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32+55

	EFERENCE SECTION 14 IN E COUNTY UTILITY STANDARDS REQUIREMENTS. MANATEE COUNTY G PUBLIC WORKS DEL ENGINEERING SE UNITED TO INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INCLUSION INTERINA INTERININA INTERININA INTERININA I	e East
SCALE: 1" = 20' (22"x34") SCALE: 1" = 40' (11"x17") *THIS MANHOLE AND THE NEXT TWO DOWNSTREAM SHALL BE LINED. Benchmark Elevation=13.93 4-PW	LIFT STATION & FORCE MAIN REPLACEMENT BELAIR BAYOU SUBDIVISION	PLAN & PROFILE
MILL & RESURFACE	SURVEY # SEC./TWN./RGE VERT. SCALE	080923 1111

NOTES:					
1. ALL THRUST BLOCKS SHALL BE CAST IN PLACE. FITTINGS	ADJACENT TO THRUST BLOCKS SHALL BE WRAPPED IN F	POLYETHYLENE.			
 THIS TABLE IS BASED ON WATER PRESSURE=180 PSI WI =3000 PSI, REINFORCEMENT fy =60.0 KSI. THRUST BLOG 	TH AN ALLOWABLE SOIL BEARING PRESSURE=2000 PSF, C CK SHALL BE CAST AGAINST FIRM UNDISTURBED SOIL.	CONCRETE STRENGTH fc	NO	TES:	
 FOR LARGER "B" DIMENSIONS IT IS NECESSARY TO CHEC EDGE OF THRUST BLOCK. 	K THAT PIPE IS SUFFICIENTLY DEEP TO ALLOW 15" MIN.	SOIL COVER OVER TOP	1.	RESTRAIN 11.25° BENDS 50	0% OF LENGTH FOR 22.5
 RESTRAINED JOINTS MAY BE USED IN LIEU OF THRUST E THRUST BLOCKS AND RESTRAINED JOINTS ARE BOTH REC 	BLOCKS TO SAVE SPACE. THRUST BLOCKS SHALL BE USED QUIRED.	IN SITUATIONS WHERE	2.	ALL VALVES AND FITTINGS OF PIPE.	SHALL BE RESTRAINED TO
	8-7-8	/	3.	ALL ISOLATIONVALVES MUST A 180 PSI TEST PRESSURE	
		+-	4.	PIPE SIZES ARE GIVEN IN	NCHES.
		<u>¥</u>	5.	RESTRAINED PIPE LENGTHS	ARE GIVEN IN FEET.
	← "B" SQ. →		6.	LENGTHS SHOWN ARE FOR	A TEST PRESURE OF 18
<u>90° BEND</u> <u>BEND</u> <u>BEND</u> <u>B</u> <u>B</u> <u>B</u> <u>B</u> <u>B</u> <u>B</u> <u>B</u> <u>B</u>	45°, 22.5° OR 11.25°	<u>5 ½</u> " <u>"</u> B" <u>/2</u> <u>"</u> B" <u>/2</u> <u>"</u> B" <u>/2</u> <u>"</u> B" <u>/2</u>		THE RESTRAINED LENGTHS CLASSIFICATION SP WITH AV PRESSURE, 3 FEET OF CON CONDITIONS MUST BE DETE RESTRAINED LENGTHS MODI RESTRAINED LENGTHS TO B LENGTHS FOR PIPE.	WA TYPE 3 TRENCH CO /ER AND 1.5 FACTOR OF RMINED BY THE ENGINEE FIED ACCORDINGLY.
MANATEE COUNTY PUBLIC WORKS DEPARTMENT	CONODETE TUDIICT			NATEE COUNTY	RESTRA
REV.BY DATE	CONCRETE THRUST	UG-7	REV.BY DATE		LENGTHS F
LB/BR 11/10 MAY 10, 2011	BLOCKS		CLB/BR 11/10	MAY 10, 2011	PIPE
DATE OF APPROVAL		PAGE 107		DATE OF APPROVAL	

