HIDALGO COUNTY
Professional Engineering Services
Contract # C-15-336-09-29
Work Authorization Form

WORK AUTHORIZATION NO. 1

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Article I. 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 the Environmental Assessment, Public Involvement, Schematic Design and Design Survey for Phase I of the Eldora Road 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 **$893,158.96** This amount is based upon the costs outlined in the Estimated **Cost Proposal** attached hereto as ***EXHIBIT "D" Fee Schedule*.**

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.1 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 content and detail of this **Work Authorization No. 1**.

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

_____
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
Exhibit A – Services to be Provided by the Owner
Exhibit B – Services to be Provided by the Engineer
Exhibit C – Work Schedule
Exhibit D – Fee Schedule

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 improvements to Eldora Road located within the City of Pharr, and within the limits of FM 3662 (Jackson Rd) and I Road 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 3 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: Environmental Assessment, Public Involvement, & Schematic Design for the Eldora Road Project

LENGTH: 2.3 Miles

HIGHWAY: Eldora Road Project

LIMITS: From FM 3662 (Jackson Rd) to I Road

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)

ENGINEER shall mean L&G Engineering.

STATE shall mean Texas Department of Transportation.

COUNTY shall mean the Hidalgo County.

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

SECTION 2 - ROUTE AND DESIGN STUDIES
(Function Code 110)

Services Provided By: ENGINEER	COUNTY		
YES	NO	1.	Route Location Studies
N/A	N/A	2.	Level of Service Analysis
YES	NO	3.	Traffic Evaluations and Projections
YES	NO	4.	Develop Roadway Design Criteria
YES	NO	5.	Preliminary Cost Estimates
YES	NO	6.	Design Schematic (See Section 6, page 6-1 for schematic layout requirements)
YES	NO	7.	Preliminary Right-of-Way Requirements
YES	NO	8.	Design Concept Conference
		9.	Soil Core Hole Drilling
NO	N/A		a. Pavement (See Section 6, pages 6-3 thru 6-4 for requirements)
N/A	N/A		b. Retaining Walls (See Section 9, page 9-1 thru 9-2 for requirements)
NO	N/A		c. Miscellaneous Structures (See Section 9, page 9-4 for requirements)
N/A	N/A		d. Bridges (See Section 10, page 10-3 for requirements)

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

SECTION 3
SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT
(Function Code 120)

Services Provided By: ENGINEER	COUNTY	
		1. Environmental Reports All Environmental Reports shall be in accordance with 43 Texas Administrative Code (TAC) 2.40-2.51, Code of Federal Regulations, Title 23, Part 771 and Highway Design Operations and Procedures Manual, Part II-B.
		a. Environmental Assessments
N/A	N/A	(1) An Environmental Assessment shall be prepared, anticipating a Categorical Exclusion.
YES	NO	(2) An Environmental Assessment shall be prepared, anticipating a Finding of No Significant Impact.
N/A	N/A	(3) An Environmental Assessment shall be prepared, anticipating the need for a Draft Environmental Impact Statement.
		b. Environmental Impact Statement
N/A	N/A	(1) A Draft Environmental Impact Statement shall be prepared. After appropriate interagency and public reviews within time limits prescribed by the Code of Federal Regulations, Title 23, Part 771 and 43 Texas Administrative Code 2.40-2.51, a Final Environmental Impact Statement shall be prepared.
N/A	N/A	(2) A Section 4(f) Statement (Department of Transportation Act) shall be provided by the ENGINEER. The format and content of the statement is found in FHWA Technical Advisory T6640.8A.
		2. Public Involvement All public involvement procedures shall be in accordance with 43 Texas Administrative Code (TAC) 2.40-2.51, Code of Federal Regulations Title 23, Part 771 and Highway Design Operations and Procedures Manual, Part II-B.
YES	NO	a. A public involvement meeting(s)/hearing(s) shall be scheduled, coordinated and conducted.*
YES	NO	b. Technical assistance, meeting(s)/hearing(s) preparation, maintenance of contracts lists, minutes of meeting(s), exhibit preparation, and other tasks outlined by the COUNTY, shall be provided.
		3. Cultural Resources Formal consultation with the State Historic Preservation Office (SHPO) and the Texas Historical Commission (THC) will be conducted by the COUNTY.
YES	NO	a. Historic Structure Studies A records search and reconnaissance survey shall be performed, and documentation prepared regarding identification efforts, National Register eligibility and potential impacts to historic properties in accordance with the state's historic structure requirements.
		b. Archeological Studies
YES	NO	(1) Files searches shall be conducted to determine if known archeological sites are present; to identify whether these sites have been listed or determined eligible for the National Register of Historic Places or have been designated State Archeological Landmarks; and to identify the need (if any) to perform additional archeological investigations.
YES	NO	(2) Archeological reconnaissance will be performed under a Texas Antiquities Permit (13 TAC 26) signed for the Sponsor by a professional archeologist with the STATE.
YES	NO	(3) Archeological survey shall be performed under a Texas Antiquities Permit (13 TAC 26) signed for the Sponsor by a professional archeologist with the STATE.

