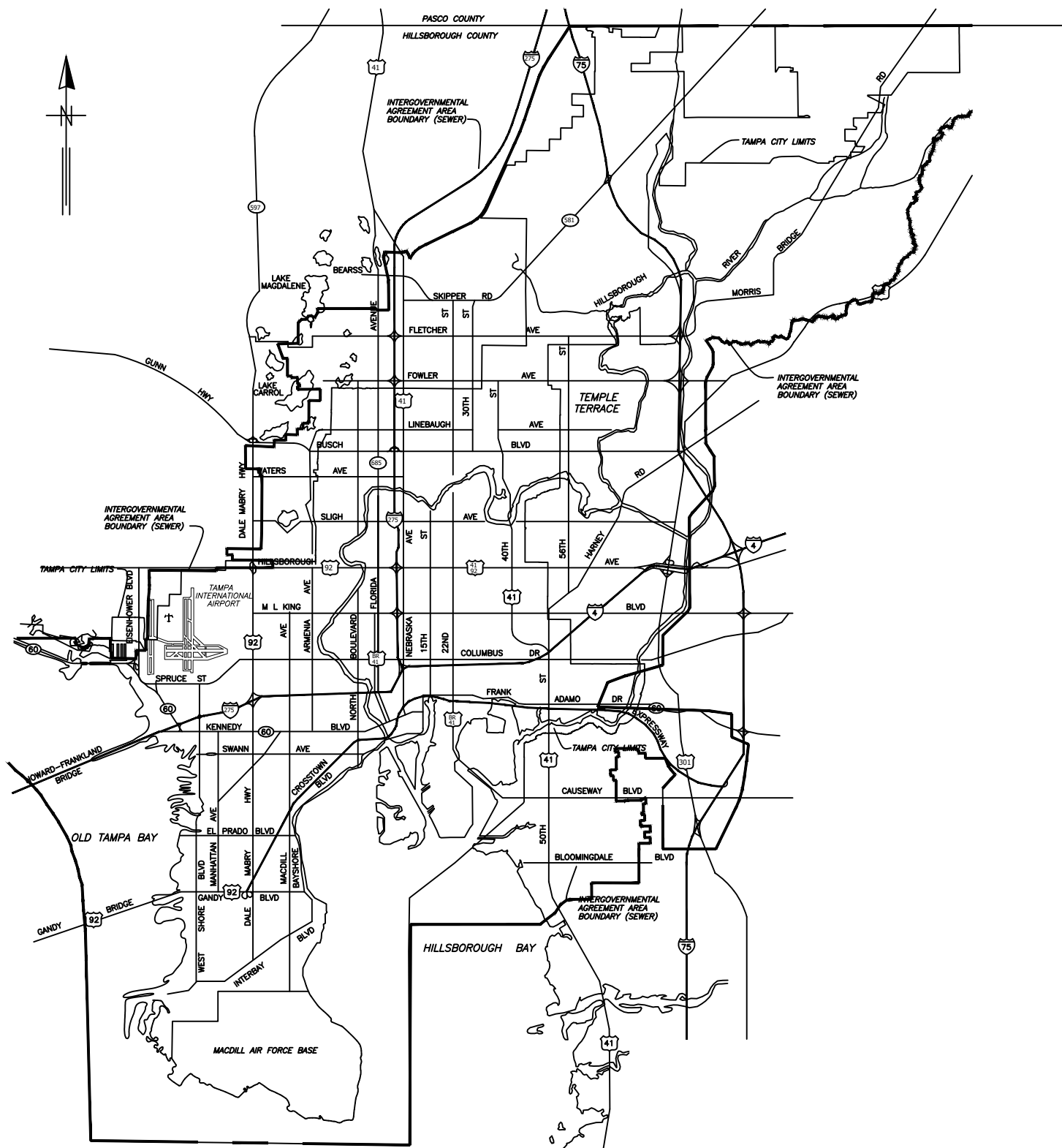


LOCATION MAP



# CITY of TAMPA



## WASTEWATER DEPARTMENT

PLANS FOR

## WASTEWATER MANHOLE REHABILITATION BY STRUCTURAL COATING SYSTEM -FY23

CONTRACT No.  
22-C-00049

NOTE:  
ATTENTION IS DIRECTED TO THE FACT THAT  
THESE PLANS MAY HAVE BEEN REDUCED IN  
SIZE BY REPRODUCTION. THIS MUST BE  
CONSIDERED WHEN OBTAINING SCALED DATA.

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No.	DATE	REVISIONS	DES: CB	CITY of TAMPA	FY23 WASTEWATER MANHOLE REHABILITATION	SHEET 1
1			DRN: GH		WASTEWATER DEPARTMENT	
2			CKD: ----			
3			DATE: DEC-2022			

