

**RESOLUTION NO. R-2019-115**

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BASTROP, TEXAS AWARDED A TASK ORDER TO HALFF ASSOCIATES, INC. FOR ENGINEERING DESIGN SERVICES RELATED TO THE GILLS BRANCH DRAINAGE FLOOD MITIGATION PROJECT. IN THE AMOUNT OF FIVE HUNDRED FIFTEEN THOUSAND NINETY DOLLARS AND ZERO CENTS (\$515,090.00) AS ATTACHED IN EXHIBIT A; AUTHORIZING THE CITY MANAGER TO EXECUTE ALL NECESSARY DOCUMENTS; PROVIDING FOR A REPEALING CLAUSE; AND ESTABLISHING AN EFFECTIVE DATE.**

**WHEREAS**, The City Council of the City of Bastrop, Texas has appointed the City Manager as the Chief Administrative Officer of the City; and

**WHEREAS**, The City Manager is responsible for the proper administration of all affairs of the City; and

**WHEREAS**, The City Council of the City of Bastrop, Texas is committed to improving drainage around the City following several overwhelming flood events; and

**WHEREAS**, The City of Bastrop, Texas contracted with Halff Associates in 2018 to develop a 2-dimensional (2D) model to better understand overflow in Gills Branch and determine flow mitigation solutions; and

**WHEREAS**, The City of Bastrop, Texas participated in the Bastrop County Flood Protection Planning grant in 2017; and

**WHEREAS**, The City Council of the City of Bastrop, Texas believes it is necessary to develop an accurate and current understanding of the drainage infrastructure.

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BASTROP, TEXAS:**

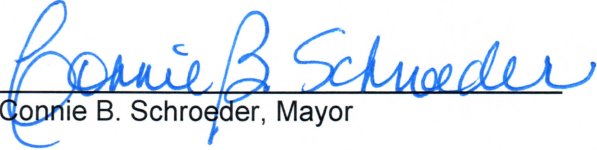
**Section 1:** That the City Manager is hereby authorized to execute an Agreement for Professional Engineering Services with Halff Associates, Inc., in the amount of Five hundred fifteen thousand Ninety dollars and zero cents (\$515,090.00)

**Section 2:** All orders, ordinances, and resolutions, or parts thereof, which are in conflict or inconsistent with any provision of this Resolution are hereby repealed to the extent of such conflict, and the provisions of this Resolution shall be and remain controlling as to the matters resolved herein.

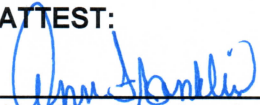
**Section 3:** That this Resolution shall take effect immediately upon its passage, and it is so resolved.

**DULY RESOLVED AND ADOPTED** by the City Council of the City of Bastrop this 26<sup>th</sup> day of November, 2019.


**APPROVED:**

  
\_\_\_\_\_  
Connie B. Schroeder, Mayor

**ATTEST:**

  
\_\_\_\_\_  
Ann Franklin, City Secretary

**APPROVED AS TO FORM:**

  
\_\_\_\_\_  
Alan Bojorquez, City Attorney

## AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES ON A DEFINED SCOPE OF SERVICES BASIS

This Agreement for Professional Engineering Services, hereinafter called "Agreement," is entered into by the **City of Bastrop** a **municipal corporation** of the State of **Texas**, hereinafter referred to as "Client", duly authorized to act by the **City Council** of said Client, and **HALFF ASSOCIATES, INC.**, a Texas corporation, acting through a duly authorized officer, herein called "Engineer," relative to Engineer providing professional engineering services to the Client. Client and Engineer when mentioned collectively shall be referred to as the "Parties".

### WITNESSETH:

For the mutual promises and benefits herein described, the Client and Engineer agree as follows:

**I. Term of Agreement.** This Agreement shall become effective on the date of its execution by both Parties, and shall continue in effect thereafter until terminated as provided herein.

**II. Services to be Performed by Engineer.** Engineer shall provide to the Client basic engineering services as described in the scope of services attachment and fully incorporated herein as "**Exhibit A**" which services may include, but will not be limited to, those services normally rendered by an engineer to a municipal corporation. Engineer shall perform its obligations under this agreement as an independent contractor and not as an agent or fiduciary of any other party.

**III. Compensation** - Client agrees to pay monthly invoices or their undisputed portions within 30 days of receipt. Payment later than 30 days shall include interest at 1 percent (1%) per month or lesser maximum enforceable interest rate, from the date the Client received the invoice until the date Engineer receives payment. Such interest is due and payable when the overdue payment is made.

It is understood and agreed by the Parties that Engineer's receipt of payment(s) from Client is not contingent upon Client's receipt of payment, funding, reimbursement or any other remuneration from others.

Time-related charges will be billed as specified in this Agreement. Unless stated otherwise in this Agreement, direct expenses, subcontracted services and direct costs will be billed at actual cost plus a service charge of 10 percent. Mileage will be billed at current IRS rates.

