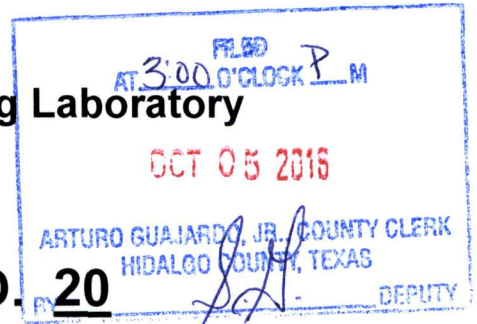


HIDALGO COUNTY
Professional Construction Material Testing Laboratory
Services
Agreement # C-16-328-08-30



WORK AUTHORIZATION NO. 20

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Section I.A. 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.**, professional Laboratory's of Pharr, Texas, hereinafter called "**Laboratory**".

PART 1. SCOPE OF WORK

The purpose of this Work Authorization is for the **Laboratory** to provide

Construction Materials Engineering and Testing Services for the Indian Hills project.

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 Laboratory** attached hereto.

PART 2. ESTIMATED COST

The estimated cost for services under this Work Authorization is **\$95,639.25**. This amount is based upon the costs outlined in the Estimated **Cost Proposal** attached hereto as **EXHIBIT "D"**.

PART 3. PAYMENT

Compensation and payment to the **Engineer** for the services established under this Work Authorization shall be made in accordance with **Article/Part/Section 4** of the Agreement.

PART 4. FUNDING

This Work Authorization No. **20** shall be funded through funding source:
Account No. SEE ATTACHED
Requisition Number 307010 (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. 1, Commissioner, A.C. Cuellar, Jr., as to content and detail of this Work Authorization No. **20**

**HIDALGO COUNTY
COMMISSIONER PRECINCT NO. 1:**

BY: *AC Cuellar*

PART 8. ACCEPTANCE AND APPROVAL

This Work Authorization is hereby accepted, approved by Hidalgo County Commissioners' Court on _____ as indicated below and effective as of ____ day of _____, 2016.

**THE LABORATORY:
MILLENNIUM ENGINEERS GROUP, INC.**

**THE OWNER:
HIDALGO COUNTY**

[Signature]
By: Andres Palma, Manager

Ramon Garcia
By: Ramon Garcia, County Judge

ATTEST:

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



APPROVED BY
COMMISSIONERS' COURT
ON: 10/4/16

LIST OF ATTACHMENTS

- EXHIBIT "A" - Services to be Provided by the Owner
- EXHIBIT "B" - Services to be Provided by the Laboratory
- EXHIBIT "C" - Work Schedule
- EXHIBIT "D" - Cost Proposal

ACCOUNT NUMBERS

CAMPACUAS 6-1280-431-00-121-828-5-430
CHEROKEE 6-1280-431-00-121-829-5-430
SANTAWAN 6-1280-431-00-121-830-5-430
CADDOE 6-1280-431-00-121-831-5-430
KICKAPOO 6-1280-431-00-121-832-5-430
WICHITA 6-1280-431-00-121-833-5-430
TEJAS 6-1280-431-00-121-834-5-430
SHAWNEE 6-1280-431-00-121-835-5-430
CHEYENNE 6-1280-431-00-121-836-5-430
SEMINOLE 6-1280-431-00-121-837-5-430
CREEK PLACE 6-1280-431-00-121-838-5-430

WORK AUTHORIZATION NO. 20

EXHIBIT A

-Scope of Services to be provided by the County

The following provides an outline of the services to be provided by the Owner in the development of Projects (as defined and more particularly identified in Exhibit "A" attached to this Agreement).

General:

The Owner will provide to the Laboratory the following:

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

EXHIBIT B

-Scope of Services to be provided by the Laboratory

Exhibit "B"

Services to be Provided by Laboratory

The services to be provided by the LABORATORY in providing Geotechnical Laboratory Services, Construction Materials Testing Services, Construction Observation Services and Environmental Services for Hidalgo County Precinct No. 1 Projects, "ON A AS NEEDED BASIS" and projects is 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.

EXHIBIT C

Work Schedule

Millennium Engineers Group, Inc. will go out to site on an as-needed basis to perform testing services. Services will be provided as requested by project personnel. A 24-hour notice will be required from project personnel.

EXHIBIT D

“Proposal”



**Work Schedule
Proposed Construction Materials Engineering and Testing Services
Indian Hills Project**

SOIL BORINGS SECTION

**Task: Thirty four (34) 5' depth soil borings at Roadway prior to construction (1 trip estimated)
Measurement of Existing Materials, Soil Sampling, Laboratory Testing, and Pavement Recommendations.**

Line Item	Qty.	Unit Rate	Estimated Cost
Drilled Borings, Soil (per foot)	170	19.00	3,230.00
Standard Penetration Test (each)	102	12.00	1,224.00
Mobilization and Demobilization (each)	1	350.00	350.00
Technician to Log Soil Test Boring (per hour)	16	54.00	864.00
Soil Material Preparation (per hour)	16	47.00	752.00
Utility Clearance (per hour)	12	70.00	840.00
Atterberg Limits (each)	68	70.00	4,760.00
Sieve Analysis (each)	68	55.00	3,740.00
Moisture Content (each)	102	13.00	1,326.00
Vehicle trip charge (each)	3	40.00	120.00
Test Report (each)	1	30.00	30.00
Project Engineer (hourly)	12	125.00	1,500.00
Project Management (hourly)	16	75.00	1,200.00
Clerical (hourly)	4	50.00	200.00
Sub-Total (per trip)	1	-	20,136.00
Sub-Total (per task)	1	20,136.00	20,136.00

