

#15,552

Hunt County - Work Authorization #2  
SCOPE OF SERVICES

Schematic Design and Environmental Documents for:  
FM 1570 (from IH 30 to SH 66) and  
FM 1570 (from IH 30 to SH 34)

FILED FOR RECORD  
at 1:44 o'clock P M

APR 23 2019

JENNIFER LINDENZWEIG  
County Clerk, Hunt County, TX  
By [Signature]

BACKGROUND AND OBJECTIVE

The scope of services set forth herein represents continued project development for proposed safety and capacity improvements in Greenville, Texas along FM 1570 from IH 30 to SH 66, and along FM 1570 from IH 30 to SH 34. This work effort will advance initial concept development tasks previously executed under Work Authorization #1 (Amendment No. 2) that identified: a) environmental constraints, (b) the preferred roadway section and footprint, (c) alternative geometric alignments and (d) preliminary bridge requirements. In collaboration with TxDOT – Paris District, the preferred roadway section has been identified as featuring a 4-lane, curb and gutter roadway with a centered two-way left turn lane and sidewalks to generally fit within the existing 100' right-of-way. A geometric alternative to the existing at-grade FM 1570/SH66 intersection has been identified that features a grade separation to allow FM 1570 to pass over SH 66 and the DGNO railroad.

The objective of this work authorization is to evaluate design alternatives, and identify and develop the preferred design alternative meeting all requirements for TxDOT Geometric Schematic deliverables, and advance development of the project to: (a) finalize additional right-of-way requirements, (b) assess environmental impacts, and (c) prepare documentation in compliance with the National Environmental Protection Act (TxDOT/FHWA MOU) as necessary to qualify the project to receive federal funding.

The project will be developed in close coordination with Hunt County, TxDOT Paris District, and the TxDOT consultant team currently developing project designs along IH 30 and SH 34 in Hunt County. The FM 1570 project designs, environmental documentation, and public involvement activities will be in accordance with all TxDOT policies and procedures. All work products and deliverables will be submitted directly to TxDOT for review and approval.

SUMMARY OF TASKS

1. SURVEYING SERVICES:

- Task 1.A - Horizontal and Vertical Control
- Task 1.B - Topographic / Design Survey
- Task 1.C – Subsurface Utility Locating

2. ENGINEERING AND PUBLIC INVOLVEMENT:

- Task 2.A - Project Management
- Task 2.B - Public Involvement
- Task 2.C - Final Hydrologic and Hydraulic (Drainage) Analysis
- Task 2.D - Geometric (Roadway and Bridge) Design Schematic

3. ENVIRONMENTAL SERVICES:

- Task 3.A - Environmental Scoping and Documentation
- Task 3.B - Technical Reports and Documentation

## TASK DESCRIPTIONS

### 1. SURVEYING SERVICES (by Subconsultants):

#### Task 1.A - Horizontal and Vertical Control

Establish project control throughout the project area using Global Positioning System (GPS) methodology. Horizontal values will be based on the Texas State Plane Coordinate System NAD 83 North Central Zone and scaled to surface by using the TxDOT Hunt County surface adjustment factor. Elevations will be GPS derived based on the NAVD 88 datum.

#### Task 1.B - Topographic / Design Survey

Design survey of the project area to include pavement edges, curb and gutter, driveways, fences and gates, signs, mailboxes, tops and toes of slopes, culverts, spot elevations, trees six (6) inches and greater, surface locations of utilities, flowline elevations of sanitary and storm sewer manholes where accessible, and other surface features.

#### Task 1.C. – Subsurface Utility Locating

Perform work in accordance with ASCE Publication CI/ASCE 38-02)(Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data) data through application of non-destructive surface geophysical methods, providing the horizontal position of subsurface utilities within approximately one foot, also described as (“QLB designating”).

#### Survey Deliverables

Prepare a final digital topographic/design survey drawing in MicroStation format prepare to TxDOT CADD standards, showing visible surface features located, an ASCII point file and a copy of field notes and field sketches.

### 2. ENGINEERING AND PUBLIC INVOLVEMENT:

#### Task 2.A - Project Management

Direct and coordinate all activities associated with the project including stakeholder meetings. Prepare milestone Project Work Schedule depicting various tasks, milestones, and deliverables. Provide on-going quality assurance and quality control to ensure completeness of product and compliance with the State procedures.

#### Task 2.B - Public Involvement

Assist TxDOT in conducting one (1) public meeting and one (1) public hearing, and up to twelve (12) meetings (total) with Hunt County and City stakeholders, adjacent property owners, and franchise utility owners during the project development process. Prepare public meeting/hearing exhibits at 1" = 100' scale, Environmental Constraints Map, and PowerPoint presentations. Prepare adjacent property owner list and meeting notices to property owners, elected officials, county and municipal stakeholders and local newspapers. Reserve public meeting/hearing locations and provide audio visual equipment and hire court reporter as required. Prepare public meeting summaries compiling responses to the comments received during the public meeting /hearings and meeting minutes for stakeholder meetings.

#### Task 2.C - Hydrologic and Hydraulic (Drainage) Analysis

Conduct a Final Drainage Study to determine and evaluate required bridges, culverts and the adequacy of the ROW needed to accommodate the proposed roadway and drainage

system. The drainage study shall identify the impacts to abutting properties and the 100-year floodplain due to proposed highway improvements, identify the water surface elevations for the 10, 25, 50 and 100 year storm events for both existing and fully developed flows, identify and locate outfalls, drainage outfall descriptions, provide overall drainage area map, sub-drainage area map, and storm water detention facilities. The ENGINEER shall identify any required drainage easements needed to accommodate drainage facilities at discharge points along the route.

