

EXHIBIT E

WORK AUTHORIZATION

HIDALGO COUNTY
Professional Engineering Services
Agreement# C-17-290-11-21

WORK AUTHORIZATION NO. 1

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, **Alpha Infrastructure Engineering, Inc.**, A Texas Corporation, hereinafter called "Engineer".

PART 1. SCOPE OF WORK

The purpose of this Work Authorization is for the "engineering services" to provide **Professional Engineering Services for Midway Road Improvements from South of Business 83 to 18th St.**

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 _____. 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 3 of the Agreement.

PART 4. FUNDING

This Work Authorization No. 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.4, as to content and detail of this **Work Authorization No. 1**.

**HIDALGO COUNTY
COMMISSIONER PRECINCT No. 1:**

By: _____
Hon. David Fuentes

PART 8. ACCEPTANCE AND APPROVAL

This Work Authorization is hereby accepted, approved by Hidalgo County Commissioners' Court on _____ as indicated below and effective as of _____ day of _____, 201_

**THE ENGINEER:
ALPHA INFRASTRUCTURE ENGINEERING, PLLC**

**THE OWNER:
HIDALGO COUNTY**

By: _____
Juan M. Gamez, PE/President

By: _____
Ramon Garcia, County Judge

ATTEST:

By: _____
Arturo Guajardo Jr., County Clerk

- LIST OF ATTACHMENTS:
- Exhibit A – Services to be Provided by Owner
 - Exhibit B – Services to be Provided by Engineer
 - Exhibit C – Work Schedule
 - Exhibit D – Cost Proposal

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 (as defined and more particularly identified in Exhibit "A-1" 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-1" 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

Scope of Services to be provided by the Engineer

The following is a listing of the Scope of Services to be provided by the Engineer under this Contract:

GENERAL MANAGEMENT / COORDINATION

1. Meet w/ Owner to establish Project Scope and Design Criteria.
2. Meet w/ Delta Lake Irrigation District to establish Scope of Work on Canal and Drain Ditch.
3. Meet w/ Owner's Staff on all project related items.
4. Perform Quality Control & Quality Assurance (QCQA).

RIGHT-OF-WAY, UTILITIES, AND DESIGN SURVEYING

Right-of-Way & Utilities Survey

1. Survey existing roadway right-of-way and adjoining parcel lines in project coordinate system.
2. Obtain most current existing right-of-way information (plats, deeds, ownership info).
3. Prepare Project Base Map of project limits showing exist ROW and Property lines.
4. Contact "One Call" to request marking of underground utilities.
5. Request existing utility information from local utility companies.
6. Perform surveying for horizontal location of "Flagged" underground utilities & visible overhead lines.

Design Survey

1. Establish project control points at each end of project.
2. Establish Horizontal and Vertical Control BM's @ 1,000-Ft spacing (Est. 6 BM's).
3. Perform topographic survey to 200-Ft beyond limits of project.
4. Take X-Sections @ 100-Ft spacing to 20-Ft beyond ROW (when possible).
5. Take driveway or intersecting road X-Sections to 10-Ft beyond ROW.
6. Pick up horizontal location of all visible overhead or on-ground utilities and markings from "one-call" services.
7. Take X-Sections of Irrigation Canal @ 50-Ft spacing to 200-Ft from Roadway centerline each side.
8. Take X-Sections of Drain Ditch @ 50-Ft spacing to 200-Ft from Roadway centerline each side.
9. Obtain Side Drain data (centerline station, size, length, flow lines, etc.).
10. Obtain culvert's size of structures, type, skew angle, material.
11. Locate any other topographic feature within project area (within 20-ft outside of ROW).
12. Process ASCII files to develop DTM.

