
CITY OF PORT LAVACA

CC MEETING:

AGENDA ITEM #

DATE:

TO: JODY WEAVER, INTERIM CITY MANAGER
cc: HONORABLE MAYOR AND CITY COUNCIL MEMBERS

FROM: WAYNE SHAFFER, PUBLIC WORKS DIRECTOR 

SUBJECT: Bid and construction phase services for water system improvement

BACKGROUND: Water system improvements to alleviate an agreed order with the TCEQ for storage capacity.

FINANCIAL IMPLICATIONS: This project will need to be paid either with bond funds or reserves.

IMPACT ON COMMUNITY SUSTAINABILITY: Increasing storage and pumping capacity enables the city to address the TCEQ agreed order and to better serve the growth needs of the community.

RECOMMENDATION: Staff recommends accepting AECOM's proposal for task order 7 in the amount of \$149,595.00

ATTACHMENTS: Task order #7 proposal



AECOM
19219 Katy Freeway, Suite 100
Houston, TX 77094
USA
aecom.com

6/6/2023

Jody Weaver, PE
City Manager
202 North Virginia
Port Lavaca, TX 77979

**RE: Request for Authorization to Proceed
Task Order 7: Bid and Construction Phase Services for City of Port Lavaca Water Supply
System Improvements**

Dear Ms. Weaver,

As requested by City of Port Lavaca (City), AECOM Technical Services, Inc (AECOM) is pleased to submit this proposal to provide Bid and Construction Phase Services for the Water Supply System Improvements project.

Background

City of Port Lavaca is contracted with the Guadalupe Blanco River Authority (GBRA) to purchase its treated water from the GBRA Water Treatment Plant (WTP). The City owns and operates the water distribution system which consists of two 500,000-gallon elevated storage tanks (ESTs), one located on Village Road and the other located on George Street at the City's Public Works Yard. City is limited to 3.2 MGD of firm water supply from GBRA based on the current water supply contract.

Presently the TCEQ requirement for total storage capacity (elevated and GST storage of 1,078,000 gallons) is not met. The current available elevated storage capacity is 1 MG. CPL needs to expand its ground storage tank capacity to meet TCEQ requirements and placing the GST in a more central location will help CPL better control pressure and water age within its distribution system. AECOM recommended that the George Street location at first be provided with 500,000 gallons of ground storage capacity, followed by another 500,000 gallons of storage capacity at the Village Road location. AECOM has completed the final design of rehabilitation of the GST at George Street and associated pump station.

Scope of Services of this proposal will include the following services associated with the Water Supply System Improvements Project

Basic Services:

- Bid Phase Services
- Construction Phase Services

Additional Services:

- Construction Materials Testing



Exhibit "A" provides an itemization of the labor and expenses associated with the Scope of Services.

Proposed schedule for completion of the proposed Scope of Services is as below

- Bid Phase: 2 Months
- Construction Phase: 12 Months

BASIC SERVICES

SCOPE OF SERVICES – Bid Phase

Task 1 – Project Management

Project management associated is anticipated to span two (2) months as proposed in the attached schedule and includes the following sub-tasks:

Task 1.1: Project Management and Administration

Task 1.1.1: Project Setup and Administration

Update project setup in AECOM project management system and administration during the span of this task including oversight, tracking and coordination.

Task 1.2: Meetings

Task 1.2.1: Project Meetings

AECOM will conduct internal meetings with the staff involved to review progress and address questions from contractors. The proposal is based on conducting a total of two (2) meetings.

Task 1.2.2: Project Coordination

AECOM will organize and participate in two (2) coordination meetings with the City and Grant Works during the Bid Phase in preparing the front-end documents, and communicating and receiving input and feedback on challenges, outstanding issues, status, and decisions.

Task 1.3: Project Management Deliverables

Task 1.3.1: Monthly Invoices and Status Reports

Submit monthly invoices for the duration of bid phase.

