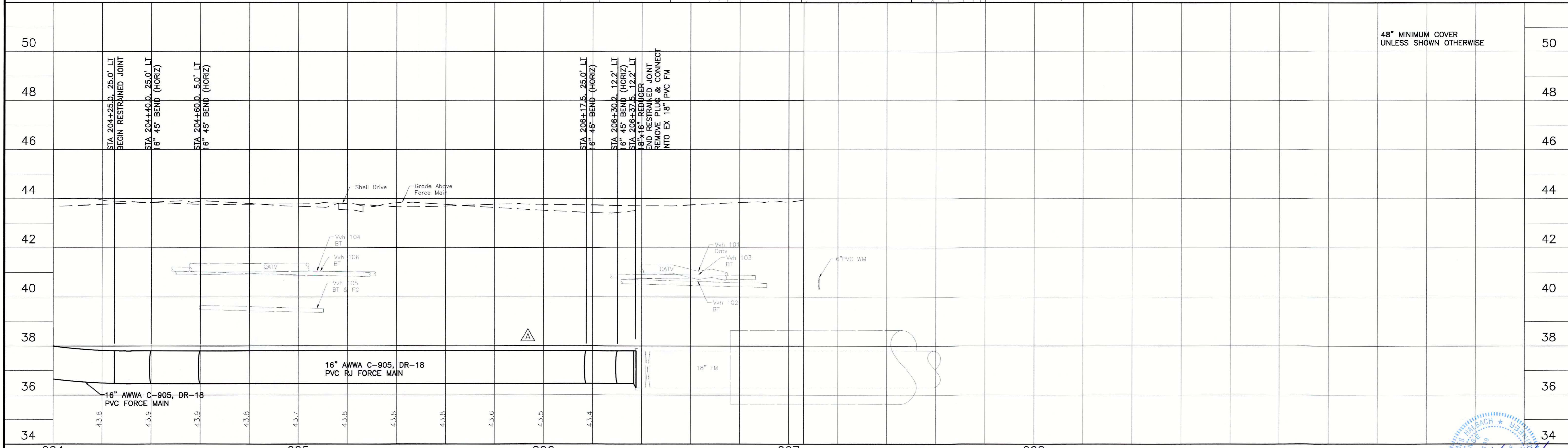
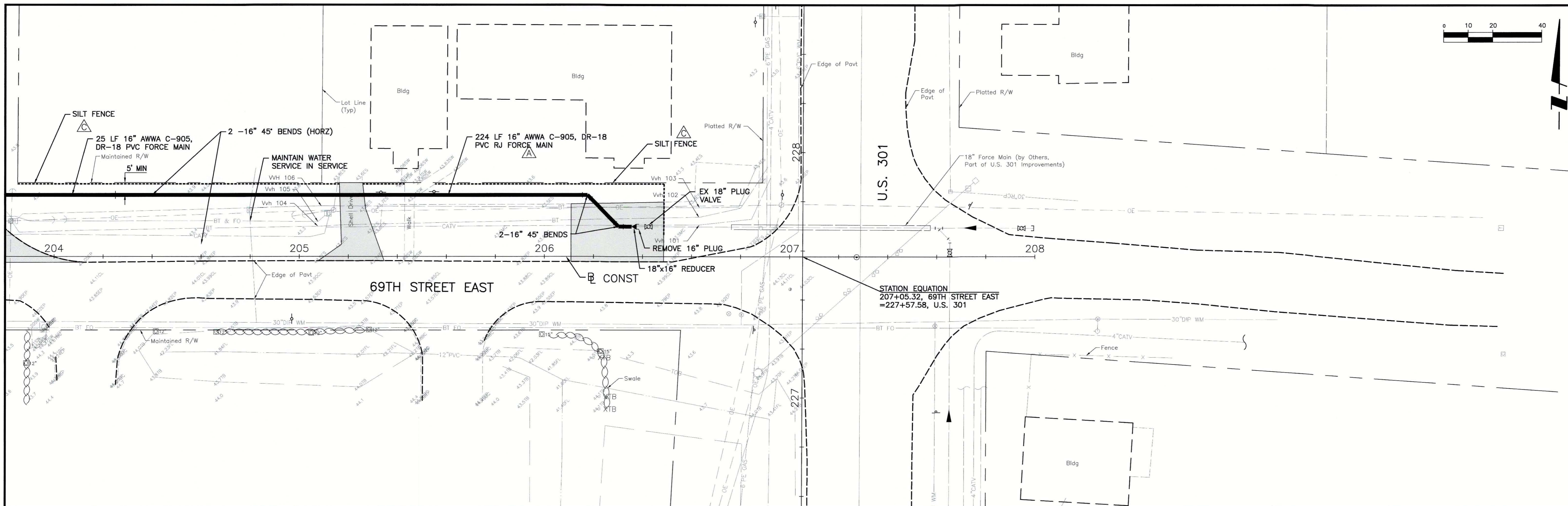


REV NO.	REVISION	DATE	DRAWN BY / DWP NO.	CHECKED BY / DWP NO.	WM APPROVED BY:
D	UPDATE DESIGN/CODE UPDATES FOR PERMITTING	08/13/15	KG		
C	ADD SILT FENCE	6/26/13	SRP		
A	REVISED PER MANATEE COUNTY COMMENTS DATED 5/06/08 & 1/13/09	1/22/09	SRP/1755		

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CLIENT: MANATEE COUNTY PUBLIC WORKS	DATE: AUGUST 2015	TITLE: PLAN AND PROFILE
PROJECT: VILLAGE OF PARRISH WASTEWATER FORCE MAIN	VERTICAL SCALE: 1"=2'	69TH STREET EAST
	HORIZONTAL SCALE: 1"=20'	STA 200+00 TO 204+00
	PROJECT NUMBER: 177310561	SHEET NUMBER: 22 OF 30

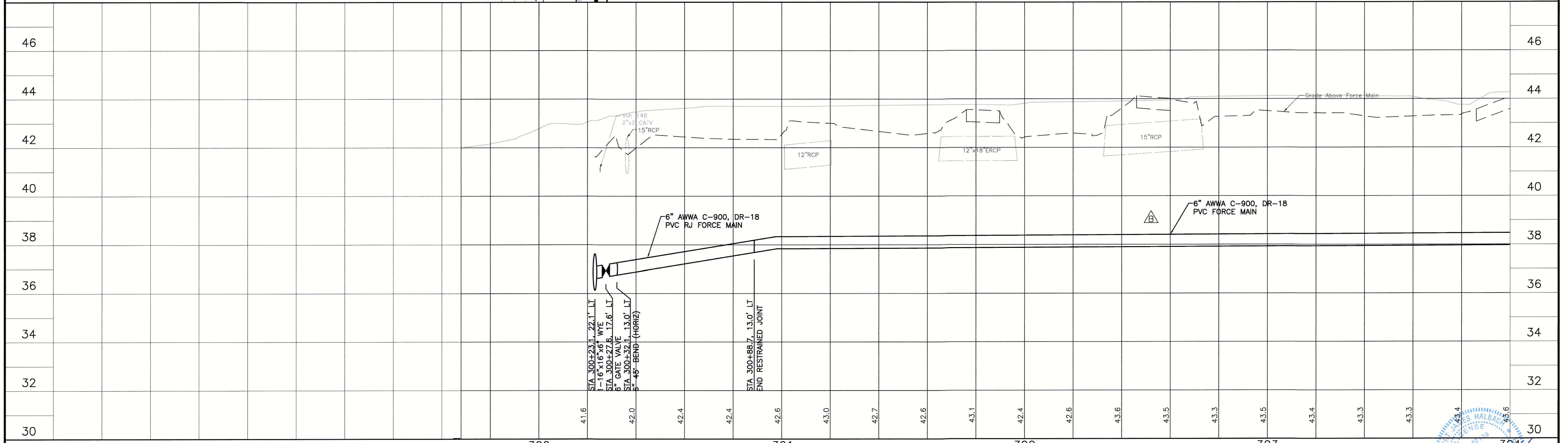
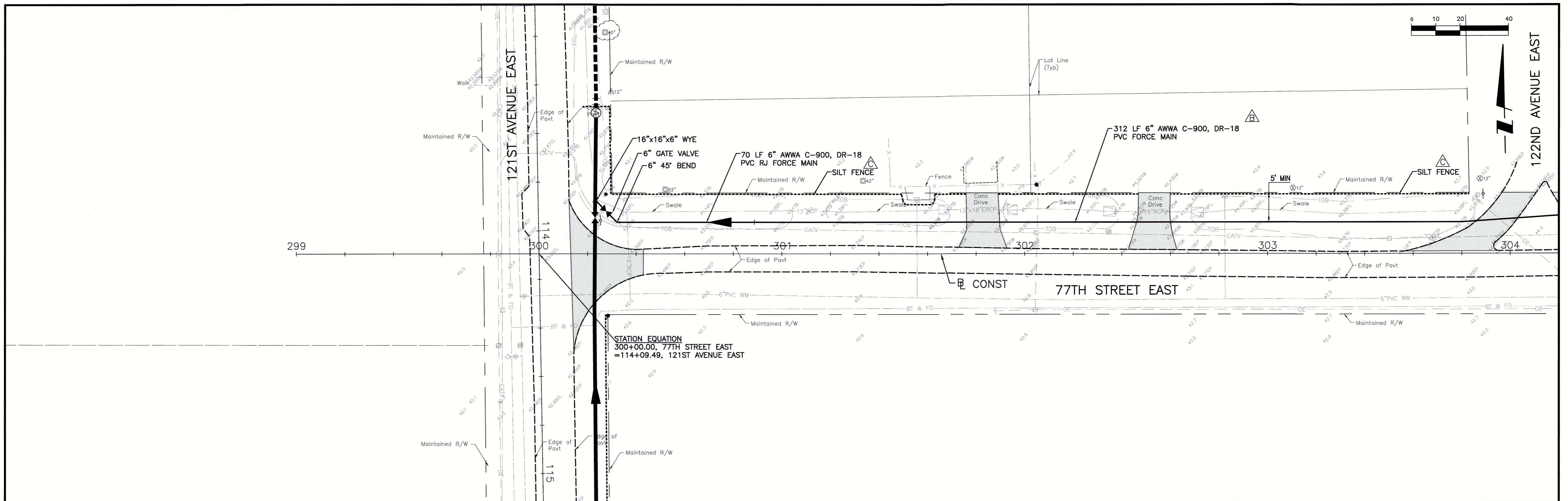


REV	DATE	BY	CHKD	ACTIVITY
D	08/13/15	KG	RJH	UPDATE DESIGN/CODE UPDATES FOR REPERMITTING
C	6/26/13	SRP	RJH	ADD SILT FENCE
A	1/22/09	SRP/1755		REVISED PER MANATEE COUNTY COMMENTS DATED 5/06/08 & 1/13/09

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CLIENT: MANATEE COUNTY PUBLIC WORKS PROJECT: VILLAGE OF PARRISH WASTEWATER FORCE MAIN	DATE: AUGUST 2015 HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=2' SHEET: 20 OF 30	TITLE: PLAN AND PROFILE 69TH STREET EAST STA 204+00 TO 208+00	
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REV. NO.	REVISION	DATE	DRAWN BY / DWP. NO.	CHECKED BY / DWP. NO.	WM APPROVED BY:	ACTIVITY	INITIALS/EMP. NO.	DATE
D	UPDATE DESIGN/CODE UPDATES FOR REPERMITTING	08/13/15	KG			DESIGNED BY:	RJH	JULY 2015
C	ADD SILT FENCE	6/26/13	SRP			DRAWN BY:	KG	JULY 2015
B	UPDATED PLANS TO INCLUDE TECO GAS MAIN AND COLLECTOR FORCE MAINS	7/01/10	SRP/1755			CHECKED BY:	RJH	JULY 2015
A	REVISED PER MANATEE COUNTY COMMENTS DATED 5/06/08 & 1/13/09	1/22/09	SRP/1755			CONTRACT ADMIN. BY:		



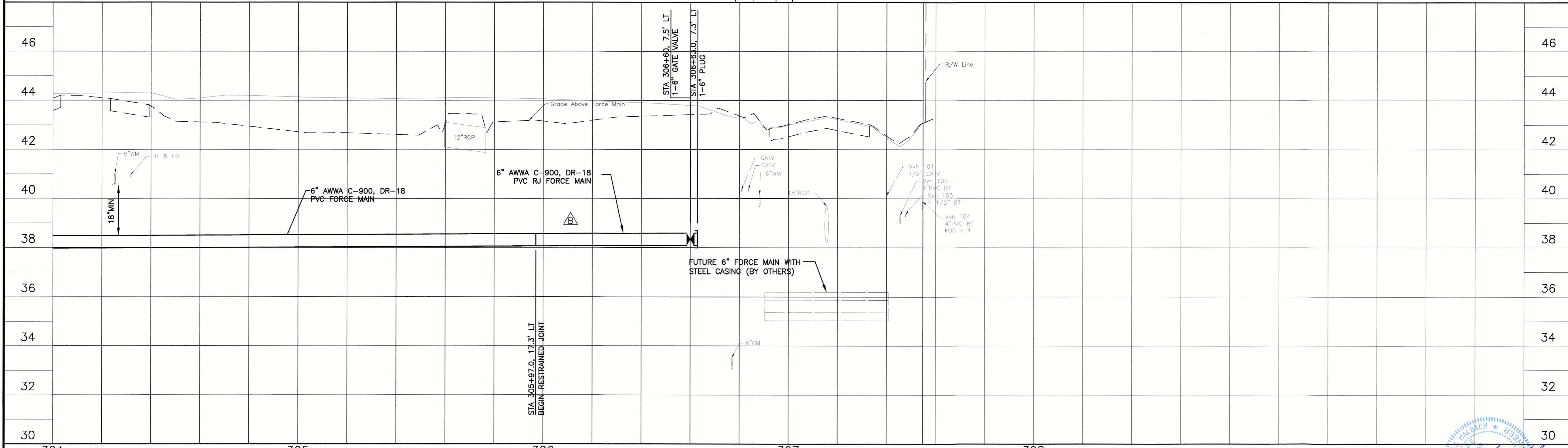
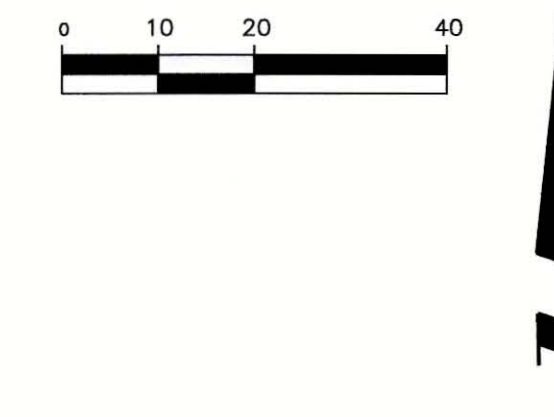
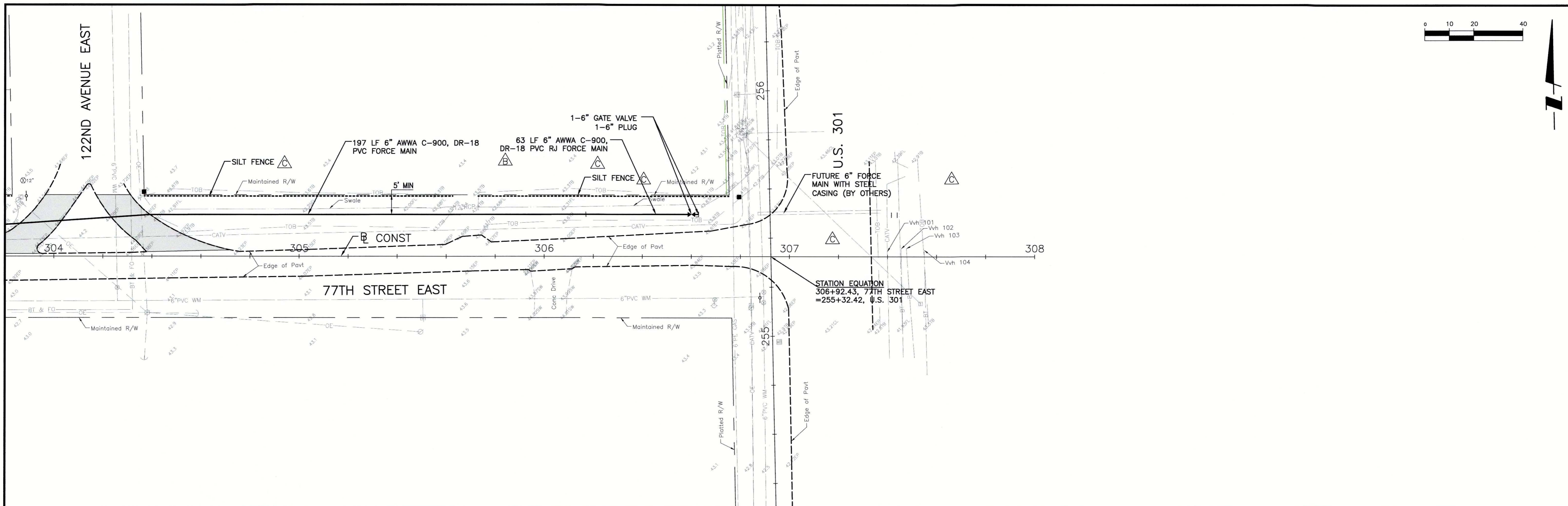
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CLIENT: MANATEE COUNTY PUBLIC WORKS
 PROJECT: VILLAGE OF PARRISH WASTEWATER FORCE MAIN

