

February 15, 2023

Honorable Eduardo "Eddie" Cantu
Attn: Armando Garza, Jr. ~ Chief of Staff
Commissioner, Hidalgo County Pct. No. 2
300 West Hall Acres, Ste G
Pharr, Texas 78589

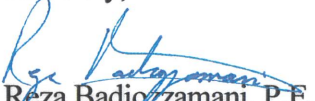
RE: BUS281/SH107 Roadway & Drainage Improvement Project
Work Authorization #3
C-16-199-07-19

Dear Commissioner Cantu:

As we just reached the major project milestone of submitting to TxDOT our 90% PS&E, and as the project rapidly approaches a letting later this year, attached please find in duplicate form Work Authorization #3 for the above referenced project. This is the final Project Development Work Authorization anticipated for this project and scope includes; the identification of all Permitted Utilities and their need to adjust, updated TxDOT Requirements for a 3-D Corridor Model, PS&E Development for the needed Change Order on the East end of the project, along with the Construction Engineering & Support (Shop Drawing Review, RFI's, Change Orders, etc.).

Should you have any questions regarding this submittal, do not hesitate to call me at (956) 585-1909.

Sincerely,


Reza Badiuzzamani, P.E.
Senior Project Manager

Attachments

HIDALGO COUNTY
Professional Engineering Services
Contract # C-16-199-07-19
Work Authorization Form

WORK AUTHORIZATION NO. 3

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Article 1 of the Agreement made by and between HIDALGO COUNTY, action herein by and through the Commissioner’s Court, hereinafter called the “Owner,” and, L&G Consulting Engineers, Inc. d/b/a L&G Engineering, professional engineers of Mercedes, Texas hereinafter called “Engineer”.

PART 1. SCOPE OF WORK

The purpose of this Work Authorization is for the Engineer to provide Engineering Services required for the permitted utility coordination, PS&E Development of the stand-alone TxDOT Change Order (East End of Project), Development of a Corridor Model as per TxDOT AFA Requirements, as well as Construction Engineering & Support needed for the Roadway and Drainage Improvements associated with the BUS281 /SH107 Intersection project.

The scope of services to be provided by the Owner is identified in *EXHIBIT “A” – Scope of Services to be provided by the Owner* attached hereto.

The scope of services to be provided by the Engineer is identified in *EXHIBIT “B” – Scope of Services to be provided by the Engineer* attached hereto.

PART 2. ESTIMATED COST

The estimated cost for services under this Work Authorization is **\$408,765.20**. This amount is based upon the costs outlined in the Estimated **Cost Proposal** attached hereto as *EXHIBIT “D” – Estimated Man-hour Breakdown*.

PART 3. PAYMENT

Compensation and payment to the Engineer for the services established under this Work Authorization shall be made in accordance with **Article 6** of the Agreement.

PART 4. FUNDING

This Work Authorization No. 3 shall be funded through funding source:

Account No. _____

Requisition Number _____ (MUST BE INCLUDED AFTER CC APPROVAL)

PART 5. PERIOD OF SERVICE

This Work Authorization shall become effective on the date of final acceptance of the parties hereto, and terminate upon completion of scopes of the work authorization.

PART 6. RESPONSIBILITIES AND OBLIGATIONS

This Authorization does not waive the parties' responsibilities and obligations provided under the **Agreement.**

PART 7. ACKNOWLEDGEMENT AND CONFIRMATION

Acknowledgement and confirmation by Hidalgo County Precinct No. 2, Commissioner Eduardo "Eddie" Cantu as to the content and detail of this Work Authorization No. 3.

**HIDALGO COUNTY
COMMISSIONER PRECINCT NO. 2**

BY:_____

PART 8. ACCEPTANCE AND APPROVAL

This Work Authorization is hereby accepted, approved by Hidalgo County Commissioners' Court on _____ as indicated below.