The Engineer shall prepare a Final Drainage Study signed and sealed by a professional engineer in accordance with the State's *Hydraulic Design Manual*, TxDOT criteria, and any additional guidance provided by the State. The Engineer shall evaluate the adequacy of the existing drainage structures. Water surface profiles for stream crossings shall be determined and placed on exhibit drawings for the entire corridor for the 10-year, 25-year, 50-year and 100-year storm events as appropriate. The exhibits shall have the roadway profiles along with existing ground elevations with respect to the various storm design frequencies' water surface profiles for the entire length of the project.

#### Task 2.D – Geometric (Roadway and Bridge) Design Schematic

Based on analysis of the geometric design alternatives, results of the Drainage Study, input from stakeholders, public meetings and direction from TxDOT, prepare the geometric design schematic of the preferred alternative. Prepare schematic design on roll plots (maximum 3 ft. wide and 10 ft. long) with plan and profile to scales of 1" = 100' horizontal and 1" = 10' vertical. Provide all required design content and information in accordance with current TxDOT design standards, policies, procedures, and requirements for the schematic deliverable.

The Engineer shall generate preliminary cross-sections for the design schematic at locations required for ROW determinations. The Engineer shall use Geopak/Open Roads computer software to generate preliminary cross-sections for the schematic of the preferred alternative every 100 feet. Closer intervals of cross-sections will be prepared at culvert locations, to determine retaining wall limits, and for ROW determinations. The Engineer shall determine earthwork volumes for use in the cost estimate and shall prepare 11"x17" sheets of the cross-sections. Preliminary earthwork quantities shall be calculated from the cross sections.

The Engineer will prepare preliminary retaining wall concepts to be shown on schematics, typical sections, and cross sections. The Engineer will determine locations where walls are required and include the need for and length of the retaining wall and show on the ultimate schematic and compute and tabulate retaining wall quantities for preliminary design milestone submittals. Retaining wall limits shall be determined based on the design cross sections. They shall be shown and identified in the plan view.

The Engineer shall identify design exceptions and waivers and shall document the necessity for each design exception or waiver for approval.

The Engineer shall prepare a Preliminary Construction Sequence Layout in conjunction with the Geometric Schematic depicting the phasing and traffic detours anticipated to construct the proposed design.

The Engineer shall prepare a preliminary cost estimate for the project, including the costs of construction, required ROW and associated improvements, and eligible utility

adjustments. Current State unit bid prices will be used in preparation of the estimate. Up to three cost estimates will be prepared at 60%, 90% and 100% geometric schematic milestones.

Schematic Design Project Deliverables

In conjunction with the performance of the foregoing services, the Engineer shall provide the following draft and final documents and associated electronic files as applicable:

- a. Project Schedule (updated monthly)
- b. QC/QA Plan and all QC documents
- c. Construction cost estimates.
- d. Typical Cross Sections (11" x 17" sheets)
- e. Geometric Design Schematic (1" =100' Roll Plot)
- f. Roadway Cross Sections (11" x 17" sheets)
- g. Bridge and Culvert Layouts (11" x 17" sheets)
- h. Drainage Report
- i. Bridge and Culvert Hydraulic Data Sheets.
- j. Preliminary Construction Sequence (11" x 17" sheets)
- k. Design Exception/Waiver documents

3. ENVIRONMENTAL SERVICES:

Task 3.A - Environmental Scope Determination -

This scope assumes that the project will not require a formal Environmental Assessment (EA) or Environmental Impact Statement (EIS) and can be authorized as a Categorical Exclusion (CE). The CE level determination will be confirmed as such by performing the following tasks:

- a) Prepare/submit draft scoping documents to TxDOT – FNI will prepare the required scoping documents such as the Workplan Development Tool and the Project Scope for CE's and submit to TxDOT for review.
- b) Address TxDOT scoping comments – FNI will address comments to these scoping documents.
- c) Internal kickoff meeting – Once the scoping documents have been approved and executed by TxDOT, FNI project team will conduct an internal kickoff meeting to discuss roles and responsibilities.

Task 3.B - Technical Reports and Documentation

Definition of technical report and documentation for environmental services: a report, checklist, form, or analysis detailing resource-specific studies identified during the process of gathering data to make an environmental decision.

Technical reports and documentation must be produced before an environmental document (e.g. CE) is prepared in order to identify issues early in the process. The State will determine what technical reports and documentation will be necessary for any given project. This may be done with assistance from the Engineer with the use of the TxDOT Scope Development Tool or its successor. Technical reports and documentation must be prepared for the State with sufficient detail and clarity to support environmental determination(s). All technical reports shall be compliant

with TxDOT Environmental Compliance Toolkits. The environmental document will reference the technical reports.

Environmental technical reports and documentation must include appropriate National Environmental Policy Act of 1969 (NEPA) or federal regulatory language in addition to the purpose and methodology used in delivering the service. Technical reports and forms must include sufficient information to determine the significance of impacts. Based on the preliminary environmental constraints analysis and results of the draft scope development tool it is anticipated that the project will qualify for an open ended (d) list CE and not require a formal Environmental Assessment or Environmental Impact Statement. The following DRAFT and FINAL environmental technical reports and documentation are anticipated for this project:

- a. Scope Development Tool
- b. Purpose and Need
- c. Archeological Background Study (Subconsultant)
- d. Historical PCR (Subconsultant)
- e. Air Quality MSAT Report
- f. Traffic Noise Report
- g. Water Resources Report
- h. Stormwater Pollution Prevention Plan (SWPPP)
- i. USACE NWP 14 with PCN
- j. Biological Evaluation Form
- k. Tier 1 Site Assessment Form
- l. Hazardous Materials Initial Site Assessment
- m. Indirect Impacts Analysis Report
- n. Public Involvement

Community Impacts Analysis and Cumulative Impacts Analysis are not anticipated for this project and are excluded from the scope. For all technical reports and documentation prepared under the authority granted by this MOU, the Engineer shall insert the following language in a way that is conspicuous to the reader or include in the project record: "The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT."

