L&G Engineering
Transportation Consultants

November 30, 2012

The Honorable Joseph Palacios
Commissioner, Hidalgo County Pct. No. 4
Attn: Marcos Lopez
1051 N. Doolittle
Edinburg, Texas 78539

RE: FM 1925 Project (C-11-234-09-13)
Limits: from Kenyon Road to FM 907 (N Alamo Road)
Work Authorization No. 2

Dear Commissioner Palacios:

As requested, attached for your review and further consideration is Work Authorization No. 2 and the attachments listed below in the amount of $600,560.00 for the FM 1925 (Part II from Phase I) project from Kenyon Road East to FM 907 (Old Alamo Road):

- Work Authorization No. 2
  - Location Map
  - Exhibit A – Services to be provided by County
  - Exhibit B – Services to be provided by Engineer
  - Exhibit C – Work Schedule
  - Exhibit D-1 – Project Fee Schedule and Estimated Manhour Breakdown

Should you have any questions, please feel free to give me a call at (956) 565-9813.

Sincerely,

Jacinto Garza, P.E.
CEO/President

Attachments

HIDALGO COUNTY PCT.#4
RECEIVED BY
NOV 30 2012
EDINBURG, TEXAS 78542

2100 W. Expressway 83 • Mercedes, TX 78570 • Office (956) 565-9813 • Fax (956) 565-9018
900 S. Stewart Rd., Ste. 9 • Mission, TX 78572 • Office (956) 585-1909 • Fax (956) 585-1927

HIDALGO COUNTY
Professional Engineering Services
Contract # C- 11-234-09-13
Work Authorization Form

WORK AUTHORIZATION NO. 2

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 preparation of the Surveys, PS&E, Utility Adjustments and Construction Management for the FM 1925 Project (Part II of Phase I) from Kenyon Road East to FM 907 (Old Alamo Road).

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 $600,560.00. This amount is based upon the costs outlined in the Estimated Cost Proposal attached hereto as *EXHIBIT "D-1" – Project Fee Schedule and Estimated Manhour 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. 2 shall be funded through funding source:
Account No. 2-1342-431-00-124-076-0-841 (pending transfer under AI-35501)
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, as identified on *EXHIBIT "C" - Work Schedule.*

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. 4, Commissioner Joseph Palacios as to the content and detail of this Work Authorization No. 2.

HIDALGO COUNTY
COMMISSIONER PRECINCT NO. 4

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

_____
By: Jacinto Garza, P.E.
President

THE OWNER:
HIDALGO COUNTY

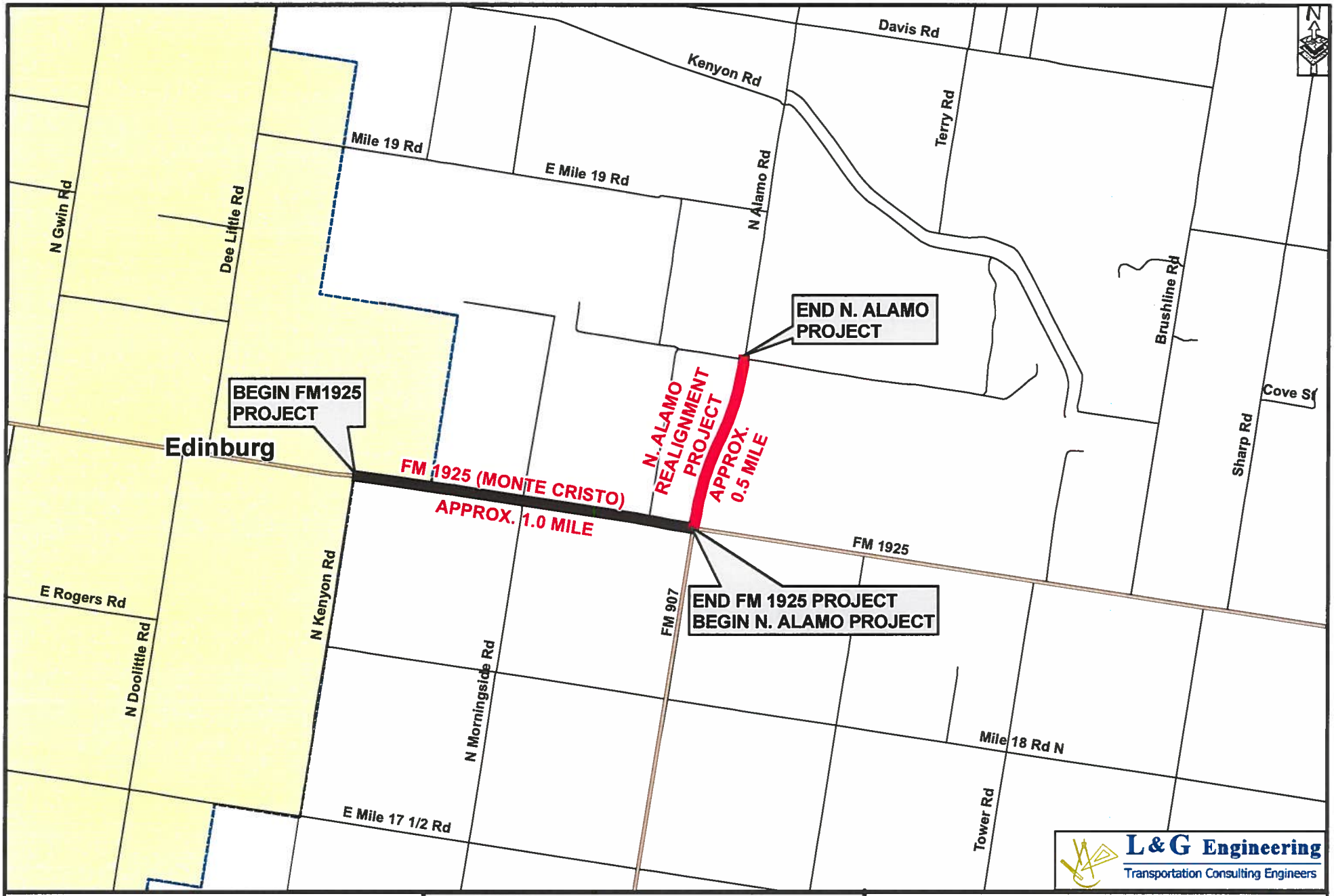
_____
By: Ramon Garcia,
County Judge

ATTEST:

_____
By: Arturo Guajardo, Jr., County Clerk

LIST OF ATTACHMENTS

Location Map
Exhibit A - Services to be provided by Owner
Exhibit B - Services to be provided by Engineer
Exhibit C - Work Schedule
Exhibit D-1 - Project Fee Schedule and Estimated Manhour Brekdown



FM 1925 & NORTH ALAMO ROAD LOCATION MAP

LEGEND

- FM 1925
- N. ALAMO ROAD (FM 907)
- CITY LIMITS
- STATE ROADS
- STREETS

2,000 1,000 0 2,000

Feet

1 inch = 2,000 feet

G:\FM1925 1-18-07\FM1925 LOCATION 1-12-11.mxd

EXHIBIT "A"

Services to be provided by the Owner

1. The County will issue work authorization to initiate all required services and designate the authorized representative of the coordination of each work authorization.

