



August 16, 2019

The Honorable Ellie Torres  
Commissioner, Hidalgo County Pct. No. 4  
1051 N. Doolittle Road  
Edinburg, Texas 78539

**RE: On Call Services – Traffic Studies County Wide C-15-255A-09-01 - Work Authorization No. 4  
Traffic Signal Warrant Study – Intersection of Carmen Avila and Mile 22 ½**

Dear Commissioner Torres:

As discussed, attached in duplicate for your review and approval is Work Authorization No. 4 to the On Call Services – Traffic Studies County Wide Agreement between L&G Engineering and Hidalgo County.

Work Auth. No. 4 is in the amount of \$9,684.72 to provide a Traffic Signal Warrant Study for the intersection of Carmen Avila and Mile 22 ½ with the cost breakdown as follows:

- ETSI = \$7,490.70
- L&G Engineering = \$2,194.02

Attached you will find the following:

- 1.) Two (2) signed originals of Work Authorization No. 4 with the following 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-1 “Estimated Man-hour Breakdown”

In addition, we would also like to advise you that we will be using the Sub-Consultant listed below for this Work Authorization.

Traffic Signal Warrant Study:

Mr. Harry Simeonidis, P.E.

ETSI

5300 Hollister Road, Ste. 220

Houston, Texas 77040

Phone (713) 956-9601

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

Sincerely,

  
Robert Macheska, P.E.  
Project Manager

Attachments

**HIDALGO COUNTY**  
**Professional Engineering Services**  
**Contract # C-15-255A-09-01**  
**Work Authorization Form**  
  
**WORK AUTHORIZATION NO. 4**

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 Traffic Signal Warrant Studies, Project Management and Coordination associated for the Intersection on Carmen Avila Road and Mile 22 ½ Traffic Signal Warrant Project in Precinct No. 4.

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 **\$9,684.72**. This amount is based upon the costs outlined in the Estimated **Cost Proposal** attached hereto as *EXHIBIT "D-1" - Estimated Man-hour Breakdown*.

**PART 3. PAYMENT**

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

**PART 4. FUNDING**

This Work Authorization No. 4 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, 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 Ellie Torres as to the content and detail of this Work Authorization No. 4.

**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**

**THE OWNER:  
HIDALGO COUNTY**

\_\_\_\_\_  
By: Jacinto Garza, P.E.  
President

\_\_\_\_\_  
By: Richard Cortez,  
County Judge

**ATTEST:**

\_\_\_\_\_  
By: Arturo Guajardo, Jr., County Clerk

**LIST OF EXHIBITS**

- Exhibit A - Services to be provided by Owner
- Exhibit B - Services to be provided by Engineer
- Exhibit C - Work Schedule
- Exhibit D-1 - Estimated Man-hour Breakdown

EXHIBIT “A”  
SCOPE OF SERVICES TO BE PROVIDED BY THE OWNER

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The following provides an outline of the services to be provided by Hidalgo County (hereinafter denoted as the **Owner**) in the development of the Carmen Avila/Mile 22 ½ Traffic Signal Warrant Study Project (hereinafter denoted as the **Project**).

**GENERAL:**

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

- 1) Provide the authorization to proceed.
- 2) Payment for work performed by the **Engineer** and accepted by the **Owner**.
- 3) Provide any available relevant data concerning the **Project**, including but not limited to:
  - a. As built plans for the Mile 22 ½ extension
- 4) 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.
- 5) Attend and participate in progress meetings as required and as coordinated and conducted by **Engineer**.

**Exhibit B**  
**SCOPE OF SERVICES**  
**TRAFFIC SIGNAL WARRANT STUDY**

**Carmen Avila Road at Mile 22.5 Road**

**Project Understanding**

The new extension of Mile 22.5 Road intersects Carmen Avila Road at the Harwell Middle School Driveway. Since no controls have been established for this intersection, an engineering study was requested by Hidalgo County to determine if a signal control is warranted at this intersection.

Ergonomic Transportation Solutions, Inc. (ETSI) will conduct a traffic signal warrant study at the aforementioned intersection.

Shown below in detail, is ETSI's scope of services:

**TRAFFIC SIGNAL WARRANT STUDY:**

The traffic signal warrant study will follow the required guidelines listed in the Texas Manual on Uniform Traffic Control Devices (Texas MUTCD), latest edition and in accordance to TxDOT requirements.

ETSI will provide the following services:

**TASK 1 - Collect Data and Conduct Field Investigation**

- Collect traffic counts
- Take photos for each intersection approach
- Identify potential sight distance restrictions
- Identify posted speed limits
- Identify presence of roadway illumination
- Record existing intersection controls
- Record general geometry of the intersection
- Record visible utilities, including power lines
- Record existing development in the vicinity of the intersection
- Record major traffic generators in the area
- Record other features that might impact installation of a traffic signal control
- Observe existing traffic patterns

**Task 2 - Assess collected data**

- Assess completeness of collected data

**Task 3 - Accident Analysis**

- With assistance from L&G Engineering, request accident records for the past four

years from local law enforcement authorities.

- Conduct accident analysis as required by the Texas MUTCD. Determine if five or more of the reported crashes that occurred within a 12 month period can be susceptible to correction by a Traffic Signal control.

#### **Task 4 - Collision Diagrams**

- Based on the collected accident reports, prepare collision diagrams that show the occurred accidents in diagrammatic form.

#### **Task 5 - Intersection Exhibits**

- Prepare intersection conceptual layout in approximate scale to present the ultimate geometric conditions of the intersection.