DATE: AUGUST 2015
 HORIZONTAL SCALE: 1"=20'
 VERTICAL SCALE: 1"=2'

TITLE: PLAN AND PROFILE
 77TH STREET EAST
 STA 300+00 TO 304+00

PROJECT NUMBER: 177310561
 SHEET NUMBER: 24 OF 30



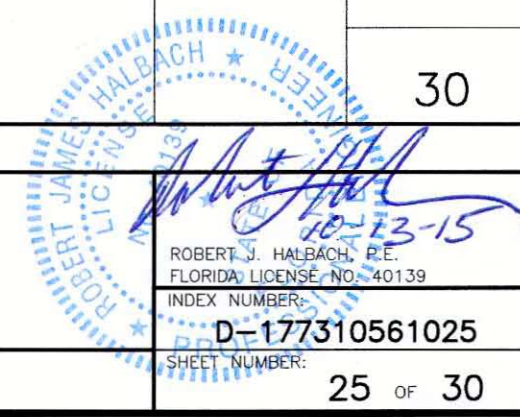
REV. NO.	REVISION	DATE	DRWN BY / EMP. NO.	CHECKED BY / EMP. NO.	WM APPROVED BY:	ACTIVITY	INITIALS/EMP. NO.	DATE
D	UPDATE DESIGN/CODE UPDATES FOR REPERMITTING	08/13/15	KG			DESIGNED BY:	RJH	JULY 2015
C	REVISE CROSSING, ADD SILT FENCE	6/26/13	SRP			DRAWN BY:	KG	JULY 2015
B	UPDATED PLANS TO INCLUDE TECO GAS MAIN AND COLLECTOR FORCE MAINS	7/01/10	SRP/1755			CHECKED BY:	RJH	JULY 2015
A	REVISED PER MANATEE COUNTY COMMENTS DATED 5/06/08 & 1/13/09	1/22/09	SRP/1755			CONTRACT ADMIN. BY:		

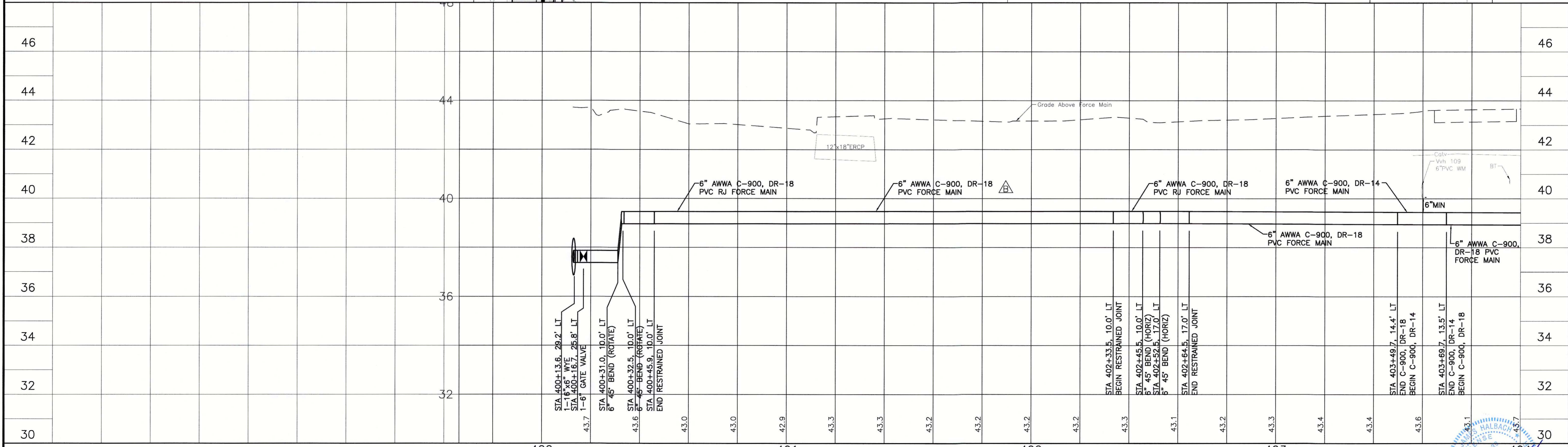
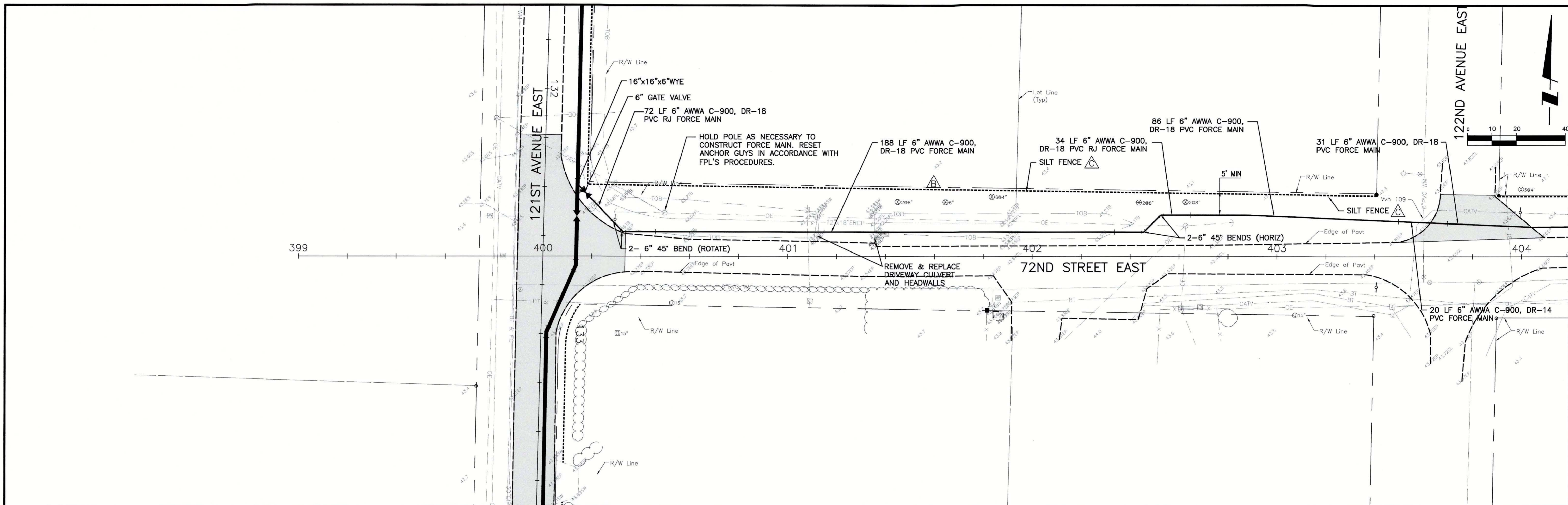


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CLIENT: MANATEE COUNTY PUBLIC WORKS
 PROJECT: VILLAGE OF PARRISH WASTEWATER FORCE MAIN
 DATE: AUGUST 2015
 HORIZONTAL SCALE: 1"=20'
 VERTICAL SCALE: 1"=2'

TITLE: PLAN AND PROFILE
 77TH STREET EAST
 STA 304+00 TO 308+00
 PROJECT NUMBER: 177310561
 SHEET NUMBER: 25 OF 30



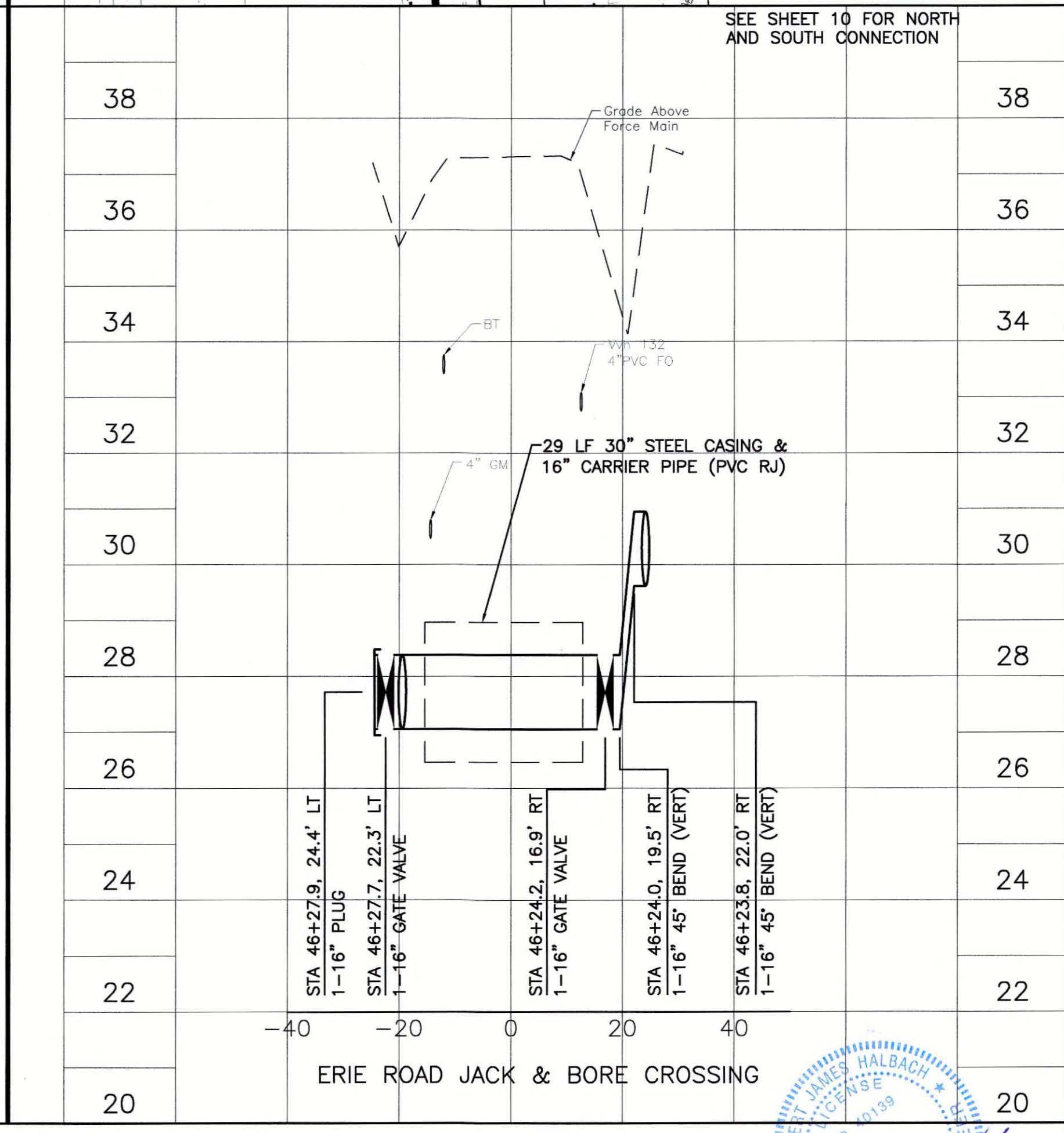
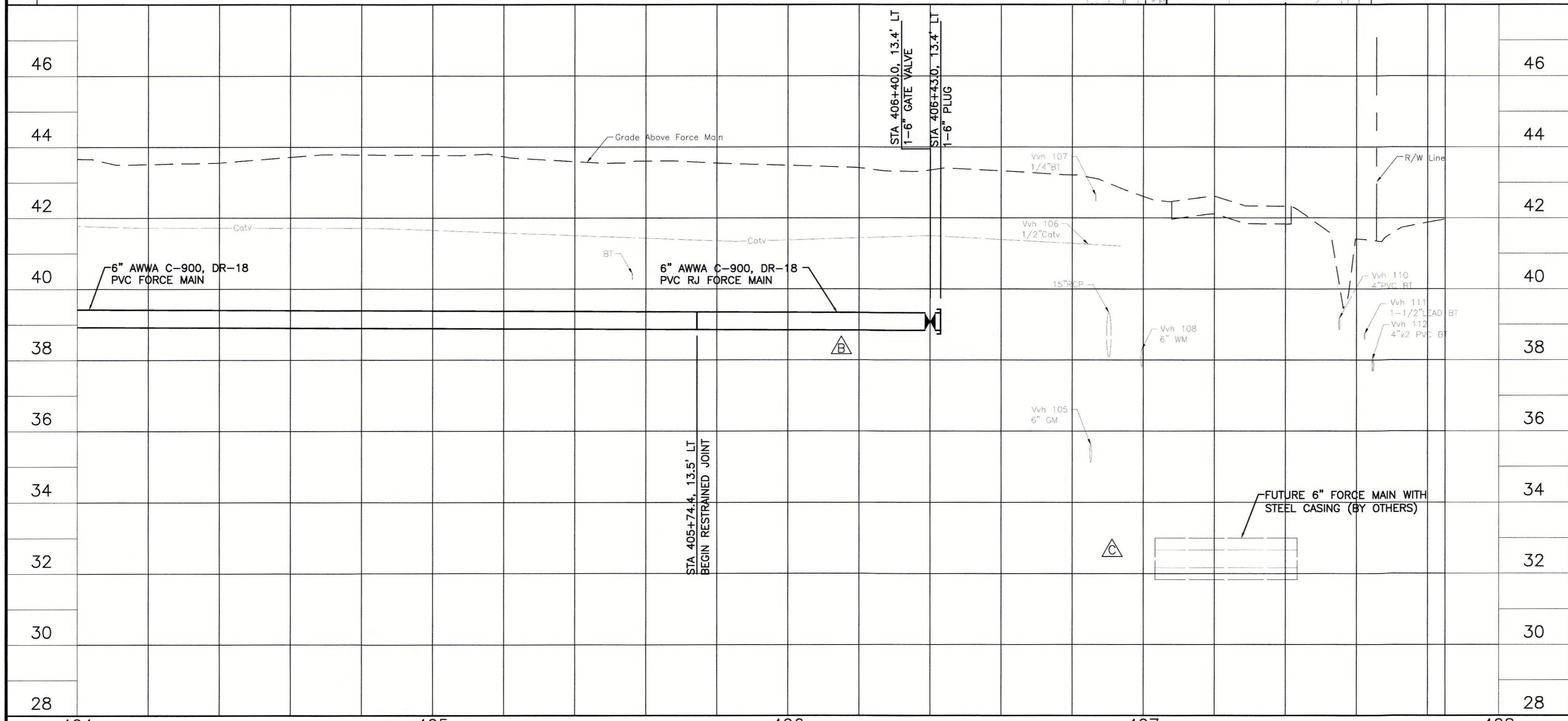
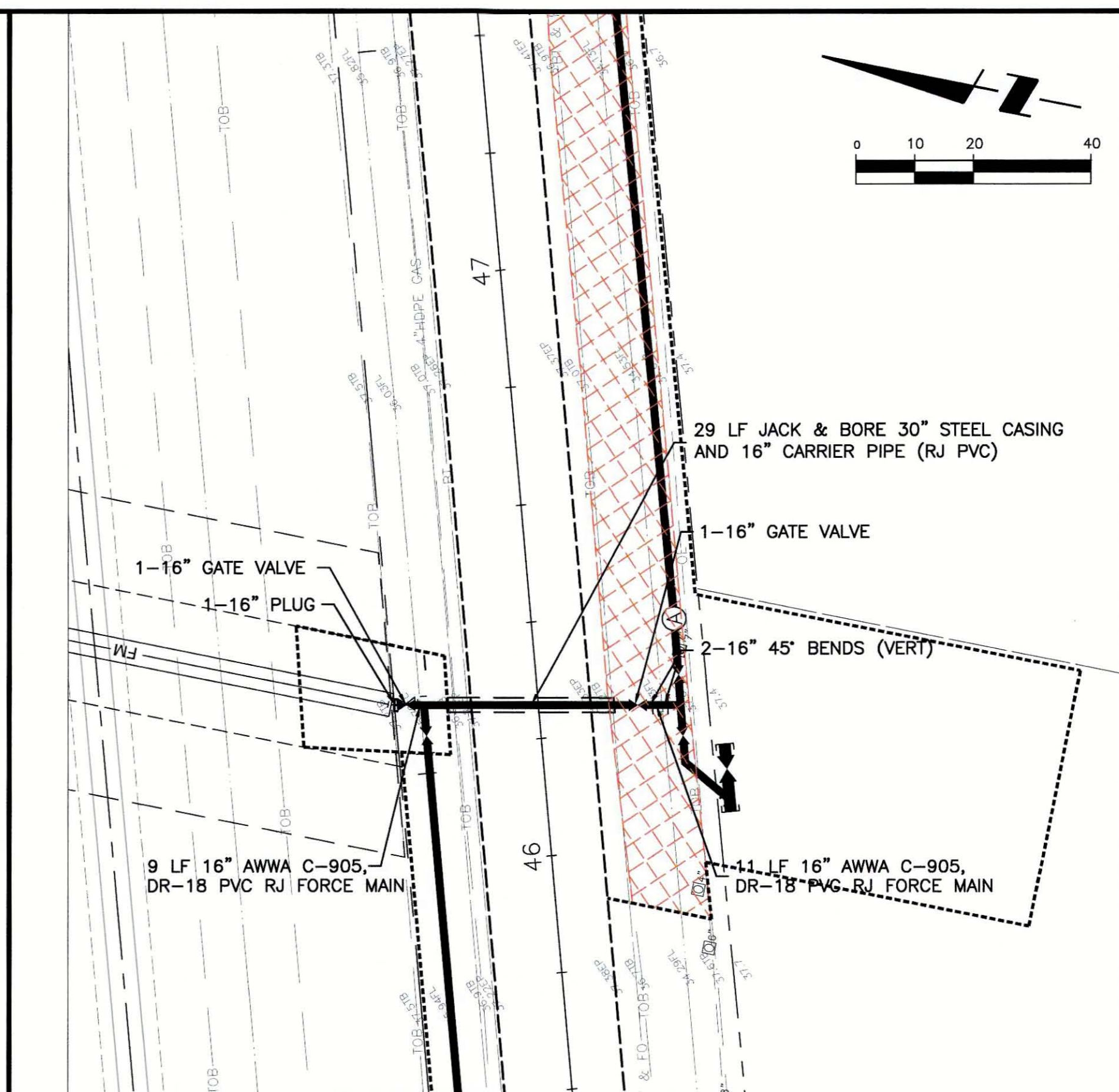
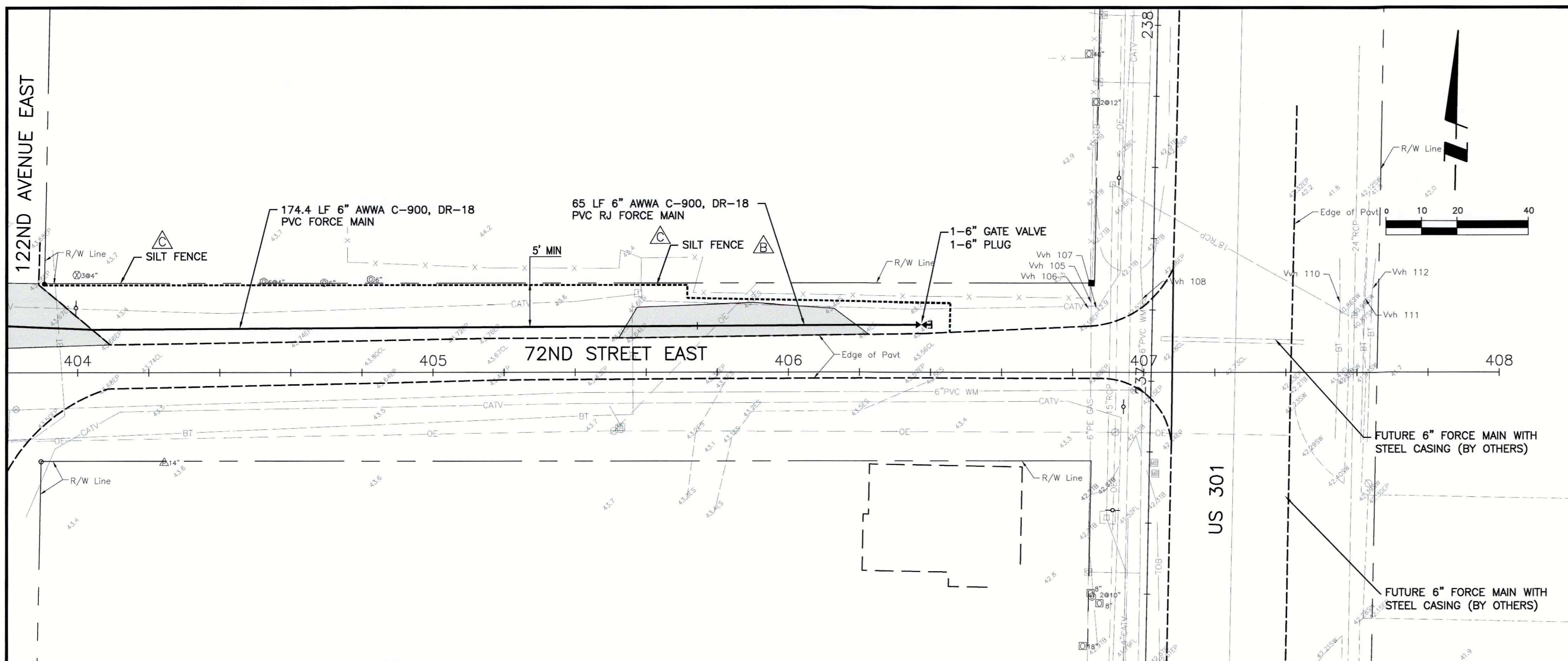


