

K FRIESE
+ ASSOCIATES
PUBLIC PROJECT ENGINEERING

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P.R.# 1.1

Austin SWIFT Loan
Part A, Item 6
Burleson Road Engineering Contract

March 7, 2014

Ms. Connie Smith
Project Manager
City of Austin Public Works Department - Project Management Division
505 Barton Springs Road, Suite 900
Austin, Texas 78704

VIA: E-MAIL

RE: Burleson Road Pressure Conversion (5267.036)
Scope of Services for Design and Construction Phases
W&WW System Pipeline Engineering 2011-2013 - PA110000004

Dear Ms. Smith:

K Friese & Associates, Inc. is pleased to provide the enclosed proposal for Design and Construction Phase Services for the Burleson Road Pressure Conversion Project. The project generally consists of approximately 13,300 linear feet of new reclaimed water pipelines installed between E. Riverside Drive and Burleson Road. Attached you will find the following items:

1. Scope of Services
2. Manpower/Budget Estimate
3. Proposed Design and Construction Schedule
4. Subconsultant Proposals

Cost: The proposed cost for the services described in the attached Scope of Services for this assignment is \$677,976.00, and will be paid on a Lump Sum basis.

Assignment Duration: The duration of this assignment is 36 months from the time of issuance of Notice to Proceed through assignment completion, including Preliminary Design, Final Design, Bid/Award/Execution, and Construction phases.

If you have any questions or need additional information, please do not hesitate to contact me. We look forward to working with you.

Sincerely,

Dale P. Murphy, P.E.
Project Manager

Attachments

SCOPE OF SERVICES
CITY OF AUSTIN
W&WW SYSTEM PIPELINE ENGINEERING 2011-2013 - PA110000004
BURLESON ROAD PRESSURE CONVERSION (5267.036)

PROJECT DESCRIPTION

The Burleson Road Pressure Conversion project consists of approximately 13,300 linear feet of new reclaimed water pipelines installed between E. Riverside Drive and Burleson Road. Installation will be within the rights-of-way of Grove Blvd., Montopolis Dr., Burleson Rd., and E. Oltorf St. Additionally, pending the results of a route study, installation may also occur within portions of Alvin Devane Blvd., Comsouth Dr., and Trade Center Dr. Proposed pipes are expected to range from 24 to 36-inch diameter, and will tie to existing pipelines at the intersection of E. Riverside Dr. and Grove Blvd., at Burleson Rd. near Montopolis Dr., and at pipelines to be constructed as part of the Montopolis WRI Tank and Pump Station Project. It is anticipated that installation of the proposed water main where it crosses SH 71 and E. Riverside Dr. will be installed via trenchless construction (jack and bore). Service stubouts are anticipated to be provided to each private property adjacent to the alignment of the proposed pipelines.

In addition to the proposed pipeline installations, other work to be included in this project include decommissioning of the Jimmy Clay Booster Pump Station, installation of a pressure zone boundary valve on an existing reclaimed water main near Highway 183 and Burleson Rd., and installation of a flow control valve at the Jimmy Clay/Roy Kizer Golf Course reclaimed water meter.

SCOPE OF SERVICES

KFA will provide engineering services in accordance with the terms and conditions of the Contract, including:

- Preliminary Engineering Route Study
- Design Phase Services
- Bid Phase Services
- Construction Phase Services
- Post-Construction Phase Services

The scope of services to be provided is detailed in the following task descriptions.

1. Phase A - Preliminary Engineering

- 1.1. Project Management - This task includes routine communication with the City, preparation of monthly project status reports; managing subconsultants, manpower, budgets, and schedules; invoicing; implementing and monitoring QA/QC efforts; and other activities associated with managing the project. Anticipated meetings during preliminary engineering include: Project Kickoff Meeting with KFA and key subconsultants to go over the scope of the project; One Progress Meeting during the preliminary engineering phase.

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W&WW SYSTEM PIPELINE ENGINEERING 2011-2013 - PA110000004
BURLESON ROAD PRESSURE CONVERSION (5267.036)

- 1.2. Desktop Route Study - KFA will perform a preliminary engineering analysis of the project alignment as it relates to crossing SH 71. The City has requested evaluation of two options to cross SH 71, one along Montopolis Dr. and one at Alvin Devane Blvd. KFA will make one site visit, gather and evaluate GIS data, contact and meet with the Texas Department of Transportation to discuss the options, prepare two exhibits of the proposed routes, prepare preliminary cost estimates of the difference between the two options, and prepare a technical memorandum summarizing the findings. KFA will meet with COA Staff to discuss the results and will jointly select a conceptual route.
- 1.3. Data Collection - Using the selected conceptual alignment, KFA will collect available data from various sources including: existing utilities, GIS data, and as-built drawings of roadway/utility improvements. The conceptual alignment will be submitted to the Austin Utility Location and Coordination Committee (AULCC) with the goal of gathering existing utility information in the vicinity of the project.
- 1.4. Environmental and Cultural Resources - Hicks and Co. will provide environmental support for the project as described in their attached Scope of Services, including delineation of waters of the U.S. and wetlands falling within the jurisdiction of the U.S. Corps of Engineers, and a City of Austin Environmental Assessment (EA), cultural resources investigations.
- 1.5. Surveying and Easement Descriptions - Macias & Associates, L.P. will perform a design survey consisting of trees, surface features, property lines and 1-foot topographic lines. Two horizontal and vertical control points will be set. Macias will also prepare metes and bounds documents as required for the project. Anticipated easements include 3 permanent easements for the pipeline alignment, 3 temporary easements for the pipeline alignment, 1 temporary easement for a staging and storage area, and 1 permanent Chapter 26 easement.
- 1.6. Geotechnical Investigation - Fugro Consultants, Inc. will perform 25 geotechnical borings of varying depths along the project route; conduct appropriate laboratory testing; and summarize the field investigation results and bedding, earthwork, and pipe design recommendations in a Geotechnical Report. They will prepare a Geotechnical Data Report (GDR) and a Geotechnical Design Memorandum (GDM).
- 1.7. Trenchless Investigation / GBR – Briereley will prepare a Geotechnical Baseline Report for the jack and bored crossings of Highway 71 and Riverside Dr.

2. Phase B - Design Phase Services

- 2.1. Project Management - This task includes routine communication with the City, preparation of monthly project status reports; managing subconsultants, manpower, budgets, and schedules; invoicing; implementing and monitoring

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W&WW SYSTEM PIPELINE ENGINEERING 2011-2013 - PA110000004
BURLESON ROAD PRESSURE CONVERSION (5267.036)

QA/QC efforts; and other activities associated with managing the project. Attendance at nine (9) Progress Meetings, anticipated to be held monthly, with the City Staff and selected departments. Additionally, another six (6) meetings with various City departments are anticipated to take place during the design phase.

- 2.2. QA/QC and Constructability Reviews - In accordance with the QCP, KFA will conduct both Project Design Team (PDT) and Independent Technical Review Team (ITRT) QA/QC reviews. Plauché International shall serve as the ITRT.
- 2.3. Rights of Entry - KFA will obtain rights of entry for the proposed alignment from the property owners. It is assumed that if difficulty in obtaining these rights of entry is encountered that the City will provide assistance.
- 2.4. Plan Preparation - KFA will prepare construction plans (22" x 34" sheets) suitable for public bidding to include notes, plan and profile sheets, details, environmental protection, traffic control, and work and storage locations. Plan and profile sheets for pipelines shall be at 1"=20' horizontal and 1"=4' vertical scale. Hejl, Lee Associates (HLA) will prepare plan and detail sheets for traffic control. HLA will also prepare plan and detail sheets for the abandonment of the decommissioning of the Jimmy Clay Booster Pump Station. For budgeting purposes, we are estimating the plans will consist of 100 total sheets.
- 2.5. Contract Documents & Technical Specifications - With the assistance of the City's Project Manager, KFA will develop a Project Manual consisting of the City's Standard Construction Contract Bid Documents and Technical Specifications. Special Provisions to the Standard Technical Specifications and Special Specifications will be developed if required for the project.
- 2.6. Engineer's Opinion of Probable Construction Cost - Cost estimates will be prepared/updated and submitted with each design submittal, 30%, 60%, 90% and Final.
- 2.7. AULCC - KFA will submit the 30%, 60% and 90% designs to the AULCC for review, and will address any concerns identified by the committee. Three (3) copies of the plans will be submitted to the AULCC at each phase.
- 2.8. Submittals - Progress submittals will be provided at the 30%, 60%, 90%, and Final design phases. 30%, 60%, and 90% submittals will consist of the following:
 - 5 Full Size Plan Sets
 - 5 Half Size Plan Sets
 - 5 sets of the Project Manual (Table of Contents only at 30% and 60%)
 - Electronic (PDF) Copies of Plans and Specifications
 - Engineer's Opinion of Probable Construction Cost
 - Updated Project Schedule
 - Response to written review comments

SCOPE OF SERVICES
CITY OF AUSTIN
W&WW SYSTEM PIPELINE ENGINEERING 2011-2013 - PA110000004
BURLESON ROAD PRESSURE CONVERSION (5267.036)

The Final Submittal will include:

- One full size original set of plans
 - One original Project Manual
 - Electronic copy of plans and Project Manual
 - Engineer's Opinion of Probably Construction Cost
- 2.9. City of Austin Site Permit - For budgeting purposes, it has been assumed that this project will qualify for the General Permit Program (GPP) for Site Permitting. It has been assumed that meetings with the GPP will take place at the 60%, 90% and Final design stages. KFA will prepare and submit a GPP application, summary letter, and plans for review by the GPP, including for a completeness check after Final documents are prepared, and for GPP approval after completeness check.
- 2.10. TxDOT Permitting - KFA will prepare information and exhibits/plans for obtaining a TxDOT utility crossing permit for the installation under SH 71. It has been assumed that the City will submit the documents to TxDOT via their online system. KFA will also coordinate with TxDOT during the design phase regarding the design of the crossing.
- 2.11. Stormwater Pollution Prevention Plan - KFA will prepare a Stormwater Pollution Prevention Plan (SWPPP), in accordance with TCEQ and TPDES rules. The SWPPP will be provided to the Contractor.
- 2.12. Parkland Use Agreement - Work and installation of piping and a flow control valve at the Jimmy Clay / Roy Kizer Golf Course will require a Parkland Use Agreement. This proposal includes two (2) meetings with the Parks and Recreation Department, one (1) meeting with the City of Austin Parks Board, and preparation time for each meeting. Preparation of exhibit boards and handouts for presentations to the Parks Board.

3. Phase C - Bid, Award, Execution Phase

- 3.1. Project Management - This task includes routine communication with the City; managing manpower, budgets, and schedules; invoicing; and other activities associated with managing the project.
- 3.2. Prebid Conference - KFA will assist the City in conducting one pre-bid conference. KFA will attend the pre-bid and present the project and assist in answering questions.
- 3.3. Bidder Questions - KFA will assist the City in responding to technical questions received from bidders during the bid phase of the project.

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BURLESON ROAD PRESSURE CONVERSION (5267.036)

- 3.4. Addenda - KFA will assist the City in preparing and issuing required Addenda to the bidders. Preparation and issuance of two (2) Addenda has been assumed for budgeting purposes.
- 3.5. Bid Opening - KFA will attend the bid opening. The City will perform all bid tabulation, review of bids, reference checks, and make an award recommendation.

4. Phase D - Construction Phase

- 4.1. Project Management - This task includes routine communication with the City; managing subconsultants, manpower, budgets, and schedules; invoicing; and other activities associated with managing the project.
- 4.2. Issue "For Construction" Documents - KFA will incorporate addenda items into the drawings and reissue them as "For Construction" to the City.
- 4.3. Pre-construction Conference - KFA will attend a pre-construction conference with the City of Austin, Contractor, and other parties as appropriate, and prepare the meeting minutes.
- 4.4. Construction Meetings - KFA will attend regular construction meetings with the City of Austin, Contractor, and other parties as appropriate, including preparing the meeting minutes. For budgeting purposes we have assumed twenty-six (26) meetings.
- 4.5. Site Visits - 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 ten (10) trips separate from site visits made concurrent with project meetings.
- 4.6. Submittal/Shop Drawing Review - The City will coordinate submittal reviews, maintain submittal logs, and perform the majority of submittal reviews. KFA will review technical submittals when requested by the City. For budgeting purposes we have assumed five (5) submittals will be reviewed by KFA.
- 4.7. Change Orders - KFA will prepare drawing modifications for Change Orders. The City will maintain a log of all Change Order items, review all Contractor's requests for Change Orders. For budgeting purposes we have assumed four (4) change orders with a portion requiring minor drawing revisions.
- 4.8. Requests for Information - KFA will log and respond to all requests for information (RFI's) from the Contractor related to possible clarifications of plans and technical specifications. Twenty (20) RFI's have been assumed.

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- 4.9. Contract Closeout - KFA will participate in one site visit to determine outstanding items and document "punch list items". KFA will issue a concurrence letter stating project acceptance when the contract requirements have been met. KFA will also notify TCEQ and other jurisdictional agencies of substantial completion. When the project is ready for final inspection and acceptance, KFA will make a second site visit to verify completion of punch list items and if acceptable, sign the final pay application.

5. Phase E - Post Construction Phase

- 5.1. Record Drawings - KFA and HLA will review the Contractor's and City Inspector's redline as-built drawings and incorporate any modifications from field directives and change orders into a complete Record Drawings set. One full size original and one digital copy (PDF and AutoCAD formats) will be submitted to the City.

GENERAL ASSUMPTIONS

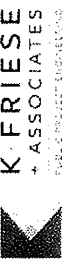
1. SUE Services have not been included. If during the course of the design locations requiring SUE are identified, such services will be performed under a supplemental agreement.
2. Utility relocations for water and wastewater utilities will be limited or not required. No relocations of dry utilities are included.
3. Impacts to regulated floodplains are not anticipated.
4. All review, inspection, and permit fees will be paid for directly by the Owner.
5. Austin Water Utility is performing all hydraulic analysis and pipe sizing related to this project. AWU will provide KFA with anticipated pressure ranges at various locations along the alignment.
6. Owner will provide to KFA all data in Owner'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 Owner.
7. Owner will give prompt notice to KFA whenever Owner observes or becomes aware of any development that affects the scope or timing of KFA's services.
8. The Owner shall examine information submitted by KFA and render in writing or otherwise provide comments and decisions in a timely manner.
9. The Owner will facilitate communications with TxDOT in the event KFA is unable to facilitate communication independently.
10. The Owner will obtain right-of-entry for all properties as necessary for KFA to complete the design phase of the project in the event KFA is unable to obtain them through typical efforts.
11. The Owner will provide Title Reports for properties with proposed easements.

SCOPE OF SERVICES
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W&WW SYSTEM PIPELINE ENGINEERING 2011-2013 - PA110000004
BURLESON ROAD PRESSURE CONVERSION (5267.036)

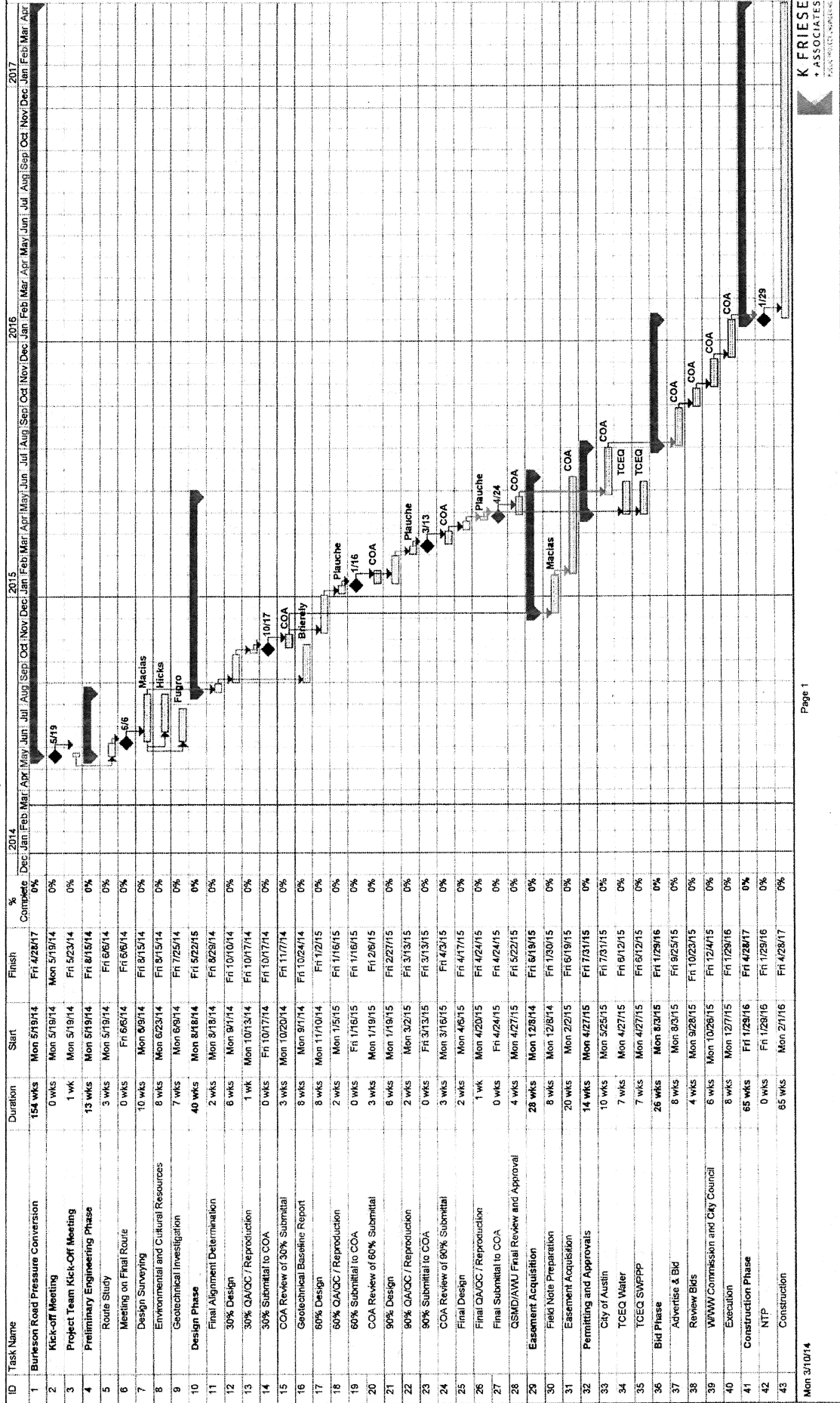
12. The Owner will obtain all permanent utility, access, and temporary construction easements.
13. The Owner will perform bid advertising and printing/distribution of bid documents.
14. The Owner will provide required construction administration and inspection services outside of the services listed in this Scope of Work.
15. The Owner will provide materials testing and sampling during construction.
16. The Owner will perform all Contractor pay estimate reviews and approvals.

KFA MANPOWER/BUDGET ESTIMATE - BURLERSON ROAD PRESSURE CONVERSION (5276.036)

Task	Principal & QA/QC		Project Manager		Project Engineer		EIT		Senior Tech.		Senior Admin		Total Labor Hours		KFA Labor Cost		Sub-Consultant Cost		Sub-Consultant Markup (5%)		Expenses Cost		Total Cost	
	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Cost	Cost	Cost	Cost	Cost	Cost	Cost	Cost	Cost	Cost
1. Phase A - Preliminary Engineering																								
1	4	24	8								8			44	\$6,692						\$0	\$100	\$6,792	
2	2	28	44	24	24	24							122	\$15,810							\$0		\$15,810	
3		16	24	40	24	24							104	\$12,048							\$0		\$12,048	
4		2	4	4	4	4							10	\$1,268	\$9,239						\$462		\$10,969	
5		2	4	4	4	4							10	\$1,268	\$126,195						\$6,310		\$133,773	
6		2	4	4	4	4							10	\$1,268	\$65,630						\$3,282		\$70,180	
7		2	4	4	4	4							10	\$1,268	\$36,400						\$1,820		\$39,488	
	6	76	92	64	64	64	8	310					310	\$39,622	\$237,464					\$11,873	\$100	\$289,059		
2. Phase B - Design Phase Services																								
1	4	80	20				16						120	\$18,860							\$0	\$300	\$19,160	
2	68	16											84	\$16,820	\$15,130						\$757		\$32,707	
3			4	16	4								24	\$2,396							\$0		\$2,396	
4		120	240	420	380								1160	\$128,160	\$64,840						\$3,242		\$196,242	
5		16	24	64									104	\$12,048							\$0		\$12,048	
6		4	20	60	12								96	\$10,096							\$0		\$10,096	
7			4	12									16	\$1,652							\$0		\$1,652	
8		4	8	16	24		8						60	\$5,992							\$0	\$4,000	\$9,992	
9		16	48	24	24								88	\$11,544							\$0		\$11,544	
10		2	8	24	4								38	\$4,036							\$0		\$4,036	
11		2	4	24	12								42	\$4,244							\$0		\$4,244	
12		16	16	12	12								56	\$7,256							\$0		\$7,256	
	72	276	396	648	472	24	1888						1888	\$223,104	\$79,970					\$3,999	\$4,300	\$311,373		
3. Phase C - Bid, Award, Execution Phase																								
1	4	4					1						9	\$1,600							\$0	\$50	\$1,650	
2		2		4									6	\$732							\$0		\$732	
3		4	8	8									20	\$2,536							\$0		\$2,536	
4		4	8	8	8								46	\$6,012							\$0		\$6,012	
5			2										2	\$186							\$0		\$186	
	8	18	24	22	8	3	83						83	\$11,066	\$0					\$0	\$50	\$11,116		
4. Phase D - Construction Phase																								
1	4	32	8				8						52	\$8,132							\$0	\$300	\$8,432	
2		8	12	8									28	\$3,792							\$0	\$300	\$4,092	
3		4	8	8									20	\$2,536							\$0		\$2,536	
4		26	52	26									104	\$14,066							\$0		\$14,066	
5		16	32	16									64	\$8,656							\$0		\$8,656	
6		5	10										15	\$2,240							\$0	\$150	\$2,390	
7		4	8										24	\$2,908							\$0		\$2,908	
8		4	16	16	12								88	\$11,664							\$0		\$11,664	
9		4	16	8									32	\$3,848							\$0	\$150	\$3,998	
	8	115	186	82	24	12	427						427	\$57,842	\$0					\$0	\$900	\$58,742		
5. Phase E - Post Construction Phase																								
1		4	12				56						72	\$7,536							\$0	\$150	\$7,686	
	0	4	12	0	56	0	72						72	\$7,536	\$0					\$0	\$150	\$7,686		
Project Totals	94	489	710	816	624	47	2780						2780	\$339,170	\$317,434					\$15,872	\$5,500	\$677,976		



City of Austin - Burleson Road Pressure Conversion Design and Construction Schedule



**HEJL, LEE &
ASSOCIATES, INC.**
TBPE FIRM NO. F-755
TBPLS FIRM NO. 10058500

CITY OF AUSTIN
WATER & WASTEWATER SYSTEM
PIPELINE ENGINEERING ROTATION LIST (2011 - 2013)

BURLESON ROAD PRESSURE CONVERSION

PROPOSED SUBCONSULTANT SERVICES

Prepared: **10-28-2013**

DANIEL P. HEJL, JR.
P.E., R.P.L.S., AICP

CHIEN Y. LEE
P.E., R.P.L.S., AICP

Service to be performed by the Consultant for this agreement is to prepare TRAFFIC CONTROL PLAN for approximately 13,700 LF of 24" to 36" reclaimed water line from East Riverside Drive to Burleson Road as delineated on the sketch received from Engineer dated October 24, 2013; and prepare DEMOLITION PLAN for Jimmy Clay Booster Pump Station. The scope of the subconsultant's work is summarized as follows:

- Prepare traffic control and detour plan, and associated details for the installation of the proposed reclaimed water line;
- Prepare demolition plan for Jimmy Clay Booster Pump Station.

Specific tasks under this agreement are as follows:

Traffic Control Plan

**ENGINEERING
SURVEYING
PLANNING**

1. Meet with Engineer to identify traffic control requirements and deliverables for the proposed reclaimed water line installation;
2. Perform site visit to familiarize with site specific issues related to traffic control and detour requirements; perform site evaluation to identify existing road widths, lane configurations, posted speed, sight distances, driveway access, and other existing conditions;
3. Coordinate with Engineer to gather and review available project specific information related to the proposed construction, such as line assignment, trench width, phasing of construction, staging area, and other proposed improvements;
4. Based on project plans prepared by the Engineer in AutoCAD format, prepare conceptual traffic control plan for 60% submittal;
5. Coordinate with the Engineer and project consultants on construction issues related to traffic control issues;
6. Coordinate traffic control requirements with Rights-of-Way Management (ROWMAN) and Texas Department of Transportation (TxDOT);
7. Meet and coordinate with Engineer to discuss response to 60% review comments and address comments accordingly;
8. Review traffic control details and technical specifications in related to traffic control; develop special provisions related to details, specifications on traffic control;

321 ED SCHMIDT BLVD., SUITE 100
HUTTO, TEXAS 78634

PHONE
512-642-3292
FAX
512-642-4230
E-MAIL
hlainc@austin.rr.com

9. Update traffic control plans for 90% submittal;
10. Meet and coordinate with Engineer to discuss response to 90% review comments and address comments accordingly;
11. Perform traffic control measure quantity take-off and engineer's opinion of probable cost for city's budget purpose;
12. Assist the Engineer in securing sign-off of traffic control plan from ROWMAN and TxDOT; and,
13. During bidding phase, attend pre-bid meeting, assist the Engineer in clarifying traffic control related issues, update plans and issue addendum as necessary.

Booster Pump Station Demolition Plan

1. Meet with Engineer to identify demolition work required to the existing booster pump station;
2. Perform site visit to familiarize site specific issues related to the demolition work, contractor's ingress/egress and staging area, temporary demolished and salvaged material storage, site disturbance, clearance and restoration;
3. Gather and review available reports, previous design plans, record drawings, system maps, and other booster pump station related documents;
4. Based on project site plan prepared by the Surveyor in electronic format, prepare demolition plan and detail sheets with probable cost for demolition of related work for 60% submittal;
5. Based on prepared 60% plan, perform preliminary quantity take-off and engineer's opinion of probable cost for demolition related work;
6. Based on comments received from city and Engineer's QA/QC review, update demolition plan, details, technical specifications for 90% submittal; Perform in-house QA/QC review; Address comments from the Engineer;
7. Update quantity take-off and engineer's opinion of probable cost based on 90% plan for demolition work;
8. Based on comments received from city and Engineer's QA/QC review, update plans and details, engineer's opinion of probable costs for 100% submittal; update special technical specifications; assist the Engineer in preparing bid forms and bid documents;
9. Assist Engineer in permit application related to booster pump station demolition, address comments from City; and,
10. Assist Engineer in clarifying bid documents and issuing addendum for demolition related work.

Services Not To Be Provided

1. Permitting (City of Austin, US EPA, TCEQ, TxDOT, etc.);
2. Field survey and Rights-of-way acquisition;
3. Dry utility and storm sewer relocation;
4. Pavement repair plan;
5. Preparation of storm water pollution prevention plan (SWPPP);
6. Environmental, archaeological, and geotechnical investigation;
7. Erosion and sedimentation control plan;
8. Public meetings, hearings;
9. Meeting with city staff other than plan reviewers; and,

10. Construction phase services.

Engineering Fee(s)

Traffic Control Plan	\$34,915.00
Booster Pump Station Demolition Plan	<u>14,925.00</u>
Total Contract Amount This Agreement	<u>\$49,840.00</u>
(Lump Sum Not to Exceed)	

No additional work shall be commenced without a prior written notice.

Schedule

Consultant will deliver project plans and related documents in a timely manner to meet the schedule agreed upon between the Engineer and the City.

Prepared By:
HEJL, LEE & ASSOCIATES, INC.



Chien Lee, P.E., R.P.L.S., AICP
Principal

HEJL, LEE & ASSOCIATES, INC.
CITY OF AUSTIN
PIPELINE ENGINEERING ROTATION LIST (2011-2013)
BURLESON ROAD PRESSURE CONVERSION

ESTIMATED MAN-HOUR & ASSOCIATED FEES

HLA Project No. 13781-B

Prepared: 10-28-2013

PROJECT TASK	MAN-HOUR BY CLASSIFICATION					
	PRINCIPAL	PM	PE	EIT	TECH	OFFICE MANAGER
	DAN HEJL	CHIEN LEE	EFFENDY	GEORGE LEE	SHANE FARMER	LINDA HEJL
TRAFFIC CONTROL PLAN						
1		2	2			
2		1	2	4		
3	1	2	3	4		1
4	1	4	10	24	44	1
5	1	2	4	6	4	1
6	1	4	6	8	8	1
7	1	3	10	20	36	1
8	1	2	4	6	6	1
9	1	3	10	18	28	1
10	2	3	8	14	20	1
11	1	2	3	4	6	1
12	2	4	10	18	24	2
13			2		2	1
TOTAL HOURS	12	32	74	126	178	12
HOURLY RATE	\$155.00	\$155.00	\$95.00	\$75.00	\$60.00	\$70.00
FEE	\$1,860.00	\$4,960.00	\$7,030.00	\$9,450.00	\$10,680.00	\$840.00

TOTAL ENGINEERING FEE THIS TASK

\$34,820.00

REIMBURSABLE (Reproduction and printing)

95.00

CONTRACT AMOUNT THIS TASK

\$34,915.00

HEJL, LEE & ASSOCIATES, INC.
CITY OF AUSTIN
PIPELINE ENGINEERING ROTATION LIST (2011-2013)
BURLESON ROAD PRESSURE CONVERSION
ESTIMATED MAN-HOUR & ASSOCIATED FEES

HLA Project No. 13781-B

Prepared: 10-28-2013

PROJECT TASK	MAN-HOUR BY CLASSIFICATION					
	PRINCIPAL	PM	PE	EIT	TECH	OFFICE MANAGER
	DAN HEJL	CHIEN LEE	EFFENDY	GEORGE LEE	SHANE FARMER	LINDA HEJL
BOOSTER PUMP STATION DEMOLITION PLAN						
1		1	1			
2		1	2	2		
3	1	1	2	2	4	1
4	1	3	8	14	18	2
5	1	1	2	4	2	1
6	2	3	8	12	14	1
7	1	1	2	4	2	1
8	1	2	4	10	8	1
9	1	2	4	6	4	
10		1	1	2		1
TOTAL HOURS	8	16	34	56	52	8
HOURLY RATE	\$155.00	\$155.00	\$95.00	\$75.00	\$60.00	\$70.00
FEE	\$1,240.00	\$2,480.00	\$3,230.00	\$4,200.00	\$3,120.00	\$560.00

TOTAL ENGINEERING FEE THIS TASK	\$14,830.00
REIMBURSABLE (Reproduction and printing)	95.00
CONTRACT AMOUNT THIS TASK	\$14,925.00
TOTAL CONTRACT AMOUNT THIS AGREEMENT (Lump Sum No to Exceed)	<u>\$49,840.00</u>



MACIAS & ASSOCIATES, L.P.
LAND SURVEYORS - FIRM REG. NO. 101141-00

October 31, 2013

KFRIESE + ASSOCIATES

1120 S. Capital of Texas Highway, City View 2, Suite 100
Austin, Texas 78746

ATTN: Mr. Dale Murphy, P.E., Vice President

RE: **COA Water and Wastewater System Pipeline Engineering 2011 –2013 Rotation List – Burleson Road Pressure Conversion Project.**

Mr. Murphy,

Thank you for the opportunity of submitting this proposal for professional surveying services in connection with your request to prepare a route survey for the COA - Water and Wastewater System Pipeline Engineering 2011 – 2013 Rotation List – Burleson Road Pressure Conversion Project. The limits of the route survey will generally be a 13,300' foot long corridor from right of way line to right of way line in the public roadway or a 50' wide corridor in private property as shown in the attachment emailed to our office on October 24, 2013 and attached to this proposal. We will also prepare a 100' x 200' site survey for the Jimmy Clay Booster Pump Station, a 50' x 200' site survey for the Burleson Road Pipe disconnect area and a 100' x 150' site survey for a staging and storage area. We are also to prepare the documents for 4 permanent easements and 3 temporary easements. We will also locate or set 28 boreholes.

SCOPE OF SERVICES FOR ROUTE SURVEY

1. Obtain and review pertinent ownership, right of way and utility information from the Travis County Tax Office and utility owners.
2. Field locate right of way evidence, fences, sidewalks, driveways, top of water valve nut, water meters, water valves and hydrants, wastewater, storm, electric telephone/utility poles, gas and other underground and surface utilities. Also, field locate traffic signs, light poles, power poles, guide wires, electric manholes, telephone manholes, electric or telephone pull boxes, traffic pull boxes, traffic control loops, warning signs for underground utilities and other surface features within the right of way not listed. Manholes and inlets will be opened and detailed if possible. Flow line elevations will be taken at both ends of existing culverts.
5. Detail manholes, take elevation of all inverts in and out of manhole and take manhole lid elevations, and detail all upstream and downstream manholes.
6. Locate trees 8" trunk diameter and greater, per City of Austin standards within the 50' corridor. Cedar trees will not be located unless they are protected trees.
7. Take sufficient elevations to develop a 1.0 foot interval contour line map.
8. Locate or set 28 boreholes.

9. Prepare a base map showing the above information to include owners name and legal description of adjacent lots. The base map will be prepared using ACAD V2012 and furnished in 2D and 3D format on a compact disk. A hard copy of the signed and sealed survey will also be furnished.
10. Drawing standards will be based on City of Austin "Austin Clean Water Program" Standards. Drawing will be on a scale of 1" = 20'.
11. Project will be based on NAVD 1988 and NAD 1983.
12. Set a horizontal and vertical control point not more than 1,500' apart. City of Austin Benchmarks will also be shown.
13. There will be no sub-surface utility excavation addressed in this proposal.
14. Furnish 1 signed and sealed hard copy of the finished survey and 1 compact disk with the electronic version of the route survey.

BASIS FOR COMPENSATION FOR ROUTE SURVEY

We propose to provide the above scope of services on an hourly basis with a not to exceed amount of \$113,875.00 based on the following estimates:

R.P.L.S.	150 hrs. @ \$135.00 per hr.	\$ 20,250.00
Sr. Survey Technician	400 hrs. @ \$ 80.00 per hr.	\$ 32,000.00
Field Crew	425 hrs. @ \$145.00 per hr.	<u>\$ 61,625.00</u>
	Total	\$113,875.00

SCOPE OF SERVICES FOR EASEMENTS

1. Prepare a sketch and legal description for each of the 4 permanent easements and 3 temporary easements. Prepare a title letter with each permanent easement.
2. Provide signed and sealed hard copies of the easements.
3. Provide a field crew to place a magnetic nail at each of the permanent easement corners.
4. We will assume that the City of Austin will provide Macias a title commitment for each lot that will require an easement.

BASIS FOR COMPENSATION FOR EASEMENTS

We propose to provide the above scope of services on an hourly rate basis with a not to exceed amount of \$12,320.00 based on the following estimates:

R.P.L.S.	4 hrs. @ \$135.00 per hr.	\$540.00
Sr. Survey Technician	8 hrs. @ \$ 80.00 per hr.	\$640.00
Field Crew	4 hrs. @ \$145.00 per hr.	<u>\$580.00</u>
	Total	\$1,760.00 per easement

7 easements @ \$1,760.00 per easement = \$12,320.00

SCHEDULE

We can begin work on this project approximately 5 working days after we receive a written notice to proceed. It will take approximately 45 working days to complete the route survey and approximately 10 working days to complete the easements. Surveying activities are weather dependent. If inclement weather occurs, this schedule will change

The Texas Board of Professional Land Surveying regulates all Registered Professional Land Surveyors in the State of Texas: they may be contacted at 12100 Park 35 Circle, Bldg. A, Suite 156 MC- 230, Austin, Texas 78753, 512.239.5263.

If this proposal is acceptable please issue a written notice to proceed. Please call me at 442.7875 if you have any comments or questions.

Sincerely,

MACIAS & ASSOCIATES, L.P.



Carmelo L. Macias RPLS
Vice-President

CLM/cg



8613 Cross Park Drive
Austin, Texas 78754
Phone: 512-977-1800
Fax: 512-973-9966

K Friese & Associates, Inc.
1120 South Capital of Texas Highway
City View 2, Suite 100
Austin, Texas 78746

Project No. 04.30131075
November 5, 2013

Attention: Mr. Dale Murphy, P.E.

**Scope of Work and Cost Estimate
Geotechnical Data Report & Geotechnical Design Memorandum
Burleson Road WRI Pressure Conversion
Austin, Texas**

Fugro Consultants, Inc. (Fugro) is pleased to submit this scope of work and cost estimate for the above referenced project. We have received the preliminary project alignment provided by Mr. Dale Murphy with K Friese & Associates. The project consists of the installation of approximately 13,300 linear ft of 24- to 36-inch reclaimed water pipeline in South Austin. Fugro has been requested to prepare a Geotechnical Data Report (GDR) and Geotechnical Design Memorandum (GDM) for the above referenced project. Jack and bore techniques will be used to install pipes underneath East Ben White Boulevard and possibly at Montopolis Drive. A Geotechnical Baseline Report (GBR) for the jack and bore installations will be prepared by others.

The services and report will include field, laboratory and engineering phases. The following sections of this proposal include the scope of our services, a cost estimate and an estimated schedule.

Scope of Work

The following scope of services is proposed. At this time, we recommend the following Tasks as part of the design phase Scope of Services.

Task 1 –Subsurface Investigation. According to published geologic mapping of the Austin area¹, and based on previous investigations close to the site, the site is underlain by High

¹ Garner, L.E. and Young, K.P. (1976), "Environmental Geology of the Austin Area: An Aid to Urban Planning," Report of Investigation No. 86, Bureau of Economic Geology, The University of Texas at Austin, Plate VII (reprinted 1992).



K Friese & Associates, Inc.
Mr. Dale Murphy, P.E.

November 5, 2013
Page 2 of 5

Terrace Deposits further underlain by clay and clayshale of Taylor Formation. As requested, borings will be drilled at about 500 ft spacings. Specifically, the field exploration program will consist of the following:

- Drill twenty-five (25) borings along the project alignment to a depth of 20 ft each;
- Sample overburden soils with seamless push tubes and/or split barrel samplers;
- Obtain groundwater (drilling fluid) measurement at the time of drilling;
- Backfilling open boreholes with bentonite pellets and/or cement/bentonite mixture;
and
- Installing piezometers at two selected locations for groundwater monitoring. The piezometers will be initially registered with the Texas Water Development Board and later abandoned by Fugro.

Task 2 - Laboratory Services. Laboratory services will include the following:

- Moisture contents and unit dry weight determinations;
- Sieve analyses (No. 4, 40 and 200);
- Liquid and Plastic limit determinations;
- Unconfined compression tests; and
- Corrosion tests.

Task 3: Engineering and Design. The engineering services will be directed towards compliance with the City of Austin Geotechnical Requirements for Pipeline projects with preparation of a Geotechnical Data Report (GDR) and Geotechnical Design Memorandum (GDM) with the subsurface information obtained during subsurface investigation. We propose the following subtasks associated with the proposed reporting format:

Task 3.1 – Geotechnical Data Report (GDR). Compile all field and laboratory testing into a comprehensive report complete with boring logs, laboratory test results and generalized discussion of area geology and subsurface conditions.



K Friese & Associates, Inc.
Mr. Dale Murphy, P.E.

November 5, 2013

Page 3 of 5

Task 3.2 – Geotechnical Design Memorandum (GDM) for Open Cut Section. The GDM will address excavation potential, stable slopes for construction, groundwater conditions at the time of construction and effects on construction; earthwork recommendations, and bedding recommendations for pipe.

We anticipate preparing draft submittals followed by final reports after resolution of all comments. Contract Documents will only include the GDR.

Cost Estimate

Based on the scope of work outlined above, our estimated fee is presented on Attachment 1. The cost estimate is based on the following:

1. Boring locations will be established by Fugro by measuring distances from existing site features and road intersections, and should be considered approximate. Boring elevations will be provided to Fugro by others;
2. Boring locations will be easily accessible with truck-mounted drilling equipment;
3. The presence of underground utilities will be made known to Fugro. We will contact Texas One-Call System at least 72-hours prior to mobilization;
4. Fugro will obtain ROWMAN permits;
5. Piezometers installed for this geotechnical investigation will be initially registered with the Texas Water Development Board and later abandoned by Fugro.
6. Samples will be discarded 30 days after report publication;
7. Borings will be drilled during the daytime hours during the normal work week;
8. Traffic control will be needed for drilling at some boring locations;
9. Right of entry will be secured by others; and
10. Latitude and longitude coordinates will be obtained using a hand-held GPS device at the boring locations and reported on the boring logs.

The estimated fee may be exceeded if site conditions are significantly different than anticipated or changes in work are required or requested. However, the estimated maximum fee



K Friese & Associates, Inc.
Mr. Dale Murphy, P.E.

November 5, 2013
Page 4 of 5

will not be exceeded without the client's prior authorization. Required additions to the above scope of services would be invoiced in accordance with the attached fee schedule.

Schedule

Weather and site conditions permitting, field operations will begin within one week after authorization to proceed. Field operations will start with staking of borings and notifying One-Call, which should take about one week. It is anticipated that drilling and piezometer installation will take one to two weeks to complete. A summary of our proposed schedule is presented on the following page. We will keep you verbally informed of our findings as they become available.

Activity	Schedule
Site coordination of drill rig access, clearing utilities, schedule drill rig	1 to 2 weeks
Drilling of borings and piezometer installation	1 to 2 weeks
Laboratory testing	2 to 3 weeks
Preparation of Geotechnical Data Report (GDR) and Geotechnical Design Memorandum (GDM)	2 weeks
All activities	6 to 9 weeks from receipt of all permits from COA

Terms and Conditions

Fees for field work, laboratory testing, and report preparation are based on our approved rates for the City of Austin. We assume Fugro will subcontract directly with K. Friese.

The following statement is required by Fugro's Insurance Company. Fugro's scope of work does not include the investigation, detection, or design related to the presence of any Biological Pollutants. The term "Biological Pollutants" includes, but is not limited to, mold, fungi, spores, bacteria, and viruses, and the byproducts of any such biological organisms.

* * *



K Friese & Associates, Inc.
Mr. Dale Murphy, P.E.

November 5, 2013
Page 5 of 5

We appreciate the opportunity to submit this proposal and look forward to working with you on this project. Please call us if we can be of any additional assistance.

Sincerely,

FUGRO CONSULTANTS, INC.
TBPE Firm Registration No. F-299

A handwritten signature in black ink, appearing to read "Yanfeng Li".

Yanfeng Li, P.E.
Project Manager

A handwritten signature in black ink, appearing to read "Peter H. Bush".

Peter H. Bush, P.E.
Vice President

YL/PHB/lt(w/g/p/2013/P30131075)

Attachments
Attachment 1 – Cost Estimate



**Attachment 1 - Cost Estimate
Geotechnical Data Report & Geotechnical Design Memorandum
Burleson Road WRI Pressure Conversion
Austin, Texas**

1. Field Exploration		Quantity	Unit	Rate	Subtotal
Coordination, one-call, mobilization, staking of borings, field logging					
Mobilization / Demobilization		1	each	\$400.00	\$400.00
Drilling and Sampling - Soil		500	feet	\$16.00	\$8,000.00
Standard Penetration Test		25	each	\$23.00	\$575.00
Rock Coring		0	feet	\$26.00	\$0.00
Piezometer (Open Pipe)-Install and Remove		2	each	\$2,600.00	\$5,200.00
Traffic Control		6	day	\$1,800.00	\$10,800.00
Backfilling Boreholes		500	feet	\$8.00	\$4,000.00
COA ROW Man Permit		8	ls	\$600.00	\$4,800.00
Project Manager		10	hour	\$165.00	\$1,650.00
Graduate Engineer		80	hour	\$80.00	\$6,400.00
				Subtotal	\$41,825.00

2. Laboratory Investigation		Quantity	Unit	Rate	Subtotal
Moisture Contents		25	each	\$15.00	\$375.00
Atterberg Limit Determinations		20	each	\$65.00	\$1,300.00
Sieve Analysis		20	each	\$65.00	\$1,300.00
Unconfined Compression Tests		20	each	\$60.00	\$1,200.00
Corrosion Testing (Soluble Sulfate, Chloride, pH, Box Resistivity)		2	suite	\$500.00	\$1,000.00
Graduate Engineer		10	hour	\$80.00	\$800.00
				Subtotal	\$5,975.00

3. Technical Services		Quantity	Unit	Rate	Subtotal
Logging, Laboratory Assignment, Drafting, Report Preparation, and Boring Data Assembly					
Administrative		16	hour	\$60.00	\$960.00
Graduate Engineer		20	hour	\$80.00	\$1,600.00
Drafter		10	hour	\$65.00	\$650.00
				Subtotal	\$3,210.00

4.1 Engineering Services - GDR		Quantity	Unit	Rate	Subtotal
Principal Review		2	hour	\$195.00	\$390.00
Senior Project Manager		8	hour	\$185.00	\$1,480.00
Project Manager		18	hour	\$165.00	\$2,970.00
Graduate Engineer		10	hour	\$80.00	\$800.00
				Subtotal	\$5,640.00

4.2 Engineering Services - GDM		Quantity	Unit	Rate	Subtotal
Principal Review		4	hour	\$195.00	\$780.00
Senior Project Manager		16	hour	\$185.00	\$2,960.00
Project Manager		24	hour	\$165.00	\$3,960.00
Graduate Engineer		16	hour	\$80.00	\$1,280.00
				Subtotal	\$8,980.00

Total Estimated Cost	\$65,630.00
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October 28, 2013

K Friese + Associates
1120 South Capitol of Texas Highway
CityView 2, Suite 100
Austin, TX 78746

Attention: Dale Murphy, P.E.

Subject: Proposal for Tunnel/ Trenchless Design Services
Burleson Road Pressure Conversion
Austin, Texas

Dear Mr. Murphy,

INTRODUCTION

Brierley Associates (Brierley) is pleased to present this proposal for the referenced project for K Friese + Associates (K Friese) and the City of Austin (COA). We understand the project will consist of approximately 13,300 linear feet of 24 to 36-inch reclaimed water pipeline in the southeast Austin area. Two tunnel/trenchless crossings are anticipated, one under SH 71 (E. Ben White Blvd.) near the intersection of Alvin Devane Blvd., and the other under Montopolis Dr. near the intersection of Burleson Road. This proposal addresses the tunnel/trenchless portions of the project only.

SCOPE OF WORK

Brierley Associates' objectives for this project are to assist K Friese with the final design of the tunnel or bore. The scope of work anticipated to be performed by Brierley Associates to achieve this objective is as follows:

Task 1 – Develop, Coordinate and Review Geotechnical Investigation

The single-most important item for good design and cost-effective construction is an accurate description of the existing ground conditions. Tunnel contractors will tell you that uncertainty about ground conditions represent the highest risk and contingency item for a project. An accurate description of the ground allows for an efficient layout and effective design of the project. We propose to work closely with K Friese in accomplishing this. It is our understanding that a geotechnical investigation will be performed by Fugro Consultants (Fugro) and that Fugro will also be preparing the Geotechnical Data Report (GDR) and Geotechnical Design Memorandum (GDM). Brierley will work closely with K Friese and Fugro to design and develop the Geotechnical Investigation, provide a Professional Geologist (PG) to observe the field investigation and aid in the selection of laboratory tests and samples, and interpret the results of the field and laboratory tests for tunnel/trenchless assessments at each individual crossing.

Task 2 - Excavation/Support Methods

We will evaluate excavation methods for the tunnel and shafts. We will provide tunnel and shaft design documents. We will provide sketches and CADD details to be developed into drawings by K Friese.

Task 3 - Shaft Design

The development of the shafts plays an important role. Most of the potential impacts to the public and the environment are at or via the shaft sites. We will assist K Friese with evaluating shaft construction methods and preparing contract documents for the shafts.

Task 4 - Construction Access/Staging Area

The construction access and staging area will have a great effect on the bids submitted by Contractors for this project. The size of these staging areas will be dependent on the type of construction anticipated. We will provide K Friese recommended requirements for staging areas including size, utilities required for construction, access and configuration.

Task 5 - Contract Documents

The contract documents communicate the design to the contractor. The contract documents we anticipate in preparing for K Friese will consist of a Geotechnical Baseline Report (GBR). We will provide review of specifications and drawings developed by K Friese. We anticipate assisting with the preparation of two to three drawings per crossing and approximately five specification sections. We anticipate that these documents will be reviewed at the 60, 90 and 100 percent completion stages. We have anticipated that K Friese will prepare all drawings. Brierley Associates will provide initial sketches, engineering, review and quality control of content of all the bore and shaft drawings. Electronic copies of all documents will be provided to K Friese. K Friese will provide the other specialized specification sections, standard Contract "Boiler Plate" provisions, and project drawings. It is assumed that K Friese will coordinate submittals, and do all reproduction for submittals and final Contract Documents.

Task 6 - Project Management and Quality Control

We will track the project budget on a weekly basis, prepare a schedule, update it, and monitor it on a regular basis, and fulfill our contract obligations. We will provide K Friese with a monthly progress report describing the status of the project, the budget, schedule, and other relevant issues. In addition, Brierley Associates has a quality control program whereby we will internally review all submittals by senior personnel. An important aspect of our quality control program will be frequent communication with K Friese and, if necessary, the City of Austin. We will do this by a variety of means including face-to-face meetings with appropriate personnel, e-mail, faxes, and written documentation. We will keep K Friese fully informed of the design process and request input as necessary continuously during the design process.

SCHEDULE & COST

The estimated cost to perform Tasks 1 through 6 above is approximately \$36,400. This estimate is based on completing all work approximately 6 months after Notice to Proceed. Construction phase services are not included in scope of services listed above. We will be happy to provide a schedule and estimated cost for construction phase services upon request.

CLOSING

Brierley Associates looks forward to working with both you and K Friese on this project. Please call me at 512-219-1733 if you need anything else to clarify this proposal.

Sincerely,
BRIERLEY ASSOCIATES, LLC



Lewis Yates, P.E
Senior Consultant
TBPE Firm Registration Number F-3691

Attachments 1 and 2

ATTACHMENT 1

FEE ESTIMATE																		
BRIERLEY ASSOCIATES																		
Tunnel GBR for Burlinson Road Pressure Conversion																		
K. Friese & Associates																		
WORK TASK	Principal/Sr Consultant	Sr. Associate/Sr. Consultant I	Associate/Sr. Project Manager	Sr. Professional II	Sr. Professional I	Professional II	Professional I	Staff professional II	Staff professional I	Administrative	Total Hours	Min-Hour Cost	Other Direct Office Costs	Fairfare	Travel	Sub-Consultant	Total Expenses	Totals
1 Develop, Coordinate and Review Geotechnical Investigation		8			40						48	7,320					\$0	\$7,320
2 Excavation/Support Methods		8									8	1,720					\$0	\$1,720
3 Shaft Design		8									8	1,720					\$0	\$1,720
4 Construction Access/Staging Area		16									16	3,440					\$0	\$3,440
5 Preparation of GBR and Associated Contract Documents		54			30					30	114	17,610					\$0	\$17,610
6 Project Management and Quality Control		16								12	30	4,590					\$0	\$4,590
TOTAL HOURS	0	112	0	0	70	0	0	0	0	42	224						\$0	\$36,400
HOURLY RATE	\$255	\$216	\$180	\$160	\$140	\$125	\$115	\$105	\$95	\$60							\$0	\$36,400
TOTAL COST	\$0	\$24,080	\$0	\$0	\$9,800	\$0	\$0	\$0	\$0	\$2,520	\$0	\$36,400	\$0	\$0	\$0	\$0	\$0	\$36,400

**BRIERLEY
ASSOCIATES
HOURLY RATES**

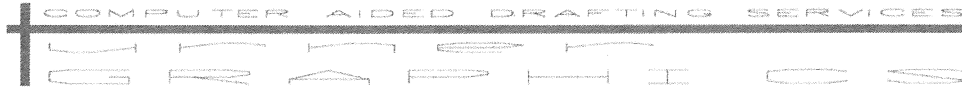
DOCUMENTATION OF PROVISIONAL / OVERHEAD RATES

**Overhead rate documentation
has been provided to the City of
Austin and was utilized by the
COA in reviewing and approving
the loaded hourly rates below.**

			TX Registration Number
PRINCIPAL(S)			
McGinn, AJ	Principal/President	\$265	
Howard, Alan	Principal	\$265	
Kuehr, Steven	Principal	\$265	
Lindquist, Eric	Principal	\$265	
Sherry, Gregg	Principal	\$265	PE 88364
Project Consultant			
		\$ / hr	
Jernigan, Russell	Senior Associate	\$215	PE 90795, PG 2702
Yates, Lewis	Senior Consultant I	\$215	PE 45836
Mandeville, Kevin	Senior Professional I	\$140	PG10568
CAD Technician			
		\$ / hr	
Clerical			
		\$ / hr	
Morphew, Sissy	Business Admin.	\$80	
Watkins, Vickie	Business Admin.	\$80	
Shepard, Carrie	Senior Administration	\$80	
Adair, Sally	Administration	\$60	
Lindquist, Jeff	Administration	\$60	
Padilla, Jessica	Administration	\$60	
Peterson, Niki	Administration	\$60	
Other - Specify			
		\$ / hr	
Berti, David	Senior Consultant II	\$265	
Dorwart, Brian	Senior Consultant II	\$265	PE 98845
Henn, Ray	Senior Consultant II	\$265	
Lyman, Tracy	Senior Consultant II	\$265	PE 85711
Burgmeier, Phil	Senior Associate	\$215	
Perkins, Jay	Senior Associate	\$215	
Zietlow, Bill	Senior Associate	\$215	
Page, Gary	Senior Consultant I	\$215	
Weber, Bruce	Senior Consultant I	\$215	
Abd El-Maksoud, Mohamed	Associate	\$180	
Brock, Rebecca	Associate	\$180	
Dornfest, Robin	Associate	\$180	
Harvey, Sean	Associate	\$180	

Attachment 2 Hourly Rates

Siljenberg, Benny	Associate	\$180
Soule, Nate	Associate	\$180
Strater, Nick	Associate	\$180
Isler, Doug	Senior Professional II	\$160
Jenevein, Doug	Senior Professional II	\$160
Wiedemann, Joe	Senior Professional II	\$160
Robinson, Dave	Senior Professional I	\$140
Vinci, Steve	Senior Professional I	\$140
Jezerski, Jeremiah	Professional II	\$125
Kwietnewski, David	Professional II	\$125
Mayne, Doug	Professional II	\$125
Berends, Russell	Professional I	\$115
Connelly, Brian	Professional I	\$115
Paster, Dan	Professional I	\$115
Pullen, Tom	Professional I	\$115
Ulvevadet, Ben	Professional I	\$115
Jeset, Colby	Staff Professional II	\$105
Prezkuta, Jacob	Staff Professional II	\$105
Bailey, Sean	Staff Professional I	\$95
Burnham, Kris	Staff Professional I	\$95
Michal, Eric	Staff Professional I	\$95
Mitchell, Jacob	Staff Professional I	\$95
Spinella, John	Staff Professional I	\$95
Van Etten, Greg	Staff Professional I	\$95
Vega, Alex	Staff Professional I	\$95



November 05, 2013

Mr. Dale Murphy, P.E.
K Friese & Associates, Inc.
1120 S. Capital of Texas Highway
City View 2, Suite 100
Austin, Texas 78746

**RE: Burlerson Road Pressure Conversion
CADD and Related Services Proposal**

Dear Mr. Murphy,

Pursuant to your request and based upon your e-mail on November 04, 2013, Turner Graphics CADD Services (TG) is pleased to submit this proposal to provide CADD and Related Services to K Friese and Associates, Inc. (K Friese) for the above referenced project for your review and approval.

Scope of Basic Services

CADD and Related Services

Basis of Compensation

TG proposes to perform our Scope of Basic Services as described herein at the rate of 78/hr. The total fee is \$15,000.00, which is the summation of the compensations for CADD and Related Services. TG will invoice will K Friese once a month.

Sincerely,

Darrell Turner
Owner
TURNER GRAPHICS
Computer Aided Drafting Services
P.O. Box 142416
Austin, Texas 78714
512-796-6089
Email: dturner@turnergraphicscad.com

**Revised Scope of Services
City of Austin
Burleson Road Pressure Conversion
November 27, 2013**

General Understanding of the Project:

This scope of services describes work to be performed by Hicks & Company for the City of Austin (COA) and K. Friese & Associates (KFA) the Design Consultant under the COA Professional Services Agreement for the Water & Wastewater System Pipeline Engineering 2011-2013 Rotation List. The project, located in southeast Austin, Texas, consists of the design and construction of approximately 13,300 ft. of 24 to 36-inch reclaimed water pipeline. It is assumed that the line will be installed through open-cut trenching that follows a general route following Grove Blvd beginning at E. Riverside Dr. to Montopolis Dr. then to Oltorf; turning west on Oltorf to Alvin Devane Rd., where the alignment turns south crossing Ben White Blvd, then following Comsouth Rd to Trade Center Drive, where the alignment turns east, then south to Burleson Rd., finally turning east and ending at Montopolis Dr. The project will generally follow within existing road easements, except for a small segment on the southern portion of the alignment. Hicks & Company will provide professional environmental services outlined by this scope of work with the goal of obtaining environmental approval for the construction of the proposed improvements.

Services to be Provided:

Hicks & Company will provide services necessary to assure compliance with local, state and federal regulations pertaining to threatened and endangered species, cultural resources, jurisdictional waters of the U.S. (including wetlands), and any other applicable requirements of the COA Land Development Code. Deliverables will include a technical memorandum documenting the results of an environmental constraints evaluation, a Texas Historical Commission (THC) Coordination letter; and an archeological report prepared for the THC. According to preliminary evaluations using latest COA GIS shape-file data, the project does not appear to be located over the recharge or contributing zone of a karst aquifer, or intersect any 100-yr floodplains, critical water quality zones, water quality transition zones or steep gradient slopes of more than 15%. Therefore it is assumed that a City of Austin Environmental Assessment will not be required. Tasks for completing the scope of services are listed below. Services will include a hazardous materials database search and compiled results of this search.

Any tasks not described below, or for which zero hours are shown, are not included in the cost estimate but may be addressed under a separate work authorization. *Note: Design Consultant will be responsible for obtaining right-of-entry and providing relevant information to Hicks & Company prior to any field investigations or project alternative evaluations.*

Task 1. Identification of Jurisdictional Waters (including wetlands) Subject to Federal Regulation under Section 404 of the Clean Water Act

The proposed project design will be reviewed and site reconnaissance will be conducted to determine the existence of jurisdictional waters including wetlands and potential impacts requiring permitting under Section 404 of the Clean Water Act. Research will include use of City of Austin water resource maps, topographic maps, soil survey reports, and aerial photography as needed or required. Results of this evaluation will be included in a COA EA prepared under Task 5 below. This scope of services assumes that no coordination with the USACE will be required. If coordination is required, it would be conducted under a supplemental scope of services and fee.

Task 2. Investigation of the Potential Occurrence of Threatened and Endangered Species

The project design will be reviewed to assure compliance with the Federal Endangered Species Act. Information will be obtained and reviewed from databases maintained by the U.S Fish and Wildlife Service (FWS) and Texas Parks and Wildlife Department (TPWD) to determine county occurrence and the nearest known locations of potentially occurring species that are listed as endangered, threatened or species of concern. A summary list of potentially occurring species will be prepared. Habitat requirements for potentially occurring species will be investigated, including research of information contained on maps and aerial photography. Based on information obtained on potentially occurring species, range and distribution of the species, habitat requirements, and scope of the project, a determination will be made as to the likelihood of impacts and whether additional investigations or studies are needed.

Task 3. Investigation of the Potential Occurrence of Cultural Resources

The cultural resources investigation will focus on the identification of cultural resources constraints for the project area. The evaluation will include any necessary client coordination, compilation of background data including the identification of previously recorded cultural resources, and the preparation of a coordination letter according to the Antiquities Code of Texas detailing background findings. It is assumed that the results of the background review for this site will identify a need for further archeological investigations involving a field survey and associated coordination with the Texas Historical Commission (THC). If results of the field survey indicate the need for further archeological investigations requiring backhoe trenching or any additional archeological investigations recommended by the THC subsequent to the completion of field survey and associated report, these services can be arranged under a supplemental scope and fee.

Task 4. Identification of Critical Environmental Features

The potential occurrence of critical environmental features defined by the COA Environmental Criteria Manual (ECM) occurring within the project area will be investigated to assure compliance with ECM 1.3.0 (B).

Task 5. Document Preparation

A Technical Memorandum will be prepared that will document results of the environmental constraints evaluation and archeological investigation. The memo will include text, maps, tables, and figures as needed or required. Results of any archeological survey will be compiled into a professional archeological survey report as required under Chapter 26 of the THC's Rules of Practice and Procedure.

Project Management/Communications and Quality Control/Quality Assurance

Several hours have been included for project management, coordination and communications to ensure overall project efficiency. Quality Control/Quality Assurance reviews will take place for all substantive submittals to the Design Consultant.

The Scope of Work and Fee Estimate does not include the services listed below. If needed or required, such services would be performed under a supplemental scope of work and associated budget.

1. Preparation of a City of Austin Environmental Assessment;
2. Preparation and coordination of an Individual Section 404 Permit to the USACE;
3. Preparation and coordination of a Nationwide Permit Pre-construction Notification to the USACE;
4. Formal coordination with the USFWS under Sections 7 or 10 of the Endangered Species Act if endangered species may be affected by the project;
5. Presence/absence surveys of endangered or threatened species;
6. Karst surveys;
7. Tree surveys;
8. Systematic vegetation inventories;
9. Surface or subsurface excavation to investigate contamination from hazardous materials; and,
10. Additional archeological investigations recommended by the THC following the archeological survey

Deliverables:

1. A Technical Memorandum will be prepared that will document results of the investigations described in Tasks 1-4. The assessment will include applicable maps in addition to tables and figures that support summary findings as needed or required.

- 2) Initial Coordination Letter prepared for the Texas Historical Commission.
- 3) Final Archeological Survey Report if a field survey is required.

Schedule: Deliverables will be submitted according to a schedule mutually acceptable to Hicks & Company and KFA.

Assumptions:

1. The project will not require state or federal funding.
2. NEPA environmental documentation will not be required.
3. Aerial photographs, design maps and plans will be provided as needed or required in a GIS-compatible format by KFA.
4. Rights-of-Entry if required will be obtained and coordinated by KFA.
5. If substantial changes occur in the project alignments to require reevaluations after field investigations or a majority of baseline data collection have been completed, additional services will be supplemental to this Scope of Work.
6. Costs are included for estimating projected fees; billing will be based on actual rates.
7. Archeological fieldwork will be completed to assure compliance with the Texas Antiquities Code. Since the project consists entirely of subsurface elements, above-ground historic properties could only be affected directly; therefore, it is assumed that an architectural historical survey of adjacent parcels will not be required.
8. Coordination under Section 106 of the National Historic Preservation Act will not be required.



K·FRIESE
+ ASSOCIATES
PUBLIC PROJECT ENGINEERING

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

P.R.# 1.2

September 4, 2015

Ms. Connie Smith
Project Manager
City of Austin
Public Works Department
Project Management Division
505 Barton Springs Road, Suite 900
Austin, Texas 78704

VIA: E-MAIL/MAIL

RE: **Burleson Road Pressure Conversion (5267.036)**
Amendment No. 1 - Route Modification CCS Property (Revised)
W&WW System Pipeline Engineering 2011-2013 - PA110000004

Dear Ms. Smith:

K Friese & Associates, Inc. (KFA) is pleased to provide the enclosed proposal for modifying the proposed route to cross the CCS Partners property to a different property line than originally planned. Attached you will find the following items:

1. Manpower/Budget Estimate
2. Subconsultant Scopes and Fees

Scope of Services: Surveying, geotechnical investigations, environmental services, and design services for designing the line along a different corridor across the CCS Partners property.

Cost: The proposed cost for the services for this assignment is \$19,015.00, and will be paid on a lump sum basis.

Assignment Duration: The duration of this assignment is 6 months from the time of issuance of Notice to Proceed through assignment completion.

If you have any questions or need additional information, please do not hesitate to contact me. We look forward to working with you.

Sincerely,

Dale P. Murphy, P.E.
Project Manager

Attachments

**KFA MANPOWER/BUDGET ESTIMATE - BURLESON ROAD PRESSURE CONVERSION (5276.036)
AMENDMENT NO. 1 - ROUTE MODIFICATION ON CCS PROPERTY**

Task	Principal & QA/QC		Project Manager		Senior Engineer		EIT		Senior Tech.		Senior Admin		Total Labor Hours	KFA Labor Cost		Sub-Consultant Cost		Sub-Consultant Markup (5%)		Sub-Consultant Expenses		Total Cost
	Hours	\$	Hours	\$	Hours	\$	Hours	\$	Hours	\$	Hours	\$		Hours		Cost		Cost	Cost	Cost	Cost	
1. Phase A - Preliminary Engineering																						
1 Project Management			4								2		6		\$824				\$0		\$824	
2 Property Owner Coordination			4				7					11		\$1,241				\$0		\$1,241		
3 Route Modification			4				8		8			20		\$2,025				\$0		\$2,025		
4 Environmental & Cult. Resources (Hicks)												0		\$0	\$3,783			\$189		\$3,972		
5 Surveying & Easement Descriptions (Macias)												0		\$0	\$5,175			\$259		\$5,434		
6 Geotechnical Investigation (Fugro)												0		\$0	\$5,256			\$263		\$5,519		
Project Totals	0		12		0		15		8		2	37		\$4,090	\$14,214		\$711		\$0		\$19,015	



1504 WEST 5TH STREET AUSTIN, TEXAS 78703 TEL: 512 / 478.0858 FAX: 512 / 474.1849



ENVIRONMENTAL
ARCHEOLOGICAL
AND PLANNING
CONSULTANTS

**Revised Scope of Services for Archeological Services
City of Austin
Burleson Road Pressure Conversion
September 9, 2015**

General Understanding of the Project:

This scope of services describes additional archeological services to be performed by Hicks & Company on behalf of the City of Austin (COA) and K. Friese & Associates (KFA), the Design Consultant, as necessitated by design changes to the Burleson Road Pressure Conversion Project.

Additional Archeological Services to be Performed:

To ensure continued compliance with the Antiquities Code of Texas (ACT), Hicks & Company will coordinate with the Texas Historical Commission (THC) in order to revise Antiquities Permit #7177, amending the original project description and area of potential effects to include the current design changes. Following THC's acknowledgment of these revisions, Hicks & Company will conduct archeological survey of the new segments of the planned alignment. The cultural resources investigation will focus on the identification of cultural resource constraints for the project area. Following survey, Hicks & Company will update the archeology report and the cultural resources section of the Technical Memorandum.

Hicks & Company Fee Estimate
City of Austin Burleson Road Pressure Conversion 09-03-2015

Task Description	Principal		Sr. Enviro Scientist		Enviro Scientist II		Enviro Scientist III		Enviro Staff II		Enviro Staff III		Enviro Staff I		Enviro Tech III		Enviro Tech II		Enviro Tech I		Admin/Clerical		Totals	
	Hours	Rate	Hours	Rate	Hours	Rate	Hours	Rate	Hours	Rate	Hours	Rate	Hours	Rate	Hours	Rate	Hours	Rate	Hours	Rate	Hours	Rate	Hours	Rate
A. Labor																								
Task 1 Identification of Jurisdictional Waters																								
Site determination/Evaluation of Section 404 US Waters	0		0		0		0		0		0		0		0		0		0		0		0	
GIS Support	0		0		0		0		0		0		0		0		0		0		0		0	
Total Task Hours	0		0		0		0		0		0		0		0		0		0		0		0	
Billing Rate	\$200.75	\$141.52	\$133.47	\$119.21	\$103.05	\$96.26	\$88.65	\$75.33	\$66.97	\$57.55	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41
Total Task 1 Labor	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Task 2 Investigation of T&E Species																								
Database Search and Summary Evaluation	0		0		0		0		0		0		0		0		0		0		0		0	
GIS Support	0		0		0		0		0		0		0		0		0		0		0		0	
Total Task Hours	0		0		0		0		0		0		0		0		0		0		0		0	
Billing Rate	\$200.75	\$141.52	\$133.47	\$119.21	\$103.05	\$96.26	\$88.65	\$75.33	\$66.97	\$57.55	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41
Total Task 2 Labor	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Task 3 Investigation of Cultural Resources																								
TAC Permit Application Revision and Coordinating	0		0		0		0		0		0		0		0		0		0		0		0	
Field Investigations	0		0		0		0		0		0		0		0		0		0		0		0	
Report Revision	0		0		0		0		0		0		0		0		0		0		0		0	
GIS/Graphics Support	0		0		0		0		0		0		0		0		0		0		0		0	
Total Task Hours	0		0		0		0		0		0		0		0		0		0		0		0	
Billing Rate	\$200.75	\$141.52	\$133.47	\$119.21	\$103.05	\$96.26	\$88.65	\$75.33	\$66.97	\$57.55	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41
Total Task 3 Labor	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Task 4 Identify Critical Environmental Features																								
Site Determination/Evaluation	0		0		0		0		0		0		0		0		0		0		0		0	
GIS Support	0		0		0		0		0		0		0		0		0		0		0		0	
Total Task Hours	0		0		0		0		0		0		0		0		0		0		0		0	
Billing Rate	\$200.75	\$141.52	\$133.47	\$119.21	\$103.05	\$96.26	\$88.65	\$75.33	\$66.97	\$57.55	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41
Total Task 4 Labor	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Task 5 Document Production																								
Total Task Hours	0		0		0		0		0		0		0		0		0		0		0		0	
Billing Rate	\$200.75	\$141.52	\$133.47	\$119.21	\$103.05	\$96.26	\$88.65	\$75.33	\$66.97	\$57.55	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41
Total Task 5 Labor	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Project Management																								
Total Task Hours	0		0		0		0		0		0		0		0		0		0		0		0	
Billing Rate	\$200.75	\$141.52	\$133.47	\$119.21	\$103.05	\$96.26	\$88.65	\$75.33	\$66.97	\$57.55	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41	\$49.34	\$52.41
Total Project Management Labor	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Subtotal Labor Cost																								
B. EXPENSES																								
HazMat Data Search	Unk		Quantity		Rate																			
Courier	Report		0		\$500.00																			
Aerial photography/Mapping Materials	Letter		0		\$16.00																			
Field Supplies	Box		0.50		\$50.00																			
Miscellaneous	Mill		0		\$0.56																			
Archeological Site Registration/Revisit	Mile		0		\$30.00																			
Carrollton	Drawer		0		\$1,320.00																			
Backhoe Rental	Day		0		\$1,100.00																			
Archeological Report Final Library Delivery	Report		12		\$5.00																			
TOTAL Nonlabor Expenses																								
C. TOTAL COSTS - HICKS & COMPANY																								
NOTE:																								
Labor rates are for estimating purposes only. Billing rates listed are updated rates provided KFA 10/31/13 to be used for COA Water & Wastewater System Pipeline Engineering Rotation List																								
All tasks assume necessary documentation will be provided by Engineer in a timely manner.																								

\$3,697.87

\$3,782.87



FUGRO CONSULTANTS, INC.

CLIENT and FUGRO CONSULTANTS INC., a Texas Corporation
(Consultant) agree to the following:

8613 Cross Park Drive
Austin, Texas 78754
Phone: 512-977-1800
Fax: 512-973-9966

CLIENT CONTACT:	Mr. Dale Murphy, P.E.	PROJECT NAME:	Burleson Road WRI Pressure Conversion – Supp. Borings
CLIENT:	K Friese & Associates, Inc.	PROJECT NO.:	04.30131075
ADDRESS:	1120 South Capital of Texas Highway City View 2, Suite 100 Austin, TX 78746	DATE:	Rev. September 4, 2015
		EMAIL:	DMurphy@kfriese.com

PROJECT DESCRIPTION: The project consists of the installation of approximately 13,300 linear ft of 24- to 36-inch reclaimed water pipeline in South Austin. Fugro has been requested to prepare a Geotechnical Data Report (GDR) and Geotechnical Design Memorandum (GDM) for the above referenced project. Due to utility alignment revisions, K Friese & Associates, Inc. has requested that additional borings be performed.

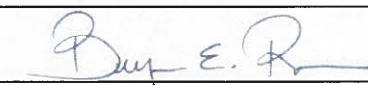
SCOPE OF SERVICES: The new section of pipeline will extend between Burleson Rd and Trade Center Drive, just west of Montopolis Drive. Two new borings to 20-ft depth will be completed within this revised alignment. These additional borings, along with associated laboratory tests, and engineering analyses, will be performed and incorporated into our forthcoming GDR and GDM for the project. Our proposed scope and associated costs are presented in Attachment 1.

SPECIAL CONDITIONS: Fugro’s Insurance Company requires the following statement. Fugro’s scope of work does not include the investigation, detection, or design related to the presence of any Biological Pollutants. The term “Biological Pollutants” includes, but is not limited to, mold, fungi, spores, bacteria, and viruses, and the byproducts of any such biological organisms.

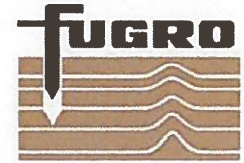
TERMS AND CONDITIONS: Our services shall be performed in accordance with the existing Subcontract for Professional Services between K Friese & Associates, Inc. and Fugro Consultants, Inc., dated February 6, 2015.

SCHEDULE: Upon receiving formal authorization, the drilling and laboratory testing can be completed within 1 to 2 weeks of notice to proceed. The final GDR and GDM will incorporate this information, and will be issued 1 to 2 weeks following field and lab activities.

AUTHORIZATION: To provide written authorization, please have the signature block below signed by a duly authorized person in the spaces provided and return the attached copy to us for our files. We will submit one electronic copy of all reports and other correspondence to the above-noted Client Contact, unless instructed otherwise.

Consultant: FUGRO CONSULTANTS, INC.
By: 
Name: Bryan E. Rose, P.E.
Title: Senior Project Manager
Address: 8613 Cross Park Drive
Austin, Texas 78754
Date: September 4, 2015

Client: Mr. Dale Murphy, P.E.
By: _____
Name: _____
Title: _____
Address: _____
Date: _____



Attachment 1 - Cost Estimate
Geotechnical Data Report & Geotechnical Design Memorandum
Burleson Road WRI Pressure Conversion
Austin, Texas

1. Field Exploration		Quantity	Unit	Rate	Subtotal
	Coordination, one-call, mobilization, staking of borings, field logging				
	Mobilization / Demobilization	1	each	\$400.00	\$400.00
	Drilling and Sampling - Soil	40	feet	\$16.00	\$640.00
	Standard Penetration Test	2	each	\$23.00	\$46.00
	Rock Coring	0	feet	\$26.00	\$0.00
	Piezometer (Open Pipe)	0	each	\$1,900.00	\$0.00
	Traffic Control	0	day	\$1,800.00	\$0.00
	Backfilling Boreholes	40	feet	\$8.00	\$320.00
	COA ROW Man Permit	0	ls	\$600.00	\$0.00
	Project Manager	4	hour	\$148.35	\$593.40
	Graduate Engineer	8	hour	\$59.15	\$473.20
Subtotal					\$2,472.60
2. Laboratory Investigation		Quantity	Unit	Rate	Subtotal
	Moisture Contents	2	each	\$15.00	\$30.00
	Atterberg Limit Determinations	2	each	\$65.00	\$130.00
	Sieve Analysis	2	each	\$65.00	\$130.00
	Unconfined Compression Tests	2	each	\$60.00	\$120.00
	Corrosion Testing (Soluble Sulfate, Chloride, pH, Box Resistivity)	0	suite	\$500.00	\$0.00
	Graduate Engineer	2	hour	\$59.15	\$118.30
Subtotal					\$528.30
3. Technical Services		Quantity	Unit	Rate	Subtotal
	Logging, Laboratory Assignment, Drafting, Report Preparation, and Boring Data Assembly				
	Administrative	2	hour	\$77.33	\$154.66
	Graduate Engineer	3	hour	\$59.15	\$177.45
	Drafter	2	hour	\$65.00	\$130.00
Subtotal					\$462.11
4.1 Engineering Services - GDR		Quantity	Unit	Rate	Subtotal
	Principal Review	1	hour	\$176.98	\$176.98
	Senior Project Manager	2	hour	\$152.32	\$304.64
	Project Manager	2	hour	\$148.35	\$296.70
	Graduate Engineer	2	hour	\$59.15	\$118.30
Subtotal					\$896.62
4.2 Engineering Services - GDM		Quantity	Unit	Rate	Subtotal
	Principal Review	1	hour	\$176.98	\$176.98
	Senior Project Manager	2	hour	\$152.32	\$304.64
	Project Manager	2	hour	\$148.35	\$296.70
	Graduate Engineer	2	hour	\$59.15	\$118.30
Subtotal					\$896.62
Total Estimated Cost					\$5,256.25



MACIAS & ASSOCIATES, L.P.
LAND SURVEYORS - FIRM REG. NO. 101141-00

May 22, 2015

KFRIESE + ASSOCIATES

1120 S. Capital of Texas Highway, City View 2, Suite 100
Austin, Texas 78746

ATTN: Mr. Dale Murphy, P.E., Vice President

RE: **COA Water and Wastewater System Pipeline Engineering 2011 –2013 Rotation List – Burleson Road Pressure Conversion Project.**

Mr. Murphy,

Thank you for the opportunity of submitting this proposal for professional surveying services in connection with your request to prepare a route survey for the COA - Water and Wastewater System Pipeline Engineering 2011 –2013 Rotation List – Burleson Road Pressure Conversion Project. The limits of the route survey will generally be a 50' by 1,200' foot long corridor from north right of way line of Trade Center Drive to the south right of way line of Burleson Road. Then area is in private property and shown in the attachment emailed to our office on May 13, 2015.

SCOPE OF SERVICES FOR ROUTE SURVEY

1. Obtain and review pertinent ownership, right of way and utility information from the Travis County Tax Office and utility owners.
2. Field locate right of way evidence, fences, sidewalks, driveways, top of water valve nut, water meters, water valves and hydrants, wastewater, storm, electric telephone/utility poles, gas and other underground and surface utilities. Also, field locate traffic signs, light poles, power poles, guide wires, electric manholes, telephone manholes, electric or telephone pull boxes, traffic pull boxes, traffic control loops, warning signs for underground utilities and other surface features within the right of way not listed. Manholes and inlets will be opened and detailed if possible. Flow line elevations will be taken at both ends of existing culverts.
5. Detail manholes, take elevation of all inverts in and out of manhole and take manhole lid elevations, and detail all upstream and downstream manholes.
6. Locate trees 8" trunk diameter and greater, per City of Austin standards within the 50' corridor. Cedar trees will not be located unless they are protected trees.
7. Take sufficient elevations to develop a 1.0 foot interval contour line map.
8. Locate or set 2 boreholes.

Page 1 of 2

5410 South 1st Street, Austin, Texas 78745
(512) 442-7875 (O) • (512) 442-7876 (F) • www.maciasworld.com

9. Prepare a base map showing the above information to include owners name and legal description of adjacent lots. The base map will be prepared using ACAD V2012 and furnished in 2D and 3D format on a compact disk. A hard copy of the signed and sealed survey will also be furnished.
10. Drawing standards will be based on City of Austin "Austin Clean Water Program" Standards. Drawing will be on a scale of 1" = 20'.
11. Project will be based on NAVD 1988 and NAD 1983.
12. Set a horizontal and vertical control point not more than 1,500' apart. City of Austin Benchmarks will also be shown.
13. There will be no sub-surface utility excavation addressed in this proposal.
14. Furnish 1 signed and sealed hard copy of the finished survey and 1 compact disk with the electronic version of the route survey.

BASIS FOR COMPENSATION FOR ROUTE SURVEY

We propose to provide the above scope of services on an hourly basis with a not to exceed amount of \$5,175.00 based on the following estimates:

R.P.L.S.	05 hrs. @ \$135.00 per hr.	\$ 675.00
Sr. Survey Technician	20 hrs. @ \$ 80.00 per hr.	\$1,600.00
Field Crew	20 hrs. @ \$145.00 per hr.	<u>\$2,900.00</u>
	Total	\$5,175.00

SCHEDULE

We can begin work on this project approximately 5 working days after we receive a written notice to proceed. It will take approximately 10 working days to complete the project.

The Texas Board of Professional Land Surveying regulates all Registered Professional Land Surveyors in the State of Texas: they may be contacted at 12100 Park 35 Circle, Bldg. A, Suite 156 MC- 230, Austin, Texas 78753, 512.239.5263.

If this proposal is acceptable please issue a written notice to proceed. Please call me at 442.7875 if you have any comments or questions.

Sincerely,

MACIAS & ASSOCIATES, L.P.



Carmelo L. Macias RPLS
Vice-President

CLM/cg

z:/jobs/KFriese/Burleson/RouteSurvey-Pro2

K. Friese
 11000000 - Pipeline
 Brunson Road Frame Conversion

P.R. # 1.2

ATTACHMENT 1: RESOURCE ALLOCATION PLAN

Note: PM will advise Consultant of level of detail and payment benchmarks desired for Task Descriptions

Task Description	Budget	Start Date	End Date	% Complete	% Paid	% Time
A. Preliminary Phase						
1. Project Management	\$824.00	9/21/2015	12/31/2015	0.0%	0.0%	0.0%
2. Property Owner Coord.	\$1,241.00	9/21/2015	12/31/2015	0.0%	0.0%	0.0%
3. Environmental/Cultural	\$3,972.00	9/21/2015	12/31/2015	0.0%	0.0%	0.0%
4. Geotechnical	\$5,519.00	9/21/2015	12/31/2015	0.0%	0.0%	0.0%
5. Surveying	\$5,434.00	9/21/2015	12/31/2015	0.0%	0.0%	0.0%
Phase Total	\$16,990.00			0.0%	0.0%	0.0%
B. Design Phase						
1. Modify Alignment Design	\$2,025.00	9/21/2015	12/31/2015	0.0%	0.0%	0.0%
Phase Total	\$2,025.00			0.0%	0.0%	0.0%
C. Bid-Award Execution Phase						
Phase Total	\$0.00			0.0%	0.0%	0.0%
D. Construction Phase						
Phase Total	\$0.00			0.0%	0.0%	0.0%
E. Post-Construction Phase						
Phase Total	\$0.00			0.0%	0.0%	0.0%
Project Total	\$19,015.00	9/21/2015	12/31/2015	0.0%	0.0%	0.0%

69070

11070

APPROVED FIXED CONSTRUCTION BUDGET:
 DATE OF CURRENT FCB:

P.R. #1.2

Subconsultant Utilization Form

Contract Management Department Contract Management Division

Rotation List Name/#: W&WW System Pipeline Engineering / 1.10000004 Project Mgr: Connie Smith
 Project Name: Burleson Road Pressure Conversion / Assignment # / P.R #: 1 / 1.2
 Date: 5/29/2015 Submitted by: Dale Murphy, PE Firm: K Friese & Associates, Inc.

Firm	Cert Type	Description of Work	Work Hours	Amount \$
K. Friese & Associates, Inc.	FW	Project Management, Civil Engineering	32.0	\$4,801.00
Plauche International	Non	QA/QC	0.0	\$0.00
Hejl, Lee & Associates	MA	Civil Engineering	0.0	\$0.00
Hicks Environmental	FW	Environmental and Cultural Resources	43.0	\$3,783.00
Fugro Consultants	Non	Geotechnical Engineering	20.0	\$5,256.00
Macias & Associates, LP	FH	Surveying	45.0	\$5,175.00
Turner Graphics	MB	CADD	0.0	\$0.00
Brierley & Associates, Inc.	Non	Tunnel Engineering	0.0	\$0.00
HR Gray	Non	Constructability	0.0	\$0.00
Frank Lam Associates	MA	Structural Engineering	0.0	\$0.00
<Subconsultant 10>		<Brief Description of work to be performed>	0.0	\$0.00
<Subconsultant 11>		<Brief Description of work to be performed>	0.0	\$0.00
<Subconsultant 12>		<Brief Description of work to be performed>	0.0	\$0.00
<Subconsultant 13>		<Brief Description of work to be performed>	0.0	\$0.00
<Subconsultant 14>		<Brief Description of work to be performed>	0.0	\$0.00
TOTAL			140.0	\$19,015.00

MBE/WBE PARTICIPATION

Please calculate participation percentages for each category, based upon the total dollar amount for certified firms in the specified category divided by the Total Amount of the assignment



	Non - Certified	African American	Hispanic	Asian / Native American	MBE	WBE
This Assignment	27.64%	0.00%	27.22%	0.00%	27.22%	45.14%
Compliance Plan	0.00%	1.90%	9.00%	4.90%	15.80%	15.80%

See next page for approval signatures

Please provide an explanation for any categories where participation for this assignment is less than the approved Compliance Plan percentages:

I certify that the information listed above has been reviewed and is accurate to the best of my knowledge.

Firm Representative  Date 9-4-15

FOR COA USE ONLY
I have reviewed the Consultant utilization and MBE/WBE participation for this assignment. A copy of this form will be forwarded to the appropriate SMBR Representative
Project Manager:  Date 9-9-15
Rotation List Manager:  Date 9-11-2015



Chan & Partners Engineering, LLC

4319 James Casey Street, Suite 300 Austin, Texas 78745

Phone (512) 480-8155 Fax (512) 480-8811

TBPE Firm Registration No. F-13013

www.chanpartners.com

March 7, 2016
February 18, 2016 (original)

Austin SWIFT Loan Application
Part A, Item 6
Decker Lane Main Engineering Contract

Ms. Paulinda Lanham
Project Management Division
Austin Water Utility
City of Austin
P.O. Box 1088
Austin, Texas 78767

**RE: Proposal to Provide Civil Engineering Services
2011 Water and Wastewater Pipeline Services Rotation List (CLMP042)
Decker Lane Reclaimed Water Transmission Main Improvements from Walnut Creek
Wastewater Treatment Plant to Travis County Exposition Center
Preliminary Engineering, Construction Documents, Permitting and Bidding Phase Services**

Dear Ms. Lanham:

Pursuant to your request, your meeting with Tom Curran, P.E. of our office on February 4, 2016, and your proposal review comments on March 1, 2016, Chan & Partners Engineering, LLC (CPE) is pleased to submit this revised fee proposal for your review and approval.

PROJECT DESCRIPTION

The proposed project is a portion of the Austin Water Utility (AWU) Water Reclamation Initiative Project. CPE's original assignment (received notice to proceed from City of Austin on June 2, 2015) is to design a reclaimed water transmission main and stub outs from an existing storage tank located at the northeast corner of the Walnut Creek Wastewater Treatment Plant (WCWWTP) to a location approximately 730 feet, more or less, southwesterly from the intersection of Decker Lane and the entrance to the Bluebonnet Hill Golf Course, a total distance of approximately 23,000 lineal feet (LF).

Subsequently, based on a meeting on February 4, 2016 between you, Mr. Dan Pedersen and Tom Curran of our office, AWU desires to reduce the scope of the proposed improvements from WCWWTP to the Travis County Exposition Center. The revised proposed 36" diameter reclaimed water main will consist of approximately 14,000 lineal feet LF with the associated stub outs (not more than 50 LF each).

The objective of this engineering services proposal is to present the engineering efforts, assumptions and schedule for the completion of this revised scope of work. Please note that some of the tasks presented below and in the spreadsheet will require no engineering effort as the engineering efforts were completed under the previous authorization.

The proposed reclaimed water line alignment was developed and provided to CPE by AWU with consideration of the Austin Finance Corporation (AFC) development within the Colony Park tract (208 acres). This proposal does not include a study of an alternative alignment.

The majority portion of the proposed reclaimed water line is located within the Walnut Creek Watershed and a small portion of the reclaimed water line is located within the Gilleland Creek

Watershed. Both watersheds are classified as Suburban Watershed in the City of Austin's (COA) Comprehensive Watershed Ordinance. A portion of the reclaimed water line will span across or parallel to the COA's designated Critical Water Quality Zone (CWQZ). A COA variance request and Environmental Board approval may be required for construction within CWQZ depending upon the distance from the centerline of the waterway. The project is not located within the Edwards Aquifer Recharge Zone as defined by COA and Texas Commission on Environmental Quality (TCEQ).

The objective of this proposal is to develop preliminary engineering (30% design), final construction plans and bid documents, and permitting (60%, 90%, and 100% design), and bid assistance for the construction of the proposed 36" diameter water line and its stub outs.

In preparing this engineering services proposal, CPE assumed the following:

- Reclaimed water line sizes (main and stub outs) will be provided by Austin Water Utility (AWU). CPE did not include any engineering efforts in water model and line sizes development.
- Pump and transmission main outlet design shall be the responsibilities of others.
- Since the reclaimed water line alignment has been evaluated and examined by AWU, the objective of CPE's assignment is to prepare construction documents for the proposed reclaimed water main. A detailed Preliminary Engineering Report (PER) will not be prepared. Instead, an engineer's summary letter will be prepared as part of CPE's 30% deliverables to AWU (in addition to the 30% design completion drawings).
- Based on Travis County Appraisal District (TCAD) maps, CPE estimated an allowance of six (6) permanent easements (documents and field staking). If more than six (6) easements are required, an amendment to this proposal will be prepared and approved by AWU prior to initiation of work.
- Temporary construction and work space easement documentations (such as field notes and sketches) will not be prepared and is not included in this proposal. It is anticipated temporary construction and staging area will occur at the Walnut Creek WWTP and at Decker Lake along Decker Lane (Park & Recreation Department property). CPE will coordinate with AWU Walnut Creek WWTP and PARD Decker Lake staff to designate these temporary construction and staging areas.
- CPE's deliverables will be at 30%, 60%, 90% and 100% design completion stages. 90% design set shall be the permit set and 100% design set shall be the bid set.
- An AWU General Permit will be utilized for this Project (email from AWU staff dated 3/31/2015).
- Public relationship meetings, except one during the 30% design phase, are not included in this proposal.

A detailed scope of services is presented as follows.

SCOPE OF SERVICES

Phase A – Preliminary Engineering (30% Design)

1. Perform field reconnaissance to identify existing site conditions. **No hours will be needed for this task since it has been performed under the previous engineering services agreement.**
2. Prepare a "Project Delivery Plan" showing the project team's organization of resources, approach to project management, quality assurance/quality control plans and project schedule control. **No**

hours will be needed for this task since it has been performed under the previous engineering services agreement.

3. Review pertinent existing data including WCWWTP site plans, reclaimed water line plans and profiles, TCAD data, watershed CWQZ, COA and Federal Emergency Management Agency (FEMA) floodplains, existing utility plan, pump and tank construction drawings, Colony Park proposed development plans, etc. **No hours will be needed for this task since it has been performed under the previous engineering services agreement.**
4. Develop a base map using COA GIS data, indicating property boundaries, property owners (for large tracts only and not individual residential lots), creeks, CWQZ, pavement, buildings, Austin Energy transmission lines & towers, and available existing utilities on the base map.
5. Perform reclaimed water route analysis (36" main, approximate distance of 2.7 miles) and develop preliminary reclaimed water routes.
 - a) Route Considerations: CPE will develop a list of consideration (constraint) items for the proposed reclaimed water route. The list of consideration items shall include, at the minimum, COA & FEMA regulated floodplains, CWQZ, ground slope greater than 15% along the potential alignment (City of Austin Land Development Code discourages construction on land with 15% slope or greater), Critical Environmental Features (as identified within the Colony Park 208 acre tract), property owner identifications, potential wetlands and stock ponds, wetland buffer, erosion hazard zones, easement acquisition requirements, major utility conflicts, significant cultural resources, and COA Heritage trees.
 - b) Route Delineations: Based on City's GIS data and the constraint items mentioned above, CPE will develop the proposed route for the 36" diameter reclaimed water main. CPE anticipates the route delineation will be at approximately 1"= 40' scale, with a top half and a bottom half of plan views (total of approximately 9 sheets for 14,000 LF of reclaimed water line).
 - c) Easement Identification: CPE will identify easement requirements for each route and easements to be acquired. CPE shall identify the property owners along the proposed alignments.
 - d) Austin Area Utility Location and Coordination Committee (AULCC): Submit plans to AULCC and attend meetings. Obtain and review available information concerning existing and proposed utility facilities in the project area which may include water and wastewater pipelines, telephone, fiber optics, gas, electric, drainage facilities, traffic signal systems, Austin Energy power lines, petroleum products pipelines, etc. **No hours will be needed for this task since it has been performed under the previous engineering services agreement.**
 - e) Environmental Data Base Due Diligence: Conduct an environmental data base due diligence and determine if environmental obstacles are present along the proposed alignments. CPE environmental sub-consultant Cox McLain will conduct this task.
 - f) Deliverables: The deliverables for this task shall include a map or maps that show the following: proposed route of the reclaimed water lines, topography, existing streets or roads, buildings, potential wetlands, existing COA regulated floodplains, CWQZ, major utilities and other pertinent information. An engineer's summary report briefly presents the results of our investigation.
6. Perform final route evaluation and route selection.
 - a) Submit 30% design plans to QA/QC consultant (Atkins) for review. Address Atkins QA/QC review comments.

- b) Upon addressing Atkins review comments, submit 30% design plans to AWU for review.
 - c) Address AWU and Quality Management Division (QMD) review comments. Finalize the best probable reclaimed water line alignment in conjunction with AWU staff.
 - d) Deliverables: Final 30% design plans, on GIS base map, showing the AWU approved 36" diameter reclaimed water line alignment. An engineer's summary report briefly presents the results of our investigation.
7. Attend a public meeting organized by AWU. Develop public meeting presentation materials. Public meeting notification shall be performed by AWU or COA Public Information Office.
8. Provide project management of CPE Preliminary Engineering (30% design) services to include:
- a. Coordinate with CPE services with AWU and other governmental agency staff for a period of 2 months.
 - b. Coordinate with CPE subconsultants for a period of 2 months.
 - c. Attend up to two (2) progress meetings with AWU staff.
 - d. Prepare and submit to AWU monthly progress report for a period of 2 months.
 - e. Perform internal QA/QC of CPE and sub-consultants' 30% design completion services.

Phase B – 60% Design Phase

9. Upon acceptance by AWU and City staff of the proposed reclaimed water line alignment and the 30% design plans, conduct site visit to observe and document existing conditions with respect to the 60% design completion assessments.
10. Coordinate with surveying subconsultants (Landmark Surveying and MWM DesignGroup) to finalize the surveying requirements. Conduct field survey of the proposed alignment. Review deliverables provided by the surveyors. Surveyors have included coordination with property owners to gain right of entry (ROE) to perform theirs and other project team members' field work. However, CPE assumes that COA Real Estate Division will provide assistance to the Project Team in obtaining ROE if property owners object or resist granting the surveyors' ROE requests.
11. Conduct geotechnical investigations required to finalize the design of the reclaimed water lines. Coordinate with geotechnical subconsultant (Holt Engineering) for bore hole locations (approximately 30 bore holes) and review deliverables provided by the geotechnical engineer.
12. Conduct environmental assessment and cultural resource investigation required to finalize the design of the reclaimed water lines. Provide environmental subconsultant (Cox/McLain Environmental) with project information and review deliverables provided by the environmental consultant.
13. Determine final permitting requirements of the selected reclaimed water line alignment considering City, County, State and Federal regulations.
14. Prepare 60% construction documents (construction plans and project manual). Prepare any special specifications and special provisions. Construction drawings (approximately 65 sheets) are anticipated to include the following:
- a) Cover sheet with signature blocks (1 sheet)
 - b) General and special construction notes (2 sheets). Traffic control plan prepared by HVJ Associates.

- c) Construction sequence and traffic control plans (12 sheets)
 - d) Temporary erosion/sedimentation control plan and tree protection plan (9 sheets)
 - e) Reclaimed water main and stub outs plans and profiles (36 sheets)
 - f) Reclaimed water main special construction details, (e.g. trenchless technology details, intersection details, etc.) (2 sheets)
 - g) Other Special construction details such as slope stabilization and revegetation, creek crossing details, erosion hazard zone calculations (3 sheets)
 - h) Easement acquisition map (4 sheets)
 - i) Slope map (2 sheets)
 - j) Standard construction details (3 sheets)
15. Develop 60% design project manual including 00300U, draft special provisions, special specifications and standard specifications.
16. Develop 60% design completion engineer's opinion of probable construction cost (based on prevailing market and previous bids) within one week of the submittal of the review sets of the construction documents.
17. Develop 60% design completion schedule for the construction of the project. Estimated schedule will include supporting documents that indicates how specific milestone dates were determined (e.g. pipe laying rates, duration of testing requirements, etc.).
18. Submit 60% construction drawings to AULCC. Coordinate with utility providers. Develop utility conflict matrix. Obtain AULCC approval of utility coordination clearance for Site Development Permit application.
19. Submit 60% construction documents to AWU, Right of Way Management Division (ROWMAN), Watershed Protection Department (WPD), QMD and Planning & Development Review Department (PDRD) for review. Submit 60% construction documents to TxDOT, Colony Park Development Company, Austin & NW Railroad Company & Austin Energy for review. **Deliverables for the 60% design completion submittal will include 60% drawings (plan and profile, construction details, construction access points and staging areas, E/S control and tree protection and traffic control plan), updated engineer's opinion of probable construction cost, updated project schedule, draft TOC for front end documents, TOC for City Standard Specifications, draft TOC for Special Provisions, draft TOC for Special Specifications and draft 300U.**
20. Meet with City of Austin AWU, ROWMAN, WPD, QMD and PDRD to discuss the 60% review comments. Meet with AE, Colony Park Development, Austin & NW Railroad Company and TxDOT staff for the portion of the reclaimed water line within and/across their right of way or easement. Assumed five (5) meetings for this task.
21. Provide project management of CPE 60% design services to include:
- a. Coordinate with CPE services with AWU and other governmental agency staff for a period of 4 months (time duration includes surveying acquisition).
 - b. Coordinate with CPE sub-consultants for a period of 4 months.
 - c. Attend up to three (3) progress meetings with AWU staff.
 - d. Prepare and submit to AWU monthly progress report for a period of 4 months.
 - e. Perform internal QA/QC of CPE and sub-consultants' 60% design completion services.

Phase C – 90% Design Phase

22. Address 60% review comments. Prepare 90% design drawings (approximately 70 sheets), which would include the following:
 - a) Cover sheet with signature blocks
 - b) General and special construction notes
 - c) Construction sequence and traffic control plans
 - d) Temporary erosion/sedimentation control plan and tree protection plan
 - e) Reclaimed water main and laterals plans and profiles
 - f) Reclaimed water main and laterals construction details
 - g) Special construction details such as slope stabilization and revegetation techniques, pavement repair, trenchless method of construction techniques, erosion hazard zone calculations.
 - h) Easement acquisition map
 - i) Slope map
 - j) Standard construction details
 - k) Storm Water Pollution Prevention Plan (SWPPP)
23. Prepare 90% project manual, including front end documents, 00300U, applicable standard specifications, all special provisions and special specifications.
24. Update engineer's opinion of probable construction costs.
25. Update project schedule with milestones.
26. Submit 90% construction documents to TxDOT, AWU, ROWMAN and AE for review. **Deliverables for the 90% design completion submittal will include 90% drawings (plan and profile, construction details, construction access points and staging areas, E/S control and tree protection and traffic control plan), updated engineer's opinion of probable construction cost, updated project schedule, draft completed front end documents, final TOC for City Standard Specifications, draft Special Provisions, draft Special Specifications and updated 300U.**
27. Submit 90% construction drawings to AULCC. Coordinate with utility providers. Obtain final AULCC clearance for construction.
28. Prepare and submit for a General Permit and AWU review division for review. The submittal package shall include construction plan, General Permit application form, engineering report, engineer's summary letter and environmental assessment.
29. Meet with City of Austin WPD, ROWMAN, QMD and AWU to discuss the 90% review comments. Meet with TxDOT staff for the portion of the reclaimed water line within TxDOT right of way. Meet with AE staff for the portion of the reclaimed water line within or adjacent to the AE easement. Coordinate with Colony Park Development staff. Assumed five (5) meetings for this task.
30. Address General Permit application review comments. Coordinate with Development Review and AWU Review staff toward obtaining the General Permit. Please note General Permit normally takes five (5) months to acquire.

31. Coordinate with environmental consultant to clear all environmental permits including 404 Permit, Texas Historic Commission approval, and COA environmental review.
32. Provide project management of CPE 90% design completion services to include:
 - a. Coordinate with CPE services with AWU and other governmental agency staff for a period of four (4) months.
 - b. Coordinate with CPE sub-consultants for a period of four (4) months.
 - c. Attend up to two (2) progress meetings with AWU staff.
 - d. Prepare and submit to AWU monthly progress report for a period of four (4) months.
 - e. Perform internal QA/QC of CPE and sub-consultants' 90% design completion services.

Phase D –100% Design Phase

33. Address 90% review comments. Prepare 100% design drawings and project manual.
34. Update engineer's opinion of probable construction costs.
35. Update project schedule with milestones.
36. Submit 100% construction documents to AWU, ROWMAN, QMD and other agencies having jurisdiction on the proposed project for review. CPE shall address review and prepare written responses. Upon satisfactory addressing the review comments, CPE shall provide "Issue for Bids" documents to AWU.
37. Provide project management of CPE 100% design completion services to include:
 - a. Coordinate with CPE services with AWU and other governmental agency staff for a period of 2 months.
 - b. Coordinate with CPE subconsultants for a period of 2 months.
 - c. Attend up to 2 progress meetings with AWU staff.
 - d. Prepare and submit to AWU monthly progress report for a period of 2 months.
 - e. Perform internal QA/QC of CPE and sub-consultants' 100% design completion services.

Phase E – Bid Phase

38. Attend pre-bid conference. Answer questions from potential bidders. Issue addenda to clarify the Project bid documents.
39. Evaluate bids and provide recommendation for Contract award.

ENGINEERING COMPENSATION

A detailed breakdown of the fees for Preliminary Phase, Design Phase and Bid-Award/Execution Phase is presented in Attachment 1 (Resource Allocation Plan). A detailed man-hour projection of CPE tasks is presented in Attachment 2. A detailed scope text and fees for each individual subconsultant is also included. Specifically, CPE proposes to perform the above-referenced services based on a lump sum amount of \$525,137.54. The following presents the Design and Bid Phases compensation summary:

CPE (labor)	\$253,397.02
CPE (reimbursables expenses)	\$ 14,000.00
CPE (5% subconsultant handling fee)	\$ 12,273.36
Landmark Surveying	\$ 41,205.00
MWM DesignGroup	\$ 58,331.00
Cox McLain Environmental	\$ 11,418.00
HVJ Associates, Inc.	\$ 41,200.00
ATKINS	\$ 8,842.00
Brierley Associates, Inc.	\$ 32,750.00
Holt Engineering, Inc.	\$ 51,721.16
TOTAL LUMP SUM AMOUNT	\$525,137.54

It should be noted that the \$14,000 reimbursable expenses include printings and reproduction for AULCC review sets, City of Austin review sets, Site Development Permit review sets, TxDOT review sets, QA/QC review sets, bid sets, and record drawing sets as well as courier services.

In comparison with the previous authorization, the reduction in the scope of work resulted in a 27% reduction in engineering fees (previous authorization of \$716,797.25 versus this proposal of \$525,137.54).

SCHEDULE

Upon receiving authorization from the City, CPE proposes to commence work immediately and anticipates completing Phase A – Preliminary Engineering in two (2) months. Time clock will stop during City staff review of the Preliminary Engineering results. Upon receiving comments from City staff, CPE anticipates completing review comments in three (3) weeks.

Upon receiving authorization to proceed for the Phase B – Design Phase, CPE anticipates completing the 60% design plans in 5 months. Please note that the long duration is due to the ROE coordination and the development of field surveying information. We would like to recommend the City to authorize the survey work close to the end of Phase A – Preliminary Engineering when the proposed reclaimed water line alignment has been established. Time clock will stop during City staff review of the 60% design plans.

Upon receiving ALL City review comments (AWU, PMO, PMD, QMD and ROWMAN), CPE anticipates completing addressing 90% design plans review comments in one (1) month. Upon completion of the 90% design plans, CPE will then proceed to prepare General Permit application submittal package and anticipates completing the submittal package within one (1) month.

It is anticipated that General Permit will take approximately 5 months to acquire. The completion of the 100% design plans will be concurrent with the Site Development Permit acquisition process.

Upon approval of the Site Development Permit application by PDRD, CPE will submit the 100% design plans to AWU, PMO, and PMD for final review. CPE anticipates addressing 100% design plans review comments and provide COA with the “Issue for Bid” documents within two (2) months.

SPECIAL CONDITIONS

1. CPE will not be responsible for delays caused by gaining rights of entry for surveying and field reconnaissance work, City and/or TxDOT’s reviewer and/or approval department, addressing

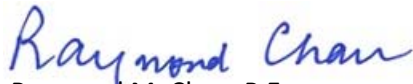
additional comments requested by reviewer(s) or acquisition of easements/right of entry from private property owners.

2. COA will provide Title Commitment for the tracts of land where proposed reclaimed water main easements are required. CPE Project Team will be responsible for the preparation of the temporary and permanent easement dedication documents (field notes and sketches)
3. The utility coordination sets, permit review sets, bid sets and record mylar set have been included in the non-labor services. Outside services shall be compensated for at cost plus 5%. In-house plan reproduction for 24" x 36" sheet shall be billed at \$2.00 per sheet.
4. Jurisdictional fees for review, permitting and inspection fees, etc. are the responsibility of COA.
5. It is our assumption that City of Austin will be responsible for the advertisement of the Project, construction bids, receive bidding document deposits and distribute bidding documents.

Thank you for the opportunity for submitting this proposal. If you have any questions, please do not hesitate to call me. I am looking forward to working with you.

Sincerely,

CHAN & PARTNERS ENGINEERING, LLC.



Raymond M. Chan, P.E.
President

Attachments

ATTACHEMENT
 H... T... E... EE...
 M... Bre... d... re...

	Principal Engineer (Hrs.) (\$210.15)	Sr. Project Engineer (Hrs.) (\$186.59)	Project Engineer (Hrs.) (\$116.63)	Graduate Engineer (Hrs.) (\$88.26)	Sr. Eng. Tech. (Hrs.) (\$98.77)	CAD Tech (Hrs.) (\$70.00)	Drafter (Hrs.) (\$46.80)	Clerical (Hrs.) (\$80.09)	Task Budget
Tasks									
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Phase D - 100% Design Phase									
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Phase E - Bid Phase									
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E... e... d... d... r... de... re... e... d... r... r... r...									
Subtotal									
									GRAND TOTAL \$ 267,397.02



February 11, 2016

Raymond Chan, P.E., President
Chan & Partners Engineering, LLC
4319 James Casey Street, Suite # 300
Austin, Texas 78745
Phone: 512-480-8155, extension 11
Fax: 512-923-5598
E-mail: RaymondC@chanpartners.com
www.chanpartners.com

Re: Decker Lane Reclaimed Water Line
CLMP042 Water and Wastewater System Pipeline Engineering
Rotation List 2011-2012 PA110000004

Dear Mr. Chan:

We appreciate the opportunity to propose on the professional land surveying services that you will require for the design of a transmission main from Walnut Creek Wastewater Treatment Plant ending on the east side of Decker Lane at Colony Loop Drive.

Survey Limits

The survey limits for this project begin at the Walnut Creek Wastewater Treatment Plant, generally following a 50-foot wide swath (edge of pavement to right-of-way), more or less, along Sendero Hills Parkway (having a right-of-way width of 70') and ending at the north right-of-way line of Loyola Lane, a linear distance of approximately 8,000 linear feet, being from Point A to Point B, as shown on the overall plan, a sketch electronically provided by Chan and Partners Engineering, LLC (Chan and Partners) to Landmark Surveying, LP (Landmark) and named and attached herein for reference.

Survey Scope

Phase 1: Right-of-way research, obtaining a right-of-way permit from the City of Austin ROWMAN department and establishing traverse controls, 3-wire leveling, topographic design, borehole location survey and traffic controls, as needed for safety issues.

Phase 2: involves preparation of metes and bounds description with a sketch for three (3) easements to include field monumentation.

Phase 1: Control and Design Survey

Task 1: Right-of-Way Permit and Right-Of-Entry

Right-of-Way Permit: Obtain a right-of-way permit for surveying. Landmark will use standard traffic control field procedures. Field crews are trained and certified in traffic



control. Obtaining a right-of-way permit from the City of Austin typically takes between one to four weeks.

Right-of Entry: Landmark Surveying, LP will prepare and distribute letters for obtaining right of entry (R.O.E.). As project manager for this project, I will be the point of contact, with the project principal involved in more sensitive authorizations. If, after three attempts to make contact with the owner we are still unable to obtain written or verbal R.O.E. authorization, Landmark will notify the project engineer for assistance.

Task 2: Control, Design and Borehole Location Survey

Control: Establish horizontal and vertical controls as necessary, including bench marks approximately every 1,000 feet. Locate and identify monuments as necessary to show approximate location of right-of-ways and property lines. It our understanding that MWM Design Group will provide the Texas Coordinate System of 1983 horizontal and vertical controls for the entire alignment from Point A to Point C and provide surface coordinate values to Landmark Surveying, LP for the 8,000-foot alignment.

Design Survey: Obtain cross-sections as needed, with a width of approximately 50-feet, to reflect profile of roadway at approximate 50 to 75-foot intervals or greater, and between edge of pavement and right-of-way line. Cross-sections will include vertical low and high spots plus any other significant elevation changes, approximate right-of-way lines where applicable, top and bottom of curbs, and quarter points of the pavement. Establish contours using a 1-foot contour interval. Map contours on base drawing. Identify, obtain diameter, and tag trees 8” and larger within the right-of way or with crowns extending into the right-of-way. Please note that Landmark will not be able to enter onto private properties to tag trees without obtaining right-of-entry. Tree table will be shown on drawing. The following items will also be shown on the design survey:

- A. Visible wastewater manholes and cleanouts with top and flow line elevations and pipe size data, if accessible, for the entire right-of-way of Decker Lane.
- B. Visible water valves, meters, manholes, fire hydrants, sprinkler heads; provide elevation of valve nut on water valve and top of water valve, if accessible, for the entire right-of-way of Decker Lane.
- C. Visible gas valves, electric/traffic pull boxes, electric/telephone manholes and utility poles and anchors and other visible surface and overhead evidence of utilities.
- D. Visible storm sewer manholes and inlets with top and flow line elevations and pipe size data, if accessible, visible drainage structures, for the entire right-of-way of Decker Lane.
- E. Signs, fences, sidewalks, curbs, ramps, striping, lights, buildings and any other visible improvements.
- F. Trees, creeks, drainage ditches.
- G. Retaining walls with ground and top wall elevations.



- H. Paint marks as indicated by One-Call Services. One-Call may not identify all underground utilities. Landmark will call and coordinate directly with One-Call.
- I. Visible concrete, asphalt, landscape areas, gravel, pavers, bricks and dirt.
- J. Survey existing above ground utilities outside the 50-foot swath and within Sendero Hills Parkway, FM 969 and Loyola Lane. The distance for utility survey shall be 100 feet each side of the proposed 36” reclaim water line alignment.

Should items be buried, paved over or beneath landscaping, the surveyor may need the City of Austin or other entities to provide special services to help uncover them. Any time spent coordinating such efforts and time spent returning to the project site to locate such utilities will be considered an additional service. In addition, the surveyor will not be responsible for resurfacing, grading or landscaping areas that have been disturbed.

This proposal **DOES NOT INCLUDE** showing utility information from available record utility maps. These items will be considered an additional service, if needed.

Borehole Location: It is assumed for the purpose of this proposal that a map will be provided showing the boreholes and that they will be visible at time of survey. It may be necessary to meet with the project manager or geotechnical engineer on site so that boreholes can be identified. It is assumed that borehole location will be provided during the course of the survey, prior to survey delivery.

Phase 2: Metes and Bounds with Sketch for Three (3) Easements:

Establish boundaries as necessary to prepare three (3) metes and bounds with sketch to accompany for proposed permanent easements. This task will include review of title commitment (to be provided by others) and preparation of the title commitment letter. It also includes response to City of Austin comments and staking the corners of the easement if required.

Quality Control Plan

Checks are in place at all levels, beginning with safety and field practice. Crew chiefs check in daily with project technicians, project managers and the project principal. Technicians work in liaison with the field crews and research staff so that questions which may arise are handled swiftly. Technical work is overseen by the project manager on a daily basis and is subject to review and quality check by the drafting supervisor. A field check is made by the technician and or the Project Manager upon completion of the survey drawing. Upon final review and approval by the Project Manager (R.P.L.S.) and the Project Principal, the project drawings and other supporting data listed below (under “Deliverables”) are submitted to Chan & Partners Engineering, LLC.



Deliverables

We will provide an electronic AutoCAD drawing and an ASCII file of the surveyed points. Our CAD drawing will show existing improvements, bridge cross sections, right of way, channel profiles, visible utilities, and 1-foot contours and spot elevations. In addition, we will provide information concerning our survey control. Upon request, copies of our field notes can be provided. A certified hard copy will also be provided.

Projected Schedule and Fees

We estimate control and design surveying costs for approximately 8,000 linear feet, more or less, of proposed pipeline not-to-exceed \$37,905.00 **and pass-through City of Austin traffic permitting fee, rental fees and reproduction costs** to total approximately \$3,300.00, for a grand total of \$41,205.00.

Additional Services, Budget, and Invoicing

Our work is performed on an hourly basis. You will be billed only for the hours worked. If we exceed the budget for the tasks herein described, you will not be billed for the amount over the not-to-exceed limit indicated above. A percentage will not be deducted from the final billing for unrequired work. Additional services beyond the scope of this estimate will be billed at our standard hourly rates and may exceed the cost estimate provided. Changes to the existing project will constitute additional services and will be billed at our standard hourly rate. Billing will be according to City of Austin requirements. Please note that this proposal is valid for 90 days from the date of this writing. Please find an itemized breakdown of the surveying tasks for this project on the following pages. We at Landmark Surveying, LP value your business and look forward to working with you, Chan & Partners Engineering, LLC and the City of Austin on this and future projects.

Respectfully,
Landmark Surveying, LP
Texas Firm Registration No. 100727-00

Dana A. Markus-Wolf, R.P.L.S.,
President of the General Partner
2205 East 5th Street
Austin, Texas 78702-4633
Phone: 512-328-7411, ext. 104, Fax: 512-328-7413
E-mail: dana@landmarksurveying.com



Professional Land Surveying Services

Fee Schedule for Decker Lane Main
City of Austin, Travis County, Texas

Phase 1

Right of Way Research, Right-of-Way Permit, Traverse Controls, Topographic Design, Borehole Locations and Traffic Control

<u><i>Staff</i></u>	<u><i>Max. Hrs.</i></u>	<u><i>Labor Rate</i></u>	<u><i>Total Cost</i></u>
Project Principal	4	\$ 150.00/hr.	\$ 600.00
Project Manager	20	\$ 135.00/hr.	\$ 2,700.00
3-Person Field Crew	116	\$ 158.00/hr.	\$18,328.00
Senior Survey Tech/Drafter	70	\$ 89.25/hr.	\$ 6,247.50
Research Assistant	20	\$ 68.00/hr.	\$ 1,360.00
Clerical	16	\$ 55.00/hr.	<u>\$ 880.00</u>
		<i>Subtotal</i>	<i>\$30,115.50</i>
<i>City of Austin Permit Fees</i>	<i>Estimated (pass-through)</i>		<i>\$ 2,000.00</i>
<i>Traffic Control Equipment Rental:</i>	<i>Estimated (pass-through)</i>		<u><i>\$ 1,200.00</i></u>
		<i>Subtotal</i>	<i>\$33,315.50</i>

Phase 2

Three Metes and Bounds Descriptions with Sketches to Accompany

<u><i>Staff</i></u>	<u><i>Max. Hrs.</i></u>	<u><i>Labor Rate</i></u>	<u><i>Total Cost</i></u>
Project Principal	2	\$ 150.00/hr.	\$ 300.00
Project Manager	12	\$ 135.00/hr.	\$ 1,620.00
3-Person Field Crew	16	\$ 158.00/hr.	\$ 2,528.00
Senior Survey Tech/Drafter	30	\$ 89.25/hr.	\$ 2,677.50
Research Assistant	8	\$ 68.00/hr.	\$ 544.00
Clerical	4	\$ 55.00/hr.	\$ 220.00
<i>Deeds and Plats</i>	<i>Estimated (pass-through)</i>		<u><i>\$ 200.00</i></u>
		<i>Subtotal</i>	<i>\$ 7,889.50</i>

Total Cost Phases 1 and 2 = \$41,205.00



Date: February 15, 2016
Contract: City of Austin AWU Pipeline Rotation List
Project: Decker Lane Reclaimed Water Line
Client: Chan & Partners Engineering, LLC
Contact: Raymond Chan, PE
Address: 4319 James Casey Street, #300
Austin, Texas 78745
Phone: 512.480.8155 Ext. 11
Enclosure: Exhibit "A", "B" and "C"
Email: RaymondC@chanpartners.com

As requested, MWM DesignGroup is submitting this proposal for providing professional services on the above referenced project. Survey shall be limited to the areas approximately shown on Exhibit "A" and "B" and will be provided in accordance with the following:

Design Survey

1. Identify owners and request right of entry to affected private properties.
2. Perform GPS survey to establish horizontal and vertical control based on Texas State Plane, Central Zone NAD 83 (2011) and NAVD 88. Provide benchmarks approximately every 1,000 feet along project corridor and sufficient horizontal control for use as construction baseline for the segment between Walnut Creek WWTP and Decker Lane.
3. Locate by actual on-the-ground survey visible and accessible on-grade and above-grade features, including but not limited to pavement marking, edge of pavement, curbs, gutters, driveways, ramps, sidewalks, signs, fences, trees (size, location, subspecies and tree tag for trees 8" or larger in diameter within or overhanging into limits of survey; trees outside limits of survey overhanging into limits of survey will be approximately located, but will not be tagged), utility valves, water meters, manholes, hydrants, clean-outs, inlets, wing walls, culverts, head walls, utility poles, guy anchors, overhead lines and other surface utility features. Provide contours at one foot interval within the 50' wide survey corridor only. Elevations will be taken on an approximate 50'x 50' grid, at abrupt changes in grade and along drainage courses. Elevations of survey points will be on a separate layer and will not be part of the final plotted drawing.
4. Provide spot elevations at top of accessible utility manhole and valve box covers. Provide invert elevation, elevation of pipes entering or exiting accessible sewer and storm drain structures and provide top elevation of valve nut of accessible valves on main lines. This item will be limited to the 50' survey corridor or to existing ROW if survey corridor follows an existing street.
5. Locate sufficient boundary monumentation, obtain and review available tax plats, subdivision plats, property deeds (for unplatted tracts) identified from Travis Central Appraisal District records show approximate location of boundary/ROW lines. Show owner name, book and page information, subdivision name, lot and block number, TCAD parcel number, easements within limits of survey area as shown on subdivision plats and physical address of each tract within or adjoining project limits.
6. Provide horizontal and vertical data for approximately 14 proposed geotechnical boreholes along project corridor.

305 E. Huntland Drive
Suite 200
Austin, TX 78752
p: 512.453.0767
f: 512.453.1734



Raymond Chan, PE
February 15, 2016
Page 2

7. Provide drawing showing data outlined above on 24" x 36" sheet size at a scale of 1"=20' and as an AutoCAD Civil3D file utilizing the National Cad Standard (NCS). MWM shall coordinate with Client for sheet layout.

Easements

1. Field search and locate existing monumentation on affected boundary lines.
2. Perform calculations and analysis to re-establish affected boundary lines.
3. Prepare parcel sketch for three (3) proposed easements.
4. Prepare metes and bounds descriptions for three (3) proposed easement. Each part of parcels having more than one part will be counted as one parcel.
5. Provide closure and area calculations for proposed easements.
6. Prepare three (3) title letters (for permanent easements only) based on review of title and easement reports provided by the Client.
7. Provide field staking as described in the metes and bounds description.

Services can begin as soon as written authorization is received with design survey completed in about 5 weeks (predicated upon suitable weather conditions and timely right of entry authorization). MWM will provide data of completed segments as the work progresses. Easement services shall be performed in coordination with the design team.

MWM DesignGroup proposes to provide the services outlined above for a lump sum amount of \$58,331.00. The fee breakdown is shown on Exhibit "C" dated 2/15/16.

Excluded Services

Services that are not provided under this Agreement specifically include, but are not limited to: research and mapping of underground utilities; location or detail information of manholes upstream or downstream of project corridor/street ROW; topographic survey or location of surface improvements in areas beyond the 50' wide survey corridor, except for surface utility features within ROW where survey corridor follows an existing street; surveys along intersecting streets, except at FM 969 and Loyola Lane; boundary survey, except as needed for proposed easements; field verification of tree subspecies by arborist; surveys in support of SUE services provided by others; surveys in support of environmental surveys performed by others; construction phase surveying and other services or expenses which may become necessary for the completion of this project but which are not reasonably anticipatable at this time. Such services may be performed as Additional Services to this Agreement, if authorized by Client.

Land Surveying

Complaints on the land surveying services provided by MWM DesignGroup can be directed to the Texas Board of Professional Land Surveying, 12100 Park 35 Circle, Building A, Suite 156,

305 E. Huntland Drive
Suite 200
Austin, TX 78752
p: 512.453.0767
f:512.453.1734



Raymond Chan, PE
February 15, 2016
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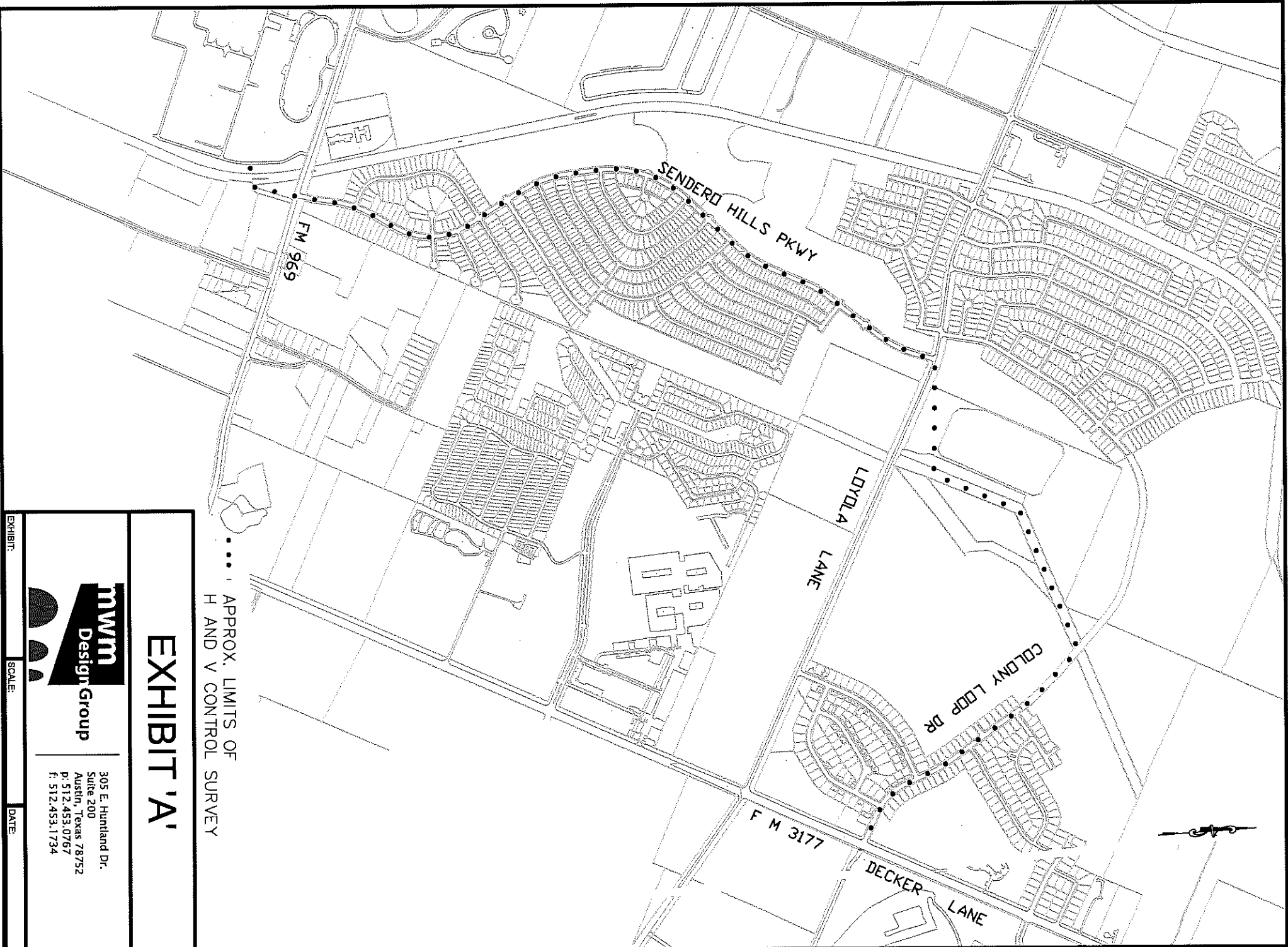
Austin, Texas 78753, (512) 239-5263. MWM DesignGroup TBPLS Firm Registration No.: 10065600.

This proposal is valid for a period of 60 days from date of proposal. If you concur, please include this proposal as part of the work order for the above referenced project.

Approved:

Eduardo O. Mendez
Eduardo O. Mendez, R.P.L.S.
Principal | Sr. Vice President
MWM DesignGroup

2/15/16
Date



305 E. Huntland Dr.
Suite 200
Austin, Texas 78752
P: 512.453.0767
F: 512.453.1734

EXHIBIT:

SCALE:

DATE:

50' CORRIDOR ALONG WEST
SIDE OF POWER LINE

--- APPROX. LIMITS OF 50' WIDE TOPOGRAPHIC SURVEY

▭ APPROX. LIMITS OF 50' WIDE TOPOGRAPHIC SURVEY,
INCLUDES LOCATION OF SURFACE UTILITY FEATURES FROM
R.O.W. TO R.O.W.

▭ LOCATION AND CONFIGURATION OF PROPOSED EASEMENTS
(3) TO BE DETERMINED.

LOYOLA
LANE

COLONY LOOP DR

F M 3177

SENDERO HILLS PKWY

EXHIBIT B"

mwm
Design Group

305 E. Huntland Dr.
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734

EXHIBIT:

SCALE:

DATE:

MWM DesignGroup

City of Austin
AWU Pipeline Rotation List

Decker Lane Reclaimed Water Line

Exhibit "C"

TASK AND DESCRIPTION	Lic Prof IV	Lic Prof I	TECHNICIAN	FIELD CREW	CLERICAL	TOTAL HOURS	COST
	\$190.00	\$121.00	\$92.00	\$175.00	\$60.00		
	HOURLY RATE						
Design Survey							
1. Obtain right of entry	1	2				3	\$432.00
2. Establish Horizontal & vertical control	3	20		45		68	\$10,865.00
3. Topographic/Tree survey	12	12	78	76		178	\$24,208.00
4. MH/Inlet inverts	1	2	10	16		29	\$4,152.00
5. Boundary base map	2	2	12	10		26	\$3,476.00
6. Locate bore holes	1	2		8		11	\$1,832.00
subtotal							\$44,965.00
Easement							
1. Locate existing monumentation	1	2		12		15	\$2,532.00
2. Boundary Calcs/analysis	2	10				12	\$1,590.00
3. Sketches (3 parts)	2		24			26	\$2,588.00
4. Metes and bounds descriptions (3 parts)	2	12				14	\$1,832.00
5. Parcel closure/Area calcs.			3			3	\$276.00
6. Prepare title letters (3)	2	16				18	\$2,316.00
7. Field staking	1	2		10		13	\$2,182.00
subtotal							\$13,316.00
SUBTOTAL	30	82	127	177	0	416	\$58,281.00
DIRECT EXPENSE							
Reproduction, plats, deeds							\$50.00
LUMP SUM TOTAL							\$58,331.00

SERVICES TO BE PROVIDED BY THE SUBCONSULTANT TO THE ENGINEER – Revised 2-12-16

Cox|McLain Environmental Consulting, Inc. (hereafter CMEC), sub-consultant to Chan & Partners Engineers (hereafter the Engineer), will provide environmental consulting services for proposed construction of a Decker Lane Reclaimed Water Line from Walnut Creek Wastewater Treatment Plant to the Travis County Exposition Center. This Scope of Services provides for the preparation of a COA Environmental Resource Inventory (ERI) and archeological survey report.

Task 1—Preliminary Constraints Collection and Alternatives Analysis (30% Phase)

Preliminary services will include identification of potential environmental constraints within the defined study area based on published data, aerial photo interpretation, and limited field reconnaissance. Identified constraints will be evaluated relative to the degree of constraint posed to each of the build alternatives. A summary of environmental issues related to evaluated alternatives will be provided for inclusion in the Environmental Considerations section of the preliminary engineering report.

Task 2-Environmental Resource Inventory Preparation (60 to 90% Phase)

A. Investigate Relevant Resource Categories

A.1 Cultural Resources

Archeology

CMEC cultural resources personnel will conduct searches of the Texas Historical Commission's (THC) Sites Atlas and other data sources to identify previously documented archeological sites, cemeteries, historical markers, properties and districts listed on the National Register of Historic Places (NRHP), and State Antiquities Landmarks (SALs). Results of the search will be integrated with soil information, topographic maps, aerial photographs, and other pertinent data in an application for a Texas Antiquities Permit on behalf of the City.

After a valid permit number is obtained, field investigations will be conducted within proposed pavement/right-of-way. The study will be limited to pedestrian survey (with shovel testing as needed) of the alignment. No mechanical trenching is anticipated based on results from previous CMEC projects nearby and a preliminary examination of the geologic and soil information along with the topographic setting. Field methods will comply with the requirements of 13 TAC 26, as established by the Council of Texas Archeologists (CTA) and approved by the THC. Diagnostic artifacts observed in the project area that are also located on City land will be collected and analyzed at the CMEC Archeological Laboratory before being prepared and curated at an appropriate curational facility.

This investigation will also evaluate archeological resources for their potential eligibility for inclusion in the NRHP per Section 106 (36 CFR 800) of the National Historic Preservation Act of 1966, as amended, or designation as a SAL under the provisions of the Texas Antiquities Code (13 TAC 26.12). Reporting of results will comply with THC and CTA guidelines.

A.2 Water Resources

CMEC will collect data on surface water streams and other existing water resources and the potential for pollution during construction and from the completed facility. The 100-year flood plain, as delineated by FEMA, will be identified and the impacts of the proposed project will be assessed. Potential for impacts to groundwater will be discussed; no Geologic Assessment is required (the project is outside the Edwards Aquifer Recharge, Contributing, or Transition Zones).

CMEC wetlands specialists will perform evaluations of wetlands and waters of the U.S. in all areas potentially affected by the proposed project. Ordinary High Water Marks within the proposed right-of-way will be mapped using GPS and GIS techniques, and potential impacts to any features will be evaluated. Wetland field delineations will be conducted and wetland data sheets will be prepared and included in the report appendix. This task will include a determination of the type of permit (if any) that will be needed from the USACE. The permit determination will be summarized in the report. Any 404 permit preparation would be carried out under an additional scope and budget.

A.3 Biological Resources

CMEC biologists will describe project area biological resources including vegetation communities and wildlife habitat. Ecologically sensitive resources, including potential threatened or endangered species habitat, will be identified and their potential to be affected by project construction and operation will be assessed and described in the environmental report. Alternatives will be evaluated to determine avoidance and minimization measures.

A wildlife habitat assessment for suitability for endangered species will be conducted by CMEC. Because much of the project area has been previously disturbed, there is a low likelihood for suitable habitat, and no presence/absence surveys are anticipated. If required, karst feature surveys or other threatened/endangered species surveys would be completed under an additional scope and budget. This scope does not include preparation of a Biological Assessment or coordination under the Balcones Canyonlands Conservation Plan (BCCP), but such consultation could be added under a Supplemental Agreement.

A.4 ERI Report Preparation/Comment Response

This task includes the writing and production of an ERI based on current COA guidance, as well as revisions in response to comments from the Engineer and the City. Only generalized, preliminary mitigation measures will be presented where adverse impacts may potentially occur; detailed mitigation plans are not part of this Scope of Services. This task includes the submittal of one electronic copy and if requested five (5) unbound

copies of the draft ERI (the Engineer/City of Austin review) and one electronic copy and if requested 5 unbound copies of the revised final ERI.

Task 3-Construction Phase Services (100% Phase)

Task 3 services are not proposed at this time.

~~CMEC will provide guidance and input as requested during the construction phase services, up to the hourly total included in the fee estimate. These services may include office or field consultations, and will only be provided at the request of the Engineer.~~

B. Assumptions

- Right-of-entry required during this project phase will be provided by the City or the Engineer.
- This scope assumes that no formal public involvement opportunities will be held for the proposed improvements.

C. Exclusions

The following tasks are not covered in this scope of work and may or may not be necessary. If deemed necessary, these tasks could be conducted under a separate or supplemental work authorization.

- Formal Section 10(a) Endangered Species Act consultation, including preparation of a Biological Assessment or completion of Balcones Canyonlands Conservation Plan coordination;
- Presence/absence surveys for endangered species;
- Work extending beyond the specified limits of the project at the time of this work order;
- Any Section 404 permit preparation or agency correspondence;
- Hazardous materials Phase I & Phase II ESAs;
- Reconnaissance or intensive historic structures surveys, or management recommendations for any historic structures; archeological site testing, or data recovery;
- Participation in any public involvement meeting or activity by CMEC staff; and
- Litigation support.
- Construction Phase Services.

