



1120 S. Capital of Texas Highway
CityView 2, Suite 100
Austin, Texas 78746
TBPE Firm #6535
P - 512.338.1704 F - 512.338.1784
kfriese.com

June 12, 2019

Ms. Jacquelyn M. Thomas, P.E.
Senior Engineer
Capital Improvements/Engineering
City of San Marcos
630 E. Hopkins Street
San Marcos, TX 78666

Sent Via: E-MAIL

Re: Midtown East Drainage Improvements Phase 1A
Proposal for Design, Bid, and Construction Phase Services

Dear Ms. Thomas:

Attached is our proposal to provide Professional Engineering Services for the design, bid, and construction of the Midtown East Drainage Improvements Phase 1A project. Our proposal consists of the following:

- Attachment A – Scope of Services
- Attachment B – Manpower/Budget Estimate
- Schedule
- Subconsultant Proposals

We appreciate the opportunity to provide these services and if you have any questions or need additional information. Please do not hesitate to contact me.

Sincerely,

Thomas M. Owens, P.E.
Executive Vice President

ATTACHMENT A
CITY OF SAN MARCOS
MIDTOWN DRAINAGE IMPROVEMENTS – PHASE 1A
SCOPE OF SERVICES

Project Understanding

The work to be performed by K Friese + Associates (KFA) under this contract shall consist of providing Engineering, Final Design, Bid and Construction Phase Services for the Midtown Drainage Improvements Phase 1A Project. The project will provide localized drainage improvements, channel improvements, and culvert improvements within the project area shown on the attached exhibit and described in the Preliminary Engineering Report (PER) as Alternative 1A. The scope includes approximately 1900 linear feet of a 10-foot wide concrete maintenance trail between Aquarena Springs and Davis Lane. The proposed bypass channel, paralleling Davis Lane, is anticipated to be located on private property south of Davis Lane.

Basic Scope of Services

Phase A – Design Phase

1. Project Management

Project Management includes routine communication with the City, managing subconsultants, schedules, invoicing, progress reports, monitoring QA/QC efforts, and other activities associated with managing the project.

2. Quality Control Plan

KFA will prepare a Quality Control Plan for the project which outlines QA/QC procedures, scheduled reviews, detailed project scheduling, and assigned QA/QC managers for various tasks. QA/QC reviews will be conducted and documented at each major submittal by an independent KFA staff member.

3. Meetings + Coordination

- a. Coordination meetings with City staff shall be held to discuss project-related issues, review progress, and address issues which may arise. Monthly status meetings or conference calls are anticipated throughout the duration of the project. A total of twelve (12) meetings are anticipated.
- b. Submittal Review Meetings are anticipated to review the 30%, 60%, and 90% submittals with the City.

4. State + Federal Compliance/Coordination

KFA understands that all project components must comply with the US Department of Housing and Urban Development (HUD) regulations throughout the duration of the project. KFA will satisfy the tasks documented in the City's Action Plan and will coordinate with the City on any deviations from the original plan. KFA will schedule a meeting with the City's Community Development Block Grant (CDBG) administrator to ensure all project requirements are understood.

5. Permitting

- a. TxDOT permitting will follow the Local Government Project Procedures (LGPP) as required by TxDOT. KFA will work with the City and TxDOT to obtain a permit for work within TxDOT right-of-way for the curb cuts at the IH-35 NBFR.
- b. TCEQ Storm Water Permit: KFA will prepare and submit a TCEQ Stormwater Pollution Prevention Plan.

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- c. TDLR/TAS review and inspection will be provided by Altura Solutions in accordance with their attached proposal dated March 15, 2019.

6. *Data Collection*

- a. KFA will work with the City to collect as-built information for electric, water, wastewater, and storm sewer infrastructure within the project limits.
- b. KFA will contact local private utility providers to obtain maps and available record drawings of utilities within the project limits.
- c. KFA will coordinate directly with the Northgate Center Developer to obtain any updated information on the development and to coordinate City improvements on the site.
- d. KFA will perform one (1) site visit which will include City staff to discuss project design elements and constraints. KFA will document site visits with field reports and organized photos.

7. *Field Investigation*

- a. Topographic Survey will be provided by subconsultant Gorrondona & Associates, Inc. in accordance with their attached proposal.
- b. Geotechnical Borings and laboratory testing services will be provided by subconsultant Gorrondona & Associates in accordance with their attached proposal.
- c. Environmental services will be provided by subconsultant Cox | McClain Consulting, Inc. in accordance with their attached proposal.

8. *Drainage Analysis*

- a. Hydrology: KFA will refine the HEC-HMS model developed during the PER phase as appropriate based on newly available data or details for existing and proposed conditions. KFA will develop preliminary peak flow rates for up to five (5) specified design storms according to the City criteria for each identified point of interest.
- b. Hydraulics: KFA will refine the HEC-RAS model developed during the PER phase as appropriate based on newly available data or details for existing and proposed conditions.

9. *30% Design*

30% Plan Sheets will be developed on 11" x 17" sheets in accordance with the City's Engineering/CIP Plan Review Checklist and consist of the following:

- a. Cover Sheet
- b. General Notes Sheet with Sequence of Construction
- c. Project Lay-out Sheet
- d. Channel and Maintenance Path Alignment Sheets (Plan View only 1" = 40')
- e. Typical Channel Sections
- f. Bypass Channel Diversion Structure
- g. Bypass Channel Outfall Bank Stabilization

10. *60%, 90%, 99%, and 100% Design*

60%, 90%, 99%, and 100% Plan Sheets will be developed on 11" x 17" sheets in accordance with the City's Engineering/CIP Plan Review Checklist and consist of the following:

- a. Cover Sheet

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- b. General Notes with Sequence of Construction – 1 Sheet
- c. Project Lay-out – 1 Sheet
- d. Summary of Quantities – 2 Sheets
- e. Drainage Area Map – 1 Sheet
- f. Hydrologic Calculations – 1 Sheet
- g. Existing Channel and Proposed Maintenance Path Plan and Profile Sheets (1" = 40') – 5 Sheets
- h. Proposed Bypass Channel Plan and Profile Sheets (1" = 40') – 4 Sheets
- i. Typical Channel Sections (every 50 feet) - 12 Sheets
- j. Sidewalk Bridge at IH-35 NBFR and Aquarena Springs Drive intersection – 1 Sheet
- k. Culvert Layout - Davis Lane – 1 Sheet
- l. Culvert Layout – River Road – 1 Sheet
- m. Culvert Hydraulic Calculations – Davis Lane – 1 Sheet
- n. Culvert Hydraulic Calculations – River Road – 1 Sheet
- o. Typical Drainage Details – 4 Sheets
- p. Bypass Channel Diversion Structure – 2 Sheets
- q. Bypass Channel Outfall Bank Stabilization – 2 Sheets
- r. Typical Maintenance Path Sections – 2 Sheets
- s. Maintenance Path Special Details – 1 Sheet
- t. Traffic Control/Detour Sheets – 4 Sheets
- u. Traffic Control Details – 2 Sheets
- v. Pavement Restoration – 3 Sheets
- w. Erosion and Sedimentation Control Sheets – 6 Sheets
- x. Standard Details – 4 sheets

11. Specifications

Specifications will be developed using City of San Marcos Standard Specifications with Special Provisions and Special Specifications when needed.

