

C.O.V.B. UTILITY RELOCATION for I.R.C. ROAD WIDENING PROJECT on S.R. 60 (20TH ST.) FROM 44TH AVE. TO 38TH AVE. and on 43RD AVE. FROM 300' SOUTH OF 18TH ST. TO 26TH ST.

CITY OF VERO BEACH, FLORIDA

C.O.V.B. WATER AND SEWER DEPT.

PROJECT NO. WS16003

INDIAN RIVER COUNTY PROJECT NO. 0853

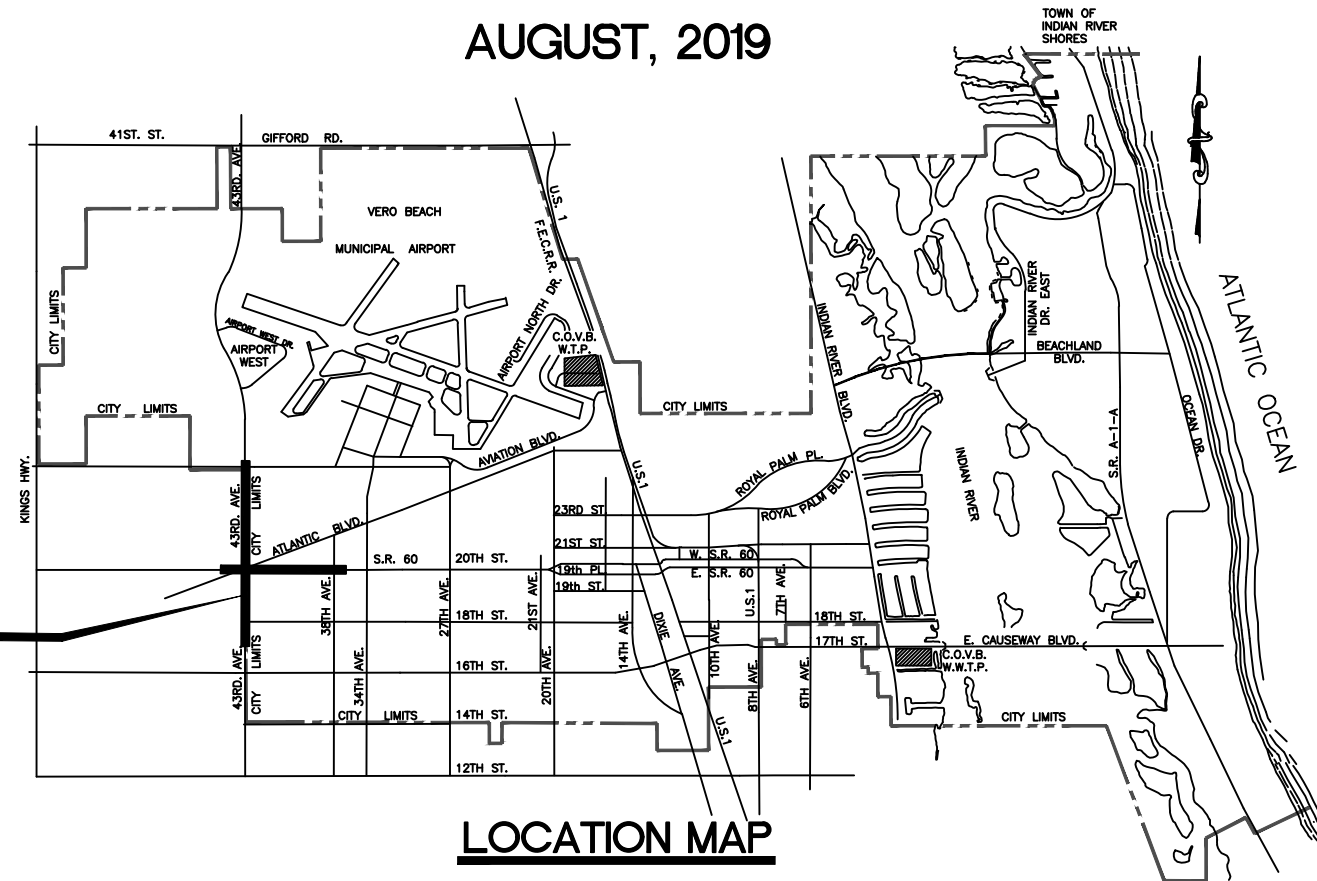
AUGUST, 2019



SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	INFORMATION SHEET & C.O.V.B WATER and SEWER DETAILS
3	F.D.E.P. PERMIT PLAN AND SAMPLE POINT PLAN
4	WATER MAIN DEMO PLAN
5	FORCE MAIN DEMO PLAN
6	SUMMARY OF QUANTITIES & C.O.V.B WATER and SEWER DETAILS
7-8	C.O.V.B WATER and SEWER DETAILS
9	PLAN SHEET INDEX
10-18	PLAN SHEETS - 43RD AVE.
19	PLAN SHEET - 19TH ST.
20-23	PLAN SHEETS - S.R. 60
24	PLAN SHEET - I.R.F.W.C.D. R.O.W. DIRECTIONAL BORE
25	PLAN SHEET - I.R.F.W.C.D. R.O.W.
26-34	PROFILE SHEETS - 43RD AVE.
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52-58	CROSS SECTION SHEETS - S.R. 60

WS16003



LOCATION MAP

CITY COUNCIL

- MAYOR - VAL ZUDANS
- VICE MAYOR - TONY YOUNG
- COUNCILMEMBER - LAURA MOSS
- COUNCILMEMBER - ROBERT BRACKET
- COUNCILMEMBER - HARRY HOWLE

CITY ADMINISTRATION

- CITY MANAGER - MONTY K. FALLS, P.E.
- DIRECTOR WATER & SEWER DEPT. - ROBERT J. BOLTON, P.E.

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

KNOWN UTILITIES IN THE AREA

- C.O.V.B. SEWER
- C.O.V.B. WATER
- C.O.V.B. ELECTRIC
- A.T. & T.
- CABLE VISION
- FLORIDA CITY GAS CO.
- INDIAN RIVER COUNTY TRAFFIC DIVISION
- CALL SUNSHINE STATE ONE CALL 1-800-432-4770

GOVERNING SPECIFICATIONS
THE FLORIDA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS FOR ROAD & BRIDGE
CONSTRUCTION, 2017 EDITION, SUPPLMENTS
THERE TO, AND SPECIAL PROVISIONS THERE TO IF
NOTED IN THE CONTRACT SPECIFICATIONS FOR
THIS PROJECT.

CITY OF VERO BEACH WATER AND SEWER DEPARTMENT ENGINEERING DIVISION

ABBREVIATIONS LIST

AASHTO	American Association of State Highway and Transportation Officials	GR	Grade/Guardrail	RD	Roof Drain
AC	Acre	GSP	Galvanized Steel Pipe	R	Radius
ACP	Asbestos Cement Pipe	GV	Gate Valve	RR	Railroad
ADJ	Adjust	GW	Guy Wire	RCP	Reinforced Concrete Pipe
AH	Ahead	H	Hedge	RDWY	Roadway
ALT	Alternate	HDWL	Headwall	REINF	Reinforced
ALUM	Aluminum	I	External Angle (Delta)	RELOC	Relocated
APPROX	Approximate	ID	Inside Diameter	RES	Residence
ARV	Air Release Valve	IN	Inch	RS	Road Sign
ASPH	Asphalt	IPF	Iron Pipe Found	RT	Right
ASTM	American Society for Testing Materials	IPS	Iron Pipe Set	R/W	Right-of-Way
AVE	Avenue	JB	Junction Box	RWL	Raw Water Line
BCCMP	Bituminous Coated Corrugated Metal Pipe Culvert	L	Length of Curve	RWW	Raw Water Well
BT	Buried Telephone	LB	Long Body Sleeve	SAN	Sanitary Sewer
BD	Bend	LC	Long Chord	SF	Square Foot
B/L	Base Line	LF	Lineal Feet	SLV	Sleeve
BLDG	Building	LMRK	Limerock	SPEC	Specification
BM	Bench Mark	LP	Light Post	SPH	Sprinkler Head
BMS	Bench Mark Set	LT	Left	SR	State Road
BV	Butterfly Valve	LS	Lump Sum	SS	Stop Sign
C & G	Curb & Gutter	M	Middle Ordinate Distance	ST. S.	Storm Sewer
CAP	Corrugated Aluminum Pipe	MATL	Material	ST	Steet or Street Sign
CATV	Cable T. V.	MB	Mail Box	STA	Station
CB	Catch Basin	MHATT	Telephone Manhole (A.T. & T.)	STD	Standard
CI	Cast Iron	MHEL	Electric Manhole	STW	Salinity Test Well
CIP	Cast Iron Pipe	MHS	Sanitary Sewer Manhole	S/W	Sidewalk
CL	Center Line	MHSBT	Telephone Manhole (S.B.T.)	TAN	Tangent Length of Curve
CLR	Clear/Clearance	MHTEL	Telephone Manhole	TB	Trash Bin
CMF	Concrete Monument Found	MISC	Miscellaneous	TBX	Telephone Box
CMS	Concrete Monument Set	MON	Monument	TCP	Terra Cotta Pipe
CMP	Corrugated Metal Pipe	MWR	Reuse Monitor Well	TEL	Telephone
CONC	Concrete	MWRWL	Raw Water Line Monitor Well	THRBLK	Thrust Block
CONST	Construct	MSL	Mean Sea Level	TOB	Top of Bank
CONT	Continuation	NF	Nail Found	TRB	Traffic Box
CONTR	Contractor	NS	Nail Set	TRP	Traffic Pole
CULV	Culvert	NPT	National Pipe Thread	TYP	Typical
CY	Cubic Yard	Oak	Oak Tree	TW	Test Well
CV	Check Valve	OHE	Overhead Electric	USC&GS	US Coast and Geodetic Survey (New National Geodetic Survey)
D	Degree of Curvature	OD	Outside Diameter	USGS	US Geodetic Survey
DEPT	Department	OC	On Centers	UNIMP	Unimproved
DIA	Diameter	PAVT	Pavement	VC	Vertical Curve
DIM	Dimension	PC	Point of Curvature	VCP	Vitrified Clay Pipe
DOT	Department of Transportation	PCC	Point of Compound Curvature or Portland Cement Concrete	W/	With
DR	Driveway	PCF	Property Corner Found	WC	Water Closet
DWG	Drawing	PCS	Property Corner Set	WL	Water Line (River, Ditch, Ocean, ETC..)
DIP	Ductile Iron Pipe	PE	Polyethylene Pipe	WM	Water Meter or Meter Main
EA	Each	PERF	Perforated	WMR	Reuse Water Meter
EL/ELEV	Elevation	PERC	Percolation	WWF	Welded Wire Fabric
ELEC	Electric	PH	Phase	X	Coordinate Distance (East-West)
ENGR	Engineer	PI	Point of Intersection	X-SEC	Cross Section
EQ	Equation or Equal	PL	Property Line	Y	Coordinate Distance (North-South)
EQUIP	Equipment	PMT	Palm Tree		
ESMT	Easement	PNT	Pine Tree		
EXIST	Existing	PP	Power Pole		
EXP	Expansion	PPG	Power Pole With Guy Wire		
FH	Fire Hydrant	PPL	Power Pole With Light		
FIN FL	Finish Floor	PPLTWO	Power Pole With Two Lights		
FL	Flow Line	PPW	Wood Power Pole		
FW	Flow Well	PRC	Point of Reverse Curvature		
FT	Feet	PRM	Permanent Reference Monument		
FURN	Furnish	PRMS	Permanent Reference Monument Set		
FM	Force Main	PT	Point of Tangency		
GAL	Gallon	PSI	Pounds per Square Inch		
GALV	Galvanized	PVC	Polyvinyl Chloride Pipe		
GIP	Galvanized Iron Pipe	Q	Peak Discharge		
		RED	Reducer		
		RD	Roof Drain		

HATCH LEGEND

	DENOTES LIMITS OF ASPHALT AREA TO BE OPEN CUT
	EXISTING ASPHALT PAVEMENT
	EXISTING CONCRETE PAVEMENT
	EXISTING UNIMPROVED

LEGEND

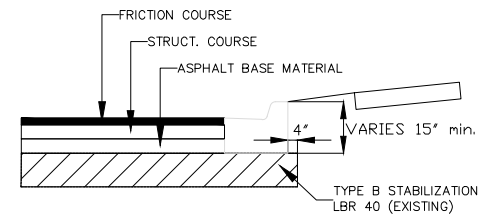
EXISTING	DESCRIPTION	PROPOSED
	BENCHMARK	
	CONCRETE MONUMENT	
	IRON PIPE	
	NAIL	
	PERMANENT REFERENCE MONUMENT	
	PROPERTY CORNER	
	RIGHT-OF-WAY LINE	
	BASE OR SURVEY LINE	
	PROPERTY OR BLOCK LINE	
	CENTER LINE	
	EDGE OF PAVEMENT	
	6" C.I.P. W.M.	
	8" V.C.P. SAN.	
	6" C.I.P. F.M.	
	6" C.I.P. REUSE W.M.	
	15" R.C.P. ST. S.	
	UNDERGROUND TELEPHONE LINE & MANHOLES	
	UNDERGROUND GAS LINE	
	UNDERGROUND ELECTRIC LINE & MANHOLE	
	OVERHEAD ELECTRIC LINE	
	CHAIN LINK FENCE	
	FARM TYPE FENCE	
	WOOD FENCE	
	AIR RELEASE VALVE	
	BUTTERFLY VALVE	
	CHECK VALVE	
	CLAY-VALVE	
	GATE VALVE	
	FIRE HYDRANT & FIRE HYDRANT ASSEMBLY	
	FIRE SERVICE	
	PLUG OR CAP	
	SAMPLE POINT, SAMPLE POINT & BLOW OFF	
	SLEEVE	
	REDUCER	
	WATER METER	
	SANITARY SEWER MANHOLE	
	SANITARY SEWER CLEAN OUT	
	CATCH BASIN OR STORM SEWER MANHOLE	
	SWALE SLOPE	
	PAVEMENT SLOPE	
	POWER POLE	
	POWER POLE W/GUY ANCHOR	
	POWER POLE W/LIGHT	
	WOOD POWER POLE	
	TRAFFIC POLE	
	TRAFFIC CONTROL BOX	
	TELEPHONE CLOSURE BOX	
	CONCRETE DRIVEWAY	
	ASPHALT DRIVEWAY	
	UNIMPROVED DRIVEWAY	
	OAK TREE	
	PALM TREE	
	FRUIT OR SHADE TREE	
	PINE TREE	
	HEDGE	
	SHRUB	
	MAIL BOX	
	SPRINKLER HEAD	
	TRASH BIN	
	HOSE BIBB	
	YARD LIGHT	
	STOP SIGN	
	REGULATORY SIGN	
	STREET SIGN	
	ELEVATIONS	
	PROPOSED DRAINAGE STRUCTURE	
	SEE PART "A" DRAWINGS (TYP)	

GENERAL NOTES

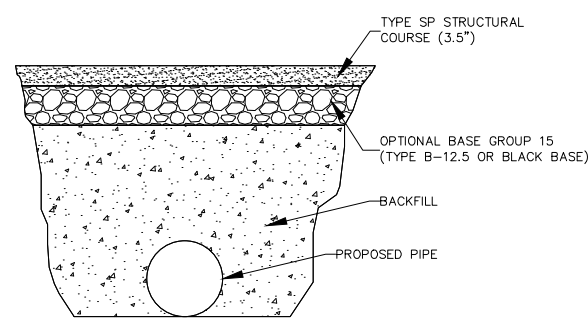
- THE CONTRACTOR SHALL VERIFY THE LOCATION AND TYPE OF MATERIAL OF ALL UTILITIES AND SHALL BE RESPONSIBLE FOR REQUESTING LOCATION INFORMATION FROM THE UTILITY COMPANIES PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL PROTECT ALL EXISTING AND /OR RELOCATED UTILITIES DURING CONSTRUCTION.
- RELOCATION OF POWER POLES, AUXILIARY POWER POLES, GUYS, AND UNDERGROUND ELECTRICAL LINES WILL BE THE RESPONSIBILITY OF THE CITY OF VERO BEACH. CONTRACTOR SHALL COORDINATE HIS OPERATIONS WITH THE CITY CREWS AND OTHER CONTRACTORS.
- EXTREME CARE SHALL BE TAKEN WHEN WORKING AROUND THE BASE OF TREES, WATER METERS, OR ANY OTHER EXISTING FACILITIES THAT ARE TO REMAIN. IF NECESSARY, THIS WORK SHALL BE DONE BY HAND SO AS TO AVOID DAMAGE TO THE ITEM. THE CONTRACTOR SHALL TREAT ANY EXPOSED ROOTS OR OTHER PORTIONS OF THE TREES TO PROVIDE PROPER PROTECTION AS DIRECTED BY THE CITY.
- THERE SHALL BE 36" MIN. COVER OVER ALL NEW WATER PIPES UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER.
- F.D.O.T. REFERENCE INDEXES
 INDEX 300 FOR CURB RESTORATION
 INDEX 304 FOR CURB RAMP
 INDEX 307 FOR TRENCH DETAILS
 INDEX 310 FOR SIDEWALK RESTORATION
 INDEX 612 FOR WORK ON SHOULDER OR OUTSIDE TRAVEL WAY
 INDEX 613 FOR MOT
 INDEX 616 FOR WORK NEAR INTERSECTIONS
 SPECIFICATION SECTION 102 FOR MOT FIR DRIVEWAYS AND SIDEWALKS

WATER SERVICE NOTES

- 1" TEMP SAMPLE POINT ASSEMBLY - SEE DETAIL SHEET 10
- 2" TEMP BLOW-OFF & SAMPLE POINT ASSEMBLY - SEE DETAIL SHEET 10
- BRANCH CONNECTION - SEE DETAIL SHEET 10
- CONST. 1" PE. SINGLE POTABLE WATER SERVICE FOR A 5/8" WATER METER - SEE DETAIL SHEET 11
- CONST. 1" PE. SINGLE POTABLE WATER SERVICE FOR A 3/4" WATER METER - SEE DETAIL SHEET 11
- CONST. 1" PE. SINGLE POTABLE WATER SERVICE FOR A 1" WATER METER - SEE DETAIL SHEET 11
- CONST. 2" PE. SINGLE POTABLE WATER SERVICE FOR A 1 1/2" WATER METER - SEE DETAIL SHEET 11
- CONST. 2" PE. SINGLE POTABLE WATER SERVICE FOR A 2" WATER METER - SEE DETAIL SHEET 11



DETAIL OF TYPE F CURB AND GUTTER
 NOTE: CURB AND GUTTER AND SIDEWALK RECONSTRUCTION TO OCCUR PRIOR TO ANY MILLING ACTIVITIES

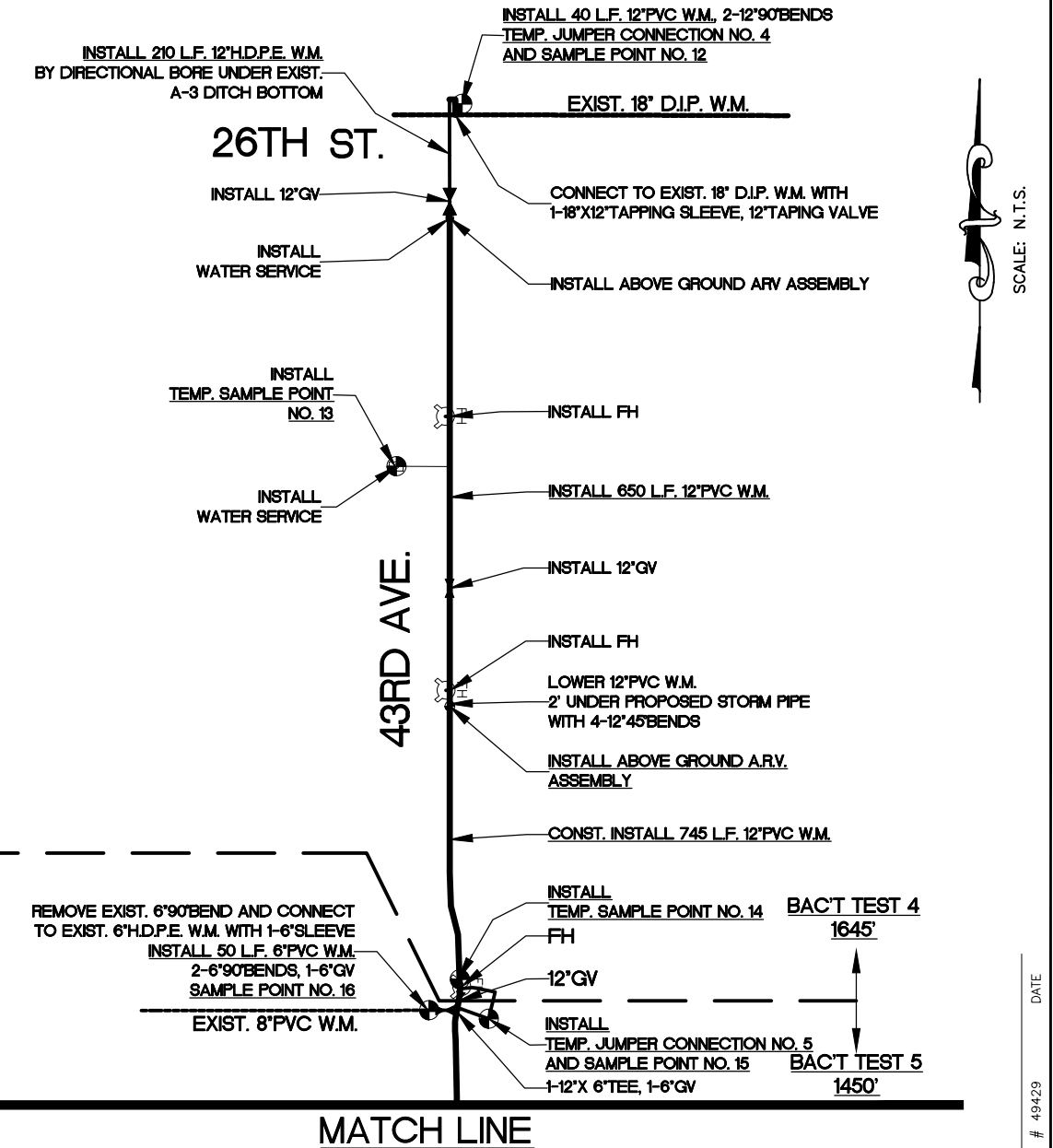
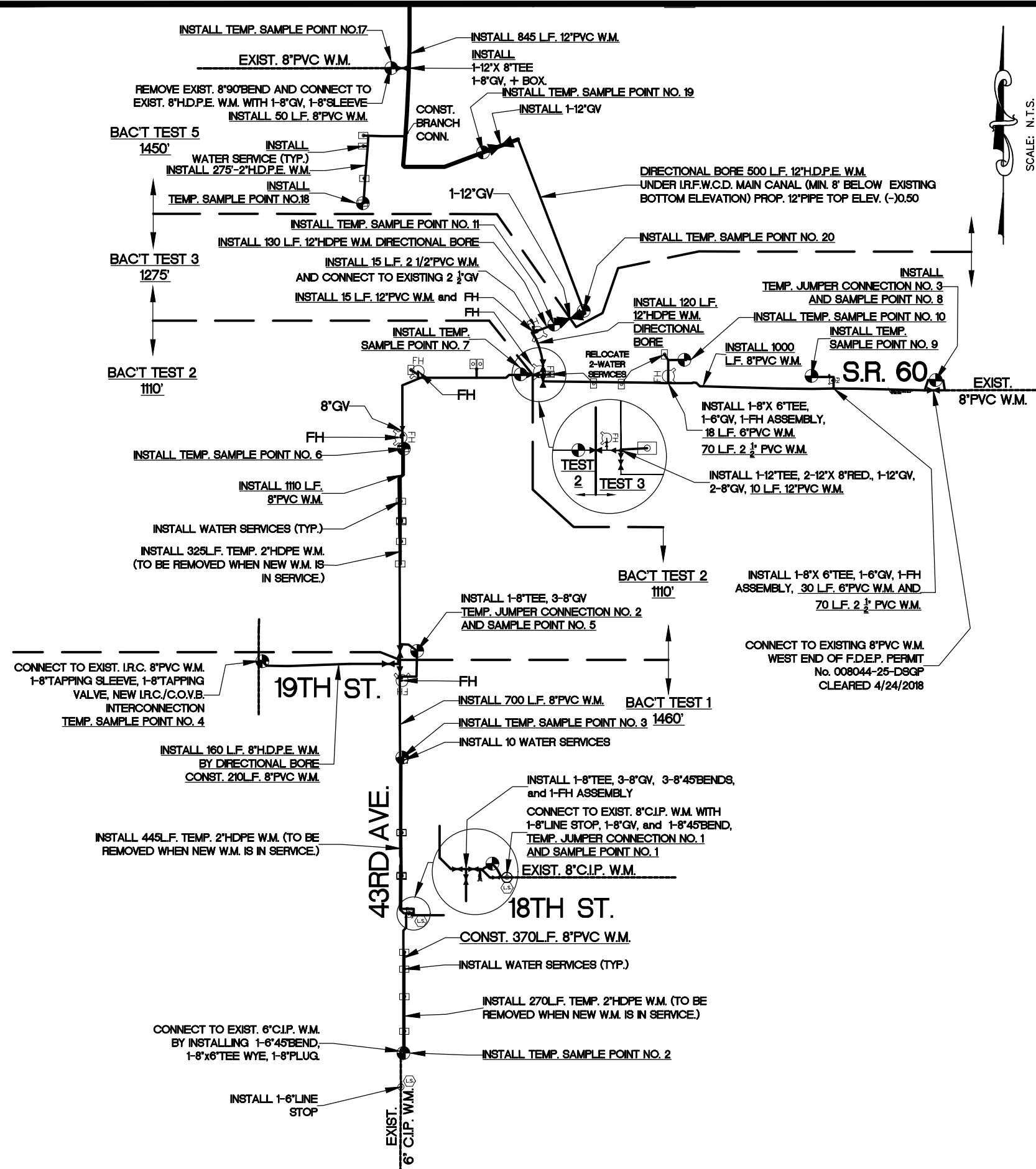


DETAIL OF FULL DEPTH RECONSTRUCTION
 (SEE ROADWAY PLANS FOR ACTUAL LIMITS)

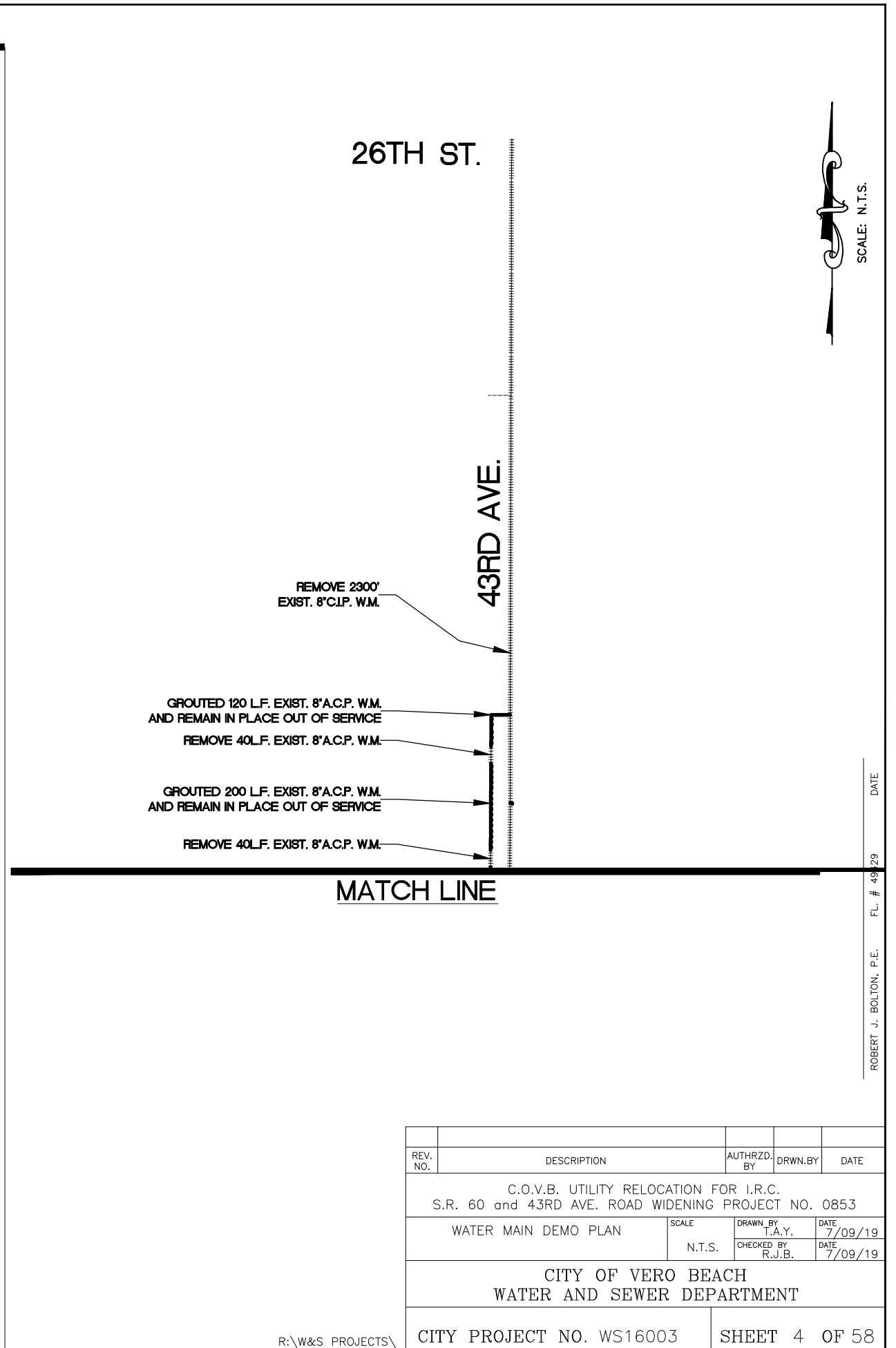
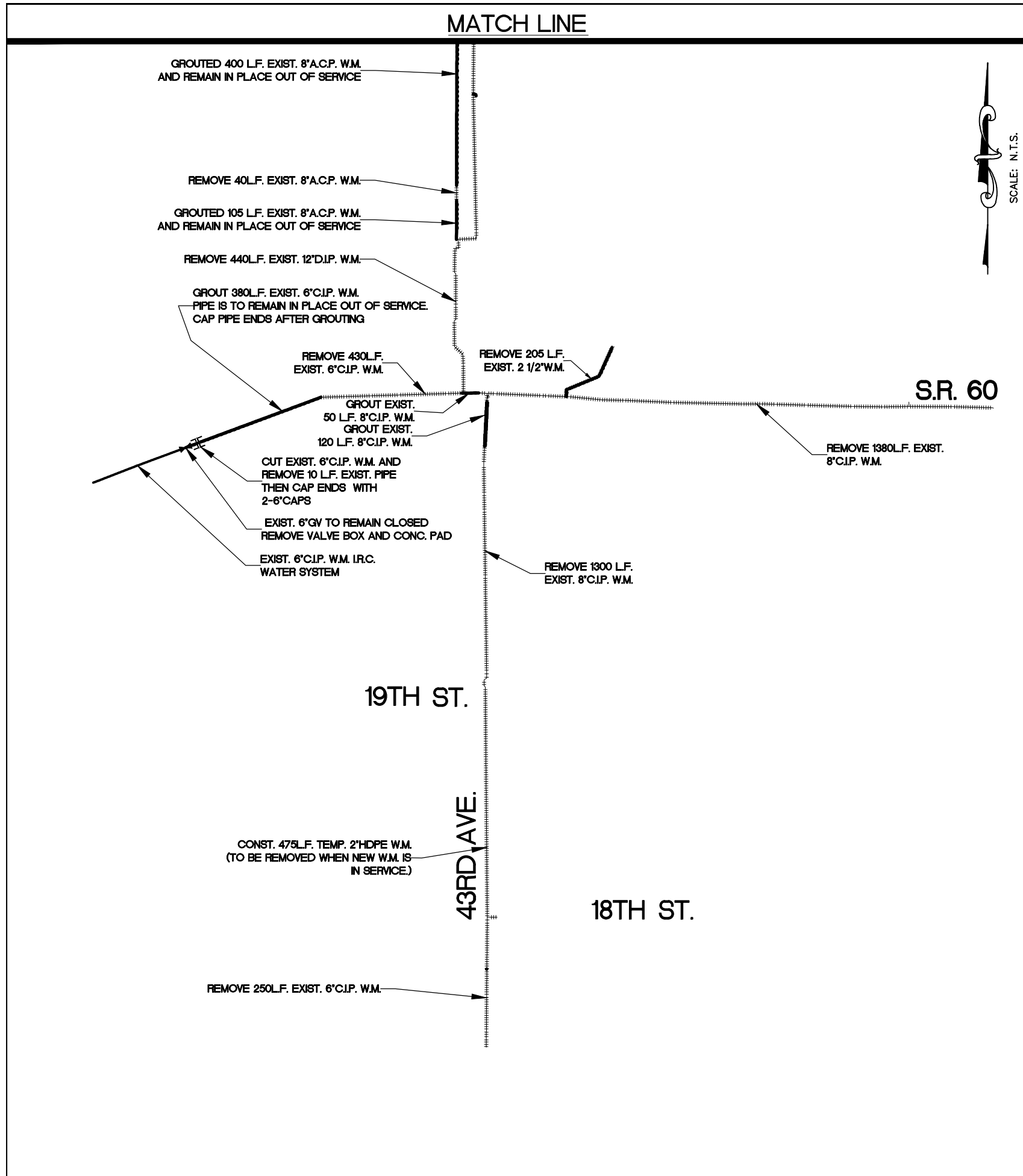
NOTE: PIPE REPAIR/REPLACEMENT AND FULL DEPTH RECONSTRUCTION TO OCCUR PRIOR TO ANY MILLING ACTIVITIES

