CITY OF TAMPA

Pam Iorio, Mayor

CONTRACT ADMINISTRATION DEPARTMENT

David L. Vaughn, AIA, Director

ADDENDUM NO. 1
DATE: August 19, 2009

Project: Howard F. Curren AWTP Sludge Digester No. 1 Rehabilitation

Contract No. 09-C-00025

Bidders on the above referenced project are hereby notified that the following addendum is made to the Contract Documents. BIDS TO BE SUBMITTED SHALL CONFORM TO THIS NOTICE.

Item 1: Change, on page 1-1a, in Section 1-1.04 Time for Completion of the Specifications, the time for completion to 210 consecutive calendar days.

Item 2: Change Note G-15 on Sheet 3 of the Plans to read: The Contractor shall excavate down to approximate elevation -5.00 on the Southeast quadrant outside of the sludge digester in order to install proposed 42" access port. Contractor shall perform this work in full accordance with federal, state and local government's safety regulations. See Details and Notes on Sheet 13 for further instructions.

Item 3: Change the note referencing 42" access hatch in lower right corner of Sheet 4 of Plans to read: Proposed 42" access hatch (required). See details, sheet 13.

Item 4: Change the note referencing 42" access hatch in lower right corner of Sheet 6 of Plans to read: Proposed 42" access hatch (required). See details, sheet 13. (Not shown in true projection).

Item 5: Change the first sentence of Note 1 on Sheet 13 of the Plans to read: The proposed access opening detailed on this sheet is required.

Item 6: Replace existing Section W-9401 of the Specifications with the attached revised Section W-9401.

Item 7: Add the following sentence to the end of Note G-7 on Sheet 3 of the Plans:
Please refer to Section W-9400 (Metal Surfaces Preparation and Coatings) of the Contract Specifications for further instructions.

Item 8: Add the following sentence to the end of Note G-8 on Sheet 3 of the Plans:
Please refer to Section W-9401 (Concrete Surfaces Preparation and Coatings) of the Contract Specifications for further instructions.

Item 9. Change the first sentence of Note G-10 on Sheet 3 of the Plans to read: Existing 2" sludge mixing gas piping within the digester shall be replaced with 2" Schedule 40 seamless Type 304L Stainless Steel piping with welded-on flanges at all joints and fittings.

Item 10: Replace Note G-16 on Sheet 3 of the plans with the following: Contractor shall clean and prepare all internal concrete wall surfaces of the digester (approx. 6,300 sq. ft.) and apply a 150 mil coating in accordance with the Specifications and the manufacturer's recommendations.

Item 11: Change on Sheet 10 of the Plans, the note referencing the 2" Gas Mixing Pipe in the upper left section of Proposed Digester No.1 Gas-Mixing Tube Assembly detail to read: Existing 2" gas mixing pipe - replace existing steel pipe with 2" schedule 40 seamless Type 304L Stainless Steel piping with welded-on flanges at all joints and fittings.

Item 12. Change the note on Sheet 10 of the Plans referencing the Gas Lance in the upper left section of Proposed Gas Mixing Tube Assembly Detail to read: Replace existing steel lance with 2" Schedule 40 seamless Type 304L Stainless Steel lance (typ. of 2 at each mixing tube).

306 E. Jackson Street, 4N • Tampa, Florida 33602 • (813) 274-8456 • FAX: (813) 274-8080

TampaGov
www.tampagov.net

Item 13: Change the note on Sheet 10 of the Plans referencing the Gas Lance in the lower left section of Section A-A to read: Two-inch Schedule 40 seamless Type 304L Stainless Steel gas lance; Qty. (2) typ. 180° apart.

Item 14: Add the following Note G-19 to the General Notes on Sheet 3 of the Plans:
Prior to jacking-up the digester cover, the Contractor shall install scaffolding within the digester in order to provide access to existing trusses, and shall clean the truss work as indicated in the Specifications. The Contractor shall coordinate with the Engineer inspection of all trusses for suitability of withstanding jacking loads. Contractor may opt to install scaffolding and perform cleaning and inspection in two or three phases rather than all at once.