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

## GENERAL NOTES

1. THE SCOPE OF THIS PROJECT SHALL CONSIST OF REHABILITATION OF WASTEWATER MANHOLES IN VARIOUS LOCATIONS THROUGHOUT THE CITY OF TAMPA SERVICE AREA BY THE APPLICATION OF A STRUCTURAL COATING SYSTEM AND ALL APPURTENANCE ASSOCIATED WITH COMPLETION OF THE PROJECT.
2. FOR THE MANHOLES IN FDOT MAINTAINED ROADWAYS, THE CONTRACTOR SHALL NOTIFY FDOT MAINTENANCE DIVISION AT 612-3214 A MINIMUM OF 48 HOURS PRIOR TO STARTING THE MANHOLE REHABILITATION WORK. FDOT CONSIDERS THIS WORK AS MAINTENANCE AND, AS A RESULT, A RIGHT-OF-WAY PERMIT IS NOT REQUIRED. THE CITY WILL OBTAIN THE SPECIAL-USE PERMIT FROM FDOT. HOWEVER, CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL SIGNAGE IN ACCORDANCE TO FDOT INDEX 102-600 FOR ANY WORK ACTIVITY LOCATED 15' OR LESS FROM THE EDGE OF PAVEMENT, OR APPLICABLE FDOT INDEX DRAWINGS (MOST CURRENT EDITION).
3. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR OBTAINING THE NECESSARY ROAD CLOSURE AND RIGHT-OF-WAY PERMITS FROM THE APPROPRIATE GOVERNMENT AGENCIES HAVING JURISDICTION OVER THE SPECIFIC ROADWAYS. THE TABLE ON THIS SHEET, LISTS THE CONTACT NAMES AND PHONE NUMBERS FOR THE AGENCIES WITH JURISDICTION OVER THE VARIOUS LOCATIONS THROUGHOUT THIS PROJECT.
4. IN ORDER TO OBTAIN ROADWAY CLOSURE OR RIGHT-OF-WAY PERMITS, AT MINIMUM, THE CONTRACTOR MUST SUBMIT DETAILED MAINTENANCE OF TRAFFIC (MOT) PLANS ALONG WITH APPLICATIONS TO THE APPROPRIATE AGENCY. THE MOT(S) SHALL CONFORM TO APPLICABLE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) INDEX DRAWINGS (MOST CURRENT EDITION). THE GOVERNING AGENCIES MAY REQUIRE ADDITIONAL INFORMATION AND DICTATE SPECIFIC WORK TIMES DURING NON-PEAK TRAFFIC HOURS. ALL FEES ASSOCIATED WITH THE PERMITS WILL BE PAID BY THE CITY USING THE CONTINGENCY FUNDS. REFER TO SPECIFIC PROVISIONS FOR SPECIFIC TRAFFIC CONTROL REQUIREMENTS.
5. DURING THE MANHOLE'S INTERIOR CLEANING OPERATION, THE CONTRACTOR MUST PROVIDE A MEANS OF CAPTURING AND DISPOSING OF THE REMOVED DEBRIS. THIS METHOD SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
6. THE ONLY EXCAVATION NECESSARY FOR THIS PROJECT IS FOR THE REMOVAL AND REPLACEMENT OF THE MANHOLE FRAME AND COVERS AS INDICATED IN THE REHABILITATION SCHEDULE. FOR THESE CASES, THE CONTRACTOR IS REQUIRED TO CALL SUNSHINE AT 1-800-432-4770 TO DETERMINE UTILITY LOCATIONS PRIOR TO EXCAVATION.
7. ALL EXPOSED STEEL REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ANY DETERIORATION/RUST AND COATED WITH THE PROPOSED COATING SYSTEM.
8. OSHA STANDARD EQUIPMENT SUCH AS SAFETY HARNESSSES, GAS MONITORS, LOWER EXPLOSIVE LIMIT (LEL) DETECTORS, BREATHING APPARATUS, ETC. SHALL BE UTILIZED WHERE THE WORK DICTATES THEIR USE.
9. ALL RING AND COVERS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.
10. BYPASS PUMPING WILL NOT BE REQUIRED FOR THE MANHOLE REHABILITATION AND BENCH RESTORATION. HOWEVER, WORK DURING LOW-FLOW PERIODS MAY BE NECESSARY.

INDEX	
SHT. NO.	DESCRIPTION
1	COVER SHEET
2	INDEX AND GENERAL NOTES
3	MANHOLE DETAILS A AND B
4	MANHOLE DETAILS C, D AND E
5	BENCH RESTORATION MISCELLANEOUS DETAILS
6	FRAME AND COVER MISCELLANEOUS DETAILS

PROPOSED MANHOLE COATING SYSTEM THICKNESS	
Location	Coating System
Manhole Barrel	175 MILS (MIN)
Manhole Bottom or Junction Chamber	250 MILS (MIN)
Manhole Benches	125 MILS (MIN)

TRAFFIC OPERATIONS - CONTACT NAMES		
(Jurisdiction)	Contact Name	Phone Number
(City of Tampa)	COT R/W Section	813-274-3100 Option 5
(County)	Lisa Strout	813-628-5025
(FDOT)	Todd Croft	813-612-3318

No.	DATE	REVISIONS
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 DRN: GH  
 CKD: ----  
 DATE: DEC-2022