**IV. Client's Obligations.** The Client agrees that it will (i) designate a specific person to act as the Client's representative, (ii) provide Engineer with any previous studies, reports, data, budget constraints, special Client requirements, or other pertinent information known to the Client, when necessitated by a project, (iii) Client agrees to provide site access, and to provide those services described in the attached Scope of Services assist Engineer in obtaining access to property necessary for performance of Engineer's work for the Client, (iv) make prompt payments in response to Engineer's statements and (v) respond in a timely fashion to requests from Engineer. Engineer is entitled to rely upon and use, without independent verification and without liability, all information and services provided by the Client or the Client's representatives.

**V. Termination of Work** - Either the Client or the Engineer may terminate this Agreement at any time with or without cause upon giving the other Party ten (10) calendar days' prior written notice. Client agrees that termination of Engineer for Client's convenience shall only be utilized in good faith, and shall not be utilized if either the purpose or the result of such termination is the performance of all or part of Engineer's services under this Agreement by Client or by another service provider. Following Engineer's receipt of such termination notice the Client shall, within ten (10) calendar days of Client's receipt of Engineer's final invoice, pay the Engineer for all services rendered and all costs incurred up to the date of Engineer's receipt of such notice of termination.

**VI. Ownership of Documents** - Upon Engineer's completion of services and receipt of payment in full, Engineer shall grant to Client a non-exclusive license to possess the final drawings and instruments produced in connection with Engineer's performance of the work under this Agreement, if any. Said drawings and instruments may be copied, duplicated, reproduced and used by Client for the purpose of constructing, operating and maintaining the improvements. Client agrees that such documents are not intended or represented to be suitable for reuse by Client or others for purposes outside the Scope of Services of this Agreement. Notwithstanding the foregoing, Client understands and agrees that any and all computer programs, GIS applications, proprietary data or processes, and certain other items related to the services performable under this Agreement are and shall remain the sole and exclusive property of Engineer and may not be used or reused, in any form, by Client without the express written authorization of Engineer. Client agrees that any reuse by Client, or by those who obtain said information from or through Client, without written verification or adaptation by Engineer, will be at Client's sole risk and without liability or legal exposure to Engineer or to Engineer's employees, agents, representatives, officers, directors, affiliates, shareholders, owners, members, managers, attorneys, subsidiary entities, advisors, subconsultants or independent contractors or associates. Engineer may reuse all drawings, reports, data and other information developed in performing the services described by this Agreement in Engineer's other activities.



VII. **Notices.** Any notices to be given hereunder by either party to the other may be affected either by personal delivery, in writing, or by registered or certified mail.

VII. **Sole Parties and Entire Agreement.** This Agreement shall not create any rights or benefits to anyone except the Client and Engineer, and contains the entire agreement between the parties. Oral modifications to this Agreement shall have no force or effect.

IX. **Insurance.** Engineer shall, at its own expense, purchase, maintain and keep in force throughout the duration of this Agreement and for a period of four (4) years thereafter, professional liability insurance. The limits of liability shall be \$1,000,000 per claim and in the aggregate. Engineer shall submit to the Client a certificate of insurance prior to commencing any work for the Client.

X. **Prompt Performance by Engineer.** All services provided by Engineer hereunder shall be performed in accordance with the degree of care and skill ordinarily exercised under similar circumstances by competent members of the engineering profession in the State of Texas applicable to such engineering services contemplated by this Agreement.

XI. **Client Objection to Personnel.** If at any time after entering into this Agreement, the Client has any reasonable objection to any of Engineer's personnel, or any personnel, professionals and/or consultants retained by Engineer, Engineer shall promptly propose substitutes to whom the Client has no reasonable objection, and Engineer's compensation shall be equitably adjusted to reflect any difference in Engineer's costs occasioned by such substitution.

XII. **Assignment and Delegation.** Neither the Client nor Engineer may assign their rights or delegate their duties without the written consent of the other party. This Agreement is binding on the Client and Engineer to the fullest extent permitted by law. Nothing herein is to be construed as creating any personal liability on the part of any Client officer, employee or agent.

XIII. **Jurisdiction and Venue** - This Agreement shall be administered under the substantive laws of the State of Texas (and not its conflicts of law principles) which shall be used to govern all matters arising out of, or relating to, this Agreement and all of the transactions it contemplates, including without limitation, its validity, interpretation, construction, performance and enforcement. Exclusive venue shall lie in any court of competent jurisdiction in **Bastrop County County, Texas**.


XIV. **Integration, Merger and Severability** – This Agreement and the Scope of Services, including fee and schedule are fully incorporated herein and represent the entire understanding of Client and Engineer. No prior oral or written understanding shall be of any force or effect with respect to those matters covered herein. The Agreement may not be modified or altered except in writing signed by both Parties. This Agreement constitutes, represents and is intended by the Parties to be the complete and final statement and expression of all of the terms and arrangements between the Parties to this Agreement with respect to the matters provided for in this Agreement. This Agreement supersedes any and all prior or contemporaneous agreements, understandings, negotiations, and discussions between the Parties and all such matters are merged into this Agreement. Should any one or more of the provisions contained in this Agreement be determined by a court of competent jurisdiction or by legislative pronouncement to be void, invalid, illegal, or unenforceable in any respect, such voiding, invalidity, illegality, or unenforceability shall not affect any other provision hereof, and this Agreement shall be considered as if the entirety of such void, invalid, illegal, or unenforceable provision had never been contained in this Agreement.