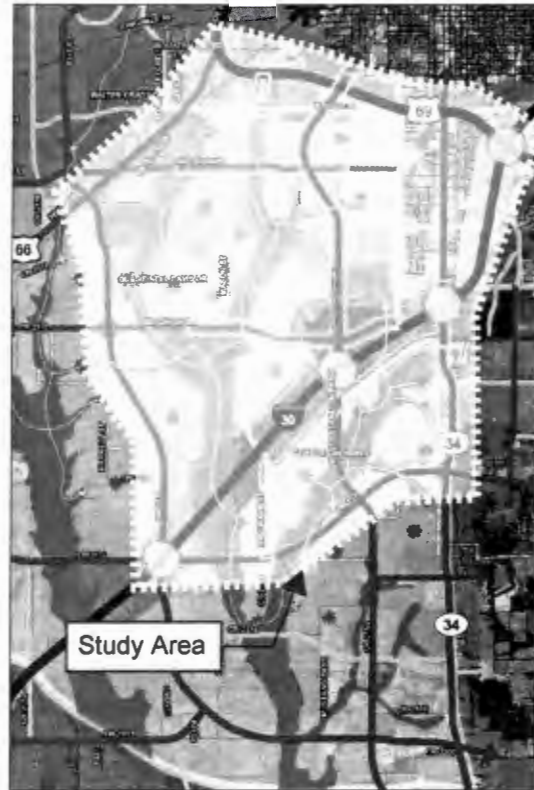
**FEES:**

| TASK  | FEES                   |
|---|------------------------|
| Task 1 - Surveying Services (Subconsultant) | \$ 322,135.00          |
| Task 2 - Engineering and Public Involvement | \$ 889,752.00          |
| Task 3 - Environmental Services             | \$ 178,495.00          |
| <b>Total Fees (Not-to Exceed)</b>           | <b>\$ 1,390,382.00</b> |

**City of Greenville  
West Sub-Area Thoroughfare Traffic Analysis**

**Scope of Services**

The purpose of this study is to perform a detailed traffic study for the thoroughfare sub-area bound by US 69 (Joe Ramsey Blvd) on the north, IH-30 and SH 34 on the east, FM 1570 on the south and west, and SH 66 on the northwest. The outcome of the sub-area study will include an update of network thoroughfare network needs as well as the identification of roadway improvement needs at 5-year (2025) and 10-year (2030) time frames. An analysis of 2045 traffic forecast data from the North Central Texas Council of Governments (NCTCOG) Regional Travel Demand Model will serve as the basis for long-term thoroughfare network needs. The sub-area analyses and final recommendations will be coordinated with the City of Greenville (City) and Hunt County (County).



**TASK 1: Project Initiation and Data Collection**

- 1.1 Meet with representatives of the City of Greenville and Hunt County to discuss the study approach methodology, data collection, deliverables, and schedule for completion.
- 1.2 One (1) land use development scenario will be prepared to serve as a basis for traffic modeling of the sub-area. Development activity including location, size, type and intensity of land uses over 5-year and 10-year time frames will be defined through initial discussion with the City. Follow-on data collection with City staff will be conducted for refinement of development scenarios. Data regarding location and timing of scheduled and projected local roadway improvements will also be discussed as part of this initial meeting. A follow-on memo of data needs will be provided. Data to be requested may include; available traffic counts, signal timing plans, roadway geometrics, planned improvements in the area and expected completion dates. IH-30 planning documents will also be obtained to incorporate the latest freeway/frontage road conceptual schematic plans. SH 34 study documentation will also be obtained for incorporation.
- 1.3 Assemble data necessary for subsequent analyses to include:
  - Peak hour tube counts and intersection turning movement counts at up to twenty (20) locations within the study area. Intersection turn movement counts will be collected for both the AM and PM peak hour. FNI will engage GRAM Traffic, Inc. to collect necessary traffic data at key locations within the thoroughfare network.
  - Historic traffic volume count information as available from the City and TXDOT to supplement newly collected data.

- Site plans, development programs, and land use densities for all uses planned within the sub-area. The City will provide assistance to define level and intensity of proposed development.
- Existing roadway and intersection geometry and type of existing intersection traffic control within the study area.

### **TASK 2: Scenario Development/Traffic Demands**

- 2.1 As described above, the City will provide input as required to define one (1) land use development scenario defining the location, type, intensity and percent build-out level of development within the sub-area for a 5-year (2025) and 10-year (2030) horizon analysis. The AM and PM peak period will be evaluated for traffic analyses.
- 2.2 Trip orientation for both residential and non-residential land use types will be reviewed and concurred with by the City for each development scenario. Discussions of trip orientation will consider both the AM and PM peak hour and traffic assignment conducted.
- 2.3 Trip generation for each development scenario will be prepared using the 10<sup>th</sup> Edition of the Institute of Transportation Engineers Trip Generation Manual to estimate the number of PM peak hour trips generated by each development scenario. Based on trip generation and distribution, an assignment of peak hour trips to the roadway system will be prepared for subsequent evaluations.
- 2.4 A forecast of non-development site related traffic volumes that can be expected to exist on the area roadway system within the study area for both the 5-year and 10-year development scenarios will be developed. These traffic projections will be based on existing traffic volumes and historic/projected annual growth rates.

### **TASK 3: Traffic Analyses**

- 3.1 Traffic analyses will be conducted using the VISTRO traffic analysis software package. Transportation networks consisting of existing plus committed (funded) improvements will be developed for each development scenario. The transportation network depicted in the Greenville West Small Area Plan will be used as the basis for the evaluation. Traffic capacity analyses will be conducted for intersections within the study area.
- 3.2 Traffic volume capacity and level of service analysis along the Wesley Street and Stonewall Street corridors will be provided at four (4) intersection locations; IH-30, US 69, Kari Lane and Terrell Road. Generalized recommendations for other corridor needs related to limiting and/or combining driveway access locations will also be identified. Intersection analyses along IH-30 frontage roads will be provided at the cross streets located at IH 30 overpass locations.
- 3.3 Analysis will also identify the need for additional turn lanes and possible signal timing modifications at existing signalized intersections. The analysis will also evaluate east/west thoroughfare connectivity as defined in the 2011 Greenville Western Small Area Study and provide recommendations for amendments, as appropriate.