12. Engineer's Opinion of Probable Construction Cost (OPCC)

The OPCC included in the Preliminary Engineering Report will be updated and provided with each submittal.

13. Deliverables

Deliverables will be submitted electronically in Portable Document Format (pdf) and consist of the following:

- a. 30% Submittal
 - 1. 30% Plans
 - 2. OPCC

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3. Design and Construction Schedule
- b. 60%, 90% and 99% Submittal
 1. 60%, 90%, or 99% Plans
 2. Technical Specifications (Table of Contents only for 60%)
 3. OPCC
 4. Design and Construction Schedule
 5. Response to Previous Submittal Comments
- c. 100% Submittal
 1. Final Sealed Plans
 2. Final Sealed Technical Specifications
 3. Sealed OPCC
 4. Response to 99% Submittal Comments

Phase B - Bid Phase

1. Project Management: This task includes routine communication with the City; managing manpower, budgets, and schedules; invoicing; and other activities associated with managing the project.
2. Attend Pre-Bid Meeting: KFA will assist the City in conducting pre-bid meeting and developing the agenda.
3. Answer Questions: KFA will coordinate with the City for issuing responses for technical questions and requests for additional information.
4. Bid Tabulation and Recommendation of Award: KFA will assist the City in opening of bids, review all bids and evaluate them for responsiveness and bid amount. KFA will also check references, by telephone, of the low bidder and second low bidder. KFA will prepare a letter summarizing the review and evaluation and include recommendations for award of the contract for construction, or other action as may be appropriate. The City shall make the final decision on the award of the contract for construction and the acceptance or rejection of all bids.
5. Deliverables: KFA will incorporate addenda items in the Construction Plans; include addenda in the bound Project Manual; and issue a "Conformed" set of plans for construction.
 - a. Bid Form: KFA will provide the Bid Form in Word Document format.
 - b. Technical Specifications: KFA will provide one (1) pdf electronic copy of the Technical Specifications.
 - c. Conformed Plans: KFA will provide one (1) electronic copy of Construction Plans in pdf and four (4) 11" x 17" plan sets.

Phase C – Construction Phase

1. Project Management: This task includes routine communication with the City; managing manpower, budgets, and schedules; invoicing; and other activities associated with managing the project.
2. Project Meetings: KFA will attend regular construction meetings with the City, Contractor, and other parties as appropriate. KFA will visit the site to check the progress of the work and verify general conformance with the project plans and technical specifications. For budgeting purposes we have assumed twelve (12) combined site visits/meetings.

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3. Attend Pre-Construction Conference: KFA will attend a pre-construction conference for the project with the City, Contractor, and other parties as appropriate.
4. Submittal Review: KFA will review and approve submittals. For budgeting purposes we have assumed fifty (50) submittals.
5. Response to Requests for Information/Modifications: KFA will respond to all requests for information (RFI's) from the Contractor related to possible clarifications of plans and technical specifications. Ten (10) RFI's have been assumed.
6. Pay Application Review: KFA will review Contractor's Pay Applications after quantity concurrence by the City's Construction Inspector. Review of twelve (12) Pay Applications has been assumed.
7. Review of Change Orders: KFA will provide review of all Contractor's requests for Change Orders and coordinate Change Orders with the City as appropriate.
8. Substantial and Final Completion: KFA will participate in one site visit to determine outstanding items and document "punch list items". KFA will issue a Certificate of Substantial Completion when the contract requirements have been met. KFA will also notify TCEQ and other jurisdictional agencies of completion.

Phase D – Record Drawings

1. Record Drawings: KFA will review the Contractor's redline as-built drawings and incorporate deviations from the construction drawings as appropriate.
2. Deliverables: KFA will deliver one (1) set of 11" x 17" bond drawings and one (1) pdf electronic copy.

Schedule

The following project milestones are estimated and may require modification pending preliminary engineering results:

- | | |
|---|------------------|
| • 30% Design Documents Submittal (116 days) | November 1, 2019 |
| • 60% Design Documents Submittal (84 days) | January 24, 2020 |
| • 90% Design Documents Submittal (84 days) | April 17, 2020 |
| • 99% Design Documents Submittal (56 days) | June 12, 2020 |
| • 100% Design Documents Submittal (42 days) | July 24, 2020 |

City Responsibilities

1. The City will provide to KFA all data in the City's possession relating to KFA's services on the Project. KFA will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by the City.
2. The City will give prompt notice to KFA whenever the City observes or becomes aware of any development that affects the scope or timing of KFA's services.
3. The City will examine information submitted by KFA and render in writing or otherwise provide comments and decisions in a timely manner.
4. The City will obtain all necessary right-of-entries from required landowners.

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5. The City will provide Title Reports for properties with proposed easements.
6. The City will obtain all permanent sanitary sewer line, access, and temporary construction easements, including services such as appraisal of properties, negotiations with the property owners, and actual purchase of the easements.
7. The City will obtain all temporary and permanent access, and temporary construction easements.
8. The City will pay for all permit and license fees.
9. The City will field and document all questions during the Bid period and route technical questions to KFA requiring input from the Design Engineer.
10. The City will distribute all Addenda.
11. The City will draft and route all Change Orders
12. The City will provide construction inspection.

Additional Services

Additional Services to be performed, if authorized in writing by the City, but which are not included in the above-described Basic Scope of Services, and once a mutually agreed upon fee is negotiated are as follows:

1. Structural Engineering. Structural Engineering services will be required for design of the diversion structure and outfall structure. These services will be scoped following completion of 30% design when additional information is known.
2. Performing Subsurface Utility Engineering.
3. Utility relocation design.
4. Permitting beyond the specific permitting identified in the Scope of Services.
5. Performing title searches for easement or joint-use agreement preparation.
6. Preparation of additional easement/ boundary exhibits beyond the number identified in the Scope of Services.
7. Acting as an agent of the City in the acquisition of permanent or temporary easements or permanent Right of Way.
8. Preparation of platting documents and/or real property survey for site acquisition.
9. Accompanying the City when meeting with the TCEQ, U.S. Environmental Protection Agency, or other regulatory agencies during the course of the Project, beyond those meetings identified above.

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10. Preparing applications and supporting documents for government grants, loans, or planning advances.
11. Appearing before regulatory agencies or courts as an expert witness in any litigation with third parties or condemnation proceedings arising from the development or construction of the Project, including the preparation of engineering data and reports for assistance to the City.
12. Providing professional services associated with the discovery of any hazardous waste or materials in the project site.
13. Updating hydrology and hydraulic design based on NOAA Atlas 14.
14. Updating 2D InfoWorks model developed during PER.
15. Design of retaining walls for maintenance path or channels.