REV. NO.	REVISION	DATE	DRAWN BY / EMP. NO.	CHECKED BY / EMP. NO.	WM APPROVED BY:	ACTIVITY	INITIALS/EMP. NO.	DATE
D	UPDATE DESIGN/CODE UPDATES FOR REPERMITTING	08/13/15	KG			DESIGNED BY:	RJH	JULY 2015
C	ADD SILT FENCE	6/26/13	SRP			DRAWN BY:	KG	JULY 2015
B	UPDATED PLANS TO INCLUDE TECO GAS MAIN AND COLLECTOR FORCE MAINS	7/01/10	SRP/1755			CHECKED BY:	RJH	JULY 2015
A	REVISED PER MANATEE COUNTY COMMENTS DATED 5/06/08 & 1/13/09	1/22/09	SRP/1755			CONTRACT ADMIN. BY:		



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CLIENT: MANATEE COUNTY PUBLIC WORKS
PROJECT: VILLAGE OF PARRISH WASTEWATER FORCE MAIN
DATE: AUGUST 2015
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=2'
TITLE: PLAN AND PROFILE 72ND STREET EAST STA 400+00 TO 404+00
PROJECT NUMBER: 177310561
SHEET NUMBER: 26 OF 30



REV. NO.	REVISION	DATE	DESIGNED BY	CHECKED BY	DATE
D	UPDATE DESIGN/CODE UPDATES FOR REPERMITTING	08/13/15	KG	RJH	JULY 2015
C	REVISE DRILL CROSSING, ADD SILT FENCE	6/26/13	SRP	KG	JULY 2015
B	UPDATED PLANS TO INCLUDE TECO GAS MAIN AND COLLECTOR FORCE MAINS	7/01/10	SRP/1755	RJH	JULY 2015
A	REVISED PER MANATEE COUNTY COMMENTS DATED 5/06/08 & 1/13/09	1/22/09	SRP/1755		

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CLIENT: MANATEE COUNTY PUBLIC WORKS
PROJECT: VILLAGE OF PARRISH WASTEWATER FORCE MAIN

DATE: AUGUST 2015
PROPORTIONAL SCALE: 1"=20'
VERTICAL SCALE: 1"=2'
SHEET: 20 OF 30
TITLE: PLAN AND PROFILE ERIE ROAD JACK & BORE CROSSING
72ND STREET EAST & STA 404+00 TO 408+00
JACK & BORE
PROJECT NUMBER: 177310561
SHEET NUMBER: 27 OF 30

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DR-18 PVC PIPE

MAIN PIPE SIZE	HORIZ. BENDS			TEES				REDUCERS				PLUGS & VALVES
	90°	45°	22.5°	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	
24	90	38	18	X24	X20	X18	X16	X24	X20	X18	X16	214
20	78	32	16	X20	X16	X12	X10	X20	X16	X12	X10	184
16	66	27	13	X16	X12	X10	X8	X16	X12	X10	X8	151
12	52	22	10	X12	X10	X8	X6	X12	X10	X8	X6	118
10	44	18	9	X10	X8	X6	X4	X10	X8	X6	X4	100
8	37	15	7	X8	X6	X4	X3	X8	X6	X4	X3	83
6	29	12	6	X6	X4	X3	X2	X6	X4	X3	X2	63
4	21	8	4	X4	X3	X2	X1	X4	X3	X2	X1	45

NOTES:

- RESTRAIN 11.25" BENDS 50% OF LENGTH FOR 22.5" BENDS.
- ALL VALVES AND FITTINGS SHALL BE RESTRAINED TO THE CONNECTION SECTIONS OF PIPE.
- ALL ISOLATION VALVES MUST BE PROPERLY ANCHORED OR RESTRAINED TO RESIST A 180 PSI TEST PRESSURE IN EITHER DIRECTION.
- PIPE SIZES ARE GIVEN IN INCHES.
- RESTRAINED PIPE LENGTHS ARE GIVEN IN FEET.
- LENGTHS SHOWN ARE FOR A TEST PRESSURE OF 180 PSI.
- THE RESTRAINED LENGTHS SHOWN IN THESE TABLES ARE BASED ON SOIL CLASSIFICATION SP WITH AWWA TYPE 3 TRENCH CONDITIONS, 180 PSI TEST PRESSURE, 3 FEET OF COVER AND 1.5 FACTOR OF SAFETY. ACTUAL BURY CONDITIONS MUST BE DETERMINED BY THE ENGINEER OF RECORD AND THE RESTRAINED LENGTHS MODIFIED ACCORDINGLY.
- RESTRAINED LENGTHS TO BE APPLIED TO PIPELINES PER DETAIL RESTRAINED LENGTHS FOR PIPE.

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (POLY-WRAPPED)

MAIN PIPE SIZE	HORIZ. BENDS			TEES				REDUCERS				PLUGS & VALVES
	90°	45°	22.5°	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	
36	142	59	28	X36	X30	X24	X18	X36	X30	X24	X18	453
30	124	51	25	X30	X24	X18	X12	X30	X24	X18	X12	391
24	106	44	21	X24	X18	X12	X10	X24	X18	X12	X10	327
20	92	38	18	X20	X16	X12	X8	X20	X16	X12	X8	280
16	77	32	15	X16	X12	X10	X6	X16	X12	X10	X6	231
12	61	25	12	X12	X10	X8	X4	X12	X10	X8	X4	181
10	52	22	10	X10	X8	X6	X4	X10	X8	X6	X4	153
8	44	18	9	X8	X6	X4	X3	X8	X6	X4	X3	128
6	34	14	7	X6	X4	X3	X2	X6	X4	X3	X2	98
4	24	10	5	X4	X3	X2	X1	X4	X3	X2	X1	69

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (NON-WRAPPED)

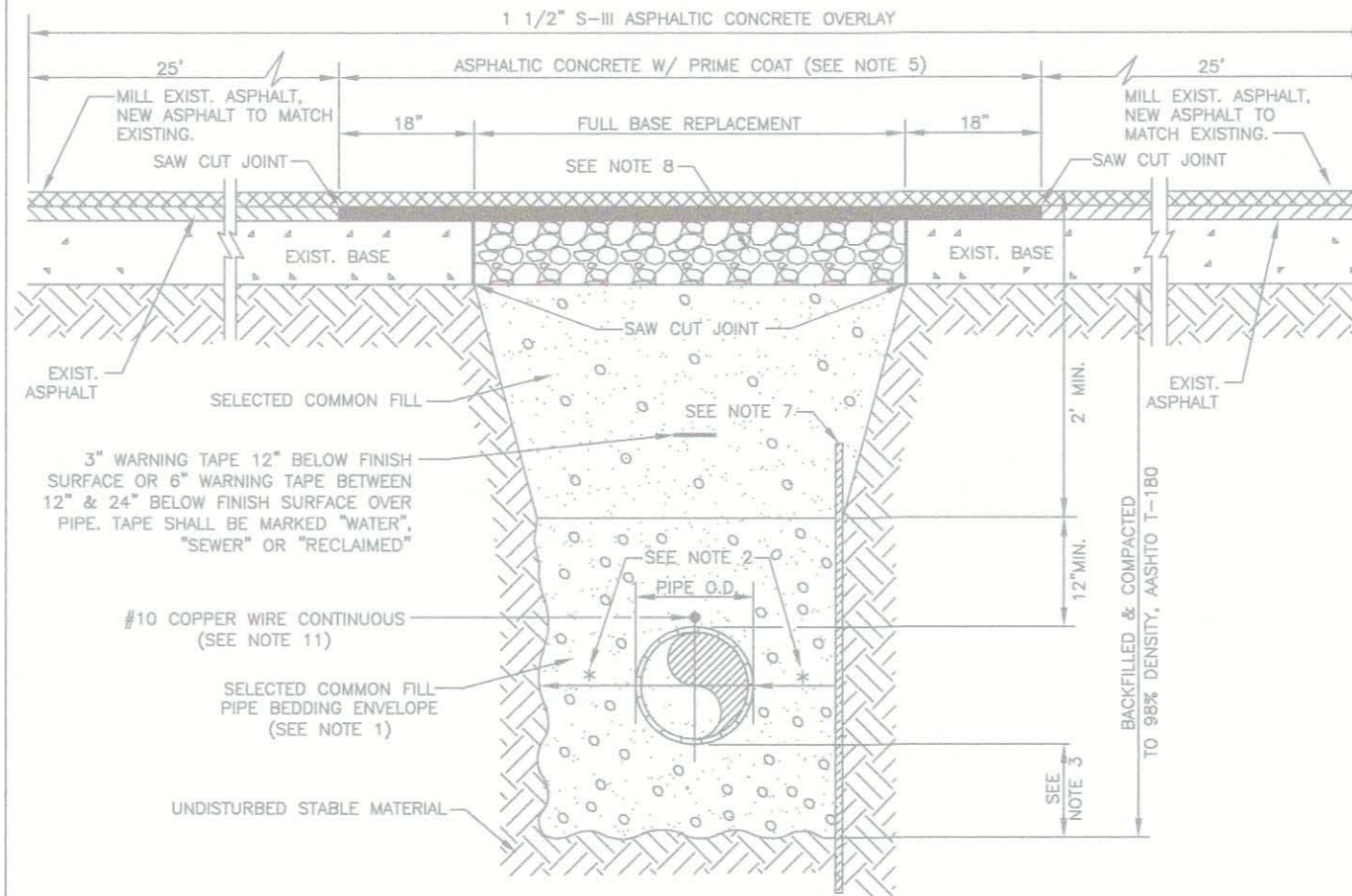
MAIN PIPE SIZE	HORIZ. BENDS			TEES				REDUCERS				PLUGS & VALVES
	90°	45°	22.5°	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	
36	100	42	20	X36	X30	X24	X18	X36	X30	X24	X18	188
30	88	37	18	X30	X24	X18	X12	X30	X24	X18	X12	162
24	75	31	15	X24	X18	X12	X10	X24	X18	X12	X10	135
20	65	27	13	X20	X16	X12	X8	X20	X16	X12	X8	116
16	54	22	11	X16	X12	X10	X6	X16	X12	X10	X6	96
12	43	18	8	X12	X10	X8	X4	X12	X10	X8	X4	75
10	37	15	7	X10	X8	X6	X4	X10	X8	X6	X4	63
8	30	13	6	X8	X6	X4	X3	X8	X6	X4	X3	53
6	24	10	5	X6	X4	X3	X2	X6	X4	X3	X2	41
4	17	7	3	X4	X3	X2	X1	X4	X3	X2	X1	29

NOTE:

SEE RESTRAINED LENGTHS FOR PVC PIPE DETAIL FOR NOTES 1 THROUGH 8 THAT ARE ALSO APPLICABLE TO RESTRAINED LENGTHS FOR DIP.

