

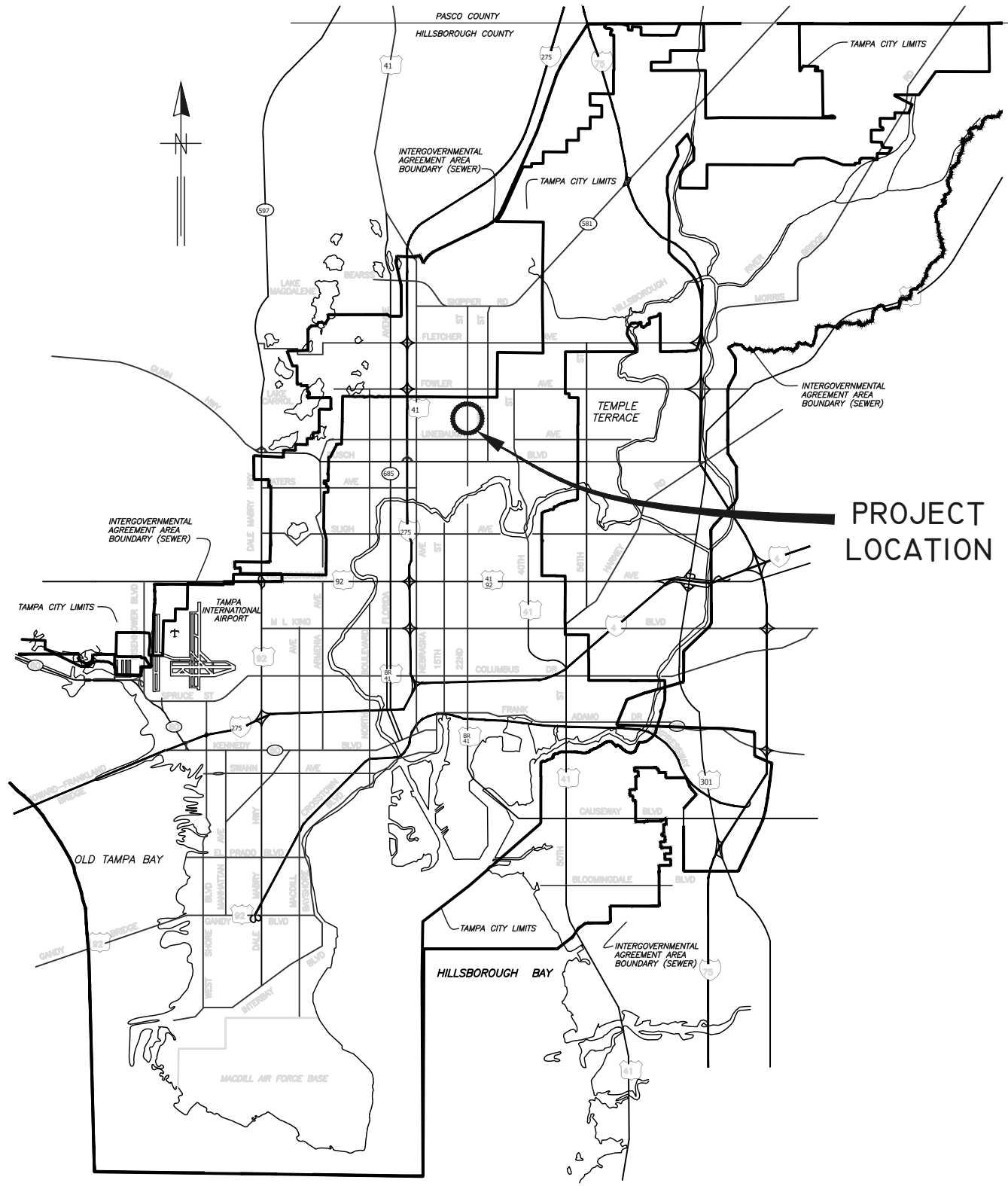
# CITY of TAMPA



## WASTEWATER DEPARTMENT

### PLANS FOR SHERWOOD HEIGHTS PS FM REPLACEMENT

CONTRACT No.  
25-C-000020



PROJECT  
LOCATION

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.

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	#	DATE	REVISIONS	DES: MFS	CITY of TAMPA WASTEWATER DEPARTMENT	SHERWOOD HEIGHTS PS FM REPLACEMENT  COVER	SHEET  1
	1			DRN: MRL			
	2			CKD:			
	3			DATE:			

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EX SEWERS

EX FORCE MAIN

EX SAN SEWER & MANHOLES

EX STORM SEWER & MANHOLES

PROP SEWERS

PROP FORCE MAIN

PROP SANITARY SEWER & MANHOLES

PROP STORM SEWER & MANHOLES

OTHER FEATURES

RIGHT OF WAY LINE

EDGE OF PAVEMENT

WATER LINE

GAS LINE

ELECTRICAL CABLE OR DUCT

TELEPHONE CABLE OR DUCT

TV CABLE

FENCE

PROPERTY OWNERSHIP

VALVE, AIR RELEASE VALVE

HYDRANT

CATCH BASIN, GRATE

POWER POLE

TELEPHONE POLE

GUY POLE

GUY WIRE

VALVE VAULT

WATER METER

ELECTRICAL MANHOLE OR VAULT

TELEPHONE MANHOLE OR VAULT

TRAFFIC BOX OR VAULT

BUILDING LIMIT

CONIFER

PALM

OAK

OTHER

SHRUB

HEDGE

RAILROAD TRACKS

IRON PIPE

CONTROL POINT

CONCRETE MONUMENT

OPEN DITCHES

EXISTING WYE

PROPOSED WYE

CLEAN OUT

UP TO 36" & SMALLER

36" & LARGER

ABBREVIATIONS

AIR RELEASE VALVE

APPROXIMATE LOCATION

BENCH MARK

BURIED TELEPHONE

CONCRETE PIPE

DIAMETER RATIO

DUCTILE IRON PIPE

EDGE OF PAVEMENT

FIBER OPTIC CABLE

ABBREVIATIONS

FLORIDA DEPT. OF TRANSPORTATION

FORCE MAIN

HIGH DENSITY POLYETHYLENE PIPE

INVERT ELEVATION

MAINTENANCE OF TRAFFIC

MANHOLE

PLUG VALVE

POINT OF INTERSECTION

POLYVINYL CHLORIDE PIPE

ABBREVIATIONS

REINFORCED CONCRETE PIPE

RESTRAINED MECHANICAL JOINT

RIGHT OF WAY

TOP OF PIPE

VERIFIED VERT. AND HORZ. LOCATION

VITRIFIED CLAY PIPE

WASTEWATER

INDEX

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PROJECT LOCATION

JACINTO CARLOS FERRAS, P.E. #49454

DESIGN DIVISION HEAD

WASTEWATER DEPARTMENT

#	DATE	REVISIONS
1		
2		
3		

DES:

MFS

DRN:

MRL

CKD:

DATE:

CITY of TAMPA

WASTEWATER DEPARTMENT

SHERWOOD HEIGHTS PS FM REPLACEMENT

INDEX AND LEGEND

SHEET

2

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GENERAL NOTES

1. ALL ELEVATIONS ARE NAVD 88 VERTICAL DATUM, UNLESS OTHERWISE NOTED. VERIFY THE LOCATION AND DEPTH OF ALL PERTINENT UTILITIES PRIOR TO CONSTRUCTION. CALL SUNSHINE 811 AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION.
2. CONTRACTOR SHALL PROVIDE A BORING LOG TO DOCUMENT THE DEPTH AND HORIZONTAL LOCATION OF THE HDPE PIPE AT A MAXIMUM OF 15 FOOT INTERVALS. BORING LOGS SHALL REFERENCE STATIONING INCLUDED ON THESE PLANS.
3. THE MINIMUM CLEARANCE BETWEEN THE PROPOSED FORCE MAIN AND ALL CROSSING UTILITIES SHALL BE 18-INCHES, UNLESS NOTED OTHERWISE.
4. THE PROPOSED FORCE MAIN SHALL BE INSTALLED ACCORDING TO THE STATIONS, OFFSETS AND INVERT ELEVATIONS PROVIDED WITH NO INTERMEDIATE HIGH OR LOW POINTS BETWEEN THE SPECIFIED INVERT ELEVATIONS UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. THE DIRECT BURY PORTIONS OF THE PROJECT SHALL UTILIZE AWWA C-900 (DR-18) GREEN PVC-P UNLESS NOTED OTHERWISE ON THE PLANS. PIPE SHALL BE LAID USING CLASS "C" BEDDING AS SHOWN. THE DIRECTIONAL DRILL PORTIONS OF THE PROJECT SHALL UTILIZE AWWA C-906 HDPE (DR-11) WITH 2 GREEN STRIPES.
6. ALL FITTINGS AND BENDS SHALL BE DUCTILE IRON AWWA C-153. FITTINGS SHALL BE WRAPPED WITH GREEN POLYWRAP. FITTINGS SHALL BE LINED WITH PROTECTO 401 INTERIOR CERAMIC EPOXY.
7. PLUG VALVES SHALL BE DEZURIK 100% PORT PEF.
8. ALL FORCE MAIN VALVES, FITTINGS AND BENDS SHALL HAVE RESTRAINED MECHANICAL JOINTS UNLESS THE JOINTS ARE BUTT FUSED HDPE. ADDITIONALLY, ANY JOINTS WITHIN THE LIMITS TO BE RESTRAINED THAT ARE SHOWN ON THE PLANS SHALL ALSO BE RESTRAINED. RESTRAINING DEVICES SHALL BE "MEGA-LUG" AS MANUFACTURED BY EBAA IRON OR APPROVED EQUAL.
9. ALL PROPOSED FORCE MAIN PIPE SHALL HAVE 2 LOCATING WIRES IN ACCORDANCE WITH THE PIPE LOCATING WIRE DETAIL. THE WIRES SHALL BE RAISED AND TERMINATED AT ALL PLUG VALVES, AIR RELEASE VALVES AND TERMINAL MANHOLES, SIMILAR TO THAT SHOWN ON THE AIR RELEASE VALVE DETAIL.
10. CONTRACTOR SHALL REPLACE ALL REMOVED OR DAMAGED SHRUBBERY, LANDSCAPING, IRRIGATION PIPES, VALVES AND COMPONENTS TO PRE-EXISTING CONDITION OR BETTER, AT NO ADDITIONAL COST.
11. RIGHT OF WAY SHALL BE RESTORED TO PRE-EXISTING CONDITIONS OR BETTER. PAVEMENT RESTORATION SHALL BE IN ACCORDANCE WITH CITY OF TAMPA'S MOBILITY DEPARTMENT PAVEMENT REQUIREMENTS, LATEST REVISION. PAVEMENT REQUIREMENT DETAILS ARE PROVIDED IN THIS PLAN SET. BOUGAINVILLEA AND 109TH AVENUES ARE CLASSIFIED AS NEIGHBORHOOD COLLECTOR ROADS. ALL OTHER ROADS AFFECTED IN THIS PROJECT ARE CLASSIFIED AS LOCAL ROADS. PAVEMENT RESTORATION SHALL CONSIST OF:

11.1. LOCAL ROADS - 12" CRUSH CONCRETE BASE & 3" SUPERPAVE SP-9.5.

11.2. NEIGHBORHOOD COLLECTOR ROADS - 14" CRUSH CONCRETE BASE & 3" SUPERPAVE SP-9.5

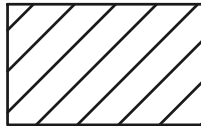
11.3. 1" SUPERPAVE SP-9.5 MILL & OVERLAY PER REQUIREMENTS
12. AFTER AWARD OF PROJECT, CONTRACTOR MAY SUBMIT AN ALTERNATE BORE PLAN FOR CONSIDERATION AND APPROVAL.
13. ALL UTILITIES HAVE BEEN SHOWN FROM THE MOST RELIABLE INFORMATION AVAILABLE. PRIOR TO DRILLING PIPE, CONTRACTOR SHALL LOCATE ALL CROSSING UTILITIES OR UTILITIES IN CLOSE PROXIMITY VIA VACUUM OR CONVENTIONAL EXCAVATION TO VERIFY ACTUAL HORIZONTAL AND VERTICAL LOCATION.
14. 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.
15. 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.
16. ALL METAL PIPE AND VALVES INSIDE THE PUMP STATION'S VALVE VAULT (SEE SH. 13) SHALL BE PAINTED INCLUDING THE EXISTING VALVES TO REMAIN PAINT SYSTEM SHALL CONSIST OF:

16.1. SHOP COAT - ONE COAT, 4-6 MILS (DRY) TNEMEC N140-1211 EPOXY PRIMER

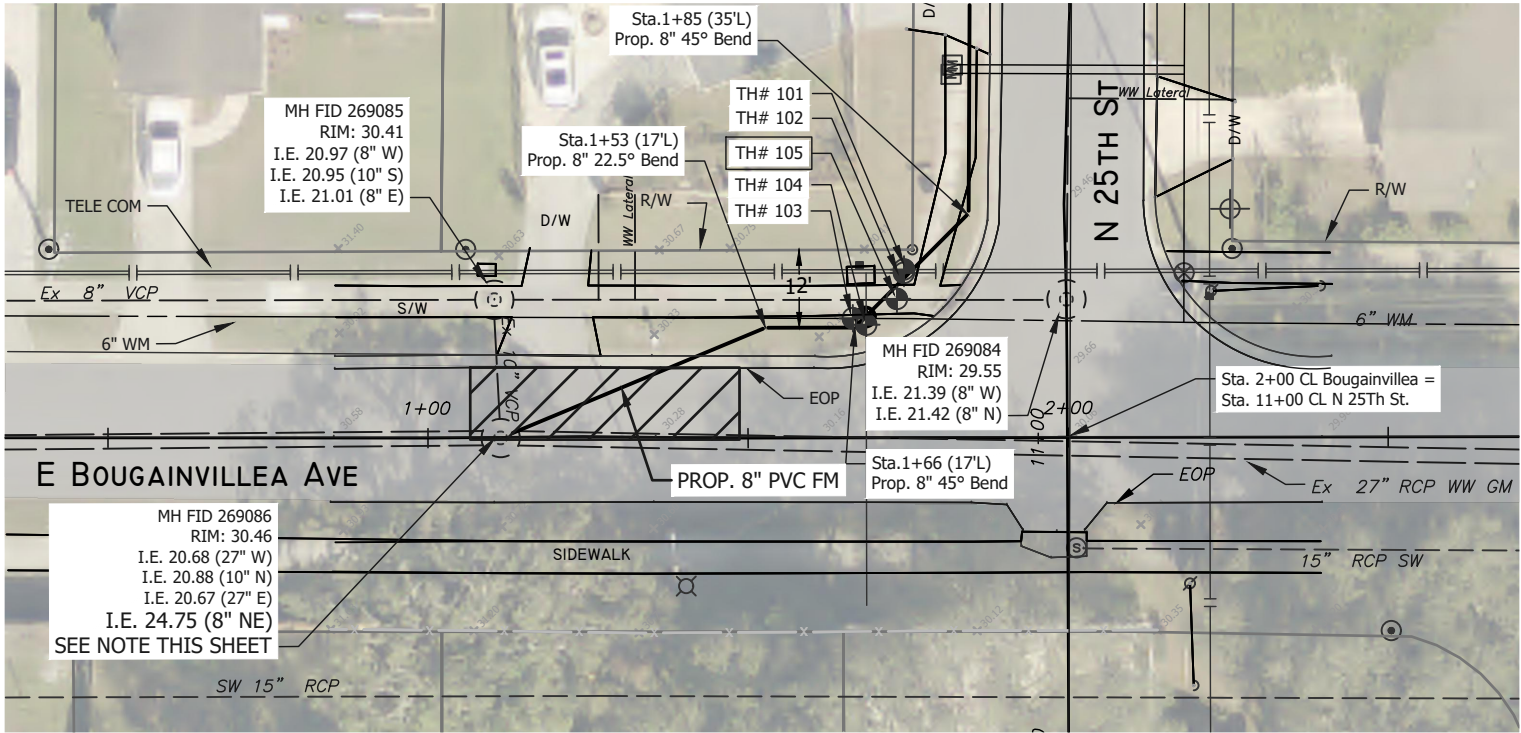
16.2. FIELD COAT - TWO COATS, 5-7 MILS (DRY) TNEMEC SERIES 446 PERMA-SHIELD MCU

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	#	DATE	REVISIONS	DES: MFS	CITY of TAMPA WASTEWATER DEPARTMENT	SHERWOOD HEIGHTS PS FM REPLACEMENT  NOTES	SHEET  3
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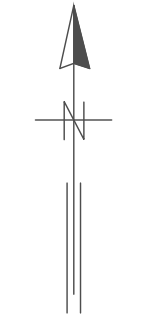
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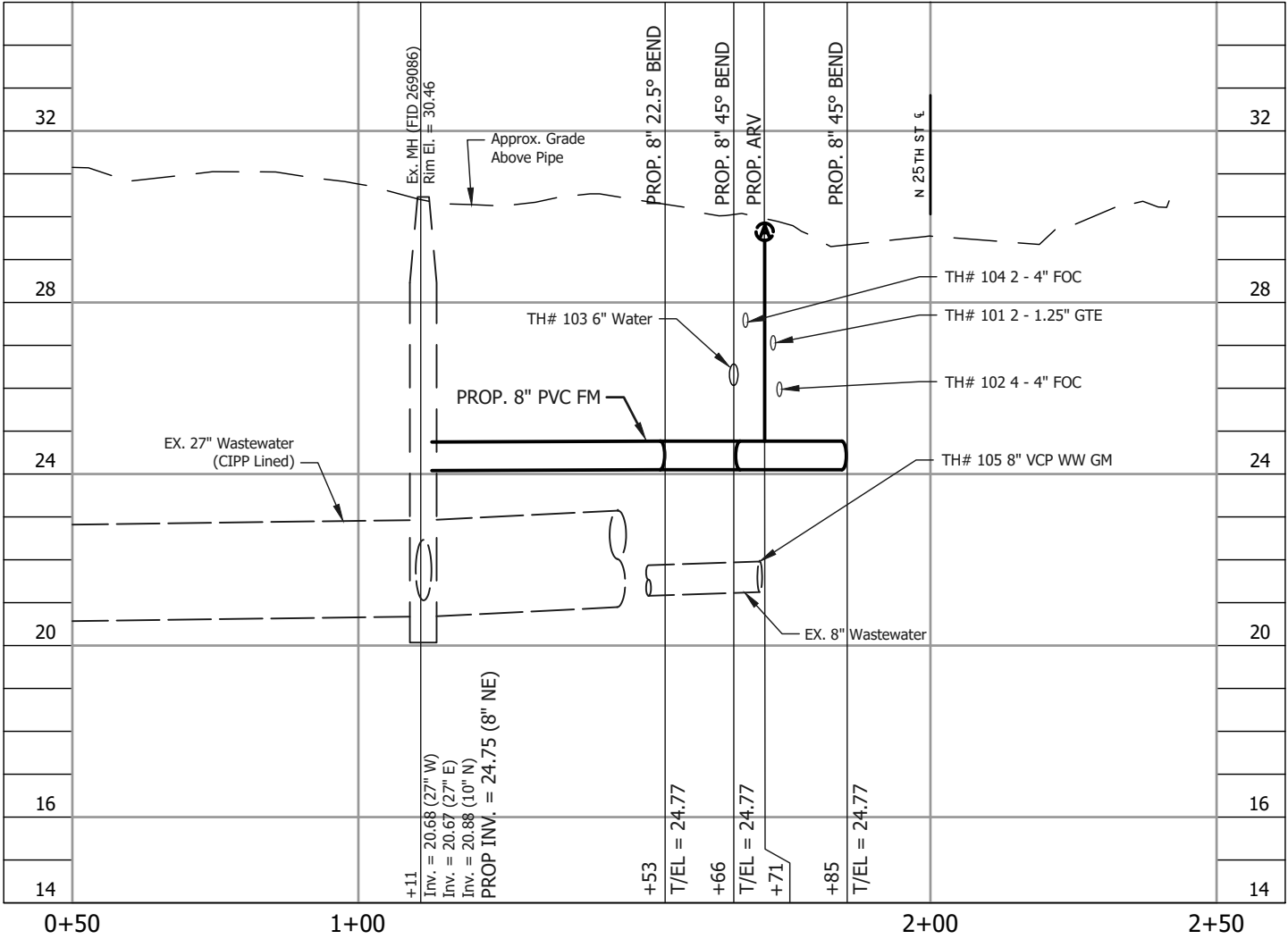
HATCHED AREAS ON THIS SHEET INDICATE 1" MILL & OVERLAY RESTORATION LIMITS



VH DATA CHART		
TEST HOLE #	DESCRIPTION	MEASURED DEPTH (FT)
101	2-1.25" HDPE, GTE	2.60
102	4-4" PVC, FOC	3.80
103	6" STL, WATER	3.55
104	2-4" PVC, FOC	3.20
105	8" VCP WW GM	7.70



PLAN  
SCALE: 1"=30'

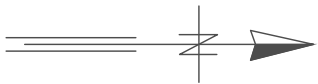
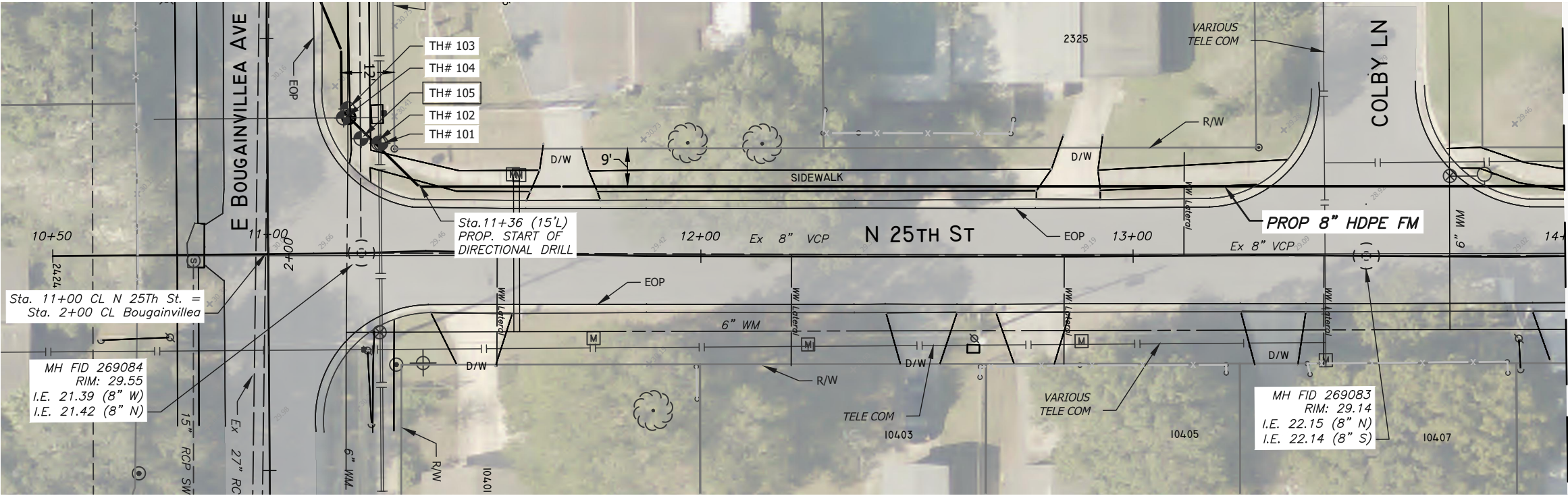


NOTE:  
INSTALL "RELINER-DURAN "8" DROP BOWL INSIDE CONNECTION PER MANUFACTURERS SPECIFICATIONS EXISTING MH IS A BRICK MH WITH FIBERGLASS LINER. AFTER FM CONNECTION INTO MH BUT PRIOR TO PLACING PROPOSED FM INTO SERVICE; CONTRACTOR SHALL ALLOW (5) DAYS FOR CITYS MH REHABILITATION CONTRACTOR TO RESTORE THE CORED OPENING & MH BENCH. CONTRACTOR TO PROVIDE THE CITY WITH MINIMUM (2) WEEK ADVANCE NOTICE OF WORK.

PROFILE  
SCALE:  
1"=30' HORIZ.  
1"=4' VERT.

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	#	DATE	REVISIONS	DES: MFS	CITY of TAMPA WASTEWATER DEPARTMENT	SHERWOOD HEIGHTS PS FM REPLACEMENT  STA 0+50 TO STA 2+50	SHEET  4
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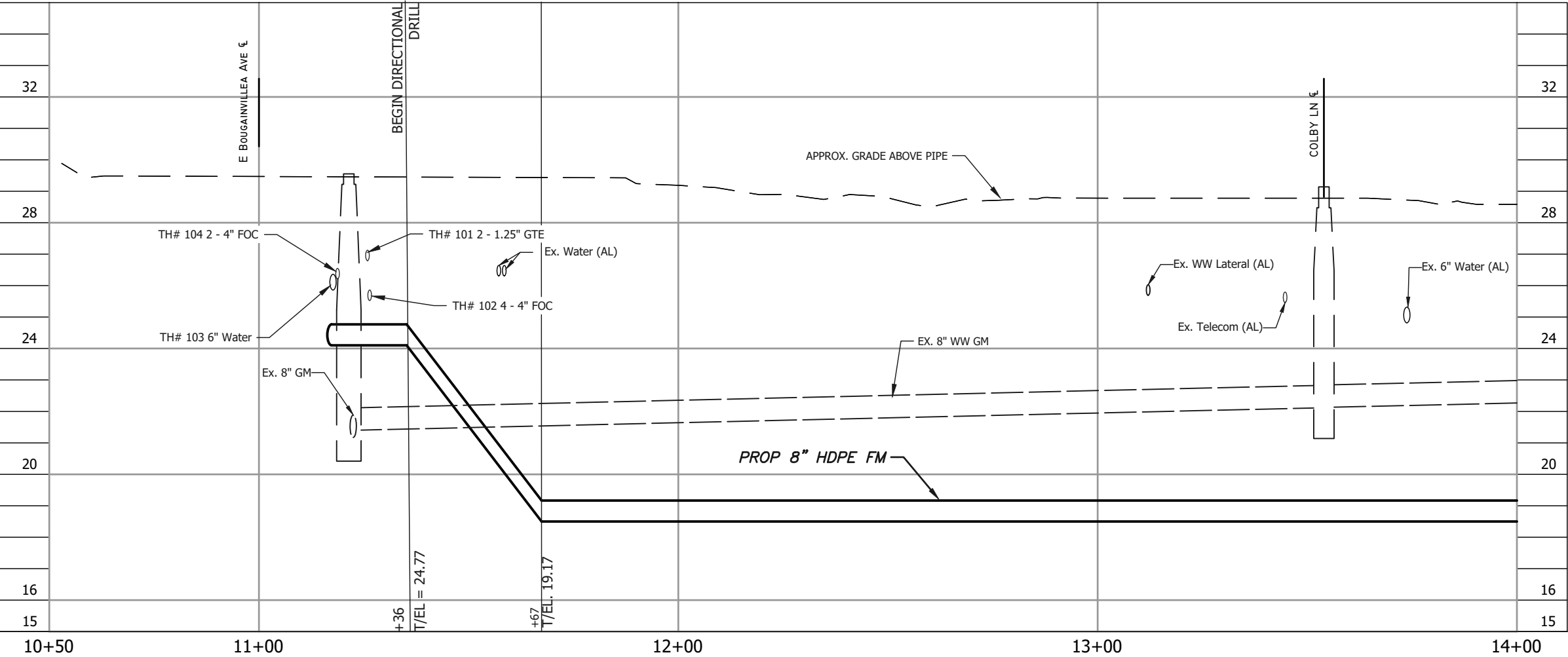


VVH DATA CHART

TEST HOLE #	DESCRIPTION	MEASURED DEPTH (FT)
101	2-1.25" HDPE, GTE	2.60
102	4-4" PVC, FOC	3.80
103	6" STL, WATER	3.55
104	2-4" PVC, FOC	3.20
105	8" PIPE & 12" CLAY JOINT, WW GM	7.70

PLAN

SCALE: 1"=30'



PROFILE

SCALE:  
1"=30' HORIZ.  
1"=4' VERT.

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

#	DATE	REVISIONS
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DES: MFS  
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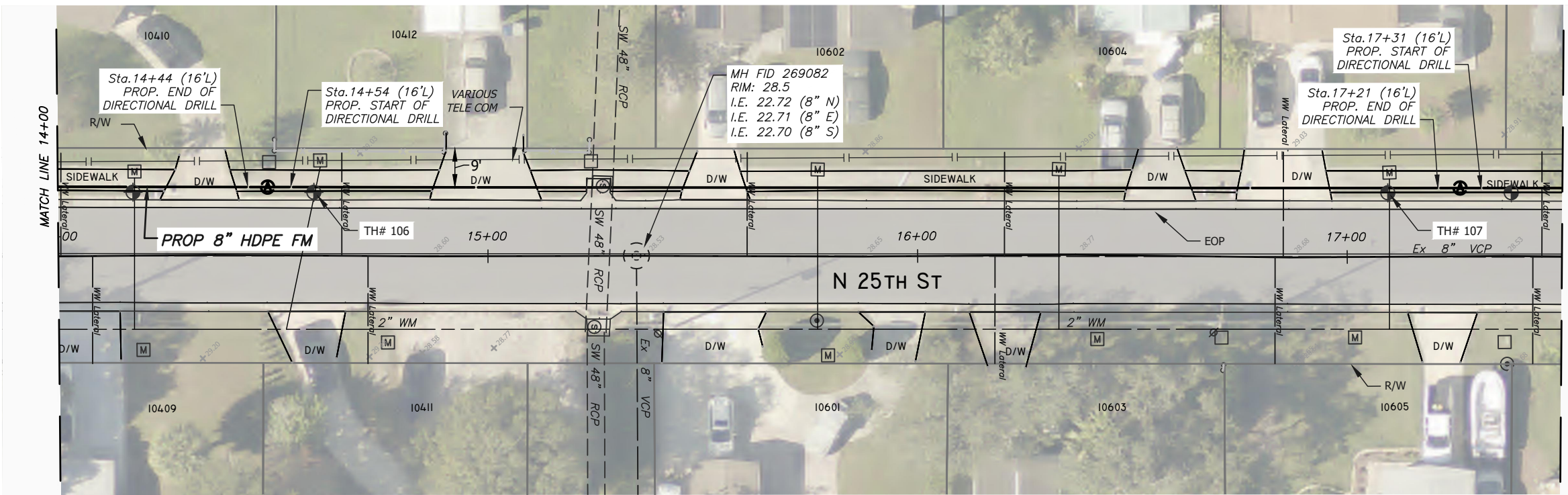
CITY of TAMPA  
WASTEWATER DEPARTMENT

