



September 18, 2024

Proposal No.: 22-0648– **Revision 1**

Mr. Bryan Ausenbaugh

Prosper Fire Rescue

bausenbaugh@prospertx.gov

**Subject: Construction Materials Testing Services
Prosper Fire Station 4
Prosper, Texas**

Dear Mr. Ausenbaugh:

Geotex Engineering is pleased to submit this proposal for construction materials testing for the above-referenced project. We understand that the project entails the construction of a new fire station in Prosper, Texas.

This proposal is based on architectural, structural, and civil bid set plans dated November 17, 2022; geotechnical report by Geotex Engineering dated June 17, 2022.

PROJECT INFORMATION

Based on our review of the project plans and specifications, we understand that the project will consist of the following:

- ◆ Building (approximately 13,328 square feet):
 - ◆ Moisture conditioning with 2-foot select fill cap
 - ◆ Straight-sided drilled shaft foundation system (73 total)
 - ◆ Slab-on-grade floor system with grade beams
 - ◆ Cast-in-place concrete walls
 - ◆ Below grade walls
 - ◆ Upper-level concrete slabs over pan decking
 - ◆ CMU Masonry
 - ◆ ICC 500 Storm Shelter
 - ◆ Structural steel
- ◆ Paving and sidewalks:
 - ◆ Scarified and re-compacted subgrade for sidewalks
 - ◆ 6- and 8-inch lime-treated paving subgrade
 - ◆ Portland cement concrete paving
- ◆ Miscellaneous:
 - ◆ Utility trench backfill
 - ◆ Dumpster pad and slab

SCOPE OF SERVICES

The following scope of services is based on our review of the project documents and is limited to providing testing and/or observations for the previously mentioned construction. ***We do request that your construction representative provide us with a 24-hour notice for scheduling purposes. Same-day call-ins will be billed at premium rates.*** As such, we agree to provide the appropriate personnel to perform the below construction materials services.

Earthwork

- Obtain and perform laboratory moisture/density relations (ASTM D698) and soil classification tests (liquid limit, plastic limit, and percent finer than no. 200 sieve analysis) for each soil type
- Perform in-place moisture/density tests at the proposed rate of 1/3,000 square feet for the building pad, 1/5,000 square feet for paving areas, and 1/100 linear feet for trench utility backfill and grade beam backfill per lift, with a minimum of 3 tests per lift
- Determine swell potential and compressive strength every 900 feet spacing or less along each roadway and fire lane direction
- Perform in-place sieve analysis, pH and Atterberg Limits testing at the rate of 1/300 linear feet on lime-treated paving subgrades
- Perform thickness test at the rate of 1/100 linear feet on lime-treated paving subgrades

Drilled Shaft Installation

- An engineer or geologist will be onsite on the first day of drilled shaft placement to verify the soil design parameters and to provide assistance if any problems arise during placement.
- Excavation observation of the drilled shafts will include:
 - record the diameter of the drilled shaft
 - record top and bottom pier elevations (information obtained from plans or provided by contractor)
 - record depth to the bearing stratum
 - record penetration into the bearing stratum
 - record if a casing was used
 - record if plumbness is within specification tolerance
 - record horizontal and vertical bars quantity and size
 - record the condition of drilled shaft excavation before concrete placement
 - record the time concrete was placed

Reinforcing Steel

- Perform reinforcing steel observation which will include:
 - verify the number and size of bars
 - verify clearance between bars and spacing
 - verify securing, tying, and chairing of bars

Cast-In-Place Concrete

- Perform testing during concrete placements, which will include:
 - perform ambient and concrete temperature determinations
 - perform entrained air content determination
 - perform slump determination
- Cast concrete test cylinders at the proposed rate of 5/25 cubic yards then every 50 cubic yards of concrete, or a fraction thereof, placed per day
- Compressive strength determination of concrete test cylinders with one tested at 7 days, three tested at 28 days, and one held in reserve

Masonry

- Perform testing during masonry operations which will include:
 - Ambient, mortar, and grout temperature determinations
- Cast grout prisms at the proposed rate of 4 per set shall be made during the first day of masonry work and for every 5,000 SF of wall (or less) thereafter
- Compressive strength determination of grout prisms with one tested at 7 days and three tested at 28 days

Structural Steel

- Perform visual observation on welded and bolted connections
- Perform ultrasonic observation on moment or “full-penetration” welded connections

Notes and Qualifications:

Preparation of a compliance letter or other tasks and services that will require Professional Engineering (PE) hours will be billed at the PE’s rate of \$250/hour.

