

WORK AUTHORIZATION NO. 1

PROJECT: 2579 On Call Materials Testing & Geotechnical Engineering Services

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated May 5, 2020 and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and Fugro USA Land, Inc. (the "Engineer").

Part 1. 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 \$10,000.00.

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 July 31, 2022. 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 ____ day of _____, 2020.

ENGINEER:

Fugro USA Land, Inc.

By: *Pt H. Bush*

Signature

Peter H. Bush, P.E.

Printed Name

Senior Vice President

Title

COUNTY:

Williamson County, Texas

By: _____

Signature

Bill Gravell, Jr.

Printed Name

Williamson County Judge

Title

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

Williamson County personnel will provide project direction, review and oversight.

Attachment B - Services to be Provided by Engineer

The Scope of Services to be provided under the terms of this contract include:

Geotechnical Engineering Studies and Consultation

Construction Materials Engineering and Testing

A detailed description of the scope of services will be provided for each specific Project Assignment as listed in each Letter of Agreement.

Attachment C - Work Schedule

Work shall begin immediately upon receipt of agreement between County and Fugro USA Land, Inc. on the work schedule and authorization to proceed on assigned services.

Attachment D - Fee Schedule



Fugro USA Land, Inc.
8613 Cross Park Drive
Austin, Texas 78754
Phone: 512-977-1800
Fax: 512-973-9966

EXHIBIT D - RATE SCHEDULE

FEES FOR GEOTECHNICAL AND MATERIALS ENGINEERING SERVICES

1. FIELD SERVICES

1.1 Geotechnical

	Unit Rate
1.1.1 Mobilization and Demobilization, Local, Each	\$ 450.00 minimum
1.1.1.1 Drill Truck, Water Truck, Pickup, and Crew	\$ 8.00/mile
1.1.2 Drilling and Sampling	
1.1.2.1 Drilling and Sampling with 3-inch, Thin-Walled Tube Sampler, Continuous to 10.0 ft, 5.0-ft Intervals Thereafter	\$ 22.00/foot
1.1.2.2 Continuous Drilling and Sampling with 3-inch, Thin-Walled Tube Sampler or Split-Spoon Sampler	\$ 39.00/foot
1.1.3 Standard Penetration Tests	\$ 27.00/each
1.1.4 TxDOT Cone Penetration Tests	\$ 34.00/each
1.1.5 Rock Coring, NX or Similar Core Barrel	
1.1.5.1 Drilling in Soft Rock (Austin Chalk, Eagle Ford Shale, etc.)	\$ 30.00/foot
1.1.5.2 Drilling in Hard Rock or Cavitated Rock (Edwards, Buda, Glen Rose, Georgetown, and Walnut Formations)	\$ 39.00/foot
1.1.6 Casing of Boreholes	\$ 26.00/foot
1.1.7 Drill Rig Hourly Charges for Boring Layout, Excessive Time Spent Gaining Access to Boring Locations, Move Time, Backfilling Boreholes, Cleaning up Site, Installing Piezometers, and for Other Reasons Beyond our Control	\$ 245.00/hour
1.1.8 Plugging Boreholes with Bentonite	\$ 9.00/foot
1.1.9 Cone Penetrometer Testing	\$3,750.00/day
1.1.10 Wooden Core Boxes (NX)	\$ 75.00/each
1.1.11 Field Personnel	See 4.0: Engineering Consultation

1.2 Geophysics Equipment

	Unit Rate
1.2.1 Geophysics Vehicle (including consumables)	\$ 175.00/day
1.2.2 Mileage	IRS Rate
1.2.3 GPR (complete system)	\$ 500.00/day
1.2.4 GPR (extra antenna)	\$ 85.00/day
1.2.5 EM (EM31, EM61)	\$ 220.00/day
1.2.6 Resistivity (Sting/MiniSting)	\$ 140.00/day
1.2.7 Resistivity (SuperSting)	\$ 775.00/day
1.2.8 Magnetometer	\$ 260.00/day
1.2.9 Seismic Refraction (per 24ch)	\$ 325.00/day
1.2.10 Downhole Seismics	\$ 360.00/day
1.2.11 Crosshole Seismics	\$ 510.00/day
1.2.12 Utility Locating Tools	\$ 190.00/day



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1.3 CMT Field Technicians⁽¹⁾