REV. NO.	DESCRIPTION	AUTHRZD. BY	DRWN. BY	DATE
	C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853			
	INFORMATION SHEET and WATER & SEWER DETAILS	SCALE N.T.S.	DRAWN BY T.A.Y. CHECKED BY R.J.B.	DATE 1/02/19
CITY OF VERO BEACH WATER AND SEWER DEPARTMENT				
CITY PROJECT NO. WS16003			SHEET 2 OF 58	

MATCH LINE



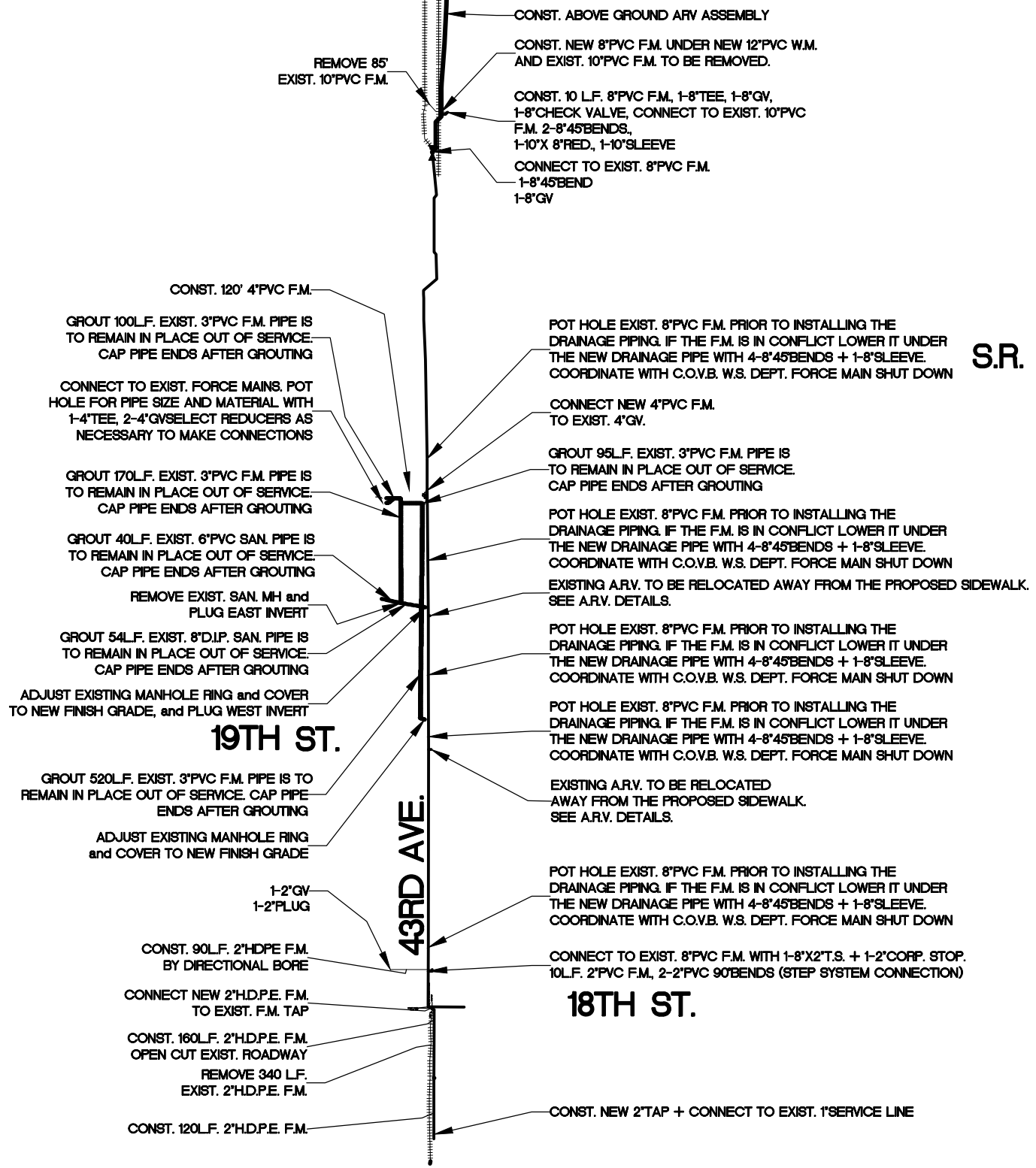
REV. NO.	DESCRIPTION	AUTHRZD. BY	DRWN. BY	DATE
	C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853			
	FDEP PERMIT PLAN and SAMPLE POINT PLAN	SCALE N.T.S.	DRAWN BY T.A.Y. CHECKED BY R.J.B.	DATE 1/30/19
CITY OF VERO BEACH WATER AND SEWER DEPARTMENT				
CITY PROJECT NO. WS16003			SHEET 3 OF 58	



REV. NO.	DESCRIPTION	AUTHRZD. BY	DRWN. BY	DATE
	C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853			
	WATER MAIN DEMO PLAN	SCALE N.T.S.	DRAWN BY T.A.Y. CHECKED BY R.J.B.	DATE 7/09/19 DATE 7/09/19
CITY OF VERO BEACH WATER AND SEWER DEPARTMENT				
CITY PROJECT NO. WS16003				SHEET 4 OF 58

MATCH LINE

SCALE: N.T.S.

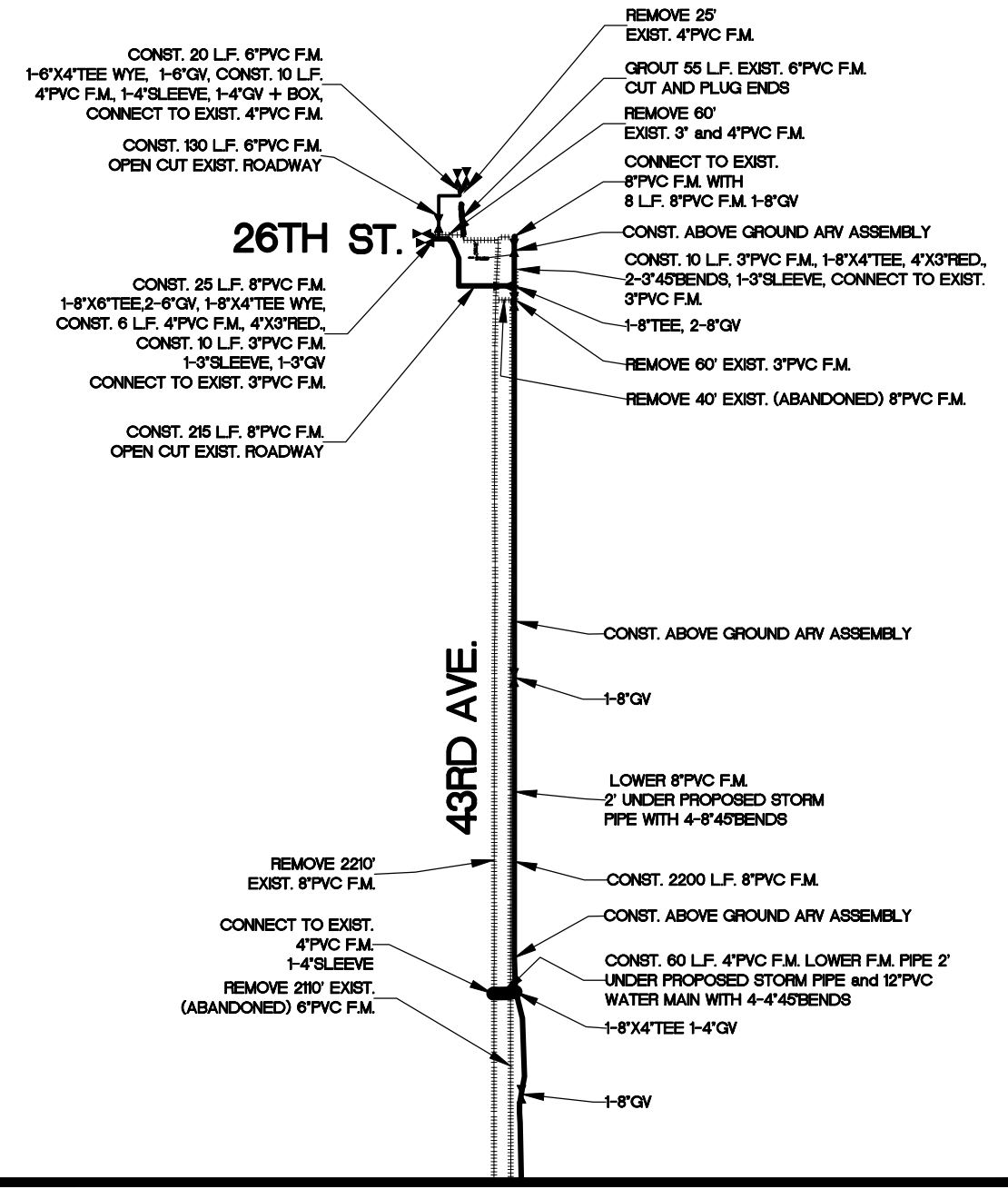


S.R. 60

43RD AVE.

MATCH LINE

SCALE: N.T.S.



43RD AVE.

SCALE: N.T.S.

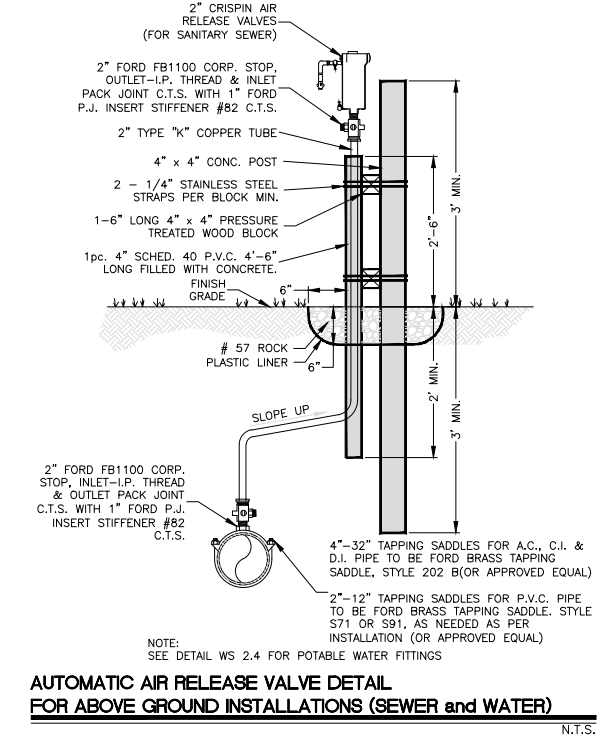
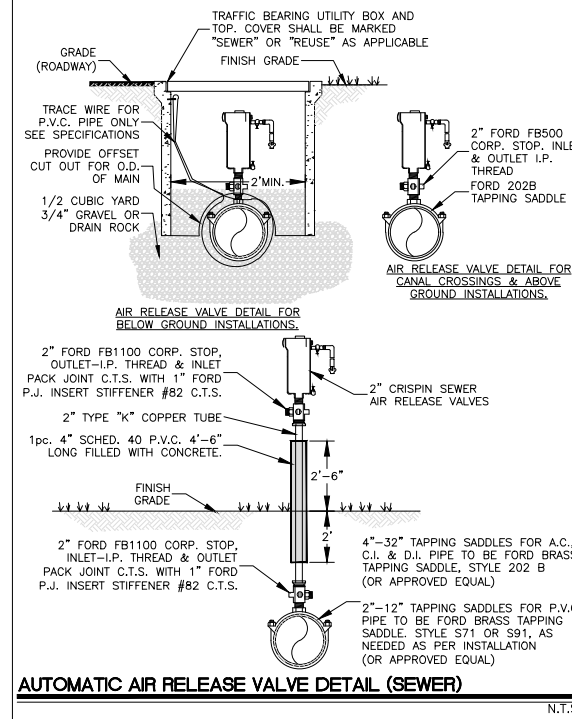
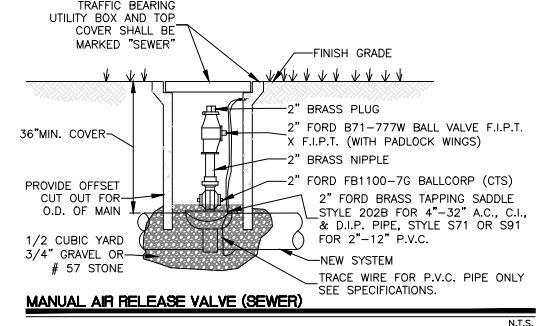
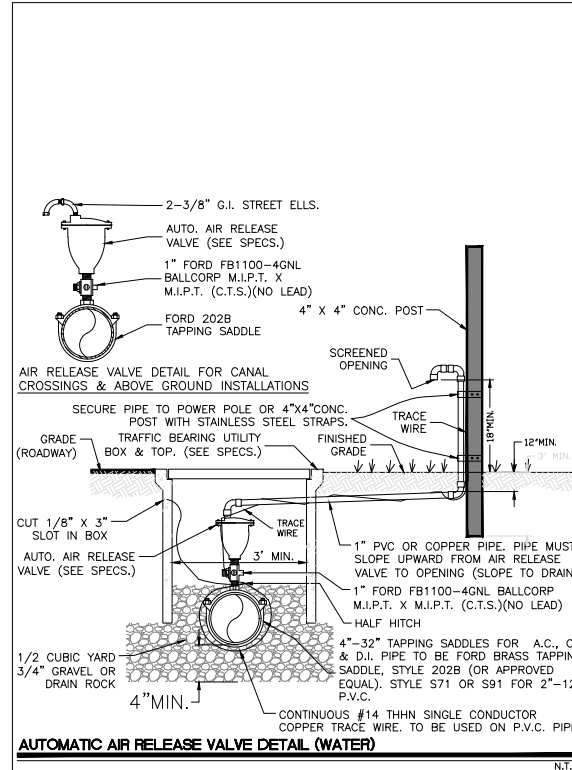
REV. NO.	DESCRIPTION	AUTHRZD BY	DRWN. BY	DATE
	C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853			
	OVERALL F.M. PLAN & DEMO PLAN	SCALE N.T.S.	DRAWN BY T.A.Y. CHECKED BY R.J.B.	DATE 1/02/19
CITY OF VERO BEACH WATER AND SEWER DEPARTMENT				
CITY PROJECT NO. WS16003			SHEET 5 OF 54	

COST ESTIMATE SHEET - Utility Work by highway Contractor (UWHC)
FDOT Financial Project ID:431759-2-54-01, IRC-0853
C.O.V.B. Project No. WS16003 - WATER MAIN REPLACEMENT ON SR 60 & 43RD AVE.
City of Vero Beach Water & Sewer Department

7/29/2019

ITEM #	F.D.O.T. ITEM #	DESCRIPTION	Unit	Qty
1		Actual cost of Performance and Payment Bond	LS	1
2	0110 1 1 A	Clearing and Grubbing	LS	1
3	0104 10 3 A	Erosion Control - SEDIMENT BARRIER	LS	1
4	0160 4 A	Type B Stabilization (Driveways)	SY	1085
5	0334 1 13 A	Superpave asphaltic Concrete (SP-12.5) Traffic "C" (1-1/2")	SY	1085
6	0425 2 71 A	Manhole, J-, Less Than 10'	LS	1
7	0999 2 C	As-built Surveying	LS	1
8	0570 1 2 A	Install Sod - Bahia	S.Y.	1860
9	0570 1 2 B	Install Sod - Floratam	S.Y.	200
10	0570 1 1	Install Seed & Mulch	S.Y.	9320
11	0522 2 A	R & R, 6" Concrete Sidewalk	SY	1255
12	1060 16	Remove Existing Sanitary Sewer Manhole and Apertances	EA	1
13	1060 15	Adjust Existing Sanitary Sewer Manhole Ring & Cover	EA	2
14	1050 16001	Remove & Dispose Existing 1" Water Main and Apertances (0-1.9')	LF	265
15	1050 16002	Remove & Dispose Existing 2-3" Water Main and Apertances (2-4.9')	LF	305
16	1050 16002A	Remove & Dispose Existing 3" Force Main and Apertances (2-4.9')	LF	560
17	1050 16003	Remove & Dispose Existing 6" Force Main and Apertances (5-7.9')	LF	2120
18	1050 16003A	Remove & Dispose Existing 6" Water Main and Apertances (5-7.9')	LF	790
19	1050 16004	Remove & Dispose Existing 8" Water Main and Apertances (8-19.9')	LF	5560
20	1050 16004A	Remove & Dispose Existing 8" Force Main and Apertances (8-19.9')	LF	2330
21	1050 16004B	Remove & Dispose Existing 6" Sanitary Sewer Service Pipe	LF	100
22	1050 18002	Grout Fill and Abandon Existing 2" Water Main (2-4.9')	LF	190
23	1050 18002A	Grout Fill and Abandon Existing 3" Force Main (2-4.9')	LF	795
24	1050 18003	Grout Fill and Abandon Existing 6" Water Main (5-7.9')	LF	400
25	1050 18003A	Grout Fill and Abandon Existing 6" Sanitary Main (5-7.9')	LF	170
26	1050 18004	Grout Fill and Abandon Existing 8" Water Main (8-19.9')	LF	990
27	1050 18004A	Grout Fill and Abandon Existing 8" Sanitary Main (8-19.9')	LF	55
28	1050 31202	F & I, 2" PVC SDR21 (BLUE) Water Main Pressure Pipe. Item to include all necessary PVC or Brass fittings per plans and specifications.	LF	20
29	1050 31202A	F & I, 2" PVC SDR21 (GREEN) Force Main Pressure Pipe. Item to include all necessary PVC or Brass fittings per plans and specifications.	LF	20
30	1050 31202B	F & I, 2 1/2" PVC SDR21 (BLUE) Water Main Pressure Pipe. Item to include all necessary PVC or Brass fittings per plans and specifications.	LF	40
31	1050 31203	F & I, 3" PVC C-900 DR-18 (GREEN) Force main Pressure Pipe. Item to include all necessary M.J. D.I. fittings and pipe restraints per plans and specifications.	LF	20
32	1050 31204	F & I, 4" PVC C-900 DR-18 (GREEN) Force main Pressure Pipe. Item to include all necessary M.J. D.I. fittings and pipe restraints per plans and specifications.	LF	200
33	1050 31206	F & I, 6" PVC C-900 DR-18 (BLUE) Water Main Pressure Pipe. Item to include all necessary M.J. D.I. fittings and pipe restraints per plans and specifications.	LF	180
34	1050 31205A	F & I, 6" PVC C-900 DR-18 (GREEN) Force Main Pressure Pipe. Item to include all necessary M.J. D.I. fittings and pipe restraints per plans and specifications.	LF	140
35	1050 31206B	F & I, 6" PVC C-900 DR-18 (GREEN) Pressure Pipe with sewer fittings (Sewer Services)	LF	100
36	1050 31208	F & I, 8" PVC C-900 DR-18 (BLUE) Water Main Pressure Pipe	LF	3380
37	1050 31208A	F & I, 8" PVC SDR-35 (GREEN) Sanitary Sewer Pipe	LF	40
38	1050 31208B	F & I, 8" PVC C-900 DR 18 CL150 (GREEN) Force Main Pressure Pipe	LF	2480
39	1050 31210	F & I, 10" PVC C-900 DR 18 CL150 (GREEN) Force Main Pressure Pipe	LF	20
40	1050 31212	F & I, 12" PVC C-900 DR-18 (BLUE) Water Main Pressure Pipe	LF	2340
41	1050 41201	F & I, 1" PE3408 SDR-9 PE (BLUE) Water Main Pressure Pipe	LF	400
42	1050 41202	F, I, & R, 2" PE3408 SDR-9 PE (Blue) Water Main Pressure Pipe (Remove after new W.M. is in service item 13.)	LF	1040
43	1050 42202A	F & I, 2" PE3408 SDR-9 PE (BLUE) Water Main Pressure Pipe	LF	530
44	1050 42202B	F & I, 2" PE3408 SDR-9 PE (GREEN) Force Main Pressure Pipe	LF	400
45	1050 42208	F & I, 8" PE3408 SDR-11 PE (BLUE) Water Main Pressure Pipe	LF	160
46	1050 42208A	F & I, 8" PE3408 SDR-11 PE (GREEN) Force Main Pressure Pipe	LF	120
47	1050 42212	F & I, 12" PE3408 SDR-11 PE (BLUE) Water Main Pressure Pipe	LF	760
48	1055 51108	F & I, 8" MJ C-153 11.25' Bend (WATER) With Mega-lug Restraints	EA	4
49	1055 51108A	F & I, 8" MJ C-153 11.25' Bend (SEWER-LINED) With Mega-lug Restraints	EA	4
50	1055 51108B	F & I, 8" MJ C-153 22.5' Bend (SEWER-LINED) With Mega-lug Restraints	EA	7
51	1055 51108C	F & I, 8" MJ C-153 45' Bend (WATER) With Mega-lug Restraints	EA	34
52	1055 51108D	F & I, 8" MJ C-153 45' Bend (SEWER-LINED) With Mega-lug Restraints	EA	36
53	1055 51108E	F & I, 8" MJ C-153 90' Bend (WATER) With Mega-lug Restraints	EA	3
54	1055 51108F	F & I, 8" MJ C-153 90' Bend (SEWER-LINED) With Mega-lug Restraints	EA	1
55	1055 51112	F & I, 12" MJ C-153 11.25' Bend (WATER) With Mega-lug Restraints	EA	4
56	1055 51112A	F & I, 12" MJ C-153 22.5' Bend (WATER) With Mega-lug Restraints	EA	1
57	1055 51112B	F & I, 12" MJ C-153 45' Bend (WATER) With Mega-lug Restraints	EA	10
58	1055 51112C	F & I, 12" MJ C-153 90' Bend (WATER) With Mega-lug Restraints	EA	4
59	1055 51208A	F & I, 8x8x4 MJ C-153 Tee (SEWER-LINED) With Mega-lug Restraints	EA	2
60	1055 51208	F & I, 8x8x6 MJ C-153 Tee (WATER) With Mega-lug Restraints	EA	7
61	1055 51208B	F & I, 8x8x6 MJ C-153 Tee (SEWER-LINED) With Mega-lug Restraints	EA	1
62	1055 51208C	F & I, 8x8x6 MJ C-153 Tee (SEWER-LINED) With Mega-lug Restraints	EA	2
63	1055 51212	F & I, 12x12x6 MJ C-153 Tee (WATER) With Mega-lug Restraints	EA	5
64	1055 51212A	F & I, 12x12x12 MJ C-153 Tee (WATER) With Mega-lug Restraints	EA	1
65	1055 51310	F & I, 10x8 MJ C-153 Reducer (SEWER-LINED) With Mega-lug Restraints	EA	1
66	1055 51312	F & I, 12x8 MJ C-153 Reducer (WATER) With Mega-lug Restraints	EA	2
67	1055 51408	F & I, 8" MJ C-153 L.B. Sleeve (WATER) With Mega-lug Restraints	EA	3
68	1055 51408A	F & I, 8" MJ C-153 L.B. Sleeve (SEWER-LINED) With Mega-lug Restraints	EA	6
69	1055 51410	F & I, 10" MJ C-153 L.B. Sleeve (SEWER-LINED) With Mega-lug Restraints	EA	1
70	1055 51412	F & I, 12" MJ C-153 L.B. Sleeve (WATER) With Mega-lug Restraints	EA	1
71	1055 51506	F & I, 6" MJ C-153 Plug Tapped 2" (WATER) With Mega-lug Restraints	EA	2
72	1055 51508	F & I, 8" MJ C-153 Plug Tapped 2" (WATER) With Mega-lug Restraints	EA	2
73	1055 51508A	F & I, 8" MJ C-153 Plug Tapped 2" (SEWER-LINED) With Mega-lug Restraints	EA	1
74	1055 51608	F & I, 8x8x4 MJ C-153 Tee Wye (SEWER-LINED) With Mega-lug Restraints	EA	1
75	1055 51608A	F & I, 8x8x6 MJ C-153 Tee Wye (WATER) With Mega-lug Restraints	EA	1
76	1055 51608B	F & I, 8x8x8 MJ C-153 Tee Wye (WATER) With Mega-lug Restraints	EA	1
77	1080 21101	F & I, 1" Single Short (<20') Water Service	EA	28
78	1080 21101A	F & I, 1" Single Long (>20') Water Service	EA	1
79	1080 21102	F & I, 2" Single Long (>20') Water Service	EA	1
80	1080 21102A	F & I, 2" Double Short (<20') Water Service	EA	2
81	1080 23102	F & I, 8" x 2" Main Tap with 2" Tapping Valve (CORP) Branch Connection Water Main	EA	8
82	1080 23102A	F & I, 8" x 2" Main Tap with 2" Tapping Valve (CORP) Branch Connection Force Main	EA	1
83	1080 23108	F & I, 8" x 8" Main Tap with 8" Tapping Valve, and Valve Box Water Main	EA	1
84	1080 23108A	F & I, 8" x 8" Tapping Sleeve, 8" Tapping Valve, 8" Main Tap and Valve Box Force main	EA	1
85	1080 23118	F & I, 18" x 12" Tapping Sleeve, 12" Tapping Valve, 12" Main Tap, and Valve Box Water Main	EA	1
86	1080 24102	F & I, 2" Resilient Seated Gate Valve and Valve Box Water Main	EA	2
87	1080 24102A	F & I, 2" Resilient Seated Gate Valve and Valve Box Force main	EA	1
88	1080 24102B	F & I, 2 1/2" Resilient Seated Gate Valve and Valve Box Water Main	EA	1