Attachment A--Cost Proposal

**City of Austin--Decker Lane Reclaim Water Transmission Main -- Environmental Support (from Walnut Ck WWTP to Travis Co Expo Center)
Cox|McLain Environmental Consulting, Inc.**

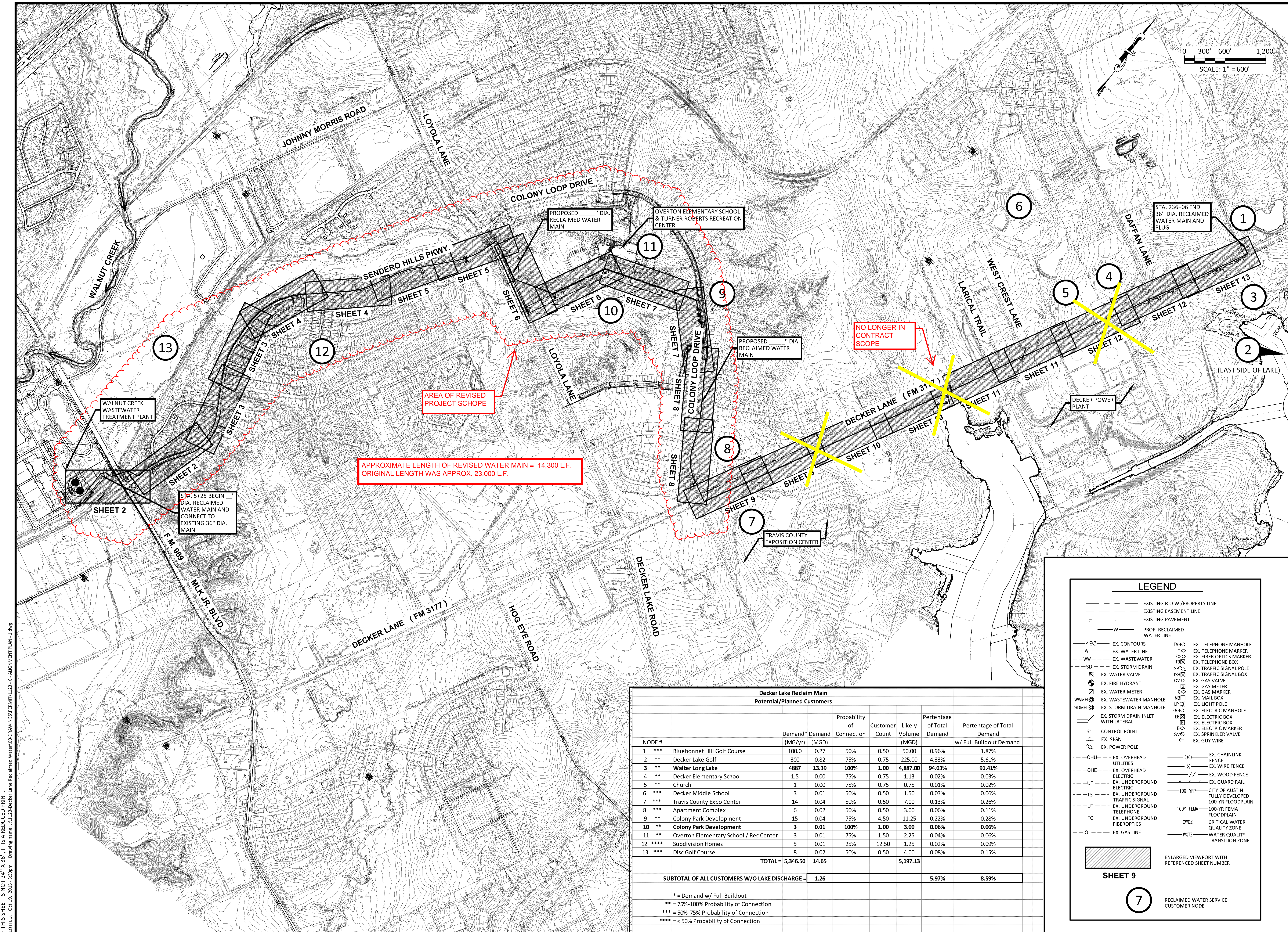
LABOR

Description	Sr. Env. Scientist II	Sr. Env. Scientist I	Env. Professional II	Env. Professional I	Env. Staff III	Env. Staff II	Env. Staff I	Env. Tech II	Env. Tech I	Totals
	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours
PHASE 1 Route Identification (30%)										
Task 1 Data collection/prepare constraints map	0	0	0	0	0	0	0	0	0	0
Task 3 Preliminary Field Investigations	0	0	0	0	0	0	0	0	0	0
Task 4 Prepare Environmental Considerations portion of report	0	0	0	0	0	0	0	0	0	0
PHASE 2 Design and Bid Document Preparation (60% to 90%)										
Task 1 Prepare COA Environmental Resource Inventory	4	0	12	8	16	12	4	0	6	62
Task 2 Complete Balcones Canyonlands Preserve Coordination	0	0	0	0	0	0	0	0	0	0
Task 3 Prepare Section 404 Permit Application	0	0	0	0	0	0	0	0	0	0
Task 4 Prepare Water Pollution Abatement Plan	0	0	0	0	0	0	0	0	0	0
Task 5 Complete archeological survey	2	0	12	0	24	16	0	30	4	88
PHASE 3 Construction Management Services (100%)										
Task 1 Provide ongoing input and oversight during construction phase (as-needed)	0	0	0	0	0	0	0	0	0	0
Task 2 Prepare environmental compliance/management plan	0	0	0	0	0	0	0	0	0	0
Task 3 Conduct weekly site visits to check BMPs/envl. commitments	0	0	0	0	0	0	0	0	0	0
Task 4 Prepare revegetation plan	0	0	0	0	0	0	0	0	0	0
GENERAL General Project Management/Coordination	10	0	0	0	0	0	0	0	0	10
Total Labor Hours	16	0	24	8	40	28	4	30	10	160
Rate	\$ 138.00	\$ 115.00	\$ 83.38	\$ 71.88	\$ 63.25	\$ 57.50	\$ 50.31	\$ 43.84	\$ 34.50	
Total Labor Cost	\$2,208	\$0	\$2,001	\$575	\$2,530	\$1,610	\$201	\$1,315	\$345	\$10,786

EXPENSES

	Unit	Quantity	Rate	Total
Subconsultant - Hydrogeology/Geologic Assessment	LS	0	\$4,000.00	\$0
HazMat database Search (TEL-ALL)	LS	1	\$400.00	\$400
Mileage	Miles	0	\$0.575	\$0
Hotel	Day	0	\$110.00	\$0
Per Diem	Day	0	\$47.00	\$0
Overnight Delivery/Courier	Letter	2	\$16.00	\$32
Field Supplies; Plots; Misc. Field Supplies (at cost)	LS	2	\$50.00	\$100
Trimble GPS Rental	Day	0	\$85.00	\$0
Backhoe rental/operator	Day	0	\$1,250.00	\$0
TARL Curation	Drawer	0	\$1,850.00	\$0
Permits, fees, etc...	Each	0	\$100.00	\$0
Report Reproduction	Each	5	\$20.00	\$100
TOTAL Nonlabor Expenses				\$632

TOTAL COSTS - CMEC \$11,418



THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF THOMAS F. CURRAN, P.E. #61905 ON 10/19/2015. IT IS NOT TO BE USED FOR PERMITTING, BIDDING, OR CONSTRUCTION PURPOSES.

NO.	CORRECTION DESCRIPTION	DATE

IF THIS SHEET IS NOT 24" X 36", IT IS A REDUCED PRINT. PLOTTED: Oct 19, 2015 - 3:39pm Drawing name: \\11123\Decker Lane Reclaimed Water\00-DRAWINGS\PERM\1123 - C - ALIGNMENT PLAN_1.dwg

APPROXIMATE LENGTH OF REVISED WATER MAIN = 14,300 L.F.
 ORIGINAL LENGTH WAS APPROX. 23,000 L.F.

NODE #		Demand* (MG/yr)	Demand (MGD)	Probability of Connection	Customer Count	Likely Volume (MGD)	Percentage of Total Demand	Percentage of Total Demand w/ Full Buildout
1 ***	Bluebonnet Hill Golf Course	100.0	0.27	50%	0.50	50.00	0.96%	1.87%
2 **	Decker Lake Golf	300	0.82	75%	0.75	225.00	4.33%	5.61%
3 **	Walter Long Lake	4887	13.39	100%	1.00	4,887.00	94.03%	91.41%
4 **	Decker Elementary School	1.5	0.00	75%	0.75	1.13	0.02%	0.03%
5 **	Church	1	0.00	75%	0.75	0.75	0.01%	0.02%
6 ***	Decker Middle School	3	0.01	50%	0.50	1.50	0.03%	0.06%
7 ***	Travis County Expo Center	14	0.04	50%	0.50	7.00	0.13%	0.26%
8 **	Apartment Complex	6	0.02	50%	0.50	3.00	0.06%	0.11%
9 **	Colony Park Development	15	0.04	75%	4.50	11.25	0.22%	0.28%
10 **	Colony Park Development	3	0.01	100%	1.00	3.00	0.06%	0.06%
11 **	Overton Elementary School / Rec Center	3	0.01	75%	1.50	2.25	0.04%	0.06%
12 ****	Subdivision Homes	5	0.01	25%	12.50	1.25	0.02%	0.09%
13 ***	Disc Golf Course	8	0.02	50%	0.50	4.00	0.08%	0.15%
TOTAL =		5,346.50	14.65			5,197.13		
SUBTOTAL OF ALL CUSTOMERS W/O LAKE DISCHARGE =		1.26					5.97%	8.59%

* = Demand w/ Full Buildout
 ** = 75%-100% Probability of Connection
 *** = 50%-75% Probability of Connection
 **** = < 50% Probability of Connection

LEGEND

---	EXISTING R.O.W./PROPERTY LINE	---	EXISTING WATER LINE	TMHO	EX. TELEPHONE MANHOLE
---	EXISTING EASEMENT LINE	-W-	EXISTING WASTEWATER	T	EX. TELEPHONE MARKER
---	EXISTING PAVEMENT	-SD-	EXISTING STORM DRAIN	FO	EX. FIBER OPTICS MARKER
-W-	PROP. RECLAIMED WATER LINE	W	PROP. RECLAIMED WATER LINE	TB	EX. TELEPHONE BOX
493	EX. CONTOURS	WV	EX. WATER VALVE	TS	EX. TRAFFIC SIGNAL POLE
-W-	EX. WATER LINE	WV	EX. WATER VALVE	TSB	EX. TRAFFIC SIGNAL BOX
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	GV	EX. GAS VALVE
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	GM	EX. GAS METER
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	GC	EX. GAS METER
493	EX. CONTOURS	WV	EX. WATER VALVE	MB	EX. MAIL BOX
-W-	EX. WATER LINE	WV	EX. WATER VALVE	LP	EX. LIGHT POLE
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	EMHO	EX. EXHAUST MANHOLE
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	EB	EX. ELECTRIC BOX
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	EB	EX. ELECTRIC BOX
493	EX. CONTOURS	WV	EX. WATER VALVE	EM	EX. ELECTRIC MARKER
-W-	EX. WATER LINE	WV	EX. WATER VALVE	SV	EX. SPRINKLER VALVE
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	GP	EX. GUY WIRE
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	OHU	EX. OVERHEAD UTILITIES
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	OHE	EX. OVERHEAD ELECTRIC
493	EX. CONTOURS	WV	EX. WATER VALVE	UE	EX. UNDERGROUND ELECTRIC
-W-	EX. WATER LINE	WV	EX. WATER VALVE	UG	EX. UNDERGROUND GAS
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	TS	EX. UNDERGROUND TRAFFIC SIGNAL
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	UT	EX. UNDERGROUND TELEPHONE
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	FO	EX. UNDERGROUND FIBEROPTICS
493	EX. CONTOURS	WV	EX. WATER VALVE	G	EX. GAS LINE
-W-	EX. WATER LINE	WV	EX. WATER VALVE	00	EX. CHAINLINK FENCE
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	X	EX. WIRE FENCE
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	///	EX. WOOD FENCE
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	---	EX. GUARD RAIL
493	EX. CONTOURS	WV	EX. WATER VALVE	---	EX. UNDERGROUND TELEPHONE
-W-	EX. WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
493	EX. CONTOURS	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-W-	EX. WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
493	EX. CONTOURS	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-W-	EX. WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
493	EX. CONTOURS	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-W-	EX. WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
493	EX. CONTOURS	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-W-	EX. WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
493	EX. CONTOURS	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-W-	EX. WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
493	EX. CONTOURS	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-W-	EX. WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
493	EX. CONTOURS	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-W-	EX. WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
493	EX. CONTOURS	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-W-	EX. WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
493	EX. CONTOURS	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-W-	EX. WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
493	EX. CONTOURS	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-W-	EX. WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
493	EX. CONTOURS	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-W-	EX. WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
493	EX. CONTOURS	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-W-	EX. WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-WW-	EX. WASTEWATER	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
-SD-	EX. STORM DRAIN	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS
W	PROP. RECLAIMED WATER LINE	WV	EX. WATER VALVE	---	EX. UNDERGROUND FIBEROPTICS

DECKER LANE RECLAIMED WATER LINE FROM WALNUT CREEK WASTEWATER TREATMENT PLANT TO DECKER POWER PLANT OVERALL PLAN



Houston	4201 Freidrich Lane, Ste. 110
Austin	Austin, TX 78744-1045
Dallas	512.447.9081 Ph
San Antonio	512.443.3442 Fax
	www.hvj.com

February 23, 2015 **(Revised February 15, 2016)**

Mr. Raymond Chan, PE
Chan & Partners Engineering, LLC
4319 James Casey Street, Suite 300
Austin, Texas 78745

Re: 2012 AWU Pipeline Rotation List
Traffic Control Plans for Decker Lane Reclaimed Water Transmission Line
Owner: City of Austin
HVJ Proposal No. AP1011503

Dear Mr. Chan:

HVJ Associates, Inc. (HVJ) is pleased to submit this revised proposal to provide traffic control plan engineering services for the above referenced project. It is understood that the final alignment has been determined therefore HVJ is to propose fees based on the selected alignment. Based on comments received from Chan & Partners Engineering on 2/9/2016, HVJ is reducing the scope to include only the portions of the alignment between the Walnut Creek Wastewater Treatment Plant and the Travis Co. Expo Center.

HVJ understands that the selected alignment begins at the Walnut Creek Wastewater Treatment Plant starting just west of the railroad tracks, continues east to a bore under the tracks, heads north and crosses FM 969 via a bore, follows Sendero Hills Pkwy. north to Loyola Ln., crossing Loyola Ln. via bore, follows Loyola Ln. east to the AE power line easement, turns north and follows the AE easement to Colony Loop Dr. At Colony Loop Dr. the alignment turns east and continues to Decker Ln terminating just east of Decker Ln near the Travis County Expo Center.

For the purpose of this proposal, it is assumed that the contractor will be able to construct the line on a per-block basis.

Scope of Work

Based on the alignment provided to HVJ by CPE, the streets potentially impacted by the construction were reviewed. The locations for which HVJ will prepare TCPs are defined below:

1. FM 969 near Sendero Hills Pkwy intersection – construction entrance
2. FM 969 and Sendero Hills Pkwy intersection – bore and receiver pits
3. Sendero Hills Pkwy from FM 969 to Loyola Ln – ~7000ft open cut (in local pvmnt)
4. Loyola Ln and Sendero Hills Pkwy intersection – bore and receiver pits
5. Loyola Ln from Sendero Hills Pkwy to AE Easement – ~1100 ft open cut (outside pvmnt)

Mr. Raymond Chan, P.E.
AP1011503
February 23, 2015 (Rev. 2/15/2016)

6. AE Easement from Loyola Ln to Colony Loop Dr – two construction entrances
7. Colony Loop Dr from AE Easement to Decker Ln – ~2050 ft open cut (in local pvmnt)
8. Colony Loop Dr and Decker Ln intersection – bore and receiver pits

HVJ's scope of work will include input regarding construction phasing and the development of traffic control plans for the construction of the above referenced work. HVJ will prepare the traffic control plans for these locations, including the following tasks:

- Perform site evaluation to identify existing conditions (street widths, lane configurations, posted speeds, lines of sight) along each affected street;
- Obtain specific information regarding the proposed construction on each street (exact location of lines, trench widths, bore pit sizes and locations, phasing requirements, proposed contractor staging area, etc.);
- Attend one kick-off meeting with CPE to coordinate construction issues as they relate to traffic control;
- Coordinate traffic control requirements with COA, attending up to two meetings, if required;
- Prepare traffic control plans based on existing conditions and proposed construction for 60%, 90%, 100% and final bid document submittals;
- Address review comments for 60%, 90% and 100% submittals;
- Develop resulting traffic control related quantities for bidding for the 60%, 90%, 100% and final bid document submittals.

Schedule

HVJ will work with CPE to meet the City desired schedule, for all items within HVJ's control. HVJ will communicate regarding required information from CPE to meet interim deadlines to be established for the project.

Fee

HVJ has prepared a budget estimate based on HVJ's understanding of the project as described in the preceding paragraphs and past HVJ experience on utility construction projects. The estimated fee is \$41,200 and itemized in the attached proposed budget for engineering services. These services will be provided on a time and materials basis with a not-to-exceed total as per the authorized scope items.

Insurance

Insurance certificates verifying HVJ's general liability, auto, workers' compensation, and errors and omissions insurance coverage, listing CPE as a certificate holder, will be provided upon request.

Invoices

HVJ accounting procedures call for the submittal of invoices on a month-end basis. CPE will provide their invoice schedule to allow HVJ to submit invoices to meet that schedule to prevent delays in payment. It is understood that payments will be made by CPE within 10 days of receipt of payment from the City of Austin.

Mr. Raymond Chan, P.E.
AP1011503
February 23, 2015 (Rev. 2/15/2016)

Conditions

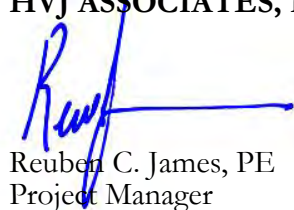
Following assumptions were made in developing the scope and fee estimate for this project:

- AutoCAD base files will be provided by CPE to HVJ for project areas.
- Specific information regarding the proposed construction will be provided by CPE to HVJ.
- CPE will provide input regarding requirements for construction phasing that HVJ will incorporate into the traffic control.
- Three electronic submittals of the traffic control plan documents will be prepared for QA/QC review by CPE (60%, 90%, and 100%).
- Three hard copy submittals of the traffic control plan documents will be prepared for City of Austin review (60%, 90%, and 100%).
- Should pipe alignment be modified significantly from the 60% alignment, which requires substantial changes to the traffic control plans, HVJ will assess whether these changes can be accommodated within the current fees or if an additional services proposal will be necessary to make these changes.
- Construction phase services are not included in this proposal.

If this proposal meets with your approval, please sign and complete the indicated spaces below and forward a copy of the proposal to us.

Sincerely,

HVJ ASSOCIATES, INC.



Reuben C. James, PE
Project Manager

Agreed to this _____ day of _____, 20_____

By: _____

Title: _____

Firm: _____

Phone No.: 512-480-8155 _____

Date to Start Work: _____

Mr. Raymond Chan, P.E.
 AP1011503
 February 23, 2015 (Rev. 2/15/2016)

TRAFFIC CONTROL PLANS - ENGINEERING SERVICES					
Decker Ln Reclaimed Water Transmission Line Project					
CPE					
AP-10-11503					
DESIGN PHASE					
Engineering & Administrative Personnel					
Sr Engineer (QA/QC)	12	hr @	\$169.85	per hour	\$2,038.20
Sr Engineer/ Project Manager	45	hr @	\$169.85	per hour	\$7,643.25
Project Engineer	132	hr @	\$127.57	per hour	\$16,839.24
Senior Technician	156	hr @	\$89.80	per hour	\$14,008.80
Clerical/Admin	6	hr @	\$63.99	per hour	\$383.94
				Subtotal Labor	\$40,913.43
Direct Costs					
Delivery, Plotting, Printing, etc.					\$286.57
				Total Design Phase	\$41,200.00



Atkins North America, Inc.

6504 Bridget Point Pky., Suite 200
Austin Texas 78730

TBPE F-474

Tel: 512-327-6840

Direct no: 512 -342-3242

Raymond Chan, PE

Chan & Partners Engineering, LLC

4319 James Casey Street, Suite 300, Austin Texas 78745

info@atkinsglobal.com

www.atkinsglobal.com/northamerica

February 11, 2016

**Reclaimed Water Transmission Main – Phase 1
Walnut Creek WWTP to East Right-of-Way of Decker Lane at Colony Loop Drive
Scope & Fee Proposal for 30% Design Quality Assurance/Quality Control (QA/QC)
City of Austin 2010-2012 Water & Wastewater Pipeline Engineering Rotation List**

Dear Raymond:

Atkins is pleased to submit this proposal for the City of Austin/Austin Water Utility Reclaimed Water Transmission Main (RWTM) beginning at Walnut Creek Wastewater Treatment Plan and terminating at the east Right-of-Way Decker Lane at Colony Loop Drive. Chan & Partners Engineering (CPE) has asked Atkins to provide QA/QC services to CPEs 30% design deliverables/documents. As requested, the 30% design will consist of the following subtasks:

- Task A – 30% Design Drawings & Technical Memo: CPE will develop a 30% design drawings (plan view only) and a Technical Memo to describe the proposed alignment as indicated on the maps provided by CPE. CPEs technical memo will address issues such as route description, constructability, easement acquisition, environmental components, project cost, and utility conflicts. Atkins services will include QA/QC input related to this project component. The project's proposed alignment will not be based on ground survey, it will be based on COA GIS data.
- Task B – 30% Design Comments: Atkins will provide assistance to CPE in order for CPE to address the COA review comments on Task A (30% Design Drawings & Technical Memo comments). The proposed 30% design/alignment will be based on the alignment provided by COA and GIS data.

This proposal assumes CPE has a QA/QC program in place that Atkins will follow, including protocol and forms. This proposal assumes no drafting services will be required and no meetings and coordination with the City of Austin will be required. Meetings with CPE are also not included in this proposal, but one site visit is included.

Our total estimated fee for this scope is \$8,842.00 (see attached Manpower Estimate). We appreciate this opportunity to be of service. If you have any questions or need additional information please contact me directly at 512-342-3236.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Francisco C. Guerrero', with a stylized flourish at the end.

Francisco C. Guerrero, PE
Project Manager

Attachment

	Project Principal	Project Manager	Senior Engineer IV	Senior Engineer I	Senior Technical Support	Senior Technical Support	Technical Support	Clerical Administration	Cultural Resources Project Manager	Cultural Resources Staff	Environmental Project Manager	Environmental Staff	Total Hrs	Total Labor \$	Subconsultant	Subconsultant Labor Costs	Reimbursable Expenses	Total Budget
Rotation List Billing Rates-	281	226	150	101	99	113	88	72	115	63	159	101						
Task Description and hours																		
Task A - Review of Preliminary Docs	2	32	0	0	0	0	0	2	0	0	0	0		\$7938.00		\$0.00	\$0.00	\$7938.00
▪ QA/QC Review 30% Design Drawings	1	20						1					22	\$ 4,873.00				\$ 4,873.00
▪ QA/QC Review Technical Memo	1	8						1					10	\$ 2,161.00				\$ 2,161.00
▪ Site Visit ¹		4											4	\$ 904.00				\$ 904.00
Task B - 30% Design Comments	0	4	0	0	0	0	0	0	0	0	0	0		\$904.00		\$0.00	\$0.00	\$904.00
▪ Assist addressing COA Review Comments		4											4	\$ 904.00				\$ 904.00
TOTALS	2	36	0	0	0	0	0	2	0	0	0	0	40	\$ 8,842.00		\$ -	\$ -	\$ 8,842.00

Notes:
 1 Including travel time and follow up documentation.

Task 1 – Assist with Developing the Final Subsurface Investigation

The contractor may assist with the development of the final subsurface investigation by providing input on the design of the investigation, the location of the investigation, the type of investigation, and the interpretation of the investigation results. The contractor may also assist with the development of the final subsurface investigation by providing input on the design of the investigation, the location of the investigation, the type of investigation, and the interpretation of the investigation results.

Task 2 - Excavation/Support Methods

The contractor may assist with the excavation and support methods by providing input on the design of the excavation, the location of the excavation, the type of excavation, and the interpretation of the excavation results. The contractor may also assist with the excavation and support methods by providing input on the design of the excavation, the location of the excavation, the type of excavation, and the interpretation of the excavation results.

Task 3 - Shaft Design

The design of the shaft is a critical part of the project. The contractor may assist with the shaft design by providing input on the design of the shaft, the location of the shaft, the type of shaft, and the interpretation of the shaft results. The contractor may also assist with the shaft design by providing input on the design of the shaft, the location of the shaft, the type of shaft, and the interpretation of the shaft results.

Task 4 - Contract Documents

The contractor may assist with the contract documents by providing input on the design of the contract, the location of the contract, the type of contract, and the interpretation of the contract results. The contractor may also assist with the contract documents by providing input on the design of the contract, the location of the contract, the type of contract, and the interpretation of the contract results.

Task 5 – Assist with Bid Phase Services

Briefing services are an important part of the project. The contractor may assist with the briefing services by providing input on the design of the briefing, the location of the briefing, the type of briefing, and the interpretation of the briefing results. The contractor may also assist with the briefing services by providing input on the design of the briefing, the location of the briefing, the type of briefing, and the interpretation of the briefing results.

Task 6 - Project Management and Quality Control

The contractor may assist with the project management and quality control by providing input on the design of the project, the location of the project, the type of project, and the interpretation of the project results. The contractor may also assist with the project management and quality control by providing input on the design of the project, the location of the project, the type of project, and the interpretation of the project results.

In addition, the contractor may assist with the project management and quality control by providing input on the design of the project, the location of the project, the type of project, and the interpretation of the project results. The contractor may also assist with the project management and quality control by providing input on the design of the project, the location of the project, the type of project, and the interpretation of the project results.

The undersigned, being a duly qualified and authorized officer of the County of Sacramento, do hereby certify that the within and foregoing is a true and correct copy of the original as the same appears on the records of said county.

SCHEDULE & COST

The schedule and cost of the proposed project is as follows: The estimated total cost of the proposed project is \$1,000,000.00. The estimated cost of the proposed project is \$1,000,000.00. The estimated cost of the proposed project is \$1,000,000.00.

CLOSING

The foregoing is a true and correct copy of the original as the same appears on the records of said county.

Witness my hand and seal of office this 1st day of June, 2019.

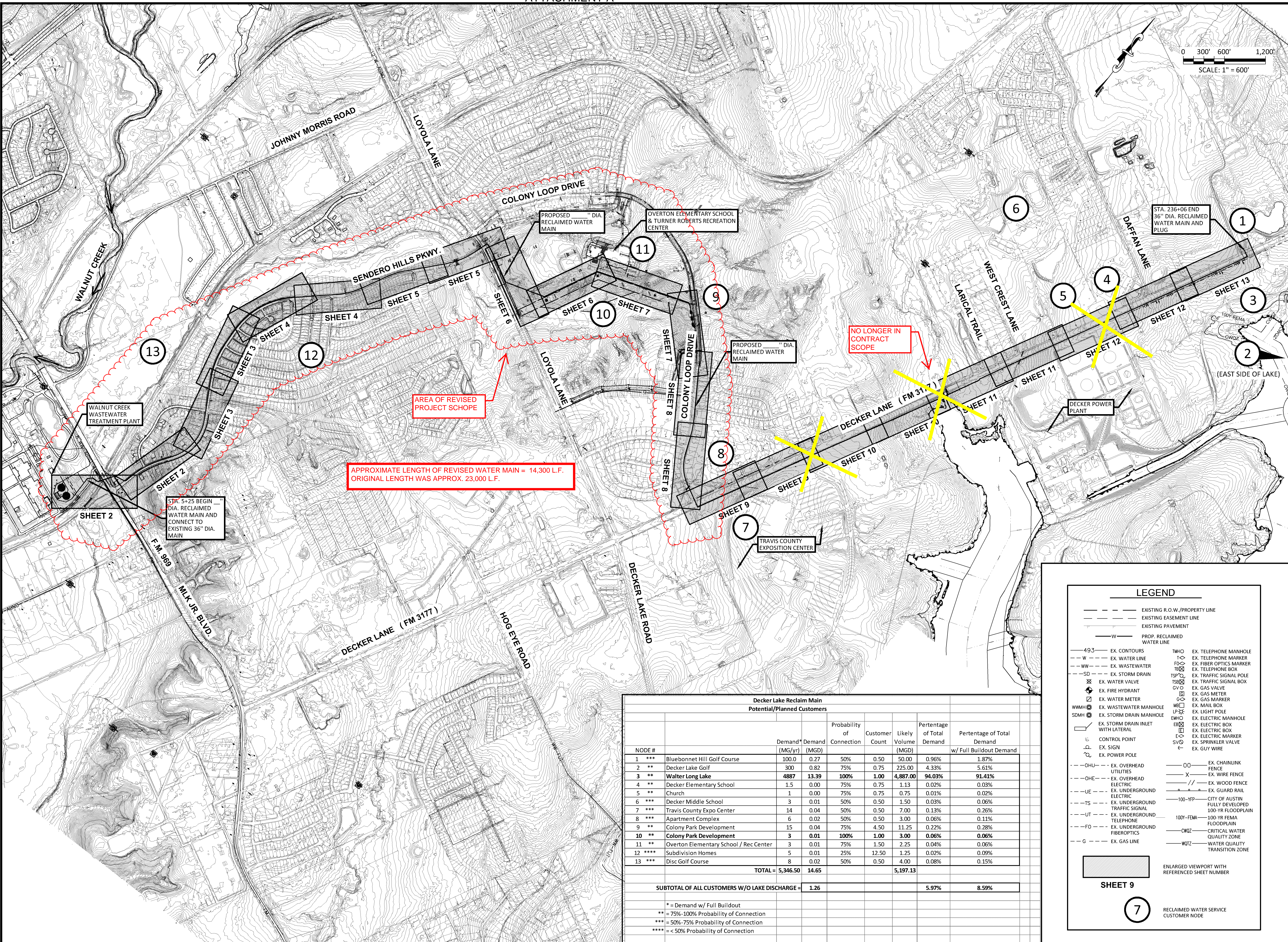


Nancy Nuttbrock
County Clerk
BRIERLEY ASSOCIATES
THE STATE OF CALIFORNIA
COUNTY OF SACRAMENTO

Witness my hand and seal of office this 1st day of June, 2019.

Witness my hand and seal of office this 1st day of June, 2019.

Witness my hand and seal of office this 1st day of June, 2019.



THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF THOMAS F. CURRAN, P.E. #61905 ON 10/19/2015. IT IS NOT TO BE USED FOR PERMITTING, BIDDING, OR CONSTRUCTION PURPOSES.

NO.	CORRECTION DESCRIPTION	APPROVED BY	DATE

DECKER LANE RECLAIMED WATER LINE FROM WALNUT CREEK WASTEWATER TREATMENT PLANT TO DECKER POWER PLANT OVERALL PLAN

ISSUED FOR SCHEMATIC DESIGN REVIEW

ISSUE DATE: Oct 19, 2015 - 3:39pm
 PROJECT NO: 1123
 CLIENT: CITY OF AUSTIN
 DESIGNED BY: RC/TC
 DRAWN BY: RT
 CHECK BY: RC/TC
 SHEET:

IF THIS SHEET IS NOT 24" X 36", IT IS A REDUCED PRINT.
 PLOTTED: Oct 19, 2015 - 3:39pm Drawing name: \\1123\Decker Lane Reclaimed Water\00-DRAWINGS\PERM\1123 - C - ALIGNMENT PLAN - 1.dwg

NODE #	Customer	Demand* (MG/yr)	Demand (MGD)	Probability of Connection	Customer Count	Likely Volume (MGD)	Percentage of Total Demand	Percentage of Total Demand w/ Full Buildout
1 ***	Bluebonnet Hill Golf Course	100.0	0.27	50%	0.50	50.00	0.96%	1.87%
2 **	Decker Lake Golf	300	0.82	75%	0.75	225.00	4.33%	5.61%
3 **	Walter Long Lake	4887	13.39	100%	1.00	4,887.00	94.03%	91.41%
4 **	Decker Elementary School	1.5	0.00	75%	0.75	1.13	0.02%	0.03%
5 **	Church	1	0.00	75%	0.75	0.75	0.01%	0.02%
6 ***	Decker Middle School	3	0.01	50%	0.50	1.50	0.03%	0.06%
7 ***	Travis County Expo Center	14	0.04	50%	0.50	7.00	0.13%	0.26%
8 **	Apartment Complex	6	0.02	50%	0.50	3.00	0.06%	0.11%
9 **	Colony Park Development	15	0.04	75%	4.50	11.25	0.22%	0.28%
10 **	Colony Park Development	3	0.01	100%	1.00	3.00	0.06%	0.06%
11 **	Overton Elementary School / Rec Center	3	0.01	75%	1.50	2.25	0.04%	0.06%
12 ****	Subdivision Homes	5	0.01	25%	12.50	1.25	0.02%	0.09%
13 ***	Disc Golf Course	8	0.02	50%	0.50	4.00	0.08%	0.15%
TOTAL =		5,346.50	14.65			5,197.13		
SUBTOTAL OF ALL CUSTOMERS W/O LAKE DISCHARGE =		1.26					5.97%	8.59%

* = Demand w/ Full Buildout
 ** = 75%-100% Probability of Connection
 *** = 50%-75% Probability of Connection
 **** = < 50% Probability of Connection

LEGEND

---	EXISTING R.O.W./PROPERTY LINE	---	EXISTING EASEMENT LINE	---	EXISTING PAVEMENT	---	PROP. RECLAIMED WATER LINE	---	EX. CONTOURS	---	EX. TELEPHONE MANHOLE
---	EX. WATER LINE	---	EX. WASTEWATER	---	EX. STORM DRAIN	---	EX. FIRE HYDRANT	---	EX. WATER METER	---	EX. WASTEWATER MANHOLE
---	EX. STORM DRAIN MANHOLE	---	EX. STORM DRAIN INLET WITH LATERAL	---	EX. CONTROL POINT	---	EX. SIGN	---	EX. POWER POLE	---	EX. CHAINLINK FENCE
---	EX. OVERHEAD UTILITIES	---	EX. OVERHEAD ELECTRIC	---	EX. UNDERGROUND ELECTRIC	---	EX. UNDERGROUND TELEPHONE	---	EX. UNDERGROUND FIBEROPTICS	---	EX. GAS LINE
---	EX. TELEPHONE MARKER	---	EX. FIBER OPTICS MARKER	---	EX. TELEPHONE BOX	---	EX. TRAFFIC SIGNAL POLE	---	EX. TRAFFIC SIGNAL BOX	---	EX. GAS VALVE
---	EX. GAS METER	---	EX. GAS MARKER	---	EX. MAIL BOX	---	EX. LIGHT POLE	---	EX. ELECTRIC MANHOLE	---	EX. ELECTRIC BOX
---	EX. ELECTRIC MARKER	---	EX. SPRINKLER VALVE	---	EX. GUY WIRE	---	EX. CHAINLINK FENCE	---	EX. WIRE FENCE	---	EX. WOOD FENCE
---	EX. GUARD RAIL	---	EX. CITY OF AUSTIN FULLY DEVELOPED 100-YR FLOODPLAIN	---	EX. 100-YR FEMA FLOODPLAIN	---	EX. CRITICAL WATER QUALITY ZONE	---	EX. WATER QUALITY TRANSITION ZONE	---	

ENLARGED VIEWPORT WITH REFERENCED SHEET NUMBER

SHEET 9

7 RECLAIMED WATER SERVICE CUSTOMER NODE

23 February 2015
Revised 29 May 2015
Revised 15 February 2016

Chan & Partners Engineering, LLC
4319 James Casey Street, Suite 300
Austin, Texas 78745

Attn: Mr. Raymond Chan, P.E.

Re: Decker Lane Reclaimed Water Line
Decker Lane
Austin, Texas

Dear Mr. Chan:

As per your request, we are providing a revised cost estimate for performing a Geotechnical Investigation at the above referenced project site. It is our understanding the project scope has eliminated a portion of the alignment in order to meet budget constraints. The project now consists of installation of approximately 14,300 L.F. of water lines from Walnut Creek WWTP to just east of Decker Lane at Colony Loop Drive. The line will be installed primarily in open cut trenches with the exception of six areas: the Austin & NW RR; the Loyola Lane crossing; the Decker Lane crossing at Colony Loop and three creek crossings. The utility installation in these six crossings will be through trenchless construction methods.

The purpose of the geotechnical investigation is to determine subsurface soil and groundwater conditions at the site and obtain samples for laboratory testing in order to provide data to the engineer for underground utility construction. The scope of our services will generally follow "Austin Water Utility – Requirements for Geotechnical Investigations for Pipeline Projects" dated 10/02/08.

SCOPE OF SERVICES

The scope of our services will include:

1. A site reconnaissance of the project to assess rig accessibility. Rights of entry in the Austin Energy easement will be obtained by others. Holt will coordinate all boring locations and underground utilities (electrical, water, wastewater, sewer, telephone, and gas) with line locators.
2. All necessary manpower, equipment and materials for drilling, logging and sampling 30

geotechnical borings. Borings should be drilled to a minimum of 5 feet below flow lines and a minimum of 10 feet below the bottom elevation of bore pits. We estimate boring depths to be 15 feet to 30 feet each. All bore holes will be sampled to hard shale using either Shelby tubes or split-spoon samplers in the overburden soils. Once shale is encountered, a Christianson NXB wireline core barrel (with 1-7/8 inch diameter core) will be used to continuous core to termination of the borings.

3. The bore holes will be logged in the field by an experienced water well driller familiar with Austin area geology. All core samples will be placed in order of recovery in cardboard core boxes, properly marked and wrapped and transported to our in-house laboratory.
4. Three temporary observation wells (temporary piezometers) are proposed. The piezometers will be located in sections of the line where trenchless construction methods will be used. We expect to install one at the railroad crossing, the creek crossing at approximately Sta. 75+00 and one at the creek crossing at Sta. 107+00. Depending on soil conditions, other wells may be needed. The wells will consist of one-inch diameter slotted PVC pipe with sand pack to within 5 feet of the surface and a concrete/bentonite seal and a locking steel manhole cover at the surface.
5. Groundwater monitoring will be conducted at roughly 24 hours to 48 hours after construction of the wells and then monitored for 8 months or until static water levels are achieved.
6. Backfilling bore holes without wells with cuttings and/or cement/bentonite grout immediately after drilling.
7. Plugging monitor wells in the future at the request of the Project Manager.
8. Performing in-house laboratory testing consisting of conventional geotechnical tests such as soil classifications, moisture contents, Atterberg limits, grain size analyses, minus 200 sieves, unit weights and unconfined compression testing. An outside lab will provide specialty soil/rock testing consisting of slake durability, consolidation testing and unconfined compression with stress/strain curves. These tests will be at the direction of the tunnel engineer.
9. A Geotechnical Data Report (GDR) will be issued to include a generalized boring location plan, logs of borings with geologic formations, laboratory test results, description of drilling operations, well logs and groundwater levels.

10. Geotechnical Design Memorandums (GDMs) will be prepared by the project engineer in support of the design team. Recommendations may include trench backfill materials, backfill compaction, pipe bedding, bearing capacities and construction considerations.
11. Geotechnical engineering in support of the design team during construction.

In house QA/QC reviews will be conducted during all phases of the work and on all our deliverables provided. A senior geotechnical engineer or principal engineer will conduct the review on each submittal.

Based on the scope of work outlined above, we have prepared a detailed cost estimate for our services. We guarantee not to exceed \$51,721.16 without your prior written permission. An itemized cost estimate is attached.

It should be noted, the attached cost estimate is based on our current understanding of the project; a re-evaluation of the cost estimate will be necessary to adjust for scope changes or if conditions differ from those anticipated. For the Final GDR, actual boring locations will need to be surveyed so that coordinates and elevations can be incorporated into our boring logs. Holt does not provide surveying but we will be happy to meet with surveyors to assist in this task.

CONDITIONS

The attached cost estimate is based on the following:

1. Right of entry and right to clear vegetation if necessary, will be provided by others.
2. Actual boring location coordinates and elevations will be obtained by others.
3. Field operations will be performed sequentially, not concurrently.
4. The attached cost estimate will change based on changes or alterations to the scope of services.
5. The cost estimates included in this proposal are guaranteed through the calendar year 2015.
6. Budgets provided herein may be moved between the various work elements to accommodate the overall project budget. In addition, engineering hours may shift between the various tasks as needed to complete the scope of the project as demands dictate.
7. Costs for any environmental investigations for contaminated soils such as hydrocarbons TPH, BTEX, MTBE, heavy metals, pesticides or other hazardous wastes are not included.

Mr. Raymond Chan, P.E.
15 February 2016
Page 4 of 4

We appreciate the opportunity to offer our services. If we can answer any questions concerning the above, please do not hesitate to call.

Sincerely,



Linda D. Holt, P.E.
Principal Engineer

Holt Engineering, Inc.
TBPE Firm Registration No. F-430

Enc: Itemized Cost Estimate

Project Name: **DECKER LANE RECLAIMED WL**
 Date: 2/24/2015 - REVISED 20 March 2015, 5-29-15, 2-15-16

Rig Mobilization	No.	Ea.	Price	Total	Price Total
Austin	1		\$400.00	1	\$400.00
SUBTOTAL					\$400.00

Layout Borings:	No.	Hr.	Price	Total	Price Total
Drilling Superintendent	8.0		\$65.00	8	\$520.00
SUBTOTAL					\$520.00

Locate Utilities:	Trips	Hrs. Per Trip	Total # of Hours	Price Per Hour	Price Total
Drilling Superintendent	2.5	4.0	10.0	\$65.00	\$650.00
SUBTOTAL					\$650.00

Street Cut & ROWAN Permits:	No.	Price	Total	Price Total	
COA Street Cut (at cost)	3	\$279.00 Street	3	\$837.00	
TxDOT Permits					
Drilling Superintendent	3	\$65.00 Hr.	3	\$195.00	
SUBTOTAL					\$1,032.00

Drilling, Logging & Sampling Approx. 30 Borings: 3 to 30', 4 to 25' and 23 to 15 feet/ea. = 535 L.F.	Boring Number:	L.F.	Price	Total	Price Totals
Auger Drilling 0 - 25		505	\$14.00 Ft.	505	\$7,070.00
Auger Drilling 25 - 35			\$17.00 Ft.	0	\$0.00
Auger Drilling 35 - 50		0	\$19.00 Ft.	0	\$0.00
Auger Drilling 50 - 75		0	\$22.00 Ft.	0	\$0.00
Auger Drilling 75-100		0	\$24.00 Ft.	0	\$0.00
Auger Drilling 100 +			\$26.00 Ft.	0	\$0.00
Rock Coring 0 - 25		15	\$25.00 Ft.	15	\$375.00
Rock Coring 25 - 35		15	\$27.00 Ft.	15	\$405.00
Split Spoon/Shelby Tube Samples:		107	\$23.00 Ea.	107	\$2,461.00
SUBTOTAL					\$10,311.00

* Assume clayshale @ 20'

Observation Wells - 3 at 20-30 feet	No.	Price	Total	Price Total
Monitor Well w/Cover 30' Deep	3	\$1,500.00 Ea.	3	\$4,500.00
Monitor Well w/Cover 80' Deep		\$1,900.00 Ea.	0	\$0.00
State Well Report	3	\$25.00 Ea.	3	\$75.00
		\$0.00	6	\$0.00

Project Name: **DECKER LANE RECLAIMED WL**
SUBTOTAL

\$4,575.00

Groundwater Monitoring:	Trips/Yr.	Hrs. Per Trip	Hours	Hour	Price Total
Drilling Superintendent	15.0	3.0	45.0	\$65.00	\$2,925.00
		No.			
					\$0.00
SUBTOTAL					\$2,925.00

\$2,925.00

Future Plugging of Wells:	No.	Total	Price Total
Rig Mobilization	1	1	\$400.00
Rig Time:	10	10	\$1,750.00
Backfill Bore Holes	70	70	\$490.00
State Plugging Reports-Clerical	3	3	\$165.00
SUBTOTAL			\$2,805.00

\$2,805.00

Plug Holes / Disposal of Cuttings	Ft.	Total	Price Total
Price Per Foot.	535	535	\$3,745.00
Manhole Covers			\$0.00
SUBTOTAL			\$3,745.00

\$3,745.00

Support Services:	No.	Total	Price Total
Support Truck	10	10	\$1,300.00
Water Truck	4	4	\$580.00
Water Usage for Coring	0	0	\$0.00
SUBTOTAL			\$1,880.00

\$1,880.00

Rock Coring Storage & Disposal:	Ea.	Total	Price Total
Cardboard Core Boxes	0	0	\$0.00
SUBTOTAL			\$0.00

\$0.00

Project Coordination:	No.	Total	Price Total
Principal Engineer	0	0	\$0.00
Project Engineer	8	8	\$1,320.00
Drilling Superintendent	8	8	\$520.00
SUBTOTAL			\$1,840.00

\$1,840.00

In-House Laboratory Testing:	No.	Total	Price Totals
Soils Classification (D-2488)	0	0	\$0.00

\$0.00

Project Name: **DECKER LANE RECLAIMED WL**

Atterberg Limits	\$75.00	Ea.	36																36	\$2,700.00
Moisture Contents	\$18.00	Ea.	36																36	\$648.00
Minus 200 Mesh Sieve	\$40.00	Ea.	36																36	\$1,440.00
Particle Grad Incl #200 Sieve	\$65.00	Ea.	5																5	\$325.00
Moisture Content + Dry Density	\$25.00	Ea.	30																30	\$750.00
Unconfined Compression Tests	\$50.00	Ea.	30																30	\$1,500.00
Specific Gravity		Ea.	0																0	\$0.00
SUBTOTAL																				\$7,363.00

Specialty Laboratory Testing*:			No.																Total	Price Totals
Moisture Contents	\$10.00	Ea.	9																9	\$90.00
Slake Durability	\$100.00	Ea.	3																3	\$300.00
Cerchar Abrasivity Index	\$150.00	Ea.																	0	\$0.00
Point Strength Index	\$60.00	Ea.																	0	\$0.00
Unconfined Comp. w/Stress Strain																				
Curves	\$150.00	Ea.	6																6	\$900.00
Brazilian Strength	\$75.00	Ea.	0																0	\$0.00
Consolidation Testing - 1 D	\$420.00	Ea.	3																3	\$1,260.00
pH	\$30.00	Ea.	0																0	\$0.00
Project Engineer	\$165.00	Hr.	2																2	\$330.00
Extra Drill Crew Member	\$48.00	Hr.	2.9																2.9	\$139.20
Subtotal																				\$3,019.20
SUBTOTAL COST + 5%																				\$3,170.16

*Note - performed by outside lab. Depending on soils/rock encountered, the number of tests and test methods may be changed at the direction of the tunnel engineer.

Engineering Final GDR Report																			Total	Price Total
Principal Engineer	\$225.00	Hr.	0																0	\$0.00
Project Engineer	\$165.00	Hr.	32																32	\$5,280.00
Project Manager for QA/QC	\$165.00	Hr.	4																4	\$660.00
Senior Professional Geologist	\$127.00	Hr.																	0	\$0.00
Clerical Support Staff	\$55.00	Hr.	32																32	\$1,760.00
SUBTOTAL																				\$7,700.00

Engineering Geotechnical Design Memorandums (GDMs)																			Total	Price Total
Principal Engineer	\$225.00	Hr.	0																0	\$0.00
Project Engineer	\$165.00	Hr.	15																15	\$2,475.00

Montopolis Water Resource Initiative (WRI) Storage Reservoir and Pump Station Project

Austin SWIFT Application
Part A, Item 6
Montopolis Tank Engineering Contract

CIP Project No. 5267.035

Detailed Professional Engineering Scope of Work – Design and Bid Phase

Project Description

This scope of work describes in more detail the services to be rendered by the CH2M HILL team as described in sections 1.4 (Basic Services) of the General Conditions of Agreement and 1.4.2 (Phase B: Design Phase Services), and 1.4.3 (Phase C: Bid-Award-Execution Phase Services) of the Supplemental Terms and Conditions of the Agreement.

The services are for the construction of a new ground storage reservoir, pump station, and associated piping located at 2707 Montopolis Drive, Austin, TX 78741, and hereinafter referred to as the "Project".

The Montopolis WRI reservoir will be a 4 MG ground storage tank approximately 130 feet in diameter and 45 feet in height used to store treated and filtered wastewater effluent prior to transport for beneficial reuse application. The tank is important in the function of the reclaimed water system south of the Colorado River. It will back-feed into the Central Low Service Area and provide reliability to that part of the reclaimed water system. It will also pump into the Central Service Area, provide water to customers in that area, and improve reliability to that area. Potential new customers include the AE Control Center, Tokyo Electron, an AE Business Park and two planned apartment complexes. A new pump station, adjacent to the tank and located on high ground of the site will convey water from the tank to the distribution system. This pump station, referred to herein as "Montopolis pump station" is to be designed to provide 8.6 MGD ultimate firm capacity (based on four pumps at 2000 gpm each with one unit out of service).

The design will be based upon the recommendations listed in the preliminary engineering report titled, "Preliminary Engineering Report - Montopolis Water Resource Initiative (WRI) Storage Reservoir and Pump Station Project" dated November 2013.

Basis of Design Scope and Fee Development

The following key assumptions were made in the compilation of this scope of work and the estimation of the level of effort:

1. The design work on this project will be completed in calendar year 2013 and 2014.

2. The design will be based on the federal, state, and local codes and standards in effect on the effective date of the authorization to proceed. Any changes in these codes may necessitate a change in scope.
3. The design documents will be prepared for a single construction contract.
4. The following permit applications and supporting documentation will be prepared by CH2M HILL: Building Permit, Watershed Protection Permit, Traffic Control Permit, Curb Cut Permit, Site Development Permit, Storm Water Pollution Prevention Permit (SWPPP), and Texas Commission on Environmental Quality (TCEQ) design approval. The OWNER will pay all permit processing fees.
5. No equipment pre-purchase or pre-negotiation will be required.
6. Attachment A lists the anticipated design drawings.
7. The drawings will follow CH2M HILL CAE/CAD standards. CH2M HILL will provide an electronic copy of the final drawings in a standard CAE/CAD format.
8. Any investigation and remediation of possible hazardous waste, asbestos, lead paint or other types of contamination will be conducted as a separate contract.

Civil/Geotechnical

1. Legal, easement or plat surveys of the existing site will not be required.
2. Landscaping will be limited to seeding or sodding with some additional tree and shrub plantings for aesthetics.
3. The only new roadway work required is in immediate area of new facilities.

Structural/Architectural/Geotechnical

1. Uplift due to high groundwater levels, if any, will be addressed with thickened base slabs or pressure relief valves in slabs. No underdrain systems or tension systems will be required.
2. Building sprinkler systems are not required for the new buildings. Any required sprinkler systems will be provided by performance specifications.
3. Building will not be designed to be ADA compliant but consideration will be given for ramp access if stairs are needed.

Electrical and Instrumentation & Controls Systems

1. The new instrumentation and control system will be based on the use of programmable logic controllers. Monitoring of the plant status will be by the newly installed OASIS Telement system if fully commissioned or if not, a commercially available PC based software package.
2. CH2M HILL will not perform the work of developing process control system software for both the PLC and the PC interface. It is anticipated that the programming effort will be included as part of a SCADA programming allowance in the bid documents or as a separate professional services contract. Modifications required to existing systems to integrate the new pump station will be included in one of these scopes.

3. No backup electrical power source is required in the project.

1.4.7. Project Management (03.80)

1.4.7.1. Engineering/Project Management (03.80.05)

1.4.7.1.1. Development of the Project Execution Plan - The detailed project execution plan will define client and CH2M HILL project organization, communication, project cost control procedures, document control, health and safety considerations, change management and other project management requirements.

1.4.7.1.2. Monthly status reports – summary of monthly activity compared to scope of work, summary of fee request, and identification of any outstanding issues.

1.4.7.2. Project Accounting (03.80.30)

Invoicing – monthly invoice based upon percent complete of scope of work, includes updates to resource allocation plan (RAP) and subK form. Invoice will also include copies of expense items to support request for reimbursable expenses.

1.4.7.3. Contract Administration (03.80.35)

1.4.7.3.1. Review and development of contract changes and contract implementation.

1.4.7.3.2. Subcontractor setup and management - CH2M HILL will develop scopes of work with subcontractors. CH2M HILL will negotiate contracts and project schedules with each subcontractor. CH2M HILL will coordinate all of the subcontractors work. CH2M HILL will review and integrate subcontractors work into overall project.

1.4.7.4. Quality Control/Quality Assurance (03.85)

CH2M HILL will use its standard continuous quality control process. The Quality Management Plan (QMP) will define the quality control process as customized for this project, and be consistent with the City of Austin requirements (Quality Control Plan (QCP) section 1.4.1.11).

1.4.7.5. Health and Safety (03.90)

CH2M HILL developed a health and safety plan in the preliminary engineering phase that applies to all employees working on this project. It addresses safety in the office and during site visits and includes any requirements by the Owner.

CH2M HILL will manage the health, safety and environmental activities of its staff and the staff of its subcontractors to achieve compliance with applicable health and safety laws and regulations.

1.4.7.6. Document Controls and Project Close-Out (03.80.45)

Organize project information on SharePoint site, manage access to information, post notices as needed, and archive information as required by Owner.

1.4.2 Phase B: Design Phase Services

1.4.2.18 Schematic Design (30 Percent Complete Design) (03.35.10)

1.4.2.18.1 Civil and Site Development (03.35.10.15)

- Develop plant site layout. This will include activities such as: (1) determine structure size, location, and orientation; (2) layout roadways/truck access corridors and define maneuvering requirements (design vehicle); (3) size and locate parking lots for employees and visitors to the facility; (4) determine emergency vehicle access requirements. (4) evaluate flood plain impacts and constraints; (5) locate storm water management facilities. (6) locate utility and piping corridors (horizontal and vertical).
- Develop preliminary erosion control plan for project. Develop storm water pond layout. Prepare preliminary storm water calculations suitable for submission to local site permitting authorities. Develop preliminary storm water control concepts (swales, curb, and gutter). Meet with local storm water and erosion and sediment control agency to determine permitting requirements for site plans, and impact of requirements on preparation of contract documents. Document findings.
- Set preliminary finished floor levels for new structures. Establish preliminary finished grades; overall major surfaces, road profiles, etc. Iterate preliminary surfaces and structures to optimize earthwork if necessary.
- Review concepts and draft work products with and seek approval from quality control reviewer.

1.4.2.18.2 Pump Station Architectural/Structural (03.35.10.05)

- Establish preliminary room sizes. Identify the adjacencies and functional requirements of each space. Establish architectural theme for exterior of building. Select interior and exterior construction materials for each building. Select roof type, slope, and roof support system for each building.
- Assign code classification to each building. Meet with local code official to review code classifications.
- Establish LEED requirements and develop concepts for inclusion into project.
- Compile list of chemicals and amounts to be used. Coordinate with other disciplines (mechanical and electrical) to resolve code compliance issues specific to these disciplines (e.g., National Electrical Code and National Fire Protection Association 820 issues).
- Prepare preliminary building layouts (drawings including plans, sections, and elevations).

- Structural engineer to coordinate with architectural discipline on the selection of building concepts. Consult with lead process engineer on building/structure layouts.
- Develop building foundation and structure concepts based on schematic building layouts.
- Review concepts and draft work products with and seek approval from quality control reviewer.

1.4.2.18.3 Structural – Storage Reservoir (03.30.10.35)

- Consult with lead process engineer and site/civil engineer on reservoir layouts.
- Develop reservoir structural concepts based on preliminary layouts.
- Review concepts and draft work products with and seek approval from quality control reviewer.

1.4.2.18.4 Mechanical (03.35.10.30)

- Select and size all major process equipment including pumps. Prepare sizing calculations and obtain review. Establish level of redundancy required for all process equipment.
- Prepare equipment list with sizing for major equipment. Coordinate with the owner on preferences of equipment manufacturer and processes.
- Size yard and pump header piping.
- Prepare preliminary drawing of piping improvements to prevent SAR reservoir from overflowing.
- Prepare preliminary yard piping plan.
- Prepare preliminary drawings for equipment arrangements including pumps and chlorination system.
- Calculate chlorine demands and size tablet chlorination system.
- Prepare preliminary hydraulic profile.
- Review concepts and draft work products with and seek approval from quality control reviewer.

1.4.2.18.5 HVAC/Plumbing (03.35.10.10)

- Select type of ventilation system to be used in buildings (inlet air tempered with inlet and outlet fans, simple exhaust fan system).
- Select type of heating system to be used (hot water boiler, hot air furnace, space heaters). Identify fuel (gas, oil, or other fuel) for heating buildings and identify local fuel storage requirements.
- Select type of air conditioning system to be used in personnel spaces (variable air volume system, zoned constant air volume system).

- Coordinate with the architectural discipline to establish design R-values for all exterior walls.
- Coordinate with local fire marshal and Architect to determine requirements for fire protection.
- Determine overall potable water requirements for the project. Confirm adequate quantity and pressure can be obtained from the local potable water supply utility.
- Review concepts and draft work products with and seek approval from quality control reviewer.

1.4.2.18.6 Instrumentation and Control Systems (I&CS) (03.35.10.25)

- Coordinate the addition of a chlorination system into the process flow diagrams developed in the preliminary engineering phase.
- Conduct an I&C workshop with Owner's staff to establish approach for pump control and communications.
- Develop equipment/instrument tag numbering, naming, and abbreviation conventions.
- Work with Process Engineer to prepare written operational description of each major process.
- Develop overall control philosophy including local control approach, control system, level of automation, supervisory control.
- Develop site security requirements and list of compatible equipment required. This will include a closed circuit camera system and site access security based on Owner's Standards for pump stations.
- Review concepts and draft work products with and seek approval from quality control reviewer.

1.4.2.18.7 Electrical (03.35.10.20)

- Prepare preliminary overall one-line diagram for proposed facilities.
- Prepare preliminary load calculations.
- Size electrical rooms.
- Determine number of electrical feeds to be provided to facility. Submit load calculations to Austin Energy for site energy needs. Coordinate with Austin Energy to determine locations of new or additional power feeds, voltage, billing details (peak usage rates), requirements for reduced voltage starters, and substation requirements.
- Determine redundancy requirements for power supplies and power distribution.
- Establish preferred voltages for power distribution and utilization equipment.

- Coordinate with other disciplines (architectural, mechanical) to resolve code compliance issues specific to these disciplines. Develop preliminary schedule of hazardous and corrosive locations.
- Review concepts and draft work products with and seek approval from quality control reviewer.

1.4.2.18.9 Schematic Design (30 Percent Complete Design) Review (03.35.15.65)

CH2M HILL will submit 30 percent complete drawings to Owner and will review the work products with the Owner's personnel and other key project staff during the monthly progress meeting. The workshop will be held in Owner's office. The review drawings provided to the Owner will have limited annotation. Final meeting minutes, documenting the key decisions and the work products produced through subtasks above will be submitted to the Owner.

1.4.2.19 Design Development Phase (60 Percent Complete Design) (03.35.15)

The purpose of this task is to utilize the conceptual decisions of the project that were made in the previous phase and to complete and finalize the preliminary calculations of the previous phase, develop the project design to achieve a true "design freeze" at the conclusion of this phase. Structures, equipment, major plant piping, process, site plan are all finalized during this phase to allow final detailing of the same in the next phase of design. Drawings and other materials that may be required exhibits for environmental permit applications will be available at the conclusion of this phase. The majority of the quality control review and approval will occur prior to the finalization of the work products from design development phase. Specific activities, and work products from this phase are described in the following subtasks:

1.4.2.19.1 Design Management (03.30.15.45)

- Update workplan.
- Conduct initial constructability review.
- Conduct initial operability review.
- Update construction cost estimate.

1.4.2.19.2 Civil and Site Development (03.35.15.15)

- Freeze civil design concept. Structures, road, and major site element horizontal locations are finalized. Structure floor/control levels, and finished grades are finalized.
- Define contractor staging, storage, access, and off-site access corridors.
- Prepare preliminary site grading drawings.
- Download survey data to create site-drawing files for final design.
- Set final building and structure elevations.

- Develop preliminary yard piping (18-inches and larger) and plant drain layouts. Identify corridors for smaller piping and other utilities. Pipes 4-inches and smaller in diameter will be field routed.
- Show storm water control concepts (swales, curb, and gutter) on the design development drawings.
- Finalize traffic flow, parking, and lay out road access to all buildings and structures. Coordinate handicap requirements with architectural discipline and local site plan regulations.
- Prepare first draft of technical specifications.
- Review design development and draft work products with and seek approval from quality control reviewer.

1.4.2.19.3 Pump Station Architectural/Structural (03.35.15.05)

- Develop building floor plans and elevations for all buildings.
- Coordinate with geotechnical engineer to establish foundation design criteria for proposed facilities. Review geotechnical report and discuss foundation design approach with geotechnical engineer and senior structural reviewer.
- Document structural design concept for each building (room by room) and structure. Finalize materials of construction (cast-in-place versus precast concrete, roof structures, etc).
- Preliminary framing plan for buildings and other structures.
- Coordinate with I&C and electrical disciplines to size and locate electrical and control rooms.
- Coordinate with the mechanical discipline to select the type of HVAC equipment, locate HVAC equipment rooms, determine space requirements and routing for ductwork if required, and establish design R-values for all exterior walls.
- Coordinate with structural engineer to define the structural design concepts for the facilities.
- Establish applicable codes for all buildings/structures with local code officials and fire marshal. Complete building and fire code analysis. Meet with local code official to review floor plans.
- Prepare first draft of technical specifications.
- Review design development and draft work products with and seek approval from quality control reviewer.

1.4.2.19.4 Storage Reservoir Structural (03.35.15.35)

- Coordinate with geotechnical engineer to establish foundation design criteria for proposed storage reservoir. Review geotechnical report and discuss foundation design approach with geotechnical engineer and senior structural reviewer.
- Document structural design concept for the structure. Finalize materials of construction (cast-in-place versus precast concrete, roof structures, etc).
- Prepare preliminary floor plan for reservoir.
- Prepare first draft of technical specifications.
- Review design development and draft work products with and seek approval from quality control reviewer.

1.4.2.19.5 Mechanical (03.35.15.30)

- Final major equipment sizing calculations, including pumps and chlorination equipment.
- Coordinate with I&C on development of process control narratives.
- Calculate the hydraulic profile for all-major gravity process pipelines and hydraulic structures. Establish maximum and minimum water surface elevations for all process tanks.
- Prepare building and structure layouts (plans and major section(s)).
- Assemble catalog cuts for all major process equipment. Complete equipment data sheets or equipment list on all major equipment items.
- Coordinate with I&CS in the finalization of P&IDs
- Final ancillary equipment sizing and line sizing calculations.
- Final equipment selection (type, size, weight, arrangement).
- Select piping materials.
- Prepare first draft of technical specifications.
- Review design development and draft work products with and seek approval from quality control reviewer.

1.4.2.19.6 HVAC/Plumbing (03.35.15.10)

- Prepare sizing calculations for HVAC equipment based on energy code requirements and selected building construction materials. Prepare HVAC equipment data sheets and cut sheets.
- Create ventilation concept drawing (louver locations, fan locations, type of equipment, air flows).

- Identify routing or right-of-way for major duct runs. Locate major air handling equipment. Confirm size of mechanical equipment rooms.
- Prepare HVAC system block diagrams. Define HVAC system control philosophy.
- Coordinate with civil engineer for potable water and fire water supply and distribution, as well as plant drain system.
- Prepare first draft of technical specifications including performance specifications for HVAC and plumbing design by the contractor.
- Review design development and draft work products with and seek approval from quality control reviewer.

1.4.2.19.7 Instrumentation and Control (03.35.15.25)

- Finalize hand annotated internal reference P&IDs for internal coordination use.
- Prepare preliminary I/O count. Size and locate I/O locations for distributed control systems (DCS). Coordinate I/O rack room sizing with electrical and architectural disciplines. Develop I/O list.
- Summarize I&C system design philosophy for each major process in a process control narrative. Include a description of the field elements to be used for each application and preliminary set points for major I&C elements. Update/finalize control system block diagram. Finalize typical control diagrams/loop diagrams for each type of control scheme to be used.
- Coordinate with HVAC engineer regarding control system requirements.
- Define control interfaces for all package systems with local controls, including adjustable frequency drives.
- Review I&C design elements at monthly progress meeting.
- Prepare first draft of technical specifications.
- Review design development and draft work products with and seek approval from quality control reviewer.

1.4.2.19.8 Electrical (03.35.15.20)

- Determine number of motor control centers (MCCs) to be provided and location of MCCs, and equipment to be powered out of each MCC. Prepare preliminary one-line diagrams for proposed facilities. Coordinate with lead process engineers to size equipment motors.
- Prepare detailed electrical load calculations.
- Size electrical rooms and prepare a preliminary layout of the major electrical equipment located in each electrical room. Determine equipment requiring uninterruptable power supplies (UPS) and locations of UPS equipment. Coordinate with I&C discipline to

determine space requirements and locations for control equipment. Locate major I/O termination panels, TJB's, and control panels.

- Define/document requirements and concepts for special systems: Data highway (control system), Data highway (LAN, office automation) and Fire alarm system.
- Submit load calculations and one-lines to electric utility for review. Identify rights-of-way and routing methods for electrical conduit and tray. Lay out duct bank system (major runs/manholes). Locate incoming power service and primary power transformers. Coordinate with civil yard piping. Locate manholes and hand holes.
- Prepare preliminary site lighting layout.
- Define hazardous locations (NFPA 820) and document. Define corrosive locations and document.
- Prepare first draft of technical specifications including performance specifications for interior lighting design by the contractor.
- Review design development and draft work products with and seek approval from quality control reviewer.

1.4.2.19.9 Cost Estimate (03.35.15.40)

- Update cost estimate as described in section 1.4.2.6 of the Supplemental Terms and Conditions of the Agreement. Estimate will be presented at monthly progress meeting.

1.4.2.19.10 Design Development (60 Percent Complete Design) Review (03.35.15.65)

CH2M HILL will submit 60 percent complete drawings and specifications and will review the work products with the Owner's personnel and other key project staff during a monthly progress meeting. The meeting will be held in Owner's office. The review drawings provided to the Owner will have limited annotation. Final meeting minutes, documenting the key decisions, and the work products produced through subtasks above will be submitted to the Owner.

1.4.2.20 Contract Document Preparation (90 Percent Complete Design) (03.35.20)

The purpose of this task is to develop the final contract drawings, specifications, and schedules for competitive bidding. Key activities during this phase will include:

1.4.2.20.1 Design Management (03.35.20.45)

- Update workplan.
- Conduct final constructability review.
- Conduct final operability review.
- Purge project files of irrelevant and extraneous material. File all relevant information.

1.4.2.20.2 Contract Document Completion (90 Percent Complete Design) (03.35.20)

- Finalize specification front-end documents, including General Conditions, General Requirements, bidding documents, bonds, and Instruction to Bidders. Owner input is required at this point to determine construction contract requirements and insurance requirements.
- Coordinate with Owner on advertising and bidding process.
- Prepare final construction drawings.
- Prepare final technical specifications.
- Prepare final calculations.
- Complete final checking and coordination review.

1.4.2.20.3 Final Review (90 Percent Complete Design) (03.35.20.65)

CH2M HILL will submit 90 percent complete drawing and specifications for review of the work products with the Owner's personnel and other key project staff at a monthly progress meeting. The Owner will prepare one set of collated comments and submit them to CH2M HILL. Final meeting minutes, documenting the key decisions and responses to the Owner's comments will be submitted to the Owner.

1.4.2.21 Incorporation of Final Review Comments (Final Contract Documents) (03.35.30)

CH2M HILL will modify the contract documents to reflect all agreed upon final review comments from the Owner, applicable regulatory agencies and CH2M HILL's quality control review team. The final documents will then be submitted to the Owner.

1.4.2.21.1 Cost Estimate (03.35.30.40)

- Update cost estimate as described in section 1.4.2.11 of the Supplemental Terms and Conditions of the Agreement.

1.4.2.22 Public Meeting

Attend one public or neighborhood meeting and provide presentation materials related to the pump station site and design.

1.4.3 Phase C: Bid-Award-Execution Phase Services (03.36)

1.4.3.1 Pre-Bid Conference (03.36.35)

1.4.3.2.1 CH2M HILL will attend one pre-bid conference. CH2M HILL will assist the Owner in developing the agenda and content of the pre-bid conference.

1.4.3.3 Bid Period Information Requests/ Addenda (03.36.40)

- 1.4.3.3.1 CH2M HILL will develop and implement procedures for receiving and answering bidders' questions and requests for additional information. The procedures shall include a log of all significant bidders questions and requests and the response thereto. CH2M HILL will provide technical interpretation of the contract bid documents and will prepare proposed responses to all bidders' questions and requests, which may be in the form of addenda.
- 1.4.3.3.2 CH2M HILL shall assist the Owner in issuing all Addenda to the Bid Documents. All Addenda shall be approved by the Owner. The Owner shall pay for the expenses of all Addenda.

1.4.3.4 Bid Opening (03.36.45)

CH2M HILL shall review the three lowest bids and evaluate them for responsiveness, math correctness, and bid amount. CH2M HILL will also verify through reasonable investigation the qualifications submitted by the lowest three bidders. CH2M HILL shall prepare a report of its review and evaluation. The Owner shall make the final decision on the award of the contract for construction and the acceptance or rejection of all bids. CH2M HILL will provide technical (but not legal) advice in bid pretest situations.

1.4.6 Additional Services

The Owner may elect to request the following services from CH2M HILL during the course of the project. The scope, schedule and fee for each additional service will be negotiated and approved by the Owner prior to CH2M HILL beginning the associated work.

1.4.6.7 Additional Services During Design

- Legal, easement or plat surveys.
- Evaluation of any structural problems associated with any existing plant facilities.
- Provisions for plant expansion other than spare equipment pads, plugged piping connections, or stub walls.
- Alternative designs to accommodate the products of more than one vendor or supplier.
- Pre-purchase of selected equipment.
- Pre-negotiation of prices for selected equipment.
- Significant modifications to existing I&C equipment or systems.
- Additional control system features including:
 - Communications and paging systems

- Closed circuit television systems
- Cable TV systems
- On-line O&M manuals
- Preventive maintenance software
- Process management reporting
- Laboratory information systems
- Remote control other than by PLC of any existing or new components.
- A new secondary source of power from the local electric utility.
- Landscaping or irrigation drawings other than identification of areas to receive seed or sod.
- Site work, including road repaving, in areas outside those needed for the new facilities.
- Tables and schedules bound with the drawings instead of the specifications.
- Corrosion control systems other than materials selection and coating.
- Point-to-point wiring diagrams.
- Routing and location of interior electrical conduits.
- Relocation of utilities except for reasons of avoiding conflicts or allowing needed construction.
- Process control system software development.
- Adjudication of and response to more than one set of Owner review comments per deliverable.
- Any other services designated in this scope of services as additional services.

The following assumptions were used when determining the compensation to CH2M HILL. These assumptions are in addition to the scope and additional services set forth in the foregoing scope of work.

Services During the Bid and Award Phase

1. The construction will be bid as a single general construction contract, with a fixed price.
3. A total of one bid package to be awarded as a single construction contract will be prepared by CH2M HILL.
4. Reproduction, distribution and mailing costs for the bidding of the contract for construction will be paid by the Owner. Alternatively, the Owner may instruct CH2M HILL to charge prospective bidders for copies of the documents.
6. The advertisement period for the contract for construction will be 4 weeks.
7. CH2M HILL will conduct and document one Pre-bid Conference at the project site or Owner's office.
8. 3 addenda will be issued.
9. The contract for construction will be bid only once.
10. Only the three lowest bids and supporting documentation will be evaluated.

6. Owner Provided Services

1. Owner will provide to CH2M HILL all data in Owner's possession relating to CH2M HILL's services on the Project. CH2M HILL will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by the Owner.
2. Owner will make its facilities accessible to CH2M HILL as required for CH2M HILL's performance of its services and will provide labor and safety equipment as required by CH2M HILL for such access. Owner will perform, at no cost to CH2M HILL, such tests of equipment, machinery, pipelines, and other components of Owner's facilities as may be required in connection with CH2M HILL's services.
3. Owner will give prompt notice to CH2M HILL whenever Owner observes or becomes aware of any development that affects the scope or timing of CH2M HILL's services, or of any defect in the work of CH2M HILL or the Contractor.
4. The Owner shall examine information submitted by CH2M HILL and render in writing or otherwise provide decisions in a timely manner.
5. The Owner shall furnish required information and approvals in a timely manner.
6. The Owner shall cause all agreements with the Contractor to be consistent with CH2M HILL's Agreement.

Attachment A - Preliminary Project Drawing List

Montopolis WRI Storage Reservoir and PS			
Drawing List			
			Comments
General			
G-001	Cover		
G-002	Location and Vicinty Map		
G-003	Index to Drawings		
G-004	General Notes/Legend		
G-005	Abbreviations		
G-006	System Flow Diagram		
Civil			
C-001	Survey and Control		
C-002	Civil Legend		
C-003	Overall Site Plan		
C-004	Site Access		
C-005	Work Area and Contractor Staging		
C-006	Site Layout		
C-007	Site Grading Plan 1		
C-008	Site Grading Plan 2		
C-009	Access Road/Site Road Grading P&P 1		
C-010	Access Road/Site Road Grading P&P 2		
C-011	Access Road/Site Details		
C-012	Civil Details (fencing)		

	C-013	Civil Drainage Details		
	C-014	Civil Details Misc. Details		
	C-015	Standard Details		
	C-016	Standard Details		
	C-017	Landscaping		
	Architectural			
	A-001	Architectural Legend		
	A-002	Pump Station Floor Plan		
	A-003	Pump Station Roof Plan		
	A-004	Pump Station Transverse Elevation		
	A-005	Pump Station Longitudinal Elevation		
	A-006	Pump Station Transverse Section		
	A-007	Pump Station Longitudinal Section		
	A-008	Architectural Details		
	A-009	Architectural Details		
	A-010	Door/Louver Schedule		
	A-011	Standard Details		
	Structural			
	S-001	Structural Legend		
	S-002	Structural Notes and Abbreviations		
	S-003	Overall Pump Plan Elevation		
	S-004	Overall Pump Room		

		Floor Elevation		
	S-005	Overall foundation Plan		
	S-006	Bridge Crane Framing Plan		
	S-007	Overall Pump Station Roof Framing Plan		
	S-008	CMU Pump Bldg North/West Elevation		
	S-009	CMUPump Bldg South/East Elevation		
	S-010	CMU Pump Building Longitudinal Sections		
	S-011	CMU Pump Building Transverse Sections		
	S-012	Pump Can Plan and Details		
	S-013	Pump Station Misc. Details		
	S-014	Storage Reservoir Foundation Plan		
	S-015	Storage Reservoir Plan Elevation		
	S-016	Storage Reservoir Plan Elevation		
	S-017	Storage Reservoir Paint Details		
	S-018	Storage Reservoir Paint Details		
	S-019	Storage Reservoir Section North		
	S-020	Storage Reservoir Section South		
	S-021	Storage Reservoir Details		

	S-022	Storage Reservoir Details			
	S-023	Hydropneumatic Tank/Equipment Pad Plan/Sections			
	S-024	Structural Standard Details			
	S-025	Structural Standard Details			
	S-026	Structural Standard Details			
	S-027	Structural Standard Details			
	Process Mechanical				
	M-001	Mechanical Legend			
	M-002	Pump Station Plan			
	M-003	Overall Pump Can Elevation			
	M-004	Typical Pump/Discharge Piping			
	M-005	South Austin Regional Piping Modifications			
	M-006	Chlorine Feed System			
	M-007	Misc Details			
	M-008	Standard Details			
	M-009	Standard Details			
	Yard/Site Piping				
	Y-001	Yard Piping Plan 1			
	Y-002	Yard Piping Plan 2			
	Y-003	Yard Piping Details			

	Y-004	Yard Piping Details		
	Y-005	Yard Piping and Fitting Details		
	Y-006	Yard Piping Standard Details		
	HVAC			
	H-001	HVAC Legend		
	H-002	HVAC Overall Pump Station Plan		
	H-003	HVAC Schematics and Control Wiring		
	H-004	HVAC Schedules		
	H-005	HVAC Misc. Details		
	H-006	HVAC Standard Details		
	H-007	HVAC Standard Details		
	Plumbing			
	P-001	Plumbing Legend		
	P-002	Plumbing Plan and Details		
	P-003	Plumbing Misc. Details		
	P-004	Plumbing Standard Details		
	Electrical			
	E-001	Electrical Legend		
	E-002	Electrical Legend		
	E-003	Electrical Site Plan		
	E-004	Electrical Site Plan		
	E-005	Electrical Overall One-Line		

	E-006	Electrical One-Line		
	E-007	MCC Elevation		
	E-008	Pump Station Lighting Plan		
	E-009	Pump Station Power Plan		
	E-010	Conduit/Conductor Schedule		
	E-011	Control Wiring Diagrams		
	E-012	Control Wiring Diagrams		
	E-013	Panel Board Schedule		
	E-014	Duct Bank Details		
	E-015	Misc. Electrical Details		
	E-016	Standard Details		
	E-017	Standard Details		
	Communications (CU)			
	I-001	Communications Block Diagram and PLC System Network		
	I&C			
	I-002	Instrumentation Legend		
	I-003	Process and Instrumentation Diagram		
	I-004	Process and Instrumentation Diagram		
	I-005	External and Internal Panel Details		

	I-006	Instrumentation and Controls Details		
	I-007	Instrumentation and Controls Standard Details		
	I-008	Instrumentation and Controls Standard Details		
	SS-001	Site Security Instrumentation and Controls Details	Not Included in Bid package - used for third party installation	

City of Austin WRI Storage Reservoir and Pump Station Baseline

WRI Storage Reservoir and Pump Station E

Phase A - Preliminary Engineering

Phase B Design

Task 1 - Design Development (80% Complete Design)

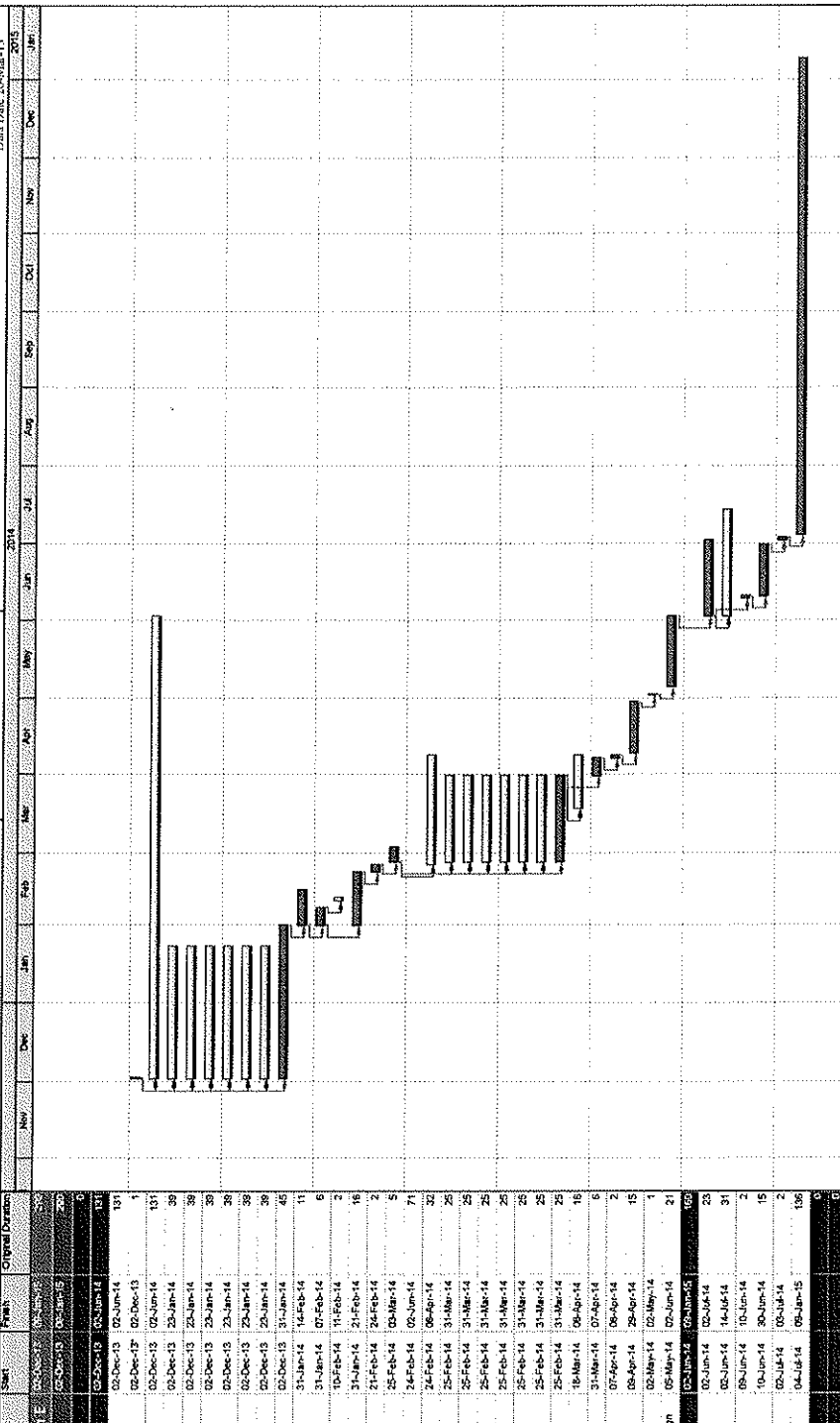
Task 2 - Contract Documents (80% Complete Design)

Phase C - Bidding/Execution Phase Services

Phase D - Construction Phase Services

Phase E - Post Construction Phase Services

Start Finish Original Duration



Nov

Dec

Jan

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

2014

Jan

Feb

Mar

2015

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

2015

Jan

Mar

2015

Mar

2015

Mar

2015

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2015

Mar

2015

Mar

2015

Mar

2015

Project Baseline Bar

Actual Work

Remaining Work

Critical Remaining Work

Milestone

City of Austin
Montopolis Water Resource Initiative (WRI)
Storage Reservoir and Pump Station
Rev3 Schedule November 20,2013
Page 1 of 1

Subconsultant Utilization Form

**Contract Management Department
Contract Management Division**

Rotation List Name/#: W&WW Facilities Engineering / 2010-2013 Project Name: Montopolis WRI Tank (P.R. #2.1) Project Manager: Imane Mirini

Assignment # / Proposal Request #: /

Date: 11/20/2013 Submitted by: Joe Jenkins Firm: CH2M HILL Engineers, Inc.

Firm	Cert Type	Description of Work	Work Hours	Amount \$
CH2M HILL Engineers, Inc.	Not Certified	Prime Consultant, Project Managers, Mechanical Engineering	0.0	\$351,027.00
Casa Bella Architects	MH	Architectural Services	0.0	\$72,500.00
Encotech Engineering Consultants	MA	Building Mechanical and HVAC	0.0	\$128,591.00
Hicks and Company	FW	Environmental and Cultural Resources Services	0.0	\$0.00
HVJ Associates	MB	Geotechnical Engineering	0.0	\$0.00
Jose Guerra, Inc.	MH	Storage Reservoir Structural Engineering	0.0	\$41,385.00
KFriese & Associates	FW	Site/Civil Engineering	0.0	\$70,735.00
McGray & McGray Land Surveyors, Inc.	FW	Surveying	0.0	\$0.00
<Subconsultant 8>	<Drop Down>	<Brief Description of work to be performed >	0.0	\$000.00
<Subconsultant 9>	<Drop Down>	<Brief Description of work to be performed >	0.0	\$000.00
<Subconsultant 10>	<Drop Down>	<Brief Description of work to be performed >	0.0	\$000.00
<Subconsultant 11>	<Drop Down>	<Brief Description of work to be performed >	0.0	\$000.00
<Subconsultant 12>	<Drop Down>	<Brief Description of work to be performed >	0.0	\$000.00
<Subconsultant 13>	<Drop Down>	<Brief Description of work to be performed >	0.0	\$000.00
<Subconsultant 14>	<Drop Down>	<Brief Description of work to be performed >	0.0	\$000.00
<Subconsultant 15>	<Drop Down>	<Brief Description of work to be performed >	0.0	\$000.00
TOTAL			0.0	\$664,238.00

MBE/WBE PARTICIPATION

Please calculate participation percentages for each category, based upon the total dollar amount for certified firms in the specified category divided by the Total Amount of the assignment.

	NON-Certified	African American	Hispanic	Asian/ Native American	MBE	WBE
This Assignment	<u>52.9%</u>	<u>0.0%</u>	<u>17.2%</u>	<u>19.4%</u>	<u> </u> %	<u>10.7%</u>
Compliance Plan	<u>68.4%</u>	<u>1.9%</u>	<u>9.0%</u>	<u>4.9%</u>	<u> </u> %	<u>15.8%</u>

Please provide an explanation for any categories where participation for this assignment is less than the approved Compliance Plan percentages: This assignment is for design and bidding phase services only. For the overall project assignment that will include the preliminary design and construction services, it is CH2M HILL plan to provide additional subconsultant opportunities to meet the project MBE/WBE participation goals.

I certify that the information listed above has been reviewed and is accurate to the best of my knowledge.

Firm Representative: [Signature] Date: 11-20-2013

FOR COA USE ONLY:
I have reviewed the consultant utilization and MBE/WBE participation for this assignment. A copy of this form will be forwarded to the appropriate SMBR representative.
Project Manager: [Signature] Date: 12-4-2013
Rotation List Manager: [Signature] Date: 11-21-2013



PROJECT MANAGEMENT • CIVIL ENGINEERING • CONSTRUCTION ENGINEERING

5 May 2016

Austin SWIFT Loan Application
Part A, Item 6
Onion Creek Engineering Contract

Mr. Dan Pedersen, PE
City of Austin
Austin Water Department
625 E. 10th Street
Austin, TX 78701

via email

RE: Water & Wastewater System Pipeline Engineering 2011-2013 - PA110000004
Onion Creek Reclaimed Water Main Phase 1 (5267.025)
Fee Proposal

Dear Mr. Pedersen:

We are pleased to submit this fee proposal to provide civil engineering services for the above referenced project.

Background

We understand the project consists of designing approximately 15,800 LF of 16" Diam. reclaimed water lines from a connection point at the Clay/Kizer Golf Course in southeast Austin to the south end of the Onion Creek Metro Park at Nuckols Crossing Rd. This alignment will include 3 construction crossings of Onion Creek. The scope of the project also includes a 1,890 LF 8" diam. lateral which crosses Williamson Creek from the golf course to the Dove Springs Recreation Center. See attached Exhibit Onion Creek Mains.

The City has requested that the new Onion Creek Reclaimed Water Line – Phase 1 (OCRWL-1) be aligned within existing right-of-way or in City owned property to the greatest extent possible.

Statement of Scope

The design work will be performed as basic project services as described in the City of Austin W&WW System Pipeline Engineering Rotation List, 2011-2013 Professional Services Agreement (PSA). The attached Supplemental Terms and Conditions of the Agreement defines the scope and Phases and is the basis for this proposal.

The project consists of the following phases.

- Phase A: Preliminary 30% Design Phase Services,
- Phase B: Design Phase Services, comprised of 60%, 90%, 100% and Final Design
- Phase C: Bid Award Execution Phase Services
- Phase D: Construction Phase Services
- Phase E: Post Construction Phase Services

Throughout the project we will work in close coordination with the City Project Manager, affected City Departments and other personnel as necessary.

Phase A: Preliminary 30% Design Phase Services

This phase consists of engaging the subconsultants on DAVCAR's team and conducting thorough research from which to finalize the alignment for the proposed Onion Creek RWL-1. The proposed alignment shown in the attached exhibit will be evaluated to identify preferred creek crossings and coordinate the alignment with the golf course operations. Preliminary environmental and trenchless construction evaluations will be conducted in this phase to assist in finalizing the alignment. Topographic surveying, geotechnical engineering and detailed environmental and trenchless construction work will only be completed for alignment approved by the City. We are prepared to attend one (1) public meeting to present and review the alignment(s) near the end of this Phase. An Evaluation Report will include analysis of the alignment, creek crossing methods, conceptual cost estimates, schedules and recommendations.

Phase B: Design Phase Services

Once the City selects an alignment and authorizes DAVCAR to proceed with Phase B, the team will proceed to develop the construction documents. This phase will be comprised of 60%, 90%, 100% and Final Design development. At each percentage complete, we will submit plans and design documents to the City for their review and comment. The submittals generally include design plans, cost estimates, specifications, project manual, bid forms, schedules, quality control reviews, geotechnical reports, environmental reports, survey information, traffic controls, construction sequencing and other design information. This phase involves close coordination with AAUCC, ROWMAN, Parks Dept. and other various City personnel. The plans will be submitted to permitting once the 100% construction documents are completed. Once comments are received, these comments will be addressed and we'll submit the Final Design documents for approval by the City.

Plans, specifications and bidding documents will be developed in coordination with and compliance with City requirements and the terms of the Supplemental Terms and Conditions of the Agreement.

Plan set will include the following;

- Cover
- General Notes
- Erosion/Sedimentation Control Plans
- Erosion/Sedimentation Control Details & Notes
- Tree Protection Plan with Tree List
- Tree Protection and Environmental Notes and Details
- Reclaimed Water Line Plan, Profile and Detail Sheets
- Creek Crossings Plans and Details
- Temporary Traffic Control Plan
- Temporary Traffic Control Details
- General Details
- Standard General Details

Phase C: Bid Award Execution Phase Services

DAVCAR will submit the plans to the Development Services Department for permitting through the City's General Permit process and meet with the permitting staff as necessary to address their comments for issuance of a General Permit.

During bidding, DAVCAR will assist the City as necessary, attend a pre-bid conference and issue any necessary addendum(s). At this time, our scope does not include distribution of plans and specifications for bidding.

Phase D: Construction Phase Services

It is estimated that construction improvements will take 14 months (59 weeks). During construction DAVCAR attend one "Meet the Contractor" public meeting and the preconstruction environmental inspection meeting. We will visit the site to observe construction of the proposed improvements every other week for approximately 2 hours visit. During this phase, DAVCAR will respond to requests-for-information (RFIs), attend site meetings, review submittals, review monthly payment applications and maintain site visit reports. Near completion of the work, DAVCAR will issue a punch list and a letter of compliance upon successful completion of the punch list items and the work. Subconsultants will periodically visit the site to observe construction of their respective designs.

Task 5. – Warranty Phase

45 days prior to the 1-year anniversary of the project acceptance. DAVCAR and any required subconsultants will visit the site and will look for failure or substandard performance of any warranty items. A report will be completed and provided to the City.

Quality Control

Quality Control and Quality Assurance will be provided by a subconsultant not participating in the design of the project. Chan & Partners will develop the Quality Control Plan (QCP) then review the drawings prior to the 60%, 90% and 100% submittals. In addition to the drawings, specifications and cost estimates will also be reviewed.

Design Team

The original team for this Rotation List was assembled in March of 2010. The team composition at that time did not include disciplines which are required in the scope of work for this project. As a result, we propose to add, via change in compliance forms, the following firms. Frank Lam & Associates (structural engineering), Smith Turrieta Engineering (trenchless technologies) and The Rios Group (SUE). These firms are registered to do business with the City of Austin and they certified by the City of Austin as MBE, WBE and WBE respectively.

Proposed Fee

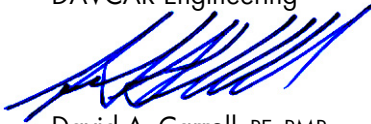
Tasks and manpower for DAVCAR's work described above is detailed in attached Exhibit A. The proposed fee is summarized as follows:

<u>Task Description</u>	<u>Amount</u>
Phase A - Preliminary Design Phase	\$242,245.07
Phase B - Design Development/Permitting	\$454,436.59
Holt (geotechnical)	\$104,794.25
Chan & Partners	\$20,000.00
McGray & McGray (surveying)	\$141,847.20
Crespo Engineering (environmental)	\$21,495.00
Frank Lam & Associates (structural)	\$23,131.52
Smith Turrieta (trenchless tunneling)	\$69,506.87
The Rios Group (SUE)	\$49,527.00
Phase C - Bidding Phase	\$11,571.05
Phase D - Construction Phase Services	\$91,628.24
Phase E – Post Construction Phase Services	\$23,063.63

Reimbursable Expenses	\$11,500
Total	\$1,259,747.11

We are available, at your earliest convenience, to answer any questions you may have or to provide any additional information which you may require concerning this fee proposal. We look forward to your favorable consideration and working with you on this important City project.

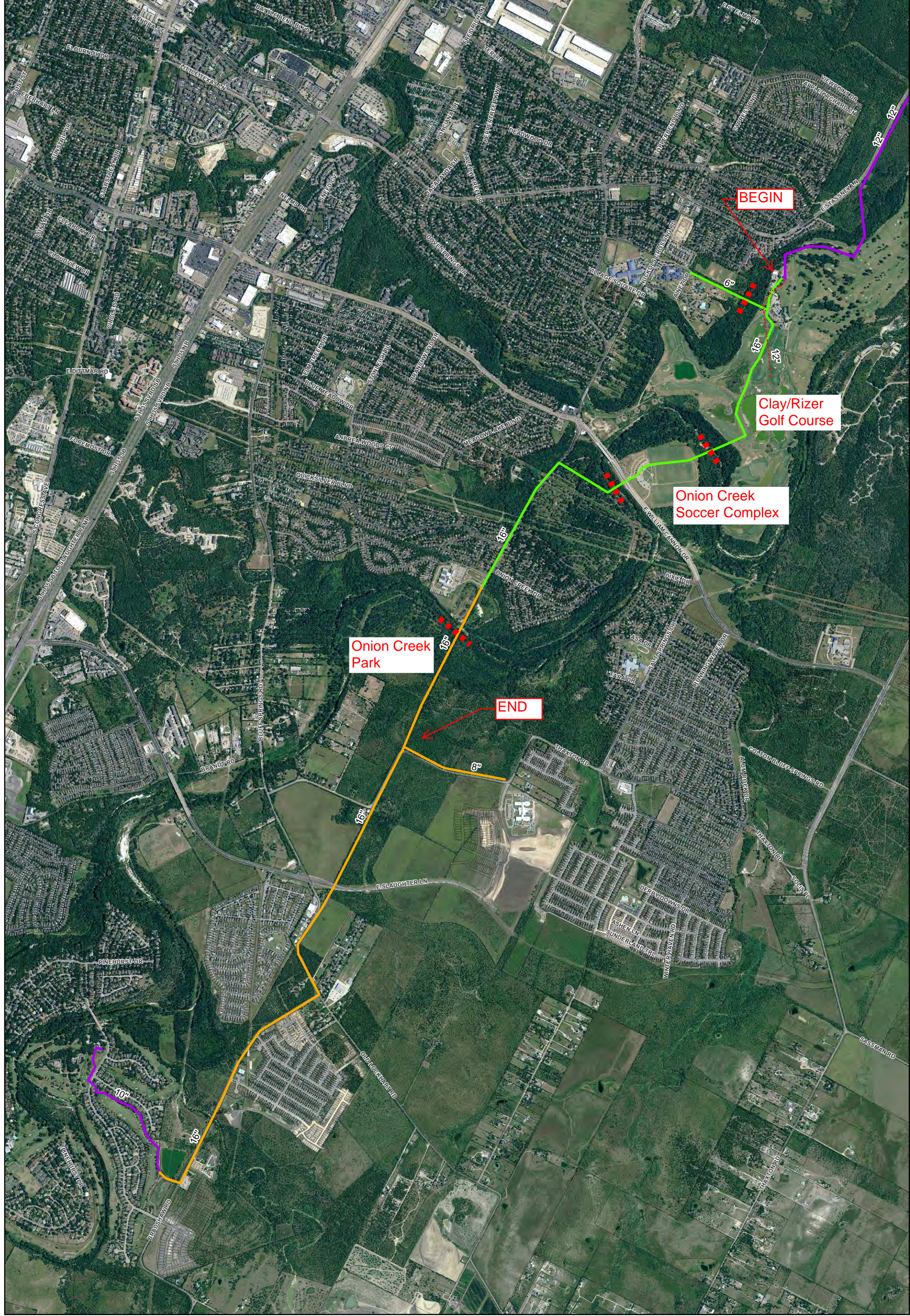
Sincerely,
DAVCAR Engineering



David A. Carroll, PE, PMP
President

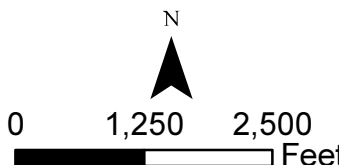
Attachments:


Exhibit "Onion Creek Mains" Location Map
Prime Fee Proposal Summary/Detail
Subconsultant Fee Proposals
RL Subconsultant Utilization Form
RL Attachment 5 – RAP
Supplemental Terms and Conditions of The Agreement



Reclaimed Water Mains

- Existing
- Phase 1
- Phase 2
- - - Private






City of Austin
Austin Water
Reclaimed Water Program

**Onion Creek
Reclaimed Water Main**

Produced by the Reclaimed Water Program
2/1/2016



This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. This product has been produced by the Reclaimed Water Program for the sole purpose of geographic reference. No warranty is made by the City of Austin regarding specific accuracy or completeness.

DAVCAR ENGINEERING SERVICES

EXHIBIT B
5-May-16

Onion Creek RWL - Phase 1

DAVCAR Proposed FEE Summary

Project: Onion Creek RWL - Phase 1		Principal	Senior Proj Mngr	Senior Proj Engr	Project Engineer	Engineer Associate	Engineer Technician	Senior CAD Tech	CAD Technician	Office Mngr	Clerk	Totals
Phase A: Preliminary Design Phase Services												
	Hrs	57.00	187.00	18.00	209.00	182.00	262.00	14.00	166.00	18.00	147.00	1,260.00
30% Design	Amnt	9,290.43	30,479.13	2,646.18	29,845.20	22,151.22	24,345.04	1,364.86	12,561.22	1,351.62	6,673.80	140,708.70
Phase A: Preliminary Design Total												140,708.70
Phase B: Design Phase Services												
60% Design	Hrs	37.00	162.00	68.00	263.00	275.00	387.00	122.00	832.00	68.00	103.00	2,317.00
	Amnt	6,030.63	26,404.38	9,996.68	37,556.40	33,470.25	35,960.04	11,893.78	62,957.44	5,106.12	4,676.20	234,051.92
90% Design	Hrs	27	101	32	137	139	143	50	205	34	58	926.00
	Amnt	4,400.73	16,461.99	4,704.32	19,563.60	16,917.69	13,287.56	4,874.50	15,512.35	2,553.06	2,633.20	100,909.00
100 % Design	Hrs	26.00	66.00	32.00	91.00	80.00	110.00	32.00	110.00	33.00	53.00	633.00
	Amnt	4,237.74	10,757.34	4,704.32	12,994.80	9,736.80	10,221.20	3,119.68	8,323.70	2,477.97	2,406.20	68,979.75
Final Design	Hrs	15.00	50.00	31.00	81.00	64.00	64.00	30.00	52.00	20.00	37.00	444.00
	Amnt	2,444.85	8,149.50	4,557.31	11,566.80	7,789.44	5,946.88	2,924.70	3,934.84	1,501.80	1,679.80	50,495.92
	Hrs	105.00	379.00	163.00	572.00	558.00	704.00	234.00	1,199.00	155.00	251.00	4,320.00
	Amnt	17,113.95	61,773.21	23,962.63	81,681.60	67,914.18	65,415.68	22,812.66	90,728.33	11,638.95	11,395.40	454,436.59
Phase B: Design Total												454,436.59
Phase C: Bidding Phase												
	Hrs	2.00	7.00	-	7.00	-	-	-	-	-	8.00	24.00
	Amnt	325.98	1,140.93	-	999.60	-	-	-	-	-	363.20	2,829.71
Phase C: Bidding Phase Total												2,829.71
Phase D: Construction Phase												
	Hrs	20.00	79.00	10.00	113.00	129.00	-	20.00	-	30.00	86.00	487.00
	Amnt	3,259.80	12,876.21	1,470.10	16,136.40	15,700.59	-	1,949.80	-	2,252.70	3,904.40	57,550.00
Reimbursable												-
Phase D: Construction Phase Total												57,550.00
Phase E: Post Construction Phase Services												
	Hrs	5.00	26.00	8.00	32.00	46.00	-	60.00	-	-	18.00	195.00
	Amnt	814.95	4,237.74	1,176.08	4,569.60	5,598.66	-	5,849.40	-	-	817.20	23,063.63
Reimbursable												-
Phase E: Post Construction Phase Services												23,063.63
DAVCAR TOTAL FEE												
	Hrs	189.00	678.00	199.00	933.00	915.00	966.00	328.00	1,365.00	203.00	510.00	6,286.00
	Amnt	30,805.11	110,507.22	29,254.99	133,232.40	111,364.65	89,760.72	31,976.72	103,289.55	15,243.27	23,154.00	678,588.63
work days	135	24	85	25	117	114	121	41	171	25	64	
	Reimbursable											11,500.00
DAVCAR Total Fee												\$ 690,088.63

Consultant	FEE	Proposal No. 1	
		Reimbursables	sub-total
Crespo	46,934.00 MH		46,934
DAVCAR	678,588.63 MH	11,500	690,089
Frank Lamb & Associates	42,729.16 MA		42,729
SmithTurrieta	130,919.27 FW		130,919
Holt	116,438.05 FW	-	116,438
McGray&McGray	157,608.00 FW	-	157,608
ChanPartners	20,000.00 MA		20,000
Rios Group	55,030.00 FH		55,030
Totals	1,248,247	11,500	\$ 1,259,747



May 4, 2016

DAVCAR Engineering
1010 Land Creek Cove, Suite 200
Austin, TX 78746

Attention: David A. Carroll, P.E., PMP

Project: City of Austin – 2011 Water & Wastewater System Pipeline Engineering Rotation List
Onion Creek Reclaimed Water Main Phase 1

Re: Subconsultant Proposal

Dear David,

Crespo Consulting Services, Inc. (Crespo) is pleased to provide this proposal to DAVCAR Engineering (DAVCAR) for performing environmental engineering services for the above-mentioned project.

Crespo will provide technical and engineering services to DAVCAR associated with Onion Creek Phase 1, which involves approximately 15,000 feet of 16-inch diameter reclaimed main to serve the Onion Creek Soccer Fields, Onion Creek District Park, Palm Elementary School, and the Goodnight Ranch Development. The 16" reclaimed water line starts at the Clay/Kizer Golf Course and ends in the Onion Creek Metropolitan Park at Nuckols Crossing Rd. A proposed 1600' of 6" reclaimed water line is included and will cross Onion Creek from the golf course heading northwest to the Dove Springs Recreation Center.

This work includes the Environmental Resource Inventory, Erosion Hazard Assessment, and addressing issues related to the Critical Water Quality Zones.

SCOPE OF WORK

Crespo proposes to perform environmental engineering services for several tasks. The proposed tasks include:

- Task 1 – 30% Preliminary Design
- Task 2 – 60% Design Development
- Task 3 – 90% Design Development
- Task 4 – 100% Final Design
- Task 5 – Bidding Phase
- Task 6 – Construction Phase Services
- Task 7 – Project Management

Task 1 – 30% Preliminary Design

Crespo will identify sections of the City of Austin (COA) Land Development Code and Environmental Criteria Manual which apply to the project. Crespo will provide a report, including exhibits, that identifies environmental (wetlands, Critical Environmental Features, etc.), watershed (Critical Water Quality Zone, mitigation, etc.), floodplain (natural/historic character, etc.), erosion hazards, assistance with permitting issues associated with the above tasks, and providing options and recommendations associated with environmental and floodplain issues. Crespo will meet with COA staff to discuss permitting issues. Preliminary coordination with the Texas Historical Commission (THC) is included.

Task 2 – 60% Design Development

Crespo will develop solutions for environmental, floodplain, and watershed issues, including the associated permitting issues, with the intent of demonstrating no change in floodplain elevation and no negative impact downstream for the project. Crespo will evaluate natural and historic character of the floodplain and recommend mitigation for encroachment on the Critical Water Quality Zone. Crespo will provide applicable standard specs and special specs and will meet with COA staff to discuss solutions.

Task 3 – 90% Design Development

Crespo will address and COA or QA/QC comments to advance the 60% design and recommendations.

Task 4 – 100% Final Design

Crespo will finalize the design, recommendations, standard specs, special specs, and cost estimate, as well as address comments for COA permitting process.

Task 5 – Bidding Phase

Crespo will respond to pre-bid meeting to address and comments from contractors. This proposal assumes that one addendum may be issued.

Task 6 – Construction Phase Services

Crespo will attend 6 site visits during construction, including attending the kick-off meeting.

Task 7 – Project Management

Crespo will perform project management activities associated with the project, including project meetings, invoicing, progress reports, team coordination, and quality control.

TO BE PROVIDED BY DAVCAR

1. Preliminary alignments in CAD or GIS format
2. Preliminary designs at the four major creek crossing (Onion Creek and Williamson Creek)
3. Any existing studies in the project area related to the project or environmental conditions
4. Final alignments in CAD or GIS format



DELIVERABLES

- a. Environmental, Floodplain, Watershed, and Permitting Issues Technical Memo
- b. Environmental Resource Inventory (ERI)
- c. Coordination letter to Texas Historical Commission
- d. Standard specs and special specs
- e. Responses to COA and QA/QC comments for 90% and 100% designs

SCHEDULE

Crespo will begin work on the project upon receiving the notice to proceed from DAVCAR. DAVCAR shall provide Crespo with an overall schedule of the project.

EXCLUDED SERVICES

Work not related to the specific tasks or work outside the identified project area will be considered out-of-scope and should be contracted as additional services.

A list of excluded services include: Site Development Permit or General Permit review, Erosion and Sedimentation Control Plans, Tree Protection Plans, Storm Water Pollution Prevention Plan (SW3P), topographic survey, professional geoscientist services, arborist services, any construction plan sheets, streambank stabilization designs and plans, preparation of a CLOMR or LOMR for FEMA, or public meetings/ hearings.

COST ESTIMATE

Crespo will perform this project on a time and materials basis for a total not-to-exceed-amount of \$46,934. The cost estimate is attached and the actual expenditures will be billed at the approved 2016 City rates for this rotation list.

Crespo will utilize a second-tier subconsultant, Baer Engineering and Environmental Consulting, Inc. (Baer), for some of the specialized environmental evaluation work and two sections of the ERI, which includes:

1. Critical Environmental Feature (CEF) Survey and associated ERI section
2. Vegetation Assessment and associated ERI section
3. Coordination with THC

The budget amount for this work (for Baer) is \$7,891, and utilizes approved 2016 COA rates. Baer is also a WBE. The budget for Baer is included in the Crespo budget, in the subconsultant column. The scope is included in the overall task scopes.



©Thank you for requesting these services and we look forward to working with you, DAVCAR and the City of Austin again. Please call me if you have any questions or need additional information.

Sincerely,



L. Stephen Stecher, P.E.
President, Crespo Consulting Services, Inc.

Attachment



**DAVCAR - Onion Creek Reclaimed Water Main Phase 1
Crespo Subconsultant Budget**

	Professional Engineer VI	EIT I	Eng. Associate I	Professional Scientist IV	Scientist Associate I	Total Labor	Copy Repro.	Large Scale Plots	Sub- Consultant	Total Expenses	Total Cost
	\$186.23	\$103.02	\$87.24	\$114.41	\$80.08	\$	\$	\$	\$	\$	\$
Task 1 - 30% Preliminary Design	20	40	4	4	46	\$12,336	5	0	7891	\$7,896	\$20,231
Task 2 - 60% Design Development	16	40	2	0	48	\$11,119	5	0	0	\$5	\$11,124
Task 3 - 90% Design Development	6	10	2	0	14	\$3,443	5	0	0	\$5	\$3,448
Task 4 - 100% Final Design	4	8	0	0	14	\$2,690	5	1	0	\$6	\$2,696
Task 5 - Bidding Phase	2	8	0	0	8	\$1,837	5	0	0	\$5	\$1,842
Task 6 - Construction Phase Services	6	14	0	0	10	\$3,360	5	0	0	\$5	\$3,365
Task 7 - Project Management	12	6	0	12	0	\$4,226	1	0	0	\$1	\$4,227
TOTAL HOURS	66	126	8	16	140	356					
TOTAL COST	\$12,291	\$12,981	\$698	\$1,831	\$11,211	\$39,011	\$31	\$1	\$7,891	\$7,923	\$46,934

5/4/2016

Proposal

May 4th 2016

Mr. David Carroll, P.E.
Davcar Engineering
1010 Land Creek Cove, Suite 200
Austin, Texas 78746

Re: Request for Proposal for Structural Engineering Services
Onion Creek Reclaimed water Line Phase I
City of Austin

Dear David,

In response to your request for a fee proposal, I am respectfully submitting the following proposal for your consideration. We propose to furnish Structural Engineering Services for the above referenced project based on the following:

Project Description:

Project includes structural engineering for the access shafts associated with the reclaimed water line located in Onion Creek.

Scope of Work:

30% Submittal

1. Pre-design site visit to verify existing condition and to collect engineering data.
2. Review geotechnical report and consultation with geotechnical engineer.
3. Structural engineering and construction documents for the access shafts and associated structures at 30% submittal.
4. Design meetings with consultant and COA staff.
5. Address review comments from City of Austin staffs at 30%.
6. Prepare preliminary cost estimate.

60% Submittal

7. Structural engineering and construction documents of the access shafts at 60% submittal.
8. Update cost estimate.
9. Design meetings with consultant and COA staff.
10. Address review comments from City of Austin staffs at 60%.

90% Submittal

11. Structural engineering and construction documents of the access shafts at 90% submittal.
12. Update cost estimate.
13. Design meetings with consultant and COA staff.
14. Address review comments from City of Austin staffs at 90%.

100% Submittal

15. Final engineering and construction documents of the access shafts at 100% submittal.
16. Prepare specifications and cost estimate for structural items.
17. Design meetings with consultant and COA staff.
18. Address review comments from City of Austin.

Bid and CA Phase

19. Response to contractors' questions during bid phase and prepare addendum.
20. Construction phase services include:
 - Attend construction progress meetings
 - Site visits
 - Responding to RFI's
 - Review submittals.

Compensation:

Frank Lam & Associates, Inc. agrees to perform the work for the project as described above based on fixed fee of \$42,729.16. Please reference Attachment A for details.

Conditions:

1. Client will provide Frank Lam & Associates, Inc. with geotechnical report, and site survey.
2. A budget of 200.00 for internal printings for normal internal check plots and internal review sets is included in the fee proposal. Other printings, such as review sets (external to FLA), permit review sets, bid documents, utility coordination sets, and record information copies shall be considered as reimbursable printing costs. Outside reproduction shall be compensated for at cost. In-house reproduction for drawing sheets shall be billed at \$0.50 per square foot.
3. Additional services beyond the scope of this estimate will not be performed without written approval of Davcar Engineering and will be billed on time and materials basis using the standard rates provided in this proposal.

We appreciate the opportunity to prepare this proposal, and we welcome the occasion to discuss any aspects of it with you again. Feel free to call if there are any questions.



Frank Lam, P.E., President
Frank Lam & Associates, Inc.

Cc: file
Enclosure: Attachment A

Frank Lam Associates, Inc.
Onion Creek Reclaimed Water Line Phase I - City of Austin
Attachment A

			Supervisory Engineer VI	Professional Engineer VI	Professional Engineer II	Cadd Technician	Admin Specialist V	
No.	Scope of Work	\$ 142.16	\$ 112.75	\$ 88.24	\$ 67.17	\$ 58.16		
30%	1	Pre-design site visit to verify existing condition and to collect engineering data.		4				\$ 451.00
	2	Review geotechnical report and consultation with geotechnical engineer.		4				\$ 451.00
	3	Structural engineering and construction documents for the access shafts and associated structures at 30% submittal.	8	24		40	4	\$ 6,762.72
	4	Anticipate 4 design meetings with consultant and COA staff.		8				\$ 902.00
	5	Address review comments from City of Austin staffs at 30%.		4		4		\$ 1,058.90
	6	Prepare preliminary cost estimate.		4				\$ 451.00
60%	7	Structural engineering and construction documents of the access shafts at 60% submittal.	8	24		32	2	\$ 6,109.04
	8	Update cost estimate.		4				\$ 451.00
	9	Anticipate 2 design meetings and coordination with consultant and COA staff.		4				\$ 451.00
	10	Address review comments from City of Austin staffs at 60%.		4		4		\$ 719.68
90%	11	Structural engineering and construction documents of the access shafts at 90% submittal.	8	24		24	2	\$ 5,571.68
	12	Update cost estimate.		4				\$ 451.00
	13	Anticipate 4 design meetings and coordination with consultant and COA staff.		8				\$ 902.00
	14	Address review comments from City of Austin staffs at 90%.		4		4		\$ 719.68
100%	15	Final engineering and construction documents of the access shafts at 100% submittal.	8	24		24	2	\$ 5,571.68
	16	Prepare specifications and cost estimates for structural items.		8				\$ 902.00
	17	Anticipate 4 meetings and coordination with consultant and city staff.		8				\$ 902.00
	18	Address review comments from City of Austin.		4		4		\$ 719.68
Bid	19	Response to contractors' questions during bid phase and prepare addendum items.		8		4		\$ 1,170.68
CA Phase	20	Construction phase services include:					4	\$ 232.64
		Anticipate twelve (12) site visits		24				\$ 2,706.00
		Anticipate twelve (12) meetings		24				\$ 2,706.00
		Responding to RFI's		12				\$ 1,353.00
		Review submittals.		12				\$ 1,353.00
								\$ -
			32	248	0	140	14	\$42,729.16

4 May 2016

DAVCAR Engineering Services
1010 Land Creek Cove, Suite 200
Austin, Texas 78746

Attn: Mr. David Carroll, P.E.

Re: Onion Creek Reclaimed Water Line
Onion Creek
Austin, Texas

Dear Mr. Carroll:

As per your request, we are providing a cost estimate for performing a Geotechnical Investigation at the above referenced project site. The project consists of installation of approximately 15,800 L.F. of 16-inch water lines from Jimmy Clay / Roy Kizer Golf Course to just south of Onion Creek Park. Approximately 1,890 L.F. of 6-inch water lines are planned to cross Onion Creek from the golf course heading northwest to the Dove Springs Recreation Center. The line will be installed primarily in open cut trenches with the exception of four areas where the line crosses Onion Creek and at the crossing of East William Cannon Drive. The utility installation in these four crossings will be through trenchless construction methods.

The purpose of the geotechnical investigation is to determine subsurface soil and groundwater conditions at the site and obtain samples for laboratory testing in order to provide data to the engineer for underground utility construction. The scope of our services will generally follow Austin Utilities Criteria Manual Section 2.9.5 – “Requirements for Geotechnical Investigations for Pipeline Projects” updated 1/26/16.

SCOPE OF SERVICES

The scope of our services will include:

1. A site reconnaissance of the project to assess rig accessibility. Rights of entry will be obtained by others. Holt will coordinate all boring locations and underground utilities (electrical, water, wastewater, sewer, telephone, and gas) with line locators.
2. All necessary manpower, equipment and materials for drilling, logging and sampling 34 geotechnical borings. Borings should be drilled to a minimum of 5 feet below flow lines and a minimum of 10 feet below the bottom elevation of bore pits. We estimate boring depths to be 11 to 15 feet each for the open cut trench lines and 60 to 80 feet each where

trenchless construction methods will be used. All bore holes will be sampled using either Shelby tubes or split-spoon samplers in the overburden soils.

3. The bore holes will be logged in the field by an experienced driller familiar with Austin area geology.
4. Eight temporary observation wells (temporary piezometers) are proposed. The piezometers will be located in sections of the line where trenchless construction methods will be used. We expect to install two observation wells at each creek crossing. Depending on soil conditions, other wells may be needed. The wells will consist of one-inch diameter slotted PVC pipe with sand pack to within 5 feet of the surface and a concrete/bentonite seal and a locking steel manhole cover at the surface.
5. Groundwater monitoring will be conducted at roughly 24 hours to 48 hours after construction of the wells and then monitored for 8 months or until static water levels are achieved.
6. Backfilling bore holes without wells with cuttings and/or cement/bentonite grout immediately after drilling.
7. Plugging monitor wells in the future at the request of the Project Manager.
8. Performing in-house laboratory testing consisting of conventional geotechnical tests such as soil classifications, moisture contents, Atterberg limits, grain size analyses, minus 200 sieves, unit weights and unconfined compression testing. An outside lab will provide specialty soil/rock testing consisting of slake durability, consolidation testing and unconfined compression with stress/strain curves. These tests will be at the direction of the tunnel engineer.
9. A Geotechnical Data Report (GDR) will be issued to include a generalized boring location plan, logs of borings with geologic formations, laboratory test results, description of drilling operations, well logs and groundwater levels.
10. Geotechnical Design Memorandums (GDMs) will be prepared by the project engineer in support of the design team. Recommendations may include trench backfill materials, backfill compaction, pipe bedding, bearing capacities and construction considerations.
11. Geotechnical engineering in support of the design team during construction.

In house QA/QC reviews will be conducted during all phases of the work and on all our deliverables provided. A senior geotechnical engineer or principal engineer will conduct the review on each submittal.

Based on the scope of work outlined above, we have prepared a detailed cost estimate for our services. We guarantee not to exceed \$116,438.05 without your prior written permission. An itemized cost estimate is attached.

It should be noted, the attached cost estimate is based on our current understanding of the project; a re-evaluation of the cost estimate will be necessary to adjust for scope changes or if conditions differ from those anticipated. For the Final GDR, actual boring locations will need to be surveyed so that coordinates and elevations can be incorporated into our boring logs. Holt does not provide surveying but we will be happy to meet with surveyors to assist in this task.

CONDITIONS

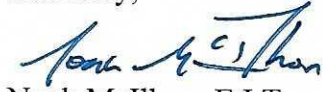
The attached cost estimate is based on the following:

1. Right of entry and right to clear vegetation if necessary, will be provided by others.
2. Actual boring location coordinates and elevations will be obtained by others.
3. Field operations will be performed sequentially, not concurrently.
4. The attached cost estimate will change based on changes or alterations to the scope of services.
5. The cost estimates included in this proposal are guaranteed through the calendar year 2016.
6. Budgets provided herein may be moved between the various work elements to accommodate the overall project budget. In addition, engineering hours may shift between the various tasks as needed to complete the scope of the project as demands dictate.
7. Costs for any environmental investigations for contaminated soils such as hydrocarbons TPH, BTEX, MTBE, heavy metals, pesticides or other hazardous wastes are not included.

Mr. David Carroll, P.E.
4 May 2016
Page 4 of 4

We appreciate the opportunity to offer our services. If we can answer any questions concerning the above, please do not hesitate to call.

Sincerely,

A handwritten signature in blue ink, appearing to read "Noah McIlhon".

Noah McIlhon, E.I.T.
Graduate Engineer

Holt Engineering, Inc.
TBPE Firm Registration No. F-430

Enc: Itemized Cost Estimate

Project Name: **ONION CREEK RECLAIMED WL**

Date: 4-May-2016

Rig Mobilization			No.												Total	Price Total
Austin	\$310.00	Ea.	5												5	\$1,550.00
SUBTOTAL																\$1,550.00

Layout Borings:			No.												Total	Price Total
Drilling Superintendent	\$65.00	Hr.	32.0												32	\$2,080.00
SUBTOTAL																\$2,080.00

Locate Utilities:	Trips	Hrs. Per Trip	Total # of Hours	Price Per Hour												Price Total
Drilling Superintendent	6.0	4.0	24.0	\$65.00												\$1,560.00
SUBTOTAL																\$1,560.00

Street Cut & ROWAN Permits:			No.												Total	Price Total
COA Street Cut (at cost)	\$287.10	Street	6												6	\$1,722.60
Traffic Control	\$600.00	Day	2												2	\$1,200.00
Drilling Superintendent	\$65.00	Hr.	3												3	\$195.00
SUBTOTAL																\$3,117.60

Drilling, Logging & Sampling Approx. 34 Borings 11 to 80 ft./ea. = 926 L.F, 26@11, 8@80																												
	Boring Number:	L.F.														Total	Price Totals											
Auger Drilling 0 - 25	\$14.00	Ft.	486													486	\$6,804.00											
Auger Drilling 25 - 35	\$16.50	Ft.	0													0	\$0.00											
Auger Drilling 35 - 50	\$19.00	Ft.	0													0	\$0.00											
Auger Drilling 50 - 80	\$22.50	Ft.	0													0	\$0.00											
Auger Drilling 80-100	\$25.50	Ft.	0													0	\$0.00											
Auger Drilling 100 +	\$26.00	Ft.	0													0	\$0.00											
Rock Coring 0 - 25	\$22.50	Ft.	0													0	\$0.00											
Rock Coring 25 - 35	\$24.50	Ft.	80													80	\$1,960.00											
Rock Coring 35 - 50	\$26.70	Ft.	120													120	\$3,204.00											
Rock Coring 50 - 80	\$28.70	Ft.	240													240	\$6,888.00											
Split Spoon/Shelby Tube Samples:	\$22.50	Ea.	185													185	\$4,162.50											
SUBTOTAL															926	0	0	0	0	0	0	0	0	0	0	0	566	\$23,018.50

Project Name:

ONION CREEK RECLAIMED WL

Observation Wells - 8 at 80 feet			No.													Total	Price Total
Reaming Bore Hole 0-25	\$14.00	Ft.	200													200	\$2,800.00
Reaming Bore Hole 25-35	\$16.50	Ft.	80													80	\$1,320.00
Reaming Bore Hole 35-50	\$19.00	Ft.	120													120	\$2,280.00
Reaming Bore Hole 50-80	\$22.50	Ft.	240													240	\$5,400.00
Monitor Well w/Cover 30' Deep	\$1,500.00	Ea.	0													0	\$0.00
Monitor Well w/Cover 80' Deep	\$1,900.00	Ea.	8													8	\$15,200.00
State Well Report	\$25.00	Ea.	8													8	\$200.00
	\$0.00																\$0.00
SUBTOTAL																	\$27,200.00

Groundwater Monitoring:		Trips/Yr.	Hrs. Per Trip	Hours	Hour												Price Total
Drilling Superintendent		16.0	3.0	48.0	\$65.00												\$3,120.00
			No.														
																0	\$0.00
SUBTOTAL																	\$3,120.00

Future Plugging of Wells:			No.													Total	Price Total
Rig Mobilization	\$310.00	Ea.	2													2	\$620.00
Rig Time:	\$175.00	Hr.	24													24	\$4,200.00
Backfill Bore Holes	\$7.00	Ft.	640													640	\$4,480.00
State Plugging Reports-Clerical	\$55.00	Hr.	3													3	\$165.00
SUBTOTAL																	\$9,465.00

Plug Holes / Disposal of Cuttings																Total	Price Total
Price Per Foot.	\$7.00	Ft.	286													286	\$2,002.00
Manhole Covers	\$250.00	Ea.															\$0.00
SUBTOTAL			286	0	0	0	0	0	0	0	0	0	0	0	0	286	\$2,002.00

Support Services:			No.													Total	Price Total
Support Truck	\$85.00	Day	16													16	\$1,360.00
Water Truck	\$145.00	Day	4													4	\$580.00
Water Usage for Coring	\$30.00	Day	0													0	\$0.00
SUBTOTAL																	\$1,940.00

Rock Coring Storage & Disposal:																Total	Price Total
Cardboard Core Boxes	\$10.00	Ea.	0													0	\$0.00
SUBTOTAL																	\$0.00

Project Name: **ONION CREEK RECLAIMED WL**

Project Coordination:			No.												Total	Price Total
Principal Engineer	\$225.00	Hr.	0												0	\$0.00
Project Engineer	\$165.00	Hr.	15												15	\$2,475.00
Drilling Superintendent	\$65.00	Hr.	40												40	\$2,600.00
SUBTOTAL																\$5,075.00

In-House Laboratory Testing:			No.												Total	Price Totals
Soils Classification (D-2488)	\$20.00	Ea.	0												0	\$0.00
Atterberg Limits	\$75.00	Ea.	58												58	\$4,350.00
Moisture Contents	\$18.00	Ea.	58												58	\$1,044.00
Minus 200 Mesh Sieve	\$40.00	Ea.	58												58	\$2,320.00
Particle Grad Incl #200 Sieve	\$65.00	Ea.	10												10	\$650.00
Moisture Content + Dry Density	\$25.00	Ea.	58												58	\$1,450.00
Unconfined Compression Tests	\$50.00	Ea.	58												58	\$2,900.00
Specific Gravity		Ea.	0												0	\$0.00
SUBTOTAL																\$12,714.00

Specialty Laboratory Testing*:			No.												Total	Price Totals
Moisture Contents	\$10.00	Ea.	5												5	\$50.00
Slake Durability	\$100.00	Ea.	5												5	\$500.00
Cerchar Abrasivity Index	\$150.00	Ea.	5												5	\$750.00
Point Strength Index	\$60.00	Ea.	5												5	\$300.00
Unconfined Comp. w/Stress Strain Curves	\$150.00	Ea.	16												16	\$2,400.00
Brazilian Strength	\$75.00	Ea.	5												5	\$375.00
Consolidation Testing - 1 D	\$420.00	Ea.	8												8	\$3,360.00
pH	\$30.00	Ea.	0												0	\$0.00
Project Engineer	\$165.00	Hr.	4												4	\$660.00
Extra Drill Crew Member	\$48.00	Hr.	3												3	\$144.00
Subtotal																\$8,539.00
SUBTOTAL COST + 5%																\$8,965.95

*Note - performed by outside lab. Depending on soils/rock encountered, the number of tests and test methods may be changed at the direction of the tunnel engineer.

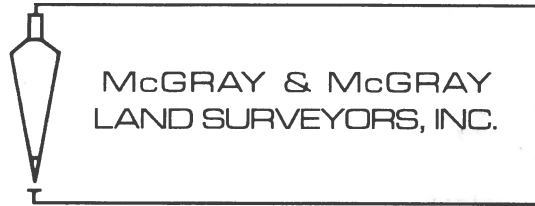
Project Name: **ONION CREEK RECLAIMED WL**

Engineering Final GDR Report													Total	Price Total
Principal Engineer	\$225.00	Hr.	0										0	\$0.00
Project Engineer	\$165.00	Hr.	50										50	\$8,250.00
Project Manager for QA/QC	\$165.00	Hr.	4										4	\$660.00
Senior Professional Geologist	\$127.00	Hr.	0										0	\$0.00
Clerical Support Staff	\$55.00	Hr.	32										32	\$1,760.00
SUBTOTAL														\$10,670.00

Engineering Geotechnical Design Memorandums (GDMs)													Total	Price Total
Principal Engineer	\$225.00	Hr.	0										0	\$0.00
Project Engineer	\$165.00	Hr.	20										20	\$3,300.00
Project Manager for QA/QC	\$165.00	Hr.	3										3	\$495.00
Senior Geologist	\$127.00	Hr.	0										0	\$0.00
Draftsman	\$55.00	Hr.	0										0	\$0.00
Clerical Support Staff	\$55.00	Hr.	3										3	\$165.00
SUBTOTAL														\$3,960.00

SUB TOTAL **\$116,438.05**

TOTAL ESTIMATED COSTS INCLUDING CONSTRUCTION SERVICES **\$116,438.05**



April 28, 2016

David A. Carroll, P.E.
DAVCAR Engineering
1010 Land Creek Cove, Ste. 200
Austin, TX 78746
(512) 328-4428

VIA EMAIL:
david@davcar.com

RE: Proposal for the Onion Creek Reclaimed Water Main Project, City of Austin

Dear Mr. Carroll:

We appreciate the opportunity to present you with this proposal for surveying services for the above referenced project. The following represents our understanding of the services being requested and our fee follows that.

Survey Area:

See attached exhibits (approx. 17,500 LF)

Design/Topographic Surveying Services:

- Provide a topographic survey with 1' contours within the survey limits.
- The survey will be provided in Texas State Plane, NAD 83, Grid Coordinate location with surface to grid conversion factor noted. Vertical control will be based on NAVD 88.
- Establish at least two control points outside of the project area.
- Locate surface evidence of all utilities, including waterlines, manholes, meter boxes, and valve boxes.
- Provide wastewater manhole rim, flowline and cleanout information (if accessible).
- Provide storm sewer infrastructure – manhole, flowline, valve, inlet and outlet information (if accessible).
- Locate all trees 2" and larger within the survey area or that have a dripline that extends into the survey area in areas of park property. Trees will be labeled in the drawing with caliper size and identification of tree species.

- The survey will also include locations of physical features that may be affected by construction, including sidewalks (type), driveways (type), roadways, fences (type), walls, signs, mail boxes, planters, sheds, rock outcroppings, curbs (back of curb and lip), structures, etc. within the survey limits.
- We will locate geotechnical borings after they have been drilled.
- No boundary surveying or records research will be done for this project for the design surveying function. You have indicated you will be using City of Austin GIS data as your base map for property lines.

Boundary and Easement Surveying Services

- Provide 7 plats and descriptions for proposed easements.

Fees:

Design/Topographic Surveying Services (Non-taxable)

3 Person Crew:	200 hrs @	\$186.00 /hr.=	\$	37,200.00
2 Person Crew:	200 hrs @	\$150.00 /hr.=	\$	30,000.00
RTK Crew:	80 hrs @	\$200.00 /hr.=	\$	16,000.00
GPS Processing:	20 hrs @	\$108.00 /hr.=	\$	2,160.00
Tech:	300 hrs @	\$82.00 /hr.=	\$	24,600.00
Sr. Tech:	100 hrs @	\$96.00 /hr.=	\$	9,600.00
Field Coordinator:	40 hrs @	\$98.00 /hr.=	\$	3,920.00
RPLS:	30 hrs @	\$145.00 /hr.=	\$	4,350.00
Manager:	8 hrs @	\$165.00 /hr.=	\$	1,320.00
TOTAL = \$				129,150.00

Boundary/Easement Surveying Services (Taxable)

3 Person Crew:	20 hrs @	\$186.00 /hr.=	\$	3,720.00
2 Person Crew:	20 hrs @	\$150.00 /hr.=	\$	3,000.00
RTK Crew:	10 hrs @	\$200.00 /hr.=	\$	2,000.00
GPS Processing:	3 hrs @	\$108.00 /hr.=	\$	324.00
Tech:	140 hrs @	\$82.00 /hr.=	\$	11,480.00
Sr. Tech:	40 hrs @	\$96.00 /hr.=	\$	3,840.00
Field Coordinator:	8 hrs @	\$98.00 /hr.=	\$	784.00
RPLS:	16 hrs @	\$145.00 /hr.=	\$	2,320.00
Manager:	6 hrs @	\$165.00 /hr.=	\$	990.00
TOTAL = \$				28,458.00

Summary:

Design/Topographic Total \$	129,150.00
Boundary/Easement Total \$	<u>28,458.00</u>
GRAND TOTAL \$	157,608.00

Optional Grand Total (with 8.25% sales tax)*

Sales Tax on Boundary/Easement Surveying \$	<u>2,347.79</u>
GRAND TOTAL \$	159,955.79

*Since this project includes taxable services, we will need to receive a Texas Sales and Use Tax Resale Certificate for those services prior to starting the project. If one is not available, sales tax will be charged.

We will proceed as soon as we receive notice to proceed. We estimate it will take approximately 8 to 10 weeks (weekends and holidays excluded) from notice to proceed to complete this project, weather and circumstances beyond our control permitting. Please let us know if we need to accelerate this schedule.

Thank you for including us on this project. We look forward to the opportunity to work with you and the City of Austin. If you think we have omitted any service you require or misinterpreted your request, please let me or Chris Conrad know.

