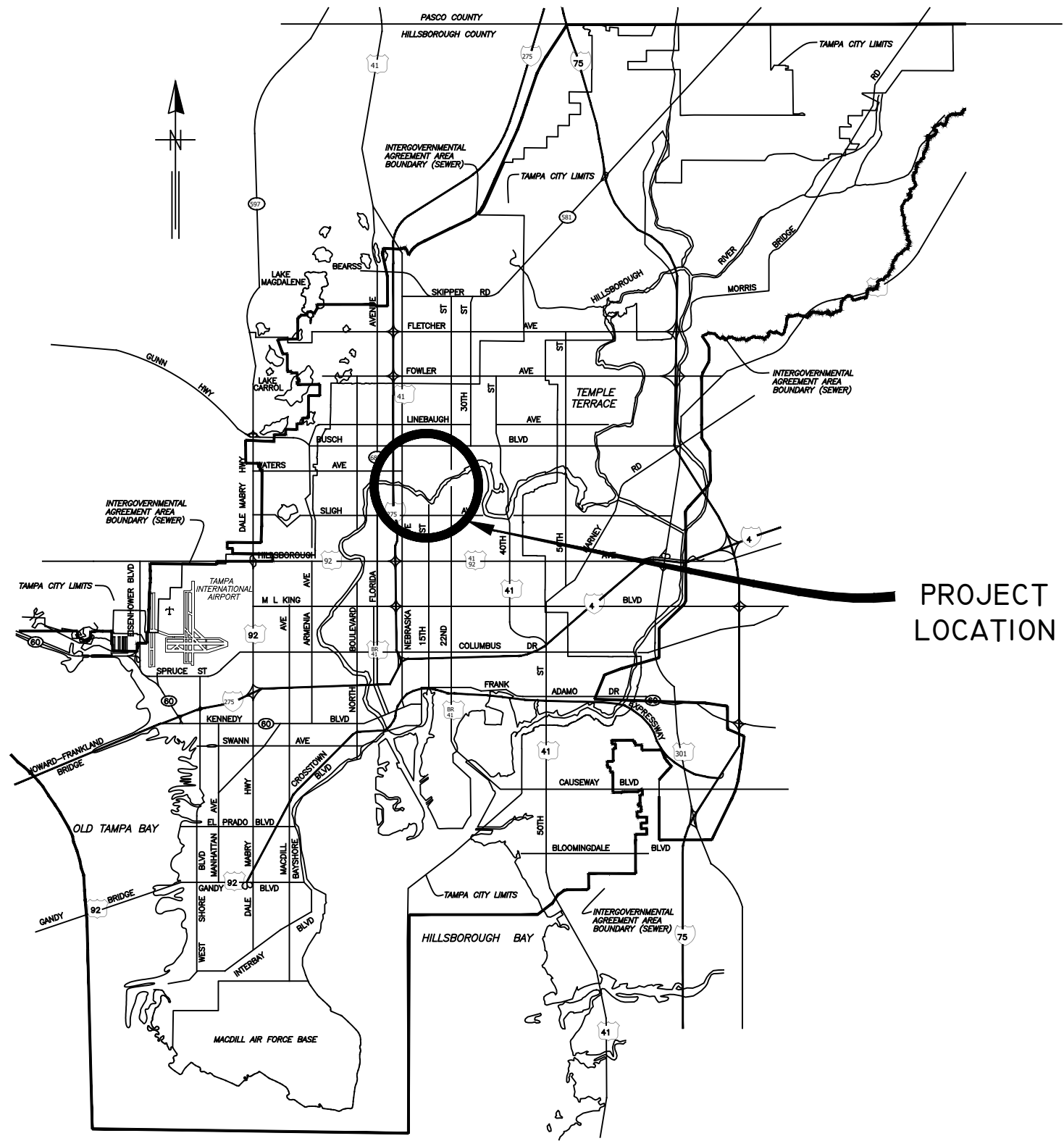


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 Layout: Aug 19, 2024 - 10:05am CTB - MONO - RED - GREEN, CTB TOSHIBA_UNL_COLOR (NORTH WING)

LOCATION MAP



PROJECT LOCATION

CITY of TAMPA



WASTEWATER DEPARTMENT

PLANS FOR

BRANCH PS COLLECTION SYSTEM REHABILITATION BY CIPP LINING

CONTRACT NO.
24-C-00030

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.

#	DATE	REVISIONS	DES:	CB	CITY of TAMPA WASTEWATER DEPARTMENT	BRANCH PS COLLECTION SYSTEM REHABILITATION BY CIPP LINING	SHEET 1
1			DRN:	GP			
2			CKD:				
3			DATE:				

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

COVER SHEET

GENERAL NOTES

1. THE SCOPE OF THIS PROJECT SHALL CONSIST OF REHABILITATION OF 8", 10", 12", 15", 18" AND 21" DIA WASTEWATER PIPELINE BY INSTALLATION OF CURED IN PLACE PIPE LINER AND ALL APPURTENANCE ASSOCIATED WITH COMPLETION OF THE PROJECT.
2. ELEVATION INFORMATION SHOWN ON THESE PLANS IS REFERENCED TO N.G.V.D. 1929 UNLESS OTHERWISE STATED AND ARE BASED ON RECORD DRAWINGS.
3. SHEETS 19-38 ARE THE EXISTING AS-BUILTS OF THE SEWER PIPE TO BE REHABILITATED.
4. DURING THE MOT, CONTRACTOR MUST MAINTAIN ACCESS TO ALL DRIVEWAYS FOR THE DURATION OF THE PROJECT.
5. 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.
6. 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. REFER TO SPECIFIC PROVISIONS FOR SPECIFIC TRAFFIC CONTROL REQUIREMENTS. REFER TO SPECIFIC MOT REQUIREMENTS IN NOTE 17 BELOW
7. THE PROPOSED LINER THICKNESS FOR THE 8" SEWER SHALL BE 6.0 MM THICKNESS, 10"/12"/15" SEWER SHALL BE 7.5 MM THICKNESS, 18" SEWER SHALL BE 9.0 MM THICKNESS AND 21" SHALL BE 10.5MM THICKNESS.
8. CONTRACTOR SHALL RESTORE ALL LANDSCAPING, SODDING, SPRINKLER SYSTEM PIPING AND PAVEMENT THAT MAY HAVE BEEN DAMAGED DURING CONSTRUCTION TO ITS ORIGINAL CONDITION OR BETTER.
9. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH WASTEWATER PERSONNEL AND PUMPING STATION OPERATIONS.
10. 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.
11. 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.
12. ALL EXPOSED STEEL REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ANY DETERIORATION/RUST AND COATED WITH THE PROPOSED COATING SYSTEM.
13. THIS PROJECT INCLUDES REHABILITATION OF MANHOLES BY APPLICATION OF A STRUCTURAL COATING SYSTEM AND ALL APPURTENANCES ASSOCIATED WITH THE PROJECT.
14. 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.
15. ALL EXPOSED STEEL REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ANY DETERIORATION/RUST AND COATED WITH THE PROPOSED COATING SYSTEM.
16. THE ONLY EXCAVATION NECESSARY FOR THIS PROJECT IS FOR THE REMOVAL AND REPLACEMENT OF THE MANHOLE FRAME AND COVERS. FOR THESE CASES, THE CONTRACTOR IS REQUIRED TO CALL SUNSHINE AT 1-800-432-4770 TO DETERMINE UTILITY LOCATIONS PRIOR TO EXCAVATION.

INDEX	
SHEET NUMBER	SHEET NAME
1	COVER SHEET
2	NOTE AND INDEX
3	OVERVIEW LOCATION MAP
4-16	AREA MAPS
17-18	MANHOLE DETAILS
19-38	WASTEWATER RECORD DRAWINGS FOR REFERENCE **

** RECORD DRAWINGS ARE BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT INTENDED TO SHOW ADDITIONAL WORK FOR THIS CONTRACT. THE CITY DOES NOT GUARANTEE THE ACCURACY OF THE RECORD DRAWINGS.

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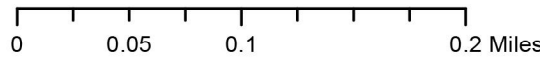
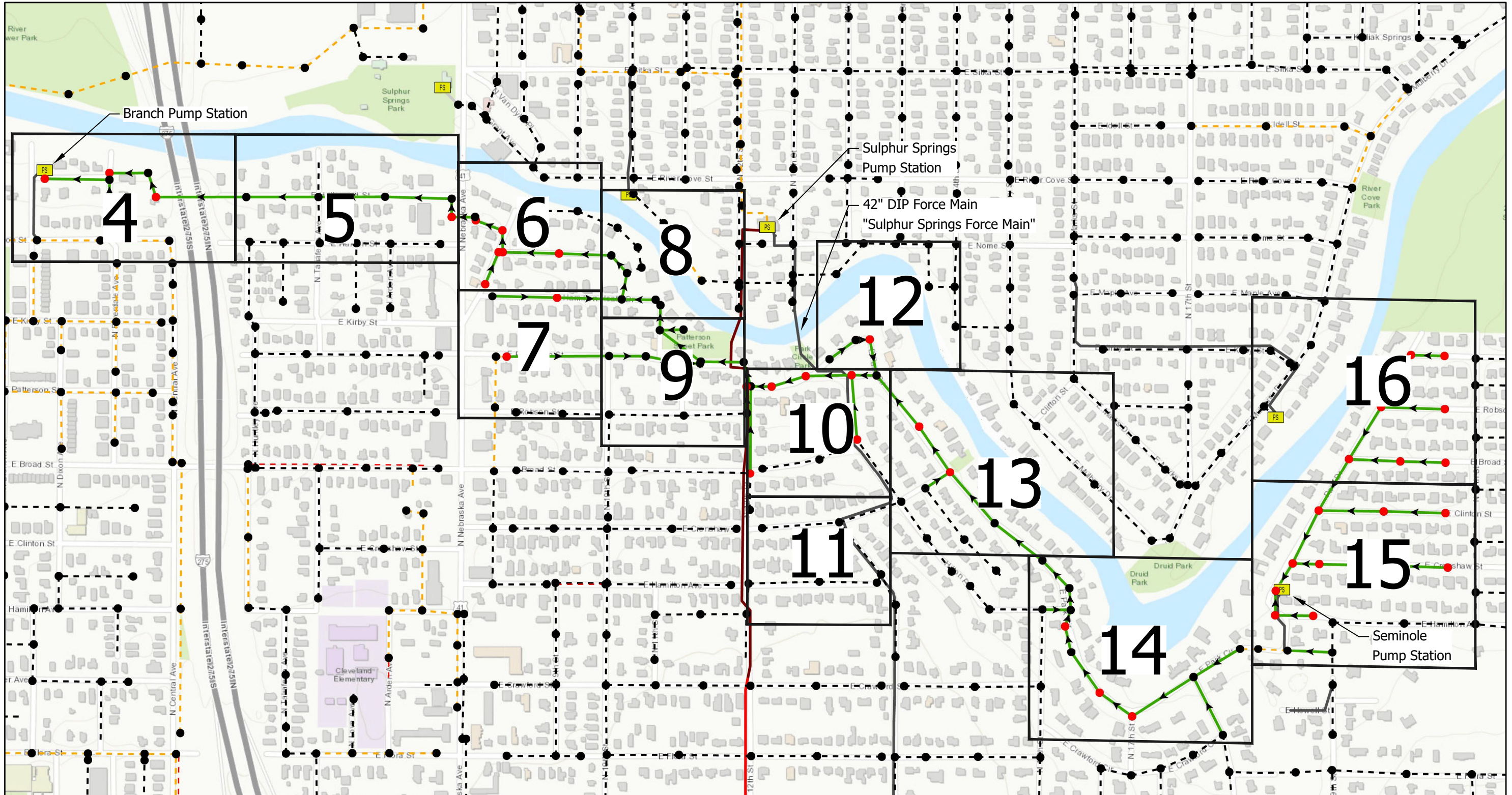
PROPOSED MANHOLE COATING SYSTEM THICKNESS	
Location	Coating System
Manhole Barrel	250 MILS (MIN)
Manhole Benches	250 MILS (MIN)

BYPASS PUMPING NOTES

1. CONTINUOUS SEWER SERVICE MUST BE MAINTAINED AT ALL TIMES. WORK DURING LOW FLOW PERIODS OR NIGHT WORK MAY BE REQUIRED. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING PRIVATE AND CITY PUMPING STATIONS AND SEWER SERVICE VIA VACUUM TRUCKS. CONTRACTOR IS RESPONSIBLE FOR DEWATERING, COLLECTING AND DISPOSING OF ALL WATER AND SLUDGE FROM EXISTING FACILITIES AS NECESSARY TO MAINTAIN SERVICE. COST FOR THIS WORK SHALL BE INCLUDED IN THE VARIOUS CONTRACT ITEMS AND NO ADDITIONAL PAYMENT WILL BE MADE.
2. BYPASS PUMPS SHALL BE CAPABLE OF DELIVERING 300 GPM FOR 8", 600 GPM FOR 10", 800 GPM FOR 12", 1450 GPM FOR 15", 1,550 GPM FOR 18" AND 2,000 GPM FOR 21". THE BYPASS PUMPS SHALL BE OF THE SELF PRIMING QUIET FLOW TYPE PUMP. BYPASS PUMP NOISE SHALL STRICTLY COMPLY TO ALL LOCAL REGULATIONS AND ORDINANCES COVERING NOISE CONTROL. THIS MAY REQUIRE CONSTRUCTING SOUND ATTENUATING ENCLOSURE AROUND PUMPS. BYPASS METHOD SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER.
3. MINIMUM TANKER STORAGE CAPACITY SHALL NOT BE LESS THAN 5,000 GALLONS.
4. ANY CITY OWNED PUMP STATION SHUT DOWN OR VALVE TURNING REQUIRES ADVANCED COORDINATION WITH CITY STAFF. CONTRACTOR SHALL PROVIDE A MINIMUM 2 WEEKS ADVANCED NOTICE BEFORE ANY CITY OWNED PUMP STATION SHUT DOWN OR BYPASS SYSTEM START-UP.
5. ALL BYPASS PUMPING SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS.
6. THE MAJORITY OF THE FLOW TO BRANCH PUMP STATION CAN BE TEMPORARILY DIVERTED TO THE 42" DIP FM BY CONNECTING A BYPASS PUMPING SYSTEM TO THE FM BYPASS CONNECTION NEAR THE PARK CIRCLE PARK AT 1208 E PARK CIRCLE. (REFER TO ADDITIONAL NOTES ON PLAN SHEET 10)
7. BYPASS OF THE REMAINING FLOW ENTERING THE 18" AND 21" SYSTEM DOWNSTREAM OF FID #252599 MH SHALL BE ACCOMPLISHED BY TANKER TRUCKS.

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	1			DRN: GP			
	2			CKD:			
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						NOTES & INDEX	

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 Layout: Aug 19, 2024 - 10:05am CIB - MONO - RED - GREEN, CTB TOSHIBA_UNL_COLOR (NORTH WING)



- Legend**
- Proposed Manhole Rehabilitation
 - Proposed Lining Area
 - Ex Pressurized Main (No Rehabilitation Required)
 - Ex Manhole (no rehabilitation required)
 - Ex Gravity Main (No Rehabilitation Required)
 - Pressurized Main, Out of Service
 - PS Ex. Pump Station
 - Ex Gravity Main (CIPP Lined or PVC)
 - - - Gravity Main, Out of Service



JACINTO CARLOS FERRAS, P.E. #49454
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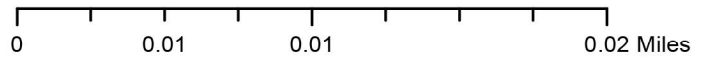
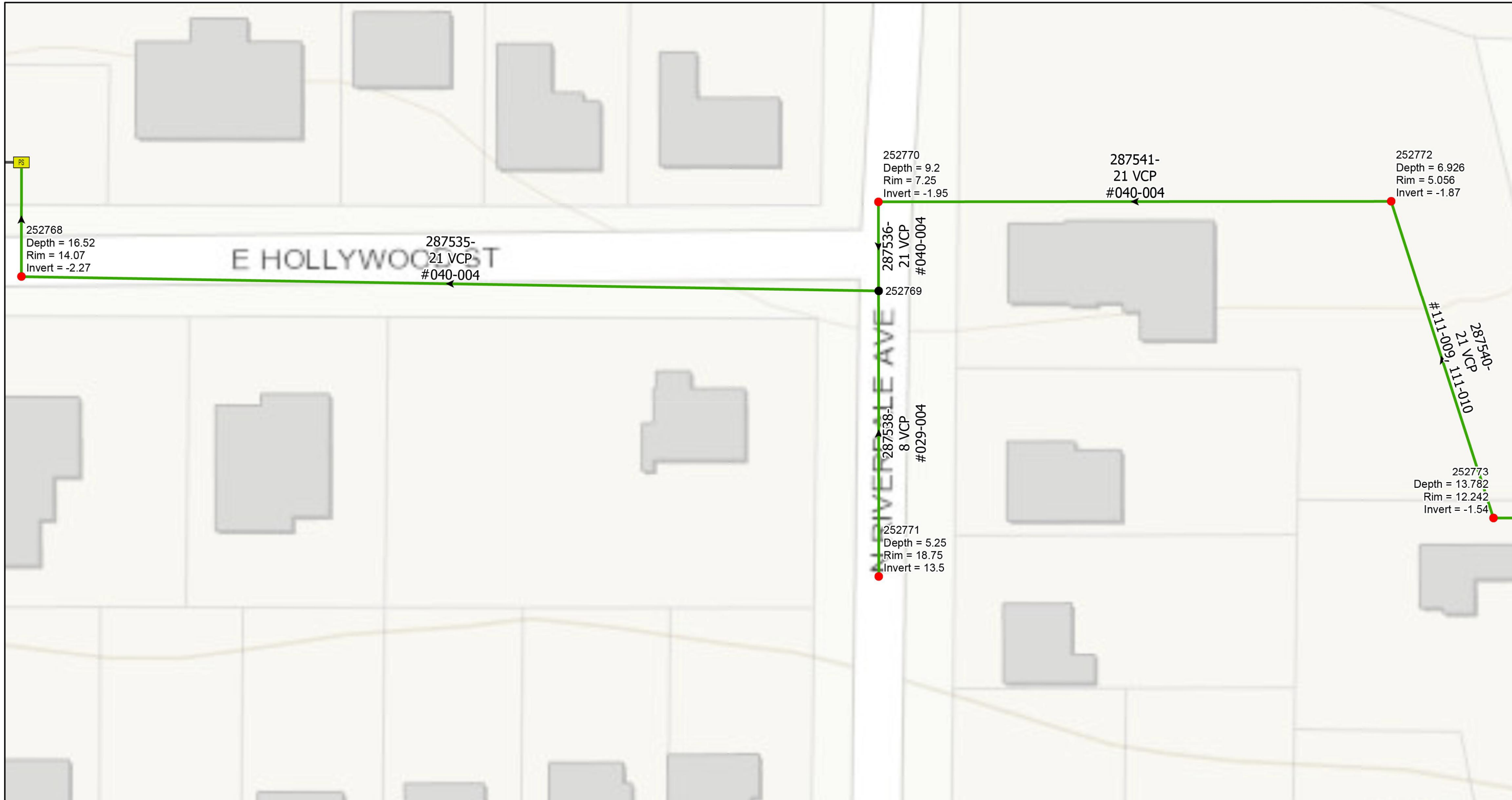
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CITY of TAMPA
 WASTEWATER DEPARTMENT

BRANCH PS COLLECTION SYSTEM
 REHABILITATION BY CIPP LINING
 OVERVIEW LOCATION MAP

SHEET
3

User: sst4 Drawing Name: K:\WasteWater Projects\Branch PS Collection system rehabilitation by CIPP lining\Drafting\DWG\Branch PS Collection system rehabilitation by CIPP lining.dwg
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- Legend**
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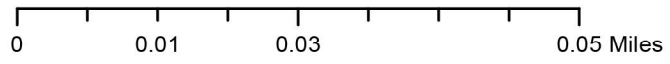
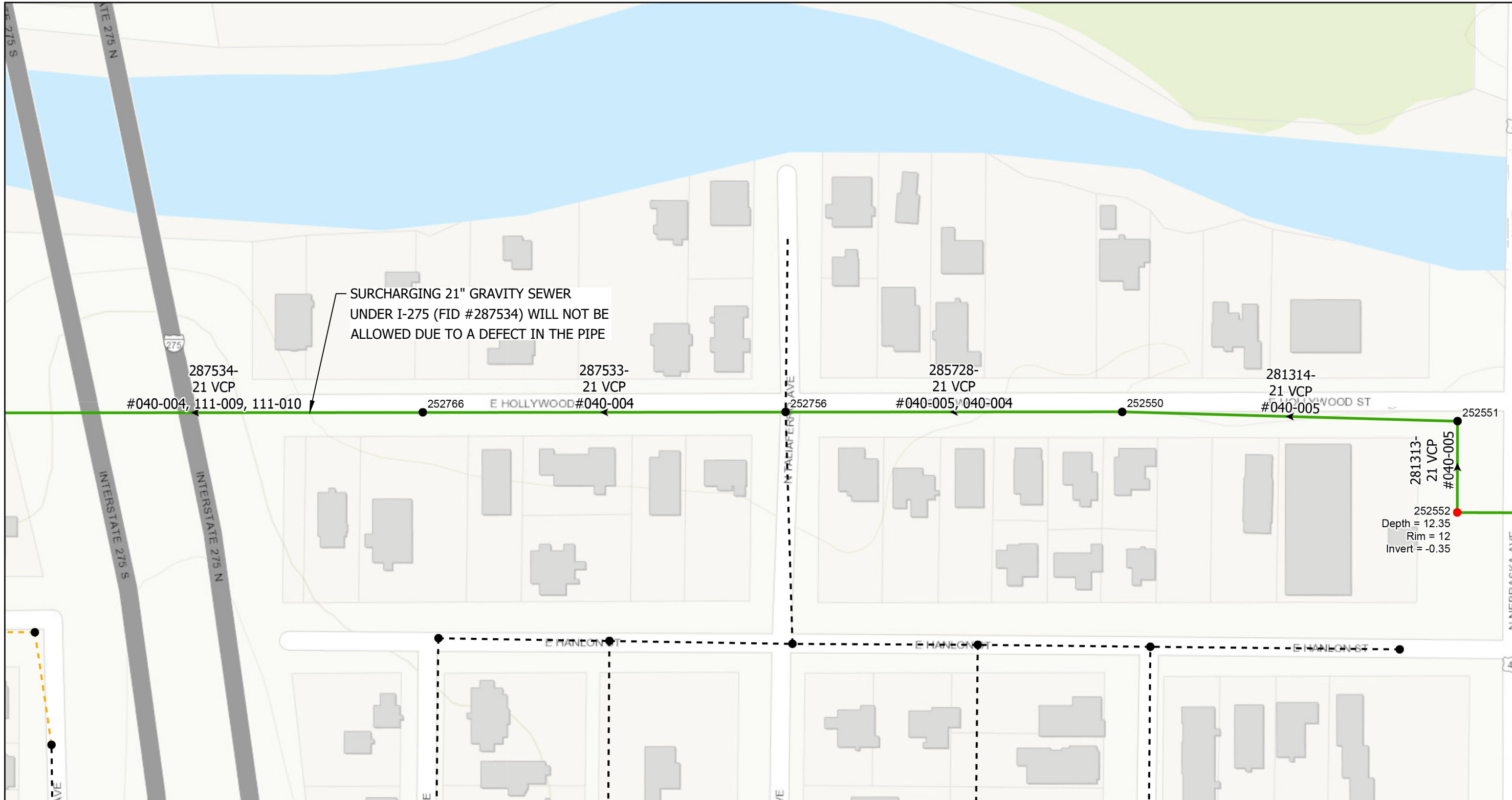
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**BRANCH PS COLLECTION SYSTEM
 REHABILITATION BY CIPP LINING**
 AREA MAP

SHEET
4

User: sst4 Drawing Name: K:\WasteWater Projects\Branch PS Collection system rehabilitation by CIPP lining\Drafting\DWG\Branch PS Collection system rehabilitation by CIPP lining.dwg
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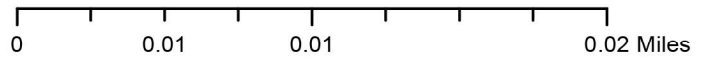
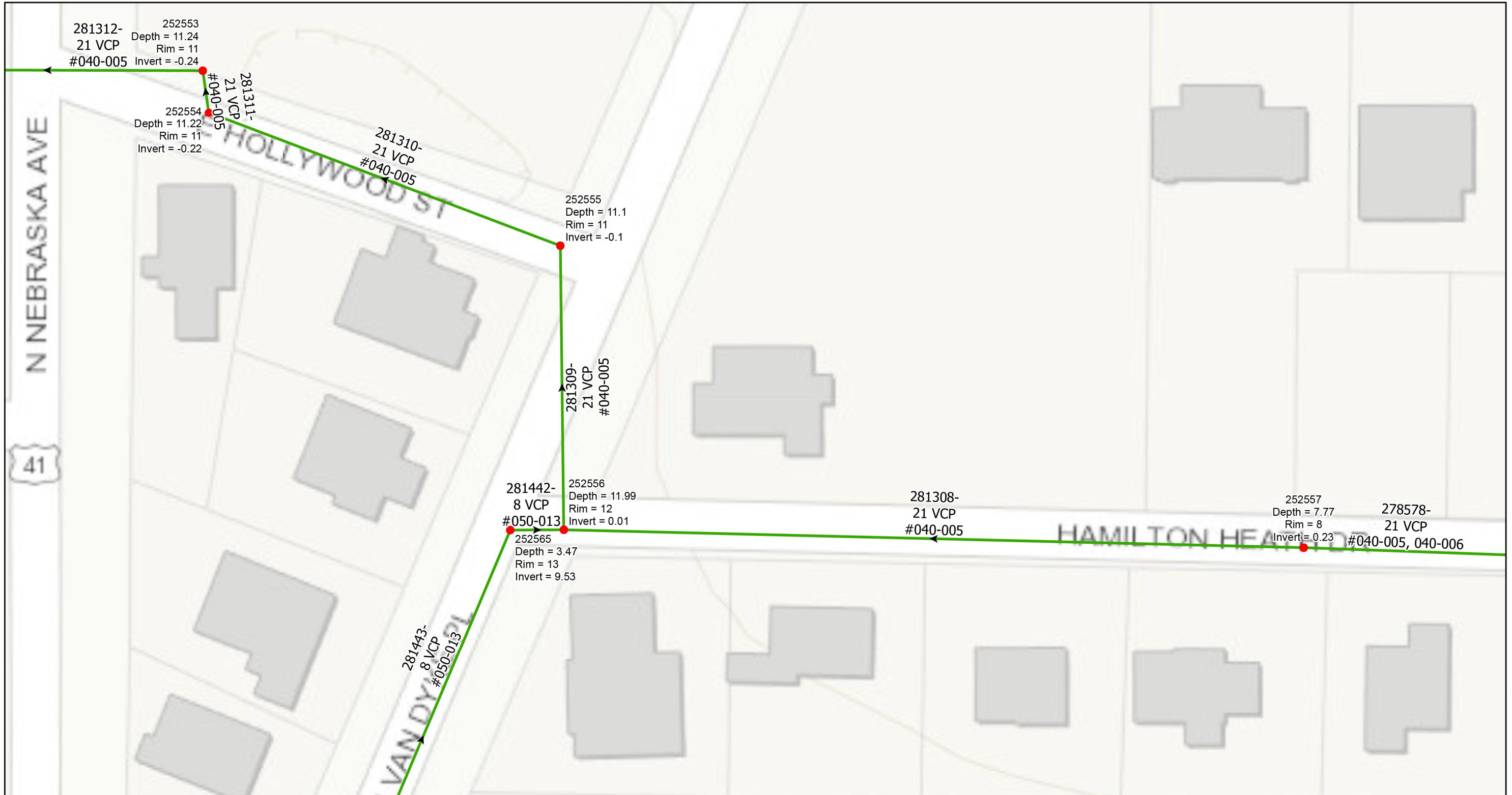
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**BRANCH PS COLLECTION SYSTEM
 REHABILITATION BY CIPP LINING**

AREA MAP

SHEET
5

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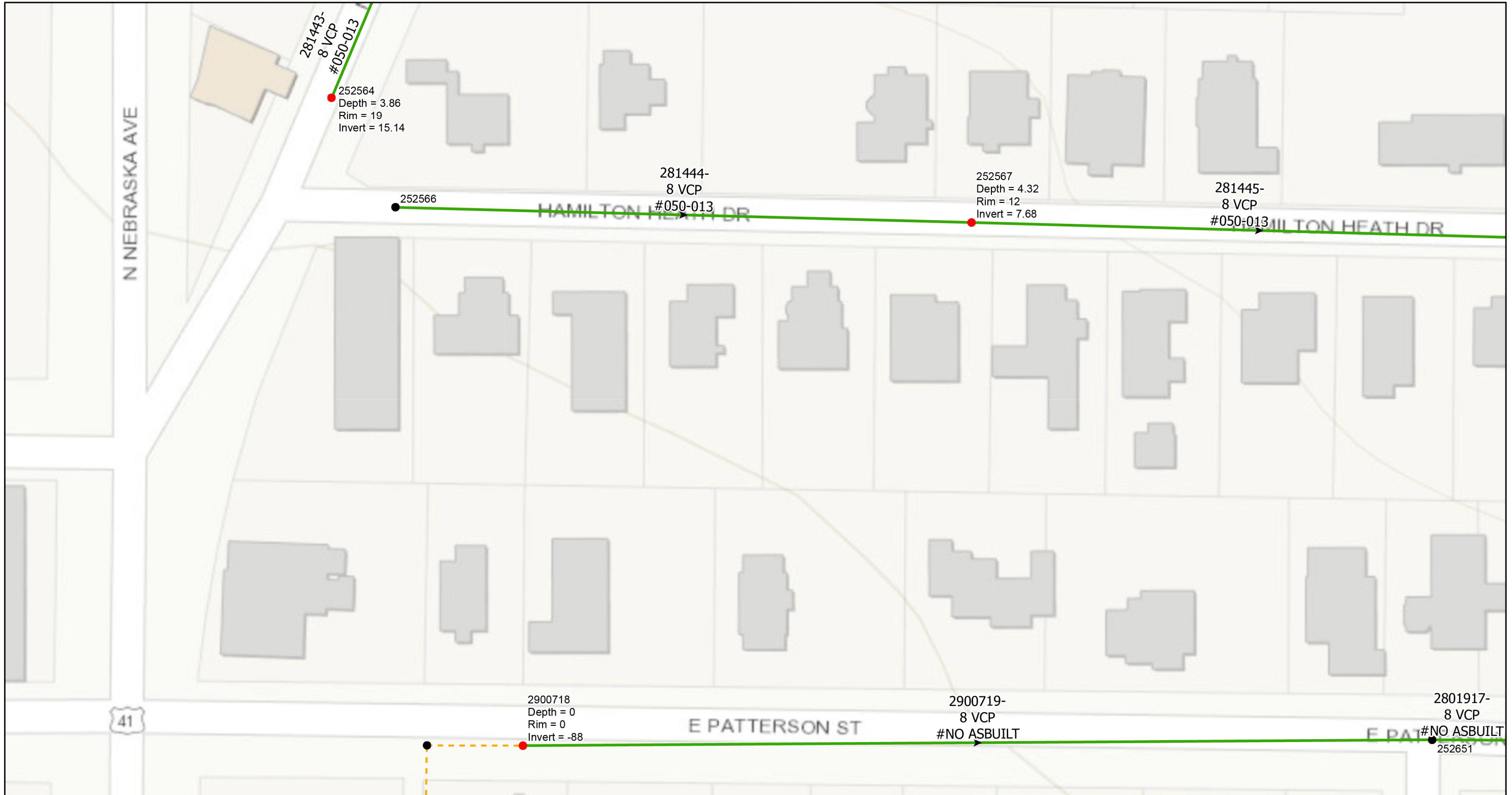
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BRANCH PS COLLECTION SYSTEM
 REHABILITATION BY CIPP LINING
 AREA MAP

SHEET
 6

User: sst4 Drawing Name: K:\WasteWater Projects\Branch PS Collection system rehabilitation by CIPP lining\Drafting\DWG\Branch PS Collection system rehabilitation by CIPP lining.dwg
 Layout: Aug 19, 2024 - 10:05am CTB - MONO - RED - GREEN, CTB TOSHIBA_UNL_COLOR (NORTH WING)



0 0.01 0.01 0.03 Miles

- Legend**
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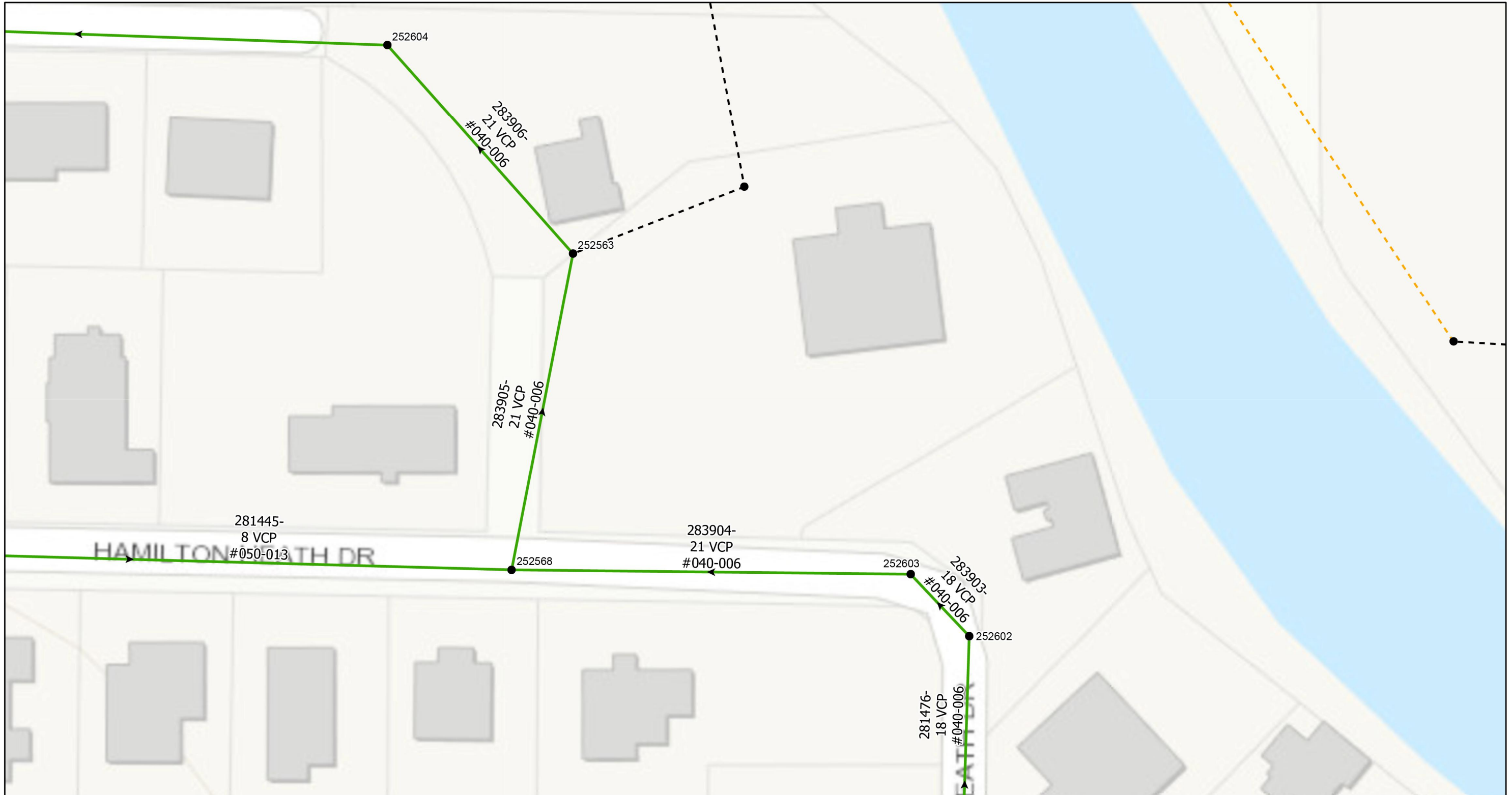
CITY of TAMPA
 WASTEWATER DEPARTMENT