**CITY of TAMPA**  
**WASTEWATER DEPARTMENT**

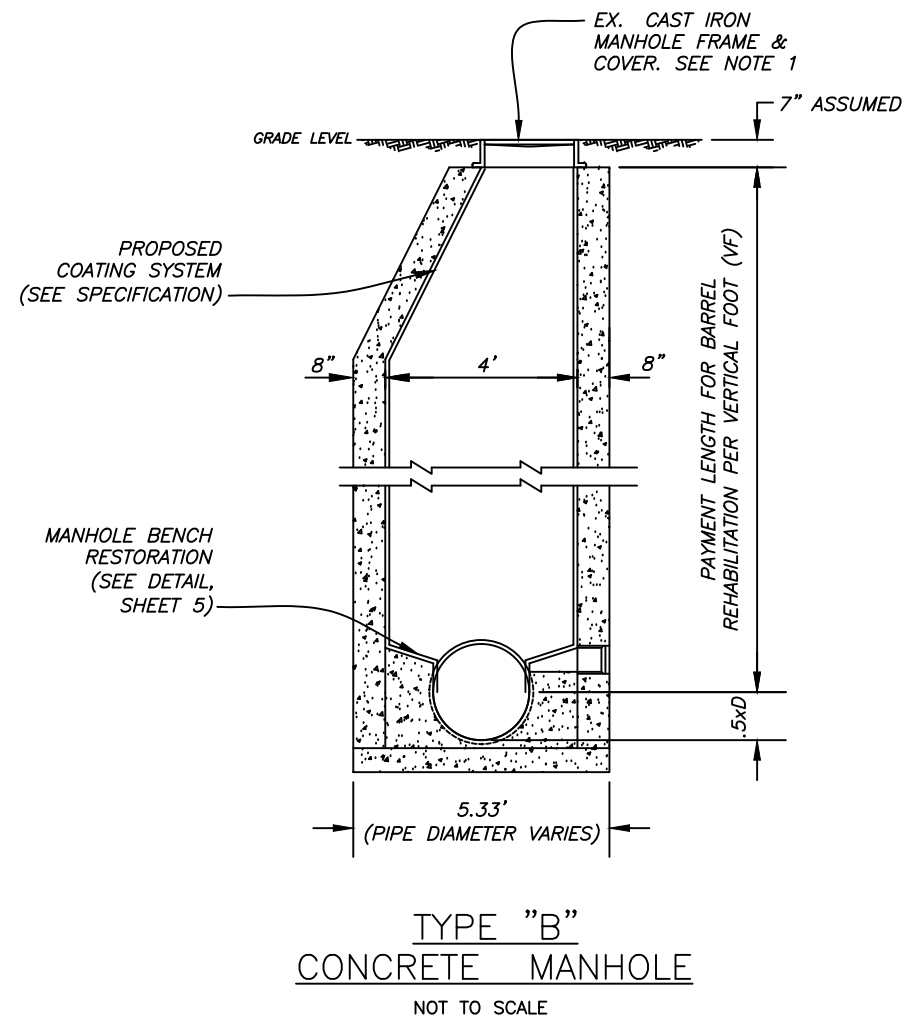
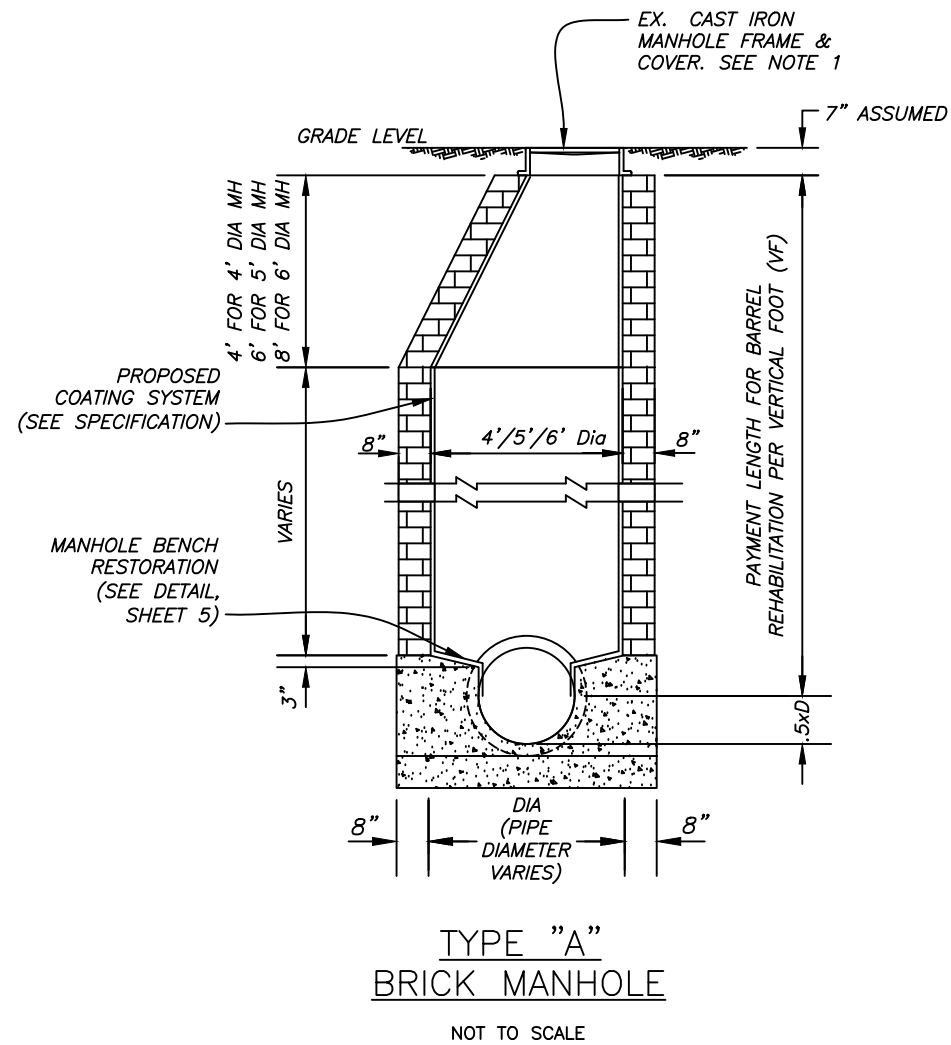
FY23 WASTEWATER MANHOLE REHABILITATION  
 INDEX AND GENERAL NOTES

