

**HIDALGO COUNTY**  
**Professional Engineering Services**  
**Contract # C-18-164-11-20**  
**Work Authorization Form**

**WORK AUTHORIZATION NO. 1**

**THIS WORK AUTHORIZATION** is made pursuant to the terms and conditions of **Article 7** of the Agreement made by and between **HIDALGO COUNTY**, action herein by and through the **Commissioner's Court**, hereinafter called the "**Owner**," and, **B2Z Engineering, LLC**, professional engineers of Mission, Texas, hereinafter called "**Engineer**".

**PART 1. SCOPE OF WORK**

The purpose of this Work Authorization is for the **Engineer** to provide Construction Contract Administration, Construction Management & Inspection, Construction Materials Testing and Miscellaneous Technical Activities needed for the Regional Linear Park Project ~ Phase II.

The scope of services to be provided by the **Owner** is identified in **EXHIBIT "A" – Scope of Services to be provided by the Owner** attached hereto.

The scope of services to be provided by the **Engineer** is identified in **EXHIBIT "B" – Scope of Services to be provided by the Engineer** attached hereto.

**PART 2. ESTIMATED COST**

The estimated cost for services under this Work Authorization is **\$838,031.56**. This amount is based upon the costs outlined in the Estimated **Cost Proposal** attached hereto as **EXHIBIT "D" Fee Schedule**.

**PART 3. PAYMENT**

Compensation and payment to the **Engineer** for the services established under this Work Authorization shall be made in accordance with **Article 6** of the Agreement.

**PART 4. FUNDING**

This Work Authorization No.1 shall be funded through funding source:

Account No. \_\_\_\_\_

Requisition Number \_\_\_\_\_ **(MUST BE INCLUDED AFTER CC APPROVAL)**

**PART 5. PERIOD OF SERVICE**

This Work Authorization shall become effective on the date of final acceptance of the parties hereto and terminate upon completion of scopes of the work authorization.

**PART 6. RESPONSIBILITIES AND OBLIGATIONS**

This Authorization does not waive the parties' responsibilities and obligations provided under the **Agreement**.

**PART 7. ACKNOWLEDGEMENT AND CONFIRMATION**

Acknowledgement and confirmation by **Hidalgo County Precinct No. 2**, Commissioner Eduardo "Eddie" Cantu as to content and detail of this **Work Authorization No. 1**.

**HIDALGO COUNTY  
COMMISSIONER PRECINCT NO. 2**

BY: \_\_\_\_\_

**PART 8. ACCEPTANCE AND APPROVAL**

This Work Authorization is hereby accepted, approved by Hidalgo County Commissioners' Court on \_\_\_\_\_ as indicated below.

**THE ENGINEER:  
B2Z Engineering, LLC**

By:  **Nicholus Muñoz,  
Vice President**

**THE OWNER:  
HIDALGO COUNTY**

By: \_\_\_\_\_ **Ramon Garcia,  
County Judge**

**ATTEST:**

\_\_\_\_\_  
**By: Arturo Guajardo, Jr., County Clerk**

**LIST OF ATTACHMENTS**

- Location Map
- Exhibit A – Services to be Provided by the Owner
- Exhibit B – Services to be Provided by the Engineer
- Exhibit C – Work Schedule
- Exhibit D – Fee Schedule

**EXHIBIT "A"**  
**SCOPE OF SERVICES TO BE PROVIDED BY THE OWNER**

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The following provides an outline of the services to be provided by the **Owner** for the proposed Regional Linear Park Project – Phase II from Ridge Road to Hall Acres Road in Hidalgo County hereinafter denoted as the **Project**.

**GENERAL:**

The **Owner** will provide to the **Engineer** the following:

- 1) Provide the authorization to proceed with services through coordination with the project **Engineer**.
- 2) Payment for work performed by the **Engineer** and accepted by the **Owner** in accordance with Article 6 of the Agreement.
- 3) Assistance to the **Engineer**, as necessary, to obtain the required data and information from other local, regional, State and Federal agencies the **Engineer** cannot easily obtain.
- 4) Provide any available relevant data the **Owner** may have on file concerning the **Project**.
- 5) Provide timely review and decisions in response to the **Engineer's** request for information and/or required submittals and deliverables, in order for the **Engineer** to maintain the agreed upon work schedule prepared in accordance with Exhibit "C" attached to this Work Authorization.
- 6) Attend and participate in progress meetings as required and as coordinated and conducted by **Engineer**.

**EXHIBIT "B"**  
**SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER**

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**SECTION 1 - PROJECT DESCRIPTION**

The services designated herein as "Services provided by the ENGINEER" shall include the performance of all engineering services for the following described facility:

COUNTY/CITY: HIDALGO COUNTY

CONTROL: 0921-02-409

PROJECT/DESCRIPTION: Inspection, Material Testing, and Construction Management for the Regional Linear Park Project Phase II

LENGTH: 2.641 Miles (Approx.)