**BRANCH PS COLLECTION SYSTEM
 REHABILITATION BY CIPP LINING**

AREA MAP

SHEET
7

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0 0.01 0.01 0.02 Miles

- Legend**
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CITY of TAMPA
 WASTEWATER DEPARTMENT

**BRANCH PS COLLECTION SYSTEM
 REHABILITATION BY CIPP LINING**

AREA MAP

SHEET
8

User: sst4 Drawing Name: K:\WasteWater Projects\Branch PS Collection system rehabilitation by CIPP lining\Drafting\DWG\Branch PS Collection system rehabilitation by CIPP lining.dwg
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0 0 0.01 0.02 Miles

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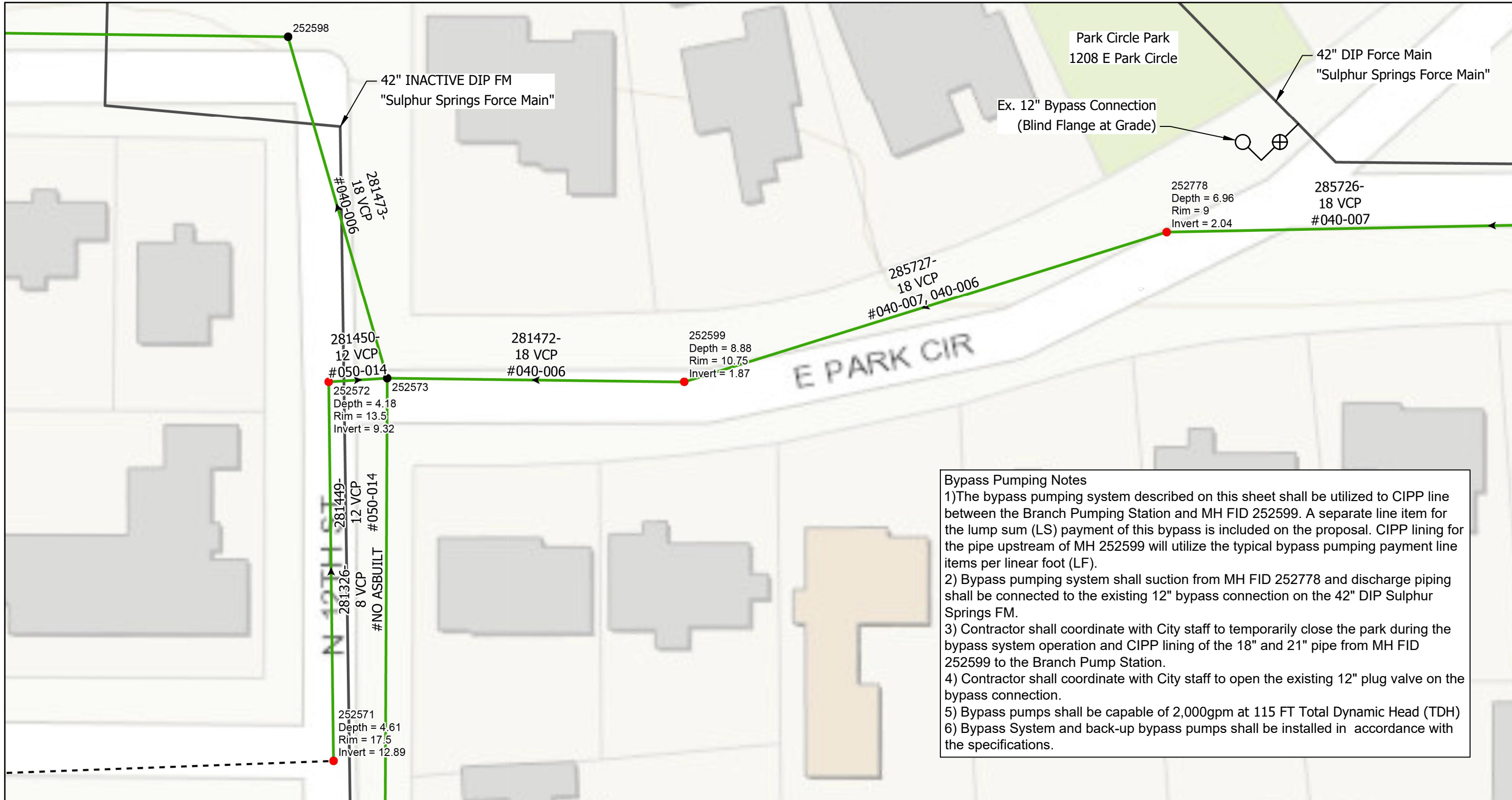
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**BRANCH PS COLLECTION SYSTEM
REHABILITATION BY CIPP LINING**

AREA MAP

SHEET
9

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Bypass Pumping Notes

- 1) The bypass pumping system described on this sheet shall be utilized to CIPP line between the Branch Pumping Station and MH FID 252599. A separate line item for the lump sum (LS) payment of this bypass is included on the proposal. CIPP lining for the pipe upstream of MH 252599 will utilize the typical bypass pumping payment line items per linear foot (LF).
- 2) Bypass pumping system shall suction from MH FID 252778 and discharge piping shall be connected to the existing 12" bypass connection on the 42" DIP Sulphur Springs FM.
- 3) Contractor shall coordinate with City staff to temporarily close the park during the bypass system operation and CIPP lining of the 18" and 21" pipe from MH FID 252599 to the Branch Pump Station.
- 4) Contractor shall coordinate with City staff to open the existing 12" plug valve on the bypass connection.
- 5) Bypass pumps shall be capable of 2,000gpm at 115 FT Total Dynamic Head (TDH)
- 6) Bypass System and back-up bypass pumps shall be installed in accordance with the specifications.

0 0.01 0.01 0.02 Miles

Legend	● Proposed Manhole Rehabilitation	→ Proposed Lining Area	— Ex Pressurized Main (No Rehabilitation Required)
	● Ex Manhole (no rehabilitation required)	— Ex Gravity Main (No Rehabilitation Required)	— Pressurized Main, Out of Service
	PS Ex. Pump Station	— Ex Gravity Main (CIPP Lined or PVC)	— Gravity Main, Out of Service



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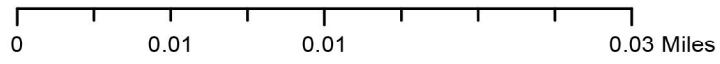
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**BRANCH PS COLLECTION SYSTEM
REHABILITATION BY CIPP LINING**
AREA MAP

SHEET
10

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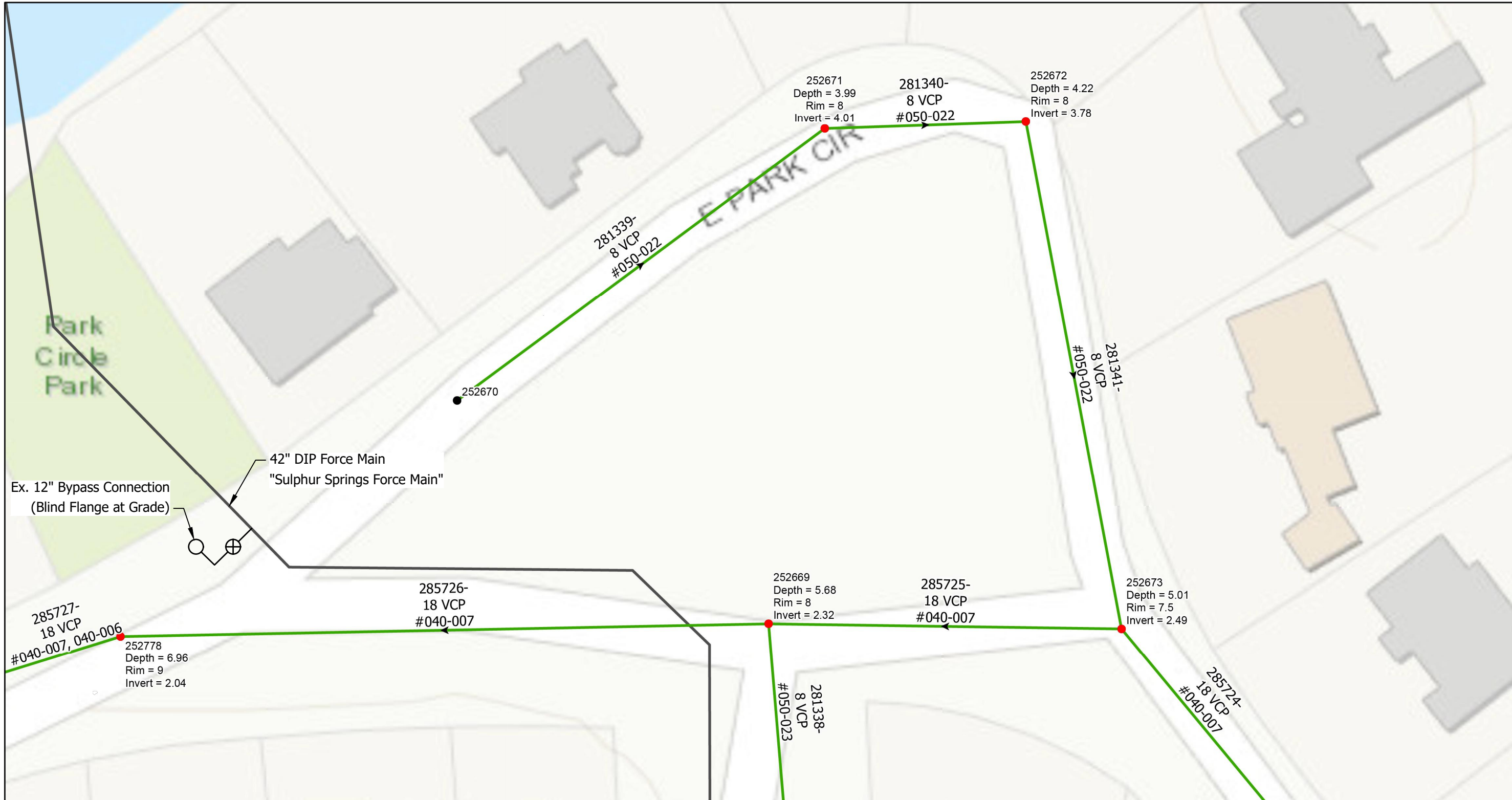
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BRANCH PS COLLECTION SYSTEM
 REHABILITATION BY CIPP LINING
 AREA MAP

SHEET
11

User: sst4 Drawing Name: K:\WasteWater Projects\Branch PS Collection system rehabilitation by CIPP lining\Drafting\DWG\Branch PS Collection system rehabilitation by CIPP lining.dwg
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0 0.01 0.01 0.02 Miles

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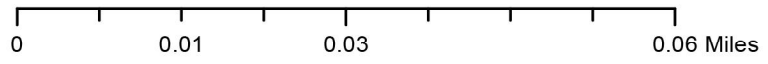
CITY of TAMPA
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**BRANCH PS COLLECTION SYSTEM
 REHABILITATION BY CIPP LINING**

AREA MAP

SHEET
12

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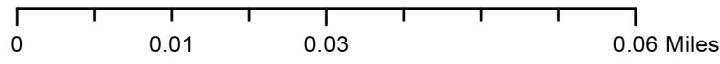
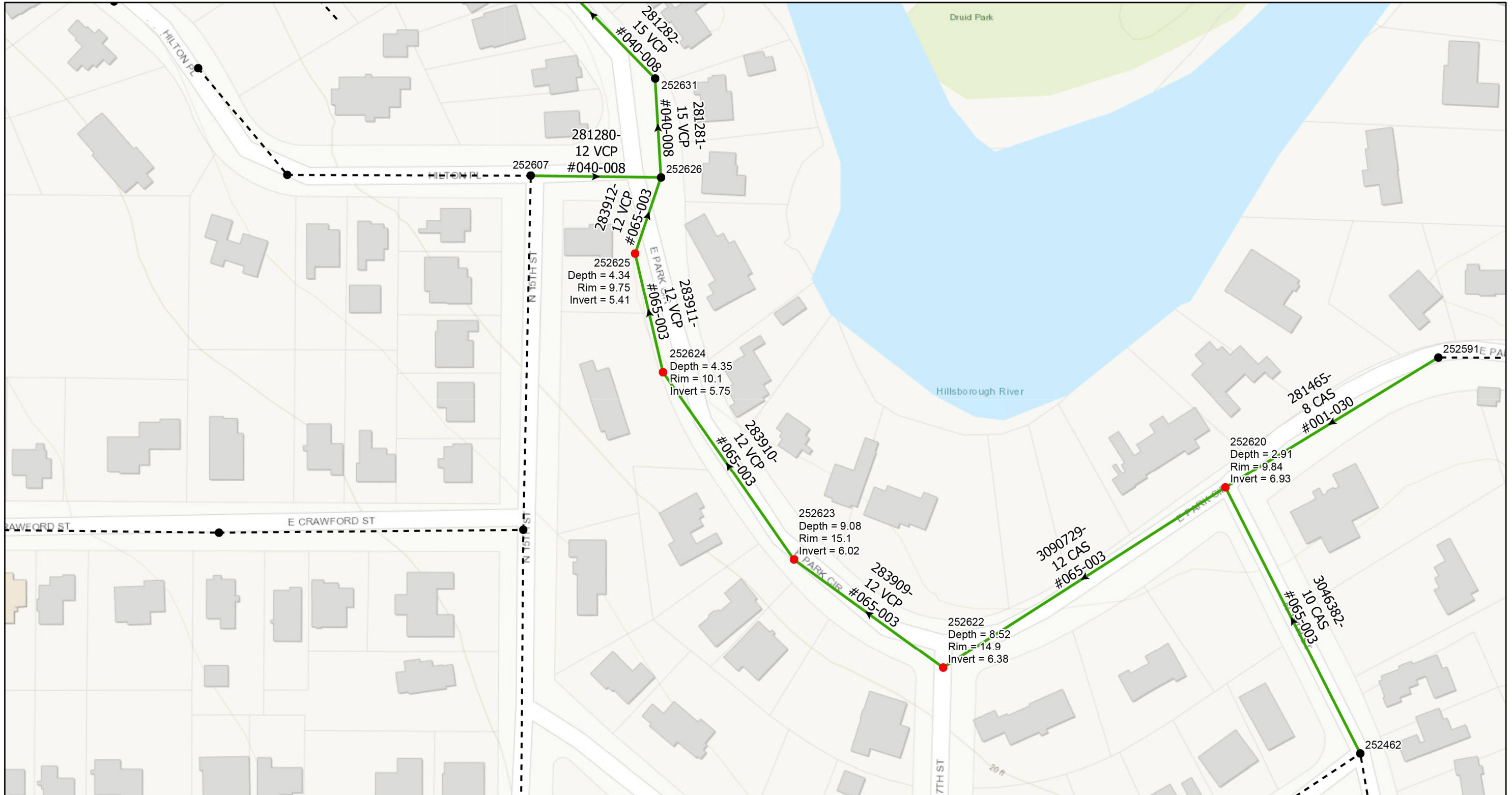
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CITY of TAMPA
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BRANCH PS COLLECTION SYSTEM
 REHABILITATION BY CIPP LINING
 AREA MAP

SHEET
 13

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3		

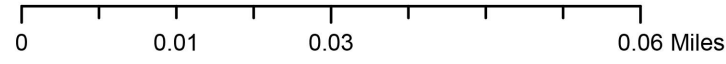
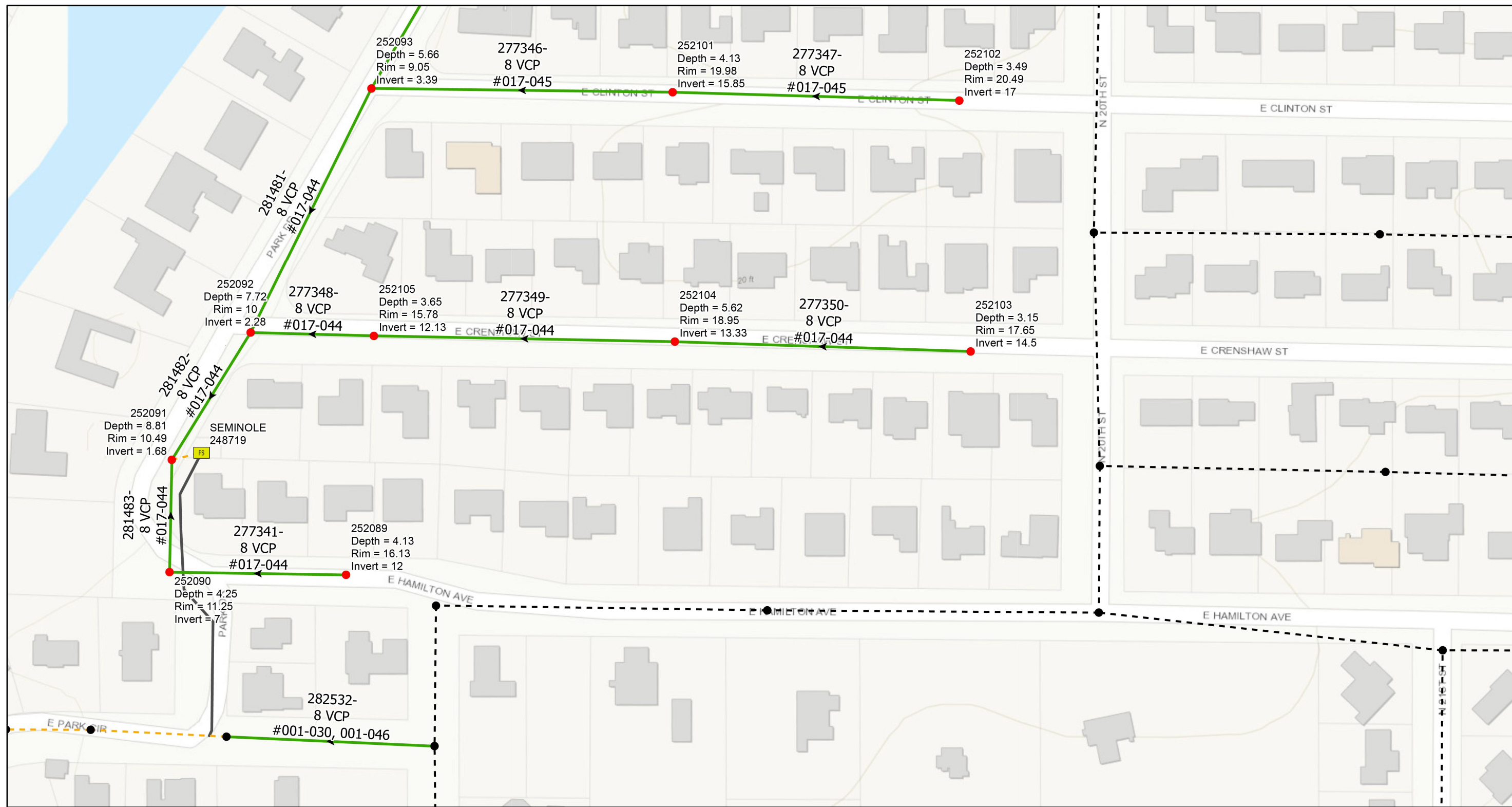
DES: CB
 DRN: GP
 CKD:
 DATE:

CITY of TAMPA
 WASTEWATER DEPARTMENT

**BRANCH PS COLLECTION SYSTEM
 REHABILITATION BY CIPP LINING**
 AREA MAP

SHEET
14

User: ssi4 Drawing Name: K:\WasteWater Projects\Branch PS Collection system rehabilitation by CIPP lining\Drafting\DWG\Branch PS Collection system rehabilitation by CIPP lining.dwg
 Layout: Aug 20, 2024 - 2:29pm CTB - MONO - RED-GREEN.CTB TOSHIBA_UNL_COLOR (NORTH WING)



- Legend**
- Proposed Manhole Rehabilitation
 - Ex Manhole (no rehabilitation required)
 - PS Ex. Pump Station
 - Proposed Lining Area
 - Ex Gravity Main (No Rehabilitation Required)
 - Ex Pressurized Main (No Rehabilitation Required)
 - Ex Gravity Main (CIPP Lined or PVC)
 - Pressurized Main, Out of Service
 - Gravity Main, Out of Service

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

#	DATE	REVISIONS
1		
2		
3		

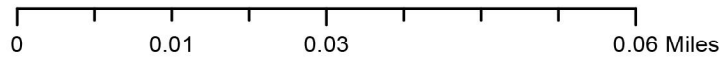
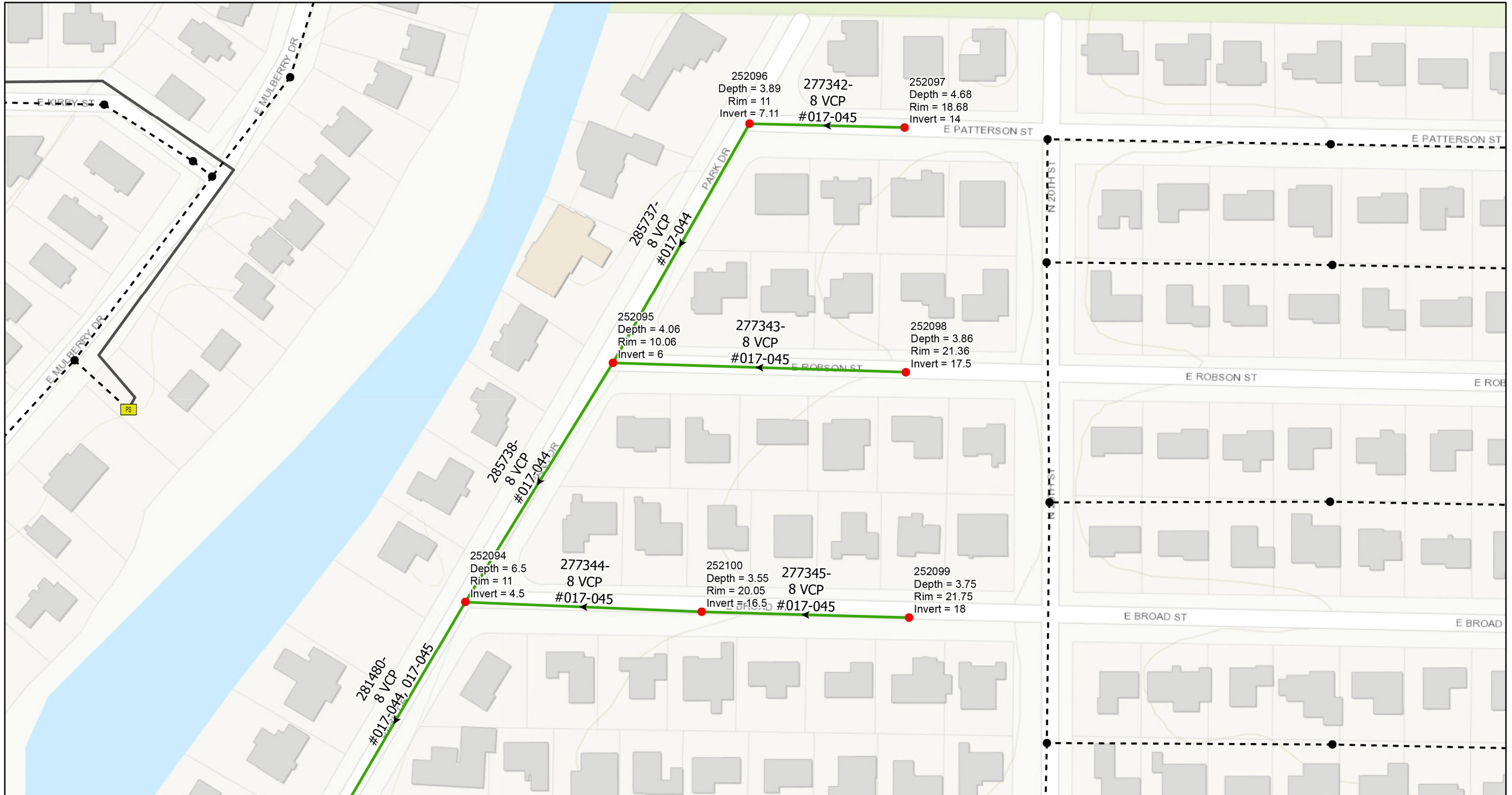
DES: CB
 DRN: GP
 CKD:
 DATE:

CITY of TAMPA
 WASTEWATER DEPARTMENT

BRANCH PS COLLECTION SYSTEM
 REHABILITATION BY CIPP LINING
 AREA MAP

SHEET
15

User: sst4 Drawing Name: K:\WasteWater Projects\Branch PS Collection system rehabilitation by CIPP lining\Drafting\DWG\Branch PS Collection system rehabilitation by CIPP lining.dwg
Layout: Aug 19, 2024 - 10:05am CTB - MONO - RED-GREEN, CTB TOSHIBA_UNL_COLOR (NORTH WING)



- Legend**
- Proposed Manhole Rehabilitation
 - Ex Manhole (no rehabilitation required)
 - PS Ex. Pump Station
 - Proposed Lining Area
 - Ex Gravity Main (No Rehabilitation Required)
 - Ex Gravity Main (CIPP Lined or PVC)
 - Ex Pressurized Main (No Rehabilitation Required)
 - Pressurized Main, Out of Service
 - Gravity Main, Out of Service



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

#	DATE	REVISIONS
1		
2		
3		

DES: CB
DRN: GP
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

**BRANCH PS COLLECTION SYSTEM
REHABILITATION BY CIPP LINING**
AREA MAP

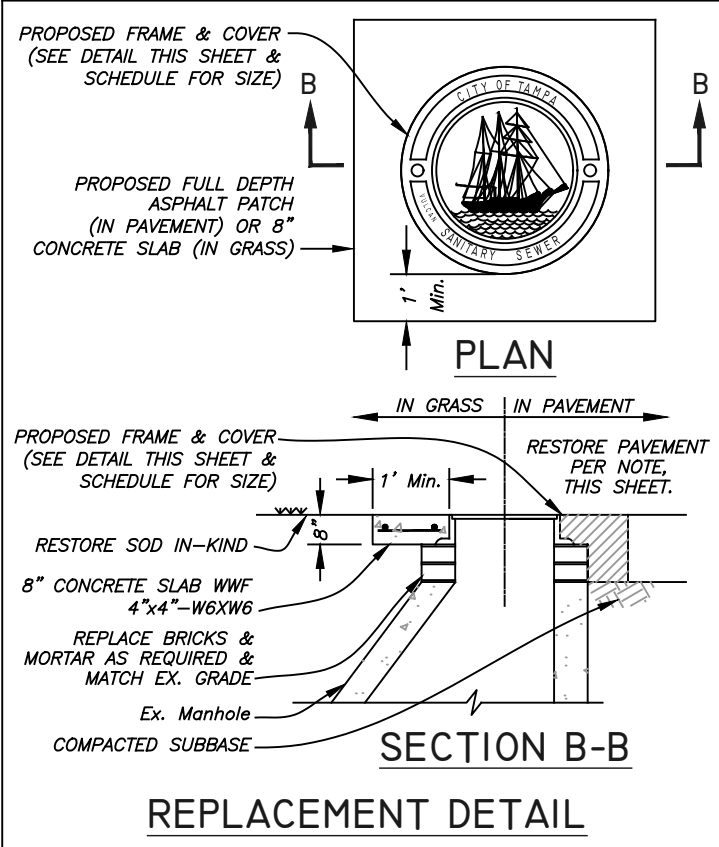
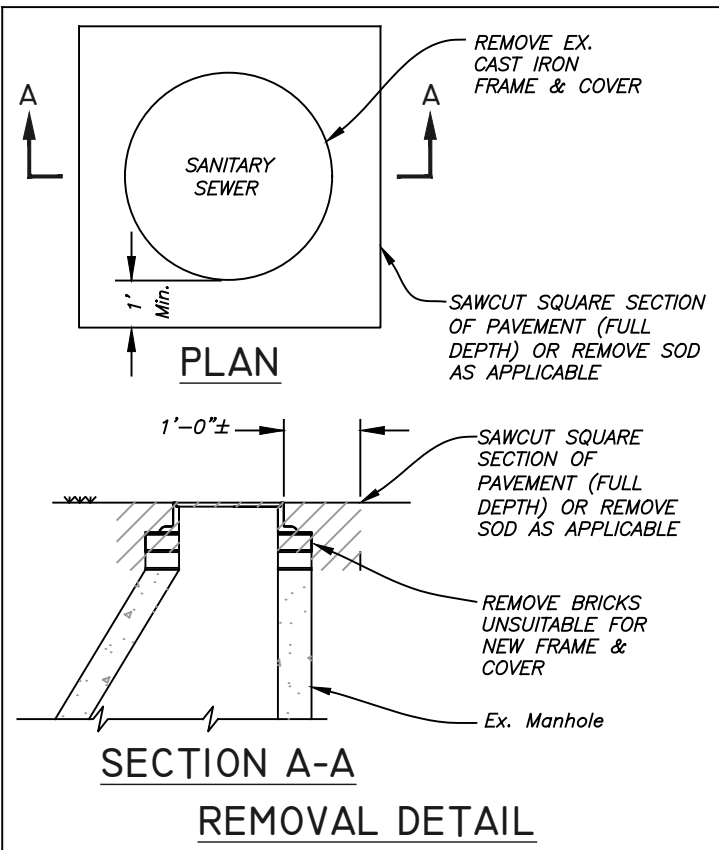
SHEET
16

User: sst4 Drawing Name: K:\WasteWater Projects\Branch PS Collection system rehabilitation by CIPP lining\Drafting\DWG\Branch PS Collection system rehabilitation by CIPP lining.dwg Layout-- Aug 19, 2024 -- 10:05am

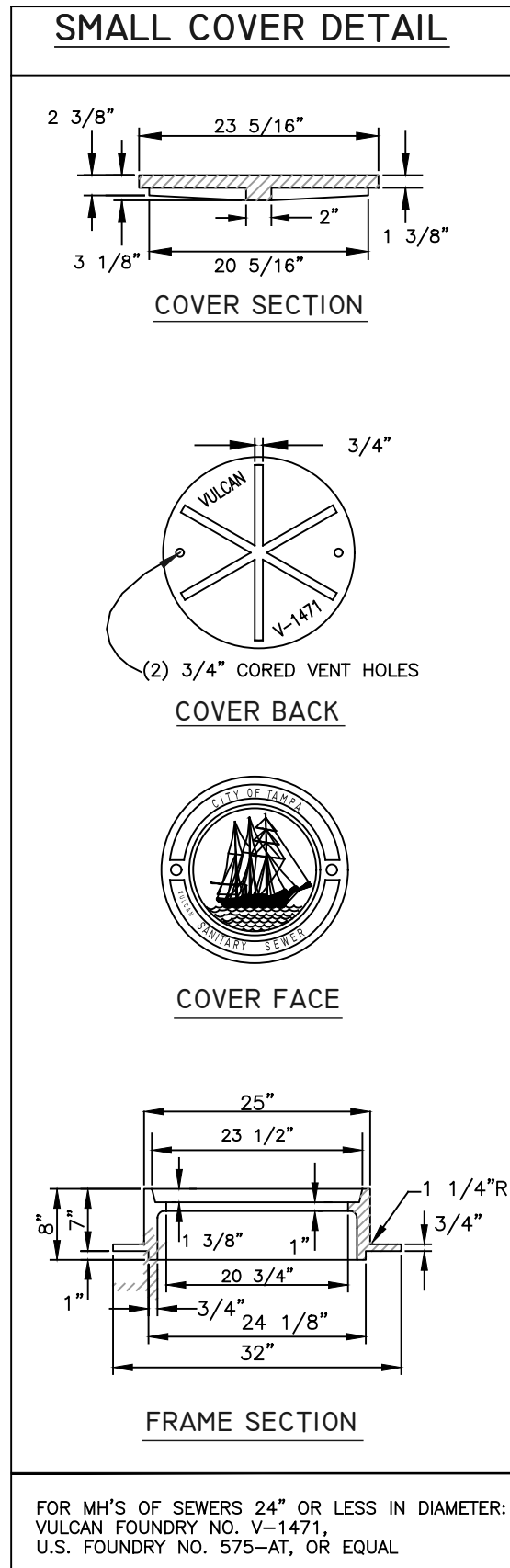
Manhole Rehabilitation Schedule							
FID	Manhole Type	Plan Sheet #	Approx Depth (ft)	Barrel Dia. (ft)	Downstream Pipe Dia. (in)	Replace Frame and Cover (Size, In Grass or Pavement)	Comments
252768	LINER	4	16.60	4	21	YES (SMALL, PVMT)	FRAME & COVER REPLACE ONLY
252770	LINER	4	9.20	4	21	YES (SMALL, PVMT)	FRAME & COVER REPLACE ONLY
252771	BRICK	4	4.60	4	8	NO (SMALL, PVMT)	
252772	LINER	4	10.00	4	21	YES (SMALL, GRASS)	FRAME & COVER REPLACE ONLY
252773	LINER	4	16.00	4	21	YES (SMALL, GRASS)	FRAME & COVER REPLACE ONLY
252552	BRICK	5	12.6	4	21	NO (SMALL, GRASS)	
252553	BRICK	6	11.24	4	21	YES (SMALL, PVMT)	
252554	BRICK	6	10.11	4	21	YES (SMALL, PVMT)	
252555	BRICK	6	10.1	4	21	NO (SMALL, PVMT)	
252556	BRICK	6	12.6	4	21	NO (SMALL, PVMT)	
252557	BRICK	6	7.77	4	21	NO (SMALL, PVMT)	
252565	BRICK	6	4.1	4	8	NO (SMALL, BRICK)	
252564	BRICK	7	2	4	8	NO (SMALL, BRICK)	
252567	BRICK	7	4.32	4	8	NO (SMALL, PVMT)	
2900718	BRICK	7	4.9	4	8	NO (SMALL, PVMT)	
252571	BRICK	10	4.1	4	12	NO (SMALL, PVMT)	
252572	BRICK	10	3.4	4	12	NO (SMALL, PVMT)	
252599	BRICK	10	11.8	4	18	NO (SMALL, PVMT)	
252653	BRICK	11	5.9	4	8	NO (SMALL, PVMT)	
252668	BRICK	11	5.1	4	8	NO (SMALL, PVMT)	
252669	BRICK	12	6.6	4	18	YES (SMALL, PVMT)	
252671	BRICK	12	5	4	8	YES (SMALL, PVMT)	
252672	BRICK	12	4.5	4	8	NO (SMALL, PVMT)	
252673	BRICK	12	5.8	4	18	YES (SMALL, PVMT)	
252636	BRICK	13	8.29	4	18	NO (SMALL, PVMT)	
252777	BRICK	13	6.8	4	18	NO (SMALL, PVMT)	
252620	CONCRETE	14	2.1	4	12	NO (SMALL, PVMT)	
252622	BRICK	14	8.9	4	12	NO (SMALL, PVMT)	
252623	BRICK	14	10.2	4	12	NO (SMALL, PVMT)	
252624	BRICK	14	5.9	4	12	NO (SMALL, PVMT)	
252625	BRICK	14	5.5	4	12	YES (SMALL, GRASS)	
252089	BRICK	15	5.11	4	8	NO (SMALL, GRASS)	
252090	BRICK	15	4.5	4	8	NO (SMALL, GRASS)	
252091	BRICK	15	9.3	4	8	NO (SMALL, PVMT)	
252092	BRICK	15	7.72	4	8	NO (SMALL, PVMT)	
252093	BRICK	15	5.8	4	8	NO (SMALL, PVMT)	
252101	BRICK	15	4.4	4	8	NO (SMALL, PVMT)	
252102	BRICK	15	3.8	4	8	NO (SMALL, PVMT)	
252103	BRICK	15	3.3	4	8	NO (SMALL, PVMT)	
252104	BRICK	15	5.62	4	8	NO (SMALL, PVMT)	
252105	BRICK	15	3.65	4	8	NO (SMALL, PVMT)	
252094	BRICK	16	6.5	4	8	NO (SMALL, PVMT)	
252095	BRICK	16	4.4	4	8	NO (SMALL, PVMT)	
252096	BRICK	16	4	4	8	NO (SMALL, PVMT)	
252097	BRICK	16	4.68	4	8	NO (SMALL, PVMT)	
252098	BRICK	16	3.1	4	8	NO (SMALL, PVMT)	
252099	BRICK	16	3.75	4	8	NO (SMALL, PVMT)	
252100	BRICK	16	3.7	4	8	NO (SMALL, PVMT)	
252778	BRICK	10/12	6.96	4	18	NO (SMALL, PVMT)	

ASPHALT RESTORATION NOTE

PAVEMENT RESTORATION SHALL CONSIST OF 12" PERMANENT BASE (CRUSHED CONCRETE) AND 2" PERMANENT ASPHALT SUPERPAVE PAVEMENT, UNLESS OTHERWISE NOTED. IF LOCATED IN D.O.T. OR HILLSBOROUGH COUNTY ROW, AN ADDITIONAL 1 1/2" SUPER PAVE ASPHALT IS REQUIRED.