**ATTACHMENT B - KFA MANPOWER/BUDGET ESTIMATE
MIDTOWN DRAINAGE IMPROVEMENTS - PHASE 1A**

Task	Principal Hrs	Senior Engineer Hrs	Project Manager Hrs	Project Engineer Hrs	Project EIT Hrs	Senior Technician Hrs	Admin Hrs	Total Hrs	Labor Cost \$	CMEC \$	Gorron dona \$	Altura \$	Total Subconsultants \$	Expenses \$	Total Cost \$
Phase A - Design Phase															
1 Project Management	16	16	40				16	88	\$14,600				\$0	\$500	\$15,100
2 Quality Control Plan		4	8	4				16	\$2,400				\$0		\$2,400
3 Project Meetings + Coordination															
a Monthly Status Meetings (12)		12	36		18			66	\$8,880				\$0	\$500	\$9,380
b Submittal Review Meetings (3)		4	8		8			20	\$2,680				\$0	\$125	\$2,805
4 State + Federal Compliance/Coordination			8					8	\$1,000				\$0		\$1,000
5 Permitting															
a TxDOT		4	4		8			16	\$2,180				\$0		\$2,180
b TCEQ Stormwater			4		8			12	\$1,380				\$0		\$1,380
c TDLR/TAS			8					8	\$1,000			\$1,625	\$1,625		\$2,625
6 Data Collection															
a City As-Builts			2		4			6	\$690				\$0		\$690
b Private Utilities					8			8	\$880				\$0		\$880
c Northgate Center			4		4			8	\$940				\$0		\$940
d Site Visit		4	4		4			12	\$1,740				\$0	\$100	\$1,840
7 Field Investigations															
a Topographic Survey			4			4		8	\$940		\$46,400		\$46,400		\$47,340
b Geotechnical Investigations		4	4			4		12	\$1,740		\$22,611		\$22,611		\$24,351
c Environmental Services		4	4			4		12	\$1,740	\$32,513			\$32,513		\$34,253
8 Drainage Analysis															
a Hydrology			8					8	\$1,000				\$0		\$1,000
b Hydraulics			16					16	\$2,000				\$0		\$2,000
9 30% Design		8	40	8	40	40		136	\$16,600				\$0		\$16,600
10 60%, 90%, 99%, and 100% Design		60	260	60	210	280		870	\$107,400				\$0		\$107,400
11 Specifications		4	16	4	16			40	\$5,160				\$0		\$5,160
12 OPCC		4	8		16			28	\$3,560				\$0		\$3,560
13 Deliverables		4	20		20	8		52	\$6,380				\$0	\$1,000	\$7,380
Subtotal Phase A	16	132	506	76	364	340	16	1450	\$184,890	\$32,513	\$69,011	\$1,625	\$103,149	\$2,225	\$290,264
Phase B - Bid Phase															
1 Project Management	1		4				4	9	\$1,200				\$0	\$50	\$1,250
2 Pre-Bid Meeting			4		4			8	\$940				\$0	\$50	\$990
3 Answer Questions		4	4	4	4	4		20	\$2,780				\$0	\$50	\$2,830
4 Bid Tabulation and Recommendation of Award			4		8			12	\$1,380				\$0		\$1,380
5 Deliverables															
a Bid Form			1		2			3	\$345				\$0		\$345
b Technical Specifications			1		2			3	\$345				\$0		\$345
c Conformed Plans			2		4	4		10	\$1,130				\$0	\$1,000	\$2,130
Subtotal Phase B	1	4	20	4	24	8	4	65	\$8,120	\$0	\$0	\$0	\$0	\$1,150	\$9,270
Phase C - Construction Phase															
1 Project Management	2		12	8			16	38	\$4,900				\$0	\$250	\$5,150
2 Construction Mtgs & Site Visits (12)		12	48		12			72	\$9,720				\$0	\$500	\$10,220
3 Pre-Construction Conference		4	4		4			12	\$1,740				\$0	\$50	\$1,790
4 Submittal Review (50)		8	24		24			56	\$7,240				\$0		\$7,240
5 RFI's (10)		8	8	8	24	8		56	\$7,320				\$0		\$7,320
6 Pay Application Review (12)			12					12	\$1,500				\$0		\$1,500
7 Change Orders		8	8		8	8		32	\$4,360				\$0		\$4,360
8 Substantial and Final Completion		4	8		8			20	\$2,680				\$0	\$100	\$2,780
Subtotal Phase C	2	44	124	16	80	16	16	298	\$39,460	\$0	\$0	\$0	\$0	\$900	\$40,360
Phase D - Post Construction Phase															
1 Record Drawings			8			24		32	\$3,640		\$6,300		\$6,300		\$9,940
2 Deliverables			1		2	2		5	\$565				\$0	\$1,000	\$1,565
Subtotal Phase D	0	0	9	0	2	26	0	37	\$4,205	\$0	\$6,300	\$0	\$6,300	\$1,000	\$11,505
Basic Scope Total	19	180	659	96	470	390	36	1850	\$236,675	\$32,513	\$75,311	\$1,625	\$109,449	\$5,275	\$351,399

