

## EXHIBIT B - WORK ORDER

MAPS # 2023-0606

MAPS DATE: 5/14/2024

Pursuant to and subject to the referenced Master Agreement for Professional Services (MAPS), between the Town of Little Elm, Texas ("Owner"), and **Freese and Nichols, Inc.** ("Consultant"), Owner hereby requests that Consultant perform, and Consultant agrees to perform, the work described below upon the terms set forth in said MAPS and in this Work Order:

Work  
Order # \_\_\_\_\_

Project  
Name: Bigleaf and Red Spruce Water Lines Final Design

### OWNER PROVIDED INFORMATION:

Work Site:	2600 Red Spruce Dr, Little Elm, TX
Work to be Performed:	See Scope of Work
Drawings/Plans are/are not attached:	NA
Specifications are/are not attached:	NA
Date and Time to Commence:	February 2025
Date and Time to Complete:	February 2026
Equipment, vehicles, tools, materials, supplies to be furnished or obtained through third parties by Owner:	NA
Billing Period:	Monthly-Through the end of each month, billed by the 10th of the following month.
Invoice Mailing Instructions:	Mail to: Town of Little Elm Accounts Payable 100 W. Eldorado Pkwy. Little Elm, TX 75068 Email to: <a href="mailto:accounts.payable@littleelm.org">accounts.payable@littleelm.org</a> Include work order number, PO number, billing period, and project name,
Other Requirements or Variance from MSA (if any):	NA

### CONSULTANT PROVIDED INFORMATION:

**Compensation:**

**Basic Services (Lump Sum)**

A. Final Design – Bigleaf and Red Spruce Water Lines	\$336,000.00
<i>Total Basic Services (Lump Sum)</i>	<i>\$336,000.00</i>

**Special Services (CPM)**

B. Survey – Bigleaf and Red Spruce Water Lines:	\$41,300.00
C. Easement Documents - Bigleaf and Red Spruce Water Lines	\$32,500.00
D. Subsurface Utility Engineering (SUE) – Bigleaf and Red Spruce Water Lines:	\$32,600.00
E. Geotechnical Study	\$58,900.00
F. Texas Historical Commission Coordination	\$3,000.00
<i>Total Special Services (CPM)</i>	<i>\$168,300.00</i>

<b>TOTAL CONTRACT:</b>	<b>\$504,300.00</b>
------------------------	---------------------

## Scope of Work:

**PROJECT DESCRIPTION:** Freese and Nichols, Inc. (FNI) has worked with the Town of Little Elm (OWNER) to determine additional capacity is needed from the Mansell Pump Station as part of the Town's ongoing Comprehensive Land Use Update. Capacity improvements to the transmission water lines from the Mansell Pump Station are needed to convey this additional capacity. The Bigleaf and Red Spruce Water Line Final Design (the Project) will include:

1. Final design of the approximately 2,800 linear feet of 30-inch water transmission line from the Mansell Pump Station through Red Spruce Drive to a connection at the northwest corner of Eldorado Parkway and FM 423. Full panel replacement for disturbed pavement utilizing the Town's standard details along Red Spruce and Sugarberry Drives is anticipated.
2. Final design of approximately 1,235 linear feet of CIPP or alternative method to rehabilitate the existing 20-inch within Bigleaf Drive. A new parallel 8-inch water line will be designed and services will be moved from the 20-inch water line to the 8-inch water line. Full panel replacement for disturbed pavement utilizing the Town's standard details along Bigleaf Drive is anticipated.

The Bigleaf and Red Spruce Water Line scope includes final design services. It is anticipated that the designs for the project will be provided as a single bid package. Bid phase services and construction phase services are anticipated to be included in a future work order. Construction contract documents will be developed assuming procurement through competitive sealed proposal (CSP).

## ARTICLE I

**BASIC SERVICES:** FNI shall render the following professional services in connection with the development of the Project:

### General Requirements:

1. The consultant shall submit a monthly report outlining, at a minimum, the work on the project which occurred the previous month, the work expected to be completed the following month, the next major project milestone, and any information needed from the City. The report is to be submitted with the monthly invoice.
2. Coordinate the efforts of all parties involved in the Project, including Consultant, other consultants/engineers and City Staff.
3. Provide oversight of the schedule during the engineering process to maintain desired schedule.