HIGHWAY: Regional Linear Park Project (Section 2)

LIMITS: From Hall Acres Road to Ridge Road

**EXISTING FACILITY**

**PROJECT CLASSIFICATION**

(Place an "X" in only one Project Classification)

- Surface Treatment
- Overlay
- Rehabilitation Existing Road (Scarify & Reshape)
- Convert Non-Freeway to Freeway
- Widen Freeway
- Widen Non-Freeway
- New Location Toll Freeway
- New Location Non-Freeway
- Interchange (New or Reconstruct)
- Bridge Widening or Rehabilitation
- Bridge Replacement
- Upgrade to Standards - Freeway
- Upgrade to Standards - Non-Freeway
- Miscellaneous Studies (Use Function Code 110 for All Tasks)
- Pedestrian Facility – Hike & Bike Trail

ENGINEER shall mean B2Z Engineering, LLC

STATE shall mean Texas Department of Transportation (TxDOT).

COUNTY shall mean the Hidalgo County.

**EXHIBIT "B"**  
**SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER**

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**SECTION 12 - CONSTRUCTION PHASE SERVICES**  
(Function Code 320)

**CONSTRUCTION MANAGEMENT SERVICES:**

The ENGINEER will provide Construction Engineering, Geotechnical & Construction Material Testing, and Construction Inspection/Record Keeping services for and during the construction of the Project, or portions of the Project, approved by the COUNTY. Specific services for CONSTRUCTION MANAGEMENT AND SUPPORT by the ENGINEER will include the following:

**Construction Contract Administration:**

- 1) In general, the ENGINEER will provide the management and engineering support in accordance with TxDOT's LGPP Manual required for consultation and advisement to the COUNTY, and act as the COUNTY's representative as provided in the General Condition of the Construction Contract.
- 2) The ENGINEER will coordinate and conduct both a "Pre-Coordination Meeting" and a "Pre-Construction Conference" as required by the LGPP.
- 3) The ENGINEER will work with the County RPIC to develop and issue a Notice to Proceed (NTP) to the contractor.
- 4) The ENGINEER will coordinate with the Design Engineer of Record (DEOR) and will use his best efforts to protect the COUNTY against defects and deficiencies in the work of the Contractor. The ENGINEER will promptly notify the COUNTY of any such defect or deficiency, and take all steps possible to require the Contractor to correct the defect or deficiency.
- 5) The ENGINEER will review the contractor's DBE Program and EEO Plan for compliance throughout the project.
- 6) The ENGINEER will ensure that all eligible expenditures are appropriately allocated with regards to the Federal Monies identified on the AFA, and inform the County RPIC of any potential exposure.
- 7) The ENGINEER will work with the County RPIC to develop a Certificate of Substantial Completion at the appropriate time.
- 8) The ENGINEER will develop as built plans identifying any field and change order modifications done during the project. When applicable the ENGINEER will work with the DEOR to prepare the engineering data, including plan sheet drawings, specifications, and estimates, for the preparation of construction contract change orders, which may be required due to actual field conditions encountered or new requirements directed by the COUNTY.
- 9) The ENGINEER will provide the County RPIC a Certification that all work performed on the project met and/or exceeded the project specifications.

**Construction Management and Inspection:**

**Construction Management (During Construction)**

- 1) The ENGINEER will conduct frequent meetings w/ County RPIC & Contractor throughout the construction duration of the project.
- 2) The ENGINEER will assist the County RPIC with the implementation of the adopted Quality Assurance Program (QAP)
- 3) The ENGINEER will conduct team field visits with the County RPIC, Design Engineer, TxDOT, City of Pharr, and FHWA representatives throughout duration of the project (Estimated at 26months)

**EXHIBIT "B"**  
**SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER**

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- 4) The ENGINEER will review quantities as submitted by the Contractor and will coordinate with the County RPIC for the preparation of the monthly and final estimates for payment to the Contractor.
- 5) The ENGINEER will review quantities as submitted by the Contractor and will coordinate with the County RPIC for the preparation of the monthly and final estimates for payment to the Contractor.
- 6) The ENGINEER will coordinate with the DEOR to obtain concurrence on any suggestions or RFI's made by the contractor to modify the plans and/or contract documents.
- 7) The ENGINEER coordinate with County RPIC, Design Engineer, TxDOT/FHWA Representatives, and City of Pharr Personnel to participate in all Project Related Stakeholder Meetings, Construction Status Meetings, and Final Inspection
- 8) The ENGINEER will coordinate with the DEOR and TxDOT to obtain approval on any and all Change Orders.
- 9) The ENGINEER will confirm TxDOT/FHWA Participation & Eligibility on Change Orders as well as Time Extensions prior to executing them for the project.

**Construction Inspection**

- 1) The ENGINEER will provide Project site inspection of the authorized construction contract as follows:
  - a) The ENGINEER will provide visits by a Senior Construction Engineer or a competent representative of the ENGINEER to the site of construction for the purpose of monitoring the Contractor's progress and conformance to the construction contract plans and specifications.
  - b) The ENGINEER will provide a Construction Manager to coordinate with the public and adjacent property owners on construction inconveniences.
  - c) The ENGINEER will furnish the services of a Construction Superintendent and/or Construction Inspector(s) for full-time on-site inspection services.
    - a. The ENGINEER will provide construction oversight to monitor/inspect the Contractor's daily progress and conformance to PS&E specifications.
    - b. The ENGINEER will provide an Environmental Specialist to inspect SW3P BMP's, as well as compliance w/ the requirements of the EPIC sheets.
    - c. The ENGINEER will maintain job safety measures and implement OSHA requirements including day/night inspection of barricades
    - d. The ENGINEER will develop and oversee completion of a "Project Punch List" with the County RPIC & Contractor's Representative.