XV. **Exclusivity of Remedies** – The Parties acknowledge and agree that the remedies set forth in this Agreement, including those set forth in Article XIX. Agreed Remedies are and shall remain the Parties' sole and exclusive remedy with respect to any claim arising from, or out of, or related to, the subject matter of this Agreement. The Parties agree that Engineer is to have no liability or responsibility whatsoever to Client for any claim(s) or loss(es) of any nature, except as set forth in this Agreement. No Party shall be able to avoid the limitations expressly set forth in this Agreement by electing to pursue some other remedy.

XVI. **Timeliness of Performance** - Engineer shall perform its professional services with due and reasonable diligence consistent with sound professional practices.

XVII. **Dispute Resolution.** In the event of any disagreement or conflict concerning the interpretation of this Agreement, and such disagreement cannot be resolved by the signatories hereto, the signatories agree to schedule a series of no less than two meetings of senior personnel of Client and Engineer in which the disagreement or conflict will be discussed. The first of such meetings will be scheduled as soon as possible following identification of such disagreement or conflict and the second meeting must occur within thirty (30) days following the initial meeting. Subsequent meetings, if any may be scheduled upon mutual agreement of the parties. The parties agree that these two meetings are conditions precedent to the institution of legal proceedings unless such meetings will adversely affect the rights of one or more of the parties as such rights relate to statutes of limitation or repose.

XVIII. **Signatories.** The Client and Engineer mutually warrant and represent that the representation of each who is executing this Agreement on behalf of the Client or Engineer, respectively, has full authority to execute this Agreement and bind the entity so represented.

  
\_\_\_\_\_  
Client Initial / Date



XIX. PROJECT ENHANCEMENT - IF DUE TO ANY ALLEGED OR ACTUAL BREACH OF CONTRACT, NEGLIGENCE, ERROR, OR DEFICIENCY IN THE SERVICES OF ENGINEER OR ANY OF ITS CONSULTANTS, ANY ITEM, COMPONENT, OR CONDITION OF THE SERVICES IS INACCURATE OR OMITTED FROM ANY OF THE DESIGN DOCUMENTS PRODUCED THROUGH ENGINEER'S SERVICES, ENGINEER'S AND ITS CONSULTANT'S LIABILITY, IF ANY, SHALL BE LIMITED TO THE DIFFERENCE BETWEEN: I) THE COST OF ADDING, CORRECTING OR REPLACING THE ITEM AT THE TIME THE ERROR IS DISCOVERED, AND II) THE COST HAD THE ITEM OR COMPONENT BEEN INCLUDED OR CORRECT IN THE DESIGN DOCUMENTS PROVIDED PRIOR TO THE TIME CONSTRUCTION BEGAN. HOWEVER, IF THE CORRECTION TO THE DESIGN PROVIDES ADDED VALUE, UPGRADE, OR ENHANCEMENT TO THE PROJECT OF CLIENT/OWNER, THE AMOUNT OF DAMAGES, IF ANY, SHALL BE ADJUSTED DOWN BASED ON SUCH ADDED VALUE, UPGRADE, OR ENHANCEMENT OF THE PROJECT. CLIENT/OWNER SHALL BE RESPONSIBLE FOR ANY COST OR EXPENSE ASSOCIATED WITH THE CORRECTION THAT PROVIDES ADDED VALUE, UPGRADE, OR ENHANCEMENT OF THE PROJECT. IN NO EVENT AND REGARDLESS OF THE LEGAL THEORY OR FACTUAL BASIS OF ANY CLAIM, SHALL ENGINEER'S OR ITS CONSULTANT'S LIABILITY INCLUDE ANY COST OR EXPENSE THAT PROVIDES ADDED VALUE, UPGRADE, OR ENHANCEMENT OF THE PROJECT. IN ADDITION, IF ANY SUCH ITEM, COMPONENT, OR CONDITION HAS AN IDENTIFIABLE USEFUL LIFE THAT IS LESS THAN THE BUILDING ITSELF, THE DAMAGES OF THE CLIENT/OWNER SHALL BE REDUCED TO THE EXTENT THAT THE USEFUL LIFE OF THE COMPONENT WILL BE EXTENDED BY THE REPLACEMENT THEREOF.

XX. AGREED REMEDIES

A. IT IS THE INTENT OF THE PARTIES TO THIS AGREEMENT THAT ENGINEER'S SERVICES UNDER THIS AGREEMENT SHALL NOT SUBJECT ENGINEER'S INDIVIDUAL EMPLOYEES, OFFICERS OR DIRECTORS TO ANY PERSONAL LEGAL EXPOSURE FOR CLAIMS AND RISKS ASSOCIATED WITH THE SERVICES PERFORMED OR PERFORMABLE UNDER THIS AGREEMENT. FOR PROJECTS/SERVICES PERFORMED IN FLORIDA OR PURSUANT TO FLORIDA LAW, FLORIDA STATUTE 558.0035 STATES THAT, AN INDIVIDUAL EMPLOYEE OR AGENT MAY NOT BE HELD INDIVIDUALLY LIABLE FOR NEGLIGENCE.