Sincerely,



Judith J. McGray, RPLS
President
TBPLS Firm #10095500

Authorized to Proceed by:

Signature

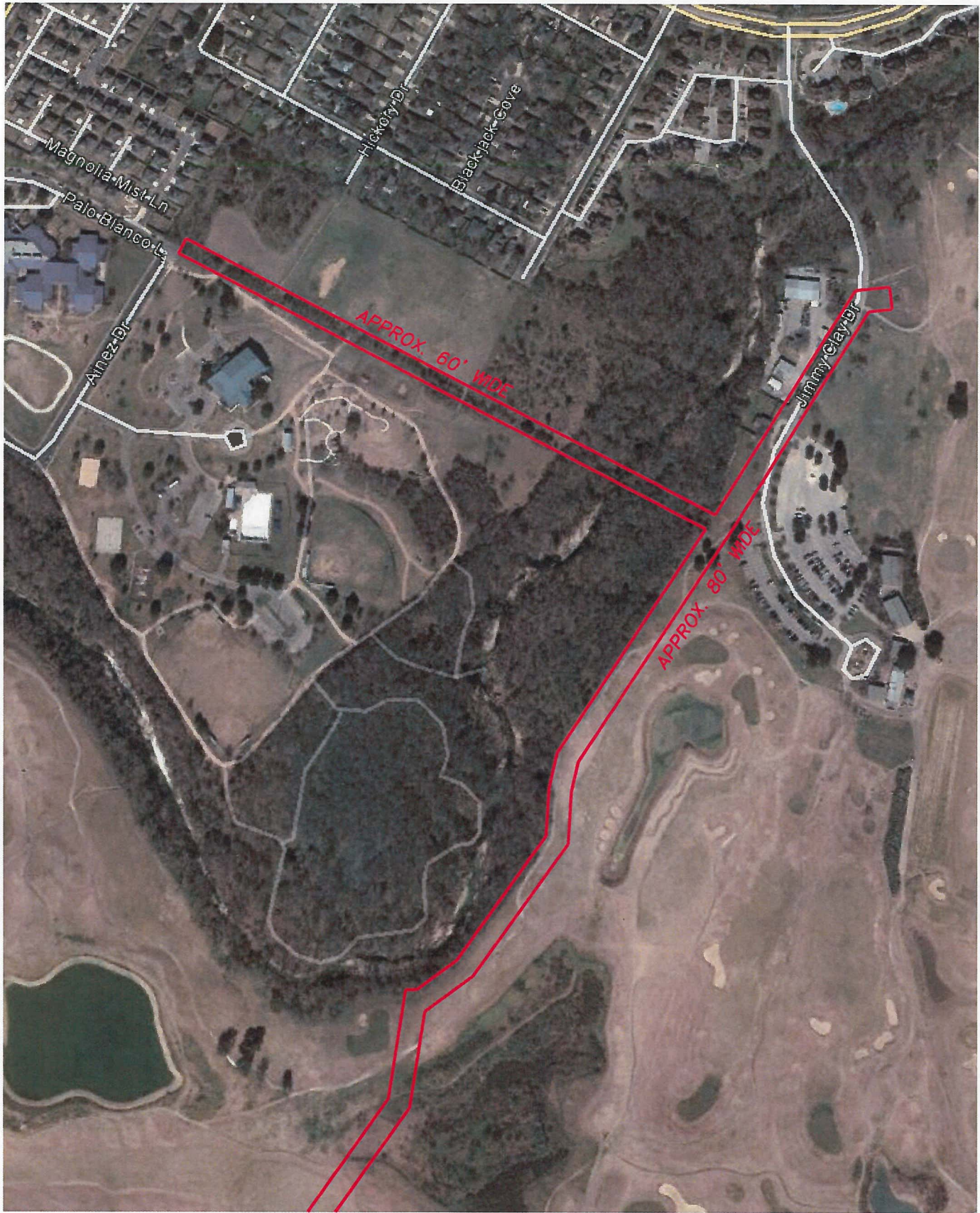
Date

Print Name

Title

JJM:CIC:klr
encl.

ONION CREEK RECLAIMED WATER MAIN PROJECT



 SURVEY AREA



McGRAY & McGRAY
LAND SURVEYORS, INC.
3301 HANCOCK DRIVE #6
AUSTIN, TEXAS 78731
(512) 451-8591

ONION CREEK RECLAIMED WATER MAIN PROJECT

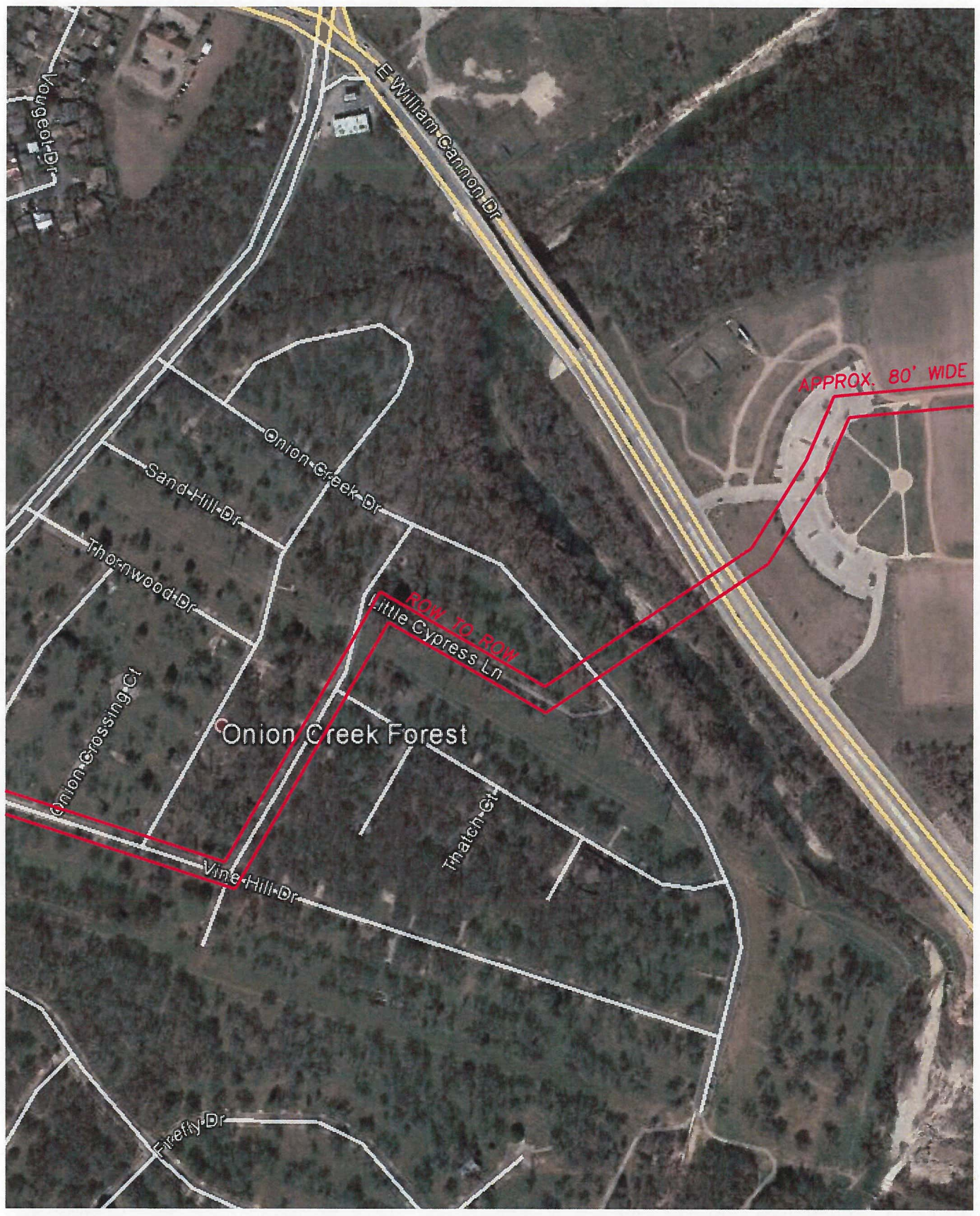


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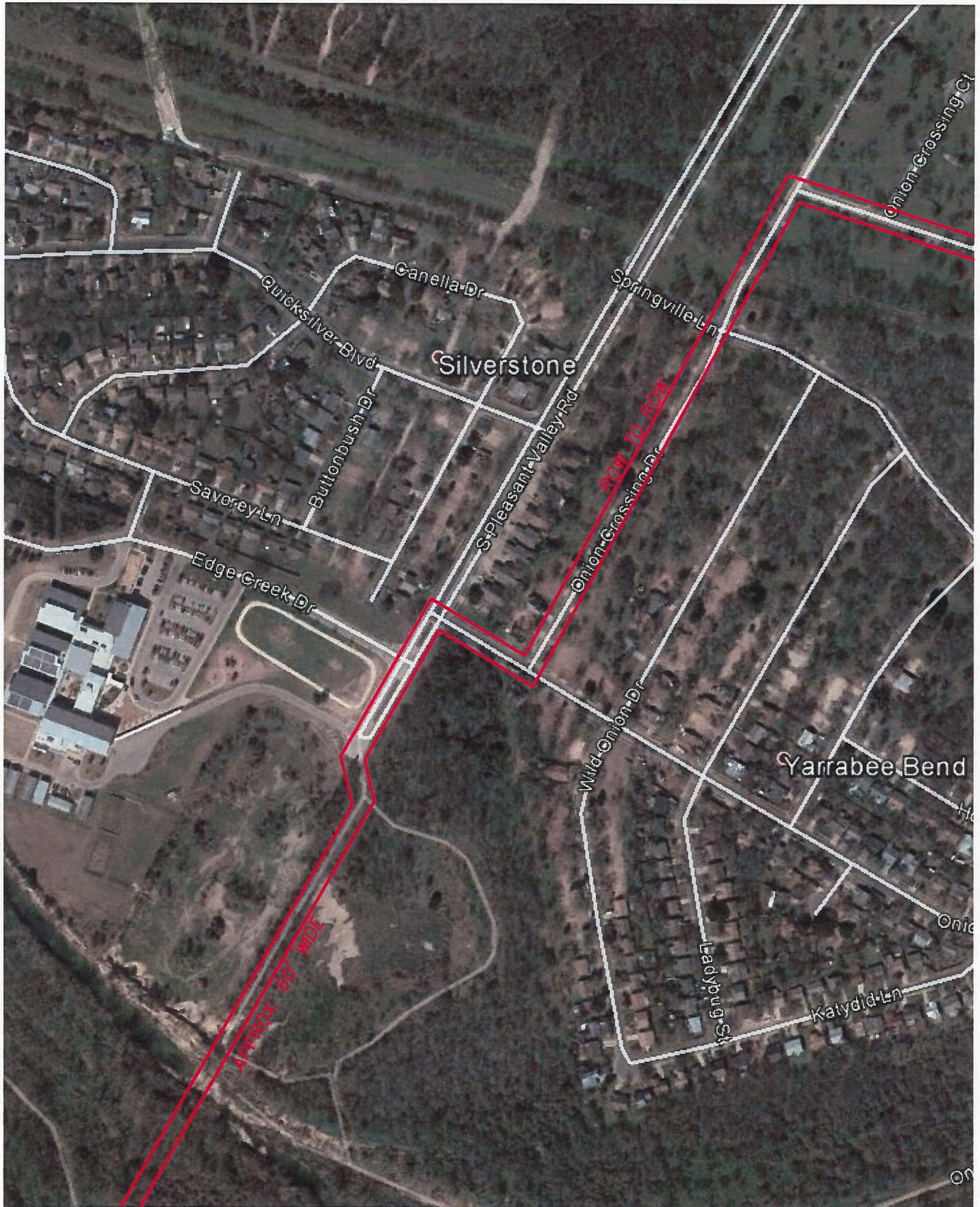
ONION CREEK RECLAIMED WATER MAIN PROJECT



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ONION CREEK RECLAIMED WATER MAIN PROJECT



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ONION CREEK RECLAIMED WATER MAIN PROJECT



 SURVEY AREA



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SMITH TURRIETA ENGINEERING

Project: Onion Creek Reclaimed Water Line

Date: May 3 2016

	Principal - Managing Engineer	Supervisory Engineer IV	Supervisory Engineer III	Engineer II	EIT	Supervisory CADD III	Administration
Billing Rate per Hour	190.75	160.78	149.88	103.55	79.03	87.20	65.00
	ST	VB	JS				

Task No	Task Description							
1.00	Project Management							
	Project Admin. (12 Mo. Design, 2 Mo. Bid, 16 Mo. Construction)							
	Administrative Tasks	60.00		40.00				48.00
	Meetings (12)	24.00		24.00				
	sub-total hours	84.00	-	64.00	-	-	-	48.00
	sub-total fee	\$ 16,023.00	\$ -	\$ 9,592.32	\$ -	\$ -	\$ -	\$ 3,120.00
2.00	30% PER							
	Research of trenchless construction methods	2.00		4.00	24.00			
	River bank migration research	1.00		2.00	6.00			
	Geotechnical Investigation recommendations	2.00		8.00	8.00			
	Construction Cost estimates			2.00	24.00			
	Construction Schedules			2.00	16.00			
	Decision Matrix Assessment	4.00		12.00	16.00			
	Develop Recommendations	4.00		8.00	24.00			
	Develop Exhibits			4.00	16.00			
	Draft PER	2.00		12.00	24.00			24.00
	Final PER (Address Comments)	1.00		4.00	24.00			18.00
	sub-total hours	16.00	-	58.00	182.00	-	-	42.00
	sub-total fee	\$ 3,052.00	\$ -	\$ 8,693.04	\$ 18,846.10	\$ -	\$ -	\$ 2,730.00
3.00	60% Design							
	DESIGN Plan Sheets							
	Crossing #1 at Williamson Creek	2	1.00	4.00	16.00			
	Crossing #2 at Onion Creek, btw Golf Course/Soccer	2	1.00	4.00	16.00			
	Crossing #3 at Onion Creek, btw Soccer Fields/Neigh	2	1.00	3.00	12.00			
	Crossing #4 at Onion Creek, btw Perez School/Metro	2	1.00	3.00	12.00			
	Tunnel Detail Sheets	2	1.00	4.00	16.00			
	Misc	5	1.00	2.00	12.00			
	Total Sheets	15						
	Project Manual							
	Table of Contents				6.00			
	Special Specifications	2.00		8.00	16.00			8.00
	Construction Cost Estimate			6.00	6.00			
	Construction Schedule			6.00	6.00			
	Quality Review	8.00						
	Draft Submittal	1.00		4.00	16.00			
	Final Submittal (Address Comments)	2.00		4.00	12.00			4.00
	Permitting address comments			8.00	12.00			
	sub-total hours	19.00	-	56.00	158.00	-	-	12.00
	sub-total fee	\$ 3,624.25	\$ -	\$ 8,393.28	\$ 16,360.90	\$ -	\$ -	\$ 780.00
4.00	90% Design							
	Finalize Plans	2.00		4.00	12.00			
	Finalize Project Manual	2.00		4.00	8.00			8.00
	Finalize Schedule			2.00	4.00			
	Finalize Construction Cost Estimate			2.00	4.00			
	sub-total hours	4.00	-	12.00	28.00	-	-	8.00
	sub-total fee	\$ 763.00	\$ -	\$ 1,798.56	\$ 2,899.40	\$ -	\$ -	\$ 520.00
5.00	Final Design Develop Bid Documents							
	Address any additional comments create bid package			12.00	32.00			8.00
	sub-total hours	-	-	12.00	32.00	-	-	8.00
	sub-total fee	\$ -	\$ -	\$ 1,798.56	\$ 3,313.60	\$ -	\$ -	\$ 520.00

	Principal - Managing Engineer	Supervisory Engineer IV	Supervisory Engineer III	Engineer II	EIT	Supervisory CADD III	Administration
6.00	Bid Phase						
	Create Bid Documents, Advertise and Manage Bid Document			4.00	4.00		8.00
	Issue any Addendums, if necessary	4.00		8.00	8.00		4.00
	Conduct bid	2.00					
	Review bids and recommend award	4.00					
	sub-total hours	10	0	12	12	0	12
	sub-total fee	\$ 1,907.50	\$ -	\$ 1,798.56	\$ 1,242.60	\$ -	\$ 780.00

	Principal - Managing Engineer	Supervisory Engineer IV	Supervisory Engineer III	Engineer II	EIT	Supervisory CADD III	Administration
7.00	Construction Management						
	Create/Distribute Conformance Documents						4.00
	Conduct Preconstruction Meeting, Issue NTP	4.00					
	Review Submittals			8.00	24.00		
	Review/Answer Requests for Information	2.00		16.00	24.00		
	Manage Change Orders (1)			8.00	24.00		8.00
	Attend Construction Meetings	6.00		24.00	24.00		
	Site Visits	8.00		24.00	24.00		
	Review and approve Payment Applications						
	sub-total hours	20	0	80	120	0	12
	sub-total fee	\$ 3,815.00	\$ -	\$ -	\$ 8,284.00	\$ 9,483.60	\$ 780.00
	Total fee	\$ 130,919.27					

April 22, 2016

David A. Carroll, P.E., PMP
DAVCAR Engineering
1010 Land Creek Cove, Suite 200
Austin, TX 78746

**RE: Subsurface Utility Engineering
Onion Creek Reclaimed Water Line**

Dear Mr. Carroll:

The Rios Group, Inc. (TRG) is pleased to submit a cost proposal for Subsurface Utility Engineering (SUE) for the above referenced project. This proposal is based on information provided via email on April 12, 2016, as well as the April 16, 2016 site visit.

Introduction

TRG will perform the SUE work for this project in general accordance with the recommended practices and procedures described in ASCE Publication CI/ASCE 38-02 (Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data). As described in the mentioned ASCE publication, four levels have been established to describe the quality of utility location and attribute information used on plans. The four quality levels are as follows:

- Quality Level D (QL“D”) – Information derived from existing utility records;
- Quality Level C (QL“C”) – QL“D” information supplemented with information obtained by surveying visible above-ground utility features such as valves, hydrants, meters, manhole covers, etc.
- Quality Level B (QL“B”) – Two-dimensional information obtained through the application and interpretation of non-destructive surface geophysical methods. Also known as designating, this quality level provides the horizontal position of subsurface utilities within approximately one foot.
- Quality Level A (QL“A”) – Three dimensional utility information obtained utilizing non-destructive vacuum excavation equipment to expose utilities at critical points which are then tied down by surveying. Also known as locating, this quality level provides precise horizontal and vertical positioning of utilities within approximately 0.05 feet.

It is the responsibility of the SUE provider to perform due-diligence with regard to records research (QL“D”) and the acquisition of available utility records. The due-diligence provided for this project will consist of visually inspecting the work area for evidence of utilities and reviewing the available utility record information. Utilities that are not identified through these efforts will be referred to as Unknown utilities. TRG personnel will scan the defined work area using electronic prospecting equipment to search for Unknown utilities. However, TRG is not responsible for designating and locating these Unknown utilities.

Scope of Work

Based on information provided by DAVCAR Engineering (Client), TRG has developed a preliminary scope for the SUE work on this project. This scope of work may be modified, with the Client's concurrence, during the performance of work if warranted by actual field findings.

The scope of this proposal includes QL“A” and QL“B” SUE. SUE services are requested to support a proposed reclaimed water line generally between E Stassney Lane and E Slaughter Lane east of IH35 in Austin, TX. The proposed alignment is depicted on Exhibit B of this proposal. It is understood that this alignment is subject to adjustment.

QL“B” SUE designating will be performed on existing utilities that either cross or encroach within 25 feet on either side of the proposed alignment. TRG will designate along both the proposed alignment and the alternate routes depicted in Exhibit B (Color copy: proposed in green, alternate in purple). Irrigation lines are not included in this scope of work, but TRG will attempt to designate irrigation control lines within the Soccer Complex and Golf Course areas.

QL“A” SUE test holes will also be excavated at locations described below. The number and locations of the test holes will be provided by the Client following a review of the QL“B” SUE data. For the purpose of this proposal, the proposed alignment can be broken down into three sections:

- Jimmy Clay-Roy Kizer Municipal Golf Course – TRG assumes that **eight (8) QL“A” SUE test holes** will be required in this area, including: a communications conduit for the golf course irrigation system, a sanitary sewer line located between the beginning of the project and the 6” lateral shown on Exhibit B, and two additional test holes to locate other sanitary sewer lines in this area. As requested, the Crosstown tunnel will not be located.
- Onion Creek Soccer Complex – TRG assumes that **three (3) QL“A” SUE test holes** will be required in this area, including one test hole on a power line. As requested, TRG will not excavate on the reclaimed water lines along William Cannon Drive.
- Onion Creek Forest Subdivision/Pleasant Valley Drive – TRG assumes that **eight (8) QL“A” SUE test holes** will be required in this area, including test holes on the gas pipelines that cross the subdivision.

In total, TRG assumes **nineteen (19) QL“A” SUE test holes** will be required for the completion of this project.

The survey of QL“A” and QL“B” SUE data is also included in this scope of work. The Client will provide TRG with the necessary survey control information.

Designating Procedures

Prior to beginning field designating activities, TRG's field manager will review the project scope of work and available utility records. Once these initial reviews are complete, the field manager

and technicians will begin designating the approximate horizontal position of known subsurface utilities within the specified project limits. A suite of geophysical equipment (electromagnetic induction, magnetic) will be used to designate metallic/conductive utilities (e.g. steel pipe, electrical cable, telephone cable).

Accurate collection and recording of designated utilities is a critical component of the SUE process. TRG utilizes a proven method of collecting and recording survey information once the utilities have been designated in the field. TRG's field manager will produce detailed sketches depicting each utility, as well as relevant surface features such as roadways, buildings, manholes, fire hydrants, utility pedestals, valves, meters, etc. Each utility will be labeled with a unique ID code. For example, if two different water lines exist on the project, one will be labeled W1 and the other W2. Paint and pin flags will be used to designate the utilities in the field. A labeled pin flag or paint mark will be used to mark each location where a survey shot is required. The locations will be numbered sequentially for each individual utility line. For example, if there are 10 shots required on water line W1, the points will be numbered W1-1 through W1-10.

Locating Procedures

TRG will utilize non-destructive vacuum excavation equipment to excavate test holes at the required locations. Due to the risk of damage, TRG will not attempt to probe or excavate test holes on any AC water lines unless approval is obtained from the owner in advance. Once each utility is located, TRG will record the utility type, size, material, depth to top, and general direction. Each test hole will be assigned a unique ID number, and will be marked accordingly. The test-hole ID number and other pertinent utility information will be painted at each test-hole location.

TRG assumes the following:

- All test holes will be accessible to truck-mounted vacuum excavation equipment.
- Excavation permits from the City of Austin will be required for the completion of test holes on this project. TRG will obtain all required City of Austin permits and ensure that coordination and compliance with the City is provided.
- Non-routine traffic control measures will be required to complete the QL“A” test holes on this project. TRG will acquire the services of a qualified MOT Subcontractor and ensure that adequate traffic control is provided.
- Coring of asphalt/concrete pavement will be required for the completion of test holes on this project. TRG will provide labor and equipment to core the pavement up to a depth of 12 inches, and ensure backfill and pavement repair are completed in compliance with City standards. TRG also assumes that flowable fill will not be required to backfill the test holes. However, flowable fill can be provided at an additional cost. Please note that this scope and fee estimate does not include the replacement of pavement sections other than the cores. If test holes are required within paved areas, and the City requires full replacement, TRG can estimate the cost of repair work on a case-by-case basis. Excavation in rock or to a depth greater than 18 feet is considered beyond the scope of this proposal and can also be estimated on a case-by-case basis. TRG will vacuum down

to obtain the required information, then replace the removed material in mechanically-tamped six inch lifts. Asphalt surfaces will be repaired with an asphalt cold patch, and concrete cores will be epoxied back in place, flush with the surrounding surface. If restoration efforts are needed beyond what is described above, TRG shall be notified in writing prior to mobilizing.

Deliverables

TRG will provide the following as a final deliverable to the Client:

- A utility file in CAD format depicting all designated and located utilities. The size of each utility will be presented in the utility file if this information is indicated on available record drawings. The Client will provide TRG with any necessary base map/topographic files for use in preparing the utility file.
- Signed and sealed plans to include 11"x17" SUE plan sheets as well as 8.5"x11" test hole data forms.
- A summary sheet of all test hole coordinate data and depth information.

Schedule

Field work can begin within approximately two (2) weeks after receipt of Notice-To-Proceed (NTP). TRG estimates the work can be completed in twenty-four (24) working days, broken down as follows:

- QL"B" SUE field work – 6 days
- Survey QL"B" SUE data – 2 days
- Preliminary deliverable preparation – 5 days
- QL"A" SUE field work – 5 days
- Survey QL"A" SUE data – 1 day
- Final deliverable preparation – 5 days

Proposed Fees

TRG proposes to provide the services as described above for a cost of **Fifty-Five Thousand Thirty Dollars & 00/100 (\$55,030.00)**. A breakdown of cost is included with this proposal (Exhibit A). Please note that this proposed fee is a not-to-exceed amount, and that TRG will only invoice for actual work performed.

We look forward to working with you on this project. If there are any questions, please do not hesitate to call at 512.580.5440.

Respectfully,

The Rios Group, Inc.



Ryan C. Chapin, P.E.
Project Manager

Accepted on: *Month* _____ *Day* _____ *Year* _____

Company _____

Print Name _____

Signature _____

Title _____



Estimate for Subsurface Utility Engineering Onion Creek Reclaimed Water Line

Exhibit A

Hourly Office Labor	Rate	Units	Unit Description	Sub-Total	Notes
Principal	\$232.00	2	Hourly	\$ 464.00	
Senior Project Mngr	\$174.00	8	Hourly	\$ 1,392.00	
Project Engineer	\$105.00	16	Hourly	\$ 1,680.00	
Graduate Engineer	\$85.00	0	Hourly	\$ -	
CADD Technician	\$72.00	24	Hourly	\$ 1,728.00	
SUE Field Manager	\$91.00	0	Hourly	\$ -	
Clerical Support	\$69.00	4	Hourly	\$ 276.00	
Technical Support	\$83.00	0	Hourly	\$ -	
Sub-Total				\$ 5,540.00	
Direct Expenses					
Permit Fees	Rate	Units	Unit Description	Sub-Total	Notes
Permit Fees	\$270.00	2	Each	\$ 540.00	
Traffic Control	\$1,000.00	2	Daily	\$ 2,000.00	
Survey (RPLS)	\$2,250.00	3	Daily	\$ 6,750.00	
Sub-Total				\$ 9,290.00	
QL "B" Designating					
2 Person Crew	Rate	Units	Unit Description	Sub-total	Notes
				\$ -	
2 Person Crew	\$200.00	70.0	Hourly	\$ 14,000.00	
				\$ -	
Sub-Total				\$ 14,000.00	
SUE QL "A" (Test Holes)					
Depth	Rate	Assumed Quantity	Unit Description	Sub-Total	Notes
0-5 ft.	\$ 1,100.00	6	Each	\$ 6,600.00	
5-8 ft.	\$ 1,350.00	10	Each	\$ 13,500.00	
8-13 ft.	\$ 1,700.00	3	Each	\$ 5,100.00	
13-20 ft.	\$ 2,200.00	0	Each	\$ -	
Over 20 ft.	\$ 2,750.00	0	Each	\$ -	
Pavement Coring	\$ 250.00	4	Each	\$ 1,000.00	
QL "A" Sub-Total				\$ 26,200.00	
Total Estimated Cost =				\$ 55,030.00	

Subconsultant Utilization Form

Contract Management Department
Contract Management Division

Rotation List Name/#: Water & Wastewater System Pipeline Engineering 2011-2013 / PA110000004 Project Mgr: Dan Pedersen

Project Name: Onion Creek Reclaimed Water Main Phase 1 (5267.025) Assignment # / P.R # 1 /

Date: 5-May-16 Submitted by: David Carroll, P.E., PMP Firm: DAVCAR Engineering Services

Firm	Cert Type	Description of Work	Work Hours	Amount \$
DAVCAR Engineering Services	MH	Civil Engineering	0.0	\$678,588.63
Chan & Partners Engineering	Non	QAQC	0.0	\$20,000.00
CRESPO Consulting Services	MH	Environmental Engineering	0.0	\$46,934.00
Frank Lam & Associates	MA	Structural Engineering	0.0	\$42,729.16
Holt Engineering	FH	Geotech	0.0	\$116,438.05
McGray & McGray Land Surveyors	FW	Surveying	0.0	\$157,608.00
The Rios Group	FH	SUE	0.0	\$55,030.00
Smith Turrieta, PLLC	FW	Tunneling	0.0	\$130,919.27
TOTAL			0.0	\$1,248,247.11

MBE/WBE PARTICIPATION

Please calculate participation percentages for each category, based upon the total dollar amount for certified firms in the specified category divided by the Total Amount of the assignment

	Non - Certified	African American	Hispanic	Asian / Native American	MBE	WBE
<i>This Assignment</i>	1.60%	0.00%	57.49%	3.42%	61.55%	37.49%
Compliance Plan	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

See next page for approval signatures

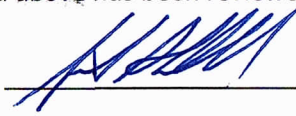
See next page for approval signatures

Please provide an explanation for any categories where participation for this assignment is less than the approved Compliance Plan percentages:

ASD, the original subconsultant on the team is a AAM certified firm and they elected not to participate in this project.

I certify that the information listed above has been reviewed and is accurate to the best of my knowledge.

Firm Representative



Date

5/5/16

FOR COA USE ONLY

I have reviewed the Consultant utilization and MBE/WBE participation for this assignment. A copy of this form will be forwarded to the appropriate SMBR Representative

Project Manager:

Date

Rotation List Manager

Date

ATTACHMENT 5: RESOURCE ALLOCATION PLAN

Water & Wastewater System Pipeline Engineering 2011-2013 - PA110000004

Onion Creek Reclaimed Water Main Phase 1

Task Description	Budget	Start Date	End Date	% Complete	% Paid	% Time
A. Preliminary Phase 30% Design	\$242,245.07					
				0.0%	0.0%	0.0%
				0.0%	0.0%	0.0%
<i>Phase Total</i>				0.0%	0.0%	0.0%
B. Design Phase	\$879,738.43					
1. 60% Design	\$604,714.68			0.0%	0.0%	0.0%
				0.0%	0.0%	0.0%
				0.0%	0.0%	0.0%
				0.0%	0.0%	0.0%
2. 90% Design	\$137,124.56			0.0%	0.0%	0.0%
				0.0%	0.0%	0.0%
				0.0%	0.0%	0.0%
				0.0%	0.0%	0.0%
3. 100% Design	\$81,771.11			0.0%	0.0%	0.0%
				0.0%	0.0%	0.0%
				0.0%	0.0%	0.0%
				0.0%	0.0%	0.0%
4. Final Design Documents	\$56,128.08			0.0%	0.0%	0.0%
				0.0%	0.0%	0.0%
<i>Phase Total</i>				0.0%	0.0%	0.0%
C. Bid-Award Execution Phase	\$11,571.05					
1. Completion of all required tasks				0.0%	0.0%	0.0%
<i>Phase Total</i>				0.0%	0.0%	0.0%
D. Construction Phase	\$91,628.24					
				0.0%	0.0%	0.0%
				0.0%	0.0%	0.0%
				0.0%	0.0%	0.0%
<i>Phase Total</i>				0.0%	0.0%	0.0%
E. Post-Construction Phase	\$23,063.63					
				0.0%	0.0%	0.0%
<i>Phase Total</i>				0.0%	0.0%	0.0%
Project Total	\$1,248,247.11			0.0%	0.0%	0.0%

<p>APPROVED FIXED CONSTRUCTION BUDGET:</p> <p>DATE OF CURRENT FCB:</p>
--

Project Schedule

Onion Creek Reclaim Water Main Phase 1

M 00 00 00 00 00

Task	Start	End	Color
Phase A Preliminary Design Services	00/00/00	00/00/00	Yellow
Phase B Design Phase	00/00/00	00/00/00	Teal
Phase C Bid-Award-Execution Phase	00/00/00	00/00/00	Teal
Phase D Construction Services Phase	00/00/00	00/00/00	Teal
Phase E Post Construction Services Phase	00/00/00	00/00/00	Teal

Review durations by COA and permitting not included in timeline.

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SECTION 1 - CONSULTANT'S RESPONSIBILITIES

Insert the following Paragraphs 1.1.13 through 1.1.15:

1.1.13 If directed by OWNER, CONSULTANT shall update OWNER provided record documents.

1.1.14 If the OWNER provided record documents to be updated that have been sealed by another Engineer, the CONSULTANT shall notify the Engineer of record of the agreement to update said documents. All updates and revisions to existing sealed documents shall be made as directed by OWNER and in accordance with the Texas Board of Professional Engineers rules.

1.1.15 The CONSULTANT agrees that record documents provided by the OWNER are to be used only for the intended purpose and to meet this contract's obligations. Use of these record documents for any other purpose not explicitly authorized by the OWNER is strictly prohibited.

Insert the following Paragraphs 1.4.1 et seq:

1.4.1 Phase A: Preliminary Phase Services

The CONSULTANT shall perform the Phase A: Preliminary Phase Services as described below and in subsequent written authorizations (Attachment 2) and the Subproject RAP (Attachment 1):

1.4.1.1 Attend and, if requested by OWNER, conduct preliminary conferences and public meetings with OWNER and other interested or involved entities regarding the alternatives for the Subproject. Report progress of this phase to the OWNER relative to approved Subproject Resource Allocation Plan (RAP) at monthly intervals as prescribed by the OWNER.

1.4.1.2 Obtain and review existing plans, maps, records, traffic (vehicular and pedestrian), water and wastewater studies, planning studies, zoning, land use, other utility, population, and other available information relevant to the development of the Subproject. CONSULTANT shall perform a Preliminary Cultural Resources Assessment for the PROJECT. This assessment will provide for records reviews and site reconnaissance visits, consistent with City Code, State Statute, and guidance issued by the Council of Texas Archeologists. With approval from the OWNER, perform or contract with other licensed professionals to perform geotechnical investigations and engineering, or any tests, investigations or studies that are required for the proper execution of Phase A of the Subproject.

1.4.1.3 Prepare, conduct and document studies, analyses and reports of the Subproject alternatives in sufficient detail to clearly indicate the problems involved and reasonable solutions available to the OWNER. Such studies, analyses and reports may include, but are not limited to: preliminary layouts, maps, exhibits, sketches, construction materials and methods evaluations, schedules, utility coordination plans, design criteria, environmental reviews, compatibility with existing and proposed systems and/or processes, and other investigations pertinent to the evaluation of the Subproject alternatives.

1.4.1.4 Collect all pertinent information concerning proposed public or private projects and/or proposed improvements in the project area. Coordinate with OWNER and other entities as

**PROFESSIONAL SERVICES AGREEMENT - ROTATION LIST
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necessary to comply with the Subproject RAP and minimize Subproject impacts and to communicate Subproject details to minimize impact to other projects in the area.

1.4.1.5 Prepare preliminary Subproject construction schedule and Class C estimate (with a margin of error of $\pm 25\%$) of the probable Subproject construction, life cycle and maintenance costs for all alternative solutions. The CONSULTANT's opinion of construction costs shall be based on materials and labor process prevailing at the time of the preparation of the preliminary report without consideration of inflationary increases in costs and will be indexed to the *Engineering News Record* (ENR) Construction Cost Index prevailing at the time of the preparation of the preliminary report. The CONSULTANT shall apply reasonable consideration and knowledge to the preliminary cost estimate development.

1.4.1.6 Conduct preliminary field surveys, and determine site constraints and permitting requirements.

1.4.1.7 Prepare an environmental report for the recommended Subproject alternative(s) that addresses appropriate environmental issues, which may include, but are not limited to, impacts to air, noise, and water quality, historical features, vegetation, environmental and geological features, and endangered species.

1.4.1.8 Prepare a geotechnical report and other technical reports for the recommended Subproject alternatives that may include, but are not limited to: subsurface utility engineering (SUE) findings, delineation of geological sensitive areas, hydrological issues, soils formation, and information necessary to identify contractor's probable or recommended means of construction.

1.4.1.9 Prepare, present and publish details and a summary of findings for the recommended Subproject in a Preliminary Engineering and Investigations Report. This report will be drafted upon conclusion of the CONSULTANT's reviews, investigations, and preliminary evaluations and shall include, but not be limited to, cost estimates (as outlined in Section 1.4.1.5), alternate routes, identification of permanent and temporary easements, identification of need for additional right-of-way, evaluations of and recommendations for construction methods and materials, including recommendations on the number of Subproject construction contracts to be bid, and design and construction phase schedules. The CONSULTANT shall provide 15 copies of the draft report and 20 copies of the final report addressing the OWNER'S comments.

1.4.1.10 For all Phase A services, the CONSULTANT shall follow the approved schedule and meet all milestone requirements specified in the Subproject RAP.

1.4.1.11 For all Phase A services, the CONSULTANT shall provide all required QCP documentation.

1.4.2 Phase B: Design Phase Services

If authorized, the CONSULTANT shall perform the Phase B services as described below and in subsequent written authorizations and the Subproject RAP:

1.4.2.1 Attend and/or arrange for conferences, at periodic intervals not to exceed one (1) month with the OWNER for the purposes of explaining completed design activities and review of Subproject RAP for completion of remaining activities.

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1.4.2.2 Conduct or otherwise acquire the necessary field surveys, soils tests, geotechnical tests, and additional analysis that, in the opinion of the CONSULTANT, are required for the proper execution of the design of the Subproject.

1.4.2.3 Provide for field surveys, which may include photogrammetry, and perform related office computations and drafting for collecting information required for design. Such surveys must include horizontal and vertical control adequately documented on the final plans. Field surveys must also include the staking and referencing of points of intersection (PI's), points of curvature (PC's), points of tangency (PT's), and benchmarks (BM's) necessary to establish the PROJECT construction in the field. If necessary, establish Static GPS Control Monuments with U.S. Geological Survey (USGS) NAD 83 (93) and NAVD 88. Horizontal control for facilities shall be on the *Texas State Grid Coordinate System* Central Zone Grid Coordinates carried to second-order accuracy to permit actual construction staking to third order accuracy. The vertical control shall be based on the USGS NAVD 88 datum and BM's shall be established not more than 1000 feet apart at an accuracy of 0.01 feet. Visible topographic features will be tied to the PROJECT centerline(s) and will include, but not necessarily be limited to, existing property or lease lines, property or lease corners, utilities and appurtenance, roadways, structures, railroad structures, trees over eight inches in diameter, and other features within the limits of construction and twenty-five (25) feet beyond. PROJECT control must be complete and staked in the field at the time of advertisement for bid so that construction staking can be accomplished immediately thereafter.

1.4.2.4 The CONSULTANT shall prepare a Storm Water Pollution Prevention Plan (SWPPP) using the standard City template and submit to the OWNER. All engineering computations shall be certified by a Registered Professional Engineer specializing in Civil Engineering. All SWPPPs submitted on or after October 4, 2010 shall also be signed by a Certified Professional in Erosion and Sedimentation Control [(CPESC)(<http://cpesc.org/>)]. If the SWPPP itself contains engineering calculations, then the Registered Professional Engineer must also seal and sign the SWPPP. All drainage calculations shall be done in accordance with the guidelines in the Drainage Criteria Manual.

1.4.2.5 Prepare detailed specifications using the OWNER'S standard specifications. Any revisions or special provisions to the specifications must be submitted to the OWNER for written approval. Prepare Subproject construction contract drawings, at approved horizontal and vertical scales in electronic format and in ink on 22" x 34" bond paper for construction authorized by the OWNER. The drawings shall, at minimum, conform to examples available from the OWNER and shall include plan views, sections and details clearly defining and describing the improvements, limits of work and storage areas, sequencing requirements, access routes, environmental protection requirements, and contractor staging and storage areas.

1.4.2.6 Update construction cost estimates of authorized Subproject construction. The updated cost estimate should be a Class B Estimate (with a margin of error of $\pm 10\%$). If the estimated construction cost exceeds the Fixed Construction Budget as established in Section 3, the CONSULTANT shall consult with the OWNER as to what action is to be taken. If the OWNER requires revisions to the Subproject scope to reduce the Subproject construction cost as required to stay within the Fixed Construction Budget, the CONSULTANT shall, for additional compensation, then make such revision to the Subproject construction documents.

1.4.2.7 Provide OWNER thirty (30) copies of draft Bidding Documents (consisting of plans, details and the Subproject Manual) and, one (1) set of final design criteria and calculations of principal elements of final design. The copies of the draft Subproject plans provided to the OWNER shall be fifteen (15) full-size and fifteen (15) half-size.

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1.4.2.8 Prepare information for any special permits or approvals required by regulatory agencies for which the OWNER must apply.

1.4.2.9 Provide final bid documents, which incorporate the OWNER's comments, to the OWNER at least fourteen (14) calendar days prior to advertising the Subproject for bids. Bid documents will not be printed until OWNER authorizes the CONSULTANT to do so.

1.4.2.10 Obtain OWNER'S approval of the Subproject bidding documents and provide for duplication of twenty-five (25) sets of final Subproject bidding documents for distribution to contractors. CONSULTANT shall also provide ten (10) half size sets, and one electronic version in a format acceptable to OWNER, of the PROJECT Construction drawings. The CONSULTANT agrees that the OWNER may post the CONSULTANT's Bidding Documents on-line for bidding purposes.

1.4.2.11 Update construction cost estimates of authorized Subproject construction. The updated construction cost estimate should be a Class A estimate (with a margin of error of $\pm 5\%$). If the Class A estimate exceeds the Fixed Construction Budget described in Section 3, the CONSULTANT shall consult with the OWNER as to what action is to be taken. If the OWNER requires revisions to the Subproject scope to reduce the Subproject construction cost as required to stay within the Fixed Construction Budget, the CONSULTANT shall, for additional compensation, then make such revision to the Subproject construction documents.

1.4.2.12 For Subprojects that include improvements or modifications to facilities or resources owned by the Austin Water Utility: The CONSULTANT shall complete the appropriate OWNER'S Asset Retirement Request Form(s) to document all Austin Water Utility assets (including equipment, computers, pipeline and pipeline appurtenances, etc.) that will be removed, abandoned or retired from service as part of implementation of the Subproject and to provide certain information regarding the replacement assets put into service as a result of the Subproject. If applicable, CONSULTANT shall also provide a list of all new taggable assets to be installed or delivered as part of the Subproject. These form(s) and information shall be provided to OWNER prior to the bidding of the construction contract. A taggable asset is defined as a single asset costing at least \$1,000 which can operate independently (i.e., is not an in-line component) and which could be removed for use at another location with relative ease.

1.4.2.13 Only if requested by OWNER, the CONSULTANT shall assist the OWNER in determining what additional information on Contractor qualifications may be required to be submitted by the bidders with their bids. The CONSULTANT agrees that the OWNER may post the CONSULTANT's Bidding Documents on-line for bidding purposes.

1.4.2.14 For all Phase B services, the CONSULTANT shall submit written progress reports at least monthly. If the required reports are not received within seven (7) calendar days of the end of the month, the OWNER may withhold payment, in accordance with subsection 5.3.3, until the reports are received.

1.4.2.15 For all Phase B services, the CONSULTANT must design for compliance with the laws of City, State and federal governments. The CONSULTANT must request variances or waivers of any such requirements as appropriate.

1.4.2.16 For all Phase B services, the CONSULTANT shall follow the approved schedule and meet all milestone requirements specified in the Subproject RAP.

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1.4.2.17 For all Phase B services, the CONSULTANT shall provide all required QCP documentation.

1.4.3 Phase C: Bid-Award-Execution Phase Services

1.4.3.1 Only if requested by OWNER, the CONSULTANT shall assist the OWNER in the advertisement of the Subproject for construction bids. CONSULTANT services may include distributing bid documents, maintaining a record of bid document issuance and receipt, and receiving bid document deposits. Bid deposit checks shall be made payable to the OWNER and those deposits not returned to bidders shall be given to the OWNER.

1.4.3.2 Only if requested by OWNER, the CONSULTANT shall participate in or conduct a pre-bid conference, prepare and issue addenda, and attend bid opening.

1.4.3.3 If requested by OWNER, following the OWNER's receipt of bids and bidders' post-bid information, the CONSULTANT shall assist the OWNER in analyzing Contractor bids and qualifications. If requested by OWNER, the CONSULTANT shall furnish to the OWNER a recommendation regarding the responsibility of the bidder(s) within seven (7) calendar days following bid opening. Should the apparent lowest responsible bidder's construction cost of the Subproject (or component thereof) be greater than the Fixed Construction Budget (or appropriate portion thereof) and the OWNER elects not to award the Subproject (or component thereof) construction contract, the CONSULTANT will consult with the OWNER to determine revisions to the PROJECT to reduce the Subproject cost as required to stay within approved or authorized cost limitations. The CONSULTANT shall then make such revision to the Subproject construction documents at no additional cost to the OWNER.

1.4.3.4 For all Phase C services, the CONSULTANT shall follow the approved schedule and meet all milestone requirements specified in the Subproject RAP.

1.4.4 Phase D: Construction Phase Services

1.4.4.1 The CONSULTANT will be a representative of the OWNER during the Construction Phase, and shall advise and consult with the OWNER. Instructions to the Contractor will be forwarded through the CONSULTANT. The CONSULTANT will have authority to act on behalf of the OWNER only to the extent provided in this Section 1.4.4 Phase D: Construction Phase Services.

1.4.4.2 The Construction Phase will commence with the construction contract execution and will terminate on the date of final completion of the construction project, based on the completion milestone established for the construction Contract Time.. The expiration date includes any time extensions. Each Subproject assignment, as described in Section 6 of the **General Conditions of the AGREEMENT**, will specify roles and responsibilities for the CONSULTANT and identify who is to receive submittals and other information prepared by the CONSULTANT.

1.4.4.3 Unless otherwise provided in this AGREEMENT and incorporated in the Contract Documents, the CONSULTANT shall administer the construction contract as set forth below and in the OWNER's General Conditions of Agreement,.

1.4.4.4 The CONSULTANT shall participate in and document the proceedings of the preconstruction conference.

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1.4.4.5 The CONSULTANT shall visit the site to observe the progress and quality of the Work and to determine if the Work is proceeding in accordance with the Contract Documents. The CONSULTANT'S visits to the site shall be at intervals appropriate to the stage of construction, but in no case less than once per month. The CONSULTANT shall record observations made on each job site visit, including regularly scheduled project meetings, and shall submit a written monthly report to the OWNER.

1.4.4.5.1 Reports should include: list of subcontractors on-site by week as reported by Contractor, trades at work, approximate manpower, temperature/weather conditions, variations from Contract Documents, defective work, percentage of contract time used compared with percentage of completion of construction, updates to the Subproject RAP, contract completion date, and other meaningful information. Reports for periods when no Work is in progress will state "No Work in Progress".

1.4.4.5.2 The CONSULTANT will furnish reports to the OWNER within five (5) calendar days of the end of the work week or the report will be considered late. As stated in subsection 5.3.3, the OWNER may withhold payment until the reports are received.

1.4.4.5.3 In addition, the CONSULTANT'S subconsultants shall visit the site at appropriate stages of the Work related to their area of specialty, shall record observations made on each job site visit and shall submit reports to the CONSULTANT to be incorporated in the CONSULTANT'S reports to the OWNER. The CONSULTANT'S subconsultants shall also attend those progress meetings when the Contractor's Application for Payment includes requests for areas of Work related to their discipline.

1.4.4.6 The CONSULTANT shall review the Contractor's Application for Payment, based on CONSULTANT'S observations on site, evaluate the request, and recommend to OWNER the amount to be paid to the Contractor.

1.4.4.7 The CONSULTANT'S signature on the Application for Payment constitutes a representation by the CONSULTANT to the OWNER that the quality of the Work is proceeding in general accordance with the Contract Documents, and that the Contractor has progressed to the construction schedule point indicated and is entitled to payment in the amount certified. The CONSULTANT is not responsible for work that is the Contractor's responsibility as defined in the Contractor's contract with the OWNER.

1.4.4.8 The CONSULTANT shall respond within seven (7) calendar days (unless the OWNER grants a time extension), to all requests for information, claims, disputes and other matters in question between the OWNER and the Contractor relating to the execution or progress of the Work or the interpretation of the Contract Documents. Interpretations and decisions of the CONSULTANT will be in written form, accompanied by drawings as appropriate.

1.4.4.9. If any Work does not conform to the Contract Documents, the CONSULTANT shall, within 24 hours of the CONSULTANT'S observation, recommend the rejection of any such Work to the OWNER in writing. At any point during the Construction Phase, the CONSULTANT may recommend that the OWNER require special inspection or testing of the Work in accordance with the provisions of the Contract Documents.

1.4.4.10 The CONSULTANT shall review, approve, or take other appropriate action upon Contractor submittals such as Shop Drawings, product data and samples. The CONSULTANT shall provide a written response to the Contractor (with a copy to OWNER) within seven (7) calendar days (unless a time extension is granted in writing by the OWNER) to avoid a delay in the work.

**PROFESSIONAL SERVICES AGREEMENT - ROTATION LIST
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1.4.4.10.1 The CONSULTANT's review is for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The CONSULTANT is not responsible for work or requirements that are the Contractor's responsibility as defined in the Contractor's contract with the OWNER.

1.4.4.10.2 Unless otherwise specifically stated by the CONSULTANT, the CONSULTANT's review will not constitute approval of safety precautions, construction means, methods, techniques, sequences or procedures.

1.4.4.10.3 The CONSULTANT may rely upon professional certifications of performance characteristics of materials, systems or equipment if such certifications are required by the Contract Documents.

1.4.4.11 The CONSULTANT shall prepare Change Orders for the OWNER'S approval and execution in accordance with the Contract Documents. The CONSULTANT will have authority to order minor changes in the Work which are consistent with the intent of the Contract Documents, but do not involve an adjustment to the Contract Amount or an extension of the Contract Time. The OWNER shall receive copies of any such Field Orders approved by the CONSULTANT.

1.4.4.12 Upon receipt of Contractor's notification that the Work has been substantially completed, the CONSULTANT and its subconsultants shall work with the Contractor to ensure the Subproject is ready for the OWNER's inspection within seven (7) calendar days unless the OWNER approves a time extension,. The CONSULTANT shall provide written notification to the OWNER that the Work has been completed and is ready for the OWNER's inspection. The OWNER shall schedule an OWNER inspection to be attended by the CONSULTANT and its subconsultants.

1.4.4.12.1 Within twenty-four (24) hours of the OWNER's inspection, the CONSULTANT shall provide the Contractor a draft written punchlist of items that need to be addressed prior to the Final Completion date specified in the construction contract. The CONSULTANT shall provide the Contractor a final written punchlist within three (3) calendar days of the OWNER's inspection.

1.4.4.12.2 When the contract requirements for substantial completion have been met, the CONSULTANT shall prepare and issue a certificate of Substantial Completion within three (3) calendar days.

1.4.4.13 The CONSULTANT shall review all warranties, guarantees, bonds, equipment operating instructions, and similar required material and documents for general compliance with the Contract Documents and shall present them to the OWNER. Upon receipt of Contractor's written notice that the Work is ready for final inspection and acceptance and receipt of a final Application for Payment from the Contractor, the CONSULTANT shall make an on-site review within seven (7) calendar days. When the Work is found to be acceptable by the OWNER, the CONSULTANT shall, within seven (7) calendar days, sign the final Application for Payment signifying that the Work has been completed in general accordance with the terms and conditions of the Contract Documents and that final payment is due the Contractor.

1.4.4.14 For all Phase D services, the CONSULTANT shall follow the approved schedule and meet all milestone requirements specified in the Subproject RAP.

1.4.4.15 *Construction Project Representation Beyond Basic Services*

**PROFESSIONAL SERVICES AGREEMENT - ROTATION LIST
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1.4.4.15.1 If the OWNER and CONSULTANT agree that more extensive representation is needed at the site, the CONSULTANT shall provide one or more Subproject Representatives to assist the CONSULTANT in carrying out such responsibilities at the Subproject or work site. The Subproject RAP must be revised accordingly.

1.4.4.15.2 Such Subproject Representatives will be selected with the written approval of the OWNER, employed and directed by the CONSULTANT, and the CONSULTANT will be compensated as mutually agreed between the OWNER and the CONSULTANT.

1.4.5 Phase E: Post-Construction Phase Services

1.4.5.1 The scope of assistance referenced in this Paragraph 1.4.5 will include, but not be limited to, the following: (1) producing Record Documents for the OWNER; (2) notifying the Contractor of deficiencies or failures in labor and materials and requesting corrective action; (3) preparing correspondence and other written data as necessary to document, clarify, and resolve discrepancies; and (4) meeting with the Contractor at the Subproject site or other local places when requested by the OWNER. Each Subproject assignment, as described in Section 6 of the **General Conditions of the AGREEMENT**, will specify roles and responsibilities for the CONSULTANT and identify who is to receive submittals and other information prepared by the CONSULTANT.

1.4.5.2 Upon receipt from the Contractor of details of deviations from Contract Documents, CONSULTANT shall produce Record Documents for the OWNER'S use within thirty (30) calendar days. The CONSULTANT will ensure that the Record Documents of construction incorporate all compiled change orders, change directives, and field orders. The CONSULTANT will ensure that a Professional Engineer's seal is affixed and signed on each document, stamped and identified as "RECORD DOCUMENTS", that signifies the recorded changes have been transferred.

1.4.5.2.1 The CONSULTANT shall submit electronic files on CD-ROM, or other comparable durable electronic media with OWNER's approval, one (1) set of mylar, two (2) sets of full-size print PROJECT drawings, and three (3) sets of one-half size print Subproject drawings that are considered Record Documents to OWNER. Copies of Subproject drawings that may be relied upon by the OWNER are limited to the printed copies ("hard copies") that are signed and sealed by the CONSULTANT. Drawings will be accurate in scale and dimensions and will reflect the final as-constructed condition of the Subproject.

1.4.5.2.2 For Subprojects that include improvements or modifications to OWNER's Austin Water Utility system or facilities, drawings included in the Record Documents will include all dimensions and calculations in English units.

1.4.5.2.3 For Subprojects that include improvements or modifications to facilities or resources owned by the Austin Water Utility, the CONSULTANT shall provide the OWNER updated Asset Retirement Request Form(s) based on Subproject as-built drawings. For projects involving new taggable assets, the CONSULTANT shall also provide to OWNER an updated list of new assets installed or delivered as part of the Subproject. These form(s) and information will be provided to OWNER at the time of the as-built submittal.

1.4.5.3 Under Basic Services, the CONSULTANT shall assist and represent the OWNER through the post-construction period on matters involving malfunctions or deficiencies of the Work. The CONSULTANT shall communicate with and assist the Contractor as necessary to correct all deficiencies within seven (7) calendar days of notification by the CONSULTANT for a specific correction .

**PROFESSIONAL SERVICES AGREEMENT - ROTATION LIST
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1.4.5.4 The CONSULTANT shall require its subconsultants to provide assistance as necessary during the post-construction period stipulated in the approved Subproject Resource Allocation Plan (RAP).

1.4.5.5 The CONSULTANT shall perform an on-site review of the Work, accompanied by its subconsultants, no less than thirty (30) calendar days before the one-year anniversary of the date of Substantial Completion. Based on the site review, the CONSULTANT shall prepare, within seven (7) calendar days, a list of items needing correction and direct the Contractor to resolve them within a specified time frame. After determining that deficiencies have been corrected, the CONSULTANT shall so notify the OWNER in writing within seven (7) calendar days. This notification by the CONSULTANT does not release the Contractor from its responsibilities set forth in the Contract Documents and will not be construed as an implied or express warranty or representation by the CONSULTANT that there are not other deficiencies on the Subproject.

1.4.5.6 Under Basic Services, the CONSULTANT and its subconsultants agree to provide Post-Construction Phase services as specified in the approved Subproject RAP. The CONSULTANT shall provide accounting for time expended under Basic Services at the time these services are provided. Additional time for extended warranty period services not included in Basic Services will be considered Additional Services in accordance with Paragraph 1.4.6 and paid for in accordance with the Subproject RAP.

1.4.5.7 For all Phase E services, the CONSULTANT shall follow the approved schedule and meet all milestone requirements specified in the Subproject RAP.

1.4.6 Additional Services

Unless otherwise stated in this AGREEMENT, the Services listed in subparagraphs 1.4.6.1 through 1.4.6.5 are Additional Services. The following are not Additional Services:

- (a) Any revisions required for failure to adhere to the Fixed Construction Budget
- (b) Minor requests for information by the OWNER that clearly do not require extensive work by the CONSULTANT.

Additional Services authorized in writing by the OWNER will be paid for by the OWNER as provided in this AGREEMENT, in addition to the compensation for Basic Services. Additional Services authorized by the OWNER in writing will be incorporated in the Subproject RAP, and all applicable articles of the AGREEMENT will apply to the Additional Services. If CONSULTANT identifies a need for Additional Services, the CONSULTANT will submit a proposal for those services to the OWNER within fourteen (14) calendar days of identifying the need.

1.4.6.1 Making revisions in Drawings, Specifications or other documents in connection with Change Orders, unless such Change Orders are caused by errors, omissions or other factors within the CONSULTANT's control.

1.4.6.2 Making revisions in Drawings, Specifications or other documents when such revisions are required by the enactment or revision of codes, laws or regulations subsequent to the preparation of such documents.

1.4.6.3 Providing design services of subconsultants not included in original scope_for the PROJECT.

**PROFESSIONAL SERVICES AGREEMENT - ROTATION LIST
SUPPLEMENTAL TERMS AND CONDITIONS OF THE AGREEMENT**

1.4.6.4 Providing any other services not otherwise included in this AGREEMENT or not customarily furnished in accordance with generally accepted, regional consulting practices, including but not limited to, the following items:

- Land development and feasibility studies.
- Contacts with neighborhood associations, boards, and/or committees related to land acquisition issues, beyond that described in Section 1.
- Engineering of and coordination of off-site construction.
- Special subconsultant services (environmental, archaeological, acoustical, asbestos removal, hydrological, traffic, computer and audio/visual design, etc.)
- Special investigations, including environmental impact studies, that involve detailed consideration of operation, maintenance and overhead expenses; rate schedules; earnings and expense statements; special feasibility studies; appraisals; evaluations; and material audits or inventories required for certifications of force account construction performed by Contractor or OWNER.
- Detailed mill, shop and/or laboratory inspection of materials and/or equipment
- Legal proceedings, unless the CONSULTANT is a party to the proceedings.

1.4.6.5 Revising Drawings, Specifications or other documents when such revisions are inconsistent with, or contradict, prior approvals or instructions given to the CONSULTANT by the OWNER.

1.4.6.6 For all Additional Services, the CONSULTANT shall follow the approved schedule and meet all milestone requirements specified in the Subproject RAP.

SECTION 2 - OWNER'S RESPONSIBILITIES

2.2 The OWNER may pay for or provide surveys describing physical characteristics, legal limitations for the site of a Subproject, and a written legal description of the site. The surveys and legal information will include, as applicable, grades and lines of streets, alleys, pavements and adjoining property; rights-of-way, deed restrictions, boundaries and contours of the site; locations, dimensions and complete data pertaining to existing buildings, other improvements and trees, and other special data or conditions. The CONSULTANT may reasonably rely upon such information in the performance of their services under this AGREEMENT unless CONSULTANT'S on-site review shows encroachments or other legal impediments..

2.3 The OWNER may pay or provide for the services of soil engineers or other consultants when such services are deemed necessary by the CONSULTANT and have the OWNER's written concurrence. Such services shall include test borings, test pits, soil bearing values, percolation tests, air and water pollution tests, ground corrosion and resistivity tests, including necessary operations for determining subsoil, air and water conditions, with reports and appropriate professional recommendations.

SECTION 3 - FIXED CONSTRUCTION BUDGET (in General Conditions of the Agreement)

**PROFESSIONAL SERVICES AGREEMENT - ROTATION LIST
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SECTION 4 - RESOURCE ALLOCATION PLAN (RAP) (in General Conditions of the Agreement)

SECTION 5 – COMPENSATION

Add items 5.1.1.2.1 through 5.1.1.2.3.

5.1.1.2.1 Compensation for Basic Services for the PROJECT will be determined either on a Standard Hourly Rate with a Not-to-Exceed-Maximum-Amount (Standard Hourly Rate) fee basis or as a Stipulated Sum fee basis, as shown in the approved PROJECT RAP.

5.1.1.2.2 *Standard Hourly Rate:* Compensation for Basic Services as described in paragraphs 1.4.1 through 1.4.5 is as follows:

5.1.1.2.2.1 The hourly rate for each class of employee includes all labor, overhead, and profit necessary to perform the requested services. The hourly rate schedule is shown in Attachment 3. Attachment 3 documents the methodology for calculating the CONSULTANT's overhead rate.

5.1.1.2.2.2 The Not-to-Exceed-Maximum-Amount for the PROJECT shall include the estimated cumulative hours needed to perform the services multiplied by the appropriate rate schedule in Attachment 3 plus the estimated allowance for Reimbursable Expenses.

5.1.1.2.2.3 Phases of services and the Not-to-Exceed-Maximum-Amount must be included in Attachment 5.

5.1.1.2.2.4 Progress payments for each phase shall not exceed the Not-to-Exceed-Maximum-Amounts established for that phase in Attachment 5.

5.1.1.2.3 *Stipulated Sum*

For Basic Services as described in paragraphs 1.4.1 through 1.4.5 is as follows:

5.1.1.2.3.1 The Stipulated Sum includes all labor, overhead, and profit necessary to perform the requested services. Payments will be made on the basis of the proportion of services performed for each phase as a percentage of all PROJECT services.

5.1.1.2.3.2 Phases of services and percentages of the total Basic compensation payable per Phase will be included in the approved RAP.

Add item 5.1.2.1

**PROFESSIONAL SERVICES AGREEMENT - ROTATION LIST
SUPPLEMENTAL TERMS AND CONDITIONS OF THE AGREEMENT**

5.1.2 *Basic Compensation*

5.1.2.1 The total amount of compensation to be paid to all of the CONSULTANTS on the Water & Wastewater Pipeline Rotation List 2010-2012 during the term of this AGREEMENT will not exceed **Seven Million, Five Hundred Thousand Dollars (\$7,500,000) for the two (2) year period of service** approved by Council or until funds are exhausted, without prior written approval by the OWNER. Authorization of service is contingent upon annual Council approval of the CIP budget for the PROJECT. It is anticipated that the above amount will be divided among each of the ten (10) selected CONSULTANTS, as shown on Attachment 5. However, this AGREEMENT does not in any way guarantee payment by OWNER to CONSULTANT of any of the above amount. The CONSULTANT is not authorized to begin work on any Subproject until the OWNER issues a Notice to Proceed for the Subproject.

Add item 5.1.3.1.1

5.1.3.1.1 Compensation for Additional Services will be determined either on a Standard Hourly Rate with a Not-to-Exceed-Maximum-Amount (Standard Hourly Rate) fee basis or as a Stipulated Sum fee basis, as shown in Attachments 3 and 5.

Add item 5.1.4.3

5.1.4.3 An allowance for Reimbursable Expenses described in Subsection 5.2 will be determined and included in the approved RAP. The CONSULTANT shall not exceed the allowance amount without prior written approval by OWNER.

Insert the following paragraph 5.1.7

5.1.7 *Payment Applications*

5.1.7.1 Payment applications must be submitted on a monthly basis.

5.1.7.2 For PROJECTS that are compensated on a Standard Hourly Rate basis, the CONSULTANT's statement of services must show the name of all employees and subconsultants charging time to the PROJECT, the amount of time billed, the hourly rates, and the activities performed by each person listed. If requested by OWNER, payroll time sheets shall be provided.

5.1.7.3 For PROJECTS that are to be compensated on a Stipulated Sum basis, the CONSULTANT's statement of services must include a brief summary of the progress and completion of tasks to substantiate the percentage of completion of services by Phase during the time period covered by the payment application.

5.1.7.4 Each payment application from the CONSULTANT will be reviewed to ensure the following information is included and/or is correct. Without this information, the OWNER will not approve the payment. CONSULTANT will be notified, within fourteen (14) calendar days after OWNER's receipt of the payment application, if the payment application is inaccurate and/ or incomplete. An "accurate and complete payment application" means:

- That the critical figures included on the payment application have been accurately calculated;

**PROFESSIONAL SERVICES AGREEMENT - ROTATION LIST
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- That the labor rates, reimbursables, fixed fee, subconsultant's rates, overhead and fringe benefits listed on the payment application are consistent with the terms of the AGREEMENT or the most recent Supplemental Amendment.
- That the charges included on the payment application reflect activity for which the CONSULTANT has actually performed work.
- That the charges included on the payment application are for work included in the AGREEMENT or an amendment, and the charges are tied directly to tasks outlined in the AGREEMENT.
- That the CONSULTANT's principals are billing at staff rates when acting in that capacity.
- That for subconsultant activity, the subconsultant is recognized as an approved subconsultant in the approved MBE/WBE compliance plan for the AGREEMENT or amendment.
- That for subconsultant activity, the subconsultant approved for a specific discipline is being used/ paid when the work in that discipline is performed.
- That for subconsultant or subcontractor activity on federally funded projects is being reimbursed at invoice cost.
- That any reimbursable expenses claimed are permitted by the terms of the AGREEMENT.
- That for any allowed reimbursable expense, supporting documentation is attached to the invoice.
- That the CONSULTANT is billing the City for all work performed by both the CONSULTANT and subconsultants within 45 calendar days of when the work was performed.

5.1.7.5 The OWNER shall review the first payment application in detail with the CONSULTANT to explain OWNER's payment requirements and to ensure payment application is accurate and complete.

5.1.7.6 Any costs incurred in excess of approved maximum not-to-exceed contract amount(s) incurred prior to OWNER's written consent will be at CONSULTANT's risk and OWNER will not pay such costs unless such costs were incurred at the OWNER's direction or the OWNER failed to respond to the CONSULTANT's request within seven (7) calendar days. The OWNER is not required to increase the approved maximum not-to-exceed contract amount(s) established under this AGREEMENT.

SECTION 6 - SUBSEQUENT WRITTEN AUTHORIZATIONS (in General Conditions of the Agreement)

SECTION 7 - INSURANCE REQUIREMENTS

7.1.4 CONSULTANT's Professional Liability Insurance

Insert subparagraph 7.1.4.1:

7.1.4.1 CONSULTANT's Professional Liability Insurance with a minimum limit of **\$1,000,000** dollars per claim and in aggregate.

**PROFESSIONAL SERVICES AGREEMENT - ROTATION LIST
SUPPLEMENTAL TERMS AND CONDITIONS OF THE AGREEMENT**

SECTION 8 - TERMINATION OF AGREEMENT (in General Conditions of AGREEMENT)

SECTION 9 - REMEDIES (in General Conditions of AGREEMENT)

SECTION 10 - CONSULTANT REMEDIES (in General Conditions of AGREEMENT)

SECTION 11 - DISPUTE RESOLUTION (in General Terms and Conditions of AGREEMENT)

SECTION 12 - MISCELLANEOUS PROVISIONS

12.2 Ownership and Use of Documents

Insert Paragraph 12.2.1:

12.2.1 All engineering work product produced by the Consultant for this Project including but not limited to: Drawings, Specifications, manuals, databases, application files, listings, etc. are to be delivered to OWNER and become the property of the OWNER. The CONSULTANT shall provide the OWNER with the electronic source files for these documents and work product in a format and storage media directed by OWNER or otherwise acceptable to the OWNER to allow the OWNER to subsequently update, modify, or amend said documents and work product. In addition, the CONSULTANT shall also provide a digital copy of all new and updated Drawings, Specifications and manuals on CD or other OWNER-approved media. The cost of providing the source files and copies will be paid as specified in Section 5 of this AGREEMENT. The CONSULTANT may not provide copies of or otherwise use the subject documents or work products on any other project without the prior written approval of the OWNER.

12.7 Notices

Insert subparagraph 12.7.1.1:

12.7.1.1 Notices shall be addressed as follows (or as amended in writing in the future):

Mailed Notices to OWNER:

Contract and Land Management Department
City of Austin
P.O. Box 1088
Austin, Texas 78767

Hand Delivered Notices to OWNER:

Contract and Land Management Department
City of Austin
505 Barton Springs Road, Suite 1000
Austin, Texas 78704

**PROFESSIONAL SERVICES AGREEMENT - ROTATION LIST
SUPPLEMENTAL TERMS AND CONDITIONS OF THE AGREEMENT**

Mailed Notices to CONSULTANT:

DAVCAR Engineering Services
1010 Land Creek Cove, Suite 200
Austin, TX 78746

Hand Delivered Notices to CONSULTANT:

DAVCAR Engineering Services
1010 Land Creek Cove, Suite 200
Austin, TX 78746

END



Austin SWIFT Loan Application
Part A, Item 6
South Austin Regional WWTP
Filtration Project
Engineering Contracts

AECOM ENGINEERING CONTRACTS



PURCHASE ORDER
(MODIFIED DOCUMENT)
PO CITY SINGLE

PAGE NO: 1
REFERENCE NUMBER: CT 6100 11040700843
P.O DATE: 05/27/14
PRICE AGREEMENT #:

V Patti Martinez
E EAR8307803 1
N AECOM TECHNICAL SERVICES INC
D 400 W 15TH ST STE 500
O
R AUSTIN TX 78701

S Cont. & Land Mgmt-Contract Procurement
H
I Contract Procurement
P 105 Riverside Dr. Suite 210
Austin TX 78704-1249
T
O

B Cont. & Land Mgmt-Contract Procurement
I
L Contract Procurement
L PO Box 1088, Suite 1000
Austin TX 78767-1088
T
O

Requestor: Steve Parks, 972-0244
Buyer: See CLMD Solicitation, 512-974-7181

The City's standard purchase terms and conditions are hereby incorporated into this order by reference, with the same force and effect as if they were incorporated in full text. The full versions are available at https://www.austintexas.gov/financeonline/vendor_connection/index.cfm#STANDARDBIDDDOCUMENTS or call the Purchasing Office at (512) 974-2500. Please include above reference number on all packages, deliveries, and invoices.

Line	Quantity	Unit	Commodity Information / Description (s)										Unit Price	Extended Amount
1			Commodity:	92517	Civil Engineering								0.000000	\$.00
					Walnut Creek WWTP and South Austin Regional WWTP Filter Improvements									
			Solicitation No:	RFQS 6100 CLMP034										
			Line	Fund	Dept	Unit	Objt	Actv	Func	Rept	Task Ord	Prog	Prog Period	Line Amount
			1	4570	2307	8040	5590	3211		2800				\$.00
2			Commodity:	92517	Civil Engineering								0.000000	\$.00
					Walnut Creek WWTP and South Austin Regional WWTP Filter Improvements									
			Solicitation No:	RFQS 6100 CLMP034										
			Line	Fund	Dept	Unit	Objt	Actv	Func	Rept	Task Ord	Prog	Prog Period	Line Amount
			1	4570	2307	8196	6452	3211		2800				\$.00
3			Commodity:	92517	Civil Engineering								0.000000	\$ 2,891,827.25
					SA # 3 - Walnut Creek WWTP and SARWWTP Filter Improvements ++ Enc.									
					\$1,348,950.00									
			Line	Fund	Dept	Unit	Objt	Actv	Func	Rept	Task Ord	Prog	Prog Period	Line Amount
			1	4480	2307	8236	5590	3211		2800				\$ 2,891,827.25

Order Total: \$ 2,891,827.25

VENDOR INSTRUCTIONS:

- SEND ORIGINAL INVOICE WITH DUPLICATE COPY TO THE CITY DEPARTMENT TO WHICH THE GOOD(S) WERE DELIVERED.
- SHIPPING INSTRUCTIONS: F.O.B. DESTINATION UNLESS OTHERWISE SPECIFIED.
- NO FEDERAL OR STATE SALES TAX SHALL BE INCLUDED IN PRICES BILLED. LIMITED SALES TAX #74-6000085.

Cynthia Loyale

Authorized Agent for City Manager

By acceptance of this purchase order, you agree to comply with the terms and conditions incorporated herein by reference and made a part of this order.

5/27/14

Date

**AGREEMENT BETWEEN THE CITY OF
AUSTIN, TEXAS AND CONSULTANT**

This AGREEMENT made as of this 29 day of March 2011

BETWEEN: The City of Austin, Texas, a Municipal Corporation situated in
Travis County, Texas
P.O. Box 1088
Austin, Texas 78767

hereinafter referred to as "OWNER",

and:

AECOM Technical Services, Inc.

hereinafter referred to as "CONSULTANT",

For the following PROJECT:

CIP ID: 3333.015

South Austin Regional Wastewater Treatment Plant Filter Improvements

The OWNER is represented herein for all purposes of this AGREEMENT by the Director of the Department of Public Works, or such other representative as may be authorized by the City Manager of the City of Austin.


The CONSULTANT employs professionals duly licensed to practice in the State of Texas, has the professional abilities, experience, expertise and facilities to provide such professional services, and agrees to undertake and furnish said services in accordance with this AGREEMENT.


The OWNER and the CONSULTANT agree to the terms and conditions of AGREEMENT specified in the General Terms and Conditions and the Supplemental Terms and Conditions, attached hereto and made a part of this AGREEMENT.

This AGREEMENT is executed to be effective upon the date of the last party to sign.

City of Austin, OWNER
P.O. Box 1088
Austin, Texas 78767

AECOM Technical Services, Inc., CONSULTANT
400 West 15th Street, Suite 500
Austin, TX 78701


By: 
Printed Name: Frank Mays
Title: Contract Compliance Manager
Contract Procurement Division
Date: 3/29/11
Contract & Land Management Department

By: 
Printed Name: DARON K. BUTLER
Title: Ex. V.P.
Date: 2/18/11

Approved As To Form:

Attest:

By: 
Assistant City Attorney

By: 
Secretary, if a Corporation

The CONSULTANT is bound by a Code of Ethics and guided by rules and restrictions of a State licensing board. Contact the appropriate licensing board if an issue regarding ethics or the practice of consulting arises.

END

**PROFESSIONAL SERVICES AGREEMENT
GENERAL CONDITIONS OF THE AGREEMENT**

General Conditions Table of Contents

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SECTION 1 - CONSULTANT'S RESPONSIBILITIES

1.0 General

The CONSULTANT will serve as the OWNER'S professional consultant in those phases of the PROJECT as stated in the **Supplemental Terms and Conditions of this AGREEMENT**, and will consult and advise the OWNER during the performance of the CONSULTANT's services. The OWNER agrees to compensate the CONSULTANT for those services in accordance with Section 5. CONSULTANT shall report to OWNER's designated PROJECT Manager as defined in subparagraph 11.7.1.1 of the **Supplemental Terms and Conditions of this AGREEMENT**.

1.1 Performance of Services

The CONSULTANT will perform services under this AGREEMENT with the degree of skill and diligence normally practiced by professional engineers, architects, or consultants performing the same or similar services.

1.1.1 The CONSULTANT's employees and the CONSULTANT's associated subconsultants to be used in the performance of PROJECT professional services (as described in subsection 1.4) are identified in Attachment 2. The CONSULTANT must disclose any potential conflict of interest relating to the CONSULTANT, the CONSULTANT's employees, a subconsultant or supplier. Failure to disclose any such conflicts may be grounds for termination under subsection 7.5 of this AGREEMENT by the OWNER.

1.1.2 The person identified as PROJECT manager by the CONSULTANT, identified in Attachment 2, must be employed by the CONSULTANT.

1.1.3 The CONSULTANT is registered to do business with the OWNER and is responsible for ensuring that all subconsultants are registered as vendors with the City of Austin. All subconsultants have been registered with the OWNER prior to execution of this AGREEMENT.

1.1.4 The CONSULTANT agrees not to modify any subconsultant's design after subconsultant's seal has been affixed except with written consent of the subconsultant. The CONSULTANT is fully responsible for the subconsultants' performance and obligations under this AGREEMENT.

1.1.5 The CONSULTANT's key employees and the CONSULTANT's associated subconsultants to be employed in the performance of the PROJECT professional services, shall not be changed except with the OWNER's prior written approval, which will not be unreasonably withheld.

1.1.6 The CONSULTANT shall obtain OWNER's written approval prior to terminating, adding or substituting subconsultants. In the event that the CONSULTANT proposes to add, substitute, or terminate an identified "Minority-Owned Business Enterprise" (MBE) or a "Women-Owned Business Enterprise" (WBE) certified subconsultant firm from its employ on this PROJECT, the CONSULTANT shall comply with the City of Austin MBE/WBE Program, Chapter 2-9A, Austin City Code, and the goals established in the PROJECT solicitation. If the CONSULTANT is unable to substitute a subconsultant firm in compliance with the Austin City Code, the CONSULTANT shall provide OWNER with written documentation of their good faith efforts to acquire the services of a MBE/WBE replacement firm. All requests to change the CONSULTANT's MBE/WBE Compliance Plan must include documentation to support the request.

**PROFESSIONAL SERVICES AGREEMENT
GENERAL CONDITIONS OF THE AGREEMENT**

1.1.7 If the OWNER notifies the CONSULTANT that a member of the CONSULTANT's team, including subconsultants, is incompetent, disorderly, abusive, or disobedient, or has knowingly or repeatedly violated any federal, state, or local law, the CONSULTANT shall immediately remove any such person from performing work on the PROJECT. The OWNER's prior written consent must be obtained before any such person may be reinstated. Replacement of any subconsultant removed from the PROJECT must be in accordance with paragraph 1.1.6. The OWNER may report any breaches of professional codes of ethics to the appropriate licensing board.

1.1.8 The CONSULTANT will attend and draft complete minutes of each PROJECT design and construction meeting between CONSULTANT and OWNER and/or CONSULTANT and other agencies, and submit them to OWNER for approval within seven (7) calendar days after each PROJECT conference.

1.1.9 The CONSULTANT shall prepare and submit all appropriate permit applications and supporting drawings, specifications and other documents in the name of the City of Austin to utility companies and providers and governmental authorities having jurisdiction over the PROJECT and shall obtain all approvals and all development and building permits necessary to complete the PROJECT in accordance with the PROJECT Resource Allocation Plan (RAP) described in Section 4, or as otherwise specified by OWNER. Development and permitting fees may be paid for in one of the following methods as mutually agreed:

- (a) Paid by CONSULTANT and billed to OWNER as a reimbursable or
- (b) Payment coordinated through the OWNER using an internal payment transfer document.

1.1.10 The CONSULTANT agrees to attend and make presentations, as specified in the attached scope of services (Attachment 1) as Basic Services, including (i) Board and Commission meetings, (ii) public meetings, and (iii) internal City of Austin meetings. Any other presentations required by OWNER will be considered Additional Services in accordance with Paragraph 1.4.6 of the **Supplemental Terms and Conditions of this AGREEMENT** and paid for in accordance with Paragraph 5.1.3.

1.1.11 The CONSULTANT shall not knowingly specify, request or approve for use any asbestos containing materials or lead-based paint without the OWNER's prior written approval. For materials specified on the basis of performance criteria, the CONSULTANT shall include a requirement in the specifications effectively stating that "Asbestos containing materials or lead-based paint are prohibited from being used in the project." When a specific product is specified, the CONSULTANT shall make best efforts to verify that the product does not include asbestos containing material. The CONSULTANT agrees to execute a Statement of Non-Inclusion of Asbestos Containing Material, on a form provided by OWNER, both prior to design and upon completion of the Construction Documents Phase.

1.1.12 The CONSULTANT shall prohibit discrimination in employment based upon race, creed, color, religion, national origin, sexual orientation, gender identity, disability, veteran status, sex or age, in compliance with Chapter 5-4-2, Austin City Code. A copy of the CONSULTANT's non-discrimination policy has been provided prior to execution of this AGREEMENT.

1.2 Laboratory Services

If laboratory services are provided for the PROJECT by the CONSULTANT or its subconsultant(s) through this AGREEMENT, these services must be performed by a properly accredited laboratory. The CONSULTANT will provide evidence to the OWNER of such accreditation on an annual basis for the duration of this AGREEMENT.

1.3 Quality Control Plan (QCP)

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1.3.1 The CONSULTANT agrees to perform quality assurance-quality control/ constructability reviews in accordance with the CONSULTANT's approved Quality Control Plan (QCP) work plan described in Attachment 3, that is incorporated by reference and which includes any subsequent revisions approved by OWNER. The QCP is to be submitted to the OWNER for approval within fourteen (14) calendar days after the OWNER's issuance of a Notice to Proceed to the CONSULTANT. In addition to providing the reports required by the QCP, the CONSULTANT agrees to address any QCP comments from the OWNER and provide resolution to the OWNER's satisfaction. In the event the OWNER retains a separate consultant to perform additional QCP services for the OWNER, the CONSULTANT will provide all necessary information to the OWNER, address any comments from the OWNER's consultant, and provide resolution to the OWNER's satisfaction. The CONSULTANT shall include this language in all its subconsultant contracts to ensure subconsultants understand their responsibility for complying with the OWNER's or OWNER's consultant's QCP requirements.

1.3.2 The QCP reviews will be performed by a staff member of the CONSULTANT not involved in day-to-day PROJECT tasks. If the CONSULTANT does not have the internal staff capacity to provide for this independent review, the CONSULTANT must include a QCP subconsultant on the PROJECT team. The person performing the QCP reviews shall certify, seal and attest that the final construction bid documents have been drafted in full compliance with the QCP.

1.3.3 The CONSULTANT will perform QCP reviews at intervals during the design phase, specified in the QCP, to ensure plans, specifications, and drawings satisfy accepted quality standards and meet the requirements of the PROJECT scope. Based on the findings of the QCP reviews, the CONSULTANT must reconcile the project scope and budget as needed. Documentation will be included that verifies interdisciplinary coordination has occurred.

1.3.4 The CONSULTANT will perform constructability reviews, using persons with construction experience, at appropriate intervals, during the design phase, specified in the QCP to ensure that the PROJECT is buildable, as well as cost-effective, biddable, and maintainable. Based on the findings of the constructability reviews, the CONSULTANT shall redesign the PROJECT, as required, to conform to the Fixed Construction Budget as described in Section 3.3. The CONSULTANT will provide interim construction estimates to verify that the PROJECT is within the Fixed Construction Budget as further described in the phase descriptions in the **Supplemental Terms and Conditions of this AGREEMENT**.

1.3.5 Acceptance and/or approval of the CONSULTANT's QCP documentation by the OWNER do not constitute a release of the responsibilities and liability of the CONSULTANT for the accuracy and competency of its QCP reviews and final construction documents.

1.4 Basic Services

The CONSULTANT will, in the scope of their work and in conformance with the approved PROJECT Resource Allocation Plan (RAP), perform the basic services described in 1.4.1 et seq of the **Supplemental Terms and Conditions of this AGREEMENT**. These basic services shall be provided in phases and/or parts only as authorized by the OWNER (in subsequent written Supplemental Amendments to proceed).

SECTION 2 - OWNER'S RESPONSIBILITIES

2.1 The OWNER will:

2.1.1 Provide its requirements for the PROJECT.

2.1.2 Designate the OWNER's Project Manager.

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2.1.3 Provide a "Fixed Construction Budget for the PROJECT" as defined in subsection 3.1 prior to negotiation of this AGREEMENT.

2.1.4 Assist CONSULTANT by placing at their disposal readily available (i) reports; (ii) property, boundary, easement, right-of-way, topographic and utility surveys; (iii) zoning and deed restrictions; and (iv) other data relevant to the development of the PROJECT.

2.1.5 Assist CONSULTANT in gaining entry to public property and private property, only when necessary, as may be required by the CONSULTANT in the performance of their services under this AGREEMENT.

2.1.6 Review and provide written comments on documents and questions presented by the CONSULTANT and render decisions pertaining thereto within seven (7) calendar days. The OWNER will review and provide written comments on periodic plan and specifications submittals within fourteen (14) calendar days. OWNER shall immediately notify CONSULTANT if additional time is needed.

2.1.7 Give prompt written notice to the CONSULTANT whenever the OWNER observes or otherwise becomes aware of any defect in the CONSULTANT's work product or services.

2.1.8 Direct CONSULTANT, by way of written Supplemental Amendment to this AGREEMENT (see Subsection 4.2), to provide any necessary Additional Services beyond those authorized in the approved PROJECT RAP or as stipulated in the **Supplemental Terms and Conditions of this AGREEMENT**.

SECTION 3 - FIXED CONSTRUCTION BUDGET

3.1 The "Fixed Construction Budget" means the amount allocated by OWNER for the PROJECT construction contract, which can only be adjusted by OWNER's prior written approval.

3.2 Fixed Construction Budget does not include the compensation of the CONSULTANT and the CONSULTANT'S subconsultants, the cost of the land, rights-of-way, or other costs which are the responsibility of the OWNER.

3.3 Responsibility for Fixed Construction Budget

3.3.1 CONSULTANT is responsible for designing the PROJECT to be constructible within the Fixed Construction Budget. The CONSULTANT will determine what materials, equipment, component systems and types of construction to include in the Contract Documents, make reasonable adjustments in the scope of the PROJECT with the OWNER's consent, and, with the OWNER's approval, develop bid alternates.

3.3.2 If the Fixed Construction Budget is exceeded by the lowest responsible bid, the OWNER shall either:

- (1) give written approval of an increase in the Fixed Construction Budget;
- (2) authorize rebidding of the PROJECT within a reasonable time;
- (3) abandon the PROJECT; or
- (4) cooperate in revising the PROJECT scope and quality as required to reduce the construction cost.

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In the case of (2) and/or (4), the CONSULTANT, without additional compensation, shall perform those services to produce the Drawings and Specifications as necessary to comply with the Fixed Construction Budget provided that the bidding or rebidding processes occur within six (6) months of the date that the CONSULTANT delivered the final bid documents to OWNER. If the bidding or rebidding processes occur after that six (6) month period, the CONSULTANT is entitled to additional compensation.

3.3.3 Bid Alternates

3.3.3.1 If, under the OWNER's direction, the CONSULTANT prepares the bid documents to include bid alternates as a means to keep the PROJECT cost within the Fixed Construction Budget, the CONSULTANT's compensation will remain the established fee amount irrespective of the outcome of bids. In the event the base bid is not within the Fixed Construction Budget, Paragraph 3.3.2 of this AGREEMENT governs. The OWNER's acceptance of the base bid or bid alternates will not change the CONSULTANT's fee amount.

3.3.3.2 If, under the OWNER's direction, the CONSULTANT prepares bid documents that include bid alternates, and OWNER has advised CONSULTANT that such alternates may not be within the Fixed Construction Budget, the CONSULTANT must track the cost of any such alternates. Compensation for the requested bid alternates will be as follows:

(1) If the bid for the alternates requested by OWNER is within the Fixed Construction Budget, there is no change in the fee.

(2) Otherwise, the work to reconfigure the Bid Documents to include the requested bid alternates will be considered Additional Services with compensation to be determined in accordance with Subsection 5.1 of this AGREEMENT.

SECTION 4 - RESOURCE ALLOCATION PLAN (RAP)

4.1 The CONSULTANT agrees to complete the phases of services in accordance with the approved PROJECT Resource Allocation Plan (RAP), which is Attachment 1 of this AGREEMENT, and the applicable standard of professional care. A specific time period will be set for each phase.

4.2 Supplemental Amendments

4.2.1 Before additional work may be performed or additional costs incurred beyond what is specified in the approved PROJECT RAP, both parties must execute a written Supplemental Amendment. The OWNER is not responsible for actions by the CONSULTANT or any costs incurred by the CONSULTANT relating to additional work prior to the execution of the Supplemental Amendment. Any amendment must be executed within the time period established in the PROJECT RAP.

4.2.1.1 More Time Needed. If the CONSULTANT determines or reasonably anticipates that the PROJECT cannot be completed before the specified completion date, the CONSULTANT shall submit a RAP revision to the OWNER for approval. The OWNER may, at its sole discretion, extend the authorized PROJECT period.

4.2.1.2 Changes in Scope. Changes that would modify the scope of work authorized for the PROJECT must be established by a Supplemental Amendment. If the change in scope affects the schedule or CONSULTANT's fee for the PROJECT, the CONSULTANT shall prepare a revised PROJECT budget and RAP for the OWNER's approval.

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4.2.1.3 Rate Revisions. The City will consider annual revisions to the rates shown in Attachment 2 only if requested by the CONSULTANT and will issue any such approvals as a Supplemental Amendment. However, rate revisions will not be considered until at least one (1) year after the date of this AGREEMENT or any subsequent amendments relating to rate revisions.

4.2.2 The OWNER may ask the CONSULTANT to submit a proposal for additional work that is within the defined scope of work under this AGREEMENT. The amount to be paid for the proposed additional work will be a lump sum for each proposal. The CONSULTANT may, without penalty, elect not to submit a proposal. If both parties agree to the proposal for additional work, the parties must execute a written Supplemental Amendment and revise the RAP.

4.3 If the OWNER sustains actual damages as a result of willful or negligent failure of the CONSULTANT to furnish services in compliance with the approved PROJECT RAP described in this Section 4 and subsequent approved amendments in accordance with Subsection 4.2, the CONSULTANT agrees to compensate the OWNER for the cost of such damages in accordance with Section 8, itemized costs of which will be provided to the CONSULTANT by the OWNER. The OWNER agrees to provide the CONSULTANT written notification of such damages as the cost is being incurred.

4.4 The CONSULTANT is not liable or responsible for OWNER delays or suspensions of services. If the CONSULTANT is delayed through no fault of its own, written time extension requests may be submitted to the OWNER for approval. These requests will be reviewed only if submitted to OWNER within (14) calendar days of the occurrence unless force majeure conditions exist.

4.5 If the CONSULTANT fails to meet the approved PROJECT RAP schedule, including subsequently approved amendments, OWNER may elect to invoke remedies outlined in Section 8 of this AGREEMENT.

4.6 Time required by the OWNER to review and return documents to the CONSULTANT following their submittal during and after each phase will be included in the approved PROJECT RAP.

SECTION 5 - COMPENSATION

5.1 Basis of Compensation

5.1.1 The OWNER will compensate the CONSULTANT for the Scope of Services described in the approved PROJECT RAP or as subsequently amended, in accordance with Subsection 5.3, *PAYMENTS TO THE CONSULTANT*, and the other Terms and Conditions of this AGREEMENT, as follows:

5.1.1.1 No advance payment will be paid to the CONSULTANT prior to rendering services.

5.1.1.2 Payments for Basic Services will be made monthly in proportion to services performed within each phase of services, as shown in the PROJECT RAP.

5.1.1.3 For Basic Services of Subconsultants, a multiple of one and five hundredth (1.05) times the amount billed to the CONSULTANT for such services will be paid.

5.1.2 The total amount of compensation to be paid the CONSULTANT will not exceed the amount stated in paragraph 5.1.2.1 of the **Supplemental Terms and Conditions of this AGREEMENT** without amendment to this AGREEMENT.

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5.1.3 *Compensation for Additional Services*

5.1.3.1 For *PROJECT REPRESENTATION BEYOND BASIC SERVICES* as described in Subparagraph 1.4.6 of the **Supplemental Terms and Conditions of this AGREEMENT**, compensation will be made for Additional Services in accordance with the schedule of hourly rates shown in Attachment 2.

5.1.3.2 Principals may only bill at the hourly rate of Principals when acting in that capacity. Principals acting in the capacity of staff must bill at staff rates. The CONSULTANT shall provide documentation with each payment request that clearly indicates how that individual's time is allocated and the justification for that allocation.

5.1.3.3 For *ADDITIONAL SERVICES OF SUBCONSULTANTS* a multiple of one and five hundredth (1.05) times the amounts billed to the CONSULTANT for such services will be paid.

5.1.4 *Compensation for Reimbursable Expenses*

5.1.4.1 For *REIMBURSABLE EXPENSES*, as described in Subsection 5.2, a multiple of one and five hundredths (1.05) times the amounts expended by the CONSULTANT, the CONSULTANT'S employees and subconsultants in the interest of the PROJECT will be paid.

5.1.4.2 The OWNER is a tax-exempt organization as defined by Chapter 11 of the Property Tax Code of Texas. OWNER will furnish CONSULTANT with a Sales Tax Exemption Certification to be issued to suppliers in lieu of tax. If payment of the sales tax is unavoidable in a specific case, the CONSULTANT will be reimbursed by the OWNER for any such costs incurred.

5.1.5 OWNER and the CONSULTANT agree in accordance with the Terms and Conditions of this AGREEMENT that:

5.1.5.1 If OWNER determines the scope of the PROJECT or CONSULTANT'S Services are changed materially, compensation will be equitably adjusted through negotiation.

5.1.5.2 If OWNER determines the Services covered by this AGREEMENT have not been completed within the time specified in the PROJECT RAP, through no fault of the CONSULTANT, the amounts of compensation, rates and multiples set forth herein may be adjusted through negotiation.

5.1.6 *Period of Service*

5.1.6.1 This AGREEMENT will remain in force for that period required to complete the PROJECT (including required extensions thereto) unless discontinued by any of the several provisions contained elsewhere in this AGREEMENT. The total period of service is stated in subparagraph 5.1.2.1 of the **Supplemental Terms and Conditions of the AGREEMENT**.

5.1.6.2 CONSULTANT'S failure to meet the approved PROJECT RAP may result in the assessment of remedies as described in Section 8 of this AGREEMENT.

5.2 Reimbursable Expenses

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Reimbursable Expenses are part of Basic Services and include actual expenditures made by the CONSULTANT and the CONSULTANT's employees and subconsultants in performing services for the PROJECT for the expenses listed in the following Subsections. CONSULTANT must submit invoices or other similar documentation for Reimbursable Expenses as part of a payment request. The OWNER is a tax exempt entity and will not reimburse the CONSULTANT for any tax expenses. The OWNER will consider exceptions on a case-by-case basis. **Reimbursable Expenses are limited to these specific items:**

5.2.1 By prior written approval of the OWNER, reasonable transportation and living expenses in connection with out-of-town travel.

5.2.1.1 All travel and lodging expenses in connection with the AGREEMENT for which reimbursement may be claimed will be reviewed against the City's Travel Policy and the current (at the time the travel occurs) the General Services Administration (GSA) Domestic Per Diem Rates (the "GSA Rates") at http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA_BASIC&contentId=17943&noc=T. Amounts in excess of the Travel Policy or GSA Rates will not be paid. All invoices must be accompanied by copies of receipts (e.g. hotel bills, airline tickets).

5.2.1.2 Reimbursement will be made only for expenses actually incurred. Airline fares in excess of coach or economy will not be reimbursed.

5.2.1.3 Mileage charges for rental cars in connection with out-of-town travel may not exceed the amount permitted as a deduction in any year under the Internal Revenue Code or Regulations. Mileage costs for travel within the Austin metropolitan area are to be included in CONSULTANT's overhead rate and not billed separately as a reimbursable expense.

5.2.2 Fees paid for securing approval of authorities having jurisdiction over the PROJECT.

5.2.3 Reproduction expenses for drawings, specifications and all other documents required for bidding, OWNER submittals, and for file copies of CONSULTANT, Contractor, and OWNER, and other parties approved by the OWNER.

5.2.4 Expense of renderings, models and mock-ups requested by the OWNER.

5.2.5 Expense of reproducing record drawings for the OWNER on sepia, mylars or plastic film.

5.2.6 Reproduction expense for drawings, specifications and any other documentation to be submitted to utility owners and governmental authorities having jurisdiction over the PROJECT. Interim review plots or drawings for CONSULTANT and subconsultants are not reimbursable.

5.3 Payments to the Consultant

5.3.1 *Payments for Basic Services*

5.3.1.1 Payments for Basic Services, including Reimbursable Expenses, will be made monthly in accordance with the approved PROJECT RAP on the basis set forth in Subsections 5.1 and 5.2. CONSULTANT shall submit the application for payment using the form supplied by OWNER.

5.3.2 *Payments for Additional Services*

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5.3.2.1 Payments for the CONSULTANT'S Additional Services as defined in Subsection 1.4.6 of the **Supplemental Terms and Conditions of this AGREEMENT** may be made no more often than monthly upon presentation by CONSULTANT of an acceptable statement of Additional Services rendered and/or expenses incurred. Each statement must include the form supplied by the OWNER, copies of supporting invoices, time sheets, and any other evidence of expense as required by the OWNER.

5.3.3 *Payments Withheld*

The OWNER may withhold, amend, or nullify any request for payment by the CONSULTANT under conditions that include those described in Subparagraphs 5.3.3.1 through 5.3.3.7 below .

5.3.3.1 Failure of the CONSULTANT to follow the approved schedule and meet all phase and milestone requirements specified in the PROJECT RAP.

5.3.3.2 OWNER'S receipt of notice that, despite payment to CONSULTANT for services rendered by subconsultants, CONSULTANT has not paid subconsultants for services invoiced to and paid by OWNER within fourteen (14) calendar days of CONSULTANT's receipt of payment from OWNER.

5.3.3.3 Payments for subconsultants' costs when those subconsultants are not included in the approved MBE/WBE compliance plan.

5.3.3.4 Failure of the CONSULTANT to submit timely and complete records of PROJECT conference proceedings as specified in Paragraph 1.1.8.

5.3.3.5 Failure of the CONSULTANT to submit timely and complete weekly reports of its job site observations containing detailed information as specified in Paragraph 1.4.4.5.2 of the **Supplemental Terms and Conditions of this AGREEMENT**.

5.3.3.6 Failure of the CONSULTANT to provide updated record drawings and Contractor's record contract documents to the OWNER within thirty (30) calendar days after Contractor's record contract documents have been provided to the CONSULTANT by the Contractor upon substantial or final completion of the PROJECT.

5.3.3.7 Failure to make timely payment to the City of Austin for taxes.

5.3.4 *Prompt Payments*

The OWNER shall make payment to CONSULTANT of the sum named in a payment application within thirty (30) calendar days after the day on which the OWNER received the mutually acceptable payment application. If the OWNER fails to make such prompt payment, then OWNER will pay CONSULTANT, in addition to the amount owed for the payment application, interest thereon at the rate specified in Government Code, Section 2251.025(b) from date due until fully paid, which shall fully liquidate any injury to CONSULTANT growing out of such delay in payment.

The OWNER cannot make a partial payment on an invoice in dispute. The CONSULTANT may resubmit an invoice for the undisputed amount or wait for payment until the dispute has been resolved. The thirty (30) calendar days restarts after the OWNER receives a corrected payment application.

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5.3.5 *Payment for Project Suspension or Termination*

5.3.5.1 If the PROJECT is suspended or abandoned in whole or in part for more than three months, the CONSULTANT will be compensated for all services performed prior to receipt of written notice from the OWNER of such suspension or abandonment, together with Reimbursable Expenses then due. If the PROJECT is resumed after being suspended for more than three months, the CONSULTANT'S compensation may be equitably adjusted through negotiation. If the parties cannot agree on an adjustment, OWNER may terminate the AGREEMENT in accordance with Subsection 7.6.

SECTION 6 - INSURANCE REQUIREMENTS

6.1 The CONSULTANT shall carry insurance in the types and amounts indicated below for the duration of the AGREEMENT:

6.1.1 Workers' Compensation and Employers' Liability Insurance Coverage with limits consistent with statutory benefits outlined in the Texas Workers' Compensation Act (Section 401) and (1) minimum policy limits for Employers Liability Insurance of \$100,000 bodily injury each accident, \$500,000 bodily injury by disease policy limit and \$100,000 bodily injury by disease each employee; or (2) as otherwise required in the **Supplemental Terms and Conditions of this AGREEMENT**. The CONSULTANT's policy must be issued by an insurer licensed or approved to do business in the State of Texas and include these endorsements in favor of the OWNER:

- (a) Waiver of Subrogation, form WC 420304, or equivalent.
- (b) 30 day Notice of Cancellation, form WC 420601, or equivalent.

6.1.2 Commercial General Liability Insurance with a minimum combined bodily injury and property damage per occurrence limit of \$500,000 for coverages A & B unless otherwise stated in the **Supplemental Terms and Conditions of this AGREEMENT**. The policy must contain the following provisions:

- (a) Blanket contractual liability coverage for liability assumed under this AGREEMENT and all contracts relative to this PROJECT.
- (b) Independent Contractors coverage.
- (c) OWNER listed as an additional insured, endorsement CG 2010, or equivalent.
- (d) 30 day Notice of Cancellation in favor of the OWNER, endorsement CG 0205, or equivalent.
- (e) Waiver of Transfer Right of Recovery Against Others in favor of the OWNER, endorsement CG 2404, or equivalent.
- (f) Aggregate limits of insurance per project, endorsement CG 2503, or equivalent.

6.1.3 Business Automobile Liability Insurance for all owned, non-owned and hired vehicles (1) with a minimum combined single limit of \$500,000 per accident for bodily injury and property damage; or (2) \$250,000 bodily injury per person, \$500,000 bodily injury per occurrence and at least \$100,000 property damage liability; or (3) as otherwise required in the **Supplemental Terms and Conditions of this AGREEMENT**. The policy shall contain the following endorsements in favor of the OWNER:

- (a) Waiver of Subrogation endorsement TE 2046A, or equivalent.
- (b) 30 day Notice of Cancellation endorsement TE 0202A, or equivalent.
- (c) Additional Insured endorsement TE 9901B, or equivalent.

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6.1.4 CONSULTANT's Professional Liability Insurance to pay on behalf of the assured all sums which the assured becomes legally obligated to pay as damages by reason of any negligent act, error, or omission committed or alleged to have been committed with respect to plans, maps, drawings, analyses, reports, surveys, change orders, designs or specifications prepared or alleged to have been prepared by the assured. The policy must provide for 30 day notice of cancellation in favor of the OWNER. The minimum limit is specified in subparagraph 6.1.4.1 of the **Supplemental Terms and Conditions of this AGREEMENT**.

6.2 General Requirements

6.2.1 The CONSULTANT must complete and forward the OWNER'S standard certificate of insurance to the OWNER before the AGREEMENT is executed, as verification of coverage required in Paragraphs 6.1.1 through 6.1.4 above. The CONSULTANT shall not commence services until the required insurance has been obtained and until such insurance has been reviewed by the OWNER's Office of Contract and Land Management. Approval of insurance by the OWNER does not relieve or decrease the liability of the CONSULTANT hereunder and must not be construed to be a limitation of liability on the part of the CONSULTANT

6.2.2 Applicable to all insurance policies: If coverage is underwritten on a claims-made basis, the retroactive date must be coincident with or prior to the date of this AGREEMENT and the certificate of insurance must state that the coverage is claims made and the retroactive date. The CONSULTANT shall maintain continuous coverage for the duration of this AGREEMENT and for not less than twenty-four (24) months following substantial completion of the PROJECT. Coverage, including any renewals, must have the same retroactive date as the original policy applicable to the PROJECT. The CONSULTANT shall, on at least an annual basis, provide the OWNER with a certificate of insurance as evidence of such insurance.

6.2.3 The CONSULTANT's insurance coverage must be written by companies licensed or approved to do business in the State of Texas at the time the policies are issued and must be written by companies with A.M. Best ratings of B+VII or better unless otherwise required in the **Supplemental Terms and Conditions of this AGREEMENT**. The OWNER will accept workers' compensation coverage written by the Texas Workers Compensation Insurance Fund

6.2.4 All endorsements naming the OWNER as additional insured, waivers, and notices of cancellation endorsements as well as the certificate of insurance will indicate: City of Austin, Office of Contract and Land Management, P.O. Box 1088, Austin, Texas 78767.

6.2.5 The "other" insurance clause will not apply to the OWNER where the OWNER is an additional insured shown on any policy. It is intended that policies required in the AGREEMENT, covering both the OWNER and the CONSULTANT, be considered primary coverage as applicable.

6.2.6 If insurance policies are not written for amounts specified above, the CONSULTANT shall carry Umbrella or Excess Liability Insurance for any differences in amounts specified. If Excess Liability Insurance is provided, it must follow the form of the primary coverage.

6.2.7 The OWNER shall be entitled, upon request and without expense, to receive certified copies of policies and endorsements thereto and may make any reasonable requests for deletion or revision or modification of particular policy terms, conditions, limitations, or exclusions except where policy provisions are established by law or regulations binding upon either of the parties hereto or the underwriter on any such policies.

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6.2.8 The OWNER reserves the right to review the insurance requirements set forth during the effective period of this AGREEMENT and to make reasonable adjustments to insurance coverage, limits and exclusions when deemed necessary and prudent by the OWNER based upon changes in statutory law, court decisions, the claims history of the industry or financial condition of the insurance company as well as the CONSULTANT.

6.2.9 The CONSULTANT shall not cause any insurance to be canceled nor permit any insurance to lapse during the term of the AGREEMENT or as required in the AGREEMENT.

6.2.10 The CONSULTANT shall be responsible for premiums, deductibles and self-insured retentions, if any, stated in policies. All deductibles or self-insured retentions shall be disclosed on the certificate of insurance.

6.2.11 The CONSULTANT shall provide OWNER thirty (30) days written notice of erosion of the aggregate limits below occurrence limits for all applicable coverages indicated within the AGREEMENT.

6.2.12 If OWNER-owned property is being transported or stored off-site by the CONSULTANT, then the appropriate property policy will be endorsed for transit and storage in an amount sufficient to protect OWNER's property.

6.2.13 The insurance coverages required under this AGREEMENT are required minimums and are not intended to limit the responsibility or liability of the CONSULTANT.

6.3 CONSULTANT shall determine appropriate types and levels of insurance coverage to be provided by subconsultants and advise the subconsultants of the documentation to be provided to CONSULTANT to verify coverage.

SECTION 7 - TERMINATION OF AGREEMENT

7.1 The rights to terminate this AGREEMENT provided in this Section 7 are in addition to, and cumulative of, all other rights and remedies available to the parties at law or in equity.

7.2 This AGREEMENT may be terminated by the CONSULTANT upon at least seven (7) calendar days written notice should the OWNER substantially fail to perform in accordance with the OWNER's responsibilities through no fault of the CONSULTANT.

7.3 Notice to Cure.

OWNER will provide a Notice to Cure to the CONSULTANT to cure an event of default described in this Section and/or an anticipatory breach of contract. The CONSULTANT must attend a meeting with the OWNER regarding the Notice to Cure, the event of default, and/or the anticipatory breach of contract. The Notice to Cure will set forth the time limit in which the cure is to be completed or commenced and diligently prosecuted. Upon receipt of any Notice to Cure, the CONSULTANT must prepare a report describing its program and measures to affect the cure of the event of default and/or anticipatory breach of contract within the time required by the Notice to Cure. The CONSULTANT's report must be delivered to the OWNER at least three (3) business days prior to the required Notice to Cure meeting with the OWNER.

7.4 This AGREEMENT may be terminated by the OWNER upon at least seven (7) calendar days written notice to the CONSULTANT in the event that the PROJECT is abandoned or indefinitely postponed.

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7.5 This AGREEMENT may be terminated by the OWNER for cause upon seven (7) calendar days written notice. In the event OWNER terminates the AGREEMENT for cause, the OWNER may reject any and all proposals submitted by CONSULTANT for up to three (3) years. In the event that a termination for cause is found to be wrongful, the termination shall be converted to a termination without cause ("termination for convenience") as set forth in Subsection 7.6 and CONSULTANT's sole remedy for such termination will be limited to the recovery of payments permitted under Subsection 7.6.

The OWNER may terminate for cause due to the occurrence of any one of the following:

7.5.1 If CONSULTANT persistently fails to perform the work in accordance with the AGREEMENT, in particular the approved PROJECT RAP;

7.5.2 If CONSULTANT disregards laws or regulations of any public body having jurisdiction;

7.5.3 If CONSULTANT makes fraudulent statements;

7.5.4 If CONSULTANT fails to make adequate progress and endangers timely and successful completion of the AGREEMENT, which failure includes failure of subconsultants to meet contractual obligations;

7.5.5 CONSULTANT's failure under 7.5.4 includes failure of subconsultants to meet contractual obligations; or

7.5.6 If CONSULTANT otherwise violates in any substantial way any provisions of the AGREEMENT.

7.6 This AGREEMENT may be terminated at the OWNER'S convenience upon seven (7) calendar days written notice; in which event, the CONSULTANT will be compensated for all services performed to termination date, together with Reimbursable Expenses then due, in accordance with Subsection 7.7, and the OWNER retains the right to continue the PROJECT consistent with paragraph 11.2.4.

7.7 In the event of termination not the fault of the CONSULTANT, the CONSULTANT will be compensated for all services performed to termination date, together with Reimbursable Expenses then due without the right to compensation for anticipated profits on services not completed. CONSULTANT will submit to the OWNER, within the timeframe set in the termination notice, all work and documents prepared to that point. Fixed-fee payment to the CONSULTANT, if applicable, shall be proportional to services performed to the date of termination.

SECTION 8 - OWNER REMEDIES

8.1 The OWNER and CONSULTANT agree that in the event of a delay in completion for which the OWNER suffers actual damages, the OWNER may elect to pursue its actual damages and any other remedy allowed by law. Conditions under which the OWNER may seek other damages include, but are not limited to:

8.1.1 Failure of the CONSULTANT to make adequate progress in accordance with paragraph 7.5.4 above.

8.1.2 Failure of the CONSULTANT to design in compliance with the laws of City, State and federal governments as specified in Paragraph 1.4.2 of the **Supplemental Terms and Conditions of this AGREEMENT**, such that subsequent compliance costs exceed expenditures which would have been involved had services been

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properly executed by the CONSULTANT. The CONSULTANT will financially participate in the OWNER'S financial losses for those non-value added compliance costs.

8.1.3 Losses are incurred, despite the Quality Control Plan (QCP), because of defects, errors and omissions in the design, working drawings, specifications or other documents prepared by the CONSULTANT to the extent that the financial losses are greater than the OWNER would have originally paid had there not been defects, errors and omissions in the documents. The CONSULTANT will financially participate in the OWNER'S financial losses for those non-value added work costs.

8.2 Pursuant to Section 6.1.4, the OWNER may assert a claim against the CONSULTANT's professional liability insurance as appropriate when other remedies are not available or offered for design deficiencies discovered during and after PROJECT construction. When the OWNER incurs non-value added work costs for change orders due to design errors or omissions, the OWNER will send the CONSULTANT a certified cost recovery claim letter that includes

- (1) summary of facts with supporting documentation;
- (2) instruction for CONSULTANT to revise design documents, if appropriate, at CONSULTANT's expense;
- (3) calculation of non-value added work costs incurred by the OWNER; and
- (4) deadline for CONSULTANT's response.

The CONSULTANT will provide a preliminary response to OWNER's cost recovery claim letter within seven (7) calendar days of receipt of the claim letter. The CONSULTANT must submit a formal documented response to the claim letter to the OWNER within fourteen (14) calendar days of the date of the preliminary response. The CONSULTANT will provide the payment requested by OWNER within thirty (30) calendar days of OWNER's acceptance of the CONSULTANT's formal response or the CONSULTANT will request alternative dispute resolution, as described in subsection 10.2 of this AGREEMENT, within fourteen (14) calendar days of OWNER's rejection of the CONSULTANT's formal response.

8.3 The CONSULTANT may be required to revise bid documents and re-advertise the PROJECT at the CONSULTANT's sole cost (including printing) if, in the OWNER's judgment, the CONSULTANT generates excessive addenda, either in terms of the nature of the revisions or the actual number of changes due to the CONSULTANT's errors or omissions.

8.4 Decisions to Withhold Payment

8.4.1 OWNER may withhold or nullify the whole or part of any payment to such extent as may be necessary because of conditions outlined in paragraph 5.3.3 "Payments Withheld".

SECTION 9 - CONSULTANT REMEDIES

9.1 If the CONSULTANT is prevented from completing any part of the PROJECT within the time established in the RAP due to delays beyond the reasonable control of either the OWNER or the CONSULTANT, an extension of the PROJECT schedule in an amount equal to the time lost due to such delay shall be the CONSULTANT's sole and exclusive remedy. Performance interrupted by an act of god or the result of war, riot, civil commotion, sovereign conduct, or the conduct of a third party, will be excused for the period of time necessary to remedy the effect of the precipitating occurrence. In such cases, a conference will be held within three (3) working days of the end of the occurrence to establish a revised schedule in the RAP.

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9.2 CONSULTANT's requests for remedies arising from the terms of this AGREEMENT for conditions other than those specified in subsection 9.1 must be done in accordance with the following:

9.2.1 Within thirty (30) calendar days after the CONSULTANT could be reasonably expected to know of the occurrence prompting the request for an extension of time, the CONSULTANT must deliver a preliminary written notice to the OWNER describing the general nature of the request. Within thirty (30) calendar days after the preliminary notice, the CONSULTANT must provide the OWNER written supporting documentation stating all known time extensions to which the CONSULTANT is entitled.

9.2.2 Within thirty (30) calendar days of receipt of notice of the amount of the requested remedy with supporting data, OWNER and CONSULTANT will meet to discuss the request, after which an offer of settlement or notification of no settlement offer will be made to CONSULTANT. If CONSULTANT is not satisfied with the proposal presented, CONSULTANT will have thirty (30) calendar days in which to

- (1) submit additional supporting data requested by the OWNER;
- (2) modify the initial request for remedy; or
- (3) request Alternative Dispute Resolution.

SECTION 10 - DISPUTE RESOLUTION

10.1 Filing of Claims

10.1.1 Claims arising from the circumstances identified in this AGREEMENT, or other occurrences or events, shall be made by Written Notice delivered by the party making the Claim to the other party within thirty (30) calendar days after the start of the occurrence or event giving rise to the Claim and stating the general nature of the Claim. Notice of the amount of the Claim with supporting data shall be delivered in writing within thirty (30) calendar days after Written Notice of Claim is delivered by claimant and shall represent that the adjustment claim covers all known amounts and/or extension of time to which claimant is entitled.

10.1.2 Within thirty (30) calendar days of receipt of notice of the amount of the Claim with supporting data, the OWNER and CONSULTANT shall meet to discuss the Claim, after which an offer of settlement or notification of no settlement offer will be made to claimant. If claimant is not satisfied with the proposal presented, claimant shall have thirty (30) calendar days in which to: (i) submit additional supporting data requested by the other party; (ii) modify the initial Claim; or (iii) request Alternative Dispute Resolution.

10.2 Alternative Dispute Resolution

10.2.1 If a dispute exists concerning a CONSULTANT or OWNER, the parties agree to use the following procedure prior to pursuing any other available remedies.

10.2.2 Negotiating with Previously Uninvolved Personnel

Either party may make a written request for a meeting to be held between representatives of each party within fourteen (14) calendar days of the request or such later period that the parties may agree to. Each party shall endeavor to include, at a minimum, one (1) previously uninvolved senior level decision maker (an owner, officer, or employee of each organization) empowered to negotiate on behalf of their organization. If a previously uninvolved senior level decision maker is unavailable due to the size of the CONSULTANT's organization or any other reason, the CONSULTANT shall nonetheless provide an appropriate senior level decision maker for the meeting. The

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purpose of this and any subsequent meetings will be good faith negotiations of the matters constituting the dispute. Negotiations will be concluded within thirty (30) calendar days of the first meeting, unless mutually agreed otherwise.

10.3 Mediation

10.3.1 If the procedure described in 10.2.2 proves unsuccessful or is waived pursuant to its terms, the parties shall initiate the mediation process. OWNER and CONSULTANT agree to select within thirty (30) calendar days a mediator trained in mediation skills and knowledgeable of the CONSULTANT's professional discipline, to assist with resolution of the dispute. OWNER and CONSULTANT agree to act in good faith in the selection of the mediator and to give consideration to qualified individuals nominated to act as mediator. Nothing in this AGREEMENT prevents the parties from relying on the skills of a person who also is trained in the subject matter of the dispute and/or a contract interpretation expert. Should the parties fail to agree on a mediator within thirty (30) calendar days of initiation of the mediation process, the parties agree to ask the Travis County Dispute Resolution Center to select a qualified individual, which selection is binding on the parties.

10.3.2 Mediation is a forum in which an impartial person, the mediator, facilitates communication between parties to promote reconciliation, settlement, or understanding among them. The parties hereby agree that mediation, at a minimum, shall provide for

(1) conducting an on-site investigation, if appropriate, by the mediator for fact gathering purposes;
(2) a meeting of all parties for the exchange of points of view; and
(3) separate meetings between the mediator and each party to the dispute for the formulation of resolution alternatives.

The parties agree to participate in mediation in good faith for up to thirty (30) calendar days from the date of the first mediation session, unless mutually agreed otherwise. Should the parties fail to reach a resolution of the dispute through mediation, then each party is released to pursue other remedies available to them.

10.4 Resolution of Disputes between CONSULTANT and Subconsultant:

The CONSULTANT agrees to follow the procedures paralleling those outlined in subsections 10.1, 10.2, and 10.3 in the event of a dispute with a subconsultant. The OWNER is not a party to the dispute resolution process between the CONSULTANT and subconsultants. However, if the OWNER is notified of a subconsultant claim, the OWNER will withhold payments to the CONSULTANT in accordance with subparagraph 5.3.3.2 until receiving notification that the claim has been resolved.

SECTION 11 - MISCELLANEOUS PROVISIONS

11.1 Owner's Right to Audit

11.1.1 "Records" means all records generated by or on behalf of CONSULTANT and each subconsultant, whether paper, electronic, or other media, which are in any way related to performance of or compliance with this Agreement, including, without limitation:

- .1 accounting records;
- .2 written policies and procedures;
- .3 subcontract files;
- .4 correspondence;
- .5 supplemental amendments to this AGREEMENT (as appropriate);

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- .6 agreements between CONSULTANT and any subconsultant;
- .7 records necessary to evaluate contract compliance and any claim submitted by CONSULTANT or any of its subconsultants;
- .8 any other CONSULTANT record that may substantiate any charge related to this Agreement; and
- .9 technical work products in accordance with the approved PROJECT RAP.

11.1.2 CONSULTANT shall allow OWNER's agent or its authorized representative to inspect, audit, and/or reproduce all Records generated by or on behalf of CONSULTANT and each subconsultant, upon OWNER's written request. Further, CONSULTANT shall allow OWNER's agent or authorized representative to interview any of CONSULTANT's employees, all subconsultants, and all their respective employees.

11.1.3 CONSULTANT shall retain all its Records, and require all its subconsultants to retain their respective Records, during this Agreement and for the longest of these specified periods: (i) three (3) years after final payment, (ii) until all audit and litigation matters that OWNER has brought to the attention of CONSULTANT are resolved, or (iii) longer if required by law. OWNER's right to inspect, audit, or reproduce Records (at no cost to OWNER), or interview employees of CONSULTANT or its respective subconsultants exists for the same period described in the preceding sentence.

11.1.4 CONSULTANT must provide sufficient and accessible facilities during its normal business hours for OWNER to inspect, audit, and/or reproduce Records, and to interview any person about the Records.

11.1.5 CONSULTANT shall insert these requirements in each written agreement between CONSULTANT and any subconsultant and require each subconsultant to comply with these provisions.

11.2 Ownership and Use of Documents

11.2.1 All PROJECT Drawings and Specifications produced by the CONSULTANT under this AGREEMENT are the property of the OWNER. The CONSULTANT shall also provide the OWNER high quality mylar and digital computer copies on CD or other OWNER-approved media of updated drawings and reproducible copies of specifications as specified in paragraph 1.4.2 of the **Supplemental Terms and Conditions of this AGREEMENT**. The cost of such copies will be paid as specified in Section 5 of this AGREEMENT. The CONSULTANT may not provide copies of or otherwise use the work products covered by this subsection 11.2 without the express prior written approval of the OWNER.

11.2.2 The CONSULTANT agrees that items such as plans, drawings, photos, designs, studies, specifications, computer programs, schedules, technical reports, or other work products which is/are specified to be delivered under this AGREEMENT, and which is/are to be paid for by the OWNER, is/are subject to the rights of the OWNER in effect on the date of this AGREEMENT. These rights include the right to use, duplicate and disclose such items in whole or in part, in any manner and for whatever purpose, and to have others do so. The CONSULTANT shall not copyright or otherwise claim ownership of the work products covered by this subsection 11.2. The CONSULTANT shall include in its subconsultant contracts appropriate provisions to achieve the purpose of this subsection 11.2.

11.2.3 All such items furnished by the CONSULTANT pursuant to this AGREEMENT are considered instruments of its services in respect to the PROJECT. It is understood that the CONSULTANT does not represent such items to be suitable for reuse on any other project or for any other purpose(s). If the OWNER reuses such items without the CONSULTANT's specific written verification or adaptation, such reuse will be at the risk of the OWNER, without liability to the CONSULTANT.

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11.2.4 Should the CONSULTANT be terminated under this AGREEMENT, the OWNER may continue the PROJECT and receive copies of the Drawings, Specifications, or other documents within fourteen (14) calendar days of the termination notice. Copies will be in the format designated by the OWNER, as specified in 1.4.2 or 1.4.5 of the **Supplemental Terms and Conditions of this AGREEMENT** (depending on the PROJECT's status at time of termination). The OWNER may have these documents completed, corrected, revised or added to by another design professional in accordance with Title 22, Chapter 137.33(i) of the Texas Administrative Code.

11.2.5 Submission or distribution to meet official regulatory requirements or for other purposes in connection with the PROJECT is not to be construed as publication in derogation of the CONSULTANT's rights.

11.3 Venue

11.3.1 In the event of any suit at law or in equity involving the AGREEMENT, venue will be exclusively in Travis County, Texas and the laws of the State of Texas shall apply to the interpretation and enforcement of this AGREEMENT.

11.4 Definitions

11.4.1 Terms in this AGREEMENT will have the same meaning as those in the standard purchasing and construction documents for the City of Austin, Texas. The applicable definitions may be viewed at <http://www.ci.austin.tx.us/purchase/downloads/ifb0100.pdf> and <http://www.ci.austin.tx.us/aeservices/toc.htm> respectively.

11.5 Severability

11.5.1 If any word, phrase, clause, sentence or provisions of this instrument, or the application of same to any person or set of circumstances is for any reason held to be unconstitutional, invalid or unenforceable, that finding only effects such word, phrase, clause, sentence or provision, and such finding does not effect the remaining portions of this instrument; this being the intent of the parties in entering into this instrument; and all provisions of this instrument are declared to be severable for this purpose.

11.6 Indemnification

11.6.1 The CONSULTANT shall indemnify and hold harmless the OWNER, and its officers, agents and employees, from and against all claims, demands, costs, causes of action, and liability of every kind and nature, including reasonable attorney's fees for the defense of any and all claims and demands, arising directly or indirectly from, or in any way connected with, the negligent performance of or failure to perform services in conformance with this AGREEMENT by CONSULTANT, its officers, agents, employees, and parties with whom it contracts.

11.7 Notices

11.7.1 Any and all notices under this AGREEMENT must be in writing and shall be delivered to the party entitled to receive the same by hand or U.S. Certified Mail, return receipt requested, addressed as specified in subparagraph 11.7.1.1 of the **Supplemental Terms and Conditions of this AGREEMENT**.

11.7.2 Mailed notice will be deemed effective three (3) business days after such notice is mailed by Certified Mail with return receipt requested. Hand delivered notice will be effective when received and acknowledged by signed receipt.

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11.8 Successors and Assigns

11.8.1 The OWNER and the CONSULTANT bind themselves, their partners, successors, assigns and legal representatives to the other party to this AGREEMENT with respect to all covenants of this AGREEMENT. Neither the CONSULTANT nor the OWNER may assign, sublet or transfer any interest in this AGREEMENT without the prior written consent of the other party.

11.9 Extent of Agreement

11.9.1 This AGREEMENT represents the entire and integrated agreement between the OWNER and the CONSULTANT and supersedes all prior negotiations, representations or agreements, either written or oral. This AGREEMENT may be amended only by written instrument signed by authorized representatives of both OWNER and CONSULTANT.

END

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SECTION 1 - CONSULTANT'S RESPONSIBILITIES

1.1 Performance of Services

Delete paragraph 1.1.10 and replace with the following:

1.1.10 The CONSULTANT agrees to attend and make presentations, as specified in the attached scope of services (Attachment 5) as Basic Services, including (i) Board and Commission meetings, (ii) public meetings, and (iii) internal City of Austin meetings. Any other presentations required by OWNER will be considered Additional Services in accordance with Paragraph 1.4.6 of the **Supplemental Terms and Conditions of this AGREEMENT** and paid for in accordance with Paragraph 5.1.3.

Insert the following language:

1.1.13 If directed by OWNER, CONSULTANT shall update OWNER provided record documents.

1.1.14 If the OWNER provided record documents to be updated that have been sealed by another Engineer, the CONSULTANT shall notify the Engineer of record of the agreement to update said documents. All updates and revisions to existing sealed documents shall be made as directed by OWNER and in accordance with the Texas Board of Professional Engineers rules.

1.1.15 The CONSULTANT agrees that record documents provided by the OWNER are to be used only for the intended purpose and to meet this contract's obligations. Use of these record documents for any other purpose not explicitly authorized by the OWNER is strictly prohibited.

1.1.16 The CONSULTANT shall incorporate sustainable principles and elements in accordance with the Leadership in Energy and Environmental Design (LEED™) Green Building Rating System as outlined in Council Resolution 20071129-045.

The CONSULTANT shall review the Council Resolution Implementation form and instructions with the project manager for determining the achievement of an appropriate certification by LEED™ Green Building Rating System Silver or incorporation of the Baseline Sustainability Standards. The CONSULTANT is responsible for preparing all documentation required for LEED™ certification. The OWNER will pay all application and certification fees.

The CONSULTANT shall use an integrated design approach, where the evaluation of any PROJECT element, material or system is not viewed solely on the basis of its own isolated merit, but is designed and then appraised as an integrated part of the entire PROJECT. This approach will require team members from all disciplines, during each stage of the design process, to investigate alternatives, question assumptions and research approaches to optimize building performance.

The CONSULTANT shall provide a written status report of implementation of the Council Resolution.

The CONSULTANT shall monitor the PROJECT during construction to verify and ensure that intended and specified elements as specified on the LEED™ Check List or the Baseline Sustainability Standards are being incorporated into the PROJECT. The CONSULTANT shall coordinate all relevant items with the Building Commissioning Agent.

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1.4.1 Phase A: Preliminary Phase Services

The CONSULTANT shall perform the Phase A: Preliminary Phase Services as described below and in Attachments 1 (RAP) and 4:

1.4.1.1 Attend and, if requested by OWNER, conduct preliminary conferences and public meetings with OWNER and other interested or involved entities regarding the alternatives for the PROJECT. Report progress of this phase to the OWNER relative to approved PROJECT Resource Allocation Plan (RAP) at monthly intervals as prescribed by the OWNER.

1.4.1.2 Obtain and review existing plans, maps, records, traffic (vehicular and pedestrian), water and wastewater studies, planning studies, zoning, land use, other utility, population, and other available information relevant to the development of the PROJECT. CONSULTANT shall perform a Preliminary Cultural Resources Assessment for the PROJECT. This assessment will provide for records reviews and site reconnaissance visits, consistent with City Code, State Statute, and guidance issued by the Council of Texas Archeologists. With approval from the OWNER, perform or contract with other licensed professionals to perform geotechnical investigations and engineering, or any tests, investigations or studies that are required for the proper execution of Phase A of the PROJECT.

1.4.1.3 Prepare, conduct and document studies, analyses and reports of the PROJECT alternatives in sufficient detail to clearly indicate the problems involved and reasonable solutions available to the OWNER. Such studies, analyses and reports may include, but are not limited to: preliminary layouts, maps, exhibits, sketches, construction materials and methods evaluations, schedules, utility coordination plans, design criteria, environmental reviews, compatibility with existing and proposed systems and/or processes, and other investigations pertinent to the evaluation of the PROJECT alternatives.

1.4.1.4 Collect all pertinent information concerning proposed public or private projects and/or proposed improvements in the project area. Coordinate with OWNER and other entities as necessary to comply with the PROJECT RAP and minimize PROJECT impacts and to communicate PROJECT details to minimize impact to other projects in the area.

1.4.1.5 Prepare preliminary PROJECT construction schedule and Class C estimate (with a margin of error of $\pm 25\%$) of the probable PROJECT construction, life cycle and maintenance costs for all alternative solutions. The CONSULTANT's opinion of construction costs shall be based on materials and labor process prevailing at the time of the preparation of the preliminary report without consideration of inflationary increases in costs and will be indexed to the *Engineering News Record* (ENR) Construction Cost Index prevailing at the time of the preparation of the preliminary report. The CONSULTANT shall apply reasonable consideration and knowledge to the preliminary cost estimate development.

1.4.1.6 Conduct preliminary field surveys, and determine site constraints and permitting requirements.

1.4.1.7 Prepare an environmental report for the recommended PROJECT alternative(s) that addresses appropriate environmental issues, which may include, but are not limited to, impacts to air, noise, and water quality, historical features, vegetation, environmental and geological features, and endangered species.

1.4.1.8 Prepare a geotechnical report and other technical reports for the recommended PROJECT alternatives that may include, but are not limited to: subsurface utility engineering (SUE)

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findings, delineation of geologically sensitive areas, hydrologic issues, soils formation, and information necessary to identify contractor's probable or recommended means of construction.

1.4.1.9 Prepare, present and publish details and a summary of findings for the recommended PROJECT in a Preliminary Engineering and Investigations Report. This report will be drafted upon conclusion of the CONSULTANT's reviews, investigations, and preliminary evaluations and shall include, but not be limited to, cost estimates (as outlined in Section 1.4.1.5), alternate routes, identification of permanent and temporary easements, identification of need for additional right-of-way, evaluations of and recommendations for construction methods and materials, including recommendations on the number of PROJECT construction contracts to be bid, and design and construction phase schedules. The CONSULTANT shall provide 1 electronic copy (on CD) and 10 hardcopies of the draft report and 1 electronic copy (on CD) and 10 hardcopies of the final report addressing the OWNER'S comments.

1.4.1.10 For all Phase A services, the CONSULTANT shall follow the approved schedule and meet all milestone requirements specified in the PROJECT RAP.

1.4.1.11 For all Phase A services, the CONSULTANT shall provide all required QCP documentation.

1.4.2 Phase B: Design Phase Services

If authorized, the CONSULTANT shall perform the Phase B services as described below and in Attachments 1 (RAP) and 4:

1.4.2.1 Attend and/or arrange for conferences, at periodic intervals not to exceed 1 month, with the OWNER for the purposes of explaining completed design activities and review of RAP for completion of remaining activities.

1.4.2.2 Conduct or otherwise acquire the necessary field surveys, soils tests, geotechnical tests, and additional analysis that, in the opinion of the CONSULTANT, are required for the proper execution of the design of the PROJECT.

1.4.2.3 Provide for field surveys, which may include photogrammetry, and perform related office computations and drafting for collecting information required for design. Such surveys must include horizontal and vertical control adequately documented on the final plans. Field surveys must also include the staking and referencing of points of intersection (PI's), points of curvature (PC's), points of tangency (PT's), and benchmarks (BM's) necessary to establish the PROJECT construction in the field. If necessary, establish Static GPS Control Monuments with U.S. Geological Survey (USGS) NAD 83 (93) and NAVD 88. Horizontal control for facilities shall be on the *Texas State Grid Coordinate System* Central Zone Grid Coordinates carried to second-order accuracy to permit actual construction staking to third order accuracy. The vertical control shall be based on the USGS NAVD 88 datum and BM's shall be established not more than 1000 feet apart at an accuracy of 0.01 feet. Visible topographic features will be tied to the PROJECT centerline(s) and will include, but not necessarily be limited to, existing property or lease lines, property or lease corners, utilities and appurtenance, roadways, structures, railroad structures, trees over eight inches in diameter, and other features within the limits of construction and twenty-five (25) feet beyond. PROJECT control must be complete and staked in the field at the time of advertisement for bid so that construction staking can be accomplished immediately thereafter.

1.4.2.4 The CONSULTANT shall prepare a Storm Water Pollution Prevention Plan (SWPPP) using the standard City template and submit to the OWNER. All engineering computations shall

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be certified by a Registered Professional Engineer specializing in Civil Engineering. All SWPPPs submitted on or after October 4, 2010 shall also be signed by a Certified Professional in Erosion and Sedimentation Control [(CPESC)(<http://cpesc.org/>)]. If the SWPPP itself contains engineering calculations, then the Registered Professional Engineer must also seal and sign the SWPPP. All drainage calculations shall be done in accordance with the guidelines in the Drainage Criteria Manual.

1.4.2.5 Prepare detailed specifications using the OWNER'S standard specifications. Any revisions or special provisions to the specifications must be submitted to the OWNER for written approval. Prepare PROJECT construction contract drawings, at approved horizontal and vertical scales in electronic format and in ink on half size print for construction authorized by the OWNER. The drawings shall, at minimum, conform to examples available from the OWNER and shall include plan views, sections and details clearly defining and describing the improvements, limits of work and storage areas, sequencing requirements, access routes, environmental protection requirements, and contractor staging and storage areas.

1.4.2.6 Update construction cost estimates of authorized PROJECT construction. The updated cost estimate should be a Class B Estimate (with a margin of error of $\pm 10\%$). If the estimated construction cost exceeds the Fixed Construction Budget as established in Section 3, the CONSULTANT shall consult with the OWNER as to what action is to be taken. If the OWNER requires revisions to the PROJECT scope to reduce the PROJECT construction cost as required to stay within the Fixed Construction Budget, the CONSULTANT shall, for additional compensation, then make such revision to the PROJECT construction documents.

1.4.2.7 Provide OWNER ten (10) copies of draft Bidding Documents (consisting of plans, details and the PROJECT Manual) and, one (1) set of final design criteria and calculations of principal elements of final design. The copies of the draft PROJECT plans provided to the OWNER shall be half size.

1.4.2.8 Prepare information for any special permits or approvals required by regulatory agencies for which the OWNER must apply.

1.4.2.9 Provide final bid documents, which incorporate the OWNER's comments, to the OWNER at least fourteen (14) calendar days prior to advertising the PROJECT for bids. Bid documents will not be printed until OWNER authorizes the CONSULTANT to do so.

1.4.2.10 Obtain OWNER'S approval of the PROJECT bidding documents and provide for duplication of twenty-five (25) sets of final PROJECT bidding documents for distribution to contractors. CONSULTANT shall also provide ten (10) half size sets, and one electronic version in a format acceptable to OWNER, of the PROJECT Construction drawings. The CONSULTANT agrees that the OWNER may post the CONSULTANT's Bidding Documents on-line for bidding purposes.

1.4.2.11 Update construction cost estimates of authorized PROJECT construction. The updated construction cost estimate should be a Class A (with a margin of error of $\pm 5\%$) estimate. If the Class A estimate exceeds the Fixed Construction Budget described in Section 3, the CONSULTANT shall consult with the OWNER as to what action is to be taken. If the OWNER requires revisions to the PROJECT scope to reduce the PROJECT construction cost as required to stay within the Fixed Construction Budget, the CONSULTANT shall, for additional compensation, then make such revision to the PROJECT construction documents.

1.4.2.12 For PROJECTS that include improvements or modifications to facilities or resources owned by the Austin Water Utility: The CONSULTANT shall complete the appropriate OWNER'S

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Asset Retirement Request Form(s) to document all Austin Water Utility assets (including equipment, computers, pipeline and pipeline appurtenances, etc.) that will be removed, abandoned or retired from service as part of implementation of the PROJECT and to provide certain information regarding the replacement assets put into service as a result of the PROJECT. If applicable, CONSULTANT shall also provide a list of all new taggable assets to be installed or delivered as part of the PROJECT. These form(s) and information shall be provided to OWNER prior to the bidding of the construction contract. A "taggable asset" is defined as a single asset costing at least \$1,000 which can operate independently (i.e., is not an in-line component) and which could be removed for use at another location with relative ease.