Item 15: Add the following Note G-20 to the General Notes on Sheet 3 of the Plans:
The Contractor is expected to perform all work during normal daytime working hours, Monday thru Friday. Contractor is responsible for dehumidifying interior of digester prior to, and during, application of various coatings in order to effect a proper surface for applying the coatings in accordance with the manufacturer's recommendations. Contractor is responsible for providing compatible systems for stopping any water infiltration through the wall, surfacing coat and finish coat. All electrical power required to dehumidify digester interior shall be provided by the Contractor.

Item 16: Add the following Note G-21 to the General Notes on Sheet 3 of the Plans:
Concrete ballast blocks attached to digester cover shall remain in place. Contractor shall clean and paint steel surface areas around and behind blocks as thoroughly as practicable.

Item 17: Add the following Note G-22 to the General Notes on Sheet 3 of the Plans:
Chains for plug valve chain wheel actuators shall be manufactured specifically for the associated chain wheels.

Item 18: Add the following Note G-23 to the General Notes on Sheet 3 of the Plans:
The Contractor should expect groundwater to come into the digester through the existing pressure relief valves in the floor, even while de-watering equipment is in place and running. Contractor will need to control the water level in the digester by pumping out of the sump at the center of the digester floor and into a manhole, approximately 100-feet North of the Digester, which drains into the AWTP treatment system. Contractor is responsible for filtering out all construction/demolition materials and debris from water being pumped into the AWTP treatment system.

Item 19: Add the following Note G-24 to the General Notes on Sheet 3 of the Plans:
Only those concrete coating systems which meet the minimum physical standards and characteristics as indicated in the Specifications will be considered for approval. The minimum thickness for any approved system shall be 150 mils.

Item 20: Add the following Note G-25 to the General Notes on Sheet 3 of the Plans:
Piping with dissimilar metals shall be electrically insulated from each other by use of bakelite washers and plastic inserts in bolt holes at the transition joints.

Item 21: Add the following Note G-26 to the General Notes on Sheet 3 of the Plans:
For the Contractor's reference, the original coatings for the steel digester cover, when the cover was originally installed, was specified as the following (w/ dry film thickness (mils) in parentheses):

a) Exterior Surfaces, excluding skirt: 2-coats of Koppers Company Pug Primer (1.5 ea.); 2-coats of Koppers Company Glamortex Enamel No. 501 (1.4 ea.)
b) Interior and exterior surfaces in contact with sludge or gas, including entire skirt of cover: 2-coats of Koppers Company Epoxy Primer No. 654 (1.5 ea.); 2-coats of Koppers Bitumastic No. 300M (8.0 ea.)

Item 22: Add the following Note G-27 to the General Notes on Sheet 3 of the Plans:
The Contractor shall not cut out or otherwise remove any sections of the digester cover for additional access.

This addendum shall be included in and attached to the inside cover of the Contract Documents by and upon which bids are submitted.

All other provisions of the Contract Documents and Specifications not in conflict with this Addendum shall remain in full force and effect.

Questions are to be e-mailed to Contract Administration@tampagov.net.

for Jim Greiner, P.E., Contract Manager
Contract Administration Department

SECTION W-9401 (Revised) – CONCRETE SURFACES PREPARATION & COATING

W-9401.01 General

It is the intent of this specification to provide for the rehabilitation of the digester's existing interior concrete wall surfaces as shown on the drawings, specified and directed by the Engineer. The rehabilitation shall consist of a spray applied urethane resin, 100% solids epoxy system, polymorphic resin rehabilitation system or fiber-reinforced modified polyamine epoxy system as specified herein. All aspects of the rehabilitation shall be done in strict accordance to the manufacturer's instructions.

It is the Contractor's responsibility to comply with OSHA standards and all regulations pertaining to work in confined space entry.

W-9401.02 Submittals

Prior to the commencement of any rehabilitation work, the Contractor shall submit the following to the Engineer for approval:

1) A rehabilitation plan detailing the methods, materials and procedures proposed for the rehabilitation of digester's interior concrete wall surfaces.

2) Mortar and hydraulic cement mix designs detailing the compressive strengths, cement/water ratios, slump, etc.