SHERWOOD HEIGHTS PS FM REPLACEMENT

STA 10+50 TO STA 14+00

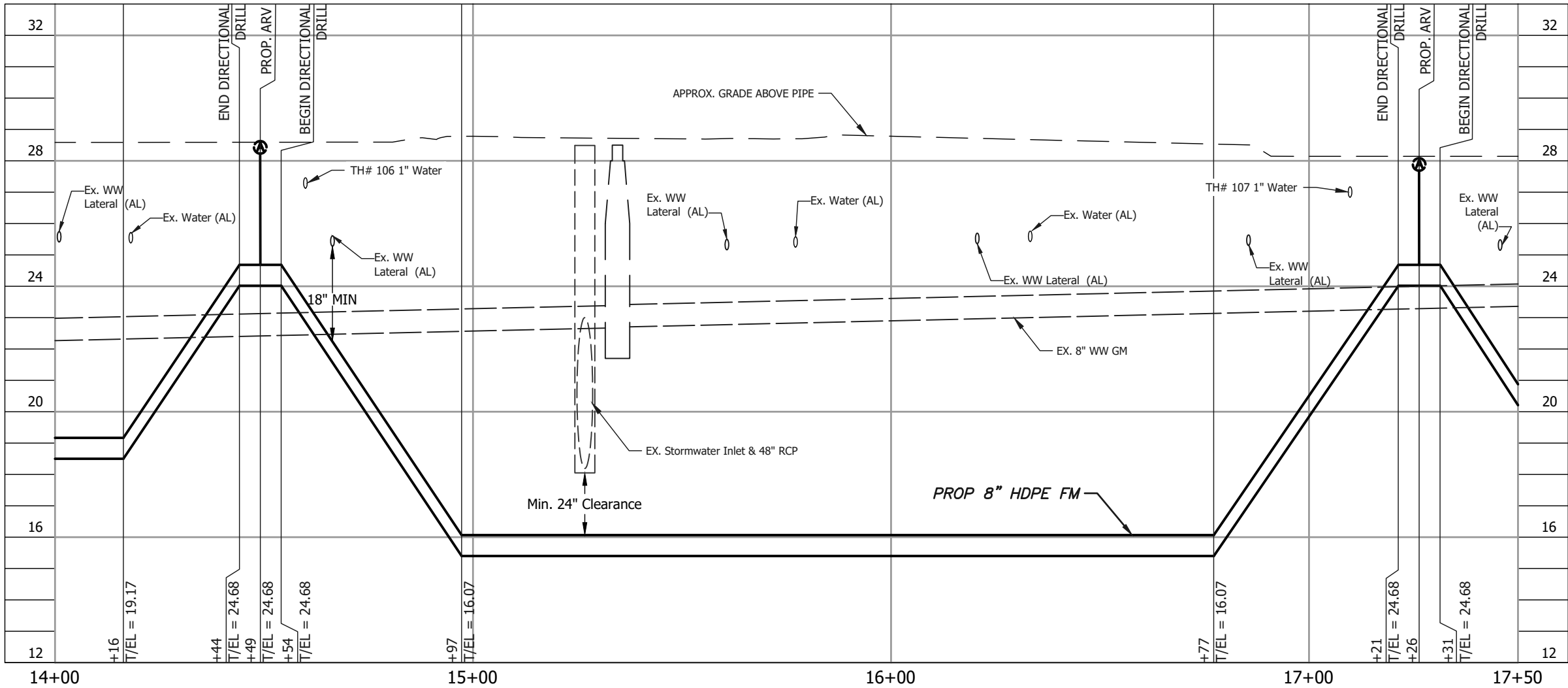
SHEET

5



PLAN  
SCALE: 1"=30'

VWH DATA CHART		
TEST HOLE #	DESCRIPTION	MEASURED DEPTH (FT)
106	1" STL, WATER	1.20
107	1" STL, WATER	1.60

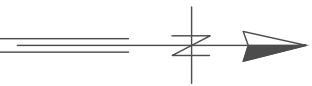
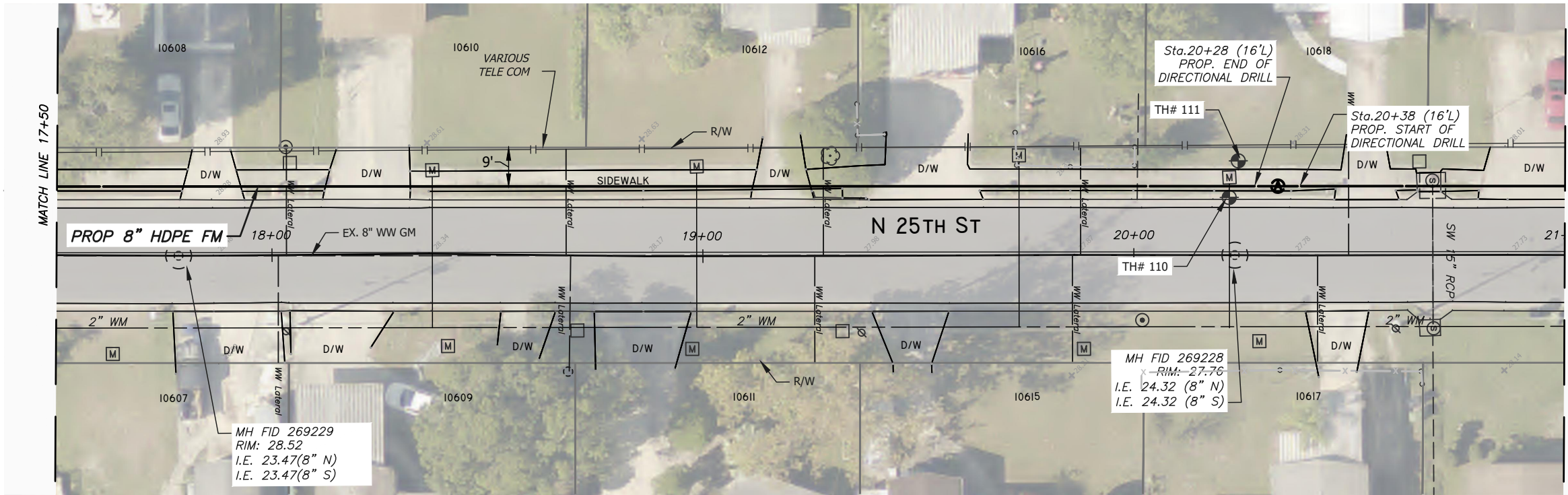


PROFILE  
SCALE:  
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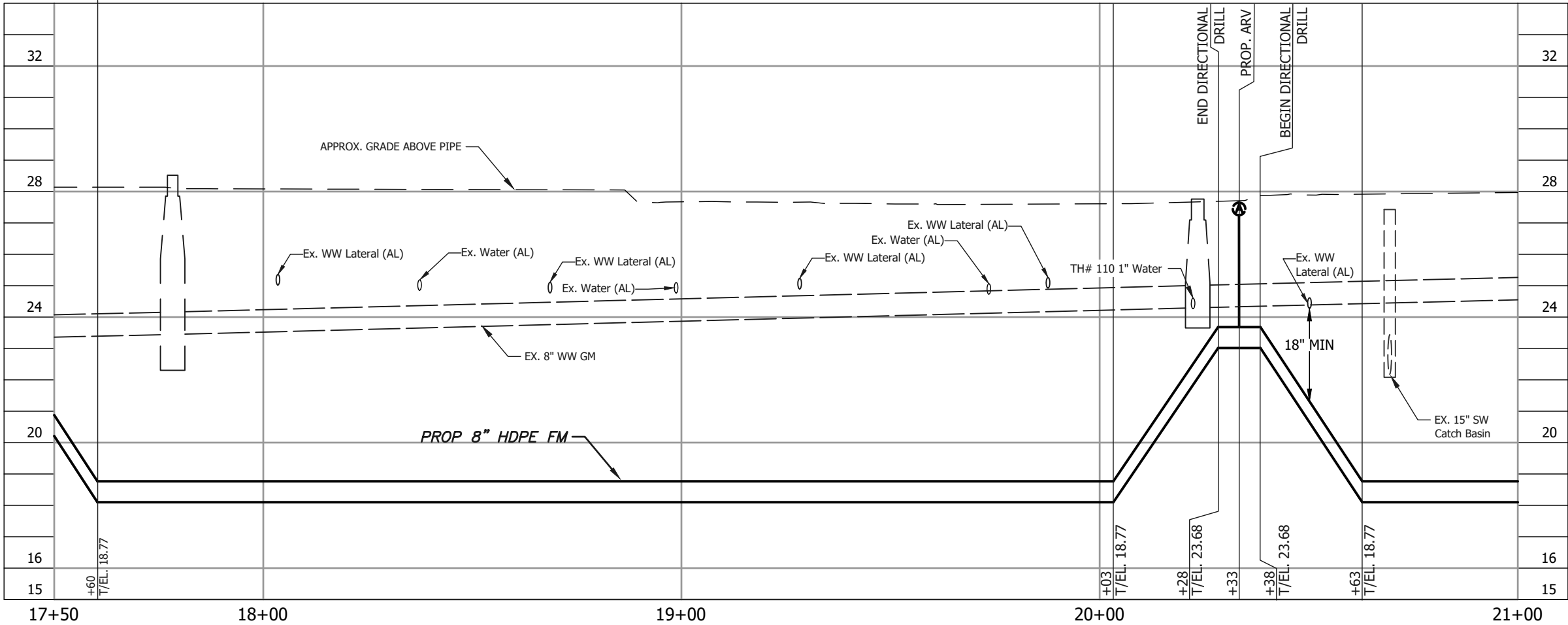
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VVH DATA CHART		
TEST HOLE #	DESCRIPTION	MEASURED DEPTH (FT)
110	1" STL, WATER	3.05
111	1.5" HDPE, VERIZON	2.15

PLAN

SCALE: 1"=30'

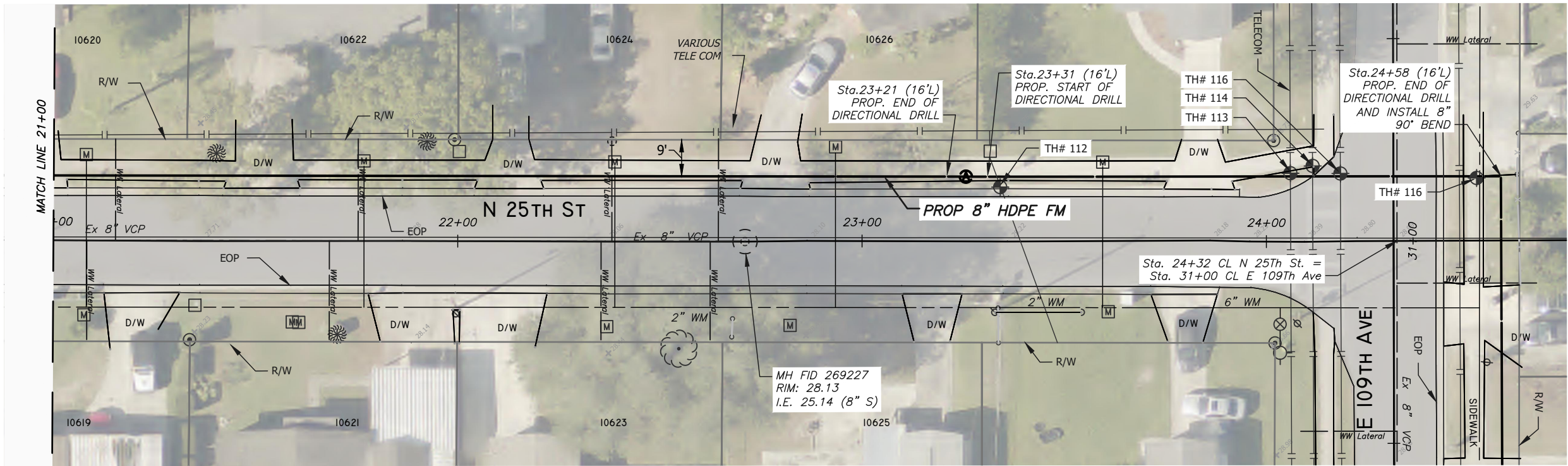


PROFILE

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1"=4' VERT.

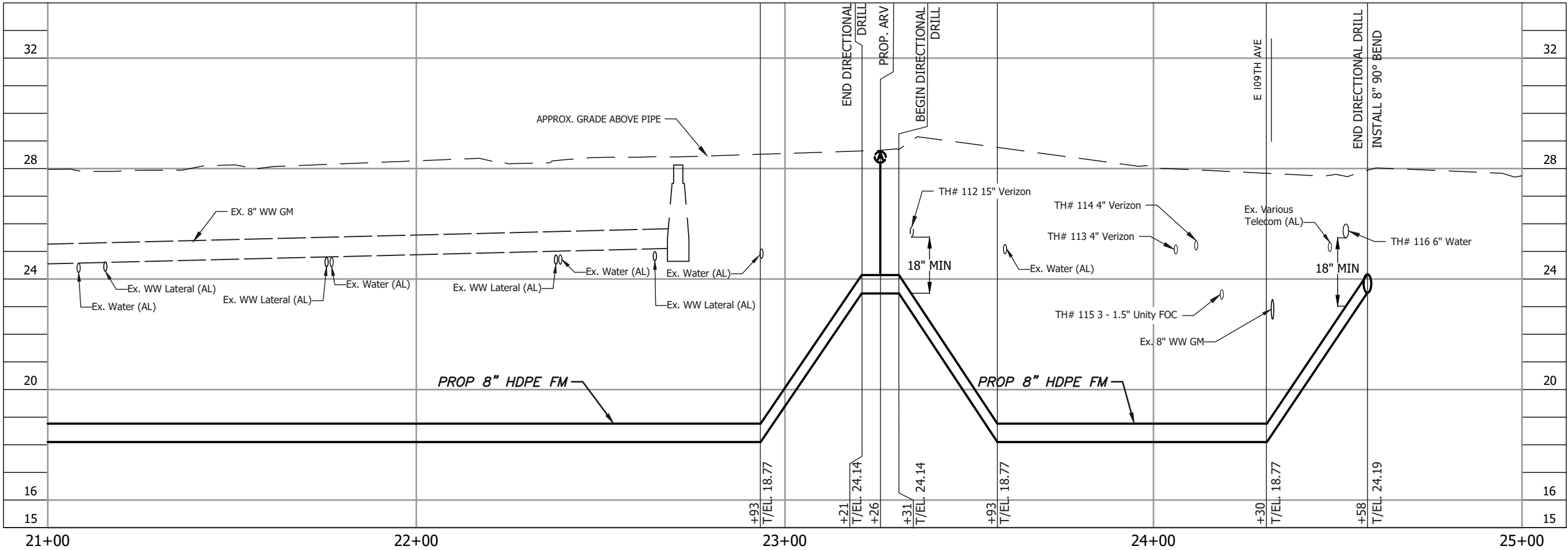
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	1			DRN: MRL			
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VWH DATA CHART		
TEST HOLE #	DESCRIPTION	MEASURED DEPTH (FT)
112	1.5" HDPE, VERIZON	2.24
113	4" PVC, VERIZON	3.10
114	4" PVC, VERIZON	2.90
115	3-1.5" HDPE, UNITY FIBER	5.00
116	6" STL, WATER	2.38

PLAN  
SCALE: 1"=30'