1.4.2.13 Only if requested by OWNER, the CONSULTANT shall assist the OWNER in determining what additional information on Contractor qualifications may be required to be submitted by the bidders with their bids.

1.4.2.14 For all Phase B services, the CONSULTANT shall submit written progress reports at least monthly. If the required reports are not received within seven (7) calendar days of the end of the month, the OWNER may withhold payment, in accordance with subsection 5.3.3, until the reports are received.

1.4.2.15 For all Phase B services, the CONSULTANT must design for compliance with the applicable laws, rules, and regulations of City, State and federal governments. The CONSULTANT must request variances or waivers of any such requirements as appropriate.

1.4.2.16 For all Phase B services, the CONSULTANT shall follow the approved schedule and meet all milestone requirements specified in the PROJECT RAP.

1.4.2.17 For all Phase B services, the CONSULTANT shall provide all required QCP documentation.

1.4.3 Phase C: Bid-Award-Execution Phase Services

1.4.3.1 Only if requested by OWNER, the CONSULTANT shall assist the OWNER in the advertisement of the PROJECT for construction bids. CONSULTANT services may include distributing bid documents, maintaining a record of bid document issuance and receipt, and receiving bid document deposits. Bid deposit checks shall be made payable to the OWNER and those deposits not returned to bidders shall be given to the OWNER.

1.4.3.2 Only if requested by OWNER, the CONSULTANT shall participate in or conduct a pre-bid conference, prepare and issue addenda, and attend bid opening.

1.4.3.3 If requested by OWNER, following the OWNER's receipt of bids and bidders' post-bid information, the CONSULTANT shall assist the OWNER in analyzing Contractor bids and qualifications. If requested by OWNER, the CONSULTANT shall furnish to the OWNER a recommendation regarding the responsibility of the bidder(s) within seven (7) calendar days following bid opening. Should the apparent lowest responsible bidder's construction cost of the PROJECT (or component thereof) be greater than the Fixed Construction Budget (or appropriate portion thereof) and the OWNER elects not to award the PROJECT (or component thereof) construction contract, the CONSULTANT will consult with the OWNER to determine revisions to the PROJECT to reduce the PROJECT cost as required to stay within

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approved or authorized cost limitations. The CONSULTANT shall then make such revision to the PROJECT construction documents at no additional cost to the OWNER.

1.4.3.4 For all Phase C services, the CONSULTANT shall follow the approved schedule and meet all milestone requirements specified in the PROJECT RAP.

1.4.4 Phase D: Construction Phase Services

1.4.4.1 The CONSULTANT will be a representative of the OWNER's Representative during the Construction Phase, and shall advise and consult with the OWNER. Instructions to the Contractor will be forwarded through the CONSULTANT. The CONSULTANT will have authority to act on behalf of the OWNER only to the extent provided in this Section 1.4.4 Phase D: Construction Phase Services.

1.4.4.2 The Construction Phase will commence with the construction contract execution and will terminate on the date of final expiration completion of the construction PROJECT, based on the completion milestone established for the construction Contract Time. The expiration date includes any time extensions granted to the Contractor by the OWNER, but in no case will time extensions exceed approved PROJECT Resource Allocation Plan (RAP).

1.4.4.3 Unless otherwise provided in this AGREEMENT and incorporated in the Contract Documents, the CONSULTANT shall provide administer the construction contract as set forth below and in the OWNER's General Conditions of Agreement.

1.4.4.4 The CONSULTANT shall participate in and document the proceedings of the preconstruction conference.

1.4.4.5 The CONSULTANT shall visit the site to observe the progress and quality of the Work and to determine if the Work is proceeding in accordance with the Contract Documents. The CONSULTANT'S visits to the site shall be at intervals appropriate to the stage of construction, but in no case less than once a week. The CONSULTANT shall record observations made on each job site visit, including regularly scheduled project meetings, and shall submit a written weekly report to the OWNER.

1.4.4.5.1 Reports should include: list of subcontractors on-site by week as reported by Contractor, trades at work, approximate manpower, temperature/weather conditions, any variations from Contract Documents, any defective Work, percentage of contract time used compared with percentage of completion of construction, updates to the PROJECT RAP, estimated contract completion date, and other meaningful information. Reports for periods when no Work is in progress will state "No Work in Progress".

1.4.4.5.2 The CONSULTANT will furnish reports to the OWNER within five (5) calendar days of the end of the work week of the observations or the report will be considered late. As stated in subsection 5.3.3, the OWNER may withhold payment until the reports are received.

**PROFESSIONAL SERVICES AGREEMENT
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1.4.4.5.3 In addition, the CONSULTANT'S subconsultants shall visit the site at appropriate stages of the Work related to their area of specialty, shall record observations made on each job site visit and shall submit reports to the CONSULTANT to be incorporated in the CONSULTANT's reports to the OWNER. The CONSULTANT'S subconsultants shall also attend those progress meetings when the Contractor's Application for Payment includes requests for areas of Work related to their discipline.

1.4.4.6 The CONSULTANT shall review the Contractor's Application for Payment, based on CONSULTANT's observations on site, evaluate the request, and recommend to OWNER the amount to be paid to the Contractor.

1.4.4.7 The CONSULTANT's approval signature on the Application for Payment constitutes a representation by the CONSULTANT to the OWNER that the work is proceeding in general accordance with the Contract Documents, and that the Contractor has progressed to the construction schedule point indicated and is entitled to payment in the amount certified. The CONSULTANT is not responsible for work that is the Contractor's responsibility as defined in the Contractor's contract with the OWNER.

1.4.4.8 The CONSULTANT shall respond within seven (7) calendar days (unless the OWNER grants a time extension), to all requests for information, claims, disputes and other matters in question between the OWNER and the Contractor relating to the execution or progress of the work or the interpretation of the Contract Documents. Interpretations and decisions of the CONSULTANT will be in written form, accompanied by drawings as appropriate.

1.4.4.9. If any Work does not conform to the Contract Documents, the CONSULTANT shall, within 24 hours of the CONSULTANT's observation, recommend the rejection of any such work to the OWNER in writing. At any point during the Construction Phase, the CONSULTANT may recommend that the OWNER require special inspection or testing of the Work in accordance with the provisions of the Contract Documents.

1.4.4.10 The CONSULTANT shall review, approve, or take other appropriate action upon Contractor submittals such as Shop Drawings, product data and samples. The CONSULTANT shall provide a written response to the Contractor (with a copy to OWNER) within seven (7) calendar days (unless a time extension is granted in writing by the OWNER) to avoid a delay in the work.

1.4.4.10.1 The CONSULTANT's review is for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The CONSULTANT is not responsible for work or requirements that are the Contractor's responsibility as defined in the Contractor's contract with the OWNER.

1.4.4.10.2 Unless otherwise specifically stated by the CONSULTANT, the CONSULTANT's review will not constitute approval of safety precautions, construction means, methods, techniques, sequences or procedures.

1.4.4.10.3 The CONSULTANT may rely upon professional certifications of performance characteristics of materials, systems or equipment if such certifications are required by the Contract Documents.

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1.4.4.11 The CONSULTANT shall prepare Change Orders for the OWNER'S approval and execution in accordance with the Contract Documents. The CONSULTANT will have authority to order minor changes in the Work which are consistent with the intent of the Contract Documents, but do not involve an adjustment to the Contract Amount or an extension of the Contract Time. The OWNER shall receive copies of any such Field Orders approved by the CONSULTANT.

1.4.4.12 Upon receipt of Contractor's notification that the Work has been substantially completed, the CONSULTANT and its subconsultants shall work with the Contractor to ensure the PROJECT is ready for the OWNER's inspection within seven (7) calendar days unless the OWNER approves a time extension. The CONSULTANT shall provide written notification to the OWNER that the Work has been completed and is ready for the OWNER's inspection. The OWNER shall schedule an OWNER inspection to be attended by the CONSULTANT and its subconsultants.

1.4.4.12.1 Within twenty-four (24) hours of the OWNER's inspection, the CONSULTANT shall provide the Contractor a draft written punchlist of items that need to be addressed prior to the Final Completion date specified in the construction contract. The CONSULTANT shall provide the Contractor a final written punchlist within three (3) calendar days of the OWNER's inspection.

1.4.4.12.2 When the contract requirements for substantial completion have been met, the CONSULTANT shall prepare and issue a Certificate of Substantial Completion within three (3) calendar days.

1.4.4.13 The CONSULTANT shall review all warranties, guarantees, bonds, equipment operating instructions, and similar required material and documents for general compliance with the Contract Documents and shall present them to the OWNER. Upon receipt of Contractor's written notice that the work is ready for final inspection and acceptance and receipt of a final Application for Payment from the Contractor, the CONSULTANT shall make an on-site review within seven (7) calendar days. When the work is found to be acceptable by the OWNER, the CONSULTANT shall, within seven (7) calendar days, sign the final Application for Payment signifying that the work has been completed in general accordance with the terms and conditions of the Contract Documents and that final payment is due the Contractor.

1.4.4.14 For all Phase D services, the CONSULTANT shall follow the approved schedule and meet all milestone requirements specified in the PROJECT RAP.

1.4.4.15 *Construction Project Representation Beyond Basic Services*

1.4.4.15.1 If the OWNER and CONSULTANT agree that more extensive representation is needed at the site, the CONSULTANT shall provide one or more PROJECT Representatives to assist the CONSULTANT in carrying out such responsibilities at the PROJECT or work site. The PROJECT RAP must be revised accordingly.

1.4.4.15.2 Such PROJECT Representatives will be selected with the written approval of the OWNER, employed and directed by the CONSULTANT, and the CONSULTANT will be compensated as mutually agreed between the OWNER and the CONSULTANT.

1.4.5 *Phase E: Post-Construction Phase Services*

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1.4.5.1 The scope of assistance referenced in this Paragraph 1.4.5 will include, but not be limited to, the following: (1) producing Record Documents for the OWNER; (2) notifying the Contractor of deficiencies or failures in labor and materials and requesting corrective action; (3) preparing correspondence and other written data as necessary to document, clarify, and resolve discrepancies; and (4) meeting with the Contractor at the PROJECT site or other local places when requested by the OWNER.

1.4.5.2 Upon receipt from the Contractor of details of deviations from Contract Documents, CONSULTANT shall produce Record Documents for the OWNER'S use within thirty (30) calendar days. The CONSULTANT will ensure that the Record Documents of construction incorporate all compiled change orders, change directives, and field orders. The CONSULTANT will ensure that a Professional Engineer's seal is affixed and signed on each document, stamped and identified as "RECORD DOCUMENTS", that signifies the recorded changes have been transferred.

1.4.5.2.1 The CONSULTANT shall submit electronic files on CD-ROM, or other comparable durable electronic media with OWNER's approval, one (1) set of mylar, one (1) set of full-size print PROJECT drawings, and two (2) sets of one-half size print PROJECT drawings that are considered Record Documents to OWNER. Copies of PROJECT drawings that may be relied upon by the OWNER are limited to the printed copies ("hard copies") that are signed and sealed by the CONSULTANT. Drawings will be accurate in scale and dimensions and will reflect the final as-constructed condition of the PROJECT.

1.4.5.2.2 For projects that include improvements or modifications to OWNER's Austin Water Utility system or facilities, drawings included in the Record Documents will include all dimensions and calculations in English units.

1.4.5.2.3 For projects that include improvements or modifications to facilities or resources owned by the Austin Water Utility, the CONSULTANT shall provide the OWNER updated Asset Retirement Request Form(s) based on PROJECT as-built drawings. For projects involving new taggable assets, the CONSULTANT shall also provide to OWNER an updated list of new assets installed or delivered as part of the PROJECT. These form(s) and information will be provided to OWNER at the time of the as-built submittal.

1.4.5.3 Under Basic Services, the CONSULTANT shall assist and represent the OWNER through the post-construction period on matters involving malfunctions or deficiencies of the Work. The CONSULTANT shall communicate with and assist the Contractor as necessary to correct all deficiencies within seven (7) calendar days of notification by the CONSULTANT for a specific correction .

1.4.5.4 The CONSULTANT shall require its subconsultants to provide assistance as necessary during the post-construction period stipulated in the approved PROJECT Resource Allocation Plan (RAP).

1.4.5.5 The CONSULTANT shall perform an on-site review of the Work, accompanied by its subconsultants, no less than thirty (30) calendar days before the one year anniversary of the date of Substantial Completion. Based on the site review, the CONSULTANT shall prepare, within seven (7) calendar days, a list of items needing correction and direct the Contractor to resolve them within a specified time frame. After determining that deficiencies have been corrected, the CONSULTANT shall so notify the OWNER in writing within seven (7) calendar days. This notification by the CONSULTANT does not release the Contractor from its responsibilities set forth in the Contract Documents and will not be construed as an implied or express warranty or representation by the CONSULTANT that there are not other deficiencies on the PROJECT.

**PROFESSIONAL SERVICES AGREEMENT
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1.4.5.6 Under Basic Services, the CONSULTANT and its subconsultants agree to provide Post-Construction Phase services as specified in the approved PROJECT RAP. The CONSULTANT shall provide accounting for time expended under Basic Services at the time these services are provided. Additional time for extended warranty period services not included in Basic Services will be considered Additional Services in accordance with Paragraph 1.4.6 and paid for in accordance with the RAP.

1.4.5.7 For all Phase E services, the CONSULTANT shall follow the approved schedule and meet all milestone requirements specified in the PROJECT RAP.

1.4.6 Additional Services

Unless otherwise stated in this AGREEMENT, the Services listed in subparagraphs 1.4.6.1 through 1.4.6.5 are Additional Services. The following are not Additional Services:

- (a) Any revisions required for failure to adhere to the Fixed Construction Budget
- (b) Minor requests for information by the OWNER that clearly do not require extensive work by the CONSULTANT.

Additional Services authorized in writing by the OWNER will be paid for by the OWNER as provided in this AGREEMENT, in addition to the compensation for Basic Services. Additional Services authorized by the OWNER in writing will be incorporated in the PROJECT RAP, and all applicable articles of the AGREEMENT will apply to the Additional Services. If CONSULTANT identifies a need for Additional Services, the CONSULTANT will submit a proposal for those services to the OWNER within fourteen (14) calendar days of identifying the need.

1.4.6.1 Making revisions in Drawings, Specifications or other documents in connection with Change Orders, unless such Change Orders are caused by errors, omissions or other factors within the CONSULTANT's control.

1.4.6.2 Making revisions in Drawings, Specifications or other documents when such revisions are required by the enactment or revision of codes, laws or regulations subsequent to the preparation of such documents.

1.4.6.3 Providing design services of subconsultants not included in original scope for the PROJECT.

1.4.6.4 Providing any other services not otherwise included in this AGREEMENT or not customarily furnished in accordance with generally accepted, regional consulting practices, including but not limited to, the following items:

- Land development and feasibility studies.
- Contacts with neighborhood associations, boards, and/or committees related to land acquisition issues, beyond that described in Section 1.
- Engineering of and coordination of off-site construction.
- Special subconsultant services (environmental, archaeological, acoustical, asbestos removal, hydrological, traffic, computer and audio/visual design, etc.)

**PROFESSIONAL SERVICES AGREEMENT
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5.1.2.1 The total amount of compensation to be paid the CONSULTANT will not exceed:

Three Hundred Fifty One Thousand, Two Hundred Two Dollars (\$351,202)

This AGREEMENT shall remain in effect until **September 29, 2011** unless otherwise mutually agreed upon by the parties through a supplemental amendment.

SECTION 6 - INSURANCE REQUIREMENTS

6.1.4 CONSULTANT's Professional Liability Insurance

6.1.4.1 CONSULTANT's Professional Liability Insurance with a minimum limit of \$2,000,000 dollars per claim and in aggregate.

SECTION 7 - TERMINATION OF AGREEMENT (in General Conditions of the AGREEMENT)

SECTION 8 - REMEDIES (in General Conditions of the AGREEMENT)

SECTION 9 - CONSULTANT REMEDIES (in General Conditions of the AGREEMENT)

SECTION 10 - DISPUTE RESOLUTION (in General Conditions of the AGREEMENT)

SECTION 11 - MISCELLANEOUS PROVISIONS

11.2 Ownership and Use of Documents

11.2.1 All engineering work product produced by the Consultant for this Project including but not limited to: Drawings, Specifications, manuals, databases, application files, listings, etc. are to be delivered to OWNER and become the property of the OWNER. The CONSULTANT shall provide the OWNER with the electronic source files for these documents and work product in a format and storage media directed by OWNER or otherwise acceptable to the OWNER to allow the OWNER to subsequently update, modify, or amend said documents and work product. In addition, the CONSULTANT shall also provide a digital copy of all new and updated Drawings, Specifications and manuals on CD or other OWNER-approved media. The cost of providing the source files and copies will be paid as specified in Section 5 of this AGREEMENT. The CONSULTANT may not provide copies of or otherwise use the subject documents or work products on any other project without the prior written approval of the OWNER.

11.7 Notices

**PROFESSIONAL SERVICES AGREEMENT
SUPPLEMENTAL TERMS AND CONDITIONS OF THE AGREEMENT**

11.7.1.1 Notices shall be addressed as follows (or as amended in writing in the future):

Mailed Notices to OWNER:

Austin Water Utility
Facility Engineering Division
City of Austin
P.O. Box 1088
Austin, Texas 78767

Hand Delivered Notices to OWNER:

Austin Water Utility
Facility Engineering Division
City of Austin
625 E. 10th Street, Suite 415
Austin, TX 78701

Mailed Notices to CONSULTANT:

AECOM Technical Services, Inc.
400 West 15th Street
Suite 500
Austin , TX 78701

Hand Delivered Notices to CONSULTANT:

AECOM Technical Services, Inc.
400 West 15th Street
Suite 500
Austin , TX 78701

END

ATTACHMENT 1: RESOURCE ALLOCATION PLAN

Note: PM will advise Consultant of level of detail and payment benchmarks desired for Task Descriptions

Task Description	Budget	Start Date	End Date	% Complete	% Paid	% Time
A. Preliminary Phase	\$0.00	3/28/2011	9/29/2011			
Notice to Proceed		3/28/2011	3/28/2011	0.0%	0.0%	0.0%
Meet with SAR Personnel		4/12/2011	5/6/2011	0.0%	0.0%	0.0%
Coordinate with electrical evaluation		4/12/2011	5/5/2011			
Consolidate information		5/9/2011	5/13/2011			
Review hydraulic profile		4/12/2011	5/30/2011			
Evaluate filtration process		4/12/2011	5/23/2011			
Consolidate mech/electrical/I&C		5/16/2011	6/24/2011			
Consolidate hydraulic evaluation		6/1/2011	7/12/2011			
Consolidate process evaluation		5/24/2011	7/4/2011			
Review items to be rehab		7/13/2011	8/2/2011			
Evaluate alternative to isolate cells		7/13/2011	7/19/2011			
Evaluate each filter		5/24/2011	6/15/2011			
Evaluate impact of hazardous malls.		6/16/2011	6/20/2011			
Evaluate backwash water discharge		5/16/2011	6/3/2011			
Evaluate chlorine feed		5/16/2011	5/20/2011			
Prepare TM to consolidate work		7/25/2011	8/26/2011			
Submit draft TM		8/29/2011	8/29/2011			
Obtain COA comments		9/13/2011	9/13/2011			
Revise TM		9/15/2011	9/28/2011			
Submit final TM		9/29/2011	9/29/2011			
Phase Total				0.0%	0.0%	0.0%
B. Design Phase	\$0.00					
Phase Total				0.0%	0.0%	0.0%
C. Bid-Award Execution Phase	\$0.00					
Phase Total				0.0%	0.0%	0.0%
D. Construction Phase	\$0.00					
Phase Total				0.0%	0.0%	0.0%
E. Post-Construction Phase	\$0.00					
Phase Total				0.0%	0.0%	0.0%
Project Total	\$0.00			0.0%	0.0%	0.0%

APPROVED FIXED CONSTRUCTION BUDGET:

DATE OF CURRENT FCB:

ATTACHMENT 2: HOURLY RATES - 2011, rev. 1

	Hourly Rate	TX Registration Number
AECOM Technical Services Inc.		
PRINCIPAL(S):		
Shelby Eckols	\$ 250.00	Texas PE 41485
TECHNICAL ADVISOR/PEER REVIEW:		
Don D'Adam	\$ 271.00	Texas PE 100865
Joe King	\$ 250.00	Texas PE 47542
Bob Kulchawik	\$ 221.00	
Frank Noonan	\$ 216.00	
Larry VandeVenter	\$ 282.00	
Abu Alam	\$ 237.00	
SENIOR PROJECT MANAGER(S):		
John Buser	\$ 156.00	Texas PE 90881
Chris Chen	\$ 230.00	Texas PE 95977
Ioan Chilarescu	\$ 152.00	Texas PE 89173
Martin Rumbaugh	\$ 169.00	Texas PE 83388
Kevin Koeller	\$ 148.00	Texas PE 86299
Nicholas Cooper	\$ 229.00	Texas PE 84535
Marci O'Connell	\$ 184.00	Texas PE 84758
PROJECT ENGINEER(S):		
Xiaohong He	\$ 122.00	Texas PE 96775
Behnoush Yeganeh Talab	\$ 103.00	Texas PE 106391
PROJECT ASSISTANT ENGINEER/ASSOCIATE:		
Christopher Perkins	\$ 86.00	
Jake Balcom	\$ 90.00	
Allison Finley	\$ 83.00	
Nathan Fitzhugh	\$ 85.00	
SENIOR RESIDENT REPRESENTATIVE:		
Nicholas Donlick	\$ 98.00	
SR. CADD TECHNICIAN:		
Joe Nungaray	\$ 111.00	
CADD TECHNICIAN(s):		
Tatsibhia Gadhia	\$ 83.00	
Thomas Perkins	\$ 65.00	
CLERICAL/ADMINISTRATIVE:		
Patricia Martinez	\$ 96.00	
HOURLY RATE OF PRINCIPAL(S)- SUBCONSULTANTS:		
SUBCONSULTANT		
Black & Veatch		
PRINCIPAL(S):		
Dale Cherry, P.E.	\$ 348.00	Texas PE 52458
QA/QC	\$ 295.00	
PROJECT MANAGER		
David Timmerman, P.E.	\$ 225.00	Texas PE 65779
ENGINEERING MANAGER		
Mike Johnson	\$ 250.00	
PROCESS SPECIALIST		
Gary Hunter	\$ 195.00	
ENGINEER GRADE LEVEL 08	\$ 192.00	
ENGINEER GRADE LEVEL 07	\$ 180.00	
ENGINEER GRADE LEVEL 06	\$ 186.00	
ENGINEER GRADE LEVEL 05	\$ 154.00	
Laura Stratton	\$ 154.00	Texas PE 92017
ENGINEER GRADE LEVEL 04	\$ 128.00	

ENGINEER GRADE LEVEL 03	\$	106.00	
ENGINEER GRADE LEVEL 02	\$	90.00	
TECH GRADE LEVEL 08	\$	150.00	
TECH GRADE LEVEL 07	\$	134.00	
TECH GRADE LEVEL 06	\$	120.00	
TECH GRADE LEVEL 05	\$	105.00	
TECH GRADE LEVEL 04	\$	92.00	
TECH GRADE LEVEL 03	\$	77.00	
TECH GRADE LEVEL 02	\$	61.00	
TECH GRADE LEVEL 01	\$	53.00	
PROJECT ACCOUNTING	\$	115.00	
ADMINISTRATIVE ASSISTANT	\$	68.00	
OFFICE SERVICES	\$	63.00	
SUBCONSULTANT			
HVJ			
PRINCIPAL(S):			
Hossam Esmail, P.E.	\$	156.44	Texas PE 89980
Rolland Boehm, P.E.	\$	156.44	Texas PE 101598
PROJECT ENGINEER:			
Jason Schwarz, P.E.	\$	106.67	
STAFF ENGINEER:			
Yonghoon Lee, EIT	\$	71.41	
Jennifer Park, EIT	\$	71.41	
SENIOR TECHNICIAN:			
Saul Garza, PG	\$	68.22	
ENGINEERING TECHNICIAN(S):			
Jeffrey Willis	\$	41.86	
Daniel Biskamp	\$	41.86	
CLERICAL:			
Linda Pierce	\$	59.32	
Pam Linstead	\$	59.32	
SUBCONSULTANT			
CAS CONSULTING & SERVICES, INC.			
PRINCIPAL(S)			
Channy Souer, P.E.	\$	226.80	Texas PE 70617
SENIOR ENGINEER(S):			
Gary Stegeman, P.E.	\$	199.20	Texas PE 90596
Henry Leighton, P.E.	\$	226.80	Texas PE 97914
Lino Rivera, P.E.	\$	171.12	Texas PE 65146
Doug Nichols, P.E.	\$	165.02	Texas PE 56237
ENGINEER(S):			
Joseph Dong, P.E.	\$	152.37	Texas PE 103144
Chelsea Solomon, P.E.	\$	140.95	Texas PE 97246
Joel Valdez, P.E.	\$	130.18	Texas PE 101306
Ashley Hanson, EIT	\$	92.97	
Amy Middleton, EIT	\$	105.77	
ENGINEERING ASSOCIATE(S):			
Jenna Rountree, EIT	\$	80.59	
TUNNEL SPECIALIST			
Mike Carpenter	\$	118.09	
CADD TECHNICIAN(s):			
Ed Vargas	\$	77.37	
Brandy Faith	\$	80.16	
George Martin	\$	77.37	
ADMINISTRATIVE:			
Virginis Chhay	\$	76.76	

SUBCONSULTANT

JOSE I GUERRA, INC.

PRINCIPAL(S):

Jose Guerra, P.E.	\$	166.00	Texas PE 22326
SENIOR PROJECT MANAGER:			
Joseph J. Luke, P.E.	\$	144.00	Texas PE 55974
PROJECT ENGINEERS:			
Bob Tieman, P.E.	\$	122.00	Texas PE 16712
Brandon Goodloe, P.E.	\$	122.00	Texas PE 92456
Larry Swayze, P.E.	\$	122.00	Texas PE 38345
SENIOR ENGINEER(S):			
Ken Hanks, P.E.	\$	111.00	Texas PE 97528
SENIOR DESIGN ENGINEER(S):			
Debin Chen, P.E.	\$	89.00	Texas PE 96280
Marina Reynaga, P.E.	\$	89.00	Texas PE 102352
ENGINEERING TECHNICIAN(S):			
Carl Anderson	\$	75.00	
CADD MANAGER:			
Felix Solis	\$	89.00	
CAD OPERATOR:			
Rey Moreno	\$	75.00	
ADMINISTRATIVE ASSISTANT:			
Merrie Carson	\$	50.00	

SUBCONSULTANT

HARUTUNIAN ENGINEERING, INC.

PRINCIPAL(S):

K. Harutunian	\$	185.00	Texas PE 59181
SR. ENGINEER IV (E-11)	\$	185.00	Texas PE 59181
SR. ENGINEER II (E-10)	\$	165.00	Texas PE 87735
SR EIC DEVELOPMENT LEADER II (E-8)	\$	144.00	
ENGINEER III (E-4)	\$	122.00	
GRADUATE ENGINEER I (E-1)	\$	85.00	
CAD II (CD-2)	\$	68.00	
ADMINISTRATIVE ASSISTANT (A-1)	\$	54.00	

SUBCONSULTANT

MACIAS & ASSOCIATES, L.P.

PRINCIPAL REGISTERED PROFESSIONAL LAND SURVEYOR	\$	145.00	
REGISTERED PROFESSIONAL LAND SURVEYOR	\$	145.00	
SENIOR TECHNICIAN	\$	80.00	
TECHNICIAN	\$	70.00	
SECRETARIAL/TYPIST	\$	47.00	
2-Man Crew	\$	130.00	
3-Man Crew	\$	145.00	
4-Man Crew	\$	160.00	

ATTACHMENT 3
QUALITY CONTROL PLAN (QCP)

Definitions

Quality Assurance

A comprehensive program that verifies a facility, structure, system or component will perform satisfactorily and safely in service. A recognized benchmark for quality assurance programs is ISO 9000/9001.

Quality Control

The process of identifying and applying appropriate technical and professional standards when producing project design documents that meet or exceed the user's requirements.

Constructability

A review process using experienced personnel with extensive construction knowledge early and throughout the design phase to ensure projects are buildable, practical, and consistent with current construction practices while also being cost effective, biddable, and maintainable.

Due Date:

The Consultant must submit the QCP plan for the Owner's approval within fourteen (14) calendar days following the Owner's issuance a Notice to Proceed to the Consultant.

Required Elements of QCP Plan (Sec. 1.3 of PSA)

Management Philosophy	
1	<p><i>The QCP specifies how the organization's technical management philosophy supports its commitment to quality</i></p> <p><u><i>Needed:</i></u> <i>Certification by consultant firm's Board of Directors, president, owner, managing partner, or other executive-level staff that, to ensure quality of design products:</i></p> <ul style="list-style-type: none"> <i>(a) firm is committing adequate manpower and resources</i> <i>(b) Project Design Team (PDT) is accountable to Independent Technical Review Team (ITRT)</i> <i>(c) Management and the PDT will emphasize quality control during the production of design documents</i> <i>(d) Management and the PDT will establish internal quality checks and reviews</i> <i>(e) Management and the PDT will assess independent quality control's contribution to the quality of design documents</i>

Management / Organization Structure	
2	<p><i>The QCP specifies:</i></p> <ul style="list-style-type: none"> • who manages the Independent Technical Review Team (ITRT) (internal or external to the design consulting firm) • if the ITRT is internal to the design consulting firm, that the ITRT is independent of the Project Design Team (PDT) • the ITRT reports to a management level the same or higher than the PDT • interrelationships of management, PDT, and ITRT (including all consultants) <p><u><i>Needed:</i></u></p> <p><i>(a) An organization chart depicting the relationships of all parties noted above, identifying them by name and describing each person's responsibilities on the design project</i></p> <p><i>(b) Resumes for members of the ITRT</i></p>
Quality Control Procedures	
3	<p><i>The QCP specifies</i></p> <ul style="list-style-type: none"> • management and control of design and QCP documents <p><u><i>Needed:</i></u></p> <p><i>(a) Statement that access to design and QCP documents will be controlled</i></p> <p><i>(b) Procedures are defined to identify and track versions of documents</i></p> <p><i>(c) Document control plan</i></p> <p><i>(d) Also refer to "Documentation" section below</i></p>
4	<ul style="list-style-type: none"> • internal and external communications, including an Issue Follow-Up Plan <p><u><i>Needed:</i></u></p> <p><i>(a) description of management of QCP communications with all parties</i></p> <p><i>(b) Issue Follow-Up Plan to track problems identified and their resolution</i></p>
5	<ul style="list-style-type: none"> • design coordination <p><u><i>Needed: Procedure must describe:</i></u></p> <p><i>(a) relationships, accountability, authority, and responsibilities within the Project Design Team</i></p> <p><i>(b) efforts to achieve interdisciplinary coordination</i></p>
6	<ul style="list-style-type: none"> • design checks and reviews, specifically addressing: <ul style="list-style-type: none"> ▪ correct application of methods ▪ validity of data and assumptions ▪ accuracy of calculations

	<ul style="list-style-type: none"> ▪ complete documentation ▪ testing, modeling, assumptions, calculations, text & graphical presentations in all documents ▪ special project components ▪ compliance with all applicable guidance, standards, regulations, codes & laws ▪ ensuring project is biddable, constructible and operable as well as environmentally compliant <p><u>Needed:</u></p> <p><i>(a) types, intervals and frequency of reviews</i></p> <p><i>(b) identification of applicable guidance, standards, codes, specifications and laws</i></p> <p><i>(c) methodology for addressing constructability</i></p> <p><i>(d) description of testing, modeling, development of assumptions, calculations, and presentation methods in design documents to meet design criteria and standards of professional practice</i></p> <p><i>(e) methodology for identifying and addressing all appropriate environmental requirements</i></p>
7	<ul style="list-style-type: none"> • independent technical reviews, specifically ensuring: <ul style="list-style-type: none"> ▪ seniority and technical qualifications of Independent Technical Review Team (ITRT) members and their separation from the Project Design Team (PDT) ▪ concepts, assumptions and procedural details are accurate, appropriate and fully coordinated ▪ examination of appropriate alternatives ▪ definition and scoping of problems, issues and opportunities ▪ validity of analytical methods ▪ results and recommendations are reasonable, comply with all requirements, and are supported by the documents ▪ any deviations from policy, guidelines or standards have been identified and approved by the appropriate parties ▪ design documents result in project that is biddable, constructible, operable, environmentally sound, and cost-effective ▪ design products meet City's needs <p><u>Needed:</u></p> <p><i>(a) Description of how the Independent Technical Review Team (ITRT) will validate the quality of the Project Design Team's (PDT) products prior to submission to the PM</i></p> <p><i>(b) Identification of any design components that will require special quality reviews</i></p> <p><i>(c) checklists for review of each design element</i></p>
8	<ul style="list-style-type: none"> • managerial plan to maintain continuity of QCP effort <p><u>Needed:</u></p> <p><i>(a) description of how management will maintain required level of effort and quality</i></p>

	<p><i>resources</i></p> <p><i>(b) contingency plan for replacement of key PDT and/or ITRT staff</i></p>
Documentation	
9	<p><i>The QCP specifies:</i></p> <ul style="list-style-type: none"> • records control plan for all internal review documents, associated comments and responses, describing that: <ul style="list-style-type: none"> ▪ all documents retained in consultant's files ▪ files are auditable and available to the City upon request ▪ files are identified by document type and compiled according to a file index system <p><i><u>Needed:</u> Details on all items listed above</i></p>
10	<ul style="list-style-type: none"> • upon project completion, the consultant will certify compliance with the QCP <p><i><u>Needed:</u> Consultant submits draft Consultant Statement of Technical Review</i></p> <p><i>(a) verifying compliance with the QCP and</i></p> <p><i>b) agreeing to identify and assess issues that arise during later project phases with respect to the QCP</i></p> <p><i>The Statement must be signed by the Project Design Team (PDT), the Independent Technical Review Team (ITRT), and the Principal (or other executive-level official) of the consultant. The consultant will provide the City all Issues analyses from later phases</i></p>
Schedule	
11	<p><i>The QCP specifies that:</i></p> <ul style="list-style-type: none"> • a design schedule showing the sequence of tasks to be completed within the time period specified by the City; must include <ul style="list-style-type: none"> ▪ design submittal dates to City ▪ project design team (PDT) reviews ▪ Independent Technical Review Team (ITRT) reviews ▪ time for revisions prior to submittals to City ▪ time for City review of submittals • how all QCP measures will be tracked to avoid project delays <p><i><u>Needed:</u> Items as described above</i></p>

ATTACHMENT 4: MAXIMUM NOT-TO-EXCEED CONTRACT AMOUNTS BY PHASE

PHASE A: PRELIMINARY PHASE

Agreed Upon Fixed Fee Dollar Amount

Maximum Cost

PHASE A TOTAL

\$350,167.00

\$350,167.00

PHASE B: DESIGN PHASE

Agreed Upon Fixed Fee Dollar Amount

Maximum Cost

PHASE B TOTAL

PHASE C: BID-AWARD-EXECUTION PHASE

Agreed Upon Fixed Fee Dollar Amount

Maximum Cost

PHASE C TOTAL

PHASE D: CONSTRUCTION PHASE

Agreed Upon Fixed Fee Dollar Amount

Maximum Cost

PHASE D TOTAL

PHASE E: POST-CONSTRUCTION PHASE

Agreed Upon Fixed Fee Dollar Amount

Maximum Cost

PHASE E TOTAL

ADDITIONAL COSTS

ADDITIONAL COSTS TOTAL

REIMBURSABLE COSTS

REIMBURSABLE COSTS TOTAL

\$1,035.00

MAXIMUM NOT-TO-EXCEED CONTRACT AMOUNT

\$351,202.00



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ATTACHMENT 5

January 14, 2011

Ms. Christine Graf
Austin Water Utility
Facility Engineering Division
625 E. 10th Street, Suite 415
Austin, Texas 78701

Re: Professional Engineering Services Proposal for the
South Austin Regional WWTP Filter Improvements, Revision 1

Dear Ms. Graf:

This Professional Engineering Services proposal is submitted for the Preliminary Engineering Phase of the South Austin Regional WWTP (SARWWTP) Filter Improvements Project. If acceptable, this proposal will serve to define the first authorization under the Agreement between AECOM Technical Services (AECOM) and the City of Austin (COA).

PROJECT HISTORY

The SARWWTP Filter Building is located in the northeast corner of the SARWWTP site. This Filter Building was constructed as part of the Train B expansion, completed in 1988. The Filter Building consists of 12 filter cells with each being a single media, intermittently backwashed type of filter. In the early 1990's, the Filter Building flooded and many of the pipe, valves and control devices in the lower levels were submerged. A subsequent electrical improvement project modified the electrical duct bank entrance into the Filter Building and replaced some of the at-grade incoming power equipment. During the SARWWTP Train C Expansion project, additional exterior pipe modifications were made to address hydraulic issues with the Filter Building. However, no engineering evaluation and/or rehabilitation of the entire Filter Building and filter cells have been performed. The SARWWTP staff has performed overall operation and maintenance of these filters and, in doing so, has very likely replace some of the damaged and inoperable equipment within the building.

Additionally, a previous study stress tested the filters and concluded that the existing filters at the SARWWTP can be operated successfully at hydraulic loading rates in excess of 3 gallons per minute per square foot of filter area. Although the intent of this project is to rehabilitate the existing filters, it is prudent to also evaluate alternative filtration methods,

The current operating procedure for the SARWWTP is to use the SARWWTP filters consistently to meet the desired effluent quality of the plant and to meet the permit requirements established by the TCEQ. Thus, the SARWWTP filters must be fully operational.

PROJECT DESCRIPTION

The SARWWTP operation staff indicated a general satisfaction with the performance of these filters. However, these filters are over 20 years old and have not had major rehabilitation since they were constructed. The SARWWTP maintenance staff performed routine maintenance and some repair but that has been inadequate to maintain an acceptable level of performance. As stated above, the SARWWTP filters have experienced flooding events that impacted the operation of the mechanical and electrical equipment of the filters. Additionally, events within the SARWWTP have impacted the operation of the filters. All of these events have resulted in operational problems that require rehabilitation in order to provide an acceptable level of service from the filters. The following lists some of the issues in need of correction.

- Flood levels in the Colorado River impact the hydraulic capacity of the filters to treat the plant effluent
- Backwash water from the filters is pumped to a splitter box for diversion to Train A and B. Plant operational issues have impacted this flow diversion. Additionally, it is desired to also direct this filter backwash to Train C.
- The blowers used in the filter backwash are not performing adequately and require rehabilitation and/or replacement because of their age.
- The equipment located in the lower level of the Filter Building is difficult to access and to maintain. Provisions are required to improve the operation and maintenance of this equipment.
- One filter is out of service and has been for an extended period of time.
- Multiple other filters are experiencing operational problems that impact their reliability.
- As a result of the previous flooding events and age of the facility, various mechanical problems exist with the operation of various valves.
- As a result of the previous flooding events and age of the facility, various electrical problems exist with the operation of various pieces of equipment.
- Operation and maintenance staff have indicated difficulty in isolating various filter cells and requested this investigation evaluate the ability to provide some isolation of filter cells to enhance the operational flexibility.

The SARWWTP Filter Building was constructed in the late 1980s and as a result, may have protective coatings that are lead based and may have instances of asbestos in areas of the building. The COA is conducting an investigation to determine the presence of these materials and the results of that investigation will be made available for use on this project. As a result of this investigation, it is not necessary for this engineering team to conduct a hazardous material investigation and this work will not be included in the scope of work for this project. However, the impact of performing rehabilitation in the presence of these contaminated materials will have to be a consideration during the project.

COA ordinance requires projects to consider compliance with the LEED building criteria. This LEED criteria is primarily directed toward improvement in energy efficiency and sustainability. The scope of this project is focused on mechanical and electrical rehabilitation of process equipment. The specifications for these replacement devices require the highest energy efficiency available for the devices. Additionally, the building ventilation, roofing and architectural components are not part of this project and these areas generally provide the greatest opportunity for LEED benefit. Consequently, it was determined the LEED benefits are

incorporated in the project to the extent possible, so no further evaluation of this issue is included in the scope of work.

Although the plant staff indicated general satisfaction with the SARWWTP filters, this rehabilitation must evaluate other filter options. The Walnut WWTP filters are also being rehabilitated and will have a similar evaluation of filter technology. It is the intent of this team to consolidate this filter technology evaluation with the one being performed for the Walnut WWTP. The application of the technology may vary as a result of the differences in the two plants but the basic evaluation of technology can be optimized.

This varied scope of work will effectively require all primary mechanical and electrical elements in the process flow path to be evaluated in the field to confirm the need for replacement. It is anticipated the age of the facility and the multiple flood events make rehabilitation impractical. However, approximately 5% of the devices will be checked to confirm this status. If repair is not possible, the procedure for replacement of the element will be defined. The mechanical elements are generally in congested areas and replacement must consider construction access as well as impact to plant operations. The electrical primary elements face a similar problem but also include the issue of conduit for power and instrument wiring. If the existing conduit condition is found to be unacceptable for new wiring, then new conduit installation will be required. New conduit installation will require investigation to define routes for conduit installation.

The scope of work for this project will address each of the above items. The following paragraphs define tasks to be performed to accomplish this scope of work.

SCOPE OF WORK

The following tasks will be performed as the Preliminary Engineering Phase of this project.

1. Meet with SAR plant operational and maintenance personnel to review maintenance history and operational problems with each mechanical device in the process flow stream. It is anticipated this task will consist of the following steps.
 - A. Conduct a meeting to review operational and maintenance data on all mechanical devices. Based on this review, identify major pieces of equipment to be evaluated. It is anticipated the identified major pieces of equipment will equal about 5% of the mechanical devices in the process flow stream.
 - B. A field visit will be performed to physically review and evaluate the identified major pieces of equipment in the process flow stream.
 - C. Coordinate with plant personnel to operate the device (if operable) through its range of motion.
 - D. Evaluate and document condition of selected devices and attempt to quantify a remaining useful life of the devices. Based on previous flooding of the facility, it is anticipated corrosion may be a significant contributor to reducing the useful life of the existing devices and piping. As a result, the extent of corrosion and its impact on operability and remaining useful life will be evaluated.
2. Coordinate with electrical engineer to perform the same evaluation of the identified major pieces of equipment from the electrical and I/C perspective, if applicable. It is anticipated this task will consist of the following steps.

- A. During the mechanical meeting, review operational and maintenance data on the electrical portion of applicable mechanical devices.
 - B. A field visit will be performed to physically review and evaluate the electrical portion of the identified major pieces of equipment.
 - C. Coordinate with plant personnel to operate the device (if operable) through its range of motion and define the condition of the electrical components.
 - D. Evaluate and document the condition of the electrical components and attempt to quantify remaining useful life of the electrical components. Based on previous flooding of the facility, it is anticipated corrosion may be a significant contributor to reducing the useful life of the existing devices. As a result, the extent of corrosion and its impact on operability and remaining useful life will be evaluated.
3. Consolidate information obtain in tasks 1 and 2 to define the mechanical/electrical devices to be replaced.
 4. Review and evaluate the hydraulic profile of the plant effluent and the Filter Building. It is anticipated this evaluation will require some field survey work to be performed and the survey sub-consultant fee proposal is attached to document services required.
Evaluation to consider each of the following conditions:
 - A. Filter Building hydraulic capacity.
 - B. Define the water level of the Colorado River that begins to impact the Filter Building discharge.
 - C. Define alternatives to Filter Building discharge to eliminate the impact of the Colorado River water level.
 - D. Evaluate alternatives to isolate the east and west filter cells to improve operational flexibility.
 - E. Evaluate hydraulic impact of alternative filtration processes and determine the hydraulic restraints that may impact Filter Building capacity.
 5. Evaluate existing filtration process and compare to current filtration technologies. The evaluation to be performed in coordination with similar evaluation performed for the Walnut WWTP. The results of the technology evaluation will then be applied to the SAR Filter Building to confirm the application is appropriate.
 6. Consolidate the mechanical/electrical/I&C evaluation into a Technical Memo to define devices to be replaced and conduct a workshop with the COA to review recommendations for each device. It is anticipated this TM and workshop will also define the automation required to accomplish the operational methods required by the COA.
 7. Consolidate the hydraulic evaluation into a Technical Memo and conduct a workshop with the COA to review results of evaluation and recommendations.
 8. Consolidate the process evaluation into a Technical Memo and conduct a workshop with the COA to review recommendations. It is anticipated this workshop will result in definition of the filter process technology to be used at the SAR Filter Building.
 9. Based on results of workshops, review each item to be replaced to define the procedure to be implemented to accomplish the work. The procedure to be defined shall include each of the following considerations:
 - A. Evaluate the work to be done on each device.
 - B. Determine if filter cell must be removed from service in order to accomplish the work.
 - C. If filter cell must be removed from service, define procedure for removing filter cell from service and confirm the amount of time that it can be out of service.

- D. Evaluate the electrical component of the equipment. Determine if existing wire is adequate or if new service must be provided. If new service, define route for installing this new service from the power source to the device.
10. Evaluate alternatives to isolate the east and west filter cells. Define specific work to be done to accomplish the isolation and the amount of time needed to do the work. Determine the impact of this work on the operation of the Filter Building and the amount of time that may be available to make these modifications. Additionally, the Filter Building structural evaluation will review various points of leakage and alternatives to correct the leakage, as well as miscellaneous issues to be identified with plant staff.
11. Based on filtration technology selected during the workshop, evaluate each filter for possible internal modifications necessary to improve the filtration process. This evaluation will consist of an internal evaluation of each filter cell and will consist of the following tasks:
 - A. Operate each filter cell through its full cycle of operation to observe any variation in flow across the filter cell.
 - B. If alternative filtration technology is selected, define structural and mechanical modifications necessary to accommodate the selected filtration process.
 - C. If existing filtration technology is selected, evaluate filter media and determine if media replacement is required. The underdrain system of the existing out-of-service filter will be evaluated. It is anticipated that coordination with plant personnel will identify a means to isolate and access this filter underdrain. Evaluation will determine effectiveness of the existing underdrain system and will define improvements, if required, to improve the underdrain system to compliment the selected filter technology.
 - D. Evaluate each filter cell for any other potential areas of upgrade necessary to improve performance of the filter.
12. Based on definition of hazardous material locations within the Filter Building, evaluate the impact of this hazardous material on proposed improvements defined in above tasks.
13. Evaluate backwash water discharge pipe routing outside the Filter Building to restore the ability to direct this backwash water to either Train A, B or C of the treatment plant. It is anticipated this task may require some subsurface utility investigation in the areas of Train A and B to confirm possible routes for the proposed piping.
14. Coordinate with plant personnel to evaluate the existing chlorine feed line and need for a redundant chlorine feed line. Evaluation will include definition of necessary improvements required for the existing chlorine feed line as well as requirements for the redundant line.
15. Prepare a Technical Memo to incorporate the above work into one consolidated memorandum. Technical Memo to define the specific process to be used, hydraulic modifications to be implemented and mechanical/electrical devices to be replaced to provide reliable service from the Filter Building for its effective capacity. This memo will include the following:
 - A. Definition of specific modifications to be performed to upgrade the filters.
 - B. Definition of procedure to be followed to minimize the amount of time the filter may have to be out of service.
 - C. Exhibit to graphically define the proposed improvements.
 - D. An estimate of probable construction cost to implement the proposed improvements.
16. Submit five copies of draft Technical Memorandum to the COA for review and approval.
17. Meet with the COA to obtain comments on the Technical Memorandum.

18. Revise the Technical Memorandum to incorporate the COA comments and issue five copies of the final Technical Memorandum.

SPECIAL SERVICES

The Scope of Services and the budget presented herein does not include the following special services. At such time that it is determined that these services are required; AECOM will obtain authorization from the COA prior to performing any of these additional services.

1. Travel and subsistence required of AECOM, and authorized by the COA, to points other than local governmental agencies, consultants and project site.
2. Additional copies of technical memorandum and letter reports (over agreed number).
3. Significant revisions by the COA after receiving initial direction by the COA.
4. Hazardous material inspections to determine the presence of these materials in the areas of the SARWWTP where this scope of work will be performed. It is anticipated the COA has performed this investigation and the results of this investigation will be provided to AECOM.
5. Efforts related to address the conceptual relocation of the existing filter building electrical room or major electrical equipments are not included.
6. Evaluation of mechanical/Electrical and I/C devices beyond what is indicated in this scope of work.
7. Labor man-hours and expenses necessary to review, respond to or address value engineering comments provided by a third party consultant.

Should COA and AECOM agree that any of the above Special Services, or other additional services, are required, AECOM will prepare a cost proposal for such services and obtain authorization from COA prior to performing any special services.

INFORMATION REQUIRED FROM COA

The following information is understood to be available and will be provided by the COA to assist in the performance of this scope of work.

1. Existing SARWWTP Filter Building operational records, to the extent available, to define any operational problems that currently exist with the existing facilities.
2. Existing SARWWTP Filter Building maintenance records, to the extent available, to define any maintenance problems that currently exist with the existing facilities.
3. Reports from hazardous materials investigations performed that define the presence of these materials in the areas of the SARWWTP where this scope of work will be performed.

SCHEDULE

The above defined Scope of Services are based on anticipated receipt of a notice to proceed in the fall of 2010 with the Preliminary Engineering effort completed and draft report issued within six months of the notice to proceed. It is anticipated the filter process evaluation will proceed in parallel with other defined activities and this work at the SARWWTP Filter Building will be authorized and performed in parallel with the work done at the Walnut WWTP Filter project. A detailed schedule based on a hypothetical start date is included in the attached Exhibit No.2

DELIVERABLES

The following deliverables will be submitted to the COA for review and approval.

1. Five (5) copies of a draft Technical Memorandum on the mechanical and electrical and I/C evaluation of devices in the process flow stream.
2. Five (5) copies of a draft Technical Memorandum on the hydraulic evaluation of the filter cells.
3. Five (5) copies of a draft Technical Memorandum on the filter process evaluation.
4. Five (5) copies of a draft Technical Memorandum (TM) for the entire project. This TM will include the results of the total scope of work, including exhibits and construction cost estimates and will consolidate all previous TMs.

COMPENSATION

Compensation for the above Scope of Services is to be on a lump sum basis with payment made monthly on the basis of progress achieved. The project cost of the scope of work has been calculated and is defined in the attached Exhibit Nos. 1, 1A, 1B, 1C, 1D and 1E with the cost summarized in Exhibit No.1. The total compensation for the above Scope of Services is \$351,202 and will not be exceeded without prior written authorization from the COA.

If this proposal meets with your approval, we understand it will be incorporated into a task order under the basic contract between AECOM and the City of Austin.

Sincerely,



Shelby G. Eckols, P.E.
Senior Vice President

SOUTH AUSTIN REGIONAL WWTP
 FILTER IMPROVEMENTS
 PRELIMINARY ENGINEERING

EXHIBIT NO. 1

Direct Labor Rates & Multipliers	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	FRINGE and G&A MULT.
	75	85	55	40	35	24	1.628

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1 Meet with SAR personnel (Ref. Exhibit 1A)	4	34	48	54	20	15	175
2 Coordinate with electrical engineer (Ref. Exhibit 1B)	4	12	24	4	10	4	58
3 Consolidate information	4	4	10	16		1	31
4 Review hydraulic profile (Ref. Exhibit 1C)	18	18	57	104	30	8	217
5 Evaluate filtration process	4	4	40				44
6 Consolidate mech/electrical&C eval into TM & conduct workshop	4	12	20	30		1	67
7 Consolidate hydraulic evaluation into TM & conduct workshop	4	8	12	20		1	45
8 Consolidate process evaluation into TM and conduct workshop	4	8	20	30		1	63
9 Review items to be replaced & define the work (Ref. Ex. 1D)		20	36	82	0	6	144
10 Evaluate alternative to isolate east & west filter cells	2	8	20	30		60	60
11 Evaluate each filter for possible internal modifications (Ref. Ex. 1E)	2	20	60	48	20	8	158
12 Evaluate impact of hazardous material on proposed improvements	4	4	8	8		20	20
13 Evaluate backwash water discharge pipe routing	1	2	4	4		11	11
14 Evaluate chlorine feed	1	2	4	4	4	1	12
15 Prepare TM to consolidate all work	4	8	10	20	30	2	74
16 Submit 5 copies of draft TM to COA	2	2	4				6
17 Meet with COA to obtain comments on TM		8	16				24
18 Revise TM & incorporate comments	2	8	16	16			42
							0
TOTAL HOURS	32	182	409	466	114	48	1,251
DIRECT LABOR TOTALS	\$2,400	\$15,470	\$22,495	\$18,640	\$3,990	\$1,152	\$64,147
FRINGE & GENERAL/ADMIN. COSTS	\$3,907	\$25,185	\$36,622	\$30,346	\$6,496	\$1,875	\$104,431
TOTAL LABOR COSTS	\$6,307	\$40,655	\$59,117	\$48,986	\$10,486	\$3,027	\$168,578

NON-LABOR ESTIMATE

ITEM	UNITS	QTY.	RATE	TOTAL
Internal Printing (8.5 x 11 photocopies)	L.S.	1	\$500	\$500
Outside Printing (plans and specs)	EACH	5	\$100	\$500
Telephone	L.S.			\$0
Counter	EACH	5	\$7	\$35
Total				\$1,035

SUBCONTRACTOR SERVICES ESTIMATE

FIRM NAME	TOTAL
Hanunlian Engineering, Inc.	\$ 84,861
Black & Veatch (Allowance)	\$ 30,000
Jose I. Guerra, Inc.	\$ 19,983
Macias & Associates, L.P.	\$ 6,400
CAS Consulting & Services, Inc.	\$ 12,381
Total Subcontractor Costs	\$153,605

SUMMARY & FEE CALCULATION

WORK PLAN ESTIMATE	TOTAL
FEE CALCULATION	\$323,218
Direct Labor x 17%	\$10,904.99
FRINGE & G/A x 9%	\$9,398.82
Subs x 5%	\$7,680.25
TOTAL FEE ESTIMATE	\$351,202

SOUTH AUSTIN REGIONAL WWTP
 FILTER IMPROVEMENTS
 PRELIMINARY ENGINEERING

EXHIBIT NO. 1A

	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	FRINGE and G&A MULT.
Direct Labor Rates & Multipliers	75	85	55	40	35	24	1.628

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1 Meet with SAR personnel		14	8	8		1	31
2 Field visit		8	12	16		12	48
3 Coordinate with plant		8	8				16
4 Evaluate and document	4	4	20	30	20	2	80
TOTAL HOURS	4	34	48	54	20	15	175
DIRECT LABOR TOTALS	\$300	\$2,890	\$2,640	\$2,160	\$700	\$360	\$9,050
FRINGE & GENERAL/ADMIN. COSTS	\$488	\$4,705	\$4,298	\$3,516	\$1,140	\$586	\$14,733
TOTAL LABOR COSTS	\$788	\$7,595	\$6,938	\$5,676	\$1,840	\$946	\$23,783

SOUTH AUSTIN REGIONAL WWTP
 FILTER IMPROVEMENTS
 PRELIMINARY ENGINEERING

EXHIBIT NO. 1B

Direct Labor Rates & Multipliers	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	FRINGE and G&A MULT.
	75	85	55	40	35	24	1.628

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1 Meet with SAR personnel		4	4	4			12
2 Field visit		2	8	0		2	12
3 Coordinate with plant		2	4				6
4 Evaluate and document	4	4	8		10	2	28
TOTAL HOURS	4	12	24	4	10	4	58
DIRECT LABOR TOTALS	\$300	\$1,020	\$1,320	\$160	\$350	\$96	\$3,246
FRINGE & GENERAL/ADMIN. COSTS	\$488	\$1,661	\$2,149	\$260	\$570	\$156	\$5,284
TOTAL LABOR COSTS	\$788	\$2,681	\$3,469	\$420	\$920	\$252	\$8,530

SOUTH AUSTIN REGIONAL WWTP
 FILTER IMPROVEMENTS
 PRELIMINARY ENGINEERING

EXHIBIT NO. 1C

	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	FRINGE and G&A MULT.
Direct Labor Rates & Multipliers	75	85	55	40	35	24	1.628

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
A Hydraulic capacity		4	15	30		2	51
B Colorado River level		2	4	8			14
C Alternate discharge		4	10	20		2	36
D Isolate filter cells		4	8	16	30	2	60
E Alternate process		4	20	30		2	56
TOTAL HOURS	0	18	57	104	30	8	217
DIRECT LABOR TOTALS	\$0	\$1,530	\$3,135	\$4,160	\$1,050	\$192	\$10,067
FRINGE & GENERAL/ADMIN. COSTS	\$0	\$2,491	\$5,104	\$6,772	\$1,709	\$313	\$16,389
TOTAL LABOR COSTS	\$0	\$4,021	\$8,239	\$10,932	\$2,769	\$505	\$26,456

**SOUTH AUSTIN REGIONAL WWTP
 FILTER IMPROVEMENTS
 PRELIMINARY ENGINEERING**

EXHIBIT NO. 1D

Direct Labor Rates & Multipliers	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	FRINGE and G&A MULT.
	75	85	55	40	35	24	1.628

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
A Evaluate work		6	10	30		2	48
B Filter cell service		4	8	16			28
C Define procedure		4	8	16		2	30
D Evaluate electrical		6	10	20		2	38
TOTAL HOURS	0	20	36	82	0	6	144
DIRECT LABOR TOTALS	\$0	\$1,700	\$1,980	\$3,280	\$0	\$144	\$7,104
FRINGE & GENERAL/ADMIN. COSTS	\$0	\$2,768	\$3,223	\$5,340	\$0	\$234	\$11,565
TOTAL LABOR COSTS	\$0	\$4,468	\$5,203	\$8,620	\$0	\$378	\$18,669

SOUTH AUSTIN REGIONAL WWTP
 FILTER IMPROVEMENTS
 PRELIMINARY ENGINEERING

EXHIBIT NO. 1E

Direct Labor Rates & Multipliers	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	FRINGE and G&A MULT.
	75	85	55	40	35	24	1.628

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
A Operate filter		4	12	16		2	34
B Define modifications	2	8	20	20		2	52
C Evaluate media		4	16	0		2	22
D Evaluate cells		4	12	12	20	2	50
TOTAL HOURS	2	20	60	48	20	8	158
DIRECT LABOR TOTALS	\$150	\$1,700	\$3,300	\$1,920	\$700	\$192	\$7,962
FRINGE & GENERAL/ADMIN. COSTS	\$244	\$2,768	\$5,372	\$3,126	\$1,140	\$313	\$12,962
TOTAL LABOR COSTS	\$394	\$4,468	\$8,672	\$5,046	\$1,840	\$505	\$20,924



Harutunian Engineering, Inc.

Revision #5
11-15-2010

SAR WWTP Filter
Improvements Project
Preliminary Electrical and I&C Design Phase Services

HARUTUNIAN ENGINEERING INCORPORATED

SCOPE OF SERVICES

PRELIMINARY DESIGN PHASE SERVICES

for

SOUTH AUSTIN REGIONAL WWTP FILTER IMPROVEMENTS PROJECT

**CITY OF AUSTIN
AUSTIN WATER UTILITY**

**C. I. P. No. XXX XXX XXX
CITY OF AUSTIN, TEXAS**





SCOPE ASSUMPTIONS

The following are the underlying assumptions regarding the development of the scope for the electrical, instrumentation, and control system Preliminary Engineering Phase Services of the South Austin Regional WWTP Filter Improvements Project.

- 1) It is assumed that, during the preliminary design phase, the City of Austin shall provide a listing to HEI of all electrical, instruments and control devices related to the Filter improvements that have been of an operational and maintenance concern. The design will proceed based on this listing provided by the City of Austin.
- 2) It is assumed that the existing filter control panels will not be retrofitted. Rather, each of the existing filter control panels shall be demolished and a new free standing control panel shall take its place.
- 3) It is assumed that one (1) PLC shall be dedicated per local filter control panel and one (1) PLC shall be dedicated for the Master Filter Control Panel.
- 4) The Tasks do not include efforts to review, respond to, or address QA/QC or Value Engineering comments provided by a third party consultant.
- 5) Efforts for modifications associated with lead based paint or asbestos mitigation activities are not included.
- 6) Efforts to develop a video surveillance system for the Filter Building are not included.
- 7) Efforts to confirm the availability of raceway routing corridors through the floors/walls of the existing Filter Building are deferred and are not included.
- 8) It is assumed that one dedicated UPS shall be provided per each control panel and that this UPS shall have a dry contact to indicate battery failure, without requirement for any network monitoring of the UPS.





TASK PDP-10

PRELIMINARY DESIGN PHASE SERVICES FILTER SPECIFIC I&C ALTERNATIVES DEVELOPMENT

This task includes the major effort necessary to develop a Preliminary Design Technical Memorandum to address the conceptual instrumentation and control systems necessary to support improvements to the existing SAR WWTP Filter Control System.

This task includes review of the existing documentation and performance of field visits to address the conceptual instrumentation and control system improvements necessary to the existing SAR WWTP Filter Control System inclusive of system architecture and hierarchy.

This task includes review of the existing instrumentation and control system field monitoring and control devices within the Filter Building for the control and monitoring of the plant's existing 12 filter cells as well as the associated filter air scour and filter backwash system. It is assumed that, during the preliminary design phase, the City of Austin shall provide to HEI a listing of all instruments that require renovation; this will be considered as an opinion based on current records of maintenance and operations.

This task includes efforts to develop a conceptual plan for the interconnection of the proposed filter building PLC system modifications with the existing Top-End communication network. It is assumed that the existing Top-End communication network shall not be otherwise modified.

This task includes efforts to develop a conceptual plan for the replacement of the existing filter PLC system. It is assumed that a new PLC system shall consist of current Austin Water Utility standard PLC equipment.

This task also includes efforts to review and identify user accessible control stations, where needed for the motorized valves (per filter cell), at the filter pipe gallery.

This task includes the development of narratives to be incorporated into the Preliminary Design Technical Memorandum. The task also includes the development of preliminary construction cost opinion for the proposed alternatives.





Harutunian Engineering, Inc.

Revision #5
11-15-2010

SAR WWTP Filter
Improvements Project
Preliminary Electrical and I&C Design Phase Services

Deliverables

HEI shall provide:

- One draft narrative of the Preliminary Design Technical Memorandum for incorporation into the overall Preliminary Design Report by AECOM. Upon receipt of review comments, HEI shall incorporate review comments and transmit the final Preliminary Design Technical Memorandum to AECOM for incorporation into the overall Preliminary Design Report.
- Control system architecture improvement exhibit
- A preliminary Construction cost opinion associated with the effort of this task.





TASK PDP-30

Preliminary Design Phase Services Filter Building Miscellaneous Process Support System I&C System Development

This task includes the major effort necessary to develop a Preliminary Design Technical Memorandum to address the conceptual instrumentation and control systems necessary to support the miscellaneous process support system improvements to each of the existing electrically operated mechanical device/equipment in the process flow stream within the Filter Building.

This task includes the development of a preliminary electrical design alternative for the Filter Building to support the miscellaneous process support improvements.

The miscellaneous process support improvements to the existing SAR WWTP Filter Building are as follows:

- Mudwell Pumping system – Rehabilitate and also potentially increase sizes of existing mudwell pumps
- Air Scour Blowers – Rehabilitate existing system
- Conduct the following I&C effort for of 5% of the total electrically operated process mechanical devices within the flow stream each of the total filter cells:
 - Review I&C operational and maintenance data, receive similar input from Austin Water Utility (AWU), and review the operational and maintenance data in a single workshop meeting with AWU personnel and AECOM.
 - Coordinate with plant and AWU I&C personnel to operate the mechanical devices (if operable) through its range of motion in order to define the operating condition of the I&C portion of the equipment. It is assumed that only normal cycle type of operation will be conducted; simulation of failures, test of each alarm condition, test of each alarm sensing device, test of each gear limit switch operation, etc. is not included in this effort.
 - Evaluate and document observed operational deficiencies. In addition, document feedback obtained from I&C





maintenance personnel that may impact the evaluation of the I&C system.

This task includes effort to review and comment on the preliminary Filter Building Process Control Summary Table developed by AECOM.

Based on the mechanical findings and degree of improvements necessary to the mechanical equipment in the process flow stream, and the procedures defined for physical removal/isolation of the same mechanical equipment, HEI shall define the necessary I&C system improvements to the affected electrically operated mechanical devices.

Deliverables

HEI shall provide:

- One draft narrative of the Preliminary Design Technical Memorandum for incorporation into the overall Preliminary Design Report by AECOM. Upon receipt of review comments, HEI shall incorporate review comments and transmit the final Preliminary Design Technical Memorandum to AECOM for incorporation into the overall Preliminary Design Report.
- A conceptual preliminary construction cost opinion associated with the effort of this task.





TASK PDP-40

Preliminary Design Phase Services Filter Building Miscellaneous Process Support System Electrical System Development

This task includes the major effort necessary to develop a Preliminary Design Technical Memorandum to address the conceptual Electrical Power System necessary to support the miscellaneous process support system improvements to each of the existing electrically operated mechanical device/equipment in the process flow stream within Filter Building and the filtration process.

This task includes the development of a preliminary electrical design alternatives for the Filter Building to support the miscellaneous process support improvements.

The miscellaneous process support improvements to the existing SAR WWTP Filter Building are as follows:

- Mudwell Pumping system – Rehabilitate and also potentially increase sizes of existing mudwell pumps
- Air Scour Blowers – Rehabilitate existing system
- Backwash pumping system improvements
- Conduct the following Electrical effort for of 5% of the total electrically operated process mechanical devices within the flow stream each of the total filter cells:
 - Review Electrical operational and maintenance data, receive similar input from Austin Water Utility (AWU), and review the operational and maintenance data in a single workshop meeting with AWU personnel and AECOM.
 - Coordinate with plant and AWU Electrical maintenance personnel to operate the mechanical devices (if operable) through its range of motion in order to define the operating condition of the electrical portion of the equipment. It is assumed that only normal cycle type of operation will be conducted; simulation of failures, test of each alarm condition, test of each alarm sensing device, test of each





gear limit switch operation, etc. is not included in this effort.

- Evaluate and document observed operational deficiencies. In addition, document feedback obtained from electrical maintenance personnel that may impact the evaluation of the electrical system.

Based on the mechanical findings and degree of improvements necessary to the mechanical equipment in the process flow stream, and the procedures defined for physical removal/isolation of the same mechanical equipment, HEI shall define the necessary electrical system improvements to the effected mechanical devices that are electrically operated.

This task shall also include a preliminary conceptual size and potential location of potential conduit window opening through existing floor slabs of new conduits associated with the electrical power system modifications. This effort will also require the participation of the civil, mechanical, structural and architectural members of the design team. Note: this task assumes that visual or other means of assessing condition of all existing conduit system concealed in building floor slab is unattainable, thus assumes replacement of existing conduit in slab where replacement of wiring is required. Conduit condition assessment, if any, of concealed in building floor slab, can only be forecasted based on type material specified under the original construction contract of the Filter Building.

This task also includes conceptual preliminary load analysis local to the Filter Building, as applicable.

Deliverables

HEI shall provide:

- One draft narrative of the Preliminary Design Technical Memorandum for incorporation into the overall Preliminary Design Report by AECOM. Upon receipt of review comments, HEI shall incorporate review comments and transmit the final Preliminary Design Technical Memorandum to AECOM for incorporation into the overall Preliminary Design Report.
- A conceptual preliminary construction cost opinion associated with the effort of this task.





Harutunian Engineering, Inc.

Revision #5
11-15-2010

SAR WWTP Filter
Improvements Project
Preliminary Electrical and I&C Design Phase Services

TASK PDP-70

PRELIMINARY DESIGN PHASE SERVICES PROJECT MEETINGS

This task includes Ten (6) conference calls with an average maximum of one and a half (1.5) hours per call, four (4) meetings having an average maximum not exceeding duration of four (4) hours per meeting including travel time, and two(2) full day workshops. The total allotted time for this task is inclusive of coordination effort that may occur between HEI members and other members of the AECOM and Austin Water Utility Project Team for this project.



Revision #5
11-15-2010

TABLE - II
SOUTH AUSTIN REGIONAL WWTP
FILTER IMPROVEMENTS PROJECT
Austin Water Utility, City of Austin, Texas
Electrical and I&C System Engineering



HEI Task Summary
Manhour and Cost Tabulation
Preliminary Engineering Services

WORK AREA DESCRIPTION	E-11 HRS.	E-10 HRS.	E-4 HRS.	A-1 HRS.	CD-2 HRS.	TOTAL COST
Task PDP - 10 Filter Specific I&C Alternatives Development	9	34	98	28	16	\$21,831.00
Task PDP - 10 Filter Building Miscellaneous Process Support System I&C System Development	13	28	60	12	0	\$14,993.00
Task PDP - 40 Filter Building Miscellaneous Process Support System Electrical System Development	20	39	121	30	38	\$29,101.00
Task PDP - 70 Project Meetings	28	36	59	0	0	\$18,318.00
TOTAL - Preliminary Design Phase Services	70	137	338	70	54	\$84,243.00
					Expenses	\$617.63
Total Labor & Expenses - Preliminary Design Phase Services						\$84,860.63

November 12, 2010

PROPOSAL (Revised)

Mr. Shelby Eckols, P.E.
AECOM
400 West 15th Street, # 500
Austin, Texas 78701

Re: SARWWTP Filter Improvements Project
Preliminary Engineering Report Phase
Austin, Texas

Mr. Eckols:

In accordance with your request, Jose I. Guerra, Inc. (JIG) is pleased to submit to AECOM this proposal for structural consulting engineering services for the Preliminary Engineering Phase of the South Austin Regional/Wastewater Treatment Plant (SARWWTP) Filter Improvements Project for the City of Austin (COA).

PROJECT DESCRIPTION

The project generally consists of an upgrade of filter system for the SARWWTP. This upgrade will include modifications to some of the existing filter structures.

SCOPE OF WORK

Our Scope of Work for this project consists of assisting AECOM in the preparation of a Preliminary Engineering Report (PER) for the upgrades to the filter system. JIG will be responsible for all structural engineering issues related to the renovation of existing structures. The following tasks are included in JIG's Scope of Work.

1. Coordination Meetings with the owner and other team members.

The Project Engineer and the Project Manager will meet with the Owner's representatives and other team members throughout this phase to coordinate activities, to help determine the scope of the project for the PER, and to gather and exchange information. (4 meetings are included in this proposal).

2. Site Visits

Site visits will be made as necessary to gather information regarding existing conditions at the Plant. This information will be used to determine the extent of modifications that will be required to the existing structures. All this information will be documented for use in the next phases of the project. (2 site visits are included in this proposal).

3. Develop Conceptual Plans

The Project Engineer and Design Engineer, under the direction of the Project Manager, will work with other team members to develop conceptual plans for the PER. These will include plans for any facilities requiring structural modifications as part of this project. Alternative structural systems will be investigated when necessary to determine the most economical structural system. Typical structural member construction types and sizes will be determined and documented.

The Project Engineer will take part in workshops with COA personnel to review conceptual plans and will coordinate the structural systems with architectural and mechanical systems.

4. Develop Conceptual Plan Details

Based on conceptual plans developed together with other team members, typical details will be developed and drafted. These details will become part of the PER and will form the basis for construction details in later phases. This work will be coordinated with architectural and mechanical systems to eliminate conflicts.

5. Preliminary Cost Estimate

Using the conceptual plans and details as a basis, a preliminary cost estimate will be made for all structural items. This information will be coordinated with the other cost information provided by other team members. Recommendations will be made for reducing the overall project cost.

6. Prepare Draft of Preliminary Engineering Report

A description of the structural design criteria and structural systems used will be prepared for the PER. Loading assumptions and lateral bracing systems will be defined. This information will be coordinated with draft information prepared by other team members.

7. Prepare Final Preliminary Engineering Report

After review comments by City of Austin personnel and other team members, final revisions to the Preliminary Engineering Report for all structural items will be made.

SPECIAL SERVICES

The Scope of Services and the budget presented herein do not include the following special services. At such time that it is determined that these services may be required, JIG will obtain authorization from AECOM prior to performing any of these additional services.

1. Travel and subsistence required of JIG and authorized by AECOM to points other than local government agencies, consultants and project site.



2. Significant revisions by AECOM after receiving initial direction by the AECOM.
3. Any warranty phase services.
4. Expert witness testimony or appearances at public hearings or meetings concerning the project or any of its elements.

Should JIG and AECOM agree that any of the above Special Services, or other additional services are required, JIG will prepare a cost proposal for such services and obtain authorization from AECOM prior to performing any special service.

A breakdown of our fees for this project is shown in Attachment A-1. The cost of our engineering services will not exceed the amount shown without prior written approval from your office.

COMPENSATION


The Total Compensation requested for this work is below.

Total Fee	\$19,963
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Services will be billed on a monthly basis and payments shall be made promptly. We appreciate the opportunity to prepare this proposal and we would welcome the occasion to discuss any aspects of it with you. We look forward to working with you on this project.

If this proposal is satisfactory, please sign and return the enclosed copy of this letter.

Respectfully submitted,
JOSE I. GUERRA, INC.


Joseph J. Luke, P.E.
Senior Vice President

JJL/me

Accepted: _____ Title: _____ Date: _____

AECOM

Attachment A-1

**SAWWTP Filter Improvements Project
Preliminary Engineering Report Phase
Fee Estimate**

PER Phase Services

Direct Labor Rates and Multipliers	Principal	Project Manager	Project Engineer	Design Engineer	CADD Manager	CADD Operator	Clerical	Fringe & G&A Mult.
	\$166.00	\$144.00	\$122.00	\$89.00	\$89.00	\$75.00	\$50.00	

LABOR ESTIMATE

SUBTASK LISTING	Principal	Project Manager	Project Engineer	Design Engineer	CADD Manager	CADD Operator	Clerical	TOTAL
1. Coordination Meetings (4)	0	2	8	4	0	0	0	14
2. Site Visits (2)	0	2	4	4	0	0	0	10
3. Conceptual Plans	0	4	8	18	4	18	0	52
4. Conceptual Details	0	4	8	18	4	18	0	52
5. Preliminary Cost Estimate	0	2	4	8	0	0	0	14
6. Preliminary Engineering Report	0	4	24	4	2	4	0	38
7. QA/QC Process	0	2	8	4	0	0	0	14
TOTAL HOURS	0	20	64	60	10	40	0	194
Labor Totals	\$0	\$2,880	\$7,808	\$5,340	\$890	\$3,000	\$0	\$19,918
TOTAL LABOR COSTS	\$0	\$2,880	\$7,808	\$5,340	\$890	\$3,000	\$0	\$19,918

NON-LABOR ESTIMATES

ITEM	Units	Quantity	Rate	TOTAL
Printing	L.S.	0	\$50.00	\$0
Photo Processing	L.S.	1	\$20.00	\$20
Internal Photocopying	L.S.	0	\$10.00	\$0
Mileage	Mile	60	\$0.41	\$25
Postage/ Delivery	L.S.	0	\$60.00	\$0
Airfare/Travel - Round Trip	L.S.	0	\$0.00	\$0
NON-LABOR EXPENSE TOTAL				\$45

SUBCONSULTANT SERVICE ESTIMATE

SUBCONTRACTOR		\$0
TOTAL SUBCONSULTANT FEES		\$0

SUMMARY AND FEE CALCULATION

WORK PLAN ESTIMATE		\$19,963
Fee Calculation	Direct Labor X 17% Fringe & G.A. X 9% Subs X 5%	
	\$0 \$0 \$0	\$0
TOTALS		\$19,963



MACIAS & ASSOCIATES, L.P.
LAND SURVEYORS

September 7, 2010

AECOM

400 West 15th Street, Suite 100
Austin, Texas 78701

ATTN: Mr. Shelby Eckols, PE
Senior VP, Regional Quality Manager
AECOM Water

RE: SARWWTP Filter Project

Mr. Eckols,

Thank you for the opportunity of submitting this proposal for professional surveying services in connection with the South Austin Regional Wastewater Treatment Plant Filter Project. As we understand the project, we are to conduct and elevation survey to confirm weir elevation and/or plant coordinates. We are also to remain available for any other survey needs that you may have.

SCOPE OF SERVICES

1. Obtain and review existing and proposed construction plans.
2. Obtain and review existing surveying information from previous surveying activities.
3. MAI will locate and verify the existing horizontal and vertical control.
4. Take elevations as directed by AECOM.
5. Prepare a sketch showing the above information.

BASIS FOR COMPENSATION

We propose to provide the above scope of services on a time and material basis with a not to exceed amount of \$6,400.00 based on the following fee schedule:

RPLS	8 Hrs. @ \$125.00 PH	=	\$1,000.00
Survey Technician	24 Hrs. @ \$ 80.00 PH	=	\$1,920.00
Survey Field Crew	24 Hrs. @ \$145.00 PH	=	<u>\$3,480.00</u>
	Total		\$6,400.00

SCHEDULE

Work can begin on this project approximately 5 working days after we receive a written notice to proceed. It will take approximately 5 working days to complete the project. Surveying activities are weather dependent. If inclement weather occurs, this schedule will change.

Please call me if you have any questions or comments at 442.7875.

Sincerely,
MACIAS & ASSOCIATES, L.P.

A handwritten signature in black ink that reads "Carmelo L. Macias". The signature is written in a cursive style with a large initial 'C'.

Carmelo L. Macias, RPLS
President

CLM/cg



**SCOPE OF SERVICES
SOUTH AUSTIN REGIONAL WASTEWATER TREATMENT PLANT FILTER
BACKWASH FILTER EVALUATION
CAS CONSULTING & SERVICES, INC.
November 9, 2010**

PROJECT UNDERSTANDING

CAS Consulting and Services, Inc. (CAS) will serve as a subconsultant to AECOM, Inc. for the South Austin Regional (SAR) Wastewater Treatment Plant (WWTP) Project. This phase of the project will consist of AECOM preparing technical memorandums and letter reports which will identify and evaluate the design alternatives for the Project. The hydraulic, process, mechanical, electrical and instrumentation/control systems will be evaluated as part of the overall project. CAS will be responsible for researching, evaluating and making recommendations for improvements to the Filter Backwash Handling System to allow the backwash water to be distributed to train A, B, or C. CAS will prepare a letter report describing the findings.

Filter Backwash Handling System Review Scope of Services

1. Project Management.
 - a. Attend kickoff meeting with COA and AECOM
 - b. Perform one (1) site visit
 - c. Attend one (1) meeting with COA/AECOM presenting Filter Backwash findings and recommendations
2. Data Collection
 - a. Review existing record information for the backwash system.
 - b. Review flow records for the system.
3. Hydraulic Analysis
 - a. Evaluate the hydraulic capacity of existing Filter backwash water handling system to allow backwash water distribution to trains A, B and C.
 - b. Review hydraulic requirements for distribution to train A, B, C
 - c. Identify necessary changes to existing piping and equipment to allow re-routing backwash water to either train A, B or C.
4. Prepare a letter report describing our findings and recommendations.
 - a. Provide preliminary engineering schematic designs of the improvements needed to direct filter backwash water to all trains (A, B and C).
 - b. One hard copy and one digital copy will be provided for this submittal.
5. Perform an internal quality control review.
6. Preliminary Engineering Report (PER) Support
 - a. Attend one (1) PER support meeting with AECOM.
 - b. Respond to one (1) round of comments from AECOM.

Austin Office

6633 Hwy 290 East, Suite 104,
Austin, Texas 78723
(512) 836-2388 / Fax (512) 836-4515

San Antonio Office

700 E. Sonterra Blvd., Suite 1206,
San Antonio, Texas 78258
(210) 248-9083 / Fax (210) 248-9155
www.casengineers.com

Dallas Office

1820 Regal Row, Ste 200
Dallas, TX 75235
(214) 589-6942 / Fax (512) 836-4515

Assumptions

1. AECOM will provide CAS with base CADD graphic files, record drawings, shop drawings and flow information for the backwash system, yard piping, splitter box, distribution trains, and discharge structure.
2. All information will be readily available for CAS' review.
3. Electrical review will be provided by others.
4. A project schedule will be agreed upon within 7 calendar days from notice to proceed.
5. Preliminary Engineering Report will be prepared by others.

Reimbursable Expenses

Reimbursable expenses are defined as follows and shall be invoiced at direct cost

1. Shipping and mailing costs
2. Special messenger delivery

Additional Services

The following services are not included in the Scope of Work and can be provided as Additional Services if authorized by AECOM/City of Austin. Scope of Work and Compensation for Additional Services will be agreed to prior to their performance:

1. Preparing a topographical survey.
2. Provide additional deliverables or attending additional meetings that those identified in the Scope of Services.
3. Stakeholder Meeting Assistance.

Thank you for the opportunity to work on this project. If you have any questions or need additional information please do not hesitate to contact me.

Sincerely,



Chelsea Solomon, PE
Senior Design Engineer

**SOUTH AUSTIN REGIONAL WWTP FILTER PROJECT
CAS CONSULTING SERVICES, INC.
November 5, 2010**

Task		Principal \$207.38	Sen. Eng \$138.17	Proj. Engr \$127.62	EIT \$103.69	CADD \$78.60	Admin \$82.17	Total Hours	Total Fee
PRELIMINARY ENGINEERING SERVICES									
1	Project Management								
	a. Kickoff meeting with COA and AECOM.			2				2	\$255
	b. Perform one site visit.			2	2			4	\$463
2	Data Collection								
	a. Review existing record information for the backwash system.			1	2			3	\$335
	b. Review flow records for the system.			2	2			4	\$463
3	Hydraulic Analysis								
	a. Evaluate the hydraulic capacity of existing Filter backwash water handling system to allow backwash water distribution to trains A, B and C.		2	4	8			14	\$1,616
	b. Review hydraulic requirements for distribution to train A, B, C		2	4	8			14	\$1,616
	c. Identify necessary piping and equipment for distribution to trains A,B, and C		1	4	8			13	\$1,478
4	Letter Report								
	a. Provide preliminary engineering schematic design of the improvements needed to direct filter backwash water to all trains (A, B and C).			8	20	20		48	\$4,667

SOUTH AUSTIN REGIONAL WWTP FILTER PROJECT
CAS CONSULTING SERVICES, INC.
November 5, 2010

Task	Principal \$207.38	Sen. Eng \$138.17	Proj. Engr \$127.62	EIT \$103.69	CADD \$78.60	Admin \$82.17	Total Hours	Total Fee
PRELIMINARY ENGINEERING SERVICES								
5 Quality Control		2					2	\$276
Preliminary Engineering Report Support			2				2	\$255
6 a. Attend one (1) PER support meeting with AECOM.			1	4	4		9	\$857
b. Respond to one (1) round of comments from AECOM.			30	54	24	0	115	\$12,281
Total Filter Backwash System Review	0	7	30	54	24	0	115	\$12,281
REIMBURSABLES								
1 Reprographics								\$100
2 Courier Services								\$0
Subtotal Expenses								\$100
TOTAL CAS ESTIMATED FEE								\$12,381

ASSUMPTIONS:

1. AECOM will provide CAS with base CADD graphic files, record drawings and flow information for the backwash system, yard piping, splitter box, distribution trains, and discharge structure.
2. All information will be readily available for CAS' review.
3. Electrical review will be provided by others.
4. A project schedule will be agreed upon within 7 calendar days from notice to proceed.
5. Preliminary Engineering Report will be prepared by others.



BLACK & VEATCH
building a world of difference™

ENERGY • WATER • INFORMATION • GOVERNMENT

City of Austin, Texas
South Austin Regional WWTP
Filter Improvement Project

B&V Project 900614.0003
B&V File A
January 21, 2011

Mr. Shelby Eckols, P.E.
AECOM
400 West 15th Street, Suite 500
Austin, TX 78701

Subject: Proposal for Engineering Services

Dear Mr. Eckols:

Enclosed for your review and comment is our proposal to provide process evaluation support to AECOM for your work on the filter improvements at the South Austin Regional WWTP. Attached is our proposed Scope of Services including a fee breakdown.

I am also enclosing a proposed subconsultant Agreement for your consideration. We would both need to review this against our respective Prime Agreements. I am thinking that we could both use this same base Subconsultant Agreement for our respective projects.

Please call me if you have any questions or comments.

Very truly yours,

BLACK & VEATCH

David A. Timmermann, P.E.
Project Manager

DAT

ATTACHMENT A

SCOPE OF SERVICES

OWNER: City of Austin, Austin Water Utility
PRIME CONSULTANT: AECOM
SUB-CONSULTANT: Black & Veatch Corporation
PROJECT: South Austin Regional Wastewater Treatment Plant Filter Improvements

The following scope of work describes the SUB-CONSULTANT services for the Preliminary Engineering Phase of the South Austin Regional WWTP Filter Improvements Project. In accordance with the services described and required in the Prime Agreement, Black & Veatch will perform the following services:

1. Attend via conference call a Project Initiation Meeting with AECOM and other subconsultants to this project.
2. Attend a Project Initiation Meeting with AECOM and the City of Austin.
3. Attend up to five (5) internal project team meetings via conference call.
4. ENGINEER will review operational records furnished by OWNER for the filter complex. The last five years of data will be reviewed and summarized by ENGINEER in an attempt to establish the following parameters:
 - Hydraulic loading rate under average annual, maximum month and peak two-hour conditions.
 - Solids removal efficiency under average annual, maximum month and peak day conditions.
 - Backwash intervals and volume of water used under average and design maximum loading conditions (unit filter run volume/time).
 - Range of water temperatures in the record and the impact of temperature on backwash rate.

ENGINEER will develop these historic filter performance operational parameters to the extent possible based on the OWNER'S records. Owner's data shall be provided in electronic (Excel) format.

5. Evaluate existing filtration process and compare to current filtration technologies. The evaluation to be performed in coordination with similar evaluation performed for the Walnut WWTP. The results of the technology evaluation will then be applied to the SAR Filter Building to confirm the application is appropriate.
6. Consolidate the process evaluation into a Technical Memo and conduct a workshop with the COA to review recommendations. It is anticipated this workshop will result in definition of the filter process technology to be used at the SAR Filter Building.
7. Prepare monthly progress reports and invoices including all back-up data and deliver to AECOM on agreed to schedule.

INFORMATION REQUIRED FROM AECOM

The following information is understood to be available and will be provided to B&V to assist in the performance of this scope of work.

1. Existing SAR WWTP plant operational records, to the extent available, to define historical filter influent quality and filter effluent quality.
2. Existing SAR WWTP Filter operational records, to the extent available, to define any operational problems that currently exist with the existing facilities.
3. Existing SAR WWTP Filter maintenance records, to the extent available, to define any maintenance problems that currently exist with the existing facilities.

SCHEDULE

The above defined Scope of Services is based on anticipated receipt of a notice to proceed in the spring of 2011 with the Preliminary Engineering effort completed and draft report issued within eight months of the notice to proceed. It is anticipated the filter process evaluation will proceed in parallel with other defined activities and this work at the SAR WWTP Filters will be authorized and performed in parallel with the work done at the Walnut Creek WWTP Filter Building Improvements project.

COMPENSATION

Compensation for the above Scope of Services is to be on a lump sum basis with payment made monthly on the basis of progress achieved. The project cost for the scope of work has been calculated and is defined in the attached Exhibit No. 1. The total compensation for the above Scope of Services is \$30,000 and will not be exceeded without prior written authorization from AECOM.

SPECIAL SERVICES

The Scope of Services and the budget presented herein do not include the following special services:

1. Travel and subsistence required of B&V, and authorized by AECOM, to points other than local governmental agencies, consultants and project site.
2. Participation in any Public Meeting that may be required for the Project.
3. Cost estimation of alternative filtration processes.
4. QA/QC review of any Environmental or Cultural Investigation Report required for the Project.
5. Assistance in any hazardous material inspections to determine the presence of these materials in the areas of the Walnut Creek WWTP where this scope of work will be performed.

Should B&V and AECOM agree that any of the above Special Services, or other additional services are required, B&V will prepare a cost proposal for such services and obtain written authorization from AECOM prior to performing any special services.

Exhibit 1

City of Austin
 South Austin Regional WWTP
 Filter Improvement Project
 Fee Breakdown

	Project Manager	Project Admin	Engineering Manager	CADD	Sr. Process Engineer	Process Engineer	Process QC	Salary Total	# of Trips	Cost per Trip	Total Fee
	\$225.00	\$65.00	\$250.00	\$77.00	\$195.00	\$106.00	\$195.00				
Project Initiation Meeting with Team					2						
Project Initiation Meeting with City					8				1	800	
Internal Project Team Meetings					10						
Review and Summarize Operational Records					4				1		
Establish Current Operational Limits					18						
Evaluate Alternative Filtration Technologies			4		19				1		
Draft Alternative Filtration TM	2	4	2	4	4						
Review Alternative Filter TM	2		2		2				1	801	
Finalize Alternative Filter TM		4			2				2		
Project Management	10	8									
Total Hours	14	16	8	4	67	76	4				
Fee	\$3,150	\$1,040	\$2,000	\$308	\$13,065	\$8,056	\$780	\$28,399		\$1,601	\$30,000

PROFESSIONAL SERVICES CONSULTANT AGREEMENT

THIS AGREEMENT (Agreement), is by and between Black & Veatch Corporation, a Delaware corporation (Engineer), and AECOM (Consultant), a _____ corporation.

WITNESSETH:

WHEREAS, Engineer has entered into an agreement dated _____ (Prime Agreement), with the City of Austin, Texas (Owner), related to preliminary engineering for filter improvements at their Walnut Creek WWTP (the Project); and,

WHEREAS, Engineer requires certain services in connection with the Project and Consultant is prepared to provide such Services;

NOW, THEREFORE, in consideration of the promises contained in this Agreement, Engineer and Consultant agree as follows:

ARTICLE 1 - EFFECTIVE DATE

The effective date of this Agreement shall be _____.

ARTICLE 2 - SERVICES TO BE PERFORMED BY CONSULTANT

Consultant shall perform the services described in Attachment A, Scope of Services (Services). Consultant recognizes that the services of Engineer and others involved in the Project are dependent upon the timely, complete, and accurate performance of Consultant's Services. Unless otherwise provided in this Agreement, Consultant shall perform such Services in the same manner, timing, and sequence as Engineer is required to perform the Services under the Prime Agreement, incorporated herein by reference. In the event of a conflict between the terms of the Prime Agreement and this Agreement, the terms which impose the higher or more stringent standard shall govern. Consultant warrants and represents that it has reviewed and fully understands the Prime Agreement. A copy of the Prime Agreement, excluding provisions related to compensation, is attached as Attachment B.

Specifications, drawings, schedules, and other materials pertinent to Consultant's Services under this Agreement will be furnished to Consultant as they become available to Engineer. Time is of the essence.

All materials that Consultant develops rendering the Services hereunder, including without limitation any inventions or copyrightable work products, shall become the sole and exclusive property of Engineer without limitation at the time of their creation. All such materials shall be delivered to Engineer by Consultant at the completion, suspension or termination of this Agreement, unless otherwise directed by Engineer. Consultant agrees to execute all documents and to take all steps that Engineer deems necessary or desirable to protect Engineer's ownership of and property rights in these materials and hereby assigns all such rights to Engineer.

ARTICLE 3 - COMPENSATION

3.1 Method of Payment. Engineer shall pay Consultant in accordance with Attachment C, Compensation.

3.2 Time of Payment. Consultant shall submit periodic statements for Services rendered. If Engineer objects to any statement submitted by Consultant, Engineer shall so advise Consultant in writing giving reasons therefore.

Engineer shall bill Owner on account of Consultant's Services and shall pay Consultant within thirty days of the time Engineer receives payment from Owner on account thereof, such payment being a condition precedent to Engineer's payment obligation to Consultant and Consultant accepts the credit risk with respect to the Owner. It is intended that payments to Consultant will be made as Engineer is paid by Owner. Payments to the Consultant will be reduced by any amounts withheld by the Owner, including without limitation, retainage. Upon the release to Engineer of any amount that includes payments due Consultant, Engineer will forward to Consultant its portion of such payment.

ARTICLE 4 - STANDARD OF CARE

Consultant shall exercise the same degree of care, skill, and diligence in the performance of the Services as required by the Prime Agreement.

ARTICLE 5 - LIABILITY AND INDEMNIFICATION

5.1 Indemnification. To the fullest extent permitted by law, Consultant shall be subject to any indemnification obligations Engineer has under the Prime Agreement, with such terms incorporated herein, to the same extent that Engineer is bound by such indemnification and shall indemnify Engineer and Owner, and any and all of their directors, officers, employees, agents, successors, and assigns (and any other party named in the Prime Agreement) to such extent. However, in any event, Consultant agrees to indemnify, hold harmless and defend Engineer, Owner and any and all of their directors, officers, employees, agents, successors and assigns from and against all claims, loss, damage, charge or expense, to which they or any of them may be put or subjected arising out of or resulting from any negligent act, error or omission on the part of Consultant, its contractors, its suppliers, anyone directly or indirectly employed by any of them or anyone for whose acts or omissions any of them may be liable in the performance of the services described in this agreement.

5.2 Employee Claims. To the fullest extent permitted by law, Consultant shall defend, indemnify and hold harmless Owner, Engineer, their related and affiliated companies and the officers, directors, partners, shareholders, agents, employees and representatives of each against liability for all claims, losses, damages, and expenses, including without limitation, attorney's fees arising out of claims by Consultant's employees.

5.3 Intellectual Property. To the fullest extent permitted by law, Consultant shall defend, indemnify, and hold harmless Engineer, Owner, their related companies, and their directors, shareholders, officers, partners, employees, and agents from and against any claim, loss, damage, expense or liability (including reasonable attorneys' fees, and reasonable costs of any successful enforcement of this Article by the indemnitees) arising from actual or asserted infringement, improper appropriation or use of trade secrets, proprietary information or property, know-how, copyrights, or patents.

ARTICLE 6 - INDEPENDENT CONTRACTOR

Consultant undertakes performance of the Services as an independent contractor and shall be wholly responsible for the means and methods of its performance. Engineer shall be the general administrator and coordinator of Consultant's Services and shall facilitate the exchange of information among the independent consultants employed by Engineer as necessary for the coordination of their services. Owner and Engineer shall have the right to observe performance of the Services. All communications shall be through the Engineer.

ARTICLE 7 - COMPLIANCE WITH LAWS

In performance of the Services, Consultant shall comply with all applicable regulatory requirements including without limitation, federal, state, and local laws, rules, regulations, orders, codes, criteria, and standards. Consultant shall procure the permits, certificates, and licenses necessary to allow Consultant to perform the Services. Consultant shall not be responsible for procuring permits, certificates, and licenses required for any construction unless such responsibilities are specifically assigned to Consultant in Attachment A, Scope of Services.

ARTICLE 8 - INSURANCE

Consultant shall maintain the following insurance:

- (1) General Liability Insurance, with a combined single limit of not less than \$1,000,000 for each occurrence and not less than \$1,000,000 in the aggregate.
- (2) Automobile Liability Insurance, with a combined single limit of not less than \$1,000,000 for each person and not less than \$1,000,000 for each accident.
- (3) Worker's Compensation Insurance in accordance with statutory requirements and Employers' Liability Insurance with limits of not less than \$500,000 for each occurrence.
- (4) Professional Liability Insurance with limits of not less than \$1,000,000 annual aggregate.

Consultant shall furnish Engineer, prior to performing Services under this Agreement, certificates of insurance which shall include a provision that such insurance shall not be canceled or materially changed without at least thirty days' written notice to Engineer. Consultant shall include Engineer, Owner, their related and affiliated companies, and the officers, directors, partners, shareholders, employees, agents and representatives of each as additional insureds

(Additional Insureds) on the general and automobile liability insurance policies required by this Agreement.

The automobile and commercial general liability policies required herein shall be considered primary as respects any other insurance that the Additional Insureds may carry, including without limitation, deductibles and self-insured retentions, and any other insurance that the Additional Insureds may carry shall be considered excess insurance only and shall not be required to contribute with the insurance required under this Agreement. All required policies, except professional liability, shall include a waiver subrogation against the Additional Insureds and Consultant hereby waives its rights against the Additional Insureds for any losses, damages, claims, and expenses covered under such policies.

ARTICLE 9 - ENGINEER'S RESPONSIBILITIES

Engineer shall perform the following:

- (1) Provide criteria and information pertinent to Consultant's Services as to Owner's and Engineer's requirements for the Project, including design objectives and constraints, space, capacity, and performance requirements, flexibility and expandability, and any budgetary limitations; and furnish copies of all design and construction standards which Owner and Engineer will require to be included in the drawings and specifications to be furnished by Consultant under this Agreement, if any.
- (2) Make available to Consultant drawings, specifications, schedules, and other information, interpretations, and data which are prepared by Engineer, or by others, which Engineer knows are reasonably available to Engineer, and which Engineer and Consultant consider pertinent to Consultant's responsibilities under this Agreement.
- (3) Request Owner to arrange for access to and make all provisions for Consultant to enter upon public and private property as required for Consultant to perform the Services under this Agreement.
- (4) Give prompt notice to Consultant whenever Engineer observes or otherwise becomes aware of any development that affects the scope or timing of Consultant's Services.

The information and services to be provided by Engineer under this Article will be without cost to Consultant.

ARTICLE 10 - TERMINATION AND SUSPENSION

10.1 This Agreement shall terminate automatically upon termination of the Prime Agreement. Engineer will promptly notify Consultant of such termination.

10.2 Engineer shall have the unrestricted right to terminate for convenience further performance of all or any part of the Services upon written notice. In such case, Consultant shall

immediately discontinue performance of the Services on the date specified in such notice, and shall preserve work in progress pending disposition instructions by Engineer.

Consultant shall recover from Engineer, as complete and full accord and satisfaction, for such terminated Services, the actual costs of all Services satisfactorily executed to the date of termination, subject to approval and payment by Owner on account thereof.

10.3 In the event that Consultant shall default in the performance of any obligation to be performed by it under this Agreement and shall fail to correct such default within five (5) working days following written notice thereof from Engineer, Engineer may, without prejudice to any other rights or remedies Engineer may have, hold in abeyance further payments to Consultant and/or terminate this Agreement by written notice to Consultant specifying the date of termination. In the event of such termination, Engineer may take over and finish the Services by whatever method Engineer may deem expedient at Consultant's sole expense. Consultant shall be liable to Engineer for all damages suffered by Engineer due to Consultant's default.

10.4 Consultant waives any and all claims for anticipated profits or lost overhead arising out of termination for any reason whatsoever, whether arising under breach of warranty or contract, tort, negligence, strict liability or other theory of legal liability.

ARTICLE 11 - NONDISCLOSURE OF CONFIDENTIAL INFORMATION

11.1 Consultant shall consider all information provided by Engineer and Owner and all drawings, reports, studies, design calculations, specifications, and other documents resulting from the Consultant's performance of the Services to be proprietary and confidential. Consultant shall not publish or disclose proprietary and confidential information for any purpose other than the performance of the Services without the prior written authorization of Engineer.

11.2 The preceding restriction shall not apply to information which is in the public domain, was previously known to Consultant, was acquired by Consultant from others who have no confidential relationship to Engineer with respect to same, or which, through no fault of Consultant, comes into the public domain. Consultant shall resist any subpoena, court order, or legal process for any disclosure of such proprietary and confidential information.

ARTICLE 12 - COMMUNICATIONS

Any communication required by this Agreement shall be made in writing to the address specified below:

Engineer: David Timmermann
1701 Directors Blvd., Suite 940
Austin, Texas 78744

Consultant: Shelby Eckols
400 West 15th Street, Suite 500
Austin, Texas 78701

All Project communications shall be made through or with the prior written approval of the Engineer. Nothing contained in this Article shall be construed to restrict the transmission of routine communications between representatives of Engineer and Consultant.

ARTICLE 13 - DELAY IN PERFORMANCE

Neither Engineer nor Consultant shall be considered in default of this Agreement for delays in performance to the extent caused by circumstances beyond the reasonable control of the nonperforming party. For purposes of this Agreement, such circumstances are the same as set forth in the Prime Agreement.

Should such circumstances occur, the nonperforming party shall, within a reasonable time of being prevented from performing, give written notice to the other party, describing the circumstances preventing continued performance and the efforts being made to resume performance of this Agreement.

ARTICLE 14 - WAIVER

A waiver by either Engineer or Consultant of any breach of this Agreement shall be in writing. Such a waiver shall not affect the waiving party's rights with respect to any other or further breach.

ARTICLE 15 - SEVERABILITY

The invalidity, illegality, or unenforceability of any provision of this Agreement or the occurrence of any event rendering any portion or provision of this Agreement void shall in no way affect the validity or enforceability of any other portion or provision of this Agreement. Any void provision shall be deemed severed from this Agreement, and the balance of this Agreement shall be construed and enforced as if this Agreement did not contain the particular portion or provision held to be void. Engineer and Consultant further agree to amend this Agreement to replace any stricken provision with a valid provision that comes as close as possible to the intent of the stricken provision. The provisions of this Article shall not prevent this entire Agreement from being void should a provision which is of the essence of this Agreement be determined void.

ARTICLE 16 - INTEGRATION

This Agreement represents the entire and integrated agreement between the Engineer and Consultant. It supersedes all prior and contemporaneous communications, representations, and agreements, whether oral or written, relating to the subject matter of this Agreement. This Agreement may be amended only by a written instrument signed by both the Engineer and Consultant.

ARTICLE 17 - SUBCONTRACTING

Consultant shall not employ independent consultants, associates, or subcontractors to assist in the performance of Consultant's Services without the prior written consent of Engineer. Any such purported subcontract without Engineer's prior written consent shall be null and void.

ARTICLE 18 - GOVERNING LAW

Except for claims related to this Agreement that are subject to dispute resolution under the Prime Agreement between Owner and Engineer under Article 23, which shall be governed by the governing law of the Prime Agreement, this Agreement shall be governed by the laws of the state of Kansas, U.S.A. without giving effect to the principles thereof which would result in the application of the law of another jurisdiction as governing law.

ARTICLE 19 - SUCCESSORS AND ASSIGNS

Engineer and Consultant each binds itself and its directors, officers, partners, successors, executors, administrators, assigns, and legal representatives to the other party to this Agreement and to the directors, officers, partners, successors, executors, administrators, assigns, and legal representatives of such other party, in respect to all provisions of this Agreement.

ARTICLE 20 - ASSIGNMENTS

Consultant shall not assign any rights or duties under this Agreement without the prior written consent of Engineer. Any such purported assignment without Engineer's prior written consent shall be null and void. Unless otherwise stated in the written consent to an assignment, no assignment will release or discharge the Consultant from any obligation under this Agreement.

ARTICLE 21 - THIRD PARTY RIGHTS

Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than Owner, Engineer, and Consultant.

ARTICLE 22 - SAFETY

22.1 Consultant shall be solely and exclusively responsible for its compliance, and compliance by its agents, employees, and subcontractors, with all safety requirements of Engineer and Owner.

22.2 The possession, use, manufacture, distribution or dispensation of any illegal drug or controlled substance is prohibited on Engineer's or Owner's property. In addition, Consultant's personnel working on Engineer's or Owner's property shall report to work in proper condition and not under the influence of alcohol or any controlled substance.

22.3 The Consultant agrees that for any work performed at or on the property of Engineer or Owner, it shall furnish only those personnel who understand the requirements of this Article and who will comply.

22.4 Violation of this Article shall be a material breach of this Agreement and subject the Consultant to termination for default, as well as all other remedies available at law or equity.

ARTICLE 23 - DISPUTE RESOLUTION

23.1 Except as described in paragraphs 23.2 and 23.3, the Tenth Judicial District Court of Kansas, located in Johnson County, Kansas, or the United States District Court for the District of Kansas, located in Kansas City, Kansas, shall have exclusive jurisdiction to resolve all claims between Engineer and Consultant as their jurisdiction otherwise permits. Each party irrevocably submits to the jurisdiction of such Court and waives any and all objections to such venue. To the extent Engineer or Consultant prevails against the other party on such claim, reasonable dispute resolution costs including attorney fees shall be recoverable from the losing party.

23.2 The initiation of claim and dispute resolution under the Prime Contract shall stay dispute resolution under this Agreement on any claim or issue related to the dispute under the Prime Contract. Consultant shall be bound by all decisions, interpretations, findings of fact or law, whether express, implied, interim, or final (herein "Decisions") arising out of the claim and dispute resolution process set forth in the Prime Contract to the extent: (1) such Decisions relate to or affect the work or services subcontracted to Consultant; or (2) any claim by Owner against Engineer involves the performance of Consultant; or (3) any claim of Consultant gives rise to a claim by Engineer against Owner.

23.3 To the extent Consultant will be bound as set forth in paragraph 23.2, Engineer consents to Consultant's participation in such claim and dispute resolution process. Consultant and Engineer shall each bear the costs associated with its own claims and shall give the other party reasonable assistance to the extent their claims are not in conflict. Consultant may request Engineer to appeal any Decision pursuant to the dispute resolution procedure of the Prime Contract to the extent Consultant is bound by the Decision.

23.4 Pending resolution of any claim or dispute, Consultant shall continue to perform as directed by Engineer without prejudice to Consultant's rights.

ARTICLE 24 - NOTICE OF AFFIRMATIVE ACTION

Consultant shall not discriminate in recruitment or employment conditions because of race, religion, color, sex, national origin, veteran status, or other status as defined by all applicable federal, state and local laws, regulations and orders, including but not limited to, Executive Order 11246, 41 CFR 60-250.4, 41 CFR 60-741.4(F) and 41 CFR 60-1.4(a), all of which are hereby incorporated by reference.

IN WITNESS WHEREOF, Engineer and Consultant have executed this Agreement as of the date first written above.

Engineer

Consultant

By: _____

By: _____

Printed Name: _____

Printed Name: _____

Title: _____

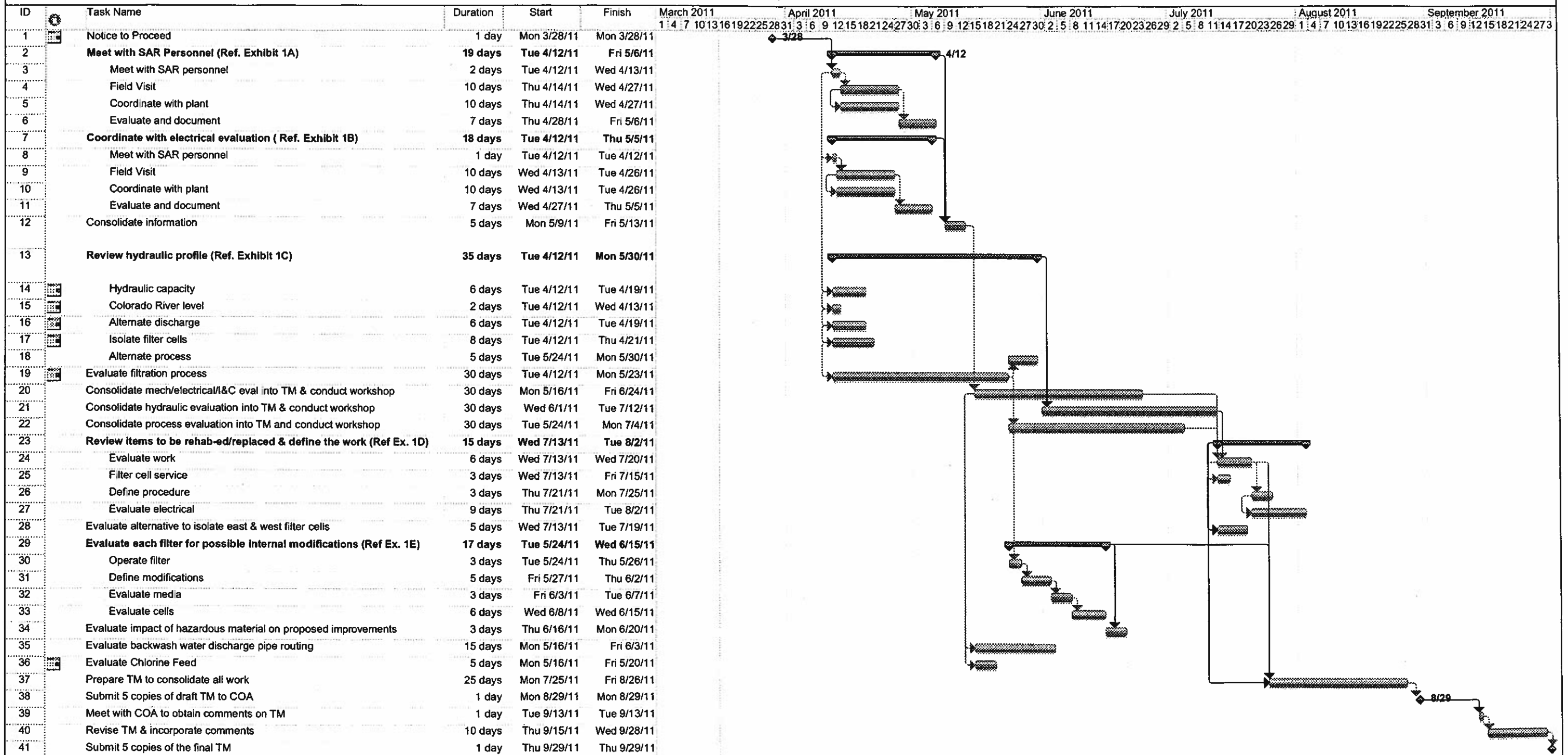
Title: _____

Date: _____

Date: _____

SAR WWTP Filter Improvements
Exhibit 2 - Preliminary Engineering Schedule

AECOM



Project: SAR WWTP Filter Improve
Date: Wed 3/16/11

Task		Milestone		Rolled Up Task		Rolled Up Progress		External Tasks		Group By Summary	
Progress		Summary		Rolled Up Milestone		Split		Project Summary		Deadline	



Chris

AECOM
400 West 15th Street
Suite 500
Austin, Texas 78701
www.aecom.com

512 472 4519 tel
512 472 7519 fax

October 15, 2012

Mr. Steve Parks
Public Works Department
City of Austin
505 Barton Springs Road, 9th Floor
Austin, Texas 78704

Re: Professional Engineering Services Proposal for Final Design and Bid Phase, Rev. 5
South Austin Regional WWTP Filter Improvements

Dear Mr. Parks:

This Professional Engineering Services proposal is submitted for the Final Design and Bid Phase of the South Austin Regional Wastewater Treatment Plant (SARWWTP) Filter Improvements Project. If acceptable, this proposal will serve as Supplemental Amendment No. 2 to the Agreement between AECOM Technical Services, Inc. (AECOM) and the City of Austin (COA).

PROJECT HISTORY

The SARWWTP Filter Building is located in the northeast corner of the SARWWTP site. This Filter Building was constructed as part of the Train B expansion, completed in 1988. The Filter Building consists of 12 filter cells with each being a single media, intermittently backwashed type of filter. In the early 1990's, the Filter Building flooded and many of the pipe, valves and control devices in the lower levels were submerged. A subsequent electrical improvement project modified the electrical duct bank entrance into the Filter Building and replaced some of the at-grade incoming power equipment. During the SARWWTP Train C Expansion project, additional exterior pipe modifications were made to address hydraulic issues with the Filter Building. However, no engineering evaluation and/or rehabilitation of the entire Filter Building and filter cells have been performed. The SARWWTP staff has performed overall operation and maintenance of these filters and, in doing so, has very likely replaced some of the damaged and inoperable equipment within the building.

The recently completed Preliminary Engineering Report (PER) of the SAR Filter Improvements Project evaluated the existing filters and alternate filter technology and recommended conversion of four of the existing filter cells (filter cell nos. 3, 4, 5 and 6) from the existing deep bed single media filter to cloth media disk filters. This filtration technology will add capacity and allow for future additional filtration capacity to be added within the existing footprint of the gravity filter. The remaining eight filter cells will be removed from service. Additionally, the PER also recommended several additional improvements be made in parallel with the filter improvements. These additional improvements include the following:

- Replacement of the mudwell pumps and the discharge pipeline back to the treatment trains

- Repair of the building expansion joint
- Replacement of the Filter Building electrical and instrument/control system
- Replacement of the mezzanine floor tile
- Raising the floor of the Backwash Pump Room to improve the hydraulic capacity of the facility

The current operating procedure for the SARWWTP is to use the filters consistently to meet the desired effluent quality of the plant and to meet the permit requirements established by the TCEQ. Thus, the SARWWTP filters must remain operational during modifications to convert the filters to new disc filters. This need to remain operational will require the engineering to be planned and the construction performed to minimize the time the facility is out of operation.

PROJECT DESCRIPTION

The existing SAR Filter Building consists of 12 filter cells with each being a single media, intermittently backwashed type of filter. The influent flow comes from Junction Box No. 5 via a 72-inch diameter influent pipe. Inside the building, the 72-inch diameter pipe divides into two 42-inch diameter pipes that convey water to each of the filter cells. After passing through the filter, each filter discharges the filtered water to a channel that conveys the water to the clearwell. Additionally, each filter cell is provided with a drain pipe, a backwash water supply pipe and a backwash air supply pipe. The filter influent, effluent, drain and backwash air and water supply facilities can be isolated at each filter cell. However, no other isolation of the Filter Building facilities is possible without total removal of the Filter Building from service.

Conversion of filter cell nos. 3, 4, 5 and 6 to cloth media disk filters will require isolation of these filter cells (at a minimum) and preferably the isolation of filter cell nos. 1 through 6 (the east half of the Filter Building). Isolation of the east half of the Filter Building will permit the remaining filter cell nos. 7 – 12 to remain in service (Note: filter cell no. 11 does not operate) to provide some plant effluent filtration. The initial final design task will require confirmation of the locations, identified in the PER, to install isolation on the filter influent, effluent, drain and backwash air and water supply facilities for the east and west halves of the Filter Building. Additional discussion with SAR Plant Personnel will also be required to confirm filter cell nos. 1 and 2 are not operational and do not need to be placed back in service during part of the conversion of filter cell nos. 3, 4, 5 and 6 to temporarily increase filtration capacity.

The conversion of these filter cells, as defined in the PER, will require the units to be removed from service, existing filter media removed and structural and mechanical facilities demolished within each filter cell to accommodate the cloth filters. Structural and mechanical modifications are required within each filter cell to accommodate the cloth filter and will also require hydraulic connection of each of the converted cells. Ultimately, the converted cells must be integrated into the Filter Building hydraulic system, which will require the Filter Building to be out of service for this final integration of the cloth filter. It is anticipated some coordination with AWU and TCEQ will be required since effluent will likely not meet effluent standards during this period.

Electrical and instrumentation/control modifications consist of removal and replacement of the existing electrical switchgear, motor control centers and control panels. In order to keep the

Filter Building partially in service, it will be necessary to design a phased implementation of the modifications to complement the hydraulic isolation that will be performed.

As stated in the PER, additional modifications must also be incorporated into the Filter Building conversion to cloth filters. These modifications include items defined in the following paragraphs.

1. Replace the mudwell pumps and install a new pipe to convey backwash water to a splitter box and ultimately to Trains A, B and C. This item also includes rehabilitation of the mechanical facilities at the mudwell pumps.
2. Provide a supplemental chlorine feed to the Filter Building to provide redundant feed.
3. Repair existing expansion joints to eliminate leakage through the joints.
4. Remove and replace a section of the floor slab at the backwash pumps, immediately above the clearwell weirs, to add headspace during high flow events.
5. Replace the floor tiles on the mezzanine level of the Filter Building.
6. Abandon the existing filter facilities that will be removed from service after placing the cloth filters into service.

The scope of work for this project will address each of the above items. The following paragraphs define tasks to be performed to accomplish this scope of work.

BASIS OF SCOPE OF WORK

The following Basis of Scope of Work was used to establish the man-hours and associated engineering fee required to perform the work.

1. On previous projects, the COA record drawing mylars have been available to be scanned and used as part of the construction plan set. This scope of work anticipates the Filter Building record drawing mylars may be reviewed, appropriate drawings identified and scanned for use on this project. The man-hours necessary to review, identify the appropriate record drawings and have them scanned are included in this proposal. This procedure would be performed in compliance with any security/document control requirements of the COA.
2. The decommissioning of components of the Filter Building will be performed in accordance with the recommendations in the Preliminary Engineering Report and will consist of the following:
 - a. Filter cell numbers 1, 2, 7-12 will be removed from service, filter media removed and each cell left in an isolated status.
 - b. Piping will be removed from service, pipe interior cleaned (flushed with water) and isolated with existing valves or blind flanges. Piping will not be physically removed except in the Backwash Pump Room where pipe will be removed to the extent necessary to provide personnel access.
 - c. Backwash pumps will be removed, all other equipment will be abandoned in place.

- d. Electrical wire, to all powered devices, will be disconnected from the device and abandoned in place with wire secured in conduit/junction box and conduit capped.
- e. Instrument/control wire, to all devices, will be disconnected from device and abandoned in place with wire secured in conduit/junction box and conduit capped.

SCOPE OF WORK

The scope of work is divided into Final Design Phase Services and Bid Phase Services. The following paragraphs define specific tasks associated with each of these phases.

Final Design Phase Services

1. Prepare a Quality Control manual and submit manual to COA for review and approval.
2. Coordinate with sub-consultants to establish contract agreements and to coordinate their quality control procedures to be used in performance of the project. This task also includes definition of health and safety procedures to be used on the project.
3. Schedule, coordinate and conduct progress meetings with the consultant team. Meetings will occur at monthly intervals and, based on a final design duration of 12 months, will result in a total of 12 meetings.
4. Schedule, coordinate and conduct project meetings with the COA Project Manager once a month for the duration of the Final Design of the project. It is anticipated these meetings will be attended by the consultant Project Manager and one engineer, City Project Manager and Project Sponsor with attendance by other team members as required. Each sub-consultant proposal defines the number of meetings and the individuals who will attend the meetings.
5. Establish methodology for reporting interim progress of the project. Review methodology with COA for concurrence. Based on agreed methodology, submit monthly progress report with monthly invoice for services.
6. Schedule, coordinate and conduct a meeting with the COA staff to review the preliminary engineering recommendations and confirm the engineering and schedule parameters for this phase of the project. This meeting will begin to address the following items:
 - a. Discuss the number of times the Filter Building can be removed from service and the duration of time it can be out of service.
 - b. Discuss coordination with TCEQ during construction and effect on effluent quality at certain key times when filters are partially or completely off-line.
 - c. Discuss the electrical and instrumentation/control service interruptions that can occur without impact to plant operations and limitations on these interruptions.
 - d. Perform initial review of the Process and Control Summary Table to address general equipment and control concepts.
 - e. Review and confirm the equipment tag number concept to be used for the project.

- f. Review and confirm specifications to be used for the project. This task includes development of P&IDs to define operational control requirements.
7. Develop a process flow diagram for the proposed improvements. Process flow diagram will start at the Filter Building influent and conclude at the drop box downstream of the clearwell weirs. Process flow diagram will also address frequency of backwash of the disc filters, related backwash flows/volumes and cycle time issues associated with the mudwell pumps. This task includes development of P&IDs to define operational control requirements.
8. Develop a hydraulic profile drawing for the proposed improvements. Hydraulic profile drawing will start at the Filter Building influent and conclude at the outfalls to the Colorado River. Hydraulic profile will also address frequency of backwash of the disc filters, related backwash flows/volumes and cycle time issues associated with the mudwell pumps.
9. Coordinate with Surveyor to obtain elevations and locations of Filter Building influent piping, weir elevations and various other points (i.e., junction boxes) along Filter effluent discharge pipe to the Colorado River. It is anticipated that the survey effort will consist of two survey crew days to gather the field information. All elevations shall be tied to the plant datum and horizontal locations shall be defined by plant coordinates.
10. Obtain record drawings and identify the locations of isolation points for each of the services to the filters. Define the specific type of isolation device to be utilized and confirm the available physical space and access will permit the installation of the isolation device. Confirm the amount of time required to take the Filter Building out of service and install the isolation devices.
11. Schedule, coordinate and conduct a site visit with COA plant to review the locations and type of isolation to be installed and the amount of time required for the installation of isolation devices. Obtain comments from COA and adjust the isolation concept to address the COA comments.
12. Prepare construction plans and specifications for the isolation of the filter cells and the decommissioning of filter cell nos. 1, 2, 7 through 12. Reference Exhibit 2A for specific tasks associated with this work.
13. Prepare construction plans and specifications for conversion of filter cell nos. 3 through 6 to cloth media filters. Reference Exhibit No. 2B for specific tasks associated with this work.
14. Prepare construction plans and specifications for replacement of the mudwell pumps and the discharge pipeline back to the treatment trains. Reference Exhibit 2C for specific tasks associated with this work.
15. Prepare construction plans and specifications for structural modifications including the repair of the building expansion joint, replacement of the floor tile on the mezzanine level and installation of a roof over the filter cells. Reference Exhibit 2D for specific tasks associated with this work.
16. Prepare construction plans and specifications for raising the floor of the Backwash Pump Room. Reference Exhibit 2E for specific tasks associated with this work.

17. Prepare Site Development Permit Application and submit application to the COA Planning Development and Review Department (PDRD). It is anticipated the Environmental Assessment documentation prepared for the previous SARWWTP Expansion project will be valid for this application and no budget is included in this scope for additional Environmental Assessment documentation. Reference Exhibit 2F for the specific tasks associated with the work in this area.
18. Coordinate with Travis County and submit appropriate permit applications for this work.
19. Submit interim review sets of construction plans and specifications. Perform internal QA/QC on each set prior to submittal to COA. Interim plan review sets to be submitted at 30%, 60% and 95% complete milestones. Interim sets will be in an 11" x 17" format. Interim review specification sets to be submitted at 60% and 95% complete milestones. A total of eleven (11) sets will be submitted with each milestone submittal. This task includes a meeting with COA after each submittal to receive and address COA comments.
20. Prepare an estimate of probable construction cost with each interim review set of construction plans. Upon completion of design, consolidate cost into a format to coincide with the construction bid package.
21. Prepare construction contract front end documents. Front end documents to be used are COA standard front end documents.
22. Submit eleven (11) sets of draft construction plans, specifications and front end documents to COA for review and approval. This submittal will be the complete bid set of plans and specifications.
23. Submit a Summary Transmittal Letter to the TCEQ to define the proposed modifications. This task includes a preliminary meeting with TCEQ to review the proposed modifications.
24. Submit one (1) set of final construction plans, specifications and front end documents to the Architectural Barriers Division for review and compliance with ADA requirements.
25. Meet with the COA to obtain their review comments. Revise documents to address the COA comments.
26. Submit one (1) full size and unbound set of final construction plans, specifications and front end documents and one electronic version of specifications and front end documents along with one electronic version of plans to the COA in preparation for advertising the project for bid.

Exhibit No. 2 provides an itemization and summary of the labor and expenses associated with the above tasks.

Bld Phase Services

It is anticipated the project will be bid as one construction project. The following tasks will be performed as part of the Bid Phase Services.

1. Assist the COA in the preparation of the "Advertisement for Bid" form and submit it to the COA for publication in appropriate newspapers. The cost of publication of notices in local newspapers will be paid for by the COA. Assist the COA in advertising the project for bid.
2. Schedule, coordinate and attend a pre-bid conference for the project. Conduct a site tour for pre-bid conference attendees.
3. Respond to questions during the bid phase of the project and coordinate the issuance of documents. This task anticipates service will be provided until bids are received by the COA.
4. Issue contract addenda resulting from the pre-bid conference. It is anticipated one (1) addendum will be required for the project.
5. Evaluate bids received by the COA and provide a recommendation of award to the COA.
6. Prepare six (6) sets of contract documents, in electronic, searchable format, and submit documents to the COA and Contractor for execution.

Exhibit No. 3 provides an itemization of the labor and expenses associated with the Bid Phase services outlined above.

SPECIAL SERVICES

The Scope of Services and the budget presented herein do not include the following special services. At such time that it is determined that these services are required, AECOM will obtain authorization from the COA prior to performing any of these additional services.

1. Travel and subsistence required of AECOM, and authorized by the COA, to points other than local governmental agencies, consultants and project site.
2. Additional copies of construction plans, specifications and contract documents (over agreed number) and additional blue-line copies of drawings (over agreed number).
3. Significant revisions by the COA after receiving and incorporating COA comments on the 60% review submittal.
4. Hazardous material inspections to determine the presence of these hazardous materials in the areas of the SARWWTP where this scope of work will be performed. It is anticipated the COA has performed this investigation and the results of this investigation will be provided to AECOM.
5. Filing, review, permit inspection and other fees assessed by the COA, County or State.
6. The publication of the "Advertisement for Bid" and the fees associated with this publication.
7. Preparation of construction plans and specification for a cover over the abandoned filter cells. If the evaluation determines a cover is required, the final design of that cover will be addressed by separate authorization.

8. Expert witness testimony or appearances at public hearings or meetings concerning the project or any of its elements. (Note: Attendance at COA Water and Wastewater Commission and Council meetings is included in the scope of work of this project.)
9. Preparation of an individual TPDES permit if the proposed activities are not in compliance with the TCEQ general permit.
10. Performance of an Environmental Assessment in support of a Site Development Permit application. It is anticipated previously prepared Environmental Assessments prepared for this site will be adequate.
11. Labor man-hours and expenses necessary to review, respond to or address value engineering comments provided by a third party consultant.
12. Labor man-hours and expenses necessary to coordinate, schedule and perform pilot testing of vendors filtration systems.

Should COA and AECOM agree that any of the above Special Services, or other additional services, is required, AECOM will prepare a cost proposal for such services and obtain authorization from COA prior to performing any special services.

INFORMATION REQUIRED FROM COA

The following information is understood to be available and will be provided by the COA to assist in the performance of this scope of work.

1. A lead based paint investigation was previously performed and the Lead-Based Paint Survey, prepared by Terracon Consultants, Inc. and dated August 9, 2010, was provided to AECOM.

SCHEDULE

The above defined Scope of Work is based on Final Design duration of twelve (12) months and Bid Phase duration of five (5) months. A detailed schedule based on a hypothetical start date is included in the attached Exhibit No.4.

DELIVERABLES

The following deliverables will be submitted to the COA for review and approval.

1. Eleven (11) copies of the 30% complete interim review sets of construction plans with estimate of probable construction cost.
2. Eleven (11) copies of the 60% complete interim review sets of construction plans and specifications with estimate of probable construction cost.
3. Site Development Permit application submitted to the Planning and Development Review Department (PDRD).

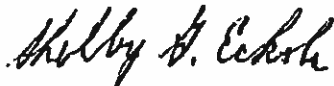
4. Eleven (11) copies of the 95% complete interim review sets of construction plans and specifications with estimate of probable construction cost.
5. Eleven (11) copies of the draft construction plans, specifications and front end documents.
6. One (1) full size and unbound set of final construction plans, specifications and front end documents and one electronic version of specifications and front end documents along with one electronic version of plans, including an estimate of probable construction cost.
7. A Summary Transmittal Letter to TCEQ to define the proposed modifications.
8. One (1) set of construction plans, specifications and front end documents to Architectural barriers Division for review and compliance with ADA requirements.

COMPENSATION

Compensation for the above Scope of Services is to be on a lump sum basis with payment made monthly on the basis of progress achieved. The project cost of the scope of work has been calculated and is defined in the attached Exhibit Nos. 2, 2A, 2B, 2C, 2D, 2E, 2F and 3 with the cost summarized in Exhibit No.1. The total compensation for the above Scope of Services is \$1,191,675.00 and will not be exceeded without prior written authorization from the COA.

If this proposal meets with your approval, we understand it will become a Supplemental Amendment to the contract between AECOM and the City of Austin.

Sincerely,



Shelby G. Eckols, P.E.
Senior Vice President

Exhibit 2A
Engineering Services Proposal for
SARWWTP Filter Improvements – Final Design Phase

Isolation and Decommissioning of Filter Cells

1. Obtain record drawings of Filter Building piping and define specific locations to install isolation devices.
2. Based on plant operation requirements and proposed construction, define type of isolation devices to be installed.
3. Coordinate with plant operations staff to determine requirements to take specific sections of pipe out of service. Requirements to include definition of valves to be closed to isolate the section of pipe, time the pipe can be out of service and the impact on Filter Building operation, and the methods of disposal for any materials within the pipe.
4. Prepare construction plans to define the location, type of isolation and steps involved to install the isolation device.
5. Prepare specifications for the isolation devices and to define the Sequence of Construction necessary to accomplish the isolation installation.
6. Use record drawings to define filter cells to be removed from service and to define work to be performed for the decommissioning of each filter. Decommissioning work to be defined by notes on record drawings and to include definition of cleaning to be accomplished.
7. Use record drawings to define procedures to remove pipes from service, clean and to decommission pipes. This work will be defined by notes on record drawings and will include identification of any mechanical pieces to be removed to facilitate the decommissioning.
8. Use record drawings to define procedure to remove electrical power wiring and facilities from service. This work will be defined by notes on record drawings and will include identification of any electrical pieces to be removed to facilitate the decommissioning.
9. Use record drawings to define procedures to remove instrumentation/control facilities from service. This work will be defined by notes on record drawings and will include identification of any instrumentation/control facilities to be removed to facilitate the decommissioning.
10. Develop a construction add alternative to remove old media and to clean the abandoned filter cells.
11. Evaluate the need for a cover for the abandoned filter cells. Evaluation to include definition of the types of cover available and an estimate of the probable construction cost for each type of cover. A project memo will be prepared to summarize the result of this evaluation

Exhibit 2B
Engineering Services Proposal for
SARWWTP Filter Improvements – Final Design Phase

Conversion of Filter Cell Nos. 3 – 6

1. Obtain record drawings of Filter Building piping and define work to be performed to decommission and demolish the interior of existing filter cells to accommodate conversion to cloth media filters.
2. Meet with potential suppliers of disc media filters and obtain detailed dimensions and tolerances for the disc filters so that required dimensions of concrete structures can be sized properly. Evaluate suppliers for feasibility of or-equal design. Select filter supplier to be used as basis of design and confirm with COA.
3. Develop detailed layouts and dimensions of filter cells for installation of each disc filter.
4. Obtain from potential disc filter suppliers (including Aqua-Aerobic Systems and Ashbrook Simon-Hartley) the specifications and details of chlorine resistant cloth media to be used in the disc filters, provide this information to COA and meet with COA Project Manager to discuss the material specifications.
5. Perform site visit to confirm existing dimensions of each existing filter cell and compare existing size to size requirements for the cloth filter media units to be installed. Perform this field confirmation for each of the existing filter cells to be converted.
6. Perform final design of each cloth filter media unit to be place into the existing filter cell.
7. Design influent piping from existing influent header to each of the proposed cloth media filter units. Develop detailed layouts and dimensions of all influent channels feeding each disc filter including connections underneath the effluent channel.
8. Design filtered water effluent conveyance from each filter unit to the clearwell splitter box. Develop detailed layouts and dimensions of all effluent channels and weirs out of each disc filter.
9. Disc filters will be designed for backwashing the cloth media intermittently using filtered water from within each filter chamber. Design layout and details of backwash water supply piping to each filter unit.
10. Design backwash water effluent discharge piping and effluent weirs from each filter unit to the conveyance channel leading to the existing clearwell splitter box, necessary modifications to/relocations of the existing slide gates connecting to the existing mudwell.
11. Coordinate with structural engineer to define structural modifications necessary to the existing filter cells to install the cloth media filter units.
12. Coordinate with electrical and instrumentation/control engineer to define facilities necessary for the cloth media filter units including operations and control of the discs, intermittent backwash system and backwash pump controls..
13. Evaluate existing clearwell splitter box and design necessary modifications (including relocation of existing slide gates) to accommodate cloth media filter units and the decommissioning of the remaining filters.

14. Evaluate existing backwash water effluent conveyance channel and design modifications necessary to accommodate cloth media filter units and the decommissioning of the remaining filters.
15. Evaluate existing chlorine injection points and define a proposed location for new chlorine injection points.
16. Coordinate with COA plant personnel to confirm chlorine injection points and the need for a redundant chlorine feed.
17. Design chlorine injection points and chlorine supply piping to meet the requirements defined by COA.
18. Prepare construction plans and specifications for the installation of the cloth media filter units in filter cell nos. 3-6.
19. Prepare construction plans and specifications for modifications to the clearwell splitter box.
20. Prepare construction plans and specifications for require modifications to the backwash water effluent conveyance channel to the mudwell.
21. Prepare construction plans and specifications for piping modifications in the Pipe Gallery (including installation of new 42' feed line and isolation valves) of the Filter Building.