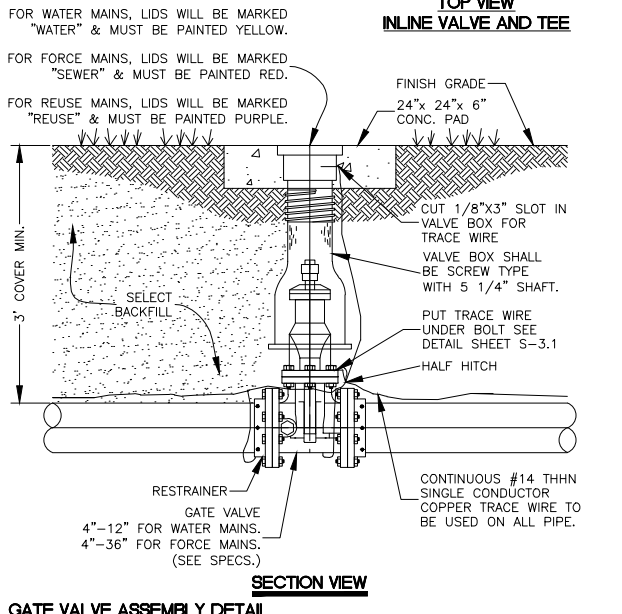
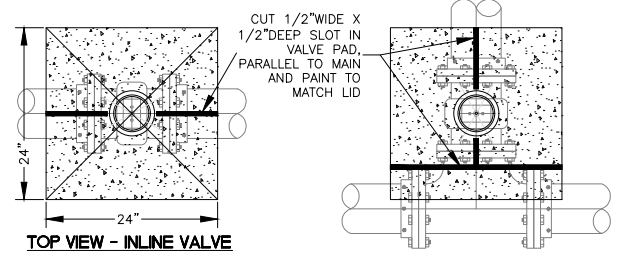
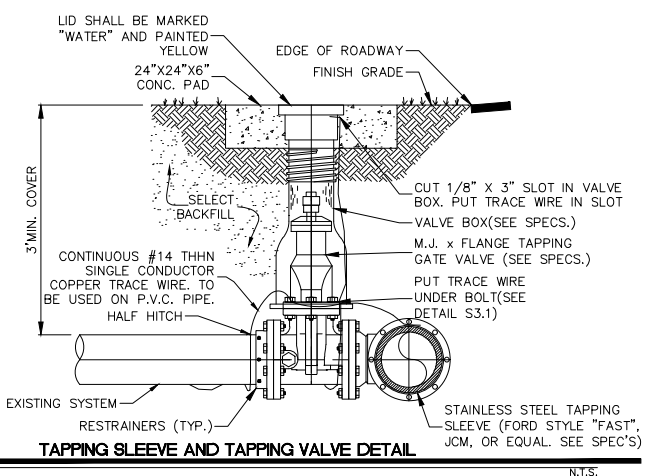
88	1080 24102B	F & I, 2 1/2" Resilient Seated Gate Valve and Valve Box Water Main	EA	1
89	1080 24103	F & I, 3" Resilient Seated Gate Valve With Mega-lug Restraints and Valve Box Force Main	EA	2
90	1080 24104	F & I, 4" Resilient Seated Gate Valve With Mega-lug Restraints and Valve Box Force Main	EA	5
91	1080 24106	F & I, 6" Resilient Seated Gate Valve With Mega-lug Restraints and Valve Box Water Main	EA	4
92	1080 24106A	F & I, 6" Resilient Seated Gate Valve With Mega-lug Restraints and Valve Box	EA	2
93	1080 24108	F & I, 8" Resilient Seated Gate Valve With Mega-lug Restraints and Valve Box Water Main	EA	14
94	1080 24108A	F & I, 8" Resilient Seated Gate Valve With Mega-lug Restraints and Valve Box Force Main	EA	7
95	1080 24108B	F & I, 8" Check Valve With Mega-lug Restraints Force Main	EA	1
96	1080 24112	F & I, 12" Resilient Seated Gate Valve With Mega-lug Restraints and Valve Box Water Main	EA	5
97	1080 24500	Adjust Existing Valve Box Water Main	EA	3
98	1080 24500A	Adjust Existing Valve Box Force Main	EA	3
99	1080 26102	F & I, 2" Automatic Air Release Valve Assembly Force Main	EA	4
100	1080 26112	F & I, 2" Automatic Air Release Valve Assembly Water Main	EA	1
101	1080 26400	F & I, Relocate 2" Manual Air Release Valve Assembly Force Main	EA	2
102	1080 27106	F & I, 6" Line Stop Water Main	EA	1
103	1080 27108	F & I, 8" Line Stop Water Main	EA	1
104	1080 29104	F & I, 4" Mega-lug Bell Restraints Force Main	EA	1
105	1080 29106	F & I, 6" Mega-lug Bell Restraints On exist. C.I.P. Water Main	EA	5
106	1080 29108	F & I, 8" Mega-lug Bell Restraints On exist. C.I.P. Water Main	EA	5
107	1080 29106	F & I, 6" Mega-lug Bell Restraints Water Main	EA	2
108	1080 29106A	F & I, 6" Mega-lug Bell Restraints Force Main	EA	2
109	1080 29108	F & I, 8" Mega-lug Bell Restraints Water Main	EA	26
110	1080 29108A	F & I, 8" Mega-lug Bell Restraints Force Main	EA	7
111	1080 29112	F & I, 12" Mega-lug Bell Restraints Water Main	EA	34
112	1080 32108	F & I & R, Temporary Sample Point and Blowoff Assembly (8") Water Main	EA	4
113	1080 32112	F & I & R, Temporary Sample Point and Blowoff Assembly (12") Water Main	EA	12
114	1080 23108	Service Tapping Valve with Corporation Valve with 2" Copper Assembly Water Main	EA	3
115	1080 23112	Service Tapping Valve with Corporation Valve with 2" Copper Assembly Water Main	EA	1
116	1080 23118	Service Tapping Valve with Corporation Valve with 2" Copper Assembly Water Main	EA	1
117	1644 11308	F & I Fire Hydrant Assembly, 6"GV, 2-6" Anchor couplings, with main connection and 42" riser	EA	10



REV. NO.	DESCRIPTION	AUTHORZ. BY	DRWN. BY	DATE
	C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853			
	SUMMARY OF PAY ITEMS and WATER & SEWER DETAILS	N.T.S.	T.A.Y.	7/29/19
			R.J.B.	7/29/19

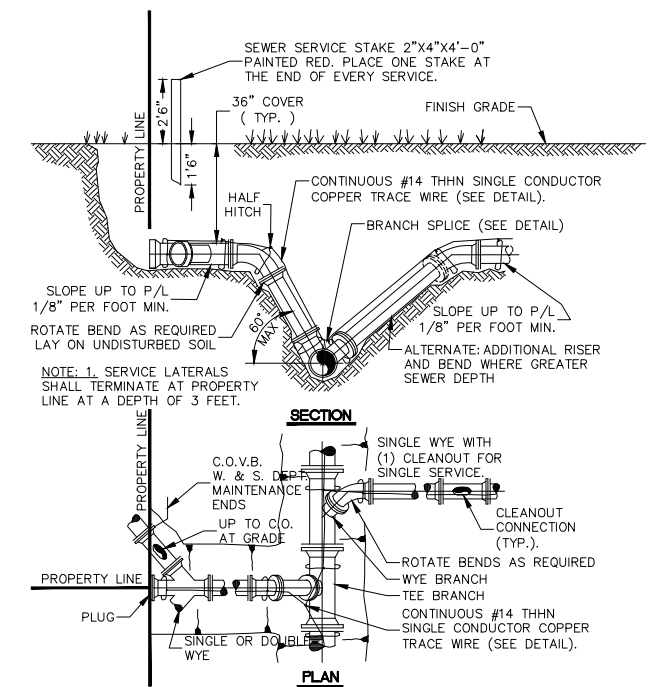
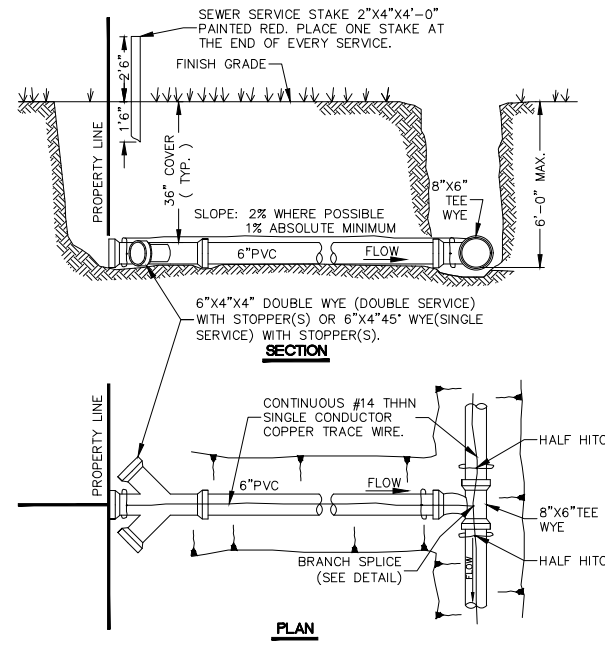
CITY OF VERO BEACH
 WATER AND SEWER DEPARTMENT

CITY PROJECT NO. WS16003 SHEET 6 OF 58

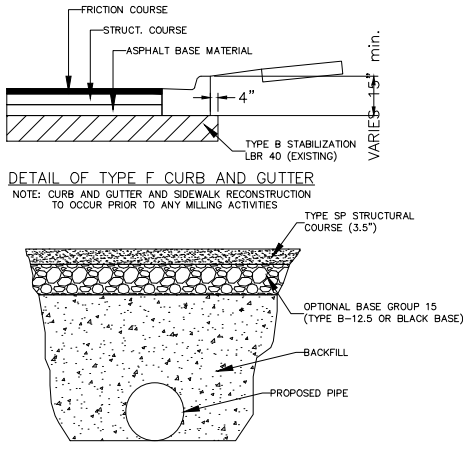


MATERIALS TABLE - POTABLE WATER SERVICE DETAIL FOR 5/8" X 3/4" - 2" METERS

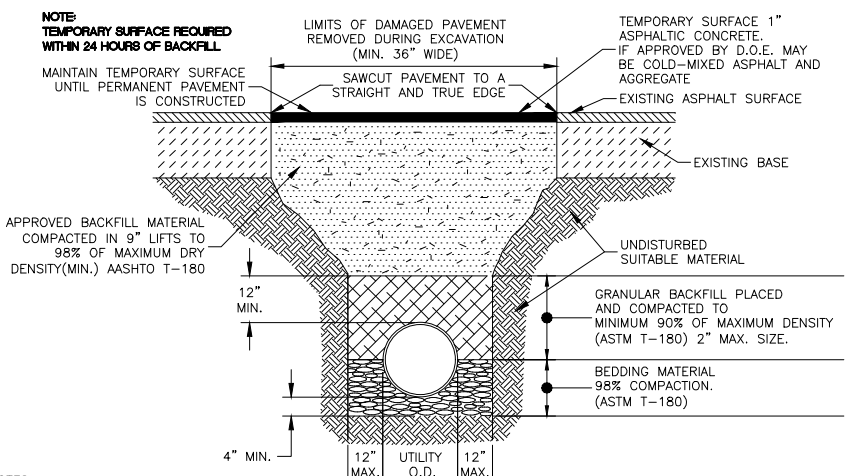
SERVICE/COMPONENT	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪
SINGLE POTABLE WATER SERVICE FOR 5/8" X 3/4" METER	1" FORD B71-591 OR 2028	FORD-BRASS BALLCORP COOP. STOP	POLY-ETHYLENE	FORD-BRASS TYP. BRANCH COUPLING	POLY-ETHYLENE	FORD-BRASS ANGLE YOKE VALVE	FORD METER YOKE	FORD-BRASS CHECK VALVE	BRASS STEEL ELL (90° BEND)	BRASS OR PVC SPOOL PIECES	COMPRESSION FITTING OR GLEE JOINT PVC SLEEVE
SINGLE POTABLE WATER SERVICE FOR 3/4" METER	1" FORD B71-591 OR 2028	FORD-BRASS BALLCORP COOP. STOP	POLY-ETHYLENE	FORD-BRASS TYP. BRANCH COUPLING	POLY-ETHYLENE	FORD-BRASS ANGLE YOKE VALVE	FORD METER YOKE	FORD-BRASS CHECK VALVE	BRASS STEEL ELL (90° BEND)	BRASS OR PVC SPOOL PIECES	COMPRESSION FITTING OR GLEE JOINT PVC SLEEVE
SINGLE POTABLE WATER SERVICE FOR 1" METER	1" FORD B71-591 OR 2028	FORD-BRASS BALLCORP COOP. STOP	POLY-ETHYLENE	FORD-BRASS TYP. BRANCH COUPLING	POLY-ETHYLENE	FORD-BRASS ANGLE YOKE VALVE	FORD METER YOKE	FORD-BRASS CHECK VALVE	BRASS STEEL ELL (90° BEND)	BRASS OR PVC SPOOL PIECES	COMPRESSION FITTING OR GLEE JOINT PVC SLEEVE
SINGLE POTABLE WATER SERVICE FOR 1 1/2" METER	1" FORD B71-591 OR 2028	FORD-BRASS BALLCORP COOP. STOP	POLY-ETHYLENE	FORD-BRASS TYP. BRANCH COUPLING	POLY-ETHYLENE	FORD-BRASS ANGLE YOKE VALVE	FORD METER YOKE	FORD-BRASS CHECK VALVE	BRASS STEEL ELL (90° BEND)	BRASS OR PVC SPOOL PIECES	COMPRESSION FITTING OR GLEE JOINT PVC SLEEVE
SINGLE POTABLE WATER SERVICE FOR 2" METER	1" FORD B71-591 OR 2028	FORD-BRASS BALLCORP COOP. STOP	POLY-ETHYLENE	FORD-BRASS TYP. BRANCH COUPLING	POLY-ETHYLENE	FORD-BRASS ANGLE YOKE VALVE	FORD METER YOKE	FORD-BRASS CHECK VALVE	BRASS STEEL ELL (90° BEND)	BRASS OR PVC SPOOL PIECES	COMPRESSION FITTING OR GLEE JOINT PVC SLEEVE
DOUBLE POTABLE WATER SERVICE FOR TWO 5/8" X 3/4" METER	2" FORD B71-591 OR 2028	FORD-BRASS BALLCORP COOP. STOP	POLY-ETHYLENE	FORD-BRASS TYP. BRANCH COUPLING	POLY-ETHYLENE	FORD-BRASS ANGLE YOKE VALVE	FORD METER YOKE	FORD-BRASS CHECK VALVE	BRASS STEEL ELL (90° BEND)	BRASS OR PVC SPOOL PIECES	COMPRESSION FITTING OR GLEE JOINT PVC SLEEVE
DOUBLE POTABLE WATER SERVICE FOR TWO 3/4" METER	2" FORD B71-591 OR 2028	FORD-BRASS BALLCORP COOP. STOP	POLY-ETHYLENE	FORD-BRASS TYP. BRANCH COUPLING	POLY-ETHYLENE	FORD-BRASS ANGLE YOKE VALVE	FORD METER YOKE	FORD-BRASS CHECK VALVE	BRASS STEEL ELL (90° BEND)	BRASS OR PVC SPOOL PIECES	COMPRESSION FITTING OR GLEE JOINT PVC SLEEVE
DOUBLE POTABLE WATER SERVICE FOR TWO 1" METERS	2" FORD B71-591 OR 2028	FORD-BRASS BALLCORP COOP. STOP	POLY-ETHYLENE	FORD-BRASS TYP. BRANCH COUPLING	POLY-ETHYLENE	FORD-BRASS ANGLE YOKE VALVE	FORD METER YOKE	FORD-BRASS CHECK VALVE	BRASS STEEL ELL (90° BEND)	BRASS OR PVC SPOOL PIECES	COMPRESSION FITTING OR GLEE JOINT PVC SLEEVE



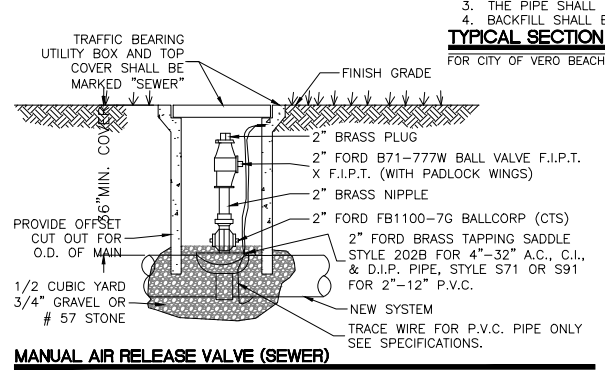
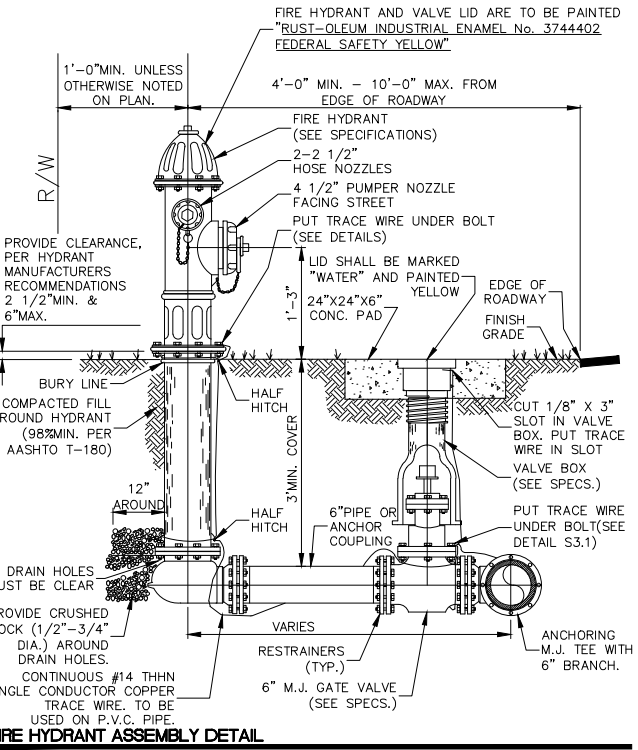
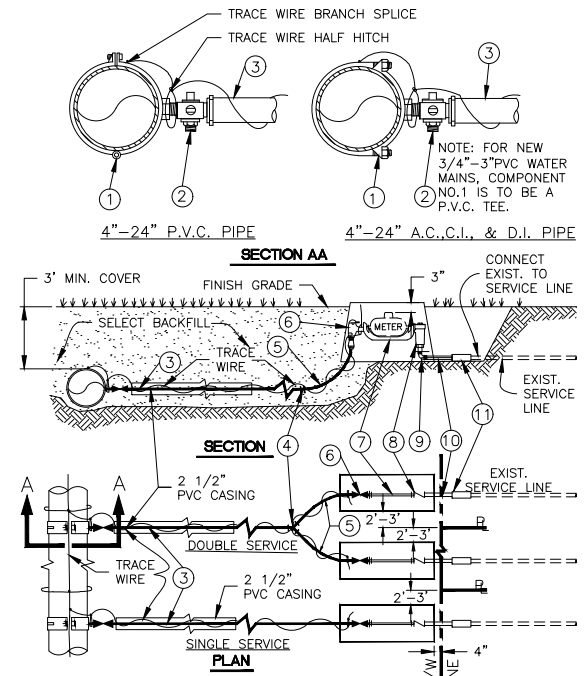
WHERE DEPTH EXCEEDS 6'-0" USE VERTICAL STACK HOUSE SERVICE CONNECTION. N.T.S.
FOR SERVICE TO BOTH SIDES OF STREET USE 8"x6"TEE WYE.



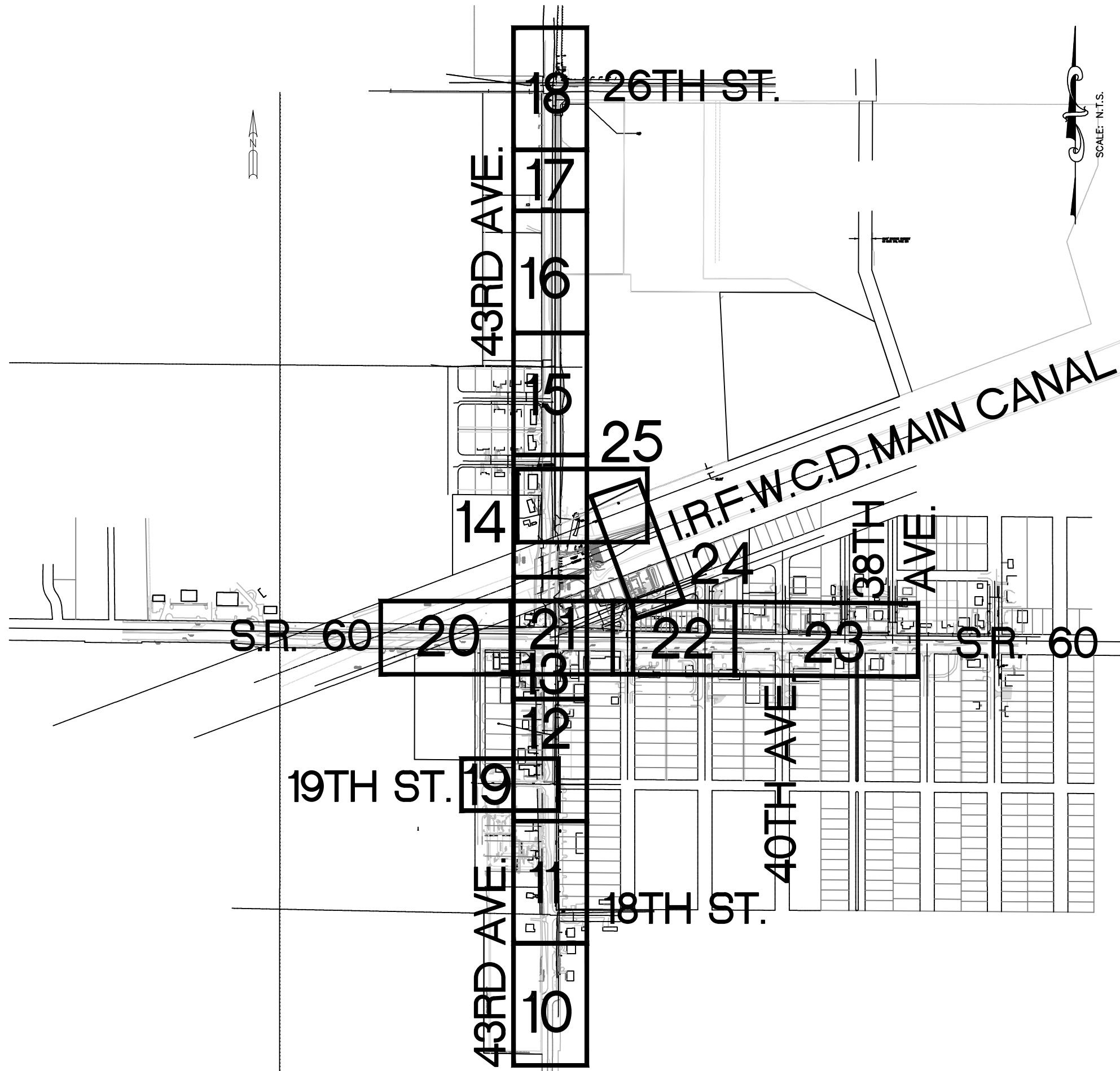
DETAIL OF FULL DEPTH RECONSTRUCTION (SEE ROADWAY PLANS FOR ACTUAL LIMITS)
NOTE: PIPE REPAIR/REPLACEMENT AND FULL DEPTH RECONSTRUCTION TO OCCUR PRIOR TO ANY MILLING ACTIVITIES



NOTES:
1. BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED LIMEROCK 3/4" - 3/8" SIZING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.
2. THE PIPE SHALL BE FULLY SUPPORTED FOR ITS ENTIRE LENGTH WITH APPROPRIATE COMPACTION UNDER THE PIPE HAUNCHES.
3. THE PIPE SHALL BE PLACED IN A DRY TRENCH.
4. BACKFILL SHALL BE FREE OF UNSUITABLE MATERIAL SUCH AS LARGE ROCK, MUCK, AND DEBRIS.
TYPICAL SECTION TEMPORARY PAVEMENT RESTORATION DETAIL
FOR CITY OF VERO BEACH ROADWAYS N.T.S.



REV. NO.	DESCRIPTION	AUTHRZD. BY	DRWN. BY	DATE
	C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 AND 43RD AVE. ROAD WIDENING PROJECT NO. 0853			
	C.O.V.B. WATER & SEWER DETAILS	SCALE	DATE	
		N.T.S.	1/02/19	
		CHECKED BY	DATE	
		R.J.B.	1/02/19	
CITY OF VERO BEACH				
WATER AND SEWER DEPARTMENT				
CITY PROJECT NO. WS16003		SHEET 8 OF 58		

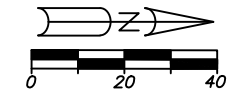


REV. NO.	DESCRIPTION	AUTHRZD. BY	DRWN. BY	DATE
	C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853			
	CONSTRUCTION PLANS PLAN SHEET INDEX	SCALE N.T.S.	DRAWN BY T.A.Y. CHECKED BY R.J.B.	DATE 1/02/19 DATE 1/02/19
CITY OF VERO BEACH WATER AND SEWER DEPARTMENT				
CITY PROJECT NO. WS16003		SHEET 9 OF 58		

R:\W&S PROJECTS\

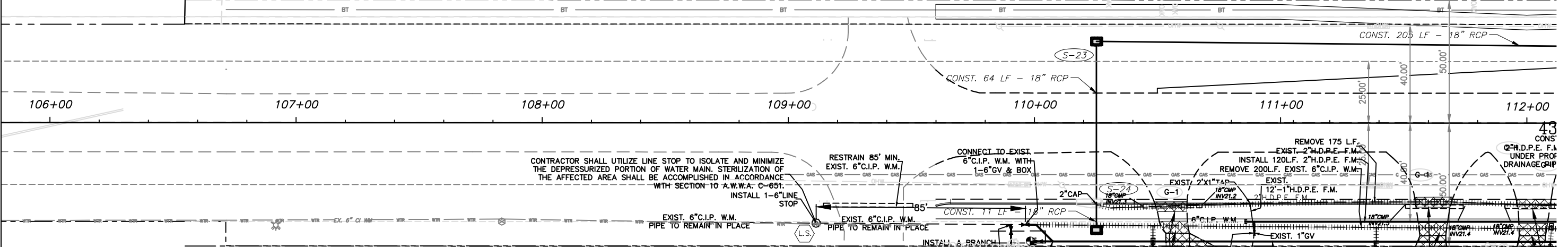
ROBERT J. BOLTON, P.E. FL. # 49429 DATE

B. 711, PG. 331 & O.R.B. 711, PG. 813



TRACT 16
 INDIAN RIVER FARMS COMPANY SUBDIVISION
 (P.B. 2, PG. 25 - SLCR)

S-23 STA. 110+25.21, 33.00' LT
 CONST DBI TYPE P-X
 FDOT INDEX 200, 201, OWNER:
 GR = 19.50 VERO BEACH ALLIANCE CHURCH
 FL = 15.50 N E
 BOT = 13.50



- | | |
|--|---|
| LEGEND | LEGEND |
| ① 1" TEMP. SAMPLE POINT ASSEMBLY | ⑦ CONST. 2" PE. SINGLE POTABLE WATER SERVICE FOR A 1 1/2" WATER METER |
| ② 2" TEMP. BLOW-OFF & SAMPLE POINT ASSEMBLY | ⑧ CONST. 2" PE. SINGLE POTABLE WATER SERVICE FOR A 2" WATER METER |
| ③ 2" TEMP. JUMPER CONNECTION WITH A 3/4" HOSE BIB FOR TEMP. SAMPLE POINT | ⑨ EXISTING WATER METER WAS NOT FOUND. CONTACT CITY WATER DEPT. TO LOCATE. |
| ④ CONST. 2" PE. SINGLE POTABLE WATER SERVICE FOR A 5/8" WATER METER | ⑩ CONST. A SINGLE POTABLE WATER SERVICE FOR FUTURE USE AS ④ |
| ⑤ CONST. 2" PE. SINGLE POTABLE WATER SERVICE FOR A 3/4" WATER METER | ⑪ CONST. 2" PE. DOUBLE POTABLE WATER SERVICE FOR 2 5/8" WATER METERS |
| ⑥ CONST. 2" PE. SINGLE POTABLE WATER SERVICE FOR A 1" WATER METER | ⑫ CONST. 2" PE. DOUBLE POTABLE WATER SERVICE FOR 2 3/4" WATER METERS |
| | ⑬ CONST. 2" PE. DOUBLE POTABLE WATER SERVICE FOR 2 1" WATER METERS |

GENERAL NOTES

- PUNCH ALL WATER LINES 2 1/2" AND SMALLER UNDER ALL ASPHALT AND CONCRETE DRIVEWAYS & UNDER ALL ASPHALT ROADS UNLESS SHOWN OTHERWISE.
- THERE SHALL BE 36" MIN. COVER OVER ALL NEW WATER PIPE UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

S-24A STA. 110+25.21, 43.50' RT
 CONST DBI TYPE C
 FDOT INDEX 200, 201, 205, & 232
 GR = 22.80
 FL = 19.60 W
 BOT = 17.60

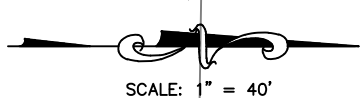
S-24 STA. 110+25.21, 31.00' RT
 CONST INLET TYPE P-5
 FDOT INDEX 200, 201, 205, & 211
 EOP = 24.29
 FL = 19.40 E
 FL = 16.00 W
 BOT = 14.00

NOTE:
 ALL NEW PIPE IS TO BE INSTALLED WITH 36" MIN. COVER FROM PROPOSED FINISH GRADES. REF TO ROADWAY PLANS FOR FINISH GRADES. (TYP.)

1-STORY CBS BUILDING (1746)
 INSTALL 220L.F. TEMP. 2" HDPE W.M. (TO BE REMOVED WHEN NEW W.M. IS IN SERVICE.)

1-STORY CBS BUILDING (1766)
 OPEN CUT EXIST. DRIVEWAY

REV. NO.	DESCRIPTION	AUTHRZD. BY	DRWN. BY	DATE
C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853				
CONSTRUCTION PLANS 43rd AVE. STA. 106+00-STA. 112+00		SCALE 1" = 40'	DRAWN BY T.A.Y.	DATE 1/30/19
		CHECKED BY R.J.B.	DATE 1/30/19	
CITY OF VERO BEACH WATER AND SEWER DEPARTMENT				
CITY PROJECT NO. WS16003			SHEET 10 OF 58	



TRACT 9

DIVISION (IRC)

S-26 STA. 112+30, 31.00' LT
 CONST DBI TYPE P-X
 FDOT INDEX 200, 201, 205, & 232
 GR = 22.00
 FL = 17.50 E
 FL = 15.15 N S
 BOT = 13.15

S-28 STA. 114+91, 40' LT
 CONST INLET TYPE P-X
 FDOT INDEX 200, 201, 205, & 232
 GR = 24.75
 FL = 19.80 E
 FL = 14.76 N S
 BOT = 12.76

S-27 STA. 116+20, 43.18' LT
 CONST INLET TYPE J-5
 FDOT INDEX 200, 201, 205, & 211
 EOP = 25.13
 FL = 17.30 E
 FL = 14.50 N S
 BOT = 12.50

S-29A STA. 113+35, 23.20' RT
 FDOT INDEX 200, 201, 205, & 232
 GR = 22.10
 FL = 18.90 SW
 BOT = 17.90

OWNER: ANDREW W.