#### **TASK 4: Implementation Plan**

- 4.1 Based on analyses, a 5-year and 10-year implementation plan of roadway and intersection needs will be prepared within the sub-area. Improvements will be identified for number of thru traffic lanes and intersection turn-lanes needed.
- 4.2 The 2045 NCTCOG travel demand model will be evaluated to identify on-system network needs at the roadway link (non-intersection) level.
- 4.3 Prepare a Draft Technical Memorandum documenting the study methodology, analysis results, findings, and recommendations for 5-year (2025), 10-year (2030) and 2045 roadway needs within the study area. An initial draft (electronic PDF file) will be submitted for review by the City and County.
- 4.4 Meet with the City and County to discuss findings/recommendations and Draft Technical Memorandum.
- 4.5 Based on stakeholder feedback, prepare a Final Technical Memorandum for submittal to the City and County. Appropriate supporting and updated thoroughfare maps and related graphics will be prepared for incorporation into the memorandum. One (1) electronic PDF file will be provided at the conclusion of the study.
- 4.6 Recommendations from this sub-area study will be incorporated into an update to the Greenville Small Area Thoroughfare Plan map. A revised Thoroughfare Plan map will be submitted as part of the study final deliverables.

#### **Deliverables:**

- Technical Memorandum documenting sub-area study analyses, findings and recommendations. The technical memorandum will also contain an implementation plan defining the timing and location of specific roadway network improvements needed for 5 (2025), 10 (2030) and 2045 timeframes. A PDF electronic copy will be submitted to the City and County.
- The Greenville Western Small Area Thoroughfare Plan will be updated to incorporate roadway network recommendations of the analyses. An electronic PDF file of the updated plan map will be submitted. Supporting GIS (ESRI) shapefiles and map-packages will also be submitted to the City and County for use as appropriate.

#### **RESPONSIBILITY OF THE CLIENT**

The client shall furnish FNI with available pertinent information needed to complete this project, such as the current and proposed development site plans, proposed access points, internal roadway system, development densities and acreage by land use category, development phasing plans, etc.



## **MEETINGS**

Four (4) meetings area included as part of this scope and fee. The timing for such meetings shall be as follows:

- Meeting #1: Hunt County/Greenville City Council to kick-off the project, proposed scope approach, schedule, and deliverables.
- Meeting #2: Meeting with key project participants to define a land development scenario for use in analyses. The outcome of the meeting will be a defined development scenario for a 5 year and 10-year planning period. From this development scenario, AM and PM peak hour traffic operations will be undertaken.
- Meeting #3: Results of scenario analyses, recommended roadway network needs, and recommended Western Small Area thoroughfare plan updates will be discussed with project participants at a joint meeting.
- Meeting #4: Final presentation of sub-area findings and recommendations to a joint meeting of Hunt County and the Greenville City Council. A PowerPoint presentation will be delivered at the meeting.

Additional face-to-face meetings will be authorized and compensated for as additional services.

## **COMPENSATION**

Compensation will be on a Time, Materials, and Expenses (TME) basis in an amount not-to-exceed (NTE) \$90,275.00 and in accordance with the Agreement for Professional Services between Hunt County and Freese and Nichols, Inc., executed on April 11, 2017.

**SCOPE OF SERVICES**  
**Hunt County – Work Authorization #2**  
**FM 2642 (FM 35 to SH 66)**

**Additional Environmental Services**

The amendments to the scope of services set forth herein represent additional services to be performed by the ENGINEER (Freese and Nichols, Inc.). **These additional services were not anticipated nor included in the previously authorized services to be provided for the Project.**

BACKGROUND

Previously authorized environmental services to be provided by Freese and Nichols, Inc. as described in the scope of services for Amendment #1 to Work Authorization #1 are presented in italics below:

*Task 1.5.A.6 - Environmental Services*

*Environmental documentation will be prepared to TxDOT environmental standards. This scope assumes that the project will not require an EA or EIS and can be authorized as a Categorical Exclusion (CE).*

1. *Prepare/submit draft scoping documents to TxDOT – FNI will prepare the required scoping documents such as the Workplan Development Tool and the Project Scope for CE's and submit to TxDOT for review.*
2. *Address TxDOT scoping comments – FNI will address comments to these scoping documents.*
3. *Internal kickoff meeting – Once the scoping documents have been approved and executed by TxDOT, FNI project team will conduct an internal kickoff meeting to discuss roles and responsibilities.*
4. *Field data collection – Once right of entry has been approved; FNI's environmental project team will conduct a site visit along the proposed ROW to collect field data for the required environmental resource reports.*
5. *Prepare/submit draft CE documents to TxDOT - FNI will submit the draft CE documents for review by the TxDOT Paris District. Documents that may be required for the CE include:*
  - a. *Biological Evaluation Form*
  - b. *Noise Modeling & Impact Assessment*
  - c. *Hazmat/Legacy Pollution Assessment*
  - d. *Cultural Resources Assessment/THC Coordination*
  - e. *Air Quality Impact Assessment (Qualitative MSAT)*
  - f. *Section 404 JD Evaluation (NWP w/o PCN)*
  - g. *SWPPP/EPIC Sheet Preparation*

*This scope assumes that a Water Resources Report will not be required. If one is required it can be provided at an additional cost. If other TxDOT environmental resource reports/documents are not listed above then it is assumed that they will not be required and are not included in this Scope of Services.*

6. *Address TxDOT comments to draft CE documents - Upon receipt of comments, FNI will make the required revisions.*

7. Follow up site visit – FNI will conduct up to one follow up site visit to collect field data for any changes to the ROW.
8. CE document modifications to accommodate redesign – FNI will modify TxDOT forms/reports to address changes in ROW/design. Each TxDOT form or technical report will be modified up to two times due to design changes.
9. Prepare submit final CE documents to TxDOT – Once no additional ROW/design changes are anticipated; FNI will finalize the CE documents and submit to TxDOT.
10. Public Hearing, MAPO, other public involvement – FNI will assist in public hearings, MAPO's, and other public involvement as needed. FNI assumes costs associated with Public Involvement such as newspaper advertisements, court reporters and facility rentals will be paid for by client or reimbursed as an additional cost with mark up.