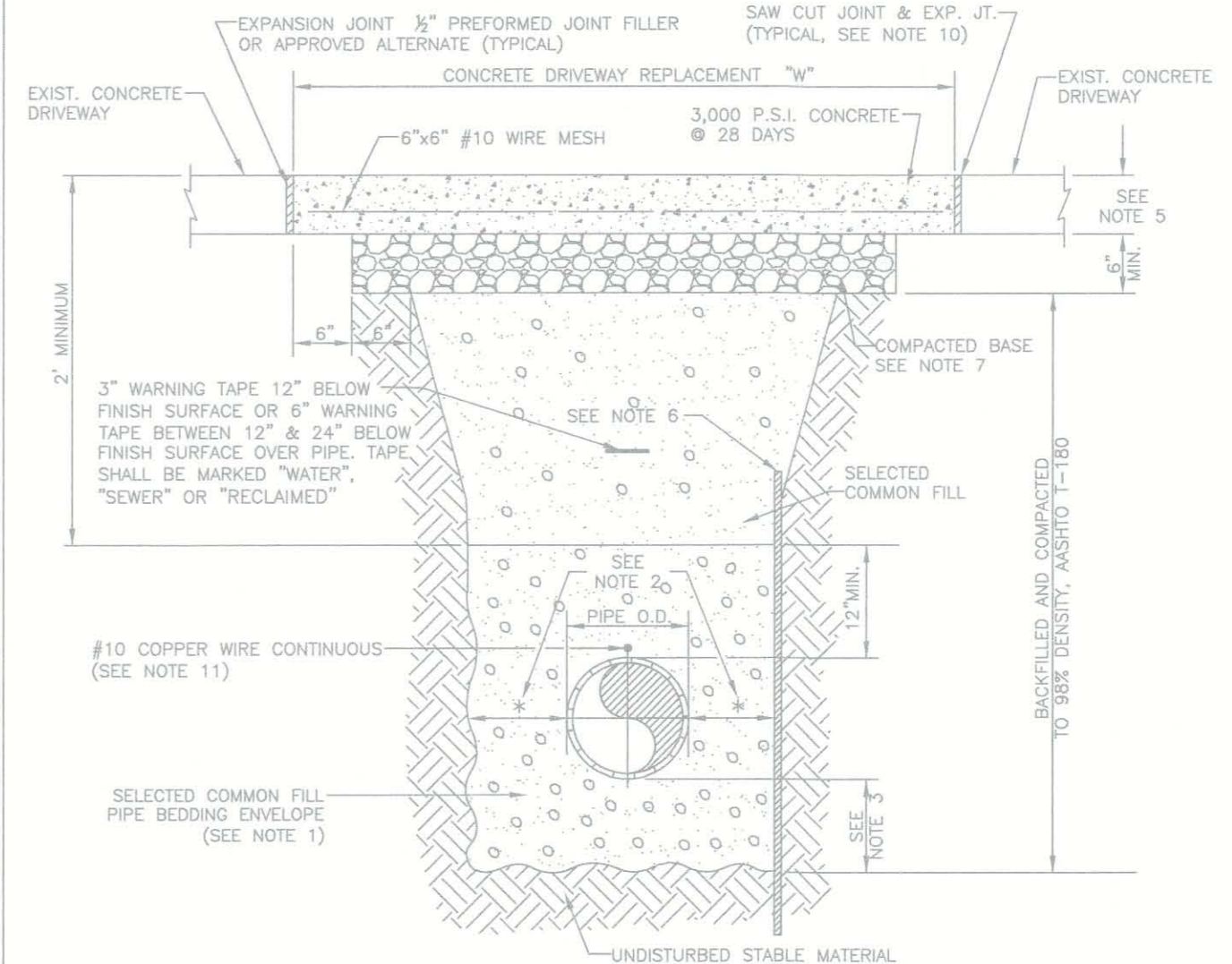
NOTES:

- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- TYPICALLY 4" TO 6".
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- ASPHALTIC CONCRETE STRUCTURE COURSE WITH PRIME COAT SHALL BE THE SAME DEPTH AND TYPE AS EXISTING OR A MINIMUM OF 1 1/4 INCH, WHICHEVER IS GREATER.
- MILL 2" BACK FROM TRENCH SAW CUT. ADJUST MILLING PER INDIVIDUAL SITE TO NOT IMPACT BASE. BUTT JOINT TO EXIST ASPHALT. FINAL OVERLAY LIMITS ARE FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT. FINAL OVERLAY TO MATCH EXISTING WITH NO DISCREASABLE "BUMP" AT JOINT. MILLING LIMITS THAT IMPACT INTERSECTION SHALL BE ADDRESSED ON A CASE BY CASE BASIS AND APPROVED BY MANATEE COUNTY.
- SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
- BASE SHALL BE 8" MINIMUM THICKNESS CRUSHED CONCRETE.
- TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
- RESTORE SIGNAGE & MARKING WITH THERMOPLASTIC PER FDOT STANDARDS, LATEST EDITION.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.
- NOTES 5, THRU 10, ARE MINIMUM REQUIREMENTS FOR A TRENCH IN A ROAD. REFER TO LATEST EDITION OF MANATEE COUNTY HIGHWAY AND TRAFFIC STANDARDS FOR ADDITIONAL REQUIREMENTS.



NOTES:

- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- TYPICALLY 4" TO 6".
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- THICKNESS TO MATCH EXISTING OR BE 6" MINIMUM, WHICHEVER IS GREATER.
- SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISH GRADE OR 12" BELOW SUBGRADE.
- BASE SHALL BE COMPACTED 6" MINIMUM THICKNESS OF APPROVED MATERIAL.
- DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST ADOPTED CONSTRUCTION STANDARDS OF THE MANATEE COUNTY TRANSPORTATION DEPARTMENT.
- IF THE DRIVEWAY IS 12" OR WIDER, SAWCUT AN EXPANSION JOINT ALONG THE CENTER OF THE DRIVEWAY (3/8" WIDE AND 1/2" DEEP) AFTER THE CONCRETE HAS SET.
- IF THERE IS AN EXISTING EXPANSION JOINT WITHIN 3' OF THE PROPOSED JOINT, EXTEND DRIVEWAY REPLACEMENT TO THE EXISTING JOINT.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



MANATEE COUNTY PUBLIC WORKS DEPARTMENT
RESTRAINED LENGTHS FOR PVC PIPE
 UG-8
 DATE OF APPROVAL: MAY 10, 2011
 PAGE 108

MANATEE COUNTY PUBLIC WORKS DEPARTMENT
RESTRAINED LENGTHS FOR DIP
 UG-9
 DATE OF APPROVAL: MAY 10, 2011
 PAGE 109

MANATEE COUNTY PUBLIC WORKS DEPARTMENT
TRENCH WITH ASPHALT PAVEMENT SURFACE TYPE A-1 PIPE BEDDING
 UG-12
 DATE OF APPROVAL: MAY 10, 2011
 PAGE 112

MANATEE COUNTY PUBLIC WORKS DEPARTMENT
TRENCH WITH CONCRETE DRIVEWAY SURFACE TYPE A-1 PIPE BEDDING
 UG-14
 DATE OF APPROVAL: MAY 10, 2011
 PAGE 114

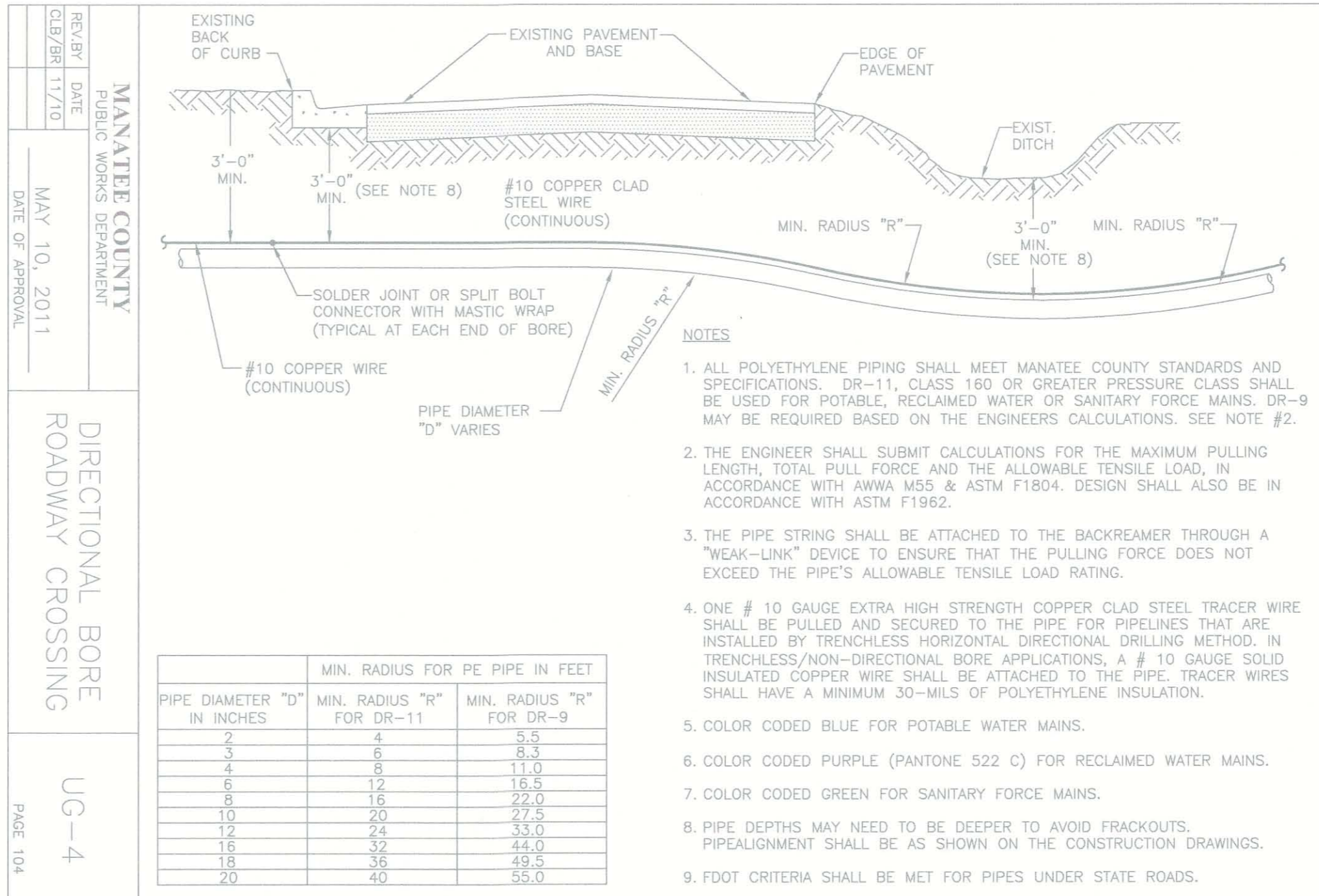
WASTEWATER COLLECTION GENERAL NOTES:

THE FOLLOWING NOTES ARE INTENDED AS A SUPPLEMENT TO THE PROJECT SPECIFICATIONS AND ARE NOT INTENDED TO SUPERSEDE THE SPECIFICATIONS. IT IS ASSUMED THE IRRIGATION MAINS ARE OR WILL CONVEY REUSE WATER.

- ALL CONSTRUCTION SHALL MEET THE MINIMUM REQUIREMENTS OF MANATEE COUNTY PUBLIC WORKS UTILITY STANDARDS, LATEST REVISION, AND EXCEED THE REQUIREMENTS OF THOSE SPECIFICATIONS WHERE INDICATED ON THESE CONSTRUCTION DRAWINGS OR IN THE PROJECT SPECIFICATIONS.
- ELEVATIONS SHOWN ON THE PLANS FOR FLOWLINES OF PROPOSED WASTEWATER MAINS SHALL BE ADHERED TO. IN MOST CASES THE DESIGN GRADES ARE CRITICAL AND ADJUSTMENTS CAUSED BY MISALIGNMENT OR IMPROPER GRADES ARE IMPRACTICAL. COST TO RELAY MAIN, IF NECESSARY, SHALL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL INVESTIGATE AND VERIFY OR HAVE VERIFIED THE LOCATION OF EXISTING UTILITIES AND ANY OTHER SUBSURFACE FACILITIES BEFORE STARTING WORK. HE SHALL BE LIABLE FOR ANY EXPENSE RESULTING FROM DAMAGE TO SAME. ANY CONFLICTS WITH EXISTING UTILITIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AS SOON AS POSSIBLE.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE COUNTY AND THE ENGINEER 24 HOURS PRIOR TO ANY WORK AT SITE & 48 HOURS PRIOR TO ANY TESTING.
- THE CONTRACTOR SHALL COORDINATE HOLDING OF POLES WITH UTILITY COMPANIES IN ADVANCE SO UNNECESSARY DELAYS OF PROJECT SHALL NOT BE INCURRED. THE COST FOR THE HOLDING OF THE POWER POLES SHALL BE INCLUDED IN THE WASTEWATER MAIN UNIT COST ITEMS CONTAINED IN THE PROPOSAL.
- FORCE MAINS SHALL BE RESTRAINED JOINT IN ACCORDANCE WITH THE WATER MAIN DETAILS UNLESS OTHERWISE SPECIFIED. FORCE MAINS 4" THROUGH 12" SHALL BE AWWA C-900 DR18 (150 PSI), GREEN IN COLOR & HAVE THE O.D. OF DUCTILE IRON. FORCE MAINS OVER 14" THROUGH 36" SHALL BE AWWA C-905, DR18 OR DUCTILE IRON (CI-50) PIPE WITH 40 MIL "PROTECTO 401" INTERIOR LINING.
- ALL EXISTING SALVAGEABLE PIPE FITTINGS, ETC. SHALL REMAIN THE PROPERTY OF THE OWNER AND BE STORED ON SITE AT THE DIRECTION OF THE ENGINEER.
- ALL PVC FORCE MAINS SHALL BE GREEN IN COLOR. COLOR CODED 3" DETECTABLE TAPE SHALL BE LOCATED 12" BELOW GRADE OR COLOR CODED 6" DETECTABLE TAPE SHALL BE LOCATED BETWEEN 12" & 24" BELOW GRADE AND ABOVE THE FORCE MAIN. THE TAPE SHALL BE MARKED "FORCE MAIN" FOR FORCE MAINS. THE COST FOR THE TAPE SHALL BE INCLUDED IN THE FORCE MAIN UNIT PRICES.
- NO. 12 COPPER WIRE SHALL BE PULLED WITH HDPE FORCE MAINS INSTALLED BY DIRECTIONAL BORE METHOD.
- ALL FORCE MAIN PLUG VALVES SHALL BE DOUBLE-SEATED, CAPABLE OF HOLDING A 150 PSI MINIMUM TEST PRESSURE FOR TWO (2) HOURS IN EITHER DIRECTION.
- TESTING SHALL BE IN CONFORMANCE WITH MANATEE COUNTY PUBLIC WORKS STANDARDS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TESTING ALL FORCE MAINS IN ACCORDANCE WITH THE MANATEE COUNTY PUBLIC WORKS UTILITY STANDARDS, LATEST EDITION. THE CONTRACTOR SHALL ENSURE THAT FORCE MAINS CAN BE TESTED AT ALL MANHOLE CONNECTIONS AND PLUG VALVE LOCATIONS. IF GATE VALVES MUST BE UTILIZED FOR TESTING PURPOSES, ANY COST ASSOCIATED WITH THE INSTALLATION OF GATE VALVES, (INCLUDING MATERIALS) SHALL BE AT THE CONTRACTOR'S EXPENSE. ANY GATE VALVE(S) INSTALLED FOR TESTING PURPOSES SHALL BE ABANDONED AND LEFT FULLY OPENED.

NOTE:

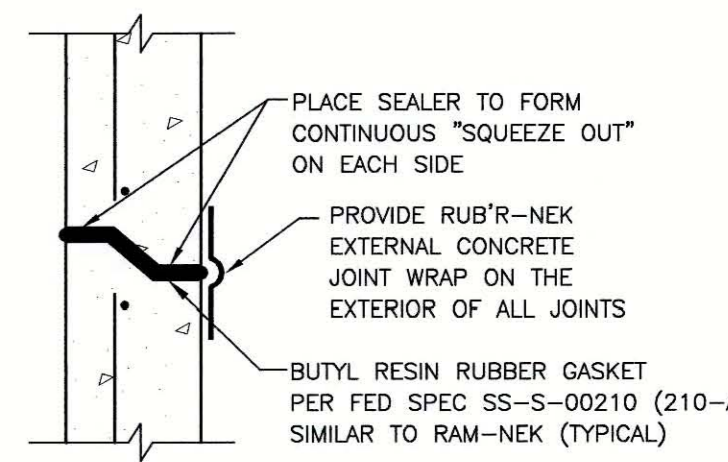
- IN-LINE GATE VALVES AND PLUG VALVES TO BE RESTRAINED THE SAME LENGTH EACH WAY THE SAME AS A PLUG.
- DEAD END GATE VALVES AND PLUG VALVES TO BE RESTRAINED THE SAME LENGTH AS A PLUG.
- THE CONTRACTOR SHALL OBTAIN A QUALIFIED TESTING LABORATORY IN ORDER TO DETERMINE ACTUAL SOIL CONDITIONS PRIOR TO PIPE INSTALLATION. IF EXISTING SOIL CONDITIONS ARE NOT CONSISTENT WITH THE DESIGN SOIL CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IN ORDER TO MODIFY THE RESTRAINED LENGTHS ACCORDINGLY.



