

WORK AUTHORIZATION No. 6

WILLIAMSON COUNTY ROAD BOND PROJECT: 22IFB39- CR111 (WESTINGHOUSE RD) & CR110 NORTH

This work authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated April 23, 2020 and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the “County”) and Rodriguez Engineering Laboratories LLC (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 \$168,707.22.

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 June 30, 2024. 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 Feb 1, 2022


ENGINEER:
Rodriguez Engineering Laboratories LLC

By: 
Signature

Jose Melendez, P.E.
Printed Name

Laboratory Engineer
Title

COUNTY:
Williamson County, Texas

By: 
Signature

Bill Gravell
Printed Name

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 - Rate Schedule


1/26/2022

ATTACHMENT B

SERVICES TO BE PROVIDED BY THE ENGINEER

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The following scope of services will be provided as requested by Williamson County (County) or the County's representative. The Engineer, Rodriguez Engineering Laboratories LLC (REL) understands that the County has particular project requirements; therefore, scope of services and qualified staff is assigned to meet the needs defined in those specifications.

Construction Materials Sampling and Testing

REL understands the importance of materials testing of the construction process so that our clients obtain a quality-constructed project that both satisfies the project plans and the specifications. REL will provide construction materials oversight sampling and testing services for the County on an as-needed basis for the 22IFB39-CR111 (WESTINGHOUSE ROAD) AND CR110 NORTH Project; including both laboratory and field testing of soils, base, concrete, and hot-mix materials, using ASTM or TxDOT testing methods. The testing frequency will be based on the current TxDOT Minimum Guide Schedule of Sampling and Testing or as directed by the County's representative. The on-site inspector will be responsible for providing test locations as well as schedule sampling and testing by calling our office at least 24 hours in advance. The testing services may include the following:

Soils and Base Testing:

- Perform soils testing as required by project specifications or as requested by the County for liquid limit, plasticity index, gradation, moisture/density relations, Texas triaxial, wet ball mill, bar linear shrinkage, soil-lime compression, resistivity of soils, organic content, soil pH, pH/lime series, PI/lime series, deleterious materials, sulfate content of soils, in-place density, thickness determination, pulverization gradation, etc.

Hot Mix Asphaltic Concrete Testing:

- Perform asphaltic mixture testing as required by project specifications or as requested by the County for voids in mineral aggregates, lab molded density, maximum theoretical specific gravity, gradation, asphalt content, boil test, indirect tensile strength, moisture content, draindown test, Hamburg wheel-tracking test, overlay test, thickness, in-place air voids, etc.
- Test HMA pavement as required by project specifications or as requested by the County during installation for segregation profile, joint density, thermal profile, ride quality test, etc.
- Test HMA aggregate as required by project specifications or as requested by the County for L.A. abrasion, magnesium sulfate soundness, SAC, micro-deval, sand equivalent, etc. Hveem stability will be tested if needed.
- Review mix design of HMA as requested.

Portland Cement Concrete Testing:

- Perform PCC testing as required by project specifications or as requested by the County for compressive strength, slump, air content, temperature test, etc.

- Perform concrete aggregate testing as required by project specifications or requested by the County for gradation, decantation, deleterious materials, L.A. abrasion, magnesium sulfate soundness, sand equivalent, organic impurities, fineness modulus, acid insoluble residue, etc.
- Review mix design of concrete as requested.

ATTACHMENT C

WORK SCHEDULE

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Rodriguez Engineering Laboratories LLC will provide construction materials oversight testing services for Williamson County (County). These services will be provided as requested by the County or County's representative on an as-needed basis for the County's 22IFB39-CR111 (WESTINGHOUSE ROAD) AND CR110 NORTH Project through June 30, 2024.

**ATTACHMENT D****RATE SCHEDULE****WORK AUTHORIZATION No. 6****CONTRACT: 2019 Road Bond Program "On-Call" Materials Testing & Geotechnical Engineering Services ("Project")****PROJECT NAME: 22IFB39 - CR 111 (Westinghouse Road) and CR 110 North**

