

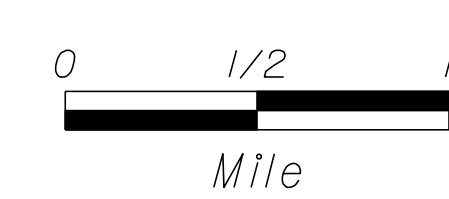
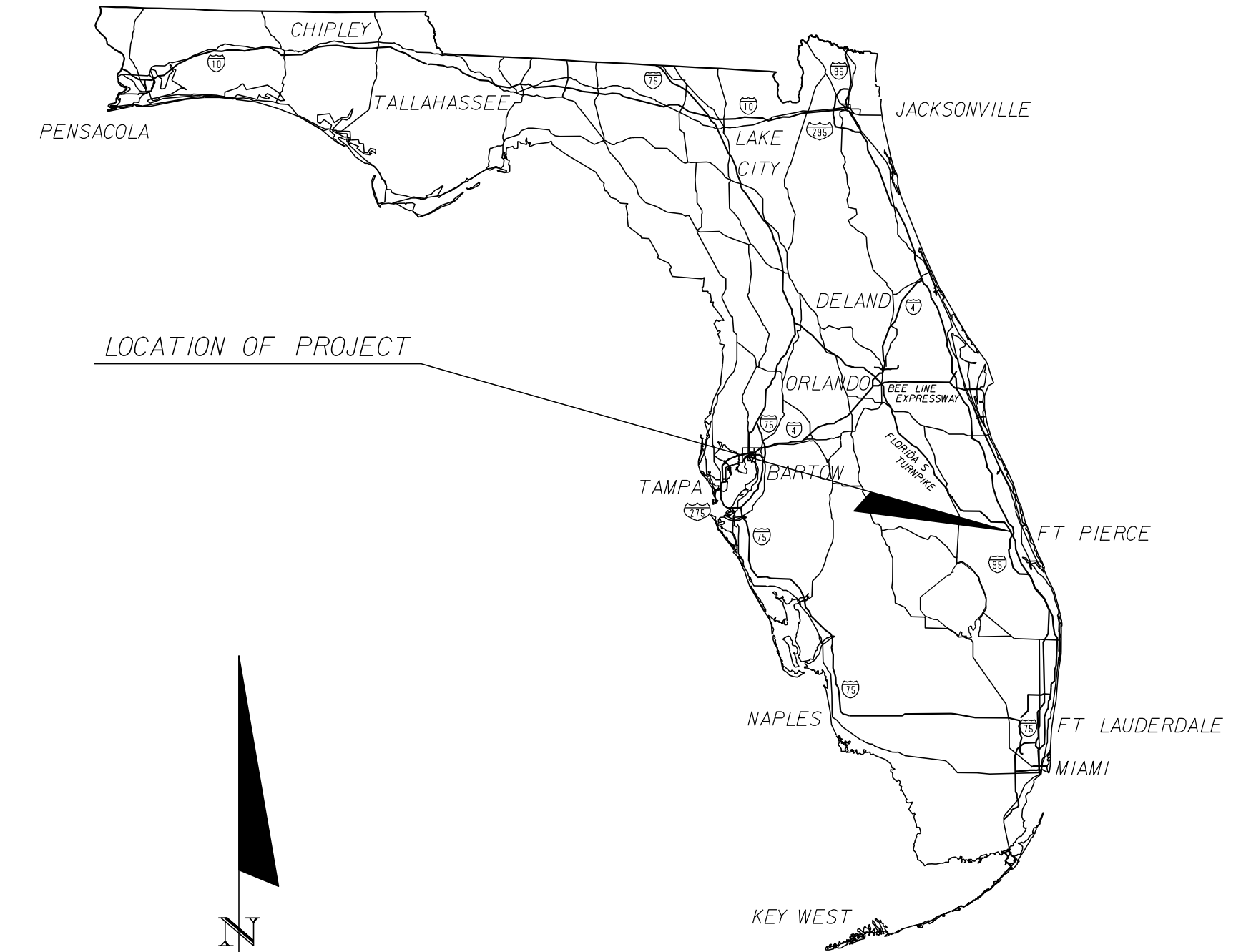
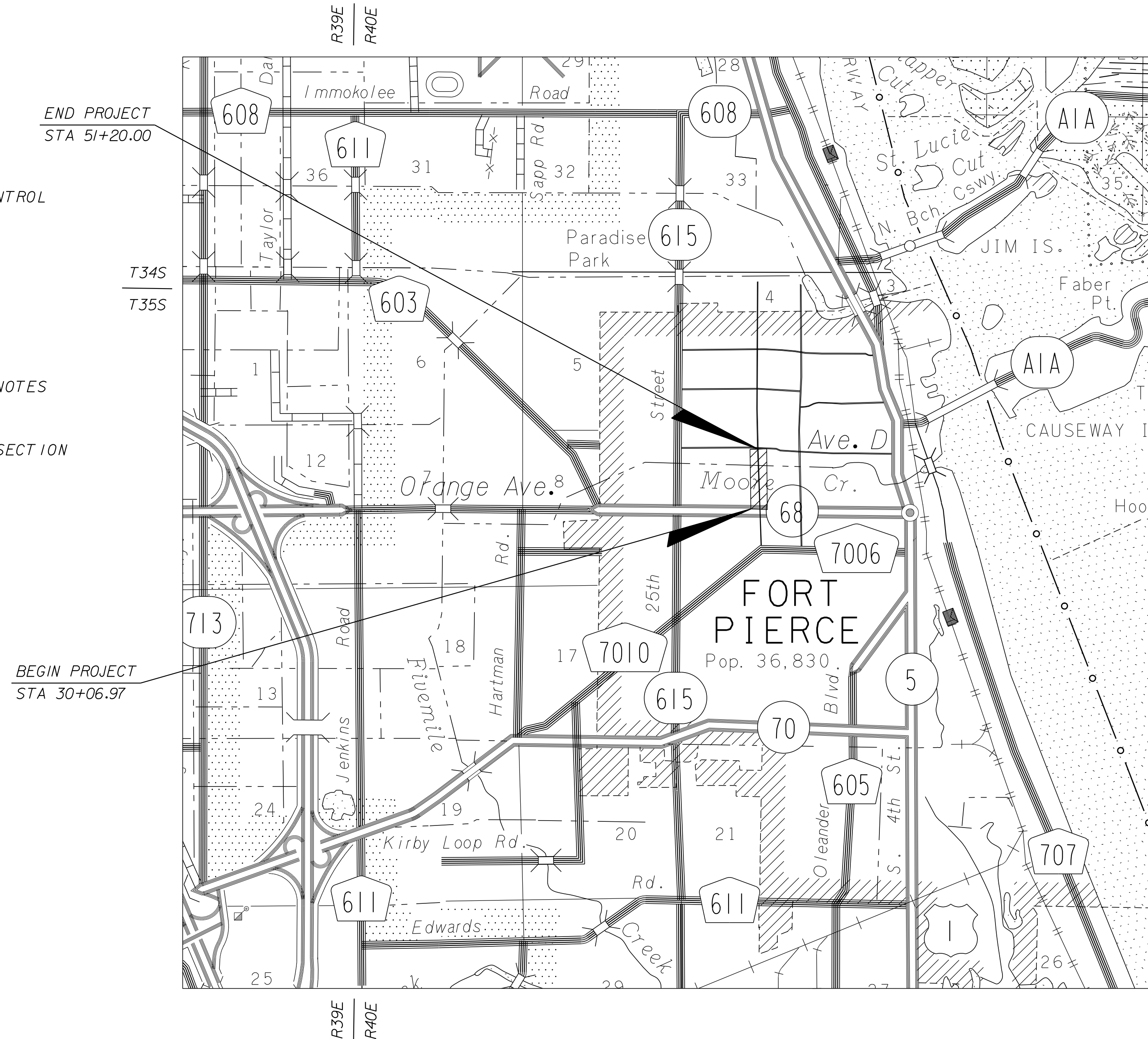
# CONTRACT PLANS

## NORTH 17TH STREET IMPROVEMENTS ORANGE AVENUE TO AVENUE D

### INDEX OF ROADWAY PLANS

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GOVERNING STANDARDS AND SPECIFICATIONS:  
FLORIDA DEPARTMENT OF TRANSPORTATION,  
DESIGN STANDARDS LATEST EDITION,  
AND STANDARD SPECIFICATIONS FOR ROAD AND  
BRIDGE CONSTRUCTION LATEST EDITION,  
AS AMENDED BY CONTRACT DOCUMENTS.



ROADWAY SHOP DRAWINGS  
TO BE SUBMITTED TO:  
KIMLEY-HORN AND ASSOCIATES, INC.  
BRIAN GOOD, P.E.  
445 24TH STREET, SUITE 200  
VERO BEACH, FLORIDA 32960

PLANS PREPARED BY:  
**Kimley»Horn**  
445 24TH STREET, SUITE 200  
VERO BEACH, FL 32960  
TEL (772) 794-4100  
PROJECT NUMBER: 47922003  
CERTIFICATE OF AUTHORIZATION: 00000696

ROADWAY PLANS  
ENGINEER OF RECORD: BRIAN GOOD, P.E.

P.E. NO.: 56939

NOTE: THE SCALE OF THESE PLANS MAY  
HAVE CHANGED DUE TO REPRODUCTION.

PREPARED FOR:  
CITY OF FORT PIERCE/  
FORT PIERCE REDEVELOPMENT AGENCY

SHEET  
NO.

1

# GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO APPLICABLE STANDARDS AND SPECIFICATIONS OF THE CITY OF FORT PIERCE, AND FDOT DESIGN STANDARDS, LATEST EDITION.

2. CONSTRUCTION DETAILS SHALL BE IN ACCORDANCE WITH STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS, LATEST ISSUE AND CITY OF FORT PIERCE STANDARD CONSTRUCTION DETAILS.

3. THE INFORMATION PROVIDED IN THESE DRAWINGS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH WILL BE ENCOUNTERED DURING THE COURSE OF WORK. THE CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSION REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH BIDS WILL BE BASED.

4. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF THE PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS, AND OTHER FEATURES AFFECTING HIS/HER WORK PRIOR TO CONSTRUCTION, AND NOTIFY THE CITY OF FORT PIERCE, ENGINEERING DEPARTMENT IMMEDIATELY WHEN CONFLICT BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED. THE CONTRACTOR SHALL WORK AS NEEDED TO AVOID CONFLICT WITH EXISTING UTILITIES (NO ADDITIONAL COST SHALL BE PAID FOR THIS WORK). EXISTING UTILITIES SHALL BE MAINTAINED IN SERVICE DURING CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE UTILITY OWNER.

PRE-TRENCHING IN THE ALIGNMENT AND GRADE OF PROPOSED PIPES, STRUCTURES, CONDUITS AND/OR SUB-GRADE SHALL BE PERFORMED FOURTEEN DAYS IN ADVANCE OF ITS CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE UNDERGROUND UTILITY OWNERS AND THE CITY WITH A FOURTEEN DAY ADVANCE NOTICE OF ANY CONFLICT WITH PROPOSED CONSTRUCTION. PAYMENT FOR PRE-TRENCHING, SURVEY, AND BACKFILLING SHALL BE INCLUDED IN THE UNIT COST OF THE RELATED BID ITEM FOR WORK BEING DONE.

5. THE CONTRACTOR SHALL COORDINATE WITH UTILITIES TO ARRANGE RELOCATION AND TEMPORARY SUPPORT OF UTILITY FEATURES, ETC. AS NECESSARY TO COMPLETE THE WORK.

6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROTECT ANY AND ALL EXISTING UTILITIES ON THIS PROJECT. THE CONTRACTOR WILL RECEIVE NO DIRECT PAYMENT TO SUPPORT AND/OR PROTECT ANY AND ALL UTILITIES. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT COST OF THE RELATED BID ITEM FOR WORK BEING DONE.

7. THE CONTRACTOR SHALL GIVE AT (2) BUSINESS DAYS NOTICE TO UTILITY COMPANIES TO PROVIDE FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES IN ADVANCE OF CONSTRUCTION. CONTACT SUNSHINE STATE ONE AT 1-800-432-4770.

8. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL APPLICABLE CONSTRUCTION PERMITS PRIOR TO START OF CONSTRUCTION.

9. THE CONTRACTOR SHALL NOTIFY THE CITY OF FORT PIERCE, ENGINEERING DEPARTMENT AND CITY'S FIELD REPRESENTATIVE, AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.

10. THE CONTRACTOR SHALL CONTACT THE CITY OF FORT PIERCE, ENGINEERING DEPARTMENT AND CITY'S FIELD REPRESENTATIVE IMMEDIATELY OF ANY CONFLICT ARISING DURING CONSTRUCTION OF ANY IMPROVEMENTS SHOWN ON THESE DRAWINGS.

11. B.M. DATA IS NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD-'29).

12. EXISTING SECTION CORNERS AND 1/4 SECTION CORNERS, AND OTHER LAND MARKERS OR MONUMENTS LOCATED WITHIN PROPOSED CONSTRUCTION ARE TO BE REFERENCED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND RESET AFTER CONSTRUCTION USING REGISTERED LAND SURVEYOR LICENSED IN THE STATE OF FLORIDA.

13. STORM SEWER PIPE LENGTHS SHOWN ARE APPROXIMATE, AND MAY BE ADJUSTED AS REQUIRED UPON APPROVAL BY THE CITY OF FORT PIERCE, ENGINEERING DEPARTMENT.

14. INSTALLATION OF ALL STORM SEWERS, INLETS, MANHOLES AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF FORT PIERCE, ENGINEERING DEPARTMENT AS INDICATED ON THE DRAWINGS. ALL REINFORCED CONCRETE PIPE SHALL BE CLASS III PIPE.

15. ALL CATCH BASINS AND PIPE INVERTS SHALL BE AS INDICATED ON THE DRAWINGS.

16. CONTRACTOR SHALL ADJUST ALL UTILITY LIDS AND COVERS TO FINISHED GRADE AS REQUIRED.

17. ALL COMPLETED DRAINAGE STRUCTURES SHALL BE PROTECTED FROM CONTAMINATION BY SILT AND CONSTRUCTION DEBRIS. THE CONTRACTOR SHALL PLACE PLYWOOD ON, OR FILTER FABRIC BETWEEN FRAME AND INLET GRATE UNTIL CONSTRUCTION OPERATIONS ARE COMPLETED. ALL DRAINAGE STRUCTURES (EXISTING AND PROPOSED) WITHIN PROJECT LIMITS SHALL BE CLEANED PRIOR TO FINAL ACCEPTANCE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT COST OF THE RELATED BID ITEM FOR WORK BEING DONE.

18. ALL ROAD CROSSINGS ARE OPEN CUT UNLESS OTHERWISE NOTED ON THE DRAWINGS.

19. THE CONTRACTOR SHALL REPLACE ALL PAVING, STABILIZING EARTH, DRIVEWAYS SIDEWALKS, ETC. WITH THE SAME TYPE OF MATERIAL THAT WAS REMOVED DURING CONSTRUCTION OR AS DIRECTED BY THE CITY OF FORT PIERCE FIELD ENGINEER.

20. THE CONTRACTOR SHALL NOT ENCRUCH INTO PRIVATE PROPERTY WITH PERSONNEL, MATERIAL OR EQUIPMENT WITHOUT WRITTEN PERMISSION FROM THE PROPERTY OWNER.

21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE, REMOVAL OR MODIFICATION, ACCIDENTALLY OR PURPOSELY, CAUSED TO ANY IRRIGATION SYSTEMS, PRIVATE OR PUBLIC. THE CONTRACTOR SHALL REPLACE ANY DAMAGED, REMOVED, OR MODIFIED IRRIGATION PIPES, SPRINKLER HEADS OR OTHER PERTINENT APPURTENANCES AT NO ADDITIONAL COST.

22. REGARDING MAIL BOXES, WALLS, FENCES, SECURITY GATE TRACKING, OR OTHER PRIVATE PROPERTY OR IMPROVEMENTS THAT SHALL BE TEMPORARILY RELOCATED AND REPLACED, THE CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE OWNER. ANY AND ALL COSTS ASSOCIATED WITH COORDINATING, REMOVING, AND REPLACING ANY PROPERTY ITEMS SHALL BE INCLUDED IN THE UNIT COST OF THE RELATED BID ITEM FOR WORK BEING DONE.

23. CONTRACTOR SHALL PROVIDE MAINTENANCE OF TRAFFIC IN ACCORDANCE WITH FDOT INDEX 600 SERIES, MUTCD AND THESE PLANS. THE CONTRACTOR SHALL MAINTAIN AT ALL TIMES VEHICULAR AND PEDESTRIAN ACCESS TO ALL RESIDENCES AND/OR BUSINESSES.

24. NO TREES ARE TO BE REMOVED OR RELOCATED WITHOUT PRIOR APPROVAL FROM THE CITY OF FORT PIERCE FIELD ENGINEER (CITY PERMIT REQUIRED FOR ANY TREE REMOVAL).

25. COMPLETE 'AS-BUILT' INFORMATION RELATIVE TO LOCATION, SIZE AND DEPTH OF NEW PIPES, MANHOLES, INLETS, ETC., SHALL BE ACCURATELY RECORDED BY THE CONTRACTOR AND SUBMITTED (SIGNED AND SEALED BY A FLORIDA CERTIFIED P.L.S.) TO THE CITY OF FORT PIERCE, ENGINEERING DEPARTMENT PRIOR TO FINAL ACCEPTANCE OF THE WORK. ALL RECORD INFORMATION ON EXISTING UTILITY CROSSINGS ENCOUNTERED DURING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO PIPES, INLETS, MANHOLE, ETC., SHALL BE RECORDED BY A FLORIDA REGISTERED SURVEYOR AND SHOWN ON THE RECORD DRAWINGS. THE COST OF SIGNED AND SEALED AS-BUILTS SHALL BE INCLUDED IN OVERALL BID AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF AND MAKING THE REPAIRS OF EXISTING PAVEMENT, SIDEWALKS, PIPES, CONDUITS, CURBS, CABLES, ETC., WHETHER OR NOT SHOWN ON THE PLANS DAMAGED AS A RESULT OF THE CONTRACTORS OPERATIONS AND/OR THOSE OF HIS SUBCONTRACTORS, AND SHALL RESTORE THEM PROMPTLY AT NO ADDITIONAL EXPENSE TO THE OWNER OR THE CITY OF FORT PIERCE. CONTRACTOR SHALL REPORT ANY DAMAGE TO SIDEWALK, DRIVEWAY, ETC., PRIOR TO BEGINNING WORK IN ANY AREA.

27. ALL DRAINAGE PIPES SHALL BE APPROVED BY CITY OF FORT PIERCE ENGINEERING DEPARTMENT. THE CONTRACTOR SHALL CONSTRUCT A FILTER FABRIC JACKET AT ALL PROPOSED STORM SEWER JOINTS AS PER FDOT INDEX 280. COST OF FILTER FABRIC JACKET SHALL BE INCLUDED IN UNIT PIPE COSTS.

28. EXISTING DRAINAGE STRUCTURES IN CONFLICT WITH PROPOSED DRAINAGE STRUCTURES SHALL BE REMOVED UNLESS OTHERWISE NOTED. ALL OTHER EXISTING DRAINAGE STRUCTURES WITHIN CONSTRUCTION LIMITS SHALL BE REMOVED UNLESS OTHERWISE NOTED. REMOVAL OF EXISTING DRAINAGE STRUCTURE IS TO INCLUDE ASSOCIATED PIPING TO DOWNSTREAM STRUCTURE OR TO TIE IN WITHIN PROPOSED STORM SEWER PIPING.

29. NO EXISTING BASE MATERIAL REMOVED IN EXCAVATION SHALL BE REUSED AS PROPOSED BASE MATERIAL.

30. STAGING AND MATERIAL STORAGE SHALL NOT BE CONDUCTED ON ABUTTING PRIVATE PROPERTY WITHOUT WRITTEN APPROVAL FROM THE OWNER. STAGING AND STORAGE SHALL BE CONDUCTED WITHIN PUBLIC R/W AND/OR CONSTRUCTION EASEMENTS (ACCESS LICENSE AGREEMENTS).

31. THE CONTRACTOR SHALL REFER TO THE LANDSCAPE PLAN TO DETERMINE IMPACTS TO EXISTING TREES AND VEGETATION. ALL TREES AND VEGETATION DESIGNATED TO REMAIN SHALL BE PROTECTED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER OR THE CITY.

32. PROPOSED DRAINAGE STRUCTURES HAVE BEEN SIZED BASED UPON THE AVAILABLE UTILITY INFORMATION. THE CONTRACTOR SHALL VERIFY THAT PROPOSED DIMENSIONS WILL ACCOMMODATE THE EXISTING AND PROPOSED STORM SEWER CONFIGURATION PRIOR TO SUBMITTING SHOP DRAWINGS. DRAINAGE CONNECTIONS TO EXISTING STRUCTURES SHALL BE CORE DRILLED AT THE SPECIFIED INVERT.

**33. EXISTING UTILITY CONTACT INFORMATION:**

UTILITY COMPANY	CONTACT	PHONE NUMBER	ADDRESS
AT&T	MARK GUTIERREZ	772-460-4443	3300 OKEECHOBEE RD. FORT PIERCE, FL 34947
COMCAST CABLE	ANTHONY SPRINGSTEEL	561-804-0973	10435 IRONWOOD ROAD PALM BEACH GARDENS, FL 33410
FLORIDA GAS TRANSMISSION - FORT PIERCE	JOSEPH SANCHEZ	407-838-7171	601 S LAKE DESTINY ROAD SUITE 450 MAITLAND, FL 32794
FORT PIERCE UTILITY AUTHORITY ELECTRIC / GAS	PAUL LAGUERRE	772-466-1600	P.O.BOX 3191 FORT PIERCE, FL 34947
FORT PIERCE UTILITY AUTHORITY WATER / SEWER	WILLIAM THIESS	772-466-1600	P.O.BOX 3191 FORT PIERCE, FL 34947

34. EROSION CONTROL MEASURES SHALL BE TAKEN BY CONTRACTOR DURING CONSTRUCTION AS PER FDOT STANDARD INDEX #102:

- A. SILT FENCE SHALL BE INSTALLED ALONG THE ENTIRE PERIMETER OF THE PROJECT ADJACENT TO ANY SOIL DISTURBING ACTIVITIES.
- B. ALL DRAINAGE STRUCTURES ARE TO BE PROTECTED DURING CONSTRUCTION PER STANDARD INDEX #102.
- C. ALL FENCING, GRADING, SIGNING AND SODDING SHALL BE MAINTAINED DURING THE CONTRACT LIFE. ALL DAMAGED WORK SHALL BE RESTORED AT NO COST TO THE CITY.

35. DETECTABLE WARNING SURFACES SHALL CONSIST OF A.D.A. TRUNCATED DOME CONCRETE PAVING UNITS (4"x8"x2-3/8"). WARNING SURFACES SHALL EXTEND TWO FEET FROM BACK OF CURB AND SPAN RAMP RUN WIDTH. WARNING SURFACE COLOR SHALL BE "BRICK RED".

36. ROADWAY AND LANDSCAPE IMPROVEMENTS HAVE BEEN PREPARED UNDER DIRECTION THAT ALL ABOVE GROUND ELECTRICAL DISTRIBUTION SERVICES WILL BE RELOCATED UNDERGROUND.

37. ALL EXISTING MAILBOXES WITHIN LIMITS OF CONSTRUCTION SHALL BE RELOCATED IN ACCORDANCE WITH CITY AND POSTAL CODES.

38. NON-STRUCTURAL CONCRETE UTILIZED IN CURB AND GUTTER, SIDEWALK AND URBAN FLARED TURNOUT CONSTRUCTION SHALL CONSIST OF 3000 PSI FIBER REINFORCED MIX.

REVISIONS						 <small>BRIAN A. GOOD, P.E. P.E. LICENSE NUMBER 56939 445 24TH STREET, SUITE 200 WEST BEACH, FL 32906 (772) 294-4000 CERTIFICATE OF AUTHORIZATION: 00000696</small>	<b>CITY OF FORT PIERCE/ FORT PIERCE REDEVELOPMENT AGENCY</b>  <b>NORTH 17TH STREET IMPROVEMENTS ORANGE AVENUE TO AVENUE D</b>	<b>GENERAL NOTES</b>	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				2

**SUMMARY OF PAY ITEMS**

PAY ITEM NO.	DESCRIPTION	UNIT	QUANTITY
<b>ROADWAY</b>			
101-1	MOBILIZATION (NON-UTILITIES)	LS	1
101-2A	MATERIAL TESTING (NON-UTILITIES)	LS	1
102-1	MAINTENANCE OF TRAFFIC	LS	1
104-2	PREVENTION, CONTROL & ABATEMENT OF EROSION AND WATER POLLUTION	LS	1
108-1	AS-BUILTS (NON-UTILITIES)	LS	1
110-1-1	CLEARING & GRUBBING	AC	2.62
110-7-4	MAILBOX (RELOCATE)	EA	30
120-1	REGULAR EXCAVATION	CY	2,655
120-6	EMBANKMENT	CY	75
160-4	STABILIZATION, TYPE "B"	SY	7,531
285-706	CEMENTED COQUINA LBR 100 (8")	SY	6,183
285-714	CEMENTED COQUINA LBR 100 (14")	SY	47
286-1	ASPHALT TURNOUT CONSTRUCTION	SY	255
327-70-1	MILLING EXISTING ASPHALT PAVEMENT (1")	SY	64
334-1-13A	SUPERPAVE ASPHALTIC CONCRETE (SP-9.5) (TRAFFIC C)	TN	347
334-1-13B	SUPERPAVE ASPHALTIC CONCRETE (SP-12.5) (TRAFFIC C)	TN	516
425-1-201	INLETS (CURB TYPE 9) (<10')	EA	17
425-1-203	INLETS (CURB TYPE 9) (J BOTTOM) (<10')	EA	1
425-1-529	INLETS (DITCH BOTTOM) (MODIFY)	EA	1
425-1-910	INLETS (CLOSED FLUME)	EA	1
425-2-041	MANHOLES (P-7) (<10')	EA	2
430-171-125	CONCRETE PIPE CULVERT (18" RCP)	LF	905
430-175-218	CONCRETE PIPE CULVERT (14"X23" ERCP)	LF	411
515-1-2	PIPE HANDRAIL - GUIDERAIL (ALUMINUM)	LF	9
520-1-10	CONCRETE CURB & GUTTER (TYPE F)	LF	4,463
520-2-4	CONCRETE CURB (TYPE D)	LF	69
520-2-9	CONCRETE CURB (HEADER)	LF	303
522-1	CONCRETE SIDEWALK, 4" THICK	SY	2,216
522-2	CONCRETE SIDEWALK, 6" THICK	SY	1,350
526-1-2A	ARCHITECTURAL PAVERS (ROADWAY)	SF	901
527-2	DETECTABLE WARNINGS	SF	233
550-10-210	FENCING, TYPE B, (0.0-5.0'), STANDARD FEATURES	LF	429
550-10-919	FENCING, SPECIAL TYPE, 0.0-5.0', SPECIAL	LF	88
550-60-211	FENCE GATE, TYPE B, 4' SINGLE, 0.0-6.0' OPENING	EA	2
550-60-222	FENCE GATE, TYPE B, 4' DOUBLE, 6.1-12.0' OPENING	EA	1
550-30-223	FENCE GATE, TYPE B, 4' DOUBLE, 12.1-18.0' OPENING	EA	1
570-1-2	PERFORMANCE TURF (SOD)	SY	3,256
<b>SIGNING AND MARKING</b>			
700-20-11	SINGLE POST SIGN (FURNISH & INSTALL) (LESS THAN 12 SF)	AS	19
706-3	RETRO-REFLECTIVE PAVEMENT MARKER	EA	290
711-11-121	THERMOPLASTIC (STANDARD) (WHITE) (SOLID) (6")	LF	4,427
711-11-121	THERMOPLASTIC (STANDARD) (WHITE) (SOLID) (12")	LF	322
711-11-125	THERMOPLASTIC (STANDARD) (WHITE) (SOLID) (24")	LF	178
711-11-170	THERMOPLASTIC (STANDARD) (WHITE) (ARROWS)	EA	4
711-11-221	THERMOPLASTIC (STANDARD) (YELLOW) (SOLID) (6")	LF	4,506
711-11-224	THERMOPLASTIC (STANDARD) (YELLOW) (SOLID) (18")	LF	268
<b>UTILITIES</b>			
1	DEMOLITION - WATER FACILITIES	LS	1
2	MOBILIZATION (W / WW)	LS	1
3	CONSTRUCTION LAYOUT / RECORD DRAWINGS (WATER / WASTEWATER)	LS	1
4	BACTERIOLOGICAL SAMPLING POINT	EA	5
5	6" PVC WATER MAIN	LF	1,900
6	6" DUCTILE IRON WATER MAIN	LF	80
7	FIRE HYDRANT	EA	2
8	DUCTILE IRON UTILITY FITTINGS	TN	1.5
9	1" WATER SERVICE (SINGLE SHORT)	EA	20
10	1" WATER SERVICE (DOUBLE SHORT)	EA	1
11	1" WATER SERVICE (SINGLE LONG)	EA	20
12	1" WATER SERVICE (DOUBLE LONG)	EA	1
13	6" RESILIENT SEAT GATE VALVE ASSEMBLY	EA	4
14A	6"X6" TAPPING SLEEVE AND VALVE	EA	1
14B	8"X6" TAPPING SLEEVE AND VALVE	EA	1
15	6" MECHANICAL JOINT BELL RESTRAINT	EA	20
16	6" MEGALUG RESTRAINT	EA	48
17	6" WATER MAIN DEFLECTION	EA	3
18	6" WATERMAIN TIE-IN AT NORTH & SOUTH SIDE OF CANAL (W/O DEADMAN)	EA	2
19	6" WATER MAIN TIE-IN AT AVE C (WITH DEADMAN)	EA	1
20	6" WATER MAIN REMOVAL IN NON-UTILITY AREAS	LF	1,635
21	6" WATER MAIN REMOVAL IN UTILITY AREAS	LF	325
22	DEMOLITION (WASTEWATER)	LS	1
23	8" PVC, SEWER MAIN (0'-6')	LF	1,234
24	8" PVC, SEWER MAIN (>6'-8')	LF	231
25	8" DUCTILE IRON SEWER MAIN (0'-6')	LF	100
26	PRECAST 4 FT CONCRETE SANITARY MANHOLES (0'-6')	EA	5
27	PRECAST 4 FT CONCRETE SANITARY MANHOLES (>6'-8')	EA	1
28	6" PVC SEWER SERVICE (SINGLE, 0'-6')	EA	41
29	6" PVC SEWER SERVICE (SINGLE, >6'-8')	EA	4
30	6" DIP SEWER SERVICE (>0'-6')	EA	2
31	SANITARY SEWER/STORM CONFLICT STRUCTURE AND SANITARY PIPING	EA	1
32	STAINLESS STEEL-BACKED SEWER FITTINGS	EA	5
101-2A	MATERIAL TESTING (UTILITIES)	LS	1
630-2-11	CONDUIT (F&I) (4") (SCH 40)	LF	456

**PAY ITEM FOOTNOTES**

- 101-2A, 101-2B THE CONTRACTOR SHALL RETAIN THE SERVICES OF A TESTING LABORATORY TO PROVIDE TESTING SERVICES AS REQUIRED BY THE PROJECT SPECIFICATIONS. ALL INSPECTIONS, TEST OR APPROVALS REQUIRED BY LAWS OR REGULATIONS SHALL BE PERFORMED. THE TESTING LABORATORY SHALL MAIL COPIES OF ALL TEST REPORTS INDEPENDENTLY TO THE CITY, ENGINEER AND CONTRACTOR. ALL TESTING COSTS ASSOCIATED WITH INSTALLATION OF THE PROPOSED UTILITY IMPROVEMENTS SHALL BE INCORPORATED WITH PAY ITEM 101-2B. ALL OTHER TESTING COSTS SHALL BE INCORPORATED INTO PAY ITEM 101-2A.
- 102-1 COST OF MAINTENANCE OF TRAFFIC SHALL INCLUDE BUT NOT BE LIMITED TO CONSTRUCTION SIGNS, BUSINESS SIGNS, TEMPORARY BARRICADES, VARIABLE MESSAGE SIGNS, TEMPORARY REFLECTIVE PAVEMENT MARKERS, TEMPORARY PAVEMENT MARKINGS, INCIDENTAL TEMPORARY PAVEMENT, DUST CONTROL, ANY TEMPORARY DRAINAGE ELEMENTS BEYOND WHAT IS SPECIFIED IN THE CONTRACT DOCUMENTS, AND ALL ITEMS NECESSARY TO MEET THE MAINTENANCE OF TRAFFIC REQUIREMENTS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION AS PRESCRIBED IN SECTION 600 OF THE FDOT STANDARD INDEXES.
- 104-2 COST TO INCLUDE, BUT NOT LIMITED TO, DESILTING ALL EXISTING AND PROPOSED DRAINAGE STRUCTURES AND CULVERTS WITHIN THE PROJECT LIMITS PRIOR TO FINAL ACCEPTANCE. COST TO INCLUDE ALL NECESSARY EROSION CONTROL MEASURES AND MATERIALS.
- 110-1-1 COST TO INCLUDE, BUT NOT LIMITED TO, REMOVAL AND DISPOSAL OF EXISTING SIDEWALK IN CONFLICT WITH THE PROPOSED IMPROVEMENTS.
- 285-706 THE COST OF THE PRIME COAT SHALL BE INCLUDED IN THE PRICE OF THE BASE.
- 285-714
- 286-1 COST TO INCLUDE, BUT NOT LIMITED TO, BASE MATERIAL AND ASPHALTIC CONCRETE.
- 334-1-13X THE COST OF THE TACK COAT SHALL BE INCLUDED IN THE PRICE OF THE ASPHALT.
- 520-2-9 COST OF HEADER CURB TO INCLUDE STEEL REINFORCEMENT.
- 526-1-2A COST TO INCLUDE BUT NOT LIMITED TO, PAVERS, BEDDING SAND, 6" THICK CONC. SUB-SLAB, LABOR AND ALL INCIDENTAL ITEMS NECESSARY.
- 522-1 COST OF PEDESTRIAN RAMPS AND WARNING DOMES TO BE INCLUDED. ALL SIDEWALK JOINTS ARE TO BE SAWCUT AS PER FDOT SPECIFICATION. TOOLED JOINTS ARE NOT PERMITTED.
- 570-1-2 COST OF PERFORMANCE TURF TO INCLUDE SOD, FERTILIZER, MOWING, WATERING, TOOLS, EQUIPMENT, LABOR AND ALL INCIDENTAL ITEMS NECESSARY. TURF TO MATCH EXISTING ADJACENT R/W TURF.
- 1 - 32 PAY ITEM FOOTNOTES REGARDING ALL PROPOSED UTILITY IMPROVEMENTS ARE REFERENCED UNDER SECTION 01550 MEASUREMENT AND PAYMENT OF BID DOCUMENTS.

**REVISIONS**

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**Kimley»Horn**

BRIAN A. GOOD, P.E.  
P.E. LICENSE NUMBER 56939  
445 24TH STREET, SUITE 200  
VERO BEACH, FL 32960  
(772) 794-4000  
CERTIFICATE OF AUTHORIZATION: 00000696

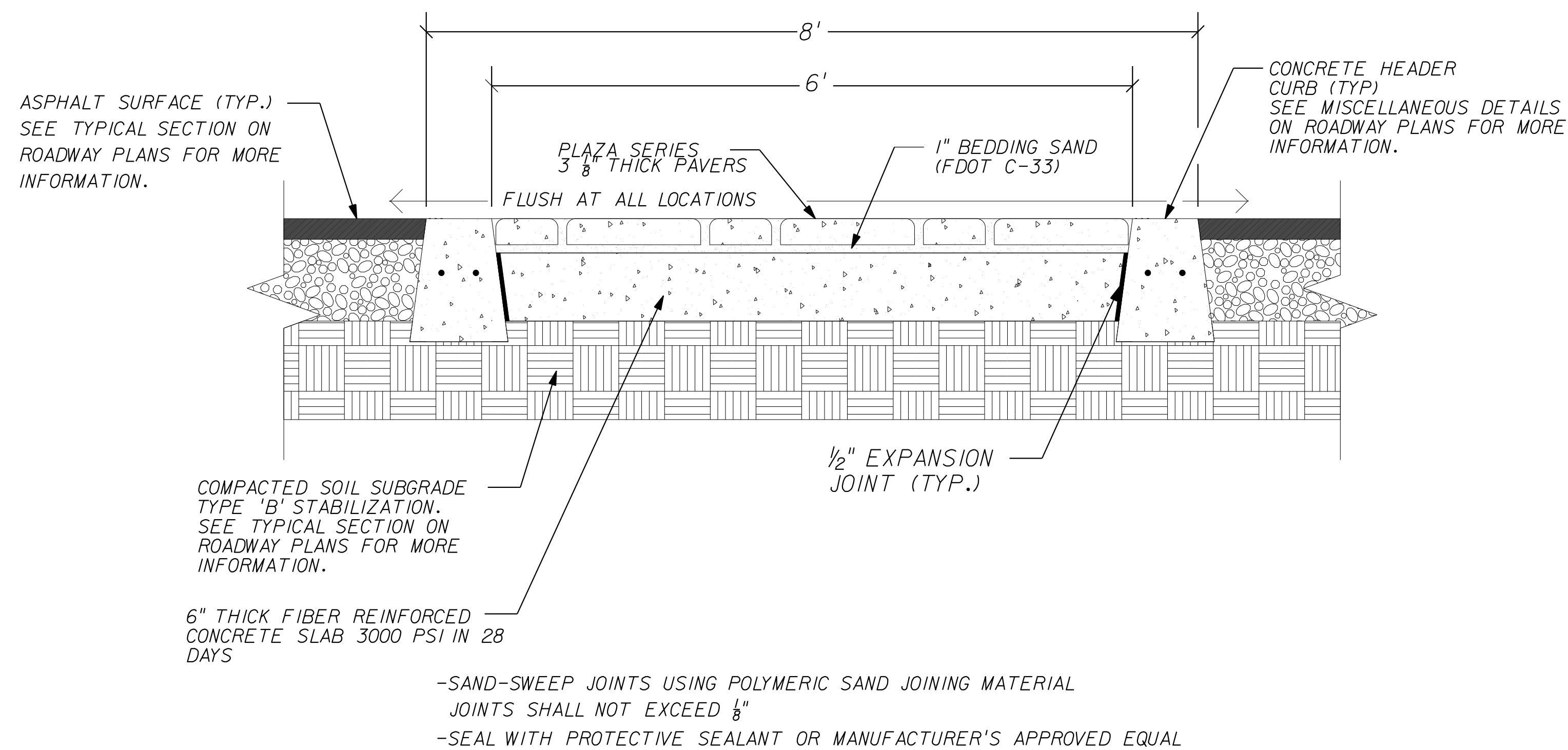
CITY OF FORT PIERCE/  
FORT PIERCE REDEVELOPMENT AGENCY  
NORTH 17TH STREET IMPROVEMENTS  
ORANGE AVENUE TO AVENUE D

**SUMMARY OF PAY ITEMS**

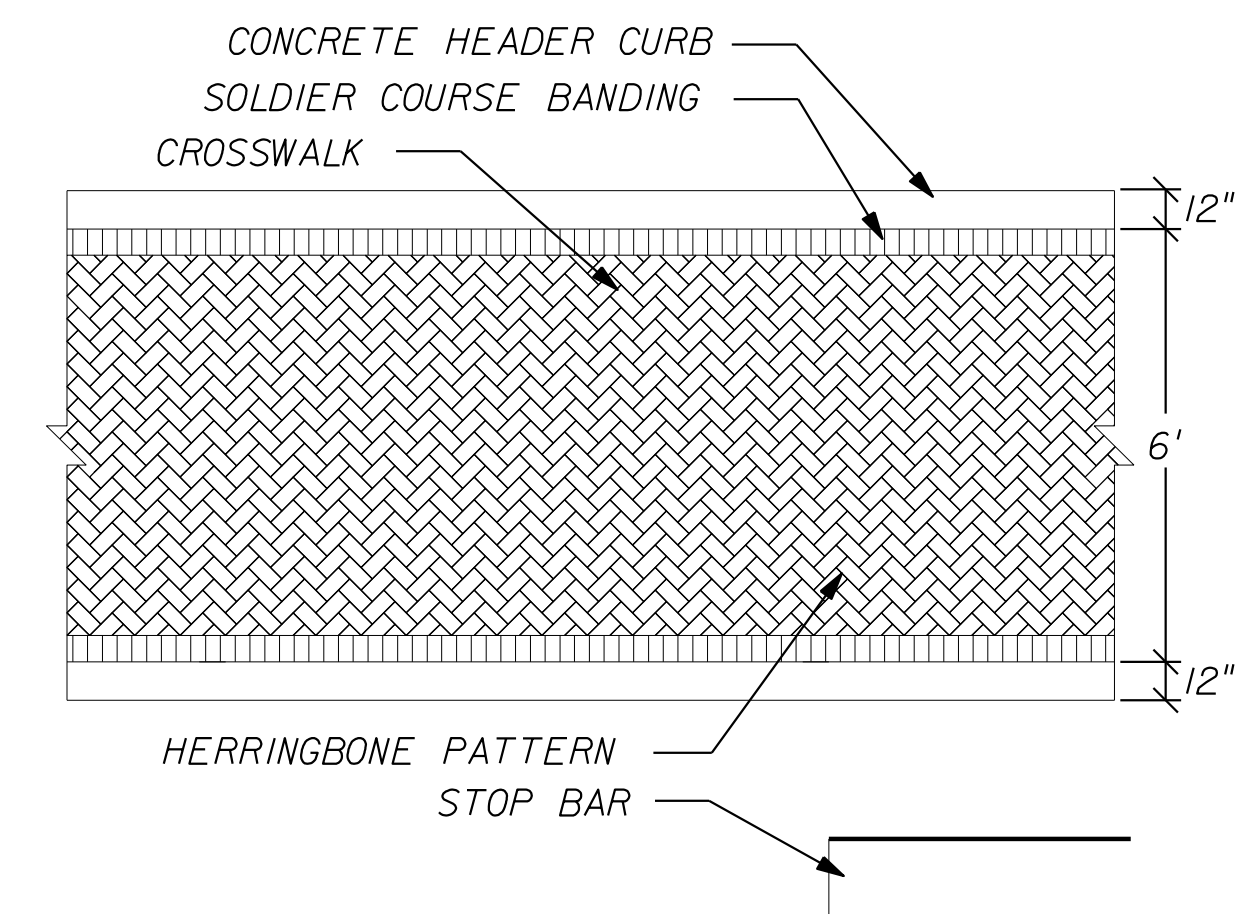
SHEET NO.

