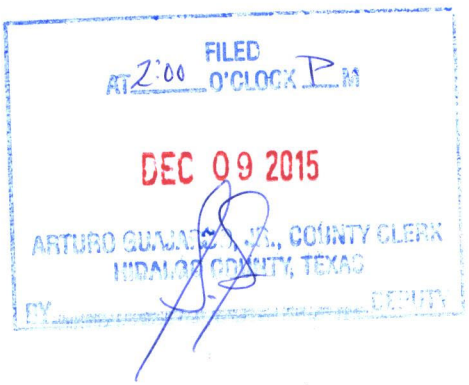

HIDALGO COUNTY
Professional Engineering Services
Agreement #C-15-097-03-17

WORK AUTHORIZATION NO. 4

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Section I.A. 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 Environmental Assessment Completion, Public Involvement, Hydrologic Mapping, etc. for the Nolana Loop Pending Project Development Activities.

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 **$230,275.08**.This amount is based upon the costs outlined in the Estimated **Cost Proposal** attached hereto as **EXHIBIT "D".**

PART 3. PAYMENT
Compensation and payment to the Engineer for the services established under this Work Authorization shall be made in accordance with Article/Part/Section 4 of the Agreement.

PART 4. FUNDING
This Work Authorization No. 4 shall be funded through funding source:
Account No. 5-1315-431-00-122-081-0-721841
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 Cantu, as to content and detail of this **Work Authorization No. 4.**

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 (cc approval date) as indicated below and effective as of _____ day of _____, 2015.

THE ENGINEER:
L&G ENGINEERING

_____
By: Jacinto Garza, P.E.

THE OWNER:
HIDALGO COUNTY

_____
By: Ramon Garcia, County Judge

APPROVED BY
COMMISSIONERS' COURT
ON: 12/1/15

ATTEST:

_____
By: Arturo Guajardo Jr., County Clerk

EXHIBIT A

-Scope of Services to be provided by the County

The following provides an outline of the services to be provided by the Owner in the development of Projects (as defined and more particularly identified in Exhibit "A" attached to this Agreement).

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 this 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 projects.
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 "A" attached to this Agreement.
6) Attend and participate in progress meetings as required and as coordinated and conducted by Engineer.
7) Provide the authorization to proceed with services on project by project basis through consulting design and construction Engineer.

EXHIBIT B-1

Scope of Services to be provided by the Engineer

SECTION I - 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

PROJECT/DESCRIPTION: On-Call Services for "Road and Bridge, C.I.P. and Other Projects in General"

Work Authorization #4 – Nolana Loop Pending Project Development Activities

ENGINEER shall mean L&G Engineering.

STATE shall mean Texas Department of Transportation.

COUNTY shall mean Hidalgo County.

EXHIBIT B-1

Scope of Services to be provided by the Engineer

SECTION 2 – PRELIMINARY ENGINEERING

(Function Code 102)

