

ORDINANCE 2020-12-03-0842

AUTHORIZING AN AMENDMENT TO A CIVIL ENGINEERING DESIGN SERVICES AGREEMENT BETWEEN THE CITY OF SAN ANTONIO AND GARZAEMC, LLC IN AN AMOUNT NOT TO EXCEED \$202,954.03 FOR ADDITIONAL DESIGN SERVICES FOR THE MISSION ROAD (SAN ANTONIO RIVER TO SOUTHEAST MILITARY DRIVE) PROJECT.

* * * * *

WHEREAS, on October 5, 2017, City Council approved a Civil Engineering Design Services Agreement with GarzaEMC, LLC in an amount not to exceed \$333,288.00 for the design and construction phase services of the Mission Road (San Antonio River to Southeast Military Drive) project through Ordinance 2017-10-05-0742; and

WHEREAS, this project will provide for the construction and installation of brick pavers, continuous candy cane lighting assemblies, and associated electrical underground infrastructure including joint-bid utility sewer and water improvements along Mission Road from Southeast Military Drive to the San Antonio River along Acequia Road from Mission Road to Ashley Road, as well as, the construction of a shared-use-path along the east side of Mission Road from Southeast Military Drive to Stinson Airport including sidewalks along Mission Road from Cadmus to the San Antonio River and along Acequia Road from Mission Road to Ashley Road including any associated joint-bid utility sewer and water improvements; and

WHEREAS, as a result of an additional \$1,131,305.00 in funding resulting from a Funding Agreement between the Board of Directors of the Mission Dive-In City TIRZ and City's World Heritage Office, changes were requested to include the construction of a shared-use-path along the east side of Mission Road from Southeast Military Drive to Stinson Airport including sidewalks along Mission Road from Cadmus to the San Antonio River and along the west side of Acequia Road from Mission Road to Ashley Road; and

WHEREAS, this amendment will authorize the additional design services requested and compensate GarzaEMC, LLC for additional engineering design, bid, construction phase and close-out phase services for the requested project design change; and

WHEREAS, it is necessary to authorize and an amendment to the Civil Engineering Design Services Agreement with GarzaEMC, LLC in an amount not to exceed \$202,954.03 for additional engineering design, bid, construction phase and close-out phase services; **NOW THEREFORE**,

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SAN ANTONIO:

SECTION 1. The City Manager, or designee, is authorized and directed to execute an amendment to the Civil Engineering Design Services Agreement with GarzaEMC, LLC in an amount not to exceed \$202,954.03 for additional engineering design, bid, construction phase and close-out phase

services for Mission Road (San Antonio River to Southeast Military Drive) project. A copy of the amendment in substantially final form is attached as **Exhibit I**.


SECTION 2. Payment in the amount of \$202,954.03 is authorized to be encumbered and made payable to GarzaEMC, LLC. Payment is in support of the Mission Rd (SA River-SE Military Dr) Project, using Fund 45099000, with the WBS element 23-01595-01-02-01 and GL account 5201170. Funding for this project is provided by GO Bonds, TIRZ, and the Airport Operations Fund. Funding is in the FY2021-FY2026 CIP Budget.

Payment is limited to the amounts budgeted in the Operating and/or Capital Budget funding sources identified. All expenditures will comply with approved operating and/or capital budgets for current and future fiscal years.

SECTION 3. The financial allocations in this Ordinance are subject to approval by the Deputy Chief Financial Officer, City of San Antonio. The Deputy Chief Financial Officer may, subject to concurrence by the City Manager or the City Manager's designee, correct allocations to specific Fund Numbers, Project Definitions, WBS Elements, Internal Orders, Fund Centers, Cost Centers, Functional Areas, Funds Reservation Document Numbers, and GL Accounts as necessary to carry out the purpose of this Ordinance.


SECTION 4. This Ordinance shall be effective immediately upon the receipt of eight affirmative votes; otherwise, it is effective ten days after passage.

PASSED and APPROVED this 3rd day of December, 2020.



M A Y O R
Ron Nirenberg

ATTEST:



Tina J. Flores, City Clerk

APPROVED AS TO FORM:



Andrew Segovia, City Attorney



City of San Antonio

City Council

December 03, 2020

Item: 12A

File Number: 20-7034

Enactment Number:

2020-12-03-0842

Ordinance approving an amendment in the increased amount of \$202,954.03 to the \$333,288.00 Civil Engineering Design Services Agreement between the City and GarzaEMC, LLC relating to the 2017 Bond Mission Road (San Antonio River to Southeast Military Drive) project. Funds are available from the 2017 - 2022 General Obligation Bond Program and are included in the FY 2021 - FY 2026 Capital Improvement Program.

Councilmember John Courage made a motion to approve. Councilmember Clayton H. Perry seconded the motion. The motion passed by the following vote:

Aye: 11 Nirenberg, Treviño, Andrews-Sullivan, Viagran, Rocha Garcia, Gonzales, Cabello Havrda, Sandoval, Pelaez, Courage and Perry

KRH
12/03/20
Item No. 12A

Exhibit I

**AMENDMENT
TO
CIVIL ENGINEERING DESIGN SERVICES
FOR THE
MISSION ROAD (SAN ANTONIO RIVER TO SE MILITARY DRIVE)
(WORLD HERITAGE) PROJECT**

This amendment to the Civil Engineering Design Services Agreement for the Mission Road (San Antoni River to SE Military Drive) (World Heritage) Project authorized by Ordinance No. _____, is entered into by and between the City of San Antonio ("City"), a home rule municipal corporation, and Garza EMC, LLC ("Consultant"), referred to collectively herein as the "Parties".

WHEREAS, in October 2017 through Ordinance No.2017-10-05-0742, the City authorized the negotiation and execution of 48 professional services contracts for civil engineering services; and

WHEREAS, pursuant to the aforementioned ordinance City and Consultant entered into Civil Engineering Design Services Agreement for the Mission Road (San Antoni River to SE Military Drive) (World Heritage) Project in an amount not to exceed \$333,288.00 ("Original Agreement"); and

WHEREAS, additional engineering design, bid, construction phase and other related services for the adjustment of illumination assemblies and underground electrical infrastructure and additional pedestrian improvements associated with the project;

WHEREAS, this amendment to the Original Agreement adds the aforementioned services to the scope of services and increases the total contract capacity by \$202,954.03 to provide for the additional services;

NOW THEREFORE, in consideration of the terms, covenants, agreements and demises herein contained each to the other given, the sufficiency and receipt of which are hereby acknowledged, the Original Agreement, as previously amended, is amended as follows:

1. **Compensation.** The not-to-exceed contract amount set out in Exhibit A Scope of Services/Schedule of Project Services/Fee Summary of the Original Agreement is hereby increased by **TWO HUNDRED TWO THOUSAND NINE HUNDRED FIFTY-FOUR AND 03/100 DOLLARS (\$202,954.03)** for a total not-to-exceed contract amount of **FIVE HUNDRED THIRTY-SIX THOUSAND TWO HUNDRED FORTY-TWO AND 03/100 DOLLARS (\$536,242.03)**.
2. **Scope of Services.** The services set out in Attachment A hereto are hereby incorporated into and made a part of Exhibit A Scope of

Services/Schedule of Project Services/Fee Summary of the Original Agreement.

Except as amended hereby, all other provisions of the Agreement are hereby retained in their entirety and remain unchanged.

EXECUTED and **AGREED** to as of the dates indicated below.

CITY OF SAN ANTONIO

GARZA EMC, LLC

(Signature)

(Signature)

Roderick Sanchez
Assistant City Manager

Printed Name: _____

Title: _____

Date: _____

Date: _____

Approved as to Form:

Assistant City Attorney

ATTACHMENT 1

Mission Road in San Antonio, Texas
Supplemental Scope of Work for San Antonio
12 August 2020
Paul Davila, PE

1. Project Description

For this project HDR Engineering, Inc. (HDR), will provide supplemental engineering to adjust a number of continuous illumination assemblies and underground infrastructure from a right side offset to a left side offset to avoid an existing underground gas line that is not being relocated by CPS along Mission Road.