Exhibit 2C
Engineering Services Proposal for
SARWWTP Filter Improvements – Final Design Phase

Mudwell Pumps and Discharge Pipeline

1. Confirm the range of intermittent backwash flow rates from the cloth filters and evaluate these flow rates with the volume of the mudwell. Coordinate with plant operations personnel to confirm the desired flow rate and/or frequency of flow return to the treatment trains.
2. Based on input from plant operations personnel, confirm the size of mudwell pumps required to provide desired flow. Design pumps and mechanical modifications necessary to accommodate new pumps.
3. Coordinate with plant personnel to review backwash flow rate of cloth filters, mudwell storage capacity and mudwell pumping capacity to confirm pumping flexibility meets plant operating needs.
4. Prepare pump and mechanical specifications for the proposed modifications, including the sequence of construction specification.
5. Evaluate backwash/mudwell operations requirements and define any operating conditions which must be maintained during the mudwell pump replacement.
6. Based on selected pump size and required backwash pumping rates, confirm size and route for pipeline required to return flow to the flow splitter box.
7. Based on selected pump size and flow rates, confirm sizes of flow splitter boxes (one existing and one new) and weir lengths to accommodate the flow rates.
8. Based on selected pump size and flow rate, confirm pipe size and route for pipeline from flow splitter box to each of the treatment trains.
9. Based on selected pipeline route, define potential utility conflicts and coordinate with surveyor and/or with plant operations personnel to "pot-hole" to identify location of existing utilities. It is assumed this task will be performed in a total of 10 locations.
10. Prepare plan and profile drawings of pipeline with existing utilities shown. Pipeline shall be defined horizontally by the plant coordinate system with elevation tied to the plant datum.
11. Perform hydraulic design of new flow splitter box to meet anticipated range of flows. Coordinate with plant personnel to confirm access requirements desired for splitter box.
12. Perform structural design of the flow splitter box and prepare structural drawings and specifications.
13. Prepare mechanical drawings for mudwell pump replacement and the associated mechanical modifications necessary to accommodate the pump replacement.
14. Evaluate maintenance requirements for new mudwell pumps and determine pump/motor removal ability with existing facilities and recommend an alternative, if appropriate. If alternative is desired, prepare drawings and specifications to provide a monorail hoist.
15. Coordinate with electrical and instrumentation and control engineer to provide services to the new mudwell pumps.

Exhibit 2D
Engineering Services Proposal for
SARWWTP Filter Improvements – Final Design Phase

Structural Modifications: Building Expansion Joint; Floor Tile; Roof over Filter Cells

1. Coordinate with structural engineer to confirm locations of expansion joint to be repaired.
2. Coordinate site visit with plant personnel and structural engineer to review repair locations and operational issues that may be impacted by the repair effort.
3. Structural engineer to design expansion joint repair procedure and define products to be used in the repair.
4. Structural engineer to prepare construction plans and specifications to define repairs and confirm access requirements to accomplish repairs.
5. Review repair procedure and coordinate with plant operations personnel to confirm procedure will not adversely impact plant operations.
6. Coordinate with structural engineer and plant personnel to confirm limits of floor tile removal and replacement.
7. Structural engineer to develop construction plans, using record drawings of existing facility, to define floor tile replacement and any floor treatment procedures to be implemented during the tile replacement. Construction plans to contain notes to define specifications for floor tile or develop formal specifications.
8. Coordinate with structural engineer to define mechanical requirements for roof over filter cells and confirm available locations for support columns that do not interfere with filter cell operation.
9. Schedule, coordinate and conduct a meeting with COA plant personnel to confirm materials of construction for roof structure, aesthetic requirements and filter cells to be covered. For purposes of this proposal, it is anticipated the roof is only required over filter cell nos. 1 through 6.
10. Structural engineer to develop construction plans and specifications for roof over filter cells.

Exhibit 2E
Engineering Services Proposal for
SARWWTP Filter Improvements – Final Design Phase

Raising Floor of Backwash Pump Room over Clearwells

1. Coordinate with structural engineer to confirm limits of floor to be removed and replaced at a higher elevation to provide clearance above weir in the clearwells.
2. Based on defined limits of floor, confirm headroom on the raised floor level and access requirements to and from the raised floor.
3. Prepare preliminary construction plans to define proposed modifications. Plans to define proposed structural, mechanical and electrical modifications necessary to make the modification.
4. Evaluate and define the anticipated construction duration to make the proposed modifications and the impact of this time on plant operations.
5. Schedule, coordinate and conduct a meeting with COA plant personnel to review proposed modifications and obtain their input. Confirm the anticipated construction duration can be accommodated with plant operations. Make any necessary adjustments to plans to accommodate issues identified by COA.
6. Prepare mechanical demolition drawings, using existing record drawings, to define mechanical facilities to be removed to accommodate the proposed floor elevation. Note: It is anticipated the piping and mechanical equipment in the Backwash Pump room will be removed and the floor penetrations sealed as part of this demolition.
7. Prepare structural demolition drawings, using existing record drawings and new detail drawings, to define structural modifications required to raise the floor.
8. Prepare electrical demolition drawings, if necessary, to define electrical facilities to be removed to accommodate the proposed floor elevation.
9. Prepare specifications necessary for proposed modifications, including sequence of construction specification.

Exhibit 2F
Engineering Services Proposal for
SARWWTP Filter Improvements – Final Design Phase

Site Development Permit Application

1. Coordinate a meeting with COA permitting to confirm the submittal requirements for the project.
2. Obtain record drawings and other background information and copies of existing permits to be used in this permit application.
3. Confirm the facility design criteria to be used in this existing plant.
4. Finalize the Limits of Construction for this project.
5. Obtain record drawings of the SARWWTP Expansion & Improvements project and reuse these drawings to define existing drainage areas.
6. Use existing record drawings to define the slope map for the project, if required by permitting.
7. Define existing drainage areas that will be impacted by this project and calculate change in impervious cover, within these drainage areas, that will occur as a result of this project.
8. Calculate existing runoff and location of runoff from impacted drainage areas.
9. Evaluate proposed runoff from impacted drainage areas and confirm that increase in runoff, if any, will not impact capacity of existing water quality and detention facilities.
10. Coordinate with COA permitting to confirm no Environmental Assessment document will be required, or if required, can consist of a re-submittal of the Environmental assessment from the SARWWTP Expansion & Improvements project.
11. Design temporary storm water controls for the impacted drainage areas.
12. Incorporate E&S control plan and develop letter of fiscal.
13. Conduct COA review meetings of permit submittal set of plans. It is anticipated a total of four meetings will be required.
14. Develop and coordinate final plans and specifications for permitting.
15. Meet with the COA for pre-submittal meeting.
16. Prepare SWPPP for the project and submit for COA review and approval.
17. Prepare Engineer's Summary letter.
18. Submit site development permit.
19. Obtain COA comments on permit application and address the comments.
20. Re-submit site development permit. This scope of work is based on one re-submission of the permit application.

**SAR WWTP Filter Improvements SA #2
Position Table**

Project Role	Individual	Rate
QA/QC	Chris Chen, Senior Project Manager	\$230
Project Director	Shelby Eckols, Principal	\$250
Senior Engineer	Ioan Chilarescu, Senior Project Manager	\$152
Engineer	Xiaohong He, Project Engineer	\$122
Technician	Joe Nungaray, Senior CADD Technician	\$111
Clerical	Patricia Martinez, Administrative Asst.	\$96

SARWWTP FILTER IMPROVEMENTS PROJECT

EXHIBIT NO. 1

Summary of Costs for Final Design and Bid Phase Services

Direct Labor Rates & Multipliers	QA/QC	PROJ. DIR.	SR ENGINEER	ENGINEER	TECH.	CLER.
	230	250	152	122	111	96
						0

LABOR ESTIMATE - FINAL DESIGN

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1 Final Design (Exhibit 2)	115	426	683	954	742	319	3,239
2 Bid Phase Services (Exhibit 3)	2	18	52	8	32	20	132
TOTAL HOURS	117	444	735	962	774	339	3,371
TOTAL LABOR COSTS	\$26,910	\$111,000	\$111,720	\$117,364	\$85,914	\$32,644	\$485,452

NON-LABOR ESTIMATE

ITEM	UNITS	QTY.	RATE	SUBTOTAL	MULT	TOTAL
Outside Printing (plans and specs)	L.S.	1	\$10,000	\$10,000	1.05	\$10,500
Total						\$10,500

SUBCONTRACTOR SERVICES ESTIMATE

FIRM NAME	SUBTOTAL	MULT	TOTAL
CAS Consulting and Services Inc.	\$52,027	1.05	\$54,628
Macias & Associates, L.P.	\$13,050	1.05	\$13,703
Jose I. Guerra, Inc.	\$198,700	1.05	\$208,635
Harutunian Engineering, Inc.	\$398,816	1.05	\$418,757
Total Subcontractor Costs			\$695,723

TOTAL FEE ESTIMATE	\$1,191,675
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Final Design Phase Services

Direct Labor Rates & Multipliers	QA/QC	PROJ. DIR.	SR ENGINEER	ENGINEER	TECH.	CLER.	FRINGE and G&A MULT.
	230	250	152	122	111	98	0

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1 Prepare QA/QC manual		2	8				10
2 Execute subconsultant agreements		8	12			4	24
3 Conduct monthly progress meetings		36	48	12		4	100
4 Conduct project monthly meetings with COA PM		24	36			6	66
5 Submit monthly progress reports		12	12			12	36
6 Meet with COA staff to review PER recommendations		8	8	10		2	28
7 Develop process flow diagram	2	8	18	24	60	8	114
8 Develop hydraulic profile drawing	2	4	12	18	20	2	58
9 Coordinate with surveyor		4		8			12
10 Identify isolation points		1	8	18		2	29
11 Site visit to review isolation plan		2	4	8		2	16
12 Plans and specs for isolation of filter cells (Ex 2A)	19	50	94	78	98	40	375
13 Plans and specs for conversion to cloth media filters (Ex 2B)	30	89	208	288	348	72	1,031
14 Construction plans and specs for mudwell pumps (Ex 2C)	14	52	78	128	52	29	351
15 Plans and specs for structural mods (Ex 2D)	13	24	18	40	0	10	105
16 Plans and specs for raising floor of Backwash Pump Rm (Ex 2E)	10	34	58	68	56	24	250
17 Development Permit Application (Ex 2F)	7	38	14	180	72	37	356
18 Travis County permit application		1		8		4	13
19 Submit plans and specs at 30%, 60%, and 90% completion	12	9	15	18	12	12	78
20 Estimates for construction costs at 30%, 60%, and 90%	3	8	10	12		2	33
21 Prepare construction contract front-end documents	1	4	12	12		2	31
22 Submit complete bid set of plans and specs to COA for review		4		8	8	8	28
23 Submit set of plans and specs to TCEQ for review and approval		3	6	4	4	2	19
24 Submit plans and specs to Architectural Barriers Division		1				1	2
25 Meet with COA to review comments on bid docs		4	8			1	13
26 Submit final plans, specs, and front-end docs to COA	2	4	2	12	12	1	33
TOTAL HOURS	115	428	683	954	742	319	3,239
TOTAL LABOR COSTS	\$26,450	\$108,500	\$103,816	\$116,388	\$82,382	\$30,824	\$468,140

NON-LABOR ESTIMATE

ITEM	UNITS	QTY.	RATE	SUBTOTAL	Mult	TOTAL
Outside Printing (plans and specs)	L.S.	1	\$8,000	\$8,000	1.05	\$8,400
Total						\$8,400

SUBCONTRACTOR SERVICES ESTIMATE

FIRM NAME	SUBTOTAL	Mult	TOTAL
CAS Consulting	\$51,348	1.05	\$53,913
Macias & Associates	\$13,050	1.05	\$13,703
Jose I. Guerra	\$183,265	1.05	\$202,928
Harutunian Engineering	\$385,698	1.05	\$404,981
Total Subcontractor Costs			\$675,525

TOTAL FEE ESTIMATE

	\$1,150,065
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NOTES TO INKHOUGH AT ARE FOR REFERENCE ONLY, AND DO NOT COMPRISE
 TOTAL LABOR COST IN EXHIBIT 2.

EXHIBIT NO. 2A

SARWWTP FILTER IMPROVEMENTS PROJECT
 FINAL DESIGN PHASE

Isolation and Decommissioning of Filter Cells

Direct Labor Rates & Multipliers	QA/QC	PROJ. DIR.	SR ENGINEER	ENGINEER	TECH.	CLER.
	230	250	152	122	111	96

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1 Obtain record drawings & define location		4	8		20	2	34
2 Define type of isolation to be installed		4	12				16
3 Determine requirements for pipe decommissioning	2	4	8	4		4	22
4 Prepare drawing for installation of isolation device	4	4	4	8	16	6	42
5 Prepare specs and define sequence of construction	8	12	24	16		8	68
6 Define filter cells to be removed from service and necessary work		4	8	8	8	4	32
7 Define procedures for pipe decommissioning on record drawings		4	8	12	16	4	44
8 Define procedures for removal of electrical power on record drawings	2	2	4			2	10
9 Define procedures for removal of instrumentation on record drawings		2	4			2	8
10. Develop add alternative	1	6	6	12	12	4	41
11 Evacuate cover, produce memo	2	4	8	16	24	4	58
TOTAL HOURS	19	50	94	78	98	40	375
TOTAL LABOR COSTS	\$4,370	\$12,500	\$14,288	\$9,272	\$10,656	\$3,840	\$54,926

SUBCONTRACTOR SERVICES ESTIMATE

FIRM NAME		TOTAL
Total Subcontractor Costs		\$0

TOTAL LABOR COST IN EXHIBIT 2.
 LINE FOR REFERENCE ONLY, AND DO NOT COMPRISE

SARWTP FILTER IMPROVEMENTS PROJECT
 FINAL DESIGN PHASE

Conversion of Filter Cell Nos. 3-6

Direct Labor Rates & Multipliers	QA/QC	PROJ. DIR.	SR ENGINEER	ENGINEER	TECH.	CLER.
	230	250	152	122	111	96

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1 Obtain record drawings and define work		2	6		8	1	17
2 Meet with potential suppliers of disc media filters	2	4	24	18		2	50
3 Develop detailed layouts and dimensions of filter cells		4	6	12	40	4	66
4 Obtain specs for chlorine resistant cloth media		1	4				5
5 Perform site visit and confirm dimensions of existing filter cells		2	4	8		2	16
6 Perform final design of cloth filter media units	2	8	32	64	20	8	134
7 Design influent piping	2	4	6	12	8	2	34
8 Design filtered water effluent conveyance	2	4	8	12	8	2	36
9 Design backwash water supply piping	2	2	4	6	4	2	20
10 Design backwash water effluent discharge piping	1	2	6	12	4	4	29
11 Coordinate with structural engineer to define structural modifications		6	12	8		2	28
12 Coordinate with electrical engineer	2	6	8	12		2	30
13 Evaluate existing clearwell splitter box and design mods	1	4	6	12	8	6	37
14 Eval existing backwash water effluent conveyance & design mods	1	4	6	12	8	6	37
15 Eval existing chlorine injection points & define new proposed points	1	4	6	12	8	6	37
16 Coord with COA staff to confirm chlorine injection points		4	4	12	8	6	37
17 Design chlorine injection points and supply piping		2	6	8		1	17
18 Prepare construction plans for installation of cloth media filters	8	8	24	30	120	12	202
19 Prepare construction plans for mods to clearwell splitter box	2	6	12	16	30	4	70
20 Prepare construction plans for mods to backwash water effluent	2	6	12	18	40	4	80
21 Prepare construction plans for piping mods in Pipe Gallery	2	6	12	16	40	2	78
TOTAL HOURS	30	89	208	296	346	72	1,031
TOTAL LABOR COSTS	\$6,900	\$22,250	\$31,616	\$34,892	\$38,406	\$6,912	\$140,976

SUBCONTRACTOR SERVICES ESTIMATE

FIRM NAME	TOTAL
Total Subcontractor Costs	\$0

VALUES LA THROUGH LF ARE FOR REFERENCE ONLY, AND DO NOT COMPRISE TOTAL LABOR COST IN EXHIBIT 2

EXHIBIT NO. 2C

SARWTP FILTER IMPROVEMENTS PROJECT
FINAL DESIGN PHASE

Mudwell Pumps and Discharge Pipeline

Direct Labor Rates & Multipliers	QA/QC	PROJ. DIR.	SR ENGINEER	ENGINEER	TECH.	CLER.
	230	250	152	122	111	96

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1 Evaluate and confirm backwash flowrate		4	12	12		2	30
2 Confirm size and design pumps and mechanical mods		4	8	24		4	40
3 Review designs and mods with plant personnel		4	4				8
4 Prepare specs	2	4	12			1	19
5 Evaluate and define operating conditions for replacement		2	6			1	9
6 Confirm design for return flow pipeline to splitter box	2	4	6	8		2	22
7 Confirm design for splitter box and weir	2	4	6	12		4	28
8 Confirm design for pipeline fr splitter box to treatment trains	2	4	4	6		4	20
9 Define potential utility conflicts	2	2		8		1	13
10 Prepare plans of pipeline with existing utilities shown		4		6		1	11
11 Perform hydraulic design of flow splitter box	2	4	2	6			14
12 Perform structural design of flow splitter box		2		6	4	1	13
13 Prepare mechanical drawings for mudwell pump replacement	2	4	8	24	40	6	84
14 Evaluate maintenance requirements and removal ability		2	8	8	8	2	28
15 Coordinate with electrical/instrumentation engineer for service		4		8			12
TOTAL HOURS	14	52	76	128	52	29	351
TOTAL LABOR COSTS	\$3,220	\$13,000	\$11,562	\$15,016	\$5,772	\$2,784	\$51,944

SUBCONTRACTOR SERVICES ESTIMATE

FIRM NAME	TOTAL
Total Subcontractor Costs	\$0

INCREASE IN THROUGH IT ARE FOR REFERENCE ONLY, AND DO NOT COMPRISE
 TOTAL LABOR COST IN EXHIBIT 2.
 SARWWTP FILTER IMPROVEMENTS PROJECT

Structural Modifications: Building Expansion Joint, Floor Tile, Roof over Filter Cells

Direct Labor Rates & Multipliers	QA/QC	PROJ. DIR.	SR ENGINEER	ENGINEER	TECH.	CLER.
	230	250	152	122	111	96

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1 Confirm location of expansion joint with structural engineer		1	2	4		1	8
2 Site visit		2		4			6
3 Design expansion joint repair	2	2	2	4		2	12
4 Prepare construction plans and specs	2	4		4			10
5 Coordinate with plant operations		2		4		1	7
6 Confirm limits of tile floor removal and replacement		1		4			5
7 Develop construction plans and define specs for floor	2	2	4	4		1	13
8 Define mechanical requirement for roof over filter cells	1	2	6	4		2	15
9 Meet with COA plant staff to confirm roof design		4	4			1	9
10 Develop construction plans and specs for roof	6	4		8		2	20
TOTAL HOURS	13	24	18	40	0	10	105
TOTAL LABOR COSTS	\$2,990	\$6,000	\$2,736	\$4,880	\$0	\$960	\$17,566

SUBCONTRACTOR SERVICES ESTIMATE

FIRM NAME	TOTAL
Total Subcontractor Costs	\$0

VALUES AS THROUGH 4/1 ARE FOR REFERENCE ONLY, AND DO NOT COMPRISE TOTAL LABOR COST IN EXHIBIT 2.

EXHIBIT NO. 2E

SARWTP FILTER IMPROVEMENTS PROJECT
FINAL DESIGN PHASE

Raising Floor of Backwash Pump Room over Clearwells

Direct Labor Rates & Multipliers	QA/QC	PROJ. DIR.	SR ENGINEER	ENGINEER	TECH.	CLER.
	230	250	152	122	111	96

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1 Coordinate with Structural Engineer to confirm limits of floor		2	6				8
2 Confirm headroom on raised floor	1	2	4	8			15
3 Prepare preliminary construction plans	2	2	4	8	16	6	38
4 Evaluate and define construction duration and impacts		8	12	12		4	36
5 Meet with COA staff to confirm plans		4	4				8
6 Prepare mechanical demo drawings	2	4	12	16	24	6	64
7 Prepare structural demo drawings	1	2			8		11
8 Prepare electrical demo drawings	2	2			8		12
9 Prepare specs for modifications	2	8	16	24		8	58
TOTAL HOURS	10	34	58	68	56	24	250
TOTAL LABOR COSTS	\$2,300	\$8,500	\$8,816	\$8,296	\$6,216	\$2,304	\$36,432

SUBCONTRACTOR SERVICES ESTIMATE

FIRM NAME	TOTAL
Total Subcontractor Costs	\$0

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 TOTAL LABOR COST IN EXHIBIT 2.

SARWTP FILTER IMPROVEMENTS PROJECT
 FINAL DESIGN PHASE

EXHIBIT NO. 2F

Site Development Permit Application

Direct Labor Rates & Multipliers	QA/QC	PROJ. DIR.	SR ENGINEER	ENGINEER	TECH.	CLER.
	230	250	152	122	111	96

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1 Meet with COA permitting staff to confirm requirements		2		4		1	7
2 Obtain record drawings and copies of existing permits		2		12	4	1	19
3 Confirm facility design criteria		2		4			6
4 Finalize Limits of Construction		1	2	2			5
5 Define existing drainage areas		1		12	4	1	18
6 Define the slope map		1		4	8	2	15
7 Calculate change in impervious cover	1	2	8	20		4	35
8 Calculate runoff		2		4		1	7
9 Evaluate existing water quality and detention facilities		2		12		1	15
10 Confirm requirement for Environmental Assessment		2		4			6
11 Design temporary stormwater controls	2	1		6	8	2	19
12 Incorporate E&S Control Plan		2		8	8	2	20
13 Conduct COA review meetings		4		20		4	28
14 Develop and coordinate final plans and specs for permitting	4	2		12	32	6	56
15 Conduct presubmittal meeting with COA		1		6		2	9
16 Prepare SWPPP		2	4	24		4	34
17 Prepare Engineer's Summary Letter		1		4		1	6
18 Submit Site Development Permit Application		2		12		1	15
19 Obtain and address comments on Permit Application		2		12	8	4	26
20 Re-submit Permit Application		2		8			10
TOTAL HOURS	7	36	14	180	72	37	356
TOTAL LABOR COSTS	\$1,610	\$9,000	\$2,128	\$23,180	\$7,992	\$3,562	\$47,462

SUBCONTRACTOR SERVICES ESTIMATE

FIRM NAME	TOTAL
Total Subcontractor Costs	\$0

**SARWWTP FILTER IMPROVEMENTS PROJECT
 BID PHASE SERVICES**

EXHIBIT NO. 3

Direct Labor Rates & Multipliers	QA/QC	PROJ. DIR.	SR ENGINEER	ENGINEER	TECH.	CLER.
	230	250	152	122	111	96

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1 Assist COA in prep of Advertisement for Bid		2	4			2	8
2 Schedule, coordinate, and attend pre-bid meeting		4	8			2	14
3 Respond to questions and issue documents	1	4	12		4	4	25
4 Issue contract addenda	1	2	12		4	4	23
5 Evaluate bids and recommend awarding		2	4				6
6 Prepare 6 sets of contracts and submit for execution		4	12	8	24	8	56
TOTAL HOURS	2	18	52	8	32	20	132
TOTAL LABOR COSTS	\$460	\$4,500	\$7,904	\$976	\$3,552	\$1,920	\$19,312

NON-LABOR ESTIMATE

ITEM	UNITS	QTY.	RATE	SUBTOTAL	Mult	TOTAL
Outside Printing (plans and specs)	L.S.	1	\$2,000	\$2,000	1.05	\$2,100
Total						\$2,100

SUBCONTRACTOR SERVICES ESTIMATE

FIRM NAME	SUBTOTAL	Mult	TOTAL
CAS Consulting	\$681	1.05	\$715
Jose I. Guerra	\$5,435	1.05	\$5,707
Harutunian Engineering	\$13,120	1.05	\$13,776
Total Subcontractor Costs			\$20,198

TOTAL FEE ESTIMATE

	\$41,610
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September 12, 2012

Shelby G. Eckols, P.E
AECOM Technical Services
400 West 15th Street
Suite 500
Austin, Texas 78701

Subject: South Austin Regional WWTP (SARWWTP)
Filter Improvements Project
Final Design and Bid Phase
Amendment No. 1

Dear Mr. Eckols:

This Professional Engineering Services proposal is submitted for the Final Design and Bid Phase of the South Austin Regional WWTP (SARWWTP) Filter Improvements Project. If acceptable, this proposal will serve as Supplemental Amendment No. 1 to the Agreement between CAS Consulting and Services, INC. (CAS) and the AECOM Technical Services (AECOM).

PROJECT HISTORY

The SARWWTP Filter Building is located in the northeast corner of the SARWWTP site. This Filter Building was constructed as part of the Train B expansion, completed in 1988. The Filter Building consists of 12 filter cells with each being a single media, intermittently backwashed type of filter. In the early 1990's, the Filter Building flooded and many of the pipe, valves and control devices in the lower levels were submerged. A subsequent electrical improvement project modified the electrical duct bank entrance into the Filter Building and replaced some of the at-grade incoming power equipment. During the SARWWTP Train C Expansion project, additional exterior pipe modifications were made to address hydraulic issues with the Filter Building. However, no engineering evaluation and/or rehabilitation of the entire Filter Building and filter cells have been performed. The SARWWTP staff has performed overall operation and maintenance of these filters and, in doing so, has very likely replaced some of the damaged and inoperable equipment within the building.

The recently completed Preliminary Engineering Report (PER) of the SAR Filter Project evaluated the existing filters and alternate filter technology and recommended conversion of four of the existing filter cells (filter cell nos. 3, 4, 5 and 6) from the existing deep bed single media filter to cloth media disk filters. The remaining eight filter cells will be removed from service. Additionally, the Report also recommended several additional improvements be made in parallel with the filter improvements. These additional improvements include the following:

- Replacement of the mudwell pumps and the discharge pipeline back to the treatment trains,
- Repair of the building expansion joint,
- Replacement of the Filter Building electrical and instrument/control system,
- Replacement of the mezzanine floor tile,
- Raising the floor of the Backwash Pump Room to improvement the hydraulic capacity of the facility.

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Austin, Texas 78754
(512) 836-2388
Fax (512) 836-4515

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700 E. Sonterra Blvd., Ste 1206
San Antonio, Texas 78258
(210) 248-9083
Fax (210) 248-9155

The current operating procedure for the SARWWTP is to use the SARWWTP filters consistently to meet the desired effluent quality of the plant and to meet the permit requirements established by the TCEQ. Thus, the SARWWTP filters must be fully operational. This need to remain operational will require the engineering to be planned and the construction performed to minimize the time the facility is out of operation.

PROJECT DESCRIPTION

The existing SAR Filter Building consists of 12 filter cells with each being a single media, intermittently backwashed type of filter. The influent flow comes from Junction Box No. 5 via a 72-inch diameter influent pipe. Inside the building, the 72-inch diameter pipe divides into two 42-inch diameter pipes that convey water to each of the filter cells. After passing through the filter, each filter discharges the filtered water to a channel that conveys the water to the clearwell. Additionally, each filter cell is provided with a drain pipe, a backwash water supply pipe and a backwash air supply pipe. The filter influent, effluent, drain and backwash supply facilities can be isolated at each filter cell. However, no other isolation of the Filter Building facilities is possible without total removal of the Filter Building from service.

Conversion of Filter Cell Nos. 3, 4, 5 and 6 to cloth media disk filters will require isolation of these filter cells (at a minimum) and preferably the isolation of filter cell nos. 1 through 6 (the east half of the Filter Building). Isolation of the east half of the Filter Building will permit the remaining filter cell nos. 7 – 12 to remain in service to provide some plant effluent filtration. The initial final design task will require confirmation of the locations, identified in the PER, to install isolation on the filter influent, effluent, drain and backwash supply facilities for the east and west halves of the Filter Building. Additional discussion with SAR Plant Personnel will also be required to confirm filter cell nos. 1 and 2 are not operational and do not need to be placed back in service during part of the conversion of Filter Cell Nos. 3, 4, 5 and 6 to temporarily increase filtration capacity.

The conversion of these filter cells, as defined in the PER, will require the units to be removed from service, existing filter media removed and structural and mechanical facilities demolished within each filter cell to accommodate the cloth filters. Structural and mechanical modifications are required within each filter cell to accommodate the cloth filter and will also require hydraulic connection of each of the converted cells. Ultimately, the converted cells must be integrated into the Filter Building hydraulic system, which will require the Filter Building to be out of service for this final integration of the cloth filter.

Electrical and instrumentation/control modifications consist of removal and replacement of the existing electrical switchgear, motor control centers and control panels. In order to keep the Filter Building partially in service, it will be necessary to design a phased implementation of the modifications to complement the hydraulic isolation that will be performed.

As stated in the PER, additional modifications must also be incorporated into the Filter Building conversion to cloth filters. These modifications include items defined in the following paragraphs to be completed by the AECOM Team.

1. Replacement of the mudwell pumps and installation of a new pipe to convey backwash water to a splitter box and ultimately to Train A, B and C. This item also includes rehabilitation of the mechanical facilities at the mudwell pumps.
2. Provide a supplemental chlorine feed to the Filter Building to provide redundant feed.
3. Repair existing expansion joints to eliminate leakage through the joint.
4. Remove and replace a section of the floor slab at the backwash pumps, immediately above the clearwell weirs.
5. Replace the floor tiles on the mezzanine level of the Filter Building.

6. Abandon the existing filter facilities that will be removed from service after placing the cloth filters into service.

The following paragraphs define tasks to be performed by CAS to accomplish the backwash conveyance line to a splitter box and to trains A, B, and C as outlined above in Project Description Item No. 1 and as follows:

1. Based on AECOM selected pump size and flow rate, CAS will determine the size and route for pipeline required to return backwash water to the operating treatment trains.
2. Based on AECOM selected pump size and flow rate, CAS will determine the flow splitter box size and weir lengths to accommodate the flow rate. CAS will coordinate with structural engineer for the design of the splitter box.
3. Based on AECOM selected pump size and flow rate, CAS will determine pipe size and route for pipeline from flow splitter box to each of the treatment trains.
4. Based on selected pipeline route, CAS will identify potential utility conflicts and coordinate with AECOM and the surveyor to perform SUE investigations and/or with plant operations personnel to "pot-hole" to identify location of existing utilities. It is assumed this task will be performed in a total of 10 locations. Sue investigations and "Pot -hole" procedures to be done by others.
5. CAS will prepare 30%, 60%, 95% and 100% plan and profile drawings of pipeline with existing utilities shown. Pipeline shall be defined horizontally by the plant coordinate system with elevation tied to the plant datum.
6. CAS will perform hydraulic design of flow splitter box to meet anticipated range of flows, and coordinate with AECOM and plant personnel to confirm access requirements desired for splitter box.

SCOPE OF WORK

The scope of work is divided into Final Design Phase services and Bid Phase Services. The following paragraphs define specific tasks associated with each of these phases.

Final Design Phase Services

1. Project Kick off Meeting with AECOM.
2. Prepare and implement internal Quality Control procedures that correspond with the quality control manual submitted and approved by AECOM to the City of Austin.
3. Participate in progress meetings with the consultant team. Meetings will occur at two week intervals and, based on a final design duration of 12 months, it is anticipated the CAS will attend 4 progress meetings.
4. Participate in a meeting with AECOM and the COA staff to review the preliminary engineering recommendations and confirm the engineering and schedule parameters for this phase of the project.
5. Coordinate with Travis County and prepare and submit appropriate permit applications for this work.
6. Prepare and submit interim review sets of construction plans and specifications. Interim review sets to be submitted at 30%, 60% and 95% complete milestones. Interim sets will be in an 11" x 17" format and in PDF format. One (1) set will be submitted with each milestone submittal to AECOM for interim review. CAS will address one round of comments from AECOM prior to submitting One (1) set to AECOM for inclusion in the review packet to the COA.
7. Prepare an estimate of probable construction cost with each interim review set of construction plans for CAS portion of work. This estimate will then be combined by AECOM with other areas of work for submission to the COA. Cost estimate will be provided in 300U format.

8. Submit one (1) set of draft construction plans, CAS Scope related specifications and list of 300U items and quantities to AECOM for review and submission to the COA. This submittal will be AECOM's complete bid set of plans and specifications.
9. Meet with the AECOM to obtain COA review comments. Revise documents to address the COA comments.
10. Submit one (1) set of final CAS related scope construction plans, specifications and list of 300U items to AECOM for submission to COA in preparation for advertising the project for bid.

Bid Phase Service

It is anticipated the project will be bid as one construction project. The following tasks will be performed as part of the Bid Phase Services.

1. Respond to questions during the bid phase of the project as it relates to the backwash conveyance line.

SCHEDULE

The above defined Scope of Work is based on a Final Design duration of twelve (12) months and a Bid Phase duration of five (5) months.

DELIVERABLES

The following deliverables will be submitted to AECOM for review and approval.

1. One (1) copy of the 30% complete interim review set of construction plans with estimate of probable construction cost as it relates to the backwash conveyance line for AECOM review and comment. One (1) copy of the 30% complete interim review set of construction plans with comment responses and estimate of probable construction cost as it relates to the backwash conveyance line for AECOM submission to the COA.
2. One (1) copy of the 60% complete interim review set of construction plans with 30% COA Comment Responses and estimate of probable construction cost as it relates to the backwash conveyance line for AECOM review and comment. One (1) copy of the 60% complete interim review set of construction plans with comment responses and estimate of probable construction cost as it relates to the backwash conveyance line for AECOM submission to the COA.
3. One (1) copy of the 95% complete interim review set of construction plans with 60% COA Comment Responses, specifications and estimate of probable construction cost as it relates to the backwash conveyance line for AECOM review and comment. One (1) copy of the 95% complete interim review set of construction plans with comment responses, specifications and estimate of probable construction cost as it relates to the backwash conveyance line for AECOM submission to the COA.
4. One (1) copy of the draft construction plans for review with 95% COA Comment Responses, specifications and estimate of probable construction cost as it relates to the backwash conveyance line for AECOM review and comment. One (1) copy of the draft construction plans with comment responses, specifications and estimate of probable construction cost as it relates to the backwash conveyance line for AECOM submission to the COA.
5. One (1) Signed and Sealed copy of the final construction plans, specifications and , estimate of probable construction cost.

Assumptions

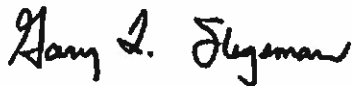
1. Additional copies of plans required for permitting will be made by AECOM.
2. A complete set of plans required for Travis County Permitting will be provided by AECOM.
3. Survey, SUE Services, pot-holing to be provided by others.
4. AECOM will provide conformed base files and sheet border to be utilized.
5. TCEQ and Site plan application and permitting to be completed by others.
6. Pump selection, I&C, structural design, filter design and abandonment to be done by others.
7. Utility Relocations are not included in this scope, but can be provided once the extents of the required relocations are determined. A separate proposal will be submitted for this work upon AECOM/COA request.

COMPENSATION

Compensation for the above Scope of Services is to be on a lump sum basis with payment made monthly on the basis of progress achieved. The total compensation for the above Scope of Services is \$52,027 and will not be exceeded without prior written authorization from the AECOM.

If this proposal meets with your approval, we understand it will become a Supplemental Amendment to the contract between CAS and AECOM.

Sincerely,



Gary Stegeman, P.E.
Vice President

South Austin Regional Wastewater Treatment Plant (SARWWTP) Filter Project
 Backwashwater Line and Splitter Box Design, and Travis County Permitting

September 12, 2012

Fee Estimate

Task No.	Description	CAS Consulting & Services, Inc.						Labor Classification		Time (hrs)	Labor (\$)
		Principal	Senior Eng.	Project Eng.	EIT	CADD	Admin	Project Eng.	EIT		
Final Design Phase											
1	Project Kick off Meeting										
2	Prepare and implement internal Quality Control procedures	1	1	2	2					4	\$443
3	Progress meetings with the consultant team (4 total 1.5 hours each)			4	4					6	\$990
4	Preliminary Engineering Report Review Meeting		1	2	6					12	\$1,329
5	Coordinate with Travis County and submit Travis County permit application		1	2	2					5	\$642
6	30% Design Phase			8	20					28	\$2,939
	a. Review Survey, record drawings		1	8	16					33	\$3,258
	b. Prepare 30% interim review sets of construction plans		1	6	12		8			45	\$4,218
	c. Prepare Preliminary List of Specifications		1	1	1		24			3	\$421
	d. Prepare 30% Cost Estimate		1	2	6					9	\$965
	e. Perform internal QC	1								1	\$227
	f. Address internal QC Comments		1	1	2		6			10	\$982
	g. Coordinate with Structural Engineer			1	2		1			4	\$382
	h. Determine and coordinate Sue Service locations		1	1	4		2			8	\$823
	i. Submit interim 30% Plan and Profile, Cost Estimate and Specification List to AECOM For Review									2	\$161
	j. Incorporate and Provide Written Responses to AECOM Comments		1	1	2		6			10	\$982
	k. Submit 30% Plan and Profile, Cost Estimate and Specification List to AECOM for Submission to the City								1	3	\$238
7	60% Design Phase										
	a. Incorporate and Provide Written Responses to COA 30% Comments		1	1	4		8			14	\$1,304
	b. Prepare interim review sets of 60%-construction plans		1	8	12		24			45	\$4,218
	c. Prepare Specifications		1	1	1					3	\$421
	d. Prepare 60% Cost Estimate		1	2	6					9	\$965
	e. Perform internal QC	1								1	\$227
	f. Address internal QC Comments		1	1	2		6			11	\$1,209
	g. Coordinate with Structural Engineer		1	1	2		1			5	\$581
	h. Submit interim 60% Plan and Profile, Cost Estimate and Specifications to AECOM For Review									2	\$161
	i. Incorporate and Provide Written Responses to AECOM Comments		1	1	2		6			10	\$982
	j. Submit 60% Plan and Profile, Cost Estimate and Specifications to AECOM for Submission to the City								1	3	\$238
8	95% Design Phase										
	a. Incorporate and Provide Written Responses to COA 60% Comments		1	1	4		8			14	\$1,304
	b. Prepare interim review sets of 95%-construction plans		1	6	12		20			39	\$3,615
	c. Prepare list of Specifications and Special Specifications/Special Provisions		1	2	4					7	\$803
	d. Prepare 95% Cost Estimate		1	2	6					9	\$965
	e. Perform internal QC	1								1	\$227
	f. Address internal QC Comments		1	1	2		6			10	\$982
	g. Coordinate with Structural Engineer		1	1	2		1			5	\$581
	h. Submit interim 95% Plan and Profile, Cost Estimate and Specifications to AECOM For Review									2	\$161
	i. Incorporate and Provide Written Responses to AECOM Comments		1	1	2		6			10	\$982
	j. Submit 95% Plan and Profile, Cost Estimate and Specifications to AECOM for Submission to the City								1	3	\$238

South Austin Regional Wastewater Treatment Plant (SARWWTTP) Filter Project
 Backwashwater Line and Splitter Box Design, and Travis County Permitting

September 12, 2012

		Fee Estimate									
9	100% Design Phase- Draft Construction Plans										
	a. Incorporate and Provide Written Responses to COA 95% Comments	1	1	4	8						14
	b. Prepare interim review sets of 100% Draft construction plans	1	6	12	20						39
	c. Prepare Specifications and Special Specifications/Special Provisions	1	1	1							3
	d. Prepare 100% Cost Estimate	1	2	6							9
	e. Perform Internal QC	1									1
	f. Address internal QC Comments	1	1	2	6						10
	g. Coordinate with Structural Engineer	1	1	2	1						4
	h. Submit interim 100% Plan and Profile, Cost Estimate and Specifications to	2	2	2							2
	i. Incorporate and Provide Written Responses to AECOM Comments	1	1	2	6						10
	j. Submit 95% Plan and Profile, Cost Estimate and Specifications to AECOM for Submission to the City			2							3
10	Final Construction Plans										
	a. Incorporate and Provide Written Responses to COA 100% Draft Comments	1	2	4	8						15
	b. Prepare Signed and Sealed Final construction plans	1	1	1	2						5
	c. Provide AECOM with standard COA Specs and Final Special Specifications/Special Provisions.		1	2							4
	Total - Design Phase Services	6	32	188	184	5	506	\$50,846			
1	Bid Phase										
	Prepare Addendum	1									
	Total - Bid Phase Services	0	1	2	4	0	7	\$681			
1	Expenses										
	Printing										
	Total Services	6	33	190	188	5	513	\$62,027			
	Approximate Billing Rate	\$ 226.80	\$ 199.20	\$ 140.95	\$ 80.59	\$ 60.16	\$ 76.76				
	Estimated Billing by Job Classification	\$ 2,721.60	\$ 13,147.20	\$ 25,652.90	\$ 30,624.20	\$ 30,140.16	\$ 767.60				



Jose I. Guerra, Inc.
Consulting Engineers
Civil • Structural • Mechanical • Electrical

Engineering Excellence Since 1973

October 11, 2012

PROPOSAL (Revision 4)

Mr. Shelby Eckols, P.E.
AECOM
400 West 15th Street
Austin, Texas 78701

**Re: Final Design and Bid Phase Services
Filter Improvements Project
South Austin Regional Wastewater Treatment Plant
Austin, Texas**

Dear Mr. Echols:

Jose I. Guerra, Inc. (JIG) is pleased to submit this proposal for professional consulting engineering services for the Filter Improvements Project at South Austin Regional Wastewater Treatment Plant (SARWWTP) for the City of Austin (COA).

Project Description

The project generally involves modifications to the Filter Building required to convert to a new cloth filter system. The project is described more thoroughly in your letter to Ms. Christine Graf of COA, dated April 11, 2012.

DESIGN BASIS

The following design basis was used in the preparation of the Scope of Work:

1. All design drawings will be prepared on the computer using CAD software. At the completion of the design phase, an electronic copy of the design drawings will be provided to AECOM. The format of the electronic copy will be "AutoCAD 2007" file format. Layering conventions and other production related issues within the electronic file copies will be in accordance with established HEI standards.
2. AECOM Standard Specifications will be used to the extent that they apply.

SCOPE OF SERVICES

The Scope of Services for this project includes Final Design and Bid Phase Services. Specific tasks for each phase are as follows:

1. Structural design of the splitter box.
2. Expansion joint repair.
3. Clearwell hydraulic improvements.

4. Control room tile replacement.
5. Structural alteration for installation of four (4) new disk filters.

DESIGN PHASE SERVICES

1. Attend progress meetings, workshops and partnering sessions with AECOM and COA, ten (10) total.
2. Make site visits as necessary to verify existing conditions, six (6) total.
3. Prepare structural construction plans for the specific project elements noted above.
4. Prepare structural specifications for the specific project elements noted above.
5. Assist AECOM with the preparation of a probable cost estimate for the construction of the specific elements noted above.
6. Coordinate structural drawings and specifications with documents prepared by other disciplines.
7. Meet with AECOM and COA to review COA comments on final draft of construction documents.
8. Address COA final draft review comments and revise plans and specifications accordingly.
9. Assist AECOM with the preparation of CAD drawings for their design work on the project.

BID PHASE SERVICES

1. Attend the pre-bid conference.
2. Respond to Bid Phase Questions.
3. Assist in issuing Addenda.

SPECIAL SERVICES

The Scope of Services and the budget presented herein do not include the following special services. At such time that it is determined that these services may be required; JIG will obtain authorization from AECOM prior to performing any of these additional services.

1. Travel and subsistence required of AECOM and authorized by the COA to points other than local government agencies, consultants and project site.
2. Significant revisions by the COA after receiving initial direction by the COA.
3. Any construction phase or warranty phase services.
4. Expert witness testimony or appearances at public hearings or meetings concerning the projects or any of their elements.

Should JIG and AECOM agree that any of the above Special Services, or other additional services are required, JIG will prepare a cost proposal for such services and obtain authorization from AECOM prior to performing any special service.

DELIVERABLES

The following deliverables will be submitted to AECOM:

1. Interim progress drawings prepared in 11" x 17" format. A minimum of two and a maximum of three progress sets are assumed for each construction project.
2. One (1) reproducible copy of the draft structural construction plans and specifications

3. One (1) reproducible copy of the final structural construction plans and specifications
4. One (1) copy of the estimate of probable structural construction cost

SCHEDULE

The above-defined Scope of Services will be performed within 6 months of receipt of notice to proceed from AECOM.


COMPENSATION

An itemization of the estimated labor costs and expenses is included in Attachments A-1 through A-8. The Total Compensation requested for this work is tabulated below.

Final Design Phase Services	\$193,265
Bid Phase Services	<u>\$ 5,435</u>
Total Compensation	\$198,700

The Consulting Engineering Services are to be provided on a "Lump Sum" basis. The Monthly Statements shall be in proportion of the services performed to the total compensation. If acceptable, this proposal will form the basis of a Professional Services Agreement. We will consider your acceptance in the space provided below as our authorization to proceed with the work and would appreciate receiving one signed original for our files.

Very truly yours,
JOSE I. GUERRA, INC.


Joseph J. Luke, P.E.
Senior Vice President

JJL/mc

Enclosure (1)

ACCEPTED:
AECOM, Inc.

Name: _____ Title: _____ Date: _____

Attachment A-1

**South Austl Wastewater TreatmentPlant
Filter Improvements Project**

Design Phase Services

Report Phase Services

Direct Labor Rates and Multipliers	Principal	Senior Proj Man	Project Engineer	Design Engineer	CADD Manager	CADD Operator	Clerical	Fringe & G&A Mult.
	\$166.00	\$144.00	\$122.00	\$113.50	\$89.00	\$75.00	\$50.00	

LABOR ESTIMATE

SUBTASK LISTING	Principal	Project Manager	Project Engineer	Design Engineer	CADD Manager	CADD Operator	Clerical	TOTAL
1. Meeting and Workshops (3)	0	0	0	0	0	0	0	0
2. Site Visits (4)	0	0	0	0	0	0	0	0
3. Preparation of Report	0	0	0	0	0	0	0	0
TOTAL HOURS	0	0	0	0	0	0	0	0
Labor Totals	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL LABOR COSTS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

NON-LABOR ESTIMATES

ITEM	Units	Quantity	Rate	TOTAL
Printing	L.S.	0	\$50.00	\$0
Photo Processing	L.S.	0	\$48.00	\$0
Internal Photocopying	L.S.	0	\$10.00	\$0
Mileage	Mile	0	\$0.41	\$0
Postage/ Delivery	L.S.	0	\$20.00	\$0
Airfare/Travel - Round Trip	L.S.	0	\$0.00	\$0
NON-LABOR EXPENSE TOTAL				\$0

SUBCONSULTANT SERVICE ESTIMATE

SUBCONTRACTOR		\$0
		\$0
TOTAL SUBCONSULTANT FEES		\$0

SUMMARY AND FEE CALCULATION

WORK PLAN ESTIMATE		\$0
Fee Calculation	Direct Labor X 17% Fringe & G.A. X 9% Subs X 6%	\$0
TOTALS		\$0

Attachment A-2

**South Austl Wastewater TreatmentPlant
Filter Improvements Project**

Design Phase Services

Final Design Phase Services

Direct Labor Rates and Multipliers	Principal	Senior Proj Man	Sr. Project Engineer	Project Engineer	CADD Manager	CADD Operator	Clerical	Fringe & G&A Mult.
	\$166.00	\$144.00	\$122.00	\$113.50	\$89.00	\$75.00	\$50.00	

LABOR ESTIMATE

SUBTASK LISTING	Principal	Project Manager	Project Engineer	Design Engineer	CADD Manager	CADD Operator	Clerical	TOTAL
1. Meeting and Workshops (10)	0	6	20	20	0	0	0	46
2. Site Visits (6)	0	6	18	18	0	0	0	42
3. Construction Drawings	0							
a. Splitter box	0	16	48	70	48	70	0	
b. Expansion joint	0	16	34	64	34	64	0	
c. Clearwell hydraulic improvements	0	32	78	158	75	158	0	
d. Control room tile replacement	0	6	13	13	6	13	0	
e. Disk filter replacement	0	54	100	224	100	224	0	
4. Construction Specifications	0	4	4	12	0	0	6	26
5. Probable Construction Costs	0	4	4	12	0	0	0	20
6. Incorporation of Owners Review Comments	0	2	4	12	4	12	0	34
TOTAL HOURS	0	148	321	603	267	541	6	1884
Labor Totals	\$0	\$21,024	\$39,162	\$68,441	\$23,763	\$40,575	\$300	\$193,265
TOTAL LABOR COSTS	\$0	\$21,024	\$39,162	\$68,441	\$23,763	\$40,575	\$300	\$193,265

NON-LABOR ESTIMATES

ITEM	Units	Quantity	Rate	TOTAL
Printing	L.S.	0	\$115.00	\$0
Photo Processing	L.S.	0	\$100.00	\$0
Internal Photocopying	L.S.	0	\$50.00	\$0
Mileage	Mile	0	\$0.41	\$0
Postage/ Delivery	L.S.	0	\$20.00	\$0
Airfare/Travel - Round Trip	L.S.	0	\$0.00	\$0
NON-LABOR EXPENSE TOTAL				\$0

SUBCONSULTANT SERVICE ESTIMATE

SUBCONTRACTOR		\$0
TOTAL SUBCONSULTANT FEES		\$0

SUMMARY AND FEE CALCULATION

WORK PLAN ESTIMATE		\$193,265
Fee Calculation	Direct Labor X 17% Fringe & G.A. X 9% Subs X 5%	
	\$0 \$0 \$0	\$0
TOTALS		\$193,265

Attachment A-3

**South Austl Wastewater TreatmentPlant
Filter Improvements Project**

Design Phase Services

Bid Phase Services

Direct Labor Rates and Multipliers	Principal	Senior Proj Man	Sr Project Engineer	Project Engineer	CADD Manager	CADD Operator	Clerical	Fringe & G&A Mult.
	\$188.00	\$144.00	\$122.00	\$113.50	\$89.00	\$75.00	\$50.00	

LABOR ESTIMATE

SUBTASK LISTING	Principal	Project Manager	Project Engineer	Design Engineer	CADD Manager	CADD Operator	Clerical	TOTAL
1. Attend Pre-bid Conference	0	2	2	8	0	0	0	10
2. Respond to Bid Phase Questions	0	2	4	8	4	8	0	24
3. Assist in Issuing Addenda	0	2	4	0	4	8	0	18
TOTAL HOURS	0	6	10	14	8	14	0	52
Labor Totals	\$0	\$864	\$1,220	\$1,589	\$712	\$1,050	\$0	\$5,435
TOTAL LABOR COSTS	\$0	\$864	\$1,220	\$1,589	\$712	\$1,050	\$0	\$5,435

NON-LABOR ESTIMATES

ITEM	Units	Quantity	Rate	TOTAL
Printing	L.S.	0	\$25.00	\$0
Photo Processing	L.S.	0	\$50.00	\$0
Internal Photocopying	L.S.	0	\$25.00	\$0
Mileage	Mile	0	\$0.41	\$0
Postage/ Delivery	L.S.	0	\$20.00	\$0
Airfare/Travel - Round Trip	L.S.	0	\$0.00	\$0
NON-LABOR EXPENSE TOTAL				\$0

SUBCONSULTANT SERVICE ESTIMATE

SUBCONTRACTOR		\$0
TOTAL SUBCONSULTANT FEES		\$0

SUMMARY AND FEE CALCULATION

WORK PLAN ESTIMATE		\$5,435
Fee Calculation	Direct Labor X 17% Fringe & G.A. X 9% Subs X 6%	\$0
TOTALS		\$5,435

Attachment A-4

**South Austl Wastewater TreatmentPlant
Filter Improvements Project**

Design Phase Services

Construction Phase Services

Direct Labor Rates and Multipliers	Principal	Senior Proj Man	Project Engineer	Design Engineer	CADD Manager	CADD Operator	Clerical	Fringe & G&A Mult.
	\$168.00	\$144.00	\$122.00	\$113.50	\$89.00	\$75.00	\$50.00	

LABOR ESTIMATE

SUBTASK LISTING	Principal	Project Manager	Project Engineer	Design Engineer	CADD Manager	CADD Operator	Clerical	TOTAL
1. Attend Pre-Construction Conference	0	0	0	0	0	0	0	0
2. Periodic Site Observations (4) total	0	0	0	0	0	0	0	0
3. Asslat in Reviewing Change Orders	0	0	0	0	0	0	0	0
4. Shop Drawing Review	0	0	0	0	0	0	0	0
5. Respond to Contractors Questions	0	0	0	0	0	0	0	0
6. Prepare Record Drawings	0	0	0	0	0	0	0	0
TOTAL HOURS	0	0	0	0	0	0	0	0
Labor Totals	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL LABOR COSTS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

NON-LABOR ESTIMATES

ITEM	Units	Quantity	Rate	TOTAL
Printing	L.S.	0	\$10.00	\$0
Photo Processing	L.S.	0	\$50.00	\$0
Internal Photocopying	L.S.	0	\$4.00	\$0
Mileage	Mile	0	\$0.41	\$0
Postage/ Delivery	L.S.	0	\$20.00	\$0
Airfare/Travel - Round Trip	L.S.	0	\$0.00	\$0
NON-LABOR EXPENSE TOTAL				\$0

SUBCONSULTANT SERVICE ESTIMATE

SUBCONTRACTOR		
		\$0
TOTAL SUBCONSULTANT FEES		\$0

SUMMARY AND FEE CALCULATION

WORK PLAN ESTIMATE				\$0
Fee Calculation	Direct Labor X 17%	Fringe & G.A. X 8%	Subs X 5%	
	\$0	\$0	\$0	\$0
TOTALS				\$0



MACIAS & ASSOCIATES, L.P.
LAND SURVEYORS

September 13, 2012

AECOM
400 West 15th Street, Suite 500
Austin, Texas 78701

ATTN: Mr. Shelby Eckols, PE
Senior VP, Regional Quality Manager, South Region, AECOM Water

RE: South Austin Regional WWTP Filter Improvements Project, Revision 1

Mr. Eckols,

Thank you for the opportunity of submitting this proposal for professional surveying services in connection with the South Austin Regional Wastewater Treatment Plant Filter Improvements Project. As we understand the project, we are to conduct surveying operations to confirm horizontal and vertical locations of buildings piping, flooring and other facilities that need to be verified. We are also to remain available for any other survey requirements that needs to be addressed.

SCOPE OF SERVICES

1. Obtain and review existing and proposed construction plans from the City of Austin and AECOM.
2. Obtain and review existing surveying information from previous surveying activities.
3. Meet with you and your staff to determine the facilities that need to be located and to prepare a schedule.
4. Provide a field crew to obtain elevations and locations of the Filter Building influent piping, weir elevations and various other features such as junction boxes along Filter effluent discharge pipe to the Colorado River (Exhibit 2, 9). Obtain horizontal and vertical data for the pipelines in the Mud well Pumps and Discharge Pipeline (Exhibit 2C, 10). Obtain horizontal and vertical data for the expansion joints to be repaired as described in the Structural Modifications of the building (Exhibit 2D, 1). Obtain horizontal and vertical data for the structural engineer to confirm limits of floor to be removed and replaced (Exhibit 2E, 1). Define existing drainage areas that will be impacted by this project and calculate change in impervious cover (Exhibit 2F, 7). Obtain horizontal and vertical data for the areas where the temporary storm water controls for the impacted drainage areas will be designed (Exhibit 2F, 11).

5. Obtain and review data for the horizontal and vertical control for the plant site. Data gathered and developed for this site will be based on the previously established Plant Horizontal and Vertical Control.
6. Prepare a sketch showing the above information.
7. Furnish a signed and sealed original hard copy of the sketch. Also furnish an AutoCAD drawing on compact disk for you use.

BASIS FOR COMPENSATION

We propose to provide the above scope of services on a time and material basis with a not to exceed amount of \$13,050.00 based on the following fee schedule:

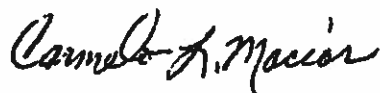
RPLS	50 Hrs. @ \$145.00 PH	=	\$ 7,250.00
Survey Field Crew	40 Hrs. @ \$145.00 PH	=	<u>\$ 5,800.00</u>
	Total		\$13,050.00

SCHEDULE

Work can begin on this project approximately 5 working days after we receive a written notice to proceed. A more detailed schedule will be prepared after the first kick off meeting.

Please call me if you have any questions or comments at 442.7875.

Sincerely,
MACIAS & ASSOCIATES, L.P.



Carmelo L. Macias, RPLS
Vice President

CLM/cg



Harutunian Engineering, Inc.



HARUTUNIAN ENGINEERING INCORPORATED

**FINAL DESIGN PHASE
SCOPE OF SERVICES**

**ELECTRICAL POWER SYSTEM,
INSTRUMENTATION, AND CONTROL SYSTEM
ENGINEERING SERVICES**

for

**SOUTH AUSTIN REGIONAL WWTP FILTER
IMPROVEMENTS PROJECT**

**CITY OF AUSTIN
AUSTIN WATER UTILITY**

**C.I.P. No. XXXX-XXX-XXXX
CITY OF AUSTIN, TEXAS**



Harutunian Engineering, Inc.



**SAR WWTP
Filter Improvements Project
Final Design Phase
ELECTRICAL SCOPE OF SERVICES**

Harutunian Engineering, Inc. is pleased to submit this proposal for Final Design Phase engineering services associated with the South Austin Regional WWTP Filter Improvements project. This proposal is organized into multiple sections, with the first section consisting of overall assumptions associated with the entire proposal, followed by individual final design phase tasks which describe the work effort included for specific process areas of the project. These Tasks are followed by tasks associated with Project Meetings.

Harutunian Engineering, Inc. will perform the following Final Design Phase Services for the above referenced project.

Assumptions

1. The design phase scope and cost proposal for this Scope is based upon Electrical, Instrumentation, and Control System Design Alternative as described in the Preliminary Engineering Technical Memorandum for the Filter Building, dated January 3, 2012 with the understanding that the Disk Filter Technology will be implemented for this project and adjustments to the Electrical, Instrumentation, and Control System might be necessary to accommodate the disk filter option. Effort is included to carry the concepts presented in this source into the design phase and project finalization.
2. It is assumed that process operation narratives will be generated by AECOM for all process equipment and provided to HEI to facilitate HEI's instrumentation and control system design efforts. Effort is included in this Scope to perform one (1) review of the process operation narrative and provide review comments to AECOM. Effort necessary to develop loop descriptions is not included.
3. Work effort associated with the sizing/design of fire alarm/detection, and heat tracing is not included. A lightning protection system is not anticipated. No effort has been included to address/assure/research LEED compliance for this project.
4. It is assumed that HEI will provide electrical power system interface and associated review of the valve, pump, and disk filter system specifications developed by Others and provide review comments. Anticipated number of reviews is one (1).



Harutunian Engineering, Inc.



**SAR WWTP
Filter Improvements Project
Final Design Phase
ELECTRICAL SCOPE OF SERVICES**

5. The following assumptions apply to the overall project electrical/I&C system design process:
 - a. In addition to responding to the Owner's review QA/QC comments, HEI's response to other QA/QC comments will be limited to those generated by AECOM related to coordination issues between the process system and HEI's design efforts.
 - b. It is assumed that AECOM will provide the necessary project background/record drawings/scanned images for use on this project.
 - c. It is assumed that the Final Design Phase will carry and not deviate from the design outlined in the Preliminary Design phase of this project and the information received as of May 11, 2012. The design phase scope and cost proposal is based on HEI's shared knowledge with AECOM relative to the results of the Preliminary Design Phase design decisions and effort and executed by closing day of May 11, 2012.
6. Reproduction costs associated with all contract drawings for interim and final submittals, inclusive of the Bid Set, is not included in this Scope. It is assumed that there will be three (3) interim submittals and one final bid set submittal. "Searchable" Adobe Portable Document Format formatted files will be provided for each submittal where possible.



Harutunian Engineering, Inc.



**SAR WWTP
Filter Improvements Project
Final Design Phase
ELECTRICAL SCOPE OF SERVICES**



Electrical, Instrumentation, and Control System Demolition and Construction Sequencing Design Documents Development to/from the Existing Filter Building

This task includes the major effort necessary to develop the electrical, instrumentation, and control system demolition design documents (plans) within/to the Existing Filter Building facility.

Certain documents (plans and specifications) developed under this Task may be common to other tasks.

This Task anticipates that no modification effort will be required for the existing Filter Building lighting, receptacle. This Task anticipates that the existing needed Filter Building AutoCAD formatted electronic drawing background files and/or scanned images of record drawings, as applicable, will be provided to HEI to develop the demolition plans. The demolition plans will consist of linework and notes as applicable, added to the record drawings. Filters 1, 2, and 7 through 12, as well as the Air Scour Blower System will be abandoned in place and demolition effort associated with this equipment is not anticipated.

This Task anticipates minimal field investigations associated with the existing power distribution, instrumentation, control, and auxiliary systems. Extensive field investigations concerning the existing raceway systems and conductors will not be performed and as a result, detailed routing of these raceways and conductor quantities/sizes will not be shown on the design documents. It is anticipated that this effort will be performed by the Installer.

The category of the drawings produced under this task will be categorized as follows:

- Filter Building distribution overall and distribution bus specific low voltage demolition one-line diagrams.
- Filter Building distribution equipment elevations
- Filter Building demolition power plans



Harutunian Engineering, Inc.



**SAR WWTP
Filter Improvements Project
Final Design Phase
ELECTRICAL SCOPE OF SERVICES**

- Typical demolition instrument wiring schematics. Schematics will be generated for:
 - Filter Cell Pressure, level
 - Filter Influent flow
 - Backwash flow
 - Clearwell level
 - Mudwell level
- Typical demolition control wiring schematics. Schematics will be generated for:
 - Filter Cell Motorized Valve Actuator
 - Backwash Pumping Unit
 - Backwash Motorized Valve
 - Exhaust/ventilation fan
 - Mudwell Pumping Unit
- Overall PLC network architecture diagram demolition for Filter Building
- Filter Building Filter Cell and Main instrument and control cabinet exterior demolition elevations, wiring schematics, details, and schedules. Typical drawings and schematics will be generated where applicable
- Filter Building demolition instrument and control system plans
- Electrical, instrumentation, and control system demolition details
- Other tasks related to this work effort include:
 - Development of a construction cost opinion associated with this task. The Development of one (1) interim and one (1) final construction cost opinion just prior to bid is anticipated
 - Design calculations.
 - Review and comment on the construction sequencing narrative developed by AECOM for the project, as applicable. This Task anticipates that sequencing/staging effort will be addressed through a narrative issued as part of the contract specifications.



Harutunian Engineering, Inc.



**SAR WWTP
Filter Improvements Project
Final Design Phase
ELECTRICAL SCOPE OF SERVICES**



**ELECTRICAL POWER DESIGN DOCUMENTS DEVELOPMENT TO/FROM THE
FILTER BUILDING**

This task includes the major effort necessary to develop renovation electrical power system design documents (plans) within/to the Filter Building facility.

Certain documents (plans and specifications) developed under this Task may be common to other tasks.

The category of the drawings produced under this task will be categorized as follows:

- Filter Building distribution overall and distribution bus specific low voltage one-line diagrams.
- Filter Building distribution equipment elevations.
- Filter Building raceway corridor plans. Work effort is combined with Task 30.
- Filter Building power plans. Raceways depicted using the industry standard "homerun" raceway symbol convention; point-to-point raceway routing will not be shown. The construction Contractor is to develop raceway system routing and develop a corresponding layout during construction.
- Proposed power subsystem details, schedules, and sectional views, as applicable
- Other tasks related to this work effort include:
 - Development of a construction cost opinion associated with this task. The Development of one (1) interim and one (1) final construction cost opinion just prior to bid is anticipated
 - Design calculations



Harutunian Engineering, Inc.



**SAR WWTP
Filter Improvements Project
Final Design Phase
ELECTRICAL SCOPE OF SERVICES**

- o **Electrical power system Technical Specifications for the project, as applicable.**



Harutunian Engineering, Inc.



**SAR WWTP
Filter Improvements Project
Final Design Phase
ELECTRICAL SCOPE OF SERVICES**



**INSTRUMENTATION AND CONTROL SYSTEM DESIGN DOCUMENTS DEVELOPMENT
TO/FROM THE FILTER BUILDING**

This task includes the major effort necessary to develop instrumentation and control system design documents (plans) within/to the Filter Building facility.

Certain documents (plans and specifications) developed under this Task may be common to other tasks.

It is assumed that the necessary process, ventilation, and/or power distribution equipment (as applicable) control/wiring schematics for equipment requiring control/instrumentation design will only include control device tags/numbers for identification. Other information such as wire tagging/numbers/etc., will not be shown. Control loop drawings will not be provided. The generation of typical schematics is anticipated and tables will be provided to identify applicable equipment.

It is assumed that the necessary process and/or power distribution equipment (as applicable) instrument wiring schematics and power wiring schematics for equipment requiring control/instrumentation design will only include control device tags/numbers for identification. Other information such as wire tagging/numbers/etc., will not be shown. The generation of typical schematics is anticipated for identical technology and wiring scheme for each given process variable (pressure, flow, etc.) and tables will be provided to identify applicable equipment.

This Task anticipates that the Disk Filter Manufacturer's standard product packaged system offering will be employed for this project. Effort is not anticipated to research alternatives or persuade Disk Filter Manufacturers to accommodate what they may perceive to be special individual needs of this project. This task anticipates that the Disk Filter control panels will be located adjacent to the Disk Filter Unit per the manufacturer's standard practice underneath the covered area.

The category of the drawings produced under this task will be categorized as follows:

- Filter Building proposed Instrument Schedule for non-packaged equipment



Harutunian Engineering, Inc.

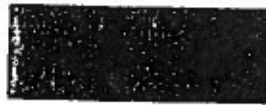


**SAR WWTP
Filter Improvements Project
Final Design Phase
ELECTRICAL SCOPE OF SERVICES**

- Filter Building raceway corridor renovation plans. Work effort is combined with Task 20
- Filter Building renovation plans (instrumentation/control, etc.). Raceways depicted using the industry standard "homerun" raceway symbol convention; point-to-point raceway routing will not be shown. The construction Contractor is to develop raceway system routing and develop a corresponding layout during construction.
- Proposed Process and Instrumentation Diagrams "P&IDs" for the facility. The Process and Instrumentation Diagram effort associated with this Task is anticipated to be a joint effort between HEI and AECOM. HEI will develop and lead the P&ID activities of components associated with instrumentation, controls, automation, and SCADA subsystems whereas AECOM will develop and lead the P&ID activities of components associated with the process/mechanical subsystems. The foregoing is further clarified below:
 - Process piping diagram with all equipment, structures, associated valves, interconnecting piping and valves, process tubing, treatment units, piping taps and gauges, all process monitoring primary elements/sensing devices for instrumentation (primary elements are flow tube, venturi tube, thermal element/well, pressure, level) and corresponding tagging as may be required by the P&ID inclusive of all process monitoring. This portion of the P&ID would be developed by AECOM and then electronically transmitted (in editable AutoCAD format) to HEI for incorporation.
 - Interconnect wiring and hardwired interlocks will not be shown since these items will be detailed on other drawings included in this Scope.
 - The P&IDs will be developed to address the process loops associated with the process/mechanical equipment and also the process field instruments shown on the facility instrument wiring schematics as described in this Task. The internal subcomponent and associated interconnections related to vendor packaged systems, control panels, or electrical power distribution equipment



Harutunian Engineering, Inc.



**SAR WWTP
Filter Improvements Project
Final Design Phase
ELECTRICAL SCOPE OF SERVICES**

(i.e., motor control centers) will not be shown on the Process and Instrumentation Diagram.

- **Filter Facility Process and Instrumentation Diagrams:**
 - Overall Filter Building Renovation Conceptual Process and Instrumentation Diagram identifying overall points of process variable measurement "flow, pressure, and level".
 - Typical Filter Cell renovation process and instrumentation diagram
 - Typical Mudwell Pump and overall mudwell renovation process and instrumentation diagram
 - Filter Building proposed influent/effluent header modifications process and instrumentation diagram
- **Typical control wiring schematics.** A minimal amount of hardwired control logic is anticipated for this project. Schematics will be generated for:
 - Proposed Mudwell Pumping Unit
 - Proposed Motorized Valve
 - Exhaust/ventilation fan
- **Typical field interface wiring schematics for:**
 - Disk Filter Packaged system
- **Typical instrument wiring schematics for:**
 - Mudwell Pumping Unit Discharge and Suction Pressure
 - Mudwell level
 - Filter influent/effluent header Flow Measurement
- **Overall PLC network architecture renovation diagram for Filter Building**
- **Filter Building PLC interface schedules – discrete output, discrete input, analog output, and analog input interface point identifier schedules.**
- **Filter Building Main instrument and control cabinet exterior elevations, wiring schematics, details, and schedules.** Typical drawings and schematics will be generated where applicable.
- **Proposed instrumentation and control subsystem details, miscellaneous schedules (conduit, tagging cross reference, etc.), as applicable**



Harutunian Engineering, Inc.



**SAR WWTP
Filter Improvements Project
Final Design Phase
ELECTRICAL SCOPE OF SERVICES**

- Other tasks related to this work effort include:
 - Development of a construction cost opinion associated with this task. The Development of one (1) interim and one (1) final construction cost opinion just prior to bid is anticipated
 - Design calculations
 - Project I&C design coordination meeting with the Owner. One (1) meeting having a four (4) hour duration is anticipated, inclusive of travel time. HEI will generate meeting minutes for this meeting. It is anticipated that this meeting will be conducted prior to the onset of significant electrical, instrumentation, and control system design activities in order to establish project design decisions. No alterations from the design decisions established at this meeting are anticipated
 - Instrumentation and control system Technical Specifications for the project, as applicable. It is assumed that AECOM will design and specify the primary elements in the process flow (i.e., venturi, electromagnetic flow tube, etc.) as well as analytical instruments (pH, turbidity, etc.) that may be required.

Note:

Please note: The I&C design documents exclude PLC programming. In addition, manufacturer's drawings for any packaged systems will not be presented as design documents.



Harutunian Engineering, Inc.



**SAR WWTP
Filter Improvements Project
Final Design Phase
ELECTRICAL SCOPE OF SERVICES**



**AUXILIARY ELECTRICAL SYSTEM DESIGN DOCUMENTS DEVELOPMENT
TO/FROM THE FILTER BUILDING**

This task includes the major effort necessary to develop auxiliary electrical system design documents (plans) for the proposed covered area over Filter Cells 3 through 6 at the Filter Building facility.

Certain documents (plans and specifications) developed under this Task may be common to other tasks.

Work effort to accommodate a security system is not anticipated.

The category of the drawings produced under this task will be categorized as follows:

- Filter Building auxiliary system plans (lighting and receptacle). Raceways depicted using the industry standard "homerun" raceway symbol convention; point-to-point raceway routing will not be shown. The construction Contractor is to develop raceway system routing and develop a corresponding layout during construction. The anticipated plans are as follows:
 - Lighting and convenience receptacles plan for the outdoor area of Filter Cell Nos. 3 through 6 that is proposed to be covered and converted to contain the Disk Filter Units. Modifications to the lighting and convenience receptacles elsewhere in the Filter Building are not anticipated.
- Auxiliary electrical system details and schedules (panelboard, lighting, conduit, etc.).



Harutunian Engineering, Inc.



**SAR WWTP
Filter Improvements Project
Final Design Phase
ELECTRICAL SCOPE OF SERVICES**

- Other tasks related to this work effort include:
 - Development of a construction cost opinion associated with this task. The Development of one (1) interim and one (1) final construction cost opinion just prior to bid is anticipated
 - Design calculations.
 - Auxiliary electrical system Technical Specifications for the project, as applicable.



Harutunian Engineering, Inc.



**SAR WWTP
Filter Improvements Project
Final Design Phase
ELECTRICAL SCOPE OF SERVICES**



PROJECT MEETINGS AND SUPPORT

This task includes the effort necessary to attend project meetings. It is assumed that HEI will have no involvement in the generation of meeting minutes. The following types of meetings are included in this Task:

- Project kickoff Meeting. One (1) meeting of three (3) hour duration is anticipated, inclusive of travel time
- Project Design Project Progress Meetings. Four (4) meetings with each meeting having of three (3) hour duration are anticipated, inclusive of travel time.
- Project Coordination Meetings with the Owner. One (1) meeting of eight (8) hour duration is anticipated, inclusive of travel time.
- Project Design Review Meetings with the Owner. Four (4) meetings with each meeting having a three (3) hour duration are anticipated, inclusive of travel time.
- Project Coordination Meetings with AECOM. Sixteen (16) meeting of three (3) hour duration is anticipated, inclusive of travel time
- Project combination site visit and meeting associated with mechanical modifications required to facilitate Filter Building outage. One (1) combination site visit and meeting of four (4) hours duration is anticipated, inclusive of travel time.

Additionally, HEI will provide a brief summarized bulleted listing of HEI's project design progress on a monthly basis. Effort is also included to coordinate administrative aspects of the project.



Harutunian Engineering, Inc.



**SAR WWTP
Filter Improvements Project
Final Design Phase
ELECTRICAL SCOPE OF SERVICES**



BID PHASE SERVICES

This task includes the effort necessary to:

- Answer a limited number of questions to bidders.
- Attend one (1) pre-bid conference
- Generate Addenda to the Electrical, Instrumentation, and Control System Contract Documents. A minimal amount of effort is anticipated.



TABLE - II
South Austin Regional WWTP
Filter Improvements Project
Austin Water Utility, City of Austin, Texas
Electrical and I&C System Engineering



HEI Task Summary
Manhour and Cost Tabulation
Final Design and Bid Phase Engineering Services

WORK AREA DESCRIPTION	E-11 HRS.	E-10 HRS.	E-4 HRS.	A-1 HRS.	CD-2 HRS.	TOTAL COST
FINAL DESIGN AND BID PHASE SERVICES						
Task 10 - FDP Electrical, Instrumentation, and Control System Demolition and Construction Sequencing Design Documents Development to/from the Existing Filter Building	22	26	126	4	93	\$30,107.00
Task 20 - FDP Electrical Power System Design Documents Development to/from the Filter Building	66	128	662	20	643	\$158,898.00
Task 30 - FDP Instrumentation and Control System Design Documents Development to/from the Filter Building	72	118	558	23	487	\$135,224.00
Task 40 - FDP Auxiliary Electrical System Design Documents to/from the Filter Building	10	26	137	12	150	\$33,702.00
Task 50 - FDP Project Meetings and Support	28	55	109	3	0	\$27,715.00
Task 60 - FDP Bid Phase Services	9	15	58	0	28	\$13,120.00
TOTAL - Final Design and Bid Phase Services	207	367	1650	62	1401	\$398,746.00

\$50.00

Total Labor & Expenses - Final Design and Bid Phase Services \$398,816.00

PSA/SA COVER SHEET

TO: CMD Contract Development Workgroup

FROM: Steve Parks, Project Manager, PW

DATE: April 23, 2014

RE: Supplement Amendment #3

South Austin Regional Wastewater Treatment Plant Filter Improvements

CIP Project No.: N/A

FDU No.: 4480 2307 8236

Contract No.: CT 11040700843

Solicitation No.: CLMP034

Enclosed are three (3) signed copies of the above referenced document. Please have the documents executed and return 1 executed copy to the PM and 1 executed copy to the following:

AECOM Technical Services, Inc.
400 West 15th Street, Suite 500
Austin, TX 78701

Project Authorization History	
<i>Council Authorization Date(s):</i>	<i>Amount</i>
May 27, 2010	\$ 1,500,000.00
Administrative Authority (at time of Contract Award)	\$ 52,000.00
March 20, 2014	\$ 1,349,327.00
Total Amount of Authorization	\$ 2,901,327.00

Previous Agreement History:	
<i>Contract Document</i>	<i>Amount</i>
Initial PSA	\$ 351,202.25
SA #1	\$ 0.00
SA #2	\$ 1,191,675.00
Total Amount of Previous Agreements	\$ 1,542,877.25

Amount to Encumber Now	<i>Amount</i>
SA #3	\$1,348,950.00

Total Amount of all Agreements	\$2,891,827.25
---------------------------------------	-----------------------



City of Austin

Founded by Congress, Republic of Texas, 1839

Contract Management Department, PO Box 1088, Austin, Texas 78767 Telephone 512/974-7181 Fax 512/974-7427

May 19, 2014

Shelby Eckols
AECOM Technical Services, Inc.
400 W. 15th Street, Suite 500
Austin, TX 78701

RE: Supplemental Amendment No. 3

**Project: South Austin Regional Wastewater Treatment Plant Filter
Improvements
Contract No.: CT11040700843 (CLMP034)**

Dear Mr. Echols,

Enclosed, please find your executed Supplemental Amendment No. 3 for the above-referenced project.

If you have any questions, please call the Project Manager, Steve Parks at (512)974-3576.

Sincerely,

Kitty Tunnell
Contract Development Analyst
Contract Development & Administration Div.

cc: Steve Parks, Project Manager, PWD

Enclosure

PROFESSIONAL SERVICES AGREEMENT
SUPPLEMENTAL AMENDMENT

SUPPLEMENTAL AMENDMENT NO. 3

Project Name: South Austin Regional Wastewater Treatment Plant Filter Improvements
CIP ID No.: 3333.015
CT/DO No.: CT 11040700843

This Supplemental Amendment shall be considered supplemental to and amendatory of the AGREEMENT between the CITY of AUSTIN ("Owner") and AECOM Technical Services, Inc. ("Consultant") entered into on March 29th, 2011 for professional services required for the South Austin Regional Wastewater Treatment Plant Filter Improvements. This Supplemental Amendment shall be made part of the AGREEMENT and all sections of the AGREEMENT shall apply to this Amendment, except as amended below, as if fully written herein. The parties agree to the following changes to the AGREEMENT:

Section/subsection/paragraph: *5.1 Basic Compensation*

Revise as shown (new language underlined and deleted language shown with strike-through):

5.1.2.1 The total amount of compensation to be paid the CONSULTANT for this Supplemental Amendment #3 will not exceed:

One Million Three Hundred Forty-eight Thousand Nine Hundred Fifty Dollars and Zero Cents (\$1,348,950.00)

For a total contract amount not to exceed:

Two Million Eight Hundred Ninety-one Thousand Eight Hundred Twenty-seven Dollars and Twenty-five Cents (\$2,891,827.25) ~~One Million Five Hundred Forty-two Thousand Eight Hundred Seventy-seven Dollars and Twenty-five Cents (\$1,542,877.25)~~

Attachments 1 (Resource Allocation Plan), and Attachment 4 (Maximum Not-to-Exceed by Phase) have been revised and are attached to this Supplemental Amendment. Attachment 5 (Scope of Services and Fee Proposal) is amended with the attached.

PROFESSIONAL SERVICES AGREEMENT
SUPPLEMENTAL AMENDMENT

This Supplemental Amendment is executed to be effective upon the date of the last party to sign.

City of Austin, OWNER
P.O. Box 1088
Austin, Texas 78767

AECOM Technical Services, Inc., CONSULTANT
400 West 15th Street, Suite 500
Austin, TX 78701

By: Cynthia Gonzales 5/19/14
Printed Name: Cynthia Gonzales
Title: Division Manager
Date: Contract Administration Division
Contract Management Department

By: Shelby G. Eckols
Printed Name: Shelby G. Eckols
Title: SENIOR VICE PRESIDENT
Date: 4/29/14

Approved As To Form:

Attest:

By: C. Crosby 5/16/2014
Assistant City Attorney

By: [Signature]
Secretary, if a Corporation

The CONSULTANT is bound by a Code of Ethics and guided by rules and restrictions of a State licensing board.
Contact the appropriate licensing board if an issue regarding ethics or the practice of consulting arises.

END

Contract Management Department

Contract Administration
Contract Management
Contract Administration
Contract Management

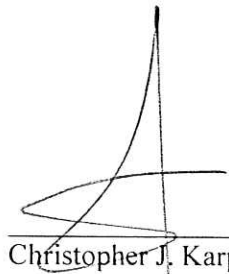
CORPORATE AUTHORIZATION RESOLUTION

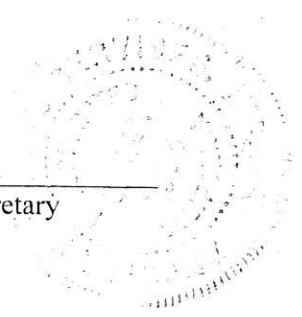
I, Christopher J. Karpathy, the undersigned Assistant Secretary of AECOM Technical Services, Inc. (the "Corporation") hereby certify that: the Corporation is duly organized and existing under the laws of the State of California and the following is a true, accurate and complete transcript of the resolution of the Board of Directors passed by consent in lieu of meeting, dated April 30, 2014 and that said resolution has not been amended or revoked and is in full force and effect:

Resolved, that Shelby G. Eckols, of the Corporation, be and is hereby authorized and empowered to sign any and all related documents on behalf of said Corporation, and to take such steps, and do such other acts and things, as in his judgment may be necessary, appropriate or desirable in connection with any proposal submitted to, or the contract entered into with the City of Austin for the South Austin Regional Wastewater Treatment Plant Filter Improvements project; and

Resolved, that any and all transactions by and of the officers or representatives of the Corporation, in its name and for its account, with the City of Austin prior to the adoption of this resolution be, and are hereby, ratified and approved for all purposes.

Witness my hand and seal of the Corporation this 30nd day of April, 2014.


Christopher J. Karpathy, Assistant Secretary



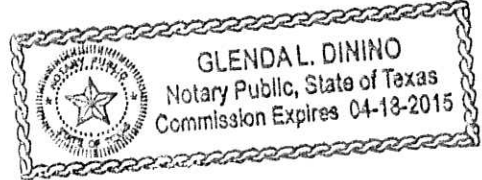
ACKNOWLEDGMENT

STATE OF TEXAS §
COUNTY OF TRAVIS §

Before me, Glenda L. Dinino (name) the undersigned Notary Public of the State of Texas, on this day personally appeared Christopher J. Karpathy, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that s/he executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 30th day of April, AD 2014.

[SEAL]




Notary Public, State of Texas



AECOM
400 West 15th Street
Suite 500
Austin, Texas 78701
www.aecom.com

512 472 4519 tel
512 472 7519 fax

April 22, 2014

Mr. Steve Parks
Public Works Department
City of Austin
505 Barton Springs Road, 9th Floor
Austin, Texas 78704

Re: Professional Engineering Services Proposal for Final Design Scope Modification and Construction Phase, CT11040700843
Supplemental Amendment No. 3, Revision No.2
South Austin Regional WWTP Filter Improvements

Dear Mr. Parks:

AECOM Technical Services Inc. (AECOM) is pleased to submit this proposal for the Final Design Scope Modifications and Construction Phase Services for the South Austin Regional Wastewater Treatment Plant (SARWWTP) Filter Improvements Project. If acceptable, this proposal will serve as Supplemental Amendment No. 3 to the Agreement between AECOM Technical Services, Inc. (AECOM) and the City of Austin (COA).

PROJECT BACKGROUND

The SARWWTP Filter Building is located in the northeast corner of the SARWWTP site. This Filter Building was constructed as part of the Train B expansion, completed in 1988. The Filter Building consists of 12 filter basins with each being a single media, intermittently backwashed type of filter. In the early 1990's, the Filter Building flooded and many of the pipe, valves and control devices in the lower levels were submerged. A subsequent electrical improvement project modified the electrical duct bank entrance into the Filter Building and replaced some of the at-grade incoming power equipment. During the SARWWTP Train C Expansion project, additional exterior pipe modifications were made to address hydraulic issues with the Filter Building. However, no engineering evaluation and/or rehabilitation of the entire Filter Building and filter basins have been performed. The SARWWTP staff has performed overall operation and maintenance of these filters and, in doing so, has very likely replaced some of the damaged and inoperable equipment within the building.

The City recently retained AECOM to provide the required preliminary, final design and bid phase professional engineering services for the proposed expansion and improvements. The recently completed Preliminary Engineering Report (PER) of the SAR Filter Improvements Project evaluated the existing filters and alternate filter technology and recommended conversion of the existing filter basins from the existing deep bed single media filter to cloth media disk filters. The identified improvements include converting existing deep bed filter basins 3 through 6 to cloth media disk filter units.

The conversion of these filter basins will require the Filter Building to be removed from service to allow the isolation of the filter basins, removal of the existing filter media, and demolition of structural and mechanical facilities within each filter basin to accommodate the cloth filters. Ultimately, the converted basins must be integrated into the Filter Building hydraulic system, which will require the Filter Building to be out of service for this final integration of the cloth filters. Additionally, other planned modifications to the Filter Building will require the filters to be removed from service for a period of time.

The PER anticipated a need for coordination with AWU and TCEQ during the final design phase to maintain the plant's regulatory compliance status, while the construction at the Filter Building is carried out. The Final Design Phase scope of work included a task for the engineer to support the coordination effort with TCEQ. It was realized that plant effluent quality may be impacted at certain key times when filters are partially or completely off-line.

PROJECT DESCRIPTION

The original final design scope of services included the tasks for conversion of 4 of existing filter basins (3 thru 6) to provide an average treatment capacity of 42 mgd (with two units out of service) and a peak treatment capacity of 96 mgd. Recently and during the course of the final design phase the City of Austin requested the Filter Building project be expanded to include the conversion of filter basin nos. 1 and 2 to cloth filter to achieve an average treatment capacity of 66 mgd (with two units out of service) and a peak treatment capacity of 144 mgd.

Additional conversation with AWU during the final design phase also revealed an interest in maintaining the plant's partial effluent filtration capability for the duration of the construction phase. The plan is to include a temporary filtration system for Train A for the entire duration of construction. The expected average flow from Train A is estimated at 16 mgd, with a peak of 20 mgd. During the periods when filter building is out of service, the unfiltered discharge from Train C will be mixed with the filtered discharge from Train A, prior to discharge. During partial Filter Building shutdown, where half of existing deep bed filters are in service, the discharge from Train C will be diverted to Filter Building, while flow from Train A is routed through the temporary filtration system. Filtered water from both systems is mixed in JB6 prior to discharge.

Additionally, The City has requested AECOM to provide engineering services to support the Construction Phase activities for the proposed improvements for SARWWTP Filter Improvements. This letter proposal is prepared to include additional final design scopes as discussed above, as well as providing CPS services based on the Summary of Work defined in the Project Manual dated November 4, 2013 for the proposed construction.

SCOPE OF WORK

The following paragraphs define specific tasks associated with proposed final design scope modifications and construction phase services.

Additional Final Design Services

1. Coordinate with sub-consultants to establish contract agreements for additional services.
2. Schedule, coordinate and conduct additional project meetings with the COA Project Manager for the duration of the Final Design of the project. It is anticipated that three additional meetings will be required.
3. Develop temporary filtration concept and prepare construction plans and specifications for the construction sequencing during the installation of the proposed disk filters.
 - a. Collect background information and coordinate the plant filtered water effluent need during the construction at filter building. This will include determining the plant's actual average and peak flow, the filter influent flow, TSS from each treatment trains, and permitted discharge criteria.
 - b. Coordinate with Disk filter manufacturer to determine the options for renting/purchasing temporary skid mounted Disk filter units, cost and warranty periods.
 - c. Evaluate options to provide the agreed upon filtered flow. Options may include temporary skid mounted filtration unit(s), construction sequencing, a TCEQ notification, or a combination of these options.
 - d. Prepare a technical memorandum (TM) to describe options for meeting the plant effluent discharge permit limit, and provide recommendations for maintaining filtered effluent flow during construction
 - e. Schedule, coordinate and conduct a meeting with the City staff and plant operators to discuss the recommendations outlined in the memo. Obtain comments from the COA and incorporate into the TM.
 - f. Upon final confirmation of the temporary filtration option, coordinate with electrical engineer, to determine the existing facilities that will remain in service and any temporary electrical services that are required during the construction of new disk filters to maintain the effluent filtration.
 - g. Design the system and prepare the construction plans, to include the possibility of using existing pumps at Junction Box No.5, temporary yard piping to pump water from Train A to the temporary filtration unit(s), defining the specific locations to install the temporary filter unit(s), the location of sodium hypochlorite addition, and the location of reconnect to the existing plant discharge.
 - h. Coordinate with plant operations staff to define the sequence of construction. Task to include definition of valves to be closed to isolate sections of the filter building, time the filter building (in part or in its entirety) can be out of service, and the facilities (temporary

or permanent) that must remain in service during the construction. This task will conclude with the sequence of construction specification.

4. Prepare construction plans and specifications for conversion of filter basin nos. 1 and 2 to cloth media filters.
 - a. Revise the process flow diagram and develop P & IDs for the proposed improvements at Basins 1 and 2.
 - b. Develop detailed structural, mechanical, and dimensional drawings for installation of disk filter in the existing filter basins 1 and 2. This task includes developing detailed layouts and dimensions of the influent channels, filtered water effluent conveyance from filter units 1 and 2, backwash water discharge piping, filter overflow weir and connection to the existing overflow box.
 - c. Coordinate with structural engineer to define structural modifications necessary to the existing filter basins to install the cloth media filter units, including the cover over Basins 1 and 2.
 - d. Coordinate with electrical and instrumentation/control engineer for revisions associated with the addition of basins 1 and 2.
 - e. Prepare construction plans for the installation of the cloth media filter units in filter basin nos. 1 and 2. No additional specification is anticipated as a result of this addition.
5. Incorporate the changes due to the addition of Basins 1 and 2 and temporary Train A filtration system into the probable construction cost.
6. Incorporate changes due the addition of Basins 1 and 2 and temporary Train A filtration system into the construction contract front end documents.

Exhibit No. 2 provides an itemization of the labor and expenses associated with the above tasks.

Construction Phase Services

1. Attend a pre-construction conference and partnering meeting between the City of Austin and the Contractor to discuss general and specific requirements of the construction contract.
2. Provide general contract administration support during the construction phase including communication with City of Austin management team (including PWD, and AWU personnel), the Contractor, and sub consultant. This support will include reviewing and responding to requests for information (RFIs). Additionally, prepare, maintain, and distribute an RFI Log, Shop Drawing Log, and Change Order Log. This service will be provided on an average of 9 hours per week for 97 weeks for the duration of the main construction activities and 4 weeks after the substantial completion of the contract.
3. Attend and conduct bi-weekly progress meetings on-site. This proposal is based on conducting a total of 48 milestone meetings and/or progress meetings. The service will include the preparation

- of the meeting agenda and meeting summary minutes. Three hours per meeting are allocated for this task, excluding travel and meeting minutes review time.
4. Perform routine site visits by design personnel to review progress of work performed by the construction Contractor. This service will be provided based on an average of 4 man-hours per week on-site for the duration of the construction contract. During these site visits, the Engineer will observe the progress and quality of the executed work, and will determine, in general, if the work is proceeding in accordance with the Contract Documents. In performing this service, the Engineer will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the work or material; he/she will not be responsible for the techniques of construction or the safety precautions incident thereto; and he/she will not be responsible nor liable in any degree for the Contractor's failure to perform the construction work in accordance with the Contract Documents. During these visits to the construction site, and on the basis of the Engineer's on-site observations, he/she will keep the COA informed of the extent of the progress of the work, and advise the COA (via email messages) of material and substantial defects and deficiencies in the work of contractors which are discovered by the Engineer or otherwise brought to the Engineer's attention in the course of construction.
 5. Review samples, catalog data, schedules, shop drawings, laboratory, shop and mill tests of materials and equipment, and other data which the Contractor is required to submit. The review of these submittals will include incorporation of review comments from the City of Austin. This proposal is based on a total of 100 submittals, with an average of 1.5 submissions per submittal, and requiring about four hours reviewing and processing each submittal.
 6. Assist the City in issuing necessary clarifications and interpretations of the Contract Documents as appropriate to the orderly completion of Contractor's work. Such clarifications and interpretations will be consistent with the intent of, and reasonably inferable from, the Contract Documents. The budget is based on responding to 60 Request for Information (RFI) from the Contractor, with each RFI requiring 4 man-hours.
 7. Prepare and process change orders to the construction contract as determined by the City of Austin. This proposal is based on preparing two (2) change orders to the contract with each change order requiring approximately 5 man-hours.
 8. Based on the Engineers on-site observations, and upon review of applications for payment and the accompanying data and schedules, recommend in writing payments to the Contractor. This proposal is based on 23 pay estimates in 23 months plus one final pay estimate, with each pay estimate requiring approximately three hours to process, plus clerical time.
 9. Conduct with the City of Austin a substantial completion review of the project for compliance with the Contract Documents and preparation of a preliminary punch list.
 10. Conduct with the City of Austin a final review of the project for compliance with the Contract Documents and make a recommendation concerning the project status as it affects the City of Austin's final payment to the Contractor.
 11. Prepare record drawings at the end of the contract. Record set will be assembled from the Contractor's markups of changes made during the construction process. Submit the record drawings to the City of Austin in accordance with the Agreement.

12. Check and review Operating and Maintenance Manuals submitted by the Contractor. This proposal is based on a total of 60 submittals, with each submitted an average of 1.5 times and requiring six (6) hours to review each time. Following review, the completed Operating and Maintenance Manuals will be assembled and submitted to the City.
13. The Engineer will provide Warranty Phase Services for a period of one (1) year following final completion of the Construction Contract. These services will include investigation of any identified warranty issue, coordination with the Contractor to obtain correction of the warranty issue and documentation of the warranty issue and its resolution. A total of four (4) man-hour per month is allocated for this task.

Exhibit No. 3 provides an itemization of the labor and expenses associated with the above tasks.

SPECIAL SERVICES

Additional Final Design Phase Services

Unless otherwise noted or identified in this proposal, the Special Service items identified in the original scope of services shall apply. Should there be any additional services identified and not covered under the original scope of services and this proposal, AECOM will prepare a cost proposal for such services and obtain authorization from COA prior to performing any special services.

Construction Phase Services

The Scope of Services and the budget presented herein do not include the following special services:

1. On-site Resident Project Representative Services.
2. Engineering services required during the construction phase to accommodate changes to the design requested by the City, beyond those stated in this proposal.
3. Travel and subsistence required of AECOM, and authorized by the City of Austin, to points other than local governmental agencies, consultants and project site.
4. Filing, review, permit inspection and other fees assessed by the COA, County or State.
5. Expert witness testimony or appearances at public hearings or meetings concerning the project or any of its elements.
6. Preparation of additional permit applications.
7. Construction phase survey control staking, confirmation of benchmarks, or verifications. Performance of any topographic, boundary survey or property boundary research, unless noted otherwise in this document.
8. Construction phase geotechnical or materials testing services. AECOM understands that the COA will contract directly with a licensed testing laboratory.

9. This proposal is based on Construction Phase Services for contract duration of 707 calendar days (24 months). If the construction requires a change in the schedule, the change will require a revision to this proposal.

SCHEDULE

It is anticipated the above scope of work for the final design will be completed within three (3) months of the authorization to proceed. The anticipated construction phase services duration is estimated at 23 months.

DELIVERABLES

Additional Final Design Phase Services

Upon confirmation from the City of Austin on the proposed scope modifications, AECOM will begin the 100% Final Design, by incorporating the above identified scope modifications as defined in this document. The effort indicated in this proposal is based on the assumptions that the project will move forward to 100% design, and 90% design package will not be re-issued. However, appropriate interim coordination will be maintained via meetings, emails and telephone communications to confirm client acceptability prior to 100% design submittal. The number and format of deliverables will remain unchanged from those defined in the original Final Design scope of services.

Construction Phase Services

The following deliverables will be submitted to the City.

1. Meeting notes.
2. Progress reports.
3. RFI Log, Shop Drawing Log, and Change Order Log
4. Responses to RFIs
5. Comments on Shop Drawings
6. Change Orders
7. Punch lists
8. As-built records

COMPENSATION

Compensation for the above Scope of Services is to be on a lump sum basis with payment made monthly on the basis of progress achieved. The project cost of the scope of work has been calculated and is defined in the attached Exhibit No. 1 and supporting attachments including proposals from subconsultants. The total compensation for the above Scope of Services is \$1,348,950 and will not be exceeded without prior written authorization from the COA.

Mr. Steve Parks
April 22, 2014
Page 8

We appreciate the opportunity to be considered for this work and look forward to the opportunity to work with you. Should you have any questions or require additional information, please do not hesitate to contact the undersigned at 512-457-7715.

Sincerely,

A handwritten signature in cursive script, appearing to read "Shelby G. Eckols".

Shelby G. Eckols, P.E.
Senior Vice President

ATTACHMENT 1: RESOURCE ALLOCATION PLAN

Note: PM will advise Consultant of level of detail and payment benchmarks desired for Task Descriptions

Task Description	Budget	Start Date	End Date	% Complete	% Paid	% Time
A. Preliminary Phase	\$195,282.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
1. Meet with SAR Personnel	\$26,650.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
2. Coordinate with electrical engineer	\$9,560.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
3. Consolidate information	\$4,575.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
4. Review Hydraulic Profile	\$29,640.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
4A. Hydraulic Profile Verification	\$6,400.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
5. Evaluate Filtration Process	\$7,480.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
6. Consolidate Mechanical/Electrical/I&C evaluation into TM and conduct workshop	\$10,730.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
7. Consolidate hydraulic evaluation into TM and conduct workshop	\$7,255.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
8. Consolidate process evaluation into TM and conduct workshop	\$9,730.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
9. Review items to be replaced and define the work	\$20,920.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
10. Evaluate alternative to isolate east & west filter cells	\$9,215.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
11. Evaluate each filter for possible internal modifications	\$23,445.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
12. Evaluate impact of hazardous material on proposed improvements	\$3,240.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
13. Evaluate backwash water discharge pipe routing	\$1,840.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
14. Evaluate chlorine feed	\$1,852.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
14. Prepare TM to consolidate work	\$10,090.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
15. Submit 5 copies of draft TM to COA	\$1,150.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
16. Meet with COA to obtain comments on TM	\$4,590.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
17. Revise TM & incorporate comments	\$6,920.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
Support Services	\$155,920.25					
1. Harutunian Engineering	\$84,861.00	3/29/2011	7/23/2012	100.0%	72.0%	100.0%
2. Black & Veatch	\$30,000.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
3. Jose I. Guerra	\$19,963.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
4. Macias & Associates	\$6,400.00	NA	NA	NA	NA	NA
4A. Macias & Associates	-\$6,400.00	NA	NA	NA	NA	NA
5. CAS Consulting Services	\$12,381.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
6. Expenses	\$1,035.00	3/29/2011	7/23/2012	100.0%	100.0%	100.0%
7. Subcontractor Fee	\$7,680.25			NA	84.0%	NA
Preliminary Phase Total	\$351,202.25			100.0%		100.0%

B. Final Design Phase		\$466,140.00				94.9%	
1.	Prepare QA/QC manual	\$2,100.00	10/29/2012	10/29/2012		100.0%	100.0%
2.	Execute subconsultant agreements	\$6,896.00	11/1/2012	11/6/2012		100.0%	100.0%
3.	Conduct monthly progress meetings	\$18,144.00	10/29/2012	12/28/2013		100.0%	100.0%
4.	Conduct project monthly meetings with COA PM	\$12,240.00	10/29/2012	10/28/2013		100.0%	100.0%
5.	Submit monthly progress reports	\$5,976.00	10/29/2012	10/28/2013		100.0%	100.0%
6.	Meet with COA staff to review PER recommendations	\$3,824.00	11/23/2012	11/23/2012		100.0%	100.0%
7.	Develop process flow diagram	\$14,556.00	11/26/2012	12/7/2012		100.0%	100.0%
8.	Develop hydraulic profile drawing	\$7,648.00	12/10/2012	12/14/2012		100.0%	100.0%
9.	Coordinate with surveyor	\$1,976.00	11/26/2012	12/21/2012		100.0%	100.0%
10.	Identify isolation points	\$3,610.00	11/26/2012	12/21/2012		100.0%	100.0%
11.	Site visit to review isolation plan	\$2,276.00	12/24/2012	1/4/2013		100.0%	100.0%
12.	Plans and specs for isolation of filter cells (Ex 2A)	\$54,926.00	1/7/2013	2/15/2013		100.0%	100.0%
13.	Plans and specs for conversion to cloth media filters (Ex 2B)	\$140,976.00	1/28/2013	5/3/2013		100.0%	100.0%
14.	Construction plans and specs for mudwell pumps (Ex 2C)	\$51,944.00	3/4/2013	5/3/2013		100.0%	100.0%
15.	Plans and specs for structural mods (Ex 2D)	\$17,566.00	3/4/2013	5/3/2013		100.0%	100.0%
16.	Plans and specs for raising floor of Backwash Pump Rm (Ex 2E)	\$36,432.00	4/15/2013	5/17/2013		100.0%	100.0%
17.	Development Permit Application (Ex 2F)	\$47,462.00	4/15/2013	6/7/2013		85.8%	85.8%
18.	Travis County permit application	\$1,610.00	5/27/2013	6/7/2013		0.0%	0.0%
19.	Submit plans and specs at 30%, 60%, and 90% completion	\$11,970.00	2/21/2013	6/5/2013		100.0%	100.0%
20.	Estimates for construction costs at 30%, 60%, and 90%	\$5,366.00	2/21/2013	6/5/2013		100.0%	100.0%
21.	Prepare construction contract front-end documents	\$4,710.00	6/6/2013	7/10/2013		61.0%	61.0%
22.	Submit complete bid set of plans and specs to COA for review	\$3,388.00	7/18/2013	8/28/2013		0.0%	0.0%
23.	Submit set of plans and specs to TCEQ for review and approval	\$2,786.00	8/1/2013	9/11/2013		0.0%	0.0%
24.	Submit plans and specs to Architectural Barriers Division	\$790.00	8/1/2013	9/11/2013		0.0%	0.0%
25.	Meet with COA to review comments on bid docs	\$2,312.00	10/9/2013	10/9/2013		0.0%	0.0%
26.	Submit final plans, specs, and front-end docs to COA	\$4,656.00	10/10/2013	10/28/2013		0.0%	0.0%
Support Services		\$683,925.00					
1.	CAS (Includes Sub. Fee)	\$53,388.00	10/29/2012	10/28/2013		82.1%	82.1%
2.	Macias & Associates (Includes Sub. Fee)	\$13,703.00	10/29/2012	10/28/2013		100.0%	100.0%
3.	Jose I Guerra (Includes Sub. Fee)	\$202,928.00	10/29/2012	10/28/2013		93.0%	93.0%
4.	Harutunian Engineering (Includes Sub. Fee)	\$404,928.00	10/29/2012	10/28/2013		81.7%	81.7%
6.	Total Reimbursable Expenses (Includes Expense Fee)	\$8,978.00	10/29/2012	10/28/2013		50.3%	50.3%
Final Design Phase Total		\$1,150,065.00					

C. Bid-Award Execution Phase							\$19,312.00					
1. Assist COA in prep of Advertisement for Bid			10/28/2013	11/11/2013		0.0%	0.0%	0.0%	0.0%			0.0%
2. Schedule, coordinate, and attend pre-bid meeting			11/18/2013	11/22/2013		0.0%	0.0%	0.0%	0.0%			0.0%
3. Respond to questions and issue documents			11/4/2013	12/13/2013		0.0%	0.0%	0.0%	0.0%			0.0%
4. Issue contract addenda			11/4/2013	12/13/2013		0.0%	0.0%	0.0%	0.0%			0.0%
5. Evaluate bids and recommend awarding			12/16/2013	12/20/2013		0.0%	0.0%	0.0%	0.0%			0.0%
6. Prepare 6 sets of contracts and submit for execution			12/20/2013	5/2/2014		0.0%	0.0%	0.0%	0.0%			0.0%
Support Services												
1. CAS Consulting (Includes Sub. Fee)		\$22,298.00										
2. Jose I. Guerra (Includes Sub. Fee)		\$715.00	10/28/2013	5/2/2014		0.0%	0.0%	0.0%	0.0%			0.0%
3. Harutunian Engineering Inc. (Includes Sub. Fee)		\$5,707.00	10/28/2013	5/2/2014		0.0%	0.0%	0.0%	0.0%			0.0%
4. Total Reimbursable Expenses (Includes Expense Fee)		\$13,776.00	10/28/2013	5/2/2014		0.0%	0.0%	0.0%	0.0%			0.0%
		\$2,100.00	10/28/2013	5/2/2014		0.0%	0.0%	0.0%	0.0%			0.0%
Bid-Award Phase Total		\$41,610.00				0.0%	0.0%	0.0%	0.0%			0.0%
D. Additional Final Design Services												
1. Execute subconsultants agreements for scope modification		\$8,040.00	5/15/2014	8/13/2014		0.0%	0.0%	0.0%	0.0%			0.0%
2. Conduct progress meeting with COA staff (3 meetings, 3 hrs/meeting excluding travel and minute preparation)		\$4,680.00	5/15/2014	8/13/2014		0.0%	0.0%	0.0%	0.0%			0.0%
3. Plans and specs for construction sequencing and temp. filtration (Ex 2A)		\$62,402.00	5/15/2014	8/13/2014		0.0%	0.0%	0.0%	0.0%			0.0%
4. Plans and specs for conversion of Basins 1 and 2 to cloth media filters (Ex 2B)		\$53,356.00	5/15/2014	8/13/2014		0.0%	0.0%	0.0%	0.0%			0.0%
5. Incorporate changes into cost estimate		\$5,520.00	5/15/2014	8/13/2014		0.0%	0.0%	0.0%	0.0%			0.0%
6. Incorporate changes into specs and Contract front-end documents		\$5,288.00	5/15/2014	8/13/2014		0.0%	0.0%	0.0%	0.0%			0.0%
Support Services		\$132,507.00										
1. Expenses		\$2,100.00	5/15/2014	8/13/2014		0.0%	0.0%	0.0%	0.0%			0.0%
2. Jose I. Guerra (Includes Sub. Fee)		\$37,501.00	5/15/2014	8/13/2014		0.0%	0.0%	0.0%	0.0%			0.0%
3. Harutunian Engineering Inc. (Includes Sub. Fee)		\$92,906.00	5/15/2014	8/13/2014		0.0%	0.0%	0.0%	0.0%			0.0%
Additional Final Design Services Total		\$271,793.00				0.0%	0.0%	0.0%	0.0%			0.0%
E. Construction Phase												
1. Attend a pre-construction conference		\$2,412.00	2/9/2015	12/30/2016		0.0%	0.0%	0.0%	0.0%			0.0%
2. Provide general contract administration support (9 hrs/wk., 101 wks)		\$146,584.00	6/28/1900	5/19/1902		0.0%	0.0%	0.0%	0.0%			0.0%
3. Conduct bi-weekly progress meetings at the site (up to 48 meetings, 3 hrs/meeting)		\$59,712.00	6/28/1900	5/19/1902		0.0%	0.0%	0.0%	0.0%			0.0%
4. Perform routine site visits to review progress (4 man-hr/wk, 97 wks)		\$60,140.00	6/28/1900	5/19/1902		0.0%	0.0%	0.0%	0.0%			0.0%

5. Review Contractor's submittals (100 submittals, 1.5 submission, 4 hrs/submittal)	\$93,700.00	6/28/1900	5/19/1902	0.0%	0.0%	0.0%
6. Issue RFIs (up to 60 RFI, 4 hrs/RFI)	\$35,640.00	6/28/1900	5/19/1902	0.0%	0.0%	0.0%
7. Prepare and process change orders (Up to 2 change order, each 5 hrs)	\$1,409.00	6/28/2017	5/19/2019	0.0%	0.0%	0.0%
8. Process Contractor's payment applications (23 interim plus 1 final applications)	\$11,016.00	11/15/1902	10/5/1904	0.0%	0.0%	0.0%
9. Conduct a substantial completion review with a punch list	\$11,314.00	11/15/1902	10/5/1904	0.0%	0.0%	0.0%
10. Conduct a final review	\$6,492.00	11/15/1902	10/5/1904	0.0%	0.0%	0.0%
11. Prepare record drawings (150 sheets, at 1.3 hrs per sheet)	\$25,554.00	11/15/1902	10/5/1904	0.0%	0.0%	0.0%
12. Check and reviv O&M (60 submittals, 1.5 submission, 6 hrs/submittal)	\$81,640.00	11/15/1902	10/5/1904	0.0%	0.0%	0.0%
13. Warranty phase services (12 months, 4 hrs/mo.)	\$7,548.00	11/15/2019	10/5/2021	0.0%	0.0%	0.0%
Support Services	\$533,997.00					
1. Expenses	\$10,815.00	4/3/1905	2/22/1907	0.0%	0.0%	0.0%
3. CAS Consulting & Services, Inc (Includes Sub Fee)	\$17,345.00	4/3/1905	2/22/1907	0.0%	0.0%	0.0%
4. Macias & Associates, LP (Includes Sub Fee)	\$2,636.00	4/3/1905	2/22/1907	0.0%	0.0%	0.0%
5. Jose I. Guerra (Includes Sub Fee)	\$67,762.00	4/3/2022	2/22/2024	0.0%	0.0%	0.0%
6. Harutunian Engineering - Base CPS (Includes Sub Fee)	\$376,127.00	6/28/1900	5/19/1902	0.0%	0.0%	0.0%
7. Harutunian Engineering - Add'l I&C (Includes Sub Fee)	\$59,312.00	6/28/1900	5/19/1902	0.0%	0.0%	0.0%
Construction Phase Total	\$1,077,157.00			0.0%	0.0%	0.0%
F. Post-Construction Phase	\$0.00					
Post-ConstructionPhase Total				0.0%	0.0%	0.0%
Project Total	\$2,891,827.25			0.0%	0.0%	0.0%

APPROVED FIXED CONSTRUCTION BUDGET: "\$19,190,000 Based on Installation of 16 Filters
DATE OF CURRENT FCB: April 24, 2014

ATTACHMENT 2: HOURLY RATES

DOCUMENTATION OF PROVISIONAL / OVERHEAD RATES

Overhead rate documentation, calculated in compliance with FAR Part 31, has been provided to the City of Austin and was utilized by the COA in reviewing and approving the loaded hourly rates below.

KEY PERSONNEL:

SUBCONSULTANT (AECOM Technical Services, Inc.)

Professional Staff:

		<i>TX Registration Number</i>
Project Principal	\$ 275/ hr	
Principals(s)/QA/QC	\$ 250/ hr	
Shelby Eckols, PE		41485
Project Manager II	\$ 188/ hr	
John Buser, PE		90881
Project Manager I	\$ 170/ hr	
Senior Project Manager(s)/ Engineer(s) II	\$ 220/ hr	
Senior Project Manager(s)/ Engineer(s) I	\$ 180/ hr	
Ioan Chilarescu, PhD, PE		89173
Project Engineer II	\$ 150/ hr	
Project Engineer I	\$ 130/ hr	
Behnoush Yeganeh, PE		106391
Engineer II	\$ 105/ hr	
Engineer I	\$ 84/ hr	
Senior Project Representative	\$ 126/ hr	
Environmental Scientist	\$ 134/ hr	
Senior CADD Technician	\$ 120/ hr	
CADD Technician	\$ 90/ hr	
 Administrative Staff:		
Clerical/Project Administrator II	\$ 75/ hr	
Clerical/Project Administrator I	\$ 70/ hr	

Attachment 5

SARWWTP FILTER IMPROVEMENTS PROJECT

EXHIBIT NO. 1

Summary of Costs for Final Design Scope Modifications & Construction Phase Services

TASK	TOTAL
1 Final Design Scope Modifications (Exhibit 2)	\$271,793
2 Construction Phase Services (Exhibit 3)	\$1,077,157
TOTAL FEE ESTIMATE	\$1,348,950

Additional Final Design Phase Services - Scope Modification No.3- Rev. 01

Direct Labor Rates & Multipliers	PRINCIPAL	PROJ. MGR	SR ENGINEER	PROJECT ENG	SENIOR TECH	CLERK
	250	188	180	130	120	70

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1 Execute subconsultant agreements for Scope Modification	4	20	12			16	52
2 Conduct progress meeting with CDA staff (3 meetings, 3 hrs/meeting excluding travel and minute preparation)	3		12	12		3	30
3 Plans and specs for construction sequencing and temp. filtration (Ex 2A)	14	39	104	184	68	11	420
4 Plans and specs for conversion of Basins 1 and 2 to cloth media filters (Ex 2B)	10	32	64	146	116	6	374
5 Incorporate changes into cost estimate	2	10	8	12		2	34
6 Incorporate changes into specs and Contract front-end documents	2	6	8	16		2	34
TOTAL HOURS	35	107	208	370	184	40	944
TOTAL LABOR COSTS	\$8,750	\$20,116	\$37,440	\$48,100	\$22,080	\$2,800	\$139,286

NON-LABOR ESTIMATE

ITEM	UNITS	QTY.	RATE	SUBTOTAL	Mult	TOTAL
Printing (plans and specs)	L.S.	1	\$2,000	\$2,000	1.05	\$2,100
Total						\$2,100

SUBCONTRACTOR SERVICES ESTIMATE

FIRM NAME	SUBTOTAL	Mult	TOTAL
Jose I. Guerra	\$35,715	1.05	\$37,501
Harutunian Engineering	\$68,482	1.05	\$92,906
Total Subcontractor Costs			\$130,407

TOTAL FEE ESTIMATE

TOTAL FEE ESTIMATE	\$271,793
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Temporary Filtration and Construction Sequencing

PRINCIPAL	PROJ. MGR	SR ENGINEER	PROJECT ENG	SENIOR TECH	CLERK
250	188	180	130	120	70
Direct Labor Rates & Multipliers					

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1 Collect background information	2	2	8	16	4	2	34
2 Coordinate with Disk filter manufacturer for temporary filter unit(s)	1	1	4	4		2	12
3 Evaluate options to provide filtered flow	1	4	8	16			29
4 Prepare a memo to describe temporary filtration options	2	4	16	24	8	4	58
5 Meet and coordinate with the City to discuss the options		4	4	4			12
6 Coordinate with electrical engineers to incorporate the construction sequencing	4	8	16	16	8	1	53
7 Design the system (pumping needs and temp yard piping) and prepare construction plans	2	8	32	80	40		162
8 Coordinate with plant operations staff to define the sequence of construction	2	8	16	24	8	2	60
TOTAL HOURS	14	39	104	184	68	11	420
TOTAL LABOR COSTS	\$3,500	\$7,332	\$18,720	\$23,920	\$8,160	\$770	\$62,402



Conversion of Filter Cell Nos. 1-2

Direct Labor Rates & Multipliers	PRINCIPAL	PROJ. MGR	SR ENGINEER	PROJECT ENG	SENIOR TECH	CLERK
	250	188	180	130	120	70

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1 Revise PFD and develop P&ID	2	4	8	20	16	2	52
2 Develop detailed structural, mechanical, electrical and I&C design	2	8	32	64	24		130
3 Coordinate with structural engineer	1	8	8	16	4		37
4 Coordinate with electrical engineer	1	8	8	16		2	35
5 Prepare construction plans for installation of cloth media filters	4	4	8	30	72	2	120
TOTAL HOURS	10	32	64	146	116	6	374
TOTAL LABOR COSTS	\$2,500	\$6,016	\$11,520	\$18,980	\$13,920	\$420	\$53,356

Construction Phase Services - Scope Modification No.3- Rev. 01

Direct Labor Rates & Multipliers	PRINCIPAL	PROJ. MGR	SR ENGINEER	PROJECT ENG	SENIOR TECH	CLERK
	250	188	180	130	120	70

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLERK.	TOTAL
1 Attend a pre-construction conference	4	4		4		2	14
2 Provide general contract administration support (9 hrs/wk., 101 wks)	48	138	341	342		40	909
3 Conduct bi-weekly progress meetings at the site (up to 48 meetings, 3 hrs/meeting)	24	144		192		24	384
4 Perform routine site visits to review progress (4 man-hr/wk, 97 wks)			194	194			388
5 Review Contractor's submittals (100 submittals, 1.5 submission, 4 hrs/submittal)	40	100	150	270		40	600
6 Issue RFIs (up to 60 RFI, 4 hrs/RFI)		30	60	120	30		240
7 Prepare and process change orders (Up to 2 change order, each 5 hrs)	0.5	0.5	2	4	2	1	10
8 Process Contractor's payment applications (23 interim plus 1 final applications)		12		48		36	96
9 Conduct a substantial completion review with a punch list	1	8	40	16		4	69
10 Conduct a final review	2	4	16	16		4	42
11 Prepare record drawings (150 sheets, at 1.3 hrs per sheet)	7	8	8	22	150		195
12 Check and review O&M (60 submittals, 1.5 submission, 6 hrs/submittal)	30	80	100	300		30	540
13 Warranty phase services (12 months, 4 hrs/mo.)	4	6	12	24		2	48
TOTAL HOURS	161	535	923	1,552	182	183	3,535
TOTAL LABOR COSTS	\$40,125	\$100,486	\$166,140	\$201,760	\$21,840	\$12,810	\$543,161

NON-LABOR ESTIMATE

ITEM	UNITS	QTY.	RATE	SUBTOTAL	Mult	TOTAL
1 Printing	L.S.	1	\$10,000	\$10,000	1.05	\$10,500
2 Courier	EACH	15	\$20	\$300	1.05	\$315
Total						\$10,815

SUBCONTRACTOR SERVICES ESTIMATE

FIRM NAME	SUBTOTAL	Mult	TOTAL
CAS Consulting & Services, Inc	\$15,519 /	1.05	\$17,345
Macias & Associates, LP	\$2,510 /	1.05	\$2,636
Jose I. Guerra	\$64,535 /	1.05	\$67,762
Harutunian Engineering (Base CPS)	\$358,216 /	1.05	\$376,127
Harutunian Engineering (Additional I&C)	\$56,488 /	1.05	\$59,312
Total Subcontractor Costs			\$523,181

TOTAL FEE ESTIMATE

\$1,077,157

ATTACHMENT 4: MAXIMUM NOT-TO-EXCEED CONTRACT AMOUNTS BY PHASE

PHASE A: PRELIMINARY PHASE

Agreed Upon Fixed Fee Dollar Amount
Maximum Cost

PHASE A TOTAL \$351,202.25

PHASE B: DESIGN PHASE

Agreed Upon Fixed Fee Dollar Amount
Maximum Cost

PHASE B TOTAL \$1,150,065.00

PHASE C: BID-AWARD-EXECUTION PHASE

Agreed Upon Fixed Fee Dollar Amount
Maximum Cost

PHASE C TOTAL \$41,610.00

PHASE D: ADDITIONAL FINAL DESIGN SERVICES

Agreed Upon Fixed Fee Dollar Amount
Maximum Cost

PHASE D TOTAL \$271,793.00

PHASE E: CONSTRUCTION PHASE

Agreed Upon Fixed Fee Dollar Amount
Maximum Cost

PHASE E TOTAL \$1,077,157.00

PHASE F: POST-CONSTRUCTION PHASE

Agreed Upon Fixed Fee Dollar Amount
Maximum Cost

PHASE F TOTAL

ADDITIONAL COSTS

ADDITIONAL COSTS TOTAL

REIMBURSABLE COSTS

REIMBURSABLE COSTS TOTAL

MAXIMUM NOT-TO-EXCEED CONTRACT AMOUNT \$2,891,827.25



MACIAS & ASSOCIATES, L.P.
LAND SURVEYORS

Attachment 2

Surveyor Rate Schedule

COA – South Austin Regional WWTP

OFFICE PROFESSIONAL/TECHNICAL SERVICES

Principal Registered Professional Land Surveyor	\$145.00 per hour
Registered Professional Land Surveyor	\$135.00 per hour
Senior Technician	\$ 80.00 per hour

not available

Technician	\$ 70.00 per hour
Secretarial/Typist	\$ 47.00 per hour

FIELD CREW SERVICES

2-Man Crew	\$130.00 per hour
3-Man Crew	\$145.00 per hour
4-Man Crew	\$160.00 per hour

GLOBAL POSITIONING SERVICES

GPS Services	From 1 to 10 Points	\$750.00 for each point
	10 + Points	Negotiated fee

PHOTOGRAMMETRIC SERVICES

Flight - Photography - Mapping - Digital Orthos	Negotiated fee
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NOTE: RATES ARE SUBJECT TO A 4% INCREASE PER YEAR

Z:\Jobs\COA SAR\WWTP



MACIAS & ASSOCIATES, L.P.
LAND SURVEYORS FIRM REG. NO. 101141-00

April 17, 2014

AECOM
400 West 15th Street, Suite 500
Austin, Texas 78701

ATTN: Ms. Behnoush Yeganeh, PE, LEED AP
Project Manager, South Region, Water

RE: South Austin Regional WWTP Filter Improvements Project,

Ms. Yeganeh,

Thank you for the opportunity of submitting this proposal for professional surveying services in connection with the South Austin Regional Wastewater Treatment Plant Filter Improvements Project – Construction Phase Services. As we understand the project, we are to provide horizontal and vertical quality control for the construction of the weirs and other items.

SCOPE OF SERVICES

1. Obtain and review existing and proposed construction plans from the City of Austin and AECOM.
2. Obtain and review existing surveying information from previous surveying activities.
3. Meet with you and your staff to determine the work plan and schedule.
4. Provide a field crew to provide horizontal and vertical control for construction activities.
5. Prepare a sketch showing the results of the field work.

BASIS FOR COMPENSATION

We propose to provide the above scope of services on a time and material basis with a not to exceed amount of \$2,510.00 based on the following fee schedule:

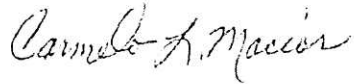
RPLS	10 Hrs. @ \$135.00 Per Hr =	\$1,350.00
Survey Field Crew	8 Hrs. @ \$145.00 Per Hr =	<u>\$1,160.00</u>
	Total	\$2,510.00

SCHEDULE

Work can begin on this project approximately 5 working days after we receive a written notice to proceed. A more detailed schedule will be prepared after the kick off meeting.

Please call me if you have any questions or comments at 442.7875.

Sincerely,
MACIAS & ASSOCIATES, L.P.



Carmelo L. Macias, RPLS
Vice President

CLM/cg

Attachment 2

SUBCONSULTANT

PRINCIPAL(S):

CAS Consulting and Services, Inc.

PRINCIPAL(S)

Channy Soeur, P.E.	\$	260.82 /hr	70617
Henry Leighton, P.E. Senior Engineer	\$	260.82 /hr	97914
Lino Rivera, P.E.	\$	188.96 /hr	65146
Doug Nichols, P.E. Engineer	\$	176.98 /hr	56237
Joseph Dong, P.E.	\$	154.73 /hr	103144
Chelsea Solomon, P.E.	\$	146.64 /hr	97246
Amy Middleton, P.E.	\$	125.52 /hr	107560
Ashley Hanson, P.E. Engineer Associate	\$	105.73 /hr	107373
Tunnel Specialist	\$	87.70 /hr	
Mike Carpenter CAD Technician	\$	126.46 /hr	
Brandy Faith, CADD Administrative	\$	81.16 /hr	
Virginia Chhay	\$	77.52 /hr	
Ellen Bargainer	\$	57.45 /hr	

State of Texas
Registered Firm
No. F-3572



CAS CONSULTING & SERVICES, INC.

Civil, Transportation, and Environmental Engineering
Austin • Dallas • Houston • San Antonio

November 11, 2013

Shelby G. Eckols, P.E.
AECOM Technical Services
400 West 15th Street
Suite 500
Austin, Texas 78701

Subject: South Austin Regional WWTP (SARWWTP)
Filter Improvements Project
Construction Phase Services
Amendment No. 2

Dear Mr. Eckols:

This Professional Engineering Services proposal is submitted for the Construction Phase of the South Austin Regional WWTP (SARWWTP) Filter Improvements Project. If acceptable, this proposal will serve as Supplemental Amendment No. 2 to the Agreement between CAS Consulting and Services, INC. (CAS) and the AECOM Technical Services (AECOM).

PROJECT DESCRIPTION

The existing SAR Filter Building consists of 12 filter cells with each being a single media, intermittently backwashed type of filter. The influent flow comes from Junction Box No. 5 via a 72-inch diameter influent pipe. Inside the building, the 72-inch diameter pipe divides into two 42-inch diameter pipes that convey water to each of the filter cells. After passing through the filter, each filter discharges the filtered water to a channel that conveys the water to the clearwell. Additionally, each filter cell is provided with a drain pipe, a backwash water supply pipe and a backwash air supply pipe. The filter influent, effluent, drain and backwash supply facilities can be isolated at each filter cell. However, no other isolation of the Filter Building facilities is possible without total removal of the Filter Building from service.

Conversion of Filter Cell Nos. 3, 4, 5 and 6 to cloth media disk filters require isolation of these filter cells (at a minimum) and preferably the isolation of Filter Cell Nos. 1 through 6 (the east half of the Filter Building). Isolation of the east half of the Filter Building will permit the remaining Filter Cell Nos. 7 – 12 to remain in service to provide some plant effluent filtration. The final design task included isolation of the filter influent, effluent, drain and backwash supply facilities for the east and west halves of the Filter Building.

The final design for the conversion of these filter cells, requires the units to be removed from service, existing filter media removed and structural and mechanical facilities demolished within each filter cell to accommodate the cloth filters. The final design included the structural and mechanical modifications required within each filter cell to accommodate the cloth filter and the hydraulic connection of each of the converted cells.

Electrical and instrumentation/control final design includes removal and replacement of the existing electrical switchgear, motor control centers and control panels. In order to keep the Filter Building partially in service, the construction will consist of a phased implementation of the modifications to complement the hydraulic isolation that will be performed.

Austin Office
7908 Cameron Road
Austin, Texas 78754
(512) 836-2388
Fax (512) 836-4515

Dallas Office
1820 Regal Row, Ste 200
Dallas, TX 75235
(214) 589-6942
Fax (214) 638-3723

Houston Office
10497 Town & Country Way Ste 220
Houston, TX 77024
(512) 836-2388
Fax (512) 836-4515

San Antonio Office
700 E. Sonterra Blvd., Ste 1206
San Antonio, Texas 78258
(210) 248-9083
Fax (210) 248-9155

Outlined in the Plans and Specifications, additional modifications have been incorporated into the Filter Building conversion for the conversion to cloth filters. The design documents include the modifications below.

1. Replacement of the mudwell pumps and installation of a new pipe to convey backwash water to a splitter box that directs flow to Trains A, B and C. The diversion to trains A and B are directed to the existing Train A/B splitter box. This item also includes modifications to the existing Train A/B Splitter Box, repair/replacement of the existing line between train A/B splitter box and Train B, rehabilitation of the mechanical facilities at the mudwell pumps.
2. Design of a supplemental chlorine feed to the Filter Building to provide redundant feed.
3. Repair of existing expansion joints to eliminate leakage through the joint.
4. Design of the removal and replacement of a section of the floor slab at the backwash pumps, immediately above the clearwell weirs.
5. Replacement of the floor tiles on the mezzanine level of the Filter Building.
6. Abandonment of the existing filter facilities that will be removed from service after placing the cloth filters into service.

For the Design Phase, CAS scope included:

1. Pipeline required to return backwash water to the operating treatment trains.
2. Flow splitter box size and weir lengths to accommodate the flow rate provided by AECOM. Structural design of the splitter box was by others.
3. Pipeline alignment from the flow splitter box to each of the treatment trains.

Note: No survey or Pot Holes were completed for the design phase, at the direction of the City of Austin, and all designs were done based on record information and may not reflect actual field conditions. Piping locations, field elevations, existing utilities location and elevation to be determined by the contractor prior to construction.

SCOPE OF WORK

The scope of work provided by CAS for Construction Phase services is proposed as follows.

1. Preparation of Conformed Construction sheets provided by CAS.
2. Shop Drawing Review. For the purpose of this scope and fee it is assumed that each review will consist of one hour of initial review and comments. Approximately half of the submittals will require additional information and clarification prior to approval, an additional half hour is expected for review. Submittals to be reviewed include:
 - a. Structure/piping Layout
 - b. Restrained Joint Piping
 - c. Fittings
 - d. Valves
 - e. Manhole (structure, gaskets, boots, manufacturer precast production drawings)
 - f. Manhole Ring and Cover
 - g. Manhole Coatings
 - h. Pipe Bedding material
 - i. Poly Wrap

- j. Tracer Tape
 - k. Trench Excavation and safety submittal, also reviewed by CID.
 - l. Concrete for Roadway replacement/repairs
 - m. Concrete for Sidewalk repair/replacement
 - n. Base for Roadway
 - o. Reinforcing for roadway
 - p. Reinforcing for Sidewalk replacement
 - q. Pedestrian Bridge replacement if contractor chooses to replace in lieu of protect.
3. Participate in construction progress meetings. Meetings will occur at two week intervals, it is anticipated the CAS will attend 3 progress meetings at two hours each.
 4. Review of contractor existing utility information obtained through contractor pot holing. Design plan and profile modifications required. Due to the City's decision to complete the design using solely record information, it is anticipated that each line will have to be adjusted for field conditions.
 5. RFI Review and Response, (estimate 3 RFI's for CAS portion of work)
 6. Change order Review and Comment (2 anticipated)
 7. Record Drawing Preparation

Assumptions

1. Approved for Construction Plans and Specifications will be provided by AECOM. (1 hard Copy and one electronic copy)
2. Piping locations, field elevations, existing utilities location and elevation to be determined by the contractor prior to construction. This information will be provided to CAS in hard copy and CAD format.
3. Additional Utility Relocations required based on actual field conditions found are not included in this scope, but can be provided once the extents of the required relocations are determined. A separate proposal will be submitted for this work upon AECOM/COA request.

COMPENSATION

Compensation for the above Scope of Services is to be on a lump sum basis with payment made monthly on the basis of progress achieved. The total compensation for the above Scope of Services is \$16,519 and will not be exceeded without prior written authorization from the AECOM.

If this proposal meets with your approval, we understand it will become a Supplemental Amendment to the contract between CAS and AECOM.

Sincerely,



Chelsea Solomon, PE

CAS

South Austin Regional Wastewater Treatment Plant (SARWWTP) Filter Project
 Backwashwater Line and Splitter Boc Construction Phase Services
 November 11, 2013
 Fee Estimate

Task No.	Description	CAS Consulting & Services, Inc.							Time (hrs)	Labor (\$)	
		Principal	Senior Eng.	Project Eng.	EIT	CADD	Admin				
Final Design Phase											
1	Preparation of Confirmed Construction sheets provided by CAS.			6						6	\$860
2	Progress Meetings (3 total 2 hours each)								1	1	\$78
3	Shop Drawing Submittal Review			21						21	\$3,079
4	Review of contractor existing utility information obtained through contractor pot holing. Design plan and profile modifications required.	1	4	20				40		65	\$7,196
5	RFI Review and Response, (estimate 3 RFI's for CAS portion of work)			6				9		15	\$1,610
6	Change order Review and Comment (2 anticipated)			4				6		10	\$1,074
7	Record Drawing Preparation.		2	8				12	1	23	\$2,602
Total Services		1	6	65	0	67	2			141	\$16,519
Approximate Billing Rate		\$ 260.82	\$ 188.96	\$ 146.64	\$ 87.70	\$ 81.16	\$ 77.52				
Estimated Billing by Job Classification		\$ 260.82	\$ 1,133.76	\$ 9,531.60	\$ -	\$ 5,437.72	\$ 155.04				

ATTACHMENT 2. HOURLY RATES (2013 Only)

DOCUMENTATION OF PROVISIONAL / OVERHEAD RATES

Overhead rate documentation has been provided to the City of Austin and was utilized by the COA in reviewing and approving the loaded hourly rates below.

PRINCIPAL(S):	Hourly Rate	TX Registration Number
<i>HOURLY RATE OF PRINCIPAL(S)- SUBCONSULTANTS:</i>		
<i>SUBCONSULTANT</i>		
JOSE I. GUERRA, INC.		
Principal/Senior Project Manager		
Rick Guerra, P.E.	\$175.00 / hr	65224
Joseph J. Luke, P.E.	\$175.00 / hr	55974
Shawn Allen, P.E.	\$175.00 / hr	90064
Project Manager/Senior Project Engineer		
Russell Davidson, P.E.	\$130.00 / hr	94042
Lemar Porter, P.E.	\$130.00 / hr	36832
Bob Tieman, P.E.	\$130.00 / hr	16712
Brandon Goodloe, P.E.	\$130.00 / hr	92456
Kenneth W. Hanks, P.E.	\$130.00 / hr	97528
Project Engineer		
Cesar Calderon, P.E.	\$117.00 / hr	107183
Debin Chen, P.E., PhD	\$117.00 / hr	96280
Jason Barber, P.E.	\$117.00 / hr	111245
Colby Brock, P.E.	\$117.00 / hr	106846
Brandon Reyes, P.E.	\$117.00 / hr	106528
Senior Designer		
Carl Anderson	\$96.00 / hr	
Dan Gibbs	\$96.00 / hr	
Mark Vaughan, RCDD	\$96.00 / hr	
Design Engineer		
Julia Wagner, E.I.T.	\$93.00 / hr	
CAD Manager		
Felix Solis	\$90.00 / hr	
Kazem Shirazi	\$90.00 / hr	
Senior CAD Technician		
Rudy Hinojosa	\$85.00 / hr	
Joseph Heilman	\$85.00 / hr	
Jonathan DeAngelo	\$85.00 / hr	
Administrative Assistant		
Merrie Carson	\$62.00 / hr	
Sandi Fazio	\$62.00 / hr	
Ann Guerra	\$62.00 / hr	



Jose I. Guerra, Inc.
Consulting Engineers
Civil • Structural • Mechanical • Electrical

Proposed by Jose I. Guerra, Inc. 4/21/14

April 21, 2014

PROPOSAL

Mr. Shelby Eckols, P.E.
AECOM
400 West 15th Street
Austin, Texas 78701

Re: Additional Final Design and Bid Phase Services
Filter Improvements Project
South Austin Regional Wastewater Treatment Plant
Austin, Texas

Dear Mr. Echols:

Jose I. Guerra, Inc. (JIG) is pleased to submit this proposal for professional consulting engineering services for the Filter Improvements Project at South Austin Regional Wastewater Treatment Plant (SARWWTP) for the City of Austin (COA).

Project Description

The project generally involves modifications to the Filter Building required to convert to a new cloth filter system. The project is described more thoroughly in your letter to Ms. Christine Graf of COA, dated April 11, 2012.

DESIGN BASIS

The following design basis was used in the preparation of the Scope of Work:

1. All design drawings will be prepared on the computer using CAD software. At the completion of the design phase, an electronic copy of the design drawings will be provided to AECOM. The format of the electronic copy will be "AutoCAD 2007" file format. Layering conventions and other production related issues within the electronic file copies will be in accordance with established AECOM standards.
2. COA Standard Specifications will be used to the extent that they apply. Supplemental Specifications will be added as required.