SHEET  
**2**

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**NOTES**

1. SEE MANHOLE FRAME AND COVER REPLACEMENT DETAILS ON SHEET 6.
2. IT IS THE ENGINEER'S INTENT THAT THE MANHOLE REHABILITATION AND BENCH RESTORATION WILL NOT REQUIRE BYPASS PUMPING. HOWEVER, WORK DURING LOW-FLOW PERIODS MAY BE NECESSARY.
3. THERE IS A SEPARATE PAY ITEM FOR THE BENCH RESTORATION.
4. REFER TO SHEET 2 FOR PROPOSED COATING THICKNESS.
5. CONTRACTOR SHALL REMOVE ALL CALCIUM ALUMINATE LINER TO A SOUND SUBSTRATE PRIOR TO APPLICATION OF COATING SYSTEM. PAYMENT FOR THE REMOVAL OF THE CALCIUM ALUMINATE LINER WILL BE MADE AT THE CONTRACT ITEM UNIT PRICE PER VERTICAL FOOT (VF) OF LINER REMOVED.
6. CONTRACTOR SHALL REMOVE T-LOCK LINER TO A SOUND SUBSTRATE PRIOR TO APPLICATION OF CPP EPOXY PASTE COATING SYSTEM. IT IS NOT THE ENGINEERS INTENT TO REMOVE FIRMLY ATTACHED LINER. AFTER REMOVAL OF THE T-LOCK LINER, EXISTING EMBEDDED TEE'S SHALL BE CUT, GROUND AND SMOOTHED OVER PRIOR TO APPLICATION OF CPP EPOXY COATING SYSTEM. PAYMENT FOR THE REMOVAL OF DELAMINATING LINER WILL BE A SEPARATE PAY ITEM PER SQUARE FOOT (SF) OF LINER REMOVED.
7. PROVIDE A 6" MIN. STRIP OF PROPOSED COATING SYSTEM OVER EDGE OF EXISTING LINER. SURFACE PREPARATION AND APPLICATION OF COATING SYSTEM SHALL BE DONE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS FOR INTERFACING WITH T-LOCK LINER.



No.	DATE	REVISIONS
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JACINTO CARLOS FERRAS, P.E. #49454  
DESIGN DIVISION HEAD  
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**CITY of TAMPA**  
**WASTEWATER DEPARTMENT**

FY23 WASTEWATER MANHOLE REHABILITATION

MANHOLE DETAILS A AND B

SHEET

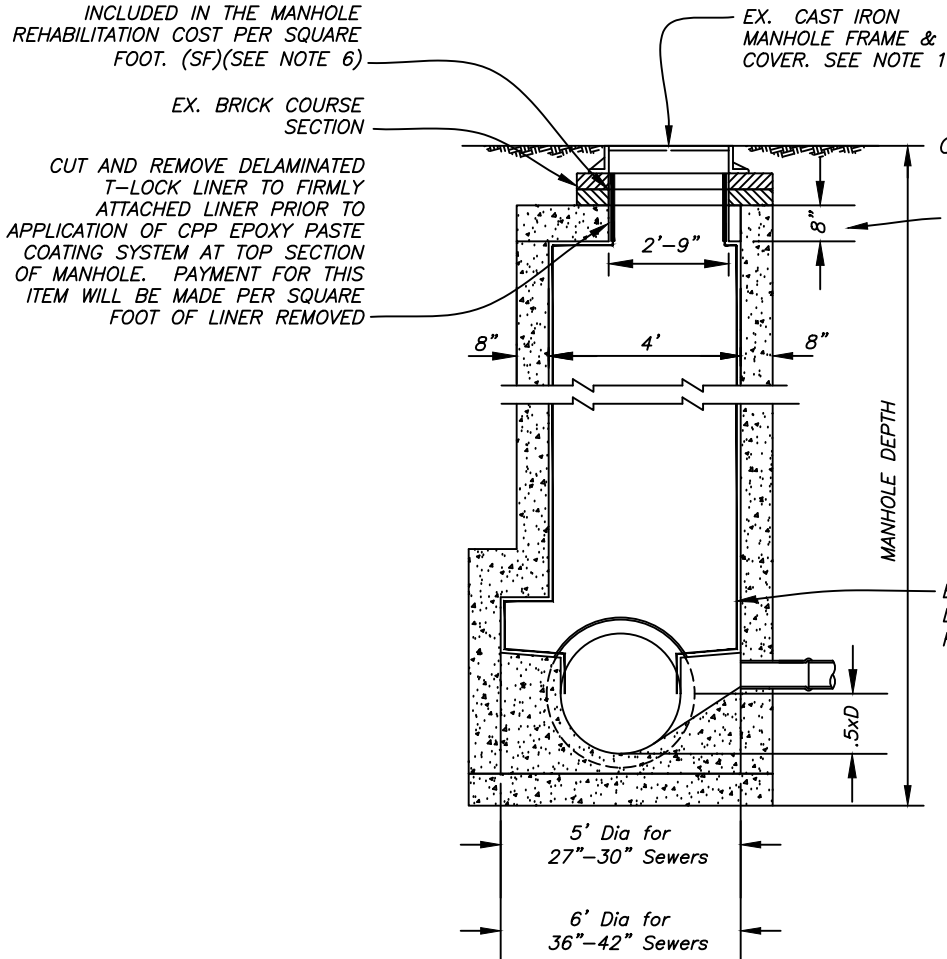
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**NOTES**

