

# EXHIBIT D

## Work Authorization Form

HIDALGO COUNTY  
Professional Engineering Services for  
"Geo Technical/Construction Material Testing Services"  
Agreement # C-19-209-09-03

### 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, Raba Kistner, Inc. professional engineers of McAllen, Texas, hereinafter called "Engineer".

#### PART 1. SCOPE OF WORK

The purpose of this Work Authorization is for the "engineering services" to provide *geotechnical drilling and engineering services including foundation design and construction recommendations, and construction material testing for the proposed New Mechanic Shop at Precinct 4.*

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 \$ 47,601.62. This amount is based upon the costs outlined in the Estimated Cost Proposal attached hereto as **ATTACHMENT "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 7 of the Agreement.

#### PART 4. FUNDING

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

Account No. 0-1355-431-00-124-193-0-730

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, Commissioner, Ellie Torres, as to content and detail of this Work Authorization No. 1.

**HIDALGO COUNTY  
COMMISSIONER PRECINCT No. 4:**

By: \_\_\_\_\_  
Ellie Torres, Commissioner

**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 \_\_\_\_\_, 2020.

**THE ENGINEER:  
RABA KISTNER, INC.**

**THE OWNER:  
HIDALGO COUNTY**

By: \_\_\_\_\_  
Isidoro Arjona, P.E., PMP

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

**ATTEST:**

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

**LIST OF ATTACHMENTS**

- ATTACHMENT "A" - Service to be provided by the Owner
- ATTACHMENT "B" - Services to be provided by the Engineer
- ATTACHMENT "C" - Work Schedule
- ATTACHMENT "D" - Cost Proposal

# **ATTACHMENT A**

## **-Scope of Services to be provided by the County**

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.

# ATTACHMENT B

## -Scope of Services to be provided by the Engineer

The services designated herein as "Services provided by the ENGINEER" shall include the performance of all engineering services and project description in (*attachments herein*) for the following described facility:

ENTITY:	HIDALGO COUNTY PRECINCT No. 4
PROJECT DESCRIPTION:	WORK AUTHORIZATION No. 1 "NEW MECHANIC SHOP AT PRECINCT 4" "ON CALL" GEO Tech / CMT SERVICE AGREEMENT No. <u>C-19-209-09-03</u>
ENGINEER:	<b>RABA-KISTNER, INC.</b>

Proposal No. PMA20-032-00 (Revised - 4)  
June 4, 2020

Ms. Leticia H. Saenz, CPPB  
Director of Administrative Operations  
Hidalgo County Precinct No. 4  
1051 N. Doolittle Road  
Edinburg, Texas 78542

**Re: Proposal for Geotechnical Engineering and Construction Materials Testing Services  
Proposed New Mechanic Shop at Precinct 4  
Hidalgo County Precinct No. 4  
1051 N. Doolittle Road  
Edinburg, Hidalgo County, Texas**

Dear Ms. Saenz:

On the basis of your written request received by our office via electronic-mail transmittal on Tuesday, April 14, 2020; the documents received by our office via electronic-mail attachment from Ms. Yesenia Suchil, Construction Administration, with ERO Architects, the project's architectural firm on Wednesday, May 13, 2020; and the *Service Contract No. C-19-209-09-03*, dated September 3, 2019 between the Hidalgo County Precinct No. 4 (CLIENT) and **RABA KISTNER Consultants, Inc. (RKCI)**, we thank you for selecting **RKCI** to provide Geotechnical Engineering Services and Construction Material Testing Services to Hidalgo County Precinct No. 4 for the above-referenced project. Please note that the original of this proposal was revised to incorporate a change in the project name, in accordance with your written request received by our office via electronic-mail transmittal on Friday, May 29, 2020. The broad objectives of our study will be to determine subsurface conditions at the subject site, and to provide foundation design and construction recommendations for the proposed building. Described in this letter are:

- our understanding of pertinent project characteristics;
- our proposed scope for field and laboratory study;
- our proposed scope for engineering evaluation and reporting;
- our tentative project schedule; and
- our project lump sum fee.

### **1.0 PROJECT DESCRIPTION**

We understand that the proposed project consists of the design and construction of a single-story, rectangle-shaped, freestanding, approximately 9,150 ft<sup>2</sup> mechanic shop building. The proposed mechanic shop building is planned to be located west of the existing Hidalgo County Precinct No. 4 main building, situated at 1051 N. Doolittle Road in Edinburg, Hidalgo County, Texas. The proposed mechanic shop building is expected to create relatively light to moderate loads to be carried by the foundation system, which is anticipated to consist of a shallow foundation system.