PIPE DIAMETER "D" IN INCHES	MIN. RADIUS FOR PE PIPE IN FEET	
	MIN. RADIUS "R" FOR DR-11	MIN. RADIUS "R" FOR DR-9
2	4	5.5
3	6	8.3
4	8	11.0
6	12	16.5
8	16	22.0
10	20	27.5
12	24	33.0
16	32	44.0
18	36	49.5
20	40	55.0

NOTES:

- ALL POLYETHYLENE PIPING SHALL MEET MANATEE COUNTY STANDARDS AND SPECIFICATIONS. DR-11, CLASS 160 OR GREATER PRESSURE CLASS SHALL BE USED FOR POTABLE, RECLAIMED WATER OR SANITARY FORCE MAINS. DR-9 MAY BE REQUIRED BASED ON THE ENGINEER'S CALCULATIONS. SEE NOTE #2.
- THE ENGINEER SHALL SUBMIT CALCULATIONS FOR THE MAXIMUM PULLING LENGTH, TOTAL PULL FORCE AND THE ALLOWABLE TENSILE LOAD, IN ACCORDANCE WITH AWWA M55 & ASTM F1804. DESIGN SHALL ALSO BE IN ACCORDANCE WITH ASTM F1962.
- THE PIPE STRING SHALL BE ATTACHED TO THE BACKREAMER THROUGH A "WEAK-LINK" DEVICE TO ENSURE THAT THE PULLING FORCE DOES NOT EXCEED THE PIPE'S ALLOWABLE TENSILE LOAD RATING.
- ONE # 10 GAUGE EXTRA HIGH STRENGTH COPPER CLAD STEEL TRACER WIRE SHALL BE PULLED AND SECURED TO THE PIPE FOR PIPELINES THAT ARE INSTALLED BY TRENCHLESS HORIZONTAL DIRECTIONAL DRILLING METHOD. IN TRENCHLESS/NON-DIRECTIONAL BORE APPLICATIONS, A # 10 GAUGE SOLID INSULATED COPPER WIRE SHALL BE ATTACHED TO THE PIPE. TRACER WIRES SHALL HAVE A MINIMUM 30-MILS OF POLYETHYLENE INSULATION.
- COLOR CODED BLUE FOR POTABLE WATER MAINS.
- COLOR CODED PURPLE (PANTONE 522 C) FOR RECLAIMED WATER MAINS.
- COLOR CODED GREEN FOR SANITARY FORCE MAINS.
- PIPE DEPTHS MAY NEED TO BE DEEPER TO AVOID FRACKOUTS. PIPE ALIGNMENT SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS.
- FDOT CRITERIA SHALL BE MET FOR PIPES UNDER STATE ROADS.



TYPICAL JOINT DETAIL

REV. NO.	REVISION	DATE	DRAWN BY / EMP. NO.	CHECKED BY / EMP. NO.	WM APPROVED BY:	ACTIVITY	INITIALS/EMP. NO.	DATE
D	UPDATE DESIGN/CODE UPDATES FOR REPERMITTING	08/13/15	KG					

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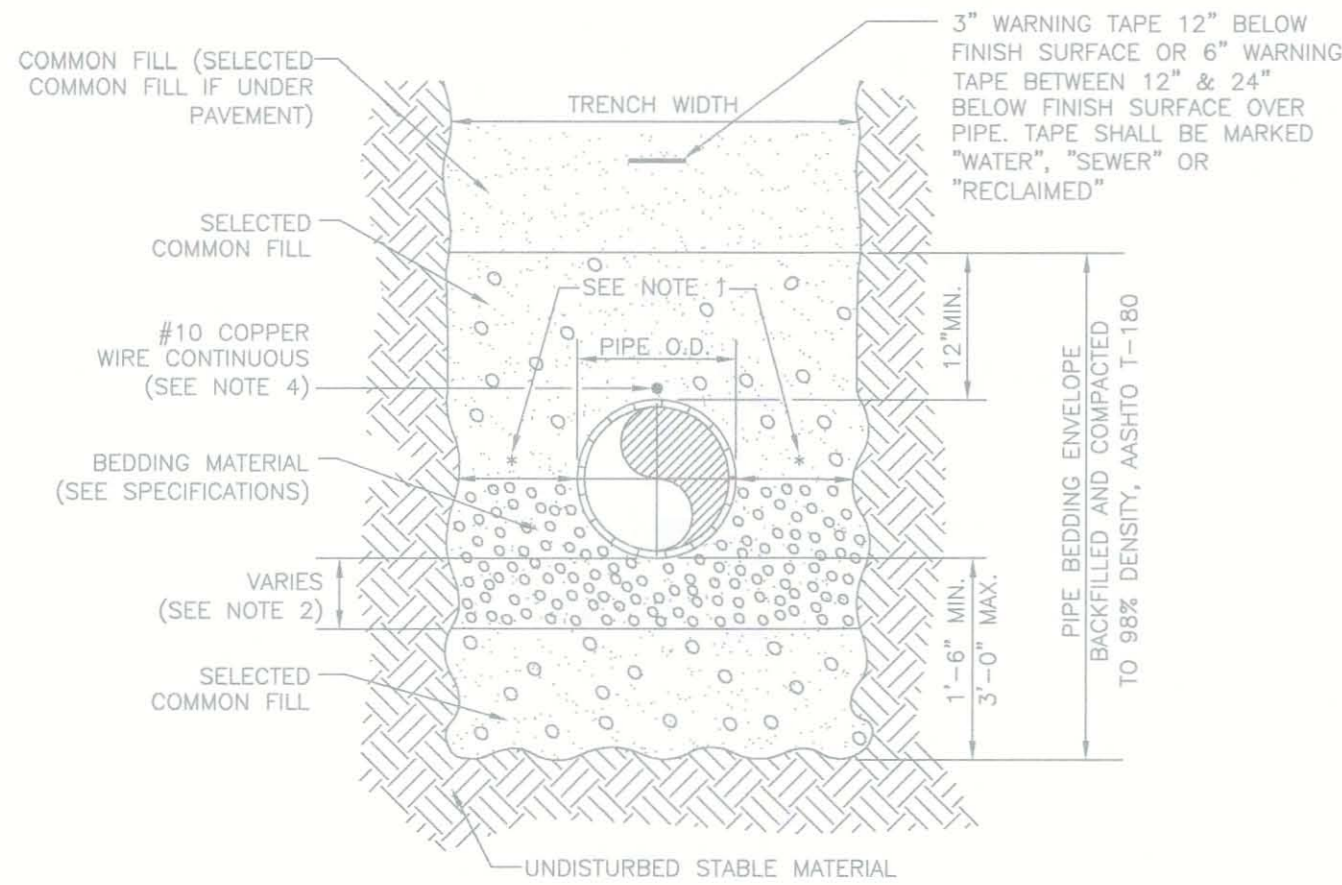
CLIENT: MANATEE COUNTY PUBLIC WORKS
PROJECT: VILLAGE OF PARRISH WASTEWATER FORCE MAIN

DATE: AUGUST 2015
TITLE: WASTEWATER COLLECTION CONSTRUCTION DETAILS
PROJECT NUMBER: 177310561
DATE OF APPROVAL: 08/29/15

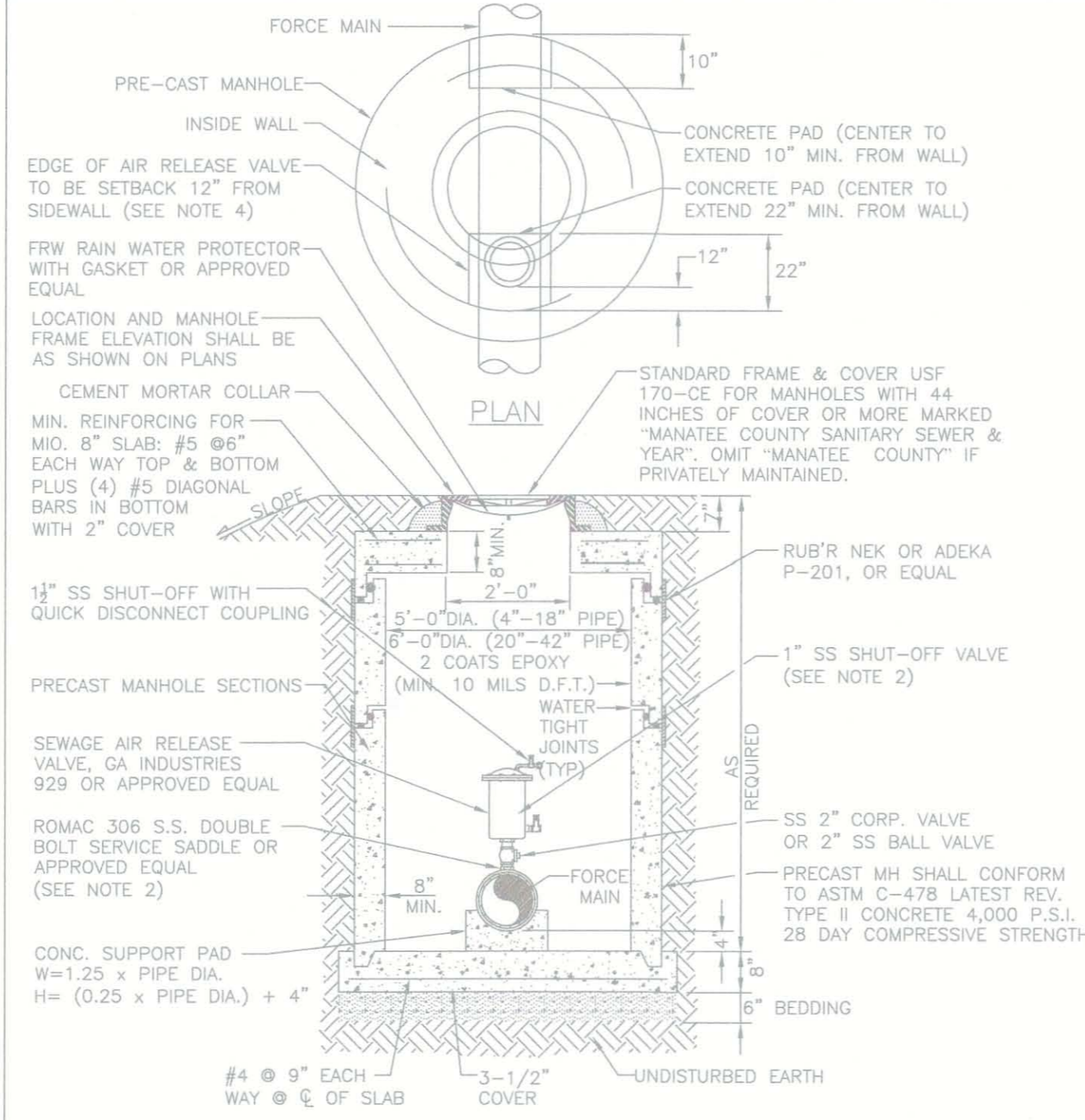
MANATEE COUNTY PUBLIC WORKS DEPARTMENT
 AUTHORIZED SIGNATURE
 DATE: 08/29/15
 INDEX NUMBER: D-17731056128
 SHEET NUMBER: 28 OF 30

NOTES:

2. PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
3. TYPICALLY 4" TO 6".
4. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
5. TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.

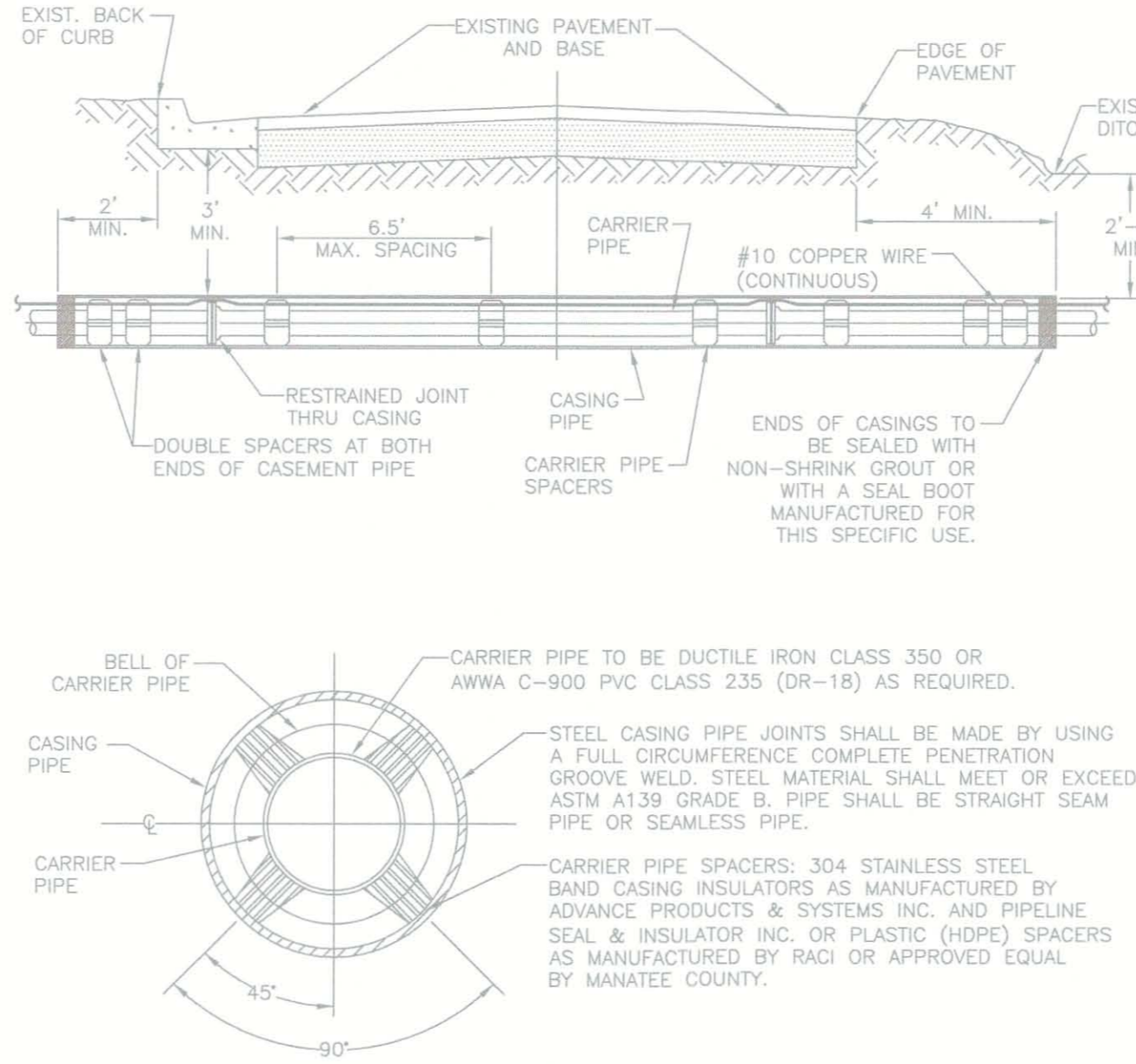


NOTE:
IN ADDITION TO THE MANATEE COUNTY TRENCH DETAIL, THE DETECTABLE TAPE SHALL BE MARKED AS FOLLOWS:
1. "RECLAIMED WATER" FOR RECLAIMED WATER DISTRIBUTION LINES.
2. "WATER" FOR POTABLE WATER DISTRIBUTION LINES.
3. "FORCE MAIN" FOR FORCE MAIN TRANSMISSION LINES.



