THE STATE OF TEXAS §

COUNTY OF CAMERON §

BE IT REMEMBERED on the 27th day of July 2022, there was conducted a Special Meeting of the Cameron County Regional Mobility Authority, at the CCRMA Administrative Office, 3470 Carmen Avenue, Suite 5 thereof, in Rancho Viejo, Texas, for the purpose of transacting any and all business that may lawfully be brought before the same.

THE BOARD MET AT:

12:00 Noon

PRESENT:

FRANK PARKER, JR.
CHAIRPERSON

MICHAEL SCAIEF
VICE CHAIRMAN

ARTURO A. NELSON
SECRETARY

AL VILLARREAL
TREASURER-ABSENT

MARK ESPARZA
DIRECTOR

LEO R. GARZA
DIRECTOR

DR. MARIA VILLEGAS, M.D.
DIRECTOR-ABSENT

The Meeting was called to order by Chairman Parker, at 12:00 Noon. At this time, the Board considered the following matters as per CCRMA Agenda posted on the CCRMA's website and physically at 3470 Carmen Avenue, Suite 5, Rancho Viejo, Texas, on this 22nd day of July 2022 at 8:00 A.M.

PUBLIC COMMENTS

1 PUBLIC COMMENTS

None.

ACTION ITEMS

2-A Consideration and Approval of the June 30, 2022, Regular Meeting Minutes.

Director Esparza moved to approve the June 30, 2022, Regular Meeting Minutes. The motion was seconded by Vice Chairman Scaief and carried unanimously.

2-B Acknowledgement of Claims.

Mr. Victor Barron, RMA Controller went over the Claims and presented them into the record.

Vice Chairman Scaief moved to acknowledge the Claims as presented. The motion was seconded by Director Garza and carried unanimously.

The Claims are as follows:

2-C Approval of Claims.

Mr. Victor Barron, RMA Controller went over the Claims and presented them into the record including an additional claim that was read into the record for S&B Infrastructure, Ltd. for the East Loop Project in the amount of $371, 398.97.

Director Esparza moved to approve the Claims as presented and with the claim read into the record for S&B Infrastructure, Ltd. in the amount of $371, 398.97. The motion was seconded by Director Garza and carried unanimously.

The Claims are as follows:

2-D Consideration and Approval of the Financial Statements and Budget Amendments for the Month of June 2022.

Mr. Victor Barron, RMA Controller went over the Financial Statements and Budget Amendments for the Month of June 2022.

Director Garza moved to approve the Financial Statements and Budget Amendments for the Month of June 2022. The motion was seconded by Director Esparza and carried unanimously.

The Financials are as follows:

2-E Consideration and Acknowledgement that all Cameron County Regional Mobility Authority Employees have taken the Cyber Security Training as Required by HB 3834.

Mr. Pete Sepulveda, Jr., RMA Executive Director informed the board that all Cameron County Regional Mobility Authority Employees have taken the Cyber Security Training as Required by HB 3834.

Secretary Nelson moved to acknowledge that all Cameron County Regional Mobility Authority Employees have taken the Cyber Security Training as Required by HB 3834. The motion was seconded by Director Garza and carried unanimously.

2-F Consideration and Approval of a Resolution or Letter of Support for the U.S. 77 Projects and request that all Segments of U.S. 77 be given Statewide Development Authority in the 2023 Unified Transportation Program.

Mr. Pete Sepulveda, Jr., RMA Executive Director went over the need for Approval of a Resolution or Letter of Support for the U.S. 77 Projects and request that all Segments of U.S. 77 be given Statewide Development Authority in the 2023 Unified Transportation Program. Mr. Sepulveda informed the board the 2023 UTP public comment period began on July 8th, and deadline to submit comments is on August 8th. Mr. Sepulveda also informed the board that all letters of support received would be submitted by or before August 8th.

Director Garza moved to approve a Resolution or Letter of Support for the U.S. 77 Projects and request that all Segments of U.S. 77 be given Statewide Development Authority in the 2023 Unified Transportation Program. The motion was seconded by Secretary Nelson and carried unanimously.

The Letter is as follows:

2-G Consideration and Approval of a Professional Services Agreement Between the Cameron County Regional Mobility Authority and S&B Infrastructure, Ltd. for the SH 550 Maintenance Assessment Report.

Mr. Eric Davila, RMA Chief Development Engineer explained the need for a Professional Services Agreement Between the Cameron County Regional Mobility Authority and S&B Infrastructure, Ltd. for the SH 550 Maintenance Assessment Report. Mr. Davila informed the board the assessment report was needed to comply with Title 23 of the U.S. Code Section 129 for the most recent fiscal year as per TxDOT.

Director Esparza moved to approve the Professional Services Agreement Between the Cameron County Regional Mobility Authority and S&B Infrastructure, Ltd. for the SH 550 Maintenance Assessment Report. The motion was seconded by Director Garza and carried unanimously.

The Agreement is as follows:

2-H Consideration and Approval of Work Authorization No. 32 with S&B Infrastructure, Ltd. For the FM 509 Project for Preliminary Engineering.

Mr. Eric Davila, RMA Chief Development Engineer went over the need for Work Authorization No. 32 with S&B Infrastructure, Ltd. For the FM 509 Project for Preliminary Engineering. Mr. Davila informed the board the work authorization had been reviewed for scope of work and fee negotiated and funding for the work authorization would be through an Interlocal with Cameron County.

Secretary Nelson moved to approve Work Authorization No. 32 with S&B Infrastructure, Ltd. For the FM 509 Project for Preliminary Engineering subject to final approval of scope of work by TxDOT. The motion was seconded by Director Esparza and carried unanimously.

The Work Authorization is as follows:

2-I Consideration and Approval of Work Authorization No. 01 with GDJ Engineering for the Dana Road Project for Preliminary Engineering.

Mr. Eric Davila, RMA Chief Development Engineer went over the need for Work Authorization No. 01 with GDJ Engineering for the Dana Road Project for Preliminary Engineering. Mr. Davila informed the board the work authorization had been reviewed for scope of work and fee negotiated and funding for the work authorization would be through an Interlocal with Cameron County and City of Brownsville.

Director Esparza moved to approve Work Authorization No. 01 with GDJ Engineering for the Dana Road Project for Preliminary Engineering. The motion was seconded by Director Garza and carried unanimously.

The Work Authorization is as follows:

2-J Consideration and Approval of Work Authorization No. 02 with GDJ Engineering for the Oscar Williams Road Project (I69E to South Parallel Corridor) for Preliminary Engineering.

Mr. Eric Davila, RMA Chief Development Engineer went over the need for Work Authorization No. 02 with GDJ Engineering for the Oscar Williams Road Project (I69E to South Parallel Corridor) for Preliminary Engineering. Mr. Davila informed the board the work authorization had been reviewed for scope of work and fee negotiated and funding for the work authorization would be through an Interlocal with Cameron County and City of San Benito.

Secretary Nelson moved to approve Work Authorization No. 02 with GDJ Engineering for the Oscar Williams Road Project (I69E to South Parallel Corridor) for Preliminary Engineering. The motion was seconded by Director Garza and carried unanimously.

The Work Authorization is as follows:

2-K Consideration and Approval of Payment of Invoices and Release of Checks to Noble Texas Builders, Peacock Construction and A&I for the Cameron County Parks Administration Building, Pedro "Pete" Benavides Basketball Courts, and the Isla Blanca Toll Booth Projects.

Mr. Pete Sepulveda, Jr., RMA Executive Director explained the need for Approval of Payment of Invoices and Release of Checks to Noble Texas Builders, Peacock Construction and A&I for the Cameron County Parks Administration Building, Pedro "Pete" Benavides Basketball Courts, and the Isla Blanca Toll Booth Projects. Mr. Sepulveda informed the board of the estimated invoice amounts for each project as follows: invoice for Noble Texas Builders for the Cameron County Parks Administration in the amount of $375,000.00, invoice for Peacock Construction for the Cameron County Pedro "Pete" Benavides Basketball Courts in the amount of $60,000.00, invoice for A&I Custom Manufacturing for the Cameron County Isla Blanca Toll Booth Projects in the amount of $65,000. Mr. Sepulveda explained the invoices would be ratified at the next meeting.

Vice Chairman Scaief moved to approve the Payment of Invoices and Release of Checks to Noble Texas Builders, Peacock Construction and A&I for the Cameron County Parks Administration Building, Pedro "Pete" Benavides Basketball Courts, and the Isla Blanca Toll Booth Projects. The motion was seconded by Director Esparza and carried unanimously.

2-L Consideration and Approval of Change Order No. 4 for the Construction Manager at Risk Contract Between the Cameron County Regional Mobility Authority and Noble Texas Builders for the Cameron County Parks Administration Building.

Mr. Alejandro Garcia, RMA Construction Manager went over the need for Change Order No. 4 for the Construction Manager at Risk Contract between the Cameron County Regional Mobility Authority and Noble Texas Builders for the Cameron County Parks Administration Building. Mr. Garcia explained the change order would be funded by Cameron County and recommended the board approve subject to Cameron County final approval.

Director Esparza moved to approve Change Order No. 4 for the Construction Manager at Risk Contract Between the Cameron County Regional Mobility Authority and Noble Texas Builders for the Cameron County Parks Administration Building subject to Cameron County final approval. The motion was seconded by Secretary Nelson and carried unanimously.

The Change Order is as follows:

2-M Consideration and Approval of Contingency Authorization No. 1 for the Construction Manager at Risk Contract Between the Cameron County Regional Mobility Authority and Noble Texas Builders for the Cameron County Parks Administration Building.

Mr. Alejandro Garcia, RMA Construction Manager went over the need for Contingency Authorization No. 1 for the Construction Manager at Risk Contract between the Cameron County Regional Mobility Authority and Noble Texas Builders for the Cameron County Parks Administration Building. Mr. Garcia explained the contingency authorization would have no fiscal impact on the contract amount and Cameron County has funded the contract.

Vice Chairman Scaief moved to approve Contingency Authorization No. 1 for the Construction Manager at Risk Contract Between the Cameron County Regional Mobility Authority and Noble Texas Builders for the Cameron County Parks Administration Building. The motion was seconded by Director Esparza and carried unanimously.

The Contingency Authorization is as follows:

2-N Consideration and Approval of Change Order No. 2 Between the Cameron County Regional Mobility Authority and A & I Custom Manufacturing, LLC for the Isla Blanca Park Toll Booths Project for the Cameron County Parks System.

Mr. Alejandro Garcia, RMA Construction Manager went over the need Change Order No. 2 between the Cameron County Regional Mobility Authority and A & I Custom Manufacturing, LLC for the Isla Blanca Park Toll Booths Project for the Cameron County Parks System. Mr. Garcia explained the change order would have no fiscal impact on the contract and only added days for a substantial completion date of August 12th and Cameron County has funded the contract.

Vice Chairman Scaief moved to approve Change Order No. 2 Between the Cameron County Regional Mobility Authority and A & I Custom Manufacturing, LLC for the Isla Blanca Park Toll Booths Project for the Cameron County Parks System. The motion was seconded by Secretary Nelson and carried unanimously.

The Change Order is as follows:

Director Esparza made a motion to go into executive session at 12:32 PM. The motion was seconded by Director Garza and carried unanimously.

3 – EXECUTIVE SESSION

3-A Confer with Cameron County Regional Mobility Authority Legal Counsel Regarding Legal Issues Related to the Agreement between the Cameron County Regional Mobility Authority and Quadient, Pursuant to V.T.C.A., Government Code, Section 551.071 (2).

Secretary Nelson made a motion to come back into open session at 12:38 PM. The motion was seconded by Director Esparza and carried unanimously.

4 -A Possible Action

Secretary Nelson made a motion to proceed as discussed in Executive Session. The motion was seconded by Director Esparza and carried unanimously.

ADJOURNMENT

There being no further business to come before the Board and upon motion by Vice Chairman Scaief and seconded by Director Esparza and carried unanimously the meeting was **ADJOURNED** at 12:39 P.M.

APPROVED this 25th **day of** August **2022.**

CHAIRMAN FRANK PARKER, JR.

ATTESTED:
ARTURO A. NELSON, SECRETARY

POSTED ON WEB
July 22, 2022
At 8:00 A.M.

RMA
CAMERON COUNTY REGIONAL
MOBILITY AUTHORITY

IMPROVING MORE THAN JUST ROADS

AGENDA
Special Meeting of the Board of Directors
of the
Cameron County Regional Mobility Authority
3470 Carmen Avenue, Suite 5
Rancho Viejo, Texas 78575
July 27, 2022
12:00 Noon

PUBLIC COMMENTS:

1. **Public Comments.**

ITEMS FOR DISCUSSION AND ACTION:

2. **Action Items.**

   A. **Consideration and Approval of the June 30, 2022, Regular Meeting Minutes.**

   B. **Acknowledgement of Claims.**

   C. **Approval of Claims.**

   D. **Consideration and Approval of the Financial Statements and Budget Amendments for the Month of June 2022.**

   E. **Consideration and Acknowledgement that all Cameron County Regional Mobility Authority Employees have taken the Cyber Security Training as Required by HB 3834.**

   F. **Consideration and Approval of a Resolution or Letter of Support for the U.S. 77 Projects and request that all Segments of U.S. 77 be given Statewide Development Authority in the 2023 Unified Transportation Program.**

   G. **Consideration and Approval of a Professional Services Agreement Between the Cameron County Regional Mobility Authority and S&B Infrastructure, Ltd. for the SH 550 Maintenance Assessment Report.**

   H. **Consideration and Approval of Work Authorization No. 32 with S&B Infrastructure, Ltd. For the FM 509 Project for Preliminary Engineering.**

   I. **Consideration and Approval of Work Authorization No. 01 with GDJ Engineering for the Dana Road Project for Preliminary Engineering.**

J. **Consideration and Approval of Work Authorization No. 02 with GDJ Engineering for the Oscar Williams Road Project (I69E to South Parallel Corridor) for Preliminary Engineering.**

K. **Consideration and Approval of Payment of Invoices and Release of Checks to Noble Texas Builders, Peacock Construction and A&I for the Cameron County Parks Administration Building, Pedro "Pete" Benavides Basketball Courts, and the Isla Blanca Toll Booth Projects.**

L. **Consideration and Approval of Change Order No. 4 for the Construction Manager at Risk Contract Between the Cameron County Regional Mobility Authority and Noble Texas Builders for the Cameron County Parks Administration Building.**

M. **Consideration and Approval of Contingency Authorization No. 1 for the Construction Manager at Risk Contract Between the Cameron County Regional Mobility Authority and Noble Texas Builders for the Cameron County Parks Administration Building.**

N. **Consideration and Approval of Change Order No. 2 Between the Cameron County Regional Mobility Authority and A & I Custom Manufacturing, LLC for the Isla Blanca Park Toll Booths Project for the Cameron County Parks System.**

3. **EXECUTIVE SESSION:**

A. **Confer with Cameron County Regional Mobility Authority Legal Counsel Regarding Legal Issues Related to the Agreement between the Cameron County Regional Mobility Authority and Quadient, Pursuant to V.T.C.A., Government Code, Section 551.071 (2).**

4. **ACTION RELATIVE TO EXECUTIVE SESSION:**

A. **Possible Action**

ADJOURNMENT:

Signed this 22nd day of July 2022.

Frank Parker, Jr.
Chairman

NOTE:
Participation by Telephone Conference Call – One or more members of the CCRMA Board of Directors may participate in this meeting through a telephone conference call, as authorized by Sec. 370.262, Texas Transportation Code. Each part of the telephone conference call meeting that by law must be open to the public shall be audible to the public at the meeting location and will be recorded. On conclusion of the meeting, the recording will be made available to the public.

2-B ACKNOWLEDGEMENT OF CLAIMS.

Claims for Acknowledgement

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY
Claims July 21, 2022

Operations

Vendor Name	Invoice Number	Cash Required	Invoice/Credit Description	PROJ Title	Transfer Funds	Funding Source	Bank Account
Aflac	111506	$ 199.08	Employee Supplemental Insurance July 2022	Indirect	Y	Local	Ope
JWH and Associates, Inc.	1122	1,000.00	SH550 Gap II Railroad Issues and Harlingen Switchyard Jun	SH550 GAP II	Y	Local	Ope
JWH and Associates, Inc.	1222	750.00	West Rail Relocation Property Easements May 2022	SH550 GAP II	Y	Local	Ope
JWH and Associates, Inc.	1322	1,500.00	East Loop Grant Application and BCA June 2022	SH 32 (East Loop)	Y	Local	Ope
Charter	0121858070922	1,161.29	Internet/Phones July 2022	Indirect	Y	Local	Ope
TML Health Benefits Pool	PCAMERO62208	8,002.17	Employee Health Benefits Aug 2022	Indirect	Y	Local	Ope
		12,612.54					

Tolls

Vendor Name	Invoice Number	Cash Required	Invoice/Credit Description	PROJ Title	Transfer Funds	Funding Source	Bank Account
Amazon	Amazon June 2022	$ 6,169.09	Maintenance and Office	Indirect	Y	Local	Toll
FRANCISCO J SANMIGUEL	Travel FSM 7.20.22	1,686.16	Travel Reimbursement FSM Oct-Dec 2021	Indirect	Y	Local	Toll
The Levy Company	017	10,900.00	Replaced Damaged Light Pole SH550 Toll	Indirect	Y	Local	Toll
Matus Contractor Company	475	7,000.00	Grass, Garbage and Herbicide Paredes Ln-Alton Gloor July	Indirect	Y	Local	Toll
Neology	18978	5,500.00	Pharr Mini Standard Tag	Pharr-Reynosa Intl Bridge	Y	Local	Toll
Public Utilities Board	588837 07/22	282.37	Electricity 180042 SH 550 Bro, TX July 2022	Port Spur - SH550	Y	Local	Toll
Quadient Leasing USA, Inc.	N9476165	1,061.10	Mailing system software July 2022	Indirect	Y	Local	Toll
South Padre Island Chamber of Commerce	21-2023	1,593.00	2023 Guide tp SPI 1/4 page	Indirect	Y	Local	Toll
Texas Department of Motor Vehicles (TxDMV)	TxDMV 7.15.22	6,000.00	Name and Address Lookup July 2022	Indirect	Y	Local	Toll
Charter	0121858070922	1,161.29	Internet/Phones July 2022	Indirect	Y	Local	Toll
Charter Communcations	0879673071522	267.19	Ethernet Instrastate July 2022	Direct Connectors -	Y	Local	Toll
TML Health Benefits Pool	PCAMERO62208	6,222.36	Employee Health Benefits Aug 2022	Indirect	Y	Local	Toll
TollPlus LLC	US2200079	6,622.87	Maintenance and Support Pharr Bridge June 2022	Indirect	Y	Local	Toll
Toshiba America Business Solutions, Inc	5673109	245.66	Excess Prints Tolls Printer July 2022	Indirect	Y	Local	Toll
United States Postal Service	USPS FC 7.14.22	3,000.00	USPS First Class Stamps 7.14.22	Indirect	Y	Local	Toll
Xtreme Security	67554	567.00	Tolls Cameras HDMI Extender and Switch	Indirect	Y	Local	Toll
		58,278.09					

Operations	$ 12,612.54
Tolls	58,278.09
Total Transfer	$ 70,890.63

Reviewed by:

Monica R. Ibarra, Accounting Clerk

Victor J. Barron, Controller 7.21.22

Pete Sepulveda Jr, Executive Director 7.21.22

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY
Claims July 12, 2022

Operations

Vendor Name	Invoice Number	Cash Required	Invoice/Credit Description	PROJ Title	Transfer Funds	Funding Source	Bank Account
American Express	AMEX June 2022	$ 5,288.13	Credit Card Charges June 2022	Indirect	Y	Local	Ope
Campbells Services	16290	875.00	Janitoral Services June 2022	Indirect	Y	Local	Ope
Culligan of the Rio Grande Valley	320895 6/22	41.00	Bottled Water Delivery June 2022	Indirect	Y	Local	Ope
Alejandro Garcia	Travel AG 6.30.22	276.71	Travel Reimbursement AG 6.30.22	Indirect	Y	Local	Ope
Ericka Trevino	Travel ET 7.11.22	202.97	Travel Reimbursement ET 7.11.22	Indirect	Y	Local	Ope
Monica R Ibarra	Travel MRI 6.30.22	30.89	Travel Reimbursement MRI 6.30.22	Indirect	Y	Local	Ope
Lone Star Shredding Document Storage	1977523	52.50	Shredding Services 6.30.22	Indirect	Y	Local	Ope
MPC Studios, Inc	31795	275.00	Website Hosting July 2022	Indirect	Y	Local	Ope
Republic Services	0863-002212014	131.68	Waste Container July 2022	Indirect	Y	Local	Ope
SOARS Soultions, LLC	1379	1,800.00	Drone Training 32 Hour FAA Compliant Part 107 Course	Indirect	Y	Local	Ope
Rentfro, Irwin, & Irwin, P.L.L.C	1616	2,723.51	Legal Services June 2022	Indirect	Y	Local	Ope
Toshiba Financial Services	40304912	311.23	Printer Admin July 2022	Indirect	Y	Local	Ope
Valley Municipal Utility District	2030007806 6/22	39.45	Water & Wastewater Ste 7 June 2022	Indirect	Y	Local	Ope
Valley Municipal Utility District	2030007907 6/22	34.92	Water & Wastewater Ste 6 June 2022	Indirect	Y	Local	Ope
Valley Municipal Utility District	2030008005 6/22	35.31	Water & Wastewater Ste 4 June 2022	Indirect	Y	Local	Ope
Valley Municipal Utility District	2030008105 06/22	34.92	Water and Wastewater Ste 3 June 2022	Indirect	Y	Local	Ope
Valley Municipal Utility District	2030008306 6/22	34.92	Water & Wastewater Ste 8 June 2022	Indirect	Y	Local	Ope
Valley Municipal Utility District	2030008406 6/22	34.17	Water & Wastewater Ste 5 June 2022	Indirect	Y	Local	Ope
		12,222.31					

Tolls

Vendor Name	Invoice Number	Cash Required	Invoice/Credit Description	PROJ Title	Transfer Funds	Funding Source	Bank Account
Advanced Gamma Electric, LLC	0850	$ 8,308.93	Troubleshooting in light control box SH550	Indirect	Y	Local	Toll
American Express	AMEX June 2022	416.64	Credit Card Charges June 2022	Indirect	Y	Local	Toll
Business View Magazine	11369	5,850.00	Gold Ad/Valley International Airport Feature Full Page Ad	Indirect	Y	Local	Toll
Culligan of the Rio Grande Valley	320895 6/22	57.95	Bottled Water Delivery June 2022	Indirect	Y	Local	Toll
Law Enforcement Systems LLC	1008020	391.04	Out of State DMV Records June 2022	Indirect	Y	Local	Toll
Business Radio Licensing	28100	105.00	Processing Fee for an FCC License Application Renewal	Indirect	Y	Local	Toll
LexisNexis Risk Solutions FL Inc	1546392-20220630	113.43	Address and Name Lookup June 2022	Indirect	Y	Local	Toll
NSA Property Holdings. LLC d/b/a Move It Storage- North 77th	Unit #242 7.12.22	44.00	Storage Unit #242 price increase July 2022	Indirect	Y	Local	Toll
Prisciliano Delgado	10735	250.00	Lawn Care Services June 2022	Indirect	Y	Local	Toll
Charter Communcations	2868066070322	258.66	Ethernet Intrastate July 2022	Direct Connectors - SH550	Y	Local	Toll
United States Postal Service	USPS Repl 7.6.22	15,000.00	Postage Replenishment July 2022	Indirect	Y	Local	Toll
Verizon Wireless	9909526042	75.98	Internet/Hotspot June 2022	Indirect	Y	Local	Toll
Valley Municipal Utility District	3010066802 6/22	39.45	Water & Wastewater Tolls June 2022	Indirect	Y	Local	Toll
		30,911.08					

Operations	$	12,222.31
Tolls		30,911.08
Total Transfer	$	43,133.39

Reviewed by:

Monica R. Ibarra, Accounting Clerk — Monica R Ibarra 7.12.22

Victor J. Barron, Controller — 7.12.22

Pete Sepulveda Jr, Executive Director — 07.12.27

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY
Claims June 30, 2022

Operations

Vendor Name	Invoice Number	Cash Required	Invoice/Credit Description	PROJ Title	Transfer Funds	Funding Source	Bank Account
Aflac	723542	$ 199.08	Employee Supplemental Insurance June 2022	Indirect	Y	Local	Ope
CNA Surety	72276634 JH 7.16.22	50.00	CNA Surety JH 7.16.22	Indirect	Y	Local	Ope
Direct Energy Business, LLC	221720049368342	64.11	Electricity Ste 7 June 2022	Indirect	Y	Local	Ope
Direct Energy Business, LLC	221720049368343	133.77	Electricity Ste 3 June 2022	Indirect	Y	Local	Ope
Direct Energy Business, LLC	221720049368344	107.71	Electrcity Ste 5 June 2022	Indirect	Y	Local	Ope
Direct Energy Business, LLC	221720049368345	91.08	Electricity Ste 4 June 2022	Indirect	Y	Local	Ope
Victor J. Barron	Travel VJB 6.28.22	20.83	Travel Reimbursement VJB 6.28.22	Indirect	Y	Local	Ope
Gexa Energy, LP	33131872	80.51	Electricity Ste 6 June 2022	Indirect	Y	Local	Ope
Lone Star Shredding Document Storage	1977301	112.50	Shredding Services June 2022	Indirect	Y	Local	Ope
Pathfinder Public Affairs, Inc	53	12,000.00	Consulting Services May 2022	Indirect	Y	Local	Ope
Staples Business	1642839500	613.30	Office Supplies Jun 2022	Indirect	Y	Local	Ope
TML Health Benefits Pool	PCAMERO62207	7,439.92	Employee Health Insurance July 2022	Indirect	Y	Local	Ope
Union Pacific Railroad Company	90116244	1,675.00	Union Pacific Railroad SH550 June 2022	SH550 GAP II	Y	Local	Ope
		22,587.81					

Tolls

Vendor Name	Invoice Number	Cash Required	Invoice/Credit Description	PROJ Title	Transfer Funds	Funding Source	Bank Account
Direct Energy Business, LLC	221720049367857	$ 362.24	Electricity Tolls June 2022	Indirect	Y	Local	Toll
Direct Energy Business, LLC	221740049391071	269.72	Electricity 570 Fm 511 June 2022	Direct Connectors - SH550	Y	Local	Toll
Direct Energy Business, LLC	221740049391072	487.80	Electricity 1895 Fm 511 #1 June 2022	FM1847 - SH550	Y	Local	Toll
Gexa Energy, LP	33137894	139.95	Electrcity 1505 Fm 511 & 1705 FM 511 June 2022	Direct Connectors - SH550	Y	Local	Toll
ID SecurityOnline.com, LLC	I-43015	5,360.00	Proximity Card 30mil PVC CR80 prox card 4cp/black with barco	Indirect	Y	Local	Toll
Kapsch TrafficCom USA, Inc	486023SI00540	14,274.00	Maintenance and Support May 2022	Indirect	Y	Local	Toll
NSA Property Holdings. LLC d/b/a Move It Storage- North	Unit #242 7/22	214.00	Storage Unit #242 July 2022	Indirect	Y	Local	Toll
Orlando Sims	Refund DV OS 6.21.22	0.50	DV Refund Request Orlando Sims 6.21.22	Indirect	Y	Local	Toll
Public Utilities Board	PUB 600710 Jun 2022	246.31	Electricity 1100 FM 511 Hwy Bro, Tx June 2022	Direct Connectors - SH550	Y	Local	Toll
Staples Business	1642839500	54.28	Office Supplies Jun 2022	Indirect	Y	Local	Toll
Texas Department of Motor Vehicles (TxDMV)	TXDMV Replen 6.29.22	3,000.00	Name and Address Lookup 6.29.22	Indirect	Y	Local	Toll
TML Health Benefits Pool	PCAMERO62207	6,222.36	Employee Health Insurance July 2022	Indirect	Y	Local	Toll
Toshiba Financial Services	40230189	296.86	Printer Tolls June 2022	Indirect	Y	Local	Toll
		30,928.02					

	Operations	$ 22,587.81
	Tolls	30,928.02
	Total Transfer	$ 53,515.83

Reviewed by:

Monica R. Ibarra, Accounting Clerk — M.R. Ibarra 6.30.22

Victor J. Barron, Controller — Vict Bar 6.30.22

Pete Sepulveda Jr, Executive Director — 06.30.22

2-C APPROVAL OF CLAIMS.

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY
BOD Claims July 27, 2022

Operations

Vendor Name	Invoice Number	Cash Required	Invoice/Credit Description	PROJ Title	Transfer Funds	Funding Source	Bank Account
Kapsch TrafficCom USA, Inc	486023SI	$ 16,168.27	Installation Support and ODC's/Travel Expenses	Indirect	Y	Local	Ope
S&B Infrastructure, LTD	U2716.331-01	19,045.77	Whipple Road Schematics WA 31 June 2022	Whipple Road	Y	Local	Ope
Texas County District Retirement System	TCDRS July 2022	13,329.73	TCDRS July 2022	Indirect	Y	Local	Ope
		48,543.77					

Operations Interlocal Agreement

Vendor Name	Invoice Number	Cash Required	Invoice/Credit Description	PROJ Title	Transfer Funds	Funding Source	Bank Account
A&I Custom Manufacturing LLC	2021-005	$ 61,180.00	Const Isla Blanca Toll Booth June 2022	CC- Isla Blanca Toll Booths	Y	Local	Ope
Noble Texas Builders, LLC	22.0203.00 4R1	530,965.15	Const Parks Admin Building June 2022	CC - Administration Building & Parking Lot	Y	Local	Ope
Peacock General Contractor, Inc.	2201 #5	149,000.36	Benavides Park Pavilion June 2022	CC- Pedro Benavides Pavilion	Y	Local	Ope
S&B Infrastructure, LTD	U2716.260-02	49,596.58	SPI 2nd Access WA 26 June 2022	South Padre Island 2nd Access	Y	Local	Ope
S&B Infrastructure, LTD	U2972.100-01	36,864.16	Veterans POV Expansion Amendment 1 May 2022	CC- Veterans Bridge	Y	Local	Ope
S&B Infrastructure, LTD	U3048-10	40,345.78	West Blvd APD WA 1 June 2022	West Rail Corridor	Y	Local	Ope
		867,952.03					

Tolls

Vendor Name	Invoice Number	Cash Required	Invoice/Credit Description	PROJ Title	Transfer Funds	Funding Source	Bank Account
Texas County District Retirement System	TCDRS July 2022	$ 5,224.34	TCDRS July 2022	Indirect	Y	Local	Toll
TML Intergovernmental Risk Pool	9384 7.1.22	16,798.25	SH 550 Infrastructure July 2022	Indirect	Y	Local	Toll
TollPlus LLC	US2200079	15,989.96	Maintenance and Support June 2022	Indirect	Y	Local	Toll
		38,012.55					

Operations	$ 48,543.77
Oper Interlocal	867,952.03
Tolls	38,012.55
Total Transfer	$ 954,508.35

Reviewed by:

Victor J. Barron, Controller — Victor J. Barron — 7.22.22

Pete Sepulveda Jr, Executive Director — 07.22.22

2-D CONSIDERATION AND APPROVAL OF THE FINANCIAL STATEMENTS AND BUDGET AMENDMENTS FOR THE MONTH OF JUNE 2022.

JUNE 2022 FINANCIAL REPORT

PETE SEPULVEDA, JR., EXECUTIVE DIRECTOR
VICTOR J. BARRON, CONTROLLER

CCRMA MONTHLY FINANCIAL

TABLE OF CONTENTS

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY

Statement of Revenues and Expenditures - Monthly R&E - Unposted

Transactions Included In Report From 6/1/2022 Through 6/30/2022

	Current Period Actual	Current Year Actual	YTD Budget - Original	Annual Budget Variance - Original	Prior Year Actual	Current Year % Change
Operating Revenues						
Vehicle registration fees	$ 315,380	$ 2,593,430	$ 3,400,000	$ (806,570)	$ 2,635,551	(1.60)
Interlocal agreements	17,583	157,796	351,000	(193,204)	92,033	71.46
Other revenues	835	6,282	9,600	(3,318)	-	100.00
Total Operating Revenues	333,798	2,757,508	3,760,600	(1,003,092)	2,727,585	1.10
Operating Expenses						
Personnel costs	122,752	853,429	1,281,987	428,558	698,036	22.26
Professional services	14,893	173,310	340,100	166,790	246,988	(29.83)
Advertising & marketing	275	10,893	16,500	5,607	1,125	868.27
Data processing	1,263	13,078	14,200	1,122	8,253	58.47
Dues & memberships	258	18,007	20,000	1,993	15,980	12.69
Education & training	-	748	10,000	9,252	179	317.88
Fiscal agent fees	-	14,445	53,600	39,155	9,795	47.47
Insurance	50	6,633	8,000	1,368	586	1,031.34
Maintenance & repairs	1,875	26,420	50,000	23,580	609	4,239.62
Office supplies	4,381	32,738	49,800	17,062	3,890	741.62
Leases	311	2,801	3,735	934	48,668	(94.24)
Travel	729	9,331	25,000	15,669	927	906.15
Utilities	2,190	17,259	27,000	9,741	14,650	17.81
Contingency	-	6,690	115,000	108,310	-	100.00
Total Operating Expenses	148,976	1,185,783	2,014,922	829,139	1,049,685	12.97
Total Operating Income (Loss)	184,823	1,571,725	1,745,678	(173,953)	1,677,899	(6.33)
Non Operating Revenues						
Interest income	14,245	110,635	55,000	55,635	47,826	131.33
TRZ revenue	-	-	2,200,000	(2,200,000)	-	-
Total Non Operating Revenues	14,245	110,635	2,255,000	(2,144,365)	47,826	131.33
Non Operating Expenses						
Debt interest	-	1,316,937	1,905,678	588,741	1,266,531	3.98
Debt interest-LOC	-	-	25,000	25,000	380	(100.00)
Project expenses	42,585	166,275	2,070,000	1,903,725	101,380	64.01
Total Non Operating Expenses	42,585	1,483,211	4,000,678	2,517,467	1,368,291	8.40
Total Changes in Net Position	$ 156,482	$ 199,149	$ -	$ 199,149	$ 357,434	(44.28)

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY

Toll Operations Revenues Expenses - Cash - Toll Operations Revenues Expenditures - Cash - Unposted Transactions Included In Report From 6/1/2022 Through 6/30/2022

	Current Period Actual	Current Year Actual	YTD Budget - Original	Annual Budget Variance - Original	Prior Year Actual	Current Year % Change
Toll Operating Revenues						
TPS Revenues	$ 329,695	$ 2,014,446	$ 1,965,000	$ 49,446	$ 1,603,604	25.62
Interop Revenues						
Interop revenues	137,654	785,013	855,000	(69,987)	650,826	20.62
Bridge interoperability	44,233	381,672	500,000	(118,328)	384,198	(0.66)
Total Interop Revenues	181,887	1,166,686	1,355,000	(188,314)	1,035,023	12.72
Other Toll Revenues						
Interlocal agreement	12,806	114,251	161,880	(47,629)	100,739	13.41
Total Other Toll Revenues	12,806	114,251	161,880	(47,629)	100,739	13.41
Total Toll Operating Revenues	524,388	3,295,383	3,481,880	(186,497)	2,739,366	20.30
Toll Operating Expenses						
Personnel costs	55,541	402,098	634,724	232,626	360,237	11.62
Transaction processing costs	52,055	416,604	527,600	110,996	347,747	19.80
Toll system maintenance/IT	22,613	200,775	273,000	72,225	197,296	1.76
Roadside maintnenace	37,897	307,938	467,600	159,662	286,697	7.41
CSC indirect/overhead costs	25,537	158,397	301,190	142,793	147,614	7.30
Total Toll Operating Expenses	193,644	1,485,811	2,204,114	718,303	1,339,591	10.92
Total Operating Income (Loss)	330,744	1,809,571	1,277,766	531,805	1,399,776	29.28
Non Operating Revenues						
Pass through grant revenues	-	-	1,385,000	(1,385,000)	-	-
Total Non Operating Revenues	-	-	1,385,000	(1,385,000)	-	-
Non Operating Expenses						
Debt interest	-	1,678,967	2,662,766	983,799	1,418,045	18.40
Total Non Operating Expenses	-	1,678,967	2,662,766	983,799	1,418,045	18.40
Changes in Net Position	$ 330,744	$ 130,604	$ -	$ 130,604	$ (18,270)	(814.86)

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY

Combined Statement of Revenues and Expenses - Unposted
Transactions Included In Report From 6/1/2022 Through 6/30/2022

	Current Period Actual	Current Year Actual	YTD Budget - Original	Budget Variance - Original	Prior Year Actual	Current Year % Change
Operating Revenues						
Vehicle registration fees	$ 315,380	$ 2,593,430	$ 3,400,000	$ (806,570)	$ 2,635,551	(1.60)
Interlocal agreement	31,224	278,329	522,480	(244,151)	192,773	44.38
Toll revenues	511,582	3,181,132	3,320,000	(138,868)	2,638,627	20.56
Total Operating Revenues	858,186	6,052,891	7,242,480	(1,189,589)	5,466,951	10.72
Operating Expenses						
Personnel costs	178,293	1,255,528	1,916,711	661,184	1,058,273	18.64
Accounting software and	-	-	2,500	2,500	2,274	(100.00)
Professional services	12,000	144,648	287,600	142,952	212,120	(31.81)
Contractual services	2,893	29,704	75,000	45,296	37,876	(21.58)
Advertising & marketing	7,228	56,646	91,500	34,854	30,492	85.77
Data processing	1,263	13,078	14,200	1,122	8,253	58.47
Dues & memberships	258	21,007	27,000	5,993	18,920	11.03
Education & training	-	2,589	20,000	17,411	278	831.29
Fiscal agent fees	-	17,095	58,800	41,705	14,945	14.39
Insurance	50	67,214	87,000	19,786	56,924	18.08
Maintenance & repairs	8,073	43,383	70,000	26,617	4,615	839.94
Office supplies	28,854	246,794	316,800	70,006	164,501	50.03
Road maintenance	73,205	545,954	772,000	226,046	529,046	3.20
Leases	8,854	39,559	56,247	16,688	82,363	(51.97)
Toll services	15,019	119,632	167,600	47,968	106,719	12.10
Travel	729	12,705	40,000	27,295	4,092	210.45
Utilities	5,901	45,500	80,400	34,900	57,585	(20.99)
Contingency	-	10,558	135,678	125,120	-	100.00
Total Operating Expenses	342,620	2,671,594	4,219,036	1,547,442	2,389,276	11.82
Net Change from Operations	515,566	3,381,297	3,023,444	357,853	3,077,675	9.87
Non Operating Revenue						
Pass through grant revenues	-	-	1,385,000	(1,385,000)	-	0.00
Interest income	14,245	110,635	55,000	55,635	47,826	131.33
TRZ Revenue	-	-	2,200,000	(2,200,000)	-	0.00
Total Non Operating Revenue	14,245	110,635	3,640,000	(3,529,365)	47,826	131.33
Non Operating Expenses						
Bond Debt Expense	-	2,995,904	4,568,444	1,572,540	2,684,576	11.60
Debt Interest - LOC	-	-	25,000	25,000	380	(100.00)
Project expenses	42,585	166,275	2,070,000	1,903,725	101,380	64.01
Total Non Operating Expenses	42,585	3,162,179	6,663,444	3,501,265	2,786,337	13.49
Changes in Net Position	$ 487,226	$ 329,753	$ -	$ 329,753	$ 339,164	(2.77)

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY
Statement of Revenues and Expenditures
From 6/1/2022 Through 6/30/2022

	Cameron County	Federal Grant Funds	Total
Non Operating Revenues			
Revenues			
South Padre Island 2nd Access	$ 92,017	$ -	$ 92,017
West Rail Corridor	48,885	-	48,885
SH550 GAP II	-	1,340	1,340
SH 32 (East Loop)	458,123	-	458,123
CC - Old Alice Road	34,240	-	34,240
CC - Los Indios LPOE Bldg & Lot	-	-	-
CC - Consulting Services PF	8,000	-	8,000
CC - Administration Building & Parking Lot	729,044	-	729,044
CC- Isla Blanca Toll Booths	61,180	-	61,180
CC- Pedro Benavides Pavilion	149,000	-	149,000
Total Revenues	1,580,490	1,340	1,581,830
Total Non Operating Revenues	1,580,490	1,340	1,581,830
Non Operating Expenses			
Project expenses			
South Padre Island 2nd Access	92,017	-	92,017
West Rail Corridor	48,885	-	48,885
SH550 GAP II	-	1,340	1,340
SH 32 (East Loop)	458,123	-	458,123
CC - Old Alice Road	34,240	-	34,240
CC - Consulting Services PF	8,000	-	8,000
CC - Administration Building & Parking Lot	729,044	-	729,044
CC- Isla Blanca Toll Booths	61,180	-	61,180
CC- Pedro Benavides Pavilion	149,000	-	149,000
CC - International Bridge	69,512	-	69,512
Total Project expenses	1,650,002	1,340	1,651,342
Total Non Operating Expenses	1,650,002	1,340	1,651,342
Total Changes in Net Position	$ (69,512)	$ -	$ (69,512)

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY
Statement of Revenues and Expenditures
From 10/1/2021 Through 6/30/2022

	Cameron County	City of Los Fresnos	Federal Grant Funds	Total
Non Operating Revenues				
Revenues				
South Padre Island 2nd Access	$ 92,017	$ -	$ -	$ 92,017
West Rail Corridor	48,885	-	-	48,885
SH550 GAP II	-	-	13,830	13,830
SH 32 (East Loop)	985,717	-	-	985,717
Whipple Road	-	1,615	-	1,615
Flor De Mayo Bridge	55,577	-	-	55,577
CC- Veterans Bridge	8,120	-	-	8,120
CC - Old Alice Road	89,663	-	-	89,663
CC - Los Indios LPOE Bldg & Lot	61,125	-	-	61,125
CC - Consulting Services PF	64,000	-	-	64,000
CC - Administration Building & Parking Lot	1,042,152	-	-	1,042,152
CC- Isla Blanca Toll Booths	296,404	-	-	296,404
CC- Pedro Benavides Pavilion	591,139	-	-	591,139
CC- Isla Blanca Parking Lot	574,800	-	-	574,800
CC - International Bridge	23,275	-	-	23,275
Total Revenues	3,932,874	1,615	13,830	3,948,319
Total Non Operating Revenues	3,932,874	1,615	13,830	3,948,319
Non Operating Expenses				
Project expenses				
South Padre Island 2nd Access	92,017	-	-	92,017
West Rail Corridor	48,885	-	-	48,885
SH550 GAP II	-	-	13,830	13,830
SH 32 (East Loop)	783,070	-	-	783,070
Whipple Road	-	1,615	-	1,615
Flor De Mayo Bridge	55,577	-	-	55,577
CC- Veterans Bridge	8,120	-	-	8,120
CC - Old Alice Road	89,663	-	-	89,663
CC - Los Indios LPOE Bldg & Lot	61,125	-	-	61,125
CC - Consulting Services PF	64,000	-	-	64,000
CC - Administration Building & Parking Lot	1,042,152	-	-	1,042,152
CC- Isla Blanca Toll Booths	296,404	-	-	296,404
CC- Pedro Benavides Pavilion	591,139	-	-	591,139
CC- Isla Blanca Parking Lot	574,800	-	-	574,800
CC - International Bridge	92,787	-	-	92,787
Total Project expenses	3,799,739	1,615	13,830	3,815,184
Total Non Operating Expenses	3,799,739	1,615	13,830	3,815,184
Total Changes in Net Position	$ 133,135	$ -	$ -	$ 133,135

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY

Balance Sheet

As of 6/30/2022

	Current Year
ASSETS	
Current Assets:	
Cash and cash equivalents	$ 4,636,718
Restricted cash - projects	7,230,254
Restricted cash accounts - debt service	7,170,449
Restricted cash - bond proceeds	3,099,269
Accounts receivable, net	
Vehicle Registration Fees - Receivable	618,135
Other	5,037,943
Total Accounts receivable, net	5,656,078
Accounts receivable - other agencies	3,348,727
Prepaid expenses	20,590
Total Current Assets:	31,162,085
Non Current Assets:	
Capital assets, net	96,859,715
Capital projects in progress	24,834,850
Unamortized bond prepaid costs	94,960
Net pension asset	122,663
Total Non Current Assets:	121,912,187
Deferred Outflow of Resources	
Deferred outflows related to bond refunding	97,585
Deferred outlflow related to pension	192,320
Total Deferred Outflow of Resources	289,905
Total ASSETS	$ 153,364,177
LIABILITIES	
Current Liabilities	
Accounts payable	1,976,562
Unearned revenue	5,564,921
Total Current Liabilities	7,541,483
Non Current Liabilities	
Due to other agencies	16,134,188
Long term bond payable	77,467,246
Total Non Current Liabilities	93,601,434
Deferred Inflows of Resources	
Deferred inflows related to pension	168,027
Total LIABILITIES	101,310,944
NET POSITION	
Beginning net position	
	48,482,312
Total Beginning net position	48,482,312
Changes in net position	
	3,570,921
Total Changes in net position	3,570,921
Total NET POSITION	52,053,234
TOTAL LIABILITIES, DEFERRED INFLOWS AND NET POSITION	$ 153,364,177

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY
Statement of Cash Flows
As of 6/30/2022

	Current Period	Current Year
Cash Flows from Operating Activities		
Receipts from vehicle registration fees	$ 325,980	$ 2,547,700
Receipts from interop toll revenues	125,612	1,149,029
Receipts from TPS toll revenues	336,415	2,070,112
Receipts from other operating revenues	31,224	279,279
Payments to vendors	(58,333)	(1,631,731)
Payments to employees	(173,471)	(1,260,632)
Total Cash Flows from Operating Activities	587,427	3,153,757
Cash Flows from Capital and Related Financing Activities		
Acquisitions of property and equipment	(307,526)	(974,727)
Acquisitions of construction in progress	1,216,074	376,271
Payments on principal and interest	-	(3,329,867)
Advances and Interlocal proceeds related to interlocal projects	375,809	9,501,105
Payment on interlocal project expenses	(1,685,927)	(4,002,257)
Total Cash Flows from Capital and Related Financing Activitie	(401,570)	1,570,525
Cash Flows from Investing Activities		
Receipts from interest income	14,245	110,635
Total Cash Flows from Investing Activities	14,245	110,635
Beginning Cash & Cash Equivalents	21,936,589	17,301,774
Ending Cash & Cash Equivalents	$ 22,136,691	$22,136,691

2-E CONSIDERATION AND ACKNOWLEDGEMENT THAT ALL CAMERON COUNTY REGIONAL MOBILITY AUTHORITY EMPLOYEES HAVE TAKEN THE CYBER SECURITY TRAINING AS REQUIRED BY HB 3834.

From: Security Training Verification Site Guest User
To: TXTrainingCert@dir.texas.gov; Lulu Mayorga
Subject: Confirmation of Cybersecurity Training Certification STV-10769
Date: Tuesday, July 19, 2022 9:28:12 AM

This email serves as a written certification of Cameron County Regional Mobility Authority's compliance with cybersecurity training, required under Texas Government Code Sections 2054.5191 and 2054.5192. Please save this confirmation for your entity's records as it is required to be included as part of the grant application under Texas Government Code Section 772.012, or the state agency's strategic plan under Texas Government Code Section 2056.002, as applicable.

This email confirms that you have successfully submitted the required annual Cybersecurity Training Certification for Fiscal Year 2022 for Cameron County Regional Mobility Authority.

ReportID: STV-10769

Email: lmayorga@ccrma.org

Name: Maria Mayorga

Title: Executive Administrative Assistant

Organization Name: Cameron County Regional Mobility Authority

Organization Type: Local Government

Phone Number: (956) 621-5571

Fiscal Reporting Year: 2022

Percentage Training Completion: 100%

(For School Districts, if provided) Were school district employees trained (in addition to the Cybersecurity Coordinator and elected/appointed officials who have access to local government systems and use a computer to perform 25% of their duties)?

Certification Statement

• If a local government, my organization is in compliance with the employee security awareness training requirements of Section 2054.5191, Texas Government Code;

• If a school district, my district is also in compliance with Section 11.75(g), Education Code;

• If a state agency, my agency is in compliance with the employee security awareness training requirements of Section 2054.519, Texas Government Code and the contractor security awareness training requirements of Section 2054.5192, Texas Government Code.

AND

• My organization is in compliance with the internal review requirements of Section 2054.5191, Texas Government Code; and

• I am authorized by my organization to submit this certification.

I certify that the information I have submitted is true and complete. I understand that knowingly submitting

information that is not true and complete may result in civil or criminal penalties. I acknowledge that submitting this form satisfies the reporting requirements specified under Sec. 2054.5191 and Sec. 2054.5192, Texas Government Code (if applicable).

Date Submitted: July 19, 2022

Thank you.

Texas Department of Information Resources

TXTrainingCert@dir.texas.gov

2-F CONSIDERATION AND APPROVAL OF A RESOLUTION OR LETTER OF SUPPORT FOR THE U.S. 77 PROJECTS AND REQUEST THAT ALL SEGMENTS OF U.S. 77 BE GIVEN STATEWIDE DEVELOPMENT AUTHORITY IN THE 2023 UNIFIED TRANSPORTATION PROGRAM.

