

**EXHIBIT “E”**  
**HIDALGO COUNTY**  
**Agreement #C-21-0518-12-28**  
**Work Authorization Form**

**WORK AUTHORIZATION NO. 1**

**THIS WORK AUTHORIZATION** is made pursuant to the terms and conditions of Section 7 of the Agreement made by and between **HIDALGO COUNTY**, action herein by and through the **Commissioner’s Court**, hereinafter called the “**Owner**,” and, **Millennium Engineers Group, Inc.**, hereinafter called “**Engineer**”.

**PART 1. SCOPE OF WORK**

The purpose of this Work Authorization is for the On-Call Engineer for Geotechnical & Construction Material Testing Services to provide Geotechnical Testing and Construction Material Testing Services for the San Carlos Parking Lot Improvements Project.

The **Engineer** is to provide the Services as required by the Agreement with Owner for Engineering Services for Geotechnical Testing and Construction Material Testing Services. This includes but is not limited to the services identified in **ATTACHMENT “A” – Scope of Services to be provided by the Engineer** which is attached hereto and incorporated by reference.

**PART 2. ESTIMATED COST**

The estimated cost for services under this Work Authorization is \$17,235.00. This amount is based upon the costs outlined in the Estimated **Cost Proposal** attached hereto as **ATTACHMENT “B”**.

**PART 3. PAYMENT**

Compensation and payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Project Specific Service Agreement between Owner and Engineer.

**PART 4. FUNDING**

This Work Authorization No. 1 shall be funded through funding source:  
Account No. 2-1100-419-00-124-228-0-740 - Requisition Number **00450847**

**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 the scope of work provided in this 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**

Acknowledgment and confirmation by Hidalgo County Precinct No. 4 Commissioner Ellie Torres, as to content and detail of this Work Authorization No.1. (If applicable – Work Schedule attached as Attachment “B-1”)

**HIDALGO COUNTY**

**COMMISSIONER PRECINCT No. 4:**

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

**PART 8. ACCEPTANCE AND APPROVAL**

This Work Authorization is hereby accepted, approved by Hidalgo County Commissioners’ Court on March 22, 2022, *Agenda 85042*, and effective as of the 22<sup>nd</sup> day of March 2022.

Executive Office: \_\_\_\_\_

**THE ENGINEER:**

Millennium Engineers Group, Inc.

**THE OWNER:**

HIDALGO COUNTY

\_\_\_\_\_  
By: \_\_\_\_\_  
Print Name

\_\_\_\_\_  
By: Richard F. Cortez, County Judge

**ATTEST:**

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

# **Attachment “A”**

## **Scope of Services to be Provided by Engineer**

# ATTACHMENT “A”

## Services to be Provided by Engineer

The services to be provided by the LABORATORY in providing On-Call Geotechnical Services for Hidalgo County Precinct No.4 Projects, “ON A AS NEEDED BASIS” and the services are as follows:

### A. Preliminary Phase:

- (1) Attend preliminary conferences with the OWNER and, if requested, with the funding agency and other government agencies or interested parties regarding the Project.
- (2) Provide for the necessary geotechnical investigation and testing necessary to develop the design.
- (3) Provide environmental studies as may be necessary to complete a project.
- (4) Provide assistance to the OWNER in providing material requirements and specifications for design, construction and maintenance projects.
- (5) Provide assistance to the OWNER in providing pavement design recommendations for the design, construction and maintenance projects.
- (6) Provide assistance to the OWNER in providing pavement rehabilitation recommendations for the design, and maintenance projects.
- (7) Provide assistance to the OWNER in providing pavement condition studies.

### B. Design Phase:

- (1) Attend the OWNER’S and respective Party’s meeting as requested for the purpose of explaining geotechnical investigation report recommendations and preliminary testing results and their impact to proposed design activities.
- (2) Perform any additional geotechnical investigations, testing and environmental studies necessary to collect information required in the design of the Project.
- (3) Provide assistance to the OWNER in providing material requirements and specification for design, construction and maintenance projects.
- (4) Provide assistance to the OWNER in providing pavement design recommendations for the design, construction and maintenance projects.
- (5) Provide assistance to the OWNER in providing pavement rehabilitation recommendations for the design, construction and maintenance projects.
- (6) Provide assistance to the OWNER in providing pavement condition studies.
- (7) Furnish the OWNER all necessary reports for preliminary design, design, construction and maintenance projects.