NOTES:

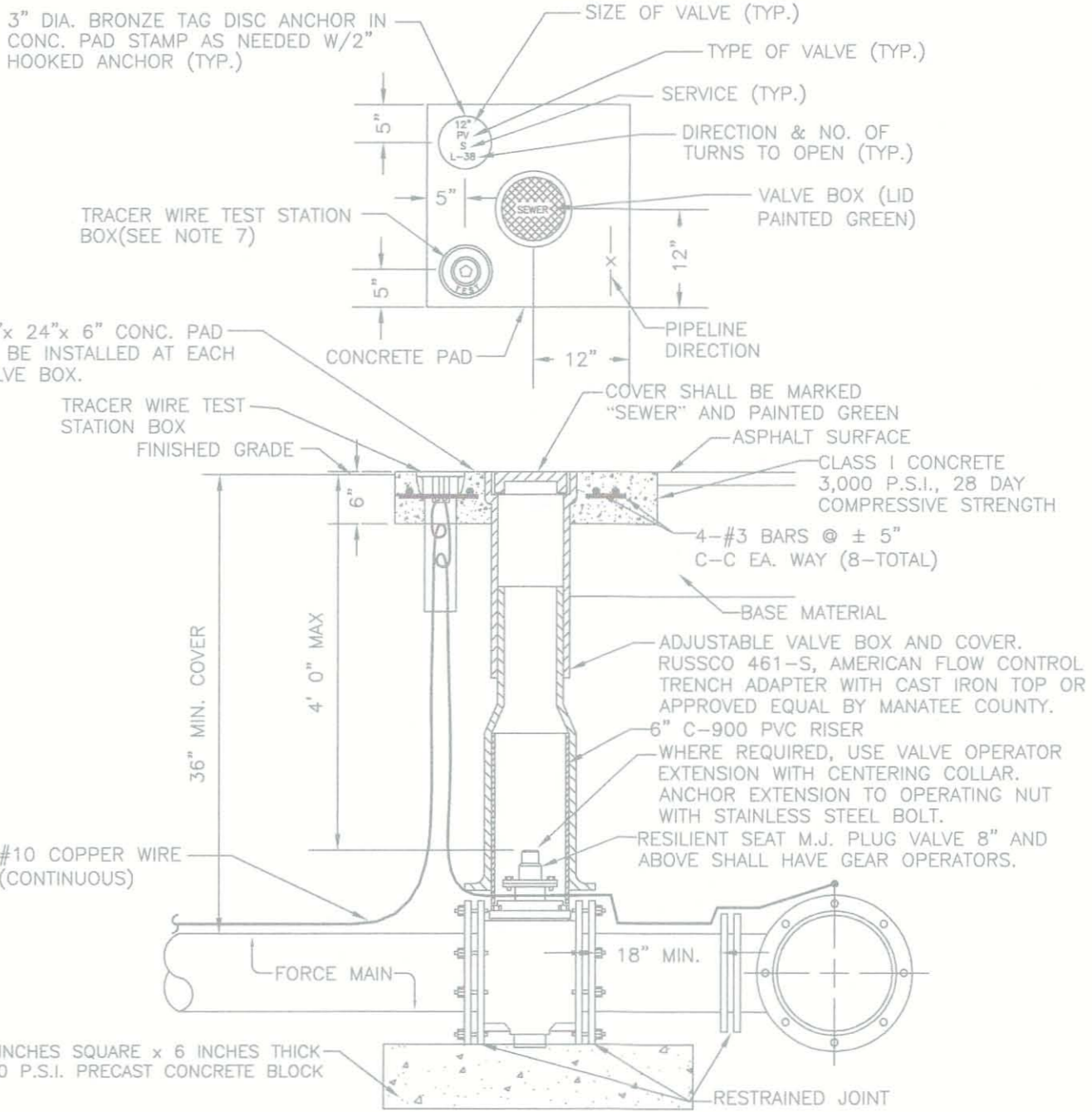
1. AIR RELEASE VALVES WHERE REQUIRED ON 4" AND LARGER FORCE MAINS.
2. ARV TO BE SIZED ACCORDING TO MANUFACTURER'S RECOMMENDATION FOR FORCE MAIN SIZE.
3. SERVICE SADDLE, NIPPLES AND COPORATION BALL VALVE SHALL BE STAINLESS STEEL.
4. FOR MANHOLES WITH LESS THAN 44 INCHES OF COVER FROM TOP-OF-PIPE TO TOP-OF-FRAME, FRAME & COVER TO BE 32-INCH PAMREX WITH 32 INCH OPENING. OFFSET ARV 7.5 INCHES FROM CENTER OF OPENING. MINIMUM ALLOWABLE COVER IS 36 INCHES.
5. ALL PIPE PENETRATING MANHOLE SHALL HAVE RESILIENT PIPE TO MANHOLE SEALS PER ASTM-923.
6. FINAL GRADE TO BE SLOPED AWAY FROM MANHOLE.



CARRIER	4"	6"	8"	10"	12"	14"	16"	18"	20"
CASING	1/2"	1/4"	1/8"	20"	24"	30"	30"	36"	36"
CASING / WALL THICKNESS	0.188	0.188	0.250	0.250	0.344	0.406	0.406	0.406	0.406

NOTES:

1. THE ENGINEER OF RECORD MAY SELECT LARGER CASING DIAMETERS.
2. FOR JACK & BORE SPECIFICATIONS UNDER STATE ROADS AND RAILROADS REFER TO THE F.D.O.T. UTILITY ACCOMMODATION MANUAL, LATEST EDITION.



NOTES:

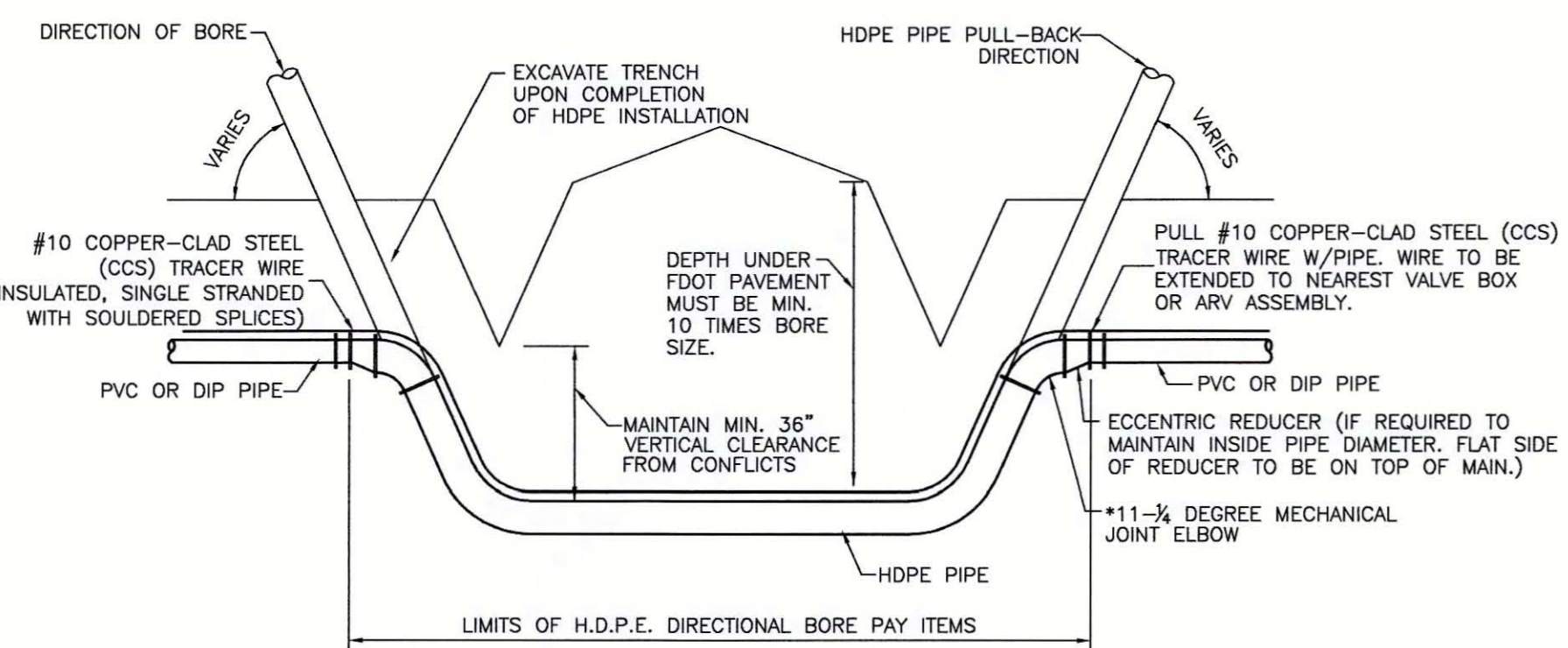
1. "SV" TO BE IMPRESSED INTO THE NEWLY-POURED CONCRETE CURB, ALONG WITH DISTANCE IN FEET TO THE VALVE. IF NO CURB, INSTALL A GREEN DISC WITH "SV" AND A 1/8"x1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE DISTANCE (FT.) FROM THE DISC TO THE VALVE.
2. ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES AS ESTABLISHED IN THE FIELD.
3. SEWER VALVES SHALL NOT BE PLACED IN HANDICAPPED RAMPS.
4. PRECAST CONCRETE PADS SHALL NOT BE USED.
5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
6. PLUG VALVES SHALL NOT BE USED AS A TAPPING VALVE, WHERE AN EXISTING FORCE MAIN IS TO BE TAPPED, USE A TAPPING GATE VALVE PER THE TAPPING SLEEVE AND VALVE DETAIL.
7. TEST BOX TO BE BINGHAM & TAYLOR P200NFD OR EQUAL FOR NORMAL YARD SERVICE, WHERE VALVE WILL BE IN STREET OR UNDER VEHICLE TRAFFIC, USE P525RD CENTERED IN SEPARATE CONCRETE PAD SIMILAR TO STANDARD VALVE BOX PAD.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT	TRENCH WITH TYPE A-3 PIPE BEDDING	UG-16
REV. BY: DATE: CLB/BR 11/7/10	MAY 10, 2011	DATE OF APPROVAL
PAGE 116		

MANATEE COUNTY PUBLIC WORKS DEPARTMENT	BELOW GRADE AIR RELEASE VALVE FOR FORCE MAINS	US-10
REV. BY: DATE: CLB/BR 11/7/10	MAY 10, 2011	DATE OF APPROVAL
PAGE 150		

MANATEE COUNTY PUBLIC WORKS DEPARTMENT	JACK & BORE CROSSING	UG-3
REV. BY: DATE: CLB/BR 11/7/10	MAY 10, 2011	DATE OF APPROVAL
PAGE 103		

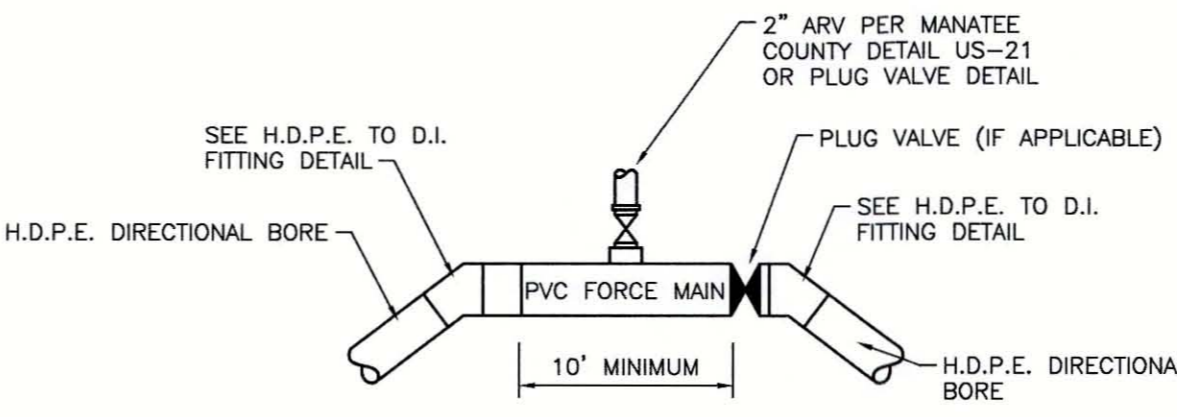
MANATEE COUNTY PUBLIC WORKS DEPARTMENT	PLUG VALVE, BOX, COVER AND TAG	US-12
REV. BY: DATE: CLB/BR 11/7/10	MAY 10, 2011	DATE OF APPROVAL
PAGE 152		



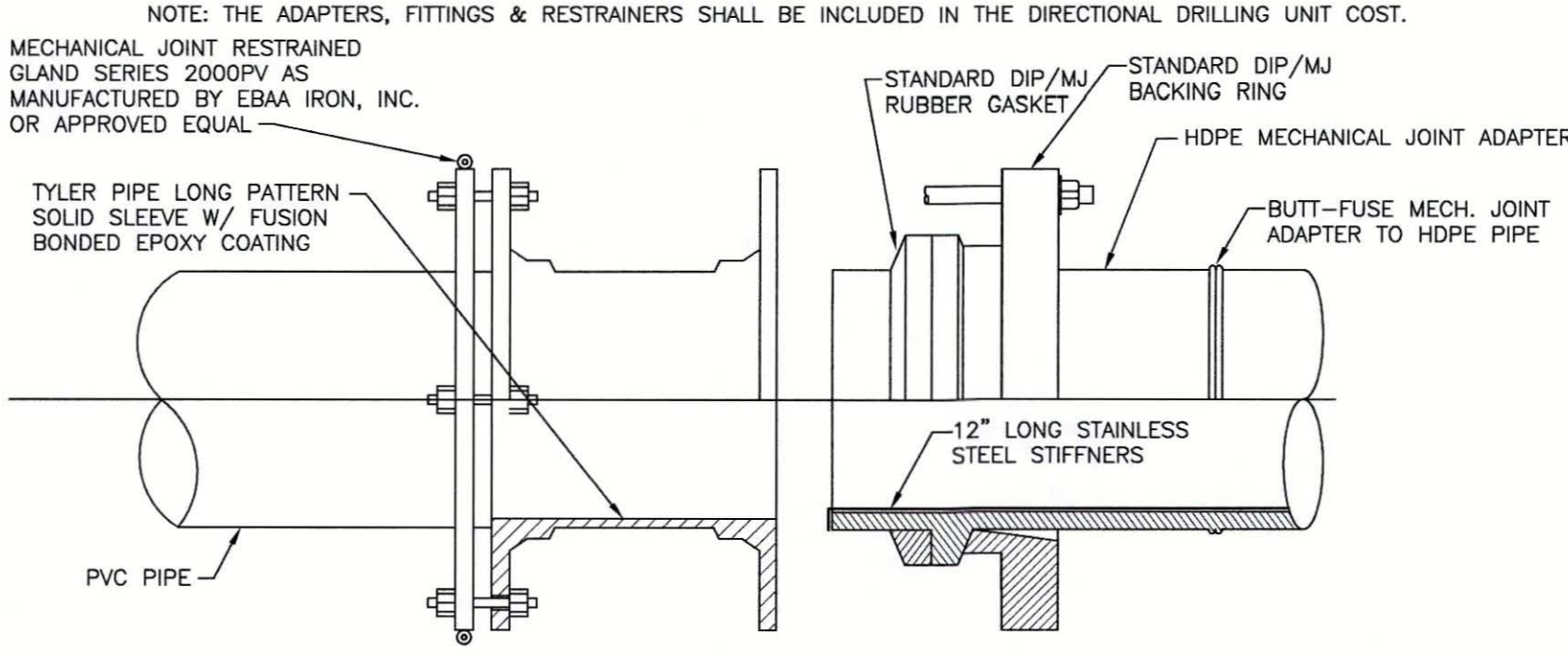
* THE CONTRACTOR SHALL VERIFY & PROVIDE THE DEGREE OF BEND REQUIRED BASED UPON ACTUAL DRILLING ANGLE. AN 11.25 DEGREE BEND IS DESIGNATED BASED ON TYPICAL BORES. THE HDPE SHALL NOT BE DEFLECTED TO ACHIEVE THIS BEND. SEE HDPE TO DI FITTING DETAIL ON THE SHEET. THIS COST IS TO BE INCLUDED IN THE DIRECTIONAL BORE BID PRICE.

- NOTE:**
1. ALL FITTINGS/JOINTS ASSOCIATED WITH THE DIRECTIONAL BORE SHALL BE RESTRAINED AND EPOXY LINED (PROTECTO 401 OR EQUAL).
 2. CONTRACTOR TO PROVIDE SITE PREP WORK FOR DRILLING RIG IN BID ITEM COST, WITH NO ADDITIONAL COST.
 3. CONTRACTOR TO OBTAIN ENGINEER'S APPROVAL FOR ANY BORE EXCEEDING 10% OF DESIGN DEPTH.

HORIZONTAL DIRECTIONAL DRILLING DETAIL



AIR RELEASE VALVE CONNECTION ON HDPE PIPE



H.D.P.E. TO P.V.C. FITTING DETAIL

WARNING
Manatee County
Existing Buried _____ SIZE AND TYPE OF PIPE
Design Depth below Bottom = _____"
Distance from Edge of Pavement = _____"

CROSSING SIGN DETAIL

THE CONTRACTOR SHALL PROVIDE A PERMANENT METALIC WARNING SIGN WITH SUITABLE POST ON THE SIDE OF EACH CROSSING. SIGN MATERIAL TO BE PER FDOT DESIGN STANDARDS, LATEST EDITION.