A. FINAL DESIGN –BIGLEAF AND RED SPRUCE WATER LINES: FNI shall provide professional services in this phase as follows:

1. 60% Design

- a. Prepare front end documents using the OWNER's available standard documents, including bid documents, general conditions, special conditions for the construction and equipment packages. Meet with OWNER to resolve review comments, and revise documents accordingly.
- b. Prepare applications for routine permits such as road crossing permits and TCEQ approval. Preparation of applications and supporting documents for government grants or for planning advances is an Additional Service.
- c. Furnish such information and applications necessary to utility companies whose facilities may be affected by the Project.
- d. Prepare drawings and specifications of improvements to be constructed. Prepare bidder's proposal forms (project quantities) of the improvements to be constructed. Furnish OWNER two (2) sets of 11"x17" drawings, specifications, and bid proposals marked "PRELIMINARY" for approval by OWNER. Pipeline plans will include plan and profile sheets, pipeline appurtenances, and typical details.
- e. Prepare revised opinion of probable construction costs at the 60% submittal.
- f. Conduct one (1) review meeting with the OWNER to present the plans, specifications, and OPCC and receive comments. FNI will receive comments from OWNER and address comments for the 90% submittal.
- g. Deliverables:
  - i. 60% Plan Set
  - ii. Table of Contents for 60% Technical Specifications
  - iii. 60% OPCC

## 2. 90% Design

- a. Incorporate OWNER's comments from the 60% review meeting. Furnish OWNER two (2) sets of 11"x17" drawings, specifications, and bid proposals marked "PRELIMINARY" for approval by Owner. Review documents will include all plans and specifications with minor corrections and notes remaining.
- b. Prepare revised opinion of probable construction costs at the 90% submittal.
- c. Conduct one (1) review meeting with the OWNER to present the plans, specifications, and OPCC and receive comments. FNI will receive comments from OWNER and address comments for the Final submittal.
- d. Deliverables:
  - i. 90% Plan Set
  - ii. 90% Technical Specifications
  - iii. Bid Form and Bid Item Descriptions
  - iv. 90% OPCC

## 3. Final Design

- a. Incorporate OWNER's comments from the 90% review meeting. Furnish OWNER two (2) sets of 11"x17" drawings, specifications, and bid proposals marked "FINAL".
- b. Prepare revised opinion of probable construction costs at the 100% submittal.
- c. Deliverables:
  - i. 100% Plan Set
  - ii. 100% Technical Specifications
  - iii. Bid Form and Bid Item Descriptions
  - iv. 100% OPCC

## ARTICLE II

**SPECIAL SERVICES:** FNI shall render the following professional services, which are not included in the Basic Services described above, in connection with the development of the Project:

### B. SURVEY –BIGLEAF AND RED SPRUCE WATER LINES:

1. Survey and prepare a detailed design/topographic survey along the proposed alignment A for the proposed 30-inch transmission line (approximately 2,800 linear feet, 10-ft beyond the Right-of-Way within the residential section, and the parking lots along El Dorado) as well as along Bigleaf Drive for the proposed 8-inch utility line and the 20-inch waterline restoration (approximately 1,400 linear feet, 10-ft beyond the Right-of-Way). The survey will indicate all surface features, spot elevations, one-foot contours, right-of-way lines, driveways, lot lines, existing easement lines, drainage structures, sidewalks, fences, trees six (6) inches in caliper and larger, visible utilities and utilities marked by Texas 811, and will be based upon the Texas Coordinate System NAD 83 and NAVD 88 vertical control.

C. EASEMENT DOCUMENTS - BIGLEAF AND RED SPRUCE WATER LINES:

1. Prepare up to 13 permanent easement documents, if needed in relation to the proposed water lines.
2. Prepare up to 13 temporary easement documents, if needed in relation to the proposed water lines.

