

## ATTACHMENT #6



CONTRACT DOCUMENTS  
For

# EAST END WATER TREATMENT PLANT FABRICATION AND INSTALLATION OF SEDIMENT TANK

## U.S. EMBASSY BAGHDAD, IRAQ

13 August 2012

### Statement of Work

#### Specification Sections

01521 Cnstr. Sfty and Occpnl. Hlth  
01523 Confined Space  
05515 - Metal Ladders  
05500 - Metal Fabrication.  
09912- Painting.  
15050 - Basic mechanical materials and methods.  
15110 - Valves.  
15140 - Domestic water piping.

#### Drawings

T1	Title Sheet
A0	Plan view
A1	North view
A2	Top view
A3	West view
A4	East view
A5	Tank Isometric
A6	Section
A7	Details



**STATEMENT of WORK**

**GENERAL CONSTRUCTION SERVICES  
EAST END WATER TREATMENT PLANT  
FABRICATION AND INSTALLATION OF  
SEDIMENT TANK**

**U.S. EMBASSY  
BAGHDAD, IRAQ**

13 August 2012

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Attachments:

Specification Sections

- 15050 - Basic mechanical materials and methods.
- 15110 - Valves.
- 15140 - Domestic water piping.
- 05515 - Metal Ladders.
- 05500 - Metal Fabrication.
- 09912 - Painting.

Drawings

- T1 Title Sheet
- A0 Plan view
- A1 North view
- A2 Top view
- A3 West view
- A4 East view
- A5 Tank Isometric
- A6 Section
- A7 Details

## 1. Project Description

### 1.1 Project Synopsis

- A. The project will provide a sediment tank at the East End water treatment plant on the Embassy Compound. Project includes the full mechanical hook up of the new unit to the existing system, in the East End water treatment plant building.

### 1.2 BACKGROUND

- A. At present there is no sedimentation tank in the East End water treatment plant using the water from well #3.

### 1.3 SOLUTION

- A. Obtain the services of a contractor to fabricate and install a sedimentation tank in the East End water treatment plant, connecting it to the existing water distribution system.

## 2. GENERAL CONDITIONS

- 2.1 Fixed-Price Proposal. The Contractor shall provide one fixed-priced Proposal for the complete Project that includes every aspect of the Work.
- 2.2 Specifications.
  - 2.2.1 The Work shall be governed by the latest edition of the following:
    - 2.2.1.1 Attached specification sections
    - 2.2.1.2 United States Department of State Overseas Buildings Operations Embassy Compound, Baghdad, Iraq Master Specifications
    - 2.2.1.3 International Building Code
    - 2.2.1.4 International Mechanical Code
    - 2.2.1.5 International Plumbing Code
  - 2.2.2 Should there be a discrepancy between any of the items noted above, the more stringent shall govern.
  - 2.2.3 The Contractor is responsible for compliance with all Building Codes; Work not in compliance with the Codes shall be deemed to be unacceptable.
- 2.3 Execution. The Work shall be executed in a diligent and workmanlike manner in accordance with the negotiated fixed-price, this Scope of Work, the Project Schedule, Codes and references noted above, and the laws of the City of Baghdad.
- 2.4 Work Hours. Unless otherwise agreed with Facilities Management, the Work shall be executed during normal Embassy work hours. Night, weekend or holiday work shall not be permitted except as arranged in advance with Facilities Management. Embassy holiday schedule is available from Facilities Management.
- 2.5 Safety.
  - 2.5.1 The Contractor shall be responsible for conducting the work in a manner that ensures the safety of residents, employees and visitors to the Embassy, and the Contractor's employees.
  - 2.5.2 The Contractor is required to comply with the Construction Safety and Occupational Health Regulations of OBO Specification Section 01521 and the US Army Corps of Engineers Safety and Health requirements Manual. (EM385).