B. IN RECOGNITION OF THE RELATIVE RISKS AND BENEFITS OF THE PROJECT TO BOTH THE CLIENT AND THE ENGINEER, AND ACKNOWLEDGING THAT THE ALLOCATION OF RISKS AND LIMITATIONS OF REMEDIES ARE BUSINESS UNDERSTANDINGS BETWEEN THE PARTIES AND THESE RISKS AND REMEDIES SHALL APPLY TO ALL POSSIBLE LEGAL THEORIES OF RECOVERY. CLIENT FURTHER AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, AND NOTWITHSTANDING ANY OTHER PROVISIONS OF THIS AGREEMENT OR ANY REFERENCE TO INSURANCE OR THE EXISTENCE OF APPLICABLE INSURANCE COVERAGE, THAT THE TOTAL LIABILITY, IN THE AGGREGATE, OF THE ENGINEER AND ENGINEER'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, AND SUBCONSULTANTS TO THE CLIENT OR TO ANYONE CLAIMING BY, THROUGH OR UNDER THE CLIENT, FOR ANY AND ALL CLAIMS, LOSSES, COSTS OR DAMAGES WHATSOEVER ARISING OUT OF, RESULTING FROM, OR IN ANY WAY RELATED TO, THE SERVICES UNDER THIS AGREEMENT FROM ANY CAUSE OR CAUSES OF THE ENGINEER OR THE ENGINEER'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, AND SUBCONSULTANTS, SHALL NOT EXCEED THE ENGINEER'S FEE FOR THE SERVICES PERFORMED UNDER THIS AGREEMENT OR \$50,000, WHICHEVER IS GREATER. INCREASED LIMITS MAY BE NEGOTIATED FOR ADDITIONAL FEE.


C. NOTWITHSTANDING ANY OTHER PROVISION OF THE AGREEMENT, ENGINEER SHALL HAVE NO LIABILITY TO THE CLIENT FOR CONTINGENT, CONSEQUENTIAL OR OTHER INDIRECT DAMAGES INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF USE, REVENUE OR PROFIT; OPERATING COSTS AND FACILITY DOWNTIME; OR OTHER SIMILAR BUSINESS INTERRUPTION LOSSES, HOWEVER, THE SAME MAY BE CAUSED.

D. CLIENT MAY NOT ASSERT ANY CLAIM AGAINST ENGINEER AFTER THE SHORTER OF (1) 3 YEARS FROM SUBSTANTIAL COMPLETION OF SERVICES GIVING RISE TO THE CLAIM, OR (2) THE STATUTE OF LIMITATION PROVIDED BY LAW.

E. IT IS UNDERSTOOD AND AGREED BY BOTH PARTIES TO THIS AGREEMENT THAT THE FIRST TEN DOLLARS (\$10.00) OF REMUNERATION PAID TO ENGINEER UNDER THIS AGREEMENT SHALL BE IN CONSIDERATION FOR INDEMNITY/INDEMNIFICATION PROVIDED FOR IN THIS AGREEMENT.

XXI. WAIVER - Any failure by Engineer to require strict compliance with any provision of this Agreement shall not be construed as a waiver of such provision, and Engineer may subsequently require strict compliance at any time, notwithstanding any prior failure to do so.

[SIGNATURE PAGE TO FOLLOW]

 / 12/9/19  
Client Initial / Date

IN WITNESS WHEREOF, the parties, having read and understood this Agreement, have executed such in duplicate copies, each of which shall have full dignity and force as an original, on the 9th day of December, 2019.

HALFF ASSOCIATES, INC.

By:

Michael A. Maya  
Signature

Michael A. Maya  
Printed Name

Sr. Vice President  
Title

10/2/2019  
Date

CLIENT: CITY OF BASTROP, TEXAS

By:

[Signature]  
Signature

LYNDA HUMBLE  
Printed Name

CITY MANAGER  
Title

12-9-19  
Date

[Signature] 12/9/19  
Client Initial / Date



# ATTACHMENT A

## PROPOSED STATEMENT OF WORK

### City of Bastrop Gills Branch Flood Mitigation Improvements Design Documents

Revised 11/21/19

#### PROJECT DESCRIPTION:

The City of Bastrop participated in the Bastrop County Flood Protection Planning study to analyze Gills Branch. The Gills Branch watershed study was conducted by Halff Associates, Inc. (Halff) which included hydrologic and 1-dimensional (1D) hydraulic analysis. The hydraulic analysis of Gills Branch extended from Highway 95 at the upper end to its confluence at the Colorado River. As a result of the detailed watershed analysis of Gills Branch, it was determined that a significant amount of creek flow leaves the western channel bank and flows in a westward direction through the streets and neighborhood towards the railroad during the 1% annual chance exceedance (ACE) (100-year storm event). During the 2015 Memorial Day flood event, the City experienced this westward overflow that overtopped the railroad and continued towards the Colorado River. The 1D hydraulic model indicates the overflow but does not indicated the complex drainage flow through the streets and neighborhood. In 2018, the City contract with Halff to develop a 2-dimensional (2D) model to better understand the Gills Branch overflow and determine flood mitigation solutions in a watershed holistic fashion that included channel and roadway crossing improvements.

