

## ATTACHMENT A – SCOPE OF SERVICES

### FM 548 Relocations Project

City of Forney Project No. **XX**

#### PROJECT BACKGROUND AND DESCRIPTION

The Texas Department of Transportation (TxDOT) is currently in the design phase of expanding FM 548 between State Highway 80 Frontage and League Ranch Road. This project's scope includes widening of the existing two-lane rural roadway to a six-lane divided urban road, with ancillary components consisting of a retaining wall, noise walls, drainage infrastructure, traffic signals, and street lighting. With the expansion of FM 548, existing utility infrastructure along the existing alignment of FM 548 are in direct conflict with existing City of Forney (OWNER) 8, 12, and 30-inch water transmission lines. This project, FM 548 Relocations project, proposes to relocate the OWNER's utility conflicts along the proposed new FM 548 alignment.

#### SCOPE OF SERVICES

The scope of services in this task order includes detailed design, bidding, and construction services. The project will include the following items:

- Relocation of City of Forney water utilities directly in conflict with TxDOT's FM 548 Expansion project.
  - Relocation of 12-inch water line between approximate road stations 35+26 and 38+32 FM 548, 290 linear feet.
  - Relocation of 30-inch water line between approximate road stations 49+72 and 53+23 FM 548, 450 linear feet.
  - Relocation of 8-inch water line at approximate road station 53+23 FM 548, 150 linear feet.
  - Relocation of 12-inch water line between approximate road stations 53+65 and 59+56 FM 548, 605 linear feet.
  - Relocation of 12-inch water line between approximate road stations 65+70 and 75+00 FM 548, 1,065 linear feet.
- Addition or extension of casing pipe to protect existing City of Forney water infrastructure.
  - Extension of steel casing over 12-inch water line at approximate road station 35+64 FM 548.
- Traffic control plan and details for construction of proposed relocations.

**Figure 1** below shows the approximately location area of the proposed relocations on FM 548 between US Highway 80 Frontage Road and Highspire Drive.

**Figure 1: Location of the Proposed Relocations**



## **ASSUMPTIONS**

In developing the scope of work and associated task budgets discussed in this proposal, the ENGINEER has made the assumptions outlined below:

- ENGINEER will provide front end Contract Specifications.
- ENGINEER will use ENGINEER's 6-Digit, 50 division format (CSI MasterFormat) general requirements and technical specifications as tailored to specific needs for the PROJECT.
- ENGINEER will submit an agenda and meeting summary for each named meeting in this scope of service.
- Drawings for the project will be produced in a Building Information Management (BIM) environment using AutoCAD Civil3D. The ENGINEER's BIM standards will be followed.
- ENGINEER will use existing survey, subsurface utility engineering, and geotechnical data completed and performed for TxDOT under the FM 548 Expansion project for design of the FM 548 relocations.
- ENGINEER will distribute copies of bid ready documents and addenda to plan holders using the OWNER's preferred platform.
- ENGINEER will provide construction administration support services as noted in the detailed Scope of Work.
- The OWNER will provide daily inspection services during construction.

- The OWNER's field inspection and office staff will conduct initial review of Contractor pay requests and sign the pay request. It will be sent to ENGINEER for review and signature, then returned to the OWNER for final approval.
- ENGINEER will manage construction document flow from the Contractor during the construction phase (submittals, requests for information, field order requests, etc.) using the ENGINEER's document management system.

Refer to the additional assumptions as delineated by task in the detailed scope herein.

## **ARTICLE I** **SCOPE OF WORK**

The ENGINEER agrees to furnish the OWNER the following specific services:

### **BASIC ENGINEERING SERVICES**

ENGINEER will perform the tasks described on the following pages:

#### **Task 100 – DETAILED DESIGN**

##### **Task 101 – Project Set-up and Administration** (through Design and Bidding Services)

As part of project planning and set-up, ENGINEER will develop a project management and quality plan outlining the project goals and objectives, scope of work, communications protocols, and quality review plan. Throughout project execution, ENGINEER will conduct monitoring and control activities, subconsultant management, progress tracking, conduct internal progress meetings and develop monthly invoices with project activity reports for submittal to the OWNER. Activity reports will document activities completed in the previous period and planned activities for the following month. For this task, up to 6-months is assumed for project administration during design and bidding. The activities for the construction phases will be covered under Task 300.