**ATTACHMENT B - KFA MANPOWER/BUDGET ESTIMATE
MIDTOWN DRAINAGE IMPROVEMENTS - PHASE 1A**

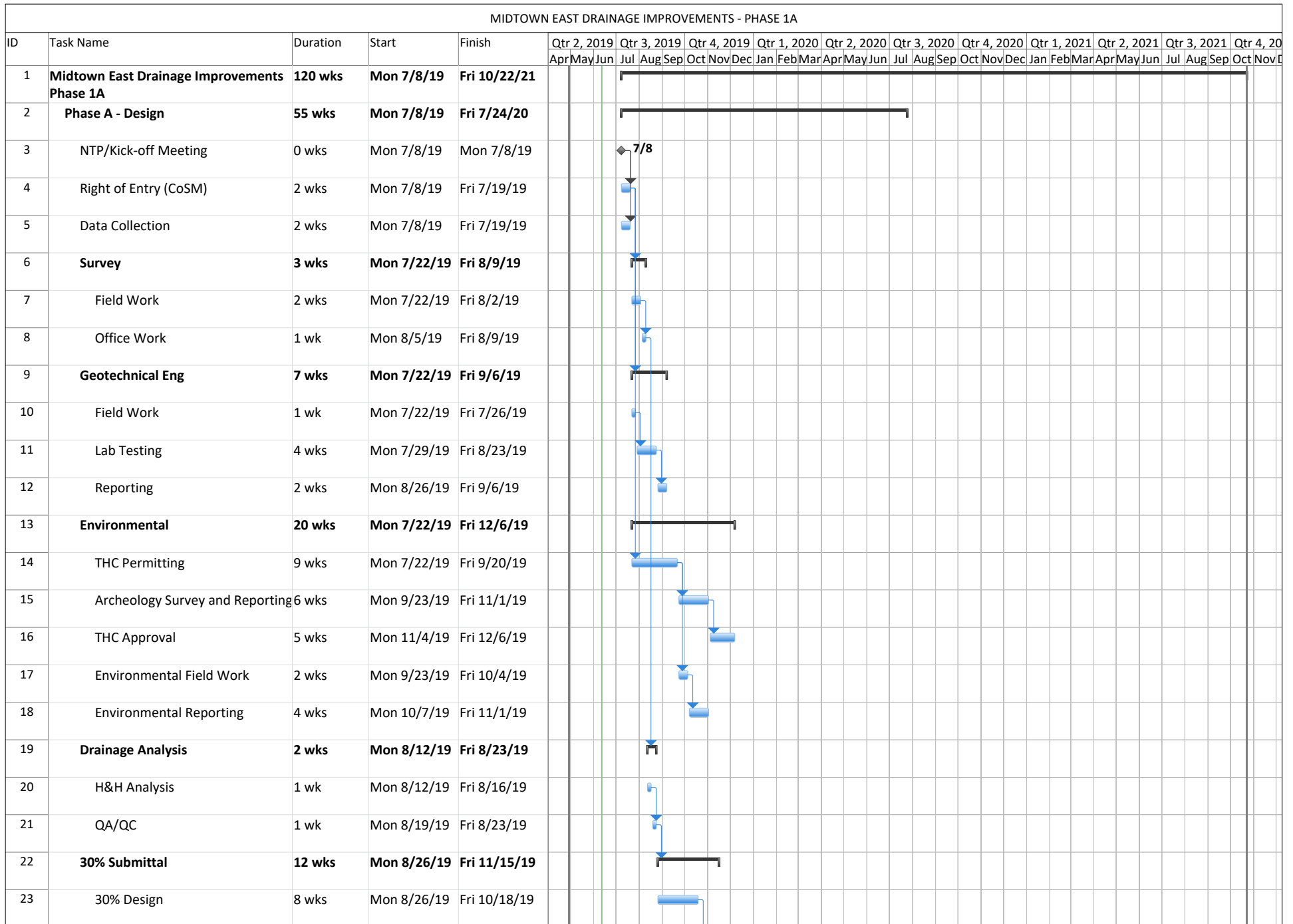
The hours listed above are an estimate. The hours assigned to the Phase are not exclusive to the Phase which they are assigned. The total fee will not exceed the total contract amount as discussed in Article 2.

Payment to the ENGINEER will be made as follows:

1. Basic Services - The amounts of these invoices will be based upon the extent of work completed by the Engineer on an hourly basis.
2. Supplemental Services - The Engineer will receive approval in writing before performing supplemental services. The amounts of these invoices will be based upon the extent of work completed by the Engineer on an hourly basis.
3. Reimbursable expense - Reimbursable expenses including such things as expenses for plotting, reproduction of documents, auto travel mileage (current IRS approved mileage rate), delivery charges, long distance communications, freight, and state accessibility will be invoiced with appropriate backup documentation.

Invoice and Time of Payment

Invoices will be prepared in a format approved by the City prior to submission of the first monthly invoice. Invoices shall be submitted monthly and paid within 30 days.



[illegible]

[illegible]



ENVIRONMENTAL INVESTIGATIONS – SCOPE OF SERVICES
Midtown/Aquarena Springs (Area 3) Drainage Improvements
For K. Friese and Associates
City of San Marcos

Project Understanding

Cox|McLain Environmental Consulting, Inc. (CMEC) understands that the Project would be designed to improve drainage near the Interstate Highway 35 (I-35) and Loop 82/Aquarena Springs Drive. The project may require modifications to existing conveyances (storm sewers and open ditches) and outfalls, expansion of existing facilities, grading, and construction of additional conveyances and outfalls. The anticipated project area is indicated in the attached exhibit. This project is partially funded with Community Development Block Grant (CDBG) funds provided to the City of San Marcos (City) by the United States Department of Housing and Urban Development (HUD) for Disaster Relief. Therefore, the project is subject to the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA). Improvements are assumed to take place primarily within the existing transportation rights-of-way and drainage easements within the project area, which are owned and maintained by the City and the Texas Department of Transportation (TxDOT). An exception to this is proposed improvements from the existing culvert on Davis Lane to east of the intersection of Davis Lane and River Road, which are anticipated to require easement acquisition. See "Proposed Davis Lane Outfall Channel" on the attached graphic.

Environmental Services

The anticipated level of effort is an Environmental Assessment in accordance with *24 CFR Part 58 Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities* – Subpart E (Environmental Assessment [EA]) along with the Statutory Worksheet and Checklist for the 58.5 authorities (related environmental laws) and 24 CFR 58.6. Excluded services as listed below under assumptions. CMEC will provide the documentation necessary to complete the Environmental Review Record Checklist for an EA project along with supporting mapping and documentation where necessary.

It is assumed that the No Build option will not meet the project purpose and need so one Build Alternative will be assessed. To meet the EA requirements, CMEC will investigate the following primary topics with research and analysis. See also, Additional Clarification and Exclusion, below:

- Draft Early Notice for Action in a Floodplain
- Cultural Resources
- Water Resources, Wetlands, and Floodplains (note: floodplain compliance will be limited to linear crossings of floodplains; does not include any hydrologic analysis or modelling)
- Threatened and Endangered Species Habitat Assessment
- Hazardous Materials Database Search and Analysis
- Socioeconomic/Environmental Justice
- HUD Noise Analysis (hand model to be completed according to HUD requirements)
- Airport Clear Zones/CZMA Proximity
- Draft language for the EA Finding and Request for Release of Funds to support the City of San Marcos' staff person to complete those required documents

The EA checklist will also be prepared to comply with *24 CFR Part 58.5 – Related Federal Laws and Authorities* including statements with regard to these categories mentioned in the guidance:

- the National Historic Preservation Act of 1966 and other cultural resources regulations
- Floodplain Management
- Wetland Protection
- Coastal Zone Management
- Sole Source Aquifers
- Endangered Species
- Wild and Scenic Rivers
- Air Quality
- Farmland Protection
- Noise Control and Abatement



- Explosive and Flammable Operations
- Airport Hazards (Runway Clear Zones)
- Contamination and Toxic Substances (a Hazardous Materials Database Search will be conducted)
- Environmental Justice (Executive Order 12898)

Additional Clarifications and Exclusions

The National Historic Preservation Act of 1966 and other cultural resources regulations: A search of the Texas Archaeological Resources Laboratory (TARL) and Texas Historical Commission (THC) databases will be conducted to determine any known archaeological sites in the project area. Based on current understanding, a pedestrian archeological survey with shovel tests is anticipated, particularly within the footprint of the bypass channel proposed along Davis Lane. The survey will be carried out by CMEC and coordinated with THC. No historic resources survey is anticipated, and none is included in the current scope and fee estimate. A THC coordination letter will be submitted to ensure compliance with Section 106. Historic/Archaeological coordination involving National Register Testing and/or Data Recovery-level excavation or mitigation is not included in this scope and fee estimate.