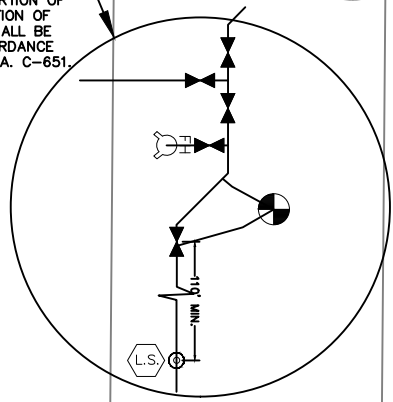
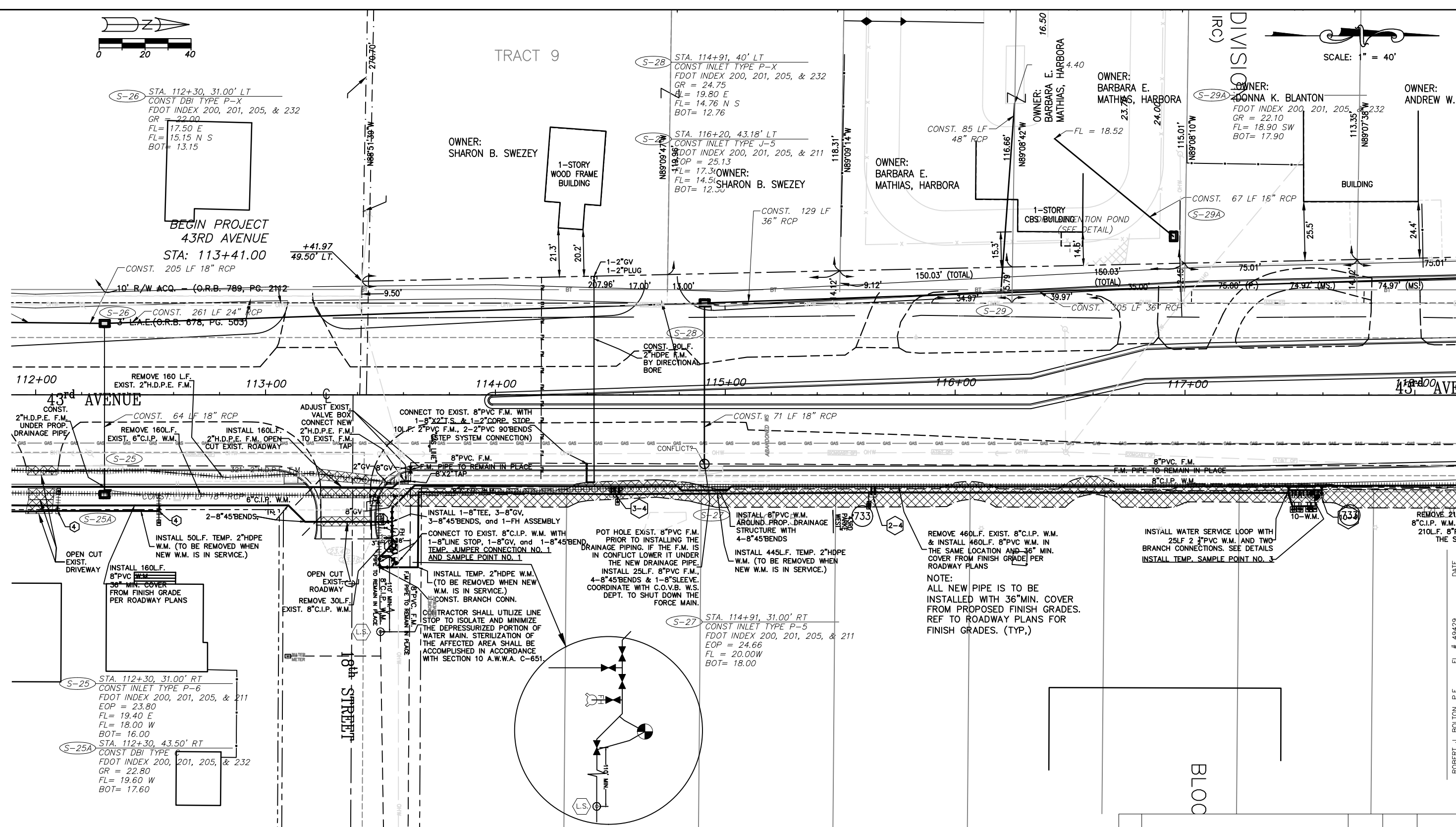
OWNER: BARBARA E. MATHIAS, HARBORA

OWNER: BARBARA E. MATHIAS, HARBORA

OWNER: SHARON B. SWEZEY

OWNER: BARBARA E. MATHIAS, HARBORA

BEGIN PROJECT
 43RD AVENUE
 STA: 113+41.00



S-25 STA. 112+30, 31.00' RT
 CONST INLET TYPE P-6
 FDOT INDEX 200, 201, 205, & 211
 EOP = 23.80
 FL = 19.40 E
 FL = 18.00 W
 BOT = 16.00

S-25A STA. 112+30, 43.50' RT
 CONST DBI TYPE
 FDOT INDEX 200, 201, 205, & 232
 GR = 22.80
 FL = 19.60 W
 BOT = 17.60

S-27 STA. 114+91, 31.00' RT
 CONST INLET TYPE P-5
 FDOT INDEX 200, 201, 205, & 211
 EOP = 24.66
 FL = 20.00 W
 BOT = 18.00

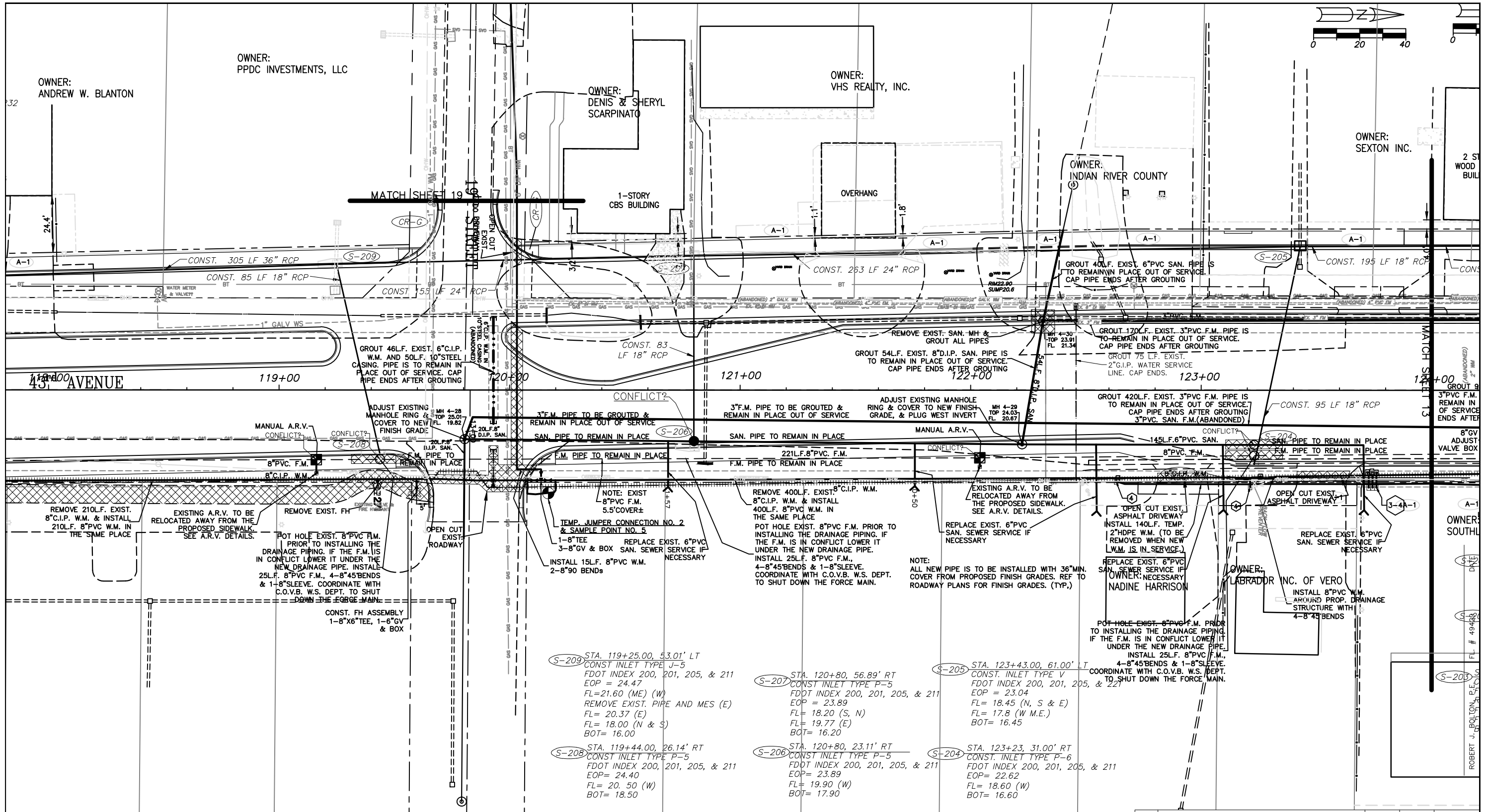
REMOVE 460L.F. EXIST. 8" C.I.P. W.M. & INSTALL 460L.F. 8" PVC W.M. IN THE SAME LOCATION AND 36" MIN. COVER FROM FINISH GRADE PER ROADWAY PLANS

INSTALL WATER SERVICE LOOP WITH 25L.F. 2" PVC W.M. AND TWO BRANCH CONNECTIONS. SEE DETAILS. INSTALL TEMP. SAMPLE POINT NO. 3

REMOVE 210' 8" C.I.P. W.M. & 210L.F. 8" PVC W.M. IN PLACE

NOTE:
 ALL NEW PIPE IS TO BE INSTALLED WITH 36" MIN. COVER FROM PROPOSED FINISH GRADES. REF TO ROADWAY PLANS FOR FINISH GRADES. (TYP.)

REV. NO.	DESCRIPTION	AUTHORIZED BY	DRWN. BY	DATE
C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853				
CONSTRUCTION PLANS 43rd AVE. STA. 112+00-STA.118+00		SCALE 1" = 40'	DRAWN BY T.A.Y.	DATE 1/30/19
		CHECKED BY R.J.B.	DATE 1/30/19	
CITY OF VERO BEACH WATER AND SEWER DEPARTMENT				
CITY PROJECT NO. WS16003			SHEET 11 OF 58	



S-209 STA. 119+25.00, 53.01' LT
 CONST. INLET TYPE J-5
 FDOT INDEX 200, 201, 205, & 211
 EOP = 24.47
 FL=21.60 (ME) (W)
 REMOVE EXIST. PIPE AND MES (E)
 FL= 20.37 (E)
 FL= 18.00 (N & S)
 BOT= 16.00

S-208 STA. 119+44.00, 26.14' RT
 CONST. INLET TYPE P-5
 FDOT INDEX 200, 201, 205, & 211
 EOP= 24.40
 FL= 20.50 (W)
 BOT= 18.50

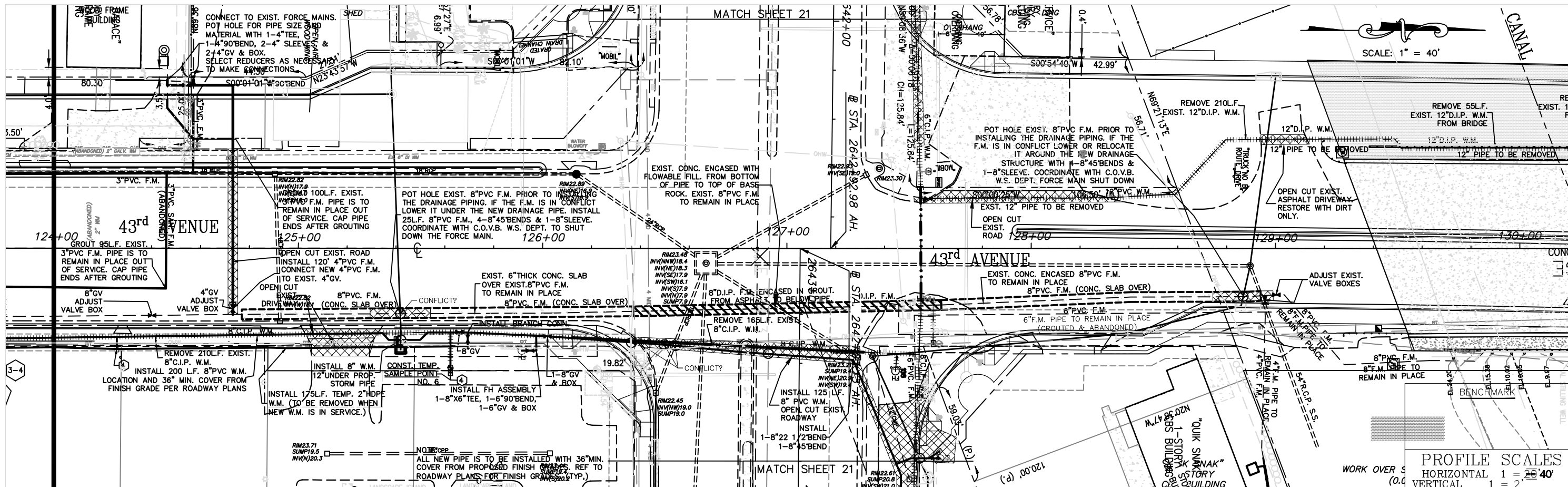
S-207 STA. 120+80, 56.89' RT
 CONST. INLET TYPE P-5
 FDOT INDEX 200, 201, 205, & 211
 EOP = 23.89
 FL= 18.20 (S, N)
 FL= 19.77 (E)
 BOT= 16.20

S-206 STA. 120+80, 23.11' RT
 CONST. INLET TYPE P-5
 FDOT INDEX 200, 201, 205, & 211
 EOP= 23.89
 FL= 19.90 (W)
 BOT= 17.90

S-205 STA. 123+43.00, 61.00' T
 CONST. INLET TYPE V
 FDOT INDEX 200, 201, 205, & 211
 EOP = 23.04
 FL= 18.45 (N, S & E)
 FL= 17.8 (W M.E.)
 BOT= 16.45

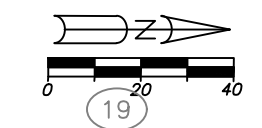
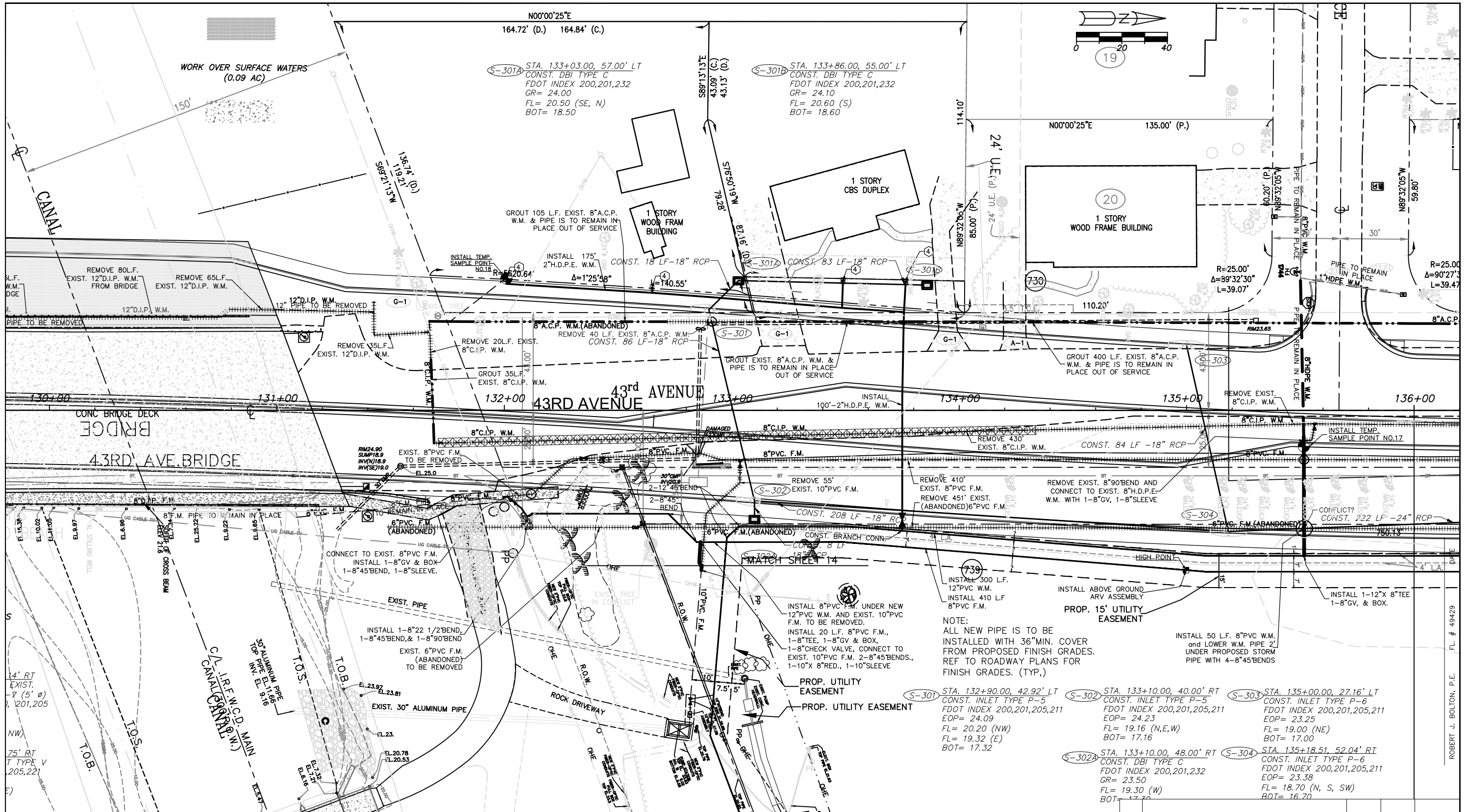
S-204 STA. 123+23, 31.00' RT
 CONST. INLET TYPE P-6
 FDOT INDEX 200, 201, 205, & 211
 EOP= 22.62
 FL= 18.60 (W)
 BOT= 16.60

REV. NO.	DESCRIPTION	AUTHRZD. BY	DRWN. BY	DATE
C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853				
CONSTRUCTION PLANS 43rd AVE. STA. 118+00-STA.124+00		SCALE 1" = 40'	DRAWN BY T.A.Y.	DATE 1/02/19
		CHECKED BY R.J.B.		DATE 1/02/19
CITY OF VERO BEACH WATER AND SEWER DEPARTMENT				
CITY PROJECT NO. WS16003			SHEET 12 OF 58	



REV. NO.	DESCRIPTION	R.J.B.	T.A.Y.	DATE	S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853	CITY OF VERO BEACH WATER AND SEWER DEPARTMENT	PLAN & PROFILE - F.D.O.T. PERMIT DWG. 43RD AVE. STA.125+00-129+00	DRWN BY T.A.Y. DATE 1/30/19 CHKD R.J.B. DATE 1/30/19	CITY PROJECT NO.WS16003	SHEET 13 OF 58
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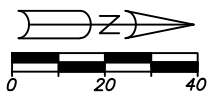
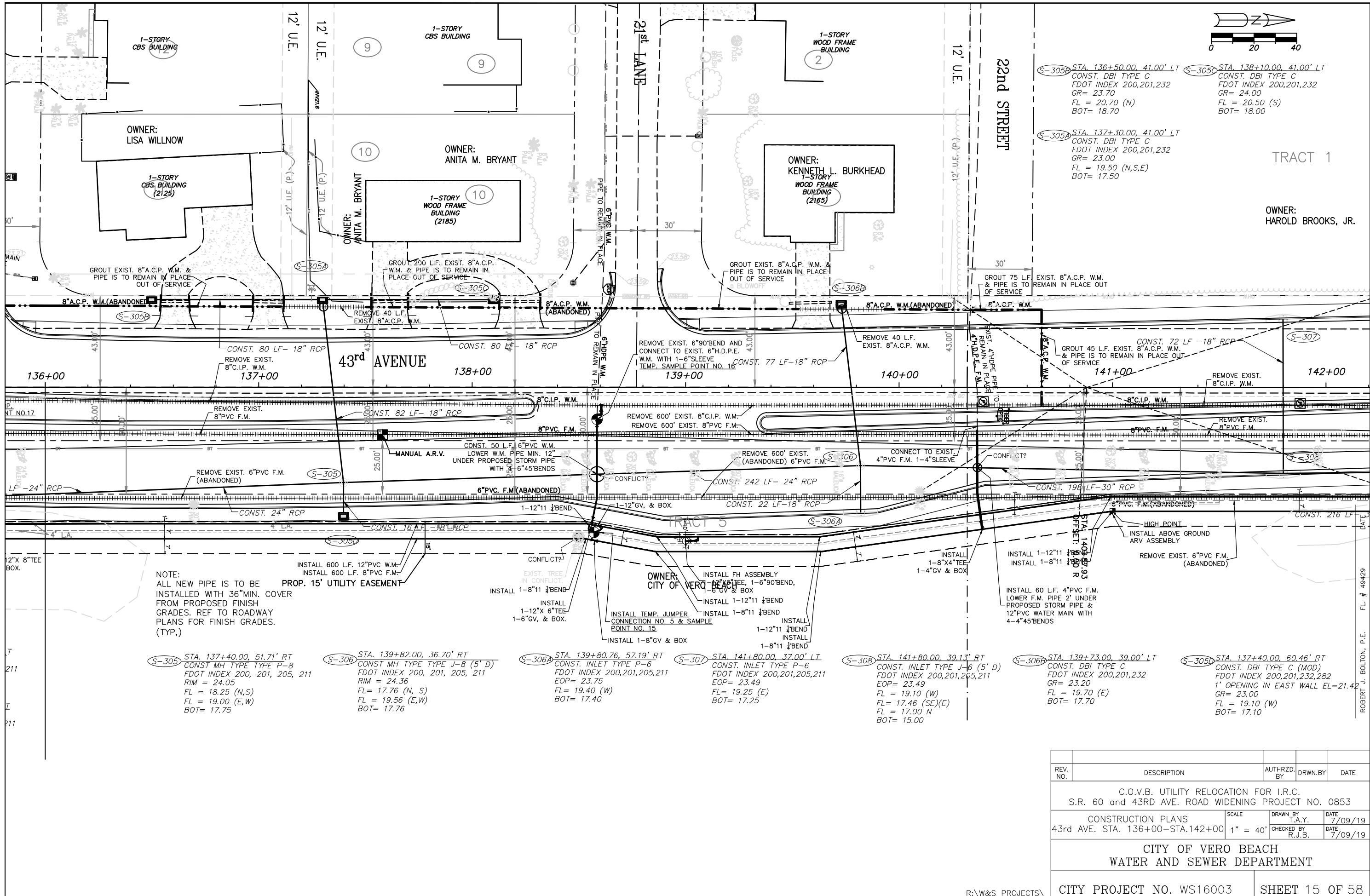
ROBERT J. BOLTON, P.E. FL. # 49429 DATE:



NOTE:
ALL NEW PIPE IS TO BE
INSTALLED WITH 36" MIN. COVER
FROM PROPOSED FINISH GRADES.
REF TO ROADWAY PLANS FOR
FINISH GRADES. (TYP.)

- S-301 STA. 132+90.00, 42.92' LT
CONST. INLET TYPE P-5
FDOT INDEX 200,201,205,211
EOP= 24.09
FL= 20.20 (NW)
FL= 19.32 (E)
BOT= 17.32
- S-302 STA. 133+10.00, 40.00' RT
CONST. INLET TYPE P-5
FDOT INDEX 200,201,205,211
EOP= 24.23
FL= 19.16 (N,E,W)
BOT= 17.16
- S-303 STA. 135+00.00, 27.16' LT
CONST. INLET TYPE P-6
FDOT INDEX 200,201,205,211
EOP= 23.25
FL= 19.00 (NE)
BOT= 17.00
- S-304 STA. 133+10.00, 48.00' RT
CONST. DBI TYPE C
FDOT INDEX 200,201,232
GR= 23.50
FL= 19.30 (W)
BOT= 17.30
- S-304 STA. 135+00.00, 52.04' RT
CONST. INLET TYPE P-6
FDOT INDEX 200,201,205,211
EOP= 23.38
FL= 18.70 (N, S, SW)
BOT= 16.70

REV. NO.	DESCRIPTION	AUTHRZD. BY	DRWN. BY	DATE
C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853				
CONSTRUCTION PLANS 43rd AVE. STA. 130+00-STA.136+00		SCALE 1" = 40'	DRAWN BY T.A.Y.	DATE 7/09/19
		CHECKED BY R.J.B.		DATE 7/09/19
CITY OF VERO BEACH WATER AND SEWER DEPARTMENT				
CITY PROJECT NO. WS16003			SHEET 14 OF 58	



(S-305B) STA. 136+50.00, 41.00' LT
 CONST. DBI TYPE C
 FDOT INDEX 200,201,232
 GR= 23.70
 FL = 20.70 (N)
 BOT= 18.70

(S-305C) STA. 138+10.00, 41.00' LT
 CONST. DBI TYPE C
 FDOT INDEX 200,201,232
 GR= 24.00
 FL = 20.50 (S)
 BOT= 18.00

(S-305A) STA. 137+30.00, 41.00' LT
 CONST. DBI TYPE C
 FDOT INDEX 200,201,232
 GR= 23.00
 FL = 19.50 (N,S,E)
 BOT= 17.50

TRACT 1

OWNER:
HAROLD BROOKS, JR.

NOTE:
ALL NEW PIPE IS TO BE
INSTALLED WITH 36" MIN. COVER
FROM PROPOSED FINISH
GRADES. REF TO ROADWAY
PLANS FOR FINISH GRADES.
(TYP.)

(S-305) STA. 137+40.00, 51.71' RT
 CONST. MH TYPE TYPE P-8
 FDOT INDEX 200, 201, 205, 211
 RIM = 24.05
 FL = 18.25 (N,S)
 FL = 19.00 (E,W)
 BOT= 17.75

(S-306) STA. 139+82.00, 36.70' RT
 CONST. MH TYPE TYPE J-8 (5' D)
 FDOT INDEX 200, 201, 205, 211
 RIM = 24.36
 FL = 17.76 (N, S)
 FL = 19.56 (E,W)
 BOT= 17.76

(S-306A) STA. 139+80.76, 57.19' RT
 CONST. INLET TYPE P-6
 FDOT INDEX 200,201,205,211
 EOP= 23.75
 FL = 19.40 (W)
 BOT= 17.40

(S-307) STA. 141+80.00, 37.00' LT
 CONST. INLET TYPE P-6
 FDOT INDEX 200,201,205,211
 EOP= 23.49
 FL = 19.25 (E)
 BOT= 17.25

(S-308) STA. 141+80.00, 39.13' RT
 CONST. INLET TYPE J-6 (5' D)
 FDOT INDEX 200,201,205,211
 EOP= 23.49
 FL = 19.10 (W)
 FL = 17.46 (SE)(E)
 FL = 17.00 N
 BOT= 15.00

(S-306B) STA. 139+73.00, 39.00' LT
 CONST. DBI TYPE C
 FDOT INDEX 200,201,232
 GR= 23.20
 FL = 19.70 (E)
 BOT= 17.70

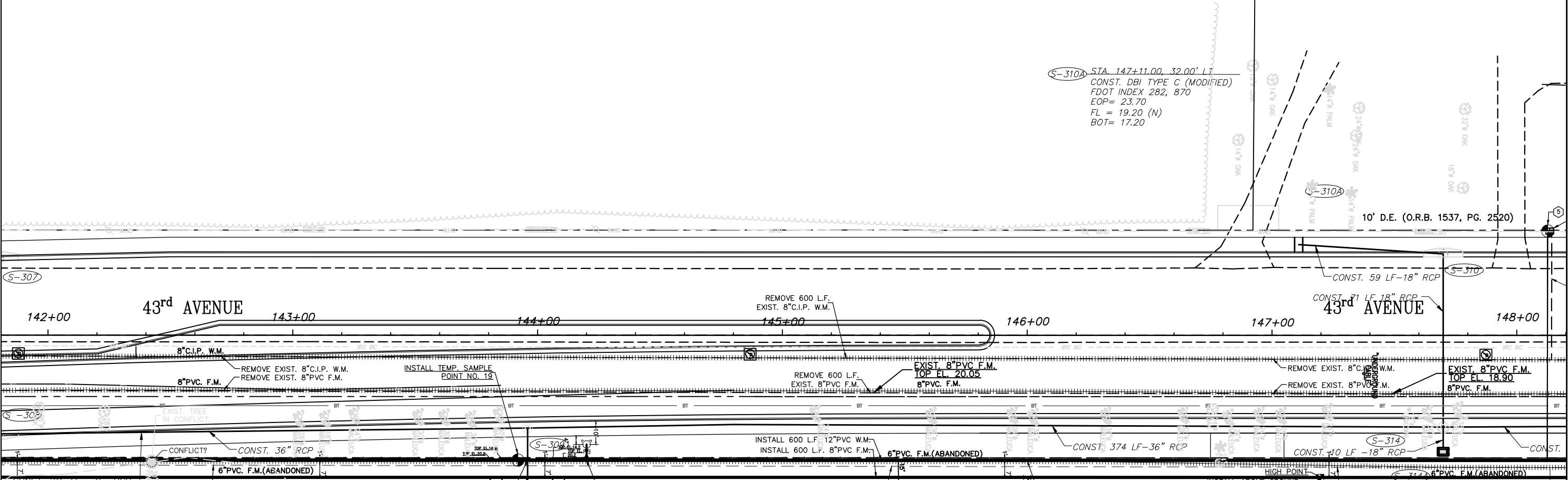
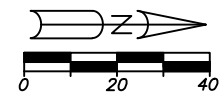
(S-305D) STA. 137+40.00, 60.46' RT
 CONST. DBI TYPE C (MOD)
 FDOT INDEX 200,201,232,282
 1' OPENING IN EAST WALL EL=21.42
 GR= 23.00
 FL = 19.10 (W)
 BOT= 17.10

REV. NO.	DESCRIPTION	AUTHRZD. BY	DRWN. BY	DATE

CITY OF VERO BEACH
WATER AND SEWER DEPARTMENT

CITY PROJECT NO. WS16003 SHEET 15 OF 58

41.00' LT
C
201,232



S-310A STA. 147+11.00, 32.00' LT
CONST. DBI TYPE C (MODIFIED)
FDOT INDEX 282, 870
EOP= 23.70
FL = 19.20 (N)
BOT= 17.20

REMOVE 600 L.F. EXIST. 8\"/>

INSTALL 600 L.F. 12\"/>

REMOVE 600' EXIST. (ABANDONED) 6\"/>

INSTALL ABOVE GROUND ARV ASSEMBLY

NOTE:
ALL NEW PIPE IS TO BE INSTALLED WITH 36\"/>

REMOVE EXIST. (ABANDONED) 6\"/>

LOWER 12\"/>

LOWER 8\"/>

INSTALL FH ASSEMBLY 1-12\"/>

PROP. 15' UTILITY EASEMENT

INSTALL 1-12\"/>

INSTALL 1-8\"/>

REMOVE EXIST. (ABANDONED) 6\"/>

60.46' RT
C (MOD)
201,232,282
ST WALL EL=21.42

S-309 STA. 143+96.00, 38.00' RT
CONST. MH TYPE TYPE J-8 (5' D)
FDOT INDEX 200, 201, 205, 211
RIM = 24.59
FL = 16.70 (S)
FL = 16.20 (N,E)
BOT = 15.70