2. The County will provide copies of all subdivision plats of record and/or in the subdivision process.

3. The County will provide the Engineer with on-going guidance, timely reviews, and decisions necessary to complete services required by the work authorization in order to permit the Engineer to maintain an agreed upon project schedule.

4. The County will process all acceptable requests for payment in a timely manner.

GENERAL INSTRUCTIONS

ENGINEER shall mean L&G Engineering.

STATE shall mean Texas Department of Transportation.

COUNTY shall mean Hidalgo County.

PROJECT DESCRIPTION

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

County: Hidalgo County

Control: 1803-02-028

Project/Description: WA #2 – Design Surveys, PS&E Design, Utility Coordination & Construction Management for the FM 1925 Project (including North Alamo Rd)

Length: 1.0 Mile

Highway: FM 1925 (Including North Alamo Rd)

Limits: from Kenyon Road to FM 907 (Old Alamo Road) - (1.0 Mile)

Existing Facility

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
_X_ 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
___ Miscellaneous Studies (Use Function Code 110 for All Tasks)

NOTES

FIELD SURVEYING AND PHOTOGRAMMETRY
(Function Code 150)

Services Provided By:
Engineer County

1. Field Surveying

YES NO a. Primary Project Control - 3 to 5 miles spacing
Precision shall be 1 part in 20,000 or better, unless otherwise directed by the district engineer.
(1) Establish horizontal control points
(2) Establish vertical control points

NOTE: ALL BEARING AND DISTANCE SHALL BE BASED ON THE STATE PLANE COORDINATE SYSTEM NAD 1983, SOUTH ZONE.

ALL DISTANCES AND COORDINATES SHALL BE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999960

YES NO b. Secondary Project Control (Surveyor shall recover and/or reset H&V Control Points as provided by the Engineer and create Survey Data Sheets for inclusion in the Project Plans.)
- No traverse should exceed 25 angle points. Planimetrics shall be 20 ft Lt & Rt from the proposed ROW as per the schematic provided by the Engineer.
- The unadjusted angular error should not exceed 2 seconds per angle, plus 14 seconds.
- The unadjusted ratio of precision should be one part in 10,000 or better. (The ratio of precision is the total length of the traverse divided by the total error.)
- The unadjusted vertical error should not exceed 0.03 foot per mile of traverse.

(1) Project control base lines

NO (2) Photogrammetric ground control
NO (a) Establish horizontal control
NO (b) Establish vertical control points
NO (c) Place and maintain control point targets

YES NO c. Other Field Surveying

(1) The limit of the Design surveys shall be 500-ft before and after the limits of the project as identified by the Project Engineer on the schematic. Establish horizontal and vertical control. Set benchmarks at 1000-ft intervals along the project proposed right-of-way. Provide x,y,z for each Benchmak. Provide a BM along each outfall identified on the Hydrologic Map. The BM's shall be #5 I.R. 2-ft in depth set in concrete. The surveyor shall provide A H&V Book (a Sample shall be provided by the Engineer to the Surveyor). The Surveyor will provide a 3-pt reference sketch with ties to the BMs for inclusion in the H&V Control Book. Establish benchmark circuit throughout the project with a tolerance of 0.03'/ft per mile error vertically.
(2) Complete topographic and cross section survey, data processing, and CADD mapping (2D & 3D) for the limits of the project.
(3) Locate all visible utilities, data processing and CADD mapping (2D & 3D) including irrigation lines. Follow sample provided by the Engineer.
(4) Field locate cross culverts, driveway culverts, inlets, irrigation lines, within the project limits, data processing and CADD mapping (2D & 3D).
(5) Right of Entry, Right of Way Research, and Appraisal District Records is the responsibility of the Surveyor.
(6) The Surveyor shall also paint the proposed centerline on the existing pavement as approved by Engineer. (500-ft stations and a tick mark at 100-ft. stations –12 inches long with approved paint by Engineer) before construction for the purpose of utility adjustments and project location.

(7) Profile and cross section intersecting streets for ties into project (500-ft. beyond the proposed ROW per schematic and 20-ft wider than the existing ROW of intersecting street).

(8) Cross section irrigation crossings for a distance of 20-ft beyond the proposed ROW at 100-ft intervals in a DTM file. Provide a complete description of irrigation appurtenances as identified by the engineer sample layout.

(9) Tie Horizontally and Vertically any existing storm drain system that lies within the existing proposed ROW including the pipe inverts/flow lines and elevation of the outfall of said recovered existing storm drain systems.

YES NO (10) Tie to existing underground and overhead utilities (location, elevation and direction)

Horizontally – the surveyor shall call the 1-800 number for the utilities to be marked on the ground as well as any city water and sewer lines. He shall tie all visible utility crossings with name, address and Phone #'s of utility companies. The engineer will coordinate with the utility companies and jointly the Surveyor and the Engineer will identify which utilities were missed and need to be tied down.

Vertically – The engineer shall identify all utilities that are potential conflicts and that need to be tied vertically. The engineer will advise the surveyor in writing of the needed vertical ties and the surveyor will tie the lines vertically once the surveyor has coordinated the exposure and provide the information to the engineer.

YES NO (11) Additional Field Surveying as shown below:

(A) IRRIGATION LINES – The surveyor will meet with the engineer before he ties down any irrigation lines. The Engineer will provide him the existing Irrigation District Maps and the A&M Data of existing irrigation lines that are identified of record. He will follow the sample given to him by the engineer and tie the structures horizontally and vertically and provide a Field Book to the engineer.

(B) OUTFALLS – The surveyor will provide a complete 2D & 3D File including utilities along the outfalls identified on the Hydrologic Map.

Driveways and Turnouts

(a) Inventory commercial entrances, public roads and side streets separately.

(b) Obtain centerline station. (Width at ROW, PAV'T and existing radius.

(c) Inventory by type (dirt, caliche, gravel or paved). If paved, indicate condition in terms of no patches, has patches or has potholes.

(d) Obtain elevations at both edges of the driveway or turnout in line with the side drain.

YES NO (12) ROW staking (Existing and Proposed @ 1,000 ft. stations PC's PT's and Angle points as per ROW Map)

NO NO (13) Soil core hole staking -

YES NO (14) Determine changes in topography from voids and outdated maps due to development, erosion, etc.

YES NO (15) Profiles of existing drainage facilities

N/A NO (16) Measurement of hydraulic opening under existing bridges

YES NO (17) Obtain elevations of manholes and valves of utilities

YES NO (18) Provide temporary signs, traffic control, flags, safety equipment, etc.