- 2.6 Workforce.
- 2.6.1 The contractor shall provide all supervision, skilled and unskilled labor needed to perform the work. The Contractor shall provide all skilled and unskilled labor needed to perform the Work.
- 2.6.2 In order to comply with the Embassy's minimum escort ratio requirement of one (1) escort to four (4) workers, the Contractor will have on his staff an employee(s) with an RSO vetted "Escort" Badge.
- 2.6.3 If the Contractor has no staff with an Escort Badge the Contractor will have 10 days from award to submit the required paperwork. The RSO vetting process could take up to 30 days and must be shown on the Contractors Project Schedule.
- 2.6.4 Information for all non-badged staff must be submitted to the COR for processing to allow the workers access to the NEC. This list must be resubmitted every 30 days or when modified.
- 2.6.5 If escorts are needed prior to being vetted by the RSO the Contractor may submit a request to the COR for government furnished escorts. The COR will schedule temporary escorts ONLY if they are available and the request must be submitted at least 48 hours in advance of the preferred date.
- 2.7 Subcontractors. Contractor shall be responsible for the conduct and workmanship of Subcontractors engaged in the Project, and for Subcontractors compliance with the terms of this Statement of Work. The Contractor is responsible for the behavior and workmanship of Subcontractors while on Embassy property.
- 2.8 Modification to Contract. The Contractor shall not incur any costs beyond those described in this SOW unless directed otherwise in writing by the Contracting Officer. Any work performed by the Contractor beyond this SOW without written direction from the Contracting Officer will be at the Contractor's own risk and at no cost to the Embassy.
- 2.9 Stop Work. At any time during the Project, the Contracting Officer reserves the right to Stop Work for protection of employees or visitors, security, or any other reason at his/her discretion.

- 2.10 Construction Cost Breakdown. The Government provided "Construction Cost Breakdown" is for bid comparison only, and the contractor is responsible to field measure and to quantify the required materials and tasks as to complete the job.
- 2.11 Submittals. The contractor is responsible to submit shop drawings prior to fabrication and release of any materials for the FAC Engineer's review and approval. The Engineer's review, however, does not relieve of the contractor's responsibility for the engineering work as to provide a complete working system.
- 2.12 Excavation and Utilities. The contractor is responsible to locate all existing utility lines prior to any excavation. Prior to disconnecting any existing utility services, the contractor is responsible to provide 48-hour advance notice to the COR.
- 2.13 Close-out. Prior to final acceptance, the contractor is to submit to the Engineer marked up drawings (As-Builts) reflecting the work as constructed. The drawings shall be digitally submitted on a CD-ROM in both AutoCAD and PDF format.
- 2.14 Housekeeping. The contractor is responsible to clean up daily after working hours. The Contractor is also responsible for Final Cleaning of the area, ready for use by the Government.

**3. BID FORM - CONSTRUCTION COST BREAKDOWN**

No	Descriptions	Unit	Qty	Unit Price /IQD	Total Price /IQD
1	Administration				
A	Mobilization / Demobilization	LS	1		
B	Submittals – product data & shop drawings	LS	1		
	Administration			Sub-Total	
2	Construction Work				
A	Fabrication of the tank	LS	1		
B	Purchase 6" steel gate valve	Pcs	5		
C	Connect the new tank to the existing pipes	LS	1		
D	Close-out	LS	1		
	Construction			Sub-Total	
3	DBA Insurance				
A	Contractor shall cover each of its workers at the site with DBA Workers' Compensation coverage, and require its subcontractors to do the same. Contractor must furnish certificate evidencing this coverage to Engineer prior to starting work.	LS	1		
	DBA Insurance			Sub-Total	
	Items 1 thru 3			Sub-Total	
				G & A	
				Sub-Total	
				Profit	
4	Basic Bid -			Contract Cost	
A	Bid -			Contract Cost <b>IQD</b>	

#### 4. SCOPE OF WORK

##### 4.1.

- A. Within 5 days of Notice to Proceed, the contractor shall provide to the COR a project schedule showing start to completion.
- B. Within 10 days of NTP, the Contractor shall provide to the COR details of the proposed installation utilizing written description or sketches or both.
- C. The contractor is responsible to dispose of the construction debris outside of the IZ. Include.
- D. The contractor is responsible to properly layout and prepare for the sedimentation tank installation based on location provided by FAC.
- E. The contractor shall make sure that all the legs of the tank will have a steel plate ending leveled to the existing concrete floor.
- F. The contractor must fulfill the work within Embassy expectations.
- G. When pursuing the work, the contractor is to take extra care as not to damage existing structure.