##### **Task 102 – Information/Data Collection and Review**

ENGINEER will develop and submit a data needs request to obtain initial data and information for review. Requested data and information will include the following:

- Existing record drawings of utilities being relocated
- OWNER applicable design standards
- Existing survey, subsurface utility, and geotechnical data from TxDOT on the FM 548 road expansion project.

The level of effort for this task assumes the OWNER will collect and assemble the data and upload to ENGINEER's SharePoint document management system for download by the ENGINEER in electronic format. ENGINEER will then review record information as provided by the OWNER.

##### **Task 103 – Preliminary Plan Layout**

ENGINEER will develop preliminary layout (plan view only) of the relocations for OWNER to review.

ENGINEER will conduct a Preliminary Layout Workshop at the OWNER's office. Comments will be compiled in a comments log by the OWNER, and ENGINEER will provide written responses to each comment.

##### **Task 104 – 90% Design**

ENGINEER will develop 90% complete drawings and specifications, OPCC to AACE International Class 2 (-10% to +20% accuracy) and submit for OWNER review and comment. Prior to submitting the 90% documents, conduct an internal Quality Control review based on ENGINEER's guidelines and procedures.

ENGINEER will conduct a 90% Review Workshop at the OWNER's office. Comments will be compiled in a comments log by the OWNER, and ENGINEER will provide written responses to each comment.

## **Task 105 – Bid-ready Documents**

ENGINEER will develop draft bid-ready drawings and specifications, update the OPCC to AACE International Class 1 (-5% to +10% accuracy), and submit for OWNER review and comment. Meet with the OWNER to discuss final comments. Comments will be compiled in a comments log by the OWNER, and ENGINEER will provide written responses to each comment.

ENGINEER will address comments, submit the documents to the OWNER for approval, and meet with the OWNER to discuss comments on the updated documents.

ENGINEER will address final comments from the OWNER and submit final bid-ready documents to the OWNER.

### **Task 100 Deliverables Summary (3 copies and an electronic pdf of each deliverable):**

- Monthly invoices with activity report and updated project schedule
- Data Needs Request
- Preliminary Layout
- 90% drawings, specifications, and OPCC
- Draft bid-ready drawings, specifications, and OPCC
- Final bid-ready drawings, specifications, and OPCC

### **Task 100 Meetings Summary:**

- Preliminary Layout Workshop
- 90% Review Workshop
- Bid-ready Review Workshop

*OPCCs conducted for this Project: any opinions of probable construction cost or cost estimates provided by ENGINEER are made based on the information available and ENGINEER's experience and qualifications and represents its judgment as an experienced and qualified professional engineer. However, since ENGINEER has no control over the cost of labor, materials, equipment, or services furnished by others, or over the contractor(s) methods of determining prices, or over competitive bidding or market conditions, ENGINEER does not guarantee that proposals, bids or actual project or construction cost will not vary from opinions of probable cost or cost estimates prepared by ENGINEER.*

## **TASK 200 – BID PHASE SERVICES**

Upon notification from the OWNER to proceed with the bidding phase, ENGINEER will perform the following tasks:

### **Task 201 – Pre-Bid Meeting**

ENGINEER will prepare for and attend one (1) pre-bid meeting for plan holders at the Project site for each package. The pre-bid meeting will be led by the OWNER. ENGINEER will attend and assist the OWNER.

### **Task 202 – Bidder Inquiry Review and Response**

ENGINEER will receive bidder inquiries and respond as appropriate; develop addenda as needed (includes internal QC review of any noted changes that impact original design and construction; and submit addenda to the OWNER for review and approval prior to issuing to plan holders.

### **Task 203 – Bid Tabulation and Recommendation of Award**

ENGINEER will review and evaluate the qualifications of the apparent successful bidder and the proposed major or specialty subcontractors when warranted. The review and evaluation will include such factors as previously constructed work, financial resources, technical experience, and responses from references. ENGINEER will prepare and distribute formal bid tabulation sheets, evaluate bids, and a make written recommendation to the OWNER concerning contract award.

### **Task 204 – Conformed Document Preparation and Distribution**

ENGINEER will prepare and distribute conforming copies of the construction contract documents. These services will include review of Contractor's bonds, furnishing the Contractor unsigned construction contract documents, and transmitting the construction contract documents to the OWNER for signature and distribution.