D. SUBSURFACE UTILITY ENGINEERING (SUE) –BIGLEAF AND RED SPRUCE WATER LINES:

1. Provide SUE to Quality Level B for all utilities from ROW to ROW along Bigleaf Drive and Sugarberry Drive and provide a base utility map of identified facilities within the existing pump station and along the proposed water line alignment. Quality Level B SUE for Red Spruce Dr and Eldorado Pkwy was obtained with the Preliminary Design Work Order.
  - a. Quality Level B – Two-dimensional (x,y) information obtained through the application and interpretation of non-destructive surface geophysical methods. Also known as “designating”, this quality level provides the horizontal position of subsurface utilities within approximately one foot.
2. Provide SUE to Quality Level A for eight (8) test holes within the proposed project limits (Red Spruce and Bigleaf Drive). Excavate by nondestructive means existing utilities establishing a confirmed vertical and horizontal location to be surveyed and visually depicted via Test Hole Data Sheet. Locates will be performed in accordance with CI/ASCE 38-02 to Quality Level “A.”
  - b. Quality Level A – Also known as “locating”, this quality level provides precise three-dimensional (x,y,z) information at critical locations by exposing specific utilities.

E. GEOTECHNICAL STUDY

FNI will render the following geotechnical engineering professional services in connection with the project for purposes of providing geotechnical data and design recommendations. The services will include field exploration, laboratory testing, and reporting.

Field Exploration

- a. Drill up to ten (10) borings along the transmission line and two (2) borings along the 8” diameter pipeline that parallels the 20” diameter to be rehabilitated on Bigleaf Drive for evaluation and identification of subsurface soils and rock.
- b. Conduct one (1) site visit to mark proposed boring locations and determine and coordinate access. The Engineer will coordinate with the Town and notify Texas 811 of the planned borings prior to commencement of field exploration activities in order to locate existing underground utilities within the area.
- c. Subcontract with a drilling contractor to drill the borings and collect samples of the subsurface materials. It is assumed that all boring locations are accessible with a truck-mounted drilling rig.
  - i. The borings will be drilled within the right of way (ROW). To safely drill the borings within the roadway, traffic control consisting of truck attenuator, signs, cones, flagmen and lane closures will be required. An appropriate traffic control plan will be prepared, and applicable permitting for drilling within the ROW will be obtained from the Town (if necessary).
  - ii. The existing pavement section will be penetrated to allow subgrade access to drill stem and sampling equipment.

- iii. The borings will be advanced using standard rotary drilling equipment with continuous-flight augers (solid or hollow stem) or rotary wash methods. Subsurface samples will be collected using 3-inch diameter Shelby tubes for cohesive soils and a 2-inch diameter split-spoon sampler in conjunction with the Standard Penetration Test (SPT) for intermediate and non-cohesive soils. Rock and rock-like materials will be tested in situ using the Texas Cone Penetration (TCP) Test or the SPT, as appropriate for the material.
  - iv. Groundwater observations within the borings will be recorded at the time of drilling and at the completion of drilling and sampling.
  - v. The borings will be backfilled with soil cuttings upon completion of drilling and sampling.
- d. An Engineer or Geologist with experience in logging borings will direct the drilling, log the borings, and handle and transport the samples. Visual classification of the subsurface stratigraphy shall be provided according to ASTM D2488 and the Unified Soil Classification System (USCS) during drilling and sampling.

#### Laboratory Testing

- a. Testing shall be performed by a geotechnical testing subcontractor on samples obtained from the borings to determine soil classification and pertinent engineering properties of the subsurface materials.
- b. The Engineer will select samples for laboratory testing, assign tests, and review the test results.
- c. Laboratory tests will be appropriately assigned for the specific subsurface materials encountered during exploration, but are expected to include:
  - i. Classification tests (liquid and plastic limits and percent passing the no. 200 sieve or gradation)
  - ii. Moisture content
  - iii. Unit dry weight
  - iv. Unconfined compressive strength (soil and rock)
  - v. Sulfate testing (Tex-145E)
  - vi. Water-soluble chloride
  - vii. Water-soluble sulfates
  - viii. pH of soil
  - ix. Electrical resistivity (as received and saturated)

