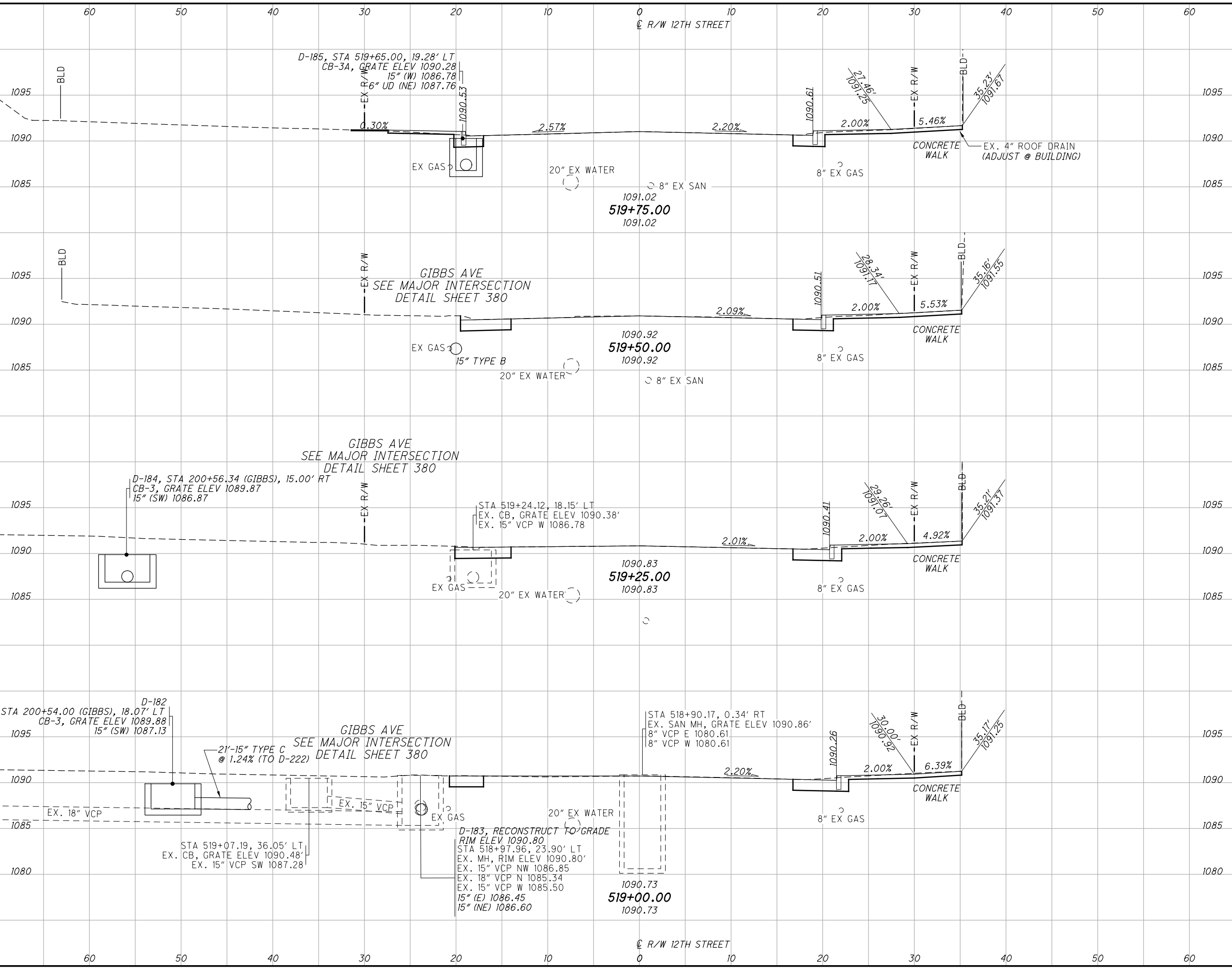


j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x001.dgn 4/14/2014 4:40:44 PM brian.sezior\ODOTV81_PDF_Half.pltcfgr ODOTV81_PDF_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.
60	4
50	6
40	0
30	0
20	0
10	0
0	0
10	0
20	0
30	0
40	0
50	0
60	0
6	6