Unit Costs	Test Code	Unit	Quantity	Cost	Total Cost
Services To Be Provided					
Item 132-6003 EMBANKMENT (FINAL)(ORD COMP)(TY B)		CY	42,149		
1.1.1 Trip Charge (round-trip from REL Austin)(Vehicle or Mileage is not included)	-	hr	4	\$ 65.61	\$ 262.44
1.1.2 Field Tech Time (on-site only, 2-hour minimum)	-	hr	8	\$ 65.61	\$ 524.88
1.3.7 Moisture Density Relationship Compaction Test	Tex-114-E	ea	1	\$ 300.69	\$ 300.69
1.4.1 Atteberg Limits	Tex-104,105 &106-E	ea	1	\$ 85.29	\$ 85.29
1.4.16 Sieve Analysis	Tex-110-E	ea	1	\$ 85.29	\$ 85.29
1.4.11 Percent Passing No. 200 Sieve	Tex-111-E	ea	1	\$ 55.77	\$ 55.77
1.4.22 Soluble Sulfate Content	Tex-145-E	ea	1	\$ 114.81	\$ 114.81
1.1.3 Field Nuclear Density (In-Place Moisture Content)	Tex-115-E	ea	9	\$ 44.83	\$ 403.47
4.1.1 Vehicle	-	trip	4	\$ 62.33	\$ 249.32
1.6 Report of Soil Test Results (includes clerical, engineering review/seal, etc.)	-	ea	4	\$ 90.76	\$ 363.04
				Subtotal =	\$ 2,445.00
Item 247-6044 FL BS (CMP IN PLC)(TY A GR 4)(FNAL POS)		CY	38,060		
1.1.1 Trip Charge (round-trip from REL Austin)(Vehicle or Mileage is not included)	-	hr	8	\$ 65.61	\$ 524.88
1.1.2 Field Tech Time (on-site only, 2-hour minimum)	-	hr	20	\$ 65.61	\$ 1,312.20
1.3.6 Moisture Density Relationship Compaction Test	Tex-113-E	ea	2	\$ 300.69	\$ 601.38
1.4.1 Atteberg Limits	Tex-104,105 &106-E	ea	8	\$ 85.29	\$ 682.32
1.4.16 Sieve Analysis	Tex-110-E	ea	8	\$ 85.29	\$ 682.32
1.1.3 Field Nuclear Density	Tex-115-E	ea	13	\$ 44.83	\$ 582.79
3.1.6 Thickness Determination	Tex-140-E	ea	13	\$ 21.87	\$ 284.31
1.4.14 Sample Preparation	Tex-101-E	ea	2	\$ 82.01	\$ 164.02
1.5.1 TxDOT Triaxial	Tex-117-E	ea	2	\$ 1,525.34	\$ 3,050.68
1.5.7 Wet Ball Mill	Tex-116-E	ea	2	\$ 264.61	\$ 529.22
4.1.1 Vehicle	-	trip	8	\$ 62.33	\$ 498.64
1.6 Report of Soil Test Results (includes clerical, engineering review/seal, etc.)	-	ea	8	\$ 90.76	\$ 726.08
				Subtotal =	\$ 9,638.84
Item 260-6073 LIME TRT (SUBGRADE) (8")		SY	115,225		
1.1.1 Trip Charge (round-trip from REL Austin)(Vehicle or Mileage is not included)	-	hr	18	\$ 65.61	\$ 1,180.98
1.1.2 Field Tech Time (on-site only, 2-hour minimum)	-	hr	36	\$ 65.61	\$ 2,361.96
1.3.6 Moisture Density Relationship Compaction Test	Tex-113-E	ea	3	\$ 300.69	\$ 902.07
1.4.1 Atteberg Limits	Tex-104,105 &106-E	ea	3	\$ 85.29	\$ 255.87
1.1.3 Field Nuclear Density	Tex-115-E	ea	39	\$ 44.83	\$ 1,748.37
1.4.6 Field Gradation of Lime Soil	Tex-101-E, Part III	ea	13	\$ 24.06	\$ 312.78
1.4.10 Organic Content	Tex-148-E	ea	4	\$ 202.29	\$ 809.16
1.4.21 Stabilization Ability of Lime by Soil pH	Tex-121-E, Part III	ea	3	\$ 303.98	\$ 911.94
1.4.16 Sieve Analysis	Tex-110-E	ea	3	\$ 85.29	\$ 255.87
1.4.22 Soluble Sulfate Content (Tex-145-E)	Tex-145-E	ea	29	\$ 114.81	\$ 3,329.49