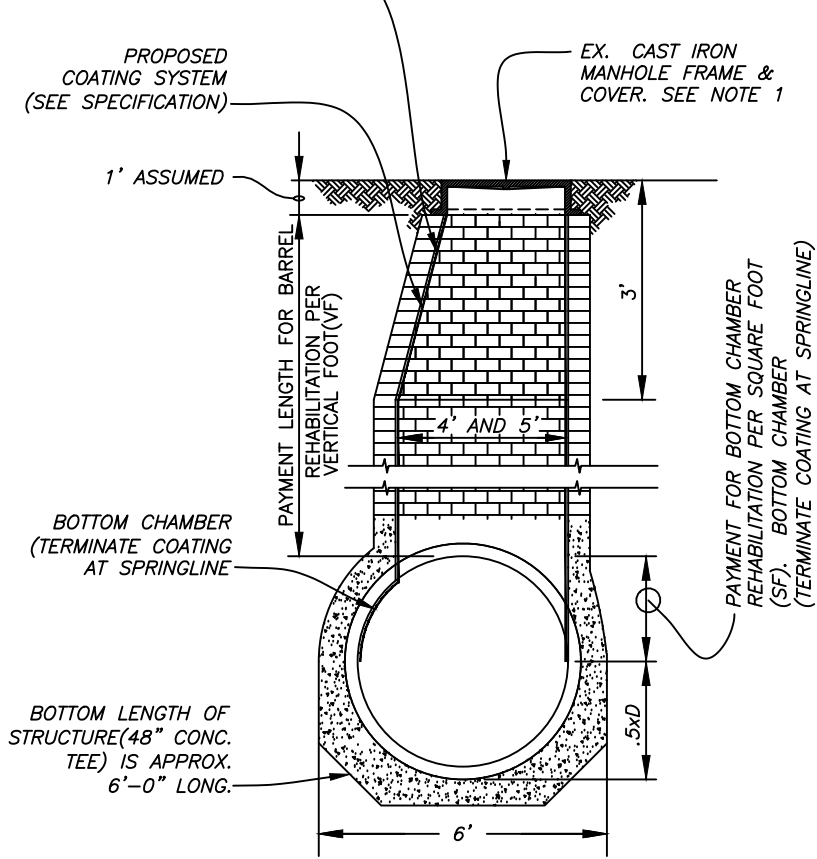
- SEE MANHOLE FRAME AND COVER REPLACEMENT DETAILS ON SHEET 6.
- IT IS THE ENGINEER'S INTENT THAT THE MANHOLE REHABILITATION AND BENCH RESTORATION WILL NOT REQUIRE BYPASS PUMPING. HOWEVER, WORK DURING LOW-FLOW PERIODS MAY BE NECESSARY.
- THERE IS A SEPARATE PAY ITEM FOR THE BENCH RESTORATION.
- REFER TO SHEET 2 FOR PROPOSED COATING THICKNESS.
- CONTRACTOR SHALL REMOVE ALL CALCIUM ALUMINATE LINER TO A SOUND SUBSTRATE PRIOR TO APPLICATION OF COATING SYSTEM. PAYMENT FOR THE REMOVAL OF THE CALCIUM ALUMINATE LINER WILL BE MADE AT THE CONTRACT ITEM UNIT PRICE PER VERTICAL FOOT (VF) OF LINER REMOVED.
- CONTRACTOR SHALL REMOVE T-LOCK LINER TO A SOUND SUBSTRATE PRIOR TO APPLICATION OF CPP EPOXY PASTE COATING SYSTEM. IT IS NOT THE ENGINEERS INTENT TO REMOVE FIRMLY ATTACHED LINER. AFTER REMOVAL OF THE T-LOCK LINER, EXISTING EMBEDDED TEE'S SHALL BE CUT, GROUND AND SMOOTHED OVER PRIOR TO APPLICATION OF CPP EPOXY COATING SYSTEM. PAYMENT FOR THE REMOVAL OF DELAMINATING LINER WILL BE A SEPARATE PAY ITEM PER SQUARE FOOT (SF) OF LINER REMOVED.
- PROVIDE A 6" MIN. STRIP OF PROPOSED COATING SYSTEM OVER EDGE OF EXISTING LINER. SURFACE PREPARATION AND APPLICATION OF COATING SYSTEM SHALL BE DONE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS FOR INTERFACING WITH T-LOCK LINER.

PROPOSED CPP EPOXY PASTE COATING SYSTEM AT TOP SECTION OF MANHOLE. PROVIDE 6" MIN. COATING THICKNESS TRANSITION OVER EXISTING T-LOCK LINER. PAYMENT FOR THIS ITEM IS INCLUDED IN THE MANHOLE REHABILITATION COST PER SQUARE FOOT. (SF)(SEE NOTE 6)

