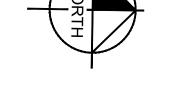
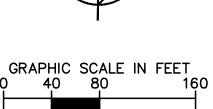
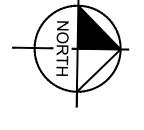
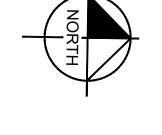


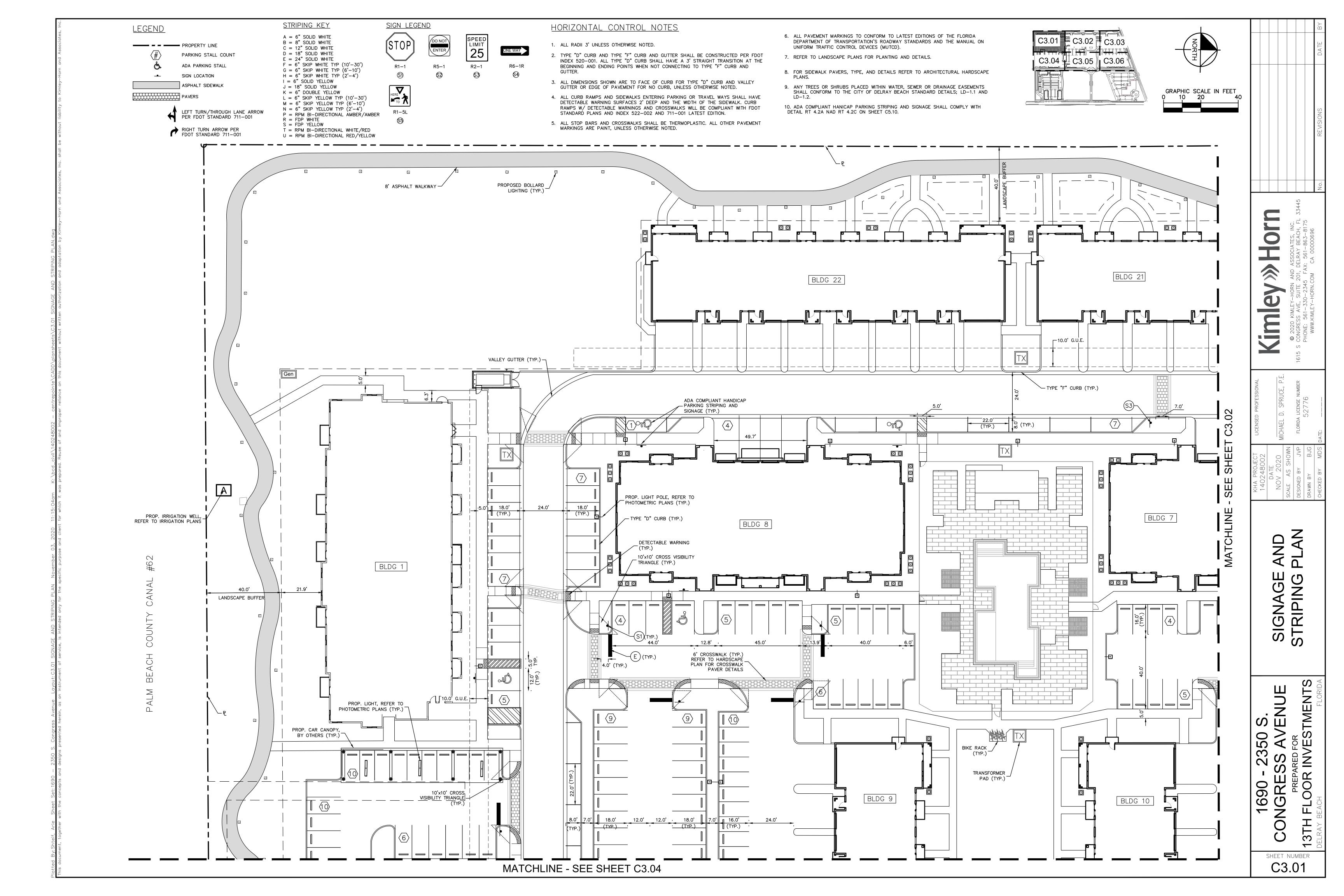
		© 2020 KIMLEY-HORN AND ASSOCIATES, INC.	1615 S CONGRESS AVE, SUITE 201, DELRAY BEACH, FL 33445	PHONE: 361-330-2343 FAX: 361-863-81/3 WWW.KIMLEY-HORN.COM CA 00000696	No. REVISIONS DATE BY
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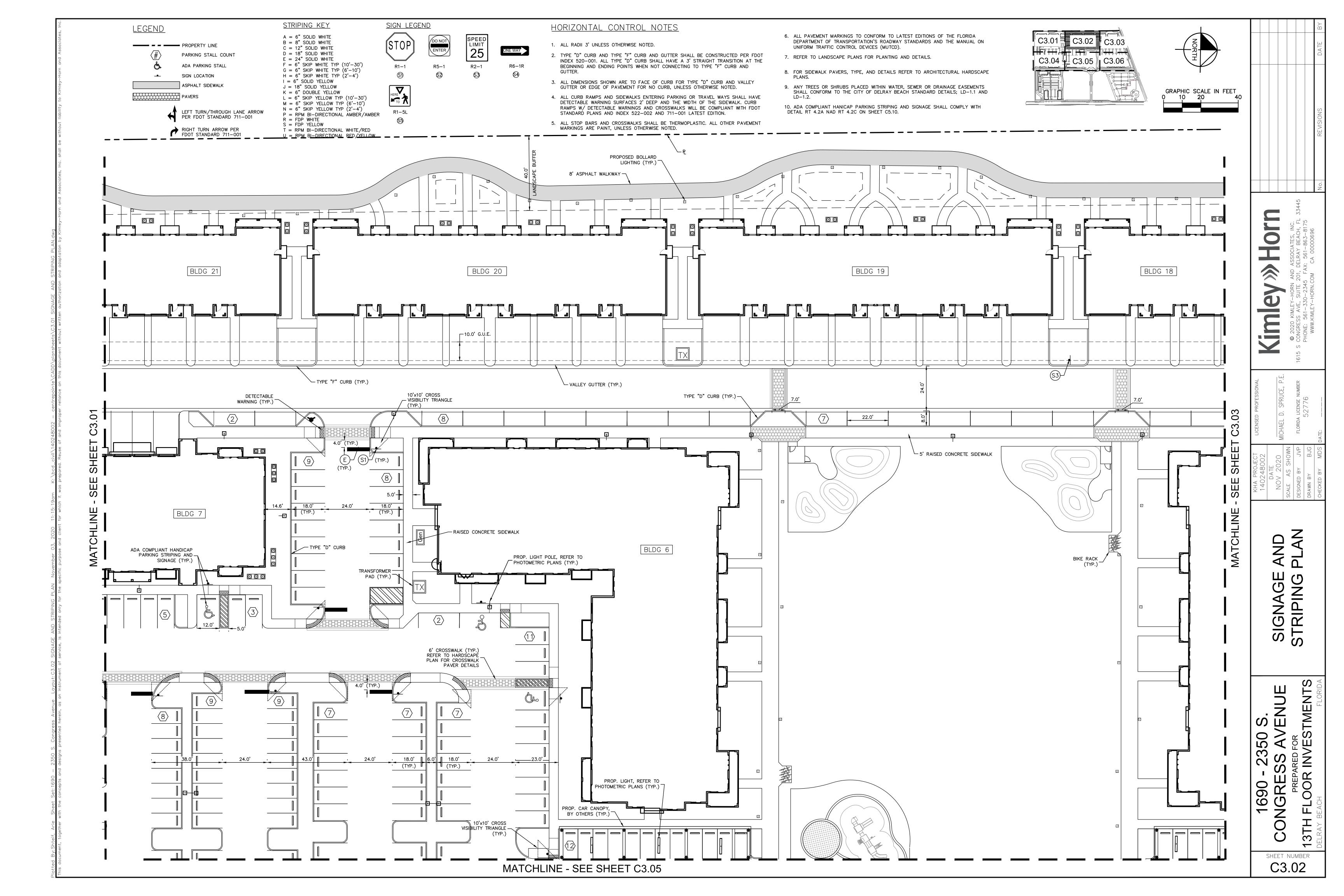