3.1.6 Thickness Determination	Tex-140-E	ea	39	\$ 21.87	\$ 852.93
4.1.1 Vehicle	-	trip	18	\$ 62.33	\$ 1,121.94
1.6 Report of Soil Test Results (includes clerical, engineering review/seal, etc.)	-	ea	18	\$ 90.76	\$ 1,633.68
				Subtotal =	\$ 15,677.04
Item 341 6008 D-GR HMA TY-B PG64-22		TON	25,840		
Testing of aggregate is not anticipated if material as listed on the current BRSQC and meets project specifications.					
3.1.1 Trip Charge (round-trip from REL Austin)(Vehicle or Mileage is not included)	-	hr	26	\$ 65.61	\$ 1,705.86
3.1.3 Field Tech Time (on-site only, 2-hour minimum)	-	hr	52	\$ 65.61	\$ 3,411.72
2.3.15 Sand Equivalent	Tex-203-F	ea	1	\$ 103.88	\$ 103.88
3.2.1.Asphalt Content by Extraction	Tex-210-F	ea	52	\$ 183.70	\$ 9,552.40
3.2.7 Gradation of Aggregate from Extraction or Ignition	Tex-200-F	ea	52	\$ 85.29	\$ 4,435.08
Voids in Mineral Aggregates (VMA)	Tex-207-F	ea	104	\$ -	\$ -
3.2.17 Specimen Molding by SGC, 2 per set	Tex-241-F	ea	104	\$ 92.94	\$ 9,665.76
3.2.4 Bulk Density of Compacted Specimens, 2 per set	Tex-207-F	ea	104	\$ 67.79	\$ 7,050.16
3.2.12.1 Maximum Theoretical Specific Gravity, Bag	Tex-227-F	ea	104	\$ 61.23	\$ 6,367.92
3.2.8 Hamburg Wheel Tracker	Tex-242-F	ea	1	\$ 618.88	\$ 618.88
3.2.3 Boiling Stripping Test	Tex-530-F	ea	1	\$ 120.28	\$ 120.28
3.2.11 Indirect Tensile Strength	Tex-226-F	ea	1	\$ 79.82	\$ 79.82
3.2.17 Specimen Molding by SGC, 2 per set, Hamburg & IDT	Tex-241-F	ea	3	\$ 92.94	\$ 278.82
3.3.3.1 Obtaining Field-Cut Specimens	-	ea	208	\$ 107.16	\$ 22,289.28
3.2.14 Bulk Density of Core Specimens	Tex-207-F Part I	ea	208	\$ 29.52	\$ 6,140.16
4.1.1 Vehicle	-	day	26	\$ 62.33	\$ 1,620.58
3.5 Report of Asphalt Test Results (includes clerical, engineering review/seal, etc.)	-	ea	26	\$ 90.76	\$ 2,359.76
				Subtotal =	\$ 75,800.36
Item 341 6042 D-GR HMA TY-D SAC-B PG70-22		TON	12,049		
Testing of aggregate is not anticipated if material as listed on the current BRSQC and meets project specifications.					
3.1.1 Trip Charge (round-trip from REL Austin)(Vehicle or Mileage is not included)	-	hr	12	\$ 65.61	\$ 787.32
3.1.3 Field Tech Time (on-site only, 2-hour minimum)	-	hr	24	\$ 65.61	\$ 1,574.64
2.3.15 Sand Equivalent	Tex-203-F	ea	1	\$ 103.88	\$ 103.88
3.2.1.Asphalt Content by Extraction	Tex-210-F	ea	24	\$ 183.70	\$ 4,408.80
3.2.7 Gradation of Aggregate from Extraction or Ignition	Tex-200-F	ea	24	\$ 85.29	\$ 2,046.96
Voids in Mineral Aggregates (VMA)	Tex-207-F	ea	48	\$ -	\$ -
3.2.17 Specimen Molding by SGC, 2 per set	Tex-241-F	ea	48	\$ 92.94	\$ 4,461.12
3.2.4 Bulk Density of Compacted Specimens, 2 per set	Tex-207-F	ea	48	\$ 67.79	\$ 3,253.92
3.2.12.1 Maximum Theoretical Specific Gravity, Bag	Tex-227-F	ea	48	\$ 61.23	\$ 2,939.04



