

EXHIBIT “A”
Scope of Services

Glen Abbey Additional Drainage Analysis and Improvements - Mansfield, Texas

GENERAL – The scope of the project includes conducting the necessary additional design survey and revising the plans, specifications, and estimates required for the permitting, bidding, and construction of the chosen revised option.

The City of Mansfield will continue to provide the following information for the redesign:

- Existing easement documents, record drawings, and models on file at the City within and adjacent to the project limits
- A project manager to serve as the primary point of contact

Halff will provide the following additional services as part of this redesign:

BASIC SERVICES

I. Additional Project Management and Coordination

Halff will manage and provide QAQC services on the project.

a. Project Management

- i. Lead, manage and direct redesign team activities
- ii. Ensure quality control is practiced in performance of the work
- iii. Communicate internally among team members
- iv. Allocate team resources

b. Communications and Reporting

- i. Prepare and submit monthly invoices in the format acceptable to the City.
- ii. Prepare and submit monthly progress reports.
- iii. Prepare and submit baseline Project Schedule initially and Project Schedule updates.
- iv. Obtain any additional design criteria, available GIS information, pertinent utility plans, street plans, plats and right-of-way maps, existing easement information, previous studies prepared by others, as-built plans for portions of surrounding infrastructure, historical drainage complaints and other information available for the project area.

II. Additional Design Survey

Halff will conduct additional field and topographic survey necessary for the redesign of the option selected.

a. Additional Survey

- i. The additional survey will locate property boundaries, surface utility features, fence lines, structures, and other surface features relevant to the storm sewer redesign.
- ii. Halff will rectify the property boundaries and section lines along the alignment to establish a property base map, i.e., right-of-way map.
- iii. Halff will incorporate this additional survey with the LIDAR topography, existing aerial photography, and record drawings of existing improvements to prepare a base map for the redesign.

III. Revised Hydraulic Study Services

- a. 2D Modeling
 - i. Revise 2D InfoWorks ICM Model to incorporate the revised alignment and outfall.
 - ii. Confirm revised results meet current drainage design criteria. Revise pipe and outlet as needed.
 - iii. Revise memo describing procedures and results.
 - iv. Submit to City and coordinate with City during their review process.

IV. Revised Construction Plans, Specifications and Opinion of Probable Construction Cost

Halff shall revise the developed construction plans to reflect the chosen option for review, permitting, bidding, construction, inspection and record keeping. In general, construction plans shall be consistent with normal practice for projects of this nature.

- a. Revised Construction Plans
 - i. Revised Construction plans shall be prepared and furnished with the full size set being 22"x34".
 - ii. Revised Improvements shall conform to City design criteria and standard details when applicable and present. If no City criteria and/or standard details are present for the work or then the improvements shall conform to the latest version of NCTCOG or TXDOT at the engineer's discretion.

b. Specifications and Project Manual

Halff shall prepare a project manual and technical specifications required for bidding and constructing the project. The project manual will be provided in City's standard format. Only specifications amending or supplementing the City, NCTCOG, or TXDOT specifications need be furnished.

c. Opinion of Probable Construction Cost (OPCC)

Halff shall prepare an OPCC for the City's use during the project's design. Unit costs for these items shall be developed utilizing previously let projects by Halff of similar scope and size as well as TxDOT's available 3-month and 12-month rolling averages for recently let projects.

d. Review Plans

Halff shall develop and submit for review revised plans, specifications, and opinions of probable construction cost at the 90% and 100% milestones.

- i. It is assumed that one plans in hand meeting shall take place following each milestone submittal to review and discuss comments
- ii. Halff may submit plan sheets or working drawings to the City for review and comment to reduce the number of revisions that otherwise would be required.
- iii. Deliverables for each milestone submission are as follows.

1 90% Redesign Package

- a. All construction plans
- b. Special project specifications
- c. Project Manual
- d. OPCC
- e. Up to three (3) hard copy sets of the documents listed above shall be provided as part of this package

2 100% Design Package

- a. Information provided in 90% redesign package revised per City comments, signed and sealed for bidding.
- b. Special project specifications
- c. Project Manual
- d. OPCC
- e. Up to fifteen (15) hard copy sets and one (1) PDF of the documents listed above shall be provided as part of this package for review and bidding (fee included in original contract)

e. Redesign

The redesign of the project shall be in general accordance with City ordinances, standard details, and good Consulting practices. During the redesign phase, Halff shall contact various utility companies and obtain information relating to existing utility lines. The redesign should avoid major utility relocations, where practical. When required, proposed relocations or replacements will be shown on the plans.

SPECIAL SERVICES

I. Landscape and Irrigation Design Services

Halff shall develop the following landscape and irrigation plans to supplement the revised plans outlined under Basic Services Item IV.a. for review, permitting, bidding, construction, inspection and record keeping as required by the selected option. In general, construction plans shall be consistent with normal practice for projects of this nature.

a. Kickoff Meeting

- i. Halff will conduct one (1) kickoff meeting with the Homeowner and City to confirm the project goals and objectives and project schedule. Following the kickoff meeting Halff will accompany the Homeowner to review the site to look at the existing conditions and to take note of existing conditions. Photographs will be taken to record condition of existing improvements. Notes will be taken by Halff at this meeting and site visit to record items discussed and decisions made and will be delivered in digital format to the Homeowner and City.