3

SUMMARY OF FENCE											
N. 17TH STREET		SIDE	FENCE LENGTH					SWING GATE			FIELD BOOK REFERENCE
FROM STATION	TO STATION		TYPE 'B'			PICKET VINYL	PICKET WOODEN	SINGLE		DOUBLE	
			6' HEIGHT	5' HEIGHT	4' HEIGHT	4' HEIGHT	4' HEIGHT	4' WIDTH	18' WIDTH	24' WIDTH	
33+87.30	33+87.67	RT	0.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	
33+99.67	34+24.21	RT	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	
34+53.97	34+90.13	RT	0.0	0.0	0.0	0.0	36.0	0.0	0.0	0.0	
35+45.36	36+38.52	RT	0.0	0.0	126.0	0.0	0.0	1.0	0.0	0.0	
36+19.07	36+57.14	LT	0.0	0.0	38.0	0.0	0.0	0.0	0.0	0.0	
36+77.28	37+65.37	RT	0.0	0.0	105.0	0.0	0.0	0.0	0.0	0.0	
37+57.94	37+86.02	LT	0.0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	
36+83.66	39+14.32	RT	0.0	0.0	31.0	0.0	0.0	0.0	0.0	0.0	
39+07.78	39+32.85	LT	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	
39+37.62	39+57.67	LT	0.0	0.0	0.0	27.0	0.0	0.0	1.0	0.0	
47+31.19	47+40.25	RT	0.0	0.0	9.0	0.0	0.0	0.0	0.0	0.0	
48+93.76	49+73.38	RT	0.0	0.0	55.0	0.0	0.0	1.0	0.0	1.0	
TOTAL:			0.0	12.0	417.0	52.0	36.0	2.0	1.0	1.0	



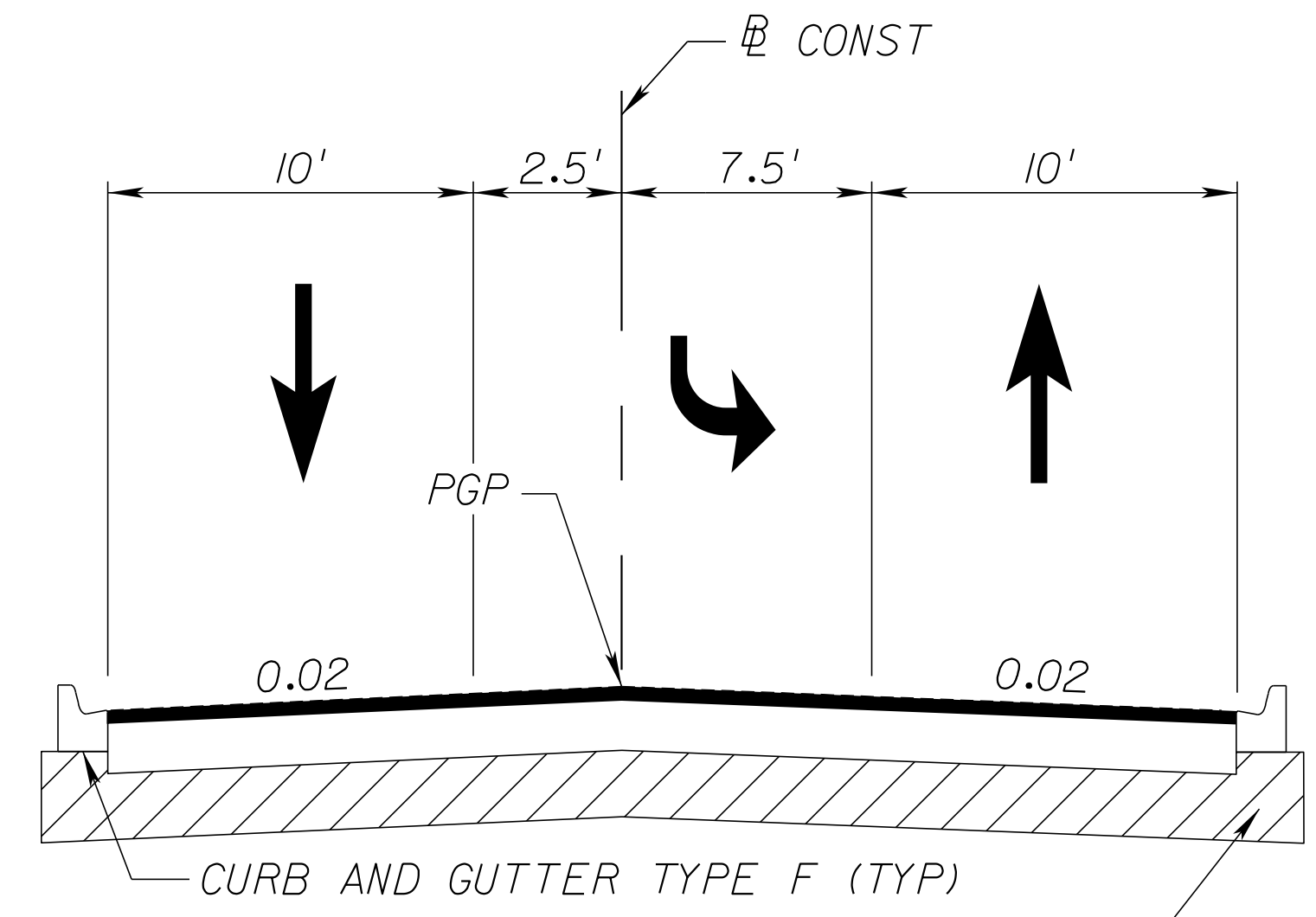
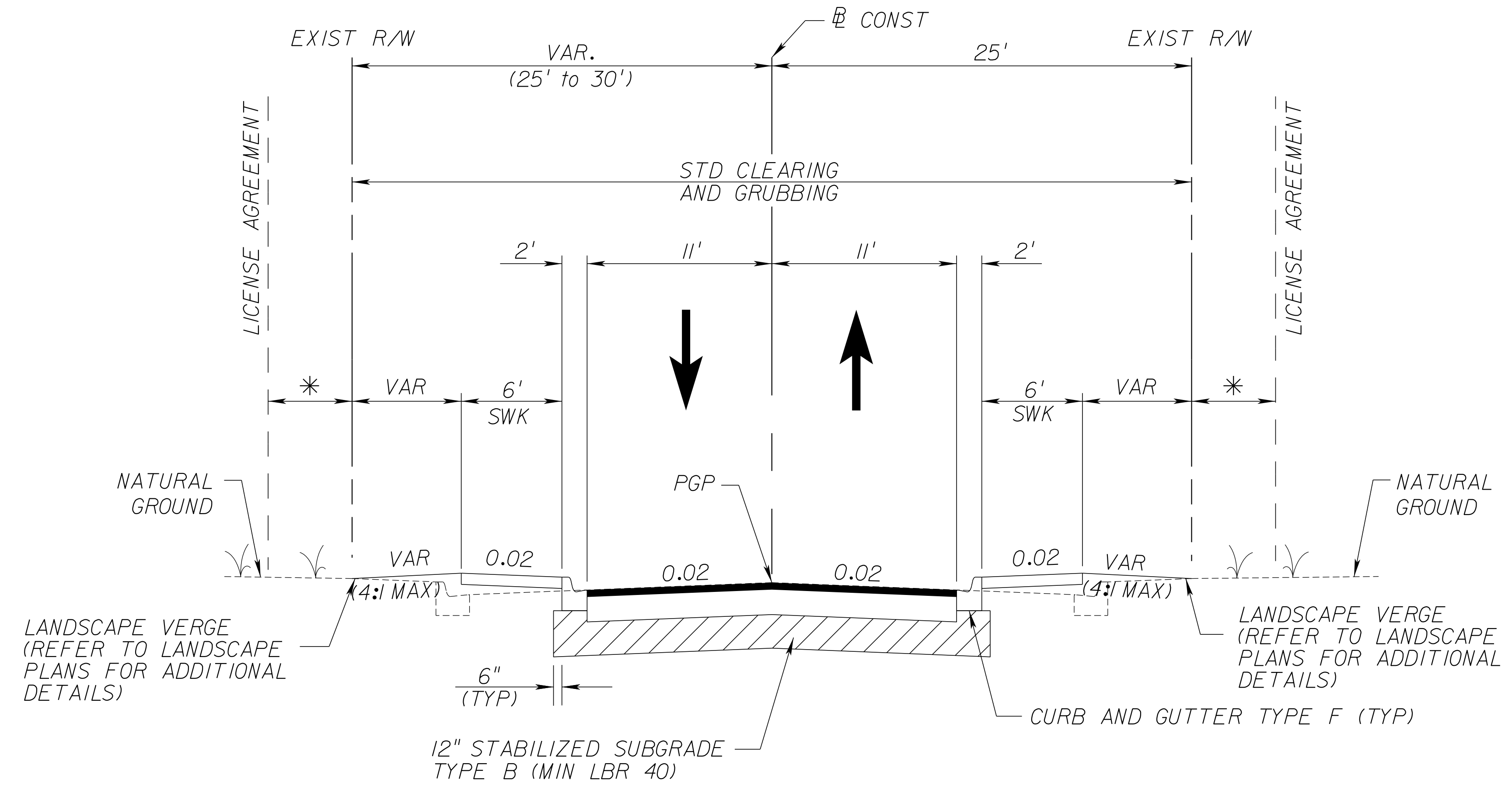
CROSSWALK PAVING DETAIL - SECTION  
SECTION N.T.S.



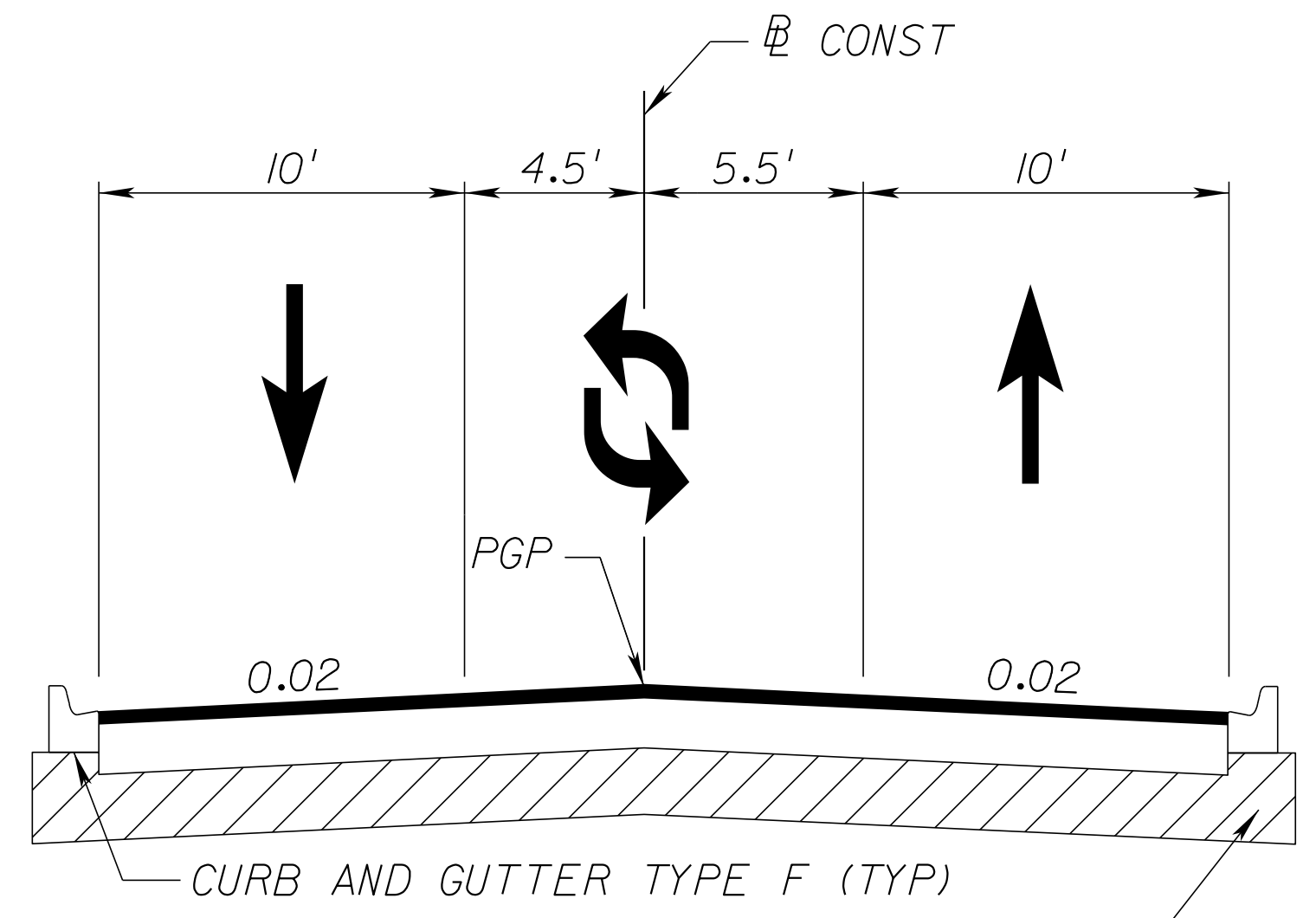
PAVER INFORMATION:  
 MANUFACTURED BY HANSON PAVER PRODUCTS  
 PAVER: PLAZA SERIES 4"X8"X3 1/8"  
 COLOR: RED/TAN/CHARCOAL (SOLID BRICK COLORS)  
 FIELD PATTERN: 45° HERRINGBONE  
 BANDING PATTERN: SOLDIER COURSE (RED)

CROSSWALK PAVING DETAIL - PLAN  
PLAN N.T.S.

REVISIONS						Kimley»Horn BRIAN A. GOOD, P.E. P.E. LICENSE NUMBER 56939 445 24TH STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4000 CERTIFICATE OF AUTHORIZATION: 00000696	CITY OF FORT PIERCE/ FORT PIERCE REDEVELOPMENT AGENCY NORTH 17TH STREET IMPROVEMENTS ORANGE AVENUE TO AVENUE D mike.forman	SUMMARY OF QUANTITIES	SHEET NO. 4
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				



STA 30+48.47 TO STA 32+60.00



STA 48+30.00 TO STA 51+05.24

\* SEE PLANS FOR ADDITIONAL INFORMATION REGARDING WIDTHS AND LOCATIONS.

PAVEMENT DESIGN

TYPE SP 9.5 STRUCTURAL COURSE (TRC) (1")  
 TYPE SP 12.5 STRUCTURAL COURSE (TRC) (1.5")  
 CEMENTED COQUINA LBR 100 (8")  
 STABILIZED SUBGRADE TYPE 'B' (12")

FDOT PAVEMENT DESIGN

TYPE SP 9.5 STRUCTURAL COURSE (TRC) (1")  
 TYPE SP 12.5 STRUCTURAL COURSE (TRC) (2")  
 CEMENTED COQUINA LBR 100 (14")  
 STABILIZED SUBGRADE TYPE 'B' (12")

PAVEMENT MILLING

MILL EXISTING ASPHALT PAVEMENT (1")

PAVEMENT RESURFACING

TYPE SP 9.5 STRUCTURAL COURSE (TRC) (1")

POSTED SPEED = 25 MPH  
 DESIGN SPEED = 30 MPH

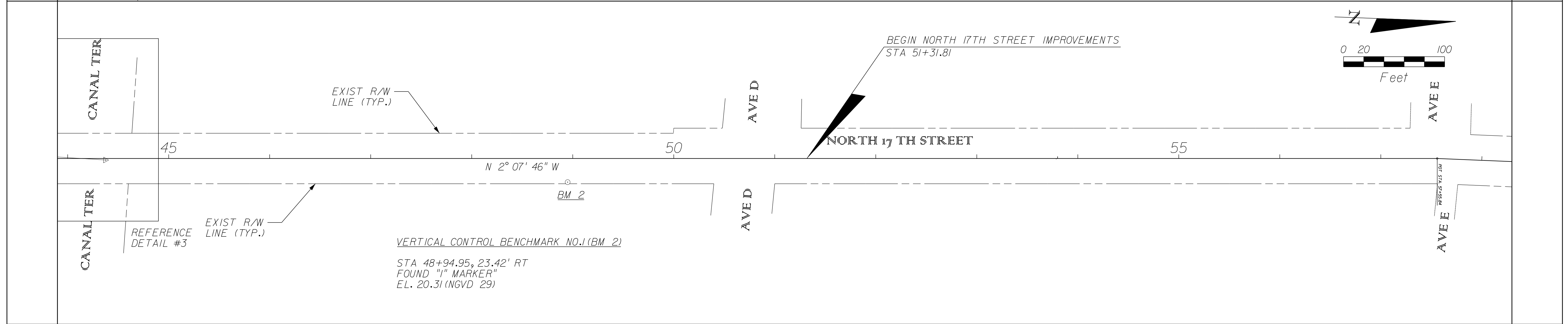
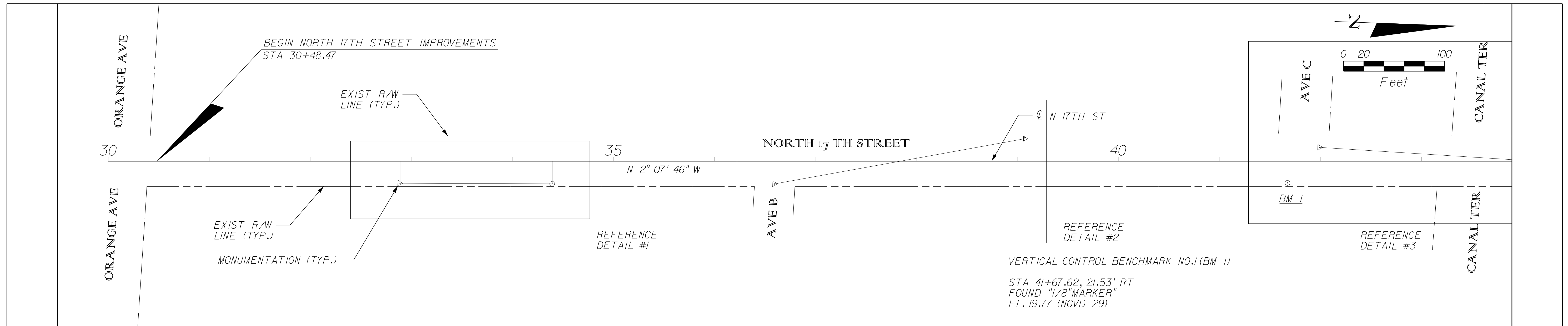
NORTH 17TH STREET  
 @ STA 30+48.47 TO STA 51+05.24

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**Kimley»Horn**  
 BRIAN A. GOOD, P.E.  
 P.E. LICENSE NUMBER 56939  
 445 24TH STREET, SUITE 200  
 VERO BEACH, FL 32960  
 (772) 794-4000  
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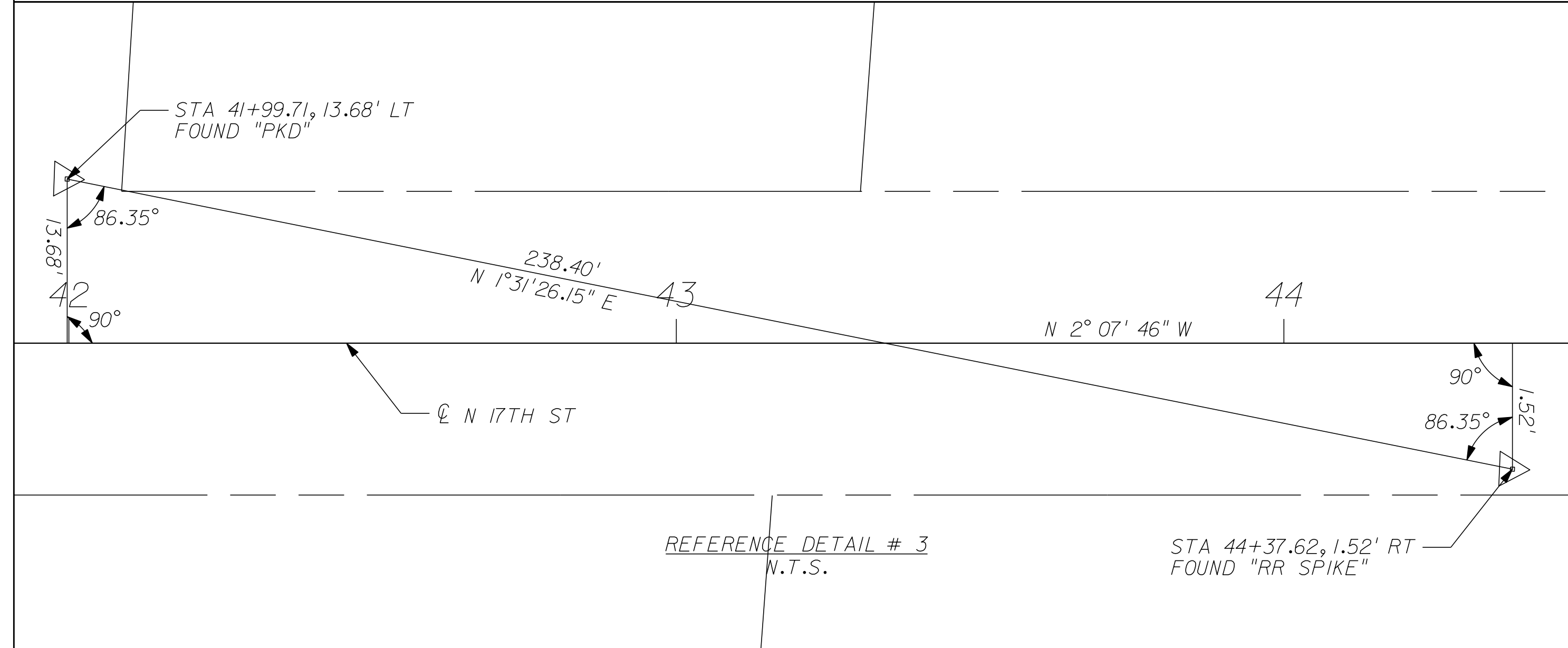
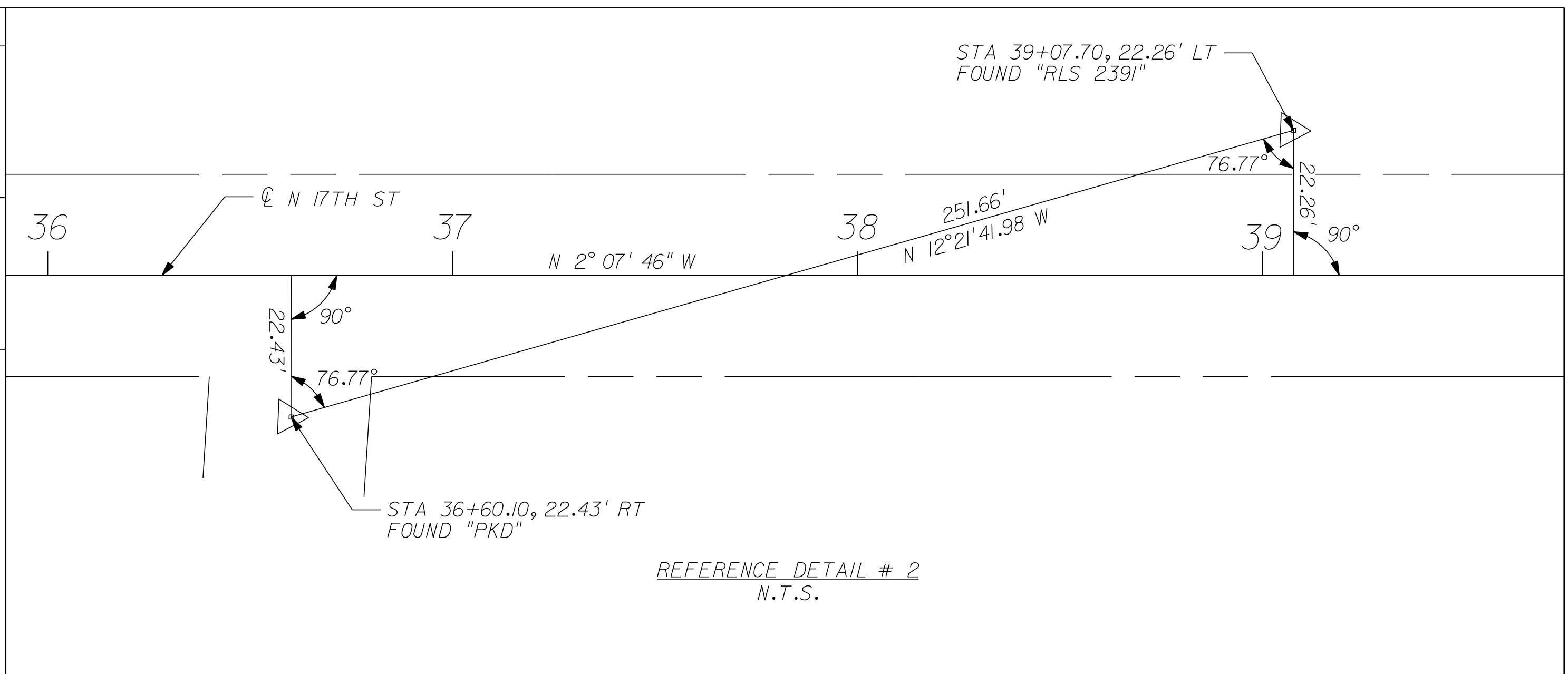
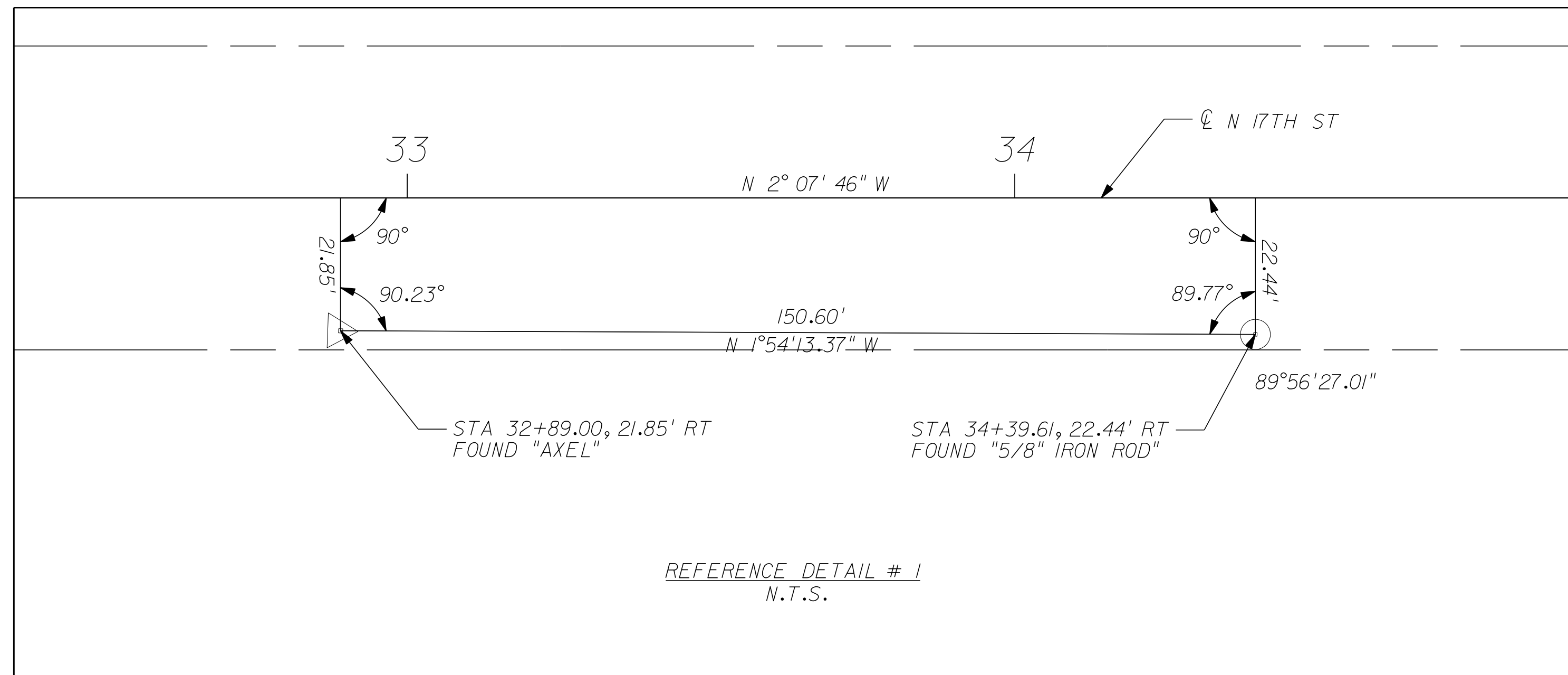
CITY OF FORT PIERCE/  
 FORT PIERCE REDEVELOPMENT AGENCY  
 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D

TYPICAL SECTION  
 SHEET NO. 5



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REVISIONS						Kimley»Horn BRIAN A. GOOD, P.E. P.E. LICENSE NUMBER 56939 445 24TH STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4000 CERTIFICATE OF AUTHORIZATION: 00000696	CITY OF FORT PIERCE/ FORT PIERCE REDEVELOPMENT AGENCY NORTH 17TH STREET IMPROVEMENTS ORANGE AVENUE TO AVENUE D	HORIZONTAL & VERTICAL CONTROL	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				6



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*INTENTIONALLY LEFT BLANK*

*INTENTIONALLY LEFT BLANK*

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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 (772) 794-4000  
 CERTIFICATE OF AUTHORIZATION: 00000696

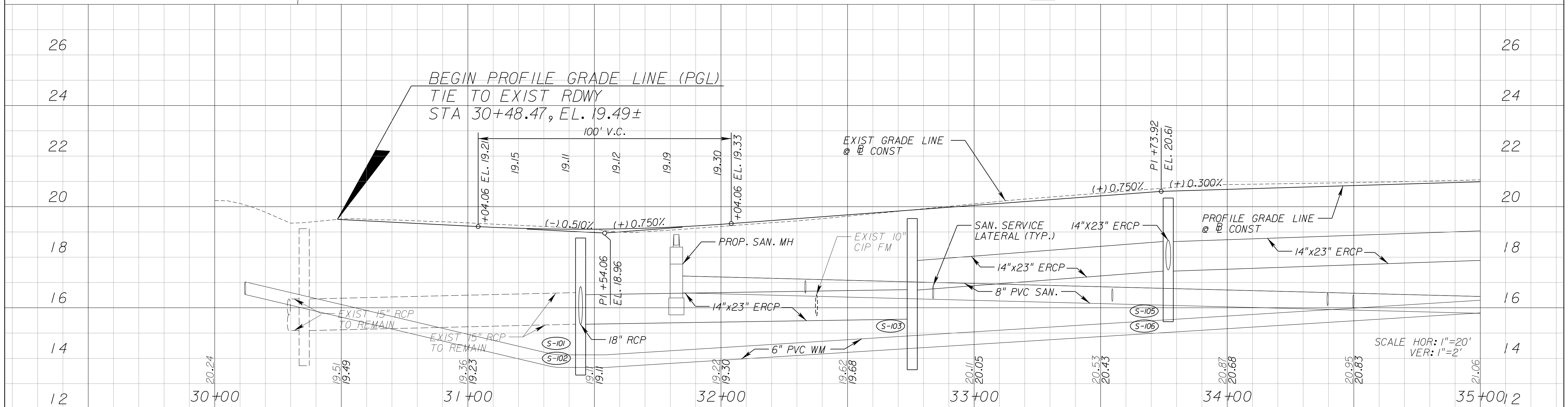
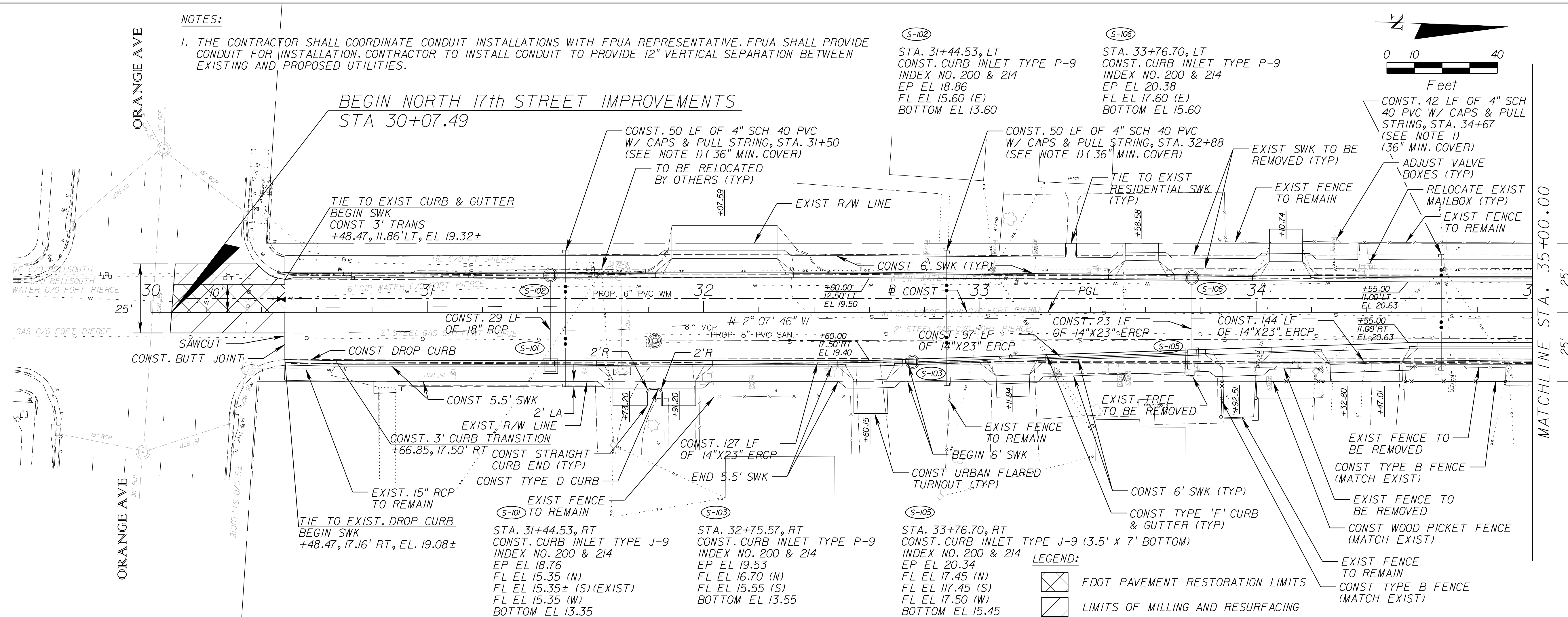
**CITY OF FORT PIERCE/  
 FORT PIERCE REDEVELOPMENT AGENCY  
 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D**

**HORIZONTAL & VERTICAL CONTROL**

SHEET  
NO.  
  
7

**NOTES:**

1. THE CONTRACTOR SHALL COORDINATE CONDUIT INSTALLATIONS WITH FPUA REPRESENTATIVE. FPUA SHALL PROVIDE CONDUIT FOR INSTALLATION. CONTRACTOR TO INSTALL CONDUIT TO PROVIDE 12" VERTICAL SEPARATION BETWEEN EXISTING AND PROPOSED UTILITIES.



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**Kimley Horn**  
 BRIAN A. GOOD, P.E.  
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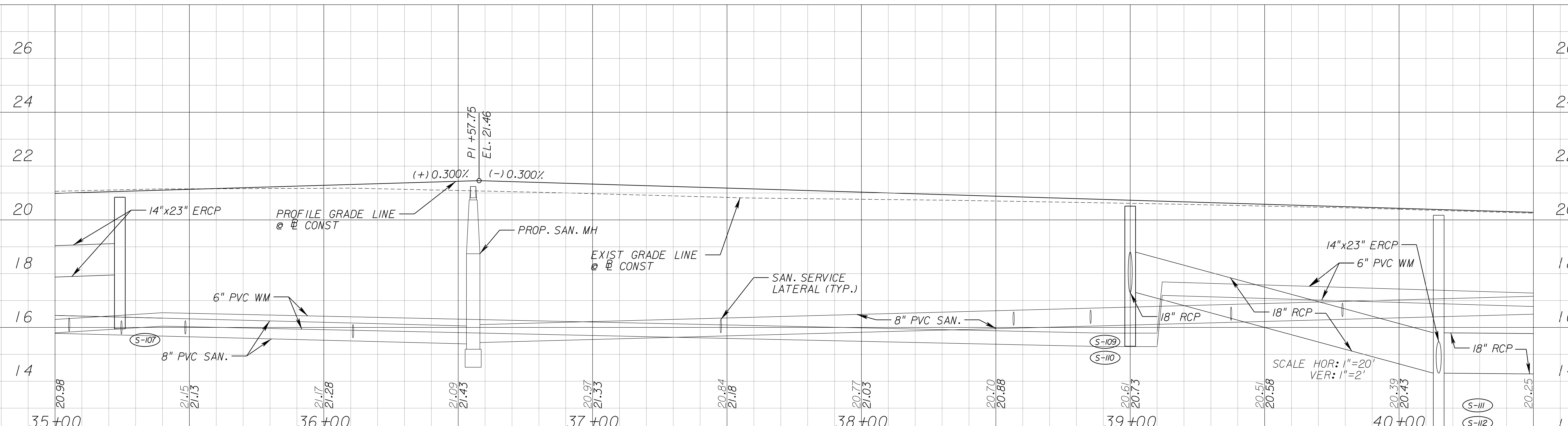
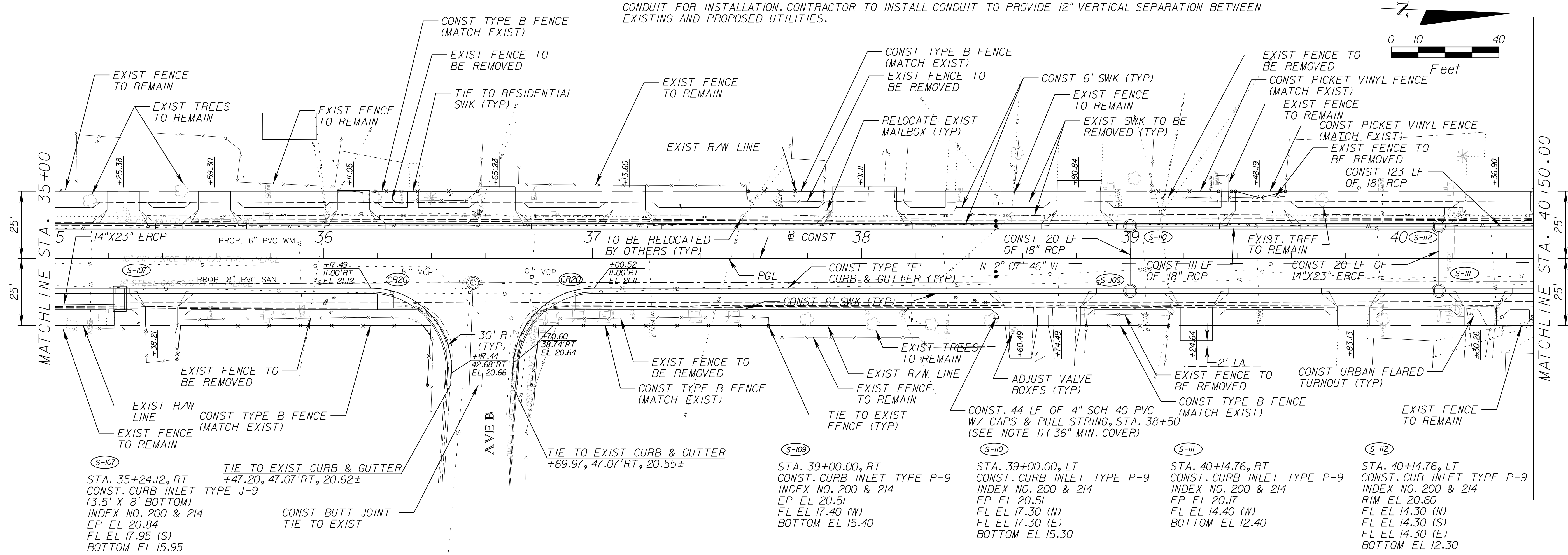
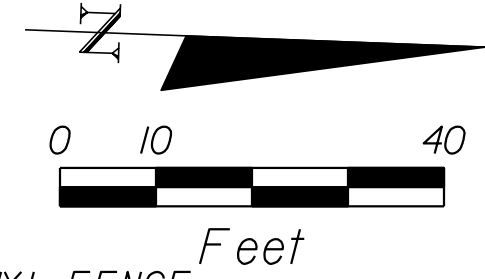
CITY OF FORT PIERCE/  
 FORT PIERCE REDEVELOPMENT AGENCY  
 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D

PLAN AND PROFILE

SHEET NO.  
 8

**NOTES:**

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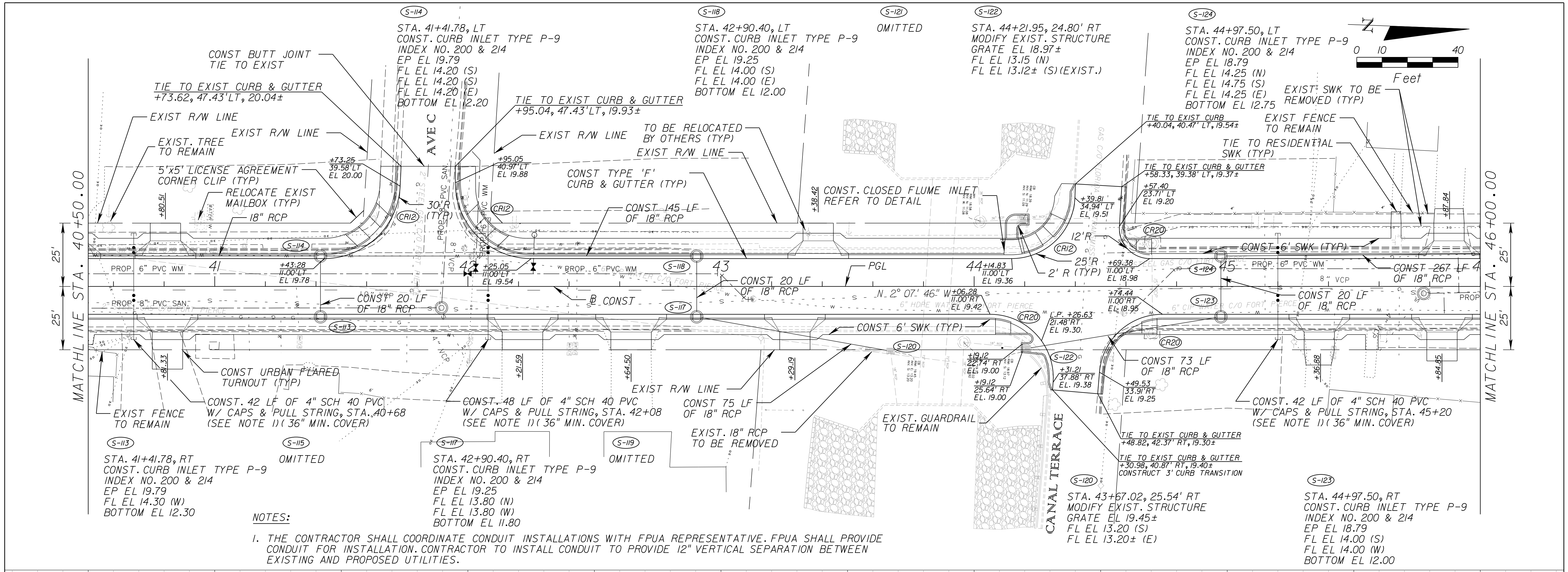
REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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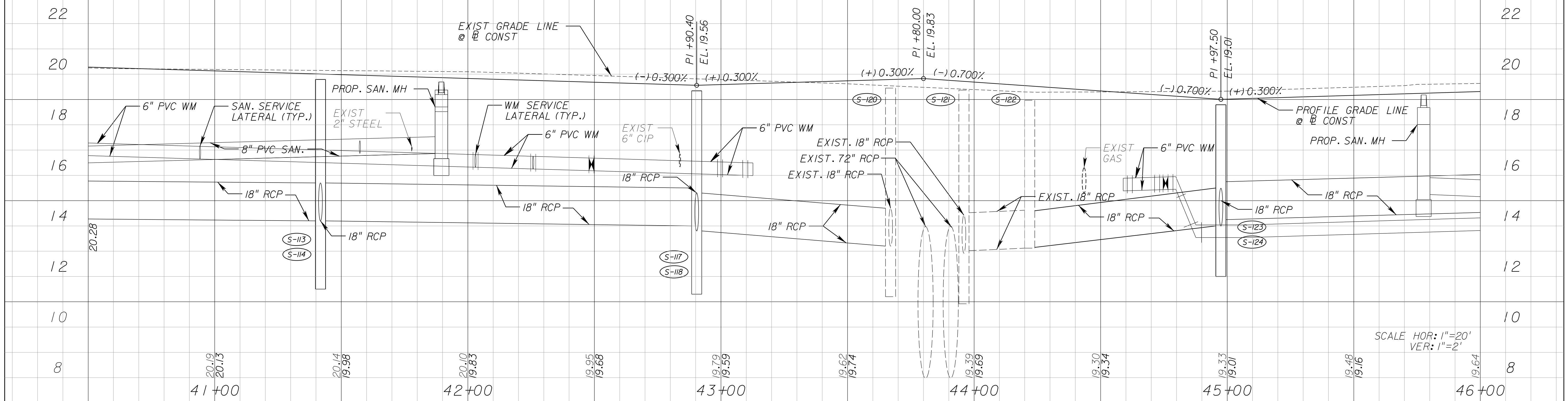
**CITY OF FORT PIERCE/  
 FORT PIERCE REDEVELOPMENT AGENCY**  
**NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D**

**PLAN AND PROFILE**

SHEET NO.  
 9



NOTES:  
 1. THE CONTRACTOR SHALL COORDINATE CONDUIT INSTALLATIONS WITH FPUA REPRESENTATIVE. FPUA SHALL PROVIDE CONDUIT FOR INSTALLATION. CONTRACTOR TO INSTALL CONDUIT TO PROVIDE 12" VERTICAL SEPARATION BETWEEN EXISTING AND PROPOSED UTILITIES.



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

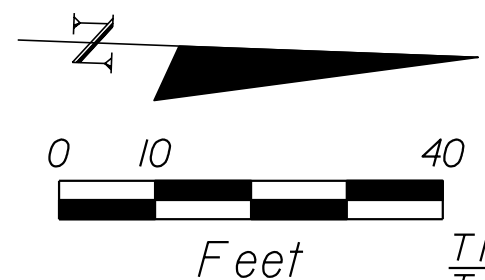
**Kimley»Horn**  
 BRIAN A. GOOD, P.E.  
 P.E. LICENSE NUMBER 56939  
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 VERO BEACH, FL 32960  
 (772) 794-4000  
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CITY OF FORT PIERCE/  
 FORT PIERCE REDEVELOPMENT AGENCY  
 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D

SHEET NO.  
 10

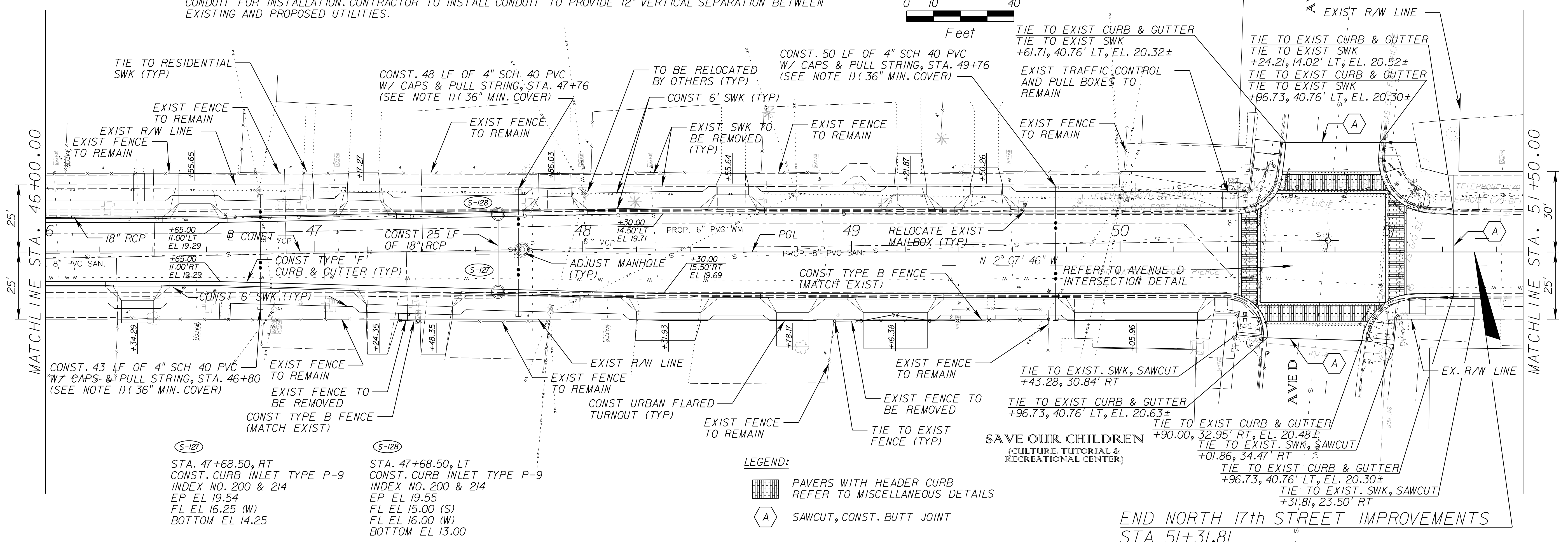
**NOTES:**

1. THE CONTRACTOR SHALL COORDINATE CONDUIT INSTALLATIONS WITH FPUA REPRESENTATIVE. FPUA SHALL PROVIDE CONDUIT FOR INSTALLATION. CONTRACTOR TO INSTALL CONDUIT TO PROVIDE 12" VERTICAL SEPARATION BETWEEN EXISTING AND PROPOSED UTILITIES.