COMPENSATION

While testing is dependent on the construction sequence, contractor performance and efficiency, weather conditions, and the actual testing performed, we suggest an **estimated budget of \$78,787**. The invoicing for this project will use the attached Fee Schedule **and the actual quantity of work performed**. The estimated budget will not be exceeded without prior approval. Services provided by Geotex Engineering will be consistent with the engineering standards prevailing at the time and in the area that the work is performed; no other warranty, express or implied, is intended. Estimates are valid for 60 days. If ICC Special Inspections are requested or required, additional fees will apply. Any additional testing that the client requests will be billed. Fees are subject to increases upon the calendar year or following years of signing the contract. Additional slump, entrained air, and temperature tests requested will be charged to the client. (Slump-\$20), (Entrained Air and Unit Weight-\$25), (Temperature-\$5). If NICET inspector is required, additional fees will apply.

A Letter of Agreement for your execution will be forwarded to your office upon your approval of this proposal.

We appreciate the opportunity to provide you with our services. Please call if you have any questions or wish to discuss any aspect of our proposal.

Sincerely,
Geotex Engineering, LLC

Brandon Lowrance

Brandon Lowrance
Chief Estimator

Attachments: Budget Estimate



Geotex Engineering, LLC
 1101 Shady Oaks Dr
 Denton, Texas
 Phone: 940.735.3433

Budget Estimate for Construction Materials
 Testing & Observation Services
Town of Prosper Fire Station No. 4
 Prosper, Texas
22-0648

Item	Quantity	Unit	Unit Rate	Total
Earthwork Observation & Testing Paving & Utilities				
Moisture Density Relations (ASTM D698 - Method A or B)	4	each	\$185.00	\$740.00
Moisture Density Relations Treated (ASTM D698 - Method A or B)	1	each	\$280.00	\$280.00
Moisture Density Relations (ASTM D698 - Method C)	0	each	\$200.00	\$0.00
Atterberg Limits (ASTM 4318)	8	each	\$95.00	\$760.00
Minus 200 Sieve Analysis	4	each	\$50.00	\$200.00
Oversized Rock Correction	0	each	\$80.00	\$0.00
Sieve Analysis (Tex-110-E)	0	each	\$260.00	\$0.00
Soil pH	2	each	\$70.00	\$140.00
Sample preparation for lime treated samples	1	each	\$80.00	\$80.00
Overburden Swell	1	each	\$85.00	\$85.00
Unconfined compressive strength (soil)	1	each	\$55.00	\$55.00
Lime Depth Checks	7	each	\$20.00	\$140.00
Lime Subgrade Gradations	3	each	\$20.00	\$60.00
Sulfate Content in Soils, Colorimetric Method	1	each	\$105.00	\$105.00
Lime Series, pH Method	1	each	\$525.00	\$525.00
In-Place Moisture-Density Tests (Grading Fill) Min 3 Per Trip	51	each	\$20.00	\$1,020.00
In-Place Moisture-Density Tests (Paving) Min 3 Per Trip	22	each	\$20.00	\$440.00
In-Place Moisture-Density Tests (Utilities) Min 3 Per Trip	48	each	\$20.00	\$960.00
Certified Engineering Soils Technician - Grading Fill (Min. 4 hrs. per trip)	32	hour	\$60.00	\$1,920.00
Certified Engineering Soils Technician - Paving (Min. 4 hrs. per trip)	38	hour	\$60.00	\$2,280.00
Certified Engineering Soils Technician - Utilities (Min. 4 hrs. per trip)	34	hour	\$60.00	\$2,040.00
Trip Charge	21	trip	\$50.00	\$1,050.00
Project Manager	12	hour	\$125.00	\$1,500.00
Project Administration	n/a	%	10	\$1,438.00
Estimated Total for Earthwork Services for Paving & Utilities:				\$15,818.00
Concrete Observation & Testing - Paving & Site Structures				
Concrete Test Cylinders (4 x 8 inch) (Includes: ambient & concrete temperatures, slump, air & unit weight)	100	each	\$25.00	\$2,500.00
Certified Engineering Concrete Technician (Min. 4 hrs. per trip) (Includes reinforcing observation & cylinder pick up)	136	hour	\$60.00	\$8,160.00
Certified Engineering Concrete Technician (Estimated overtime)	10	hour	\$90.00	\$900.00
Trip Charge	29	trip	\$50.00	\$1,450.00
Project Manager	12	hour	\$125.00	\$1,500.00
Project Administration	n/a	%	10	\$1,451.00
Estimated Total for Concrete Services for Paving:				\$15,961.00