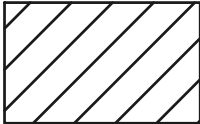


PROFILE  
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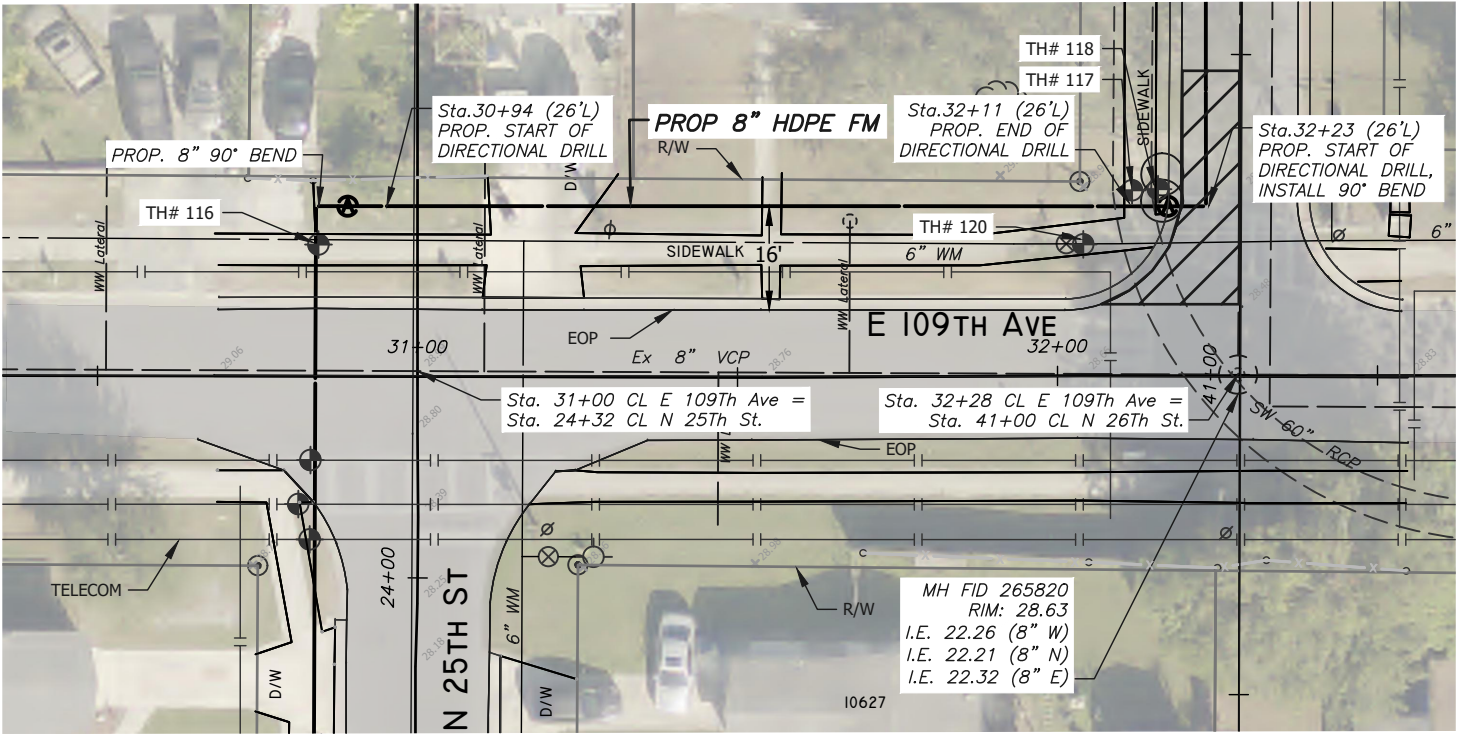
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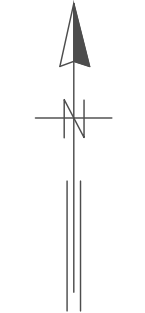
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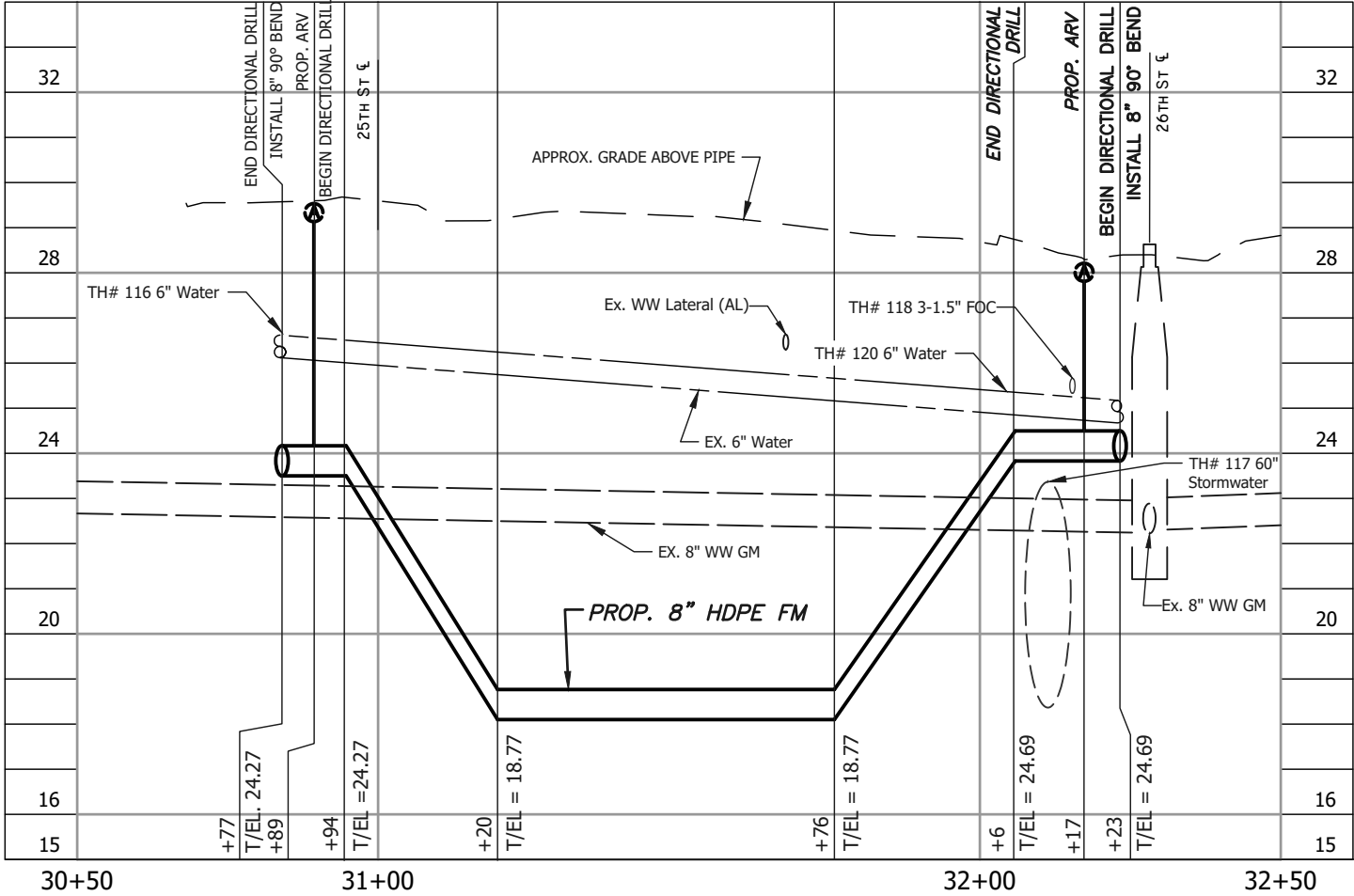
HATCHED AREAS ON THIS SHEET INDICATE 1" MILL & OVERLAY RESTORATION LIMITS



VVH DATA CHART		
TEST HOLE #	DESCRIPTION	MEASURED DEPTH (FT)
116	6" STL, WATER	2.38
117	5' CONC, STORM	5.10
118	3-1.5" HDPE	2.80
120	6" STL, WATER	3.32

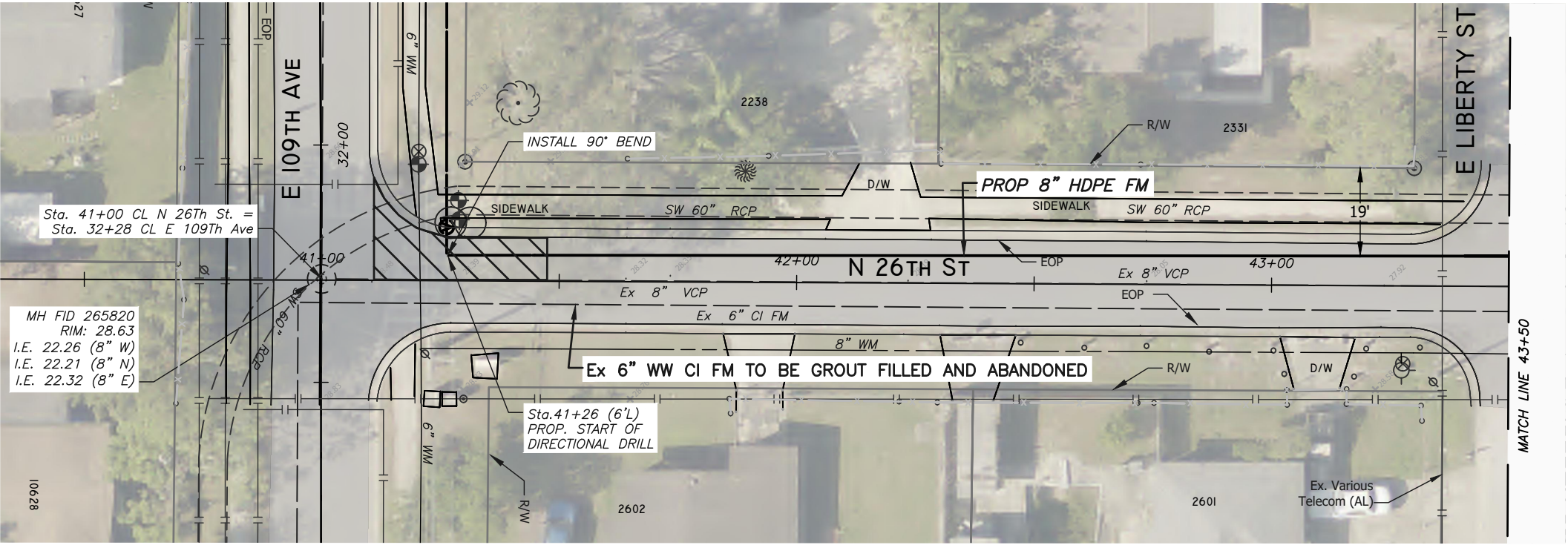


PLAN  
SCALE: 1"=30'



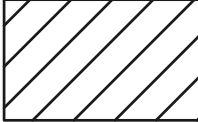
PROFILE  
SCALE:  
1"=30' HORIZ.  
1"=4' VERT.

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	#	DATE	REVISIONS	DES: MFS	CITY of TAMPA WASTEWATER DEPARTMENT	SHERWOOD HEIGHTS PS FM REPLACEMENT  STA 30+50 TO STA 32+50	SHEET  9
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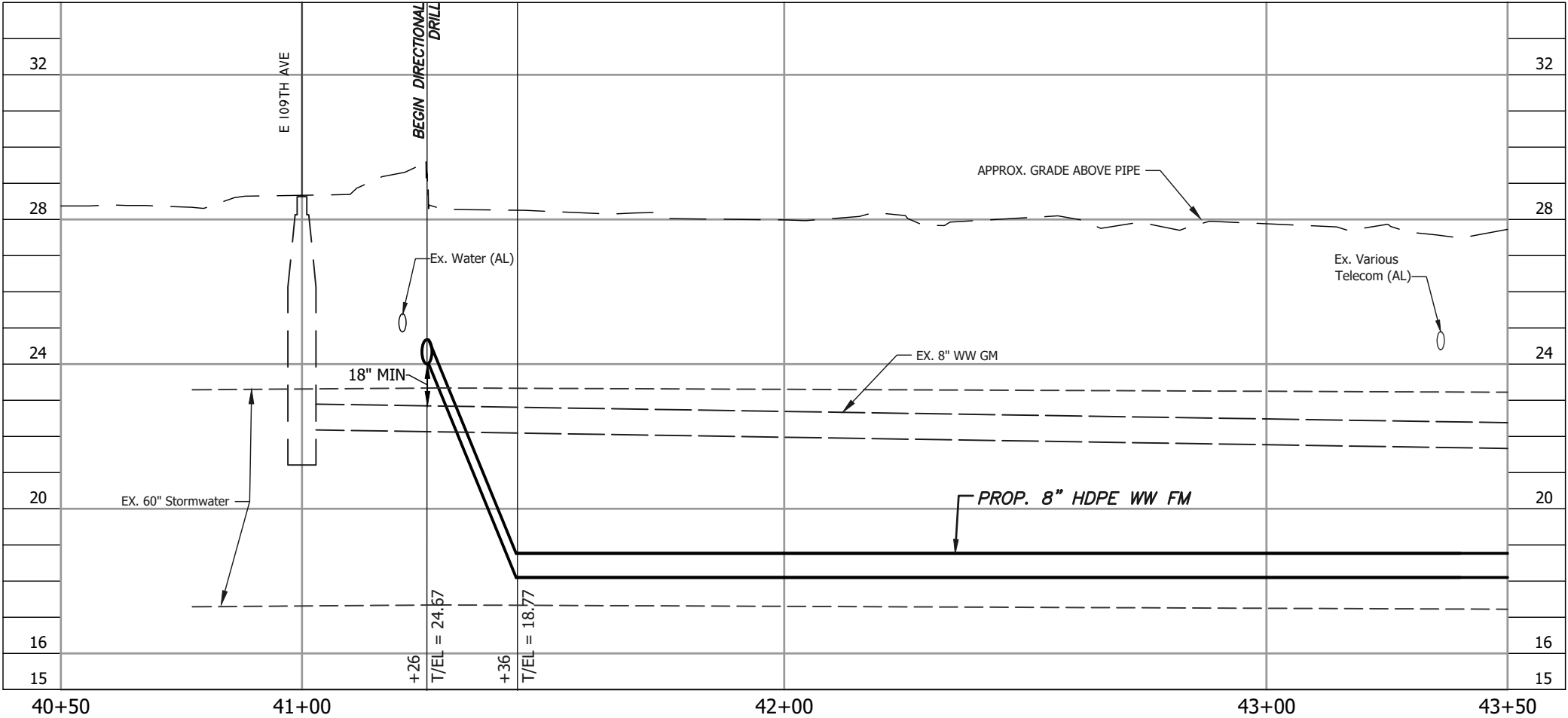


PLAN

SCALE: 1"=30'



HATCHED AREAS ON THIS SHEET INDICATE 1" MILL & OVERLAY RESTORATION LIMITS

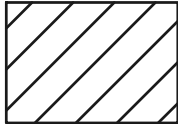


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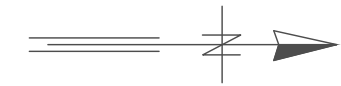
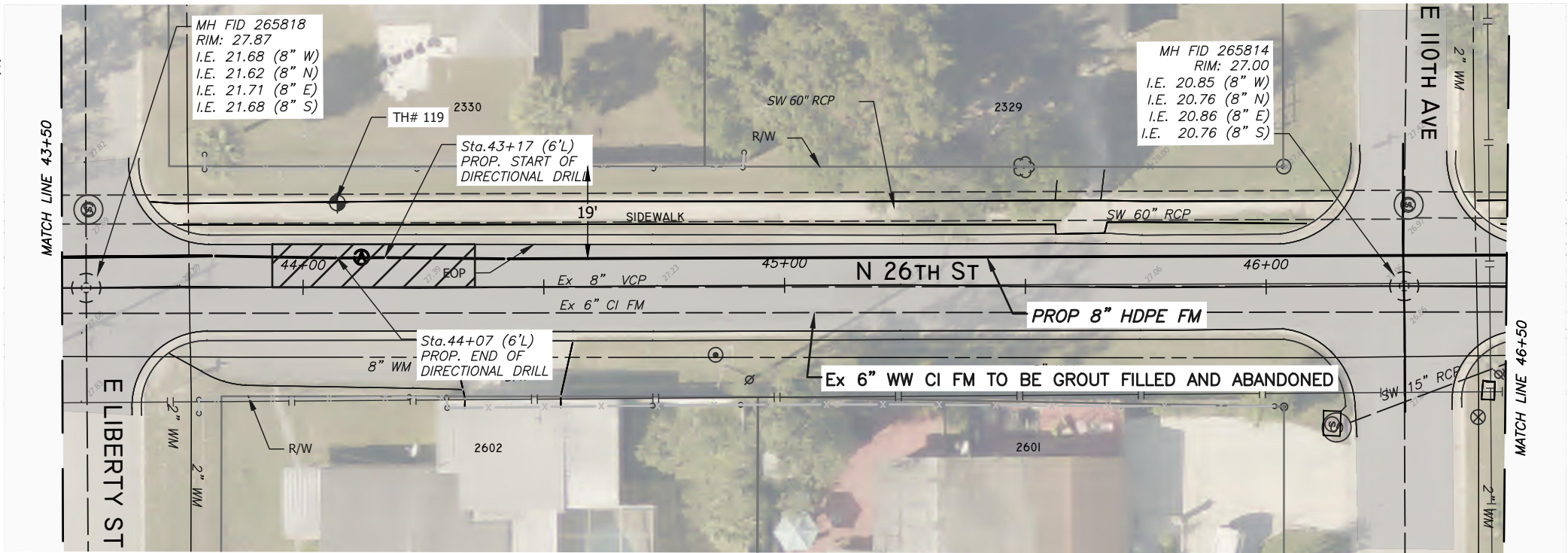
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1"=4' VERT.