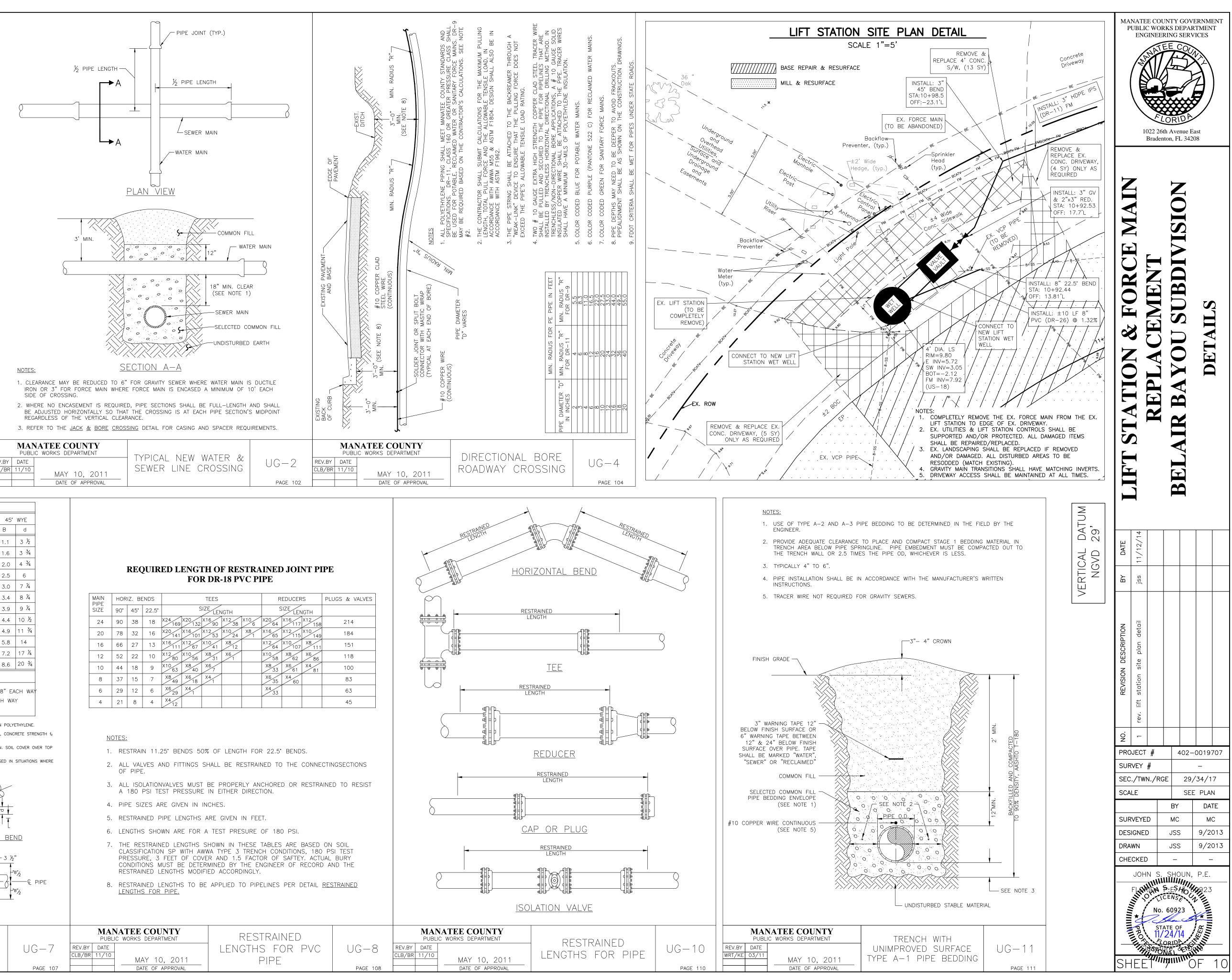
PIPE			4.5.0				11 05%		DEAD	END	45°	
SIZE	90°B		45°B		22.5°8	r	11.25°6		& TE			1
(IN.)	В	d	В	d	В	d	В	d	В	d	В	d
4	1.5	3 1/2	1.1	3 1/2	0.8	3 1/2	0.6	3 1/2	1.3	3 1/2	1.1	3.
6	2.2	5 ½	1.6	3 3/4	1.2	3 1/2	0.8	3 1/2	1.9	4 1/2	1.6	3
8	2.9	7	2.1	5	1.5	3 ½	1.1	3 1/2	2.4	5 3/4	2.0	4
10	3.5	8 ½	2.6	6 1/4	1.9	4 1/2	1.3	3 1/2	3.0	7 1/4	2.5	6
12	4.2	10	3.1	7 ½	2.2	5 1/4	1.6	3 3/4	3.5	8 1⁄4	3.0	7
14	4.9	11 3⁄4	3.6	8 3/4	2.6	6 1/4	1.8	4 1/4	4.1	9 3/4	3.4	8
16	5.5	13 ¼	4.1	9 3/4	2.9	7	2.1	5	4.7	11 1/4	3.9	9)
18	6.2	15	4.6	11	3.3	8	2.3	5 ½	5.2	12 ½	4.4	10
20	6.9	16 ½	5.0	12	3.6	8 3/4	2.6	6 1/4	5.8	14	4.9	11
24	8.2	19 3⁄4	6.0	14 ½	4.3	10 1⁄4	3.1	7 ½	6.9	16 ½	5.8	14
30	10.1	24 1/4	7.5	18	5.3	12 3⁄4	3.8	9	8.5	20 ½	7.2	17
36	12.1	29	8.9	21 1/4	6.4	15 1/4	4.5	10 3⁄4	10.2	24 ½	8.6	20
	REINFORCEMENT MAT SCHEDULE											
A 4	4		T ↔	FOR DIM. "B" BETWEEN 5.75' & 12.5' USE #4 @ 8" EACH w FOR DIM. "B" LESS THAN 5.75' USE #3 @ 8" EACH WAY								

