



CITY OF TAMPA

Bob Buckhorn, Mayor

CONTRACT ADMINISTRATION DEPARTMENT

Michael W. Chucran, Director

ADDENDUM NO. 3

DATE: February 15, 2017

Contract 16-C-00027; Ragan Park Restroom Improvements - Rebid

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: Drawings, Sheet Nos. C6 – Utility Plan and C7 – Utility Details: **CLARIFICATION** to scope of work related to existing East Lake Avenue Sanitary Manhole, and its required manhole lining which shall comply with the attached spec (see attached portion of City/Wastewater Department Specification Section 52 - Manhole Lining, page nos. W52-1 through W52-5) and drawing (see attached City/Wastewater Department, Sheet No. 28 – Miscellaneous Details); also, the invert will not need to be lined, and the required thickness of the liner shall be minimum 7 mils.

In addition, the East Lake Avenue Right-of-Way (ROW) cannot be continuously closed to two-way traffic during manhole related construction (work during the day shall maintain modified two-way traffic by providing appropriate signage, flagmen, etc.; also, appropriate signage, etc., shall be provided to re-open the street's two-lanes after each day time work period) and must be maintained and provided in accordance with the Contractor obtained/City issued MOT Permit.

Item 2: Drawings, Sheet No. C7 – Utility Details: **CLARIFICATION** that restoration of excavation within the East Lake Avenue roadway shall comply with the attached flexible pavement detail (see attached "Standard for Restoration within Roadway" [modified from FDOT Design Standards Index 307]; also, note that the 30" dimension shown on the detail for the depth of pipe is a minimum dimension and the actual depth will be governed by the invert of the force main into the manhole) and related FDOT Standard Specifications, as well as City of Tampa Pavement Restoration Requirements.

Item 3: Drawings, Sheet No. C8 – Lift Station Details: **CLARIFICATION** that a fiberglass wet well may be proposed as an acceptable alternative to the concrete wet well shown.

Item 4: Attached for reference is the pre-bid meeting sign-in sheet.

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.

Jim Greiner

Jim Greiner, P.E., Contract Management Supervisor

MANHOLE LINING

General

The manhole lining shall consist of a spray applied 100% solids epoxy system, or urethane resin 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.

Submittals

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

- 1) Mortar and hydraulic cement mix designs detailing the compressive strengths, cement/water ratios, slump, etc.
- 2) Written certification by the protective coating manufacturer stating that the proposed repair material is compatible and acceptable as a substrate for the protective coating to be applied.
- 3) Detailed method of complete containment of debris
- 4) Description of all the equipment to be used for the lining.
- 5) Safety plan describing all safety equipment to be utilized in compliance with OSHA standards pertaining to work in confined space entry.

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 5000 psi). The use of acid for cleaning purposes will not be allowed. All deteriorated concrete and loose or protruding brick and mortar shall be removed from the wall and benches in order to obtain a smooth and even substrate suitable for the proposed coating system. Surfaces shall be cleaned and abraded to produce a sound and uncontaminated surface with adequate profile and porosity to provide a strong bond between the proposed material and the substrate. All corroded materials shall be disposed of at an off-site location in accordance with all Federal, State, and local regulations. All infiltration shall be stopped with hydraulic cement or other approved means before installation of the coating system. Any voids in the manhole walls shall be sealed with hydraulic cement.

Repair materials shall be applied in strict accordance with the manufacturer's instructions and shall be finished as recommended by the protective coating manufacturer. At minimum, the repair material shall be troweled or brushed to provide a smooth surface with an average profile equivalent to coarse sandpaper to optimally receive the protective coating.

The Contractor shall install bulkheads or plugs in order to prevent extraneous material from entering the sewer lines.

Epoxy Coating System

The sprayed applied epoxy coating system shall be as manufactured by Raven Lining Systems, Broken Arrow, Oklahoma, or equal. The product shall be a 100% solids, solvent-free ultra high-build epoxy. The finished epoxy shall be resistant to sulfuric acid attack associated with domestic sewage. The epoxy shall be manually sprayed onto the structures or manholes to provide a uniform smooth and even surface.

The minimum finished thickness shall be as specified by City Wastewater Dept. The coating system shall be capable of being applied over wet surfaces without degrading the final product.

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

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

CURED EPOXY	STANDARD	LONG-TERM DATA
TENSILE STRENGTH	ASTM D-638	7,500 psi
FLEXURAL MODULUS	ASTM D-790	600,000 psi
FLEXURAL STRESS	ASTM D-790	13,000 psi
COMPRESSIVE STRENGTH	ASTM D-695	18,000 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.

Composite systems containing layers of different materials or cured-in-place resin systems that are inflated in the manholes will not be considered as equal.

