of his team members and subcontractors, assign manpower, delegate responsibilities, review work progress, monitor conformance to the scope of services, budget and schedule, and otherwise direct the progress of the work.
2. Submit invoices in the City's standard format. Include in each monthly invoice package the following:
  - Current work schedule
  - Summary of work completed to date
  - Milestone reached, note deliverables and work activities
  - List of deliverable and work activities planned for coming month

B. The Engineer shall attend monthly progress meetings with the City and HCFCD to discuss study related issues, review the progress of the work efforts, and confirm adherence to the work progress. The Engineer shall prepare meeting minutes and provide to the City and HCFCD Project Managers (PM) within three (3) working days after all meetings.

C. The Engineer shall obtain, review and evaluate all available data for the study area including the latest version of the reference standards and criteria and other information as generally described herein.

1. Obtain, review, and evaluate all existing public and private utility information relevant to the characteristic of the existing drainage channels/systems for the study area.
2. Existing drainage related information, record drawings and survey information are readily available to the public. It is the responsibility of the Engineer to physically gather this information from available sources.
  - i. 2018 and/or 2008 LiDAR elevation data from Harris-Galveston Area Council (HGAC) website [www.h-gac.com](http://www.h-gac.com)
  - ii. FEMA Flood Insurance Rate Maps (FIRMs) from FEMA website [www.fema.gov](http://www.fema.gov)
  - iii. Harris County Watershed Maps and FEMA Effective Hydrologic (HEC-HMS) and Hydraulic Models (HEC-RAS) for Studied Stream in Harris County from HCFCD [www.hcfcd.org](http://www.hcfcd.org) or [www.m3models.org](http://www.m3models.org)
  - iv. Harris County Appraisal District (HCAD) Parcel Maps and Property Data from [www.hcad.org](http://www.hcad.org)

D. Perform field visits to the study area and vicinity to photograph and adequately document existing conditions and special concerns.



1. Research and review the reported findings of all available, previous studies related to the study area and vicinity. The Engineer shall include all findings in the report.
2. If directed by the City, a Storm Water Investigation Survey should be performed (as an additional service) for the study area to gather existing storm sewer and overland flow information. This survey shall include data points of identified channel cross sections and/or relevant storm sewer details. In addition, the identification of high points in roadways and ditches shall be determined utilizing available 2001, 2008, and/or 2018 LiDAR data or from the Engineer's best judgment during the site visits. All surveys conducted shall be based upon the North American Vertical Datum (NAVD) of 1988, 2001 Adjustment and Texas State Plane – South Central 4204 Coordinates.

E. Perform Existing Condition Analysis to identify problem areas within the study limits:

1. Identify existing overland flow paths and ponding depths for the study area utilizing LiDAR data.
2. Review provided TSARP subbasin boundaries and revise as necessary
3. Review provided FEMA Effective hydrologic calculations (100-year TP-40 rainfall event) and revise as necessary
4. The Effective FEMA HEC-HMS will be modified to incorporate resultant existing condition flows from the storm sewer analysis, and the Effective FEMA HEC-RAS models for Boggy Bayou within the study area will be updated utilizing available LiDAR, collected survey data (if available) and Aerial photographic information.
5. Review and update additional hydrologic/hydraulic models to incorporate current conditions (if available)
6. Create existing condition UnSteady HEC-RAS model utilizing revised existing condition steady state geometry data
7. Map revised existing 100-year floodplain and create a 100-year flooding structural inventory based upon revised riverine floodplain
8. Conduct an Existing Conditions meeting with the City and HCFCD to demonstrate/document findings from the existing condition analysis (areas of concern, undersized storm sewer trunks/channels, sheetflow blockages, effects on receiving streams, etc.) to review results, compare/contrast with existing knowledge or problem areas with City/HCFCD. After existing condition has been discussed, potential direction for alternatives analysis will be discussed (no deliverables for potential alternatives since they have not been started - discussion only). Deliverables for the Existing Conditions Meeting will include a Microsoft PowerPoint presentation, Existing Condition Drainage Area Maps, Existing 100-year Ponding Maps, and an identified problem area map.