YES NO (19) Ties to existing bridges or culverts that may conflict with new construction.

N/A N/A (20) Bridge widening top of deck and/or top of cap elevations at the Profile Grade Line (PGL) and the edges of slab at bent locations.

YES NO (21) Inventory signs, mailboxes, and driveways

YES NO (22) Survey controlled data sheets per TxDOT guidelines.

N/A N/A 2. Photogrammetric Products

a. Uncontrolled Photography
   (1) Contact Prints
   (2) Mosaics
   (3) Digital ortho plots

b. Mapping
   (1) Planimetric Maps
   (2) Contour Maps
   (3) Cross Sections
   (4) Profiles
   (5) Digital Terrain Models (DTM)

ROADWAY DESIGN CONTROLS
(Function Code 160)

Services Provided By: Engineer	County	
		1. Geometric Design
NO	NO	a. Horizontal and Vertical Alignment (Completed in WA #1)
NO	NO	b. Schematic Layout (Completed in WA #1)
		(1) The location of interchanges, main lanes, grade separations, frontage roads and ramps.
		(2) Develop vertical and horizontal alignment of main lanes, ramps and cross roads at proposed interchanges or grade separations. Frontage road alignment data need not be shown on the schematic; however, it should be developed in sufficient detail to determine ROW needs. The degree of horizontal curves and vertical curve data, including "K" values, shall also be shown for ease of checking.
		(3) For freeways, show the location and text of the proposed main lane guide signs. Lane lines and/or arrows indicating the number of lanes shall also be shown.
		(4) The tentative ROW limits.
		(a) Provide a roadway Microstation file of the preliminary earthwork to verify ROW requirements.
		(b) Provide a graphics file containing the approved schematic.
		(5) The geometric (pavement cross slopes, lane and shoulder widths, slope rates for fills and cuts) of the typical sections of proposed highway lanes, ramps, frontage roads, and cross roads.
		(6) The current and projected traffic volumes as provided by TxDOT (20 year traffic projection, unless otherwise determined by the District Engineer).
		(7) The control of access lines if Interstate or designated under House Bill 179.
		(8) Direction of traffic flow on all roadways.
		(9) Location and width of median openings for highway without access control.
		(10) The geometric of speed change (acceleration, deceleration, climbing) lanes.
		(11) Complete & provide the TxDOT Schematic Checklist.

Services Provided By: Engineer	County	
NO	NO	2. General Guidelines for Project Development (Completed in WA #1)

a. Prior to preparing detailed plans for a proposed project, a preliminary schematic layout shall be prepared which indicates the general geometric features and location requirements peculiar to the project. Four copies of the schematic layout shall be submitted through the district to the Design Division for approval and subsequent coordination with the Federal Highway Administration (FHWA) where applicable.

   The layout shall be submitted for two-lane highway projects on new locations and for all multi-lane highway projects. **No geometric design is to be performed until the COUNTY and TxDOT have given the engineer written approval of the preliminary schematic layout.**

b. All geometric design shall be in conformance with the State's Design Division, Operations and Procedures Manual, except where variances are permitted in writing by the STATE.

c. The schematic layout shall include basic information which is necessary for the proper review and evaluation including the items listed above in the checklist for schematic layout.

d. Handling of traffic during construction shall be a consideration in the development of preliminary designs.

e. Upon approval of the schematic layout by Design Division (FHWA on Federal-aid projects), it shall be the basis for an exhibit at any required public hearing prior to final development of the project. If there are any changes to the schematic after the Design Division and FHWA approval and before the public hearing, four copies of the revised schematic, as displayed at the hearing, shall be submitted either prior to or accompanying the public hearing data. If there are no changes in the schematic as displayed at the hearing, only photographs of the schematic and other displays shall be submitted with the public hearing data.

f. For all freeway construction projects, these schematics shall show the location and text of the proposed main lane guide signs. A schematic layout shall be submitted through the district to the Traffic Operations Division, Traffic Safety Section for approval and subsequent coordination with the FHWA. All signing shall be in conformance with the Texas MUTCD.

g. On complex projects, informal contact through the district with the Design Division and FHWA personnel is encouraged with regard to development of preliminary design prior to official schematic submission.

h. The engineer shall furnish project files that are compatible with the STATE's computer system, a project listing, and a cross section plot showing the original design sections containing the earthwork input and original cross sections for the project. **Accuracy of the earthwork design is of utmost importance since it is the basis for contractor payments and construction staking.**

NO	NO	3. Exhibit for Airway/Highway Clearance Permits

Services Provided By: Engineer	County		
		4.	Grading Design
YES	NO	a.	Refine the horizontal and vertical alignment of main lanes, frontage roads, ramps, cross roads and direct connectors based upon the approved schematic layout (Completed in WA #1). Determine vertical clearances at grade separations and overpasses, taking into account the appropriate superelevation rate.
YES	NO	b.	Typical Sections (As developed in WA #1)
YES	NO	c.	Design Cross Sections
YES	NO	d.	Determine Cut and Fill Quantities
N/A	N/A	e.	Slope Stability Analysis
N/A	N/A	f.	Embankment Foundation Stability Analysis
N/A	N/A	g.	Embankment Settlement Analysis
		5.	Pavement Design
YES	NO	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.
YES	NO	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.
		c.	Embankment and Subgrade
			(1) Soil Core Holes
YES	NO		(a) Along center line
NO	NO		(b) Along center line of each roadway The location and minimum number of soil core holes required for this project are as follows: (To be determined when schematic is being completed)
YES	NO		(2) Identify, interpret and summarize geologic features that affect engineering design (PI, Sulfate content, % of lime)
NO	NO	d.	Traffic Data for Pavement Design by **STATE**
YES	NO	e.	Basic Design Criteria
YES	NO	f.	Life Cycle Cost Analysis (es)
YES	NO	g.	Cost Data
YES	NO	h.	Pavement Material Properties
YES	NO	i.	Rehabilitation Investigations
YES	NO		(1) Core Hole Survey (Show cost estimate with Function Code 110) (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.