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY

IMPROVING MORE THAN JUST ROADS

July 27, 2022

Mr. J. Bruce Bugg, Jr., Chairman
Texas Department of Transportation
125 E. 11th Street
Austin, Texas 78701

RE: 2023 TxDOT UTP Public Comments

Dear Chairman Bugg:

On behalf of the Cameron County Regional Mobility Authority (CCRMA), and all its partners, let me begin by expressing my appreciation for all you and the Texas Transportation Commission members do to enhance and improve our Texas infrastructure needs. As you are aware, the Rio Grande Valley recently merged the three (3) Rio Grande Valley MPO's. The unity and regional mindset we have adopted as the fifth largest MPO in Texas has brought many positive changes to our approach for regional project development.

For the development of the 2023 TxDOT UTP we request the following:

- US 77 / I-69E – As our most important trade corridor we support the addition of the remaining unfunded US 77 projects in Kenedy County to complete the I-69 E Corridor. I would like to request that the remaining projects (Segments 2A/C, 3, 4A/B, and 5) all be given statewide development authority. To complete the remaining I-69E projects, the Pharr District needs approximately $340 million to fully fund the construction phase for all projects.

- East Loop – I support the full funding of the East Loop project with state and federal funds. Currently the project needs $105,059,490 in funding to complete the construction phase of the project. Local partners have already coordinated to fund PS&E with 100% local funds. In an effort to secure funding, the CCRMA along with TxDOT as a co-applicant, submitted an application for funding under the INFRA/MEGA Grant Program and Rural Surface Transportation Grant Program utilizing local funds to prepare the application.

- South Padre Island 2nd Access – Every year millions of visitors can be seen visiting South Padre Island. With an increasing number of vehicles destined to travel to South Padre Island and only one access to and from the mainland, new infrastructure developments are needed to alleviate traffic congestion and improve safety. Local partners have already coordinated to fund the Preliminary Engineering (Schematic and Environmental) with 100% local funds. I would request the inclusion of this project into the 2023 UTP.

All these projects represent over 20 years of collaboration and a partnership with TxDOT to improve transportation infrastructure in South Texas. The CCRMA and its partners will continue to work with TxDOT in a regional approach to improve infrastructure and continue to serve as an economic engine for the Great State of Texas and the United States of America. Any consideration to allow these requests to proceed would be extremely meaningful to the safety and mobility of the public in our region. Your consideration on this matter is greatly appreciated.

Thank you in advance and if I can provide any additional information, please advise.

Sincerely,

Frank Parker, Jr.
Chairman

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY

IMPROVING MORE THAN JUST ROADS

July 27, 2022

Mr. J. Bruce Bugg, Jr., Chairman
Texas Department of Transportation
125 E. 11th Street
Austin, Texas 78701

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- East Loop – I support the full funding of the East Loop project with state and federal funds. Currently the project needs $105,059,490 in funding to complete the construction phase of the project. Local partners have already coordinated to fund PS&E with 100% local funds. In an effort to secure funding, the CCRMA along with TxDOT as a co-applicant, submitted an application for funding under the INFRA/MEGA Grant Program and Rural Surface Transportation Grant Program utilizing local funds to prepare the application.

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All these projects represent over 20 years of collaboration and a partnership with TxDOT to improve transportation infrastructure in South Texas. The CCRMA and its partners will continue to work with TxDOT in a regional approach to improve infrastructure and continue to serve as an economic engine for the Great State of Texas and the United States of America. Any consideration to allow these requests to proceed would be extremely meaningful to the safety and mobility of the public in our region. Your consideration on this matter is greatly appreciated.

Thank you in advance and if I can provide any additional information, please advise.

Sincerely,

Mark Esparza
Director

3461 Carmen Avenue, Rancho Viejo, Texas 78575 | Phone: 956.621.5571 | Fax: 956.621.5590 | www.ccrma.org

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY

IMPROVING MORE THAN JUST ROADS

July 27, 2022

Mr. J. Bruce Bugg, Jr., Chairman
Texas Department of Transportation
125 E. 11th Street
Austin, Texas 78701

RE: 2023 TxDOT UTP Public Comments

Dear Chairman Bugg:

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For the development of the 2023 TxDOT UTP we request the following:

- US 77 / I-69E – As our most important trade corridor we support the addition of the remaining unfunded US 77 projects in Kenedy County to complete the I-69 E Corridor. I would like to request that the remaining projects (Segments 2A/C, 3, 4A/B, and 5) all be given statewide development authority. To complete the remaining I-69E projects, the Pharr District needs approximately $340 million to fully fund the construction phase for all projects.

- East Loop – I support the full funding of the East Loop project with state and federal funds. Currently the project needs $105,059,490 in funding to complete the construction phase of the project. Local partners have already coordinated to fund PS&E with 100% local funds. In an effort to secure funding, the CCRMA along with TxDOT as a co-applicant, submitted an application for funding under the INFRA/MEGA Grant Program and Rural Surface Transportation Grant Program utilizing local funds to prepare the application.

- South Padre Island 2nd Access – Every year millions of visitors can be seen visiting South Padre Island. With an increasing number of vehicles destined to travel to South Padre Island and only one access to and from the mainland, new infrastructure developments are needed to alleviate traffic congestion and improve safety. Local partners have already coordinated to fund the Preliminary Engineering (Schematic and Environmental) with 100% local funds. I would request the inclusion of this project into the 2023 UTP.

All these projects represent over 20 years of collaboration and a partnership with TxDOT to improve transportation infrastructure in South Texas. The CCRMA and its partners will continue to work with TxDOT in a regional approach to improve infrastructure and continue to serve as an economic engine for the Great State of Texas and the United States of America. Any consideration to allow these requests to proceed would be extremely meaningful to the safety and mobility of the public in our region. Your consideration on this matter is greatly appreciated.

Thank you in advance and if I can provide any additional information, please advise.

Sincerely,

Leo R. Garza
Director

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY

IMPROVING MORE THAN JUST ROADS

July 27, 2022

Mr. J. Bruce Bugg, Jr., Chairman
Texas Department of Transportation
125 E. 11th Street
Austin, Texas 78701

RE: 2023 TxDOT UTP Public Comments

Dear Chairman Bugg:

On behalf of the Cameron County Regional Mobility Authority (CCRMA), and all its partners, let me begin by expressing my appreciation for all you and the Texas Transportation Commission members do to enhance and improve our Texas infrastructure needs. As you are aware, the Rio Grande Valley recently merged the three (3) Rio Grande Valley MPO's. The unity and regional mindset we have adopted as the fifth largest MPO in Texas has brought many positive changes to our approach for regional project development.

For the development of the 2023 TxDOT UTP we request the following:

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Thank you in advance and if I can provide any additional information, please advise.

Sincerely,

Arturo Nelson
Secretary

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY

IMPROVING MORE THAN JUST ROADS

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Thank you in advance and if I can provide any additional information, please advise.

Sincerely,

Michael F. Scaief
Vice Chairman

2-G CONSIDERATION AND APPROVAL OF A PROFESSIONAL SERVICES AGREEMENT BETWEEN THE CAMERON COUNTY REGIONAL MOBILITY AUTHORITY AND S&B INFRASTRUCTURE, LTD. FOR THE SH 550 MAINTENANCE ASSESSMENT REPORT.

PROFESSIONAL SERVICES AGREEMENT

WHEREAS, pursuant to a qualifications-based selections process consistent with provisions of federal regulations (23 C.F.R. § 172), the Professional Services Procurement Act (Tex. Gov't Code § 2254.001. et seq.), and the Authority's "Policies and Procedures Governing Procurements of Goods and Services," the Cameron County Regional Mobility Authority (the "Authority") selected S&B Infrastructure, Ltd. (the "Engineer") to provide professional engineering services for the Authority; and,

WHEREAS, the Authority needs the Engineer to provide professional engineering services for the Authority's SH 550 Toll Road (the "Project"); and,

WHEREAS, the Project is required annually in order to submit a Section 129 Report to the Federal Highway Administration; and,

WHEREAS, the Engineer agrees to provide professional engineering services for the Project in accordance with this Agreement; and,

WHEREAS, this Professional Services Agreement (the "Agreement") between the Authority and the Engineer is hereby entered into and agreed to as of the 27th day of July 2022 (the "Effective Date");

NOW, THEREFORE, the parties agree, as follows:

1.0 Definitions.

1.1 Authority. Any reference herein to the "Authority" shall be interpreted to mean the same as the Cameron County Regional Mobility Authority.

1.2 Engineer. Any reference herein to the "Engineer" shall be interpreted to mean the same as S&B Infrastructure, Ltd.

1.3 The Agreement. The Agreement is comprised of the Agreement, the Exhibits listed and referenced herein, and all formal changes to any of those documents by addendum or other agreement signed by the Authority and the Engineer. This Agreement is intended to be an integral whole and shall be interpreted as internally consistent. Services required by any page, part, or portion of the Agreement shall be deemed to be required as if called for in the whole Agreement and no claim for extra Services shall be based upon the fact that the description of the Services in question is incomplete.

1.4 Services. Any reference herein to the "Services" shall be interpreted to mean the same as those certain professional engineering services for the Project described on **Exhibit 1** attached hereto and incorporated by reference.

1.5 **Project.** Any reference herein to the "Project" shall be interpreted to mean the same as the Authority's SH 550 Toll Road.

1.6 **Provision of All Things Required.** Anything that may be required, implied or inferred by the Agreement, shall be provided by the Engineer for the Compensation.

1.7 **Privity only with the Engineer.** Nothing contained in this Agreement shall create, nor be interpreted to create, privity or any other relationship whatsoever between the Authority and any person except the Engineer and the Engineer's permitted successors and assigns.

1.8 **"Include" Intended to be Encompassing.** "Include", "includes", or "including", as used in the Agreement, shall be deemed in all cases to be followed by the phrase, "without limitation."

1.9 **Use of Singular and Plural.** Words or terms used as nouns in the Agreement shall be inclusive of their singular and plural forms, unless the context of their usage clearly requires a contrary meaning.

1.10 **Definition of Material Breaches not Exhaustive.** The specification herein of any act, failure, refusal, omission, event, occurrence or condition as constituting a material breach of the Agreement shall not imply that any other, non-specified act, failure, refusal, omission, event, occurrence or condition shall be deemed not to constitute a material breach of the Agreement.

2.0 **Engineer's Representations.** In order to induce the Authority to execute this Agreement and recognizing that the Authority is relying thereon, the Engineer, by executing this Agreement, and without superseding, limiting, or restricting any other representation or warranty set forth elsewhere in this Agreement, or implied by operation of law, makes the following express representations to the Authority:

2.1 The Engineer is fully qualified to perform the Services.

2.2 The Engineer shall maintain all necessary licenses or other authorizations necessary for the Services until the Engineer's duties under this Agreement have been fully satisfied.

2.3 The Engineer has the expertise, experience, and knowledge as well as the necessary team, personnel, and financial capability to perform the Services in accordance with the terms of this Agreement.

2.4 Prior to the execution of this Agreement, the Engineer has become familiar with the Project and the Services required by this Agreement as well as has reviewed the Authority's concerns, if any, and the Engineer accepts the foregoing in entering into this Agreement.

2.5 The Engineer assumes full responsibility to the Authority for the improper acts and omissions of its subcontractors, subconsultants, or others employed or retained by Engineer in connection with the Services.

3.0 Compensation.

3.1 The total not-to-exceed (NTE) value of the Agreement is the amount of **$48,847.33** to be paid in accordance with the provisions herein. The Engineer exceeds the NTE amount at its own risk. The Authority reserves the right to amend this amount (increase/decrease) at any time during the Agreement when the Authority determines, in its sole discretion, that doing so is in its best interests. The foregoing right includes the Authority requiring the Engineer to modify the Services by executing an amendment or other supplemental agreement.

3.2

Notwithstanding any other provision of this Agreement, the Authority shall only be obligated to issue payment under this Agreement to the extent local funds are available.

4.0 Authority's Obligations. Pursuant to the Agreement, the Authority agrees to perform any obligations of the Authority as detailed herein.

4.1 The Authority shall review any documents submitted by the Engineer requiring the Authority's decision, and shall render any required decisions pertaining thereto.

4.2 The Authority shall provide the Engineer with such information, existing and reasonably available, or necessary to the Engineer's performance of the Agreement as the Engineer may request.

4.3 The Authority's agreement not to exercise, or its delay or failure to exercise, any right under the Agreement or to require strict compliance with any obligation of the Engineer under the Agreement shall not be a waiver of the right to exercise such right or to insist on such compliance at any other time or on any other occasion.

4.4 Right to Audit. The Authority shall be entitled to rely upon the accuracy and completeness of the information furnished by the Engineer in connection with its request for payment. The Authority shall have the right, however, upon demand, to make a detailed examination, audit, or inspection of the Engineer's books and records for the purpose of verifying the accuracy and completeness of such information. In the event the Authority determines that the Engineer has been paid any sums not due, then such sums shall be reimbursed by the Engineer to the Authority within two (2) Working Days of written demand by the Authority.

5.0 Additional Obligations of the Engineer.

5.1 The Engineer shall be solely responsible for providing supervision and oversight to all of the Engineer's personnel.

5.2 The Engineer agrees to submit a status report to the Authority at least one (1) time every ten (10) business days during the term of this Agreement in addition to any scheduling and reporting requirements under the Agreement.

5.3 The Engineer warrants and represents that it will assign only qualified personnel to perform the Services.

5.4 All Services provided by the Engineer shall be done in accordance with applicable all Federal, State and local laws, regulations, codes, and ordinances.

5.5 The Engineer shall provide insurance for the Services performed for this Project consistent with the insurance requirements described in **Exhibit 2** or as otherwise required by the Authority.

5.6 The Engineer, in connection with performing its services hereunder, will have access to or may be provided certain confidential information concerning the Authority and agrees that any information concerning the finances, accounting practices, business, client, client lists, property information, client data, records of the Authority or any other information which a reasonable person could conclude that should remain confidential (collectively "Confidential Information"), will not be disclosed to any party and without limitation, any employee of the Authority or any client or potential client of the Authority at any time, except for the Engineer's legal counsel, accounts, or financial advisors, who will also hold such Confidential Information in confidence. The Engineer acknowledges that the information is being provided with the sole understanding that all Confidential Information will remain confidential and will be held in the strictest confidence. The Engineer further acknowledges that any disclosure of the Confidential Information, whether intentional or inadvertent, may harm the Authority. The Authority will have the right to enforce the Agreement by specific performance, as well as hold the Engineer liable for any damages caused by any disclosure of any Confidential Information, whether intentional or inadvertent. The Engineer agrees that it has received valuable consideration for the entering into of the Agreement and agrees to be bound all of its terms and conditions. The Agreement will be binding on the Engineer and any attorney, accountant, financial advisor, or other consultant who also may be provided Confidential Information.

5.7 The Engineer shall comply with any other requirements of the Request for Qualifications applicable to this Agreement.

6.0 Notices, Invoices, and Reports.

6.1 All notices, invoices, or reports shall be delivered to the Authority and to the Engineer, as follows:

Cameron County Regional Mobility Authority
Attn: Pete Sepulveda, Jr., Executive Director
3461 Carmen Avenue
Rancho Viejo, Texas 78575

S&B Infrastructure, LTD.
Attn: Daniel O. Rios, President
5408 N 10th St,
McAllen, TX 78504

7.0 Additional Considerations.

7.1 **Severability.** The invalidity of any provision of the Agreement, as determined by a court of competent jurisdiction shall in no way affect the validity of any other provision herein.

7.2 **Applicable Laws.** THIS AGREEMENT SHALL BE GOVERNED AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS. VENUE FOR ANY CAUSE OF ACTION ARISING OUT OF OR RELATED TO THIS AGREEMENT SHALL BE EXCLUSIVELY IN THE STATE AND FEDERAL COURTS OF CAMERON COUNTY, TEXAS.

7.3 **Official, Agent and Employees of the Authority Not Personally Liable.** It is agreed by and between the parties hereto that in no event shall any Director, officer, employee, or agent of the Authority in any way be personally liable or responsible for any covenant or agreement herein contained, whether either expressed or implied, nor for any statement, representation or warranty made herein or in any connection with this agreement.

7.4 **Subcontractors/Subconsultants.** Unless otherwise authorizing in writing by the Authority, the Engineer may not use any subcontractors or subconsultants to accomplish any portion of the Services without obtaining the prior written permission of the Authority. Moreover, by signing the Agreement, the Engineer is certifying to the Authority that the Engineer shall not enter into any subcontract with a subcontractor or a subconsultant that is debarred or suspended by the Texas Department of Transportation or any federal agency. Notwithstanding the foregoing, in no way does the Authority providing written permission to the Engineer to use the services of a subcontractor or subconsultant waive the Authority's governmental immunity or make such subcontractor or subconsultant a third party beneficiary to this Agreement.

7.5 Attorney's Fees. In the event that litigation is commenced by one party hereto against the other in connection with the enforcement of any provision of this agreement, the prevailing party shall be paid by the losing party all court costs and other expenses of such litigation, including reasonable attorneys' fees. The amount so allowed as attorneys' fees shall be taxed to the losing party as costs of the suit, unless prohibited by law.

7.6 Independent Contractor. The Engineer is an independent contractor. Nothing herein shall create any association, agency, partnership or joint venture between the parties hereto and neither shall have any authority to bind the other in any way.

7.7 Waiver of Breach. A waiver of either party of any terms or condition of this agreement in any instance shall not be deemed or construed as a waiver of such term or condition for the future, or of any subsequent breach thereof. All remedies, rights, undertakings, obligations, and agreements contained in this agreement shall be cumulative and none of them shall be in limitation of any other remedy, right, obligation or agreement of either party.

7.8 Time of the Essence. Time is of the essence under this Agreement as to each provision in which time of performance is a factor.

7.9 Limitation of Liability. IN NO EVENT SHALL THE AUTHORITY BE LIABLE TO THE ENGINEER FOR ANY INDIRECT, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES.

7.10 Indemnification.

7.10.1 THE ENGINEER RELEASES THE AUTHORITY FROM AND AGREES TO INDEMNIFY, DEFEND, AND HOLD THE AUTHORITY (AND ITS OFFICERS, EMPLOYEES, AND AGENTS) HARMLESS FROM AND AGAINST ANY AND ALL CLAIMS, DEMANDS, DAMAGES, LOSSES, SUITS, ACTIONS, DECREES, JUDGMENTS, ATTORNEY'S FEES, COURT COSTS, AND OTHER EXPENSES OF ANY KIND OR CHARACTER FOR DEFENDING THE CLAIMS AND DEMANDS, WHICH ARE CAUSED BY, ARISE OUT OF, OR OCCUR DUE TO ANY FAILURE OF THE ENGINEER TO PERFORM THE OBLIGATIONS REQUIRED BY THE AGREEMENT AS WELL AS FEDERAL, TEXAS, OR OTHER APPLICABLE LAW, INCLUDING BUT NOT LIMITED TO CLAIMS OR DEMANDS BASED ON THE NEGLIGENCE, GROSS NEGLIGENCE, OR OTHER ACTIONS OR INACTIONS OF THE ENGINEER, OR THE ENGINEER'S AGENTS, EMPLOYEES, SUBCONTRACTORS, SUBCONSULTANTS, OR OTHER THIRD PARTIES. THE ENGINEER HEREBY WAIVES ANY RIGHT TO DEFEND AGAINST THE ENFORCEABILITY OF THIS INDEMNIFICATION PROVISION AND EXPRESSLY AGREES THAT

THIS PROVISION MEETS ALL LEGAL REQUIREMENTS AND IS LEGALLY ENFORCEABLE AGAINST THE ENGINEER.

7.10.2 In this connection, it is expressly agreed that the Engineer shall, at its own expense, defend the Authority, its officers, employees, and agents, against any and all claims, suits or actions which may be brought against them, or any of them, as a result of, or by reason of, or arising out of, or on account of, or in consequence of any act or failure to act of the Engineer the consequences of which the Engineer has indemnified the Authority. If the Engineer shall fail to do so, the Authority shall have the right, but not the obligation, to defend the same and to charge all direct and incidental costs of such defense to the Engineer including attorney's fees and court costs.

7.10.3 Any money due to the Engineer under and by virtue of the Agreement, which the Authority believes must be withheld from the Engineer to protect the Authority, may be retained by the Authority so long as it is reasonably necessary to ensure the Authority's protection; or in case no money is due, its surety may be held until all applicable claims have been settled and suitable evidence to that effect furnished to the Authority provided, however, the Engineer's payments shall not be withheld, and its surety shall be released, if the Engineer is able to demonstrate that it has adequate liability and property damage insurance to protect the Authority from any potential claims.

7.10.4 The Engineer shall provide that any contractual arrangement with a subcontractor or subconsultant shall be in conformance with the terms of the Agreement including the terms of this indemnity provision. The Engineer guarantees that it will promptly handle and rectify any and all claims that may be made against it or any of its subcontractors or subconsultants in connection with the Agreement.

7.10.5 THE ENGINEER RELEASES THE AUTHORITY FROM AND AGREES TO INDEMNIFY, DEFEND, AND HOLD THE AUTHORITY (AND ITS OFFICERS, EMPLOYEES, AND AGENTS) HARMLESS FROM AND AGAINST ANY AND ALL CLAIMS, DEMANDS, DAMAGES, LOSSES, SUITS, ACTIONS, DECREES, JUDGMENTS, ATTORNEY'S FEES, COURT COSTS, AND OTHER EXPENSES OF ANY KIND OR CHARACTER FOR DEFENDING THE CLAIMS AND DEMANDS BASED ON THE NEGLIGENCE, GROSS NEGLIGENCE, OR OTHER ACTIONS OR INACTIONS OF THE AUTHORITY, OR THE AUTHORITY'S AGENTS, EMPLOYEES, OR OTHER THIRD PARTIES. THE ENGINEER HEREBY WAIVES ANY RIGHT TO DEFEND AGAINST THE ENFORCEABILITY OF THIS INDEMNIFICATION PROVISION AND EXPRESSLY AGREES THAT THIS PROVISION MEETS ALL LEGAL REQUIREMENTS AND IS LEGALLY ENFORCEABLE AGAINST THE ENGINEER.

7.11 Rights in Data (Ownership and Proprietary Interest). The Authority shall have exclusive ownership of, all proprietary interest in, and the right to full and exclusive possession of all information, materials, and documents discovered or produced by the Engineer pursuant to the terms of the Agreement, including but not limited to, videos, reports, or other documents or information concerning the Agreement.

7.12 Assignment/Transfer. The Engineer shall not assign or transfer any of its rights or interest under the Agreement without first obtaining the Authority's prior written consent to such assignment or transfer. Whether to provide such prior written consent shall be in all respects within the Authority's sole and absolute discretion.

7.13 THE ENGINEER EXPRESSLY AGREES THAT: (1) THE AUTHORITY RETAINS ITS GOVERNMENTAL IMMUNITY IN ALL RESPECTS UNDER THIS AGREEMENT; AND, (2) NO AGREEMENTS, BETWEEN THE ENGINEER AND ANY THIRD PARTY SHALL BE ENFORCEABLE AGAINST THE AUTHORITY. THE ENGINEER WARRANTS TO THE AUTHORITY THERE ARE NO THIRD PARTY BENEFICIARIES TO THIS AGREEMENT AND THAT, IN THE EVENT A THIRD PARTY ATTEMPTS TO HOLD THE AUTHORITY LIABLE FOR ANY ACTION OR INACTION OF THE ENGINEER, THAT THE ENGINEER SHALL INDEMNIFY THE AUTHORITY UNDER SECTION 7.10.

7.14 IN THE EVENT OF A QUESTION AS TO THE INTERPRETATION OF ANY PROVISION OF THIS AGREEMENT, THE PROVISION SHALL NOT BE CONSTRUED AGAINST THE DRAFTING PARTY. THIS INCLUDES BUT IS NOT LIMITED TO THE ENGINEER'S AGREEMENT THAT SECTION 7.10, AND ANY OTHER CLAUSE HEREIN, SHALL IN NO EVENT BE STRICTLY CONSTRUED AGAINST THE AUTHORITY.

8.0 Exhibits.

8.1 The following noted documents are a part of the Agreement:

8.1.1 Exhibit 1. Description of Services.

8.1.2 Exhibit 2. Master Agreement. A true and correct copy of the foregoing may be found at the Authority's office and is incorporated by reference as if fully set forth herein.

8.2 To the extent that any provisions of this Agreement conflict with the provisions of the Exhibits, the more specific provision shall control except that, notwithstanding the foregoing, to the extent that any provision of this Agreement conflicts with a provision of **Exhibit 1**, this Agreement shall control. In the event that any provisions of the Exhibits themselves conflict with each other, **Exhibit 1** shall control.

9.0 CERTIFICATIONS. Each party hereby acknowledges by signature below that they have reviewed the foregoing and understand and agree to abide by their respective obligations as defined herein.

S&B INFRASTRUCTURE, LTD.

By: _____ **Date:** _____
Daniel O. Rios, President

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY

By: _____ **Date:** July 27, 2022
Frank Parker, Jr., Chairman

EXHIBIT 1
Authority's Responsibilities

The following provides an outline of the services to be provided by the Authority in the development of the Project for this work authorization.

GENERAL

The Authority will provide to the GEC the following:

(1) Provide GEC with a Notice to Proceed.

(2) Payment for work performed by the GEC and accepted by Authority in accordance with this Agreement.

(3) Assistance to the GEC as necessary, to obtain the required data and information from other local, regional, State and Federal agencies that the GEC cannot easily obtain.

(4) Provide timely review and decisions in response to the GEC's request for information and/or required submittals and deliverables, in order for the GEC to maintain an agreed-upon work schedule referred to in Exhibit C.

(5) Provide previous Annual reports and certification letters for project.

(6) Data and records available that would assist in the completion of the Maintenance Assessment and the support of inspection assessment services being provided.

(7) Provide TxDOT bridge inspection reports for each bridge class structure in the corridor.

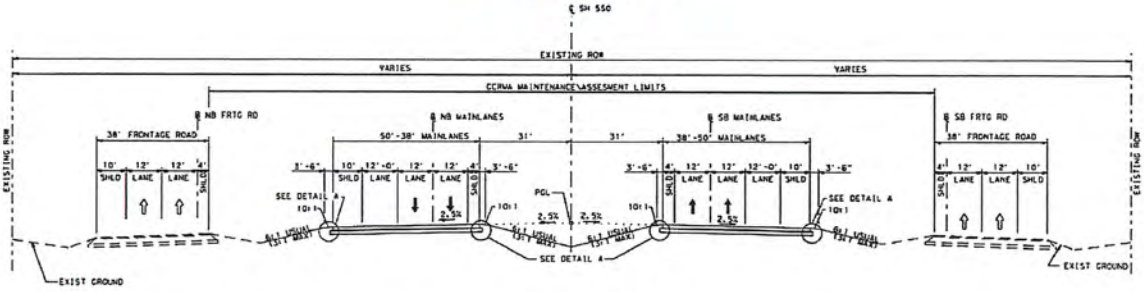
EXHIBIT 1
SERVICES TO BE PROVIDED BY THE GEC

County:	Cameron
Highway:	SH 550
Limits:	From IH 69E to SH 48
Project Length:	Approximately 10.0 miles

The work to be performed by the GEC shall consist of engineering services to include a corridor visual asset maintenance assessment for the CCRMA SH 550 Mainlanes and associated portion of CCRMA ownership of the median areas (edge of inside frontage road to edge of frontage road) from IH 69E to SH 48, a distance of approximately 10.0 miles in Cameron County, Texas.

LOCATION MAP

EXISTING SH 550
TYPICAL SECTION



Maintenance certification shall be prepared in accordance with Title 23, Section 129, Cameron County Regional Mobility Authority, CCRMA. At this time an asset [GD1]inventory is not being completed or associated with this work order.

The GEC shall direct and coordinate the various elements and activities associated with this work [GD2]authorization, including project management, inspection services, reporting, QA/QC of deliverables, and billings. The following scope items are similar to previous annual work order assignments in order to[GD3] have a consistent yearly evaluation process:

TASK 1: FIELD INSPECTION: BY ASSET TYPE

The GEC shall utilize data and reports provided by the Authority and conduct field reconnaissance data collection as necessary to complete the assessment, by utilizing [GD4]a three-person field crew to measure, photo, and assess [GD5]the following:

1. **Pavement:** assess and document pavement condition and maintenance activities and/or needs in relation to current service life.
2. **Bridge Class Structures:** review TxDOT bridge inspection reports and assess field conditions in relation to said reports, document maintenance activities and/or needs.
3. **Drainage Structures:** assess and document drainage structure condition and maintenance activities and/or needs in relation to desired performance.
4. **Roadside Safety Elements:** assess and document roadside safety element condition and maintenance activities and/or needs in relation to desired performance, including nighttime visibility.
5. **Signage:** assess visually, not by use of reflectivity measurements, the condition and maintenance activation and/or needs in relation to desired performance.
6. **Pavement Markings:** assess visually, not by use of reflectivity measurements, the condition and maintenance activation and/or needs in relation to desired performance
7. **Geotechnical:** assess slopes, erosion, and other geotechnical assets to evaluate general stability in relation to desired performance.
8. **Electrical:** assess visually illumination, and other electrical assets that are readily accessible. Contents within electrical control boxes will not be assessed.
9. **Assets NOT Included:** ITS and Tolling equipment assets.

TASK 2: ENGINEERING REPORTING: BY ASSET TYPE

The GEC shall compile results of the field reconnaissance and data collection into a report format necessary to address the maintenance findings.

Reporting:

- Compile findings from the field assessment, to include photos, other documentation, recommendations, and/or findings.
- Provide executive Summary of Findings

TASK 3: QA/QC & DELVERABLES

The GEC shall review and deliver:

SH 550 Maintenance Assessment with respect to Asset Report: to align with requirements set forth in the referenced governing regulation, to include a maintenance certification letter.

TASK 4: PROJECT MANAGEMENT

The GEC shall direct and coordinate the various elements and activities associated with this work authorization, including day-to-day project management and administration, monthly reporting and billing.

EXHIBIT 1
Schedule of Work

The **GEC** will diligently pursue the completion of the **Project** as defined by the milestones and deliverable due dates.

The **GEC** will inform the **Authority** (in reasonable advance of the delay) should the **GEC** encounter delays that would prevent the performance of all work in accordance with the established schedule(s) of work.

Notice To Proceed – **Upon Execution**

Field Assessment	2 weeks from NTP
Maintenance Asset Report	1 week from Field Assessment
Work Order Complete:	August 31, 2022

PROJECT: SH 550 Maintenance Assessment

CLIENT: CCRMA

COUNTY: Cameron

S&B JOB NO.:

Exhibit 1 - Cost Proposal

LUMP SUM

TASK CODE	DESCRIPTION	FIRM	SERVICE	MAN-HOURS Principal	Quality Manager	Project Manager	Engineer Structural	Env Manager	Engineer (IV)	GIS Manager	Senior CADD	Engineer in Training	Secretary	TOTAL	ESTIMATED FEE	TOTALS
Proposed Services																
	PROJECT MANAGEMENT AND AGENCY COORDINATION															
	Internal Project Management/Administration															
1	Internal Coordination (Administration and Scheduling) (1 Month)	S & B	SPECIAL			2							2	4	$680.00	
2	Proposed Meetings (2 Meetings)	S & B	SPECIAL			2				4			2	8	$1,358.92	
	Sub Total (Project Management and Agency Coordination)			0	0	4	0	0	0	4	0	0	4	12		$2,038.92
	Maintenance Assessment & Reporting															
	Assessment Survey	S & B	SPECIAL			1	16		68			160		245	$31,903.48	
	Draft Report	S & B	SPECIAL		2	1	2		12		8	20	16	61	$7,414.58	
	Final Report	S & B	SPECIAL		1	1	2		6		4	20	16	50	$5,459.95	
	Sub Total (Maintenance Assessemnt & Reporting)			0	3	3	20	0	86	0	12	200	32	356		$44,778.01
	SUBTOTAL (LABOR)			0	3	7	20	0	86	4	12	200	36	368		$46,816.93
	Total Hours	MULTIPLIER		0	3	7	20	0	86	4	12	200	36			
	CONTRACT RATES: ($/MAN-HOUR)	3.7717		299.96	249.99	275.00	245.16	185.00	207.44	169.73	115.00	85.00	65.00			
	BASE RATES: ($/MAN-HOUR)			79.53	66.26	72.91	65.00	49.05	55.00	45.00	30.49	22.54	17.23			
NON LABOR																
	TxDOT Meetings (2 meetings - 1 Local & 1 in Austin)															
	Travel - Lodging	S & B (nl)	SPECIAL	Persons =	1	Nights =	2	Cost per Night=	$ 140.00						$280.00	
	Travel - Meals	S & B (nl)	SPECIAL	Persons =	1	Days =	2	Cost per Day =	$ 64.00						$128.00	
	Travel - Airfare	S & B (nl)	SPECIAL	Persons =	1	Trips=	1	Airfare per Trip=	$ 600.00						$600.00	
	Travel - Mileage	S & B (nl)	SPECIAL	Miles =	120	Trips=	13	Mileage per Trip=	$ 0.54						$842.40	
	Travel - Rental Car + Fuel	S & B (nl)	SPECIAL			Days =	2	Rental / Gas per Day=	$ 90.00						$180.00	
	SUBTOTAL (NON-LABOR)															$2,030.40
															CONTRACT TOTAL	$48,847.33

EXHIBIT 1
Authority's Responsibilities

The following provides an outline of the services to be provided by the Authority in the development of the Project for this work authorization.

GENERAL

The Authority will provide to the GEC the following:

(1) Provide GEC with a Notice to Proceed.

(2) Payment for work performed by the GEC and accepted by Authority in accordance with this Agreement.

(3) Assistance to the GEC as necessary, to obtain the required data and information from other local, regional, State and Federal agencies that the GEC cannot easily obtain.

(4) Provide timely review and decisions in response to the GEC's request for information and/or required submittals and deliverables, in order for the GEC to maintain an agreed-upon work schedule referred to in Exhibit C.

(5) Provide previous Annual reports and certification letters for project.

(6) Data and records available that would assist in the completion of the Maintenance Assessment and the support of inspection assessment services being provided.

(7) Provide TxDOT bridge inspection reports for each bridge class structure in the corridor.

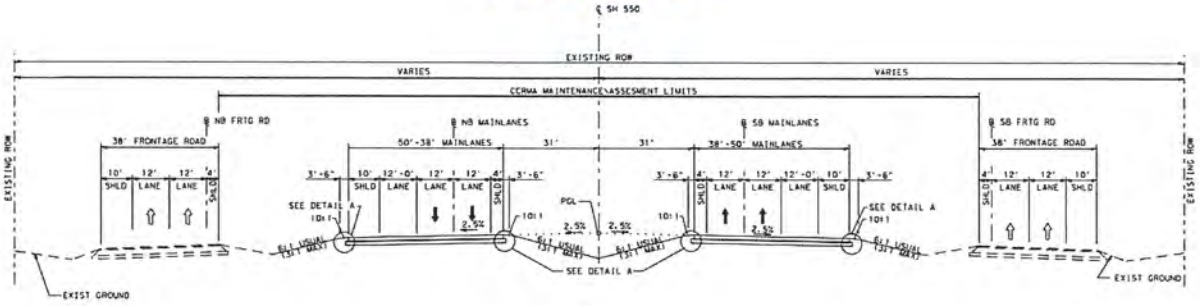
EXHIBIT 1
SERVICES TO BE PROVIDED BY THE GEC

County: Cameron
Highway: SH 550
Limits: From IH 69E to SH 48
Project Length: Approximately 10.0 miles

The work to be performed by the GEC shall consist of engineering services to include a corridor visual asset maintenance assessment for the CCRMA SH 550 Mainlanes and associated portion of CCRMA ownership of the median areas (edge of inside frontage road to edge of frontage road) from IH 69E to SH 48, a distance of approximately 10.0 miles in Cameron County, Texas.

LOCATION MAP

EXISTING SH 550
TYPICAL SECTION



Maintenance certification shall be prepared in accordance with Title 23, Section 129, Cameron County Regional Mobility Authority, CCRMA. At this time an asset [GD1]inventory is not being completed or associated with this work order.

The GEC shall direct and coordinate the various elements and activities associated with this work [GD2]authorization, including project management, inspection services, reporting, QA/QC of deliverables, and billings. The following scope items are similar to previous annual work order assignments in order to[GD3] have a consistent yearly evaluation process:

TASK 1: FIELD INSPECTION: BY ASSET TYPE

The GEC shall utilize data and reports provided by the Authority and conduct field reconnaissance data collection as necessary to complete the assessment, by utilizing [GD4]a three-person field crew to measure, photo, and assess [GD5]the following:

1. **Pavement:** assess and document pavement condition and maintenance activities and/or needs in relation to current service life.
2. **Bridge Class Structures:** review TxDOT bridge inspection reports and assess field conditions in relation to said reports, document maintenance activities and/or needs.
3. **Drainage Structures:** assess and document drainage structure condition and maintenance activities and/or needs in relation to desired performance.
4. **Roadside Safety Elements:** assess and document roadside safety element condition and maintenance activities and/or needs in relation to desired performance, including nighttime visibility.
5. **Signage:** assess visually, not by use of reflectivity measurements, the condition and maintenance activation and/or needs in relation to desired performance.
6. **Pavement Markings:** assess visually, not by use of reflectivity measurements, the condition and maintenance activation and/or needs in relation to desired performance
7. **Geotechnical:** assess slopes, erosion, and other geotechnical assets to evaluate general stability in relation to desired performance.
8. **Electrical:** assess visually illumination, and other electrical assets that are readily accessible. Contents within electrical control boxes will not be assessed.
9. **Assets NOT Included:** ITS and Tolling equipment assets.

TASK 2: ENGINEERING REPORTING: BY ASSET TYPE

The GEC shall compile results of the field reconnaissance and data collection into a report format necessary to address the maintenance findings.

Reporting:

- Compile findings from the field assessment, to include photos, other documentation, recommendations, and/or findings.
- Provide executive Summary of Findings

TASK 3: QA/QC & DELVERABLES

The GEC shall review and deliver:

SH 550 Maintenance Assessment with respect to Asset Report: to align with requirements set forth in the referenced governing regulation, to include a maintenance certification letter.

TASK 4: PROJECT MANAGEMENT

The GEC shall direct and coordinate the various elements and activities associated with this work authorization, including day-to-day project management and administration, monthly reporting and billing.

EXHIBIT 1
Schedule of Work

The **GEC** will diligently pursue the completion of the **Project** as defined by the milestones and deliverable due dates.

The **GEC** will inform the **Authority** (in reasonable advance of the delay) should the **GEC** encounter delays that would prevent the performance of all work in accordance with the established schedule(s) of work.

Notice To Proceed – **Upon Execution**

Field Assessment	2 weeks from NTP
Maintenance Asset Report	1 week from Field Assessment
Work Order Complete:	August 31, 2022

PROJECT: SH 550 Maintenance Assessment

CLIENT: CCRMA

COUNTY: Cameron

S&B JOB NO.:

Exhibit 1 - Cost Proposal

LUMP SUM

TASK CODE	DESCRIPTION	FIRM	SERVICE	MAN-HOURS Principal	Quality Manager	Project Manager	Engineer Structural	Env Manager	Engineer (IV)	GIS Manager	Senior CADD	Engineer in Training	Secretary	TOTAL	ESTIMATED FEE	TOTALS
Proposed Services																
	PROJECT MANAGEMENT AND AGENCY COORDINATION															
	Internal Project Management/Administration															
1	Internal Coordination (Administration and Scheduling) (1 Month)	S & B	SPECIAL			2							2	4	$680.00	
2	Proposed Meetings (2 Meetings)	S & B	SPECIAL			2				4			2	8	$1,358.92	
	Sub Total (Project Management and Agency Coordination)			0	0	4	0	0	0	4	0	0	4	12		$2,038.92
	Maintenance Assessment & Reporting															
	Assessment Survey	S & B	SPECIAL			1	16		68			160		245	$31,903.48	
	Draft Report	S & B	SPECIAL		2	1	2		12		8	20	16	61	$7,414.58	
	Final Report	S & B	SPECIAL		1	1	2		6		4	20	16	50	$5,459.95	
	Sub Total (Maintenance Assessemnt & Reporting)			0	3	3	20	0	86	0	12	200	32	356		$44,778.01
	SUBTOTAL (LABOR)			0	3	7	20	0	86	4	12	200	36	368		$46,816.93
	Total Hours	MULTIPLIER		0	3	7	20	0	86	4	12	200	36			
	CONTRACT RATES: ($/MAN-HOUR)	3.7717		299.96	249.99	275.00	245.16	185.00	207.44	169.73	115.00	85.00	65.00			
	BASE RATES: ($/MAN-HOUR)			79.53	66.28	72.91	65.00	49.05	55.00	45.00	30.49	22.54	17.23			
NON LABOR																
	TxDOT Meetings (2 meetings - 1 Local & 1 in Austin)															
	Travel - Lodging	S & B (nl)	SPECIAL	Persons =	1	Nights =	2	Cost per Night=	$ 140.00						$280.00	
	Travel - Meals	S & B (nl)	SPECIAL	Persons =	1	Days =	2	Cost per Day =	$ 64.00						$128.00	
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	Travel - Mileage	S & B (nl)	SPECIAL	Miles =	120	Trips=	13	Mileage per Trip=	$ 0.54						$842.40	
	Travel - Rental Car + Fuel	S & B (nl)	SPECIAL			Days =	2	Rental / Gas per Day=	$ 90.00						$180.00	
	SUBTOTAL (NON-LABOR)															$2,030.40
															CONTRACT TOTAL	$48,847.33

2-H CONSIDERATION AND APPROVAL OF WORK AUTHORIZATION NO. 32 WITH S&B INFRASTRUCTURE, LTD. FOR THE FM 509 PROJECT FOR PRELIMINARY ENGINEERING.

WORK AUTHORIZATION NO. 32

This Work Authorization is made as of this 27th day of July, 2022, under the terms and conditions established in the AGREEMENT FOR GENERAL CONSULTING CIVIL ENGINEERING SERVICES, dated as of May 10, 2018 (the "Agreement"), between the Cameron County Regional Mobility Authority (the "Authority") and S&B Infrastructure, Ltd. (the "GEC").

This Work Authorization is made for the following purpose, consistent with the Services defined in the Agreement: ***Professional services including: providing engineering services for the Advanced Project Development (APD) for the proposed extension of FM 509, Cameron County, Texas.***

Section A. - Scope of Services

A.1. GEC shall perform the following Services:

GEC shall perform the Services as listed in Exhibit B and as requested by the Authority.

Section B. - Schedule

GEC shall perform the Services and deliver the related Documents (if any) according to the following schedule as shown on Exhibit C.

Section C. - Compensation

C.1. In return for the performance of the foregoing obligations, the Authority shall pay to the Engineer the amount not to exceed $647,995.43, based on the attached fee estimate shown on Exhibit D. Compensation shall be in accordance with the Agreement.

C.2. The Authority shall pay the GEC under the following acceptable payment method – Lump Sum Payment Method.

C.3. Compensation for Additional Services (if any) shall be paid by the Authority to the GEC according to the terms of a future Work Authorization.

Section D. - Authority's Responsibilities

The Authority shall perform and/or provide the services as stated in Exhibit A in a timely manner so as not to delay the Services of the Engineer.

Section E. - Other Provisions

The parties agree to the following provisions with respect to this specific Work Authorization.

-SIGNATURES ON NEXT PAGE-

Except to the extent expressly modified herein, all terms and conditions of the Agreement shall continue in full force and effect.

CAMERON COUNTY REGIONAL MOBILITY AUTHORITY

By: _____
Frank Parker, Jr., Chairman

Date: July 27, 2022

S&B INFRASTRUCTURE, LTD.

By: _____
Daniel O. Rios, PE, President

Date: August 17, 2022

LIST OF EXHIBITS
Exhibit A - Authority's Responsibilities
Exhibit B - Services to be Provided by Engineer
Exhibit C - Work Schedule
Exhibit D - Cost Proposal

EXHIBIT A
Authority's Responsibilities

The following provides an outline of the services to be provided by the Authority in the development of the Project for this work authorization.

GENERAL

The Authority will provide to the GEC the following:

(1) Provide GEC with a Notice to Proceed.

(2) Payment for work performed by the GEC and accepted by Authority in accordance with this Agreement.

(3) Assistance to the GEC as necessary, to obtain the required data and information from other local, regional, State and Federal agencies that the GEC cannot easily obtain.

(4) Provide timely review and decisions in response to the GEC's request for information and/or required submittals and deliverables, in order for the GEC to maintain an agreed-upon work schedule referred to in Exhibit C.

(5) Coordinate with Texas Department of Transportation (TxDOT) for items as needed. The Authority will negotiate and approve all change orders and other contract revisions that the Authority finds necessary or convenient to accomplish the construction activities for the Project. For change orders and other contract revisions that affect prior environmental approvals or result in non-conformity with the specifications and standards agreed upon for the Project, the Authority must assess any potential environmental effects and any additional or revised environmental permits, issues, coordination, mitigation, and commitments required as a result of the contract revisions.

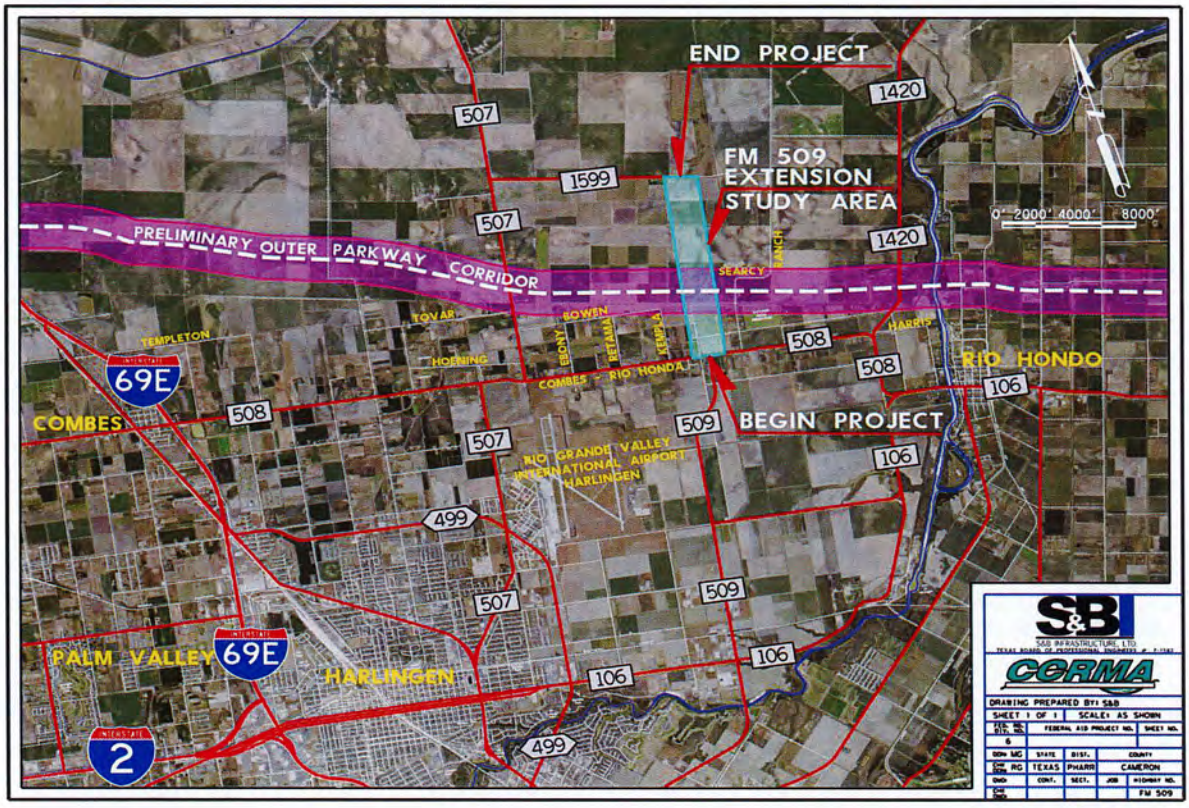
(6) Advertise Public Meetings in local newspapers.

(7) Venue for Public Meeting including audio/visual equipment rental, security, etc.

EXHIBIT B
SERVICES TO BE PROVIDED BY THE GEC
Farm-to-Market Road 509 Extension Advanced Project Development

County:	Cameron
Highway:	Farm-to-Market Road (FM) 509
Limits:	From FM 508 To FM 1599
Project Length:	Approximately 2.3 miles

LOCATION MAP:



Project Overview:

Cameron County Regional Mobility Authority (AUTHORITY) has initiated the Advanced Project Development (APD) for the proposed extension of FM 509 in Cameron County.

The work conducted under this work authorization consists of the preparation of an Environmental Assessment (EA), Alternatives Analysis, Schematic and Preliminary Drainage Study.

This work authorization includes Project Administration and Coordination, preparation of an EA and Schematic, an open house public meeting for the EA and Schematic, and activities required to afford an opportunity for a public hearing on the EA and Schematic.