The following scope of work outlines the task efforts to prepare engineering design documents for the preferred flood mitigation solution from the previous work effort. This design phase will include design plans, specifications, probable construction cost estimate, ground survey, subsurface utility engineering, hydrology and hydraulic analysis refinement, environmental permitting, attendance of public workshops, and preparation of and Engineering Design Report.

The following is a list of general project assumptions used in preparing this scope of work.

- Property acquisitions, survey exhibits, or negotiations are not considered in this scope.
- Boundary survey does not include research efforts normally performed by a title company or separate deliverables, including the preparation of separate boundary or title survey maps, legal descriptions or accompanying exhibits.
- Assume that public right-of-way between Chestnut St. and Pine St. will be used and a retaining wall will not be needed. If a retaining wall design is required, additional services will be requested at that time.
- FEMA Conditional Letter of Map Revision or Letter of Map Revision preparation and coordination is not included in this scope.
- Environmental permitting is anticipating this project will fall under a 404 Nationwide Permit. If a 404 Individual Permit is required, additional services will be requested at that time.



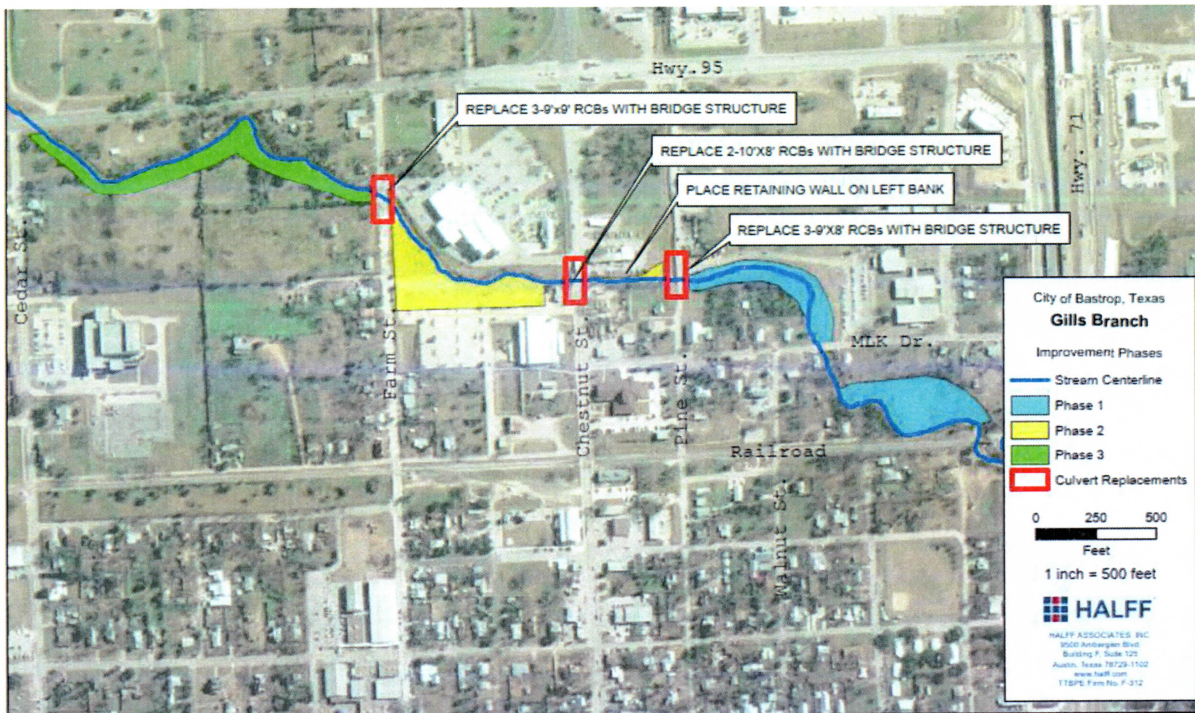


- Scope does not include threatened and endangered species presence/absence surveys. Should this be required by the agencies, additional services will be requested at that time.
- Scope does not include preparation of a Permittee Responsible Mitigation Plan. Should the proposed channel improvements require compensatory mitigation and USACE approved bank credits are unavailable, additional services will be requested at that time.
- If any permitting submittal requires any permitting and/or filing fees, Halff will invoice the necessary fees as a pass-through charge.
- Landscaping and irrigation plan sheets are not included in this scope but could be included if the City chooses to do so.
- Bidding and construction administration phase services are not included in this scope.

