### WORK AUTHORIZATION NO. 2

### PROJECT: On Call Geotechnical and Lab Testing Services

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated <u>February 2, 2015</u> and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and <u>Terracon Consultants, Inc.</u> (the "Engineer").

- Part1. The Engineer will provide the following Engineering Services set forth in Attachment "B" of this Work Authorization.
- Part 2. The maximum amount payable for services under this Work Authorization without modification is \$50,000.00.
- Part 3. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Contract.
- Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on <u>September 30, 2017</u>. The Engineering Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.
- Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.
- Part 6. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Work Authorization. Engineer understands and agrees that County's payment of amounts under this Work Authorization is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.
- Part 7. This Work Authorization is hereby accepted and acknowledged below.

## EXECUTED this 15th day of November, 2016.

ENGINEER:	COUNTY;
By: Signature	By: Signature
James G. Bierschwale Printed Name	From Cattis Printed Name
Vice President	County Judge

### LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedule

### Attachment A - Services to be Provided by County

- 1. County will direct type of services to be provided.
- 2. County will provide timely reviews and decisions necessary to enable Terracon to maintain an agreed upon project schedule as developed in attached Attachment C.
- 3. County will provide points of contact, to be identified upon Notice to Proceed.
- 4. County will provide project management.

### Attachment B - Services to be Provided by Engineer

- 1. Perform services and related reports associated with Attachment D.
- 2. Miscellaneous.

### Attachment C - Work Schedule

Shall provide a work schedule for the assigned tasks. Work shall begin immediately upon receipt of agreement between County and Terracon on the work schedule and authorization to proceed on assigned services.