DRAINAGE
(Function Code 161)

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 & STATE.**
		1. Hydrologic Studies, Discharges
YES	NO	a. Drainage area maps showing existing conditions and proposed improvements (Utilizing data from Hydrologic Map developed in WA #1).
YES	NO	b. Hydrologic data/discharge determination (Utilizing data from Hydrologic Map developed in WA #1)
		2. Hydraulic Drainage Study and Documentation
		a. Hydraulic computations
N/A	N/A	(1) Storm water detention available within the ROW (linear ft. along side drain ditch).
YES	NO	(2) Storm water detention required outside the ROW (as per HCDD#1)
YES	NO	(3) Culverts
N/A	NO	(4) Bridge waterways
YES	NO	(5) Channels
YES	NO	(6) Storm sewers/inlets
N/A	NO	(7) Pump stations
N/A	NO	(8) Storm Water Management facilities
YES	N/A	(9) Other
		(a) Irrigation Canals/Siphons
NO	NO	b. Hydraulic report(s)
NO	NO	c. Federal Emergency Management Agency (FEMA) floodway requirements
YES	NO	d. Determine impact of proposed drainage plan on the following receiving stream(s)
		(1) Hidalgo County Drainage District Outfalls
		(2) All Irrigation District Outfalls impacted

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

SIGNING, MARKINGS AND SIGNALIZATION
(Function Code 162)

Services Provided By:
Engineer County

YES NO 1. Signing and Markings Layout

a. Requirements (Separate Layout)
   (1) Roadway layout
   (2) Center line with station numbering
   (3) ROW lines
   (4) Culverts and other structures that present a hazard to traffic
   (5) Location of utilities, if not shown on plan and profile
   (6) Existing signs to remain, to be removed, to be relocated
   (7) Proposed signs (illustrated and numbered)
   (8) Existing overhead sign bridges to remain, to be revised, removed or relocated
   (9) Proposed overhead sign bridges indicating location by plan layout (electrical details need not be shown on this layout)
   (10) Proposed markings (illustrated and quantified) which include pavement markings, object markings and delineation
   (11) Quantities of existing pavement markings to be removed
   (12) Proposed delineators and object markers

b. For projects involving freeway to freeway or other types of directional interchanges, projects including left-hand ramps or connections, the following information must be provided:
   (1) The location of interchanges, main lanes, grade separations, frontage roads and ramps
   (2) complete explanation of the sequence and methods of stage construction, where applicable, which would include the initial and ultimate proposed treatment of crossovers and ramps
   (3) The number of lanes in each section of proposed highway and the location of changes in numbers of lanes
   (4) The projected traffic volumes as provided by the **STATE** (20 year traffic projection, unless otherwise determined by the District Engineer)
   (5) Tentative ROW limits
   (6) Direction of traffic flow on all roadways
   (7) Main lane, ramp, frontage road, and necessary cross road profiles at proposed interchanges or grade separations

YES NO 2. Summary of Small Signs Tabulation

NO NO 3. Summary of Large Signs Tabulation including all Guide Signs

YES NO 4. Sign Detail Sheets
   a. All signs except route markers
   b. Design details for large guide signs
   c. Dimensions of letters, shields, borders, corner radii etc.
   d. Designation of shields attached to guide signs
   e. Designation of arrow used on exit direction signs

Services Provided By: Engineer	County	
		5. Traffic Signals
		a. Development of Justification (Warrant) Data
YES	NO	(1) Location Map Relationship of proposed installation to other traffic signals, highways, business areas and traffic generators
YES	NO	(2) Photographs as appropriate
YES	NO	(3) Accident data as appropriate
		(4) Vehicle volumes (provided by TxDOT)
YES	NO	(a) Existing
YES	NO	(b) Estimated
YES	NO	(c) Projected
YES	NO	(d) Pedestrian
YES	NO	(5) Traffic Survey - Count Analysis
YES	NO	(6) Recommendation based on above data
YES	NO	b. Layout
		(1) Title Sheet (when applicable)
		(a) Describe the location
		(b) Type of installation
		(c) Area map with project limits for each location
		(d) Index of sheets
		(e) Space for official signatures
		(2) Estimate and quantity sheet (when applicable)
		(a) List of all bid items
		(b) Bid item quantities
		(c) Specification item number
		(d) Paid item description and unit of measure
		(3) Basis of estimate sheet (list of materials)
		(4) General notes and specification data sheet
		(5) Condition diagram
		(a) Highway and intersection design features
		(b) Roadside development
		(c) Traffic control including illumination
		(6) Plan sheet(s)
		(a) Existing traffic control that will remain (signs and markings)
		(b) Existing utilities
		(c) Proposed highway improvements
		(d) Proposed installation
		(e) Proposed additional traffic controls
		(f) When applicable, proposed conduit for Railroad interconnect with standard details for runs under tracks.
		(g) Proposed illumination attached to signal poles.
		(7) Notes for plan layout
		(8) Elevation sheet(s) (span wire design)

Services Provided By:
Engineer County

5. Traffic Signals (Continued)

(9) Phase sequence diagram(s)

(a) Signal locations
(b) Signal indications
(c) Phase diagram
(d) Signal sequence table
(e) Flashing operation (normal and emergency)
(f) Preemption operation (when applicable)
(g) Interval timing, cycle length and offset

(10) Construction detail sheets(s)
(a) Poles (TxDOT standard sheets)
(b) Detectors
(c) Pull Box and conduit layout
(d) Controller Foundation standard sheet

(11) Marking details (when applicable)

(12) Barricade and warning sign standard sheet and any special details for work zone traffic control for special conditions

(13) Aerial or underground interconnect details (when applicable)

c. General Requirements

(1) Contact local utility company

YES NO (a) Confirm power source
YES NO (b) Discuss route of aerial or underground interconnect cable (when applicable)
YES NO (c) Adjustment of overhead utility lines

YES NO (2) Prepare governing specifications and special provisions list

YES NO (3) Prepare project estimate

YES NO d. Summary of Quantities

MISCELLANEOUS (ROADWAY)
(Function Code 163)

Services Provided By: Engineer	County		
		1.	Retaining Walls
		a.	Structural Details
NO	NO		(1) Cast-in-Place Cantilever at _____ locations. (TxDOT Standard Retaining Wall)*
NO	NO		(2) Tiedback Retaining Wall at _____ location. (TxDOT standard retaining wall)
NO	NO		(3) Specialized Retaining Wall at _____ locations (Unique Design).*
		b.	Alternate Patented Retaining Walls at _all_ locations. (Layouts Only)**
NO	NO		(1) Mechanically Stabilized Earth
NO	NO		(2) Concrete Block Wall Systems
NO	NO		(3)
NO	NO	c.	Retaining Wall Layout (PLAN)
			(1) Designation of reference line
			(2) Beginning and ending retaining wall stations
			(3) Station of each retaining wall joint***
			(4) Offset from reference line
			(5) Horizontal curve data
			(6) Number of retaining wall panels and lengths***
			(7) Total length of wall
			(8) Indicate face of wall
			(9) All wall dimensions and alignment relations (alignment data as necessary)
			(10) Soil core hole locations
NO	NO	d.	Retaining Wall Layout (ELEVATION)
			(1) Top of wall elevations at each joint*** or intervals****
			(2) Existing and finished ground line elevations
			(3) Height of stem at each joint***
			(4) Wall panel designations***
			(5) Top of footing elevations***
			(6) Limits of measurement for payment****
			(7) Type, limits and anchorage details of railing (If applicable)
			(8) Top and bottom of wall profiles and soil core hole data plotted at correct station and elevation. The plot shall be at the same scale as the wall profile. Ground water elevations and the observation date shall be shown.
NO	NO	e.	Foundation Studies (Show cost estimate with Function Code 110)
NO	NO		The soil core holes shall be obtained at approximately 200 foot intervals along retaining wall alignments. The core holes shall extend 25 feet below the footing elevation.
NO	NO	f.	Stability Analysis (the Engineer shall estimate this task as part of his bid to complete the work).
NO	NO	g.	Estimate
NO	NO	h.	Summary of Quantities
NO	NO	i.	Typical X-section.

