PROFESSIONAL SERVICES
SUPPLEMENTAL AGREEMENT # 3
FOR
Pfluger Farm Lane

STATE OF TEXAS §
§
COUNTY OF TRAVIS §

FIRM: LJA Engineering, Inc. ("Consultant")

ADDRESS: 5316 Highway 290 West, Suite 150
Austin, Texas 78735

This Supplemental Agreement No. 3 to a contract for Professional Services is made by and between the City of Pflugerville, Texas, hereinafter called the "City" and LJA Engineering, Inc. hereinafter called the “Consultant".

WHEREAS, the City and Consultant executed an Agreement for Professional Services, hereinafter called the "Agreement", on the 13th day of November, 2012 for the Pfluger Farm Lane project in the amount of $1,014,011.86 and Supplement #1 to the Agreement dated August 23rd 2013 in the amount of $13,000.00; and Supplement #2 to the Agreement dated June 30th 2015 in the amount of $10,000.00; and

WHEREAS, it has become necessary to amend the Agreement to modify the provisions for the Services to be performed by Engineer and Compensation of Engineer; and

NOW THEREFORE, premises considered, the City and the Consultant agree that said Agreement is amended as follows:

LJA to add the following services:

- Construction materials testing for Pfluger Farm Phase B. See attached scope and fee for full breakdown of testing ($55,159.00). The Phase A contract did not include additional funding for the Phase B material testing.

EXECUTED and **AGREED** to as of the dates indicated below.

CITY OF PFLUGERVILLE	**CONSULTANT** LJA Engineering, Inc.
_____ *(Signature)*	_____ *(Signature)*
Printed Name: Brandon E. Wade	Printed Name: Jeff P. Collins, PE
Title: City Manager	Title: Executive Vice President
Date: _____	Date: 07/29/15

APPROVED AS TO FORM:

_____

George Hyde
City Attorney
Denton Navarro Rocha Bernal Hyde & Zech, P.C.

Rodriguez Engineering Laboratories, LLC

Proposed Pfluger Farm Lane Roadway
Construction Materials Testing, Phase "B"
Pflugerville, Texas

SCOPE OF WORK

The following scope of services will be provided as requested by the client or the client's representative, Rodriguez Engineering Laboratories (REL) understands that client has particular project requirements; therefore, scope of services and qualified staff is assigned to meet the needs defined in those specifications. The testing frequency will be based on the project specifications or as requested by the City of Pflugerville representative. The on-site inspector should coordinate the materials testing by calling REL's office at least 24-hours in advance.

The scope of work for the construction materials testing to be performed by REL at the above referenced project includes the following:

Soils Testing (Laboratory):

- Perform laboratory testing for soil embankment and trench backfill as required by project specifications or as requested by the on-site inspector, including: Moisture/density relationship (Tex-114-E), atterberg limits (Tex-104, 105, & 106-E), and sieve analysis (Tex-110-E & Tex-111-E).
- Perform laboratory testing for lime treated subgrade as required by project specifications or as requested by the on-site inspector, including: Moisture/density relationship (Tex-113-E), atterberg limits (Tex-104, 105, & 106-E), Soil-Lime Series (Tex-121-E, Part III), and sulfate content of soils (Tex-145-E).
- Perform laboratory testing for cement stabilized backfill as required by project specifications or as requested by the on-site inspector, including: Moisture/density relationship (Tex-120-E).
- Perform laboratory testing for flexible base material as required by project specifications or as requested by the on-site inspector, including: Moisture/density relationship (Tex-113-E), atterberg limits (Tex-104, 105, & 106-E), sieve analysis (Tex-110-E), Texas triaxial (Tex-117-E), wet ball mill (Tex-116-E), and bar linear shrinkage (Tex-107-E) when required.