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3.2.8 Hamburg Wheel Tracker	Tex-242-F	ea	1	\$ 618.88	\$ 618.88
3.2.3 Boiling Stripping Test	Tex-530-F	ea	1	\$ 120.28	\$ 120.28
3.2.11 Indirect Tensile Strength	Tex-226-F	ea	1	\$ 79.82	\$ 79.82
3.2.17 Specimen Molding by SGC, 2 per set, Hamburg & IDT	Tex-241-F	ea	3	\$ 92.94	\$ 278.82
3.3.3.1 Obtaining Field-Cut Specimens	-	ea	96	\$ 107.16	\$ 10,287.36
3.2.14 Bulk Density of Core Specimens	Tex-207-F Part I	ea	96	\$ 29.52	\$ 2,833.92
4.1.1 Vehicle	-	day	12	\$ 62.33	\$ 747.96
3.5 Report of Asphalt Test Results (includes clerical, engineering review/seal, etc.)	-	ea	12	\$ 90.76	\$ 1,089.12
				Subtotal =	\$ 35,631.84
Item 432-6002 RIPRAP (CONC)(5 IN)		CY	888		
Item 432 6003 RIPRAP (CONC)(6 IN W/ 6 X 6 X #6 WELDED WIRE)		CY	46		
Item 432 6045 RIPRAP (MOW STRIP)(4 IN)		CY	40		
2.1.1 Trip Charge (round-trip from REL Austin)(Vehicle or Mileage is not included)	-	Per hr	8	\$ 65.61	\$ 524.88
2.1.2 Field Tech Time (on-site only, 2-hour minimum)	-	Per hr	12	\$ 65.61	\$ 787.32
2.1.3 Cylinder Charge	-	Per ea	16	\$ 31.71	\$ 507.36
Slump	Tex-415-A	Per ea	4	\$ -	\$ -
Entrained Air	Tex-416-A	Per hr	4	\$ -	\$ -
Concrete Temperature	Tex-422-A	Per ea	4	\$ -	\$ -
4.1 Vehicle (Includes cylinder pick-up)	-	Per trip	8	\$ 62.33	\$ 498.64
2.4 Report of Concrete Test Results (Includes clerical, engineering review/seal, etc.)	-	Per ea	8	\$ 90.76	\$ 726.08
				Subtotal =	\$ 3,044.28
Item 464 6003 RC PIPE (CL III)(18 IN)		LF	4409		
Item 464 6005 RC PIPE (CL III)(24 IN)		LF	2125		
Item 464 6007 RC PIPE (CL III)(30 IN)		LF	3095		
Item 464 6008 RC PIPE (CL III)(36 IN)		LF	1439		
Item 464 6009 RC PIPE (CL III)(42 IN)		LF	174		
1.1.1 Trip Charge (round-trip from REL Austin)(Vehicle or Mileage is not included)	-	hr	12	\$ 65.61	\$ 787.32
1.1.2 Field Tech Time (on-site only, 2-hour minimum)	-	hr	24	\$ 65.61	\$ 1,574.64
1.3.7 Moisture Density Relationship Compaction Test	Tex-114-E	ea	5	\$ 300.69	\$ 1,503.45
1.4.1 Atterberg Limits	Tex-104,105 &106-E	ea	5	\$ 85.29	\$ 426.45
1.4.16 Sieve Analysis	Tex-110-E	ea	5	\$ 85.29	\$ 426.45
1.1.3 Field Nuclear Density (In-Place Moisture Content)	Tex-115-E	ea	38	\$ 44.83	\$ 1,703.54
4.1.1 Vehicle	-	day	12	\$ 62.33	\$ 747.96
1.6 Report of Soil Test Results (includes clerical, engineering review/seal, etc.)	-	ea	12	\$ 90.76	\$ 1,089.12
				Subtotal =	\$ 8,258.93
Item 466 6003 HEADWALL (CH-FW-0) (DIA=18 IN)		EA	3		
Item 466 6007 HEADWALL (CH-FW-0) (DIA=30 IN)		EA	1		
Item 466 6009 HEADWALL (CH-FW-0) (DIA=36 IN)		EA	1		
Item 466 6010 HEADWALL (CH-FW-0) (DIA=42 IN)		EA	2		
Item 466 6022 HEADWALL (CH-FW-15) (DIA=30 IN)		EA	2		
Item 466 6054 HEADWALL (CH-FW-45) (DIA=36 IN)		EA	1		
Item 466 6132 HEADWALL (CH-PW-S) (DIA=30 IN)		EA	1		
Item 466 6134 HEADWALL (CH-PW-S) (DIA=36 IN)		EA	1		
Item 466 6165 WINGWALL (FW-S) (HW=4FT)		EA	3		
Item 466 6179 WINGWALL (PW-1) (HW=4FT)		EA	5		
Item 466 6207 WINGWALL (SW-0) (HW=4FT)		EA	3		
2.1.1 Trip Charge (round-trip from REL Austin)(Vehicle or Mileage is not included)	-	Per hr	12	\$ 65.61	\$ 787.32
2.1.2 Field Tech Time (on-site only, 2-hour minimum)	-	Per hr	18	\$ 65.61	\$ 1,180.98
2.1.3 Cylinder Charge	-	Per ea	24	\$ 31.71	\$ 761.04
Slump	Tex-415-A	Per ea	6	\$ -	\$ -
Entrained Air	Tex-416-A	Per hr	6	\$ -	\$ -
Concrete Temperature	Tex-422-A	Per ea	6	\$ -	\$ -
4.1 Vehicle (Includes cylinder pick-up)	-	Per trip	12	\$ 62.33	\$ 747.96
2.4 Report of Concrete Test Results (Includes clerical, engineering review/seal, etc.)	-	Per ea	12	\$ 90.76	\$ 1,089.12
				Subtotal =	\$ 4,566.42
Item 467 6014 SET (TY I)(36 IN)(3:1)(C)		EA	1		
Item 467 6356 SET (TY II)(18 IN)(RCP)(3:1)(C)		EA	2		
Item 467 6357 SET (TY II)(18 IN)(RCP)(3:1)(P)		EA	1		
Item 467 6363 SET (TY II)(18 IN)(RCP)(6:1)(P)		EA	40		
Item 467 6395 SET (TY II)(24 IN)(RCP)(6:1)(P)		EA	32		
Item 467 6422 SET (TY II)(30 IN)(RCP)(6:1)(C)		EA	1		
Item 467 6423 SET (TY II)(30 IN)(RCP)(6:1)(P)		EA	13		
Item 467 6454 SET (TY II)(36 IN)(RCP)(6:1)(P)		EA	10		
2.1.1 Trip Charge (round-trip from REL Austin)(Vehicle or Mileage is not included)	-	Per hr	20	\$ 65.61	\$ 1,312.20
2.1.2 Field Tech Time (on-site only, 2-hour minimum)	-	Per hr	30	\$ 65.61	\$ 1,968.30
2.1.3 Cylinder Charge	-	Per ea	40	\$ 31.71	\$ 1,268.40
Slump	Tex-415-A	Per ea	10	\$ -	\$ -
Entrained Air	Tex-416-A	Per hr	10	\$ -	\$ -
Concrete Temperature	Tex-422-A	Per ea	10	\$ -	\$ -
4.1 Vehicle (Includes cylinder pick-up)	-	Per trip	20	\$ 62.33	\$ 1,246.60
2.4 Report of Concrete Test Results (Includes clerical, engineering review/seal, etc.)	-	Per ea	20	\$ 90.76	\$ 1,815.20
				Subtotal =	\$ 7,610.70
Item 529 6008 CONC CURB & GUTTER (TY II)		LF	24461		
Item 529 6038 CONC CURB (RIBBON)		LF	616		
2.1.1 Trip Charge (round-trip from REL Austin)(Vehicle or Mileage is not included)	-	Per hr	6	\$ 65.61	\$ 393.66
2.1.2 Field Tech Time (on-site only, 2-hour minimum)	-	Per hr	9	\$ 65.61	\$ 590.49
2.1.3 Cylinder Charge	-	Per ea	12	\$ 31.71	\$ 380.52