**Construction Management (Post Construction)**

- 1) The ENGINEER will prepare a Final Estimate for Project Close-Out & Release Retainage.
- 2) The ENGINEER will provide all Close-Out Documents to County RPIC.
- 3) The ENGINEER will coordinate "Final Acceptance" of the project.

**Miscellaneous Technical Activities:**

- 1) The ENGINEER will coordinate with the Design Engineer of Record to review and check all shop or working drawings furnished by the Contractor.
- 2) The ENGINEER will assist the County RPIC in the development of an ICA between the COUNTY and the City of Pharr on relocation of the City of Pharr Gun Range.
- 3) The ENGINEER will track Utility Relocations and develop as built drawings to depict the location of the utility and the work as actually constructed. The COUNTY will be furnished five (5) set of prints.

**EXHIBIT "B"**  
**SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER**

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- 4) The ENGINEER will provide Monthly Reports/Presentations to Hidalgo County Commissioners Court and the HCMPO (as requested)
- 5) The ENGINEER will provide inspection of all materials and equipment furnished/used by the Contractor as follows:
  - a) Review and record all laboratory, shop and mill tests of materials and equipment for compliance with the construction contract specifications.
  - b) Observe and/or perform Project record testing and/or independent assurance testing as outlined in the construction contract specifications.

**CONSTRUCTION MATERIAL TESTING:**

The ENGINEER will provide the COUNTY with construction material testing services for the Project. The services to be provided include sampling and testing of all construction materials as required by the project plans and specifications. All sampling frequencies and test procedures will be performed in general accordance with the Texas Department of Transportation TEX methods (or ASTM methods as required) as outlined in the Guide Schedule for Sampling and Testing (11/07). The construction material testing includes, but is not limited to the following:

- a) Sampling and laboratory testing of soils and base materials proposed for use in the construction of Project (Roads/Bridges/Misc.) to determine compliance of these materials with project plans and specifications.
- b) Field density testing of soils and base materials to ensure proper compaction as required by project plans and specifications.
- c) Field sampling and testing of fresh concrete, and laboratory testing of hardened concrete to determine compliance with project plans and specifications.
- d) Field compaction testing of asphalt to ensure proper compaction during lay down operations.
- e) Field inspection, sampling and laboratory testing of asphalt materials to determine their material properties and their compliance with project plans and specifications.
- f) The ENGINEER will be responsible for concrete batching as well as the asphalt testing at the plants to insure delivery of acceptable material to the job site.
- g) Any additional laboratory testing as required/requested by the COUNTY and the project plans and specifications.
- h) Providing accurate and timely reports to the COUNTY RPIC and all/other recipients as designated by the COUNTY RPIC.
- i) The ENGINEER will verify the concrete and asphalt designs to assure it is in accordance with TxDOT specifications to be developed by the contractor.