The proposed FM 509 project would consist of extending the roadway to provide a new north-south travel corridor in northern Cameron County. The proposed facility would consist of a 150-foot-wide ROW including four lanes; two12-foot-wide lanes in each direction, a continuous 14- foot-wide center left-turn lane, 8-foot-wide shoulders, and open parallel ditches on both sides of the roadway. Because the project would consist of a new location roadway, the evaluation of preliminary location alternatives would be required. The preliminary alternatives to be evaluated in the EA include the No-Build Alternative and may include up to three (3) location alternatives. For the purposes of this scope, it is presumed that the No-Build Alternative and one Build Alternative will be subject to a detailed analysis in the EA. Additional alternatives may be evaluated but not advanced for further study or will not be developed/evaluated.

The General Engineering Consultant (GEC) shall complete the project as outlined in Exhibit C, Work Schedule, and will function as an extension of the AUTHORITY'S resources by providing qualified technical and professional personnel, by conducting the tasks described herein, and by meeting the requirements and responsibilities outlined under the terms of this Exhibit A, Scope of Work. The GEC shall minimize the AUTHORITY'S need to apply its own resources to assignments authorized to the maximum extent practicable.

The scope of work for the FM 509 Extension project is described below.

TASK 145 – PROJECT ADMINISTRATION AND COORDINATION

Subtask 145.01.01 – General Administration

The GEC shall conduct project administrative and coordination duties, including contract administration, project management, meeting minutes of all meetings and telephone conversations and other related administrative tasks (e.g., direct costs) associated with the project, including:

A) Subcontracting – Prepare, coordinate, execute and administer work authorizations with sub-consultants.

B) Progress Reports and Invoices – Prepare monthly invoices and progress reports for the work tasks, together with evidence of work accomplished during the time period since the previous report. The monthly progress reports will include: Activities completed, initiated or ongoing during the reporting period; Activities planned for the coming period; Problems encountered and actions to remedy them; Overall status, including a tabulation of percentage complete by task; Updated project schedule; Minutes of study meetings and copies of monthly correspondence.

C) Record Keeping and File Management – Maintain all records and files related to the project throughout the duration of the services.

D) Correspondence – Prepare written materials, letters, survey forms, etc., used to solicit information or collect data for the project and submit them to the AUTHORITY for review and approval prior to its use or distribution. Copies of outgoing correspondence and incoming correspondence will be provided to the AUTHORITY on a continuing, at least monthly, basis.

E) Schedule – Prepare a detailed, graphic schedule linking Work Authorization tasks, subtasks,

critical dates, milestones, deliverables and AUTHORITY review requirements. The project schedule will be in a format, which depicts the order and inter-dependence of the various tasks, subtasks, milestones and deliverables for each of the tasks identified therein. Progress will be reviewed periodically for conformance to Exhibit B, Work Schedule; and should these reviews indicate a substantial change in progress, the schedule will then be revised accordingly.

F) Managing Change – Communicate in a timely manner all types of change that may occur in the project including but not limited to schedule, personnel, scope and work product changes. The AUTHORITY approved change(s) shall then be incorporated into the project schedule in a timely fashion to minimize any unnecessary rework.

Deliverables:

- Monthly progress report that delineates activities conducted per function code
- Monthly invoice/billings with list of products delivered per invoice billing cycle

Subtask 145.01.02 – Project Coordination Meetings

A) Project Kick-off Meeting – Prepare for and attend one (1) kick-off meeting with the AUTHORITY and Texas Department of Transportation (TxDOT) to discuss project guidelines and present general project requirements and expectations.

B) Progress Meetings – Attend up to six (6) progress meetings to be held at major milestones with designated AUTHORITY representatives and TxDOT to report on the progress of tasks related to the services. The GEC shall submit a memorandum summarizing the minutes and events of each meeting.

Deliverables:

- Meeting agendas and minutes for all progress meetings attended

Subtask 145.01.03 – Cameron County RMA Project Coordination

A) The GEC shall coordinate with the AUTHORITY on project-related issues. The project coordination issues shall include, but are not limited to, attending Board of Directors' Meetings to report on the status of the FM 509 Extension. The Project Manager shall be available to respond to questions that may be asked by the Board.

Deliverables:

- Meeting agendas and minutes for all progress meetings attended

TASK 110 – ROUTE AND DESIGN STUDIES

Subtask 110.01.01 – Data Collection

The GEC shall collect information required for an alternative analysis. Additional information will also be required in the development of the recommended preferred alternative. It is anticipated that the project will have three (3) reasonable alternatives including one (1) recommended preferred alternative. The GEC shall review previously assembled and

documented project data and supplement it for the alternatives as necessary and/or as deemed necessary by the AUTHORITY, including:

A) Field Reconnaissance, photographs, mapping data, seasonal traffic data, transportation reports, regional master plans – The GEC shall conduct detailed field reconnaissance for the reasonable alternatives to establish the validity of previously collected data and supplement data where necessary.

B) Update summary document listing data collected, basic information on data collected and how it will, may be or has been applied.

Subtask 110.01.02 – Existing Condition Analysis

The GEC shall assess the exiting conditions of the reasonable alternatives (3) and provide an overall analysis of the existing conditions and features for each. Site visits and field investigations will be utilized to augment existing data and fill data voids. This assessment will include:

A) Geometric Features – Assess public ROW widths and easements along the proposed route, horizontal and vertical alignments of FM 509, FM 1599, and FM 508 and major cross streets, pavement cross sections and pavement types, intersections, lane widths and configurations and stopping sight distances.
B) Traffic Control / Illumination Features – Assess existing signing features, safety lighting and continuous illumination requirements and warrants.
C) Accident Data – Accident frequencies and their critical locations at FM 509 and FM 1599.
D) Drainage Data – Drainage and irrigation structures.
E) Environmental Features and Constraints – including but not limited to the identification of wetlands, special aquatic sites, habitat features, parklands and managed lands, cultural resources, neighborhoods and existing / proposed development.
F) The GEC shall obtain necessary project-related Geographic Information System (GIS) roadway map data and aerial photography for the project area provided by the AUTHORITY (some or all of this data may have already been provided to the GEC in connection with other ongoing projects).
G) The GEC shall obtain from the AUTHORITY an electronic copy of the approved MPO TransCAD model.
H) Prepare summary document describing assessments of existing condition analyses.

Subtask 110.01.03 – Alternatives Analysis

The Alternative Analysis shall evaluate the No-Build Alternative and Build Alternatives and up to three (3) preliminary Build Alternatives eliminated from further consideration. The Build Alternatives shall be consistent with the Build Alternatives developed/presented in the original environmental document (prepared by others), as appropriate. The Build Alternatives shall be examined against the No-Build baseline and shall be discussed at equal levels of detail to provide an equitable comparison based upon the purpose and need and related objectives of the proposed project.

The Alternative Analysis shall clearly document the basis for the elimination of alternatives and selection of a recommended preferred alternative.

Deliverables:

- The Alternative Analysis will be incorporated into the EA

TASK 110.02 – PRELIMINARY ENGINEERING SERVICES

These preliminary engineering services shall apply to all three (3) reasonable alternative alignments.

Subtask 110.02.01 – Preliminary Design Concept Conference

A) The GEC shall prepare the draft Design Summary Report (DSR) for the Preliminary Design Concept Conference (PDCC). The draft DSR information will include the PDCC comments and concurrence, suggested attendance and suggested agenda. The draft DSR will be submitted to the AUTHORITY for review prior to conducting the PDCC.

B) The GEC, in cooperation with the AUTHORITY, shall conduct and document the PDCC meeting. The GEC shall provide up to two (2) copies of plots, plans and related drawings of the recommended alternative (1 anticipated) as appropriate for the PDCC meeting. The conference will provide for a brainstorming session in which decision makers, stakeholders and technical personnel may discuss and agree on the following:
   1) Review of DSR.
   2) Establish design parameters for geometrics.
   3) Identify the key engineering and environmental constraints.
   4) Specific issues for focus during the engineering plan development.
   5) Identification of desired bicycle and pedestrian facilities and amenities.
   6) Project development schedule.
   7) Other issues as identified by the AUTHORITY.

C) Within one (1) week after conducting the PDCC, the GEC shall submit three (3) revised draft copies of the DSR to the AUTHORITY for review and approval. After AUTHORITY comments are incorporated, the GEC shall prepare five (5) copies of the final DSR and submit along with meeting minutes to the AUTHORITY.

Deliverables:

- Design Summary Report – 3 draft copies and 5 final copies
- PDCC Meeting minutes

Subtask 110.02.02 – Preliminary Horizontal and Vertical Conceptual Design

For (3) three reasonable alternative alignments, the GEC shall prepare the horizontal and vertical conceptual designs to sufficient detail to determine ROW and access requirements. Drawings will be developed in determining environmental (e.g., noise, air, visual) impacts. Should additional horizontal and vertical alignments be prepared, a supplemental work authorization will be required.

Deliverables:

- Conceptual designs, horizontal and vertical

Subtask 110.02.03 – Preliminary ROW Requirements

Preliminary ROW requirements shall be determined using roadway functional classification, consideration of environmental impacts, design criteria, access denial limits (control of access), utility corridor space requirements, drainage requirements and typical sections. The proposed roadway improvements, with appropriate design criteria, shall be noted on the typical sections. Preliminary ROW requirements and opinion of costs will be tabulated. A preliminary ROW technical memorandum that documents and describes the ROW requirements and associated opinion of ROW acquisition costs shall be prepared. ROW acquisition costs will be based on current appraisal values obtained from the Cameron County Appraisal District for the specific parcels to be acquired. At this time, it is anticipating a 150' ROW will be utilized.

Deliverables:

- Preliminary ROW technical memorandum

Subtask 110.02.04 – Preliminary Utility Location Investigations

A) The GEC shall utilize existing plans; coordinate with utility companies, and visual field confirmation in the development of a preliminary utility location map.
B) The GEC shall participate in up to three (3) coordination meetings with designated AUTHORITY representatives and the utility companies' representatives to identify / confirm existing / proposed utilities, potential conflicts, review coordination progress and resolve outstanding balances.

Subtask 110.02.05 – Preliminary Hydraulics Evaluations

For each reasonable alternative alignment, the GEC shall conduct a concept level drainage evaluation. The GEC shall coordinate with the AUTHORITY GEC OVERSIGHT TEAM and TxDOT as needed to provide continuity and consistency of proposed drainage features and systems. The GEC shall adhere to the criteria set forth by the AUTHORITY in the hydrology and hydraulic design guidelines as set forth in the DSR.

The GEC shall include preliminary hydrologic and hydraulic considerations in the development and assessment of alternative alignments for the project. Preliminary considerations include design elevations for various modes to ensure desired performance for hurricane evacuation or impacts to FEMA-regulated floodplains.

The GEC shall obtain Local and Regional Drainage analysis guidelines through coordination with local and regional drainage authorities.

Tasks to be conducted by the GEC to accomplish concept level hydrology and hydraulic studies include field investigations, data gathering, and determination of issues / concerns and how drainage would be handled. No calculations shall be conducted until a recommended preferred

alignment is identified. Tasks include the following:

A) For each alternative, identify:
   1) Issues / Concerns.
   2) Drainage handling.

Subtask 110.02.06 – Preliminary Construction Cost Estimates

For the three (3) reasonable alternatives alignments and applicable modes, a preliminary opinion of probable construction cost that includes preliminary ROW costs, landscape costs and utility adjustments, shall be prepared by the GEC. Unit costs will be based statewide and/or Pharr District average unit prices, from the TxDOT website. Preliminary cost estimates shall include an approximate 20% contingency and shall be updated for every state of the milestone completion in a higher degree of detail, as more information is obtained and developed.

Because the GEC has no control over the cost of labor, materials or equipment furnished by others or over the resources provided by others to meet project schedules, the GEC'S opinion of probable costs and of project schedules shall be made on the basis of experience and qualifications as a professional engineer. The GEC does not guarantee that proposals, bids or actual project costs will not vary from the GEC's cost estimates or that actual schedules will not vary from the GEC's projected schedules.

Subtask 110.02.07 – Preliminary Engineering Text and Coordination for EA Development

The GEC shall prepare a draft text summarizing the findings of the various engineering studies and investigations.

A) Summary of data collected and how it will, may be or has been applied.
B) Photographic record of the project area.
C) Summary of existing condition analysis.
D) Alternative's assessment documentation report.
E) DSR.
F) Plan exhibits.
G) Preliminary ROW technical memorandum.
H) Summary of preliminary utility conflict.
I) Preliminary construction cost estimates.

TASK 110.03 – GEOMETRIC LAYOUT (SCHEMATIC PLAN) DEVELOPMENT

The GEC shall develop a schematic plan of the Recommended Preferred Alternative. Preliminary design considerations will include the following: design criteria (operation/safety), ROW requirements and project costs.

Subtask 110.03.01 – Typical Sections

The GEC shall develop applicable typical sections of existing and proposed roadways at a proportional scale for incorporation into the schematic layout document. Typical section will

include the following design elements:

A) Centerline alignment.
B) Profile grade line.
C) ROW width (existing and proposed).
D) Limits of proposed roadway.
E) Concrete traffic barrier railing or fencing.
F) Illumination.
G) Median width (raised, depressed, painted) and slope.
H) Sign structures.
I) Shoulder widths.
J) Lane widths.
K) Clear zones.
L) Bicycle facilities.
M) Pavement structure.
N) Pavement cross slope.
O) Berms.
P) Border (utility corridor).
Q) Drainage structures (existing and proposed).
R) Ditches, including side slope rates for fills and cuts.
S) Natural grade line.
T) Traffic directional arrows.
U) Structure clearances, including horizontal and vertical clearances, airport clearances
V) Sidewalks.
W) Turn Lanes.
X) Superelevation limits, stationing and rate.

Subtask 110.03.02 – Geometric Design (Horizontal and Vertical Control)

The GEC shall develop vertical and horizontal alignments using OpenRoads (ORD) for main lanes, and cross streets. Geometric design shall be developed in sufficient detail to determine basic engineering needs such as ROW, fill or embankment, retaining wall locations and surface drainage needs.

Subtask 110.03.03 – Preliminary Design Cross Sections

Preliminary design cross sections shall be prepared at a maximum interval of 100 feet for roadway and specific elevated sections where there is a variation in profile. The preliminary design cross section shall extend 15 feet beyond the limits of the proposed and/or existing ROW lines. Cross sections shall be provided in hard copy and electronic ORD format on a compact disk (CD). Information on each section shall include existing ground line and proposed roadway template showing roadway and subgrade, or elevated bridge structures, as appropriate. Roadway excavation and embankment quantities shall also be calculated for each section using the average end areas method. Cross sections will be provided on 11 x 17 sheets.

Subtask 110.03.04 – Schematic Plan Preparation

The GEC shall develop the color schematic plan on planimetric base map to indicate general geometric features and location requirements of the project. All schematic design will be in conformance with American Association of State Highway and Transportation Officials (AASHTO) and the TxDOT Roadway Design Manual as shown in the references, except where variances are permitted in writing by the AUTHORITY. The schematic plan will be submitted for milestone reviews at 30%, 60%, 90% and 100% complete. Subsequent submittals of the schematic will be revised by the GEC to reflect the AUTHORITY's, and TxDOT's review comments from the previous submittal. The schematic plan and related drawings will be provided on 22" roll plots at a scale of 1"=200' horizontal and 1"=10' vertical. An electronic ORD DGN graphic file containing the approved schematic will be provided by the GEC.

The schematic plan will include the following:

A) General Information.
   1. Design speed (mph).
   2. Vicinity map, showing project location and north arrow.
   3. North arrow and scale bar.
   4. Traffic volume projections.
   5. Texas county map, with city and district labeled.
   6. Completed federal aid title block.
   7. State plane coordinate reference, with datum and benchmark reference.
   8. Preliminary "not a bidding document" stamp, with a Texas Licensed Professional Engineer (PE) signature, name, license number and date.
   9. Copyright stamp.
   10. Functional Classification
   11. CSJ

B) Plan.
   1. Calculated roadway baselines for the main lanes and all cross streets.
   2. Beginning and ending project limits with stationing.
   3. Alignment stationing.
   4. Point of Intersection (PI) number and stations.
   5. Curve data, including PI number, PI station, delta, tangent, length, radius, Point of Curvature (PC) and Point of Tangency (PT) stations.
   6. Equations (if applicable), back station and forward station.
   7. Superelevation type, transition length and beginning and ending station.
   8. Pavement edges for all improvements (main lanes, frontage roads, ramps and cross streets).
   9. Lane and pavement width dimensions.
   10. Geometrics of speed change lanes.
   11. Typical section location symbols.
   12. Existing and proposed ROW, including ROW dimensions, access denial (control of access), tract lines, railroad ROW limits, city limits, section line and corners, subdivisions and easements.

13. Direction of traffic flow on all roadways, lane lines and/or arrows indicating the number of lanes will be shown.
14. Median lines (raised, painted and transitions), median widths and openings.
15. Roadway names and highway designations, railroad name, cross street names and locations, designated signalized intersections, acceleration and deceleration lanes, climbing lanes and transitions.
16. Bridge and structure locations, including spans, bents, abutments and bridge type.
17. Retaining wall locations, including beginning and ending station.
18. Proposed drainage requirements, such as the location of structures, inlets, manholes, trunk lines, channels, ditches, arroyos, retention/detention ponds.
19. Existing drainage features, such as structures, channels, ditches, arroyos, trunk lines, retention/detention ponds.

C) Profile.
1. Calculated profile grade for the main lanes and cross streets. Vertical curve data, including VPI number and station, length, "K" and "e" values and type or curve (crest or sag) will be shown. Profile grade information will be shown on all plan sheets.
2. Longitudinal slopes.
3. Equations.
4. Beginning and ending of project.
5. Superelevation, including normal crown limits, transition length, full superelevation length and rates.
6. Existing ground line profiles and proposed roadway profiles will be shown on the plans.
7. Cross street name, station and elevation.
8. Existing and proposed bridges, including required vertical clearances, begin and end bridge limit stationing and span/bent/abutment locations and assumed superstructure depth.
9. Existing and proposed drainage features (structure, channels, ditches, arroyos, ponding areas), labeling station and invert elevation.

Subtask 110.03.05 – Hydrology and Hydraulic Studies/Drainage Design

For the Recommended Preferred Alternative, the GEC shall conduct schematic level drainage. The GEC shall coordinate with the AUTHORITY, and TxDOT as needed to provide continuity and consistency of proposed drainage features and systems. The GEC shall follow design methodologies and criteria contained in the TxDOT Hydraulic Design Manual to identify potential culvert crossing locations, outfalls and conceptual detention/retention locations.

Drainage analysis and maps shall be prepared by the GEC with consideration of existing conditions and proposed improvements when a final configuration has been determined. Hydrologic discharge data will be established as needed for design. These services may require the use of hydrologic or hydraulics computer programs, such as: Texas Hydraulic System (THYSYS), HY-8, HEC-RAS, HEC-1, HEC-HMS, ORD Drainage, FHWA Hydraulic Engineering Circulars, other TxDOT hydraulic publications and any other pertinent software as approved by TxDOT.

Tasks to be conducted by the GEC to accomplish hydrology and hydraulic studies and drainage

design include the following:

A) Field Investigations and Data Gathering.
   1. Conduct site visit to project to inspect watersheds and conditions of existing facilities.
   2. Investigate applicable design criteria, regulations, and guidance.

B) Hydrologic and Hydraulic Studies.
   1. Design Criteria – The GEC shall utilize the design criteria as provided in the TxDOT Hydraulic Design Manual to size drainage structures within each roadway section. The design will conform to all other applicable regulations, e.g., FEMA, TCEQ.
   2. Conduct hydraulic analysis and preliminary sizing of roadway cross drainage structures and roadway ditches, as required to develop anticipated project ROW requirements to accommodate drainage features. The design frequency will be based on roadway classification and conveyance capacity will be adequate to accommodate the appropriate design storm and to perform within an acceptable range for the check flood.
   3. Preliminary design of ponds only if necessary. GEC shall try to utilize existing outfalls to accommodate drainage.

C) Design Documentation
   1. Prepare a report which provides sufficient documentation to support the proposed design configuration, and summarizes the key assumptions and methodology used. The report will be signed and sealed by a (PE) employed by the GEC and include such key information as:
      - Project Background (location, existing conditions, significant design considerations)
      - Design Criteria (design frequency, check flood, applicable regulations)
      - Hydrologic Study (assumptions, methodology, drainage area information, summary of results)
      - Hydraulic Study (assumptions, methodology, summary of results)
      - Attachments (electronic data/models, detailed input/output files)

   2. Prepare engineer's construction cost estimate for drainage structures.

TASK 110.05 – MILESTONE SUBMITTALS AND REVIEWS

The GEC shall assemble and submit the required number of below specified deliverables simultaneously to the AUTHORITY and the GEC OVERSIGHT **T**EAM. The specified number of deliverables shown will be submitted to the AUTHORITY. One (1) additional copy of each specified deliverable will be submitted to the GEC OVERSIGHT TEAM in both electronic (pdf) and hard copy format. Electronic submittals will be uploaded to ProjectWise. The AUTHORITY will ultimately determine if a submittal review meeting (SRM) is necessary. Review meetings will be planned for budgetary purposes but will only be held if so directed by the AUTHORITY.

Subtask 110.05.01 – 30% Complete Schematic Review Package

A) The GEC shall print/plot, assemble and submit the following for the 30% complete

schematic review package.

1) Three (3) copies of the PER including the following:
   - Summary of data collected and how it will, may be or has been applied
   - Photographic record of project area
   - Summary of existing condition analysis
   - Alternative's assessment documentation report
   - DSR
   - Preliminary construction cost estimate
2) Two (2) hardcopy plots and all associated electronic files (ORD) of the schematic plan and related drawings (22" wide roll plots).
3) Three (3) copies of the hydraulic report showing information gathered and calculated in the hydrologic and hydraulic studies and schematic plan preparation.
4) One (1) copy of markups of internal QC review documents, including appropriate checklists.

B) The GEC shall prepare for and attend a 30% SRM if deemed necessary by the AUTHORITY. The GEC shall prepare the meeting agenda and presentation aids and exhibits as appropriate. The GEC shall prepare and submit meeting minutes.

Subtask 110.05.02 – Preliminary Design Cross Sections

The GEC shall submit between the 30% and 60% SRMs, one (1) hardcopy (22" wide roll plots) and all associated electronic files of the preliminary design cross sections.

Subtask 110.05.03 – 60% Complete Schematic Review Package

A) The GEC shall print/plot, assemble and submit the following for the 60% complete schematic review package.
   1) Three (3) copies of the PER consisting of refined information from the 30% review submittal.
   2) Two (2) hardcopy plots and all associated electronic files (ORD) of the refined schematic plan (with cross sections) and related drawings (22" wide roll plots).
   3) Five (5) copies of Form 1002 "Proposed Basic Design Data," including documentation of preliminary design exceptions and waivers as applicable and one (1) copy of all associated electronic files.
   4) Three (3) copies the refined hydraulic report showing information gathered and calculated in the hydrologic and hydraulic studies and schematic plan preparation.
   5) One (1) copy of markups of internal QC review documents including appropriate checklists.

B) The GEC shall prepare for and attend a 60% SRM if deemed necessary by the AUTHORITY. The GEC shall prepare the meeting agenda and presentation aids and exhibits as appropriate. The GEC shall prepare and submit meeting minutes.

Subtask 110.05.04 – 90% Complete Schematic Review Package

A) The GEC shall print/plot, assemble and submit the following for the 90% complete schematic review package.
   1) Three (3) copies of the refined PER.
   2) Two (2) hardcopy plots and all associated electronic files (ORD) of the refined schematic plan (with cross sections) and related drawings (22" wide roll plots).
   3) Three (3) copies of refined hydraulic report showing information gathered and calculated in the hydrologic and hydraulic studies and schematic plan preparation.

B) The GEC shall prepare for and attend a 90% SRM if deemed necessary by the AUTHORITY. The GEC shall prepare the meeting agenda and presentation aids and exhibits as appropriate. The GEC shall prepare and submit meeting minutes.

Subtask 110.05.05 – 100% Complete Schematic Review Package

The GEC shall print/plot, assemble and submit the following for the 100% complete schematic review package:

A) Five (5) bound and one (1) unbound copy of the final PER and one (1) copy of all associated electronic files.
B) Five (5) sets of the final schematic plan (with cross sections) and related drawings (22" wide roll plots) and one (1) copy of all associated electronic files (ORD).
C) Five (5) copies of Form 1002 "Proposed Basic Design Data" page 3 of 3 and one (1) copy of all associated electronic files.
D) Five (5) copies of the final hydraulic report showing information gathered and calculated in the hydrologic and hydraulic studies and schematic plan preparation.

Subtask 110.05.06 – TxDOT Review

A) The GEC shall plot and submit five (5) copies of the AUTHORITY approved schematic plan for subsequent submittal by the AUTHORITY to TxDOT for approval. The TxDOT's design division will provide any necessary review and coordination with FHWA, as applicable.
B) As deemed necessary by the AUTHORITY, if there are any changes made to the schematic following approval from the design division and TxDOT/FHWA and after the public hearing (if held), the GEC shall plot and submit the five (5) copies of the revised schematic as directed by the AUTHORITY.

Deliverables:
- Meeting minutes for all meetings attended
- 30% complete schematic review package
- One (1) hardcopy (22" wide roll plots) and all associated electronic files and KMZ files of the preliminary design cross sections
- 60% complete schematic review package
- 90% complete schematic review package
- 100% complete schematic review package
- Five (5) sets of the final schematic plan (with cross sections) and related drawings (22" wide roll plots) and one (1) copy of all associated electronic files (ORD) for design division and

FHWA review

- If deemed necessary by the AUTHORITY, five (5) sets of the revised final schematic plan (with cross sections) and related drawings (22" wide roll plots) and one (1) copy of all associated electronic files (ORD)

TASK 110.06 – BASE AND SOIL TESTING AND CORE DRILLING

The GEC shall provide soil testing and soil exploration to determine the subsurface stratigraphy and to evaluate the engineering properties of the soil to provide recommendations pertaining to the roadway, bridge, approach embankment, and miscellaneous structure design and construction.

Since subsurface conditions can change over time due to both natural and manmade forces, including changes in condition or use of adjacent properties, GEC nor its geotechnical or material testing subconsultant shall be held responsible if the conditions encountered after the date of this analysis are different from those inferred by the test borings and laboratory test results, or the project details and information provided to GEC or its subconsultants changes. Any recommendations made by GEC and/or its subconsultants hereunder are an expression of each party's professional experience and opinion and are based upon their knowledge, information and belief. No other warranty is either expressed or implied. Any use or reuse of the report for any purpose other than as specifically intended hereunder without written verification by GEC shall be at user's own risk.

The services shall include the following:

Subtask 110.06.01 – Geotechnical Drilling Services

The GEC shall comply with Texas's excavation laws. If necessary, the GEC shall contact the Texas Excavation Safety System, Inc. or call 811 to have any possible utilities marked prior to digging.

The GEC shall provide drilling/excavation and sampling of subsurface materials as follows in accordance with this work authorization:

Roadway Borings Locations – Ten (10) pavement borings will be advanced to a depth of approximately fifteen (15) feet below the existing top of natural ground. Soils at these locations will be continuously sampled below the existing ground surface.

The GEC shall stake the boring locations and provide utility clearances prior to conducting the field exploration portion of the project. The GEC shall be responsible to provide any necessary permits or authorization to enter and drill within the Laguna Madre. At all other boring locations, the GEC shall coordinate with the AUTHORITY to ensure that right-of-entry (ROE) forms include the specific items required to complete the soil borings.

All borings shall be located in the field by a representative of the GEC. Proposed boring locations to be submitted to TxDOT PM for district lab review and approval prior to commencement of field work. All boring locations shall be surveyed and documented with GPS

coordinates.

Samples shall be removed from the sample apparatus during drilling operations. GEC to coordinate when proposed work will be done (prop dates, contact name & number of field personnel). If needed/required, TCP to be provided for review as well. The GEC shall conduct various field tests on the recovered samples, visually classify the samples, and record the appropriate data on a field boring log. The samples shall be appropriately packaged to minimize loss of their natural moisture content and to reduce the possibility of damage during transportation to the laboratory testing facility.

Drilling services shall include an initial water strike depth and a 24-hour water level reading at each boring location. Following completion of drilling and sampling, all boreholes shall be backfilled with bentonite chips.

This proposal does not include activities and corresponding costs that may be associated with the following:

- Encountering hazardous or contaminated soils or substances during our field activities.

The GEC shall notify the AUTHORITY should these services become necessary to complete field exploration activities, and if approved by the AUTHORITY, additional negotiated fee and scope shall be incorporated through a supplemental work authorization.

Subtask 110.06.02 – Geotechnical Laboratory Testing Services

Geotechnical laboratory testing shall be conducted on the samples recovered during the field study to evaluate their physical and engineering properties. Testing shall include several of the following test procedures:

A) Atterberg Limits (ASTM D4318 or Tex-104-E, 105-E, 106-E) – This procedure will be used to aid in the classifying of the soil and to provide information on the potential vertical rise and contraction of the soil. Test data furnished will include Liquid Limit, Plasticity Index and Linear Shrinkage test results.
B) Gradation (-200) (ASTM D1140 or Tex-111-E) – This procedure will be used to aid in the classifying of the soil. A No. 200 sieve will be used to distinguish fine grained material as well as for cohesive soils.
C) Determination of Moisture in Soils (ASTM D2216 or Tex-103-E) – This procedure will aid in determining the in-situ moisture of the soil to be able to evaluate the potential vertical rise and contraction of the soil.
D) Sulfate Content of Soil (ASTM C1580 or Tex-145-E) – This procedure will identify the soluble sulfate content of soil by using the turbidimetric techniques. The results of this procedure will be utilized to determine whether or not the subgrade material can be lime treated for stabilization or if other methods of stabilization will need to be proposed. The presence of extreme amounts of soluble sulfates will exclude lime treatment as a stabilization option.
E) Determining Soil pH (Tex-128-E) – This method determines the pH of a soil in an aqueous solution.
F) Lime Series Testing (Tex-112-E) – This procedure involves reducing the plasticity of soils

through the addition of hydrated lime at predetermined proportions. Results of this test will determine the required percent lime treatment for roadway subgrade.

G) Soil-Cement Testing (Tex-120-E) – This procedure involves determining the unconfined compressive strength of compacted soil-cement specimens after seven days curing (10 lb. hammer, 18-inch drop, 50 blows/layer using a 6 x 8 in. mold).

H) Organics & Triaxial testing – For subgrade material.

Subtask 110.06.03 – Geotechnical Engineering Services

Prior to beginning the geotechnical report, the GEC shall collect, review and evaluate all available existing data pertaining to the project and assemble a reference file of existing data. The GEC shall utilize information gathered from the field and laboratory testing to provide the AUTHORITY with a geologic profile and geotechnical engineering analyses for the project. The findings and conclusions derived from analyses will be presented in a written engineering report and provided to the AUTHORITY (three (3) copies). The report will include a boring location plan, boring logs with laboratory classification of recovered soil samples at the boring locations and subsurface water conditions encountered. The report will provide analyses and engineering recommendations based on the TxDOT Geotechnical and Bridge Design Manuals:

- Recommendations for stabilization of subgrade.
- Preliminary pavement thickness recommendations (Based on FPS21 and traffic information provided by the AUTHORITY).
- A geologic profile, identify the types of soils, describe strata and present expected foundation strength available from the soils.

The report will provide general comments and applicable recommendations regarding construction methods, sequences, and potential difficulties that may arise during overall construction as it relates to the soil aspects of this project. This information may serve to guide foundation selection and design and assist in the preparation of specifications for the project.

TASK 120 – SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES

TASK 120.01 – RIGHT-OF-ENTRY AND FIELD INVESTIGATIONS

Subtask 120.01.01 – Right-of-Entry (ROE)

The GEC shall coordinate ROE for up to fifty (50) parcels within the project area for the purpose of completing environmental studies and field investigations.

Subtask 120.01.02 – Field Investigations

The GEC shall conduct environmental investigations and field studies necessary to complete the EA and associated technical reports, forms, etc. Initial field investigations will involve up to three (3) environmental specialists and encompass three (3) days and two (2) overnight stays per specialist. One follow-up field investigations will involve two (2) environmental specialists and encompass two (2) days and one (1) overnight stay per specialist.

Deliverables:

- Field notes and photographs which will be incorporated into the EA and technical reports as appropriate

TASK 120.02 – ENVIRONMENTAL ASSESSMENT

Building upon the preliminary CE or EA (prepared by others if applicable), the GEC shall prepare an Environmental Assessment (EA) that satisfies the requirements of 23 CFR 771.115(c), 43 TAC 2.41-2.52, the National Environmental Policy Act (40 CFR 1500-1508), and TxDOT's current Environmental Handbook – Preparing an Environmental Assessment as well as other TxDOT Environmental Compliance Toolkit guidance (TxDOT guidance). Document content shall be in sufficient detail to meet the Federal Highway Administration (FHWA) requirements for environmental review documents. Should the classification process or environmental investigations determine that another level of environmental documentation is required (such as an Environmental Impact Statement), the effort associated with preparing another document type shall be considered out of scope and subject to a separate work authorization. The GEC understands the NEPA assignment process and that TxDOT may administer the environmental review process on behalf of the FHWA.

For purposes of this scope, it is assumed that the GEC shall prepare five (5) versions of the EA. All environmental documents shall be submitted to the AUTHORITY and TxDOT electronically though a reasonable number of hardcopies shall be accommodated upon request.

Version 1 shall be submitted for concurrent review by the AUTHORITY and TxDOT-Pharr District. Upon receipt of comments from the AUTHORITY and TxDOT-Pharr District, the GEC shall revise and resubmit the EA (Version 2).

Version 2 shall be submitted concurrently to AUTHORITY, TxDOT-Pharr District and TxDOT Environmental Affairs Division (ENV), as determined by the TxDOT-Pharr District. Upon receipt of comments on Version 2, the GEC shall revise and resubmit the EA (Version 3).

Version 3 shall be submitted concurrently to the AUTHORITY, TxDOT-Pharr District and TxDOT ENV. Upon receipt of comments on Version 3, the GEC shall revise and resubmit the EA (Version 4).

Version 4 shall be submitted to the AUTHORITY, TxDOT-Pharr District and TxDOT ENV for additional TxDOT interdisciplinary reviews. Though not anticipated, upon receipt of comments from TxDOT and/or FHWA on Version 4, the GEC shall revise the EA and, if warranted, participate in a comment resolution workshop (conference call) with the AUTHORITY, TxDOT and/or FHWA. The GEC shall then revise and resubmit the EA (Version 5). For purposes of this scope, it is presumed that **Version 5** shall be the final submittal. The GEC will make every effort possible to minimize the versions of the EA for AUTHORITY and TxDOT review.

Subtask 120.02.01 – Need and Purpose for the Project

The GEC shall update and build upon the Need and Purpose prepared for the preliminary EA (prepared by others if appropriate).

A) Need for the Project – The EA shall explain why the project is proposed, including a description of the existing facilities (if any) and unsatisfactory conditions to be remedied. The EA shall identify and describe the transportation or other needs in which the proposed project is intended to satisfy (e.g., provide system continuity, alleviate traffic congestion, improve safety, and/or correct unsatisfactory roadway conditions, etc.).
B) Purpose of the Project – The EA shall describe the goal(s) or desired outcomes that would be attained if a proposed project alternative was implemented. The objectives shall be clearly expressed and useful for identifying the alternative(s) that do and do not warrant consideration as a possible preferred alternative.

Subtask 120.02.02 – Project Introduction and Planning Process

The EA shall provide a brief historic description of the planning, scoping and public involvement process that resulted in identifying the proposed project. The EA shall reference the applicable transportation improvement plan and relevant MPO information from the approved planning documents as applicable.

Subtask 120.02.03 – Alternatives Analysis

The EA shall evaluate Build Alternatives and a No-Build Alternative and shall additionally describe preliminary alternatives that were considered but eliminated from further study. The Build Alternatives shall be consistent with the Build Alternatives developed/presented in the original environmental review document (prepared by others if applicable). One or more Build Alternatives and the No-Build Alternative will be subject to detailed analysis in the EA. The Build Alternative(s) shall be examined against the No-Build Alternative and the alternatives shall be discussed at equal levels of detail to provide an equitable comparison based upon the purpose and need and related objectives of the proposed project.

The EA shall clearly document the basis for elimination of alternatives and selection of a recommended preferred alternative.

Subtask 120.02.04 – Social and Economic Impacts

The GEC shall identify and evaluate the social and economic impacts of the proposed project. The AUTHORITY shall provide the GEC with available project data including available field survey results, correspondence, and documentation of agency coordination. The GEC understands that the AUTHORITY or TxDOT may choose to lead selected agency coordination efforts. The GEC shall use appropriate data sources, such as US Census Bureau data, windshield surveys, maps, and aerial photographs to determine existing conditions and the potential for social and economic impacts. Potential social and economic impacts to be documented include:

A) Demographics (population, ethnic/racial distribution, income) based on the most recent census or projections there from.

B) Land uses in the project area (community services, schools, etc.).
C) Other potential impacts identified in studies of social impacts.

The GEC shall identify potential displacements, potential replacement housing or other replacement sites and racial, ethnic, and income levels of affected individuals and communities, in order to determine any disproportionate impacts on any minority, Limited English Proficiency, or low-income individuals or communities. Studies shall fulfill the requirements of Executive Order 12898 (on Environmental Justice).

Subtask 120.02.05 – Farmland

The GEC shall identify farmland impacts for the proposed project. Identification of farmland impacts shall be in accordance with the Farmland Protection Policy Act (7 USC 4201 et. seq.). Farmland impacts shall be reported in the EA as the proposed project area is located within agricultural areas consisting of prime farmlands. If required, Natural Resources Conservation Service (NRCS) Form AD-1006, "Farmland Conversion Impact Rating" would be completed, processed with the NRCS and included in the EA as appropriate.

Subtask 120.02.06 – Utility Relocation

The GEC shall identify whether or not utility relocations would be necessary as a result of the proposed project. If the need for utility relocations is identified, the impacts resulting from the removal or adjustment of any utilities within the existing/proposed project right-of-way (ROW) would be considered and discussed in the EA.

Subtask 120.02.07 – Air Quality Analysis

The GEC shall conduct an air quality analysis, including Mobile Source Air Toxics (MSAT) qualitative analysis, if needed, in accordance with TxDOT's *Environmental Handbook for Air Quality*. The National Ambient Air Quality Standards for Cameron County shall be assessed. The Texas Commission on Environmental Quality (TCEQ) air quality designations shall be reviewed for the region/area of the proposed project (e.g., attainment, non-attainment, etc.). The effects of the proposed project on local air quality shall be evaluated, including the potential for fugitive dust particulate emissions during construction activities.

Subtask 120.02.08 – Bicycle and Pedestrian Facilities

The GEC shall identify impacts on existing bicycle and pedestrian facilities including linkages to transit stops and corridors. The GEC shall examine if the proposed project will comply with the TxDOT's *Bicycle Accommodation Design Guidance*.

Subtask 120.02.09 – Community Impacts

The GEC shall conduct a Community Impact Assessment, if needed, including displacements, changes to access and travel patterns, changes to community cohesion, Environmental Justice analysis in accordance with Executive Order 12898, and Limited English Proficiency analysis in

accordance with Executive Order 13166. The GEC shall conduct an analysis sufficient to meet requirements of TA 6640.8A. The Community Impact Assessment shall follow guidance provided in TxDOT's *Environmental Handbook for Community Impacts, Environmental Justice, Limited English Proficiency and Title VI*.

Subtask 120.02.10 – Visual/Aesthetic Impacts

The GEC shall examine any visual or aesthetic impacts that may include impacts to any landscaping, decorative, or other features that may be affected by the proposed project.

Subtask 120.02.11 – Noise Analysis

For purposes of this scope, it is presumed that the Traffic Noise Model® (TNM®) files, version 2.5, prepared for the original EA shall not be provided to the GEC, and that the GEC shall complete a traffic noise analysis in accordance with TxDOT's *Highway Traffic Noise: Analysis and Abatement Guidance* in effect on the date of execution of this work authorization. Noise analyses shall be conducted for each reasonable alternative. TxDOT's *Highway Traffic Noise: Analysis and Abatement Guidance* are incorporated by reference herein. TxDOT shall provide the AUTHORITY and/or GEC with existing and predicted (future) traffic data and information required for inclusion in the TNM®.

The GEC shall identify representative receivers that might be impacted by highway traffic noise and may benefit from feasible and reasonable noise abatement. The GEC shall determine existing and predicted noise levels for representative receivers through the following process:

A) The GEC shall conduct field measurements of existing noise levels.
B) The GEC shall conduct computer modeling of existing noise levels and predicted (future) noise levels.
C) The GEC shall identify impacted receivers in accordance with TxDOT's absolute and relative impact criteria.
D) The GEC shall consider and evaluate all required noise abatement measures for impacted receivers in accordance with the feasible and reasonable criteria.
E) The GEC shall propose noise abatement measures that are both feasible and reasonable.
F) The GEC shall determine predicted (future) noise impact contours for adjacent undeveloped properties where development is likely to occur in the future.

Subtask 120.02.12 – Water Resources

The GEC shall document compliance with laws and regulations concerning the management of water resources in accordance with TxDOT's *Environmental Handbook for Water Resources*. Additionally, the GEC shall determine whether the proposed project requires any of the following permits related to water resources:

A) Texas Pollutant Discharge Elimination System (TPDES)
B) State water quality certification under Section 401 of the Clean Water Act (CWA)
C) Nationwide or Individual Permit under Section 404 of the CWA

The GEC shall not produce applications for permits related to water resources under this work

authorization. Such permit applications, if required, would be conducted under a separate work authorization.

120.02.12.01 – Surface Water

The GEC shall assess surface water features within the project area (e.g., irrigation canals, open water, drainage ditches, etc.). Surface drainage and the water quality of surface waters/streams would be additionally assessed as needed. Impacts to surface waters would be assessed for the recommended Build Alternative in the EA. The TCEQ Section 303(d) list of impaired waters would be reviewed to evaluate the potential for the proposed project to adversely affect impaired waters.

120.02.12.02 – Floodplains

Executive Order 11988 requires federal agencies to determine whether a proposed action occurs within a floodplain. Executive Order 11988 directs each federal agency to take action 1) to reduce the risk of losses associated with floods, 2) to minimize the impact of floods on human health and safety, and 3) to preserve the beneficial values of floodplains. The GEC shall evaluate the project area regarding Federal Emergency Management Agency (FEMA) designated/mapped areas, flood event impacts, flood control measures, encroachments of the 100-year floodplain, developed areas in or near the 100-year floodplain, local watersheds, and drainageways.

The GEC shall determine whether the proposed project is located within any FEMA mapped floodplains. The EA shall document the floodplains, if any, that could be potentially impacted by the proposed project.

120.02.12.03 – Groundwater

The GEC shall evaluate the project area regarding groundwater availability and allocation. This evaluation shall include the identification of local public drinking water systems.

120.02.12.04 – Waters of the US, including Wetlands

Section 404 of the CWA regulates the discharge of dredged or fill material into waters of the US, including wetlands. The US Army Corps of Engineers (USACE) administers the permitting program for actions under Section 404 of the CWA. The GEC shall prepare the delineation of waters of the US, including wetlands, for areas within the preferred Build Alternative. The delineation would be conducted in accordance with the 1987 Corps of Engineers Wetland Delineation Manual and the appropriate Regional Supplement to the Corps of Engineers Wetland Delineation Manual.

The GEC shall collect background data (i.e., aerial/color infrared aerial photographs, topographic data, etc.) prior to the field investigation. If ROE/field access is not authorized on all proposed ROW parcels, the GEC shall utilize other available resources such as the NRCS *Web Soil Survey*, aerial photography, topographic maps, and National Wetlands Inventory (NWI)

data, etc., to delineate wetlands within the preferred alternative or related areas.

The wetland delineation would consist of staking and mapping identified waters of the US, including wetlands and other special aquatic sites. Under normal circumstances, wetlands must possess three essential characteristics: hydrophytic vegetation, wetland hydrology, and hydric soils. Indicators of these characteristics would be documented in the wetland areas, as well as in the nearby upland areas, to determine the presence (or absence) of wetland characteristics. Waters of the US shall be delineated in the field and recorded using Trimble® Geo7X Global Positioning System (GPS) technology. Areas extending beyond the project ROW will be noted but not delineated during the field investigation. Wetland data forms shall be completed at vegetative community changes within the project ROW as well as in areas to determine the geographical boundary of a wetland or the ordinary high-water mark of a stream/creek. The area of the proposed project shall be reviewed for the occurrence of farmed wetlands.

The GEC shall draft a waters of the US delineation report, following TxDOT guidance, which summarizes the methods and results of the delineation activities as well as associated mapping (i.e., vicinity, site location, topography, aerial photograph, LiDAR, soils, floodplains, NWI, etc.), site photographs, wetland data point locations, acreage summary tables, and other supporting data (e.g., antecedent precipitation data).

Subtask 120.02.13 – Impacts to Vegetation

The GEC shall assess project-related impacts to vegetation and include a description of any unusual vegetation features or any noteworthy trees identified during field investigations. Vegetation types will be identified using the Texas Parks and Wildlife Department (TPWD) Ecological Mapping System of Texas (EMST) data.

Subtask 120.02.14 –Threatened and Endangered Species

For the purposes of this work authorization, protected species shall include:

A) Species listed by the US Fish and Wildlife Service (USFWS) as threatened or endangered or proposed for listing as threatened or endangered (50 CFR 17.11-12);
B) Species that are candidates for review or listing by the USFWS as threatened or endangered (per most recently updated list in the *Federal Register*);
C) Species listed by the Texas Parks and Wildlife Department (TPWD) as threatened, endangered or species of greatest conservation needs as reflected in the Annotated List of Rare Species for Cameron County; and
D) Species protected by the Migratory Bird Treaty Act (50 CFR 10.13).

The GEC shall examine existing data to determine the likelihood that protected species, their habitat or designated critical habitat (per 50 CFR 17.94-95) could be impacted by the proposed project and shall report findings in the EA. Existing data shall include the records of the TPWD Natural Diversity Database. The GEC shall not conduct species-specific presence/absence surveys for protected species or critical habitat. If required, presence/absence and/or critical habitat surveys would be conducted under a supplemental work authorization if needed.

The GEC shall provide the following analysis and documents:
A) Species Analysis Spreadsheet
B) Species Analysis Form and associated attachments (i.e., maps, photos, etc.)

Subtask 120.02.15 – Habitat Analysis

The GEC shall conduct an analysis of existing wildlife habitat within the project area and potential project-related impacts to wildlife habitat. If the GEC encounters protected species or habitat for protected species, the GEC shall notify the AUTHORITY immediately.

If special habitat features are present, additional details shall be included in the description to clearly describe the feature(s) and to explain why the feature(s) should be regarded as special. Special habitat features include but are not limited to:
A) bottomland hardwoods,
B) caves,
C) cliffs and bluffs,
D) native prairies (particularly those with climax species of native grasses and forbs),
E) ponds (temporary and permanent, natural and man-made),
F) seeps or springs,
G) snags (dead trees) or groups of snags,
H) water bodies (creeks, streams, rivers, etc.), and
I) existing bridges with known or easily observed bird or bat colonies.

The habitat analysis shall contain a description of anticipated impacts to vegetation. The description of anticipated impacts shall be based on impacts that can be predicted as a result of construction activities and the type of roadway facility proposed for the project. If lack of access to the new location ROW limits field observations for the habitat areas, existing published sources shall be used to provide an estimate. The description of vegetation shall include the acreage for each vegetation type observed.

Subtask 120.02.16 – Hazardous Materials Impacts

The GEC shall conduct an Initial Site Assessment (ISA) for potential hazardous materials impacts for the proposed project area in accordance with TxDOT's *Environmental Handbook for Hazardous Materials*. The ISA shall determine the potential for encountering hazardous materials in the general project area, including possible environmental liability, increased handling requirements (e.g., soil or groundwater), and potential construction worker health and safety issues.

The completed ISA shall include, when applicable, copies of search reports including maps depicting locations, copies of agency file information, photographs, recommendations, and any other supporting information gathered by the GEC to complete the ISA. The GEC shall include the information presented in the completed ISA in the relevant section(s) of the EA, including:
A) A concise summary of information gathered during the ISA, including sufficient information to show that the proposed project area for the roadway facility was adequately investigated for known or potential hazardous material contamination.

B) A concise description of the scope of the ISA, disclosure of any limitations of the assessment, and a statement indicating who conducted the assessment.
C) A concise summary of the findings of the ISA, along with an opinion of the potential of any suspected hazardous material contamination sites to impact the proposed project during construction.
D) A discussion of any actions recommended for conducting further investigation of suspect areas, and/or justification for postponement of further investigations.
E) A summary of efforts to be employed to avoid or minimize involvement with known or suspected hazardous material contamination sites during construction, and justification for not avoiding contaminated sites within the preferred alternative or corridor alignment.
F) Disclosure of known or suspected hazardous material contamination that is anticipated to be encountered during construction.
G) A discussion of any required or recommended special considerations, contingencies, or provisions to handle known or suspected hazardous material contamination during ROW negotiation and acquisition, property management, design, and construction.
H) A summary of any early coordination or consultation conducted with the regulatory agencies, local entities, or property owners.
I) A discussion of any further hazardous materials related coordination with, and approvals or permits required from, the regulatory agencies or other entities.

Should the findings of the ISA conclude that additional investigation, special considerations, or other commitments are required during future stages of project development, the GEC shall review those findings and commitments with the AUTHORITY prior to completing the hazardous materials discussion for the EA.