2. Project Management

- a. Prepare monthly invoices
- b. Participate in project meetings and internal coordination

3. Project Task List

- a. Data Collection
 - i. Revised roadway reference files
 - ii. Existing utilities overhead and underground routing
- b. CPS to provide the following:
 - i. Revised Photometric Analysis
 - ii. Verification of Voltage Drop Analysis
- c. Illumination Design
 - i. Adjustment of continuous illumination assemblies for existing gas line not being relocated
 - 1. Prepare revised overcurrent protection of branch circuits and electrical services
 - 2. Prepare revised electrical service data loads
 - 3. Prepare revised illumination assemblies and underground infrastructure locations
 - 4. Coordinate revised photometric analysis verification (project limits) with CPS based on revised continuous illumination assembly locations. CPS to re-develop the photometric analysis
 - 5. Coordinate revised voltage drop verification with CPS based on revised continuous illumination assembly locations. CPS to re-develop the voltage drop calculations

4. Electrical & Illumination System

- a. Scope
 - i. Adjustment of continuous illumination assemblies for existing gas line not being relocated
 - 1. Coordinate and revise electrical service and branch circuiting overcurrent protection and loads
 - 2. Coordinate any electrical service load changes with CPS
 - 3. Coordinate and revise illumination assembly locations
 - 4. Coordinate and revise underground infrastructure routing

Mission Road in San Antonio, Texas
 Supplemental Scope of Work for San Antonio
 12 August 2020
 Paul Davila, PE

5. Revise electrical service data loads
6. Revise electrical schematics
7. Coordinate revised photometric analysis (project limits) changes with CPS for continuous illumination foot-candle compliance
8. Coordinate revised voltage drop calculations changes for branch circuits with CPS for NEC compliance
9. Develop five maximum roadway section worst case scenarios spot check photometric analysis
10. QA/QC Review

5. Schedule & Deliverables (Table)

Milestone	Deliverable	Due to Client
95%	Preliminary Illumination Layouts, Details, Standards, and Specifications	TBD
Bid (100%)	Ready to Bid Illumination Layouts, Details, Standards and Specifications	TBD

6. Design Fee Qualifications

- a. All illumination drawing files will be produced in 2D utilizing Microstation
- b. CPS to provide revised illumination photometric analysis and voltage drop verification

7. Exclusions – The Scope of Services DOES NOT include the following:

- a. Revising or adding new electrical loads to any existing electrical services within project limits
- b. Removal of existing utility company pole mounted illumination heads and arms controlled and owned by the utility company
- c. Conducting field data collection of the utility company power source voltage availability and existing utility overhead and/or underground power source infrastructure
- d. Final coordination study
- e. Arc flash analysis
- f. Project review meetings
- g. Construction phase site visits, reports, walk-throughs, and punch-list
- h. Revisions to the illumination assembly detail/specifications

8. Budget (Attachment A – Fee Schedule)

Mission Road in San Antonio, Texas
 Supplemental Scope of Work for San Antonio
 12 August 2020
 Paul Davila, PE

9. Sheet List:

Number	Description
1	Illumination Summary (Add Alt. 1 & 3)
2	Illumination General Notes (Add Alt. 1 & 3)
3	Illumination Layout (Add Alt. 1)
4	Illumination Layout (Add Alt. 1)
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23	Illumination Layout (Add Alt. 1)
24	Illumination Layout (Add Alt. 1)
25	Illumination Layout (Add Alt. 1)
26	Illumination Details (Add Alt. 1 & 3)
27	Illumination Details (Add Alt. 1 & 3)
28	FAA Obstruction Illumination Details (Add Alt. 3)
29	Illumination Schematics (Add Alt. 1 & 3)
30	Illumination Schematics (Add Alt. 1 & 3)
31	Illumination Layout (Add Alt. 3)
32	Illumination Layout (Add Alt. 3)
33	Illumination Layout (Add Alt. 3)
34	Illumination Layout (Add Alt. 3)
	TxDOT Electrical/Illumination Standards

ATTACHMENT A - FEE SCHEDULE		City of San Antonio, Texas										
HDR ENGINEERING, INC.		Mission Road - Supplemental Scope of Work (Illustrative re-design to avoid gas)										
Estimate of Engineering Services Budget												
HDR Engineering, Inc.		No. of Sheets	Project Manager	Senior Engineer	Project Engineer	Project Designer	DT	Engineering Tech	Accountant Tech	Admin/ Clerical	Total Hours	Total Labor Cost
FC 145 Project Management												
Project Management		1									1	\$1,500.00
Project Management		1									1	\$1,500.00
FC 145 Subtotal - Labor		2	0	0	0	0	0	0	1	2	14	\$18,750.00
Illustration												
Illustration of San Antonio Mission Road (City of SA)												
1. Illustration of San Antonio Mission Road (City of SA)		1									1	\$1,500.00
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TOTAL SHEETS		24									74	\$9,750.00
Total - Labor Hours			16	0	16	64	0	0	1	2	89	\$11,625.00
Total - Labor Cost			\$2,875.00	\$0.00	\$2,175.00	\$8,250.00	\$0.00	\$0.00	\$150.00	\$175.00		
GRAND TOTAL												\$11,625.00

City of San Antonio - Public Works Department

Design Consultant: Merad
PROJECT WORK PLAN AND FEE PROPOSAL BREAKDOWN

Project: Mission Road
 Project Consultant: Garza EMC
 Submission: LNW
 Proposal Date: 7/22/2026
 Prepared By: Byron Sanderfer

TASK CODE AND DESCRIPTION	HOURS	PROJECT MANAGER	PROJECT ENGINEER	PROJECT DESIGNER	DT II	CADD TECH II	RPLS	ST	2 Man Survey Crew	TASK HOURS	TASK PHASE
											FEES
ADDITIONAL SERVICES - ELEMENT	0	0	0	0	12	8	0	0	0	20	\$4,000.00
03 Topographic Surveying / Base Mapping										0	\$0.00
03.010 Subelement					12	8	0	0	0	20	\$4,000.00



Attachment A – Summary of Services

Mission Road (SA River to SE Military Dr.) Improvements Project

The City of San Antonio Transportation and Capital Improvements Department has requested supplemental services in connection with the Mission Road Project. The limits of improvements are from South East Military Drive to the San Antonio River along Mission Road and from Mission Road to Ashley Road along Acequia Road. The proposed improvements include; constructing a new asphalt shared-use-path along the east side of Mission Road from SE Military to the new Stinson Hike & Bike Trail trailhead entrance, construction of sidewalks along the east side of Mission Road from Stinson to the SA River, construction of sidewalks on the west side of Mission Road from Cadmus Road to Acequia Road, and construction of sidewalk on the west side of Acequia Road from Mission Road to Ashley Road. The existing culvert crossings along with utilities will be reviewed to determine any conflicts with the proposed improvements. Relocation of existing utilities will be coordinated with the respective owner.

This work will also include revising designs and drawings from the original contract to incorporate any changes required as part of the pedestrian improvements.

A general summary of tasks to be provided as part of this Scope of Services is outlined below:

Project Management and General Items

- Attend design review meetings at each submittal milestone and prepare meeting minutes;
- Prepare monthly invoices as the project progresses;
- General coordination with the City and other team members; and
- Perform site visits.

Right-of-Way & Topographic Surveying

- Secure Right-of-Entry for additional survey;
- Survey additional locations to identify trees that may be impacted;
- Survey new driveway, sidewalks and landscaping;
- Survey intersection of SE Military and Mission Road for sidewalk connection; and
- Update survey file.

Roadway Design

- Prepare sidewalk layout plan and identify utility conflicts;
- Update typical sections;
- Update pavement removal, roadway, and striping sheets with new pavement dimensions;
- Develop alignment for the new pedestrian improvements;
- Create new cross-sections and add additional sheets to span ROW to ROW;
- Prepare driveway sheets with grading to comply with ADA requirements;
- Provide details for the removal and construction of new driveway culvert slope protection; and
- Prepare tree preservation/mitigation plan.



Drainage Design

- Develop an existing and proposed drainage analysis for two (2) road crossings;
- Develop a drainage design memorandum documenting methodologies and assumptions; and
- Prepare details for elevated sidewalks required at ditch/culvert crossings.

Illumination Design

- Prepare revised overcurrent protection of circuits and electrical services;
- Prepare revised load analysis for electrical services; and
- Prepare revised illumination assembly locations.

Permitting

- Coordinate and obtain approval from TxDOT to extend the new sidewalk to the tie-in at SE Military; and
- TDLR review and inspections.