#### Reporting

- a. Perform the geotechnical engineering analysis and prepare a Geotechnical Investigation Technical Memorandum summarizing the investigation. The report will include the following:
  - i. Appendix with the boring locations, boring logs, laboratory test results, and a key to the symbols used.
  - ii. General discussion of subsurface conditions and soil properties indicated by the field and laboratory work, and the implications for design.
  - iii. Pipeline backfill recommendations.
  - iv. General discussion of expected construction-related issues.
  - v. Earthwork related recommendations for use during development of plans and specifications.
- b. Submittals will include an electronic PDF copy of the Geotechnical Investigation Technical Memorandum.

F. TEXAS HISTORICAL COMMISSION COORDINATION

1. Projects sponsored by public entities that affect a cumulative area greater than five acres or that disturb more than 5,000 cubic yards or will occur in a historic district or other designated historic site; or will affect a recorded archeological site require advance consultation with the Texas Historical Commission (THC), according to Section 191.0525 (d) of the Antiquities Code of Texas (TAC). The OWNER is a municipality of the State of Texas and therefore, the proposed project is subject to the TAC. FNI will prepare a draft coordination letter to the THC that describes the proposed project and submit it to the OWNER for their review. Comments from the OWNER will be incorporated into the coordination letter, which will be submitted to the THC for their concurrence. If the THC requires a cultural resources (archaeological and/or historic properties) survey, a professional archaeologist and/or architectural historian can be subcontracted to perform the survey as an additional service.

ARTICLE III

**ADDITIONAL SERVICES:** Additional Services to be performed by FNI, if authorized by OWNER, which are not included in the above-described Basic Services or Special Services, are described as follows:

- A. Witness testing of equipment (virtual or in-person)
- B. Providing services to investigate existing conditions or facilities, or to make measured drawings thereof, or to verify the accuracy of drawings or other information furnished by OWNER.
- C. Providing renderings, models, and mock-ups requested by the OWNER.
- D. Texas Department of Licensing and Registration (TDLR), Architectural Barriers plan and building inspection reviews confirming compliance with Texas Accessibility Standards is not included. If determined it is required it will be included within the Final Design Amendment.
- E. Making revisions to drawings, specifications, or other documents when such revisions are 1) not consistent with approvals or instructions previously given by OWNER or 2) due to other causes not solely within the control of FNI.
- F. Providing consultation concerning the replacement of any Work damaged by fire or other cause during the construction and providing services as may be required in connection with
- G. Additional environmental services.

ARTICLE IV



**TIME OF COMPLETION:** FNI is authorized to commence work on the Project upon execution of this AGREEMENT and agrees to complete the services in accordance with the following schedule, based on an execution date of January 2025.

*This Contract:*

- **Bigleaf and Red Spruce Water Line Final Design**
  - Notice to Proceed – February 2025
  - Right of Entry (OWNER acquired) – May 2025
  - 60% Design – September 2025
  - 90% Design – January 2025
  - Final Design – February 2026

If FNI's services are delayed through no fault of FNI, FNI shall be entitled to adjust contract schedule consistent with the number of days of delay. These delays may include but are not limited to delays in OWNER acquiring Right of Entry, OWNER or regulatory reviews, delays on the flow of information to be provided to FNI, governmental approvals, etc. These delays may result in an adjustment to compensation as outlined on the face of this agreement and in Attachment CO.

**ACCEPTANCE:**

This Work Order is accepted on the terms set forth herein and in the MAPS referenced above, as indicated by the signatures below.

TOWN OF LITTLE ELM

FREESE AND NICHOLS, INC.

\_\_\_\_\_  
Matthew Mueller, Town Manager

  
\_\_\_\_\_

Clayton Barnard, Principal/Vice President  
\_\_\_\_\_  
Printed Name & Title

\_\_\_\_\_  
Date

January 27, 2025  
\_\_\_\_\_  
Date