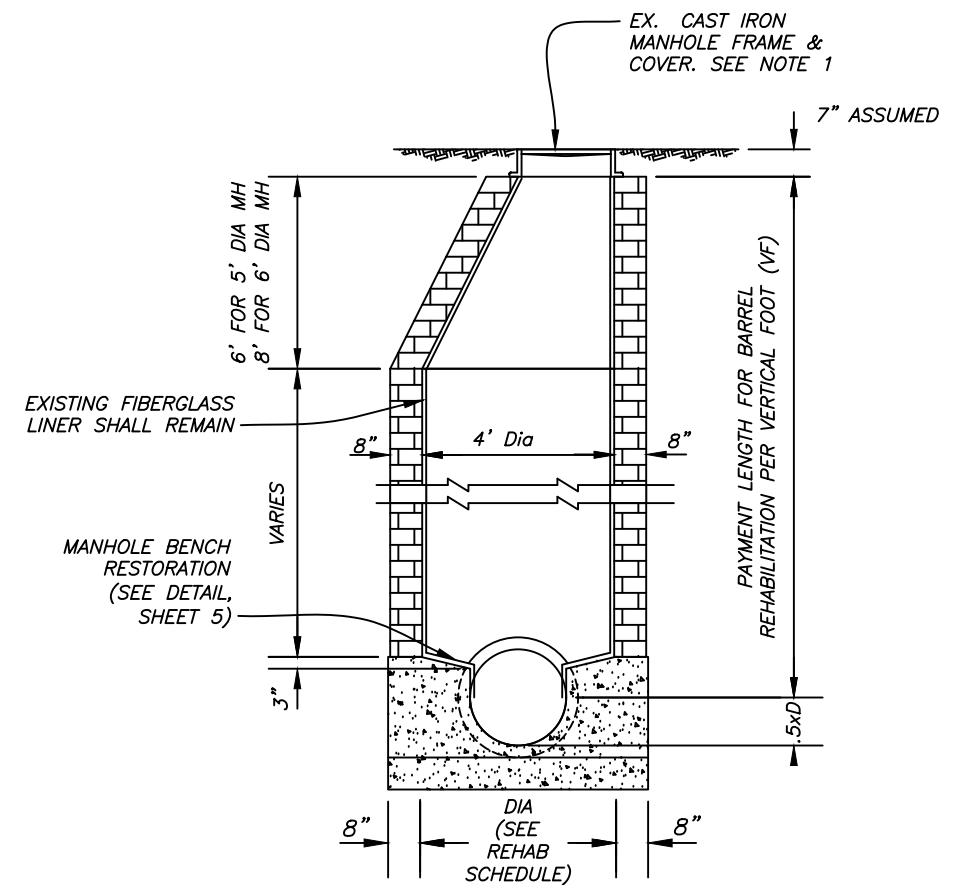
EX. CALCIUM ALUMINATE LINER TO BE REMOVED PRIOR TO APPLICATION OF COATING SYSTEM. SEPARATE PAY ITEM FOR REMOVAL OF EXISTING LINER PER VERTICAL FOOT (VF) REMOVED. (SEE NOTE 5)



**TYPE "C"**  
**CONCRETE OR BRICK MANHOLE WITH T-LOCK LINING**  
 NOT TO SCALE



**TYPE "D"**  
**BRICK MANHOLE WITH EX. CALCIUM ALUMINATE LINER**  
 NOT TO SCALE



**TYPE "E"**  
**BRICK OR CONCRETE MANHOLE WITH EX. FIBERGLASS LINER**  
 NOT TO SCALE

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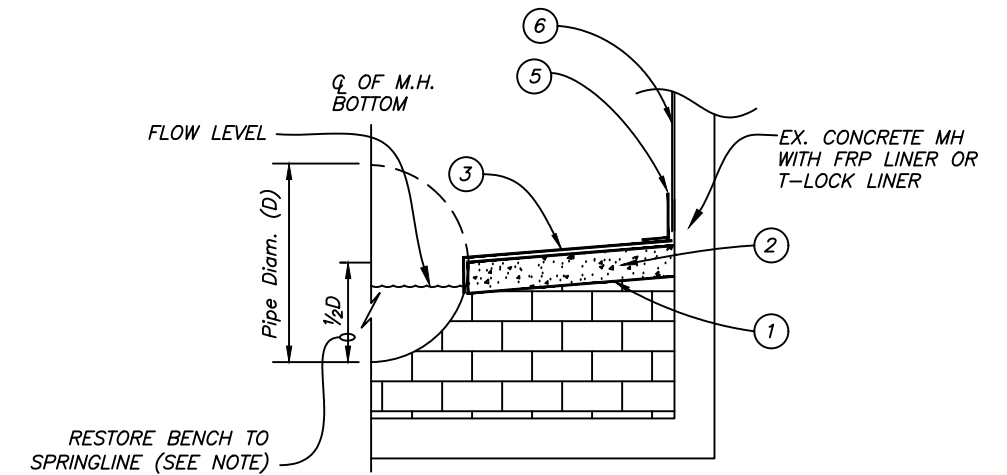
**CITY of TAMPA**  
**WASTEWATER DEPARTMENT**