### Attachment D - Fee Schedule



### GEOTECHNICAL ENGINEERING Schedule of Services and Fees Williamson County, Texas 2014

### Geotechnical Personnel

Senior Principal / Officer / Consultant, P.E., per hour \$170.00 Principal Geotechnical Engineer, P.E., per hour \$140.00 Senior Geotechnical Engineer, P.E., per hour \$130.00 Project Manager, per hour \$115.00 Project Manager, per hour \$105.00 Staff Geotechnical Engineer, per hour \$95.00 Staff Geotechnical Engineer, per hour \$95.00 Field Geologist, P.G., per hour \$75.00 Senior Engineering Technician, per hour \$44.00 Engineering Technician, per hour \$44.00 Drilling / Field Services Coordinator, per hour \$50.00 Extra Drilling Crew Member, per hour \$50.00 Extra Drilling Crew Member, per hour \$50.00 Extra Drilling Crew Member (per hour \$50.00 Addl. Mileage of Truck-Mounted Drill Rig, each (for sites within 50 mile radius of office) \$300.00 Addl. Mileage of Track-Mounted Drill Rig, per mile (for sites beyond 50 mile radius of office) \$500.00 Addl. Mileage of Track/ATV-Mounted Drill Rig, each (for sites within 50 mile radius of office) \$500.00 Addl. Mileage of Track/ATV-Mounted Drill Rig, per day \$1,500.00 Drilling Crew hourly rate (two-man crew), per hour \$250.00 Drilling Crew hourly rate (two-man crew), per hour \$250.00 Extra Drilling Crew Member, per hour \$250.00 Extra Drilling Crew Member, per hour \$50.00 Extra Drilling Crew Member, per ho		120227
Senior Geotechnical Engineer, P.E. / Sr. Geologist, P.G. / Sr. Project Manager, per hour \$115.00 Project Manager, per hour \$150.00 Project Geotechnical Engineer, per hour \$105.00 Staff Geotechnical Engineer, per hour \$95.00 Field Geologist, P.G., per hour \$95.00 Senior Engineering Technician, per hour \$44.00 Engineering Technician, per hour \$44.00 Drilling / Field Services Coordinator, per hour \$44.00 Drilling / Field Services Coordinator, per hour \$50.00 Draftsman, per hour \$50.00 Draftsman, per hour \$70.00 Clerical Support /Administrative Staff, per hour \$48.00  Field Services  Mobilization of Truck-Mounted Drill Rig, each (for sites within 50 mile radius of office) \$300.00 Addl. Mileage of Truck-Mounted Drill Rig, per mile (for sites beyond 50 mile radius of office) \$300.00 Mobilization of Track/ATV-Mounted Drill Rig, per day \$700.00 Mobilization of Track/ATV-Mounted Drill Rig, per mile (for sites within 50 mile radius of office) \$500.00 Mobilization of Track/ATV-Mounted Drill Rig, per day \$700.00 Mobilization of Track/ATV-Mounted Drill Rig, per mile (for sites beyond 50 mile radius of office) \$6.00 Minimum Field Charge for Track/ATV-Mounted Drill Rig, per day \$1,500.00 Drilling Crew hourly rate (two-man crew), per hour \$250.00 Drilling Crew A Rig Standby Time (two-man crew), per hour \$250.00 Extra Drilling Crew Member, per hour \$250.00 Extra Drilling Crew Member, per hour \$50.00 Soil Borings, using 3-inch thin-wall tube sampling (Shelby tube) or 2-inch split-barrel sampling (SPT), depths measured from existing ground surface:  0 to 25 feet, per foot \$11.00 25 to 50 feet, per foot \$		
Project Manager, per hour \$115.00 Project Geotechnical Engineer, per hour \$105.00 Staff Geotechnical Engineer, per hour \$95.00 Field Geologist, P.G., per hour \$75.00 Senior Engineering Technician, per hour \$44.00 Engineering Technician, per hour \$44.00 Drilling / Field Services Coordinator, per hour \$60.00 Extra Drilling Crew Member, per hour \$50.00 Draftsman, per hour \$70.00 Clerical Support /Administrative Staff, per hour \$44.00  Field Services  Mobilization of Truck-Mounted Drill Rig, each (for sites within 50 mile radius of office) \$300.00 Addl. Mileage of Truck-Mounted Drill Rig, per mile (for sites beyond 50 mile radius of office) \$300.00 Addl. Mileage of Track/ATV-Mounted Drill Rig, per day \$700.00 Mobilization of Track/ATV-Mounted Drill Rig, per mile (for sites within 50 mile radius of office) \$6.00 Minimum Field Charge for Truck-Mounted Drill Rig, per day \$700.00 Drilling Crew hourly rate (two-man crew), per hour \$250.00 Drilling Crew & Rig Standby Time (two-man crew), per hour \$250.00 Extra Drilling Crew Member, per hour \$250.00 Soil Borings, using 3-inch thin-wall tube sampling (Shelby tube) or 2-inch split-barrel sampling (SPT), depths measured from existing ground surface:  0 to 25 feet, per foot \$15.50 50 to 75 feet, per foot \$15.50 Wash or auger boring, per foot (no sampling) \$12.00		
Project Geotechnical Engineer, per hour \$95.00 Staff Geotechnical Engineer, per hour \$95.00 Field Geologist, P.G., per hour \$75.00 Senior Engineering Technician, per hour \$48.00 Engineering Technician, per hour \$44.00 Drilling / Field Services Coordinator, per hour \$44.00 Drilling / Field Services Coordinator, per hour \$50.00 Extra Drilling Crew Member, per hour \$50.00 Draftsman, per hour \$70.00 Clerical Support /Administrative Staff, per hour \$48.00  Field Services  Mobilization of Truck-Mounted Drill Rig, per mile (for sites within 50 mile radius of office) \$300.00 Addl. Mileage of Truck-Mounted Drill Rig, per mile (for sites beyond 50 mile radius of office) \$3.50 Minimum Field Charge for Truck-Mounted Drill Rig, per day \$700.00 Addl. Mileage of Track/ATV-Mounted Drill Rig, per mile (for sites within 50 mile radius of office) \$6.00 Minimum Field Charge for Track/ATV-Mounted Drill Rig, per day \$1,500.00 Drilling Crew hourly rate (two-man crew), per hour \$250.00 Drilling Crew & Rig Standby Time (two-man crew), per hour \$250.00 Extra Drilling Crew Member, per hour \$50.00  Soil Borings, using 3-inch thin-wall tube sampling (Shelby tube) or 2-inch split-barrel sampling (SPT), depths measured from existing ground surface:  0 to 25 feet, per foot \$15.50 S0 to 75 feet, per foot \$15.50 Uash or auger boring, per foot (no sampling) \$12.00		