Services Provided By:
Engineer County

1. Retaining Walls (continued)

NO

j. General Guidelines for Retaining Walls
   (1) The **engineer** shall make final design calculations and final detail drawings in accordance with standard requirements of the Texas Department of Transportation. **The designer and checker shall check all calculations and initial each page.**
   (2) The ground water level should be observed at the water strike.
   (3) For purposes of uniformity statewide, soil core hole data shall be shown on layouts as illustrated in the Bridges and Structures Foundation Exploration and Design Manual.
   (4) Foundation exploration shall conform to the requirements set forth in Administrative Circular No. 25-84, Administrative Circular 33-87 and Administrative Circular No. 25-92.

YES NO 2. Traffic Control Plan, Detours and Sequence of Construction

Traffic Control Plans (TCP) are required for all projects. A detailed TCP shall be developed when traffic handling during construction involves complications for which a feasible solution is not covered by the Texas MUTCD or the current Barricade and Construction (BC) Standards. The following items are required on all Traffic Control Plan Layouts:

a. The sequence of construction and method of handling traffic during each phase.
b. The existing and proposed traffic control devices that will be used to handle traffic during each construction sequence. Include signals, regulatory signs, warning signs, construction warning signs, guide signs, route markers, construction pavement markings, channelizing devices, portable changeable message signs, flashing arrow boards, barricades, barriers, etc.
c. The proposed traffic control devices (stop signs, signals, flagperson, etc.) at grade intersections during each construction sequence.
d. Where detours are provided, typical cross sections shall be shown.
e. Road construction work hours shall be developed after an investigation of the traffic volumes has been performed.

Services Provided By: Engineer	County	
		3. Illumination
NO	N/A	a. Preliminary Roadway Illumination Layout and Circuit Layout
		(1) For projects involving freeway to freeway or other types of directional interchanges and projects including left-hand ramps or connections, provide the following:
		(a) The location of interchanges, main lanes, grade separations, frontage roads and ramps
		(b) A complete explanation of the sequence and methods of stage construction, where applicable, which would include the initial and ultimate proposed treatment of crossovers and ramps
		(c) The number of lanes in each section of proposed highway and the location of changes in the number of lanes
		(d The projected traffic volumes as provided by the STATE (20 year traffic projection unless otherwise determined by the district engineer)
		(e) Tentative ROW limits
		(f) Direction of traffic flow on all roadways
		(g) Main lane, ramp, frontage road, and necessary cross road profiles at proposed interchanges or grade separations
NO	NO	b. Final Roadway Illumination and Electrical Circuit Layouts
		(1) Roadway layout showing pavement edges and shoulders, curbs, retaining walls, etc.
		(2) Center line with station numbering.
		(3) ROW lines.
		(4) Symbol legend. Use department standard symbols for lighting and electrical.
		(5) Culverts and other structures that present a hazard to traffic.
		(6) Location of underground utilities, if not shown on plan profile.
		(7) Location of overhead electrical lines, both crossing and parallel to ROW.
		(8) Existing sign lighting circuits and roadway illumination to remain, to be removed, to be relocated.
		(9) Existing service poles, electrical circuits, ground boxes, etc.
		(10) Contact electric utility for service pole locations, voltage characteristics.
		(11) Location of proposed sign lighting circuits and roadway illumination.
		(12) Proposed electrical circuits.
		(13) Tabulation of all quantities including proposed, existing to be relocated, existing to be removed. The layout sheet quantities and lighting summary shall be shown. Tabulations to include estimated quantity with a column for final quantities.
NO	NO	c. General Guidelines for Illumination (If applicable)
		The **Engineer** shall submit to the **COUNTY**, well in advance of PS&E due date, the roadway illumination and electrical circuit layout sheets for review by the **STATE**. Two copies of the layout sheets are to be submitted. One copy will be returned to the **Engineer** showing corrections that are to be made by the **Engineer**. When final plan submission is made, the **Engineer** shall provide a written statement regarding completion of the corrections.

Services Provided By: Engineer	County		
		4.	Miscellaneous Drafting/Standards
YES	NO	a.	Erosion Control
NO	NO	b.	Landscape Development
YES	NO	5.	Compute and Tabulate Quantities
YES	NO	6.	Special Utility Details (Irrigation lines)
		7.	Miscellaneous Structures
		a.	Type of Structure*
		(1)	Overhead Sign Bridges (O.S.B.) Modifications or special O.S.B. designs shall be prepared using the same design assumptions that are used for the standard O.S.B structures.
NO	NO	(a)	New O.S.B. structure(s)
NO	NO	(b)	Structural evaluation of existing O.S.B. structure(s) that are to remain in place or to be relocated.
NO	NO	(2)	High Mast Illumination Poles (HMIP)
YES	NO	(3)	Traffic Signal Supports
NO	NO	(4)	Conventional Illumination Poles
NO	NO	(5)	Sound Barrier Walls
NO	NO	b.	Checklist for Layouts
		(1)	Reference appropriate O.S.B. standard
		(2)	Drilled shaft size and length
		(3)	Soil strength used for design {indicate basis and boring(s) used}
		(4)	Design height
		(5)	Tower heights
		(6)	Leg spacings
		(7)	Design wind speed
NO	NO	c.	Foundation Studies The soils exploration requirements for miscellaneous structures on this project are as follows: (To be provided by the Engineer on an as-needed basis)
		8.	Agreements
YES	NO	a.	Utility Agreements
YES	NO	b.	Exhibits for Utility Agreements
N/A	NO	c.	Railroad Agreements
		d.	Railroad Exhibits
N/A	N/A	(1)	Railroad Underpasses
N/A	N/A	(2)	Railroad Overpasses
N/A	N/A	(3)	Railroad Grade Crossing (Replanking)
N/A	N/A	(4)	Railroad Grade Crossing Warning Systems (Signals)
N/A	N/A	(5)	Other Miscellaneous Sketches for Railroads
YES	NO	e.	Traffic Signal Agreements
YES	NO	f.	Exhibits for Traffic Signal Agreements
YES	NO	9.	Estimate
YES	NO	10.	Specifications and General Notes

BRIDGE DESIGN
(Function Code 170)