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	#	DATE	REVISIONS	DES: MFS	CITY of TAMPA WASTEWATER DEPARTMENT	SHERWOOD HEIGHTS PS FM REPLACEMENT  STA 40+50 TO STA 43+50	SHEET  10
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HATCHED AREAS ON THIS SHEET INDICATE 1" MILL & OVERLAY RESTORATION LIMITS

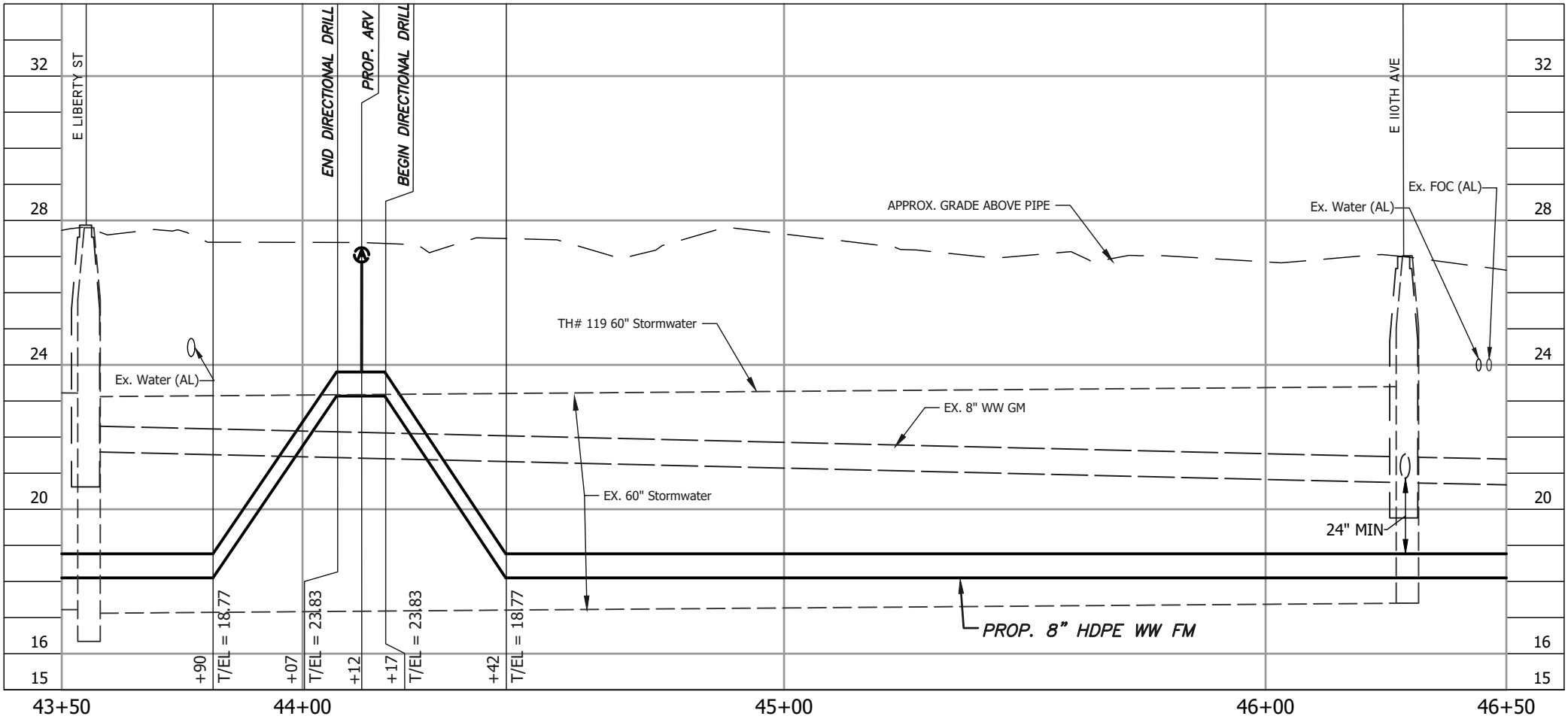


### VVH DATA CHART

TEST HOLE #	DESCRIPTION	MEASURED DEPTH (FT)
119	5' CONC, STORM	4.20

### PLAN

SCALE: 1"=30'



### PROFILE

SCALE:  
1"=30' HORIZ.  
1"=4' VERT.

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

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CITY of TAMPA  
WASTEWATER DEPARTMENT

SHERWOOD HEIGHTS PS FM REPLACEMENT

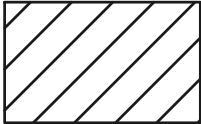
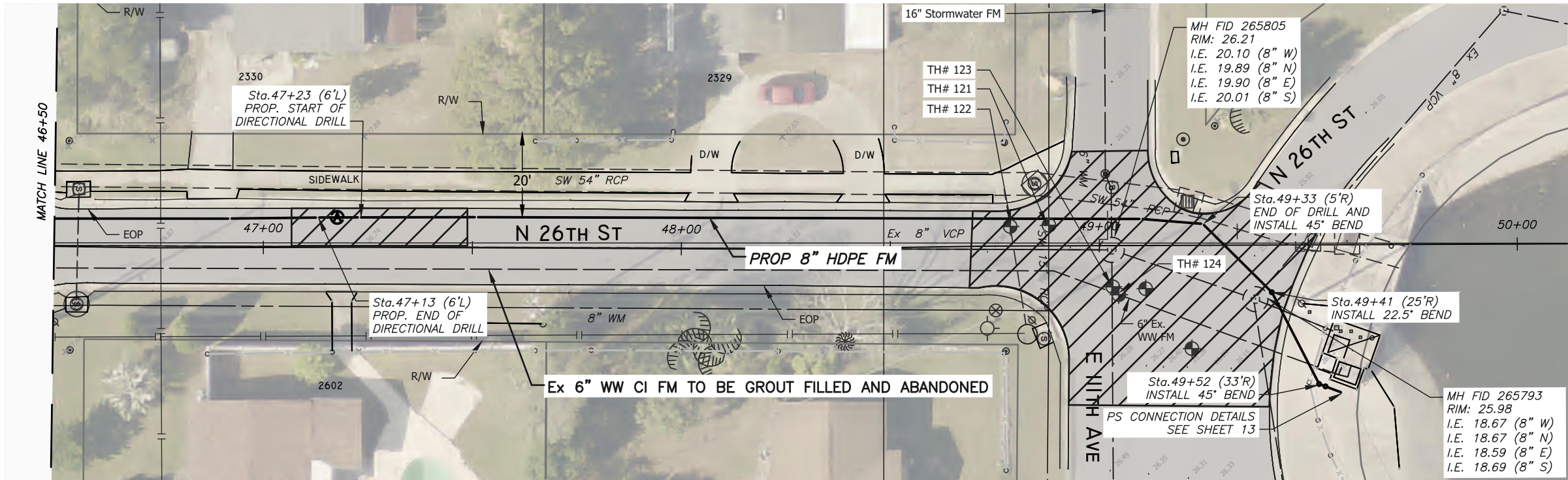
STA 43+50 TO STA 46+50

SHEET

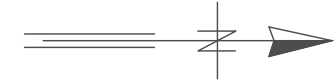
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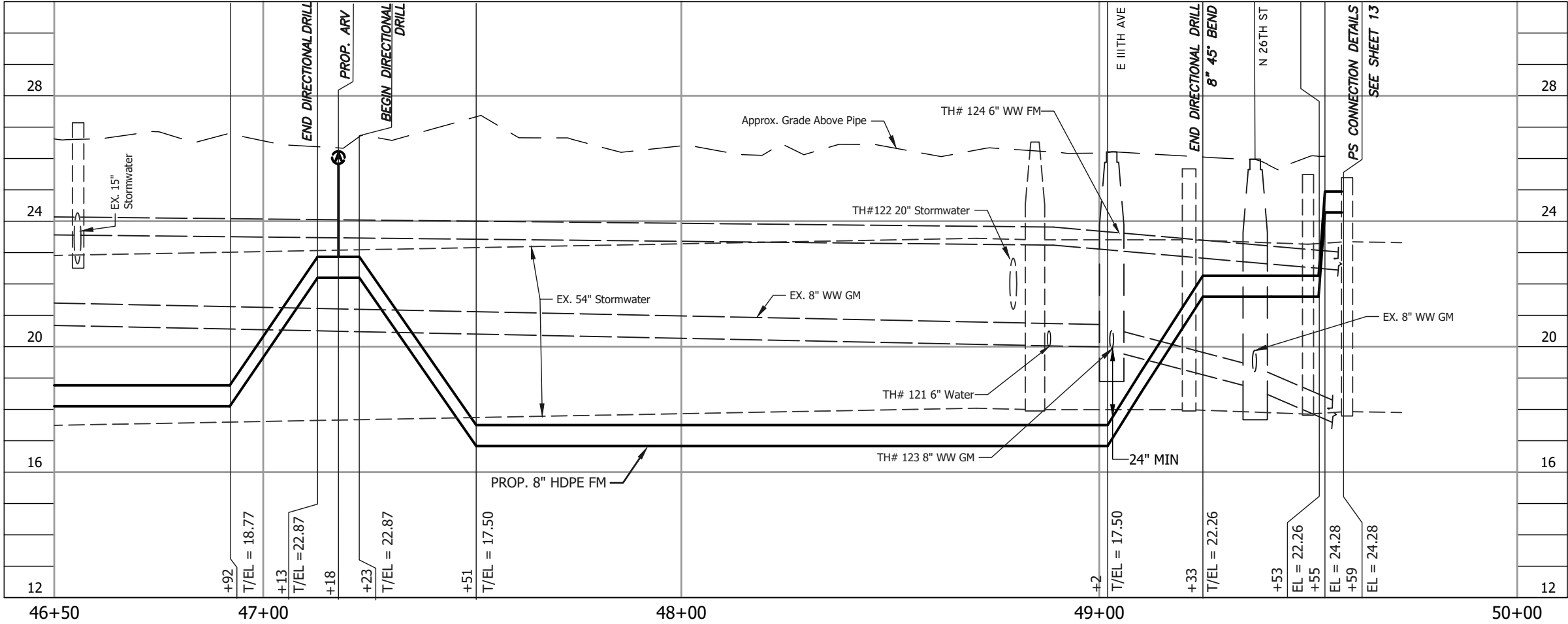


HATCHED AREAS ON THIS SHEET INDICATE 1" MILL & OVERLAY RESTORATION LIMITS



VWH DATA CHART		
TEST HOLE #	DESCRIPTION	MEASURED DEPTH (FT)
121	6" STL, WATER	5.70
122	20" CONC, STORM	3.45
123	8" STL, WW GM	5.70
124	8" STL, WW FM	2.32

PLAN  
SCALE: 1"=30'



PROFILE  
SCALE:  
1"=30' HORIZ.  
1"=4' VERT.

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

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CITY of TAMPA  
WASTEWATER DEPARTMENT

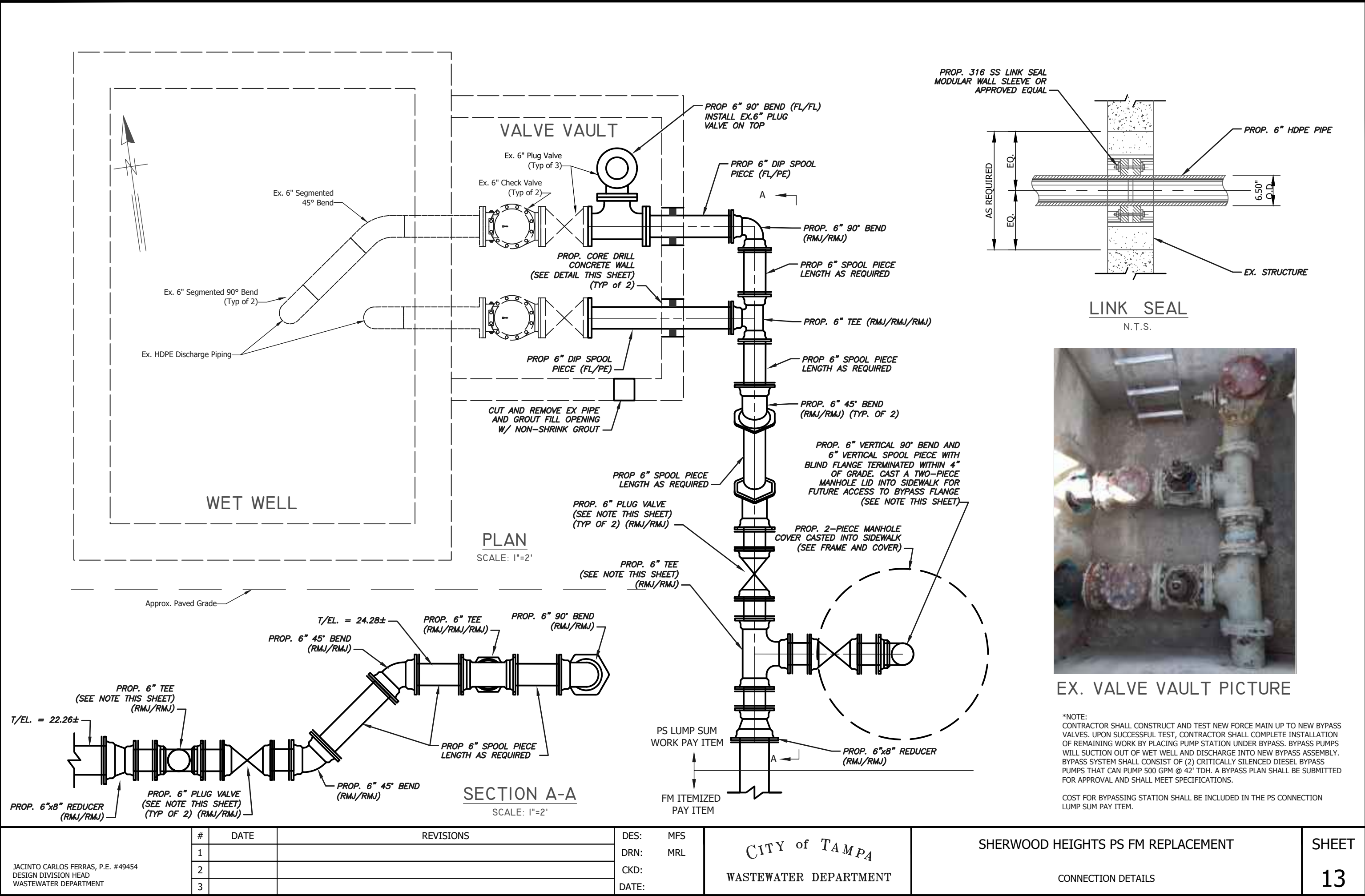
SHERWOOD HEIGHTS PS FM REPLACEMENT

STA 46+50 TO STA 50+00

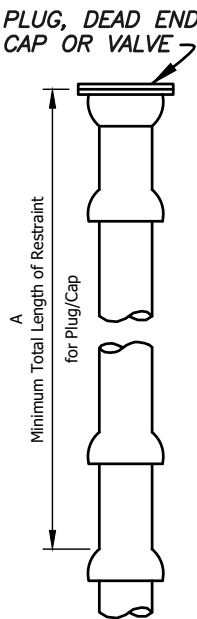
SHEET  
12



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NOTES:

- These tables are based on:  
a. Maximum test pressure of 100 psi  
b. Class "C" pipe bedding  
c. Poor soil conditions  
d. PVC pipe  
e. For vertical offsets, shallower vertical fitting has a minimum cover of 3 feet.
- Restraining devices for PVC pipe shall be by Megalug (Series 2000 PV) or equal, meeting ASTM F1674.
- Any additional fittings within the restrained section shall be restrained accordingly.
- One standard length of PVC pipe (20 feet) shall be laid on either side of the fitting where possible.