**PROJECT OBJECTIVES:**

1. Prepare engineering design plans, specifications, probable construction cost estimate, and engineering design report for channel and road crossing improvements to mitigate flooding along Gills Branch.
2. Refine hydraulic modeling analysis to ensure project design does not cause adverse impacts to adjacent properties.

**PROJECT AREA:**



## SCOPE OF WORK:

### Task 1: Project Management

This task consists of planning the project, executing the plan and making necessary adjustments or changes when needed, as well as closing out the project when work has been successfully completed. The project manager shall be the single point of contact for all correspondences.

- Project kickoff meeting to define project, resources, submittal procedures, schedules, deliverables, and goals
- Attendance/presentation of one (1) City Council or other public meeting to answer questions regarding design
- Monthly progress reporting and invoicing for project

### Task 2: Data Collection

The purpose of this task is to acquire field data required to prepare design documents of the proposed channel and road crossing improvements.

#### Task 2a – Site Visit:

Conduct up to four (4) field reconnaissance site visits to acquire design information and to discuss the project with the design team.

#### Task 2b – SUE Investigation:

Halff will perform subsurface utility engineering (SUE) in accordance with *ASCE 38-02 Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data*. Subsurface utility engineering (SUE) investigation will include Quality Level C/D (utility records research) utilizing available utility records provided by others, survey visible utilities, and field visit and Quality Level A (test holes) to identify potential utility conflict elevations.

- Quality Level D: Information derived from existing utility records or oral recollections
- Quality Level C: Information obtained by surveying and plotting visible aboveground features and by using professional judgment in correlating this information to Quality Level D information
- Quality Level B: Not part of this scope of services
- Quality Level A: Up to four (4) test holes will be performed on various utilities at locations specified by Halff's design engineer
- Conduct field visit to identify visible utilities, request utility records, and compile utility information into a CAD base file
- Prepare SUE QL-C/D CAD base file and signed and sealed 8.5x11 Quality Level A test hole data forms

#### Task 2c – Design Survey:

Halff will conduct design level survey of the anticipated proposed project area along Gills Branch. This survey effort includes the following.

- Obtain Right-of-entry (ROE) from landowners to allow survey crews to conduct ground survey of their property. Halff will send out ROE letters (approved by the Client) prior to accessing private properties.





- Perform a boundary verification survey of the property lines within the survey limits, which Halff will utilize in preparation of surveying and/or engineering deliverables for the project. This proposal does not include research efforts normally performed by a title company and does not include separate deliverables, including the preparation of separate boundary or title survey maps, legal descriptions or accompanying exhibits.
  - Obtain subdivision plats and vesting deeds for the properties within the proposed corridor in order to create an abstract map showing record deed lines
  - Survey will be performed in substantial accordance with TSPS Category 1-B, Condition II requirements
  - Halff will rely on a title commitment the City will provide regarding the existence of any recorded easements, restrictions, and other matters of record affecting the subject property
  - Property corners of the subject tracts will be recovered and flagged. Any property corners that have been destroyed or disturbed will be calculated at their proper location
- All field survey data submitted to the TPWD shall be based on the North American Datum of 1983 (NAD83) horizontal coordinate system in the State Plane Central Texas Zone 3 (FIPS 4203). All vertical coordinates and surveyed elevations shall be based on the North American Vertical Datum of 1988 (NAVD88). All field survey data shall be measured in US survey feet.
- Perform topographic field survey sufficient for 1-ft. contour intervals, locate all visible improvements, above ground utilities and features (power poles, valves, etc.), storm drain and wastewater line rim and flowline elevations, edge of pavement and concrete structures, etc.
- Perform survey of road crossings at MLK Dr., Pine St., Chestnut St., Farm St. and Hwy. 95.
- Locate and tag existing 8-inch caliper trees and greater showing critical root zone (tree circles).
- Extract and prepare triangulated irregular network into DTM and prepare 1-foot contours.

Task 2d – Environmental Permitting:

Under Section 404 of the Clean Water Act (Section 404), the United States Army Corps of Engineers (USACE) regulates the discharge of dredge or fill material into waters of the United States (WOTUS). Gills Branch is a tributary to the Colorado River and would likely be considered a WOTUS, as would wetlands adjacent to Gills Branch. The following scope is provided to identify and delineate the limits of potential WOTUS within the vicinity of the proposed channel improvements and provide documentation to support a *Nationwide Permit 43 – Stormwater Management Facilities* (NWP 43) application with the USACE Fort Worth District. Because the proposed channel improvements will include greater than 5,000 cubic yards of ground disturbing activities, coordination with the Texas Historical Commission (THC) pursuant to the Antiquities Code of Texas will be required. The following scope of work is also intended to provide documentation and a preliminary determination of effect to the agencies necessary to facilitate informal Section 7(a) consultation between the USACE and USFWS, under the assumption that the proposed project would not result in adverse effects to the Houston Toad or other federally-listed threatened or endangered species. If it is determined during that process that the project would necessitate formal consultation/development of a biological opinion/issuance of an incidental take permit, additional scope and fee will likely be required.