**THE ENGINEER:
L&G ENGINEERING**

**THE OWNER:
HIDALGO COUNTY**

By: Jacinto Garza, P.E.
President

By: Richard F. Cortez,
County Judge

ATTEST:

By: Arturo Guajardo, Jr., County Clerk

LIST OF EXHIBITS

- Exhibit A - Services to be provided by Owner
- Exhibit B - Services to be provided by Engineer
- Exhibit D - Estimated Man-hour Breakdown

EXHIBIT "A"
SCOPE OF SERVICES TO BE PROVIDED BY THE OWNER

The following provides an outline of the services to be provided by the **Owner** in the development of the proposed roadway and drainage improvements to Bus 281/SH 107 from the Bus 281-W to US 281 (I 69C) in Hidalgo County hereinafter denoted as the **Project**.

GENERAL:

The **Owner** will provide to the **Engineer** the following:

- 1) Provide the authorization to proceed with services through coordination with the project consulting and design Engineer.
- 2) Payment for work performed by the **Engineer** and accepted by the **Owner** in accordance with Article 5 of the Agreement.
- 3) Assistance to the **Engineer**, as necessary, to obtain the required data and information from other local, regional, State and Federal agencies the **Engineer** cannot easily obtain.
- 4) Provide any available relevant data the **Owner** may have on file concerning the **Project**.
- 5) Provide timely review and decisions in response to the **Engineer's** request for information and/or required submittals and deliverables, in order for the **Engineer** to maintain the agreed upon work schedule prepared in accordance with Exhibit "C" attached to this Work Authorization.
- 6) Attend and participate in progress meetings as required and as coordinated and conducted by **Engineer**.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 1-PROJECT DESCRIPTION

The services designated herein as "Services provided by the ENGINEER" shall include the performance of all engineering services for the following described facility:

COUNTY/CITY: Hidalgo County

CONTROL: _____

PROJECT/DESCRIPTION: SH 107/Bus 281 Intersection & Drainage Improvements

LENGTH: 2.6 Miles

HIGHWAY: SH 107/Business 281

LIMITS: From BUS281 West to US281 (I 69C)

PROJECT CLASSIFICATION

(Place an "X" in only one Project Classification)

- Surface Treatment
- Overlay
- Rehabilitation Existing Road (Scarify & Reshape)
- Convert Non-Freeway to Freeway
- Widen Freeway
- Widen Non-Freeway
- New Location Toll Freeway
- New Location Non-Freeway
- Interchange (New or Reconstruct)
- Bridge Widening or Rehabilitation
- Bridge Replacement
- Upgrade to Standards - Freeway
- Upgrade to Standards - Non-Freeway
- Roadway & Drainage Improvements

ENGINEER shall mean L&G Engineering.

STATE shall mean Texas Department of Transportation.

COUNTY shall mean Hidalgo County.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 7 - ROADWAY DESIGN CONTROLS

(Function Code 160)

All Design Items specific to the Change Order on the East side of the Project, except for the Corridor Model that pertains to the entire project limits.

Services

Provided By:

ENGINEER COUNTY

- | | | |
|---|------------------|---|
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>4. Grading Design</p> <p>a. Refine the horizontal and vertical alignment of main lanes, frontage roads, ramps, cross roads and direct connectors based upon the approved schematic layout. Determine vertical clearances at grade separations and overpasses, taking into account the appropriate super elevation rate.</p> |
| <p><u>YES</u></p> | <p><u>NO</u></p> | <p>b. Typical Sections</p> |
| <p><u>YES</u></p> | <p><u>NO</u></p> | <p>c. Design Cross Sections</p> |
| <p><u>YES</u></p> | <p><u>NO</u></p> | <p>d. Determine Cut and Fill Quantities</p> |
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>e. Slope Stability Analysis</p> |
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>f. Embankment Foundation Stability Analysis</p> |
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>g. Embankment Settlement Analysis</p> |
| 5. Pavement Design | | |
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>a. Prior to initiating detailed plan preparations for a project, a preliminary investigation shall be made to determine the approximate section and pavement type to be used for the pavement structure. The Flexible Pavement Design Manual for flexible pavement, "Appendix F" of the Design Division, Operations and Procedures Manual, and the current AASHTO Guide for the Design of Pavement Structures, may be used for this purpose.</p> |
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>b. The typical section shall also reflect proposed geometric including pavement cross slopes, lane and shoulder widths, and slope rates whenever this data have not been previously shown on a schematic submission.</p> |
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>c. Embankment and Subgrade</p> |
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>(1) Soil Core Holes (Show cost estimate with Function Code 110)</p> |
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>(a) Along center line</p> |
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>(b) Along center line of each roadway</p> |
| <p>The location and minimum number of soil core holes required for this project are as follows: (To be determined when schematic is being completed)</p> | | |
| 5. Pavement Design (<i>continued</i>) | | |
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>c. Embankment and Subgrade (<i>continued</i>)</p> |
| <p>(2) Identify, interpret and summarize geologic features that affect engineering design (PI, Sulfate content, % of lime)</p> | | |
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>d. Traffic Data for Pavement Design by STATE</p> |
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>e. Basic Design Criteria</p> |
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>f. Life Cycle Cost Analysis(es)</p> |
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>g. Cost Data</p> |
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>h. Pavement Material Properties</p> |
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>i. Rehabilitation Investigations</p> |
| <p><u>NO</u></p> | <p><u>NO</u></p> | <p>(1) Core Hole Survey (Show cost estimate with Function Code 110)</p> |
| <p>(a) Determine type and depth of existing material, pavement, etc. The Engineer will determine whether to salvage ACP and FLEXBASE as well as their properties and provide this information to TxDOT.</p> | | |

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 8 - DRAINAGE

(Function Code 161)

All Design Items specific to the Change Order on the East side of the Project, except for the Corridor Model that pertains to the entire project limits.

Services

Provided By:

ENGINEER COUNTY

All hydraulic design shall be in accordance with the TxDOT's Hydraulic Manual, except where variances are permitted in writing by the COUNTY.

- | | | |
|------------|-----------|--|
| <u>YES</u> | <u>NO</u> | 3. Layout, Structural Design and Detailing of Drainage Features |
| <u>NO</u> | <u>NO</u> | a. Culverts |
| <u>YES</u> | <u>NO</u> | (1) New culverts |
| | | (2) Culvert widening and/or lengthening |
| | | (3) Culvert replacements |
| | | b. Storm sewers |
| <u>YES</u> | <u>NO</u> | (1) New storm sewers |
| <u>YES</u> | <u>NO</u> | (2) Modify existing storm sewers |
| <u>YES</u> | <u>NO</u> | (3) Inlets |
| <u>YES</u> | <u>NO</u> | (4) Manholes |
| <u>YES</u> | <u>NO</u> | (5) Trunk lines |
| <u>NO</u> | <u>NO</u> | d. Subsurface drainage at retaining walls |
| <u>NO</u> | <u>NO</u> | e. Outfall channel(s) within the ROW |
| <u>YES</u> | <u>NO</u> | f. Outfall channel(s) outside the ROW |
| <u>NO</u> | <u>NO</u> | h. Detention Pond(s) outside the ROW |
| <u>YES</u> | <u>NO</u> | i. Summary of Quantities |
| <u>NO</u> | <u>NO</u> | j. Storm Water Management facilities |
| <u>YES</u> | <u>NO</u> | 4. Storm Water Pollution Prevention Plan (SW3P) |
| <u>NO</u> | <u>NO</u> | 5. Scour Evaluation - Waterway Structures only (to be completed by Bridge Engineer under FC 170. |

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 12 - CONSTRUCTION PHASE SERVICES

(Function Code 320)

Services

Provided By:

ENGINEER COUNTY

YES NO **CONSTRUCTION ENGINEERING & SUPPORT:**

The ENGINEER will provide engineering support to the STATE throughout the duration of the project on Shop Drawing Review, Request for Information (RFI's), Change Orders, etc. It is anticipated that the construction duration will be for 24 months.

EXHIBIT "B"

SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

ADDITIONAL RESPONSIBILITIES

Easements, Letters of Permission, Etc.