Services Provided By: ENGINEER	COUNTY	
YES	N/A	Preliminary Design Values *The Engineer will work with the Owner to establish basic design concepts, project controls and general scope of Projects.*
YES	N/A	Preliminary Route Locations on Uncontrolled Mapping *The Engineer will evaluate various alternatives (route locations, alignment shifts, geometry) for the Projects.*
YES	N/A	Uncontrolled Mapping (w/Contours & GIS Info) *The Engineer will investigate the existing routes and coordinate with the Owner on establishing the best-fit alignments and mapping proposed geometry for Projects. Preliminary Location Exhibit will be developed.*
YES	N/A	Preliminary Traffic Evaluations & Trends *The Engineer will investigate existing traffic models and trends for the proposed Projects and adjacent roadways tying into the proposed Projects.*
YES	N/A	Preliminary Hydrologic Map *The Engineer will develop a Hydrologic Map for the Projects. Hydrologic Maps will be based on LIDAR and GIS information.*
YES	N/A	Preliminary ROW Requirements *The Engineer will research and identify affected property owners on the Projects utilizing the latest appraisal district file information from Hidalgo County Appraisal District and information from Carson Maps.*
YES	N/A	Preliminary Cost Estimates *The Engineer will calculate preliminary construction cost estimates for the location and geometry of the Projects.*
YES	N/A	Preliminary Environmental Analysis (for fatal flaws) – Reference Function Code 110 *The Engineer will perform Preliminary Environmental Constraint Mapping to determine if any fatal flaws exist along the proposed alignment.*
YES	N/A	Project Fact Sheet with Est. Local Cost vs. Total Project Cost *The Engineer will produce a Project Fact Sheet providing summaries of all pertinent items in this scope of services (as required) and providing estimated local costs vs. total project costs for the Projects.*
YES	N/A	Meetings, Coordination & Support for Project Development *The Engineer shall provide coordination services and shall assist in meetings and workshops with TxDOT, Hidalgo County, Hidalgo County Drainage District No. 1 and Hidalgo County Irrigation Districts, and all other affected parties. The Engineer shall serve as representative for the Owner in coordination items. The Engineer shall coordinate with the Owner's staff on all Project related items.*

EXHIBIT B-1

Scope of Services to be provided by the Engineer

SECTION 3 - ROUTE AND DESIGN STUDIES

(Function Code 110)

Services Provided By: ENGINEER	COUNTY		
NO	N/A	1.	Route Location Studies* - **Re-establish approved schematic on new aerial mapping**
NO	N/A	2.	Level of Service Analysis
NO	N/A	3.	Traffic Evaluations and Projections
YES	N/A	4.	Develop Roadway Design Criteria
YES	N/A	5.	Preliminary Cost Estimates
NO	N/A	6.	Design Schematic – Redraw schematic as originally approved (See Section 7, page 7-1 for schematic layout requirements)
YES	N/A	7.	Preliminary Right-of-Way Requirements
YES	N/A	8.	Design Concept Conference
		9.	Soil Core Hole Drilling
NO	N/A		a. Pavement (See Section 7, page 7-3 for requirements)
NO	N/A		b. Retaining Walls (See Section 10, page 10-1 for requirements)
NO	N/A		c. Miscellaneous Structures (See Section 10, page 10-3 for requirements)
NO	N/A		d. Bridges (See Section 11, page 11-3 thru 11-4 for requirements)

* The Phase I or better survey for hazardous material should be included as a determining factor of route selection. Projects which do not require additional right of way should be considered separately from an expansion or new location.

EXHIBIT B-1

Scope of Services to be provided by the Engineer

SECTION 4
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	N/A	(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	N/A	a. A public involvement meeting(s)/hearing(s) shall be scheduled, coordinated and conducted.*
YES	N/A	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	N/A	a. Historic Structure Studies The existing historical report survey report shall be updated to 1975 cut-off data to include the HCID#2.
		b. Archeological Studies
N/A	N/A	(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.
N/A	N/A	(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.
N/A	N/A	(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-1

Scope of Services to be provided by the Engineer

Services Provided By: ENGINEER	COUNTY	
		4. Noise and Air Quality Analyses
YES	N/A	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 provided as a Technical Report and results included in the administratively complete document.
YES	N/A	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 provided as a Technical Report and results included in the administratively complete document for the project.
YES	N/A	5. Hazardous Materials The consultant shall perform an Initial Site Assessment (ISA) for hazardous materials impact in accordance with the American Society for Testing and Materials (ASTM) 1528.93 (Transaction Screen Process) and a GeoSearch data search shall be conducted.
YES	N/A	6. General Guidelines for Preparation of Environmental Documents

a. The Biological Impact Evaluation Report will be prepared which will include water resources, threatened and endangered species, etc. and submitted electronically to TxDOT, and coordination with TCEQ will be determined.
b. An ICI Technical report will be prepared.
c. A Community Impacts report will be prepared.
d. At least 10 Exhibits will be revised.
e. The existing EA will be revised and updated to include updated technical reports, and will be submitted to TxDOT electronically through their FTP site.
f. The revised EA 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.
g. The revised EA document will be submitted to TxDOT electronically through their FTP site.
h. 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.
i. Exhibits in the environmental document shall be color copies and text shall be black and white.