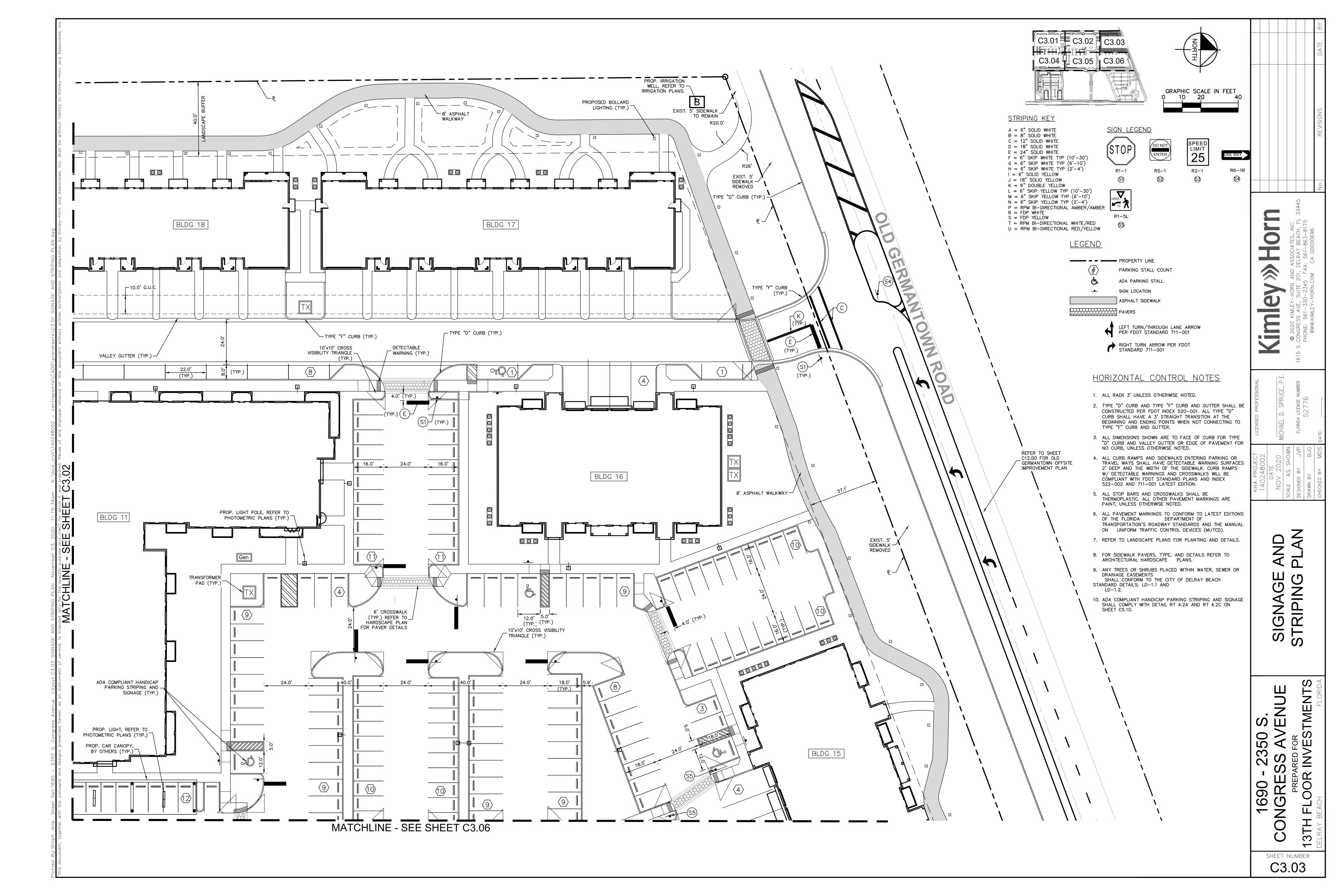


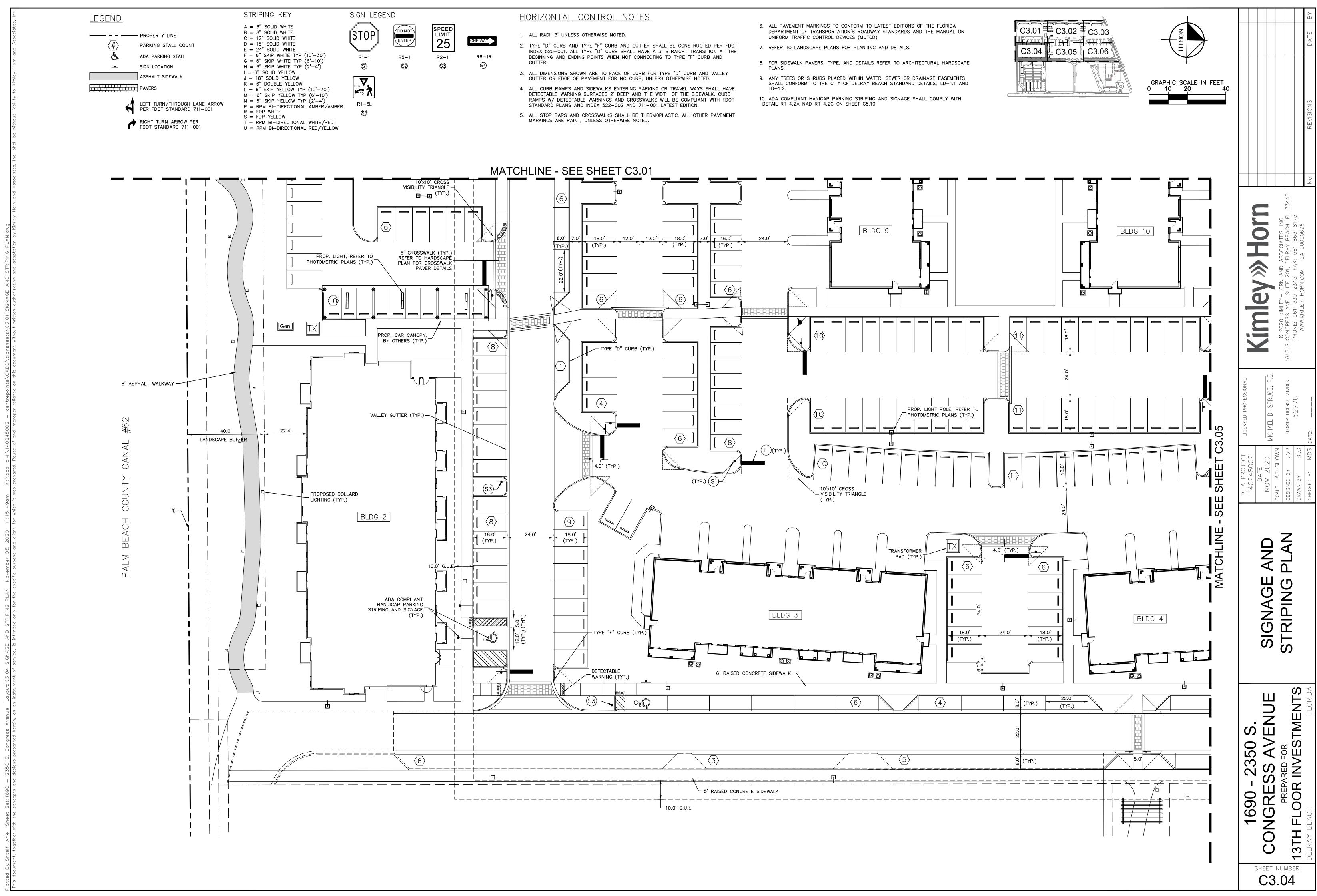


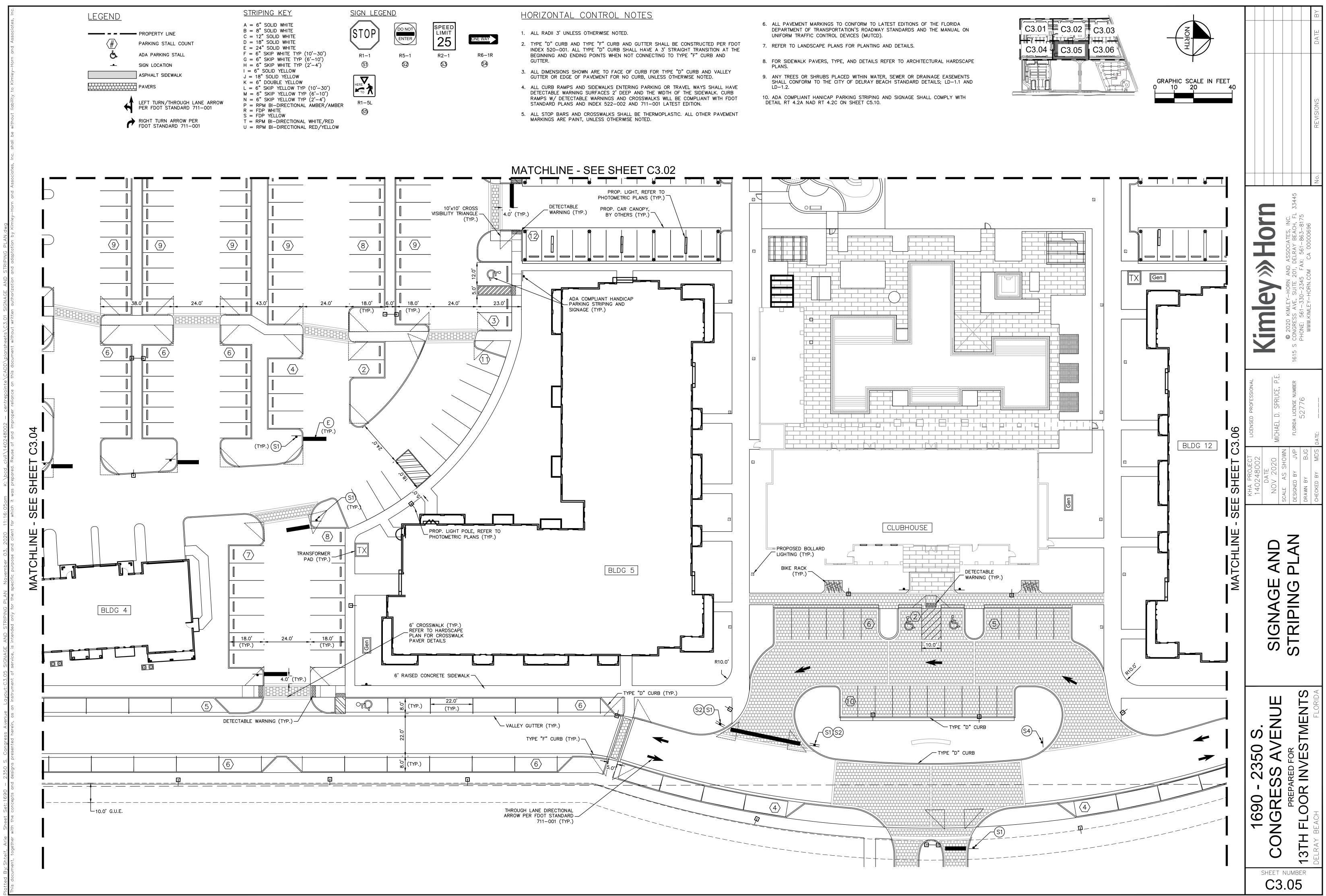


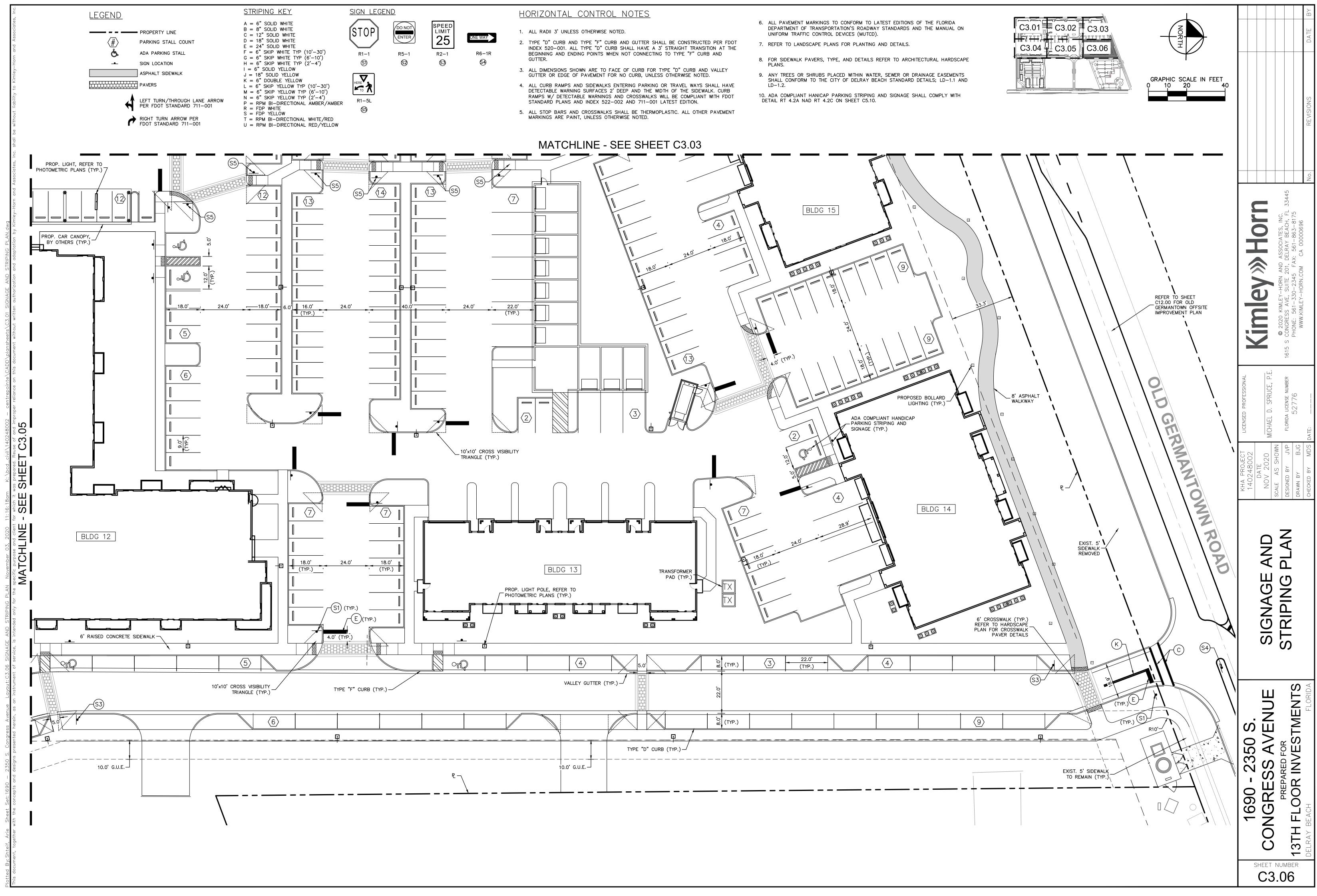


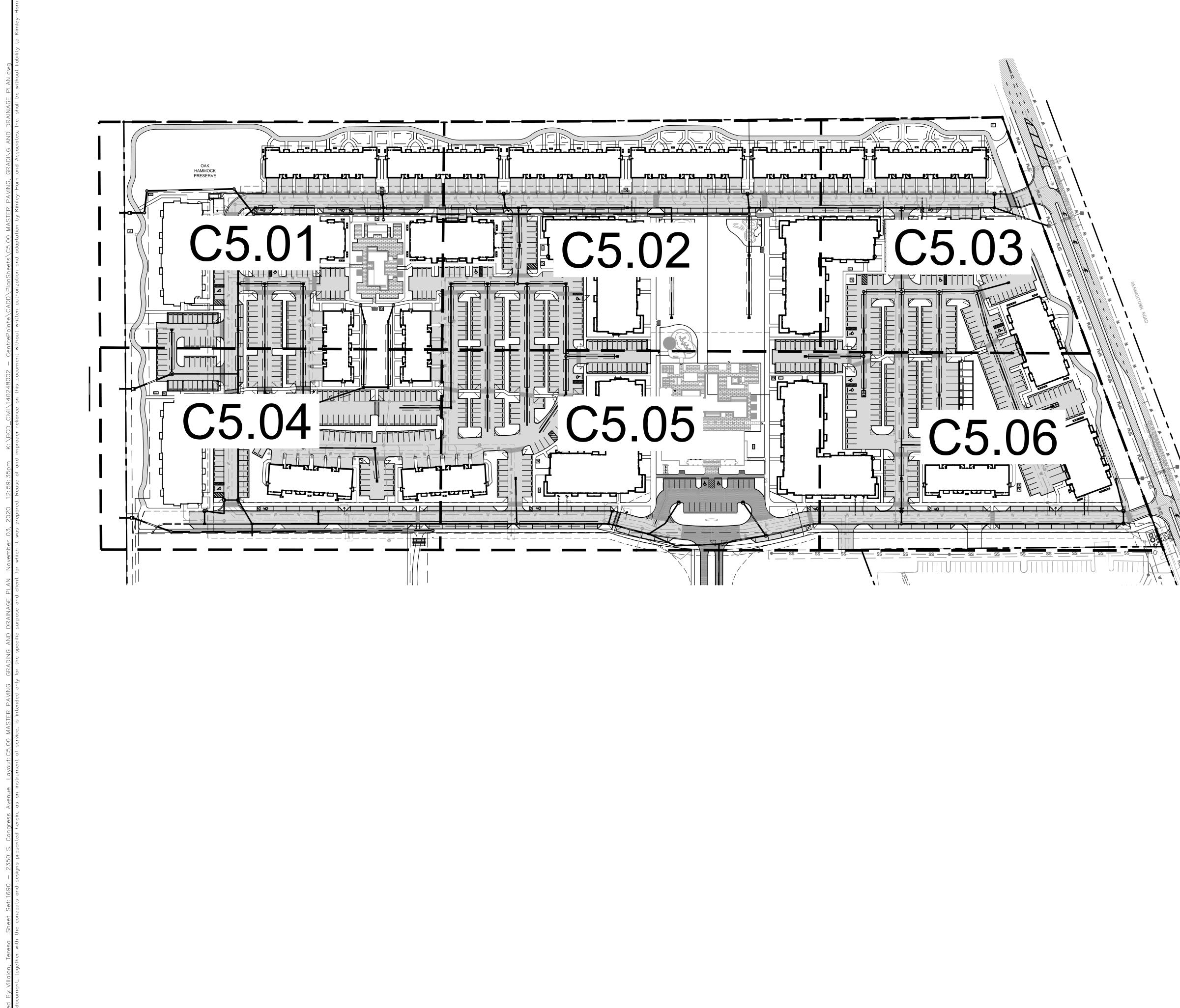


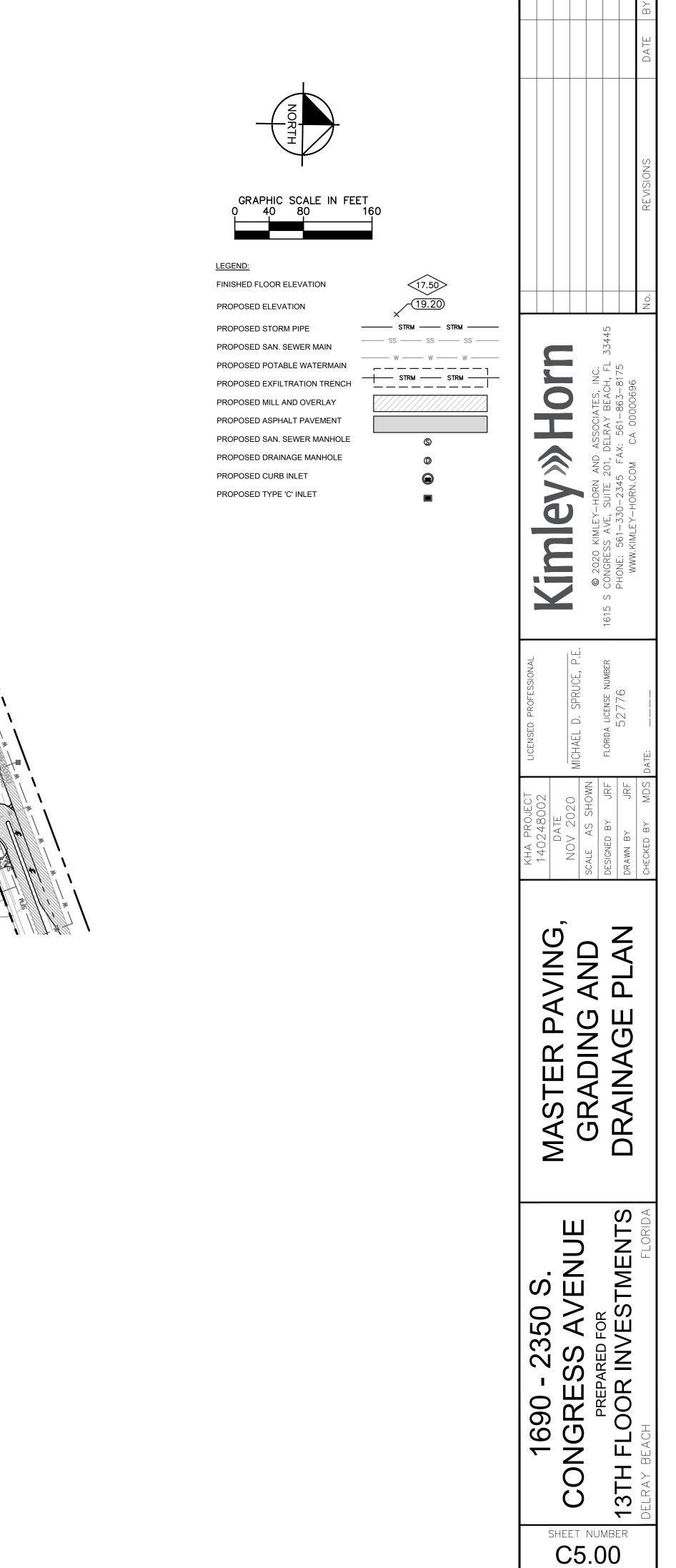


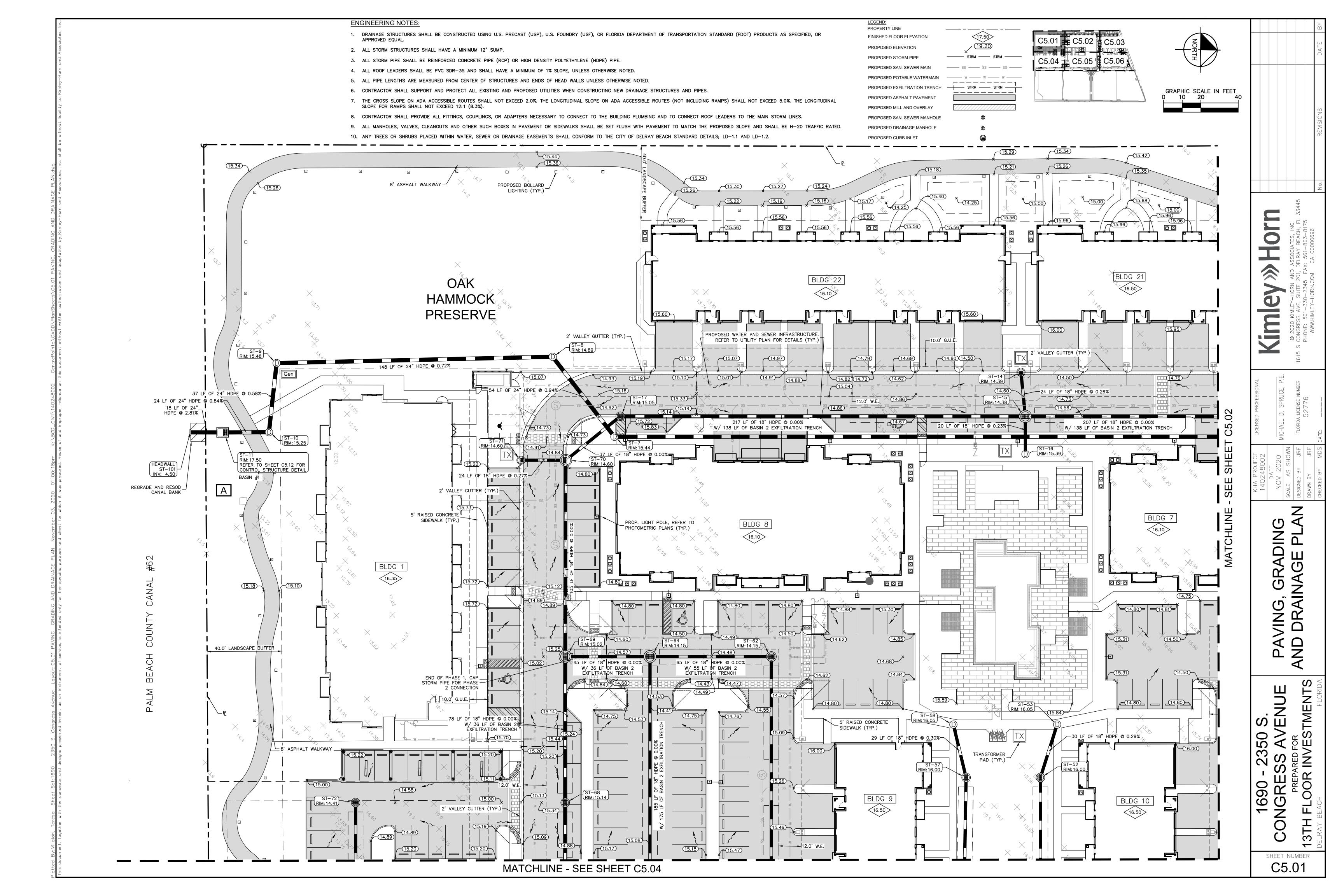


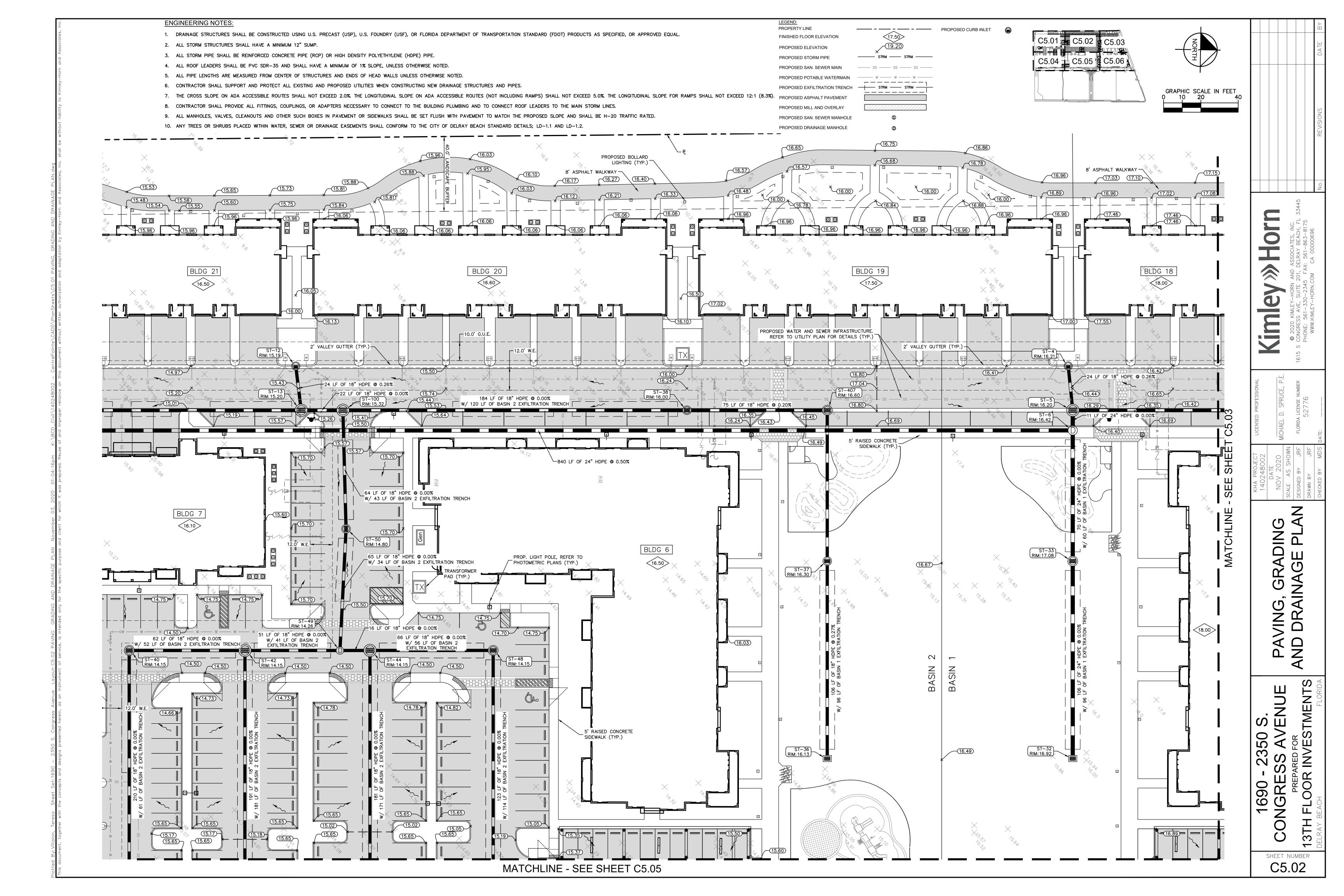


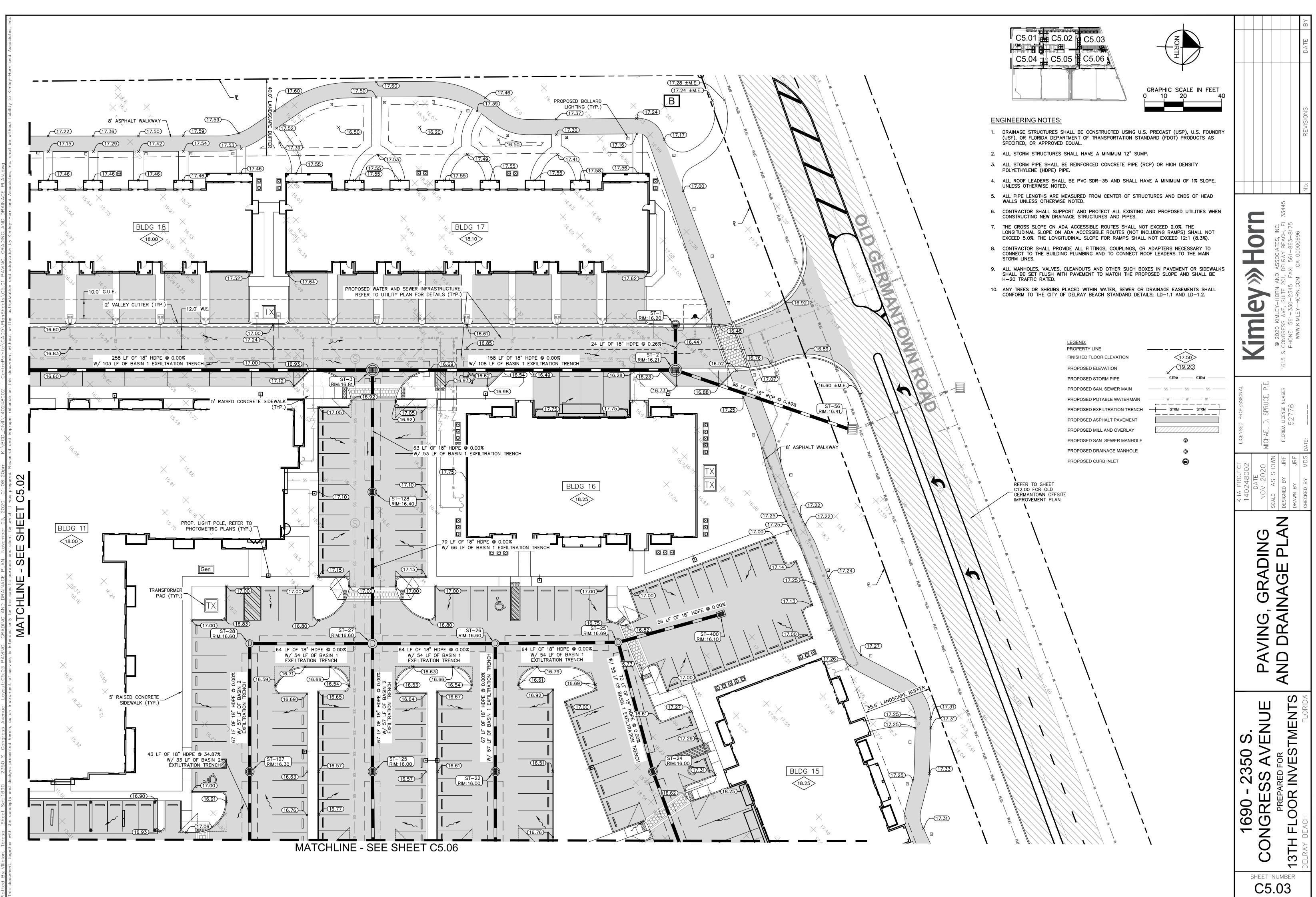


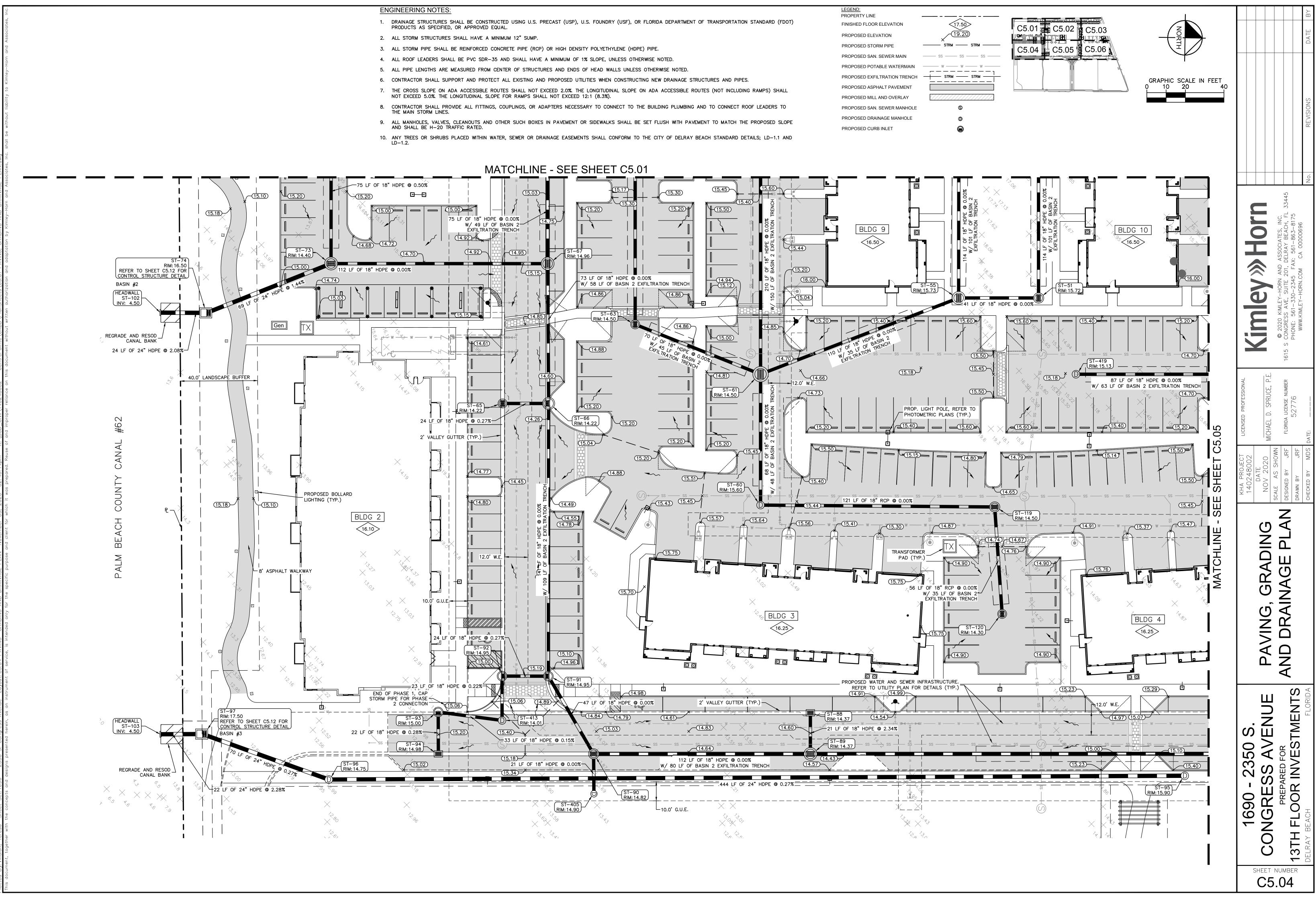


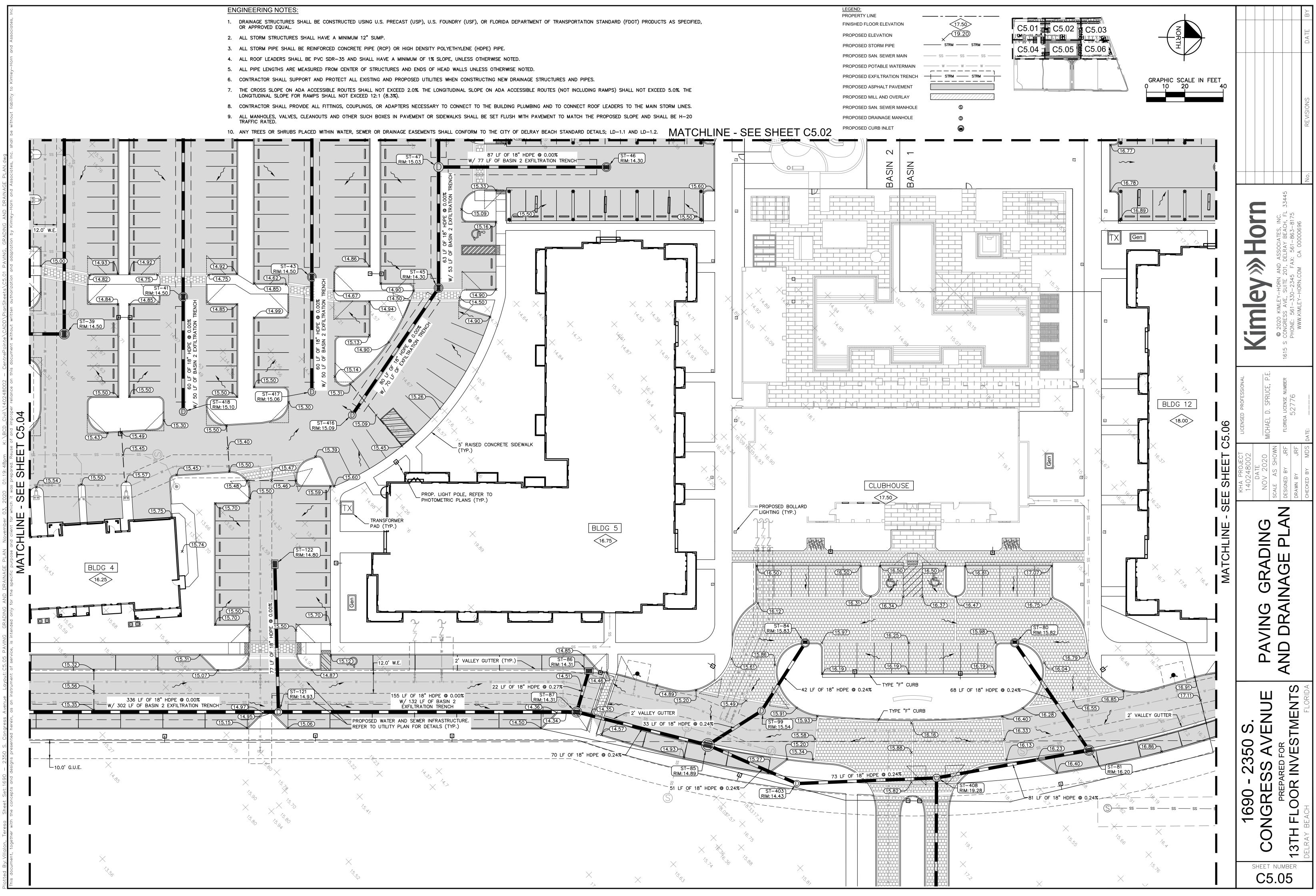


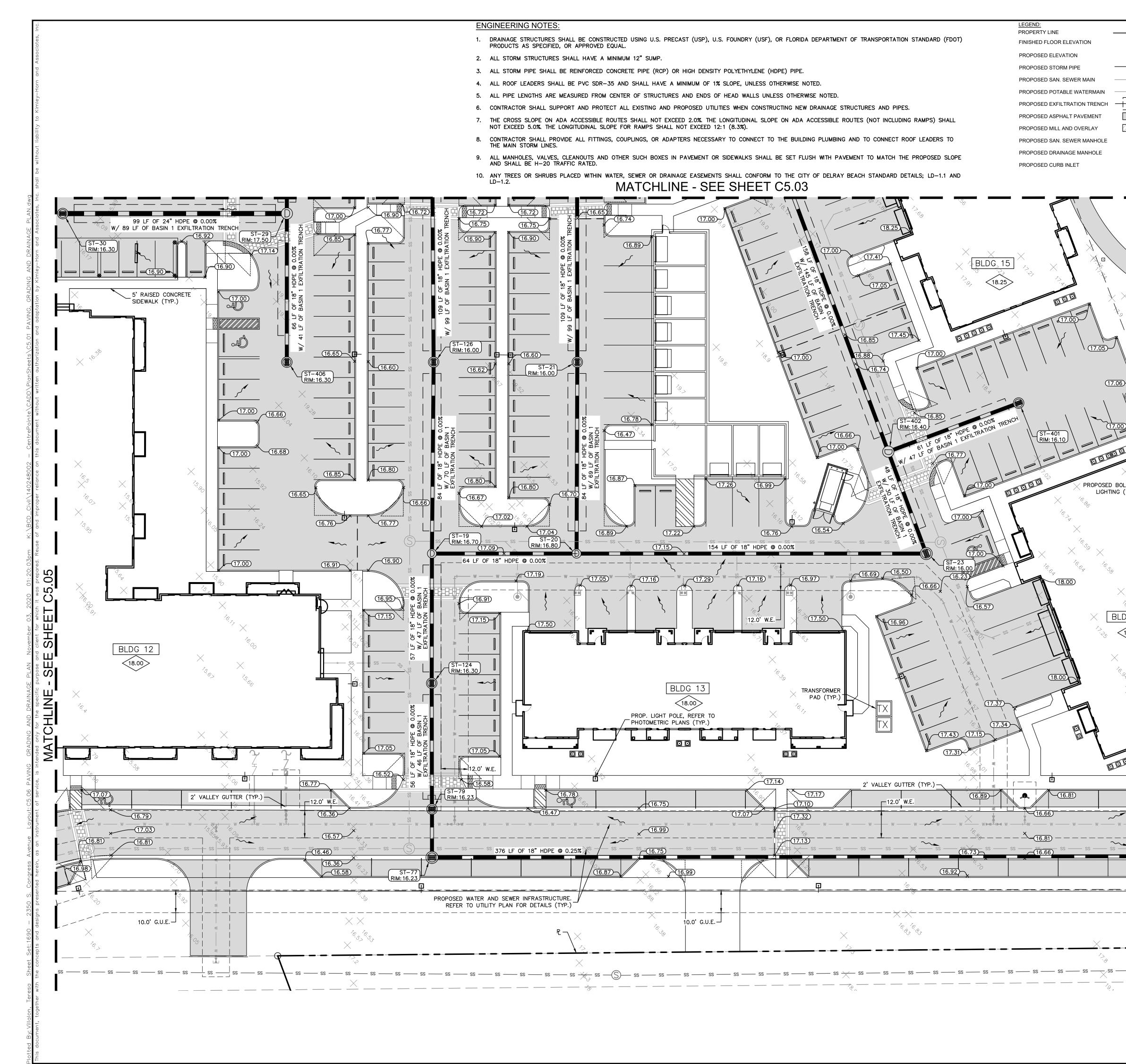


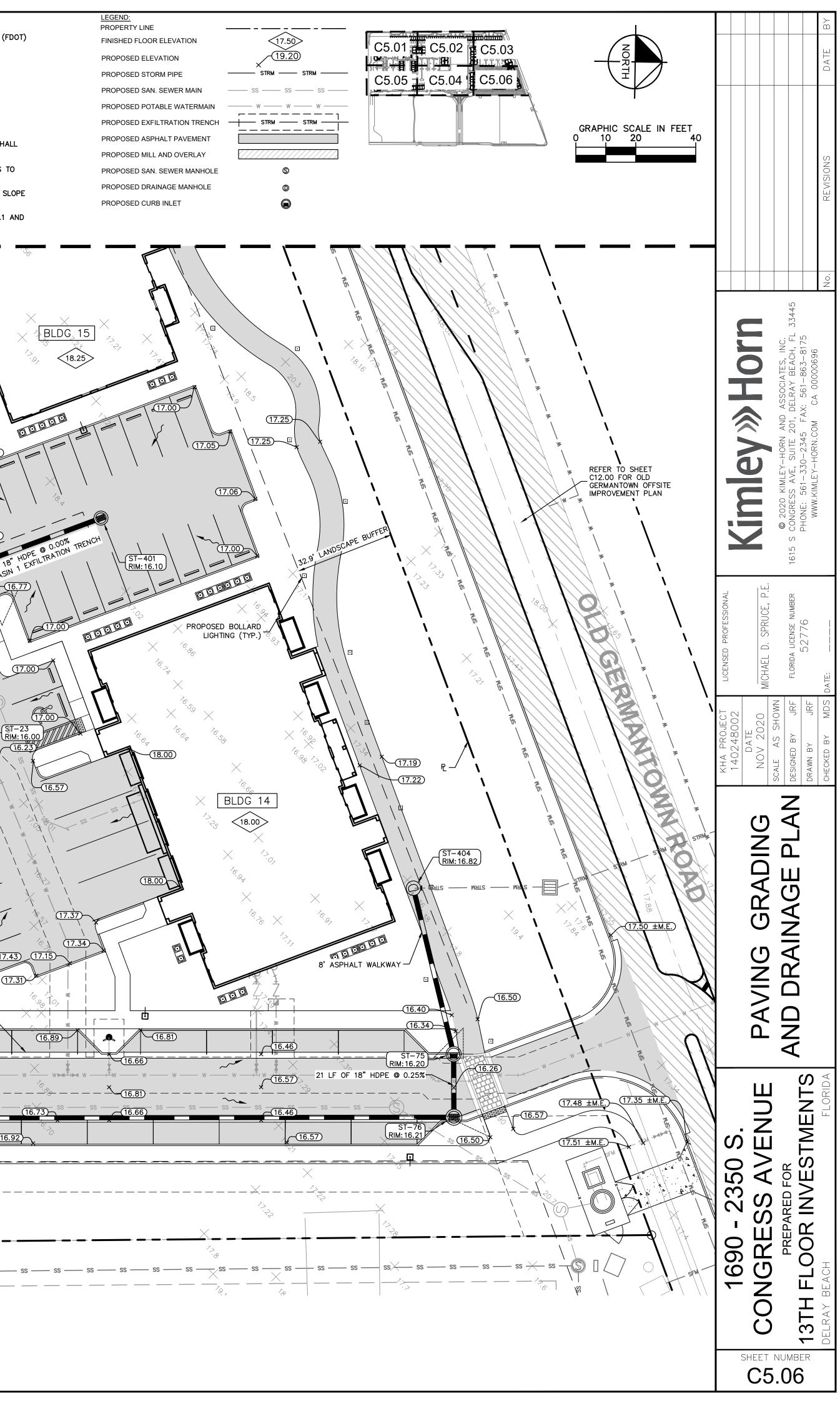








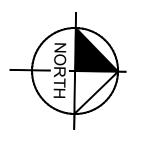




	DRAINAGE STRUCTURE TABLE	I		DRAINAGE STRUCTURE T	1 1		DRAINAGE STRUCTURE TABLE			DRAINAGE STRUCTURE	
STRUCTURE NUMBER	STRUCTURE TYPE	RIM ELEVATION INVERT ELEVATION	STRUCTURE NUMBER		RIM ELEVATION INVERT ELEVATION		STRUCTURE TYPE		INVERT ELEVATION STRUCTURE N		RIM ELEVATION INVERT ELEVATION
ST-1	3'-6" DIA. ROUND TYPE P CURB INLET	RIM = 16.20 (18") 11.31 (E)	ST-41	3'-6" DIA. ROUND TYPE P INLET W/ PRB (W, E)	$RIM = 14.50  \begin{array}{c} (18") & 8.50 & (W) \\ (18") & 8.50 & (E) \end{array}$	ST-80	3'-6" DIA. ROUND TYPE P CURB INLET	RIM = 15.82	(18") 9.32 (NE) ST-406	3'-6" DIA. ROUND TYPE P INLET W/ PRB (W)	RIM = 16.30   (18") 11.25 (W)
ST-2	5'–0" DIA. ROUND TYPE J VG INLET W/ PRB (S)	$RIM = 16.21 \begin{pmatrix} (18") & 11.25 & (S) \\ (18") & 11.25 & (W) \\ (18"') & 11.15 & (N) \end{pmatrix}$	ST 40	5'-0" DIA. ROUND TYPE J INLET	(18") 8.50 (S)	ST-81	4'-0" DIA. ROUND TYPE P VG INLET	RIM = 16.40	(18") 9.16 (S) (18") 9.16 (SW) ST-407	4–0" DIA. ROUND TYPE P VG INLET	$RIM = 16.60  \begin{array}{c} (18") & 7.65 & (S) \\ (18") & 7.65 & (E) \end{array}$
		(18") 11.15 (N) (18") 11.25 (S)	ST-42	W/ PRB (N, E, S)	$RIM = 14.15  (18") \ 8.50 \ (E) \\ (18") \ 8.50 \ (N)$	ST-84	3'-6" DIA. ROUND TYPE P CURB INLET	RIM = 15.83	(18") 8.85 (SE)		(18) 7.65 (E) (18") 8.97 (S)
ST-3	5'-0" DIA. ROUND TYPE J VG INLET W/ PRB (N, S, W)	$RIM = 16.81 \begin{array}{c} (10^{\circ}) & 11.25 \\ (18^{\circ}) & 11.25 \\ (18^{\circ}) & 11.25 \\ (18^{\circ}) & 11.25 \\ (E) \end{array}$	ST-43	3'-6" DIA. ROUND TYPE P INLET W/ PRB (E, W)	$RIM = 14.50  \begin{array}{c} (18") & 8.50 & (W) \\ (18") & 8.50 & (E) \end{array}$	ST-85	5'-0" DIA. ROUND TYPE J VG INLET	RIM = 14.89	(18") 8.67 (NW) ST-408 (18") 8.67 (S) (18") 8.67 (N)	4'-0" DIA. MH	$RIM = 19.28 \begin{array}{c} (10^{\circ}) & 0.37 & (3) \\ (18^{\circ}) & 8.97 & (N) \\ (18^{\circ}) & 13.78 & (E) \end{array}$
ST-4	3'-6" DIA. ROUND TYPE P CURB INLET	RIM = 16.21 (18") 11.31 (E) (24") 11.25 (E)	- ST-44	5'-0" DIA. ROUND TYPE J INLET W/ PRB (N, E)	RIM = 14.15 (18") 8.50 (N) (18") 8.50 (S) (18") 8.50 (E)	ST-86	TYPE C VG INLET	RIM = 14.31	(18") 9.26 (E) ST-413	4'-0" DIA. MH	$RIM = 14.01 \begin{array}{c} (18") & 8.62 & (W) \\ (18") & 8.62 & (S) \end{array}$
ST-5	5'-0" DIA. ROUND TYPE J VG INLET W/ PRB (N)	$RIM = 16.20 \begin{array}{c} (24'') & 11.25 & (U) \\ (18'') & 11.25 & (W) \\ (18'') & 11.25 & (N) \end{array}$	ST-45	3'-6" DIA. ROUND TYPE P INLET	Diversity (18") 8.50 (W)	ST-87	4'-0" DIA. ROUND TYPE P VG INLET W/ PRB (S)	RIM = 14.31	(18") 8.50 (S) (18") 8.50 (N) (18") 9.20 (W)	4'−0" DIA. MH W/ PRB (NW)	RIM = 15.09 (18") 8.50 (NW
ST-6	5'-0" DIA. MH W/ PRB (E) INVERTED BAFFLE	$RIM = 16.42  \begin{array}{c} (24") \ 11.25 \ (W) \\ (24") \ -4.08 \ (S) \end{array}$	 ST-46	W/ PRB (W, SE) 3'-6" DIA. ROUND TYPE P INLET W/ PRB (S)	RIM = 14.30  (18")  8.50  (SE) $RIM = 14.30  (18")  8.50  (S)$	ST-88	TYPE C VG INLET	RIM = 14.37	(18") 8.50 (E) ST-417	4'-0" DIA. MH W/ PRB (W)	RIM = 15.06 (18") 8.50 (W)
	WEIR @ EL. 15.85' (S)	(24") 11.25 (È) (24") 8.00 (SW)		5'-0" DIA. MH	(18") 8.50 (W) RIM = 15.03 (18") 8.50 (N)	ST_89	5'-0" DIA. ROUND TYPE J VG INLET W/ PRB (N, S)	RIM = 14.37	(18") 8.00 (W) (18") 8.50 (S) (18") 8.50 (N)	4'-0" DIA. MH W/ PRB (W)	RIM = 15.10 (18") 8.50 (W)
ST-7	4'-0" DIA. MH	$RIM = 15.44 \begin{array}{c} (24") & 8.00 & (SW) \\ (24") & -8.28 & (N) \end{array}$		W/ PRB (W, N, E) 4'-0" DIA. ROUND TYPE P INLET	(18") 8.50 (E)		4'-0" DIA. ROUND TYPE P VG INLET	RIM = 14.82	(18") 8.50 (N) ST-419 (18") 8.50 (SW)	4'-0" DIA. MH W/ PRB (N)	RIM = 15.13  (18")  8.50  (N)
ST-8	4'-0" DIA. MH	RIM = 14.09 (24") 7.49 (NE)	ST-48	W/ PRB (E, S)	$RIM = 14.15 \begin{array}{c} (18) & 8.50 & (3) \\ (18'') & 8.50 & (E) \end{array}$		W/ PRB (N)	11111 - 14.02	(18") 7.00 (E) (18") 8.50 (W)		
ST-9	4'-0" DIA. MH	(24") 6.42 (E)	ST-49	4'-0" DIA. MH W/ PRB (W, S)	$RIM = 14.26 \begin{bmatrix} (18) & 8.50 & (8) \\ (18'') & 8.50 & (N) \\ (18'') & 8.50 & (W) \end{bmatrix}$	ST-91	4'-0" DIA. ROUND TYPE P CURB INLET W/ PRB (W)	RIM = 14.95	(18") 8.50 (S) (18") 8.50 (NE)		
ST-10	4'-0" DIA. MH	$RIM = 15.25  \begin{array}{c} (24") & 6.20 & (W) \\ (24") & 6.20 & (S) \end{array}$	ST-50	3'-6" DIA. ROUND TYPE P INLET W/ PRB (W, E)	RIM = 14.80 (18") 8.50 (E) (18") 7.50 (W)	ST-92	4'-0" DIA. ROUND TYPE P CURB INLET	RIM = 14.95	(18") 8.56 (N) (18") 8.56 (E)		
ST-11	CONTROL STRUCTURE WEIR ELEV: 16.90 NAVD	RIM = 17.50 (24") 6.50 (S)	ST-51	4'-0" DIA. ROUND TYPE P INLET W/ PRB (W)	$RIM = 15.72 \begin{array}{c} (18") & 8.50 & (W) \\ (18") & 8.50 & (S) \end{array}$	ST-93	4'-0" DIA. TYPE P CURB INLET	RIM = 15.00	(18") 8.67 (E) (18") 8.67 (N)		
ST-12	3'-6" DIA. ROUND TYPE P CURB INLET	RIM = 15.19 (18") 10.12 (E)	ST-52	3'-6" DIA. ROUND TYPE P INLET	DW4 10.01 (18") 8.50 (NW)	ST-94	TYPE C VG INLET	RIM = 14.98	(18") 8.73 (W)		
ST-13	5'-0" DIA. ROUND TYPE J VG INLET W/ PRB (S)	$RIM = 15.20 \begin{array}{c} (18") & 10.06 & (W) \\ (18") & 8.50 & (S) \\ (18") & 8.50 & (N) \end{array}$	ST-53	W/ PRB (E) 4'-0" DIA. MH	RIM = 16.01 (18") 8.50 (E) $RIM = 16.05 (18") 8.59 (SE)$		4'-0" DIA. MH W/ PRB (S) INVERTED BAFFLE	RIM = 15.90	(24") 10.00 (S)		
ST-14	3'-6" DIA. ROUND TYPE P CURB INLET	RIM = 14.39 (18") 10.71 (E)	ST-55	5'-0" DIA. ROUND TYPE J INLET	RIM = 15.73 (18") 8.50 (W) (18") 8.50 (N)		WEIR @ EL. 15.00 (S)				
ST-15	5'-0" DIA. ROUND TYPE J INLET W/ PRB (N, S)	$RIM = 14.38 \begin{vmatrix} (18") & 8.50 & (N) \\ (18") & 11.66 & (E) \\ (18") & 10.65 & (W) \end{vmatrix}$		W/ PRB (W, SE) TYPE C INLET	(18") 8.50 (S)	ST-96	4'-0" DIA. MH		(24") 8.80 (N) (24") 8.80 (S)		
ST-16	4'-0" DIA. MH	(18") 8.50 $(S)RIM = 15.39 (18") 11.71 (W)$	ST-56	W/ PRB (SW) 3'-6" DIA. ROUND TYPE P INLET	RIM = 16.41  (18")  10.67  (S)	ST-97	CONTROL STRUCTURE WEIR ELEV: 16.52 NAVD	RIM = 17.50	(24") 8.62 (N) (24") 6.50 (S)		