### C. Construction/Maintenance Phase:

- (1) Attend the OWNER’S and respective Party’s pre-construction and construction meetings as requested for the purpose of explaining geotechnical investigation report recommendation and preliminary testing results and their impact to proposed construction activities and establish coordination and lines of communication for proposed construction materials testing during construction activities.
- (2) Consult and advise with the OWNER during construction.

- (3) Provide construction materials testing for construction and maintenance projects as required by the project plans and specifications and/or specified by the project design engineer.
- (4) Review all material designs as requested by the OWNER and/or project design engineer.
- (5) Furnish the OWNER all necessary reports for construction and maintenance projects.
- (6) Provide construction inspection services as requested by the OWNER on construction and maintenance projects.

**D. Miscellaneous/Other:**

- (1) Act for OWNER in professional manner, using that degree of care and skill ordinarily exercised by and consistent with the standards of the profession.
- (2) Perform all technical services under the general direction of a Licensed Professional Laboratory in the State of Texas and in substantial accordance with the basic requirements of the appropriate Standards of the American Society of Testing and Materials, where applicable, or other standards designated by County.
- (3) Employ testing machines which have been calibrated within a period not exceeding twelve (12) months from the time of use by devised of accuracy traceable to the National Institute of Standards and Technology (NIST) of the United States Department of Commerce, and, upon request, submit to the OWNER or its authorized representative documentation of such calibration.
- (4) Promptly submit formal construction materials testing reports for all tests, observations, and services performed indicating where applicable, compliance with OWNER specifications or other documents. Such reports shall be completed and factual, citing the tests performed, methods employed, values obtained, parts of the structure and location at which the tests were made.
- (5) The plans and specifications prepared under this Agreement shall become the property of the OWNER upon completion of the work and payment in full of all monies due to the Laboratory.
- (6) Retain all pertinent records relating to the services performed for a period of five (5) years following submission of all reports, during which period the records will be made available to the Owner within a reasonable time.

**NOTE:** Change in and/or additional services to Scope will require prior approval from OWNER prior to undertaking.

**Attachment “B”**

**Cost Proposal**

**ATTACHMENT "B"  
ENGINEER'S CONTRACT FEE SCHEDULE**

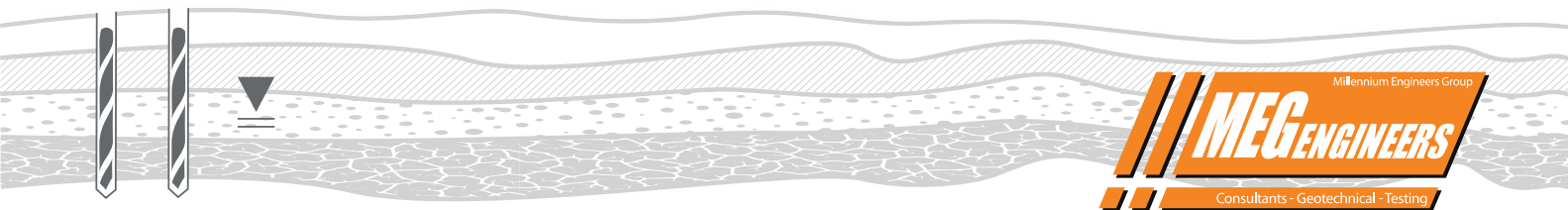
For the services to be provided by the ENGINEER the charge will be on the basis of the units and unit fee rates established in this schedule of tests, staff personnel services and additional services. The overtime premium, required by the Fair Labor Standards Act for nonexempt classifications, will be charged for overtime hours worked because of the County's requirements and its authorization. However, except for the overtime premium, the maximum charges shall not exceed the rates shown in this schedule.