	<u>Unit Rate</u>
1.3.1 Technician (NICET Level I, ACI Grade 1, or TxDOT SB 102).....	\$ 60.00/hr
1.3.2 Technician (TxDOT HMAC Level 1A/1B or equivalent)	\$ 68.00/hr
1.3.3 Senior Technician (NICET Level II or TxDOT HMAC Level II).....	\$ 82.00/hr
1.3.4 Certified Welding Inspector	\$ 90.00/hr

1.4 Field Testing and Equipment

14.1 Transportation (Local)	\$ 80.00/trip
1.4.2 Nuclear Density Tests (Equipment Charge)	\$ 19.00/test
1.4.3 Torque Wrench	\$ 35.00/day
1.4.4 Ultrasonic Testing Equipment	\$ 35.00/hr
1.4.5 Asphalt Coring Equipment	\$ 45.00/hr
1.4.6 Concrete Coring Equipment	\$ 45.00/hr
1.4.7 Concrete Core Bit Charges	
1.4.7.1 3 inch-diameter Core	\$ 9.00/inch
1.4.7.2 4 inch-diameter Core	\$ 12.00/inch
1.4.7.3 6 inch-diameter Core	\$ 18.00/inch
(Other sizes quoted upon request)	
1.4.8 FACE® Dipstick Floor Flatness/Floor Levelness Equipment	\$ 250.00/day
1.4.9 Air Content of fresh concrete (ASTM C173, C231)	\$ 23.00/ea
1.4.10 Unit Weight of fresh concrete (ASTM C138)	\$ 23.00/ea
1.4.11 Soil-Lime Field Gradation (TEX-101-E).....	\$ 50.00/ea

2. LABORATORY TESTING

2.1 Soil

	<u>Unit Rate</u>
2.1.1 Bulk Sample Pick-Up.....	\$ 60.00/hr
2.1.2 Sample Preparation (TEX-101-E).....	\$ 120.00/ea
2.1.3 Natural Moisture Content.....	\$ 19.00/ea
2.1.4 Sieve Analysis (TEX-110-E)	\$ 70.00/ea
2.1.5 Atterberg Limits (Liquid and Plastic Limits).....	\$ 75.00/ea
(TEX-104-E, TEX-105-E, TEX-106-E)	
2.1.6 Percent Passing No. 200 Sieve (TEX-111-E).....	\$ 50.00/ea
2.1.7 Bar Linear Shrinkage of Soils (TEX-107-E)	\$ 50.00/ea
2.1.8 Moisture Density Relationship (ASTM D 698), (ASTM D 1557),	
(TEX-113-E), (TEX-114-E).....	\$ 275.00/ea
2.1.9 Wet Ball Mill (TEX-116-E).....	\$ 225.00/ea
2.1.10 Texas Triaxial Compression test on base material	
(TEX-117-E Part II).....	\$2,300.00/ea
2.1.11 Soil Specific Gravity (TEX-108-E)	\$ 75.00/ea
2.1.12 Soluble Sulfates (TEX-145-E)	\$ 90.00/ea
2.1.13 Soil pH (TEX-128-E)	\$ 70.00/ea
2.1.14 Soil-Lime pH Series (6 points, TEX-121-E, Part III).....	\$ 750.00/set
2.1.15 Free Swell Test.....	\$ 125.00/ea
2.1.16 Pressure Swell test.....	\$ 175.00/ea
2.1.17 Uniaxial Pressure-Strain test	\$ 90.00/ea
2.1.18 Hydrometer Analysis.....	\$ 225.00/ea
2.1.19 Unit Dry Weight Determination and Natural Water Content	\$ 30.00/ea



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2. LABORATORY TESTING

2.1 Soil (Continued)

	Unit Rate
2.1.20 Unconfined Compression Test, Soil.....	\$ 65.00/ea
2.1.21 Unconfined Compression Test, Rock.....	\$ 75.00/ea
2.1.22 Unconsolidated-Undrained Triaxial Compression Test.....	\$ 90.00/ea
2.1.23 Consolidation Test, 7-load Increments.....	\$ 850.00/ea
Additional Load Increments.....	\$ 125.00/ea
2.1.24 Permeability of Silt or Clay.....	\$ 395.00/ea
2.1.25 Sample Remolding.....	\$ 68.00/ea
2.1.26 Volumetric Shrinkage.....	\$ 95.00/ea
2.1.27 California Bearing Ratio (CBR).....	\$ 240.00/ea
2.1.28 Box Resistivity of Soils (TEX-129-E).....	\$ 115.00/ea
2.1.29 Swell or Settlement Potential-Cohesive Soil (ASTM D 4546).....	\$ 275.00/ea
2.1.30 Crumb Test of Clayey Soils (ASTM D 6572).....	\$ 48.00/ea
2.1.31 Organic Content (ASTM D 2974).....	\$ 72.00/ea