Endangered Species Act: A vegetation/habitat assessment would be conducted to determine whether proposed project activities would affect threatened/endangered species habitat. Coordination with the U.S. Fish and Wildlife Service would be required for any potential impacts to endangered species in accordance with the Endangered Species Act. The scope does *not* include Endangered Species Presence/Absence Surveys; formal or informal consultation per Endangered Species Section 7 or Section 10(a), Formal Consultation and/or the preparation of a Biological Assessment, Habitat Conservation Plan, or assistance with a Biological Opinion.

Noise: According to HUD regulations (24 CFR Part 51 Subpart B, Noise Abatement and Control), HUD's *goal* is that exterior noise levels not exceed 55 dB. For the purposes of meeting this goal, noise levels not exceeding a day-night average of 65 dB are considered acceptable. Noise levels over 65 dB may require special approvals, environmental review, and attenuation; noise levels below 65 dB do not require these. HUD's manual determination of noise levels will be conducted (*no* on-site noise monitoring will be conducted).

Public Involvement: It is assumed that the City of San Marcos staff will handle any public notice of document availability for review or any public meeting requirements.

Other services not included, though available for additional scope and fee:

- Historic Resources Survey
- Clean Water Act Section 404 permitting or direct coordination with USACE
- Noise barrier analysis
- Air quality modeling
- Publication fees
- Right-of-entry coordination
- Expert witness services
- Mitigation planning
- Construction phase monitoring or services
- Phase 1, Phase 2, or Phase 3 Environmental Site Assessment for Hazardous Materials
- Environmental Documentation per TxDOT requirements.

Deliverables

CMEC will provide the information necessary to complete the Environmental Review Record Checklist for a HUD EA project along with agency coordination documentation, supporting mapping, and assessment discussion. The deliverable will be in pdf format. CMEC will complete the environmental deliverables for a cost, not to exceed \$31,412.00, as detailed in Exhibit A.

L. Ashley McLain, AICP
Principal
Cox|McLain Environmental Consulting, Inc.

PROVIDER NAME: Cox McLain Environmental Consulting, Inc.						K.FRIESE AND ASSOCIATES - MIDTOWN/AQUARENA SPRINGS INFRASTRUCTURE IMPROVEMENTS								
TASK DESCRIPTION	PROJECT MANAGER	QA/QC REVIEWER	SR ENVL SCIENTIST II	SR ENVL SCIENTIST I	ENVL PROF II	ENVL PROF I	ENVL STAFF II	ENVL STAFF I	ENVL TECH II	ENVL TECH I	ADMIN/ CLERICAL		LABOR HOURS & COSTS	
PHASE 1 SOCIAL, ECONOMIC, AND ENVIRONMENTAL STUDIES														
Informal Meetings and Project Communications														
Project Management, meetings, communications	6		12		8						10		36	
Agency Coordination - in person meetings (not included)													0	
Public involvement, distribution of documents for public review (not included)													0	
HUD EA: 58.5 Statutory Checklist and 58.6 Compliance													0	
Environmental Review Record documentation													0	
Archeology Background Study - Antiquities Permit Application	1	2	2		8		2				1		16	
Archeology Pedestrian Survey and Survey Report		2	8		16		16	8		8			58	
Historic Resources THC Coordination Letter	1	2	4		5		6				1		19	
Historic Resource Survey (not included)													0	
Water Resources and Wetlands; Floodplains	2	1		12	16		8		16		1		56	
Geologic Assessment (not included)													0	
Threatened/Endangered Species Habitat Assess. (state- and federal-listed)	2	1		16			18		10		1		48	
Informal/Online Consultation with USFWS per ESA requirements (not included)													0	
Hazardous Materials Database Search and Analysis	2	1	4			16			8		1		32	
Socioeconomics/Environmental Justice	2	2	8		8		8	8	8		1		45	
HUD Noise Analysis	1	1				20			8		1		31	
Air Quality (not included)													0	
Airport Clear Zones, CZMA Proximity	1	1			6				4		1		13	
Comments and responses, coordination for Environmental Document	6	6		6	6		8	4	8	8	2		54	
EA Finding - draft language; Request for Release of Funds support	3		4				4						11	
HOURS SUB-TOTALS	27	19	42	34	73	36	70	20	62	16	20		419	
CONTRACT RATE PER HOUR	\$138.00	\$71.00	\$113.00	\$95.00	\$83.00	\$73.00	\$60.00	\$53.00	\$45.00	\$39.00	\$50.00			
TOTAL LABOR COSTS	\$3,726.00	\$1,349.00	\$4,746.00	\$3,230.00	\$6,059.00	\$2,628.00	\$4,200.00	\$1,060.00	\$2,790.00	\$624.00	\$1,000.00		\$31,412.00	
% DISTRIBUTION OF STAFFING	6%	5%	10%	8%	17%	9%	17%	5%	15%	4%	5%			
OTHER DIRECT EXPENSES (PHASE 1 ONLY)	UNIT	# OF UNITS	COST/UNIT											
Lodging/Hotel	day/person		\$80.00										\$0.00	
Lodging/Hotel Taxes/fees	day/person		\$20.00										\$0.00	
Meals	day/person		\$41.00										\$0.00	
Mileage	mile	600	\$0.535										\$321.00	
Standard Postage	letter		\$0.49										\$0.00	
Overnight Mail - letter size	each	1	\$25.00										\$25.00	
Overnight Mail - oversized box	each	1	\$30.00										\$30.00	
Courier Services	each	1	\$25.00										\$25.00	
Photocopies B/W (8 1/2" X 11")	each		\$0.10										\$0.00	
Photocopies B/W (11" X 17")	each		\$0.20										\$0.00	
Photocopies Color (8 1/2" X 11")	each		\$0.50										\$0.00	
Plots (B/W on Bond)	square foot		\$0.50										\$0.00	
Plots (Color on Bond)	square foot		\$1.00										\$0.00	
Hazardous Materials Database Search	search	2	\$350.00										\$700.00	
Geologic Assessment (not included)	report		\$3,000.00										\$0.00	
Archeology Equipment - Backhoe Operator (not included)	day/person		\$1,500.00										\$0.00	
CDs	each		\$1.50										\$0.00	
SUBTOTAL DIRECT EXPENSES													\$1,101.00	
									SUMMARY					
									SUBTOTAL LABOR			\$31,412.00		
									SUBTOTAL NON-LABOR			\$1,101.00		
									TOTAL			\$32,513.00		



Legend

- Proposed Storm Drain Pipe
- Proposed Maintenance Path
- ▲ Existing Storm Drain Inlet
- Existing Storm Drain Pipe
- - - 2D Simulation Area
- FEMA 100-yr Floodplain
- ▨ Preliminary
- - - Parcels
- Existing 25-yr Inundation
- 25-yr Localized Flood Depth
 - 0.1 ft - 0.25 ft
 - 0.25 ft - 0.5 ft
 - 0.5 ft - 1 ft
 - 1 ft - 2 ft
 - > 2 ft

City of San Marcos Midtown East Drainage Improvements

Scoping Map Alternative 1A - 25-yr



0 125 250
Feet

Date: 3/15/2019





Gorrondona & Associates, Inc.