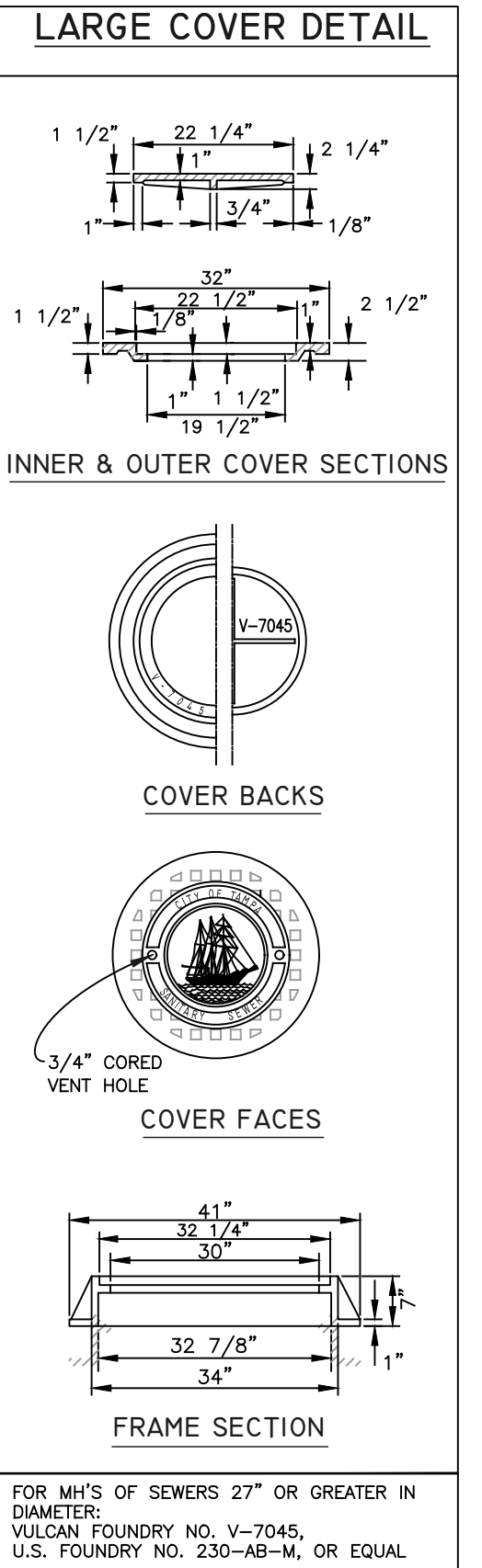


**MANHOLE FRAME & COVER
REMOVAL & REPLACEMENT DETAILS**



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

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



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

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

#	DATE	REVISIONS
1		
2		
3		

DES: CB
DRN: GP
CKD:
DATE:

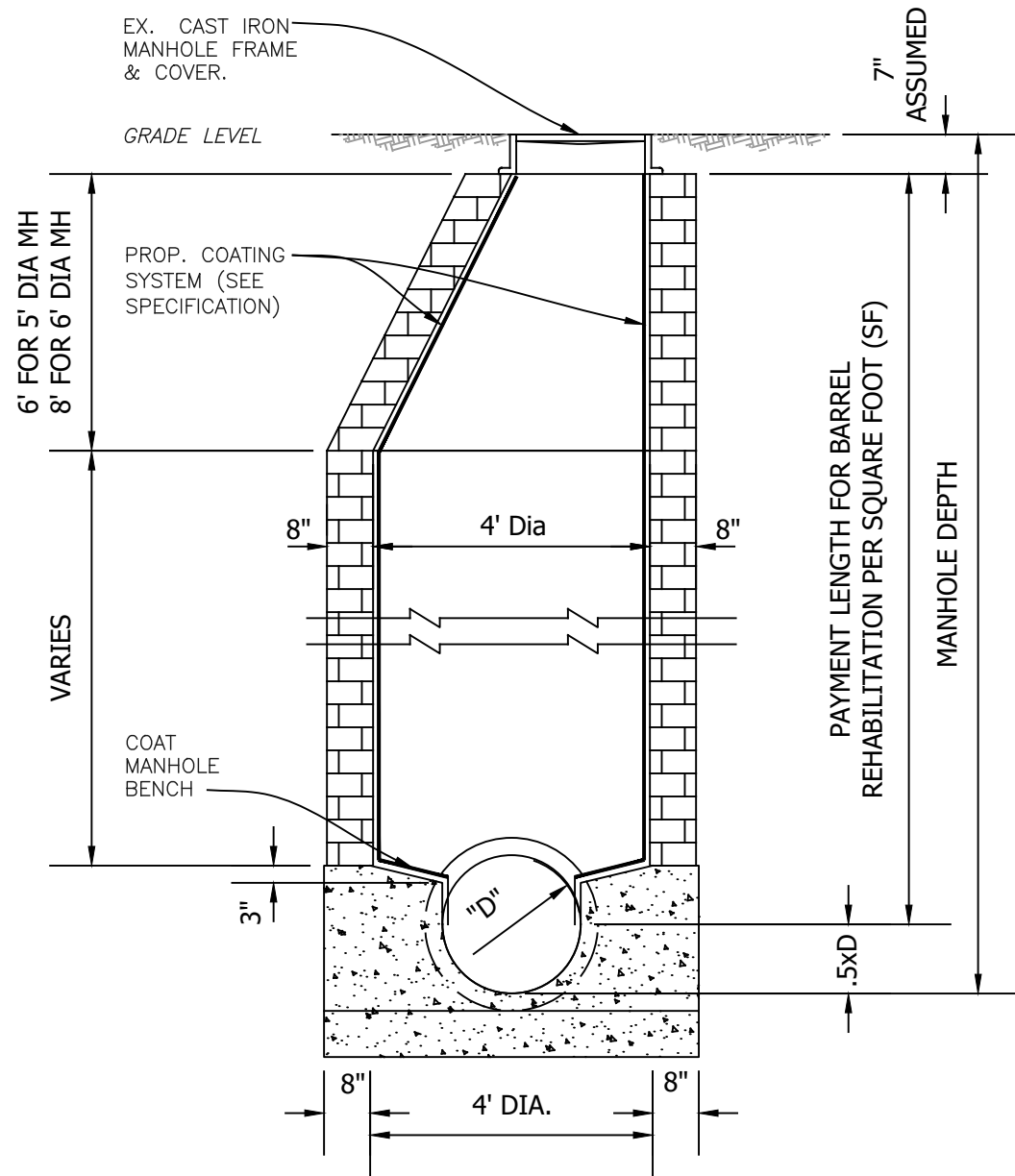
CITY of TAMPA
WASTEWATER DEPARTMENT

BRANCH PS COLLECTION SYSTEM
REHABILITATION BY CIPP LINING
MANHOLE DETAIL

SHEET
17

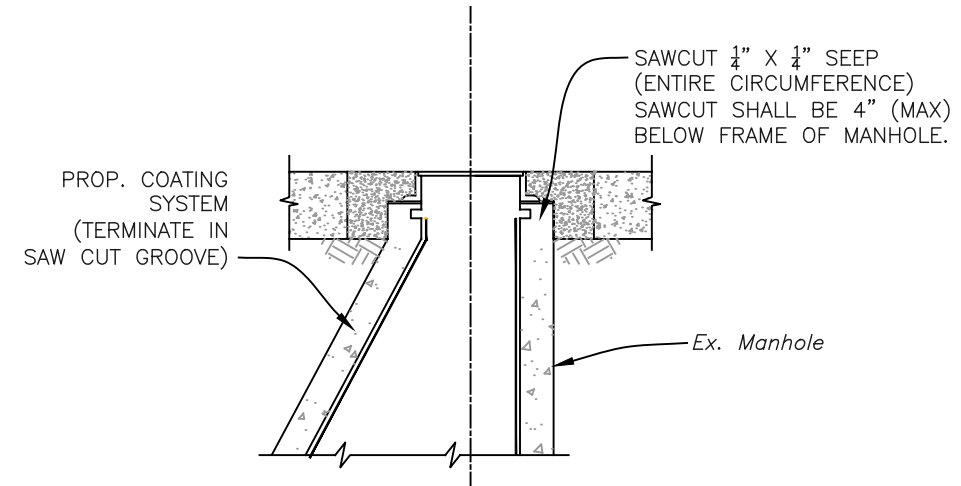
NOTES

1. REMOVE ALL DEBRIS AND LOOSE BRICKS FROM THE TOP OF THE BENCH.
2. INSTALL A MINIMUM 1" THICK CLASS "D" CONCRETE OVER EXISTING BENCH. ALLOW CONCRETE 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 BENCH RESTORATION.



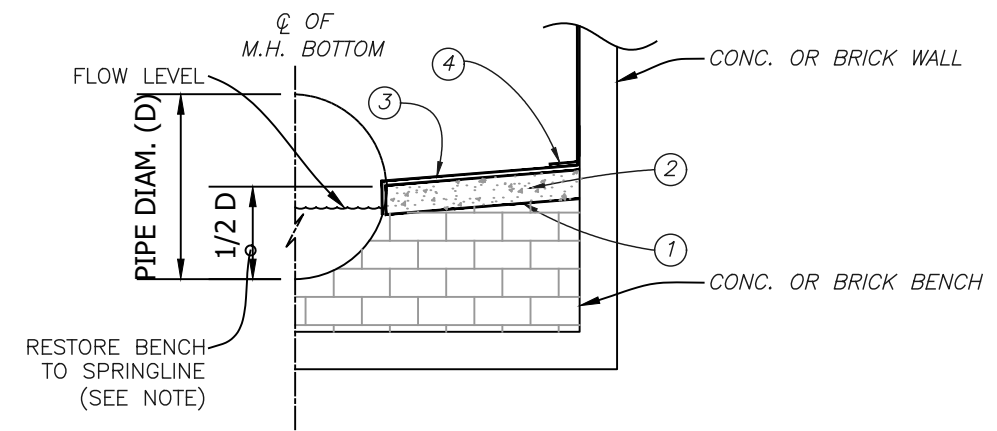
BRICK OR CONCRETE MANHOLE (TYPICAL)

SCALE: N.T.S.



COATING TERMINATION DETAIL

SCALE: N.T.S.



TYPICAL MANHOLE BENCH RESTORATION DETAIL

SCALE: N.T.S.

User: sst4 Drawing Name: K:\WasteWater Projects\Branch PS Collection system rehabilitation by CIPP lining.dwg Layout- Aug 19, 2024 - 10:05am

#	DATE	REVISIONS	DES:	CB
1			DRN:	GP
2			CKD:	
3			DATE:	

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

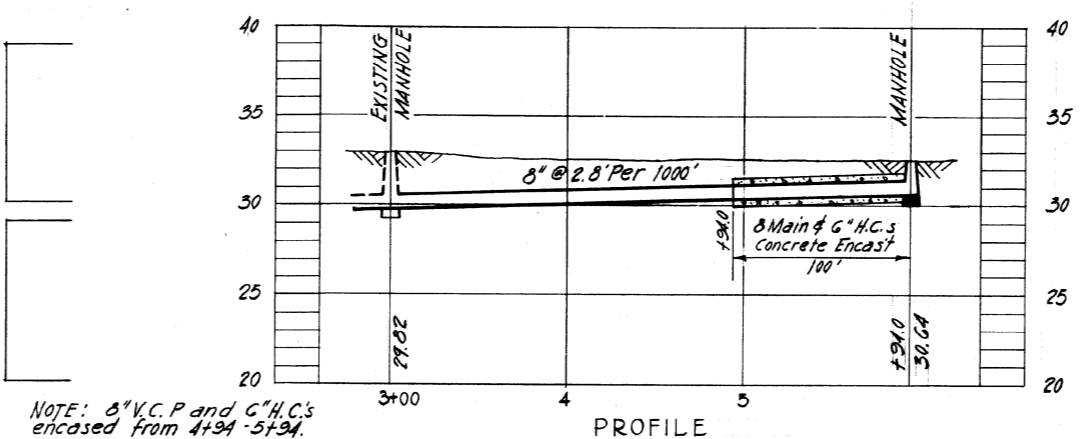
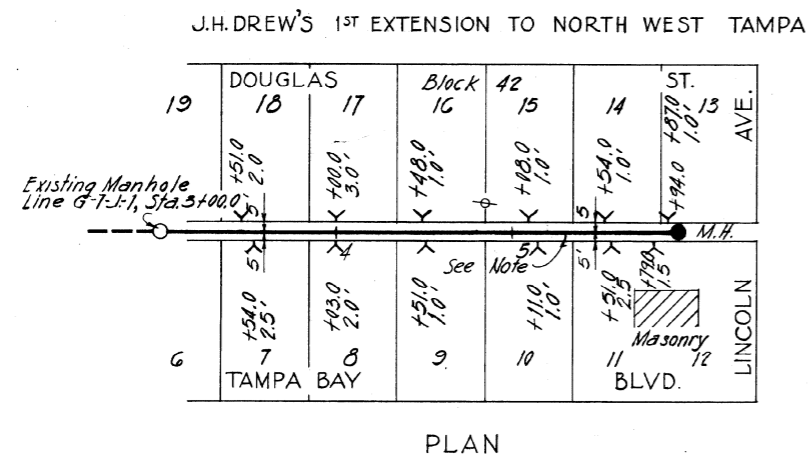
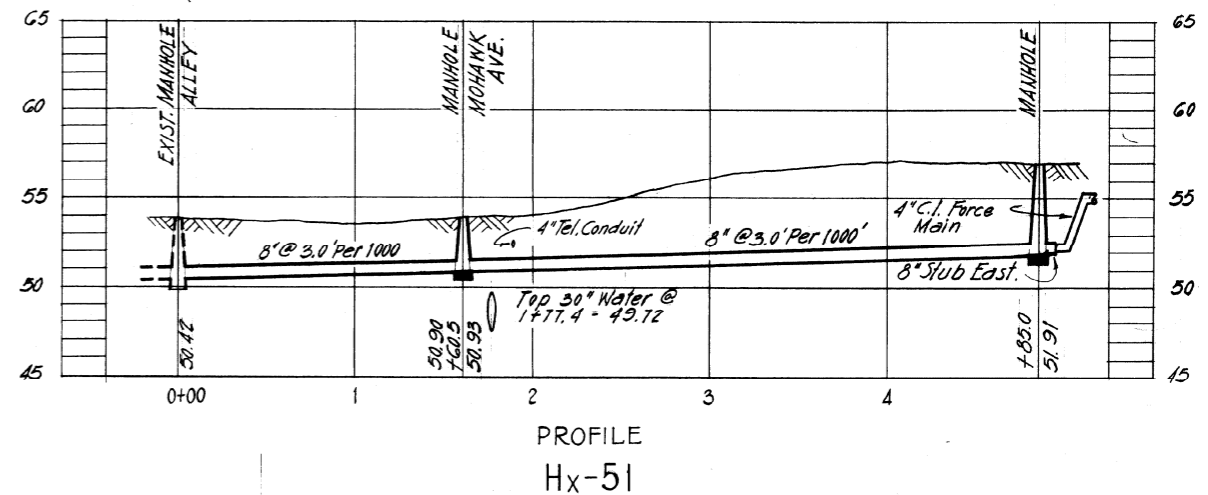
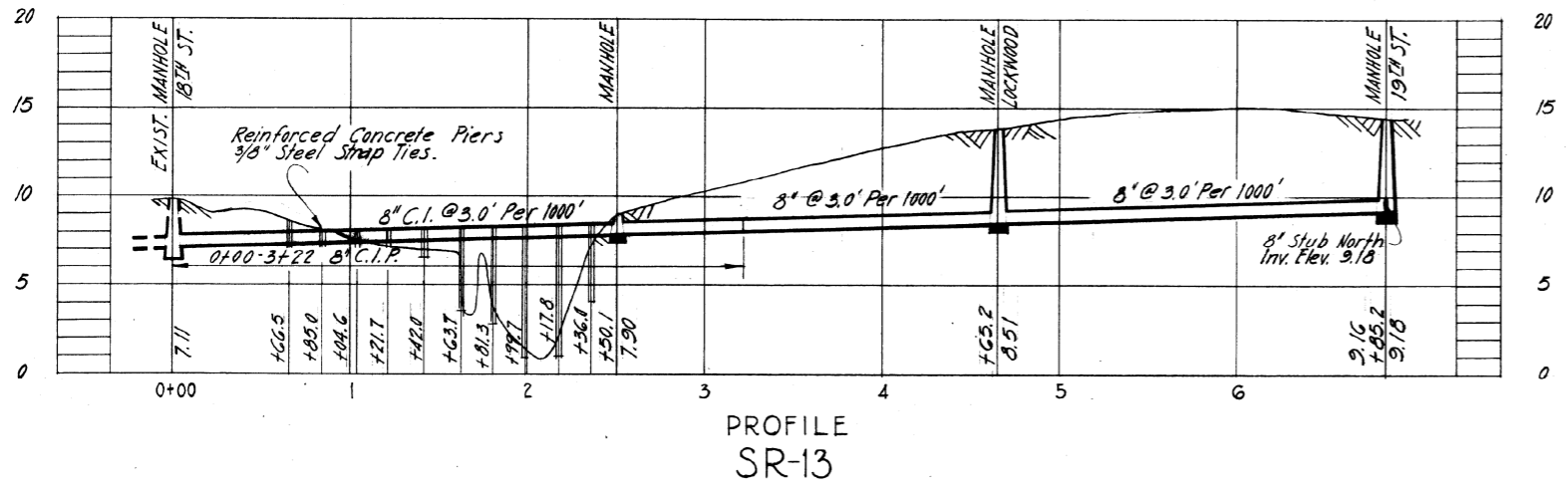
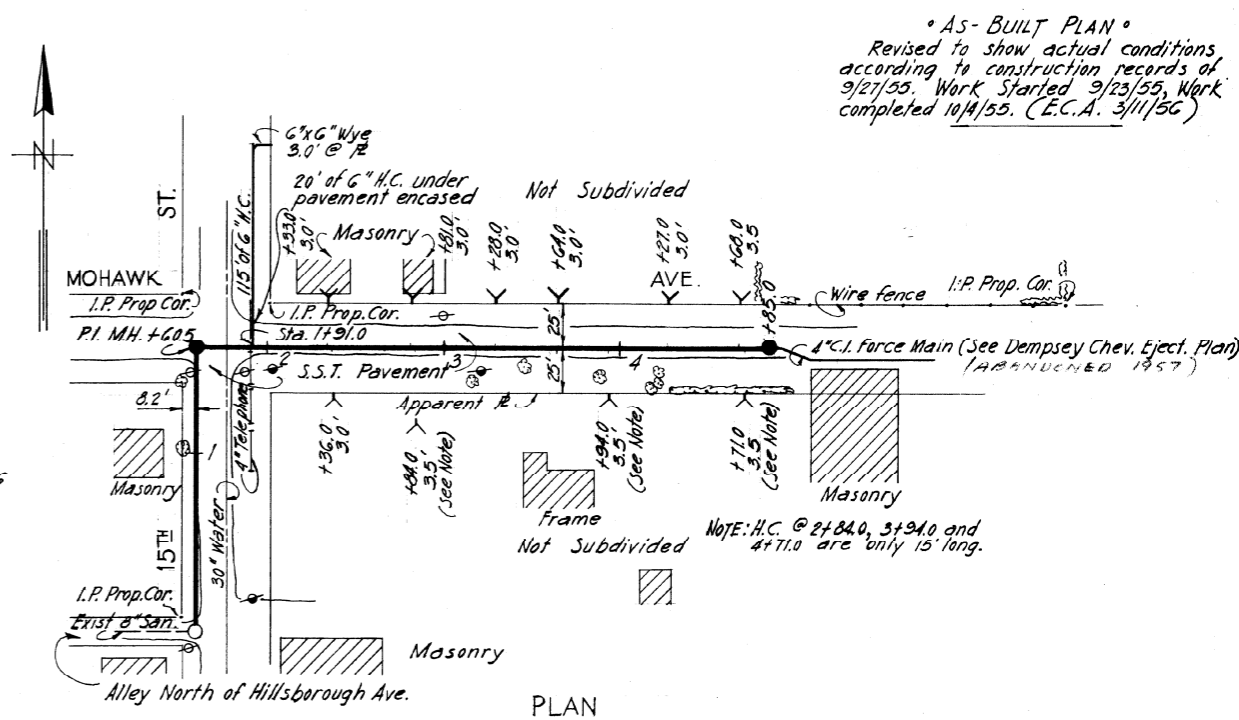
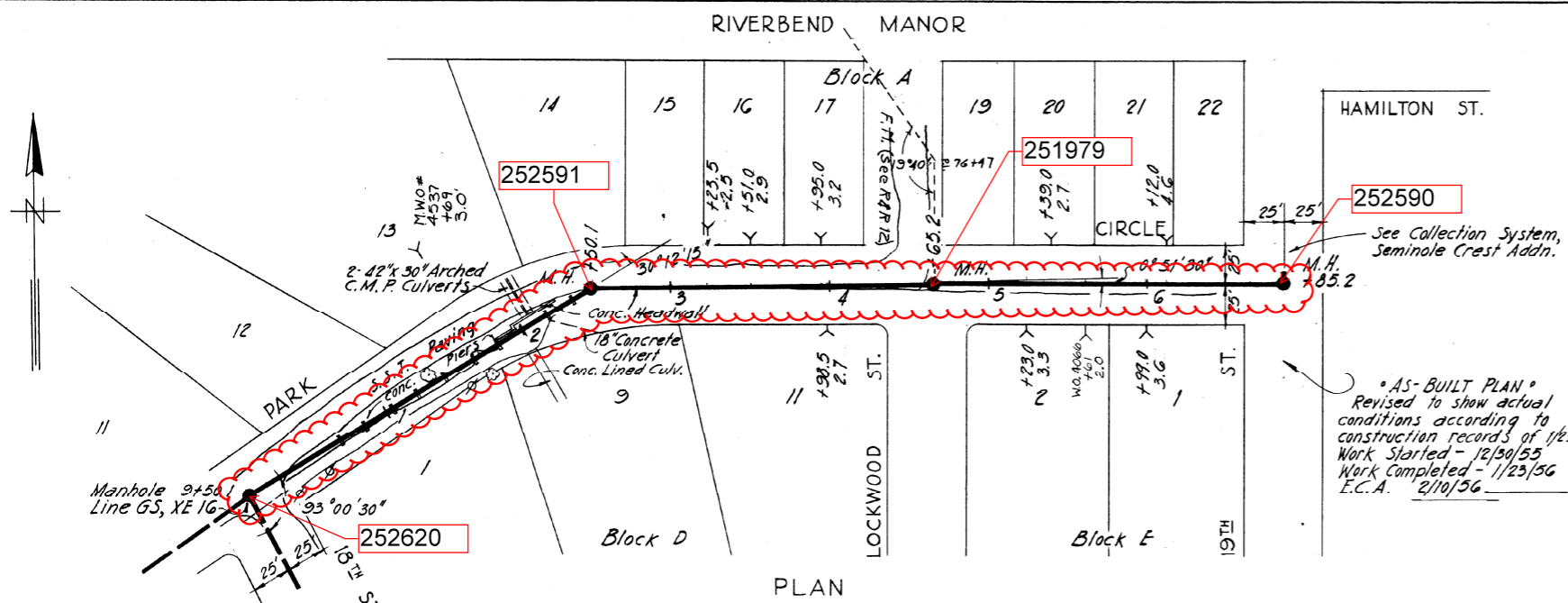
CITY of TAMPA
WASTEWATER DEPARTMENT

**BRANCH PS COLLECTION SYSTEM
REHABILITATION BY CIPP LINING**

MANHOLE DETAILS

SHEET

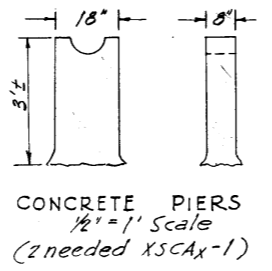
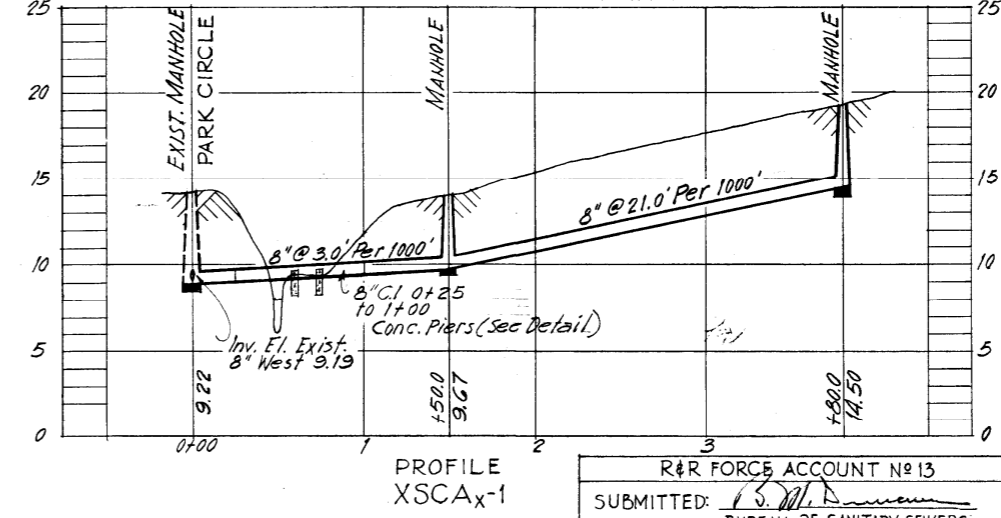
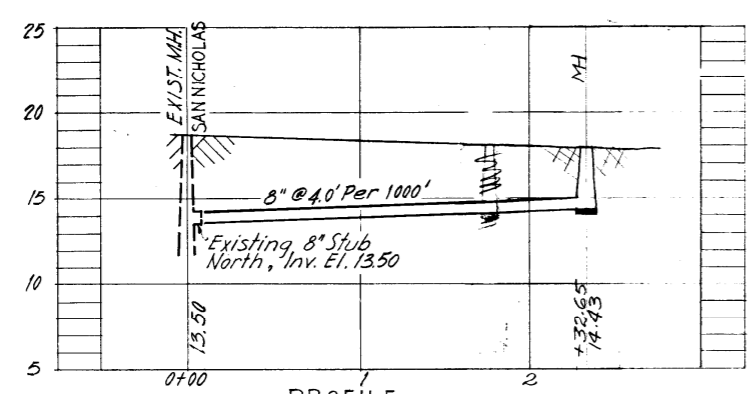
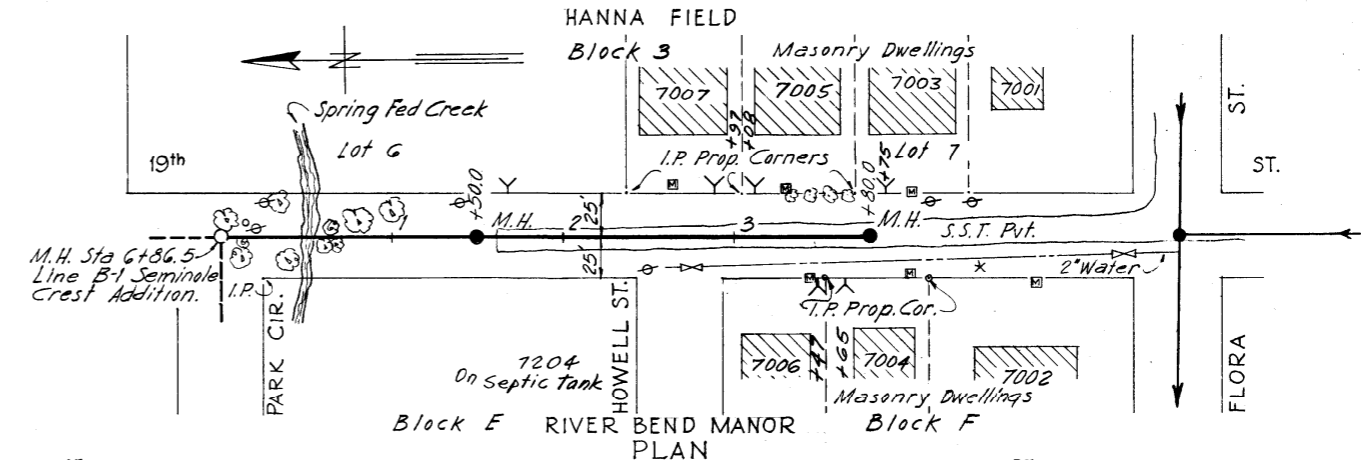
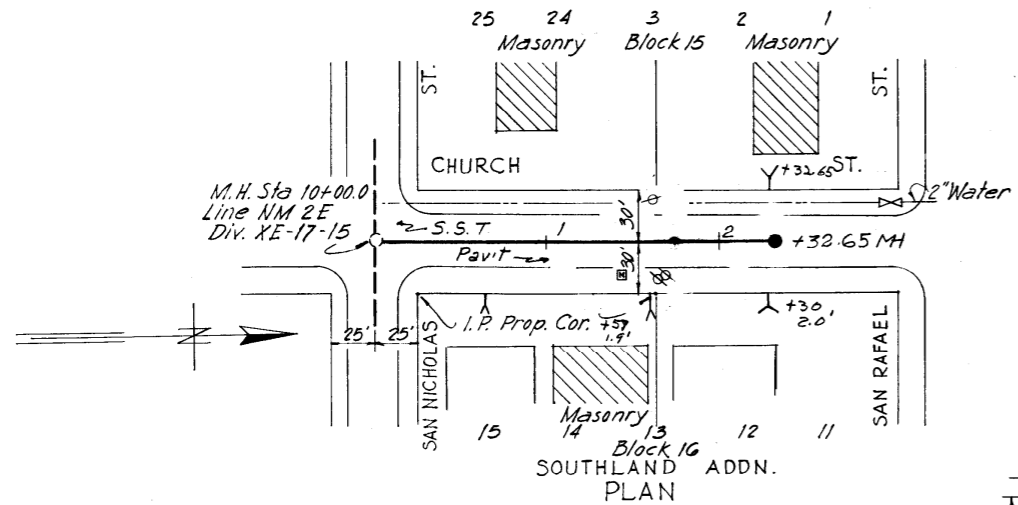
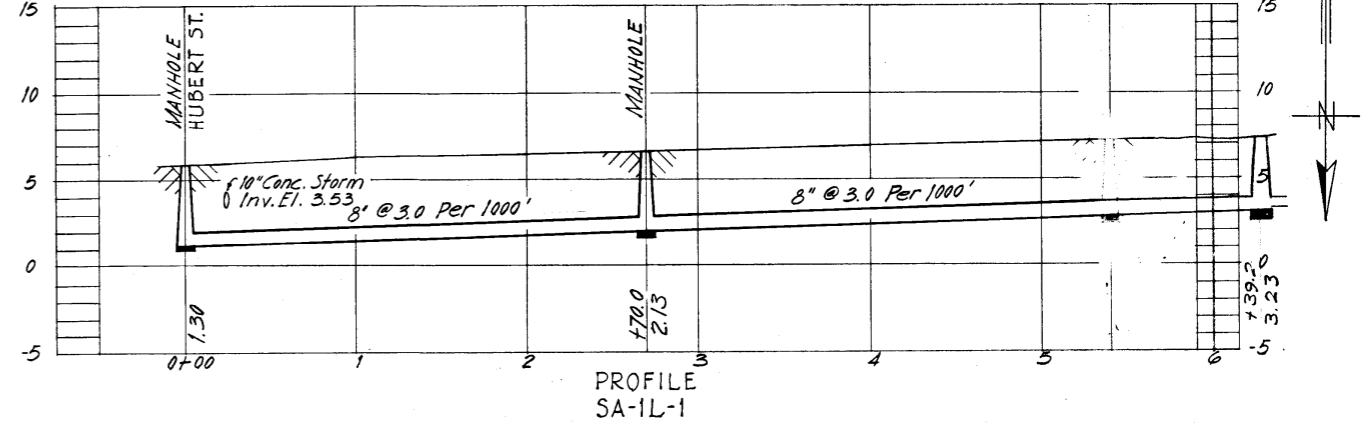
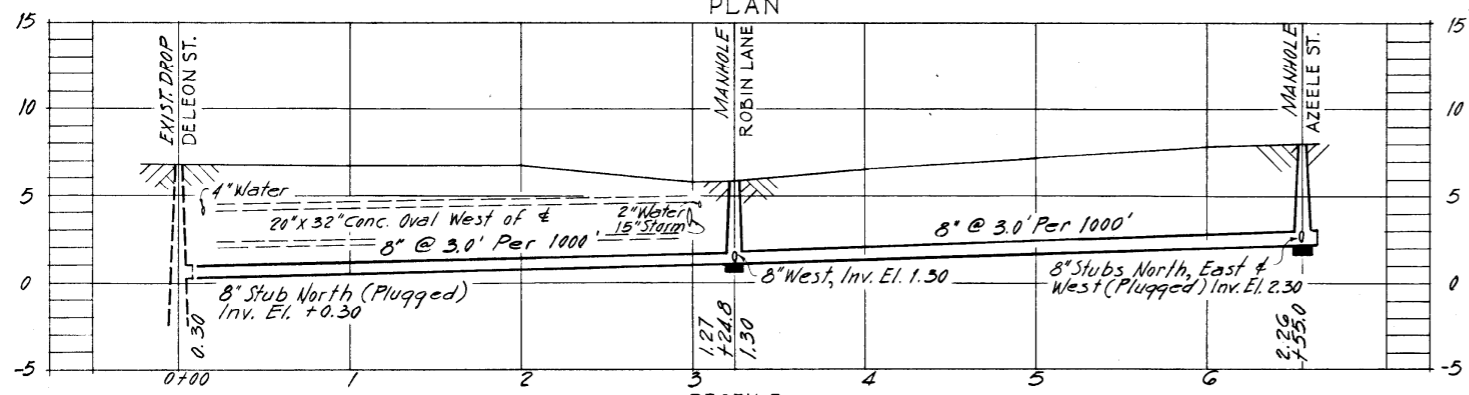
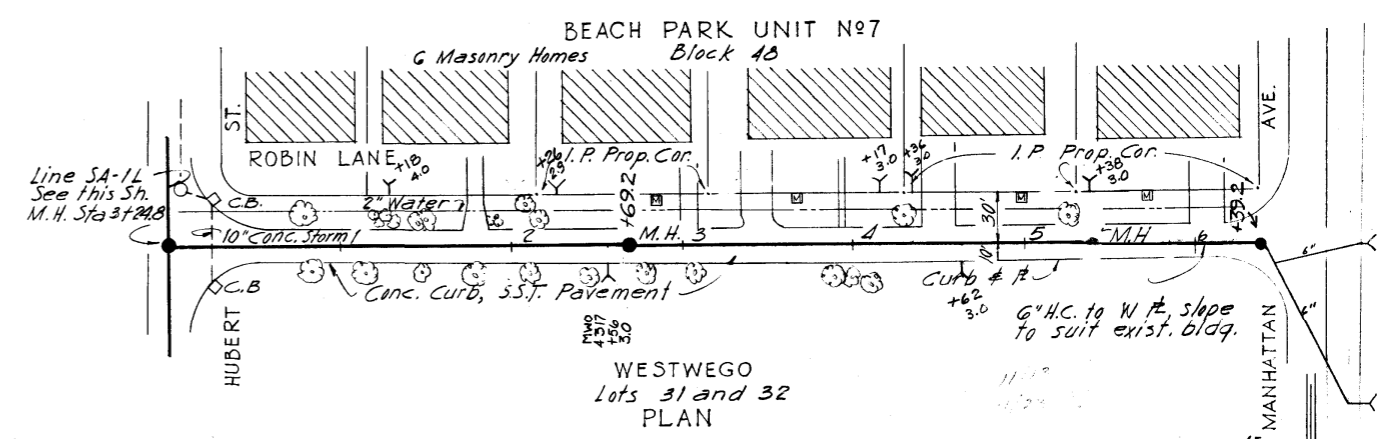
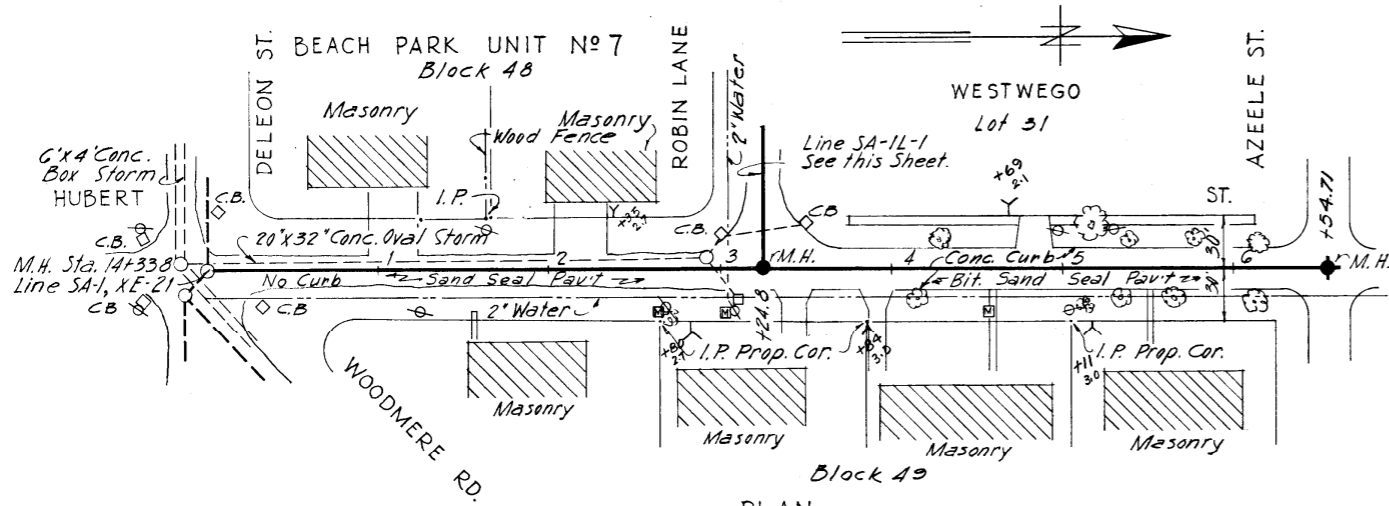
18