Task 2 – Bid Services

Perform bid services including preparing construction document package for bidding and reviewing construction bids. This task includes the following sub-tasks:

Task 2.1: Bid Services

AECOM will use the front-end documents provided by the City/Grant Works. This task will include reviewing the front-end contract documents, making edits as required and preparing a combined bid package. AECOM will assist the City in preparing an advertisement and publishing two advertisements in two local newspapers (Port Lavaca Wave and Victoria Advocate) and in Civcast. Cost for publications via Victoria Advocate and Civcast will be paid by AECOM.

AECOM will conduct a pre-bid meeting and prepare and transmit pre-bid meeting minutes. AECOM will respond to prospective bidders' questions related to the WWTP expansion and will issue contract addenda required to clarify or modify the contract documents.

AECOM will evaluate bids received by checking references and confirming that all required documents have been provided. AECOM will prepare bid tabulation and Recommendation of Award Letter to the City.

SCOPE OF SERVICES – Construction Phase

Task 1 – Project Management

Project management associated is anticipated to span ten (10) months as proposed in the attached schedule and includes the following sub-tasks:

Task 1.1: Project Management and Administration

Task 1.1.1: Project Setup and Administration

Setup project in AECOM project management system and administration during the span of the project including oversight, tracking and coordination.

Task 1.2: Meetings

Task 1.2.1: Project Meetings and Coordination

Once construction contract is awarded, AECOM will assist in the organization of and participate in a construction kick-off meeting that will be held at the WWTP. This meeting will discuss general and specific requirements for fulfilling the construction contract including construction phasing, use of existing facilities, and project coordination.

An internal kickoff meeting will be conducted with AECOM team members to convey scope of the construction project and define responsibilities.

AECOM will assist in organizing of and participate in substantial completion inspection of the project and develop punch list items that will be required for final completion. AECOM, along with the City, will conduct a final review of the project for compliance with the Contract Documents.

Task 1.2.2: Project Status Meetings

AECOM will assist in the scheduling of and participate in monthly project progress meetings with City and the contractor to review progress of construction, communicate and receive input and feedback on challenges and outstanding issues. AECOM will prepare agenda and meeting minutes each meeting. The proposal is based on conducting a total of eight (8) on-site progress meetings.

A site visit will be conducted after the progress meeting to observe progress. 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; AECOM will not be responsible for the techniques of construction nor the safety precautions incident thereto; and AECOM 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 visits to the construction site, and on the basis of the Engineer's on-site observations, AECOM will keep the City informed of the extent of the progress of the work, and advise the City 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.

AECOM will visit the site, in addition to the monthly site visits, on circumstances such as installation of a critical equipment, data collection, resolution of field issues etc. This proposal is based on conducting three (3) additional site visits.

Task 1.3: Project Management Deliverables

Task 1.3.1: Safety Plan and Schedule

Maintain an updated project safety plan. Prepare and maintain an overall construction schedule to reflect projected completion date. This schedule will be submitted with the monthly invoices.

Task 1.3.2: Monthly Invoices and Status Reports

Submit monthly invoices along with a status report summarizing progress of the project and updated project schedule.

Task 2 – Construction Phase Services

Construction phase engineering services will commence upon execution of the construction Contract by the City and authorization to proceed with construction phase services:

Task 2.1: Construction Phase Services

This task will include review of shop drawings and submittals. This proposal is based on thirty (30) shop drawings including resubmittals requiring four (4) hours to process. AECOM will prepare, maintain, and distribute a Submittals Log. AECOM will review the shop drawings and submittals to ensure they conform the drawings and specifications and will provide responses.

AECOM will answer Requests for Information (RFI) and issue interpretations and clarifications of the plans and specifications, as needed. Additionally, AECOM will prepare, maintain, and distribute an RFI Log. This task is based on eight (8) RFIs requiring each RFI approximately four (4) hours to process.

