

May 23, 2023

Via Email: [howard.redfearn@mansfieldtexas.gov](mailto:howard.redfearn@mansfieldtexas.gov)

Mr. Howard Redfearn  
Environmental Manager  
City of Mansfield  
1200 E. Broad Street  
Mansfield, Texas 76063

**Re: Red Oak Drainage Improvements  
Westra No. MAN23012**

Dear Howard:

Westra Consultants is pleased to submit this Letter Agreement to provide professional services for the above referenced project. This letter, when countersigned below, shall serve as our agreement and Notice to Proceed. Our project understanding, scope of services, schedule, and fee are listed below.

#### **Project Understanding**

Westra Consultants will provide professional engineering and surveying services to the City of Mansfield for feasibility and design of a proposed drainage flume to collect and convey a 4.69 acre drainage area to Willow Creek Road. The purpose of the project is to prevent flooding within the Shannon Creek and Red Oak subdivisions and is based on the previous Red Oak Drainage System Analysis (Ref. Westra Project #MAN22032) technical memo. The proposed flume location is between the homes located at 1510 Absher Lane and 910 Willow Creek Road (Lot 9 and 10, Block 4, Shannon Creek Subdivision). A feasibility study will be provided to determine the flume size, downstream street capacity, and storm system capacity for conveyance of the additional flows. **Attachment A** shows the proposed project limits.

#### **Scope of Services**

Westra shall provide the City with professional services summarized in the following tasks:

##### **Task A – Topographic Survey**

Consultant shall provide a topographic survey for the project areas including horizontal control points and vertical benchmarks, 1-foot contour topographic contours, trees larger than 6" in diameter, ties to adjoining houses, driveways, landscaping, fences, structures, streets and visible utilities such as power poles, utility boxes, manholes, valves, fire hydrants, etc. Property lines identified by plat and/or deed sketch data will be incorporated into the survey, as well as property data as required to prepare easements. Client to provide for right-of-entry to all private property. Consultant will locate or set two benchmarks and the survey shall be in Surface Coordinates, located at Grid based on NAD 83. The limits of topographic survey are identified on **Attachment A**.

##### **Task B – Feasibility Study**

The Consultant will provide a feasibility study and concept design in accordance with the City's current iSWM Drainage Criteria Manual for the proposed drainage improvements. The Consultant shall:

- a. Evaluate the required size of the flume based on topographic survey.
- b. Evaluate the street and right-of-way capacity of Willow Creek Rd and Bridge Water Ln to convey the additional flows downstream.

- c. Evaluate the capacity of the downstream storm drain system in Willow Creek Rd and Bridge Water Ln, and collection point inlets, to collect the additional flow and convey downstream. Approximately 600 LF of storm drain will be modeled using StormCAD analysis software.
  - i. Note: The record drawing information for the storm drain systems and the previous Red Oak Drainage Analysis will be utilized for a traditional 1D drainage analysis (no 2D modeling is included).
- d. Determine the starting HGL for the storm drain analysis utilizing the FEMA Flood Insurance Study (FIS) for Hogpen Branch and the iSWM Manual and Frequencies for Coincidental Occurrences.
- e. Provide feasibility deliverables including graphical exhibits to depict the 25-year and 100-year flows and capacities for the proposed flume, and the downstream storm drain, inlets, and street. Recommendations will be provided based on the output of the feasibility study and may include extension of a storm drain system, increasing inlet sizes, or other improvements. No technical memo is included with this scope.
- f. Meet with the Client to present the feasibility deliverables and include a design kickoff to discuss plan preparation.
  - i. Note: Design of additional storm drain system improvements beyond the proposed flume shall be provided as an additional service.

#### **Task C – Easements**

The Consultant will provide up to six (6) temporary and/or permanent easement documents to include a metes and bounds description and easement exhibit. The Client will provide the dedication instruments and will file the easements at the County for the project. It is assumed the Client will secure the easements necessary for the project, including all coordination and negotiation with property owners.

#### **Task D – Engineering Design**

Engineering services will include the preparation of plans, details, specifications, and cost opinions for the design of a proposed drainage flume between the homes located at 1510 Absher Lane and 910 Willow Creek Road. The flume is proposed to begin at the rear lot line and end at the front street gutter. Grading will be included along the rear lot line to collect the runoff within the flume. The flume will be designed in accordance with City iSWM drainage criteria.

Plan submittals will be included at preliminary design (75%) and final design (100%) for Client review. An opinion of probable construction cost will be included with each submittal. Project contract documents and specifications will be prepared and included with the final design submittal.

Construction plans will include a cover sheet, location map, general notes, drainage calculations and a drainage area map, flume plan and profile with grading plan, erosion control plan, and construction details. No storm drain system extensions or inlet reconstruction designs are included.

#### **Task E - Bidding and Construction Phase Assistance:**

The Consultant will provide assistance during the bidding process and may include distribution of documents and addenda, attending one (1) bid opening, tabulating bids, recommendation for award, and preparation of contract documents. The Consultant may provide assistance during construction including attendance at one (1) preconstruction meeting, up to two (2) site visits as requested, and preparation of record drawings in AutoCAD and PDF format.

- Deliverables: - Preliminary Plans/Specifications/Cost Opinion Review Sets (4 – 11x17 sets)  
 - Final Plans/Specifications/Cost Opinion Review Sets (4 – 11x17 sets)

- Meetings: - Kickoff Meeting and Site Visit  
 - Preliminary Plan Review  
 - Final Plan Review  
 - Bid Opening  
 - Preconstruction Meeting

**Additional Services**

Services not specifically identified in the Scope of Services above shall be considered additional and shall be performed on an individual basis upon authorization by the Client. Compensation for Additional Services shall be based on the hourly rates in effect at the time services are performed or on a pre-negotiated fee. Such services shall include, but not be limited to the following items.

1. Storm drainpipe system design including inlets.
2. Phasing of the project. Scope assumes project is designed and bid as a single phase.
3. Technical memos.
4. Easement acquisition and/or negotiation.
5. Subsurface utility engineering.
6. Construction inspection or management.
7. Construction staking.
8. Geotechnical or materials testing services.

**Information Provided by Client**

1. Right of entry to all private property
2. Record Drawings
3. GIS data including aerials, etc.

**Fee, Billing and Schedule**

The Consultant will perform the work described in the Scope of Services on a reimbursable basis in accordance with the Standard Rate Schedule in effect at the time services are performed. The total recommended budget for services and expenses is estimated to be **\$43,700**. Consultant shall notify the Client for authorization prior to exceeding the budgeted amount. Fees will be invoiced monthly based upon hours completed as of the invoice date. Payment is due within 30 days of the receipt of the invoice.

A breakdown of the tasks, fees and expected timeframes for completion are provided in the table below. Each task will be authorized by the Client prior to beginning these services.

Task	Fee Budget	Expected Timeframe to Complete
A. Topographic Survey	\$3,500	15 working days
B. Feasibility Study	\$10,200	15 working days
C. 6 Easements (\$1,350 per easement)	\$8,100	As requested
D. Engineering	\$18,900	30 working days
E. Bidding and Construction Phase Assistance	\$3,000	As requested
<b>TOTAL</b>	<b>\$43,700</b>	