NOTE: 8" V.C.P. and 6" H.C.'s encased from 4+94'-5+94'.
G-7-J-1 EXT.

AS-BUILT PLAN
Revised to show actual conditions according to construction records of 11/17/55. Work started 11/14/55. Work completed 11/17/55 (E.C.A. 3/11/56)

AS-BUILT PLAN
Revised to show actual conditions according to construction records of 9/27/55. Work started 9/23/55. Work completed 10/14/55. (E.C.A. 3/11/56)



started 9-6-57
completed 9-13-57

DEPT. OF PUBLIC WORKS
BUREAU OF SANITARY SEWERS

PROFILE
NM-2E-2

PROFILE
XSCAx-1

R&R FORCE ACCOUNT NO. 13
SUBMITTED: *[Signature]*
BUREAU OF SANITARY SEWERS
APPROVED: *[Signature]*
GREELEY AND HANSEN, ENGINEERS

CITY OF TAMPA, FLORIDA
RENEWAL AND REPLACEMENT FUND
EXTENSIONS IN AREAS 17, 21 & SEMINOLE CREST

SA-1L, SA-1L-1
NM-2E-2, XSCAx-1

SCALE
50 0 50 100 1"=50'
SHEET
2
OF 5

252091

252092

252105

252104

252103

252089

252090

252091

252091

252092

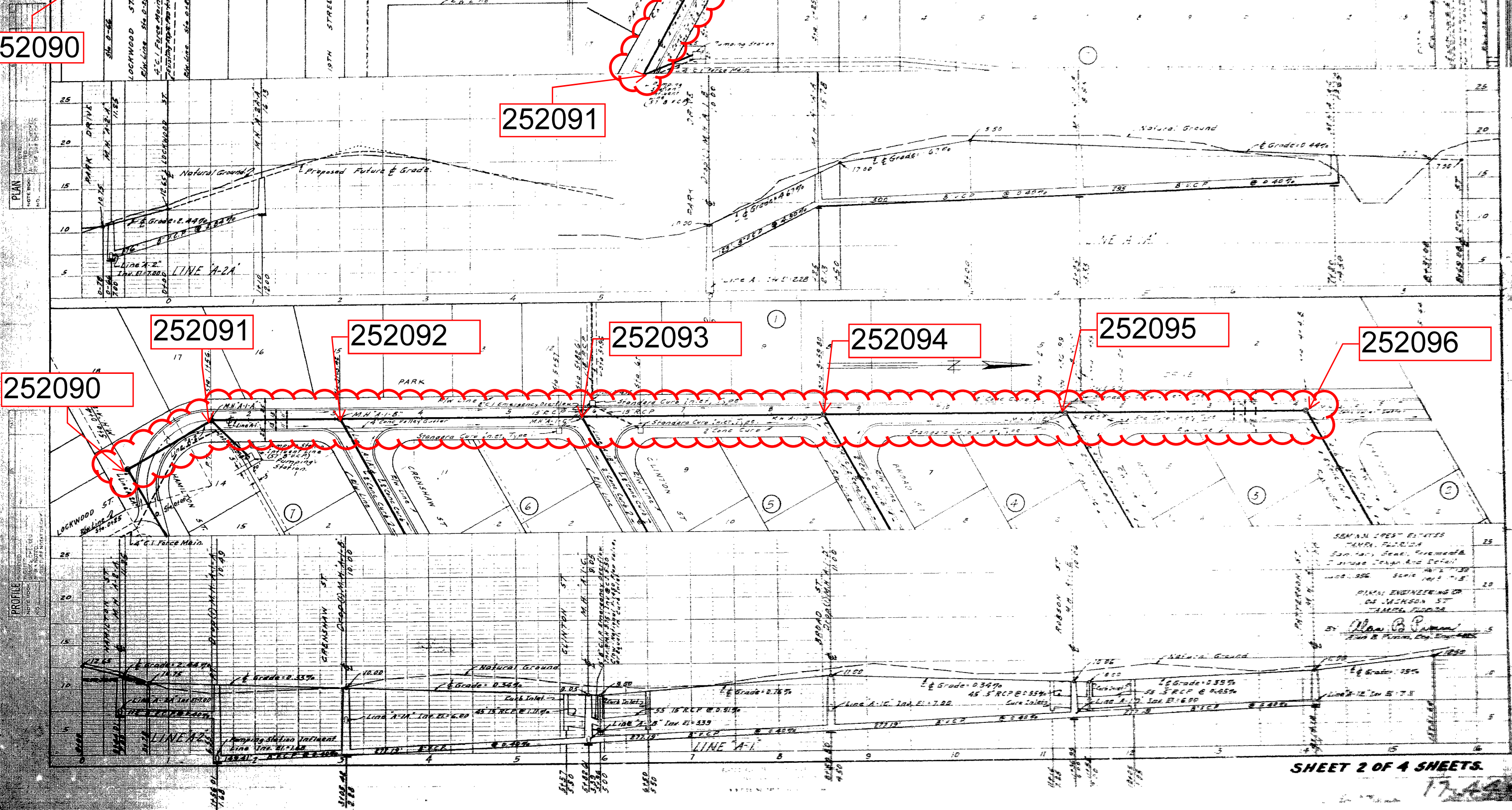
252093

252094

252095

252096

252090



17-44

SEAMAN JONES & ASSOCIATES
 TAMPA, FLORIDA
 CIVIL ENGINEERING
 DE JACOBSON ST
 TAMPA, FLORIDA

BY: *Walter B. Jones*
 W. B. Jones, P.E., Eng. No. 4485

252093

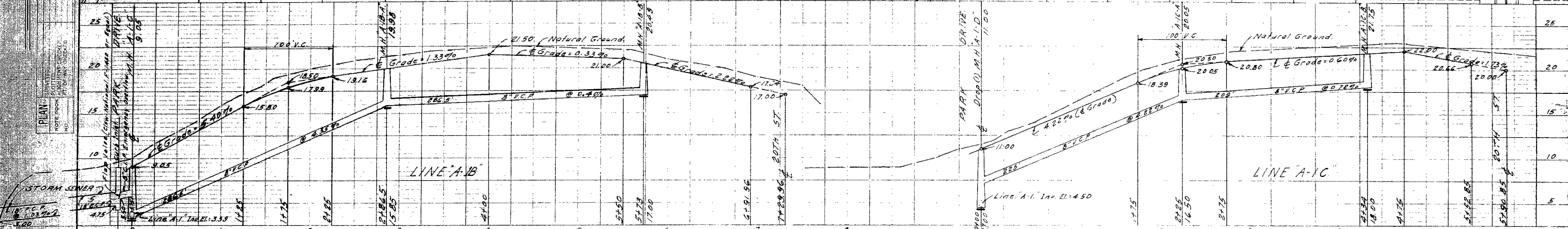
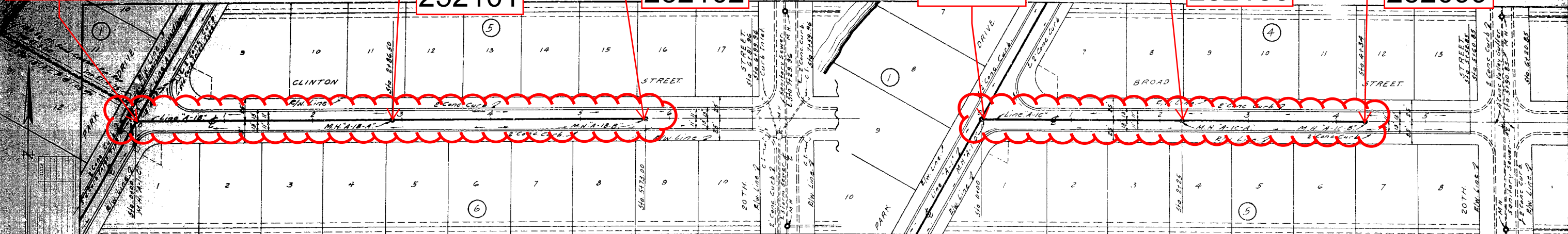
252101

252102

252094

252100

252099

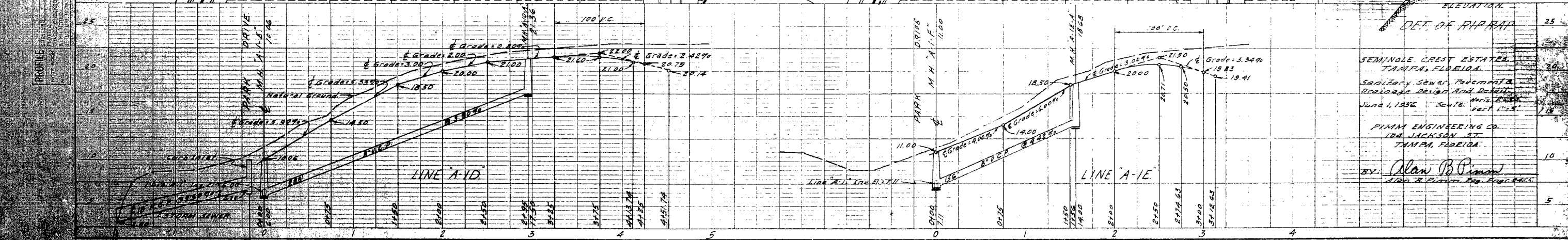
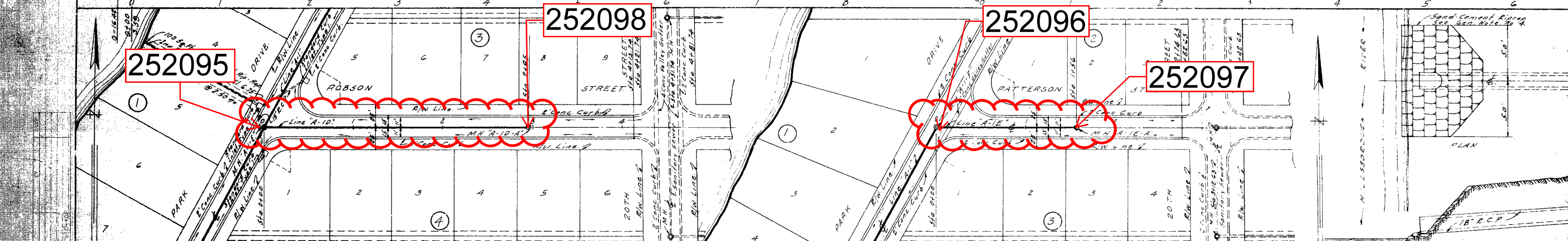


252095

252098

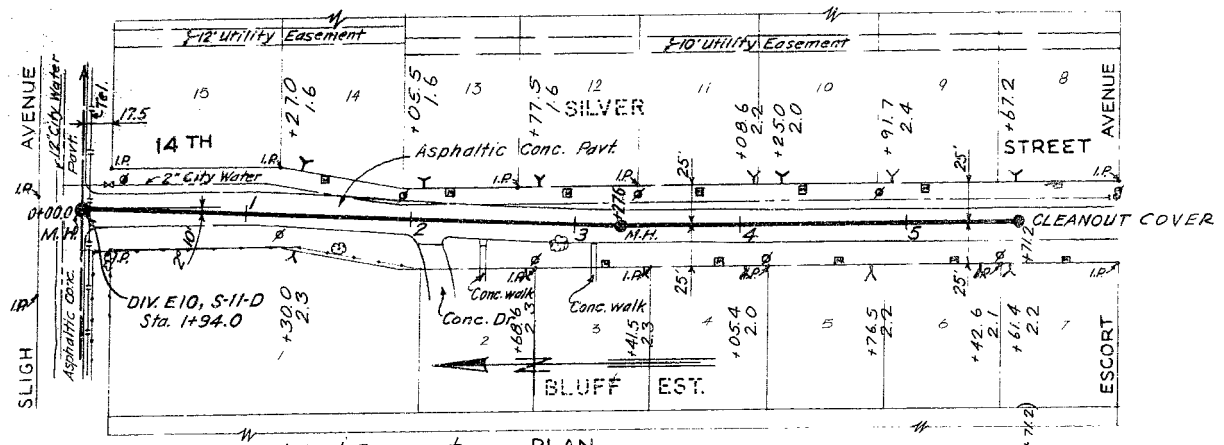
252096

252097



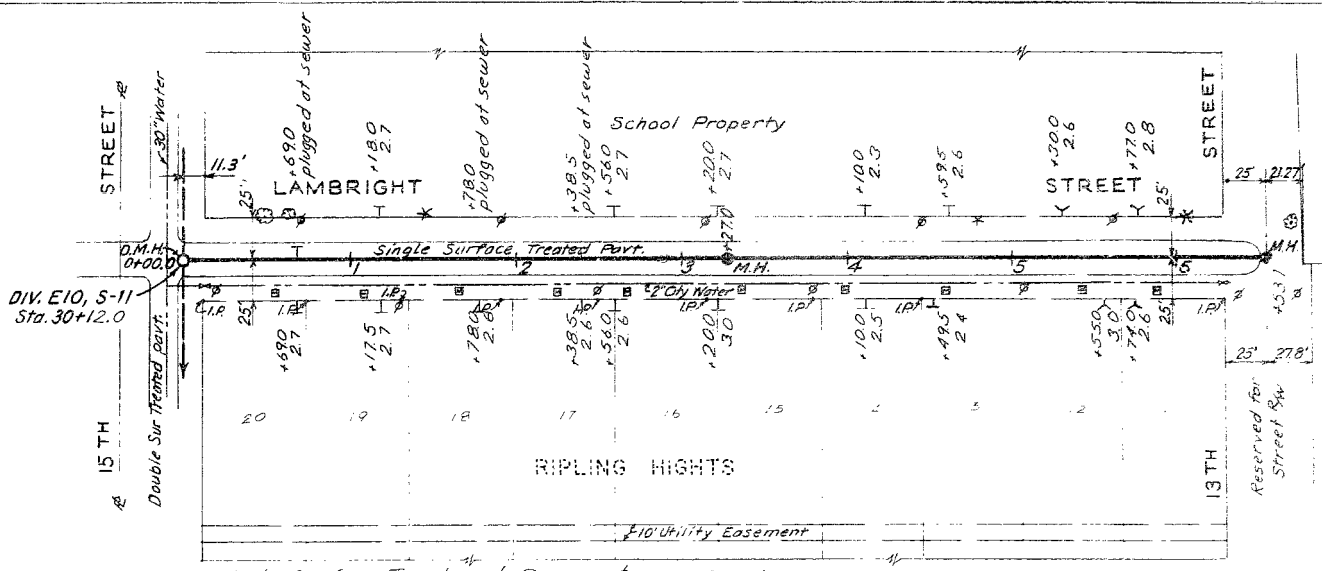
SEMINOLE CREST ESTATES,
TAMPA, FLORIDA.
Sanitary Sewer, Pavement &
Drainage Design And Detail.
June 1, 1956. SCALE: 1" = 10'
PIAMM ENGINEERING CO.
100 JACKSON ST.
TAMPA, FLORIDA.
BY: Alan B. Piamm
A.P. & P.L. Eng. Reg. No. 12345

17-45



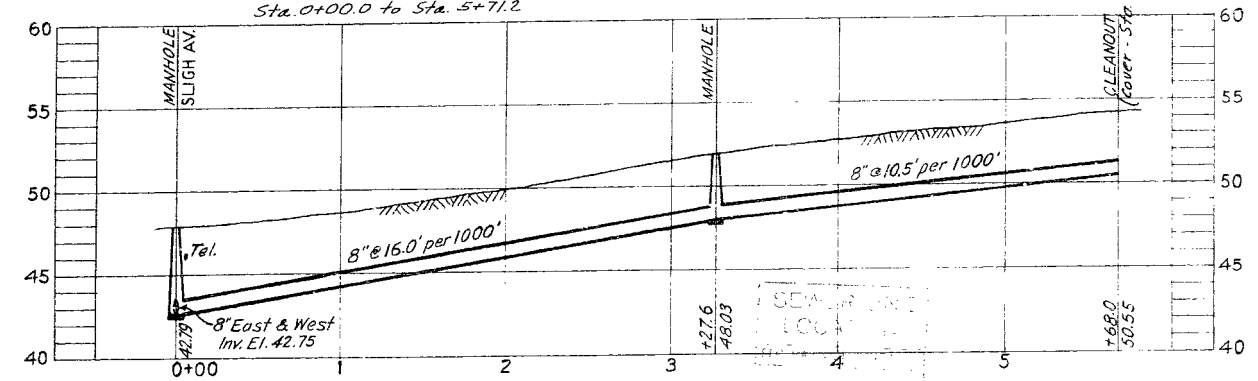
Bituminous Sand Seal Pavement
Sta. 0+00.0 to Sta. 5+71.2

PLAN



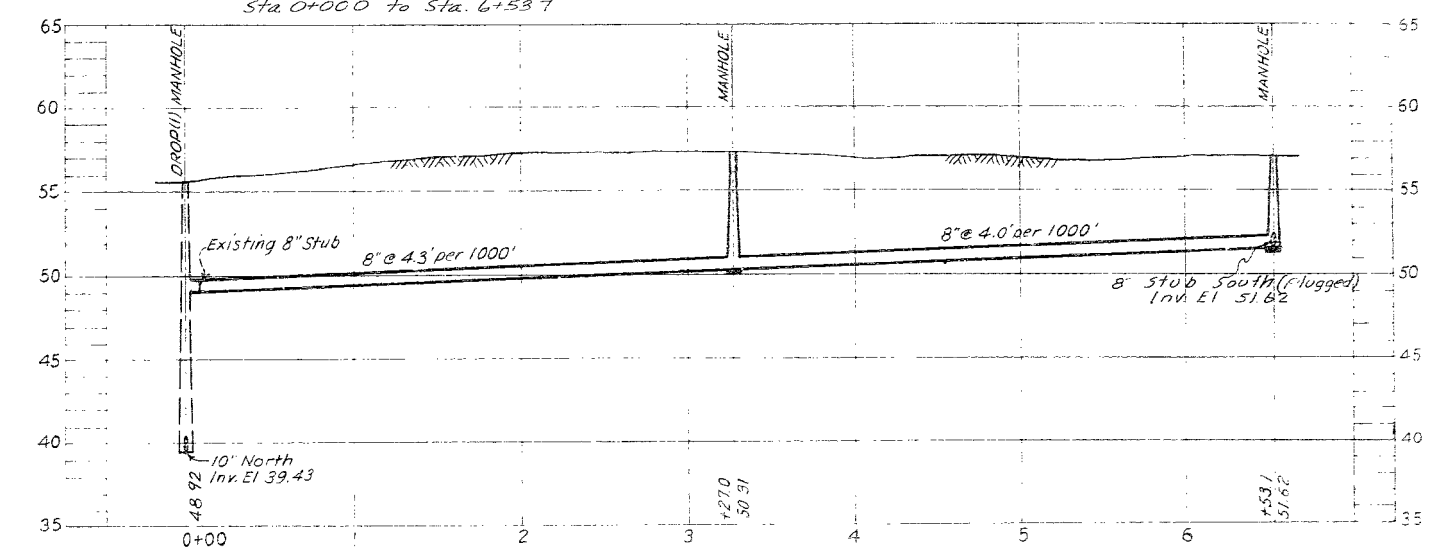
Single Surface Treated Pavement
Sta. 0+00.0 to Sta. 6+53.7

PLAN

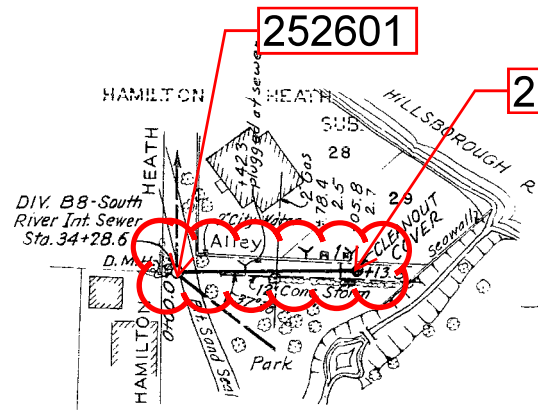


PROFILE
S-II-D-1

E-13-16

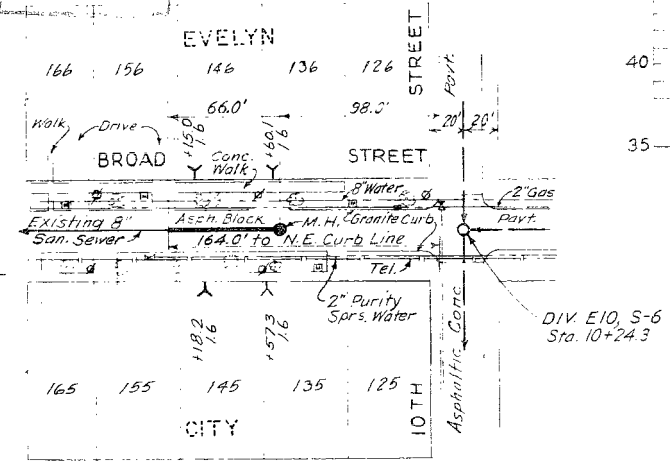


PROFILE
S-II-L



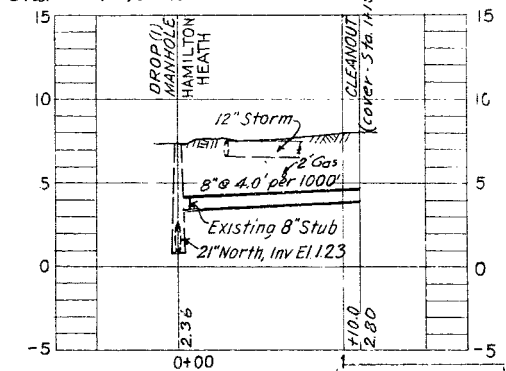
Unpaved
Sta. 0+00.0 to Sta. 1+13.3

PLAN



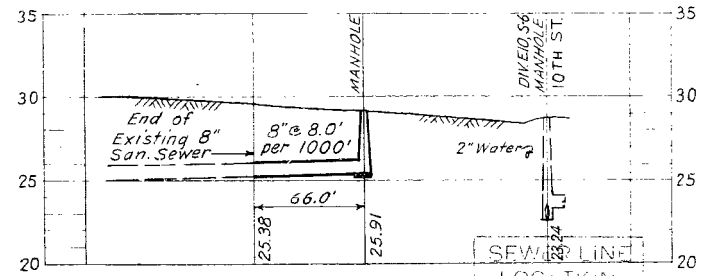
Asphalt Block Pavement
Sta. 0+00.0 to Sta. 0+66.0

PLAN



PROFILE
S-14

SEWER LINE
LOCATION



PROFILE
Sx-1

SEWER LINE
LOCATION

DEPT. OF PUBLIC WORKS
SEWER CONSTRUCTION OFFICE

D-13-18

D-13-19

AS-BUILT PLAN
Revised to show actual conditions according
to construction records as of 2-18-52
(S-2-20-52)

CITY OF TAMPA, FLORIDA
SEWER IMPROVEMENTS
ADDITIONAL SEWER EXTENSIONS IN AREA 10

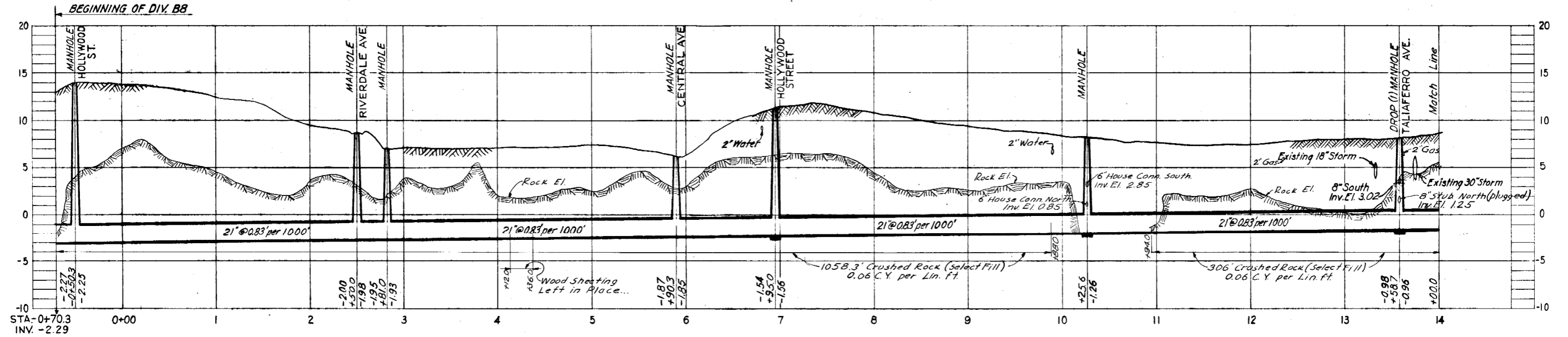
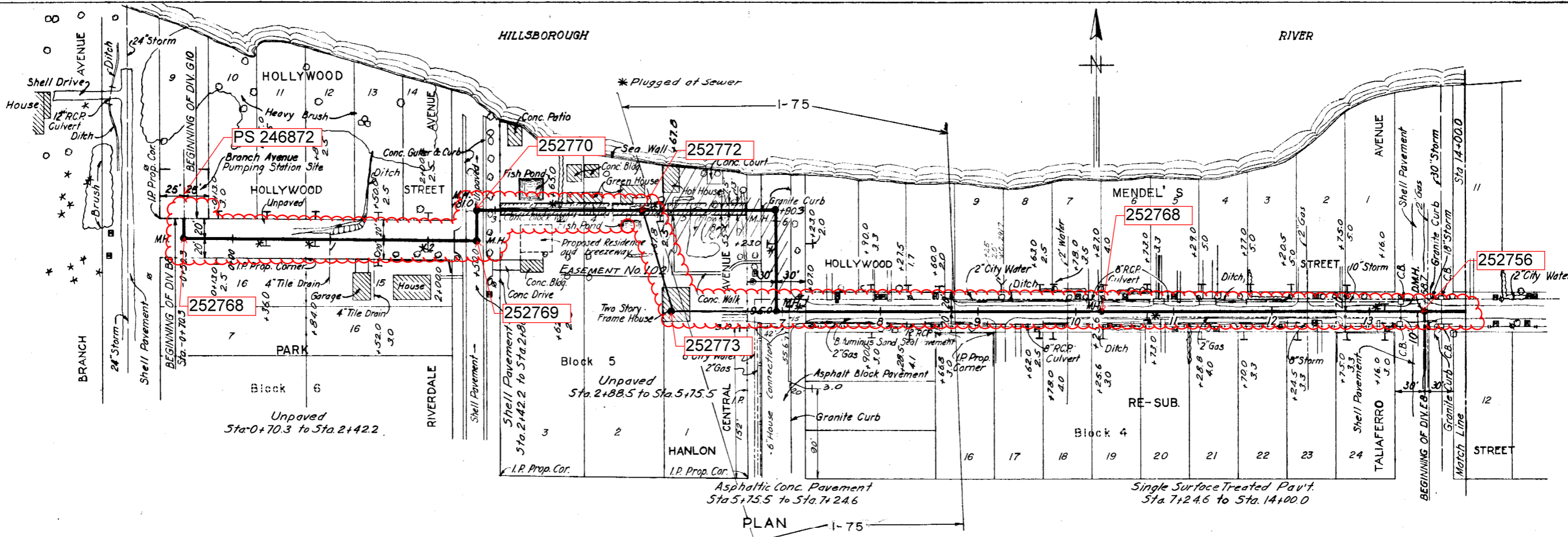
S-II-D-1, S-II-L, S-14 & Sx-1

DES. E.A.M.
DR. J.W.H.
CHK. W.W.S.
DATE
May, 1951

SCALE
0 50 100
1" = 50'

SHEET
9
OF 12

29-10



PROFILE

SEWER LINE LOCATION
 SEC. MAP NO. LINE NO.
 D-12-29

CITY OF TAMPA, FLORIDA
 SEWAGE DISPOSAL SYSTEM
 DIVISION B8
 SOUTH RIVER INTERCEPTING SEWER
 STA-0+70.3 TO STA. 14+00.0

GREELEY AND HANSEN
 ENGINEERS
 CHICAGO, ILL.

