

**HIDALGO COUNTY**  
**Professional Engineering Services**  
**Contract # C-16-208-07-19**  
**Work Authorization Form**

**WORK AUTHORIZATION NO. 4**

**THIS WORK AUTHORIZATION** is made pursuant to the terms and conditions of Section 3. 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 construction material testing services for the Hidalgo County Pct. 2 - Countywide Mechanic Shop Facility located at 4011 S. Veterans Boulevard in San Juan, TX.

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 **\$ 13,736.00**. 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** \_\_\_\_\_ of the Agreement.

**PART 4. FUNDING**

This Work Authorization No. 4 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 project completion as indicated in the "Exhibit C- Preliminary Work Schedule".

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 #2, as to content and detail of this Work Authorization No. 4.

HIDALGO COUNTY PRECINCT #2 \_\_\_\_\_

BY: \_\_\_\_\_

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 \_\_\_\_\_, 2017.

THE ENGINEER:  
Terracon Consultants, Inc.

THE OWNER:  
HIDALGO COUNTY

  
\_\_\_\_\_  
By: Alfonso A. Soto, P.E.

\_\_\_\_\_  
By: Ramon Garcia, County Judge

ATTEST:

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

LIST OF ATTACHMENTS

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

## **EXHIBIT "A"**

### Services to be Provided by County

The following provides an outline of the services to be provided by the Owner in the development of Projects (as defined and more particularly identified in Exhibit "A" attached to this Agreement).

#### **General:**

The Owner will provide to the Laboratory the following:

- 1) Provide the authorization to proceed with services through coordination with the project consulting and design Laboratory.
- 2) Payment for work performed by the Laboratory and accepted by the Owner in accordance with Article 3 of this Agreement.
- 3) Assistance to the Laboratory, as necessary, to obtain the required data and information from other local, regional, State and Federal agencies the Laboratory 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 Laboratory's request for information and/or required submittals and deliverables, in order for the Laboratory 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 Laboratory.
- 7) Provide the authorization to proceed with services on project by project basis through consulting design and construction Laboratory.

## **EXHIBIT B**

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

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 concrete, observation of reinforced concrete;
- Field testing and laboratory evaluation of asphaltic concrete materials used during pavement construction; and
- Weld/bolt/metal deck observation to check conformance to the project drawings and/or building code.

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

#### **SOILS**

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 as specified 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.

#### **CONCRETE**

An American Concrete Institute (ACI) or equivalent Certified Engineering Technician will be provided on an as-requested basis to sample the plastic concrete used during construction. The concrete will be tested for slump, air content and temperature at the time of placement. Sets of concrete cylinders will be molded at each sampling.

All samples will be field cured at the site and returned to our laboratory for additional curing prior to compressive strength testing. Compressive strength testing will be conducted at 7-days (1

specimen), 28-days (2 or 3 specimens) intervals to determine compliance with project specifications. All test results will be conveyed after testing is completed.

### **ASPHALT**

Observations/testing will be performed under the direction of a TxDOT Level 1A and 1B Certified Technician on 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.

### **STRUCTURAL STEEL**

An American Welding Society (AWS) Certified Welding Inspector (CWI) will monitor erection of the structure for compliance to the project drawings and building code. Areas to be observed will include welds, bolted connections, and steel decking. Observations will be verbally transmitted on-site at the time of inspection with a written report issued as a follow-up.

Our services do not include observation and testing services relating to paints, NDE of steel members (ultra-sonic, radiography, and magnetic particle). Our services do not include observation and testing services at locations other than the project site or our laboratory.

### **PROJECT MANAGEMENT**

The project manager will be the point of contact for the project and his duties include as related materials testing and observation services the following:

- a) Attend construction meetings, on as scheduled basis;
- b) Review concrete mixes submitted, on as scheduled basis;
- c) Coordinate field and laboratory testing;
- d) Communicate with Terracon field technicians, Contractor, and Owner's site representative;
- e) Review laboratory and field test reports;
- f) Control our budget and invoice;
- g) Performing site visits to the project site; and
- h) Provide technical assistance.

## EXHIBIT C – Work Schedule

Terracon's work schedule is directly related to the contractor's scheduling and performance. 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.

## EXHIBIT D – PROPOSAL

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

### SOILS

|  |                    |
|--|--------------------|
| Estimate 75 hours in-place nuclear moisture-density testing @ \$45/hour.....                 | \$ 3,375.00        |
| Estimate 3 standard proctor (soil (4" and 6" mold, each)) @ \$225/test.....                  | \$ 675.00          |
| Estimate 2 standard proctor (soil with gravel, base materials, each) @ \$275/test.....       | \$ 550.00          |
| Estimate 5 Atterberg Limits (Liquid and Plastic Limits – Single Point Test) @ \$75/test..... | \$ 375.00          |
| Estimate 5 percent finer than 200 sieve (washed, soil only, each)@ \$55/test.....            | \$ 275.00          |
| Estimate 25 nuclear gauge days @ \$35/day .....  | \$ 875.00          |
| Estimate 25 vehicle trip charge @ \$30/trip .....  | \$ 750.00          |
| <i>Sub-Total (Soils)</i> .....   | <b>\$ 6,875.00</b> |

### CONCRETE

|   |                    |
|---|--------------------|
| Estimate 36 hours of sampling materials, per hour @ \$45/hour .....                       | \$ 1,620.00        |
| Estimate 30 compression testing of concrete cylinders made during field @ \$14.50/test... | \$ 435.00          |
| Estimate 12 vehicle trip charge @ \$30/trip.....  | \$ 360.00          |
| <i>Sub-Total (Concrete)</i> .....   | <b>\$ 2,415.00</b> |

### ASPHALT

|   |                    |
|---|--------------------|
| Estimate 16 hours asphalt observations/testing (senior tech) @ \$55/hour..... | \$ 880.00          |
| Estimate 1 coring rig & generator, per day @ \$300/day.....                   | \$ 300.00          |
| Estimate 4 asphalt cores, (patching of holes) @ \$44/hole.....                | \$ 176.00          |
| Estimate 2 vehicle trips @ \$30/trip.....                                     | \$ 60.00           |
| <i>Sub-Total (Asphalt)</i> .....  | <b>\$ 1,416.00</b> |

### STRUCTURAL STEEL

|  |                    |
|--|--------------------|
| Estimate 12 hours of a Certified Welding Inspector (CWI) @ \$95/hour ..... | \$ 1,140.00        |
| Estimate 3 vehicle trips @ \$30/trip .....                                 | \$ 90.00           |
| <i>Sub-Total (Structural Steel)</i> .....                                  | <b>\$ 1,230.00</b> |

|   |             |
|---|-------------|
| CME Project Manager 14 hours @ \$90/hour..... | \$ 1,260.00 |
| Senior Engineer 4 hours @ \$135/hour.....     | \$ 540.00   |

*Total Cost* ..... **\$ 13,736.00**