PLANS SPECIFICATIONS & ESTIMATE

1. Title Sheet & Index of Sheets
2. Project Layout
3. Horizontal & Vertical Survey Control
4. Existing & Proposed Typical Sections
5. Develop General Notes and Specs
6. Earthwork & Cross-Sections
7. Figure Quantities & Prepare E&Q Sheets
8. Sequence of Construction
9. Traffic Control Plan General Notes
10. Traffic Control Plan
11. Plan & Profile (Roadway)
12. Driveway & Intersection Details
13. Outfall Details
14. Cross Culvert X-Sections & Profiles
15. Irrigation Crossing Structure Plan & Profile
16. Irrigation Structures Details
17. Prepare storm water pollution prevention plan (SW3P) following NPDES general permit requirements
18. Provide interim drawing submittals (3 sets)
19. Provide Final Drawings on 11"x17" Paper
20. Provide Engineer's Construction Cost Estimate

CONSTRUCTION PHASE SERVICES

1. Review submittals
2. Review Construction Materials Testing Reports
3. Perform Construction Site Observations
4. Perform Final Inspection
5. Prepare Construction Record Drawings
6. Close out Project

Engineering Schedule Summary	Duration	2017				
		October	December	January	February	March
Survey and Topographic Work	7 days	[Gantt bar with 7 red vertical bars in October]				
Utility Coordination	7 days	[Gantt bar with 7 yellow vertical bars in December]				
Hydrology and Hydraulics	7 days	[Gantt bar with 7 green vertical bars in December]				
Preliminary Engineering	21 days	[Gantt bar with 21 light green vertical bars in December]				
Final Plans Design	28 days	[Gantt bar with 28 light blue vertical bars in January]				
QA/QC	7 days	[Gantt bar with 7 purple vertical bars in February]				
Spec Book	7 days	[Gantt bar with 7 brown vertical bars in February]				

Total Days to Perform Project 84

7

7

7

21

28

7

7

84

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November 7, 2017

Exhibit D
Engineer's Contract Rates
(Midway Rd Improvement Project)

Staff Classification	Hourly Rate
Principal	\$ 240.00
Project Manager	\$ 160.00
Senior Engineer	\$ 140.00
R.P.L.S	\$ 150.00
Senior Engineering Technician	\$ 70.00
CAD Technician	\$ 68.00
Survey Crew	\$ 150.00
Clerical	\$ 40.00

Exhibit D-1

-Estimated Project Fee Schedule

Task and Description	Principal	Project Manager	Senior Engineer	R.P.L.S	Senior Engineering Technician	CAD Technician	Survey Crew	Clerical	Total
Hourly Rate	\$ 240.00	\$ 160.00	\$ 140.00	\$ 150.00	\$ 70.00	\$ 68.00	\$ 150.00	\$ 40.00	
A. Survey				14	10	20	45	4	93
sub total	\$ -	\$ -	\$ -	\$ 2,100.00	\$ 700.00	\$ 1,360.00	\$ 6,750.00	\$ 160.00	\$ 11,070.00
B. General Management / Coordi	12	20	10		40	40		6	128
	\$ 2,880.00	\$ 3,200.00	\$ 1,400.00	\$ -	\$ 2,800.00	\$ 2,720.00	\$ -	\$ 240.00	\$ 13,240.00
C. PS&E	20	45	60		120	120		3	368
	\$ 4,800.00	\$ 7,200.00	\$ 8,400.00	\$ -	\$ 8,400.00	\$ 8,160.00	\$ -	\$ 120.00	\$ 37,080.00
D. Construction Services	10	20	30	7	40	40	6	6	159
	\$ 2,400.00	\$ 3,200.00	\$ 4,200.00	\$ 1,050.00	\$ 2,800.00	\$ 2,720.00	\$ 900.00	\$ 240.00	\$ 17,510.00
Total Professional Man Hour Estimate	42	85	100	21	210	220	51	19	748
Total Estimated Professional Services Fee	\$ 10,080.00	\$ 13,600.00	\$ 14,000.00	\$ 3,150.00	\$ 14,700.00	\$ 14,960.00	\$ 7,650.00	\$ 760.00	\$ 78,900.00