- 1.) 10" MAX. FOR PIPE DIAMETER LESS THAN 24"; 12" MAX. FOR PIPE DIAMETER 24" AND LESS THAN 42"; 24" MAX. FOR PIPE DIAMETER 42" AND OVER.
- 2.) 4" MAX. FOR PIPE 16" DIAMETER AND LESS; 6" MAX. FOR PIPE 18" TO 36" DIAMETER; AND 9" MAX. FOR PIPE 42" DIAMETER AND LARGER.
- 3.) INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

ACTIVITY	INITIALS/EMP. NO.	DATE
DESIGNED BY:	RJH	JULY 2015
DRAWN BY:	KG	JULY 2015
CHECKED BY:	RJH	JULY 2015
CONTRACT ADMIN. BY:		
WM APPROVED BY:		

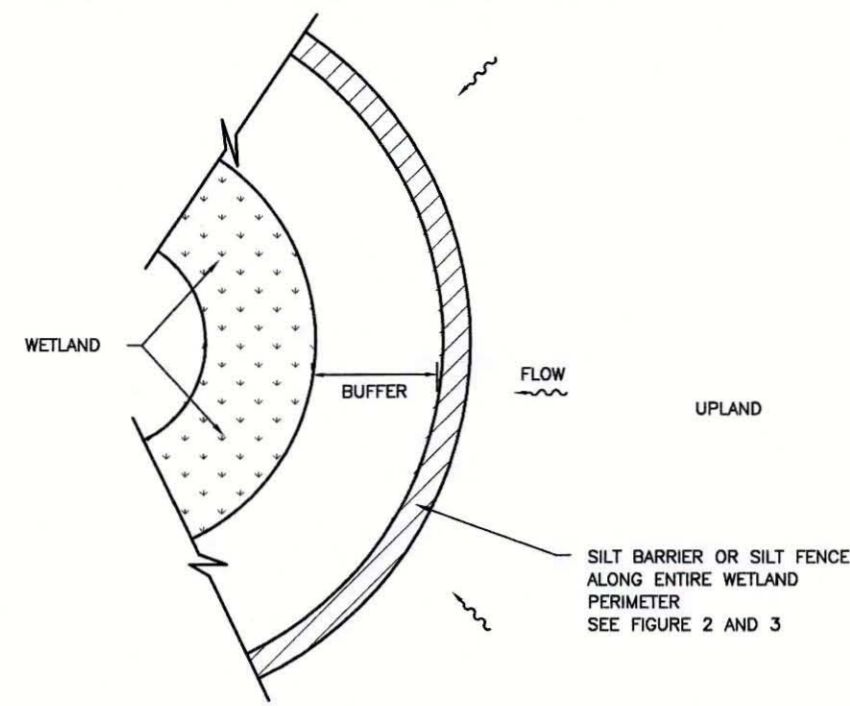


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CLIENT:	MANATEE COUNTY PUBLIC WORKS
PROJECT:	VILLAGE OF PARRISH WASTEWATER FORCE MAIN

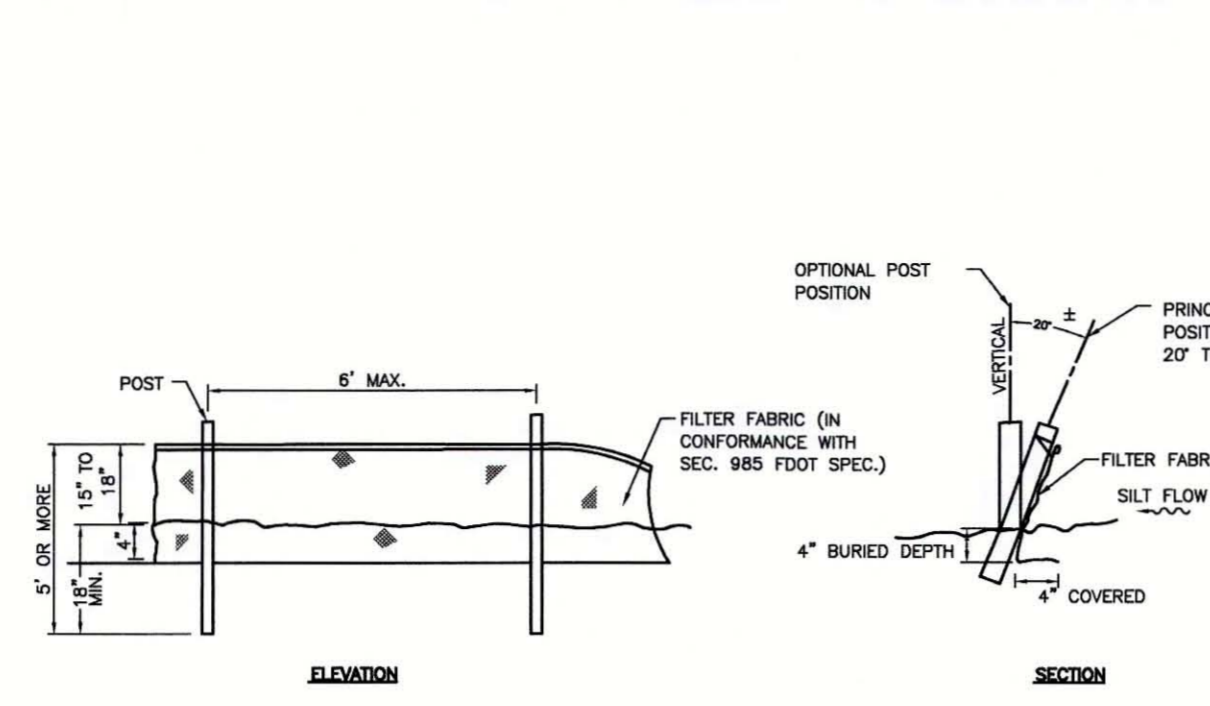
DATE:	AUGUST 2015
HORIZONTAL SCALE:	AS NOTED
VERTICAL SCALE:	N/A
DATE:	2025 08 31

TITLE:	WASTEWATER COLLECTION CONSTRUCTION DETAILS
CROSS REFERENCE FILE NO.:	
PROJECT NUMBER:	177310561
SHEET NUMBER:	29 OF 30



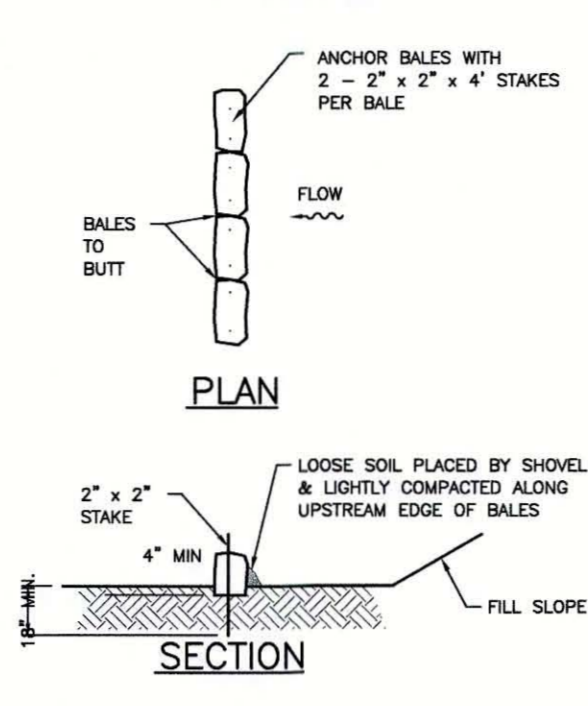
WETLAND BUFFER
N.T.S.

FIGURE 1



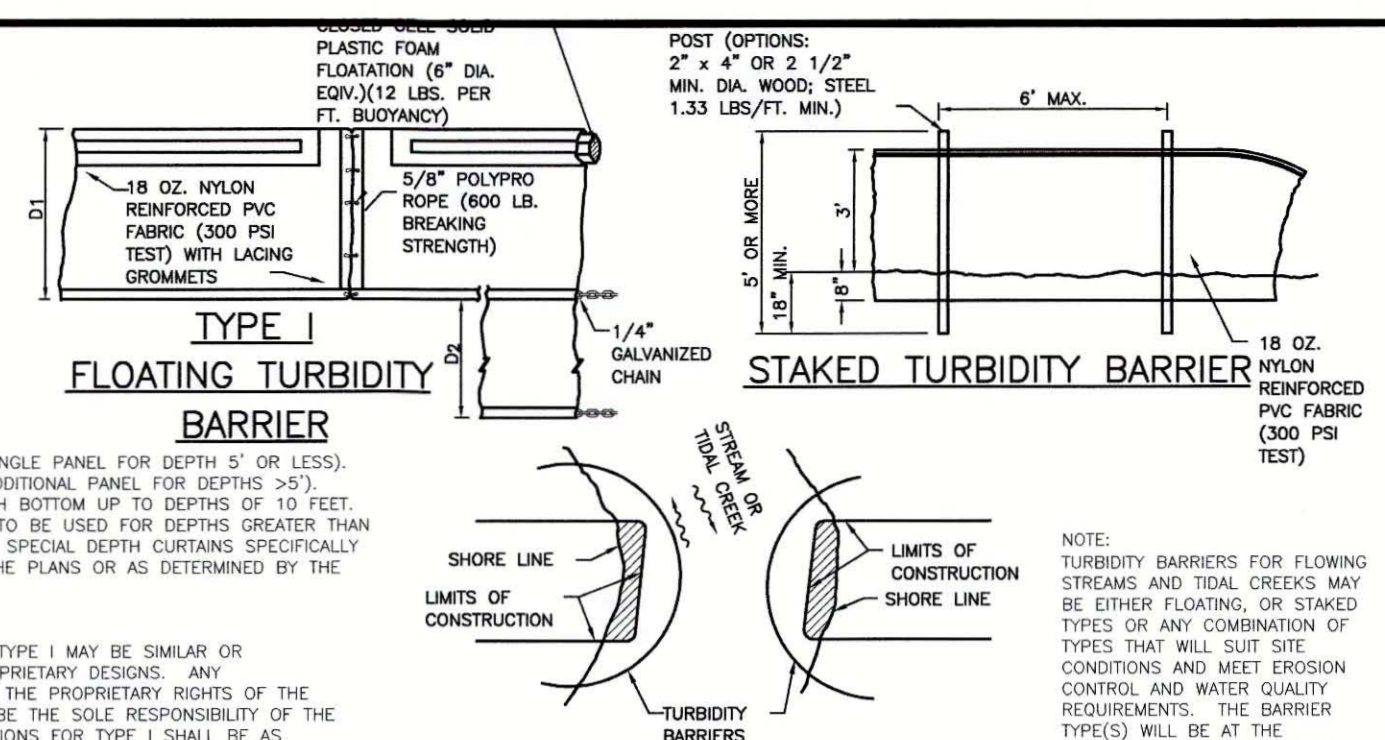
TYPICAL SILT FENCE
N.T.S.

FIGURE 2



TYPICAL BALE SILT BARRIER
N.T.S.

FIGURE 3



TYPE 1 FLOATING TURBIDITY BARRIER

STAKED TURBIDITY BARRIER

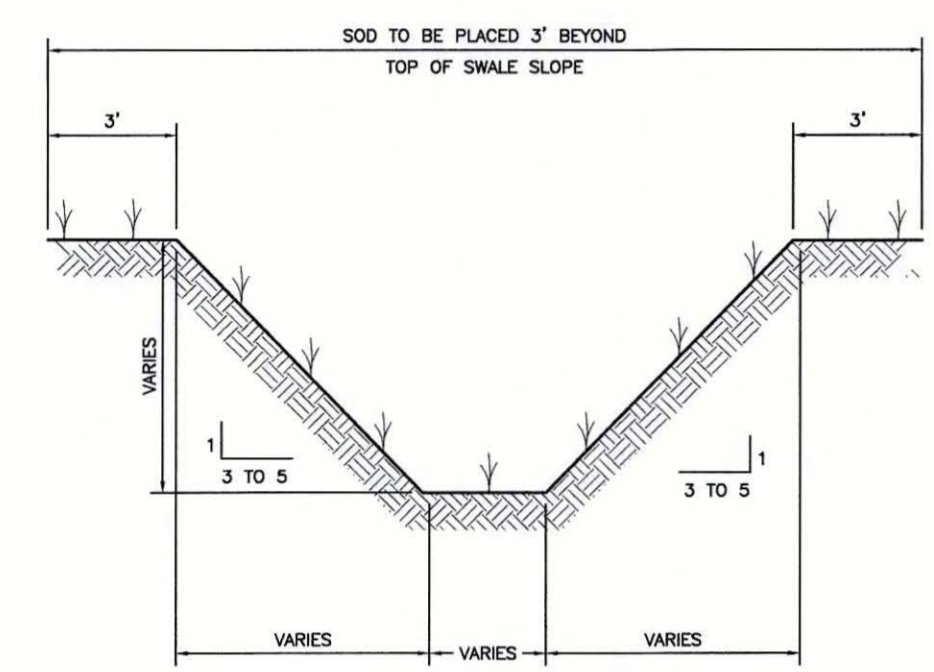
NOTE: TURBIDITY BARRIERS FOR FLOWING STREAMS AND TIDAL CREEKS MAY BE EITHER FLOATING, OR STAKED TYPES OR ANY COMBINATION OF TYPES THAT WILL SUIT SITE CONDITIONS AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. THE BARRIER TYPES WILL BE AT THE CONTRACTOR'S OPTION UNLESS OTHERWISE SPECIFIED IN THE PLANS. HOWEVER PAYMENT WILL BE UNDER THE PAY ITEM(S) ESTABLISHED IN THE PLANS FOR FLOATING TURBIDITY BARRIER AND/OR STAKED TURBIDITY BARRIER. POSTS IN STAKED TURBIDITY BARRIERS TO BE INSTALLED IN VERTICAL POSITION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

NOTES:

- TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
- NUMBER AND SPACING OF ANCHORS DEPENDENT ON WATER VELOCITIES.
- DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
- NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.

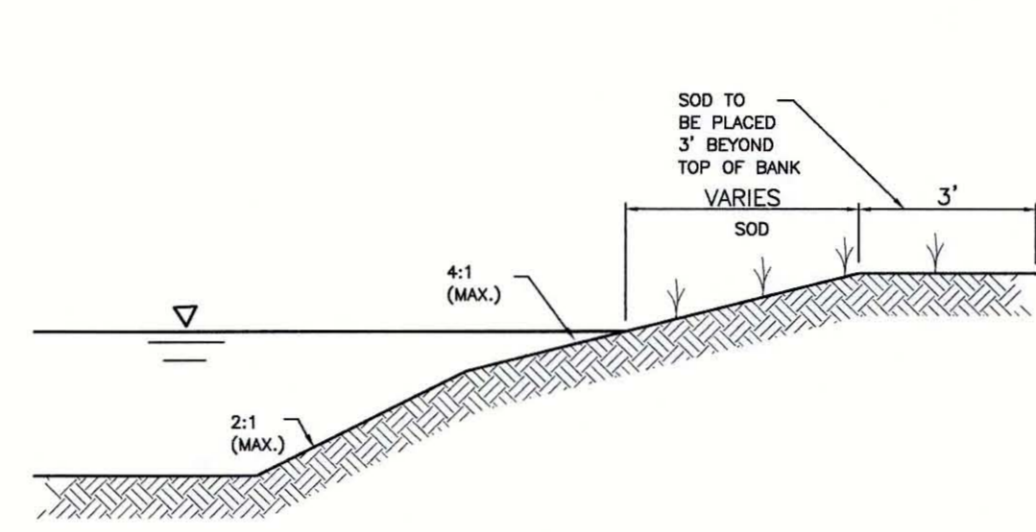
TURBIDITY BARRIER APPLICATIONS
TURBIDITY BARRIERS
N.T.S.

FIGURE 4



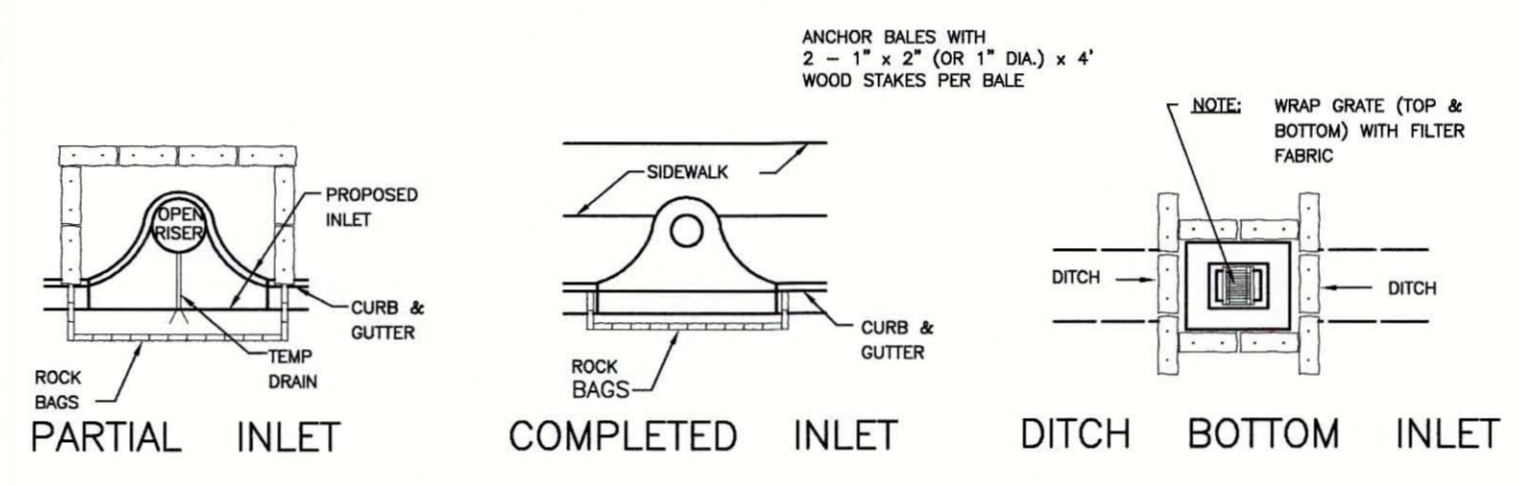
TYPICAL SWALE SECTION
N.T.S.