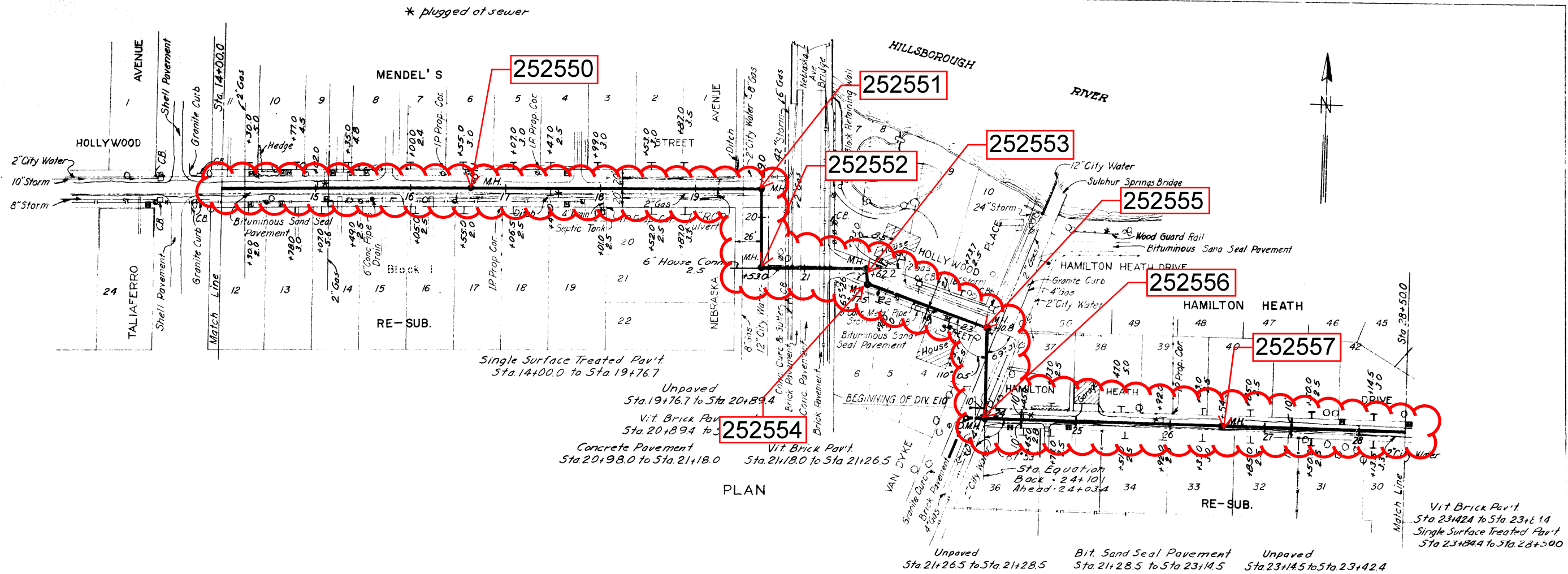
AS-BUILT PLAN
 Revised to show actual conditions according
 to construction records as of Feb. 18, 1952
 (J.B.-2-25-52)

DES. REF. DR. AT. JA. CWD. WWS. DATE MAR. 1950

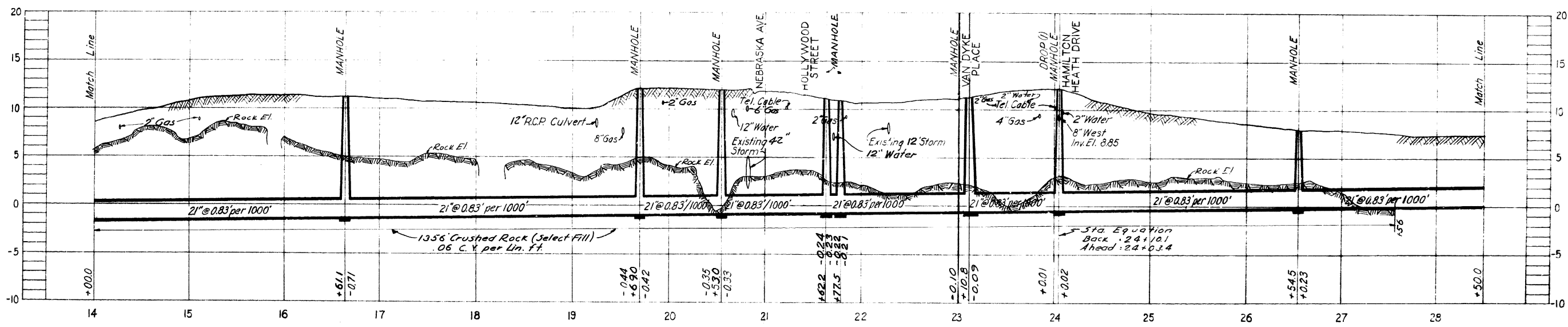
SCALE 1"=50'

SHEET B8-3 OF 9

40-4



PLAN



PROFILE

SEWER LINE LOCATION
 SEC. MAP NO. 1
 SHEET NO. 30
 D-12-30

SEWER LINE LOCATION
 SEC. MAP NO. 1
 SHEET NO. 30
 D-12-30

CITY OF TAMPA, FLORIDA
 SEWAGE DISPOSAL SYSTEM
 DIVISION 88
 SOUTH RIVER INTERCEPTING SEWER
 STA. 14+00.0 TO STA. 28+50.0

DES. REF. DR. AT. J. A. C. H. D. N. K. S.
 DATE MAY, 1950

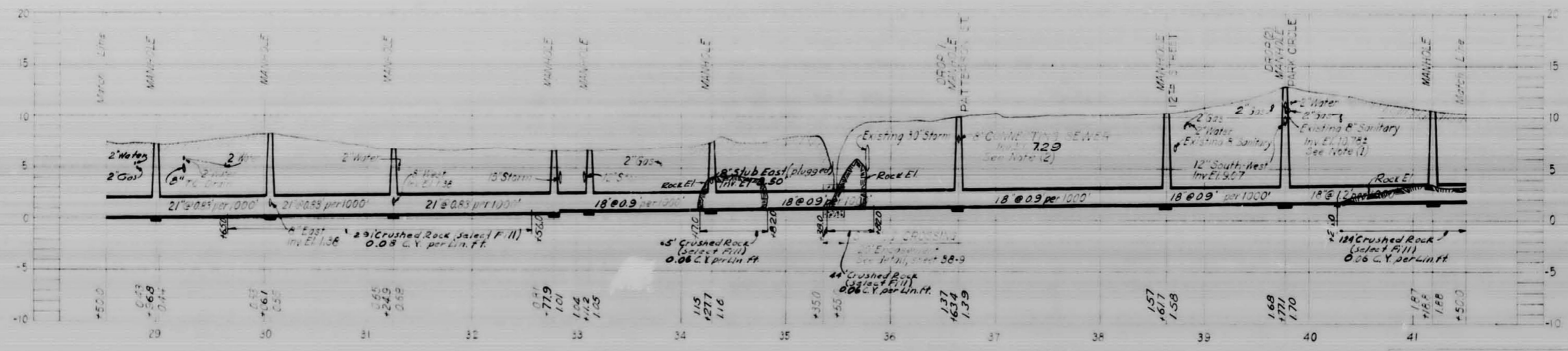
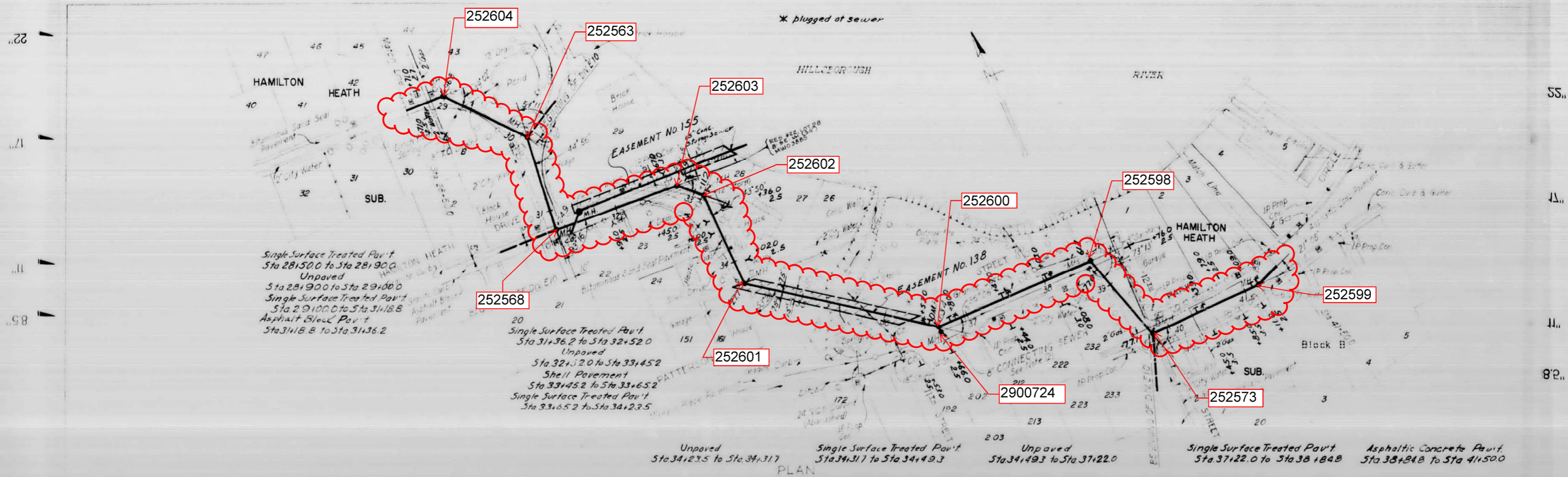
SCALE
 1" = 50'

SHEET 88-4 OF 9

GREELEY AND HANSEN
 ENGINEERS
 CHICAGO, ILL.

AS-BUILT PLAN
 Revised to show actual conditions according to construction records as of Feb. 18, 1952 (CB-2-26-52)

040-005



GREELEY AND HANSEN
ENGINEERS
CHICAGO, ILL.

PROFILE
SEWER LINE
LOCATION
D-13-24

1. Existing 8" sanitary sewer to be kept in operation carrying through line and broken out when new line is put in operation.

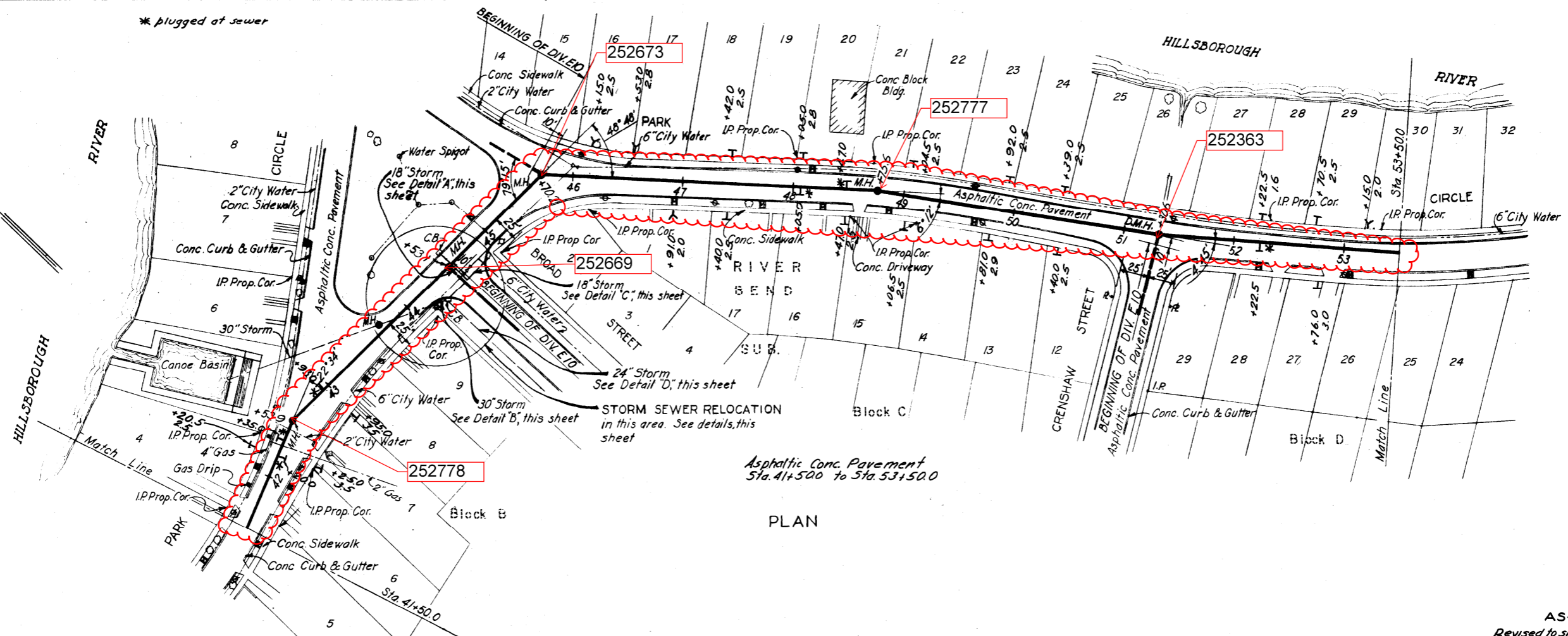
2. Sta 341317 Manhole shall be existing 8" sanitary sewer and provide a connection to new sewer.

Existing sewer to be kept in operation until new line is placed in service, at which time break out at manhole on existing sewer to be stopped and house connection between manhole and 12" street to be transferred from existing line to new line.

AS-BUILT PLAN
Revised to show actual conditions according to construction records as of Feb 18, 1952 (J.B. 2-27-52)

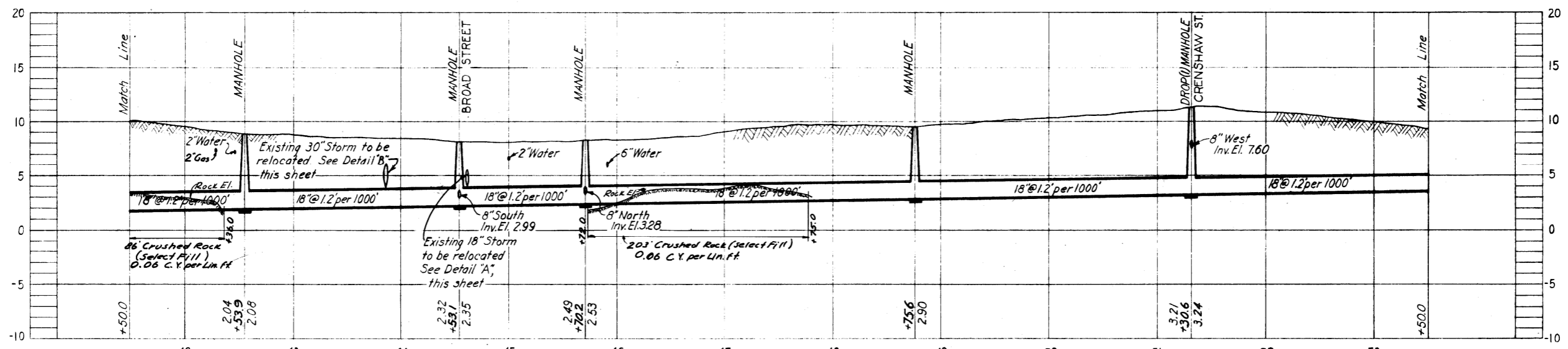
CITY OF TAMPA, FLORIDA
SEWAGE DISPOSAL SYSTEM
DIVISION 88
SOUTH RIVER INTERCEPTING SEWER
STA. 28+50.0 TO STA. 41+50.0

DES. BY
DR. FILE
CHK. BY
DATE
SCALE
1" = 50'
SHEET
88
OF 8

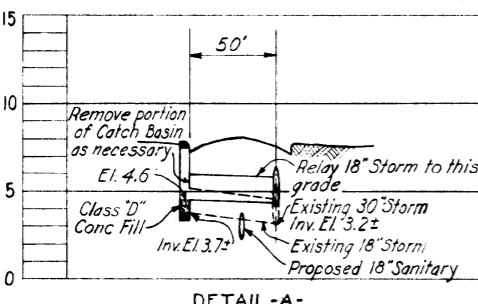


PLAN

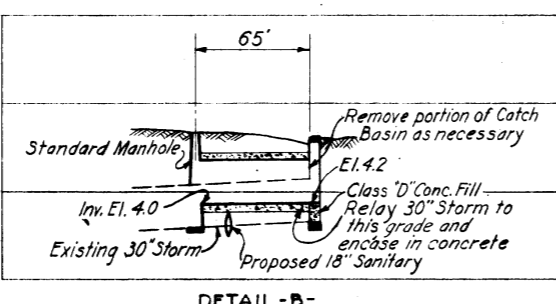
AS-BUILT PLAN
 Revised to show actual conditions according
 to construction records as of Feb. 18, 1952
 (B-2-28-52)



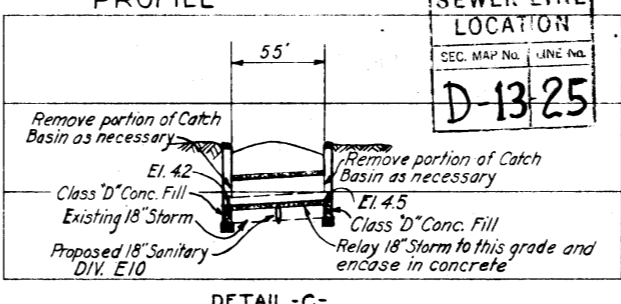
PROFILE



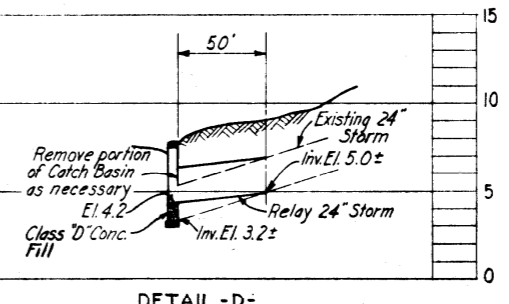
DETAIL-A-



DETAIL-B-



DETAIL-C-



DETAIL-D-

STORM SEWER RELOCATION

SEWER LINE
 LOCATION
 SEC. MAP No. LINE No.
D-13-25

CITY OF TAMPA, FLORIDA
 SEWAGE DISPOSAL SYSTEM
 DIVISION 88
 SOUTH RIVER INTERCEPTING SEWER
 STA. 41+50.0 TO STA. 53+50.0

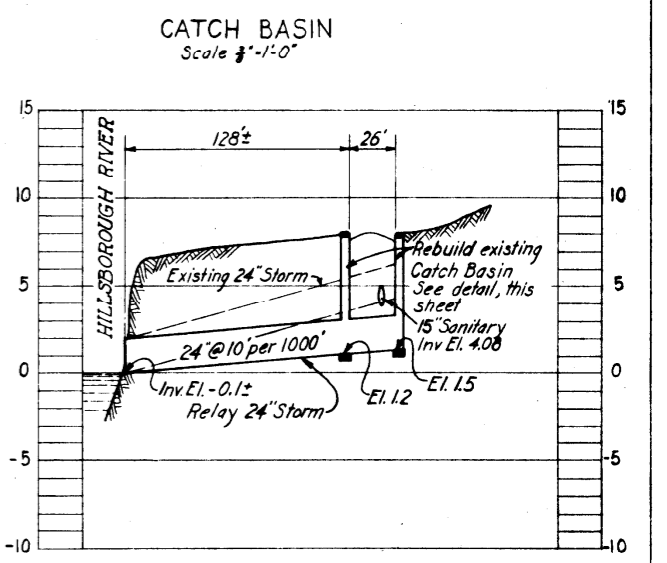
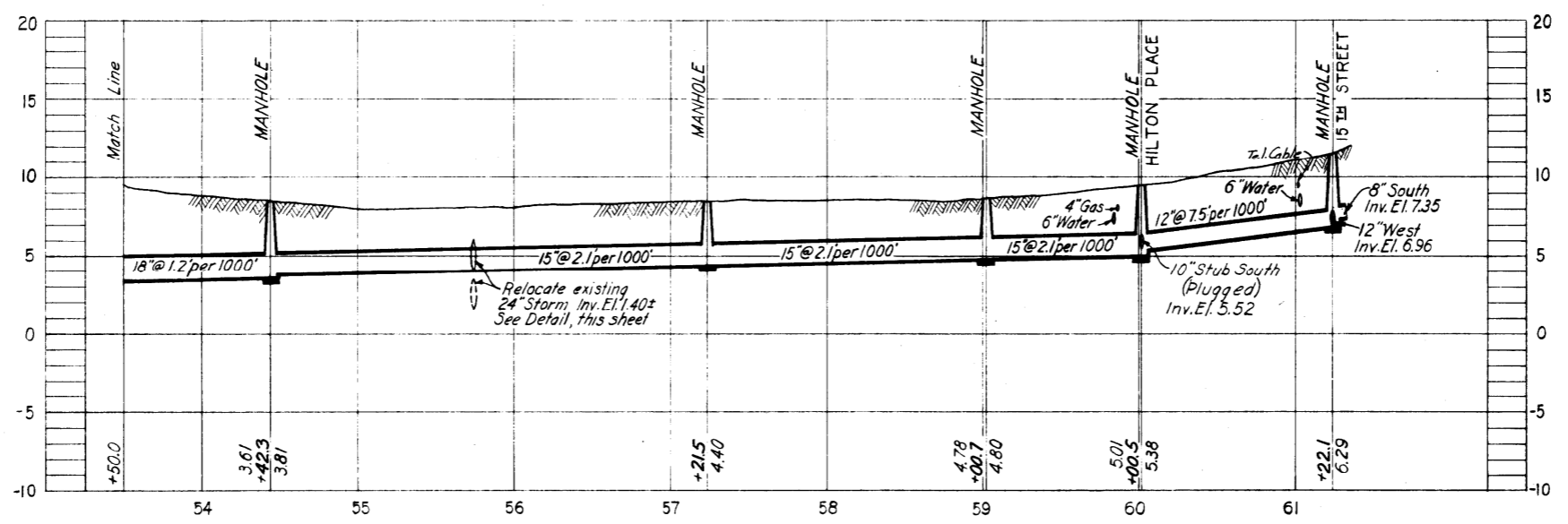
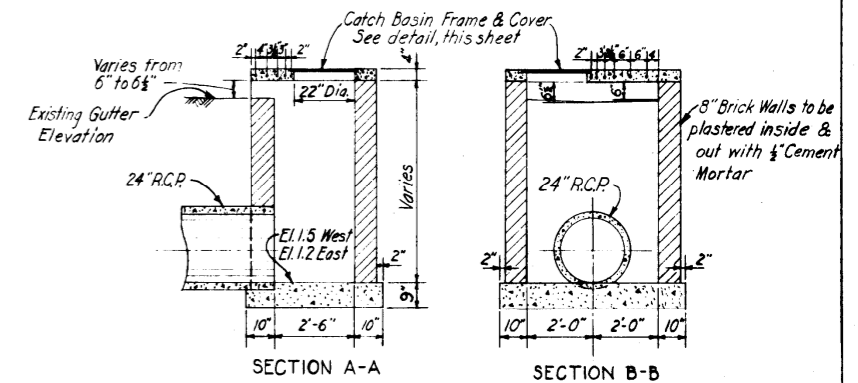
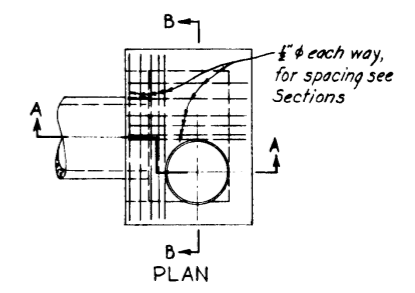
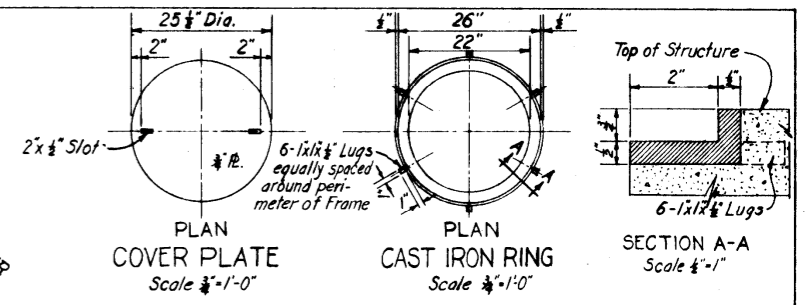
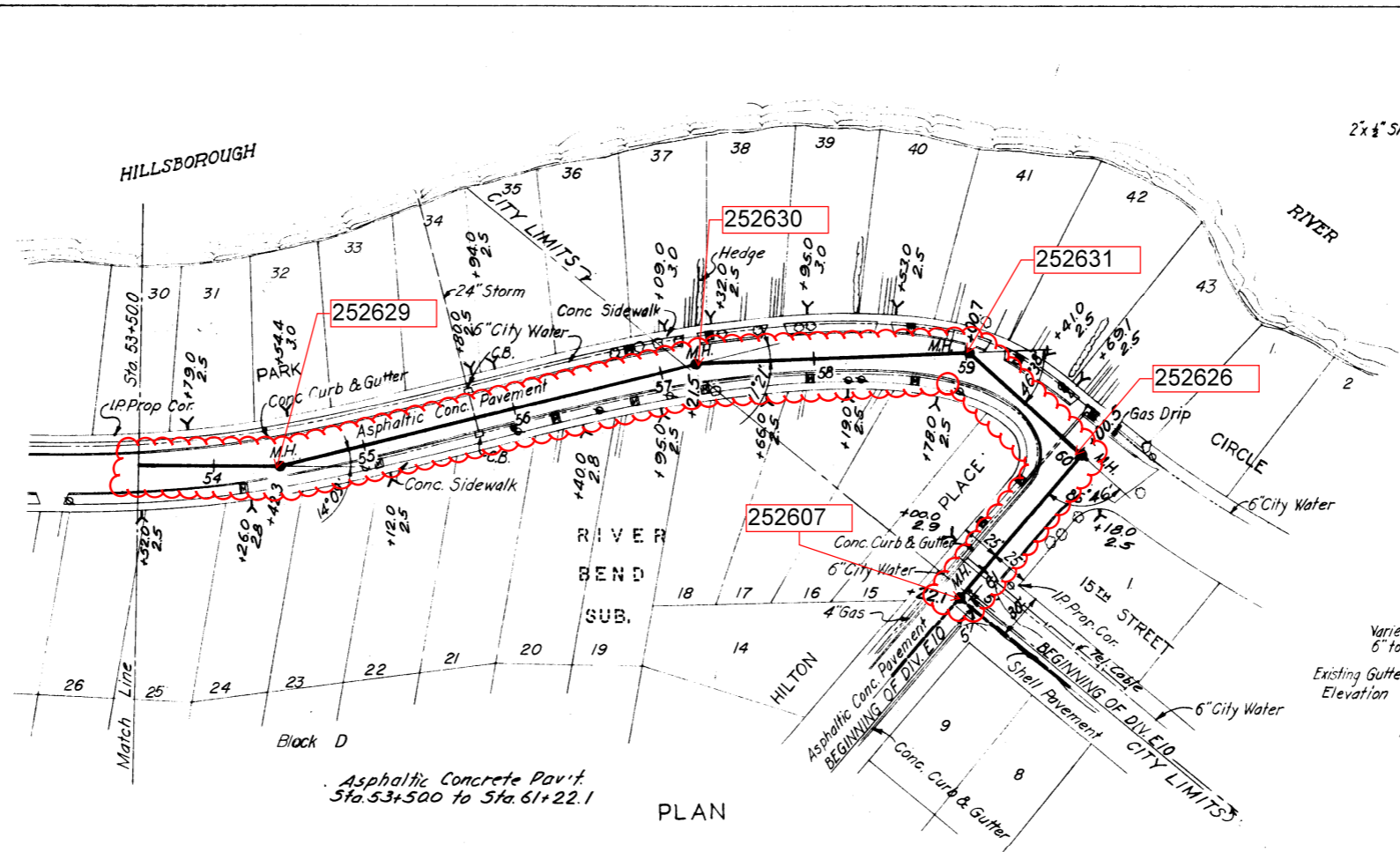
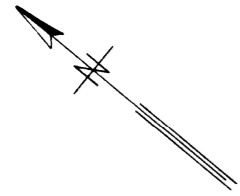
DES. REF.
 DR. AT. J. W. A.
 CHD. M. W. S.
 DATE
 MAY, 1950

SCALE
 1" = 50'

SHEET
B8-6
 OF 9

GREELEY AND HANSEN
 ENGINEERS
 CHICAGO, ILL.

40.7



PROFILE
SEWER LINE LOCATION
SEC. MAP No. | LINE No.
D-13-26

CITY OF TAMPA, FLORIDA
SEWAGE DISPOSAL SYSTEM
DIVISION B8
SOUTH RIVER INTERCEPTING SEWER
STA. 53+50.0 TO STA. 61+22.1

DES. REF. DR. A.T.J.A. CHKD. W.H.S. DATE MAY, 1950

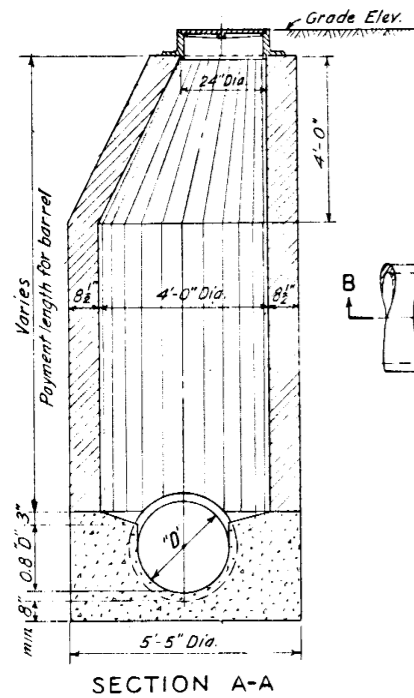
SCALE 1" = 50'

SHEET B8-7 OF 9

GREELEY AND HANSEN
ENGINEERS
CHICAGO, ILL.

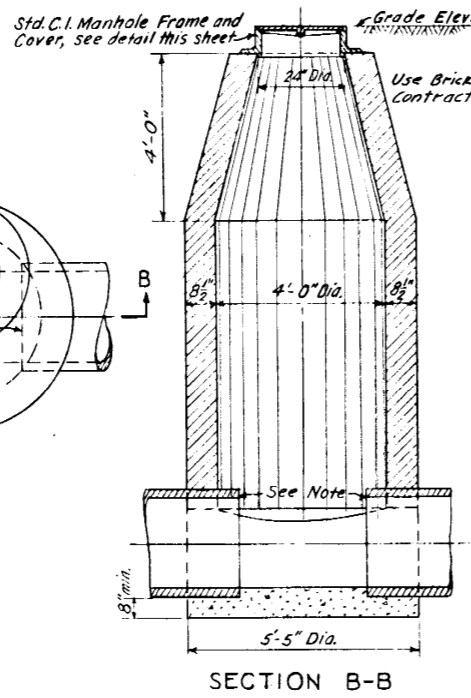
AS-BUILT PLAN
Revised to show actual conditions according to construction records as of Feb. 18, 1952 (B-2-29-52)

40-8

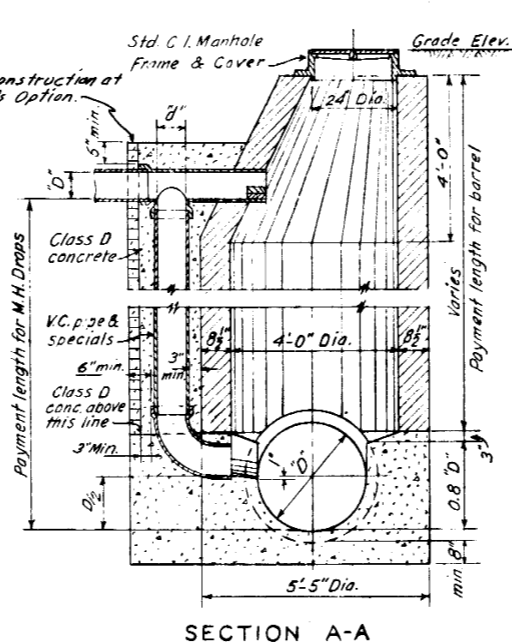


SECTION A-A

STD. MANHOLE - DEEP TYPE FOR SEWERS 24" OR LESS IN DIA.



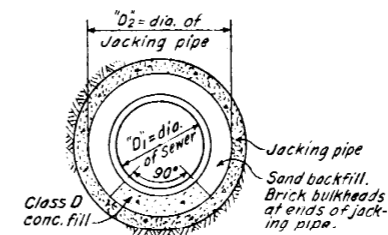
SECTION B-B



SECTION A-A

STD. DROP MANHOLE FOR SEWERS 24" OR LESS IN DIA.

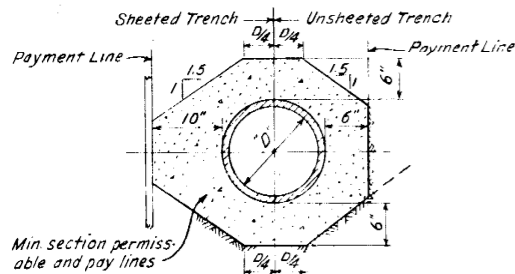
INLET PIPE - DIA. = "D"	8"	10"	12"	15" & over
DROP PIPE - DIA. = "d"	6"	8"	10"	12"



TYPICAL SECTION DETAIL OF JACKED CROSSINGS No Scale

SEWER	D1	21" & less	24"
Jacking pipe	D2	36"	42"

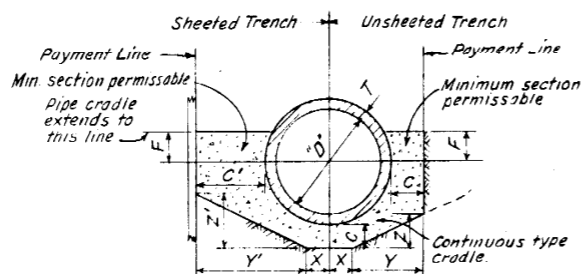
NOTE: All jacking pipe shall be tongue and groove reinforced concrete pipe conforming with ASTM Des. C76. Diameters of jacking pipe shown are minimum values.



DETAIL OF COMPLETE ENCASEMENT FOR ALL TYPES AND SIZES OF SEWERS WHEN ORDERED OR SPECIFIED No Scale

NOTE: The table below indicates the amounts which will be allowed for payment for concrete encasement.