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

Services Provided By: ENGINEER	COUNTY	
		4. Noise and Air Quality Analyses
YES	NO	a. Noise Analysis A noise analysis shall be prepared, including predicted noise levels and the consideration and evaluation of noise mitigation, in accordance with the STATE'S Noise Guidelines. The noise analysis or a summary of the noise analysis shall be included in the environmental document for the project.
YES	NO	b. Air Quality Analysis An air quality analysis shall be prepared in accordance with the STATE'S Air Quality Guidelines. The air quality analysis or a summary of the air quality shall be included in the environmental document for the project.
YES	NO	5. Ecological Investigations A wetland survey and if necessary, a wetland delineation shall be conducted and a "wetland finding" shall be provided if necessary. As part of the environmental phase of the project, the consultant should notify the District if it is believed that a Section 404 or Section 9 permit is required, and provide the technical data to the District for application to the U.S. Army Corps of Engineers and/or the U.S. Coast Guard. A determination should be made if there are potential federally listed endangered or threatened species that could be impacted. The District will be notified as soon as possible that Section 7 or 10 consultations may be required. Supporting data will be furnished to the district when consultation with the U.S. Fish and Wildlife Service is undertaken.
YES	NO	6. Hazardous Materials The consultant shall perform an Environmental Site Assessment for hazardous materials impact in accordance with the American Society for Testing and Materials (ASTM) 1528.93 (Transaction Screen Process).
YES	NO	7. General Guidelines for Preparation of Environmental Documents

a. The Biological Impact Evaluation Report will be prepared and submitted electronically to TxDOT.
b. All cultural resource reports (i.e. Archeological and Historical Project Coordination Requests (PCRs), background and reconnaissance surveys) will be submitted electronically to TxDOT.
c. The draft administratively complete document will be submitted to TxDOT electronically through their FTP site.
d. The administratively complete document will be prepared in accordance with the content and format of FHWA Technical Advisory T6640.8A and the TxDOT Administrative Code 43 TAC §2.44.
e. The administratively complete document will be submitted to TxDOT electronically through their FTP site.
f. Upon completion and approval of the administratively and technically complete document, the Engineer will provide one (1) hard copy to the Client, one (1) hardcopy to the district, and (3) hardcopies to TxDOT ENV.
g. Exhibits in the environmental document shall be color copies and text shall be black and white.

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

SECTION 6 - ROADWAY DESIGN CONTROLS
(Function Code 160)

Services Provided By: ENGINEER	COUNTY	
		1. Geometric Design
YES	NO	a. Horizontal and Vertical Alignment
YES	NO	b. Schematic Layout
		(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) A complete explanation of the sequence and methods of stage construction, if proposed, including the initial and ultimate proposed treatment of crossovers and ramps.
		(5) The tentative ROW limits.
		(a) Provide a roadway Design System (RDS) or (GEOPAK) computer tape of the preliminary earthwork to verify ROW requirements.
		(b) Provide a graphics file containing the approved schematic.
		(6) The geometric (pavement cross slopes, lane and shoulder widths, slope rates for fills and cuts) of the typical sections of proposed highway main lanes, ramps, frontage roads, and cross roads.
		(7) The current and projected traffic volumes as provided by the TxDOT (20 year traffic projection, unless otherwise determined by the District Engineer).
		(8) The control of access lines if Interstate or designated under House Bill 179.
		(9) Direction of traffic flow on all roadways.
		(10) Location and width of median openings for highway without access control.
		(11) The geometric of speed change (acceleration, deceleration, climbing) lanes.
YES	NO	2. General Guidelines for Project Development
		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. An uncontrolled aerial mosaic will be provided for this use. 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 arterial highway projects on new locations and for all multi-lane highway projects. **No geometric design is to be performed until the COUNTY has 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.