Soils Testing (Field):

- Perform field testing for soil embankment and trench backfill as required by project specifications or as requested by the on-site inspector, including: In-place nuclear densities (Tex-115-E, Part I).
- Perform field testing for lime treated subgrade as required by project specifications or as requested by the on-site inspector, including: In-place nuclear densities (Tex-115-E, Part I), field gradations (Tex-101-E, Part III), and thickness determination (Tex-140-E).
- Perform field testing for cement stabilized backfill as required by project specifications or as requested by the on-site inspector, including: In-place nuclear densities (Tex-115-E, Part I).

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Registered Texas Engineering Firm F-1563

Rodriguez Engineering Laboratories, LLC

Proposed Pfluger Farm Lane Roadway
Construction Materials Testing, Phase "B"
Pflugerville, Texas

SCOPE OF WORK

- Perform field testing for flexible base material as required by project specifications or as requested by the on-site inspector, including: In-place nuclear densities (Tex-115-E, Part I) and thickness determination (Tex-140-E).

HMAC Testing (Laboratory):

- Test each type of HMAC for conformance to specification requirements each day's paving. Three bag samples of mixture should be obtained per each day's production or as requested by the on-site inspector. Each sample will be tested for gradation, asphalt content, stability, and laboratory density. One hamburg test should be performed per project.

HMAC Testing (Field):

- Obtain one asphalt core for every bag sample of asphaltic concrete placement. The core shall be used to determine pavement thickness and the in-place density.

Concrete Testing (Laboratory):

- Sample, mold, cure, and test one (1) set of four (4) concrete compressive strength (Tex-418-A) cylinders for every 60 cubic yards or fraction of structural concrete placed, or as required by project specifications or as requested by the on-site inspector. Two (2) cylinders will be tested at 7 days and two (2) cylinders will be tested at 28 days.

Concrete Testing (Field):

- Perform field testing for concrete mixtures as required by project specifications or as requested by the on-site inspector, including: One (1) slump test (Tex-415-A), one (1) air-content test (Tex-416-A), and one (1) temperature test (Tex-422-A) per every set of cylinders cast.

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City of Pflugerville Oversight Testing
Pflugerville, Texas
(CONSTRUCTION MATERIALS TESTING) UNIT PRICES

	Unit	Fees
1. Field Technician (2 hr. minimum)		
1.1 Soil Technician	Per hr	$52.00
1.2 Concrete Technician TxDOT or ACI Grade I	Per hr	$52.00
1.3 Asphalt Technician		
1.3.1 TxDOT Certified Technician (Level IA & IB)	Per hr	$52.00
1.3.2 TxDOT Certified Technician (Level II)	Per hr	$56.00
1.4 Structural Steel Technician		
1.4.1 CWI	Per hr	$67.00
1.4.2 NDT Level II	Per hr	$67.00
1.5 Bolting Inspection	Per hr	$67.00
1.6 NICET Level II	Per hr	$56.00
1.7 Senior Field Inspector	Per hr	$67.00
2. Field Testing Equipment (2 hr. minimum, technician time not included)		
2.1 Vehicle	Per day	$45.00
2.2 Dye Penetrant – Magnetic Particle Supplies		At Cost
2.3 Ultrasonic Testing Equipment	Per hr	$20.00
2.4 Concrete Coring Equipment	Per hr	$35.00
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 core	Per inch	$7.00
2.5 Heavy Falling Weight Deflectometer (FWD) Testing	Test Point	$20.00
2.6 Profilograph Testing	Day	$400.00
3. Testing of Soils and Base Materials		
3.1 Bulk Sample Pick-Up		
3.1.1 Inside the City of Austin ETJ	Per Trip	$104.00
3.1.2 Outside the City of Austin ETJ (2 hrs Minimum)	Per hr	$52.00
3.2 Field Nuclear Density [Without Technician Time (3 Minimum)]	Per ea	$36.00
3.3 Sample Preparation (TEX-101-E)	Per ea	$52.00
3.4 Natural Moisture Content (TEX-103-E)	Per ea	$18.00
3.5 Sieve Analysis (TEX-110-E)	Per ea	$65.00
3.6 Atterberg Limits (Liquid and Plastic Limits) (TEX-104-E, TEX-105-E, TEX-106-E)	Per ea	$65.00
3.7 Percent Passing No. 200 Sieve (TEX-111-E)	Per ea	$42.00
3.8 Bar Linear Shrinkage of Soils (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)	Per ea	$230.00
3.11 Moisture Density Relationship (TEX-113-E) Compaction Test	Per ea	$230.00
3.12 Moisture Density Relationship (TEX-114-E, Part I) Compaction Test	Per ea	$230.00
3.13 Moisture Density Relationship (TEX-114-E, Part II) Compaction Test	Per ea	$255.00
3.14 Texas Triaxial Compression Test on Base Material TEX- 117E, Part II; Including the following:		
3.14.1 Molding, Curing and Testing 8 Specimens	Per ea	$1,150.00
3.14.2 Sample Preparation (TEX-101-E)	Per ea	$52.00
3.14.3 Sieve Analysis (TEX-110-E)	Per ea	$65.00
3.14.4 Atterberg Limits (TEX-104-E, TEX-105-E, TEX-106-E)	Per ea	$65.00
3.14.5 Bar Linear Shrinkage of Soils (TEX-107-E)	Per ea	$52.00
3.14.6 Moisture Density Relationship (TEX-113-E) Compaction Test	Per ea	$230.00
3.14.7 Wet Ball Mill (TEX-116-E)	Per ea	$200.00
3.15 Permeability/Conductivity of Silt or Clay (ASTM D 5084)	Per ea	$310.00
3.16 Sample Remolding	Per hr	$52.00
3.17 Soil Specific Gravity (TEX-108-E)	Per ea	$61.00
3.18 Soil Lime Compression Test (TEX-121-E), per specimen	Per ea	$67.00