EXHIBIT B-1

Scope of Services to be provided by the Engineer

SECTION 7 - ROADWAY DESIGN CONTROLS

(Function Code 160)

Services Provided By: ENGINEER	COUNTY	
		1. Geometric Design
NO	N/A	a. Horizontal and Vertical Alignment (Recalculate approved alignment without benefit of a field survey)
YES	N/A	b. Schematic Layout (Update and Upgrade existing approved schematic)
		(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	N/A	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-1

Scope of Services to be provided by the Engineer

Services Provided By: ENGINEER	COUNTY	
YES	N/A	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.**
NO	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
NO	N/A	e. Slope Stability Analysis
NO	N/A	f. Embankment Foundation Stability Analysis
NO	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

EXHIBIT B-1

Scope of Services to be provided by the Engineer

The location and minimum number of soil core holes required for this project are as follows: (To be determined when schematic is being completed)

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.

EXHIBIT B-1

Scope of Services to be provided by the Engineer

SECTION 8 - 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.
		1. Hydrologic Design
YES	N/A	a. Hydrologic Map identifying the project outfalls, runoff to outfalls, identification of any new needed outfalls for the project
NO	N/A	b. Drainage area maps showing existing conditions and proposed improvements.
NO	N/A	c. Hydrologic data/discharge determination
		2. Hydraulic Drainage Study and Documentation
		a. Hydraulic computations and Drainage area maps showing existing conditions and proposed improvements.
NO	N/A	(1) Storm water detention available within the ROW (linear ft. alongside drain ditch).
NO	N/A	(2) Storm water detention required outside the ROW (as per HCDD#1)
NO	N/A	(3) Culverts
NO	N/A	(4) Bridge waterways
NO	N/A	(5) Channels
NO	N/A	(6) Storm sewers/inlets
NO	N/A	(7) Pump stations
NO	N/A	(8) Storm Water Management facilities
NO	N/A	(9) Other
		(a) Irrigation Canals/Siphons
NO	N/A	b. Hydraulic report(s)
NO	N/A	c. Federal Emergency Management Agency (FEMA) floodway requirements
NO	N/A	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
		3. Layout, Structural Design and Detailing of Drainage Features
		a. Culverts
NO	N/A	(1) New culverts
NO	N/A	(2) Culvert widening and/or lengthening
NO	N/A	(3) Culvert replacements
		b. Storm sewers
NO	N/A	(1) New storm sewers
NO	N/A	(2) Modify existing storm sewers
NO	N/A	(3) Inlets
NO	N/A	(4) Manholes
NO	N/A	(5) Trunk lines
		c. Pump stations
NO	N/A	d. Subsurface drainage at retaining walls
NO	N/A	e. Outfall channel(s) within the ROW
NO	N/A	f. Outfall channel(s) outside the ROW
NO	N/A	g. Detention Pond(s) within the ROW
NO	N/A	h. Detention Pond(s) outside the ROW
NO	N/A	i. Summary of Quantities
NO	N/A	j. Storm Water Management facilities
NO	N/A	4. Storm Water Pollution Prevention Plan (SW3P)

EXHIBIT B-1

Scope of Services to be provided by the Engineer

NO N/A 5. Scour Evaluation - Waterway Structures only (to be completed by Bridge Engineer under FC 170.