## **2.0 PREVIOUS STUDY**

RKCI has previously performed a Geotechnical Engineering Study within the existing Hidalgo County Precinct No. 4 facility, which included borings in the vicinity of the proposed building (RKCI Project No. AMA07-082-00, dated July 12, 2007). The results of this geotechnical engineering study are on file in our office. Our previous data will be utilized as supplementary information in the preparation of our report.

## **3.0 GEOTECHNICAL ENGINEERING SERVICES**

We have been asked by the project's architectural firm to conduct two borings within the building footprint area. Further, based on geologic evidence, and our experience with subsurface conditions in the vicinity of this site, we propose the following drilling scheme.

<b>Proposed Structure</b>	<b>Number of Borings</b>	<b>Depth, ft. *</b>
Mechanic Shop Building	2	25

\* below the existing ground surface elevation, or auger refusal, whichever occurs first.

Borings will be located in the field utilizing tape and right angle measurements from existing benchmarks. Our scope of services does not include surveying of the boring locations. However, RKCI recommends that the final boring locations be surveyed in the field by the CLIENT or their representative.

Samples will be taken using conventional split-spoon and/or Shelby tube sampling techniques in general accordance with applicable American Society for Testing and Materials (ASTM) standards. Representative portions of the samples will be sealed, identified, packaged, and transported to our laboratory for subsequent testing and classification.

Upon completion of drilling activities, water level readings, if applicable, will be recorded in the open boreholes and the boreholes will be backfilled using the auger cuttings generated during the drilling operations.

## **3.1 LABORATORY STUDY**

Upon completion of the subsurface exploration, a general testing program will be designed to define the classification and shrink/swell characteristics of the subsurface strata. The laboratory testing is anticipated to include moisture content tests, Atterberg Limits (plasticity) tests, unconfined compressive strength determinations, dry unit weight determinations, and grain size analyses. The laboratory testing will be performed in general accordance with applicable ASTM standards.

## **3.2 ENGINEERING ANALYSIS AND REPORT**

The results of the field and laboratory phases of the study will be reviewed by our staff of engineers. The results of our review, together with the supporting field and laboratory data, will be presented in a written engineering report. Included therein will be recommendations concerning the design and construction of

the foundation systems for the proposed building. The Geotechnical Engineering Report may also include the following information and recommendations:

- A summary of the field and laboratory sampling and testing program;
- Boring logs and laboratory testing results;
- A review of the general site conditions including a description of the site, the subsurface stratigraphy, groundwater conditions, and the presence and condition of fill materials, if encountered.
- Foundation design considerations and recommendations, including:
  - expansive, soil-related movements using an empirical method for predicting the Potential Vertical Rise (PVR) developed by the Texas Department of Transportation (TxDOT);
  - methods for reducing expansive, soil-related movements to about 1 inch, which is the typical tolerance for ground-supported floor slabs in this region;
  - shallow foundation recommendations;
  - available soil-bearing pressures;
  - settlement estimations, where applicable; and
  - groundwater considerations.
- Foundation construction considerations, including:
  - site drainage;
  - site preparation;
  - select fill materials;
  - shallow foundation excavations;
  - potential reuse of on-site materials as select fill materials;
  - excavation considerations; and
  - fill placement compaction requirements.
- Seismic region condition evaluations.

Since site grading plans can result in changes in the foundation subgrade conditions, final site grading plans will be helpful information in the preparation of engineering recommendations. In the absence of final site grading information, we will prepare recommendations based on the existing ground surface elevations.

The final report will be submitted only in a PDF format via electronic-mail attachment. Upon the CLIENT's request, we will reproduce the report in a spirally-bound copy.

### **3.3 TENTATIVE PROJECT SCHEDULE**

Based on our present workload and weather permitting, it is anticipated that the field exploration phase of this study can begin within three working days of receiving written authorization to proceed, provided that

the site is accessible to our truck-mounted drill rig and the CLIENT has supplied us with all available information regarding existing utilities and below-grade structures on site. The field exploration and laboratory testing phases of the study are expected to take approximately twelve working days to complete. The engineering report will be submitted within an additional twelve working days following completion of the laboratory testing. The above schedule does not account for delays due to inclement weather. We will be pleased to provide the design team with verbal design information as the data becomes available.

