

HIDALGO COUNTY
Professional Engineering Services
Contract # C-12-314-01-29
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 Rancho Blanco Road project. Hidalgo County desires to improve Rancho Blanco Road to a two-lane rural county road section with 12-foot lanes. The limits of work are from ¼ mile east of FM 907 (Alamo Rd) on the west to Tower Road on the east. The length of the project is approximately 0.5 miles. The proposed work will consist of providing: preliminary engineering, topographic surveying, final design, and construction plans development and construction management and support for the project.

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. 3-1200-431-00-122-086-0-731

Requisition No. #233489 (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 09th day of March, 2013.

ENGINEER:

R. Gutierrez Engineering Corporation

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

OWNER:

COUNTY OF HIDALGO

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

By: Ramon Garcia
Name: Ramon Garcia
Title: County Judge

APPROVED BY
COMMISSIONERS' COURT
ON: 4/9/13

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

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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:

The Engineer will perform, or provide for, professional engineering and surveying as well as geotechnical engineering services for the development and upgrading of Rancho Blanco Road, with limits from ¼ mile east of FM 907 (Alamo Rd) to Tower Road. The proposed improvements will be to reconstruct, resurface and/or widen Rancho Blanco Road from a 20-foot wide two-lane rural county road section to a 24-foot wide 2-lane roadway facility within the existing right-of-way.

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 obtain the services of a geotechnical engineering firm to obtain geotechnical information, or utilize geotechnical information provided by the Owner, for use in the design of the project. The Engineer will prepare a Preliminary Engineering Report in sufficient detail to indicate the problems involved and the alternate solutions available to the Owner; to include preliminary layouts, sketches, and cost estimates for the Project, and to set forth clearly the Engineer's recommendations. The Engineer will perform the final design of the project and develop the construction plans for the project based on the Owner's direction after review of the Preliminary Engineering Report. The Engineer will assist the Owner with the bidding process as well as provide construction management and support.

PHASE I – PRELIMINARY PHASE

Preliminary Engineering Report. The Engineer will prepare a Preliminary Engineering Report in sufficient detail to indicate the problems involved and the alternate solutions available to the Owner; to include preliminary layouts, sketches, and cost estimates for the Project, and to set forth clearly the Engineer's recommendations.

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 (baseline). Establish vertical control by looping all benchmark (BM) circuits and tying them to a known permanent BM elevation. BM's are to be set at approximately 1,000 ft. intervals, or at intervals appropriate to suit field conditions, using Three Wire Level and Global Positioning System (GPS) survey. BM's are to be placed in a location that will be undisturbed by future construction.
- 2) **Topography** - Obtain topographic survey for the length of the project, 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 proposed 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. Costs for adjustment of utilities will be borne by either the Utility Owner or the County of Hidalgo.

Geotechnical Investigation. The engineer will provide for the performance of a geotechnical investigation and testing for the purpose of pavement design and

determining the suitability of existing soils to be used in the proposed construction. The Owner may provide this Geotechnical information for use by the Engineer. The Geotechnical Investigation work, if provided under this work authorization, will be considered an additional service.

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 Rancho Blanco Road as determined by the Owner after review of the Preliminary Engineering Report.

Plans Development (PS&E). The Engineer will perform, or provide for, professional, surveying, and engineering design services for the preparation of plans for the development and upgrading of Rancho Blanco Road. The engineer will perform field surveys to obtain additional information that may not have been gathered during the schematic design phase of the project. The engineer will utilize the Geotechnical investigation data obtained during the Preliminary Phase for the proper design of the project. The engineer will provide the engineering design services necessary for the development of the final construction plans, specifications and estimate (PS&E) for 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 may include, but not be limited to, title sheet, project layout, general notes, 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 develop the horizontal and vertical design for the proposed roadway improvements 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 Microstation or AutoCADD 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 the PS&E phase.
- 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 periodic Project site observations of the authorized construction as follows:
 - a) Project Engineer. The Engineer will provide periodic site 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 as an additional service, the Engineer will furnish the services of a Resident Engineer and/or Construction Inspector(s) for continuous on-site inspection of construction to monitor/inspect the Contractor's daily progress and conformance to PS&E specifications.