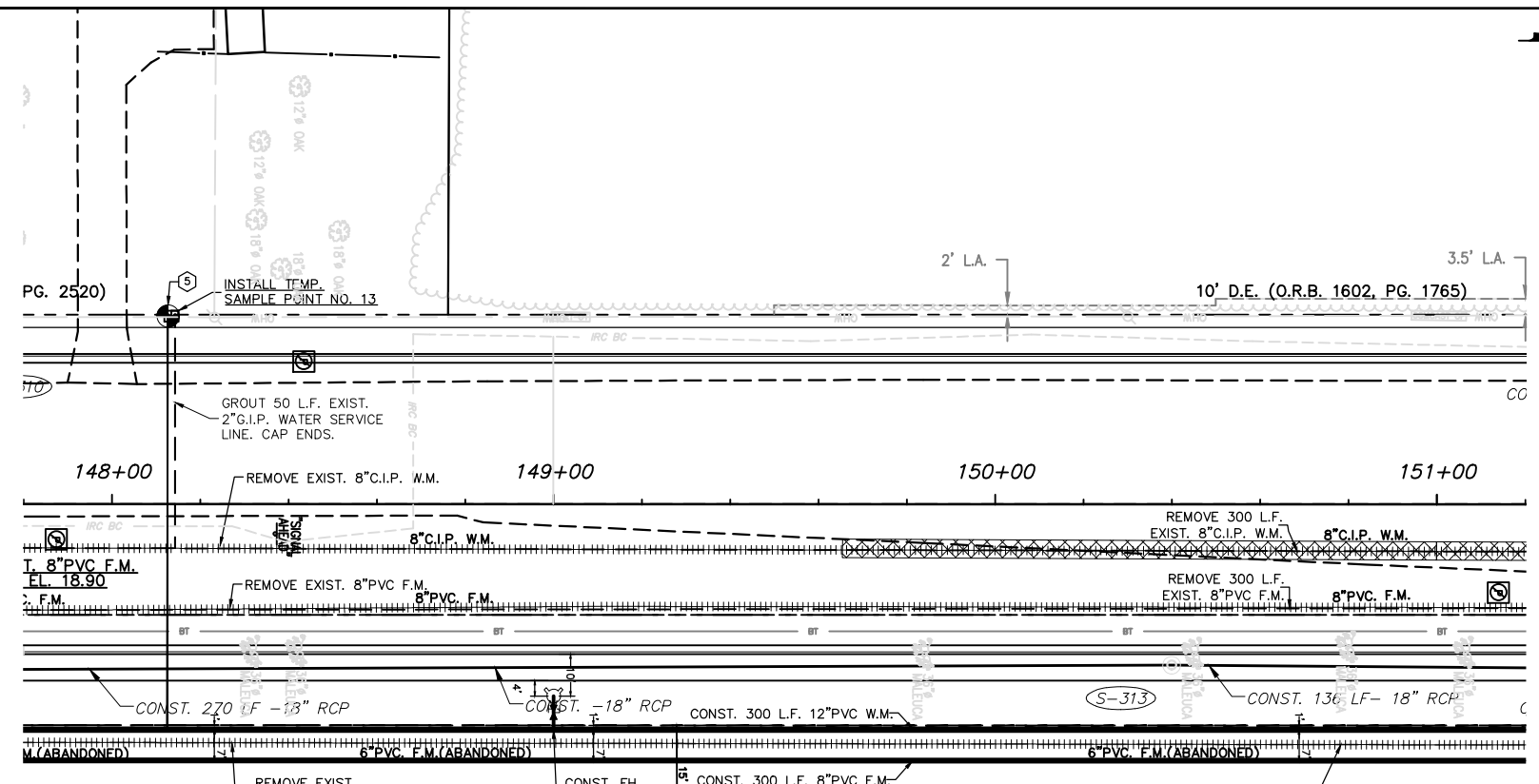
S-310 STA. 147+70.00, 32.00' LT
CONST. INLET TYPE P-6
FDOT INDEX 200,201,205,211
EOP= 23.52
FL = 19.00 (S)
FL = 16.60 (E)
BOT= 14.60

S-314 STA. 147+70.00, 32.00' RT
CONST. INLET TYPE J-2 (7' D)
FDOT INDEX 200,201,205,211
EOP= 23.52
FL = 18.20 (N,E)
FL = 16.50 (W)
FL = 16.40 (S)
BOT= 14.40

S-314A STA. 147+70.00, 46.00' RT
CONST. DBI TYPE C
FDOT INDEX 200,201,232
GR= 23.40
FL = 18.30 (W)
BOT= 16.30

ROBERT J. BOLTON, P.E. # 49429

REV. NO.	DESCRIPTION	AUTHRZD. BY	DRWN. BY	DATE
C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853				
CONSTRUCTION PLANS 43rd AVE. STA. 142+00-STA.148+00		SCALE 1" = 40'	DRAWN BY T.A.Y.	DATE 1/30/19
		CHECKED BY R.J.B.	DATE 1/30/19	
CITY OF VERO BEACH WATER AND SEWER DEPARTMENT				
CITY PROJECT NO. WS16003			SHEET 16 OF 58	



- S-312A STA. 152+82.00, 45.00' RT
CONST. DBI TYPE C
FDOT INDEX 200,201,232
GR= 21.00
FL= 17.50 (W)
BOT = 15.50
- S-313 STA. 150+40.00, 36.50' RT
CONST. MANHOLE TYPE P-8
FDOT INDEX 200,201,205,211
RIM= 24.80
FL= 18.75 (N,S)
BOT = 18.25
- S-312 STA. 152+82, 32.00' RT
CONST. INLET TYPE P-4
FDOT INDEX 200,201,205,211
EOP= 23.92
FL= 19.03 (S,W)
FL= 17.40 (E)
BOT= 15.40
- S-31 STA. 152+82, 32.00' RT
CONST. INLET TYPE P-4
FDOT INDEX 200,201,205,211
EOP= 23.92
FL= 19.03 (S,W)
FL= 17.40 (E)
BOT= 15.40

- LEGEND**
- 1 1" TEMP. SAMPLE POINT ASSEMBLY
 - 2 2" TEMP. BLOW-OFF & SAMPLE POINT ASSEMBLY
 - 3 2" TEMP. JUMPER CONNECTION WITH A 3/4" HOSE BIB FOR TEMP. SAMPLE POINT
 - 4 CONST. 2" PE. SINGLE POTABLE WATER SERVICE FOR A 5/8" WATER METER
 - 5 CONST. 2" PE. SINGLE POTABLE WATER SERVICE FOR A 3/4" WATER METER
 - 6 CONST. 2" PE. SINGLE POTABLE WATER SERVICE FOR A 1" WATER METER
 - 7 CONST. 2" PE. SINGLE POTABLE WATER SERVICE FOR A 1 1/2" WATER METER
 - 8 CONST. 2" PE. SINGLE POTABLE WATER SERVICE FOR A 2" WATER METER
 - 9 EXISTING WATER METER WAS NOT FOUND. CONTACT CITY WATER DEPT. TO LOCATE.
 - 10 CONST. A SINGLE POTABLE WATER SERVICE FOR FUTURE USE AS 4
 - 11 CONST. 2" PE. DOUBLE POTABLE WATER SERVICE FOR 2 5/8" WATER METERS
 - 12 CONST. 2" PE. DOUBLE POTABLE WATER SERVICE FOR 2 3/4" WATER METERS
 - 13 CONST. 2" PE. DOUBLE POTABLE WATER SERVICE FOR 2 1" WATER METERS

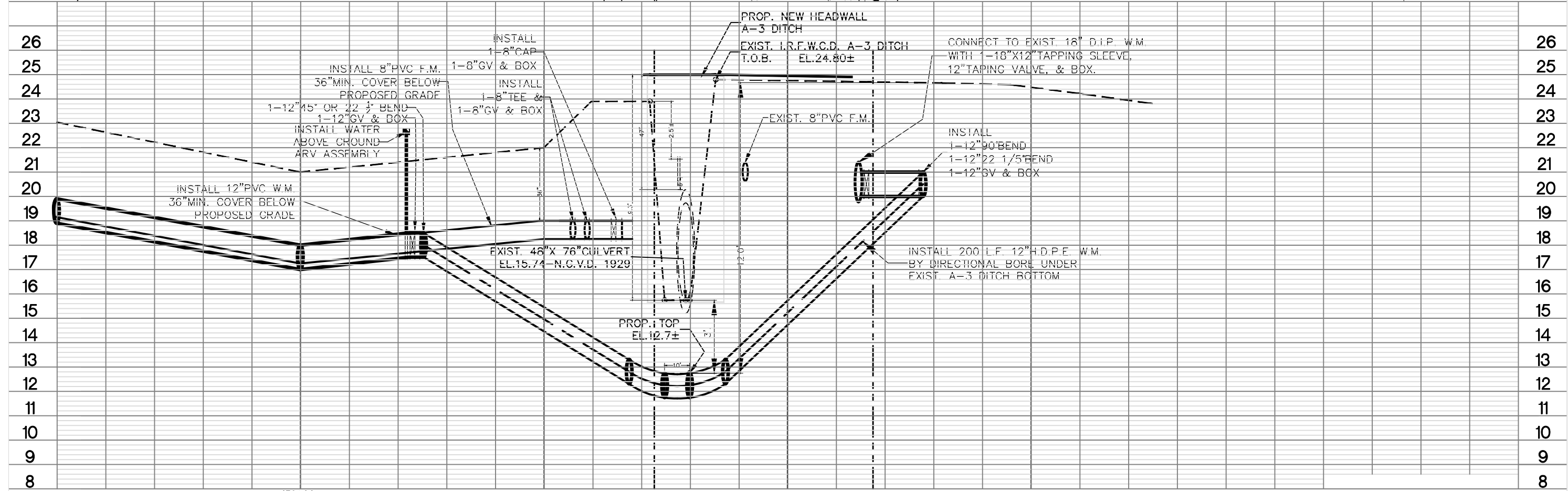
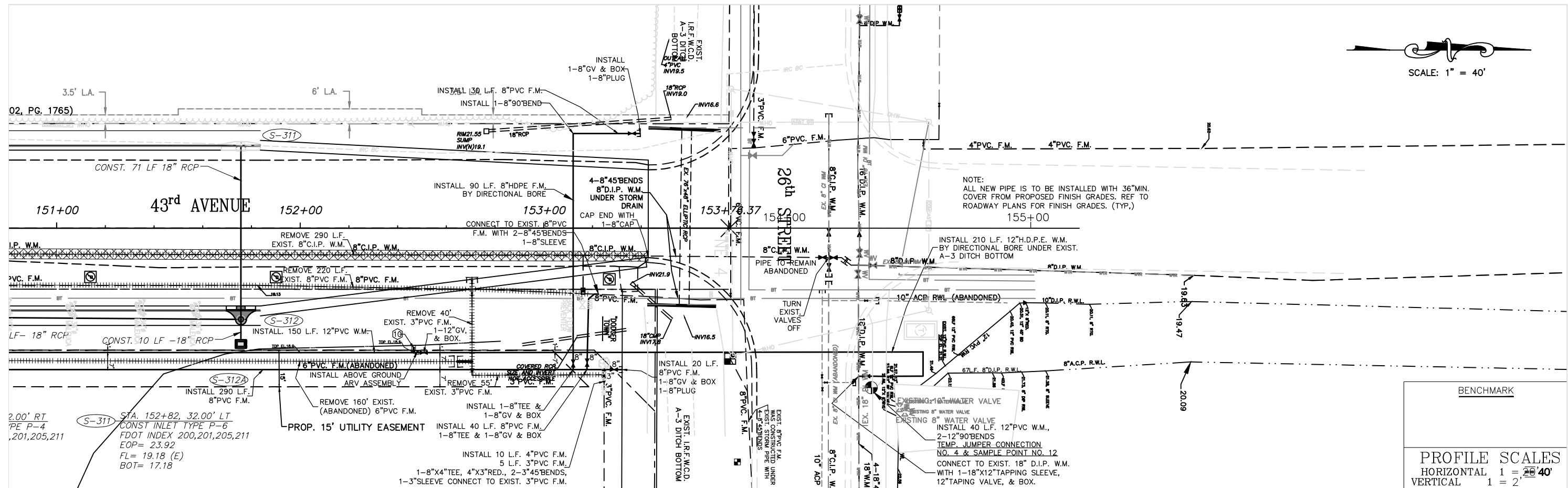
NOTE:
ALL NEW PIPE IS TO BE INSTALLED WITH 36" MIN. COVER FROM PROPOSED FINISH GRADES. REF TO ROADWAY PLANS FOR FINISH GRADES. (TYP.)

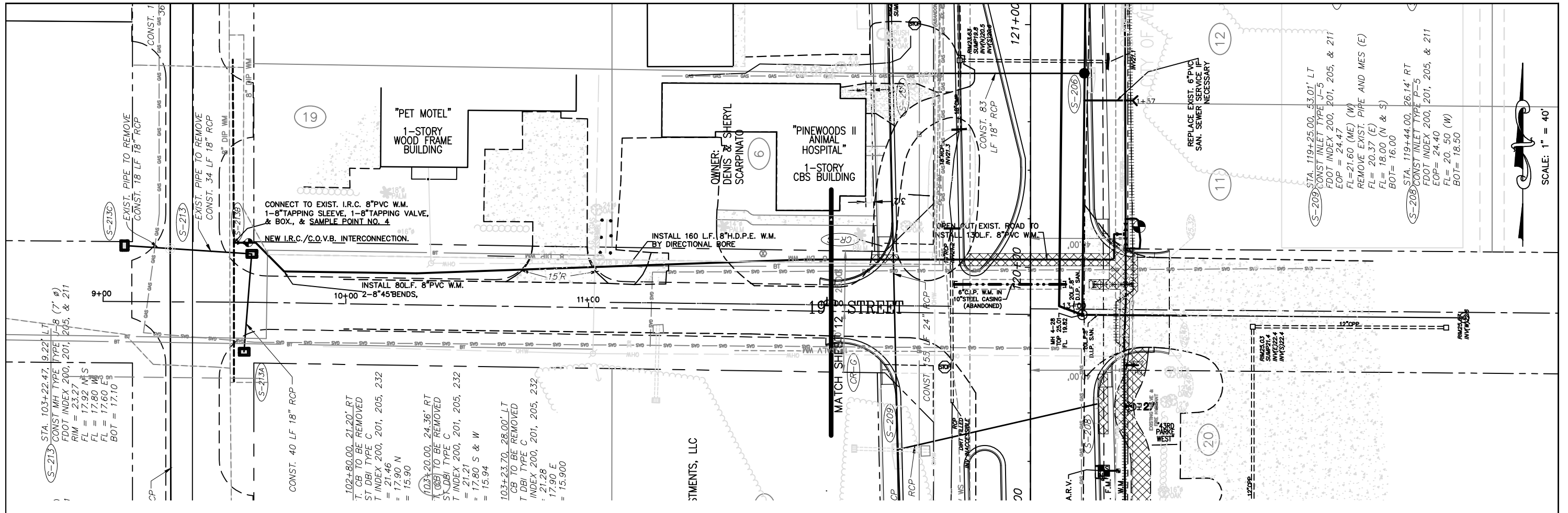
GENERAL NOTES

1. PUNCH ALL WATER LINES 2 1/2" AND SMALLER UNDER ALL ASPHALT AND CONCRETE DRIVEWAYS & UNDER ALL ASPHALT ROADS UNLESS SHOWN OTHERWISE.
2. THERE SHALL BE 36" MIN. COVER OVER ALL NEW WATER PIPE UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

ROBERT J. BOLTON, P.E. FL. # 49429 DATE

REV. NO.	DESCRIPTION	AUTHRZD. BY	DRWN. BY	DATE
C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853				
CONSTRUCTION PLANS 43rd AVE. STA.148+00-STA.151+00		SCALE 1" = 40'	DRAWN BY T.A.Y. CHECKED BY R.J.B.	DATE 1/30/19 DATE 1/30/19
CITY OF VERO BEACH WATER AND SEWER DEPARTMENT				
CITY PROJECT NO. WS16003			SHEET 17 OF 58	





SCALE: 1" = 40'

S-213 STA. 103+22.47, 9.22' LT
 CONST MH TYPE U-8 (7' Ø)
 FDOT INDEX 200, 201, 205, & 211
 RIM = 23.27
 FL = 17.92 (N & S)
 FL = 17.80 (W)
 FL = 17.60 (E)
 BOT = 17.10

102+80.00, 21.20' RT
 T, CB TO BE REMOVED
 ST DBI TYPE C
 T INDEX 200, 201, 205, 232
 = 21.46
 = 17.90 N
 = 15.90

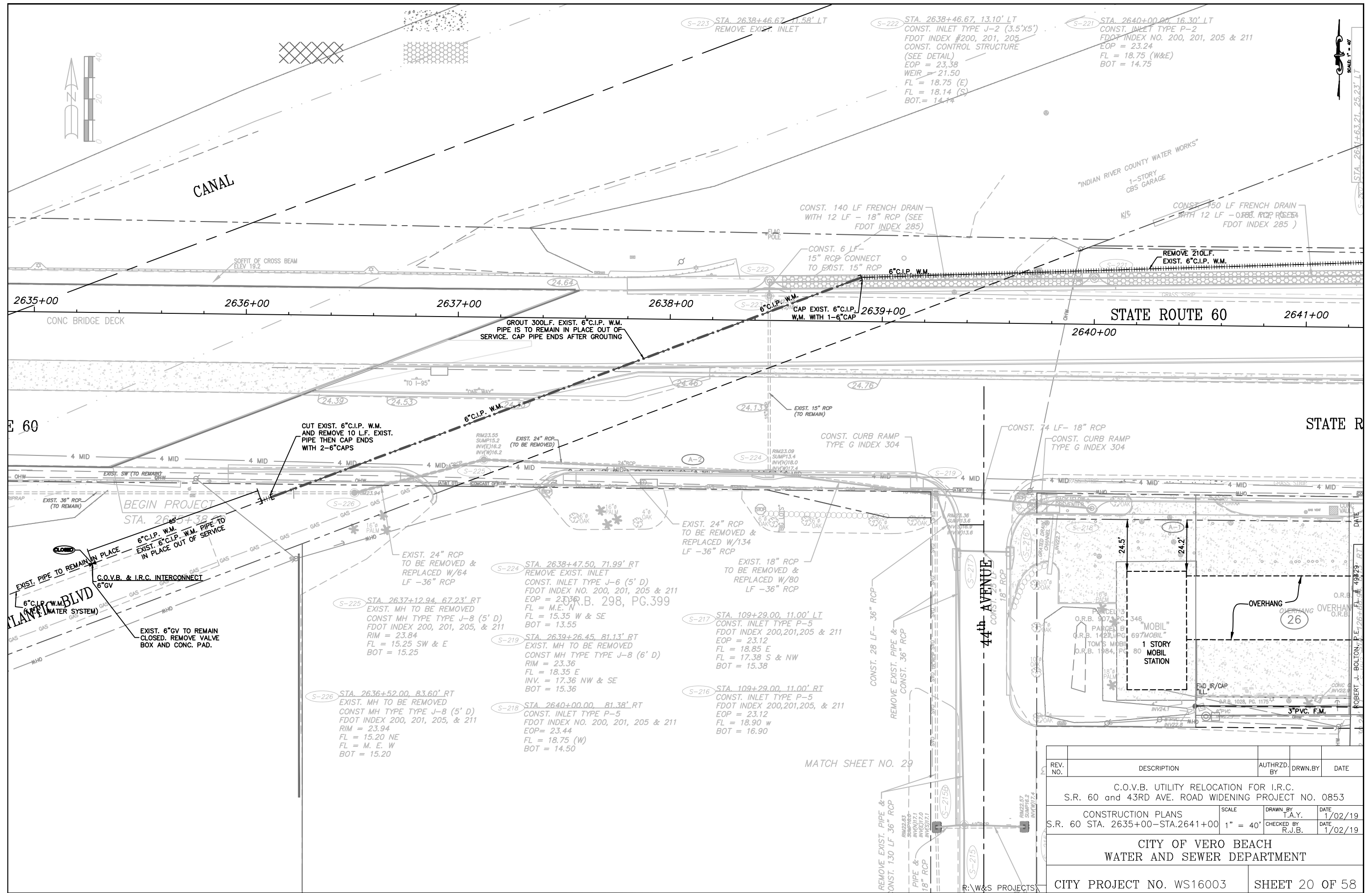
103+20.00, 24.36' RT
 T, CB TO BE REMOVED
 ST DBI TYPE C
 T INDEX 200, 201, 205, 232
 = 21.21
 = 17.80 S & W
 = 15.94

103+23.70, 28.00' LT
 T, CB TO BE REMOVED
 ST DBI TYPE C
 T INDEX 200, 201, 205, 232
 = 21.28
 = 17.90 E
 = 15.900

REV. NO.	DESCRIPTION	AUTHRZD. BY	DRWN. BY	DATE
	C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853			
	CONSTRUCTION PLANS 19th STREET STA.	SCALE 1" = 40'	DRAWN BY T.A.Y. CHECKED BY R.J.B.	DATE 2/01/19 DATE 2/01/19
CITY OF VERO BEACH WATER AND SEWER DEPARTMENT				
CITY PROJECT NO. WS16003			SHEET 19 OF 58	

R:\W&S PROJECTS\

ROBERT J. BOLTON, P.E. FL # 49429 DATE

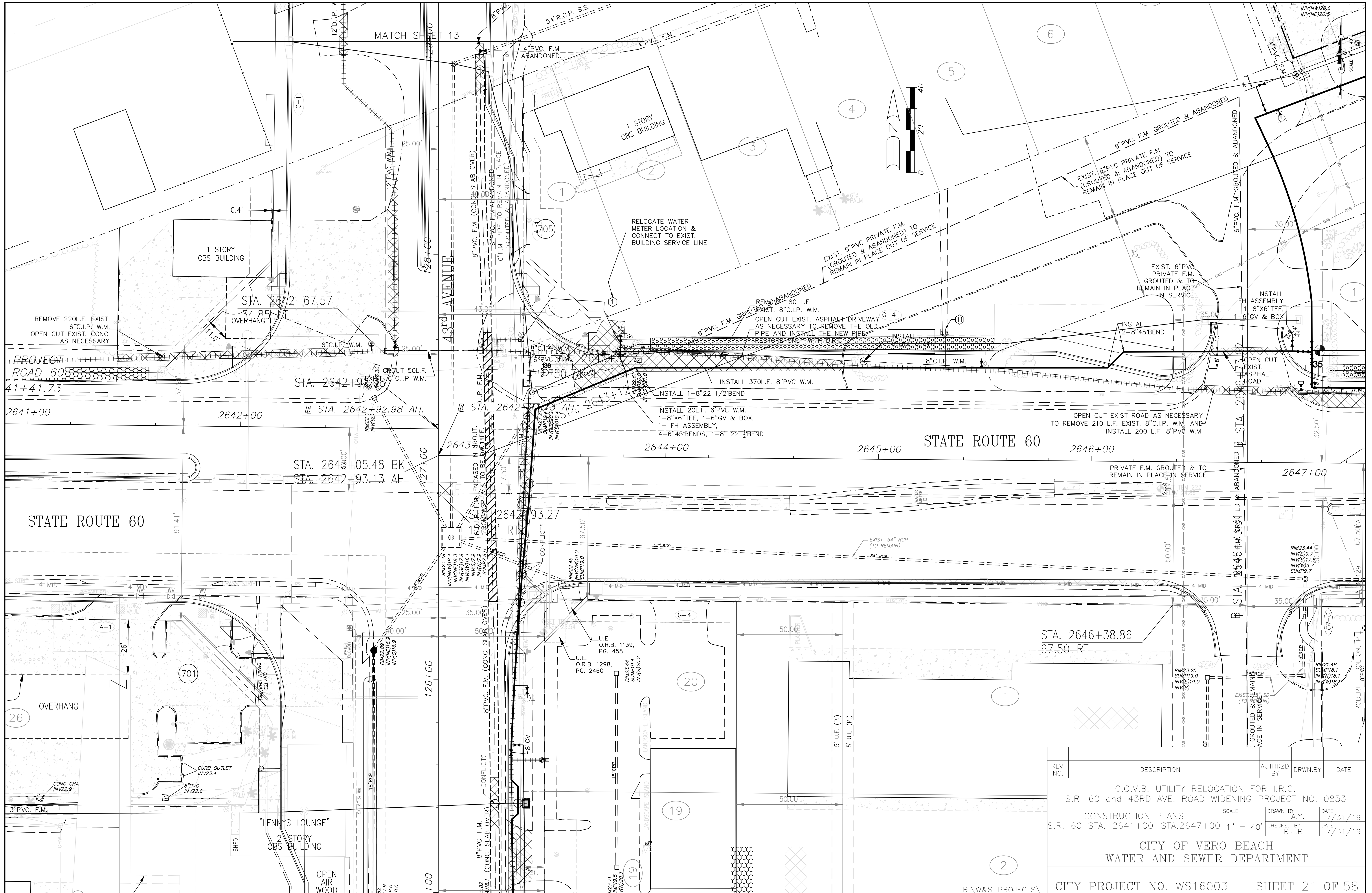


REV. NO.	DESCRIPTION	AUTHRZD. BY	DRWN. BY	DATE
	C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853			
	CONSTRUCTION PLANS	SCALE	DRAWN BY	DATE
	S.R. 60 STA. 2635+00-STA.2641+00	1" = 40'	T.A.Y.	1/02/19
			CHECKED BY	DATE
			R.J.B.	1/02/19
CITY OF VERO BEACH WATER AND SEWER DEPARTMENT				
CITY PROJECT NO. WS16003				SHEET 20 OF 58

MATCH SHEET NO. 29

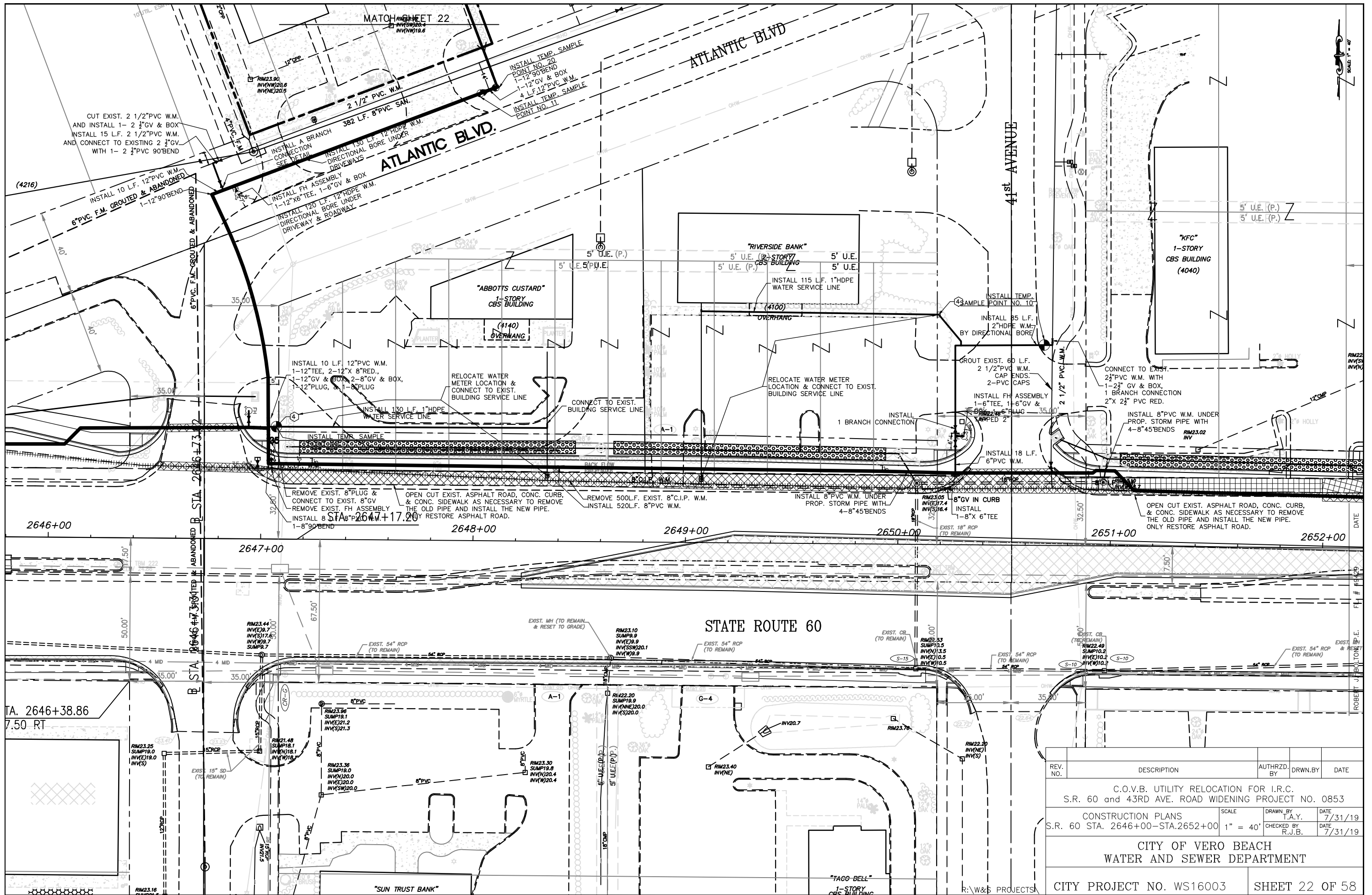
R:W&S PROJECTS

ROBERT J. BOLTON, P.E. 2641+00 STA. 2641+00



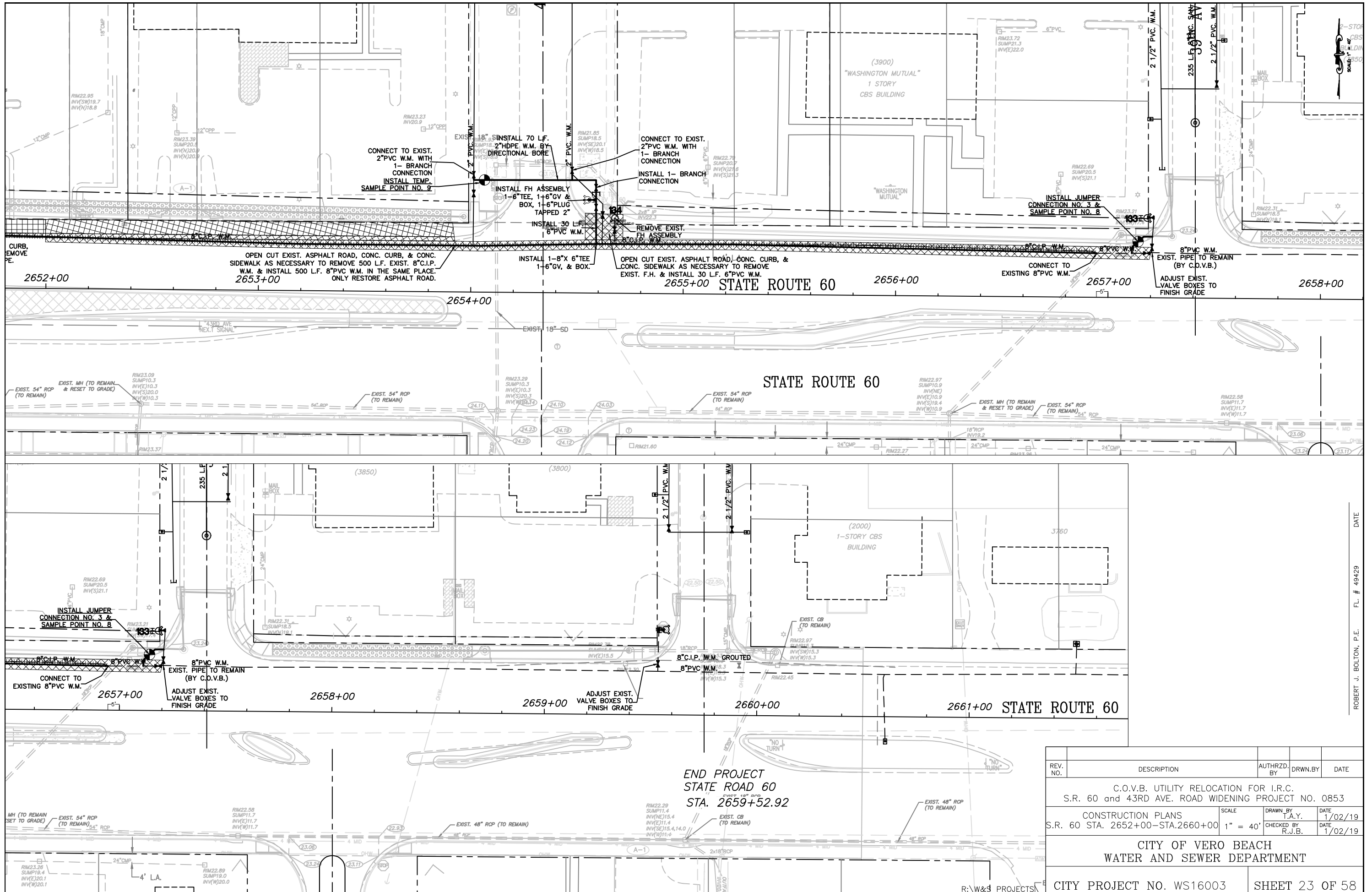
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	C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853			
	CONSTRUCTION PLANS		SCALE	DATE
	S.R. 60 STA. 2641+00-STA.2647+00		1" = 40'	7/31/19
	CITY OF VERO BEACH		CHECKED BY	DATE
	WATER AND SEWER DEPARTMENT		R.J.B.	7/31/19
CITY PROJECT NO. WS16003			SHEET 21 OF 58	