**SOUL FIGHTERS FOR JESUS MINISTRY INC**

**HOT STOP FOOD MKT**



(S-127) STA. 47+68.50, RT  
CONST. CURB INLET TYPE P-9  
INDEX NO. 200 & 214  
EP EL 19.54  
FL EL 16.25 (W)  
BOTTOM EL 14.25

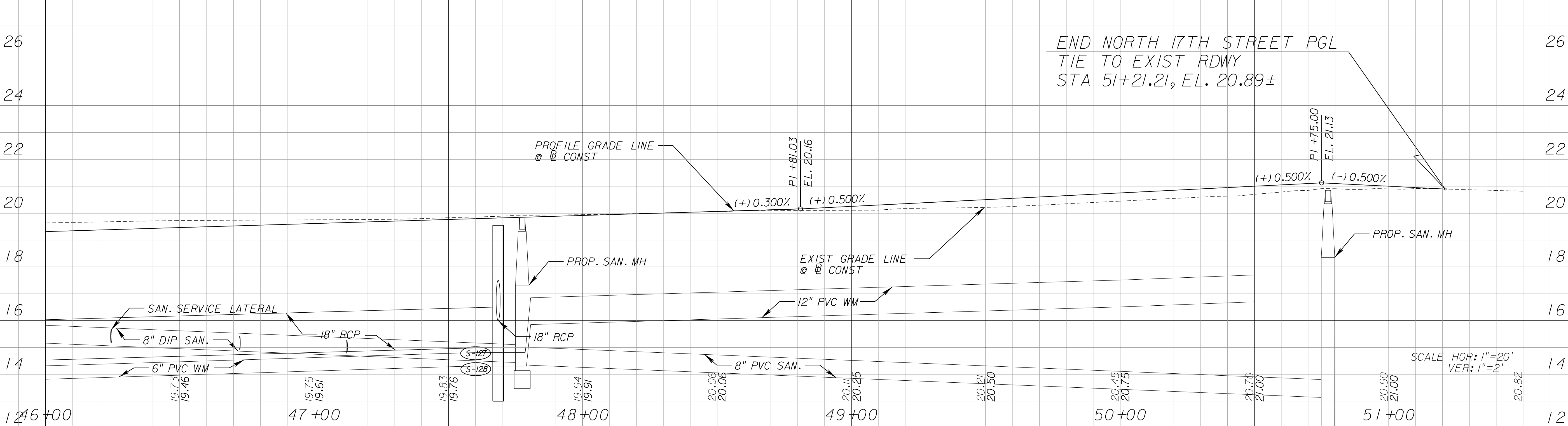
(S-128) STA. 47+68.50, LT  
CONST. CURB INLET TYPE P-9  
INDEX NO. 200 & 214  
EP EL 19.55  
FL EL 15.00 (S)  
FL EL 16.00 (W)  
BOTTOM EL 13.00

**LEGEND:**

[Pattern] PAVERS WITH HEADER CURB  
REFER TO MISCELLANEOUS DETAILS

[Symbol A] SAWCUT, CONST. BUTT JOINT

**END NORTH 17th STREET IMPROVEMENTS**  
STA 51+31.81



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**Kimley Horn**

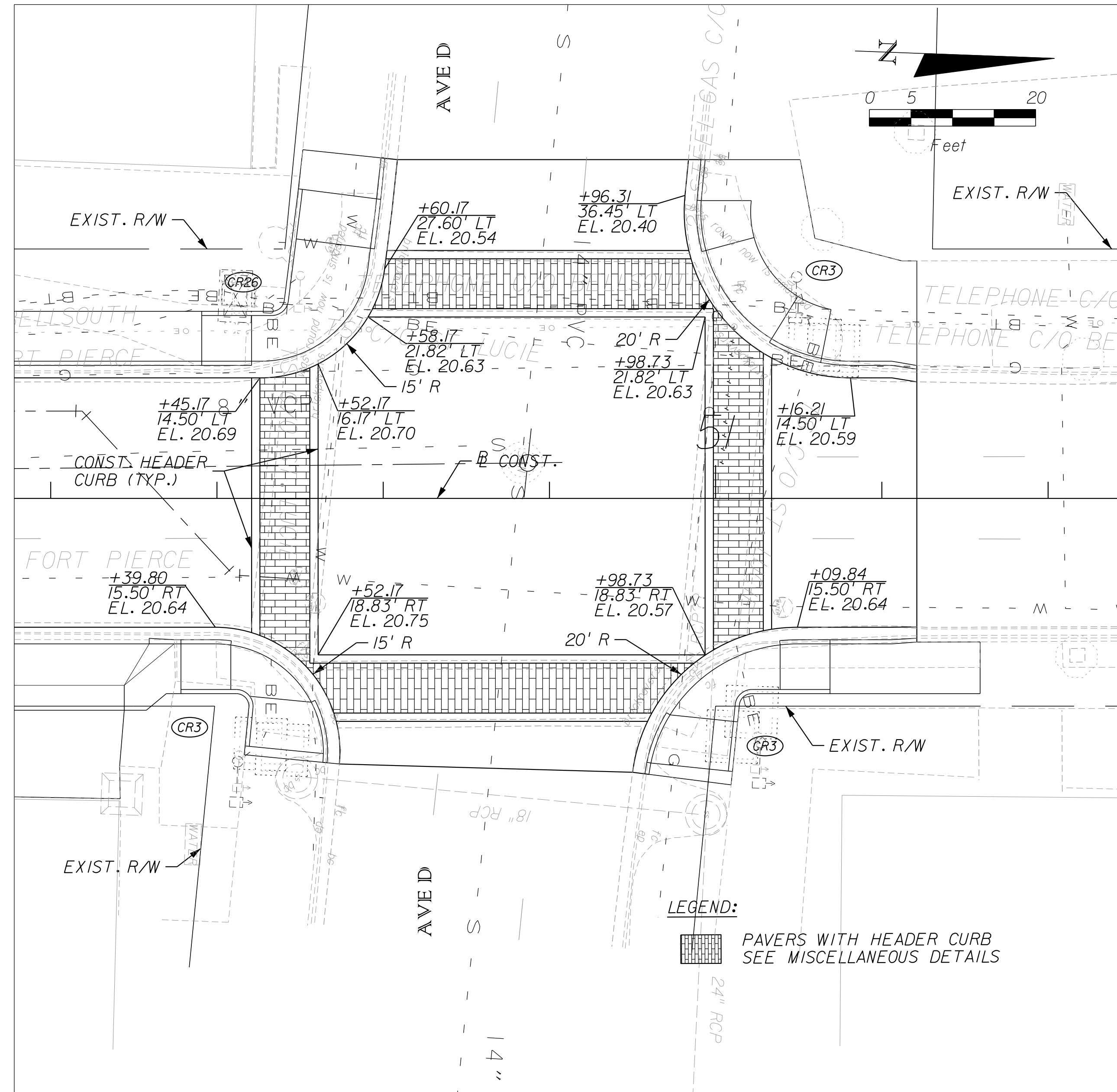
BRIAN A. GOOD, P.E.  
P.E. LICENSE NUMBER 56939  
445 24TH STREET, SUITE 200  
VERO BEACH, FL 32960  
(772) 794-4000  
CERTIFICATE OF AUTHORIZATION: 00000696

**CITY OF FORT PIERCE/  
FORT PIERCE REDEVELOPMENT AGENCY**

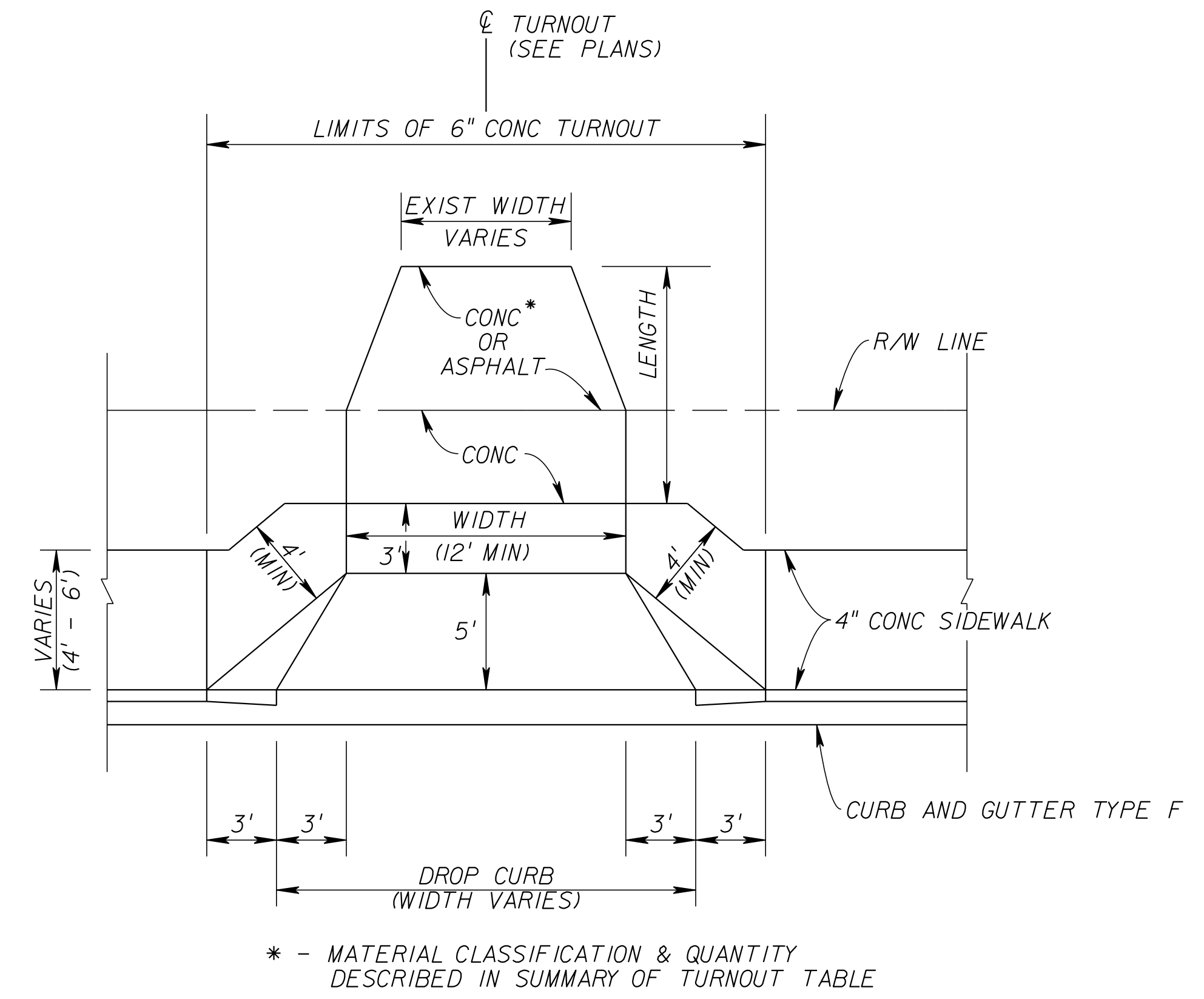
**NORTH 17TH STREET IMPROVEMENTS  
ORANGE AVENUE TO AVENUE D**

**PLAN AND PROFILE**

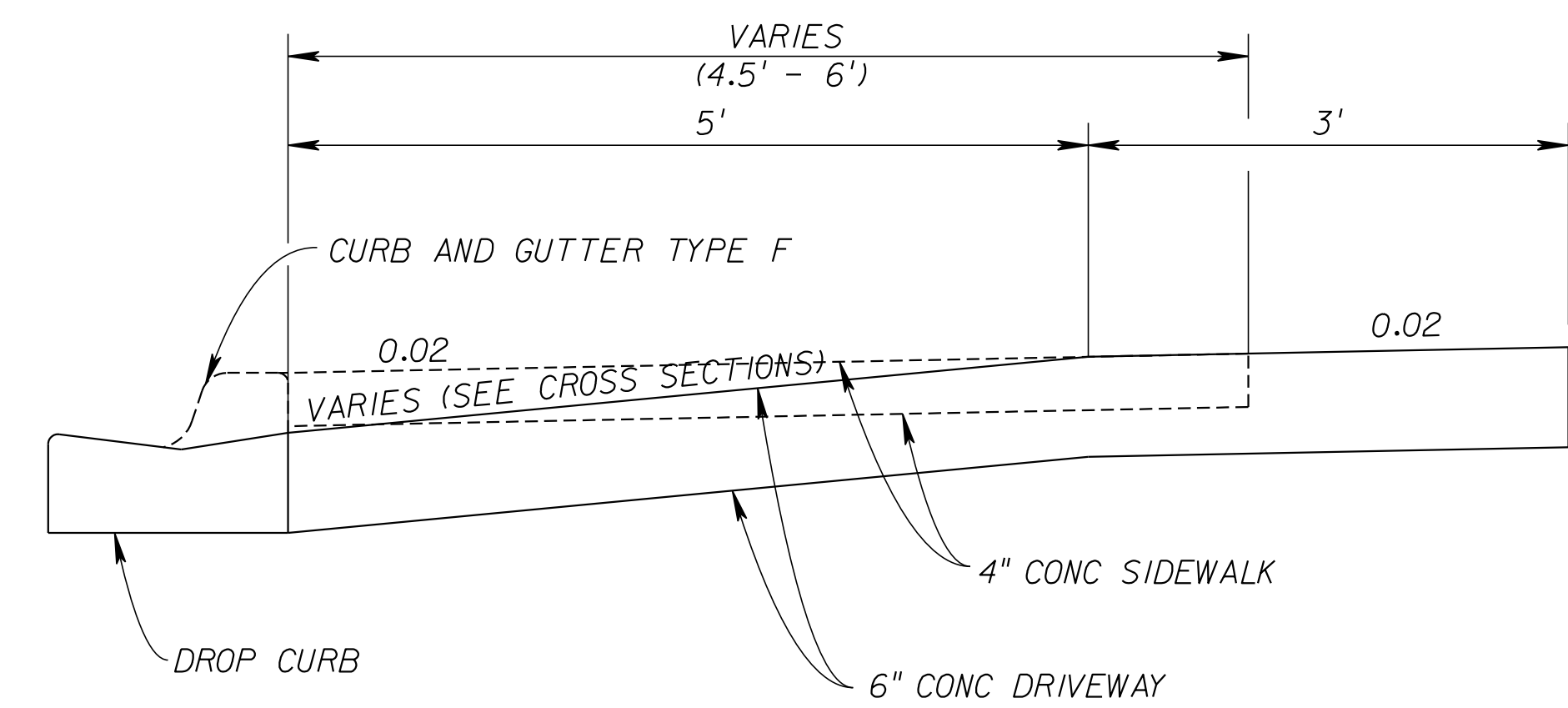
SHEET NO.  
11



NORTH 17TH STREET / AVENUE D INTERSECTION DETAIL  
N.T.S.



URBAN FLARED TURNOUT - PLAN VIEW  
N.T.S.



URBAN FLARED TURNOUT - PROFILE  
N.T.S.

- NOTES:
1. COST OF DROP CURB TO BE INCLUDED IN THE COST OF PARENT CURB.
  2. CONCRETE SHALL CONSIST OF 3000 PSI FIBER REINFORCED MIX.
  3. MINIMUM URBAN FLARED TURNOUT GRADE IS 7.00%.  
MAXIMUM URBAN FLARED TURNOUT GRADE IS 9.90%. REFER TO DRIVEWAY CROSS SECTIONS FOR SPECIFIC GRADE DESIGNATION.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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 VERO BEACH, FL 32960  
 (772) 794-4000  
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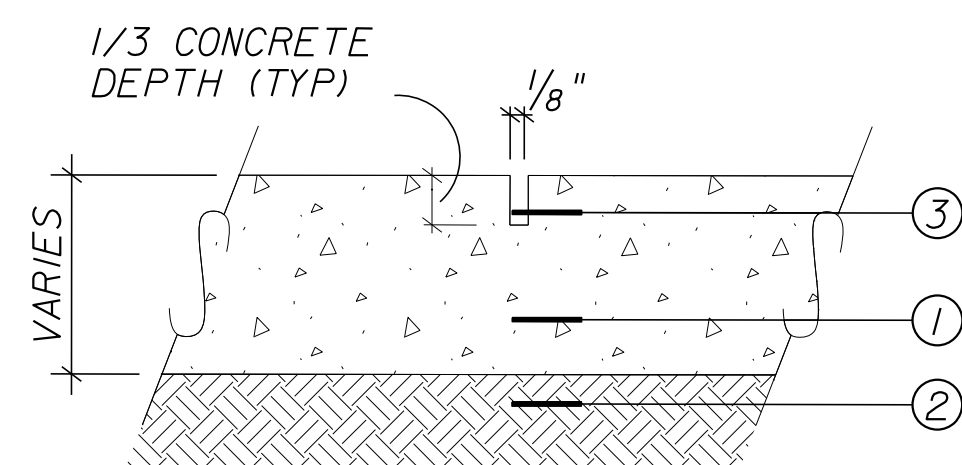
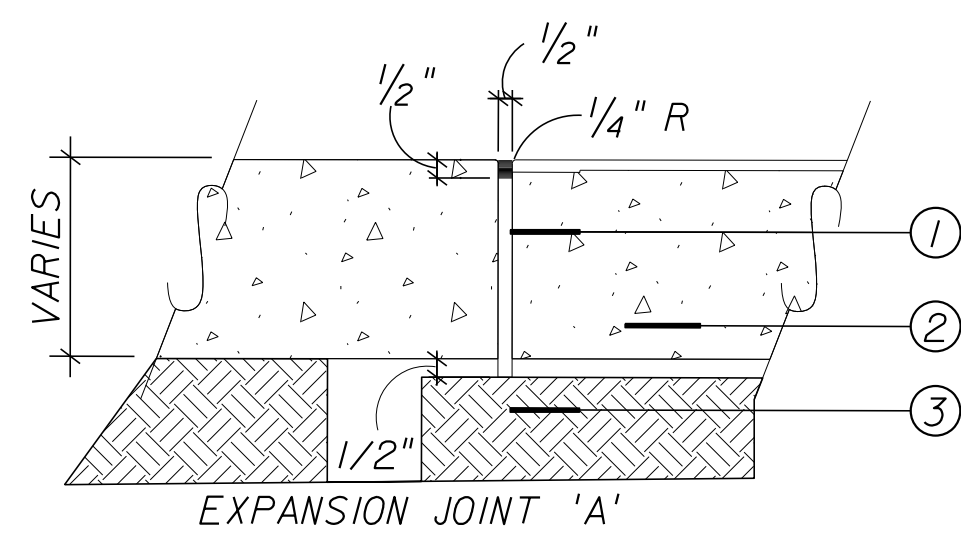
CITY OF FORT PIERCE/  
 FORT PIERCE REDEVELOPMENT AGENCY  
 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D

MISCELLANEOUS DETAILS

SHEET NO.  
12

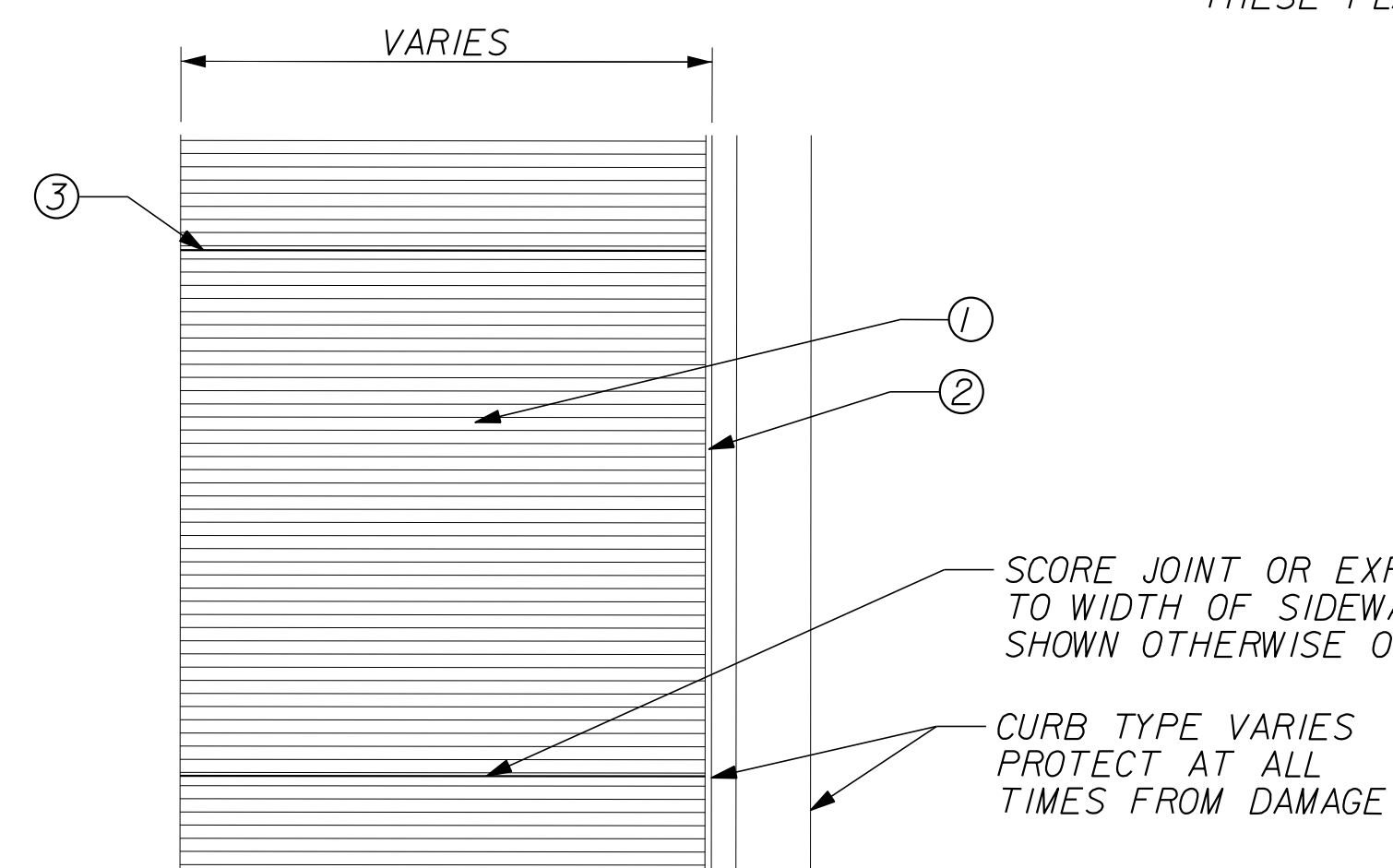






WEAKENED PLANE JOINT 'C'  
(CONTROL JOINT)

TYPICAL JOINTS  
N.T.S.



BROOM FINISH CONCRETE PAVING  
N.T.S.

**NOTES:**

1. THIS DETAIL IS FOR SURFACE TREATMENT ONLY. REFER TO ROADWAY DRAWINGS FOR SPECIFICATIONS OF MATERIALS, ETC.
2. COST OF SIDEWALK FINISH SHALL BE INCLUDED IN UNIT PRICE OF CONCRETE SIDEWALK.

**MATERIAL NOTES:**

- 1 1/2" PREFORMED EXPANSION JOINT FILLER (NEOPRENE OR BITUMINOUS CORK/FIBERBOARD).
- 2 CONCRETE SLAB - DEPTH VARIES, 3000 PSI (TYP.) W/ FIBER MESH.
- 3 COMPACTED SUBGRADE TO 95% OF AASHTO T-99 DENSITY.

**MATERIAL NOTES:**

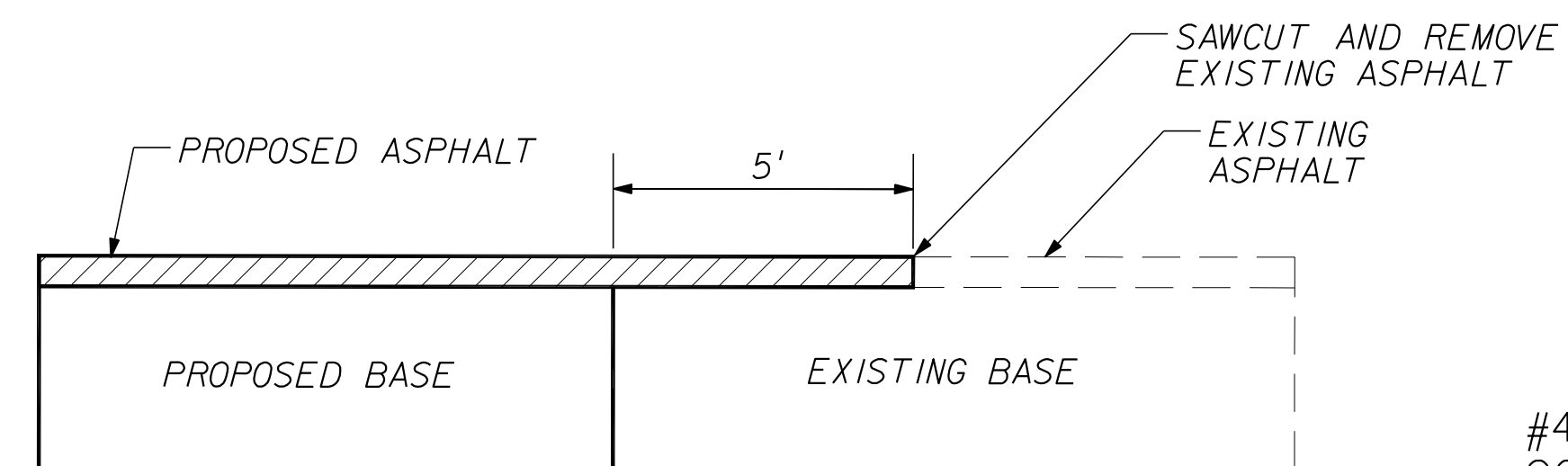
- 1 CONCRETE SLAB - DEPTH VARIES, 3000 PSI (TYP.) W/ FIBER MESH.
- 2 COMPACTED SUBGRADE TO 95% OF AASHTO T-99 DENSITY.
- 3 1/8" SAWCUT CONTROL JOINT.

**NOTES:**

- A. ON ALL CURB RETURNS A 1/2" EXPANSION JOINT SHALL BE CONSTRUCTED BETWEEN THE BACK OF CURB AND THE SIDEWALK FOR THE ENTIRE LENGTH OF THE RETURN.
- B. 1/2" EXPANSION JOINT EVERY 40'-50' O.C., OR AT COLD JOINTS. (LOCATE 1/2" EXPANSION JOINTS TO BLEND WITH SCORING PATTERN)
- C. LOCATION OF SAWCUT JOINTS AND EXPANSION JOINTS SHALL BE INSTALLED ACCORDING TO THESE PLANS AND INDEX 310.

**MATERIAL NOTES:**

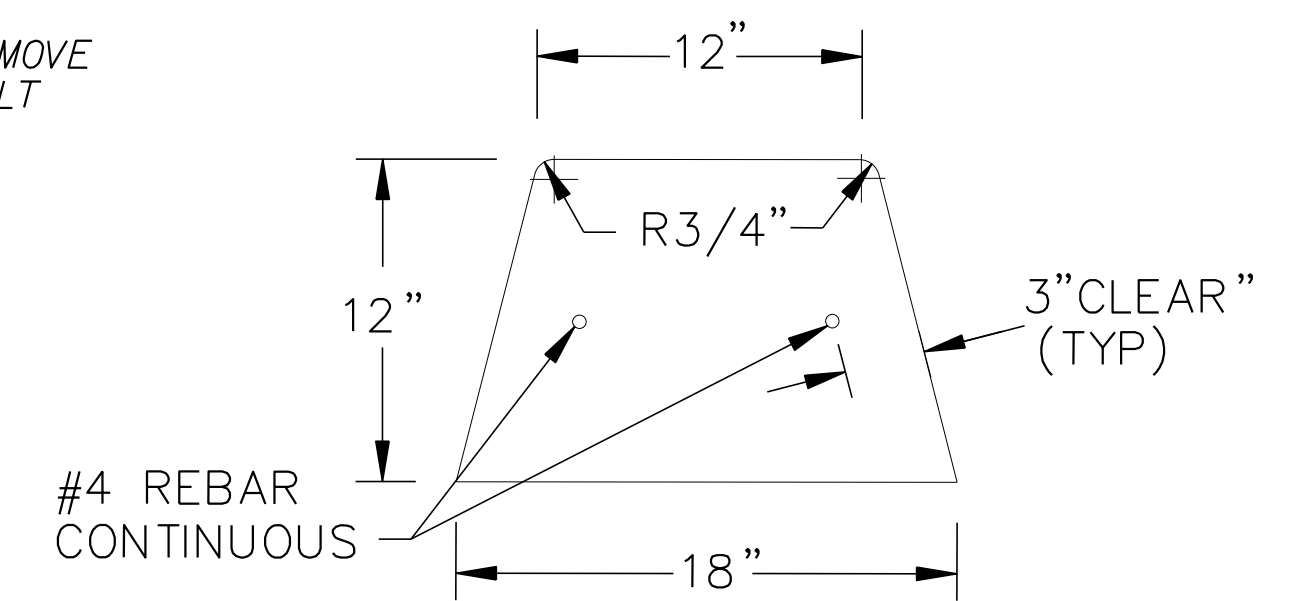
- 1 4" THICK CONCRETE SIDEWALK, 3000 PSI MIN. W/ FIBER MESH, MEDIUM BROOM FINISH CENTER FIELD PERPENDICULAR TO DIRECTION OF TRAVEL.
- 2 EXPANSION JOINT "TYPE A" (SEE DETAIL)
- 3 SAWCUT CONTROL JOINT "TYPE C" OR EXPANSION JOINT "TYPE A" EVERY 40'-50' O.C. (SEE DETAIL)



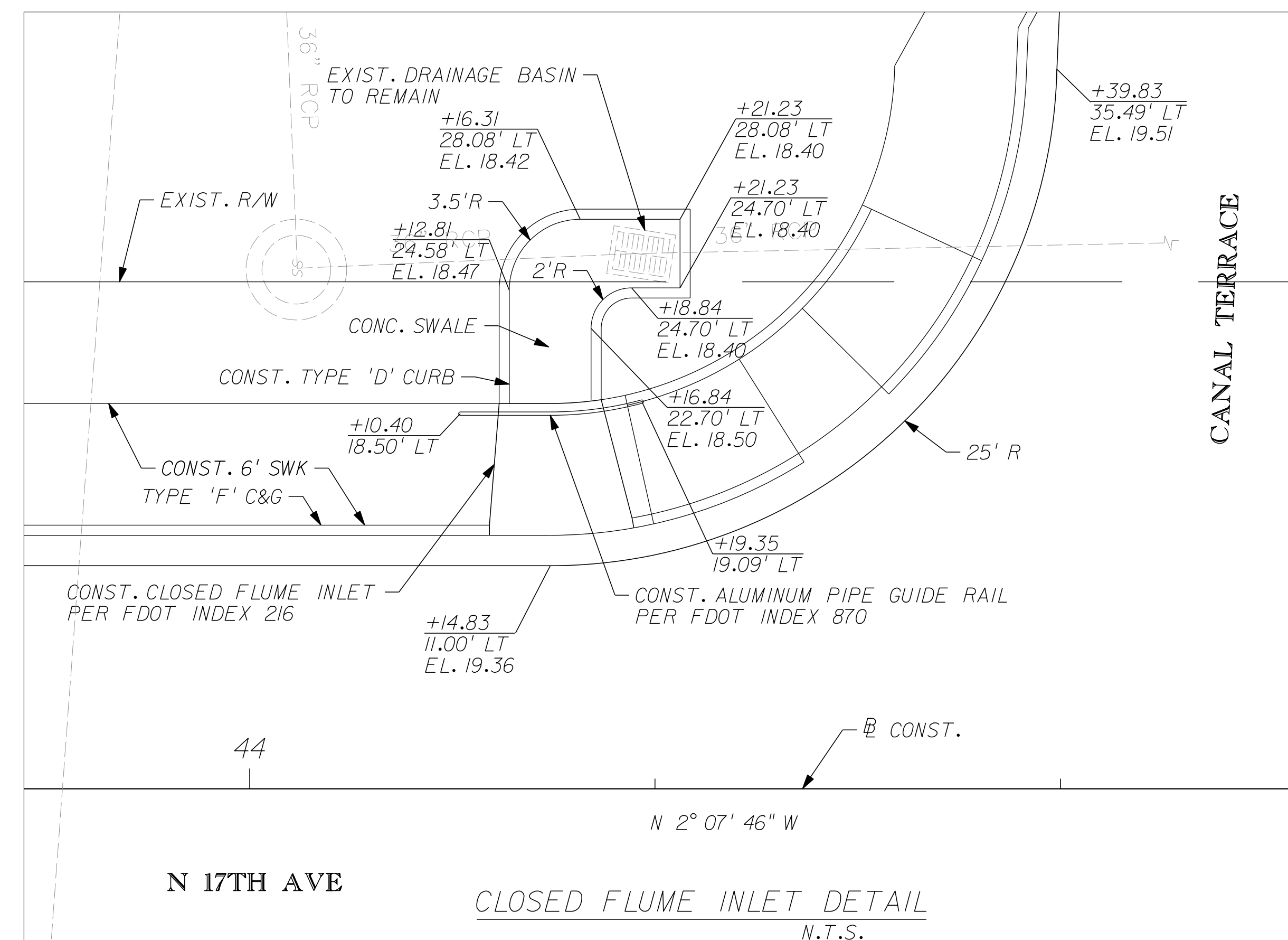
BUTT JOINT DETAIL  
N.T.S.

**NOTE:**

COST OF CONSTRUCTING JOINT SHALL BE INCLUDED IN UNIT PRICE OF ASPHALTIC CONCRETE.



TYPE 'HEADER' CURB  
N.T.S.



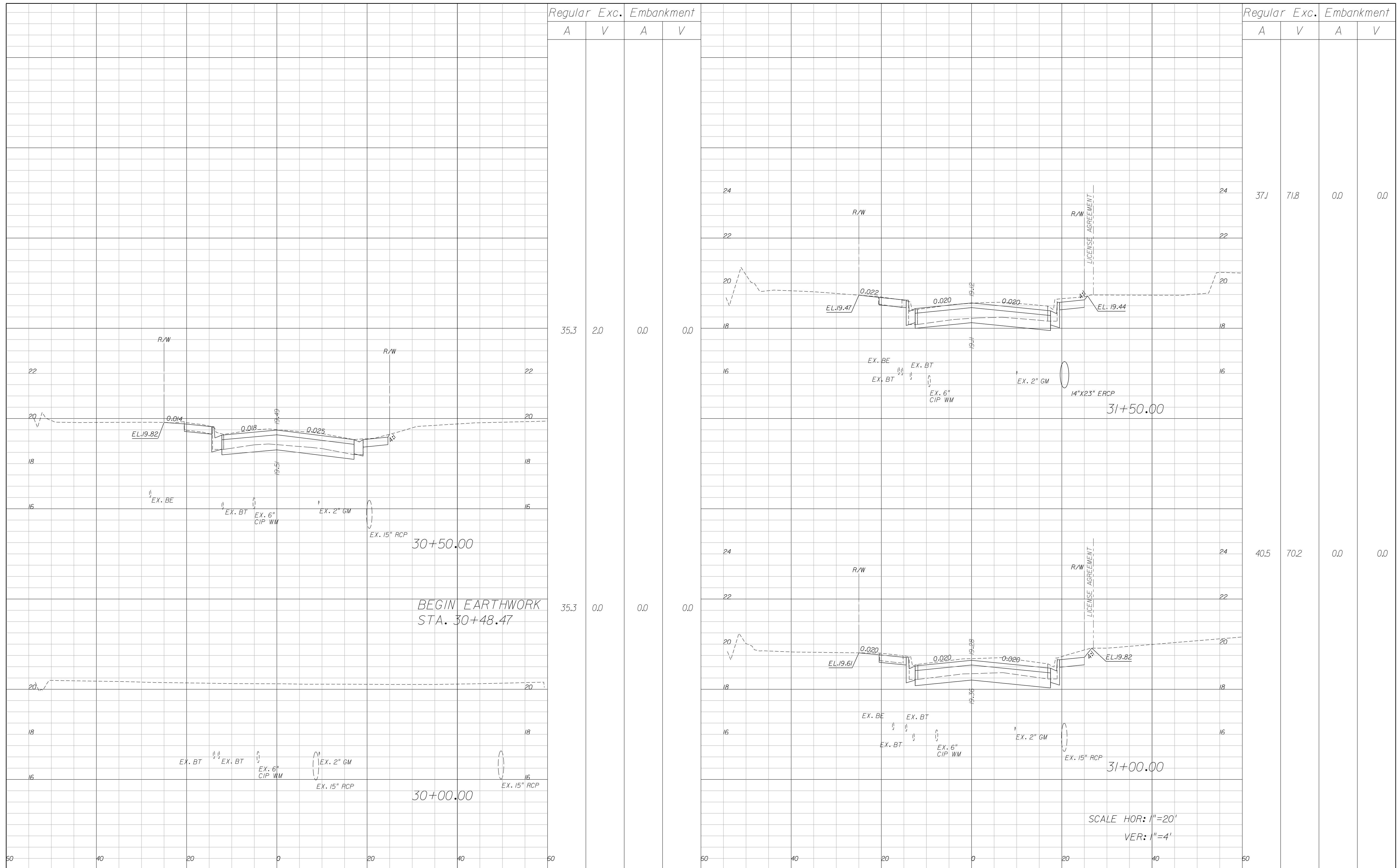
CLOSED FLUME INLET DETAIL  
N.T.S.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**Kimley»Horn**  
 BRIAN A. GOOD, P.E.  
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CITY OF FORT PIERCE/  
 FORT PIERCE REDEVELOPMENT AGENCY  
 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D

MISCELLANEOUS DETAILS  
 SHEET NO. 15



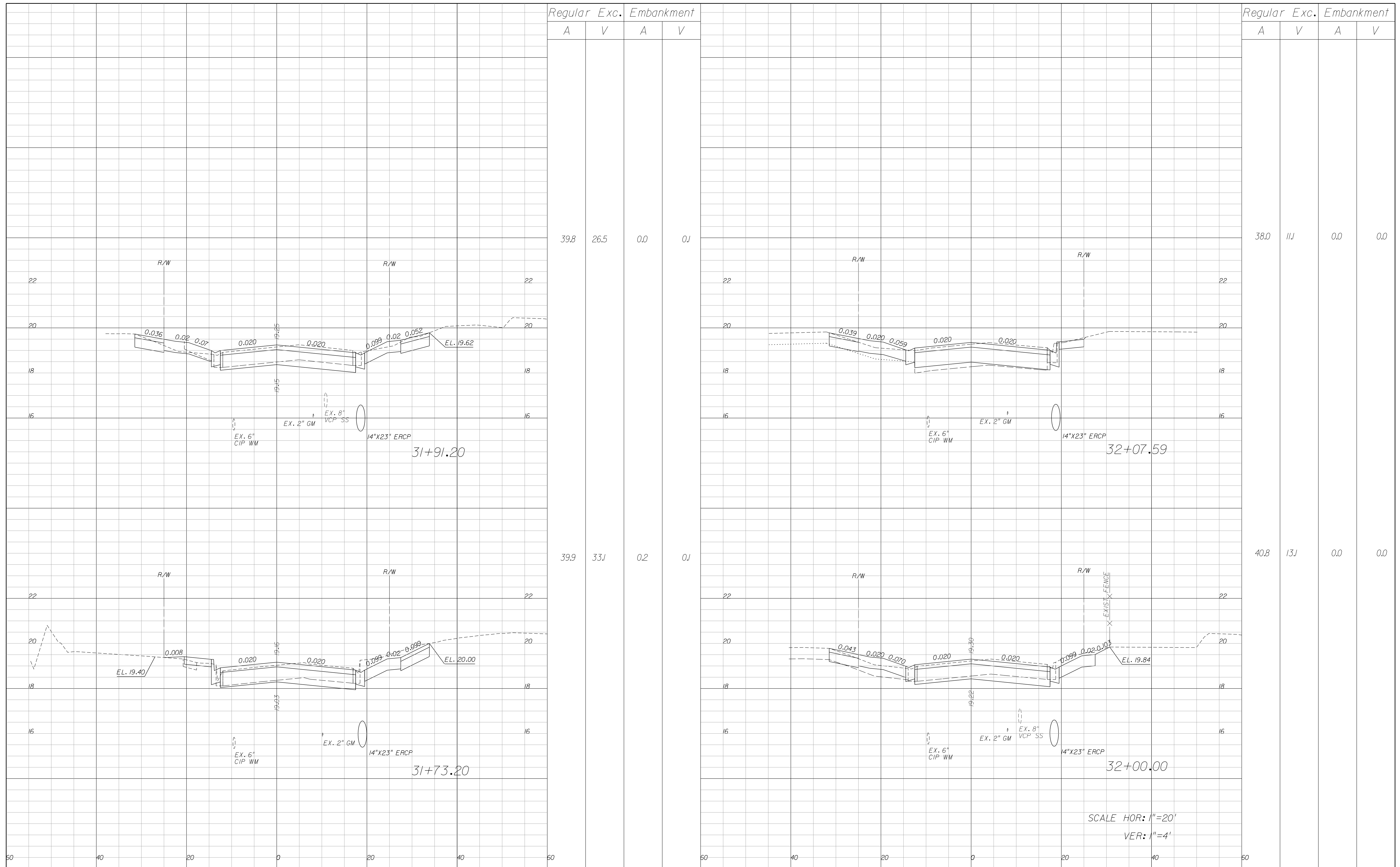
REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**Kimley»Horn**  
 BRIAN A. GOOD, P.E.  
 P.E. LICENSE NUMBER 56939  
 601 21ST STREET, SUITE 300  
 VERO BEACH, FL 32960  
 (772) 562-7381  
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**CITY OF FORT PIERCE/  
 FORT PIERCE REDEVELOPMENT AGENCY  
 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D**

**CROSS SECTIONS**

SHEET NO.  
17



Regular Exc. Embankment

A V A V

Regular Exc. Embankment

A V A V

39.8 26.5 0.0 0.1

38.0 11.1 0.0 0.0

39.9 33.1 0.2 0.1

40.8 13.1 0.0 0.0

31+91.20

32+07.59

31+73.20

32+00.00

SCALE HOR: 1"=20'  
VER: 1"=4'

REVISIONS

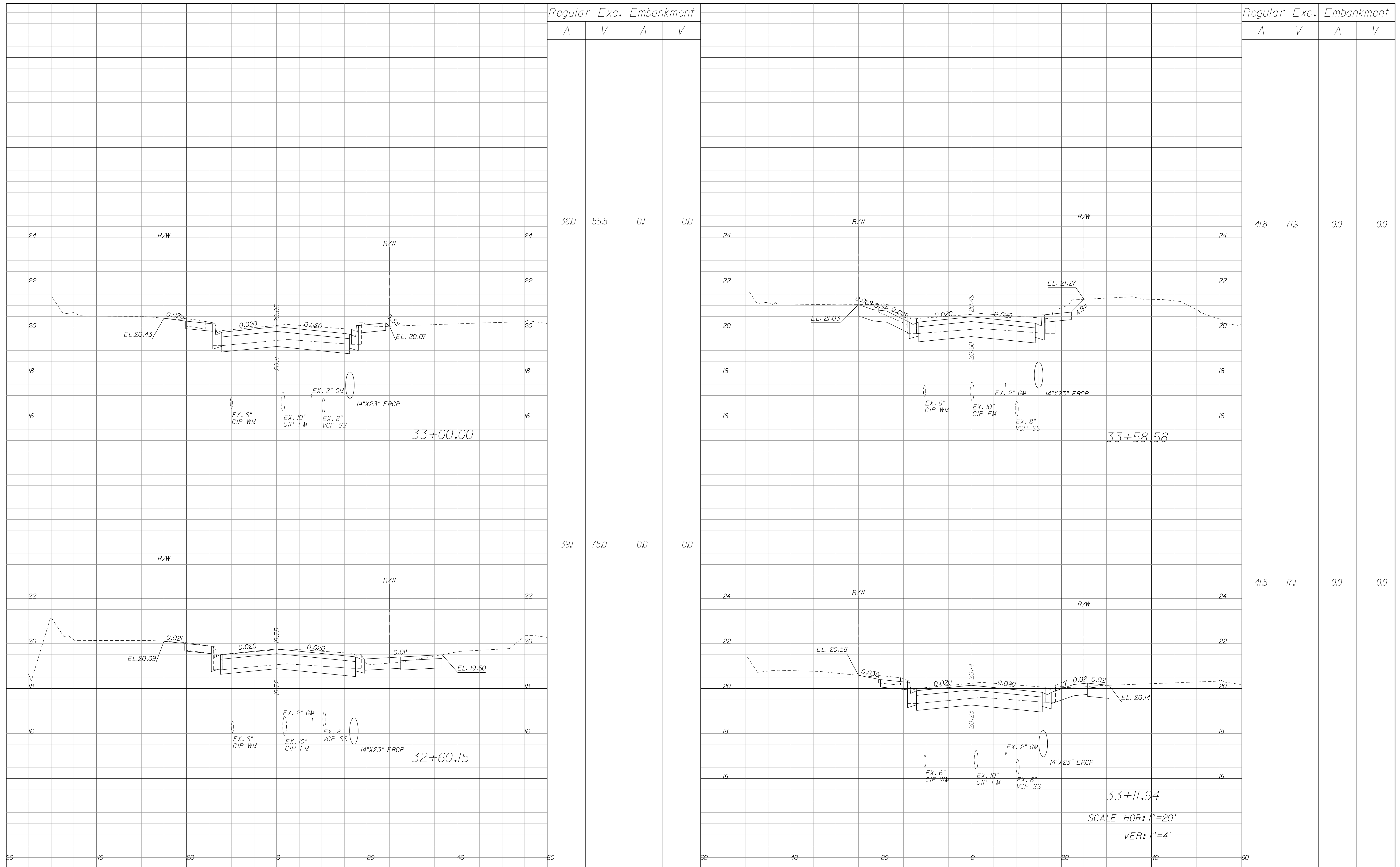
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**Kimley»Horn**  
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 P.E. LICENSE NUMBER 56939  
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CITY OF FORT PIERCE/  
 FORT PIERCE REDEVELOPMENT AGENCY  
 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D

CROSS SECTIONS

SHEET NO.  
18



Regular		Exc.		Embankment	
A	V	A	V	A	V

Regular		Exc.		Embankment	
A	V	A	V	A	V

36.0 55.5 0.0 0.0

41.8 71.9 0.0 0.0

39.1 75.0 0.0 0.0

41.5 71.7 0.0 0.0

33+00.00

33+58.58

32+60.15

33+11.94

SCALE HOR: 1"=20'  
VER: 1"=4'

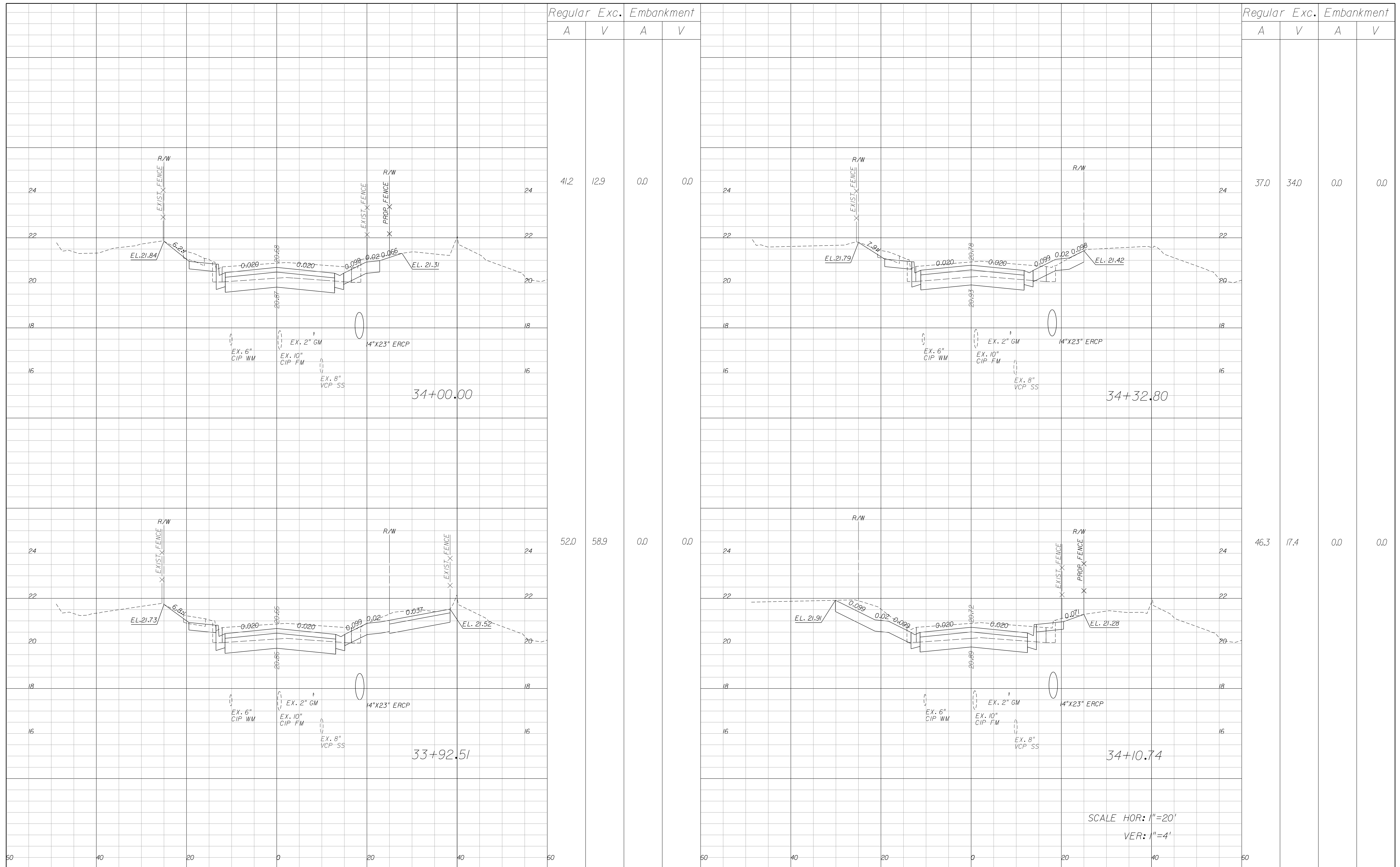
REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**Kimley»Horn**  
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**CITY OF FORT PIERCE/  
 FORT PIERCE REDEVELOPMENT AGENCY  
 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D**