The ENGINEER shall be responsible for delineating easements. The ENGINEER will be responsible for securing the necessary legal instruments.

Coordination of Utilities

The ENGINEER shall furnish the COUNTY prints of a project layout which will be distributed by ENGINEER to various utility companies to determine which utilities are in the limits of the project. These shall be preliminary layouts. Upon completion of the preliminary drainage plans and U&D sheets, the ENGINEER shall distribute to the various utility companies and request return. Upon return of these prints, the ENGINEER will schedule a meeting with the various utility companies to discuss potential conflicts and conformance with the State's Utility Accommodation Policy. The ENGINEER is responsible for coordination with the various utility companies for exposing potential conflicts and field ties to uncover utilities in potential conflict areas.

Meetings

Meetings will be held with the FHWA, State Officials, local governments, property owners, utility owners, railroad companies, other consulting firms, etc., as needed or required by the COUNTY. The ENGINEER shall coordinate through the COUNTY for the development of this project with any local entity having jurisdiction or interest in the project (i.e., city, county, etc).

Specifications, Special Provisions, Special Specifications

Use the State's standard specifications or previously approved special provisions and/or special specifications. If a special provision and/or special specification is developed for this project, it shall be in the State's format and incorporate references to approved State test procedures.

Project Manager/Engineer Communication

The ENGINEER shall designate one Texas Registered Professional Engineer to be responsible throughout the project for project management and all communications, including billing, with the COUNTY's Director. Any replacements to the ENGINEER's designated Project Manager/Engineer must be approved by the COUNTY.

Engineering documents produced for the department's engineering projects shall be signed, sealed and dated or CADD sealed in accordance with Administrative Order No. 5-89 and Administrative Circular No. 26-91.

Design Responsibilities

The ENGINEER is responsible for design errors and/or omissions that become evident before, during or after construction of the project. The ENGINEER's responsibility for all questions arising from design errors and/or omissions will be determined by the COUNTY and all decisions shall be final and binding. This would include, but not necessarily be limited to:

1. All design errors and/or omissions resulting in additional design work to correct the errors and/or omissions.
2. Preparation of design documents and detail drawings necessary for a field change due to design errors and/or omissions.
3. Revision of original tracings to the extent required for a field change due to design errors and/or omissions.

The ENGINEER shall promptly make necessary revisions or corrections resulting from the ENGINEER's errors, omissions or negligent acts without additional compensation. Acceptance of the work by the COUNTY will not relieve the ENGINEER of the responsibility for subsequent correction of any such errors or omissions or for clarification of any ambiguities.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Document and Information Exchange

Data, Plan Sheets, General Notes and/or Specifications provided to the COUNTY shall be furnished on 8GB USB flash drives. Each 8 GB flash drive shall have a file titled Table of Contents. The Table of Contents shall indicate the locations of files within the directory structure of the documentation.

General Notes and specifications shall be provided in MS Office 2007 format. Plan sheets shall be provided in Microstation DGN or GEOPAK GPK format. PDF copies of plan sheets shall also be provided.

Two copies of the documentation shall be provided to the COUNTY.

If required, the ENGINEER shall provide to the COUNTY, a CD that contains all the plan sheets for the project. The graphics tape shall be compatible with the COUNTY's computer system.

CD Tape Required (YES or NO): YES

Proposal Time

The time indicated in the proposal and the contract shall include time necessary for reviews, approval, etc.