Land Surveying • Aerial Surveying & Mapping/LiDAR • Geotechnical Engineering • Construction
Materials Testing • Geographic Information Systems

March 22, 2019

K Friese + Associates
1120 S. Capitol of Texas Highway, City View 2, Suite 100
Austin, TX 78746
Attn: Ms. Claire Ramirez, PE, CFM, ENV SP

**Re: CITY OF SAN MARCOS – MIDTOWN EAST DRAINAGE IMPROVEMENTS
PHASE I**

Dear Ms. Ramirez:

Gorrondona & Associates, Inc. (G&AI) is pleased to submit this proposal for professional land surveying services for the above referenced project. The limits of surveying required is shown in an attachment to an email dated November 6, 2017. The following itemized surveying services are to be provided by Gorrondona & Assoc. Inc.:

I. PROPERTY BASE MAP AND EASEMENT EXHIBITS

1. Prepare a property base map of tracts of land where easements exhibits will be prepared that will include boundary lines, existing right-of-way lines, proposed easement lines, and owner names with deed information. Deliverables shall include a Microstation file and Google Earth kmz file.
2. Prepare a metes and bounds description with exhibit on letter size for up to 8 proposed easement acquisition exhibits that meet or exceed the requirements of the Texas Board of Professional Land Surveying for easements. All corners of the easements will be set with a 5/8 inch iron rod with cap stamped "GORRONDONA" at each easement corner.

PROPERTY BASE MAP AND EASEMENT EXHIBIT TOTAL AMOUNT - \$25,600.00

II. DESIGN SURVEY

1. Perform topographic survey of all existing features and structures for the length of the project per said email attachment. These shall include, but are not limited to: tops of curbs, edges of pavement, pavement materials, retaining walls, drainage structures (top, edges and flow line), channels and drainage ways (tops, toes and flow line), manholes (rim, flow lines and diameters of pipes), include the same survey data for upstream and downstream manholes and structures that are outside of the survey limits for all gravity sewer and drainage lines within the survey limits, valves, slabs, utility signs and structures, fences, landscaping features, shrubbery, buildings (edges and finished floor), trees with species and diameter identified (includes tree tags for all trees with 9 inch diameter main trunk and larger), cleanouts, mailboxes, driveways, sidewalks, property pins, utility poles, site equipment, dams (tops and toes), edges of impounded water, etc.. Indicate the material and type of each item tied in.

DESIGN SURVEY TOTAL AMOUNT - \$14,300.00

III. DELIVERABLES

1. Create and provide K Friese + Associates (KFA) with a 3-D surface model of the project, compatible with Microstation. Provide KFA with an electronic and hard copy ASCII file listing of all surveying points. Provide electronic file of digital terrain model including tin (break) lines. Electronic file shall include the location of underground utilities based on the field information and Record Drawings.

2. Provide KFA with one (1) electronic copy of all field notes, pictures and sketches prepared by the surveyor.
3. Provide KFA with one Microstation electronic file of the topographic survey. The drawing shall include all survey points and descriptions, and improvements, the items tied in, the 3-D surface, reference benchmarks, project benchmarks, break lines, and contours at 1-foot intervals.
4. Install project benchmarks within the project boundary every 1,000 linear feet. Provide Horizontal and vertical coordinates of the benchmarks in the required coordinate system and datum. Show the benchmarks on the survey drawing.

DELIVERABLES AMOUNT - \$6,500.00

IV. AS-BUILT SURVEY

After final construction, perform topographic survey of the following,

1. 6 channel cross sections evenly spaced
2. Flow lines at the I-35 culvert outlet and the Davis culverts inlet and outlet
3. Survey of the proposed overflow structure location just southeast of the Davis culverts outlet
4. a shot on Davis Ln at the culverts
5. a shot on River Road
6. shots and details at the sidewalk area at the southeast corner of the NBFR and Aquarena Springs intersection including gutter flow line, curb, ramps, and the maintenance driveway

DESIGN SURVEY TOTAL AMOUNT - \$6,300.00

TOTAL AMOUNT

\$52,700.00

Gorrondona & Associates, Inc. can complete the above itemized surveying tasks for a lump sum fee of \$46,400.00. Item 1 would be taxable at an 8.25% rate ($\$25,600 \times 0.0825 = \$2,112.00$) for a total including tax of \$54,812.00. Additional services that may arise during the project shall be billed at G&AI's standard hourly rates. If you have any questions or need additional information please contact me at (512) 719-9933.

SCHEDULE

G&AI can perform the above itemized surveying task in 90 calendar days from Notice to Proceed.

Sincerely,

GORRONDONA & ASSOCIATES, INC.



Thomas Cargill, RPLS, PLS
Austin Area Manager



March 15, 2019

Tom Owens
K Friese + Associates
1120 S. Capital of Texas Highway
CityView2, Suite 100
Austin, TX 78746

RE: TAS Proposal for the San Marcos Midtown Drainage Improvements Phase 1A Project

Dear Tom:

This is a proposal for the project registration, plan review, and inspection of the San Marcos Midtown Drainage Improvements Phase 1A Project in San Marcos, Texas for compliance with Chapter 469 of the Texas Government Code, State of Texas Architectural Barriers Act, and the Texas Accessibility Standards (TAS).

Altura Solutions proposes to perform the project registration with TDLR, perform the plan review, and inspection for compliance with the TAS.

Feel free to contact me at (512) 410-7059 or at jel@alturalp.com to answer any questions or discuss details of the proposal. Thank you for considering Altura Solutions, L.P. to meet your accessibility consulting needs. We look forward to working with you on the project.

Sincerely,

A handwritten signature in black ink, reading "Jesús Lardizábal".

Jesús Lardizábal,
RAS #1051
President

PROJECT SCOPE AND DESCRIPTION

Maintenance path for drainage improvements in San Marcos, Texas.

SCOPE OF WORK

Altura Solutions proposes to perform the following services in compliance with the Chapter 469 of the Texas Government Code, State of Texas Architectural Barriers Act to verify compliance with the Texas Accessibility Standards (TAS):

- Register the project with TDLR
- Perform plan review of the project construction documents (as provided by client)
- Perform the final inspection of the project upon completion

EXCLUSIONS

The proposal excludes services to determine compliance with other federal, state or local accessibility requirements and accessibility requirements of building and housing codes such as the International Building Code (IBC).

SCHEDULE

Altura Solutions will perform the project registration within one working day of receiving the required documents and registration fee.