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City of Pflugerville Oversight Testing
Pflugerville, Texas
(CONSTRUCTION MATERIALS TESTING) UNIT PRICES

	Unit	Fees
3.19 Resistivity of Soils (TEX-129-E)	Per ea	$90.00
3.20 Lime Series Curve (ASTM D 4318)	Per point	$90.00
3.21 Stabilization Ability of Lime by Soil pH (TEX-121-E Part III) up to 6 Points	Per Each	$250.00
3.22 Field Gradation of Lime Soil (1.75, 0.75, No 4 Sieve) in addition to hourly charge	Per Point	$18.00
3.23 Soluble Sulfate Content (TEX-145-E)	Per ea	$95.00
3.24 pH of Soils (TEX-128-E)	Per ea	$65.00
3.25 Hydrometer Analysis (ASTM D 422)	Per ea	$104.00
3.26 Thickness Determination (Tex-140-E)	Per ea	$15.00
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 (TEX-401-A)	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 ea	$33.00
4.6 Abrasion Test (TEX-410-A)	Per ea	$220.00
4.7 Decantation (TEX-406-E)	Per ea	$30.00
4.8 Organic Impurities	Per ea	$45.00
4.9 Soundness, Sodium or Magnesium	Per cyc	$65.00
4.10 Concrete Cylinder Compressive Strength (TEX-418-A)	Per ea	$23.00
4.11 Beam Flexural Strength (TEX-420-A or TEX 448-A)	Per ea	$35.00
4.12 Coarse Aggregate Angularity	Per ea	$67.00
4.13 Fine Aggregate Angularity	Per ea	$67.00
4.14 Flat, Elongated Particles	Per ea	$67.00
4.15 Deleterious Materials (Clay Lumps/Friable Part I)	Per ea	$60.00
4.16 Sand Equivalent (Clay Content)	Per ea	$78.00
5. Testing of HMAC and Liquid Asphalt		
5.1 Bag Sample Pick-up From Source, Project, or Field Office		
5.1.1 Inside the City of Austin ETJ	Per Trip	$104.00
5.1.2 Outside the City of Austin ETJ (2 hrs Minimum)	Per hr	$52.00
5.2 Obtaining Field-cut Specimens		
5.2.1 0" to 6" Depth & 6" Ø, including patching & sample Preparation, 3 minimum)	Per ea	$85.00
5.2.2 > 6" to 10" Depth & 6" Ø, including patching & sample Preparation, 3 minimum)	Per ea	$95.00
5.2.3 > 10" to 14" Depth & 6" Ø, including patching & sample Preparation, 3 minimum)	Per ea	$125.00
5.2.4 > 14" Depth & 6" Ø, including patching & sample Preparation, 3 minimum)		$125.00
plus $5 per inch beyond 14"		$5.00
5.3 Specimen Molding, Bulk Density and Stability (3 per set)	Per ea	$122.00
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)		
5.6.1 Bag Sample	Per ea	$45.00
5.6.2 Core Sample	Per ea	$55.00
5.7 Specific Gravity, Bulk	Per ea	$22.00
5.8 Sand Equivalent	Per ea	$75.00
5.9 Absorn Recovery	Per ea	$194.00
5.10 Ductility	Per ea	$83.00
5.11 Softening Point (Ring and Ball)	Per ea	$83.00
5.12 Absolute Viscosity	Per ea	$52.00
5.13 Penetration	Per ea	$52.00
5.14 Residue by Distillation	Per ea	$127.00