#### **Task 6 - Warrant Analyses**

- Assess current traffic counts and based on traffic growth trends in the area make projections for five year horizon, in anticipation of future traffic growth along the new Mile 22.5 Road.
- Conduct warrant analysis
- Prepare warrant forms and charts

#### **Task 7 - Photo Album**

- Prepare a photo albums of each approach of the intersection, depicting features and data supporting the warrant study.

#### **Task 8 - Recommendations**

- In case where a Traffic Signal control is warranted, ETSI will make recommendations for the type of signal installation to be implemented along with other improvements to enhance safety.
- In cases where a Multi-Way Stop control is warranted, ETSI will make recommendations for signs and flashing beacon installation to be implemented along with other improvements to enhance safety.
- In cases where a Multi-Way Stop control or traffic signal control is not warranted, ETSI may suggest other actions to improve safety and quality of traffic flow.

#### **Task 9 - Warrant Study Report**

- Prepare a report that presents all data collected, analyses work, exhibits, photographs and recommendations.

### **SERVICES TO BE PROVIDED BY L&G ENGINEERING**

L&G will assist in the collection of accident records from the proper law enforcement agencies.

L&G will furnish ETSI hard copies and electronic versions of the intersection geometry.

L&G will assist ETSI to obtain traffic projection data from Hidalgo County MPO.

L&G will also provide coordination and communication for the progress of the work among all parties involved.

### **TIME SCHEDULE**

ETSI will submit to L&G a draft report within four (4) weeks from the notice to proceed. A final report will be produced addressing L&G's draft report comments. The final report will be submitted to L&G within one week of receipt of L&G's comments.

## EXHIBIT C - TRAFIC SIGNAL WARRANT STUDY - TIMELINE SCHEDULE

### CARMEN AVILA ROAD AT MILE 22.5 ROAD

**WEEKS**

TASK	1	2	3	4	5
<b>TASK 1 - Collect Data and Conduct Field investigations</b>					
<b>Task 2 - Assess collected data</b>					
<b>Task 3 - Accident Analysis</b>					
<b>Task 4 - Collision Diagram</b>					
<b>Task 5 - Intersection Exhibit</b>					
<b>Task 6 - Warrant Analyses</b>					
<b>Task 7 - Photo album</b>					
<b>Task 8 - Recommendations</b>					
<b>Task 9 - Traffic Signal Warrant Study Report</b>					

**S SUBMITTAL**

**EXHIBIT D-1**  
ESTIMATED MAN-HOUR BREAKDOWN

Intersection on Carmen Avila Road and Mile 22 1/2  
Traffic Signal Warrant Studies

	MANHOURS								Sub-Contract Amounts / ROW COST	TOTAL LINE ITEM COST
	Senior Project Manager	Senior Engineer	Project Engineer	GeoTechnical Engineer	Senior Engineering Technician	CADD Operator/GIS Analyst	Admin / Clerical	TOTAL HOURS		
<b>CONTRACT RATE</b>	209.81	173.84	134.88	179.84	95.91	65.94	59.95			
<b>WORK AUTHORIZATION NO. 4</b>										
<i>Adjustment of Existing Signal Timing Design</i>										
1 SUB: Ergonomic Transportation Solutions, Inc. (See fee breakdown on Page 2 of 2)									\$ 7,490.70	\$ -
2 <i>Project Mapping, Management and Coordination</i>	2	4	8							\$ 2,194.02
<b>SUB-TOTAL</b>	<b>2</b>	<b>4</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>\$ 7,490.70</b>	<b>\$ 2,194.02</b>

Sub-Total Manhours Fee with Subconsultant Fee:	\$	9,684.72
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<b>TOTAL PROJECT FEE:</b>	<b>\$</b>	<b>9,684.72</b>
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## Exhibit D

### "FEE SCHEDULE" - WARRANT STUDY'

CARMEN AVILA ROAD AT MILE 22.5 ROAD						
WARRANT STUDY		MANHOURS				
		Project Manager	Traffic Engineer	CADD/ Designer	Administrative Assistant	Total
TASK						
1	Collect Data and Conduct Field Investigations		6	6		12
2	Assess Collected Data		1	1		2
3	Accident Analysis		1			1
4	Collision Diagram		1	2		3
5	Intersection Exhibit		1	2		3
6	Signal Warrant Analyses	2	12	6		20
7	Photo Album			2		2
8	Recommendations	1	2			3
9	Traffic Signal Warrant Study Report	1	8	4	8	21
	<b>Subtotal</b>	<b>4</b>	<b>32</b>	<b>23</b>	<b>8</b>	<b>67</b>
<b>Total Sheets/Labor Hours</b>		<b>4</b>	<b>32</b>	<b>23</b>	<b>8</b>	<b>67</b>
Contract Rates		\$ 68.00	\$ 34.00	\$ 23.00	\$ 19.00	
Direct Salary Cost		\$ 272.00	\$ 1,088.00	\$ 529.00	\$ 152.00	\$ 2,041.00
Overhead Multiplier		165.260% \$ 449.51	\$ 1,798.03	\$ 874.23	\$ 251.20	\$ 3,372.96
Fixed Fee		12.50% \$ 90.19	\$ 360.75	\$ 175.40	\$ 50.40	\$ 676.74
<b>Total Labor Costs</b>		<b>\$ 811.70</b>	<b>\$ 3,246.78</b>	<b>\$ 1,578.63</b>	<b>\$ 453.59</b>	<b>\$ 6,090.70</b>

**Ergonomic Transportation Solutions, Inc. Expenses**

EXPENSES

Printing Reproduction	\$ -
Travel	\$ 650.00
Delivery	\$ -
Collect 12 hr Turning Movement Counts (Outsourced)	\$ 750.00

**Total Expenses** **\$ 1,400.00**

**ETSI Total Cost** **\$ 7,490.70**