Services Provided By: Engineer	County		NUMBER REQUIRED
		1. Preparation of Structural Details	
		a. New Structure(s)	
NO	NO	(1) Underpass(es)	____
NO	NO	(2) Overpass(es)	____
N/A	N/A	(3) Main Lanes	____
N/A	NA	(4) Direct Connector(s)	____
N/A	N/A	(5) Ramp Bridge(s)	____
NO	N/A	(6) Waterway Structure(s)**	____
N/A	N/A	(7) Pedestrian Structure(s)	____
N/A	N/A	(8) Utility Structure(s)	____
N/A	N/A	(9) Railroad Underpass(es)	____
N/A	N/A	(10) Railroad Overpass(es)	____
N/A	N/A	11) Bridge Classification Culvert(s)**	
N/A	N/A	(11) Alternate Structural Designs	____
N/A	N/A	(12) Alternate Foundation Design	
		Total New Structures =	____
		b. Existing Structure(s)	____
NO	NO	(1) Bridge Widening, Rehabilitation and/or Modification of Existing Structure(s)	____
NO	NO	(2) Bridge Replacement	____
NO	NO	(3) Raising Bridge Elevation	____
NO	NO	(4) Bridge Classification Culvert(s) Widening and/or Modification of Existing Structures(s)	____
N/A	N/A	(5) Railroad Overpass(es)	____
N/A	N/A	(6) Railroad Underpass(es)	____
N/A	N/A	(7)	____
		Total Existing Structures =	0

* Countour plots of bridge gores are required for projects involving ramps within the main bridge in order to ensure project transition. The Template data and vertical alignment necessary to generate the contour plots are also required.

** In the early stages of a project, it sometimes cannot be determined whether a Waterway Bridge Structure or a Bridge Classification Culvert (20' minimum length) will be required. Therefore, the **engineer** should be aware that either of these two types of bridges may be reclassified later in the project for the other type when more information is known that would dictate a change in structure classification.

Services Provided By: Engineer	County	
NO	NO	2. Preparation of Bridge Layouts (each bridge)

a. Bridge Layouts (PLAN)
   (1) Horizontal curve information or bearing of centerline.
   (2) Including horizontal, vertical, and template information of all roadways or railroads crossed.
   (3) Bearing of center line or reference line.
   (4) Skew angle(s).
   (5) Slope for header banks and approach fills.
   (6) Control stations at beginning and ending of bridge (with deck elevation), intersections, etc.
   (7) Approach pavement and crown width.
   (8) Bridge roadway width and curbs, face of rail, shoulders, or sidewalks.
   (9) Approach slab and curb returns.
   (10) Limits and type of riprap.
   (11) Proposed features under structure.
   (12) Location of profile grade line.
   (13) North arrow.
   (14) Typical bridge roadway section including preliminary proposed beam types and spacings.
   (15) Cross slope and superelevation data.
   (16) Minimum horizontal clearances when applicable.
      (a) Dimensions to features that control clearances. (Calculate and indicate points of minimum vertical and horizontal clearances.
   (17) Location of soil core holes (station and offset), shown on layout.
   (18) Bent stations and bearings.
   (19) Retaining wall locations.
   (20) Traffic flow directional arrows.
   (21) Railing types shown.
   (22) Joint types and seal size, if used.
   (23) Beam line numbers consistent with span details.
   (24) Critical horizontal clearances (location of railroad tracks, nearby structures and utilities).
   (25) Bearings of utilities.

Services Provided By: Engineer	County	
		2. Preparation of Bridge Layouts (each bridge) (Continued)
		b. Bridge Layouts (ELEVATION)
		(1) Type of foundation.
		(2) Finished grade elevations at beginning and end of bridge.
		(3) Overall length of structure.
		(4) Length, type of spans and units.
		(5) Type of railing.
		(6) Minimum calculated vertical clearance(s).
		(7) Existing and proposed ground lines clearly marked.
		(8) Grid elevations and stations.
		(9) Bent numbers encircled.
		(10) Stationing of bridge compatible with grid stations.
		(11) Standard title.
		(12) Profile grade data.
		(13) Type of riprap.
		(14) Soil Core Hole information with penetrometer test data shall be shown on the bridge layout at correct station, elevation and scale.
		(15) Fixed/expansion condition of all bents.
		(16) Column "H" heights.
		(17) Number, size and length of foundations.
		c. Additional layout requirements for waterway structures and bridge classification culverts.
		(1) Design and 100-year peak discharges.
		(2) Design and 100-year high water (HW). (Recorded HW and date if available.)
		(3) Natural and through-bridge velocities for design and 100-year floods.
		(4) Calculated backwater for design and 100-year floods.
		(5) Direction of flow for waterway crossings.
		(6) Contours for water crossing.
NO	NO	3. Bridge Classification Culvert, Estimate, Quantities, and Specifications (each bridge)
NO	NO	4. Foundation Studies (Show cost estimate with Function Code 110) The minimum number of soil core holes shall be obtained in accordance with Section 1-301 of the Bridges and Structures Foundation Exploration and Design Manual. Soil core holes shall be obtained at approximately (300 foot) intervals along bridge alignments. Texas cone penetrometer (TCP) tests shall be conducted in all soil types encountered at a maximum of (10 foot) intervals. If single column bents with single drilled shafts are planned, TCP values should be taken at close intervals in the upper (15 feet).
NO	NO	5. Bridge Total Quantities and Cost Estimates (each bridge)
NO	NO	6. Bridge Special Provisions and Specifications (each bridge)
NO	NO	7. Bearing seat elevations for each beam or girder. Top of cap elevations for non-beam type structures.

Services Provided By:
Engineer County

NO 8. General Guidelines for Bridge Design

a. The **engineer** shall prepare a bridge layout of each bridge structure for Company's review and approval. The bridge layout shall be in conformance with the Bridges and Structures, Operation and Planning Manual and the Bridges and Structures, Detailing Manual. Soil core hole data is not required for submission of the preliminary bridge layout. **No bridge design work is to be performed until the COUNTY has given the engineer written approval of the preliminary bridge layout.**

Several months may be required, after the preliminary bridge layout is submitted, for the district to obtain approval and/or permits from the following:

- TxDOT Design Division, when applicable:
  - Railroad Companies
  - FHWA
  - U.S. Army Corps of Engineers
  - U.S. Coast Guard
  - Bureau of Reclamation
  - Texas Parks and Wildlife
  - Others

Therefore, the bridge layout should be submitted at the earliest possible date and the **engineer's** design schedule should reflect this.

b. All bridge superstructure and substructure design will be reviewed by the Design Division for purposes of verifying structural integrity and optimization of design.

c. The final bridge layout shall be in conformance with the Bridges and Structures, Operation and Planning Manual and the Bridges and Structures Detailing Manual.