**Exhibit D**

**Regional Linear Park Project - Section 2**

**Construction Phase Services (FC320)**

**Work Authorization No. 1**

<i>Hidalgo County Precinct No. 2 Construction Management Services (FC320)</i>			MANHOURS						Total Hours	Total Line Item Cost	
			Sr. Construction Engineer/Manager	Construction Manager (PE/PMP)	Environmental Specialist	Construction Superintendent	Construction Record Keeper	CADD Operator			Admin/Clerical
TASKS											
<b>Construction Contract Administration</b>											
1	Prepare/Coordinate & Conduct a Project Coordination Meeting with the County RPIC, TxDOT Project Mgr., Design Engineer, & other Hidalgo Co. and TxDOT Project Staff	6	10		10	10		6	42	\$5,306.56	
2	Prepare/Coordinate & Conduct a Project Pre-Construction Meeting with the County RPIC, TxDOT Project Manager, Design Engineer, and the Construction Contractor	6	10		10	10		6	42	\$5,306.56	
3	Coordinate w/ County RPIC and Develop/Issue a Notice to Proceed to the Contractor	2	6					4	12	\$1,693.72	
4	Coordination with Design Engineer of Record, Hidalgo County RPIC, TxDOT PM, City of Pharr, and Construction Contractor(s) throughout the duration of the project	40	80					12	132	\$22,411.20	
5	Review of Contractor's DBE and EEO Programs for Compliance w/ CUF Requirements	8	30		30	50		8	126	\$15,018.08	
6	Continuous Monitoring of Construction Expenditures vs. Available Funds in the AFA	16	20		16	20		8	80	\$10,613.12	
7	Issue a Certificate of Substantial Completion at the Appropriate Time	20	30			60		4	114	\$14,135.80	
8	Provide As-Built Plans and a Certification to the County RPIC and TxDOT that this Project was Constructed as Designed & Compliance w/ Release of the Retainage	24			10	16	60		110	\$11,051.04	
9	Coordinate with the County to provide the County RPIC a certification that all work performed on the project met and/or exceeded the project specifications	12	16		6	8		16	58	\$7,483.28	
<b>Subtotal Labor Hours</b>			<b>134</b>	<b>202</b>	<b>0</b>	<b>82</b>	<b>174</b>	<b>60</b>	<b>64</b>	<b>716</b>	<b>\$93,019.36</b>
<b>Construction Management &amp; Inspection</b>											
<b>Construction Management (During Construction)</b>											
1	Conduct Frequent Meetings with the County RPIC & Contractor Throughout Construction Duration for Adherence to the Schedule (as needed)	60						40	100	\$13,781.60	
2	Assist the RPIC with Implementation of the Adopted Quality Assurance Program (QAP)	18						12	30	\$4,134.48	
3	Coordinate Field Visits w/ County RPIC, Design Engineer, TxDOT, City of Pharr, and FHWA representatives throughout duration of the Project	40							40	\$7,470.40	
4	Prepare a Contractors Progress Payment Estimate on a Monthly Basis	60				30			90	\$13,620.60	
5	Review & Processing of Contractor Invoices (Approval/Modification/Rejection)	30				20		30	80	\$9,144.80	
6	Obtain Design Engineer's Concurrence with any Suggestions or Request for Information (RFI's) made by the Contractor to Change or Modify any Requirements of the Plans or Contract Documents	50						8	58	\$9,853.20	
7	Coordinate with County RPIC, Design Engineer, TxDOT/FHWA Representatives, and City of Pharr Personnel to participate in all Project Related Stakeholder Meetings, Construction Status Meetings, and Final Inspection	30						6	36	\$5,989.20	
8	Coordinate with the Design Engineer on Change Orders and Obtain TxDOT Approval	24					24	10	58	\$6,749.12	
9	Confirm TxDOT/FHWA Participation & Eligibility on Change Orders as well as Time Extensions	10						8	18	\$2,382.80	
<b>Subtotal Labor Hours</b>			<b>322</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>50</b>	<b>24</b>	<b>114</b>	<b>510</b>	<b>\$73,126.20</b>

<b>Hidalgo County Precinct No. 2 Construction Management Services (FC320)</b>			MANHOURS						Total Hours	Total Line Item Cost	
			Sr. Construction Engineer/Manager	Construction Manager (PE/PMP)	Environmental Specialist	Construction Superintendent	Construction Record Keeper	CADD Operator			Admin/Clerical
<b>TASKS</b>											
<b>Construction Inspection</b>											
1	On-Site Inspection During Construction Activities & Documentation in Project Diary				3200	240			3440	\$410,872.00	
2	Coordination with the Public and Adjacent Property Owners on Construction Inconveniences	40	20						60	\$11,012.40	
3	Inspect SW3P BMP's, as well as Compliance with Requirements of EPIC Sheets			40					40	\$4,121.60	
4	Produce Daily Pay Sheets & Assure Compliance of Materials Delievered to the Job Site Meet Specifications (Including Buy America Act)	50				150			200	\$21,413.00	
5	Maintain Job Safety Measures & Implement OSHA Requirements Including Day/Night Inspection of Barricades				40	10		10	60	\$6,343.40	
6	Develop and Oversee Completion of a "Project Punch List" with the County RPIC & Contractor's Representative	36				16		16	68	\$9,041.76	
<b>Subtotal Labor Hours</b>			<b>126</b>	<b>20</b>	<b>40</b>	<b>3240</b>	<b>416</b>	<b>0</b>	<b>26</b>	<b>3868</b>	<b>\$462,804.16</b>
<b>Construction Management (Post Construction)</b>											
1	Prepare a Final Estimate for Project Close-Out & Release of Retainage	16				16		12	44	\$5,048.96	
2	Provide all Clos-Out Documents to County RPIC	12						6	18	\$2,627.52	
3	Coordinate Final Acceptance of Project	18	12					10	40	\$6,130.88	
<b>Subtotal Labor Hours</b>			<b>46</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>28</b>	<b>102</b>	<b>\$13,807.36</b>
<b>Miscellaneous Technical Activities</b>											
1	Coordination w/ Engineer of Record for Shop Drawing Review as Appropriate	16	10			10		12	48	\$6,336.96	
2	Coordination w/ County RPIC and City of Pharr Personnel on Relocation of Gun Range	6	20	16				12	54	\$7,084.00	
3	Coordination w/ County RPIC, Project Contractor & City of Pharr Personnel on Relocation of Sanitary Sewer Lines & Municipal Water Lines at Moore Rd. and Ridge Rd.	4	20					6	30	\$4,675.44	
4	Track Utility Relocations and Plot Final Facility Locations on the Final As-Built Plans (if any)	16					20	12	48	\$5,113.36	
5	Monthly Reporting/Presentation to Hidalgo County Commissioners Court & HCMPO	40	40					40	120	\$17,130.40	
<b>Subtotal Labor Hours</b>			<b>82</b>	<b>90</b>	<b>16</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>82</b>	<b>300</b>	<b>\$40,340.16</b>
<b>Total Labor Hours</b>			<b>710</b>	<b>324</b>	<b>56</b>	<b>3322</b>	<b>666</b>	<b>104</b>	<b>314</b>	<b>5496</b>	
Hourly Base Rates			\$ 58.00	\$ 55.00	\$ 32.00	\$ 38.00	\$ 25.00	\$ 21.00	\$ 20.00		
Contract Rate FY2018			\$ 186.76	\$ 177.10	\$ 103.04	\$ 122.36	\$ 80.50	\$ 67.62	\$ 64.40		
<b>Total Costs</b>			<b>\$ 132,599.60</b>	<b>\$ 57,380.40</b>	<b>\$ 5,770.24</b>	<b>\$ 406,479.92</b>	<b>\$ 53,613.00</b>	<b>\$ 7,032.48</b>	<b>\$ 20,221.60</b>		<b>\$683,097.24</b>