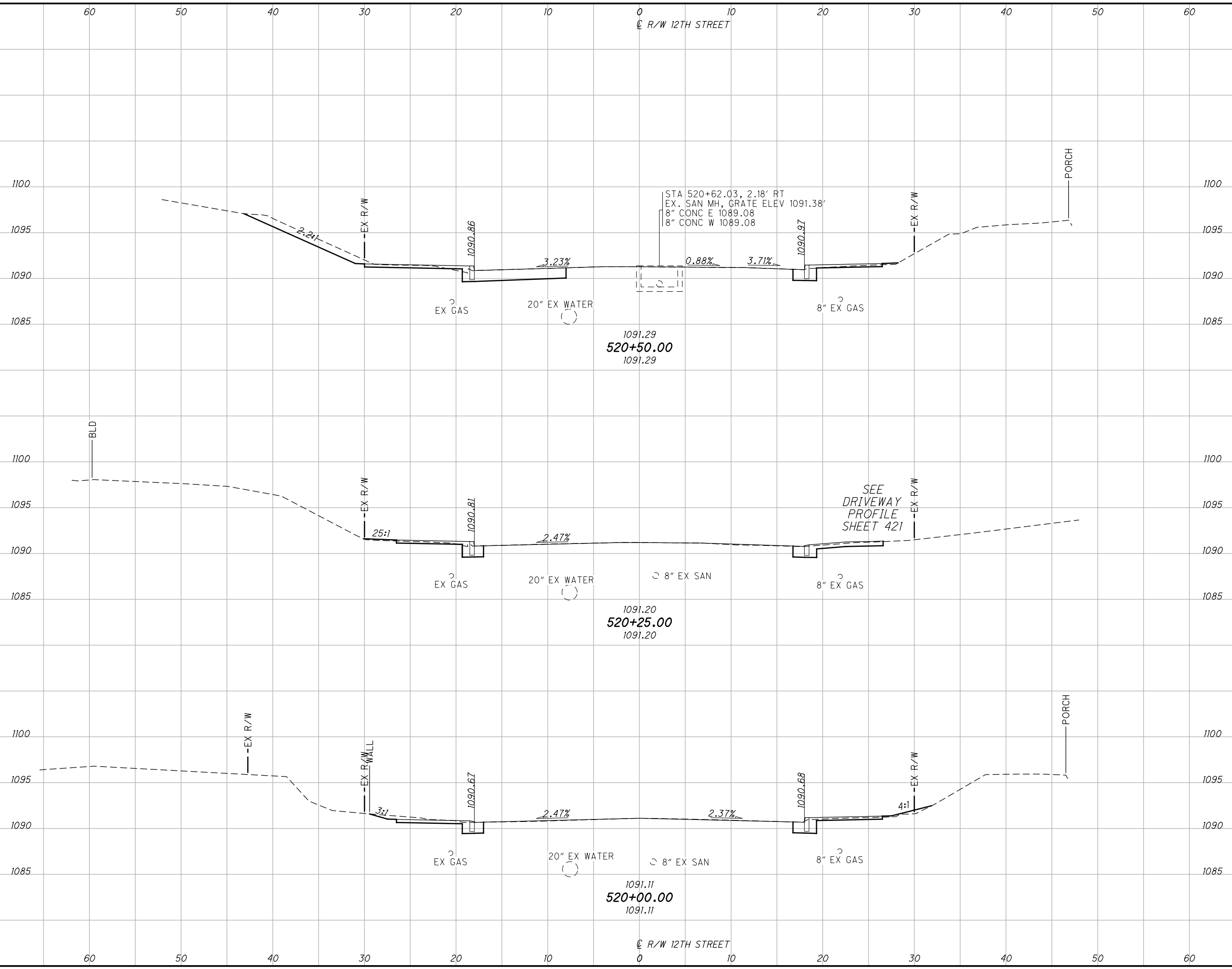


END AREA		VOLUME	
CUT	FILL	CUT	FILL
15	0	16	0
19	0	17	0
19	0	17	0
18	1	22	0
		72	0

CROSS SECTIONS - 12TH STREET
STA. 519+00.00 TO STA. 519+75.00
STA - 12TH STREET
 CALCULATED SHR 307
 CHECKED RWK 790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001.dgn 4/14/2014 4:40:46 PM brion.sezior\ ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING	END AREA		VOLUME		CALCULATED	CHECKED	RWK
	CUT	FILL	CUT	FILL			
16	30	1	18	1			
27	10	1	10	1			
4	12	2	13	1			
17			41	3			