AECOM will review draft and final O&M Manuals data which the Contractor is required to submit, only for conformance with the requirements of the Contract Documents. This proposal is based on five (5) O&M Manuals submittals with each O&M Manual requiring six (6) man-hours to review including resubmittals.

During the administration of the construction contract, AECOM will issue all instructions to the Contractor requested by the City; coordinate construction materials testing; and provide general coordination with the Contractor. This task is budgeted for four (4) hours per week of the later 8 - months of construction duration.

AECOM will prepare, maintain, and distribute a Change Order log. It is assumed that the Change orders will be prepared by the City; AECOM will review and provide comments on contractor's estimates and prepared change orders.

Based on the Engineer's observation of the progress, AECOM will review contractor's monthly pay estimates and provide comments/recommendations. This proposal is based on twelve (12) monthly pay estimates plus one (1) final pay estimate with each pay estimate requiring approximately two (2) man-hours each. Verification of project's progress and materials stored on-site will be by the City's Construction Project Manager.

AECOM will prepare record drawings assembled from the Contractor's markups of changes made during the construction process. AECOM will provide the City of Port Lavaca one (1) set of reproducible (paper) drawings, and digital files in the electronic format.

ADDITIONAL SERVICES

Construction Materials Testing: Materials testing services will be provided by TSI Laboratories; fee for the service is included in the proposal.

Assumptions

1. This proposal does not include services of a resident project representative and other field personnel for on-site observation of construction, construction phase survey control staking or verifications.
2. City of Port Lavaca will provide requested data and information within five business days of written submittal request to maintain the project schedule. Consistent with the professional standard of care,

AECOM shall be entitled to rely upon the accuracy of data and information provided by City or others without independent review or evaluation.

3. If and when possible, City will provide site access and facility support staff to allow for any identified site reconnaissance activities. Facility support staff shall be knowledgeable of applicable safety practices and will inform any AECOM project team members of these requirements. AECOM understands any site visits will occur between regular business hours and will depend on City staff escort availability. No special equipment is expected to be utilized or required during site visits. AECOM will conduct all observations without the use of specialty equipment that may require additional safety training beyond awareness training.
4. City will provide electronic design files as available to support development of drawings, details, and criteria as required for preparation of deliverables.
5. City will provide review and comment on AECOM's deliverables within ten business days of submittal to maintain the project schedule.
6. Invoices will be prepared monthly and will be accompanied by a status summary memo. Project Schedule will be updated and submitted with the invoice. Any changes to the schedule will be noted and explained.
7. Labor costs have been distributed by discipline in accordance with the Scope of Work (SOW). Estimated costs were based upon discussions of the pre-proposal meeting, prior experience, and AECOM's understanding of the goals of the project.
8. AECOM understands that City input will be required for certain deliverables and that completeness of certain deliverables is dependent on City's ability to provide such data.
9. Meeting other than the ones specifically called out as on-site meetings will be conducted virtually.
10. No travel and subsistence required of AECOM and authorized by the City to points other than the project site or City offices.
11. No filing, review, permit, inspection and other fees assessed by the City, County or State.
12. There will not be any additional copies of contract documents and specifications (over agreed number) and additional copies of drawings (over agreed number).
13. Proposal does not include fee for the effort associated with re-bidding the project.
14. AECOM will not provide assistance to the City as an expert witness in any litigation with third parties arising from the development or construction of the project.
15. No warranty phase engineering services will be required.
16. AECOM will not be participating in public involvement meetings.
17. SCADA/PLC programming services will be provided by the contractor as part of the construction contract.
18. Fee for providing basic construction phase services is for a period of 10 months; a fee will be negotiated to extend the service upon determination of the additional duration, prior to completion of the 10 months.
19. Supplemental Provisions
 - a. Reuse of Documents: AECOM shall bear no liability or responsibility for deliverables that have been modified post-delivery or used for a purpose other than that for which it was prepared under this project.
 - b. Any Opinion of Probable Construction Cost prepared by AECOM represents its judgment as AECOM and is supplied for the general guidance of City. Since AECOM has no control over the cost of labor and material, or over competitive bidding or market conditions, AECOM does not guarantee the accuracy of such opinions as compared to Construction Contractor bids or actual cost to City.