FIGURE 5



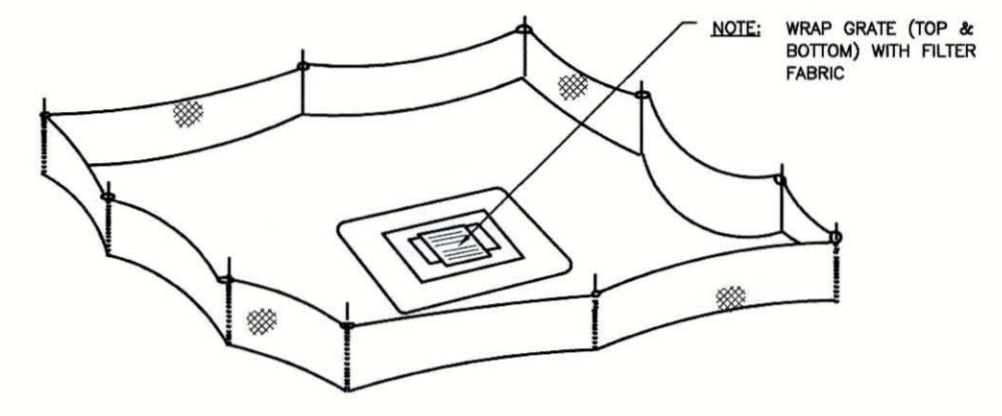
TYPICAL RETENTION/DETENTION POND SECTION
N.T.S.

FIGURE 6



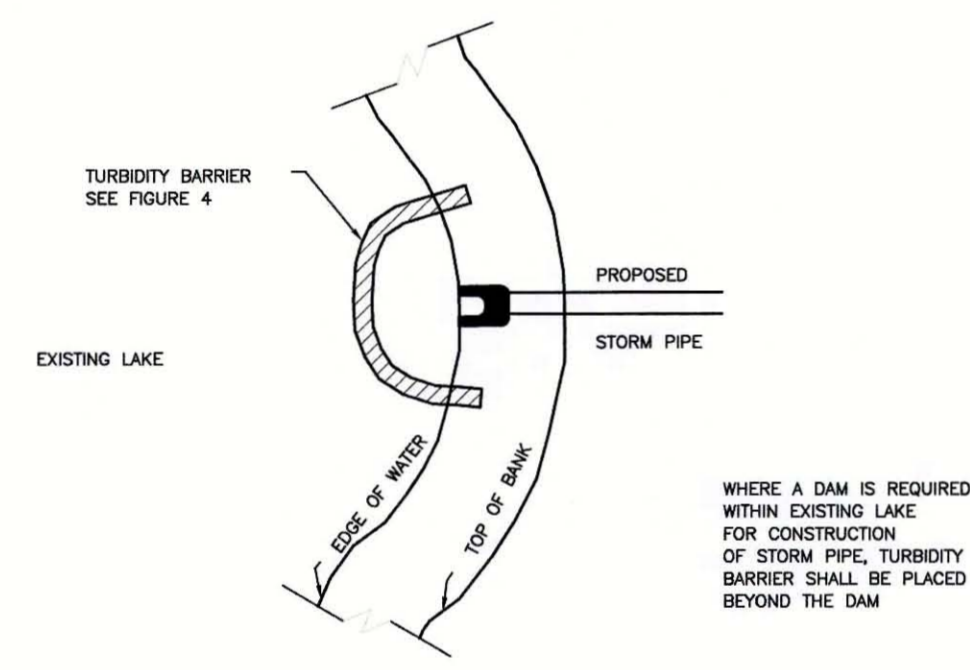
PROTECTION AROUND INLETS OR SIMILAR STRUCTURES
N.T.S.

FIGURE 7



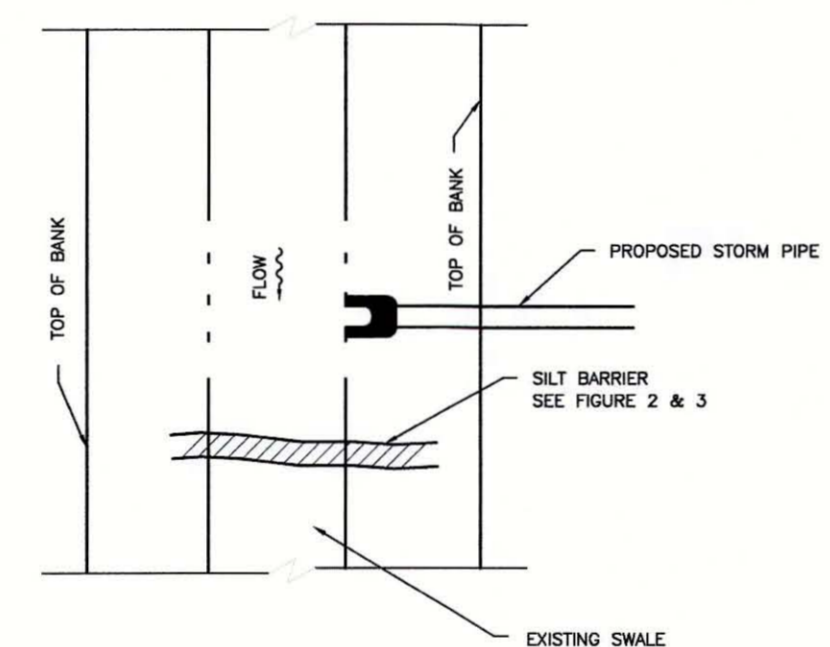
STAKED SILT BARRIER OR SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS
N.T.S.

FIGURE 8



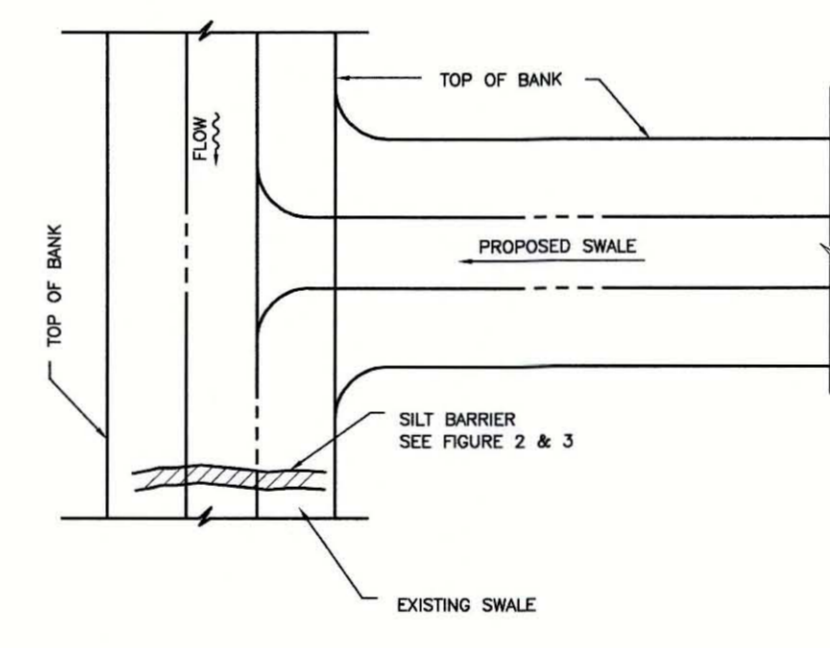
TURBIDITY BARRIER AT CONNECTION OF STORM PIPE TO EXISTING LAKE
N.T.S.

FIGURE 9



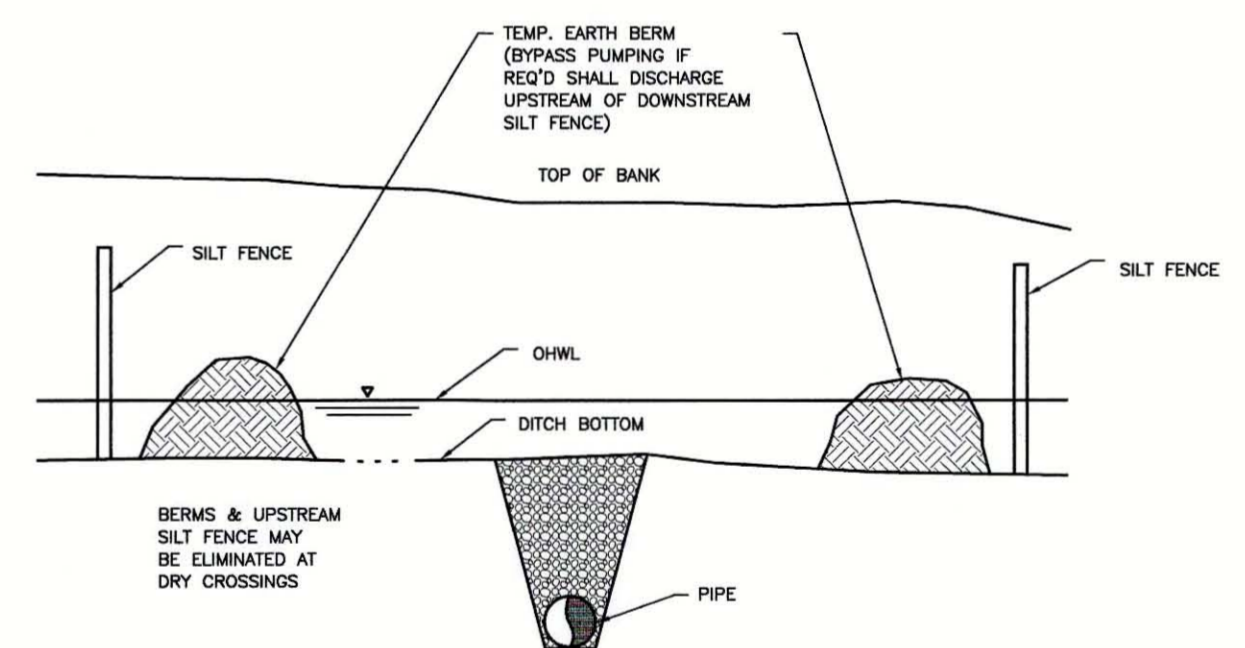
SILT BARRIER AT CONNECTION OF STORM PIPE TO EXISTING SWALE
N.T.S.

FIGURE 10



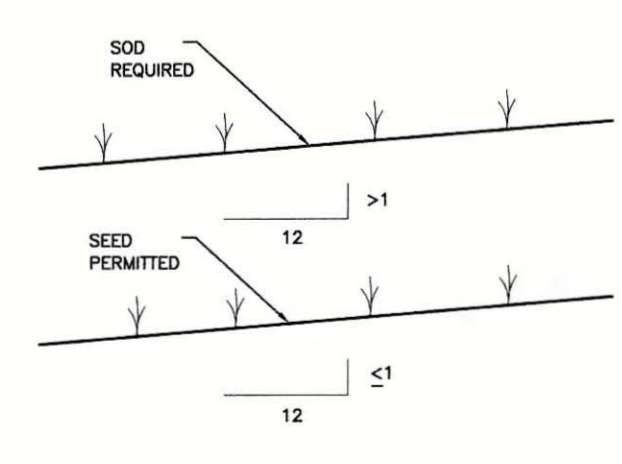
SILT BARRIER AT CONNECTION OF SWALE TO EXISTING SWALE
N.T.S.

FIGURE 11



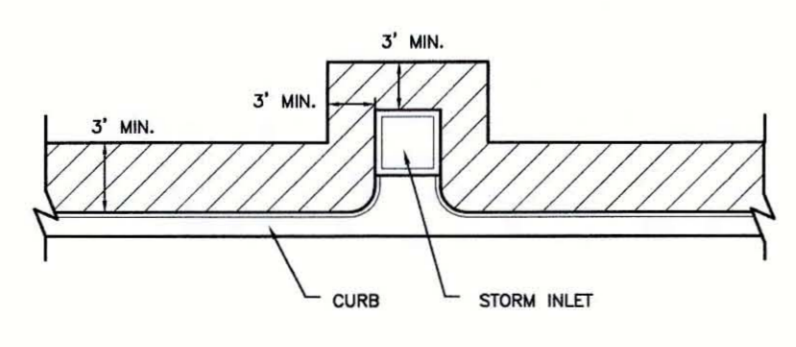
UNDERGROUND PIPE CROSSING
N.T.S.

FIGURE 12



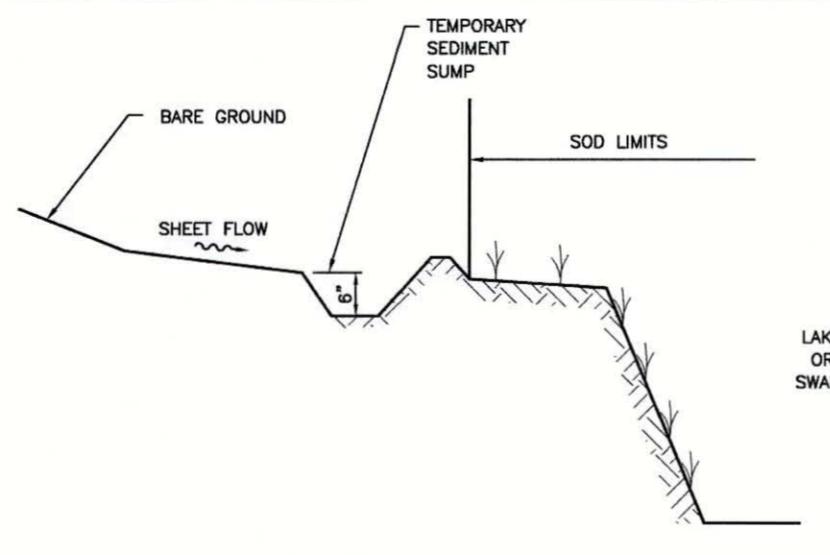
GRASS SLOPES
N.T.S.

FIGURE 13



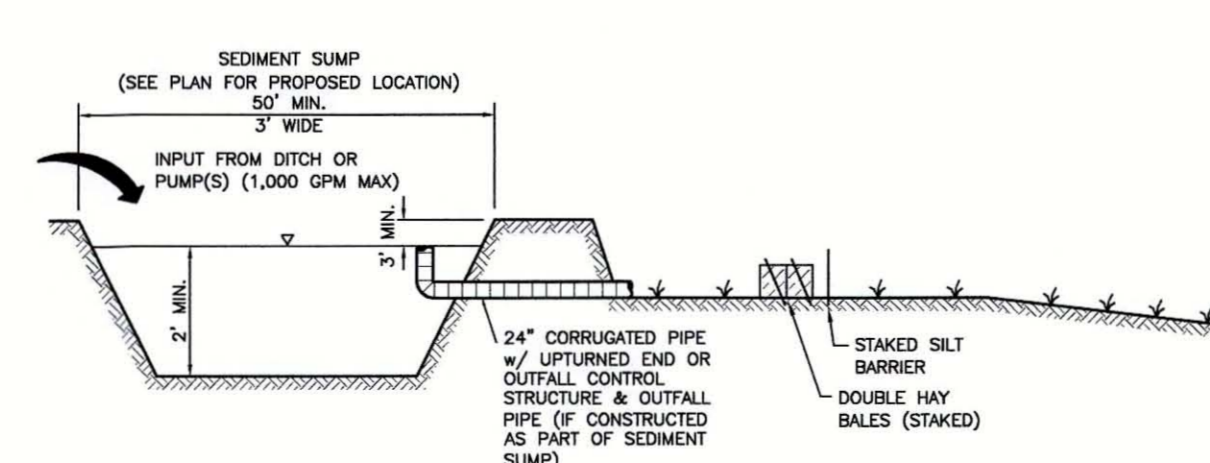
SOD ALONG CURB AND AROUND INLET
N.T.S.

FIGURE 14



TEMPORARY SEDIMENT SUMP
N.T.S.

FIGURE 15



SEDIMENT SUMP SECTION
N.T.S.

FIGURE 16

CONSTRUCTION SURFACE WATER MANAGEMENT PLAN (CSWMP) CERTIFICATION

"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED, BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

OWNER/APPLICANT SIGNATURE _____ DATE _____

Robert J. Halgren, P.E.
Professional Engineer
No. 12137
Index Number
D-17731056130
Sheet Number
30 of 30

REV. NO.	REVISION	DATE	DRAWN BY / DWP NO.	CHECKED BY / DWP NO.	WM APPROVED BY:
D	UPDATE DESIGN/CODE UPDATES FOR REPERMITTING	08/13/15	KG		

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CLIENT: MANATEE COUNTY PUBLIC WORKS
PROJECT: VILLAGE OF PARRISH WASTEWATER FORCE MAIN
DATE: AUGUST 2015
HORIZONTAL SCALE: AS NOTED
VERTICAL SCALE: N/A
SHEET: 33 OF 33

TITLE: BEST MANAGEMENT PRACTICES DETAILS
PROJECT NUMBER: 177310561
CROSS REFERENCE FILE NO.:
SHEET NUMBER: 30 OF 30