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City of Pflugerville Oversight Testing
Pflugerville, Texas
(CONSTRUCTION MATERIALS TESTING) UNIT PRICES

	Unit	Fees
5.15 Float Test	Per ea	$74.00
5.16 Elastic Recovery	Per ea	$74.00
5.17 Sieve Test	Per ea	$37.00
5.18 Demulsibility	Per ea	$63.00
5.19 Viscosity (Brookfield or Saybolt)	Per ea	$55.00
5.20 Residue by Evaporation	Per ea	$150.00
5.21 Uniformity	Per ea	$50.00
5.22 Resistance to Heat	Per ea	$50.00
5.23 Resistance to Water	Per ea	$50.00
5.24 Wet Flow, mm	Per ea	$50.00
5.25 Hamburg Wheel Tracker (Tex-242-F)	Per ea	$500.00
6. Geotechnical Services		
6.1 Mobilization/Demobilization (Whitin 50 miles from our office)	Per ea	$250.00
6.2 Mobilization/Demobilization, Drilling Crew with Rig (More than 50 miles from our office)	Per mile	$2.50
6.3 Auger or Wash Borings (Soil or Soft Rock)	Per LF	$14.00
6.4 Rock Coring/Drilling	Per LF	$20.00
6.5 Undisturbed Shelby Tube Sample	Per ea	$25.00
6.6 Standard Penetration Test	Per ea	$45.00
6.7 Texas Cone Penetration Test	Per ea	$45.00
6.8 Dynamic Cone Penetrometer	Per ea	$125.00
6.9 Unconsolidated/Consolidated Undrained Triaxial (Multiple Stage)	Per ea	$515.00
6.10 Consolidated Drained Triaxial (Multiple Stage)	Per ea	$750.00
6.11 Organic Content Determination	Per ea	$95.00
6.12 Consolidation Test	Per ea	$52.00
6.13 California Bearing Ratio (CBR) Test	Per ea	$485.00
6.14 Dry Unit Weight Test	Per ea	$35.00
6.15 Unconfined Compressive Strength Test	Per ea	$55.00
6.16 Traffic Control (Safety Cones and Signs)	Per day	$250.00
6.17 Traffic Control (Single Moving Lane Closure)	Per day	$750.00
6.18 Flagging Services (Incl. Equipment, Set-up, Two-man Crew)	Per day	$850.00
6.19 Patching Bores/Cores	Per ea	$25.00
6.20 Bulk Sample (Triaxial, Proctor, etc)	Per hr	$52.00
6.21 Cut & Excavate Test Pit on Pavement, Approx. 18"x18", Inc. Sampling	Per ea	$200.00
7. Engineering Consultation		
7.1 Principal	Per hr	$134.00
7.2 Senior Project Manager	Per hr	$111.00
7.3 Project Manager/Engineer	Per hr	$106.00
7.4 Senior Geologist	Per hr	$106.00
7.5 Laboratory Manager	Per hr	$106.00
7.6 Graduate Engineer	Per hr	$73.00
7.7 Senior Engineering Technician	Per hr	$56.00
7.8 Secretary/Clerical	Per hr	$48.00
8. Outside Services (Reimbursables)		At Cost
9. Subconsultants		At Cost

- Ø Minimum call-out charge for technician and equipment is 2 hours. Charges are accrued portal to portal.
- Ø 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 be approved previous to work beginning.