**Direct Expenses** Mileage: \$0.545/mile \$ 12,208.00  
 CMT (See Detailed Breakdown on Page 3 of 6 ~ 6 of 6) \$ 142,726.32  
**Total Direct Expenses** \$ 154,934.32

**B2Z Engineering Total Cost**

**\$838,031.56**

**EXHIBIT D**  
ESTIMATED MAN-HOURS AND TEST BREAKDOWN

**Hidalgo County Pct. 2 - Regional Linear Park Project (Section 2) (From Hall Acres Rd. to Ridge Rd.) - CSJ: 0921-02-409**  
**Construction Materials Testing**

**Embankment (Test All Fill Material Including Cut From Job) (ITEM 132)**

- Sampling and laboratory testing of soils and base materials proposed for use in the construction of Project (Roads/Bridges/Misc.) to determine compliance of these materials with project plans and specifications.
- Field density testing of soils and base materials to ensure proposer compaction as required by project plans and specifications.

	TxDOT Test	TxDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	Total
Liquid Limit	Tex-104-E	PI>15 ~ Every 5,000 CY	included with PI	Each		\$45.00	\$0.00
Plasticity Index	Tex-106-E	PI>15 ~ Every 5,000 CY		Each	10	\$45.00	\$450.00
Gradation	Tex-110-E	Every 10,000 CY		Each	5	\$90.00	\$450.00
Moisture/Density	Tex-114-E	One per Each Material		Each	1	\$225.00	\$225.00
In-Place Density	Tex-115-E	Every 5,000 CY or 6,000 Linear Feet (Min. 1 per Lift)	Inc. to 10 - 2 per Leg (Job)	Each	10	\$28.00	\$280.00
Reports			LL/PI, Grad, MD, FD	Each	26	\$25.00	\$650.00
Tech Time (Soils)			4 hrs - PI,Gr,MD, 2 hrs - FD	Hour	75	\$77.28	\$5,796.00
# of Trips (Tech)			20 Trips (40 Miles RT)	Mile	800	\$0.545	\$436.00
**Admin/Clerical				Hour	6	\$64.40	\$386.40
<b>Item Subtotal</b>							<b>\$8,673.40</b>

**Subgrade (Untreated) (ITEM 260)**

- Sampling and laboratory testing of soils and base materials proposed for use in the construction of Project (Roads/Bridges/Misc.) to determine compliance of these materials with project plans and specifications.

	TxDOT Test	TxDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	Total
Organic Content	Tex-148-E	Each 500 LF		Each	27	\$120.00	\$3,240.00
Sulfate Content	Tex-145-E	Each 500 LF		Each	27	\$95.00	\$2,565.00
Reports			OC & SC	Each	27	\$25.00	\$675.00
Tech Time (Soils)			1 hrs - OC/SC	Hour	40	\$77.28	\$3,091.20
# of Trips (Tech)			9 Trips (40 Miles RT)	Mile	360	\$0.545	\$196.20
**Admin/Clerical				Hour	7	\$64.40	\$450.80
<b>Item Subtotal</b>							<b>\$10,218.20</b>

**Lime (ITEM 260)**

- Sampling and laboratory testing of soils and base materials proposed for use in the construction of Project (Roads/Bridges/Misc.) to determine compliance of these materials with project plans and specifications.

	TxDOT Test	TxDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	Total
Compliance of Lime (DMS 6350)	Tex-600-J	1 per 200 Tons		Each	2	\$300.00	\$600.00
<b>Item Subtotal</b>							<b>\$600.00</b>

**Subgrade (Lime Treated) (ITEM 260)**

- Sampling and laboratory testing of soils and base materials proposed for use in the construction of Project (Roads/Bridges/Misc.) to determine compliance of these materials with project plans and specifications.
- Field density testing of soils and base materials to ensure proposer compaction as required by project plans and specifications.