##### 4.2. Fabrication and Assembly: 05500 Metal Fabrications

###### FABRICATION, GENERAL

- A. Tank must be made from Carbon Steel sheets ASTM A36, 10mm, joints must be double-welded butt using SMAW, as per ASME Section IX. Exterior/interior surfaces will be tool cleaned, primed and finished with epoxy paint, matching existing tank color.
- B. Tank dimensions and layout are as shown in the AutoCAD drawings.

- C. The tank will have four internal chambers. The inlet chamber contains three baffles, to reduce inlet water flow velocity. See details in drawing 2/A7. The following two side chambers contain one longitudinal baffle to achieve laminar flow, see details in drawing 1/A7. The outlet chamber promotes sedimentation of sand, dirt, debris and other heavier materials. All tank's chambers will be have funnel shaped bottom, to allow sediment collection and facilitate the periodic cleaning procedure. Each chamber have typical ladder to the bottom of the tank. 18mm steel bar, 3mm weld to tank wall 250x150mm rungs, 250mm on center. Typical of four.
- D. The tank's support structure will allow even weight distribution to the floor. The steel column HEA 100 support structure ended with 200x200x10mm bearing plates anchor to floor with two lag screws in nylon anchors, typical of 14. A 100x100x7mm L angle support for piping, see drawing 1/A1 The top base will be of 100x100x7mm steel angle. A diagonal will be 100x100x7mm steel angle all around typical of two as shown in drawing 1/A3. All elements will be double-welded butt (SMAW) together, then steel-brush cleaned and epoxy painted.
- E. The tank topped with 18mm square steel tube grate. 100mmOC. typical full top cover. 40x40x10mm steel angle, typical at perimeter of each tank. A hinged covers in four locations as shown in drawing 1/A2. A railing of 40mm galvanized steel pipe as shown in drawing 1/A1, 1/A3.
- F. Shop Assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
- G. Shear and punch metals cleanly and accurately. Remove burrs.
- H. Ease exposed edges to a radius of approximately 1 mm, unless otherwise indicated. Form bent-metal corners to

smallest radius possible without causing grain separation or otherwise impairing work.

- I. Weld corners and seams continuously to comply with the following:
  1. Use AWS D1.3 as a welding guideline code.
  2. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
  3. Obtain fusion without undercut or overlap.
  4. Remove welding flux immediately.
  5. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- J. Provide a vertical Galvanized Sch.40 steel pipe ladder section 05515-Metal ladders. Consist of side rails: 25mm diameter galvanized Sch.40 steel pipe, rungs: 18mm diameter galvanized Sch.40 steel pipe. 3mm fillet weld all joints as shown in the drawings.
- K. Sketches are for concept only. All shop drawings shall be prepared by certified U.S structural P.E.
- L. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items. When screws/bolts are anchoring piping to the tank rubber washers must be included to avoid water leaks.
- M. Fabricate joints that will be exposed to weather in a manner to exclude water, or provide weep holes where water may accumulate.
- N. Field Welding: Comply with the following requirements:
  1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
  2. Obtain fusion without undercut or overlap.
  3. Remove welding flux immediately.

4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
  - O. Corrosion Protection: Coat concealed surfaces of aluminum that will come into contact with grout, concrete, masonry, wood, or dissimilar metals with a heavy coat of bituminous paint.
  - P. Connect the new tank with the existing pipe by 75mm PVC Elbow, as shown in the drawing 1/A0.
  - Q. All water piping connected to the tank must be PVC SDR-17 (or SCH#40 equivalent) in the diameter specified in the drawing.
  - R. Contractor must furnish a set of class 150 carbon steel flanged Gate valves and install them according to the locations shown in the drawings.
- 4.3. Finishes: 09912 Painting
- A. Paint is dark blue.
  - B. All field welds are to be wire brushed, primed and painted.
  - C. All areas of exposed metal are to have one coat primer and two coats final paint.
  - D. Provide an additional top coat of paint following welding operation to provide a clean finished product.
  - E. Beams and columns are to be cleaned prior to acceptance.
  - F. Contractor to provide 5 gallons (20 liters) of paint as attic stock upon completion

#### ADJUSTING AND CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop

painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

B. Apply by brush or spray to provide a minimum 0.05-mm dry film thickness.

c. Touchup Painting: Cleaning and touchup painting of field welds, bolted connections, and abraded areas.