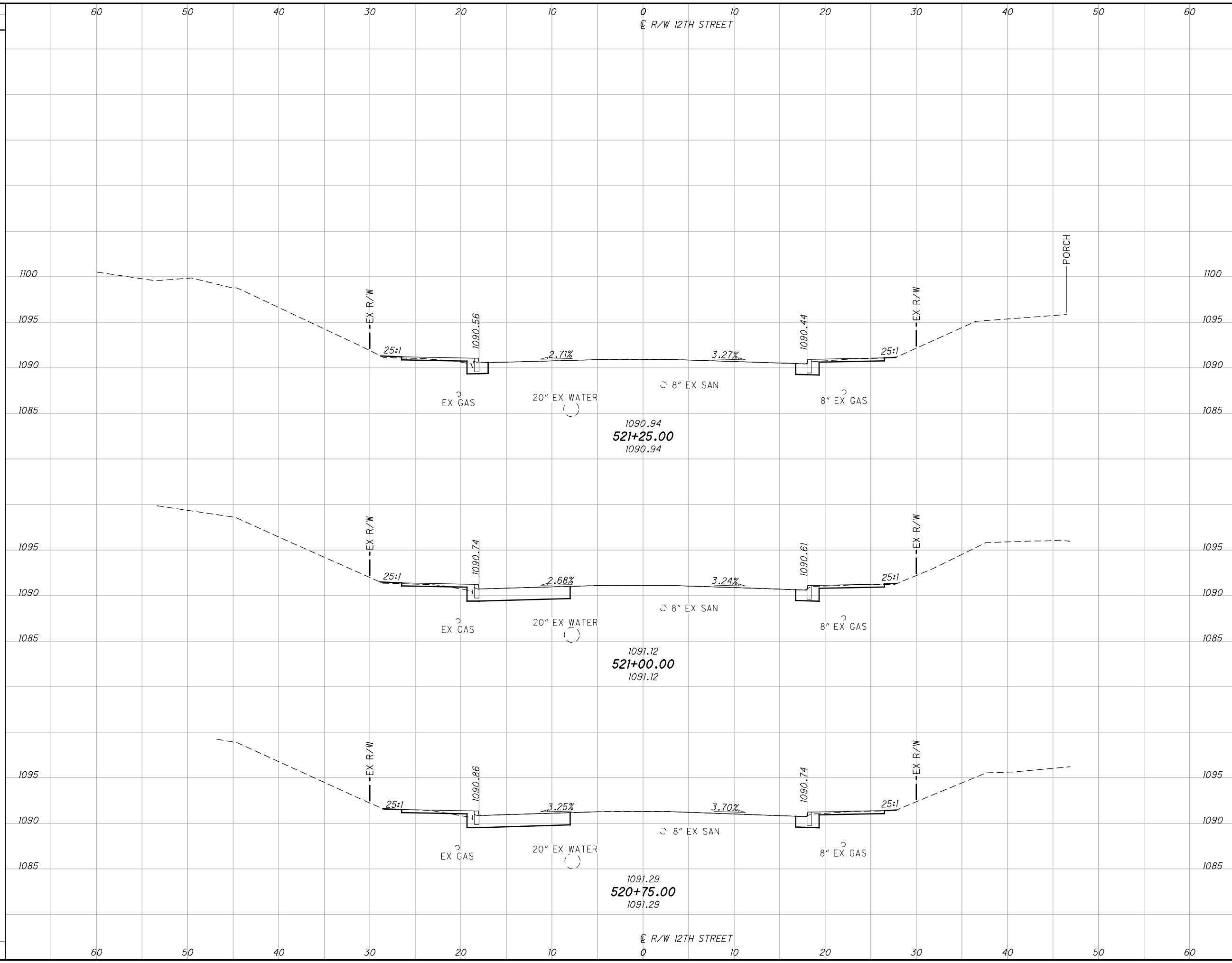
**CROSS SECTIONS - 12TH STREET
STA. 520+00.00 TO STA. 520+50.00**

STA-12TH STREET

308
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001.dgn 4/14/2014 4:40:48 PM brion.sezior\ ODOTV81_PDF_half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.
60	4
50	10
40	4
30	10
20	3
10	16
0	36