	TxDOT Test	TxDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	Total
Pulverization Gradation	Tex-101-E (Part III)	Each 4,500 CY	Inc. to 5 - 1 per Leg (Job)	Each	5	\$100.00	\$500.00
Liquid Limit	Tex-104-E		included with PI	Each		\$45.00	\$0.00
Plasticity Index	Tex-106-E	Each 5,000 CY	Inc. to 5 - 1 per Leg (Job)	Each	5	\$45.00	\$225.00
Gradation	Tex-110-E	Each 5,000 CY	Inc. to 5 - 1 per Leg (Job)	Each	5	\$90.00	\$450.00
Moisture/Density	Tex-121-E (Part II)	Every 20,000 CY		Each	1	\$225.00	\$225.00
In-Place Density	Tex-115-E	Every 3,000 CY	Inc. to 10 - 2 per Leg (Job)	Each	10	\$28.00	\$280.00
Reports			LL/PI, MD, FD	Each	26	\$25.00	\$650.00
Tech Time (Soils)			4 hrs - PI,Gr,MD, 2 hrs - FD	Hour	44	\$77.28	\$3,400.32
# of Trips (Tech)			15 Trips (40 Miles RT)	Mile	600	\$0.545	\$327.00
**Admin/Clerical				Hour	4	\$64.40	\$257.60

Item Subtotal **\$6,314.92**

**Flexible Base (Untreated - Stockpile Testing) (ITEM 247)**

- Sampling and laboratory testing of soils and base materials proposed for use in the construction of Project (Roads/Bridges/Misc.) to determine compliance of these materials with project plans and specifications.

	TxDOT Test	TxDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	Total
Liquid Limit	Tex-104-E		included with PI	Each		\$45.00	\$0.00
Plasticity Index	Tex-106-E	Each 5,000 CY		Each	1	\$45.00	\$45.00
Gradation	Tex-110-E	Each 5,000 CY		Each	1	\$90.00	\$90.00
Moisture/Density	Tex-113-E	Every 20,000 CY		Each	1	\$225.00	\$225.00
Wet Ball Mill	Tex-116-E	Every 20,000 CY		Each	1	\$250.00	\$250.00
Triaxial	Tex-117-E	Every 20,000 CY		Each	1	\$2,300.00	\$2,300.00
Reports			LL/PI, MD, WB, Triaxial	Each	5	\$25.00	\$125.00
Tech Time (Soils)			4 hrs - LL,PI,MD & WB/Triax.	Hour	40	\$77.28	\$3,091.20
# of Trips (Tech)			1 Trip (40 Miles RT)	Mile	40	\$0.545	\$21.80
**Admin/Clerical				Hour	2	\$64.40	\$128.80
Item Subtotal							<b>\$6,276.80</b>

**Flexible Base (Lime Treated) (ITEM 247)**

- Sampling and laboratory testing of soils and base materials proposed for use in the construction of Project (Roads/Bridges/Misc.) to determine compliance of these materials with project plans and specifications.
- Field density testing of soils and base materials to ensure proposer compaction as required by project plans and specifications.

	TxDOT Test	TxDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	Total
Pulverization Gradation	Tex-101-E (Part III)	Each 4,500 CY	Inc. to 5 - 1 per Leg (Job)	Each	5	\$100.00	\$500.00
Liquid Limit	Tex-104-E		included with PI	Each		\$45.00	\$0.00
Plasticity Index	Tex-106-E	Each 5,000 CY	Inc. to 5 - 1 per Leg (Job)	Each	5	\$45.00	\$225.00
Gradation	Tex-110-E	Each 5,000 CY	Inc. to 5 - 1 per Leg (Job)	Each	5	\$90.00	\$450.00
Moisture/Density	Tex-121-E (Part II)	Every 20,000 CY	Complete Mixture	Each	1	\$225.00	\$225.00
In-Place Density	Tex-115-E	Every 3,000 CY	Inc. to 10 - 2 per Leg (Job)	Each	10	\$28.00	\$280.00
Reports			MC, LL/PI, MD, FD	Each	26	\$25.00	\$650.00
Tech Time (Soils)			4 hrs - PI,Gr,MD, 2 hrs - FD	Hour	44	\$77.28	\$3,400.32
# of Trips (Tech)			15 Trips (40 Miles RT)	Mile	600	\$0.545	\$327.00
**Admin/Clerical				Hour	4	\$64.40	\$257.60
Item Subtotal							<b>\$5,814.92</b>

**Asphalt Concrete Pavement (Item 341 - HMA-QC/QA)**

- Field compaction testing of asphalt to ensure proper compaction during lay down operations.
- Field sampling and laboratory testing of asphalt materials to determine their material properties and their compliance with project plans and specifications.

	TxDOT Test	TxDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	Total
Coarse Aggr.			Stockpile				
L.A. Abrasion	Tex-410-A	1 Per Project Per Source Per Design	if BRSQC meets Project Spec ~ Remove	Each	0	\$500.00	\$0.00
Soundness	Tex-411-A	1 Per Project Per Source Per Design	if BRSQC meets Project Spec ~ Remove	Each	0	\$500.00	\$0.00
Gradation	Tex-200-F	1 Per Project Per Source Per Design		Each	1	\$75.00	\$75.00
MicroDeval	Tex-461-A	1 Per every 12 Sublots	May be Eliminated based on Test History	Each	0		
Flat & Elongated Particles	Tex-280-F	1 Per Project Per Source Per Design		Each	1	\$60.00	\$60.00
Coarse Aggr. Angularity	Tex-460-A (Part I)	1 Per Project Per Source Per Design		Each	1	\$60.00	\$60.00
Del. Matl. and Decant	Tex-217-F	1 Per Project Per Source Per Design		Each	1	\$50.00	\$50.00
Fine Aggr.			Stockpile				
Bar Linear Shrinkage	Tex-107-E	1 Per Project Per Source Per Design		Each	1	\$45.00	\$45.00
Organic Impurities	Tex-408-A	1 Per Project Per Source Per Design		Each	1	\$50.00	\$50.00
Gradation	Tex-200-F	1 Per Project Per Source Per Design		Each	1	\$75.00	\$75.00