- *Background Review:* Halff will review available background data relevant to making a preliminary jurisdictional opinion for aquatic resources occurring within the project area. Available resources may include, but are not limited to, recent and historic aerial photos, topographic maps, USFWS National Wetland Inventory Maps, soils surveys, floodplain maps, Lidar elevation models, and land use/landcover data. Halff will also obtain official species



information from United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) <https://ecos.fws.gov/ipac/>. The investigation shall also include a search request from the Texas Natural Diversity Database (TXNDD). Finally, Halff will conduct research consisting of a desktop review of the THC Archeological Sites Atlas for previously recorded archeological sites and historic properties, and previous archeological surveys within the project vicinity. Desktop research will also include a review of USDA soil survey maps, USGS geologic maps, topographic maps and aerial photography to assess the potential for deeply buried and undisturbed archeological deposits.

- *Field Investigation:* Halff will perform an on-the-ground delineation within the proposed project area to identify the limits of WOTUS, including wetlands, as defined in the USACE “Wetland Delineation Manual – Technical Report Y-87-1” and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)”. Limits of potential WOTUS will be mapped utilizing a GPS unit capable of sub-meter accuracy and flagged to allow for survey crews to tie elevations. Halff proposes to utilize observations made during the delineation assessment, along with available background data (e.g. vegetation data, landcover data, soils maps, etc.) to assess the project area for the presence of suitable/preferred habitat for federally-listed threatened and endangered species.
- *Design Review, Impact Calculations, and Permitting Assessment:* Halff will coordinate with the design engineer to evaluate preliminary plans and calculate impacts to WOTUS associated with the proposed channel improvements. Recommendations for avoidance and minimization of impacts to aquatic resources may be recommended to facilitate Section 404 permitting to reduce or eliminate the need for compensatory mitigation.
- *USACE Pre-Application Meeting:* Consultant proposes to request a pre-application meeting with the USACE Fort Worth District.
- *Informal USFWS Consultation:* Consultant proposes to prepare documentation (i.e. letters, reports, figures, etc.), attend meetings, and conduct teleconferences to facilitate interagency coordination between the USACE and USFWS under Section 7(a) of the ESA and pursuant to a potential federal action (i.e. NWP authorization/verification) by the USACE.
- *Reporting:* Consultant shall prepare draft and final reports documenting the results of the Background Review and Field Investigation.
- *Pre-Construction Notification Document:* Consultant shall prepare and submit a pre-construction notification to the USACE for written verification that the project may proceed under NWP 43.
- *USACE Coordination:* Consultant shall facilitate processing of the NWP 43 application with the USACE Fort Worth District which may include a single additional site visit with the USACE; minor revisions to the pre-construction notification document; Teleconferences with the USACE; and Teleconferences to facilitate interagency review and coordination.

#### Task 2e – Geotechnical Investigation:

Raba Kistner, Inc., working as a subconsultant to Halff, will conduct geotechnical investigations including boring holes and laboratory testing to provide recommendations for slope stability, bridge foundation, retaining wall stability, and scour potential for the proposed project area along Gills Branch provided in a Geotechnical Report. Raba Kistner, Inc. proposal is attached in this scope.

#### Task 2f – Design Workshops:

Two (2) design workshops will be conducted during the 30% and 75% design tasks to discuss and gain approval and direction for the flood mitigation design from City staff for preparation of preliminary design plans.



- Conduct two (2) design workshops to discuss design constraints and parameters with City staff
- Prepare up to four (4) illustrative concept renderings to visually illustrate engineered improvements and potential trail and park opportunities
- Attend one (1) design workshop to discuss potential resilience flood mitigation and open space opportunities
- This effort does not include preparation of cost estimates for potential trail and park opportunities

### **Task 3: Hydraulic Model Refinement**

Refine two dimensional (2D) hydraulic analysis utilizing the model developed as part of the flood mitigation analysis. This refined model will be used to verify the proposed project does not impact adjacent properties.

- Utilize the Gills Branch preferred channel and roadway improvements determined during the previous analysis phase analyzed for fully developed watershed conditions
- Update the 2D hydraulic model with updated ground survey and proposed design elements
- Evaluate frequency design storm for 2-, 5-, 10-, 25-, 50-, and 100-year storm events utilizing NOAA Atlas 14 rainfall data

### **Task 4: 30% Engineering Design Documents**

Engineering design documents will be developed for the preferred channel and roadway improvements design concept prepared by Halff in March 2019. The City also requested recommendations to stabilize eroding channel banks south of Hwy. 71 which are not included in the March 2019 design concept. Halff will focus on erosion areas that threaten existing infrastructure which may include the transition from concrete channel to natural channel near Gutierrez St. and Jefferson St., channel bend near Lovers Ln., and the channel bend near the wastewater treatment plant. LiDAR terrain will be used for the channel reach south of Highway 71 for the preliminary engineering design.