Subtask 120.02.17 – Cultural Resources

The GEC shall coordinate with subconsultants and prepare for and attend subconsultant meetings (live or via video conferencing such as Teams, Zoom, etc.) for the project. The GEC, through a subconsultant, shall conduct archaeological investigations designed to satisfy all applicable cultural resource laws and regulations. This subtask shall include a review of records from the Texas Archaeological Research Laboratory (TARL) available on the Texas Historical Commission's (THC) online Texas Archeological Sites Atlas (Atlas) to identify previously recorded surveys or cultural resources within 1.6-kilometers [km] (1-mile) of the proposed project. An archaeologist shall also review historical maps, aerial photographs, topographic maps, *Soil Survey* maps, and geologic maps to identify possible historic structures or the previous locations of structures that may now be expressed as an archaeological site within the Area of Potential Effect (APE) of the proposed project. In addition to identifying previously recorded archaeological sites, the Atlas review shall include the following types of information: National Register of Historic Places properties, State Antiquities Landmarks (SALs), Official Texas Historical Markers, Recorded Texas Historic Landmarks, cemeteries, and local neighborhood surveys. Other critical factors that shall be examined include the level of previous disturbances from residential, commercial, and industrial development, types of soils, and archaeological potential. Following completion of the background review, the subconsultant's Principal Investigator shall prepare a scope of work (including the results of the background review) and submit it to the GEC for review. Upon receipt and incorporation of comments, the

subconsultant shall then submit the scope of work concurrently to TxDOT and/or FHWA for their review and comment, along with the Antiquities Permit application for THC review. In general, the TxDOT and/or FHWA and THC shall review the scope of work and permit within 30 days of receipt of the application. All work on the proposed project related to cultural resources shall be conducted in accordance with TxDOT's *Guidance: Historical Studies Review Procedures* and *Environmental Handbook for Historic Properties*.

120.02.17.01 – Archeological Survey

The subconsultant's cultural resources personnel shall conduct database searches of the restricted Sites Atlas maintained by the THC and TARL to identify previously documented archeological sites, cemeteries, historical markers, properties and districts listed on the National Register of Historic Places (NRHP), and SALs. Results of the search shall be integrated with soil information, topographic maps, aerial photographs, and other appropriate data sources to guide the field approach.

Field investigations shall be conducted at the Phase I intensive-survey level according to standards finalized in March 2020 and promulgated by the THC and the Council of Texas Archeologists (CTA) in April 2020. The field investigations shall include a pedestrian survey for previously unidentified archeological resources as well as backhoe excavations due to the great depth of local soils. In addition, this investigation shall evaluate archeological resources for their potential eligibility for inclusion in the NRHP per Section 106 (36 CFR 800) of the National Historic Preservation Act of 1966, as amended, or designation as a SAL under the provisions of the Antiquities Code of Texas. Reporting of results, including preliminary NRHP/SAL evaluations of any identified archeological resources, shall comply with THC and CTA guidelines and shall be coordinated with the THC, Cameron County, and TxDOT per the terms of the approved archeological permit.

Draft and final reporting of results, including preliminary NRHP/SAL evaluations of any identified archeological resources, shall comply with THC and CTA guidelines. A draft report shall be submitted first to the GEC for comments; these comments shall be incorporated into a revised draft report to be submitted to the THC for review, with a concurrent submittal to the USACE via the THC's online E-Trac portal. The AUTHORITY shall also review the submittal prior to submission to the THC/USACE.

Subtask 120.02.17.02 – Historic Resources Survey

The subconsultant shall conduct the database searches referenced above and any additional archival research required by the THC and TxDOT ENV to establish a historic-resources APE and produce a historic research design for review and approval by the THC and TxDOT ENV. The research design shall comply with current requirements, such as the inclusion of a contextual discussion of recorded resources within 1,300 feet of the APE. If required by TxDOT, a Project Coordination Request (PCR) shall be prepared, although it is assumed that field study shall be required due to TxDOT reviewers' stated interest in historic landscapes in the region.

Following THC approval of the historic research design, the subconsultant shall conduct the field investigation, which is assumed to be at the reconnaissance-survey level. Upon completion of fieldwork, subconsultant historic staff shall provide a preliminary evaluation of identified resources' potential eligibility for inclusion in the NRHP per Section 106 (36 CFR 800) of the NHPA or designation as a SAL under the provisions of the Antiquities Code.

Reporting of results, including preliminary NRHP/SAL evaluations of any identified resources, shall follow guidelines for formatting and content, including an appendix containing data sheets for all identified historic-age resources. Submission of the report, including number and format of copies, will be coordinated with the GEC, AUTHORITY and TxDOT (District and/or ENV).

The following assumptions and exclusions shall apply to Subtask 120.02.17.01 and 120.02.17.02:

A) Assumes a total project area of approximately 40 acres and project length of 2.2 miles.
B) Assumes mechanical trenching will be required by THC.
C) Assumes private land and that collection/curation is not required.
D) Assumes the GEC and/or AUTHORITY shall provide/negotiate ROE prior to fieldwork such that survey can be completed in one trip of two staff for archeology and one trip of two staff for historic resources. If access is not available, a reasonable and good-faith effort will be made to document inaccessible parcels from accessible parcels and/or public ROW.
E) Exclusions: NRHP nominations, Historic American Buildings Survey/Historic American Engineering Record documentation, archeological testing or data recovery, human remains evaluation/coordination/removal. All excluded services could be provided under a separate work authorization.

Subtask 120.02.18 – Section 4(f)/(6f)

The GEC shall, in accordance with 23 CFR 771.135 (49 USC 303) and TxDOT's *Environmental Handbook for Section 4(f), US Department of Transportation Act*, identify properties within the proposed project area that are protected by Section 4(f) of the US Department of Transportation Act of 1966. Such Section 4(f) properties include parkland, recreational area, wildlife refuges, and historic properties. The GEC shall evaluate Section 4(f) property impacts for the recommended preferred alternative in the EA.

The GEC shall, in accordance with TxDOT's *Environmental Handbook: Section 6(f) Land and Water Conservation Fund Act Compliance,* identify areas of parkland within the proposed project area that are protected by Section 6(f) of the Land and Water Conservation Act. Such Section 6(f) properties were acquired, or developed and funded, through monies of the Land and Water Conservation Fund of 1965. The GEC shall not conduct activities to replace impacted Section 6(f) properties under this work authorization. Section 6(f) property replacement activities, if required, would be conducted under a separate work authorization.

The GEC shall document the proposed project's compliance with Chapter 26 of the Texas Parks and Wildlife Code.

Subtask 120.02.19 – Construction Impacts

The GEC shall identify potential construction-phase impacts that would result from the proposed project and shall document such impacts in the relevant section(s) of the EA. Construction impacts associated with air quality and noise shall also be assessed.

Subtask 120.02.20 – Indirect and Cumulative Impacts

The GEC shall assess the indirect and cumulative impacts that would result from the proposed project based on TxDOT's *Guidance: Indirect Impacts Analysis* and *Cumulative Impacts Analysis Guidelines*. The assessment of indirect impacts shall include induced growth indirect impacts and encroachment alteration impacts. The assessment of cumulative impacts shall include impacts to the environment which result from incremental impacts of the proposed project when added to other past, present, and reasonably foreseeable future actions.

120.02.20.01 – Indirect Impacts Analysis

For induced growth indirect impacts, the GEC shall evaluate the causation connecting a transportation project to future land use changes and the impacts associated with those land use changes. The TxDOT Scope Development Tool and Induced Growth Impacts Analysis decision tree shall be used to aid in assessing potential indirect impacts. The induced growth indirect impacts analysis would follow a six-step methodology which includes defining or identifying: 1) the methodology, 2) the area of influence (AOI) and study timeframe, 3) areas subject to induced growth in the AOI, 4) if growth is likely to occur in the induced growth areas, 5) resource subject to induced growth impacts, and 6) mitigation (if applicable).

For encroachment alternation indirect impacts, the GEC shall assess all resources which would be evaluated for direct impacts. Examples of potential encroachment alteration impacts may include the anticipated future impacts after construction of the recommended preferred alternative to the following considerations: habitat fragmentation, neighborhood stability, access to specific goods or services, changes in travel patterns, etc. The Indirect Impacts Analysis would only be completed if required by TxDOT.

120.02.20.02 – Cumulative Impacts Analysis

For cumulative impacts, the GEC shall conduct a five-step process for considering the cumulative effects on a project. The five steps include 1) resource project/study area, conditions and trends, 2) direct and indirect effects on each resource from the proposed project, 3) other actions (past, present and reasonably foreseeable) and their effect on each resource, 4) the overall effects of the proposed project combined with other actions, and 5) mitigation of cumulative effects. The cumulative impacts analysis would be conducted for the recommended preferred alternative. The Cumulative Impacts Analysis would only be completed if required by TxDOT.

TASK 120.03 – RESOURCE AGENCY COORDINATION

The GEC shall coordinate with applicable resource agencies or coordinate with resource

agencies through TxDOT. The GEC understands that the AUTHORITY or TxDOT may choose to lead selected agency coordination efforts. Resource agency coordination efforts may include, but are not limited to TxDOT, FHWA, USACE, USFWS, TPWD, THC, and FEMA.

Deliverables:

- Scope Development Tool (SDT)
- Need & Purpose Statement
- Impact Analysis Matrix (showing all alternatives)
- EA Version 1, 2, 3, 4, 5
- Community Impacts Assessment Form
- Traffic Noise Analysis Technical Report
- Waters of the US Delineation Report
- Species Analysis Spreadsheet
- Species Analysis Form
- Documentation of TPWD BMPs
- Hazardous Materials Initial Site Assessment Form
- Antiquities Permit
- Archeological Survey Report
- Historic Resource Survey Report
- Documentation of Public Meeting (including Comment/Response Matrix)
- Documentation of Public Hearing (including Comment/Response Matrix)
- EPIC Sheets

All environmental documents shall be submitted to the AUTHORITY and TxDOT electronically though a reasonable number of hardcopies shall be accommodated upon request.

TASK 120.04 – PUBLIC INVOLVEMENT ACTIVITIES

All public involvement activities shall be conducted in accordance with 43 TAC 2.41-2.52, 23 CFR 771, NEPA and TxDOT's current policies, procedures, guidance, and document templates.

Subtask 120.04.01 – Meeting with Affected Property Owners (MAPO)

The GEC shall conduct up to four (4) MAPOs with landowners potentially impacted by the proposed project. A MAPO summary, following TxDOT guidance, shall be completed following the MAPO for documentation purposes. Items discussed in the MAPO (e.g., land use, ROW, ROE, etc.) shall be documented.

Subtask 120.04.02 – Virtual Public Meeting with In-Person Option

The GEC shall conduct the following public involvement activities for the FM 509 Extension project.

A) The GEC shall prepare and present one (1) virtual public meeting with an in-person option. The purpose of the public meeting shall be to inform the public of the proposed project and gather input from the public. The in-person public meeting shall be held in an open house

format, anticipating a maximum of 100 attendees. The public would have the opportunity to provide written and verbal comments, but no presentation or open public comment session would be held at this in-person public meeting. The GEC shall secure the meeting venue for the public meeting.

B) The GEC shall provide a pre-recorded presentation to be sent to the AUTHORITY and TxDOT-Pharr District for approval for a virtual public meeting. Upon approval, the presentation shall be published online on the TxDOT and/or AUTHORITY website and shall convey the same information as would be presented at the in-person public meeting. Additionally, any public meeting handouts or information available during the in-person public meeting shall be made available on the website(s) as part of the virtual public meeting.

C) The GEC shall develop one (1) public meeting notice (in English and Spanish) that will be published at least 15 days prior to the public meeting. The notice will be submitted to the AUTHORITY and the TxDOT-Pharr District for approval. The English and Spanish public meeting notice shall be placed in two (2) local papers (one English text newspaper and one Spanish text newspaper) and will include a project location map. The public meeting notice shall also be published online on the TxDOT website and/or the AUTHORITY's social media accounts.

D) The GEC shall prepare and mail the public meeting notice (English and Spanish) to landowners, lessees, etc., whose property adjoins the proposed project. The GEC shall develop a mailing list of landowners located adjacent to the proposed project and others who have requested notification of public involvement activities.

E) The GEC shall prepare a public meeting letter of invitation for local, and state elected officials, which shall be printed and signed by the GEC. The GEC shall prepare and update a mailing list of elected officials. Alternatively, TxDOT may provide a current listing of elected officials to the GEC. The elected officials' letters shall be mailed 45 days in advance of the public meeting.

F) The GEC shall prepare handouts (i.e., comment form, location map, project summary, etc.), indoor and outdoor directional signage to the public meeting, sign-in sheets, and a series of exhibit boards. Printed handouts shall be presented in English and Spanish.

G) The GEC shall provide project staff members to attend the in-person public meeting for the purpose of providing information to attendees regarding the proposed roadway project, addressing local concerns regarding the proposed project, staffing the sign-in table, and managing the in-person public meeting information stations.

H) The GEC shall prepare documentation for the virtual and in-person public meetings in accordance with TxDOT's *Environmental Handbook for Public Involvement* and current TxDOT document templates. The GEC shall provide an electronic copy of the draft public meeting documentation for the AUTHORITY's and TxDOT's review and approval prior to the public meeting.

Deliverables:

- Draft Notice of Virtual Public Meeting with In-Person Option (English and Spanish)
- Final Notice of Virtual Public Meeting with In-Person Option (English and Spanish)
- Public Meeting Notice/Letter of Invitation to public/elected officials
- Pre-recorded Video Presentation
- Public Meeting Handouts (comment form, location map, project summary or fact sheet, etc.)

- Public Meeting Summary Report, Documentation of Public Meeting and Comment / Response Matrix (to be included in the EA).

Subtask 120.04.03 – Opportunity for a Public Hearing

Upon determination of the EA as "satisfactory for further processing" by TxDOT, the GEC shall prepare, in coordination with the AUTHORITY and TxDOT-Pharr District, a public notice to afford an opportunity for a public hearing. The notice shall be written in English and Spanish and shall be published in at least one (1) English text newspaper and in at least one (1) Spanish text newspaper. Both papers are to have circulation in the project area. Additionally, the notice shall be published online on the TxDOT website and/or the AUTHORITY's social media accounts.

Deliverables:
- Draft Notice Affording the Opportunity for a Public Hearing (English and Spanish)
- Final Notice Affording the Opportunity for Public Hearing (English and Spanish)
- Documentation of the opportunity for a public hearing shall be incorporated into the EA

Subtask 120.04.04 – Notification Letter/General Public

The GEC shall develop one (1) letter to adjoining property owners, the general public and stakeholders announcing the opportunity for a public hearing. Letters shall be written in English and Spanish. The GEC shall send letters to adjoining property owners via the US Postal Service using certified mail with a return receipt. The GEC shall send letters to the general public and other stakeholders via the US Postal Service using regular mail.

Deliverables:
- Draft Notification Letter for AUTHORITY review
- Final Notification Letter for AUTHORITY signature

Subtask 120.04.05 – Notification Letter/Elected Officials

The GEC shall develop one (1) letter to elected officials announcing the opportunity for a public hearing. The GEC shall send letters to elected officials via the US Postal Service using regular mail.

Deliverables:
- Draft Notification Letter for AUTHORITY review
- Final Notification Letter for AUTHORITY signature

If a public hearing is required, the activities associated with a public hearing would be authorized under a separate work authorization. Any public involvement activity/service not specified above shall be considered out of scope and subject to a separate work authorization.

The following environmental services are specifically excluded from this scope of work and, if required, shall be subject to a separate work authorization as Special Services:

- Archeological testing and data recovery.
- Bicycle/pedestrian connectivity study.
- Biological Assessment preparation.
- Construction Emissions Mitigation Plan.
- CWA Section 404 Permitting.
- Disposal or transportation of any hazardous waste that is encountered during site investigations.
- Emergency Response Control Pollution Plan.
- Environmental permitting.
- Hazardous materials investigations (Phase II/III) beyond the level of an ISA (ASTM E1527-21).
- Incidental Take Permit activities.
- Mobile Source Air Toxics (MSAT) quantitative analysis.
- Phase II hazardous materials due diligence/site assessments.
- Project newsletter or project website development.
- Quantitative MSAT analysis.
- Section 4(f) and/or Section 6(f) evaluations.
- Security officer(s) for public meeting.
- Species-specific Subject Matter Experts for individual critical habitat or species analyses.
- Storm Water Pollution Prevention Plan.
- Wetland/Stream mitigation.

SUBSURFACE UTILITY ENGINEERING – FC 130

Utility Engineering Investigation (Subsurface Utility Engineering) includes utility investigations subsurface and above ground prepared in accordance with AASHTO standards [ASCE C-1 38-02 (http://www.fhwa.dot.gov/programadmin/asce.cfm)] and Utility Quality Levels.

A. UTILITY QUALITY LEVELS

Utility Quality Levels are defined in cumulative order (least to greatest) as follows:

1. Quality Level D - Existing Records: Utilities are plotted from review of available existing records.

2. Quality Level C - Surface Visible Feature Survey: Quality level "D" information from existing records is correlated with surveyed surface-visible features. Includes Quality Level D information. If there are variances in the designated work area of Level D, a new schematic or plan layout will be necessary to identify the limits of the proposed project and the limits of the work area required for the work authorization; including highway stations, limits within existing or proposed right of way, additional areas outside the proposed right of way, and distances or areas to be included along existing intersecting roadways.

3. Quality Level B - Designate: Two-dimensional horizontal mapping. This information is obtained through the application and interpretation of appropriate non-destructive

surface geophysical methods. Utility indications are referenced to established survey control. Incorporates quality levels C and D information to produce Quality Level B. If there are variances in the designated work area of Level D, a new schematic or plan layout will be necessary to identify the limits of the proposed project and the limits of the work area required for the work authorization; including highway stations, limits within existing or proposed right of way, additional areas outside the proposed right of way, and distances or areas to be included along existing intersecting roadways.

4. Quality Level A - Locate (Test Hole): (10 test holes have been assumed): Three-dimensional mapping and other characterization data. This information is obtained through exposing utility facilities through test holes and measuring and recording (to appropriate survey control) utility/environment data. Incorporates quality levels B, C and D information to produce Quality Level A.

B. DESIGNATE (QUALITY LEVEL B)

Designate means to indicate the horizontal location of underground utilities by the application and interpretation of appropriate non-destructive surface geophysical techniques and reference to established survey control. Designate (Quality Level B) Services are inclusive of Quality levels C and D.

The GEC shall:

1. As requested by the Authority compile "As Built" information from plans, plats and other location data as provided by the utility owners.

2. Coordinate with utility owner when utility owner's policy is to designate their own facilities at no cost for preliminary survey purposes. The GEC shall examine utility owner's work to ensure accuracy and completeness.

3. Designate, record, and mark the horizontal location of the existing utility facilities and their service laterals to existing buildings using non-destructive surface geophysical techniques. No storm sewer facilities are to be designated unless authorized by the Authority. A non-water base paint, utilizing the APWA color code scheme, must be used on all surface markings of underground utilities.

4. Correlate utility owner records with designating data and resolve discrepancies using professional judgment. A color-coded composite utility facility plan with utility owner names, quality levels, line sizes and subsurface utility locate (test hole) locations, shall be prepared and delivered to the Authority. It is understood by both the GEC and the Authority that the line sizes of designated utility facilities detailed on the deliverable are from the best available records and that an actual line size is normally determined from a test hole vacuum excavation. A note must be placed on the designate deliverable only that states "lines sizes are from best available records". All above ground appurtenance locations must be included in the deliverable to the Authority. This information shall be provided in the latest version of ORD as used by the Authority. The electronic file will be

delivered on CD or DVD, as required by the Authority. A hard copy is required and must be signed, sealed, and dated by the GEC. When requested by the Authority, the designated utility information must be over laid on the State's design plans.

5. Determine and inform the Authority of the approximate utility depths at critical locations as determined by the Authority. This depth indication is understood by both the GEC and the Authority to be approximate only and is not intended to be used preparing the right of way and construction plans.

6. Provide a monthly summary of work completed and in process with adequate detail to verify compliance with agreed work schedule.

7. Close-out permits as required.

8. Clearly identify all utilities that were discovered from Quality Levels C and D investigation but cannot be depicted in quality level B standards. These utilities must have a unique line style and symbology in the designate (Quality Level B) deliverable.

9. Comply with all applicable State policy and procedural manuals.

C. SUBSURFACE UTILITY LOCATE (TEST HOLE) SERVICE (QUALITY LEVEL A)

Locate means to obtain precise horizontal and vertical position, material type, condition, size and other data that may be obtainable about the utility facility and its surrounding environment through exposure by non-destructive excavation techniques that ensures the integrity of the utility facility. Subsurface Utility Locate (Test Hole) Services (Quality Level A) are inclusive of Quality Levels B, C, and D.

The GEC shall:

1. Review requested test hole locations and advise the Authority in the development of an appropriate locate (test hole) work plan relative to the existing utility infrastructure and proposed highway design elements.

2. Coordinate with utility owner inspectors as may be required by law or utility owner policy.

3. Neatly cut and remove existing pavement material, such that the cut not to exceed 0.10 square meters (1.076 square feet) unless unusual circumstances exist.

4. Measure and record the following data on an appropriately formatted test hole data sheet that has been sealed and dated by the GEC:

    a. Elevation of top and/or bottom of utility tied to the datum of the furnished plan.
    b. Identify a minimum of two benchmarks utilized. Elevations shall be within an accuracy of 15mm (.591 inches) of utilized benchmarks.

c. Elevation of existing grade over utility at test hole location.
d. Horizontal location referenced to project coordinate datum.
e. Outside diameter of pipe or width of duct banks and configuration of non-encased multi-conduit systems.
f. Utility facility material(s).
g. Utility facility condition.
h. Pavement thickness and type.
i. Coating/Wrapping information and condition.
j. Unusual circumstances or field conditions.

5. Excavate test holes in such a manner as to prevent any damage to wrappings, coatings, cathodic protection or other protective coverings and features. Water excavation can only be utilized with written approval from the appropriate State District Office.

6. Be responsible for any damage to the utility during the locating process. In the event of damage, the GEC shall stop work, notify the appropriate utility facility owner, the Authority and appropriate regulatory agencies. The regulatory agencies include but are not limited to the Railroad Commission of Texas and the Texas Commission on Environmental Quality. The GEC shall not resume work until the utility facility owner has determined the corrective action to be taken. The GEC shall be liable for all costs involved in the repair or replacement of the utility facility.

7. Back fill all excavations with appropriate material, compact backfill by mechanical means, and restore pavement and surface material. The GEC shall be responsible for the integrity of the backfill and surface restoration for a period of three years. Install a marker ribbon throughout the backfill.

8. Furnish and install a permanent above ground marker (as specified by the State, directly above center line of the utility facility.

9. Provide complete restoration of work site and landscape to equal or better condition than before excavation. If a work site and landscape is not appropriately restored, the GEC shall return to correct the condition at no extra charge to the Authority.

10. Plot utility location position information to scale and provide a comprehensive utility plan sign and sealed by the responsible Engineer. This information shall be provided in the latest version of ORD as used by the Authority. The electronic file will be delivered on C.D or DVD. When requested by the Authority, the Locate information must be over laid on the State's design plans.

11. Return plans, profiles, and test hole data sheets to the Authority. If requested, conduct a review of the findings with the Authority.

TASK 150 – FIELD SURVEYING

The GEC shall provide professional surveying services required for the Recommended Preferred

Alternative. The standards and specification under which this work shall be conducted is detailed hereinafter under "Standards and Specifications for Surveying Services."

Virtual Reference Station (VRS) networks use real-time kinematic (RTK) solutions to provide high-accuracy, RTK Global Navigation Satellite Systems. GEC will meet VRS requirements.

TASK 150.01 – FIELD SURVEYING

Subtask 150.01.01 – Horizontal and Vertical Control

A) Utilizing static Global Positioning System (GPS) methods, the GEC shall establish primary horizontal and vertical control for the project based on the Texas Coordinate System NAD 83/93, NAVD 88 Datum, South Zone (U.S. Survey Feet) adjusted to surface using a surface adjustment factor to be specified by the AUTHORITY. Primary control points (Type II concrete monuments with aluminum caps stamped with a unique alphanumeric identifier) will be established at approximate two (2) mile intervals along existing TxDOT maintained roadways within the study area.
B) The GEC shall prepare a control recovery sheet, to TxDOT specifications, for each primary control point containing a sketch of the point with measurements to a minimum of three (3) ties to permanent fixed objects near its location. Provide coordinates, metadata and other pertinent information.
C) The GEC shall prepare and submit to the AUTHORITY an original "Control Book" or "Horizontal and Vertical Control Survey Report" containing control data sheets for all source monumentation, control recovery sheets for all project primary control points, an ASCII point list containing all final horizontal and vertical control values and a detailed GPS report.

Subtask 150.01.02 – Ownership Research and Right-of-Entry (ROE)

A) The GEC shall verify current ownership in the Cameron County Tax Appraisal Offices for all privately owned properties in which access will be needed for any tasks listed herein. A current ownership list of the adjoining properties will be created in Excel format and a copy of this list will be provided to the AUTHORITY. No deed or easement research will be conducted as part of this scope of services.
B) The GEC shall attempt to obtain ROE by signed letter from each of the private property owners contained in the above-mentioned ownership list. A draft copy of the ROE letter will be provided to the AUTHORITY for approval prior to any mailings. The results of mailings will be recorded and reported for future action. Also, when necessary, the GEC, will contact property owners in advance of field surveys or to address specific property owner concerns about the work to be conducted or being conducted. It is anticipated that the AUTHORITY will assist with problems regarding landowners who refuse to grant ROE or are otherwise hostile with respect to the completion of this scope of services. No tasks listed in this scope of services that require access onto private property will be conducted without signed ROE from the landowner.

Subtask 150.01.03 – Design Surveying (Recommended Preferred Alternative Alignment)

A) The GEC shall conduct on-the-ground design field surveys for a topographic survey utilizing

conventional surveying methods and one hundred (100) foot cross section locations. The surveys will include but not be limited to manholes, inlets, utility poles, utilities, clearances at overhead lines crossing the design alignment, curb lines, fences, utility markers, roadway signs, visible ROW markers, critical tie-in points for schematic, culvert and pipe sizes and other visible features.

B) The GEC shall cross-section existing paved streets and driveways at existing/proposed ROW and provide surface material information for all intersecting roads and driveways based on visual observations.

C) The GEC shall obtain pavement cross sections at five hundred (500) foot intervals on existing pavement between centerline and edge of pavement.

D) The GEC shall survey existing outfall channels cross culvert locations and shall provide survey cross sections of channels at one hundred (100) foot intervals downstream of structure outfall to location where channel flow line elevations allow for positive drainage.

E) The GEC shall incorporate design survey data into existing ORD V8 2D and 3D design files using TxDOT standard level library. Each point surveyed will be assigned a feature number or feature name using the TxDOT's standard feature table. Each line of the data will contain in this order: the point number, northing, easting, elevation and the feature number or feature name.

Subtask 150.01.04 – Geotechnical Bore Hole Surveys

A) The GEC shall stake a maximum twenty (20) soil-boring locations in the field prior to commencement of soil drilling services. Field stakes will be flagged and labeled to clearly identify each proposed soil boring location.

B) The GEC shall field survey the location and elevation of actual soil boring locations and provide directly to the geotechnical services representative, in appropriate electronic and hard copy format, as needed for timely incorporation into the geotechnical investigation documentation.

Subtask 150.01.05 – Aerial Survey

<u>LiDAR Acquisition</u>

Regal 780I Lidar System with a Phase 1 100 Mega Pixel camera at 16 ppm scan

A. Data Acquisition

Data collection will not be conducted while there are no inclement weather conditions (high winds, rain, fog, low cloud cover) that would significantly diminish the quality of the data.

- The LiDAR scan will be captured with Regal 780I Lidar System with a scan and pulse rate to generate an aggregate of ***20 points / m2*** on the subject area. Our approach coupled with the Fullwave form LiDAR returns (unlimited returns per pulse) with 16-bit intensity allows for point density range capturing key LiDAR returns as the light penetrates through the forest canopy.

- Color imagery (3" pixel) of the subject area will be captured simultaneously with the LiDAR scan. Acquiring imagery and LiDAR simultaneously allows for more accurate data using the same IMU, GPS and control position on both sensors to ensure the best fit possible. The use of a co-registered / integrated LiDAR & Image system that captures equidistant swaths of data from the same positional system and solution simultaneously improves workflow efficiency and more accurate data.

B. GPS satellite availability

GEC will utilize GPS Satellite Software, for an evaluation of the optimum time for GPS data collection is performed. The latest satellite almanac is used for precise planning of optimum PDOP times and maximum satellite visibility. By utilizing the latest almanac, any satellites having known problems are taken into consideration during the planning process. Dilutions of Precision charts are produced showing the best/worst times of the day for GPS satellite availability. LiDAR flights will be conducted when PDOP is predicted to be at its lowest value for maximum efficiency.

C. Acquisition Parameters

The flights will be planned to ensure sufficient side lap to avoid data gaps. The LiDAR spot Diameter will be approximately 25cm. Aircraft speed and altitude are dependent on the terrain. Our flight planning software generates the safest and most economical data collection parameters for each flight line. The LiDAR data will maintain consistency throughout the project area.

2) .LAS File Processing

A. ABGPS / IMU Post Processed

GEC will use TerraPos (GPS+GLONASS) post-processing software based on the principle of Precise Point Positioning (PPP, P3). This processing technique uses post-processed precise satellite ephemeris and various sophisticated error modeling such as troposphere, ionosphere and clock corrections. TerraPos utilizes precise orbits and clock corrections for the satellites, together with advanced error modeling to produce positions with impressing accuracy. The result is an excellent tool for positioning in applications allowing for post-processing, such as airborne photogrammetric or LiDAR operations, seabed mapping, or seismic surveying. Taking advantage of the Trimble Harrier designed stability and GEC'S methodology, we have successfully utilized TerraPos in computing ABGPS, IMU data, LiDAR, and Image orientation, achieving accuracies equal to those computed with ground base stations employed during acquisition flights. For additional control we utilize the National Geodetic Survey (NGS), Continuously Operating Reference Station (CORS) utilizing **Trimble Applanix Smart Base** software. Airborne post processing will use base stations as a top priority with TerraPOS and SmartBase secondary.

B. .LAS Development

After standard GPS post processing the next phase is to combine the laser measurements with the GPS\IMU data. This task is performed in the Topit LiDAR software (Trimble software) where

the SBET (Smoothed Best Estimated Trajectories) and SDC (angle and distances) files are combined to produce an LAS file or Point Cloud. Also, in this process the laser measurements are transformed from WGS84 coordinate to the client requested Coordinate System.

C. Ground Control / Check Points

Field Survey activities necessary for the successful completion of this project will be provided by the Authority to GEC. Select ground control locations, per site, will be provided by GEC. Each control point will be compared to the LiDAR to ensure that data collected meets the accuracy requirements expected.

AOI of Flight

Aerial Photogrammetry

A. Provide **Aerial Lidar** services as appropriate for detailed design.

For purposes of this Contract, all standards and specifications will be in accordance with established guidelines and recommended or approved by the State.

A.1. Prepare **DGN, DTM, TIN, and Orthophotography** files covering the specific work location, meeting standards and specifications as required.

A.2. The current planimetric (DGN) level structure and legend as published by the State shall be maintained where possible.

A.3. The current Digital Terrain Model (DTM) level structure and legend as published by the State shall be maintained where possible.

Quality Assurance and Quality Control

Preflight QA/QC

Prior to each LiDAR/Ortho imagery flight, measures are taken to ensure that all specifications for capture are met and completed safely. Weather conditions are monitored, and flights will be suspended if conditions prove to be unsafe and/or will adversely affect data acquisition. High winds and turbulence may cause excessive crab or unfavorable conditions that may affect the quality of the imagery or cause gaps in LiDAR coverage. Under such conditions, data acquisition will be postponed.

Prior to each LiDAR flight, satellite constellation and atmospheric conditions are monitored using Trimble Planning Software v2.9. LiDAR data acquisition is planned so that capture does not occur during periods of high PDOP. PDOP is considered to be high if it reaches a value of 3.0 or higher. To increase efficiency fuel stops are planned for these times if possible.

Flight plans are configured for optimal coverage using topographic data from Delorme XMap 7 GIS Software Suite. Each flight line is analyzed, and a terrain height is calculated to ensure an accurate flight altitude for complete corridor coverage. In the case of mountainous terrain, other factors will be taken into consideration to calculate the best altitude and flight plan to meet individual project requirements.

GEC utilizes Trimble Applanix POSPac MMS v5.4 SmartBase technology to review the CORS network during the planning stage of each project. If the CORS network does not provide adequate coverage for the project area, additional ground GPS base stations collecting data at 1 second epochs will be deployed during flight.

In Flight QA/QC

During each flight the Harrier system operator monitors all aspects of data capture. PDOP is monitored using the onboard Applanix POS AV system. Unexpected PDOP spikes are noted, and flight lines are re-flown accordingly. The altitude, speed, and attitude of the aircraft are constantly monitored using the POS AV software. In addition, the laser files are checked for validity immediately following the completion of each flight line. In the unlikely event errors are found in the stored laser file, the corresponding flight line is re-flown. Periodically during flight, the collected images are analyzed, and ISO speed and exposure corrections are made accordingly.

Post Flight QA/QC

Immediately following each day of capture, all of the data is offloaded and copied twice onto separate hard drives. The IMU data and airborne GPS data are checked for continuity utilizing Applanix POSPac MMS software. The ground GPS base data is also analyzed for continuity, quality, and duration to ensure the data spans the entire flight and a quality smoothed best estimated trajectory will be produced.

The LiDAR data is validated onsite prior to demobilization using Trimble TopPIT software. The laser data is checked for required coverage, point density, and anomalies. Areas with coverage gaps that result in failure to meet project specifications are re-flown.

Deliverables:

- Project Control Book containing control data sheets for all source monumentation, control recovery sheets for all project primary control points, an ASCII point list containing all final horizontal and vertical control values and a detailed GPS report
- ASCII file with point number, northing, easting, elevation and feature code of all surveyed points
- ORD file of all surveyed points
- Ownership list of all private property owners which access was needed in Excel format
- Copies of all signed ROE letters in ".pdf" format
- Metadata containing all appropriate tabular data in digital form
- TIN file in ORD format containing design survey data
- DAT file in ORD format containing design survey data
- Field book copies in PDF format
- Provide DGN, DTM, and Tin files on a medium and in a format acceptable to the State, delivered on flash drive.
- Provide Orthophotography (created using the DTM) delivered on CD or DVD in tiff format (3 banded) with world files.

COMPUTER GRAPHICS FILES FOR DOCUMENT AND INFORMATION EXCHANGE

The purpose of this Special Provision is to define the format for the exchange of electronic/magnetic data between the AUTHORITY and non-departmental resources. Because the AUTHORITY has a significant investment in its existing computer equipment, software, data/databases and personnel training, any and all computer-generated data submitted to the AUTHORITY must be compatible with the local District office computer system. Due to the variety of software existing among AUTHORITY offices and to ensure usability of data exchanged between the AUTHORITY and non-departmental resources, the AUTHORITY will exchange media of the following data formats:

Graphics: .....OpenRoads (ORD)
Word Processing: .....Microsoft Word
Database: .....Microsoft Access/ Microsoft Editor
Spreadsheets:.....Microsoft Excel
Archiving Software:....PKZIP

Data provided to the AUTHORITY will be furnished on compact disk (CD) compatible with the AUTHORITY's computer system and as approved by the AUTHORITY.

Each CD submitted shall include a MicroSoft Word document titled index.doc which will provide an index of the directory structure, name of files within directories, and a concise description of each file. Directories will be used to separate files according to subject: schematic, hydraulics, survey information, etc.

Variations from this software applications, or other requirements listed above may be allowed if requested in writing by the GEC and approved by the AUTHORITY. Because data stored on electronic media can deteriorate or be modified undetected, GEC shall not be held liable for the completeness or accuracy of the electronic data after the receipt by AUTHORITY. AUTHORITY's reliance on the drawings, files, or other information and data stored on the media is limited to the printed copies (also known as "hard copies") that are signed or sealed by GEC. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern. The following Standard Main Directory Structure Table will be used to archive all project files pursuant to this project:

Standard Main Directory Structure:

Types of Data	
CaiCE	All CAiCE files requested from surveyor.
Construction	Construction and field change documentation except for .Dgn files
Contracts	All design, schematic and survey contract documentation, scope of work, man-hour estimate, etc.
Design_Files	All .Dgn files – Mapping, Sheet Files, Master Design Files, design cross sections, etc.
Environmental Docs	Environmental documentation can include but is not limited to Categorical Exclusion (CE), Environmental Assessment (EA), or Environmental Impact Statement (EIS), Noise Analysis and Water Pollution Abatement Plans.
Estimate	All estimate files and supporting documentation.
Excel Spreadsheets	Miscellaneous Excel Spreadsheets created for project development.
OpenRoads (ORD)	Input and output files, job files, tin files
Hydraulic Programs	Input and output files for other hydraulic programs other than ORD Drainage. (Hec-Ras, Thysys, Winstorm, etc.)
Other Engineering Applications	Any other pertinent Engineering application data input, output, etc. (i.e., Wincore)
Photographs	All photograph files pertaining to project.
PowerPoint	All PowerPoint Presentation created for meetings and/or information.
ROW	ROW maps and parcel sketches as furnished by surveyor, including any correspondence.

Standards - All Standard Sheets used for the project.

Traffic SignCAD files and pertinent design files TransCAD for Modeling Files
(No Correspondence or *.Dgn files)

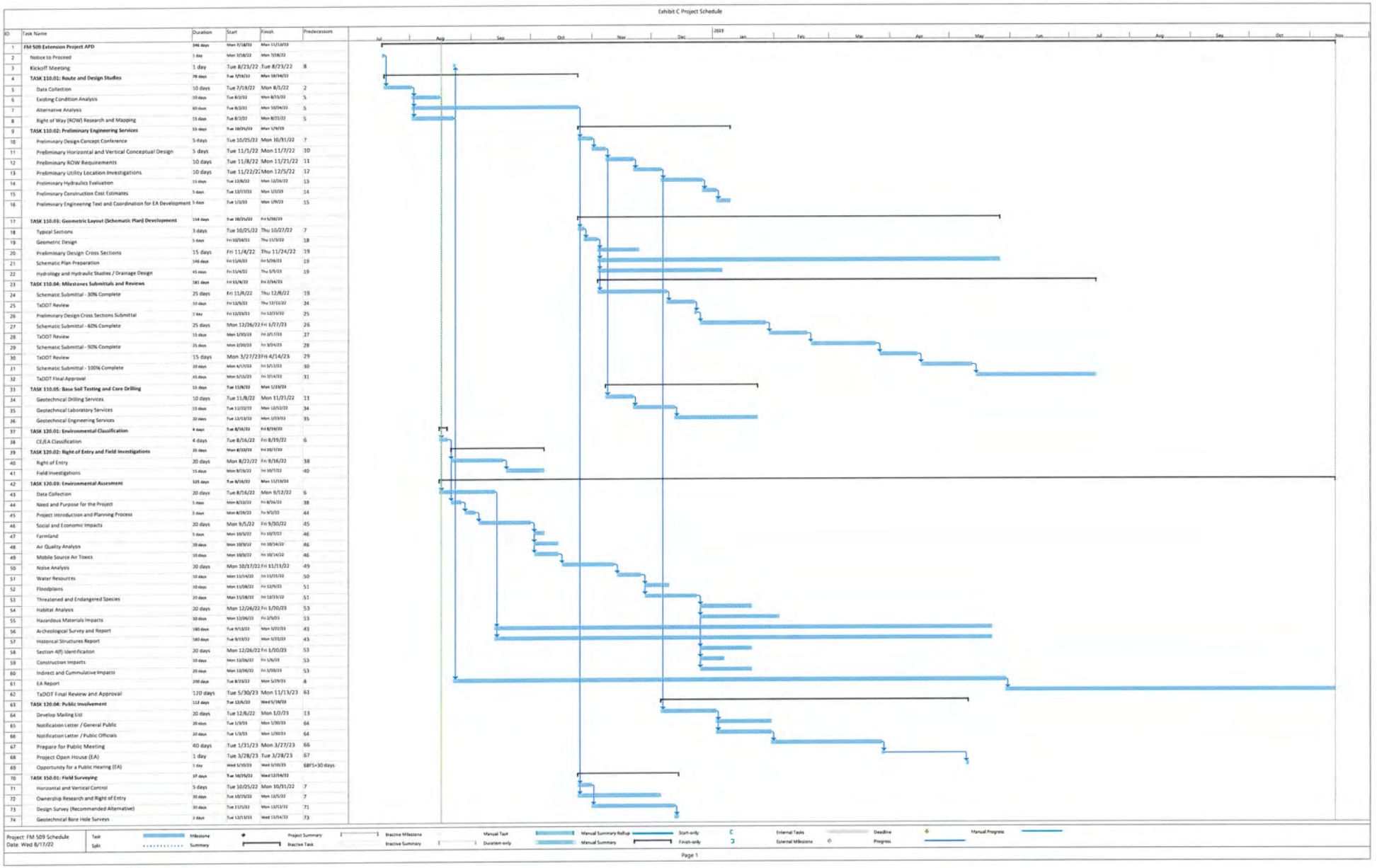
Word Documents - All documentation and other project correspondence not mentioned above and subdivided to proper directories.

REFERENCES

1. TxDOT's latest Roadway Design Manual.
2. Standard Specifications for Construction of Highways, Streets, and Bridges - TxDOT.
3. Special Provisions and Special Specifications - TxDOT.
4. P.S. & E. Preparation Manual - TxDOT.
5. Bridges and Structures Operation and Planning Manual - TxDOT.
6. Bridges and Structures Hydraulic Manual - TxDOT.
7. Bridges and Structures Design Examples - TxDOT.
8. Bridges and Structures Bridge Design Guide - TxDOT.
9. Bridges and Structures Detail Manual - TxDOT.
10. Bridges and Structures Foundation Exploration and Design Manual - TxDOT.
11. Standard Specifications for Highway Bridges - AASHTO.
12. Highway Design Operations and Procedures Manual - TxDOT.
13. Highway Design Operations and Procedures Manual Part IIB - Environmental and Public Involvement. Procedures During Project -Specific Planning and Development - TxDOT.
14. A Policy on Geometric Design of Highways and Streets ("The Green Book") AASHTO.
15. Highway Capacity Manual Special Report 209 - Texas Research Board (TRB).
16. Technical Advisory T6640.8A - FHWA.
17. Noise Guidelines - TxDOT.
18. Air Quality Guidelines - TxDOT.
19. Flexible Pavement Design Manual - TxDOT.
20. Guide for the Design of Pavement Structures, 1986 - AASHTO.
21. Texas Manual on Uniform Traffic Control Devices - TxDOT.
22. Standard Highway Sign Designs for Texas - TxDOT.
23. Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals - AASHTO.
24. Utility Accommodation Policy - TxDOT.
25. Utility Manual - TxDOT.
26. ROW, ROW Manual - Book I - TxDOT.
27. ROW, ROW Manual - Book II TxDOT.
28. Accessible Rights of Way (sidewalks, street crossings, other pedestrian facilities) Design Guide-Nov. 1999
29. Code of Federal Regulations, Title 23 - "Highway" - Federal Register.
30. Administrative Order no. 5-89 Signing, Sealing and Dating of Engineering Documents - TxDOT.
31. Administrative Circular No. 26-91 - Minimum signing, Sealing, and Dating Procedures for Department Engineering Documents - TxDOT.
32. Administrative Circular No. 25-84 - Soils Information for High Mast Lighting, Overhead Sign Bridges, and Retaining Walls - TxDOT.
33. Administrative Circular No. 33-87 - Preliminary Retaining Wall Layouts to be submitted to Division of Bridges and Structures - TxDOT.
34. Administrative Circular No. 25-92 - Division of Bridges and Structures to be responsible for all geotechnical Engineering support for foundations, retaining walls, and embankment stability and settlement - TxDOT.
35. Texas Department of Licensing and Regulations Manual.

36. Texas Department of Transportation. Bicycle Accommodation Design Guidance. April 2, 2021.
37. _____. Cumulative Impacts Analysis Guidelines. January 2019.
38. _____. Documentation Standard for Waters of the US Delineation Report. August 2019.
39. _____. Environmental Handbook: Preparing an Environmental Assessment. June 2022.
40. _____. Environmental Handbook: Endangered Species Act. November 2020.
41. _____. Environmental Handbook: Section 6(f) Land and Water Conservation Fund Act Compliance. March 2022.
42. _____. Environmental Handbook for Air Quality. July 2021.
43. _____. Environmental Handbook for Community Impacts, Environmental Justice, Limited English Proficiency and Title VI. December 2020.
44. _____. Environmental Handbook for Hazardous Materials. July 2014.
45. _____. Environmental Handbook for Historic Properties. April 2014.
46. _____. Environmental Handbook for Public Involvement. May 2022.
47. _____. Environmental Handbook for Section 4(f), US Department of Transportation Act. May 2015.
48. _____. Environmental Handbook for Water Resources. January 2019.
49. _____. Guidance: Historical Studies Review Procedures. January 2020.
50. _____. Guidance: Indirect Impacts Analysis" and "Cumulative Impacts Analysis Guidelines. January 2019.
51. _____. Highway Traffic Noise: Analysis and Abatement Guidance. December 2019.
52. _____. Template: Waters of the US Delineation Report. December 2019.
53. _____. Template: Documentation of Public Meeting. July 2019.

NOTES: (1) All Design shall be in accordance with the above references, except where variances are permitted in writing by the AUTHORITY.
(2) The GEC is responsible for purchasing all references required for the project.



