

**HIDALGO COUNTY**  
**Professional Engineering Services**  
**Contract # C-09-419-10-27**  
**Work Authorization Form**

**Work Authorization No. 1**

**THIS WORK AUTHORIZATION** is made pursuant to the terms and conditions of Article 1. of the Agreement made by and between the **HIDALGO COUNTY**, acting herein by and through Commissioner's Court, hereinafter called the "**Owner**," and, **R. GUTIERREZ ENGINEERING CORPORATION**, professional engineers of Pharr, Texas, hereinafter called "**Engineer**".

**PART 1. SCOPE OF WORK**

The purpose of this Work Authorization is for the **Engineer** to provide services in the development of the El Gato Road project. Hidalgo County desires to improve El Gato Road from a two-lane rural county road section to a 4-lane urban roadway facility. The limits of work are from FM 907 (Alamo Road) on the west to Tower Road on the east. The length of the project is approximately 0.75 miles. The proposed work will consist of providing: preliminary engineering and schematic design, topographic and right-of-way surveying, right-of-way map and parcels preparation, final design, and construction plans development for the project.

The project will be developed in two (2) parts. Part 1 will cover from FM 907 (Alamo Road) to the existing Alamo City Limits, a distance of approximately 0.25 miles. Part 2 will cover from the existing Alamo City Limits to Tower Road, a distance of approximately 0.5 miles. The project will be developed in accordance with a schedule and sequence that would allow the project to be constructed in a manner more advantageous to the **Owner**.

The scope of services to be provided by the **Owner** is identified in **Attachment 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 **Attachment 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 included in **Attachment D – Proposed Fee**. The actual amount payable for services under this Work Authorization will be in accordance with Article 6.

**PART 3. PAYMENT**

Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with Article 9.

**PART 4. FUNDING**

This Work Authorization No. 1 shall be funded through funding source:

Account No. 0-1200-431-00-122-051-0-841

Requisition No. \_\_\_\_\_ (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 shall terminate upon completion of the scope of services of the work as provided in Article 4.

**PART 6. RESPONSIBILITIES AND OBLIGATIONS**

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

**PART 7. ACCEPTANCE AND ACKNOWLEDGEMENT**

This Work Authorization is hereby accepted and acknowledged as indicated below and effective as of \_\_\_ day of \_\_\_\_\_, 2009.

ENGINEER:

R. Gutierrez Engineering Corporation

By:   
Name: Ramiro Gutierrez, P.E.  
Title: President

OWNER:

COUNTY OF HIDALGO

By: \_\_\_\_\_  
Name: Hector "Tito" Palacios  
Title: Commissioner Pct. No. 2

By: \_\_\_\_\_  
Name: Rene A. Ramirez  
Title: County Judge

**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 – Proposed Fee

**HIDALGO COUNTY**  
**Professional Engineering Services**  
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**Work Authorization No. 1**

**EXHIBIT A**  
**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 **Project**.

**General**

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

- (1) Payment for work performed by the **Engineer** and accepted by the **Owner** in accordance with Article 5 and Article 6, both of this Agreement.
- (2) Assistance to the **Engineer**, as necessary, to obtain the required data and information from other local, regional, State and Federal agencies that the **Engineer** cannot easily obtain.
- (3) Provide any available relevant data the **Owner** may have on file concerning the project.
- (4) Provide timely review and decisions in response to the **Engineer's** request for information and/or required submittals and deliverables.
- (5) Attend and participate in progress meetings as required and as coordinated and conducted by the **Engineer**.
- (6) Assist **Engineer** with obtaining permission to enter on properties for the purpose of surveying and engineering investigations for the project.

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**EXHIBIT B**

**Services to be Provided by the Engineer**

The following provides an outline of the services to be provided by the **Engineer** in the development of the **Project**.

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

***PHASE I – PRELIMINARY PHASE***

The Engineer will perform, or provide for, professional engineering and surveying services for the preliminary engineering part of the development and upgrading of El Gato Road from a two-lane rural county road section to a 4-lane urban roadway facility. The Engineer will perform field surveying for the purpose of establishing vertical and horizontal control for the Project. The Engineer will perform detailed topographic surveying for use in developing the project. The Engineer will also provide an inventory of existing utility information and provide coordination with the owners of these utilities for their adjustment. The Engineer will develop a schematic of the proposed improvements.