Services
Provided By:
Engineer County

8. General Guidelines for Bridge Design (Continued)

   d. The **engineer** shall make final design calculations and final detail drawings in accordance with standard requirements of the Texas Department of Transportation. All bridge design shall be in conformance with the Texas Department of Transportation Bridges and Structures Operation and Planning Manual, the current American Association of State Highway and Transportation Officials or American Railway Engineers Association Specifications for railway structures, Standard Specifications for Highway Bridges, including applicable interim specifications, and the Bridges and Structures, Foundation Exploration and Design Manual. The **engineer** shall furnish design calculations to the Design Division. **The designer and checker shall check all calculations and initial each page.**
   e. Structural steel or prestressed concrete shop drawings, form work drawings and false work drawings are not part of the design requirements. However, contract plans shall be in sufficient detail to permit the preparation of complete shop details for fabrication and erection.
   f. Elements of the bridge (abutments, bents, slabs, etc.) shall be detailed to a metric scale of 1:20 (1/2 inch equals one foot architect scale) or 1:50 (1/4 inch equals one foot architect scale) to provide clear legible drawings when the drawings are reduced. Lettering 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).
   g. Standard drawings for beams, diaframs, railings, armor joints, riprap, etc., shall be furnished to the **engineer** upon request. These standards shall not be redrawn by the **engineer** nor shall his title block be transferred to the standard drawings. Modifications to the standards, if necessary, shall be clearly identified and designated by "MOD" in the standard title. Specific special drawings prepared by the **engineer** shall not be identified as standards.
   h. Bridge layout sheets shall have the same vertical and horizontal scale. Usually a metric scale of 1:100 (1 inch = 10 feet) or 1:200 (1 inch = 20 feet) is used. Sections of existing and proposed structures usually have a metric scale of 1:50 (1 inch = 5 feet). Soil core holes shall be positioned and labeled on the bridge layout plan view. The core hole data shall be plotted at the correct station, at the same vertical scale, and at the proper elevation unless otherwise approved by the Design Division.
   i. APPENDIX C, "GENERAL PLAN CHECKLIST", on pages C-1 thru C-5, more specifically relates various sheet types, details, summaries, standards, etc.
   j. For purposes of uniformity statewide, soil core hole data shall be shown on layouts as illustrated in the Bridges and Structures Foundation Exploration and Design Manual.
   k. Geometry and structural design errors found after acceptance of bridge plans shall be promptly corrected by the consultant at no cost to the Company.

CONSTRUCTION PHASE SERVICES
(Function Code 320)

Services Provided By:
Engineer County

YES NO CONSTRUCTION MANAGEMENT SERVICES:

Construction Bidding:

1) The **Engineer** will furnish the **County** the necessary copies of approved plans, specifications, notices to bidders, and proposals as prepared under PS&E.

Construction Contract Administration and Inspection:

2) In general, the **Engineer** will provide the management and engineering support/data required for consultation and advisement to the **County** and act as the **County**'s representative as provided in the General Condition of the Construction Contract.

3) The **Engineer** will assist TxDOT at pre-construction meeting(s) (if required).

4) Defects and Deficiencies. The **Engineer** will use his best efforts to protect the **County** against defects and deficiencies in the work of the Contractor when TxDOT/Contractor request changes to plans.

5) Project Engineer. The **Engineer** will provide visits by the Project Engineer or a competent representative of the **Engineer** to the site of construction for the purpose of monitoring the Contractor's progress and conformance to the construction contract plans and specifications in an effort to update the County.

Miscellaneous Technical Activities:

6) Shop Drawings. The **Engineer** will review and check all shop or working drawings furnished by the Contractor.

7) Change Orders. When applicable the **Engineer** will prepare the engineering data, including plan sheet drawings, specifications, and estimates, for the preparation of construction contract change orders, which may be required due to actual field conditions encountered or new requirements directed by the **County/TxDOT**.

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

Whenever possible, 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, to the extent possible, 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 CADDSEALed 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.

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.

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:

Service	Office Location
PS&E	Mission Office
Utility Coordination	Mission Office
Construction Management	Mission Office

The work effort will be managed out of the Mission (City)

office located at 900 South Stewart Rd. (Address),

Mission (City), Texas (State).

PROJECT: FM 1925
LIMITS: from Kenyon Road to FM 907 (Old Alamo Road)
CLIENT: Hidalgo County

EXHIBIT C
WORK SCHEDULE

11/30/2012

TASK AND DESCRIPTION	FIRM	2012			2013												2014												2015		
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
Work Authorization No. 1																															
Environmental Clearance																															
Approval by TxDOT/FHWA - FONSI	L&G																														
ROW Clearance																															
Consumation of Cases - ROW Purchase Finalized	L&G																														
Work Authorization No. 2																															
Field Surveys For Design & Construction																															
Obtain Right of Entry (Surveying)	RODS																														
Design Surveys	RODS																														
Update DTM & Planimetrics	RODS																														
Provide Field Books	RODS																														
Provide Sealed Survey Data Sheets	RODS																														
PS&E Development																															
Outfall Coordination with HCDD #1	L&G																														
30% PS&E Submittal w/Signal Design	L&G																														
60% PS&E Submittal w/Signal Design	TxDOT																														
90% PS&E Submittal w/Signal Design	L&G																														
TxDOT Review	L&G																														
95% PS&E Submittal w/Signal Design	L&G																														
TxDOT Review	TxDOT																														
100% Mylars Submittal w/Signal Design	L&G																														
TxDOT Plan Set Approval	TxDOT																														
Utility Coordination																															
Plan of Adjustment, Development and Review	L&G																														
Execution of 2-Party Standard Utility Agreement	COUNTY																														
Utility Adjustment	COUNTY																														
Construction Management																															
TxDOT Let Project (Est. Earliest Date: February 2014)	TxDOT																														
TxDOT Construction Duration	TxDOT																														
L&G Construction Management	L&G																														

L&G ENGINEERING TASK
TxDOT TASK
COUNTY TASK

NOTE: THIS SCHEDULE ASSUMES THAT A FULL RE-EVALUATION OF THE FONSI WILL NEED TO BE PERFORMED. IN ADDITION, THIS SCHEDULE ASSUMES THAT ROW ACQUISITION WILL NOT BEGIN UNTIL THE RE-EVALUATION IS COMPLETE DUE TO FUNDING.