END AREA		VOLUME		CALCULATED SHR	CHECKED RWK
CUT	FILL	CUT	FILL		
9	1	14	1		
22	1	20	0		
22	0	8	0		
		42	1		

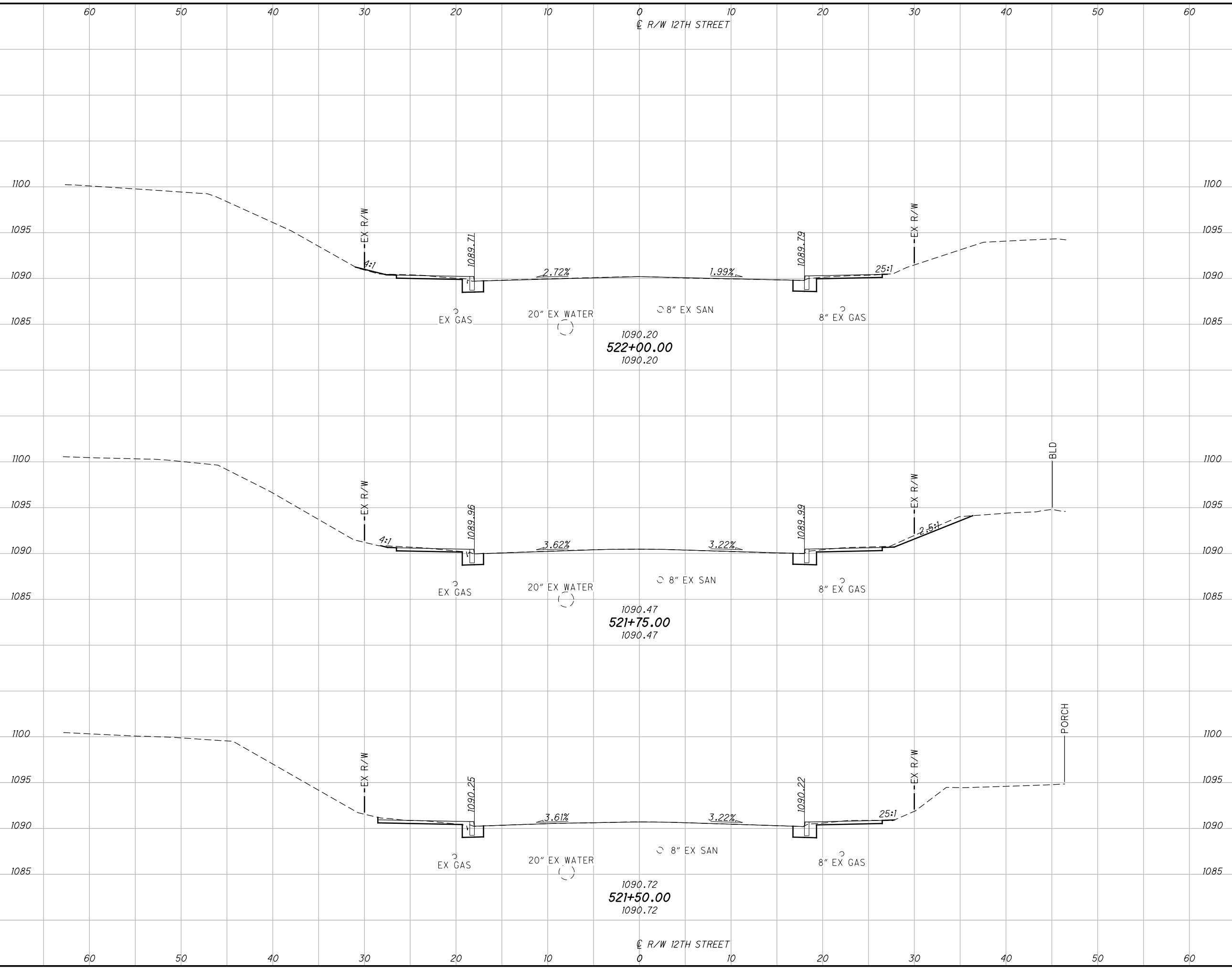
**CROSS SECTIONS - 12TH STREET
STA. 520+75.00 TO STA. 521+25.00**

STA - 12TH STREET

309
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001.dgn 4/14/2014 4:40:50 PM brion.sezior" ODOTV8i_PDF_Half.pltctg ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING	END SO.	
	WIDTH	YDS.
8	60	60
25	60	60
11	60	60
16	60	60
1	60	60
7	60	60
48	60	60