Staff Geotechnical Engineer, per hour \$95.00 Field Geologist, P. G., per hour \$75.00 Senior Engineering Technician, per hour \$48.00 Engineering Technician, per hour \$44.00 Engineering Technician, per hour \$44.00 Engineering Technician, per hour \$60.00 Extra Drilling / Field Services Coordinator, per hour \$60.00 Extra Drilling Crew Member, per hour \$50.00 Draftsman, per hour \$70.00 Clerical Support /Administrative Staff, per hour \$48.00  Field Services  Mobilization of Truck-Mounted Drill Rig, each (for sites within 50 mile radius of office) \$300.00 Addl. Mileage of Truck-Mounted Drill Rig, per mile (for sites beyond 50 mile radius of office) \$3.50 Minimum Field Charge for Truck-Mounted Drill Rig, per day \$700.00 Mobilization of Track/ATV-Mounted Drill Rig, each (for sites within 50 mile radius of office) \$500.00 Addl. Mileage of Track/ATV-Mounted Drill Rig, per mile (for sites within 50 mile radius of office) \$6.00 Minimum Field Charge for Track/ATV-Mounted Drill Rig, per day \$1,500.00 Drilling Crew hourly rate (two-man crew), per hour \$250.00 Drilling Crew & Rig Standby Time (two-man crew), per hour \$250.00 Extra Drilling Crew Member, per hour \$250.00  Soil Borings, using 3-inch thin-wall tube sampling (Shelby tube) or 2-inch split-barrel sampling (SPT), depths measured from existing ground surface:  0 to 25 feet, per foot \$15.50 50 to 75 feet, per foot \$15.50 50 to 75 feet, per foot \$15.50 Vash or auger boring, per foot (no sampling) \$12.00		
Field Geologist, P.G., per hour \$75.00 Senior Engineering Technician, per hour \$48.00 Engineering Technician, per hour \$44.00 Drilling / Field Services Coordinator, per hour \$60.00 Extra Drilling Crew Member, per hour \$550.00 Draftsman, per hour \$70.00 Clerical Support /Administrative Staff, per hour \$48.00  Field Services  Mobilization of Truck-Mounted Drill Rig, each (for sites within 50 mile radius of office) \$300.00 Addl. Mileage of Truck-Mounted Drill Rig, per mile (for sites beyond 50 mile radius of office) \$3.50 Minimum Field Charge for Truck-Mounted Drill Rig, each (for sites within 50 mile radius of office) \$500.00 Addl. Mileage of Track/ATV-Mounted Drill Rig, each (for sites within 50 mile radius of office) \$500.00 Addl. Mileage of Track/ATV-Mounted Drill Rig, per mile (for sites beyond 50 mile radius of office) \$500.00 Mobilization of Track/ATV-Mounted Drill Rig, per day \$1,500.00 Drilling Crew hourly rate (two-man crew), per hour \$250.00 Drilling Crew hourly rate (two-man crew), per hour \$250.00 Drilling Crew & Rig Standby Time (two-man crew), per hour \$250.00 Extra Drilling Crew Member, per hour \$50.00  Soil Borings, using 3-inch thin-wall tube sampling (Shelby tube) or 2-inch split-barrel sampling (SPT), depths measured from existing ground surface:  0 to 25 feet, per foot \$14.00 25 to 50 feet, per foot \$15.50 50 to 75 feet, per foot \$17.00 75 to 100 feet, per foot \$18.50 Wash or auger boring, per foot (no sampling) \$12.00		
Senior Engineering Technician, per hour \$48.00 Engineering Technician, per hour \$44.00 Drilling / Field Services Coordinator, per hour \$60.00 Extra Drilling Crew Member, per hour \$50.00 Draftsman, per hour \$70.00 Clerical Support /Administrative Staff, per hour \$48.00  Field Services  Mobilization of Truck-Mounted Drill Rig, each (for sites within 50 mile radius of office) \$300.00 Addl. Mileage of Truck-Mounted Drill Rig, per mile (for sites beyond 50 mile radius of office) \$3.50 Minimum Field Charge for Truck-Mounted Drill Rig, per day \$700.00 Mobilization of Track/ATV-Mounted Drill Rig, each (for sites within 50 mile radius of office) \$500.00 Addl. Mileage of Track/ATV Drill Rig, per mile (for sites within 50 mile radius of office) \$6.00 Minimum Field Charge for Track/ATV-Mounted Drill Rig, per day \$1,500.00 Drilling Crew hourly rate (two-man crew), per hour \$250.00 Drilling Crew hourly rate (two-man crew), per hour \$250.00 Extra Drilling Crew Member, per hour \$250.00 Extra Drilling Crew Member, per hour \$250.00 Soil Borings, using 3-inch thin-wall tube sampling (Shelby tube) or 2-inch split-barrel sampling (SPT), depths measured from existing ground surface:  0 to 25 feet, per foot \$14.00 25 to 50 feet, per foot \$15.50 50 to 75 feet, per foot \$17.00 75 to 100 feet, per foot \$18.50 Wash or auger boring, per foot (no sampling) \$12.00		
Engineering Technician, per hour \$60.00  Drilling / Field Services Coordinator, per hour \$50.00  Extra Drilling Crew Member, per hour \$50.00  Draftsman, per hour \$70.00  Clerical Support /Administrative Staff, per hour \$48.00  Field Services  Mobilization of Truck-Mounted Drill Rig, each (for sites within 50 mile radius of office) \$300.00  Addl. Mileage of Truck-Mounted Drill Rig, per mile (for sites beyond 50 mile radius of office) \$3.50  Minimum Field Charge for Truck-Mounted Drill Rig, per day \$700.00  Mobilization of Track/ATV-Mounted Drill Rig, per day \$700.00  Addl. Mileage of Track/ATV-Mounted Drill Rig, per mile (for sites within 50 mile radius of office) \$500.00  Addl. Mileage of Track/ATV-Mounted Drill Rig, per day \$1,500.00  Drilling Crew hourly rate (two-man crew), per hour \$250.00  Drilling Crew hourly rate (two-man crew), per hour \$250.00  Extra Drilling Crew Member, per hour \$250.00  Extra Drilling Crew Member, per hour \$50.00  Soil Borings, using 3-inch thin-wall tube sampling (Shelby tube) or 2-inch split-barrel sampling (SPT), depths measured from existing ground surface:  0 to 25 feet, per foot \$15.50  50 to 75 feet, per foot \$15.50  Vash or auger boring, per foot (no sampling) \$12.00		