ST-17	3'-6" DIA. ROUND TYPE P VG INLET	DIM _ 15.05 (18") 8.50 (N)	ST-57	W/ PRB (E)	RIM = 10.01 (18") 8.50 (E)	ST_99	4'-0" DIA. MH	RIM = 15.54	(18") 8.75 (NW) (18") 8.75 (SE)		
31-17	W/ PRB (N)	(18 ) 5.80 (SE)	ST-58	4'-0" DIA. MH	RIM = 16.05 (18") 8.59 (E)		5'-0" DIA. ROUND TYPE J VG INLET		(18") 8.50 (S)		
ST-19	4'-0" DIA. MH W/ PRB (W, E)	$RIM = 16.70 \begin{vmatrix} (18") & 11.25 & (W) \\ (18") & 11.25 & (N) \\ (18") & 11.25 & (E) \end{vmatrix}$	ST-60	4'-0" DIA. MH W/ PRB (W)	$RIM = 15.60  \begin{array}{c} (18") \ 8.50 \ (W) \\ (18") \ 8.50 \ (N) \end{array}$	ST-100	W/ PRB (N,E)		(18") 7.50 (E) (18") 8.50 (N)		
ST-20	4'−0" DIA. MH W/ PRB (W)	$RIM = 16.80  \begin{array}{c} (18") & 11.25 & (W) \\ (18") & 11.25 & (N) \\ (18") & 11.25 & (N) \end{array}$	ST-61	6-0" DIA. ROUND TYPE J INLET W/ PRB (W,NW,E,SW)	RIM = 14.50  (18") 8.50 (W) (18") 8.50 (N) (18") 8.50 (E) (18") 8.50 (E)	ST-101 ST-102	CONCRETE HEADWALL PER FDOT STANDARD 430–030 CONCRETE HEADWALL		(24") 6.00 (N) (24") 6.00 (N)		
ST-21	3'-6" DIA. ROUND TYPE P INLET	(18") 11.25 (S) $RIM = 16.00 (18") 11.25 (W)$ $(18") 11.25 (F)$	ST-62	4'-0" DIA. ROUND TYPE P INLET	(18") 8.50 (S) $RIM = 14.15 (18") 8.50 (S)$ $(18") 8.50 (E)$	ST-102	PER FDOT STANDARD 430-030		(24") 6.00 (N)		
ST-22	W/ PRB (W, E) 3'-6" DIA. ROUND TYPE P INLET	(18 <sup>°</sup> ) 11.25 (E)	ST-63	W/ PRB (E, S) 3'-6" DIA. ROUND TYPE P INLET	DW4 44 50 (18") 8.50 (W)	ST-119	PER FDOT STANDARD 430-030 4'-0" DIA. ROUND TYPE P INLET W/ PRB (E)		(18") 8.50 (S) (18") 8.50 (E)		
ST-23	W/ PRB (W, E) 4'-0" DIA. ROUND TYPE P INLET	(18 ) 11.25 (W)		W/ PRB (W, NE) 5'-0" DIA. ROUND TYPE J INLET	(18") 8.50 (N)		3'-0" DIA ROUND TYPE P INLET W/ PRB (W)		(18") 8.50 (W)		
ST-24	W/ PRB (SW) 3'-6" DIA. ROUND TYPE P INLET	RIM = 16.00  (18")  11.25  (W) $RIM = 16.00  (18")  11.25  (E)$ $(18")  11.25  (E)$	ST-64	W/ PRB (N, E, S)	$RIM = 14.15  (18") \ 8.50 \ (S) \\ (18") \ 8.50 \ (E)$		4' DIA. MH	PIM - 14.93	(18") 8.50 (S) (18") 8.50 (N)		
	W/ PRB (SW, NE) 4'-0" DIA. MH	(18 ) 11.25 (W) (18") 11.25 (E)	ST-65	3'-6" DIA. ROUND TYPE P VG INLET 5'-0" DIA. ROUND TYPE J CURB INLET	RIM = 14.22  (18")  8.56  (N)	ST-121	W/ PRB (N, S) TYPE C INLET		(18") 8.50 (W) (18") 8.50 (E)		
ST-25	W/ PRB (NE, S)	$RIM = 16.69  (18")  11.25  (S) \\ (18")  11.25  (N)$	ST-66	W/ PRB (W, E)	$RIM = 14.22  (18") \ 8.50 \ (S) \\ (18") \ 8.50 \ (E)$		3'-6" DIA. ROUND TYPE P INLET				
ST-26	4'−0" DIA. MH W/ PRB (N, E, S)	$RIM = 16.60  \begin{array}{c} (18") & 11.25 & (N) \\ (18") & 11.25 & (E) \\ (18"') & 11.25 & (E) \end{array}$	ST-67	5'-0" DIA. ROUND TYPE J VG INLET W/ PRB (W, E) INVERTED BAFFLE	RIM = 14.96 (18") 8.50 (W) (18") 8.50 (S)	ST–124	W/ PRB (W, E) 3'-6" DIA. ROUND TYPE P INLET	RIM = 16.30	(18") 11.25 (W)		
		(18") 11.25 (S) (18") 11.25 (W)		WEIR @ EL. 14.00' (S)	(18") 8.50 (E)	ST-125	W/ PRB (W, E)	RIM = 16.00	(18") 11.25 (E)		
ST-27	5'-0" DIA. MH W/ PRB (W, N, E, S)	$RIM = 16.60 \begin{cases} (18") & 11.25 & (N) \\ (18") & 11.25 & (S) \\ (18") & 11.25 & (S) \\ (18") & 11.25 & (E) \end{cases}$	ST-68	3'-6" DIA. ROUND TYPE P VG INLET W/ PRB (W, E)	$RIM = 15.14 \begin{array}{c} (18") & 8.50 & (W) \\ (18") & 8.50 & (E) \end{array}$	ST-126	3'-6" DIA. ROUND TYPE P INLET W/ PRB (W, E)	RIM = 16.00	(18) 11.25 (E)		
ST-28	4'−0" DIA. MH W/ PRB (N, E)	$RIM = 16.60 \begin{array}{c} (18") & 11.25 & (R) \\ (18") & 11.25 & (R) \\ (18") & 11.25 & (R) \\ (18") & 11.25 & (R) \end{array}$	ST-69	5'-0" DIA. ROUND TYPE J VG INLET	$RIM = 15.02 \begin{array}{c} (18") & 8.50 & (N) \\ (18") & 8.50 & (W) \\ (18") & 8.50 & (E) \end{array}$	ST-127	3'-6" DIA. ROUND TYPE P INLET W/ PRB (W, E)	RIM = 16.30	(18") –3.78 (E) (18") 11.25 (W)		
	5'-0" DIA. MH	(18") 11.25 (W)			(18") 5.80 (NW)	ST-128	3'-6" DIA. ROUND TYPE P INLET W/ PRB (W, E)	RIM = 16.40	(18") 11.25 (W) (18") 11.25 (E)		
ST-29	S – 0 DIA. мн W/ PRB (W, S, E)	$RIM = 17.50  (24")  11.25  (S) \\ (18")  11.25  (E)  (18")  11.25  (E)  (S)  (S$	ST-70	5'-0" DIA. ROUND TYPE J CURB INLET	RIM = 14.60 (18") 8.50 (S) (18") 8.50 (E)	ST-400	TYPE C INLET	RIM = 16.10	(18") 11.25 (S)		
ST-30	3'-6" DIA. ROUND TYPE P INLET W/ PRB (N)	RIM = 16.30 (24") 11.25 (N)	ST-71	3'-6" DIA. ROUND TYPE P CURB INLET 3'-6" DIA. ROUND TYPE P INLET	RIM = 14.60  (18")  8.56  (N)	ST-401	3'-6" DIA. ROUND TYPE P INLET W/ PRB (S)	RIM = 16.10	(18") 11.25 (S)		
ST-32	TYPE C INLET W/ PRB (W)	RIM = 16.92 (24") 11.25 (W)	ST-72	W/PRB (E)	$RIM = 14.41  (18") \; 8.03 \; (E)$ $(18") \; 8.50 \; (N)$	ST-402	5'-0" DIA. MH W/ PRB (W, N, E)	RIM = 16.40	(18") 11.25 (E) (18") 11.25 (N) (18") 11.25 (W)		
ST-33	4'-0" DIA. ROUND TYPE P INLET W/ PRB (W, E)	$RIM = 17.08 \begin{array}{c} (24") & 11.25 & (W) \\ (24") & 11.25 & (E) \end{array}$	ST-73	5'-0" DIA. TYPE J INLET W/ PRB (E)	$RIM = 14.40  (18")  8.40  (W) \\ (24")  8.50  (SE)$	ST-403	4'-0" DIA. MH	RIM = 14.43	(18") 8.79 (S) (18") 8.79 (N)		
ST-36	TYPE C INLET W/ PRB (W)	RIM = 16.13 (18") 9.08 (W)	ST-74	CONTROL STRUCTURE WEIR ELEV: 15.20 NAVD	$RIM = 16.50  \begin{array}{c} (24") & 7.50 & (NW) \\ (24") & 6.50 & (S) \end{array}$		4'-0" DIA. MH CONNECT TO EXIST. OFFSITE STORM PIPE,		(18") 12.40 (E) (15") 12.40 (N)		
ST-37	3'–6" DIA. ROUND TYPE P INLET W/ PRB (E)	$RIM = 16.30  \begin{array}{c} (18") & 7.80 & (W) \\ (18") & 8.80 & (E) \end{array}$	ST-75	4'-0" DIA. ROUND TYPE P CURB INLET	$RIM = 16.20  \begin{array}{c} (18") & 12.25 & (E) \\ (18") & 12.25 & (W) \end{array}$		CONTRACTOR TO VERIFY SIZE, INVERT OF EXIST. STORM PIPE BEFORE ORDERING STRUCTUR	RE.			
ST-38	3'–6" DIA. ROUND TYPE P VG INLET W/ PRB (S)	$RIM = 16.00  \begin{array}{c} (18") & 8.50 & (S) \\ (18") & 7.50 & (N) \end{array}$	ST-76	4'-0" DIA. ROUND TYPE P VG INLET	$RIM = 16.21 \begin{array}{c} (18") & 12.20 & (S) \\ (18") & 12.20 & (W) \end{array}$	ST-405	4'-0" DIA. MH	RIM = 14.90	(18") 7.00 (W)		
ST-39	4'-0" DIA. ROUND TYPE P INLET W/ PRB (S, W)	$RIM = 14.50  \begin{array}{c} (18") & 8.50 & (W) \\ (18") & 8.50 & (S) \end{array}$	ST-77	4'-0" DIA. ROUND TYPE P VG INLET W/ PRB (W)	$RIM = 16.23  \begin{array}{c} (18") & 11.25 & (W) \\ (18") & 11.25 & (N) \end{array}$						
		RIM = 14.15 (18") 8.50 (N)	]	3'-6" DIA. ROUND TYPE P VG INLET	$RIM = 16.23 \begin{array}{c} (18") & 11.25 & (W) \\ (18") & 11.25 & (E) \end{array}$	1					