**CROSS SECTIONS**

SHEET NO.  
19



Regular Exc. Embankment

A V A V

Regular Exc. Embankment

A V A V

41.2 12.9 0.0 0.0

37.0 34.0 0.0 0.0

52.0 58.9 0.0 0.0

46.3 17.4 0.0 0.0

34+00.00

34+32.80

33+92.51

34+10.74

SCALE HOR: 1"=20'  
VER: 1"=4'

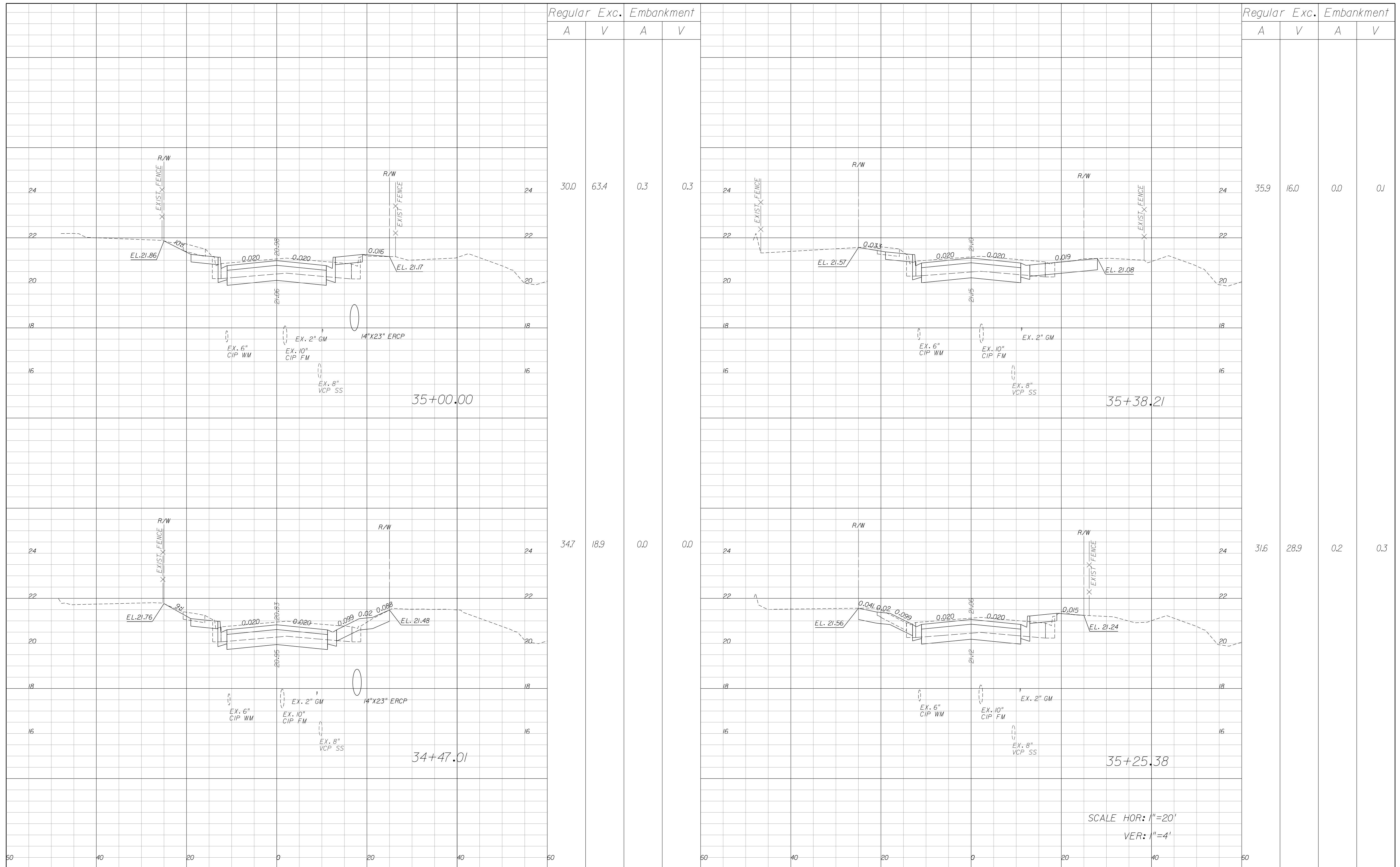
REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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CITY OF FORT PIERCE/  
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 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D

CROSS SECTIONS

SHEET NO.  
20



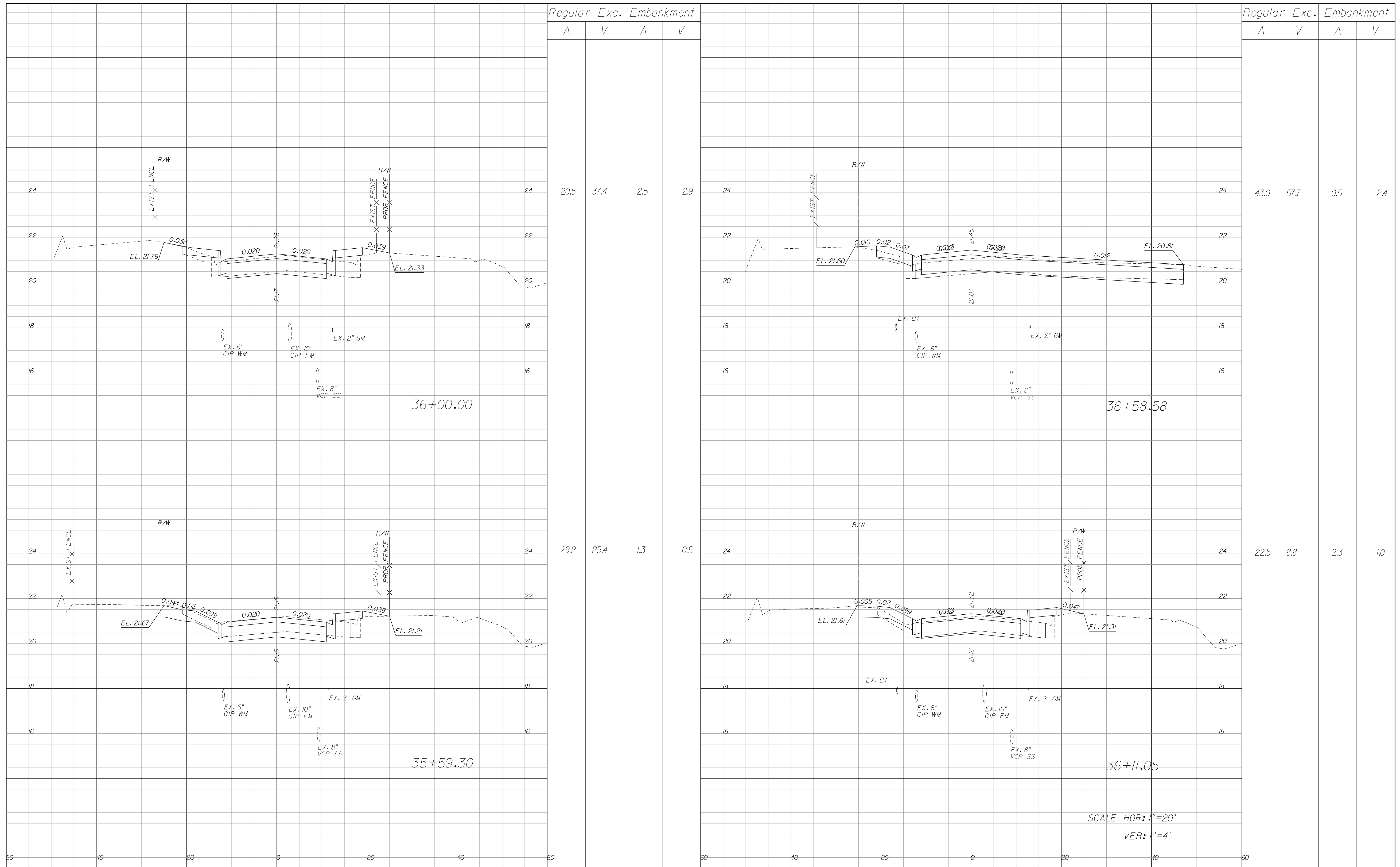
REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**Kimley»Horn**  
 BRIAN A. GOOD, P.E.  
 P.E. LICENSE NUMBER 56939  
 601 21ST STREET, SUITE 300  
 VERO BEACH, FL 32960  
 (772) 562-7381  
 CERTIFICATE OF AUTHORIZATION: 00000696

**CITY OF FORT PIERCE/  
 FORT PIERCE REDEVELOPMENT AGENCY  
 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D**

**CROSS SECTIONS**

SHEET NO.  
 21



Regular		Exc.		Embankment	
A	V	A	V	A	V

Regular		Exc.		Embankment	
A	V	A	V	A	V

20.5	37.4	2.5	2.9
------	------	-----	-----

43.0	57.7	0.5	2.4
------	------	-----	-----

29.2	25.4	1.3	0.5
------	------	-----	-----

22.5	8.8	2.3	1.0
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SCALE HOR: 1"=20'  
VER: 1"=4'

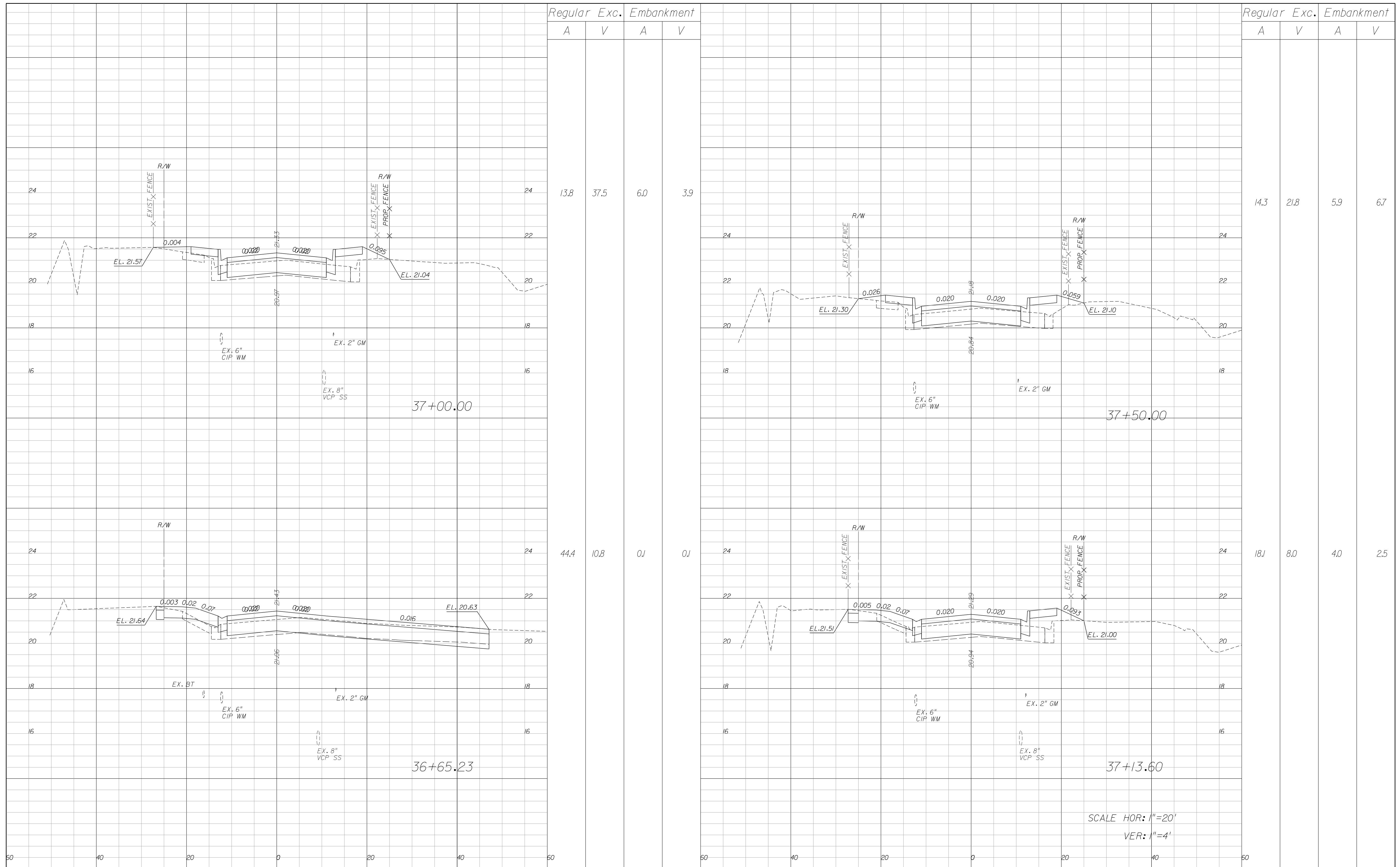
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 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D

CROSS SECTIONS

SHEET NO.  
22



Regular Exc. Embankment  
A V A V

Regular Exc. Embankment  
A V A V

13.8 37.5 6.0 3.9

14.3 21.8 5.9 6.7

44.4 10.8 0.0 0.0

18.1 8.0 4.0 2.5

SCALE HOR: 1"=20'  
VER: 1"=4'

REVISIONS

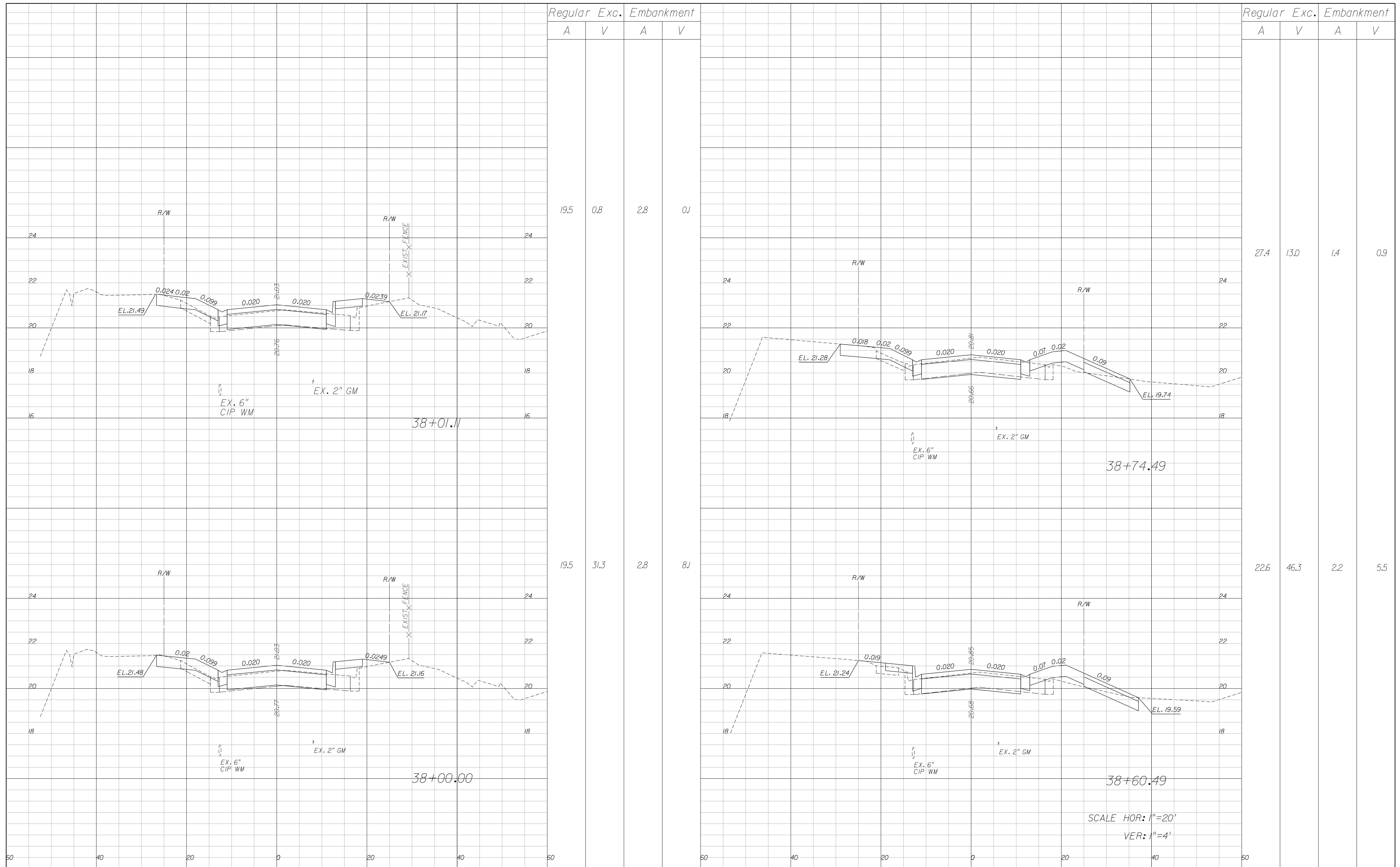
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601 21ST STREET, SUITE 300  
VERO BEACH, FL 32960  
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CITY OF FORT PIERCE/  
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NORTH 17TH STREET IMPROVEMENTS  
ORANGE AVENUE TO AVENUE D

CROSS SECTIONS

SHEET NO.  
23



Regular Exc. Embankment

A V A V

19.5 0.8 2.8 0.1

19.5 31.3 2.8 8.1

Regular Exc. Embankment

A V A V

27.4 13.0 1.4 0.9

22.6 46.3 2.2 5.5

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

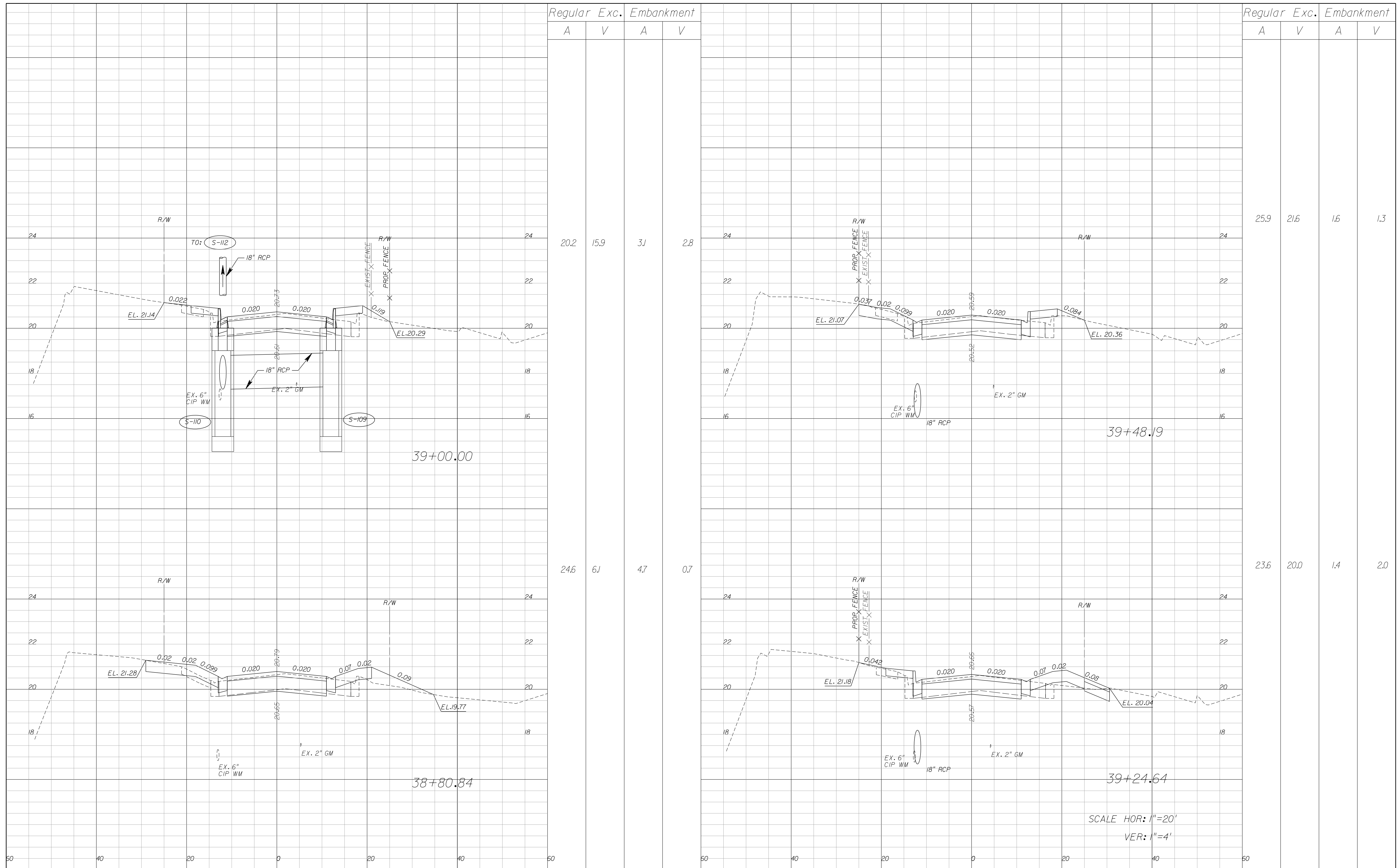
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 FORT PIERCE REDEVELOPMENT AGENCY  
 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D

CROSS SECTIONS

SHEET NO.  
 24

SCALE HOR: 1"=20'  
 VER: 1"=4'



Regular		Exc.		Embankment	
A	V	A	V	A	V
20.2	15.9	3J	2.8		
24.6	6J	4.7	0.7		

Regular		Exc.		Embankment	
A	V	A	V	A	V
25.9	21.6	1.6	1.3		
23.6	20.0	1.4	2.0		

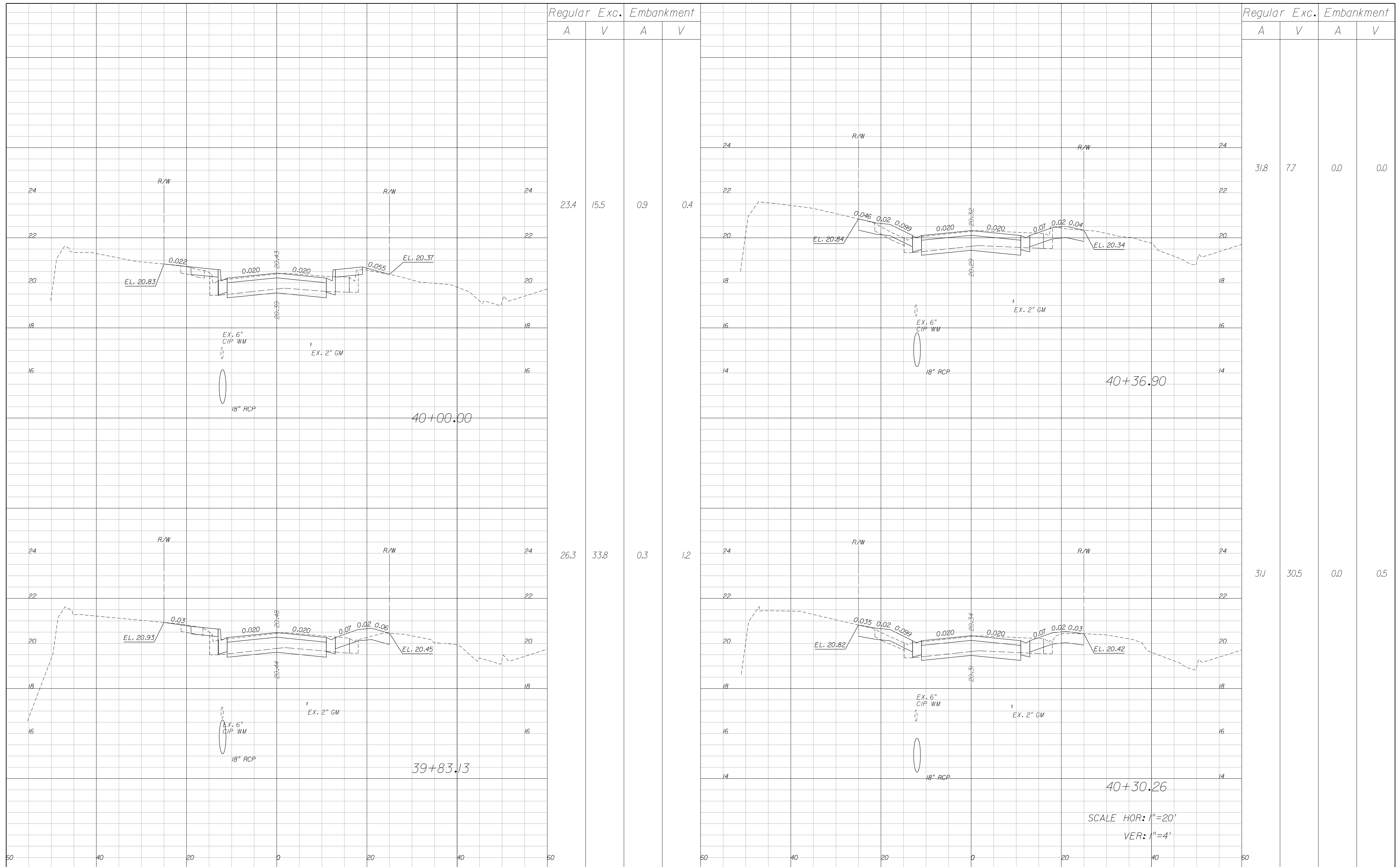
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CITY OF FORT PIERCE/  
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 ORANGE AVENUE TO AVENUE D

CROSS SECTIONS

SHEET NO.  
 25



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

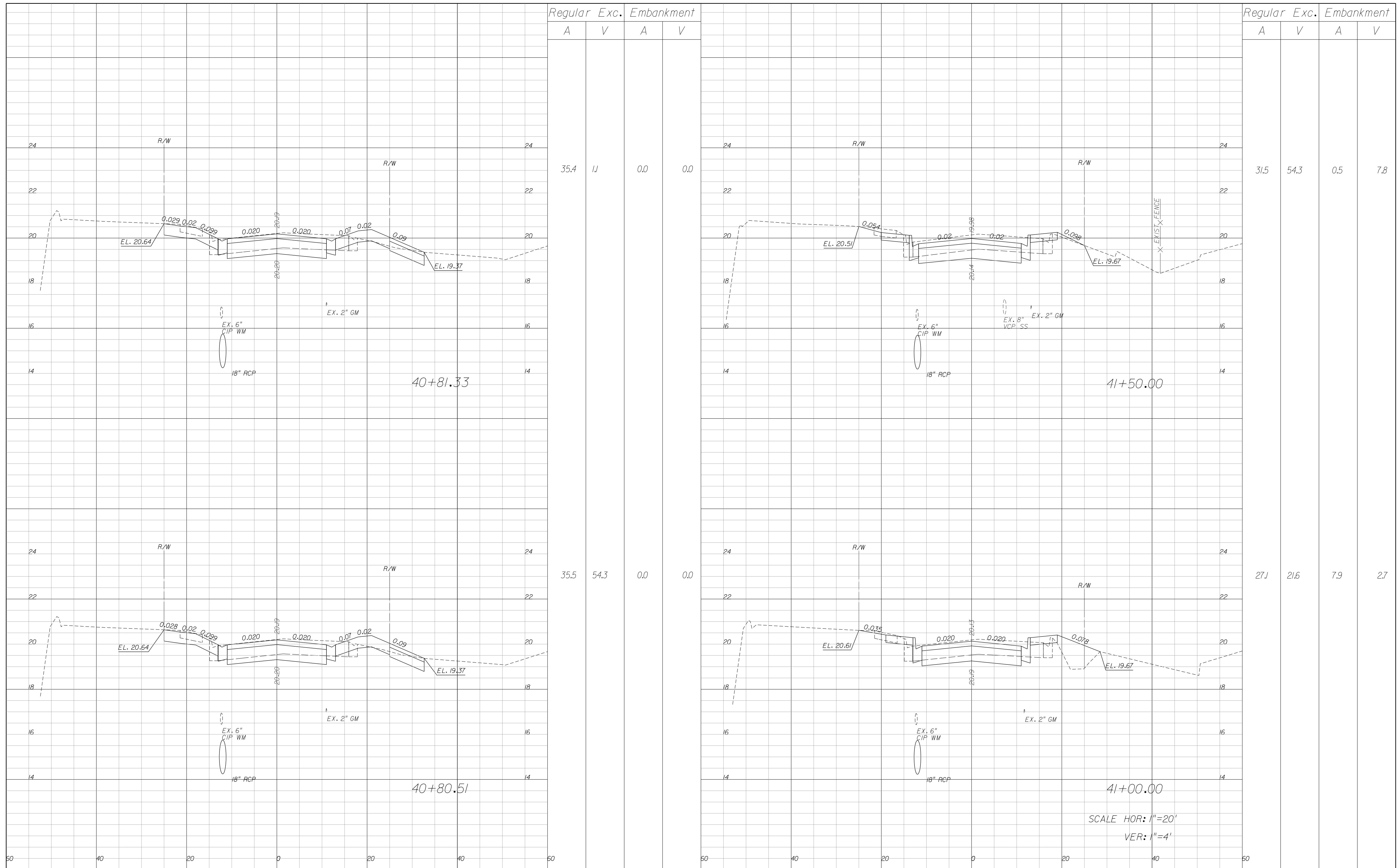
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VERO BEACH, FL 32960  
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NORTH 17TH STREET IMPROVEMENTS  
ORANGE AVENUE TO AVENUE D

CROSS SECTIONS

SHEET NO.  
26



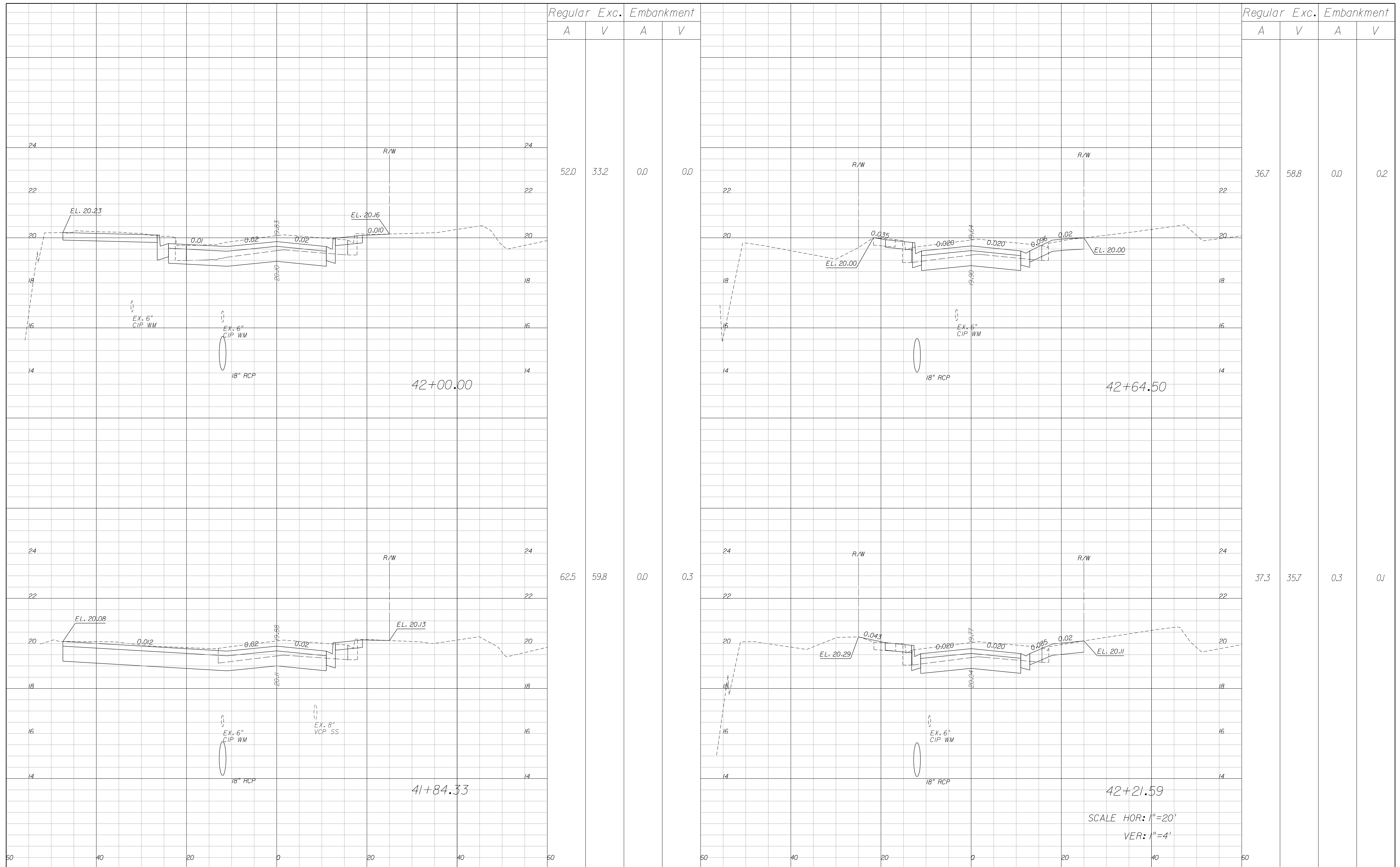
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**CITY OF FORT PIERCE/  
 FORT PIERCE REDEVELOPMENT AGENCY  
 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D**

**CROSS SECTIONS**

SHEET NO.  
27



Regular		Exc.		Embankment	
A	V	A	V	A	V
52.0	33.2	0.0	0.0		
62.5	59.8	0.0	0.3		

Regular		Exc.		Embankment	
A	V	A	V	A	V
36.7	58.8	0.0	0.2		
37.3	35.7	0.3	0.1		

SCALE HOR: 1"=20'  
VER: 1"=4'

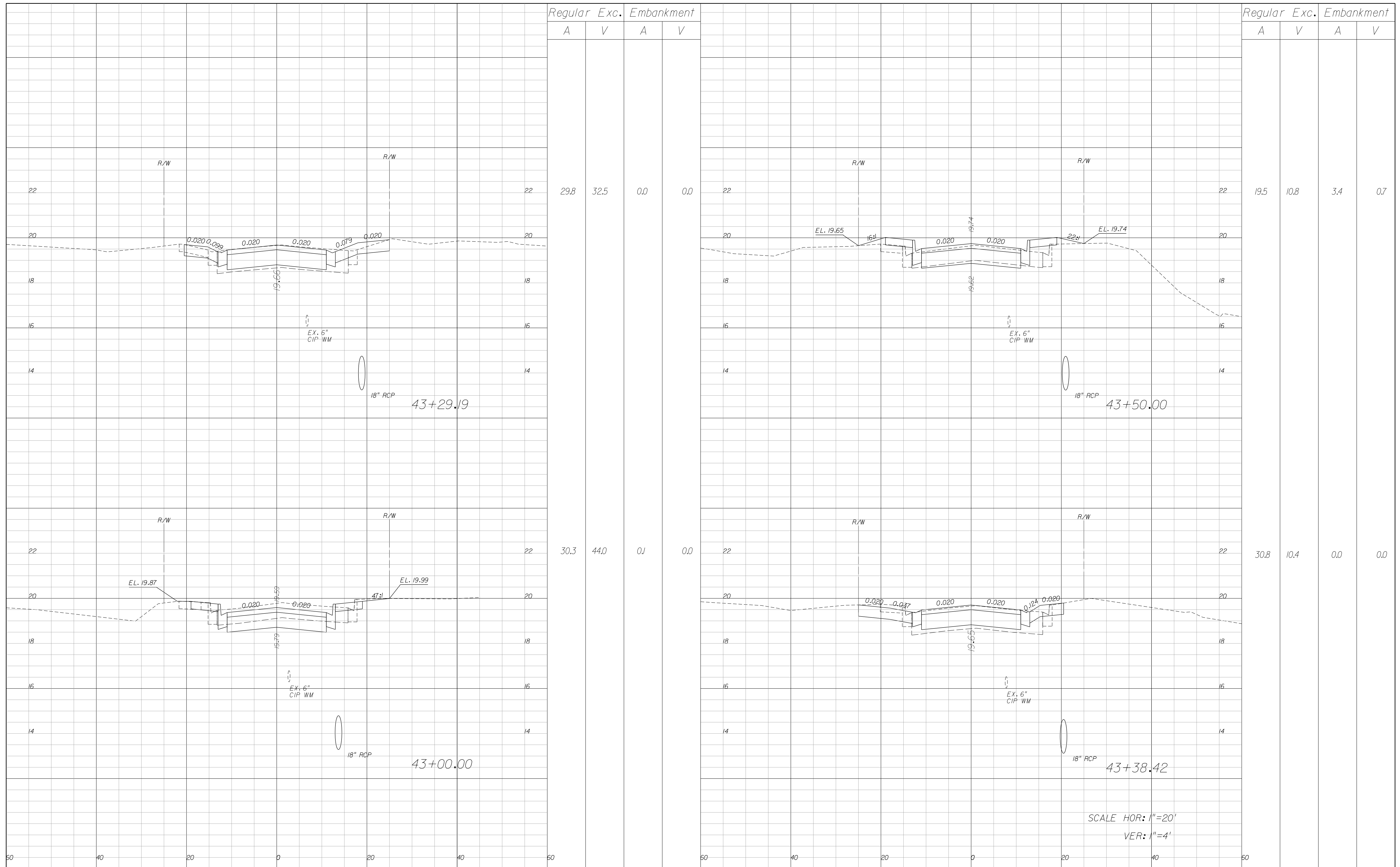
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 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D

CROSS SECTIONS

SHEET NO.  
28



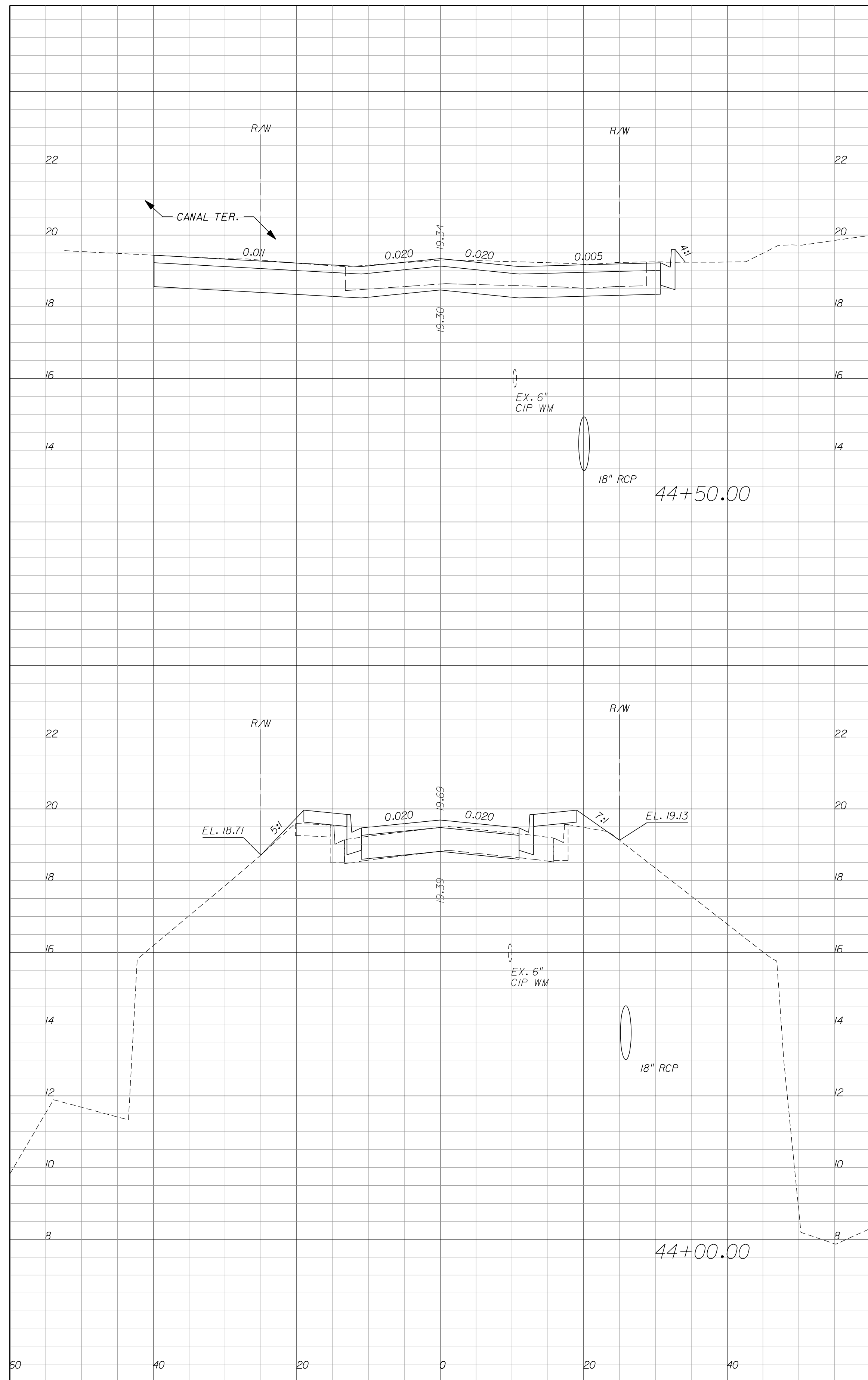
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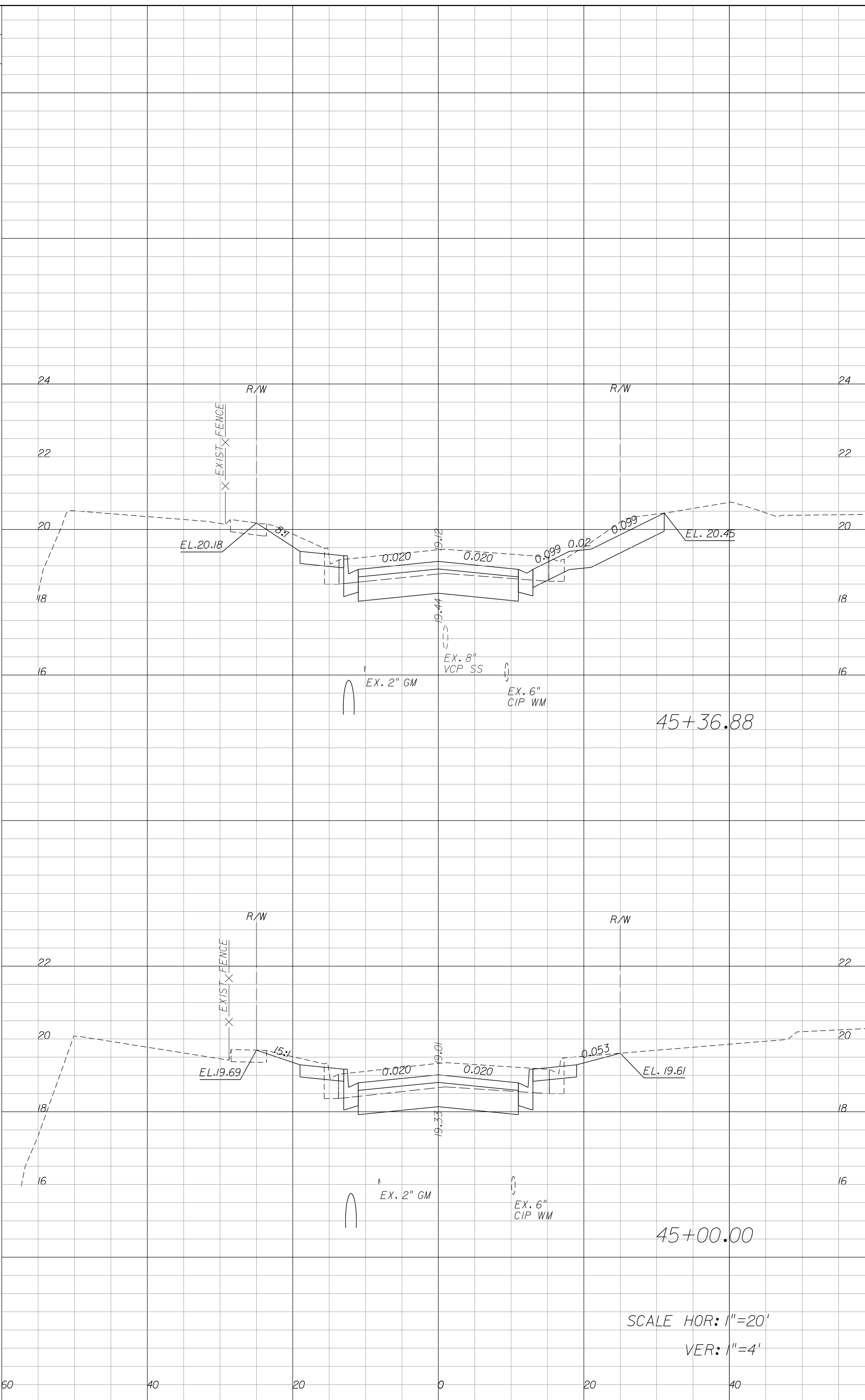
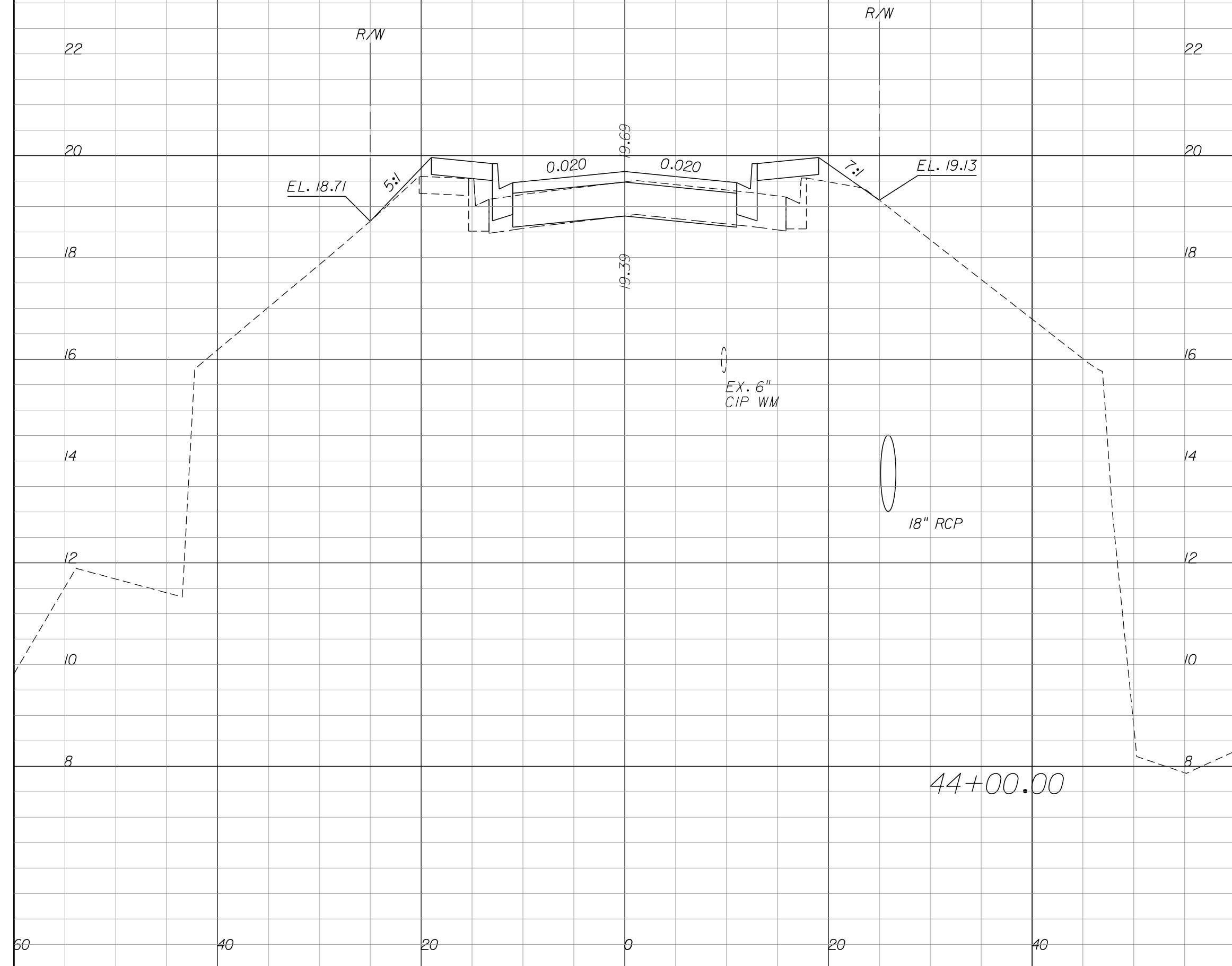
CITY OF FORT PIERCE/  
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 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D