3) Description of all the equipment to be used for the rehabilitation.

4) Safety plan describing all safety equipment to be utilized in compliance with OSHA standards pertaining to work in confined space entry.

W-9401.03 - Removing Debris From Digester Wall

The Contractor shall remove assorted coatings, biological growths, chemical precipitates and crumbling cementitious products that are loosely adhering to portions of the interior digester wall and dispose of the debris. The Contractor shall inspect the internal wall surfaces and determine the appropriate methods to remove loose debris from the wall. Work methods shall include pressure washing, scraping, hammering and other mechanical methods. The intent is to remove material that may detach from the wall when the digester is put back into service and lead to pipeline blockages or interfere with the sludge mixing and digestion processes. The Contractor shall demonstrate the effectiveness of the work methods to the Engineer. Any work method that results in damage to the sound concrete surfaces of the wall shall be stopped immediately and brought to the attention of the Engineer, at which time alternate methods shall be determined.

W-9401.04 Surface Preparation

Surface preparation shall be in strict accordance with the approved coating manufacturer's instructions. All surfaces to be coated shall be cleaned with a high pressure water spray (minimum 10,000 psi). The use of acid for cleaning purposes will not be allowed. All deteriorated concrete shall be removed from the wall in order to obtain a substrate suitable for the proposed coating system. All infiltration shall be stopped with hydraulic cement or other approved means before installation of the coating system. Any voids in the structure wall shall be sealed with hydraulic cement.

W-9401.05 Urethane Resin System

The sprayed applied urethane resin system shall be SprayWall as manufactured by Sprayroq, Inc, Birmingham, Alabama or equal. The finished urethane shall be resistant to sulfuric acid attack associated with domestic sewage. The urethane shall be manually sprayed onto the structures to provide a uniform smooth surface. The minimum finished thickness shall be as specified on the plans. The coating system shall be capable of being applied over wet surfaces without degrading the final product.

The existing digester wall shall be prepared for the application of the urethane system by cleaning and stoppage of infiltration as specified above. Prior to applying the urethane liner, the entire wall surface shall be patched and grouted to the extent needed to provide a smooth and even surface to which the liner will adhere.

The cured urethane system shall conform to the minimum physical standards, as listed below:

CURED URETHANE	STANDARD	LONG-TERM DATA
TENSILE STRENGTH	ASTM D-638	5,000 psi
FLEXURAL STRESS	ASTM D-790	10,000 psi
FLEXURAL MODULUS	ASTM D-790	550,000 psi

The Contractor shall provide certified independent, third party test results verifying the minimum physical properties listed above. The tests shall be in conformance with the ASTM specifications listed.

The finished liner shall be cured in strict accordance with the manufacturer's instructions.

W- 9401.06 Polymorphic Resin Systems

The sprayed applied Polymorphic Resin system shall be as manufactured by Integrated Environmental Technologies, Santa Barbara, California or equal. The Polymorphic Resin shall be a 100% solids, two component, highly modified isothalic polyester resin material. The finished resin shall be resistant to sulfuric acid attack associated with domestic sewage. The minimum finished thickness shall be as specified on the plans.

The existing digester wall shall be prepared for the application of the polymorphic resin system by cleaning and stoppage of infiltration as specified above. Prior to applying the resin liner, the entire wall surface shall be patched and grouted to the extent needed to provide a smooth and even surface to which the liner will adhere.

The cured resin system shall conform to the minimum physical standards, as listed below:

CURED RESIN	STANDARD	LONG-TERM DATA
TENSILE STRENGTH	ASTM D-638	4,900 psi
FLEXURAL STRESS	ASTM D-790	8,630 psi

The Contractor shall provide certified independent, third party test results verifying the minimum physical properties listed above. The tests shall be in conformance with the ASTM specifications listed.

The finished liner shall be cured in strict accordance with the manufacturer's instructions.