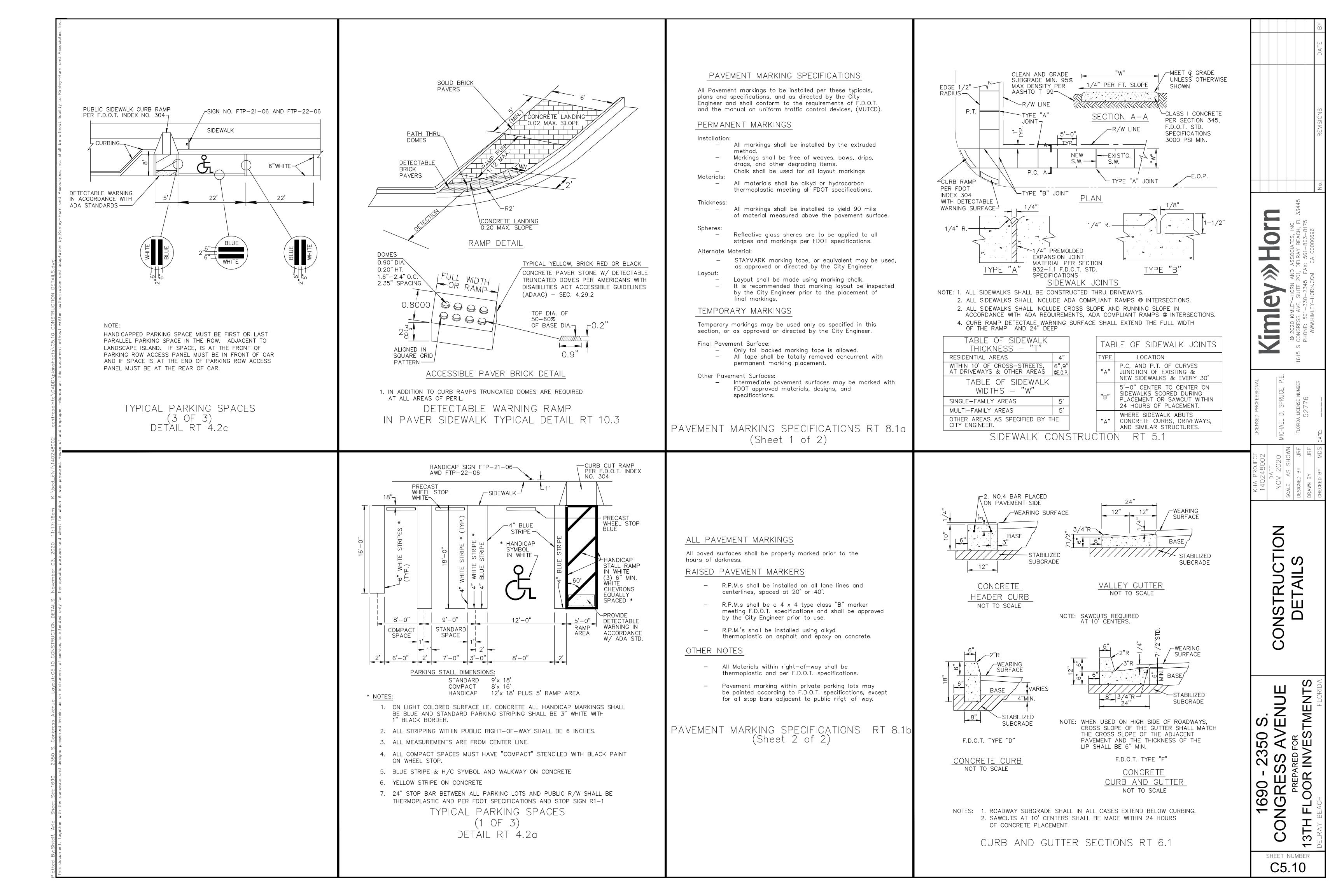
ENGINEERING NOTES:

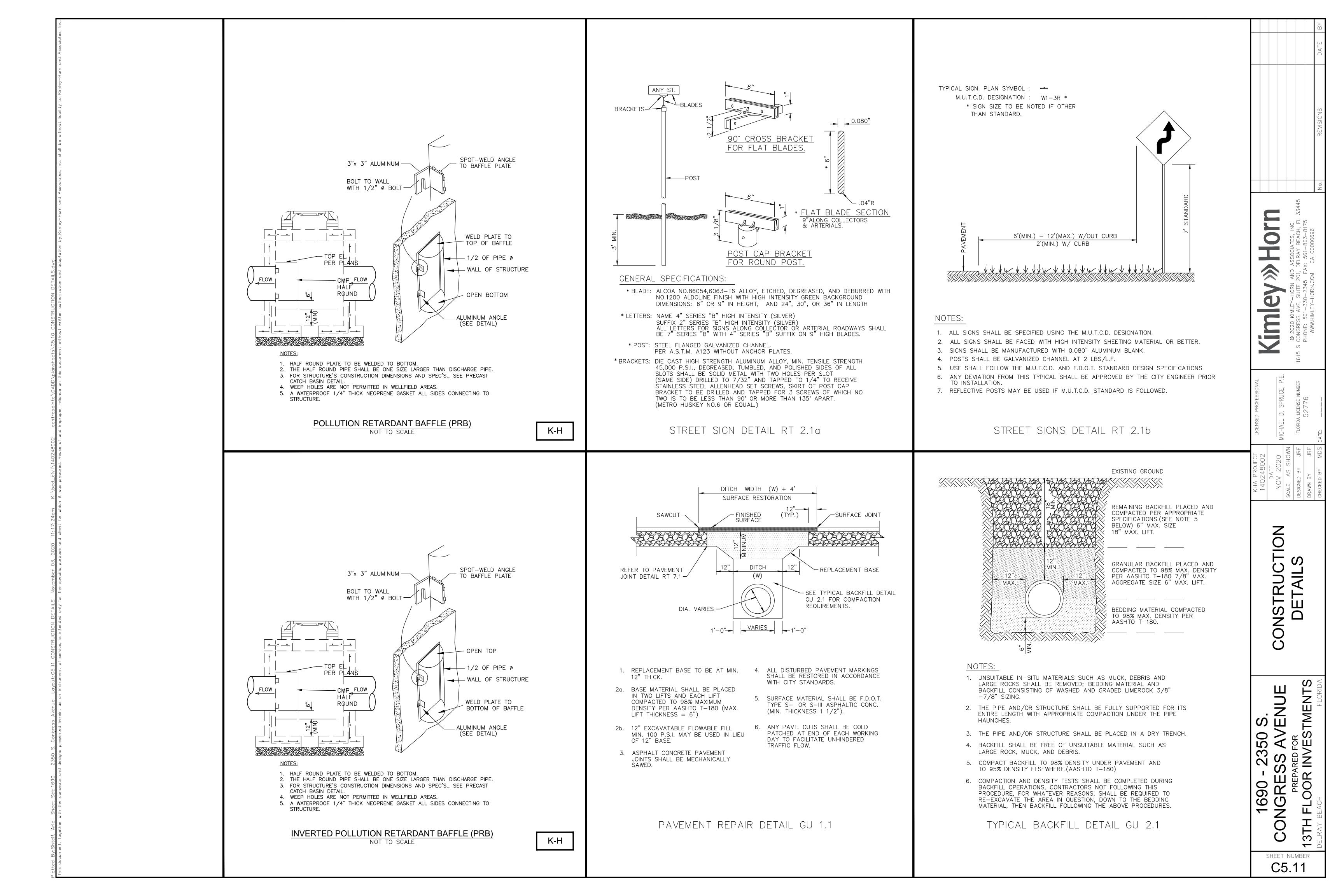
- 1. DRAINAGE STRUCTURES SHALL BE CONSTRUCTED USING U.S. PRECAST (USP), U.S. FOUNDRY (USF), OR FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD (FDOT) PRODUCTS AS SPECIFIED, OR APPROVED EQUAL.
- 2. ALL STORM STRUCTURES SHALL HAVE A MINIMUM 12" SUMP.
- 3. ALL STORM PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP) OR HIGH DENSITY POLYETHYLENE (HDPE) PIPE.
- 4. ALL ROOF LEADERS SHALL BE PVC SDR-35 AND SHALL HAVE A MINIMUM OF 1% SLOPE, UNLESS OTHERWISE NOTED.
- 5. ALL PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURES AND ENDS OF HEAD WALLS UNLESS OTHERWISE NOTED.
- 6. CONTRACTOR SHALL SUPPORT AND PROTECT ALL EXISTING AND PROPOSED UTILITIES WHEN CONSTRUCTING NEW DRAINAGE STRUCTURES AND PIPES.
- THE CROSS SLOPE ON ADA ACCESSIBLE ROUTES SHALL NOT EXCEED 2.0%. THE LONGITUDINAL SLOPE ON ADA ACCESSIBLE ROUTES (NOT INCLUDING RAMPS) SHALL NOT EXCEED 5.0%. THE LONGITUDINAL SLOPE FOR RAMPS SHALL NOT EXCEED 12:1 (8.3%).
- 8. CONTRACTOR SHALL PROVIDE ALL FITTINGS, COUPLINGS, OR ADAPTERS NECESSARY TO CONNECT TO THE BUILDING PLUMBING AND TO CONNECT ROOF LEADERS TO THE MAIN STORM LINES.
- 9. ALL MANHOLES, VALVES, CLEANOUTS AND OTHER SUCH BOXES IN PAVEMENT OR SIDEWALKS SHALL BE SET FLUSH WITH PAVEMENT TO MATCH THE PROPOSED SLOPE AND SHALL BE H-20 TRAFFIC RATED.

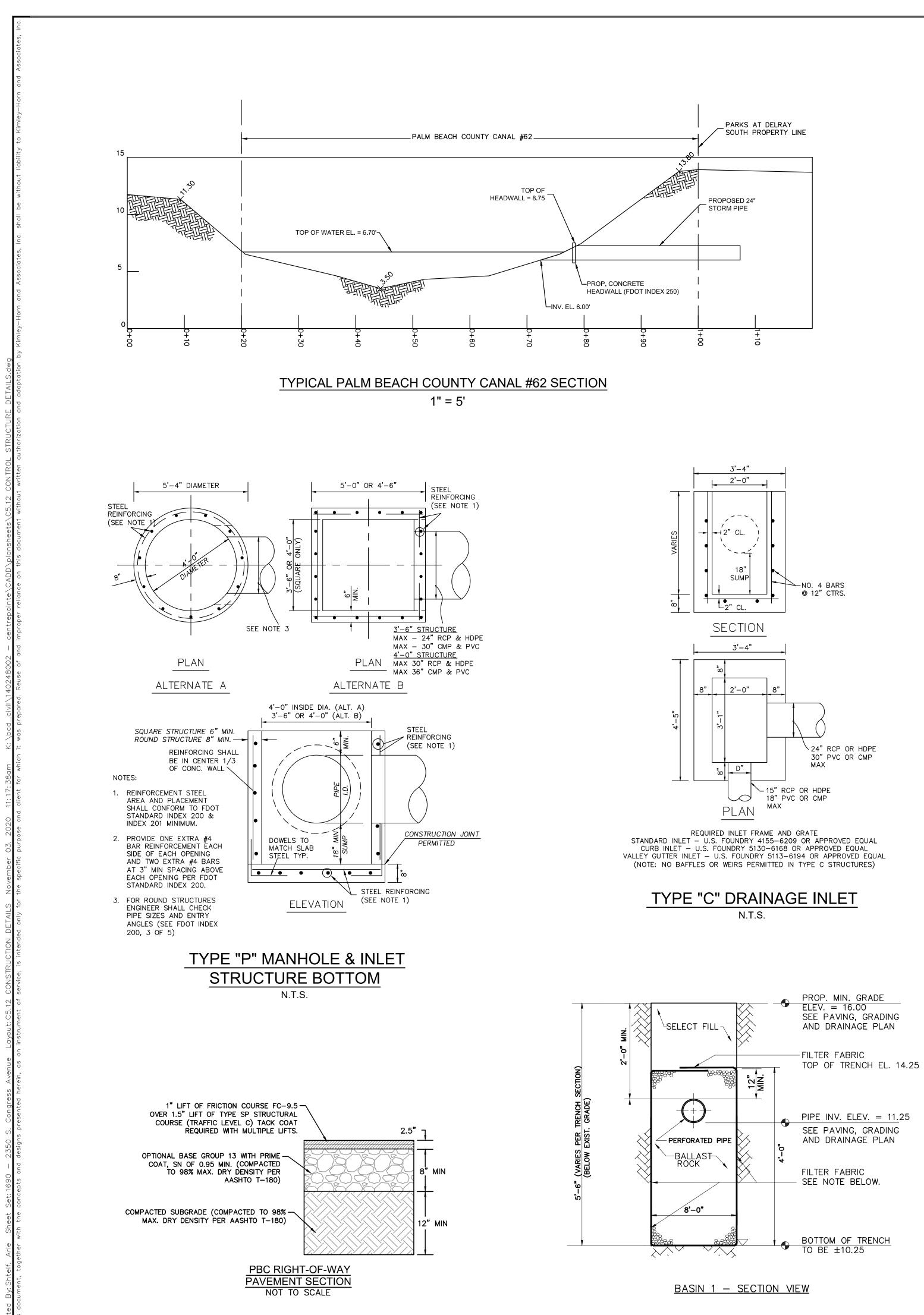


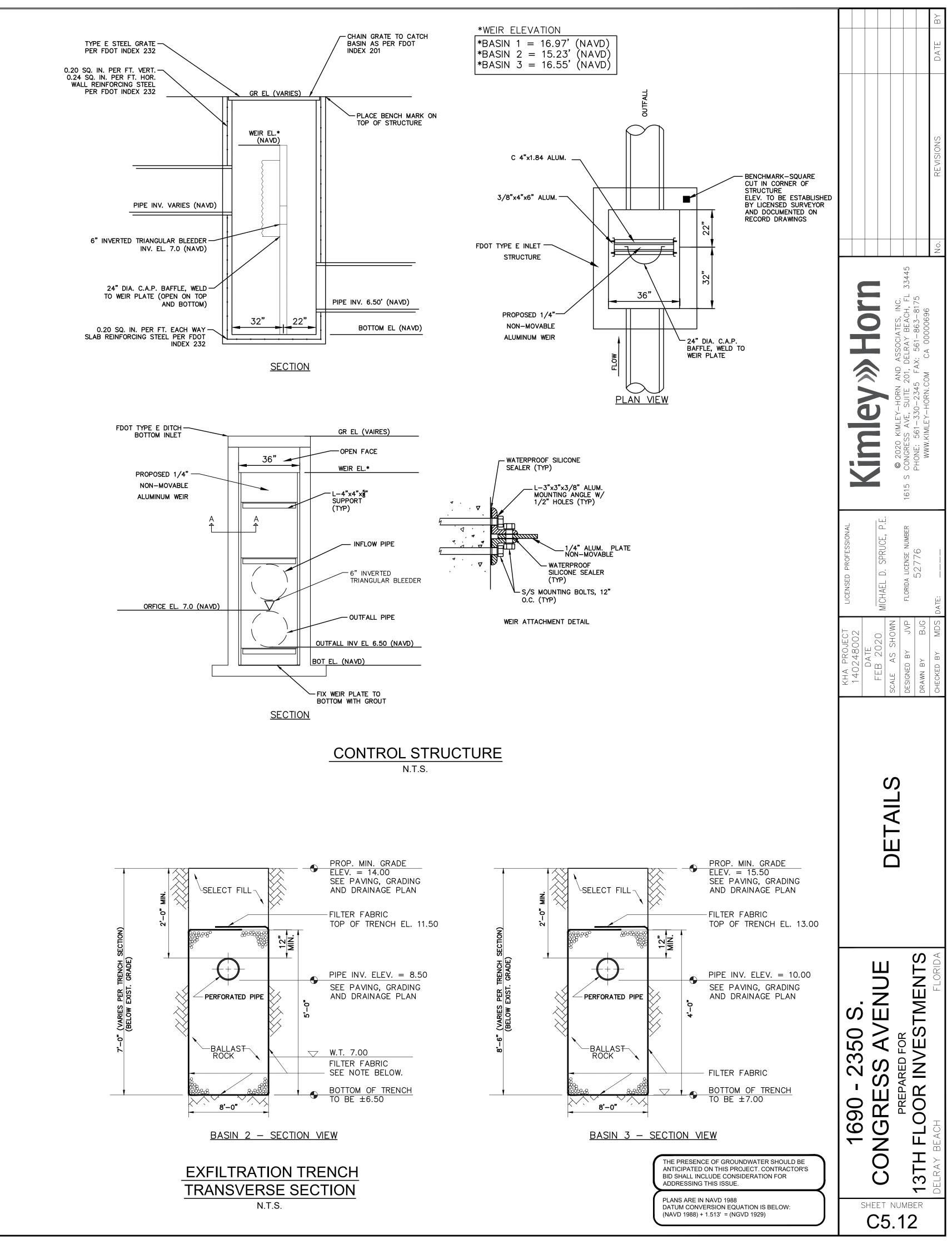
GRAPHIC SCALE IN FEET 0 10 20 40

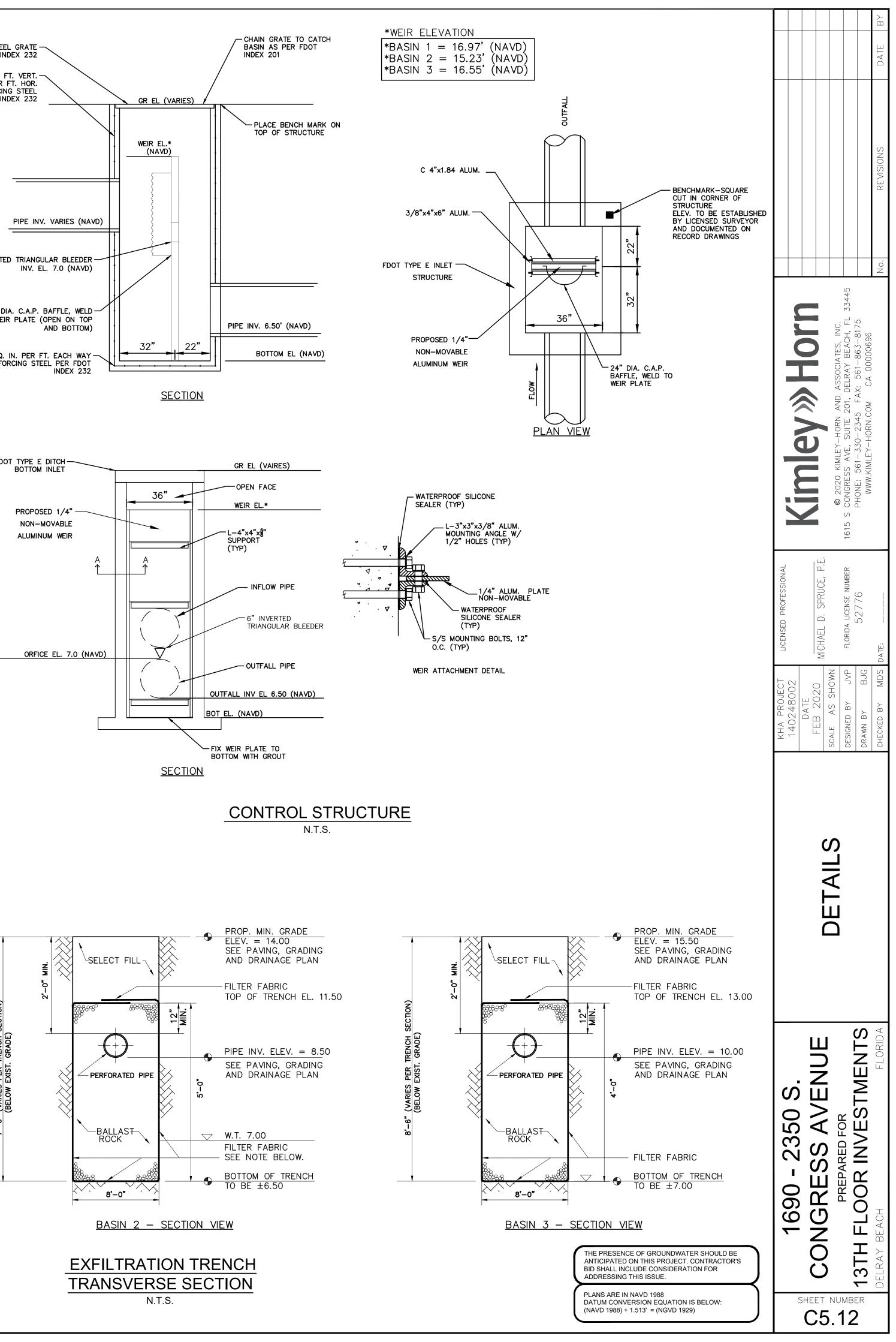
						DATE BY
40 † ∎						REVISIONS
			© 2020 KIMLEY-HORN AND ASSOCIATES, INC.	1615 S CONGRESS AVE, SUITE 201, DELRAY BEACH, FL 33445	PHONE: 301-330-2343 FAX: 301-803-81/3 WWW.KIMLEY-HORN.COM CA 00000696	No.
	LICENSED PROFESSIONAL	MICHAFL D. SPRUCE, P.F.		FLORIDA LICENSE NUMBER	9//ZC	MDS DATE:
	КНА РКОЈЕСТ 140248002	DATE NOV 2020	SCALE AS SHOWN	DESIGNED BY JRF	DRAWN BY JRF	снескер ву MDS
			SIRUCTURE TABLES			
	1690 - 2350 S.	SONGC BAGNOC			131H FLOOK INVESTMEN IS	DELRAY BEACH FLORIDA
		SHEET CS	ο 5.0			