SCOPE OF ADDITIONAL SERVICES

The Additional Scope of Services for this project includes Final Design and Bid Phase Services. The original proposal included modifications to Filter Cells 3,4,5 and 6 for the installation of new disk filters. The additional services for the proposal include the modifications to Filter Cells 1 and 2 for the installation of new disk filters.

DESIGN PHASE SERVICES

1. Attend progress meetings, workshops and partnering sessions with AECOM and COA, thru (3) total.
2. Make site visits as necessary to verify existing conditions, two (2) total.
3. Prepare structural construction plans for the specific project elements noted above. This work has been completed as part of the original proposal.
4. Prepare structural specifications for the specific project elements noted above.
5. Assist AECOM with the preparation of a probable cost estimate for the construction of the specific elements noted above.
6. Coordinate structural drawings and specifications with documents prepared by other disciplines.
7. Meet with AECOM and COA to review COA comments on final draft of construction documents.
8. Address COA final draft review comments and revise plans and specifications accordingly.
9. Assist AECOM with the preparation of CAD drawings for their design work on the project.

BID PHASE SERVICES (N/A)

Included in original proposal.

SPECIAL SERVICES

The Scope of Services and the budget presented herein do not include the following special services. At such time that it is determined that these services may be required; JIG will obtain authorization from AECOM prior to performing any of these additional services.

1. Travel and subsistence required of AECOM and authorized by the COA to points other than local government agencies, consultants and project site.
2. Significant revisions by the COA after receiving initial direction by the COA.
3. Any construction phase or warranty phase services.
4. Expert witness testimony or appearances at public hearings or meetings concerning the projects or any of their elements.

Should JIG and AECOM agree that any of the above Special Services, or other additional services are required, JIG will prepare a cost proposal for such services and obtain authorization from AECOM prior to performing any special service.

DELIVERABLES

The following deliverables will be submitted to AECOM:

1. Interim progress drawings prepared in 11" x 17" format. A minimum of two and a maximum of three progress sets are assumed for each construction project.
2. One (1) reproducible copy of the draft structural construction plans and specifications
3. One (1) reproducible copy of the final structural construction plans and specifications
4. One (1) copy of the estimate of probable structural construction cost



SCHEDULE

The above-defined Scope of Services will be performed within 6 months of receipt of notice to proceed from AECOM.

COMPENSATION

An itemization of the estimated labor costs and expenses is included in Attachments A-1 through A-8. The Total Compensation requested for this work is tabulated below.

Final Design Phase Services	\$35,715
Bid Phase Services	
Total Compensation	\$35,715

The Consulting Engineering Services are to be provided on a "Lump Sum" basis. The Monthly Statements shall be in proportion of the services performed to the total compensation. If acceptable, this proposal will form the basis of a Professional Services Agreement. We will consider your acceptance in the space provided below as our authorization to proceed with the work and would appreciate receiving one signed original for our files.

Very truly yours,
JOSE I. GUERRA, INC.



Joseph J. Luke, P.E.
Senior Vice President

JJL/mc

Enclosure (1)

ACCEPTED:

Name: _____ Title: _____ Date: _____

AECOM, Inc.

Attachment A-2

SARWWTP Filter Improvements
Design and Bid Phase
Additional Services

Final Design Phase Services

Direct Labor Rates and Multipliers	Principal	Senior Proj Man	Sr. Project Engineer	Project Engineer	CADD Manager	Sr. CAD Tech	Admin Assistant	
	\$175.00	\$175.00	\$130.00	\$117.00	\$90.00	\$85.00	\$50.00	

LABOR ESTIMATE

SUBTASK LISTING	Principal	Project Manager	Project Engineer	Design Engineer	CADD Manager	CADD Operator	Clerical	TOTAL
1. Meeting and Workshops (3)	0	3	12	12	0	0	0	27
2. Site Visits (2)	0	3	6	3	0	0	0	12
3. Construction Drawings	0	30	60	60	60	60	0	270
4. Specifications	0	0	0	0	0	0	0	0
								0
								0
								0
5. Probable Construction Costs	0	0	0	0	0	0	0	0
6. Incorporation of Owners Review Comments	0	0	0	0	0	0	0	0
TOTAL HOURS	0	36	78	75	60	60	0	309
Labor Totals	\$0	\$6,300	\$10,140	\$8,775	\$5,400	\$5,100	\$0	\$35,715
TOTAL LABOR COSTS	\$0	\$6,300	\$10,140	\$8,775	\$5,400	\$5,100	\$0	\$35,715

NON-LABOR ESTIMATES

ITEM	Units	Quantity	Rate		TOTAL
Printing	L.S.	0	\$115.00		\$0
Photo Processing	L.S.	0	\$100.00		\$0
Internal Photocopying	L.S.	0	\$50.00		\$0
Mileage	Mile	0	\$0.41		\$0
Postage/ Delivery	L.S.	0	\$20.00		\$0
Airfare/Travel - Round Trip	L.S.	0	\$0.00		\$0
NON-LABOR EXPENSE TOTAL					\$0

SUBCONSULTANT SERVICE ESTIMATE

SUBCONTRACTOR		
		\$0
TOTAL SUBCONSULTANT FEES		\$0

SUMMARY AND FEE CALCULATION

WORK PLAN ESTIMATE			\$35,715
Fee Calculation	Direct Labor X 17%	Fringe & G. A. X 9%	Subs X 5%
	\$0	\$0	\$0
TOTALS			\$35,715

Attachment A-9

SARWWTP Filter Improvements
 Design and Bid Phase
 Additional Services

Fee Summary

Report Phase Services		\$0
Design Phase Services		\$35,715
Bid Phase Services		\$0
Construction Phase Services		\$0
Fee Proposal Total		\$35,715



Jose I. Guerra, Inc.
Consulting Engineers
Civil • Structural • Mechanical • Electrical

Engineering Excellence Since 1973

November 14, 2013

PROPOSAL

Mr. Shelby Eckols, P.E.
AECOM
400 West 15th Street
Austin, Texas 78701

Re: South Austin Regional Wastewater Treatment Plant
Filter Improvements Project
Construction Phase Services
Austin, Texas

Dear Mr. Echols:

In accordance with your request, Jose I. Guerra, Inc. (JIG) is pleased to submit to AECOM this proposal for structural consulting engineering services for the Filter Improvements Project for the South Austin Regional Wastewater Treatment Plant (SARWWTP).

PROJECT DESCRIPTION

The project generally consists of modifications to the Filter Building required to convert to a new cloth filter system.

SCOPE OF WORK

The Scope of Work for this proposal includes Construction Phase Services for the modification to the Filter System as defined in the construction documents prepared by the AECOM design team for this project.

SCOPE OF SERVICES

The Scope of Services is for Structural Engineering Consulting Construction Phase Services for elements listed above.

AECOM will perform the routine construction management, administration and on-site inspection services during the construction phase. The following scope of services provides a supporting role to AECOM and COA in administering the construction contracts.

1. Attend a pre-construction conference for AECOM and the Contractor to discuss general and specific requirements for fulfilling the construction contract.

2. Provide general administrative support during the construction phase including answering requests for information (RFI) and interpreting and clarifying the plans and specifications.
3. Assist AECOM with the preparation and processing of change orders to the construction contract as determined by the COA. This proposal is based on preparing two (2) change order to the contract with each change order requiring approximately four (4) man-hours.
4. Make periodic site visits at the request of AECOM. This proposal assumed a total of twenty (20) site visits for this project.
5. Check and review shop drawings for structural work. This proposal is based on eight (8) shop drawings with each shop drawing submitted an average of 1-1/2 times and requiring four (4) man hours to review each time.
6. Prepare record drawings assembled from the Contractor's markups of changes made during the construction process.
7. Assist AECOM in resolution of construction issues.

ADDITIONAL SERVICES

The Scope of Services and the budget presented herein do not include the following services. At such time that it is determined these services may be required; JIG will obtain authorization from AECOM before performing any of these additional services.

1. Travel and subsistence required of the Engineer and authorized by the COA to points other than local government agencies, consultants and project site.
2. Expert witness testimony or appearances at public hearings or meetings concerning the projects or any of their elements.
3. Any warranty phase engineering services.

Should AECOM and JIG agree that any of the above Special Services, or other additional services are required, JIG will prepare a cost proposal for such services and obtain authorization from AECOM prior to performing any special service.

COMPENSATION

The Total Compensation requested for this work is tabulated below.

CONSTRUCTION PHASE

Structural Engineering Consulting Services	\$64,535.00
--	-------------



TOTAL COMPENSTION

\$64,535.00

The Consulting Engineering Services are to be provided on a "Lump Sum" basis. The Monthly Statements will be in proportion of the services performed to the total compensation. The hourly rates and fee breakdown are shown in Attachment A. The maximum fee noted will not be exceeded without prior written authorization. If acceptable, it is our understanding this proposal will be an Attachment to an Amendment to the existing Sub-Contract between JIG and AECOM for services on the project.

Very truly yours,
JOSE I. GUERRA, INC.



Joseph J. Luke, P.E.
Senior Vice President

JJL/mc

ACCEPTED:
AECOM, Inc.

Name:

Title:

Date:



Attachment A-8

SARWWTP Filter Improvements
Construction Phase Services

Construction Phase Services

Direct Labor Rates and Multipliers	Principal	Senior Proj Man	Project Engineer	Design Engineer	CADD Manager	CADD Operator	Clerical	Fringe & G&A Mult.
	\$180.00	\$175.00	\$130.00	\$117.00	\$90.00	\$85.00	\$62.00	

LABOR ESTIMATE

SUBTASK LISTING	Principal	Project Manager	Project Engineer	Design Engineer	CADD Manager	CADD Operator	Clerical	TOTAL
1. Attend Pre-Construction Conference	0	3	3	0	0	0	0	6
2. Periodic Site Observations (20) total	0	16	36	48	0	0	0	100
3. Assist in Reviewing Change Orders	0	8	24	24	0	0	0	56
4. Shop Drawing Review	0	16	36	88	0	0	0	
5. Respond to Contractors Questions	0	16	48	48	12	24	6	
6. Prepare Record Drawings	0	8	12	16	12	16	0	
TOTAL HOURS	0	67	159	224	24	40	6	520
Labor Totals	\$0	\$11,725	\$20,670	\$26,208	\$2,160	\$3,400	\$372	\$64,535
TOTAL LABOR COSTS	\$0	\$11,725	\$20,670	\$26,208	\$2,160	\$3,400	\$372	\$64,535

NON-LABOR ESTIMATES

ITEM	Units	Quantity	Rate	TOTAL
Printing	L.S.	0	\$10.00	\$0
Photo Processing	L.S.	0	\$50.00	\$0
Internal Photocopying	L.S.	0	\$4.00	\$0
Mileage	Mile	0	\$0.41	\$0
Postage/ Delivery	L.S.	0	\$20.00	\$0
Airfare/Travel - Round Trip	L.S.	0	\$0.00	\$0
NON-LABOR EXPENSE TOTAL				\$0

SUBCONSULTANT SERVICE ESTIMATE

SUBCONTRACTOR		\$0
		\$0
TOTAL SUBCONSULTANT FEES		\$0

SUMMARY AND FEE CALCULATION

WORK PLAN ESTIMATE		\$64,535
Fee Calculation	Direct Labor X 17% Fringe & G.A. X 9% Subs X 5%	\$0
TOTALS		\$64,535

CONFIDENTIAL

ATTACHMENT 2: HOURLY RATES	
<i>Subconsultant - Harutunian Engineering, Inc.</i>	Hourly Rate*
PRINCIPAL(S)	
K. Harutunian	\$215.00/hr
Sr Engineer IV (E-11)	\$215.00/hr
Sr Engineer II (E-10)	\$191.00/hr
Sr EIC Development Leader I (E-5)	\$148.00/hr
Sr EIC Implementation Specialist (E-4)	\$143.00/hr
Graduate Engineer II (E-2)	\$97.00/hr
CAD III (CD-3)	\$85.00/hr
Administrative Assistant (A-1)	\$65.00/hr
* Rates subject to change as of January 1, 2015.	



Harutunian Engineering, Inc.

Revision 8
November 15, 2013

HARUTUNIAN ENGINEERING INCORPORATED

**ADDITIONAL FINAL DESIGN PHASE SERVICES
SCOPE ASSOCIATED WITH ADDITION OF DISK
FILTER UNITS TO FILTERS 1 AND 2**

**ELECTRICAL POWER SYSTEM,
INSTRUMENTATION, AND CONTROL SYSTEM
ENGINEERING SERVICES**

for

**SOUTH AUSTIN REGIONAL WWTP FILTER
IMPROVEMENTS PROJECT**

**CITY OF AUSTIN
AUSTIN WATER UTILITY**

**C.I.P. No. XXXX-XXX-XXXX
CITY OF AUSTIN, TEXAS**



Harutunian Engineering, Inc.

Revision 8
November 15, 2013

SAR WWTP
Filter Improvements Project
Final Design Phase
SCOPE OF
ADDITIONAL SERVICES

Harutunian Engineering, Inc. is pleased to submit this Scope of additional Final Design Phase engineering services associated with the addition of modifications associated with Filters 1 and 2 to the South Austin Regional WWTP Filter Improvements project.

1. Task 20A, Electrical Power System and Auxiliary Power System Construction Sequencing, Temporary System, and Proposed System Revisions associated with the Addition of Disk Filter Units to Filters 1 and 2: Includes effort necessary to incorporate construction sequencing revisions, temporary system revisions, as well as provisions for an interim filtration system into the Power system. Revisions to one-line diagrams, power floor plans for Filters 1 and 2, as well as revisions to the conduit corridors and conduit/wire schedules are anticipated. Revisions to the lighting and auxiliary system floor plans, details, light fixture schedule, and panelboard schedules are anticipated
2. Task 30A, Instrumentation and Control System Construction Sequencing, Temporary System, and Proposed System Revisions associated with the Addition of Disk Filter Units to Filters 1 and 2: Includes effort necessary to incorporate construction sequencing revisions, temporary system revisions, as well as provisions for an interim filtration system into the I&C system. Development of P&IDs for Filters 1 and 2, as well as revisions to the floor plans, control system architecture, conduit corridors, control wiring schematics, and conduit/wire schedules are anticipated.
3. Task 50A, Additional Project Meetings: Includes attendance of two (2) additional meetings with each meeting having of three (3) hour duration, inclusive of travel time. Development of meeting minutes for these meetings is not included.
4. The submittal of one additional 90 percent level interim submittal is included.

Revision #8-1
11-15-2013

TABLE - II
South Austin Regional WWTP
Filter Improvements Project
Austin Water Utility, City of Austin, Texas
Electrical and I&C System Engineering



HEI Task Summary
Manhour and Cost Tabulation
Final Design and Bid Phase Additional Engineering Services

WORK AREA DESCRIPTION	E-11 HRS.	E-10 HRS.	E-5 HRS.	A-1 HRS.	CD-3 HRS.	TOTAL COST
Loaded hourly rates used for this estimate	\$215	\$191	\$148	\$65	\$85	

FINAL DESIGN AND BID PHASE ADDITIONAL SERVICES

Task 20A - FDP
Electrical Power System and Auxiliary Power System Construction Sequencing, Temporary System, and Proposed System Revisions associated with the Addition of Disk Filter Units to Filters 1 and 2

	21	41	202	0	236	\$62,302.00
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Task 30A - FDP
Instrumentation and Control System Construction Sequencing, Temporary System, and Proposed System Revisions associated with the Addition of Disk Filter Units to Filters 1 and 2

	8	16	74	0	86	\$23,038.00
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Task 50A - FDP
Additional Project Meetings

	2	8	8	0	0	\$3,142.00
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TOTAL - Final Design and Bid Phase Additional Services	31	65	284	0	322	\$88,482.00
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Expenses	\$0.00
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Total Labor & Expenses - Final Design and Bid Phase Additional Services \$88,482.00



HARUTUNIAN ENGINEERING, INC.

Revision #6A
03-27-2014

South Austin Regional WWTP
Filter Improvements Project
Construction Phase
Electrical and I&C Scope of Services

CONSTRUCTION PHASE SERVICES

AT THE

**SOUTH AUSTIN REGIONAL WWTP
FILTER IMPROVEMENTS PROJECT
AUSTIN WATER UTILITY
CITY OF AUSTIN, TEXAS**

**Electrical and I&C Systems
CONSTRUCTION PHASE SERVICES**

SCOPE OF SERVICES

C.I.P. NO. XXX.XXX

Submitted By
Harutunian Engineering, Inc. (HEI)



HARUTUNIAN ENGINEERING, INC.

Revision #6A
03-27-2014

South Austin Regional WWTP
Filter Improvements Project
Construction Phase
Electrical and I&C Scope of Services

Harutunian Engineering, Inc. will perform the following Construction Phase Services for the above referenced project.

Assumptions

1. The scope of work for this project shall be limited to the specific work defined in each task.
2. The duration and scope of services for the construction phase services is based on the construction phase duration of 730 consecutive calendar days to the completion date of the project and total maximum working hours of 40 hours per week. Any time extended beyond the aforementioned will be considered as additional services.
3. The anticipated effort also assumes one (1) bid package using conventional bid and award construction contract. Other types construction contract delivery such as Construction Manager at Risk (CMAR), etc., is not anticipated. Equipment pre-purchase is not anticipated.
4. Printing and reproduction costs are not included in this Scope.
5. The major electrical, instrumentation, and control system review in support of the major process/mechanical equipment for the packaged disk filter system will be of the named manufacturer used as the basis of design, Aqua-Aerobics. Adjustments to accommodate for another manufacturer are not included. Moreover, accommodating any manufacturer that would lead to redesign is excluded.
6. The following work tasks are not included:
 - Continuous full-time Construction inspection for the duration of construction.
 - Detailed day-to-day coordination with the System Supplier to track and schedule work progress.
 - Field Verification of Contractor's As-Built Record Drawings
 - The services of a continuous full-time On-Site Resident Project Representative under this scope package
 - Design costs to support any potential changes to the design/bid documents
 - Development of conformed documents.



“Task-100-CPS”

**Electrical, Instrumentation, and
Control System Construction
Documentation Review**

Work Included

Review submittals related to the Electrical and I&C systems designed by HEI as well as submittals related to process/mechanical equipment that contain electrical and I&C subcomponents.

The type of documents include Shop Drawings, Product Data and Description, Wiring and Connection Diagrams, Tagging and Tagging Procedures, and Operation and Maintenance Manuals. This Task also includes documentation review effort associated with review of Temporary/Interim electrical, instrumentation, and control systems related equipment. AECOM shall coordinate and consolidate submittal review comments from others. Effort to participate in the review comment coordination and consolidation process is excluded.

HEI shall:

- HEI shall review Contractor submittals and document comments for compliance with the requirements of the contract documents and notify AECOM of irregularities, where applicable. However, the System Supplier and the Contractor shall be responsible for all work performed on the project. It is assumed that each submittal will be provided to HEI electronically in Adobe PDF format. HEI will print selected pages of the submittals where needed to facilitate an efficient review. HEI shall review and transmit review comments to AECOM for final disposition.
- Review Contractor submittals and document comments for compliance with the requirements of the bid documents and notify the supplier of irregularities, where applicable. HEI’s cost proposal includes the review of an average of 1.5 submittal for the motor control center only and the review of original submittals for the remaining electrical and control equipment. Effort is included for review of original O&M submittals. If Contractor submittals exceed, on the average, greater than the quantity submittals described, then HEI shall notify AECOM for disposition.
- Review and comment on the documentation provided. Documentation review shall be performed such that field testing can be performed using the final draft of the documentation (complete except for final field modifications). System acceptance shall not be recommended until satisfactory documentation is provided by suppliers and/or contractors. Factory and field Test and calibrations Procedures and Reports are excluded from the documentation review effort.
- Coordination with Contractor and equipment manufacturers is excluded
- HEI shall review the disk filter packaged system only for product type adherence to the contract requirements.
- Power system study/analysis/settings will be performed and prepared by others (the Contractor). HEI’s review of the study will be general in nature and limited to one objective only which is to ensure system compliance with the major topics and



boundaries established by the contract documents as the study is performed by another licensed engineer and the study outcome is assumed to be respectable and reliable.

“Task-200-CPS”

**Attending Limited Construction
Progress Meetings and Performing
Occasional Site Visits**

Work Included

- During the Construction Phase Services, **HEI** will attend a maximum total count of five (12) construction progress meetings specific to work designed by HEI, three and one half (3.5) hours per meeting, excluding travel, meeting minute review, and preparation of meeting minutes. Also included in this task is a maximum total count of five (12) partial site visits specific to work *designed by HEI*. During the visit, which shall be performed immediately subsequent to a construction meeting, engineer(s) shall observe construction progress for general conformance and shall notify the respective field engineers and/or the City’s project representative if discrepancies are found between the design documents and the field conditions. The field visits provided under this Task do not constitute field inspections.
- The attendance of one (1) pre-construction meeting of three (3) hours duration with two (2) **HEI** representatives in attendance, excluding travel time, is included in the scope of services.
- The attendance of four (4) meetings, each of two (2) hours duration, excluding travel and meeting minute review time, is included in the scope of services for supplementary meetings as requested by the Contractor and/or Owner. Site visits associated with these meetings are not included.
- The attendance of one (1) Field Instrumentation and Control pre-submittal conference required by construction specification section 17100 is included in the scope of services. It is assumed that the pre-submittal conference shall be of three (3) hours duration with two (2) **HEI** representatives in attendance, excluding travel time.

This Task does not include effort associated with addressing unanticipated field discoveries, unplanned interruptions and/or construction mishaps that may warrant additional attention.

Note: Preparation of meeting minutes is not included in this Task.



“Task-300-CPS”

Developing Final Project Punch List

HEI shall:

- Issue a punch list at the end of the project for the Electrical and I&C Systems
- Perform one (1) follow up visit associated with the final punch list and update the list accordingly.
- Developed punch lists shall apply to Electrical and I&C Systems as well as process/mechanical equipment with electrical, instrumentation, or control system components. The level of effort included in this Task applies if HEI provides the Core I&C Startup services for the project.
- HEI shall advise AECOM of the conditions in search for proper measures in order to use this Task in an efficient manner.
- It is assumed that the City project representative will follow-up and validate the completion of the punch list items until all items are executed by the Contractor.

“Task-400-CPS”

Review and Reply to Contractor Submitted Request For Information (RFI's), and Clarification Type Questions

Work Included

The interpretations and clarifications referred in this section are Contractor/Owner submitted Requests for Information (RFI), and clarification type questions submitted by the City's representative(s) and/or the Contractor for the Electrical and I&C Systems designed by HEI. This task is based upon an average team man-hour distribution of eight man-hours per month.

This Task does not include effort associated with addressing unanticipated field discoveries, unplanned interruptions and/or construction mishaps that may warrant additional attention.

HEI shall:

- Review and respond to RFI's and clarification type questions associated with the Electrical and I&C Systems designed by HEI. This effort will be provided to the estimated limits of the Contract (Engineering Services Agreement).
- HEI is under the assumption that the City project representative will exert all diligent efforts to address and resolve Contractor's and Owner's clarification type of questions at field level prior to needing to transfer the same to HEI.
- Coordinate with Austin Water Utility electrical staff, Contractor, equipment manufacturers, etc.



“Task-500-CPS” Development of Record Drawings

Work Included

HEI will provide AECOM with Record drawings only for the Electrical and Instrumentation and Control portion of the work designed by HEI. The following additional work is associated with this task

HEI shall:

- Prepare Record Drawings for the Electrical and I&C Systems designed by HEI from the clearly-marked and clearly-recorded hardcopy record drawings provided by the Contractor.

It is assumed that where electronically scanned drawings were employed in the construction drawings, the record drawings generated under this Scope will also remain as scanned drawings and the construction drawings will not be redrawn, converted, or otherwise manipulated to appear otherwise in the record drawing set.

HEI is under the assumption that AECOM will furnish an electronic copy of the consolidated record drawings (all trades included) at the end of the Construction Period of this project. Electronic drawing file format shall be in Adobe Portable Document Format (PDF).

Deliverables:

The deliverables to the City of Austin associated with this Task are as follows:

- One (1) electronic copy of HEI developed record drawings on CD-ROM. Electronic drawing file format shall be in AutoCAD (dwg) and full size Adobe Portable Document Format (PDF). Hardcopy record drawings will not be provided.

**“Task-600-CPS” Top-End Programming, Desktop OIU
Computer Configuration, and PLC
Programming**

Work Included

This task includes the effort necessary to program the Top-End computers, PLC and Desktop OIU computer at the Filter Building systems associated with the instrumentation and control systems designed by HEI for the permanent systems associated with Filter Improvements project. The work performed under this Task shall be limited to that addressed by Contract Drawings and



Specifications. The programming shall be performed in adherence to the requirements of the process control narratives.

It is assumed that AECOM will provide a control narrative and process setpoints for the implementation of algorithms associated with the automation, control, shutdown, and alarming of the proposed systems. It is assumed that the Owner shall make available all OIU and Top-End system software and hardware to HEI in a timely manner as required for programming by HEI as defined in this Task.

Effort to modify the Owner's existing Top-End system is limited to that described by this Task. It is assumed that the City of Austin will provide the existing Top-End, and PLC programs for the existing equipment. It is assumed that the existing Top-End system as well as existing PLC programs are in perfect working condition.

The disk filter process/mechanical equipment for this project will be provided with a packaged control system. For the purposes of this Scope, a packaged control system is a control system that is designed and furnished by a process/mechanical equipment manufacturer that includes field instruments, PLCs, and a local user interface touchscreen. The disk filter process/mechanical equipment manufacturer has design responsibility for the proper operation of the disk filter packaged control system. For this project, the disk filter manufacturer will program the disk filter system packaged control system PLC as well as its associated local user interface touchscreen.

HEI shall:

- Use the Owner's existing programming standards to the extent possible for the programming of the permanent equipment.
- It is assumed that the programming of process/mechanical equipment with packaged control systems will be performed by the process/mechanical equipment manufacturer. While the filter manufacturer will program the local PLC and local touchscreen for the proposed filters, it is assumed that HEI will program the Top-End computer for the proposed filter system. Effort is included to develop Top-End graphics screens for the proposed filter system, inclusive of graphics development, database tag development, historical data collection, and trending for the proposed filter system. In addition, effort is included to coordinate data exchange points between the Top-End computer and the applicable process/mechanical packaged control system.
- Programming of the Top-End system so as to modify the existing filter system graphics screens to reflect the proposed renovated overall plant filtration system.
- Establish data management of and data communication with the proposed Peripheral I/O Devices (power metering and protective relaying) as well as between the proposed PLC systems
- Programming Filter Building PLC for monitoring, alarming, and control for process/mechanical equipment whose I/O wiring is interconnected with this PLC.
- Programming Filter Building PLC for polling power and machine monitoring data for proposed equipment
- Configure the Desktop OIU Computer at the Filter Building. This shall generally consist of importing existing Top-End system screens and developing means to select the use of



the local tag database as well as the SCADA computers in the Administration Building . It is anticipated that the same base screens will be used on the new Filter Building local OIU desktop computer as well as the existing SCADA computers in the Administration Building. The Filter Building screens will be modified to redirect the various screen elements to their appropriate data source.

- Develop Top-End computer system graphics associated with the modifications to the Filter Building and update the Top-End historical collection and trending system to incorporate the modifications to the Filter Building.
- Conduct two (2) meetings, each of four (4) hour average duration, inclusive of travel time, to discuss Top-End user interface screen development/layout, etc.
- In-office testing associated with software development work
- Install developed Top-End, PLC, and Desktop OIU software.
- Generate a listing of setpoints required for process variable ranges, alarm levels, and trip points. The effort shall include the generation of a table which consists of the listing of these setpoints descriptions. This table shall be provided to the appropriate team members for setpoint value collection.

Work Excluded:

The following work is excluded from this Task:

- PLC and OIU Training
- Development of any PLC and OIU Operations User Manual and/or Administrator User's Manual
- Any effort associated with temporary/interim electrical, instrumentation, and control systems

"Task-700-CPS"

**Core I&C System Startup and Testing
Services Assistance**

This task includes the effort necessary to assist in providing core process instrumentation and control system start-up assistance services related to the portion of the work designed by HEI for the permanent systems of the project. This task shall include assisting in core process instrumentation and control system checkout associated with the facility startup/commissioning of the permanent process mechanical equipment.

The effort associated with this task is estimated to be a maximum not to exceed period of 28-cumulative business days.

Prerequisites Activities



This task will commence only after the following prerequisite activities have been completed:

- The process instrumentation and control and electrical power system wiring of the related elements of the facility is completely tested by the Contractor, and all associated instrument loops and power equipment are calibrated, set, and tested by the Contractor awaiting an integrated system test.
- The completion of the PICS Operational Readiness Tests as required by Specification 17100 5.3 F in order not to lead to excessive hours expended.
- The receipt of the Contractor's letter notification stating that all PICS Operational Readiness Tests have been successfully completed as required in specification 17100 5.3 F.3.h is required prior to commencing.

This task includes:

- The testing associated with this Task will be associated with the permanently installed systems.
- In testing of the interface between the packaged systems and the Top-End, only communication with specific registers in the Vendor's PLC as outlined in the vendor's plant control interface table shall be tested for monitoring, alarming, and control (as applicable) at the Top-End computer. HEI shall not otherwise be involved with the vendor's packaged system testing.
- Performance of simulated tests of the process mechanical equipment and interconnecting hardwired monitoring, control, and alarming systems. The objective of these tests is to ensure that all equipment will operate, safely shut down, and alarm as required by the process control narratives published for this project.
- Performance of live start-up tests and fine tuning the operation of the interrelated permanent process mechanical monitoring, control, and alarming systems.
- HEI will direct the contractor in testing the hardwired/software system designed by HEI. HEI will assist in leading the I&C startup working alongside the contractor (ICS) to carry on the activity. The contractor remains responsible for the quality of the workmanship and performance of the system in accordance with the contract documents including specification 17100 of the contract documents. The core startup assistance services is provided by HEI to help the Owner insure that the tests are conducted to specification 17100 and to guide the contractor to a successful completion.
- HEI will lead the Pre-Startup Meeting that will determine the testing schedule, procedures and responsibilities of the startup team members. One (1) meeting is anticipated, for the PAT testing session associated with the permanently installed equipment.
- HEI shall incorporate outstanding discrepancies observed following the start-up activity of the permanent systems into the punch list documentation generated as described under Task 300-CPS.



“Task-800-CPS”

Top-End System and PLC Training

Work Included

HEI will perform training for Owner personnel at the Filter Building. The following additional work is associated with this task:

- Develop Filter Building operator training plan specific to the process/mechanical systems programmed by HEI in this project. Training plan shall include general description of control system modes operation as it applies to this project, general use of Desktop OIU Computer screens, and general use of manual pilot devices/indicators for control systems designed by HEI on this project.
- Conduct training sessions of Operations personnel for PLC and Desktop OIU Computer system of the Filter Building for the permanent installed system in accordance to training plan. Two (2) training sessions, with each session of four (4) hours duration, inclusive of travel time, is included.
- Develop Filter Building administrator training plan specific to the Filter Building PLC and Desktop OIU Computer system for those systems programmed by HEI in this project. Training plan shall include assignment of network IP addresses, Desktop OIU Computer screen maintenance, and Desktop OIU Computer and PLC general file system organization
- Conduct training sessions of Administration personnel for PLC and Desktop OIU Computer system of the Filter Building system in accordance to training plan. One (1) training session with four (4) hours duration, inclusive of travel time, is included.

Note: Training associated with the Disk Filter packaged control system is not included.

“Task-1000-CPS”

**Electrical, Instrumentation, and Control
System Warranty Services**

The services referred in this section concern AECOM/Owner submitted equipment warranty questions/issues submitted to HEI, reporting observed discrepancies under guarantees in the construction contract, and providing assistance for resolution of defects for the Electrical and I&C Systems. It is assumed that this Task will address only equipment malfunction issues and not hardware/software improvements or enhancements associated with process operational changes.

HEI shall:

- Review and respond to warranty type questions associated with the Electrical and I&C Systems. The estimated effort for this Task is based upon a twelve month consecutive calendar months after the final completion milestone of the construction contract. This



HARUTUNIAN ENGINEERING, INC.

Revision #6A
03-27-2014

South Austin Regional WWTP
Filter Improvements Project
Construction Phase
Electrical and I&C Scope of Services

effort will be provided to the estimated limits of the Contract (Engineering Services Agreement).

- Visit the site on average of once per month for twelve (12) months. This task effort is based upon an average of 4 man-hours per month.
- Attend a warranty close-out site visit at the end of the twelve month period.

*Revision #6A-1
03-27-2014*

TABLE - II
 South Austin Regional WWTP
 Filter Improvements Project
 Austin Water Utility, City of Austin, Texas
 Electrical and I&C System Engineering
HEI Task Summary
 Manhour and Cost Tabulation
 Construction Phase Engineering Services



WORK AREA DESCRIPTION	E-11 HRS.	E-10 HRS.	E-5 HRS.	A-1 HRS.	CD-3 HRS.	TOTAL COST
Loaded hourly rates used for this estimate	\$215	\$191	\$148	\$65	\$85	

BASIC CONSTRUCTION PHASE SERVICES

<i>Task 100 - CPS</i>						
Electrical, Instrumentation, and Control System Construction Documentation Review	0	47	387	62	0	\$70,283.00
<i>Task 200 - CPS</i>						
Attending Limited Construction Progress Meetings and Performing Occasional Site Visits	33	68	139	0	0	\$40,655.00
<i>Task 300 - CPS</i>						
Developing Final Project Punch List	4	11	58	8	0	\$12,065.00
<i>Task 400 - CPS</i>						
Review and Reply to Contractor Submitted Request For Information (RFI's), and Clarification Type Questions	23	23	138	4	0	\$30,022.00
<i>Task 500 - CPS</i>						
Development of Record Drawings	4	8	84	4	98	\$23,410.00

SUBTOTAL - Basic Construction Phase Services	64	157	806	78	98	\$176,435.00
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Expenses	\$1,103.00
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Subtotal Labor & Expenses - Basic Construction Phase Services \$177,538.00

Revision #6A-1
03-27-2014

TABLE - II
South Austin Regional WWTP
Filter Improvements Project
Austin Water Utility, City of Austin, Texas
Electrical and I&C System Engineering
HEI Task Summary
Manhour and Cost Tabulation
Construction Phase Engineering Services



WORK AREA DESCRIPTION	E-11 HRS.	E-10 HRS.	E-5 HRS.	A-1 HRS.	CD-3 HRS.	TOTAL COST
Loaded hourly rates used for this estimate	\$215	\$191	\$148	\$65	\$85	

GROUP 1 PROGRAMMING SERVICES

<i>Task-600 - CPS</i> Top-End Programming, Desktop OIU Computer Configuration, and PLC Programming ⁽¹⁾	15	145	631	0	0	\$124,308.00
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SUBTOTAL - Group 1 Programming Services	15	145	631	0	0	\$124,308.00
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Expenses	\$0.00
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Subtotal Labor & Expenses - Group 1 Programming Services						\$124,308.00
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GROUP 2 STARTUP SERVICES

<i>Task-700 - CPS</i> Core I&C System Startup and Testing Services Assistance ⁽¹⁾	0	84	172	0	0	\$41,500.00
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SUBTOTAL - Group 2 Startup Services	0	84	172	0	0	\$41,500.00
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Expenses	\$752.00
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Subtotal Labor & Expenses - Group 2 Startup Services						\$42,252.00
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Revision #6A-1
03-27-2014

TABLE - II

South Austin Regional WWTP
Filter Improvements Project
Austin Water Utility, City of Austin, Texas
Electrical and I&C System Engineering



HEI Task Summary
Manhour and Cost Tabulation
Construction Phase Engineering Services

WORK AREA DESCRIPTION	E-11 HRS.	E-10 HRS.	E-5 HRS.	A-1 HRS.	CD-3 HRS.	TOTAL COST
Loaded hourly rates used for this estimate	\$215	\$191	\$148	\$65	\$85	

GROUP 3 TRAINING SERVICES

<i>Task-800 - CPS</i>	0	12	28	0	0	\$6,436.00
Top-End System, PLC, and OIU Training ⁽¹⁾						

SUBTOTAL - Group 3 Training Services	0	12	28	0	0	\$6,436.00
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Expenses	\$0.00
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<i>Subtotal Labor & Expenses - Group 3 Training Services</i>	\$6,436.00
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GROUP 5 WARRANTY SERVICES

<i>Task 1000 - CPS</i>	4	4	40	1	0	\$7,609.00
Electrical, Instrumentation, and Control System Warranty Services						

SUBTOTAL - Group 5 Warranty Services	4	4	40	1	0	\$7,609.00
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Expenses	\$73.00
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<i>Subtotal Labor & Expenses - Group 5 Warranty Services</i>	\$7,682.00
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*Revision #6.A-1
03-27-2014*

TABLE - II
 South Austin Regional WWTP
 Filter Improvements Project
 Austin Water Utility, City of Austin, Texas
 Electrical and I&C System Engineering
HEI Task Summary
 Manhour and Cost Tabulation
 Construction Phase Engineering Services



WORK AREA DESCRIPTION	E-11 HRS.	E-10 HRS.	E-5 HRS.	A-1 HRS.	CD-3 HRS.	TOTAL COST
Loaded hourly rates used for this estimate	\$215	\$191	\$148	\$65	\$85	
SUBTOTAL OF BASIC, GROUP 1, GROUP 2, GROUP 3, AND GROUP 5 SERVICES	83	402	1677	79	98	\$356,288.00
	SUBTOTAL OF BASIC, GROUP 1, GROUP 2, GROUP 3, AND GROUP 5 Expenses					\$1,928.00
Grand Total of Labor & Expenses - Basic, Group 1, Group 2, Group 3, and Group 5 Services						\$358,216.00

Notes:

- 1.) Excludes effort associated with temporary/interim electrical, instrumentation, and control systems.



HARUTUNIAN ENGINEERING, INC.

Revision #7B
04-09-2014

South Austin Regional WWTP
Filter Improvements Project
Construction Phase
Electrical and I&C Scope
of Supplementary Services

CONSTRUCTION PHASE SERVICES

AT THE

**SOUTH AUSTIN REGIONAL WWTP
FILTER IMPROVEMENTS PROJECT
AUSTIN WATER UTILITY
CITY OF AUSTIN, TEXAS**

**Electrical and I&C Systems
CONSTRUCTION PHASE SERVICES**

SCOPE OF SUPPLEMENTAL SERVICES

C.I.P. NO. XXX.XXX

Submitted By
Harutunian Engineering, Inc. (HEI)



HARUTUNIAN ENGINEERING, INC.

Revision #7B
04-09-2014

South Austin Regional WWTP
Filter Improvements Project
Construction Phase
Electrical and I&C Scope
of Supplementary Services

This scope of supplemental services shall be considered as an integral part of South Austin Regional WWTP Filter Improvements Project Electrical and I&C Systems Construction Phase Services Scope of Services, revision 6A, dated March 27, 2014, upon acceptance by AWU/AECOM.

"Task-610-CPS"

**Assistance with AWU Host Pack
Documentation**

This task includes the effort necessary to enter information into the AWU developed Host Pack documentation templates associated with the Top-End/PLC system programming work performed by HEI and other information determined by HEI. This Task also includes effort to advise the Contractor in entering information into the AWU Host Pack template. This task includes effort to consolidate the data provided by the Contractor with that developed by HEI into a single Host Pack electronic file for the project and submit this Host pack to the AWU.

This task includes effort to coordinate with the Owner regarding the Host Pack.

"Task-710-CPS"

**Core I&C System Startup and
Testing Services Assistance for the
Disk Filter Packaged System**

The anticipated elements of work during this task are:

- Assist in providing core process instrumentation and control system start-up assistance services related to the portion of the work designed by the Disk Filter Manufacturer for the permanent disk filter packaged systems of the project.
- Observe as the filter vendor performs the required testing of their system. It is assumed that the filter vendor will develop the instrumentation and control system start-up procedures for the testing of their system and will provide a copy of the same to HEI. Field test results will be documented onto the forms developed by Contractor.
- This task anticipates coordination effort will occur with the disk filter manufacturer during construction regarding this matter.
- This task anticipates the implementation of the disk filter system as shown on the bid documents.



Time allocated to this task is allocated to be a maximum not to exceed period of 18 cumulative business days, independent of the effort associated with Task 700-CPS. Should the time expended exceed the time allocated, then HEI shall notify AECOM for disposition. As the task effort is executed, HEI shall advise AECOM of the conditions in search for proper measures in order to use this Task in an efficient manner.

Prerequisites Activities

This task will commence only after the following prerequisite activities have been completed:

- The process instrumentation and control and electrical power system wiring of the related field elements of the disk filter packaged control system is completely and successfully tested at the factory by the packaged filter system equipment manufacturer prior to shipment to the project site, and all associated instrument loops and power equipment are also calibrated, set, and tested at the factory by the packaged filter system equipment manufacturer prior to shipment to the project site.
- The process instrumentation and control and electrical power system wiring of the related field elements of the disk filter packaged control system is completely tested by the Contractor, and all associated instrument loops and power equipment are calibrated, set, and tested by the Contractor awaiting an integrated system test.
- The completion of the PICS Operational Readiness Tests in the field as required by Specification 13390 in order not to lead to excessive hours expended.
- The completion, approval, and receipt of the Contractor's filter instrumentation and control system start-up procedures.
- The receipt of the Contractor's letter notification stating that all PICS Operational Readiness Tests have been successfully completed as required in specification 13390 is required prior to commencing.

This task includes:

- The testing associated with this Task will be associated with the permanently installed disk filter packaged systems.
- The contractor and disk filter manufacturer shall perform the hardwired/software system testing designed by the disk filter manufacturer. HEI will observe the final I&C system startup of the filter manufacturer's packaged control system working alongside the contractor and the filter manufacturer field-startup personnel to carry on the activity. The contractor remains responsible for the quality of the workmanship and performance of the system in accordance with the contract documents including specification 13390 of the contract documents.



- HEI will attend one (1) Pre-Startup Meeting that will determine the testing schedule, procedures and responsibilities of the startup team members as determined by the Contractor. It is anticipated that this meeting will discuss the testing session associated with the permanently installed disk filter packaged system equipment.

“Task-720-CPS”

**Developing and Submitting PAT
Test Procedures and PAT Test
Results Documentation**

This task includes the effort necessary to develop test procedure and test results documentation associated with the permanent PLC and Top-End software modifications performed under Task 600-CPS.

This task also includes the effort necessary to develop test procedure and test results documentation associated with the process instrumentation and control system start-up assistance services for the permanent systems of the project tested under Task 700-CPS.

This task includes the effort necessary to develop test procedure and test results documentation for PLC input/output points, discrete input/output points for the proposed motor management relays, and control panel hardwired control logic operation for the proposed permanent modifications made under this project.

This task includes:

- Receive the control summary table provided by AECOM, decompose the table contents into definable statements which can be tested. Compose test procedure and results form based upon these statements.
- Develop test procedure and results form based upon the engineered hardwired control logic for the proposed modifications to the filter building. Testing of the existing air conditioning, heating, and ventilation system is excluded.
- Review the meeting decisions from Task 600-CPS related with any supplemental control algorithm and alarming added during the meetings that may not be contained in the original process operation narrative/tables. Decompose the meeting decisions into definable statements which can be tested. Compose test procedure and results form based upon these statements.
- Submit test procedure and results form for review by the Owner. One (1) interim submittal is anticipated of these forms. Incorporate the Owner’s review comments.
- Incorporate actual field test results on to test forms and submit to the Owner.

Revision #7B-1
04-09-2014

TABLE - II

South Austin Regional WWTP
Filter Improvements Project
Austin Water Utility, City of Austin, Texas
Electrical and I&C System Engineering



HEI Task Summary
Manhour and Cost Tabulation
Construction Phase Engineering Supplemental Services

WORK AREA DESCRIPTION	E-11 HRS.	E-10 HRS.	E-5 HRS.	A-1 HRS.	CD-3 HRS.	TOTAL COST
Loaded hourly rates used for this estimate	\$215	\$191	\$148	\$65	\$85	

GROUP 6 SERVICES

Task-610 - CPS Assistance With AWU Host Pack Documentation ⁽¹⁾	0	9	42	0	0	\$7,935.00
Task-710 - CPS Core I&C System Startup and Testing Services Assistance for the Disk Filter Packaged System ⁽¹⁾	0	30	208	0	0	\$36,514.00
Task-720 - CPS Developing and Submitting PAT Test Procedure and PAT Test Results Documentation ⁽¹⁾	0	15	58	2	0	\$11,579.00

SUBTOTAL - Group 6 Services	0	54	308	2	0	\$56,028.00
						Expenses \$460.00
Subtotal Labor & Expenses - Group 6 Services						\$56,488.00

Notes:

1.) Excludes effort associated with temporary/interim electrical, instrumentation, and control systems.

Tunnell, Kitty

From: Eckols, Shelby <Shelby.Eckols@aecom.com>
Sent: Monday, May 19, 2014 2:20 PM
To: Tunnell, Kitty
Cc: Parks, Steve
Subject: RE: SA #3 - SAR Wastewater Treatment Plant Filter Imp. (CT11040700843)
Attachments: SAR Filter RAP 05-19-14.xls

Kitty,

Per your request, attached is the revised RAP.

Relative to the travel issue, we fully understand the COA does not pay for travel within the Austin metropolitan area. The intent of the statement in our proposal is to address any travel that may be requested such as a trip to Houston or some other place that would require time and cost to make the trip. Our statement is routinely included in all of our proposals and it has never been an issue in the past.

Shelby Eckols, PE
Senior VP
Central Region
AECOM Water
D 512.457.7715
C 512.585.2133
shelby.eckols@aecom.com

AECOM
400 West 15th Street, Suite 500
Austin, TX 78701
T 512.472.4519 F 512.472.7519
www.aecom.com

From: Tunnell, Kitty [<mailto:Kitty.Tunnell@austintexas.gov>]
Sent: Monday, May 19, 2014 10:26 AM
To: Eckols, Shelby
Cc: Parks, Steve
Subject: RE: SA #3 - SAR Wastewater Treatment Plant Filter Imp. (CT11040700843)

Shelby,

This proposal has not been executed for the following reasons:

1. Attachment 1: Resource Allocation Plan – “Start Date, End Date, % Complete, % Paid and % Time” were not completed; and
2. Your proposal, page 5, Construction Phase Services 3. stated that “Travel and subsistence required of AECOM, and authorized by the City of Austin, to points other than local governmental agencies, consultants and project site.” Please provide clarification. (Refer to PSA General Conditions of the Agreement, Section 5, Compensation, 5.2.1.3, “Mileage costs for travel within the Austin metropolitan area are to be included in Consultant’s overhead rate and not billed separately as a reimbursable expense.”)

In addition, please enter "\$19,190,000 Based on Installation of 16 Filters" and "April 24, 2014" in the Approved Fixed Construction Budget box.

Please provide the above listed information back to me ASAP.

Thank you,

Kitty Tunnell

From: Eckols, Shelby [<mailto:Shelby.Eckols@aecom.com>]
Sent: Monday, May 19, 2014 8:57 AM
To: Tunnell, Kitty; Parks, Steve
Subject: RE: SA #3 - SAR Wastewater Treatment Plant Filter Imp. (CT11040700843)

Kitty,

Any update on the status of the contract?

Shelby Eckols, PE
Senior VP
Central Region
AECOM Water
D 512.457.7715
C 512.585.2133
shelby.eckols@aecom.com

AECOM
400 West 15th Street, Suite 500
Austin, TX 78701
T 512.472.4519 F 512.472.7519
www.aecom.com

From: Tunnell, Kitty [<mailto:Kitty.Tunnell@austintexas.gov>]
Sent: Tuesday, May 06, 2014 7:39 AM
To: Parks, Steve
Cc: Eckols, Shelby
Subject: RE: SA #3 - SAR Wastewater Treatment Plant Filter Imp. (CT11040700843)

It is pending for Legal Dept. review and signatures.

Thanks,

Kitty Tunnell

From: Parks, Steve
Sent: Tuesday, May 06, 2014 6:55 AM
To: Tunnell, Kitty
Cc: Eckols, Shelby (Shelby.Eckols@aecom.com)
Subject: RE: SA #3 - SAR Wastewater Treatment Plant Filter Imp. (CT11040700843)

Kitty – Can you tell me where we are on this?



Austin SWIFT Loan Application
Part A, Item 6
Walnut Creek WWTP
Filtration Project
Engineering Contracts with Black & Veatch Corporation

B&V ENGINEERING CONTRACTS



PURCHASE ORDER
(MODIFIED DOCUMENT)
PO CITY SINGLE

PAGE NO: 1
REFERENCE NUMBER: CT 6100 11050500944
P.O DATE: 09/19/14
PRICE AGREEMENT #:

V CORPORATE HEADQUARTERS
E BLA7158805 AD005
N BLACK & VEATCH CORP
D 8400 WARD PKWY
O
R KANSAS CITY MO 64114-2031

S Cont. & Land Mgmt-Contract Procurement
H
I Contract Procurement
P 105 Riverside Dr. Suite 210
Austin TX 78704-1249
T
O

B Cont. & Land Mgmt-Contract Procurement
I
L Contract Procurement
L PO Box 1088, Suite 1000
Austin TX 78767-1088
T
O

Requestor: Steve Parks, 972-0244
Buyer: See CLMD Solicitation, 512-974-7181


The City's standard purchase terms and conditions are hereby incorporated into this order by reference, with the same force and effect as if they were incorporated in full text. The full versions are available at https://www.austintexas.gov/financeonline/vendor_connection/index.cfm#STANDARDBIDDOCUMENTS or call the Purchasing Office at (512) 974-2500. Please include above reference number on all packages, deliveries, and invoices.

Line	Quantity	Unit	Commodity Information / Description (s)										Unit Price	Extended Amount		
1			Commodity:	92517	Civil Engineering						0.000000	\$ 1,978,347.00				
					Walnut Crk WWTP & South Austin Regional WWTP Filter Imp											
			Line	Fund	Dept	Unit	Objt	Actv	Func	Rept	Task Ord	Prog	Prog Period	Line Amount		
			1	4480	2307	8235	5590	3211		2800				\$ 1,978,347.00		
2			Commodity:	92517	Civil Engineering						0.000000	\$ 53,188.00				
					Walnut Creek WWTP and South Austin Regional WWTP Filter Improvements											
			Line	Fund	Dept	Unit	Objt	Actv	Func	Rept	Task Ord	Prog	Prog Period	Line Amount		
			1	4480	2307	8235	5590	3211		2800				\$ 53,188.00		
3			Commodity:	92517	Civil Engineering						0.000000	\$ 387,045.00				
					SA # 4 - Civil Engineering											
					Phases B&C on the RAP ++ Enc. \$299,794.00											
			Line	Fund	Dept	Unit	Objt	Actv	Func	Rept	Task Ord	Prog	Prog Period	Line Amount		
			1	4480	2307	8235	5590	3211		2800				\$ 387,045.00		

Order Total: \$ 2,418,580.00

VENDOR INSTRUCTIONS:

1. SEND ORIGINAL INVOICE WITH DUPLICATE COPY TO THE CITY DEPARTMENT TO WHICH THE GOOD(S) WERE DELIVERED.
2. SHIPPING INSTRUCTIONS: F.O.B. DESTINATION UNLESS OTHERWISE SPECIFIED.
3. NO FEDERAL OR STATE SALES TAX SHALL BE INCLUDED IN PRICES BILLED. LIMITED SALES TAX #74-6000085.



Authorized Agent for City Manager
 By acceptance of this purchase order, you agree to comply with the terms and conditions incorporated herein by reference and made a part of this order.

9/19/14

Date

PSA/SA COVER SHEET

FROM: Steve Parks, Project Manager
 TO: CMD Contract Development Workgroup
 DATE: 9/5/2014
Contract Title: Walnut Creek Wastewater Treatment Plant Filter Improvements
CIP ID: 3023.025
Solicitation No.: CLMP034
Contract Number: CT 6100 11050500944

Enclosed are three (3) signed copies of the above referenced document. After execution, CMD will process financial transaction and provide 1 original to PM, 1 original to Consultant, and 1 original to CMD file room.

Consultant Contact, Name, & Address: Black & Veatch Corp.
 1701 Directors Boulevard, Suite 940
 Austin, TX 78744

Project Authorization History	
Council Authorization Date(s): 5/27/2010	\$1,500,000.00
Administrative Authority (at Council Award):	\$52,000.00
Council Authorization Date(s): 10/18/2012	\$575,608.00
Council Authorization Date(s): 8/28/2014	\$299,794.00
Council Authorization Date(s):	
Council Authorization Date(s):	
Council Authorization Date(s):	
Total Amount of Authorization	\$2,427,402.00

Previous Agreement History:	
Initial PSA:	\$379,000.00
SA#1:	\$53,188.00
SA#2:	\$1,599,347.00
SA#3:	\$87,251.00
SA#4:	
SA#5:	
SA#6:	
Total Amount of all Previous Agreements:	\$2,118,786.00

Amount to Encumber Now for this Consultant	SA#4 \$299,794.00
---	-------------------

Total Amount of all Agreements for this Consultant	\$2,418,580.00
Total Amount of all Agreements (List Total Master Agreement Amount)	For rotation lists only

PM Must Provide the Following Information and Sign:

1. Will Federal or State funds be used to fund this contract? NO
2. Fund: 4480 Dept: 2307 Unit: 8235 Object Code: 5590 Activity Code: 3211

PM Name: Steve Parks
 PM Signature: Steve Parks

Digitally signed by Steve Parks
 DN: cn=Steve Parks, o=City of Austin, ou=Public Works Department,
 email=steve.parks@austintexas.gov, c=US
 Date: 2014.09.05 12:17:26 -0500



City of Austin

CONTRACT AND LAND MANAGEMENT DEPARTMENT

Contract Procurement Division

P. O. Box 1088, Austin, TX 78767

Telephone: (512) 974-7181 Fax: (512) 974-7297

May 17, 2011

Jon D. Cherry, Vice President
Black & Veatch Corporation.
1701 Directors Boulevard, Suite 940
Austin, TX 78744

RE: Professional Services Agreement
Walnut Creek Wastewater Treatment Plant Filter Improvements
Solicitation No.: CLMP034

Dear Mr. Cherry:

Enclosed please find your executed contract for the referenced project.

Additionally, for your convenience, attached is a Subcontractor Expenditure Report (Sub-k) reflecting all the sub-consultants approved by the Contract and Land Management Department, Small and Minority Business Resources (SMBR), which you must complete and submit with each pay application. Please ensure the amounts and Pay Estimate Number reported on the Sub-k is relative to the Pay Estimate being submitted.

Please note, in order to make any changes or additions to the sub-consultant(s) reflected in the Sub-k you must submit to the City, for approval, a Request for Change in Compliance Plan Form.

If you have any questions, please feel free to call the Project Manager, Ramesh Swaminathan @ 512/972-0244.

Sincerely,

David G. Prado, CPM
Contract Compliance Specialist, Sr.
Contract & Land Management Department

Construction/Professional Services - Subcontract (Subk) Supplier Awards Expenditure Report

Month / Year May / 2011

Invoice No.

Project Description: Walnut WW Treatment Plant Filter Improvements
Contractor: Black & Veatch Corporation
Contractor Vendor ID: BLA7156805
City Project Manager: Ramesh Swaminathan (512) 972-0244

Contract Start Date: 18-Apr-11
Contract Amount:
Total Expended: \$0.00
C.I.P. ID #: (Capris Sub-project #):

Contract Type: Professional Services Agreement
Solicitation No.: CLMP065
Contract No: MA PA110000022

Table with 2 columns: MBE/DBE, Solicitation Goals, Current Participation (Based on Expenditures). Rows include MBE (15.80%), AA (0.00%), H (0.00%), Native/Asian (0.00%), W (15.80%), DBE, etc.

Main table with columns: Subcontractor/Suppliers Name, Vendor Code, Cert Code, Gender, Ethnicity, Initial Contract Amount, Contract Changes, Current Contract Amount, Amount This Invoice, Total Amount Paid to Date, Remaining Balance. Lists various engineering and construction firms.

Certification Statements:
Verify the information on this report is complete and accurate with respect to all subcontractors performing work on this contract.
... Current Contract Amount = Prior Contract Amount (+/-) Contract Changes

Signature of Contractor
Printed/Typed Name of Contractor
Date
Phone No.

* Certification Code
MBE = Certified Minority Owned Business
WBE = Certified Woman Owned Business
DBE = Certified Other Owned Business
NO = Non-Certified Business
** Gender Ethnicity
FA=Female Asian, FB=Female Black, FH=Female Hisp, FN=Female Native American, FW=Female Anglo, MA=Male Asian, MB=Male Black, MH=Male Hispanic

MONTHLY PAY APPLICATION WILL NOT BE PROCESSED WITHOUT THE COMPLETION OF THIS FORM

**AGREEMENT BETWEEN THE CITY OF
AUSTIN, TEXAS AND CONSULTANT**

This AGREEMENT made as of this 18 day of April, 2011

BETWEEN: The City of Austin, Texas, a Municipal Corporation situated in
Travis County, Texas
P.O. Box 1088
Austin, Texas 78767

hereinafter referred to as "OWNER",

and:

Black & Veatch Corporation

hereinafter referred to as "CONSULTANT",

For the following PROJECT:

CIP ID: 3023.025

Walnut Creek Wastewater Treatment Plant Filter Improvements

The OWNER is represented herein for all purposes of this AGREEMENT by the Director of the Department of Public Works, or such other representative as may be authorized by the City Manager of the City of Austin.

The CONSULTANT employs professionals duly licensed to practice in the State of Texas, has the professional abilities, experience, expertise and facilities to provide such professional services, and agrees to undertake and furnish said services in accordance with this AGREEMENT.

The OWNER and the CONSULTANT agree to the terms and conditions of AGREEMENT specified in the General Terms and Conditions and the Supplemental Terms and Conditions, attached hereto and made a part of this AGREEMENT.

This AGREEMENT is executed to be effective upon the date of the last party to sign.

City of Austin, OWNER
P.O. Box 1088
Austin, Texas 78767

Black & Veatch Corporation, CONSULTANT

1701 Directors Boulevard
Suite 940
Austin, TX 78744

By: Frank Mays
Printed Name: Frank Mays
Title: Contract Compliance Manager
Contract Procurement Division
Contract & Land Management Department
Date: 4-18-11

By: Jon D. Cherry
Printed Name: Jon D. Cherry
Title: Vice President
Date: April 13, 2011

Approved As To Form:

Attest:

By: 
Assistant City Attorney

By: 
Secretary, if a Corporation

The CONSULTANT is bound by a Code of Ethics and guided by rules and restrictions of a State licensing board. Contact the appropriate licensing board if an issue regarding ethics or the practice of consulting arises.

END

**PROFESSIONAL SERVICES AGREEMENT
GENERAL CONDITIONS OF THE AGREEMENT**

General Conditions Table of Contents

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**PROFESSIONAL SERVICES AGREEMENT
GENERAL CONDITIONS OF THE AGREEMENT**

SECTION 1 - CONSULTANT'S RESPONSIBILITIES

1.0 General

The CONSULTANT will serve as the OWNER'S professional consultant in those phases of the PROJECT as stated in the **Supplemental Terms and Conditions of this AGREEMENT**, and will consult and advise the OWNER during the performance of the CONSULTANT's services. The OWNER agrees to compensate the CONSULTANT for those services in accordance with Section 5. CONSULTANT shall report to OWNER's designated PROJECT Manager as defined in subparagraph 11.7.1.1 of the **Supplemental Terms and Conditions of this AGREEMENT**.

1.1 Performance of Services

The CONSULTANT will perform services under this AGREEMENT with the degree of skill and diligence normally practiced by professional engineers, architects, or consultants performing the same or similar services.

1.1.1 The CONSULTANT's employees and the CONSULTANT's associated subconsultants to be used in the performance of PROJECT professional services (as described in subsection 1.4) are identified in Attachment 2. The CONSULTANT must disclose any potential conflict of interest relating to the CONSULTANT, the CONSULTANT's employees, a subconsultant or supplier. Failure to disclose any such conflicts may be grounds for termination under subsection 7.5 of this AGREEMENT by the OWNER.

1.1.2 The person identified as PROJECT manager by the CONSULTANT, identified in Attachment 2, must be employed by the CONSULTANT.

1.1.3 The CONSULTANT is registered to do business with the OWNER and is responsible for ensuring that all subconsultants are registered as vendors with the City of Austin. All subconsultants have been registered with the OWNER prior to execution of this AGREEMENT.

1.1.4 The CONSULTANT agrees not to modify any subconsultant's design after subconsultant's seal has been affixed except with written consent of the subconsultant. The CONSULTANT is fully responsible for the subconsultants' performance and obligations under this AGREEMENT.

1.1.5 The CONSULTANT's key employees and the CONSULTANT's associated subconsultants to be employed in the performance of the PROJECT professional services, shall not be changed except with the OWNER's prior written approval, which will not be unreasonably withheld.

1.1.6 The CONSULTANT shall obtain OWNER's written approval prior to terminating, adding or substituting subconsultants. In the event that the CONSULTANT proposes to add, substitute, or terminate an identified "Minority-Owned Business Enterprise" (MBE) or a "Women-Owned Business Enterprise" (WBE) certified subconsultant firm from its employ on this PROJECT, the CONSULTANT shall comply with the City of Austin MBE/WBE Program, Chapter 2-9A, Austin City Code, and the goals established in the PROJECT solicitation. If the CONSULTANT is unable to substitute a subconsultant firm in compliance with the Austin City Code, the CONSULTANT shall provide OWNER with written documentation of their good faith efforts to acquire the services of a MBE/WBE replacement firm. All requests to change the CONSULTANT's MBE/WBE Compliance Plan must include documentation to support the request.

**PROFESSIONAL SERVICES AGREEMENT
GENERAL CONDITIONS OF THE AGREEMENT**

1.1.7 If the OWNER notifies the CONSULTANT that a member of the CONSULTANT's team, including subconsultants, is incompetent, disorderly, abusive, or disobedient, or has knowingly or repeatedly violated any federal, state, or local law, the CONSULTANT shall immediately remove any such person from performing work on the PROJECT. The OWNER's prior written consent must be obtained before any such person may be reinstated. Replacement of any subconsultant removed from the PROJECT must be in accordance with paragraph 1.1.6. The OWNER may report any breaches of professional codes of ethics to the appropriate licensing board.

1.1.8 The CONSULTANT will attend and draft complete minutes of each PROJECT design and construction meeting between CONSULTANT and OWNER and/or CONSULTANT and other agencies, and submit them to OWNER for approval within seven (7) calendar days after each PROJECT conference.

1.1.9 The CONSULTANT shall prepare and submit all appropriate permit applications and supporting drawings, specifications and other documents in the name of the City of Austin to utility companies and providers and governmental authorities having jurisdiction over the PROJECT and shall obtain all approvals and all development and building permits necessary to complete the PROJECT in accordance with the PROJECT Resource Allocation Plan (RAP) described in Section 4, or as otherwise specified by OWNER. Development and permitting fees may be paid for in one of the following methods as mutually agreed:

- (a) Paid by CONSULTANT and billed to OWNER as a reimbursable or
- (b) Payment coordinated through the OWNER using an internal payment transfer document.

1.1.10 The CONSULTANT agrees to attend and make presentations, as specified in the attached scope of services (Attachment 1) as Basic Services, including (i) Board and Commission meetings, (ii) public meetings, and (iii) internal City of Austin meetings. Any other presentations required by OWNER will be considered Additional Services in accordance with Paragraph 1.4.6 of the **Supplemental Terms and Conditions of this AGREEMENT** and paid for in accordance with Paragraph 5.1.3.

1.1.11 The CONSULTANT shall not knowingly specify, request or approve for use any asbestos containing materials or lead-based paint without the OWNER's prior written approval. For materials specified on the basis of performance criteria, the CONSULTANT shall include a requirement in the specifications effectively stating that "Asbestos containing materials or lead-based paint are prohibited from being used in the project." When a specific product is specified, the CONSULTANT shall make best efforts to verify that the product does not include asbestos containing material. The CONSULTANT agrees to execute a Statement of Non-Inclusion of Asbestos Containing Material, on a form provided by OWNER, both prior to design and upon completion of the Construction Documents Phase.

1.1.12 The CONSULTANT shall prohibit discrimination in employment based upon race, creed, color, religion, national origin, sexual orientation, gender identity, disability, veteran status, sex or age, in compliance with Chapter 5-4-2, Austin City Code. A copy of the CONSULTANT's non-discrimination policy has been provided prior to execution of this AGREEMENT.

1.2 Laboratory Services

If laboratory services are provided for the PROJECT by the CONSULTANT or its subconsultant(s) through this AGREEMENT, these services must be performed by a properly accredited laboratory. The CONSULTANT will provide evidence to the OWNER of such accreditation on an annual basis for the duration of this AGREEMENT.

1.3. Quality Control Plan (QCP)

**PROFESSIONAL SERVICES AGREEMENT
GENERAL CONDITIONS OF THE AGREEMENT**

1.3.1 The CONSULTANT agrees to perform quality assurance-quality control/ constructability reviews in accordance with the CONSULTANT's approved Quality Control Plan (QCP) work plan described in Attachment 3, that is incorporated by reference and which includes any subsequent revisions approved by OWNER. The QCP is to be submitted to the OWNER for approval within fourteen (14) calendar days after the OWNER's issuance of a Notice to Proceed to the CONSULTANT. In addition to providing the reports required by the QCP, the CONSULTANT agrees to address any QCP comments from the OWNER and provide resolution to the OWNER's satisfaction. In the event the OWNER retains a separate consultant to perform additional QCP services for the OWNER, the CONSULTANT will provide all necessary information to the OWNER, address any comments from the OWNER's consultant, and provide resolution to the OWNER's satisfaction. The CONSULTANT shall include this language in all its subconsultant contracts to ensure subconsultants understand their responsibility for complying with the OWNER's or OWNER's consultant's QCP requirements.

1.3.2 The QCP reviews will be performed by a staff member of the CONSULTANT not involved in day-to-day PROJECT tasks. If the CONSULTANT does not have the internal staff capacity to provide for this independent review, the CONSULTANT must include a QCP subconsultant on the PROJECT team. The person performing the QCP reviews shall certify, seal and attest that the final construction bid documents have been drafted in full compliance with the QCP.

1.3.3 The CONSULTANT will perform QCP reviews at intervals during the design phase, specified in the QCP, to ensure plans, specifications, and drawings satisfy accepted quality standards and meet the requirements of the PROJECT scope. Based on the findings of the QCP reviews, the CONSULTANT must reconcile the project scope and budget as needed. Documentation will be included that verifies interdisciplinary coordination has occurred.

1.3.4 The CONSULTANT will perform constructability reviews, using persons with construction experience, at appropriate intervals, during the design phase, specified in the QCP to ensure that the PROJECT is buildable, as well as cost-effective, biddable, and maintainable. Based on the findings of the constructability reviews, the CONSULTANT shall redesign the PROJECT, as required, to conform to the Fixed Construction Budget as described in Section 3.3. The CONSULTANT will provide interim construction estimates to verify that the PROJECT is within the Fixed Construction Budget as further described in the phase descriptions in the **Supplemental Terms and Conditions of this AGREEMENT.**

1.3.5 Acceptance and/or approval of the CONSULTANT's QCP documentation by the OWNER do not constitute a release of the responsibilities and liability of the CONSULTANT for the accuracy and competency of its QCP reviews and final construction documents.

1.4 Basic Services

The CONSULTANT will, in the scope of their work and in conformance with the approved PROJECT Resource Allocation Plan (RAP), perform the basic services described in 1.4.1 et seq of the **Supplemental Terms and Conditions of this AGREEMENT.** These basic services shall be provided in phases and/or parts only as authorized by the OWNER (in subsequent written Supplemental Amendments to proceed).

SECTION 2 - OWNER'S RESPONSIBILITIES

2.1 The OWNER will:

2.1.1 Provide its requirements for the PROJECT.

2.1.2 Designate the OWNER's Project Manager.

**PROFESSIONAL SERVICES AGREEMENT
GENERAL CONDITIONS OF THE AGREEMENT**

2.1.3 Provide a "Fixed Construction Budget for the PROJECT" as defined in subsection 3.1 prior to negotiation of this AGREEMENT.

2.1.4 Assist CONSULTANT by placing at their disposal readily available (i) reports; (ii) property, boundary, easement, right-of-way, topographic and utility surveys; (iii) zoning and deed restrictions; and (iv) other data relevant to the development of the PROJECT.

2.1.5 Assist CONSULTANT in gaining entry to public property and private property, only when necessary, as may be required by the CONSULTANT in the performance of their services under this AGREEMENT.

2.1.6 Review and provide written comments on documents and questions presented by the CONSULTANT and render decisions pertaining thereto within seven (7) calendar days. The OWNER will review and provide written comments on periodic plan and specifications submittals within fourteen (14) calendar days. OWNER shall immediately notify CONSULTANT if additional time is needed.

2.1.7 Give prompt written notice to the CONSULTANT whenever the OWNER observes or otherwise becomes aware of any defect in the CONSULTANT's work product or services.

2.1.8 Direct CONSULTANT, by way of written Supplemental Amendment to this AGREEMENT (see Subsection 4.2), to provide any necessary Additional Services beyond those authorized in the approved PROJECT RAP or as stipulated in the **Supplemental Terms and Conditions of this AGREEMENT**.

SECTION 3 - FIXED CONSTRUCTION BUDGET

3.1 The "Fixed Construction Budget" means the amount allocated by OWNER for the PROJECT construction contract, which can only be adjusted by OWNER's prior written approval.

3.2 Fixed Construction Budget does not include the compensation of the CONSULTANT and the CONSULTANT'S subconsultants, the cost of the land, rights-of-way, or other costs which are the responsibility of the OWNER.

3.3 Responsibility for Fixed Construction Budget

3.3.1 CONSULTANT is responsible for designing the PROJECT to be constructible within the Fixed Construction Budget. The CONSULTANT will determine what materials, equipment, component systems and types of construction to include in the Contract Documents, make reasonable adjustments in the scope of the PROJECT with the OWNER's consent, and, with the OWNER's approval, develop bid alternates.

3.3.2 If the Fixed Construction Budget is exceeded by the lowest responsible bid, the OWNER shall either:

- (1) give written approval of an increase in the Fixed Construction Budget;
- (2) authorize rebidding of the PROJECT within a reasonable time;
- (3) abandon the PROJECT; or
- (4) cooperate in revising the PROJECT scope and quality as required to reduce the construction cost.

**PROFESSIONAL SERVICES AGREEMENT
GENERAL CONDITIONS OF THE AGREEMENT**

In the case of (2) and/or (4), the CONSULTANT, without additional compensation, shall perform those services to produce the Drawings and Specifications as necessary to comply with the Fixed Construction Budget provided that the bidding or rebidding processes occur within six (6) months of the date that the CONSULTANT delivered the final bid documents to OWNER. If the bidding or rebidding processes occur after that six (6) month period, the CONSULTANT is entitled to additional compensation.

3.3.3 Bid Alternates

3.3.3.1 If, under the OWNER's direction, the CONSULTANT prepares the bid documents to include bid alternates as a means to keep the PROJECT cost within the Fixed Construction Budget, the CONSULTANT's compensation will remain the established fee amount irrespective of the outcome of bids. In the event the base bid is not within the Fixed Construction Budget, Paragraph 3.3.2 of this AGREEMENT governs. The OWNER's acceptance of the base bid or bid alternates will not change the CONSULTANT's fee amount.

3.3.3.2 If, under the OWNER's direction, the CONSULTANT prepares bid documents that include bid alternates, and OWNER has advised CONSULTANT that such alternates may not be within the Fixed Construction Budget, the CONSULTANT must track the cost of any such alternates. Compensation for the requested bid alternates will be as follows:

(1) If the bid for the alternates requested by OWNER is within the Fixed Construction Budget, there is no change in the fee.

(2) Otherwise, the work to reconfigure the Bid Documents to include the requested bid alternates will be considered Additional Services with compensation to be determined in accordance with Subsection 5.1 of this AGREEMENT.

SECTION 4 - RESOURCE ALLOCATION PLAN (RAP)

4.1 The CONSULTANT agrees to complete the phases of services in accordance with the approved PROJECT Resource Allocation Plan (RAP), which is Attachment 1 of this AGREEMENT, and the applicable standard of professional care. A specific time period will be set for each phase.

4.2 Supplemental Amendments

4.2.1 Before additional work may be performed or additional costs incurred beyond what is specified in the approved PROJECT RAP, both parties must execute a written Supplemental Amendment. The OWNER is not responsible for actions by the CONSULTANT or any costs incurred by the CONSULTANT relating to additional work prior to the execution of the Supplemental Amendment. Any amendment must be executed within the time period established in the PROJECT RAP.

4.2.1.1 More Time Needed. If the CONSULTANT determines or reasonably anticipates that the PROJECT cannot be completed before the specified completion date, the CONSULTANT shall submit a RAP revision to the OWNER for approval. The OWNER may, at its sole discretion, extend the authorized PROJECT period.

4.2.1.2 Changes in Scope. Changes that would modify the scope of work authorized for the PROJECT must be established by a Supplemental Amendment. If the change in scope affects the schedule or CONSULTANT's fee for the PROJECT, the CONSULTANT shall prepare a revised PROJECT budget and RAP for the OWNER's approval.

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4.2.1.3 Rate Revisions. The City will consider annual revisions to the rates shown in Attachment 2 only if requested by the CONSULTANT and will issue any such approvals as a Supplemental Amendment. However, rate revisions will not be considered until at least one (1) year after the date of this AGREEMENT or any subsequent amendments relating to rate revisions.

4.2.2 The OWNER may ask the CONSULTANT to submit a proposal for additional work that is within the defined scope of work under this AGREEMENT. The amount to be paid for the proposed additional work will be a lump sum for each proposal. The CONSULTANT may, without penalty, elect not to submit a proposal. If both parties agree to the proposal for additional work, the parties must execute a written Supplemental Amendment and revise the RAP.

4.3 If the OWNER sustains actual damages as a result of willful or negligent failure of the CONSULTANT to furnish services in compliance with the approved PROJECT RAP described in this Section 4 and subsequent approved amendments in accordance with Subsection 4.2, the CONSULTANT agrees to compensate the OWNER for the cost of such damages in accordance with Section 8, itemized costs of which will be provided to the CONSULTANT by the OWNER. The OWNER agrees to provide the CONSULTANT written notification of such damages as the cost is being incurred.

4.4 The CONSULTANT is not liable or responsible for OWNER delays or suspensions of services. If the CONSULTANT is delayed through no fault of its own, written time extension requests may be submitted to the OWNER for approval. These requests will be reviewed only if submitted to OWNER within (14) calendar days of the occurrence unless force majeure conditions exist.

4.5 If the CONSULTANT fails to meet the approved PROJECT RAP schedule, including subsequently approved amendments, OWNER may elect to invoke remedies outlined in Section 8 of this AGREEMENT.

4.6 Time required by the OWNER to review and return documents to the CONSULTANT following their submittal during and after each phase will be included in the approved PROJECT RAP.

SECTION 5 - COMPENSATION

5.1 Basis of Compensation

5.1.1 The OWNER will compensate the CONSULTANT for the Scope of Services described in the approved PROJECT RAP or as subsequently amended, in accordance with Subsection 5.3, *PAYMENTS TO THE CONSULTANT*, and the other Terms and Conditions of this AGREEMENT, as follows:

5.1.1.1 No advance payment will be paid to the CONSULTANT prior to rendering services.

5.1.1.2 Payments for Basic Services will be made monthly in proportion to services performed within each phase of services, as shown in the PROJECT RAP.

5.1.1.3 For Basic Services of Subconsultants, a multiple of one and five hundredth (1.05) times the amount billed to the CONSULTANT for such services will be paid.

5.1.2 The total amount of compensation to be paid the CONSULTANT will not exceed the amount stated in paragraph 5.1.2.1 of the **Supplemental Terms and Conditions of this AGREEMENT** without amendment to this AGREEMENT.

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5.1.3 *Compensation for Additional Services*

5.1.3.1 For *PROJECT REPRESENTATION BEYOND BASIC SERVICES* as described in Subparagraph 1.4.6 of the **Supplemental Terms and Conditions of this AGREEMENT**, compensation will be made for Additional Services in accordance with the schedule of hourly rates shown in Attachment 2.

5.1.3.2 Principals may only bill at the hourly rate of Principals when acting in that capacity. Principals acting in the capacity of staff must bill at staff rates. The CONSULTANT shall provide documentation with each payment request that clearly indicates how that individual's time is allocated and the justification for that allocation.

5.1.3.3 For *ADDITIONAL SERVICES OF SUBCONSULTANTS* a multiple of one and five hundredth (1.05) times the amounts billed to the CONSULTANT for such services will be paid.

5.1.4 *Compensation for Reimbursable Expenses*

5.1.4.1 For *REIMBURSABLE EXPENSES*, as described in Subsection 5.2, a multiple of one and five hundredths (1.05) times the amounts expended by the CONSULTANT, the CONSULTANT'S employees and subconsultants in the interest of the PROJECT will be paid.

5.1.4.2 The OWNER is a tax-exempt organization as defined by Chapter 11 of the Property Tax Code of Texas. OWNER will furnish CONSULTANT with a Sales Tax Exemption Certification to be issued to suppliers in lieu of tax. If payment of the sales tax is unavoidable in a specific case, the CONSULTANT will be reimbursed by the OWNER for any such costs incurred.

5.1.5 OWNER and the CONSULTANT agree in accordance with the Terms and Conditions of this AGREEMENT that:

5.1.5.1 If OWNER determines the scope of the PROJECT or CONSULTANT'S Services are changed materially, compensation will be equitably adjusted through negotiation.

5.1.5.2 If OWNER determines the Services covered by this AGREEMENT have not been completed within the time specified in the PROJECT RAP, through no fault of the CONSULTANT, the amounts of compensation, rates and multiples set forth herein may be adjusted through negotiation.

5.1.6 *Period of Service*

5.1.6.1 This AGREEMENT will remain in force for that period required to complete the PROJECT (including required extensions thereto) unless discontinued by any of the several provisions contained elsewhere in this AGREEMENT. The total period of service is stated in subparagraph 5.1.2.1 of the **Supplemental Terms and Conditions of the AGREEMENT**.

5.1.6.2 CONSULTANT'S failure to meet the approved PROJECT RAP may result in the assessment of remedies as described in Section 8 of this AGREEMENT.

5.2 Reimbursable Expenses

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Reimbursable Expenses are part of Basic Services and include actual expenditures made by the CONSULTANT and the CONSULTANT's employees and subconsultants in performing services for the PROJECT for the expenses listed in the following Subsections. CONSULTANT must submit invoices or other similar documentation for Reimbursable Expenses as part of a payment request. The OWNER is a tax exempt entity and will not reimburse the CONSULTANT for any tax expenses. The OWNER will consider exceptions on a case-by-case basis. **Reimbursable Expenses are limited to these specific items:**

5.2.1 By prior written approval of the OWNER, reasonable transportation and living expenses in connection with out-of-town travel.

5.2.1.1 All travel and lodging expenses in connection with the AGREEMENT for which reimbursement may be claimed will be reviewed against the City's Travel Policy and the current (at the time the travel occurs) the General Services Administration (GSA) Domestic Per Diem Rates (the "GSA Rates") at http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA_BASIC&contentId=17943&noc=T. Amounts in excess of the Travel Policy or GSA Rates will not be paid. All invoices must be accompanied by copies of receipts (e.g. hotel bills, airline tickets).

5.2.1.2 Reimbursement will be made only for expenses actually incurred. Airline fares in excess of coach or economy will not be reimbursed.

5.2.1.3 Mileage charges for rental cars in connection with out-of-town travel may not exceed the amount permitted as a deduction in any year under the Internal Revenue Code or Regulations. Mileage costs for travel within the Austin metropolitan area are to be included in CONSULTANT's overhead rate and not billed separately as a reimbursable expense.

5.2.2 Fees paid for securing approval of authorities having jurisdiction over the PROJECT.

5.2.3 Reproduction expenses for drawings, specifications and all other documents required for bidding, OWNER submittals, and for file copies of CONSULTANT, Contractor, and OWNER, and other parties approved by the OWNER.

5.2.4 Expense of renderings, models and mock-ups requested by the OWNER.

5.2.5 Expense of reproducing record drawings for the OWNER on sepia, mylars or plastic film.

5.2.6 Reproduction expense for drawings, specifications and any other documentation to be submitted to utility owners and governmental authorities having jurisdiction over the PROJECT. Interim review plots or drawings for CONSULTANT and subconsultants are not reimbursable.

5.3 Payments to the Consultant

5.3.1 *Payments for Basic Services*

5.3.1.1 Payments for Basic Services, including Reimbursable Expenses, will be made monthly in accordance with the approved PROJECT RAP on the basis set forth in Subsections 5.1 and 5.2. CONSULTANT shall submit the application for payment using the form supplied by OWNER.

5.3.2 *Payments for Additional Services*

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5.3.2.1 Payments for the CONSULTANT'S Additional Services as defined in Subsection 1.4.6 of the **Supplemental Terms and Conditions of this AGREEMENT** may be made no more often than monthly upon presentation by CONSULTANT of an acceptable statement of Additional Services rendered and/or expenses incurred. Each statement must include the form supplied by the OWNER, copies of supporting invoices, time sheets, and any other evidence of expense as required by the OWNER.

5.3.3 *Payments Withheld*

The OWNER may withhold, amend, or nullify any request for payment by the CONSULTANT under conditions that include those described in Subparagraphs 5.3.3.1 through 5.3.3.7 below .

5.3.3.1 Failure of the CONSULTANT to follow the approved schedule and meet all phase and milestone requirements specified in the PROJECT RAP.

5.3.3.2 OWNER'S receipt of notice that, despite payment to CONSULTANT for services rendered by subconsultants, CONSULTANT has not paid subconsultants for services invoiced to and paid by OWNER within fourteen (14) calendar days of CONSULTANT's receipt of payment from OWNER.

5.3.3.3 Payments for subconsultants' costs when those subconsultants are not included in the approved MBE/WBE compliance plan.

5.3.3.4 Failure of the CONSULTANT to submit timely and complete records of PROJECT conference proceedings as specified in Paragraph 1.1.8.

5.3.3.5 Failure of the CONSULTANT to submit timely and complete weekly reports of its job site observations containing detailed information as specified in Paragraph 1.4.4.5.2 of the **Supplemental Terms and Conditions of this AGREEMENT**.

5.3.3.6 Failure of the CONSULTANT to provide updated record drawings and Contractor's record contract documents to the OWNER within thirty (30) calendar days after Contractor's record contract documents have been provided to the CONSULTANT by the Contractor upon substantial or final completion of the PROJECT.

5.3.3.7 Failure to make timely payment to the City of Austin for taxes.

5.3.4 *Prompt Payments*

The OWNER shall make payment to CONSULTANT of the sum named in a payment application within thirty (30) calendar days after the day on which the OWNER received the mutually acceptable payment application. If the OWNER fails to make such prompt payment, then OWNER will pay CONSULTANT, in addition to the amount owed for the payment application, interest thereon at the rate specified in Government Code, Section 2251.025(b) from date due until fully paid, which shall fully liquidate any injury to CONSULTANT growing out of such delay in payment.

The OWNER cannot make a partial payment on an invoice in dispute. The CONSULTANT may resubmit an invoice for the undisputed amount or wait for payment until the dispute has been resolved. The thirty (30) calendar days restarts after the OWNER receives a corrected payment application.

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5.3.5 *Payment for Project Suspension or Termination*

5.3.5.1 If the PROJECT is suspended or abandoned in whole or in part for more than three months, the CONSULTANT will be compensated for all services performed prior to receipt of written notice from the OWNER of such suspension or abandonment, together with Reimbursable Expenses then due. If the PROJECT is resumed after being suspended for more than three months, the CONSULTANT'S compensation may be equitably adjusted through negotiation. If the parties cannot agree on an adjustment, OWNER may terminate the AGREEMENT in accordance with Subsection 7.6.

SECTION 6 - INSURANCE REQUIREMENTS

6.1 The CONSULTANT shall carry insurance in the types and amounts indicated below for the duration of the AGREEMENT:

6.1.1 Workers' Compensation and Employers' Liability Insurance Coverage with limits consistent with statutory benefits outlined in the Texas Workers' Compensation Act (Section 401) and (1) minimum policy limits for Employers Liability Insurance of \$100,000 bodily injury each accident, \$500,000 bodily injury by disease policy limit and \$100,000 bodily injury by disease each employee; or (2) as otherwise required in the **Supplemental Terms and Conditions of this AGREEMENT**. The CONSULTANT's policy must be issued by an insurer licensed or approved to do business in the State of Texas and include these endorsements in favor of the OWNER:

- (a) Waiver of Subrogation, form WC 420304, or equivalent.
- (b) 30 day Notice of Cancellation, form WC 420601, or equivalent.

6.1.2 Commercial General Liability Insurance with a minimum combined bodily injury and property damage per occurrence limit of \$500,000 for coverages A & B unless otherwise stated in the **Supplemental Terms and Conditions of this AGREEMENT**. The policy must contain the following provisions:

- (a) Blanket contractual liability coverage for liability assumed under this AGREEMENT and all contracts relative to this PROJECT.
- (b) Independent Contractors coverage.
- (c) OWNER listed as an additional insured, endorsement CG 2010, or equivalent.
- (d) 30 day Notice of Cancellation in favor of the OWNER, endorsement CG 0205, or equivalent.
- (e) Waiver of Transfer Right of Recovery Against Others in favor of the OWNER, endorsement CG 2404, or equivalent.
- (f) Aggregate limits of insurance per project, endorsement CG 2503, or equivalent.

6.1.3 Business Automobile Liability Insurance for all owned, non-owned and hired vehicles (1) with a minimum combined single limit of \$500,000 per accident for bodily injury and property damage; or (2) \$250,000 bodily injury per person, \$500,000 bodily injury per occurrence and at least \$100,000 property damage liability; or (3) as otherwise required in the **Supplemental Terms and Conditions of this AGREEMENT**. The policy shall contain the following endorsements in favor of the OWNER:

- (a) Waiver of Subrogation endorsement TE 2046A, or equivalent.
- (b) 30 day Notice of Cancellation endorsement TE 0202A, or equivalent.
- (c) Additional Insured endorsement TE 9901B, or equivalent.

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6.1.4 CONSULTANT's Professional Liability Insurance to pay on behalf of the assured all sums which the assured becomes legally obligated to pay as damages by reason of any negligent act, error, or omission committed or alleged to have been committed with respect to plans, maps, drawings, analyses, reports, surveys, change orders, designs or specifications prepared or alleged to have been prepared by the assured. The policy must provide for 30 day notice of cancellation in favor of the OWNER. The minimum limit is specified in subparagraph 6.1.4.1 of the **Supplemental Terms and Conditions of this AGREEMENT**.

6.2 General Requirements

6.2.1 The CONSULTANT must complete and forward the OWNER'S standard certificate of insurance to the OWNER before the AGREEMENT is executed, as verification of coverage required in Paragraphs 6.1.1 through 6.1.4 above. The CONSULTANT shall not commence services until the required insurance has been obtained and until such insurance has been reviewed by the OWNER's Office of Contract and Land Management. Approval of insurance by the OWNER does not relieve or decrease the liability of the CONSULTANT hereunder and must not be construed to be a limitation of liability on the part of the CONSULTANT

6.2.2 Applicable to all insurance policies: If coverage is underwritten on a claims-made basis, the retroactive date must be coincident with or prior to the date of this AGREEMENT and the certificate of insurance must state that the coverage is claims made and the retroactive date. The CONSULTANT shall maintain continuous coverage for the duration of this AGREEMENT and for not less than twenty-four (24) months following substantial completion of the PROJECT. Coverage, including any renewals, must have the same retroactive date as the original policy applicable to the PROJECT. The CONSULTANT shall, on at least an annual basis, provide the OWNER with a certificate of insurance as evidence of such insurance.

6.2.3 The CONSULTANT's insurance coverage must be written by companies licensed or approved to do business in the State of Texas at the time the policies are issued and must be written by companies with A.M. Best ratings of B+VII or better unless otherwise required in the **Supplemental Terms and Conditions of this AGREEMENT**. The OWNER will accept workers' compensation coverage written by the Texas Workers Compensation Insurance Fund

6.2.4 All endorsements naming the OWNER as additional insured, waivers, and notices of cancellation endorsements as well as the certificate of insurance will indicate: City of Austin, Office of Contract and Land Management, P.O. Box 1088, Austin, Texas 78767.

6.2.5 The "other" insurance clause will not apply to the OWNER where the OWNER is an additional insured shown on any policy. It is intended that policies required in the AGREEMENT, covering both the OWNER and the CONSULTANT, be considered primary coverage as applicable.

6.2.6 If insurance policies are not written for amounts specified above, the CONSULTANT shall carry Umbrella or Excess Liability Insurance for any differences in amounts specified. If Excess Liability Insurance is provided, it must follow the form of the primary coverage.

6.2.7 The OWNER shall be entitled, upon request and without expense, to receive certified copies of policies and endorsements thereto and may make any reasonable requests for deletion or revision or modification of particular policy terms, conditions, limitations, or exclusions except where policy provisions are established by law or regulations binding upon either of the parties hereto or the underwriter on any such policies.

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6.2.8 The OWNER reserves the right to review the insurance requirements set forth during the effective period of this AGREEMENT and to make reasonable adjustments to insurance coverage, limits and exclusions when deemed necessary and prudent by the OWNER based upon changes in statutory law, court decisions, the claims history of the industry or financial condition of the insurance company as well as the CONSULTANT.

6.2.9 The CONSULTANT shall not cause any insurance to be canceled nor permit any insurance to lapse during the term of the AGREEMENT or as required in the AGREEMENT.

6.2.10 The CONSULTANT shall be responsible for premiums, deductibles and self-insured retentions, if any, stated in policies. All deductibles or self-insured retentions shall be disclosed on the certificate of insurance.

6.2.11 The CONSULTANT shall provide OWNER thirty (30) days written notice of erosion of the aggregate limits below occurrence limits for all applicable coverages indicated within the AGREEMENT.

6.2.12 If OWNER-owned property is being transported or stored off-site by the CONSULTANT, then the appropriate property policy will be endorsed for transit and storage in an amount sufficient to protect OWNER's property.

6.2.13 The insurance coverages required under this AGREEMENT are required minimums and are not intended to limit the responsibility or liability of the CONSULTANT.

6.3 CONSULTANT shall determine appropriate types and levels of insurance coverage to be provided by subconsultants and advise the subconsultants of the documentation to be provided to CONSULTANT to verify coverage.

SECTION 7 - TERMINATION OF AGREEMENT

7.1 The rights to terminate this AGREEMENT provided in this Section 7 are in addition to, and cumulative of, all other rights and remedies available to the parties at law or in equity.

7.2 This AGREEMENT may be terminated by the CONSULTANT upon at least seven (7) calendar days written notice should the OWNER substantially fail to perform in accordance with the OWNER's responsibilities through no fault of the CONSULTANT.

7.3 Notice to Cure.

OWNER will provide a Notice to Cure to the CONSULTANT to cure an event of default described in this Section and/or an anticipatory breach of contract. The CONSULTANT must attend a meeting with the OWNER regarding the Notice to Cure, the event of default, and/or the anticipatory breach of contract. The Notice to Cure will set forth the time limit in which the cure is to be completed or commenced and diligently prosecuted. Upon receipt of any Notice to Cure, the CONSULTANT must prepare a report describing its program and measures to affect the cure of the event of default and/or anticipatory breach of contract within the time required by the Notice to Cure. The CONSULTANT's report must be delivered to the OWNER at least three (3) business days prior to the required Notice to Cure meeting with the OWNER.

7.4 This AGREEMENT may be terminated by the OWNER upon at least seven (7) calendar days written notice to the CONSULTANT in the event that the PROJECT is abandoned or indefinitely postponed.

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7.5 This AGREEMENT may be terminated by the OWNER for cause upon seven (7) calendar days written notice. In the event OWNER terminates the AGREEMENT for cause, the OWNER may reject any and all proposals submitted by CONSULTANT for up to three (3) years. In the event that a termination for cause is found to be wrongful, the termination shall be converted to a termination without cause ("termination for convenience") as set forth in Subsection 7.6 and CONSULTANT's sole remedy for such termination will be limited to the recovery of payments permitted under Subsection 7.6.

The OWNER may terminate for cause due to the occurrence of any one of the following:

7.5.1 If CONSULTANT persistently fails to perform the work in accordance with the AGREEMENT, in particular the approved PROJECT RAP;

7.5.2 If CONSULTANT disregards laws or regulations of any public body having jurisdiction;

7.5.3 If CONSULTANT makes fraudulent statements;

7.5.4 If CONSULTANT fails to make adequate progress and endangers timely and successful completion of the AGREEMENT, which failure includes failure of subconsultants to meet contractual obligations;

7.5.5 CONSULTANT's failure under 7.5.4 includes failure of subconsultants to meet contractual obligations; or

7.5.6 If CONSULTANT otherwise violates in any substantial way any provisions of the AGREEMENT.

7.6 This AGREEMENT may be terminated at the OWNER'S convenience upon seven (7) calendar days written notice; in which event, the CONSULTANT will be compensated for all services performed to termination date, together with Reimbursable Expenses then due, in accordance with Subsection 7.7, and the OWNER retains the right to continue the PROJECT consistent with paragraph 11.2.4.

7.7 In the event of termination not the fault of the CONSULTANT, the CONSULTANT will be compensated for all services performed to termination date, together with Reimbursable Expenses then due without the right to compensation for anticipated profits on services not completed. CONSULTANT will submit to the OWNER, within the timeframe set in the termination notice, all work and documents prepared to that point. Fixed-fee payment to the CONSULTANT, if applicable, shall be proportional to services performed to the date of termination.

SECTION 8 - OWNER REMEDIES

8.1 The OWNER and CONSULTANT agree that in the event of a delay in completion for which the OWNER suffers actual damages, the OWNER may elect to pursue its actual damages and any other remedy allowed by law. Conditions under which the OWNER may seek other damages include, but are not limited to:

8.1.1 Failure of the CONSULTANT to make adequate progress in accordance with paragraph 7.5.4 above.

8.1.2 Failure of the CONSULTANT to design in compliance with the laws of City, State and federal governments as specified in Paragraph 1.4.2 of the **Supplemental Terms and Conditions of this AGREEMENT**, such that subsequent compliance costs exceed expenditures which would have been involved had services been

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properly executed by the CONSULTANT. The CONSULTANT will financially participate in the OWNER'S financial losses for those non-value added compliance costs.

8.1.3 Losses are incurred, despite the Quality Control Plan (QCP), because of defects, errors and omissions in the design, working drawings, specifications or other documents prepared by the CONSULTANT to the extent that the financial losses are greater than the OWNER would have originally paid had there not been defects, errors and omissions in the documents. The CONSULTANT will financially participate in the OWNER'S financial losses for those non-value added work costs.

8.2 Pursuant to Section 6.1.4, the OWNER may assert a claim against the CONSULTANT's professional liability insurance as appropriate when other remedies are not available or offered for design deficiencies discovered during and after PROJECT construction. When the OWNER incurs non-value added work costs for change orders due to design errors or omissions, the OWNER will send the CONSULTANT a certified cost recovery claim letter that includes

- (1) summary of facts with supporting documentation;
- (2) instruction for CONSULTANT to revise design documents, if appropriate, at CONSULTANT's expense;
- (3) calculation of non-value added work costs incurred by the OWNER; and
- (4) deadline for CONSULTANT's response.

The CONSULTANT will provide a preliminary response to OWNER's cost recovery claim letter within seven (7) calendar days of receipt of the claim letter. The CONSULTANT must submit a formal documented response to the claim letter to the OWNER within fourteen (14) calendar days of the date of the preliminary response. The CONSULTANT will provide the payment requested by OWNER within thirty (30) calendar days of OWNER's acceptance of the CONSULTANT's formal response or the CONSULTANT will request alternative dispute resolution, as described in subsection 10.2 of this AGREEMENT, within fourteen (14) calendar days of OWNER's rejection of the CONSULTANT's formal response.

8.3 The CONSULTANT may be required to revise bid documents and re-advertise the PROJECT at the CONSULTANT's sole cost (including printing) if, in the OWNER's judgment, the CONSULTANT generates excessive addenda, either in terms of the nature of the revisions or the actual number of changes due to the CONSULTANT's errors or omissions.

8.4 Decisions to Withhold Payment

8.4.1 OWNER may withhold or nullify the whole or part of any payment to such extent as may be necessary because of conditions outlined in paragraph 5.3.3 "Payments Withheld".

SECTION 9 - CONSULTANT REMEDIES

9.1 If the CONSULTANT is prevented from completing any part of the PROJECT within the time established in the RAP due to delays beyond the reasonable control of either the OWNER or the CONSULTANT, an extension of the PROJECT schedule in an amount equal to the time lost due to such delay shall be the CONSULTANT's sole and exclusive remedy. Performance interrupted by an act of god or the result of war, riot, civil commotion, sovereign conduct, or the conduct of a third party, will be excused for the period of time necessary to remedy the effect of the precipitating occurrence. In such cases, a conference will be held within three (3) working days of the end of the occurrence to establish a revised schedule in the RAP.

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9.2 CONSULTANT's requests for remedies arising from the terms of this AGREEMENT for conditions other than those specified in subsection 9.1 must be done in accordance with the following:

9.2.1 Within thirty (30) calendar days after the CONSULTANT could be reasonably expected to know of the occurrence prompting the request for an extension of time, the CONSULTANT must deliver a preliminary written notice to the OWNER describing the general nature of the request. Within thirty (30) calendar days after the preliminary notice, the CONSULTANT must provide the OWNER written supporting documentation stating all known time extensions to which the CONSULTANT is entitled.

9.2.2 Within thirty (30) calendar days of receipt of notice of the amount of the requested remedy with supporting data, OWNER and CONSULTANT will meet to discuss the request, after which an offer of settlement or notification of no settlement offer will be made to CONSULTANT. If CONSULTANT is not satisfied with the proposal presented, CONSULTANT will have thirty (30) calendar days in which to

- (1) submit additional supporting data requested by the OWNER;
- (2) modify the initial request for remedy; or
- (3) request Alternative Dispute Resolution.

SECTION 10 - DISPUTE RESOLUTION

10.1 Filing of Claims

10.1.1 Claims arising from the circumstances identified in this AGREEMENT, or other occurrences or events, shall be made by Written Notice delivered by the party making the Claim to the other party within thirty (30) calendar days after the start of the occurrence or event giving rise to the Claim and stating the general nature of the Claim. Notice of the amount of the Claim with supporting data shall be delivered in writing within thirty (30) calendar days after Written Notice of Claim is delivered by claimant and shall represent that the adjustment claim covers all known amounts and/or extension of time to which claimant is entitled.

10.1.2 Within thirty (30) calendar days of receipt of notice of the amount of the Claim with supporting data, the OWNER and CONSULTANT shall meet to discuss the Claim, after which an offer of settlement or notification of no settlement offer will be made to claimant. If claimant is not satisfied with the proposal presented, claimant shall have thirty (30) calendar days in which to: (i) submit additional supporting data requested by the other party; (ii) modify the initial Claim; or (iii) request Alternative Dispute Resolution.

10.2 Alternative Dispute Resolution

10.2.1 If a dispute exists concerning a CONSULTANT or OWNER, the parties agree to use the following procedure prior to pursuing any other available remedies.

10.2.2 Negotiating with Previously Uninvolved Personnel

Either party may make a written request for a meeting to be held between representatives of each party within fourteen (14) calendar days of the request or such later period that the parties may agree to. Each party shall endeavor to include, at a minimum, one (1) previously uninvolved senior level decision maker (an owner, officer, or employee of each organization) empowered to negotiate on behalf of their organization. If a previously uninvolved senior level decision maker is unavailable due to the size of the CONSULTANT's organization or any other reason, the CONSULTANT shall nonetheless provide an appropriate senior level decision maker for the meeting. The

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purpose of this and any subsequent meetings will be good faith negotiations of the matters constituting the dispute. Negotiations will be concluded within thirty (30) calendar days of the first meeting, unless mutually agreed otherwise.

10.3 Mediation

10.3.1 If the procedure described in 10.2.2 proves unsuccessful or is waived pursuant to its terms, the parties shall initiate the mediation process. OWNER and CONSULTANT agree to select within thirty (30) calendar days a mediator trained in mediation skills and knowledgeable of the CONSULTANT's professional discipline, to assist with resolution of the dispute. OWNER and CONSULTANT agree to act in good faith in the selection of the mediator and to give consideration to qualified individuals nominated to act as mediator. Nothing in this AGREEMENT prevents the parties from relying on the skills of a person who also is trained in the subject matter of the dispute and/or a contract interpretation expert. Should the parties fail to agree on a mediator within thirty (30) calendar days of initiation of the mediation process, the parties agree to ask the Travis County Dispute Resolution Center to select a qualified individual, which selection is binding on the parties.

10.3.2 Mediation is a forum in which an impartial person, the mediator, facilitates communication between parties to promote reconciliation, settlement, or understanding among them. The parties hereby agree that mediation, at a minimum, shall provide for

- (1) conducting an on-site investigation, if appropriate, by the mediator for fact gathering purposes;
- (2) a meeting of all parties for the exchange of points of view; and
- (3) separate meetings between the mediator and each party to the dispute for the formulation of resolution alternatives.

The parties agree to participate in mediation in good faith for up to thirty (30) calendar days from the date of the first mediation session, unless mutually agreed otherwise. Should the parties fail to reach a resolution of the dispute through mediation, then each party is released to pursue other remedies available to them.

10.4 Resolution of Disputes between CONSULTANT and Subconsultant:

The CONSULTANT agrees to follow the procedures paralleling those outlined in subsections 10.1, 10.2, and 10.3 in the event of a dispute with a subconsultant. The OWNER is not a party to the dispute resolution process between the CONSULTANT and subconsultants. However, if the OWNER is notified of a subconsultant claim, the OWNER will withhold payments to the CONSULTANT in accordance with subparagraph 5.3.3.2 until receiving notification that the claim has been resolved.

SECTION 11 - MISCELLANEOUS PROVISIONS

11.1 Owner's Right to Audit

11.1.1 "Records" means all records generated by or on behalf of CONSULTANT and each subconsultant, whether paper, electronic, or other media, which are in any way related to performance of or compliance with this Agreement, including, without limitation:

- .1 accounting records;
- .2 written policies and procedures;
- .3 subcontract files;
- .4 correspondence;
- .5 supplemental amendments to this AGREEMENT (as appropriate);

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- .6 agreements between CONSULTANT and any subconsultant;
- .7 records necessary to evaluate contract compliance and any claim submitted by CONSULTANT or any of its subconsultants;
- .8 any other CONSULTANT record that may substantiate any charge related to this Agreement; and
- .9 technical work products in accordance with the approved PROJECT RAP.

11.1.2 CONSULTANT shall allow OWNER's agent or its authorized representative to inspect, audit, and/or reproduce all Records generated by or on behalf of CONSULTANT and each subconsultant, upon OWNER's written request. Further, CONSULTANT shall allow OWNER's agent or authorized representative to interview any of CONSULTANT's employees, all subconsultants, and all their respective employees.

11.1.3 CONSULTANT shall retain all its Records, and require all its subconsultants to retain their respective Records, during this Agreement and for the longest of these specified periods: (i) three (3) years after final payment, (ii) until all audit and litigation matters that OWNER has brought to the attention of CONSULTANT are resolved, or (iii) longer if required by law. OWNER's right to inspect, audit, or reproduce Records (at no cost to OWNER), or interview employees of CONSULTANT or its respective subconsultants exists for the same period described in the preceding sentence.

11.1.4 CONSULTANT must provide sufficient and accessible facilities during its normal business hours for OWNER to inspect, audit, and/or reproduce Records, and to interview any person about the Records.

11.1.5 CONSULTANT shall insert these requirements in each written agreement between CONSULTANT and any subconsultant and require each subconsultant to comply with these provisions.

11.2 Ownership and Use of Documents

11.2.1 All PROJECT Drawings and Specifications produced by the CONSULTANT under this AGREEMENT are the property of the OWNER. The CONSULTANT shall also provide the OWNER high quality mylar and digital computer copies on CD or other OWNER-approved media of updated drawings and reproducible copies of specifications as specified in paragraph 1.4.2 of the **Supplemental Terms and Conditions of this AGREEMENT**. The cost of such copies will be paid as specified in Section 5 of this AGREEMENT. The CONSULTANT may not provide copies of or otherwise use the work products covered by this subsection 11.2 without the express prior written approval of the OWNER.

11.2.2 The CONSULTANT agrees that items such as plans, drawings, photos, designs, studies, specifications, computer programs, schedules, technical reports, or other work products which is/are specified to be delivered under this AGREEMENT, and which is/are to be paid for by the OWNER, is/are subject to the rights of the OWNER in effect on the date of this AGREEMENT. These rights include the right to use, duplicate and disclose such items in whole or in part, in any manner and for whatever purpose, and to have others do so. The CONSULTANT shall not copyright or otherwise claim ownership of the work products covered by this subsection 11.2. The CONSULTANT shall include in its subconsultant contracts appropriate provisions to achieve the purpose of this subsection 11.2.

11.2.3 All such items furnished by the CONSULTANT pursuant to this AGREEMENT are considered instruments of its services in respect to the PROJECT. It is understood that the CONSULTANT does not represent such items to be suitable for reuse on any other project or for any other purpose(s). If the OWNER reuses such items without the CONSULTANT's specific written verification or adaptation, such reuse will be at the risk of the OWNER, without liability to the CONSULTANT.

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11.2.4 Should the CONSULTANT be terminated under this AGREEMENT, the OWNER may continue the PROJECT and receive copies of the Drawings, Specifications, or other documents within fourteen (14) calendar days of the termination notice. Copies will be in the format designated by the OWNER, as specified in 1.4.2 or 1.4.5 of the **Supplemental Terms and Conditions of this AGREEMENT** (depending on the PROJECT's status at time of termination). The OWNER may have these documents completed, corrected, revised or added to by another design professional in accordance with Title 22, Chapter 137.33(i) of the Texas Administrative Code.

11.2.5 Submission or distribution to meet official regulatory requirements or for other purposes in connection with the PROJECT is not to be construed as publication in derogation of the CONSULTANT's rights.

11.3 Venue

11.3.1 In the event of any suit at law or in equity involving the AGREEMENT, venue will be exclusively in Travis County, Texas and the laws of the State of Texas shall apply to the interpretation and enforcement of this AGREEMENT.

11.4 Definitions

11.4.1 Terms in this AGREEMENT will have the same meaning as those in the standard purchasing and construction documents for the City of Austin, Texas. The applicable definitions may be viewed at <http://www.ci.austin.tx.us/purchase/downloads/ffb0100.pdf> and <http://www.ci.austin.tx.us/aeservices/toc.htm> respectively.

11.5 Severability

11.5.1 If any word, phrase, clause, sentence or provisions of this instrument, or the application of same to any person or set of circumstances is for any reason held to be unconstitutional, invalid or unenforceable, that finding only effects such word, phrase, clause, sentence or provision, and such finding does not effect the remaining portions of this instrument; this being the intent of the parties in entering into this instrument; and all provisions of this instrument are declared to be severable for this purpose.

11.6 Indemnification

11.6.1 The CONSULTANT shall indemnify and hold harmless the OWNER, and its officers, agents and employees, from and against all claims, demands, costs, causes of action, and liability of every kind and nature, including reasonable attorney's fees for the defense of any and all claims and demands, arising directly or indirectly from, or in any way connected with, the negligent performance of or failure to perform services in conformance with this AGREEMENT by CONSULTANT, its officers, agents, employees, and parties with whom it contracts.

11.7 Notices

11.7.1 Any and all notices under this AGREEMENT must be in writing and shall be delivered to the party entitled to receive the same by hand or U.S. Certified Mail, return receipt requested, addressed as specified in subparagraph 11.7.1.1 of the **Supplemental Terms and Conditions of this AGREEMENT**.

11.7.2 Mailed notice will be deemed effective three (3) business days after such notice is mailed by Certified Mail with return receipt requested. Hand delivered notice will be effective when received and acknowledged by signed receipt.

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11.8 Successors and Assigns

11.8.1 The OWNER and the CONSULTANT bind themselves, their partners, successors, assigns and legal representatives to the other party to this AGREEMENT with respect to all covenants of this AGREEMENT. Neither the CONSULTANT nor the OWNER may assign, sublet or transfer any interest in this AGREEMENT without the prior written consent of the other party.

11.9 Extent of Agreement

11.9.1 This AGREEMENT represents the entire and integrated agreement between the OWNER and the CONSULTANT and supersedes all prior negotiations, representations or agreements, either written or oral. This AGREEMENT may be amended only by written instrument signed by authorized representatives of both OWNER and CONSULTANT.

END

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SECTION 1 - CONSULTANT'S RESPONSIBILITIES

1.1 Performance of Services

Delete paragraph 1.1.10 and replace with the following:

1.1.10 The CONSULTANT agrees to attend and make presentations, as specified in the attached scope of services (Attachment 5) as Basic Services, including (i) Board and Commission meetings, (ii) public meetings, and (iii) internal City of Austin meetings. Any other presentations required by OWNER will be considered Additional Services in accordance with Paragraph 1.4.6 of the **Supplemental Terms and Conditions of this AGREEMENT** and paid for in accordance with Paragraph 5.1.3.

Insert the following language:

1.1.13 If directed by OWNER, CONSULTANT shall update OWNER provided record documents.

1.1.14 If the OWNER provided record documents to be updated that have been sealed by another Engineer, the CONSULTANT shall notify the Engineer of record of the agreement to update said documents. All updates and revisions to existing sealed documents shall be made as directed by OWNER and in accordance with the Texas Board of Professional Engineers rules.

1.1.15 The CONSULTANT agrees that record documents provided by the OWNER are to be used only for the intended purpose and to meet this contract's obligations. Use of these record documents for any other purpose not explicitly authorized by the OWNER is strictly prohibited.

1.1.16 The CONSULTANT shall incorporate sustainable principles and elements in accordance with the Leadership in Energy and Environmental Design (LEED™) Green Building Rating System as outlined in Council Resolution 20071129-045.

The CONSULTANT shall review the Council Resolution Implementation form and instructions with the project manager for determining the achievement of an appropriate certification by LEED™ Green Building Rating System Silver or incorporation of the Baseline Sustainability Standards. The CONSULTANT is responsible for preparing all documentation required for LEED™ certification. The OWNER will pay all application and certification fees.

The CONSULTANT shall use an integrated design approach, where the evaluation of any PROJECT element, material or system is not viewed solely on the basis of its own isolated merit, but is designed and then appraised as an integrated part of the entire PROJECT. This approach will require team members from all disciplines, during each stage of the design process, to investigate alternatives, question assumptions and research approaches to optimize building performance.

The CONSULTANT shall provide a written status report of implementation of the Council Resolution.

The CONSULTANT shall monitor the PROJECT during construction to verify and ensure that intended and specified elements as specified on the LEED™ Check List or the Baseline Sustainability Standards are being incorporated into the PROJECT. The CONSULTANT shall coordinate all relevant items with the Building Commissioning Agent.

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1.4.1 Phase A: Preliminary Phase Services

The CONSULTANT shall perform the Phase A: Preliminary Phase Services as described below and in Attachments 1 (RAP) and 4:

1.4.1.1 Attend and, if requested by OWNER, conduct preliminary conferences and public meetings with OWNER and other interested or involved entities regarding the alternatives for the PROJECT. Report progress of this phase to the OWNER relative to approved PROJECT Resource Allocation Plan (RAP) at monthly intervals as prescribed by the OWNER.

1.4.1.2 Obtain and review existing plans, maps, records, traffic (vehicular and pedestrian), water and wastewater studies, planning studies, zoning, land use, other utility, population, and other available information relevant to the development of the PROJECT. CONSULTANT shall perform a Preliminary Cultural Resources Assessment for the PROJECT. This assessment will provide for records reviews and site reconnaissance visits, consistent with City Code, State Statute, and guidance issued by the Council of Texas Archeologists. With approval from the OWNER, perform or contract with other licensed professionals to perform geotechnical investigations and engineering, or any tests, investigations or studies that are required for the proper execution of Phase A of the PROJECT.

1.4.1.3 Prepare, conduct and document studies, analyses and reports of the PROJECT alternatives in sufficient detail to clearly indicate the problems involved and reasonable solutions available to the OWNER. Such studies, analyses and reports may include, but are not limited to: preliminary layouts, maps, exhibits, sketches, construction materials and methods evaluations, schedules, utility coordination plans, design criteria, environmental reviews, compatibility with existing and proposed systems and/or processes, and other investigations pertinent to the evaluation of the PROJECT alternatives.

1.4.1.4 Collect all pertinent information concerning proposed public or private projects and/or proposed improvements in the project area. Coordinate with OWNER and other entities as necessary to comply with the PROJECT RAP and minimize PROJECT impacts and to communicate PROJECT details to minimize impact to other projects in the area.

1.4.1.5 Prepare preliminary PROJECT construction schedule and Class C estimate (with a margin of error of $\pm 25\%$) of the probable PROJECT construction, life cycle and maintenance costs for all alternative solutions. The CONSULTANT's opinion of construction costs shall be based on materials and labor process prevailing at the time of the preparation of the preliminary report without consideration of inflationary increases in costs and will be indexed to the *Engineering News Record* (ENR) Construction Cost Index prevailing at the time of the preparation of the preliminary report. The CONSULTANT shall apply reasonable consideration and knowledge to the preliminary cost estimate development.

1.4.1.6 Conduct preliminary field surveys, and determine site constraints and permitting requirements.

1.4.1.7 Prepare an environmental report for the recommended PROJECT alternative(s) that addresses appropriate environmental issues, which may include, but are not limited to, impacts to air, noise, and water quality, historical features, vegetation, environmental and geological features, and endangered species.

1.4.1.8 Prepare a geotechnical report and other technical reports for the recommended PROJECT alternatives that may include, but are not limited to: subsurface utility engineering (SUE)

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findings, delineation of geologically sensitive areas, hydrologic issues, soils formation, and information necessary to identify contractor's probable or recommended means of construction.

1.4.1.9 Prepare, present and publish details and a summary of findings for the recommended PROJECT in a Preliminary Engineering and Investigations Report. This report will be drafted upon conclusion of the CONSULTANT's reviews, investigations, and preliminary evaluations and shall include, but not be limited to, cost estimates (as outlined in Section 1.4.1.5), alternate routes, identification of permanent and temporary easements, identification of need for additional right-of-way, evaluations of and recommendations for construction methods and materials, including recommendations on the number of PROJECT construction contracts to be bid, and design and construction phase schedules. The CONSULTANT shall provide 1 electronic copy (on CD) and 10 hardcopies of the draft report and 1 electronic copy (on CD) and 10 hardcopies of the final report addressing the OWNER'S comments.

1.4.1.10 For all Phase A services, the CONSULTANT shall follow the approved schedule and meet all milestone requirements specified in the PROJECT RAP.

1.4.1.11 For all Phase A services, the CONSULTANT shall provide all required QCP documentation.

1.4.2 Phase B: Design Phase Services

If authorized, the CONSULTANT shall perform the Phase B services as described below and in Attachments 1 (RAP) and 4:

1.4.2.1 Attend and/or arrange for conferences, at periodic intervals not to exceed 1 month, with the OWNER for the purposes of explaining completed design activities and review of RAP for completion of remaining activities.

1.4.2.2 Conduct or otherwise acquire the necessary field surveys, soils tests, geotechnical tests, and additional analysis that, in the opinion of the CONSULTANT, are required for the proper execution of the design of the PROJECT.

1.4.2.3 Provide for field surveys, which may include photogrammetry, and perform related office computations and drafting for collecting information required for design. Such surveys must include horizontal and vertical control adequately documented on the final plans. Field surveys must also include the staking and referencing of points of intersection (PI's), points of curvature (PC's), points of tangency (PT's), and benchmarks (BM's) necessary to establish the PROJECT construction in the field. If necessary, establish Static GPS Control Monuments with U.S. Geological Survey (USGS) NAD 83 (93) and NAVD 88. Horizontal control for facilities shall be on the *Texas State Grid Coordinate System* Central Zone Grid Coordinates carried to second-order accuracy to permit actual construction staking to third order accuracy. The vertical control shall be based on the USGS NAVD 88 datum and BM's shall be established not more than 1000 feet apart at an accuracy of 0.01 feet. Visible topographic features will be tied to the PROJECT centerline(s) and will include, but not necessarily be limited to, existing property or lease lines, property or lease corners, utilities and appurtenance, roadways, structures, railroad structures, trees over eight inches in diameter, and other features within the limits of construction and twenty-five (25) feet beyond. PROJECT control must be complete and staked in the field at the time of advertisement for bid so that construction staking can be accomplished immediately thereafter.

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1.4.2.4 The CONSULTANT shall prepare a Storm Water Pollution Prevention Plan (SWPPP) using the standard City template and submit to the OWNER. All engineering computations shall be certified by a Licensed Professional Engineer with competence in this area as required by Title 22, Chapter 137 of the Texas Administrative Code. All SWPPPs shall be signed by a Licensed Professional Engineer (TX) or a Certified Professional in Erosion and Sedimentation Control [(CPESC)(<http://cpesc.org/>)]. If the SWPPP itself contains engineering calculations, then a Licensed Professional Engineer must seal and sign the SWPPP. All drainage calculations shall be done in accordance with the guidelines in the Drainage Criteria Manual.

1.4.2.5 Prepare detailed specifications using the OWNER'S standard specifications. Any revisions or special provisions to the specifications must be submitted to the OWNER for written approval. Prepare PROJECT construction contract drawings, at approved horizontal and vertical scales in electronic format and in ink on half size print for construction authorized by the OWNER. The drawings shall, at minimum, conform to examples available from the OWNER and shall include plan views, sections and details clearly defining and describing the improvements, limits of work and storage areas, sequencing requirements, access routes, environmental protection requirements, and contractor staging and storage areas.

1.4.2.6 Update construction cost estimates of authorized PROJECT construction. The updated cost estimate should be a Class B Estimate (with a margin of error of $\pm 10\%$). If the estimated construction cost exceeds the Fixed Construction Budget as established in Section 3, the CONSULTANT shall consult with the OWNER as to what action is to be taken. If the OWNER requires revisions to the PROJECT scope to reduce the PROJECT construction cost as required to stay within the Fixed Construction Budget, the CONSULTANT shall, for additional compensation, then make such revision to the PROJECT construction documents.

1.4.2.7 Provide OWNER ten (10) copies of draft Bidding Documents (consisting of plans, details and the PROJECT Manual) and, one (1) set of final design criteria and calculations of principal elements of final design. The copies of the draft PROJECT plans provided to the OWNER shall be half size.

1.4.2.8 Prepare information for any special permits or approvals required by regulatory agencies for which the OWNER must apply.

1.4.2.9 Provide final bid documents, which incorporate the OWNER's comments, to the OWNER at least fourteen (14) calendar days prior to advertising the PROJECT for bids. Bid documents will not be printed until OWNER authorizes the CONSULTANT to do so.

1.4.2.10 Obtain OWNER'S approval of the PROJECT bidding documents and provide for duplication of twenty-five (25) sets of final PROJECT bidding documents for distribution to contractors. CONSULTANT shall also provide ten (10) half size sets, and one electronic version in a format acceptable to OWNER, of the PROJECT Construction drawings. The CONSULTANT agrees that the OWNER may post the CONSULTANT'S Bidding Documents on-line for bidding purposes.

1.4.2.11 Update construction cost estimates of authorized PROJECT construction. The updated construction cost estimate should be a Class A (with a margin of error of $\pm 5\%$) estimate. If the Class A estimate exceeds the Fixed Construction Budget described in Section 3, the CONSULTANT shall consult with the OWNER as to what action is to be taken. If the OWNER requires revisions to the PROJECT scope to reduce the PROJECT construction cost as required to stay within the Fixed Construction Budget, the CONSULTANT shall, for additional compensation, then make such revision to the PROJECT construction documents.

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1.4.2.12 For PROJECTS that include improvements or modifications to facilities or resources owned by the Austin Water Utility: The CONSULTANT shall complete the appropriate OWNER'S Asset Retirement Request Form(s) to document all Austin Water Utility assets (including equipment, computers, pipeline and pipeline appurtenances, etc.) that will be removed, abandoned or retired from service as part of implementation of the PROJECT and to provide certain information regarding the replacement assets put into service as a result of the PROJECT. If applicable, CONSULTANT shall also provide a list of all new taggable assets to be installed or delivered as part of the PROJECT. These form(s) and information shall be provided to OWNER prior to the bidding of the construction contract. A "taggable asset" is defined as a single asset costing at least \$1,000 which can operate independently (i.e., is not an in-line component) and which could be removed for use at another location with relative ease.

1.4.2.13 Only if requested by OWNER, the CONSULTANT shall assist the OWNER in determining what additional information on Contractor qualifications may be required to be submitted by the bidders with their bids.

1.4.2.14 For all Phase B services, the CONSULTANT shall submit written progress reports at least monthly. If the required reports are not received within seven (7) calendar days of the end of the month, the OWNER may withhold payment, in accordance with subsection 5.3.3, until the reports are received.

1.4.2.15 For all Phase B services, the CONSULTANT must design for compliance with the applicable laws, rules, and regulations of City, State and federal governments. The CONSULTANT must request variances or waivers of any such requirements as appropriate.

1.4.2.16 For all Phase B services, the CONSULTANT shall follow the approved schedule and meet all milestone requirements specified in the PROJECT RAP.

1.4.2.17 For all Phase B services, the CONSULTANT shall provide all required QCP documentation.

1.4.3 Phase C: Bid-Award-Execution Phase Services

1.4.3.1 Only if requested by OWNER, the CONSULTANT shall assist the OWNER in the advertisement of the PROJECT for construction bids. CONSULTANT services may include distributing bid documents, maintaining a record of bid document issuance and receipt, and receiving bid document deposits. Bid deposit checks shall be made payable to the OWNER and those deposits not returned to bidders shall be given to the OWNER.

1.4.3.2 Only if requested by OWNER, the CONSULTANT shall participate in or conduct a pre-bid conference, prepare and issue addenda, and attend bid opening.

1.4.3.3 If requested by OWNER, following the OWNER's receipt of bids and bidders' post-bid information, the CONSULTANT shall assist the OWNER in analyzing Contractor bids and qualifications. If requested by OWNER, the CONSULTANT shall furnish to the OWNER a recommendation regarding the responsibility of the bidder(s) within seven (7) calendar days following bid opening. Should the apparent lowest responsible bidder's construction cost of the PROJECT (or component thereof) be greater than the Fixed Construction Budget (or appropriate portion thereof) and the OWNER elects not to

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award the PROJECT (or component thereof) construction contract, the CONSULTANT will consult with the OWNER to determine revisions to the PROJECT to reduce the PROJECT cost as required to stay within approved or authorized cost limitations. The CONSULTANT shall then make such revision to the PROJECT construction documents at no additional cost to the OWNER.

1.4.3.4 For all Phase C services, the CONSULTANT shall follow the approved schedule and meet all milestone requirements specified in the PROJECT RAP.

1.4.4 Phase D: Construction Phase Services

1.4.4.1 The CONSULTANT will be a representative of the OWNER's Representative during the Construction Phase, and shall advise and consult with the OWNER. Instructions to the Contractor will be forwarded through the CONSULTANT. The CONSULTANT will have authority to act on behalf of the OWNER only to the extent provided in this Section 1.4.4 Phase D: Construction Phase Services.

1.4.4.2 The Construction Phase will commence with the construction contract execution and will terminate on the date of final expiration completion of the construction PROJECT, based on the completion milestone established for the construction Contract Time. The expiration date includes any time extensions granted to the Contractor by the OWNER, but in no case will time extensions exceed approved PROJECT Resource Allocation Plan (RAP).

1.4.4.3 Unless otherwise provided in this AGREEMENT and incorporated in the Contract Documents, the CONSULTANT shall provide administer the construction contract as set forth below and in the OWNER's General Conditions of Agreement.

1.4.4.4 The CONSULTANT shall participate in and document the proceedings of the preconstruction conference.

1.4.4.5 The CONSULTANT shall visit the site to observe the progress and quality of the Work and to determine if the Work is proceeding in accordance with the Contract Documents. The CONSULTANT'S visits to the site shall be at intervals appropriate to the stage of construction, but in no case less than once a week. The CONSULTANT shall record observations made on each job site visit, including regularly scheduled project meetings, and shall submit a written weekly report to the OWNER.

1.4.4.5.1 Reports should include: list of subcontractors on-site by week as reported by Contractor, trades at work, approximate manpower, temperature/weather conditions, any variations from Contract Documents, any defective Work, percentage of contract time used compared with percentage of completion of construction, updates to the PROJECT RAP, estimated contract completion date, and other meaningful information. Reports for periods when no Work is in progress will state "No Work in Progress".

1.4.4.5.2 The CONSULTANT will furnish reports to the OWNER within five (5) calendar days of the end of the work week of the observations or the report will be considered late. As stated in subsection 5.3.3, the OWNER may withhold payment until the reports are received.

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1.4.4.5.3 In addition, the CONSULTANT'S subconsultants shall visit the site at appropriate stages of the Work related to their area of specialty, shall record observations made on each job site visit and shall submit reports to the CONSULTANT to be incorporated in the CONSULTANT's reports to the OWNER. The CONSULTANT'S subconsultants shall also attend those progress meetings when the Contractor's Application for Payment includes requests for areas of Work related to their discipline.

1.4.4.6 The CONSULTANT shall review the Contractor's Application for Payment, based on CONSULTANT's observations on site, evaluate the request, and recommend to OWNER the amount to be paid to the Contractor.

1.4.4.7 The CONSULTANT's approval signature on the Application for Payment constitutes a representation by the CONSULTANT to the OWNER that the work is proceeding in general accordance with the Contract Documents, and that the Contractor has progressed to the construction schedule point indicated and is entitled to payment in the amount certified. The CONSULTANT is not responsible for work that is the Contractor's responsibility as defined in the Contractor's contract with the OWNER.

1.4.4.8 The CONSULTANT shall respond within seven (7) calendar days (unless the OWNER grants a time extension), to all requests for information, claims, disputes and other matters in question between the OWNER and the Contractor relating to the execution or progress of the work or the interpretation of the Contract Documents. Interpretations and decisions of the CONSULTANT will be in written form, accompanied by drawings as appropriate.

1.4.4.9. If any Work does not conform to the Contract Documents, the CONSULTANT shall, within 24 hours of the CONSULTANT's observation, recommend the rejection of any such work to the OWNER in writing. At any point during the Construction Phase, the CONSULTANT may recommend that the OWNER require special inspection or testing of the Work in accordance with the provisions of the Contract Documents.

1.4.4.10 The CONSULTANT shall review, approve, or take other appropriate action upon Contractor submittals such as Shop Drawings, product data and samples. The CONSULTANT shall provide a written response to the Contractor (with a copy to OWNER) within seven (7) calendar days (unless a time extension is granted in writing by the OWNER) to avoid a delay in the work.

1.4.4.10.1 The CONSULTANT's review is for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The CONSULTANT is not responsible for work or requirements that are the Contractor's responsibility as defined in the Contractor's contract with the OWNER.

1.4.4.10.2 Unless otherwise specifically stated by the CONSULTANT, the CONSULTANT's review will not constitute approval of safety precautions, construction means, methods, techniques, sequences or procedures.

1.4.4.10.3 The CONSULTANT may rely upon professional certifications of performance characteristics of materials, systems or equipment if such certifications are required by the Contract Documents.

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1.4.4.11 The CONSULTANT shall prepare Change Orders for the OWNER'S approval and execution in accordance with the Contract Documents. The CONSULTANT will have authority to order minor changes in the Work which are consistent with the intent of the Contract Documents, but do not involve an adjustment to the Contract Amount or an extension of the Contract Time. The OWNER shall receive copies of any such Field Orders approved by the CONSULTANT.

1.4.4.12 Upon receipt of Contractor's notification that the Work has been substantially completed, the CONSULTANT and its subconsultants shall work with the Contractor to ensure the PROJECT is ready for the OWNER's inspection within seven (7) calendar days unless the OWNER approves a time extension. The CONSULTANT shall provide written notification to the OWNER that the Work has been completed and is ready for the OWNER's inspection. The OWNER shall schedule an OWNER inspection to be attended by the CONSULTANT and its subconsultants.

1.4.4.12.1 Within twenty-four (24) hours of the OWNER's inspection, the CONSULTANT shall provide the Contractor a draft written punchlist of items that need to be addressed prior to the Final Completion date specified in the construction contract. The CONSULTANT shall provide the Contractor a final written punchlist within three (3) calendar days of the OWNER's inspection.

1.4.4.12.2 When the contract requirements for substantial completion have been met, the CONSULTANT shall prepare and issue a Certificate of Substantial Completion within three (3) calendar days.

1.4.4.13 The CONSULTANT shall review all warranties, guarantees, bonds, equipment operating instructions, and similar required material and documents for general compliance with the Contract Documents and shall present them to the OWNER. Upon receipt of Contractor's written notice that the work is ready for final inspection and acceptance and receipt of a final Application for Payment from the Contractor, the CONSULTANT shall make an on-site review within seven (7) calendar days. When the work is found to be acceptable by the OWNER, the CONSULTANT shall, within seven (7) calendar days, sign the final Application for Payment signifying that the work has been completed in general accordance with the terms and conditions of the Contract Documents and that final payment is due the Contractor.

1.4.4.14 For all Phase D services, the CONSULTANT shall follow the approved schedule and meet all milestone requirements specified in the PROJECT RAP.

1.4.4.15 *Construction Project Representation Beyond Basic Services*

1.4.4.15.1 If the OWNER and CONSULTANT agree that more extensive representation is needed at the site, the CONSULTANT shall provide one or more PROJECT Representatives to assist the CONSULTANT in carrying out such responsibilities at the PROJECT or work site. The PROJECT RAP must be revised accordingly.

1.4.4.15.2 Such PROJECT Representatives will be selected with the written approval of the OWNER, employed and directed by the CONSULTANT, and the CONSULTANT will be compensated as mutually agreed between the OWNER and the CONSULTANT.

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1.4.5 Phase E: Post-Construction Phase Services

1.4.5.1 The scope of assistance referenced in this Paragraph 1.4.5 will include, but not be limited to, the following: (1) producing Record Documents for the OWNER; (2) notifying the Contractor of deficiencies or failures in labor and materials and requesting corrective action; (3) preparing correspondence and other written data as necessary to document, clarify, and resolve discrepancies; and (4) meeting with the Contractor at the PROJECT site or other local places when requested by the OWNER.

1.4.5.2 Upon receipt from the Contractor of details of deviations from Contract Documents, CONSULTANT shall produce Record Documents for the OWNER'S use within thirty (30) calendar days. The CONSULTANT will ensure that the Record Documents of construction incorporate all compiled change orders, change directives, and field orders. The CONSULTANT will ensure that a Professional Engineer's seal is affixed and signed on each document, stamped and identified as "RECORD DOCUMENTS", that signifies the recorded changes have been transferred.

1.4.5.2.1 The CONSULTANT shall submit electronic files on CD-ROM, or other comparable durable electronic media with OWNER's approval, one (1) set of mylar, one (1) set of full-size print PROJECT drawings, and two (2) sets of one-half size print PROJECT drawings that are considered Record Documents to OWNER. Copies of PROJECT drawings that may be relied upon by the OWNER are limited to the printed copies ("hard copies") that are signed and sealed by the CONSULTANT. Drawings will be accurate in scale and dimensions and will reflect the final as-constructed condition of the PROJECT.

1.4.5.2.2 For projects that include improvements or modifications to OWNER's Austin Water Utility system or facilities, drawings included in the Record Documents will include all dimensions and calculations in English units.

1.4.5.2.3 For projects that include improvements or modifications to facilities or resources owned by the Austin Water Utility, the CONSULTANT shall provide the OWNER updated Asset Retirement Request Form(s) based on PROJECT as-built drawings. For projects involving new taggable assets, the CONSULTANT shall also provide to OWNER an updated list of new assets installed or delivered as part of the PROJECT. These form(s) and information will be provided to OWNER at the time of the as-built submittal.

1.4.5.3 Under Basic Services, the CONSULTANT shall assist and represent the OWNER through the post-construction period on matters involving malfunctions or deficiencies of the Work. The CONSULTANT shall communicate with and assist the Contractor as necessary to correct all deficiencies within seven (7) calendar days of notification by the CONSULTANT for a specific correction .

1.4.5.4 The CONSULTANT shall require its subconsultants to provide assistance as necessary during the post-construction period stipulated in the approved PROJECT Resource Allocation Plan (RAP).

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1.4.5.5 The CONSULTANT shall perform an on-site review of the Work, accompanied by its subconsultants, no less than thirty (30) calendar days before the one year anniversary of the date of Substantial Completion. Based on the site review, the CONSULTANT shall prepare, within seven (7) calendar days, a list of items needing correction and direct the Contractor to resolve them within a specified time frame. After determining that deficiencies have been corrected, the CONSULTANT shall so notify the OWNER in writing within seven (7) calendar days. This notification by the CONSULTANT does not release the Contractor from its responsibilities set forth in the Contract Documents and will not be construed as an implied or express warranty or representation by the CONSULTANT that there are not other deficiencies on the PROJECT.

1.4.5.6 Under Basic Services, the CONSULTANT and its subconsultants agree to provide Post-Construction Phase services as specified in the approved PROJECT RAP. The CONSULTANT shall provide accounting for time expended under Basic Services at the time these services are provided. Additional time for extended warranty period services not included in Basic Services will be considered Additional Services in accordance with Paragraph 1.4.6 and paid for in accordance with the RAP.

1.4.5.7 For all Phase E services, the CONSULTANT shall follow the approved schedule and meet all milestone requirements specified in the PROJECT RAP.