ID	Task Name	Duration	Start	Finish	Predecessors
1	**FM 509 Extension Project APD**	346 days	Mon 7/18/22	Mon 11/13/23	
2	Notice to Proceed	1 day	Mon 7/18/22	Mon 7/18/22	
3	Kickoff Meeting	1 day	Tue 8/23/22	Tue 8/23/22	8
4	**TASK 110.01: Route and Design Studies**	70 days	Tue 7/19/22	Mon 10/24/22	
5	Data Collection	10 days	Tue 7/19/22	Mon 8/1/22	2
6	Existing Condition Analysis	10 days	Tue 8/2/22	Mon 8/15/22	5
7	Alternative Analysis	60 days	Tue 8/2/22	Mon 10/24/22	5
8	Right of Way (ROW) Research and Mapping	15 days	Tue 8/2/22	Mon 8/22/22	5
9	**TASK 110.02: Preliminary Engineering Services**	55 days	Tue 10/25/22	Mon 1/9/23	
10	Preliminary Design Concept Conference	5 days	Tue 10/25/22	Mon 10/31/22	7
11	Preliminary Horizontal and Vertical Conceptual Design	5 days	Tue 11/1/22	Mon 11/7/22	10
12	Preliminary ROW Requirements	10 days	Tue 11/8/22	Mon 11/21/22	11
13	Preliminary Utility Location Investigations	10 days	Tue 11/22/22	Mon 12/5/22	12
14	Preliminary Hydraulics Evaluation	15 days	Tue 12/6/22	Mon 12/26/22	13
15	Preliminary Construction Cost Estimates	5 days	Tue 12/27/22	Mon 1/2/23	14
16	Preliminary Engineering Text and Coordination for EA Development	5 days	Tue 1/3/23	Mon 1/9/23	15
17	**TASK 110.03: Geometric Layout (Schematic Plan) Development**	154 days	Tue 10/25/22	Fri 5/26/23	
18	Typical Sections	3 days	Tue 10/25/22	Thu 10/27/22	7
19	Geometric Design	5 days	Fri 10/28/22	Thu 11/3/22	18
20	Preliminary Design Cross Sections	15 days	Fri 11/4/22	Thu 11/24/22	19
21	Schematic Plan Preparation	146 days	Fri 11/4/22	Fri 5/26/23	19
22	Hydrology and Hydraulic Studies / Drainage Design	45 days	Fri 11/4/22	Thu 1/5/23	19
23	**TASK 110.04: Milestones Submittals and Reviews**	581 days	Fri 11/4/22	Fri 7/24/25	
24	Schematic Submittal - 30% Complete	25 days	Fri 11/4/22	Thu 12/8/22	19
25	TxDOT Review	10 days	Fri 12/9/22	Thu 12/22/22	24
26	Preliminary Design Cross Sections Submittal	1 day	Fri 12/23/22	Fri 12/23/22	25
27	Schematic Submittal - 60% Complete	25 days	Mon 12/26/22	Fri 1/27/23	26
28	TxDOT Review	15 days	Mon 1/30/23	Fri 2/17/23	27
29	Schematic Submittal - 90% Complete	25 days	Mon 2/20/23	Fri 3/24/23	28
30	TxDOT Review	15 days	Mon 3/27/23	Fri 4/14/23	29
31	Schematic Submittal - 100% Complete	20 days	Mon 4/17/23	Fri 5/12/23	30
32	TxDOT Final Approval	45 days	Mon 5/15/23	Fri 7/14/23	31
33	**TASK 110.05: Base Soil Testing and Core Drilling**	55 days	Tue 11/8/22	Mon 1/23/23	
34	Geotechnical Drilling Services	10 days	Tue 11/8/22	Mon 11/21/22	11
35	Geotechnical Laboratory Services	15 days	Tue 11/22/22	Mon 12/12/22	34
36	Geotechnical Engineering Services	20 days	Tue 12/13/22	Mon 1/23/23	35
37	**TASK 120.01: Environmental Classification**	4 days	Tue 8/16/22	Fri 8/19/22	
38	CE/EA Classification	4 days	Tue 8/16/22	Fri 8/19/22	6
39	**TASK 120.02: Right of Entry and Field Investigations**	35 days	Mon 8/22/22	Fri 10/7/22	
40	Right of Entry	20 days	Mon 8/22/22	Fri 9/16/22	38
41	Field Investigations	15 days	Mon 9/19/22	Fri 10/7/22	40
42	**TASK 120.03: Environmental Assesment**	325 days	Tue 8/16/22	Mon 11/13/23	
43	Data Collection	20 days	Tue 8/16/22	Mon 9/12/22	6
44	Need and Purpose for the Project	5 days	Mon 8/22/22	Fri 8/26/22	38
45	Project Introduction and Planning Process	5 days	Mon 8/29/22	Fri 9/2/22	44
46	Social and Economic Impacts	20 days	Mon 9/5/22	Fri 9/30/22	45
47	Farmland	5 days	Mon 10/3/22	Fri 10/7/22	46
48	Air Quality Analysis	10 days	Mon 10/3/22	Fri 10/14/22	46
49	Mobile Source Air Toxics	10 days	Mon 10/3/22	Fri 10/14/22	46
50	Noise Analysis	20 days	Mon 10/17/22	Fri 11/11/22	49
51	Water Resources	10 days	Mon 11/14/22	Fri 11/25/22	50
52	Floodplains	10 days	Mon 11/28/22	Fri 12/9/22	51
53	Threatened and Endangered Species	20 days	Mon 11/28/22	Fri 12/23/22	51
54	Habitat Analysis	20 days	Mon 12/26/22	Fri 1/20/23	53
55	Hazardous Materials Impacts	30 days	Mon 12/26/22	Fri 2/3/23	53
56	Archeological Survey and Report	180 days	Tue 9/13/22	Mon 5/22/23	43
57	Historical Structures Report	180 days	Tue 9/13/22	Mon 5/22/23	43
58	Section 4(f) Identificaton	20 days	Mon 12/26/22	Fri 1/20/23	53
59	Construction Impacts	10 days	Mon 12/26/22	Fri 1/6/23	53
60	Indirect and Cummulative Impacts	20 days	Mon 12/26/22	Fri 1/20/23	53
61	EA Report	200 days	Tue 8/23/22	Mon 5/29/23	8
62	TxDOT Final Review and Approval	120 days	Tue 5/30/23	Mon 11/13/23	61
63	**TASK 120.04: Public Involvement**	113 days	Tue 12/6/22	Wed 5/24/23	
64	Develop Mailing List	20 days	Tue 12/6/22	Mon 1/2/23	13
65	Notification Letter / General Public	20 days	Tue 1/3/23	Mon 1/30/23	64
66	Notification Letter / Public Officials	20 days	Tue 1/3/23	Mon 1/30/23	64
67	Prepare for Public Meeting	40 days	Tue 1/31/23	Mon 3/27/23	66
68	Project Open House (EA)	1 day	Tue 3/28/23	Tue 3/28/23	67
69	Opportunity for a Public Hearing (EA)	1 day	Wed 5/10/23	Wed 5/10/23	68FS+30 days
70	**TASK 150.01: Field Surveying**	97 days	Tue 10/25/22	Wed 12/14/22	
71	Horizontal and Vertical Control	5 days	Tue 10/25/22	Mon 10/31/22	7
72	Ownership Research and Right of Entry	30 days	Tue 10/25/22	Mon 12/5/22	7
73	Design Survey (Recommended Alternative)	30 days	Tue 11/1/22	Mon 12/12/22	71
74	Geotechnical Bore Hole Surveys	7 days	Tue 12/13/22	Wed 12/14/22	73

PROJECT: FM 509 APD
CLIENT: CCRMA
CONTRACT: GEC Contract
CSJ:
COUNTY: Cameron
S & B JOB NO.: U2716 WA32

EXHIBIT D -- FEE ESTIMATE

08/10/22

ACTIVITY CODE	FUNCTION CODE	DESCRIPTION from Attachment B	FIRM	SERVICE	MAN-HOURS																	ESTIMATED FEE	TOTALS
					Principal	Quality Manager	Project Manager	Env Manager	Env Scientist	RPLS	Engineer Structural	Engineer (V)	Engineer (I,II)	2-Man Survey Crew	Engineer in Training	Engineer (IV)	GIS Manager	GIS Technician	Senior CADD	CADD Operator (I)	Secretary	TOTAL HRS		
		Data Collection	S & B	BASIC			1					2			20	4			4			31	$3,714.72	
		Existing Condition Analysis	S & B	BASIC			1					4				4	1	10	4			24	$3,534.31	
		Alternative Analysis	S & B	BASIC			1					10			40	16	1	2	24			94	$12,353.55	
		Generate Existing Conditions Report Package (Final Deliverable)	S & B	BASIC			1					2			4	4			8		4	23	$3,074.72	
		Generate Alternative Analysis Report Package (Final Deliverable)	S & B	BASIC			1					2	2		4	4			8		4	25	$3,414.18	
		Sub Total (110 - ROUTE AND DESIGN STUDIES)			0	0	5	0	0	0	0	20	2	0	68	32	2	12	48	0	8	197		$26,091.48
	110	**PRELIMINARY ENGINEERING SERVICES**																						
		Preliminary Design Concept Conference Preparation	S & B	BASIC			1	2				2			8	4			8	2		27	$3,724.72	
		Design Concept Conference Meeting	S & B	BASIC			1	2				2										5	$1,094.96	
		Prepare Design Concept Conference Meeting Notes	S & B	BASIC								1									3	4	$419.98	
		Preliminary Horizontal and Vertical Conceptual Design	S & B	BASIC			1					4			10	8			16	4		43	$5,924.44	
		Preliminary ROW Requirements	S & B	BASIC			1					4			10	8			8	2		33	$4,804.44	
		Generate Preliminary ROW Technical Memorandum (Final Deliverable)	S & B	BASIC			1					4							4		4	13	$1,894.92	
		Preliminary Utility Location Investigations	S & B	BASIC								1	4		10	4	1	4	8	2		34	$4,233.35	
		Preliminary Hydraulic Evaluations	S & B	BASIC			1					8			40	16			24	6	4	99	$12,413.88	
		Preliminary Construction Cost Estimates	S & B	BASIC			1					4			10	8						23	$3,684.44	
		Preliminary Engineering Text and Coordination for EA Development	S & B	BASIC			1	2	8			4				8						23	$4,084.44	
		Sub Total (110 - PRELIMINARY ENGINEERING SERVICES)			0	0	8	6	8	0	0	34	4	0	88	56	1	4	68	16	11	304		$42,279.57
	110	**GEOMETRIC LAYOUT (SCHEMATIC PLAN) DEVELOPMENT**																						
		Typical Sections	S & B	BASIC								1				4			12	3		20	$2,734.74	
		Geometric Design (Horizontal and Vertical Control)	S & B	BASIC								8				10			16	4		38	$6,114.24	
		Preliminary Design Cross Sections	S & B	BASIC								4			10	18			16	4		52	$7,723.84	
		Schematic Plan Preparation	S & B	BASIC								16			40	18			72	8	10	164	$20,463.60	
		Hydrology and Hydraulic Studies/Drainage Design	S & B	BASIC								16	40		40	32			24	6		158	$23,786.96	
		Sub Total (110 - GEOMETRIC LAYOUT (SCHEMATIC PLAN) DEVELOPMENT)			0	0	0	0	0	0	0	45	40	0	90	82	0	0	140	25	10	432		$60,823.38
	110	**MILESTONE SUBMITTALS AND REVIEWS**																						
		30% Complete Schematic Review Package	S & B	BASIC			1					1				4			8		8	22	$2,769.74	
		Prepare/Attend 30% SRM	S & B	BASIC			1					1				2			4		5	13	$1,699.86	
		30% SRM Meeting Minutes	S & B	BASIC								1				2					4	7	$899.86	
		Preliminary Design Cross Sections Submittal	S & B	BASIC								1				5			8		1	15	$2,247.18	
		60% Complete Schematic Review Package	S & B	BASIC			1					1				4			8		8	22	$2,769.74	
		Prepare/Attend 60% SRM	S & B	BASIC			1					1				2			4		5	13	$1,699.86	
		60% SRM Meeting Minutes	S & B	BASIC								1				2					4	7	$899.86	
		90% Complete Schematic Review Package	S & B	BASIC			1					1				4			8		8	22	$2,769.74	
		Prepare/Attend 90% SRM	S & B	BASIC			1					1				2			4		5	13	$1,699.86	
		90% SRM Meeting Minutes	S & B	BASIC								1				2					4	7	$899.86	
		100% Complete Review Package	S & B	BASIC			1					1				4			8		8	22	$2,769.74	
		TxDOT Review (Changes to Schematic if TxDOT/FHWA has revisions)	S & B	BASIC			1					1				4			8			14	$2,249.74	
		Sub Total (110 - MILESTONE SUBMITTALS AND REVIEWS)			0	0	8	0	0	0	0	12	0	0	0	37	0	0	60	0	60	177		$23,375.04
	110	**BASE SOIL TESTING AND CORE DRILLING**																						
		Geotechnical Drilling Services Geotechnical Laboratory Testing Services Pavement Design Report	B2Z	SPECIAL																		0	$63,130.68	
		Coordination and Development of Geotechnical Analysis	S & B	BASIC			4					4				10			4			22	$4,534.32	
		Sub Total (110 - BASE SOIL TESTING AND CORE DRILLING)			0	0	4	0	0	0	0	4	0	0	0	10	0	0	4	0	0	22		$67,665.00
	120	**SOCIAL ECONOMIC AND ENVIRONMENTAL STUDIES**																						
		Task 120.01 – Right of Entry and Field Investigations	S & B	BASIC																				
		Subtask 120.01.01 – Right of Entry	S & B	BASIC				1	32										8		32	73	$6,504.92	
		Subtask 120.01.02 – Field Investigations	S & B	BASIC				2	32										16			50	$5,329.84	
		Task 120.02 – Environmental Assessment (and Technical Reports)	S & B	BASIC																		0	$0.00	
		Subtask 120.02.01 – Need and Purpose for the Project	S & B	BASIC				1	10													11	$1,285.00	
		Subtask 120.02.02 – Project Introduction and Planning Process	S & B	BASIC				1	20													21	$2,385.00	
		Subtask 120.02.03 – Alternative Analysis	S & B	BASIC				4	32								4	20				60	$6,738.72	
		Subtask 120.02.04 – Social and Economic Impacts	S & B	BASIC				4	32									24				60	$6,419.76	
		Subtask 120.02.05 – Farmland	S & B	BASIC				1	8									2				11	$1,244.98	
		Subtask 120.02.06 – Utility Relocation	S & B	BASIC				1	4									1				6	$714.99	
		Subtask 120.02.07 – Air Quality Analysis	S & B	BASIC				1	4									1				6	$714.99	
		Subtask 120.02.08 – Bicycle and Pedestrian Facilities	S & B	BASIC				1	1													2	$295.00	
		Subtask 120.02.09 – Community Impacts	S & B	BASIC				4	32								4	24				64	$7,098.68	
		Subtask 120.02.10 – Visual/Aesthetic Impacts	S & B	BASIC				1	2													3	$405.00	
		Subtask 120.02.11 – Noise Analysis	S & B	BASIC				72	24								4	24				124	$18,798.68	
		Subtask 120.02.12 – Water Resources	S & B	BASIC																		0	$0.00	
		120.02.12.01 – Surface Water	S & B	BASIC				1	4								2					7	$964.46	
		120.02.12.02 – Floodplains	S & B	BASIC				1	4								4					9	$1,303.92	
		120.02.12.03 – Groundwater	S & B	BASIC				1	4													5	$625.00	
		120.02.12.04 – Waters of the US, including Wetlands	S & B	BASIC				4	36								4	24				68	$7,538.68	
		Subtask 120.02.13 – Impacts to Vegetation	S & B	BASIC				1	20								4	16				41	$4,503.76	
		Subtask 120.02.14 – Threatened and Endangered Species	S & B	BASIC				4	36								2					42	$5,039.46	
		Subtask 120.02.15 – Habitat Analysis	S & B	BASIC				1	10								4	16				31	$3,403.76	
		Subtask 120.02.16 – Hazardous Materials Impacts	S & B	BASIC				4	56								6	24				90	$10,078.14	
		Subtask 120.02.17 – Cultural Resources	S & B	BASIC					12													12	$1,320.00	
		120.02.17.01 – Archeological Survey	STANTEC	SPECIAL																			$23,963.29	
		120.02.17.02 – Historic Resources Survey	STANTEC	SPECIAL																			$11,363.65	

8/10/2022

PROJECT: FM 509 APD
CLIENT: CCRMA
CONTRACT: GEC Contract
CSJ:
COUNTY: Cameron
S & B JOB NO.: U2716 WA32

08/10/22

EXHIBIT D -- FEE ESTIMATE

ACTIVITY CODE	FUNCTION CODE	DESCRIPTION from Attachment B	FIRM	SERVICE	MAN-HOURS Principal	Quality Manager	Project Manager	Env Manager	Env Scientist	RPLS	Engineer Structural	Engineer (V)	Engineer (I,II)	2-Man Survey Crew	Engineer In Training	Engineer (IV)	GIS Manager	GIS Technician	Senior CADD	CADD Operator (I)	Secretary	TOTAL HRS	ESTIMATED FEE	TOTALS
		Subtask 120.02.18 -- Section 4(f)/6(f)	S & B	BASIC				1	2													3	$405.00	
		Subtask 120.02.19 -- Construction Impacts (+EPIC)	S & B	BASIC				1	16													17	$1,945.00	
		Subtask 120.02.20 -- Indirect and Cumulative Impacts	S & B	BASIC																		0	$0.00	
		120.02.19.01 -- Indirect Impacts Analysis	S & B	BASIC				1	16								2	8				27	$3,004.38	
		120.02.19.02 -- Cumulative Impacts Analysis	S & B	BASIC				1	16								2	8				27	$3,004.38	
		Task 120.03 -- Resource Agency Coordination	S & B	BASIC				1	32								2	2			4	41	$4,484.44	
		Task 120.04 -- Public Involvement Activities	S & B	BASIC																		0	$0.00	
		Subtask 120.04.01 -- Meeting with Affected Property Owners (MAPO)	S & B	BASIC				4	20												20	44	$4,240.00	
		Subtask 120.04.02 -- Virtual Public Meeting with In-person Option	S & B	BASIC			2	20	52			4					4	16			4	102	$13,248.68	
		Subtask 120.04.03 -- Opportunity for a Public Hearing	S & B	BASIC				4	20								4				4	32	$3,878.92	
		Subtask 120.04.04 -- Notification Letter/General Public	S & B	BASIC				1	18								4				2	25	$2,973.92	
		Subtask 120.04.05 -- Notification Letter/Elected Officials	S & B	BASIC				1	18												2	21	$2,295.00	
		Sub Total (120 - SOCIAL ECONOMIC AND ENVIRONMENTAL STUDIES)			0	0	2	146	625	0	0	4	0	0	0	0	56	234	0	0	68	1,135		$167,519.40
	150	**FIELD SURVEYING**																						
		Horizontal and Vertical Control Ownership Research and Right of Entry Design Surveying (Preferred Alternative Alignment) Geotechnical Bore Hole Survey	RODS	SPECIAL																			$61,879.78	
		Aerial Mapping	RAM	SPECIAL																			$54,255.00	
		Sub Total (150 - FIELD SURVEYING)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		$116,134.78
	163	**MISCELLANEOUS ROADWAY**																						
		Survey of Existing Utilities	AMBIOTEC	SPECIAL																			$7,638.48	
		Preparation of Plan View Sheets	AMBIOTEC	SPECIAL																			$8,943.20	
		Coordinate with Utility Companies	AMBIOTEC	SPECIAL																			$12,841.20	
	130	Subsurface Utility Engineering (SUE Level A, B and C)	RODSUE	SPECIAL																			$58,745.36	
		Relocate Utilities Sheets ($6,013.12 per conflict @ 2 conflicts)	AMBIOTEC	SPECIAL																			$12,026.24	
		Sub Total (163 - MISCELLANEOUS ROADWAY)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		$100,194.48
	145	**Project Administration & Coordination**																						
		Project Manager (Proj Coord)(1 HRS/WK)	S & B	BASIC			40															40	$11,000.00	
		Project Manager Weekly Meeting (Prog. Rpts)	S & B	BASIC			8					10									16	34	$5,489.80	
		Project Coordination Meetings (1 Kick Off & 6 Progress)	S & B	BASIC			7	8				8									16	39	$6,244.84	
		Prepare Proj. Meetings Notes	S & B	BASIC			1	1				4									16	22	$2,399.92	
		Cameron County RMA Project Coordination	S & B	BASIC			3	3				8									16	30	$4,219.84	
		Sub Total (145 - Project Administration & Coordination)			0	0	59	12	0	0	0	30	0	0	0	0	0	0	0	0	64	165		$29,354.40
		LABOR TOTALS																						$633,437.53
		Total Hours	MULTIPLIER		0	0	86	164	633	0	0	149	46	0	246	217	59	250	320	41	221	2,432		
		CONTRACT RATES: ($/MAN-HOUR)	3.7717		299.96	249.99	275.00	185.00	110.00	214.99	245.16	224.98	169.73	150.87	85.00	207.44	169.73	89.99	115.00	100.00	65.00			
		BASE RATES: ($/MAN-HOUR)			79.53	66.28	72.91	49.05	29.17	57.00	65.00	59.65	45.00	40.00	22.54	55.00	45.00	23.86	30.49	26.51	17.23			
	160	**NON LABOR - Survey Crew**																						
		Travel - Mileage During Plan Development (6 Mtgs and Precon Mtg)	S & B (nl)	SPECIAL	Mileage per trip =		120	Trips =	7										Milage Rate ($/mi.)=	$ 0.540			$453.60	
		Environmental Field Supplies	S & B (nl)	SPECIAL		Days	40												Supplies	$ 25.000			$1,000.00	
		Travel to District Area Office- Mileage 5 Meetings	S & B (nl)	SPECIAL	Mileage per trip =		9	Trips =	5										Milage Rate ($/mi.)=	$ 0.540			$24.30	
	160	**NON LABOR - Environmental**																						
		Court Reporter (not scoped at this time)	S & B (nl)	SPECIAL																				
		Venue for Public Meeting including audio/visual equipment rental, security, etc.	S & B (nl)	SPECIAL																				
		Venue for Public Hearing (not scoped at this time)	S & B (nl)	SPECIAL																				
		Exhibit Boards for Public Meeting	S & B (nl)	SPECIAL																			$3,000.00	
		Postage for Right of Entry, Public Notice, and NAOPH	S & B (nl)	SPECIAL																			$650.00	
		Miscellaneous Field Supplies	S & B (nl)	SPECIAL																			$150.00	
		Hazardous Materials Database (provided by vendor)	S & B (nl)	SPECIAL																			$800.00	
		Rental Noise Meters (3 meters at $1,500/week)	S & B (nl)	SPECIAL																			$4,500.00	
		Initial Field Investigations																						
		Travel - Rental Vehicle	S & B (nl)	SPECIAL	Rental/Gas per Day =		$ 95.00	Days =	5														$475.00	
		Travel - Lodging	S & B (nl)	SPECIAL		Nights=	2	Persons =	3										Lodging w/ taxes =	$ 120.00			$720.00	
		Travel - Meals	S & B (nl)	SPECIAL		Days =	3	Persons =	3											Meals =	$ 75.00			$675.00
		First Follow-up Field Investigation																						
		Travel - Rental Vehicle	S & B (nl)	SPECIAL	Rental/Gas per Day =		$ 95.00	Days =	4														$380.00	
		Travel - Lodging	S & B (nl)	SPECIAL		Nights=	1	Persons =	2										Lodging w/ taxes =	$ 120.00			$240.00	
		Travel - Meals	S & B (nl)	SPECIAL		Days =	2	Persons =	2											Meals =	$ 75.00			$300.00
		MAPO's (up to 4) and Public Meeting																						
		Travel - Rental Vehicle	S & B (nl)	SPECIAL	Rental/Gas per Day =		$ 95.00	Days =	4														$380.00	
		Travel - Lodging	S & B (nl)	SPECIAL		Nights=	1	Persons =	3										Lodging w/ taxes =	$ 120.00			$360.00	
		Travel - Meals	S & B (nl)	SPECIAL		Days =	2	Persons =	3											Meals =	$ 75.00			$450.00
		Public Hearing (not scoped at this time)																						
		Travel - Rental Vehicle	S & B (nl)	SPECIAL	Rental/Gas per Day =		$ 95.00	Days =															$0.00	
		Travel - Lodging	S & B (nl)	SPECIAL		Nights=		Persons =											Lodging w/ taxes =	$ 120.00			$0.00	
		Travel - Meals	S & B (nl)	SPECIAL		Days =		Persons =												Meals =	$ 75.00			$0.00
		Sub Total (FC 160)																						$14,557.90
		NON LABOR TOTAL																					$	$14,557.90
		BASIC SERVICE TOTAL																					$	318,650.65
		SPECIAL SERVICE TOTAL																					$	329,344.78
		PROJECT TOTAL																						$647,995.43

Exhibit D
Cost Proposal

AMBIOTEC GROUP
Land Surveyors, Civil and Environmental Engineers, Scientists and Construction Managers
TBPE Firm No. F-4126
TBPLS Reg No. 10005300

June 21, 2022

FM 509 Utility Investigation and Relocations

Task 1 - Survey of existing utilities

2-man Field Crew w/GPS.....40 hrs x $ 90.85 = $3,634.00
Senior CADD Operator.....32 hrs x $ 44.02 = $1,408.64
RPLS.....24 hrs x $ 87.36 = $2,096.64
Administrative Clerk.....12 hrs x $ 41.60 = $499.20

Task 1 Total.....$7,638.48

Task 2 – Preparation of plan view sheets

Senior CADD Operator.....120 hrs x $44.02 = $5,282.40
RPLS.....40 hrs x $87.36 = $3,494.40
Administrative Clerk.....4 hrs x $41.60 = $166.40

Task 2 Total.....$8,943.20

Task 3 – Coordinate with Utility Companies

Senior CADD Operator.....80 hrs x $44.02 = $3,521.60
Design Engineer.....60 hrs x $56.74 = $3,404.40
Senior Engineer.....40 hrs x $106.28 = $4,251.20
Administrative Clerk.....40 hrs x $41.60 = $1,664.00

Task 3 Total.....$12,841.20

Task 4 – Relocate Utilities

Senior CADD Operator.....48 hrs x $44.02 = $2,112.96
Engineer.....32 hrs x $106.28 = $3,400.96
Administrative Clerk.....12 hrs x $ 41.60 = $499.20

Task 4 Total (per conflict).....$6,013.12
2 conflicts assumed x $6,013.12 = $12,026.24

Vicente Mendez, R.P.L.S., P.E.

5420 Paredes Line Rd., Brownsville, TX 78526
(956) 548-9333 (956) 548-9392 Fax

1101 East Harrison Ave., Harlingen, TX 78550
(956) 423-7807 (956) 423-7905 Fax

EXHIBIT D
FEE SCHEDULE

Geotechnical Engineering, Report & Summary

B2Z ENGINEERING

B2Z Engineering

		FM 509 Extension Project - WA #6 ***Client: S&B Infrastucture, LTD***	MANHOURS						
			Project Manager	Geotechnical Engineer (Eng V)	Project Engineer (Eng IV)	Engineering Tech (EIT)	CADD Operator	Admin/Clerical	Total
	TASK								
	1A	Project Management and Review - Field Operation Oversight			2				2
	2A	Boring Locates and Utility Clearance				8			8
	3A	Field Exploration - Field Logging for Soil Borings				36			36
	4A	Lab Analysis of Soil Borings - Assignments, Soil Logs, Soil Summ, Soil Classific.				28			28
	1P	Pavement Subgrade Stabilization Analysis & Recommendations		4	8				12
	2P	Flexible and Rigid Pavement Design		12	92				104
	3P	Pavement Material Recommendations		4	12				16
	4P	Pavement Design Report (including Pavement Geo Report)	4	8	40		8	8	68
	1O	Meetings, Conf Call, Invoice, Progress Reports, Admin, etc.	4	2	2			2	10
		Subtotal	**8**	**30**	**156**	**72**	**8**	**10**	**284**
Labor Hours			**8**	**30**	**156**	**72**	**8**	**10**	**284**
Contract Rate			$ 230.17	$ 192.84	$ 149.30	$ 84.76	$ 74.65	$ 64.54	
Total Labor Costs			**$ 1,841.36**	**$ 5,785.20**	**$ 23,290.80**	**$ 6,102.72**	**$ 597.20**	**$ 645.40**	**$ 38,262.68**

LINE ITEM EXPENSES

Printing Reproduction (N/A - Electronic Submittal Only)	$ -
*B2Z Engineering (Sub-Total for Geo. Field & Lab Services)	$ 24,868.00
** - (Please see page 2, for detailed estimates of testing)*	
Total Expenses	**$ 24,868.00**
B2Z Total Cost	**$ 63,130.68**

B2Z ENGINEERING

EXHIBIT D
Geotechnical Field and Laboratory Services
FM 509 Extension Project - WA #6
Prepared for S&B Infrastructure, LTD

	SERVICES		UNITS	UNITS	UNIT COST	TOTAL COST
I.	**Project Management / Review**					
II.	**Utility Clearances / Boring Locates**					
	A. Mileage		Mile	200	$ 0.54	$ 108.00
III.	**Field Exploration**					
A	Mobilization/Demobilization (Drill Rig)		Mile	600	$ 5.00	$ 3,000.00
B	Field Exploration					
	1. Soil Boring/Rock Coring w TCP (< 60 ft.)		LF	140	$ 36.00	$ 5,040.00
	1A. Backfilling Boreholes Bentonite Plug		LF	140	$ 10.00	$ 1,400.00
	3. Supp. Vehicle-Trailer, Tools Water Supply		Mile	600	$ 0.54	$ 324.00
	4. Vehicle Charge		Mile	600	$ 0.54	$ 324.00
C	Miscellaneous Field Services					
IV.	**Engineering Data Analysis / Report**					
	1. Prep Soil for Testing (Tex-101-E)		Ea.	28	$ 70.00	$ 1,960.00
	2. Moisture Content (Tex-103-E)		Ea.	28	$ 14.00	$ 392.00
	3a. Liquid Limit (Tex-104-E)		Ea.	28	$ 40.00	$ 1,120.00
	3b. Plastic Limit (Tex-105-E)		Ea.	28	$ 40.00	$ 1,120.00
	3c. Plasticity Index (Tex-106-E)		Ea.	28	$ 50.00	$ 1,400.00
	4. -200 Determination (Tex-111-E)		Ea.	28	$ 40.00	$ 1,120.00
	5. Soils Sulfate Content (Tex-145-E)		Ea.	14	$ 90.00	$ 1,260.00
	6. Lime Series Testing (Tex-121-E - Part 3)		Ea.	14	$ 450.00	$ 6,300.00
	Project Sub-Total (Geo Field and Lab)					**$ 24,868.00**

RODS Aerial Mapping, LLC.

EXHIBIT D
COST PROPOSAL

June 16, 2022

PHILLIP J. PAWELEK, PE
PROJECT MANAGER | S&B INFRASTRUCTURE, LTD.

D 956.926.5004
C 956.342.1649
pjpawelek@sbinfra.com

RE: Fm 509

Total Mileage – 2.5 Mi.

We are pleased to submit this proposal based on Scope of Services .

Mobilization of Aircraft with LiDAR t		$15,000.00
ODE (processing ABGPS) Digital Imagery Processing, Transit Miles on Project, Sensor operator, Pilot)		$17,755.00
ODE (Digital Image Processing) Transit Miles to include Pilot and sensor operator		
	TOTAL	$32,755.00
Aerial Mapping – See scope		$21,500.00
	Total	**$54,255.00**

This will be a lump sum project.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Terry J Keeton, C.P.

President

EXHIBIT "D"

COST PROPOSAL

October, 2015

RODS Surveying, Inc. | **PROJECT CONTROL, DESIGN SURVEY** | June 8, 2022

FM 509 | **Updated:** July 21, 2022

S&B Infrastructure

RODS Project No: 079-21810-003 | **LIMITS: From FM 508 north to FM 1599**

LENGTH: 2.34 Miles +/-

TASK DESCRIPTION 150.01 - FIELD SURVEYING	3-Person Field Party	RPLS	Survey Tech.	CADD Tech	Clerical	Total Labor Hrs. & Costs	Prof Abstractor	G.P.S. RTK
150.01.01 - H&V Control								
A. Recover and verify existing control established by others	5	1	2			8		
1. Set Primary and secondary Control points.	20					20		
2. GPS H&V location of Primary & Secondary Control	20					20		20
3. Process GPS Data			4	4		8		
4. Run Digital Level Loop through Benchmarks	24					24		
B. Prepare H&V control recovery index sheet and recovery sheet for each primary control pointindex & detail sheets		4	8	20		32		
C. Prepare Control Book or H&V Control survey report containing control data sheets for all source monumentation, recovery sheets for primary control points, ASCII point list of final coordinates and detailed report.		4	4	16		24		
150.01.02 - Ownership Research and R.O.E.								
A. Obtain private property ownership data from CCAD; prepare spreadsheet containing the ownership data for use by the Authority.		1	4			5		
B. Prepare right-of-entry letters for each owner in spreadsheet and submit via US mail in an effort to obtain a signed ROE letter for authorized entry for the Authority and Consultants.		2	2		12	16		
150.01.03 - Design Surveying								
A. Perform design survey to include location of manholes, inlets, utility poles, utilities, fences, culverts, flow-line elevations, pipe sizes, clearance at OE line crossing the alignment, U/G utilities marked by Texas811 One-Call, ROW & utility markers, signs, over visible utilities and improvements and critical tie-in points for schematic, based on 100' topographic cross sections.	30	2	4			36		30
B. Cross section existing street at existing/proposed ROWS and provide surface matrial types for all intersecting roads/driveways based on visual observations.	20	1	2			23		
C. Obtain pavement cross sections at 100' intervals, for a distance of 500' beyond proposed ROW lines on existing pavement, at centerline and edge of pavement.	20	1	2			23		

EXHIBIT "D"
COST PROPOSAL

D. Survey existing drainage and/or irrigation canals/ditches; cross culverts and outfall channels with 100' cross sections for a distance of 300' beyond proposd ROW.	20	1	3			24		20
E. Prepare Design Survey Microstation V8 2D design file, DTM, dat & tin files per TxDOT standards.		8		72		80		
150.01.04 - Geotechnical Bore Hole Survey								
A. Field stake a maximum of 10 bore hole locations for boring.	20	1				21		
B. Field locate completed soil boring locations; tie to survey control.	20		4			24		
RODS TOTAL LABOR HOURS	199	26	39	112	12	388	0	70
LABOR RATE PER HOUR	$ 190.00	$ 180.53	$ 115.00	$ 100.00	$ 65.00		$ 85.29	$ 25.00
TOTAL LABOR COSTS	**$ 37,810.00**	**$4,693.78**	**$ 4,485.00**	**$ 11,200.00**	**$ 780.00**	**$ 58,968.78**	**$ -**	**$ 1,750.00**
DIRECT EXPENSES:								
Mileage (100 mi/day @ $0.54/mile)						$ 1,161.00		
G.P.S. RTK						$ 1,750.00		
Abstractor						$ -		
TOTAL						**$61,879.78**		

EXHIBIT D
Cost Proposal

Sub Provider: RODS Subsurface Utility Engineering, Inc.
Specified Rate Fee Payment Basis July 13, 2022

Salary Classification			Contract Rate	Hours	Total
Project Manager			$199.84	8	$1,598.72
Engineer			$96.82	0	$0.00
Engineer-In-Training			$85.00	0	$0.00
Senior CADD Operator			$102.48	0	$0.00
CADD Operator			$93.70	0	$0.00
Admin/Clerical			$65.00	8	$520.00
Senior Engineer			$178.61	24	$4,286.64
SUBTOTAL FOR LABOR				40	$6,405.36
	Vacuum Excavation Vehicles (Mobilization)	mi	$4.00	1,000	$4,000.00
	Pavment Coring	each	$250.00	4	$1,000.00
	Traffic Control Devices	daily	$500.00	1	$500.00
SUE Quality Level C & D (Includes labor and eqipment for records resarch, CADD and mapping.) ***This line item may still be necessary if the utilities are not able to be found in the field in which case the LF would be transferred from the QLB line item.***		LF	$0.70	0*	$0.00
SUE Quality Level B - Utility Designation (Includes labor and eqipment for records research, designating, engineering, surveying, CADD mapping and limited traffic control.)		LF	$1.45	12,500	$18,125.00
SUE Field Services					
One (1) Designating Person with equipment		Hour	$105.00	10	$1,050.00
Two (2) Designating People with equipment		Hour	$175.00	10	$1,750.00
SUE Quality Level A Testholes (Per testhole depth)					
	Level A: 0 to 4.99 ft.	Each	$965.00	3	$2,895.00
	Level A: > 5 to 7.99 ft.	Each	$1,330.00	5	$6,650.00
	Level A: > 8 to 12.99 ft.	Each	$1,600.00	1	$1,600.00
	Level A: > 13 to 19.99 ft.	Each	$2,100.00	1	$2,100.00
	Level A: > 20 ft.	VF	$155.00	0	$0.00
SUBTOTAL FOR UNIT COST					$39,670.00

SUMMARY		
SUBTOTAL FOR LABOR	(see attached)	$6,405.36
SUBTOTAL FOR UNIT COST	(see above)	$39,670.00
SUBTOTAL FOR DIRECT EXPENSES	(see attached)	$12,670.00
TOTAL		**$58,745.36**

EXHIBIT D
Cost Proposal

LABOR BUDGET BY TASK		$199.84	$96.82	$85.00	$102.48	$93.70	$65.00	$178.61	
RODS Subsurface Utility Engineering, Inc. (SUB PROVIDER)		**Project Manager**	**Engineer**	**Engineer-In-Training**	**Senior CADD Operator**	**CADD Operator**	**Admin/Clerical**	**Senior Engineer**	**TOTAL**
1.0	**PROJECT MANAGEMENT (FC 145)**								
A	Progress Meetings - Prep, Attendance, Doc.	8						16	$4,456
D	Invoicing						8	8	$1,949
SUBTOTAL FOR LABOR		8	0	0	0	0	8	24	**$6,405**

EXHIBIT D
Cost Proposal

RODS Subsurface Utility Engineering, Inc. Service to Be Provided	Unit	Fixed Cost	Maximum Cost	Quantity	Total
Travel					
QLB SUE Crew					
Lodging/Hotel (Taxes / fees not included)	day/person		$ 102.00	15	$ 1,530.00
Lodging/Hotel - Taxes and fees	day/person		$ 35.00	15	$ 525.00
Meals (Excluding alcohol & tips) (Overnight stay required)	day/person		$ 56.00	15	$ 840.00
Mileage	mile		$ 0.540	1,000	$ 540.00
QLA SUE Crew					
Lodging/Hotel (Taxes / fees not included)	day/person		$ 102.00	15	$ 1,530.00
Lodging/Hotel - Taxes and fees	day/person		$ 35.00	15	$ 525.00
Meals (Excluding alcohol & tips) (Overnight stay required)	day/person		$ 56.00	15	$ 840.00
Mileage	mile		$ 0.540	1,000	$ 540.00
Miscellaneous					
Car Rental	day		$ 30.00		$ -
Traffic Control Services, Arrow Boards and Attenuator trucks - Large Project (Includes labor, equipment and fuel)	day		$ 3,000.00		$ -
SUE Quality Level C & D (Includes labor and eqipment for records resarch, CADD and mapping.) ***This line item may still be necessary if the utilities are not able to be found in the field in which case the LF would be transferred from the QLB line item.***	day		$ 2,500.00	2	$ 5,000.00
Traffic Control Services, Arrow Boards and Attenuator trucks - Small Project (Includes labor, equipment and fuel)	day		$ 1,375.00		$ -
Attenuator trucks - (lane/Shoulder Closure) (Includes labor, equipment and fuel)	day		$ 400.00	2	$ 800.00
Attenuator trucks - (No Lane Closure) (Includes labor, equipment and fuel)	day		$ 250.00		$ -
SUBTOTAL FOR DIRECT EXPENSES					**$ 12,670.00**

EXHIBIT D
STANTEC COST PROPOSAL

S&B - FM 509 - Archeological Coordination and Survey
Cox|McLain Environmental Consulting, Inc. now Stantec

LABOR

Description	Env. PM/Arch PI	Env. Scientist V	Env. Scientist IV Arch PA	Env. Scientist III	GIS Manager/ Sr. GIS	GIS Operator	Env. Sci. I/II/Arch Tech	Admin/ Clerical	Totals
	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours
Task 1 Research Design/Permit	1	0	4	0	0	8	8	0	21
Task 2 Pre-field Coordination	0	0	2	0	2	2	0	2	8
Task 3 Field Investigations	0	0	48	0	0	0	48	0	96
Task 4 Draft Report Preparation/Editing	1	0	40	0	0	6	0	0	47
Task 5 Agency Review and Comment Response	0	0	4	0	0	2	4	0	10
Task 6 Artifact Processing/Curation	0	0	0	0	0	0	0	0	27
Task 7 Final Report Production/Distribution	1	0	4	0	0	2	8	2	17
Total Labor Hours	**3**	**0**	**102**	**0**	**2**	**20**	**68**	**4**	**199**
Rate	$150.00	$125.00	$105.00	$85.00	$83.55	$67.38	$68.00	$51.21	
SUBTOTAL Labor Cost	$450	$0	$10,710	$0	$167	$1,348	$4,624	$205	$17,503.54

EXPENSES

	Unit	Quantity	Rate	Total
Backhoe + operator (at cost)	Day	2	$1,800.00	$3,600
Mileage (Allowable IRS Rate)	Miles	850	$0.575	$489
Hotel (taxes/fees not included)	Day	10	$96.00	$960
Hotel taxes/fees -- 15%	Day	10	$14.40	$144
Per Diem	Day	10	$55.00	$550
TARL site registration (digital only)	Site	2	$96.00	$192
CAS Curation fee (assume records only)	Minimum	1	$525.00	$525
TOTAL Nonlabor Expenses				$6,459.75

Notes/Assumptions: Assumes project area of approx. 40 acres, 2.2 miles @ 150-ft ROW. Assumes trenching required based on deep soils in area. If the County wants to provide a backhoe/trackhoe/Gradall and operator for two days, estimate would be reduced by $3600. Assumes private land; assumes no collection and curation not required. Assumes S&B/CCRMA provides/negotiates right of entry prior to fieldwork such that arch survey can be completed in one trip of two staff. If access is not available, a reasonable and good-faith effort will be made to document inaccessible parcels from accessible parcels and/or public ROW. Exclusions: ecological/NEPA services, NRHP nominations, HABS/HAER documentation, archeological testing or data recovery, human remains evaluation/coordination/removal. All excluded services could be provided under separate scope/budget.

TOTAL COSTS - CMEC **$23,963.29**

EXHIBIT D
STANTEC COST PROPOSAL

S&B - FM 509 - Historic Resources Coordination and Survey
Cox|McLain Environmental Consulting, Inc. now Stantec

LABOR

Description		Env. PM/Hist PI	Env. Scientist V	Env. Scientist IV	Env. Scientist III Historian	GIS Operator	Env Staff I	Env. Sci. I/II/Arch Tech	Admin/ Clerical	Totals
		Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours
Task 1	Research Design/Permit	1	0	0	12	4	0	0	0	17
Task 2	Pre-field Coordination	0	0	0	2	2	0	0	0	4
Task 3	Field Investigations	0	0	0	16	0	16	0	0	32
Task 4	Draft Report Preparation/Editing	1	0	0	32	6	0	4	0	43
Task 5	Agency Review and Comment Response	0	0	0	6	2	0	0	0	8
Task 6	Artifact Processing/Curation	0	0	0	0	0	0	0	0	0
Task 7	Final Report Production/Distribution	1	0	0	4	2	0	2	0	9
Total Labor Hours		3	0	0	72	16	16	6	0	113
Rate		$150.00	$125.00	$105.00	$85.00	$83.55	$65.00	$68.00	$68.00	
SUBTOTAL Labor Cost		$450	$0	$0	$6,120	$1,337	$1,040	$408	$0	$9,355

EXPENSES

	Unit	Quantity	Rate	Total
Hotel (taxes/fees not included)	Day	4	$96.00	$384
Hotel taxes/fees -- 15%	Day	4	$14.40	$58
Per Diem	Day	4	$55.00	$220
Vehicle Rental (at cost)	Day	2	$75.00	$150
Airfare (at cost)	R/T	2	$500.00	$1,000
Overnight Delivery	Letter	3	$15.75	$47
Field Supplies (At cost)	Misc	1	$100.00	$100
Color Reproduction (at cost)	Page	20	$1.50	$30
Copies - B&W	Page	200	$0.10	$20
TOTAL Nonlabor Expenses				$2,009

Notes/Assumptions: Assumes project area of approx. 2.2 miles @ 150-ft ROW. Assumes private land. Assumes S&B/CCRMA provides/negotiates right of entry prior to fieldwork such that hist survey can be completed in one trip of two staff. If access is not available, a reasonable and good-faith effort will be made to document inaccessible parcels from accessible parcels and/or public ROW. Exclusions: ecological/NEPA services, NRHP nominations, HABS/HAER documentation, archeological testing or data recovery, human remains evaluation/coordination/removal. All excluded services could be provided under separate scope/budget.

TOTAL COSTS - CMEC **$11,363.65**

2-I CONSIDERATION AND APPROVAL OF WORK AUTHORIZATION NO. 01 WITH GDJ ENGINEERING FOR THE DANA ROAD PROJECT FOR PRELIMINARY ENGINEERING.

WORK AUTHORIZATION

WORK AUTHORIZATION NO. 1

This Work Authorization is made as of this 27th day of July, 2022, under the terms and conditions established in the AGREEMENT FOR GENERAL CONSULTING ENGINEERING SERVICES, dated as of March 17, 2022 (the "Agreement"), between the Cameron County Regional Mobility Authority ("Authority") and GDJ Engineering, LLC ("GEC").

This Work Authorization is made for the following purpose, consistent with the Services defined in the Agreement: *Project Development, Preliminary Engineering, Surveying and Environmental services for the Dana Road (From FM 3248 to FM 802) project, Cameron County, Texas.*

Section A. - Scope of Services

A.1. GEC shall perform the following Services:

See Exhibit 1 – Scope of Services to be Provided by the Engineer as requested by the Authority.

Section B. - Schedule

GEC shall perform the Services and deliver the related Documents (if any) according to the following schedule as shown on **Exhibit 2.**

Section C. - Compensation

C.1. In return for the performance of the foregoing obligations, the Authority shall pay to the GEC the amount not to exceed $647,158.33, based on the attached fee estimate as showen in **Exhibit 1.** Compensation shall be in accordance with the Agreement.

C.2. The Authority shall pay the GEC under the following acceptable payment method: Lump Sum payment method.

C.3. Compensation for Additional Services (if any) shall be paid by the Authority to the GEC according to the terms of a future Work Authorization.

Section D. - Authority's Responsibilities

The Authority shall perform and/or provide the following in a timely manner so as not to delay the Services of the GEC.

Section E. - Other Provisions

The parties agree to the following provisions with respect to this specific Work Authorization:

-SIGNATURES ON NEXT PAGE-

Except to the extent expressly modified herein, all terms and conditions of the Agreement shall continue in full force and effect.

Authority:	Cameron County Regional Mobility Authority	GEC:	GDJ Engineering, LLC
By:	Frank Parker, Jr.	By:	Robert Macheska
Signature:		Signature:	
Title:	Chairman	Title:	Exec. VP/COO
Date:	July 27, 2022	Date:	July 27, 2022

EXHIBIT "1"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

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: Cameron County Regional Mobility Authority

CONTROL: _____

PROJECT/DESCRIPTION: _____

LENGTH: 2.4 miles

HIGHWAY: Dana Rd.

LIMITS: FM 3248 to FM 802

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
_X_ 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)

ENGINEER shall mean GDJ Engineering.

LPA shall mean CCRMA.

EXHIBIT "1"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

PRELIMINARY PROJECT DEVELOPMENT
(Function Code 102)

ADVANCED PLANNING MPO COORDINATION:
The ENGINEER will perform any needed preliminary/ongoing project planning which will include:

1. Meetings, Coordination & Support for Project Development
    a. The Engineer will coordinate with the LPAs representatives at the MPO Technical Advisory Committee (TAC) and Policy Committee and serve in an advisory position to assist the LPA in obtaining funding for projects. The Engineer shall serve as representative for the LPA in coordination items. The Engineer shall coordinate with the LPA's staff on all Project related items.

2. Evaluate the LPAs Projects on Regional Planning Documents.

    a. The Engineer will work with the LPA and the MPO to evaluate the status of the LPAs projects in the regional planning documents.

    b. The Engineer will review the local Transportation Improvement Program (TIP) to ensure there are no delays to the letting of projects in an advanced state of project development. This includes coordination with project engineers to ensure estimates and schedules are accurate.

    c. The Engineer will review the Unified Transportation Program (UTP) to ensure the LPAs Projects are properly listed on the TxDOT UTP to ensure there are no delays to project development.

    d. The Engineer will review the Metropolitan Transportation Plan (MTP) to ensure the LPAs long range goals are properly listed on the MTP to advance opportunities for additional funding.

    e. The Engineer will review and assess potential opportunities to advance the construction of the LPAs projects.

    f. The Engineer will coordinate with the LPA to develop project mitigation plans in the event that there is a decrease in available funding for projects.

3. Capital Improvements Program (CIP) Development
    a. The Engineer will assist the LPA with the Development of the CIP as it relates to available opportunities to leverage funding from the MPO.

4. Audit and Periodically Update Regional Planning Documents
    a. The Engineer will review the local Transportation Improvement Program (TIP) to ensure there are no delays to the letting of projects in an advanced state of project development. This includes coordination with project engineers to ensure estimates and schedules are accurate.

    b. The Engineer will review the Unified Transportation Program (UTP) to ensure the LPAs Projects are properly listed on the TxDOT UTP to ensure there are no delays to project development.

c. The Engineer will review the Metropolitan Transportation Plan (MTP) to ensure the LPAs long range goals are properly listed on the MTP to advance opportunities for additional funding.

d. The Engineer will review and assess potential opportunities to advance the construction of the LPAs projects.

e. The Engineer will coordinate with the LPA to develop project mitigation plans if there is a decrease in regional funding for projects.

5. Prepare Exhibits / Preliminary Estimates
   a. The Engineer will assist the LPA with the preparation of preliminary project exhibits, maps, typical sections to allow for the development of preliminary project cost estimates for planning purposes.

6. Draft Correspondence
   a. The Engineer will assist the LPA with the preparation of drat correspondence to be used to advance the development of the LPAs priority projects.

7. Develop Project Agreements
   a. The Engineer will assist the LPA with the development of Interlocal Agreements and project agreements with TxDOT, for example Advanced Funding Agreements (AFA), to ensure the LPAs projects can be reviewed by TxDOT.

8. State and Federal Grants
   a. The Engineer will monitor opportunities for additional funding for the LPAs projects including non-conventional State and Federal funding that may become available.

PRELIMINARY PROJECT DEVELOPMENT:

The ENGINEER will perform any needed preliminary project development which will include:

1. Establish Preliminary Design Values
   a. The Engineer will work with the LPA to establish basic design concepts, project controls and a general scope for the Project.

2. Prepare/Evaluate Preliminary Route Locations on Uncontrolled Mapping*
   a. The Engineer will evaluate various alternatives (route locations, alignment shifts, geometry) for the Project.

3. Uncontrolled Mapping (w/Contours & GIS Data)
   a. The Engineer will investigate the existing routes and coordinate with the LPA on establishing the best-fit alignments and mapping proposed geometry for Projects. A Preliminary Location Exhibit will be developed.

4. Prepare Preliminary Hydrologic Map
   a. The Engineer will develop a Hydrologic Map for the Projects. The Hydrologic Maps will be based on LIDAR and GIS information.

5. Investigate Preliminary ROW Requirements

   a. The Engineer will research and identify affected property owners on the Projects alignment and proposed ROW utilizing the latest appraisal district file information and subdivision plat information from Carson Maps.
6. Prepare Preliminary Cost Estimates
   a. The Engineer will calculate preliminary construction cost estimates for the location and geometry of the Projects.

7. Preliminary Environmental Analysis (for Fatal Flaws)
   a. The Engineer will perform Preliminary Environmental Constraint Mapping to determine if any fatal flaws exist along the proposed alignment.

8. Prepare a Project Fact Sheet for All Anticipated Costs
   a. The Engineer will produce a Project Fact Sheet providing summaries of all pertinent items in the scope of services (as required) and providing estimated local costs vs. total project costs for the Projects.

9. Meetings, Coordination & Support for Project Development
   a. The Engineer shall provide coordination services and shall assist in meetings and workshops with TxDOT, County, Drainage Districts, Irrigation Districts, and all other affected parties. The Engineer shall serve as representative for the LPA in coordination items. The Engineer shall coordinate with the LPA's staff on all Project related items.