R:\W&S PROJECTS\



REV. NO.	DESCRIPTION	AUTHRZD. BY	DRWN. BY	DATE
	C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853			
	CONSTRUCTION PLANS	SCALE	DRAWN BY	DATE
	S.R. 60 STA. 2646+00-STA.2652+00	1" = 40'	F.A.Y.	7/31/19
		CHECKED BY	R.J.B.	DATE
				7/31/19
CITY OF VERO BEACH WATER AND SEWER DEPARTMENT				
CITY PROJECT NO. WS16003			SHEET 22 OF 58	

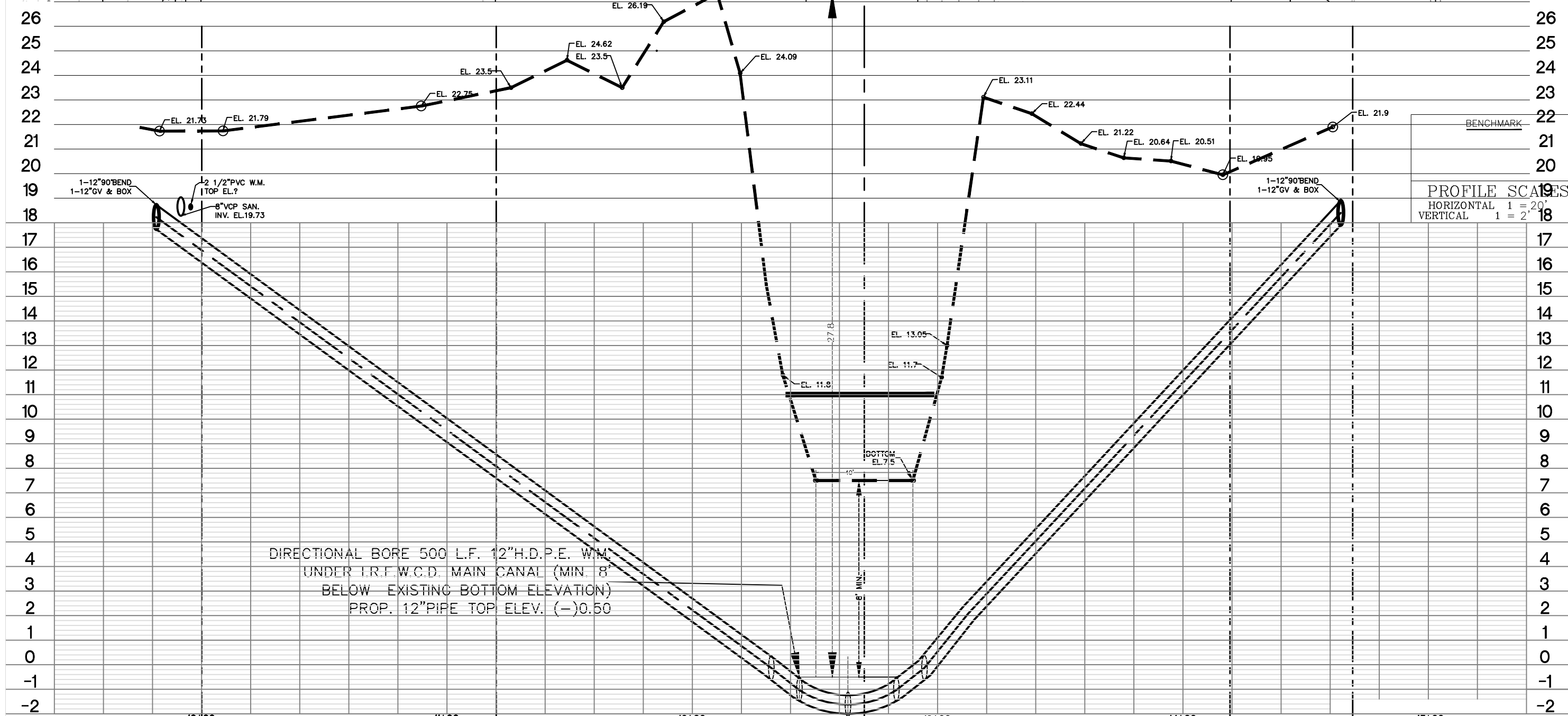
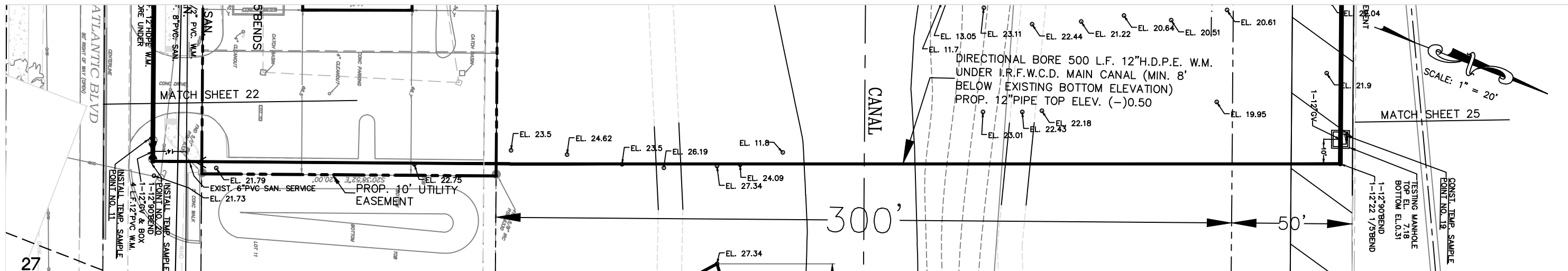
R:\W&S PROJECTS

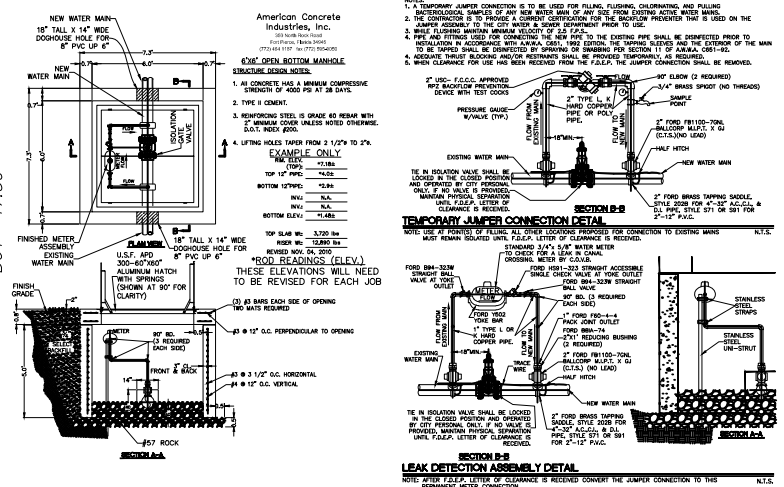
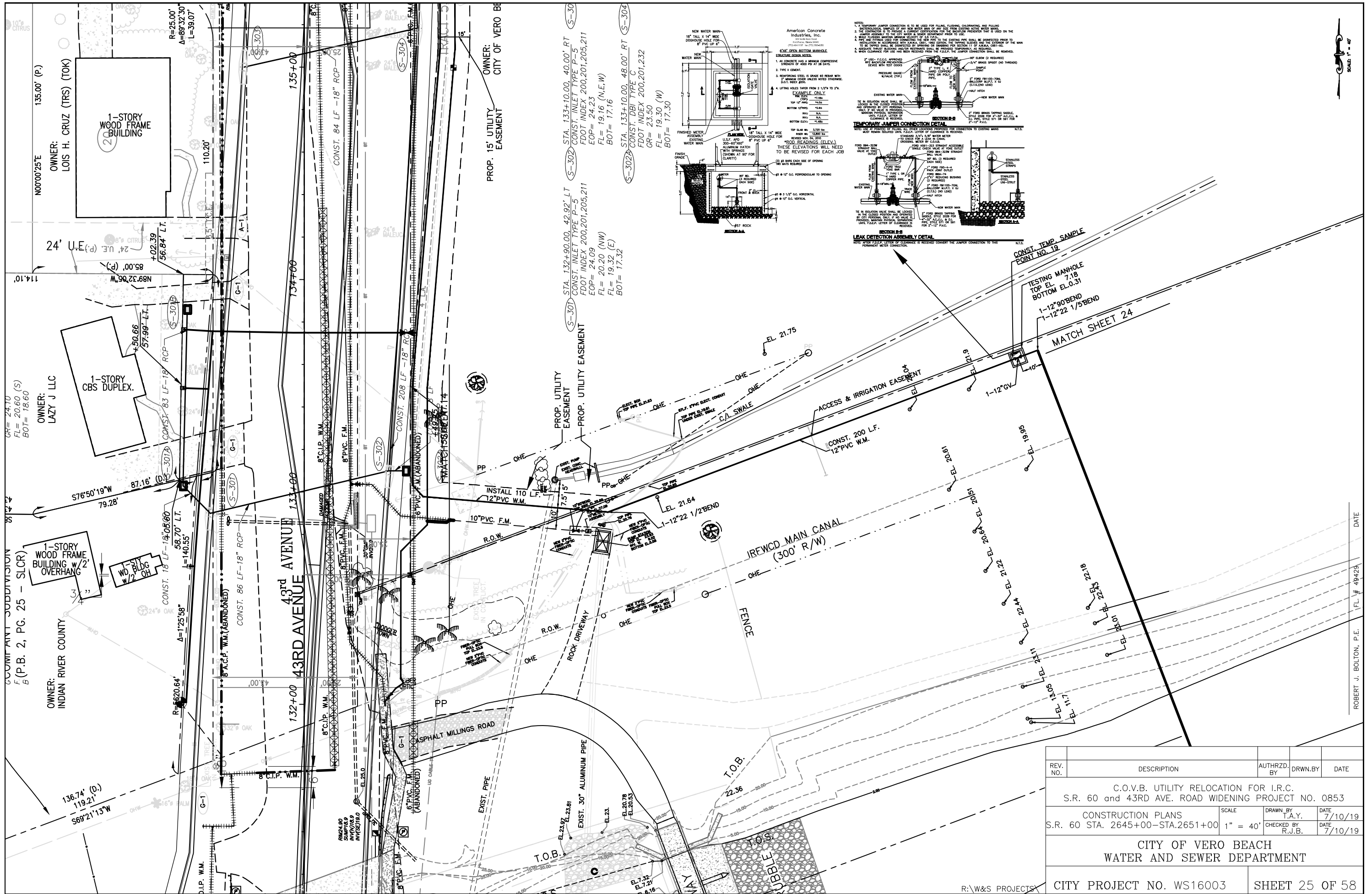


ROBERT J. BOLTON, P.E. FL. # 49429 DATE

REV. NO.	DESCRIPTION	AUTHZD. BY	DRWN. BY	DATE
	C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853			
	CONSTRUCTION PLANS			
	S.R. 60 STA. 2652+00--STA.2660+00	SCALE 1" = 40'	DRAWN BY I.A.Y.	DATE 1/02/19
			CHECKED BY R.J.B.	DATE 1/02/19
CITY OF VERO BEACH WATER AND SEWER DEPARTMENT				
CITY PROJECT NO. WS16003			SHEET 23 OF 58	

R:\W&S PROJECTS

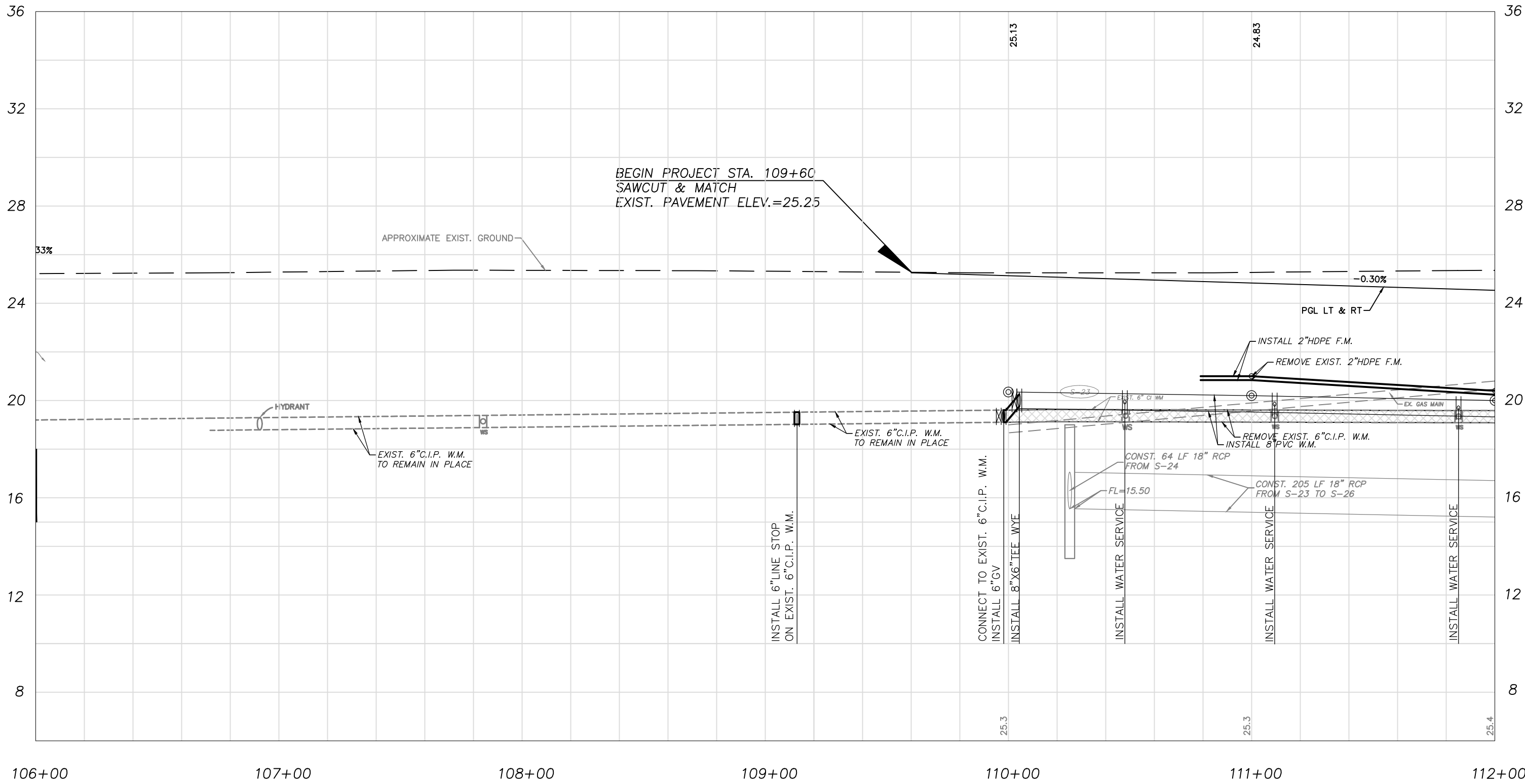




REV. NO.	DESCRIPTION	AUTHRZD. BY	DRWN. BY	DATE
	C.O.V.B. UTILITY RELOCATION FOR I.R.C. S.R. 60 and 43RD AVE. ROAD WIDENING PROJECT NO. 0853			
	CONSTRUCTION PLANS		SCALE	DATE
	S.R. 60 STA. 2645+00-STA.2651+00		1" = 40'	7/10/19
	CITY OF VERO BEACH		CHECKED BY	DATE
	WATER AND SEWER DEPARTMENT		R.J.B.	7/10/19
CITY PROJECT NO. WS16003		SHEET 25 OF 58		

ROBERT J. BOLTON, P.E. | FL. # 49423 | DATE

R:\W&S PROJECTS



106+00 107+00 108+00 109+00 110+00 111+00 112+00

43RD AVENUE



CITY OF VERO BEACH
WATER AND SEWER
DEPARTMENT

APPROVED R.J.B.	REVISION _____ _____ _____
DRAWN BY T.A.Y.	
DATE 1/02/19	

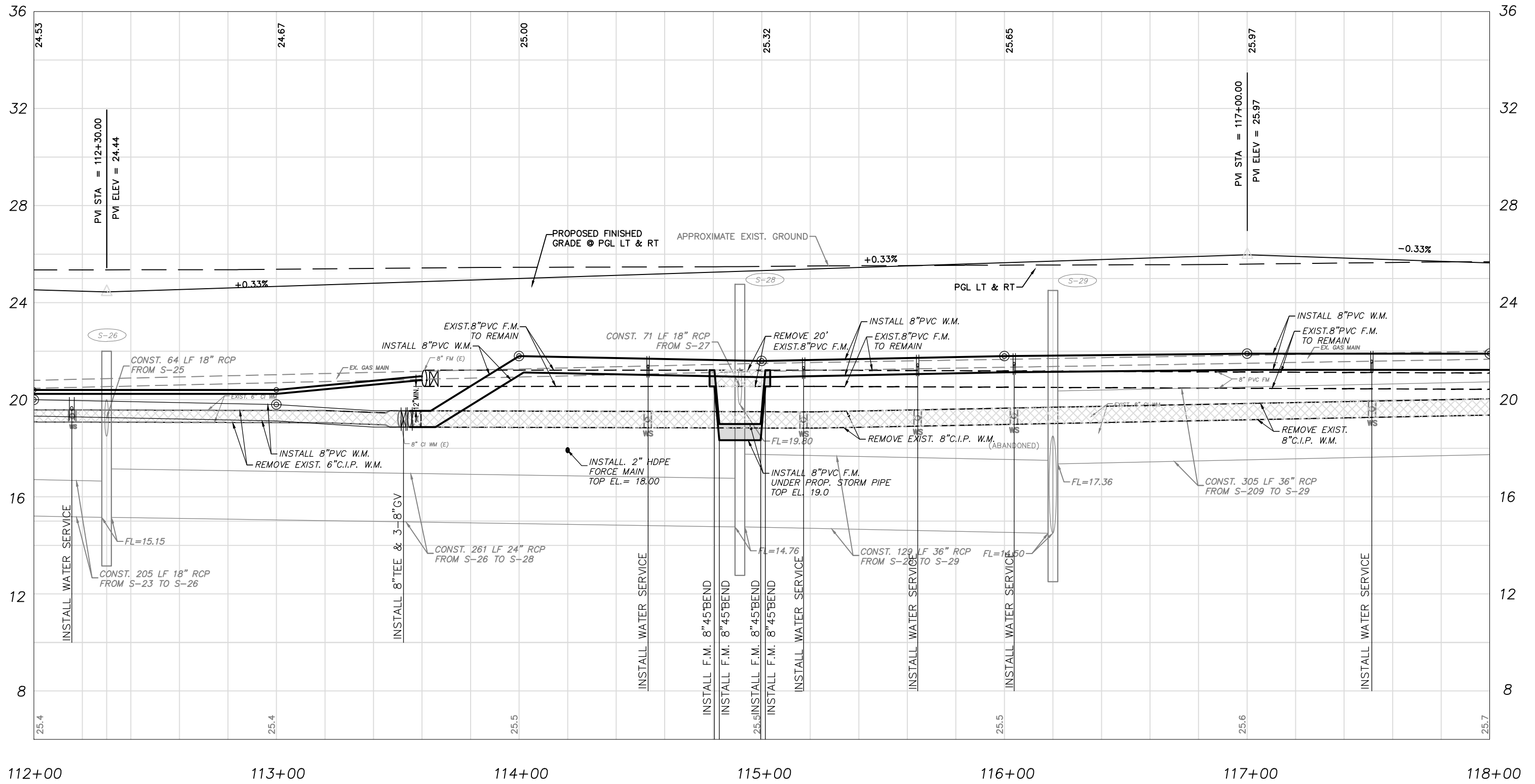
C.O.V.B. UTILITY RELOCATION FOR
I.R.C. - S.R. 60 and 43RD AVE.
ROAD WIDENING PROJECT NO. 0853

PROFILE SHEETS
43RD AVE. STA. 106+00 - STA. 112+00

ROBERT J. BOLTON, P.E. FL. # 49429

DATE

DWG. NO.
SHEET 26 OF 58



43RD AVENUE



**CITY OF VERO BEACH
WATER AND SEWER
DEPARTMENT**

APPROVED R.J.B.	REVISION _____ _____ _____
DRAWN BY T.A.Y.	
DATE 1/02/19	

**C.O.V.B. UTILITY RELOCATION FOR
I.R.C. - S.R. 60 and 43RD AVE.
ROAD WIDENING PROJECT NO. 0853**

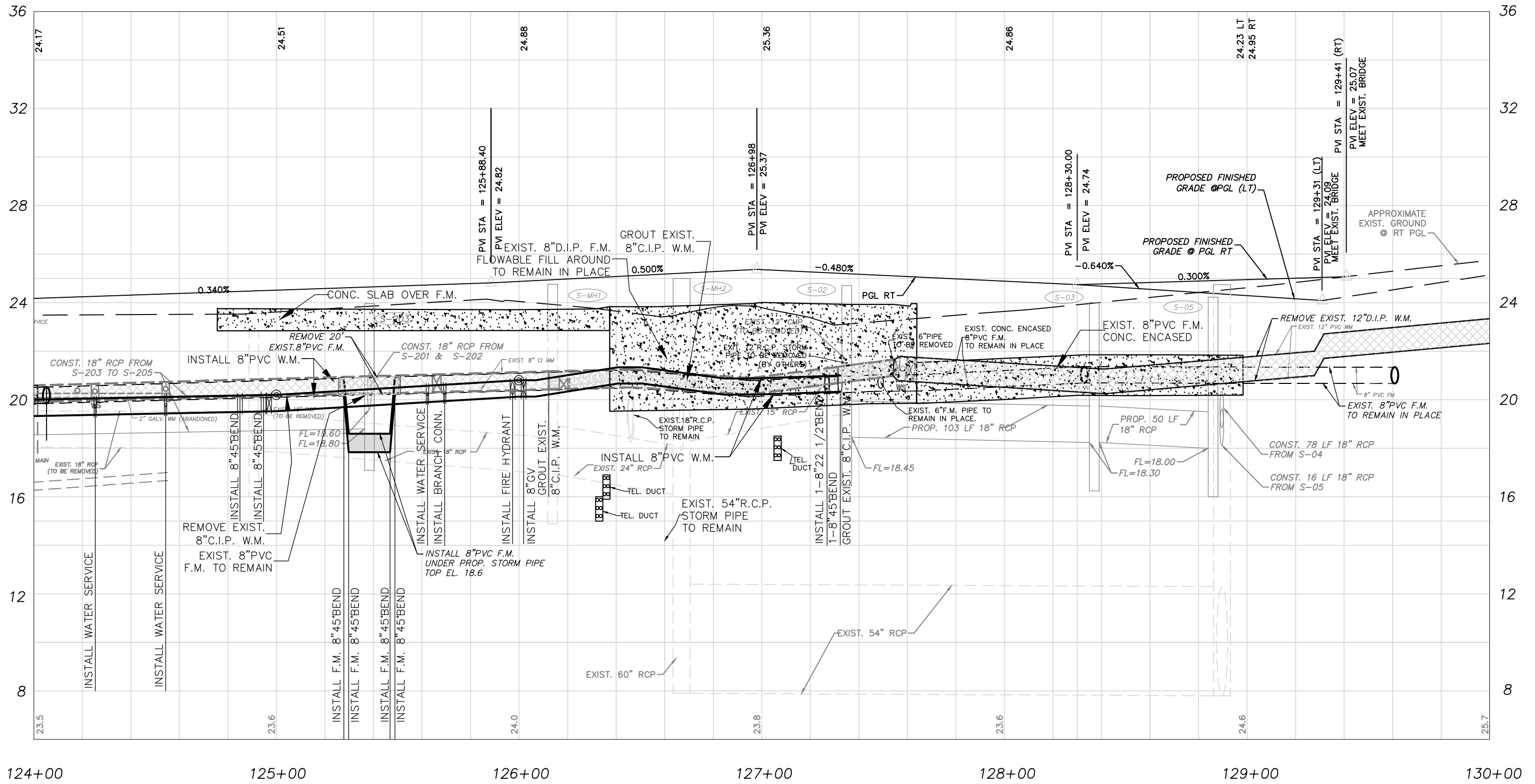
**PROFILE SHEETS
43RD AVE. STA. 112+00 - STA. 118+00**

ROBERT J. BOLTON, P.E. FL. # 49429

DATE

DWG. NO.

SHEET 27 OF 58



43RD AVENUE



CITY OF VERO BEACH
WATER AND SEWER
DEPARTMENT

APPROVED R.J.B.	REVISION
DRAWN BY T.A.Y.	
DATE 1/02/19	

C.O.V.B. UTILITY RELOCATION FOR
I.R.C. - S.R. 60 and 43RD AVE.
ROAD WIDENING PROJECT NO. 0853

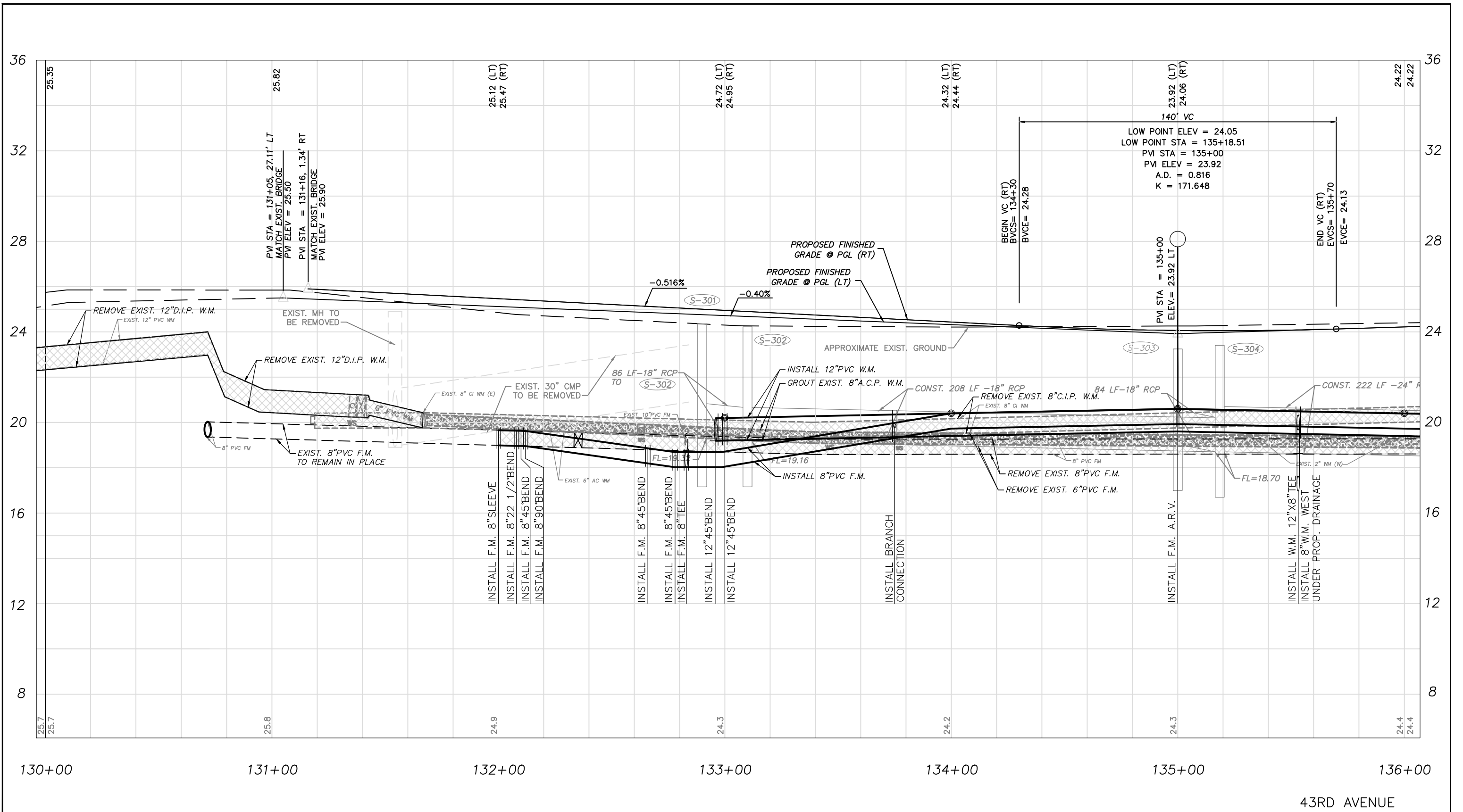
PROFILE SHEETS
43RD AVE. STA. 124+00 - STA. 130+00

ROBERT J. BOLTON, P.E. FL. # 49429

DATE

DWG. NO.

