

EXHIBIT E

-Work Authorization

HIDALGO COUNTY

Professional Engineering Services
Contract # **C-13-334-02-11**
Work Authorization Form

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, **TERRACON CONSULTANTS, INC.**, 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 ___Field density testing and laboratory evaluation of soils and asphalt concrete materials that will be used during pavement construction for the Mile 17 ½ Road Project ___

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 **\$ 15,010.00**. 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.1 shall be funded through funding source:

Account No- 4-1200-431-00-124-142-0-84

Requisition Number 251254 (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 #4**, Commissioner Joseph Palacios as to content and detail of this **Work Authorization No. 1.**

HIDALGO COUNTY PRECINCT No. 4

BY: _____
Hon. Joseph Palacios, Commissioner

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 _____, 2014.

THE ENGINEER:
TERRACON CONSULTANTS, INC.

THE OWNER:
HIDALGO COUNTY

By:  _____
Jorge A. Flores, P.G. Principal/Office Manager

By: _____
Hon. Ramon Garcia, 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

January 15, 2014

Leticia H. Saenz, CPPB
Hidalgo County Purchasing Department
2812 S. Business Highway 281
Edinburg, Texas 78539

Telephone # 956-318-2626
Email leticia.saenz@co.hidalgo.tx.us

RE: Proposal
Construction Materials Testing Services
Mile 17½ (between Ware Road and West R.O.W. of HCID No. 1 Canal)
Hidalgo County Precinct 4
N. Ware Road and Russell Road
McAllen, Texas
Proposal No P88130463

Dear Ms. Saenz:

Terracon Consultants, Inc. (Terracon) is pleased to submit this estimate for the construction materials testing services for the above referenced project. We are presenting this proposal to confirm our understanding of the services to be performed for this project, to obtain written authorization to provide these services, and to present the estimated fee to provide these services. **We understand that we have been chosen to provide these services for this publicly funded project. Therefore, by providing cost information we are not in violation of the Texas Professional Services Procurement Act.** The following sections outline our understanding of the project and provide a description of the tasks to be performed.

A. PROJECT INFORMATION

We understand that Hidalgo County Precinct 4 is planning the construction of Mile 17 ½ from Ware Road to West R.O.W. of HCID No. 1 Canal. The Project will include drainage and paving improvements. Terracon's involvement is anticipated to include field and laboratory quality control testing for the duration of the project.



B. SCOPE OF SERVICES

Terracon will perform materials testing in general accordance with the project specifications. The time required for quality control testing during the construction phase on the project is directly related to the contractor's scheduling and performance. Therefore, our fee for materials testing and observation services will be based upon applicable unit prices and hourly rates. Our anticipated scope of services is as follows:

- Field density/moisture testing and laboratory evaluation of soils;
- Field testing and laboratory evaluation of asphalt concrete materials used during pavement construction.

Experienced field/laboratory personnel will be provided for testing services. All field/laboratory construction materials testing/inspection will be performed under the direction of a Registered Professional Engineer. A detailed scope of services envisioned to complete the testing is as follows:

Soils

Observations/testing will be performed by, or under the direction of a Registered Professional Engineer. The field services will be supported by appropriate laboratory evaluation of soils used as fill or backfill on the site. The laboratory testing will include laboratory moisture-density relationship (Proctor), with sieve analysis and Atterberg limit determinations for classification and/or determination of import fill suitability. Laboratory material evaluations will be conducted at a minimum for each type of soil encountered during fill placement. The testing will be performed to check compliance with project specifications. The project contractor and construction manager personnel on the site will be informed of our field observations and test results. Written reports of test results will be prepared on a regular basis throughout the project duration and distributed per your directive.

Asphalt

Observations/testing will be performed by, or under the direction of a Certified Engineering Technician on an as requested basis during placement of asphalt at the project. The asphalt will be sampled and submitted to our laboratory for Mix Properties, asphalt content and aggregate grain size distribution to verify compliance with project specifications. Asphalt cores will confirm thickness and nuclear gauge density.

C. COMPENSATION

We estimate the fee of our services to be **\$15,010.00**. A breakdown of the fee is outlined in the attached Table 1. **Please recognize that this is an estimate.** We will only invoice for the actual services and required laboratory tests.

In the event that construction activities do not require the time we have estimated, the fee will be lower than our estimated fee. If more services are required due to conditions such as scheduling, inclement weather, or retesting, this fee estimate may be exceeded.

If it becomes apparent to Terracon that the requested services cannot be performed within the estimated fee and proposed testing and observation quantities, we will submit a written request for a change order. Our estimated fee and any services due to change orders will be provided at the unit rates shown in Table 1.

Please be aware that we will be unable to distribute field and laboratory reports until a signed contract is received.