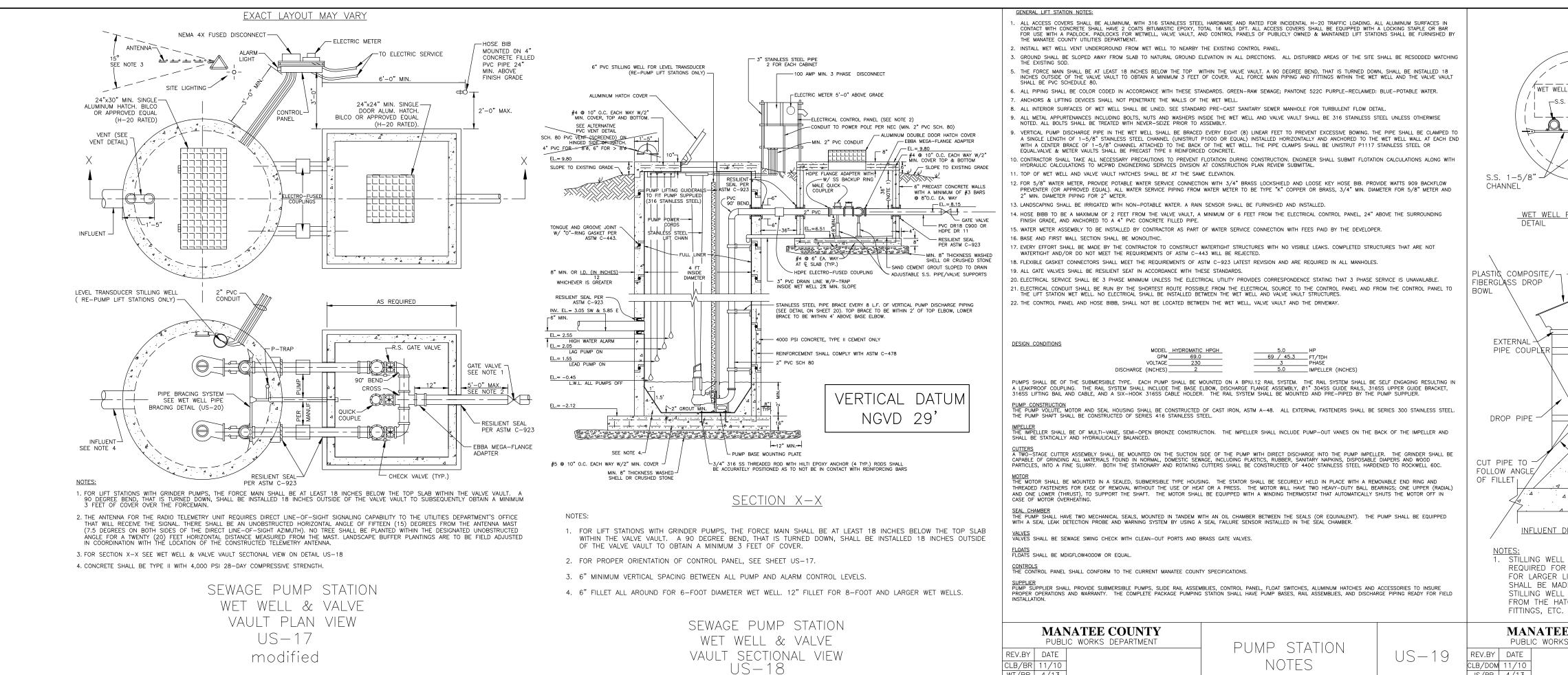
REQUIRED LENGTH OF RESTRAIN
FOR DR-18 PVC PIPI