SHEET 29 OF 58



CITY OF VERO BEACH
WATER AND SEWER
DEPARTMENT

APPROVED
R.J.B.
DRAWN BY
T.A.Y.
DATE
1/02/19

REVISION

C.O.V.B. UTILITY RELOCATION FOR
I.R.C. - S.R. 60 and 43RD AVE.
ROAD WIDENING PROJECT NO. 0853

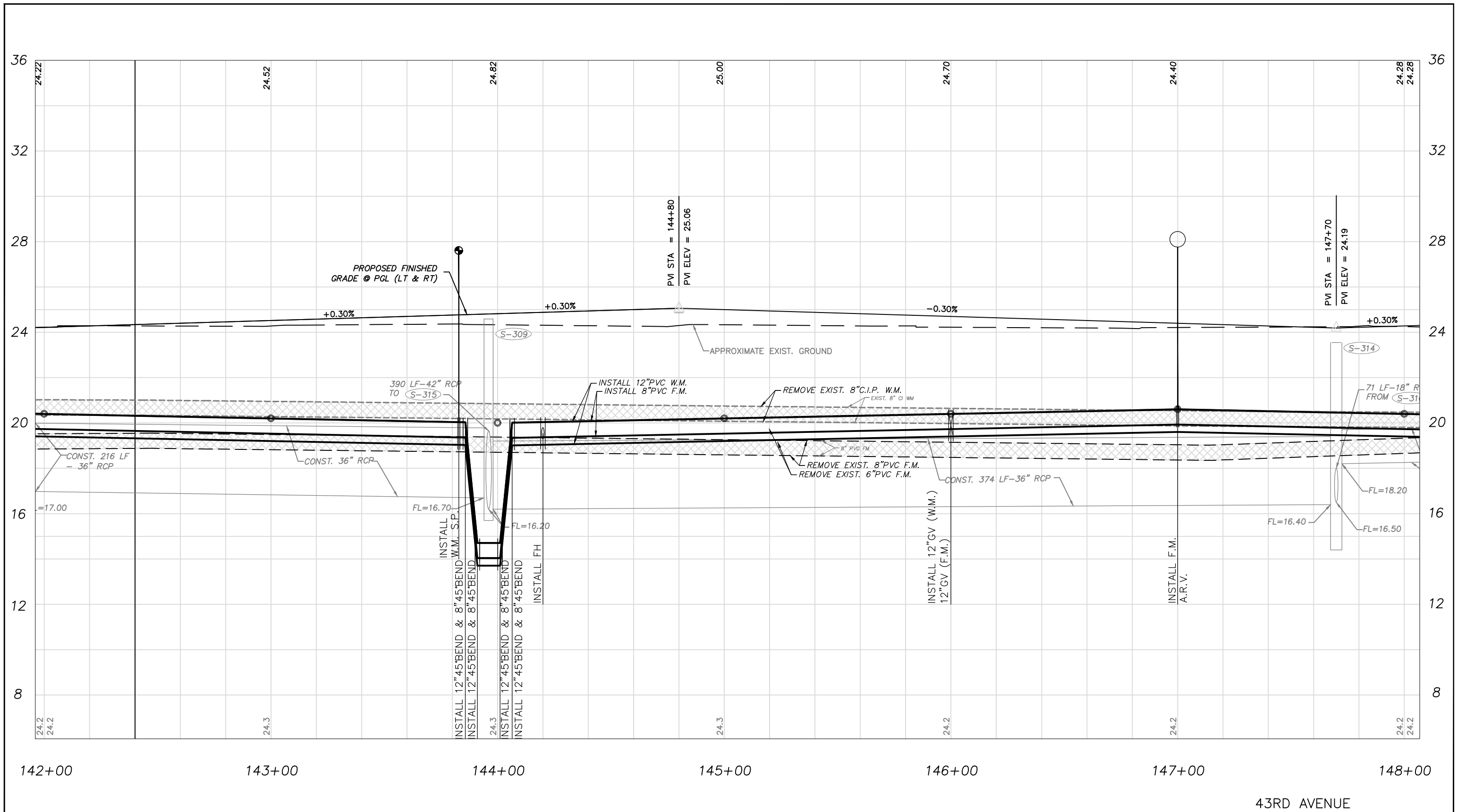
PROFILE SHEETS
43RD AVE. STA. 130+00 - STA. 136+00

ROBERT J. BOLTON, P.E. FL. # 49429

DATE

DWG. NO.

SHEET 30 OF 58



CITY OF VERO BEACH
 WATER AND SEWER
 DEPARTMENT

APPROVED R.J.B.	REVISION
DRAWN BY T.A.Y.	
DATE 1/02/19	

**C.O.V.B. UTILITY RELOCATION FOR
 I.R.C. - S.R. 60 and 43RD AVE.
 ROAD WIDENING PROJECT NO. 0853**

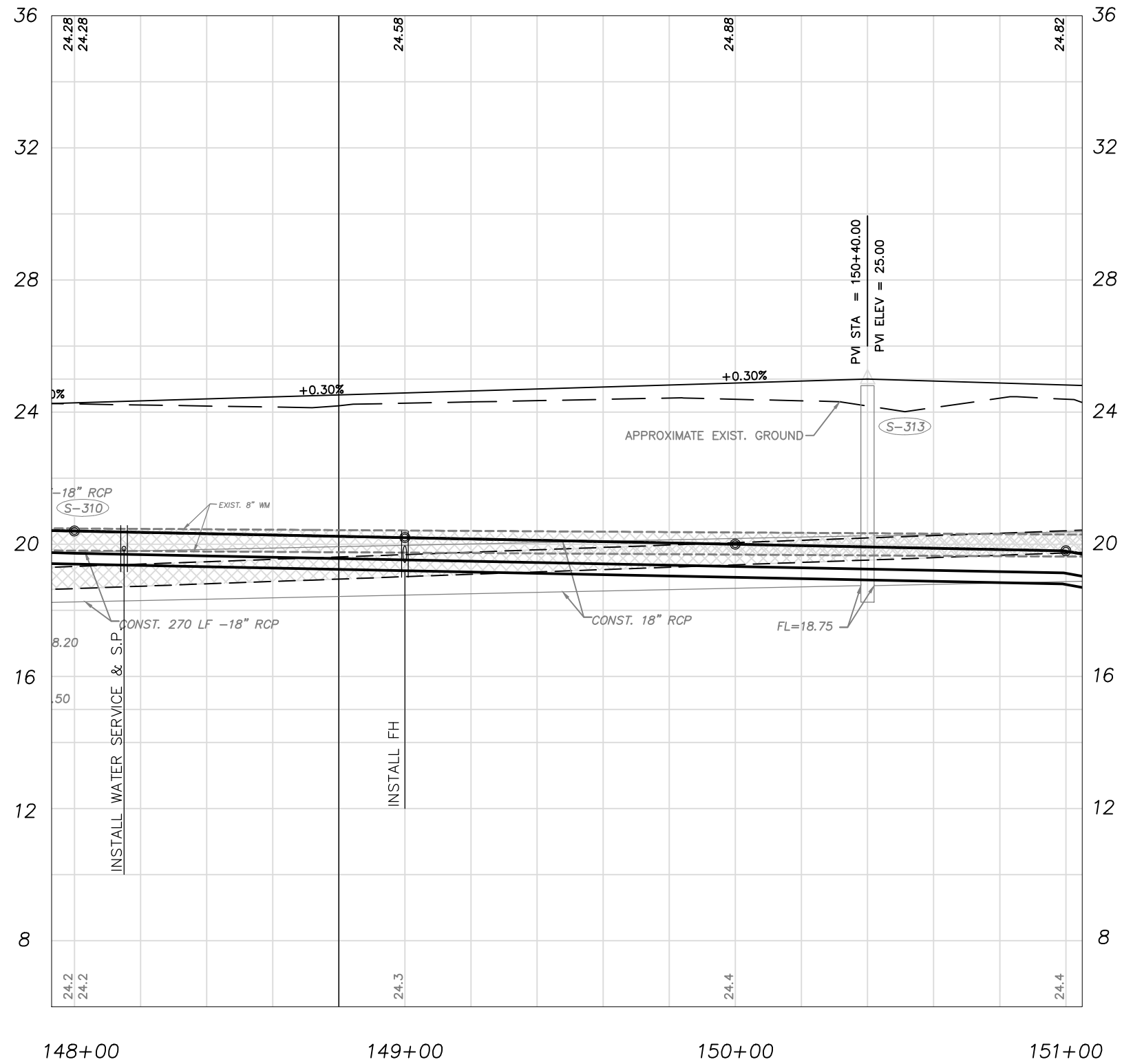
**PROFILE SHEETS
 43RD AVE. STA. 142+00 - STA. 148+00**

ROBERT J. BOLTON, P.E. FL. # 49429

DATE

DWG. NO.

SHEET 32 OF 58



43RD AVENUE



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WATER AND SEWER
DEPARTMENT

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T.A.Y.
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1/02/19

REVISION

C.O.V.B. UTILITY RELOCATION FOR
I.R.C. - S.R. 60 and 43RD AVE.
ROAD WIDENING PROJECT NO. 0853

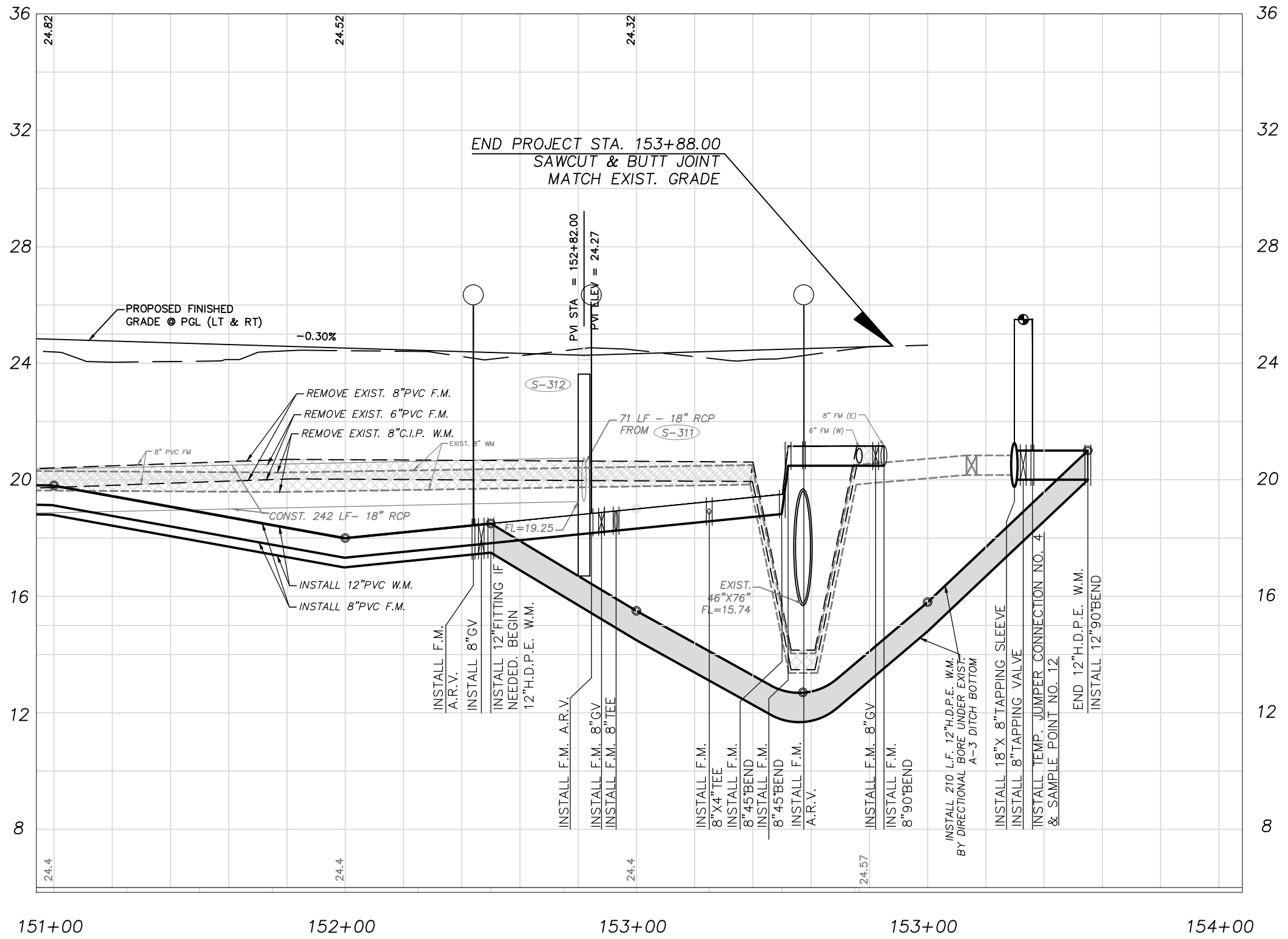
PROFILE SHEETS
43RD AVE. STA. 148+00 - STA. 151+00

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DWG. NO.

SHEET 33 OF 58



43RD AVENUE



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ROAD WIDENING PROJECT NO. 0853

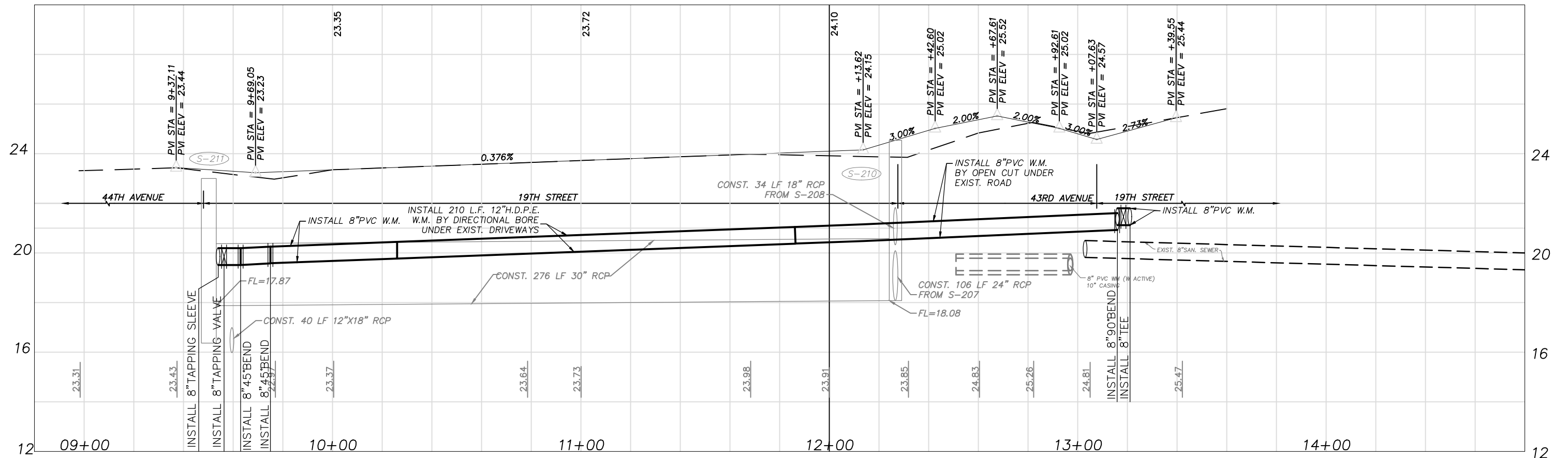
PROFILE SHEETS
43RD AVE. STA. 151+00 - STA. 154+00

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DWG. NO.

SHEET 34 OF 58



19TH STREET PROFILE



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 ROAD WIDENING PROJECT NO. 0853

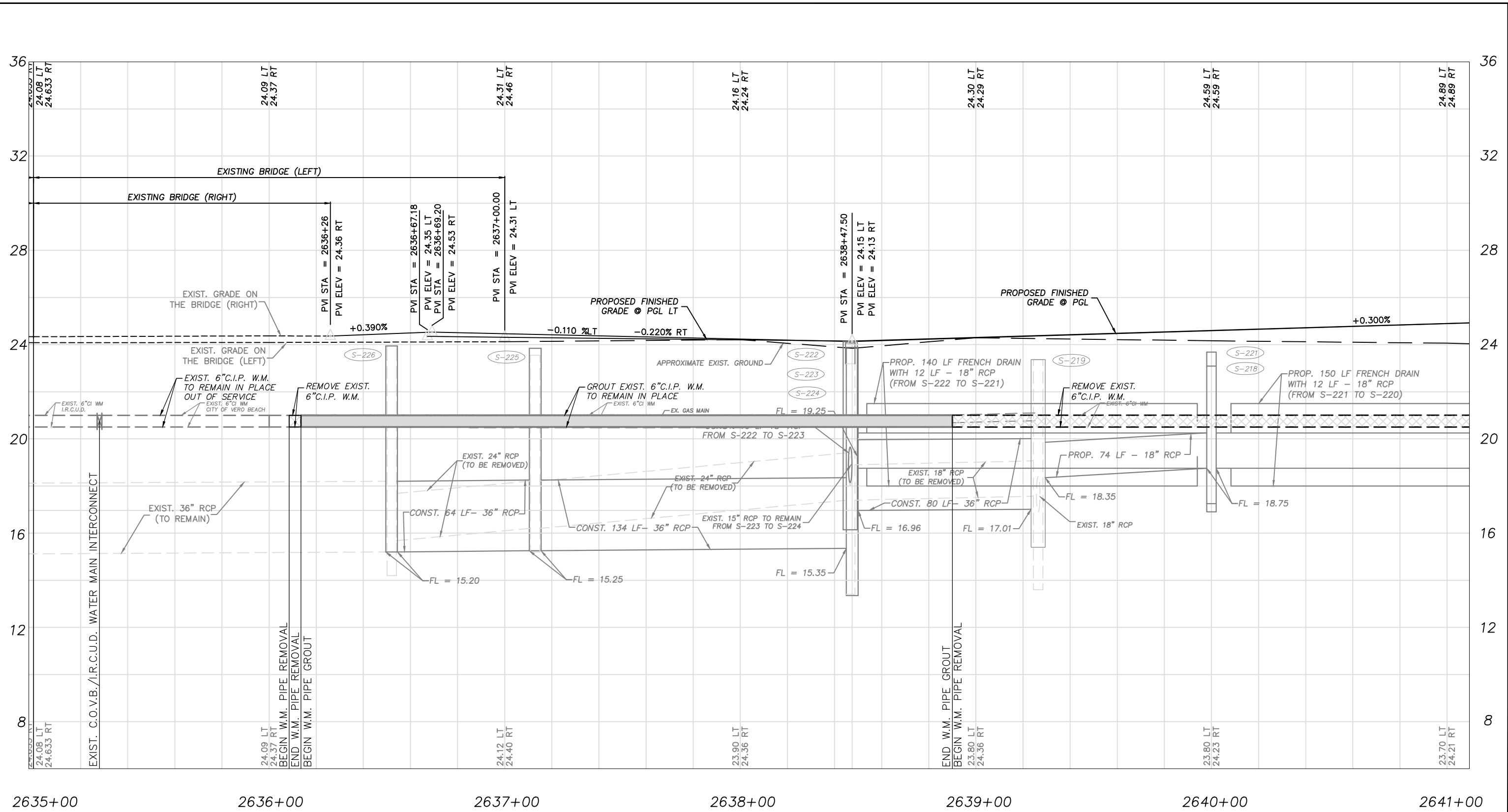
PROFILE SHEETS
 19TH ST. STA. 09+00 - STA. 14+00

ROBERT J. BOLTON, P.E. FL. # 49429

DATE

DWG. NO.

SHEET 35 OF 58



SR 60



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 I.R.C. - S.R. 60 and 43RD AVE.
 ROAD WIDENING PROJECT NO. 0853**

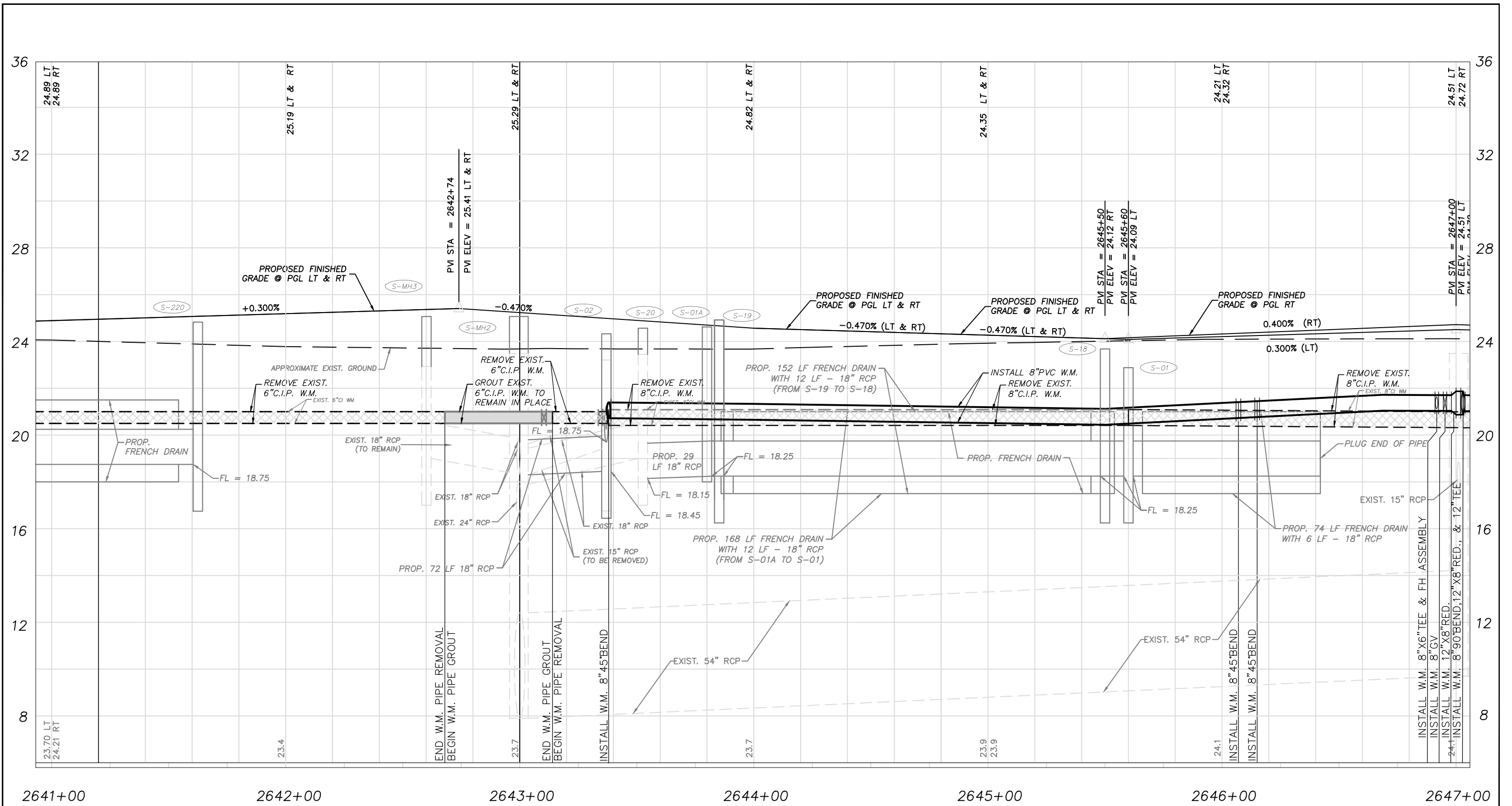
**PROFILE SHEETS
 S.R. 60 STA. 2635+00 - STA. 2641+00**

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DWG. NO.

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SR 60



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I.R.C. - S.R. 60 and 43RD AVE.
ROAD WIDENING PROJECT NO. 0853

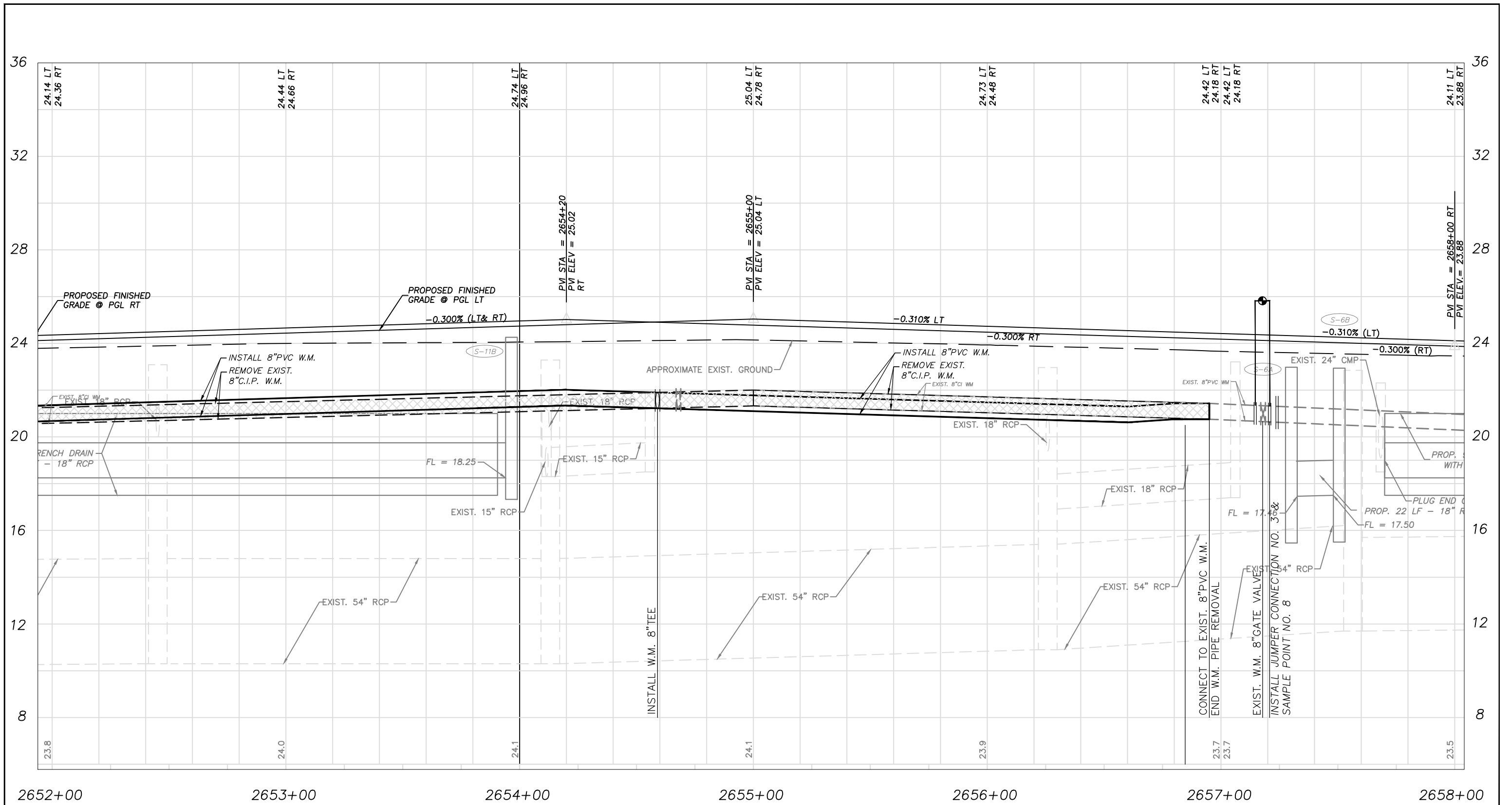
PROFILE SHEETS
S.R. 60 STA. 2641+00 - STA. 2647+00

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DWG. NO.