Several assumptions have been made during the preparation of this Scope of Services, as outlined below:

- Design Plans for Utility Relocations/Replacement will be additional services;
- Impervious cover calculations and downstream impact analysis will not be required;
- Modifications to existing drainage cross-culvert structures, other than at driveways, is not included in this scope of work;
- CoSA Floodplain Development Permit and CLOMR/LOMR analysis is not required as part of this project;
- Easement/Right-of-Way acquisition will not be required.

11/08/2019

Page 2 of 2

GarzaEMC
100 NE Loop 410, Suite 1090
San Antonio, Texas 78216
o: 210.526.0286
f: 210.526.0325
www.garzaemc.com
TBPE No. F-14629

Appendix 2-C ~ City of San Antonio Capital Improvement Projects Generalized Scope of Services

1. Initial Scope Meeting
 - 1.1. Complete DSR, Meeting and minutes
 - 1.2. Prepare Preliminary Engineering Report (if required)
2. Right of Way Surveying
 - 2.1. Acquire Ownership information
 - 2.2. Secure Right of Entry
 - 2.3. Survey ROW
 - 2.3.1. Boundary
 - 2.3.2. Apparent ROW only
 - 2.4. Monument ROW
 - 2.5. Prepare ROW Map
 - 2.6. Prepare plats and field notes of parcels to be acquired
 - 2.7. Flag existing corners, set new corners, etc.
3. Topographic Surveying/ Base Mapping
 - 3.1. Establish Primary Project Control
 - 3.2. Establish Secondary Project Control
 - 3.3. Set Project centerline or baseline
 - 3.3.1. Interval _____
 - 3.4. Survey topographic features
 - 3.5. Survey Cross sections / spot elevations to develop DTM/cross sections
 - 3.5.1. To ROW only
 - 3.5.2. 5 feet into adjacent property where required
 - 3.6. Secure utility maps
 - 3.6.1. Water
 - 3.6.2. Sanitary Sewer
 - 3.6.3. Natural Gas
 - 3.6.4. Underground Electric
 - 3.6.5. Overhead Electric
 - 3.6.6. Underground Telephone
 - 3.6.7. Overhead Telephone
 - 3.6.8. Underground Cable Television
 - 3.6.9. Overhead Cable Television
 - 3.7. Survey Quality Level C locates
 - 3.7.1. Water
 - 3.7.1.1. Valve Box elevations
 - 3.7.1.2. Valve Stem elevations
 - 3.7.2. Sanitary Sewer
 - 3.7.2.1. Manhole Rings and Covers elevations
 - 3.7.2.2. Invert elevations and details (sizes, configurations, flow directions, north arrow)
 - 3.7.3. Natural Gas
 - 3.7.3.1. Valve Box elevations
 - 3.7.3.2. Valve Stem elevations
 - 3.7.3.3. Test box elevations
 - 3.7.4. Storm Drainage
 - 3.7.4.1. Manhole rings and covers elevations
 - 3.7.4.2. Invert elevations and details

Attachment B - Scope of Services

Design Guidance Manual

- 3.7.4.3. Curb inlets
 - 3.7.4.3.1. Top elevations
 - 3.7.4.3.2. Floor and invert elevations
 - 3.7.4.3.3. Lateral details (sizes, configurations, flow directions, north arrow)
- 3.7.4.4. Outfall elevations
- 3.7.4.5. Culvert and headwall dimensions and elevations
- 3.7.5. Underground Electric
 - 3.7.5.1. Manhole rings and covers elevations
 - 3.7.5.2. Vault elevations and dimensions
 - 3.7.5.3. Conduit elevations at Vaults
- 3.7.6. Underground Telephone
 - 3.7.6.1. Manhole rings and covers elevations
 - 3.7.6.2. Vault elevations and dimensions
 - 3.7.6.3. Conduit elevations at Vaults
- 3.7.7. Underground Cable Television
 - 3.7.7.1. Manhole rings and covers elevations
 - 3.7.7.2. Vault elevations and dimensions
 - 3.7.7.3. Conduit elevations at Vaults
- 3.7.8. Develop Utility Basemap
- 3.7.9. Mains only
- 3.7.10. Mains and services
- 3.8. Survey Trees
 - 3.8.1. All trees
 - 3.8.2. All trees with trunk diameter > 4"
 - 3.8.3. Show
 - 3.8.3.1. Species
 - 3.8.3.2. Trunk diameter
 - 3.8.3.3. Spread
- 3.9. Survey Bridges and Structures
 - 3.9.1. Full measure up (secure all relevant measurements needed)
 - 3.9.2. Locate Columns, abutments, and bridge deck only
 - 3.9.3. Profile grade lines
 - 3.9.3.1. Centerline
 - 3.9.3.2. Break back line(s)
 - 3.9.3.3. Curblines
- 4. Roadway and Drainage Design
 - 4.1. Establish Typical Roadway Cross sections showing lane, sidewalk, and clear zone widths, etc. for various roadways in project area
 - 4.2. Develop Plan and Profile sheets for 1" = 40' plans; Existing ground profiles at
 - 4.2.1. Centerline
 - 4.2.2. 13 feet left of centerline
 - 4.2.3. 13 feet right of centerline
 - 4.3. Establish Horizontal Roadway alignments showing
 - 4.3.1. Centerline geometry (centerline bearings, PI, PC, and PT stations, centerline curve data, curb return radii, etc.)
 - 4.3.2. Curb locations and geometry
 - 4.3.3. Lane widths
 - 4.3.4. Sidewalk widths and locations
 - 4.3.5. Transitions and extent of construction of intersecting streets (coordinate with SAWS)
 - 4.3.6. Prepare Retaining wall plans for all retaining walls in excess of 3'

Attachment B - Scope of Services

Design Guidance Manual

- 4.4. Establish Horizontal Channel alignments showing
 - 4.4.1. Centerline geometry (centerline bearings, PI, PC, and PT stations, centerline curve data, etc.)
 - 4.4.2. Bottom width, horizontal distance to top of design section slope, etc
- 4.5. Establish Roadway profiles
 - 4.5.1. Estimate storm drainage velocities
 - 4.5.2. Establish maximum flow capacity
- 4.6. Establish Design Discharges
 - 4.6.1. Delineate drainage areas and establish flow patterns
 - 4.6.2. Develop runoff coefficients
 - 4.6.3. Develop times of concentration and related intensities
 - 4.6.4. Calculate preliminary design discharges
- 4.7. Design storm drainage facilities
 - 4.7.1. Roadways
 - 4.7.1.1. Establish inlet locations and design discharges
 - 4.7.1.2. Develop storm drainage facility sizes, incremental times of concentration, effective drainage areas, design discharges, friction and junctions losses, etc
 - 4.7.1.3. Establish preliminary horizontal and vertical alignments of storm drainage facilities (Max EGL is 1.3 feet below top of curb)
 - 4.7.1.4. Identify potential utility conflicts and locations for SUE
 - 4.7.1.5. Establish lateral sizes
 - 4.7.1.6. Lateral details (with) (without) underground utilities
 - 4.7.2. Channels
 - 4.7.2.1. Model existing drainage channel
 - 4.7.2.2. Establish analysis nodes
 - 4.7.2.3. Develop channel sizes, slopes, velocities, incremental times of concentration, effective drainage areas, design discharges, friction and structure losses, etc
 - 4.7.2.4. Develop pre-project and post-project water surface profiles
 - 4.7.2.5. Identify and design energy dissipation facilities
 - 4.7.2.6. Establish channel armoring and erosion control areas
 - 4.7.3. Bridges
 - 4.7.3.1. Model bridges and bridge class structures pre-project and post-project
 - 4.7.4. Regulatory Coordination
 - 4.7.4.1. Tie to FEMA models
 - 4.7.4.2. Secure CLOMR
 - 4.7.4.3. Secure LOMR
- 5. Pavement Design
 - 5.1. Design pavement sections using CoSA Pavement Design Standards—Appendix 10-A
- 6. Prepare Cross sections
 - 6.1. Roadway cross sections
 - 6.2. Channel cross sections
 - 6.3. Box culvert excavation cross sections
- 7. Proposed Utility Plans
 - 7.1. Prepare Sanitary Sewer plan and profiles
 - 7.1.1. Coordinate with SAWS on service history, video results, adequacy, etc.
 - 7.1.2. Establish extent of sanitary sewer construction (to nearest manhole) (coordinate with roadway)
 - 7.2. Prepare Water line plans
 - 7.2.1. Coordinate with SAWS on service history, adequacy, etc.
 - 7.2.2. Establish extent of water construction (coordinate with roadway design)