1.4.6 Additional Services

Unless otherwise stated in this AGREEMENT, the Services listed in subparagraphs 1.4.6.1 through 1.4.6.5 are Additional Services. The following are not Additional Services:

- (a) Any revisions required for failure to adhere to the Fixed Construction Budget
- (b) Minor requests for information by the OWNER that clearly do not require extensive work by the CONSULTANT.

Additional Services authorized in writing by the OWNER will be paid for by the OWNER as provided in this AGREEMENT, in addition to the compensation for Basic Services. Additional Services authorized by the OWNER in writing will be incorporated in the PROJECT RAP, and all applicable articles of the AGREEMENT will apply to the Additional Services. If CONSULTANT identifies a need for Additional Services, the CONSULTANT will submit a proposal for those services to the OWNER within fourteen (14) calendar days of identifying the need.

1.4.6.1 Making revisions in Drawings, Specifications or other documents in connection with Change Orders, unless such Change Orders are caused by errors, omissions or other factors within the CONSULTANT's control.

1.4.6.2 Making revisions in Drawings, Specifications or other documents when such revisions are required by the enactment or revision of codes, laws or regulations subsequent to the preparation of such documents.

1.4.6.3 Providing design services of subconsultants not included in original scope for the PROJECT.

1.4.6.4 Providing any other services not otherwise included in this AGREEMENT or not customarily furnished in accordance with generally accepted, regional consulting practices, including but not limited to, the following items:

- Land development and feasibility studies.

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- Contacts with neighborhood associations, boards, and/or committees related to land acquisition issues, beyond that described in Section 1.
- Engineering of and coordination of off-site construction.
- Special subconsultant services (environmental, archaeological, acoustical, asbestos removal, hydrological, traffic, computer and audio/visual design, etc.)
- Special investigations, including environmental impact studies, that involve detailed consideration of operation, maintenance and overhead expenses; rate schedules; earnings and expense statements; special feasibility studies; appraisals; evaluations; and material audits or inventories required for certifications of force account construction performed by Contractor or OWNER.
- Detailed mill, shop and/or laboratory inspection of materials and/or equipment
- Legal proceedings, unless the CONSULTANT is a party to the proceedings.

1.4.6.5 Revising Drawings, Specifications or other documents when such revisions are inconsistent with, or contradict, prior approvals or instructions given to the CONSULTANT by the OWNER.

1.4.6.6 For all Additional Services, the CONSULTANT shall follow the approved schedule and meet all milestone requirements specified in the PROJECT RAP.

SECTION 2 - OWNER'S RESPONSIBILITIES

2.2 The OWNER may pay for or provide surveys describing physical characteristics, legal limitations for the site of the PROJECT, and a written legal description of the site. The surveys and legal information will include, as applicable, grades and lines of streets, alleys, pavements and adjoining property; rights-of-way, deed restrictions, boundaries and contours of the site; locations, dimensions and complete data pertaining to existing buildings, other improvements and trees, and other special data or conditions. The CONSULTANT may reasonably rely upon such information in the performance of their services under this AGREEMENT unless CONSULTANT'S on-site review shows encroachments or other legal impediments.

2.3 The OWNER may pay or provide for the services of soil engineers or other subconsultants when such services are deemed necessary by the CONSULTANT and have the OWNER's written concurrence. Such services shall include test borings, test pits, soil bearing values, percolation tests, air and water pollution tests, ground corrosion and resistivity tests, including necessary operations for determining subsoil, air and water conditions, with reports and appropriate professional recommendations.

SECTION 3 - FIXED CONSTRUCTION BUDGET (in General Conditions of the AGREEMENT)

SECTION 4 - RESOURCE ALLOCATION PLAN (RAP) (in General Conditions of the AGREEMENT)

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SECTION 5 - COMPENSATION

5.1.2 *Basic Compensation*

5.1.2.1 The total amount of compensation to be paid the CONSULTANT will not exceed:

Three Hundred Seventy Nine Thousand Dollars and No Cents (\$379,000.00)

This AGREEMENT shall remain in effect until **November 25, 2011** unless otherwise mutually agreed upon by the parties through a supplemental amendment.

SECTION 6 - INSURANCE REQUIREMENTS

6.1.4 **CONSULTANT's Professional Liability Insurance**

6.1.4.1 CONSULTANT's Professional Liability Insurance with a minimum limit of \$2,000,000 dollars per claim and in aggregate.

SECTION 7 - TERMINATION OF AGREEMENT (in General Conditions of the AGREEMENT)

SECTION 8 - REMEDIES (in General Conditions of the AGREEMENT)

SECTION 9 - CONSULTANT REMEDIES (in General Conditions of the AGREEMENT)

SECTION 10 - DISPUTE RESOLUTION (in General Conditions of the AGREEMENT)

SECTION 11 - MISCELLANEOUS PROVISIONS

11.2 **Ownership and Use of Documents**

Delete paragraph 11.2.1 and replace with the following

11.2.1 All engineering work product produced by the Consultant for this Project including but not limited to: Drawings, Specifications, manuals, databases, application files, listings, etc. are to be delivered to OWNER and become the property of the OWNER. The CONSULTANT shall provide the OWNER with the electronic source files for these documents and work product in a format and storage media directed by OWNER or otherwise acceptable to the OWNER to allow the OWNER to subsequently update, modify, or amend said documents and work product. In addition, the CONSULTANT shall also provide a digital copy of all new and updated Drawings, Specifications and manuals on CD or other OWNER-approved media. The cost of providing the source files and copies will be paid as specified in Section 5 of this AGREEMENT. The CONSULTANT may not provide copies of or otherwise use the subject documents or work products on any other project without the prior written approval of the OWNER.

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11.7 Notices

11.7.1.1 Notices shall be addressed as follows (or as amended in writing in the future):

Mailed Notices to OWNER:

Austin Water Utility
Facility Engineering Division
City of Austin
P.O. Box 1088
Austin, Texas 78767

Hand Delivered Notices to OWNER:

Austin Water Utility
Facility Engineering Division
City of Austin
625 E. 10th Street, Suite 415
Austin, TX 78701

Mailed Notices to CONSULTANT:

Black & Veatch Corporation
1701 Directors Boulevard
Suite 940
Austin, TX 78744

Hand Delivered Notices to CONSULTANT:

Black & Veatch Corporation
1701 Directors Boulevard
Suite 940
Austin, TX 78744

END

ATTACHMENT 1: RESOURCE ALLOCATION PLAN

Task Description	Budget	Start Date	End Date	% Complete	% Paid	% Time	Amount Earned
A.1 Project Management		4/25/2011	11/25/2011	0.0%	0.0%	0.0%	
Project Procedures Manual	\$2,753	4/25/2011	5/9/2011	0.0%	0.0%	0.0%	
Quality Control Plan	\$452	4/25/2011	5/9/2011	0.0%	0.0%	0.0%	
Project Initiation Meeting	\$3,156	5/17/2011	5/17/2011	0.0%	0.0%	0.0%	
Monthly Status Report	\$2,276	4/25/2011	11/25/2011	0.0%	0.0%	0.0%	
Quality Control of Deliverables		4/25/2011	11/25/2011				
AECOM	\$6,748	4/25/2011	11/25/2011	0.0%	0.0%	0.0%	
Cost Trend Log Update	\$904	4/25/2011	11/25/2011	0.0%	0.0%	0.0%	
All-Points Inspection Services, Inc.	\$1,155	4/25/2011	11/25/2011	0.0%	0.0%	0.0%	
CAS Consulting & Services, Inc.	\$4,575	4/25/2011	11/25/2011	0.0%	0.0%	0.0%	
Encotech Engineering Consultants	\$7,068	4/25/2011	11/25/2011	0.0%	0.0%	0.0%	
Jose I. Guerra, Inc.	\$4,279	4/25/2011	11/25/2011	0.0%	0.0%	0.0%	
Herutunian Engineering, Inc.	\$12,069	4/25/2011	11/25/2011	0.0%	0.0%	0.0%	
A.2 Condition Assessment		4/25/2011	6/3/2011	0.0%	0.0%	0.0%	
Review Available Construction Records and Reports	\$1,848	4/25/2011	5/20/2011	0.0%	0.0%	0.0%	
Review Equipment Maintenance Records	\$1,848	4/25/2011	5/20/2011	0.0%	0.0%	0.0%	
Level of Service and Reliability Meeting	\$2,156	5/18/2011	5/18/2011	0.0%	0.0%	0.0%	
Visual Condition Assessment	\$9,056	5/18/2011	5/19/2011	0.0%	0.0%	0.0%	
Filter Underdrain and Media Inspection	\$1,000	5/18/2011	5/19/2011	0.0%	0.0%	0.0%	
Failure Effects Meeting	\$2,156	5/26/2011	5/26/2011	0.0%	0.0%	0.0%	
FMEA Spreadsheet and Summary	\$2,464	5/25/2011	5/25/2011	0.0%	0.0%	0.0%	
Condition Assessment Meeting	\$1,000	5/25/2011	5/25/2011	0.0%	0.0%	0.0%	
Final Condition Assessment	\$1,120	6/3/2011	6/3/2011	0.0%	0.0%	0.0%	
AECOM	\$2,625	4/25/2011	6/3/2011	0.0%	0.0%	0.0%	
All-Points Inspection Services, Inc.	\$4,221	4/25/2011	6/3/2011	0.0%	0.0%	0.0%	
A.3 Alternative Evaluations		4/25/2011	7/15/2011	0.0%	0.0%	0.0%	
Establish Current Operational Limits	\$6,240	4/25/2011	5/27/2011	0.0%	0.0%	0.0%	
Alternative Filtration Technologies		4/25/2011	6/15/2011	0.0%	0.0%	0.0%	
Initial Review of Filtration Technologies	\$8,800	4/25/2011	5/27/2011	0.0%	0.0%	0.0%	
Draft Alternative Filtration Technology TM	\$8,696	4/25/2011	5/27/2011	0.0%	0.0%	0.0%	
Review of Alternative Filtration Technology TM	\$4,188	5/30/2011	6/8/2011	0.0%	0.0%	0.0%	
Finalize Alternative Filtration Technology TM	\$2,304	6/8/2011	6/15/2011	0.0%	0.0%	0.0%	
Alternative Granular Filter Improvements		4/25/2011	6/22/2011	0.0%	0.0%	0.0%	
Filter Media and Underdrains	\$4,696	4/25/2011	6/22/2011	0.0%	0.0%	0.0%	
Air Scour Blower	\$2,232	4/25/2011	6/22/2011	0.0%	0.0%	0.0%	
Backwash Supply	\$7,704	4/25/2011	6/22/2011	0.0%	0.0%	0.0%	
Draft Alternative Granular Filter Improvements TM	\$9,944	4/25/2011	6/22/2011	0.0%	0.0%	0.0%	
Review of Alternative Granular Filter Improvements TM	\$1,616	6/22/2011	7/1/2011	0.0%	0.0%	0.0%	
Finalize Alternative Granular Filter Improvements TM	\$4,832	7/1/2011	7/8/2011	0.0%	0.0%	0.0%	
Selection of Preferred Alternative	\$1,616	7/8/2011	7/15/2011	0.0%	0.0%	0.0%	
Evaluation of Sustainability Alternatives	\$4,880	7/8/2011	7/15/2011	0.0%	0.0%	0.0%	
Overall Process Integration	\$6,572	7/8/2011	7/15/2011	0.0%	0.0%	0.0%	
Documentation for Preliminary Ranking of Alternatives	\$2,232	7/8/2011	7/15/2011	0.0%	0.0%	0.0%	
AECOM	\$8,714	4/25/2011	7/15/2011	0.0%	0.0%	0.0%	
Encotech Engineering Consultants	\$4,251	4/25/2011	7/15/2011	0.0%	0.0%	0.0%	
A.4 Prel. Eng. and Investigations Report		4/25/2011	11/11/2011	0.0%	0.0%	0.0%	
Development of Improvements with No Alternative Solutions		4/25/2011	7/15/2011	0.0%	0.0%	0.0%	
Non-potable Pumping System	\$1,000	4/25/2011	7/15/2011	0.0%	0.0%	0.0%	
Standby Power	\$1,000	4/25/2011	7/15/2011	0.0%	0.0%	0.0%	
Filter Controls	\$1,000	4/25/2011	7/15/2011	0.0%	0.0%	0.0%	
Repl. and Renovation of Assets w/ Less than 20 years Remaining	\$1,000	4/25/2011	7/15/2011	0.0%	0.0%	0.0%	
Document Process Design Criteria	\$3,232	7/15/2011	8/19/2011	0.0%	0.0%	0.0%	
Develop Process Flow Diagrams and Schematics	\$2,864	7/15/2011	8/19/2011	0.0%	0.0%	0.0%	
Prepare Major Process Control Table	\$616	7/15/2011	8/19/2011	0.0%	0.0%	0.0%	
Complete Preliminary Hydraulic Calculations	\$2,156	7/15/2011	8/19/2011	0.0%	0.0%	0.0%	
Select Major Valve Locations and Functions	\$1,128	7/15/2011	8/19/2011	0.0%	0.0%	0.0%	
Indicate Primary I&C Elements	\$584	7/15/2011	8/19/2011	0.0%	0.0%	0.0%	
Review of Process Flow Diagrams (Interim Review)	\$2,232	7/15/2011	8/19/2011	0.0%	0.0%	0.0%	
Generate Equipment List and Process Mechanical Design Criteria	\$4,104	7/15/2011	8/19/2011	0.0%	0.0%	0.0%	
Perform Site Utility Analysis	\$1,348	7/15/2011	8/19/2011	0.0%	0.0%	0.0%	
Structural Design Criteria	\$500	8/19/2011	10/14/2011	0.0%	0.0%	0.0%	
Preliminary Code Review	\$3,180	8/19/2011	10/14/2011	0.0%	0.0%	0.0%	
Architectural Design Criteria	\$4,020	8/19/2011	10/14/2011	0.0%	0.0%	0.0%	
Update Facility Plans and Sections	\$6,536	8/19/2011	10/14/2011	0.0%	0.0%	0.0%	
Update Preliminary Site Plan	\$1,644	8/19/2011	10/14/2011	0.0%	0.0%	0.0%	
HVAC and Plumbing Design Basis	\$512	8/19/2011	10/14/2011	0.0%	0.0%	0.0%	
Electrical Design Basis	\$1,744	8/19/2011	10/14/2011	0.0%	0.0%	0.0%	
Instrumentation and Control Design Basis	\$1,584	8/19/2011	10/14/2011	0.0%	0.0%	0.0%	
Class C Cost Estimate	\$6,960	8/19/2011	10/14/2011	0.0%	0.0%	0.0%	
Prioritization of Project Elements	\$1,616	10/14/2011	10/19/2011	0.0%	0.0%	0.0%	
Assemble and Issue Prelim Eng and Investigations Report	\$7,996	10/19/2011	10/26/2011	0.0%	0.0%	0.0%	
Review and Revision of Prelim Eng and Investigations Report	\$3,060	11/2/2011	11/11/2011	0.0%	0.0%	0.0%	
AECOM	\$8,120	4/25/2011	11/11/2011	0.0%	0.0%	0.0%	
CAS Consulting & Services, Inc.	\$25,723	4/25/2011	11/11/2011	0.0%	0.0%	0.0%	
Encotech Engineering Consultants	\$16,547	4/25/2011	11/11/2011	0.0%	0.0%	0.0%	
Jose I. Guerra, Inc.	\$16,635	4/25/2011	11/11/2011	0.0%	0.0%	0.0%	
Herutunian Engineering, Inc.	\$69,088	4/25/2011	11/11/2011	0.0%	0.0%	0.0%	
A.5 Close Out of Prel. Design Phase		11/14/2011	11/25/2011				
Quality Control Plan Documentation	\$500	11/14/2011	11/25/2011	0.0%	0.0%	0.0%	
Report on LEED Activity	\$1,668	11/14/2011	11/25/2011	0.0%	0.0%	0.0%	
Scope and Fee for Detailed Design							
AECOM	\$2,625	11/11/2011	11/25/2011				
Reimbursables	\$10,014						
Project Total	\$379,000			0.0%	0.0%	0.0%	

APPROVED FIXED CONSTRUCTION BUDGET: \$10,800,000
 DATE OF CURRENT FCB:

ATTACHMENT 2: HOURLY RATES

PRIME CONSULTANT – Black & Veatch		
PRINCIPAL(S)	Hourly Rate	TX Registration Number
Dale Cherry	\$348 / hr	52458
QA/QC	\$295 /hr	
Project Manager	\$226 /hr	
David Timmermann		65779
Engineering Manager	\$250 /hr	
Mike Johnson		
Process Specialist	\$195 /hr	
Gary Hunter		
Engineer Grade Level 08	\$192 /hr	
Engineer Grade Level 07	\$180 /hr	
Engineer Grade Level 06	\$186 /hr	
Wanda Luper		65138
Engineer Grade Level 05		
Chad Morris	\$146 /hr	106414
Laura Stratton	\$154 /hr	92017
Engineer Grade Level 04	\$128 /hr	
Engineer Grade Level 03	\$106 /hr	
Engineer Grade Level 02	\$90 /hr	
Architect Grade Level 06	\$146/hr	
Ken Krna		21241
Tech Grade Level 08	\$150 /hr	
Tech Grade Level 07	\$134 /hr	
Tech Grade Level 06	\$120 /hr	
Tech Grade Level 05	\$105 /hr	
Tech Grade Level 04	\$92 /hr	
Tech Grade Level 03	\$77 /hr	
Tech Grade Level 02	\$61 /hr	
Tech Grade Level 01	\$53 /hr	
Project Accounting	\$115 /hr	
Administrative Assistant	\$68 /hr	
Office Services	\$63 /hr	

SUBCONSULTANT		
CAS CONSULTING SERVICES		
PRINCIPAL(S)		
Channy Soeur, P.E.	\$207.38 /hr	70617
Gary Stegeman, P.E.	\$207.38 /hr	90596
Joe Canales	\$207.38 /hr	N/A
Senior Project Engineer	\$138.17 /hr	
Joseph Dong, P.E.		103144
Chelsea Solomon, P.E.		97246
Project Engineer	\$127.62 /hr	
Ashely Hanson		
Amy Middleton		
Engineering Associates	\$103.69 /hr	
Graduate Engineer	\$103.69 /hr	
CAD Technician	\$78.60 /hr	
Administrative Specialist	\$82.17 /hr	
SUBCONSULTANT		
HARUTUNIAN ENGINEERING, INC.		
PRINCIPAL(S)		
Khegam Harutunian, P.E.	\$185 /hr	59181
Senior Engineer IV (E-11)	\$185 /hr	
K. Harutunian		59181
Senior Engineer II (E-10)	\$165 /hr	
S. Harutunian		87735
Sr. EIC Development Leader II (E-8)	\$144 /hr	
S. Bailey		
Engineer III (E-4)	\$122 /hr	
E. Hayes		
Graduate Engineer I (E-1)	\$85 /hr	
CAD II (CD-2)	\$68 /hr	
Administrative Assistant (A-1)	\$54 /hr	
SUBCONSULTANT		
JOSE I. GUERRA, INC.		
PRINCIPAL(S)		
Joseph J. Luke, P.E.	\$166 /hr	55974
Project Manager	\$144 /hr	
Project Engineer	\$122 /hr	
Design Engineer	\$89 /hr	
CAD Manager	\$89 /hr	
CAD Operator	\$75 /hr	
Clerical	\$50 /hr	

SUBCONSULTANT ENCOTECH		
PRINCIPAL(S)		
Ali R. Khataw, P.E.	\$188 /hr	71548
Project Engineer III	\$159 /hr	
Ali R. Khataw, P.E.		71548
Paul Sexton, P.E.		98507
David Mitchell, P.E.		87000
Project Engineer II	\$141 /hr	
Adil Mohammed, P.E.		104021
Brady Van De Wiele, P.E.		97642
Project Engineer I	\$134 /hr	
Grant Johnson, P.E.		102150
Vinayak Sharma, P.E.		103765
Project Manager III	\$159 /hr	
Ali R. Khataw, P.E.		71548
Paul Sexton, P.E.		98507
David Mitchell, P.E.		87000
Project Manager II	\$141 /hr	
Adil Mohammed, P.E.		104021
Brady Van De Wiele, P.E.		97642
Project Manager I	\$125 /hr	
Carl Holiday		
Graduate Engineer II	\$101 /hr	
Steve Nguyen, E.I.T		
Graduate Engineer I	\$94 /hr	
Rachel Hawkins, E.I.T.		
Eric Zissman, E.I.T.		
Aaron Campbell, E.I.T.		
Marcus Sandoval, E.I.T.		
CAD Designer II	\$87 /hr	
CAD Designer	\$75 /hr	
Administrative II	\$65 /hr	
Administrative I	\$55 /hr	
SUBCONSULTANT ALL POINTS INSPECTION SERVICES, INC.		
PRINCIPAL(S)		
Alayne J. Johnson		
Inspector II	\$128.00 /hr	

SUBCONSULTANT		
AECOM		
PRINCIPAL(S)		
Shelby Eckols	\$249.80 / hr	41485
TECHNICAL ADVISOR/PEER REVIEW		
Abu Alam	\$226.33 / hr	
SENIOR PROJECT MANAGER(S)		
Marci O'Connell	\$184.00 / hr	84758
Chris Chen	\$225.98 / hr	95977
Ioan Chilarescu	\$149.08 / hr	89173
Martin Rumbaugh	\$166.27 / hr	83388
Kevin Koeller	\$145.19 / hr	86299
PROJECT ENGINEERS		
Xiaohong He	\$117.02 / hr	96775
Behnoush Yeganeh Taleb	\$98.99 / hr	106391
PROJECT ASSISTANT		
ENGINEER/ASSOCIATE		
Christopher Perkins	\$82.79 / hr	
Jake Balcom	\$86.61 / hr	
SENIOR CADD TECHNICIAN		
Joe Nungaray	\$107.08 / hr	
CADD TECHNICIAN		
Talsibhia Gadhia	\$80.09 / hr	
CLERICAL/ADMINISTRATIVE		
Patricia Martinez	\$92.81 / hr	

ATTACHMENT 3
QUALITY CONTROL PLAN (QCP)

Definitions

Quality Assurance

A comprehensive program that verifies a facility, structure, system or component will perform satisfactorily and safely in service. A recognized benchmark for quality assurance programs is ISO 9000/9001.

Quality Control

The process of identifying and applying appropriate technical and professional standards when producing project design documents that meet or exceed the user's requirements.

Constructability

A review process using experienced personnel with extensive construction knowledge early and throughout the design phase to ensure projects are buildable, practical, and consistent with current construction practices while also being cost effective, biddable, and maintainable.

Due Date:

The Consultant must submit the QCP plan for the Owner's approval within fourteen (14) calendar days following the Owner's issuance a Notice to Proceed to the Consultant.

Required Elements of QCP Plan (Sec. 1.3 of PSA)

Management Philosophy	
1	<p><i>The QCP specifies how the organization's technical management philosophy supports its commitment to quality</i></p> <p><u><i>Needed:</i></u> <i>Certification by consultant firm's Board of Directors, president, owner, managing partner, or other executive-level staff that, to ensure quality of design products:</i></p> <ul style="list-style-type: none"> <i>(a) firm is committing adequate manpower and resources</i> <i>(b) Project Design Team (PDT) is accountable to Independent Technical Review Team (ITRT)</i> <i>(c) Management and the PDT will emphasize quality control during the production of design documents</i> <i>(d) Management and the PDT will establish internal quality checks and reviews</i> <i>(e) Management and the PDT will assess independent quality control's contribution to the quality of design documents</i>

Management / Organization Structure	
2	<p><i>The QCP specifies:</i></p> <ul style="list-style-type: none"> • who manages the Independent Technical Review Team (ITRT) (internal or external to the design consulting firm) • if the ITRT is internal to the design consulting firm, that the ITRT is independent of the Project Design Team (PDT) • the ITRT reports to a management level the same or higher than the PDT • interrelationships of management, PDT, and ITRT (including all consultants) <p><u>Needed:</u></p> <p>(a) <i>An organization chart depicting the relationships of all parties noted above, identifying them by name and describing each person's responsibilities on the design project</i></p> <p>(b) <i>Resumes for members of the ITRT</i></p>
Quality Control Procedures	
3	<p><i>The QCP specifies</i></p> <ul style="list-style-type: none"> • management and control of design and QCP documents <p><u>Needed:</u></p> <p>(a) <i>Statement that access to design and QCP documents will be controlled</i></p> <p>(b) <i>Procedures are defined to identify and track versions of documents</i></p> <p>(c) <i>Document control plan</i></p> <p>(d) <i>Also refer to "Documentation" section below</i></p>
4	<ul style="list-style-type: none"> • internal and external communications, including an Issue Follow-Up Plan <p><u>Needed:</u></p> <p>(a) <i>description of management of QCP communications with all parties</i></p> <p>(b) <i>Issue Follow-Up Plan to track problems identified and their resolution</i></p>
5	<ul style="list-style-type: none"> • design coordination <p><u>Needed:</u> <i>Procedure must describe:</i></p> <p>(a) <i>relationships, accountability, authority, and responsibilities within the Project Design Team</i></p> <p>(b) <i>efforts to achieve interdisciplinary coordination</i></p>
6	<ul style="list-style-type: none"> • design checks and reviews, specifically addressing: <ul style="list-style-type: none"> ▪ correct application of methods ▪ validity of data and assumptions ▪ accuracy of calculations

	<ul style="list-style-type: none"> ▪ complete documentation ▪ testing, modeling, assumptions, calculations, text & graphical presentations in all documents ▪ special project components ▪ compliance with all applicable guidance, standards, regulations, codes & laws ▪ ensuring project is biddable, constructible and operable as well as environmentally compliant <p><u>Needed:</u></p> <p>(a) types, intervals and frequency of reviews</p> <p>(b) identification of applicable guidance, standards, codes, specifications and laws</p> <p>(c) methodology for addressing constructability</p> <p>(d) description of testing, modeling, development of assumptions, calculations, and presentation methods in design documents to meet design criteria and standards of professional practice</p> <p>(e) methodology for identifying and addressing all appropriate environmental requirements</p>
7	<ul style="list-style-type: none"> • independent technical reviews, specifically ensuring: <ul style="list-style-type: none"> ▪ seniority and technical qualifications of Independent Technical Review Team (ITRT) members and their separation from the Project Design Team (PDT) ▪ concepts, assumptions and procedural details are accurate, appropriate and fully coordinated ▪ examination of appropriate alternatives ▪ definition and scoping of problems, issues and opportunities ▪ validity of analytical methods ▪ results and recommendations are reasonable, comply with all requirements, and are supported by the documents ▪ any deviations from policy, guidelines or standards have been identified and approved by the appropriate parties ▪ design documents result in project that is biddable, constructible, operable, environmentally sound, and cost-effective ▪ design products meet City's needs <p><u>Needed:</u></p> <p>(a) Description of how the Independent Technical Review Team (ITRT) will validate the quality of the Project Design Team's (PDT) products prior to submission to the PM</p> <p>(b) Identification of any design components that will require special quality reviews</p> <p>(c) checklists for review of each design element</p>
8	<ul style="list-style-type: none"> • managerial plan to maintain continuity of QCP effort <p><u>Needed:</u></p> <p>(a) description of how management will maintain required level of effort and quality</p>

	<p><i>resources</i></p> <p><i>(b) contingency plan for replacement of key PDT and/or ITRT staff</i></p>
Documentation	
9	<p><i>The QCP specifies:</i></p> <ul style="list-style-type: none"> • records control plan for all internal review documents, associated comments and responses, describing that: <ul style="list-style-type: none"> ▪ all documents retained in consultant's files ▪ files are auditable and available to the City upon request ▪ files are identified by document type and compiled according to a file index system <p><i><u>Needed:</u> Details on all items listed above</i></p>
10	<ul style="list-style-type: none"> • upon project completion, the consultant will certify compliance with the QCP <p><i><u>Needed:</u> Consultant submits draft Consultant Statement of Technical Review</i></p> <p><i>(a) verifying compliance with the QCP and</i></p> <p><i>b) agreeing to identify and assess issues that arise during later project phases with respect to the QCP</i></p> <p><i>The Statement must be signed by the Project Design Team (PDT), the Independent Technical Review Team (ITRT), and the Principal (or other executive-level official) of the consultant. The consultant will provide the City all Issues analyses from later phases</i></p>
Schedule	
11	<p><i>The QCP specifies that:</i></p> <ul style="list-style-type: none"> • a design schedule showing the sequence of tasks to be completed within the time period specified by the City; must include <ul style="list-style-type: none"> ▪ design submittal dates to City ▪ project design team (PDT) reviews ▪ Independent Technical Review Team (ITRT) reviews ▪ time for revisions prior to submittals to City ▪ time for City review of submittals • how all QCP measures will be tracked to avoid project delays <p><i><u>Needed:</u> Items as described above</i></p>

ATTACHMENT 4: MAXIMUM NOT-TO-EXCEED CONTRACT AMOUNTS BY PHASE

PHASE A: PRELIMINARY PHASE

Agreed Upon Fixed Fee Dollar Amount
Maximum Cost

PHASE A TOTAL

	\$368,986.00
	\$368,986.00

PHASE B: DESIGN PHASE

Agreed Upon Fixed Fee Dollar Amount
Maximum Cost

PHASE B TOTAL

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PHASE C: BID-AWARD-EXECUTION PHASE

Agreed Upon Fixed Fee Dollar Amount
Maximum Cost

PHASE C TOTAL

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PHASE D: CONSTRUCTION PHASE

Agreed Upon Fixed Fee Dollar Amount
Maximum Cost

PHASE D TOTAL

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PHASE E: POST-CONSTRUCTION PHASE

Agreed Upon Fixed Fee Dollar Amount
Maximum Cost

PHASE E TOTAL

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ADDITIONAL COSTS

ADDITIONAL COSTS TOTAL

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REIMBURSABLE COSTS

REIMBURSABLE COSTS TOTAL

	\$10,014.00
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MAXIMUM NOT-TO-EXCEED CONTRACT AMOUNT

	\$379,000.00
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ATTACHMENT 5

SCOPE OF SERVICES

OWNER: City of Austin, Austin Water Utility
CONSULTANT: Black & Veatch Corporation
PROJECT: Walnut Creek Wastewater Treatment Plant Filter Improvements

The following scope of work describes CONSULTANT services for the PROJECT for Phase A - Preliminary Phase Services. The scope of work for Phase B - Design Phase Services, Phase C – Bid-Award-Execution Phase Services, Phase D – Construction Phase Services, and Phase E – Post Construction Phase will be described under future Supplemental Amendments.

PROJECT DESCRIPTION

The PROJECT includes renovation of the existing effluent filter complex at the Walnut Creek Wastewater Treatment Plant. The existing complex includes 10 conventional filters with a total rated capacity of 75 MGD. The filters were constructed under two different plant projects; the four original filters constructed with Filter Building 1 were equipped with surface wash and water only backwash, the six subsequent filters added with Filter Building 2 are equipped with combined air/water backwash without surface wash. All are deep-bed dual media downflow filters. The filter complex includes conduits and hydraulic structures that convey secondary effluent from the chlorine contact basins to the filters and from the filters to the reclaimed water system or the outfall to the Colorado River. The filter complex includes:

- Ten concrete filter boxes equipped with underdrains, media, and backwash troughs
- A concrete piping gallery that houses valves, flow meters and instruments to monitor and control the system
- A concrete clearwell with channels used to store filtered effluent for backwash and supply of the non-potable water (NPW) system prior to discharge to the filter effluent conduit
- Backwash pumps used to supply backwash from the clearwell to the filters
- Non-potable water (NPW) pumps used to supply the plant with filtered, chlorinated water as a back-up to the reclaimed water system on site
- Two separate control rooms that house filter control panels used to control the filter operation
- An electrical room housing gear that supplies power to the facility and includes transformers and a standby power generator
- Instrumentation and control equipment
- Heating, ventilating and air conditioning equipment for interior spaces
- Appurtenant facilities

The objective of this project is to rehabilitate the existing filter complex to improve reliability, allow for unattended automatic operation, restore automatic operation of the filter effluent valves based on the filter influent level, correct existing hydraulic limitations, and replace those components that will reach the end of their useful life in the next 20 years. During Phase A – Preliminary Design, the project team will evaluate the existing facilities to determine their remaining useful life, evaluate alternatives to replace or rehabilitate the existing filters, and complete a Preliminary Engineering and Investigations Report that will identify the scope, schedule and budget for the project. The project team will share technical findings and other information on alternative filter technologies with the team working on the South Austin Regional Filter Rehabilitation Project.

The following general information was made available to the CONSULTANT and was used to develop this scope of work:

1. Phase A – Preliminary Design should be complete within 7 months of the notice to proceed.
2. Regularly scheduled meetings will be held with the project team during Phase A to maintain ongoing communications, review deliverables, and discuss progress. A total of 10 meetings are anticipated for this work. These meetings will generally be limited to less than 4 hours. Full day workshops will be avoided if possible.
3. This project will be coordinated with the filter rehabilitation project being executed concurrently at the South Austin Regional (SAR) Wastewater Treatment Plant.
4. The Fixed Construction Budget for the PROJECT is \$10,800,000.

PHASE A – PRELIMINARY DESIGN

Task A.1 Project Management

CONSULTANT shall provide ongoing project management for the duration of Phase A in order to effectively manage the preliminary design activities, coordinate with OWNER'S staff, and efficiently complete the assignment.

A.1.1 Initial Project Setup. CONSULTANT shall prepare a Project Procedures Manual and Quality Control Plan within 14 days of the start of the project to establish the basic information needed to execute the project. The purpose of these documents will be to establish the framework for executing the project.

A.1.1.1 Project Procedures Manual. CONSULTANT will develop a Project Procedures Manual to be used and updated throughout the project. This manual will include the following information:

- Project Charter
 - General
 - Critical Success Factors
 - Responsibilities and Contact Information
 - Project Funding

- Scope Statement
 - Project Scope
 - Cost Estimate
 - Schedule

- Work Plan
 - General
 - Project Approach
 - Project Team and Staffing Plan
 - Work Breakdown Structure and Budgets
 - Communications Plan
 - Documentation Plan
 - Change Management Process

CONSULTANT will provide 10 hard copies and one electronic copy of this document in draft form to the OWNER 7 days prior to the project initiation meeting. OWNER'S comments will be received at that meeting and incorporated into the Project Information Manual as the initial issue.

A.1.1.2 Quality Control Plan. CONSULTANT will develop a Quality Control Plan that incorporates all of the elements identified in Attachment 3 to this AGREEMENT. This plan will include provisions for quality assurance, quality control and constructability reviews of the deliverables that are identified within this Attachment 3.

CONSULTANT will provide 10 hard copies and one electronic copy of this document in draft form to the OWNER 7 days prior to the project initiation meeting. OWNER'S comments will be received at that meeting and incorporated into the Project Information Manual as the initial issue.

A.1.1.3 Project Initiation Meeting. CONSULTANT will arrange for a project initiation meeting to be held at the Walnut Creek WWTP. The main topics for this meeting will be the Project Procedures Manual, the Quality Control Plan, and an information request prepared by the CONSULTANT. CONSULTANT will prepare the information request and an agenda for this Project Initiation Meeting seven calendar days prior to the meeting. CONSULTANT will ensure adequate representation of the entire project team, including subconsultants, so that the project can be adequately coordinated. This meeting will include representatives from the SAR Filter Rehabilitation project so that the two projects can begin the required coordination effort.

A.1.2 Ongoing Administrative Items. CONSULTANT shall track the project status and keep the OWNER apprised of the status throughout the project. The activities associated with this task are as follows.

A.1.2.1 Monthly Status Reports. CONSULTANT shall prepare monthly status reports to accompany the invoices for this project. The status reports will include an updated project schedule and updated budget plan. The updated budget plan will account for the status of each individual task listed in the Resource Allocation Plan, the amounts invoiced to date, and the overall project status.

A.1.2.2 Quality Control of Deliverables. CONSULTANT'S Independent Technical Review Team will review the deliverables listed within this scope of work and provide independent technical review of these documents prior to their submittal to the OWNER. This will include the maintenance of the Issue Follow Up Plan to document issues raised by the Independent Technical Review Team and the final resolution of those issues.

A.1.2.3 Cost Trend Log. ENGINEER will maintain a cost trend log that will track any changes to the scope of work described within this document. The purpose of the cost trend log is to identify issues that arise during the project that may impact the project budget, and to maintain a running total of those impacts. This cost trend log will include changes that impact the fee for the current phase of work and the overall project budget.

Task A.2 Condition Assessment.

A condition assessment of the following items will be completed as part of this project:

- Process facilities within the filter boxes, including the filter underdrains, media, backwash troughs and surface wash equipment.
- Process facilities within the filter gallery, including piping, valves, and instrumentation.
- Clearwell capacity.
- Filter Backwash Pumps, including the reliability of filter backwash supply.
- Non-Potable Water Pumps.
- Chlorination system capacity.
- Filter gallery structure.
- Filter deck structure.
- Filter operating buildings structure, including roof.

The condition of heating, ventilating and air conditioning equipment will not be documented as part of this effort, as that equipment is assumed to be at the end of its useful life and will be replaced. Likewise, electrical equipment and instrumentation and control equipment has been determined to be at the end of its useful life as part of previous project scoping efforts at this site, this equipment will be replaced. The result of the condition assessment will include a projection of remaining useful life of equipment and the cost of ownership of the facility. The Condition Assessment will include the following:

A.2.1 Review Available Construction Records and Reports. ENGINEER will review construction documents and reports related to the Filter Complex.

A.2.2 Review Equipment Maintenance Records. ENGINEER will review OWNER'S maintenance records and other available asset inventory information supplied by OWNER'S staff to understand the plant specific maintenance history for the asset.

A.2.3 Level of Service and Reliability Meeting. ENGINEER will meet with OWNER'S personnel to discuss levels of service and reliability of equipment to be assessed. OWNER'S representatives from Engineering, Maintenance, and Operations will attend to provide input to the project team regarding this equipment. One of the goals of this effort is to establish single points of failure and the consequences of failure.

A.2.4 Visual Condition Assessment. ENGINEER will conduct a visual condition assessment with participation by OWNER'S staff. This assessment will include all disciplines involved in the assessment process and will take place over three consecutive days.

A.2.5 Filter Underdrain and Media Inspection. ENGINEER will inspect two existing filters from the most recent construction project. This inspection will be conducted in the following sequential manner:

- Observe the backwash for all filters and determine if there are any abnormalities such as mounding of the media that would indicate an underdrain failure.
- Choose the two worst filters from Filter Building No. 2 to inspect.
- OWNER will remove filters from service (one at a time as plant operations permit), drain the filters, and remove the inspection plates in the gallery. ENGINEER will inspect the collection plenum and underside of the nozzles from the gallery without entering the plenum space beneath the underdrains or the gullet. Additional investigations, including the documentation of underdrain condition using video equipment, as covered under Additional Services and will be undertaken if requested by OWNER.
- Upon completion of a backwash, access the filter media from the top and document the top of media elevation in eight different locations using a grid pattern equally spaced over the filter box.
- At each location, probe the media with a rod to determine the total media depth.
- Sample the media at four different locations and different depths and analyze the samples for effective size, uniformity, and the presence of deleterious substances.

A.2.6 Failure Effects Meeting. ENGINEER will prepare a draft technical memo documenting the results of the work done on the visual inspection and forward this technical memo to OWNER seven days prior to a regularly scheduled meeting. ENGINEER will facilitate a portion of this meeting to develop failure modes and effects analysis (FMEA) criteria for this system. The FMEA will be completed by the ENGINEER based upon information from this meeting, and modify the technical memo documenting the inspection based on comments received from the OWNER.

A.2.7 FMEA Spreadsheet and Summary. ENGINEER will complete the FMEA evaluation and produce a FMEA summary and spreadsheet. This document will list the results of the evaluations done to date and the expected remaining useful life of the assets that are part of the Filter Complex. This document will be furnished to OWNER seven days prior to a regularly scheduled meeting.

A.2.8 Condition Assessment Meeting. ENGINEER will include the review of the condition assessment results as part of a regularly scheduled meeting. This review will allow the OWNER the opportunity to comment on the results of the FMEA and the final remaining useful life of the assets being reviewed.

A.2.9 Final Documentation. ENGINEER will finalize the condition assessment in the form of a technical memo and will document this information on the forms used by the OWNER as part of their asset management plan.

Task A.3. Alternative Evaluations.

Alternative evaluations will be conducted by ENGINEER to develop alternative solutions to operational shortcomings and reduce the operational and maintenance costs associated with effluent filtration. These evaluations will be segregated into two major categories: Alternative Filtration Technologies and Alternative Granular Filter Improvements. The first category will involve a review of other types of filters that are commonly employed in wastewater treatment. This alternative evaluation will involve development of conceptual designs for replacing the existing granular filters with different technology. Capital and operating costs will be developed based on ENGINEER'S experience at other facilities. The second category will involve development of specific solutions to the operational issues documented in the condition assessment and operational assessment. The alternatives evaluated will be based on renovation of the existing granular media filters, and the level of detail will be greater than that developed for the alternative technologies. Capital and operating costs developed for the granular media filter alternatives will be based on preliminary pricing for the alternative developed for the Walnut Creek WWTP.

A.3.1 Establish Current Operational Limits. ENGINEER will document the current operational limits for the filter complex by discussing operations with plant staff and reviewing records that are readily available in a compiled format. ENGINEER will document hydraulic loading rates, solids removal efficiency, and backwash requirements that have been documented by OWNER. The head available in the existing plant hydraulic profile will be documented with the plant operating at a rated capacity of 75 MGD to allow alternative filter technologies to be evaluated against the existing granular media. ENGINEER has budgeted 40 hours of staff time for this effort, additional operational evaluation tasks are described under Additional Services.

A.3.2 Alternative Filtration Technologies. ENGINEER will evaluate alternative filtration technologies to determine if the existing granular media filtration technology

now employed at the Walnut Creek WWTP should be abandoned in favor of an alternative technology or retrofitted within the existing facilities currently in place. This evaluation will be conducted with input from OWNER'S staff during special joint project meetings that include members of the project team evaluating alternative technology for the South Austin Regional Plant.

A.3.2.1 Initial Review of Filtration Technologies. During a special joint project meeting, ENGINEER will present a review of technologies that are currently being applied to secondary effluent filtration. This presentation will focus on the nature of the alternative process, the required support facilities, parametric costs from similarly sized treatment plants, operations and maintenance considerations, and the applicability of the technology for nutrient removal. During this presentation, OWNER will have the opportunity to eliminate alternative processes from further consideration. ENGINEER will identify potential evaluation criteria to be used for ranking the alternatives and will facilitate a discussion with the group to identify the complete listing of evaluation criteria and weight that each criterion will have in the evaluation of alternatives. The engineering fee for this item is based on the assumption that two alternative treatment technologies will be taken forward for further analysis.

A.3.2.2 Draft Alternative Filtration Technology TM. Based on the results of the initial process review, ENGINEER will draft an Alternative Filtration Technology TM. This TM will document the alternative filtration technologies that are available for this application, the basic design parameters for each technology, a conceptual approach to fitting the technology into the existing filtration complex, and the ENGINEER'S opinion of probable construction costs for each alternative.

A.3.2.3 Review of Alternative Filtration Technology TM. ENGINEER will forward the Draft Alternative Filtration Technology TM to OWNER seven days prior to a special joint project meeting. ENGINEER will conduct this meeting to review the contents of the TM and receive OWNERS comments.

A.3.2.4 Finalize Alternative Filtration Technology TM. ENGINEER will incorporate OWNER'S comments and finalize the Alternative Filtration Technology TM. This TM will not include a recommendation for the filtration technology, that recommendation will be made after the Alternative Granular Filter Improvements are developed.

A.3.3 Alternative Granular Filter Improvements. Alternative granular filter improvements will be developed by ENGINEER to address operation and maintenance issues for the existing granular media filters. All of the improvements described within this section will have alternative solutions. Other improvements to this facility that have only one obvious solution and those that have been evaluated as part of previous projects will be developed in subsequent tasks after selection of the preferred process alternative. In all cases, this task will document the effort required to bring the existing filter complex

up to a firm capacity of 75 MGD and a remaining useful life of 20 years. Each improvement and alternative will be developed with adequate detail to estimate construction and operating costs. This detail includes equipment sizing, schematics, and equipment layout figures. Each improvement will also include comparison to the “do nothing” alternative.

A.3.3.1 Filter Media and Underdrains. ENGINEER will develop two alternative filter media/underdrain configurations to be implemented in the existing filter boxes.

A.3.3.2 Air Scour Blower. ENGINEER will evaluate the impact of locating dedicated air scour blowers for the filter complex near the existing structure. Two alternative equipment layouts will be developed, one within the existing structure and one based on a new structure adjacent to the filter complex. In this instance, the “do nothing” alternative will include replacement of the existing buried piping and the main air control valve which is not currently accessible. This alternative will include an evaluation of mechanical systems that are available on the market to supply air at the required pressure and volume. This alternative will include an evaluation of the impact to the existing electrical system from the addition of this new electrical load. This evaluation will include the impact of this new system on the proposed control equipment for this complex.

A.3.3.3 Backwash Supply. ENGINEER will evaluate two alternatives for backwash supply, either the use of backwash pumps fitted with variable frequency drives or the installation of a backwash tank. This alternative will include an evaluation of the impact to the existing electrical system from the addition of this new electrical load. This evaluation will include the impact of this new system on the proposed control equipment for this complex.

A.3.3.4 Draft Alternative Granular Filter Improvements TM. ENGINEER will draft an Alternative Granular Filter Improvements TM. This TM will document the alternative solutions for each improvement (as appropriate), the basic design parameters for each improvement or alternative, conceptual schematics and equipment layout drawings for each improvement or alternative, and the ENGINEER’S opinion of probable construction costs for each alternative.

A.3.3.5. Review of Alternative Granular Filter Improvements TM. ENGINEER will forward the Draft Alternative Granular Filter Improvements TM to OWNER seven days prior to a regularly scheduled project meeting. ENGINEER will conduct a portion of that meeting to review the contents of the TM and receive OWNER’S comments.

A.3.3.6 Finalize Alternative Granular Filter Improvements TM. ENGINEER will incorporate OWNER’S comments and finalize the Alternative Filtration Technology TM. This TM will not include a recommendation for the filtration

technology, that recommendation will be made after the Alternative Granular Filter Improvements are developed.

A.3.4 Selection of Preferred Alternative. Once the ENGINEER has completed all of the alternative evaluations, ENGINEER will assemble a document to assist the OWNER in selecting the preferred alternative or combination of alternatives that provides the best value to the Walnut Creek WWTP.

A.3.4.1 Evaluation of the Sustainability of Alternatives. During a regularly scheduled project meeting, ENGINEER will conduct a LEED charette to examine the sustainability of the alternatives that have been developed. This will allow OWNER to provide input into the process to influence sustainability in the final project, and will serve as the basis for ranking the applicability of LEED concepts to each alternative. ENGINEER will document the outcome of the LEED charette and provide a preliminary ranking of the sustainability of each alternative.

A.3.4.2 Overall Process Integration. ENGINEER will evaluate the impact of filter operation on the total treatment process by identifying the impact of backwash supply, backwash waste, and air scour on the existing plant processes. The disinfection of filtered effluent and accumulation of solids in the filter clearwell will be documented and the impact of these operational issues on the treatment plant will be documented.

A.3.4.3 Documentation for Preliminary Ranking of Alternatives. ENGINEER will develop a TM that will define the criteria used for ranking alternatives and assign a preliminary ranking for each criteria as it applies to each alternative. ENGINEER will conduct a review of the alternatives at a regularly scheduled meeting, at which time OWNER will provide input into the ranking of each alternative. At this meeting OWNER will select a preferred alternative.

Task A.4. Preliminary Engineering and Investigations Report

ENGINEER will complete the following tasks to develop the Preliminary Engineering and Investigations Report.

A.4.1 Development of Improvements with no Alternative Solutions. This task covers the development of solutions to various parts of the project that have only one obvious solution and those that have been evaluated as part of previous projects with the solution already determined.

A.4.1.1 Non-potable Pumping System. ENGINEER will develop a single solution to replace the existing Non-potable Pumping System with a new system that has adequate capacity to back up the Reuse System. The new system will include pumps and a hydro-pneumatic tank to maintain system pressure. This alternative will include an evaluation of the impact to the existing electrical

system from the addition of this new electrical load. This evaluation will include the impact of this new system on the proposed control equipment for this complex.

A.4.1.2 Standby Power. ENGINEER will develop a single solution to provide standby power from the existing generator to the non-potable system and chemical feed facilities within the filter complex. This solution will take into account the current improvement project (being performed by others) to the power distribution system and the Reclaimed Water System electrical loads and reliability. This alternative will include an evaluation of the impact to the existing electrical system from the addition of this new electrical load. This evaluation will include the impact of this new system on the proposed control equipment for this complex.

A.4.1.3 Filter Controls. ENGINEER will incorporate into the report the solution identified during contract negotiations (with others) for the filter control system upgrade project. The recommended solution includes the following improvements to the existing facilities:

- Replacement of ten existing filter control panels with ten new control panels, each panel to contain a programmable logic controller (PLC).
- Installation of an overall filter control PLC.
- Installation of user accessible control stations at the filter pipe gallery level for five motorized valves used for each filter.
- Installation of power and data outlets in the vicinity of each filter control panel to support the use of a personal computer station (PCS).
- Connection of Filter Buildings 1 and 2 to the existing Ethernet network on the plant site.
- Conversion of the chlorine sampling lab area in Filter Building 1 to a backup plant operation station, including the installation of outlets for a plant SCADA workstation and a Lift Station Telemetry Workstation.

A.4.1.4 Replacement and Renovation of Assets With Less Than 20 Years Useful Life. ENGINEER will identify and develop a single solution with multiple components to replace or renovate equipment, piping, structural elements, and appurtenant facilities identified as part of the condition assessment program. This will include demolition of the surface wash system and the chlorine sampling/analyzer system that is no longer in use. This alternative will include proposed modifications to the structural elements of this facility based on the outcome of the condition assessment. This alternative will include proposed modifications to architectural elements of this facility based on the outcome of the condition assessment. This alternative will include proposed modifications to HVAC elements of the existing facilities based on the outcome of the condition assessment. This alternative will include an evaluation of the impact to the existing electrical system from the addition and deletions of electrical loads. This

evaluation will include the impact of these modifications on the proposed control equipment for this complex.

A.4.2 Document Process Design Criteria. ENGINEER will document process design criteria needed to determine major process equipment sizes and ratings for the filtration complex. These parameters will be discussed at a regularly scheduled project meeting and ENGINEER will finalize the Design Criteria to be used in Preliminary Design.

A.4.3 Develop Process Flow Diagrams and Schematics. ENGINEER will develop process flow diagrams and schematics as a set of 11-inch by 17-inch figures that include the filtration complex.

A.4.4 Prepare Major Process Equipment Control Table. Building upon the work already completed by OWNER under a separate project, ENGINEER will define the local and remote control requirements for the filters.

A.4.5 Complete Preliminary Hydraulic Calculations. ENGINEER will complete preliminary hydraulic calculations for the major process systems within the Filter Complex. These calculations will be completed with adequate detail to allow sizing of individual process equipment, valves, piping, and metering devices within each of the major process elements depicted on the process flow diagrams and schematics.

A.4.6 Select Major Valve Locations and Functions. ENGINEER will determine where valves should be located to provide adequate process control and isolation. The essential function (isolation, flow control, etc.) and type of valves, actuators and gearboxes will be designated, and valves will be located on the schematics. ENGINEER will coordinate this task with the finalization of development of the plant control strategy and locating the primary I&C elements.

A.4.7 Indicate Primary I&C Elements. ENGINEER will locate primary instrumentation elements for flow, level, and pressure measurements needed for process control and monitoring on the schematics. The number and location of these devices will support the control strategy depicted in the process equipment control table.

A.4.8 Review of Process Flow Diagrams. ENGINEER will assemble the final process flow diagrams, schematics and the process design criteria text portion of the Preliminary Engineering and Investigations Report. This text will incorporate the key unit process control parameters that have been tabulated in the process equipment control table. This information will be presented at a regularly scheduled workshop to reach a consensus on the overall process elements and control systems.

A.4.9 Generate Equipment List and Process Mechanical Design Criteria. ENGINEER will generate lists of all major process equipment and subsystem components, including related valves, primary elements, and control system components. Engineer will develop text for design criterion that apply to process mechanical equipment and systems that will be part of this project.

A.4.10 Perform Site Utility Analysis. ENGINEER will identify the required capacity of existing onsite utilities in the filter complex. ENGINEER will determine capacity of existing utilities. ENGINEER will evaluate the requirements of the new facilities in relation to the existing capacities to determine if additional utilities are required as part of this work.

A.4.11 Structural Design Criteria. ENGINEER will prepare structural discipline text for inclusion in the Preliminary Engineering and Investigations Report identifying the applicable codes and standards, general types of structural and foundation systems to be utilized, and noting particular preferences of the OWNER.

A.4.12 Preliminary Code Review. ENGINEER will determine the classification rating for areas within buildings or facilities in which hazardous materials or processes are present. ENGINEER will identify applicable codes, OWNER preferences, and the approach used by the authority having jurisdiction. ENGINEER will document the applicable building code classifications for spaces. ENGINEER will also identify those spaces that qualify as confined spaces in accordance with OSHA regulations. The deliverable for this task is a code classification table.

A.5.13 Architectural Design Criteria. ENGINEER will prepare architectural discipline text identifying applicable codes and standards, and describing the accommodations for plant personnel. This text will include a description of the appearance and finishes of the buildings.

A.4.14 Update Facility Plans and Sections. ENGINEER will update preliminary process facility plans and sections that establish location of process equipment and routing of major process piping (generally including pipes over 12 inches) within facilities that house process equipment. ENGINEER will coordinate these plans with the yard piping and process equipment layout. These plans and sections will not be production drawings, and there is no intent to utilize these figures for the Final Design of this project. Instead of production drawings, these figures will be used to depict the interaction of the process equipment, piping, support facilities, and personnel that will operate this facility. Work by multiple disciplines will be shown on the same sheet, and these figures will show only major dimensions. The level of detail shown will be adequate to support the preparation of a Class C estimate.

A.4.15 Update Preliminary Site Plan. ENGINEER will update the preliminary site plan drawings to reflect the current configuration of process facilities, routing of process piping, location of major electrical gear, and general location of utilities required to serve these facilities. These drawings will depict roadways and major drainage elements. These site plans will not be production drawings, and there is no intent to utilize these figures for the Final Design of this project. Instead of production drawings, these figures will be used to depict the interaction of the new process facilities, existing facilities, and personnel that will operate this facility. The level of detail shown will be adequate to support the preparation of a Class C Estimate.

A.4.16 HVAC and Plumbing Design Basis. ENGINEER will develop text identifying codes and standards applicable to the design of HVAC and plumbing systems. Engineer will describe the designs required for the plant and note particular OWNER preferences.

A.4.17 Electrical Design Basis. ENGINEER will describe the required modifications to the power feed equipment for Filter Buildings 1 and 2 facility. This work will be coordinated with the ongoing electrical distribution improvements project being performed by others and will incorporate OWNER's standards for power distribution.

A.4.18 Instrumentation and Control Design Basis. ENGINEER will describe the control systems required for the filter complex and the level of automation that will be provided. This effort will be in conformance with the OWNER's standards for control equipment and will conform to other, similar projects at the site. ENGINEER will note Owner preferences for instruments.

A.4.19 Class C Cost Estimate. Engineer will prepare a Class C cost estimate broken down by project element in sufficient detail to facilitate the prioritization of project elements.

A.4.20 Prioritization of Project Elements. ENGINEER will deliver a draft version of the Class C Cost Estimate one week prior to a regularly scheduled project meeting. At this meeting, the project team will prioritize the various project elements. This prioritization will include a rating based on the OWNERs evaluation criteria and will result in a ranking of the project elements from most critical to least critical. This prioritized listing will include a running total of costs that will be used to develop the scope of the project that will be advanced to final design.

A.4.21 Assemble and Issue Preliminary Engineering and Investigations Report. ENGINEER will assemble the Preliminary Engineering and Investigations Report describing the design basis for the entire project. The deliverable for this project will be a compilation of the work done on the previous phases updated to reflect the current project status. The outcome of the prioritization of project elements meeting and comments received from OWNER as part of the review of draft chapters. The general outline of the Preliminary Engineering and Investigations Report will be as follows:

Preliminary Engineering and Investigations Report

- Scope of Work
- Process Design Criteria
- Civil and Mechanical Process Design Criteria
- Structural Design Criteria
- Architectural Design Criteria
- HVAC and Plumbing Design Criteria
- Instrumentation and Control Design Criteria
- Electrical Design Criteria

Appendices

- Condition Assessment TM
- Filter Process Alternatives TM
- Granular Filter Alternatives TM
- Alternative Evaluation and Selection TM
- Class C Cost Estimate
- Equipment List

Figures

- Process Flow Diagrams
- Schematics
- Hydraulic Profile
- Preliminary Site Plans
- Preliminary process facility layouts, including major piping and equipment
- Process facility sections
- Power distribution functional diagrams

A.4.22 Review and Revision of Preliminary Engineering and Investigations Report. ENGINEER will receive comments from OWNER on the draft Preliminary Engineering and Investigations Report and will revise and re-issue the document.

Task A.5. Close Out Preliminary Engineering Phase

Close out of the Preliminary Engineering Phase will include the following activities:

A.5.1 Quality Control Plan Documentation. ENGINEER will prepare the final documentation for the Quality Control Plan and submit this document to the OWNER.

A.5.2 Report on LEED Activity. ENGINEER will prepare the required report on LEED activity for this project and submit this document to the OWNER.

A.5.3. Scope and Fee for Detailed Design. ENGINEER will prepare detailed scope and fee for a project amendment for detailed design and negotiate the amendment with OWNER.

ADDITIONAL SERVICES

The Additional Services included in this section are not included in the scope of work for this contract. These services may be added by Supplemental Amendment to this AGREEMENT as stipulated in Section 2.1.8 of the General Conditions of Agreement.

S.1. Additional Investigation of Nozzle Underdrains in Filter Building No. 2. ENGINEER will document the condition of the underdrains in two filters using a sewer line video camera inserted into each half of the filter box through existing access hatches into the gallery. Using results from video output, ENGINEER will document the condition of that portion of the filter box beneath the subfloor.

S.2 Operational Assessment. An operational assessment will be conducted on the existing filters. The purpose of the operational assessment is three-fold: 1) To document the current operating conditions of the existing filters; 2) To quantify any difference in operation between the two sets of filters; and 3) To establish the operational capacity of the filters, both in terms of solids and hydraulic loading rates.

S.2.1 Review and Summarize Operational Records. ENGINEER will review operational records furnished by OWNER for the filter complex. The last ten years of data will be reviewed and summarized by ENGINEER in an attempt to establish the following parameters:

- Hydraulic loading rate under average annual, maximum month and peak two-hour conditions.
- Solids removal efficiency under average annual, maximum month and peak day conditions.
- Backwash intervals and volume of water used under average and design maximum loading conditions (unit filter run volume/time).
- Range of water temperatures in the record and the impact of temperature on backwash rate.

ENGINEER will develop these historic filter performance operational parameters to the extent possible based on the OWNER'S records. Gaps in the existing records will be filled in by conducting filter tests.

S.2.1.1 Develop Filter Testing Protocol. ENGINEER will develop filter testing protocol to establish existing filter operating parameters that cannot be derived from the existing data and to establish the boundary conditions for operation of the existing filters. This protocol will involve specified operation of two or more of the filters for a period of approximately 2 weeks. OWNER'S staff will be responsible for the operation of the filters and collection of data during this period.

S.2.1.2 Filter Operational Testing. Operational testing will be conducted over a period of two weeks and will involve specific operation of two filters in accordance with the protocol established by ENGINEER. OWNER'S staff will be responsible for operation of the filters, conducting tests, and documenting filter performance. Data collected by OWNER will be incorporated into the operational records to establish the current operating parameters for the filters.

S.2.2 Draft Operational Assessment TM. ENGINEER will prepare a draft of the Operational Assessment TM for review by OWNER. This TM will document the results of the Operational Assessment and provide technical justification for the capacity rating of the existing filters. In addition, the ability of the existing filters and related systems to support a plant capacity of 100 MGD will be presented. Operational issues related to the filters will be identified and the impact of filter operation on the rest of the treatment plant will be described.

S.2.3 Meeting to Review Results. ENGINEER will forward the Draft Operational Assessment TM to OWNER seven days prior to a regularly scheduled project meeting. ENGINEER will conduct a portion of that meeting to review the contents of the TM and receive OWNERS comments.

S.2.4 Finalize Operational Assessment TM. ENGINEER will incorporate OWNER'S comments and finalize the Operational Assessment TM.

S.3. Public Meetings. ENGINEER will conduct public meetings with OWNER and other interested entities regarding alternatives for the PROJECT as required in Section 1.4.1.1 of the Supplemental Terms and Conditions of the Agreement.

S.4. Preliminary Cultural Resources Assessment. ENGINEER will conduct a Preliminary Cultural Resources Assessment as required in Section 1.4.1.2 of the Supplemental Terms and Conditions of the Agreement.

S.5. Environmental Report. ENGINEER will prepare an Environmental Report as required in Section 1.4.1.7 of the Supplemental Terms and Conditions of the Agreement.

S.6. Site Survey. ENGINEER will conduct a site survey of the existing filter complex to verify the construction documents and determine the physical location of the major facilities. This effort will include a vertical survey of the structure and piping to verify elevation of the visible elements and a survey of the horizontal dimensions of critical elements, such as major piping runs and structure walls. This survey will also include the geotechnical report and other reports required in Section 1.4.1.8 of Supplemental Terms and Conditions of the Agreement.

S.7. Conforming Documents. ENGINEER will develop a set of floor plans and major sections that depict the existing facilities. These drawings will be done in AutoCAD format based on the existing construction documents furnished by the OWNER and the result of the site survey. These drawings will form the backgrounds for the detailed drawings to be produced during detailed design.

S.8 Meetings with Texas Commission on Environmental Quality. ENGINEER will meet with representatives of TCEQ to discuss alternative filtration technology if selected during the alternative selection process.

S.9 Value Engineering and Third-Party Reviews. Participation in and responding to Value Engineering and Third-Party Reviews.

OWNER'S RESPONSIBILITIES

This section describes specific responsibilities of the OWNER related to this AGREEMENT in addition to those identified in the General Conditions of Agreement and the Supplemental Terms and Conditions of the Agreement.

O.1. Removal and Dewatering of Filters for Inspection. OWNER will remove two existing filters from service, one unit at a time, to allow ENGINEER to conduct a detailed inspection of the filter boxes, media, and underdrains. This will include isolation of the filter piping, removal of all water that remains in the filter box and gullet, and removal of access hatches required to access the underdrains. Temporary facilities will be provided for access to the filter boxes from the deck of the filter complex.

O.2 Filter Operational Testing. OWNER will conduct filter operational tests on two filters in accordance with the protocols developed by ENGINEER, if the Operational Assessment described under Supplemental Services is authorized by OWNER. This testing will include additional sampling and testing of the filter influent, filter effluent, and filter backwash waste. The filters that are undergoing operational testing shall be closely monitored and controlled to ensure that throughput, headloss and other key parameters are measured and recorded at regular time intervals so that the filter performance can be documented.



AECOM
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512 472 4519 tel
512 472 7519 fax

April 1, 2011

Mr. David Timmermann
Black & Veatch Corporation
106 E. 6th Street
Austin, Texas 78701-3659

Re: Professional Engineering Services Proposal for the
Walnut Creek WWTP Filter Improvements
B&V Project Number: 168622

Dear Mr. Timmerman:

This Professional Engineering Services proposal is submitted for the Preliminary Engineering Phase of the Walnut Creek WWTP Filter Improvements Project, B&V Project Number 1618622. If acceptable, this proposal will serve to define the first authorization under the Agreement between AECOM Technical Services (AECOM) and Black & Veatch Corporation (B&V).

PROJECT HISTORY

The Walnut Creek WWTP is permitted to treat and discharge an average daily flow of 75-MGD which is within the capacity of the existing filters. The filters were constructed and placed into service in 1974. There are a total of ten filters, located in two separate buildings. The tertiary filters serve as the final step in the wastewater treatment process before the plant effluent is discharged to the Colorado River. This final step is required to comply with Texas Commission on Environmental Quality (TCEQ) permit requirements. In addition, the Walnut Creek WWTP feeds the City's water reuse program which has additional effluent quality requirements. The filters overall are in fair condition. Most of the valves and actuators appear to be in workable condition but are in need of replacement due to age and deterioration. Recently, extra filter media has been added to supplement losses. The conditions of the filter under drains are unknown, as none of the filters has been totally removed from service. The filter clearwell is common to both the filter backwash pumps and the low service pumps and the backwash pumps are used simultaneously.

The Austin Water Utility (AWU) is in the initial stages of the Filter Control Panel Replacement Project at the Walnut Creek WWTP Tertiary Filter Building. This project consists of improvements including rehabilitation/replacement of several existing control panels, Programming Logic Controllers (PLC), interfaces with Plant SCADA, and some miscellaneous valves, actuators, and flow meters. Originally, improvements to the Filter Control Panels were included in this Project. However, these improvements have subsequently been included in the Walnut Creek WWTP Filter Improvements Project.

The City of Austin is seeking a Preliminary Engineering Report that evaluates the current condition and presents recommendations for improvements to the Walnut Creek WWTP filters. Proposed improvements generally include the evaluation and potential replacement and automation of various filter components such as the filter under drain systems, media, valves and operators, backwash system, electrical and control infrastructure and other structural/architectural improvements that may be required.



Mr. David Timmermann

April 1, 2011

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PROJECT DESCRIPTION

The Project includes renovation of the existing effluent filter complex at the Walnut Creek WWTP. The existing complex includes 10 conventional filters with a total rated capacity of 75 MGD. The filters were constructed under two different plant projects; the four original filters constructed with Filter Building 1 were equipped with surface wash and water only backwash; the six subsequent filters added with Filter Building 2 are equipped with combined air/water backwash without surface wash. All are deep-bed dual media downflow filters. The filter complex includes conduits and hydraulic structures that convey secondary effluent from the chlorine contact basins to the filters and from the filters to the reclaimed water system or the outfall to the Colorado River. The filter complex includes:

- Ten concrete filter boxes equipped with under drains, media, and backwash troughs
- A concrete piping gallery that houses valves, flow meters and instruments to monitor and control the system
- A concrete clearwell with channels used to store filtered effluent for backwash and supply of the non-potable water (NPW) system prior to discharge to the filter effluent conduit
- Backwash pumps used to supply backwash from the clearwell to the filters
- NPW pumps used to supply the plant with filtered, chlorinated water as a back-up to the reclaimed water system on site
- Two separate control rooms that house filter control panels used to control the filter operation
- An electrical room housing gear that supplies power to the facility and includes transformers and a standby power generator
- Instrumentation and control equipment
- Heating, ventilating and air conditioning equipment for interior spaces
- Appurtenant facilities

The objective of this project is to rehabilitate the existing filter complex to improve reliability, allow for unattended automatic operation, correct existing hydraulic limitations, and replace those components that will reach the end of their useful life in the next 20 years. During Phase A – Preliminary Engineering, the project team will evaluate the existing facilities to determine their remaining useful life, evaluate alternatives to replace or rehabilitate the existing filters, and complete a Preliminary Engineering Report that will identify the scope, schedule and budget for the project.

The scope of work for this project will address each of the items outlined in the B&V Scope of Services, provided as Attachment 5 to AECOM. The following paragraphs define tasks to be performed to accomplish this scope of work.

SCOPE OF WORK

The following tasks will be performed as the Preliminary Engineering Phase of this project.

A.1 Project Management

1. Assist B&V in the development of the Project Procedures Manual, including Quality Control/Quality Assurance (QA/QC) review of both the draft and final procedures manual.
2. Assist B&V in the development of the Quality Control Plan for the project, including QA/QC and constructability review procedures.
3. Attend the Project Initiation Meeting to be held at the Walnut Creek WWTP.
4. Prepare monthly progress reports and invoices including all back-up data and deliver to B&V on agreed to schedule.
5. Attend internal project meetings. It is anticipated that ten (10) internal progress meetings will be required, each lasting no more than 2 hours each, to be held at the B&V office.



Mr. David Timmermann

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- A.2 Condition Assessment
 - 1. Perform QA/QC review of Draft Condition Assessment Technical Memorandum.
 - 2. Perform QA/QC review of the Final Condition Assessment Technical Memorandum.

- A.3 Alternative Evaluation
 - 1. Assist B&V with the evaluation of alternative filter technologies, including review of available alternatives to the existing granular media filters, and preparation for the presentation of the available alternatives to the City of Austin.
 - 2. Perform QA/QC review of the Draft Alternative Filtration Technology Technical Memorandum.
 - 3. Perform QA/QC review of Final Alternative Filtration Technology Technical Memorandum.
 - 4. Perform QA/QC review of Draft Alternative Granular Filter Improvements Technical Memorandum.
 - 5. Perform QA/QC review of Final Alternative Granular Filter Improvements Technical Memorandum.
 - 6. Perform QA/QC review of Draft Alternative Ranking Technical Memorandum.
 - 7. Perform QA/QC review of Final Alternative Ranking Technical Memorandum.

- A.4 Preliminary Engineering and Investigations Report
 - 1. Review the architectural, structural, and code classifications used for the project and the associated chapters of the Preliminary Engineering Report.
 - 2. Perform QA/QC review of the materials to be presented at the Prioritization Workshop.
 - 3. Perform QA/QC review of the Draft Preliminary Engineering and Investigations Report.

- A.5 Close Out Preliminary Engineering Phase
 - 1. As part of the close out of the Preliminary Engineering Phase, assist B&V with the preparation of the final documentation for the Quality Control Plan.

SPECIAL SERVICES

The Scope of Services and the budget presented herein do not include the following special services:

- 1. Travel and subsistence required of AECOM, and authorized by B&V, to points other than local governmental agencies, consultants and project site.
- 2. Participation in any Public Meeting that may be required for the Project.
- 3. QA/QC review of any Environmental or Cultural Investigation Report required for the Project.
- 4. Assistance in any hazardous material inspections to determine the presence of these materials in the areas of the Walnut Creek WWTP where this scope of work will be performed. It is assumed that the City of Austin has performed this investigation and the results of this investigation will be provided to B&V.

Should B&V and AECOM agree that any of the above Special Services, or other additional services are required, AECOM will prepare a cost proposal for such services and obtain authorization from B&V prior to performing any special services.

INFORMATION REQUIRED FROM B&V

The following information is understood to be available and will be provided by B&V to assist in the performance of this scope of work.



Mr. David Timmermann
April 1, 2011
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1. Existing Walnut Creek WWTP Filter operational records, to the extent available, to define any operational problems that currently exist with the existing facilities and to aid in the review of the various Technical Memorandums.
2. Existing Walnut Creek WWTP Filter maintenance records, to the extent available, to define any maintenance problems that currently exist with the existing facilities and to aid in the review of the various Technical Memorandums.
3. Reports from hazardous materials investigations performed that define the presence of these materials in the areas of the Walnut Creek WWTP where this scope of work will be performed.

SCHEDULE

The above defined Scope of Services is based on anticipated receipt of a notice to proceed in the fall of 2010 with the Preliminary Engineering effort completed and draft report issued within eight months of the notice to proceed. It is anticipated the filter process evaluation will proceed in parallel with other defined activities and this work at the Walnut Creek WWTP Filters will be authorized and performed in parallel with the work done at the SARWWTP Filter Building Improvements project.

DELIVERABLES

The following deliverables will be submitted to B&V for review and approval.

1. QA/QC Project Documentation Plan.
2. QA/QC review comments on associated Technical Memorandums.
3. QA/QC review comments on the Preliminary Engineering and Investigations Report.
4. QA/QC closeout documentation.

COMPENSATION

Compensation for the above Scope of Services is to be on a lump sum basis with payment made monthly on the basis of progress achieved. The project cost for the scope of work has been calculated and is defined in the attached Exhibits, Nos. A.1 through A.4, with the cost summarized in Exhibit No. 1. The total compensation for the above Scope of Services is \$30,000.00 and will not be exceeded without prior written authorization from B&V.

If this proposal meets with your approval, we understand it will be incorporated into a task order under the basic contract between AECOM and Black & Veatch.

Sincerely,

Shelby G. Eckols, P.E.
Senior Vice President

Attachments

WALNUT CREEK WWTP
 FILTER IMPROVEMENTS
 PRELIMINARY ENGINEERING

EXHIBIT NO. 1

Direct Labor Rates & Multipliers	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	FRINGE and G&A MULT.
	75	85	55	40	35	24	1.828

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
A.1 Project Management (Exhibit A.1)	0	18	36	0	0	6	60
A.2 Condition Assessment (Exhibit A.2)	0	3	8	0	0	2	13
A.3 Alternative Evaluation (Exhibit A.3)	0	24	20	0	0	6	50
A.4 Preliminary Engineering and Investigations Report (Exhibit A.4)	0	7	16	5	0	4	32
A.5 As part of the close out of the Preliminary Engineering Phase, assist B&V with the preparation of the final documentation for the Quality Control Plan.	0	2	6	0	0	2	10
TOTAL HOURS	0	54	86	5	0	20	165
DIRECT LABOR TOTALS	\$0	\$4,590	\$4,730	\$200	\$0	\$480	\$10,000
FRINGE & GENERAL/ADMIN. COSTS	\$0	\$7,473	\$7,700	\$326	\$0	\$781	\$18,280
TOTAL LABOR COSTS	\$0	\$12,063	\$12,430	\$526	\$0	\$1,261	\$28,280

NON-LABOR ESTIMATE

ITEM	UNITS	QTY.	RATE	TOTAL
Internal Printing (8.5 x 11 photocopies)	L.S.	1	\$500	\$500
Telephone	L.S.	1	\$75	\$75
Courier	EACH	9	\$7	\$63
Total				\$638

SUMMARY & FEE CALCULATION

WORK PLAN ESTIMATE		\$26,918
FEE CALCULATION	Direct Labor x 17% \$1,700.00	Fringe & G/A x 9% \$1,465.20
TOTAL FEE ESTIMATE		\$3,165
		\$30,083

WALNUT CREEK WWTP
 FILTER IMPROVEMENTS
 PROJECT MANAGEMENT

EXHIBIT NO. A.1

Direct Labor Rates & Multipliers	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	FRINGE and G&A MULT.
	75	85	55	40	35	24	1.628

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1 Assist B&V in the development of the Project Procedures Manual, including Quality Control/Quality Assurance (QA/QC) review of both the Draft and Final procedures manual.		2	8			1	11
2 Assist B&V in the development of the Quality Control Plan for the Project, including QA/QC and constructability review procedures.		1	8			1	10
3 Attend Project Initiation Meeting to be held at the Walnut Creek WWTP.		2	4				6
4 Prepare monthly progress reports and invoices including all back-up data and deliver to B&V on agreed to schedule.		3	6			4	13
5 Attend internal Project Meetings. It is anticipated that ten (10) internal progress meetings will be required, each with a duration of no more than 2 hours each, to be held at the B&V office.		10	10				20
TOTAL HOURS	0	18	36	0	0	6	60
DIRECT LABOR TOTALS	\$0	\$1,530	\$1,980	\$0	\$0	\$144	\$3,654
FRINGE & GENERAL/ADMIN. COSTS	\$0	\$2,491	\$3,223	\$0	\$0	\$234	\$5,949
TOTAL LABOR COSTS	\$0	\$4,021	\$5,203	\$0	\$0	\$378	\$9,603

WALNUT CREEK WWTP
 FILTER IMPROVEMENTS
 CONDITION ASSESSMENT

EXHIBIT NO. A.2

Direct Labor Rates & Multipliers	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	FRINGE and G&A MULT.
	75	85	55	40	35	24	1.628

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1 Perform QA/QC review of Draft Condition Assessment Technical Memorandum.		2	4			1	7
2 Perform QA/QC review of the Final Condition Assessment Technical Memorandum.		1	4			1	6
TOTAL HOURS	0	3	8	0	0	2	13
DIRECT LABOR TOTALS	\$0	\$255	\$440	\$0	\$0	\$48	\$743
FRINGE & GENERAL/ADMIN. COSTS	\$0	\$415	\$716	\$0	\$0	\$78	\$1,210
TOTAL LABOR COSTS	\$0	\$670	\$1,156	\$0	\$0	\$126	\$1,953

WALNUT CREEK WWTP
 FILTER IMPROVEMENTS
 ALTERNATIVE EVALUATION

EXHIBIT NO. A.3

Direct Labor Rates & Multipliers	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	FRINGE and G&A MULT.
	75	85	55	40	35	24	1.628

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1. Assist B&V with the evaluation of alternative filter technologies, including review of available alternatives to the existing granular media filters, and preparation for the presentation to the COA of the available alternatives.		12					12
2. Perform QA/QC review of the Draft Alternative Filtration Technology Technical Memorandum.		2	2			1	5
3. Perform QA/QC review of Final Alternative Filtration Technology Technical Memorandum.		2	2			1	5
4. Perform QA/QC review of Draft Alternative Granular Filter Improvements Technical Memorandum.		2	4			1	7
5. Perform QA/QC review of Final Alternative Granular Filter Improvements Technical Memorandum.		2	4			1	7
6. Perform QA/QC review of Draft Alternative Ranking Technical Memorandum.		2	4			1	7
7. Perform QA/QC review of Final Alternative Ranking Technical Memorandum.		2	4			1	7
TOTAL HOURS	0	24	20	0	0	6	50
DIRECT LABOR TOTALS	\$0	\$2,040	\$1,100	\$0	\$0	\$144	\$3,284
FRINGE & GENERAL/ADMIN. COSTS	\$0	\$3,321	\$1,791	\$0	\$0	\$234	\$5,346
TOTAL LABOR COSTS	\$0	\$5,361	\$2,891	\$0	\$0	\$378	\$8,630

WALNUT CREEK WWTP
 FILTER IMPROVEMENTS
 PRELIMINARY ENGINEERING AND INVESTIGATIONS REPORT

EXHIBIT NO. A.4

Direct Labor Rates & Multipliers	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	FRINGE and G&A MULT.
	75	85	55	40	35	24	1.828

LABOR ESTIMATE

TASK	QA/QC	PROJ. MGR.	SR ENGINEER	ENGINEER	TECH.	CLER.	TOTAL
1. Review the Architectural, Structural, and Code classifications used for the project and the associated Chapters of the Preliminary Engineering Report.		1	4	5		1	11
2. Perform QA/QC review of the materials to be presented at the Prioritization Workshop.		2	4			1	7
3. Perform QA/QC review of the Draft Preliminary Engineering and Investigations Report.		4	8			2	14
TOTAL HOURS	0	7	16	5	0	4	32
DIRECT LABOR TOTALS	\$0	\$595	\$880	\$200	\$0	\$96	\$1,771
FRINGE & GENERAL/ADMIN. COSTS	\$0	\$969	\$1,433	\$328	\$0	\$156	\$2,863
TOTAL LABOR COSTS	\$0	\$1,564	\$2,313	\$528	\$0	\$252	\$4,654



Jose I. Guerra, Inc.
Consulting Engineers
Civil • Structural • Mechanical • Electrical

Engineering Excellence Since 1973

November 29, 2010

PROPOSAL

Mr. David A. Timmerman, P.E.
Black & Veatch Corporation
106 East 6th Street
Austin, TX 78701-3659

Re: Walnut Creek Waste Water Treatment Plant
Preliminary Engineering Report Phase
Austin, Texas

Mr. Timmerman:

In accordance with your request, Jose I. Guerra, Inc. (JIG) is pleased to submit to Black & Veatch Corporation (B&V) this proposal for structural consulting engineering services for the Preliminary Engineering Phase of the Walnut Creek/Wastewater Treatment Plant (WCWWTP) Filter Improvements Project for the City of Austin (COA).

PROJECT DESCRIPTION

The project generally consists of an upgrade of filter system for the WCWWTP. This upgrade will include modifications to some of the existing filter structures.

SCOPE OF WORK

Our Scope of Work for this project consists of assisting B&V in the preparation of a Preliminary Engineering Report (PER) for the upgrades to the filter system. JIG will be responsible for all structural engineering issues related to the renovation of existing structures. The following tasks are included in JIG's Scope of Work.

1. Coordination Meetings with the owner and other team members.

The Project Engineer and the Project Manager will meet with the Owner's representatives and other team members throughout this phase to coordinate activities, to help determine the scope of the project for the PER, and to gather and exchange information. (4 meetings are included in this proposal).

2. Site Visits

Site visits will be made as necessary to gather information regarding existing conditions at the Plant. This information will be used to determine the extent of modifications that will be required to the existing structures. All this information will be documented for use in the next phases of the project. (2 site visits are included in this proposal).

3. Develop Conceptual Plans

The Project Engineer and Design Engineer, under the direction of the Project Manager, will work with other team members to develop conceptual plans for the PER. These will include plans for any facilities requiring structural modifications as part of this project. Alternative structural systems will be investigated when necessary to determine the most economical structural system. Typical structural member construction types and sizes will be determined and documented.

The Project Engineer will take part in workshops with COA personnel to review conceptual plans and will coordinate the structural systems with architectural and mechanical systems.

4. Develop Conceptual Plan Details

Based on conceptual plans developed together with other team members, typical details will be developed and drafted. These details will become part of the PER and will form the basis for construction details in later phases. This work will be coordinated with architectural and mechanical systems to eliminate conflicts.

5. Preliminary Cost Estimate

Using the conceptual plans and details as a basis, a preliminary cost estimate will be made for all structural items. This information will be coordinated with the other cost information provided by other team members. Recommendations will be made for reducing the overall project cost.

6. Prepare Draft of Preliminary Engineering Report

A description of the structural design criteria and structural systems used will be prepared for the PER. Loading assumptions and lateral bracing systems will be defined. This information will be coordinated with draft information prepared by other team members.

7. Prepare Final Preliminary Engineering Report

After review comments by City of Austin personnel and other team members, final revisions to the Preliminary Engineering Report for all structural items will be made.

SPECIAL SERVICES

The Scope of Services and the budget presented herein do not include the following special services. At such time that it is determined that these services may be required, JIG will obtain authorization from B&V prior to performing any of these additional services.

1. Travel and subsistence required of JIG and authorized by B&V to points other than local government agencies, consultants and project site.



2. Significant revisions by B&V after receiving initial direction by the B&V.
3. Any warranty phase services.
4. Expert witness testimony or appearances at public hearings or meetings concerning the project or any of its elements.

Should JIG and B&V agree that any of the above Special Services, or other additional services are required, JIG will prepare a cost proposal for such services and obtain authorization from B&V prior to performing any special service.

A breakdown of our fees for this project is shown in Attachment A-1. The cost of our engineering services will not exceed the amount shown without prior written approval from your office.

COMPENSATION

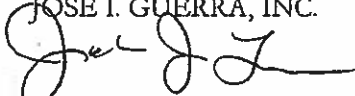
The Total Compensation requested for this work is below.

Total Fee	\$19,963
-----------	----------

Services will be billed on a monthly basis and payments shall be made promptly. We appreciate the opportunity to prepare this proposal and we would welcome the occasion to discuss any aspects of it with you. We look forward to working with you on this project.

If this proposal is satisfactory, please sign and return the enclosed copy of this letter.

Respectfully submitted,
JOSE I. GUERRA, INC.



Joseph J. Luke, P.E.
Senior Vice President

JJL/me

Accepted: _____ Title: _____ Date: _____

Black & Veatch Corporation

Attachment A-1

**Walnut Creek WWTP Filter Improvements Project
Preliminary Engineering Report Phase
Fee Estimate**

PER Phase Services

Direct Labor Rates and Multipliers	Principal	Project Manager	Project Engineer	Design Engineer	CADD Manager	CADD Operator	Clerical	Fringe & G&A Mult.
	\$166.00	\$144.00	\$122.00	\$89.00	\$89.00	\$75.00	\$50.00	

LABOR ESTIMATE

SUBTASK LISTING	Principal	Project Manager	Project Engineer	Design Engineer	CADD Manager	CADD Operator	Clerical	TOTAL
1. Coordination Meetings (4)	0	2	8	4	0	0	0	14
2. Site Visits (2)	0	2	4	4	0	0	0	10
3. Conceptual Plans	0	4	8	18	4	18	0	52
4. Conceptual Details	0	4	8	18	4	18	0	52
5. Preliminary Cost Estimate	0	2	4	8	0	0	0	14
6. Preliminary Engineering Report	0	4	24	4	2	4	0	38
7. QA/QC Process	0	2	8	4	0	0	0	14
TOTAL HOURS	0	20	64	60	10	40	0	194
Labor Totals	\$0	\$2,880	\$7,808	\$5,340	\$890	\$3,000	\$0	\$19,918
TOTAL LABOR COSTS	\$0	\$2,880	\$7,808	\$5,340	\$890	\$3,000	\$0	\$19,918

NON-LABOR ESTIMATES

ITEM	Units	Quantity	Rate	TOTAL
Printing	L.S.	1	\$25.00	\$25
Photo Processing	L.S.	1	\$20.00	\$20
Internal Photocopying	L.S.	0	\$10.00	\$0
Mileage	Mile	0	\$0.41	\$0
Postage/ Delivery	L.S.	0	\$60.00	\$0
Airfare/Travel - Round Trip	L.S.	0	\$0.00	\$0
NON-LABOR EXPENSE TOTAL				\$45

SUBCONSULTANT SERVICE ESTIMATE

SUBCONTRACTOR		
		\$0
TOTAL SUBCONSULTANT FEES		\$0

SUMMARY AND FEE CALCULATION

WORK PLAN ESTIMATE				\$19,963
Fee Calculation	Direct Labor X 17%	Fringe & G.A. X 9%	Subs X 5%	\$0
	\$0	\$0	\$0	\$0
TOTALS				\$19,963

All Points Inspection Services, Inc.

6448 E. HWY 290, SUITE C-110
AUSTIN, TEXAS 78723
OFFICE: (512) 272-5056
FAX: (512) 272-8278

2900 MOSSROCK, SUITE 150
SAN ANTONIO, TEXAS 78230
OFFICE: (210) 541-8282
FAX: (210) 541-8383

March 21, 2011

Mr. Mike Johnson
Black & Veach Corporation
6300 S Syracuse Way
Centennial, CO 80111

Reference: **WALNUT CREEK WWTP FILTER IMPROVEMENTS**

Mr. Johnson

All Points Inspection Services, Inc. (APIS) is pleased and we thank you for the opportunity to submit a proposal to provide Condition Assessment services, as outlined in email dated March 21, 2011, on general services task. We are looking forward to working with the team on this project. APIS is committed to the delivery of quality services to our clients. We have the expertise and the experience to protect your interest on this project. Based on the information provided, APIS submits the following proposal:

Cost of Service(s): The cost of providing services, as indicated above, will be based on the following schedule:

ASSESSMENT PHASE SERVICES & SCOPE

INSPECTOR II: The scope will cover attending the internal kick-off meeting, a site visit to assist with a facility assessment, working with the Black and Veatch team, follow up meeting.

40 Hours @ \$128.00 = \$5,120.00

During the Assessment Phase the cost will be invoiced on a **Net Thirty** basis. Invoices should be processed timely by Black & Veatch and should follow the City of Austin's Prompt Payment schedule to sub-contractors due within Ten (10) Calendar days of payment to the prime. If prime is paid or delay the processing any and all invoices and or does not pay the subcontractor, invoices will be assess a late fee of 2% of the total invoice.

"WE COVER EACH POINT OF YOUR PROJECT."

All Points Inspection Services, Inc.

6448 E. HWY 290, SUITE C-110
AUSTIN, TEXAS 78723
OFFICE: (512) 272-5056
FAX: (512) 272-8278

2900 MOSSROCK, SUITE 150
SAN ANTONIO, TEXAS 78230
OFFICE: (210) 541-8282
FAX: (210) 541-8383

Additional Services: If it is determined, the budgeted hours will need to be exceeded and agreed on by Black & Veatch and APIS, the additional cost will be handled by an amendment to the contract upon your approval. At approximately 75% completion of the project, we will generate a letter with estimates on the additional time needed to complete the project. For any service(s), the client/owner may wish to include, but is uncertain at the time of the agreement, services and fees associated with each item will be added by amendment. If underground video scope is needed by the Black & Veatch team, APIS will provide a scope at that time.

Customer Satisfaction: To insure client satisfaction, the Field Manager can be contacted at 512-272-5056 (office) or 512-848-6718 (cell).

APIS will not instruct the contractor on means, methods or safety issues but will adhere to the plans, specifications and any Federal, State or Governmental regulations applicable to the project; we will notify our client immediately of any problems and attempt to stop work if a life threatening situation occurs. If we cannot stop the contractor, the appropriate regulating authority will be called as a last resort.

If additional information is required, please do not hesitate to call.

Sincerely,


Alayne J. Johnson, General Manager
All Points Inspection Services, Inc.

Cc: Herman L. Johnson
File

"WE COVER EACH POINT OF YOUR PROJECT."

ENCOTECH

ENGINEERING CONSULTANTS

December 1, 2010
(Revised)

Mr. Mike Johnson
Black & Veatch
6300 S. Syracuse Way
Centennial, CO 80111

720. 834.4231
720.253.4434 Cell

**Re: WALNUT CREEK WWTP FILTER IMPROVEMENTS – PER PHASE SERVICES
HVAC & Domestic Plumbing Preliminary Engineering Report (PER) Phase**

Dear Mr. Johnson,

We appreciate the opportunity to submit this proposal for a Preliminary Engineering Report Phase for the Filter Improvements at Walnut Creek WWTP.

I. SCOPE:

As we understand, the scope is a Preliminary Engineering Report of Visual Findings (Phase A - The Preliminary study would be based on visual observations and review of as-built construction drawings. Design and production of construction drawings would be included in Phase B. Upon request, Encotech will issue a fee proposal for Phase B once Phase A services have been rendered). The fixed construction budget for the project is estimated at \$10,800,000.

Basic Services shall include:

PROJECT MANAGEMENT

1. Management of Encotech's staff.
2. Review and support of Black & Veatch's (B&V) efforts to monitor and update scope, budget, and schedule for work being performed by Encotech's staff.
3. Preparation of progress reports and invoices including all backup data required by the Prime Agreement and requested by the Engineer. Delivery of these materials to B&V's designated representative on the schedule identified by the B&V (Task - A.1.2).

SPECIFIC TASK ASSIGNMENTS

- 1.0 **Attendance at Internal Project Meetings.** Encotech shall attend five (5) internal project meetings at B&V's offices during the course of the Preliminary Design for the Project. The meetings will be less than 2 hours in length, and Encotech will be required to review information from B&V prior to the meeting and will participate in the meeting by informing the team members of the progress of the Encotech's work, information required by Encotech to complete assigned tasks, and other matters related to the Project.
- 2.0 **Project Initiation Meeting.** Encotech shall attend the Project Initiation Meeting to be held at the Walnut Creek WWTP. This meeting will last 4 hours, inclusive of a tour of the filtration facilities (Task - A.1.1.3).

- 4.0 Alternative Granular Filter Improvements.** Encotech shall participate in the development of alternative granular filter improvements related to the HVAC and domestic plumbing systems, as described in the following paragraphs (Task - A.3.3).
- 4.1 Draft Alternative Granular Filter Improvements TM.** Encotech shall develop draft text, figures and supporting documentation for inclusion in the draft technical memorandum for the HVAC and domestic plumbing improvements. Information regarding construction costs will be developed by B&V. Encotech shall be responsible for obtaining quotes for the equipment, valves and specialty items that are part of the alternative solution. Operating conditions will be documented by Encotech so that B&V can describe the expected operating costs (Task - A.3.3.4).
- 4.2 Review of Alternative Granular Filter Improvements TM.** Encotech shall attend a meeting at the Walnut Creek WWTP to review the draft TM. Encotech shall be prepared to answer questions from the Owner regarding the alternatives that Encotech has developed. This meeting will last approximately 4 hours (Task - A.3.3.5).
- 4.3 Finalize Alternative Filter Improvements TM.** Based on comments from Owner and B&V, Encotech will revise the documents prepared for the draft TM and submit them as final (Task - A.3.3.6).
- 5.0 Preliminary Engineering and Investigations Report.** Encotech will participate in the development of the Preliminary Engineering and Investigations Report as described in the following sections (Task - A.4).
- 5.1 Replacement and Renovation of Assets with less than 20 years useful life.** Encotech shall be responsible for recommending replacement or renovation of those portions of the HVAC and domestic plumbing systems that have less than 20 years of useful life remaining, as determined by the outcome of the Condition Assessment (Task - A.4.1.4).
- 5.2 Schematic Design Phase.** Encotech shall participate in the schematic phase design to advance the preliminary design of the HVAC and domestic plumbing systems. The scope and fee developed for this activity and the remaining activities that are part of preliminary design assumes that the recommended alternative will be to renovate the granular filter complex. In addition, it is assumed that one new structure housing process equipment will be constructed in the vicinity of the existing filter complex (Task - A.6).
- 5.3 Preliminary Code Review.** Encotech will review the preliminary process structure layouts furnished by B&V and participate in the development of the code review for this facility. Encotech's efforts will be limited to ventilation requirements for the various occupied spaces that are being modified by this project (Task - A.4.12).
- 5.4 HVAC and Plumbing Design Basis.** Encotech will generate lists of all major process equipment and subsystem components as necessary to define the size and electrical requirements. Encotech shall prepare text related to HVAC and Domestic Plumbing to define the process control strategy and control of the associated equipment for the Preliminary Engineering and Investigations Report (Task - A.4.16).
- 5.5 Class C Opinion of Cost.** Encotech shall provide B&V with a complete Class C Opinion of Cost for the HVAC and domestic plumbing system modifications. B&V is responsible for providing the format for this information and assembling the complete Class C Opinion of Cost (Task - A.4.19).
- 5.6 Review and Revision of the Preliminary Engineering and Investigations Report.** Based on feedback from the Owner and B&V, Encotech shall revise text related to HVAC and Plumbing for the Preliminary Engineering and Investigations Report of the document (Task - A.4.22).

II. FEE:

The fee for the proposed Structural Services outlined in this proposal shall be a "Hourly not to Exceed":

Phase A: HVAC & Domestic Plumbing - Preliminary Engineering Report Phase..... **\$26,789.00**
(Twenty Six Thousand, Seven Hundred and Eighty Nine Dollars)

**Attached is a copy of the fee breakdown by tasks and relevant hours.*

The following excluded scope can be provided as Additional Services on an "Hourly not to Exceed":

Condition Assessment (Task A.2)..... **\$4,989.00**

III. REIMBURSABLE EXPENSES:

Reimbursable expenses are defined as follows and shall be invoiced at direct cost plus 5%. These include, but are not limited to:

- 1. Reproduction of documents.
- 2. Expedited shipping, mailing and courier expenses.

IV. ADDITIONAL SERVICES:

Potential additional services that may come up during the execution of the work shall be conducted based on our approved hourly rates. No Additional Services work shall be executed until authorization is obtained in writing.

V. EXCLUSIONS

Services that are not provided for in this Agreement specifically include, but are not limited to:

- 1. Testing Services
- 2. Production of Drawings
- 3. Electrical Engineering
- 4. Design Phase Services
- 5. Other services or expenses which may become necessary for the completion of this project which are reasonably anticipatable at this time.
- 6. Condition Assessment: Assist Engineer with the Condition Assessment of the existing filter complex as it relates to the condition of the existing HVAC and domestic plumbing systems. The specific tasks that are the responsibility of the Encotech are described in the following paragraphs (Task - A.2).
- 7. Review Available Construction Records and Reports. Review of construction records and reports related to HVAC and domestic plumbing systems in preparation for the Condition Assessment (Task - A.2.1).
- 8. Level of Service and Reliability Meeting: Attend the Level of Service and Reliability Meeting at the Walnut Creek WWTP (Task - A.2.3).
- 9. Visual Condition Assessment: Participate in the visual condition assessment of the HVAC and domestic plumbing systems in the filter complex. Observe the operation of the HVAC equipment by Owner's staff, document the observed performance, and note any issues related to the mechanical performance. Note the condition of the ductwork and domestic plumbing systems by visual observation of the exterior of systems in service and by observation of the interior of systems that are taken out of service with inspection ports removed by Owner (Task - A.2.4).
- 10. Documentation of Findings: Document the findings of the Visual Condition Assessment by completing field notes and drafting sections of the technical memorandum for the Condition Assessment (A.2.6).
- 11. Failure Effects Meeting: Attend the failure effects meeting at the Walnut Creek WWTP (Task - A.2.6).
- 12. Final Documentation: Modify the sections of the technical memorandum for Condition Assessment based on feedback from the Owner and B&V and provide the final documentation to the Engineer (Task - A.2.9).

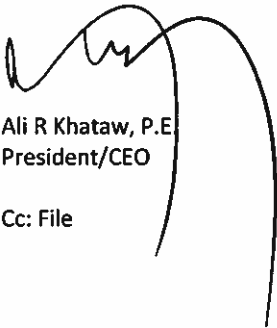
Please note: The above "Excluded" Services may be performed as Additional Services to this Agreement, if authorized by the City of Austin & B&V.

VII. RESPONSIBILITY OF OTHERS

In accordance with accepted professional practice it is the responsibility of Owner to provide the design team with complete and accurate information concerning known existing physical and legal conditions of the site/building that are beyond the scope of the professional engineering services described in this document. Certain unusual or unforeseeable conditions may materially alter the scope of the project in a manner not provided for in this contract.

Please call us if you have any questions. Thank you for giving us the opportunity to render our service to B&V and City of Austin.

Sincerely,



Ali R Khataw, P.E.
President/CEO

Cc: File

ENCOTECH ENGINEERING CONSULTANTS		FEE ANALYSIS		Principal	Project Engineer III / Project Manager III	Project Engineer II / Project Manager II	Project Engineer I / Project Manager I	Graduate Engineer II	Graduate Engineer I	Admin	TOTAL LABOR HOURS	TOTAL TASK BUDGET
TASK NO.	PER PHASE - HVAC & DOMESTIC PLUMBING											
PROJECT MANAGEMENT												
PM-1	General Project Management /Staff/Prime Firm	2	1	2								\$ 817.00
PM-2	Coordination with B&V relating to Process, Budgets and Schedules			3								\$ 423.00
PM-3	Preparation of Progress Reports and Backup Data (Estimated 4 Progress Reports)	1		6								\$ 1,034.00
PM-5	QA/QC	2	3	3								\$ 1,276.00
A.1.0	Internal Project Meeting (limited to 5 Meetings - 3 Hours Each - incl. travel time)			15								\$ 2,115.00
A.1.1.3	Project Initiation Meeting (Limited not to exceed 4 Hours)	4		4								\$ 1,316.00
CONDITION ASSESSMENT												
A.2.0	Review Available Construction Records and Reports (Removed from Scope)											\$ -
A.2.1	Level of Service and Reliability Meeting (Removed from Scope)											\$ -
A.2.3	Visual Condition Assessment (Not to exceed one day) (Removed from Scope)											\$ -
A.2.4	Documentation of Findings (Removed from Scope)											\$ -
A.2.6	Failure Effects Meeting (Not to exceed 4 Hours) (Removed from Scope)											\$ -
A.2.9	Final Documentation (Removed from Scope)											\$ -
ALTERNATIVE GRANULAR FILTER IMPROVEMENTS												
A.3.3	Draft Alternative Granular Filter Improvements TM			10					6			\$ 2,292.00
A.3.3.4	Meeting - Review of Alternative Granular Filter Improvements TM	2		4								\$ 564.00
A.3.3.5	Finalize Alternative Filter Improvements TM	1		6					2			\$ 1,193.00
PRELIMINARY ENGINEERING & INVESTIGATIONS REPORT												
A.4	Replacement and Renovation of Assets with less than 20 years useful life			4					13			\$ 6,088.00
A.4.1.4	Preliminary Code Review	1		4								\$ 911.00
A.4.12	HVAC and Plumbing Design Basis	1		6					1			\$ 1,099.00
A.4.15	Class C Opinion of Cost	2		10					4			\$ 2,292.00
A.4.19	Review and Revision of the Preliminary Engineering and Investigations Report	1		5					5			\$ 1,334.00
A.4.22	Participate to Advance Preliminary Design of HVAC & Plumbing Systems	1		3					3			\$ 864.00
SCHEMATIC PHASE DESIGN												
A.6	Reproduction, Expedited Delivery Services											\$ -
A.6	Participate to Advance Preliminary Design of HVAC & Plumbing Systems	3		16					2			\$ 2,921.00
											PER PHASE - HVAC & DOMESTIC PLUMBING \$	26,789.00
											TOTAL ESTIMATED FEES: \$	26,789.00

ENCOTECH

ENGINEERING CONSULTANTS, INC.

CITY OF AUSTIN WALNUT CREEK WWTP FILTER IMPROVEMENTS (CLMP034)
Rates are valid to December 31, 2012

HOURLY RATES

SUB CONSULTANT:	Hourly Rate	TX Registration Number
ENCOTECH ENGINEERING CONSULTANTS, INC.		F-1141
 PRINCIPAL:		
Ali R. Khataw, P.E.	\$ 188.00	71548
 PROJECT ENGINEER III:		
Ali R. Khataw, P.E.	\$ 159.00	71548
Paul Sexton, P.E.	\$ 159.00	98507
David Mitchell, P.E.	\$ 159.00	87000
 PROJECT ENGINEER II:		
Adil Mohammed, P.E.	\$ 141.00	104021
Brady Van De Wiele, P.E.	\$ 141.00	97642
 PROJECT ENGINEER I:		
Grant Johnson, P.E.	\$ 134.00	102150
Vinayak Sharma, P.E.	\$ 134.00	103765
 PROJECT MANAGER III:		
Ali R. Khataw, P.E.	\$ 159.00	71548
Paul Sexton, P.E.	\$ 159.00	98507
David Mitchell, P.E.	\$ 159.00	87000
 PROJECT MANAGER II:		
Adil Mohammed, P.E.	\$ 141.00	104021
Brady Van De Wiele, P.E.	\$ 141.00	97642
 PROJECT MANAGER I:		
Carl Holiday	\$ 125.00	
 GRADUATE ENGINEER II:		
Steve Nguyen, E.I.T.	\$ 101.00	CA: XE1035901997
 GRADUATE ENGINEER I:		
Rachel Hawkins, E.I.T.	\$ 94.00	39495
Eric Zissman, E.I.T.	\$ 94.00	38235
Aaron Campbell, E.I.T.	\$ 94.00	38394
Marcus Sandoval, E.I.T.	\$ 94.00	41753
 CAD DESIGNER II	\$ 87.00	
 CAD DESIGNER	\$ 75.00	
 ADMINISTRATIVE II	\$ 65.00	
 ADMINISTRATIVE I	\$ 55.00	

Prepared for Black & Veatch Corporation June 9, 2010

Celebrating 20 Years of Engineering Excellence

State of Texas
Registered Firm
No. F-3572



CAS CONSULTING & SERVICES, INC.

Civil, Transportation, and Environmental Engineering
Austin • San Antonio • Dallas

March 23, 2011

Mike Johnson
Black & Veatch Corporation
6300 S Syracuse Way, Suite 300
Centennial, CO 80111

Subject: Walnut Creek WWTP Filter Rehabilitation Project
CAS Scope of Services
Black & Veatch Project #168622

Dear Mr. Johnson;

CAS Consulting & Services, Inc. (CAS) is pleased to provide you with the following Scope of Services for the subject Black & Veatch (B&V) project.

Scope of Services

General Tasks

1. Attend Project Meetings at B&V office (Maximum of 3 Meetings)
2. Attend Project Initiation Meeting/Site Visit

Alternative Evaluation for Tech Memo Development

1. Prepare Alternative Evaluation for Tech Memo Development
2. Review Non-Potable Pumping System /Records
3. Prepare Draft Technical Memo Development for Non-Potable Water System
4. Make Technical Memo Revision Based on B&V QC Review Comments

Preliminary Engineering and Investigation Report (PEIR) Development

1. Document Design Criteria
2. Prepare Preliminary Hydraulic Calculations
3. Prepare Equipment List and Written Description
4. Prepare Equipment Quotation and Quantity
5. Prepare and Revise Preliminary Engineering and Investigations Report (PEIR)

We understand that the CAS fee estimate for this scope of services has already been approved by the City of Austin. If you any questions please feel free to contact me at 512.825.1581.

Sincerely;

Cc: David Anderson, P.E., B&V
David Timmermann, P.E., B&V
Joseph Dong, P.E., CAS
Chelsea Solomon, P.E., CAS

Austin Office
6633 Hwy 290 East, Suite 104,
Austin, Texas 78723
(512) 836-2388 / Fax (512) 836-4515

San Antonio Office
700 E. Sonterra Blvd., Suite 1206,
San Antonio, Texas 78258
(210) 248-9083 / Fax (210) 248-9155
www.casengineers.com

Dallas Office
1820 Regal Row, Ste 200
Dallas, TX 75235
(214) 589-6942 / Fax (512) 836-4515

Walnut Creek WWTP Filter Improvements
 CAS Consulting Services, Inc.
 Scope Fee Estimate
 December 1, 2010
 Black and Veatch Project # 168622

Description	CAS LABOR & EXPENSES FEE ESTIMATE									
	Principal \$207.38	Sr Engr \$138.17	Project Engr \$127.62	Engr Assoc. \$103.69	Cad Tech \$78.60	Admin \$82.17	Sub-Total Hours	Sub-Total Fee		
CAS LABOR COSTS										
Project Management										
1.0 Staff and Team Management	1	2					3	\$483.72		
2.0 Scope, Budge, Schedule Monitoring	1	2					3	\$483.72		
3.0 Progress Reports and Invoices	2	8				8	18	\$2,177.48		
Specific Tasks										
1.0 Project Meetings at B&V office (3 Meetings and Each 2 Hr)		6					6	\$829.02		
2.0 Project Initiation Meeting/Site Visit (4 Hr Mtg)	4	4					8	\$1,382.20		
3.0 Alternative Evaluation for Tech Memo Development										
3.2 Non-Potable Pumping System /Records Review & Development	1	32		24			57	\$6,515.22		
3.3 Draft Tech Memo Development for Non-Potable water system	2	16	8				26	\$3,646.44		
3.5 Tech Memo Revision	1	16					17	\$2,418.10		
4.0 Preliminary Engr. and Investigation Report (PEIR) Development										
4.1 Documentation of Design Criteria		8					8	\$1,105.36		
4.3 Preliminary Hydraulic Calculations	1	16	4				21	\$2,928.58		
4.6 Equipment List and Written Description		8		4			12	\$1,419.76		
4.7 Equipment Quotation and Quantity		16					16	\$2,210.72		
4.8 Preparing and Revising Preliminary Engr. and Investigations Report (PEIR)	2	16		8			26	\$3,254.28		
SUBTOTAL	15	150	12	36	8	221	221	\$28,854.60		
Reproducible										
Printing								\$1,000.00		
Additional Services								\$1,000.00		
SUBTOTAL								\$29,854.60		



Harutunian Engineering, Inc.

Revision #12
11-29-2010

Walnut Creek WWTP Filter
Improvements Project
Preliminary Electrical and I&C Design Phase Services

HARUTUNIAN ENGINEERING INCORPORATED

SCOPE OF SERVICES

PRELIMINARY DESIGN PHASE SERVICES

for

WALNUT CREEK WWTP FILTER IMPROVEMENTS PROJECT

**CITY OF AUSTIN
AUSTIN WATER UTILITY**

**C. I. P. No. XXX XXX XXX
CITY OF AUSTIN, TEXAS**



SCOPE ASSUMPTIONS

The following are the underlying assumptions regarding the development of the scope for the electrical, instrumentation, and control system Preliminary Engineering Phase Services of the Walnut Creek WWTP Filter Improvements Project.

- 1) It is assumed that, during the preliminary design phase, the City of Austin shall provide a listing to HEI of all electrical, instruments and control devices related to the Filter improvements, noting those that have been of an operational and maintenance concern. The design will proceed based on this listing provided by the City of Austin.
- 2) It is assumed that the existing filter control panels will not be retrofitted. Rather, each of the existing filter control panels shall be demolished and a new free standing control panel shall take its place.
- 3) It is assumed that one (1) PLC shall be dedicated per local filter control panel and one (1) PLC shall be dedicated for the Master Filter Control Panel.
- 4) It is assumed that one dedicated UPS shall be provided per each control panel and that this UPS shall have a dry contact for indicating battery failure, without requirement for any network monitoring of the UPS.
- 5) The tasks do not include efforts to review, respond to, or address QA/QC or Value Engineering comments provided by a third party consultant.
- 6) The tasks do not include efforts to review, respond to, or address LEED Engineering.
- 7) Unless noted, a single design alternative is anticipated.



TASK PDP-10

PRELIMINARY DESIGN PHASE SERVICES EXISTING FILTER CONTROL ELECTRICAL AND I&C REHABILITATION

This task includes the major effort necessary to develop a Preliminary Design Technical Memorandum to address the conceptual electrical instrumentation and control systems necessary to support improvements to the existing Walnut Creek WWTP Filter Control System.

This task includes the major effort necessary to perform field visits and review existing documentation to address the conceptual electrical, instrumentation and control systems necessary to support improvements to the existing Walnut Creek WWTP Filter Control System.

This task includes review of the existing control system within the Filter Building No. 1 and Filter Building No. 2 for the control and monitoring of the plant's existing 10 filter cells as well as the associated filter surface wash and filter backwash system.

This task includes efforts to develop a conceptual plan for the connection of the Filter Buildings 1 and 2 into the existing Ethernet network. HEI shall evaluate and extend the existing Ethernet connection to serve the new Filter PLC system.

This task includes efforts to develop a conceptual plan for the replacement of the existing Filter PLC system. The new PLC system shall consist of current Austin Water Utility standard PLC equipment.

This task also includes efforts to develop a conceptual plan for the user accessible control stations at the filter pipe gallery level for each of the motorized valves associated with a filter cell. It is anticipated that there are no more than five (5) valves per filter cell.

This task also includes efforts to develop a conceptual plan for the addition of data and power outlets in the vicinity of each filter control panel for a mobile Personal Computer Station (PCS). The mobile PCS shall be located in the filter building areas for plant monitoring, controlling and troubleshooting. These computer workstations will have



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the capability to monitor and control the entire plant. There are to be two (2) such mobile workstations.

This task involves efforts to develop a conceptual plan for the conversion of the chlorine sampling lab area of Filter Building #1 into a backup plant operation station. Specifically, this will consist of a plant SCADA workstation and a Lift Station Telemetry System workstation. The scope includes only addition of SCADA outlets required for the Lift Station system and the plant SCADA system for the backup control station. All other data, telephone, and radio connections are assumed to be implemented by the City of Austin. Existing furniture will be utilized to create a backup plant operation area; it is assumed that this scope of work does not include any effort for proposed furniture or furniture arrangement.

The City of Austin has developed a Control Summary Table for the proposed Walnut Creek WWTP Filter Control System. This task includes the update of the Control Summary Table based on the proposed recommended filter control system.

This task includes the development of narratives to be incorporated into the Preliminary Design Technical Memorandum. The task also includes the development of preliminary construction cost estimates for the proposed alternative.

This task assumes that one design alternative shall be proposed.

Deliverables

HEI shall provide:

- Draft narrative of the Preliminary Design Technical Memorandum for incorporation into the overall Preliminary Design Report by Black and Veatch. Upon receipt of review comments from the Owner, HEI shall incorporate review comments and transmit the final Preliminary Design Technical Memorandum to Black and Veatch for incorporation into the overall Preliminary Design Report.



TASK PDP-20

PRELIMINARY DESIGN PHASE SERVICES FILTER BUILDING MISCELLANEOUS PROCESS SUPPORT SYSTEM ELECTRICAL SYSTEM DEVELOPMENT

This task includes the major effort necessary to develop a Preliminary Design Technical Memorandum to address the conceptual electrical system necessary to support the process support system improvements associated with the renovation of the existing granular media filters at the existing Walnut Creek WWTP Filter Building. The process support improvements are described hereinafter.

This task shall include the development of a preliminary electrical design alternative (where applicable) per mechanical design alternative for the Filter Building to support the miscellaneous process support improvements associated with the renovation of the existing granular media filters. The number of mechanical design alternatives are noted by each of the miscellaneous process items of improvements listed below. The effect of the revised Filter Building loads on the existing in-plant power distribution system will not be examined.

The miscellaneous process support improvements to the existing Walnut Creek WWTP Filter Building are as follows:

- Add air scour blower(s) – Adding dedicated air scour blowers for the Filter Complex. It is anticipated that there are two(2) proposed mechanical system improvement alternatives: one locating the new blowers within the existing structure and one based on a new blower structure.
- Backwash water supply – It is anticipated that there are two(2) proposed mechanical system improvement alternatives: one using existing backwash pumps fitted with soft starters and one using a backwash tank.
- Non-potable water (NPW) system – Converting the existing NPW pumping system to a hydro-pneumatic type NPW pumping system. It is anticipated that there is one(1) proposed mechanical system improvement.
- Standby/Emergency Power Distribution – Adding emergency power distribution using a standby generator for certain NPW



pumps and chemical feed system within the Filter Building. It is anticipated that there is one(1) proposed improvement.

- Delete the surface wash pump(s) and the chlorine sampling/analyzer system. It is anticipated that there is one(1) proposed mechanical system improvement.
- Rehabilitate/expand the entire Filter Building HVAC system. It is anticipated that there is one(1) proposed HVAC system improvement.

General assessment of the existing MCC will also be performed as it relates to the potential process modifications described above.

HEI shall develop the following as part of the preliminary electrical system design needed to support the implementation of the above process/mechanical system design:

- Conceptual preliminary load analysis local to the Filter Building.
- Conceptual preliminary electrical one line drawing local to the Filter Building
- Conceptual preliminary electrical room equipment arrangement local to the Filter Building (combined with Task 50)
- Conceptual preliminary construction cost opinion local to the Filter Building.

Deliverables

HEI shall provide:

- A draft narrative of the Preliminary Design Technical Memorandum for incorporation into the overall Preliminary Design Report by Black and Veatch. Upon receipt of review comments from the Owner, HEI shall incorporate review comments and transmit the final Preliminary Design Technical Memorandum to Black and Veatch for incorporation into the overall Preliminary Design Report.
- Conceptual preliminary electrical one line drawing
- Room layout exhibit (combined with Task 50)
- Conceptual preliminary construction cost opinion



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- A mark-up of the existing facility plan view to accommodate any proposed major electrical service feeder requirements and/or major electrical distribution equipment requirements.



TASK PDP-50

Preliminary Design Phase Services Filter Building Miscellaneous Process Support System I&C System Development

This task includes the major effort necessary to develop a Preliminary Design Technical Memorandum to address the conceptual instrumentation and control system necessary to support the miscellaneous process support system improvements to the existing Walnut Creek WWTP Filter Building. The process support improvements are described hereinafter.

The task shall include the development of a preliminary instrumentation and control system design alternative (where applicable) per mechanical design alternative for the Filter Building to support the miscellaneous process support improvements. The number of mechanical design alternatives are noted by each of the miscellaneous process items of improvements listed below.

The miscellaneous process support improvements to the existing Walnut Creek WWTP Filter Building are as follows:

- Add air scour blower(s) – Adding dedicated air scour blowers for the Filter Complex. It is anticipated that there are two(2) proposed mechanical system improvement alternatives: one locating the new blowers within the existing structure and one based on a new blower structure.
- Backwash water supply – It is anticipated that there are two(2) proposed mechanical system improvement alternatives: one using existing backwash pumps fitted with soft starters and one using a backwash tank.
- Non-potable water (NPW) system – Converting the existing NPW pumping system to a hydro-pneumatic type NPW pumping system. It is anticipated that there is one(1) proposed mechanical system improvement.
- Standby/Emergency Power Distribution – Adding emergency power distribution using a standby generator for certain NPW pumps and chemical feed system within the Filter Building. It is anticipated that there is one(1) proposed improvement.



- Delete the surface wash pump(s) and the chlorine sampling/analyzer system. It is anticipated that there is one(1) proposed mechanical system improvement.

HEI shall develop the following as part of the preliminary instrumentation and control system design needed to support the implementation of the above process/mechanical system design:

- Conceptual preliminary control and instrumentation system local to the Filter Building.
- Conceptual preliminary control system architecture local to the Filter Building
- Conceptual preliminary electrical room equipment arrangement local to the Filter Building (combined with Task 20)
- Conceptual preliminary construction cost opinion local to the Filter Building.

Deliverables

HEI shall provide:

- A draft narrative of the Preliminary Design Technical Memorandum for incorporation into the overall Preliminary Design Report by Black and Veatch. Upon receipt of review comments from the Owner, HEI shall incorporate review comments and transmit the final Preliminary Design Technical Memorandum to Black and Veatch for incorporation into the overall Preliminary Design Report.
- Control system architecture improvement exhibit (combined with Task 10).
- Room layout exhibit (combined with Task 20).
- Conceptual preliminary construction cost opinion.
- A mark-up of the existing facility plan view to accommodate any proposed major instrumentation and controls system cabinet.
- A mark-up of the process flow diagram to depict major points of process variable monitoring



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TASK PDP-60

PRELIMINARY DESIGN PHASE SERVICES PROJECT MEETINGS

This task includes a four(4)-hour project initiation meeting, five(5) conference calls with an average maximum duration of two(2) hours per call, three(3) meetings having an average maximum duration of two(2) hours per meeting including travel time. The total allotted time for this task is inclusive of coordination effort that may occur between HEI members and other members of the Black and Veatch and Austin Water Utility Project Team for this project. This task also includes monthly project status reporting.

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TABLE - I

WALNUT CREEK WWTP FILTER IMPROVEMENTS PROJECT
Austin Water Utility, City of Austin, Texas
Preliminary Design Phase Services
Electrical, Instrumentation, and Control Systems Engineering
HEI MANHOURL AND COST TABULATION



DESCRIPTION	Sr Eng IV	Sr Eng II	Eng III	Admin	CAD II	WORK AREA COST	
	E-11 Hrs.	E-10 Hrs.	E-4 Hrs.	A-1 Hrs.	CD-2 Hrs.		
TASK PDP-10 Preliminary Design Phase Services, Existing Filter Control Electrical and I&C Rehabilitation	6	25	132	38	12	\$24,207.00	
TASK PDP-20 Filter Building Miscellaneous Process Support System Electrical Alternatives Development	14	31	133	17	16	\$25,937.00	
TASK PDP-50 Filter Building Miscellaneous Process Support System I&C Alternatives Development	8	33	57	13	8	\$15,125.00	
TASK PDP-60 Project Meetings	20	29	29	0	0	\$12,023.00	
TOTAL	48	118	351	68	36	\$77,292.00	
						Expenses	\$528.55
						TOTAL Labor & Expenses	\$77,820.55



City of Austin

Walnut Creek WWTP Tertiary Filter Rehabilitation Project

Supplemental Amendment No. 2

Attachment 1A - Scope of Services

General

The City of Austin retained Black & Veatch to perform engineering services for the Walnut Creek Wastewater Treatment Plant (WWTP) Tertiary Filter Rehabilitation project. The work is being performed in several phases as follows:

- Phase A: Preliminary Design
- Phase B: Design
- Phase C: Bid/Award/Execution
- Phase D: Construction
- Phase E: Post Construction

This scope of services is generally for *Phase B: Design* and *Phase C: Bid/Award/Execution*. Phases D and E are not included in this scope of services and will be included under future Supplemental Amendments as desired by the City. The scope also includes additional services that were provided under Phase A.

Phase A: Preliminary Design is complete. Design recommendations were developed for updating the existing filters to meet current and future treatment needs and regulatory requirements and are provided in the Preliminary Engineering Report (PER) dated February 24, 2012. The findings and recommendations of the preliminary design phase as documented in the PER will serve as the basis for *Phase B: Design*.

The following defines the terms OWNER, CONSULTANT and PROJECT for this scope of services:

- OWNER (and/or City): City of Austin, Austin Water Utility
- CONSULTANT (and/or ENGINEER): Black & Veatch Corporation
- PROJECT: Walnut Creek Wastewater Treatment Plant Tertiary Filter Rehabilitation Project

Project Description

The Walnut Creek WWTP treats commercial and residential wastewater for the City of Austin and discharges the treated water to the Colorado River. The PROJECT includes renovation of the existing effluent filter complex at the Walnut Creek WWTP. The existing complex includes 10 conventional gravity filters with a total rated capacity of 75 MGD. The filters were constructed under two different plant projects; the four original filters constructed with Filter Building 1 were equipped with surface wash and water only backwash, the six subsequent filters added with Filter Building 2 are equipped with combined air/water backwash without surface wash. Filters 1-4 are deep-bed dual media filters and Filters 5-10 are mono media filters. The filter complex includes conduits and hydraulic structures that

convey secondary effluent from the chlorine contact basins to the filters and from the filters to the reclaimed water system or the outfall to the Colorado River. The filter complex includes:

- Ten concrete filter boxes equipped with underdrains, media, and backwash troughs
- A concrete piping gallery that houses valves, flow meters and instruments to monitor and control the system
- A concrete clearwell with channels used to store filtered effluent for backwash and supply of the non-potable water (NPW) system prior to discharge to the filter effluent conduit
- Backwash pumps used to supply backwash from the clearwell to the filters
- Non-potable water (NPW) pumps used to supply the plant with filtered, chlorinated water as a primary supply system in addition to the reclaimed water supplied from the WRI system on site
- Two separate control rooms that house filter control panels used to control the filter operation
- Service transformers and an electrical room housing gear that supplies power to the facility. Certain equipment also receives electrical service from a standby power generator located adjacent to the DAF building.
- Instrumentation and control equipment
- Heating, ventilating and air conditioning equipment for interior spaces
- Appurtenant facilities

The filter improvements as defined in *Phase A: Preliminary Design* will consist of:

- New valves, piping and meters leading to and coming out of the filters to the clearwell (resulting from the condition assessment summarized in TM1 and as indicated in the PER)
- New underdrains and media for filters 1 through 4
- Additional media for filters 5 through 10
- New backwash pumps
- New non-potable water system
- New electrical controls for filters
- New instrumentation controls for filters
- New air blowers to feed the air portion of the filter backwash cycle
- Expanding the existing clearwell to provide more available backwash water
- The construction of a new clearwell at the northwest corner to assist with hydraulic operation
- Air scour component for filters 1 through 4
- Evaluation and design of rehabilitation, if necessary, of filter troughs for filters 5 through 10

Project Schedule

The Preliminary Design tasks were initiated in April 2011, and are considered complete with the delivery of the final PER in February 2012. The Design phase is anticipated to begin in November 2012 and the duration is anticipated to be approximately 12-14 months, with final design completion planned for end of 2013. The construction phase for this size and type of project is anticipated to be approximately 12-14 months. The project could potentially be complete by the end of 2014 or early 2015.



SUPPLEMENTAL AMENDMENT NO. 2
ATTACHMENT 1A - SCOPE OF SERVICES
PHASE B&C: DESIGN AND BID

CITY OF AUSTIN CIP NO.:3023.025

WALNUT CREEK WWTP TERTIARY FILTER REHABILITATION

BLACK & VEATCH PROJECT NO.: 168622

Project Costs

The project costs as determined in *Phase A: Preliminary Design* are summarized in the table below, and include an estimated construction cost of \$14.5 million. It should be noted that the OWNER provided a Fixed Construction Budget for the PROJECT previously of \$10,800,000, which will be updated in January 2013 during AWU's FY13 CIP development process based on the costs developed in Phase A and appropriate subsequent information from Phase B.

Engineer's Opinion of Probable Construction Cost From PER Dated February, 24 2012	
Item	Estimated Cost^{1, 2}
Nozzle Underdrain w/ Mono-Media Filter	\$2,000,300
Air Supply Within New Structure	\$713,800
NPW Alternative No. 1	\$179,100
Backwash Storage in Expanded Clearwell	\$3,274,400
Replace/Renovate Assets	\$1,739,800
Power Distribution System Upgrades	\$3,351,400
Filter System I&C Alternative No. 2	\$3,098,800
HVAC Improvements	\$176,000
Total	\$14,533,600
Notes:	
1. Includes 10% mark-up for general conditions, overhead and profit. Total markup for the project equals \$1,453,360.	
2. Includes 30% for contingency. Total contingency for the project equals \$4,360,080.	

Team Structure

The Walnut Creek WWTP Final Design Team is comprised of the following consultants.

Final Design Team	
Consultant Name	Role
Black & Veatch Corporation	Prime Consultant
CAS Consulting and Services, Inc.	Civil Engineering/Design (Non-Potable Water System)
ENCOTECH Engineering Consultants	Building Mechanical Engineering/ HVAC Design
Harutunian Engineering, Inc.	Electrical Engineering/Design
HVJ	Geotechnical Engineering and Field Services
Jose I. Guerra, Inc.	Structural Engineering/ Design
MWM Design Group	Surveying Services and Permitting
Round Rock Geophysics	SUE Services with Ground Penetrating Radar



Work by Others/Coordination

This project will coordinate with other City of Austin projects at the plant which are either on-going or anticipated at the plant in the near future.

Work By Others	
Project Name	Status
Walnut Creek Plant Electrical Distribution Improvements, Phase II	Under construction. Project estimated to be complete early 2013.
Walnut Creek Influent Flow Improvements and Equipment Rehabilitation	Construction begins February 2012 and will take one year to complete.
Walnut Creek Outfall Bank Erosion, Phase II	Notice to proceed effective January 23, 2012. Project will take one year to complete.
Walnut Creek Basin Odor & Corrosion Improvements	Under construction, complete in May 2012.
Walnut Creek WWTP Secondary Process Improvements	In solicitation. Planned to begin end of 2012
Walnut Creek WWTP WRI Tank and Pump Station	In design, currently at the 90% design stage.

Summary of Tasks

The tasks associated with the project work are summarized below including tasks detailing the additional services for preliminary design.

- SERIES 1100 – PROJECT MANAGEMENT
 - Task 1110 – Project Procedures Manual Update
 - Task 1120 – Quality Control Plan Update
 - Task 1130 – Project Meetings
 - Task 1140 – Project Coordination
 - Task 1150 – Project Reporting
 - Task 1160 – Schedule
 - Task 1170 – Change Management
 - Task 1180 – Agency Coordination
 - Task 1190 – Team Oversight and Subcontract Management
 - Task 1191 – Filter Technology Coordination
- SERIES 1200 – BASIS OF DESIGN CONFIRMATION AND PRELIMINARY INVESTIGATIONS
 - Task 1210 – Design Basis Confirmation
 - Task 1220 – Subsurface Utility Engineering (SUE)
 - Task 1230 – Geotechnical Investigations
 - Task 1240 – Survey
- SERIES 1300 – LEVEL 1 DETAILED DESIGN (30%)
 - Task 1310 – Level 1 – Schematic and Spatial Design
 - Task 1320 – Quality Control
 - Task 1330 – Cost Estimate and Schedule Update
 - Task 1340 – Level 1 Design Review
 - Task 1350 – Agency and Utility Coordination
 - Task 1360 – Code Classification Table
 - Task 1370 – Drainage Study

- SERIES 1400 – LEVEL 2 DETAILED DESIGN (60%)
 - Task 1410 – Level 2 – Detailed Design Development
 - Task 1420 – Quality Control
 - Task 1430 – Cost Estimate and Schedule Update
 - Task 1440 – Level 2 Design Review
 - Task 1450 – Agency and Utility Coordination
 - Task 1460 – Construction Sequencing Plan Development
 - Task 1470 – Asset Management Coordination
 - Task 1480 – Constructability Review
 - Task 1490 – Quality Control Inspection Plan (QCIP)
- SERIES 1500 – LEVEL 3 DETAILED DESIGN (90%)
 - Task 1510 – Level 3 – Construction Documents
 - Task 1520 – Quality Control
 - Task 1530 – Cost Estimate and Schedule Update
 - Task 1540 – Level 3 Design Review
 - Task 1550 – Agency and Utility Coordination
- SERIES 1600 – FINAL CONSTRUCTION DOCUMENTS
 - Task 1610 – Final Contract Documents
 - Task 1620 – Final Project Manual
 - Task 1630 – Cost Estimate and Schedule Update
 - Task 1640 – Anticipated Construction Schedule
- SERIES 1700 – CLOSE OUT OF DESIGN PHASE
 - Task 1710 – Quality Control Plan Documentation
 - Task 1720 – Report on LEED Activity
 - Task 1730 – Master Filter Piping Plan
- SERIES 1800 – BID AND AWARD
 - Task 1810 – Pre-Bid Conference
 - Task 1820 – Respond to RFIs
 - Task 1830 – Addenda
 - Task 1840 – Review Construction Bids

Scope of Work Assumptions

In addition to the Scope of Services described herein, the following assumptions shall apply to the work:

- The Scope of Services is based on the *Preliminary Sheet List* developed for the project provided in **Attachment A**.
- The Scope of Services is based on the *Preliminary Specification List* developed for the project provided in **Attachment B**. Specifications will include City of Austin Standard Specifications (front-end contract documents and technical specifications, where applicable), Special Provisions to Standard Specifications, and Special Specifications (based on Black & Veatch Standard Technical Specifications in CSI format).
- *Sub-consultant Scopes of Services* are provided in **Attachment C**.
- The final deliverable from this phase of the project is a single complete set of contract documents for a Contractor to bid and construct the facilities. The contract documents will include the following:

- Project Manual (Volume 1):
 - Front-end documents, including the Geotechnical Data Report
 - Technical Specifications
- MBE/WBE Procurement Program Package (Volume 2) - provided by the OWNER
- ROCIP Project Safety Manual (Volume 3) – provided by the OWNER
- Contract drawings in standard B&V format with City of Austin cover sheet
- Black & Veatch drafting standards and procedures will be implemented and followed by the design team during the final design stage. Full size drawings will be prepared with a 22" X 34" border, so 11" X 17" half size drawings can also be produced, as needed. AutoCAD software will be utilized during the design process.
- Final contract documents will be provided to the OWNER in editable format (ie, CAD, Word, or searchable .pdfs.) representing the source file. Preliminary review documents will be provided in .pdf format.
- The facilities identified in this Scope of Services are included in the final design. Any changes identified throughout the design development that are not presented herein will be identified and performed as an amendment to this Agreement upon written approval of the OWNER.
- The *Fee* associated with the Scope of Services is provided in **Attachment D**.
- No architectural renderings will be required or prepared.
- No fire sprinklers will be required in the areas of work or designed.
- No "electronic" security provisions will be provided in the areas of work. Building security will entail deadbolt locks and keyed entry for doors as coordinated with plant staff.
- No conformed to bid documents will be provided.
- No "official" building code review is required during design. One-stop-shop will review project deliverables to prepare for issuance of building permit during construction.

Potential Additional Services

Potential additional services have been identified below. These services are outside this Scope of Work, however, the Engineer will have staff resources available to perform these services, if necessary and authorized by the City with a budget and schedule agreed upon with the Engineer.

- Public Meetings. Conduct public meetings with OWNER and other interested entities regarding alternatives for the PROJECT as required in Section 1.4.1.1 of the Supplemental Terms and Conditions of the Agreement.
- Preliminary Cultural Resources Assessment. Conduct a Preliminary Cultural Resources Assessment as required in Section 1.4.1.2 of the Supplemental Terms and Conditions of the Agreement.
- Environmental Report. Prepare an Environmental Report as required in Section 1.4.1.7 of the Supplemental Terms and Conditions of the Agreement.
- Meetings with Texas Commission on Environmental Quality. Meet with representatives of TCEQ to discuss alternative filtration technology if selected during the alternative selection process.
- Value Engineering and Third-Party Reviews. Participate in and respond to Value Engineering and Third-Party Reviews.
- Overall Facility Piping Plan. Prepare an *overall* facility piping plan depicting the main plant piping systems by color on an enlarged site plan. Services could include ground penetrating radar to collect and develop three dimensional data including depths of pipe. Ductbank routing and depths could also be included.

Scope of Services

1100 – PROJECT MANAGEMENT

CONSULTANT will provide ongoing project management throughout Phases B and C of the PROJECT to effectively manage the design activities, track the project status, coordinate with OWNER'S staff and administer the contract.

Task 1110 – Project Procedures Manual Update. The project procedures manual will be updated to include Phases B and C and distributed to the project team.

Task 1120 - Quality Control Plan Update. The Quality Control Plan will be updated to incorporate quality assurance, quality control and constructability reviews for the design phase deliverables.

Task 1130 – Project Meetings. Regularly scheduled project meetings will be conducted throughout the project to keep the OWNER informed on the progress, design issues and recommendations and to discuss and resolve specific project issues. An agenda will be issued prior to each meeting and minutes will be prepared including a summary of the key decisions and action items. Special design review workshops will also be held as indicated in the detailed design tasks. It is anticipated that up to 12 project meetings will be required.

Task 1140 – Project Coordination. Project coordination led by the Black & Veatch project manager and engineering manager with the City's project management team, plant staff, project design team and other project stakeholders will be on-going throughout the project. Coordination will also occur between the B&V project manager, project engineer and project controls specialist to review budget and schedule issues on a regular basis throughout the project.

Task 1150 – Project Reporting. Project status will be reported to City of Austin project manager on a monthly basis. Monthly invoices will be prepared and submitted to the City's project manager. The Resource Allocation Plan will be updated with each invoice to identify the work performed during the billing period and the completion status of major tasks. The SubK report will be updated with each invoice.

Task 1160 – Schedule. The project design schedule will be updated throughout the design at key milestone stages including 30%, 60% and 90% submittals. Effort included is for project manager. (See also tasks 1330, 1430, and 1530 for design team effort.)

Task 1170 - Change Management. Black & Veatch will work with the City project management team to manage the established cost and schedule targets. Potential project changes will be identified along with estimated impacts to cost and schedule to assist with the team's decisions regarding proposed changes. All potential changes will be entered into a Trend Register to log and track resolution of each item. The Trend Register will be updated monthly and reviewed with the team at the regular progress meetings.