Proposal
Historic Resource Investigations
Update to 2009 HRSR
Nolana Loop from FM 1426 to FM 88
Hidalgo County, Texas

PROJECT DESCRIPTION

L&G Engineering (L&G) has requested a scope of work and cost estimate from AmaTerra Environmental, Inc. (AmaTerra) to update the Historic Resources Survey report prepared by SWCA in 2009. TxDOT has reviewed this document in 2014 and has requested some changes and an updated date of 1975 for historic-age resources in order to clear the project with TxDOT ENV. The Nolana Loop project runs from FM 1426 (Raul Longoria Road) to FM 88 (Ruben Hinojosa Highway) in Hildalgo County, Texas. The project is being funded by Hidalgo County with participation from the Federal Highway Administration (FHWA).

PROJECT SCOPE

Task 1: Historical Studies

A) AmaTerra shall perform an updated records search of the APE to identify any recently identified, non-archeological historic properties that have been previously listed in the National Register of Historic Places (NRHP), are designated as Recorded Texas Historical Landmarks, as State Antiquities Landmarks, County Historic Landmarks, or have been evaluated for NRHP eligibility by other available historic surveys. AmaTerra will review other available archival sources, such as historic maps and/or aerial photographs, to locate previously unidentified potential historic resources in the project's Study Area. Reviews will be conducted to determine whether any historic or historic-age Canals are also located within the project study area.

B) AmaTerra shall perform a reconnaissance survey conforming to the methodology outlined in Appendix B of the *Draft CRM Guide for Accurately Identifying Non-Archeological Cultural Resources* (Texas Department of Transportation, August 2015). The survey shall document each historic-age resource (defined by TxDOT as a building, structure, object, historic district or non-archeological site at least 45 years old at the time of letting [1975]), which had not been previously recorded in 2009, within the Study Area. The Study Area shall consist of the Area of Potential Effects (APE) plus all parcels that are wholly or partially within the APE and those parcels where new ROW will be acquired.

C) AmaTerra shall provide an updated report detailing the results and findings of the reconnaissance survey including effects to historic properties and the need, if any, to conduct future intensive survey efforts. The report shall have sufficient detail and clarity to provide THC with the basis for making determinations of National Register of Historic Places (NRHP) eligibility or shall have sufficient detail and clarity to make recommendations concerning the scope of the intensive survey. The report shall conform to the TxDOT *Standards of Uniformity for Non-Archaeological Historic-Age Resource Reconnaissance Survey Reports Review Checklist* (August 2015 version).

SCHEDULE

To be determined in consultation with Client.

ASSUMPTIONS AND CONDITIONS

The following is a list of assumptions on which the project costs are based. Any work not discussed in the tasks above may be considered outside of this scope, and may require a supplemental agreement or fee adjustment.

- L&G will clearly define the location and dimensions of the proposed project prior to fieldwork mobilization. L&G will provide AmaTerra with geo-referenced ArcView shapefiles of the project footprint prior to fieldwork mobilization to allow for the survey of the APE: via GPS wayfinding.
- Neither a PCR or research design will be prepared for this effort.
- The updated HRSR will include data from the 2009 report. Wording will be included to discuss the previous documentation efforts.
- Relevant comments will be addressed. It is assumed that no more than one draft copy and one final copy of the survey reports being submitted to L&G will be produced in electronic format in PDF and Word formats.
- One round of comments on the Draft Report is anticipated from L&G and associated agency reviewers. All comments are assumed to be minor.
- The scope does not include mitigation for adverse effects, development of agreement documents, Section 4(f) evaluations, or other services beyond establishing Section 106 NRHP effect.

COMPENSATION

Client will compensate AmaTerra on a firm fixed price basis (lump sum) of **$11,407.20.** AmaTerra will invoice L&G monthly based on percentage of completion. A cost breakdown is provided below.