Attachment B - Scope of Services

Design Guidance Manual

- ~~7.3. Prepare Gas line plans~~
 - ~~7.3.1. Probe main~~
 - ~~7.3.2. Probe services~~
 - ~~7.3.3. Establish extent of gas line construction~~
- 8. Other Plans
 - 8.1. Prepare Pavement Marking and Signing Plan
 - ~~8.2. Prepare Traffic Signal Plans~~
 - ~~8.3. Prepare Construction Sequencing Plan~~
 - 8.4. Prepare Traffic Control Plan
 - 8.5. Prepare SW3P
 - ~~8.6. Prepare Driveway Plans~~
- 9. Meetings and Coordination (including meeting minutes)
 - 9.1. Public meetings
 - 9.2. Utility coordination meetings
 - 9.3. Initial scope meeting
 - ~~9.4. Complete Streets Public Meeting and Field Analysis Checklist~~
 - ~~9.5. Preliminary Engineering Report Review~~
 - ~~9.6. 40% Plans Review Meeting~~
 - 9.7. 60% Plans Review Meeting
 - 9.8. 95% Plans Review Meeting
 - 9.9. 100% Plan Review Meeting
 - 9.10. Pre bid Meeting
 - 9.11. Pre-Construction meeting
- 10. Cost Estimating
 - 10.1. Preliminary Engineering Report Cost Estimate (if required)
 - ~~10.2. 40% Plans Cost Estimate~~
 - 10.3. 60% Plans Cost Estimate
 - 10.4. 95% Plans Cost Estimate
 - 10.5. Evaluate bids and recommend award, etc
- 11. Construction Phase
 - ~~11.1. Stake center line (or ROW) of roadway and/or channel for utility adjustment prior to the project bid~~
 - 11.2. Reestablish project control points for contractor's use before construction
 - 11.3. Attend citizen meeting(s) at the start of construction
 - 11.4. Assist in preparation and review of the monthly pay estimates
 - 11.5. Assist in preparation and review of change orders
 - 11.6. Review shop drawings
 - 11.7. Respond to request for information
 - 11.8. Perform a minimum of two (2) project site visits per month and prepare a report for
 - 11.9. Participate in final inspection of project
 - 11.10. Prepare over and under quantities for project closeout
 - 11.11. Prepare project record drawings
 - 11.12. Participate in one-year warranty inspection of project each visit to the City regarding progress of

Attachment B - Scope of Services

Design Guidance Manual

Plan Production Information

Provide following plans

- ~~3 half size sets of 40% review plans~~
- 3 half size sets of 60% review plans
- 3 half size sets of 95% review plans
- 3 half size sets of 100% review plans
- 9 half size sets of bid documents

Composition of plan sets at designated milestones:
60%, 95%, Bid Documents (100%)

General Sheets

- 60%, 95%, 100% City Title Block
- 60%, 95%, 100% Summary of Estimated Quantities Sheet
- 60%, 95%, 100% Index sheet
- 60%, 95%, 100% Project layout sheet(s)
- 60%, 95%, 100% Typical sections (existing and proposed for all conditions/locations)
- 60%, 95%, 100% General Notes and Specifications

Traffic Control Sheets

- 60%, 95%, 100% Sequence of Construction Layouts
- 60%, 95%, 100% Detour Plan/Profile/Typical Sections
- 60%, 95%, 100% Traffic Control Plan

Environmental Sheets

- 60%, 95%, 100% SW3P Narrative
- 60%, 95%, 100% SW3P Layouts
- 60%, 95%, 100% EPIC sheet
- _____ Environmental Waste Management Plan, Specifications, Quantities and Plan

Details

- 60%, 95%, 100% Transite Pipes Removal Plan, Specifications, Quantities and Plan Details

Roadway Sheets

- 60%, 95%, 100% Roadway plan and profile sheets
- _____ Intersection grading sheets
- 60%, 95%, 100% Roadway detail sheets
- _____ Retaining Wall Layouts

Drainage Sheets

- 60%, 95%, 100% Drainage Overall
- 60%, 95%, 100% Drainage Area Map and Table
- _____ Hydraulic Calculations
- _____ Storm Drainage plan and profile sheets
- _____ Lateral details and cross sections
- _____ Drainage details
- _____ Channel Plan and Profile

Bridge Sheets

- 60%, 95%, 100% Ped. Bridge layouts
- 60%, 95%, 100% Ped. Bridge details

Attachment B - Scope of Services

Design Guidance Manual

Pavement Markings and Signing Sheets

60%, 95%, 100% Pavement markings and signing details

_____ Traffic signal layouts

_____ Traffic signal details

Illumination Sheets

40%, 95%, 100% Illumination plans and conduit layouts

40%, 95%, 100% Illumination details

Landscaping and Design Enhancement Sheets

_____ Landscaping plans and details

_____ Enhancement plans and details

Cross Sections

60%, 95%, 100% Street Cross Sections

_____ Drainage Cross sections

Utility Sheets

_____ [Joint bid utility] plans and details

_____ [Joint bid utility] plans and details

_____ [Joint bid utility] plans and details

Misc Standard detail sheets

Attachment C
City of San Antonio Design Guidance Manual
Scope Exclusions and Modifications

Mission Road (World Heritage) SA River to SE Military Dr.	
Consultant: Garza EMC	
COSA Project Manager: David Hernandez, P.E.	
Project #: 23-01595	
Exclusion / Modifications	Reason for Exclusion / Modifications
1.1. Complete DSR, Meeting and minutes	Scope does not require service.
1.2. Prepare Preliminary Engineering Report (if required)	Scope does not require service.
2. Right of Way Surveying	Scope does not require service.
2.1. Acquire Ownership Information	Scope does not require service.
2.3. Survey ROW	Scope does not require service.
2.3.1. Boundary	Scope does not require service.
2.3.2. Apparent ROW only	Scope does not require service.
2.4. Monument ROW	Scope does not require service.
2.5. Prepare ROW Map	Scope does not require service.
2.6. Prepare plats and field notes of parcels to be acquired	Scope does not require service.
2.7. Flag existing corners, set new corners, etc	Scope does not require service.
3. Topographic Surveying/ Base Mapping	Scope does not require service.
3.1. Establish Primary Project Control	Scope does not require service.
3.2. Establish Secondary Project Control	Scope does not require service.
3.3. Set Project centerline or baseline	Scope does not require service.
3.3.1. Interval	Scope does not require service.
3.4. Survey topographic features	Scope does not require service.
3.5.1. To ROW only	Scope does not require service.
3.5.2. 5 feet into adjacent property where required	Modified to: 5 feet into adjacent property where required.
3.6. Secure utility maps	Scope does not require service.
3.6.1. Water	Scope does not require service.
3.6.2. Sanitary Sewer	Scope does not require service.
3.6.3. Natural Gas	Scope does not require service.
3.6.4. Underground Electric	Scope does not require service.
3.6.5. Overhead Electric	Scope does not require service.
3.6.6. Underground Telephone	Scope does not require service.
3.6.7. Overhead Telephone	Scope does not require service.
3.6.8. Underground Cable Television	Scope does not require service.
3.6.9. Overhead Cable Television	Scope does not require service.
3.7. Survey Quality Level C locates	Scope does not require service.
3.7.1. Water	Scope does not require service.
3.7.1.1. Valve Box elevations	Scope does not require service.
3.7.1.2. Valve Stem elevations	Scope does not require service.
3.7.2. Sanitary Sewer	Scope does not require service.
3.7.2.1. Manhole Rings and Covers elevations	Scope does not require service.
3.7.2.2. Invert elevations and details (sizes, configurations, flow directions, north arrow)	Scope does not require service.
3.7.3. Natural Gas	Scope does not require service.
3.7.3.1. Valve Box elevations	Scope does not require service.
3.7.3.2. Valve Stem elevations	Scope does not require service.
3.7.3.3. Test box elevations	Scope does not require service.
3.7.4. Storm Drainage	Scope does not require service.
3.7.4.1. Manhole rings and covers elevations	Scope does not require service.
3.7.4.2. Invert elevations and details	Scope does not require service.
3.7.4.3. Curb inlets	Scope does not require service.
3.7.4.3.1. Top elevations	Scope does not require service.
3.7.4.3.2. Floor and invert elevations	Scope does not require service.
3.7.4.3.3. Lateral details (sizes, configurations, flow directions, north arrow)	Scope does not require service.
3.7.4.4. Outfall elevations	Scope does not require service.
3.7.4.5. Culvert and headwall dimensions and elevations	Scope does not require service.
3.7.5. Underground Electric	Scope does not require service.
3.7.5.1. Manhole rings and covers elevations	Scope does not require service.
3.7.5.2. Vault elevations and dimensions	Scope does not require service.
3.7.5.3. Conduit elevations at Vaults	Scope does not require service.
3.7.6. Underground Telephone	Scope does not require service.
3.7.6.1. Manhole rings and covers elevations	Scope does not require service.
3.7.6.2. Vault elevations and dimensions	Scope does not require service.