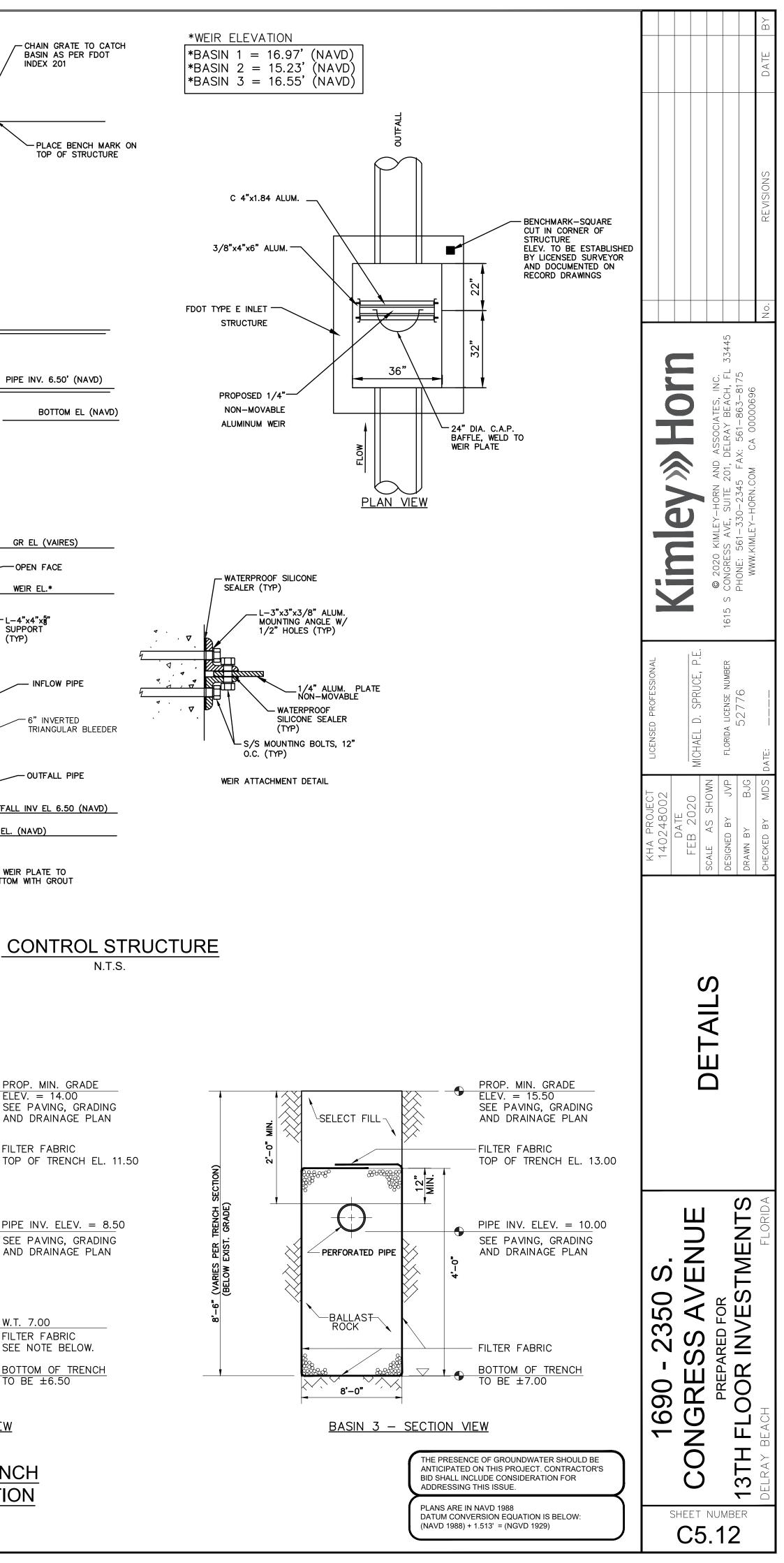


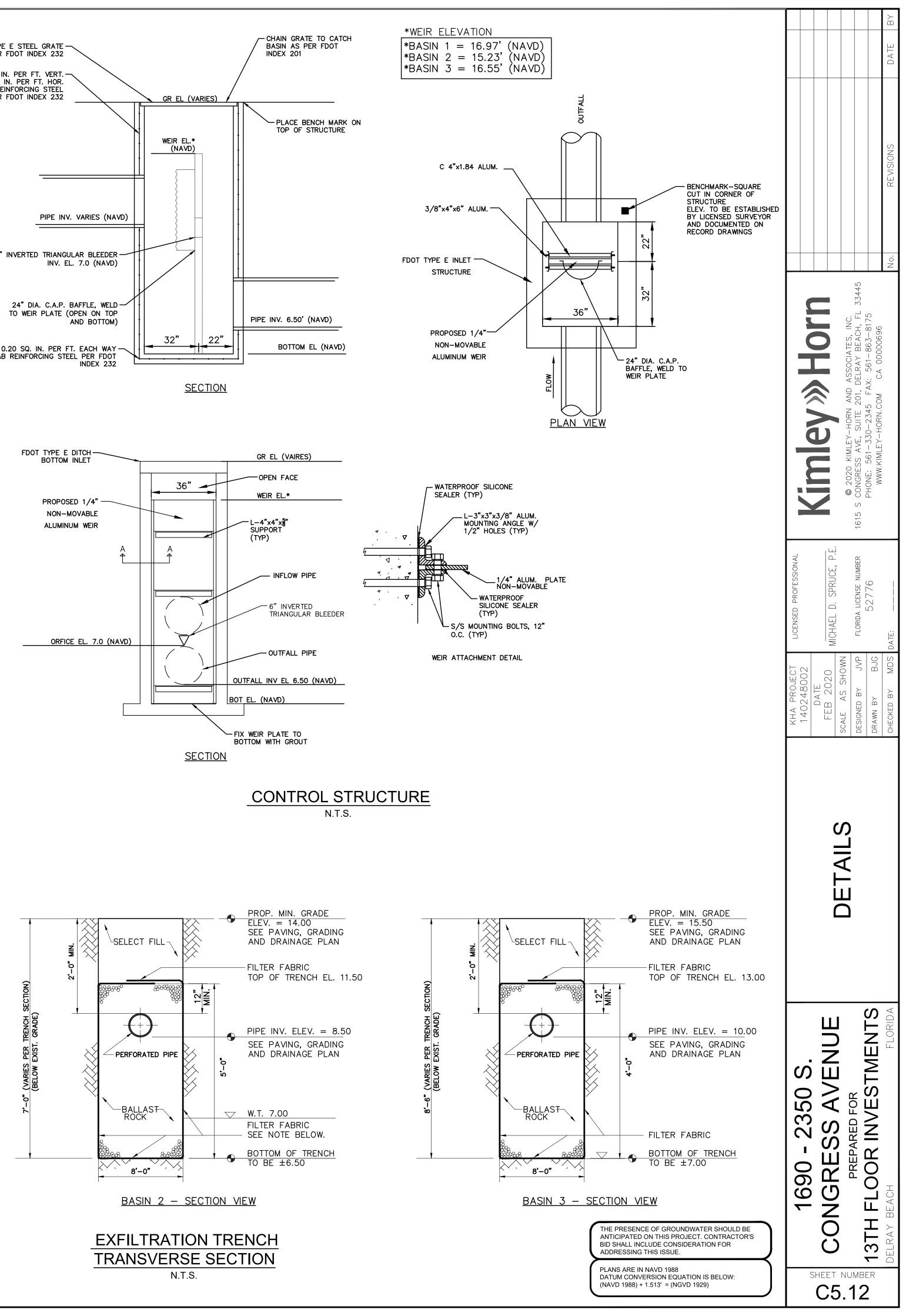


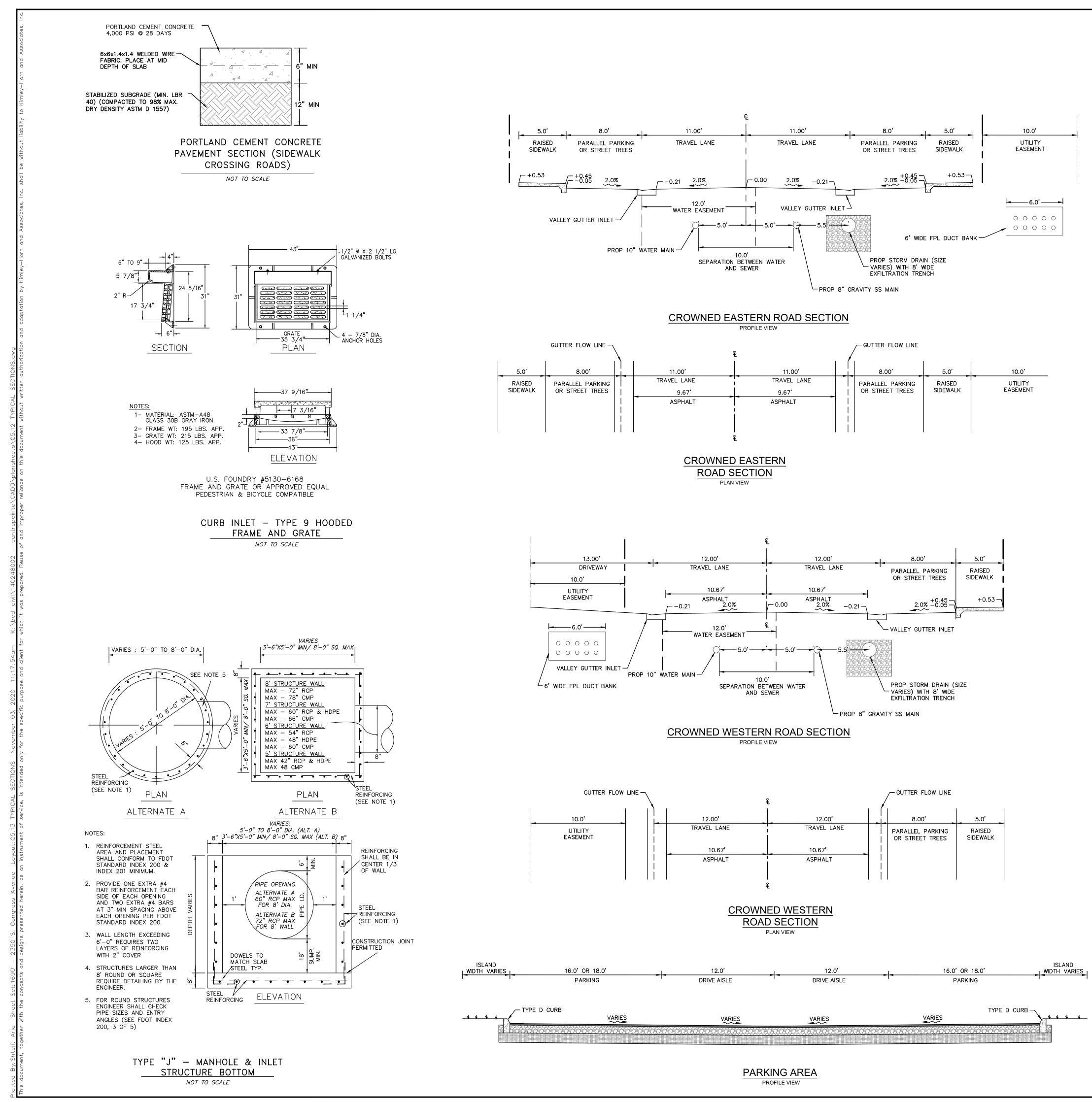


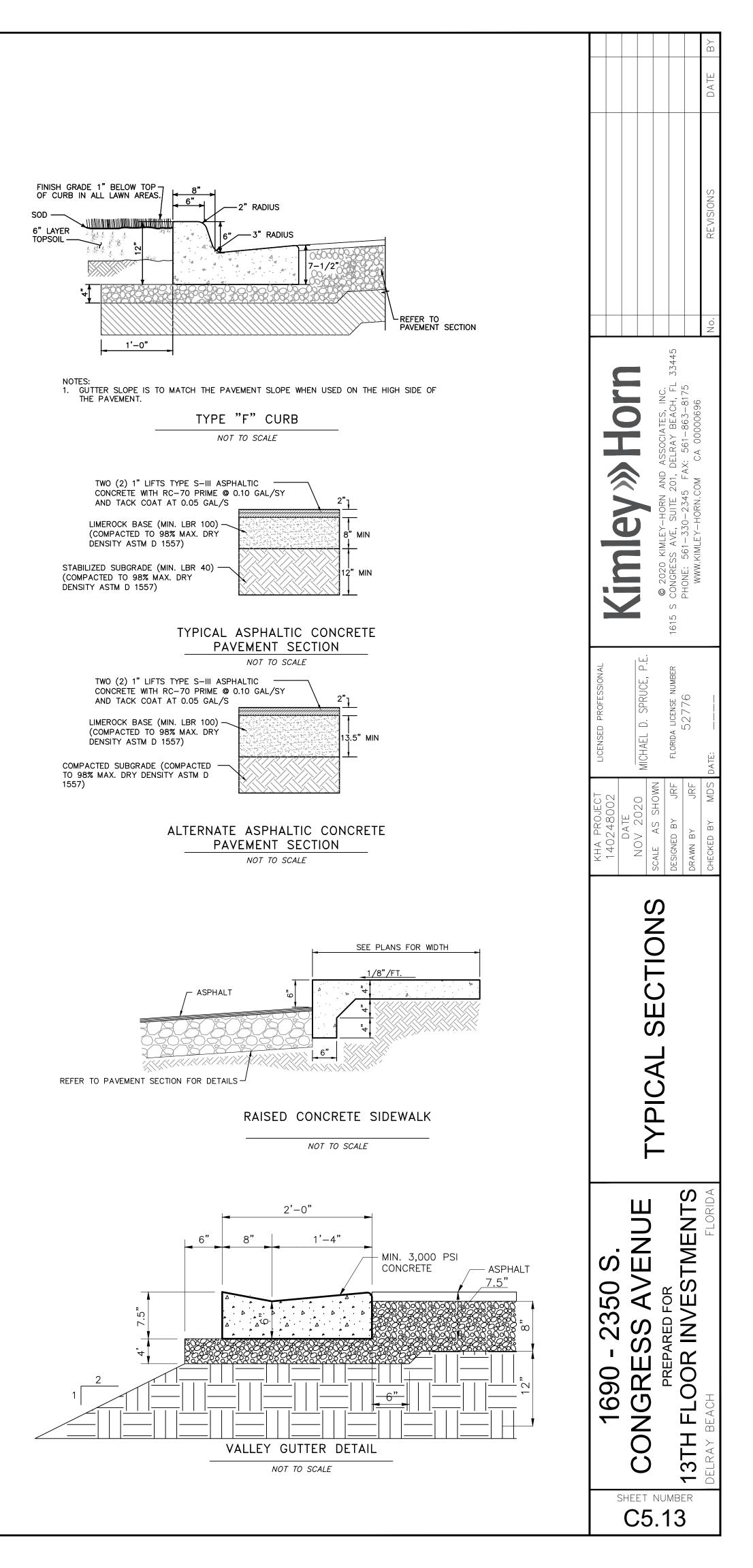


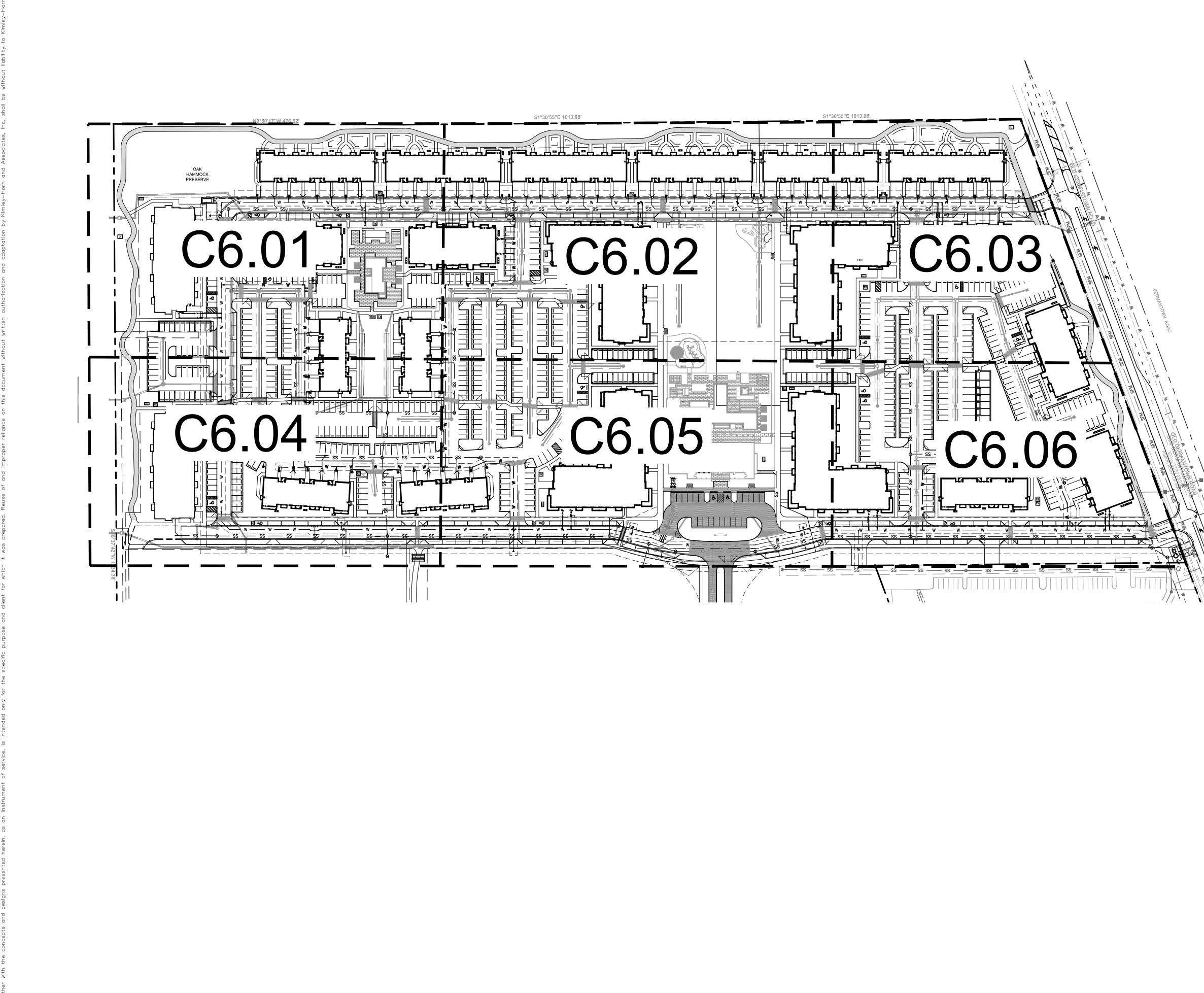


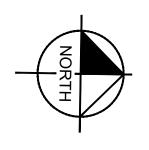


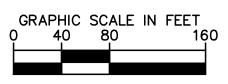












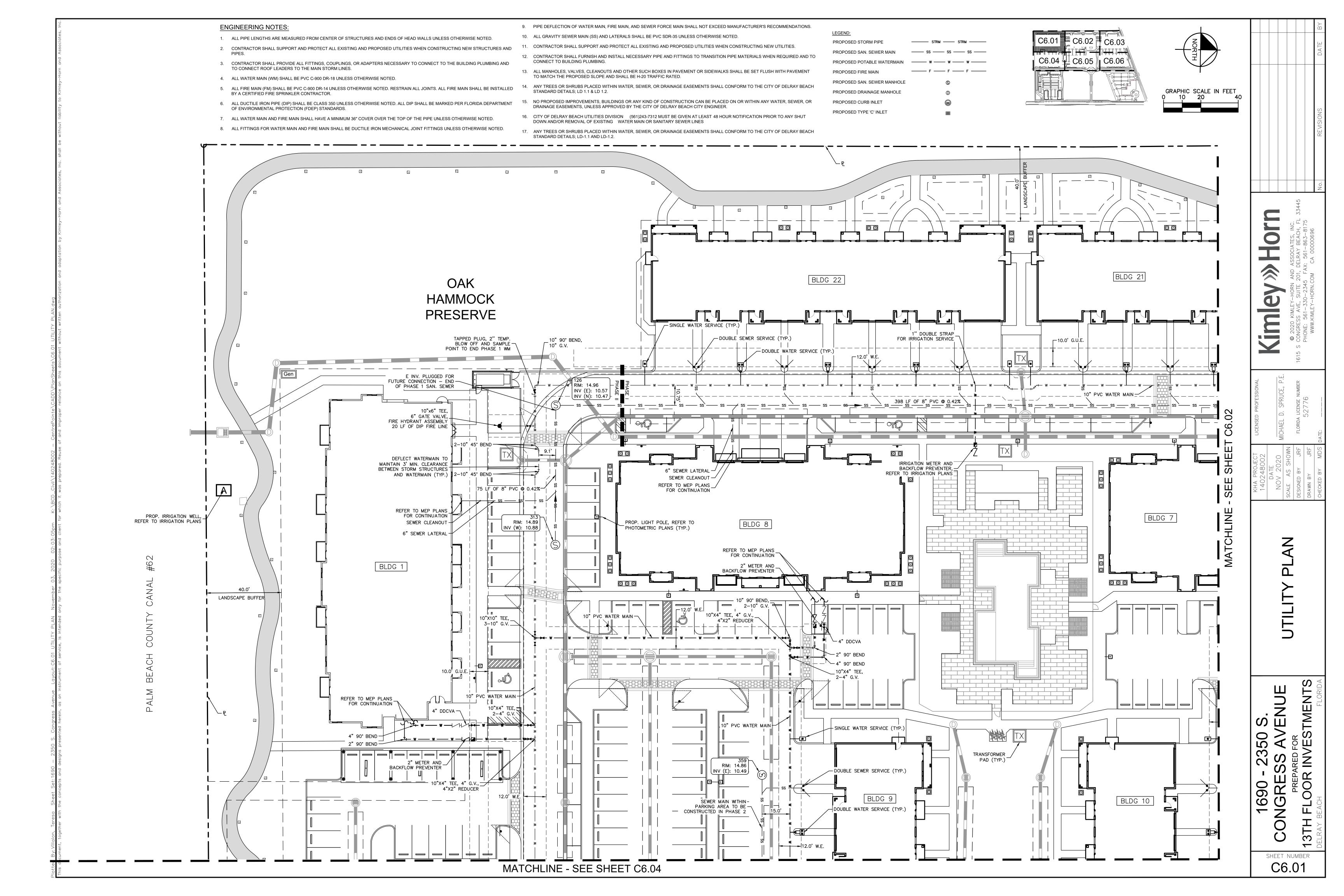
# LEGEND:

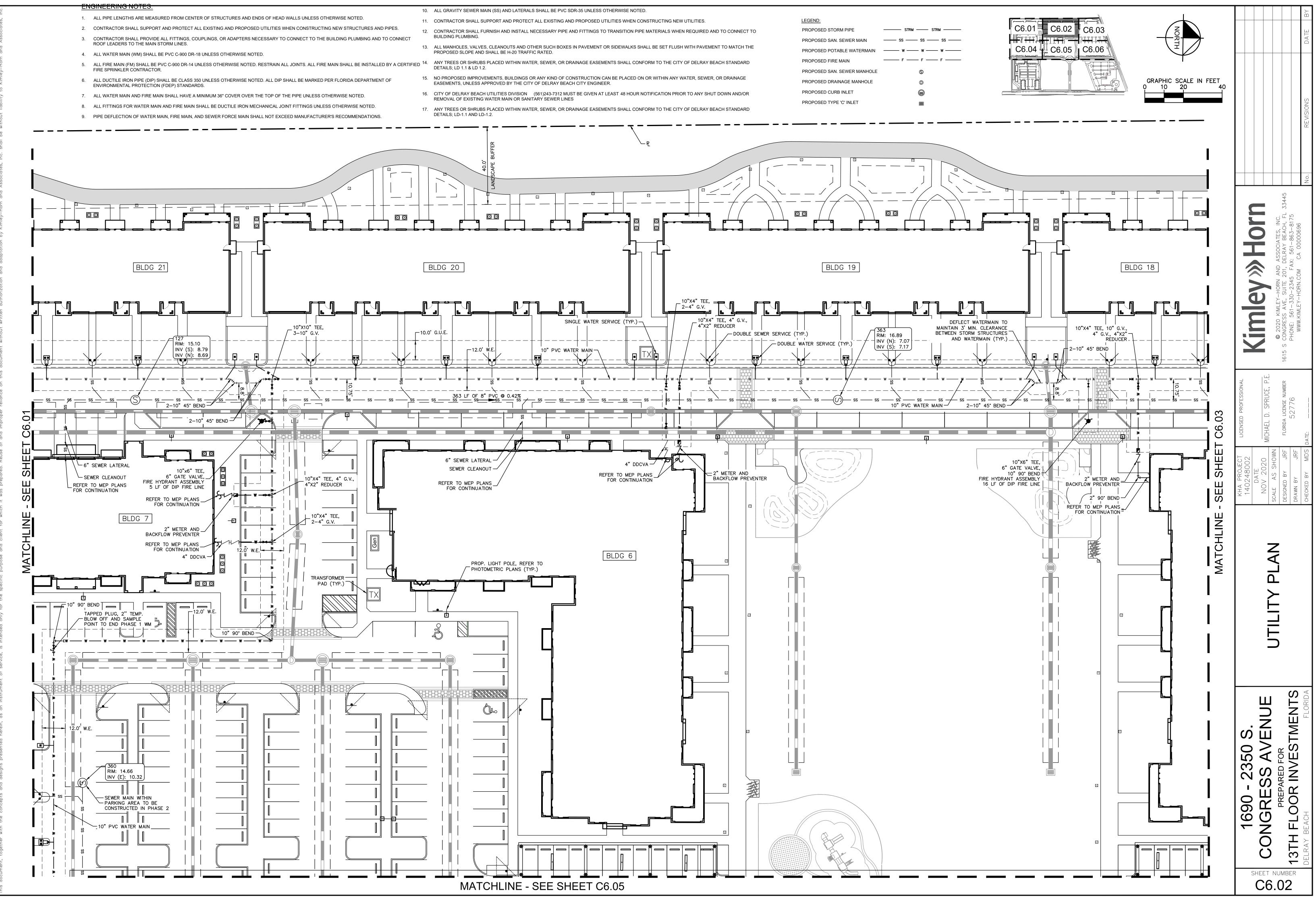
PROPOSED STORM PIPE \_\_\_\_\_ STRM \_\_\_\_\_ STRM \_\_\_\_\_ PROPOSED SAN. SEWER MAIN \_\_\_\_\_ ss \_\_\_\_\_ ss \_\_\_\_\_ ss \_\_\_\_\_ PROPOSED SAN. SEWER MANHOLE PROPOSED DRAINAGE MANHOLE PROPOSED CURB INLET PROPOSED TYPE 'C' INLET PROPOSED DDCV PROPOSED WATER METER

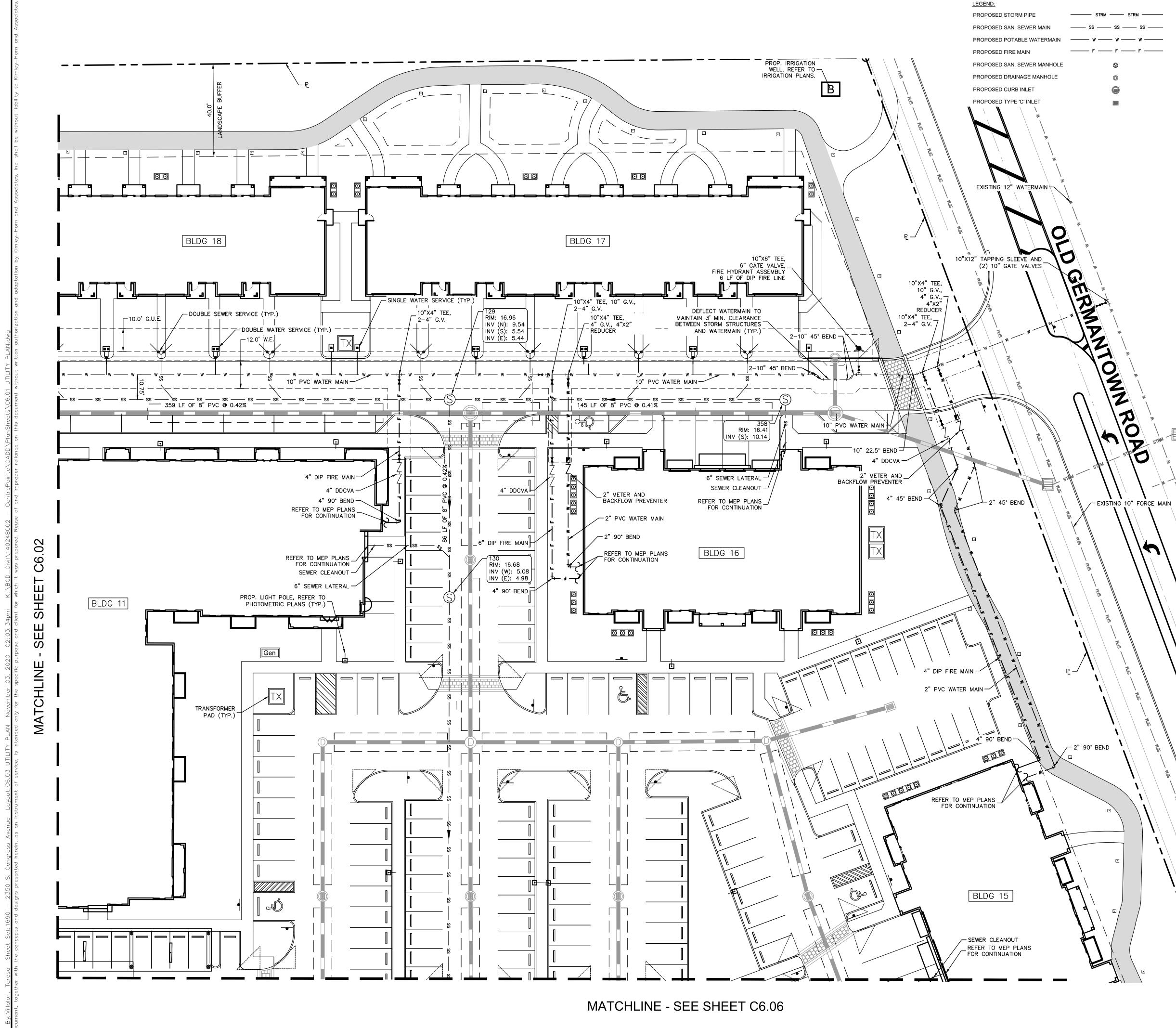
> NOTE: HYDRANTS SPACED @ 1/400 LF FOR MULTI FAMILY RESIDENTIAL LESS THAN 2 STORIES OR 1/300 LF FOR MULTI FAMILY RESIDENTIAL GREATER THAN 2 STORIES/COMMERCIAL

0  $\otimes$ (im 0 DA<sup>-</sup>DA<sup>-</sup>R.  $\succ$ R UTILIT AN MASTER PLA 1690 - 2350 S. CONGRESS AVENUE PREPARED FOR 13TH FLOOR INVESTMENTS SHEET NUMBER

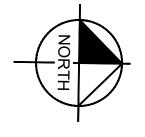
C6.00







C6.02	C6.03 C6.06



GRAPHIC SCALE IN FEET

10 20

# ENGINEERING NOTES

TRAFFIC RATED.