The applicable field rate will be invoiced for all hours worked, including travel time, report and sample preparation. Technician time will be invoiced on a portal-to-portal basis from our office. Overtime rates on 1.5 times the regular hourly rate will be charged for time worked outside normal workday hours of 8:00 am to 5:00 pm and over eight (8) hours per day, Monday through Friday and for hours worked on Saturday. Hours worked on Sunday or holiday will be invoiced at the rate of 2.0 times the regular hourly rates. A minimum of three (3)-hour charge will be invoiced per visit to the project site, Project Management/Clerical services will be invoiced on hours worked, unless otherwise noted on the attached Table 1. Hours will be rounded up to the next whole number.

Scheduling – It is the responsibility of the contractor or your designated representative to notify Terracon, in advance (minimum of 24 hour notice), for testing services required on this project. Our services will be performed on an as requested basis. Terracon will not be responsible for scheduling our services and will not be responsible for tests that are not performed due to failure to schedule our services on the project. Scheduling for your convenience is handled by our Dispatcher (956) 283-8254.

Approval – If this Scope of Services meets with your approval, work may be initiated by returning an original copy of the Agreement for Services to our Pharr office. Project initiation may be expedited by emailing or faxing a copy of this signed Agreement for Services to (956) 283-8279. Unless requested otherwise, a hard copy of this proposal will not be mailed to you.

Construction Materials Quality Control Testing
Mile 17½ (between Ware Road and West R.O.W. of HCID No. 1 Canal)
Hidalgo County Precinct 4
Terracon Proposal No. P88140011



The terms, conditions and limitations stated in the Agreement for Services (and sections of this proposal incorporated therein), shall constitute the exclusive terms and conditions and services to be performed for this project. This proposal is valid only if authorized within 90 days from the proposal date.

We thank you for this opportunity to be of service, and we look forward to working with you on this project. If you have any questions, please contact one of the undersigned at (956) 283-8254.

Sincerely,
Terracon Consultants, Inc.

A handwritten signature in blue ink that reads "Juan Borjon".

Juan M. Borjon, E.I.T.
Project Manager

A handwritten signature in blue ink that reads "Alfonso A. Soto".

Alfonso A. Soto, P.E.
Principal

Enclosure(s): Table 1 Estimated Fee Summary
 Certificate of Insurance
 Agreement for Services

EXHIBIT C

**SCHEDULE OF FEES
for
CONSTRUCTION MATERIALS ENGINEERING
and
RELATED TESTING AND INSPECTION SERVICES**

Construction Materials Testing and Observation Field Services

Engineering Technician to Perform the Following Services/Tests:

Pick-up concrete test specimens or sampling materials, per hour	\$43.00
Concrete field monitoring & molding of cylinders, slump, air content, & temperature measurements, per hour.....	\$43.00
Concrete or asphalt coring, per hour	\$43.00
plus bit wear (length times diameter), per inch diameter.....	\$1.00
plus generator, per day.....	\$150.00
plus core rig and equipment, per day	\$150.00
plus patching of holes, each.....	\$15.00
saw cut (square inch).....	\$.50
In-place nuclear moisture-density testing, per hour.....	\$43.00
In-place nuclear moisture density tests, each	\$12.00
In-place nuclear moisture-density gauge, per trip.....	\$50.00
Field soil stabilization (lime or cement) per hour	\$43.00
Reinforcing steel inspection, per hour.....	\$43.00

Senior Engineering Technician to Perform the Following Services/Tests:

Full time earthwork observation, per hour	\$43.00
Foundation installation observation, per hour.....	\$43.00
Concrete and asphalt batch plant inspection, per hour.....	\$65.00
Windsor probe or Swiss hammer testing, per hour.....	\$65.00
plus Windsor probe or Schmidt hammer, per day.....	\$40.00
plus Windsor probe shots, each	cost + 15%

Steel and Welding Inspection:

Visual field welding inspection and welder qualification, per hour.....	\$90.00
Certified NDE inspector (Dye Penetrant/magnetic particle), per hour	\$90.00

Transportation Charges (Applied In Addition to all Personnel Hourly Rates):

Vehicle trip charge	\$20.00
Trips to locations other than job site or job sites over 40 miles, per mile.....	\$0.75

A minimum of 24 hours advance notice is requested for scheduling or canceling field inspection and testing services. Work scheduled with less than 24 hours notice will be serviced subject to available personnel.

Construction Materials Laboratory Testing Services

(The price for tests in this section are based on a per sample or per test basis.)