CROSS SECTIONS

SHEET NO.  
 29



Regular		Exc.		Embankment	
A	V	A	V	A	V
64.8	75.5	0.3		4.0	
16.8	33.6	4.0		6.9	



Regular		Exc.		Embankment	
A	V	A	V	A	V
46.8	57.0	0.0		0.0	
36.7	94.0	0.0		0.2	

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

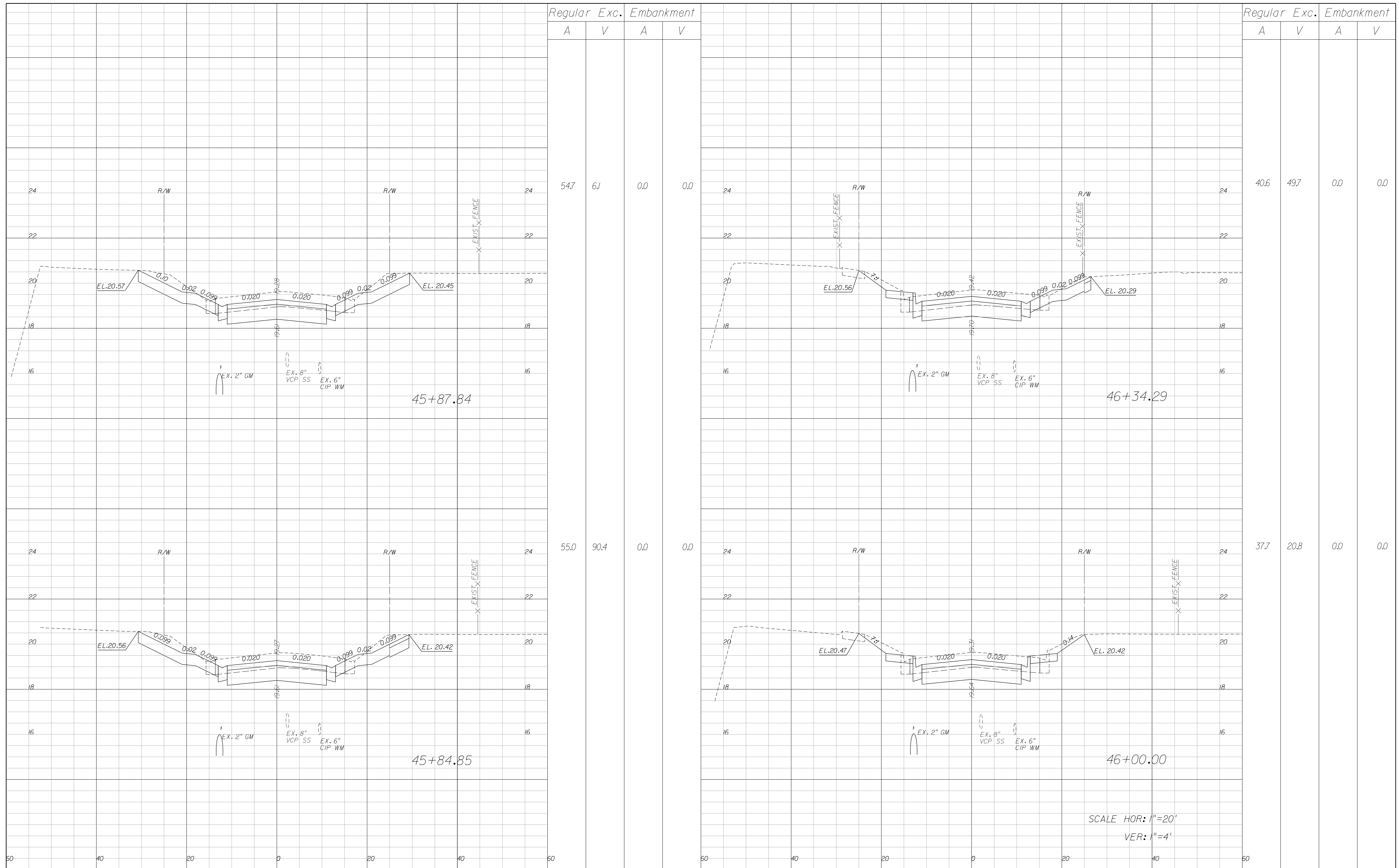
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 ORANGE AVENUE TO AVENUE D

CROSS SECTIONS

SHEET NO.  
 30

SCALE HOR: 1"=20'  
 VER: 1"=4'



Regular Exc.		Embankment	
A	V	A	V
54.7	6.1	0.0	0.0
55.0	90.4	0.0	0.0

Regular Exc.		Embankment	
A	V	A	V
40.6	49.7	0.0	0.0
37.7	20.8	0.0	0.0

SCALE HOR: 1"=20'  
VER: 1"=4'

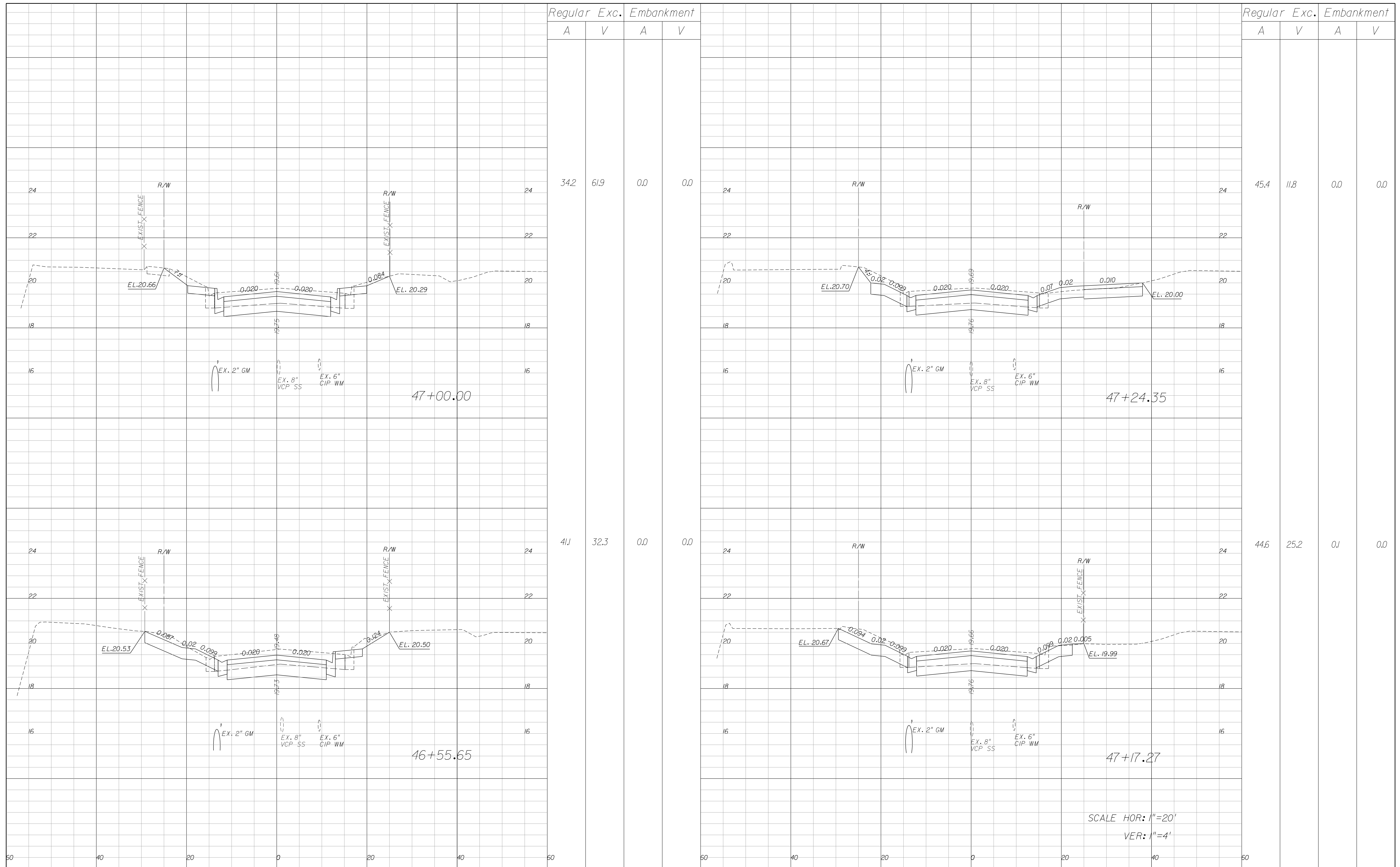
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 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D

CROSS SECTIONS

SHEET NO.  
31



Regular Exc. Embankment

A V A V

Regular Exc. Embankment

A V A V

342 61.9 0.0 0.0

45.4 11.8 0.0 0.0

411 32.3 0.0 0.0

446 25.2 0.0 0.0

47+00.00

47+24.35

46+55.65

47+17.27

SCALE HOR: 1"=20'  
VER: 1"=4'

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

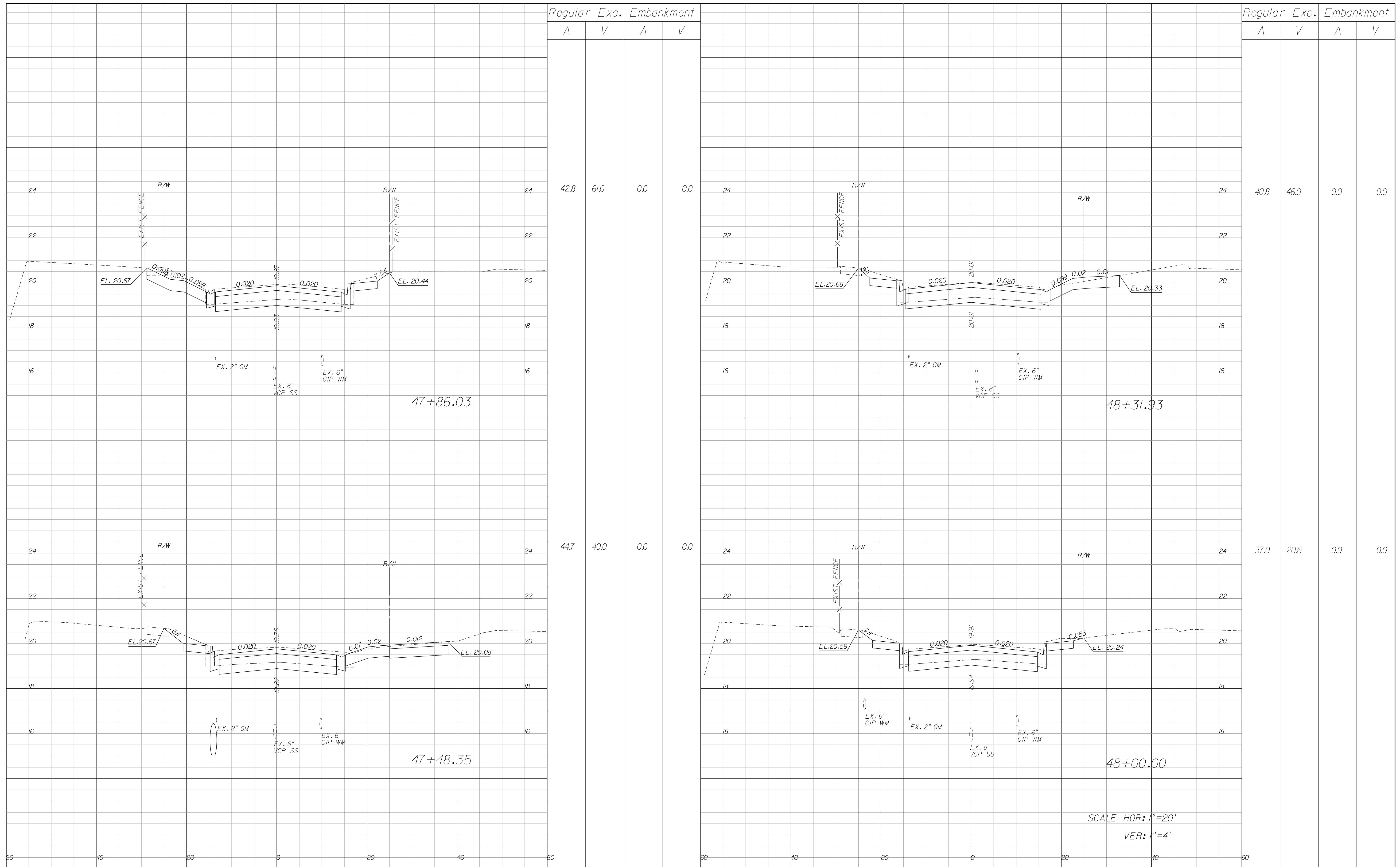
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CITY OF FORT PIERCE/  
FORT PIERCE REDEVELOPMENT AGENCY  
NORTH 17TH STREET IMPROVEMENTS  
ORANGE AVENUE TO AVENUE D

CROSS SECTIONS

SHEET NO.  
32



Regular		Exc.		Embankment	
A	V	A	V	A	V

Regular		Exc.		Embankment	
A	V	A	V	A	V

42.8 61.0 0.0 0.0

40.8 46.0 0.0 0.0

44.7 40.0 0.0 0.0

37.0 20.6 0.0 0.0

SCALE HOR: 1"=20'  
VER: 1"=4'

REVISIONS

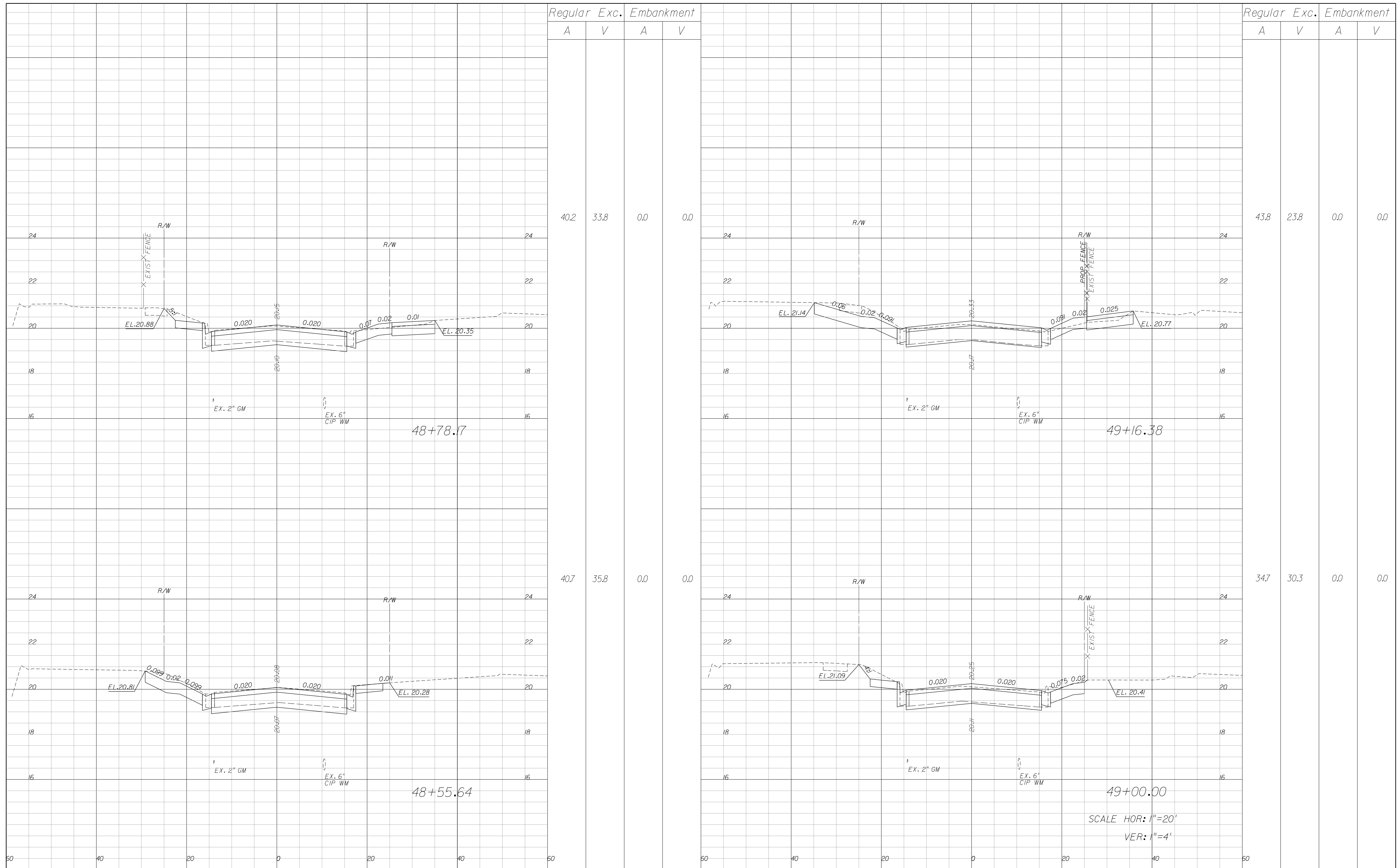
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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 ORANGE AVENUE TO AVENUE D

CROSS SECTIONS

SHEET NO.  
33



Regular Exc. Embankment

A V A V

Regular Exc. Embankment

A V A V

40.2 33.8 0.0 0.0

43.8 23.8 0.0 0.0

40.7 35.8 0.0 0.0

34.7 30.3 0.0 0.0

48+78.17

49+16.38

48+55.64

49+00.00

SCALE HOR: 1"=20'  
VER: 1"=4'

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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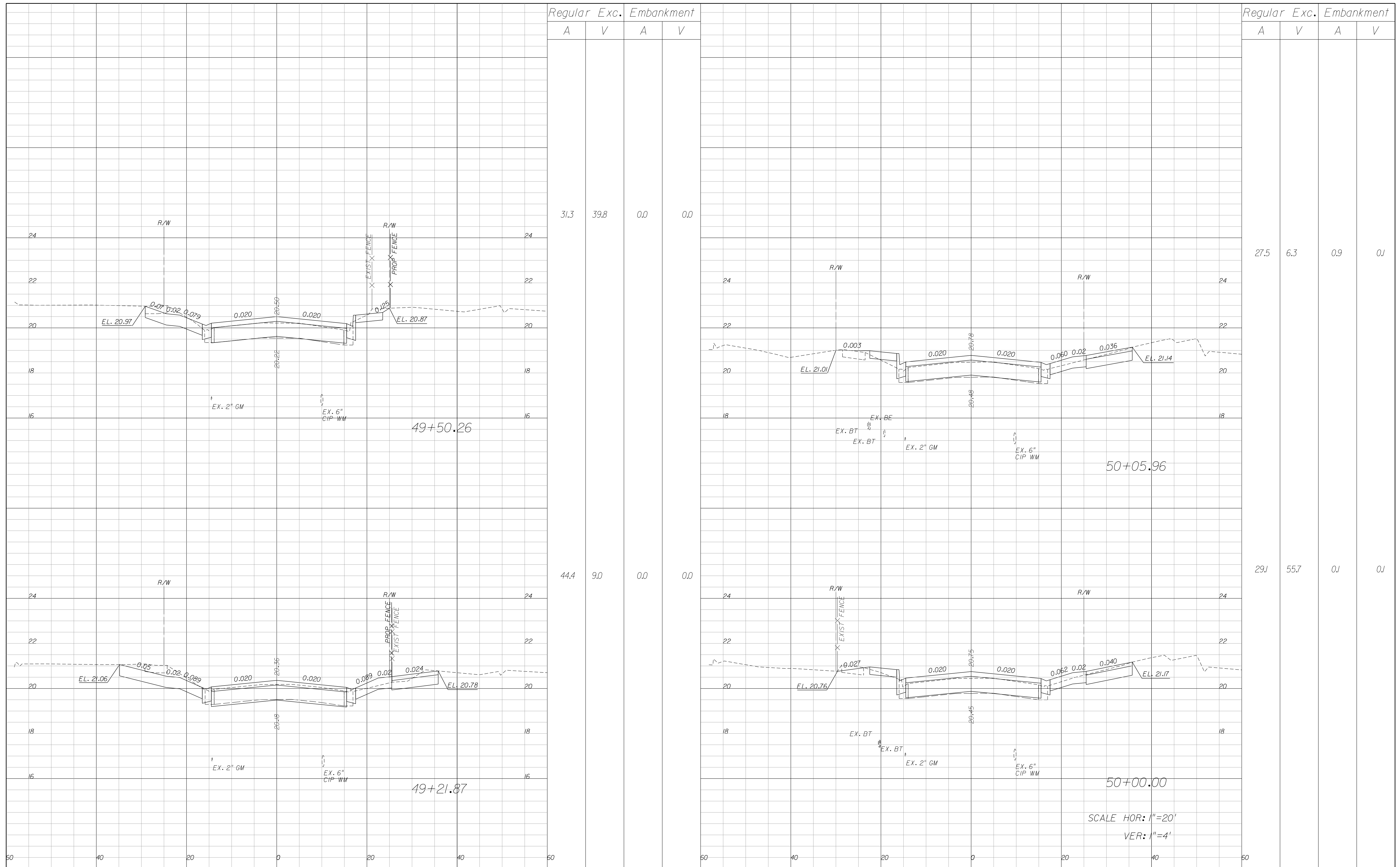
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ORANGE AVENUE TO AVENUE D

CROSS SECTIONS

SHEET NO.

34



Regular		Exc.		Embankment	
A	V	A	V	A	V

Regular		Exc.		Embankment	
A	V	A	V	A	V

31.3 39.8 0.0 0.0

27.5 6.3 0.9 0.0

44.4 9.0 0.0 0.0

29.1 55.7 0.0 0.0

SCALE HOR: 1"=20'  
VER: 1"=4'

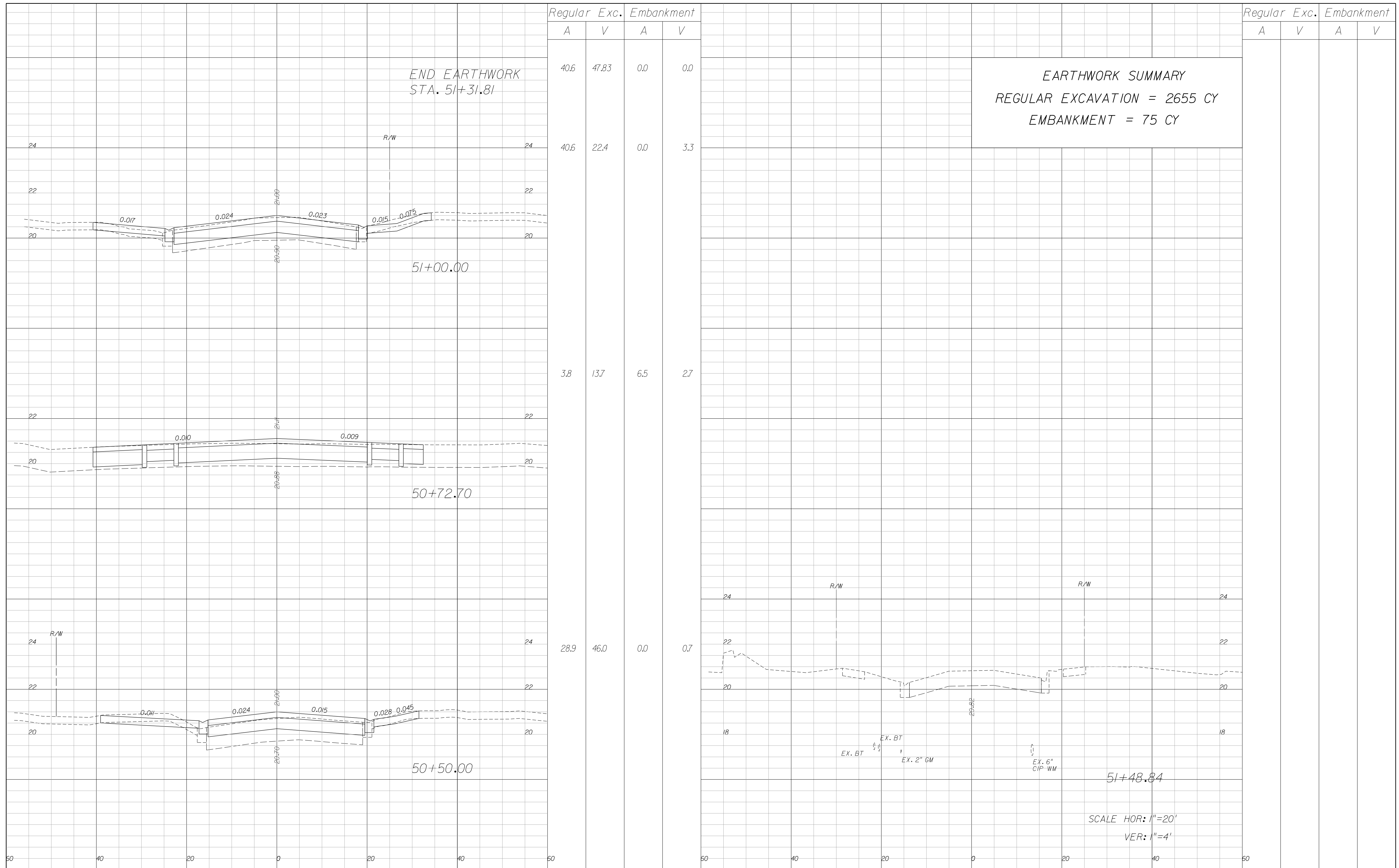
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 ORANGE AVENUE TO AVENUE D

CROSS SECTIONS

SHEET NO.  
35



**EARTHWORK SUMMARY**  
 REGULAR EXCAVATION = 2655 CY  
 EMBANKMENT = 75 CY

END EARTHWORK  
 STA. 51+31.81

SCALE HOR: 1"=20'  
 VER: 1"=4'

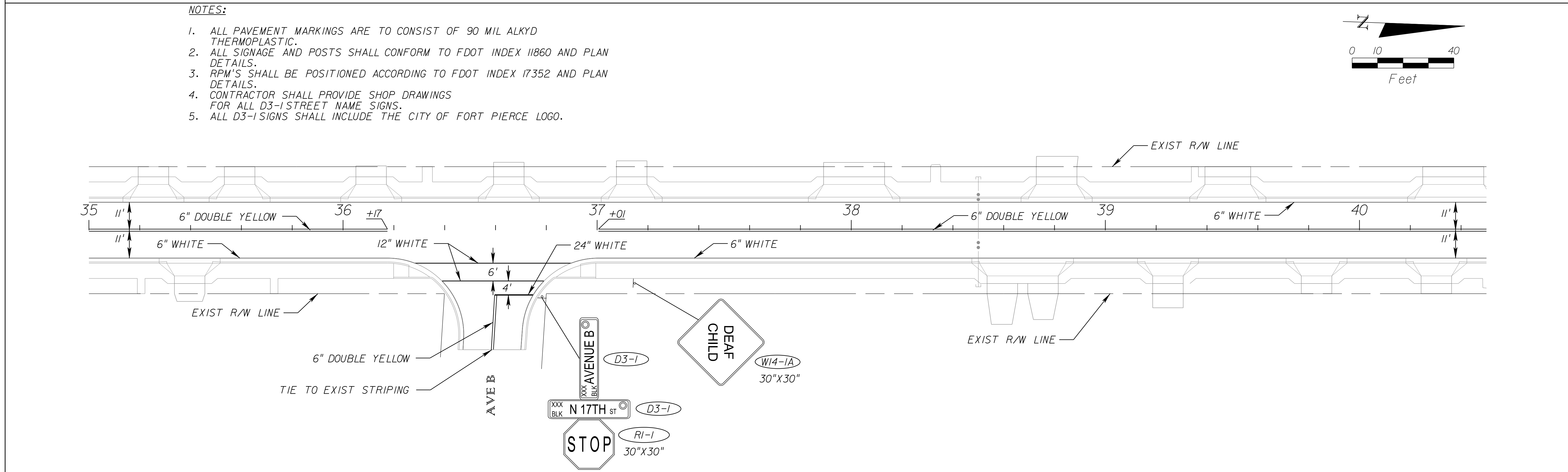
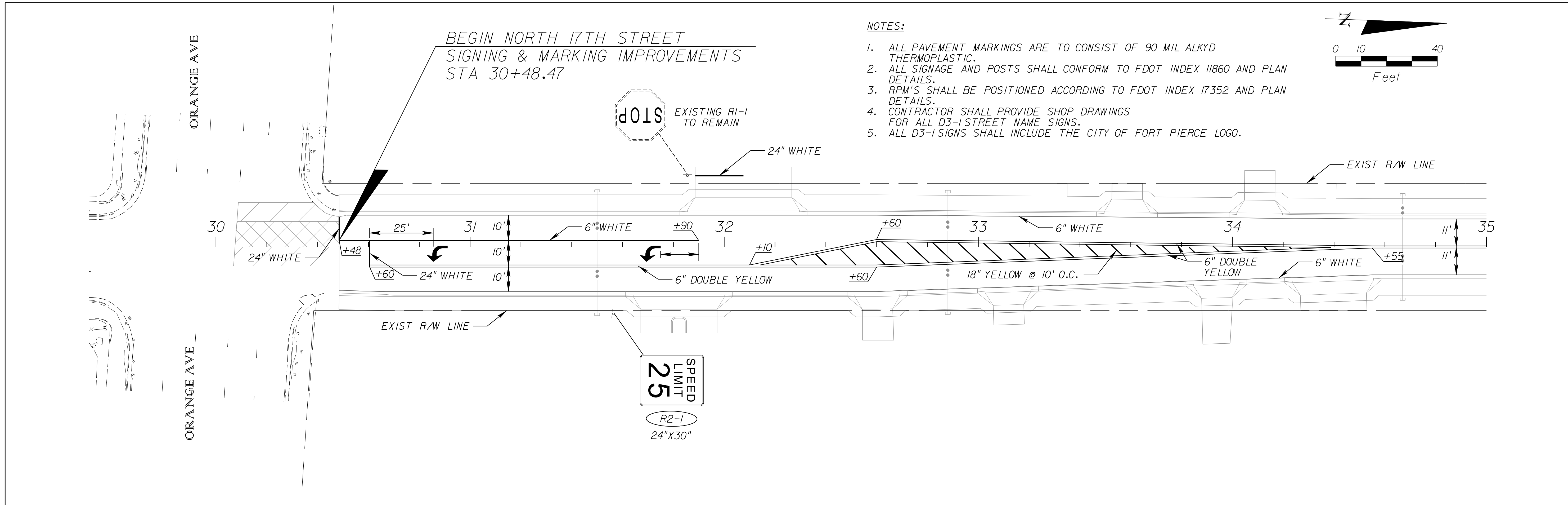
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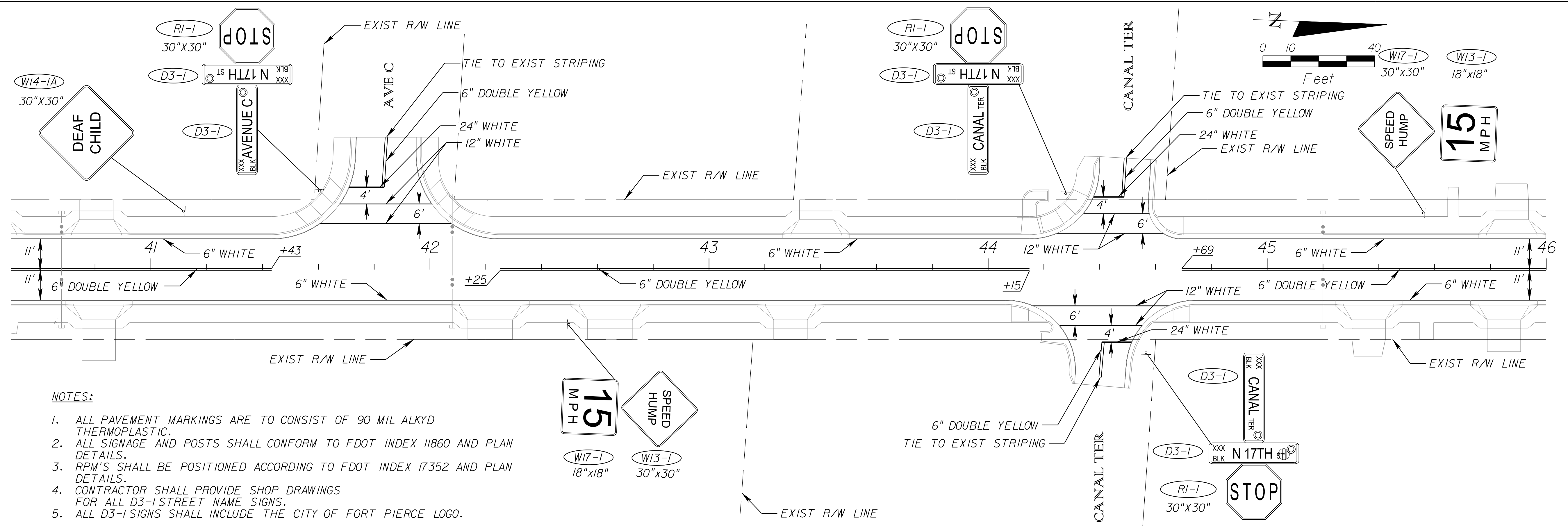
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 ORANGE AVENUE TO AVENUE D**

**CROSS SECTIONS**

SHEET NO.  
 36

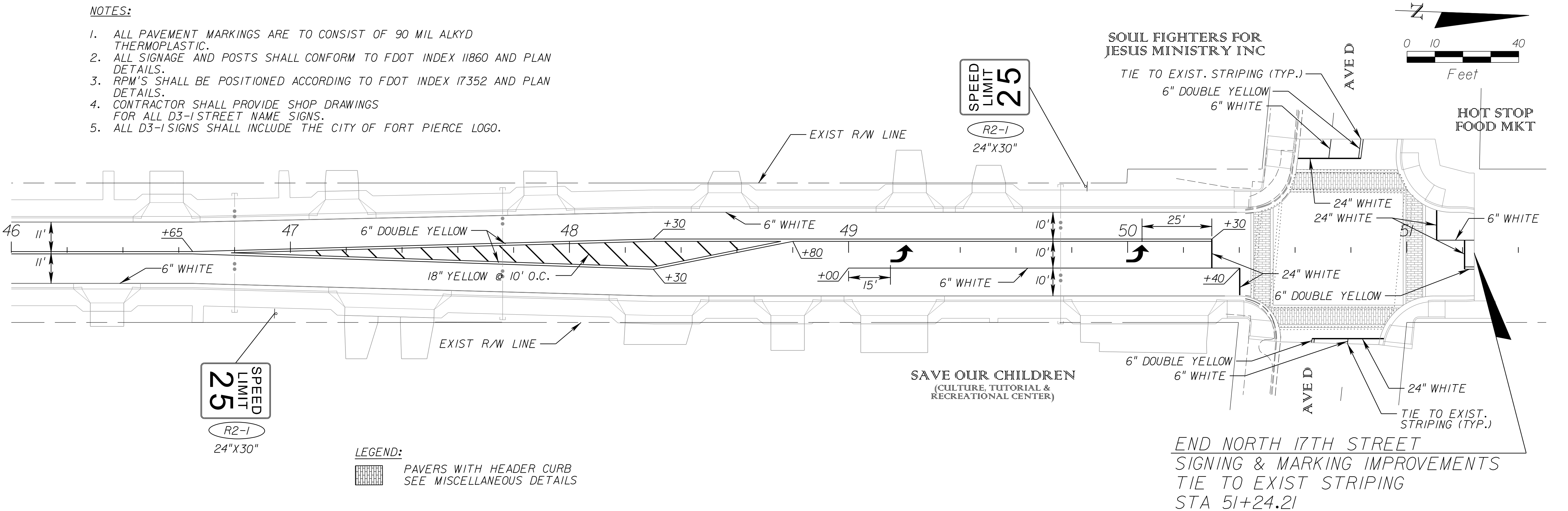


REVISIONS							<b>CITY OF FORT PIERCE/ FORT PIERCE REDEVELOPMENT AGENCY</b> NORTH 17TH STREET IMPROVEMENTS ORANGE AVENUE TO AVENUE D	<b>SIGNING AND MARKING</b>	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				38
						<small>               BRIAN A. GOOD, P.E.                P.E. LICENSE NUMBER 56939                445 24TH STREET, SUITE 200                VERO BEACH, FL 32960                (772) 794-4000                CERTIFICATE OF AUTHORIZATION: 00000696             </small>	<small>               mike.forman                10/19/2016                8:48:37 AM                K:\WRB_Roadway\47922003\cadd\Phase 1\rdwy\PLAN\SP01.dgn             </small>		



**NOTES:**

1. ALL PAVEMENT MARKINGS ARE TO CONSIST OF 90 MIL ALKYD THERMOPLASTIC.
2. ALL SIGNAGE AND POSTS SHALL CONFORM TO FDOT INDEX I1860 AND PLAN DETAILS.
3. RPM'S SHALL BE POSITIONED ACCORDING TO FDOT INDEX I7352 AND PLAN DETAILS.
4. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL D3-1 STREET NAME SIGNS.
5. ALL D3-1 SIGNS SHALL INCLUDE THE CITY OF FORT PIERCE LOGO.



**NOTES:**

1. ALL PAVEMENT MARKINGS ARE TO CONSIST OF 90 MIL ALKYD THERMOPLASTIC.
2. ALL SIGNAGE AND POSTS SHALL CONFORM TO FDOT INDEX I1860 AND PLAN DETAILS.
3. RPM'S SHALL BE POSITIONED ACCORDING TO FDOT INDEX I7352 AND PLAN DETAILS.
4. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL D3-1 STREET NAME SIGNS.
5. ALL D3-1 SIGNS SHALL INCLUDE THE CITY OF FORT PIERCE LOGO.

**LEGEND:**

- PAVERS WITH HEADER CURB
- SEE MISCELLANEOUS DETAILS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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 445 24TH STREET, SUITE 200  
 VERO BEACH, FL 32960  
 (772) 794-4000  
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**CITY OF FORT PIERCE/  
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 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D

**SIGNING AND MARKING**

SHEET NO.  
 39

## GENERAL EROSION NOTES

A. THE STORMWATER POLLUTION PREVENTION PLAN IS COMPRISED OF THIS DRAWING, THE STANDARD DETAILS, THE PLAN NARRATIVE, ATTACHMENTS INCLUDED IN SPECIFICATIONS, PLUS THE PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.

B. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE STATE OF FLORIDA NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.

C. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS.

D. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR THE CITY.

E. CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.

F. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.

G. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.

H. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.

I. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.

J. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.

K. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.

L. STABILIZATION PRACTICES SHOULD BE INITIATED AS SOON AS PRACTICAL, BUT IN NO CASE MORE THAN 7 DAYS WHERE CONSTRUCTION HAS TEMPORARILY CEASED.

M. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SODDED. THESE AREAS SHALL BE SODDED NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN.

N. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.

O. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

P. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.

Q. ON-SITE & OFFSITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.

R. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.

S. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION.

T. THE CONTRACTOR IS RESPONSIBLE FOR APPLYING FOR AND OBTAINING THE NPDES PERMIT PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

## MAINTENANCE

ALL MEASURES STATED ON THIS EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A 0.5" RAINFALL EVENT, AND CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

1. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.

2. ALL SODDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESODDED AS NEEDED.

3. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.

4. THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.

5. THE TEMPORARY STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE).

6. OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.

7. ALL MAINTENANCE OPERATIONS SHALL BE DONE IN A TIMELY MANNER BUT IN NO CASE LATER THAN SEVEN CALENDAR DAYS FOLLOWING THE INSPECTION.

### REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**Kimley»Horn**

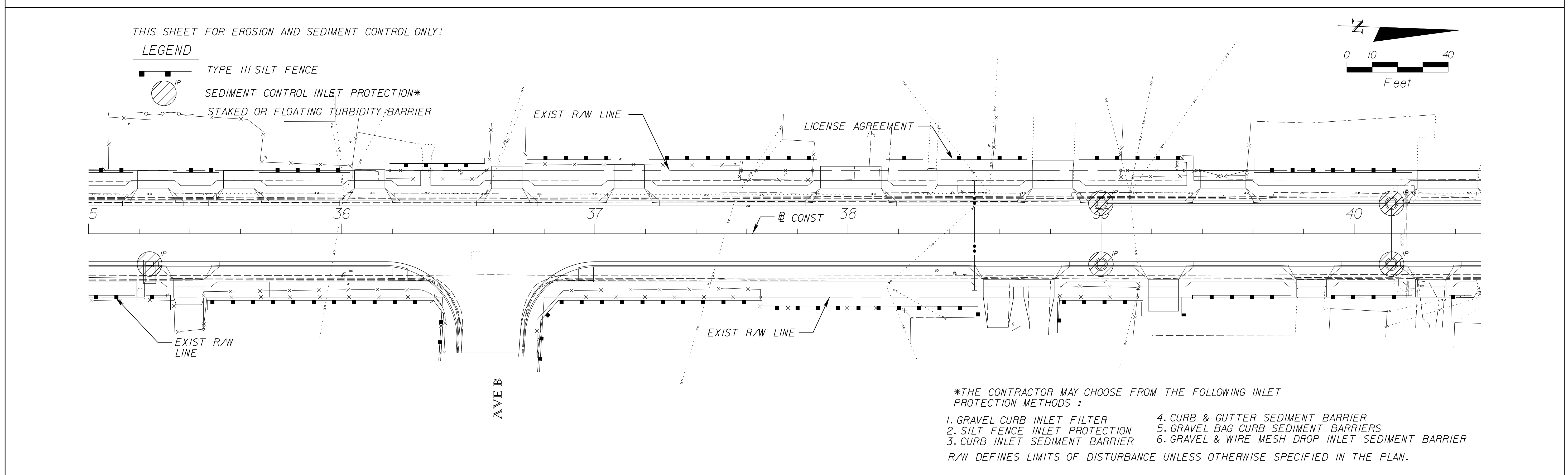
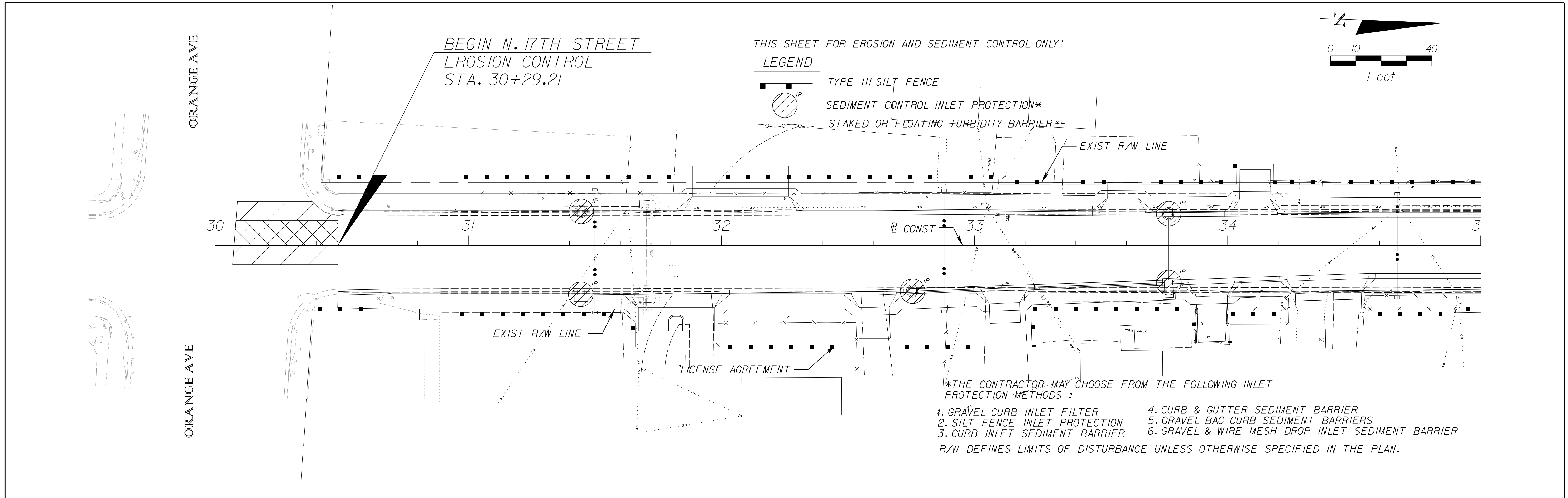
BRIAN A. GOOD, P.E.  
P.E. LICENSE NUMBER 56939  
445 24TH STREET, SUITE 200  
VERO BEACH, FL 32960  
(772) 794-4000  
CERTIFICATE OF AUTHORIZATION: 00000696

**CITY OF FORT PIERCE/  
FORT PIERCE REDEVELOPMENT AGENCY  
NORTH 17TH STREET IMPROVEMENTS  
ORANGE AVENUE TO AVENUE D**

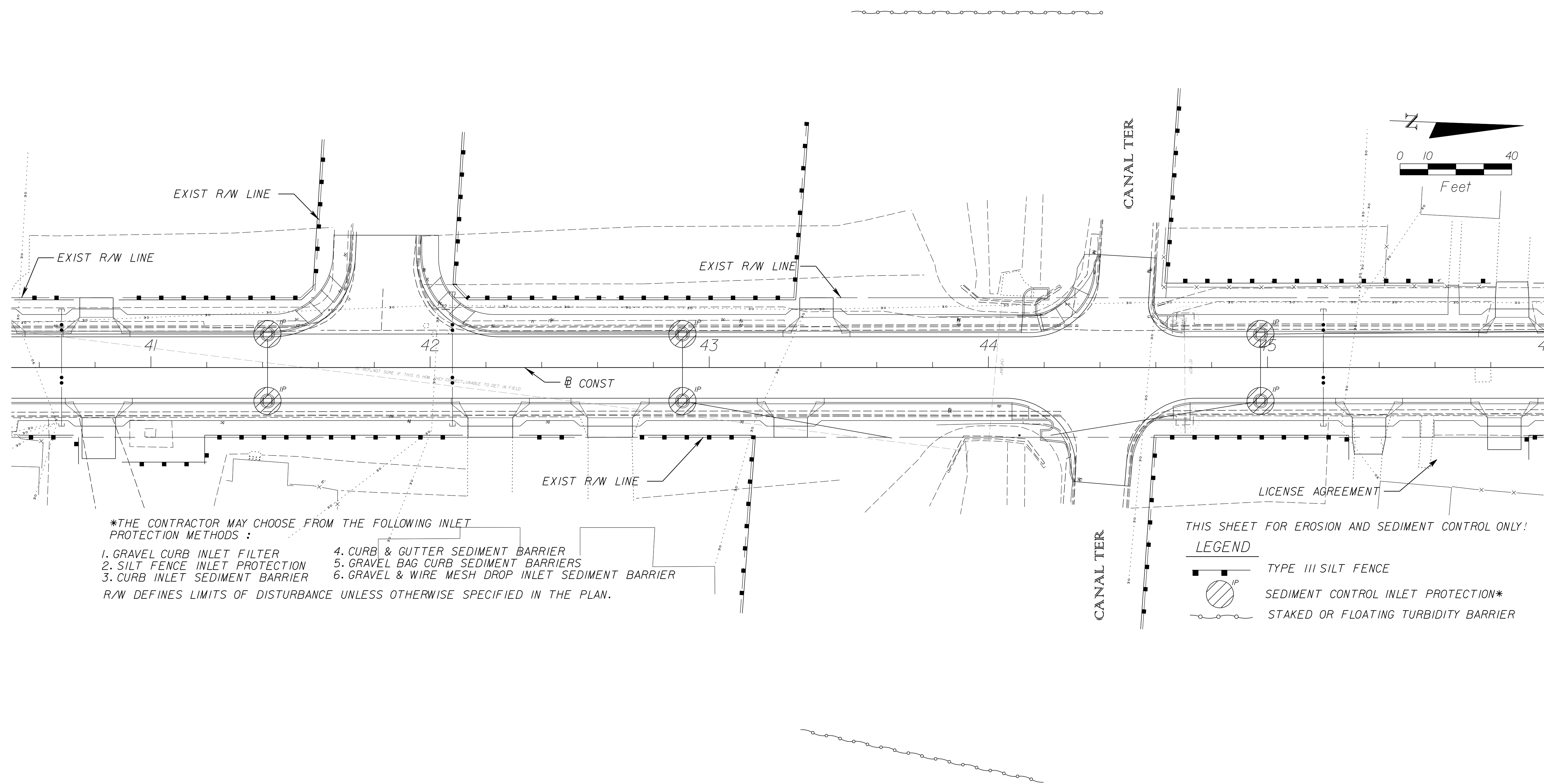
**EROSION CONTROL  
GENERAL NOTES**

SHEET  
NO.

40



REVISIONS							<b>CITY OF FORT PIERCE/ FORT PIERCE REDEVELOPMENT AGENCY</b> <b>NORTH 17TH STREET IMPROVEMENTS ORANGE AVENUE TO AVENUE D</b>	<b>EROSION CONTROL</b>	SHEET NO. 41
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				
						<small>           BRIAN A. GOOD, P.E.            P.E. LICENSE NUMBER 56939            445 24TH STREET, SUITE 200            VERO BEACH, FL 32960            (772) 794-4000            CERTIFICATE OF AUTHORIZATION: 00000696         </small>	<small>           mike.forman            10/19/2016            8:48:41 AM            K:\WRB_Roadway\47922003\cadd\Phase 1\rdwy\PLANE01.dgn         </small>		



\*THE CONTRACTOR MAY CHOOSE FROM THE FOLLOWING INLET PROTECTION METHODS :

1. GRAVEL CURB INLET FILTER	4. CURB & GUTTER SEDIMENT BARRIER
2. SILT FENCE INLET PROTECTION	5. GRAVEL BAG CURB SEDIMENT BARRIERS
3. CURB INLET SEDIMENT BARRIER	6. GRAVEL & WIRE MESH DROP INLET SEDIMENT BARRIER

R/W DEFINES LIMITS OF DISTURBANCE UNLESS OTHERWISE SPECIFIED IN THE PLAN.

THIS SHEET FOR EROSION AND SEDIMENT CONTROL ONLY!

**LEGEND**

- TYPE III SILT FENCE
- ⊙ SEDIMENT CONTROL INLET PROTECTION\*
- STAKED OR FLOATING TURBIDITY BARRIER

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**Kimley»Horn**

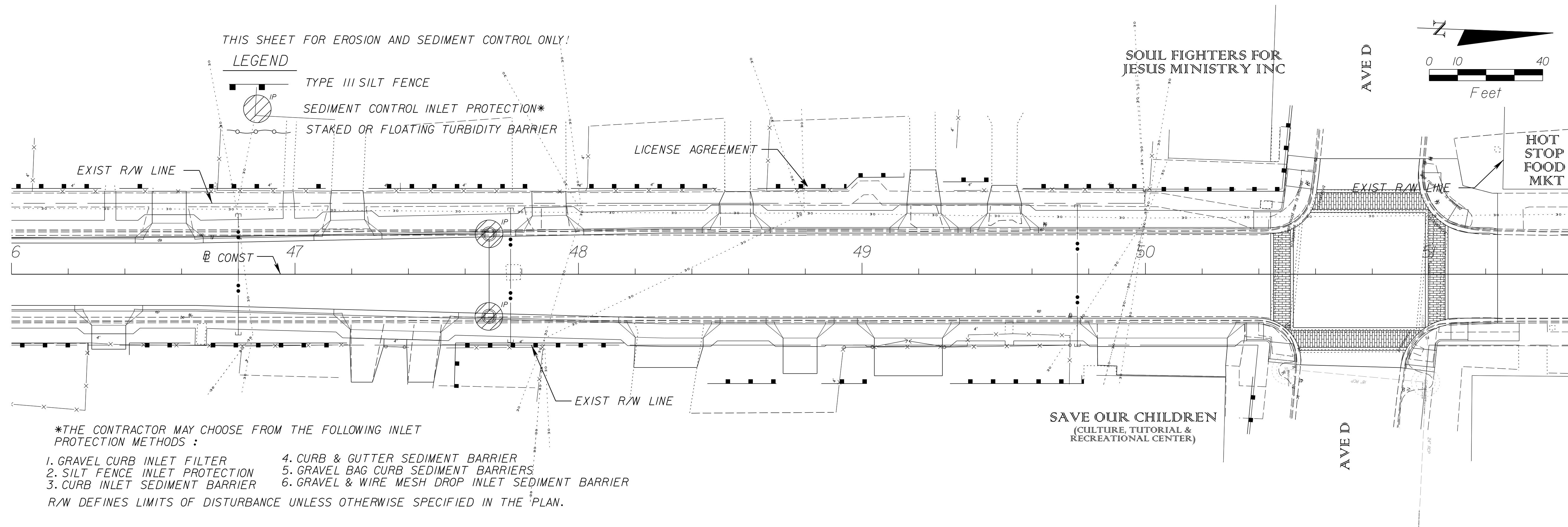
BRIAN A. GOOD, P.E.  
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 445 24TH STREET, SUITE 200  
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CITY OF FORT PIERCE/  
 FORT PIERCE REDEVELOPMENT AGENCY

NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D

EROSION CONTROL

SHEET NO.  
 42



\*THE CONTRACTOR MAY CHOOSE FROM THE FOLLOWING INLET PROTECTION METHODS :

1. GRAVEL CURB INLET FILTER	4. CURB & GUTTER SEDIMENT BARRIER
2. SILT FENCE INLET PROTECTION	5. GRAVEL BAG CURB SEDIMENT BARRIERS
3. CURB INLET SEDIMENT BARRIER	6. GRAVEL & WIRE MESH DROP INLET SEDIMENT BARRIER

R/W DEFINES LIMITS OF DISTURBANCE UNLESS OTHERWISE SPECIFIED IN THE PLAN.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**Kimley»Horn**

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CITY OF FORT PIERCE/  
FORT PIERCE REDEVELOPMENT AGENCY

NORTH 17TH STREET IMPROVEMENTS  
ORANGE AVENUE TO AVENUE D

EROSION CONTROL

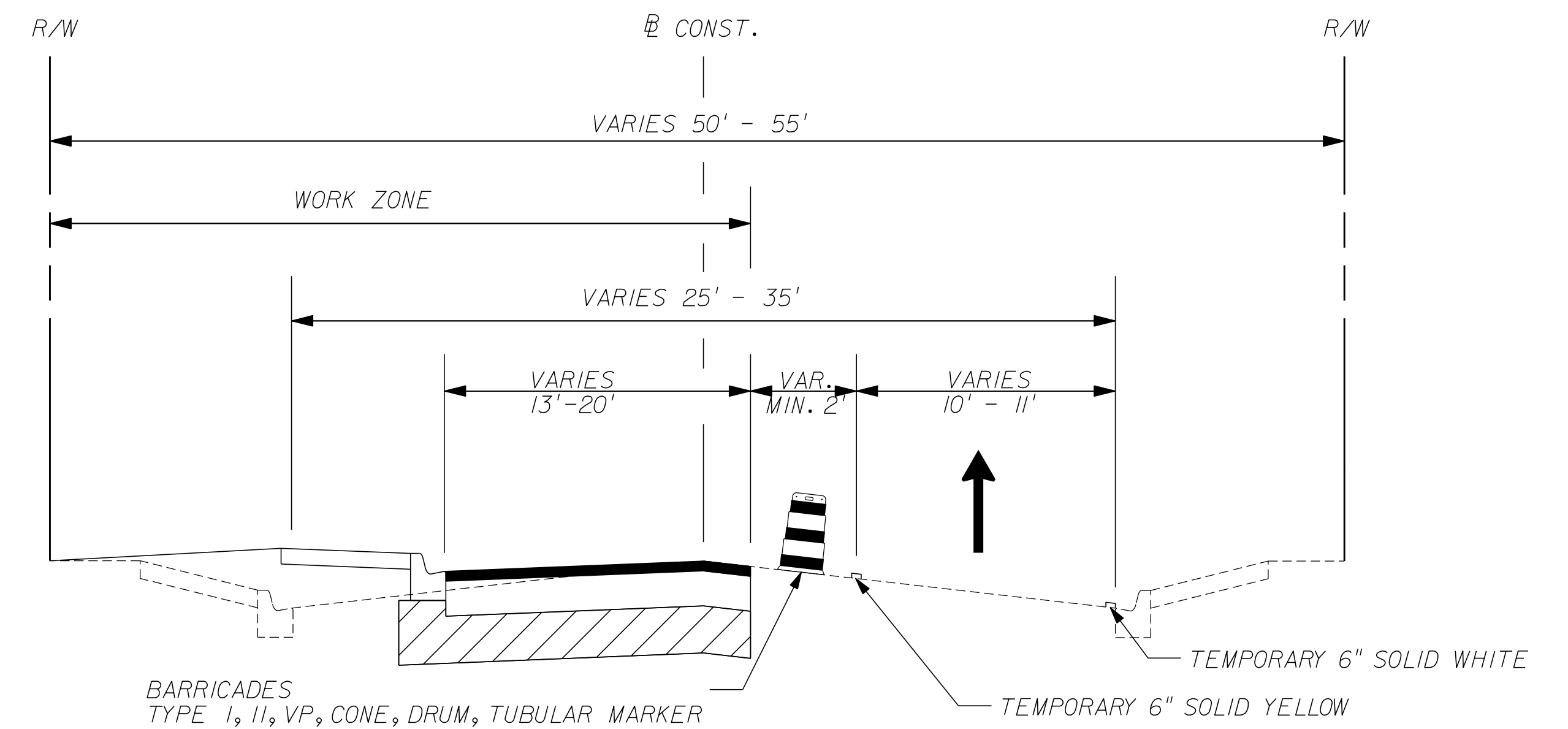
SHEET NO.  
43

MAINTENANCE OF TRAFFIC GENERAL NOTES:

1. THE FOLLOWING MAINTENANCE OF TRAFFIC DETAILS HAVE BEEN PROVIDED TO GIVE THE CONTRACTOR GENERAL DIRECTION. THE CONTRACTOR SHALL DEVELOP DETAILED TRAFFIC CONTROL PLANS THAT MUST BE APPROVED BY THE CITY PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. AT NO TIME SHALL THE CONTRACTOR CLOSE THE ROAD TO THROUGH TRAFFIC WITHOUT PRIOR CONSENT FROM THE CITY.
3. THE CONTRACTOR SHALL CONTACT IN WRITING ALL AFFECTED PROPERTY OWNERS 2 WEEKS PRIOR TO CONTRACTOR IMPLEMENTING ONE WAY TRAFFIC PATTERN.
4. CONTRACTOR SHALL MAINTAIN VARIABLE MESSAGE SIGN (VMS) ALERTING COMMUTERS TO ONE WAY TRAFFIC PATTERN. VMS SHALL BE ACTIVE NO LESS THAN 1WEEK PRIOR TO TRAFFIC PATTERN MODIFICATION.
5. CONTRACTOR MUST MAINTAIN ACCESS TO ALL BUSINESS AND RESIDENCES AT ALL TIME.
6. MOT MUST BE IN COMPLIANCE WITH FDOT INDEX 600 SERIES.
7. PEDESTRIAN WALK WAY MUST FOLLOW FDOT INDEX 660 PEDESTRIAN CONTROL FOR CLOSURE OF SIDEWALKS.
8. AT THE END OF EVERYDAY, THE FDOT INDEX 600 SHOULDER TREATMENT MUST BE FOLLOWED.
9. CONTRACTOR SHALL GIVE CONSIDERATION TO PHASE CONSTRUCTION BASED ON PROPOSED FT. PIERCE UTILITY AUTHORITY UTILITY IMPROVEMENTS.

PHASE I DESCRIPTION

- MOT MUST BE IN COMPLIANCE WITH FDOT INDEX 600 SERIES.
- ERECT ALL ADVANCE CONSTRUCTION IDENTIFICATION SIGNS AND SET UP DETOUR.
- TRAFFIC TO REMAIN OPEN ON EXISTING ROADWAY IN A ONE WAY DIRECTION. PLACE TEMPORARY STRIPING AND PAVEMENT PER PHASE I CONSTRUCTION DETAIL (THIS SHEET).
- ALL EXISTING STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY STRIPING SHALL BE OBLITERATED.
- CONSTRUCT CROSS DRAINS AND SIDE DRAINS. MAINTAIN PROPER DRAINAGE DURING CONSTRUCTION BY USING TEMPORARY PIPING, PUMPING OR OTHER METHODS APPROVED BY CEI.
- PEDESTRIAN WALK WAY MUST FOLLOW FDOT INDEX 660 PEDESTRIAN CONTROL FOR CLOSURE OF SIDEWALKS.
- CONSTRUCT WIDENING, CURB AND GUTTER, DRIVEWAYS AND TURNOUTS. DO NOT PLACE LAST LIFT OF ASPHALT.
- AT THE END OF EVERYDAY, THE FDOT INDEX 600 SHOULDER TREATMENT MUST BE FOLLOWED.



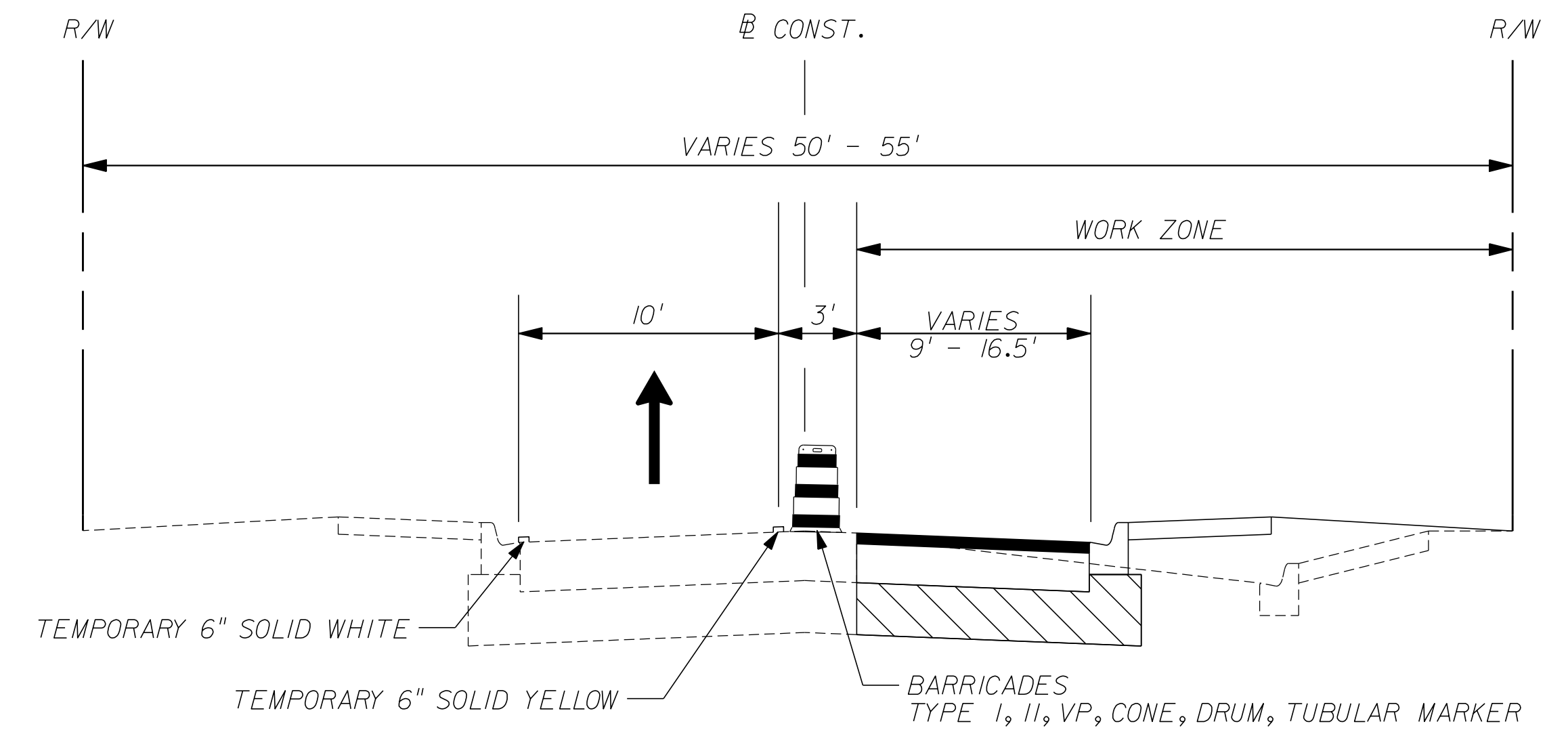
PHASE I CONSTRUCTION DETAIL

N.T.S.

REVISIONS						<b>Kimley»Horn</b> <small>BRIAN A. GOOD, P.E.                      P.E. LICENSE NUMBER 56939                      445 24TH STREET, SUITE 200                      VERO BEACH, FL 32960                      (772) 794-4000                      CERTIFICATE OF AUTHORIZATION: 00000696</small>	CITY OF FORT PIERCE/ FORT PIERCE REDEVELOPMENT AGENCY NORTH 17TH STREET IMPROVEMENTS ORANGE AVENUE TO AVENUE D	TRAFFIC CONTROL TYPICAL SECTION	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				44

PHASE II DESCRIPTION

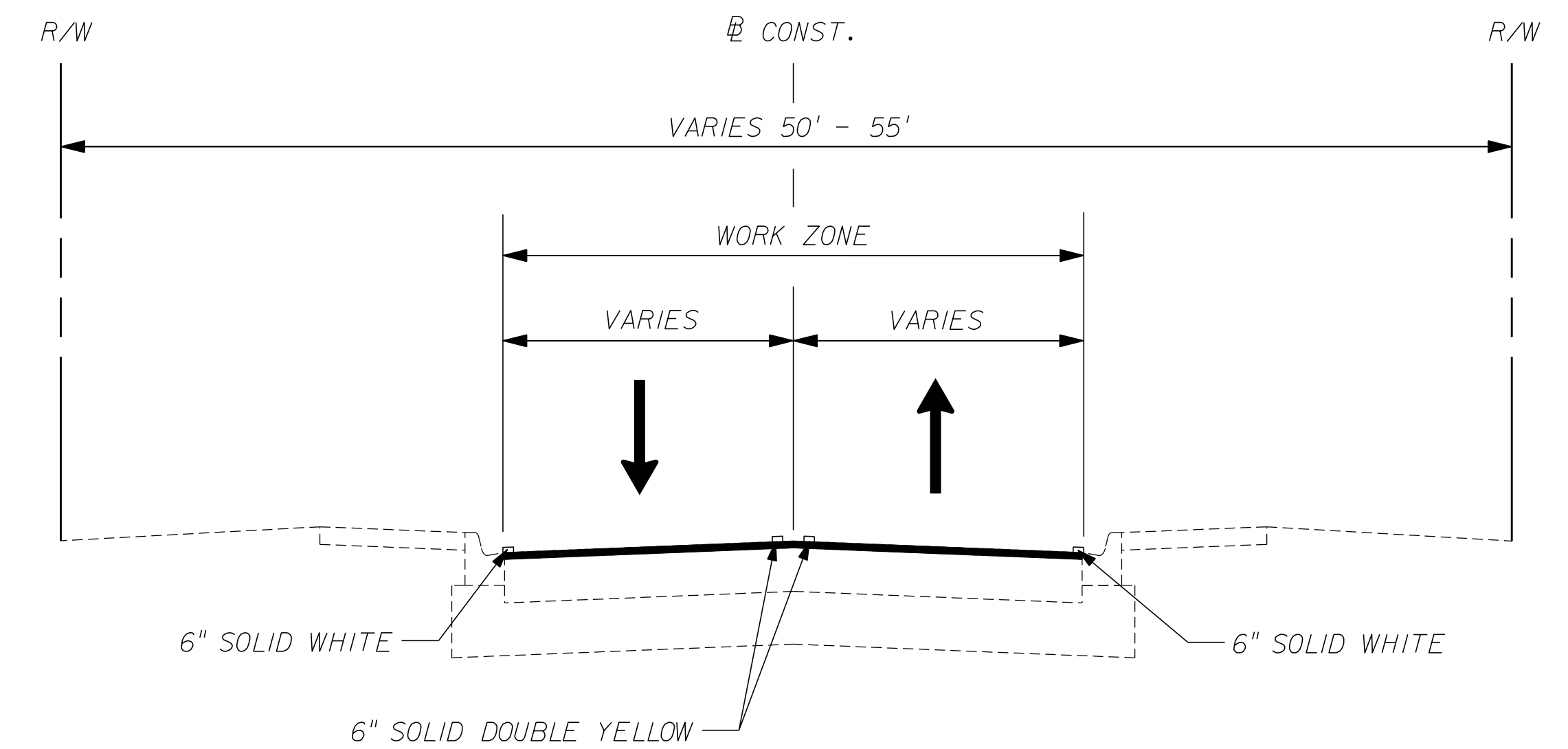
- MOT MUST BE IN COMPLIANCE WITH FDOT INDEX 600 SERIES.
- ERECT ALL ADVANCE CONSTRUCTION IDENTIFICATION SIGNS AND SET UP DETOUR AS REQUIRED OR MODIFIED FROM PHASE I.
- TRAFFIC TO REMAIN OPEN ON EXISTING ROADWAY IN A ONE WAY DIRECTION. PLACE TEMPORARY STRIPING AND PAVEMENT PER PHASE I CONSTRUCTION DETAIL (THIS SHEET).
- ALL EXISTING STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY STRIPING SHALL BE OBLITERATED.
- CONSTRUCT CROSS DRAINS AND SIDE DRAINS. MAINTAIN PROPER DRAINAGE DURING CONSTRUCTION BY USING TEMPORARY PIPING, PUMPING OR OTHER METHODS APPROVED BY CEI.
- PEDESTRIAN WALK WAY MUST FOLLOW FDOT INDEX 660 PEDESTRIAN CONTROL FOR CLOSURE OF SIDEWALKS.
- CONSTRUCT WIDENING, CURB AND GUTTER, DRIVEWAYS AND TURNOUTS. DO NOT PLACE LAST LIFT OF ASPHALT.
- AT THE END OF EVERYDAY, THE FDOT INDEX 600 SHOULDER TREATMENT MUST BE FOLLOWED.



**PHASE II CONSTRUCTION DETAIL**  
N.T.S.

PHASE III DESCRIPTION

- PLACE FINAL LIFT OF ASPHALT PER TYPICAL SECTION
- PLACE TEMPORARY STRIPING PER FINAL STRIPING PLAN. ALL EXISTING STRIPING THAT CONFLICTS WITH PROPOSED TEMPORARY STRIPING SHALL BE OBLITERATED.
- AT THE END OF THE ASPHALT CURE PERIOD, PLACE PERMANENT PAVEMENT MARKINGS PER THE FINAL STRIPING PLAN.
- COMPLETE FINAL SIGNING AND PAVEMENT MARKINGS, AND OPEN TRAFFIC LANES.



**PHASE III CONSTRUCTION DETAIL**  
N.T.S.

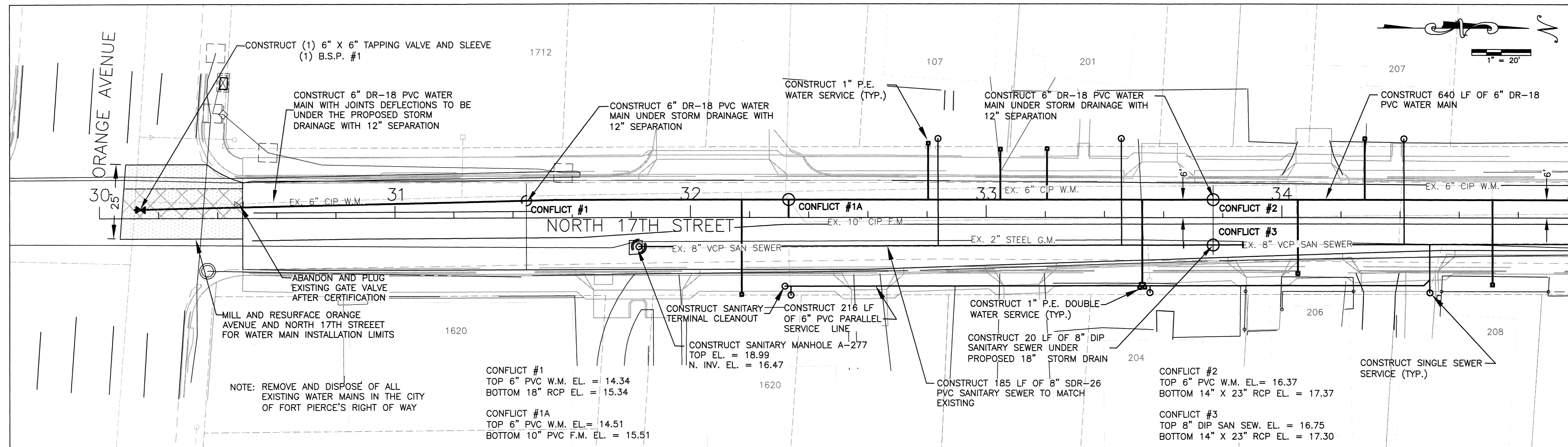
REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**Kimley»Horn**  
BRIAN A. GOOD, P.E.  
 P.E. LICENSE NUMBER 56939  
 445 24TH STREET, SUITE 200  
 VERO BEACH, FL 32960  
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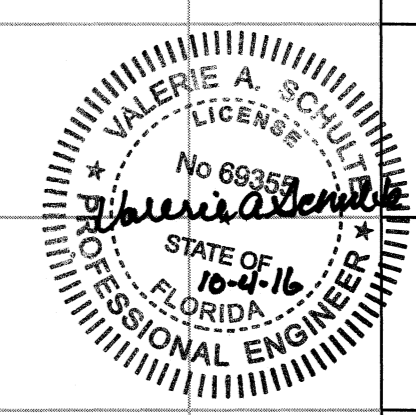
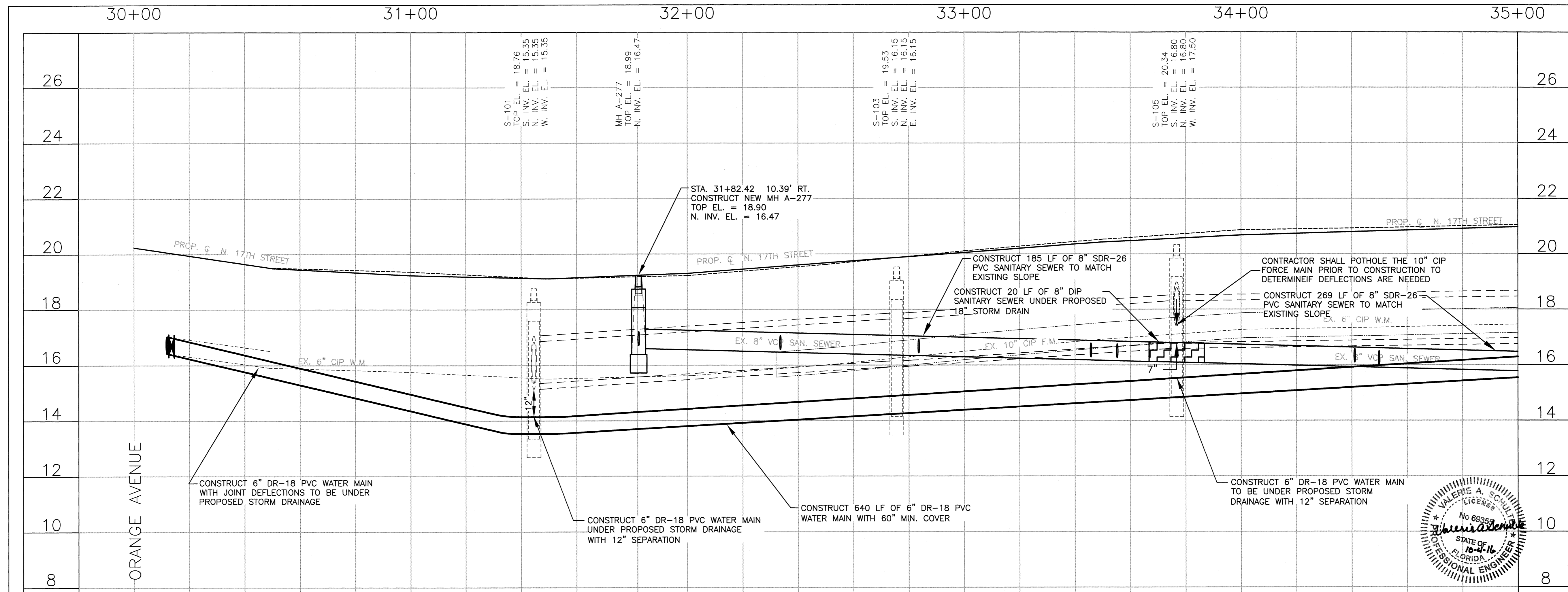
**CITY OF FORT PIERCE/  
 FORT PIERCE REDEVELOPMENT AGENCY  
 NORTH 17TH STREET IMPROVEMENTS  
 ORANGE AVENUE TO AVENUE D**

**TRAFFIC CONTROL  
 TYPICAL SECTION**

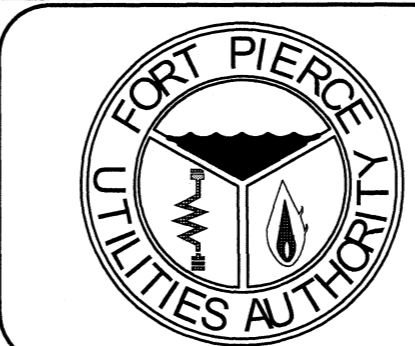
SHEET NO.  
45



MATCHLINE STA 35+00 SEE SHEET 3 OF 8



Valerie A. Schulte, P.E. PE# 68355  
1701 S. 37th Street  
Fort Pierce, FL 34947



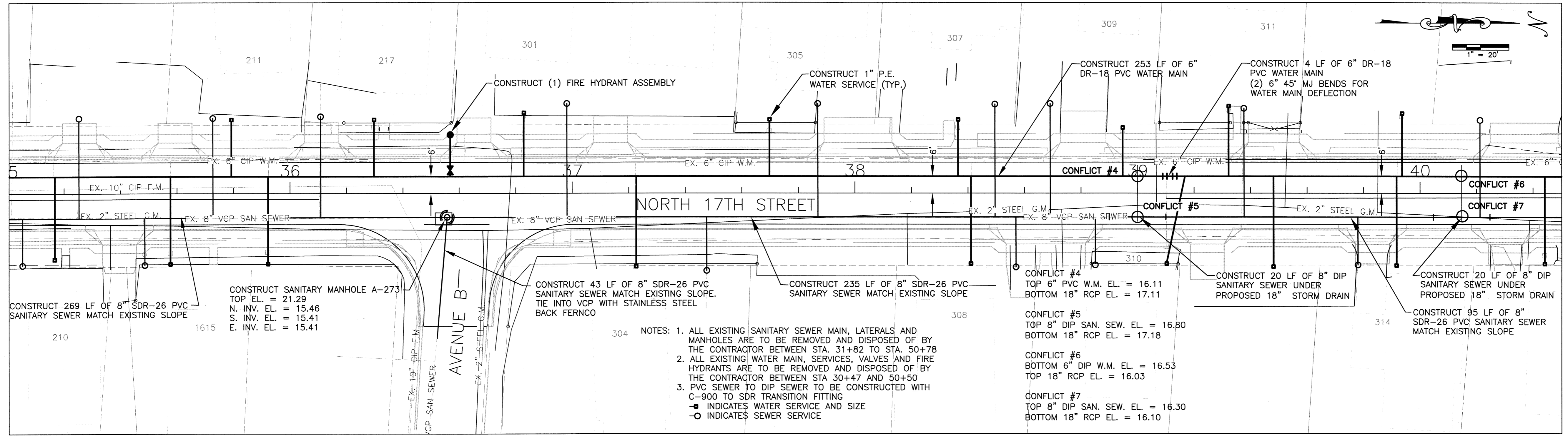
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ADJUST ALL SCALED DIMENSIONS ACCORDINGLY

DATE	REVISION	BY	APPD.
DESIGNED: VAS	DRAWING FILENAME		
DRAWN BY: SLL	SCALE: 20'		
APPROVED: VAS	DATE:		

**NORTH 17TH STREET**  
**UTILITY REPLACEMENT**  
WATER/WASTEWATER ENGINEERING  
FT. PIERCE UTILITIES AUTHORITY  
1701 SOUTH 37TH STREET  
FT. PIERCE, FLORIDA 34947  
(772) 466-1800 / FAX (772) 468-2414  
SHEET TYPE: PLAN / PROFILE  
SHEET #: 46

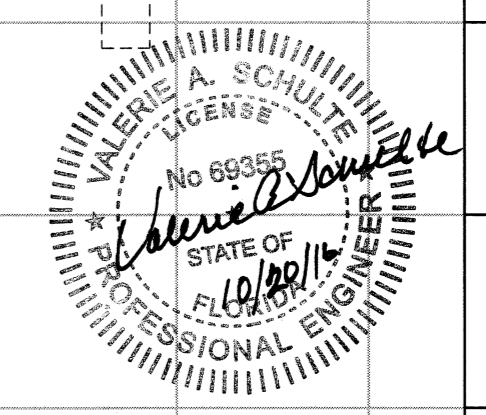
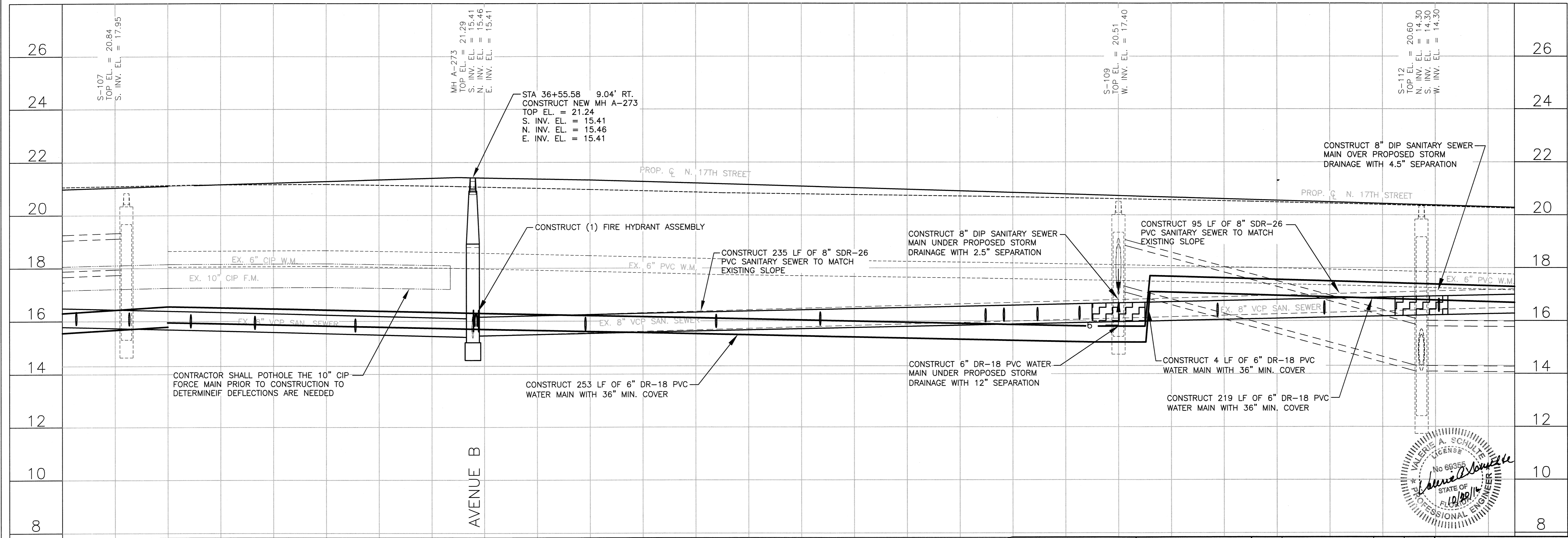
MATCHLINE STA 35+00 SEE SHEET 2 OF 8

MATCHLINE STA 41+50 SEE SHEET 4 OF 8

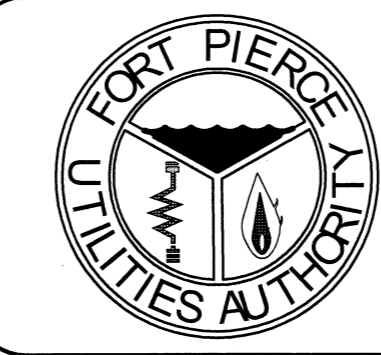


- 304 NOTES: 1. ALL EXISTING SANITARY SEWER MAIN, LATERALS AND MANHOLES ARE TO BE REMOVED AND DISPOSED OF BY THE CONTRACTOR BETWEEN STA. 31+82 TO STA. 50+78  
 2. ALL EXISTING WATER MAIN, SERVICES, VALVES AND FIRE HYDRANTS ARE TO BE REMOVED AND DISPOSED OF BY THE CONTRACTOR BETWEEN STA 30+47 AND 50+50  
 3. PVC SEWER TO DIP SEWER TO BE CONSTRUCTED WITH C-900 TO SDR TRANSITION FITTING  
 -□ INDICATES WATER SERVICE AND SIZE  
 -○ INDICATES SEWER SERVICE

36+00 37+00 38+00 39+00 40+00



Valérie A. Schulte, P.E. PE# 69355  
 1701 S. 37th Street  
 Fort Pierce, FL 34947



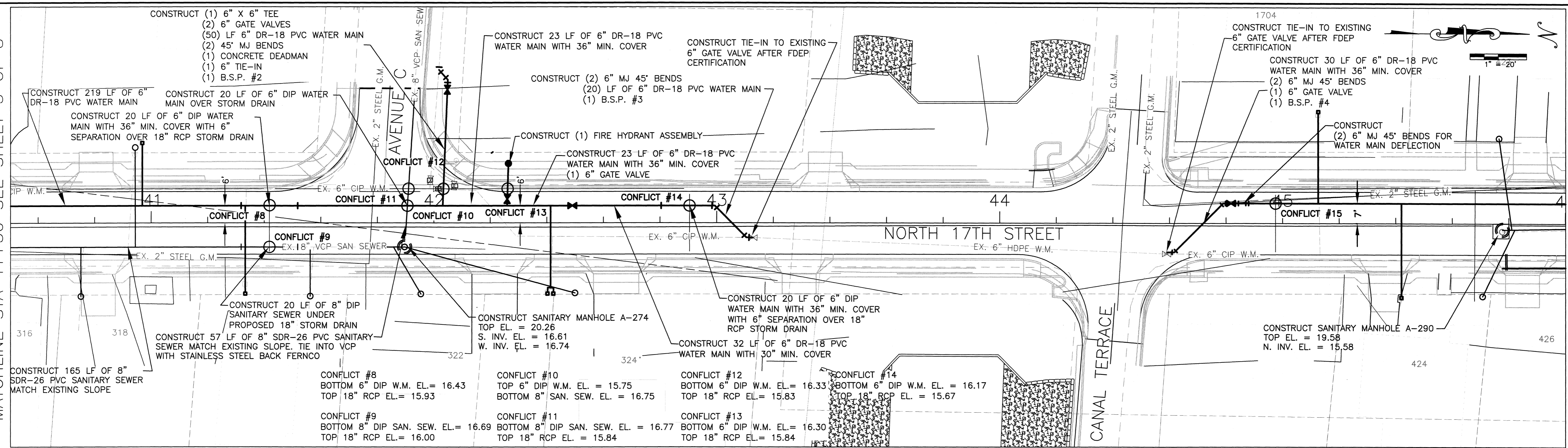
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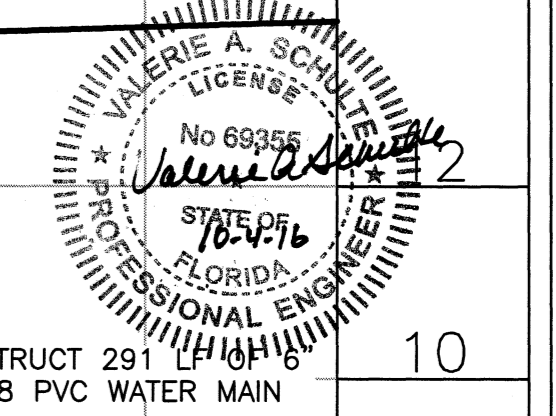
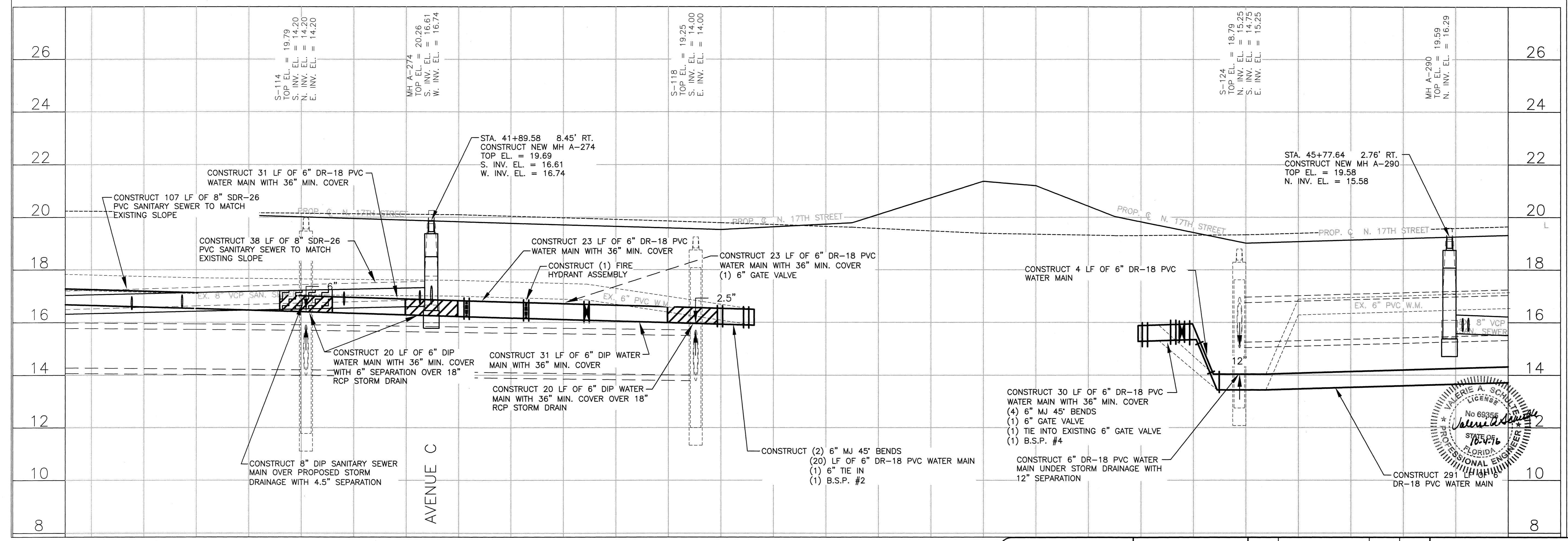
**NORTH 17TH STREET**  
 UTILITY REPLACEMENT  
 WATER/WASTEWATER ENGINEERING  
 FT. PIERCE UTILITIES AUTHORITY  
 1701 SOUTH 37TH STREET  
 FT. PIERCE, FLORIDA 34947  
 (772) 466-1600 / FAX (772) 466-2414  
 SHEET TYPE: PLAN / PROFILE SHEET #: 47

MATCHLINE STA 41+50 SEE SHEET 3 OF 8

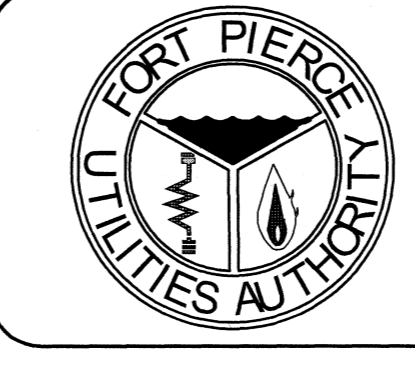
MATCHLINE STA 46+00 SEE SHEET 5 OF 8



41+00 42+00 43+00 44+00 45+00 46+00



Valerie A. Schultz, P.E. DE# 69355  
1701 S. 37th Street  
Fort Pierce, FL 34947



**VERIFY SCALE**  
BAR IS EQUAL TO ONE  
INCH ON ORIGINAL DRAWING

0 1  
ADJUST ALL SCALED  
DIMENSIONS ACCORDINGLY

DATE:	REVISION:	BY:	APPD:
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APPROVED:	DATE:		
VAS			

**NORTH 17TH STREET  
UTILITY REPLACEMENT**

WATER/WASTEWATER ENGINEERING

FT. PIERCE UTILITIES AUTHORITY  
1701 SOUTH 37TH STREET  
FT. PIERCE, FLORIDA 34947  
(772) 466-1600 / FAX (772) 468-2414

SHEET TYPE: PLAN / PROFILE SHEET #: 48

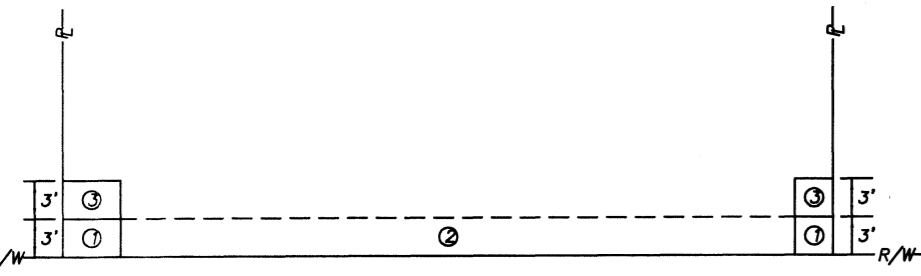


**FORT PIERCE UTILITIES AUTHORITY  
WATER DISTRIBUTION NOTES**

1. ALL CONSTRUCTION MATERIAL, INSTALLATION AND TESTING SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE FORT PIERCE UTILITIES AUTHORITY.
2. WATER MAINS WHERE SPECIFIED AS POLYETHYLENE (PE) SHALL CONFORM TO ANS/AWWA C-900 OR C-905. PRESSURE CLASS 150, DR (18). WATER MAINS WHERE SPECIFIED AS POLYETHYLENE (PE) SHALL CONFORM TO ANS/AWWA C-900 OR C-905. STANDARD CODE DESIGNATION PE40, PIPE CLASS 200, DIMENSION RATIO (DR) 17 FOR DIRECT BURIAL (DR) 11 FOR DIRECTIONAL BORING, AND (DR) 9 FOR 2 INCH AND SMALLER PIPELINES.
3. WATER MAIN, WHERE SPECIFIED AS DUCTILE IRON PIPE, SHALL CONFORM TO ANS/AWWA C151/A21.51 AND SHALL BE PRESSURE CLASS 250 (MINIMUM).
4. POLYETHYLENE WATER MAIN SHALL BE BLUE IN COLOR OR WHITE IN COLOR WITH BLUE STRIPES. THE USE OF IDENTIFICATION TAPE ATTACHED TO THE TOP OF THE PIPE MAY BE USED IN LIEU OF MARKING ON THE PIPE. ALSO DIP PIPE SHALL REQUIRE THE USE OF IDENTIFICATION TAPE AND THIN WIRE.
5. FITTINGS SHALL BE DUCTILE IRON CONFORMING TO ANS/AWWA C-110/A21.10, CLASS 250 MIN., CEMENT LINED AND FACTORY COATED.
6. GATE VALVES SHALL BE MUELLER RESILIENT SEAT, KENNEDY KEN-SEAL, AMERICAN OR APPROVED EQUAL. VALVES SHALL CONFORM TO ANS/AWWA C-500.
7. WATER LINES SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH FPUA DESIGN AND CONSTRUCTION STANDARDS. THE CONTRACTOR SHALL SUBMIT CERTIFIED DENSITY TESTS AS REQUIRED BY FPUA ENGINEERING AND THE CITY/COUNTY/FOOT. IN CASES WHERE PAVED AREAS FALL WITHIN THE JURISDICTION OF LOCAL OR STATE AGENCIES, THE COMPACTOR REQUIREMENTS SHALL NOT BE LESS THAN THE MINIMUM REQUIRED BY THE APPROPRIATE RESPONSIBLE AGENCY.
8. NO FIELD CHANGES OR DEVIATIONS FROM THE DESIGN SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE FPUA ENGINEER AND CITY/COUNTY/FOOT ENGINEER.
9. THE CONTRACTOR SHALL NOTIFY FPUA ENGINEERING AND CITY/COUNTY/FOOT ENGINEERING 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
10. A PRE-CONSTRUCTION CONFERENCE BETWEEN THE ENGINEER, THE CONTRACTOR, FPUA, AND CITY/COUNTY/FOOT ENGINEER SHALL BE MANDATORY PRIOR TO COMMENCEMENT OF CONSTRUCTION.
11. TRAFFIC CONTROL, BARRICADES, ETC., SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS AND APPROVED BY THE CITY ENGINEER.
12. MINIMUM COVER SHALL BE 36 INCHES EXCEPT AS APPROVED BY THE UTILITIES ENGINEER AND CITY/COUNTY/FOOT ENGINEER. PIPES WITH COVER LESS THAN 30 INCHES SHALL BE CONSTRUCTED OF DUCTILE IRON OR IN PVC CASING.
13. DISTURBED AREAS SHALL BE RESTORED IN CONFORMANCE WITH THE APPLICABLE GOVERNING AGENCY REQUIREMENTS.
14. EXISTING UTILITIES AND DRAINAGE SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND PROTECTED BY THE CONTRACTOR.
15. WATER MAINS SHALL BE TESTED AND DISINFECTED IN ACCORDANCE WITH THE APPLICABLE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ANS/AWWA C-651 FOR DISINFECTION.