Deliverables: Environmental Document forms necessary for TxDOT/FHWA approval along with technical reports needed to support environmental determination.

The additional services being provided and not included in W.A. #1 Amendment #1 are described below:

**ADDITIONAL ENVIRONMENTAL SERVICES:**

- A. Historic Structure Field Surveys and Documentation: As a result of findings obtained during performance of the initial Cultural Resource Assessment, historic (1963) aerial photography revealed multiple structures (plantation homes and/or auxiliary structures) to previously be present in relative proximity to the current roadway location. In the opinion of Freese and Nichols' subconsultant, Cox McLean Environmental Consultants, intensive field surveys will be needed to document any remnants of these potentially historic structures as required to obtain environmental clearance from the Texas Historical Commission. This effort was not known at the time of initial project scoping, and as a result, the associated effort was not included in previously authorized services described under item No. 5d. "Cultural Resource Assessment/THC Coordination".

Additional Fees (Not-to-Exceed) = \$ 15,000.00

- B. Water Resources Report: Excluded from list of documents in Item No. 5 in the previously authorized scope of services. Freese and Nichols, Inc. became aware of this TxDOT requirement after initial environmental scoping effort.

Additional Fees (Not-to-Exceed) = \$ 8,000.00

- C. Indirect Impact Report: Excluded from list of documents in Item No. 5 in the previously authorized scope of services. Freese and Nichols, Inc. became aware of this TxDOT requirement after initial environmental scoping effort.

Additional Fees (Not to Exceed) = \$ 12,000.00

**Total Fees for Additional Services = \$ 35,000.00**

## Hunt County - Work Authorization #2 SCOPE OF SERVICES

### Schematic Design and Environmental Documents for: FM 1903 (from IH 30 to FM 36) and FM 36 (from FM 1903 to SH 66/Joshua St)

#### BACKGROUND AND OBJECTIVE

The scope of services set forth herein represents continued project development for proposed safety and capacity improvements in Caddo Mills, Texas along FM 1903 from IH 30 to FM 36, and along FM 36 from FM 1903 to SH 66/Joshua St. This work effort will advance initial concept development tasks previously executed under Work Authorization #1 (Amendment No. 2) that identified: a) environmental constraints, (b) the preferred roadway section and footprint, (c) alternative geometric alignments and (d) preliminary bridge requirements. In collaboration with TxDOT – Paris District, the preferred roadway section has been identified as featuring a 4-lane, curb and gutter roadway with a centered two-way left turn lane and sidewalks to generally fit within the existing 100' right-of-way. A geometric alternative for the FM 1903 and FM 36 intersection has been identified that would provide a continuous 4-lane roadway from downtown Caddo Mills to IH 30 and forming a “T” intersection with the southern portion of FM 36. Along FM 36 in Caddo Mills, an alternative route has been identified to connect FM 36 to SH 66 directly opposite FM 6, beginning south of Joshua St.

The objective of this work authorization is to evaluate design alternatives, and identify and develop the preferred design alternative meeting all requirements for TxDOT Geometric Schematic deliverables, and advance development of the project to: (a) finalize additional right-of-way requirements, (b) assess environmental impacts, and (c) prepare documentation in compliance with the National Environmental Protection Act (TxDOT/FHWA MOU) as necessary to qualify the project to receive federal funding.

The project will be developed in close coordination with Hunt county, TxDOT Paris District, and the TxDOT consultant team currently developing project designs along IH 30 in Hunt County. The FM 1903 and FM 36 project designs, environmental documentation, and public involvement activities will be in accordance with all TxDOT policies and procedures. All work products and deliverables will be submitted directly to TxDOT for review and approval.

#### SUMMARY OF TASKS

1. SURVEYING SERVICES:
  - Task 1.A - Horizontal and Vertical Control
  - Task 1.B - Topographic / Design Survey
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  - Task 2.C - Final Hydrologic and Hydraulic (Drainage) Analysis
  - Task 2.D - Geometric (Roadway and Bridge) Design Schematic
3. ENVIRONMENTAL SERVICES:
  - Task 3.A - Environmental Scoping and Documentation
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## TASK DESCRIPTIONS

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Establish project control throughout the project area using Global Positioning System (GPS) methodology. Horizontal values will be based on the Texas State Plane Coordinate System NAD 83 North Central Zone and scaled to surface by using the TxDOT Hunt County surface adjustment factor. Elevations will be GPS derived based on the NAVD 88 datum.

#### Task 1.B - Topographic / Design Survey

Design survey of the project area to include pavement edges, curb and gutter, driveways, fences and gates, signs, mailboxes, tops and toes of slopes, culverts, spot elevations, trees six (6) inches and greater, surface locations of utilities, flowline elevations of sanitary and storm sewer manholes where accessible, and other surface features.

#### Survey Deliverables

Prepare a final digital topographic/design survey drawing in MicroStation format prepare to TxDOT CADD standards, showing visible surface features located, an ASCII point file and a copy of field notes and field sketches.