b. Construction Documentation

- i. Halff will prepare Construction Documents and Specifications to allow bidding and construction of the proposed site improvements confirmed in the kickoff meeting. Complete set of construction documents and specifications shall be as defined below.
 - 1 Residential Demolition Plan (2 Sheets) - Halff will prepare the demolition plan, which will provide notes and details required for the demolition, removal and disposal of existing site features Tree protection and preservation will also be shown on this plan.
 - 2 Residential Planting Plan (3 Sheets) - Halff will prepare a planting plan that identifies the location of all areas designated for new planting. Plants will be located in ways that protect the established landscape, being mindful to avoid future growth conflict with existing vegetation. Plan set will provide planting details and specifications for the proper installation and establishment of plants. Plans will be signed by a Texas Licensed Landscape Architect
 - 3 Residential Irrigation Plan (2 Sheets) - Halff will design and provide details for the irrigation of the improved planting plan. Irrigation will be designed to use as much of the existing irrigation system as possible. The plan will be developed with an emphasis on proper zoning and water distribution uniformity of the system to maximize efficient water management. System will match, as much as possible, the existing equipment and operation of the current system. If equipment cannot match due to manufactures changes due to upgrades or discontinued equipment Halff will make recommendations based on the design parameters. Plan set will provide details for the proper installation of sprinkler heads, valves, pipe, service connection, controller and other items will be shown on the plan and match equipment and operation of existing irrigation. Plans will be signed by a Texas Licensed Landscape Architect.
 - 4 Golf Course Irrigation Plan (3 Sheets) - Halff will design and provide details for the irrigation of the impacted golf course. Irrigation will be designed to use as much of the existing irrigation system as possible. The plan will be developed with an emphasis on proper zoning and water distribution uniformity of the system to maximize efficient water management. System will match, as much as possible, the existing

equipment and operation of the current system. If equipment cannot match due to manufactures changes due to upgrades or discontinued equipment Halff will make recommendations based on the design parameters. Details for the proper installation of sprinkler heads, valves, pipe, service connection, controller and other items will be shown on the plan and match equipment and operation of existing irrigation. Plan set will provide details for the proper installation of sprinkler heads, valves, pipe, service connection, controller and other items will be shown on the plan and match equipment and operation of existing irrigation. Plans will be signed by a Texas Licensed Irrigator.

II. Easement Documents

Exhibits and legal descriptions for all drainage, slope and temporary construction easement acquisition required for construction of the project will be prepared. Up to one (3) drainage and two (4) temporary construction easements shall be prepared as part of these services.

- a. Easement Documents
 - i. Halff shall survey, render field notes, and prepare individual exhibits for all easement parcels.
 - ii. Legal descriptions for each parcel shall reference the volume, page, and owner of the parent tract and shall be incorporated into a standard City of Mansfield conveyance document as Exhibit "A".
 - iii. Individual exhibits for each parcel shall be prepared to contain the following:
 - 1 Area required
 - 2 Parcel number
 - 3 Property owner name, mailing address, and volume and page of deed
 - 4 Existing easements
 - 5 Exhibits will be drawn to scale
 - 6 All of the above shall be placed on one page of 8-1/2" x 11" paper, labeled as Exhibit "B" and signed and sealed by a Texas Registered Professional Land Surveyor.
 - iv. Submit easement documents to the City and make necessary corrections.
 - v. Upon approval of the easements by the City, Halff shall stake and flag the easements for inspection by the appraiser and property owner. The documents, including legal description, shall be furnished to the City in Microsoft Word format.

ITEMS NOT INCLUDED IN THIS STUDY:

The following services are not included in this scope, but Halfff can provide these as an amendment to this scope of services:

- Any services not specifically mentioned above under the Basic or Special Services sections herein
- Additional hydraulic alternatives, including new storm drain alignments
- Assessment of Glen Abbey Court storm drain system
- Traffic control for survey, SUE, or other field data collection activities
- Any public meetings
- Construction engineering and inspection (CEI) services
- Review and approval of contractor pay applications
- Construction surveying
- Geotechnical engineering services
- Subsurface Utility Engineering
- Environmental services
- Flood plain development permitting
- Conditional Letter of Map Revision (CLOMR)
- Letter of Map Revision (LOMR)
- Pre and post CCTV inspection
- Utility Coordination

EXHIBIT "B"
Schedule

Glen Abbey Additional Drainage Analysis and Improvements - Mansfield, Texas

<u>Item</u>	<u>Schedule</u>
Additional Design Survey	28 calendar days from notice to proceed
90% Redesign Submittal	28 calendar days after Additional Design Survey
Draft Drainage Easement and Temporary Construction Easement Documents	14 calendar days after 90% Redesign Submittal
Final Drainage Easement and Temporary Construction Easement Documents	14 calendar days after receipt of draft comments
100% Submittal	14 calendar days after receipt of 90% comments

EXHIBIT "C"
Fee Summary

Glen Abbey Additional Drainage Analysis and Improvements - Mansfield, Texas

<u>Item</u>	<u>Cost</u>
BASIC SERVICES	
I. Additional Project Management and Coordination	\$2,900.00
II. Additional Design Survey	\$3,400.00
III. Revised Hydraulic Study Services	\$7,900.00
IV. Revised Construction Plans, Specifications, and Opinion of Probable Construction Cost	\$20,400.00
BASIC SERVICES SUBTOTAL	\$34,600.00
SPECIAL SERVICES	
I. Landscape and Irrigation Design Services	\$21,400.00
II. Drainage Easement (3 at \$3,500/ea)	\$10,500.00
Temporary Construction Easements (4 at \$2,500/ea)	\$10,000.00
SPECIAL SERVICES SUBTOTAL	\$41,900.00
TOTAL FEE NOT TO EXCEED	\$76,500.00

Basic Services will be provided on a lump sum basis not to exceed the total shown above. Special Services will be provided on a time and material basis or cost per document basis not to exceed the total shown above. Special services shall only be performed upon written authorization from the City. Labor charges will be billed on the basis of the attached Half fee schedule. Printing and delivery charges will be invoiced at direct cost times 1.1.