Drilling / Field Services Coordinator, per hour \$50.00 Extra Drilling Crew Member, per hour \$50.00 Draftsman, per hour \$70.00 Clerical Support /Administrative Staff, per hour \$48.00  Field Services  Mobilization of Truck-Mounted Drill Rig, each (for sites within 50 mile radius of office) \$300.00 Addl. Mileage of Truck-Mounted Drill Rig, per mile (for sites beyond 50 mile radius of office) \$3.50 Minimum Field Charge for Truck-Mounted Drill Rig, per day \$700.00 Mobilization of Track/ATV-Mounted Drill Rig, each (for sites within 50 mile radius of office) \$500.00 Addl. Mileage of Track/ATV Drill Rig, per mile (for sites beyond 50 mile radius of office) \$6.00 Minimum Field Charge for Track/ATV-Mounted Drill Rig, per day \$1,500.00 Drilling Crew hourly rate (two-man crew), per hour \$250.00 Drilling Crew & Rig Standby Time (two-man crew), per hour \$250.00 Extra Drilling Crew Member, per hour \$50.00  Soil Borings, using 3-inch thin-wall tube sampling (Shelby tube) or 2-inch split-barrel sampling (SPT), depths measured from existing ground surface:  0 to 25 feet, per foot \$14.00 25 to 50 feet, per foot \$15.50 50 to 75 feet, per foot \$17.00 75 to 100 feet, per foot \$18.50 Wash or auger boring, per foot (no sampling) \$12.00		
Extra Drilling Crew Member, per hour \$70.00  Draftsman, per hour \$70.00  Clerical Support /Administrative Staff, per hour \$48.00  Field Services  Mobilization of Truck-Mounted Drill Rig, each (for sites within 50 mile radius of office) \$300.00  Addl. Mileage of Truck-Mounted Drill Rig, per mile (for sites beyond 50 mile radius of office) \$3.50  Minimum Field Charge for Truck-Mounted Drill Rig, per day \$700.00  Mobilization of Track/ATV-Mounted Drill Rig, per day \$700.00  Addl. Mileage of Track/ATV-Mounted Drill Rig, per mile (for sites within 50 mile radius of office) \$500.00  Addl. Mileage of Track/ATV-Mounted Drill Rig, per day \$500.00  Minimum Field Charge for Track/ATV-Mounted Drill Rig, per day \$1,500.00  Drilling Crew hourly rate (two-man crew), per hour \$250.00  Drilling Crew & Rig Standby Time (two-man crew), per hour \$250.00  Extra Drilling Crew Member, per hour \$250.00  Soil Borings, using 3-inch thin-wall tube sampling (Shelby tube) or 2-inch split-barrel sampling (SPT), depths measured from existing ground surface:  0 to 25 feet, per foot \$14.00  25 to 50 feet, per foot \$15.50  50 to 75 feet, per foot \$15.00  75 to 100 feet, per foot \$18.50  Wash or auger boring, per foot (no sampling) \$12.00	Engineering Technician, per hour	\$44.00
Draftsman, per hour \$70.00 Clerical Support /Administrative Staff, per hour \$48.00  Field Services  Mobilization of Truck-Mounted Drill Rig, each (for sites within 50 mile radius of office) \$300.00 Addl. Mileage of Truck-Mounted Drill Rig, per mile (for sites beyond 50 mile radius of office) \$3.50 Minimum Field Charge for Truck-Mounted Drill Rig, per day \$700.00 Mobilization of Track/ATV-Mounted Drill Rig, each (for sites within 50 mile radius of office) \$500.00 Addl. Mileage of Track/ATV-Mounted Drill Rig, per mile (for sites beyond 50 mile radius of office) \$6.00 Minimum Field Charge for Track/ATV-Mounted Drill Rig, per day \$1,500.00 Drilling Crew hourly rate (two-man crew), per hour \$250.00 Drilling Crew & Rig Standby Time (two-man crew), per hour \$250.00 Extra Drilling Crew Member, per hour \$50.00  Soil Borings, using 3-inch thin-wall tube sampling (Shelby tube) or 2-inch split-barrel sampling (SPT), depths measured from existing ground surface:  0 to 25 feet, per foot \$14.00 25 to 50 feet, per foot \$15.50 50 to 75 feet, per foot \$17.00 75 to 100 feet, per foot \$18.50 Wash or auger boring, per foot (no sampling) \$12.00		
Clerical Support /Administrative Staff, per hour		
Field Services  Mobilization of Truck-Mounted Drill Rig, each (for sites within 50 mile radius of office)\$300.00  Addl. Mileage of Truck-Mounted Drill Rig, per mile (for sites beyond 50 mile radius of office)\$3.50  Minimum Field Charge for Truck-Mounted Drill Rig, per day\$700.00  Mobilization of Track/ATV-Mounted Drill Rig, each (for sites within 50 mile radius of office)\$500.00  Addl. Mileage of Track/ATV Drill Rig, per mile (for sites beyond 50 mile radius of office)\$6.00  Minimum Field Charge for Track/ATV-Mounted Drill Rig, per day\$1,500.00  Drilling Crew hourly rate (two-man crew), per hour\$250.00  Extra Drilling Crew & Rig Standby Time (two-man crew), per hour\$250.00  Extra Drilling Crew Member, per hour\$250.00  Soil Borings, using 3-inch thin-wall tube sampling (Shelby tube) or 2-inch split-barrel sampling (SPT), depths measured from existing ground surface:  0 to 25 feet, per foot	Draftsman, per hour	\$70.00
Mobilization of Truck-Mounted Drill Rig, each (for sites within 50 mile radius of office)\$300.00 Addl. Mileage of Truck-Mounted Drill Rig, per mile (for sites beyond 50 mile radius of office)\$3.50 Minimum Field Charge for Truck-Mounted Drill Rig, per day\$700.00 Mobilization of Track/ATV-Mounted Drill Rig, each (for sites within 50 mile radius of office)\$500.00 Addl. Mileage of Track/ATV Drill Rig, per mile (for sites beyond 50 mile radius of office)\$6.00 Minimum Field Charge for Track/ATV-Mounted Drill Rig, per day\$1,500.00 Drilling Crew hourly rate (two-man crew), per hour\$250.00 Drilling Crew & Rig Standby Time (two-man crew), per hour\$250.00 Extra Drilling Crew Member, per hour\$50.00 Soil Borings, using 3-inch thin-wall tube sampling (Shelby tube) or 2-inch split-barrel sampling (SPT), depths measured from existing ground surface:  0 to 25 feet, per foot\$14.00 25 to 50 feet, per foot\$15.50 50 to 75 feet, per foot\$17.00 75 to 100 feet, per foot\$18.50 Wash or auger boring, per foot (no sampling)\$12.00	Clerical Support /Administrative Staff, per hour	\$48.00
depths measured from existing ground surface:       \$14.00         0 to 25 feet, per foot       \$15.50         25 to 50 feet, per foot       \$17.00         75 to 100 feet, per foot       \$18.50         Wash or auger boring, per foot (no sampling)       \$12.00	Mobilization of Truck-Mounted Drill Rig, each (for sites within 50 mile radius of office)	\$)\$3.50 \$700.00 \$500.00 \$6.00 .\$1,500.00 \$250.00 \$250.00
25 to 50 feet, per foot       \$15.50         50 to 75 feet, per foot       \$17.00         75 to 100 feet, per foot       \$18.50         Wash or auger boring, per foot (no sampling)       \$12.00	depths measured from existing ground surface:	
50 to 75 feet, per foot		
75 to 100 feet, per foot		
Wash or auger boring, per foot (no sampling)\$12.00		