Office Location

The ENGINEER will perform the services to be provided under this agreement out of their office or offices listed below:

<u>Service</u>	<u>Office Location</u>
PS&E	Mission Office

The work effort will be managed out of the _____ Mercedes _____
(City)
office located at 2100 West Expressway 83 _____,
(Address)
Mercedes _____, Texas _____.
(City) (State)

EXHIBIT “B”
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

APPENDIX A - PLAN SHEET SEQUENCE PROCEDURE

1. Title Sheet
Detailed Index of Sheets
2. Typical Sections
3. General Notes and Specifications Data
4. Estimate and Quantity Sheets
5. Storm Water Pollution Prevention Plan (SW3P) Sheets
6. Traffic Control Plans
 - a. Sequence of Construction Layouts
 - b. Detour Plan/Profile/Typical Sections/Quantities
7. Roadway Layouts
 - a. Roadway Plan/Profile Sheets
 - b. Intersection Plan/Profile Sheets
 - c. Intersection Layouts
 - d. Alignment Layouts/Data
 - e. Ramp Layouts/Profiles
 - f. Connection Roads/U-turns Layouts/Profile
8. Roadway Details
 - a. Concrete Pavement Details/Standards
 - b. Concrete Pavement Terminal Anchorage Details/Standards
 - c. Bridge Approach Details/Standards
 - d. Bridge Terminal Anchorage Details/Standards
 - e. Roadway/Median Barrier Details/Standards
 - f. Curb Details
 - g. Driveway Details/Typical Sections/Standards
9. Signing Layouts and Marking Layouts
10. Traffic Signal Layouts
11. Lighting Layouts
12. Illumination Detail Standards (HMID, HMIF, HMIP, RID)
13. Utility Layouts/Profiles
14. Drainage Area Maps and Hydraulic Data
 - a. General Drainage Area Maps
 - b. Stage-Discharge Curves
 - c. Main Cross-Drainage Culvert/Bridge Hydraulic Data
 - d. Drainage Area Maps/Culverts/Storm Sewer
 - e. Hydraulic Data/Culverts/Inlets/Storm Sewer/Pumps
15. Detailed Drainage Plans
 - a. Drainage Plan/Profile Sheets (Storm Sewer Plan/Profile Sheets)
 - b. Channel Plan/Profiles/Typical Sections
 - c. Box Culvert Plan/Profile
 - d. Pipe Sewer/Culvert Cross Sections

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

APPENDIX A - PLAN SHEET SEQUENCE PROCEDURE (Continued)

16. Drainage Structural Details/Standards
 - a. Inlet Details/Standards
 - b. Manhole Details/Standards
 - c. Junction Box Details/Standards
 - d. Safety End Treatment Details/Standards
 - e. Box Culvert Details/Standards
 - f. Culvert Wingwall Details/Standards
 - g. Excavation-Backfill Diaphragms
 - h. Riprap Details/Standards
 - i. Temporary Pollution and Erosion Control Details
17. Pumphouse Layouts
18. Pumphouse Details
19. Pumphouse Standard Details
20. Bridge Layouts/Profile/Typical Sections*
21. Bridge Details*
 - a. Summary of Bridge Quantities
 - b. Abutments
 - c. Interior Bents
 - d. Spans
 - e. Special details for the specific bridge
22. Bridge Standard Details*
23. Bridge Railing Standards
24. Retaining Wall Layouts/Profiles**
25. Retaining Wall Details**
26. Retaining Wall Standard Details**
27. Guard Fence/Standards and Signal Pole Standards
28. Signal/Electrical Details/Standards and Signal Pole Standards
29. Signing/Markers/Striping Details/Standards
30. Barricade/Construction/Beacon Standards
31. Miscellaneous Standards
 - a. Chain Link Fence Standards
 - b. Bridge End Detail/Standards
 - c. Roadway Clearance Details/Standards
 - e. Attenuator Standards

NOTE: Variations of these plan sheet sequence guidelines may be permitted if approved in writing by the County.