* A Phase I or better survey for hazardous materials should be included as a determining factor of route selection. Projects which do not require additional ROW should be considered separately from an expansion or new location.

ROUTE AND DESIGN STUDIES

(Function Code 110)

ROUTE AND DESIGN STUDIES:

The ENGINEER will perform any of the following tasks needed for the route and design studies:

1. Analyze Level of Service for Proposed Improvements

2. Provide Traffic Evaluations and Projections

3. Develop Roadway Design Criteria

4. Prepare the Design Schematic
   a. Horizontal and Vertical Alignment (Preliminary based on office surveys)
   b. Schematic Layout
      i. Identify the location of interchanges, main lanes, grade separations, frontage roads and ramps, if applicable.
      ii. Develop vertical and horizontal alignment of main lanes, ramps and cross roads at proposed interchanges or grade separations, if applicable. Frontage road alignment data need not be shown on the schematic; however, it should be developed in sufficient detail to determine ROW needs. The degree of horizontal curves and vertical curve data, including "K" values, shall also be shown for ease of checking.

iii. For freeways, show the location and text of the proposed main lane guide signs. Lane lines and/or arrows indicating the number of lanes shall also be shown.
iv. Provide a complete explanation of the sequence and methods of stage construction, if proposed, including the initial and ultimate proposed treatment of crossovers and ramps.
v. Identify the tentative ROW limits
    1. Provide a roadway Design System (RDS) or (GEOPAK) computer tape of the preliminary earthwork to verify ROW requirements.
    2. Provide a graphics file containing the approved schematic.
vi. Provide the geometric configuration (pavement cross slopes, lane and shoulder widths, slope rates for fills and cuts) of the typical sections of the proposed highway main lanes, ramps, frontage roads, and cross roads.
vii. Identify the current and projected traffic volumes as provided by TxDOT (if On-System roadway) or by ENGINEER (if Off-System roadway) based on a 20 year traffic projection.
viii. Label the control of access lines if Interstate or designated under House Bill 179.
ix. Label the direction of traffic flow on all roadways.
x. Identify the location and width of any proposed median openings for highways without access control.
xi. Identify the geometrics of any speed change lanes (acceleration, deceleration, climbing, etc...).

5. Coordinate and Attend a Project Design Concept Conference

6. General Guidelines for Project Development
    a. Prior to preparing detailed plans for a proposed project, a preliminary schematic layout shall be prepared which indicates the general geometric features and location requirements peculiar to the project. An uncontrolled aerial mosaic will be provided for this use. Four copies of the schematic layout shall be submitted through the district to the Design Division for approval and subsequent coordination with the Federal Highway Administration (FHWA) where applicable. The layout shall be submitted for two-lane arterial highway projects on new locations and for all multi-lane highway projects. **No geometric design is to be performed until the LPA has given the engineer written approval of the preliminary schematic layout.**
    b. All geometric design shall be in conformance with the State's Design Division, Operations and Procedures Manual, except where variances are permitted in writing by the STATE.
    c. The schematic layout shall include basic information which is necessary for the proper review and evaluation including the items listed above and in the schematic checklist provided by the STATE.
    d. Handling of traffic during construction shall be a consideration in the development of preliminary designs.
    e. Upon approval of the schematic layout by Design Division (FHWA on Federal-aid projects), it shall be the basis for an exhibit at any required public hearing prior to final development of the project. If there are any changes to the schematic after the Design Division and FHWA approval and before the public hearing, four copies of the revised schematic, as displayed at the hearing, shall be submitted either prior to or accompanying the public hearing data. If there are no changes in the schematic as displayed at the hearing, only photographs of the schematic and other displays shall be submitted with the public hearing data.

f. For all freeway construction projects, these schematics shall show the location and text of the proposed main lane guide signs. A schematic layout shall be submitted through the district to the Traffic Operations Division, Traffic Safety Section for approval and subsequent coordination with the FHWA. All signing shall be in conformance with the Texas MUTCD.
g. On complex projects, informal contact through the district with the Design Division and FHWA personnel is encouraged with regard to development of preliminary design prior to official schematic submission.
h. The engineer shall furnish a project tape that is compatible with the STATE's computer system, a project listing, and a cross section plot showing the original design sections containing the earthwork input and original cross sections for the project. **Accuracy of the earthwork design is of utmost importance since it is the basis for contractor payments and construction staking.**

7. Traffic Analysis and Projections
   a. If the project is Off-System, the ENGINEER will provide all traffic analysis and projection data for the project as previously provided by TxDOT's Transportation Planning and Programming Division. The analysis will follow the STATE's SOP and the data will be approved by the STATE.

8. Final Hydrologic Map & Report
   a. The ENGINEER will provide a final hydrologic map to be submitted with the Schematic. This map will be considered part of the Schematic submittal.
   b. A H&H report will be submitted along with the Hydrologic Map. The report will follow the guidelines set forth in TxDOT's Hydraulic Design Manual.

SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT

(Function Code 120)

1. Environmental Reports (All Environmental Reports shall be in accordance with 43 Texas Administrative Code (TAC) 2.40-2.51, Code of Federal Regulations, Title 23, Part 771 and Highway Design Operations and Procedures Manual, Part II-B.)
   a. An Environmental Document shall be prepared anticipating one of the following levels of clearance:
      i. A Categorical Exclusion
      ii. A Finding of No Significant Impact
   b. If it is determined that an Environmental Assessment is not sufficient, an Environmental Impact Statement shall be prepared under a supplemental agreement.
      i. A Draft Environmental Impact Statement shall be prepared. After appropriate interagency and public reviews within time limits prescribed by the Code of Federal Regulations, Title 23, Part 771 and 43 Texas Administrative Code 2.40-2.51, a Final Environmental Impact Statement shall be prepared.
      ii. A Section 4(f) Statement (Department of Transportation Act) shall be provided by the ENGINEER. The format and content of the statement is found in FHWA Technical Advisory T6640.8A.

2. Public Involvement (All Public Involvement procedures shall be in accordance with 43 Texas Administrative Code (TAC) 2.101-2.110, Code of Federal Regulations Title 23, Part 771 and Highway Design Operations and Procedures Manual, Part II-B.)
    a. A public involvement meeting(s)/hearing(s) shall be scheduled, coordinated and conducted.*
    b. Technical assistance, meeting(s)/hearing(s) preparation, maintenance of contracts lists, minutes of meeting(s), exhibit preparation, and other tasks outlined by the LPA, shall be provided.

3. Cultural Resources (Formal consultation with the State Historic Preservation Office (SHPO) and the Texas Historical Commission (THC) will be conducted by the LPA.)
    a. Historic Structure Studies
        i. A records search and reconnaissance survey shall be performed, and documentation prepared regarding identification efforts, National Register eligibility and potential impacts to historic properties in accordance with the state's historic structure requirements.
    b. Archeological Studies
        i. Files searches shall be conducted to determine if known archeological sites are present; to identify whether these sites have been listed or determined eligible for the National Register of Historic Places or have been designated State Archeological Landmarks; and to identify the need (if any) to perform additional archeological investigations.
        ii. Archeological reconnaissance will be performed under a Texas Antiquities Permit (13 TAC 26) signed for the Sponsor by a professional archeologist with the STATE.
        iii. Archeological survey shall be performed under a Texas Antiquities Permit (13 TAC 26) signed for the Sponsor by a professional archeologist with the STATE.

4. Technical Reports
   Technical reports will be scoped with TxDOT's Work Plan Development Tool (WPD) and prepared in accordance with the TxDOT Environmental Toolkit.
    a. Traffic Noise Analysis
        i. A traffic noise analysis shall be prepared, including predicted noise levels and the consideration and evaluation of noise mitigation, in accordance with the STATE'S Noise Guidelines. The noise analysis or a summary of the noise analysis shall be provided as a Technical Report and results included in the administratively complete document.

    b. Air Quality Analysis
        i. An air quality analysis shall be prepared in accordance with the STATE'S Air Quality Guidelines. The air quality analysis or a summary of the air quality shall be provided as a Technical Report and results included in the administratively complete document for the project.

    c. Hazardous Materials
        i. The ENGINEER shall perform an Initial Site Assessment (ISA) for hazardous materials impact in accordance with the American Society for Testing and Materials (ASTM) 1528.93 (Transaction Screen Process).

d. Biological Assessment
    i. A Species Analysis and Site Assessment will be completed in accordance with the STATE'S guidelines. The assessment shall be provided as a Technical Report and results included in the administratively complete document for the project.

e. Water Resources
    i. A Surface Water Analysis will be completed in accordance with the STATE'S guidelines. The analysis shall be provided as a Technical Report and results included in the administratively complete document for the project.

f. Community Impact Analysis
    i. A Community Impact Assessment will be completed in accordance with the STATE'S guidelines. The analysis shall be provided as a Technical Report and results included in the administratively complete document for the project.

5. General Guidelines for Preparation of Environmental Documents
    a. All technical reports will be submitted electronically to TxDOT.
    b. All cultural resource reports (i.e. Archeological and Historical Project Coordination Requests (PCRs), background and reconnaissance surveys) will be submitted electronically to TxDOT.
    c. The draft administratively complete document will be submitted to TxDOT electronically.
    d. The administratively complete document will be prepared in accordance with the content and format of TxDOT Administrative Code 43 TAC §2.48 and the TxDOT Environmental Toolkit.
    e. The administratively complete document will be submitted to TxDOT electronically.
    f. Upon completion and approval of the administratively and technically complete document, the Engineer will provide one (1) hard copy to the Client.
    g. Exhibits in the environmental document shall be color copies and text shall be black and white.

EXCLUSIONS:
Backhoe rentals for archaeological services shall not be included in this scope and will be provided by the LPA.

EXHIBIT "1"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

FIELD SURVEYING AND PHOTOGRAMMETRY

(Function Code 150)

TOPOGRAPHY AND CONSTRUCTION SURVEYS:

The SURVEYOR will perform Topography and Construction Surveying for the project which will include:

1. Primary Project Control: 3 to 5 mile spacing (Precision shall be 1 part in 20,000 or better, unless otherwise directed by the ENGINEER).
    a. Establish Horizontal Control Points
    b. Establish Vertical Control Points

    NOTE: ALL BEARING AND DISTANCE SHALL BE BASED ON THE STATE PLANE COORDINATE SYSTEM NAD 1983, SOUTH ZONE.

    ALL DISTANCES AND COORDINATES SHALL BE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999960

2. Secondary Project Control (Surveyor shall recover and/or reset H&V Control Points as provided by the Engineer and create Survey Data Sheets for inclusion in the Project Plans).
    a. No traverse should exceed 25 angle points. Planimetrics shall be 20 ft Lt & Rt from the proposed ROW as per the schematic provided by the Engineer.
    b. The unadjusted angular error should not exceed 2 seconds per angle, plus 14 seconds.
    c. The unadjusted ratio of precision should be one part in 10,000 or better (The ratio of precision is the total length of the traverse divided by the total error.).
    d. The unadjusted vertical error should not exceed 0.03 foot per mile of traverse.
3. Other Field Surveying
    a. **The limit of the Design surveys shall be 1,500-ft before and after the limits of the project as identified by the Project Engineer on the schematic. Establish horizontal and vertical control.** Set benchmarks at 1000-ft intervals along the project proposed right-of-way. Provide x, y, z for each Benchmark. Provide a BM along each outfall identified on the Hydrologic Map. The BM's shall be #5 I.R. 2-ft in depth set in concrete. **The surveyor shall provide an H&V Book (a Sample shall be provided by the Engineer to the Surveyor).** The Surveyor will provide a 3-pt reference sketch with ties to the BMs for inclusion the existing H&V Control Book. Establish benchmark circuit throughout the project with a tolerance of 0.03'/ft per mile error vertically.
    b. The Surveyor shall provide complete topographic and cross section survey, data processing, and CADD mapping (2D & 3D) for the limits of the project.
    c. The Surveyor shall locate all visible utilities, data processing and CADD mapping (2D & 3D) including irrigation lines. Follow sample provided by the Engineer.
    d. The Surveyor shall field locate cross culverts, driveway culverts, inverts, irrigation lines, within the project limits, data processing and CADD mapping (2D & 3D).
    e. Right of Entry, Right of Way Research, and Appraisal District Records is the responsibility of the Surveyor.
    f. The Surveyor shall also paint the proposed centerline on the existing pavement as approved by the ENGINEER (at 500-ft stations and a tick mark at 100-ft stations, 12 inches long with approved paint by ENGINEER) before construction for the purpose of utility adjustments and project location.

g. Profile and cross section intersecting streets for ties into project (500-ft. beyond the proposed ROW per schematic and 20-ft wider than the existing ROW of intersecting street). Reference missing voids as per CD provided by the Engineer.
h. Cross section irrigation crossings for a distance of 20-ft beyond the proposed ROW at 100-ft intervals in a DTM file. Provide a complete description of irrigation appurtenances as identified by the engineer sample layout.
i. Tie Horizontally and Vertically the existing storm drain system that lies within the existing proposed ROW including the elevation of the outfall of said recovered existing storm drain systems.
j. Tie to existing underground and overhead utilities (location, elevation and direction)
    i. Horizontally - The surveyor shall call the 1-800 number for the utilities to be marked on the ground as well as any city water and sewer lines. He shall tie all visible utility crossings with name, address and Phone #'s of utility companies. The engineer will coordinate with the utility companies and jointly the Surveyor and the Engineer will identify which utilities were missed and need to be tied down.
    ii. Vertically - The engineer shall identify all utilities that are potential conflicts and that need to be tied vertically. The engineer will advise the surveyor in writing of the needed vertical ties and the surveyor will tie the lines vertically once the surveyor has coordinated the exposure and provide the information to the engineer.
k. Additional Field Surveying as shown below:
    i. Irrigation Lines - The surveyor will meet with the engineer before he ties down any irrigation lines. The Engineer will provide him the existing Irrigation District Maps and the A&M Data of existing irrigation lines that are identified of record. He will follow the sample given to him by the engineer and tie the structures horizontally and vertically and provide Field Books to the engineer.
    ii. Outfalls - The surveyor will provide a complete 2D & 3D File including utilities of the outfall identified on the Hydrologic Map.
l. Driveways and Turnouts
    i. Inventory commercial entrances, public roads and side streets separately.
    ii. Obtain centerline station (Width at ROW, Pavement and existing radius).
    iii. Inventory by type (dirt, caliche, gravel or paved). If paved, indicate condition in terms of no patches, has patches or has potholes.
    iv. Obtain width at ROW line
    v. Obtain elevations at both edges of the driveway or turnout in line with any side drain.
m. ROW Staking (Existing and proposed @ 1,000 ft stations, PC's, PT's and Angle points as per ROW Map)
n. Soil core hole staking
o. Determine changes in topography from voids and outdated maps due to development, erosion, etc.
p. Profile existing drainage facilities, if applicable
q. Measure hydraulic openings under existing bridges, if applicable
r. Obtain elevations of manholes and valves of utilities, if applicable
s. Provide temporary signs, traffic control, flags, safety equipment, etc.
t. Provide ties to existing bridges or culverts that may conflict with new construction
u. If there is a Bridge widening, provide top of deck and/or top of cap elevations at the Profile Grade Line (PGL) and the edges of slab at bent locations.
v. Inventory signs, mailboxes and driveways
w. Survey controlled data sheets as per STATE guidelines

EXHIBIT "1"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

ADDITIONAL RESPONSIBILITIES

A. TRAFFIC CONTROL:

The SURVEYOR shall control traffic in and near surveying operations adequately to comply with provisions of the latest edition of the TxDOT Manual on Uniform Traffic Control Devices – Part VI and the latest edition of the Occupational Safety Manual both of which can be found on the TxDOT internet site.

In the event field crew personnel must divert traffic or close traveled lanes, a Traffic Control Plan based upon principles outlined in the latest edition of the TxDOT Manual on Uniform Traffic Control Devices – Part VI shall be prepared by the SURVEYOR and approved by the ENGINEER prior to commencement of field work. A copy of the approved plan shall be in the possession of field crew personnel on the job site at all times and shall be made available to the ENGINEER for inspection upon request.

B. INVOICING:

Payment requests shall include a SURVEYOR's invoice. With each payment request, the SURVEYOR shall submit a project status report which will, as a minimum, include the percentage of total work complete as of the date of the payment request and a description of current work activity. The percentage of total work complete shall not be based simply on the percentage of funds expended, but shall be based on the best judgment of the SURVEYOR as to the percentage of actual work complete.

C. EASEMENTS, LETTERS OF PERMISSION, ETC.

The SURVEYOR shall be responsible for delineating easements. The SURVEYOR will be responsible for securing the necessary legal instruments and obtaining all Right-of-Entries (ROEs).

D. MEETINGS:

The ENGINEER shall setup the necessary meetings with the SURVEYOR in order to assure all field information is provided on-time and products are delivered in accordance with TxDOT's/LPA's specifications. SURVEYOR must attend all meetings involving data provided if requested by ENGINEER.

E. PROJECT MANAGER/SURVEYOR COMMUNICATION:

The SURVEYOR shall designate one Texas Registered Professional Land Surveyor (RPLS) to be responsible throughout the project for project surveying coordination and all communications, including billing, with the ENGINEER.

F. OFFICE LOCATION:

The SURVEYOR will perform the services to be provided under this agreement out of a local office and have a crew available to perform requested tasks within 24 hours of request. The coordinating SURVEYOR's Project Manager (RPLS) shall be accessible at all times and working from the local office.

EXHIBIT "1"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

PROJECT MANAGEMENT
(Function Code 164)

MEETINGS, COORDINATION & SUPPORT FOR PROJECT MANAGEMENT:
The ENGINEER shall meet and coordinate with all relevant entities (i.e. County, Regional Mobility Authority, Texas Department of Transportation, Rio Grande Valley Metropolitan Planning Organization, etc...) and all other affected parties. The Engineer shall serve as representative for the Owner in coordination items. The Engineer shall coordinate with the Owner's staff on all Project related items.

ADDITIONAL RESONSIBILITIES

EASEMENTS, LETTERS OF PERMISSION, ETC.:
The ENGINEER shall be responsible for delineating easements. The ENGINEER will be responsible for securing the necessary legal instruments.

MEETINGS:
Meetings will be held with the FHWA, State Officials, local governments, property owners, utility owners, railroad companies, other consulting firms, etc., as needed or required by the LPA. The ENGINEER shall coordinate through the LPA for the development of this project with any local entity having jurisdiction or interest in the project (i.e., city, county, etc).

SPECIFICATIONS, SPECIAL PROVISIONS, SPECIAL SPECIFICATIONS:
Use the State's standard specifications or previously approved special provisions and/or special specifications. If a special provision and/or special specification is developed for this project, it shall be in the State's format and incorporate references to approved State test procedures.

PROJECT MANAGER/ENGINEER COMMUNICATION:
The ENGINEER shall designate one Texas Registered Professional Engineer to be responsible throughout the project for project management and all communications, including billing, with the LPA's Director. Any replacements to the ENGINEER's designated Project Manager/Engineer must be approved by the LPA.

Engineering documents produced for the department's engineering projects shall be signed, sealed and dated or CADD sealed in accordance with Administrative Order No. 5-89 and Administrative Circular No. 26-91.

DESIGN RESPONSIBILITIES:
The ENGINEER is responsible for design errors and/or omissions that become evident before, during or after construction of the project. The ENGINEER's responsibility for all questions arising from design errors and/or omissions will be determined by the LPA and all decisions shall be final and binding. This would include, but not necessarily be limited to:

1. All design errors and/or omissions resulting in additional design work to correct the errors and/or omissions.
2. Preparation of design documents and detail drawings necessary for a field change due to design errors and/or omissions.
3. Revision of original tracings to the extent required for a field change due to design errors and/or omissions.

EXHIBIT "1"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

The ENGINEER shall promptly make necessary revisions or corrections resulting from the ENGINEER's errors, omissions or negligent acts without additional compensation. Acceptance of the work by the LPA will not relieve the ENGINEER of the responsibility for subsequent correction of any such errors or omissions or for clarification of any ambiguities.

DOCUMENT AND INFORMATION EXCHANGE:

Data, Plan Sheets, General Notes and/or Specifications provided to the LPA shall be furnished on 8GB USB flash drives. Each 8 GB flash drive shall have a file titled Table of Contents. The Table of Contents shall indicate the locations of files within the directory structure of the documentation.

General Notes and specifications shall be provided in MS Office 2007 format. Plan sheets shall be provided in Microstation DGN or GEOPAK GPK format. PDF copies of plan sheets shall also be provided.

Two copies of the documentation shall be provided to the LPA.

If required, the ENGINEER shall provide to the LPA, a CD that contains all the plan sheets for the project. The graphics tape shall be compatible with the LPA's computer system.

CD Tape Required (YES or NO): YES

PROPOSAL TIME:

The time indicated in the proposal and the contract shall include time necessary for reviews, approval, etc.

OFFICE LOCATION:

The ENGINEER will perform all services to be provided under this agreement out of their office located at: 2805 Fountain Plaza Blvd., Suite A, Edinburg, Texas 78539

"Exhibit 1"
Fee Estimate

Dana Road Project - CCRMA

	Dana Road (From FM 3248 to FM 802) Cameron County Regional Mobility Authority	MANHOURS											
	TASK	Senior Project Manager/ Principal	Project Manager	Project Engineer	Utility/ Environmental Manager	Environmental Specialist	EIT	Senior Engineering Tech	GIS Operator	Engineering Tech	Admin/Clerical	Total Hours	Total Line Item Cost
	Environmental												
1	Data Collection (RGVMPO/TxDOT/FHWA Coordination)			2	8	72	56		16	16		170	$ 15,013.68
2	Environmental Scoping Document			2	8	56			8	6	6	86	$ 8,309.70
3	CE, EA, EIS Environmental Document			4	64	40			34	1	16	159	$ 16,735.31
4	Technical Report - Water Quality				16	80			6	1	2	105	$ 10,730.19
5	Technical Report - Natural Resources			6	14	84			22	6	2	134	$ 13,366.42
6	Technical Report - Cultural Resources	SEE SUBCONSULTANT FEE SCHEDULE (PAGES 1-4 OF 14)											$ 62,916.92
7	Technical Report - Hazmat				16	80			6	4	2	108	$ 10,944.84
8	Technical Report - Env. Justice/Community Impacts				16	80			6	4	2	108	$ 10,944.84
9	Technical Report - Noise Analysis				16	80	6	6	6	6	2	122	$ 12,102.42
10	Technical Report -Air Quality				8	40			2	4	2	56	$ 5,588.52
11	Public Involvement (Meeting/Hearing/MAPO)	2	8	16	48	48	10	10	30	16	48	236	$ 22,824.40
12	Agency Coordination (USACE/TPWD/USFWS Coordination & Permitting)	2	2	2	48	48	18	18	32	14	6	190	$ 19,028.50
	Subtotal (Environmental)	**4**	**10**	**32**	**262**	**708**	**90**	**34**	**168**	**78**	**88**	**1474**	**$ 208,505.74**
	Preliminary Engineering												
13	Data Collection		8	8	8		20	34	22	42		142	$ 12,927.26
14	Feasibility Studies/Alternatives	2	18	34	10		38					102	$ 11,881.04
15	Geometric Schematic Work	6	20	48	12		48	168		224		526	$ 47,993.04
16	Corridor & Route Alternatives	2	10	28	10		38	58				146	$ 15,416.80
17	Feasibility Studies, Corridor & Route Alternatives (SUB)	SEE SUBCONSULTANT FEE SCHEDULE (PAGE 5 OF 14)											$ 49,003.75
18	Development of Typical Sections		4	6			10	12				32	$ 3,325.60
19	Geotechnical Studies	SEE SUBCONSULTANT FEE SCHEDULE (PAGES 6-7 OF 14)											$ 127,582.56
20	Aerial Mapping/Survey	SEE SUBCONSULTANT FEE SCHEDULE (PAGE 8 OF 14)											$ 70,337.62
21	Hydrologic/Hydraulic Studies	4	16	40	12		46	160		200		478	$ 43,308.96
22	Traffic Studies	SEE SUBCONSULTANT FEE SCHEDULE (PAGES 9-14 OF 14)											$ 45,025.72
23	Project Cost Estimates	2	4	8	2		8					24	$ 2,897.52
24	Engineering Summary Report	2	6	8			8				4	28	$ 3,157.36
25	Quality Assurance/Quality Control	8	8	12	12							40	$ 5,795.36
	Subtotal (Preliminary Engineering)	**26**	**94**	**192**	**66**	**0**	**216**	**432**	**22**	**466**	**4**	**1518**	**$ 438,652.59**
	TOTAL	**30**	**104**	**224**	**328**	**708**	**306**	**466**	**190**	**544**	**92**	**2992**	
Labor Hours		**30**	**104**	**224**	**328**	**708**	**306**	**466**	**190**	**544**	**92**	**2992**	
Contract Rate		$ 165.40	$ 152.16	$ 138.92	$ 132.32	$ 99.24	$ 72.76	$ 96.32	$ 82.04	$ 71.55	$ 55.04		
Total Labor Costs		**$ 4,962.00**	**$ 15,824.64**	**$ 31,118.08**	**$ 43,400.96**	**$ 70,261.92**	**$ 22,264.56**	**$ 44,885.12**	**$ 15,587.60**	**$ 38,923.20**	**$ 5,063.68**	**$ 292,291.76**	**$ 647,158.33**

LINE ITEM EXPENSES

N/A $ -

Total Expenses $ -

GDJ Engineering Total Cost **$ 647,158.33**

Proposal
Cultural Resource Investigations
Road Improvements along
Dana Road,
City of Brownsville, Texas
Revised 6/21/2022

PROJECT DESCRIPTION

GDJ Engineering has requested a scope of work and cost estimate from AmaTerra Environmental, Inc. (AmaTerra) to prepare cultural resources investigations for proposed road improvements of Dana Road in Brownsville, Texas. The limits of the project are on Dana Road, from FM3248 to FM 802 – a total length of 2.4 miles. The scope of the project would widen and reconstruct the existing two-lane rural roadway to a 64-foot-wide road consisting of four 12-foot-wide travel lanes, a 12-foot-wide continuous left turn lane, and 5-foot-wide sidewalks on both sides of the roadway within an 80-foot-wide proposed right-of-way (ROW). Drainage would be provided by roadside ditches. The project is being proposed as a local government project (City of Brownsville) with TxDOT oversight under CSJ 092-06-330 & 344.

PROJECT SCOPE

Task 1: Archeological Studies

A) AmaTerra will review the Texas Historical Commission (THC) sites atlas to determine if any previously recorded sites or archeological surveys occur within or near the proposed project area. The location of any previously recorded sites and surveys will be plotted onto USGS 7.5-minute topographic maps for use in the compliance coordination process. Archeologists will also consult the USDA NRCS soil survey maps, relevant aerial photography, historical maps, land use maps, and the Geologic Atlas of Texas to assess the likelihood for unrecorded archeological resources and make recommendations regarding the need for further field surveys. The results of this effort will be integrated into a background study report that conforms to TxDOT's *Review Standards for Archeological Background Studies* for review and comment by TxDOT-ENV.

B) Should TxDOT determine an archeological survey is warranted, AmaTerra will prepare an Antiquities permit application and submit that to TxDOT for review and approval prior to submission to the THC.

C) Once a permit has been issued by the THC AmaTerra will conduct an archeological survey of the Area of Potential Effects (APE). The survey will include visual inspection, pedestrian, survey, and backhoe trenching to assess and characterize archeological sites within the APE. Any archeological sites would be investigated through additional shovel tests, as warranted. All archeological sites within the APE will be recorded at the Texas Archeological Research Laboratory. Archeologists will not collect any artifacts during the survey.

D) AmaTerra will prepare a professional report documenting the results of the survey. The report will adhere to TxDOT's *Review Standards for Archeological Survey Reports* and include a management summary, description of the undertaking and the APE, relevant background sections, a summary of results, and explicit recommendations regarding eligibility of archeological sites within the APE. This report will be reviewed and approved by

the client, TxDOT, and THC. To satisfy the conditions of the Antiquities Permit, AmaTerra will curate all survey notes and records at a state recognized curatorial facility.

Task 2: Historical Studies

A) AmaTerra shall prepare a Project Coordination Request for Historical Studies Project (PCR) for review and comment by TxDOT-ENV. The PCR shall conform to the TxDOT *PCR Review Standard* (August 2019 version).

B) AmaTerra shall perform a records search of the APE to identify non-archeological historic properties that have been previously listed in the National Register of Historic Places (NRHP), are designated as Recorded Texas Historical Landmarks, as State Antiquities Landmarks, County Historic Landmarks, or have been evaluated for NRHP eligibility by other available historic surveys. AmaTerra will review other available archival sources, such as historic maps and/or aerial photographs, to locate previously unidentified potential historic resources in the project's Study Area. Reviews will be conducted to determine whether any historic or historic-age Canals are also located within the project study area.

C) If required by TxDOT, AmaTerra shall prepare a research design for review and comment by TxDOT-ENV. The research design shall conform to the TxDOT *SOU: Non-Archeological Historic-Age Resource Research Designs Review checklist* (January 2020 version).

D) AmaTerra shall perform a reconnaissance survey conforming to the methodology outlined in Appendix B of the *Draft CRM Guide for Accurately Identifying Non-Archeological Cultural Resources* (Texas Department of Transportation, January 2020). The survey shall document each historic-age resource (defined by TxDOT as a building, structure, object, historic district or non-archeological site at least 45 years old at the time of letting) within the Study Area. The Study Area shall consist of the Area of Potential Effects (APE) plus all parcels that are wholly or partially within the APE and those parcels where new ROW will be acquired.

E) AmaTerra shall provide a report detailing the results and findings of the reconnaissance survey including effects to historic properties and the need, if any, to conduct future intensive survey efforts. The report shall have sufficient detail and clarity to provide THC with the basis for making determinations of National Register of Historic Places (NRHP) eligibility or shall have sufficient detail and clarity to make recommendations concerning the scope of the intensive survey. The report shall conform to the TxDOT *Standards of Uniformity for Non-Archeological Historic-Age Resource Reconnaissance Survey Reports Review Checklist* (January 2020 version).

SCHEDULE

To be determined in consultation with Client.

ASSUMPTIONS AND CONDITIONS

The following is a list of assumptions on which the project costs are based. Any work not discussed in the tasks above may be considered outside of this scope and may require a supplemental agreement or fee adjustment.

- GDJ will clearly define the location and dimensions of the proposed project prior to fieldwork mobilization. GDJ will provide AmaTerra with geo-referenced ArcView shapefiles of the project footprint prior to fieldwork mobilization to allow for the survey of the APE: via GPS wayfinding.
- AmaTerra anticipates up to one round of design updates/changes from GDJ.
- Relevant comments will be addressed. It is assumed that no more than one draft copy and one final copy of the survey reports being submitted to GDJ will be produced in electronic format in PDF and Word formats.
- One round of comments on the Draft Report is anticipated from GDJ and associated agency reviewers. All comments are assumed to be minor.
- Access to private properties would be obtained by others prior to AmaTerra's field survey.
- This effort will likely include backhoe trenching. Should a greater than expected trenching effort (2 days of trenching anticipated) be required, those costs would be supplemental.
- The scope does not include mitigation for adverse effects, development of agreement documents, Section 4(f) evaluations, or other services beyond establishing Section 106 NRHP effect.

COMPENSATION

Client will compensate AmaTerra on a time and material price basis (T&M) of **$62,916.92**. AmaTerra will invoice GDJ monthly based on percentage of completion. A cost breakdown is provided below.

COST BREAKDOWN										
Dana Road Improvements Rev 06212022										
LABOR	PCR/Background Studies	Permit App/ Research Design	Prefield and Fieldwork	Draft and Final Reports	Curation	Admin and Project Mgmt	Total	Unit	Unit Price	Cost
Support Manager	0	0	0	0	0	2	2	hr	$ 249.00	$ 498.00
Archeologist Sr. PI	4	4	8	8	2	6	32	hr	$ 135.00	$ 4,320.00
Archeologist IV	8	8	44	40	4	0	104	hr	$ 94.23	$ 9,799.92
Archeologist III	0	0	44	16	6	0	66	hr	$ 76.80	$ 5,068.80
Architectural Historian Senior	2	2	2	4	0	6	16	hr	$ 150.00	$ 2,400.00
Architectural Historian III	16	24	24	80	0	0	144	hr	$ 116.85	$ 16,826.40
Architectural Historian II	6	4	24	40	0	0	74	hr	$ 79.47	$ 5,880.78
GIS Operator Sr	16	10	8	40	0	0	74	hr	$ 110.88	$ 8,205.12
Administrative/ Document Production Supervisor	0	0	4	32	2	8	46	hr	$ 93.90	$ 4,319.40
TOTAL LABOR										$ 57,318.42
EXPENSES	PCR/Background Studies	Permit App/ Research Design	Fieldwork	Draft and Final Reports	Curation	Admin and Project Mgmt	Total	Unit	Unit Price	Cost
Copies, b/w 8.5 x 11	20	20	100	400	150	40	730	each	$ 0.10	$ 73.00
Copies, color 8.5 x 11	20	20	20	350	75	0	485	each	$ 1.00	$ 485.00
Rental Car	0	0	3	0	0	0	3	day	$ 75.00	$ 225.00
Mileage	0	0	1,700	0	0	0	1700	each	$ 0.58	$ 977.50
Lodging (Tax & Fee Inc)	0	0	16	0	0	0	16	night	$ 120.00	$ 1,920.00
Meals	0	0	21	0	0	0	21	day	$ 56.00	$ 1,176.00
Curation	0	0	0	0	1	0	1	each	$ 550.00	$ 550.00
TARL Site Fees	0	0	0	2	0	0	2	each	$ 96.00	$ 192.00
Backhoe Rental	0	0	0	0	0	0	0	day	$1,500.00	$ -
TOTAL EXPENSES										$ 5,598.50
TOTAL										**$ 62,916.92**

TEDSI

"Attachment D"
Fee Estimate
Dana Road from FM 3248 to FM 802 (Approx. 2.41 miles)

Feasibility Study Fee Proposal Task Description	Project Principal	Project Manager	Quality Manager	Senior Engineer	Design Engineer	Senior Engineer Tech	Administrative/ Clerical	TOTAL LABOR HOURS
Field Recon		2		8	8			18
Data Collection		1		8	8			17
Develop Base Map		1		6	20	60		87
Establish Road Alignments		2		12	22	44		80
Develop Purpose and Need		1		3				4
Route Alternatives Analysis with Matrix		3		22	24			49
Feasibility Report		3		12	18	8		41
Public Involvement for the Project w/1 Public Meeting		2						2
Public Involvement for the Project w/1 Public Hearing		2						2
Project Management/Coordination		8						8
Total Labor Hours	0	25	0	71	100	112	0	308
Contract Rate	$300.17	$264.62	$244.11	$198.51	$152.83	$116.17	$70.30	
TOTAL LABOR COSTS	$0.00	$6,615.50	$0.00	$14,094.21	$15,283.00	$13,011.04	$0.00	**$49,003.75**

EXHIBIT D
TABLE OF DELIVERABLES
Method of Payment: Lump Sum

Dana Road from FM 3248 (Dr. Hugh Emerson) to FM 802 (Ruben M. Torres)
CCRMA
Millennium Engineers

TASK DESCRIPTION	Unit	Hourly Rate	Estimated Hours	Task Cost
FC 110 - GEOTECHNICAL (ENGINEERING ANALYSIS) PM Hours				
Initial Project Setup	hour	$229.15	8	$ 1,833.20
Laying out Needed Drilling Scheme & Plan View of Boring Logs	hour	$229.15	5	$ 1,145.75
6 Project Site Visits	hour	$229.15	25	$ 5,728.75
Coordination of Utlities and Staking Out Boring Locations	hour	$229.15	25	$ 5,728.75
Coordination and Meetings	hour	$229.15	14	$ 3,208.10
Preliminary Geotechnical Report, Soil Geology, Site Soils, Analyses, Recs.	hour	$229.15	8	$ 1,833.20
Structural Evaluation of Borings (Soil Shear Strength Computations)	hour	$229.15	5	$ 1,145.75
Evaluation of Pavement Criteria	hour	$229.15	5	$ 1,145.75
Pavement Cycle Analyses	hour	$229.15	5	$ 1,145.75
Pavement Design Options	hour	$229.15	8	$ 1,833.20
Pavement Design - HMAC for Location 1	hour	$229.15	12	$ 2,749.80
Drilled Shaft Foundation Design and Analysis	hour	$229.15	15	$ 3,437.25
Creation of Final Boring Logs with TCP and Soil Index Testing Data	hour	$229.15	6	$ 1,374.90
Geotechnical Report, Soil Geology, Site Soils, Analyses, Recs.	hour	$229.15	12	$ 2,749.80
FC 110 - GEOTECHNICAL (ENGINEERING ANALYSIS) Geotechnical Engineer Hours				
Initial Project Setup	hour	$155.23	8	$ 1,241.84
Laying out Needed Drilling Scheme & Plan View of Boring Logs	hour	$155.23	5	$ 776.15
6 Project Site Visits	hour	$155.23	25	$ 3,880.75
Coordination of Utlities and Staking Out Boring Locations	hour	$155.23	25	$ 3,880.75
Coordination and Meetings	hour	$155.23	14	$ 2,173.22
Preliminary Geotechnical Report, Soil Geology, Site Soils, Analyses, Recs.	hour	$155.23	5	$ 776.15
Structural Evaluation of Borings (Soil Shear Strength Computations)	hour	$155.23	5	$ 776.15
Evaluation of Pavement Criteria	hour	$155.23	5	$ 776.15
Pavement Cycle Analyses	hour	$155.23	5	$ 776.15
Pavement Design Options	hour	$155.23	8	$ 1,241.84
Pavement Design - HMAC for Location 1	hour	$155.23	12	$ 1,862.76
Drilled Shaft Foundation Design and Analysis	hour	$155.23	12	$ 1,862.76
Creation of Final Boring Logs with TCP and Soil Index Testing Data	hour	$155.23	6	$ 931.38
Geotechnical Report, Soil Geology, Site Soils, Analyses, Recs.	hour	$155.23	12	$ 1,862.76
FC 110 - GEOTECHNICAL (ENGINEERING ANALYSIS) Admin Hours				
Administrative Hours - Report Preparation and Billing	hour	$73.92	14	$ 1,034.88
SUB-TOTAL - GEOTECHNICAL ENGINEERING & ANALYSIS			**314**	**$ 58,913.64**
TOTAL DIRECT EXPENSES (FROM BELOW)				**$ 10,807.00**
SUB-TOTAL - GEOTECHNICAL EXPLORATIONS AND LABORATORY TESTING (See Page 2 of 2)				**$ 57,861.92**
GRAND TOTAL				**$ 127,582.56**

DIRECT EXPENSES	Units	Unit Cost	Quantity	
Mileage	Mile	0.58	3900	$ 2,262.00
PPE (Protective Equipment)	each	250	3	$ 750.00
Mobilization and Demobilization of Drilling Rig (Trips within 100 miles from office to site)	trip	600	1	$ 600.00
Construction Truck	day	125	16	$ 2,000.00
Shelby Tubes Transportation Box	per box	175	5	$ 875.00
Portable Message Board (Traffic Control)	day	500	8	$ 4,000.00
Geotechnical Report Printing (Estimated at 4 copies) at $80.00 each	Print / Sheet	80	4	$ 320.00
TOTAL DIRECT EXPENSES				**$ 10,807.00**

Scope of Work:
Existing 2-lane rural
Proposed 3-lane urban (1-lane in each direction with a continuous LTL)
Bridge Replacement

EXHIBIT D
TABLE OF DELIVERABLES
Method of Payment: Lump Sum

Dana Road from FM 3248 (Dr. Hugh Emerson) to FM 802 (Ruben M. Torres)
CCRMA
Millennium Engineers

Limits: Dana Road from FM3248 (Dr. Hugh Emerson) to FM 802 (Ruben M. Torres) Boring every 1000 LF

TASK DESCRIPTION	Unit	Fixed Cost	Total Estimated	Task Cost
FC 110 - GEOTECHNICAL (DRILLING AND TESTING)				
LOCATION 1 - Dana Road - South of FM 3248 to FM 802 (13 Proposed 10ft. Boring)	LF	$40.00	130	$ 5,200.00
LOCATION 2 - Roadway and Trail Bridges (4 Proposed 40ft. Boring)	LF	$40.00	160	$ 6,400.00
LOCATION 3 - Traffic Signal Structures (2 Proposed 30ft. Boring)	LF	$40.00	60	$ 2,400.00
Texas Cone Penetration (Tex-132-E)	each	$45.00	128	$ 5,760.00
Standard Penetration Test (SPT) (ASTM D1586)	LF	$38.00	110	$ 4,180.00
Shelby Push Tubes (ASTM D1587)	LF	$40.00	55	$ 2,200.00
Concrete/AC Patch ~ Proposed on 13 Pavement Borings	each	$68.00	13	$ 884.00
Field Technician: Collect Samples ~ Estimated at 10 hour days for 6 days of drilling	hour	$33.00	60	$ 1,980.00
Sample Preparation (Tex-101-E) ~ Proposed for each boring	each	$103.49	8	$ 827.92
Moisture Content (Tex-103-E) ~ Proposed on all samples, 2 ft. intervals for upper 10 ft, 5 ft intervals thereafter	each	$17.00	100	$ 1,700.00
Atterburg Limits (Tex-104E) ~ Proposed at 2 per boring for pavements and 6 per boring on structures.	each	$43.00	62	$ 2,666.00
Atterburg Limits (Tex-105-E) ~ Proposed at 2 per boring for pavements and 6 per boring on structures.	each	$43.00	62	$ 2,666.00
Atterburg Limits (Tex-106-E) ~ Proposed at 2 per boring for pavements and 6 per boring on structures.	each	$44.00	62	$ 2,728.00
Percent Passing No. 200 Sieve (Tex-111-E) ~ Proposed at 2 per boring for pavements and 4 per boring on structures	each	$61.00	50	$ 3,050.00
Sulfate Content in Soils (Tex-145-E) ~ Proposed at 13 locations on the pavement borings	each	$95.00	13	$ 1,235.00
Texas Triaxial Compression (Tex 117 E, Part II)	each	$2,400.00	2	$ 4,800.00
Consolidated Undrained Triaxial Test (Tex-131-E)	each	$2,000.00	2	$ 4,000.00
Consolidation Tests (ASTM D2435)	each	$640.00	4	$ 2,560.00
Soil-Lime Testing (Tex-121-E)	each	$375.00	7	$ 2,625.00
SUB-TOTAL - GEOTECHNICAL EXPLORATIONS AND LABORATORY TESTING				**$ 57,861.92**

Kane Lindsey, LLC
Surveying Consultants
4307 N 22nd Street, Suite B
McAllen, Texas 78504
TBPELS No. 10194676

BUDGET
LUMP SUM RATE BASIS OF PAYMENT

Work Authorization No.

Project: Dana Road (App. 2.5 Miles to include: 1500-ft East and West at FM 3248/ 1500-ft East and West at FM 802)
County: Cameron County, Texas
From: FM 3248
To: FM 806
Description of Work: Design Survey/ Schematic

TASK AND DESCRIPTION FC 150 Field Surveying	Sr. RPLS/ Principle	Project RPLS	Sr. Survey Technician	Survey Technician	3-man Survey Crew	2-man Survey Crew	Lidar/UAS Technician	Abstractor	Admin/ Clerical	Total Hours	Cost
HOURLY RATE	$142.15	$112.53	$77.00	$61.60	$160.16	$135.52	$86.24	$59.23	$49.28		
FC 150- Design Surveys											
I. Horizontal and Vertical Control											
A. Field 5/8" iron rods with plastic cap set in concrete every 1000'		1	1		16					18	$ 2,752.09
B. RTK- GPS			1	8		16				25	$ 2,738.12
C. Level Loops			2	8		24				34	$ 3,899.28
II. Design Surveys (Field Data Collection, Photogrammetry, Lidar Extraction)											
A. Cross Sections (Roadway and Drainage)			8	8		110	16			142	$ 17,395.84
B. Structures (Irrigation, Drainage, Inverts, Bridges, Resacas)			8	8		60	16			92	$ 10,619.84
C. Utility Investigation	2	2	2	2				30	20	58	$ 3,549.06
D. Abstracting								30	20	50	$ 2,762.50
E. Field Property corner Recon			8	8		24				40	$ 4,361.28
F. Abstract Map/Base Map	6	16	16	16					10	64	$ 5,363.78
G. ROW Staking	2	2	12	20						36	$ 2,665.36
III. Right of Entry											
A. Coordination	2	2	2	0	0	0	0	0	24	30	$ 1,846.08
Subtotal Hours	12	23	60	78	16	234	32	60	74	589	
Subtotal Cost	$1,705.80	$2,588.19	$4,620.00	$4,804.80	$2,562.56	$31,711.68	$2,759.68	$3,553.80	$3,646.72		**$ 57,953.23**
Photogrammetry											
A. Mobilization (Fixed)											$500.00
B. Data Collection/ Field Verification						16				16	$2,168.32
C. Processing							24			24	$2,069.76
Subtotal Hours	0	0	0	0	0	16	24	0	0	40	
Subtotal Cost	$0.00	$0.00	$0.00	$0.00	$0.00	$2,168.32	$2,069.76	$0.00	$0.00		**$4,738.08**
FINAL REPORT & DELIVERABLES											
A. CADD file (2D & 3D) for limits of project				12					1	13	$ 788.48
B. Final Report and Deliverables	3		8	8			8	2	1	30	$ 2,392.91
C. Horizontal/ Vertical Control Sheets	2		8	16					1	27	$ 1,935.18
D. Survey Report	6	12	2	2					1	23	$ 2,529.74
Subtotal Hours	11	12	18	38	0	0	8	2	4	93	
Subtotal Cost	$1,563.65	$1,350.36	$1,386.00	$2,340.80	$0.00	$0.00	$689.92	$118.46	$197.12		**$ 7,646.31**
Total Fee FC 150	$3,269.45	$3,938.55	$6,006.00	$7,145.60	$2,562.56	$33,880.00	$5,519.36	$3,672.26	$3,843.84	722	**$70,337.62**

Gradient Systematics, LLC
603 Munger Ave., Suite 100
Dallas, TX 75202

Sam Bohluli, Ph.D., P.E.
Executive Vice President
sbohluli@gradientsystematics.com
mailto:sbohluli@candm-associates.com

Date: June 21, 2022

To: Mr. Robert Macheska, P.E., CFM
GDJ Engineering
2805 Fountain Plaza Blvd.
Edinburg, TX 78539

Subject: **Dana Road – FM 3248 to FM 802**
Traffic Engineering Study: Scope of Services

Dear Mr. Macheska,

The following document describes Gradient Systematics, LLC's (GS) scope of services regarding developing a traffic engineering study for Dana Road from FM 3248 to FM 802 in the vicinity of the city of Brownsville (the Project) in Cameron County, TX, on behalf of GDJ Engineering.

Scope of Services

TxDOT defines the general work effort for traffic and operational analysis as follows:

> *The Engineer shall review and analyze traffic data (including percent trucks, design hourly volume, and directional distribution), existing roadway features (including ramp locations, weaving sections, number of lanes, offset to obstructions, lane widths, frontage road operations, and intersection operation and geometry), traffic flow patterns, accident patterns and frequencies, and transit and traffic operations. The Engineer shall develop and calibrate an existing traffic model. The calibration of the model shall be included in the traffic analysis report and Interstate Access Justification Report (IAJR) or both. A detailed level of service analysis with CORSIM, PASSER, HCS, VISSIM, SYNCRO, and/or other acceptable model will be performed for the current year using current traffic and geometric conditions and for the build year and 20 year design year using traffic projections and proposed geometric designs to compare different geometric alternatives and ramp patterns. Results of this analysis shall be incorporated into the schematic design. The Engineer shall develop a traffic analysis report summarizing all analysis performed.*

GS' scope of service includes all the tasks which will fulfill TXDOT's requirements for a corridor traffic engineering study, as follows:

1. Review and Analyze Traffic Data

GS will review/analyze historical traffic counts on the major roadways within the study area from TxDOT's Traffic Count Database System (TCDS) to determine historical traffic growth patterns in the form of annual average daily traffic (AADT) counts. GS will review traffic data, including percent trucks, design hourly volume, directional distribution, existing roadway features including ramp locations, weaving sections, number of lanes, offset to obstructions, lane widths, frontage road operations, and intersection operation and geometry.

2. Existing / Projected Traffic

GS will determine 20 and 30-year growth rates based on historical trends and guidance implied from TP&P's standard operating procedure. Then, the resulting historical growth rate will be used to develop the traffic projections. To complement and verify the resulting growth, GS will also adopt the latest version of the Rio Grande Valley (RGV) travel demand model (TDM) developed by the Texas Transportation Institute (TTI) for the regional MPO. The RGV model is a trip-based model developed in the TransCAD environment.

3. Traffic Simulation Model Development

GS will review and analyze traffic data (including percent trucks and OD matrices from the travel demand model), existing roadway features (including ramp locations, weaving sections, number of lanes, frontage road operations, and intersection operation and geometry), signal timing plans, traffic flow patterns, and bicycle/pedestrian, transit, and traffic operations. Traffic demand will be developed using SimTraffic in Synchro to take the demand model's sub-area OD matrices and assign vehicles to the roadway network. Following FHWA's Traffic Analysis Toolbox guidance, the model will be calibrated: Volume III. Performance measures will be collected for freeways and arterials from the VISSIM model during the two peak periods for the current year using current traffic and geometric conditions.