2.2 Concrete and Cement

2.2.1 Aggregate Gradation Analysis (ASTM C136, TEX-200-F).....	\$ 75.00/ea
2.2.2 Specific Gravity of Aggregate (ASTM C127, C128).....	\$ 75.00/ea
2.2.3 Absorption of Aggregate (ASTM C127, C128).....	\$ 75.00/ea
2.2.4 Unit Weight of Aggregate (ASTM C29).....	\$ 75.00/ea
2.2.5 Abrasion Test (TEX-410-A).....	\$ 245.00/ea
2.2.6 Decantation (TEX-406-A).....	\$ 45.00/ea
2.2.7 Organic Impurities (TEX-408-A).....	\$ 60.00/ea
2.2.8 Sodium Soundness of Aggregate (ASTM C88).....	\$ 425.00/ea
2.2.9 Concrete Cylinder Compressive Strength (ASTM C 39).....	\$ 22.00/ea
2.2.10 Beam Flexural Strength (ASTM C 78).....	\$ 90.00/ea
2.2.11 Mortar Cube Compressive Strength (ASTM C780).....	\$ 22.00/ea
2.2.12 Grout Specimen Compressive Strength (ASTM C1019).....	\$ 50.00/ea
2.2.13 Concrete Masonry Unit Strength (ASTM C780).....	\$ 115.00/ea
2.2.14 Drilled Core Compressive Strength (ASTM C42).....	\$ 80.00/ea

2.3 Asphaltic Concrete / Fireproofing

2.3.1 Bag Sample Pick-Up.....	\$ 68.00/hr
2.3.2 Obtaining Field Cut Specimens (6-inch diameter, Min. 3/location).....	\$ 70.00/ea
2.3.3 Molding Test Specimens, Bulk Density, and Stability (3 per set).....	\$ 155.00/set
2.3.4 Determine Maximum Theoretical Density.....	\$ 75.00/ea
2.3.5 Asphalt Content and Gradation (TEX-236-F, 200-F).....	\$ 275.00/ea
2.3.6 Asphalt Oven Correction Factors (TEX-236-F, 200-F).....	\$ 1,300.00/ea
2.3.7 Bulk Specific Gravity of Asphalt Core.....	\$ 48.00/ea
2.3.8 Sand Equivalent.....	\$ 175.00/ea

3. REPORT PREPARATION

Special requests for archived report retrieval, re-distribution, faxing, hard-copy mailing, and preparation of engineered reports and submittals will be invoiced at the following rates:

3.1 Word Processing.....	\$ 75.00/hr
3.2 Drafting.....	\$ 85.00/hr
3.3 Reproduction.....	\$ 0.20/copy



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4. ENGINEERING CONSULTATION AND MANAGEMENT

4.1	Senior Consultant/Project Principal	\$ 295.00/hr
4.2	Senior Project Manager/Senior Engineer	\$ 250.00/hr
4.3	Project Manager	\$ 195.00/hr
4.4	Project Engineer	\$ 180.00/hr
4.5	Project Geologist/Geophysicist.....	\$ 180.00/hr
4.6	Senior Geophysicist.....	\$ 210.00/hr
4.7	Laboratory Manager.....	\$ 175.00/hr
4.8	Graduate Engineer/Geologist/Professional	\$ 125.00/hr
4.9	Senior Engineering Technician.....	\$ 115.00/hr

Notes:

- 1) Minimum call-out charge for CMT technician and equipment or sample pick-up is 2 hours. Minimum call-out charge for CWI technician is 4 hours. Charges are accrued portal to portal.
- 2) Laboratory test prices are FOB Fugro laboratory unless noted otherwise. Sample pick-up charges are additional.
- 3) Services required and not listed above would be negotiated at the time of proposal request.
- 4) Charges for field testing equipment do not include personnel or travel charges.
- 5) Transportation charges are applicable for all field testing assignments, meetings and site visits.