END AREA	VOLUME	
	CUT	FILL
11	1	1
16	0	12
11	0	13
7	0	9
48	34	0

CALCULATED	SHR	CHECKED	RWK

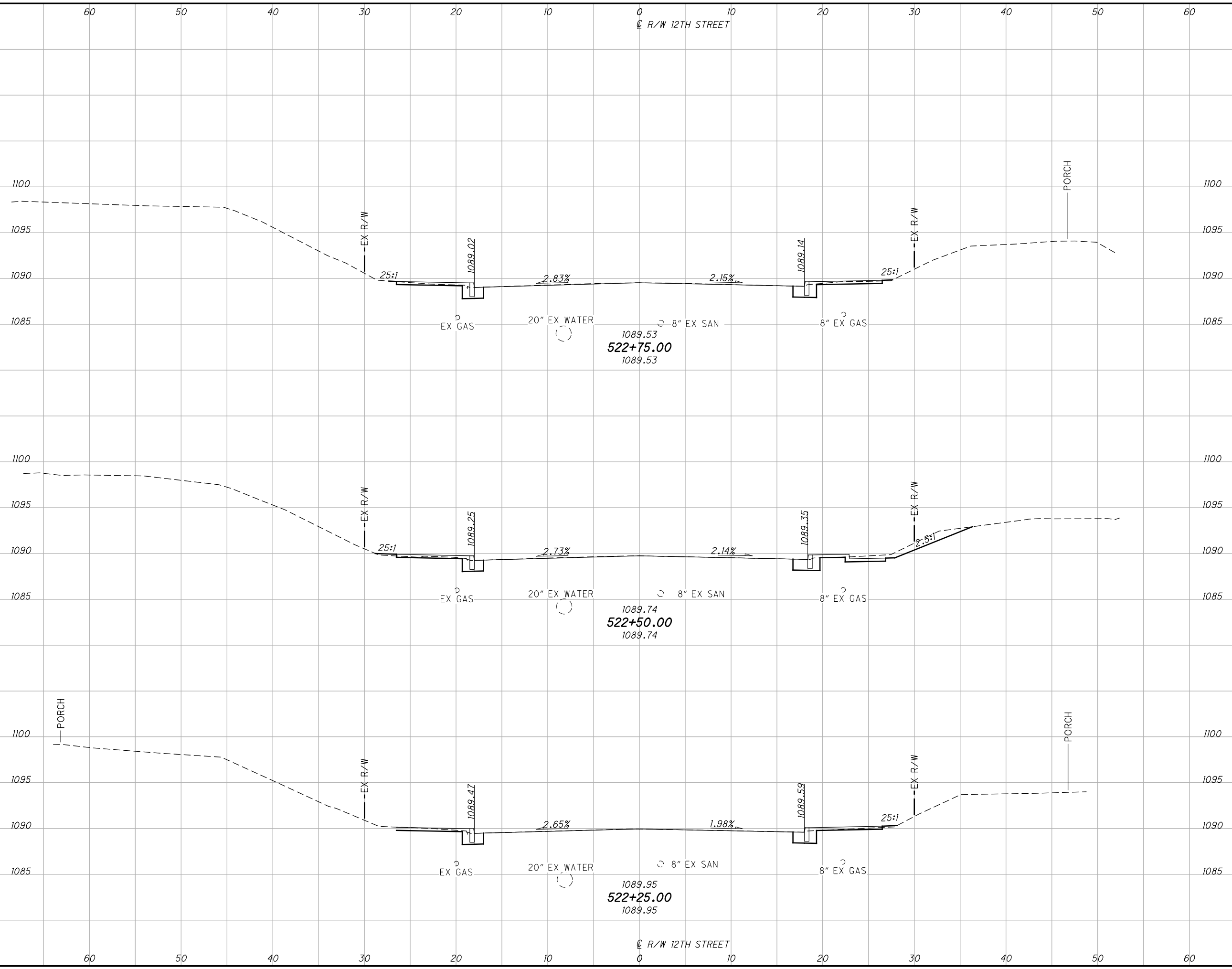
**CROSS SECTIONS - 12TH STREET
STA. 521+50.00 TO STA. 522+00.00**

STA-12TH STREET

(310 / 790)

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001.dgn 4/14/2014 4:40:52 PM brion.sezior\ ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.
60	2
60	20
60	12
60	23
60	5
60	17
60	