Altura Solutions will perform the plan review and provide a report of findings within ten working days after receiving all required documents.

Altura Solutions will perform the final inspection and deliver the Inspection Report within ten working days of receiving access to the facility.

DELIVERABLES

The following items will be produced and delivered by Altura Solutions as part of this project:

- Altura Solutions will provide proof of project registration via the TDLR Proof of Registration Sheet.
- Altura Solutions will provide the Plan Review Report detailing the non-compliant findings of the facility for the Texas Accessibility Standards (TAS).
- Altura Solutions will provide the Inspection Report detailing the findings of the final inspection of the facility.

CONSULTING FEE AND INVOICING

The following fees are proposed for the services outlined in this proposal:

- Project Registration (reimbursable)\$175.00
- TAS Plan Review Report.....\$600.00
- TAS Inspection Report\$850.00

The total proposed consulting fee under this agreement is one thousand six hundred twenty-five dollars and zero cents (\$1,625.00).

To initiate services, the following items must be provided:

- Signed agreement
- Completed TDLR forms
- Half-sized hardcopy set of drawings provided by the client.
- A check for \$775.00 for the Project Registration and Plan Review fees should be made out to Altura Solutions, L.P.

The fees listed above are limited to one final plan review and one hour of technical assistance/consulting, and one final inspection. Preliminary reviews, plan review revisions, meetings, site visits, re-inspections, and additional consulting will be considered additional services and will be billed in addition to the contract amount above. This consulting rate is \$175 per hour.

LIMIT OF LIABILITY

Client agrees that Altura Solutions, L.P.'s limit of liability for any claim against it for services performed under this contract shall be limited to the total of fees paid to Altura Solutions, L.P. pursuant to this agreement, but excluding the Texas Department of Licensing and Regulation (TDLR) required project filing fees.

Altura Solutions, L.P.**Client**

By: _____

By: _____

Print Name: Jesus Lardizabal

Print Name: _____

Title: President

Title: _____

Date: _____

Date: _____



Gorrondona & Associates, Inc.

Land Surveying • Aerial Mapping • Geotechnical Engineering • Construction Materials Testing

June 12, 2019

Ms. Claire Ramirez, PE, CFM, ENV SP
Project Engineer
K Friese + Associates
1120 S. Capital of Texas Highway
CityView 2, Suite 100, Austin, Texas 78746

Re: G&AI Proposal No. P17-0730, R2
Geotechnical Investigation
City of San Marcos - Midtown East Drainage Improvements
San Marcos, Texas

Dear Ms. Ramirez:

Gorrondona & Associates, Inc. (G&AI) is pleased to offer this revised proposal for a geotechnical investigation for the referenced project. We prepared this proposal based on the information provided.

Project Location: The east drainage improvements are generally located along the existing channel located between Aquarena Springs Drive and Davis Lane within the City of San Marcos, Texas. A proposed outfall channel is planned where the channel meets Davis Lane going east along Davis Lane towards the Blanco River.

Project Description: The project consists of the following improvements:

1. Channel improvements along the existing channel, starting from the I-35 frontage road and Aquarena Springs Drive intersection extending south to Davis Lane, with borings spaced at roughly 500-feet.
2. Davis Lane box culvert improvements near the proposed outfall channel.
3. Concrete wier structure at the start of the proposed outfall channel.
4. Box culvert and bank stabilization at the bank of Blanco river near the intersection of Davis Lane and River Road.

Assumptions: Our proposal assumes and is based upon the following:

- The site is readily accessible and does not require clearing;
- The boring locations will be accessed by all terrain (ATV) mounted drilling rig;
- The borings can be drilled during normal daytime hours 8 am to 6 pm;
- Surveying of boring locations is not included in this work scope;
- Rock coring is not included in this work scope;
- Drilling at each location will be accomplished sequentially with no delay;
- Two boring locations are covered by asphalt pavement;
- City of San Marcos permitting will be required; and
- Traffic control will be required at 2 locations (1-day of traffic control);

FIELD INVESTIGATION

The proposed field investigation includes:

No. of Borings	Depth per Boring (feet)*	Location
3	30	Along the east side of the proposed channel improvements.
1	25	On Davis Lane pavement just west of the existing culverts.
1	25	South of Davis Lane in the grassed drainage area.
1	30	On River Road pavement just south of its intersection with Davis Lane.
(*) Note: Borings will be drilled to depth indicated or refusal. As per information provided by the project team, the proposed channel will not be more than 10-feet deep. In accordance with the TxDOT Geotechnical Manual (March 2018), the borings need to be drilled to a depth of at least 15-feet below the bottom of the proposed cut. Hence, proposed borings along the proposed channel improvements are 30-feet deep.		

Six (6) borings totaling 170 feet of drilling are included in this scope of work.

Field personnel will drill the borings using all terrain (ATV) mounted drilling rig equipment. Cohesive and non-cohesive soil samples will be obtained using three-inch diameter Shelby tube samplers (ASTM D-1587) and two-inch diameter standard split-spoon samplers (ASTM D-1586), respectively. If rock is encountered, Texas Cone Penetration (TCP) tests will be performed 5-feet into unweathered rock. Rock coring will not be performed under this scope of work.

A soils technician will extrude the samples in the field, check the samples for consistency with a hand penetrometer, carefully wrap them to preserve their condition, and return them to the laboratory for testing. A log of each boring will be prepared to document field activities and results. G&AI will stake the boring locations using normal taping procedures. Precise surveying of boring locations and elevations is not included in the cost estimate. These services will be

provided separately, at additional cost. At the completion of drilling operations, bore holes will be backfilled and plugged with soil cuttings.

LABORATORY INVESTIGATION

Laboratory tests will be required for classification purposes, to determine strength characteristics, and to evaluate both the short- and long-term deformation/swell properties of the materials encountered. Testing will be in accordance with our standard procedures which include moisture content and soil identification, liquid and plastic limit determinations, strength tests on soil and unit weight determinations. The specific types and quantities of tests will be determined based on soil conditions encountered in the borings.

ENGINEERING SERVICES

The engineering report will be prepared by a registered engineer and will present the results of the field and laboratory data together with our analyses of the results and recommendations. We will provide a digitally signed and sealed report in electronic PDF format. The report will address:

- soil and groundwater conditions encountered at the boring locations;
- existing pavement sections at Davis Lane and River Road;
- construction considerations related to soil and groundwater conditions at the borings; and
- earthwork recommendations, including material and compaction requirements.

Please Note: As per the information provided by the project team, we understand that open-cut excavation will be implemented for the alignment and slope stability analysis is not required. Thus it is not included in the work scope.

COST OF SERVICES

Based on the scope of services described above, we propose a lump sum fee of **\$22,611.00** for the geotechnical investigation phase of the project. This fee assumes that all borings will be drilled sequentially and that one report will be issued. A detailed cost estimate is attached. This fee will not be exceeded without prior authorization. Items other than those specified above, or changes in drilling requirements (including multiple mobilizations), which are revealed by these studies or are necessitated by a change in project scope, may require revised field, laboratory, and engineering services. These services will be discussed and negotiated on an individual basis. The final invoice will be sent to you with our report.