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

Services Provided By: ENGINEER	COUNTY	
YES	NO	2. General Guidelines for Project Development *(continued)*
		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 a project tape that is 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.**
N/A	N/A	3. Exhibit for Airway/Highway Clearance Permits
		4. Grading Design
NO	N/A	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.
NO	N/A	b. Typical Sections
NO	N/A	c. Design Cross Sections
NO	N/A	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
NO	N/A	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.
NO	N/A	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 (Show cost estimate with Function Code 110)
NO	N/A	(a) Along center line
NO	N/A	(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)

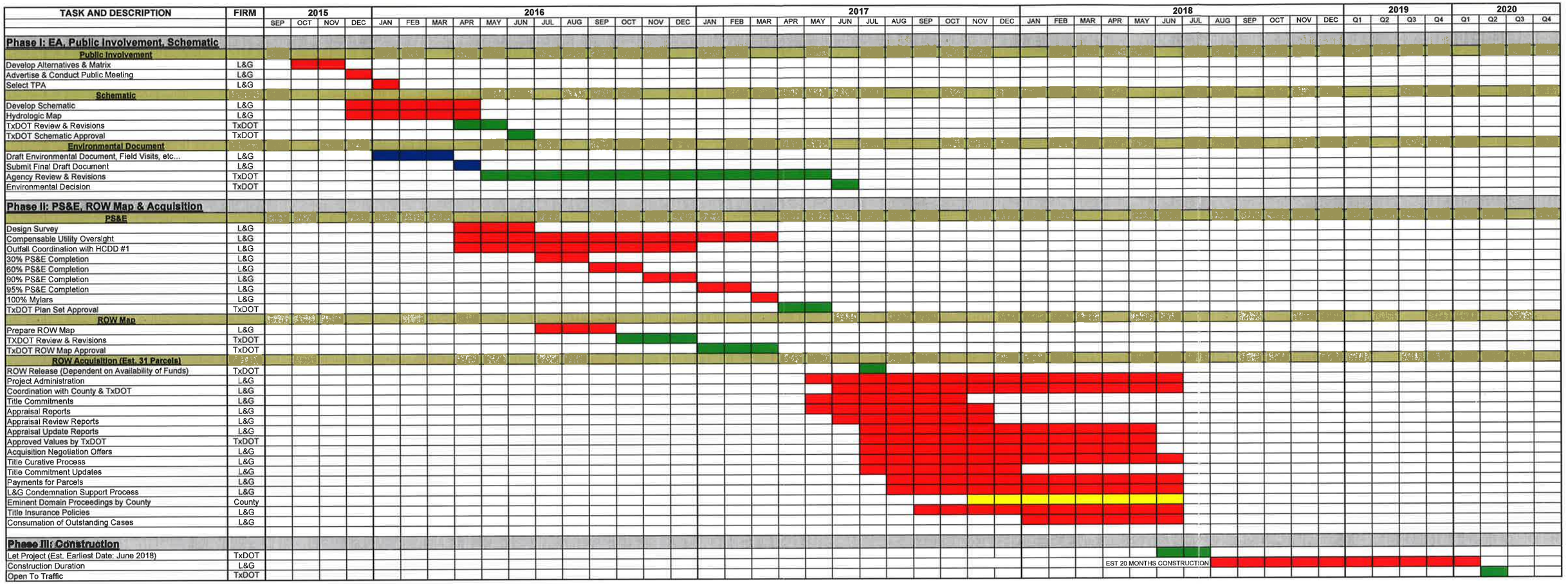
EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: ENGINEER	COUNTY	
		5. Pavement Design *(continued)*
		c. Embankment and Subgrade *(continued)*
NO	N/A	(2) Identify,interpret and summarize geologic features that affect engineering design (PI, Sulfate content, % of lime)
NO	N/A	d. Traffic Data for Pavement Design by STATE
NO	N/A	e. Basic Design Criteria
NO	N/A	f. Life Cycle Cost Analysis(es)
NO	N/A	g. Cost Data
NO	N/A	h. Pavement Material Properties
NO	N/A	i. Rehabilitation Investigations
NO	N/A	(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.