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Slump	Tex-415-A	Per ea	3	\$ -	\$ -
Entrained Air	Tex-416-A	Per hr	3	\$ -	\$ -
Concrete Temperature	Tex-422-A	Per ea	3	\$ -	\$ -
4.1 Vehicle (Includes cylinder pick-up)	-	Per trip	6	\$ 62.33	\$ 373.98
2.4 Report of Concrete Test Results (Includes clerical, engineering review/seal, etc.)	-	Per ea	6	\$ 90.76	\$ 544.56
				Subtotal =	\$ 2,283.21
Item 530 6005 DRIVEWAYS (ACP)		SY	4242		
Testing of aggregate is not anticipated if material as listed on the current BRSQC and meets project specifications.					
3.1.1 Trip Charge (round-trip from REL Austin)(Vehicle or Mileage is not included)	-	hr	2	\$ 65.61	\$ 131.22
3.1.3 Field Tech Time (on-site only, 2-hour minimum)	-	hr	4	\$ 65.61	\$ 262.44
3.2.1 Asphalt Content by Extraction	Tex-210-F	ea	2	\$ 183.70	\$ 367.40
3.2.7 Gradation of Aggregate from Extraction or Ignition	Tex-200-F	ea	2	\$ 85.29	\$ 170.58
Voids in Mineral Aggregates (VMA)	Tex-207-F	ea	2	\$ -	\$ -
3.2.17 Specimen Molding by SGC, 2 per set	Tex-241-F	ea	2	\$ 92.94	\$ 185.88
3.2.4 Bulk Density of Compacted Specimens, 2 per set	Tex-207-F	ea	2	\$ 67.79	\$ 135.58
3.2.12.1 Maximum Theoretical Specific Gravity, Bag	Tex-227-F	ea	2	\$ 61.23	\$ 122.46
3.3.3.1 Obtaining Field-Cut Specimens	-	ea	4	\$ 107.16	\$ 428.64
3.2.14 Bulk Density of Core Specimens	Tex-207-F Part I	ea	4	\$ 29.52	\$ 118.08
4.1.1 Vehicle	-	day	2	\$ 62.33	\$ 124.66
3.5 Report of Asphalt Test Results (includes clerical, engineering review/seal, etc.)	-	ea	2	\$ 90.76	\$ 181.52
				Subtotal =	\$ 2,228.46
Item 531 6001 CONC SIDEWALK (4")		SY	5		
Item 531 6010 CURB RAMPS (TY 7)		EA	675		
2.1.1 Trip Charge (round-trip from REL Austin)(Vehicle or Mileage is not included)	-	Per hr	4	\$ 65.61	\$ 262.44
2.1.2 Field Tech Time (on-site only, 2-hour minimum)	-	Per hr	6	\$ 65.61	\$ 393.66
2.1.3 Cylinder Charge	-	Per ea	8	\$ 31.71	\$ 253.68
Slump	Tex-415-A	Per ea	2	\$ -	\$ -
Entrained Air	Tex-416-A	Per hr	2	\$ -	\$ -
Concrete Temperature	Tex-422-A	Per ea	2	\$ -	\$ -
4.1 Vehicle (Includes cylinder pick-up)	-	Per trip	4	\$ 62.33	\$ 249.32
2.4 Report of Concrete Test Results (Includes clerical, engineering review/seal, etc.)	-	Per ea	4	\$ 90.76	\$ 363.04
				Subtotal =	\$ 1,522.14
TOTAL ESTIMATED FEE =					\$ 168,707.22