**GENERAL POLICY**

WHERE COST JUSTIFIED AND OPERATIONALLY FEASIBLE, IT IS THE GENERAL POLICY OF THE F.P.U.A. TO PROVIDE WATER, ELECTRIC, SEWER AND GAS SERVICE FROM THE STREET SIDE OF A PIECE OF PROPERTY, DEPENDING ON FACTORS SUCH AS LOCATION OF EXISTING SUPPLY SOURCE FACILITIES, NEAR OR SIDE LOT LINE SUPPLY MAY BE AUTHORIZED, BUT ONLY WITH PRIOR APPROVAL FROM THE F.P.U.A.

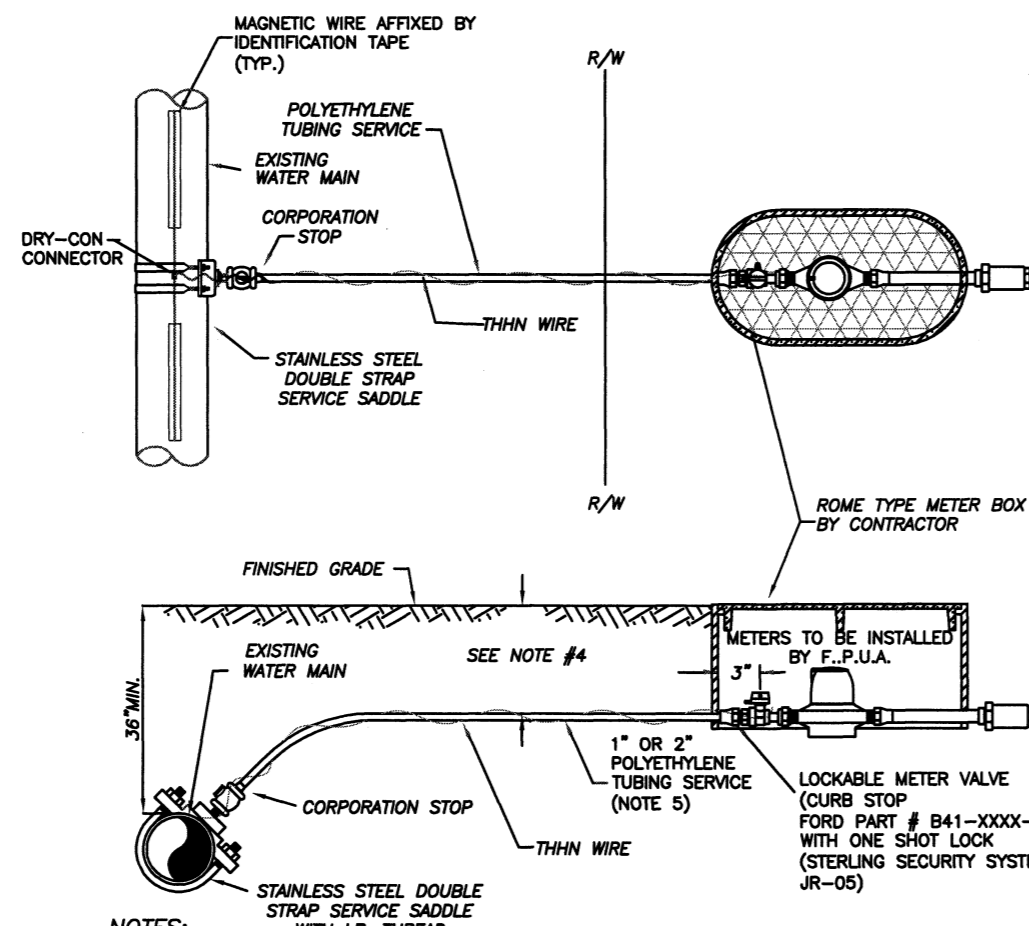


- NOTES:**
1. THE PREFERRED POINT OF CONNECTION TO THE F.P.U.A. WATER METER, REQUIREMENTS (C) SHALL BE LOCATED IN THE CORNER OF THE PROPERTY, SELECTED BY THE F.P.U.A. AS THE BEST LOCATION FOR THE WATER METER. EVERY EFFORT WILL BE MADE TO SELECT THE CORNER WHERE TWO WATER SERVICES AND METERS CAN BE CONNECTED.
  2. IF PHYSICAL BARRIERS OR OTHER OBSTACLES PREVENT THE CONNECTION OF THE BUILDING SERVICE LINE TO THE F.P.U.A. WATER SERVICE, WITHIN AREA (C), THE F.P.U.A. ENGINEERING DEPARTMENT MAY AUTHORIZE THE CONNECTION ALONG THE PORTION OF THE R/W LINE MARKED AREA (D), OR ALONG THE PROPERTY LINES MARKED AREA (E).
  3. HORIZONTAL SEPARATION OF WATER AND WASTEWATER SERVICES SHOULD BE A MINIMUM OF 6 FEET AND PREFERABLY 10 FEET.
  4. ALL METERS SHALL BE INSTALLED IN AN UNRESTRICTED AREA FOLLOWING EASE OF ACCESS AND PROVIDING ADEQUATE PROTECTION.
  5. THE F.P.U.A. SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF THE WATER LATERAL WITHIN THE EASEMENT OR RIGHT-OF-WAY, UP TO THE POINT OF CONNECTION.

**WATER METER PLACEMENT  
(N.T.S.)**

**FORT PIERCE UTILITIES AUTHORITY  
WATER DISTRIBUTION NOTES  
CONTINUED**

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING UTILITIES AND DRAINAGE.
  17. THE CONTRACTOR SHALL FURNISH RECORD DRAWING INFORMATION TO THE ENGINEER INCLUDING LOCATIONS OF VALVES, FITTINGS, SERVICE CONNECTIONS, BLOWOFFS, AIR RELEASE VALVES, AND ANY OTHER PERTINENT INFORMATION NECESSARY TO LOCATE ITEMS CONSTRUCTED UNDER THIS PROJECT, AS REQUIRED BY THE UTILITIES ENGINEER.
  18. THE CONTRACTOR SHALL TAP EXISTING LINES UNDER THE SUPERVISION OF THE FORT PIERCE UTILITIES AUTHORITY ONLY AFTER TESTING AND DISINFECTION HAS BEEN COMPLETED AND APPROVED ON THE TAPPING WIRE AND SLEEVE.
  19. WATER MAIN SHALL BE MARKED BY THE USE OF CONTINUOUS 10 GAUGE THIN MULTI STRANDED WIRE (BLUE IN COLOR) AND IDENTIFICATION TAPE WITH "WATER" MARKED ON TAPE, PERMANENTLY ATTACHED TO THE TOP OF THE WATER MAIN IN ACCORDANCE WITH THE FORT PIERCE UTILITIES AUTHORITY SPECIFICATIONS.
  20. SERVICE TAPS SHALL BE PLACED APPROXIMATELY TEN FEET AWAY FROM GATE VALVES, AS SHOWN, FOR TESTING. FOLLOWING TESTING AND STERILIZATION OF WATER LINE CONTRACTOR SHALL PLACE A BRASS PLUG IN CORPORATION STOPS AND CURB STOPS SHALL BE REMOVED FROM TESTING LOCATIONS.
  21. MECHANICAL RESTRAINTS TO BE USED ON ALL FITTINGS AND PLACED IN ACCORDANCE WITH MANUFACTURER'S OR ENGINEER'S RECOMMENDATIONS (WHICHEVER IS MORE STRINGENT) AND FPUA REQUIREMENTS.
  22. ALL MAINS SHALL BE TESTED AT A MINIMUM OF 150 PSI. TESTING METHODS SHALL CONFORM TO ANS/AWWA C-900 - 2 HR MINIMUM TEST
- $L = \frac{SDP}{14,000} \times 1/2$   
 $L =$  LEAKAGE IN GPH  
 $S =$  LENGTH OF PIPE IN FEET  
 $D =$  PIPE DIAMETER IN INCHES  
 $P =$  TESTING PRESSURE IN PSI
23. PRIOR TO ANY TESTING, ALL MAINS 6" IN DIA. AND LARGER SHALL HAVE A SWAB PASSED THRU THE ENTIRE LENGTH OF THE LINE. NOTE: SWAB SHOULD BE PLACED IN THE JOINT OF NEW LINE. END OF MAIN SHOULD BE "TURNED UP" AT 45° AND EXTENDED SO THAT SWABBING AND A FULL BORE FLOW CAN BE ACCOMPLISHED. BLOW-OFF ASSY CAN THEN BE PLACED. WHERE LINES BRANCH, SWABS WILL BE PLACED IN BRANCH LINES AND SEQUENTIALLY SWABBED AND FLUSHED.
  24. A MINIMUM SIX FEET AND PREFERABLY TEN FEET HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN THE WATER MAIN AND ANY WASTEWATER LINES. 6 INCHES MINIMUM VERTICAL SEPARATION IF WATER MAIN IS OVER WASTEWATER AND 12 INCHES IF WATER MAIN IS UNDER SHALL BE MAINTAINED BETWEEN THE WATER MAIN AND ANY WASTEWATER LINES. THE DISTANCE SHALL BE MEASURED FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE OR STRUCTURE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE WASTEWATER PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING, AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT ALL CROSSINGS.
  25. WHERE A WATER MAIN IS TO BE INSTALLED BELOW A STORM DRAIN PIPE, A MINIMUM OF 6 INCHES OF VERTICAL CLEARANCE BETWEEN PIPES SHALL BE CONSTRUCTED OF DIP AT THE CROSSING, AND SHALL BE MECHANICALLY RESTRAINED WITHIN 20 FEET OF THE CROSSING.
  26. CONTRACTOR SHALL COMPLY WITH FLORIDA TRENCH SAFETY ACT REQUIREMENTS.

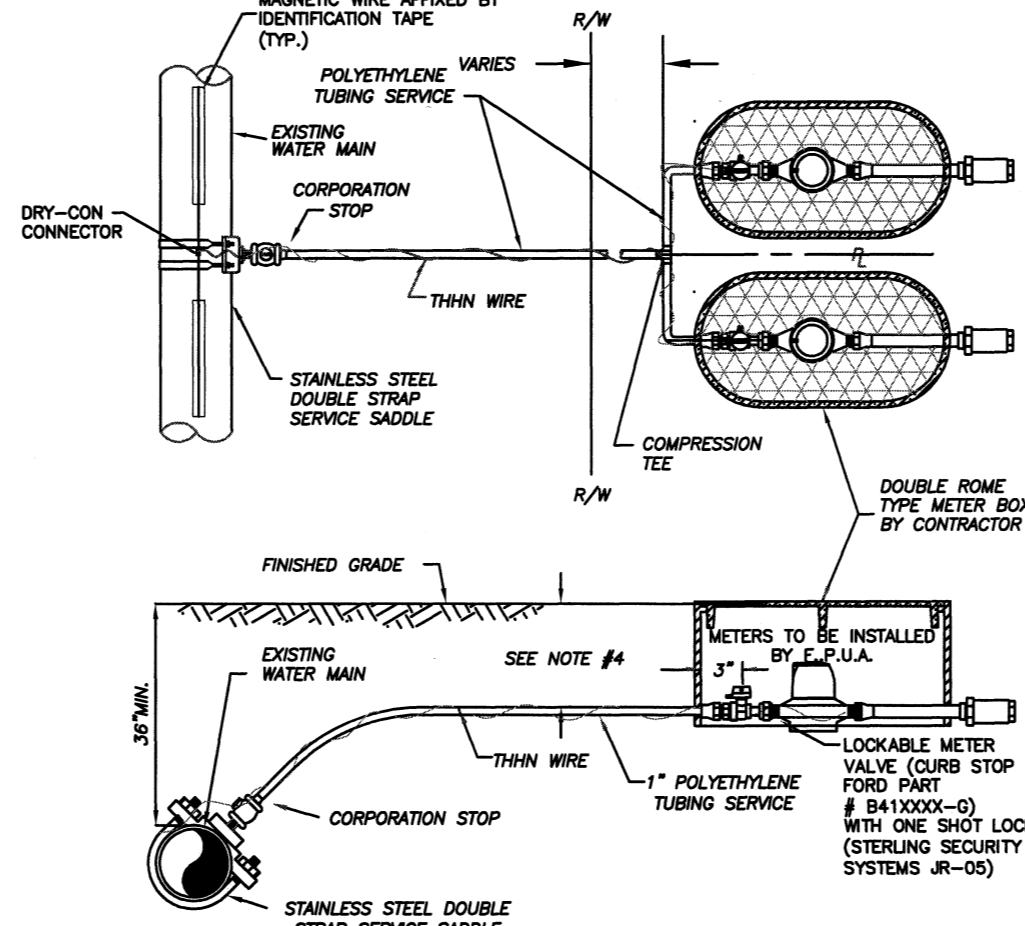


- NOTES:**
1. BLUE 10 GAUGE THIN WIRE SHALL BE ATTACHED TO THE SERVICE LINE.
  2. WHERE SERVICES UNDER PAVEMENT ARE REQUIRED, THE POLYETHYLENE TUBING SHALL BE INSTALLED WITHIN SCHEDULE 40 PVC CASING PIPE.
  3. 1" & 3/4" METER SIZES SHALL REQUIRE A LOCKABLE METER VALVE, (CURB STOP).
  4. MINIMUM COVER IN UNPAVED AREAS SHALL BE 30", IN PAVED AREAS OR PLANNED ROADWAYS OR SWALES MIN. COVER SHALL BE 36".
  5. FOR 2" COMMERCIAL SERVICE INSTALLATIONS, FPUA WILL INSTALL ABOVE GROUND METER PER DETAIL W-8.

**TYPICAL SINGLE WATER SERVICE CONNECTION  
(N.T.S.)**

**FORT PIERCE UTILITIES AUTHORITY WASTEWATER CONSTRUCTION NOTES**

1. ALL CONSTRUCTION MATERIAL, INSTALLATION AND TESTING SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE FORT PIERCE UTILITIES AUTHORITY.
2. GRAVITY SEWER MAIN SHALL BE POLYETHYLENE CHLORIDE (PVC) 200-26, GREEN OR WHITE IN COLOR. GRAVITY SEWER MAIN SHALL HAVE LOCATOR TAPE WITH "SEWER" MARKED ON TAPE AND SHALL CONFORM TO ASTM D-3034.
3. THE MANHOLE BASE SHALL BE SET ON A FIRM, DRY AND STABLE OR COMPACTED BASE FOUNDATION. IF NECESSARY, THE CONTRACTOR SHALL UTILIZE ROCK TO PROVIDE A FIRM AND SUITABLE MANHOLE BASE FOUNDATION.
4. WASTEWATER LINES SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH FPUA DESIGN AND CONSTRUCTION STANDARDS. THE CONTRACTOR SHALL SUBMIT CERTIFIED DENSITY TESTS AS REQUIRED BY FPUA ENGINEERING AND THE CITY ENGINEERING DEPARTMENT. IN CASES WHERE PAVED AREAS FALL WITHIN THE JURISDICTION OF LOCAL OR STATE AGENCIES, THE COMPACTOR REQUIREMENTS SHALL NOT BE LESS THAN THE MINIMUM REQUIRED BY THE APPROPRIATE RESPONSIBLE AGENCY.
5. A 1% MINIMUM SLOPE SHALL BE MAINTAINED ON ALL SANITARY SERVICE LATERALS.
6. THE CONTRACTOR SHALL FURNISH RECORD DRAWING INFORMATION TO THE ENGINEER CONSISTING OF PIPE SIZES, LOCATION OF SERVICE TEE WYES, DIAMETER OF SERVICES, LOCATION OF ANY FITTINGS, FINAL RIM AND INVERT ELEVATION OF ALL MANHOLES AND ANY OTHER PERTINENT INFORMATION NECESSARY TO LOCATE ITEMS CONSTRUCTED UNDER THIS PROJECT.
7. MAINTAIN SIX FEET AND PREFERABLY 10 FEET HORIZONTAL DISTANCE BETWEEN WATER MAINS AND SEWER MAINS AS A MINIMUM.
8. WASTEWATER FORCE MAINS, WASTEWATER COLLECTION LINES, AND STORM SEWERS SHOULD CROSS UNDER WATER MAINS. WHEREVER POSSIBLE, A MINIMUM VERTICAL DISTANCE OF 12 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE SHALL BE PROVIDED WHENEVER POSSIBLE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE WASTEWATER PIPE JOINTS AND THE WATER PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING, AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT ALL CROSSINGS.
9. A PRE-CONSTRUCTION CONFERENCE BETWEEN THE ENGINEER, THE CONTRACTOR, AND FPUA/CITY/COUNTY/FOOT SHALL BE MANDATORY PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
10. NO FIELD CHANGES OR DEVIATIONS FROM THE DESIGN SHALL BE MADE WITHOUT PRIOR APPROVAL OF FPUA/CITY/COUNTY/FOOT ENGINEER.
11. TRAFFIC CONTROL, BARRICADES, ETC. SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS.
12. CONTRACTOR SHALL NOTIFY FORT PIERCE UTILITIES AUTHORITY 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
13. WASTEWATER FORCE MAIN SHALL BE POLYETHYLENE CHLORIDE CONFORMING TO ANS/AWWA C-900, AND SHALL BE CLASS 150, DR-18.
14. WASTEWATER FORCE MAIN SHALL BE GREEN IN COLOR.
15. FITTINGS SHALL BE DUCTILE IRON, CONFORMING TO ANS/AWWA C-110/A21.10 CLASS 250 MIN. AND INTERIOR EPOXY COATED.
16. WASTEWATER FORCE MAIN SHALL BE MARKED BY THE USE OF CONTINUOUS 10 GAUGE THIN WIRE (GREEN IN COLOR) PERMANENTLY ATTACHED TO THE TOP OF THE FORCE MAIN WITH LOCATOR TAPE MARKED "SEWER" ON TAPE IN ACCORDANCE WITH FPUA SPECIFICATIONS.
17. MINIMUM COVER SHALL BE 36 INCHES, PIPES WITH COVER LESS THAN 30 INCHES SHALL REQUIRE PRIOR APPROVAL OF THE UTILITIES ENGINEER AND SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE.
18. EACH SERVICE LATERAL WILL BE MARKED WITH A LOCATOR BALL AS MANUFACTURED BY 3M CORPORATION, OR APPROVED EQUAL AS REQUIRED BY FPUA ENGINEER.
19. ALL MANHOLES SHALL HAVE CONVEY RAIN GUARDS INSTALLED AS REQUIRED BY FPUA ENGINEER.
20. THE CONTRACTOR SHALL COMPLY WITH THE FLORIDA TRENCH SAFETY ACT REQUIREMENTS.

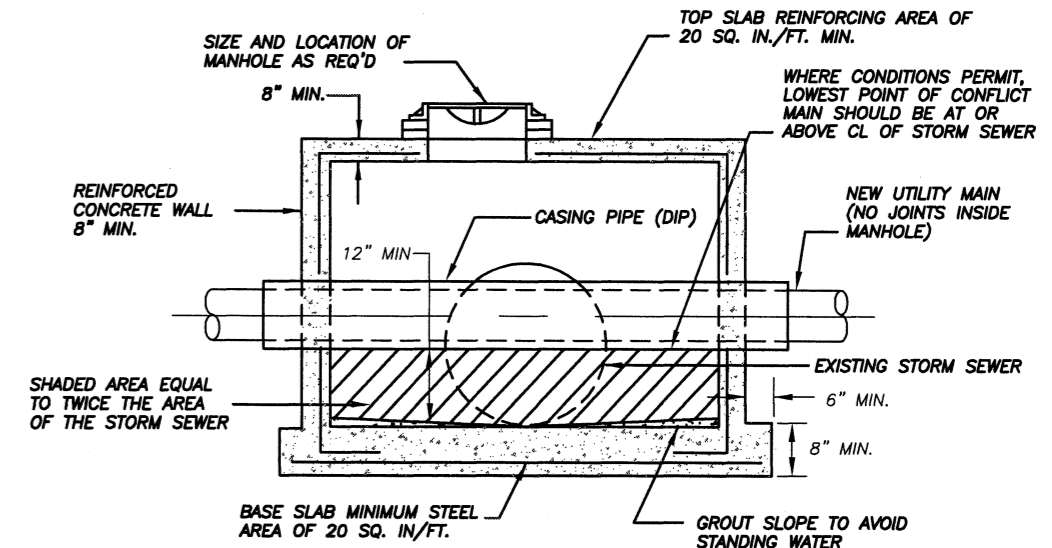
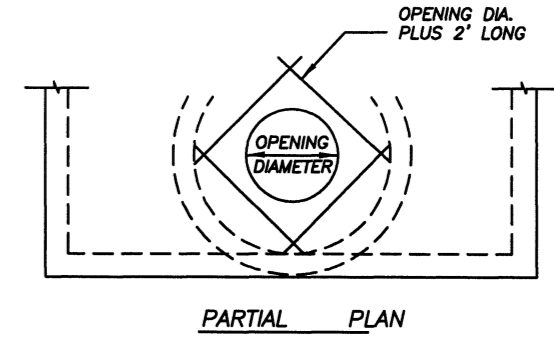


- NOTES:**
1. BLUE 10 GAUGE THIN WIRE SHALL BE ATTACHED TO THE SERVICE LINE.
  2. WHERE SERVICES UNDER PAVEMENT ARE REQUIRED, THE POLYETHYLENE TUBING SHALL BE INSTALLED WITHIN SCHEDULE 40 PVC CASING PIPE.
  3. 1" & 3/4" METER SIZES SHALL REQUIRE A LOCKABLE METER VALVE, (CURB STOP).
  4. MINIMUM COVER IN UNPAVED AREAS SHALL BE 30", IN PAVED AREAS OR PLANNED ROADWAYS OR SWALES MIN. COVER SHALL BE 36".

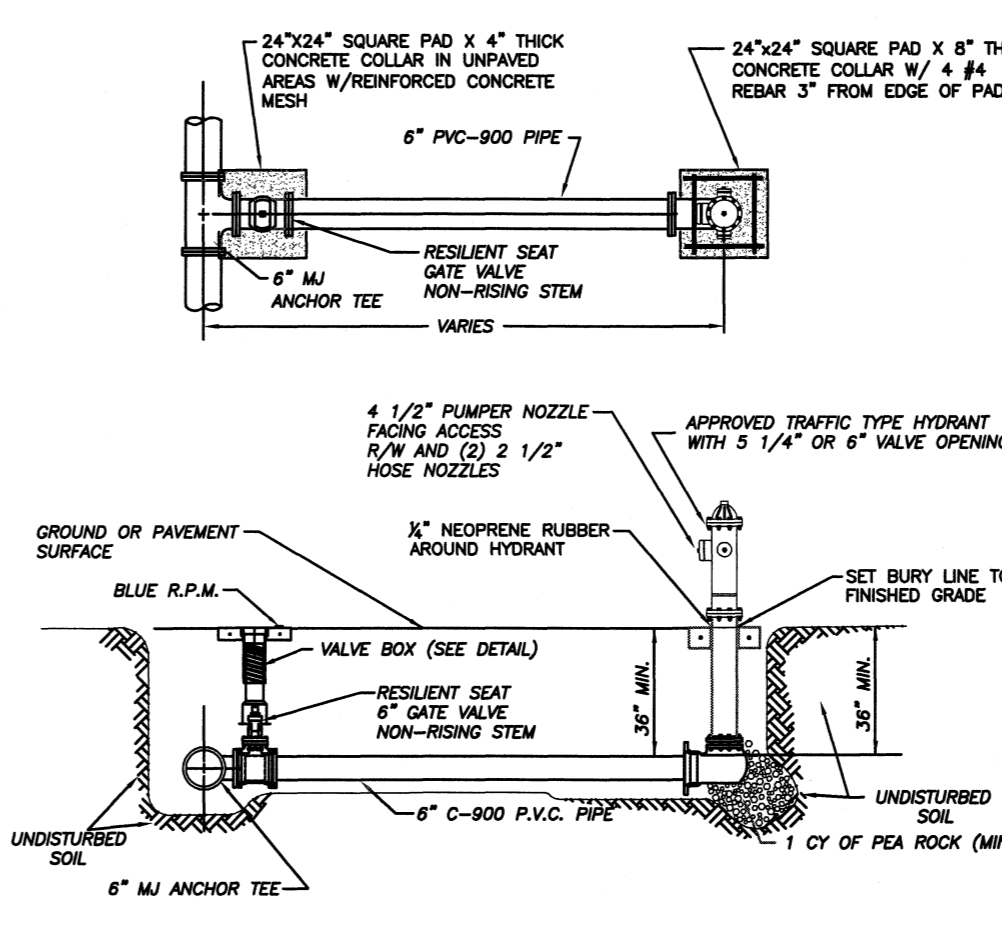
**TYPICAL DOUBLE WATER SERVICE CONNECTION  
(N.T.S.)**

**STANDARD SEPARATION STATEMENT FOR  
WATER / SEWER CONFLICTS**

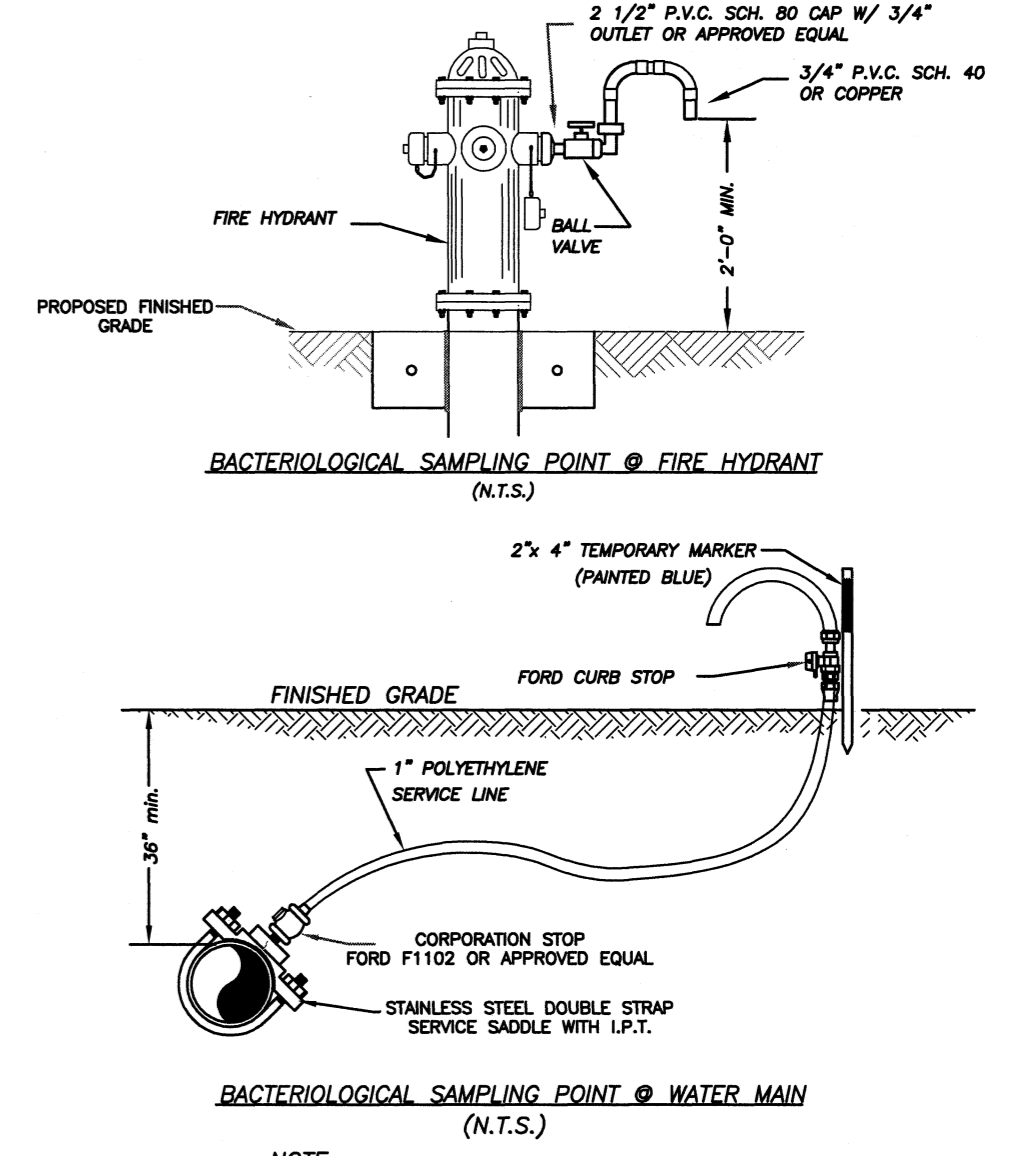
1. SANITARY SEWER, FORCE MAINS, AND STORM SEWERS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. SANITARY SEWERS, FORCE MAINS AND STORM SEWERS CROSSING UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 6 INCHES, PREFERABLY 12 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE WHEN ABOVE, AND AT LEAST 12 INCHES OF SEPARATION WHEN THE WATER MAIN IS BELOW.
- WHERE SANITARY SEWER, FORCE MAINS, STORM SEWERS MUST CROSS A WATER MAIN WITH LESS THAN 6 INCHES VERTICAL SEPARATION, BOTH THE SEWER AND WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) CENTERED ON THE CROSSING. (DIP IS NOT REQUIRED FOR STORM SEWERS) SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED.
- ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (CENTERED ON THE CROSSING). AT SUCH CROSSINGS PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
- WHERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE WITH LESS THAN 6 INCHES VERTICAL CLEARANCE, THE NEW PIPE SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWERS) AND NEW PIPES SHALL BE ARRANGED TO MEET THE CROSSING REQUIREMENTS ABOVE.
2. A MINIMUM 3-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF STORM SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.
- A MINIMUM 3-FOOT, AND PREFERABLE 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN VACUUM-TYPE SANITARY SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.
- A MINIMUM 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN "ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.
- A MINIMUM 6-FOOT, AND PREFERABLE 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN GRAVITY OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY MAINS SHALL BE REDUCED TO 3 FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.
- WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 6 INCHES IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWER) WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER JOINTS ON THE WATER MAIN SHALL BE LOCATED AS FAR AWAY AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).
3. ALL DIP SHALL BE PRESSURE CLASS 250 MIN., ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN ENGINEER.



- NOTES:**
- 1) CONFLICT MANHOLE WILL BE ALLOWED WHERE DESIGN PROBLEMS AND ECONOMICS PROVE THEM TO BE THE ONLY Viable SOLUTION AS APPROVED BY FPUA ENGINEERING.
  - 2) CONFLICT MANHOLES WILL NOT BE ALLOWED FOR WATER MAINS CROSSING GRAVITY WASTEWATER SYSTEMS.
  - 3) WHEN NECESSARY FOR EXISTING WATER MAINS, THE CARRIER PIPE SHALL BE SLEAVED IN D.I.P.
- CONFLICT MANHOLE  
(N.T.S.)**

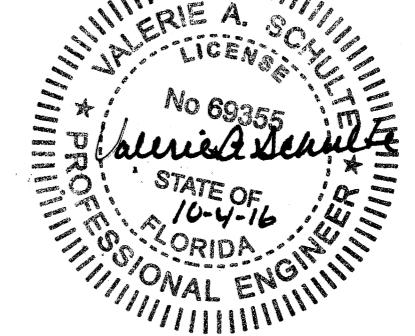


- NOTES:**
1. HYDRANT SHALL BE INSTALLED PLUMB & TRUE.
  2. HYDRANT SHALL BE PAINTED CARBINAL RED FROM FACTORY.
  3. HELL TO REST IN UNDISTURBED SOIL.
  4. THE ONLY HYDRANTS ACCEPTABLE ARE KENNEDY GUARDIAN, MUELLER CENTURION, & AMERICAN ANK, CLOW OR APPROVED EQUAL.
  5. HYDRANT ASSEMBLY MUST BE RESTRAINED TO THE TEE.
  6. ALL FITTINGS SHALL BE MECHANICAL JOINT.
  7. ENTIRE ASSEMBLY TO BE MECHANICALLY RESTRAINED.
  8. BLUE LOCATOR SHALL BE PLACED IN CENTER OF TRAVEL LINE CLOSEST TO HYDRANT.
  9. ALL HYDRANT VALVE BOX COVERS SHALL BE PAINTED CORNVAL RED.
  10. LOCATE WIRE SHALL TERMINATE AT HYDRANT ISOLATION VALVE.
  11. HYDRANTS SHALL BE NO MORE THAN FIFTEEN FEET (15 FT.) FROM THE CURB OF ROADWAYS OR FROM THE EDGE OF PAVEMENT. CLEARANCES OF SEVEN AND ONE HALF FEET (7'-6") IN FRONT OF AND TO THE SIDES OF THE FIRE HYDRANTS, WITH FOUR FEET (4 FT.) CLEARANCE TO THE REAR OF HYDRANTS SHALL BE MAINTAINED.

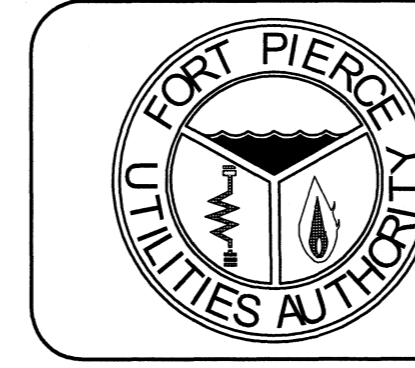


**BACTERIOLOGICAL SAMPLING POINT @ WATER MAIN  
(N.T.S.)**

- NOTE:**
- AFTER TESTING REMOVE 1" P.E. LINE AND CAP, PLUG AT CORPORATION STOP.



Valerie A. Schulte, P.E., REF 68955  
1701 S. 37th Street  
Fort Pierce, FL 34947



**VERIFY SCALE**  
BAR IS EQUAL TO ONE INCH ON ORIGINAL DRAWING

0 JUST A SCALED DIMENSIONS ACCORDINGLY

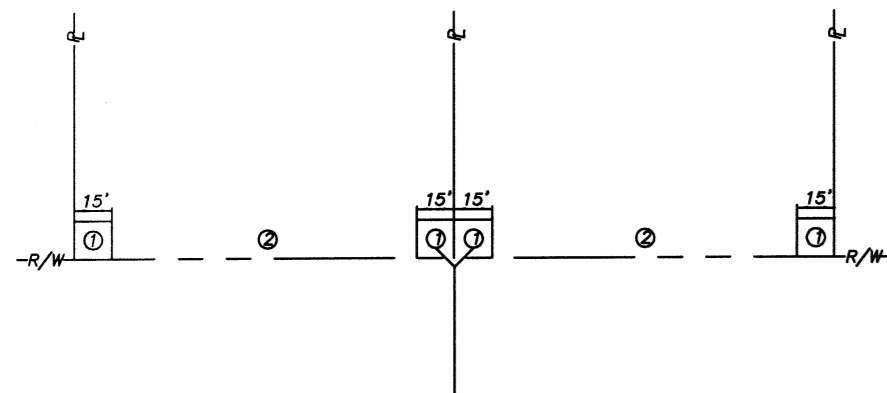
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DESIGNED BY:	VAS			
DRAWN BY:	SLL			
APPROVED BY:	VAS			
SCALE:	20'			
DATE:				
				FT. PIERCE UTILITIES AUTHORITY 1701 SOUTH 37TH STREET FT. PIERCE, FLORIDA 34947 (772) 468-1800 / FAX (772) 468-2414
SHEET TYPE				PLAN / PROFILE
SHEET #				50

**NORTH 17TH STREET  
UTILITY REPLACEMENT**

WATER/WASTEWATER ENGINEERING

**GENERAL POLICY**

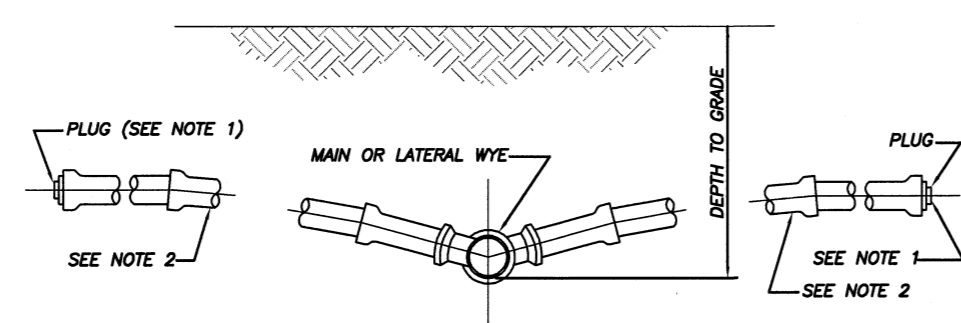
WHERE COST JUSTIFIED AND OPERATIONALLY FEASIBLE, IT IS THE GENERAL POLICY OF THE F.P.U.A. TO PROVIDE WATER, ELECTRIC, SEWER AND GAS SERVICE FROM THE STREET SIDE OF A PIECE OF PROPERTY. DEPENDING ON FACTORS SUCH AS LOCATION OF EXISTING SUPPLY SOURCE FACILITIES, REAR OR SIDE LOT LINE SUPPLY MAY BE AUTHORIZED, BUT ONLY WITH PRIOR APPROVAL FROM THE F.P.U.A.



**NOTES:**

1. THE PREFERRED POINT OF CONNECTION TO THE F.P.U.A. SEWER LATERAL AREA (D) SHALL BE LOCATED IN THE CORNER OF THE PROPERTY SELECTED BY THE F.P.U.A. AS THE BEST LOCATION FOR THE LATERAL. EVERY EFFORT WILL BE MADE TO SELECT THE CORNER WHERE TWO LATERALS CAN BE CONNECTED IN A "T" CONFIGURATION AS SHOWN.
2. IF PHYSICAL BARRIERS OR OTHER OBSTACLES PREVENT THE CONNECTION OF THE BUILDING SERVICE LINE TO THE F.P.U.A. SEWER LATERAL, WITHIN AREA (D), THE F.P.U.A. ENGINEERING DEPARTMENT MAY AUTHORIZE THE CONNECTION ALONG THE PORTION OF THE R/W LINE MARKED AREA (E).
3. HORIZONTAL SEPARATION OF WATER AND WASTEWATER SERVICES SHOULD BE A MINIMUM OF SIX FEET AND PREFERABLY 10 FEET.
4. THE WASTEWATER LATERAL SHALL BE LOCATED WITHIN RIGHT-OF-WAY AND TERMINATE AT THE PROPERTY LINE.
5. THE F.P.U.A. SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF THE WASTEWATER LATERAL WITHIN THE EASEMENT OR RIGHT-OF-WAY, UP TO THE POINT OF CONNECTION.

**WASTEWATER SERVICE PLACEMENT (N.T.S.)**

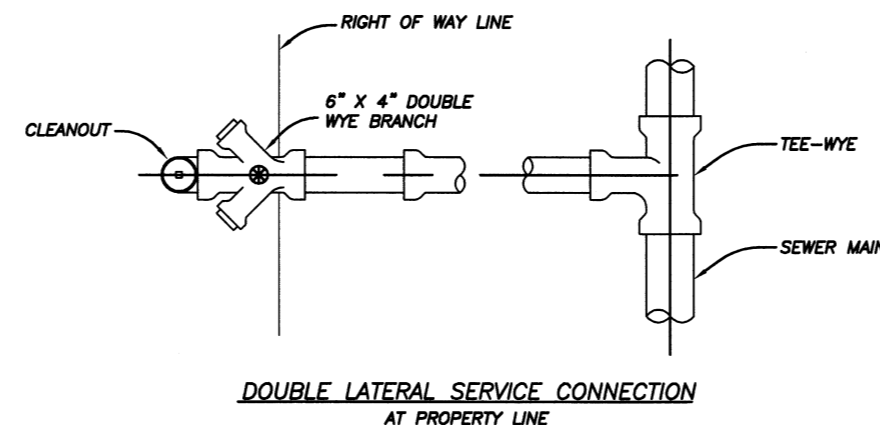


**DOUBLE LATERAL SERVICE CONNECTION AT PROPERTY LINE**

**NOTES:**

- 1) BALL TYPE WASTEWATER LOCATOR BY 3M CORP. OR APPROVED EQUAL.
- 2) MINIMUM SLOPE OF 1/8" PER FOOT, USE GREATER SLOPE WHERE POSSIBLE.
- 3) SERVICE LATERAL SHALL TERMINATE WITH A CLEANOUT.
- 4) INSTALL CLEANOUT AT THE PROPERTY LINE. REFER TO DETAIL S-1 FOR SPECIFIC PROPERTY LAYOUT.