FY23 WASTEWATER MANHOLE REHABILITATION  
 MANHOLE DETAILS C, D AND E

SHEET  
 4

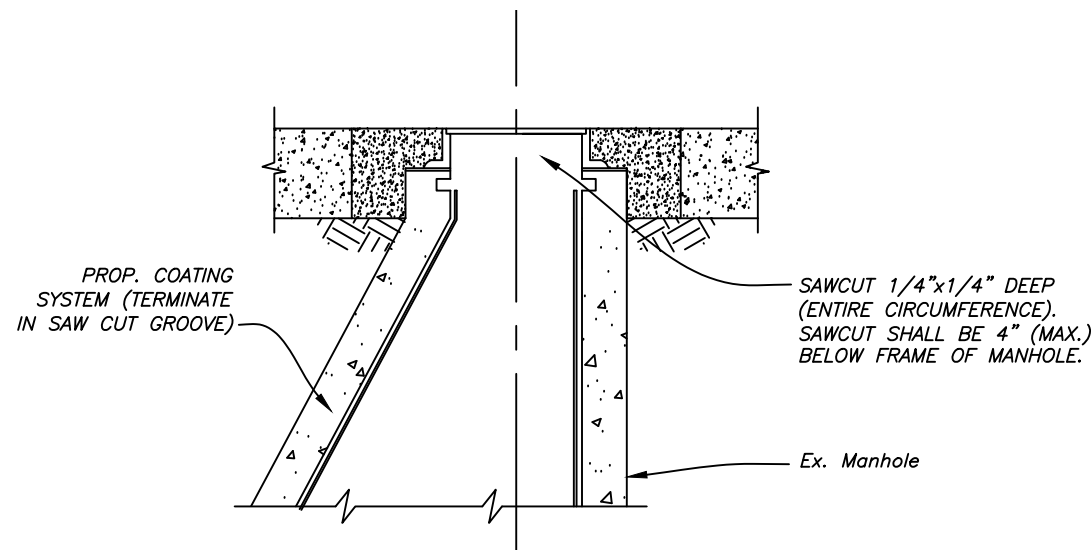
**NOTES**

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.
6. CONTRACTOR SHALL PROTECT EXISTING INTEGRITY OF FRP LINER OR T-LOCK LINER THROUGHOUT MANHOLE.



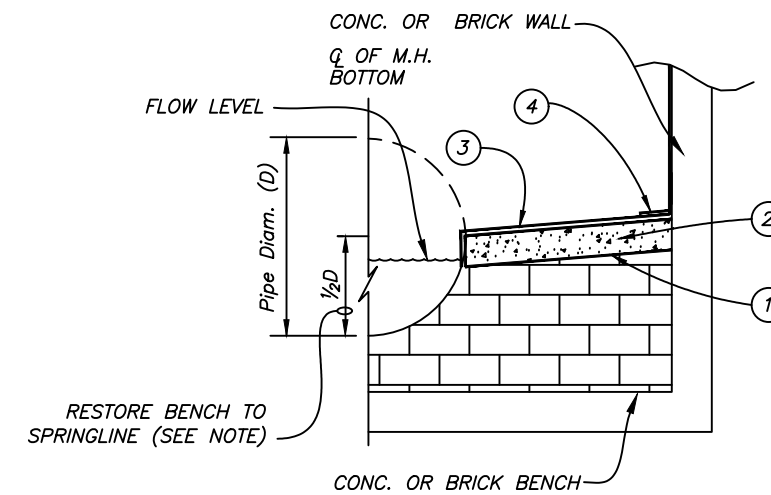
**MANHOLE BENCH RESTORATION FOR T-LOCK OR FRP LINED MANHOLES**

SCALE: N.T.S.



**COATING TERMINATION DETAIL**

SCALE: N.T.S.



**TYPICAL MANHOLE BENCH RESTORATION DETAIL**

SCALE: N.T.S.

No.	DATE	REVISIONS
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JACINTO CARLOS FERRAS, P.E. #49454  
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FY23 WASTEWATER MANHOLE REHABILITATION