**SOIL EXPLORATION AND GEOTECHNICAL SERVICES**

<b>Drilled Borings</b>	
In Soil, 0 – 50 feet (per foot).....	\$32.00
In Soil, 50 – 100 feet (per foot).....	34.00
In Rock .....	By Quote
Non-Conventional Drilling.....	By Quote
Standard Penetration Test (each test).....	12.00
Texas Cone Penetration Test (each test).....	20.00
Shelby Tube Sampling (each test).....	20.00
Mobilization and Demobilization - In Rio Grande Valley (each trip)...	450.00
Mobilization and Demobilization - Outside Rio Grande Valley (each mile)	3.50/mile
Mobilization of Non-Conventional Drilling Equipment .....	By Quote
Trip Charge For Logger (each mile).....	0.80
Standby Time, Rig plus 2 man crew (per hour).....	200.00
Well Installation.....	By Quote
Technician To Log Soil Test Boring (per hour).....	75.00
<b>Field Coordination</b>	
Field Engineer (per hour).....	125.00
Utility Clearance (per hour).....	75.00
Flagman (per hour).....	75.00
Per Diem (If required) .....	Cost + 15%
Unconfined Compression (each test).....	45.00
Moisture Content (each test).....	13.00
Grout Backfill (per foot).....	5.00
Dozer/Clearing .....	Cost + 15%
Asphalt Pavement Coring (each core).....	100.00
Concrete/Asphalt Patch (per location).....	75.00

**SOILS AND AGGREGATE SECTION**

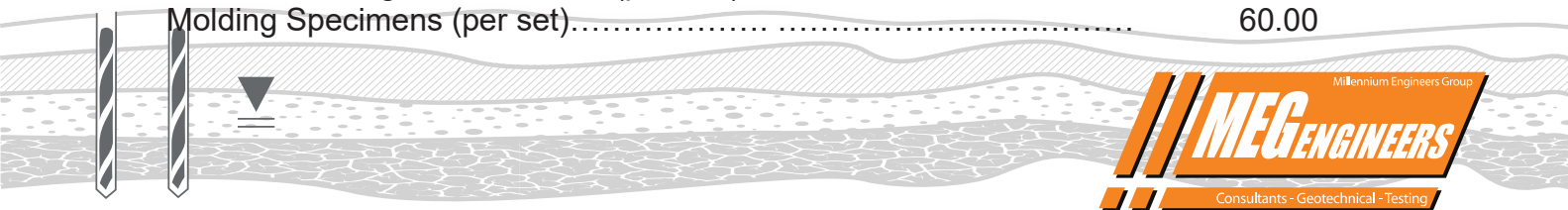
Material Preparation Time (per hour).....	\$85.00
Atterberg Limits (each test).....	80.00
<b>Sieve Analysis</b>	
Dry through No. 40 (each test).....	85.00
Additional Sieves (each sieve).....	12.00
Percent Passing No. 200 Sieve (each test).....	58.00



Moisture Density Relationship	
Standard Proctor (each test).....	220.00
Modified Proctor (each test).....	225.00
TxDOT Proctor (each test).....	225.00
Nuclear Density Test (In conjunction with Inspection)	
Nuclear Density Test (min. 3, each test).....	28.00
Depth Test (each test).....	6.00
Wet Ball Mill (each test) .....	240.00
Determination of Optimum Lime Content	
PI Method – (each test) .....	375.00
Tex 121-E - (each test) .....	375.00
PH Method - (each test) .....	375.00
Additional Points (each point).....	75.00
California Bearing Ratio (each test).....	750.00
Additional Specimens (each specimen).....	175.00
Small Moisture Content of Aggregates and Base (each test).....	13.00
Large Moisture Content of Aggregates and Base (each test).....	35.00
Linear Shrinkage (each test) .....	85.00
pH (each test).....	80.00
Resistivity of Soils (each test) .....	90.00
Specific Gravity (each test).....	75.00
Unit Weight (each test).....	45.00
Soundness (each test) .....	500.00
Sulfate Content (each test).....	80.00
Hydrometer (each test).....	275.00