Mineral Filler			Bin or Silo					
Bar Linear Shrinkage	Tex-107-E	1 Per Project Per Source Per Design	Assume No Filler	Each	0	\$45.00	\$0.00	
Gradation	Tex-200-F	1 Per Project Per Source Per Design	Assume No Filler	Each	0	\$75.00	\$0.00	
Combined Aggr.			Stockpile or Feeder Belt					
Sand Equivalent	Tex-203-F	1 Per Project Per Source Per Design		Each	1	\$80.00	\$80.00	
Complete Mix			Truck Sample					
Asphalt Content (%)	Tex-236-F	1 Per Lot Per Design		Each	5	\$95.00	\$475.00	
Voids in Mineral Aggr. (VMA)	Tex-204-F	1 Per Sublot Per Design	with 227-F Rice Gravity	Each	20	\$90.00	\$1,800.00	
Gradation	Tex-236-F	Min 1 Per 12 Sublots Per Design		Each	2	\$95.00	\$190.00	
Boil Test	Tex-530-C	1 Per Project Per Source Per Design	Waived by Engineer	Each	0	\$90.00	\$0.00	
Indirect Tensile - Dry	Tex-226-F	1 Per Project Per Source Per Design	Waived by Engineer	Each	0	\$62.50	\$0.00	
Moisture Content	Tex-212-F (Part II)	1 Per Project Per Source Per Design		Each	1	\$18.00	\$18.00	
Lab Molded Density	Tex-207-F	1 Per Sublot Per Design		Each	20	\$90.00	\$1,800.00	
Hamburg Wheel Tracker	Tex-242-F	1 Per Project Per Source Per Design	Make Contractor Perform Test	Each	0	\$460.00	\$0.00	
Roadway			At Site					
Field Coring		2 Cores Per Sublot Per Design	Make Contractor Perform Test	Each	40	\$0.00	\$0.00	
In-Place Air Voids	Tex-207-F	2 Cores Per Sublot Per Design		Each	40	\$25.00	\$1,000.00	
Segregation Profile	Tex-207-F (Part V)	1 Per Project Per Source Per Design		Each	1	\$315.00	\$315.00	
Joint Density	Tex-207-F (Part VII)	1 Per Project Per Source Per Design		Each	1	\$315.00	\$315.00	
Tack Coat Adhesion	Tex-243-F	1 Per Project Per Source Per Design	Waived by Engineer	Each	0	\$100.00	\$0.00	
Thermal Profile	Tex-244-F	1 Per Project Per Source Per Design		Each	1	\$200.00	\$200.00	
Ride Quality	Tex-1001-S	Engineer may verify Contractor's results	Make Contractor Perform Test	Each	0		\$0.00	
Reports				Each	97	\$25.00	\$2,425.00	
Tech Time (Aggr)			8 hours per 1 days (trips/test - CA/FA/Co)	Hour	8	\$77.28	\$618.24	
Tech Time (Asph)			12 hours per 5 days	Hour	75	\$77.28	\$5,796.00	
# of Trips (Tech)			6 Trips (40 Miles RT)	Mile	240	\$0.545	\$130.80	
**Admin/Clerical				Hour	14	\$64.40	\$901.60	
<b>Item Subtotal</b>							<b>\$16,479.64</b>	

**Hydraulic Cement Concrete ~ Wingwalls & Traffic Rail Foundation (Class C)**

- Field sampling and testing of fresh concrete and laboratory testing of hardened concrete to determine compliance with project plans and specifications.
- Concrete batching as well as the asphalt testing at the plants to insure delivery of acceptable material to the job site (as required).

	TxDOT Test	TxDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	Total
Coarse Aggr.			QA Test. (QC by Source)				
Decantation	Tex-406-A	Each 20,000 CY( or source)		Each	1	\$50.00	\$50.00
Sieve Analysis	Tex-401-A	Each 1,000 CY( ea source)	5 Sieve	Each	1	\$90.00	\$90.00
Deleterious Matl.	Tex-413-A	Each 20,000 CY( or source)		Each	1	\$50.00	\$50.00
L.A. Abrasion	Tex-410-A	Two Each Source	if CRSQC meets Project Spec ~ Remove	Each	0	\$600.00	\$0.00
Soundness	Tex-411-A	Two Each Source	if CRSQC meets Project Spec ~ Remove	Each	0	\$600.00	\$0.00
Fine Aggr.			QA Test. (QC by Source)				
Sand Equivalent	Tex-203-F	Each 1,000 CY( ea source)		Each	1	\$80.00	\$80.00
Organic Imp.	Tex-408-A	One Per Project Per Source		Each	1	\$50.00	\$50.00
Sieve Analysis	Tex-401-A	Each 1,000 CY( ea source)		Each	1	\$90.00	\$90.00
Fineness Mod.	Tex-402-A	Each 1,000 CY( ea source)		Each	1	\$15.00	\$15.00
Deleterious Matl.	Tex-413-A	Each 20,000 CY( or source)		Each	1	\$50.00	\$50.00