"Conformed to Bid" Deliverable:

- Two (2) full-size and three (3) half-size prints of the unsigned "Conformed to Bid" construction contract documents to the successful bidder
- One (1) full-size and three (3) half-size prints of the unsigned "Conformed to Bid" construction contract documents to the OWNER
- Electronic versions of conformed documents in PDF format will be provided to the OWNER

#### ***Task 200 Deliverables Summary:***

- Addenda
- Bid Tabulation and Recommendation of Award
- Conformed drawings and specifications

#### ***Task 200 Meetings Summary:***

- Pre-bid Meeting

## **SPECIAL SERVICES**

Special Services are those services known to be required for completion of the project that the OWNER agrees are to be furnished by the ENGINEER or by a subconsultant that cannot be defined sufficiently at this time to establish the maximum compensation. The services are not included in the scope of work of Basic Services or the amount of compensation for Basic Services. The Special Services for this assignment are described as follows:

### **TASK 300 - ENGINEERING SERVICES DURING CONSTRUCTION**

ENGINEER will provide construction administration support services as noted in the detailed Scope of Work (Task 300 does not include inspection services).

#### **Task 301 – Project Administration During Construction**

Throughout the construction period, ENGINEER will conduct monitoring and control activities to track project progress and develop monthly invoices with project activity reports for submittal to the OWNER. Activity reports will document activities completed during the previous period, planned activities for the following month, key decisions made, needed decisions, and decision-related / critical path action items. For this task, up to 6 months is assumed for project administration during construction. This task also includes project closeout activities.

Engineer's observation or monitoring portions of the work performed under construction contracts shall not relieve construction contractor(s) from responsibility for performing work in accordance with applicable contract documents. Engineer shall not control or have charge of, and shall not be responsible for, construction means, methods, techniques, sequences, procedures of construction, health or safety programs or precautions connected with the work and shall not manage, supervise, control or have charge of construction. Engineer shall not be responsible for the acts or omissions of construction contractor(s) or other parties on the project. The City agrees to contractually require its construction contractor(s) to indemnify Engineer for damages resulting from the negligence of the contractor and its subcontractors. The City also agrees to include a provision in the construction contract with its contractor(s) requiring them to name Engineer as an additional insured on contractor(s)' commercial general liability insurance and include a waiver of subrogation endorsement under contractor's workers' compensation and employer's liability policy for the benefit of Engineer.

#### **Task 302 - Pre-Construction Conference**

At a date and time selected by the OWNER, and at a facility provided by the OWNER, ENGINEER will attend the pre-construction conference and assist the OWNER during the conference. The preconstruction conference shall include a discussion of the Contractor's tentative schedules, procedures for transmittal and review of the Contractor's submittals, processing payment applications, critical work sequencing, change orders, record documents, and the Contractor's responsibilities for safety and first aid. The agenda and summary will be prepared by the ENGINEER.

#### **Task 303 – Construction Document Management**

ENGINEER will serve as main point of contact for construction correspondence from the Contractor with the OWNER copied on the correspondence. A document management system specified by the ENGINEER and provided by the Contractor will be used for electronic document management of

submittals, requests for information (RFIs), change order requests, etc. The system will maintain a log of correspondence received and track review time to facilitate timely response.

### **Task 304 – Periodic Construction Progress Meeting Attendance and Site Visits**

ENGINEER will attend and participate in three (3) periodic construction progress meetings and/or site visits with the OWNER and Contractor. Additional effort beyond three (3) meetings/site visits will be provided as an additional service.

### **Task 305 – Submittal Review**

ENGINEER will provide review of Contractor submittals and shop drawings. The project specifications will require the Contractor to submit a submittal schedule for review and approval by the ENGINEER prior to initiating the submittal process. It is assumed the Contractor will submit required submittals, shop drawings, and material samples using the online document management system. ENGINEER will provide submittal / shop drawing review comments and level of approval in electronic format with submittal / shop drawing markups attached.

Up to eight (8) total reviews (initial submittals and re-submittals) are assumed. A submittal log will be kept of all initial submittals and re-submittals. If the submittal log surpasses eight (8), a contract amendment authorizing additional service may be required if the amount left in the task is insufficient to cover the additional work.