EXHIBIT "C"
PROJECT SCHEDULE
On-Call Services for "Road and Bridge, C.I.P. and Other Projects in General"

WA #4 - Nolana Loop Pending Project Development Activities

TASK AND DESCRIPTION	2015			2016											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
Notice to Proceed															
Environmental Document Revisions and Updates															
Advertise for public meeting															
Public Involvement for Public Meeting															
Engineering Technical Support at Public Meetings with Layouts, etc.															
TxDOT Review of Environmental Technical Reports & Coordinate w/Res Agencies															
Hydrologic Map Development															
Update and Upgrade Schematic															
Coordination with HCMPO to Secure Funding															
Support/Strategizing with Hidalgo Co. Pct 2 on Project Development Activities															
Afford Opportunity for Public Hearing															
Environmental Decision															
Coordination with Cities/HCDD#1/TxDOT															

L&G Engineering
Texas Department of Transporation (TxDOT)
Advertising

EXHIBIT D-1
FEE PROPOSAL
On-Call Services for "Road and Bridge, C.I.P. and Other Projects in General"
Nolana Loop Pending Project Development Activities

	Nolana Loop Pending Project Development Activities (Environmental Assessment Completion, Public Involvement, Hydrologic Mapping, etc.)	MANHOURS								Total Line Item Cost
		Senior Project Manager	Senior Engineer	Project Engineer	Senior Environmental Scientist/ Specialist	Senior Engineering Technician	CADD Operator	Admin / Clerical	L&G TOTAL HOURS	
	CONTRACT RATE (FY 2015)	**218.04**	**180.66**	**133.94**	**152.63**	**93.45**	**68.53**	**62.3**		
1	Enviornmental Document Revisions and Updates	(See Fee Proposal Breakdown on Exhibit D-2)								$ 89,419.20
2	Public Involvement for the Project and 1 Public meeting	6	20	20	24			16	86	$ 12,260.16
3	Engineering Technical Support at Public Meetings with Layouts, etc.	6	16	16		16			54	$ 7,837.04
4	Hydrologic Map Development	30	48	60		140			278	$ 36,332.28
5	Update and Upgrade Schematic	14	30	30		210			284	$ 32,115.06
6	Coordination with HCMPO to Secure Funding	22	36	34				32	124	$ 17,848.20
7	Support/Strategizing with Hidalgo Co. Pct 2 on Project Development Activities	8	18	10	26			18	80	$ 11,425.38
8	Coordination with Cities/HCDD#1/TxDOT	16	30	30	34	42		16	168	$ 23,037.76
	Subtotal Hours	**102**	**198**	**200**	**84**	**408**	**0**	**82**	**1074**	**$ 230,275.08**

Grand Total $ 230,275.08

EXHIBIT D-2

ESTIMATED MAN-HOUR BREAKDOWN

On-Call Services for "Road and Bridge, C.I.P. and Other Projects in General"
Nolana Loop Revise Environmental Assessment

		MANHOURS								
		Senior Project Manager	Senior Engineer	Senior Environmental Scientist /Specialist	Senior Engineering Tech	CADD Operator / GIS Analyst	Admin/ Clerical	TOTAL HOURS	Sub-Contract Amounts	TOTAL LINE ITEM COST
	CONTRACT RATE	218.04	180.66	152.63	93.45	68.53	62.30			
	ENVIRONMENTAL ASSESSMENT UPDATE									
	Nolana Loop Project									
1	Review Existing Document			8	32	0		40		$ 4,211.44
2	MSAT Technical Report - Rewrite air language to latest				8	2		10		$ 884.66
3	Noise Technical Report - Redo noise analysis				64	16		80		$ 7,077.28
4	Historical - update HRSR to 1975 cut-off date, include HCID#2				16	2		18		$ 1,632.26
5	New Biological Report - Update to current				52	8		60		$ 5,407.64
6	Sub-Consultant Work to complete Historical Work	(See Fee Proposal Breakdown on Exhibit D-3)							$ 11,407.20	
7	HazMat-complete ISA form, Geosearch, update section in doc				52	2		54		$ 4,996.46
8	Make determination if TCEQ is required				4			4		$ 373.80
9	New ICI Technical Report				64	16		80		$ 7,077.28
10	Community Impacts - update to current year				40	2		42		$ 3,875.06
11	Update existing EA to include the above.				40	2		42		$ 3,875.06
12	Update at least 10 different Exhbits as per the above tasks				16	36		52		$ 3,962.28
13	QA/QC of Tech Reports			40	0	0		40		$ 6,105.20
14	QA/QC of EA			40				40		$ 6,105.20
15	Public Involvement (afford opportunity for public hearing) *			50	50	50	50	200		$ 18,845.50
	SUB-TOTAL	**0**	**0**	**138**	**438**	**136**	**50**	**762**	**$ 11,407.20**	**$ 74,429.12**