**Field Surveying.** The Engineer will secure written permission to enter private property for the purpose of surveying and engineering investigations. The Engineer will establish primary Project control for field surveying by establishing horizontal and vertical control points, and perform a detailed topographic survey of the project.

The Engineer will provide the following:

- 1) **Vertical and Horizontal Control.** Establish and stake the Project control centerline (baselines) and offset for the Project or portions of the Project. Establish vertical control by looping all benchmark (BM) circuits and tie to monument permanent BM elevation. BM's are to be set at approximately 1,000 ft. intervals, or at intervals appropriate to suit field conditions, using Global Positioning System (GPS) survey, and in a location that will be undisturbed by future construction.
- 2) **Topography.** Obtain topographic information surveyed for the length of the control centerline, as required; provide location (station and offset), size, height,

and depth and/or length and description of topographic features; to include, but not limited to the following: driveways, signs, light poles, mail boxes, all fences (including metal beam guard fence and turndowns), utilities (type, owner, location, and depth), riprap, existing right of way lines, private property lines, county and/or city limits, etc.. Drainage elements to include: flow lines and/or top of structures for drain pipes, inlets, manholes, other miscellaneous structures and ditches.

- 3) Design Centerline. Establish and stake the design centerline.

### **Utility Coordination/Inventory**

- 1) The Engineer will develop utility layout sheets from schematics and incorporate utility information; identify all existing overhead and above ground utilities; identify all existing underground utilities; document all information on utility layout sheets; identify potential conflicts. The layout sheets will be reproducible drawings (11" X17") with the following information:
  - a) Existing and/or proposed right of way lines
  - b) Benchmark data
  - c) Existing and proposed drainage system(s)
  - d) Location and size of utility
  - e) Limits of existing casing pipe
  - f) Name of the owner/company
- 2) The Engineer will coordinate utility adjustments with Owner and all affected utility owners as necessary.

**Schematic Design.** The Engineer will develop a final schematic design of the proposed project improvements. A maximum of two (2) different preliminary schematic designs will be developed and presented to the Owner. From the comments received from the Owner one (1) final schematic design will be developed. The Project is divided into two (2) parts and those will be identified in the final schematic design.

### ***PHASE II – DESIGN PHASE***

The Engineer will perform, or provide for, professional engineering services for the plans, specifications and estimate part for of the development and upgrading of El Gato Road from a rural two-lane county road section to a 4-lane urban roadway facility.

**Plans Development.** The Engineer will perform, or provide for, professional, surveying, geotechnical and engineering design services for the preparation of plans for the development and upgrading of Anaya Road. The engineer will perform field surveys to obtain additional information that was not gathered during the schematic design phase of the project. Geotechnical investigations will be performed by the engineer to obtain necessary data for the proper design of the project. The engineer will provide for the

engineering design services necessary for the development of the final construction plans, specifications and estimate for completing the project.

**Engineering Design.** The Engineer will utilize Hidalgo County established Standards in the development of the project design. The engineer will provide, or provide for, the development of the plans, specifications and estimate for the construction of the project. The plans will be developed on 11"x17" sheets. The plans will include, but not limited to, title sheet, project layout, specification data, estimate and quantity, typical sections, sequence of construction, traffic control plan, plan & profile, roadway & drainage layout, bridge layout & details (if necessary), culvert layout & details (as necessary), hydraulic data, drainage area map, drainage details, drain ditch details, storm water pollution prevention plan (SW3P), irrigation structure adjustment details, signing details, striping details, and traffic signal layout & details (if necessary). The project cost estimate will be developed based on the unit price system of bidding utilizing recent bids received by the Owner or utilizing TxDOT's 12-month average bid data. The engineer will not be required to guarantee the accuracy of those estimates.

The engineer will provide the horizontal and vertical design for the proposed roadway improvements. All vertical and horizontal alignment will be developed utilizing GEOPAK.