Epoxy Paste (Fast Curing and Moisture Tolerant Coating)

The epoxy paste shall be a two-component moisture tolerant, high adhesive 100% solid strength epoxy paste. The epoxy paste shall be a Concrete Polymer Paste (CPP) as manufactured by EpoxyTec or approved equal. The coating shall be capable of curing underwater and shall be trowel applied up to 1.5-inches thick without sag.

Concrete surfaces shall be prepared for the application of the epoxy paste by cleaning and stoppage of infiltration as specified above. Prior to applying the epoxy paste, concrete surfaces shall be repaired to the extent needed to provide a smooth and even surface to which the liner will adhere.

The epoxy paste shall conform to the minimum physical standards, as listed below:

CURED RESIN	STANDARD	LONG-TERM DATA
TENSILE STRENGTH	ASTM D-638	8,900 psi
FLEXURAL STRESS	ASTM D-790	8,020 psi
FLEXURAL MODULUS	ASTM D-790	720,000 psi

The tensile bond to wet concrete shall be a minimum 525 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.

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 or manholes to provide a uniform smooth surface. The minimum finished thickness shall be as specified by the City Wastewater Dept. The coating system shall be capable of being applied over wet surfaces without degrading the final product.

The existing manhole 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 manhole surface and benches 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.

Composite systems containing layers of different materials or cured-in-place resin systems that are inflated in the manholes will not be considered as equal.

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 City Wastewater Dept 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 manhole lining such as surface preparation, bench reconstruction, liner installation, annulus sealing, grouting, curing, testing, 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 manhole shall be completely free of defects.

The Contractor shall inspect the lined manhole 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.

Spark Testing

The coating system shall be spark tested prior to acceptance. The holiday testing shall be in strict accordance with NACE SPO188. 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. Testing equipment shall be in good working condition and evidence of certified calibration within the last year shall be provided before the detection test equipment shall be used.

Warranty

The Manhole 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.

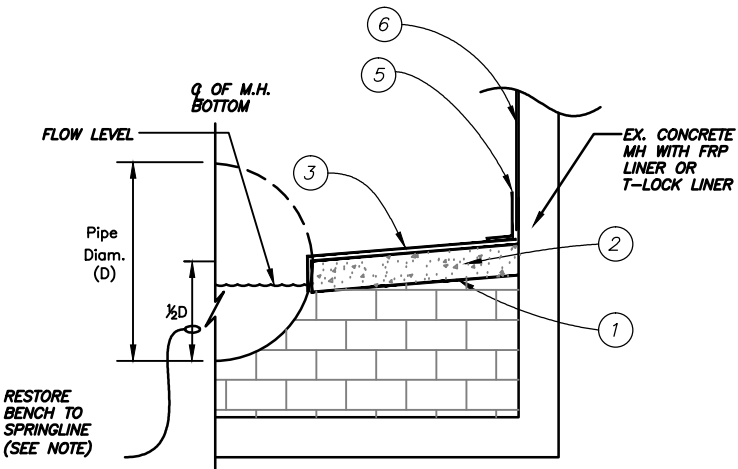
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User: ssh5 Drawing Name: K:\WasteWater Projects\FY16 Manhole Rehab\Design\DWG\DETAILS\MISCELLANEOUS DETAILS.dwg
Layout- Nov 07, 2016 - 12:23pm CTB - WW-TOSHIBA.CTB

NOTES

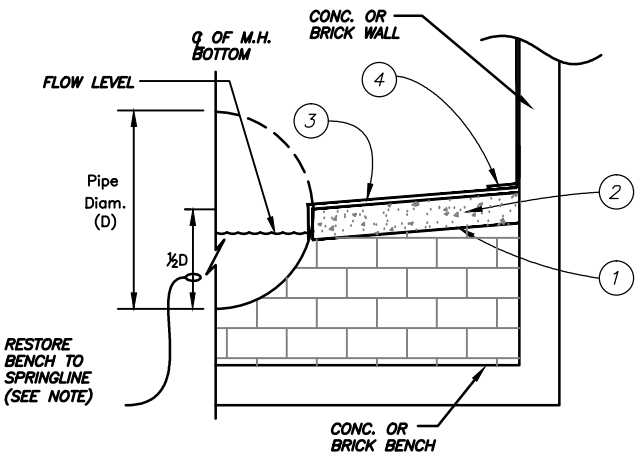
1. REMOVE ALL DEBRIS AND LOOSE BRICKS FROM THE TOP OF THE BENCH.
2. INSTALL A MINIMUM 1" THICK ACCELERATED HYDRAULIC CEMENT OVER EXISTING BENCH. ALLOW CEMENT TO CURE (MIN. 24 HRS. UNLESS OTHERWISE APPROVED BY THE ENGINEER).
3. OVERLAY BENCHES WITH PROPOSED COATING SYSTEM.
4. PROVIDE 6" COATING THICKNESS TRANSITION. PAYMENT FOR THIS ITEM IS INCLUDED IN THE MANHOLE REHABILITATION COST PER VERTICAL FOOT.
5. PROVIDE A 6" MIN. STRIP OF PROPOSED COATING SYSTEM ON BOTTOM EDGE OF FRP LINING OR PLASTIC T-LOCK LINING. REFER TO SHEET 2 FOR PROPOSED COATING THICKNESSES. SURFACE PREPARATION AND APPLICATION OF COATING SYSTEM SHALL BE DONE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS FOR INTERFACING WITH FRP LINERS. PAYMENT FOR THIS ITEM IS INCLUDED IN THE MANHOLE BENCH RESTORATION TYPE A ONLY.
6. CONTRACTOR SHALL PROTECT EXISTING INTEGRITY OF FRP LINER OR T-LOCK LINER THROUGHOUT MANHOLE.