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Pfluger Farm Lane Roadway Project
Pflugerville, Texas
Basis for Cost Estimate
Construction Materials Testing

Description	Quantity	Unit	Estimated Costs Cost/Unit	Total
PFLUGER SD3: EMBANKMENT	(10,696 CY)			
Tech Time	30	hrs	$ 52.00	$ 1,560.00
Moisture Density Curve (TEX 114-E)	3	ea	$ 230.00	$ 690.00
Atteberg Limits (TEX- 104, 105 & 106-E)	3	ea	$ 65.00	$ 195.00
Sieve Analysis (TEX-110 & 111-E)	3	ea	$ 65.00	$ 195.00
In-Place Densities (Nuclear Gauge Tex-115-E)	65	ea	$ 36.00	$ 2,340.00
Vehicle	15	ea	$ 45.00	$ 675.00
			Sub-Total =	$ 5,655.00
TxDOT 260: LIME TRT (EXST MATL) (8")	(16,624 SY)			
Tech Time	30	hrs	$ 52.00	$ 1,560.00
Moisture Density Curve (TEX 113-E)	6	ea	$ 230.00	$ 1,380.00
Atteberg Limits (TEX- 104, 105 & 106-E)	6	ea	$ 65.00	$ 390.00
Field Gradation of Lime-Soil (TEX-101-E)	9	ea	$ 65.00	$ 585.00
In-Place Densities (Nuclear Gauge Tex-115-E)	17	ea	$ 36.00	$ 612.00
Thickness Determination (TEX-140-E)	28	ea	$ 15.00	$ 420.00
Sulfate Content (TEX-145-E)	8	ea	$ 95.00	$ 760.00
Stabilization Ability of Lime by Soil pH (TEX-121-E, Part III)	3	ea	$ 250.00	$ 750.00
Project Engineer	8	hrs	$ 106.00	$ 848.00
Vehicle	15	ea	$ 45.00	$ 675.00
			Sub-Total =	$ 7,980.00
PFLUGER SD4: FLEXIBLE BASE (14")	(16,624 SY)			
Tech Time	40	hrs	$ 52.00	$ 2,080.00
Moisture Density Curve (TEX 113-E)	1	ea	$ 230.00	$ 230.00
Atteberg Limits (TEX- 104, 105 & 106-E)	4	ea	$ 65.00	$ 260.00
Sieve Analysis (TEX-110 & 111-E)	4	ea	$ 65.00	$ 260.00
In-Place Densities (Nuclear Gauge Tex-115-E)	69	ea	$ 36.00	$ 2,484.00
Base Thickness Determination (TEX-140-E)	9	ea	$ 15.00	$ 135.00
Sample Preparation (TEX-101-E)	1	hr	$ 52.00	$ 52.00
TxDOT Triaxial Classification (TEX-117-E)	1	ea	$ 1,150.00	$ 1,150.00
Wet Ball Mill (TEX-116-E)	1	ea	$ 200.00	$ 200.00
Vehicle	20	ea	$ 45.00	$ 900.00
			Sub-Total =	$ 7,751.00
PFLUGER SD1: HMAC TY C PG76-22 (4")	(13,660 SY)			
Tech Time	9	hrs	$ 52.00	$ 468.00
Extraction (Gradation & Asphalt Content)	18	ea	$ 205.00	$ 3,690.00
Voids in Mineral Aggregates (VMA) (Tex-207-F)	18	ea	$ -	$ -
Specimen Molding, Bulk Density, & Stability, 3 per set	18	set	$ 122.00	$ 2,196.00
Maximum Theoretical Specific Gravity (Tex 227-F), Bag	18	ea	$ 45.00	$ 810.00
Hamburg Wheel Tracker (Tex 242-F)	1	ea	$ 500.00	$ 500.00
Obtaining Field-Cut Specimens	18	cores	$ 85.00	$ 1,530.00
Specific Gravity, Bulk (Tex-207-F), In-Place Air Voids	18	cores	$ 22.00	$ 396.00
Vehicle	9	ea	$ 45.00	$ 405.00
			Sub-Total =	$ 9,995.00