NOTE: The above cost estimate for materials oversight testing is based on the current TxDOT Minimum Guide Schedule of Sampling and Testing or as directed by the County's representative. The on-site inspector will be responsible for providing test locations as well as schedule sampling and testing by calling our office at least 24 hours in advance. Only actual tests performed will be charged. Minimum call-out charge for technicians and equipment is 2 hours. Charges are accrued portal to portal. Trip charge refers to the labor for the engineering technician to drive to site, this is charged hourly. Vehicle charges refer to cost of vehicle associated with the trip. Any additional testing will be charged using the approved fee schedule.

EXHIBIT D**RATE SCHEDULE**

CONSTRUCTION MATERIALS TESTING SERVICES				
Consultant Name: RODRIGUEZ ENGINEERING LABORATORIES LLC			UNIT	RATES
1. Testing of Soils and Base Materials				
1.1 Field Soil Density				
	1.1.1	Trip Charge (round-trip from REL Austin) (Vehicle or Mileage is not Included)	Per hr	\$65.61
	1.1.2	Field Tech Time (on-site only, 2-hour minimum)	Per hr	\$65.61
	1.1.3	Field Nuclear Density Test	Per ea	\$44.83
	1.1.4	Field Density by Sand Cone Method (ASTM D1556)	Per ea	\$60.14
1.2 Bulk Sample Pick-Up				
	1.2.1	Trip Charge (round-trip from REL Austin) (Vehicle or Mileage is not Included)	Per hr	\$65.61
1.3 Laboratory Moisture Density Relationship				
	1.3.1	Trip Charge (round-trip from REL Austin) (Vehicle or Mileage is not Included)	Per hr	\$65.61
	1.3.2	Field Tech Time (on-site only, 2-hour minimum)	Per hr	\$65.61
	1.3.3	Moisture Density Relationship of Soil-Cement (ASTM D 558)	Per ea	\$300.69
	1.3.4	Moisture Density Relationship (ASTM D 698) Standard Proctor Compaction Test	Per ea	\$300.69
	1.3.5	Moisture Density Relationship (ASTM D 1557) (Modified Proctor Compaction Test)	Per ea	\$300.69
	1.3.6	Moisture Density Relationship (TEX-113-E) Compaction Test	Per ea	\$300.69
	1.3.7	Moisture Density Relationship (TEX-114-E, Part I) Compaction Test	Per ea	\$300.69
	1.3.8	Moisture Density Relationship (TEX-114-E, Part II) Compaction Test	Per ea	\$336.78
1.4 Laboratory Testing of Soils				
	1.4.1	Atterberg Limits (Liquid and Plastic Limits) (TEX-104-E, TEX-105-E, TEX-106-E)	Per ea	\$85.29
	1.4.2	Bar Linear Shrinkage of Soils (TEX-107-E)	Per ea	\$72.17
	1.4.3	CBR of Laboratory-Compacted Soils (ASTM D1883)	Per ea	\$541.25
		1.4.3.1 Each Additional Point	Per ea	\$180.42
	1.4.4	Depth Check (Tex-140-E)	Per ea	\$21.87
	1.4.5	Dry Unit Weight Test of Soils	Per ea	\$41.55
	1.4.6	Field Gradation of Lime Soil (1.75, 0.75, No 4 Sieve) (in addition to hourly charge)	Per point	\$24.06
	1.4.7	Hydrometer Analysis (ASTM D422), (mechanical sieve analysis is not included)	Per ea	\$126.84
	1.4.8	Lime Series Curve (ASTM D 4318)	Per point	\$111.53
	1.4.9	Natural Moisture Content	Per ea	\$24.60
	1.4.10	Organic Content of Soils (Tex-148-E)	Per ea	\$202.29
	1.4.11	Percent Passing No. 200 Sieve (TEX-111-E)	Per ea	\$55.77
	1.4.12	PVR (Tex-124-E), testing is not included	Per ea	\$124.65
	1.4.13	Resistivity of Soils (TEX-129-E)	Per ea	\$119.18
	1.4.14	Sample Preparation (TEX-101-E)	Per ea	\$82.01
	1.4.15	Sample Remolding	Per hr	\$65.61
	1.4.16	Sieve Analysis (TEX-110-E)	Per ea	\$85.29
	1.4.17	Shrinkage (Volumetric) (ASTM D427, ASTM D4943)	Per ea	\$88.57
	1.4.18	Soil Cement or Lime Compression Test (TEX-120-E, TEX-121-E)	Per ea	\$89.66
	1.4.19	Soil pH (Tex-128-E)	Per ea	\$71.07
	1.4.20	Soil Specific Gravity (TEX-108-E)	Per ea	\$80.91
	1.4.21	Stabilization Ability of Lime by Soil PH (TEX-121-E Part III) up to 6 points	Per ea	\$303.98
	1.4.22	Sulfate Content (Tex-145-E)	Per ea	\$114.81
	1.4.23	Texture Depth by Sand Patch (Tex-436-A)	Per ea	\$71.07
	1.4.24	Unconfined Compression Test - Cohesive Soils (ASTM D2166)	Per ea	\$63.42
	1.4.25	Unconfined Compression Test - Rock (ASTM D2938)	Per ea	\$88.57
1.5 Texas Triaxial Compression Test on Base Material TEX-117E, Part II, including the following:				
	1.5.1	Molding, Curing, and Testing 9 Specimens	Per ea	\$1,525.34
	1.5.2	Atterberg Limits (Liquid and Plastic Limits) (TEX-104-E, TEX-105-E, TEX-106-E)	Per ea	\$85.29
	1.5.3	Bar Linear Shrinkage of Soils (TEX-107-E)	Per ea	\$72.17
	1.5.4	Percent Passing No. 200 Sieve (TEX-111-E)	Per ea	\$55.77