Earthwork Observation & Testing Building Pad				
Moisture Density Relations (ASTM D698 - Method A or B)	3	each	\$185.00	\$555.00
Moisture Density Relations (ASTM D698 - Method C)	0	each	\$200.00	\$0.00
Atterberg Limits	3	each	\$95.00	\$285.00
Minus 200 Sieve Analysis	3	each	\$50.00	\$150.00
Oversized Rock Correction	0	each	\$80.00	\$0.00
Sieve Analysis (Tex-110-E)	0	each	\$260.00	\$0.00
In-Place Moisture-Density Tests, Min 3 per trip	80	each	\$20.00	\$1,600.00
Certified Engineering Soils Technician (Min. 4 hrs. per trip)	56	hour	\$60.00	\$3,360.00
Trip Charge	9	trip	\$50.00	\$450.00
Project Manager	6	hour	\$125.00	\$750.00
Project Administration	n/a	%	10	\$715.00
Estimated Total for Earthwork Services:				\$7,865.00
Drilled Shaft Observations				
Concrete Test Cylinders (4 x 8 inch) (Includes: ambient & concrete temperatures, slump, air & unit weight)	15	each	\$25.00	\$375.00
Certified Sr. Engineering Technician (Min. 4 hrs. per trip)	28	hour	\$75.00	\$2,100.00
Certified Sr. Engineering Technician (Estimated overtime)	12	hour	\$112.50	\$1,350.00
Senior Engineer (PE)	4	hour	\$250.00	\$1,000.00
Trip Charge	4	trip	\$50.00	\$200.00
Project Manager	5	hour	\$125.00	\$625.00
Project Administration	n/a	%	10	\$565.00
Estimated Total for Drilled Shaft Services:				\$6,215.00
Concrete Observation & Testing Building				
Concrete Test Cylinders (4 x 8 inch) (Includes: ambient & concrete temperatures, slump, air & unit weight)	75	each	\$25.00	\$1,875.00
Certified Engineering Concrete Technician (Min. 4 hrs. per trip) (Includes reinforcing observation & cylinder pick up)	114	hour	\$60.00	\$6,840.00
Certified Engineering Concrete Technician (Estimated overtime)	6	hour	\$90.00	\$540.00
Trip Charge	28	trip	\$50.00	\$1,400.00
Project Manager	10	hour	\$125.00	\$1,250.00
Project Administration	n/a	%	10	\$1,191.00
Estimated Total for Concrete Services:				\$13,096.00
Firestopping Observation				
Fireproofing Observation (Min. 5 hrs. per trip)	10	hour	\$95.00	\$950.00
Trip Charge	2	trip	\$50.00	\$100.00
Project Manager	1	hour	\$125.00	\$125.00
Project Administration	n/a	%	10	\$118.00
Estimated Total for Fireproofing Services:				\$1,293.00
Masonry Observation & Testing				
Mortar Cubes (6 per set)	12	each	\$25.00	\$300.00
Grout Prisms (4 per set)	24	each	\$35.00	\$840.00
Certified Engineering Technician (Min. 4 hrs. per trip) (Includes observation and masonry pickup)	52	hour	\$85.00	\$4,420.00
Trip Charge	10	trip	\$50.00	\$500.00
Project Manager	6	hour	\$125.00	\$750.00
Project Administration	n/a	%	10	\$681.00
Estimated Total for Masonry Services:				\$7,491.00