DELIVERABLES

AECOM will be submitting the following deliverables for review and approval as listed in the sub-tasks of the Scope of Services.

1. Meeting agenda and minutes (as applicable)
2. Monthly invoices and progress reports
3. Bid Ready Package
4. Up to two (2) Addenda for Bidding
5. Conformed Construction Documents
6. Record Drawings

Each deliverable will have the following

- Electronic copy of Bid Ready Package
- Up to five (5) sets of Conformed Construction Documents (hard copy)
- Electronic copy of Conformed Construction Documents
- One (1) Full Size set of Record Drawings (hard copy)
- Electronic copy of Record Drawings

COMPENSATION

Compensation for the services listed in the above Scope of Services is to be on a lump sum. The project cost of the scope of work has been calculated and is defined in Exhibit A. The total compensation for the basic and additional services listed in the above Scope of Services is summarized below.

Task Order 7 - Basic Services

Task	Description	AECOM	Subconsultants	Total
7A	WWTP Improvements - Bid Phase	\$13,165		\$13,165
7B	WWTP Improvements - Construction Phase	\$126,199		\$126,199
Total Estimated Fee - Basic Services				\$139,365

Task Order 7 - Additional Services

Task	Description	AECOM	Subconsultants	Total
7C	Construction Materials Testing		\$10,230	\$10,230
Total Estimated Fee - Additional Services				\$10,230

AECOM requests authorization of the Basic and Additional Services for a total amount of **\$149,595**. We appreciate your consideration of the proposal and look forward to the opportunity to work on these tasks. Should you have any questions or require additional information, please do not hesitate to contact me at (281) 675-7668.

Sincerely,

Vinoth Manoharan, P.E.
Project Manager

Jeff Masek, PE CCM
Water/Wastewater Lead – Houston Region

Attachments: Exhibit A – Level of Effort
Exhibit B – Construction Materials Testing Proposal



Signature below indicates that Task Order 7 is accepted in accordance with our Master Design Engineering Services Agreement dated May 10, 2021.

Signature

Jack Whitlow
Printed Name

Mayor
Printed Title

June 12, 2023
Date

Exhibit A – Level of Effort

City of Port Lavaca - Water Supply System Improvements
Bid and Construction Phase Services
Summary of Fees

Task Oder 7 - Basic Services

Item	Description	AECOM	Subconsultants	Total
7A	Water System Improvements - Bid Phase	\$13,165		\$13,165
7B	Water System Improvements - Construction Phase	\$126,199		\$126,199
Total Estimated Fee - Basic Services				\$139,365

Task Order 7 - Additional Services

Item	Description	AECOM	Subconsultants	Total
7C	Construction Materials Testing		\$10,230	\$10,230
Total Estimated Fee - Additional Services				\$10,230

Total Fee - Task Order 7				\$149,595
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Proposal Date: June 5, 2023

[illegible]