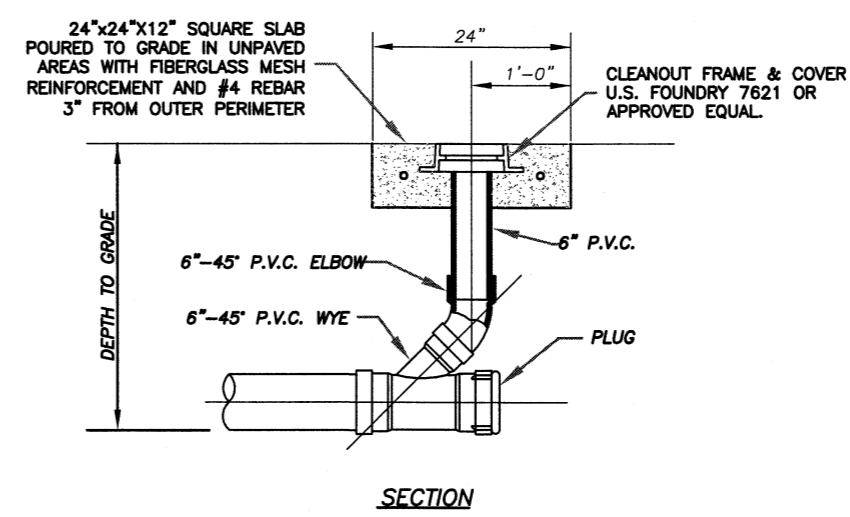
**SERVICE CONNECTION (N.T.S.)**



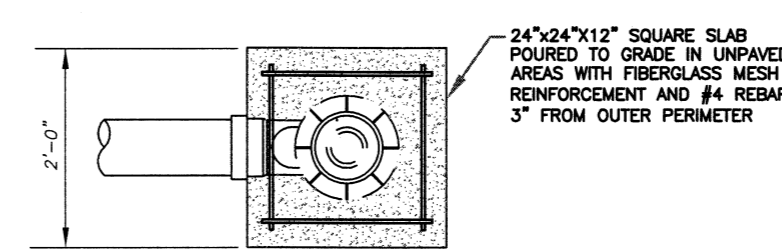
**SINGLE SERVICE LATERAL CONNECTION**

● = BALL TYPE WASTEWATER LOCATOR INSTALLED ABOVE THIS POINT BALL BY 3M CORP. OR APPROVED EQUAL. SERVICE LATERAL SHALL TERMINATE WITH A CLEANOUT

**SERVICE CONNECTION (N.T.S.)**

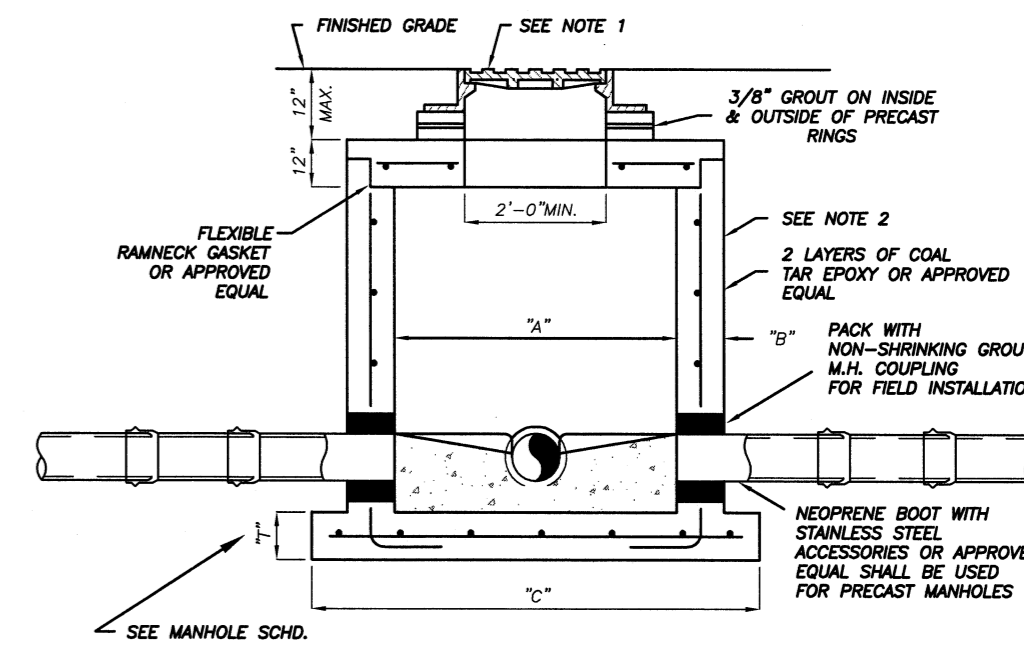


**SECTION**



**PLAN**

**RESIDENTIAL CLEANOUT DETAIL (N.T.S.)**



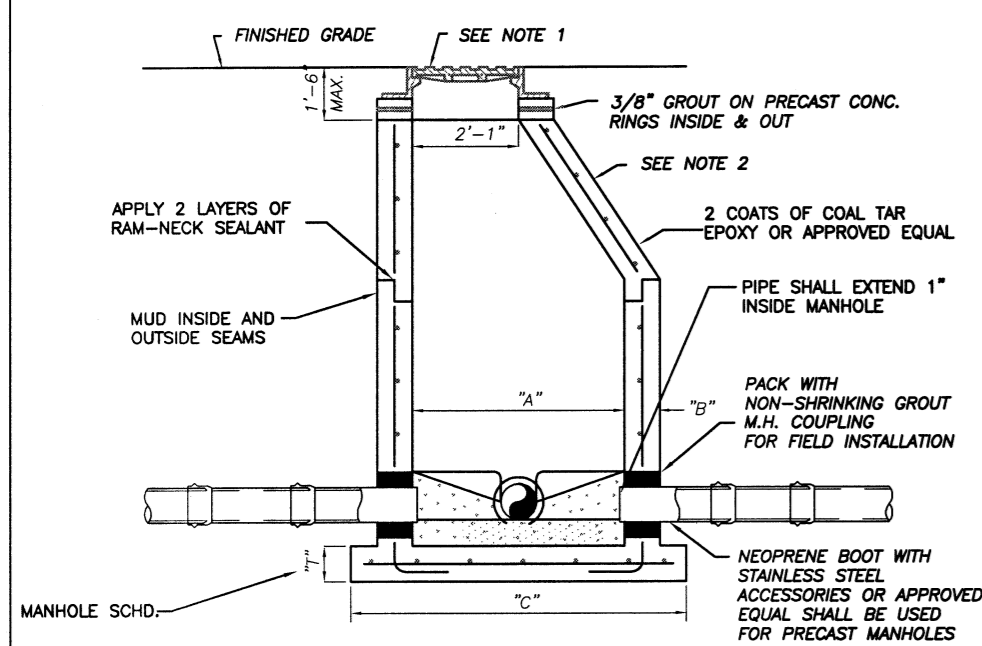
PIPE DIA.	"A"	"B"	"C"	BOT. SLAB "T"
8"-24"	4'-0"	8"	76"	8"
30"-36"	5'-0"	9"	86"	10"
42"-48"	6'-0"	9"	100"	12"

**TYPICAL MANHOLE DIMENSIONS**

**NOTES:**

- 1) MANHOLE FRAME & COVER WITH THE WORDS "SANITARY SEWER" CAST IN THE COVER. U.S. FOUNDRY 170 OR APPROVED EQUAL.
- 2) ALL CONCRETE MANHOLES TO BE 4000 P.S.I. TO MEET OR EXCEED ASTM C478 ALL CEMENT TO BE TYPE II ACID RESISTANT. REINFORCING AREA OF 0.02 SQ. IN/FT FOR WALL SECTION MIN. TO MEET OR EXCEED ASTM A 185.
- 3) A MAXIMUM OF 2 LAYERS OF PRECAST CONCRETE RINGS, IF REQUIRED.
- 4) RAIN GUARDS SHALL BE INSTALLED IN MANHOLES THAT HAVE GRAVITY MAINS 12" OR LESS.

**SHALLOW MANHOLE DEPTH OF LESS THAN 5'-0" (N.T.S.)**



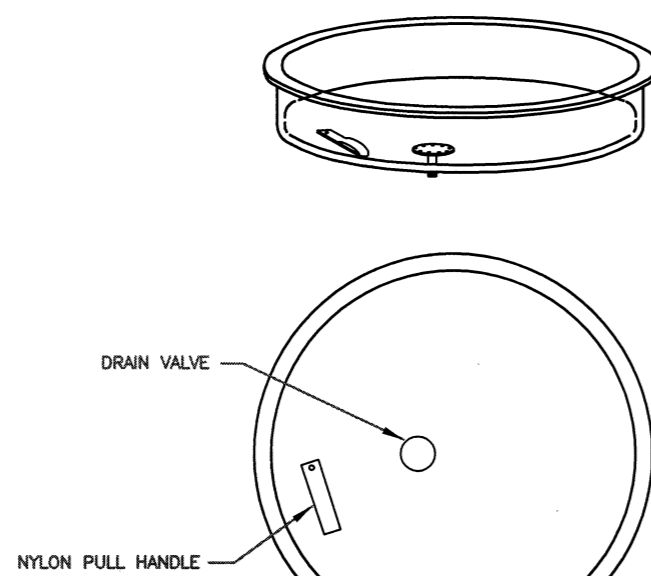
PIPE DIA.	"A"	"B"	"C"	BOT. SLAB "T"
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**TYPICAL MANHOLE DIMENSIONS**

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- 3) A MAXIMUM OF 2 LAYERS OF PRECAST CONCRETE RINGS, IF REQUIRED.
- 4) RAIN GUARDS SHALL BE INSTALLED IN MANHOLES THAT HAVE GRAVITY MAINS 12" OR LESS.

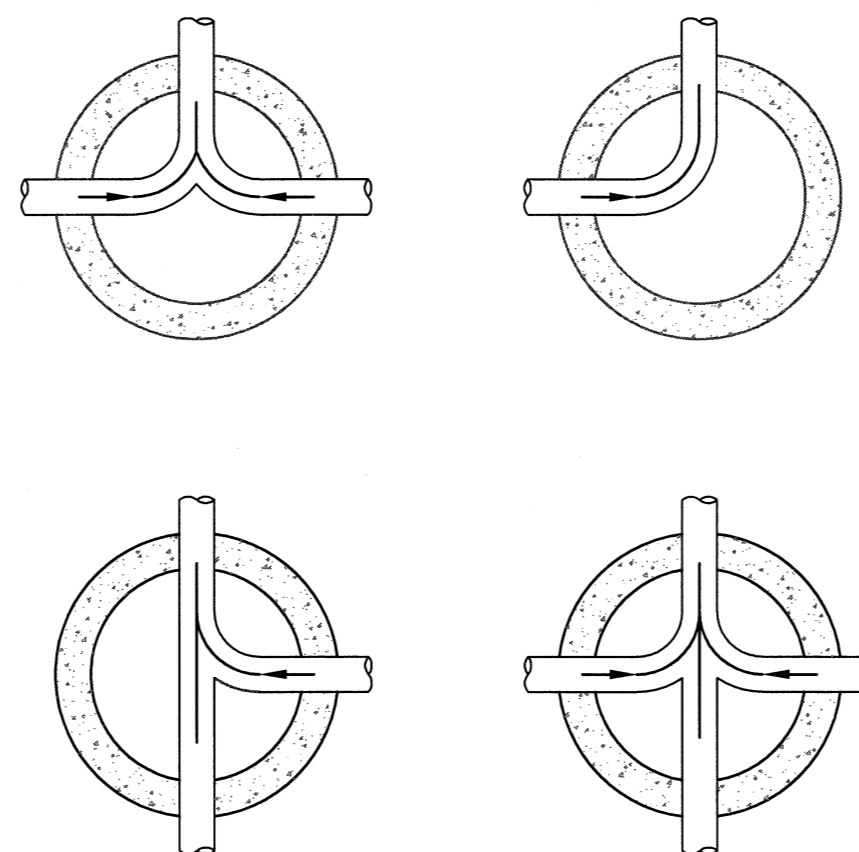
**STANDARD MANHOLE DEPTH 5'-0" AND GREATER (N.T.S.)**



**NOTES:**

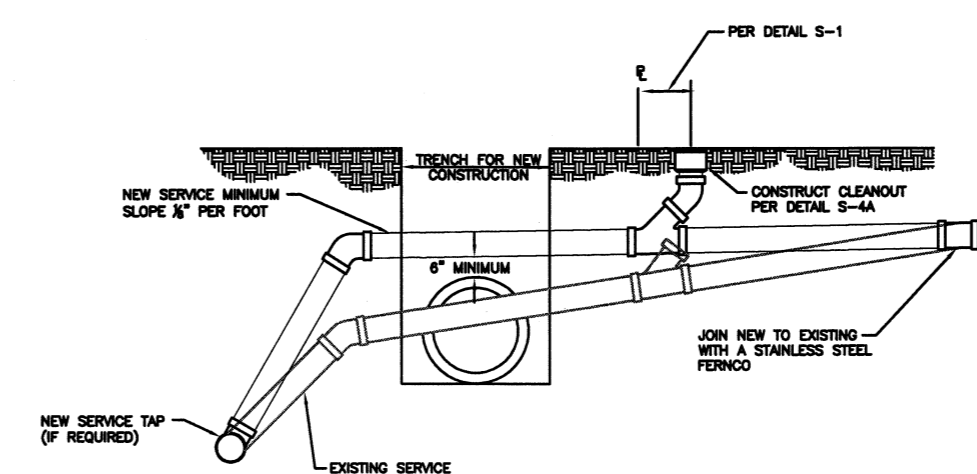
- 1) SEWER RAIN GUARDS SHALL BE INSTALLED ON ALL MANHOLES WHERE GRAVITY MAINS ARE 12" OR LESS AND IN AREAS DESIGNATED BY ENGINEER TO BE IN A FLOOD AREA.
- 2) SEWER RAIN GUARDS SHALL BE MANUFACTURED BY PARSON ENVIRONMENTAL PRODUCTS, INC., PART # PM-235 (PARSON MANHOLE INSERTS) WITH DOUBLE VALVING, OR APPROVED EQUAL.
- 3) RAINGUARDS MUST BE "SNUG" FIT.

**RAINGUARD DETAIL (N.T.S.)**

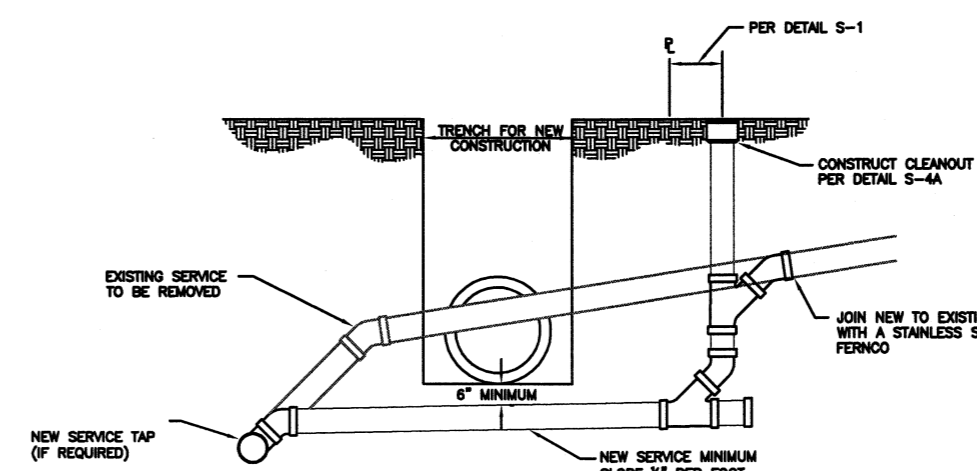


**NOTES:**

- 1) INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
- 2) SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOWS.



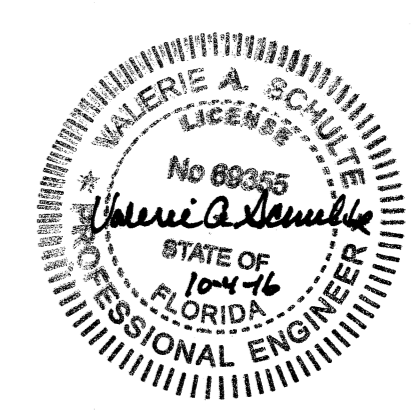
**SANITARY LATERAL RELOCATION OPTION OVER NEW CONSTRUCTION**



**SANITARY LATERAL RELOCATION OPTION UNDER NEW CONSTRUCTION**

**NOTES:**

1. ALL PIPING SHALL BE SDR-26 WITH SDR-26 FITTINGS.



Valerie A. Schulte, P.E. PE# 69355  
1701 S. 37th Street  
Fort Pierce, FL 34947

**VERIFY SCALE**  
BAR IS EQUAL TO ONE INCH ON ORIGINAL DRAWING

0 1  
ADJUST ALL SCALED DIMENSIONS ACCORDINGLY

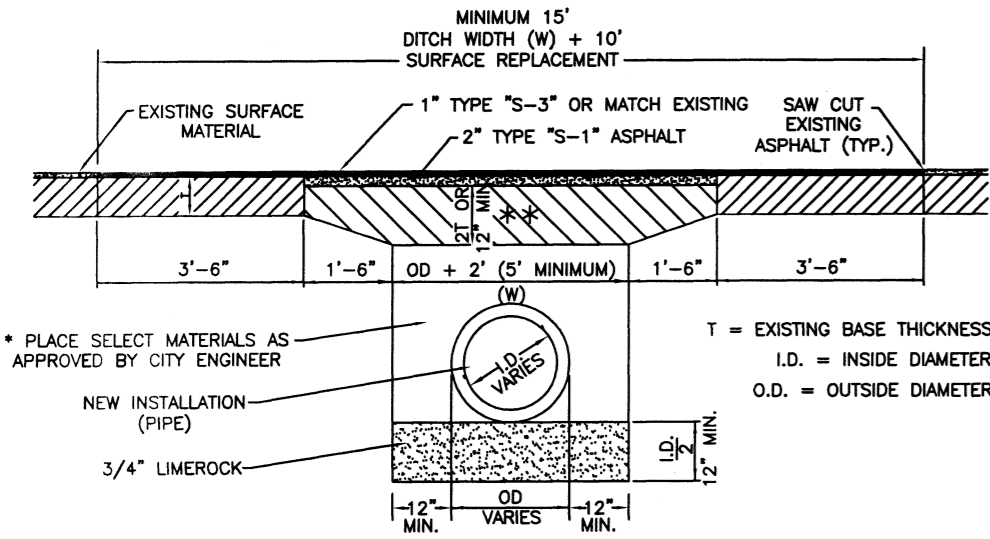
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DESIGNED: VAS	DRAWING FILENAME		
DRAWN BY: SLL	SCALE: 20'		
APPROVED: VAS	DATE:	SHEET TYPE	

**NORTH 17TH STREET UTILITY REPLACEMENT**

WATER/WASTEWATER ENGINEERING

FT. PIERCE UTILITIES AUTHORITY  
1701 SOUTH 37TH STREET  
FT. PIERCE, FLORIDA 34947  
(772) 466-1600 / FAX (772) 468-2414

SHEET # 51



MINIMUM 15' DITCH WIDTH (W) + 10' SURFACE REPLACEMENT

EXISTING SURFACE MATERIAL

1" TYPE "S-3" OR MATCH EXISTING SAW CUT EXISTING ASPHALT (TYP.)

2" TYPE "S-1" ASPHALT

3'-6" 1'-6" OD + 2" (5" MINIMUM) 1'-6" 3'-6"

\* PLACE SELECT MATERIALS AS APPROVED BY CITY ENGINEER

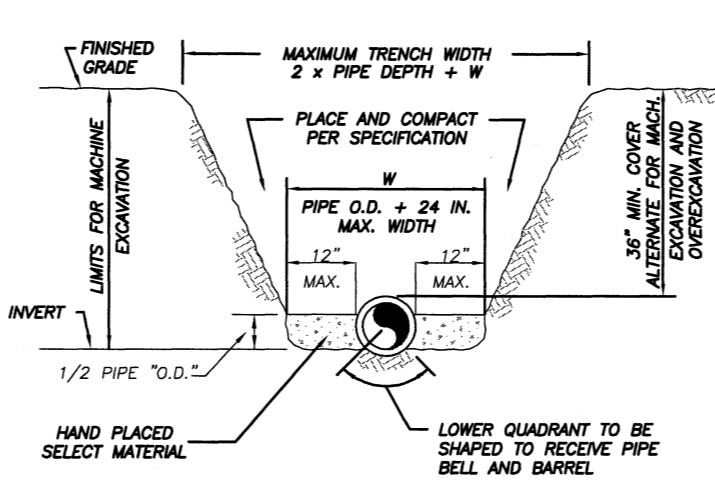
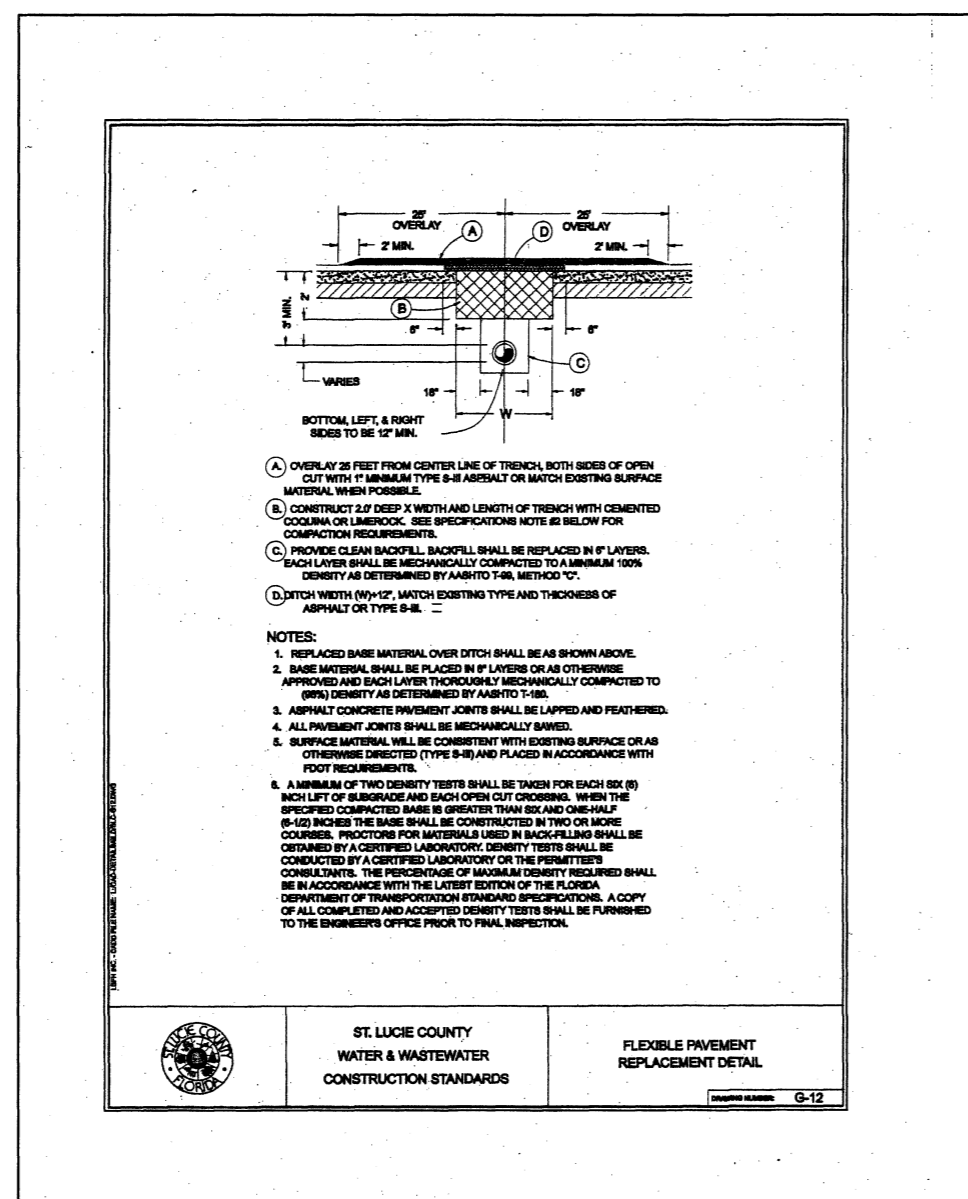
NEW INSTALLATION (PIPE)

3/4" LIMEROCK

T = EXISTING BASE THICKNESS  
I.D. = INSIDE DIAMETER  
O.D. = OUTSIDE DIAMETER

\*\* INITIAL BACKFILL SHALL BE PLACED TO 12" ABOVE THE PIPE IN 6" LIFTS. BACKFILL SHALL BE MECHANICALLY TAMPOD TO A MINIMUM OF 95% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO METHOD T-99. UPPERMOST 12" BE COMPACTED TO 98% OF T-99.

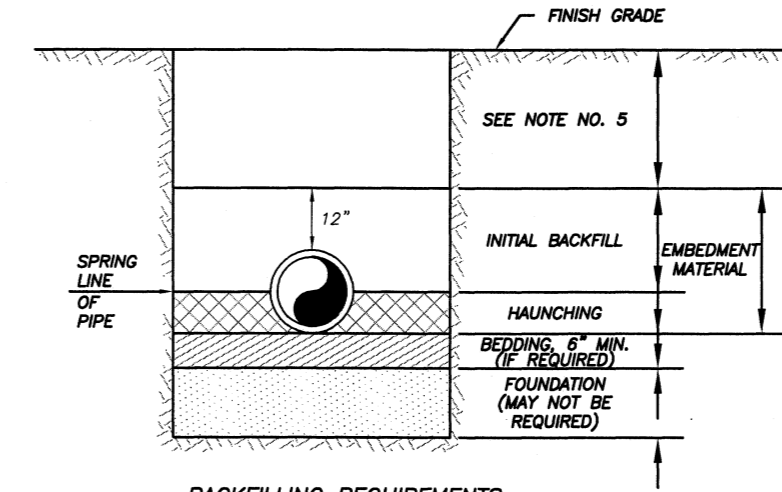
\*\* LIMEROCK OR CRUSHED COQUINA COMPACTED TO 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO METHOD T-180



1) THE CONTRACTOR SHALL COMPLY WITH REQUIREMENTS OF THE FLORIDA TRENCH SAFETY ACT.

2) INITIAL BACKFILL SHALL BE HAND PLACED TO 12" ABOVE THE PIPE. BACKFILL SHALL BE MECHANICALLY TAMPOD TO A MINIMUM OF 100% OF MAX. DENSITY AS DETERMINED BY AASHTO METHOD T-99.

TYPICAL TRENCH DETAIL  
N.T.S.



1) IN CERTAIN SOIL CONDITIONS A FOUNDATION MAY BE REQUIRED.

2) BEDDING IS REQUIRED PRIMARILY TO BRING THE TRENCH BOTTOM UP TO GRADE. BEDDING MATERIALS SHALL PROVIDE A UNIFORM AND ADEQUATE LONGITUDINAL SUPPORT UNDER THE PIPE.

3) HAUNCHING MATERIAL SHALL BE HAND PLACED TO THE SPRINGLINE OF THE PIPE. MATERIAL SHALL BE CONSOLIDATED UNDER THE PIPE AND HAND TAMPOD TO PROVIDE ADEQUATE SIDE SUPPORT.

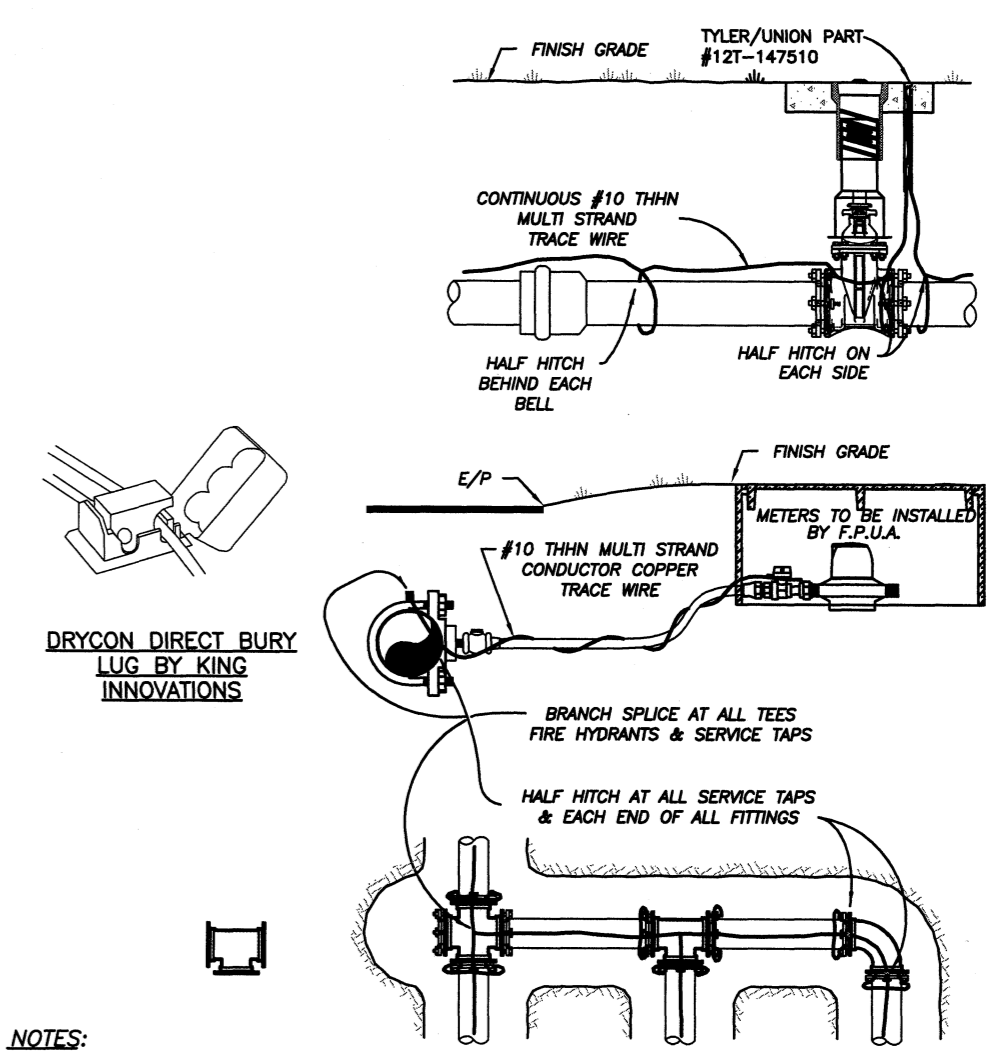
4) INITIAL BACKFILL MATERIAL SHALL BE HAND PLACED TO 12" ABOVE THE TOP OF PIPE. THE SOIL SHALL BE COMPACTED TO 100% MAX. DENSITY (AASHTO T-99).

5) BACKFILL SHALL BE COMPACTED TO 100% OF MAX. DENSITY AS PER AASHTO T-99. TO A POINT 30" BELOW PROPOSED PROFILE GRADE OR EXISTING GRADE. THE FINAL 30" OF BACKFILL SHALL BE COMPACTED TO 98% OF MAX. DENSITY AS PER AASHTO T-180.

6) DENSITY TEST SHALL BE PERFORMED AT AREAS DETERMINED BY THE UTILITIES ENGINEER OR PERMIT AGENCY HAVING JURISDICTION, AT THE CONTRACTOR'S EXPENSE.

7) CONTRACTOR TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL TRENCH SAFETY REGULATIONS.

BACKFILLING REQUIREMENTS  
N.T.S.

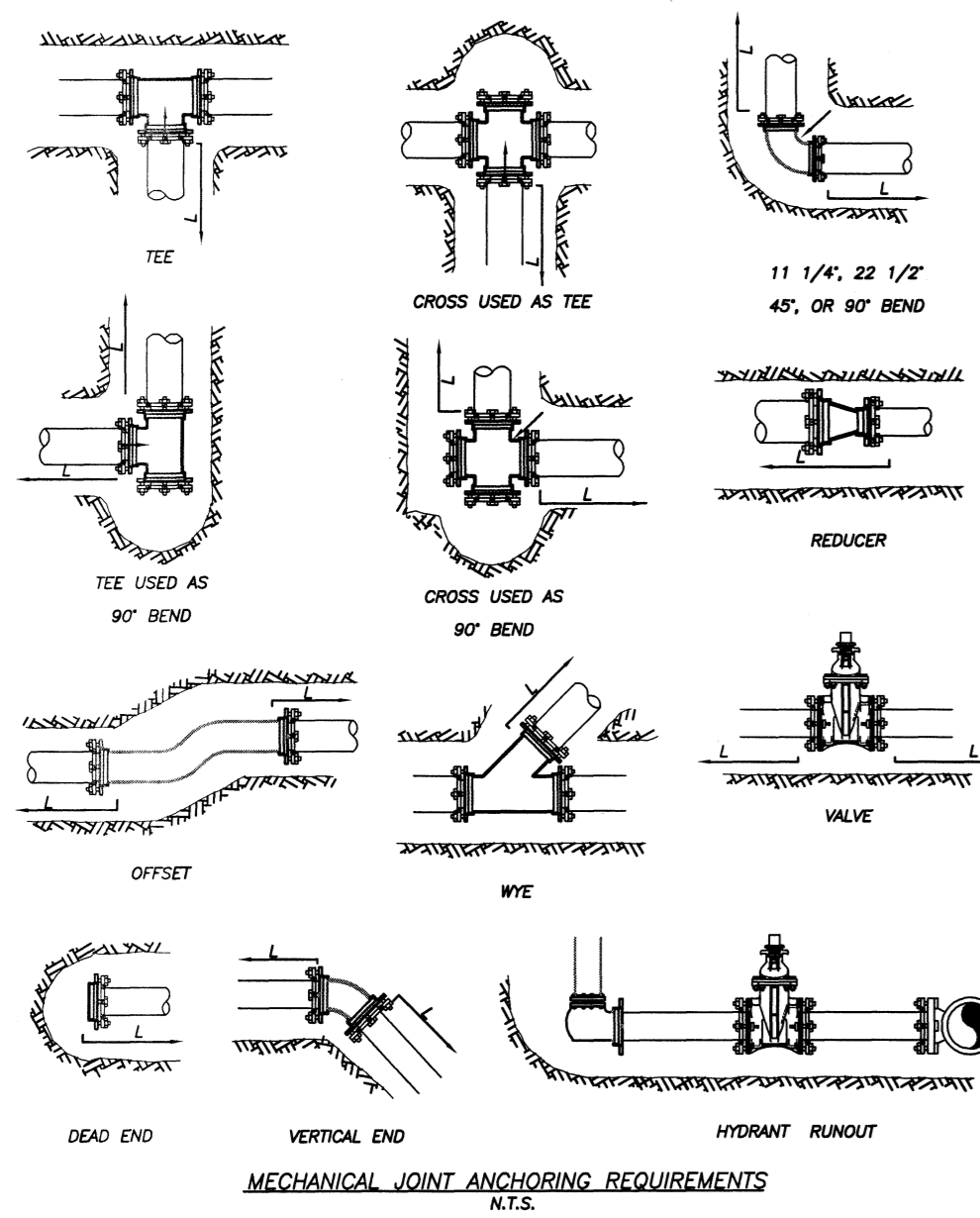


1) TRACE WIRE IS REQUIRED ON ALL PIPE AS NOTED BY UTILITIES ENGINEER AND SHOWN IN STANDARD DETAILS.

2) INCLUDE ALL COST OF MATERIAL & LABOR IN PRICE OF PIPE.

3) CONTRACTOR IS RESPONSIBLE FOR CONTINUITY OF ALL TRACE WIRE.

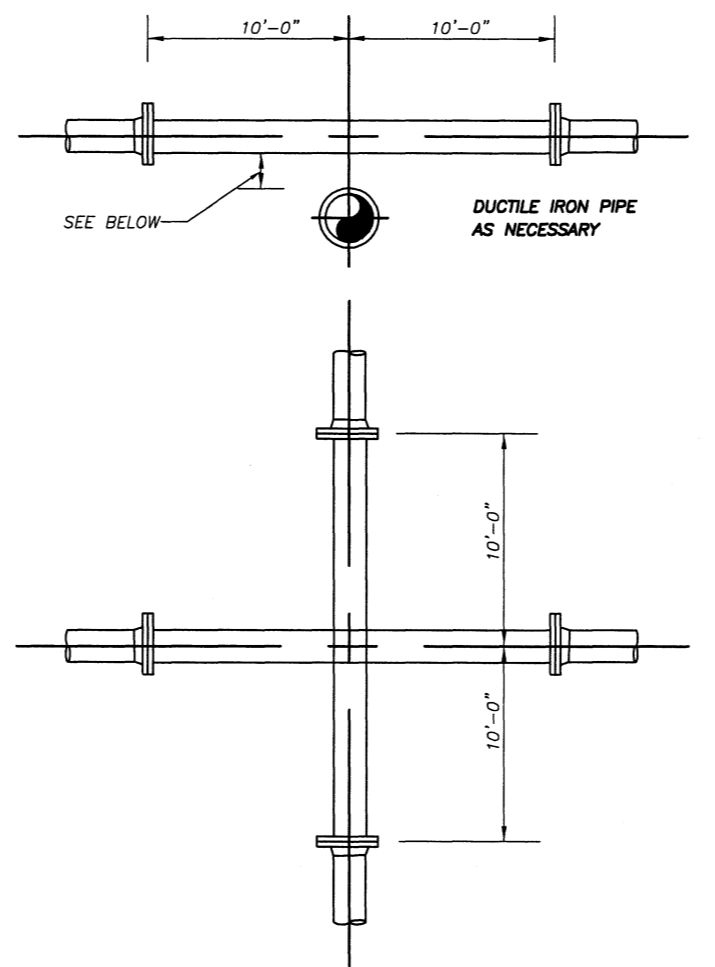
TRACE WIRE  
(N.T.S.)



1) THE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE REQUIRED LENGTH TO BE RESTRAINED BASED UPON THE PROJECT AREA SOIL TYPE, PROPOSED TRENCH CONDITIONS AND DEPTH, PRESSURE OF 150 PSI, AND A SAFETY FACTOR OF TWO (2). A DRAWING OF EVERY TYPICAL FITTING ASSEMBLY WITHIN THE PROJECT SHALL BE SUBMITTED WHICH REFLECTS THE RESTRAINT DETAIL PROPOSED FOR USE, INCLUDING LENGTH OF PIPE RESTRAINT.

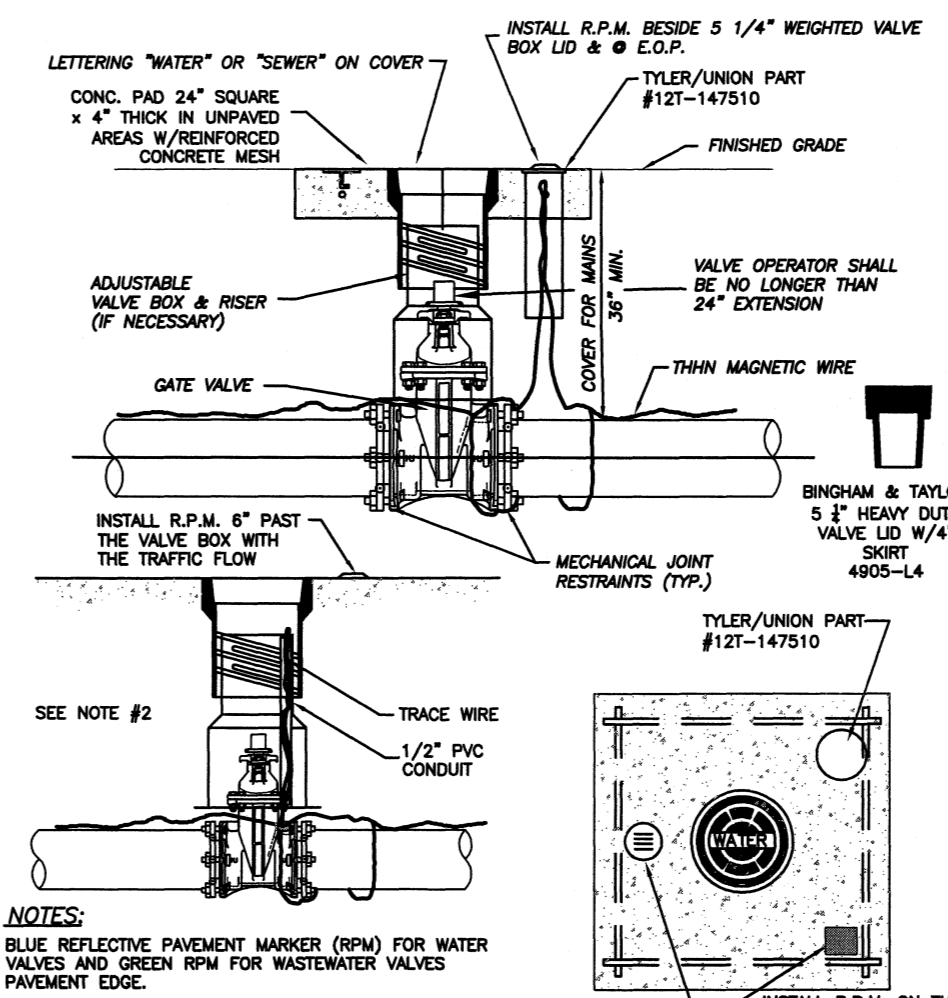
2) REQUIRED RESTRAINED LENGTH CALCULATIONS SHALL ALSO CONSIDER THE CONDITIONS OF OTHER BENDS OR FITTINGS THAT WILL BE LOCATED WITHIN THE CALCULATED RESTRAINED LENGTH (L) OF THE BEND OR FITTING IN QUESTION.

3) EVERY JOINT OR FITTING MUST BE RESTRAINED ON BOTH SIDES OF THE BEND AND FOR TEES ALONG THE BEND ALSO.



PLEASE REFER TO FORT PIERCE UTILITIES STANDARD SEPARATION STATEMENT FOR WATER / SEWER CONFLICTS.

UTILITY CROSSING DETAIL  
N.T.S.

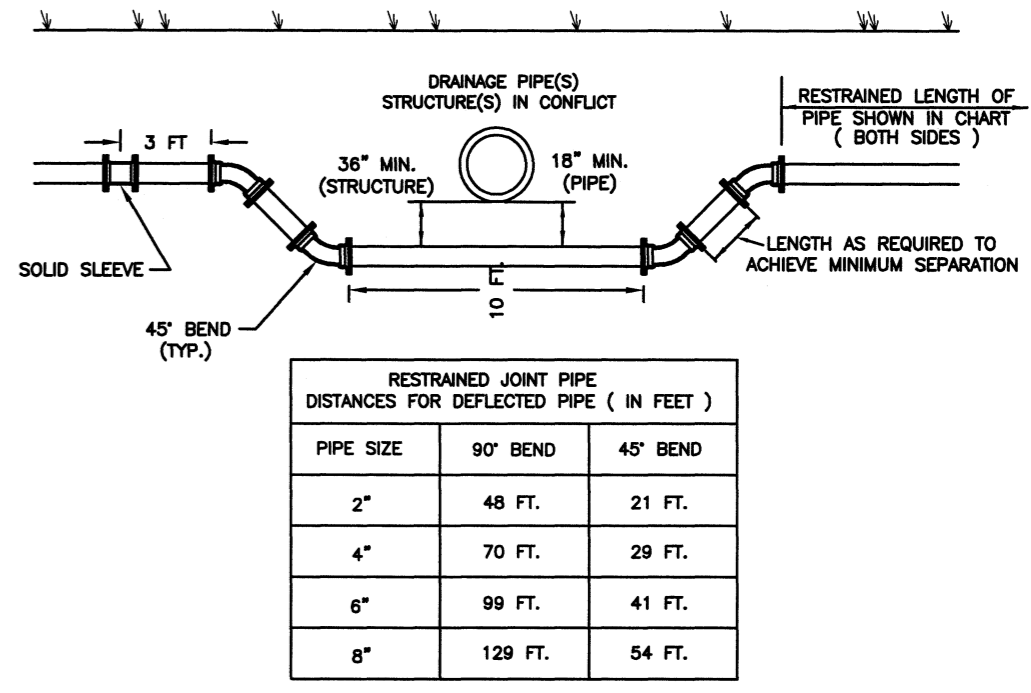


1. BLUE REFLECTIVE PAVEMENT MARKER (RPM) FOR WATER VALVES AND GREEN RPM FOR WASTEWATER VALVES.

2. FOR WATER AND WASTEWATER VALVES INSTALLED IN PAVED AREAS, ELIMINATE CONCRETE PAD AND ENCASE THE MAGNETIC WIRE IN 1/2" PVC INSIDE THE VALVE BOX SEVEN INCHES BELOW GRADE.

3. DIP MAY BE USED AS RISERS ONLY IF A VALVE BOX IS NOT MANUFACTURED FOR THAT DEPTH. NO PVC RISERS SHALL BE USED IN ANY CIRCUMSTANCES.

TYPICAL GATE VALVE & VALVE BOX DETAIL  
N.T.S.



1. PROVIDE RESTRAINED JOINTS AT CHANGES IN DIRECTION OF ALL PIPE.

2. DISTANCES (FEET) SHALL APPLY TO LENGTHS OF PIPE ON EACH SIDE OF THE FITTINGS.

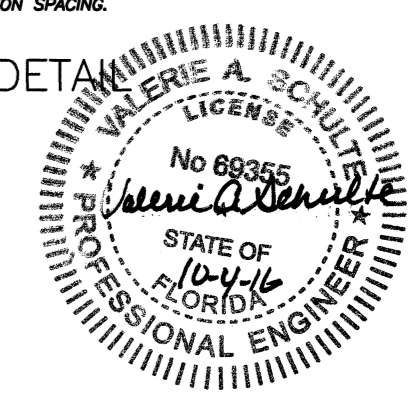
3. CONSIDER DEAD ENDS EQUIVALENT TO 90° BENDS.

4. TEES SHALL BE RESTRAINED ON BRANCH BASED ON SAME DISTANCE AS 90° BEND OF THE SIZE OF THE BRANCH.

5. DETAIL APPLIES TO BOTH HORIZONTAL AND VERTICAL DEFLECTIONS.

6. IF MULTIPLE PIPES/STRUCTURES ARE IN CONFLICT IN CLOSE PROXIMITY, EXTEND 10 FEET TYPICAL PORTION OF CONFLICT DEFLECTION AS NEEDED TO MAINTAIN DEFLECTION SPACING.

PIPE CONFLICT DETAIL  
N.T.S.



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FORT PIERCE, FL 34947

	VERIFY SCALE BAR IS EQUAL TO ONE INCH ON ORIGINAL DRAWING	DATE: _____	REVISION: _____	BY: _____	APPD: _____	<b>NORTH 17TH STREET UTILITY REPLACEMENT</b> WATER/WASTEWATER ENGINEERING FT. PIERCE UTILITIES AUTHORITY 1701 SOUTH 37TH STREET FT. PIERCE, FLORIDA 34947 (772) 468-1000 / FAX (772) 468-2414
	0  1 ADJUST ALL SCALED DIMENSIONS ACCORDINGLY	DESIGNED: VAS	DRAWING FILENAME		SCALE:	
	DRAWN BY: SLL	DATE:	SHEET TYPE		PLAN / PROFILE	
	APPROVED: VAS	DATE:	SHEET #		52	