REVISED EXHIBIT D-1

FM 1925 & NORTH ALAMO RD. EXTENSION PROJECT

ROADWAY PROJECT:	FM 1925 PROJECT		N. Alamo Rd. Realignment & Rev FM 1925 Alignment	
LIMITS: ...PHASE I	Kenyon East to FM 907		From FM 1925 North	
LIMITS: ... PHASE II	FM 907 East to FM 88		1/2 Mile to Connect at Existing Co. Rd.	
EXISTING ROADWAY SECTION:	40' -- Rural		New Location	
EXISTING ROW WIDTH:	80 Varies		New Location	
PROPOSED ROADWAY SECTION:	4-lane divided urban with Grade Separations (FM 907, Hid Loop, FM 493 &		Proposed 28 ft Rural Roadway	
PROPOSED ROW WIDTH:	Varies 120ft - 150ft		Varies Proposed 120ft	
ESTIMATED CONSTRUCTION COST PHASE I	**$4,000,000.00**			**$350,000.00**
ESTIMATED CONSTRUCTION COST PHASE II ROADWAY FM1925	$28,000,000.00			
ESTIMATED CONSTRUCTION COST PHASE II COUNTY ROAD CONNECTIONS	$6,000,000.00			
ESTIMATED CONSTRUCTION COST PHASE II OVERPASSES (4 ESTIMATED)	$35,000,000.00			
ESTIMATED CONSTRUCTION COST PHASE II	**$69,000,000.00**			
LENGTH: PHASE I	1 Miles		.5 Miles	
LENGTH: PHASE II	7 Miles			

ESTIMATED PROJECT COSTS	*STATE/MPO*	*LOCAL*	*STATE/MPO*	*LOCAL*
WORK AUTHORIZATION NO. 1 (Part I of Phase I)				***Suppl. No. 1 to Work Auth. No. 1***
PHASE I - PLANNING & PUBLIC INVOLVEMENT				
Schematic PHASE I		$ 57,600.00		$ 5,040.00
Hydrological Map		$ 30,000.00		$ 5,000.00
Surveys for Schematic (Preliminary ROW Mapping, H&V Contro PHASE I		$ 20,000.00		$ 12,000.00
Coordiate Environmental Assessment with TxDO PHASE I		$ 35,000.00		$ -
Suppl to Revise Env Doc Necessary for New Rev Scope of Phase I incl Realign of Alamo Rd				$ 50,000.00
Archeological Investigation				$ 10,000.00
Historical Research				$ 10,000.00
Limited Public Involvement for Environmental Assessmer PHASE I		$ 20,000.00		$ -
SUB-TOTAL BUDGET FY 2012	$ -	**$ 162,600.00**		**$ 92,040.00**
PHASE I - DESIGN, ROW MAPPING & UTILITIES				
Compensible Utilities, Management Oversight (Est 2 Utilites on FM 1925 and 4 on N Alamo)	$ -	$ 22,500.00		$ 40,000.00
ROW Map (Estimated 15 Parcels for FM 1925) (Estimated 5 Parcels for Alamo Rd Realignment)		$ 52,500.00		$ 25,000.00
SUB-TOTAL BUDGET FY 2012	$ -	**$ 75,000.00**		**$ 65,000.00**
PHASE I- ROW ACQUISTION				
Right-of-Way Costs- Acq.Services @ (est. 15 Parcels @ $12,800/Parcel Avg. for FM 1925 and 5 for North Alamo Rd)		$ 192,000.00		$ 64,000.00
Roadway Right-of-Way Costs- (40 ft. for 1 mile @ $3.00/sq ft)(STATE 98%)(LOCAL=2%) After "EDC" for FM 1925 (for N. Alamo Road Re-Alignment (120' x 2640' of New ROW))	$ 620,928.00	$ 12,672.00	$ 160,000.00	$ 40,000.00
Relocated Homes/Businesses	$ -	$ -		
Transmission line Adjustments and High Pressure Gas line (STATE 98%)(LOCAL=2%)	$ -	$ -		
SUB-TOTAL BUDGET FY 2012	$ 620,928.00	**$ 204,672.00**		**$ 104,000.00**
TOTAL PART I OF PHASE I		**$ 442,272.00**		**$ 261,040.00**
WORK AUTHORIZATION NO. 2 (Part II of Phase I)				
PHASE I - DESIGN, ROW MAPPING & UTILITIES				
Field Surveys for Design and Construction		$ 40,000.00		$ 28,010.00
PS&E Development		$ 320,000.00		$ 28,018.00
Signal Design		$ 60,000.00		$ 12,019.00
Permitted Utilities Coordination	$ -	$ 22,500.00		$ 16,004.00
SUB-TOTAL	$ -	**$ 442,500.00**		**$ 84,051.00**
PHASE I - CONSTRUCTION				
ROADWAY CONSTRUCTION COST	$4,000,000.00		$ 350,000.00	$ 17,500.00
TxDOT Construction Inspection (11%)	$ 440,000.00			
L&G Construction Management		$ 56,000.00		$ 18,009.00
SUB-TOTAL	$ 4,440,000.00	**$ 56,000.00**		**$ 35,509.00**
TOTAL PART II OF PHASE I		**$ 498,500.00**		**$ 119,560.00**
SUB-TOTAL	**$5,060,928.00**	**$ 940,772.00**	**$ 510,000.00**	**$ 380,600.00**

Work Authorization No. 1 (Part I of Phase I)	FY 12	$ 429,600.00	ISSUED
Supplemental No.1 to Work Auth. No. 1	FY 12	$ 221,040.00	ISSUED
Work Authorization No. 2 (Part II of Phase I)	FY 12	$ 600,560.00	NOT ISSUED

TOTAL ESTIMATED COUNTY COST: **$ 1,321,372.00** 19.17%

TOTAL ESTIMATED PROJECT COST: **$6,892,300.00**

State/Fed Estimated Cost

Local Estimated Cost

COUNTY COSTS NOT INCLUDED IN WORK AUTHORIZATIONS $ 70,172.00

11/30/2012

EXHIBIT D-1

PROJECT FEE SCHEDULE AND
ESTIMATED MANHOUR BREAKDOWN

10TH STREET EXTENSION PROJECT

	MANHOURS																
	Senior Project Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Senior Engineer Tech	Engineer Tech	CADD Operator	ROW Administrator	ROW Negotiator	Biologist	Senior Environmental Scientist /Specialist	Environmental Scientist /Specialist	Admin / Clerical	TOTAL HOURS	Sub-Contract Amounts / ROW COST	TOTAL LINE ITEM COST
CONTRACT RATE	223.81	186.51	133.66	118.12	80.82	77.71	74.60	65.28	105.69	96.36	49.73	133.66	77.71	55.95			
WORK AUTHORIZATION NO. 2																	
PART II OF PHASE I - DESIGN, ROW MAPPING, UTILITIES AND CONSTRUCTION MANAGEMENT																	
1 Field Surveys for Design and Construction	28	45	78	87	75	78	114	155						34	694		$ 68,010.00
2 PS&E Development	131	210	258	336	511	603	777	832						88	3746		$ 348,018.00
3 Signal Design	24	42	86	96	83	99	127	158						32	747		$ 72,019.00
4 Permitted Utilities Coordination	7	26	76	118				101						25	353		$ 36,504.00
5 Construction Management	39	92	112	140		101		100						40	624		$ 74,009.00
SUB-TOTAL	**229**	**415**	**610**	**777**	**669**	**881**	**1018**	**1346**	**0**	**0**	**0**	**0**	**0**	**219**	**6164**	**$ -**	**$ 600,560.00**

Subtotal Manhour Fee with Sub-Consultant Costs	$	600,560.00
Total Project Fee:	$	600,560.00