Structural Steel Observation				
CWI Specialist Visual Observation (Min. 5 hrs. per trip)	20	hour	\$85.00	\$1,700.00
Ultrasonic Inspection (Min. 5 hrs. per trip)	10	hour	\$95.00	\$950.00
Material Fee	2	day	\$50.00	\$100.00
Trip Charge	6	trip	\$100.00	\$600.00
Project Manager	3	hour	\$125.00	\$375.00
Project Administration	n/a	%	10	\$373.00
Estimated Total for Structural Steel Services:				\$4,098.00
Storm Shelter Observation				
Visual Observation (Min. 4 hrs. per trip)	20	hour	\$125.00	\$2,500.00
Sr. Engineer (submittal research and final walk through)	5	hour	\$250.00	\$1,250.00
Trip Charge	5	trip	\$50.00	\$250.00
Project Manager	4	hour	\$125.00	\$500.00
Project Administration	n/a	%	10	\$450.00
Estimated Total for Storm Shelter Services:				\$4,950.00
Project Setup Fee	1	each	\$250.00	\$250.00
Allowance for Sr. Engineer	7	hour	\$250.00	\$1,750.00
				\$2,000.00
Estimated Total for Above Services:				\$78,787.00

SCHEDULED ASSUMPTIONS AND NOTES

Utility backfill completed at a rate of 300 linear feet per day, full depth of trench.
Concrete for light pole bases will be completed in a single placement.
Concrete for outfall structures completed in two placements; rebar concurrent.
Concrete for sidewalks completed in 4 placements; rebar concurrent.
Concrete for paving placements will be completed at a rate of 200 cubic yards per pour; rebar concurrent.
Fire lane concrete thickness coring will not be required.
Lime treatment onsite will be performed in 3 days.
Building moisture conditioning will be performed at a rate of 20,000 cubic feet per day (4 days)
Piers will be completed at a rate of 15 per day, with one drill rig onsite.
Concrete for grade beams will be completed at a rate of 80 cubic yards per pour.
Visual structural steel inspections performed at a rate of two trips per segment per floor.
Storm louvers and storm door frames installation will be completed in one trip per opening.
Only Division 01 and Section 03 30 00 from the Project Manual were provided at the time of this proposal.

NOT INCLUDED IN REQUIREMENTS OR THE BUDGET

Tests in excess of above stated quantities or additional tests not listed
Retesting of any failed tests / observation
Temporary site curing facility
Project compliance letter

The fees listed above for field and laboratory tests, include the equipment necessary to accomplish the task. Fees not listed above are available upon request. Estimates are valid for 60 days. Any additional testing that the client requests will be billed. There will be a 50% surcharge to the standard testing fees on all testing performed on rush orders. All services and personnel fees are subject to a minimum fee of four hours per trip for all scheduled inspections, site visits and for cancellations (on-site or in route) unless noted otherwise. Hourly rates quoted are portal to portal and apply to standard work days, Monday through Friday 7:00 am to 6:00 pm. Overtime rate of 1.5 times the quoted rate will be applied outside of the standard work hours, over 8 hours a day and on Saturday. Sundays and Holidays will be billed at 2 times the quoted rates. Fees listed above are per unit/hour, unless otherwise noted. Same-day call-ins to be billed at 1.5 times the hourly rate of the available personnel, up to and including the project manager's rate. Fees listed are for informational use only and are subject to change. If ICC Special Inspections are required, additional fees will apply. Fees are subject to increases upon the calendar year or following years of signing the contract. Additional slump, entrained air and temperature tests requested will be charged to client. (Slump-\$20), (Entrained Air and Unit Weight-\$25), (Temperature-\$5). If NICET inspector is required, additional fees will apply.