Client: Hidalgo County Precinct #2

EXHIBIT "C" PROJECT DEVELOPMENT SCHEDULE
Eldora Road
From FM 3662 (Jackson Rd) To I Road
Length = 2.30 miles

TASK AND DESCRIPTION	FIRM
Phase I: EA, Public Involvement, Schematic	
Public Involvement	
Develop Alternatives & Matrix	L&G
Advertise & Conduct Public Meeting	L&G
Select TPA	L&G
Schematic	
Develop Schematic	L&G
Hydrologic Map	L&G
TxDOT Review & Revisions	TxDOT
TxDOT Schematic Approval	TxDOT
Environmental Document	
Draft Environmental Document, Field Visits, etc...	L&G
Submit Final Draft Document	L&G
Agency Review & Revisions	TxDOT
Environmental Decision	TxDOT
Phase II: PS&E, ROW Map & Acquisition	
PS&E	
Design Survey	L&G
Compensable Utility Oversight	L&G
Outfall Coordination with HCDD #1	L&G
30% PS&E Completion	L&G
60% PS&E Completion	L&G
90% PS&E Completion	L&G
95% PS&E Completion	L&G
100% Mylars	L&G
TxDOT Plan Set Approval	TxDOT
ROW Map	
Prepare ROW Map	L&G
TXDOT Review & Revisions	TxDOT
TxDOT ROW Map Approval	TxDOT
ROW Acquisition (Est. 31 Parcels)	
ROW Release (Dependent on Availability of Funds)	TxDOT
Project Administration	L&G
Coordination with County & TxDOT	L&G
Title Commitments	L&G
Appraisal Reports	L&G
Appraisal Review Reports	L&G
Appraisal Update Reports	L&G
Approved Values by TxDOT	TxDOT
Acquisition Negotiation Offers	L&G
Title Curative Process	L&G
Title Commitment Updates	L&G
Payments for Parcels	L&G
L&G Condemnation Support Process	L&G
Eminent Domain Proceedings by County	County
Title Insurance Policies	L&G
Consumation of Outstanding Cases	L&G
Phase III: Construction	
Let Project (Est. Earliest Date: June 2018)	TxDOT
Construction Duration	L&G
Open To Traffic	TxDOT



L&G FUNCTION
ENVIRONMENTAL ASSESSMENT WORK
TXDOT FUNCTION
HIDALGO COUNTY FUNCTION

2:53 PM9/17/2015

EXHIBIT D
WA#1 ~ FEE PROPOSAL

Eldora Road Project
HIDALGO COUNTY PRECINCT #2

		MANHOURS							
		Senior Project Manager	Senior Engineer	Project Engineer	Senior Engineering Technician	Senior Environmental Scientist/Specialist	Admin / Clerical	L&G TOTAL HOURS	Total Line Item Cost
	TASK								
	WA #1 - Eldora Enviornmental Assessement, Public Involvement, & Schematic Design								
1	Environmental Document for TxDOT/FHWA	20				1144	436	1600	$ 199,851.52
2	Public Involvement for the Project with Stakeholders and 1 Public Meeting	26	95	138			26	285	$ 41,627.68
3	Archeological and Historical Research					378	150	528	$ 64,996.44
4	Engineering Technical Support at Public Meetings with Layouts, Etc.	55	140	150	148		26	519	$ 71,501.52
5	Schematic for Roadway (TxDOT/FHWA)	70	396	510	400			1376	$ 189,045.96
6	Hydrological Map for Outfall Drain Ditch (HCDD#1)	44	213	233	198			688	$ 96,002.78
7	Office Surveys for Schematic (Prel. Ownership Identificationa and Property Rights)	54	112	131	90		87	474	$ 61,997.58
8	Preliminary Compensable Utilities Identification on Schematic	28	74	82	67			251	$ 36,004.44
9	Update Schematic Based on Comments as Provided by TxDOT/FHWA	60	128	164	120			472	$ 67,998.32
10	Engineering Tehnical Support at Public Hearing with Layouts, Etc.	10	40	64	30		36	180	$ 22,505.04
11	Public Involvement for 1 Public Hearing	23	51	192			48	314	$ 41,627.68
	Subtotal Hours	**390**	**1249**	**1664**	**1053**	**1522**	**809**	**6687**	
	Hourly Base Rate	$ 70.00	$ 58.00	$ 43.00	$ 30.00	$ 49.00	$ 20.00		
	FY 15 Contract Hourly Rate w/ OH Mult. (178.12%) & Fixed Fee (12.00%)	$ 211.40	$ 175.16	$ 129.86	$ 96.64	$ 147.98	$ 60.40		
	Total Labor Costs	**$ 82,446.00**	**$ 218,774.84**	**$ 216,087.04**	**$ 101,761.92**	**$ 225,225.56**	**$ 48,863.60**	**$ 893,158.96**	**$ 893,158.96**

Total Project Fee (Work Authorization #1): **$893,158.96**