#### 4.4. Closeout

A. At completion of work, the Contractor shall clean any impacted areas to a condition equal to original condition.

B. All shipping materials and construction debris are to be disposed of in a legal manner outside of the IZ.

C. Prior to Final Acceptance the Contractor shall submit to the Contracting Officer Representative marked up drawings (As-Built) reflecting the work as constructed. The drawings shall be digitally submitted on a CD-ROM in both AutoCAD and PDF format.

**5. DELIVERABLES –SEE SECTION F.11**

**6. PROJECT SCHEDULE-RESERVED**

## 7. RESPONSIBILITIES AND PROJECT MANAGEMENT

- 7.1 COR. A Contracting Officers Representative (COR) will be assigned to ensure quality assurance goals are met. The Contractor shall provide the COR access to the site at all times.
- 7.2 Point of Contact (POC). The COR shall be the main point of contact for this Project. The Contractor shall report to the COR on (a) status of the Project, (b) changes in Schedule, (c) accidents and safety issues, (d) disruptions to elevator or utility services; and all other important information pertaining to the Project
- 7.3 English Speaking Representative. The Contractor shall provide an English-speaking representative on-site during all working hours with the authority to make all decisions on behalf of the Contractor and subcontractors.
- 7.4 Management Personnel. The Contractor shall staff the site, full-time, with a competent senior manager who shall perform project management. Remote project management is not an option. This individual shall keep a detailed photographic and written history of the project and shall update the Government weekly.
- 7.5 Site Security. The Contractor is responsible for on-site security as necessary to ensure no unauthorized access to their work sites. The Contractor is 100% responsible for securing their working materials and equipment. Any damage to facilities or infrastructure, which happens due to a lack of security, will be the responsibility of the Contractor to correct.
- 7.6 Contractor's Temporary Work Center. The Contractor will be permitted to use a designated area within the contract limits for operation of his construction equipment and office if warranted. If directed by the Contracting Officer, the Contractor shall not receive additional compensation to relocate his operations. The Contractor is responsible for obtaining any required additional mobilization area above that designated. On completion of the contract, all facilities shall be removed from the mobilization area within 5 days of final acceptance by the Contractor and shall be disposed of in accordance with applicable host government laws and regulations. The site shall be cleared of construction debris

and other materials and the area restored to its final grade. The Contractor is responsible for maintaining this area in a clear orderly manner.

#### 7.7 Health and Safety.

- A. The Contractor shall be solely responsible for risk assessments, managing health, and safety issues associated with this project. The Contractor must provide cold water to all workers at the job sites. Based on hazard assessments, Contractors shall provide or afford each affected employee personal protective equipment (PPE) that will protect the employee from hazards. At a minimum PPE shall consist of eye protection, hard hats, and closed toe shoes.
- B. If the workers arrive on-site with sandals or athletic shoes, the Contractor is expected to provide rubber boots to them or send them home. All construction workers and management personnel must wear hard hats at all times on the construction sites. Contractor provided rubber boots and rubber gloves shall be worn when working around concrete placement. Other PPE such as gloves, dust masks, air respirators (sewage work) are also recommended. These items must be provided at the Contractor's expense. Workers may use discretion if they feel unsafe in using the equipment in a hostile environment. Any worker at an elevated location above 4 meters, with the exception of a portable ladder, must be provided and utilize a safety harness.
- C. The Contractor must adhere to the Construction Safety and Occupational Health Regulations of OBO Specification Section 01521.

#### 7.8 The Contractor must adhere to OSHA 3120, Control of Hazardous Energy (Lockout/Tagout)

#### 7.9 Confined Spaces.

- A. Work conducted in confined spaces must have a written permit issued by the POSHO. Confined space is any area limited in dimension or ventilation with restricted means of entry or exit. Identify with the COR any spaces which may be subject to permit.
- B. Permit-required confined spaces include sewers, electrical vaults, utility tunnels, sump pits, mechanical rooms, tanks,



pits, excavations deeper than 1200 mm, as well as other types of enclosures. Any space that is accessed by lifting a manhole cover is a permit-required confined space. COR will provide forms for the permit. Contractor is responsible to identify activity in confined space and to apply for the OSHA permit prior to initiating work.

- 7.10 Progress Payments. If the contract awarded expects to receive more than one (1) progress payment, the Contractor must submit a broken out Cost Proposal with a Schedule of Values in order to properly calculate the percentage of contract completion.