HORIZONTAL OFFSET:

FITTING TYPE	RESTRAIN "A" (LF) *								
	4"	6"	8"	10"	12"	16"	18"	20"	24"
11-1/4"	1*	2*	2*	2*	3*	3*	3*	4*	4*
22-1/2"	2*	3*	3*	4*	5*	6*	6*	7*	8*
45°	4*	5*	7*	8*	9*	11*	13*	14*	16*
90°	9*	12*	15*	18*	21	27	29	32	37
PLUG / CAP / ISOLATION VALVE	26	36	47	56	66	85	94	102	119

A = MINIMUM FOOTAGE OF PIPE TO BE RESTRAINED

\* MINIMUM ONE PIPE JOINT UPSTREAM AND DOWNSTREAM OF EACH FITTING SHALL BE RESTRAINED

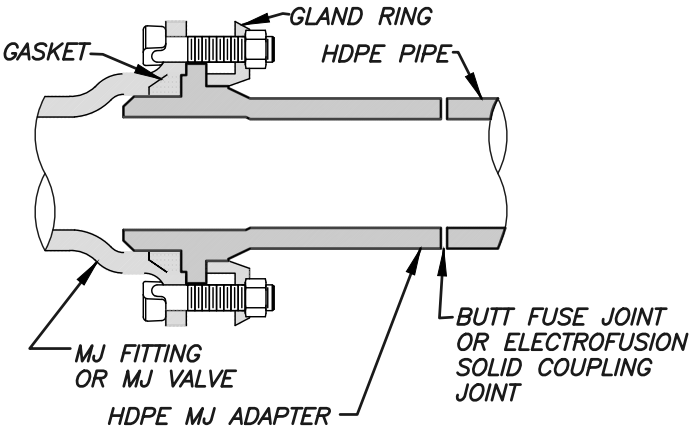
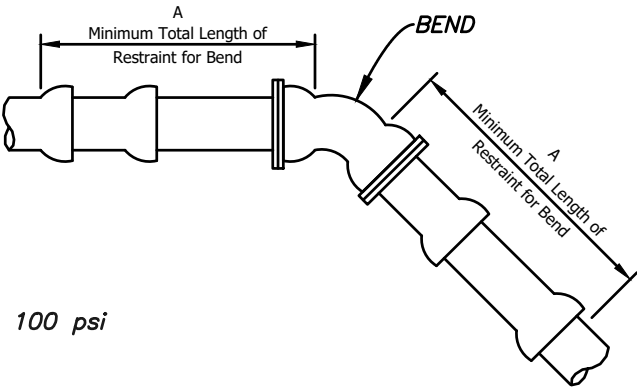
VERTICAL OFFSET:

FITTING TYPE	RESTRAIN "A" (LF) *								
	4"	6"	8"	10"	12"	16"	18"	20"	24"
11-1/4"	3*	4*	5*	6*	7*	9*	10*	11*	12*
22-1/2"	5*	8*	10*	12*	14*	17*	19*	21	24
45°	11*	15*	20	23	28	35	39	43	50

A = MINIMUM FOOTAGE OF PIPE TO BE RESTRAINED

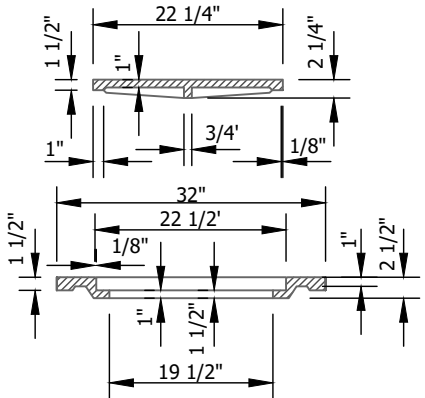
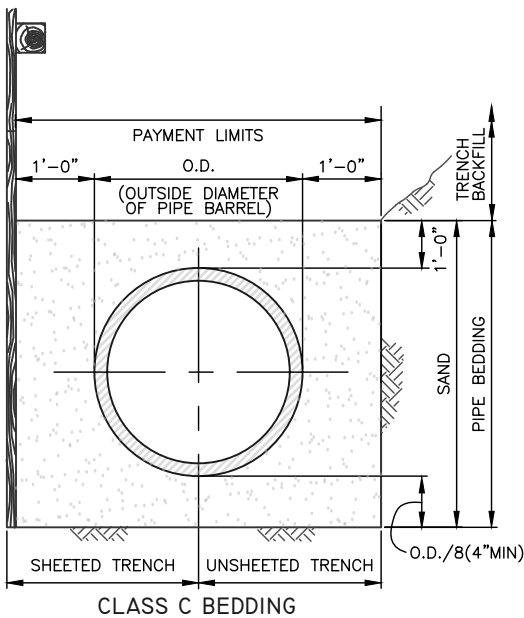
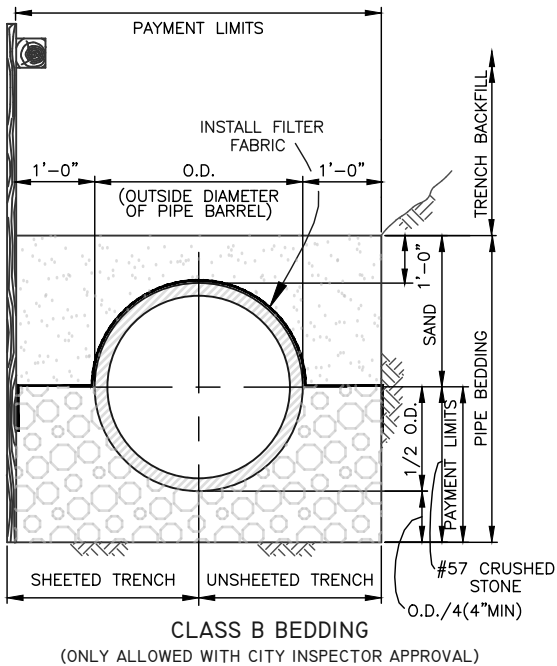
\* MINIMUM ONE PIPE JOINT UPSTREAM AND DOWNSTREAM OF EACH FITTING SHALL BE RESTRAINED

FITTING RESTRAINT DETAIL

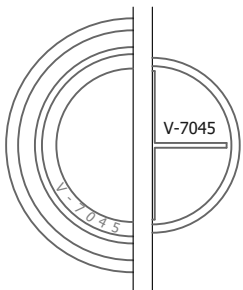


HDPE TRANSITION DETAIL  
NTS

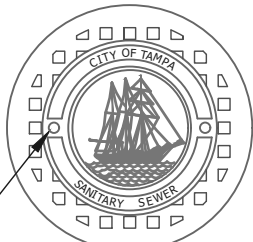
NOTE:  
Schematic shown for  
standard MJ fitting and  
plug valves.



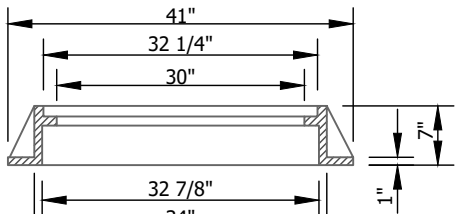
INNER & OUTER COVER SECTIONS



COVER BACK



(2) 3/4" CORED VENT HOLES  
COVER FACES

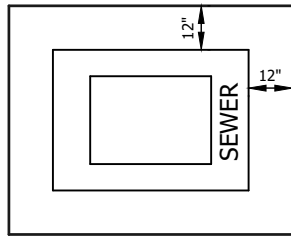


FRAME SECTION

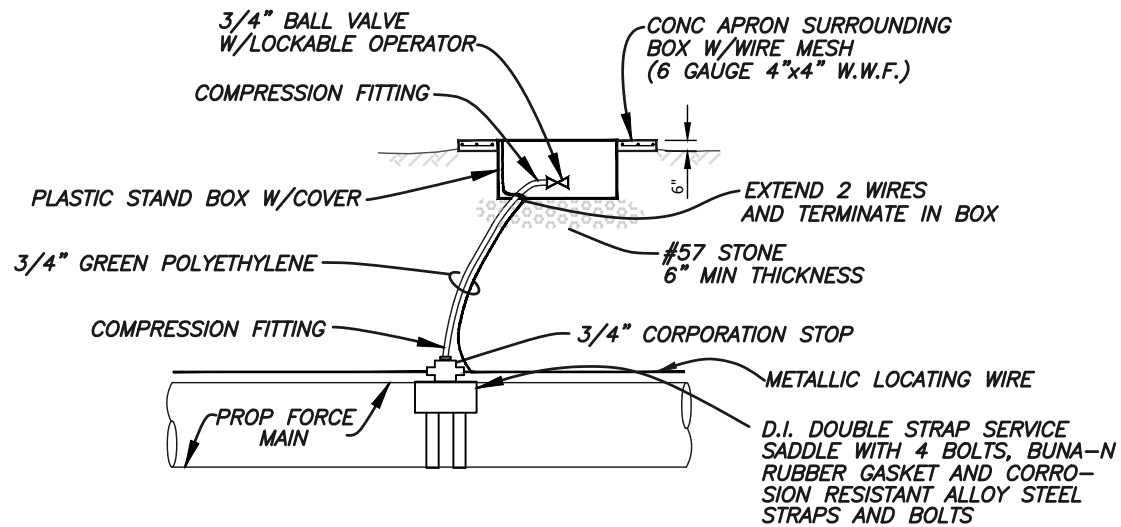
FOR MH'S OF SEWERS 27" OR GREATER IN  
DIAMETER: VULCAN FOUNDRY NO. V-7045,  
U.S. FOUNDRY NO. 230-AB-M, OR EQUAL.

HEAVY DUTY CAST IRON  
MANHOLE FRAME & COVER DETAILS  
N.T.S.

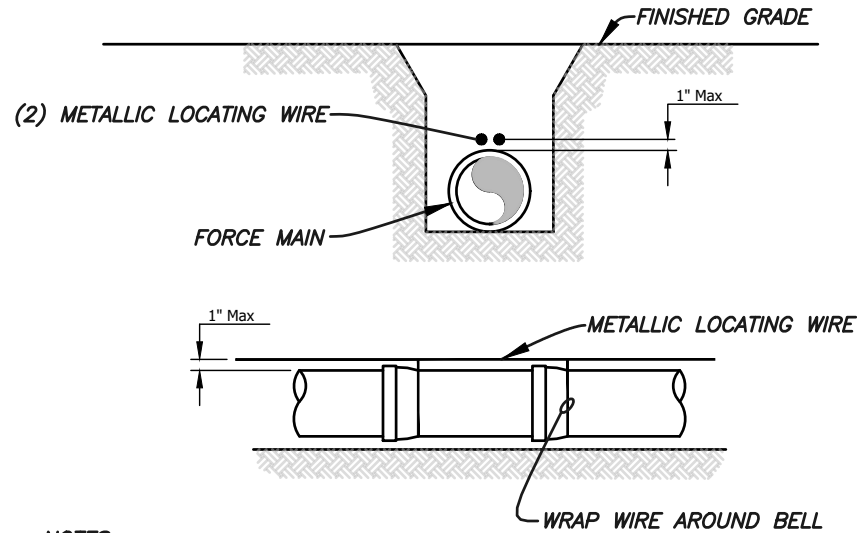
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	#	DATE	REVISIONS	DES: MFS	CITY of TAMPA WASTEWATER DEPARTMENT	SHERWOOD HEIGHTS PS FM REPLACEMENT	MISC DETAIL 1	SHEET 14
	1			DRN: MRL				
	2			CKD:				
	3			DATE:				



PLAN VIEW



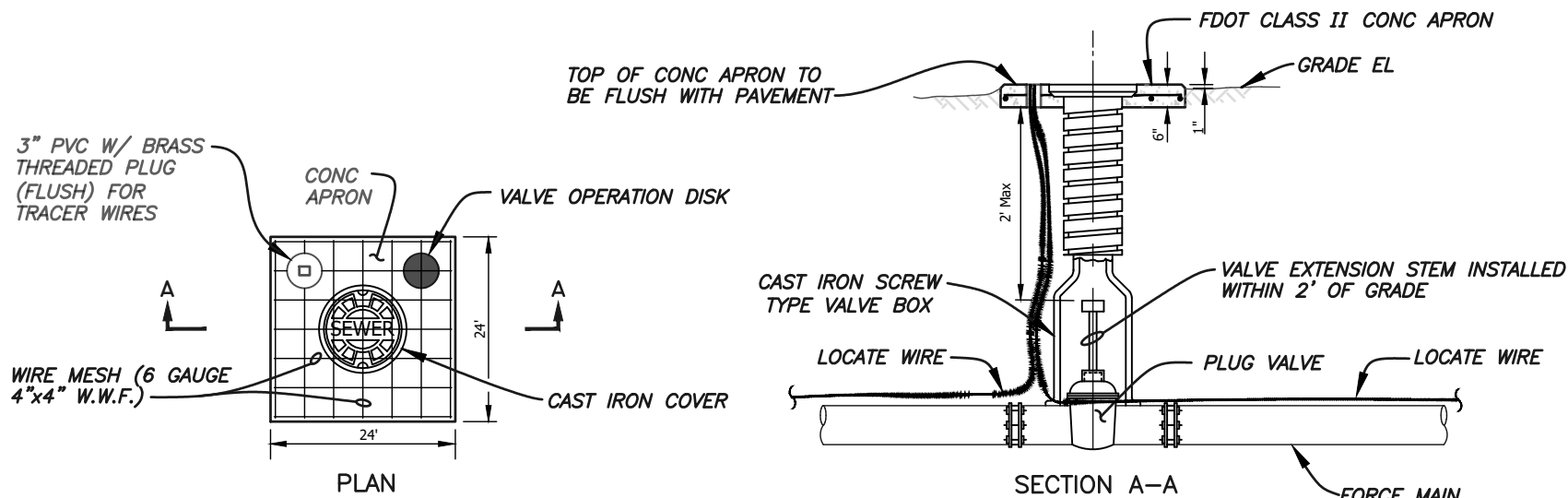
A.R. VALVE DETAIL  
N.T.S.



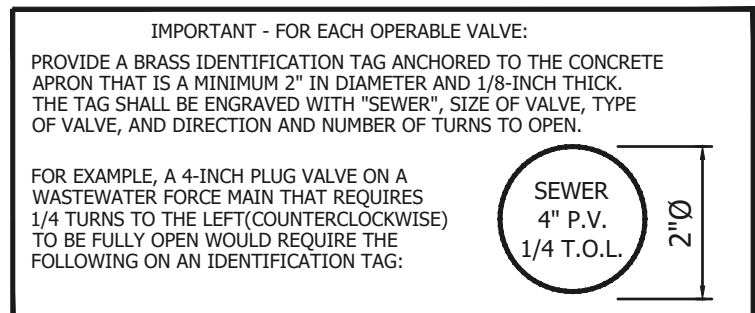
NOTES:

1. Pipe shall require 2 green insulated metallic locating wires capable of detection by a cable locator and shall be buried directly above the centerline of the pipe. Use duct tape as necessary to hold wire directly on top of pipe.
2. Direct bury pipe shall have (2) 12 gauge insulated solid copper wires. Directional drilled pipe shall have (2) 8 gauge insulated solid copper wires or (2) 10 gauge insulated copper clad steel wires. For directional drilled HDPE pipe a 1" conduit may be pulled back with the locating wires to ease installation and to prevent the wires from breaking.
3. Wire insulation must be suitable for buried service. HDPE or HMWPE are acceptable insulation materials. Nylon insulation is not acceptable.
4. Wires must be spliced together with wire connectors suitable for buried service. Connectors shall be corrosion and moisture proof such as DBR Kit by 3M, Snakebite by Copperhead Industries or equal. Twisting the wires and sealing with electrical tape alone is not acceptable.
5. All tracer wires must pass a continuity test in the presence of a City inspector. No pipe will be accepted by the City until a continuity test passes.
6. Locating wire shall terminate at the top of each valve box and air release valve. Wire shall be capable of extending 24" above top of box in such a manner so as not to interfere with valve operation.

LOCATE WIRE DETAIL  
N.T.S.



VALVE BOX DETAIL  
N.T.S.