**BITUMINOUS SECTION**

Material Preparation Time (per hour).....	\$85.00
Sieve Analysis for Fine and Coarse Aggregate (Tex 200-F or ASTM)	
Dry (each test).....	85.00
Additional Sieves (each sieve).....	12.00
Sand Equivalent (each test) .....	75.00
Extraction & Gradation, Percent Asphalt (each test).....	250.00
Asphalt Cores (each core).....	70.00
Asphalt Core Density (each core).....	70.00
Thickness of Cores (each core).....	60.00
Theoretical Maximum Specific Gravity (each test) .....	60.00
Lab Density (each test).....	90.00
Effect of Water on Bituminous Paving Mixtures (each test) .....	75.00
Hveem Stability (each test).....	105.00
Coring Rig (per day).....	95.00
Asphaltic Concrete Design and Other Services .....	By Quote
Percent Passing No. 200 Sieve (per test).....	58.00
Molding Specimens (per set).....	60.00



**CONCRETE SECTION**

Material Preparation Time (per hour).....	\$85.00
Slump Test (In conjunction with Inspection)	
Slump Test (each test).....	20.00
Air Content of Fresh Concrete (In conjunction with Inspection)	
Pressure (each test).....	25.00
Volumetric (each test) .....	35.00
Concrete Cylinder Compressive Strength Test (each cylinder).....	16.00
Strip & Hold Cylinder (each cylinder).....	15.00
Concrete Beam Flexure Strength Test	
6x6x22 (each beam).....	40.00
Strip & Hold Beam (each beam).....	15.00
Concrete Cores By Circumference Area (Min. 100 sq. in.).....	2.00/sq. in.
Sawing of Concrete Cylinders or Cores (per end, per core).....	25.00
Thickness of Cores (each core).....	15.00
Coring Rig (per day).....	95.00
Portland Cement Concrete Design or other services .....	By Quote

**MASONRY SECTION**

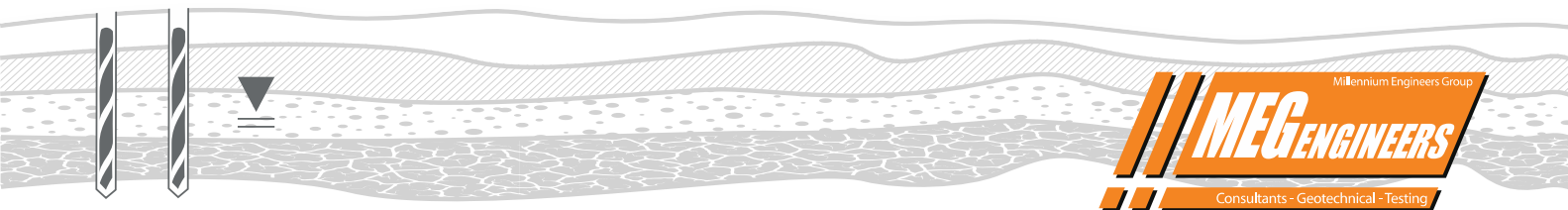
Material Preparation Time (per hour).....	\$85.00
Grout Prism (each prism).....	28.00
Mortar Prism (each prism).....	28.00

**TECHNICIAN SERVICES**

Soil Engineering Technician (per hour) (Min. 3 Hrs).....	\$85.00
Concrete Engineering Technician (per hour) (Min. 3 Hrs).....	85.00
Asphalt Engineering Technician (per hour) (Min. 3 Hrs).....	85.00
Masonry Engineering Technician (per hour) (Min. 3 Hrs).....	85.00
Senior Engineering Technician (per hour).....	87.00
Plant Inspection, Reinforcing Steel Inspection, Etc. (Min. 3 Hrs)	
Construction Inspection Engineering Technician Time (per hour).....	87.00
Plant Inspection, Reinforcing Steel Inspection, Etc. (Min. 3 Hrs)	
Engineering Specialist (per hour).....	87.00
Pier Inspection, Pile Load Inspections, Etc. (Min. 3 Hrs)	
Certified Welding Inspector (per hour) (Min. 4 Hrs).....	115.00