EXHIBIT “B”
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

APPENDIX B - PLAN PREPARATION PROCEDURES

1. Title Sheet
The ENGINEER shall be responsible for completing the title sheet as required and formatted by the STATE and as discussed in Part V of the Highway Design, Operations and Procedures Manual. Refer to Section K - Plans, 1 - Title Sheets, page 5-24, for the procedure to be used regarding all plans prepared by the ENGINEER.
2. Project Layout
The project layout shall clearly depict the entire project as it is proposed and will usually be drawn at a scale of 1 inch=100 feet or 1 inch=200 feet, depending on the size of the project.
3. Typical Sections
See Part IV of the Highway Design, Operations and Procedures Manual.
4. Sequence of Work Sheets (Traffic Control Plan)
Clarity and completeness should be the rule to follow in preparing these sheets, with particular attention given to location of construction signs and barricades, lane widths, protection of drop offs, etc. For a reference guide use the Texas Department of Transportation, Texas Manual on Uniform Traffic Control Devices. Usual scale of 1 inch=100 feet and/or 1 inch=50 feet for special locations. A narrative sequence shall be included in the special provisions for the project. Staging of structural elements shall be considered. Provisions for drainage shall be considered, included and indicated during all stages of construction operations.
5. Removal Item Sheets
These sheets indicate removal of existing facilities necessary to the proposed construction. (1 inch=40 feet) (use same scale as plan/profile sheets).
6. Summary Sheets
Summary Sheets are required to indicate type, quantity and/or location of work for individual items of the proposed project.
7. Alignment Layout Sheets
These sheets indicate the horizontal alignment with curve data and coordinates usually tabulated thereon. On some projects, depending on size, this information may be included on the plan profile sheets. Usual scale (1 inch=100 feet) or (1 inch=40 feet).
8. Plan Profile Sheet
Clarity and completeness should be the rule to follow in preparation of these sheets. Usual scale (1 inch=40 feet or 1 inch=50 feet) or (1 inch=20 feet), depending on project complexity.
9. Drainage Area Maps
Usual scale (1 inch=100 feet) and/or (1 inch=200 feet) supplemented by large scale area maps as necessary.
10. Drainage Plan Profile Sheets
These sheets may be required on some projects to clearly depict location of inlets, storm sewer lines, and profile of storm sewer lines and laterals. Usual scale (1 inch=40 feet or 1 inch=50 feet) or (1 inch=20 feet). Storm sewer design does include redesign of storm sewers imposed by utility constraints developing after initial reviews by the STATE and consequential redesign and adjustments.
11. Runoff, Inlet, Storm Sewer and Culvert Sheets
Use standard sheets.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

APPENDIX B - PLAN PREPARATION PROCEDURES (Continued)

12. Culvert Cross Sections and Details
District standard reproducible sheets can be furnished (one each) to the ENGINEER for modification of special designs.
13. Manhole and Inlet Details
District standard reproducible sheets can be furnished (one each) to the ENGINEER.
14. Miscellaneous Detail
Curb, Sidewalk, Driveways, etc.
15. Intersection Details
16. Marking Layouts and/or Details
Layouts of the entire project with markings depicted thereon. Usual scale 1:500 (1 inch=40 feet or 1 inch=50 feet). On some projects typical details might suffice.
17. Structural Details
Bridge layout sheets shall have the same horizontal and vertical scale. Usually (1 inch = 10 feet) (1 inch = 20 feet). Sections of existing and proposed structures usually have a scale of (1 inch = 5 feet). Elements of the bridge (abutments, bents, slabs, etc.) shall be detailed to a (1/2 inch = 1 foot) or (1/4 inch equals 1 foot) architect scale to provide clear legible drawings when reduced. Letters shall be a minimum size of 4 millimeters (5/32 inch) height for hand lettering and 140 for lettering by computer-aided design and drafting (CADD).
18. Overhead Sign Bridge Layouts
A maximum of four structures may be shown on each layout sheet. The reference to the appropriate overhead sign bridge (OSB) standard and the following requirements shall be shown on the layout:
 - (1) Drilled shaft size and length
 - (2) Soil strength used for design {indicate basis and boring(s) used}
 - (3) Design height
 - (4) Tower height
 - (5) Leg spacings and
 - (6) Design wind speed.