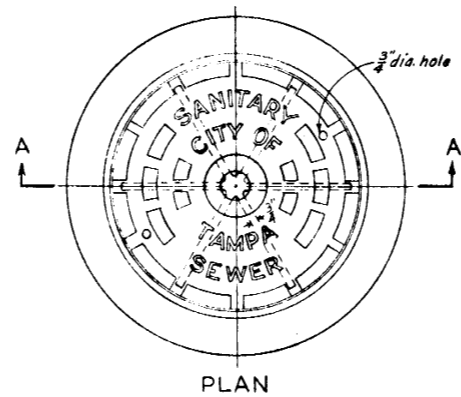
DIAMETER = "D"	8"	10"	12"	15"	18"	21"	24"
Unsheeted Trenches	0.075	0.097	0.100	0.120	0.142	0.185	0.185
Sheeted Trenches	0.089	0.105	0.121	0.146	0.171	0.197	0.224



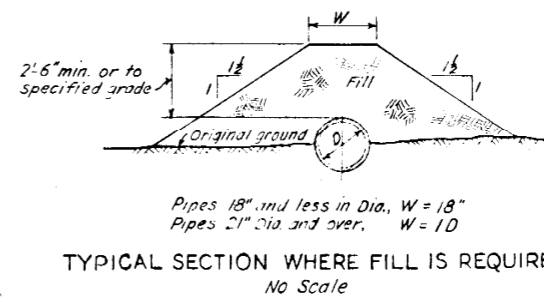
CRADLE FOR VIT. CLAY PIPE SEWERS 24" OR LESS IN DIA. No Scale

DIAMETER = "D"	8"	10"	12"	15"	18"	21"	24"
T	3 1/4"	1 1/8"	1 1/4"	1 1/2"	1 3/4"	2"	2"
C	4"	4"	4"	4"	4"	4"	4"
F	2"	2 1/2"	3"	4"	4 1/2"	5"	6"
X	2"	2 1/2"	3"	4"	4 1/2"	5"	6"
Y	6 3/4"	7 3/8"	8"	8 3/4"	10"	11"	12"
Z	3 3/8"	3 3/4"	4"	4 3/8"	5"	5 1/8"	6"
CU. YD. OF CRADLE PER L. F. OF PIPE	0.029	0.035	0.041	0.052	0.061	0.072	0.083

DIAMETER = "D"	8"	10"	12"	15"	18"	21"	24"
T	3 1/4"	1 1/8"	1 1/4"	1 1/2"	1 3/4"	2"	2"
C	10"	10"	10"	10"	10"	10"	10"
F	2"	2 1/2"	3"	4"	4 1/2"	5"	6"
X	2"	2 1/2"	3"	4"	4 1/2"	5"	6"
Y	12 3/4"	13 3/8"	14"	14 1/4"	16"	16 3/4"	18"
Z	5 3/8"	6 1/4"	7"	7 3/8"	8"	8 3/8"	9"
CU. YD. OF CRADLE PER L. F. OF PIPE	0.047	0.057	0.067	0.085	0.099	0.116	0.134



SECTION A-A STD. CAST IRON MANHOLE FRAME & COVER Scale 1/2" = 1'-0" Approx. Wt. = 395#



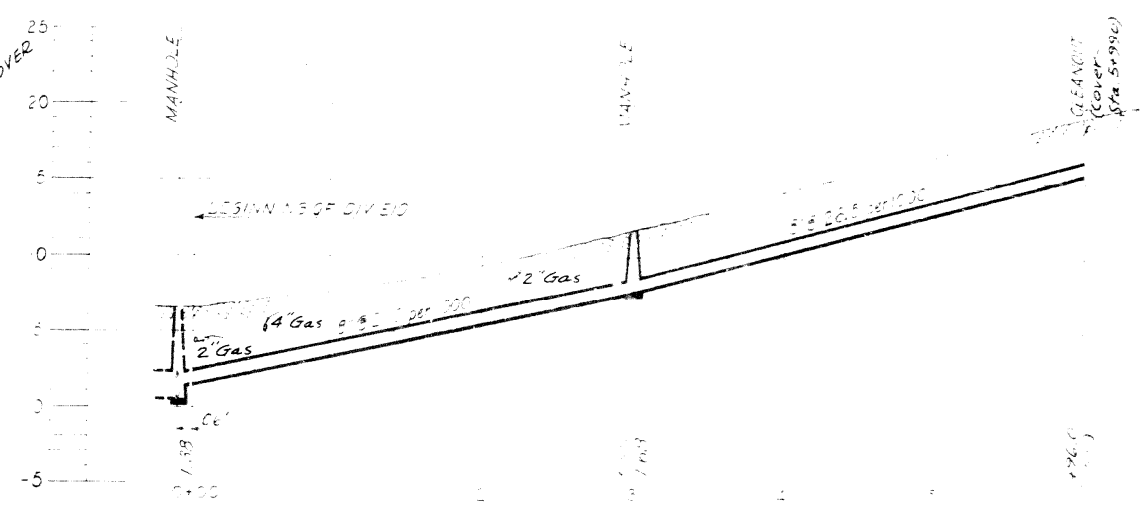
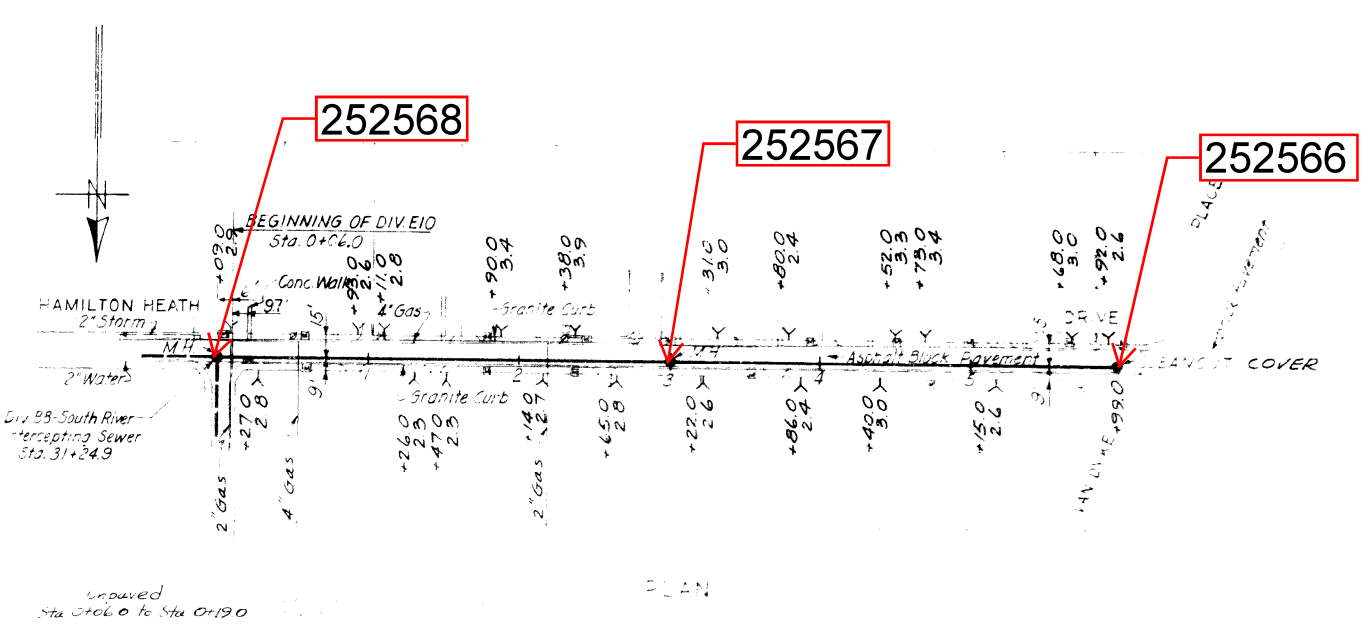
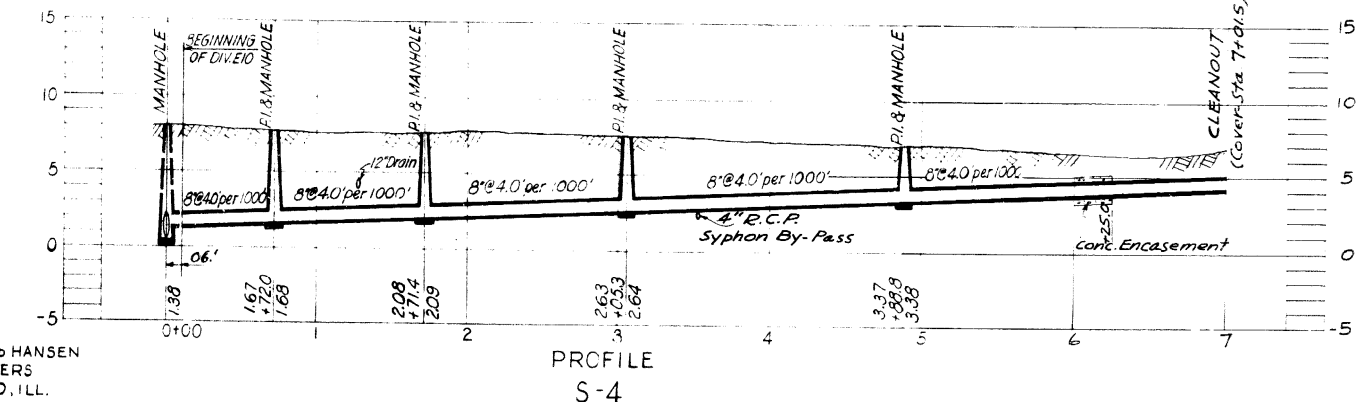
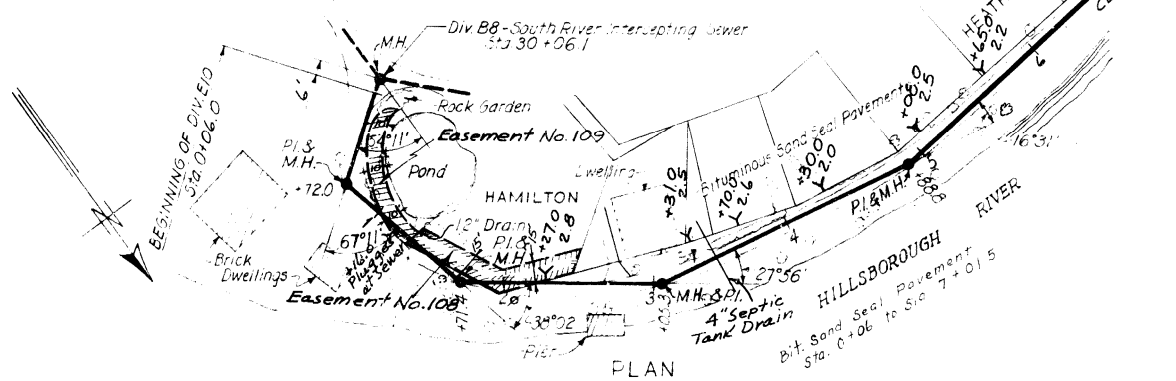
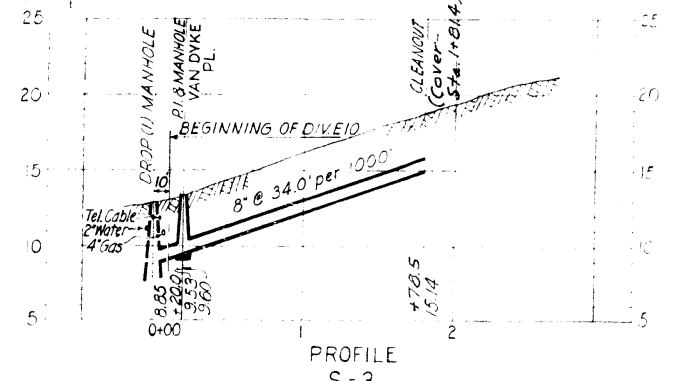
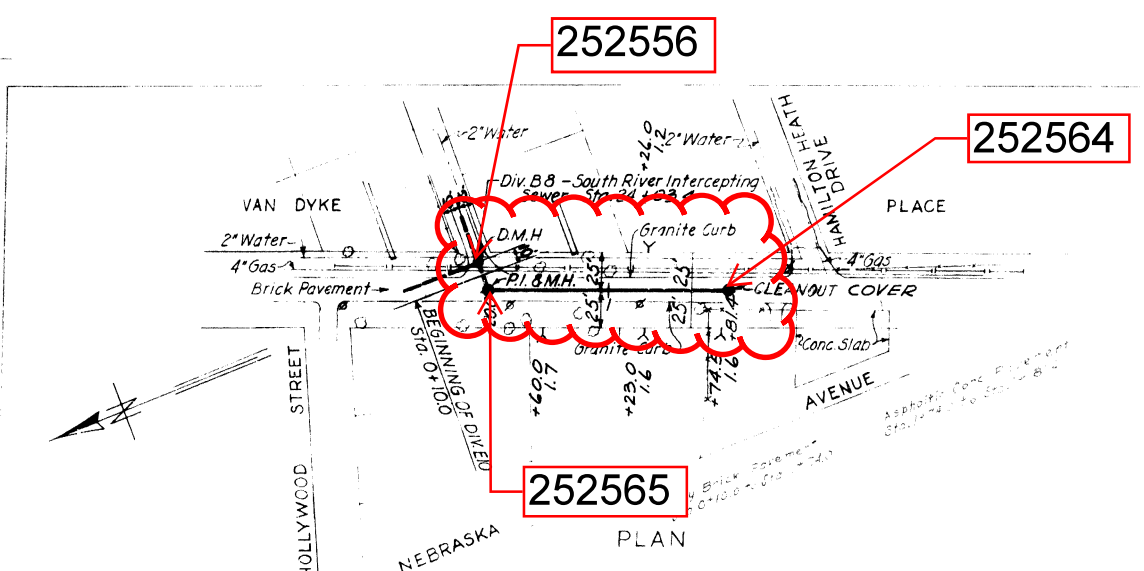
TYPICAL SECTION WHERE FILL IS REQUIRED No Scale

- NOTES:
- Where sheeting is ordered left in place, the sheeting shall be cut off 2 feet below the surface and shall be measured for payment from the top of sheeting as cut, to the bottom of the sheeting as driven. No payment will be allowed for sheeting left in place below a plane located 2 feet below the invert of the pipe.
 - All stubs from manholes and ends of pipes to which connections are to be made under this Contract shall be provided with temporary water tight plugs or caps. All stubs for connections to other Contracts shall be provided with water tight plugs placed from inside of the manhole. Such plugs located at junctions of two Contracts shall remain in place and will be removed by others. Sewers which are to be connected to manholes which will be built under other contracts, shall be provided with water tight plugs or caps.
 - All manholes to be constructed with concrete bases and brick barrels plastered on the outside with cement mortar 1/2" thick.

GREELEY AND HANSEN ENGINEERS CHICAGO, ILL.

AS-BUILT PLAN Revised to show actual conditions according to construction records as of Feb. 18, 1952 (CB-3-3-52)

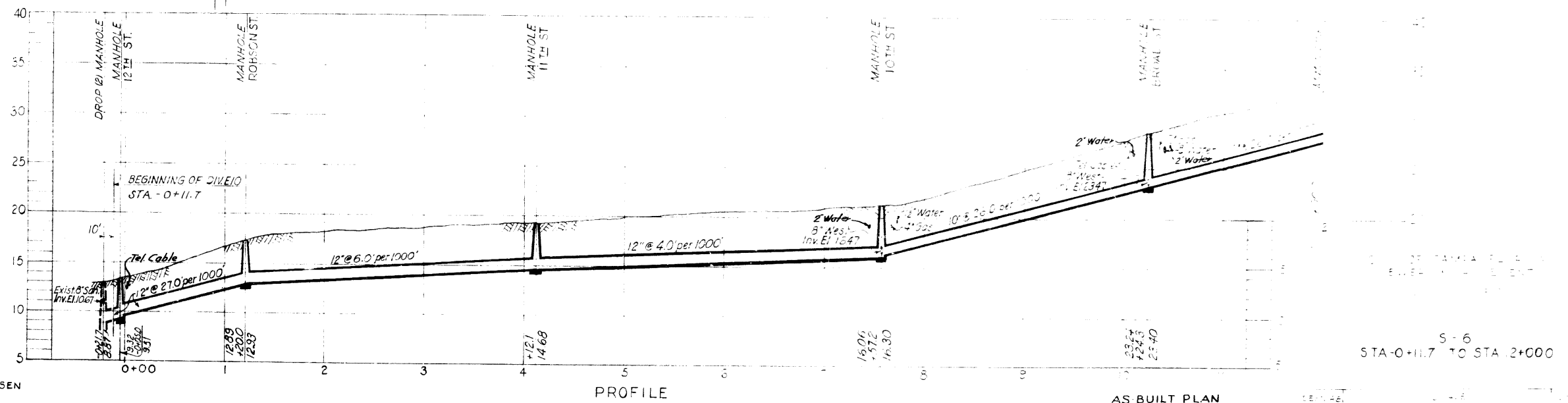
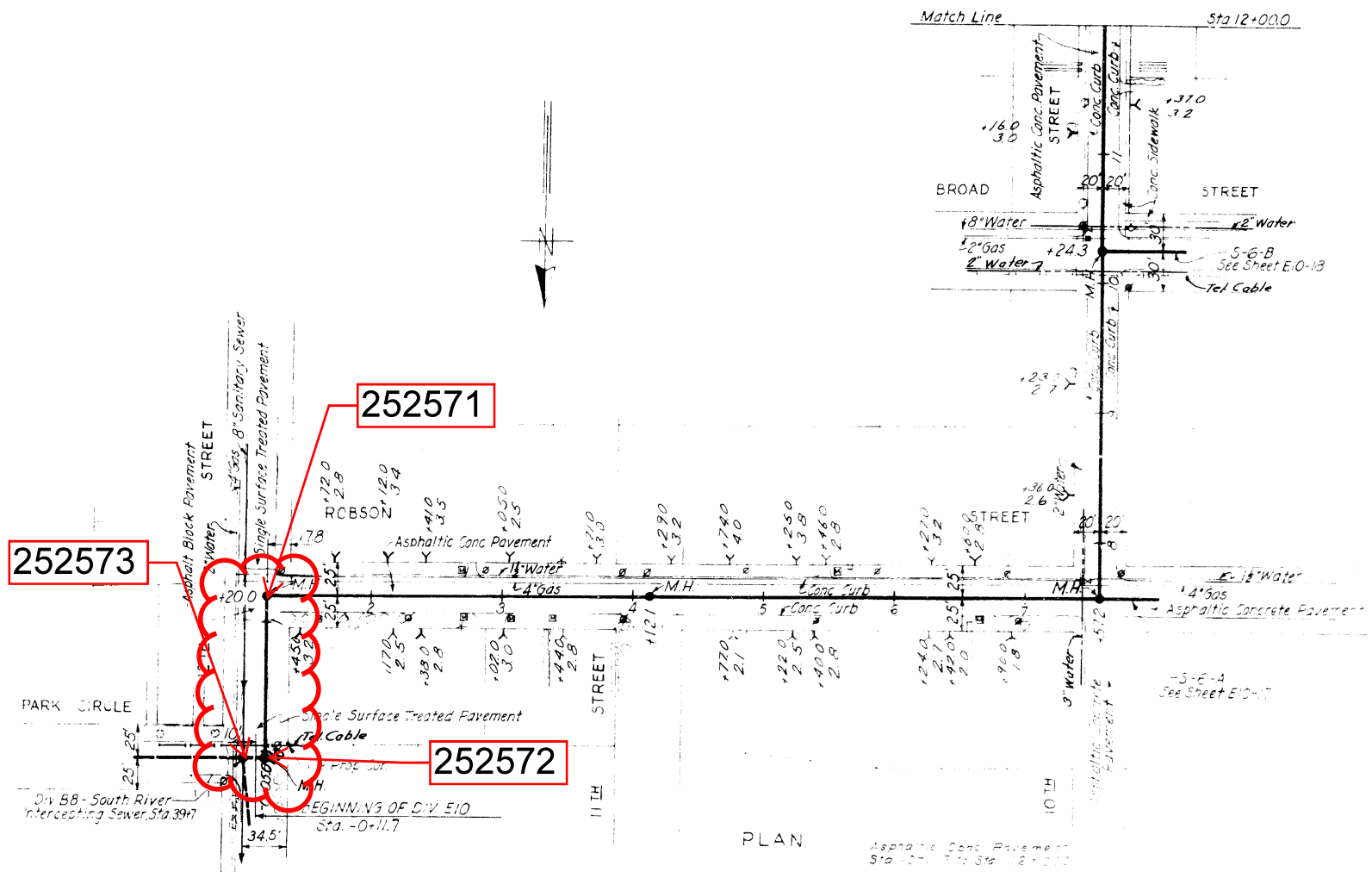
CITY OF TAMPA, FLORIDA SEWAGE DISPOSAL SYSTEM		SCALE: 0 1 2 3 4 5 1/2" = 1'-0"	SHEET B8-8 OF 9
DIVISION B8			
MANHOLE DETAILS		EXCEPT AS NOTED	
DES: J.W.H.	DATE: MAY, 1950		



GREELEY AND HANSEN
ENGINEERS
CHICAGO, ILL.

AS-BUILT PLAN
Revised to show actual conditions according
to construction records as of Dec. 31, 1951
(J.I.S. 1-2-52)

050-013



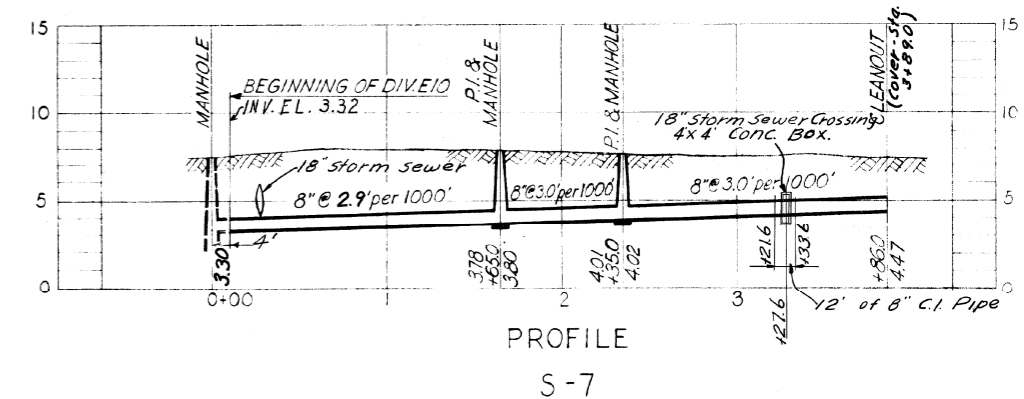
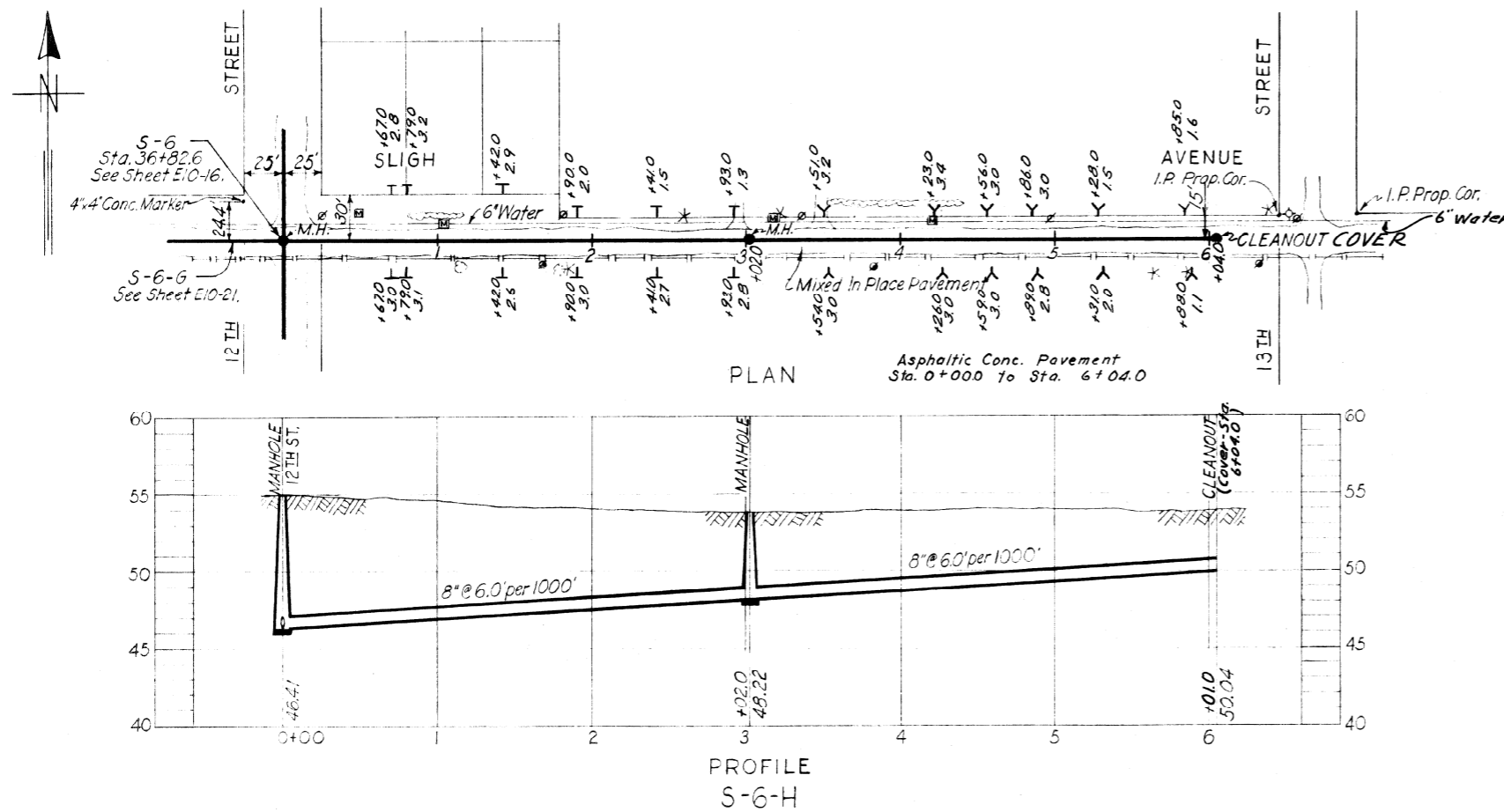
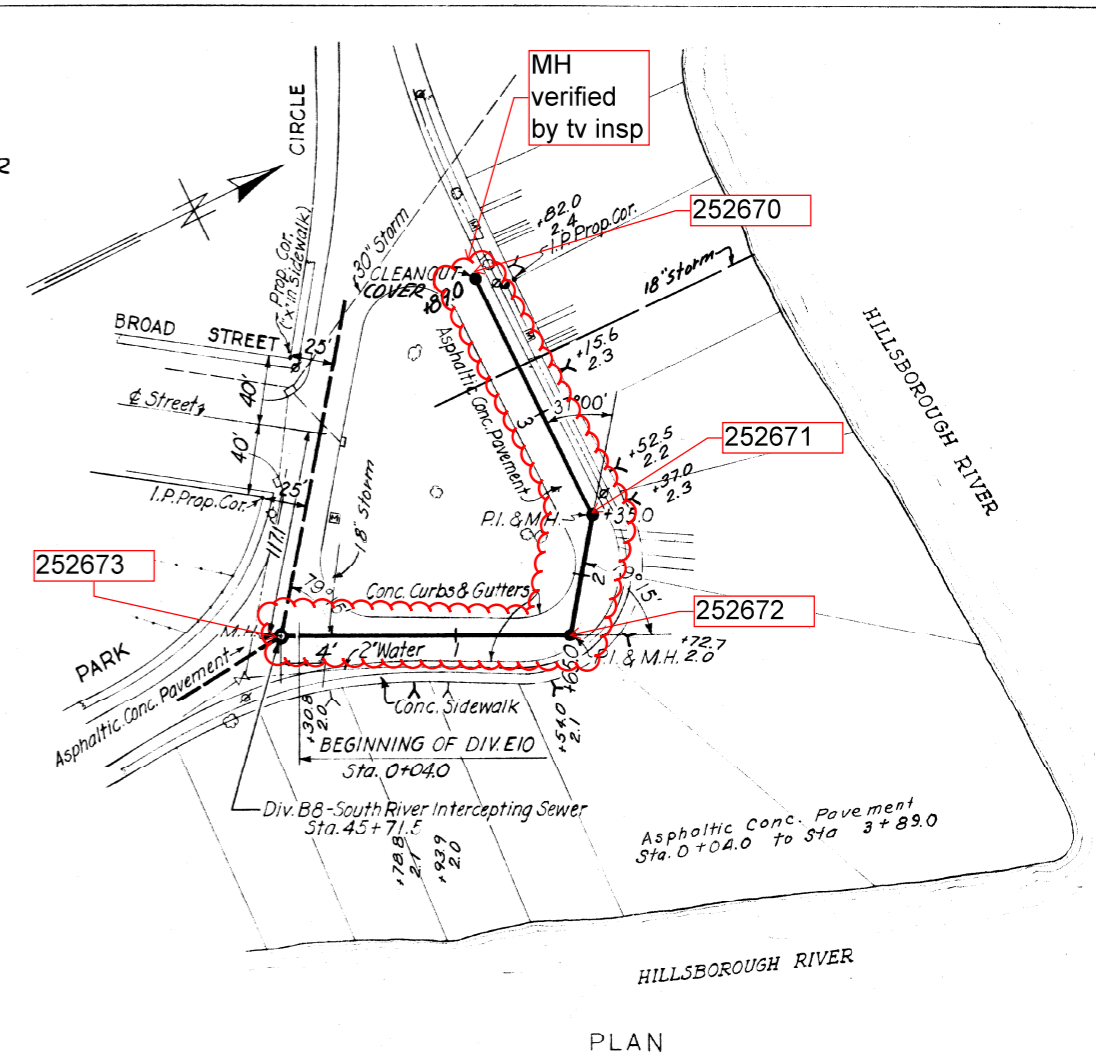
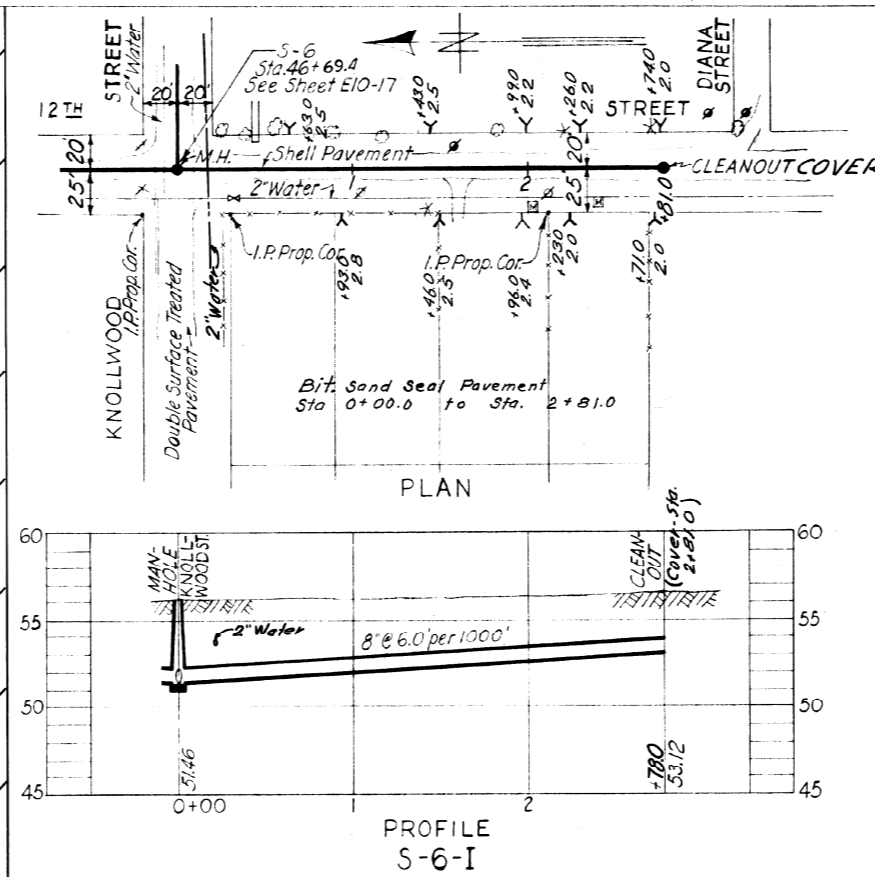
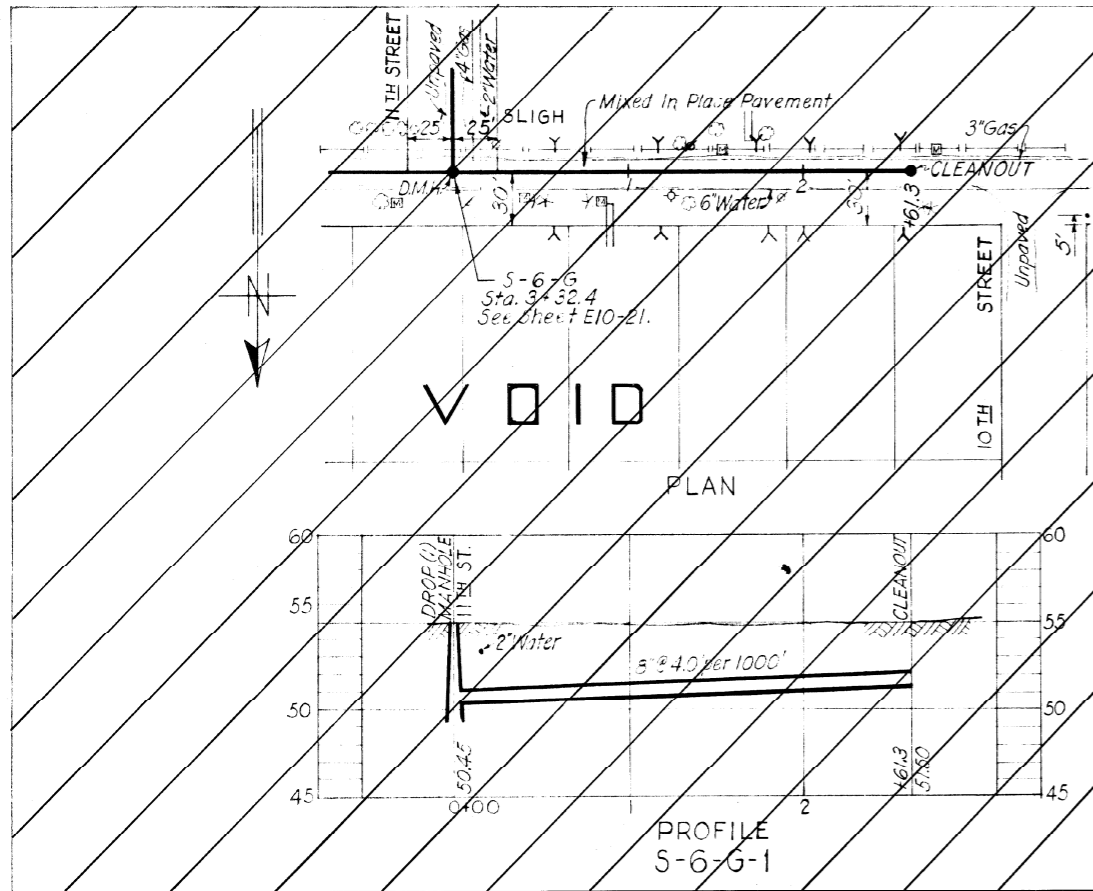
GREELEY AND HANSEN
ENGINEERS
CHICAGO, ILL.