**OTHER SERVICES**

Vehicle Trip Charge (per trip) (within 25 miles of office).....	\$50.00
Vehicle Trip Charge (per mile) (beyond 25 miles of office).....	0.80
Other Testing Not Specified (Option 1) .....	Cost + 15%
Other Testing Not Specified (Option 2) (per hour).....	77.00
Other Services, Outside Services or Supplies.....	Cost + 15%



Test Reports (each report).....	35.00
Clerical/Administrative (per hour).....	73.00
Fax (per page).....	1.00
Photocopies	
8 1/2" x 11" (per page).....	0.12
8 1/2" x 14" (per page).....	0.15
11" x 17" (per page).....	0.20
Additional Insured (per request).....	200.00

**PROFESSIONAL SERVICES**

Principal Engineer (per hour).....	\$190.00
Project Engineer (per hour).....	175.00
Staff Engineer (per hour).....	135.00

**PROJECT MANAGEMENT AND COORDINATION OF SERVICES PROVIDED**

Applied to each invoice of net services provided	
Project Management (per hour).....	\$100.00

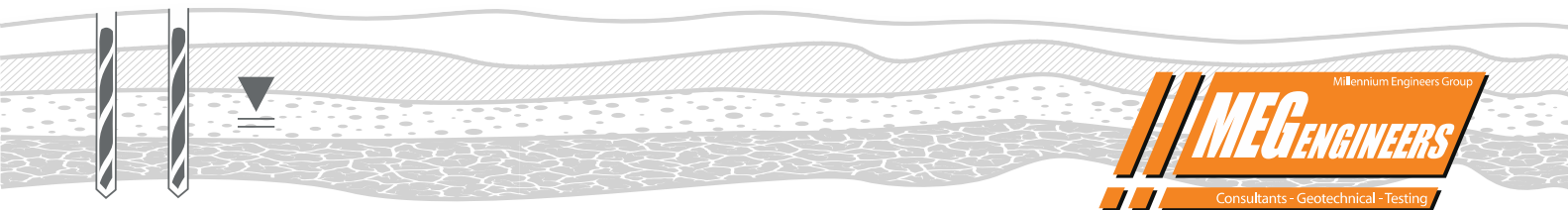
**BASIC SERVICES AGREEMENT**

MEG will charge overtime at the rate of 1.5 applicable for technicians for services performed before 7 AM and after 6 PM on Monday through Friday, after 8 continuous hours on the Client's project and on Saturday, Sunday and holidays.

Hours billed will be from our office at 5804 N. Gumwood, Pharr, Texas, port to port. Fractions of hours will be billed as whole hours. Technician hours will be billed a minimum of 3 hours.

Laboratory testing performed after normal work hours of 7 AM to 6 PM on Monday through Friday will be billed the test rate plus applicable overtime hourly charges.

Project management will be billed for report review, coordination and management of project personnel at a rate of one hour for every two reports.



# **Attachment “B-1”**

## **Work Schedule**



**Work Schedule  
Proposed Geo Technical Engineering Services  
for San Carlos Parking Lot Improvements**

**SOIL BORINGS SECTION**

**Task: Four (4) 10' depth soil borings for the Pavement area.  
Line Item**

<u>Field Section</u>	<u>Qty.</u>	<u>Unit Rate</u>	<u>Estimated Cost</u>
Drilled Borings - In Soil 0 - 50 feet (Per Foot)	40.00	32.00	1,280.00
Rig Mobilization and Demobilization (per trip)	1.00	450.00	450.00
Trip Charge for Logger (each mile)	40.00	0.80	32.00
Technician to Log Soil Test Boring (per hour)	4.00	75.00	300.00
Standard Penetration Test (each test)	20.00	12.00	240.00
Field Coordination - Utility Clearance (per hour)	4.00	75.00	300.00
<b>Sub-Total</b>			<b>2,602.00</b>