PROJECT SCHEDULE

We plan to initiate these studies within 3 business weeks of receipt of notice-to-proceed and anticipate that three working days will be required to complete the field investigation (site access and weather conditions permitting). You will receive the report approximately 15

working days following completion of field and laboratory testing. If you require a delivery time frame other than that presented above, please advise us at the time of completing the agreement so that we may make the appropriate adjustments in our schedule to accommodate your needs.

Items to be provided by the client include the right-of-entry to conduct the exploration and information regarding the location of any utilities on the subject site. Any restrictions or special project requirements should be brought to our attention before we commence fieldwork. Should weather or other factors result in unforeseen changes in site accessibility, G&AI will contact the client to discuss accessibility options and associated fees.

Please sign and return one copy of the proposal where indicated below as your authorization to proceed. By execution of this proposal, the undersigned Client acknowledges and agrees that the document entitled "Terms and Conditions" has been provided or made available to Client and Client agrees that such Terms and Conditions shall be applied to the present Proposal and shall be fully binding upon Client. The Terms and Conditions are fully incorporated into this Proposal by reference as if set forth at length.

Thank you for the opportunity to present this proposal. Please call if you have any questions or if you have suggestions regarding changes to the agreement or to the proposed work scope. We look forward to working with you on the project.

Respectfully submitted,

Jenell Strachan, P.E.

Area Manager - Geotechnical Engineering & CMT Services

GORRONDONA & ASSOCIATES, INC. - TEXAS FIRM REGISTRATION NO. F-7933

Attachments: Cost Estimate, Terms and Conditions

PROPOSAL ACCEPTED BY:

Signature

Date

Printed Name

Company

Title

GEOTECHNICAL INVESTIGATION AND ENGINEERING COST ESTIMATE

Prepared by Gorrondona & Associates, Inc.

G&AI Proposal No.:	P17-0730, R2			
Proposal Date:	June 12, 2019			
Project:	City of San Marcos - Midtown East Drainage Improvements			
Location:	San Marcos, Texas			
PLANNING (One Call, Drilling Package/Scheduling, Permits, Internal Project Kick-off Meeting)				
Item	Unit Rate	Unit	Quantity	Cost
Director/Principal Engineer	\$260.00	Hour		\$ -
Area/Engineering Manager	\$190.00	Hour	1	\$ 190.00
Senior Project Engineer	\$150.00	Hour		\$ -
Project Engineer	\$125.00	Hour		\$ -
Staff Engineer	\$100.00	Hour	6	\$ 600.00
Administrative	\$60.00	Hour	1	\$ 60.00
Permits (Utility Clearance/City of San Marcos)	\$500.00	LS	1	\$ 500.00
Planning Subtotal:				\$ 1,350.00
FIELD (Traffic Control, Pavement Cores and Borings)				
Item	Unit Rate	Unit	Quantity	Cost
Vehicle (Pickup Truck)	\$50.00	Trip	4	\$ 200.00
Field Soil Technician	\$70.00	Hour	32	\$ 2,240.00
Staff Engineer	\$100.00	Hour	4	\$ 400.00
Project Engineer	\$125.00	Hour		\$ -
Traffic Control (Lane Closure)	\$2,300.00	Day	1	\$ 2,300.00
ATV Drilling Rig Mobilization	\$800.00	Mobilization	1	\$ 800.00
Support Truck Mobilization	\$2.00	Mile	300	\$ 600.00
ATV Standard Drilling (0-50 ft) - Soil	\$22.00	Foot	170	\$ 3,740.00
Drilling Surcharge - (0-50 ft) Auger in Hard Rock	\$10.00	Foot		\$ -
Drill Crew Per Diem	\$400.00	Day	2	\$ 800.00
TCP Tests	\$25.00	Each	12	\$ 300.00
Borehole Backfill and Cleanup	\$220.00	Hour	2	\$ 440.00
Field Supplies	\$150.00	LS	1	\$ 150.00
Field Subtotal:				\$ 11,970.00
LABORATORY (Classification, Strength, Swell Potential)				
Item	Unit Rate	Unit	Quantity	Cost
Project Engineer (Sample Review & Lab Assignments)	\$125.00	Hour	1	\$ 125.00
Staff Engineer (Sample Review & Lab Assignments)	\$100.00	Hour	0.5	\$ 50.00
Moisture Content / Classification	\$10.00	Each	38	\$ 380.00
Atterberg Limits	\$35.00	Each	15	\$ 525.00
- No. 200 Sieve	\$35.00	Each	15	\$ 525.00
UU Triaxial	\$65.00	Each	8	\$ 520.00
Overburden Free Swell	\$40.00	Each	6	\$ 240.00
Sieve Analysis	\$80.00	Each	3	\$ 240.00
Double Hydrometer	\$200.00	Each	5	\$ 1,000.00
Crumb Test	\$38.00	Each	12	\$ 456.00
CU Bar Triaxial (3 points)	\$1,200.00	Each		\$ -
Laboratory Subtotal:				\$ 4,061.00
BORING LOG LAB REPORT PREPARATION				
Item	Unit Rate	Unit	Quantity	Cost
Director/Principal Engineer	\$260.00	Hour		\$ -
Area/Engineering Manager	\$190.00	Hour		\$ -
Senior Project Engineer	\$150.00	Hour		\$ -
Project Engineer	\$125.00	Hour	2	\$ 250.00
Staff Engineer	\$100.00	Hour	6	\$ 600.00
Administrative	\$60.00	Hour		\$ -
Boring Log Preparation Subtotal:				\$ 850.00
ANALYSIS AND REPORT				
Item	Unit Rate	Unit	Quantity	Cost
Director/Principal Engineer	\$260.00	Hour		\$ -
Area/Engineering Manager	\$190.00	Hour	2	\$ 380.00
Senior Project Engineer	\$150.00	Hour	8	\$ 1,200.00
Project Engineer	\$125.00	Hour		\$ -
Staff Engineer	\$100.00	Hour	28	\$ 2,800.00
Administrative	\$60.00	Hour		\$ -
Analysis and Report Subtotal:				\$ 4,380.00
PROJECT TOTAL:				\$ 22,611.00
Estimate Notes: Field work includes 3 borings @ 30 feet, 2 borings @ 25 feet and 1 boring @ 30 feet, totaling 170 feet. The estimate assumes work performed during normal daytime hours and all borings will be drilled sequentially with no delay. Dispersion tests (Double Hydrometer and Crumb tests) are included in the lab testing services to test for dispersive properties of the soil. Permitting may be required and 1 day of Traffic control is required (B-04 and B-06 will be drilled on the same day). Estimate is valid for 90 days from the proposal date shown above.				