The wind speed design map need not be included in the project plans. Designation of tower member size and anchor bolt size shall not be shown. For OSBs which require special design, the design shall be in accordance with the AASHTO sign specifications (see Item 22 of References on page 49) and to the same loading requirements as for normal standard structures. Structures (special or standard) which will have changeable message signs shall be analyzed by the ENGINEER.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

APPENDIX C - GENERAL PLAN CHECKLIST

Services
Provided By:
ENGINEER CITY/COUNTY

___	___	Title Sheet
___	___	Project Layout
___	___	Sequence of Work
___	___	Detour Layouts & Profiles
___	___	Construction Pavement Markings
___	___	Signing & Barricades
___	___	Construction Sign & Beacons
___	___	Typical Sections
___	___	Shaping & Finishing Sections
___	___	Slopes Adjacent to Shoulders
___	___	Estimate & Quantities
___	___	General Notes & Specification Data
___	___	Grading Summary
___	___	Miscellaneous Summaries (See following "SUMMARIES" heading)
___	___	Horizontal Curve Data & Alignment Layouts
___	___	Drainage Summaries
___	___	Structure Summaries
___	___	Erosion Control Summary & Details
___	___	Plan/Profile Sheets
___	___	Erosion Control Summary & Details
___	___	Pavement Contours
___	___	Superelevation Transition (If Required)
___	___	Grading Contours
___	___	Guard Fence Layouts
___	___	Storm Water Pollution Prevention Plans (SW3P)
___	___	Drainage Area Maps
___	___	Hydraulic Data
___	___	Drainage Sheets
___	___	Bridge Hydrology Sheets
___	___	Inlet & Manhole Details
___	___	Utility Support Details
___	___	Culvert Cross Sections & Details
___	___	Special Culvert Designs
___	___	Special Drainage Details
___	___	Chain Link Fence Locations
___	___	Ramp Details Sheet
___	___	Removal Item Sheet - Including detours (Shown in detour summary, No payment for removal; subsidiary to construction detours)
___	___	Pavement Details
___	___	Pavement Standard Modification for Concrete Shoulder
___	___	Concrete Pavement Continuously Reinforced (CPCR)
___	___	Concrete Pavement Contraction Design (CPCD)
___	___	Concrete Pavement Details - Jointed Reinforced (Steel Bars) (CPJR)
___	___	Bridge Approach Slab Details
___	___	Vehicle Attenuator Details
___	___	Miscellaneous Details
___	___	Wheelchair Ramps
___	___	Pavement Marking Details
___	___	Modified Standards
___	___	List of Standards
___	___	Permanent Signing Plans & Quantities

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

APPENDIX C - GENERAL PLAN CHECKLIST (continued)

Services
 Provided By:
ENGINEER CITY/COUNTY

- | | | |
|-----|-----|---|
| ___ | ___ | Permanent Lighting Plans, Quantities & Standards |
| ___ | ___ | Bridge Layout(s) |
| ___ | ___ | Bridge Details |
| ___ | ___ | Retaining Wall Layout(s) |
| ___ | ___ | Retaining Wall Details |
| ___ | ___ | Pumphouse Details |
| ___ | ___ | Underdrain Details (Retaining Walls) |
| ___ | ___ | Culvert Standards |
| ___ | ___ | Soil Profile |
| ___ | ___ | Temporary Traffic Signals |
| ___ | ___ | Design Cross Sections |
| ___ | ___ | Estimate |
| ___ | ___ | List of Standard Specification, Special Provisions & Special Specifications |
| ___ | ___ | Detour Special Provisions (If Required) |
| ___ | ___ | Construction Time Estimate |
| ___ | ___ | Critical Path Method (CPM) |
| ___ | ___ | Unit Price Documentation |

Miscellaneous

- | | | |
|-----|-----|-----------------------------|
| ___ | ___ | Conduit Requirements |
| ___ | ___ | Traffic signal Requirements |

Summaries

(ALL BELOW YES FOR ENGINEER AND NO FOR COUNTY UNLESS NOTED OTHERWISE)