### 2. ENGINEERING AND PUBLIC INVOLVEMENT:

#### Task 2.A - Project Management

Direct and coordinate all activities associated with the project including stakeholder meetings. Prepare milestone Project Work Schedule depicting various tasks, milestones, and deliverables. Provide on-going quality assurance and quality control to ensure completeness of product and compliance with the State procedures.

#### Task 2.B - Public Involvement

Assist TxDOT in conducting one (1) public meeting and one (1) public hearing, and up to twelve (12) meetings (total) with Hunt County and City stakeholders, adjacent property owners, and franchise utility owners during the project development process. Prepare public meeting/hearing exhibits at 1" = 100' scale, Environmental Constraints Map, and PowerPoint presentations. Prepare adjacent property owner list and meeting notices to property owners, elected officials, county and municipal stakeholders and local newspapers. Reserve public meeting/hearing locations and provide audio visual equipment and hire court reporter as required. Prepare public meeting summaries compiling responses to the comments received during the public meeting /hearings and meeting minutes for stakeholder meetings.

#### Task 2.C - Hydrologic and Hydraulic (Drainage) Analysis

Conduct a Final Drainage Study to determine and evaluate required bridges, culverts and the adequacy of the ROW needed to accommodate the proposed roadway and drainage system. The drainage study shall identify the impacts to abutting properties and the 100-year floodplain due to proposed highway improvements, identify the water surface elevations for the 10, 25, 50 and 100 year storm events for both existing and fully developed flows, identify and locate outfalls, drainage outfall descriptions, provide overall drainage area map, sub-drainage area map, and storm water detention facilities. The ENGINEER shall identify any required drainage easements needed to accommodate drainage facilities at discharge points along the route.

The Engineer shall prepare a Final Drainage Study signed and sealed by a professional engineer in accordance with the State's *Hydraulic Design Manual*, TxDOT criteria, and any additional guidance provided by the State. The Engineer shall evaluate the adequacy of the existing drainage structures. Water surface profiles for stream crossings shall be determined and placed on exhibit drawings for the entire corridor for the 10-year, 25-year, 50-year and 100-year storm events as appropriate. The exhibits shall have the roadway profiles along with existing ground elevations with respect to the various storm design frequencies' water surface profiles for the entire length of the project.

Task 2.D – Geometric (Roadway and Bridge) Design Schematic

Based on analysis of the geometric design alternatives, results of the Drainage Study, input from stakeholders, public meetings and direction from TxDOT, prepare the geometric design schematic of the preferred alternative. Prepare schematic design on roll plots (maximum 3 ft. wide and 10 ft. long) with plan and profile to scales of 1" = 100' horizontal and 1" = 10' vertical. Provide all required design content and information in accordance with current TxDOT design standards, policies, procedures, and requirements for the schematic deliverable.

The Engineer shall generate preliminary cross-sections for the design schematic at locations required for ROW determinations. The Engineer shall use Geopak/Open Roads computer software to generate preliminary cross-sections for the schematic of the preferred alternative every 100 feet. Closer intervals of cross-sections will be prepared at culvert locations, to determine retaining wall limits, and for ROW determinations. The Engineer shall determine earthwork volumes for use in the cost estimate and shall prepare 11"x17" sheets of the cross-sections. Preliminary earthwork quantities shall be calculated from the cross sections.

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The Engineer shall identify design exceptions and waivers and shall document the necessity for each design exception or waiver for approval.

The Engineer shall prepare a Preliminary Construction Sequence Layout in conjunction with the Geometric Schematic depicting the phasing and traffic detours anticipated to construct the proposed design.

The Engineer shall prepare a preliminary cost estimate for the project, including the costs of construction, required ROW and associated improvements, and eligible utility adjustments. Current State unit bid prices will be used in preparation of the estimate. Up to three cost estimates will be prepared at 60%, 90% and 100% geometric schematic milestones.

Schematic Design Project Deliverables

In conjunction with the performance of the foregoing services, the Engineer shall provide the following draft and final documents and associated electronic files as applicable:

- a. Project Schedule (updated monthly)
- b. QC/QA Plan and all QC documents
- c. Construction cost estimates.
- d. Typical Cross Sections (11" x 17" sheets)
- e. Geometric Design Schematic (1" =100' Roll Plot)
- f. Roadway Cross Sections (11" x 17" sheets)
- g. Bridge and Culvert Layouts (11" x 17" sheets)
- h. Drainage Report
- i. Bridge and Culvert Hydraulic Data Sheets.
- j. Preliminary Construction Sequence (11" x 17" sheets)
- k. Design Exception/Waiver documents

3. ENVIRONMENTAL SERVICES:

Task 3.A - Environmental Scope Determination -

This scope assumes that the project will not require a formal Environmental Impact Statement (EIS) and can be authorized through either an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) or as a Categorical Exclusion (CE). The environmental document and process determination will be confirmed as such by performing the following tasks:

- a) Prepare/submit draft scoping documents to TxDOT – FNI will prepare the required scoping documents such as the Workplan Development Tool and the Project Scope for TxDOT for review.
- b) Address TxDOT scoping comments – FNI will address comments to these scoping documents.
- c) Internal kickoff meeting – Once the scoping documents have been approved and executed by TxDOT, FNI project team will conduct an internal kickoff meeting to discuss roles and responsibilities.

Task 3.B - Technical Reports and Documentation

Definition of technical report and documentation for environmental services: a report, checklist, form, or analysis detailing resource-specific studies identified during the process of gathering data to make an environmental decision.

Technical reports and documentation must be produced before an environmental document (e.g. EA) is prepared in order to identify issues early in the process. The State will determine what technical reports and documentation will be necessary for any given project. This may be done with assistance from the Engineer with the use of the TxDOT Scope Development Tool or its successor. Technical reports and documentation must be prepared for the State with sufficient detail and clarity to support environmental determination(s). All technical reports shall be compliant with TxDOT Environmental Compliance Toolkits. The environmental document will reference the technical reports.