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) Record Drawings. The Engineer will develop "record drawings", based on Contractor mark-ups, to depict the work as constructed. The Owner will be furnished three (3) set of prints.

ADDITIONAL SERVICES

Geotechnical Investigation work and Resident Engineer and/or Construction Inspector work will be considered as an additional service as stipulated in the Agreement.

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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.

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EXHIBIT D
FEE ESTIMATE

TASK	CONTRACT AMOUNT (\$)
Basis for Engineering Fee based on Article 5A of Contract	
Project Estimated Construction Cost	\$193,145
Engineering Services Fee (8% of Construction Cost)	\$15,452
Topographic Survey Services Fee (2.5% of Construction Cost)	\$4,829
Total Fee (Prelim Eng, Design & Construction Services Fee)	\$20,280 ✓
PART I - PRELIMINARY ENGINEERING (50% of Total Fee)	\$10,140 ✓
TOPOGRAPHIC SURVEY (50% of Prelim Eng Fee)	\$5,070
SCHEMATIC DESIGN (50% of Prelim Eng Fee)	\$5,070
SUB-TOTAL (Prelim Eng Fee)	\$10,140
PART II - DESIGN (30% of Total Fee)	\$6,084 ✓
60% Plans Submittal (60% of PS&E Fee)	\$3,650
90% Plans Submittal (30% of PS&E Fee)	\$1,825
100% Plans Submittal (10% of PS&E Fee)	\$608
SUB-TOTAL (PS&E Fee)	\$6,084
PART III - CONSTRUCTION (20% of Total Fee)	\$4,056 ✓
CONSTRUCTION PHASE SERVICES	\$4,056
SUB-TOTAL (PS&E Fee)	\$4,056
TOTAL PROFESSIONAL SERVICES FEE	\$20,280

Project Name:	Rancho Blanco Rd - 24 Ft Rural Road Curb & Gutter Roadway	
Projec Length:	0.5 Miles =	2,640 LF
Project Limits:		
From:	1/4 Mi E of FM 907 (Alamo Rd)	
To:	Tower Road	
Proposed R.O.W.:	40 FT	
Roadway Width:	24 FT	
Hot Mix:	2 IN	
Base Mat'l:	10 IN	
Percent Lime for Base:	2 %	
Prime Coat Rate:	0.3 Gal/Sy	
Turnout Radius:	30 FT	
Intersecting Rdwy Width:	30 FT	
Construction Duration:	2 MO	

Item	Item Description	Quantity	Unit	Unit Cost	Total Cost
100	Prep R.O.W.	26.40	Sta	\$ 600.00	\$ 15,840.00
110	Rdwy Excavation	651.85	CY	\$ 5.00	\$ 3,259.26
247	Flex Base	651.85	CY	\$ 20.75	\$ 13,525.93
262	Lime Treat Base	2,346.67	SY	\$ 2.10	\$ 4,928.00
262	Lime	22.00	Ton	\$ 230.00	\$ 5,060.00
310	Asph Mat'l	704.00	Gal	\$ 4.60	\$ 3,238.40
340	Hot Mix	802.56	Ton	\$ 80.00	\$ 64,204.80
464	RCP (CL III)(18")	480.00	LF	\$ 37.00	\$ 17,760.00
467	Safety End Treat (6:1) (18")	20.00	Ea	\$ 700.00	\$ 14,000.00
500	Mobilization	1.00	LS	\$ 10,800.00	\$ 10,800.00
502	Barricades	2.00	Mo	\$ 1,200.00	\$ 2,400.00
530	Driveways	284.44	SY	\$ 19.30	\$ 5,489.78
666	Refl Pav Mark (Y)(Bkn)	660.00	LF	\$ 0.35	\$ 231.00
672	Raised Pav Mark (Refl)(Ty II-A-A)	66.00	Ea	\$ 3.30	\$ 217.80
	Sub-Total				\$ 160,954.96
	20% Contingencies	0.20	LS	\$ 160,954.96	\$ 32,190.99
	TOTAL				\$193,145.96