<u>Lab Section</u>			
Material Preparation Time (per hour)	3.00	85.00	255.00
Moisture Content (each test)	20.00	13.00	260.00
Soil Engineering Technician (per hour)	4.00	85.00	340.00
Percent Passing No. 200 Sieve (each test)	4.00	58.00	232.00
Sulfate Content (each test)	4.00	80.00	320.00
Atterberg Limits (each test)	8.00	80.00	640.00
<b>Sub-Total</b>			<b>2,047.00</b>

<u>Administrative Section</u>			
Principal Engineer (per hour)	4.00	190.00	760.00
Project Engineer (per hour)	3.00	175.00	525.00
Clerical/Administrative (per hour)	2.00	73.00	146.00
Staff Engineer (per hour)	3.00	135.00	405.00
<b>Sub-Total</b>			<b>1,836.00</b>

**SOILS BORINGS Section Total**

**6,485.00**

**Work Schedule  
 Proposed Construction Materials Testing Services for  
 San Carlos Parking Lot Improvements**

**SOILS SECTION**

**Task: Subgrade Sample at Paving Area (Per Sample, 2 samples estimated)**

Line Item	Qty.	Unit Rate	Estimated Cost
Soil Engineering Technician (Per Hour) (Min. 3 Hrs)	6	85.00	\$510.00
Standard Proctor (each test)	2	220.00	\$440.00
Atterberg Limits (each test)	3	80.00	\$240.00
Percent Passing No. 200 Sieve (each test)	2	58.00	\$116.00
Vehicle trip charge (per trip) (within 25 miles of office)	2	50.00	\$100.00
Test Reports (each report)	3	35.00	\$105.00
Project Engineer (per hour)	0.5	175.00	\$87.50
Project Management (per hour)	0.5	100.00	\$50.00
Clerical / Administrative (per hour)	0.5	73.00	\$36.50
Sub-Total (per sample)	1	-	\$785.00
Sub-Total (per task)	1	876.00	\$1,685.00

**Task: Subgrade density testing at Paving Area (Per Trip, 2 trips estimated)**

Line Item	Qty.	Unit Rate	Estimated Cost
Soil Engineering Technician (Per Hour) (Min. 3 Hrs)	6	85.00	\$510.00
Nuclear density test (min. 3, each test)	8	28.00	\$224.00
Vehicle trip charge (per trip) (within 25 miles of office)	2	50.00	\$100.00
Test Reports (each report)	2	35.00	\$70.00
Project Engineer (per hour)	0.5	175.00	\$87.50
Project Management (per hour)	0.5	100.00	\$50.00
Clerical / Administrative (per hour)	0.5	73.00	\$36.50
Sub-Total (per trip)	1	-	\$511.00
Sub-Total (per task)	1	546.00	\$1,078.00

**Task: Flexible Base Sample (Per Sample, 1 sample estimated)**

Line Item	Qty.	Unit Rate	Estimated Cost
Soil Engineering Technician (Per Hour) (Min. 3 Hrs)	3	85.00	\$255.00
Standard Proctor (each test)	1	220.00	\$220.00
Atterberg Limits (each test)	1	80.00	\$80.00
Sieve Analysis (each test)	1	85.00	\$85.00
Wet Ball Mill (each test)	1	240.00	\$240.00
Vehicle trip charge (per trip) (within 25 miles of office)	1	50.00	\$50.00
Test Reports (each report)	1	35.00	\$35.00
Project Engineer (per hour)	0.25	175.00	\$43.75
Project Management (per hour)	0.25	100.00	\$25.00
Clerical / Administrative (per hour)	0.25	73.00	\$18.25
Sub-Total (per sample)	1	-	\$1,052.00
Sub-Total (per task)	1	1,143.00	\$1,052.00

**Task: Flexible Base density testing at Paving Area (Per Trip, 2 trips estimated)**

Line Item	Qty.	Unit Rate	Estimated Cost
Soil Engineering Technician (Per Hour) (Min. 3 Hrs)	6	85.00	\$510.00
Nuclear density test (min. 3, each test)	9	28.00	\$252.00
Vehicle trip charge (per trip) (within 25 miles of office)	2	50.00	\$100.00
Test Reports (each report)	2	35.00	\$70.00
Project Engineer (per hour)	0.5	175.00	\$87.50
Project Management (per hour)	0.5	100.00	\$50.00
Clerical / Administrative (per hour)	0.5	73.00	\$36.50
Sub-Total (per trip)	1	-	\$511.00
Sub-Total (per task)	1	546.00	\$1,106.00