SOILS SECTION

Task: Initial Subgrade Sample for Determination of Optimum Lime Content at Roadway (Per Trip, 11 trip estimated)

Line Item	Qty.	Unit Rate	Estimated Cost
Soil Engineering Technician (hourly)	4	47.00	188.00
Determination of Optimum Lime Content, PI method (each)	1	275.00	275.00
Vehicle trip charge (each)	1	37.00	37.00
Test Report (each)	1	30.00	30.00
Project Engineer (hourly)	0.5	125.00	62.50
Project Management (hourly)	0.25	75.00	18.75
Clerical (hourly)	1	50.00	50.00
Sub-Total (per trip)	1	-	661.25
Sub-Total (per task)	11	661.25	7,273.75

Task: Subgrade Sample at Roadway (Per Trip, 17 trips estimated)

Line Item	Qty.	Unit Rate	Estimated Cost
Soil Engineering Technician (hourly)	2.5	47.00	117.50
Standard Proctor (each)	1	200.00	200.00
Atterberg Limits (each)	1	70.00	70.00
Vehicle trip charge (each)	1	37.00	37.00
Test Report (each)	1	30.00	30.00
Project Engineer (hourly)	0.5	125.00	62.50
Project Management (hourly)	0.25	75.00	18.75
Clerical (hourly)	1	50.00	50.00
Sub-Total (per trip)	1	-	585.75
Sub-Total (per task)	17	585.75	9,957.75



Task: Flexible Base Sample at Roadway (Per Trip, 11 trips estimated)

Line Item	Qty.	Unit Rate	Estimated Cost
Soil Engineering Technician (hourly)	2.5	47.00	117.50
Standard Proctor (each)	1	200.00	200.00
Atterberg Limits (each)	1	70.00	70.00
Sieve Analysis (each)	1	55.00	55.00
Wet Ball Mill (each)	1	210.00	210.00
Vehicle trip charge (each)	1	37.00	37.00
Test Report (each)	1	30.00	30.00
Project Engineer (hourly)	0.5	125.00	62.50
Project Management (hourly)	0.25	75.00	18.75
Clerical (hourly)	1	50.00	50.00
Sub-Total (per trip)	1	-	850.75
Sub-Total (per task)	11	850.75	9,358.25

Task: Subgrade density testing at Roadway (Per Trip, 27 trips estimated)

Line Item	Qty.	Unit Rate	Estimated Cost
Soil Engineering Technician (hourly)	2.5	47.00	117.50
Nuclear density test (each)	3	28.00	84.00
Vehicle trip charge (each)	1	37.00	37.00
Test Report (each)	1	30.00	30.00
Project Engineer (hourly)	0.5	125.00	62.50
Project Management (hourly)	0.25	75.00	18.75
Clerical (hourly)	1	50.00	50.00
Sub-Total (per trip)	1	-	399.75
Sub-Total (per task)	27	399.75	10,793.25

Task: Flexible Base density testing at Roadway (Per Trip, 27 trips estimated)

Line Item	Qty.	Unit Rate	Estimated Cost
Soil Engineering Technician (hourly)	2.5	47.00	117.50
Nuclear density test (each)	3	28.00	84.00
Vehicle trip charge (each)	1	37.00	37.00
Test Report (each)	1	30.00	30.00
Project Engineer (hourly)	0.50	125.00	57.50
Project Management (hourly)	0.25	75.00	18.75
Clerical (hourly)	1	50.00	50.00
Sub-Total (per trip)	1	-	399.75
Sub-Total (per task)	27	399.75	10,793.25

SOILS Section Total

68,312.25

HMAC PAVEMENT SECTION

Task: HMAC Pavement Field Rolling Pattern Testing (Per Trip, 22 trips estimated)

Line Item	Qty.	Unit Rate	Estimated Cost
Asphalt Engineering Technician (hourly)	4	52.00	208.00
Nuclear Density Test (each)	3	28.00	84.00
Vehicle trip charge (each)	1	37.00	37.00
Test Report (each)	1	30.00	30.00
Project Engineer (hourly)	0.5	125.00	57.50
Project Management (hourly)	0.25	75.00	18.75
Clerical (hourly)	1	50.00	50.00
Sub-Total (per trip)	1	-	485.25
Sub-Total (per task)	22	485.25	10,675.50

Task: HMAC Pavement Laboratory Testing (22 samples estimated)

Line Item	Qty.	Unit Rate	Estimated Cost
Extraction & Gradation, percent asphalt (each)	1	250.00	250.00
Theoretical maximum specific gravity of mixtures (each)	1	60.00	60.00
Lab Density (each)	1	65.00	65.00
Sub-Total (per trip)	1	-	375.00

Construction Materials Testing Services
 MEG Work Authorization No.: 20
 September 28, 2016



Sub-Total (per task)	22	375.00	8,250.00
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Task: HMAC Pavement Field Coring (Per Trip, 6 trips estimated)

Line Item	Qty.	Unit Rate	Estimated Cost
Asphalt Engineering Technician (hourly)	6	52.00	312.00
Coring Rig (each)	1	95.00	95.00
Asphalt Cores (each)	8	60.00	480.00
Asphalt Core Density (each)	8	40.00	320.00
Vehicle trips (each)	1	37.00	37.00
Test Report (each)	1	30.00	30.00
Project Engineer (hourly)	0.50	125.00	57.50
Project Management (hourly)	0.25	75.00	18.75
Clerical (hourly)	1	50.00	50.00
Sub-Total (per trip)	1	-	1,400.25
Sub-Total (per task)	6	1,400.25	8,401.50

HMAC Pavement Section Total

27,327.00

Total Estimated Cost

\$95,639.25