SHEET 37 OF 58



SR 60



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I.R.C. - S.R. 60 and 43RD AVE.
ROAD WIDENING PROJECT NO. 0853

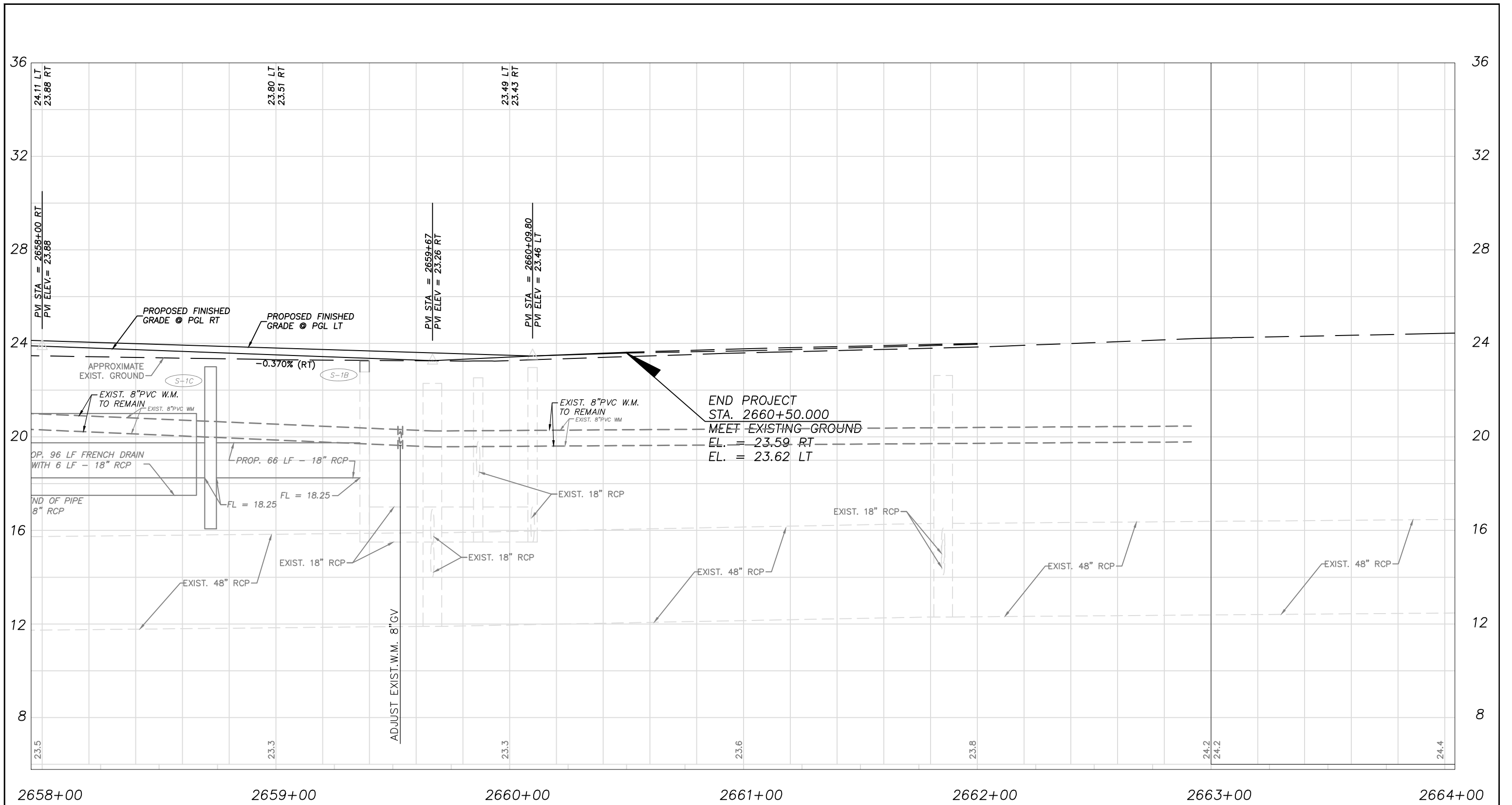
PROFILE SHEETS
S.R. 60 STA. 2652+00 - STA. 2658+00

ROBERT J. BOLTON, P.E. FL. # 49429

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DWG. NO.
56

SHEET 39 OF 58



SR 60



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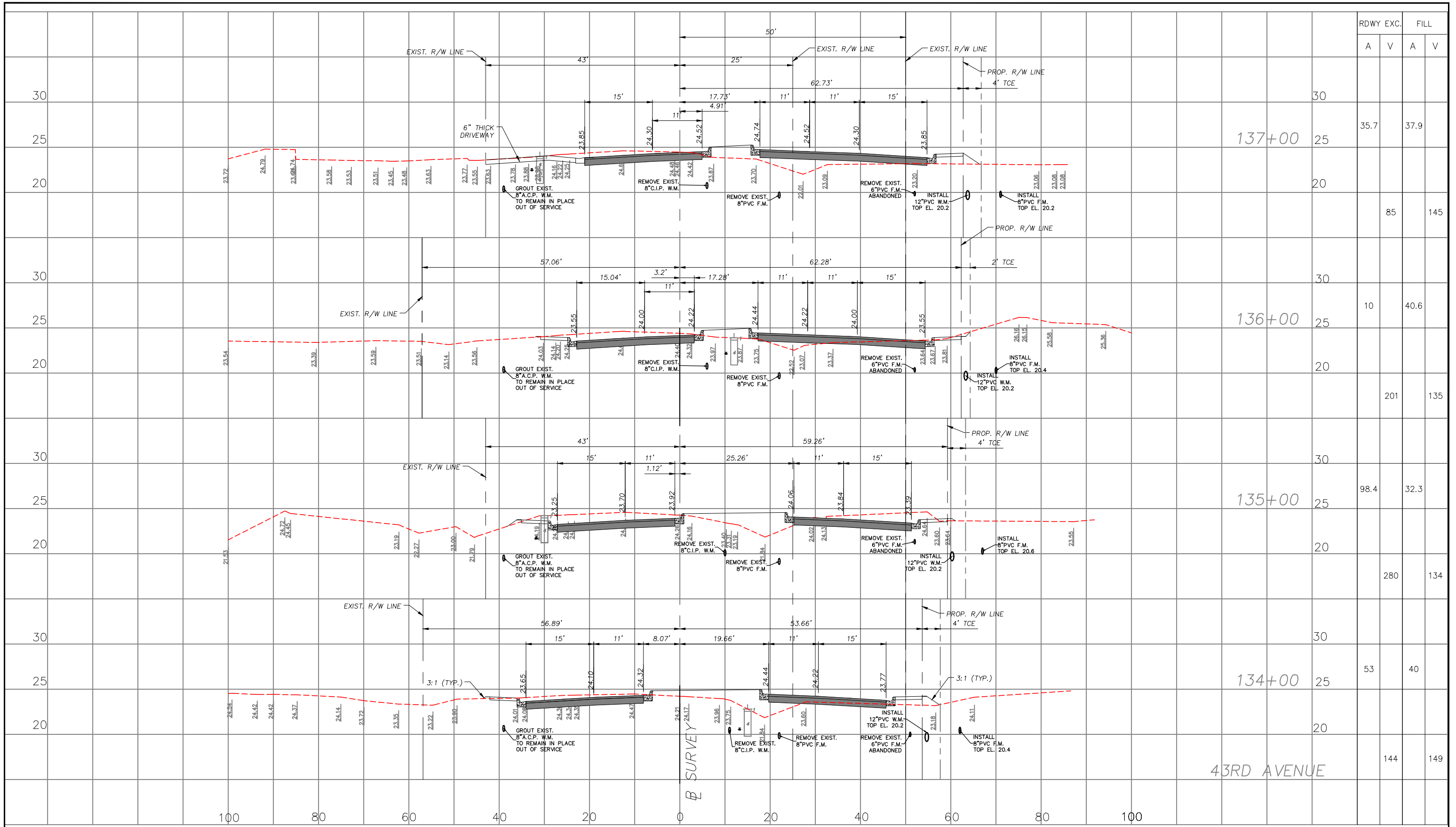
C.O.V.B. UTILITY RELOCATION FOR
I.R.C. - S.R. 60 and 43RD AVE.
ROAD WIDENING PROJECT NO. 0853

PROFILE SHEETS
S.R. 60 STA. 2658+00 - STA. 2664+00

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DATE

DWG. NO.
 SHEET 40 OF 58



RDWY EXC.		FILL	
A	V	A	V

137+00

136+00

135+00

134+00

43RD AVENUE

30					
25			35.7		37.9
20				85	145
30					
25			10		40.6
20				201	135
30					
25			98.4		32.3
20				280	134
30					
25			53		40
20					
				144	149



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I.R.C. S.R. 60 and 43RD AV. ROAD
WIDENING PROJECT NO. 0853

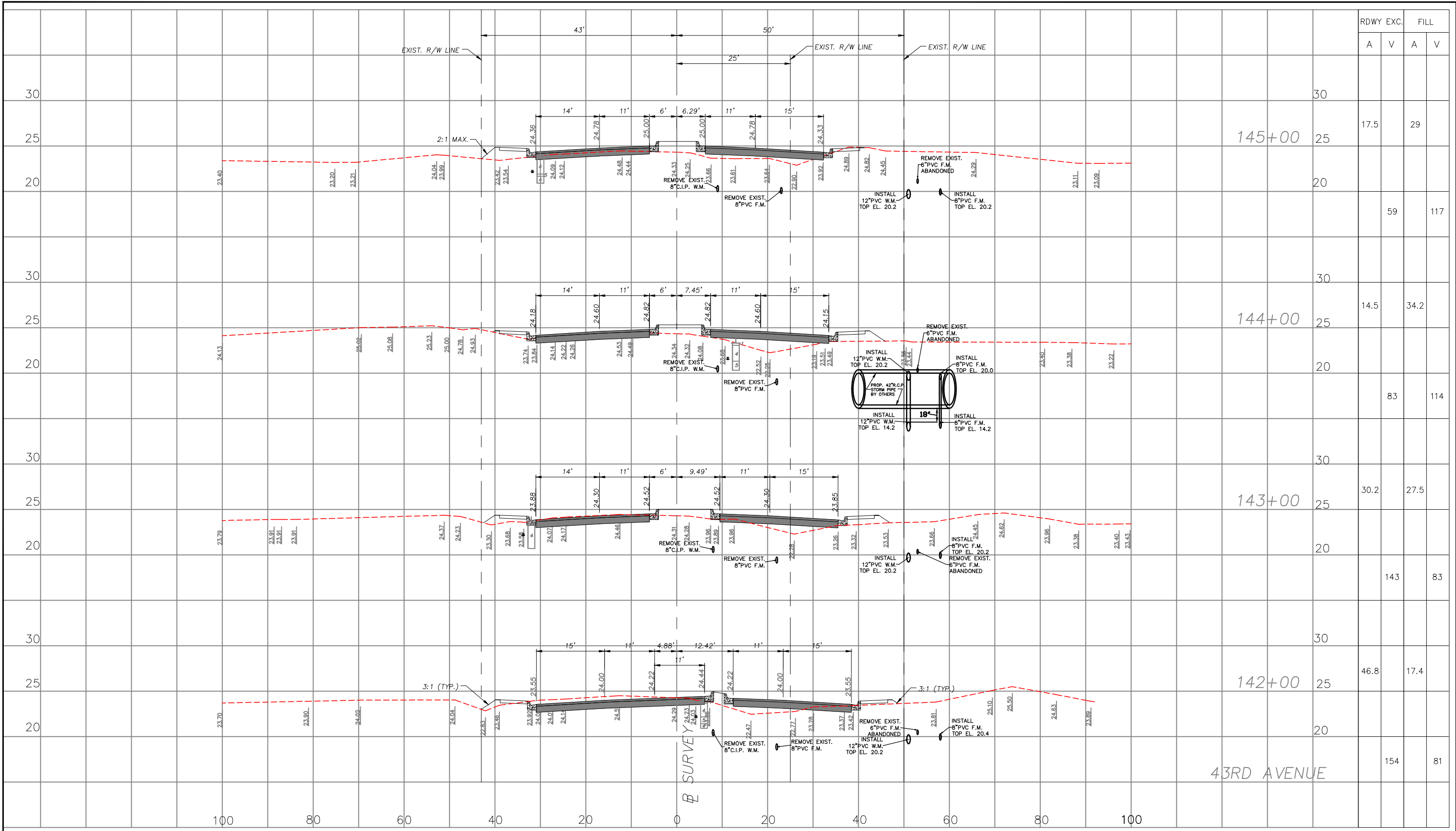
CROSS SECTIONS - 43RD AVE.
STA. 134+00 - STA. 137+00

ROBERT J. BOLTON, P.E. FL. # 49429

DATE

DWG. NO.

SHEET 47 OF 58



RDWY EXC.		FILL	
A	V	A	V
17.5		29	
	59		117
14.5		34.2	
	83		114
30.2		27.5	
	143		83
46.8		17.4	
	154		81



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 I.R.C. S.R. 60 and 43RD AV. ROAD
 WIDENING PROJECT NO. 0853

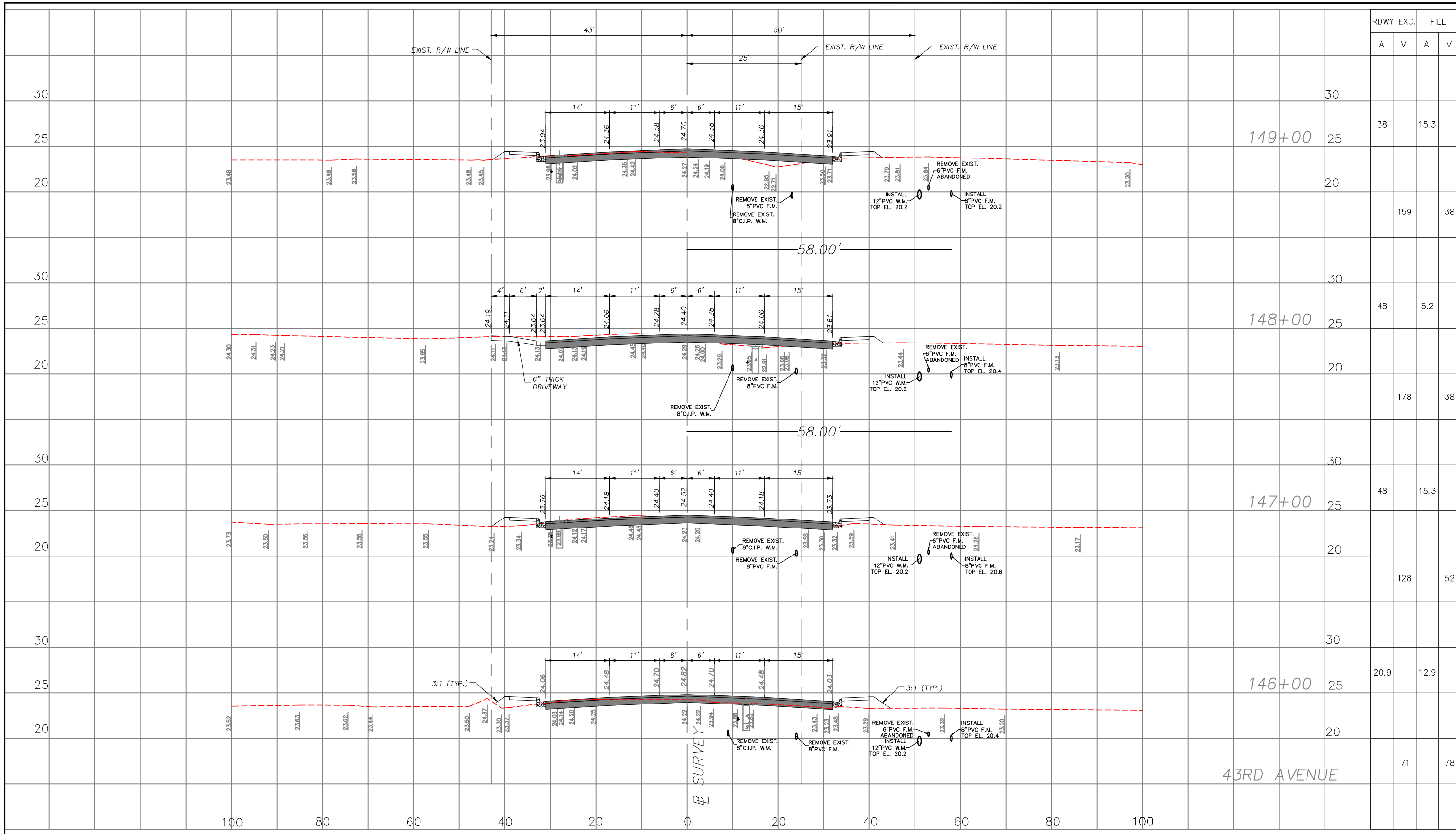
CROSS SECTIONS - 43RD AVE.
 STA. 142+00 - STA. 145+00

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DWG. NO.

SHEET 49 OF 58



RDWY	EXC.		FILL	
	A	V	A	V
30				
25	38			15.3
20		159		38
30				
25	48			5.2
20		178		38
30				
25	48			15.3
20		128		52
30				
25	20.9			12.9
20		71		78



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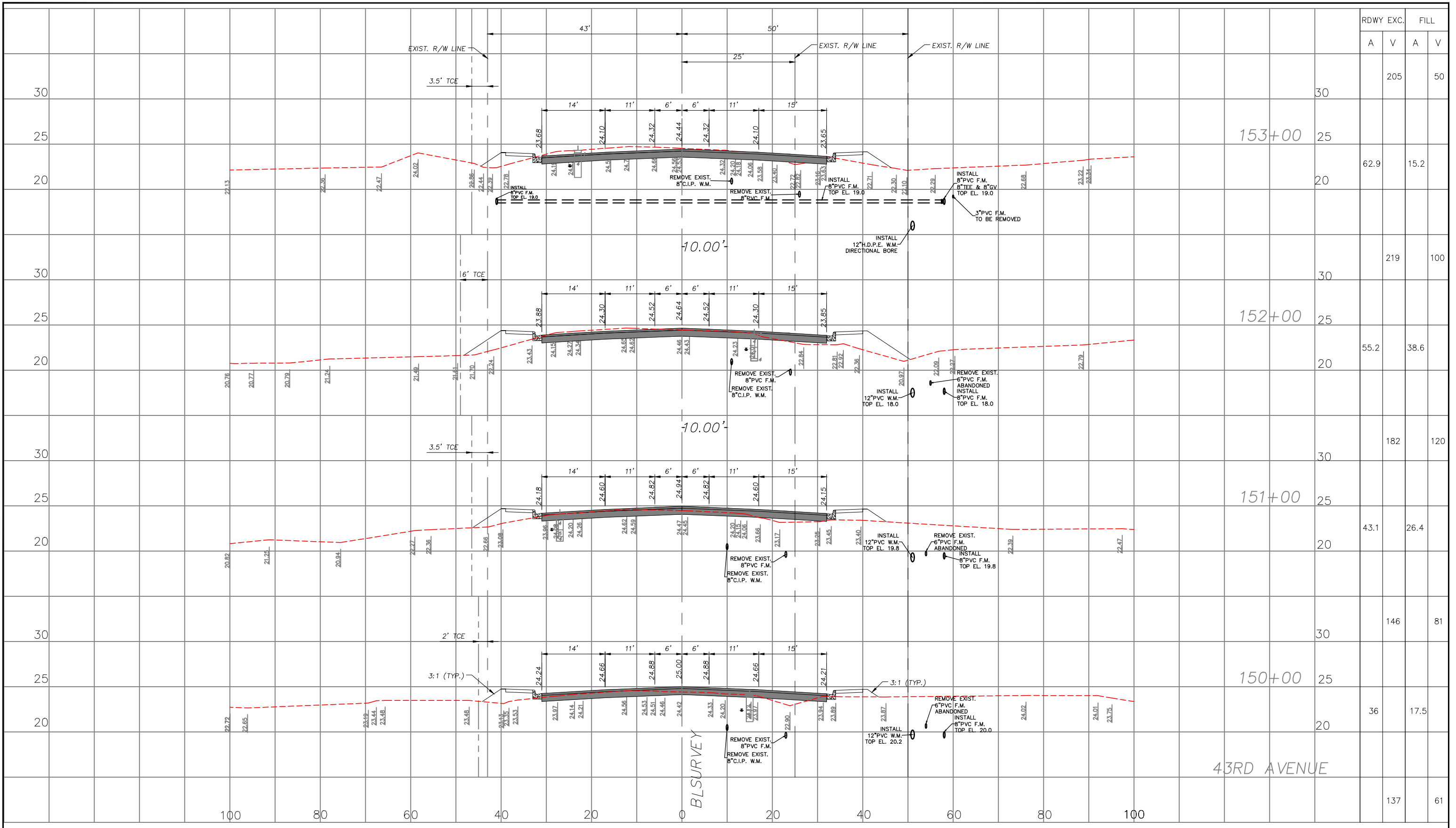
C.O.V.B. UTILITY RELOCATION FOR
 I.R.C. S.R. 60 and 43RD AV. ROAD
 WIDENING PROJECT NO. 0853

CROSS SECTIONS - 43RD AVE.
 STA. 146+00 - STA. 149+00

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DATE

DWG. NO.
 SHEET 50 OF 58



RDWY EXC.	FILL	
	A	V
	205	50
	62.9	15.2
	219	100
	55.2	38.6
	182	120
	43.1	26.4
	146	81
	36	17.5
	137	61



CITY OF VERO BEACH
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WIDENING PROJECT NO. 0853

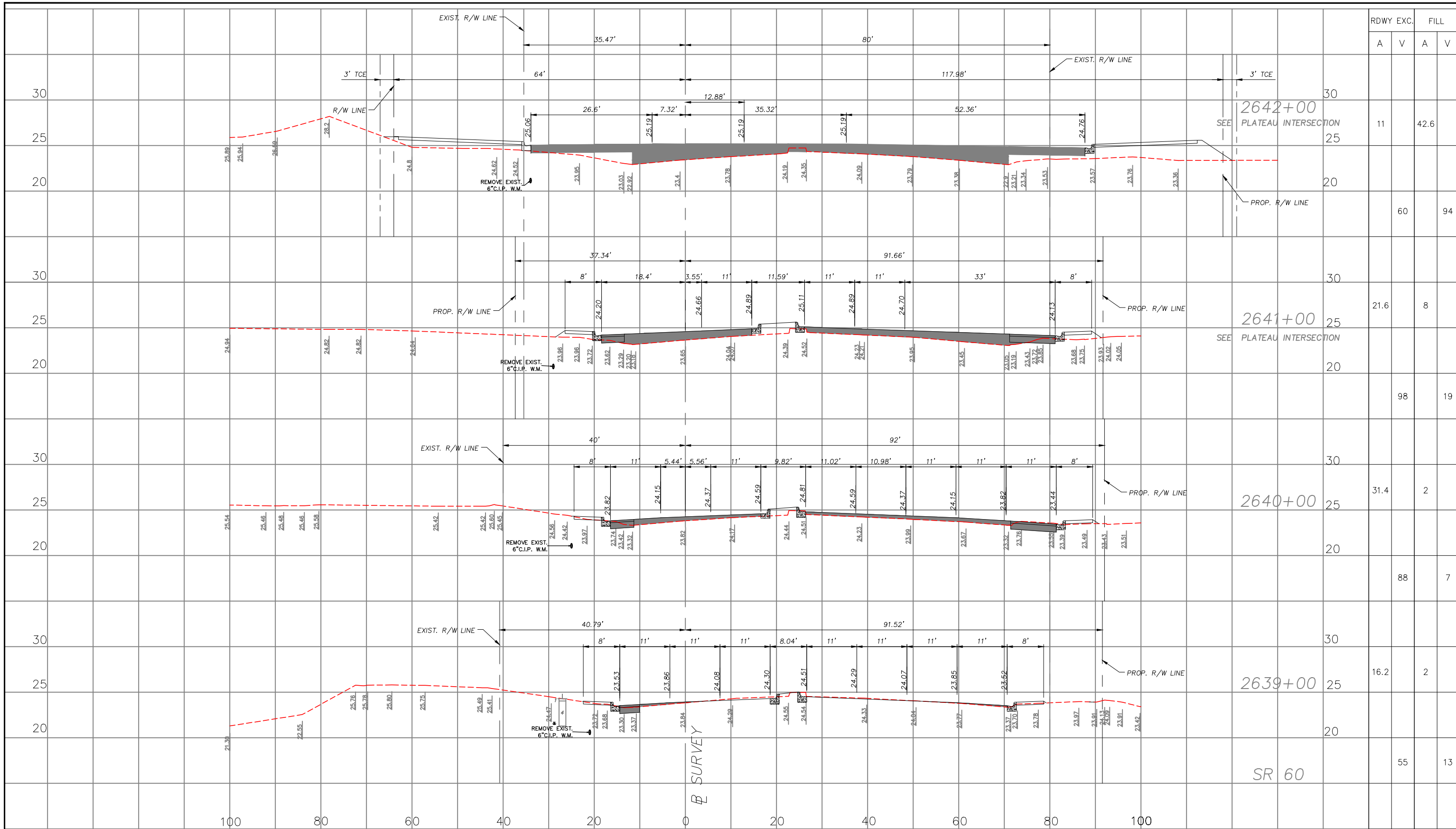
CROSS SECTIONS - 43RD AVE.
STA. 150+00 - STA. 153+00

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DWG. NO.

SHEET 51 OF 58



RDWY EXC.		FILL	
A	V	A	V
11		42.6	
	60		94
21.6		8	
	98		19
31.4		2	
	88		7
16.2		2	
	55		13



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 I.R.C. S.R. 60 and 43RD AV. ROAD
 WIDENING PROJECT NO. 0853

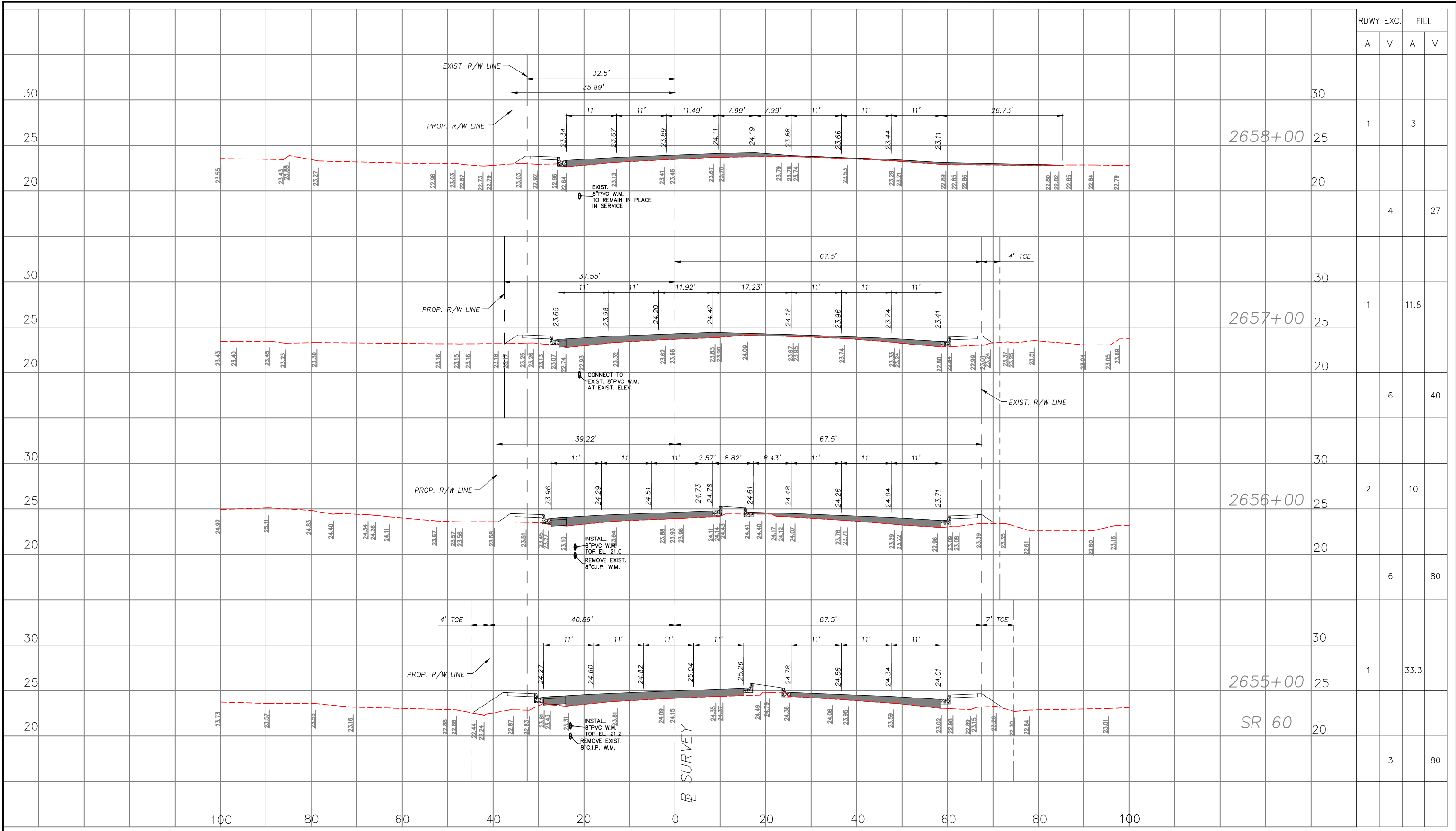
CROSS SECTIONS - S.R. 60
 STA. 2639+00 - STA. 2642+00

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DWG. NO.

SHEET 53 OF 58



RDWY EXC.		FILL	
A	V	A	V
1		3	
	4		27
1		11.8	
	6		40
2		10	
	6		80
1		33.3	
	3		80



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C.O.V.B. UTILITY RELOCATION FOR
I.R.C. S.R. 60 and 43RD AV. ROAD
WIDENING PROJECT NO. 0853

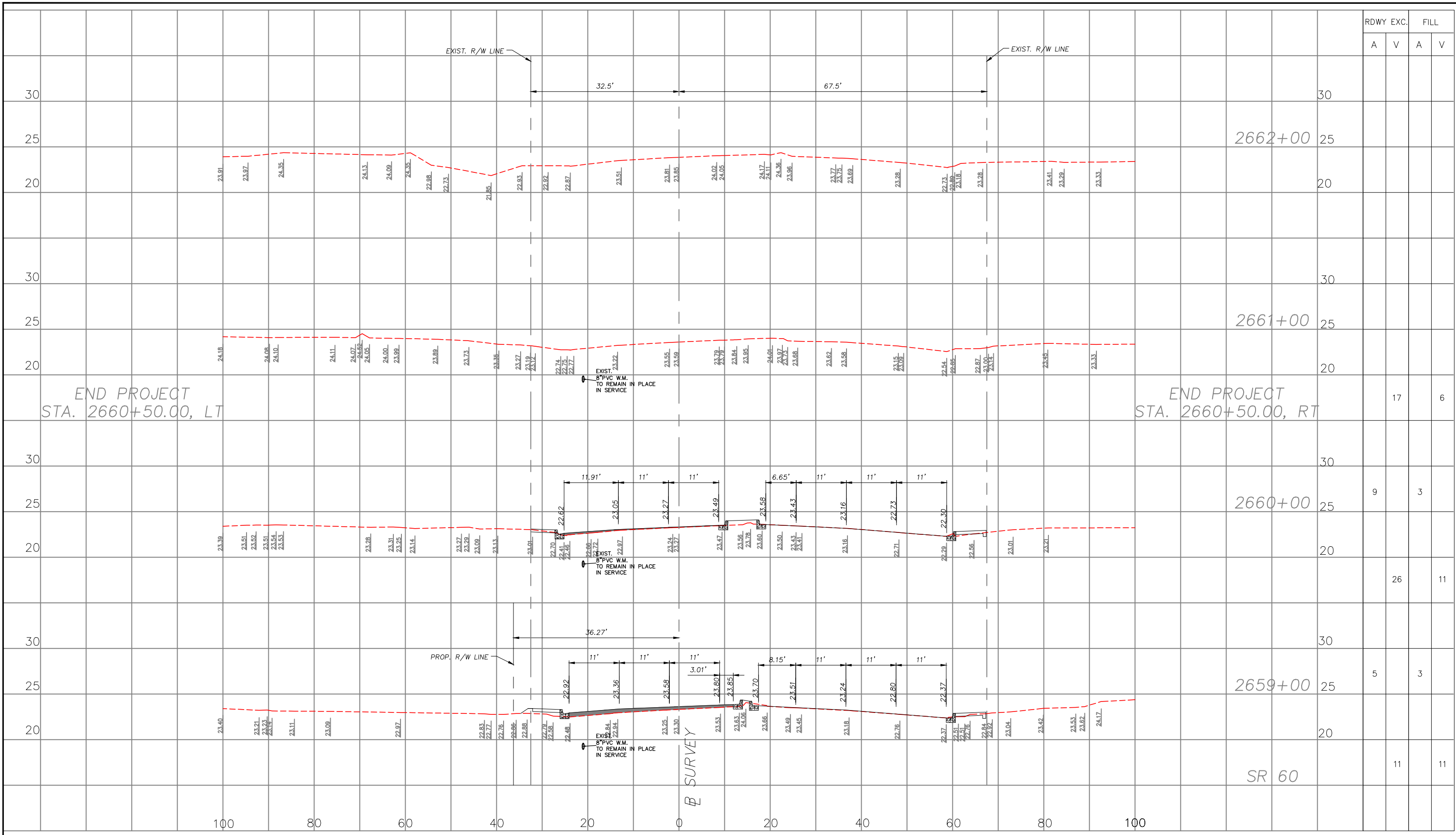
CROSS SECTIONS - S.R. 60
STA. 2647+00 - STA. 2650+00

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DATE

DWG. NO.

SHEET 57 OF 58



RDWY EXC.		FILL	
A	V	A	V

END PROJECT
STA. 2660+50.00, LT

END PROJECT
STA. 2660+50.00, RT

B SURVEY



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1/02/19

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C.O.V.B. UTILITY RELOCATION FOR
I.R.C. S.R. 60 and 43RD AV. ROAD
WIDENING PROJECT NO. 0853

CROSS SECTIONS - S.R. 60
STA. 2647+00 - STA. 2650+00

ROBERT J. BOLTON, P.E. FL. # 49429

DATE

DWG. NO.

SHEET 58 OF 58