Proposal Date: June 5, 2023

Billing Rate	Principal	Project Manager	QA/QC	Sr. Process Engineer	Estimator	Structural Eng /Architect	Electrical Engineer	I&C Engineer	Project Engineer	Graduate Engineer	Sr. Designer/Draftsman	Electrical Designer	Draftsman	Admin	TOTAL\$
	\$370	\$227	\$275	\$250	\$198	\$278	\$288	\$224	\$138	\$118	\$195	\$156	\$123	\$97	
LABOR															
TASK DESCRIPTION															YASK FEE
TASK 1 - Project Management															
1.1 Project Management and Administration (10 months)	2	7	0	0	0	0	0	0	0	0	0	0	0	8	\$3,106
1.1.1 Project Setup and Administration	2	7	0	0	0	0	0	0	0	0	0	0	0	8	\$3,106
a Project Setup and Update	1	2												2	\$1,011
b Oversight and Budget Tracking	1	5												6	\$2,088
1.2 Meetings	1	94	0	1	0	9	9	1	70	51	0	0	0	1	\$42,738
1.2.1 Project Meetings and Coordination	1	20	0	1	0	9	9	1	6	15	0	0	0	1	\$12,956
a Construction Kickoff Meeting		6								6					\$2,071
b Internal Kickoff Meeting	1	2	1			1	1	1	2	1				1	\$2,334
c Partial Substantial Completion Inspection		8				8	8			8					\$7,097
d Final Completion Inspection		4							4						\$1,454
1.2.2 Project Status Meetings	0	74	0	0	0	0	0	0	64	36	0	0	0	0	\$29,782
a Onsite Progress Meetings & Site Visits (8)		48							48	18					\$19,570
b Agenda & Meeting Minutes		8							16						\$3,998
c Additional Site Visits (3)		18								18					\$6,214
1.3 Project Management Deliverables	0	15	0	0	0	0	0	0	26	2	0	0	0	12	\$8,351
1.3.1 Project Plan and Schedule	0	3	0	0	0	0	0	0	6	2	0	0	0	0	\$1,735
a Maintain Updated Project Safety Plan		1							2	2					\$736
b Maintain Updated Construction Schedule		2							4						\$999
1.3.2 Monthly Invoices and Progress Reports	0	12	0	0	0	0	0	0	20	0	0	0	0	12	\$6,615
a Monthly Invoices & Progress Reports (12 months)		12							20					12	\$6,615
TASK 2 - Construction Phase Services															
2.1 Construction Phase Services	7	86	1	28	0	18	16	9	124	56	12	8	0	1	\$68,005
a Review of Shop Drawings and Submittals (30)	1	24		20		14	8	5	28	20				1	\$24,332
b Response to Request for Information (8)	1	6	1	6		4	4	2	8						\$7,252
c Review of O&M Manuals (8)		2		2			4	2	8	12					\$4,987
d Construction Contract Administration	4	40							60	24					\$21,577
e Review of Pay Estimates (13)		12							14						\$4,634
f Prepare Record Drawings	1	2							6		12	8			\$5,224
TOTAL HOURS	10	202	1	29	0	27	25	10	220	109	12	8	0	22	\$122,199
AECOM BASIC SERVICES LABOR EXPENSE TOTALS	\$3,699.07	\$45,881.47	\$275	\$7,434	\$0	\$7,447	\$6,652	\$2,239	\$29,982	\$12,874	\$2,336	\$1,246	\$0	\$2,134	
														Check	\$122,199
NON-LABOR															
Copies, Prints & Couriers															\$1,000
Travel (Ground Transport, Parking, Meals,etc)															\$3,000
AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL															\$4,000
AECOM BASIC SERVICES EXPENSE TOTAL															\$126,199
BASIC SUBCONTRACTOR SERVICES AND MARKUP															
SUBCONTRACTOR				Subcontract Amount					Subcontract Markup						Subcontract Expense
TSI Laboratories - Construction Materials Testing (See attached for Detail)				\$9,743					\$487						\$10,230
SUBCONTRACTOR BASIC SERVICES TOTALS															\$10,230
TOTAL BASIC CONSTRUCTION PHASE SERVICES WORK PLAN															
															\$136,430

Exhibit B – Construction Materials Testing Proposal

TSI LABORATORIES, INC.
TBPE Firm Registration No. F-9236



November 11, 2022

Vinoth Manoharan
AECOM
19219 Katy Freeway Suite 100
Houston, TX 77094

Re: Construction Material Testing Proposal
Water Systems Plant Improvements
628 W George St.
Port Lavaca, TX 77979

Proposal No.: PV-211312

Mr. Manoharan,

TSI Laboratories, Inc. (TSI) is pleased to submit our Construction Material Testing (CMT) **Proposal** for inspection services for the above referenced project.