### **Task 306 – Construction Document Interpretation and Clarification**

ENGINEER will provide responses to Requests for Information (RFIs) and clarifications regarding design intent or interpretation of the drawings and specifications in electronic format with applicable sketches or markups attached. Up three (3) RFIs or clarifications are assumed. An RFI log will be kept. If the RFI log surpasses three (3), a contract amendment authorizing additional services may be required if the amount left in the task is insufficient to cover the additional work.

### **Task 307 – Contract Modification / Change Order Review**

ENGINEER will assist in the review and preparation of contract modifications and change orders. Up to a total of one (1) contract modifications or field orders. It is assumed The OWNER will lead change order negotiations and execution with the Contractor, and ENGINEER will provide review and comment (as requested by the OWNER) as well as supporting documentation for specification and/or drawing changes that form the basis for the change.

### **Task 308 – Record Drawings**

Upon completion of the project, ENGINEER will revise the construction contract drawings to reflect the red-lined As-Built Drawings provided by the Contractor. The final deliverable will include one (1) full-size print, one (1) half-size print, and one (1) electronic file (in PDF and AutoCAD Civil3D formats).

#### ***Task 3 Deliverables Summary:***

- Periodic progress meeting summaries (3)
- Submittal review comments with level of approval
- RFI/clarification responses
- Change proposal review
- Record Drawings

#### ***Task 3 Meetings Summary:***



- Pre-construction Conference
- Periodic construction progress meetings / site visits (3)

## **TASK 400 – SUBCONSULTANTS AND ADDITIONAL SERVICES**

ENGINEER will provide survey, subsurface utility, geotechnical services through subconsultant services on an as-needed basis, and additional coordination meeting as noted in the detailed Scope of Work.

### **Task 401 – Additional Survey Services**

Allowance as authorized by the OWNER for additional survey needs during design and/or construction of the project. Services include boundary survey, additional topography mapping, or surface feature mapping.

### **Task 402 – Additional Subsurface Utility Engineering**

As authorized by the OWNER, ENGINEER will subcontract with a SUE firm (The Rios Group) to complete additional selected utility locations. SUE firm will perform up to twelve (12) Level A locates. SUE firm will use existing survey and Level B data from the TxDOT FM 548 Expansion project for general location of existing subsurface utilities.

### **Task 403 – Geotechnical Investigation**

As authorized by the OWNER, ENGINEER will subcontract with a Geotechnical Engineering Firm (Raba Kistner, Inc.) to further analyze and build upon exiting geotechnical data. Geotechnical Firm will conduct eight (8) 15-foot borings along the proposed alignment. The Geotechnical Firm will use the boring data and develop a geotechnical report consisting of standard recommendations for water line design and construction, e.g. plasticity limits, moisture content, recommendations for trench excavation, etc. Proposed fee includes the cost of one day of traffic control.

### **Task 404 – Coordination Meeting with TxDOT**

Allowance as authorized by the OWNER for up to three (3) additional project coordination meetings with the TxDOT during design and/or construction.

## **FEE SUMMARY**

Compensation by the OWNER to the ENGINEER for all Basic Services enumerated in the Scope of Services will be on a Lump Sum basis as generally described in Exhibit A. A budget allowance has been made for this item and will not be exceeded:

### **BASIC SERVICES**

TASK 100 – DETAILED DESIGN	\$ 126,989
TASK 200 – BIDDING SERVICES	\$ 11,152
<b><u>Total Basic Services Amount:</u></b>	<b>\$ <u>138,141</u></b>

Compensation by the OWNER to the ENGINEER for all Special Services which may be required by the OWNER, shall will be enumerated on a Time and Materials basis as generally described in Exhibit A. A budget allowance has been made for this item and will not be exceeded without prior written authorization from the OWNER. No work will be undertaken on this item without specific written authorization from the OWNER.

### **SPECIAL SERVICES**

TASK 300 – ENGINEERING SERVICES DURING CONSTRUCTION	\$ 29,571
TASK 400 – SUBCONSULTANTS AND ADDITIONAL SERVICES	\$ 61,736
<b><u>Total budget allocation for Special Services:</u></b>	<b>\$ <u>91,307</u></b>

### **TOTAL COMPENSATION SUMMARY:**

BASIC SERVICES:	\$ 138,141
SPECIAL SERVICES:	\$ 91,307
<b>ESA COMPENSATION TOTAL</b>	<b>\$ <u>229,448</u></b>

### **SCHEDULE**

The scope of services described herein will be completed within 12 months of the receipt of a Notice to Proceed from the OWNER.