4. Signal Warrant Analysis

GS will conduct a traffic signal warrant analysis based on the Texas Manual of Uniform Traffic Control Devices (MUTCD) for both ends of the project limit. The warrants are as follows:

- Warrant 1 – Eight-Hour Vehicular Volume
- Warrant 2 – Four-Hour Vehicular Volume
- Warrant 3 – Peak Hour
- Warrant 4 – Pedestrian Volume
- Warrant 5 – School Crossing
- Warrant 6 – Coordinated Signal System
- Warrant 7 – Crash Experience
- Warrant 8 – Roadway Network
- Warrant 9 – Intersection Near a Grade Crossin

5. Crash Analysis

GS will perform a crash analysis utilizing the crash data obtained from the city, TxDOT, and compared to the TxDOT Crash Records Information System (CRIS) Database for the most recent five-year period. Crash reports corresponding to this data will be requested from and provided by TxDOT for this analysis. An analysis of crash type, severity, and causes will be conducted for each intersection or segment of roadway.

6. Documentation

GS will provide all the findings, analysis, and recommendations in a comprehensive document. After review by GDJ Engineering, GS will address any comments/questions, revise the Draft Memorandum as needed, and submit the Final Memoranda for TP&P review and approval.

Proposed Schedule and Budget

GS can begin work immediately upon receipt of the Notice to Proceed (NTP). GS estimates six (6) weeks to complete the traffic projections study. As shown in Table 1, GS proposes a lump sum fee of $24,896.28 which includes $2,500 as direct expenses for traffic count collection within the study area.

Table 1: Proposed Budget

TASKs DESCRIPTION	Chief Engineer/ Principal	Project Manager	Project Engineer	Engineer in Training	GIS Operator	Admin / Clerical	Total Labor Hrs.	Task Cost
Task 1. Review Existing Information	4	4	4	8			20	$ 3,148.72
Task 2. Existing/Projected Traffic		4	4	8			16	$ 2,106.24
Task 3. Traffic Simulation Model	4	8	16				28	$ 4,795.28
Task 4. Signal Warrant Analysis	2	4	4	4			14	$ 2,238.92
Task 5. Crash Analysis	4	8	8	16			36	$ 5,254.96
Task 6. Documentation	2	8	8	16	8	4	46	$ 5,634.00
HOURS TOTAL	16	32	44	52	8	4	160	
LABOR RATE PER HOUR	$260.62	$195.46	$136.82	$97.14	$82.92	$59.23		
TOTAL DIRECT LABOR COSTS	$ 4,169.92	$ 6,254.72	$ 6,020.08	$ 5,051.28	$ 663.36	$ 236.92	$ 22,396.28	
TOTAL LABOR COST								$ 22,396.28
Turning movement counts								$ 2,500.00
TOTAL Direct COST								$ 2,500.00
GRAND TOTAL								$ 24,896.28

Gradient Systematics, LLC
603 Munger Ave., Suite 100
Dallas, TX 75202

Sam Bohluli, Ph.D., P.E.
Executive Vice President
sbohluli@gradientsystematics.com
mailto:sbohluli@candm-associates.com

Date: June 21, 2022

To: Mr. Robert Macheska, P.E., CFM
GDJ Engineering
2805 Fountain Plaza Blvd.
Edinburg, TX 78539

Subject: Dana Road – FM 3248 to FM 802 Traffic Projections: Scope of Services

Dear Mr. Macheska,

The following document describes Gradient Systematics, LLC's (GS) scope of services regarding developing traffic projections for Dana Road from FM 3248 to FM 802 in the vicinity of the city of Brownsville (the Project) in Cameron County, TX, on behalf of GDJ Engineering.

Methodology

GS' methodology follows the Texas Department of Transportation (TxDOT) Transportation Planning and Programming (TP&P) Division's standard operating procedures (SOP) for traffic projection under Option B.

The main steps are as follows:

- Review of Existing Traffic Count Database System (TCDS) Available Documentation
- Review of Proposed Future Network Improvements (via RGV MPO Data)
- Development of Traffic Projections Utilizing TxDOT's TP&P Methodology
- Development of Traffic Forecast Memo, Traffic Exhibits, and Supporting *Calculations/Materials*
- *Submittal of Final Report*

GS' staff has worked with TP&P on several traffic projections projects and fully understands their SOP.

Scope of Services

GS' scope of service includes all the tasks which will fulfill TXDOT's requirements for traffic projection under option B, as follows:

1. Review of Existing Information

GS will review/analyze historical traffic counts on the major roadways within the study area from TxDOT's Traffic Count Database System (TCDS) to determine historical traffic growth patterns in the form of annual average daily traffic (AADT) counts. This data source will extract the Project's base year (2019) traffic volumes and historical traffic within the study area. GS will first review all relevant available documentation regarding the Project.

GS will also review proposed future network improvements, as several transportation mobilities and improvement projects are proposed in Cameron County's *2014–2040 Metropolitan Transportation Plan*.

2. Traffic Growth Rate Prediction

GS will determine 20 and 30-year growth rates based on historical trends and guidance implied from TP&P's standard operating procedure. Then, the resulting historical growth rate will be used to develop the traffic projections. To complement and verify the resulting growth, GS will also adopt the latest version of the Rio Grande Valley (RGV) travel demand model (TDM) developed by the Texas Transportation Institute (TTI) for the regional MPO. The RGV model is a trip-based model developed in the TransCAD environment.

GS will use this model to estimate potential diversion to the Project due to future roadway improvements in the vicinity of the Project. In addition, GS will calculate the traffic growth over the next 20-year period based on the model results.

GS will code the new configuration of the Project by modifying the model networks for the base and all future model years. GS will then complete the model assignments in TransCAD, review the results, and summarize the Project's estimated traffic volumes. The study assumptions and proposed growth rates will be outlined in the traffic projections methodology memorandum and submitted for TP&P review and approval. If necessary, additional developments around the Project area that are not considered in the TDM will be implemented within the TDM modeling platform as the number of potential residents or employees of the development—to estimate the traffic impact of these developments on the TDM road network.

3. Traffic Projections

GS will utilize the identified growth rate to develop the future traffic projected for the study corridor. GS will create average daily traffic (ADT) No-Build and Build scenarios for a horizon and 20 and 30 years based on the current/opening year of the corridor after the proposed improvements.

The projected traffic will be presented in tabular format and detailed. Project description, analysis, and document of the existing roadway network and the current traffic composition.

4. TAHD Tabulation

GS will prepare Traffic Analysis for Highway Design (TAHD) tabulations regarding the 20-year and 30-year design periods. GS will mark the final results as final after obtaining the approval from TP&P and will not be intended for construction, bidding, or permit purposes.

The TAHD tabulation will include the following:

1. ADT estimates for the Project's opening year and 20- and 30-year forecast periods
2. Traffic distribution by direction
3. K-factor
4. Percentage of trucks (daily and peak hour averages)
5. Average 10-heaviest wheel loads daily
6. Total number of equivalent 18k single axle load applications for 20- and 30-year forecast periods

Per T&P's direct instruction, items 4, 5, and 6 above will need to be calculated by TP&P. GS will use its internal algorithm, which closely matches TXDOT's final numbers, for these calculations; however, only TxDOT has access to the vast amount of data used in their official calculations. Therefore, there is always the chance of observing some differences in the final results. Therefore, GS will include its calculations in a separate memorandum for GDJ's use until TP&P's official calculations are received.

5. Documentation

As mentioned above, GS will prepare three memoranda as follows:

1. Memorandum documenting the traffic projections methodology and assumptions.
2. Memorandum representing the results of its traffic projection development and the partial TAHD tables; and
3. Internal memorandum including the complete TAHD tables for GDJ's use.

After review by GDJ Engineering, GS will address any comments/questions, revise the Draft Memorandum as needed, and submit the Final Memoranda for TP&P review and approval.

Proposed Schedule and Budget

GS can begin work immediately upon receipt of the Notice to Proceed (NTP). GS estimates a timeframe of four (4) weeks to complete the traffic projections study. As shown in Table 1, GS proposes a lump sum fee of $20,129.44 which includes $2,000 as direct expenses to be used for traffic count collection within the study area.

Table 1: Proposed Budget

TASK DESCRIPTION	Chief Engineer/ Principal	Project Manager	Project Engineer	Engineer in Training	GIS Operator	Admin/Clerical	Total Labor Hrs.	Task Cost
Task 1. Review of Existing Information		4		8			12	$ 1,558.96
Task 2. Traffic Growth Rate Prediction	4	8		16			28	$ 4,160.40
Task 3. Traffic Projections	4	8		8			20	$ 3,383.28
Task 4. TAHD Tabulation	4	8		14			26	$ 3,966.12
Task 5. Documentation	4	8		16	8	4	40	$ 5,060.68
Subtotal	16	36	0	62	8	4	126	$ 18,129.44
HOURS TOTAL	16	36	0	62	8	4	126	
LABOR RATE PER HOUR	$260.62	$195.46	$136.82	$97.14	$82.92	$59.23		
TOTAL DIRECT LABOR COSTS	$ 4,169.92	$ 7,036.56	$ -	$ 6,022.68	$ 663.36	$ 236.92	$ 18,129.44	
TOTAL LABOR COST								$ 18,129.44
Traffic count								$ 2,000.00
TOTAL Direct COST								$ 2,000.00
GRAND TOTAL								$ 20,129.44

Exhibit 2

Client: Cameron County RMA

PROJECT DEVELOPMENT SCHEDULE
Dana Avenue
from FM 3248 to FM 802

TASK AND DESCRIPTION	ENTITY	2022					2023											
		AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Phase I: EA, Public Involvement, Schematic																		
Project Planning and Programming																		
AFA coordination with TxDOT	GDJ																	
AFA Approval	TxDOT																	
Schematic, Env & Public Involvement																		
Design Survey & Topography	GDJ																	
Schematic Development	GDJ																	
Hydrologic Map	GDJ																	
Preliminary Environmental Investigations	GDJ																	
Environmental Scoping Meeting	GDJ																	
Public Involvement for Public Meeting	GDJ																	
Advertise & Conduct Public Meeting	GDJ																	
Submit Schematic to TxDOT (After Public Meeting - TxDOT Req.)	GDJ																	
TxDOT Schematic Approval	TxDOT																	
Environmental Document Preperation	GDJ																	
Submit Final Draft Document	GDJ																	
Agency Review & Revisions	TxDOT																	
USACE Permitting Coordination (through PS&E)	GDJ																	
Environmental Decision	TxDOT																	
ROW Mapping & ROW Acquisition																		
Prepare CCRMA for Acquisition Process	GDJ																	

GDJ ENGINEERING TASK

RGVMPO/TxDOT/FHWA TASK

10:24 AM7/25/2022

2-J CONSIDERATION AND APPROVAL OF WORK AUTHORIZATION NO. 02 WITH GDJ ENGINEERING FOR THE OSCAR WILLIAMS ROAD PROJECT (I69E TO SOUTH PARALLEL CORRIDOR) FOR PRELIMINARY ENGINEERING.

WORK AUTHORIZATION

WORK AUTHORIZATION NO. 2

This Work Authorization is made as of this 27th day of July, 2022, under the terms and conditions established in the AGREEMENT FOR GENERAL CONSULTING ENGINEERING SERVICES, dated as of March 17, 2022 (the "Agreement"), between the Cameron County Regional Mobility Authority ("Authority") and GDJ Engineering, LLC ("GEC").

This Work Authorization is made for the following purpose, consistent with the Services defined in the Agreement: *Project Development, Preliminary Engineering, Surveying, ROW Mapping and Environmental services for the South Williams Road (Phase II) (From I 69E to South Parallel Corridor) project, Cameron County, Texas.*

Section A. - Scope of Services

A.1. GEC shall perform the following Services:

See Exhibit 1 – Scope of Services to be Provided by the Engineer as requested by the Authority.

Section B. - Schedule

GEC shall perform the Services and deliver the related Documents (if any) according to the following schedule as shown on **Exhibit 2.**

Section C. - Compensation

C.1. In return for the performance of the foregoing obligations, the Authority shall pay to the GEC the amount not to exceed $796,188.82, based on the attached fee estimate as shown in **Exhibit 1.** Compensation shall be in accordance with the Agreement.

C.2. The Authority shall pay the GEC under the following acceptable payment method: Lump Sum payment method.

C.3. Compensation for Additional Services (if any) shall be paid by the Authority to the GEC according to the terms of a future Work Authorization.

Section D. - Authority's Responsibilities

The Authority shall perform and/or provide the following in a timely manner so as not to delay the Services of the GEC.

Section E. - Other Provisions

The parties agree to the following provisions with respect to this specific Work Authorization:

-SIGNATURES ON NEXT PAGE-

Except to the extent expressly modified herein, all terms and conditions of the Agreement shall continue in full force and effect.

Authority:	Cameron County Regional Mobility Authority	GEC:	GDJ Engineering, LLC
By:	Frank Parker, Jr.	By:	Robert Macheska
Signature:		Signature:	
Title:	Chairman	Title:	Exec. VP/COO
Date:	July 27, 2022	Date:	July 27, 2022

EXHIBIT "1"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

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: Cameron County Regional Mobility Authority

CONTROL: _____

PROJECT/DESCRIPTION: _____

LENGTH: 1.5 miles

HIGHWAY: South Williams Rd. (Phase II)

LIMITS: I69E to South Parallel Corridor

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
_X_ Widen Non-Freeway
___ New Location Toll Freeway
_X_ 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)

ENGINEER shall mean GDJ Engineering.

LPA shall mean CCRMA.

EXHIBIT "1"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

PRELIMINARY PROJECT DEVELOPMENT

(Function Code 102)

ADVANCED PLANNING MPO COORDINATION:

The ENGINEER will perform any needed preliminary/ongoing project planning which will include:

1. Meetings, Coordination & Support for Project Development
    a. The Engineer will coordinate with the LPAs representatives at the MPO Technical Advisory Committee (TAC) and Policy Committee and serve in an advisory position to assist the LPA in obtaining funding for projects. The Engineer shall serve as representative for the LPA in coordination items. The Engineer shall coordinate with the LPA's staff on all Project related items.

2. Evaluate the LPAs Projects on Regional Planning Documents.

    a. The Engineer will work with the LPA and the MPO to evaluate the status of the LPAs projects in the regional planning documents.

    b. The Engineer will review the local Transportation Improvement Program (TIP) to ensure there are no delays to the letting of projects in an advanced state of project development. This includes coordination with project engineers to ensure estimates and schedules are accurate.

    c. The Engineer will review the Unified Transportation Program (UTP) to ensure the LPAs Projects are properly listed on the TxDOT UTP to ensure there are no delays to project development.

    d. The Engineer will review the Metropolitan Transportation Plan (MTP) to ensure the LPAs long range goals are properly listed on the MTP to advance opportunities for additional funding.

    e. The Engineer will review and assess potential opportunities to advance the construction of the LPAs projects.

    f. The Engineer will coordinate with the LPA to develop project mitigation plans in the event that there is a decrease in available funding for projects.

3. Capital Improvements Program (CIP) Development
    a. The Engineer will assist the LPA with the Development of the CIP as it relates to available opportunities to leverage funding from the MPO.

4. Audit and Periodically Update Regional Planning Documents
    a. The Engineer will review the local Transportation Improvement Program (TIP) to ensure there are no delays to the letting of projects in an advanced state of project development. This includes coordination with project engineers to ensure estimates and schedules are accurate.

    b. The Engineer will review the Unified Transportation Program (UTP) to ensure the LPAs Projects are properly listed on the TxDOT UTP to ensure there are no delays to project development.

c. The Engineer will review the Metropolitan Transportation Plan (MTP) to ensure the LPAs long range goals are properly listed on the MTP to advance opportunities for additional funding.

d. The Engineer will review and assess potential opportunities to advance the construction of the LPAs projects.

e. The Engineer will coordinate with the LPA to develop project mitigation plans if there is a decrease in regional funding for projects.

5. Prepare Exhibits / Preliminary Estimates
   a. The Engineer will assist the LPA with the preparation of preliminary project exhibits, maps, typical sections to allow for the development of preliminary project cost estimates for planning purposes.

6. Draft Correspondence
   a. The Engineer will assist the LPA with the preparation of drat correspondence to be used to advance the development of the LPAs priority projects.

7. Develop Project Agreements
   a. The Engineer will assist the LPA with the development of Interlocal Agreements and project agreements with TxDOT, for example Advanced Funding Agreements (AFA), to ensure the LPAs projects can be reviewed by TxDOT.

8. State and Federal Grants
   a. The Engineer will monitor opportunities for additional funding for the LPAs projects including non-conventional State and Federal funding that may become available.

PRELIMINARY PROJECT DEVELOPMENT:

The ENGINEER will perform any needed preliminary project development which will include:

1. Establish Preliminary Design Values
   a. The Engineer will work with the LPA to establish basic design concepts, project controls and a general scope for the Project.

2. Prepare/Evaluate Preliminary Route Locations on Uncontrolled Mapping*
   a. The Engineer will evaluate various alternatives (route locations, alignment shifts, geometry) for the Project.

3. Uncontrolled Mapping (w/Contours & GIS Data)
   a. The Engineer will investigate the existing routes and coordinate with the LPA on establishing the best-fit alignments and mapping proposed geometry for Projects. A Preliminary Location Exhibit will be developed.

4. Prepare Preliminary Hydrologic Map
   a. The Engineer will develop a Hydrologic Map for the Projects. The Hydrologic Maps will be based on LIDAR and GIS information.

5. Investigate Preliminary ROW Requirements
   a. The Engineer will research and identify affected property owners on the Projects alignment and proposed ROW utilizing the latest appraisal district file information and subdivision plat information from Carson Maps.

6. Prepare Preliminary Cost Estimates
    a. The Engineer will calculate preliminary construction cost estimates for the location and geometry of the Projects.

7. Preliminary Environmental Analysis (for Fatal Flaws)
    a. The Engineer will perform Preliminary Environmental Constraint Mapping to determine if any fatal flaws exist along the proposed alignment.

8. Prepare a Project Fact Sheet for All Anticipated Costs
    a. The Engineer will produce a Project Fact Sheet providing summaries of all pertinent items in the scope of services (as required) and providing estimated local costs vs. total project costs for the Projects.

9. Meetings, Coordination & Support for Project Development
    a. The Engineer shall provide coordination services and shall assist in meetings and workshops with TxDOT, County, Drainage Districts, Irrigation Districts, and all other affected parties. The Engineer shall serve as representative for the LPA in coordination items. The Engineer shall coordinate with the LPA's staff on all Project related items.

* A Phase I or better survey for hazardous materials should be included as a determining factor of route selection. Projects which do not require additional ROW should be considered separately from an expansion or new location.

TRANSPORTATION PROGRAMMING SERVICES

The ENGINEER may provide Programmatic Services which include coordination, monitoring and providing input to the MPO and TxDOT planning activities including the UTP, TIP and other long range planning including financial considerations and limitations.

PROJECT FUNDING SUPPORT & COMPLIANCE

The ENGINEER may provide support services in regards to securing and complying with requirements of Federal and State funding sources. Services may include support in pursuit of grant opportunities, and other funding opportunities that may become available. The ENGINEER must have knowledge of Federal and State funding sources as well as MPO & TxDOT programming categories in order that the LPA may capitalize on all available funding sources for development of its projects. Assistance in monitoring adherence to expenditure eligibility in use of Federal and State funding sources for all phases of project development may also be included.

EXHIBIT "1"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

ROUTE AND DESIGN STUDIES
(Function Code 110)

ROUTE AND DESIGN STUDIES:
The ENGINEER will perform any of the following tasks needed for the route and design studies:

1. Analyze Level of Service for Proposed Improvements

2. Provide Traffic Evaluations and Projections

3. Develop Roadway Design Criteria

4. Prepare the Design Schematic
    a. Horizontal and Vertical Alignment (Preliminary based on office surveys)
    b. Schematic Layout
        i. Identify the location of interchanges, main lanes, grade separations, frontage roads and ramps, if applicable.
        ii. Develop vertical and horizontal alignment of main lanes, ramps and cross roads at proposed interchanges or grade separations, if applicable. Frontage road alignment data need not be shown on the schematic; however, it should be developed in sufficient detail to determine ROW needs. The degree of horizontal curves and vertical curve data, including "K" values, shall also be shown for ease of checking.
        iii. For freeways, show the location and text of the proposed main lane guide signs. Lane lines and/or arrows indicating the number of lanes shall also be shown.
        iv. Provide a complete explanation of the sequence and methods of stage construction, if proposed, including the initial and ultimate proposed treatment of crossovers and ramps.
        v. Identify the tentative ROW limits
            1. Provide a roadway Design System (RDS) or (GEOPAK) computer tape of the preliminary earthwork to verify ROW requirements.
            2. Provide a graphics file containing the approved schematic.
        vi. Provide the geometric configuration (pavement cross slopes, lane and shoulder widths, slope rates for fills and cuts) of the typical sections of the proposed highway main lanes, ramps, frontage roads, and cross roads.
        vii. Identify the current and projected traffic volumes as provided by TxDOT (if On-System roadway) or by ENGINEER (if Off-System roadway) based on a 20 year traffic projection.
        viii. Label the control of access lines if Interstate or designated under House Bill 179.
        ix. Label the direction of traffic flow on all roadways.
        x. Identify the location and width of any proposed median openings for highways without access control.
        xi. Identify the geometrics of any speed change lanes (acceleration, deceleration, climbing, etc...).

5. Coordinate and Attend a Project Design Concept Conference

6. General Guidelines for Project Development
    a. Prior to preparing detailed plans for a proposed project, a preliminary schematic layout shall be prepared which indicates the general geometric features and location requirements peculiar to the project. An uncontrolled aerial mosaic will be provided for this use. Four

copies of the schematic layout shall be submitted through the district to the Design Division for approval and subsequent coordination with the Federal Highway Administration (FHWA) where applicable. The layout shall be submitted for two-lane arterial highway projects on new locations and for all multi-lane highway projects. **No geometric design is to be performed until the LPA has given the engineer written approval of the preliminary schematic layout.**

b. All geometric design shall be in conformance with the State's Design Division, Operations and Procedures Manual, except where variances are permitted in writing by the STATE.
c. The schematic layout shall include basic information which is necessary for the proper review and evaluation including the items listed above and in the schematic checklist provided by the STATE.
d. Handling of traffic during construction shall be a consideration in the development of preliminary designs.
e. Upon approval of the schematic layout by Design Division (FHWA on Federal-aid projects), it shall be the basis for an exhibit at any required public hearing prior to final development of the project. If there are any changes to the schematic after the Design Division and FHWA approval and before the public hearing, four copies of the revised schematic, as displayed at the hearing, shall be submitted either prior to or accompanying the public hearing data. If there are no changes in the schematic as displayed at the hearing, only photographs of the schematic and other displays shall be submitted with the public hearing data.
f. For all freeway construction projects, these schematics shall show the location and text of the proposed main lane guide signs. A schematic layout shall be submitted through the district to the Traffic Operations Division, Traffic Safety Section for approval and subsequent coordination with the FHWA. All signing shall be in conformance with the Texas MUTCD.
g. On complex projects, informal contact through the district with the Design Division and FHWA personnel is encouraged with regard to development of preliminary design prior to official schematic submission.
h. The engineer shall furnish a project tape that is compatible with the STATE's computer system, a project listing, and a cross section plot showing the original design sections containing the earthwork input and original cross sections for the project. **Accuracy of the earthwork design is of utmost importance since it is the basis for contractor payments and construction staking.**

7. Traffic Analysis and Projections
   a. If the project is Off-System, the ENGINEER will provide all traffic analysis and projection data for the project as previously provided by TxDOT's Transportation Planning and Programming Division. The analysis will follow the STATE's SOP and the data will be approved by the STATE.

8. Final Hydrologic Map & Report
   a. The ENGINEER will provide a final hydrologic map to be submitted with the Schematic. This map will be considered part of the Schematic submittal.
   b. A H&H report will be submitted along with the Hydrologic Map. The report will follow the guidelines set forth in TxDOT's Hydraulic Design Manual.

EXHIBIT "1"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT

(Function Code 120)

1. Environmental Reports (All Environmental Reports shall be in accordance with 43 Texas Administrative Code (TAC) 2.40-2.51, Code of Federal Regulations, Title 23, Part 771 and Highway Design Operations and Procedures Manual, Part II-B.)
    a. An Environmental Document shall be prepared anticipating one of the following levels of clearance:
        i. A Categorical Exclusion
        ii. A Finding of No Significant Impact
    b. If it is determined that an Environmental Assessment is not sufficient, an Environmental Impact Statement shall be prepared under a supplemental agreement.
        i. A Draft Environmental Impact Statement shall be prepared. After appropriate interagency and public reviews within time limits prescribed by the Code of Federal Regulations, Title 23, Part 771 and 43 Texas Administrative Code 2.40-2.51, a Final Environmental Impact Statement shall be prepared.
        ii. A Section 4(f) Statement (Department of Transportation Act) shall be provided by the ENGINEER. The format and content of the statement is found in FHWA Technical Advisory T6640.8A.

2. Public Involvement (All Public Involvement procedures shall be in accordance with 43 Texas Administrative Code (TAC) 2.101-2.110, Code of Federal Regulations Title 23, Part 771 and Highway Design Operations and Procedures Manual, Part II-B.)
    a. A public involvement meeting(s)/hearing(s) shall be scheduled, coordinated and conducted.*
    b. Technical assistance, meeting(s)/hearing(s) preparation, maintenance of contracts lists, minutes of meeting(s), exhibit preparation, and other tasks outlined by the LPA, shall be provided.

3. Cultural Resources (Formal consultation with the State Historic Preservation Office (SHPO) and the Texas Historical Commission (THC) will be conducted by the LPA.)
    a. Historic Structure Studies
        i. A records search and reconnaissance survey shall be performed, and documentation prepared regarding identification efforts, National Register eligibility and potential impacts to historic properties in accordance with the state's historic structure requirements.
    b. Archeological Studies
        i. Files searches shall be conducted to determine if known archeological sites are present; to identify whether these sites have been listed or determined eligible for the National Register of Historic Places or have been designated State Archeological Landmarks; and to identify the need (if any) to perform additional archeological investigations.
        ii. Archeological reconnaissance will be performed under a Texas Antiquities Permit (13 TAC 26) signed for the Sponsor by a professional archeologist with the STATE.
        iii. Archeological survey shall be performed under a Texas Antiquities Permit (13 TAC 26) signed for the Sponsor by a professional archeologist with the STATE.

4. Technical Reports will be scoped with TxDOT's Work Plan Development Tool (WPD) and prepared in accordance with the TxDOT Environmental Toolkit.
    a. Traffic Noise Analysis
        i. A traffic noise analysis shall be prepared, including predicted noise levels and the consideration and evaluation of noise mitigation, in accordance with the STATE'S Noise Guidelines. The noise analysis or a summary of the noise analysis shall be provided as a Technical Report and results included in the administratively complete document.

    b. Air Quality Analysis
        i. An air quality analysis shall be prepared in accordance with the STATE'S Air Quality Guidelines. The air quality analysis or a summary of the air quality shall be provided as a Technical Report and results included in the administratively complete document for the project.

    c. Hazardous Materials
        i. The ENGINEER shall perform an Initial Site Assessment (ISA) for hazardous materials impact in accordance with the American Society for Testing and Materials (ASTM) 1528.93 (Transaction Screen Process).

    d. Biological Assessment
        i. A Species Analysis and Site Assessment will be completed in accordance with the STATE'S guidelines. The assessment shall be provided as a Technical Report and results included in the administratively complete document for the project.

    e. Water Resources
        i. A Surface Water Analysis will be completed in accordance with the STATE'S guidelines. The analysis shall be provided as a Technical Report and results included in the administratively complete document for the project.

    f. Community Impact Analysis
        i. A Community Impact Assessment will be completed in accordance with the STATE'S guidelines. The analysis shall be provided as a Technical Report and results included in the administratively complete document for the project.

5. General Guidelines for Preparation of Environmental Documents
    a. All technical reports will be submitted electronically to TxDOT.
    b. All cultural resource reports (i.e. Archeological and Historical Project Coordination Requests (PCRs), background and reconnaissance surveys) will be submitted electronically to TxDOT.
    c. The draft administratively complete document will be submitted to TxDOT electronically.
    d. The administratively complete document will be prepared in accordance with the content and format of TxDOT Administrative Code 43 TAC §2.48 and the TxDOT Environmental Toolkit.
    e. The administratively complete document will be submitted to TxDOT electronically.
    f. Upon completion and approval of the administratively and technically complete document, the Engineer will provide one (1) hard copy to the Client.
    g. Exhibits in the environmental document shall be color copies and text shall be black and white.

EXHIBIT "1"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

RIGHT-OF-WAY DATA

(Function Code 130)

NOTE: No work involving right-of-way (ROW) data is to be performed until the LPA has given the ENGINEER written approval of the final location of the proposed ROW lines.

The ENGINEER shall perform the following Right-Of-Way Data duties:

1. Provide Ownership Data in a .dgn file
    a. For the entire project limits
    b. Compensable utility ownership that has property rights on ROW shall be researched and provided.
    c. For each drainage outfall property
    d. For each irrigation structure pipe

2. Parcel Plats & ROW Map
    a. A ROW map, parcel plats and field notes shall be prepared and furnished.
    b. All plats and field notes must be signed and sealed by a Registered Professional Land Surveyor (RPLS).
    c. ROW map must depict all improvements affecting ROW.

3. Utilities (Compensable)
    a. Property ownership with recording information shall be shown on ROW Map and Parcel Plats with distance ties to property corners in an effort to locate utility.

4. Field Notes
    a. Field notes and plats shall be provided, signed and sealed by a Registered Professional Land Surveyor, for all parcels on the ROW Map.
    b. Computation sheets for survey closure and area of each parcel shall be provided.
    c. Ground surveys and preparation of parcel maps, legal descriptions, and ROW maps

5. Survey and Stake Right-of-Way

6. Records as required by the LPA and State
    a. Records used to establish property ownership

7. General Guidance for Preparation of Right-of Way Maps
    a. All data submitted by the surveyor will be legible, organized and well documented.
    b. The surveyor shall provide temporary signs and shall control traffic near surveying operations adequately to comply with provisions of the MUTCD; a copy of which the Surveyor acknowledges has been furnished to him. All signs, flags, and safety equipment are to be provided by the surveyor.
    c. Permission to enter private property for surveying (Right-Of-Entry) shall be the sole responsibility of the surveyor.
    d. The surveyor will be held responsible for the correctness of his services. The surveyor will be responsible for the completion of his services.
    e. The surveyor will be required to complete the attached "Right-of-Way Map Checklist" and submit along with the completed R.O.W. map. All requirements of attached R.O.W. map checklist must be complete, accurate and also considered to be essential and is a part of this contract.

EXHIBIT "1"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

PROJECT SPECIFIC SCOPE OF SERVICES

FC 130 – RIGHT-OF-WAY DATA – Abstract analysis, development of ROW Map sheets including parcel plats and field notes with Metes & Bounds field descriptions, and Title Commitments.

FC 150 – FIELD SURVEYING FOR PARCEL MAPPING – Recover horizontal & vertical control, locate and field tie existing ROW and boundary corners. Update topography, and reestablish corners for ROW map revisions.

SURVEYING SCOPE OF SERVICES FOR PARCEL MAPPING

FC 130 – RIGHT-OF-WAY DATA

Right-of-Way Documents - The SURVEYOR will utilize State examples and provide the following:

GENERAL

a. Abstracting: The SURVEYOR will determine Ownership Data.
b. Prepare individual parcel maps and field notes as needed to properly describe the right-of-way the State is to acquire.
c. All procedures involving right-of-way maps will be in accordance with the STATE'S Right-of-Way Book I and Book II, the State's local operating procedures and according to the Texas Board of Professional Land Surveying Practices Act.
d. All required documents will be in English units.
e. The SURVEYOR will monument all corners with a 5/8 inch iron rod with a Surveyor's plastic cap on all parcel boundary corners.
f. The SURVEYOR will provide to the STATE a copy of Instruments of Record.
g. The SURVEYOR will attach graphics files compatible with the latest version of Micro-Station graphics software.
h. The SURVEYOR will attach documents or text files compatible with the latest version of Word software.

PARCEL PLATS

a. A parcel plat will be prepared for each parcel of land to be acquired. The STATE has developed standard formats for parcel plats, copies of which the SURVEYOR will request and secure for all purposes
b. Parcel boundary lines will be delineated with appropriate bearings, distances, and curve data.
c. Private property lines will be delineated with appropriate bearings, distances, and curve data to the extent necessary to describe the individual parcels of land to be acquired.
d. League lines and survey lines will be shown and identified by name and abstract number.
e. A north arrow will be shown on each sheet and, if possible, in the upper right hand corner.
f. Monumentation set or found will be shown and described as to material and size.
g. A station and offset will be shown for each PC, PT, and angle point in the proposed right-of-way lines and the existing right-of-way lines in areas of no proposed acquisition.

h. Intersecting streets will be shown and identified by name and right-of-way width.
i. A parent tract inset will be shown for each parent tract.
j. A note will be included on each map sheet stating the basis of bearings, coordinates, and datum used.
k. Appropriate notes will be included on the title sheet stating the following:
a. Month(s) and year abstracting was performed upon which the map is based.
b. Month(s) and year field surveys were conducted upon which the map is based.
c. Month and year map was completed by the SURVEYOR.
l. The right-of-way account number and R.O.W. CSJ if available will be shown on each parcel map sheet.
m. All parcel maps should be 8-1/2" x 11" signed and sealed by a Registered Professional Land Surveyor and note referencing legal description.
n. The acreage of the part taken should be shown to three decimal places, rounded.

FIELD NOTE DESCRIPTIONS

A field note description will be prepared for each parcel of land to be acquired. Field note descriptions will include, but need not be limited to, the following:

a. The field note description will begin with a general description that will include, as a minimum:
   (1) State, county, and city within which the proposed parcel of land to be acquired is located.
   (2) A reference to unrecorded and recorded subdivisions by name, lot, block, and recording data to the extent applicable.
   (3) A reference, by name, to the grantor and grantee, date, and recording data of the most current instrument(s) of conveyance describing the parent tract.

b. The field note description will continue with a metes and bounds description that will include, as a minimum:
   (1) A point of commencing (outside property corner).
   (2) A point of beginning on proposed R.O.W. line.
   (3) A series of courses, identified by number and proceeding in a clockwise direction, describing the perimeter of the parcel of land to be acquired, and delineated with appropriate bearings, distances, and curve data.
   (4) A description (8-1/2" x 11") of all monumentation set or found to include, as a minimum, size and material.
   (5) All field note descriptions will be signed and sealed by a Registered Professional Land Surveyor.
   (6) Note referencing parcel plat.

NOTE:

Surveyor to use the latest STATE approved ROW Map checklist while preparing the ROW Map.

EXHIBIT "1"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

FIELD SURVEYING AND PHOTOGRAMMETRY

(Function Code 150)

TOPOGRAPHY AND CONSTRUCTION SURVEYS:

The SURVEYOR will perform Topography and Construction Surveying for the project which will include:

1. Primary Project Control: 3 to 5 mile spacing (Precision shall be 1 part in 20,000 or better, unless otherwise directed by the ENGINEER).
    a. Establish Horizontal Control Points
    b. Establish Vertical Control Points

    NOTE: ALL BEARING AND DISTANCE SHALL BE OUTLINED IN THE SURVEY CONTROL BOOK PROVIDED BY THE SURVEROR.

2. Secondary Project Control (Surveyor shall recover and/or reset H&V Control Points as provided by the Engineer and create Survey Data Sheets for inclusion in the Project Plans).
    a. No traverse should exceed 25 angle points. Planimetrics shall be 20 ft Lt & Rt from the proposed ROW as per the schematic provided by the Engineer.
    b. The unadjusted angular error should not exceed 2 seconds per angle, plus 14 seconds.
    c. The unadjusted ratio of precision should be one part in 10,000 or better (The ratio of precision is the total length of the traverse divided by the total error.).
    d. The unadjusted vertical error should not exceed 0.03 foot per mile of traverse.
3. Other Field Surveying
    a. **The limit of the Design surveys shall be 1,500-ft before and after the limits of the project as identified by the Project Engineer on the schematic. Establish horizontal and vertical control.** Set benchmarks at 1000-ft intervals along the project proposed right-of-way. Provide x, y, z for each Benchmark. Provide a BM along each outfall identified on the Hydrologic Map. The BM's shall be #5 I.R. 2-ft in depth set in concrete. **The surveyor shall provide an H&V Book (a Sample shall be provided by the Engineer to the Surveyor).** The Surveyor will provide a 3-pt reference sketch with ties to the BMs for inclusion the existing H&V Control Book. Establish benchmark circuit throughout the project with a tolerance of 0.03'/ft per mile error vertically.
    b. The Surveyor shall provide complete topographic and cross section survey, data processing, and CADD mapping (2D & 3D) for the limits of the project.
    c. The Surveyor shall locate all visible utilities, data processing and CADD mapping (2D & 3D) including irrigation lines. Follow sample provided by the Engineer.
    d. The Surveyor shall field locate cross culverts, driveway culverts, inverts, irrigation lines, within the project limits, data processing and CADD mapping (2D & 3D).
    e. Right of Entry, Right of Way Research, and Appraisal District Records is the responsibility of the Surveyor.
    f. The Surveyor shall also paint the proposed centerline on the existing pavement as approved by the ENGINEER (at 500-ft stations and a tick mark at 100-ft stations, 12 inches long with approved paint by ENGINEER) before construction for the purpose of utility adjustments and project location.
    g. Profile and cross section intersecting streets for ties into project (500-ft. beyond the proposed ROW per schematic and 20-ft wider than the existing ROW of intersecting street). Reference missing voids as per CD provided by the Engineer.
    h. Cross section irrigation crossings for a distance of 20-ft beyond the proposed ROW at 100-ft intervals in a DTM file. Provide a complete description of irrigation appurtenances as identified by the engineer sample layout.

i. Tie Horizontally and Vertically the existing storm drain system that lies within the existing proposed ROW including the elevation of the outfall of said recovered existing storm drain systems.
j. Tie to existing underground and overhead utilities (location, elevation and direction)
    i. Horizontally - The surveyor shall call the 1-800 number for the utilities to be marked on the ground as well as any city water and sewer lines. He shall tie all visible utility crossings with name, address and Phone #'s of utility companies. The engineer will coordinate with the utility companies and jointly the Surveyor and the Engineer will identify which utilities were missed and need to be tied down.
    ii. Vertically - The engineer shall identify all utilities that are potential conflicts and that need to be tied vertically. The engineer will advise the surveyor in writing of the needed vertical ties and the surveyor will tie the lines vertically once the surveyor has coordinated the exposure and provide the information to the engineer.
k. Additional Field Surveying as shown below:
    i. Irrigation Lines - The surveyor will meet with the engineer before he ties down any irrigation lines. The Engineer will provide him the existing Irrigation District Maps and the A&M Data of existing irrigation lines that are identified of record. He will follow the sample given to him by the engineer and tie the structures horizontally and vertically and provide Field Books to the engineer.
    ii. Outfalls - The surveyor will provide a complete 2D & 3D File including utilities of the outfall identified on the Hydrologic Map.
l. Driveways and Turnouts
    i. Inventory commercial entrances, public roads and side streets separately.
    ii. Obtain centerline station (Width at ROW, Pavement and existing radius).
    iii. Inventory by type (dirt, caliche, gravel or paved). If paved, indicate condition in terms of no patches, has patches or has potholes.
    iv. Obtain width at ROW line
    v. Obtain elevations at both edges of the driveway or turnout in line with any side drain.
m. ROW Staking (Existing and proposed @ 1,000 ft stations, PC's, PT's and Angle points as per ROW Map)
n. Soil core hole staking
o. Determine changes in topography from voids and outdated maps due to development, erosion, etc.
p. Profile existing drainage facilities, if applicable
q. Measure hydraulic openings under existing bridges, if applicable
r. Obtain elevations of manholes and valves of utilities, if applicable
s. Provide temporary signs, traffic control, flags, safety equipment, etc.
t. Provide ties to existing bridges or culverts that may conflict with new construction
u. If there is a Bridge widening, provide top of deck and/or top of cap elevations at the Profile Grade Line (PGL) and the edges of slab at bent locations.
v. Inventory signs, mailboxes and driveways
w. Survey controlled data sheets as per STATE guidelines

ADDITIONAL RESPONSIBILITIES

A. TRAFFIC CONTROL:

The SURVEYOR shall control traffic in and near surveying operations adequately to comply with provisions of the latest edition of the TxDOT Manual on Uniform Traffic Control Devices – Part

VI and the latest edition of the Occupational Safety Manual both of which can be found on the TxDOT internet site.

In the event field crew personnel must divert traffic or close traveled lanes, a Traffic Control Plan based upon principles outlined in the latest edition of the TxDOT Manual on Uniform Traffic Control Devices – Part VI shall be prepared by the SURVEYOR and approved by the ENGINEER prior to commencement of field work. A copy of the approved plan shall be in the possession of field crew personnel on the job site at all times and shall be made available to the ENGINEER for inspection upon request.

B. INVOICING:

Payment requests shall include a SURVEYOR's invoice. With each payment request, the SURVEYOR shall submit a project status report which will, as a minimum, include the percentage of total work complete as of the date of the payment request and a description of current work activity. The percentage of total work complete shall not be based simply on the percentage of funds expended, but shall be based on the best judgment of the SURVEYOR as to the percentage of actual work complete.

C. EASEMENTS, LETTERS OF PERMISSION, ETC.

The SURVEYOR shall be responsible for delineating easements. The SURVEYOR will be responsible for securing the necessary legal instruments and obtaining all Right-of-Entries (ROEs).

D. MEETINGS:

The ENGINEER shall setup the necessary meetings with the SURVEYOR in order to assure all field information is provided on-time and products are delivered in accordance with TxDOT's/LPA's specifications. SURVEYOR must attend all meetings involving data provided if requested by ENGINEER.

E. PROJECT MANAGER/SURVEYOR COMMUNICATION:

The SURVEYOR shall designate one Texas Registered Professional Land Surveyor (RPLS) to be responsible throughout the project for project surveying coordination and all communications, including billing, with the ENGINEER.

F. OFFICE LOCATION:

The SURVEYOR will perform the services to be provided under this agreement out of a local office and have a crew available to perform requested tasks within 24 hours of request. The coordinating SURVEYOR's Project Manager (RPLS) shall be accessible at all times and working from the local office.

PROJECT MANAGEMENT

(Function Code 164)

MEETINGS, COORDINATION & SUPPORT FOR PROJECT MANAGEMENT:

The ENGINEER shall meet and coordinate with all relevant entities (i.e. County, Regional Mobility Authority, Texas Department of Transportation, Rio Grande Valley Metropolitan Planning Organization, etc...) and all other affected parties. The Engineer shall serve as representative for the Owner in coordination items. The Engineer shall coordinate with the Owner's staff on all Project related items.

EXHIBIT "1"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

ADDITIONAL RESONSIBILITIES

EASEMENTS, LETTERS OF PERMISSION, ETC.:
The ENGINEER shall be responsible for delineating easements. The ENGINEER will be responsible for securing the necessary legal instruments.

MEETINGS:
Meetings will be held with the FHWA, State Officials, local governments, property owners, utility owners, railroad companies, other consulting firms, etc., as needed or required by the LPA. The ENGINEER shall coordinate through the LPA for the development of this project with any local entity having jurisdiction or interest in the project (i.e., city, county, etc).

SPECIFICATIONS, SPECIAL PROVISIONS, SPECIAL SPECIFICATIONS:
Use the State's standard specifications or previously approved special provisions and/or special specifications. If a special provision and/or special specification is developed for this project, it shall be in the State's format and incorporate references to approved State test procedures.

PROJECT MANAGER/ENGINEER COMMUNICATION:
The ENGINEER shall designate one Texas Registered Professional Engineer to be responsible throughout the project for project management and all communications, including billing, with the LPA's Director. Any replacements to the ENGINEER's designated Project Manager/Engineer must be approved by the LPA.

Engineering documents produced for the department's engineering projects shall be signed, sealed and dated or CADD sealed in accordance with Administrative Order No. 5-89 and Administrative Circular No. 26-91.

DESIGN RESPONSIBILITIES:
The ENGINEER is responsible for design errors and/or omissions that become evident before, during or after construction of the project. The ENGINEER's responsibility for all questions arising from design errors and/or omissions will be determined by the LPA and all decisions shall be final and binding. This would include, but not necessarily be limited to:

1. All design errors and/or omissions resulting in additional design work to correct the errors and/or omissions.
2. Preparation of design documents and detail drawings necessary for a field change due to design errors and/or omissions.
3. Revision of original tracings to the extent required for a field change due to design errors and/or omissions.

The ENGINEER shall promptly make necessary revisions or corrections resulting from the ENGINEER's errors, omissions or negligent acts without additional compensation. Acceptance of the work by the LPA will not relieve the ENGINEER of the responsibility for subsequent correction of any such errors or omissions or for clarification of any ambiguities.

DOCUMENT AND INFORMATION EXCHANGE:
Data, Plan Sheets, General Notes and/or Specifications provided to the LPA shall be furnished on 8GB USB flash drives. Each 8 GB flash drive shall have a file titled Table of Contents. The Table of Contents shall indicate the locations of files within the directory structure of the documentation.

General Notes and specifications shall be provided in MS Office 2007 format. Plan sheets shall be provided in Microstation DGN or GEOPAK GPK format. PDF copies of plan sheets shall also be provided.

EXHIBIT "1"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Two copies of the documentation shall be provided to the LPA.

If required, the ENGINEER shall provide to the LPA, a CD that contains all the plan sheets for the project. The graphics tape shall be compatible with the LPA's computer system.

CD Tape Required (YES or NO): YES

PROPOSAL TIME:
The time indicated in the proposal and the contract shall include time necessary for reviews, approval, etc.

OFFICE LOCATION:
The ENGINEER will perform all services to be provided under this agreement out of their office located at: 2805 Fountain Plaza Blvd., Suite A, Edinburg, Texas 78539

"Exhibit 1"
Fee Estimate

GDJ Engineering

South Williams Road (Phase II) Project - CCRMA

	South Williams Road (Phase II) *(From 169E to South Parallel Corridor)* *Cameron County Regional Mobility Authority*	MANHOURS Senior Project Manager/ Principal	Project Manager	Project Engineer	Utility/ Environmental Manager	Environmental Specialist	EIT	Senior Engineering Tech	GIS Operator	Engineering Tech	Admin/Clerical	Total Hours	Total Line Item Cost
	TASK												
	Environmental												
1	Data Collection (RGVMPO/TxDOT/FHWA Coordination)			2	4	72			24			102	$ 9,921.36
2	Environmental Scoping Document			2	4	24	0	0	12		6	48	$ 4,503.60
3	CE, EA, EIS Environmental Document		1	2	24	60	0	0	28		8	123	$ 12,297.52
4	Technical Report - Natural Resources		1	2	8	86	0	0	6		2	105	$ 10,625.52
5	Technical Report - Cultural Resources	SEE SUBCONSULTANT FEE SCHEDULE (PAGES 1-4 OF 15)											$ 60,474.04
6	Technical Report - Hazmat		1	2	8	80	0	0	6		2	99	$ 10,030.08
7	Technical Report - Env. Justice/Community Impacts		1	2	8	80	0	0	6		2	99	$ 10,030.08
8	Technical Report - Noise Analysis		1	2	8	120	6	0	6	6	2	151	$ 14,865.54
9	Technical Report - Air Quality		1	2	8	40	0	0	2		2	55	$ 5,732.32
10	Public Involvement (Meeting/Hearing/MAPO)	1	16	32	40	120	0	0	40	24	24	297	$ 30,566.76
11	Agency Coordination (USACE/TPWD/USFWS Coordination & Permitting)	1	2	2	24	80	0	0	20		6	135	$ 13,833.48
	Subtotal (Environmental)	**2**	**24**	**50**	**136**	**762**	**6**	**0**	**150**	**30**	**54**	**1214**	**$ 182,880.30**
	Preliminary Engineering												
12	Data Collection		8	16	8		24	36	32	58		182	$ 16,487.50
13	Feasibility Studies/Alternatives	2	24	48	16		56					146	$ 16,842.48
14	Geometric Schematic Work	10	32	80	32		160	320		440		1074	$ 95,816.96
15	Corridor & Route Alternatives	2	16	32	16		56	40				162	$ 17,255.28
16	Development of Typical Sections		4	6			8	10				28	$ 2,987.44
17	Geotechnical Studies	SEE SUBCONSULTANT FEE SCHEDULE (PAGES 5-6 OF 15)											$ 168,054.36
18	Aerial Mapping/Survey	SEE SUBCONSULTANT FEE SCHEDULE (PAGE 7 OF 15)											$ 65,112.18
19	Hydrologic/Hydraulic Studies	SEE SUBCONSULTANT FEE SCHEDULE (PAGE 8 OF 15)											$ 82,835.76
20	Traffic Studies	SEE SUBCONSULTANT FEE SCHEDULE (PAGES 9-14 OF 15)											$ 61,305.04
21	Project Cost Estimates	2	4	10	6		12					34	$ 3,995.68
22	Engineering Summary Report	2	8	20			14					44	$ 5,345.12
23	Quality Assurance/Quality Control	2	6	14			8					30	$ 3,770.72
	Subtotal (Preliminary Engineering)	**20**	**102**	**226**	**78**	**0**	**338**	**406**	**32**	**498**	**0**	**1700**	**$ 539,808.52**
	ROW Mapping & Acquisition												
24	Data Collection & ROW Mapping (Est. 21 Parcels @ $3,500/Parcel)	SEE SUBCONSULTANT FEE SCHEDULE (PAGE 15 OF 15)											$ 73,500.00
25	ROW Coordination & Cost Est. (Est. 21 Parcels @ $13,500/Parcel)	SUBCONSULTANT FEE (DEFERRED UNTIL ROW MAPPING COMPLETED)											$ -
	Subtotal (ROW Mapping & Acquisition)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**$ 73,500.00**
	TOTAL	**22**	**126**	**276**	**214**	**762**	**344**	**406**	**182**	**528**	**54**	**2914**	
Labor Hours		**22**	**126**	**276**	**214**	**762**	**344**	**406**	**182**	**528**	**54**	**2914**	
Contract Rate		$ 165.40	$ 152.16	$ 138.92	$ 132.32	$ 99.24	$ 72.76	$ 96.32	$ 82.04	$ 71.55	$ 55.04		
Total Labor Costs		**$ 3,638.80**	**$ 19,172.16**	**$ 38,341.92**	**$ 28,316.48**	**$ 75,620.88**	**$ 25,029.44**	**$ 39,105.92**	**$ 14,931.28**	**$ 37,778.40**	**$ 2,972.16**	**$ 284,907.44**	**$ 796,188.82**

LINE ITEM EXPENSES

N/A $ -

Total Expenses $ -

GDJ Engineering Total Cost **$ 796,188.82**

Proposal
Cultural Resource Investigations
Road Improvements along
FM 1846 (Williams Road) Phase II,
Cameron County, Texas

PROJECT DESCRIPTION

GDJ Engineering has requested a scope of work and cost estimate from AmaTerra Environmental, Inc. (AmaTerra) to prepare cultural resources investigations for proposed road improvements of FM1846 (Williams Road), Phase II in Cameron County, Texas. The limits of the project extend from I-69E to South Parallel Corridor; a length of 1.5 miles. The proposed project is to construct a 44-foot-wide, two-lane rural roadway along partially new location within a proposed right-of-way (ROW), varying from 100 – to 120-foot-wide ROW. The existing roadway terminates at Turner Road and the remainder of the project would be in a new location. While locally funded, Cameron County desire to follow the NEPA framework in anticipation of possible federal funding in the future. Therefore, Section 106 guidelines will be followed. Overall, the project is being proposed as a local government project (County of Cameron) with TxDOT oversight.