#### **4.0 CONSTRUCTION MATERIALS TESTING SERVICES**

We have also been asked by the project's architectural firm to provide an estimate for the construction material testing services during the construction phase of this project. Construction Materials Testing Services can only be quantified once the project's plans and specifications are issued for construction. The scope and quantity of services provided will be dependent upon the actual services required/requested by the CLIENT. Charges will be assessed only for actual services rendered. Construction Materials Testing Services can only be quantified once the project's plans and specifications are issued for construction. Based on our experience on previous similar projects, the construction materials testing services may include but not limited to:

- 1) Earthwork
  - Moisture-Density Relationship (Proctor)
  - Atterberg Limits Determinations
  - Sieve Analyses
  - Technician Time
  - Proofrolling Observations
  - Field Density Tests
  - Vehicle Travel Charge
  
- 2) Concrete
  - Concrete Compressive Strength Tests
  - Air Content of Concrete
  - Technician Time
  - Vehicle Travel Charge
  
- 3) Foundation/Tilt-Up Wall Observations
  - Footing Observations
  - Geotechnical Engineer Site Visit
  - Reinforcing Steel Observations
  - Structural-Steel Observations
  - Technician Time
  - Vehicle Travel Charge

## **5.0 LUMP SUM COST**

The total lump sum cost for the Geotechnical Engineering Study outlined herein is **\$3,975.00**. Should unusual subsurface conditions be encountered in the field which indicate the desirability of significantly broadening the scope of the study, we will contact you to receive written authorization before proceeding with any additional work. Additional services will be billed on a unit basis in accordance with the negotiated fees established in the *Service Contract*, agreed upon by both parties.

**RKCI** has been provided with a site plan of the project site by the project's architectural firm, illustrating the location of the proposed building. It is our understanding that access to all boring locations for a conventional, truck-mounted drilling rig and underground utility clearance will be provided by the CLIENT prior to our field exploration services.

In order to establish sufficient funds for conducting these services during construction, **RKCI** recommends to use about 2% of the estimated construction cost as a preliminary budget since the project plans and specifications are in the process of being developed for the proposed project. We understand that the probable cost of construction is about \$2,181,331.00. **RKCI recommends to consider about \$43,626.62 as a preliminary budget for the material testing services.** Once the project plans and specifications are finalized for the project, then we can review the requirements of the project and provide the CLIENT with a revised estimate for the CQA services.

It should be noted that our study scope (and project cost) do not include plan review or earthwork and foundation excavation observations during the construction of the project. However, plan review and construction observation costs should be included in the project budget.

It should also be noted that our study scope (and project cost) do not include professional time or travel expenses for participation in multiple design team meetings. If these services are required, they will be billed at our standard billing rates for professional time plus expenses.

## **6.0 ACCEPTANCE**

We appreciate the opportunity of submitting this proposal and look forward to working with the Hidalgo County Precinct No. 4 in the development of this project, which will be carried out in accordance with this letter and the executed contract between Hidalgo County Precinct No. 4 and **RKCI**.



**ATTACHMENT C**  
-Work Schedule

TBD once the construction schedule is established.

**ATTACHMENT D**  
**-Cost Proposal**

**ATTACHMENT "D"**  
**FEE SCHEDULE**

**PROJECT TYPE:** Geotechnical Engineering Services

**PROJECT NAME:** New Mechanic Shop

Structure	Number	Depth	Soil	Total
Building Addition	2	25	25	<b>50</b>
Totals	2	25	25	<b>50</b>

<u>FIELD OPERATIONS</u>	<u>QUANTITY</u>	<u>UNIT PRICE</u>	<u>TOTAL</u>
Mobilization of Drill Rig	1 l.s.	\$350.00	\$350.00
Drilling/Sampling	50 l.f.	\$12.00	\$600.00
Trip Charge	2 trip	\$15.75	\$31.50
Field Coordination	2 hrs.	\$105.00	\$210.00
Field Boring Layout & Travel Time	2 hrs.	\$52.00	\$104.00
Field Logging Services	5 hrs.	\$52.00	\$260.00
<b>Field Operations Subtotal:</b>			<b>\$1,555.50</b>