### Schedule of Services and Fees Williamson County, Texas 2014

Rock Coring, using Nx core barrel sampling, depths measured from existing ground	surface:
Softer Rocks (e.g., Austin, Eagle Ford, Del Rio, Walnut, Glen Rose formations and	
0 to 25 feet, per foot	
25 to 50 feet, per foot	
50 to 75 feet, per foot	
75 to 100 feet, per foot	
Harder Rocks (e.g., Edwards, Buda, Georgetown, Comanche Peak formations an	d similar):
0 to 25 feet, per foot	
25 to 50 feet, per foot	
50 to 75 feet, per foot	
75 to 100 feet, per foot	
Additional Footage Charge if using Track or ATV-Mounted Drill Rig, per foot	
TxDOT Cone Penetration (TCP) tests, each	
Grouting of Borings with bentonite or sak-crete, per foot	\$5.00
Rock coring of very hard rocks such as granite, marble, schist, gneiss, etc.	
Monitor Well / Piezometer Installation	
Interior and/or Limited Access Drilling/Sampling	and the second s
Laboratory Classification Tests	
	\$55.00
Atterberg limits, each	
Atterberg limits, each	\$8.00
Atterberg limits, each	\$8.00 \$15.00
Atterberg limits, each  Moisture content, each  Density Determination (using Shelby tube or SPT sample), each  Specific gravity, each	\$8.00 \$15.00 \$70.00
Atterberg limits, each  Moisture content, each  Density Determination (using Shelby tube or SPT sample), each  Specific gravity, each  Soil pH, each	\$8.00 \$15.00 \$70.00 \$30.00
Atterberg limits, each	\$8.00 \$15.00 \$70.00 \$30.00 \$125.00
Atterberg limits, each  Moisture content, each  Density Determination (using Shelby tube or SPT sample), each  Specific gravity, each  Soil pH, each	\$8.00 \$15.00 \$70.00 \$30.00 \$125.00
Atterberg limits, each  Moisture content, each  Density Determination (using Shelby tube or SPT sample), each  Specific gravity, each  Soil pH, each  Soil Resistivity (Miller box method), each  Chloride & Soluble Sulfate Content, TEX-620-J, each	\$8.00 \$15.00 \$70.00 \$30.00 \$125.00 \$75.00
Atterberg limits, each  Moisture content, each  Density Determination (using Shelby tube or SPT sample), each  Specific gravity, each  Soil pH, each  Soil Resistivity (Miller box method), each  Chloride & Soluble Sulfate Content, TEX-620-J, each	\$8.00 \$15.00 \$70.00 \$30.00 \$125.00 \$75.00
Atterberg limits, each  Moisture content, each  Density Determination (using Shelby tube or SPT sample), each  Specific gravity, each  Soil pH, each  Soil Resistivity (Miller box method), each  Chloride & Soluble Sulfate Content, TEX-620-J, each  Laboratory Grain Size Tests  Sieve analysis, ASTM C 136, each	\$8.00 \$15.00 \$70.00 \$30.00 \$125.00 \$75.00



### GEOTECHNICAL ENGINEERING Schedule of Services and Fees Williamson County, Texas 2014

### **Laboratory Strength and Volume Change Tests**

Unconfined Compression Test (soil), each	\$30.00
Unconfined Compression Test (rock), each	
Triaxial Compression Tests:	
Unconsolidated-Undrained (UU), per circle	\$265.00
Consolidated-Undrained (CU), with pore pressure measurements, per circle	
Direct Shear Tests:	e (Francisco
On Coarse-Grained Soils, per point	\$175.00
On Fine-Grained Soils, per point	
Absorption Swell Tests:	acer a service of
Free Swell, each	\$100.00
Single Pressure (at estimated overburden), each	\$120.00
Additional Pressures, each	
Swell Pressure (controlled swell), each	
Consolidation Test, regular with increasing load increments (max 6 loads), each	
Additional Load Increments, each	
Additional Unload-Reload Cycles, per cycle	
Other Laboratory Tests and Miscellaneous Items	
Flexible Wall Triaxial Permeability Test (Falling Head), each	\$350.00
Optimum Moisture/Maximum Density Relations:	
ASTM D 698, each	\$170.00
ASTM D 1557, each	
TEX-113-E, each	
TEX-114-E, each	Contract to the second
Additional Charge for Coarse Aggregate Correction (ASTM D 4718), each	
Relative Density, ASTM D 4253 & D 4254, each.	
California Bearing Ratio (CBR), each	
Soil-Lime Relationship (Lime Series using PI and pH methods), each	
Sample Preparation (if required), per hour	



GEOTECHNICAL ENGINEERING Schedule of Services and Fees Williamson County, Texas 2014

### **Additional Comments**

- A three-hour (3) minimum charge is applicable to all trips made for the performance of testing, inspection, cancellations, or consulting services. A minimum charge of 2 hours will be assessed for trips to the project site for sample pick-up only.
- All labor, equipment, and transportation charges are billed on a portal-to-portal basis from our office
- Court appearances, depositions, etc. will be charged at 1.5 times the quoted hourly rate.
- Unit fees for tests not listed can be quoted on request. If Client requests a test not listed above, tests will be described and a unit fee will be set forth in a Work Authorization or Supplemental Work Authorization that is agreed to in writing by the parties prior to Terracon conducting such test.
- Engineering consultation and evaluation in connection with any laboratory testing or field inspection service will be charged at the appropriate rate.
- · Material samples should be submitted in a form that complies with applicable requirements.