F. The Engineer shall develop and analyze alternatives including but not limited to buyout, sheet flow modifications, storm sewer improvements, storm water detention, open ditch modifications, channel improvements and other alternatives as deemed necessary to reduce the potential for flooding in the study area. The Engineer shall perform a proposed condition analysis by:

1. Modifying the existing condition models as necessary to improve conveyance of the design event storm and combination systems for conveyance of extreme event runoff to outfall locations per City criteria.
  2. The revised existing HEC-HMS model will be modified to include increased conveyance associated with Boggy Bayou - proposed condition model. A summary of flow change table will be created to analyze change in flow between existing and proposed condition
  3. Proposed condition models will be created to determine change in water surface elevation resulting from increased conveyance to Boggy Bayou from recommended conveyance improvements. A summary of Water Surface Elevations table will be prepared to identify resultant changes in WSE between the existing and proposed conditions.
  4. The Engineer will create a 100-year flooding structural flooding inventory based upon recommended improvements and will prepare a Cost/Benefit/LOS Alternatives Matrix
  5. Conduct a Proposed Condition meeting with the City and HCFCD to demonstrate/document findings from the Proposed Condition Analysis (identified storm sewer improvements, channel improvements, bridge improvements, potential detention locations, potential buyout locations, etc.). Deliverables for the Proposed Condition Meeting will include a Microsoft PowerPoint presentation, Proposed 100-year Ponding Maps, Summary maps identifying recommended improvements, and a Cost/Benefit/LOS matrix.
- J. The Engineer shall prepare and deliver an Engineering Report to the City and HCFCD for review. The Engineering Report will be signed and sealed by a Licensed Professional Engineer. It will include the prioritized alternative solutions and defined projects. Three (3) written reports shall be submitted along with a compact disc that includes a PDF of the report as well as the final models with shape files and worksheets used.

**EXHIBIT A**  
**Boggy Bayou Regional Impact Mitigation Analysis**  
**PROPOSED BUDGET**  
**November 14, 2019**

TASK DESCRIPTIONS		Labor (Hours)						TOTAL HOURS
		TOTAL	PRINCIPAL	SENIOR ENGINEER III	PROJECT ENGINEER III	PROJECT ENGINEER	ADMIN	
		Rate (\$/hr)	\$290	\$220	\$170	\$125	\$105	
<b>Task 1</b>	<b>Project Startup</b>							
	Collection, Review and Analysis of Existing Plans, H&H Data, Maps and Reports				2	4		6
	Perform field visit			8	8	8		24
	Meetings/Coordination with City of Deer Park, HCFCD, and relevant stakeholders			24	24			48
<b>Task 2</b>	<b>Existing Condition Analysis</b>							
	Analyze LiDAR Data to determine existing condition overland sheet flow patterns			1	4	8		13
	Review provided TSARP subbasin boundaries and revise as necessary			1	8	24		33
	Review provided FEMA Effective hydrologic calculations (100-year TP-40 rainfall event) and revise as necessary.			1	8	24		33
	Review and update existing condition 100-year FEMA HEC-RAS geometry data based upon additional survey data			2	2	4		8
	Review and update provided SWMM outfall rating curve models as necessary to determine starting WSE for HEC-RAS model			2	2	4		8
	Create existing condition Un-Steady HEC-RAS model utilizing revised existing condition steady state geometry data			4	24	80		108
	Map revised existing 100-year floodplain			1	1	2		4
	Create 100-year flooding structural inventory based upon revised riverine floodplain			2	2	4		8
<b>Task 3</b>	<b>Proposed Condition Analysis</b>							
	Create alternatives which allow for reduction of hydraulic gradeline within the channel and water surface elevations outside the channel (to include additional/alternative flow paths and regional detention sites)			12	40	100		152
	Create maps, tables and exhibits necessary to document proposed improvements and reduced water surface elevations			2	4	16		22
	Determine recommended alternative and create proposed 100-year structural inventory			2	2	8		12
								0
								0
<b>Task 4</b>	<b>Project management</b>							
	Write preliminary drainage study report for submittal to Deer Park and HCFCD			4	12	40		56
	Prepare cost estimate(s) for recommended alternative drainage related items			1	4	8		13
<b>Task 5</b>	<b>QUALITY CONTROL/QUALITY ASSURANCE</b>							
	QA/QC SUBMITTAL			2	8			10
	ADDRESS ANY/ALL REVIEW COMMENTS			2	2	4		8
<b>HOURS</b>			0	71	157	338	0	566
<b>SUBTOTAL</b>			\$0	\$15,620	\$26,690	\$42,250	\$0	\$84,560
<b>TOTAL</b>								\$84,560