The Engineer will develop the hydraulic design in accordance with Hidalgo County/Local Municipal or TXDOT guidelines. The engineer will also provide the drainage design utilizing HEC-HMS, HEC-RAS, TR-55, Winstorm or other approved methods.

Plans will be developed utilizing a CADD software package. All design shall in all respects combine the application of sound engineering principles with a high degree of economy.

### ***PHASE III – CONSTRUCTION PHASE***

#### **Construction Management and Support**

The Engineer will provide engineering and support services for and during the construction of the Project or portions of the Project approved by the Owner. Specific services for CONSTRUCTION MANAGEMENT AND SUPPORT by the Engineer will include the following:

#### **Construction Bidding**

- 1) The Engineer will furnish to the Owner the necessary copies of approved plans, specifications, notices to bidders, and proposals as prepared under PS&E.
- 2) The Engineer will coordinate and conduct a Pre-Bid Conference for prospective bidders.

- 3) The Engineer will assist Owner the tabulation of bids, recommendations to the Owner as to the proper action on all bid proposals received, and the preparation of formal contract documents for the award of each construction contract.

#### Construction Contract Administration

- 4) In general, the Engineer will provide the management and engineering support/data required for consultation and advisement to the Owner and act as the Owners representative as provided in the General Condition of the Construction Contract.
- 5) The Engineer will coordinate and conduct a pre-construction conference.
- 6) Defects and Deficiencies. The Engineer will use his best efforts to protect the Owner against defects and deficiencies in the work of the Contractor. The Engineer will promptly notify the Owner of any such defect or deficiency, and take all steps possible to require the Contractor to correct the defect or deficiency.
- 7) Contractor Payment. The Engineer will take measurements and calculate quantities, in accordance with the construction contract specifications, of those items of work accepted and conforming to the construction contract specifications, for the preparation of the monthly and final estimates for payment to the Contractor.
- 8) The Engineer will provide Project site inspection of the authorized construction contract(s) as follows:
  - a) 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.
  - b) Resident Engineer and/or Construction Inspector(s). If requested and authorized by Owner, the Engineer will furnish the services of a Resident Engineer and/or Construction Inspector(s) for continuous on the site inspection of construction to monitor/inspect the Contractor's daily progress and conformance to PS&E specifications. Resident Engineer and/or Construction Inspector(s) services will be considered an additional service as stipulated in the Agreement.

#### Miscellaneous Technical Activities

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

- 10) Control of Materials & Equipment. The Engineer will provide inspection of all materials and equipment furnished/used by the Contractor as follows:
  - a) Review and record all laboratory, shop and mill tests of materials and equipment for compliance with the construction contract specifications.
  - b) Observe Project record testing and/or independent assurance testing as outlined in the construction contract specifications.
- 11) 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 Owner.
- 12) As Built Drawings. The Engineer will develop as built drawings to depict the work as actually constructed. The Owner will be furnished three (3) set of prints.

### ***ADDITIONAL SERVICES***

The Right-of-Way Mapping and Parcels, and Geotechnical Investigation work will be considered as an additional service as stipulated in the Agreement.

#### **Right - Of - Way Mapping and Parcels**

The Engineer will develop a right-of-way map for the Owner to use in acquiring the necessary parcels to implement the project. Procedures followed will be those satisfying TxDOT requirements for federally funded projects and utilized by the Owner. The surveyor will utilize ownership information obtained from an independent contractor or provided by the Owner in developing the right-of-way map. The surveyor will perform field surveying to establish the existing and proposed right-of-way lines and easement boundaries. The surveyor will prepare field notes and parcel sketches, signed and sealed by a Registered Professional Land Surveyor, for each parcel to be acquired. The surveyor will perform any necessary revisions to the right-of-way map, field notes and parcel sketches as required to complete the project.

**Geotechnical Investigation.** The engineer will provide for the performance of a geotechnical investigation and testing for the purpose of design of any bridges or bridge class culverts and for the purpose of pavement design and determining the suitability of existing soils to be used in the proposed construction.