- | | | |
|-----|-----|---|
| ___ | ___ | Salvaging and Placing Topsoil |
| ___ | ___ | Prepare ROW |
| ___ | ___ | Remove Old Structures |
| ___ | ___ | Scarify Existing Pavement |
| ___ | ___ | Remove Old Concrete Curb of Curb and Gutter (C&G) |
| ___ | ___ | Remove Old Concrete Pavement |
| ___ | ___ | Remove Old Concrete Riprap |
| ___ | ___ | Remove Metal Beam Guard Fence |
| ___ | ___ | Galvanized steel Beam Guard Fence (12Ga) (GSBGF) |
| ___ | ___ | Temporary Guard Fence (TEMPGF) |
| ___ | ___ | Summary of Concrete Flumes |
| ___ | ___ | Curbs |
| ___ | ___ | Adjust Manholes & Inlets |
| ___ | ___ | Underdrains |
| ___ | ___ | Base and Pavement |
| ___ | ___ | Large Structure |
| ___ | ___ | Concrete Riprap (RR8 & RR9) |
| ___ | ___ | Temporary Portable Concrete Barrier (PCBR) |
| ___ | ___ | Concrete Traffic Barrier |
| ___ | ___ | Vehicle Attenuator |
| ___ | ___ | Guard Rail Energy Absorbing Terminal (Great System) |
| ___ | ___ | Pavement Markings & Blast Cleaning (Thermoplastic) |
| ___ | ___ | Retaining Walls |
| ___ | ___ | Large Structure Summaries |
| ___ | ___ | Small Structure Summaries |

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

APPENDIX C - GENERAL PLAN CHECKLIST *(continued)*

Services
Provided By:
ENGINEER CITY/COUNTY

Summaries (ALL BELOW YES FOR ENGINEER AND NO FOR COUNTY UNLESS NOTED OTHERWISE)

- | | | |
|-----|-----|---|
| ___ | ___ | Earthwork (Roadway & Channel) & Channel Details |
| ___ | ___ | Culverts |
| ___ | ___ | Detours |
| ___ | ___ | Seeding or Mulch Sod - Quantity Only |
| ___ | ___ | Inlet & Manholes |
| ___ | ___ | Sidewalks |
| ___ | ___ | Construction Pavement Markings |
| ___ | ___ | Driveways |
| ___ | ___ | Concrete Median |
| ___ | ___ | Storm Sewers |
| ___ | ___ | Head Walls & Safety End Treatments |
| ___ | ___ | Curb Openings |
| ___ | ___ | Manholes |
| ___ | ___ | Chain Link Fence, Remove & Replace Chain Link Fence |
| ___ | ___ | Remove & Relay Reinforced Concrete Pipe (RCP) or Pipe Sewer |

EXHIBIT D-1
 ESTIMATED MAN-HOUR BREAKDOWN
 Work Authorization #3
 Bus 281/SH 107 Roadway Drainage Improvements Project
 from Bus 281-W to US 281 (I 69 C)

	MANHOURS							Sub-Contract Amounts / ROW COST	TOTAL LINE ITEM COST
	Senior Project Manager	Senior Engineer	Project Engineer	Senior Engineering Technician	CADD Operator / GIS Analyst	Admin / Clerical	TOTAL HOURS		
CONTRACT RATE (FY2016)	198.10	164.14	121.69	84.90	62.26	56.60			
WORK AUTHORIZATION NO. 3									
COORDIOR MODELING, SOFTSCAPING/HARDSCAPING, CHANGE ORDER, etc.									
1 Permitted utility coordination	40	80	0	520		40	680		\$ 67,467.20
2 PS&E Development of TxDOT Change Order on East End of the Project	40	80	120	260	110	80	690		\$ 69,108.60
3 Development of Coordior Model as per TxDOT AFA Requirements	80	120	200	300	300		1000		\$ 104,030.80
4 Construction Engineering & Support (Review Shop Drawings, RFI's, Change Orders, etc) ~ During Construction Approx 2yrs	300	460	180	80		80	1100		\$ 168,158.60
							0		\$ -
SUB-TOTAL	460	740	500	1160	410		3470	\$ -	\$ 408,765.20

TOTAL PROJECT FEE:	\$ 408,765.20
---------------------------	----------------------