Attachment C
City of San Antonio Design Guidance Manual
Scope Exclusions and Modifications

Exclusion / Modifications	Reason for Exclusion / Modifications
3.7.6.3. Conduit elevations at Vaults	Scope does not require service.
3.7.7. Underground Cable Television	Scope does not require service.
3.7.7.1. Manhole rings and covers elevations	Scope does not require service.
3.7.7.2. Vault elevations and dimensions	Scope does not require service.
3.7.7.3. Conduit elevations at Vaults	Scope does not require service.
3.7.8. Develop Utility Basemap	Scope does not require service.
3.7.9. Mains only	Scope does not require service.
3.7.10. Mains and services	Scope does not require service.
3.8.3.3. Spread	Scope does not require service.
3.9. Survey Bridges and Structures	Scope does not require service.
3.9.1. Full measure up (secure all relevant measurements needed)	
	Scope does not require service.
3.9.2. Locate Columns, abutments, and bridge deck only	Scope does not require service.
3.9.3. Profile grade lines	Scope does not require service.
3.9.3.1. Centerline	Scope does not require service.
3.9.3.2. Break back line(s)	Scope does not require service.
3.9.3.3. Curbline	Scope does not require service.
4.2. Develop Plan and Profile sheets for 1" = 40' plans; Existing ground profiles at	Modified: Profile Sheets will not be developed for the roadway.
4.2.1. Centerline	Scope does not require service.
4.2.2. 13 feet left of centerline	Scope does not require service.
4.2.3. 13 feet right of centerline	Scope does not require service.
4.3.6. Prepare Retaining wall plans for all retaining walls in excess of 3'	
	Scope does not require service.
4.4. Establish Horizontal Channel alignments showing	Scope does not require service.
4.4.1. Centerline geometry (centerline bearings, PI, PC, and PT stations, centerline curve data, etc.)	Scope does not require service.
4.4.2. Bottom width, horizontal distance to top of design section slope, etc.	Scope does not require service.
4.5. Establish Roadway profiles	Scope does not require service.
4.5.1. Estimate storm drainage velocities	Scope does not require service.
4.5.2. Establish maximum flow capacity	Scope does not require service.
4.6. Establish Design Discharges	Modified: At cemetery crossing and one additional crossing.
4.6.1. Delineate drainage areas and establish flow patterns	Modified: At cemetery crossing and one additional crossing.
4.6.2. Develop runoff coefficients	Modified: At cemetery crossing and one additional crossing.
4.6.3. Develop times of concentration and related intensities	Modified: At cemetery crossing and one additional crossing.
4.6.4. Calculate preliminary design discharges	Modified: At cemetery crossing and one additional crossing.
4.7.1. Roadways	Scope does not require service.
4.7.1.1. Establish inlet locations and design discharges	Scope does not require service.
4.7.1.2. Develop storm drainage facility sizes, incremental times of concentration, effective drainage areas, design discharges, friction and junction losses, etc.	
	Scope does not require service.
4.7.1.3. Establish preliminary horizontal and vertical alignments of storm drainage facilities (Max EGL is 1.3 feet below top of curb)	
	Scope does not require service.
4.7.1.5. Establish lateral sizes	Scope does not require service.
4.7.1.6. Lateral details [with] [without] underground utilities	Scope does not require service.
4.7.2. Channels	Scope does not require service.
4.7.2.1. Model existing drainage channel	Scope does not require service.
4.7.2.2. Establish analysis nodes	Scope does not require service.
4.7.2.3. Develop channel sizes, slopes, velocities, incremental times of concentration,	
effective drainage areas, design discharges, friction and structure losses, etc.	
	Scope does not require service.
4.7.2.4. Develop pre-project and post-project water surface profiles	
	Modified: At cemetery crossing and one additional crossing.
4.7.2.5. Identify and design energy dissipation facilities	Scope does not require service.
4.7.3. Bridges	Scope does not require service.
4.7.4.1. Tie to FEMA models	Scope does not require service.
4.7.4.2. Secure CLOMR	Scope does not require service.
4.7.4.3. Secure LOMR	Scope does not require service.
5. Pavement Design	Scope does not require service.
5.1. Design pavement sections using CoSA Pavement Design Standards – Appendix 10-A	Scope does not require service.
6.2. Channel cross sections	Modified: Roadside ditches within ROW only.

Attachment C
City of San Antonio Design Guidance Manual
Scope Exclusions and Modifications

Exclusion / Modifications	Reason for Exclusion / Modifications
6.3. Box culvert excavation cross sections	Scope does not require service.
7. Proposed Utility Plans	Scope does not require service.
7.1. Prepare Sanitary Sewer plan and profiles	Scope does not require service.
7.1.1. Coordinate with SAWS on service history, video results, adequacy, etc.	Scope does not require service.
7.1.2. Establish extent of sanitary sewer construction (to nearest manhole) (coordinate with roadway design)	Scope does not require service.
7.2. Prepare Water line plans	Scope does not require service.
7.2.1. Coordinate with SAWS on service history, adequacy, etc.	Scope does not require service.
7.2.2. Establish extent of water construction (coordinate with roadway design)	Scope does not require service.
7.3. Prepare Gas line plans	Scope does not require service.
7.3.1. Probe main	Scope does not require service.
7.3.2. Probe services	Scope does not require service.
7.3.3. Establish extent of gas line construction	Scope does not require service.
8.2. Prepare Traffic Signal Plans	Scope does not require service.
8.6. Prepare Driveway Plats	Scope does not require service.
9.4. Complete Streets Public Meeting and Field Analysis Checklist	Scope does not require service.
9.5. Preliminary Engineering Report Review	Scope does not require service.
9.6. 40% Plans Review Meeting	Scope does not require service.
9.7. 70% Plans Review Meeting	Modified: 60% Review Meeting
10.1. Preliminary Engineering Report Cost Estimate (if required)	Scope does not require service.
10.2. 40% Plans Cost Estimate	Scope does not require service.
10.3. 70% Plans Cost Estimate	Modified: 60% Review Meeting
11.1. Stake center line (or ROW) of roadway and/or channel for utility adjustment prior to the project bid	Scope does not require service.
11.2. Reestablish project control points for contractor's use before construction	Scope does not require service.



142 Chula Vista, San Antonio, Texas 78232 • Phone: (210) 308-5884 • Fax: (210) 308-5886

October 14, 2019
Arias Job No. 2019-925

VIA Email: blarson@garzaemc.com

Mr. Brett Larson, P.E.
Project Manager
Garza emc
100 NE Loop 410, suite 1090
San Antonio, Texas 78216

RE: Proposal for Geotechnical Engineering Services
Pedestrian Bridge
Mission Road
San Antonio, Texas

Dear Mr. Larson:

Thank you for the opportunity to submit this proposal for geotechnical engineering services for the proposed project. Arias provides our clients with innovative and cost-effective solutions to the geotechnical challenges present in the San Antonio area.

Project Information

Garza emc is assisting with the planning and design of a Pedestrian Bridge over a drainage channel located on Mission Road north of Stinson Airport in San Antonio, Texas. Structural loading has not been provided to us at the time of this proposal preparation. However, due to our experience with similar structures, we anticipate that the structure will be relatively lightly loaded at each foundation.