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Pfluger Farm Lane Roadway Project
Pflugerville, Texas
Basis for Cost Estimate
Construction Materials Testing

Description	Estimated Costs Quantity	Unit	Cost/Unit	Total
PFLUGER C4: CURB AND GUTTER	**(5,423 LF)**			
Tech Time	30	hrs	$ 52.00	$ 1,560.00
Concrete Cylinder Compressive Strength (Tex-418-A)	24	ea	$ 23.00	$ 552.00
Entrained Air (Tex-416-A or Tex-414-A)	6	ea	$ -	$ -
Vehicle	12	ea	$ 45.00	$ 540.00
			Sub-Total =	$ 2,652.00
PFLUGER C5: SIDEWALK (4")	**(3,022 SY)**			
Tech Time	30	hrs	$ 52.00	$ 1,560.00
Concrete Cylinder Compressive Strength (Tex-418-A)	24	ea	$ 23.00	$ 552.00
Slump (Tex-415-A)	6	ea	$ -	$ -
Entrained Air (Tex-416-A or Tex-414-A)	6	ea	$ -	$ -
Concrete Temperature (Tex-422-A)	6	ea	$ -	$ -
Vehicle	12	ea	$ 45.00	$ 540.00
			Sub-Total =	$ 2,652.00
PFLUGER C8: RC PIPE CL-III, (1,023 LF - 18")(699 LF - 24")(407 LF - 30")(426 LF - 36")(402 LF - 42")				
Tech Time	30	hrs	$ 52.00	$ 1,560.00
Moisture Density Curve (TEX 114-E)	4	ea	$ 230.00	$ 920.00
Atteberg Limits (TEX- 104, 105 & 106-E)	4	ea	$ 65.00	$ 260.00
Sieve Analysis (TEX-110 & 111-E)	4	ea	$ 65.00	$ 260.00
In-Place Densities (Nuclear Gauge Tex-115-E)	40	ea	$ 36.00	$ 1,440.00
Vehicle	15	ea	$ 45.00	$ 675.00
			Sub-Total =	$ 5,115.00
TxDOT ITEM 132: EMBANKMENT TY D	**(276 CY)**			
Tech Time	4	hrs	$ 52.00	$ 208.00
Moisture Density Curve (TEX 114-E)	1	ea	$ 230.00	$ 230.00
Atteberg Limits (TEX- 104, 105 & 106-E)	1	ea	$ 65.00	$ 65.00
Sieve Analysis (TEX-110 & 111-E)	1	ea	$ 65.00	$ 65.00
In-Place Densities (Nuclear Gauge Tex-115-E)	3	ea	$ 36.00	$ 108.00
Vehicle	2	ea	$ 45.00	$ 90.00
			Sub-Total =	$ 766.00
TxDOT ITEM 416: DRILL SHAFT (RDWY ILL POLE) (24")	**(70 LF)**			
Tech Time	10	hrs	$ 52.00	$ 520.00
Concrete Cylinder Compressive Strength (Tex-418-A)	8	ea	$ 23.00	$ 184.00
Slump (Tex-415-A)	2	ea	$ -	$ -
Entrained Air (Tex-416-A or Tex-414-A)	2	ea	$ -	$ -
Concrete Temperature (Tex-422-A)	2	ea	$ -	$ -
Vehicle	4	ea	$ 45.00	$ 180.00
			Sub-Total =	$ 884.00

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Rodriguez Engineering Laboratories, LLC