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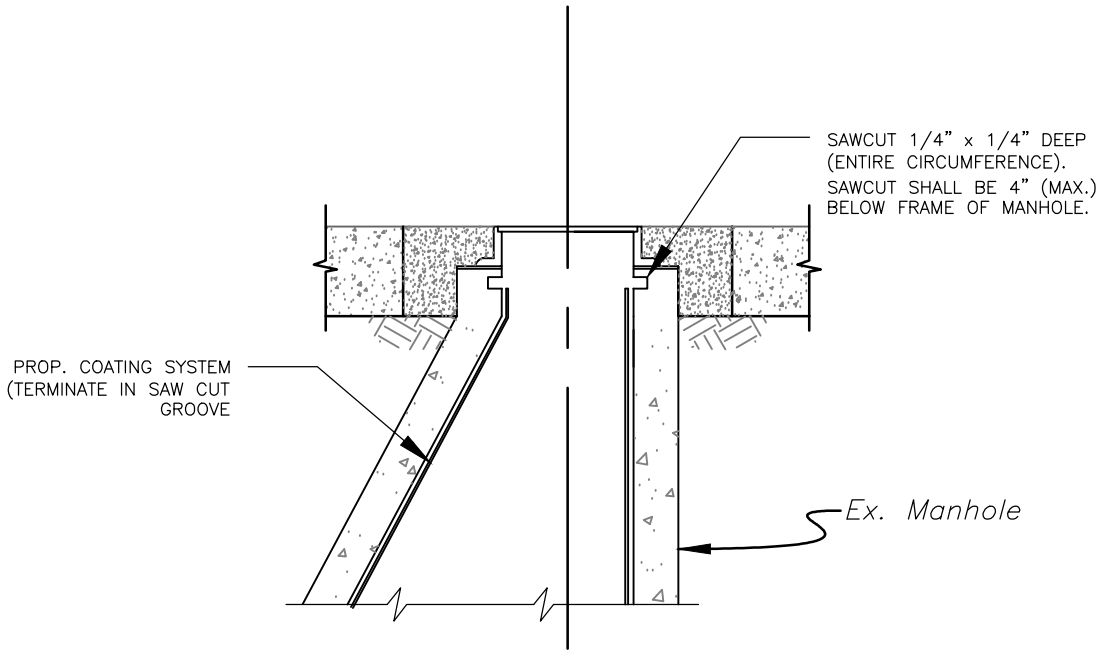
MANHOLE BENCH RESTORATION FOR LINED MANHOLES
NOT TO SCALE