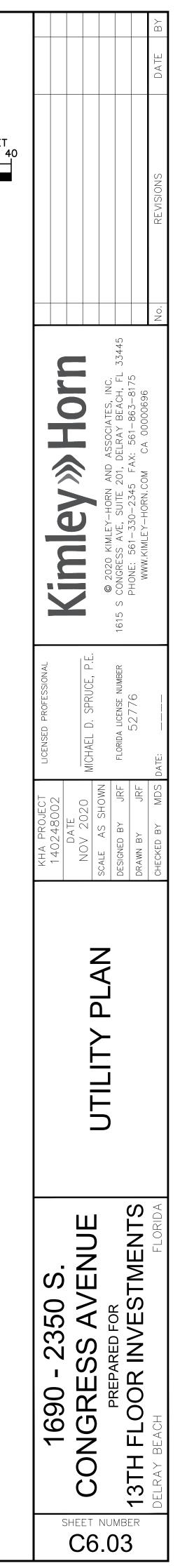
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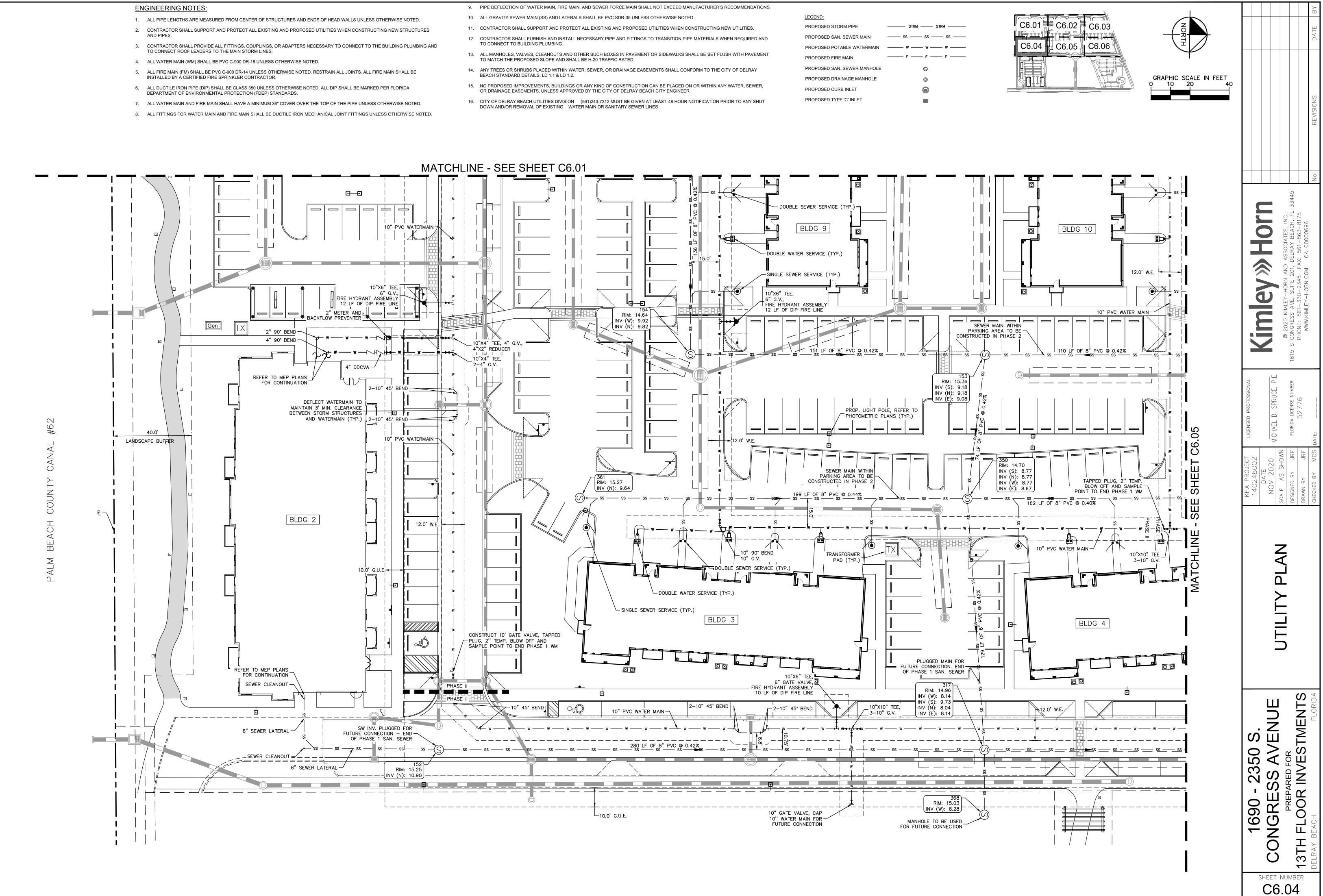
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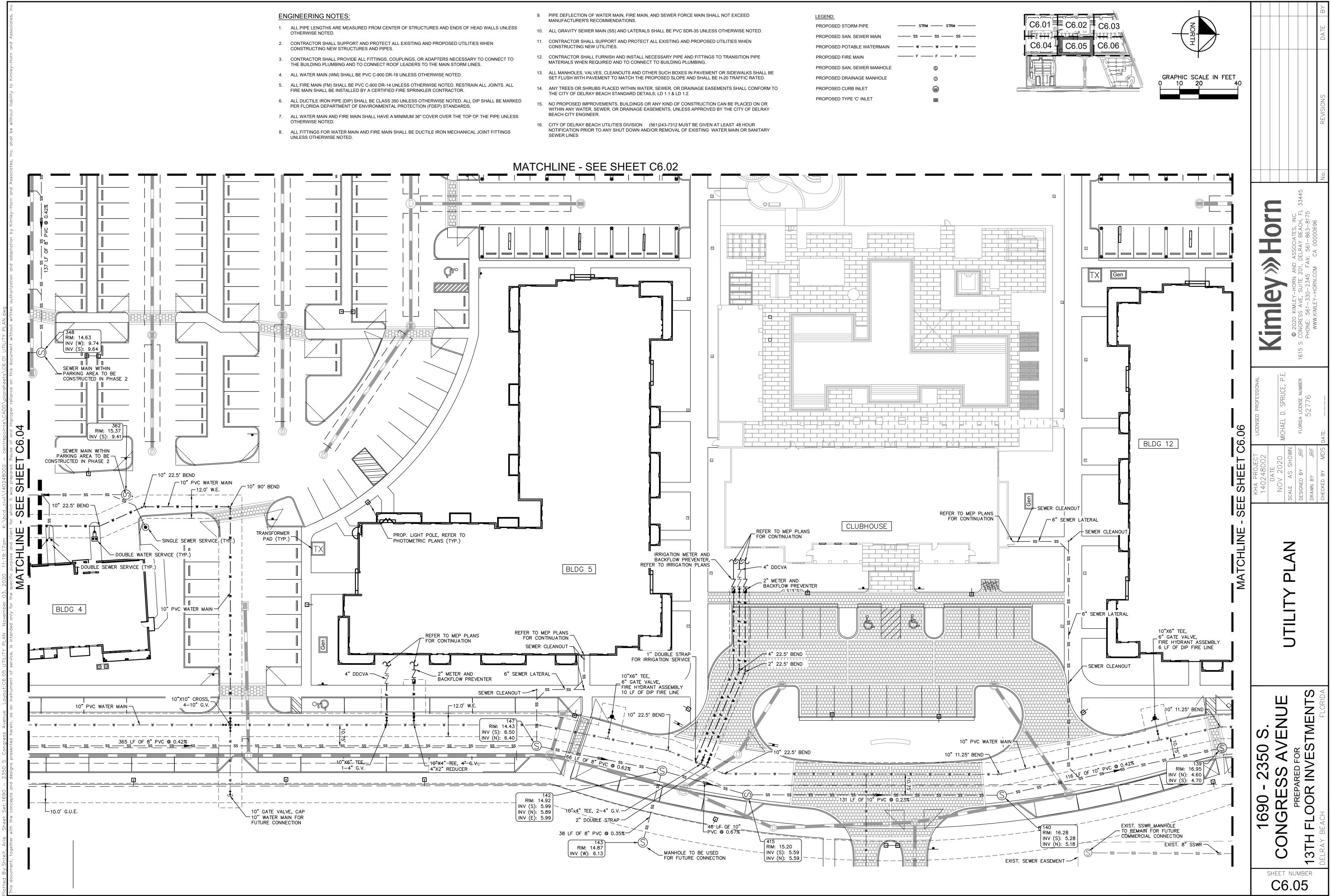
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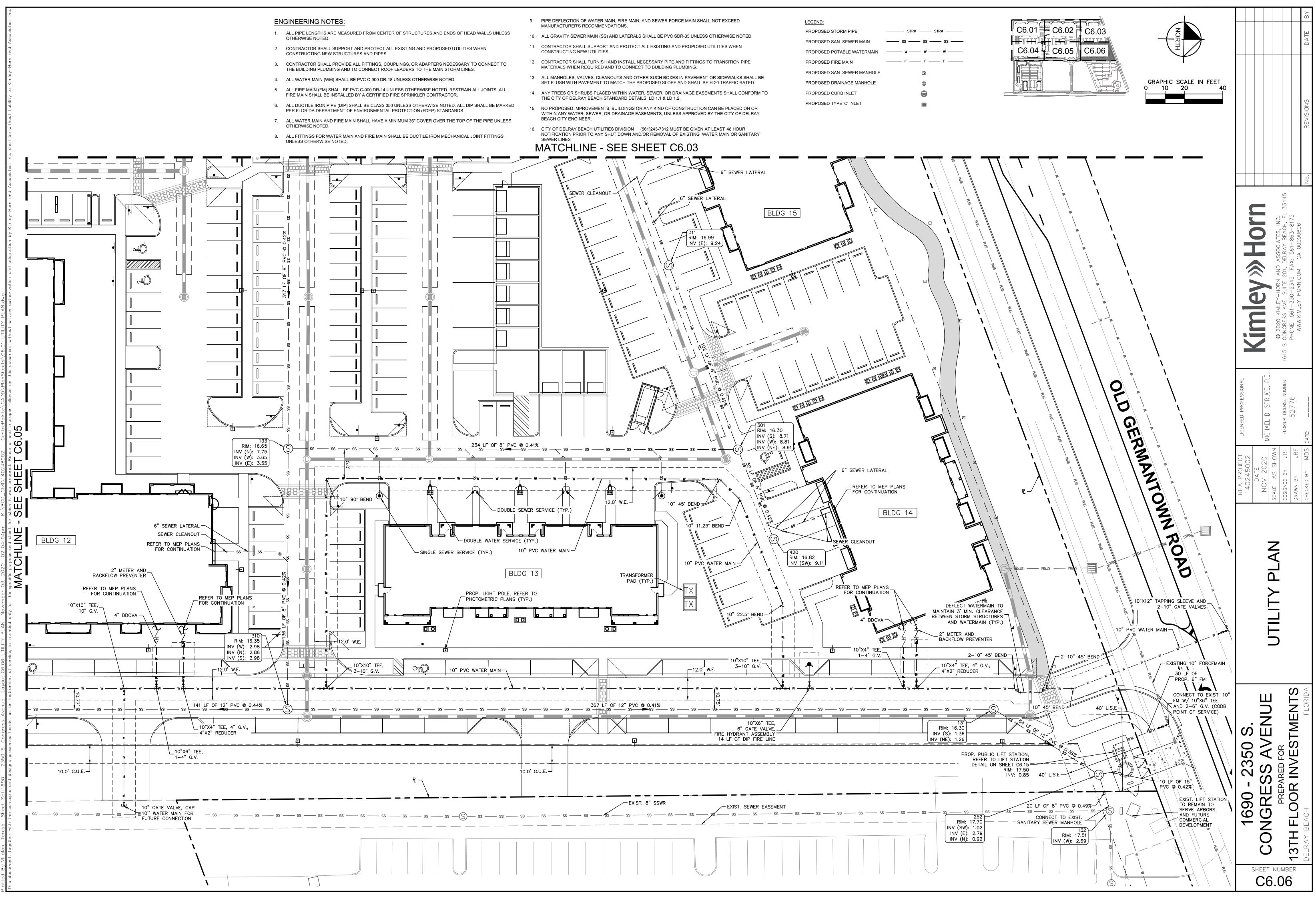
- 1. ALL PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURES AND ENDS OF HEAD WALLS UNLESS OTHERWISE NOTED.
- 2. CONTRACTOR SHALL SUPPORT AND PROTECT ALL EXISTING AND PROPOSED UTILITIES WHEN CONSTRUCTING NEW STRUCTURES AND PIPES.
- 3. CONTRACTOR SHALL PROVIDE ALL FITTINGS, COUPLINGS, OR ADAPTERS NECESSARY TO CONNECT TO THE BUILDING PLUMBING AND TO CONNECT ROOF LEADERS TO THE MAIN STORM LINES.
- 4. ALL WATER MAIN (WM) SHALL BE PVC C-900 DR-18 UNLESS OTHERWISE NOTED.
- 5. ALL FIRE MAIN (FM) SHALL BE PVC C-900 DR-14 UNLESS OTHERWISE NOTED. RESTRAIN ALL JOINTS. ALL FIRE MAIN SHALL BE INSTALLED BY A CERTIFIED FIRE SPRINKLER CONTRACTOR.
- 6. ALL DUCTILE IRON PIPE (DIP) SHALL BE CLASS 350 UNLESS OTHERWISE NOTED. ALL DIP SHALL BE MARKED PER FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) STANDARDS.
- 7. ALL WATER MAIN AND FIRE MAIN SHALL HAVE A MINIMUM 36" COVER OVER THE TOP OF THE PIPE UNLESS OTHERWISE NOTED.
- 8. ALL FITTINGS FOR WATER MAIN AND FIRE MAIN SHALL BE DUCTILE IRON MECHANICAL JOINT FITTINGS UNLESS OTHERWISE NOTED.
- 9. PIPE DEFLECTION OF WATER MAIN, FIRE MAIN, AND SEWER FORCE MAIN SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATIONS.
- 10. ALL GRAVITY SEWER MAIN (SS) AND LATERALS SHALL BE PVC SDR-35 UNLESS OTHERWISE NOTED. 11. CONTRACTOR SHALL SUPPORT AND PROTECT ALL EXISTING AND PROPOSED UTILITIES WHEN
- CONSTRUCTING NEW UTILITIES.
- 12. CONTRACTOR SHALL FURNISH AND INSTALL NECESSARY PIPE AND FITTINGS TO TRANSITION PIPE MATERIALS WHEN REQUIRED AND TO CONNECT TO BUILDING PLUMBING. 13. ALL MANHOLES, VALVES, CLEANOUTS AND OTHER SUCH BOXES IN PAVEMENT OR SIDEWALKS SHALL BE SET FLUSH WITH PAVEMENT TO MATCH THE PROPOSED SLOPE AND SHALL BE H-20
- 14. ANY TREES OR SHRUBS PLACED WITHIN WATER, SEWER, OR DRAINAGE EASEMENTS SHALL CONFORM TO THE CITY OF DELRAY BEACH STANDARD DETAILS; LD 1.1 & LD 1.2.
- 15. NO PROPOSED IMPROVEMENTS, BUILDINGS OR ANY KIND OF CONSTRUCTION CAN BE PLACED ON OR WITHIN ANY WATER, SEWER, OR DRAINAGE EASEMENTS, UNLESS APPROVED BY THE CITY OF DELRAY BEACH CITY ENGINEER.
- 16. CITY OF DELRAY BEACH UTILITIES DIVISION (561)243-7312 MUST BE GIVEN AT LEAST 48 HOUR NOTIFICATION PRIOR TO ANY SHUT DOWN AND/OR REMOVAL OF EXISTING WATER MAIN OR SANITARY SEWER LINES

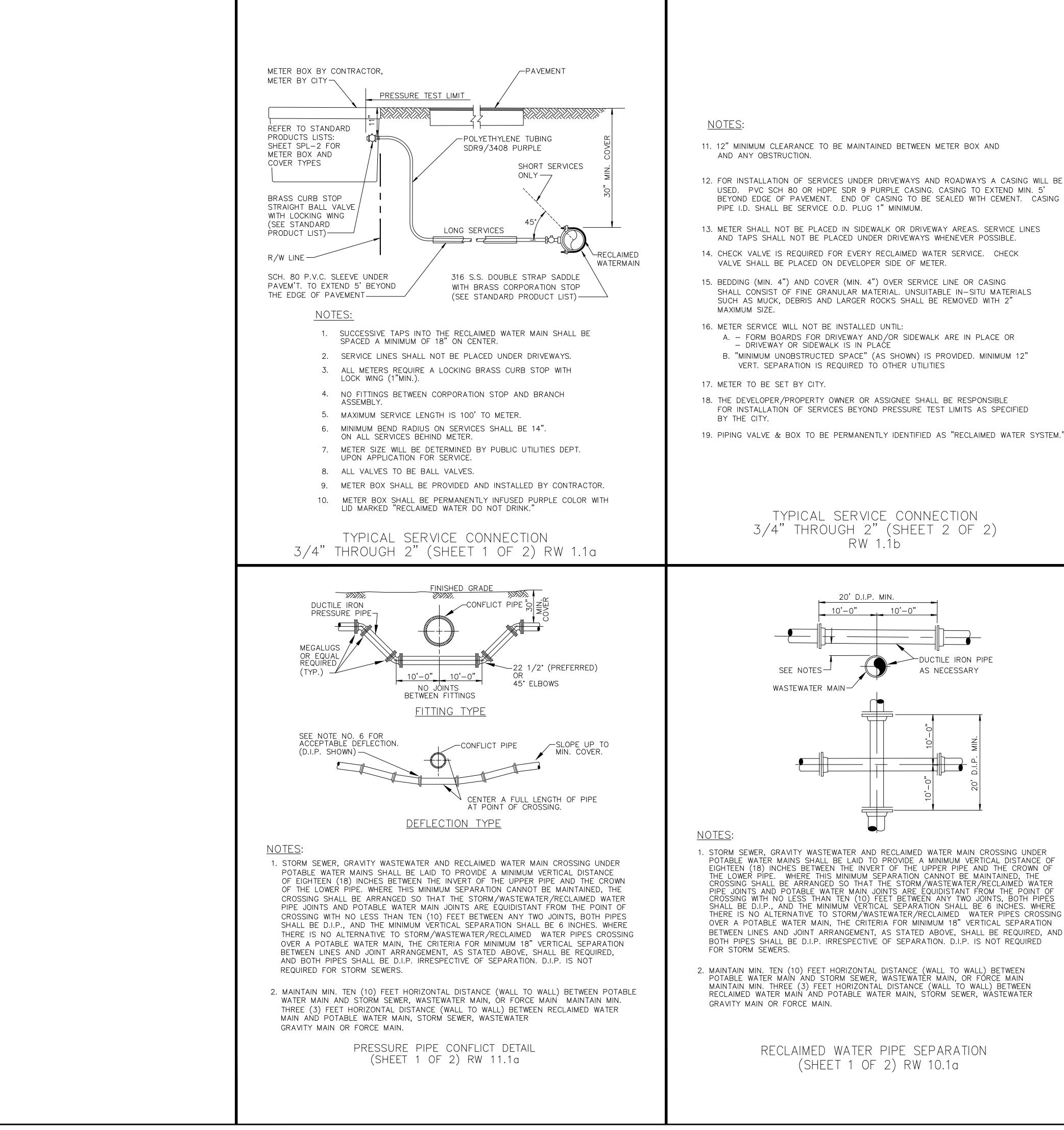


- TO CONNECT ROOF LEADERS TO THE MAIN STORM LINES.
- INSTALLED BY A CERTIFIED FIRE SPRINKLER CONTRACTOR.







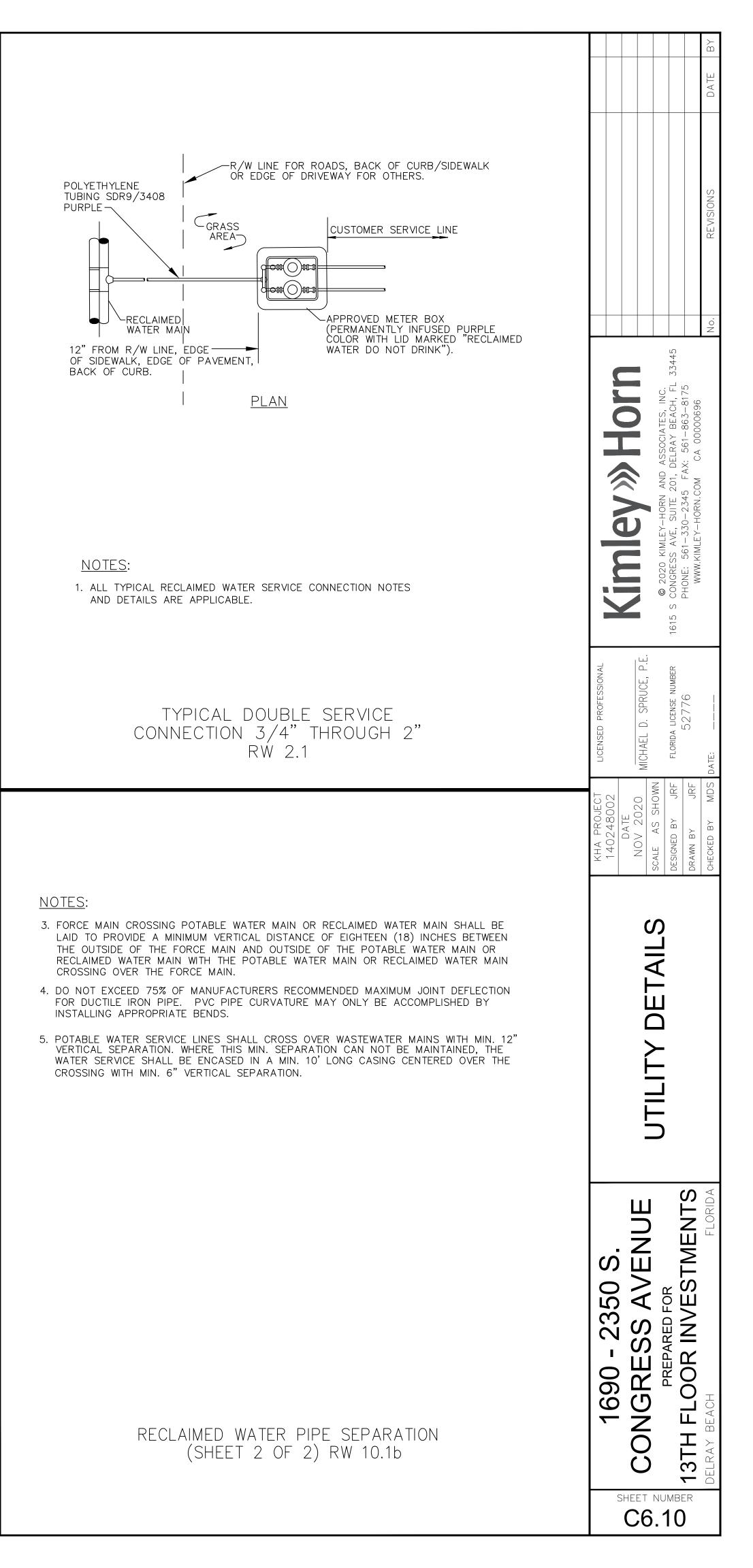


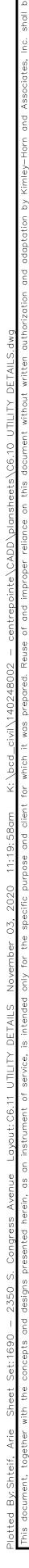
# A. - FORM BOARDS FOR DRIVEWAY AND/OR SIDEWALK ARE IN PLACE OR - DRIVEWAY OR SIDEWALK IS IN PLACE B. "MINIMUM UNOBSTRUCTED SPACE" (AS SHOWN) IS PROVIDED. MINIMUM 12" VERT. SEPARATION IS REQUIRED TO OTHER UTILITIES 18. THE DEVELOPER/PROPERTY OWNER OR ASSIGNEE SHALL BE RESPONSIBLE FOR INSTALLATION OF SERVICES BEYOND PRESSURE TEST LIMITS AS SPECIFIED 19. PIPING VALVE & BOX TO BE PERMANENTLY IDENTIFIED AS "RECLAIMED WATER SYSTEM." TYPICAL SERVICE CONNECTION 3/4" THROUGH 2" (SHEET 2 OF 2) RW 1.1b 20' D.I.P. MIN. 10'-0" DUCTILE IRON PIPE AS NECESSARY