EXHIBIT D

RATE SCHEDULE

CONSTRUCTION MATERIALS TESTING SERVICES				
Consultant Name: RODRIGUEZ ENGINEERING LABORATORIES LLC			UNIT	RATES
	1.5.5	Sample Preparation (TEX-101-E)	Per ea	\$82.01
	1.5.6	Sieve Analysis (TEX-110-E)	Per ea	\$85.29
	1.5.7	Wet Ball Mill (TEX-116-E)	Per ea	\$264.61
	1.6	Report of Soil Test Results (includes clerical, engineering review/seal, etc.)	Per ea	\$90.76
2. Testing of Concrete and Aggregates				
2.1 Concrete Cylinder				
	2.1.1	Trip Charge (round-trip from REL Austin) (Vehicle or Mileage is not Included)	Per hr	\$65.61
	2.1.2	Field Tech Time (on-site only, 2-hour minimum)	Per hr	\$65.61
	2.1.3	Cylinder Charge (per each)	Per ea	\$31.71
2.2 Concrete Coring				
	2.2.1	Trip Charge (round-trip from REL Austin) (Vehicle or Mileage is not Included)	Per hr	\$65.61
	2.2.2	Field Tech Time (on-site only, 2-hour minimum)	Per hr	\$65.61
	2.2.3	Concrete Coring Equipment Charge	Per hr	\$45.92
	2.2.4	Core Bit Surcharge (in addition to base equipment charge)		
		2.2.4.1 - 3-inch diameter core	Per inch	\$5.47
		2.2.4.2 - 4-inch diameter core	Per inch	\$7.11
		2.2.4.3 - 6-inch diameter core	Per inch	\$9.35
	2.2.5	Concrete Core Strength Testing, Includes Core Curing and Preparation	Per ea	\$78.73
2.3 Laboratory Testing of Concrete and Aggregates				
	2.3.1	Abrasion Test (TEX-410-A)	Per ea	\$289.76
	2.3.2	Absorption of Aggregate	Per ea	\$43.74
	2.3.3	Aggregate Gradation Analysis (TEX-200-F)	Per ea	\$85.29
	2.3.4	Beam Flexural Strength (TEX 448-A)	Per ea	\$47.02
	2.3.5	Coarse Aggregate Angularity	Per ea	\$89.66
	2.3.6	Crushed Face Count (TEX-460-A)	Per ea	\$90.76
	2.3.7	Decantation (Tex-406-E)	Per ea	\$40.46
	2.3.8	Deleterious Materials (Clay Lumps/Friable Part I) Mineral Aggregate (Tex-413-A)	Per ea	\$79.82
	2.3.9	Fine Aggregate Angularity	Per ea	\$89.66
	2.3.10	Fineness Modulus of Fine Aggregate (Tex-402-A)	Per ea	\$49.20
	2.3.11	Flat, Elongated Particles (ASTM D4791)	Per ea	\$89.66
	2.3.12	Micro Deval Abrasion (TEX-461-A)	Per ea	\$267.89
	2.3.13	Organic Impurities in Fine Aggregate (Tex-408-A)	Per ea	\$61.23
	2.3.14	Pavement Thickness by Direct Measurement (Tex-423-A)	Per ea	\$32.80
	2.3.15	Sand Equivalent (Clay Content) (Tex-203-F)	Per ea	\$103.88
	2.3.16	Sieve Analysis of Fine and Coarse Aggregate (Tex-401-A)	Per ea	\$85.29
	2.3.17	Soundness, Sodium, or Magnesium (ASTM C88, Tex-411-A)	Per ea	\$426.44
	2.3.18	Specific Gravity of Aggregate	Per ea	\$65.61
	2.3.19	Splitting Tensile Strength of Cylindrical Concrete Specimen (ASTM C496)	Per ea	\$47.02
	2.3.20	Thickness of Concrete Cylinders or CTB Cores (ASTM C174)	Per ea	\$21.87
	2.3.21	Unit Weight of Aggregate	Per ea	\$43.74
	2.3.22	Unit weight of Concrete Specimens by Measurements	Per ea	\$16.40
	2.4	Report of Concrete Test Results (includes clerical, engineering review/seal, etc.)	Per ea	\$90.76
3. Testing of HMAc and Liquid Asphalt				
3.1 HMAc Field Testing and Sample Pick-up				
	3.1.1	Trip Charge (round-trip from REL Austin) (Vehicle or Mileage is not Included)	Per hr	\$65.61
	3.1.2	Trip Charge (round-trip from REL Austin) (Vehicle or Mileage is not Included)	Per hr	\$65.61
	3.1.3	Field Tech Time (on-site only, 2-hour minimum)	Per hr	\$65.61
	3.1.4	Longitudinal Joint Density with Density Gauge (Tex-207-F, VII) (Plus Tech time)	Per ea	\$85.29