(X) - SEE CORRESPONDING NOTES ABOVE



TYPICAL MANHOLE BENCH
RESTORATION DETAIL
NOT TO SCALE

(X) - SEE CORRESPONDING NOTES ABOVE



COATING TERMINATION DETAIL
NOT TO SCALE

JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

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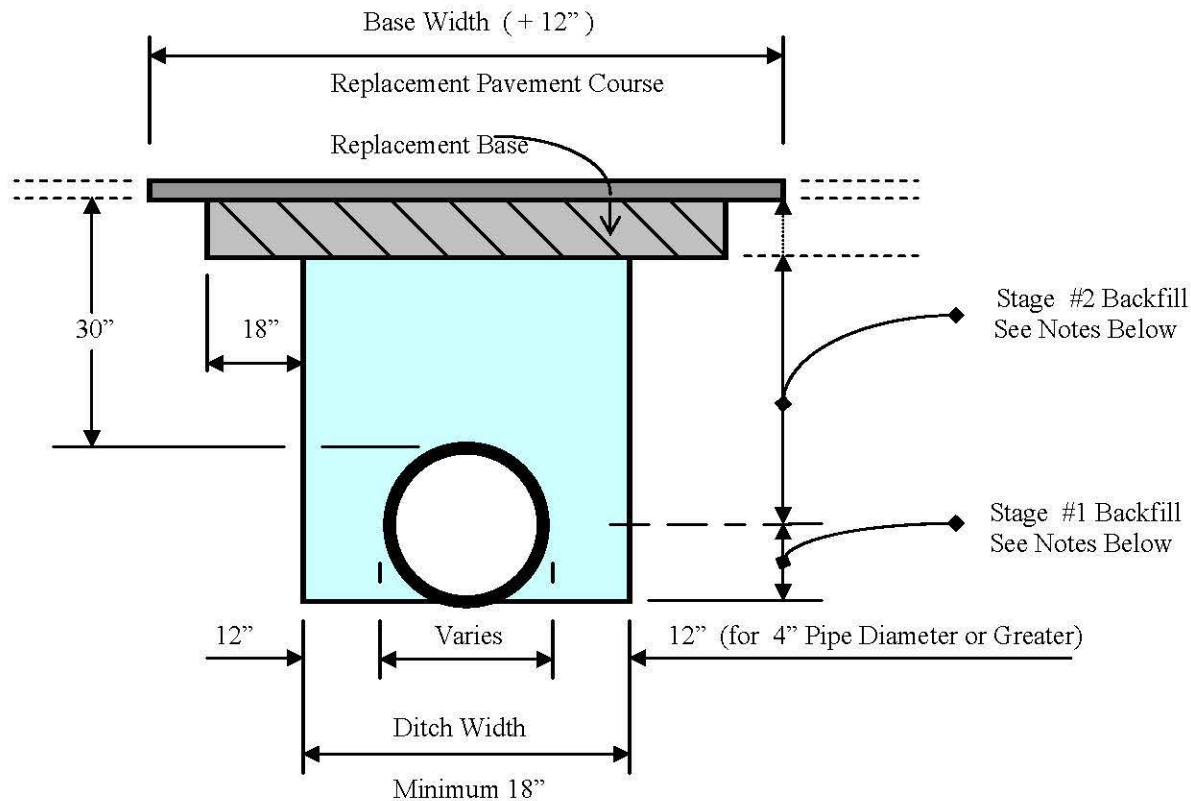
CITY of TAMPA
WASTEWATER DEPARTMENT

FY 2016 MANHOLE REHABILITATION
MISCELLANEOUS_DETAILS

W.O.1000509
SHEET
28
OF 29

STANDARD DETAILS FOR RESTORATION WITHIN ROADWAY

(Details Modified From FDOT Design Standards Index 307))



FLEXIBLE PAVEMENT NOTES:

Pavement shall be mechanically sawed.

Pavement, Base, and Backfill material shall be placed in accordance with **City of Tampa Pavement Restoration Requirements – 2009**

In Stage #1, construct compacted fill beneath the haunches of the pipe, using mechanical tamps suitable for this purpose. This compaction applies to the material placed beneath the haunches of the pipe and above any bedding.

In Stage # 2, construct compacted fill along sides of the pipe and up to the bottom of the base. Compact material using mechanical tamps suitable to achieve Density meeting 98% of AASHTO T-180, lifts not to exceed 12" compacted.

If mechanical compaction is difficult to achieve, then flowable fill may be used. In Stage #1, place flowable fill midway up on both sides of the utility. Allow to harden before placing Stage #2. If a method is provided to prevent floatation from occurring, Stage #1 and #2 can be combined, if approved by the Engineer.

Note: Specification Standards and Requirements not illustrated shall meet latest FDOT Standard Specifications.

CONTRACT 16-C-00027; RAGAN PARK RESTROOM IMPROVEMENTS - REBID - Pre-Bid Mtg. 1/7/2017; 2:00P.M.

E-Mail to Register as a Plan Holder and E-Mail All Questions to: ContractAdministration@tampagov.net

Sign-In Sheet ☐ Please Print

City of Tampa, Contract Administration Department

	Name	Organization	E-Mail OR Phone
1	Jim Greiner, PE	Tampa Contract Administration Dept.	Jim.Greiner@tampagov.net
2	Donna Pettis	Rex Farlow Const.	donna.pettis@gmail.com
	Ed Trias	Trias Construction	Joe@triasconstruction.com
4	Jannet Varon	JVA Construction	Jannet.Varon@jvaconstruction.com
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6	Rob Conker	Rex Farlow	rdc7237@gmail.com
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