					FOI	R DR-	-18 PV	VC PI	[P]	
MAIN PIPE	HOR	IZ. BE	ENDS	TEES						
SIZE	90°	45°	22.5°		SIZE LENGTH					
24	90	38	18	X24 169	X20 132	X16 90	X12 38	X10 6	X2	
20	78	32	16	X20 141	X16 101	X12 53	X10 24	X8 1	X1	
16	66	27	13	X16 111	X12 67	X10 41	X8 12		X1:	
12	52	22	10	X12 80	X10 56	X8 31	X6 1		X1	
10	44	18	9	X10 63	X8 40	X6 7			X	
8	37	15	7	X8 49	X6 18	X4 1			X	
6	29	12	6	X6 29	X4 1	¢			X	
					1				ľ	

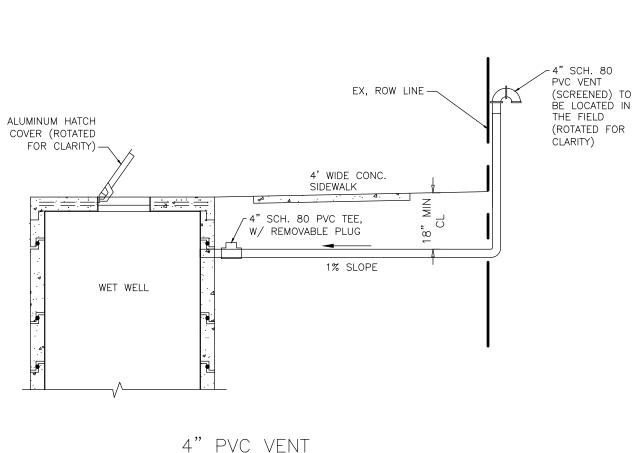
		NATEE COUNTY		
REV.BY CLB/BR	DATE 11/10	MAY 10, 2011	- TYPICAL NEW WATER & SEWER LINE CROSSING	UG
		DATE OF APPROVAL		P

- REGARDLESS OF THE VERTICAL CLEARANCE.