EXHIBIT D

RATE SCHEDULE

CONSTRUCTION MATERIALS TESTING SERVICES				
Consultant Name: RODRIGUEZ ENGINEERING LABORATORIES LLC			UNIT	RATES
	3.1.5	Mat Segregation with Density Gauge (Tex-207-F, Part V) (Plus Tech time)	Per ea	\$85.29
	3.1.6	Pavement Thickness Determination (Tex-140-E)(Plus Tech time)	Per ea	\$21.87
	3.1.7	Thermal Profile (Tex-244-F)(Plus Tech time)	Per ea	\$191.35
	3.2 Laboratory Testing of HMA			
	3.2.1	Asphalt Content by Extraction (TEX-210-F, T164)	Per ea	\$183.70
	3.2.2	Asphalt Content by Ignition Method (Tex-236-F)	Per ea	\$196.82
	3.2.3	Boiling Stripping Test (TEX-530-C)	Per ea	\$120.28
	3.2.4	Bulk Density of Compacted Specimens (TEX-207-F, Part I) (2 or 3 per set)	Per ea	\$67.79
	3.2.5	Cantabro Loss (TEX-245-F) (Molding is not included)	Per ea	\$122.46
	3.2.6	Extraction (Gradation & Asphalt Content) (Tex-200-F, Tex-210-F, D2172, T164)	Per ea	\$159.64
	3.2.7	Gradation of Aggregate from Extraction or Ignition (TEX-200-F)	Per ea	\$85.29
	3.2.8	Hamburg Wheel Tracker (TEX-242-F) (Includes Molding)	Per ea	\$618.88
	3.2.9	Hamburg Wheel Tracker (TEX-242-F) (Molded by Client)	Per ea	\$431.91
	3.2.10	Hveem Stability (TEX-208-F) (3 per set)	Per ea	\$67.79
	3.2.11	Indirect Tensile Strength (TEX-226-F) (Molding is not included)	Per ea	\$79.82
	3.2.12	Maximum Theoretical Specific Gravity, Rice Method (Tex 227-F)		
		3.2.12.1 - Bag Sample	Per ea	\$61.23
		3.2.12.2 - Core Sample	Per ea	\$72.17
	3.2.13	Sand Equivalent (Clay Content) (Tex-203-F)	Per ea	\$103.88
	3.2.14	Specific Gravity, Bulk Core	Per ea	\$29.52
	3.2.15	Specific Gravity, Bulk Core (Vacuum Method)	Per ea	\$67.79
	3.2.16	Specimen Molding, Bulk Density, and Stability (3 per set) (Tex-206-F, 207-F, 208-F)	Per ea	\$203.38
	3.2.17	Specimen Molding by SGC (TEX-241-F) (2 per set)	Per ea	\$92.94
	3.2.18	Specimen Molding by TGC (TEX-206-F) (3 per set)	Per ea	\$67.79
	3.2.19	Thickness of HMA cores by Direct Measurement	Per ea	\$14.21
	3.3 HMA Coring			
	3.3.1	Trip Charge (round-trip from REL Austin) (Vehicle or Mileage is not Included)	Per hr	\$65.61
	3.3.2	Field Tech time (on-site only, 2-hour minimum)	Per hr	\$65.61
	3.3.3	Core, per inch thickness		
		3.3.3.1 - 0"-6" depth @ 6"Ø (includes patching and sample prep.)	Per ea	\$107.16
		3.3.3.2 - > 6"-10" depth @ 6"Ø (includes patching and sample prep.)	Per ea	\$118.64
		3.3.3.3 - > 10"-14" depth @ 6"Ø (includes patching and sample prep.)	Per ea	\$153.08
		3.3.3.4 - >14" depth @ 6"Ø (includes patching and sample prep.)	Per ea	\$153.08
		3.3.3.5 - Per inch beyond 14" depth @ 6"Ø (includes patching and sample prep.)	Per inch	\$6.56
	3.4 Laboratory Testing of Liquid Asphalt and Emulsions			
	3.4.1	Asphalt Recovery (Extraction using Solvent is not Included)	Per ea	\$262.42
	3.4.2	Breaking Index (Asphalt Emulsions)	Per ea	\$102.78
	3.4.3	Cement Mix	Per ea	\$77.63
	3.4.4	Demulsibility (Anionic or Cationic Emulsions)	Per ea	\$77.63
	3.4.5	Density of Emulsified Asphalt	Per ea	\$77.63
	3.4.6	Ductility of Bituminous Materials	Per ea	\$110.44
	3.4.7	Elastic Recovery Test	Per ea	\$89.66
	3.4.8	Float Test For Bituminous Materials	Per ea	\$89.66
	3.4.9	Kinematic Viscosity of Cut-Back Asphalt	Per ea	\$110.44
	3.4.10	Penetration of Bituminous Materials	Per ea	\$68.89
	3.4.11	Residue by Distillation (Cutback or Emulsified Asphalts)	Per ea	\$161.83
	3.4.12	Residue by Evaporation	Per ea	\$161.83
	3.4.13	Saybolt Viscosity of Emulsified Asphalt at 25°C (77°F)	Per ea	\$68.89
	3.4.14	Saybolt Viscosity of Emulsified Asphalt at 50°C (122°F)	Per ea	\$68.89
	3.4.15	Sieve Test of Emulsified Asphalt	Per ea	\$48.11
	3.4.16	Softening Point of Bitumen (Ring-and-Ball)	Per ea	\$110.44

EXHIBIT D**RATE SCHEDULE**

CONSTRUCTION MATERIALS TESTING SERVICES				
Consultant Name: RODRIGUEZ ENGINEERING LABORATORIES LLC			UNIT	RATES
	3.4.17	Storage Stability (24 Hrs)	Per ea	\$120.28
	3.4.18	Specific Gravity of Emulsified Asphalt	Per ea	\$74.35
	3.5	Report of Asphalt Test Results (includes clerical, engineering review/seal, etc.)	Per ea	\$90.76
4. Field Testing Equipment				
	4.1	Vehicle		
	4.1.1	Within City of Austin ETJ, within 50 miles (one-way) from REL	Per trip	\$62.33
	4.2	Falling Heavy Weight Deflectometer (FWD) Testing		
	4.2.1	FWD Field Data Collection (Equipment and Operator)(8 hr/day maximum)	Per day	\$2,700.00
	4.2.2	FWD Equipment (Mobilization/Demobilization)	Per ea	\$225.00
	4.2.3	FWD Operator (Mobilization/Demobilization)	Per hr	\$94.04
	4.3	High Speed Inertial Profiler (IRI) Testing		
	4.3.1	IRI Field Data Collection (Equipment Only)(8 hr/day maximum)	Per day	\$400.00
	4.3.2	IRI Equipment (Mobilization/Demobilization) (within 50 miles from REL)	Per trip	\$62.33
	4.3.3	IRI Operator (Portal-to-Portal from REL)(4 hr minimum)	Per hr	\$82.01
5. Engineering Consultation				
	5.1	Principal	Per hr	\$252.58
	5.2	Project Manager/Professional Engineer	Per hr	\$161.83
	5.3	Project Engineer	Per hr	\$125.75
	5.4	Graduate Engineer	Per hr	\$94.04
	5.5	Senior Engineering Technician	Per hr	\$82.01
	5.6	Engineering Technician (Asphalt, Concrete, Soils, etc.)	Per hr	\$65.61
	5.7	Clerical	Per hr	\$52.48

NOTES:

1. Minimum call-out charge for technician and equipment is 2 hours. Charges are accrued portal to portal.
2. The density test unit rate is based on a minimum of 3 tests per trip.
3. 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.
4. Subconsultants' fees shall be approved previous to work beginning.
5. Trip charge refers to the labor for the Engineering Technician to drive to site. This is charged hourly. Vehicle charges refer to cost of vehicle associated with the trip.