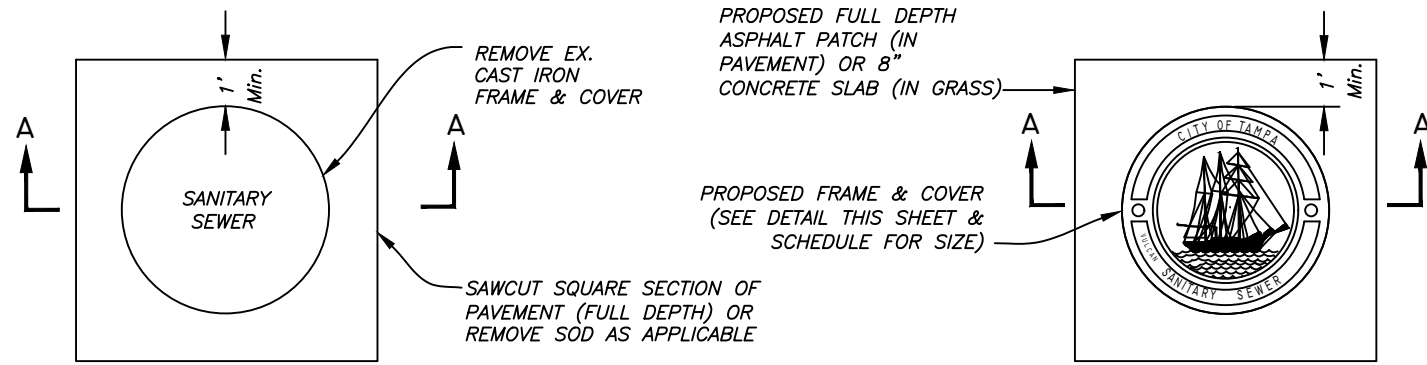
MISCELLANEOUS DETAILS

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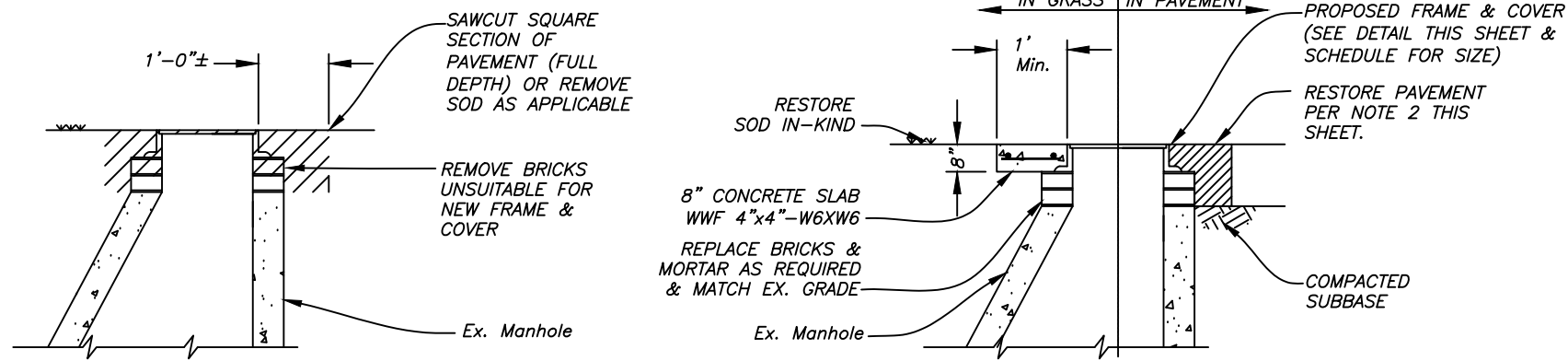
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**NOTES**

- FOR MANHOLE COVER SIZES AND WHETHER THE COVERS ARE LOCATED IN GRASS OR PAVEMENT, WILL BE PROVIDED ON EACH INDIVIDUAL WORK ORDER ISSUED UNDER THIS CONTRACT.
- PAVEMENT RESTORATION SHALL CONSIST OF 8" PERMANENT BASE (CRUSHED CONCRETE OR CRUSHED LIMEROCK BASE) AND PERMANENT ASPHALT SUPERPAVE PAVEMENT, UNLESS OTHERWISE NOTED. IF LOCATED IN D.O.T. ROW, AN ADDITIONAL 1 1/2" SUPER PAVE ASPHALT IS REQUIRED.



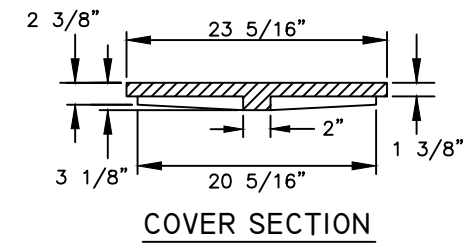
**PLAN**



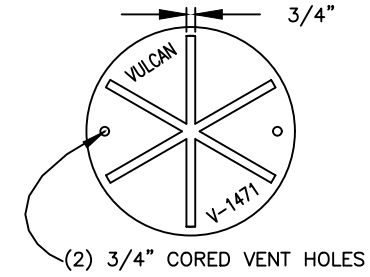
**SECTION A-A  
REMOVAL DETAIL**

**SECTION B-B  
REPLACEMENT  
DETAIL**

**SMALL COVER DETAIL**



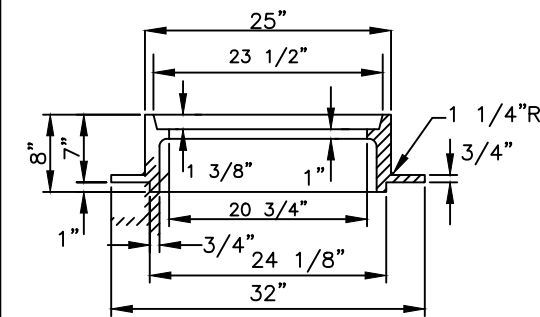
**COVER SECTION**



**COVER BACK**



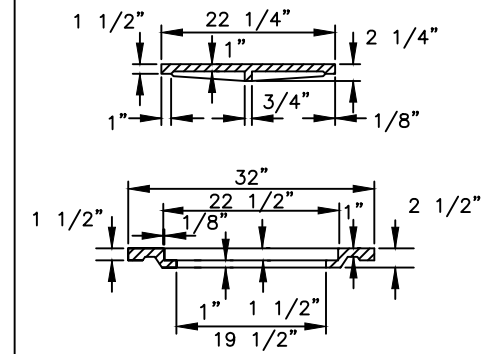
**COVER FACE**



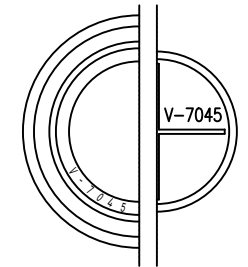
**FRAME SECTION**

FOR MH'S OF SEWERS 24" OR LESS IN DIAMETER:  
VULCAN FOUNDRY NO. V-1471,  
U.S. FOUNDRY NO. 575-AT, OR EQUAL

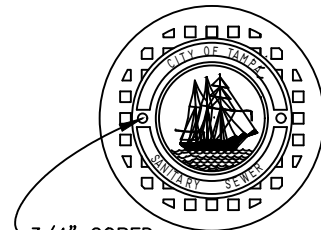
**LARGE COVER DETAIL**



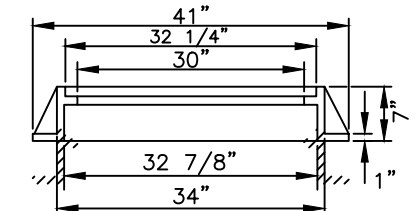
**INNER & OUTER COVER SECTIONS**



**COVER BACKS**



**COVER FACES**



**FRAME SECTION**

FOR MH'S OF SEWERS 27" OR GREATER IN DIAMETER:  
VULCAN FOUNDRY NO. V-7045,  
U.S. FOUNDRY NO. 230-AB-M, OR EQUAL

**HEAVY DUTY CAST IRON MANHOLE FRAME & COVER DETAILS**

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**WASTEWATER DEPARTMENT**

FY23 WASTEWATER MANHOLE REHABILITATION

MISCELLANEOUS DETAILS

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