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**EXHIBIT C**  
**Work Schedule**

The schedule for the work in this Work Authorization shall commence on the date of execution of this Work Authorization and continue for:

(1) a period which may reasonably be required for the design and construction for the Project including the various parts, phases, any extra work and any required additions thereto; or

(2) a period extending 12 months after the completion of the services called for in Phase I and/or Phase II as described in Exhibit B of this Work Authorization, which ever may be pertinent, in case construction is not commenced.

The final acceptance by the Owner of each phase of work on the Project shall serve as evidence of completion of that phase of work on the Project.

HIDALGO COUNTY  
PROFESSIONAL ENGINEERING SERVICES  
CONTRACT #C-09-419-10-27  
WORK AUTHORIZATION NO. 1

EXHIBIT D  
FEE ESTIMATE

TASK	PART I - CONTRACT AMOUNT	PART II - CONTRACT AMOUNT	COMBINED TOTAL - CONTRACT
<b>Basis for Engineering Fee based on Article 5A of Contract</b>			
<b>Project Estimated Construction Cost</b>	\$487,138	\$639,877	\$1,127,015
<b>Engineering Services Fee (8% of Construction Cost)</b>	\$38,971	\$51,190	\$90,161
<b>Topographic Survey Services Fee (2.5% of Construction Cost)</b>	\$12,178	\$15,997	\$28,175
<b>Basic Fee (Prelim Eng, Design &amp; Construction Services Fee)</b>	<b>\$51,149</b>	<b>\$67,187</b>	<b>\$118,337</b>
<b>PART I - PRELIMINARY ENGINEERING (50% of Basic Fee)</b>	<b>\$25,575</b>	<b>\$33,594</b>	<b>\$59,168</b>
TOPOGRAPHIC SURVEY (50% of Prelim Eng Fee)	\$12,787	\$16,797	\$29,584
SCHEMATIC DESIGN (50% of Prelim Eng Fee)	\$12,787	\$16,797	\$29,584
<b>SUB-TOTAL (Prelim Eng Fee)</b>	<b>\$25,575</b>	<b>\$33,594</b>	<b>\$59,168</b>
<b>PART II - RIGHT-OF-WAY MAP (Add'l Services)</b>	<b>\$3,000</b>	<b>\$12,000</b>	<b>\$15,000</b>
OBTAIN TITLE REPORTS (Est 5 Parcels) (@ \$600.00/Parcel)	\$600	\$2,400	\$3,000
DEVELOP PARCELS & R.O.W. MAP (Est 5 Parcels) (@ \$2,400.00/Parcel)	\$2,400	\$9,600	\$12,000
<b>SUB-TOTAL (R.O.W. Map Fee)</b>	<b>\$3,000</b>	<b>\$12,000</b>	<b>\$15,000</b>
<b>PART IV - PLANS, SPECIFICATIONS &amp; ESTIMATE (25% of Basic Fee)</b>	<b>\$12,787</b>	<b>\$16,797</b>	<b>\$29,584</b>
30% Plans Submittal (30% of PS&E Fee)	\$3,836	\$5,039	\$8,875
60% Plans Submittal (30% of PS&E Fee)	\$3,836	\$5,039	\$8,875
90% Plans Submittal (30% of PS&E Fee)	\$3,836	\$5,039	\$8,875
100% Plans Submittal (10% of PS&E Fee)	\$1,279	\$1,680	\$2,958
<b>SUB-TOTAL (PS&amp;E Fee)</b>	<b>\$12,787</b>	<b>\$16,797</b>	<b>\$29,584</b>
<b>PART V - CONSTRUCTION SERVICES (25% of Basic Fee)</b>	<b>\$12,787</b>	<b>\$16,797</b>	<b>\$29,584</b>
Construction Services	\$12,787	\$16,797	\$29,584
<b>SUB-TOTAL (Construction Services Fee)</b>	<b>\$12,787</b>	<b>\$16,797</b>	<b>\$29,584</b>
<b>TOTAL</b>	<b>\$54,149</b>	<b>\$79,187</b>	<b>\$133,337</b>