Due to our experience in the San Antonio area, we anticipate the borings encountering the Fluvialite Terrace Deposits (Qt) Geologic Formation. This formation generally contains highly expansive clay soils, and due to the lightly loaded structure, we anticipate uplift due to expansive soils will likely be the controlling factor in the design of the foundation and our boring depths reflect such.

Proposed Scope of Services

Based on the information and direction provided by Garza emc, the following geotechnical services are proposed for the project:

1. The following number and depth of borings are proposed for the project.

Structure	No. of Borings	Boring Depth, ea. (ft.)	Drilling Footage, (ft.)
Pedestrian Bridge	2	25	50
		Total, (ft.)	50

Austin • Corpus Christi • Eagle Pass • Fort Worth • San Antonio

Arias will retain a subcontract driller to perform drilling; however, Arias personnel will locate the borings, will direct the sampling efforts, and will visually classify recovered samples. Soil interpreted to be clay in the field will be sampled by either pushing a thin-walled tube (ASTM D 1587) or with a split barrel sampler while performing the Standard Penetration Test (ASTM D 1586). Soil interpreted to be sand or gravel in the field will be sampled with a split barrel sampler while performing the Standard Penetration Test (ASTM D 1586). Samples in bedrock where SPT samples cannot be obtained will be taken from the auger cuttings. Rock coring is not included in our service scope. Recovered soils/rock will be visually classified in the field.

2. If groundwater is encountered, the groundwater levels within the open borehole will be recorded at the time of drilling and immediately following drilling. The boreholes will be backfilled with cuttings generated by drilling operations after completion of drilling.
3. Laboratory testing will be performed on recovered samples selected by the geotechnical engineer to aid in soil classification and to measure engineering properties. Laboratory testing is expected to include moisture content, Atterberg limits, fines content, and unconfined compression strength testing. The actual laboratory program will depend upon the type of soils encountered.
4. We will issue an electronic copy of our formal engineering report prepared by a licensed professional engineer in Texas that will include:
 - Description of the field exploration program;
 - Description of the laboratory testing program;
 - Soil boring plan that depicts borehole locations on a base map provided by Client;
 - Soil boring logs with soil classifications based on the Unified Soil Classification System (ASTM D 2487);
 - Description of site geology based on location of the site on the Geologic Atlas of Texas;
 - Generalized site stratigraphy and engineering properties developed from field and laboratory data at the explored locations;
 - Depth where groundwater was encountered during drilling and its potential impact on construction;
 - Site Class Determination based on 2015 IBC;
 - Site preparation recommendations and construction considerations to aid in mitigating expansive soils to help reduce the design PVR to 1" during and after construction; and,
 - Bearing capacity and applicable design criteria for the bridge structure.

Our report will not include providing/conducting recommendations or local or global stability analyses for retaining walls, shoring systems, or slopes, nor will it include providing pavement designs or any type of environmental services.

CoMET Services

Please be advised that Arias can perform Construction Materials Engineering and Testing (CoMET) if requested, we would be pleased to provide a scope of work and fee for these services.

Proposed Fee

We propose that the fee for the performance of the scope of work for this project based on our contract with the City of San Antonio and as described in this proposal be **\$7,092.00** and that the work will be performed as outlined in the General Conditions included with this proposal. We will submit monthly progress billing during the course of our study; invoicing will be based on the percentage of project completion to bill for project tasks as they are completed (i.e. site mobilization of geotechnical field testing equipment and personnel, completion of field work and laboratory testing, design services, report preparation, etc.).

We have prepared our scope and fee with the understanding that no concrete coring will be required, and that no special permission will be needed for access and that the borings will be drilled with a conventional truck-mounted drill rig. We have assumed that you will provide free access to the site. We have not included any traffic control costs. However, due to limited access for our drilling equipment, there may be a need for one (1) day of traffic control. The cost for one (1) day of traffic control for this project would be \$2,000.00 which would be added to the project amount shown above. Meetings after report submission and supplemental letters are not included in our proposed project fees. If required, these items will be billed according to the current Arias & Associates Unit Rate Schedule for Geotechnical Services.

Our proposed scope of work has been prepared with the understanding that Arias will not provide an environmental assessment or environmental work of any kind. If contaminated soils are encountered during the field work, our soil borings will stop and our client will be notified immediately.

Site Access

Our borings will be sited as close as practical to the proposed site improvements to provide access to a truck mounted drill rig. Time and efforts for site clearing and gaining access have not been included in our proposed scope and fee.

Schedule

The following anticipated schedule of services was developed based on our understanding of the proposed project and our experience with similar projects:

- The field exploration can typically begin about one (1) to two (2) weeks after receiving written authorization (signed proposal).
- Field drilling and sampling is expected to take approximately one (1) day to complete (**weather permitting**).
- The geotechnical laboratory testing should take approximately seven (7) to ten (10) days to complete.
- Preliminary results can be provided within about four (4) weeks after completion of the field work.
- The final Report will be completed within approximately four (4) to five (5) weeks of completing the borings.

Delays sometime occur due to adverse weather, utility clearance requirements, site clearing requirements for drill rig access, obtaining drilling permits, obtaining Right of Entries and other factors outside of our control. In this event, we will communicate the nature of the delay with you and provide a revised schedule at the earliest possible date.

Arias Assigned Personnel

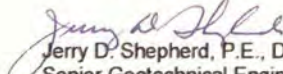
Jerry D. Shepherd, P.E., D.GE (Board Certified Geotechnical Engineer) will serve as Project Engineer/Manager on this project. His Certification was granted by ASCE's American Academy of Geotechnical Engineers (AGP), an independent Board certification organization that certifies the competence of Geotechnical Engineers in their area of geotechnical specialization based on experience and education. This is a highly prestigious certification held by a small percentage of all geotechnical engineers in the United States.

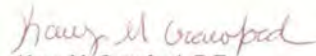
Proposal Acceptance

Please let us know whether our proposal meets your expectations. We will begin work upon receipt of a signed copy of this proposal by an authorized representative. Please return the entire signed proposal to us by fax, mail or email to jshepherd@ariasinc.com. Please see signature block below and fill out as applicable. If billing address is different than above, please complete that address information as well.

Should you have any questions, please do not hesitate to contact Jerry by email or on his direct line at (210) 499-6810 or on his cell phone at (210) 288-0009. We appreciate the opportunity provided and look forward to becoming an integral part of the Project Team.

Sincerely,
ARIAS & ASSOCIATES, INC.
TBPE Registration No. F-32


Jerry D. Shepherd, P.E., D.GE
Senior Geotechnical Engineer


Kacy M. Crawford, P.E.
Geotechnical Engineer

A C C E S S I B I L I T Y

U N L I M I T E D

Fee Schedule

Fees are based on the estimated project construction cost.

<u>Plan Review Fees:</u>	<u>Plan Review only / Plus filing with TDLR</u>	
\$50,000 - \$100,000	\$350.00	\$550.00
\$100,001 - \$250,000	\$400.00	\$600.00
\$250,001 - \$500,000	\$450.00	\$650.00
\$500,001 - \$1,000,000	\$500.00	\$700.00
\$1,000,001 - \$2,500,000	\$575.00	\$775.00
\$2,500,001 - \$5,000,000	\$650.00	\$850.00
\$5,000,001 - \$10,000,000	\$725.00	\$925.00
\$10,000,001 - \$15,000,000	\$875.00	\$1,075.00
\$15,000,001 - \$25,000,000	\$1,025.00	\$1,225.00
\$25,000,001 - \$35,000,000	\$1,250.00	\$1,450.00
\$35,000,001 - \$50,000,000	\$1,350.00	\$1,550.00
>\$50,000,000	Please contact us for quote.	

Inspection Fees: (For projects located in Bexar County)**

\$50,000 - \$100,000	\$475.00*
\$100,001 - \$250,000	\$525.00*
\$250,001 - \$500,000	\$575.00*
\$500,001 - \$1,000,000	\$625.00*
\$1,000,001 - \$2,500,000	\$675.00*
\$2,500,001 - \$5,000,000	\$725.00*
\$5,000,001 - \$10,000,000	\$775.00*
\$10,000,001 - \$15,000,000	\$825.00*
\$15,000,001 - \$25,000,000	\$1,025.00*
\$25,000,001 - \$35,000,000	\$1,250.00*
\$35,000,001 - \$50,000,000	\$1,350.00*
>\$50,000,000	Please contact us for quote.