Halff will design single span bridge structures at Farm Street, Chestnut Street, and Pine Street over Gills Branch to replace the existing box culvert structures. Bridge spans will vary between 60 feet and 80 feet and each bridge will accommodate a single lane of traffic in each direction. The bridges at Chestnut and Pine Streets will have a straight alignment whereas the bridge at Farm Street will be skewed. The bridge structures will not require any special aesthetic features or ornamental railing and utilities may need to be suspended from the structures. The Structural Design will be in accordance with the American Association of State Highway and Transportation Officials (AASHTO) LRFD Bridge Design Specification, Seventh Edition with current interim revisions and TxDOT Bridge Design Manual. Bridge superstructure construction is anticipated to be prestressed concrete I-Beams.

Halff will deliver specifications, probable construction cost estimate, and 11"x17" design sheets of the channel and roadway improvements that may include the following:

- Cover Sheet
- Dimensional Control
- Site Access Plan
- Tree Protection/Removal Plan

- Demolition Plan
- Channel Plan and Profile
- Bridge Plan and Profile

**Task 5: 75% Engineering Design Documents**

Upon the City's formal approval of the 30% design submittal, Halff will proceed with preparing final design documents including specifications, probable construction cost estimate, and 11"x17" design sheets of the channel and roadway improvements that may include the following:

- Cover Sheet
- General Notes
- Dimensional Control
- Erosion & Sedimentation Control Plan
- Site Access Plan
- Tree Protection/Removal Plan
- Demolition Plan
- Channel Plan and Profile
- Channel Cross Sections
- Bridge Plan and Profile
- Typical Bridge Sections
- Beam Layout
- Traffic Control Plan
- Standard Details

**Task 6: 100% Engineering Design Documents**

Upon the City's formal approval of the 75% design submittal, Halff will proceed with preparing final design documents including specifications, probable construction cost estimate, and 11"x17" design sheets of the channel and roadway improvements that may include the following:

- Cover Sheet
- General Notes
- Dimensional Control
- Erosion & Sedimentation Plan
- SWPP Plan
- Site Access Plan
- Tree Protection/Removal Plan
- Demolition Plan
- Channel Plan and Profile
- Channel Cross Sections
- Bridge Plan and Profile
- Typical Bridge Sections
- Beam Layout
- Traffic Control Plan
- Standard Details



**Task 7: Engineering Design Report**

Prepare an Engineering Design Report to fully discuss the design constraints and parameters for the proposed flood mitigation project. The report will discuss data acquisition, geotechnical report, subsurface engineering reports, environmental permitting, hydrologic and hydraulic analysis refinement results, design constraints and parameters, opportunities for trail and park, probable construction schedule, and probable cost estimate.

- Submit Engineering Design Report documenting methods and assumptions of the design for the 30%, 75%, and 100% design tasks
- Include engineering design plans for the 30%, 75%, and 100% design tasks

**FEE ESTIMATE:**

The fees for Task 1 through 7, established above, shall be considered **lump sum** fees unless otherwise noted. Our services will be invoiced monthly based on the percentage of work completed. Costs incurred will be carefully monitored during the progress of this project and the fees will not be exceeded without prior approval from the City.

<b>City of Bastrop - Gills Branch Flood Mitigation Design</b>	
	<b>Total</b>
<b>TASK 1: PROJECT MANAGEMENT</b>	<b>\$ 13,575.00</b>
<b>TASK 2: DATA COLLECTION</b>	<b>\$ 245,435.00</b>
<i>Task 2a - Field Visits</i>	<i>\$ 5,300.00</i>
<i>Task 2b - SUE Investigation</i>	<i>\$ 20,010.00</i>
<i>Task 2c - Design/Boundary Survey</i>	<i>\$ 93,065.00</i>
<i>Task 2d - Environmental Permitting</i>	<i>\$ 62,460.00</i>
<i>Task 2e - Geotechnical Investigation</i>	<i>\$ 39,100.00</i>
<i>Task 2f - Design Workshops</i>	<i>\$ 25,500.00</i>
<b>TASK 3: HYDRAULIC MODEL REFINEMENT</b>	<b>\$ 8,100.00</b>
<b>TASK 4: 30% PLANS, SPECIFICATIONS, &amp; ESTIMATE</b>	<b>\$ 50,100.00</b>
<b>TASK 5: 75% PLANS, SPECIFICATIONS, &amp; ESTIMATE</b>	<b>\$ 127,025.00</b>
<b>TASK 6: 100% PLANS, SPECIFICATIONS, &amp; ESTIMATE</b>	<b>\$ 54,075.00</b>
<b>TASK 7: DESIGN ENGINEERING REPORT</b>	<b>\$ 16,780.00</b>
<b>TOTAL</b>	<b>\$ 515,090.00</b>

**ANTICIPATED SCHEDULE:**

Halff can commence work on this project within two (2) weeks after notice-to-proceed is received from the City of Bastrop. Halff anticipates completion of all effort and submittal of deliverables within eleven (11) months of the notice to proceed. An anticipated design schedule is attached.

A handwritten signature in blue ink, consisting of a large, stylized initial 'H' followed by several vertical, slightly wavy lines.