## Terracon

# CONSTRUCTION MATERIALS ENGINEERING AND TESTING Schedule of Services and Fees Williamson County, Texas 2014

### Construction Materials Engineering & Testing Personnel

Senior Principal, per hour	\$170.00
Principal, Officer, per hour	\$140.00
Senior Engineer, per hour	\$110.00
Project Manager, per hour	\$115.00
Senior Engineering Technician, per hour	\$48.00
Construction Materials Technician, per hour	\$46.00
Certified Welding Inspector, per hour	\$80.00
Clerical Support /Administrative Staff, per hour	\$48.00
Concrete Field Services	
Engineering technician, per hour	\$46.00
Concrete Sample Pick up Inside City of Austin E.I.J. per trip	\$92.00
Concrete Sample Pick up Outside City of Austin ETJ, per hour (2 hr. minimum)	\$46.00
Concrete Tests	
Cylinder compression test (ASTM C 31 & C 39), 4"x8", each	<b>\$</b> 15 00
Cylinder compression test (ASTM C 31 & C 39), 6"x12", each	\$20.00
Beam flexural test (ASTM C 293 or C 78), each	\$55.00
Masonry Field Services	
Masonry technician, per hour	\$48.00
Masonry Sample Pick up Inside City of Austin ETJ, per trip	\$92.00
Masonry Sample Pick up Outside City of Austin ETJ, per hour (2 hr. minimum)	\$46.00
Masonry Tests:	
Compressive strength CMU block (ASTM C 140), each	\$100.00
CMU block absorption only (ASTM C 140), each	\$75.00
CMU Block prism compressive strength (ASTM C 1314), each	\$250.00
Compressive strength of grout prism (ASTM C 1019), each	\$35.00
Compressive strength of mortar cube (ASTM C 780 & C 109), each	\$16.00
Compressive strength of mortal cube (ASTIVI C 700 & C 103), each	



## CONSTRUCTION MATERIALS ENGINEERING AND TESTING Schedule of Services and Fees Williamson County, Texas 2014

### Soils Laboratory Tests

### Classification

Atterberg limits (ASTM D 4318), each	<b>\$55.00</b>
Sieve analysis (ATM C 136), each	\$75.00
Sieve analysis percent finer than #200 (ASTM C 117), each	\$45.00
Combined sieve analysis (ASTM C 136 and C 117)	\$95.00
Soil pH, each	\$30.00
Chloride & Soluble Sulfate Content, TEX-620-J, each	\$75.00
Hydrometer analysis, ASTM D 422, each	
Permeability (Hydraulic Conductivity) (ASTM D 5084), each	\$350.00
Sample Preparation (if required), per hour	\$48.00
Compaction	
Construction III	
Optimum moisture / maximum dry density relations (proctors)	6470.00
ASTM D698, each	\$170.00
ASTM D1557, each	\$200.00
Additional charge for Coarse Aggregate Correction (ASTM D4718)	\$25.00
TXDOT TEX 113E, each	
TXDOT TEX 114E, each	\$180.00
Relative Density (ASTM 4253 and 4254), each	\$275.00
Soils Field Services	
In place density / moisture test, nuclear method (ASTM D 2922/ASTM D 3017),	
minimum 3, each	<b>\$18.00</b>
Field gradation of lime treated soil, each	\$45.00
Depth check of lime treated soil, each	\$25.00
Soil pH value each	\$30.00
Soils technician, per hour	\$46.00
Soil Lime Relationship, (Lime Series) Combined pH and Atterberg Limits	\$700.00
Soil Sample Pick up Inside City of Austin ETJ, per trip	\$92.00
Soil Sample Pick up Outside City of Austin ETJ, per hour (2 hr. minimum)	\$46.00

### Asphaltic Concrete Services (cont.)

Maximum theoretical density (ASTM D 2041 or TEX 227F), each  Hveem stability (ASTM D 1560 or TEX 208F), set of 3  Extraction and Sieve Analysis (ASTM D 2172 or TEX 210F), each  Asphalt coring (6" diameter, minimum 3 per trip) Up to 6" thick, each  Asphalt coring (6" diameter, minimum 3 per trip) 6 to 10" thick, each  Asphalt coring (6" diameter, minimum 3 per trip) 10 to 14" thick, each  Asphalt core thickness & density, each	95.00 25.00 10.00 20.00 55.00
<u>Drilled Pier</u>	
Senior technician, per hour	48.00
Wood Truss & Fire Stop	
Senior technician, per hour	60.00
Structural Steel	
Visual Inspection by CWI, per hour	Cost Cost
Reinforcing Steel Detection	
Senior Technician, per hour	6 <mark>0.0</mark> 0 20.00
Roofing, Waterproofing and EIFS	
Project Manager, Senior Roofing Professional, per hour \$12 Engineering Technician-Forensics/Roofing/Waterproofing, per hour \$12	25. <b>00</b> 6 <b>5.00</b>

#### Remarks

A three hour minimum charge is applicable to all trips made for the performance of testing, inspection, cancellations or consulting services. A minimum charge of 2 hours will be assessed for trips to the project site for sample or cylinder pick up only.

All labor, equipment, and transportation charges are billed on a portal to portal basis from our office. Court appearances, depositions, etc. will be charged at 1.5 times the quoted hourly rate.

Unit fees for tests not listed can be quoted on request. If Client requests a test not listed above, tests will be described and a unit fee will be set forth in a Work Authorization or Supplemental Work Authorization that is agreed to in writing by the parties prior to Terracon conducting such test.