* The Inspection fee will be reduced by \$25.00 if paid at same time as Plan Review fee.

**Inspections on projects located outside of Bexar County will incur an additional travel fee. Please contact us for quote.

***As of July 2017, files that we request back from TDLR after been having transferred for inspection overdue will be bumped up to the next price bracket, to cover the administrative time and cost of requesting the file back from TDLR.

Revised: 5/20/19

1218 E. Euclid • San Antonio, Texas 78212 • Tel. (210) 271 - 1014

ATTACHMENT A - FEE SCHEDULE		City of San Antonio, Texas									
HDR ENGINEERING, INC.		Mission Road - Supplemental Scope of Work (Illumination and Drainage)									
Estimate of Engineering Services Budget											
HDR Engineering, Inc.	No. of Sheets	Sr. Project Manager	Senior Engineer	Project Engineer	Project Designer	BY	Sr. Engineering Tech	Accountant Tech	Admin/Clerical	Total Hours	Total Labor Cost
		\$180.07	\$107.35	\$135.16	\$118.80	\$93.61	\$109.21	\$108.45	\$56.25		
FC 145 Project Management											
Prepare Monthly Invoices		5						2		9	\$1,492.77
Project Coordination		15								15	\$2,177.25
Site Visits (1 visit)		4		4						4	\$1,108.92
	FC - 145 Subtotal - Labor	0	20	0	4	0	0	0	0	33	\$6,998.94
FC 101 Drainage											
D. Hydrology and Hydraulic Analysis											
1d. Preliminary Hydraulic Analysis/Design		4	2	18		19				50	\$6,624.84
1b. Drainage Report		2	1	4		8			2	17	\$2,315.12
1c. Identify Drainage Elements		2		2		8				12	\$1,415.34
2a. Data Collection				4		8	8			12	\$1,285.12
2b. Hydrology and Exterior Drainage Area Maps		4	2	16		28				60	\$7,616.00
2c. Hydraulic Analysis		8	2	12		24				46	\$5,803.64
2d. Hydraulic Data Sheets		4	1	10		20	16			51	\$5,982.85
E. Drainage Design											
2e. Interior Drainage Area Maps										0	\$0.00
2f. Ditch Tables										0	\$0.00
2g. Analyze Driveway Drainage										0	\$0.00
	FC - 101 Subtotal - Labor	0	24	0	60	0	120	0	2	234	\$38,048.89

Illumination											
EDS Submittal											
1 Adjustment of Illumination assemblies for new addition roadway reconstruction		4						2	4	\$947.38	
1a Illumination Summary, Plans, Details, Schematics, Standards & Specs			1	88					0	\$0.00	
1b O&GCs			1	2					1	\$174.25	
2 Adjustment of Illumination assemblies for existing water line not being relocated									0	\$0.00	
2a Illumination Summary, Plans, Details, Schematics, Standards & Specs			0.5	12					11.9	\$1,494.71	
2b Cost Estimates and O&GCs			0.5	0					2.5	\$622.97	
3 Redesign the Illumination assemblies' banner areas for new City banner size									0	\$0.00	
3a Illumination Summary, Plans, Details, Schematics, Standards & Specs			0.5	3					1.5	\$472.75	
3b Cost Estimates and O&GCs			0.5	1					1.5	\$362.97	
4 Change the Illumination assemblies lamp source type									0	\$0.00	
4a Illumination Summary, Plans, Details, Schematics, Standards & Specs			1	2					2	\$270.73	
4b Cost Estimates and O&GCs									2	\$501.00	
									0	\$0.00	
								1	3	\$462.69	
EDS Submittal											
1 Adjustment of Illumination assemblies for new addition roadway reconstruction	10	2							1	3	\$462.69
1a Illumination Summary, Plans, Details, Schematics, Standards & Specs			0.5	8					8.5	\$987.20	
1b O&GCs			1	1					2	\$501.00	
2 Adjustment of Illumination assemblies for existing water line not being relocated									0	\$0.00	
2a Illumination Summary, Plans, Details, Schematics, Standards & Specs			0.25	6					4.25	\$722.33	
2b Cost Estimates and O&GCs			0.25	1					1.75	\$277.97	
3 Redesign the Illumination assemblies' banner areas for new City banner size									0	\$0.00	
3a Illumination Summary, Plans, Details, Schematics, Standards & Specs			0.25	1					1	\$114.99	
3b Cost Estimates and O&GCs			0.25	1					1.25	\$148.91	
4 Change the Illumination assemblies lamp source type									0	\$0.00	
4a Illumination Summary, Plans, Details, Schematics, Standards & Specs			0.25	1					1	\$114.99	
4b Cost Estimates and O&GCs									1.25	\$148.91	
									0	\$0.00	
									1	3	\$462.69
Submittal											
1 Adjustment of Illumination assemblies for new addition roadway reconstruction		2							1	3	\$462.69
1a Illumination Summary, Plans, Details, Schematics, Standards & Specs			0.25	4					4.25	\$493.60	
1b O&GCs			0.5	0.5					1	\$125.93	
2 Adjustment of Illumination assemblies for existing water line not being relocated									0	\$0.00	
2a Illumination Summary, Plans, Details, Schematics, Standards & Specs			0.25	4					4.25	\$493.60	
2b Cost Estimates and O&GCs			0.5	0.5					1	\$125.93	
3 Redesign the Illumination assemblies' banner areas for new City banner size									0	\$0.00	
3a Illumination Summary, Plans, Details, Schematics, Standards & Specs									2	\$250.78	
3b Cost Estimates and O&GCs			0.25	0.5					0.75	\$91.43	
4 Change the Illumination assemblies lamp source type									0	\$0.00	
4a Illumination Summary, Plans, Details, Schematics, Standards & Specs									2	\$250.78	
4b Cost Estimates and O&GCs			0.25	0.5					0.75	\$91.43	
									0	\$0.00	
									1	3	\$462.69
Illumination Subtotal - Labor	0	8	0	10	72	0	0	0	4	94	\$11,588.44
TOTAL SHEETS	0										
Total - Labor Hours	58	8	78	72	126	40	3	6	391	\$47,876.11	
Total - Labor Cost	\$11,517.48	\$1,238.00	\$18,875.04	\$8,272.00	\$11,233.20	\$4,388.40	\$201.25	\$199.30			
GRAND TOTAL										\$47,876.11	

Mission Road in San Antonio, Texas
Supplemental Scope of Work for San Antonio
8 November 2019
Paul Davila, PE
Ron Branyon, PE

1. Project Description

For this project HDR Engineering, Inc. (HDR), will provide supplemental engineering to analyze the existing and proposed drainage improvements to accommodate the new additions (Shared-use paths and sidewalks) to the roadway reconstruction along Mission Road (approximately 1.75 miles) from SE Military to the SA River and along Acequia Road (approximately 0.25 miles) from Mission Road to the E Ashley Road in San Antonio, TX. The project also includes the following illumination design changes: 1. Slight adjustments of the continuous illumination assemblies and underground infrastructure to accommodate the new additions to the roadway reconstruction. 2. Adjusting a select number of continuous illumination assemblies and underground infrastructure from a left side offset to a right side offset to avoid an existing underground water line that is not being relocated by SAWS. 3. Redesign the custom continuous illumination assemblies' banner arms to accommodate the new City banner size requirements. 4. Change the custom continuous illumination assemblies lamp source type from HID to LED if available by the luminaire manufacturer.