PROJECT SCOPE

Task 1: Archeological Studies

A) AmaTerra will review the Texas Historical Commission (THC) sites atlas to determine if any previously recorded sites or archeological surveys occur within or near the proposed project area. The location of any previously recorded sites and surveys will be plotted onto USGS 7.5-minute topographic maps for use in the compliance coordination process. Archeologists will also consult the USDA NRCS soil survey maps, relevant aerial photography, historical maps, land use maps, and the Geologic Atlas of Texas to assess the likelihood for unrecorded archeological resources and make recommendations regarding the need for further field surveys. The results of this effort will be integrated into a background study report that conforms to TxDOT's *Review Standards for Archeological Background Studies* for review and comment by TxDOT-ENV.

B) Should TxDOT determine an archeological survey is warranted, AmaTerra will prepare an Antiquities permit application and submit that to TxDOT for review and approval prior to submission to the THC.

C) Once a permit has been issued by the THC AmaTerra will conduct an archeological survey of the Area of Potential Effects (APE). The survey will include visual inspection, pedestrian, survey, and backhoe trenching to assess and characterize archeological sites within the APE. Any archeological sites would be investigated through additional shovel tests, as warranted. All archeological sites within the APE will be recorded at the Texas Archeological Research Laboratory. Archeologists will not collect any artifacts during the survey.

D) AmaTerra will prepare a professional report documenting the results of the survey. The report will adhere to TxDOT's *Review Standards for Archeological Survey Reports* and include a management summary, description of the undertaking and the APE, relevant background sections, a summary of results, and explicit recommendations regarding

eligibility of archeological sites within the APE. This report will be reviewed and approved by the client, TxDOT, and THC. To satisfy the conditions of the Antiquities Permit, AmaTerra will curate all survey notes and records at a state recognized curatorial facility.

Task 2: Historical Studies

A) AmaTerra shall prepare a Project Coordination Request for Historical Studies Project (PCR) for review and comment by TxDOT-ENV. The PCR shall conform to the TxDOT *PCR Review Standard* (August 2019 version).

B) AmaTerra shall perform a records search of the APE to identify non-archeological historic properties that have been previously listed in the National Register of Historic Places (NRHP), are designated as Recorded Texas Historical Landmarks, as State Antiquities Landmarks, County Historic Landmarks, or have been evaluated for NRHP eligibility by other available historic surveys. AmaTerra will review other available archival sources, such as historic maps and/or aerial photographs, to locate previously unidentified potential historic resources in the project's Study Area. Reviews will be conducted to determine whether any historic or historic-age Canals are also located within the project study area.

C) If required by TxDOT, AmaTerra shall prepare a research design for review and comment by TxDOT-ENV. The research design shall conform to the TxDOT *SOU: Non-Archeological Historic-Age Resource Research Designs Review checklist* (January 2020 version).

D) AmaTerra shall perform a reconnaissance survey conforming to the methodology outlined in Appendix B of the *Draft CRM Guide for Accurately Identifying Non-Archeological Cultural Resources* (Texas Department of Transportation, January 2020). The survey shall document each historic-age resource (defined by TxDOT as a building, structure, object, historic district, or non-archeological site at least 45 years old at the time of letting) within the Study Area. The Study Area shall consist of the Area of Potential Effects (APE) plus all parcels that are wholly or partially within the APE and those parcels where new ROW will be acquired.

E) AmaTerra shall provide a report detailing the results and findings of the reconnaissance survey including effects to historic properties and the need, if any, to conduct future intensive survey efforts. The report shall have sufficient detail and clarity to provide THC with the basis for making determinations of National Register of Historic Places (NRHP) eligibility or shall have sufficient detail and clarity to make recommendations concerning the scope of the intensive survey. The report shall conform to the TxDOT *Standards of Uniformity for Non-Archeological Historic-Age Resource Reconnaissance Survey Reports Review Checklist* (January 2020 version).

SCHEDULE

To be determined in consultation with Client.

ASSUMPTIONS AND CONDITIONS

The following is a list of assumptions on which the project costs are based. Any work not discussed in the tasks above may be considered outside of this scope and may require a supplemental agreement or fee adjustment.

- GDJ will clearly define the location and dimensions of the proposed project prior to fieldwork mobilization. GDJ will provide AmaTerra with geo-referenced ArcView shapefiles of the project footprint prior to fieldwork mobilization to allow for the survey of the APE: via GPS wayfinding.
- AmaTerra anticipates up to one round of design updates/changes from GDJ.
- Relevant comments will be addressed. It is assumed that no more than one draft copy and one final copy of the survey reports being submitted to GDJ will be produced in electronic format in PDF and Word formats.
- One round of comments on the Draft Report is anticipated from GDJ and associated agency reviewers. All comments are assumed to be minor.
- Access to private properties would be obtained by others prior to AmaTerra's field survey.
- This effort will likely include backhoe trenching. Should a greater than expected trenching effort (2 days of trenching anticipated) be required, those costs would be supplemental.
- The scope does not include mitigation for adverse effects, development of agreement documents, Section 4(f) evaluations, or other services beyond establishing Section 106 NRHP effect.

COMPENSATION

Client will compensate AmaTerra on a time and material price basis (T&M) of **$60,474.04**. AmaTerra will invoice GDJ monthly based on percentage of completion. A cost breakdown is provided below.

COST BREAKDOWN											
Williams Road Improvements											
LABOR	PCR and Background Studies	Research Deisgn	Permit App	Prefield and Fieldwork	Draft and Final Reports	Curation	Admin and Project Mgmt	Total	Unit	Unit Price	Cost
Support Manager	0	0	0	0	0	0	2	2	hr	$ 249.00	$ 498.00
Archeologist Sr. PI	4	0	4	4	10	0	5	27	hr	$ 135.00	$ 3,645.00
Archeologist IV	8	0	8	40	40	4	0	100	hr	$ 94.23	$ 9,423.00
Archeologist III	0	0	0	70	12	5	0	87	hr	$ 76.80	$ 6,681.60
Architectural Historian Senior	2	2	0	0	4	0	5	13	hr	$ 150.00	$ 1,950.00
Architectural Historian III	12	24	0	24	80	0	0	140	hr	$ 116.85	$ 16,359.00
Architectural Historian II	2	2	0	24	32	0	0	60	hr	$ 79.47	$ 4,768.20
GIS Operator Sr	12	0	2	4	40	0	0	58	hr	$ 110.88	$ 6,431.04
Administrative/ Document Production Supervisor	0	0	0	2	16	2	8	28	hr	$ 93.90	$ 2,629.20
TOTAL LABOR											$ 52,385.04
EXPENSES	PCR and Background Studies	Research Design	Permit App	Fieldwork	Draft and Final Reports	Curation	Admin and Project Mgmt	Total	Unit	Unit Price	Cost
Copies, b/w 8.5 x 11	20	20	20	90	450	250	20	870	each	$ 0.10	$ 87.00
Copies, color 8.5 x 11	20	20	10	50	100	75	20	295	each	$ 1.00	$ 295.00
Rental Car	0	0	0	3	0	0	0	3	day	$ 75.00	$ 225.00
Mileage	0	0	0	800	0	0	0	800	each	$ 0.58	$ 460.00
Lodging (Tax & Fee Inc)	0	0	0	16	0	0	0	16	night	$ 120.00	$ 1,920.00
Meals	0	0	0	19	0	0	0	19	day	$ 56.00	$ 1,064.00
Curation	0	0	0	0	0	1	0	1	each	$ 550.00	$ 550.00
TARL Site Fees	0	0	0	0	3	0	0	3	each	$ 96.00	$ 288.00
Backhoe Rental	0	0	0	2	0	0	0	2	day	$1,600.00	$ 3,200.00
TOTAL EXPENSES											$ 8,089.00
TOTAL											**$ 60,474.04**

EXHIBIT D
TABLE OF DELIVERABLES
Method of Payment: Lump Sum

South Williams Road from I69C to South Parallel Corridor
CCRMA
Millennium Engineers

TASK DESCRIPTION	Unit	Hourly Rate	Estimated Hours	Task Cost
FC 110 - GEOTECHNICAL (ENGINEERING ANALYSIS) PM Hours				
Initial Project Setup	hour	$229.15	8	$ 1,833.20
Laying out Needed Drilling Scheme & Plan View of Boring Logs	hour	$229.15	14	$ 3,208.10
8 Project Site Visits	hour	$229.15	36	$ 8,249.40
Coordination of Utilities and Staking Out Boring Locations	hour	$229.15	36	$ 8,249.40
Coordination and Meetings	hour	$229.15	16	$ 3,666.40
Preliminary Geotechnical Report, Soil Geology, Site Soils, Analyses, Recs.	hour	$229.15	10	$ 2,291.50
Structural Evaluation of Borings (Soil Shear Strength Computations)	hour	$229.15	10	$ 2,291.50
Evaluation of Pavement Criteria	hour	$229.15	10	$ 2,291.50
Pavement Cycle Analyses	hour	$229.15	10	$ 2,291.50
Pavement Design Options	hour	$229.15	10	$ 2,291.50
Pavement Design - HMAC for Location 1	hour	$229.15	16	$ 3,666.40
Drilled Shaft Foundation Design and Analysis	hour	$229.15	16	$ 3,666.40
Creation of Final Boring Logs with TCP and Soil Index Testing Data	hour	$229.15	16	$ 3,666.40
Geotechnical Report, Soil Geology, Site Soils, Analyses, Recs.	hour	$229.15	18	$ 4,124.70
FC 110 - GEOTECHNICAL (ENGINEERING ANALYSIS) Geotechnical Engineer Hours				
Initial Project Setup	hour	$155.23	8	$ 1,241.84
Laying out Needed Drilling Scheme & Plan View of Boring Logs	hour	$155.23	14	$ 2,173.22
8 Project Site Visits	hour	$155.23	36	$ 5,588.28
Coordination of Utilities and Staking Out Boring Locations	hour	$155.23	36	$ 5,588.28
Coordination and Meetings	hour	$155.23	16	$ 2,483.68
Preliminary Geotechnical Report, Soil Geology, Site Soils, Analyses, Recs.	hour	$155.23	10	$ 1,552.30
Structural Evaluation of Borings (Soil Shear Strength Computations)	hour	$155.23	10	$ 1,552.30
Evaluation of Pavement Criteria	hour	$155.23	10	$ 1,552.30
Pavement Cycle Analyses	hour	$155.23	10	$ 1,552.30
Pavement Design Options	hour	$155.23	10	$ 1,552.30
Pavement Design - HMAC for Location 1	hour	$155.23	16	$ 2,483.68
Drilled Shaft Foundation Design and Analysis	hour	$155.23	16	$ 2,483.68
Creation of Final Boring Logs with TCP and Soil Index Testing Data	hour	$155.23	16	$ 2,483.68
Geotechnical Report, Soil Geology, Site Soils, Analyses, Recs.	hour	$155.23	18	$ 2,794.14
FC 110 - GEOTECHNICAL (ENGINEERING ANALYSIS) Admin Hours				
Administrative Hours - Report Preparation and Billing	hour	$73.92	10	$ 739.20
SUB-TOTAL - GEOTECHNICAL ENGINEERING & ANALYSIS			**462**	**$ 87,609.08**
TOTAL DIRECT EXPENSES (FROM BELOW)				**$ 7,253.60**
SUB-TOTAL - GEOTECHNICAL EXPLORATIONS AND LABORATORY TESTING (See Page 2 of 2)				**$ 73,191.68**
GRAND TOTAL				**$ 168,054.36**

DIRECT EXPENSES	Units	Unit Cost	Quantity	
Mileage	Mile	0.58	920	$ 533.60
PPE (Protective Equipment)	each	250	4	$ 1,000.00
Mobilization and Demobilization of Drilling Rig (Trips within 100 miles from office to site)	trip	600	1	$ 600.00
Construction Truck	day	125	6	$ 750.00
Shelby Tubes Transportation Box	per box	175	6	$ 1,050.00
Portable Message Board (Traffic Control)	day	500	6	$ 3,000.00
Geotechnical Report Printing (Estimated at 4 copies) at $80.00 each	Print / Sheet	80	4	$ 320.00
TOTAL DIRECT EXPENSES				**$ 7,253.60**

Scope of Work:
Existing 2-lane rural
Proposed 4-lane urban w/ continuous LTL
Bridge Replacement

EXHIBIT D
TABLE OF DELIVERABLES
Method of Payment: Lump Sum

South Williams Road from I69C to South Parallel Corridor
CCRMA
Millennium Engineers

Limits: South Williams Road from I69E to South Parallel Corridor

TASK DESCRIPTION	Unit	Fixed Cost	Total Estimated	Task Cost
FC 110 - GEOTECHNICAL (DRILLING AND TESTING)				
LOCATION 1 - Williams Road - East of Bus. 77 to San Jose Ranch Road (27 Proposed 10ft. Boring)	LF	$40.00	270	$ 10,800.00
LOCATION 2 - Roadway and Trail Bridges (2 Proposed 80ft. Boring)	LF	$40.00	160	$ 6,400.00
LOCATION 3 - Traffic Signal Structures (3 Proposed 30ft. Boring)	LF	$40.00	90	$ 3,600.00
Texas Cone Penetration (Tex-132-E)	each	$45.00	104	$ 4,680.00
Standard Penetration Test (SPT) (ASTM1586)	LF	$38.00	135	$ 5,130.00
Shelby Push Tubes (ASTM D1587)	LF	$40.00	65	$ 2,600.00
Concrete/AC Patch ~ Proposed on 27 Pavement Borings	each	$68.00	27	$ 1,836.00
Field Technician: Collect Samples ~ Estimated at 10 hour days for 6 days of drilling	hour	$33.00	60	$ 1,980.00
Sample Preparation (Tex-101-E) ~ Proposed for each boring	each	$103.49	32	$ 3,311.68
Moisture Content (Tex-103-E) ~ Proposed on all samples, 2 ft. intervals for upper 10 ft, 5 ft intervals thereafter	each	$17.00	200	$ 3,400.00
Atterburg Limits (Tex-104E) ~ Proposed at 2 per boring for pavements and 6 per boring on structures.	each	$43.00	84	$ 3,612.00
Atterburg Limits (Tex-105-E) ~ Proposed at 2 per boring for pavements and 6 per boring on structures.	each	$43.00	84	$ 3,612.00
Atterburg Limits (Tex-106-E) ~ Proposed at 2 per boring for pavements and 6 per boring on structures.	each	$44.00	84	$ 3,696.00
Percent Passing No. 200 Sieve (Tex-111-E) ~ Proposed at 2 per boring for pavements and 4 per boring on structures	each	$61.00	74	$ 4,514.00
Sulfate Content in Soils (Tex-145-E) ~ Proposed at 27 locations on the pavement borings	each	$95.00	27	$ 2,565.00
Texas Triaxial Compression (Tex 117 E, Part II)	each	$2,400.00	2	$ 4,800.00
Consolidated Undrained Triaxial Test (Tex-131-E)	each	$2,000.00	1	$ 2,000.00
Consolidation Tests (ASTM D2435)	each	$640.00	2	$ 1,280.00
Soil-Lime Testing (Tex-121-E)	each	$375.00	9	$ 3,375.00
SUB-TOTAL - GEOTECHNICAL EXPLORATIONS AND LABORATORY TESTING				**$ 73,191.68**

Kane Lindsey, LLC
Surveying Consultants
4307 N 22nd Street, Suite B
McAllen, Texas 78504
TBPELS No. 10194676

BUDGET
LUMP SUM RATE BASIS OF PAYMENT

Work Authorization No.

Project: South Williams Road
County: Cameron County, Texas
From: I69E
To: South Parallel Corridor
Description of Work: Design Survey/ Schematic

TASK AND DESCRIPTION FC 150 Field Surveying	Sr. RPLS/ Principle	Project RPLS	Sr. Survey Technician	Survey Technician	3-man Survey Crew	2-man Survey Crew	Lidar/UAS Technician	Abstractor	Admin/ Clerical	Total Hours	Cost
HOURLY RATE	$142.15	$112.53	$77.00	$61.60	$160.16	$135.52	$86.24	$59.23	$49.28		
FC 150- Design Surveys											
I. Horizontal and Vertical Control											
A. Field 5/8" iron rods with plastic cap set in concrete every 1000'		1	1		24					26	$ 4,033.37
B. RTK- GPS			1	8		16				25	$ 2,738.12
C. Level Loops			2	8		32				42	$ 4,983.44
II. Design Surveys											
A. Cross Sections (Roadway, Resaca, Drainage)			10	10		120				140	$ 17,648.40
B. Structures (Irrigation, Drainage, Inverts, Bridges, Resacas)			10	10		24				44	$ 4,638.48
C. Utility Investigation	2	2	2	2				8	10	26	$ 1,753.20
D. Abstracting								24	10	34	$ 1,914.32
E. Field Property corner Recon			8	8		32				48	$ 5,445.44
F. Abstract Map/Base Map	8	8	8	16					10	50	$ 4,131.84
G. ROW Staking	2	2	8	8		24				44	$ 4,870.64
III. Right of Entry											
A. Coordination	1	1	1	0	0	0	0	0	24	27	$ 1,514.40
Subtotal Hours	13	14	51	70	24	248	0	32	54	506	
Subtotal Cost	$1,847.95	$1,575.42	$3,927.00	$4,312.00	$3,843.84	$33,608.96	$0.00	$1,895.36	$2,661.12		$ 53,671.65
Photogrammetry											
A. Mobilization (Fixed)											$500.00
B. Data Collection/ Field Verification						16				16	$2,168.32
C. Processing							16			16	$1,379.84
Subtotal Hours	0	0	0	0	0	16	16	0	0	32	
Subtotal Cost	$0.00	$0.00	$0.00	$0.00	$0.00	$2,168.32	$1,379.84	$0.00	$0.00		$4,048.16
FINAL REPORT & DELIVERABLES											
A. CADD file (2D & 3D) for limits of project				16			8			24	$ 1,675.52
B. Final Report and Deliverables	3		8	8			8	2		29	$ 2,343.63
C. Horizontal/ Vertical Control Sheets	2		4	16						22	$ 1,577.90
D. Survey Report	4	8	2	2					1	17	$ 1,795.32
Subtotal Hours	9	8	14	42	0	0	16	2	1	92	
Subtotal Cost	$1,279.35	$900.24	$1,078.00	$2,587.20	$0.00	$0.00	$1,379.84	$118.46	$49.28		$ 7,392.37
Total Fee FC 150	$3,127.30	$2,475.66	$5,005.00	$6,899.20	$3,843.84	$35,777.28	$2,759.68	$2,013.82	$2,710.40	630	**$65,112.18**

Contract No. 15-8IDP5011
Work Authorization No. 1

EXHIBIT D
Fee Schedule
Method of Payment:
Lump Sum

PS Contract No. 8901
PS PO No. 20449

Highway: Williams Rd Phase 2 (I-69 to S Parallel Corridor)
Cameron County RMA
Subprovider: CAMACHO-HERNANDEZ & ASSOCIATES, LLC

HYDROLOGIC & HYDRAULIC STUDIES TASK DESCRIPTION	Support Manager	Project Engineer	Design Engineer	Engineer-in-Training	Sr Engineer Tech	Engineer Tech	Jr Engineer Tech	CADD Operator	Jr CADD Operator	Admin/Clerical	TOTAL LABOR HOURS	TASK COST
DATA COLLECTION												
Perform Field Recon & Drainage Structure Inventory			8	8	8						24	$ 2,321.84
Coordinate with Cameron Co Drainage Dist.		4	4								8	$ 1,089.84
HYDOLOGY & HYDRAULIC MODELING												
Acquire & Evaluate, FEMA Maps, USGS Maps,Drainage Studies		4	4								8	$ 1,089.84
Acquire & Evaluated other available data (TNRIS Lidar Data Sets)		4	4								8	$ 1,089.84
Identify Outfall Locations & Alignments		16	16								32	$ 4,359.36
Delineate preliminary Drainage Area Maps		8	36	16	8			8	8		84	$ 8,604.78
Compute Hydrology (based on Atlas 14)		4	20								24	$ 3,174.80
Model & Develop 2,5, 10, 25, 50, & 100 yr water surface elevations		4	16	16							36	$ 3,980.28
Preliminary hydraulic design of bridges & culvert sizes		8	26	24							58	$ 6,515.34
Preliminary roadside ditch sizing		8	24	12							44	$ 5,259.68
Evaluation of Detention Requirements and Premilinary Facilities		12	12		8			8	8		48	$ 4,719.22
Preliminary hydraulic design of outfall channels		8	40								48	$ 6,349.60
Develop Preliminary Culvert Layouts		8	24	24	24			16	16		112	$ 9,770.11
Develop Preliminary Project Outfall Map		8	24	8	8			8	8		64	$ 6,377.70
Coordianate drainage elements with 3D corridor model and cross sections		8	12								20	$ 2,700.92
Develop Preliminary Drainage Cost Estimate		8	8								16	$ 2,179.68
Prepare Reports		12	12								24	$ 3,269.52
Prepare Report Exhibits		4	4	8	8			8	8		40	$ 3,202.90
QAQC of H&H Study	6	6									12	$ 1,776.90
Address Review Comments		4	4	4	4			4	4		24	$ 2,146.37
CONTRACT MANAGEMENT												
General Contract Management, Progress Reporting, & Invoicing	6	6	6							6	18	$ 2,857.26
TOTALS	12	144	304	120	68	0	0	52	52	6	752	$ 82,835.76
CONTRACT RATE PER HOUR	$ 154.00	$ 142.15	$ 130.31	$ 82.92	$ 77.00	$ 68.71	$ 56.86	$ 61.60	$ 42.61	$ 49.75		
TOTAL LABOR COST	$ 1,848.00	$ 20,469.60	$ 39,614.24	$ 9,950.40	$ 5,236.00	$ -	$ -	$ 3,203.20	$ 2,215.82	$ 298.50		
% DISTRIBUTION OF STAFFING	1.60%	19.15%	40.43%	15.96%	9.04%	0.00%	0.00%	6.91%	6.91%	0.80%		100.80%
SUBTOTAL (FC 161)												$ 82,835.76

OTHER DIRECT EXPENSES	UNIT	UNIT COST	Quantity	TOTAL COST
Lodging/Hotel	day/person	$ 94.00	0	$ -
Lodging/Hotel Taxes/fees	day/person	$ 25.00	0	$ -
Meals	day/person	$ 55.00	0	$ -
Mileage	miles	$ 0.58	0	$ -
Materials and Shipping	each	$ 40.00	0	$ -
Standard Postage	letter	$ 0.55	0	$ -
Overnight Mail - letter size	each	$ 35.00	0	$ -
Overnight Mail - oversized box	each	$ 35.00	0	$ -
Courier Services	each	$ 35.00	0	$ -
Certified Letter Return Receipt	each	$ 6.80	0	$ -
Photocopies B/W (8 1/2" x 11")	each	$ 0.10	0	$ -
Photocopies B/W (11" x 17")	each	$ 0.20	0	$ -
Photocopies Color (8 1/2" x 11")	each	$ 1.00	0	$ -
Photocopies Color (11" x 17")	each	$ 1.50	0	$ -
4" x 6" Digital Color Print	picture	$ 0.50	0	$ -
Flash Drive up to 128 GB	each	$ 25.00	0	$ -
Reproduction of CD/DVD	each	$ 5.00	0	$ -
CDs/DVDs	each	$ 3.00	0	$ -
SUBTOTAL DIRECT EXPENSES				$ -

SUMMARY	
TOTAL COSTS FOR SUBPROVIDER ONLY	$ 82,835.76
NON-SALARY (OTHER DIRECT EXPENSES) FOR SUBPROVIDER ONLY	$ -
GRAND TOTAL	$ 82,835.76

Gradient Systematics, LLC
603 Munger Ave., Suite 100
Dallas, TX 75202

Sam Bohluli, Ph.D., P.E.
Executive Vice President
sbohluli@gradientsystematics.com
mailto:sbohluli@candm-associates.com

Date: July 22, 2022

To: Mr. Robert Macheska, P.E., CFM
GDJ Engineering
2805 Fountain Plaza Blvd.
Edinburg, TX 78539

Subject: **Williams Road Phase II– I69E to South Parallel Corridor Traffic Engineering Study: Scope of Services**

Dear Mr. Macheska,

The following document describes Gradient Systematics, LLC's (GS) scope of services regarding developing a traffic engineering study for Williams Road from I69E to South Parallel Corridor in the vicinity of the city of San Benito (the Project) in Cameron County, TX, on behalf of GDJ Engineering.

Scope of Services

TxDOT defines the general work effort for traffic and operational analysis as follows:

> *The Engineer shall review and analyze traffic data (including percent trucks, design hourly volume, and directional distribution), existing roadway features (including ramp locations, weaving sections, number of lanes, offset to obstructions, lane widths, frontage road operations, and intersection operation and geometry), traffic flow patterns, accident patterns and frequencies, and transit and traffic operations. The Engineer shall develop and calibrate an existing traffic model. The calibration of the model shall be included in the traffic analysis report and Interstate Access Justification Report (IAJR) or both. A detailed level of service analysis with CORSIM, PASSER, HCS, VISSIM, SYNCRO, and/or other acceptable model will be performed for the current year using current traffic and geometric conditions and for the build year and 20 year design year using traffic projections and proposed geometric designs to compare different geometric alternatives and ramp patterns. Results of this analysis shall be incorporated into the schematic design. The Engineer shall develop a traffic analysis report summarizing all analysis performed.*

GS' scope of service includes all the tasks which will fulfill TXDOT's requirements for a corridor traffic engineering study, as follows:

1. Review and Analyze Traffic Data

GS will review/analyze historical traffic counts on the major roadways within the study area from TxDOT's Traffic Count Database System (TCDS) to determine historical traffic growth patterns in the form of annual average daily traffic (AADT) counts. GS will review traffic data, including percent trucks, design hourly volume, directional distribution, existing roadway features including ramp locations, weaving sections, number of lanes, offset to obstructions, lane widths, frontage road operations, and intersection operation and geometry.

2. Existing / Projected Traffic

GS will determine 20 and 30-year growth rates based on historical trends and guidance implied from TP&P's standard operating procedure. Then, the resulting historical growth rate will be used to develop the traffic projections. To complement and verify the resulting growth, GS will also adopt the latest version of the Rio Grande Valley (RGV) travel demand model (TDM) developed by the Texas Transportation Institute (TTI) for the regional MPO. The RGV model is a trip-based model developed in the TransCAD environment.

3. Traffic Simulation Model Development

GS will review and analyze traffic data (including percent trucks and OD matrices from the travel demand model), existing roadway features (including ramp locations, weaving sections, number of lanes, frontage road operations, and intersection operation and geometry), signal timing plans, traffic flow patterns, and bicycle/pedestrian, transit, and traffic operations. Traffic demand will be developed using SimTraffic in Synchro to take the demand model's sub-area OD matrices and assign vehicles to the roadway network. Following FHWA's Traffic Analysis Toolbox guidance, the model will be calibrated: Volume III. Performance measures will be collected for freeways and arterials from the VISSIM model during the two peak periods for the current year using current traffic and geometric conditions.

4. Signal Warrant Analysis

GS will conduct a traffic signal warrant analysis based on the Texas Manual of Uniform Traffic Control Devices (MUTCD) for both ends of the project limit. The warrants are as follows:

- Warrant 1 – Eight-Hour Vehicular Volume
- Warrant 2 – Four-Hour Vehicular Volume
- Warrant 3 – Peak Hour
- Warrant 4 – Pedestrian Volume
- Warrant 5 – School Crossing
- Warrant 6 – Coordinated Signal System
- Warrant 7 – Crash Experience
- Warrant 8 – Roadway Network
- Warrant 9 – Intersection Near a Grade Crossin

5. Crash Analysis

GS will perform a crash analysis utilizing the crash data obtained from the city, TxDOT, and compared to the TxDOT Crash Records Information System (CRIS) Database for the most recent five-year period. Crash reports corresponding to this data will be requested from and provided by TxDOT for this analysis. An analysis of crash type, severity, and causes will be conducted for each intersection or segment of roadway.

6. Documentation

GS will provide all the findings, analysis, and recommendations in a comprehensive document. After review by GDJ Engineering, GS will address any comments/questions, revise the Draft Memorandum as needed, and submit the Final Memoranda for TP&P review and approval.

Proposed Schedule and Budget

GS can begin work immediately upon receipt of the Notice to Proceed (NTP). GS estimates six (6) weeks to complete the traffic projections study. As shown in Table 1, GS proposes a lump sum fee of $31,734.08 which includes $4,000 as direct expenses for traffic count collection within the study area.

Table 1: Proposed Budget

TASKs DESCRIPTION	Chief Engineer/ Principal	Project Manager	Project Engineer	Engineer in Training	GIS Operator	Admin / Clerical	Total Labor Hrs.	Task Cost
Task 1. Review Existing Information	2	4	4	12			22	$ 3,016.04
Task 2. Existing/Projected Traffic		4	4	8			16	$ 2,106.24
Task 3. Traffic Simulation Model	4	12	24				40	$ 6,671.68
Task 4. Signal Warrant Analysis	2	4	4	8			18	$ 2,627.48
Task 5. Crash Analysis	4	12	12	16			44	$ 6,584.08
Task 6. Documentation	2	8	16	16	8	4	54	$ 6,728.56
HOURS TOTAL	14	44	64	60	8	4	194	
LABOR RATE PER HOUR	$260.62	$195.46	$136.82	$97.14	$82.92	$59.23		
TOTAL DIRECT LABOR COSTS	$ 3,648.68	$ 8,600.24	$ 8,756.48	$ 5,828.40	$ 663.36	$ 236.92	$ 27,734.08	
TOTAL LABOR COST								**$ 27,734.08**
Turning movement counts								$ 4,000.00
TOTAL Direct COST								**$ 4,000.00**
GRAND TOTAL								**$ 31,734.08**

Gradient Systematics, LLC
603 Munger Ave., Suite 100
Dallas, TX 75202

Sam Bohluli, Ph.D., P.E.
Executive Vice President
sbohluli@gradientsystematics.com
mailto:sbohluli@candm-associates.com

Date: July 22, 2022

To: Mr. Robert Macheska, P.E., CFM
GDJ Engineering
2805 Fountain Plaza Blvd.
Edinburg, TX 78539

Subject: **Williams Road – I69E to South Parallel Corridor**
Traffic Projections: Scope of Services

Dear Mr. Macheska,

The following document describes Gradient Systematics, LLC's (GS) scope of services regarding developing traffic projections for Williams Road from I69E to South Parallel Corridor in the vicinity of the city of San Benito (the Project) in Cameron County, TX, on behalf of GDJ Engineering.

Methodology

GS' methodology follows the Texas Department of Transportation (TxDOT) Transportation Planning and Programming (TP&P) Division's standard operating procedures (SOP) for traffic projection under Option B.

The main steps are as follows:

- Review of Existing Traffic Count Database System (TCDS) Available Documentation
- Review of Proposed Future Network Improvements (via RGV MPO Data)
- Development of Traffic Projections Utilizing TxDOT's TP&P Methodology
- Development of Traffic Forecast Memo, Traffic Exhibits, and Supporting *Calculations/Materials*
- *Submittal of Final Report*

GS' staff have worked with TP&P on several traffic projections projects and fully understands their SOP.

Scope of Services

GS' scope of service includes all the tasks which will fulfill TXDOT's requirements for traffic projection under option B, as follows:

1. Review of Existing Information

GS will review/analyze historical traffic counts on the major roadways within the study area from TxDOT's Traffic Count Database System (TCDS), to determine historical traffic growth patterns, in the form of annual average daily traffic (AADT) counts. This data source will extract the Project's base year (2019) traffic volumes and historical traffic within the study area. GS will first review all relevant available documentation regarding the Project.

GS will also review proposed future network improvements, as several transportation mobilities and improvement projects are proposed in Cameron County's *2014–2040 Metropolitan Transportation Plan*.

2. Traffic Growth Rate Prediction

GS will determine 20 and 30-year growth rates based on historical trends and guidance implied from TP&P's standard operating procedure. Then, the resulting historical growth rate will be used to develop the traffic projections. To complement and verify the resulting growth, GS will also adopt the latest version of the Rio Grande Valley (RGV) travel demand model (TDM) developed by the Texas Transportation Institute (TTI) for the regional MPO. The RGV model is a trip-based model developed in the TransCAD environment.

GS will use this model to estimate potential diversion to the Project due to future roadway improvements in the vicinity of the Project. In addition, GS will calculate the traffic growth over the next 20-year period based on the model results.

GS will code the new configuration of the Project by modifying the model networks for the base and all future model years. GS will then complete the model assignments in TransCAD, review the results, and summarize the Project's estimated traffic volumes. The study assumptions and proposed growth rates will be outlined in the traffic projections methodology memorandum and submitted for TP&P review and approval. If necessary, additional developments around the Project area that are not considered in the TDM will be implemented within the TDM modeling platform as the number of potential residents or employees of the development—to estimate the traffic impact of these developments on the TDM road network.

3. Traffic Projections

GS will utilize the identified growth rate to develop the future traffic projected for the study corridor. GS will develop average daily traffic (ADT) No-Build and Build scenarios for a horizon and 20 and 30 years based on the current/opening year of the corridor after the proposed improvements.

The projected traffic will be presented in tabular format and detailed Project description, analysis, and document the existing roadway network and the current traffic composition.

4. TAHD Tabulation

GS will prepare Traffic Analysis for Highway Design (TAHD) tabulations regarding the 20-year and 30-year design periods. GS will mark the final results as final after obtaining the approval from TP&P and will not be intended for construction, bidding, or permit purposes.

The TAHD tabulation will include the following:

1. ADT estimates for the Project's opening year and 20- and 30-year forecast periods
2. Traffic distribution by direction
3. K-factor
4. Percentage of trucks (daily and peak hour averages)
5. Average 10-heaviest wheel loads daily
6. Total number of equivalent 18k single axle load applications for 20- and 30-year forecast periods

Per T&P's direct instruction, items 4, 5, and 6 above will need to be calculated by TP&P. GS will use its internal algorithm, which closely matches TXDOT's final numbers, for these calculations; however, only TxDOT has access to the vast amount of data used in their official calculations. Therefore, there is always the chance of observing some differences in the final results. Therefore, GS will include its calculations in a separate memorandum for GDJ's use until TP&P's official calculations are received.

5. Documentation

As mentioned above, GS will prepare three memoranda as follows:

1. Memorandum documenting the traffic projections methodology and assumptions.
2. Memorandum representing the results of its traffic projection development and the partial TAHD tables; and
3. Internal memorandum including the complete TAHD tables for GDJ's use.

After review by GDJ Engineering, GS will address any comments/questions, revise the Draft Memorandum as needed, and submit the Final Memoranda for TP&P review and approval.

Proposed Schedule and Budget

GS can begin work immediately upon receipt of the Notice to Proceed (NTP). GS estimates a timeframe of four (4) weeks to complete the traffic projections study. As shown in Table 1, GS proposes a lump sum fee of $29,570.96 which includes $3,500 as direct expenses to be used for traffic count collection within the study area.

Table 1: Proposed Budget

TASK DESCRIPTION	Chief Engineer/ Principal	Project Manager	Project Engineer	Engineer in Training	GIS Operator	Admin/Clerical	Total Labor Hrs.	Task Cost
Task 1. Review of Existing Information		4	8	8			20	$ 2,653.52
Task 2. Traffic Growth Rate Prediction	4	6	8	16			34	$ 4,864.04
Task 3. Traffic Projections	4	6	8	16			34	$ 4,864.04
Task 4. TAHD Tabulation	4	6	8	16			34	$ 4,864.04
Task 5. Documentation	6	10	16	16	16	4	68	$ 8,825.32
HOURS TOTAL	18	32	48	72	16	4	190	
LABOR RATE PER HOUR	$260.62	$195.46	$136.82	$97.14	$82.92	$59.23		
TOTAL DIRECT LABOR COSTS	$ 4,691.16	$ 6,254.72	$ 6,567.36	$ 6,994.08	$ 1,326.72	$ 236.92	$ 26,070.96	
TOTAL LABOR COST								$ 26,070.96
Traffic count								$ 3,500.00
TOTAL Direct COST								$ 3,500.00
GRAND TOTAL								$ 29,570.96

Kane Lindsey, LLC
Surveying Consultants
4307 N 22nd Street, Suite B
McAllen, Texas 78504
TBPELS No. 10194676

BUDGET
LUMP SUM RATE BASIS OF PAYMENT

Work Authorization No.

Project: South Williams Road
County: Cameron County, Texas
From: I-69E
To: South Parallel Corridor
Description of Work: FC 130 ROW Mapping **and Parcel Exhibits**

TASK AND DESCRIPTION **FC 130 Right-of- Way Mapping and Parcel Exhibits**	Sr. RPLS/ Principle	Project RPLS	Sr. Survey Technician	Survey Technician	3-man Survey Crew	2-man Survey Crew	Lidar/UAS Technician	Abstractor	Admin/ Clerical	Total Hours	Cost
FC 130 ROW Mapping											
I. From I-69E to Turner Street (Prop 80' ROW)											
A. Estimated 17 Parcels @ $3,500 per Parcel											$ 59,500.00
II. From Turner Street to South Parallel Corridor (Prop 100' ROW)											
A. Estimated 4 Parcels @$3,500 per Parcel											$ 14,000.00
Total Fee FC 130											**$73,500.00**

Client: Cameron County RMA

EXHIBIT 2

PROJECT DEVELOPMENT SCHEDULE
South Williams Road (Phase II)
(From I69E to South Parallel Corridor)

TASK AND DESCRIPTION	ENTITY	2022					2023												2024												2025							
		AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
WORK AUTHORIZATION #1 TASKS																																					
ROW Mapping																																					
Prepare ROW Map/Pacel Sketches & Field Notes	GDJ																																				
Project Planning and Programming																																					
Initiate coordination with RGVMPO for project funding*	GDJ																																				
Amend RGVMPO TIP/MTP to fund project	RGVMPO																																				
Coordinate Functional Classification of project	RGVMPO																																				
Coordinate with RGVMPO for inclusion into the 2024 UTP	RGVMPO																																				
AFA coordination with TxDOT	GDJ																																				
AFA Approval	TxDOT																																				
Schematic, Env & Public Involvement																																					
Design Survey & Topography	GDJ																																				
Schematic Development For ROW Mapping	GDJ																																				
Hydrologic Map	GDJ																																				
Preliminary Environmental Investigations	GDJ																																				
Environmental Scoping Meeting	GDJ																																				
Public Involvement for Public Meeting	GDJ																																				
Advertise & Conduct Public Meeting	GDJ																																				
Submit Schematic to TxDOT (After Public Meeting - TxDOT Req.)	GDJ																																				
TxDOT Schematic Approval	TxDOT																																				
Environmental Document Preperation	GDJ																																				
Submit Final Draft Document	GDJ																																				
Agency Review & Revisions	TxDOT																																				
Environmental Decision	TxDOT																																				

GDJ ENGINEERING TASK
RGVMPO/TxDOT/FHWA TASK
TxDOT TASK

Notes: * Assumes ROW Acquisition is 100% completed September 2023, if ROW acquisition is completed sooner then RGVMPO Coordination will be initiated more quickly accelerating the schedule.

5:18 PM7/25/2022

2-K CONSIDERATION AND APPROVAL OF PAYMENT OF INVOICES AND RELEASE OF CHECKS TO NOBLE TEXAS BUILDERS, PEACOCK CONSTRUCTION AND A&I FOR THE CAMERON COUNTY PARKS ADMINISTRATION BUILDING, PEDRO "PETE" BENAVIDES BASKETBALL COURTS, AND THE ISLA BLANCA TOLL BOOTH PROJECTS.

2-L CONSIDERATION AND APPROVAL OF CHANGE ORDER NO. 4 FOR THE CONSTRUCTION MANAGER AT RISK CONTRACT BETWEEN THE CAMERON COUNTY REGIONAL MOBILITY AUTHORITY AND NOBLE TEXAS BUILDERS FOR THE CAMERON COUNTY PARKS ADMINISTRATION BUILDING.

AIA® Document G701™ – 2017

Change Order

PROJECT: *(Name and address)* Cameron County Parks Administration Building 22248 State Park Rd., South Padre Island, Texas	**CONTRACT INFORMATION:** Contract For: General Construction Date: March 17, 2022	**CHANGE ORDER INFORMATION:** Change Order Number: 004 Date: July 21, 2022
OWNER: *(Name and address)* Cameron County Regional Mobility Authority 3461 Carmen Avenue Rancho Viejo, Texas 78575	**ARCHITECT:** *(Name and address)* Gomez Mendez Saenz, Inc. 1150 Paredes Line Rd. Brownsville, Texas 78521	**CONTRACTOR:** *(Name and address)* Noble Texas Builders 108 S. Main Street La Feria, Texas 78559

THE CONTRACT IS CHANGED AS FOLLOWS:
(Insert a detailed description of the change and, if applicable, attach or reference specific exhibits. Also include agreed upon adjustments attributable to executed Construction Change Directives.)

CPR 005 - Slurry method for piers — Add: $53,820.00
CPR 007 - Deletion of light pole — Delete: $ 2,800.00
Total Add to the Contract: $51,020.00

The original Contract Sum was	$	4,489,938.00
The net change by previously authorized Change Orders	$	8,396.00
The Contract Sum prior to this Change Order was	$	4,498,334.00
The Contract Sum will be increased by this Change Order in the amount of	$	51,020.00
The new Contract Sum including this Change Order will be	$	4,549,354.00

The Contract Time will be unchanged by Zero (0) days.
The new date of Substantial Completion will be

NOTE: This Change Order does not include adjustments to the Contract Sum or Guaranteed Maximum Price, or the Contract Time, that have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.

Gomez Mendez Saenz, Inc.	Noble Texas Builders	Cameron County Regional Mobility Authority
ARCHITECT *(Firm name)*	CONTRACTOR *(Firm name)*	OWNER *(Firm name)*
SIGNATURE	SIGNATURE	SIGNATURE
Mr. Roan G. Gomez, AIA	Juan Delgado Vice President	Frank Parker, Jr., Chairman
PRINTED NAME AND TITLE	PRINTED NAME AND TITLE	PRINTED NAME AND TITLE
July 21, 2022	July 21, 2022	July 27, 2022
DATE	DATE	DATE

REGISTERED ARCHITECT ★ ROAN GABRIEL GOMEZ ★ 23625 ★ STATE OF TEXAS

2-M CONSIDERATION AND APPROVAL OF CONTINGENCY AUTHORIZATION NO. 1 FOR THE CONSTRUCTION MANAGER AT RISK CONTRACT BETWEEN THE CAMERON COUNTY REGIONAL MOBILITY AUTHORITY AND NOBLE TEXAS BUILDERS FOR THE CAMERON COUNTY PARKS ADMINISTRATION BUILDING.

Contingency Expenditure Authorization

Project: **Cameron County Parks**
Isla Blanca Park Administration Building
South Padre Island, Texas

Authorization No: 1

Project No.:

Date: 07/21/22

To: **Noble Texas Builders, LLC.**
108 S. Main St.
La Feria, TX 78559
Attention: Mauricio Gomez

You are authorized to perform the following item(s) of work and to adjust the allowance sum accordingly, as indicated below. This is not a change order and does not increase nor decrease the contract amount.

CCR-2	Structural Framing Credit	($5,000.00)
CCR-3r	Dumpster Enclosure and Pavement Widening	$16,287.00
CCR-6	Stud Framing and Insulation Credit	($8,060.00)
	Total:	**$3,227.00**

These are to be funded out of:

Owner Contingency Allowance	$3,227.00	
Paving Allowance	$0.00	
	Total:	**$3,227.00**

Original Allowance Fund Summary:	**Total:**	$43,654.00
Owner Contingency Allowance		$40,000.00
Paving Allowance		$3,654.00
Total of Previous Owner Allowance Expenditure Authorizations		$0.00
Total Authorized Allowance Expenditures for CEA 1		$3,227.00
Remaining Allowance Balance:		**$40,427.00**
Remaining Owner Allowance Fund Summary:		
Owner Contingency Allowance		**$36,773.00**
Paving Allowance		**$3,654.00**

Approval:

Cameron County Regional Mobility Authority	07/27/2022 Date
GMS Architects	7/21/2022
Noble Texas Builders, LLC.	7/21/2022

2-N CONSIDERATION AND APPROVAL OF CHANGE ORDER NO. 2 BETWEEN THE CAMERON COUNTY REGIONAL MOBILITY AUTHORITY AND A & I CUSTOM MANUFACTURING, LLC FOR THE ISLA BLANCA PARK TOLL BOOTHS PROJECT FOR THE CAMERON COUNTY PARKS SYSTEM.

AIA® Document G701™ – 2017

Change Order

PROJECT: *(Name and address)* Cameron County Isla Blanca Toll Booths South Padre Island, Texas	**CONTRACT INFORMATION:** Contract For: General Construction Date: December 21, 2021	**CHANGE ORDER INFORMATION:** Change Order Number: 02 to the Contract Date: July 21, 2022
OWNER: *(Name and address)* Cameron County Regional Mobility Authority 3461 Carmen Avenue Rancho Viejo, Texas 78575	**ARCHITECT:** *(Name and address)* Gomez Mendez Saenz, Inc. 1150 Paredes Line Rd. Brownsville, Texas 78521	**CONTRACTOR:** *(Name and address)* A & I Custom Manufacturing LLC 4337 Martinal Rd. Brownsville, Texas 78526

THE CONTRACT IS CHANGED AS FOLLOWS:
(Insert a detailed description of the change and, if applicable, attach or reference specific exhibits. Also include agreed upon adjustments attributable to executed Construction Change Directives.)
Time extension of Forty-Nine (49) calendar days due to exterior doors and window delays.

The original Contract Sum was	$	385,504.49
The net change by previously authorized Change Orders	$	0.00
The Contract Sum prior to this Change Order was	$	385,504.49
The Contract Sum will be unchanged by this Change Order in the amount of	$	0.00
The new Contract Sum including this Change Order will be	$	385,504.49

The Contract Time will be increased by Forty-Nine (49) days.
The new date of Substantial Completion will be August 12, 2022

NOTE: This Change Order does not include adjustments to the Contract Sum or Guaranteed Maximum Price, or the Contract Time, that have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.

Gomez Mendez Saenz, Inc.	A & I Custom Manufacturing LLC	Cameron County Regional Mobility Authority
ARCHITECT *(Firm name)*	**CONTRACTOR** *(Firm name)*	**OWNER** *(Firm name)*
SIGNATURE	**SIGNATURE**	**SIGNATURE**
Mr. Roan G. Gomez, AIA, Project Architect	Mr. Ismael Herrera Vice - President	Frank Parker, Jr., Chairman
PRINTED NAME AND TITLE	**PRINTED NAME AND TITLE**	**PRINTED NAME AND TITLE**
July 21, 2022	July 22, 2022	July 27, 2022
DATE	**DATE**	**DATE**

REGISTERED ARCHITECT GOMEZ ROAN GABRIEL 23625 STATE OF TEXAS