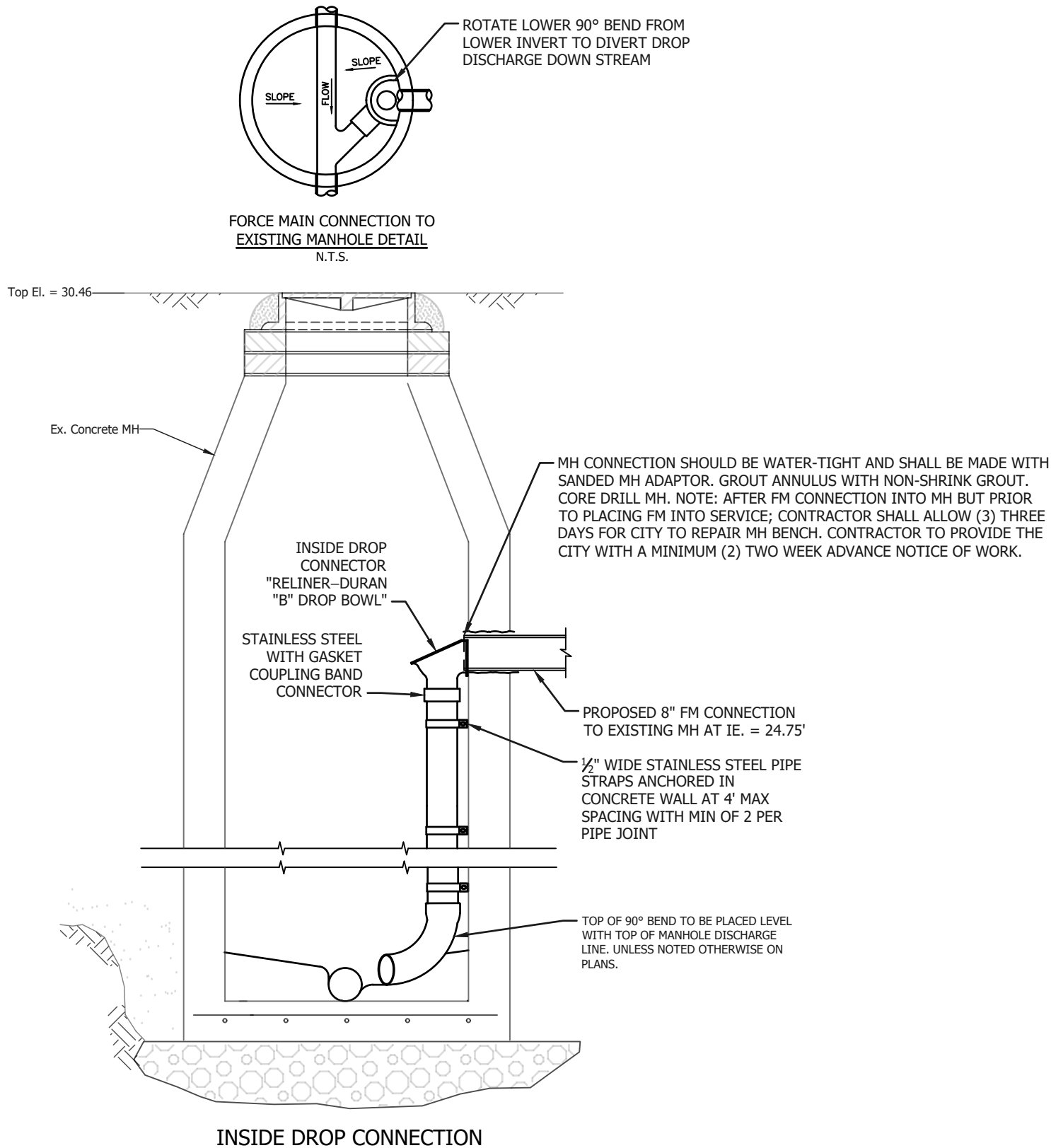
VALVE OPERATION DISK

NOT TO SCALE

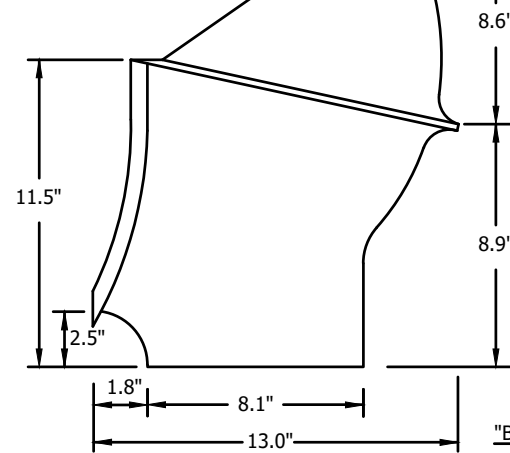
#	DATE	REVISIONS
1		
2		
3		

DES:	MFS
DRN:	MRL
CKD:	
DATE:	

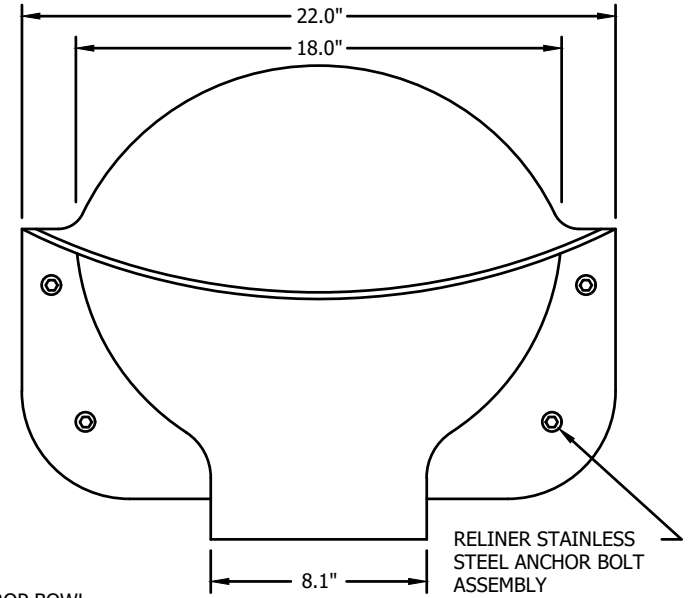
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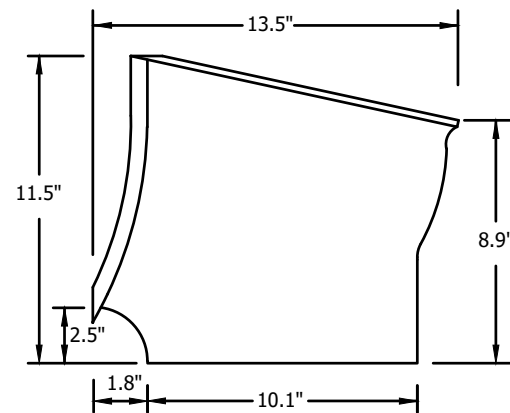
OPTIONAL HOOD FOR "B" SERIES  
HOOD ATTACHES WITH 4 STAINLESS  
STEEL BOLTS. FITS B8 & B10



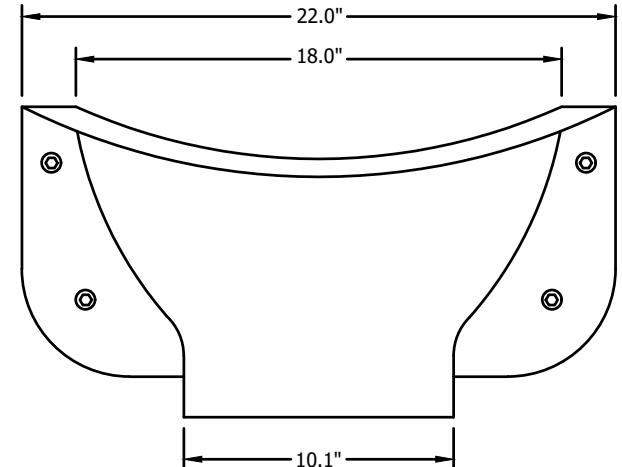
"B-8" DROP BOWL



RELINER STAINLESS  
STEEL ANCHOR BOLT  
ASSEMBLY



"B-10" DROP BOWL



**MODEL #**

- B8DB - 18" DROP BOWL WITH 8" OUTLET - USE FOR 4' - 5' DIA MH
- B8DBR84 - 18" DROP BOWL WITH 8" OUTLET - USE FOR 6' - 8' DIA MH
- B8DBR144 - 18" DROP BOWL WITH 8" OUTLET - USE FOR 9' - 12' DIA MH
- B10DB - 18" DROP BOWL WITH 10" OUTLET - USE FOR 4' - 5' DIA MH
- B10R96 - 18" DROP BOWL WITH 10" OUTLET - USE FOR 6' - 8' DIA MH
- B10R144 - 18" DROP BOWL WITH 10" OUTLET - USE FOR 9' - 12' DIA MH

THE "B-8" BOWL WILL SERVICE UP THROUGH FULL 10" INLETS. THE "B-10" BOWL WILL SERVICE UP THROUGH FULL 12" INLETS. CAN BE USED FOR 15" AND 16" INLET MODERATE FLOWS. ALL SIZES ARE FOR RETROFIT OR NEW CONSTRUCTION. FABRICATED IN MARINE GRADE FIBERGLASS AND FINISHED IN BRIGHT WHITE GEL COAT.

USE 4 RELINER ANCHOR ASSEMBLIES TO ATTACH DROP BOWL TO MANHOLE WALL. USE RELINER STAINLESS STEEL PIPE BRACKETS TO SUPPORT DOWN PIPE. EXTERNAL PIPE COUPLER REQUIRED. PROVIDE SWEEP AT DOWN PIPE OUTLET.

MADE IN U.S.A.  
U.S. PAT. # 6074130  
CANADIAN PAT. # 2269565

**RELINER / DURAN, INC.**

9 MATTHEWS DRIVE, UNIT A1/A2  
EAST HADDAM, CT 06423  
(800) 508-6001 FAX: (877)434-3197  
WWW.RELINER.COM

DESCRIPTION	DATE	SCALE
B8 & B10 DROP BOWLS FOR ROUND WALLS	2/23/21	NONE
DRAWING NUMBER B8DB B10DB		

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

#	DATE	REVISIONS
1		
2		
3		

DES: MFS  
DRN: MRL  
CKD:  
DATE:

CITY of TAMPA  
WASTEWATER DEPARTMENT

SHERWOOD HEIGHTS PS FM REPLACEMENT

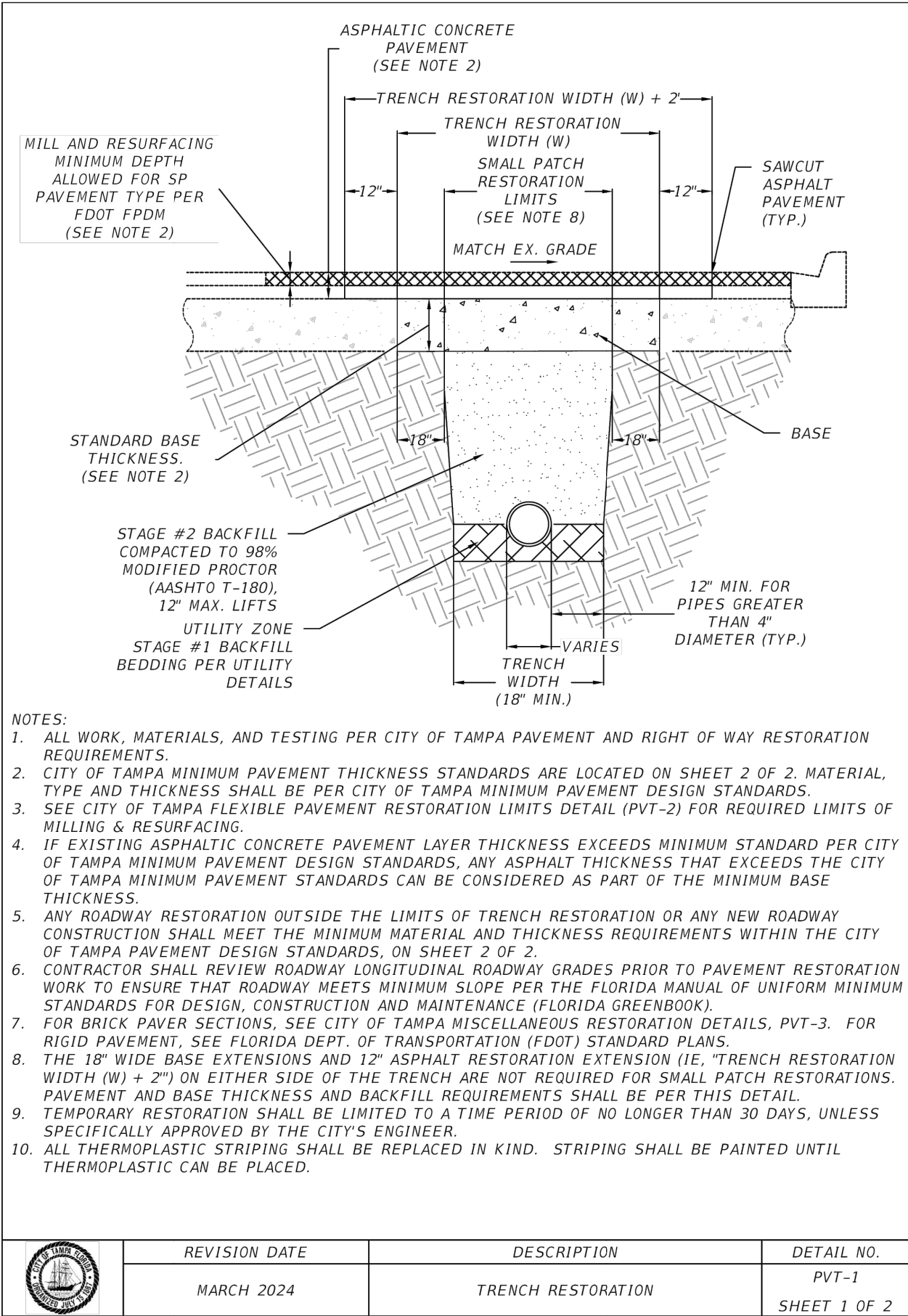
MANHOLE CONNECTION DETAIL

SHEET

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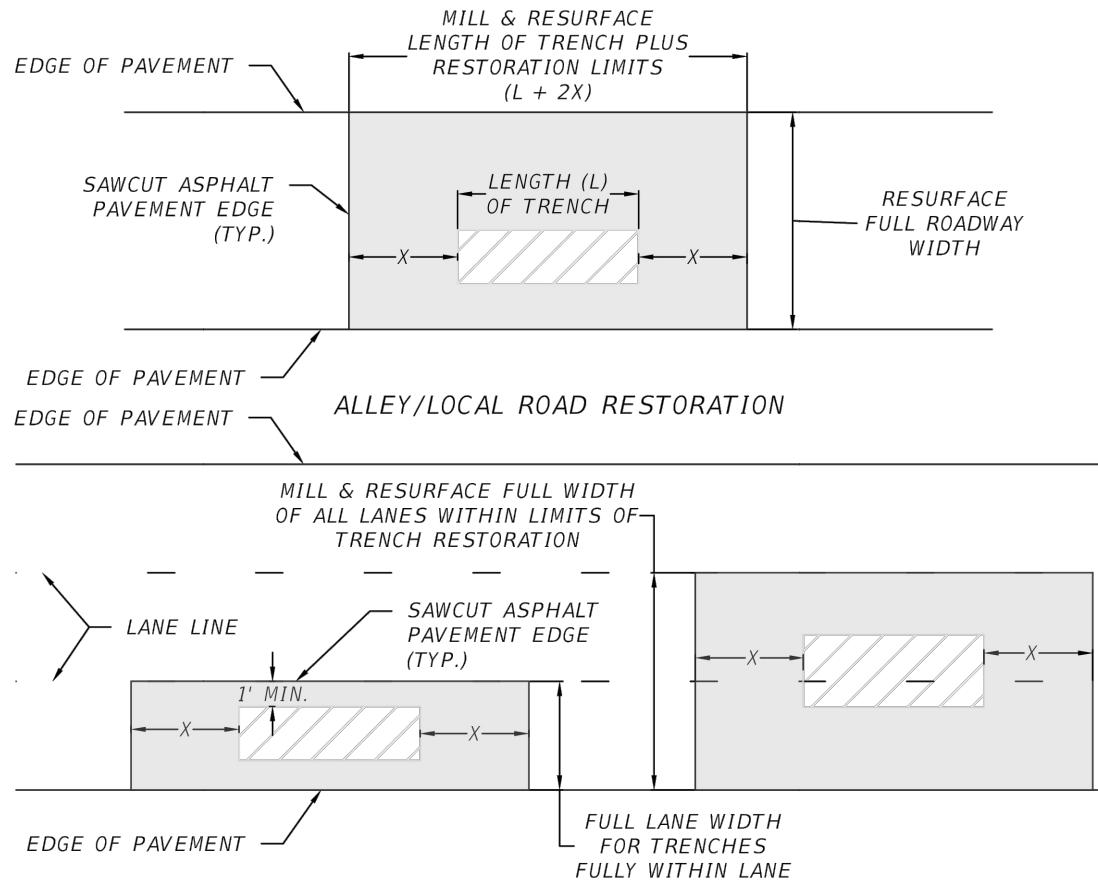


PAVEMENT DESIGN MINIMUM STANDARDS			
ROADWAY CLASSIFICATION	FLEXIBLE PAVEMENT		
	ASPHALTIC CONCRETE	BASE MATERIAL	TYPE B STABILIZATION (MIN LBR 40)
ALLEY	1"	6"	12"
LOCAL	2"	8"	12"
NEIGHBORHOOD COLLECTOR	3"	8"	12"
COLLECTOR/ ARTERIAL	4"*	12"*	12"

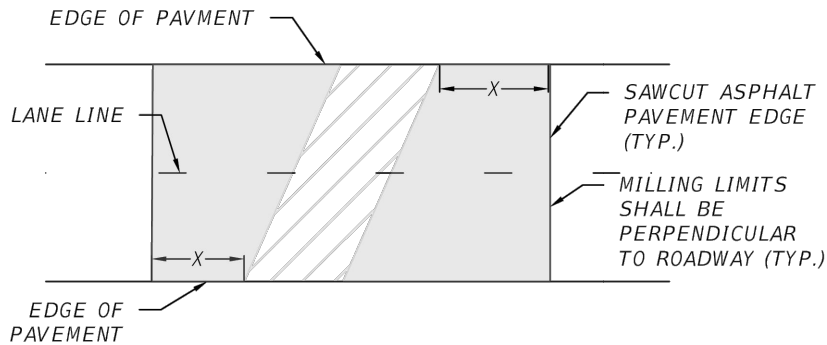
\* MINIMUM PAVEMENT SECTIONS CAN BE MODIFIED WITH AN APPROVED PAVEMENT DESIGN SUBMITTED TO THE CITY OF TAMPA MOBILITY DEPT., TRANSPORTATION ENGINEERING DIVISION.