TSI has been in business for over 26 years. Our technicians have acquired various state certifications and licenses. Our certifications allow us to test soils, concrete, asphalt, and steel materials. TSI conducts all testing of materials in accordance with state, TxDOT, U.S. Army Corps of Engineers, ASTM and National Standards. Our laboratories have accurate and calibrated state-of-the-art testing equipment. **TSI is currently accredited through the U.S. Army Corps of Engineers.**

PROJECT INFORMATION

The project consists of the construction of a new booster pump building area for a WSP. The project is located in Port Lavaca, TX.

SCOPE OF SERVICES

TSI's experienced and certified technicians will conduct all inspections and testing services for this project to verify strict compliance to project plans and specifications or as requested by project engineers or architects.

This proposal should be reviewed by all design professionals prior to starting this project. If the proposed work is deemed inaccurate, we will be happy to revise the proposal to meet the necessary requirements.

SCHEDULING

TSI Technicians will perform inspections and testing on a "per request" basis. The client will need to call to schedule all inspections and testing services with a minimum of 24 hrs. notice.

If 24 hr. advance notice is not given, we will send the next available technician, this can cause delays and, in some cases, make it impossible to fulfill the task.

All scheduling should be done through the Victoria, Texas office by calling and speaking with dispatch at 361-578-6933. Technicians DO NOT schedule inspections or testing.

REPORTING

TSI Technicians are responsible for making sure that all work performed is within project specifications and completely daily reports on each project. Any work not meeting specifications will be reported to the site superintendent immediately, as well as our Project Manager.

TSI Project Manager will review all technicians' daily reports and communicate with the client regarding results in a timely manner.

REPORT DELIVERY

TSI Technicians and/or Project Managers will report failing tests or non-compliance items immediately to the appropriate personnel noted on the project sheet. All reports are submitted digitally. Timeframes for lab reports vary. Digitally signed reports are generally sent within two (2) business days of test completion to all parties designated on the project sheet.

COMPENSATION

Based on the information you provided the total cost for our testing services is estimated at **\$9,743.00**. A breakdown of this estimate is provided under "Estimated Cost and Quantities". Many factors that are beyond our control can have an effect on the final charges such as weather, contractors schedule, cancelled or failed tests or additional requested testing. If there are any changes or additions, the cost will be adjusted accordingly. This estimate is based on anticipated quantities and work schedules as per project plans provided to TSI by the client. Actual cost will be based on the actual number of tests performed, trips and hours required to perform said testing. If paying with a credit card, a small processing fee will be added to total payment.

Technician time will be charged portal to portal from the closest TSI location (a minimum of 3 hours per call out). Normal work hours are 8am to 5pm, Monday thru Friday. Work performed before or after those hours will be charged at the overtime rate which is 1.5 times the regular technician rate. Technician time will be charged for sample pick up (a minimum of two (2) hours per pick up). Project manager time will be billed for report review at 0.5 hours per report issued (minimum charge of one (1) hour per monthly invoice).

Administrative charges will be billed at 0.5 hours per report prepared (minimum of one (1) hour per monthly invoice). Charges for failed tests and cancellations after technician is in route or has arrived to project will result in additional charges. A minimum of three (3) density tests will be charged per call out for compaction testing. Special permits, certifications or training required for the technician to access the job site will be billed to the customer at cost plus 15%.

ALLOCATION OF RISK

The total cumulative liability of TSI, its officers, employees, and agents, to the client arising from Services under this agreement, including attorney's fees due under this Agreement, will not exceed the gross compensation received by TSI under this Agreement; provided, however, that such liability is further limited as described below. This limitation applies to all lawsuits, claims, or actions that allege errors or omission in TSI's Services, whether alleged to arise in tort, contract, warranty, or other legal theory.