Sub-Total Manhours Fee with Subconsultant Fee:	**$ 85,836.32**

DIRECT EXPENSES:

ENVIRONMENTAL SITE ASSESSMENT			Qty.		
GeoSearch	1		1	$	500.38
Mileage	0.55	per mile	150	$	82.50
Advertising in newpaper for aoph (off-system)	1400		2	$	2,800.00
Document Copy to Hidalgo County	200	per document	1	$	200.00

*** Does not include a public meeting.**

Subtotal Direct Expenses Costs:	**$ 3,582.88**

TOTAL PROJECT FEE:	**$ 89,419.20**

Exhibit D-3
Historic Resource Investigations
Update to 2009 HRSR
Nolana Loop from FM 1426 to FM 88
Hidalgo County, Texas

COST BREAKDOWN										
Nolana Loop HRSR Update										
LABOR	PCR	Permit App/ Research Design	Fieldwork	Draft and Final Reports	Curation	Admin and Project Mgmt	Total	Unit	Unit Price	Cost
Principal	0	0	0	0	0	2	2	hr	$ 216.00	$ 432.00
Archeologist V/ Principal Investigator	0	0	0	0	0	0	0	hr	$ 128.00	$ -
Archeologist IV	0	0	0	0	0	0	0	hr	$ 103.00	$ -
Archeologist III	0	0	0	0	0	0	0	hr	$ 73.00	$ -
Archeologist II	0	0	0	0	0	0	0	hr	$ 68.00	$ -
Archeologist I	0	0	0	0	0	0	0	hr	$ 58.00	$ -
Historical Architect/ Senior Historian	0	0	0	4	0	4	8	hr	$ 133.00	$ 1,064.00
Architectural Historian III	0	0	20	40	0	0	60	hr	$ 104.00	$ 6,240.00
Historian II	0	0	0	16	0	0	16	hr	$ 82.00	$ 1,312.00
GIS Specialist	0	0	6	2	0	0	8	hr	$ 84.00	$ 672.00
Administrative/ Document Production Supervisor	0	0	0	0	0	4	4	hr	$ 88.00	$ 352.00
Editor	0	0	0	6	0	0	6	hr	$ 60.00	$ 360.00
TOTAL LABOR										$10,432.00
EXPENSES	PCR	Permit App/ Research Design	Fieldwork	Draft and Final Reports	Curation	Admin and Project Mgmt	Total	Unit	Unit Price	Cost
Copies, b/w	0	0	0	200	0	20	220	each	$ 0.10	$ 22.00
Copies, color	0	0	0	100	0	0	100	each	$ 1.00	$ 100.00
Mileage	0	0	0	0	0	0	0	mile	$ 0.56	$ -
Lodging (NTE)	0	0	1	0	0	0	1	night	$ 88.00	$ 88.00
Taxes, lodging (15%)	0	0	1	0	0	0	1	night	$ 13.20	$ 13.20
Meals	0	0	2	0	0	0	2	day	$ 51.00	$ 102.00
Airfare	0	0	1	0	0	0	1	each	$500.00	$ 500.00
Car Rental	0	0	2	0	0	0	2	day	$75.00	$ 150.00
TOTAL EXPENSES										$ 975.20
TOTAL										**$11,407.20**