Particle size analysis:

Sieve analysis up to 200 sieve:	
Dry, each (5 sieve maximum)	\$60.00
Washed, each (5 sieve maximum)	\$75.00
Percent finer than 200 sieve (washed, soil only), each	\$60.00
Atterberg limits	\$60.00
Compression testing of concrete cylinders, each	\$13.00
Flexural testing of concrete beams, each	\$25.00
Curing, capping and compressive strength testing of concrete cores, each	\$35.00
Moisture-density relationship, Proctor:	
Soil (ASTM D-698), each (4" mold).....	\$200.00
Soil (ASTM D 1557), each (4" mold)	\$200.00
Soil with gravel, base materials (6" mold) or THD, each	\$250.00

Soil, base material with admixtures (6" mold), each.....	\$250.00
Texas Triaxial Test (TEX 117-E).....	\$1,250.00
Testing of bituminous materials:	
Asphalt Mix Verification:	
(Molding specimens, specific gravity, Extraction/Gradation (set of 3)	\$250.00
Stability (set of 3)	\$75.00
Index of retained stability (C.O.E.), each	\$150.00
Maximum theoretical specific gravity	\$75.00
In-place cores (per core sample).....	\$40.00
Preparation of samples/materials will be charged for all	
laboratory tests, when applicable, on an hourly basis	\$43.00

Engineering and Support Staff

Personnel:	Rate, Hour
Draftsperson/Secretary	\$45.00
Engineering Technician	\$43.00
Senior Engineering Technician	\$43.00
Laboratory/Field Supervisor.....	\$65.00
Certified Steel/Welding Inspector.....	\$90.00
Staff Engineer/CMT Project Manager.....	\$90.00
CME Manager	\$90.00
Senior Project Manager/Senior Engineer, P.E.....	\$120.00
Consultant, Client Representative, Project Principal, P.E.	\$125.00

The applicable field rate will be invoiced for all hours worked, including travel time, report and sample preparation. Technician time will be invoiced on a portal-to-portal basis from our office. Overtime rates of 1.33 times the regular hourly rates will be charged for time worked outside normal workday hours of 8:00 am to 5:00 pm and over eight (8) hours per day, Monday through Friday and all day Saturday. Hours worked on, or holidays will be invoiced at the rate of 2.0 times the regular hourly rates. A minimum three (3)-hour billed per visit to project site will be invoiced; hours will be rounded up to the next whole number. A 5 percent technical review and administration cost will be added to all invoices.

Out-of-town subsistence and travel expenses incurred by an employee in connection with the project will be invoiced at cost plus 15 percent or at a Per Diem rate of \$125.00 per day per individual. Use of company vehicles will be charged on the basis of \$0.75 per mile.

General Information

Expenses incurred in connection with the project will be invoiced at cost plus 15 percent. These expenses may include the following:

Services directly applicable to the work, such as special legal and accounting expenses, special consultants, subcontractor services, and similar costs that are not applicable to general operating expenses. Identifiable communication expenses, such as long distance telephone, facsimile, telegraphy, cable, express delivery charges, postage, and similar costs that are not applicable to general correspondence and/or operating expenses.

Identifiable processing and reproduction costs applicable to the project, such as developing, blueprinting, photocopying, printing, and similar costs that are not applicable to general operating expenses.

Invoices will be submitted monthly for work in progress and are due and payable 30 days from invoice date. Interest will be charged at the rate of 1.5 percent per month for late payments. Information and corresponding fees for special services and testing not presented herein will be furnished upon request.

TABLE 1 ESTIMATED FEE SUMMARY

Our fee estimate is in accordance with the time and tests performed as shown below.

SOILS

Estimate 150 hours field testing and observation @ \$43/hour.....	\$ 6,450
Estimate 3 standard proctors @ \$200/test.....	\$ 600
Estimate 1 modified proctors @ \$200/test.....	\$ 200
Estimate 4 Atterberg Limits @ \$60/test	\$ 240
Estimate 4 sieve analysis (-200) @ \$60/test.....	\$ 240
Estimate 1 Texas Triaxial Test (TEX 117-E) @ \$1,250/test	\$1,250
Estimate 130 nuclear density tests (every 300 linear feet at every 6" lift) @ \$12/test.....	\$ 1,560
Estimate 50 vehicle trips @ \$20/trip	\$ 1,000
<i>Sub-Total (Soils)</i>	<i>\$ 11,540</i>

ASPHALT

Estimate 30 hours asphalt observation @ \$43/hour.....	\$ 1,290
Estimate 2 asphalt mix verification @ \$250/test.....	\$ 500
Estimate 10 asphalt cores @ \$40/core.....	\$ 400
Estimate 10 vehicle trips @ \$20/trip	\$ 200
<i>Sub-Total (Asphalt)</i>	<i>\$ 2,390</i>
Project Manager 12 hours @ \$90/hour	\$ 1,080
<i>Total Cost</i>	<i>\$ 15,010</i>