PROFILE
S-6

AS BUILT PLAN
Revised to show actual conditions according
to construction records as of Dec. 31, 1951
(S-6 13-52)

S-6
STA-0+11.7 TO STA 2+00

050-014



GREELEY AND HANSEN
ENGINEERS
CHICAGO, ILL.

AS-BUILT PLAN
Revised to show actual conditions according
to construction records as of Dec. 31, 1951
(B-1-B-52)

CITY OF TAMPA, FLORIDA SEWER IMPROVEMENTS		SHEET E10-22 OF 42
DIVISION EIO		
S-6-H, S-6-I & S-7		
DES: L.A.B. DR: R.M. CHK: R.F. DATE MAY 1950	SCALE 0 50 100 1" = 50'	

50-22

252669

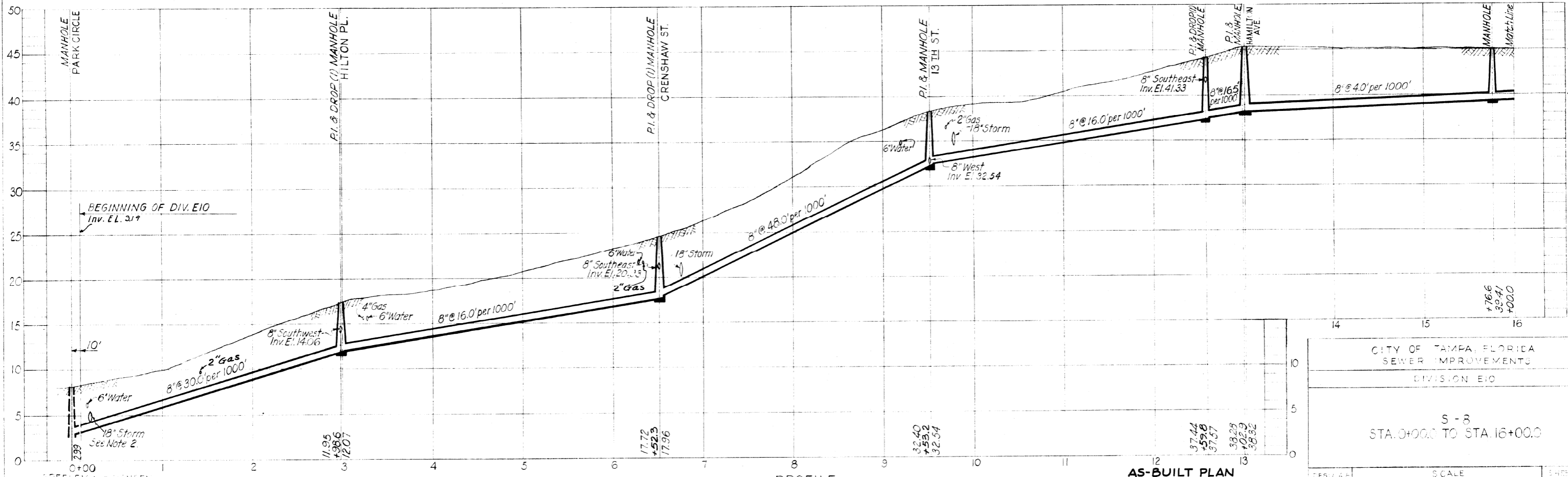
252668

Div. B² - South River
Intercepting Sewer
Sta. 44+54.4

- NOTES
1. All streets shown have asphaltic concrete pavement with concrete curbs & gutters.
 2. The 18" Storm Culverts at Park Circle & Broad St. are to be relocated under another contract.

Asphaltic Conc. Pavement
Sta 0+10 to Sta 16+00

PLAN



PROFILE
S-8

AS-BUILT PLAN

Revised to show actual conditions according
to construction records as of Dec. 31, 1951
(J.W.S. 1-3-52)

CITY OF TAMPA, FLORIDA
SEWER IMPROVEMENTS
DIVISION EIO

S-8
STA. 0+00 TO STA. 16+00.0

Scale: 1" = 20'

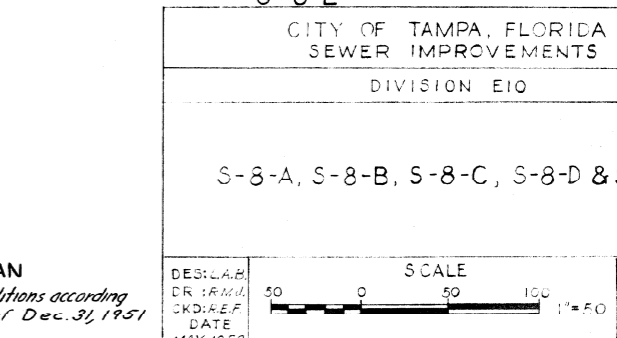
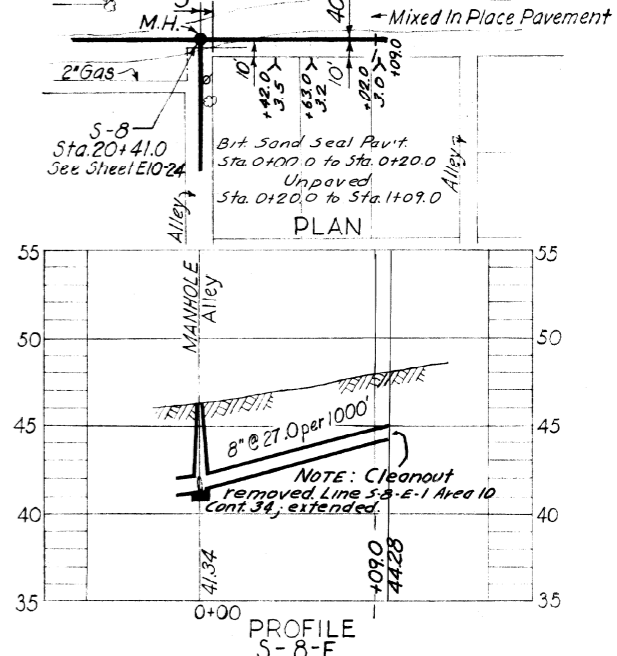
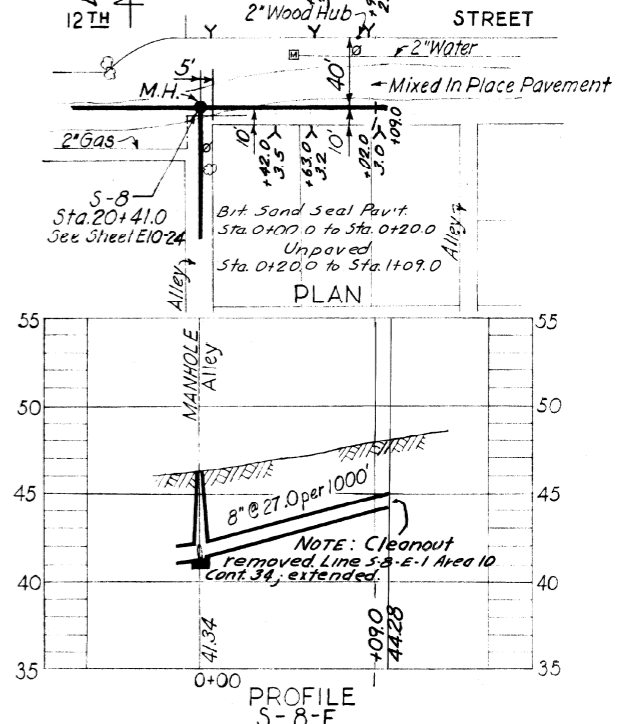
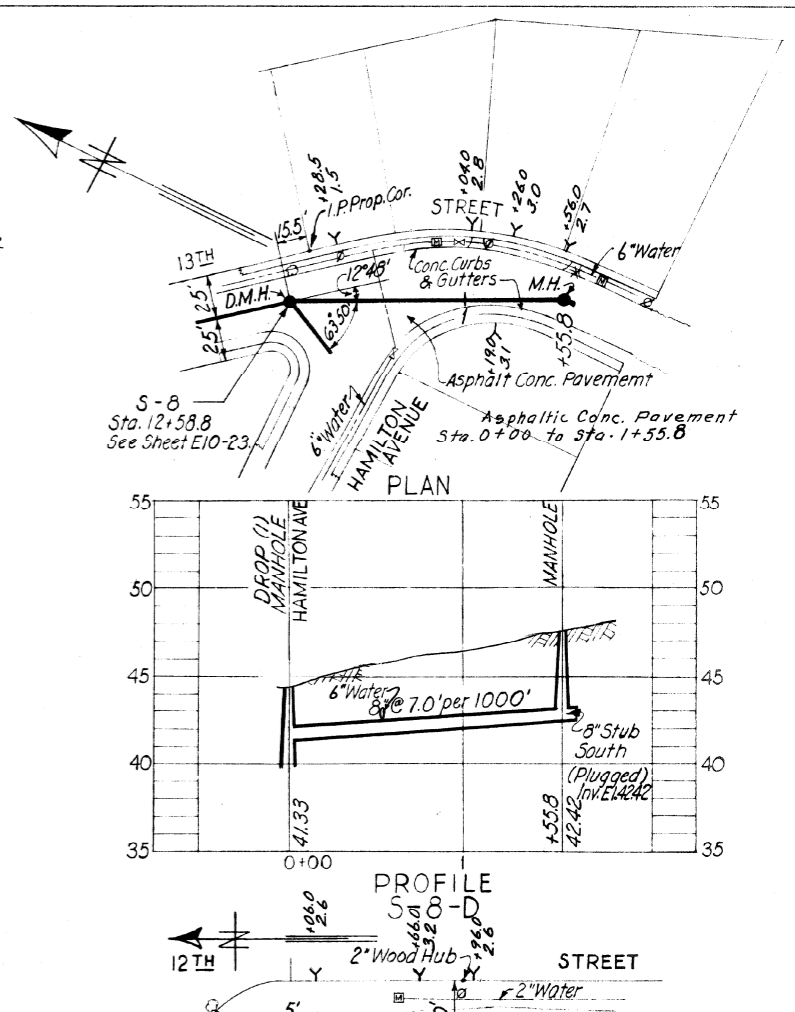
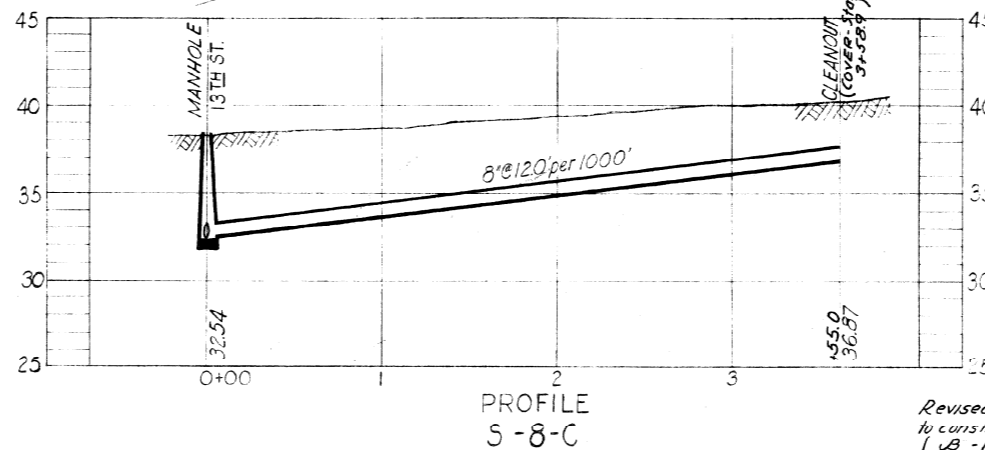
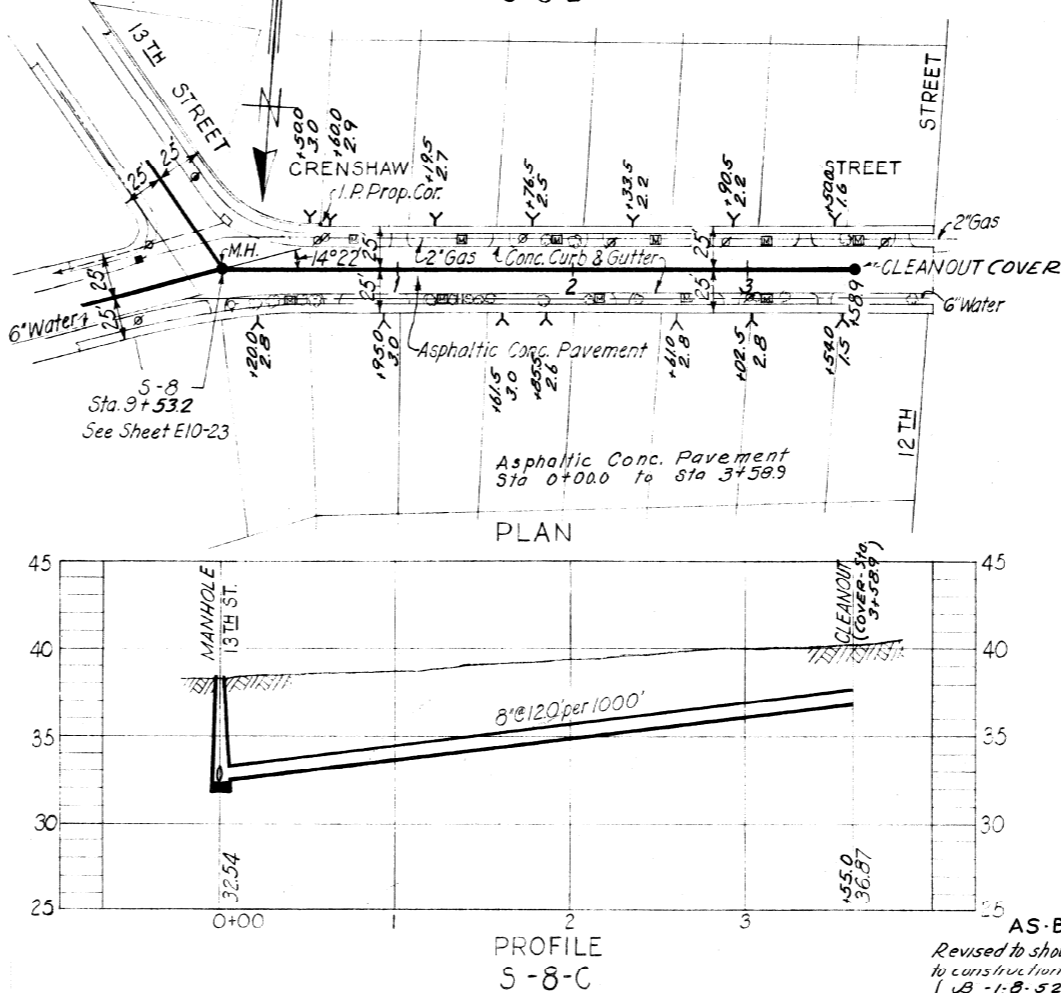
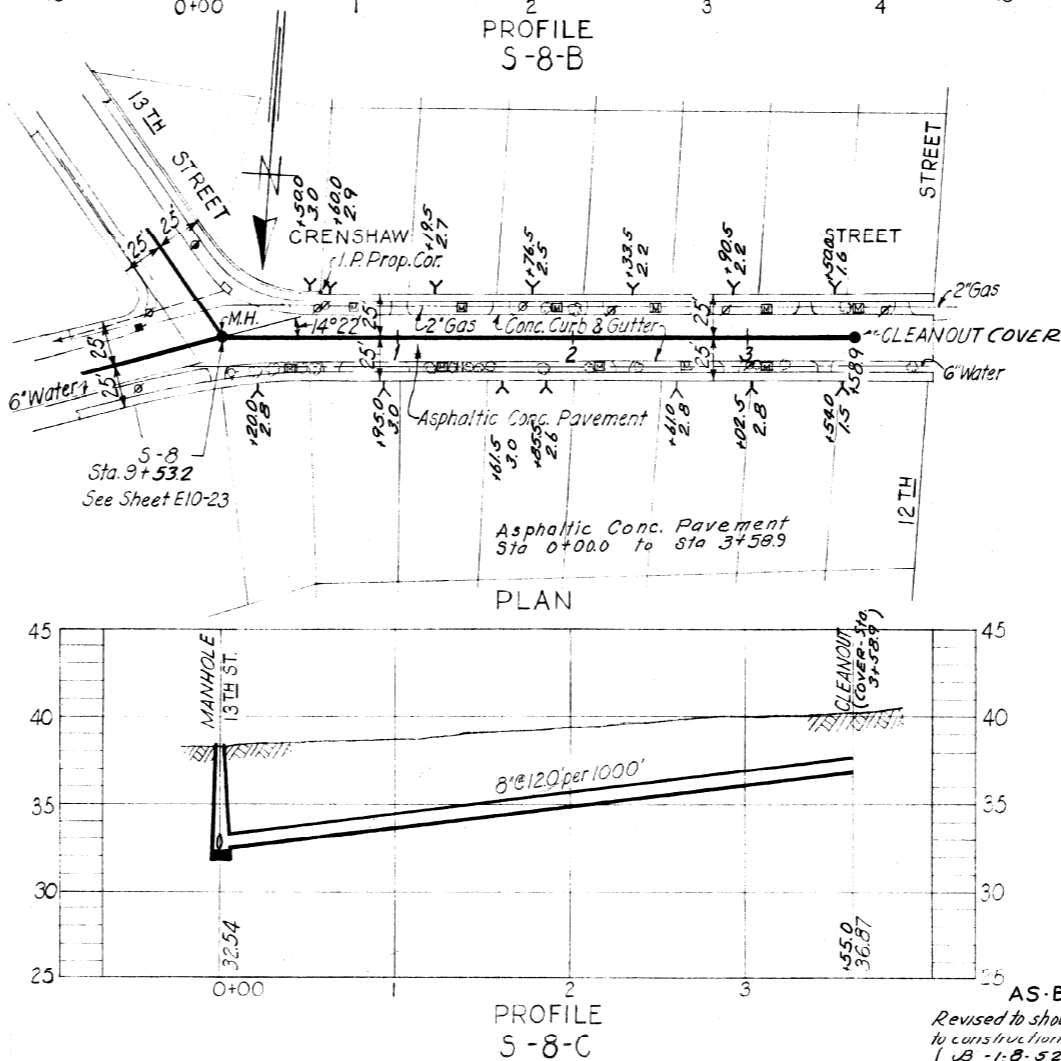
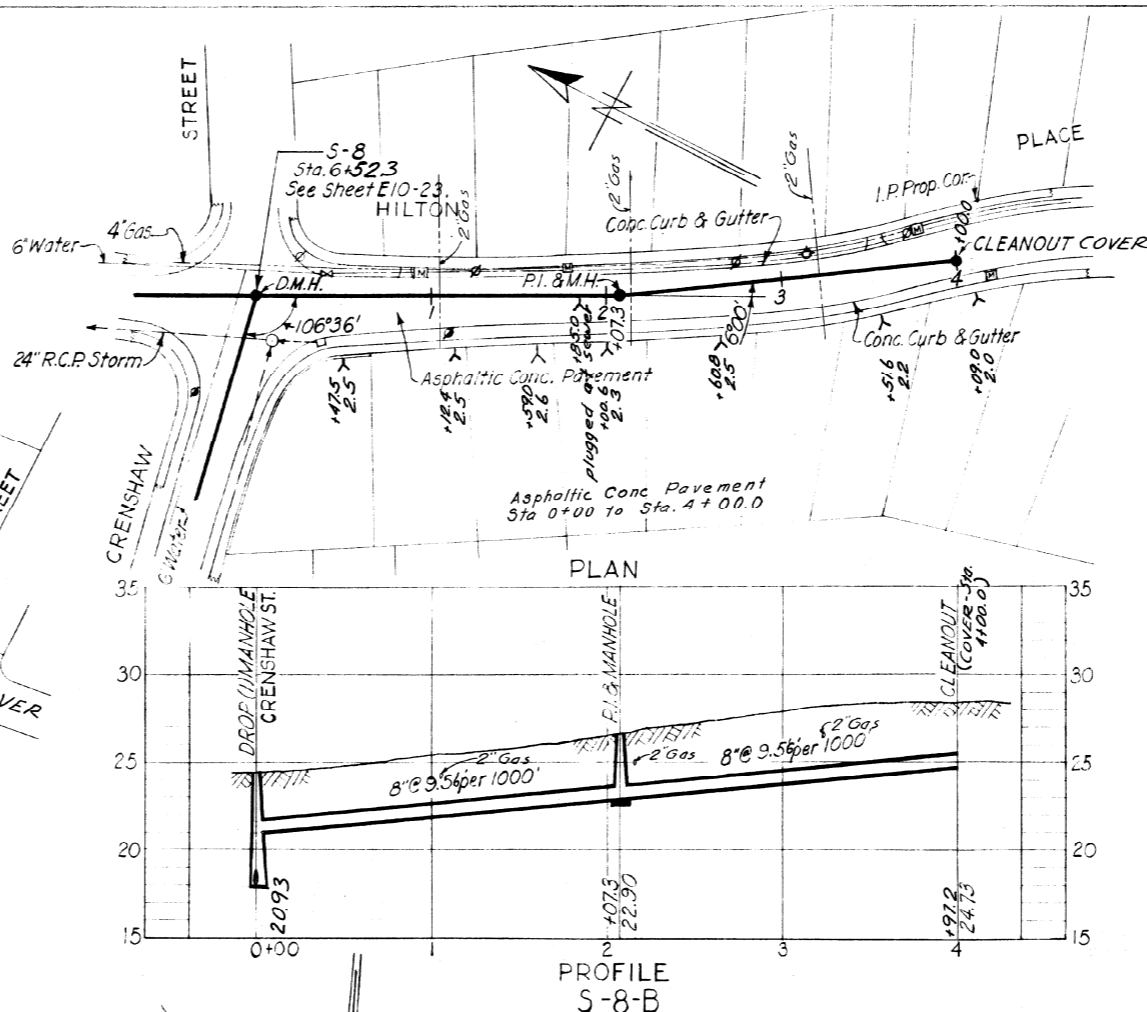
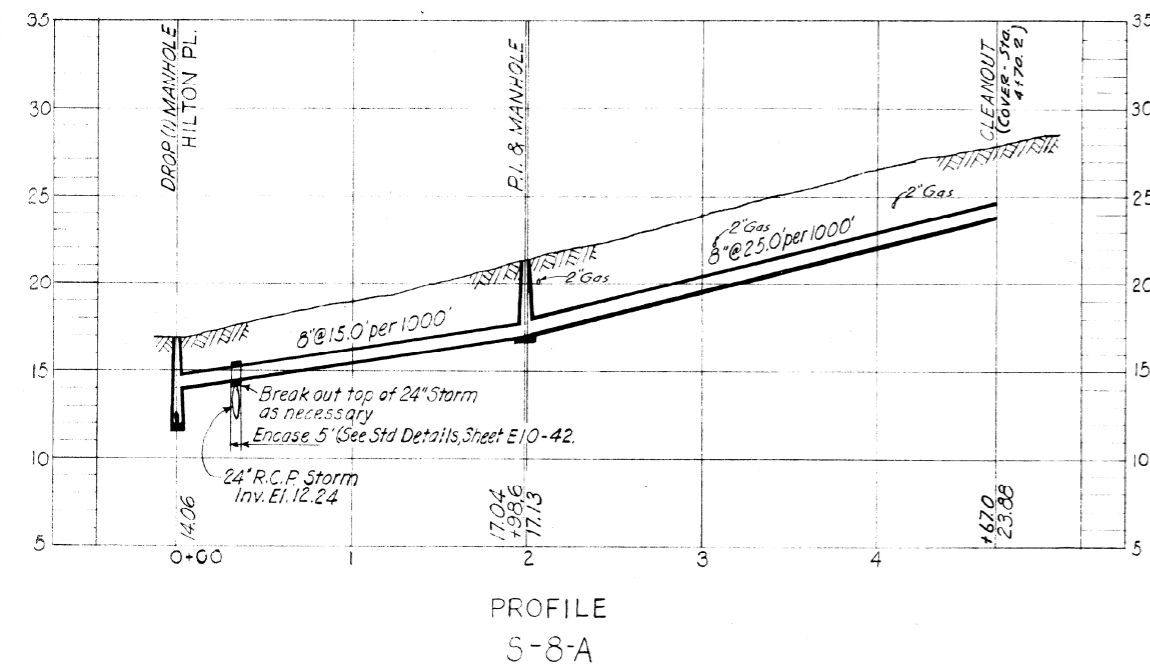
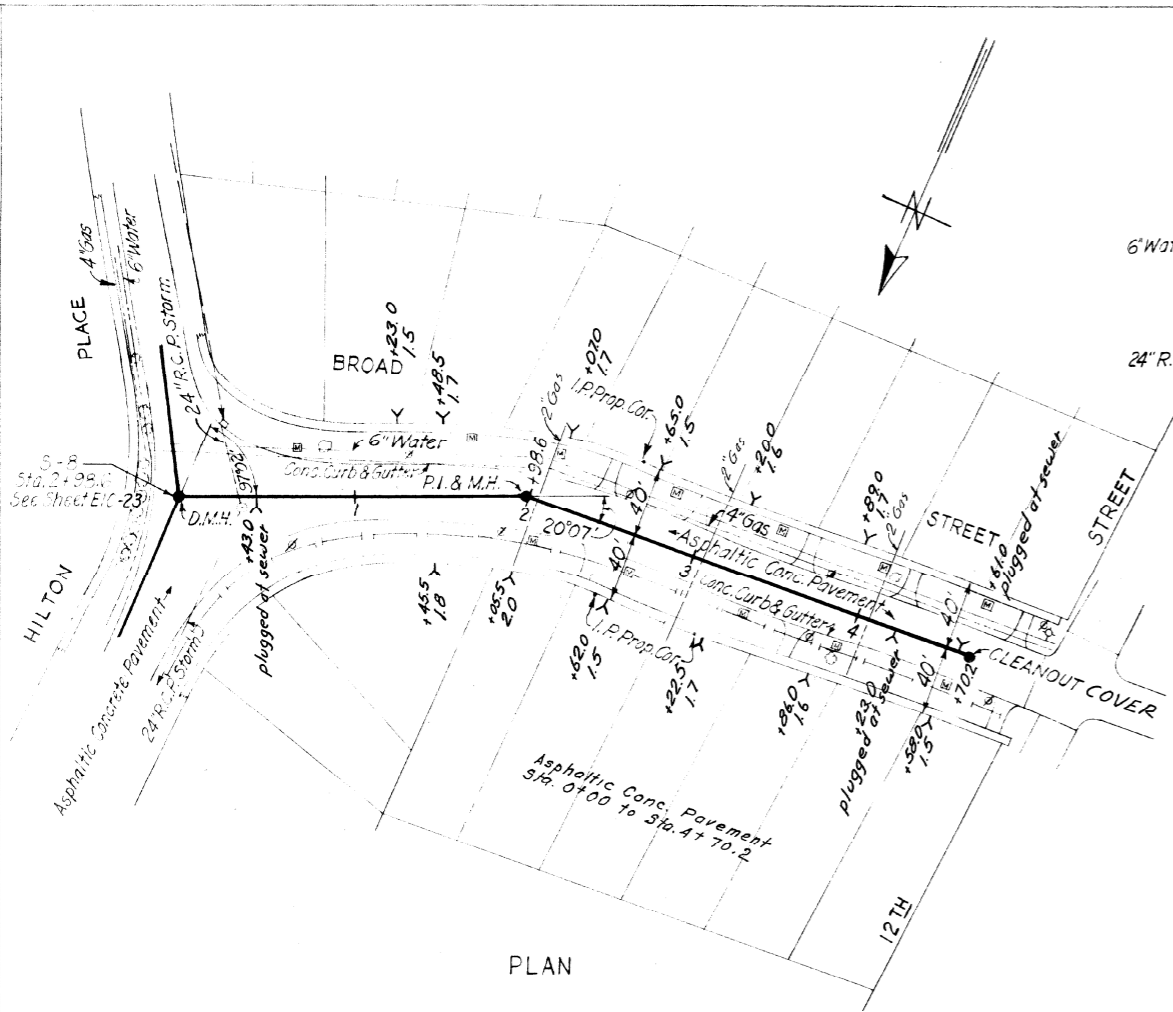
DATE: MAY 1950

DESIGNED BY: [Name]

CHECKED BY: [Name]

APPROVED BY: [Name]

GREELEY AND HANSEN
ENGINEERS
CHICAGO, ILL.



GREELEY AND HANSEN
ENGINEERS
CHICAGO, ILL.

AS-BUILT PLAN
Revised to show actual conditions according
to construction records as of Dec. 31, 1951
(B-1-B-52)

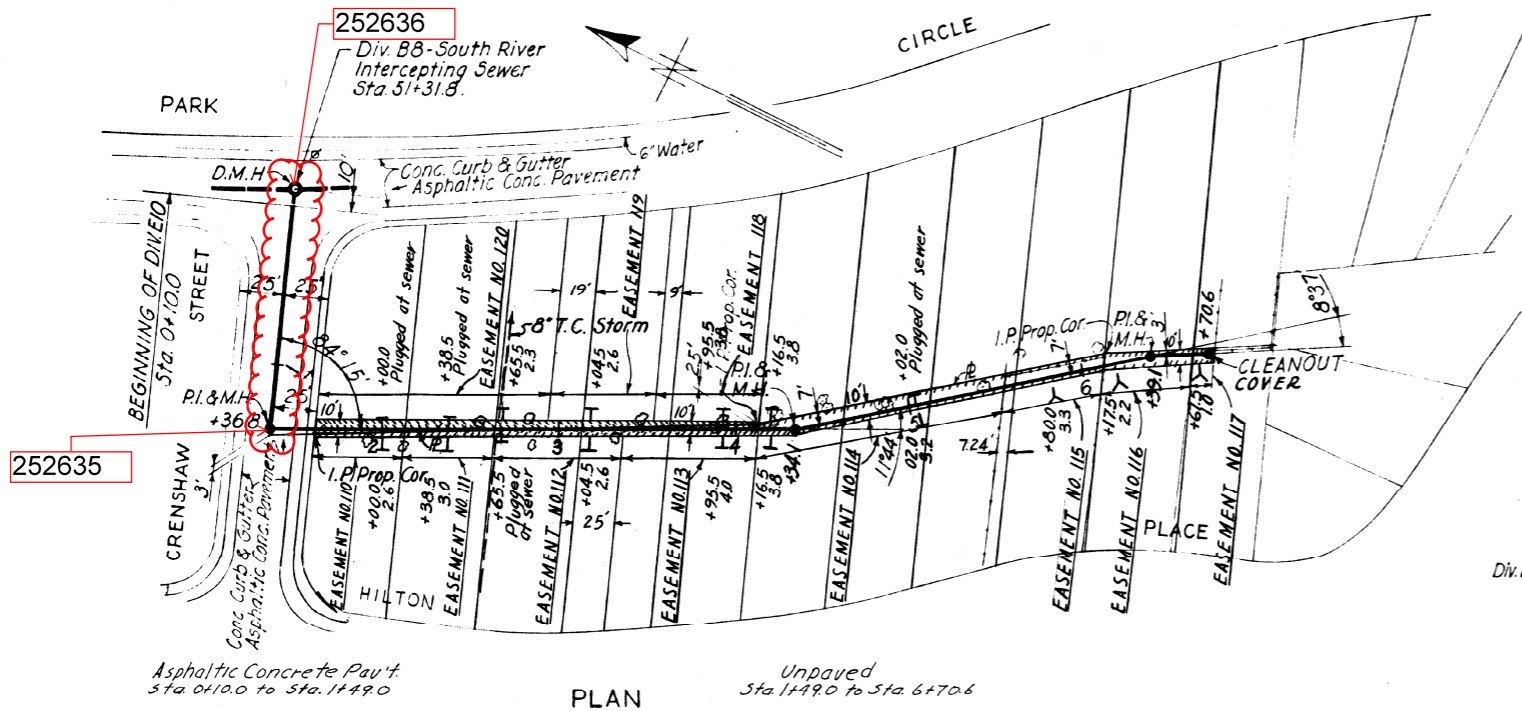
CITY OF TAMPA, FLORIDA
SEWER IMPROVEMENTS
DIVISION EIO

S-8-A, S-8-B, S-8-C, S-8-D & S-8-E

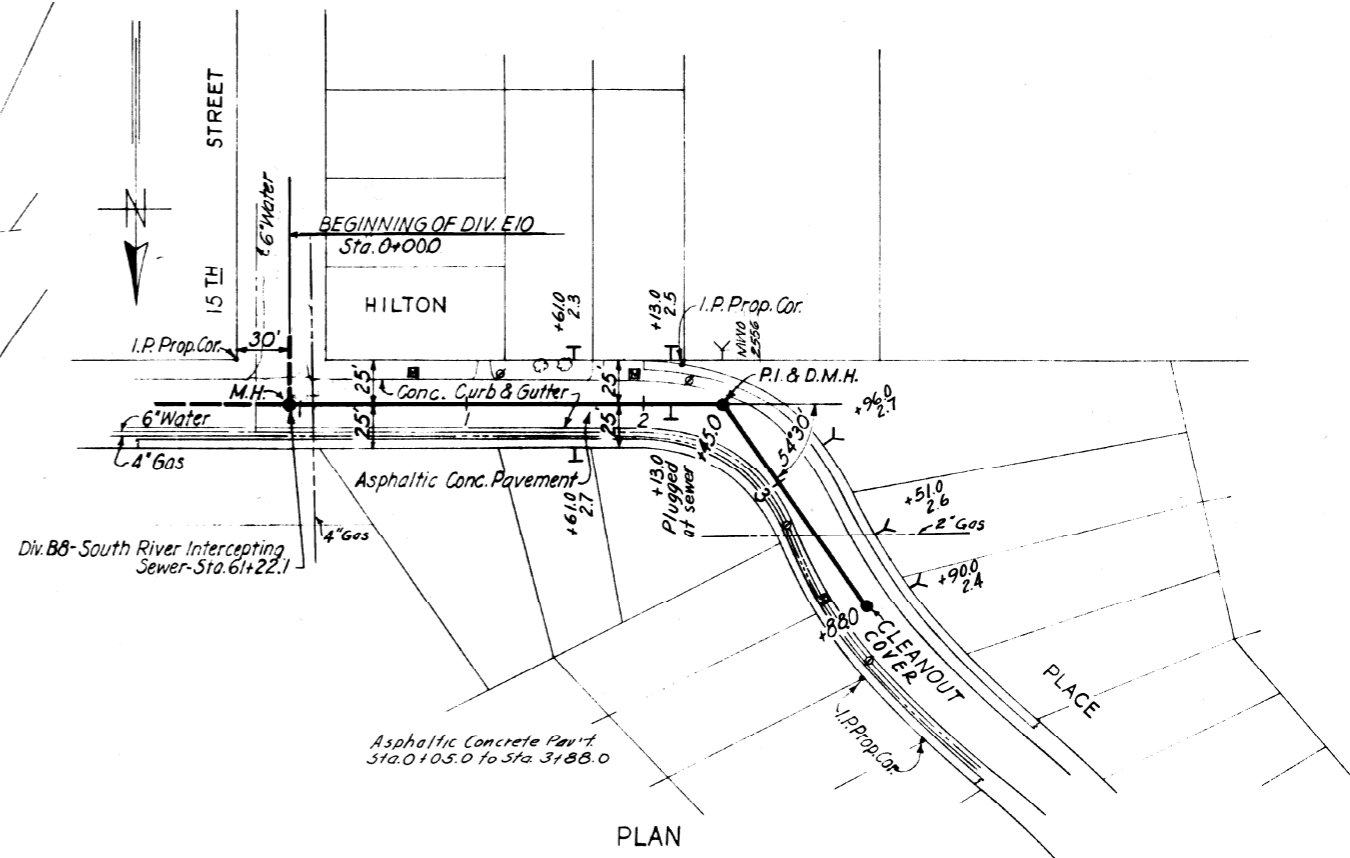
DES. LAB. DR. FRANK SKIDELF DATE MAY 1950