SUPPLEMENTAL AMENDMENT NO. 2
ATTACHMENT 1A - SCOPE OF SERVICES
PHASE B&C: DESIGN AND BID

CITY OF AUSTIN CIP NO.:3023.025

BLACK & VEATCH PROJECT NO.: 168622

WALNUT CREEK WWTP TERTIARY FILTER REHABILITATION

Task 1180 – Agency Coordination. Agency coordination will be required throughout the design and construction process for various approvals, reviews and permits. An Agency Coordination Log will be maintained to document the reviews provided throughout design. Comment response documents will also be maintained to document resolution to comments received through agency review. Agencies that will require coordination are summarized below.

Key Review Agencies and Utilities	
Agency/Utility	Key Review/Permit
Texas Commission on Environmental Quality	Letter outlining project submitted during design with potential follow-up meeting
City of Austin Quality & Standards Management Division	Review of 30%, 60%, 90% and 100% submittals
City of Austin One-Stop-Shop for General Permit Review	Review of 30%, 60%, 90% and 100% submittals (Contractor to obtain General Building Permit for the Project during construction)
Austin Water Utility and Walnut Creek Wastewater Treatment Plant	Review of all submittals

Task 1190 – Team Oversight and Subcontract Management. Black & Veatch project manager will maintain oversight of technical design development and project execution and will manage all communications with the sub-consultant team. Internal meetings will be held with the project team, including all sub-consultants, on a regular basis, at least monthly, to coordinate design issues and progress.

Task 1110 – Filter Technology Coordination. The Black & Veatch project manager and process specialist will coordinate with the City and consultant team performing the filter rehabilitation work at the South Austin Regional WWTP. The coordination will entail review of the filter technology design at key stages (30%, 60% and 90% design) and participation in review meetings and workshops. This coordination will enable the filter projects for WCWWTP and SARWWTP to stay in sync by providing review and comparison opportunities for the consultant and City design teams throughout the development of each project.

Deliverables: Task 1100 – Project Management

The following deliverables will be provided to the City as part of Task 1100 – Project Management:

- Updated Project Procedures Manual.
- Updated Quality Control Plan.
- Progress Meeting Agendas and Minutes.
- Project Invoices including updating the Resource Allocation Plan and Sub K Report.
- Project Schedule.
- Trend Register.Agency Coordination Log.

1200 – DESIGN BASIS CONFIRMATION AND PRELIMINARY INVESTIGATIONS

Task 1210 – Design Basis Confirmation. Certain design elements will be reviewed to confirm the design basis before initiating detailed design. Bi-weekly coordination meetings will be held with plant staff during this task to swiftly resolve open issues and confirm design decisions. A technical memorandum will be prepared to document the additional analysis and summarize the resulting design direction for each pending issue. Design elements to be reviewed include:

- Clearwell: Clearwell options will be reviewed including costs and benefits of the two options. A design approach will be determined to (1) include both clearwell options in the project or (2) design the second clearwell option as an alternative bid item. Design phasing will be reviewed if the second option is not constructed until a future project.
- Strainer: The existing strainer design parameters for water quality and sizing will be confirmed. Operational preferences and constraints will be revisited.
- Filter Media: The granular media selection will be reviewed to confirm that anthracite is still the media of choice.
- Filter Controls: The filter controls design options will be reviewed including consideration of a packaged filter control system option. Pneumatic actuators for filter valves will also be evaluated and compared to electric actuators. Cost assessments will be prepared to compare potential savings with the alternative systems. Benefits of the equipment options will also be evaluated.
- Manufacturer Preferences: Equipment lists summarizing key equipment provided in the design will be prepared including potential manufacturers. City review will confirm the preferred manufactures to be listed in the specifications.

Task 1220 – Subsurface Utility Engineering (SUE). Subsurface utility engineering services will be provided through sub-consultant services as described in **Attachment C**. Black & Veatch will coordinate site activities and incorporate the results into the site drawings and the design details and specifications.

Task 1230 – Geotechnical Investigations. Geotechnical investigations and a geotechnical report will be provided through sub-consultant services as described in **Attachment C**. Black & Veatch will coordinate site activities and incorporate the results into the site drawings and the design details and specifications. Black & Veatch will review the draft and final geotechnical design reports.

Task 1240 – Survey. Surveying services will be provided through sub-consultant services as described in **Attachment C**. Black & Veatch will coordinate site activities and incorporate the results into the site drawings and the design details and specifications.

Deliverables: Task 1200 – Design Basis Confirmation and Preliminary Investigations

The following deliverables will be provided to the City as part of Task 1200 – Design Basis Confirmation and Preliminary Investigations:

- Technical Memoranda for Design Basis Confirmation Issues.
- SUE, Geotechnical and Survey Investigations.

1300 – LEVEL 1 DETAILED DESIGN (30%)

Task 1310 – Level 1 – Schematic and Spatial Design. Schematic and spatial design will be developed for the Level 1 (30%) design submittal. Major design elements for Level 1 are summarized below by discipline. The Level 1 design submittal will also include a draft table of contents for the specifications.

- a. *Civil / Process*
 - Process area equipment and piping layouts and major sections
 - System P&ID's
 - Site layout with structures, drives, and preliminary grading
 - Primary yard piping layouts
 - Hydraulic profile update
 - Equipment control strategies
 - Major process space requirements
 - Major equipment lists and loads
 - Major equipment outline specifications and data sheets
 - Permitting including erosion control and staging areas
 - Underground Utility Investigations
- b. *Architectural*
 - Preliminary building layouts
 - Identify wall materials and construction
 - Prepare building elevations
- c. *Structural*
 - Develop layout of building structural shells
 - Set column row locations
 - Develop preliminary structural design
 - Review 1st draft of geotechnical report
- d. *Building Mechanical*
 - Update design concepts for HVAC and plumbing
 - Layout space requirements for major equipment
- e. *Process Mechanical*
 - Layout space requirements for blowers
 - Layout space requirements for backwash pumps
 - Major equipment outline specifications and data sheets
- f. *Electrical*
 - Layout space requirements for major electrical equipment
 - One-Line Diagrams

g. *Instrumentation and Control*

- PLC System Architecture
- Final instrumentation input to P&ID's
- Equipment control strategy input/draft software control descriptions

Task 1320 – Quality Control. An in-house quality control review of the Level 1 detailed design documents will be performed. Quality control review comments will be evaluated and incorporated into the project documents as applicable prior to submitting to the City or other agencies for review.

Task 1330 – Cost Estimate and Schedule Update. An opinion of probable construction cost will be updated based on the Level 1 (30%) design submittal. The design schedule will be updated based on the design progress and any design issues at the milestone.

Task 1340 – Level 1 Design Review. The schematic design documents will be submitted for review. Ten (10) copies of the drawings and specifications will be provided to the CITY. A design review meeting will be held with the CITY to review comments.

Task 1350 – Agency and Utility Coordination. Review agencies and utilities will be contacted to discuss and coordinate the design of the project. The requirements of each agency and utility will be identified and incorporated into the project. The agency coordination log will be updated.

Task 1360 – Code Classification Table. A code classification table will be developed for the facilities being designed. Applicable codes will be referenced and only code compliance issues will be determined.

Task 1370 – Drainage Study. A limited drainage study will be prepared to address on-site drainage impacts resulting from the proposed filter improvements. The study will entail identifying areas where drainage characteristics are modified and the impact to the overall site drainage plan. A technical memorandum will be prepared to document any drainage impacts and design solutions.

Deliverables: Task 1300 – Schematic Design

The following deliverables will be provided to the City as part of Task 1300 – Schematic Design:

- Level 1 Schematic Design Drawings and Specifications.
- Utility and Agency comment minutes and/or comment response documents and updated Agency Coordination Log.
- Updated Cost Estimate and Schedule.
- Code Classification Table.
- Drainage Impacts Technical Memorandum.

1400 – LEVEL 2 DETAILED DESIGN (60%)

Task 1410 – Level 2 – Detailed Design Development. Detailed design will be developed for the Level 2 (60%) design submittal. Major design elements for Level 2 are summarized below by discipline. The Level 2 design submittal will also include the major equipment and discipline specifications.

- a. *Civil / Process*
 - Process and sub process equipment and piping plans
 - Create major process and sub process sections
 - Pre-final civil site drawings including site piping, and grading
 - Process/ civil details and sections
 - Civil/ site specifications
 - Process equipment specifications
 - Create civil/ site underground utility drawings and sections
 - Permitting including erosion control and staging areas
 - Geotechnical investigations, data report and draft design report
- b. *Architectural*
 - Complete architectural floor plans
 - Develop wall sections.
 - Develop door, window, and louver schedules
 - Develop architectural specifications
 - Complete building elevations
- c. *Structural*
 - Structural foundation and framing plans
 - Layout sections and details
 - Complete structural framing plans and sections
 - Review 2nd draft of geotechnical report
 - Structural specifications
- d. *Building Mechanical*
 - Prepare plumbing plans
 - HVAC system design
 - HVAC equipment and duct work layout plans
 - Plumbing schematics and fire sprinkler riser locations
 - HVAC and Plumbing schedules
 - HVAC sequence of operation
 - Building mechanical equipment schedules
- e. *Process Mechanical*
 - Blower specifications
 - Pump specifications
- f. *Electrical*
 - Develop preliminary electrical power plans, lighting plans and auxiliary plans
 - Electrical specifications
 - Preliminary duct bank
 - Electrical schematics

- Electrical one-lines

- g. *Instrumentation and Control*
 - Control wiring schematics
 - Wiring diagrams
 - I&C specifications
 - Develop preliminary I&C plans
 - Finalize Software Control Descriptions

Task 1420 – Quality Control. An in-house quality control review of the Level 2 detailed design documents will be performed. Quality control review comments will be evaluated and incorporated into the project documents as applicable prior to submitting to the City or other agencies for review.

Task 1430 – Cost Estimate and Schedule Update. An opinion of probable construction cost will be updated based on the Level 2 (60%) design submittal. The design schedule will be updated based on the design progress and any design issues at the milestone.

Task 1440 – Level 2 Design Review. The design development Level 2 design documents will be submitted for review. Ten (10) copies of the drawings and specifications will be provided to the CITY. A design review meeting will be held with the CITY to review comments.

Task 1450 – Agency and Utility Coordination. Review agencies and utilities will be contacted to discuss and coordinate the design of the project. The requirements of each agency and utility will be identified and incorporated into the project. The agency coordination log will be updated.

Task 1460 – Construction Sequencing Plan Development. After the 60% submittal, a draft anticipated construction schedule will be developed identifying long-lead delivery items. This schedule will be used to review the general construction sequencing required for the project and to identify operational constraints to be included in the specifications. A special meeting will be held to discuss the operational constraints and how they relate to the sequencing of the construction. Outgauge windows will be determined, and preliminary construction sequencing plans will be developed for incorporation into the contract documents.

Task 1470 – Asset Management Coordination. A special meeting/workshop will be held the the City asset management team to review the design details and coordinate asset disposition. The City's tagging system/spreadsheet will be reviewed in coordination with the design demoltion plan and new equipment planned. In addition, a Failure Modes and Analysis (FMA) exercise will be performed with the asset management team to capture any design enhancements. A memorandum will be prepared to summarize the result of the FMA review.

Task 1480 – Constructability Review. A constructability review will be performed by construction specialist to ensure the design includes sound construction approaches and to identify any construction challenges. Suggested design improvements will be made to enhance the constructability of the project. A Constructability Review Log will be prepared to summarize constructability review comments and resolutions.

Task 1490 – Quality Control Inspection Plan (QCIP). A QCIP plan will be developed to recommend appropriate quality control inspection requirements for the project to be included in the construction documents.

Deliverables: Task 1400 – Design Development

The following deliverables will be provided to the City as part of Task 1400 – Design Development:

- Level 2 Design Development Drawings and Specifications.
- Project Manual cover sheet and table of contents.
- Draft special provisions and special specifications and justification for inclusion of special provisions and special specifications required for the project.
- Final geotechnical data report.
- Draft geotechnical design report.
- Draft Storm Water Pollution Prevention Plan (SWPPP).
- List of applicable permits.
- Utility and Agency comment minutes and/or comment response documents and updated Agency Coordination Log. Updated Cost Estimate and Schedule.
- Draft Anticipated Construction Schedule and Construction Sequencing Plans.
- Failure Modes and Analysis Summary Memorandum.
- Constructability Review Log.

1500 – LEVEL 3 DETAILED DESIGN (90%)

Task 1500 – Level 3 - Construction Documents. Construction Documents will be developed for the Level 3 (90%) design submittal. Major design elements for Level 3 are summarized below by discipline. The Level 3 design submittal will also include all specifications.

- a. *Civil / Process*
 - Complete plans and details
 - Coordinate underground utilities and roadways
 - Complete specifications
 - Permitting including erosion control and staging areas
- b. *Architectural*
 - Complete plans and details
 - Complete specifications
 - Complete architectural schedules and details

- c. *Structural*
 - Complete structural schedules and details
 - Complete plans and details
 - Complete specifications

- d. *Building Mechanical*
 - Prepare HVAC and plumbing system details
 - Complete HVAC and plumbing plans and details
 - Complete specifications

- e. *Process Mechanical*
 - Complete plans and details
 - Complete specifications

- f. *Electrical*
 - Complete electrical power plans
 - Complete electrical lighting plans and fixture schedules
 - Complete power site plan
 - Complete plans and details
 - Complete specifications

- g. *Instrumentation and Control*
 - Complete I&C installation details
 - Complete I&C plans and details
 - Complete instrumentation specifications

Task 1520 – Quality Control. An in-house quality control review of the Level 3 detailed design documents will be performed. Quality control review comments will be evaluated and incorporated into the project documents as applicable prior to submitting to the City or other agencies for review.

Task 1530 – Cost Estimate and Schedule Update. An opinion of probable construction cost will be updated based on the Level 3 (90%) design submittal. The design schedule will be updated based on the design progress and any design issues at the milestone.

Task 1540 – Level 3 Design Review. The Level 3 design documents will be submitted for review. Ten (10) copies of the drawings and specifications will be provided to the CITY. A design review meeting will be held with the CITY to review comments.

Task 1550 – Agency and Utility Coordination. Review agencies and utilities will be contacted to discuss and coordinate the design of the project. The requirements of each agency and utility will be identified and incorporated into the project. The agency coordination log will be updated.

Deliverables: Task 1500 – Construction Documents

The following deliverables will be provided to the City as part of Task 1500 – Construction Documents:

- Construction Document Drawings and Specifications.
- Utility and Agency comment minutes and/or comment response documents and updated Agency Coordination Log.
- Updated Cost Estimate and Schedule.
- Final geotechnical design report.
- Electronic copy of consultant’s independent reviewer comments for both drawings and specifications.

1600 – FINAL CONSTRUCTION DRAWINGS

Task 1610 – Final Contract Documents. Final review comments will be incorporated into the contract documents and the documents will be sealed and submitted as final. This task does not include conforming the drawings to include the bid clarifications and addenda.

Task 1620 – Final Project Manual. Final construction documents will be incorporated into the final project manual in coordination with the City.

Task 1630 – Cost Estimate and Schedule Update. An opinion of probable construction cost will be updated based on the final design submittal. The design schedule will be updated based on the design progress and any design issues at the milestone.

Task 1640 – Anticipated Construction Schedule. The preliminary anticipated construction schedule developed as part of the construction sequencing plans will be updated to reflect more accurate anticipated construction activities and required timelines based on the City’s anticipated notice to proceed date for construction. The schedule will identify long-lead items, anticipated construction start dates, general project sequencing and plant operational constraints. Key schedule constraints will be coordinated with in the project specifications as required.

Deliverables: Task 1600 – Final Contract Documents

The following deliverables will be provided to the City as part of Task 1600 – Final Contract Documents:

- Final Contract Documents.
- Final Project Manual.
- Final Cost Estimate.
- Final Anticipated Construction Schedule.

1700 – CLOSE OUT OF DESIGN PHASE

Close out of the Design Phase will include the following activities:

Task 1710 – Quality Control Plan Documentation. Final documentation for the Quality Control Plan will be prepared and submitted to the City for the project records.



SUPPLEMENTAL AMENDMENT NO. 2
ATTACHMENT 1A - SCOPE OF SERVICES
PHASE B&C: DESIGN AND BID

CITY OF AUSTIN CIP NO.:3023.025

BLACK & VEATCH PROJECT NO.: 168622

WALNUT CREEK WWTP TERTIARY FILTER REHABILITATION

Task 1720 – Report on LEED Activity. A letter report on LEED activity for the project will be prepared and submitted to the City for the project records.

Task 1730 – Master Filter Piping Plan. A consolidated site plan and yard piping drawing showing the piping systems for the Filter Complex will be developed. The master piping plan will be a color drawing presenting each piping system in a distinct color. The piping plan will be provided in electronic form (both CAD and .pdf) and will also be printed in color and mounted on a hard backed board for display at the plant.

Deliverables: Task 1700 – Close Out of Design Phases

The following deliverables will be provided to the City as part of Task 1700 – Close Out of Design Phase:

- Quality Control Plan Documentation.
- Report on LEED Activity.
- Master Filter Piping Plan Color Drawing (Mounted Hard-copy and electronic).

1800 – BID AND AWARD

Bid and Award will include the following activities:

Task 1810 – Pre-Bid Conference. Black & Veatch will attend the pre-bid conference and assist the City project manager in preparations for the conference.

Task 1820 – Respond to RFIs. Black & Veatch will review and prepare responses to RFIs received during the bid process. Up to approximately 10 RFI's are anticipated. Responses will be provided to the City project manager for incorporation into official clarifications or addenda.

Task 1830 – Addenda. Black & Veatch will assist the City project manager in preparing addenda to document significant modifications to the drawings and specifications as a result of RFIs or clarifications from the bidding process. Limited effort is estimated for addenda preparation based on up to 2 addenda submissions involving modifications to up to 10 sheets.

Task 1840 – Review Construction Bids. The construction bid proposal of the apparent low bidder will be reviewed for general responsiveness to the bid, experience required by the contract documents, and determination of complete cost items. A review letter will be prepared to document the findings of the review.

Deliverables: Task 1800 – Bid and Award

The following deliverables will be provided to the City as part of Task 1800 – Bid and Award:

- RFI Responses.
- Addenda.
- Construction Bid Review Letter.

PHASE D – CONSTRUCTION PHASE SERVICES

(To be performed subsequent to Phases B&C)

The following presents the work anticipated during the Construction phase. The scope of services for this phase will be finalized and negotiated with the City near the completion of Phase B: Design. The major elements of work anticipated during this phase include the following:

- Construction Administration
- On-Site Resident Engineering and Inspection Assistance
- Requests for Information Review and Response
- Shop Drawing Review
- Special Inspection Services
- I&C Inspection and Coordination
- PLC Programming
- Construction Sequencing Coordination
- Commissioning and Start-up Assistance
- Asset Management Coordination (including preparation of the City's CMMS/Asset Management Collection Sheet)
- Electronic O&M Manual
- As-Built Drawings
- Project Close-out

PHASE E – POST-CONSTRUCTION PHASE SERVICES

(To be performed subsequent to Phases B, C & D)

The following presents the work anticipated for Post-Construction Phase Services. The scope of services for this phase will be finalized and negotiated with the City near the completion of Phase B: Design. The major elements of work anticipated during this phase include the following:

- Preparation of Record Documents, including as-built drawings based on records provided from the contractor.
- Development of updated asset list for new taggable assets and preparation of updated Asset Requirement Request Forms as applicable to the project.
- Representation of the Owner, as required, for matters involving malfunctions and deficiencies of the work.



ATTACHMENT A

PRELIMINARY SHEET LIST

City of Austin, Texas
Walnut Creek WWTP
Filter Rehabilitation Project
Preliminary Sheet List

#		Discipline	Sheet Name	Level 1	Level 2	Level 3	Lead Engineer
1	G1	General	Cover/Sheet List				BV
2	G2	General	Legend and Abbreviations				BV
3	G3	General	Sheet Key				BV
4	G4	General	Hydraulic Profile				BV
5	G5	General	Process Flow Diagram				BV
6	S1	Structural	General Notes and Abbreviations				JGI
7	S2	Structural	Typical Details				JGI
8	S3	Structural	Typical Details				JGI
9	S4	Structural	Southside Clearwell Foundation Plan				JGI
10	S5	Structural	Southside Clearwell Roof Plan				JGI
11	S6	Structural	Northwest Clearwell Foundation Plan				JGI
12	S7	Structural	Northwest Clearwell Roof Plan				JGI
13	S8	Structural	Blower Building Roof Framing Plan				JGI
14	S9	Structural	Clearwell Cross-Sections				JGI
15	S10	Structural	Clearwell Cross-Sections				JGI
16	S11	Structural	Clearwell Cross-Sections				JGI
17	S12	Structural	Clearwell Details				JGI
18	S13	Structural	Clearwell Details				JGI
19	S14	Structural	Blower Building Sections and Details				JGI
20	A1	Architectural	Air Blower Building Plan				BV
21	A2	Architectural	Air Blower Building Section				BV
22	A3	Architectural	Air Blower Building Details 1 of 2				BV
23	A4	Architectural	Air Blower Building Details 2 of 2				BV
24	C1	Civil/Process	Civil General Notes				CAS
25	C2	Civil/Process	Civil Legend and Abbreviations				CAS
27	C3	Civil/Process	Miscellaneous Details Sheet 1 of 3				CAS
28	C4	Civil/Process	Miscellaneous Details Sheet 2 of 3				CAS
29	C5	Civil/Process	Miscellaneous Details Sheet 3 of 3				CAS
30	C6	Civil/Process	Pavement Design				
Southside Clearwell							
31	C7	Civil/Process	Existing Clearwell Demolition Plan				BV/CAS
32	C8	Civil/Process	Southside Clearwell Overall Plan				BV/CAS
33	C9	Civil/Process	Southside Clearwell Sections and Details				
34	C10	Civil/Process	Southside Clearwell Sections and Details				
Northwest Clearwell							
35	C11	Civil/Process	Northwest Clearwell Overall Plan				BV/CAS
36	C12	Civil/Process	Northwest Clearwell Sections and Details				
Non-Potable Water							
37	C13	Civil/Process	NPW Demolition Plan				CAS
38	C14	Civil/Process	NPW Piping Diagram				CAS
39	C15	Civil/Process	NPW Overall Plan and Sections				CAS
40	C16	Civil/Process	NPW Details Sheet 2 of 2				CAS
Filter 1 through 4							
41	C17	Civil/Process	Filter 1 through 4 Demolition				
42	C18	Civil/Process	Filter 1 through 4 Overall Plan				

City of Austin, Texas
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#	Discipline	Sheet Name	Level 1	Level 2	Level 3	Lead Engineer
43	C19	Civil/Process	Filter 1 through 4 Section and Details			
Miscellaneous Piping, Valves and Meters						
44	C20	Civil/Process	Piping Plan			BV/CAS
45	C21	Civil/Process	Piping Details			BV/CAS
46	C22	Civil/Process	Valve Plan			BV/CAS
47	C23	Civil/Process	Valve Details			BV/CAS
48	C24	Civil/Process	Meter Plan			BV/CAS
49	C25	Civil/Process	Meter Details			BV/CAS
50	C26	Civil/Process	Enlarged New Air Blower Building Plan			BV/CAS
51	C27	Civil/Process	New Blower Building Sections			BV/CAS
52	MH-1	Mechanical	HVAC Notes and Symbols			Encotech
53	MH-2	Mechanical	HVAC Plan - Filter Building 1			Encotech
54	MH-3	Mechanical	HVAC Plan - Filter Building 2			Encotech
55	MH-4	Mechanical	HVAC Plan - Filter Building 1 Pipe Gallery			Encotech
56	MH-5	Mechanical	HVAC Plan - Filter Building 2 Pipe Gallery			Encotech
57	MH-6	Mechanical	HVAC Plan - Filter Air Scour Blower Ventilation			Encotech
58	MH-7	Mechanical	HVAC Sections			Encotech
59	MH-8	Mechanical	HVAC Sections			Encotech
60	MH-9	Mechanical	HVAC Schedules			Encotech
61	MH-10	Mechanical	HVAC Schedules and Details			Encotech
62	MH-11	Mechanical	HVAC Details			Encotech
63	MH-12	Mechanical	HVAC Details			Encotech
64	E1	Electrical	Electrical Symbols Legend 1			HEI
65	E2	Electrical	Electrical Symbols Legend 2			HEI
66	E3	Electrical	Electrical Symbols Legend 3			HEI
67	E4	Electrical	Electrical Symbols Legend 4			HEI
68	E5	Electrical	Electrical General Notes 1			HEI
69	E6	Electrical	Electrical General Notes 2			HEI
70	E7	Electrical	Demolition - Filter Buildings No. 1, No. 2 and Site - General Notes 1			HEI
71	E8	Electrical	Demolition - Filter Buildings No. 1, No. 2 and Site - Overall and Distribution Bus Specific One-Lines 1			HEI
72	E9	Electrical	Demolition - Filter Buildings No. 1, No. 2 and Site - Overall and Distribution Bus Specific One-Lines 2			HEI
73	E10	Electrical	Demolition - Filter Buildings No. 1, No. 2 and Site - Distribution Equipment Elevations 1			HEI
74	E11	Electrical	Demolition - Filter Buildings No. 1, No. 2 and Site - Distribution Equipment Elevations 2			HEI
75	E12	Electrical	Demolition - Filter Buildings No. 1, No. 2 and Site - Site Power and I&C plans and associated cross-sectional views 1			HEI
76	E13	Electrical	Demolition - Filter Buildings No. 1, No. 2 and Site - Site Power and I&C plans and associated cross-sectional views 2			HEI
77	E14	Electrical	Demolition - Filter Buildings No. 1, No. 2 and Site - Power Plans 1			HEI
78	E15	Electrical	Demolition - Filter Buildings No. 1, No. 2 and Site - Power Plans 2			HEI
79	E16	Electrical	Demolition - Filter Buildings No. 1, No. 2 and Site - Power Plans 3			HEI
80	E17	Electrical	Demolition - Filter Buildings No. 1, No. 2 and Site - Power Plans 4			HEI
81	E18	Electrical	Demolition - Filter Buildings No. 1, No. 2 and Site - Power Plans 5			HEI
82	E19	Electrical	Demolition - Filter Buildings No. 1, No. 2 and Site - Power Plans 6			HEI
83	E20	Electrical	Demolition - Filter Buildings No. 1, No. 2 and Site - Power Plans 7			HEI
84	E21	Electrical	Demolition - Filter Buildings No. 1, No. 2 and Site - Power Plans 8			HEI
85	E22	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Overall & Distribution Bus Specific One-Lines 1			HEI
86	E23	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Overall & Distribution Bus Specific One-Lines 2			HEI
87	E24	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Overall & Distribution Bus Specific One-Lines 3			HEI
88	E25	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Overall & Distribution Bus Specific One-Lines 4			HEI
89	E26	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Overall & Distribution Bus Specific One-Lines 5			HEI

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#		Discipline	Sheet Name	Level 1	Level 2	Level 3	Lead Engineer
90	E27	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Overall & Distribution Bus Specific One-Lines 6				HEI
91	E28	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Overall & Distribution Bus Specific One-Lines 7				HEI
92	E29	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Distribution Equipment Elevations 1				HEI
93	E30	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Distribution Equipment Elevations 2				HEI
94	E31	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Distribution Equipment Elevations 3				HEI
95	E32	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Distribution Equipment Elevations 4				HEI
96	E33	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Plans 1				HEI
97	E34	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Plans 2				HEI
98	E35	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Plans 3				HEI
99	E36	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Plans 4				HEI
100	E37	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Plans 5				HEI
101	E38	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Plans 6				HEI
102	E39	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Plans 7				HEI
103	E40	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Plans 8				HEI
104	E41	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Plans 9				HEI
105	E42	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Plans 10				HEI
106	E43	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Plans 11				HEI
107	E44	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Plans 12				HEI
108	E45	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Plans 13				HEI
109	E46	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Plans 14				HEI
110	E47	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Site plans and associated cross sectional views 1				HEI
111	E48	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Site plans and associated cross sectional views 2				HEI
112	E49	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Details, schedules, sectional views, as applicable 1				HEI
113	E50	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Details, schedules, sectional views, as applicable 2				HEI
114	E51	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Details, schedules, sectional views, as applicable 3				HEI
115	E52	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Details, schedules, sectional views, as applicable 4				HEI
116	E53	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Details, schedules, sectional views, as applicable 5				HEI
117	E54	Electrical	Electrical Renovation - Filter Build. No. 1, No. 2 Site, Air Scour Blower Build., & WRI Electrical Build. - Details, schedules, sectional views, as applicable 6				HEI
118	P1	P&ID	Legend and Abbreviations				BV
120	P3	P&ID	Legend and Abbreviations				BV
121	P4	P&ID	Legend and Abbreviations				BV
122	P5	P&ID	Overall Process Flow Diagram				BV
123	P6	P&ID	Filter No. 1-4 Typical				BV
124	P7	P&ID	Filter No. 5-10 Typical				BV
125	P8	P&ID	Filter Backwash Air Blowers				BV
127	P10	P&ID	Filter Backwash Pumps				BV
128	P11	P&ID	NPW Pumps				BV
129	P12	P&ID	Compressed Air System				BV
130	I1	Instrumentation	Demolition - Filter Building No. 1 Control & Instrumentation Plan				BV
131	I2	Instrumentation	Demolition - Filter No. 1 - 4 Control & Instrumentation Pipe Gallery Plan				BV
132	I3	Instrumentation	Demolition - Filter Building No. 2 Control & Instrumentation Plan				BV
133	I4	Instrumentation	Demolition - Filter No. 5 - 10 Control & Instrumentation Pipe Gallery Plan				BV
134	I5	Instrumentation	Demolition - Filter Backwash Equipment Control & Instrumentation Plan				BV
135	I6	Instrumentation	Demolition - Filter Buildings No. 1, No. 2 and Site - PLC Network Architecture				BV
136	I7	Instrumentation	Demolition - Filter Buildings No. 1, No. 2 and Site - Control Wiring Schematics 1				BV
137	I8	Instrumentation	Demolition - Filter Buildings No. 1, No. 2 and Site - Control Wiring Schematics 2				BV
138	I9	Instrumentation	Demolition - Filter Buildings No. 1, No. 2 and Site - Control Wiring Schematics 3				BV
139	I10	Instrumentation	Demolition - Filter Buildings No. 1, No. 2 and Site - Instrument Wiring Schematics 1				BV
140	I11	Instrumentation	Demolition - Filter Buildings No. 1, No. 2 and Site - Instrument Wiring Schematics 2				BV

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#		Discipline	Sheet Name	Level 1	Level 2	Level 3	Lead Engineer
141	112	Instrumentation	Demolition - Filter Buildings No. 1, No. 2 and Site - Instrument Wiring Schematics 3				BV
142	113	Instrumentation	Demolition - Filter Buildings No. 1, No. 2 and Site - Control Cabinet elevation drawings, wiring schematics, details, and schedules 1				BV
143	114	Instrumentation	Demolition - Filter Buildings No. 1, No. 2 and Site - Control Cabinet elevation drawings, wiring schematics, details, and schedules 2				BV
144	115	Instrumentation	Demolition - Filter Buildings No. 1, No. 2 and Site - Control Cabinet elevation drawings, wiring schematics, details, and schedules 3				BV
145	116	Instrumentation	Demolition - Filter Buildings No. 1, No. 2 and Site - Details, schedules, sectional views, as applicable				BV
146	117	Instrumentation	Demolition - Filter Buildings No. 1, No. 2 and Site - Details, schedules, sectional views, as applicable				BV
147	118	Instrumentation	Filter No. 1 - 4 Control & Instrumentation Plan				BV
148	119	Instrumentation	Filter No. 1 - 4 Control & Instrumentation Pipe Gallery Plan				BV
149	120	Instrumentation	Filter No. 1 - 4 Control & Instrumentation Control Room Plan				BV
150	121	Instrumentation	Filter No. 5 - 10 Control & Instrumentation Plan				BV
151	122	Instrumentation	Filter No. 5 - 10 Control & Instrumentation Pipe Gallery Plan				BV
152	123	Instrumentation	Filter No. 5 - 10 Control & Instrumentation Control Room Plan				BV
153	124	Instrumentation	Filter Backwash Equipment Control & Instrumentation Plan				BV
154	125	Instrumentation	Control System Block Diagram				BV
155	126	Instrumentation	Control System Block Diagram				BV
156	127	Instrumentation	Filter Master Control Panel PLC & Control Panel Details				BV
157	128	Instrumentation	Filter Master Control Panel Wiring Schematic				BV
158	129	Instrumentation	Filter Console Detail (Typical)				BV
159	130	Instrumentation	Filter Console No. 1 PLC I/O Point Wiring Schematic				BV
160	131	Instrumentation	Filter Console No. 2 PLC I/O Point Wiring Schematic				BV
161	132	Instrumentation	Filter Console No. 3 PLC I/O Point Wiring Schematic				BV
162	133	Instrumentation	Filter Console No. 4 PLC I/O Point Wiring Schematic				BV
163	134	Instrumentation	Filter Console No. 5 PLC I/O Point Wiring Schematic				BV
164	135	Instrumentation	Filter Console No. 6 PLC I/O Point Wiring Schematic				BV
165	136	Instrumentation	Filter Console No. 7 PLC I/O Point Wiring Schematic				BV
166	137	Instrumentation	Filter Console No. 8 PLC I/O Point Wiring Schematic				BV
167	138	Instrumentation	Filter Console No. 9 PLC I/O Point Wiring Schematic				BV
168	139	Instrumentation	Filter Console No. 10 PLC I/O Point Wiring Schematic				BV
169	140	Instrumentation	Filter Backwash Air Blowers Local Control Panel Details				BV
170	141	Instrumentation	Filter Backwash Air Blowers Local Control Panel Schematic				BV
171	142	Instrumentation	Filter Backwash Pumps Local Control Panel Details				BV
172	143	Instrumentation	Filter Backwash Pumps Local Control Panel Schematic				BV
173	144	Instrumentation	NPW Pump Local Control Panel Details				BV
174	145	Instrumentation	NPW Pump Local Control Panel Schematic				BV
175	146	Instrumentation	Compressed Air System Local Control Panel Details				BV
176	147	Instrumentation	Compressed Air System Local Control Panel Schematic				BV
177	148	Instrumentation	Instrumentation Installation Details				BV
178	149	Instrumentation	Instrumentation Installation Details				BV
179	150	Instrumentation	Instrumentation Installation Details				BV
180	151	Auxiliary	Auxiliary Renovation - Filter Build. No. 1, Air Scour Blower Build. - Plans 1				HEI
181	152	Auxiliary	Auxiliary Renovation - Filter Build. No. 1, Air Scour Blower Build. - Plans 2				HEI
182	153	Auxiliary	Auxiliary Renovation - Filter Build. No. 1, Air Scour Blower Build. - Plans 3				HEI
183	154	Auxiliary	Auxiliary Renovation - Filter Build. No. 1, Air Scour Blower Build. - Details and schedules, as applicable 1				HEI
184	155	Auxiliary	Auxiliary Renovation - Filter Build. No. 1, Air Scour Blower Build. - Details and schedules, as applicable 2				HEI
185	156	Auxiliary	Auxiliary Renovation - Filter Build. No. 1, Air Scour Blower Build. - Details and schedules, as applicable 3				HEI
186	157	Auxiliary	Auxiliary Renovation - Filter Build. No. 1, Air Scour Blower Build. - Details and schedules, as applicable 4				HEI



ATTACHMENT B

PRELIMINARY SPECIFICATION LIST

Section	Title	COA Std. Spec	Special Provision	Special Specification	Complete for 100%	Lead Engineer	Comments
	Title Page						
	Table of Contents						
00020	Invitation for Bids	X				COA	
00100	Instruction to Bidders	X				COA	
00220	Geotechnical Data	X				COA	
00300U	Bid Form (Unit Price)	X				COA	
00400	Statement of Bidder's Experience	X				COA	
00405	Certificate of Non-Suspension or Debarment	X				COA	
00410	Statement of Bidder's Safety Experience	X				COA	
00440	Affadavit - Prohibited Activities	X				COA	
00450	MBE/WBE No Goals & Utilization Plan Form	X				COA	
00475	Non-Resident Bidder Provisions					COA	
00500	Agreement	X				COA	
00610	Performance Bond	X				COA	
00620	Payment Bond	X				COA	
00630	Nondiscrimination Certificate	X				COA	
00631	Title VI Assurances Appendix A	X				COA	
00650	Certificate of Insurance	X				COA	
00670	Sales Tax Exemption Certificate	X				COA	
00680	Non-Use of Asbestos Affidavit (Prior to Construction)	X				COA	
00681	Non-Use of Asbestos Affidavit (After Construction)	X				COA	
00700	General Conditions	X				COA	
00810	Supplemental General Conditions	X				COA	
00820	Modifications to Bidding Requirements and Contract Forms	X				COA	
00830	Wage Rates and Payroll Reporting	X				COA	
00830BC	Wage Rates Building Construction Tables	X				COA	
00900	Addendum	X				COA	
01010	Summary of Work	X				COA	
01020	Allowances	X				COA	
01025	Measurement and Payment	X				COA	
01030	Alternates	X				COA	
01040	Project Coordination	X				COA	
01045	Cutting and Patching	X				COA	
01050	Grades, Lines and Levels	X				COA	
01070	Identification System	X				COA	
01095	Reference Standards and Definitions	X				COA	
01096	Stormwater Pollution Prevention Plan	X				COA	
01100	Special Project Procedures	X				COA	
01200	Project Meetings	X				COA	
01300	Submittals	X				COA	

01310	Schedules and Reports	X				COA		
01352	Sustainable Construction Requirements	X				COA		
01380	Construction Photography and Video	X				COA		
01400	Quality Control Services	X				COA		
01500	Temporary Facilities	X				COA		
01505	Construction and Demolition Waste Management	X				COA		
01510	Construction Indoor Air Quality Management Plan	X				COA		
01550	Public Safety and Convenience	X				COA		
01600	Materials and Equipment	X				COA		
01610	General Equipment Stipulations			X		BV		
01612	Product Delivery Requirements			X		BV		
01614	Product Storage and Handling Requirements			X		BV		
01615	Equipment and Valve Identification			X		BV		
01631	Product Substitutions	X				COA		
01650	Facility Startup/Commissioning	X				COA		
01700	Contract Closeout	X				COA		
01710	Final Cleaning	X				COA		
01730	Operation and Maintenance Data	X				COA		
01900	Prohibition of Asbestos Containing Materials	X				COA		
01900a	Statement of Non-Inclusion of Asbestos Containing Material (E/A Prior to Design)	X				COA		
01900b	Statement of Non-Inclusion of Asbestos Containing Material (E/A After to Design)	X				COA		
02050	Demolition			X		BV		
02200	Excavation and Fill for Structures			X		BV		
02202	Trenching and Backfilling			X		BV		
02372	Drilled Concrete Piers and Shafts			X		BV		
02512	Asphalt Paving	X				COA		
02570	Surface Restoration			X		BV		
02581	Underground Ducts and Manholes			X		BV		
02605	Manholes, Frames and Covers							
02628	Polyvinyl Chloride (PVC) Sewer Pipe			X		BV		
02630	Polyvinyl Chloride (PVC) Pressure Pipe			X		BV		
02675	Cleaning and Disinfection of Water Pipelines			X		BV		
02702	Sewer Pipe Installation and Testing			X		BV		
02704	Pipeline Pressure and Leakage Testing			X		BV		
02704-S02	Plant Piping Test Pressure Schedule			X		BV		
03100	Concrete Forming			X		BV		
03200	Concrete Reinforcing			X		BV		
03250	Concrete Joints and Accessories			X		BV		
03300	Cast-In-Place Concrete			X		BV		
03301	Misc. Cast-in-Place Concrete			X		BV		
03315	Lightweight Structural Concrete			X		BV		
03350	Concrete Placing, Finishing and Curing			X		BV		
03360	Reservoir Shotcrete			X		BV		
03430	Precast Structural Concrete			X		BV		
03600	Grouting			X		BV		
05210	Steel Joist Framing			X		BV		
05312	Steel Roof Decking			X		BV		
05313	Steel Form Decking			X		BV		
05520	Handrailing, Guardrailing and Ladders			X		BV		

05550	Anchorage in Concrete				X		BV		
05990	Structural and Misc. Metals				X		BV		
07160	Dampproofing				X		BV		
08????	Fiberglass Doors and Frames								
09920	Painting				X		BV		
09940	Protective Coatings				X		BV		
11060	Equipment Installation				X		BV		
11110	Horiozontal Split Case Centrifugal Pumps				X		BV		
11610	Multistage Centrifugal Blowers				X		BV		
11950	Laboratory Equipment				X		BV		
13122	Metal Building Systems				X		BV		
13220	Filter Underdrains and Media				X		BV		
13500	Instrumentation and Control System				X		BV		
13500A	Appendix Instrument Device Schedule				X		BV		
13530	Programmable Logic Controllers				X		BV		
13530A	Appendix PLC Input/Output Listing				X		BV		
13550	Software Control Block Descriptions				X		BV		
13561	Panel Mounted Instruments				X		BV		
13562	Flow Instruments				X		BV		
13563	Pressure and Level Instruments				X		BV		
13564	Analytical Instruments				X		BV		
13565	Miscellaneous Instruments				X		BV		
13570	Panels, Consoles, & Appurtenances				X		BV		
13580	Uninterruptible Power Supplies				X		BV		
13590	Ethernet Networks				X		BV		
13591	Network Cable				X		BV		
14621	Monorail Chain Hoists								
15010	Valve Installation				X		BV		
15010	General Requirements				X		Encotech		
15020	Miscellaneous Piping and Accessories Installation				X		BV		
15020	Basic Methods				X		Encotech		
15050	Basic Mechanical Building Systems, Materials and Methods				X		BV		
15060	Miscellaneous Piping and Pipe Assembly				X		BV		
15061	Ductile Iron Pipe				X		BV		
15062	Steel Pipe				X		BV		
15064	Stainless Steel and Alloy Pipe, Tubing and Accessories				X		BV		
15066	Fiberglass Reinforced Plastic Pipe (Exhaust Air Service)				X		BV		
15065	Miscellaneous Steel Pipe, Tubing, and Accessories				X		BV		
15067	Misc. Plastic Pipe, Tubing, and Accessories				X		BV		
15070	Copper Tubing and Accessories				X		BV		
15092	Industrial Butterfly Valves				X		BV		
15093	Check Valves				X		BV		
15100	Miscellaneous Valves				X		BV		
15101	AWWA Butterfly Valves				X		BV		
15102	Eccentric Plug Valves				X		BV		

15104	Resilient-Seated Gate Valves			X		BV		
15111	Gate Installation			X		BV		
15114	Open-Channel Metal Slide Gates and Weir Gates			X		BV		
15140	Pipe Supports			X		BV		
15150	Water Meters			X		BV		
15170	Electrical Motor, Induction, 600V and below			X		HEI		
15175	Electrical Motor, Induction, 5kV			X		HEI		
15180	Valve and Gate Actuators			X		BV		
15250	Mechanical Insulation			X		Encotech		
15400	Plumbing			X		Encotech		
15495	Strainer			X		BV/CAS		
15670	Air Cooled Condensing Units			X		Encotech		
15700	Air Handling			X		Encotech		
15820	Dehumidification Systems			X		BV		
15870	Power Ventilators			X		Encotech		
15880	Air Distribution Systems			X		Encotech		
15890	Air Devices			X		Encotech		
15990	Testing, Adjusting and Balancing			X		Encotech		
15995	Building Systems Controls			X		BV		
16040	5 kV Motor Control Centers (and other derivative sections therein to this specification)			X		HEI		
16120	480 V Motor Control Centers (and other derivative sections therein to this specification)			X		HEI		
16150	Raceways, Fittings, and Supports			X		HEI		
16182	Medium Voltage Cable			X		HEI		
16200	Wiring (600 Volts and Below)			X		HEI		
16250	Boxes and Cabinets			X		HEI		
16300	Wiring Devices			X		HEI		
16350	Lighting			X		HEI		
16450	600 Volt and Below Dry Type Transformers			X		HEI		
16500	Panelboards			X		HEI		
16524	Automatic Transfer Switches			X		HEI		
16540	Field Control Stations			X		HEI		
16550	Grounding			X		HEI		
16600	Disconnect Switches and Enclosures			X		HEI		
16800	Calibration, Testing, and Settings			X		HEI		



ATTACHMENT C

SUPPLEMENTAL AMENDMENT NO. 2 SUBCONSULTANT PROPOSALS



SUPPLEMENTAL AMENDMENT NO. 1
ATTACHMENT 1A - SCOPE OF SERVICES
PHASE B&C: DESIGN AND BID

CITY OF AUSTIN CIP NO.:3023.025

BLACK & VEATCH PROJECT NO.: 168622

WALNUT CREEK WWTP TERTIARY FILTER REHABILITATION

CAS Consulting and Services, Inc.



June 27, 2012

CAS Consulting & Services, Inc. Scope of Services

City of Austin – Walnut Creek WWTP Filter Rehabilitation Project

CAS Consulting & Services agrees to provide the following Scope of Services;

1000 – PRELIMINARY DESIGN ADDITIONAL SERVICES

Additional Services were performed during the *Phase A: Preliminary Design* to (1) evaluate additional potential options for design solutions as requested by the City, (2) provide more detailed engineering analysis than originally anticipated, and/or (3) coordinate with City stakeholder groups to provide appropriate input into the selection process and alignment with City programs and goals. The additional services were beneficial in ensuring that the most cost effective and operationally sound design alternatives were selected for inclusion in the PROJECT, and that the City goals for the project were met.

Task 1010 – Additional Clearwell Evaluation. No Scope Items.

1100 – PROJECT MANAGEMENT

CONSULTANT will provide ongoing project management throughout Phases B and C of the PROJECT to effectively manage the design activities, track the project status, coordinate with OWNER'S staff and administer the contract.

Task 1130 – Project Meetings. Regularly scheduled project meetings will be conducted throughout the project to keep the OWNER informed on the progress, design issues and recommendations and to discuss and resolve specific project issues. An agenda will be issued prior to each meeting and minutes will be prepared including a summary of the key decisions and action items. Special design review workshops will also be held as indicated in the detailed design tasks. It is anticipated that up to **12** project meetings will be required.

Task 1140 – Project Coordination. Coordination with the City's project management team, plant staff, project design team and other project stakeholders will be on-going throughout the project.

Task 1150 – Contract Administration. Monthly invoices will be prepared and submitted to B&V's project manager.

Task 1160 – Schedule. The project design schedule will be updated throughout the design. After the 60% submittal the schedule will be updated to include an anticipated construction schedule identifying long-lead delivery items. This schedule will be used to review the general construction sequencing required for the project and to identify operational constraints to be included in the specifications.

Key Review Agencies and Utilities	
Agency/Utility	Key Review/Permit
Texas Commission on Environmental Quality	Send letter outlining project during design
City of Austin Quality & Standards Management Division	Review of PER, 30%, 60%, 90% and 100% submittals
City of Austin General Permit	Review of 30%, 60%, 90% submittal and sign 100% submittal
Austin Water Utility/ Walnut Creek Wastewater Treatment Plant	Review of all submittals

1200 – DESIGN BASIS CONFIRMATION AND PRELIMINARY INVESTIGATIONS

Task 1210 – Design Basis Confirmation. Certain design elements will be reviewed to confirm the design basis before initiating detailed design. Bi-weekly coordination meetings will be held with plant staff during this task to swiftly resolve open issues and confirm design decisions. This activity will be completed within 60 days from Notice-To-Proceed. Design elements to be reviewed include:

- New Strainer(s) design parameters

1300 – LEVEL 1 DETAILED DESIGN (30%)

Task 1310 – Level 1 - Schematic Design. Schematic design elements summarized by discipline will include:

- a. *Civil / Process*
 - Non-Potable Water (NPW) Process area equipment and piping layouts and major sections
 - Site grading will be provided by others
 - Southside Clearwell yard piping relocations including:
 - a. 16" NPW Pipe
 - b. 8" Potable Water Line
 - c. Miscellaneous small diameter process piping will be provided by others.
 - Northwest Clearwell yard piping relocations including:
 - a. 12" Sludge Force Main
 - b. 16" Drain Line
 - c. X" Potable Water Line
 - d. Miscellaneous small diameter process piping will be provided by others
 - Major NPW process space requirements
 - Major NPW equipment lists and loads
 - Major equipment outline specifications and data sheets
 - Coordinate with Structural Designer regarding NPW Pump Base Pad design
 - Coordinate with Instrumentation and Control Designer regarding NPW System P&IDs, Final instrumentation input to P&ID's and Equipment control strategy input
 - Coordinate with Electrical Designer regarding providing electric power to NPW Systems

Task 1320 – Quality Control. An in-house quality control review of the Level 1 detailed design documents will be performed. Quality control review comments will be evaluated and incorporated into the project documents as applicable prior to submitting to the City or other agencies for review.

Task 1330 – Cost Estimate and Schedule Update. An opinion of probable construction cost will be updated based on the Level 1 design submittal. The design schedule will be updated based on the design progress and any design issues at the milestone.

Task 1340 – Level 1 Design Review. The schematic design documents will be submitted for review. Ten (10) copies of the drawings and specifications will be provided to the B&V. A design review meeting will be held with the B&V and OWNER to review comments.

Task 1370 – Drainage Study. To be provided by others

Deliverables: Task 1370 – Schematic Design

The following deliverables will be provided to the OWNER as part of Task 1300 – Schematic Design:

- Level 1 Schematic Design Drawings and Specifications.
- Utility and Agency comment minutes and/or comment response documents.
- Level 1 Cost Estimate and Schedule
- Drainage Study

1400 – LEVEL 2 DETAILED DESIGN (60%)

Task 1410 – Level 2 - Design Development. Design development elements summarized by discipline will include:

a. *Civil / Process*

- NPW Process and sub process equipment and piping plans
- NPW Create major process and sub process sections
- Pre-final civil site drawings relocated yard piping
- Process/ civil details and sections
- Civil/ site specifications
- NPW Process equipment specifications
- Coordinate with Structural Designer regarding NPW Pump Base Pad design
- Coordinate with Instrumentation and Control Designer regarding NPW System P&IDs, Final instrumentation input to P&ID's and Equipment control strategy input
- Coordinate with Electrical Designer regarding providing electric power to NPW Systems

Task 4320 – Quality Control. An in-house quality control review of the Level 2 detailed design documents will be performed. Quality control review comments will be evaluated and incorporated into the project documents as applicable prior to submitting to the City or other agencies for review.

Task 1430 – Cost Estimate and Schedule Update. An opinion of probable construction cost will be updated based on the Level 2 design submittal. The design schedule will be updated based on the design progress and any design issues at the milestone.

Task 1440 – Level 2 Design Review. The design development Level 2 design documents will be submitted for review. Ten (10) copies of the drawings and specifications will be provided to the OWNER. A design review meeting will be held with the OWNER to review comments.

Task 1460 – Construction Sequencing Plan Development. A special meeting will be held to discuss the operational constraints and how they related to the sequencing of the construction. Outage windows will be determined, and preliminary construction sequencing plans will be developed for incorporation into the project specifications and construction contract. As part of the construction sequencing discussion a preliminary anticipated construction schedule will be developed including identification of long lead items.

Task 1470 – Asset Management Coordination. A special meeting/workshop will be held the City asset management team to review the design details and coordinate asset disposition. The City’s tagging system/spreadsheet will be reviewed in coordination with the design demolition plan and new equipment planned. In addition, a Failure Modes and Analysis exercise will be performed with the asset management team to capture any design enhancements.

Task 1480 – Constructability Review. A constructability review will be performed by construction specialist to ensure the design includes sound construction approaches and to identify any construction challenges. Suggested design improvements will be made to enhance the constructability of the project.

Deliverables: Task 1400 – Design Development

The following deliverables will be provided to the OWNER as part of Task 1400 – Design Development:

- Level 2 Design Development Drawings and Specifications.
- Utility and Agency comment minutes and/or comment response documents.
- Level 2 Cost Estimate and Schedule

1500 – LEVEL 3 DETAILED DESIGN (90%)

Task 1500 – Level 3 - Construction Documents. Construction Document elements summarized by discipline will include:

- a. *Civil / Process*
 - Complete NPW plans and details
 - Complete relocated yard piping and details
 - Coordinate underground utilities
 - Complete specifications

Task 1520 – Quality Control. An in-house quality control review of the Level 3 detailed design documents will be performed. Quality control review comments will be evaluated and incorporated into the project documents as applicable prior to submitting to the City or other agencies for review.

Task 1530 – Cost Estimate and Schedule Update. An opinion of probable construction cost will be updated based on the Level 3 design submittal. The design schedule will be updated based on the design progress and any design issues at the milestone.

Task 1540 – Level 3 Design Review. The Level 3 design documents will be submitted for review. Ten (10) copies of the drawings and specifications will be provided to the B&V. A design review meeting will be held with the OWNER to review comments.

Task 1550 – Agency and Utility Coordination. Review agencies and utilities will be contacted to discuss and coordinate the design of the project.

Deliverables: Task 1500 – Construction Documents

The following deliverables will be provided to the OWNER as part of Task 1500 – Construction Documents:

- Construction Document Drawings and Specifications.
- Utility and Agency meeting minutes.
- Updated Cost Estimate and Schedule

1600 – FINAL CONSTRUCTION DRAWINGS

Task 1610 – Final Contract Documents. Final review comments will be incorporated into the contract documents and the documents will be sealed and submitted as final. This task does not include conforming the drawings to include the bid clarifications and addenda.

Task 1620 – Final Project Manual. Final construction documents will be incorporated into the final project manual in coordination with the City.

Task 1630 – Cost Estimate and Construction Schedule Update. An opinion of probable construction cost will be updated based on the final design submittal. The preliminary anticipated construction schedule will be updated based on the final design.

Deliverables: Task 1600 – Final Contract Documents

The following deliverables will be provided to the B&V as part of Task 1600 – Final Contract Documents:

- Final Contract Documents.
- Final Project Manual
- Final Cost Estimate
- Final Anticipated Construction Schedule

1700 – CLOSE OUT OF DESIGN PHASE

Close out of the Design Phase will include the following activities:

- Quality Control Plan Documentation. ENGINEER will prepare the final documentation for the Quality Control Plan and submit this document to the OWNER.
- Facility Piping Plan

1800 – BID AND AWARD

Bid and Award will include the following activities:


- Attend Pre-Bid Conference
- Respond to RFIs
- Assist B&V with preparation of Addenda

PHASE D – CONSTRUCTION PHASE SERVICES

This Scope of Services does not include Construction Phase Services.

CAS looks forward to providing Black & Veatch with the above listed services. Please let me know if there are any questions.

Sincerely;

A handwritten signature in black ink that reads "Gary L. Stegeman". The signature is written in a cursive style with a large initial "G".

Gary L Stegeman, PE
Vice President
CAS Consulting & Services

City of Austin Walnut Creek WWTP Filter Improvements Project
CAS Consulting Services Fee Estimate - Civil/NPW System Design Services

TASK	Project Manager	Project Engineer	EIT	CADD Tech	Clerical/ Admin	Total Hours	Task Budget
	□ □□□□□	□ □□□□□	□ □□□□	□ □□□□	□ □□□□		
1100 PROJECT MANAGEMENT							
1130 Project Meetings (12 Monthly Meetings @ 3 hours EA)	□	□□			□	□□	\$5,790
1140 Project Coordination		□□				□□	\$1,599
1160 Prepare Initial Civil/NPW Schedule		□				□	\$533
Subtotal 1100	3	52	0	0	4	59	\$7,922
1200 DESIGN BASIS CONFIRMATION & PRELIMINARY INVESTIGATIONS							
1200 Establish Design Criteria - Strainer	□	□		□		□	\$1,042
Subtotal 1200	2	2	0	4	0	8	\$1,042
1300 - LEVEL 1 DETAILED DESIGN (30%)							
1310 - Level 1 - Schematic Design (Civil/Process)							
1. Attend Project Kickoff Meeting with City and B&V staff	2	2				□	\$713
2. Prepare SouthSide Clearwell Relocated Yard Piping Layouts (Plan Sheet Only)		4	8	16		□□	\$2,526
3. Prepare Northside Clearwell Relocated Yard Piping Layouts (Plan Sheet Only)		4	8	16			\$2,526
4. Confirm with pump, screener, meter and valve vendors for space, power and equipment control strategies		2	4			□	\$605
5. Prepare base sheet of existing Pump Gallery based on site visit and record drawings		2	4	8		□□	\$1,263
6. Prepare floor plans, elevations of proposed pumps, valves, meter, screening devices, piping and equipment pads.	1	4	8	16		□□	\$2,749
7. Prepare list of Technical Specifications required		1			4	□	\$456
8. Identify electrical, structural, mechanical and I&C needs and coordinate with designers		2	4			□	\$605
Subtotal 1310	3	21	36	56	4	92	\$11,442
1320 - Quality Control (Internal)							
1. Perform internal QC	2		3	6		□□	\$1,194
2. Submit deliverables to B&V for review and comment			2			□	\$169
3. Address and incorporate B&V review comments		2	6	8		□□	\$1,432

City of Austin Walnut Creek WWTP Filter Improvements Project
CAS Consulting Services Fee Estimate - Civil/NPW System Design Services

4. Submit 30% deliverables to B&V for COA review and comment			2		2	<input type="checkbox"/>	\$330
Subtotal 1320	2	2	13	14	2	33	\$3,126
1330 - Cost Estimate And Schedule Update							
1. Prepare 30% Engineers Estimate of Probable Construction Cost		4	4			<input type="checkbox"/>	\$872
Subtotal 1330	0	4	4	0	0	8	\$872
1340 - Level 1 Design Review							
1. Attend Design Review Meeting with COA	2	2				<input type="checkbox"/>	\$713
Subtotal 1340	2	2	0	0	0	4	\$713
SUBTOTAL 1300 LEVEL 1 DETAILED DESIGN (30%)							\$16,152
1400 - LEVEL 2 DETAILED DESIGN (60%)							
Level 1410 - Level 2 - Design Development							
1. Respond to and incorporate COA review comments		2	4	8		<input type="checkbox"/>	\$1,263
2. Prepare Site Drawings including Piping (Plans & Profile)	1	3	6	12		<input type="checkbox"/>	\$2,117
3. Prepare 60% floor plans, elevations and sections of proposed pumps, meter, screening devices, piping and equipment pads.	1	4	8	16		<input type="checkbox"/>	\$2,749
4. Prepare Demolition sheets		2	6	12		<input type="checkbox"/>	\$1,761
5. Prepare Technical Special Specifications		4	12			<input type="checkbox"/>	\$1,548
6. Continue coordination with electrical, structural and I&C designers		4				<input type="checkbox"/>	\$533
Subtotal 1410	2	19	36	48	0	105	\$9,972
1420 - Quality Control (Internal)							
1. Perform internal QC	2					<input type="checkbox"/>	\$447
2. Submit deliverables to B&V for review and comment			2	2		<input type="checkbox"/>	\$334
3. Address and incorporate B&V review comments		2	6	8		<input type="checkbox"/>	\$1,432
4. Submit 60% deliverables to B&V for COA review and comment			2		2	<input type="checkbox"/>	\$330
Subtotal 1420	2	2	10	10	2	26	\$2,543
1430 - Cost Estimate and Schedule							
1. Prepare 60% Engineers Estimate of Probable Construction Cost (EPCP)		2	4				\$605
Subtotal 1430	0	2	4	0	0	0	\$605

City of Austin Walnut Creek WWTP Filter Improvements Project
CAS Consulting Services Fee Estimate - Civil/NPW System Design Services

1440 - Level 2 Design Review							
1. Attend Design Review Meeting with COA	1					□	\$223
Subtotal 1440	1	0	0	0	0	1	\$223
1460 - Construction Sequencing Plan Development							
1. Assist with Development of Sequency Strategies & Schedules		1				□	\$133
Subtotal 1460	0	1	0	0	0	1	\$133
1470 - Asset Management Coordination							
1. Attend Special Asset Management Workshop		2				□	\$267
2. Assist with Failures Mode & Analysis Exercise		2				□	\$267
Subtotal 1470	0	4	0	0	0	4	\$533
1480 - Constructability Review							
1. Support Constructability Review Process	1					□	\$223
Subtotal 1480	1	0	0	0	0	1	\$223
SUBTOTAL 1400 - LEVEL 2 DETAILED DESIGN (60%)							\$14,232
1500 - LEVEL 3 DETAILED DESIGN (90%)							
1510 - Level 3 - Construction Documents							
1. Respond to and incorporate COA review comments		1	4	8		□□	\$1,130
2. Prepare 90% Site Drawings including Yard Piping	1	2	4	8		□□	\$1,486
3. Prepare 90% floor plans, elevations and sections of proposed pumps, meter, screening devices, piping and equipment pads.		3	7	17		□□	\$2,357
4. Prepare 90% Demolition sheets		2	8	12		□□	\$1,930
5. Prepare Technical Specifications, Special Specifications		4	8			□□	\$1,210
6. Continue coordination with electrical, structural and I&C designers		2	4			□	\$605
Subtotal 1510	1	14	35	44.6	0	94.6	\$8,718
1520 - Quality Control							
1. Perform internal QC	2					□	\$447
2. Submit deliverables to B&V for review and comment			2			□	\$169
3. Address and incorporate B&V review comments		2	4	8		□□	\$1,263
4. Submit 90% deliverables to B&V for COA review and comment			2		2	□	\$330
Subtotal 1520	2	2	8	8	2	22	\$2,209

City of Austin Walnut Creek WWTP Filter Improvements Project
CAS Consulting Services Fee Estimate - Civil/NPW System Design Services

1530 - Cost Estimate & Schedule Update							
1. Prepare 90% Engineers Estimate of Probable Construction Cost (EEPCP) and 300U Bid Items List		2	4			□	\$605
Subtotal 1530	0	2	4	0	0	6	\$605
1540 - Level 3 Design Review							
1. Attend Level 3 Design Review Meeting with COA		2				□	\$267
Subtotal 1540	0	2	0	0	0	2	\$267
SUBTOTAL - LEVEL 3 - DETAILED DESIGN (90%)							\$11,798
1600 FINAL CONSTRUCTION DRAWINGS							
1610 - Final Contract Drawings							
1. Respond to and incorporate COA review comments		2	6	12		□□	\$1,761
2. Prepare Final Site Drawings including Piping		2	3	6		□□	\$1,014
3. Prepare Final floor plans, elevations and sections of proposed pumps, meter, screening devices, piping and equipment pads.		4	8	16		□□	\$2,526
4. Prepare Final Demolition sheets		2	8	12		□□	\$1,930
5. Prepare Technical Specifications, Special Specifications		12	12			□□	\$2,615
Subtotal 1610	0	22	37	46	0	105	\$9,845
1620 - Final Project Manual							
1. Provide Signed and Sealed Drawings for inclusion into Bid Documents		4	4	4		□□	\$1,200
Subtotal 1620	0	4	4	4	0	12	\$1,200
1630 - Cost Estimate and Construction Schedule Update							
1. Prepare 100% Engineers Estimate of Probable Construction Cost (EEPCP)/300U Bid Items List		2	4			□	\$605
Subtotal 1630	0	2	4	0	0	6	\$605
SUBTOTAL 1600 - FINAL CONSTRUCTION DOCUMENTS LABOR							\$11,650
1800 BID AND AWARD							
1. Attend Pre-Bid Conference		2				□	\$267
2. Respond to RFIs		2	4			□	\$605
3. Assist B&V with Preparing Addenda Items		1	2	4		□	\$631
SUBTOTAL 1800 BID AND AWARD	0	5	6	4	0	15	\$1,503
PHASE D - CONSTRUCTION PHASE SERVICES							

City of Austin Walnut Creek WWTP Filter Improvements Project
 CAS Consulting Services Fee Estimate - Civil/NPW System Design Services

1. Shop Drawing Review (10 Drawings @ 2 Hrs EA)						<input type="checkbox"/>	\$0
2. Respond to Requests for Information						<input type="checkbox"/>	\$0
3. Prepare CAS Portion of Electronic O&M Manual						<input type="checkbox"/>	\$0
4. Assist B&V with Commissioning & Start-Up Assistance						<input type="checkbox"/>	\$0
5. Prepare Record Drawings						<input type="checkbox"/>	\$0
<i>SUBTOTAL PHASE D - CONSTRUCTION PHASE SERVICES</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$0</i>
TOTAL FEE LUMP SUM - CAS CIVIL/NPW LABOR & EXPENSES							\$64,300



SUPPLEMENTAL AMENDMENT NO. 1
ATTACHMENT 1A - SCOPE OF SERVICES
PHASE B&C: DESIGN AND BID

CITY OF AUSTIN CIP NO.:3023.025

BLACK & VEATCH PROJECT NO.: 168622

WALNUT CREEK WWTP TERTIARY FILTER REHABILITATION

Encotech Engineering Consultants

October 22, 2012
revised

Teresa Smith-Hehesus, P.E.
Black & Veatch
1701 Director's Blvd.
Suite 940
Austin, TX 78744

P: (512) 448-2503
C: (602) 740-6134

**Re: WALNUT CREEK WWTP TERTIARY FILTER REHABILITATION
PHASE B: DESIGN AND PHASE C: BID/AWARD/EXECUTION**
HVAC and Domestic Plumbing Engineering Services

Dear Ms. Smith-Hehesus,

We appreciate the opportunity to submit this proposal for Phase B: Design and Phase C: Bid/Award for the Walnut Creek WWTP Filter Improvements.

I. SCOPE:

Phase A: Preliminary Design has been completed. Design recommendations were developed for updating the existing filters to meet current and future treatment needs and regulatory requirements. HVAC and Domestic Plumbing design and production of construction drawings will be based on the recommendations of the PER.

TASK ASSIGNMENTS:

1100 PROJECT MANAGEMENT:

1130 **Project Meetings/Workshops.** Encotech shall attend three project workshops and twelve (12) internal project meetings at B&V's offices during the course of the Design for the Project. The meetings will be less than 2 hours in length, and Encotech will be required to review information from B&V prior to the meeting and will participate in the meeting by informing the team members of the progress of the Encotech's work, information required by Encotech to complete assigned tasks, and other matters related to the Project. The workshops will be ½ day or 4 hours in length, attending at the scheduled time as determined by B&V.

1160 **Schedule.**

Key milestone stages include Level 1 (30%), Level 2 (60%), Level 3 (90%) and sealed Final Construction Documents (100%).

Internal submissions and coordination will occur, but each stage will include one submission to the Owner for review. B&V will establish schedule dates for deliverables and coordination.

1180 **Agency Coordination.**

1200 DESIGN BASIS CONFIRMATION:

1210 **Design Basis for the selected Alternative Granular Filter Improvements:** Encotech will review the Granular media selection to confirm the design basis before initiating detailed design for the HVAC and associated domestic plumbing drain systems.

1300 LEVEL 1 DETAILED DESIGN (30%):

- 1310 **Schematic Design.** Schematic Design elements for the Building Mechanical.
- Update design concepts for HVAC and associated plumbing.
 - Layout space requirements for major HVAC equipment.
- 1320 **Quality Control.** Encotech shall provide in-house quality control review of the Level 1 design documents. Quality Control review comments will be evaluated and incorporated into design documents as applicable prior to submitting to B&V.
- 1330 **Cost Estimate.** Opinion of probable construction cost will be updated based on the Level 1 design document submittal.
- 1370 **Deliverables.** Encotech will provide B&V the following deliverables:
- Level 1 Schematic Design Drawings and Specifications.
 - Updated Opinion of Probable Cost

1400 LEVEL 2 DETAILED DESIGN (60%):

- 1410 **Design Development.** Design Development elements for the Building Mechanical.
- Prepare plumbing plans
 - HVAC system design
 - HVAC equipment and duct work layout plans
 - Plumbing schematics
 - HVAC and Plumbing schedules
 - HVAC sequence of operation
 - Building mechanical equipment schedules
- 1420 **Quality Control.** Encotech shall provide in-house quality control review of the Level 2 detailed design documents. Quality Control review comments will be evaluated and incorporated into design documents as applicable prior to submitting to B&V.
- 1430 **Cost Estimate.** Opinion of probable construction cost will be updated based on the Level 2 design document submittal.
- 1470 **Deliverables.** Encotech will provide B&V the following deliverables:
- Level 2 Design Development Drawings and Specifications.
 - Updated Opinion of Probable Cost

1500 LEVEL 3 DETAILED DESIGN (90%):

- 1510 **Construction Documents.** Construction Document elements for the Building Mechanical.
- Complete HVAC and Plumbing system details
 - Complete HVAC and Plumbing plans and details
 - Complete Specifications
- 1520 **Quality Control.** Encotech shall provide in-house quality control review of the Level 3 detailed design documents. Quality Control review comments will be evaluated and incorporated into design documents as applicable prior to submitting to B&V.
- 1530 **Cost Estimate.** Opinion of probable construction cost will be updated based on the Level 3 design document submittal.
- 1570 **Deliverables.** Encotech will provide B&V the following deliverables:
- Level 3 Construction Document Drawings and Specifications.

- Updated Opinion of Probable Cost

1600 FINAL CONSTRUCTION DRAWINGS (100%):

- 1610 **Final Contract Documents.** Encotech will incorporate final review comments into the contract documents and the documents will be sealed and submitted as final. This task does not include conforming the drawings to include the bid clarifications and addenda.
- 1620 **Quality Control.** Encotech shall provide in-house quality control review of the Level 3 detailed design documents. Quality Control review comments will be evaluated and incorporated into design documents as applicable prior to submitting to B&V.
- 1630 **Cost Estimate.** Opinion of probable construction cost will be updated based on the final submittal.
- 1670 **Deliverables.** Encotech will provide B&V the following deliverables:
- Final Contract Documents
 - Final Opinion of Probable Cost

1800 BID AND AWARD:

- Attend one Pre-bid Conference
- Respond to Contractor RFIs
- Addenda as requested

II. ASSUMPTIONS AND CONDITIONS:

The scope of services presented herein and associated estimated budgets are based upon Encotech's understanding of the proposed development. Changes in the project that affect the underlying contract assumptions may impact the required professional service fee.

Accordingly, Encotech wishes to inform the Client and/or Owner that this proposal is based on the following assumptions and conditions:

1. The estimated Construction Budget is \$14.5 million as determined in Phase A: Preliminary Design.
2. This proposal is based on 12 HVAC Sheet drawings.
3. This proposal is based on an estimated design phase duration of approximately 12 months, with the final design completion planned for July 2013.
4. Phase D: Construction Phase services are not included in this scope of services and can be provided as desired by the City of Austin, Austin Water Utility.

III. FEE:

The fee for the proposed HVAC and Domestic Plumbing Services outlined in this proposal shall be based on a Lump Sum budget:

Design & Bid Phase Services \$49,083.00

**Attached is a copy of the fee breakdown by tasks and relevant hours.*

IV. ADDITIONAL SERVICES:

The scope of services presented herein and associated estimated budgets are based upon Encotech's understanding of the proposed development. Changes in the project that affect the underlying contract assumptions may impact the required professional service fee.

Accordingly, Encotech wishes to inform the Client and/or Owner that this proposal is based on the following assumptions and conditions:

1. Meetings/Site Visits in addition to those indicated in the proposal.
2. Major revisions to work product once initially approved by the City of Austin, Austin Water Utility.
3. Services due to redesign and/or revisions after the issuance of the Final Construction Set of documents.
4. Changes and/or increase in Project Scope or Scope of Engineering Services resulting from project assumptions.

HOURLY RATES

All Additional Services shall be conducted on an hourly rate basis as outlined below:

<u>Classification of Employee</u>	<u>Hourly Rate</u>
Principal	\$ 188.00
Project Engineer III /Project Manager III	\$ 159.00
Project Engineer II /Project Manager II	\$ 141.00
Project Engineer I	\$ 134.00
Project Manager I	\$ 125.00
Graduate Engineer II	\$ 101.00
Graduate Engineer I	\$ 94.00
CAD Technician II	\$ 87.00
CAD Technician I	\$ 75.00
Administrative	\$ 55.00

V. EXCLUSIONS

Services that are not provided for in this Agreement specifically include, but are not limited to:

1. Testing Services
2. Production of Drawings
3. Fire Sprinkler design or specification.
4. Architectural Design and Architectural Services.
5. Electrical Design, Controls and Instrumentation.
6. LEED Certification of Building/Project.
7. Meetings in excess of what is indicated on the attached task sheets.
8. Proposal is based on a 12 month design schedule. If the project design time is extended beyond this time then Encotech shall be eligible for additional compensation.
9. Structural Engineering.
10. Pumps process cooling systems.
11. Phase D: Construction Phase Services and Phase E: Post Construction Phase Services.
12. Other services or expenses which may become necessary for the completion of this project which are reasonably anticipatable at this time.

Please note: The above "Excluded" Services may be performed as Additional Services to this Agreement, if authorized by the City of Austin, Austin Water Utility and Black & Veatch.

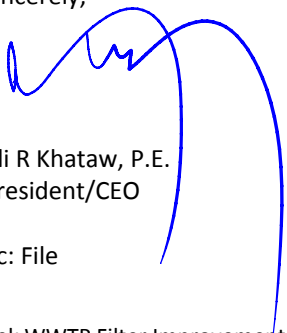
VI. RESPONSIBILITY OF OTHERS

In accordance with accepted professional practice it is the responsibility of Owner to provide the design team with complete and accurate information concerning known existing physical and legal conditions of the site/building that are beyond the scope of the professional engineering services described in this document. Certain unusual or unforeseeable conditions may materially alter the scope of the project in a manner not provided for in this contract.

If the project is cancelled prior to completion of design, then Encotech shall be paid for percentage work completed up to the date of cancellation.

Please call us if you have any questions. Thank you for giving us the opportunity to render our service to B&V and City of Austin, Austin Water Utility.

Sincerely,



Ali R Khataw, P.E.
President/CEO

Cc: File

PROPOSAL TO BLACK & VEATCH CORP.
 WALNUT CREEK WWTP FILTER IMPROVEMENTS - HVAC & DOMESTIC PLUMBING SYSTEMS
 Phase B: Design and Phase C: Bid/Award

Date: 10/22/2012
 REVISED

MEP FEE ANALYSIS	Principal	PE III / PM III	PE II / PM II	PE I	PM I	Graduate Engineer II	Graduate Engineer I	CAD II	Admin I	
	\$ 188.00	\$ 159.00	\$ 141.00	\$ 134.00	\$ 125.00	\$ 101.00	\$ 94.00	\$ 87.00	\$ 55.00	
1100 Project Management:										
1 General Project Management /Staff/Prime Firm	2	3				3				\$ 1,156.00
2 Coordination with B&V relating to Process, Budgets and Schedules		12				10				\$ 2,918.00
3 Agency Coordination		12				10				\$ 2,918.00
4 Preparation of Progress Reports and Backup Data	1	6				3				\$ 1,445.00
5 Internal Project Meeting (12 Meetings @ 3 Hours each including travel)		36				36				\$ 9,360.00
6 Internal Work Shops (3 Meetings @ 5 Hours each including travel)	3	15				15				\$ 4,664.00
Project Management:										\$ 22,261.00
1200 Design Confirmation:										
1210 Review/Confirm HVAC as related to Granular media selection		3				6				\$ 1,083.00
Design Confirmation:										\$ 1,083.00
1300 Level 1 Detailed Design (30%):										
1310 HVAC Preliminary Design		7				8				\$ 1,921.00
Plumbing Preliminary Design		2				4				\$ 722.00
1320 QA/QC	1	1	1							\$ 488.00
Address Review Comments		2				4				\$ 722.00
1330 HVAC Preliminary Opinion of Cost		2				2				\$ 520.00
Plumbing Preliminary Opinion of Cost		2				2				\$ 520.00
1370 Level 1 Schematic Design Drawings & Specifications		4				4				\$ 1,040.00
Level 1 Detailed Design (30%):										\$ 5,933.00
1400 Level 2 Detailed Design (60%):										
1410 HVAC Detailed Design		7				10				\$ 2,123.00
Plumbing Detailed Design		2				4				\$ 722.00
1420 QA/QC	1	1	1							\$ 488.00
Address Review Comments		2				4				\$ 722.00
1430 HVAC Preliminary Opinion of Cost		3				2				\$ 679.00
Plumbing Preliminary Opinion of Cost		3				2				\$ 679.00
1470 Level 2 Design Development & Specifications Submittal		4				4				\$ 1,040.00
Level 2 Detailed Design (60%):										\$ 6,453.00
1500 Level 3 Detailed Design (90%):										
1510 HVAC Detailed Design		6				14				\$ 2,368.00
Plumbing Detailed Design		2				6				\$ 924.00
1520 QA/QC	1	1	1							\$ 488.00
Address Review Comments		2				4				\$ 722.00
1530 HVAC Preliminary Opinion of Cost		4				2				\$ 838.00
Plumbing Preliminary Opinion of Cost		4				2				\$ 838.00
1570 Level 3 Construction Documents & Specifications Submittal		2				4				\$ 722.00
Level 3 Detailed Design (90%):										\$ 6,900.00
1600 Final Construction Drawings (100%):										
1610 HVAC Detailed Design		4				6				\$ 1,242.00
Plumbing Detailed Design		2				2				\$ 520.00
1620 QA/QC	1	1	1							\$ 488.00
Address Review Comments		2				4				\$ 722.00
1630 HVAC Preliminary Opinion of Cost		1				1				\$ 260.00
Plumbing Preliminary Opinion of Cost		1				1				\$ 260.00
1670 Level 3 Construction Documents & Specifications Submittal		2				4				\$ 722.00
Final Construction Drawings (100%):										\$ 4,214.00
1800 Bid/Award Phase Services:										
1 Pre-Bid Conference		4								\$ 636.00
2 RFI		3				4				\$ 881.00
3 Addenda		2				4				\$ 722.00
Bid/Award Phase Services:										\$ 2,239.00
Phase D: Construction Phase Services: TO BE NEGOTIATED AT A LATER DATE										
5.1 Pre-construction Conference/Site Visit										\$ -
5.2 Shop Drawings/Submittal Review										\$ -
5.3 RFI										\$ -
5.4 Site Visits										\$ -
Phase D: Construction Phase Services: TO BE NEGOTIATED AT A LATER DATE										\$ -
Reimbursable Budget:										
TOTAL ESTIMATED FEES:										\$ 49,083.00



SUPPLEMENTAL AMENDMENT NO. 1
ATTACHMENT 1A - SCOPE OF SERVICES
PHASE B&C: DESIGN AND BID

CITY OF AUSTIN CIP NO.:3023.025

BLACK & VEATCH PROJECT NO.: 168622

WALNUT CREEK WWTP TERTIARY FILTER REHABILITATION

HEI, Inc.



Harutunian Engineering, Inc.

Revision 6
November 15, 2012

HARUTUNIAN ENGINEERING INCORPORATED

**FINAL DESIGN PHASE
SCOPE OF SERVICES**

**ELECTRICAL POWER SYSTEM
ENGINEERING SERVICES**

for

**WALNUT CREEK WWTP FILTER
IMPROVEMENTS PROJECT**

**CITY OF AUSTIN
AUSTIN WATER UTILITY**

C.I.P. No. XXXX-XXX-XXXX
CITY OF AUSTIN, TEXAS



Harutunian Engineering, Inc. is pleased to submit this proposal for Final Design Phase engineering services associated with the Walnut Creek WWTP Filter Improvements project. This proposal is organized into multiple sections, with the first section consisting of overall assumptions associated with the entire proposal, followed by individual final design phase tasks which describe the work effort included for specific process areas of the project. These Tasks are followed by tasks associated with Project Meetings, and Attachments describing conceptual drawing and specification listings for the project.

Harutunian Engineering, Inc. will perform the following Final Design Phase Services for the above referenced project.

Assumptions

1. The design phase scope and cost proposal for this Scope is based upon Electrical Design Alternative as described in the Preliminary Engineering Report for the Filter Building, dated February 24, 2012 with the understanding that the Conventional Filter Media Technology will be implemented for this project. Effort is included to carry the concepts presented in this source into the design phase and project finalization.
2. Work effort associated with the sizing/design of fire alarm/detection, security, and heat tracing is not included. A lightning protection system is not anticipated. No effort has been included to address/assure/research LEED compliance, or submit failure modes and effects analysis for this project.
3. It is assumed that HEI will provide one (1) electrical power system interface associated review of the valve and pumps specifications developed by Others and provide review comments.
4. The following assumptions apply to the overall project electrical system design process:
 - a. In addition to responding to the Owner's review QA/QC comments, HEI's response to other QA/QC comments will be limited to those generated by B&V related to coordination issues between the process system and HEI's design efforts. Effort is not included to coordinate or discuss philosophical design differences or differences of opinion in approaching a design problem between B&V and HEI.



- b. It is assumed that B&V will provide the necessary project background/record drawings/scanned images for use on this project.
 - c. It is assumed that the Final Design Phase will carry and not deviate from the design outlined in the Preliminary Design phase of this project and the information received as of February 24, 2012. The design phase scope and cost proposal is based on HEI's shared knowledge with B&V relative to the results of the Preliminary Design Phase design decisions and effort and executed by closing day of February 24, 2012.
 - d. HEI will follow the CAD drawing format standards developed for the project by B&V.
5. Reproduction costs associated with all contract drawings for interim and final submittals, inclusive of the Bid Set, is not included in this Scope. It is assumed that there will be three (3) interim submittals and one final bid set submittal. "Searchable" Adobe Portable Document Format formatted files will be provided for each submittal where possible.
 6. No effort is included to provide or contribute to the development of a design report, narrative, memorandum, etc., for this project.
 7. As B&V has elected to perform the instrumentation and control system design efforts for the project, all related components to support the instrumentation and control system shall be designed/drawn/specified by B&V, including plans, raceway/conduit sizing, routing, etc. However, HEI will provide power service to the Main Control Panel described in the Preliminary Engineering Report, along with specifying the entire field raceway system and wiring for the project. The fiber optic cable will be addressed by B&V, as well as any auxiliary power 120/208V circuits directly serving field instruments. Additionally, this Scope assumes that B&V will generate and provide the necessary motor starter elementary control wiring schematics associated with interlocks of process control system to facilitate the purchase of the major electrical power distribution equipment.



TASK 10 –FDP (B&V TASK 1460, 1500, 1600)

Electrical System Demolition and Construction Sequencing Design Documents Development to/from the Existing Filter Building

This task includes the major effort necessary to develop the electrical system demolition design documents (plans) within/to the Existing Filter Building facility.

Certain documents (plans and specifications) developed under this Task may be common to other tasks.

This Task anticipates that no demolition effort will be required for the existing Filter Building lighting, receptacle. This Task anticipates that the existing needed Filter Building and site AutoCAD formatted electronic drawing background files and/or scanned images of record drawings, as applicable, will be provided to HEI to develop the demolition plans. The demolition plans will consist of linework and notes as applicable, added to the record drawings.

This Task anticipates minimal field investigations associated with the existing power distribution and auxiliary systems. Extensive field investigations concerning the existing raceway systems and conductors will not be performed and as a result, detailed routing of these raceways and conductor quantities/sizes will not be shown on the design documents. It is anticipated that this effort will be performed by the Installer.

The category of the drawings produced under this task will be categorized as follows:

- Filter Building distribution overall and distribution bus specific low voltage demolition one-line diagrams.
- Filter Building distribution equipment elevations
- Filter Building power demolition plans.
- Filter Building area site power demolition plans with cross-sectional views



- Electrical system demolition details
- Other tasks related to this work effort include:
 - Development of a construction cost opinion associated with this task. The Development of two (2) interim (60%, 90% submittal) and one (1) final construction cost opinion just prior to bid is anticipated. The construction cost opinion for the interim 30% submittal is assumed to be commensurate with the preliminary engineering construction cost opinion.
 - Design calculations.
 - Review and comment on the construction sequencing narrative developed by B&V for the project, as applicable. This Task anticipates that sequencing/staging effort will be addressed through limited plan development accompanied by a narrative issued as part of the contract specifications.



TASK 20 – FDP (B&V TASK 1300, 1400, 1500, 1600)

ELECTRICAL POWER DESIGN DOCUMENTS DEVELOPMENT TO/FROM THE FILTER BUILDING, THE WRI ELECTRICAL BUILDING, AND THE AIR SCOUR BLOWER BUILDING

This task includes the major effort necessary to develop renovation electrical power system design documents (plans) within/to the Filter Building facility and the WRI Electrical Building.

Certain documents (plans and specifications) developed under this Task may be common to other tasks.

The category of the drawings produced under this task will be categorized as follows:

- Filter Building distribution overall and distribution bus specific low voltage one-line diagrams.
- Filter Building distribution equipment elevations.
- Filter Building raceway corridor plans.
- WRI Electrical Building overall and distribution bus specific one-line medium voltage one-line diagrams
- WRI Electrical Building raceway corridor plans
- Air Scour Blower Building raceway corridor plans
- Filter Building, WRI Electrical Building, and Air Scour Blower Building power plans. Raceways depicted using the industry standard “homerun” raceway symbol convention; point-to-point raceway routing will not be shown. The construction Contractor is to develop raceway system routing and develop a corresponding layout during construction.
- Filter Building and WRI electrical building area renovation site power plans with associated duct bank cross-sectional views. Work effort combined with Task 10.



- Proposed power subsystem details, schedules, and sectional views, as applicable
- Other tasks related to this work effort include:
 - Development of a construction cost opinion associated with this task. The Development of two (2) interim (60%, 90% submittal) and one (1) final construction cost opinion just prior to bid is anticipated. The construction cost opinion for the interim 30% submittal is assumed to be commensurate with the preliminary engineering construction cost opinion.
 - Design calculations
 - Electrical power system Technical Specifications for the project, as applicable.



TASK 40 –FDP (B&V TASK 1300, 1400, 1500, 1600)

AUXILIARY ELECTRICAL SYSTEM DESIGN DOCUMENTS DEVELOPMENT TO/FROM THE FILTER BUILDING NO. 1 AND AIR SCOUR BLOWER BUILDING

This task includes the major effort necessary to develop auxiliary electrical system design documents (plans) for the proposed air scour blower building, exterior lighting near filter no. 1, and additional auxiliary power needs adjacent to the former lab area of Filter Building No. 1.

Certain documents (plans and specifications) developed under this Task may be common to other tasks.

The category of the drawings produced under this task will be categorized as follows:

- Filter Building auxiliary system plans (lighting and receptacle). Raceways depicted using the industry standard “homerun” raceway symbol convention; point-to-point raceway routing will not be shown. The construction Contractor is to develop raceway system routing and develop a corresponding layout during construction. The anticipated plans are as follows:
 - Lighting plan for the outdoor area of Filter Cell No. 1. Modifications to the lighting elsewhere in the Filter Building No.1 or No. 2 are not anticipated.
 - Lighting plan for the interior and exterior of the proposed air scour blower building
 - Receptacle plan for the former lab area of Filter Building No. 1. Modifications to receptacles in other areas of the Filter Building is not anticipated.
- Auxiliary electrical system details and schedules (panelboard, lighting, conduit, etc.).
- Other tasks related to this work effort include:
 - Development of a construction cost opinion associated with this task. The Development of two (2) interim (60%, 90%



submittal) and one (1) final construction cost opinion just prior to bid is anticipated. The construction cost opinion for the interim 30% submittal is assumed to be commensurate with the preliminary engineering construction cost opinion.

- Design calculations.
- Auxiliary electrical system Technical Specifications for the project, as applicable.



TASK 50 – FDP (B&V TASK 1130, 1140)

PROJECT MEETINGS AND SUPPORT

This task includes the effort necessary to attend project meetings. It is assumed that HEI will have no involvement in the generation of meeting minutes. The following types of meetings are included in this Task:

- Project kickoff Meeting. One (1) meeting of three (3) hour duration is anticipated, inclusive of travel time
- Project Design Project Progress Meetings. Four (4) meetings with each meeting having of three (3) hour duration are anticipated, inclusive of travel time.
- Project Design Review Meetings with the Owner. Four (4) meetings with each meeting having a three (3) hour duration are anticipated, inclusive of travel time.
- Project Coordination Meetings with B&V. Sixteen (16) meeting of three (3) hour duration is anticipated, inclusive of travel time. It is anticipated that pertinent electrical load information associated with the I&C system main control panels and instruments can be coordinated with HEI during these meetings.
- Project meeting associated with mechanical modifications required to facilitate Filter Building outage. One (1) meeting of four (4) hours duration is anticipated, inclusive of travel time.

Additionally, HEI will provide a brief summarized bulleted listing of HEI's project design progress on a monthly basis. Effort is also included to coordinate administrative aspects of the project.



TASK 60 – FDP (B&V TASK 1800)

BID PHASE SERVICES

This task includes the effort necessary to:

- Answer a limited number of questions to bidders.
- Attend one (1) pre-bid conference
- Generate Addenda to the Electrical System Contract Documents.
A minimal amount of effort is anticipated.



ATTACHMENT A

CONCEPTUAL SPECIFICATION LISTING

The following represents a conceptual listing of specifications that are anticipated for the project. The listing will be refined as the project progresses.

Section	Title
Division 15 – Mechanical	
15170	Electrical Motor, Induction, 600V and below
15175	Electrical Motor, Induction, 5kV
Division 16 – Electrical	
16040	5kV Motor Control Centers (and other derivative sections therein to this specification)
16120	480V Motor Control Centers (and other derivative sections therein to this specification)
16150	Raceways, Fittings, and Supports
16182	Medium Voltage Cable
16200	Wiring (600 Volts and Below)
16250	Boxes and Cabinets
16300	Wiring Devices
16350	Lighting
16450	600 Volt and Below Dry Type Transformers
16500	Panelboards
16524	Automatic Transfer Switches
16550	Grounding
16600	Disconnect Switches and Enclosures
16800	Calibration, Testing, and Settings



ATTACHMENT B

CONCEPTUAL DRAWING CATEGORY LISTING

The following represents a conceptual listing of drawing categories that are anticipated for the project. The listing and drawing count will be expanded from this base as the project progresses.

Task	Drawing Category	Forecasted Drawing Count
General	Symbols legend	2
	General Notes	2
Demolition (Filter Buildings No. 1, No. 2 and Site)	General Notes	1
	Overall and Distribution Bus Specific One-Lines	2
	Distribution Equipment Elevations	2
	Site power plans and associated cross-sectional views	2
	Power Plans	4
	Details, schedules, sectional views, as applicable	1
Electrical Renovation (Filter Buildings No. 1, No. 2, Site, Air Scour Blower Building, and WRI Electrical Building)	Overall and Distribution Bus Specific One-Lines	7
	Distribution Equipment Elevations	4
	Plans	14
	Site plans and associated cross sectional views	2
	Details, schedules, sectional views, as applicable	6
Auxiliary Renovation	Plans	3

Revision #6
11-15-2012

TABLE - II
Walnut Creek WWTP
Filter Improvements Project
 Austin Water Utility, City of Austin, Texas
 Electrical and I&C System Engineering
HEI Task Summary
 Manhour and Cost Tabulation
Final Design and Bid Phase Engineering Services



WORK AREA DESCRIPTION	E-11 HRS.	E-10 HRS.	E-5 HRS.	A-1 HRS.	CD-3 HRS.	TOTAL HRS.	TOTAL COST
Loaded hourly rates used for this estimate	\$185	\$165	\$128	\$54	\$74		

FINAL DESIGN PHASE SERVICES

Task 10 - FDP (B&V Task 1460, 1500, 1600) Electrical System Demolition and Construction Sequencing Design Documents Development to/from the Existing Filter Building	7	14	67	2	50	140	\$15,989.00
Task 20 - FDP (B&V Task 1300, 1400, 1500, 1600) Electrical Power System Design Documents Development to/from the Filter Building, the WRI Electrical Building, and the Air Scour Blower Building	77	144	727	20	744	1712	\$187,197.00
Task 40 - FDP (B&V Task 1300, 1400, 1500, 1600) Auxiliary Electrical System Design Documents to/from the Filter Building No. 1 and the Air Scour Blower Building	5	9	70	10	67	161	\$16,868.00
Task 50 - FDP (B&V Task 1130, 1140) Project Meetings and Support	28	55	104	3	0	190	\$27,729.00
Task 60 - FDP (B&V Task 1800) Bid Phase Services	5	7	28	0	12	52	\$6,552.00

TOTAL - Final Design and Bid Phase Services (Hours)	122	229	996	35	873	2255	
TOTAL - Final Design and Bid Phase Services (Cost)	\$22,570	\$37,785	\$127,488	\$1,890	\$64,602		\$254,335.00

Expenses	\$50.00
----------	---------

Total Labor & Expenses - Final Design and Bid Phase Services **\$254,385.00**



SUPPLEMENTAL AMENDMENT NO. 1
ATTACHMENT 1A - SCOPE OF SERVICES
PHASE B&C: DESIGN AND BID

CITY OF AUSTIN CIP NO.:3023.025

BLACK & VEATCH PROJECT NO.: 168622

WALNUT CREEK WWTP TERTIARY FILTER REHABILITATION

HVJ Associates



Houston	4201 Freidrich Lane, Ste. 110
Austin	Austin, TX 78744-1045
Dallas	512.447.9081 Ph
San Antonio	512.443.3442 Fax
	www.hvj.com

May 25, 2012 (Revised October 22, 2012)

Ms. Teresa Smith-DeHesus, PE
Black & Veatch Corp.
1701 Directors Blvd, Suite 940
Austin, Texas 78744

Re: COA Walnut Creek WWTP
Clearwell Geotechnical Investigation
Owner: City of Austin
HVJ Proposal No. AG1114441

Dear Ms Smith-DeHesus:

HVJ Associates, Inc. is pleased to submit this proposal to provide a geotechnical investigation for the above referenced project. We understand that existing clearwells at the Walnut Creek WWTP site will be extended to provide additional capacity. Alternative 1 will provide an additional 133,000 gallons and Alternative 2 will provide an additional 56,000 gallons of capacity. We understand that the depth of the proposed structure will not extend below 25 feet from existing grade. In addition, HVJ has been requested to provide on-call environmental services for the project and at this time the exact scope is unknown.

Scope of Work

We propose to drill 5 borings, with three borings located within the proposed footprint of Alternative 1 and two borings within the footprint of Alternative 2. Due to the experience we have at Walnut Creek WWTP we recommend the borings extend to a depth of 50 feet to extend into native material. In previous borings at the site we have encountered fill up to a depth of 35 feet. The proposed total drilling footage is 250 feet.

The field testing of soil samples will include pocket penetrometer in the cohesive soils and Standard Penetration Test (SPT) in the cohesionless soils. In rock (if encountered), Rock Quality Designation (RQD) and percent recovery will be determined in the field.

The objective of the laboratory testing program is to supplement the field data to develop a thorough understanding of the subsurface conditions relevant to the design and construction of the open cut sections of the project. The following laboratory tests will be conducted on select soil and rock samples. Classification Tests including water content, sieve analyses and Atterberg Limits determinations, and Unconfined Compression Tests. In addition HVJ will provide results from corrosivity testing and provide the sulfite content of the soils.

Results of the field data and laboratory data will be used to develop design and construction recommendations for the proposed clearwells. In general, the following items will be included in the reports:

Ms Teresa Smith-DeHesus PE
AG1114441
May 25, 2012 (Revised October 22, 2012)

The following items will be included in the HVJ data report:

- 1) Vicinity Map
- 2) Geology Map of the Project Site
- 3) Plan of Borings
- 4) Boring logs including laboratory test results
- 5) Legend for Boring Logs
- 6) Laboratory Test Procedures and Standards

The following items will be included in the HVJ design report:

- 7) Backfill and compaction recommendations
- 8) Lateral earth pressures
- 9) Shallow and/or deep foundation recommendations
- 10) Recommendation to resist flotation
- 11) Seismic site class recommendations
- 12) Recommendation for protection of existing improvements
- 13) Recommendations for cement type
- 14) Recommended design ground water level
- 15) Total and differential settlements
- 16) Modulus of subgrade reaction
- 17) General discussion of construction recommendations

A report of our study will be prepared by an engineer specializing in soil mechanics and foundation engineering after reviewing available design, boring and laboratory data.

The data and design report will be in accordance with the Austin Water Utility Geotechnical Guidelines Memo by Bob Lamb.

Assumptions

Following assumptions were made in developing the scope and fee estimate for this project:

- No site clearance will be required to access the borehole locations
- Permits will not be required to drill on-site.
- Pavement design is not part of the scope of this study.
- Black and Veatch will provide HVJ with an electronic site map prior to the initiation of the field investigation with boring locations.
- Survey of boring locations will be done by others, if required.
- HVJ has assumed badges will not be required for this work.
- HVJ will call one-call utility service, and coordinate with Round Rock Geophysics for utility locations at the plant prior to drilling.

Fee

Based on the scope of work outlined, the combined fee for our services will be \$29,064.42. The geotechnical portion of the work is \$25,264.42 and the budget for the on call environmental services is \$3,800. A cost breakdown is attached to this proposal. If anomalous soil conditions are

Ms Teresa Smith-DeHesus PE
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May 25, 2012 (Revised October 22, 2012)

encountered, or if the project configuration changes significantly, additional work may be required. HVJ Associates, Inc. will recommend such additional work when and if it is deemed necessary.

Schedule

We propose to start fieldwork one week after receiving a written notice to proceed and expect to complete fieldwork within two weeks of receiving all of the required permits. Any delays such as inclement weather will be communicated to Black and Veatch and may alter the fieldwork project schedule. Laboratory testing, evaluation of test results, engineering analyses and report preparation will take approximately three weeks after completion of fieldwork.

Construction Material Testing Services

Our fee estimate does not include any allowance for performing construction material testing during the construction phase. A separate proposal will be provided for these services in the future.

Sample Retainage

Soil samples will be retained in the climate controlled storage facility for a period of 30 days following the final report, and at that time Black and Veatch may extend the storage time if necessary for an additional fee.

Invoices

Charges on the project will be invoiced monthly and terms are net 30 days.

If this proposal meets with your approval, please sign and complete the indicated spaces below and forward a copy of the proposal to us.

Sincerely,

HVJ ASSOCIATES, INC.



Jason Schwarz, P.E.
Project Manager

JS/js

Walnut Creek WWTP Clearwell Investigation
Black and Veatch
HVJ Proposal No. AG1114441
22-Oct-12

TABLE I
GEOTECHNICAL INVESTIGATION BREAKDOWN

Field Investigation - Drilling and Soil Sampling

Mobilization/Demobilization - Austin	1	@	\$310.00	per mobilization	\$310.00
Drilling & Sampling - Soils 0'-25'	125	ft @	\$14.00	per foot	\$1,750.00
Drilling & Sampling - Soils 25'-35'	50	ft @	\$16.50	per foot	\$825.00
Drilling & Sampling - Soils 35'-50'	75	ft @	\$19.00	per foot	\$1,425.00
Drilling & Sampling - Soils 50'-80'	0	ft @	\$23.00	per foot	\$0.00
Shelby Tubes (Thin Wall)	10	@	\$22.50	each	\$225.00
Standard Penetration Tests (SPT)	55	@	\$22.50	each	\$1,237.50
Bore Casing	225	@	\$8.50	per foot	\$1,912.50
Logging - Field Technician	60	hr @	\$51.08	per hour	\$3,064.80
ROE/Utility Clearance Coordination - Sr. Technician	8	hr @	\$83.24	per hour	\$665.92
Support Truck	5	@	\$85.00	each	\$425.00
Vehicle Trips	6	trips	\$28.50	per trip	\$171.00
				Sub Total	\$12,011.72

Laboratory Testing - Standard

Natural Moisture Content (ASTM D-2216)	10	@	\$18.00	each	\$180.00
Atterberg Limits (Liquid and Plastic Limits, ASTM D-4318)	10	@	\$65.00	each	\$650.00
No 200 Sieve (ASTM D-1140)	10	@	\$42.00	each	\$420.00
Particle Size Gradation (ASTM D-422)	5	@	\$65.00	each	\$325.00
Corrosivity and Sulfate Testing	6	@	\$125.00	each	\$750.00
Unconfined Compression Tests-Soil (ASTM D-2166)	10	@	\$50.00	each	\$500.00
				Sub Total	\$2,825.00

Geotechnical Engineering & Reporting

Senior Engineer, P.E.	8	hr @	\$157.45	hr	\$1,259.60
Project Engineer, P.E.	32	hr @	\$118.25	hr	\$3,784.00
Staff Engineer II	54	hr @	\$96.41	hr	\$5,206.14
Clerical/Administrative	3	hr @	\$59.32	hr	\$177.96
				Sub-Total	\$10,427.70

On-Call Environmental Services

Environmental Scientist		hr @	\$116.53	hr	
				Sub-Total	\$3,800.00

Total **\$29,064.42**



SUPPLEMENTAL AMENDMENT NO. 1
ATTACHMENT 1A - SCOPE OF SERVICES
PHASE B&C: DESIGN AND BID

CITY OF AUSTIN CIP NO.:3023.025

BLACK & VEATCH PROJECT NO.: 168622

WALNUT CREEK WWTP TERTIARY FILTER REHABILITATION

Jose I. Guerra, Inc.

June 26, 2012

PROPOSAL (Revised)

Ms. Teresa Smith-DeHesus, P.E.
Project Manager
Black & Veatch Corporation
1701 Directors Blvd., Suite 940
Austin, Texas 78744

Re: Phase B: Design and Phase C: Bid/Award/Execution
City of Austin Walnut Creek WWTP
Tertiary Filter Rehabilitation Project
Austin, Texas (JIG NO. 12017)

Dear Ms. Smith-DeHesus:

Jose I. Guerra, Inc. (JIG) is pleased to submit this proposal for professional structural consulting engineering services to Black & Veatch Corporation (B&V) for the Walnut Creek WWTP Filter Improvements Project for the City of Austin (COA).

PROJECT DESCRIPTION

The structural portion of the project consists of a new southside expansion to the existing clearwell along with a new blower building, and a new clearwell located at the northwest corner of the plant site.

SCOPE OF SERVICES

The Scope of Services for this project includes Phase B, Design and Phase C, Bid/Award/Execution. Specific tasks for each phase are as follows:

DESIGN PHASE SERVICES

1. Attend twelve (12) progress meetings with B&V and three (3) workshops meetings with B&V and COA.
2. Make site visits as necessary to verify existing conditions, three (3) total.
3. Prepare structural construction plans for the specific project elements noted above.
4. Prepare structural specifications for the specific project elements noted above.
5. Assist B&V with the preparation of CAD drawings for their design work on the project.
6. Assist B&V with the preparation of a probable cost estimate for the construction of the specific elements noted above.
7. Coordinate structural drawings and specifications with documents prepared by other disciplines.

8. Meet with B&V and COA to review COA comments on final draft of construction documents.
9. Address COA final draft review comments and revise plans and specifications accordingly.

BID PHASE SERVICES

1. Attend the pre-bid conference.
2. Respond to RFI's.
3. Prepare addenda.

SPECIAL SERVICES

The Scope of Services and the budget presented herein do not include the following special services. At such time that it is determined that these services may be required; JIG will obtain authorization from B&V prior to performing any of these additional services.

1. Travel and subsistence required of B&V and authorized by the COA to points other than local government agencies, consultants and project site.
2. Significant revisions by the COA after receiving initial direction by the COA.
3. Any construction phase or warranty phase services.
4. Expert witness testimony or appearances at public hearings or meetings concerning the projects or any of their elements.

Should JIG and B&V agree that any of the above Special Services, or other additional services are required, JIG will prepare a cost proposal for such services and obtain authorization from B&V prior to performing any special service.

DELIVERABLES

The following deliverables will be submitted to B&V:

1. All design drawings will be prepared on the computer using CAD software. At the completion of the design phase, an electronic copy of the design drawings will be provided to B&V. The format of the electronic copy will be "AutoCAD 2007" file format. Layering conventions and other production related issues within the electronic file copies will be in accordance with established HEI standards.
2. B&V Standard Specifications will be used to the extent that they apply, along with the City of Austin standard concrete specification.


COMPENSATION

An itemization of the estimated labor costs is included in Attachment A-1. The Total Compensation requested for this work is tabulated below.

Phase B Design Phase Services	\$139,450
Phase C Bid/Award/Execution Services	<u>\$ 6,500</u>
Total Structural Fee	<u>\$145,950</u>

The Consulting Engineering Services are to be provided on a "Lump Sum" basis. The Monthly Statements shall be in proportion of the services performed to the total compensation. If acceptable, this proposal will form the basis of a Professional Services Agreement. We will consider your acceptance in the space provided below as our authorization to proceed with the work and would appreciate receiving one signed original for our files.

Very truly yours,
JOSE I. GUERRA, INC.



Lemar Porter, P.E.
Vice President

LLP/mc

Enclosure (1)

ACCEPTED:
Black & Veatch Corporation

Name: _____ Title: _____ Date: _____

Attachment A-1

**Walnut Creek WWTP
Filter Improvements Project**

Phase B: Design Phase Services

Direct Labor Rates and Multipliers	Principal	Project Manager	Project Engineer	Design Engineer	CADD Manager	CADD Operator	Clerical	
	\$175.00	\$150.00	\$127.50	\$113.50	\$90.00	\$77.50	\$55.00	

LABOR ESTIMATE - MAN HOURS

SUBTASK LISTING	Principal	Project Manager	Project Engineer	Design Engineer	CADD Manager	CADD Operator	Clerical	TOTAL
1. Meetings (12)	0	35	35	0	0	0	0	70
2. Workshops (3)	0	15	15	0	0	0	0	30
3. Site Visits (3)	0	5	10	0	0	0	0	15
4. Construction Drawings	0	110	230	230	190	190	0	950
5. Construction Specifications	0	15	30	0	0	0	10	55
6. Probable Construction Costs	0	10	20	0	0	0	0	30
7. Review Comments	0	10	20	20	20	20	0	90
TOTAL HOURS	0	200	360	250	210	210	10	1240
Labor Totals	\$0	\$30,000	\$45,900	\$28,375	\$18,900	\$16,275	\$550	\$139,450
TOTAL LABOR COSTS	\$0	\$30,000	\$45,900	\$28,375	\$18,900	\$16,275	\$550	\$139,450

Phase C: Bid/Award/Execution

Direct Labor Rates and Multipliers	Principal	Project Manager	Project Engineer	Design Engineer	CADD Manager	CADD Operator	Clerical	
	\$175.00	\$150.00	\$127.50	\$113.50	\$90.00	\$77.50	\$55.00	

LABOR ESTIMATE - MAN HOURS

SUBTASK LISTING	Principal	Project Manager	Project Engineer	Design Engineer	CADD Manager	CADD Operator	Clerical	TOTAL
1. Pre-Bid Conference	0	2	2	0	0	0	0	4
2. Respond to RFI's	0	4	4	0	0	0	0	8
3. Addenda	0	4	14	0	10	20	0	48
TOTAL HOURS	0	10	20	0	10	20	0	60
Labor Totals	\$0	\$1,500	\$2,550	\$0	\$900	\$1,550	\$0	\$6,500
TOTAL LABOR COSTS	\$0	\$1,500	\$2,550	\$0	\$900	\$1,550	\$0	\$6,500

TOTAL LABOR COSTS **\$145,950**



SUPPLEMENTAL AMENDMENT NO. 1
ATTACHMENT 1A - SCOPE OF SERVICES
PHASE B&C: DESIGN AND BID

CITY OF AUSTIN CIP NO.:3023.025

BLACK & VEATCH PROJECT NO.: 168622

WALNUT CREEK WWTP TERTIARY FILTER REHABILITATION

MWM Design Group



Date: October 25, 2012
Project: City of Austin
Walnut Creek WWTP Filter Rehabilitation
Client: Black & Veatch
Contact: Ed Perrey, P.E., CFM
Engineering Manager, Water
Address: 1701 Directors Blvd., Suite 940
Austin, Texas 78744
Phone: 512-448-2503 Fax: 512-448-2389
Exhibits: Exhibit "A"

MWM DesignGroup, Inc. is submitting this proposal for providing professional services on the above referenced project. Services shall limited to the area approximately shown on Exhibit "A" and will be provided in accordance with the following:

Miscellaneous Surveying

1. Establish horizontal and vertical control based on existing Walnut Creek WWTP site control. If site control is not available, perform GPS survey to establish horizontal and vertical control based on Texas State Plane, Central Zone NAD 83 (2011) and NAVD 88.
2. Provide a benchmark and sufficient horizontal control for use as construction baseline.
3. Locate by actual on-the-ground survey visible and accessible on-grade and above-grade features, including but not limited to pavement marking, edge of pavement, curbs, gutters, driveways, ramps, sidewalks, buildings, walls, culverts, utility valves, utility meters, manholes, hydrants, clean-outs, trees (size, location, subspecies and tree tag for trees 8" or greater in diameter), signs, fences, utility poles, guy anchors, overhead lines and other surface utility features.
4. Provide contours at one foot interval. Elevations will be taken on an approximate 50'x 50' grid, at abrupt changes in grade and along drainage courses. Elevations of survey points will be on a separate layer and will not be part of the final plotted drawing.
5. Provide spot elevations at top of accessible utility manhole covers.
6. Provide one (1) mobilization to obtain horizontal and vertical data for approximately 5 geotechnical boreholes.
7. Provide drawing showing data outlined above on 22" x 34" sheet size at a scale of 1"=20' and as an AutoCad Civil3D file.

Excluded Services

Services that are not provided under the surveying phase of this Agreement specifically include, but are not limited to: boundary survey; research and/or mapping of existing easements; services relating to land or easement acquisition; records research of existing underground utilities; obtaining invert of inlets, manholes or vaults, elevation and size of pipes entering or exiting manhole or sewer and storm drain structures or top elevation of valve nut of utility lines; surveying or obtaining data within underground or confined structures/vaults; field verification of tree subspecies by arborist; construction phase surveying and other services or



Ed Perrey, P.E., CFM

October 25, 2012

Page 2 of 3

expenses which may become necessary for the completion of this project but which are not reasonably anticipatable at this time. Such services may be performed as Additional Services to this Agreement, upon authorization by Client.

Permitting

MWM will work with City of Austin Planning and Development Review Department to obtain a permit through the General Permit Program. MWM will provide the following services.

1. Prepare and submit one General Permit Application for review and consideration for approval.
2. Meet with City of Austin staff members to address questions, comments, and concerns (maximum of 6 meetings).
3. Address comments received from the City of Austin concerning the General Permit.
4. Prepare and submit updates to the City of Austin (maximum of 2 updates).
5. Clear comments and obtain approval of the General Permit.

Excluded Services

Services or items that are not provided under the permitting phase of this Agreement specifically include, but are not limited to:

1. Any work not specifically included in this Scope of Services and other services or expenses which may become necessary for the completion of this project but which are not reasonably anticipatable at this time. Such services may be performed as Additional Services to this Agreement, upon authorization by Client.
2. Services relating to variances or waivers.
3. Presentations of the Project to City of Austin Boards, Commissions or to the City Council.
4. Project phasing for permitting or construction.
5. City fees, including but not limited to permit fees, review fees, and Capital Recovery Fees. These fees are the responsibility of the Client and are not included in the Schedule of Compensation for the Project.

Agency and Utility Coordination

1. MWM will contact review agencies and utilities to coordinate meetings to discuss and coordinate the design of the Project. Requirements of each agency and utility will be identified and incorporated into the project. MWM will update the agency coordination log.
2. MWM will coordinate meetings for each design level (30% design, 60% design, and 90% design). It is anticipated that there will be three meetings for each design level.



Ed Perrey, P.E., CFM
October 25, 2012
Page 3 of 3

Review agencies and utilities shall include Austin Water Utility, Planning and Development Review Department, and General Permit.

- 3. It will be the Client's responsibility to provide MWM with enough notice to schedule the meeting in a timely manner.

Close Out of Design Phase

- 1. Master Filter Piping Plan. A consolidated site plan and yard piping drawing showing the piping systems for the Filter Complex will be developed from record drawings provided by the Client, surface evidence surveyed on the ground and data from SUE services performed by others. The master piping plan will be a color drawing presenting each piping system in a distinct color. The piping plan will be provided in electronic form (both CAD and .pdf) and will also be printed in color and mounted on a hard backed board for display at the plant.

Services can begin as soon as written authorization is received. Surveying services can be completed in about 3 weeks (predicated upon suitable weather conditions) and permitting, agency and utility coordination and close out of design phase services can be completed in coordination with the design team.

MWM DesignGroup proposes to provide the services outlined above for a lump sum amount of \$38,063.00. The fee breakdown is shown on Exhibit "B" dated 10/25/12.

Land Surveying

Complaints on the land surveying services provided by MWM DesignGroup can be directed to the Texas Board of Professional Land Surveying, 12100 Park 35 Circle, Building A, Suite 156, Austin, Texas 78753, (512) 239-5263.

This proposal is valid for a period of 60 days from date of proposal. If you concur, please include this proposal as part of the work order for the above referenced project.

Approved:

Eduardo O. Mendez

10/25/12

Eduardo O. Mendez, R.P.L.S.
Principal
MWM DesignGroup

Date

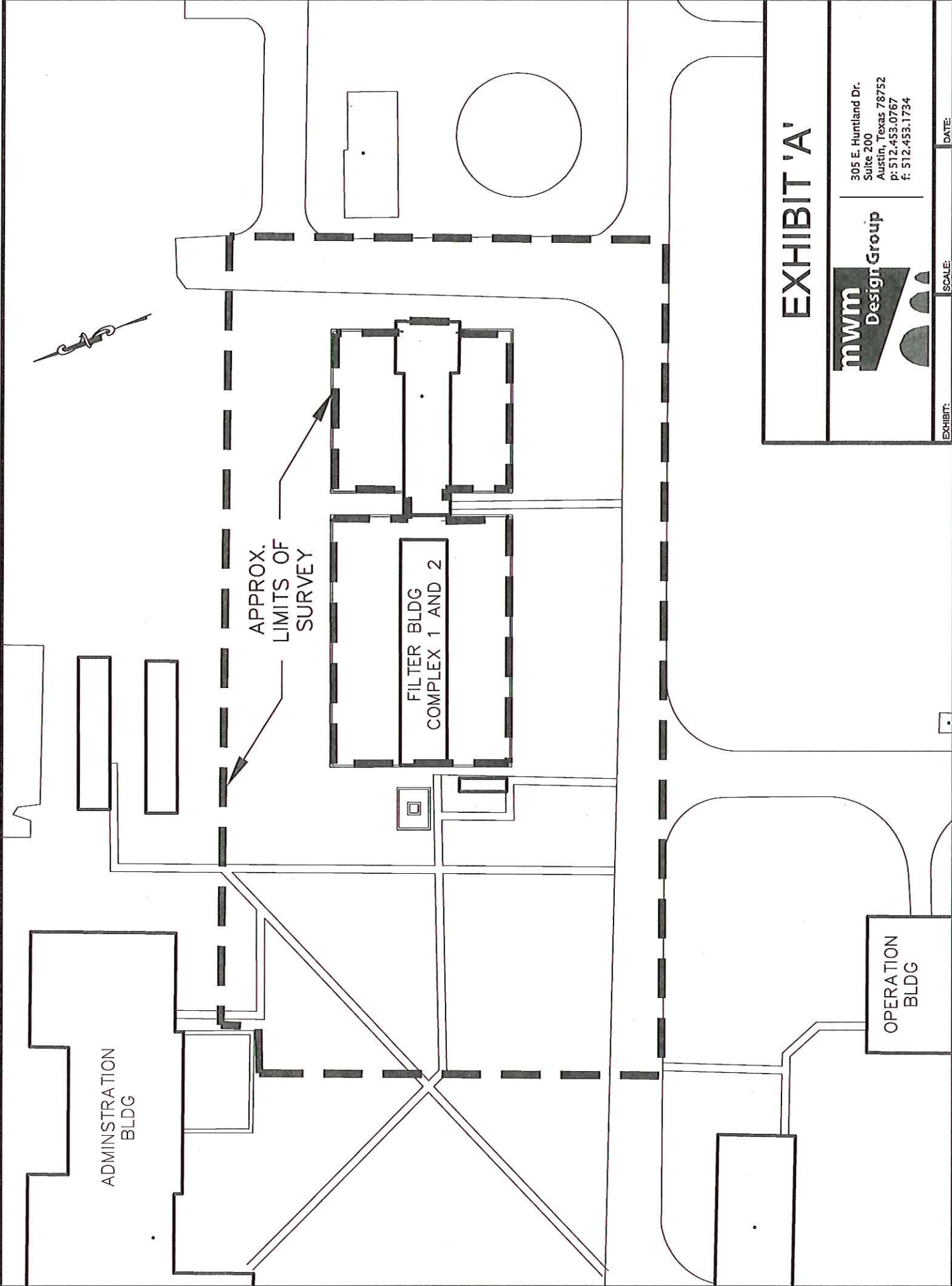


EXHIBIT 'A'



305 E. Huntland Dr.
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734

EXHIBIT: _____ SCALE: _____ DATE: _____

MVVM DesignGroup

City of Austin
Walnut Creek WWTP Filter Rehabilitation

Exhibit "B"

TASK AND DESCRIPTION	Lic. Prof./ PM III	Lic. Prof./ PM I	Eng./Arch SupportStaff II	Technician	3 Person Crew	GPS Unit	Clerical	TOTAL HOURS	COST
HOURLY RATE	\$159.74	\$110.37	\$104.25	\$84.91	\$148.00	\$105.00	\$52.04		
Survey									
1. Horizontal & vertical control	1	4			8	2		15	\$1,995
2. Topographic survey	2	4		18	12			36	\$4,065
3. Locate bore holes		1			4			5	\$702
subtotal									\$6,763
Permitting									
1. Assist with permitting									
subtotal	21		67					0	\$10,339
Agency and Utility Coordination									
1. Assist with coordination			56						\$5,838
subtotal									\$5,838
Close Out of Design Phase									
1. Master Filter Piping Plan		16		148					\$15,123
subtotal									\$15,123
SUBTOTAL	24	9	67	18	24	2	0	56	\$38,063
DIRECT EXPENSE									
LUMP SUM TOTAL									\$38,063



SUPPLEMENTAL AMENDMENT NO. 1
ATTACHMENT 1A - SCOPE OF SERVICES
PHASE B&C: DESIGN AND BID

CITY OF AUSTIN CIP NO.:3023.025

BLACK & VEATCH PROJECT NO.: 168622

WALNUT CREEK WWTP TERTIARY FILTER REHABILITATION

Round Rock Geophysics



THE USE OF GROUND PENETRATING RADAR TO LOCATE UTILITY LINES				
PROPOSAL NO.: 12-118		PROSPECTIVE CLIENT: Black & Veatch 1701 Directors Blvd., Suite 940, Austin, TX 78744		
PROJECT NO.		CONTACT PERSON:		
PROJECT ADDRESS 7113 FM 969, Austin, TX		Ed Perrey, P.E.*, CFM Engineering Manager, Water +1 512-448-2503 p +1 512-448-2389 f +1 512-699-6139 m PerreyE@BV.com		
VALID UNTIL December 31 st , 2012				
No.	Description	Cost		
		Unit Cost	No of hours/days	Total Cost
1.	<u>Mobilization/Demobilization</u> Includes: <ul style="list-style-type: none"> - Project Management and Preparation - Equipment mobilization Fees - Equipment Setup, QC Testing, and Preparation (install acquisition array program, check and test all cables, perform instrument tests) - Travel Time - RRGeo Administrative Support for project set up - Instrument clean up 	\$500.00/mob /demob.	3 days or 3 mob/demob.	\$1,500.00
2.	<u>Ground Penetrating Radar (GPR) Survey coupled with high precision GPS to locate utility lines</u> GPR antenna frequencies of ranges between 100 to 900 MHz together with GPS will be used to collect data along parallel lines of 3-foot separation covering each of the survey sites <u>till a maximum depth of 50-foot when required</u> . The field data will be processed using appropriate software packages to produce three-dimensional images of the subsurface features with the location, depth, orientation and possible sizes of the utility lines indicated clearly both on the surface and as part of the written reports.	3 days (3 sites) -Including one day of survey for a possible additional site	\$2,300.00/site	\$6,900.00
3.	<u>Consulting, project management and miscellaneous expenses</u>	Lump sum		\$6,600.00
TOTAL				\$15,000.00



ATTACHMENT D

SUPPLEMENTAL AMENDMENT NO. 2

COST SUMMARY

AUSTIN WATER UTILITY
Walnut Creek Wastewater Treatment Plant Filter Rehabilitation Project
Phases B and C - Design and Bid
Attachment D - Supplemental Amendment 2 (SA2) Cost Summary

Task Number	Task Description	STAFF CATEGORY/HOURS													B&V LABOR		B&V EXPENSES			TOTALS			
		Principal In Charge	Senior Project Manager	QA/QC Specialist	Technical Specialist	Engineering Manager	Process Engineer	Senior Engineer	Staff Engineer	Architect	Designer	CADD	Project Controls	Project Administration	B&V Labor Hours	B&V Labor Cost	Travel	Misc Expenses	B&V Expenses	TOTAL HOURS	TOTAL LABOR COST	TOTAL EXPENSES	TOTAL FEE
Info	Contract Billing Rate	\$275	\$208	\$265	\$199	\$140	\$205	\$189	\$110	\$132	\$110	\$110	\$120	\$73									
Info	Identified Individual		TSD	MJ/QC	various	EP	GH	WL/CM	ZW	DD	DL	AR	AT/WA	LT									
1100	PROJECT MANAGEMENT	8	438	52	0	404	60	96	48	0	0	0	192	186	1,484	\$235,986	\$24,975	\$120	\$25,095	1,484	\$235,986	\$25,095	\$261,081
1110	Project Procedures Manual Update	0	4	0	0	16	0	0	0	0	0	0	0	4	24	\$3,364	\$0	\$60	\$60	24	\$3,364	\$60	\$3,424
1120	Quality Control Plan Update	0	4	4	0	4	0	0	0	0	0	0	0	2	14	\$2,598	\$0	\$60	\$60	14	\$2,598	\$60	\$2,658
1130	Project Meetings	0	48	48	0	96	0	96	48	0	0	0	0	48	384	\$63,072	\$22,200	\$0	\$22,200	384	\$63,072	\$22,200	\$85,272
1140	Project Coordination	8	90	0	0	96	0	0	0	0	0	0	96	48	338	\$49,384	\$0	\$0	\$0	338	\$49,384	\$0	\$49,384
1150	Project Reporting	0	90	0	0	96	0	0	0	0	0	0	96	48	330	\$47,184	\$0	\$0	\$0	330	\$47,184	\$0	\$47,184
1160	Schedule (see also 1330, 1430 and 1530)	0	24	0	0	0	0	0	0	0	0	0	0	0	24	\$4,992	\$0	\$0	\$0	24	\$4,992	\$0	\$4,992
1170	Change Management	0	24	0	0	48	0	0	0	0	0	0	0	12	84	\$12,588	\$0	\$0	\$0	84	\$12,588	\$0	\$12,588
1180	Agency Coordination (see also 1350, 1450, and 1550)	0	24	0	0	0	0	0	0	0	0	0	0	0	24	\$4,992	\$0	\$0	\$0	24	\$4,992	\$0	\$4,992
1190	Team Oversight and Subcontract Management	0	90	0	0	48	0	0	0	0	0	0	0	24	162	\$27,192	\$0	\$0	\$0	162	\$27,192	\$0	\$27,192
1191	Filter Technology Coordination	0	40	0	0	0	60	0	0	0	0	0	0	0	100	\$20,620	\$2,775	\$0	\$2,775	100	\$20,620	\$2,775	\$23,395
1200	BASIS OF DESIGN CONFIRMATION & PRELIMINARY INVESTIGATIONS	0	52	16	48	68	16	64	28	0	16	40	8	8	364	\$60,288	\$0	\$0	\$0	364	\$60,288	\$0	\$60,288
1210	Design Basis Confirmation	0	40	8	40	40	16	64	28	0	16	16	8	8	284	\$47,520	\$0	\$0	\$0	284	\$47,520	\$0	\$47,520
1220	Subsurface Utility Engineering (SUE)	0	4	0	0	16	0	0	0	0	0	16	0	0	36	\$4,832	\$0	\$0	\$0	36	\$4,832	\$0	\$4,832
1230	Geotechnical Investigations	0	4	8	8	8	0	0	0	0	0	0	0	0	28	\$5,664	\$0	\$0	\$0	28	\$5,664	\$0	\$5,664
1240	Survey	0	4	0	0	4	0	0	0	0	0	8	0	0	16	\$2,272	\$0	\$0	\$0	16	\$2,272	\$0	\$2,272
1300	LEVEL 1 DETAILED DESIGN (30%)	0	48	70	20	196	8	200	295	20	64	276	16	32	1,245	\$176,140	\$0	\$720	\$720	1,245	\$176,140	\$720	\$176,860
1310	Level 1 - Schematic Design	0	24	24	20	144	8	164	281	20	64	272	0	24	1,045	\$140,390	\$0	\$720	\$720	1,045	\$140,390	\$720	\$141,110
1320	Quality Control	0	8	44	0	8	0	16	0	0	0	0	0	0	76	\$17,468	\$0	\$0	\$0	76	\$17,468	\$0	\$17,468
1330	Cost Estimate and Schedule Update	0	4	0	0	8	0	8	4	0	0	0	16	0	40	\$5,824	\$0	\$0	\$0	40	\$5,824	\$0	\$5,824
1340	Level 1 Design Review	0	8	0	0	8	0	8	0	0	0	0	0	4	28	\$4,588	\$0	\$0	\$0	28	\$4,588	\$0	\$4,588
1350	Agency and Utility Coordination	0	0	0	0	4	0	0	0	0	0	0	0	0	4	\$560	\$0	\$0	\$0	4	\$560	\$0	\$560
1360	Code Classification Table	0	2	2	0	8	0	4	2	0	0	0	0	0	18	\$3,042	\$0	\$0	\$0	18	\$3,042	\$0	\$3,042
1370	Drainage Study	0	2	0	0	16	0	0	8	0	0	4	0	4	34	\$4,268	\$0	\$0	\$0	34	\$4,268	\$0	\$4,268
1400	LEVEL 2 DETAILED DESIGN (60%)	0	68	104	20	220	12	234	246	40	64	270	24	48	1,350	\$198,634	\$0	\$1,440	\$1,440	1,350	\$198,634	\$1,440	\$200,074
1410	Level 2 - Design Development	0	20	24	20	144	12	154	234	40	64	270	0	24	1,006	\$135,738	\$0	\$1,440	\$1,440	1,006	\$135,738	\$1,440	\$137,178
1420	Quality Control	0	8	44	0	8	0	16	0	0	0	0	0	0	76	\$17,468	\$0	\$0	\$0	76	\$17,468	\$0	\$17,468
1430	Cost Estimate and Schedule Update	0	4	0	0	8	0	8	4	0	0	0	16	0	40	\$5,824	\$0	\$0	\$0	40	\$5,824	\$0	\$5,824
1440	Level 2 Design Review	0	8	0	0	8	0	8	0	0	0	0	0	4	28	\$4,588	\$0	\$0	\$0	28	\$4,588	\$0	\$4,588
1450	Agency and Utility Coordination	0	0	0	0	4	0	0	0	0	0	0	0	0	4	\$560	\$0	\$0	\$0	4	\$560	\$0	\$560
1460	Construction Sequencing Plan Development	0	16	16	0	16	0	16	8	0	0	0	8	8	88	\$15,256	\$0	\$0	\$0	88	\$15,256	\$0	\$15,256
1470	Asset Management Coordination	0	4	0	0	8	0	16	0	0	0	0	0	4	32	\$5,268	\$0	\$0	\$0	32	\$5,268	\$0	\$5,268
1480	Constructability Review	0	4	16	0	8	0	16	0	0	0	0	0	4	48	\$9,508	\$0	\$0	\$0	48	\$9,508	\$0	\$9,508
1490	Quality Control Inspection Plan (QCIP)	0	4	4	0	16	0	0	0	0	0	0	0	4	28	\$4,424	\$0	\$0	\$0	28	\$4,424	\$0	\$4,424
1500	LEVEL 3 DETAILED DESIGN (90%)	0	44	80	16	172	8	186	238	35	36	206	16	28	1,065	\$155,794	\$0	\$1,800	\$1,800	1,065	\$155,794	\$1,800	\$157,594
1510	Level 3 - Construction Documents	0	24	24	16	144	8	154	234	23	36	206	0	24	893	\$122,590	\$0	\$1,800	\$1,800	893	\$122,590	\$1,800	\$124,390
1520	Quality Control	0	8	56	0	8	0	16	0	12	0	0	0	0	100	\$22,232	\$0	\$0	\$0	100	\$22,232	\$0	\$22,232
1530	Cost Estimate and Schedule Update	0	4	0	0	8	0	8	4	0	0	0	16	0	40	\$5,824	\$0	\$0	\$0	40	\$5,824	\$0	\$5,824
1540	Level 3 Design Review	0	8	0	0	8	0	8	0	0	0	0	0	4	28	\$4,588	\$0	\$0	\$0	28	\$4,588	\$0	\$4,588
1550	Agency and Utility Coordination	0	0	0	0	4	0	0	0	0	0	0	0	0	4	\$560	\$0	\$0	\$0	4	\$560	\$0	\$560
1600	FINAL CONSTRUCTION DOCUMENTS	0	24	28	16	64	8	96	114	27	20	64	16	40	517	\$74,524	\$0	\$1,920	\$1,920	517	\$74,524	\$1,920	\$76,444
1610	Final Contract Documents	0	12	16	16	40	8	84	108	27	20	64	0	12	407	\$58,596	\$0	\$1,800	\$1,800	407	\$58,596	\$1,800	\$60,396
1620	Final Project Manual	0	4	4	0	8	0	4	2	0	0	0	0	12	34	\$4,864	\$0	\$60	\$60	34	\$4,864	\$60	\$4,924
1630	Cost Estimate and Schedule Update	0	4	4	0	8	0	4	2	0	0	0	8	8	38	\$5,532	\$0	\$60	\$60	38	\$5,532	\$60	\$5,592
1640	Anticipated Construction Schedule	0	4	4	0	8	0	4	2	0	0	0	8	8	38	\$5,532	\$0	\$0	\$0	38	\$5,532	\$0	\$5,532

AUSTIN WATER UTILITY
Walnut Creek Wastewater Treatment Plant Filter Rehabilitation Project
Phases B and C - Design and Bid
Attachment D - Supplemental Amendment 2 (SA2) Cost Summary

Task Number	Task Description	STAFF CATEGORY/HOURS												B&V LABOR		B&V EXPENSES			TOTALS				
		Principal In Charge	Senior Project Manager	QA/QC Specialist	Technical Specialist	Engineering Manager	Process Engineer	Senior Engineer	Staff Engineer	Architect	Designer	CADD	Project Controls	Project Administration	B&V Labor Hours	B&V Labor Cost	Travel	Misc Expenses	B&V Expenses	TOTAL HOURS	TOTAL LABOR COST	TOTAL EXPENSES	TOTAL FEE
Contract Billing Rate		\$275	\$208	\$265	\$199	\$140	\$205	\$189	\$110	\$132	\$110	\$110	\$120	\$73									
Info	Identified Individual		TSD	MJ/QC	various	EP	GH	WL/CM	ZW	DD	DL	AR	AT/WA	LT									
1700	CLOSE OUT OF DESIGN PHASE	0	20	2	0	32	0	0	0	8	0	4	0	0	66	\$10,666	\$0	\$0	\$0	66	\$10,666	\$0	\$10,666
1710	Quality Control Plan Documentation	0	8	2	0	8	0	0	0	0	0	4	0	0	22	\$3,754	\$0	\$0	\$0	22	\$3,754	\$0	\$3,754
1720	Report on LEED Activity	0	8	0	0	8	0	0	0	8	0	0	0	0	24	\$3,840	\$0	\$0	\$0	24	\$3,840	\$0	\$3,840
1730	Master Filter Piping Plan	0	4	0	0	16	0	0	0	0	0	0	0	0	20	\$3,072	\$0	\$0	\$0	20	\$3,072	\$0	\$3,072
1800	BID AND AWARD	0	20	8	8	56	4	30	34	8	8	16	4	8	204	\$30,702	\$0	\$0	\$0	204	\$30,702	\$0	\$30,702
1810	Pre-Bid Conference	0	8	2	0	8	4	0	2	8	0	0	0	8	40	\$5,994	\$0	\$0	\$0	40	\$5,994	\$0	\$5,994
1820	Respond to RFIs	0	4	2	0	24	0	12	12	0	4	8	0	0	66	\$9,630	\$0	\$0	\$0	66	\$9,630	\$0	\$9,630
1830	Addenda	0	4	2	8	16	0	12	12	0	4	8	0	0	66	\$10,102	\$0	\$0	\$0	66	\$10,102	\$0	\$10,102
1840	Review Construction Bids	0	4	2	0	8	0	6	8	0	0	0	4	0	32	\$4,976	\$0	\$0	\$0	32	\$4,976	\$0	\$4,976
	Total B&V Hours, Labor and Expenses	8	714	360	128	1,212	116	906	1,003	138	208	876	276	350	6,295	\$942,734	\$24,975	\$6,000	\$30,975	6,295	\$942,734	\$30,975	\$973,709
1900	SUB CONSULTANTS																						
1910	CAS Consulting Services																						\$64,300
1920	Encotech																						\$49,083
1930	Haratunian Engineering Incorporated																						\$254,385
1940	HVJ																						\$29,064
1950	Jose I Guerra, Inc.																						\$145,950
1960	MWM Design Group																						\$38,063
1970	Round Rock Geophysics																						\$15,000
	Total Subconsultants Costs																						\$595,845
	Total B&V Markup on Subs (5%)																						\$29,792
	TOTAL PROJECT COST																						\$1,599,347