- NOTES:
1. ALL WORK, MATERIALS, AND TESTING PER CITY OF TAMPA PAVEMENT AND RIGHT OF WAY RESTORATION REQUIREMENTS.
  2. MATERIAL, TYPE AND THICKNESS OF ASPHALTIC CONCRETE PAVEMENT AND BASE PER CITY OF TAMPA PAVEMENT DESIGN STANDARDS.
  3. ASPHALTIC CONCRETE SHALL BE TYPES SP-9.5 (TRAFFIC LEVEL C) OR SP-12.5 (TRAFFIC LEVEL C), ONLY. ARTERIALS SHALL USE SP-12.5, ONLY. MINIMUM LIFT THICKNESS PER FDOT FLEXIBLE PAVEMENT DESIGN MANUAL.
  4. OPTIONAL BASE GROUP, INCLUDING ASPHALT BASE, PER FDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION MAY BE USED IN LIEU OF STANDARD DEPTH. USE CORRESPONDING LR BASE THICKNESS TO DETERMINE REQUIRED DEPTH.
  5. FOR ANY RIGID PAVEMENT ROADWAYS, CONTACT MOBILITY DEPARTMENT CHIEF ENGINEER.

REVISION DATE	DESCRIPTION	DETAIL NO.
MARCH 2024	PAVEMENT DESIGN	PVT-1 SHEET 2 OF 2



ALL OTHER CLASSIFICATION ROAD RESTORATION



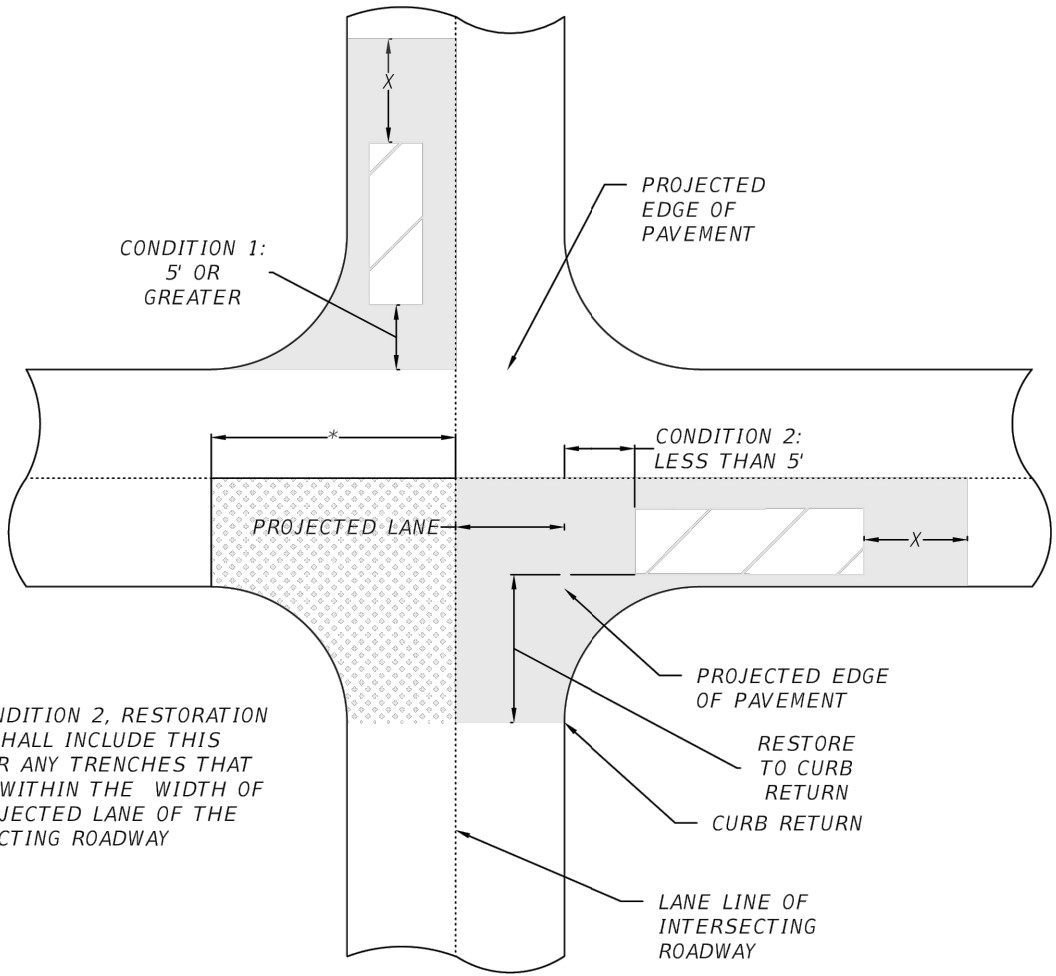
TRANSVERSE TRENCHES

TRENCH RESTORATION LIMITS  
(N.T.S.)

RESURFACING LIMITS	
ROADWAY CLASSIFICATION	LENGTH, X (LF)
ALLEY/LOCAL	5
ALL OTHER CLASSIFICATIONS	10

LEGEND	
LIMITS OF TRENCH RESTORATION	
LIMITS OF MILL AND RESURFACE	

	REVISION DATE	DESCRIPTION	DETAIL NO.
	MARCH 2024	FLEXIBLE PAVEMENT RESTORATION LIMITS	PVT-2 SHEET 1 OF 2



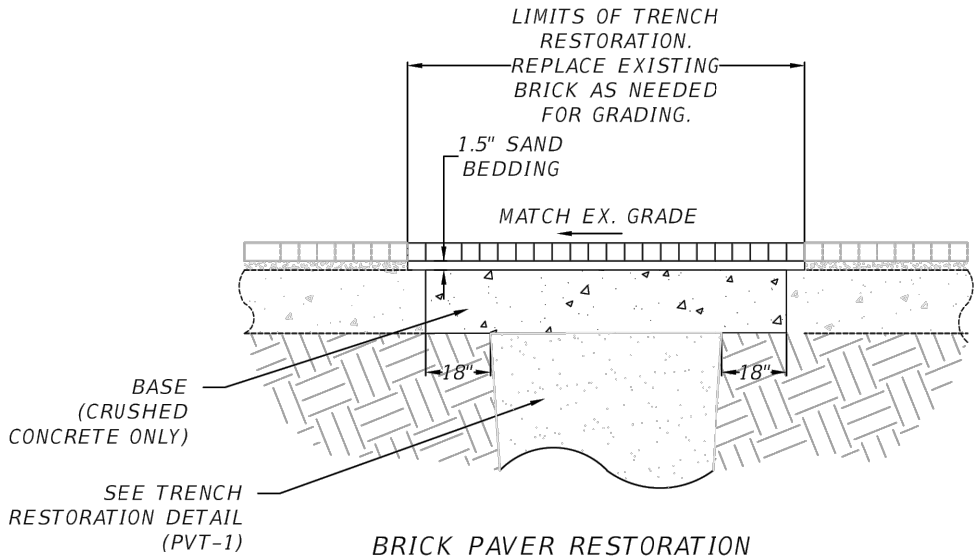
TRENCHES AT INTERSECTIONS

- NOTES:  
1. RESURFACING LIMITS "X" ACCORDING TO TRENCH RESTORATION LIMITS DETAIL, PVT-2 (SHEET 1 OF 2).

RESTORATION WORK AT INTERSECTIONS  
(N.T.S.)

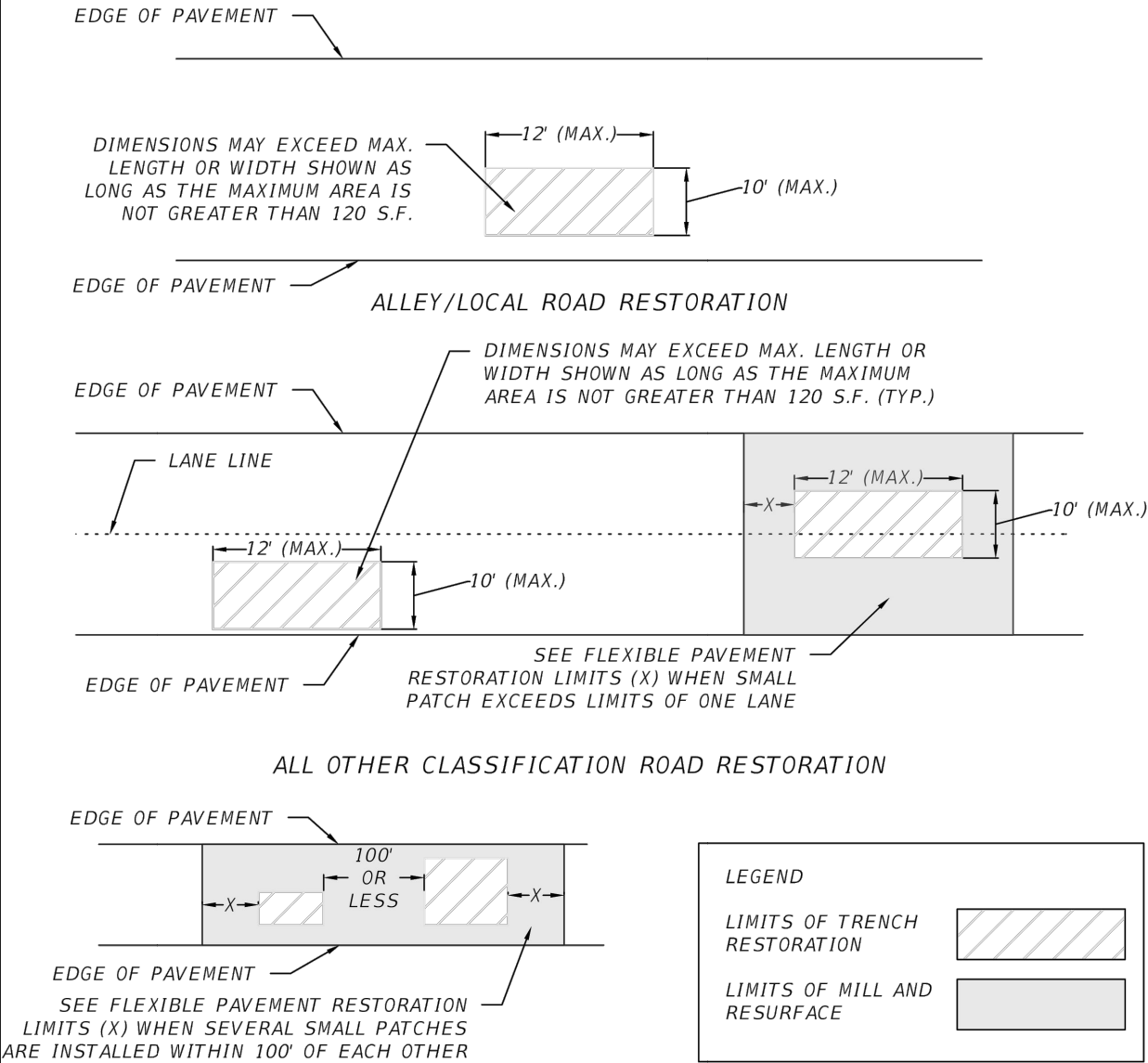
LEGEND	
LIMITS OF TRENCH RESTORATION	
LIMITS OF MILL AND RESURFACE	

	REVISION DATE	DESCRIPTION	DETAIL NO.
	MARCH 2024	FLEXIBLE PAVEMENT RESTORATION LIMITS	PVT-2 SHEET 2 OF 2




- NOTES:
1. MATERIAL, TYPE AND THICKNESS OF BASE PER CITY OF TAMPA PAVEMENT DESIGN STANDARDS. SEE PVT-1, SHEET 2 OF 2, PAVEMENT DESIGN MINIMUM STANDARDS.
  2. FOR ANY HISTORIC BRICK REMOVED FROM STREETS AND NOT USED IN THE PROJECT NEEDS TO BE COLLECTED, REFER TO SPECIFICATION 1.6.

	REVISION DATE	DESCRIPTION	DETAIL NO.
	MARCH 2024	MISCELLANEOUS RESTORATION DETAILS	PVT-3 SHEET 1 OF 1



- NOTES:
1. SMALL PATCH RESTORATION WORK IS MEANT FOR EXPLORATORY TEST HOLES AND SMALL UTILITY CONNECTIONS AND POINT REPAIRS.
  2. MILLING LIMITS SHALL BE EXPANDED TO INCLUDE EXISTING PATCHES WHEN EXISTING PATCHES ARE WITHIN 3 FEET.
  3. ALL SMALL PATCH RESTORATION TRENCHES SHALL BE A MINIMUM 2' BY 2'.
  4. CUTS SHALL BE DONE PERPENDICULAR TO THE EDGE OF PAVEMENT AND DIRECTION OF TRAVEL, RESPECTIVELY.
  5. RESTORATION SHALL BE DONE IN ACCORDANCE WITH TRENCH RESTORATION DETAILS, PVT-1.
  6. ALL WORK THAT EXCEED MAXIMUM DIMENSIONS OR OCCURS WITHIN MULTIPLE LANES OF A ROADWAY CLASSIFIED OTHER THAN ALLEY OR LOCAL SHALL BE PER THE CITY OF TAMPA FLEXIBLE PAVEMENT RESTORATION LIMITS, PVT-2.
  7. ALL RESTORATION, INCLUDING SMALL PATCH RESTORATION ON ROADWAYS RESURFACED WITHIN THE LAST THREE (3) YEARS, SHALL BE DONE PER THE CITY OF TAMPA FLEXIBLE PAVEMENT RESTORATION LIMITS, PVT-2.
  8. PAVEMENT RESTORATION DETAILS DO NOT APPLY TO CORING AND AUGERS.

	REVISION DATE	DESCRIPTION	DETAIL NO.
	MARCH 2024	SMALL PATCH RESTORATION	PVT-4 SHEET 1 OF 1