INDEMNIFICATION

Subject to the provisions and limitations of this Agreement, TSI agrees to indemnify and hold harmless the Client against any and all claims, suits, liabilities, damages, expenses (including without limitation reasonable attorney's fees and costs of defense), or other losses to the extent caused by TSI's negligent performance of its Services under this Agreement.

The client agrees to indemnify and hold harmless TSI against any and all claims, suits, liabilities, damages, expenses (including without limitation reasonable attorney's fees and costs of defense), or other losses to the extent caused by the negligence of the Client.

AUTHORIZATION

Acceptance of this proposal and all contained within it shall be provided by signing the attached signature page and returning the entire proposal along with the project sheet. Services will begin according to the schedule provided by the client. This proposal shall constitute the terms and conditions of the services to be provided by TSI.

This proposal is valid for a period of three (3) months from above date. Our regular hours of operation are Monday thru Friday 8AM to 5PM. If there are any questions, please call us at (361)578-6933.

Respectfully
Submitted,



Erlinda L. Aguillon
Estimator, TSI Laboratories, Inc.

This proposal is accepted in accordance with
the TSI Laboratories, Inc. prices, terms (due
upon receipt) and conditions listed.

Firm: _____

Authorized Representative:

Sign: _____

Print: _____

Date: _____

ESTIMATED COST AND QUANTITIES

No.	Item Description	Unit	Qty.	Unit Cost	Total Cost
1 Building Soil					
1.1	Proctor	No.	1	\$155.00	\$155.00
1.2	PI	No.	1	\$60.00	\$60.00
1.3	-200	No.	1	\$35.00	\$35.00
1.4	Density	No.	30	\$20.00	\$600.00
1.5	Technician Time	Hrs.	30	\$45.00	\$1,350.00
1.6	Trips	Hrs.	8	\$35.00	<u>\$280.00</u>
				Subtotal	\$2,480.00
2 Building Slab					
2.1	Cylinders (2 set x 4 per set)	No.	8	\$16.50	\$132.00
2.2	Technician Time	No.	15	\$45.00	\$675.00
2.3	Trips	Hrs.	3	\$35.00	<u>\$105.00</u>
				Subtotal	\$912.00
3 Building Roof					
3.1	Cylinders (1 set x 6 per set)	No.	6	\$16.50	\$99.00
3.2	Oven Dry Unit Weights	No.	2	\$25.00	\$50.00
3.3	Technician Time incl. Concr./Rebar Insp.	No.	8	\$45.00	\$360.00
3.4	Trips	Hrs.	2	\$35.00	<u>\$70.00</u>
				Subtotal	\$579.00
4 Concrete Supports					
4.1	Cylinders (2 set x 4 per set)	No.	8	\$16.50	\$132.00
4.2	Technician Time incl. Concr./Rebar Insp.	No.	12	\$45.00	\$540.00
4.3	Trips	Hrs.	3	\$35.00	<u>\$105.00</u>
				Subtotal	\$777.00
5 Masonry					
5.1	CMU Blocks (1 sets x 3 per set)	Sets	1	\$175.00	\$175.00
5.2	Mortar Cubes (6 sets x 6 per set)	No.	36	\$20.00	\$720.00
5.3	Grout Prisms (6 sets x 4 per set)	No.	24	\$30.00	\$720.00
5.4	Tech Time	Hrs.	50	\$45.00	\$2,250.00
5.5	Trips	No.	10	\$35.00	<u>\$350.00</u>
				Subtotal	\$4,215.00
6 Administration					
6.1	Project Engineer	Hrs.	3	\$135.00	\$405.00
6.2	Project Manager	Hrs.	3	\$85.00	\$255.00
6.3	Clerical	Hrs.	3	\$40.00	<u>\$120.00</u>
				Subtotal	\$780.00
Total estimated cost					\$9,743.00

**** Estimated cost is based on estimated number of tests needed, also time and trips required to perform said testing. Actual cost will be based on the actual number of tests performed, trips and hours required to perform said testing.****