Pfluger Farm Lane Roadway Project
Pflugerville, Texas
Basis for Cost Estimate
Construction Materials Testing

Description	Quantity	Unit	Cost/Unit	Total
		Estimated Costs		
PFLUGER W3: INSTALL 6" CONCRETE ENCASEMENT		(30 LF)		
Tech Time	5	hrs	$ 52.00	$ 260.00
Concrete Cylinder Compressive Strength (Tex-418-A)	4	ea	$ 23.00	$ 92.00
Slump (Tex-415-A)	1	ea	$ -	$ -
Entrained Air (Tex-416-A or Tex-414-A)	1	ea	$ -	$ -
Concrete Temperature (Tex-422-A)	1	ea	$ -	$ -
Vehicle	2	ea	$ 45.00	$ 90.00
			Sub-Total =	$ 442.00
TxDOT Item 400: CEM STABIL BKFL	(171.8 CY)			
Tech Time	4	hrs	$ 52.00	$ 208.00
Moisture Density Curve (TEX-120-E)	1	ea	$ 230.00	$ 230.00
In-Place Densities (Nuclear Gauge Tex-115-E)	3	ea	$ 36.00	$ 108.00
Vehicle	2	ea	$ 45.00	$ 90.00
			Sub-Total =	$ 636.00
TxDOT Item 416: DRILL SHAFT (36")		(745 LF)		
Tech Time	30	hrs	$ 52.00	$ 1,560.00
Concrete Cylinder Compressive Strength (Tex-418-A)	24	ea	$ 23.00	$ 552.00
Slump (Tex-415-A)	6	ea	$ -	$ -
Entrained Air (Tex-416-A or Tex-414-A)	6	ea	$ -	$ -
Concrete Temperature (Tex-422-A)	6	ea	$ -	$ -
Vehicle	12	ea	$ 45.00	$ 540.00
			Sub-Total =	$ 2,652.00
TxDOT Item 420: CL C CONC (ABUT, CAP, COLUMN, & APPR SLAB)		(70.6 CY, 88.5 CY, 7.9 CY, & 105.9 CY)		
Tech Time	35	hrs	$ 52.00	$ 1,820.00
Concrete Cylinder Compressive Strength (Tex-418-A)	30	ea	$ 23.00	$ 690.00
Slump (Tex-415-A)	7	ea	$ -	$ -
Entrained Air (Tex-416-A or Tex-414-A)	7	ea	$ -	$ -
Concrete Temperature (Tex-422-A)	7	ea	$ -	$ -
Vehicle	14	ea	$ 45.00	$ 630.00
			Sub-Total =	$ 3,140.00
TxDOT Item 422: REINF CONC SLAB		(19,040 SF)		
Tech Time	50	hrs	$ 52.00	$ 2,600.00
Concrete Cylinder Compressive Strength (Tex-418-A)	40	ea	$ 23.00	$ 920.00
Slump (Tex-415-A)	10	ea	$ -	$ -
Entrained Air (Tex-416-A or Tex-414-A)	10	ea	$ -	$ -
Concrete Temperature (Tex-422-A)	10	ea	$ -	$ -
Vehicle	20	ea	$ 45.00	$ 900.00
			Sub-Total =	$ 4,420.00

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Rodriguez Engineering Laboratories, LLC

Pfluger Farm Lane Roadway Project
Pflugerville, Texas
Basis for Cost Estimate
Construction Materials Testing

Description	Estimated Costs Quantity	Unit	Cost/Unit	Total
TxDOT Item 432: RIPRAP (CONC) (CL B)	(54 CY)			
Tech Time	5	hrs	$ 52.00	$ 260.00
Concrete Cylinder Compressive Strength (Tex-418-A)	3	ea	$ 23.00	$ 69.00
Entrained Air (Tex-416-A or Tex-414-A)	1	ea	$ -	$ -
Vehicle	2	ea	$ 45.00	$ 90.00
			Sub-Total =	$ 419.00

Total Estimated Fee = $ 55,159.00

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