SCALE 1" = 40'

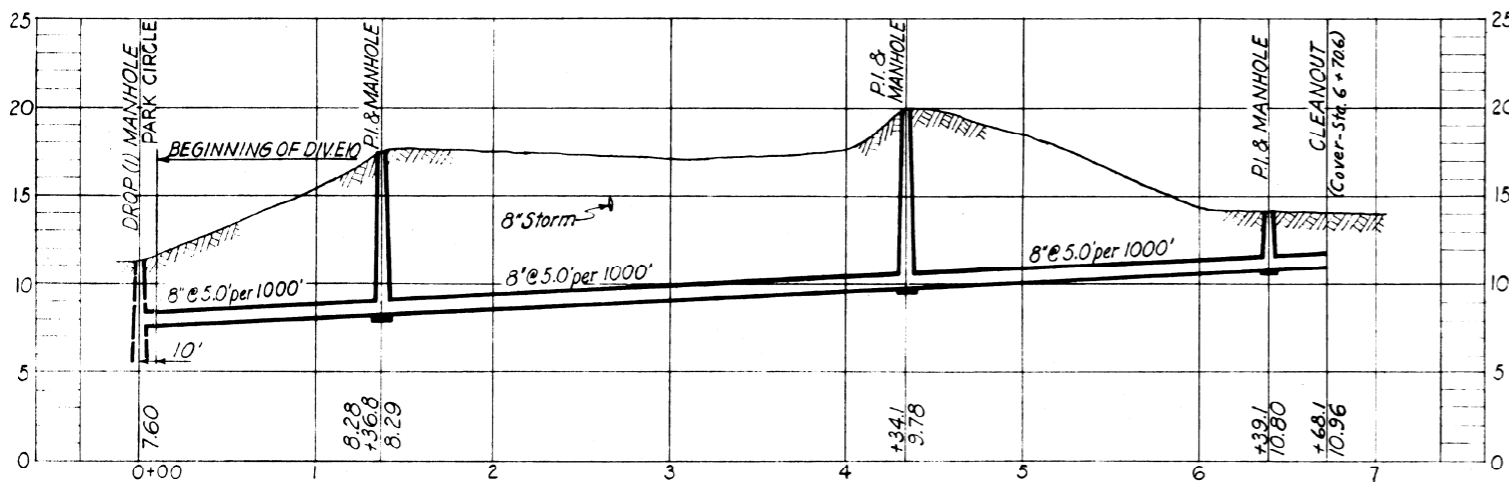
SHEET E10-25 OF 42



PLAN

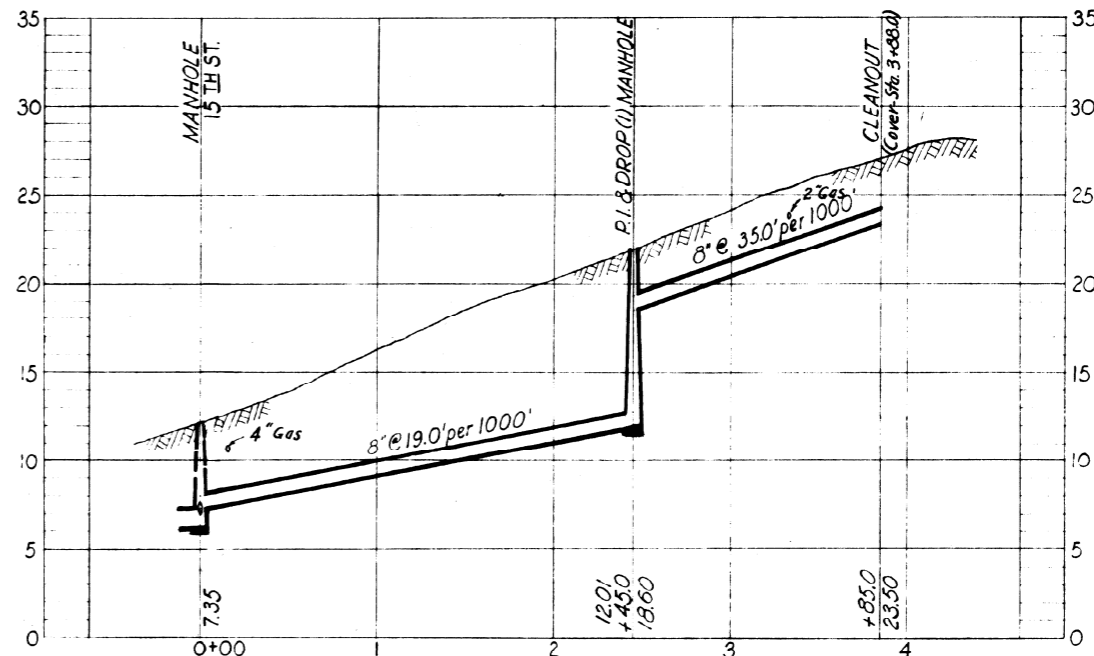


PLAN



PROFILE

S-9



PROFILE

S-10

GREELEY AND HANSEN
ENGINEERS
CHICAGO, ILL.

- AS-BUILT PLAN -
Revised to show actual conditions according
to construction records as of Dec. 31, 1951
(A.F.L. - 1-3-52)

DES. L.A.B.
DR. R.M.V.
CKD. R.E.F.
DATE
MAY 1950

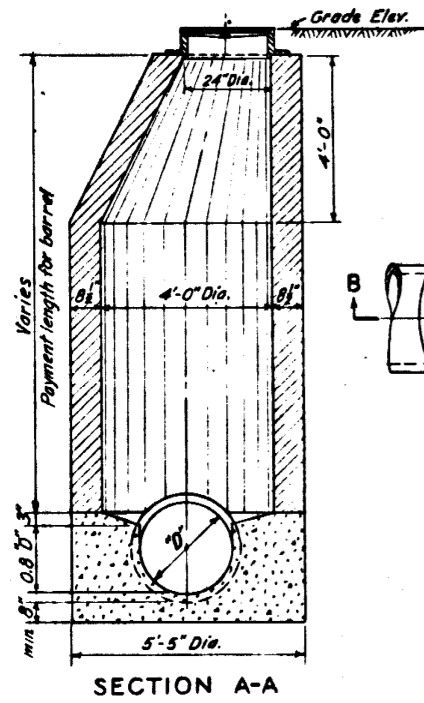
CITY OF TAMPA, FLORIDA
SEWER IMPROVEMENTS
DIVISION EIO

S-9 & S-10

SCALE
0 50 100
1" = 50'

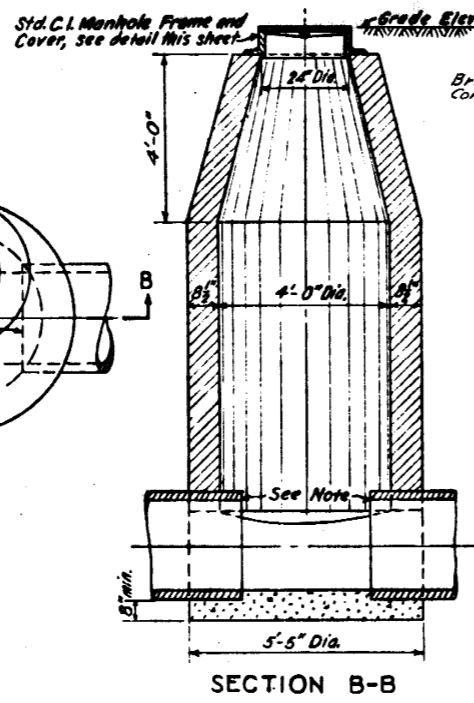
SHEET
E10-26
OF 42

50-26

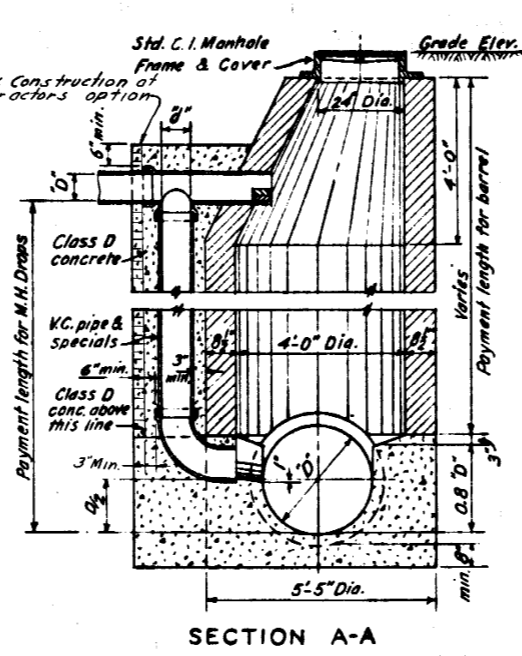


SECTION A-A

STD. MANHOLE - DEEP TYPE FOR SEWERS 24" OR LESS IN DIA.



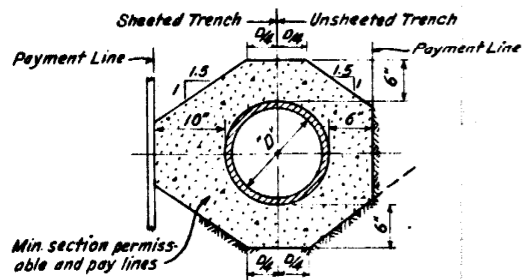
SECTION B-B



SECTION A-A

STD. DROP MANHOLE FOR SEWERS 24" OR LESS IN DIA.

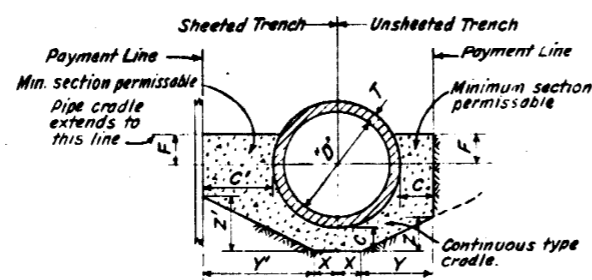
TABLE OF DROP PIPE SIZES FOR - DROP MANHOLES					
INLET PIPE - DIA. = "D"	8"	10"	12"	15" & over	
DROP PIPE - DIA. = "d"	8"	6"	8"	10"	12"



DETAIL OF COMPLETE ENCASEMENT FOR ALL TYPES AND SIZES OF SEWERS WHEN ORDERED OR SPECIFIED
No Scale

NOTE: The table below indicates the amounts which will be allowed for payment for concrete encasement.

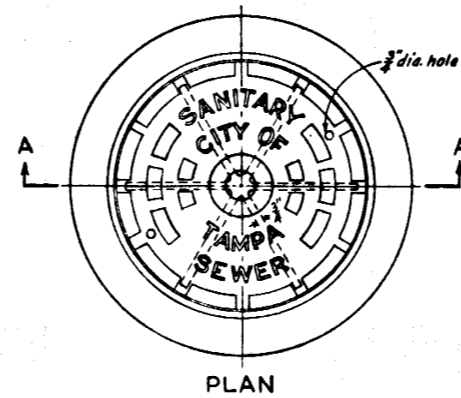
CU.YD. OF ENCASEMENT PER LIN. FT. OF SEWER								
DIAMETER = "D"	8"	10"	12"	15"	18"	21"	24"	
Unsheeted Trenches	0.073	0.087	0.100	0.120	0.142	0.165	0.185	
Sheeted Trenches	0.089	0.105	0.121	0.146	0.171	0.197	0.224	



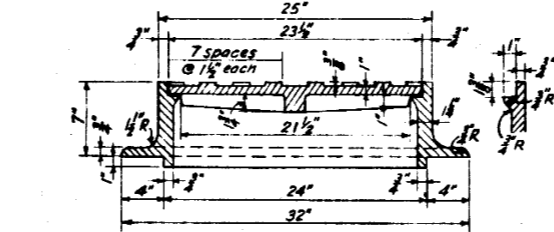
NOTE: Where cradle extends beyond payment line the slopes shall be as shown. Tables below indicate pay lines and min. section permissible.
CRADLE FOR VIT. CLAY PIPE SEWERS 24" OR LESS IN DIA.
No Scale

TABLE OF DIMENSIONS - UNSHEETED TRENCHS								
DIAMETER = "D"	8"	10"	12"	15"	18"	21"	24"	
T	3/4"	7/8"	1"	1 1/4"	1 1/2"	1 3/4"	2"	
C	4"	4"	4"	4"	4"	4"	4"	
F	2"	2 1/2"	3"	4"	4 1/2"	5"	6"	
X	2"	2 1/2"	3"	4"	4 1/2"	5"	6"	
Y	6 3/4"	7 3/8"	8"	8 3/4"	10"	11"	12"	
Z	3 3/8"	3 3/4"	4"	4 3/8"	5"	5 3/8"	6"	
CU.YD. OF CRADLE PER L.F. OF PIPE	0.029	0.035	0.041	0.052	0.061	0.072	0.083	

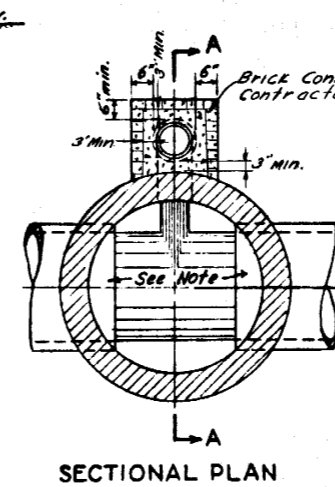
TABLE OF DIMENSIONS - SHEETED TRENCHS								
DIAMETER = "D"	8"	10"	12"	15"	18"	21"	24"	
T	3/4"	7/8"	1"	1 1/4"	1 1/2"	1 3/4"	2"	
C	10"	10"	10"	10"	10"	10"	10"	
F	2"	2 1/2"	3"	4"	4 1/2"	5"	6"	
X	2"	2 1/2"	3"	4"	4 1/2"	5"	6"	
Y	12 3/4"	13 3/8"	14"	14 3/4"	16"	16 3/4"	18"	
Z	5 3/8"	6 1/4"	7"	7 3/8"	8"	8 3/8"	9"	
CU.YD. OF CRADLE PER L.F. OF PIPE	0.047	0.057	0.067	0.085	0.099	0.116	0.134	



PLAN

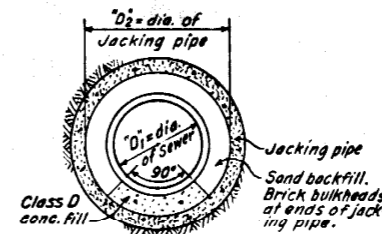


SECTION A-A
STD. CAST IRON MANHOLE FRAME & COVER
Scale 1/2" = 1'-0"
Approx. Wt = 390#



SECTIONAL PLAN

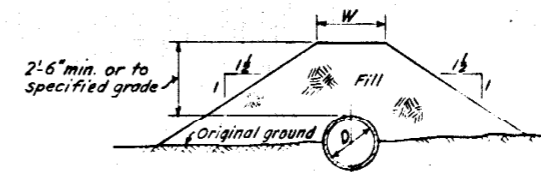
NOTE: Top portion of pipe to be broken out as directed by the Engineer.



TYPICAL SECTION
DETAIL OF JACKED CROSSINGS
No Scale

SEWER & JACKING PIPE SIZES		
Sewer	"D"	21" & less 24"
Jacking pipe	D ₂	36" 42"

NOTE: All jacking pipe shall be tongue and groove reinforced concrete pipe conforming with A.S.T.M. Des. C76. Diameters of jacking pipe shown are minimum values.



Pipes 18" and less in Dia., W = 18"
Pipes 21" Dia. and over, W = 10"

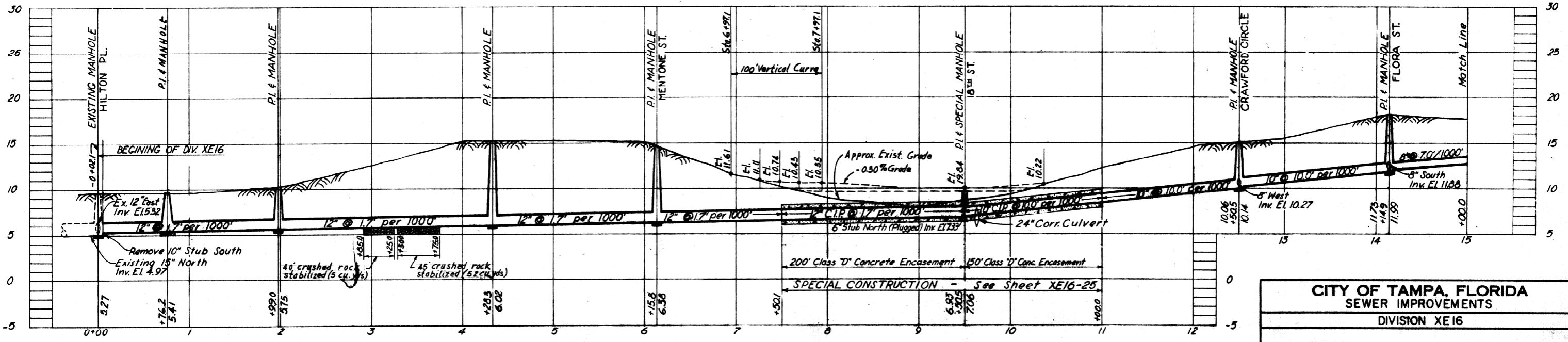
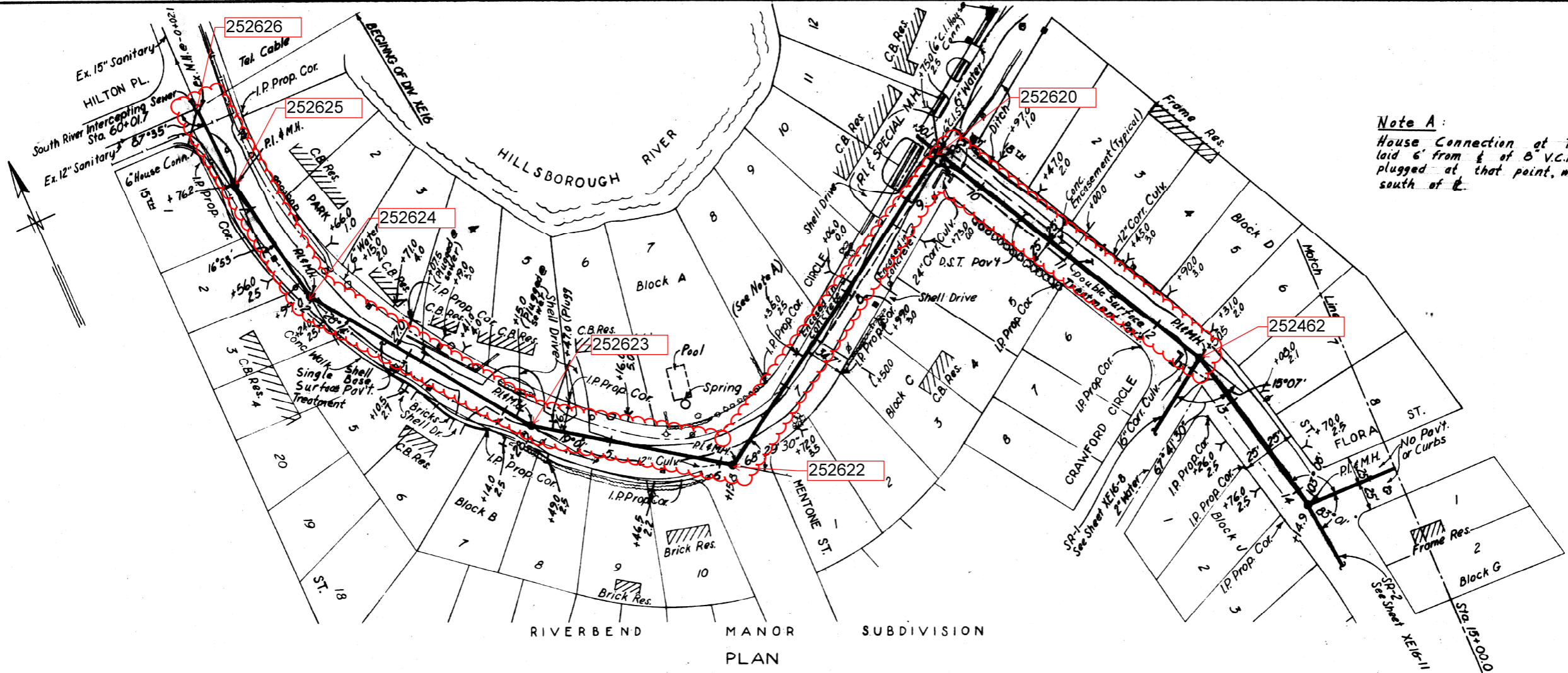
TYPICAL SECTION WHERE FILL IS REQUIRED
No Scale

GREELEY AND HANSEN
ENGINEERS
CHICAGO, ILL.

AS-BUILT PLAN
Revised to show actual conditions according to construction records as of Dec. 31, 1951 (B-1-9-52)

CITY OF TAMPA, FLORIDA SEWER IMPROVEMENTS	
DIVISION EIO	
MANHOLE DETAILS	
DESIGNER: J.M.H. DRAWN: J.M.H. CHECKED: W.M.S. DATE: MAY 1950	SCALE: 0 1 2 3 4 5 1" = 1'-0" EXCEPT AS NOTED
SHEET EIO-41 OF 42	

50-41



CITY OF TAMPA, FLORIDA
SEWER IMPROVEMENTS
DIVISION XE16

SR
STA. 0+00 TO STA. 15+00

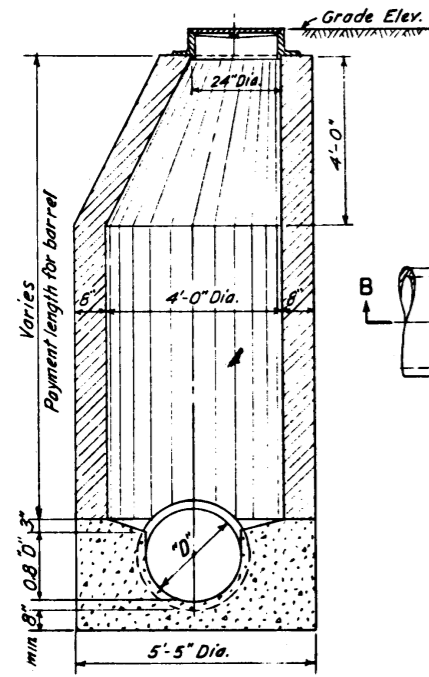
DES. P.F.E. DR. W.B.W. CHD. P.F.E. DATE: DEC. 1984

SCALE 1" = 50'

SHEET XE16-3 OF 25

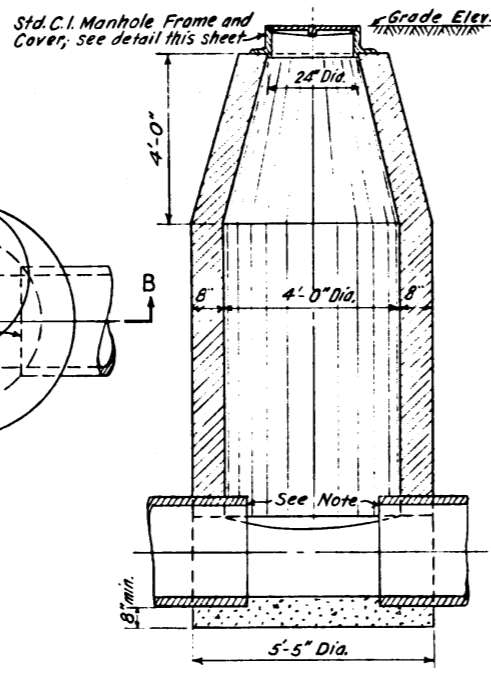
GREELEY AND HANSEN
ENGINEERS
CHICAGO, ILL.

~ AS-BUILT PLAN ~
Revised to show actual conditions according to construction record as of (A.F.L. 12-27-55)

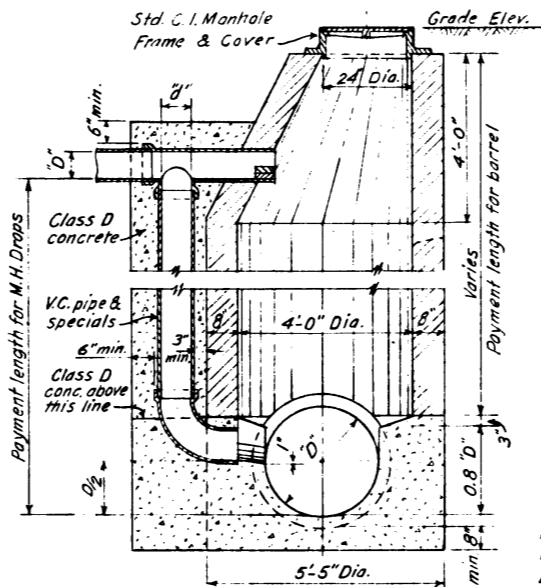


SECTION A-A

STD. MANHOLE - DEEP TYPE FOR SEWERS 24" OR LESS IN DIA.



SECTION B-B

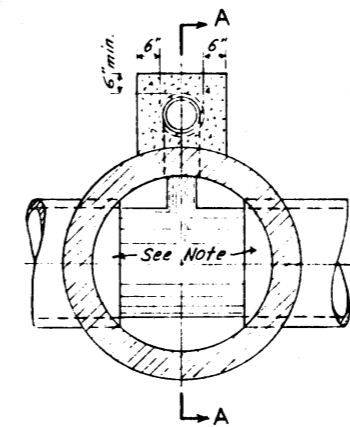


SECTION A-A

STD. DROP MANHOLE FOR SEWERS 24" OR LESS IN DIA.

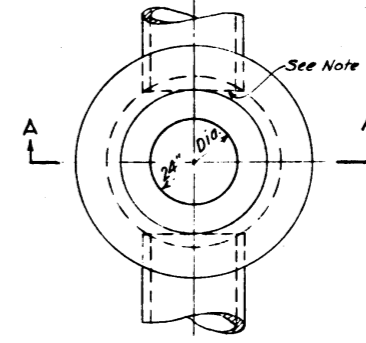
TABLE OF DROP PIPE SIZES FOR - DROP MANHOLES

INLET PIPE - DIA. = "D"	8"	10"	12"	15" & over
DROP PIPE - DIA. = "d"	6"	8"	10"	12"

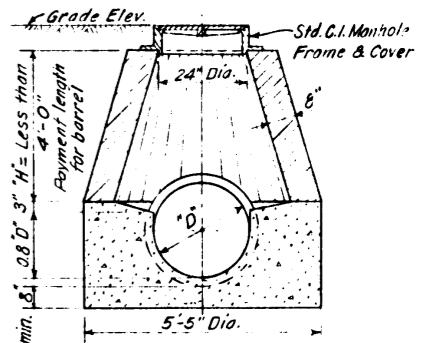


SECTIONAL PLAN

NOTE: Top portion of pipe to be broken out as directed by the Engineer.

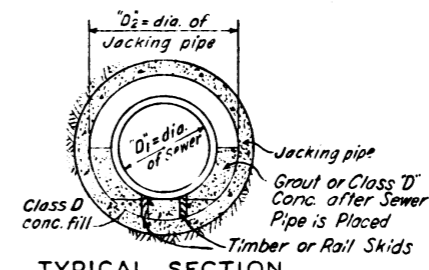


PLAN SECTION A-A SHALLOW TYPE - BRICK MANHOLE FOR SEWERS 24" OR LESS IN DIA.



SECTION A-A

- NOTES:
- Where sheeting is ordered left in place, the sheeting shall be cut off 2 feet below the surface and shall be measured for payment from the top of sheeting as cut, to the bottom of the sheeting as driven. No payment will be allowed for sheeting left in place below a plane located 2 feet below the invert of the pipe.
 - All stubs from manholes and ends of pipes to which connections are to be made under this Contract shall be provided with temporary water tight plugs or caps. All stubs for connections to other Contracts shall be provided with water tight plugs placed from inside of the manhole. Such plugs located at junctions of two Contracts shall remain in place and will be removed by others. Sewers which are to be connected to manholes which will be built under other contracts, shall be provided with water tight plugs or caps.
 - All manholes to be constructed with concrete bases and brick barrels plastered on the outside with cement mortar $\frac{1}{2}$ " thick.

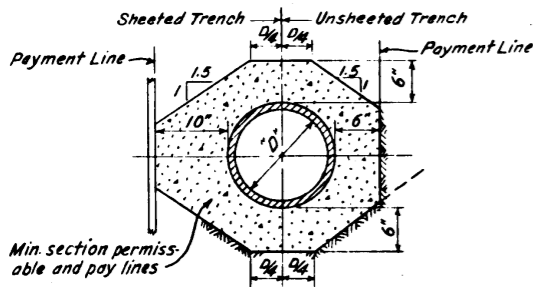


TYPICAL SECTION DETAIL OF JACKED CROSSINGS No Scale

SEWER & JACKING PIPE SIZES

Sewer	D1	21" & less	24"
Jacking pipe	D2	36"	42"

NOTE: All jacking pipe shall be tongue and groove reinforced concrete pipe conforming with ASTM. Des. C76. Diameters of jacking pipe shown are minimum values.

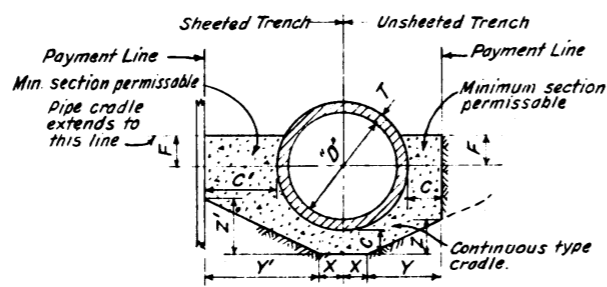


DETAIL OF COMPLETE ENCASEMENT FOR ALL TYPES AND SIZES OF SEWERS WHEN ORDERED OR SPECIFIED No Scale

NOTE: The table below indicates the amounts which will be allowed for payment for concrete encasement.

CU. YD. OF ENCASEMENT PER LIN. FT. OF SEWER

DIAMETER = "D"	8"	10"	12"	15"	18"	21"	24"
Unsheeted Trenches	0.075	0.087	0.100	0.120	0.142	0.165	0.185
Sheeted Trenches	0.089	0.105	0.121	0.146	0.171	0.197	0.224



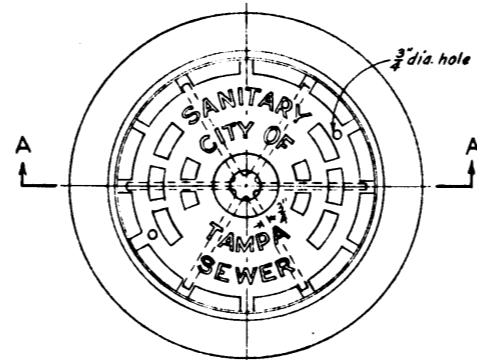
CRADLE FOR VIT. CLAY PIPE SEWERS 24" OR LESS IN DIA. No Scale

TABLE OF DIMENSIONS - UNSHEETED TRENCHES

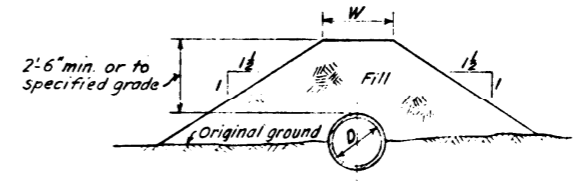
DIAMETER = "D"	8"	10"	12"	15"	18"	21"	24"
T	3/4"	7/8"	1"	1 1/4"	1 1/2"	1 3/4"	2"
C	4"	4"	4"	4"	4"	4"	4"
F	2"	2 1/2"	3"	4"	4 1/2"	5"	6"
X	2"	2 1/2"	3"	4"	4 1/2"	5 1/2"	6"
Y	6 3/4"	7 3/8"	8"	8 3/4"	10"	11"	12"
Z	3 3/8"	3 3/4"	4"	4 3/8"	5"	5 3/8"	6"
CU YD. OF CRADLE PER L.F. OF PIPE	0.029	0.035	0.041	0.052	0.061	0.072	0.083

TABLE OF DIMENSIONS - SHEETED TRENCHES

DIAMETER = "D"	8"	10"	12"	15"	18"	21"	24"
T	3/4"	7/8"	1"	1 1/4"	1 1/2"	1 3/4"	2"
C	10"	10"	10"	10"	10"	10"	10"
F	2"	2 1/2"	3"	4"	4 1/2"	5"	6"
X	2"	2 1/2"	3"	4"	4 1/2"	5 1/4"	6"
Y	12 3/4"	13 3/8"	14"	14 3/4"	16"	17"	18"
Z	5 3/8"	6 1/4"	7"	7 3/8"	8"	8 3/8"	9"
CU YD. OF CRADLE PER L.F. OF PIPE	0.047	0.057	0.067	0.085	0.099	0.116	0.134



SECTION A-A STD. CAST IRON MANHOLE FRAME & COVER Scale 1/2" = 1'-0" Approx. Wt = 380#



TYPICAL SECTION WHERE FILL IS REQUIRED No Scale

GREELEY AND HANSEN ENGINEERS CHICAGO, ILL.

- AS-BUILT PLAN -

Revised to show actual conditions according to construction record as of (A.F.L. 12-30-55).

CITY OF TAMPA FLORIDA SEWER IMPROVEMENTS DIVISION XE16

MANHOLE DETAILS

DES. D.N. & J.H. DR. J.W.H. CKD. R.E.F. DATE DEC 1954

SCALE 1" = 4'-0"

SHEET XE1627 OF 28

EXCEPT AS NOTED

65-27