W-9401.07 Fiber-Reinforced Modified Polyamine Epoxy System

The sprayed applied polyamine resin system shall be Perma-Shield FR, Series 436 as manufactured by Tnemec Company, Inc, Kansas City, Missouri or equal. The finished polyamine epoxy shall be resistant to sulfuric acid attack associated with domestic sewage. The epoxy shall be manually sprayed onto the structures to provide a uniform smooth surface. The minimum finished thickness shall be as specified on the plans. The coating system shall be capable of being applied over wet surfaces without degrading the final product.

The existing digester wall shall be prepared for the application of the fiber reinforced modified polyamine system by cleaning and stoppage of infiltration as specified above. Prior to applying the modified polyamine liner, the entire wall surface shall be patched and grouted to the extent needed to provide a smooth and even surface to which the liner will adhere.

The cured fiber-reinforced modified polyamine system shall conform to the minimum physical standards, as listed below:

CURED RESIN	STANDARD	LONG-TERM DATA
TENSILE STRENGTH	ASTM D-638	2,507 psi
FLEXURAL STRESS	ASTM D-790	8,148 psi
FLEXURAL MODULUS	ASTM D-790	540,000 psi

The Contractor shall provide certified independent, third party test results verifying the minimum physical properties listed above. The tests shall be in conformance with the ASTM specifications listed.

The finished liner shall be cured in strict accordance with the manufacturer's instructions.

W-9401.08 Contractor Qualifications

The manufacturer and installer of the rehabilitation system shall be specialized in the design and installation of the rehabilitation system for at least 5 years. The installer shall be approved and certified in writing by the manufacturer and shall be completely trained in leak repair, surface preparation, and installation of the rehabilitation system. References shall be provided upon request to demonstrate that the installer has successfully used the rehabilitation system in Florida on a minimum of 5 projects, one of which must be at least 5 years old.

W-9401.09 Thickness Verification and Inspection

The Contractor shall provide a method of verifying the actual coating thickness installed to ensure it meets or exceeds the minimum values specified. The proposed liner thickness verification method shall be submitted to the Engineer for approval.

The Contractor may utilize a wet film thickness gage meeting ASTM D4414 to ensure monolithic coating and uniform thickness during application. A minimum of three readings per 200 square foot area shall be recorded. Documentation on thickness readings shall be conveyed to the Inspector on a daily basis when the coating application occurs.

All phases of the digester wall rehabilitation such as surface preparation, liner installation, annulus sealing, grouting, etc., will be inspected by the Department's Field Engineering personnel for conformance to the specifications, construction drawings, and liner manufacturer's instructions. The Contractor shall, therefore, coordinate his schedule for the installation of the structural coating system with the field office, and with due regard for site and weather conditions prevailing at the time.

The final surface shall be completely free of defects.

The Contractor shall inspect the rehabilitated digester wall utilizing closed circuit television 24 hours after coating system is complete. The intent of the inspection is to find any deficiencies to the finished liner. Contractor shall repair deficiencies within 1 week of notification. All television inspection videos to be provided to the City shall be in DVD format. One copy of the DVD shall become the property of the City.

W-9401.10 Spark Testing

The coating system shall be spark tested prior to acceptance. After the coating has set hard to touch, it shall be inspected with high-voltage holiday detection equipment. An induced holiday shall be made onto the coated concrete surface and will serve to determine the minimum/maximum voltage to be used to test the coating for holidays at that particular area. The spark tester shall be initially set at 100 volts per 1 mil (25 microns) of minimum specified (not average) film thickness applied but may be increased if it is insufficient to detect the induced holiday. All detected holidays shall be marked and repaired per the manufacturer's recommendations. All costs associated with the testing shall be born by the Contractor.

W-9401.11 Warranty

The Digester Wall Rehabilitation Contractor shall furnish the City of Tampa with an unconditional 5-year warranty for materials and workmanship. This warranty shall be a guarantee against failure for the warranty period. Failure shall be defined to occur if the rehabilitation system fails to:

1. Prevent the internal damage or corrosion of the structure.
2. Prevent groundwater infiltration.
3. Adhere to existing structure wall.

If any failures occur within the specified warranty period after final acceptance, the Contractor shall repair or restore the structure to its previously accepted state including all materials, labor, and at no additional cost to the City. Repair shall be completed within 30 days of written notification of the failure.

* * *