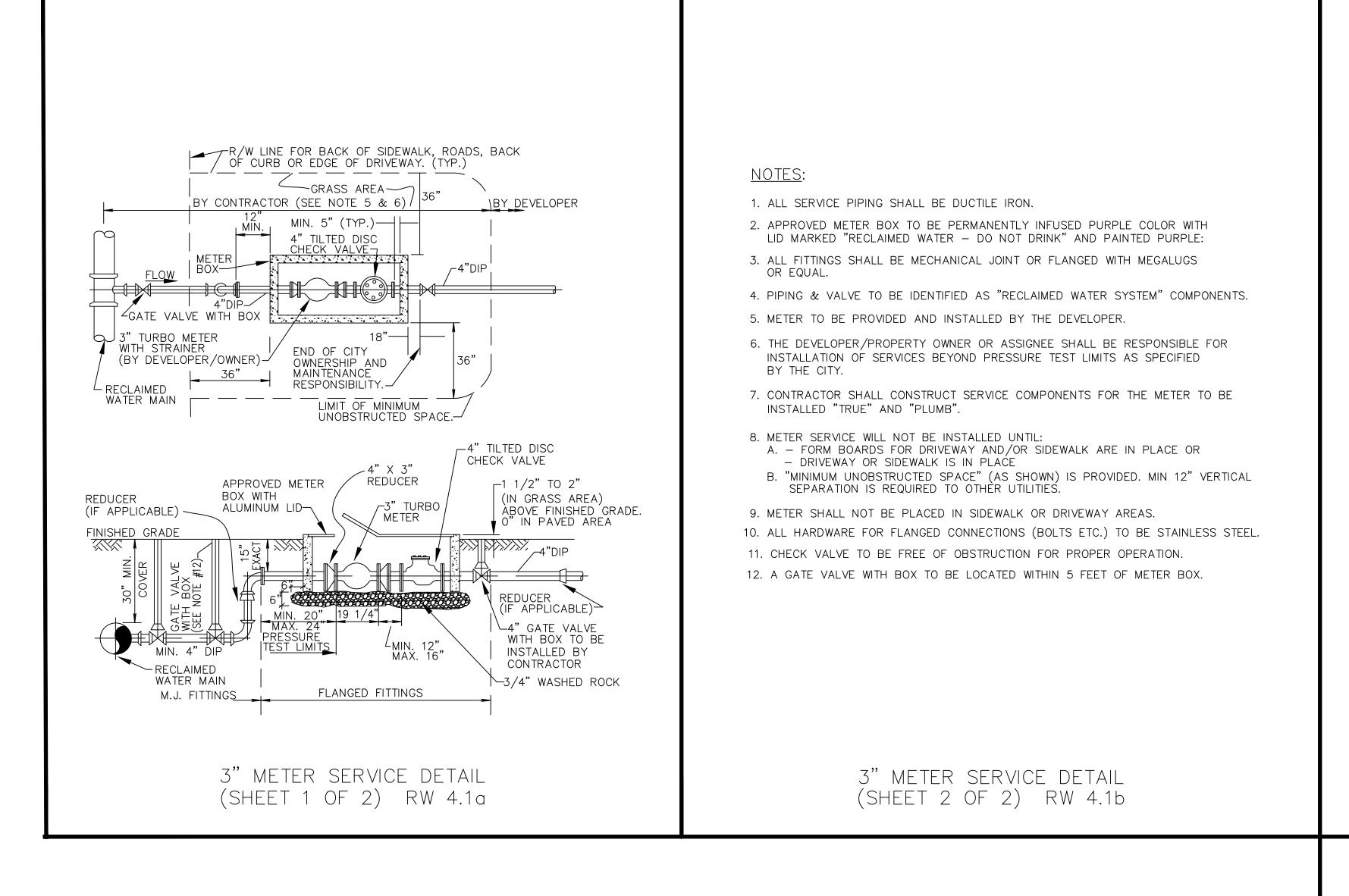
1. STORM SEWER, GRAVITY WASTEWATER AND RECLAIMED WATER MAIN CROSSING UNDER POTABLE WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE STORM/WASTEWATER/RECLAIMED WATER PIPE JOINTS AND POTABLE WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN TEN (10) FEET BETWEEN ANY TWO JOINTS, BOTH PIPES SHALL BE D.I.P., AND THE MINIMUM VERTICAL SEPARATION SHALL BE 6 INCHES. WHERE THERE IS NO ALTERNATIVE TO STORM/WASTEWATER/RECLAIMED WATER PIPES CROSSING OVER A POTABLE WATER MAIN, THE CRITERIA FOR MINIMUM 18" VERTICAL SEPARATION BETWEEN LINES AND JOINT ARRANGEMENT, AS STATED ABOVE, SHALL BE REQUIRED, AND BOTH PIPES SHALL BE D.I.P. IRRESPECTIVE OF SEPARATION. D.I.P. IS NOT REQUIRED

2. MAINTAIN MIN. TEN (10) FEET HORIZONTAL DISTANCE (WALL TO WALL) BETWEEN POTABLE WATER MAIN AND STORM SEWER, WASTEWATER MAIN, OR FÓRCE MAIN MAINTAIN MIN. THREE (3) FEET HORIZONTAL DISTANCE (WALL TO WALL) BETWEEN RECLAIMED WATER MAIN AND POTABLE WATER MAIN, STORM SEWER, WASTEWATER

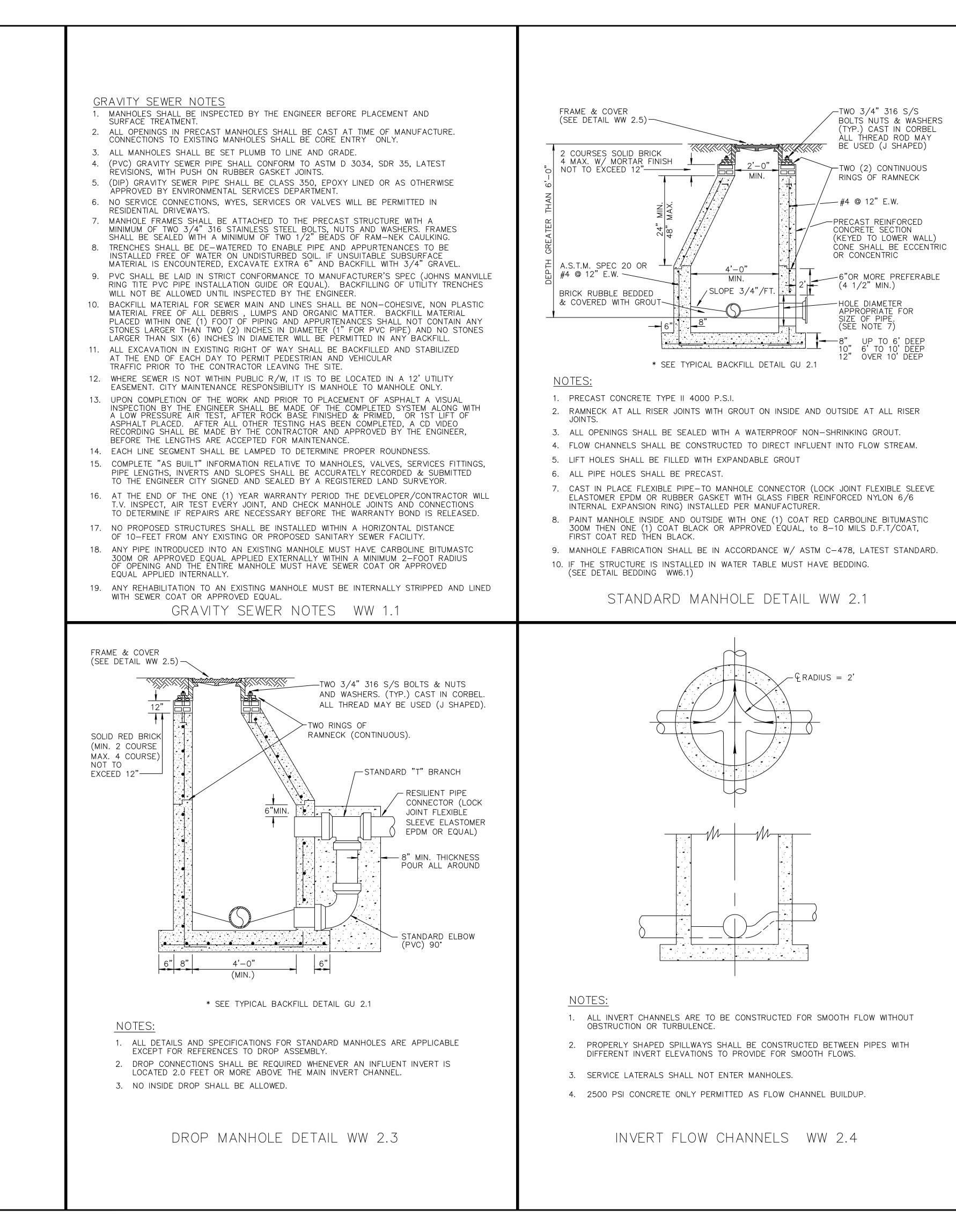
> RECLAIMED WATER PIPE SEPARATION (SHEET 1 OF 2) RW 10.1a

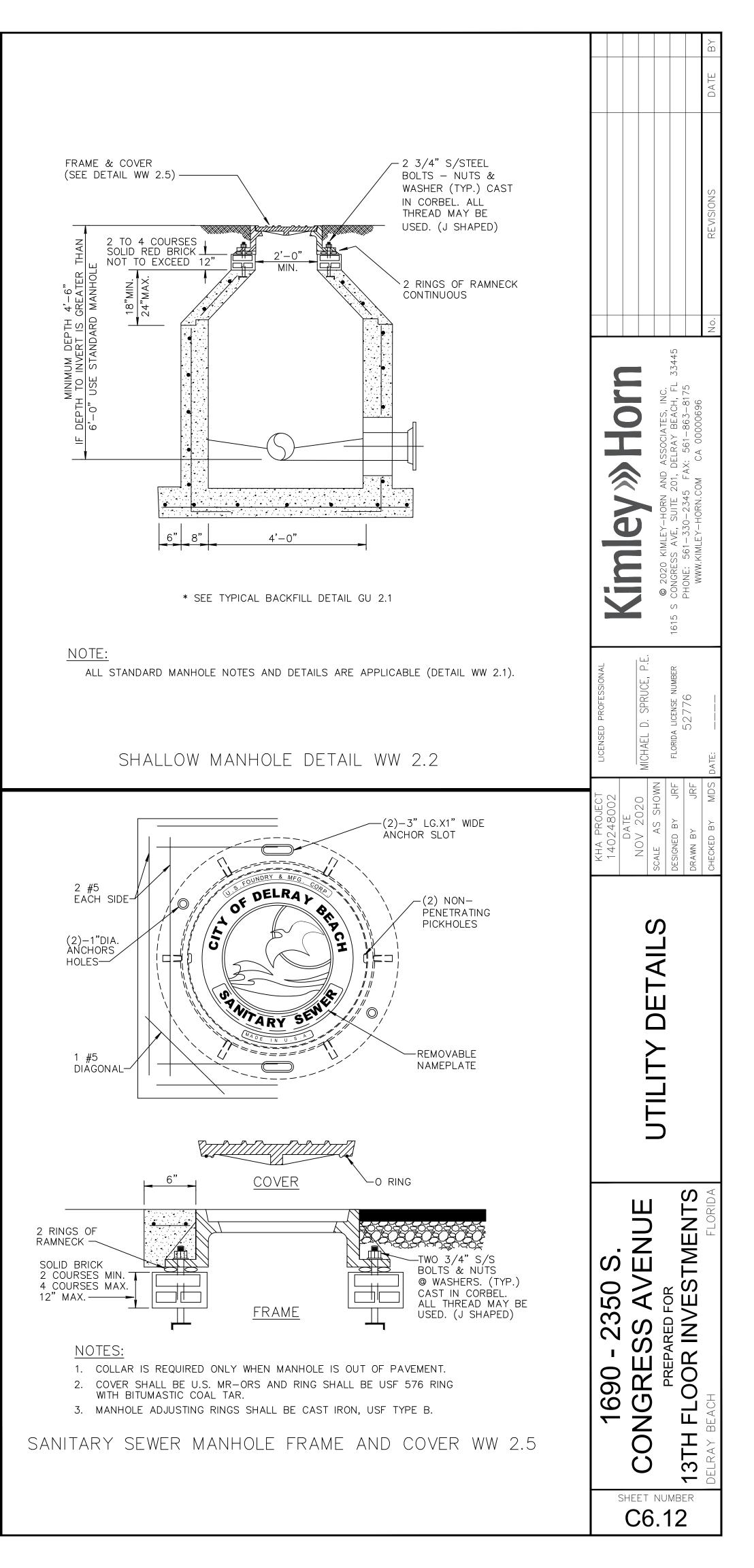


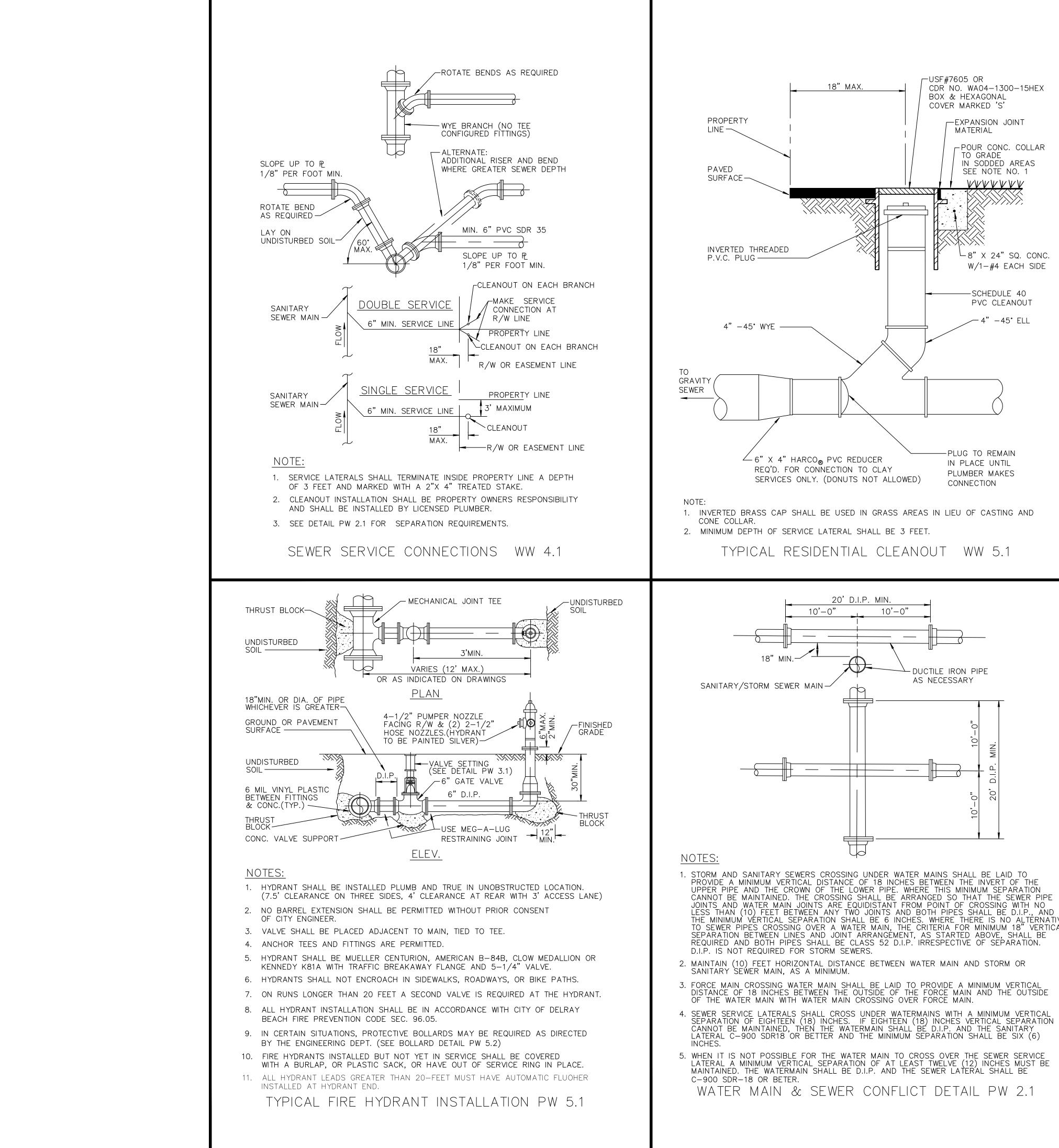




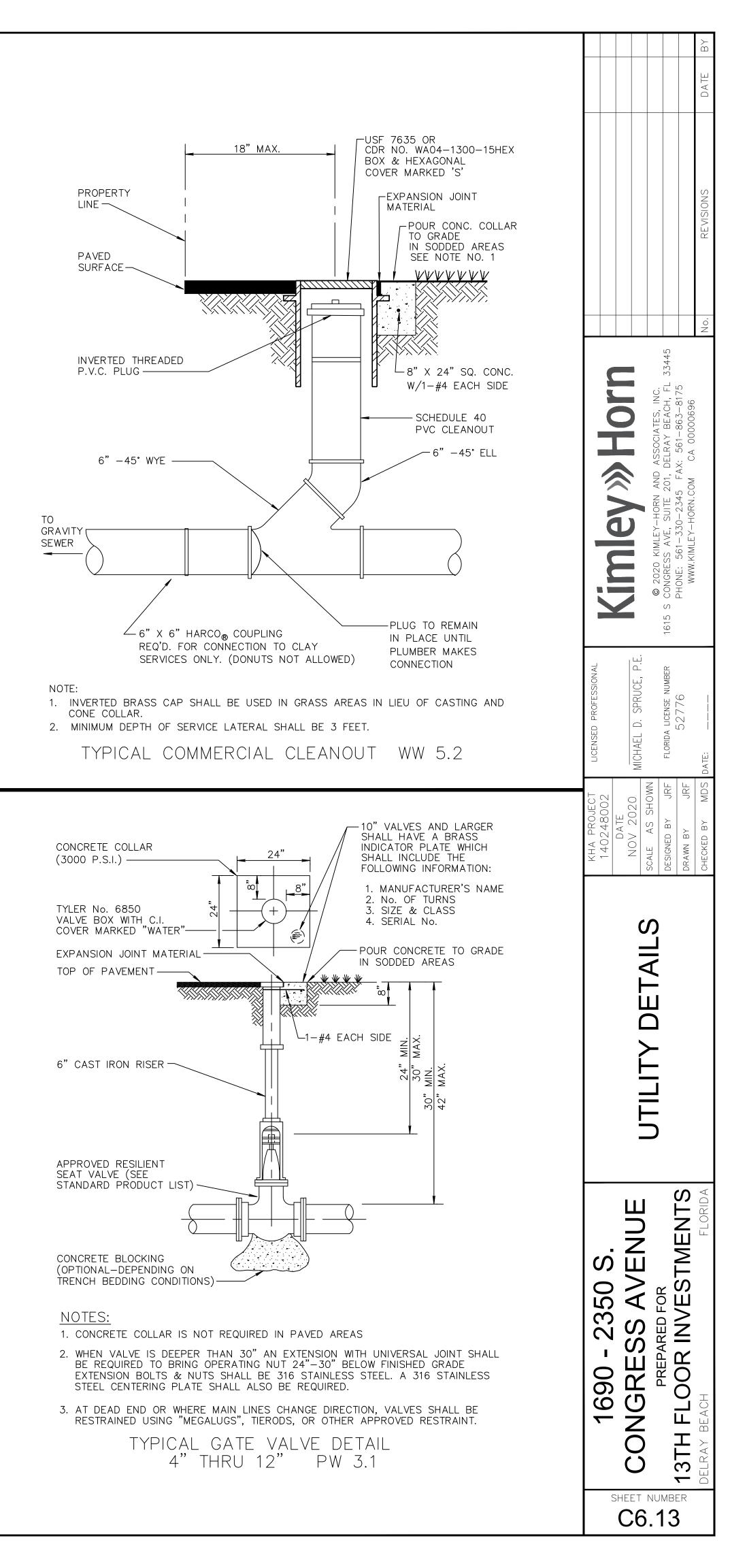
MAXIMUM QUANTITY OF WATER (GALLONS PER HOUR) THAT MAY BE SUPPLIED TO MAINTAIN PRESSURE WITHIN 5 P.S.I. OF THE SPECIFIED TEST PRESSURE. (MECHANICAL OR PUSH-ON JOINT, 18 FT. NOMINAL LENGTHS, PER 1000 FT. OF PIPE) AVG. TEST PIPE DIAMETER (INCHES) PRESSURE 
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 \_\_\_\_\_\_\_ 150 | 0.10 | 0.14 | 0.18 | 0.27 | 0.37 | 0.46 | 0.55 | 0.64 | 0.73 | 0.83 | 0.92 | 1.10 | 1.38 | 1.65 | 1.93 | 2.20 200 0.10 0.15 0.21 0.31 0.42 0.53 0.64 0.74 0.84 0.95 1.06 1.27 1.59 1.91 2.22 2.54 NOTES: 0 1. TO OBTAIN THE MAXIMUM QUANTITY OF WATER FOR PIPE WITH 20 FT. NOMINAL LENGTHS, MULTIPLY THE QUANTITY CALCULATED FROM THE TABLE BY 0.9 2. THE MAXIMUM QUANTITY OF ADDED WATER FOR A PIPELINE IS CALCULATED BY MULTIPLYING THE QUANTITY PER HOUR AS OBTAINED FROM THE ABOVE TABLE, BY THE DURATION OF THE TEST IN HOURS, AND BY THE TOTAL LENGTH OF THE LINE  $\approx$ BEING TESTED DIVIDED BY 1,000. IF THE LINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE MAXIMUM QUANTITY ADDED WILL BE THE SUM OF THE >COMPUTED QUANTITIES FOR EACH SIZE. 3. MAXIMUM TEST LENGTH = 2,500 FEET PER SECTION. 4. THIS STANDARD SHALL REFLECT ANY REVISION OF A.W.W.A. C-600. HOWEVER, THE E MAXIMUM QUANTITY OF WATER ADDED SHALL NOT EXCEED 50% OF THE RECOMMENDED LIMIT PER APPLICABLE AWWA C-600 STANDARD. 5. STANDARD TEST PRESSURE = 150 P.S.I. 0  $\leq$ 6. FORMULA BASIS:  $L = (S) \times (D) \times (P)$  1/2 × 1/2 133,200 L = MAXIMUM QUANTITY OF WATER TO BE ADDED (GALLONS PER HOUR)S = LENGTH OF PIPE TESTED (FEET)D = DIAMETER OF PIPE (INCHES)P = TEST PRESSURE (P.S.I.)7. PRESSURE TEST DURATION TO BE MIN. 2 HOURS. 5 FC PRESSURE TEST CRITERIA RW 18.1 O S & Y GATE VALVES-------> 3/4" BRASS BALL VALVE -3/4" BRASS BALL VALVE -INCLUDE 3/4" 5/8" X 3/4" METER DOUBLE CHECK S (BY PROPERTY OWNER)-<u>Plan</u> B7 PREVENTER (BYPASS) ON ALL PROPERTY FIRELINES OVER 2" OWNER  $\triangleleft$ RESPONSIBILITY RESPONSIBILITY -OS & Y RESILIENT WEDGE GATE VALVES Ш  $\square$ 3/4" TIE RODS 316 S/S (ŤYPICAL) — FINISH GRADE-DOUBLE DETECTOR CHECK <u>⊇|</u>€ VALVE ASSEMBLY \_\_\_\_\_ GATE VALVE7 Ē 4" CONC. SLAB--TIE DOWN W/3/4" S/S ALL MIN. 18" SPOOL PIECE THREAD RODS (SEE THRUST BETWEEN VALVE AND -MECHANICAL 90° FITTING ——— BLOCK DETAIL PP 2.1) JOINT FITTING <u>ELEV.</u> S NOTES: 1. FOR ALL SERVICES GREATER THAN 2" DIA.  $\supset$ Ż 2. ALL PIPE AND FITTINGS SHALL BE CLASS 52 DUCTILE IRON CEMENT LINED WITH CEMENT TME . Z LINED DUCTILE IRON FLANGE FITTINGS FOR ABOVE GROUND USE. MECHANICAL JOINT SHALL BE USED UNDERGROUND IN ACCORDANCE WITH AWWA STANDARDS. ωШ 3. THE DOUBLE DETECTOR CHECK VALVE ASSEMBLY SHALL MEET AWWA C511-89, AND < 0 >APPROVAL OF ENVIRONMENTAL SERVICES DEPARTMENT. ~ **ഗ** 4. CERTIFICATION OF PROPER INSTALLATION AND OPERATION WILL BE REQUIRED FROM A A рШ S CERTIFIED BACKFLOW PREVENTION TECHNICIAN PRIOR TO WATER MAIN ACCEPTANCE BY 3 THE CITY OF DELRAY BEACH. ARED S 5. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE PROPER OPERATION, MAINTENANCE AND TESTING OF THE DOUBLE DETECTOR CHECK VALVE ASSEMBLY.  $\sim$ S 6. BOLLARDS TO BE USED IF THE ASSEMBLY IS WITHIN 5' OF THE PAVEMENT, REFER TO Ш BOLLARD DETAIL PW 5.2. M O Ο  $\mathbf{\gamma}$ 7. ALL TWO INCH DOUBLE DETECTOR CHECK VALVE, SHALL BE BRASS OR σ Ο TYPE "L" COPPER TUBING С О 8. USE OF OTHER PIPE MATERAILS WITH APPROVAL OF WATER SEWER MANAGER.  $\overline{}$ 7 9. CITY MAINTAINS UP TO THE FIRST O S & Y VALVE. T Ο DOUBLE DETECTOR CHECK VALVE PW 10.1 Ś  $\overline{}$ SHEET NUMBER C6.11