<u>LABORATORY TESTS</u>	<u>QUANTITY</u>	<u>UNIT PRICE</u>	<u>TOTAL</u>
Atterberg Limits (PI)	4 ea.	\$96.25	\$385.00
Minus 200-mesh Sieve	2 ea.	\$65.00	\$130.00
Unconfined Compression	2 ea.	\$56.25	\$112.50
Moisture Content	16 ea.	\$12.00	\$192.00
<b>Laboratory Testing Subtotal:</b>			<b>\$819.50</b>

<u>ENGINEERING AND REPORT</u>	<u>QUANTITY</u>	<u>UNIT PRICE</u>	<u>TOTAL</u>
Geotechnical Engineer (PE)	2 hrs.	\$142.00	\$284.00
Jr. Geotechnical Engineer (EIT)	11 hrs.	\$105.00	\$1,155.00
Drafting	1 hrs.	\$61.00	\$61.00
Secretary/Word Processor (NS)	2 hrs.	\$50.00	\$100.00
<b>Engineering and Report Writing Subtotal:</b>			<b>\$1,600.00</b>

**TOTAL FOR GEOTECHNICAL ENGINEERING SERVICES: \$3,975.00**

**ATTACHMENT "D"**  
**FEE SCHEDULE**

<u>SERVICE</u>	<u>UNIT RATE</u>	<u>QUANTITY</u>	<u>TOTAL</u>
<b>Earthwork:</b>			
1. Moisture-Density Relationship (Proctor)	\$263.50	each	_____
2. Atterberg Limits Determinations (P.I.) (ASTM/AASHTO)	\$96.25	each	_____
3. Sieve Analysis -200	\$65.00	each	_____
4. Sieve Analysis - Flexbase Material	\$65.00	each	_____
5. Technician Time Sampling	\$56.00	hour	_____
6. Lime Series Curve Determination Including Five p H Determinations	\$473.25	hour	_____
7. Field Density Test - Utility	\$24.00	each	_____
8. Technician Time - Density Testing - Utility	\$56.00	hour	_____
9. Field Density Test - Building Pad	\$24.00	each	_____
10. Technician Time - Density Testing - Building Pad	\$56.00	hour	_____
11. Proof Rolling Observations - Building Pad	\$56.00	hour	_____
12. Vehicle Travel Charge	\$53.00	trip	_____
<b>Concrete: Building Pad</b>			
1. Concrete Compressive Strength Tests	\$17.50	each	_____
2. Technician Time - Concrete Testing	\$56.00	hour	_____
3. Air Content of Concrete	\$33.00	each	_____
4. Technician Time - Pick-Up of Specimen(s)	\$56.00	hour	_____
5. Vehicle Travel Charge	\$53.00	trip	_____
<b>Concrete: Civil</b>			
1. Concrete Compressive Strength Tests	\$17.50	each	_____
2. Technician Time - Concrete Testing	\$56.00	hour	_____
3. Air Content of Concrete	\$33.00	each	_____
4. Technician Time - Pick-Up of Specimen(s)	\$56.00	hour	_____
5. Vehicle Travel Charge	\$53.00	trip	_____
<b>Structural Steel Observation:</b>			
1. Structural Steel Observation/Bolts and Weld Certified Welding Inspector	\$128.50	hour	_____
2. Non- Destructive Testing (Radiographic/Ultrasonic)	Cost + 15%		_____
3. Vehicle Travel Charge	\$53.00	trip	_____
<b>Reinforcing Steel:</b>			
1. Reinforcing Steel Observation	\$56.00	hour	_____
2. Vehicle Travel Charge	\$53.00	trip	_____
<b>Masonry:</b>			
1. Masonry Observation	\$71.50	hour	_____
2. Mortar/Grout Compressive Strength Testing	\$18.50	each	_____
3. Technician Time - Pick-Up of Specimen(s)	\$56.00	hour	_____
4. Vehicle Travel Charge	\$53.00	trip	_____
<b>Professional Services:</b>			
1. Project Coordination	\$110.00	hour	As requested _____
2. Geotechnical / Materials Engineer	\$165.00	each	As requested _____
3. Vehicle Travel Charge	\$53.00	trip	As requested _____
<b>Other:</b>			
1. Project Administration(Markup of Invoiced Billing Cycle)	10%		_____

**TOTAL FOR CONSTRUCTION MATERIAL TESTING SERVICES: \$43,626.62**