2. Project Task List

- a. Data Collection
 - i. Revised roadway reference files
 - ii. Existing utilities overhead and underground routing
 - iii. Illumination assembly lamp source option (LED) verification with luminaire manufacturer.
 - iv. City new banner size requirements
- b. Garza to provide the following
 - i. Existing and proposed topographic survey and surface
 - ii. Roadway files and known utility data
 - iii. Shared-use lane alignment and line work for other proposed infrastructure
- c. Site Visit
 - i. HDR will perform 1 site visit. (Attended by PM and PE)
- d. Illumination Design
 - i. Slight adjustment of continuous illumination assemblies for new additions to roadway reconstruction
 1. Prepare revised illumination assembly locations
 - ii. Adjustment of continuous illumination assemblies for existing water line not being relocated
 1. Prepare revised overcurrent protection of branch circuits and electrical services
 2. Prepare revised electrical service data loads
 3. Prepare revised illumination assemblies and underground infrastructure locations

Mission Road in San Antonio, Texas
Supplemental Scope of Work for San Antonio
8 November 2019
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4. Coordinate revised photometric analysis verification (project limits) with CPS based on revised continuous illumination assembly locations. CPS to re-develop the photometric analysis.
 5. Coordinate revised voltage drop verification with CPS based on revised continuous illumination assembly locations. CPS to re-develop the voltage drop calculations.
 - iii. Redesign the custom continuous illumination assemblies' banner arms for new City banner size requirements
 1. Prepare revised custom continuous illumination assembly details
 2. Coordinate EPA wind load verification with the illumination assembly manufacturer based on new City banner size requirements.
 - iv. Change the custom continuous illumination assemblies lamp source type
 1. Prepare revised overcurrent protection of branch circuits and electrical services
 2. Prepare revised electrical service data loads
 3. Coordinate revised photometric analysis verification (project limits) with CPS based on revised continuous illumination assembly locations. CPS to re-develop the photometric analysis.
 4. Coordinate revised voltage drop verification with CPS based on revised continuous illumination assembly locations. CPS to re-develop the voltage drop calculations.
3. Drainage Analysis
 - a. HDR will develop the existing and proposed drainage analysis for 2 crossings (Cemetery crossing and one additional)
 - i. All drainage calculations will be based on COSA Drainage Design Manual
 - b. HDR will develop a downstream impact analysis and provide one mitigation design option.
 - c. HDR will develop a drainage design memorandum documenting methodologies and assumptions
4. Electrical & Illumination System
 - a. Scope
 - i. Slight adjustment of continuous illumination assemblies for new additions to roadway reconstruction
 1. Coordinate and revise illumination assembly locations
 2. Coordinate and revise underground infrastructure routing
 - ii. Adjustment of continuous illumination assemblies for existing water line not being relocated
 1. Coordinate and revise electrical service and branch circuiting overcurrent protection and loads

Mission Road in San Antonio, Texas
 Supplemental Scope of Work for San Antonio
 8 November 2019
 Paul Davila, PE
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2. Coordinate any electrical service load changes with CPS
 3. Coordinate and revise illumination assembly locations
 4. Coordinate and revise underground infrastructure routing
 5. Revise electrical service data loads.
 6. Revise electrical schematics
 7. Coordinate revised photometric analysis (project limits) changes with CPS for continuous illumination foot-candle compliance.
 8. Coordinate revised voltage drop calculations changes for branch circuits with CPS for NEC compliance.
- iii. Redesign the custom continuous illumination assemblies' banner arms for new City banner size requirements
1. Coordinate new EPA wind load manufacturer requirements
 2. Revise illumination assembly details
- iv. Change the custom continuous illumination assemblies lamp source type
1. Coordinate and revise electrical service and branch circuiting overcurrent protection and loads.
 2. Coordinate any electrical service load changes with CPS
 3. Revise electrical service data loads
 4. Coordinate revised photometric analysis (project limits) changes with CPS for continuous illumination foot-candle compliance.
 5. Coordinate revised voltage drop calculations changes for branch circuits with CPS for NEC compliance.

5. Schedule & Deliverables (Table)

Milestone	Deliverable	Due to Client
60%	Hydrology and Hydraulic Data sheets, drainage calculations and H&H Memo, Preliminary Illumination Layouts, Details, Standards, and Specifications	90 Calendar Days from NTP
95%	Hydrology and Hydraulic Data sheets, drainage calculations and H&H Memo, Preliminary Illumination Layouts, Details, Standards, and Specifications	30 Calendar Days from 60% design NTP

Mission Road in San Antonio, Texas
 Supplemental Scope of Work for San Antonio
 8 November 2019
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Milestone	Deliverable	Due to Client
Bid (100%)	Hydrology and Hydraulic Data sheets, drainage calculations and H&H Memo, Ready to Bid Illumination Layouts, Details, Standards and Specifications	15 Calendar Days from 95% design NTP

6. Design Fee Qualifications

- a. All illumination drawing files will be produced in 2D utilizing Microstation.
- b. City to provide illumination assembly new banner size requirements.
- c. CPS to provide revised illumination photometric analysis and voltage drop verification.
- d. Floodplain development permit and CLOMR, LOMR analysis is not required as part of this analysis.
- e. Storm sewer analysis will not be required as part of this scope.

7. Exclusions – The Scope of Services DOES NOT include the following:

- a. Infrastructure design including bridges, culverts, and drains will be developed by Garza. HDR will only provide flows and WSELS to develop drainage plans.
- b. Downstream impacts and impacts due to increased impervious cover will not be evaluated
- c. SW3P and erosion control plan development.
- d. Revising or adding new electrical loads to any existing electrical services within project limits.
- e. Removal of existing utility company pole mounted illumination heads and arms controlled and owned by the utility company.
- f. Conducting field data collection of the utility company power source voltage availability and existing utility overhead and/or underground power source infrastructure.
- g. Final Coordination Study.
- h. Arc Flash Analysis.
- i. Project review meetings
- j. Construction phase site visits, reports, walk-throughs, and punch-list.
- k. Revising the illumination assembly locations more than 2' in either direction to accommodate the new additions of the roadway reconstruction.
- l. Revisions to the illumination assembly detail/specifications.
- m. Hydraulic analysis of the existing roadside ditches (Pre and Post Conditions)
- n. Analysis of existing driveway culverts.
- o. Downstream impacts due to increased impervious cover and locations other than crossing near cemetery.

Mission Road in San Antonio, Texas
 Supplemental Scope of Work for San Antonio
 8 November 2019
 Paul Davila, PE
 Ron Branyon, PE

8. Budget (Attachment A – Fee Schedule)

9. Sheet List:

Number	Description
1	Illumination Summary (Add Alt. 1 & 3)
2	Illumination General Notes (Add Alt. 1 & 3)
3	Illumination Layout (Add Alt. 1)
4	Illumination Layout (Add Alt. 1)
5	Illumination Layout (Add Alt. 1)
6	Illumination Layout (Add Alt. 1)
7	Illumination Layout (Add Alt. 1)
8	Illumination Layout (Add Alt. 1)
9	Illumination Layout (Add Alt. 1)
10	Illumination Layout (Add Alt. 1)
11	Illumination Layout (Add Alt. 1)
12	Illumination Layout (Add Alt. 1)
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20	Illumination Layout (Add Alt. 1)
21	Illumination Layout (Add Alt. 1)
22	Illumination Layout (Add Alt. 1)
23	Illumination Layout (Add Alt. 1)
24	Illumination Layout (Add Alt. 1)
25	Illumination Layout (Add Alt. 1)
26	Illumination Details (Add Alt. 1 & 3)
27	Illumination Details (Add Alt. 1 & 3)
28	FAA Obstruction Illumination Details (Add Alt. 3)
29	Illumination Schematics (Add Alt. 1 & 3)
30	Illumination Schematics (Add Alt. 1 & 3)
31	Illumination Layout (Add Alt. 3)
32	Illumination Layout (Add Alt. 3)
33	Illumination Layout (Add Alt. 3)
34	Illumination Layout (Add Alt. 3)
	TxDOT Electrical/Illumination Standards

City of San Antonio - Capital Improvements Management Services Department

Design Division Manual

PROJECT WORK PLAN AND FEE PROPOSAL BREAKDOWN

Project: Mission Road
 Prime Consultant: Garza EMC
 Subconsultant: LNV
 Program Title: 10160295
 Project ID #: Byron Sandoval

TASK CODE AND DESCRIPTION	Insert Positions As Required Insert Approved Hourly Rate for Each Position								TASK HOURS	TASK PRICE (FEE)
	Project \$225.00	Project Manager \$175.00	Project Engineer \$140.00	EF 18 \$95.00	CADD Techn \$95.00	SP14 \$140.00	SP \$100.00	2-Min Survey Crew \$90.00		
Additional Services - Additional Topographic Survey	0	0	0	0	0	0	0	0	0	\$0.00
04 Additional Topographic Survey for the entire project by Garza										\$0.00
04 040 Top Survey beyond the ROW								2	30	\$5,700.00
04 040 Additional surface topogms								2	30	\$5,700.00
04 040 Additional 40' x 40'								2	30	\$5,700.00
04 040 Update 7 files and processing								5	30	\$1,500.00