Environmental technical reports and documentation must include appropriate National Environmental Policy Act of 1969 (NEPA) or federal regulatory language in addition to the purpose and methodology used in delivering the service. Technical reports and forms must include sufficient information to determine the significance of impacts. The following environmental technical reports and documentation are anticipated for this project:

- a. Scope Development Tool
- b. Purpose and Need
- c. Community Impacts Assessment
- d. High Risk Access and Travel Patterns Analysis
- e. Archeological Background Study (Subconsultant)
- f. Historical PCR (Subconsultant)
- g. Air Quality MSAT Report
- h. Traffic Noise Report
- i. Water Resources Report
- j. Storm Water Prevention Plan (SWPPP)
- k. U.S.A.C.E. NWP 14 with PCN
- l. Biological Evaluation Form
- m. Tier 1 Site Assessment Form
- n. Hazardous Materials Initial Site Assessment
- o. Indirect and Cumulative Impacts Analysis
- p. Public Involvement

Minimum Deliverables: (Additional deliverables to be identified based on work assigned.)

- Draft Document
- Final Document

Environmental Assessment (EA) Content and Format.

Engineer will prepare an EA Document that will incorporate summaries of all resource reports produced for the project as well as all pertinent maps and figures in accordance with the TxDOT Environmental Toolkit.

- a. The EA shall meet the requirements of 23 CFR §771.119 and TAC, Title 43, Part 1, Chapter 2. The EA content shall be in sufficient detail to meet regulatory requirements for legal sufficiency and include all items listed in the Environmental Document Review Checklist and the Administrative Completeness Review Checklist.
- b. Exhibits to be included in reports or EAs shall not exceed 11" x 17," and shall be in color. Text pages shall be 8.5" x 11". Exhibits and text in reports or EAs shall be neat and reproducible via photocopying without loss of legibility. The EA documents shall be reproduced on plain white paper unless otherwise approved in advance in writing by the State.
- c. The EA shall use good quality maps and exhibits, and shall incorporate by reference and summarize background data and technical analyses to support



the concise discussions of the alternatives and their impacts. The Engineer shall follow the Environmental Assessment Outline and the Environmental Handbook: Preparing an Environmental Assessment located in the Environmental Compliance Toolkits located on the TxDOT website.

- d. In accordance with the State's NEPA MOU, on the cover page of each biological evaluation or assessment, historic properties or cultural resources report, section 4(f) evaluation, or other analyses prepared under the authority granted by the MOU, the Engineer shall insert the following language in a way that is conspicuous to the reader or include in a CE project record:

"The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT."

Where applicable, the EA will address the items in the TxDOT EA Outline effective January 2019 listed below:

#### Table of Contents

#### List of Acronyms

- 1.0 Introduction
- 2.0 Project Description
- 3.0 Purpose and Need
- 4.0 Alternatives
- 5.0 Affected Environment and Environmental Consequences
  - 5.1 Right-of-Way/Displacements
  - 5.2 Land Use
  - 5.3 Farmlands
  - 5.4 Utilities/Emergency Services
  - 5.5 Bicycle and Pedestrian Facilities
  - 5.6 Community Impacts
  - 5.7 Visual/Aesthetics Impacts
  - 5.8 Cultural Resources
  - 5.10 Water Resources
  - 5.11 Biological Resources
  - 5.12 Air Quality
  - 5.13 Hazardous Materials
  - 5.14 Traffic Noise
  - 5.15 Induced Growth
  - 5.16 Cumulative Impacts
  - 5.17 Construction Phase Impacts
- 6.0 Agency Coordination
- 7.0 Public Involvement
- 8.0 Post-Environmental Clearance Activities and Contractor Communications

Hunt County Professional Services Agreement with and Freese and Nichols, Inc.  
 W.A. No. 2 – Scope of Services for FM 1903 and FM36 Schematic and Environmental

- 9.0 Conclusion
- 10.0 References
- 11.0 Appendices

Deliverables:

- Preliminary Draft EA for district review
- Revised Draft EA (per district comments)
- Draft EA for State review
- Revised Draft EA (per State comments)
- Draft EA for Public Hearing
- Final EA

FEES:

| TASK  | FEES                   |
|---|------------------------|
| Task 1 - Surveying Services (Subconsultant) | \$ 94,672.00           |
| Task 2 - Engineering and Public Involvement | \$ 639,766.00          |
| Task 3 - Environmental Services             | \$ 333,072.00          |
| <b>Total Fees (Not-to Exceed)</b>           | <b>\$ 1,067,509.00</b> |