Acid Insoluble		Tex-612-J	Two Each Source	if CRSQC meets Project Spec ~ Remove	Each	0	\$90.00	\$0.00
Mineral Filler				QA Test. (QC by Source)				
Sieve Analysis		Tex-401-A	Two Each Source	if No Mineral Filler utilized in Mix ~ Remove	Each	0	\$90.00	\$0.00
Concrete								
*Strength		Tex-418-A	Each 60 CY(2 Sets = 4 Cyl.)	use 2 Sets per Pour (11 Pours)	Each	44	\$30.00	\$1,320.00
Slump		Tex-415-A	One per 2 Sets		Each	11	\$20.00	\$220.00
Entrained Air		Tex-416-A	One per 2 Sets		Each	11	\$25.00	\$275.00
Temperature		Tex-422-A	One per 2 Sets		Each	11	\$5.00	\$55.00
Reports				CA,FA,MF,Conc.	Each	41	\$25.00	\$1,025.00
Tech Time (Aggr)					Hour	8	\$77.28	\$618.24
Tech Time (Conc)					Hour	44	\$77.28	\$3,400.32
# of Trips (Tech)				22 Trips (40 Miles RT)	Mile	880	\$0.545	\$479.60
**Admin/Clerical					Hour	6	\$64.40	\$386.40
							Item Subtotal	\$8,254.56

**Hydraulic Cement Concrete Misc. - Riprap/Riprap(Mowstrip)/Curb/Sidewalk(Class A)**

- Field sampling and testing of fresh concrete and laboratory testing of hardened concrete to determine compliance with project plans and specifications.
- Concrete batching as well as the asphalt testing at the plants to insure delivery of acceptable material to the job site (as required).

	TxDOT Test	TxDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	Total	
Concrete								
*Strength	Tex-418-A	Each 180 CY(1 Set = 2 Cyl.)	Adjust Per Str & Placement	Each	44	\$30.00	\$1,320.00	
Slump	Tex-415-A	Not Required	Not Required	Each	0	\$20.00	\$0.00	
Entrained Air	Tex-416-A	One per Set		Each	22	\$25.00	\$550.00	
Temperature	Tex-422-A	Not Required	Not Required	Each	0	\$5.00	\$0.00	
Reports			Conc.	Each	44	\$25.00	\$1,100.00	
Tech Time (Aggr)		Not Required		Hour	0	\$77.28	\$0.00	
Tech Time (Conc)				Hour	88	\$77.28	\$6,800.64	
# of Trips (Tech)			33 Trips (40 Miles RT)	Miles	1320	\$0.545	\$719.40	
**Admin/Clerical				Hour	8	\$64.40	\$515.20	
							Item Subtotal	\$11,005.24

**Batching for Hydrulic Cement Concrete (Class C) & Asphalt Concrete Pavement (ACP) - Inspection of Batching at Plant (1 Tech per Plant, Reports)**

- Field sampling and testing of fresh concrete and laboratory testing of hardened concrete to determine compliance with project plans and specifications.
- Concrete batching as well as the asphalt testing at the plants to insure delivery of acceptable material to the job site (as required).

	TxDOT Test	TxDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	Total	
Concrete								
Tech Time (Conc)				Hour	30	\$77.28	\$2,318.40	
# of Trips (Tech)			11 Trip (40 Miles RT)	Mile	440	\$0.545	\$239.80	
				Reports	11	\$25.00	\$275.00	
Hot Mix								
Tech Time (Asph)				Hour	50	\$77.28	\$3,864.00	
# of Trips (Tech)			4 Trips (50 Miles RT)	Mile	200	\$0.545	\$109.00	
				Reports	5	\$25.00	\$125.00	
**Admin/Clerical				Hour	4	\$64.04	\$256.16	
							Item Subtotal	\$7,187.36

\* Concrete Strength testing includes strength testing of cylinder specimens (breaks) as well as preperation, holding and curing of strength specimen costs  
 ~ 1 Set is defined as 2 Cylinders (7-day or 28-day)  
 ~ All Structural Concrete requires a minimum 2 Sets per Test Location (4 Cyl.)  
 \*\* Project Administrative Fee is assessed on a per invoice basis and involves engineering review, evaluation, management and administration

**Summary**

Sub-Total (CMT Items) =	\$80,825.04
Sr. Eng. Tech. (Coord. w/RPIC/Rpt. Rev.) (78 hrs x 128.80 Hr.)	\$10,046.40
Project Engineer (QA/QC of CMT) (168 hrs x 170.66 Hr.)	\$28,670.88
Sr. Eng. Tech. (Coord. w/ CEI Team) (180 hrs x 128.80 Hr.)	\$23,184.00

**Constuction Materials Testing Total : \$142,726.32**