**SOILS Section Total \$4,921.00**

**CONCRETE SECTION**

**Task: Concrete testing at Paving Area (Per Pour, 2 concrete pour estimated)**

Line Item	Qty.	Unit Rate	Estimated Cost
Concrete Engineering Technician (Per Hour) (Min. 3 Hrs)	12	85.00	\$1,020.00
Slump Test (each test)	2	20.00	\$40.00
Air Content, Pressure (each test)	2	25.00	\$50.00
Concrete Cylinder Compressive Strength Test (each cylinder)	8	16.00	\$128.00
Vehicle trip charge (per trip) (within 25 miles of office)	4	50.00	\$200.00
Test Reports (each report)	4	35.00	\$140.00
Project Engineer (per hour)	1	175.00	\$175.00
Project Management (per hour)	1	100.00	\$100.00
Clerical / Administrative (per hour)	1	73.00	\$73.00
Sub-Total (per pour)	1	-	\$963.00
Sub-Total (per task)	1	579.00	\$1,926.00

**CONCRETE Section Total \$1,926.00**

**HMAC PAVEMENT SECTION**

**Task: HMAC pavement rolling pattern (per trip, 2 trips estimated)**

Line Item	Qty.	Unit Rate	Estimated Cost
Asphalt Engineering Technician (Per Hour) (Min. 3 Hrs.)	8	85.00	\$680.00
Nuclear density test (Min. 3, each test)	6	28.00	\$168.00
Vehicle trip charge (per trip) (within 25 miles of office)	2	50.00	\$100.00
Test Reports (each report)	2	35.00	\$70.00
Project Engineer (per hour)	0.5	175.00	\$87.50
Project Management (per hour)	0.5	100.00	\$50.00
Clerical / Administrative (per hour)	0.5	73.00	\$36.50
Sub-Total (per trip)	1	-	\$506.00
Sub-Total (per task)	1	516.00	\$1,192.00



**Task: HMAC Pavement Laboratory Testing (Per sample, 2 samples estimated)**

Line Item	Qty.	Unit Rate	Estimated Cost
Extraction & Gradation, percent asphalt (each test)	2	250.00	\$500.00
Theoretical maximum specific gravity (each test)	2	60.00	\$120.00
Lab Density (each test)	2	90.00	\$180.00
Hveem Stability (each test)	2	105.00	\$210.00
Test Reports (each report)	2	35.00	\$70.00
Project Engineer (per hour)	0.5	175.00	\$87.50
Project Management (per hour)	0.5	100.00	\$50.00
Clerical / Administrative (per hour)	0.5	73.00	\$36.50
Sub-Total (per trip)	1	-	\$627.00
Sub-Total (per task)	1	888.00	\$1,254.00

**Task: HMAC Pavement Field Coring (Per Trip, 1 trip estimated)**

Line Item	Qty.	Unit Rate	Estimated Cost
Asphalt Engineering Technician (Per Hour) (Min. 3 Hrs)	8	85.00	\$680.00
Coring Rig (per day)	1	95.00	\$95.00
Asphalt Cores (each core)	4	70.00	\$280.00
Asphalt Core Density (each core)	4	70.00	\$280.00
Test Reports (each report)	1	35.00	\$35.00
Project Engineer (per hour)	0.25	175.00	\$43.75
Project Management (per hour)	0.25	100.00	\$25.00
Clerical / Administrative (per hour)	0.25	73.00	\$18.25
Sub-Total (per trip)	1	-	\$1,457.00
Sub-Total (per task)	1	703.00	\$1,457.00

**HMAC Pavement Section Total** **\$3,903.00**

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**Total Estimated Cost** **\$10,750.00**

**Grand Total** **\$17,235.00**