Hunt County Transportation Bond Budget Summary -April 2019

| Work Authorization #1                         |  | Program Implementation Budget | FBI Work Authorization #1 (Origins) | W.A. #1 Amend No. 1 Budget (Decrease) | W.A. #1 Amend No. 2 ROW Survey / Mapping | W.A. #1 Amend No. 2 Conceptual Design / Study | W.A. #1 Amend No. 3 (TWS) | W.A. #1 Amend (No. 3)                                   | W.A. #1 Budget (Incl. Amend Nos. 1, 2 and 3) | Additional Authorized and Committed Thru 2019 | Total W.A.#1 Committed thru 2019 |
|---|--|-------------------------------|-------------------------------------|---------------------------------------|--|---|---------------------------|---|--|---|----------------------------------|
| Task Item No.                                 | Description  |                               |                                     |                                       |  |   |                           |   |  |   |                                  |
| 1   | Program Management   | \$ 764,440                    | \$ 382,220                          | \$ -                                  |  |   |                           |   | \$ 382,220                                   |   |                                  |
| 1.5   | FM 2642 Design   | \$ 1,853,824                  | \$ 1,996,680                        | (\$1,255,790)                         |  |   |                           |   | \$ 740,900                                   |   |                                  |
| 1.21  | SH 66 Corridor Study                                       | \$ 302,000                    | \$ 293,240                          | \$ -                                  |  |   |                           |   | \$ 293,240                                   |   |                                  |
| 1.13  | FM 1363 Turn Lanes - Study and Design                      | \$ 102,000                    | \$ 81,540                           | \$ -                                  |  |   |                           |   | \$ 81,540                                    |   |                                  |
| 1.2   | SH 276 @ FM 35 Unken Valley - Intersection Study           | \$ 17,000                     | \$ 14,950                           | \$ -                                  |  |   |                           |   | \$ 14,950                                    |   |                                  |
| 1.17  | Intersection Study SR 264 @ SH 276 (Main St.)              | \$ 17,000                     | \$ 14,950                           | \$ -                                  |  |   |                           |   | \$ 14,950                                    |   |                                  |
| W.A. #1 Amendment No. 2                       |  |                               |                                     |                                       |  |   |                           |   |  |   |                                  |
| 2.1   | FM 1570 N (IH 30 to SH 66) - Feasibility/Concept Design    | \$ 2,578,964                  |                                     |                                       | \$ 110,660                               | \$ 183,700                                    | \$ 294,360                |   | \$ 294,360                                   |   |                                  |
| 2.2   | FM 1570 S (IH 30 to SH 34) - Feasibility/Concept Design    | \$ 1,994,964                  |                                     |                                       | \$ 97,460                                | \$ 137,700                                    | \$ 235,160                |   | \$ 235,160                                   |   |                                  |
| 2.7   | FM 36 (FM 1903 to Joshua St.) - Feasibility/Concept Design | \$ 1,544,736                  |                                     |                                       | \$ 87,120                                | \$ 103,400                                    | \$ 190,520                |   | \$ 190,520                                   |   |                                  |
| 2.8   | FM 1903 (IH30 to FM 36) - Feasibility/Concept Design       | \$ 1,690,136                  |                                     |                                       | \$ 95,700                                | \$ 114,200                                    | \$ 208,900                |   | \$ 208,900                                   |   |                                  |
| 2.9   | SH 24 & SH 11 TAMU/Commerce -Traffic Data (Task 1)         |                               |                                     |                                       |  | \$ 72,000                                     | \$ 72,000                 |   | \$ 72,000                                    |   |                                  |
| W.A. #1 Amendment No. 3                       |  |                               |                                     |                                       |  |   |                           |   |  |   |                                  |
| 2.9   | SH 24 & SH 11 TAMU/Commerce - Feasibility (Task 2)         |                               |                                     |                                       |  |   |                           | \$ 360,000  | \$ 360,000                                   |   |                                  |
| Work Authorization #1 Totals                  |  |                               | \$2,793,430                         | (\$1,255,790)                         |  |   | \$ 1,801,840              | \$ 889,880  | \$ 2,899,740                                 |   |                                  |
| Additional Authorized and Committed Thru 2019 |  |                               |                                     |                                       |  |   |                           |   |  |   |                                  |
| SH 276 ROW & UTIL (Local Contribution)        |  |                               |                                     |                                       |  |   |                           |   |  | \$ 351,000                                    |                                  |
| Quillen Projects Contribution                 |  |                               |                                     |                                       |  |   |                           |   |  | \$ 30,000                                     |                                  |
| SubTotal                                      |  |                               |                                     |                                       |  |   |                           |   |  | \$ 381,000                                    |                                  |
| Total W.A.#1 and Committed Thru 2019          |  |                               |                                     |                                       |  |   |                           |   |  |   | \$ 3,280,740                     |
| Work Authorization #2 (Proposed)              |  | Program Implementation Budget | Concept Development                 | Prelin Eng /Schematic & Environmental | Final Design                             | ROW / UTIL                                    | Program Management        | City of Greenville SAP Update (Incl 945K Reimbursement) | FM 2042 Adm'l Exp. Ours                      |   | W.A. #2 (Proposed)               |
| Program Item No.                              | Description  |                               |                                     |                                       |  |   |                           |   |  |   |                                  |
| 1   | PROGRAM MANAGEMENT / MISC                                  | \$ 764,440                    |                                     |                                       |  |   | \$ 90,000                 | \$ 45,275   | \$ 35,000                                    |   | \$ 170,275                       |
| 2.1   | FM 1570 N (IH 30 to SH 66)                                 | \$ 4,573,828                  | \$ 529,520                          | \$ 1,390,382                          | \$ 2,413,098                             | \$ 240,928                                    |                           |   |  |   | \$ 1,390,382                     |
| 2.2   | FM 1570 S (IH 30 to SH 34)                                 |                               |                                     |                                       |  |   |                           |   |  |   | \$ -                             |
| 2.7   | FM 36 (FM 1903 to Joshua St.)                              | \$ 3,234,472                  | \$ 400,420                          | \$ 1,067,427                          | \$ 1,558,153                             | \$ 208,472                                    |                           |   |  |   | \$ 1,067,427                     |
| 2.8   | FM 1903 (IH30 to FM 36)                                    |                               |                                     |                                       |  |   |                           |   |  |   | \$ -                             |
| 2.9   | SH 24/SH 11 TAMU/Commerce (Feasibility & Concept Design)   | \$ 1,659,000                  | \$ 360,000                          |                                       |  |   |                           |   |  |   | \$ 360,000                       |
| Work Authorization #2 Totals                  |  |                               |                                     | \$ 2,457,809                          |  |   | \$ 90,000                 | \$ 45,275   | \$ 35,000                                    |   | \$ 2,628,004                     |
| Total Tranche #1 Commitments (Incl. W.A. #2)  |  |                               |                                     |                                       |  |   |                           |   |  |   | \$ 5,908,744                     |