Engineering consultation and evaluation in connection with any laboratory testing or field inspection service will be charged at the appropriate rate.

Material samples should be submitted in a form that complies with applicable requirements.

Transportation charges are applicable for all field testing assignments including sample pick up.

### Rodriguez Engineering Laboratories, LLC

### Williamson County Oversight Testing Williamson County, Texas UNIT PRICES (MATERIALS TESTING)

	Unit	Fees
1. Fiekl Technician (2 hr. minimum)	-	640.0
1,1 Soil Technician or NICET Level II	Per hr	\$52.0
1.3 Concrete Technicien NICET Lovel II or ACI Grade I	Per hr	\$52.0
1.4 Asphalt Technician		
1.4.1 TxDOT Certified Technician (Level IA & IB)	Per hr	\$52.0
1.4.2 TxDOY Certifled Technician (Level II)	Per hr	\$56.0
1.5 Structural Steel Technician		
1.5.1 GWI	Per hr	\$67.0
1.5.2 NDT Level II	Per hr	\$67.0
1.6. Bolling Inspection	Per hr	\$67.0
1.7 NICET Level III	Per hr	\$56.0
1.8 Senior Field Inspector	Per hr	\$67.0
2. Field Testing Equipment (2 hr. minimum, technician time not included)		
2.1 Vehicle		
2.1.1 Within City of Austin ETJ (Current IRS Rate will be charged)	Per Mile	\$0.5
2.1.2 Outside City of Austin ETJ (Current IRS Rate will be charged)	Per Mile	\$0.56
2.2 Dye Penetrant - Magnetic Particle Supplies		At Cos
2.3 Ultresonic Testing Equipment	Per hr	\$20.0
2.4 Concrete Coring Equipment	Perhr	\$35.0
2.4.1 Concrete Core Bit Charges		
2.4.1.1 3 inch diameter core	Per inch	\$4.00
2.4.1.2 4 inch diameter core	Per inch	\$5.00
2.4.1.3 6 inch diameter cove	Per inch	\$7.00
2.5 Heavy Falling Weight Defectometer (FWD) Testing	Test Point	\$20.00
3. Testing of Soils and Base Materials		
3.1 Bulk Sample Pick-Up		
3.1.1 Inside the City of Austin ETJ	Per Trio	\$104.00
3.1.2 Outside the City of Austin ETJ ( 2 hrs Minimum)	Perhr	\$52.00
3.2 Field Nuclear Density (Without Technician Time (3 Minimum))	Per ea	\$36.00
3.3 Sample Preparation (TEX-101-E)	Por ea	\$52.00
3.4 Natural Maisture Content	Per ea	\$18.00
3.5 Sieve Analysis (TEX-110-E)	Por ea	\$65.00
3.6 Alterberg Limits (Liquid and Plastic Limits) (TEX-104-E, TEX-105-E, TEX-106-E)	Per ea	\$65.00
3.7 Percent Passing No. 200 Sievo (TEX-111-E)	Per ea	\$42.00
3.8 Bar Linear Stirinkage of Solls (TEX-107-E)	Per ea	\$55.00
3.9 Moisture Density Relationship (ASTM D 698) Standard Proctor Compaction Test)	Per ea	\$230.00
3.10 Moisture Density Relationship (ASTM D 1557) (Modified Proctor Compaction Test)	Perea	\$230.00
3.11 Moisture Density Relationship (REX-113-E) Compaction Test	Peron	\$230.00
	Per ca	\$230.00
3 12 Moisture Density Relationship (TEX-114-E, Part I) Compaction Test	Per en	\$255.00
3.13 Moisture Density Relationship (TEX-114-E, Part II) Compaction Test	reien	\$1.814.00
3.14 Texas Triaxial Compression Test on Base Malerial TEX- 117E, Part N; Including the	Por ca	\$1,150.00
3.15 Molding, Curing and Testing 8 Specimens		\$52.00
3.3 Sample Preparation (TEX-101-E)	Per en	
3.5 Sieve Analysis (TEX-110-E)	Per ca	\$65.00
3.6 Atterberg Limits (TEX-104-E, TEX-105-E, TEX-106-E)	Per ea	\$65,00
3.8 Bar Linear Shrinkage of Soils (TEX-107-E)	Per ea	\$52.00
3.11 Maisture Density Relationship (TEX-113-E) Compaction Test	Per ea	\$230.00
3.16 Wet Ball Mill (TEX-116-E)	Per ea	\$200.00
3.17 Permeability of Sit or Clay (ASTM D 5084)	Per ea	\$310.00
3.18 Sample Remolding	Per hr	\$52.00