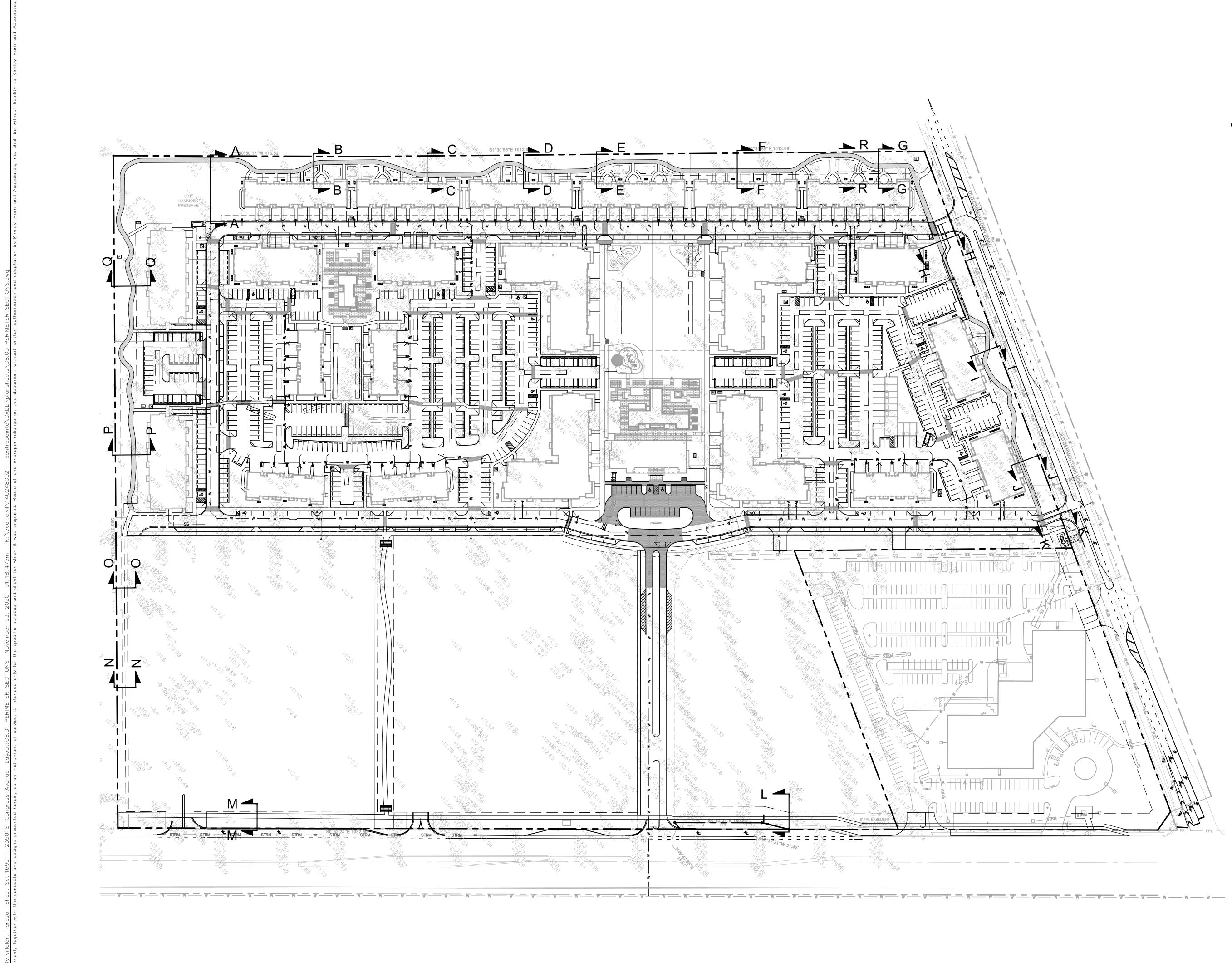






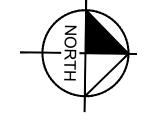
- UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND WATER MAIN JOINTS ARE EQUIDISTANT FROM POINT OF CROSSING WITH NO LESS THAN (10) FEET BETWEEN ANY TWO JOINTS AND BOTH PIPES SHALL BE D.I.P., AND HE MINIMUM VÉRTICAL SEPARATION SHALL BE 6 INCHES. WHERE THERE IS NO ALTÉRNATIVE TO SEWER PIPES CROSSING OVER A WATER MAIN, THE CRITERIA FOR MINIMUM 18" VERTICAL

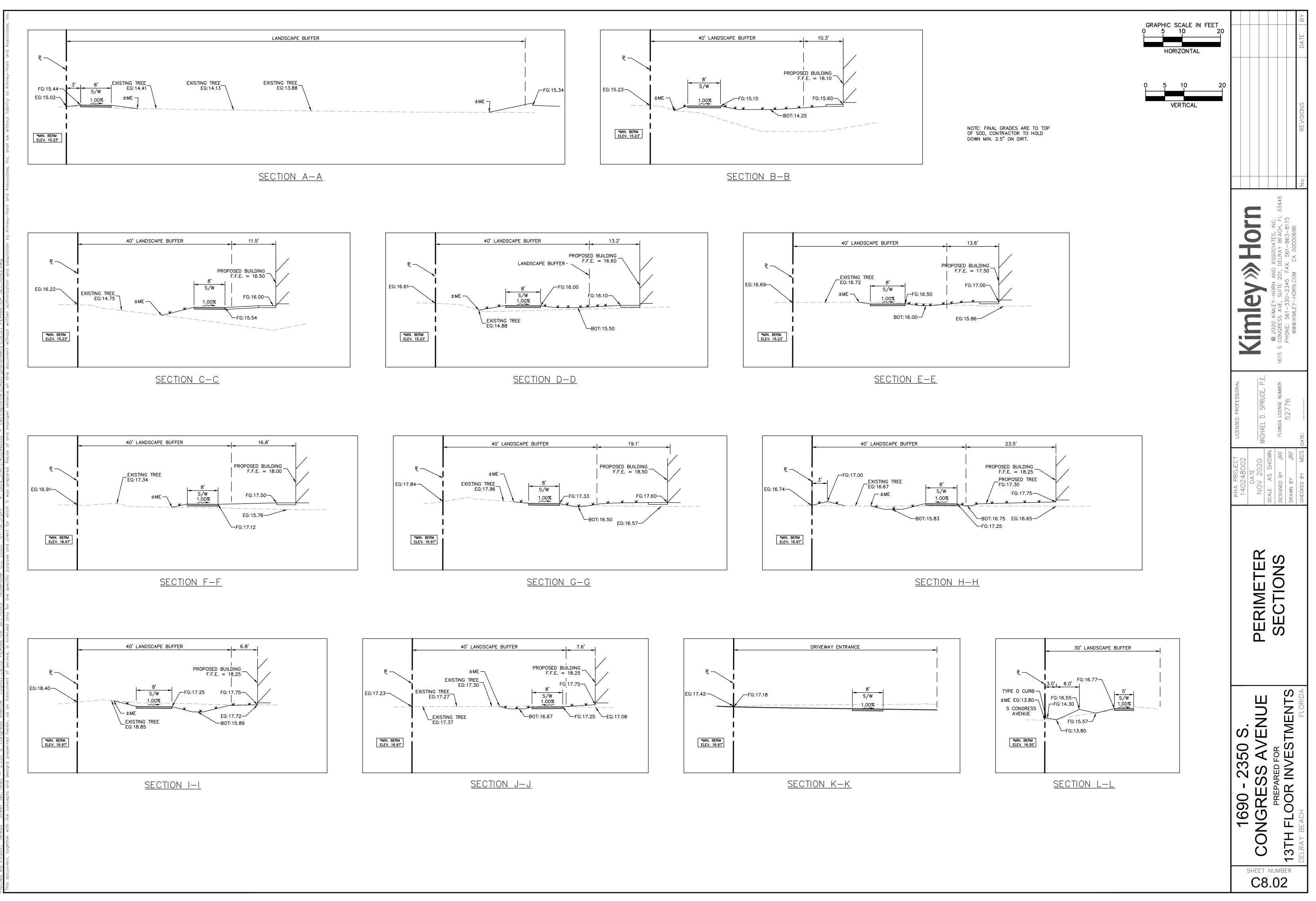


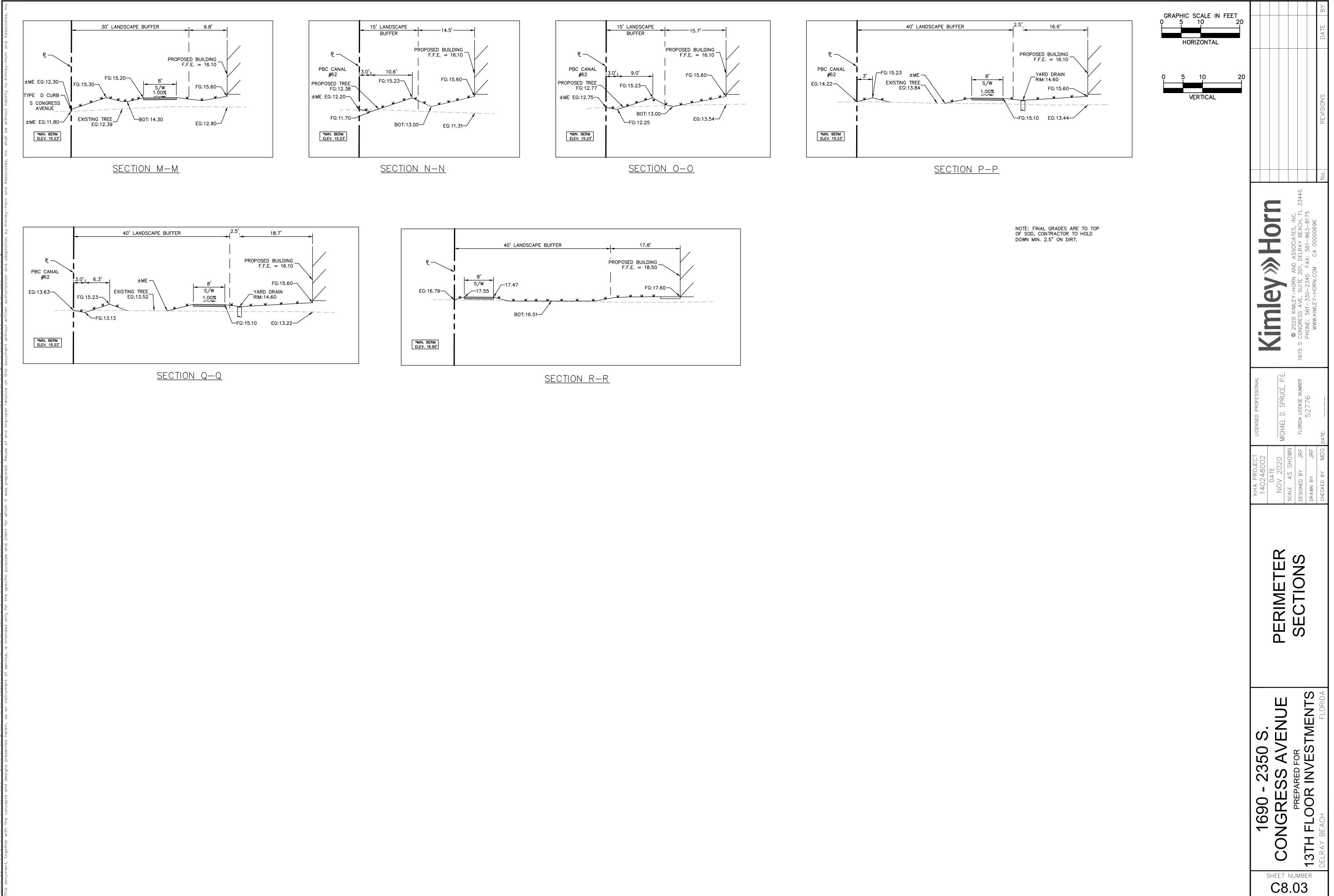


KHA PROJECT 140248002 DATE NOV 2020 MICHAFI D. SPRIJCE, D.F.	© 2020 KIMLEY-HORN AND ASSOCIATE 1615 S CONGRESS AVE, SUITE 201, DELRAY BE PHONE: 561-330-2345 FAX: 561-86	>
PERIMETER		DA
1690 - 2350 S. CONGRESS AVENUE	13TH FLOOR INVESTMENTS	DELRAY BEACH FLORIDA

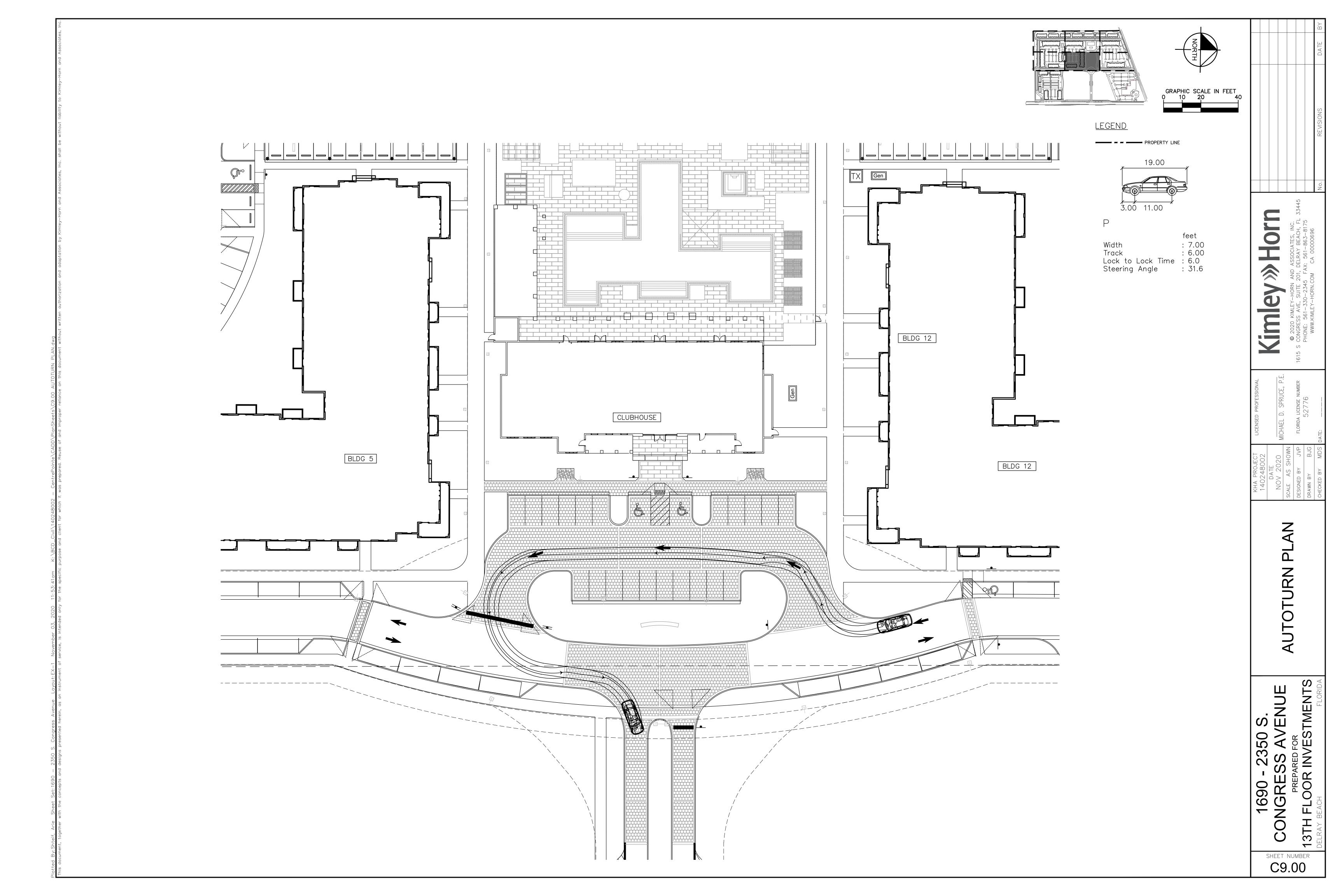
GRAPHIC SCALE IN FEET04080160

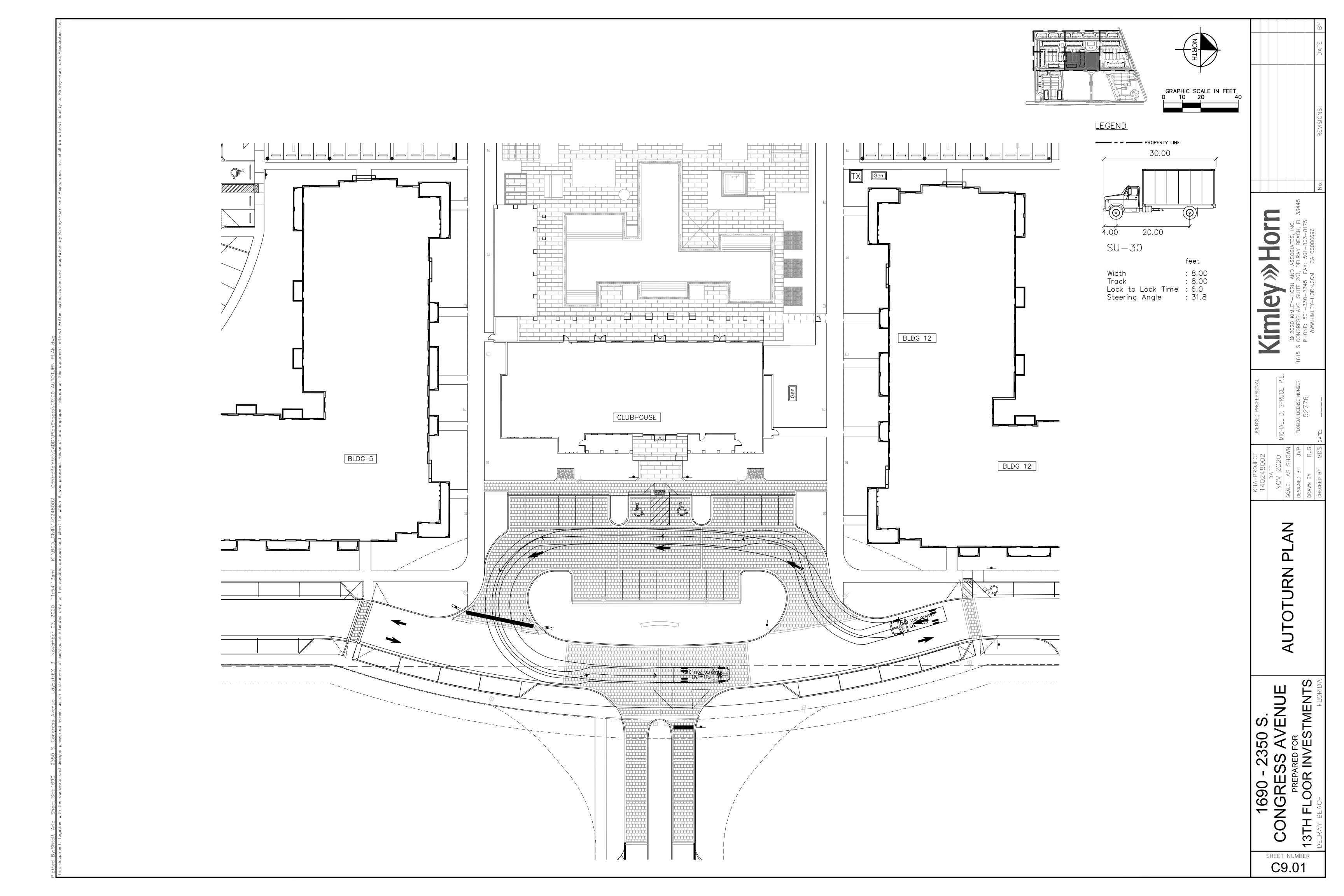


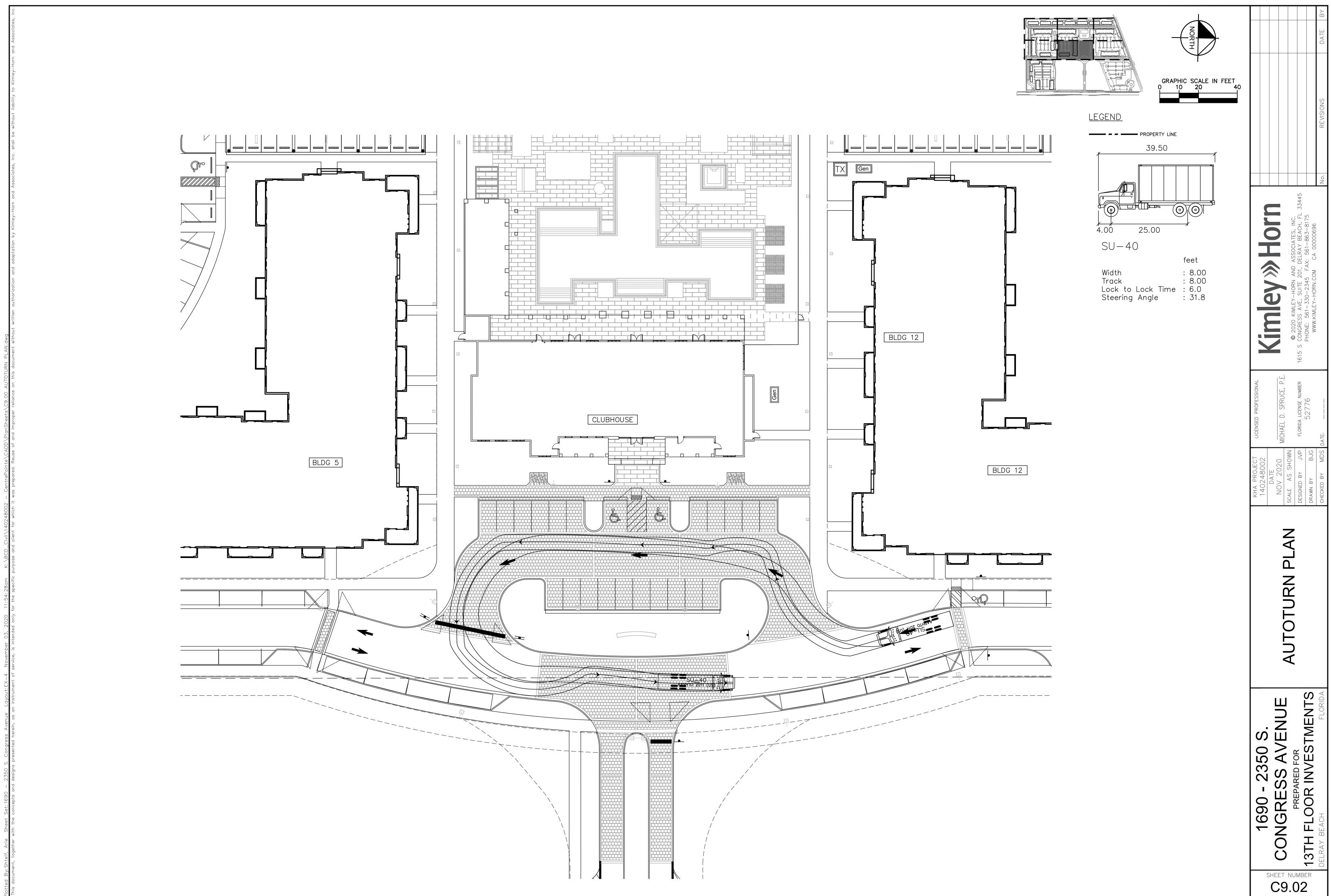


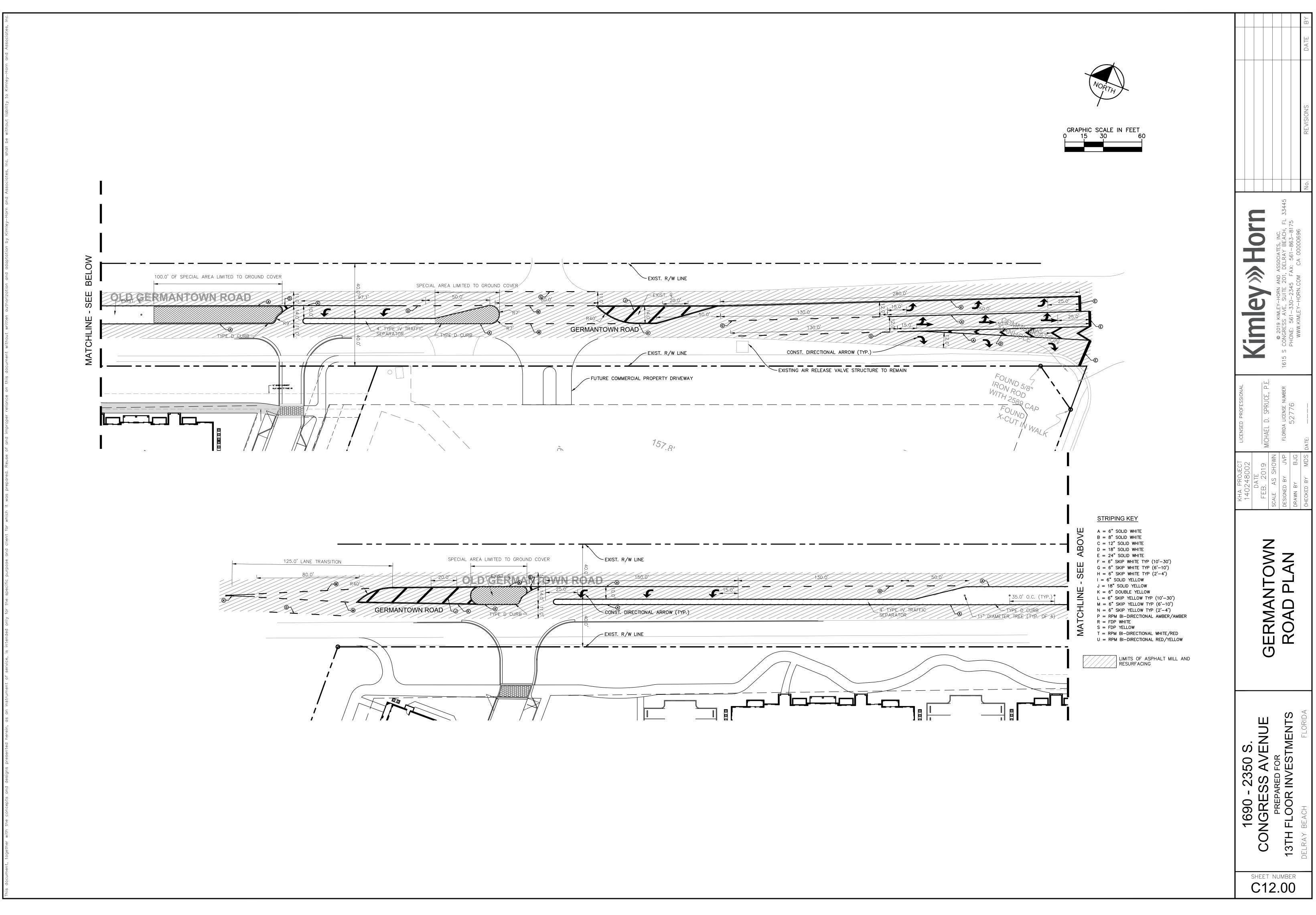












SPECIAL AREA LIMITED TO GROUND COVER	EXIST. R/W LINE
- 20.0' - OLD GERMAN DWN R	AD 150.0' 130.0'
IROAD 0 0 TYPE D CURB 0	CONST. DIRECTIONAL ARROW (TYP.)