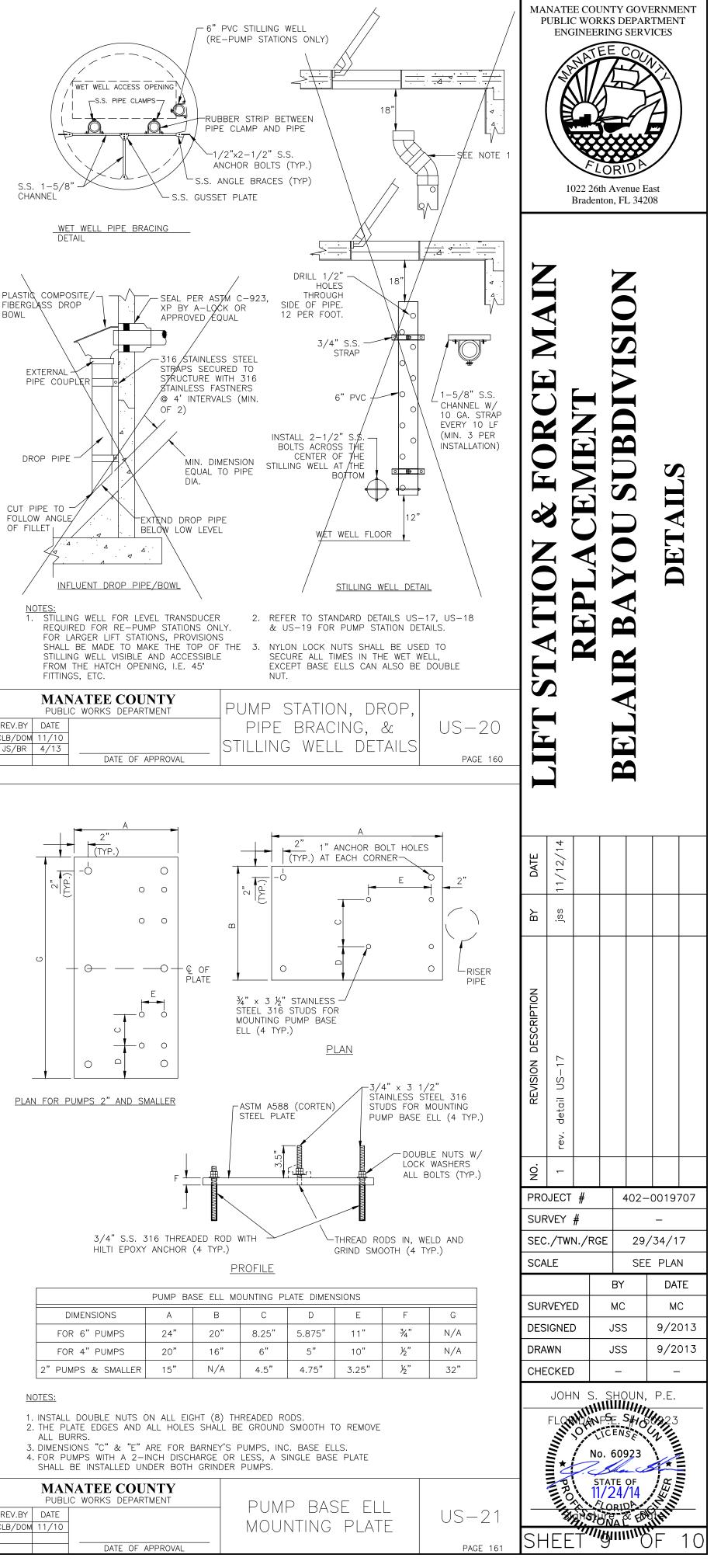




INSTALLATION DETAIL

WT/BR 4/13

DATE OF APPROVAL



JS/BR 4/13

NOTES:

REV.BY DATE

CLB/DOM 11/10

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