13909 Torbine Drive - Austin, TX 78728 (512) 251-4454 - Fax (512) 251-1380 E-mail, rodrigueziab@acl.com

1 of 3

Terracon, November 17, 2014

### Rodriguez Engineering Laboratories, LLC

### Williamson County Oversight Testing Williamson County, Texas UNIT PRICES (MATERIALS TESTING)

3	Unit	Fees
3.19 Soil Specific Gravity (TEX-108-E)	Periea	\$61.00
3.20 Sof Lime Compression Test (TEX-121-E)	Per ea	\$67.00
3.21 Resistivity of Soils (YEX-129-E)	Per ea	\$90.00
3.22 Lime Series Curve (ASTM D 4318)	Per gont	\$90.00
3.23 Stabilization Ability of Lime by Soil PH (TEX-121-E Part III) up to 6 Points	Per Each	\$196.00
3.24 Field Gradation of Lime Soil (1.75, 0.75, No 4 Sieve) in addition to hourly charge	Per Point	\$18.00
4. Testing of Concrete and Cement		
4.1 Sample Pick-Up		
4.1.1 Inside the City of Austin ETJ	Per Trip	\$104.00
4.1.2 Outside the City of Austin ETJ ( 2 hrs Minimum)	Per hr	\$52,00
4.2 Aggregate Gradation Analysis (TEX-200-F)	Per ea	\$65.00
4.3 Specific Gravity of Aggregate	Per ea	\$50.00
4.4 Absorption of Aggregate	Per ea	\$33.00
4.5 Unit Weight of Aggregate	Per es	\$33.00
4.6 Abrasion Test (TEX-410-A)	Per en	\$220.00
4.7 Decantation	Per ea	\$30.00
4.8 Organic Impunities	Perea	\$45.00
4.9 Soundness, Sodium or Magnesium	Per cyc	\$65.00
4.10 Concrete Cylinder Compressive Strength (TEX-418-A)	Perea	\$23.00
4.11 Beam Flexural Strength (TEX-420-A or TEX 448-A)	Per ea	\$35.00
4.12 Coarse Angregate Angularity	Per ea	\$67.00
4.13 Fine Aggregate Angulacity	Per ea	\$67.00
4.14 Flat, Elongated Particles	Per ea	\$67.00
4 15 Deleterous Malerials (Clay Lumps/Frieble Part I)	Perea	\$60.00
4.16 Sand Equivalent (Clay Content)	Perea	578.00
5. Testing of HMAC and Liquid Asphalt	r Ci Gei	V10.00
5.1 Bag Sample Pick-up From Source, Project, or Field Office		
	Per l'rip	\$104.00
5 1.1 Inside the City of Austin ETJ	Per hr	\$52 00
5 1.2 Oxits/de the City of Austin ETJ ( 2 hrs Minimum)	Per III	\$32.00
5.2 Obtaining Field-cut Specimens	Per ea	\$85.00
5.2.1 0" to 6" Depth & 6" Ø, including patching & sample Preparation, 3 minimum)	Per ea	\$95.00
5 2.2 > 6' to 10' Depth & 6' Ø, including patching & sample Preparation, 3		\$125.00
5.2.3 > 10" to 14" Depth & 6" Ø, including patching & sample Preparation, 3	Per ea	\$125.00
5.2.4 > 14" Depth & 6" Ø, including patching & sample Preparation, 3 minimum)	-l -	\$125.00
plus \$5 per inch beyond 14*	Per ea	\$122.00
5.3 Specimen Molding, Bulk Density and Stability (3 per set)		
5.4 Extraction (Gradation & Asphalt Content)	Per ea	\$205.00
5.5 Extraction (Asphalt Content)	Per ea	\$139.00
5.6 Maximum Theoretical Specific Gravity, Rice Method (TEX-227-F)	-	245.00
5.6.1 Bag Sample	Per ea	\$45,00
5.6.2 Core Sample	Per oa	\$55,00
5.7 Specific Gravity, Bulk	Per es	\$22.00
5.8 Sand Equivalent	Pár ea	\$75.00
5.9 Abson Recovery	Per ea	\$194,00
5.10 Ductility	Par ea	\$83,00
5.11 Softening Point (Ring and Ball)	Por ea	\$83.00
5.12 Absolute Viscosity	Реген	\$52.00
5.13 Penetration	Per ca	\$52.00
5.14 Residue by Distillation	Per ea	\$127.00
5.15 Float Test	Por ca	\$74.00

13809 Turbine Drive - Austin, TX 78728 (512) 251-4454 - Fax (512) 251-1380 ∜ E-mail: rodrigueztab@erol.com Registered Taxas Engineering Firm F-1563

2 of 3

Terracon, November 17, 2014

## Rodriguez Engineering Laboratories, LLC

### Williamson County, Texas UNIT PRICES (MATERIALS TESTING)

	Unit	Fees
5.16 Elastic Recovery	Per ea	\$74.00
5.17 Sieve Test	Per en	\$37.00
5.18 Demulsibility	Per ea	\$63.00
5.19 Viscosity (Brookfield or Saybolt)	Peren	\$55.00
5.20 Residue by Evaporation	Per ea	\$150.00
5.21 Uniformity	Per ea	\$50.00
5.22 Resistance to Heat	Perea	\$50.00
5.23 Resistance to Water	Per ea	\$50.00
5.24 Wet Flow, mm	Perea	\$50.00
6. Engineering Consultation		
6.1 Principal	Perhr	\$134 00
6.2 Senior Project Manager	Per∌r	\$111.00
6.3 Project Manager	Pechr	\$106.00
8.4 Project Engineer	Perhr	\$106.00
6 5 Senior Geologist	Per hr	\$106.00
6.6 Laboratory Manager	Per hr	\$106.00
6.7 Graduale Engineer	Per hr	\$73.00
6.8 Senlor Engineering Technician	Per hr	\$56.00
6.9 Secretary/Clerical	Per hr	\$48.00
7. Outside Services (Reimbursables)		At Cost
B. Subconsultants		At Cost

- Minimum call-out charge for technician and equipment is 2 hours. Charges are accrued portal to portal.
- O The densities test unit rate is based on a minimum of 3 tests per trip.
- Of Transportation charges are applicable for all field testing assignments including sample pick up. but, if the technician is already at the job site, there is no sample pick up charges.
- Ø Subconsultants' fees shall to approved previous to work beginning.

13809 Turbere Drive - Austin, TX 78728 (512) 251-4454 Fax (512) 251-1380 **○** E-mail, redinguezlab@aol.com Registered Texas Engineering Firm F-1563

3 of 3

Torracon, November 17, 2014