END AREA	VOLUME	CALCULATED	CHECKED	RWK
10	0			
17	0			
12	0			
9	0			
33	0			

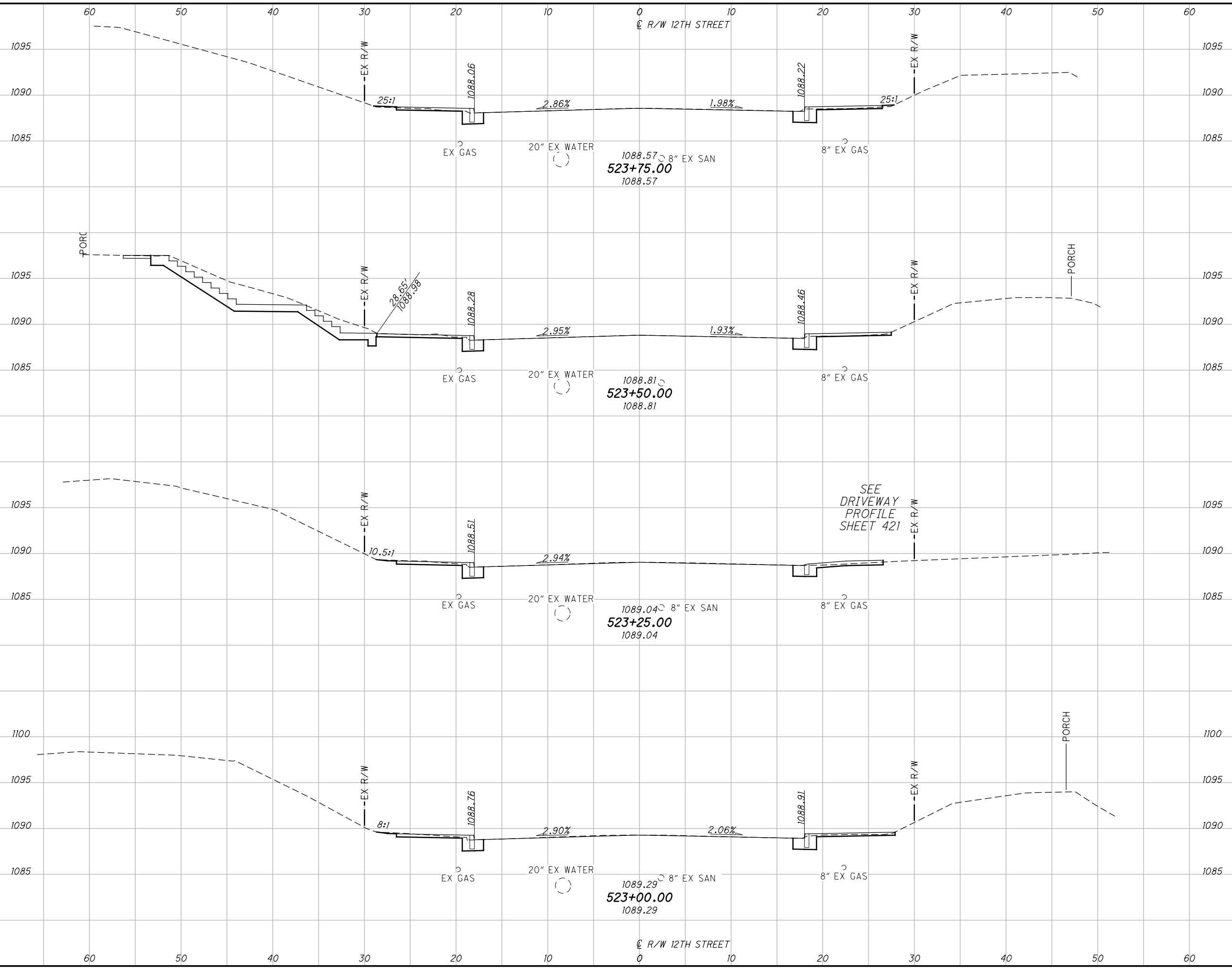
CROSS SECTIONS - 12TH STREET
STA. 522+25.00 TO STA. 522+75.00

STA - 12TH STREET

311
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001.dgn 4/14/2014 4:40:54 PM brian.sezior\ ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.
60	4
60	5
60	3
60	2
60	6
60	2
60	6
20	



END STA	AREA		VOLUME		CALCULATED SHR	CHECKED RWK
	CUT	FILL	CUT	FILL		
523+75.00	9	0	9	0		
523+50.00	10	0	10	0		
523+25.00	11	0	10	0		
523+00.00	11	0	10	0		
TOTAL			39	0		

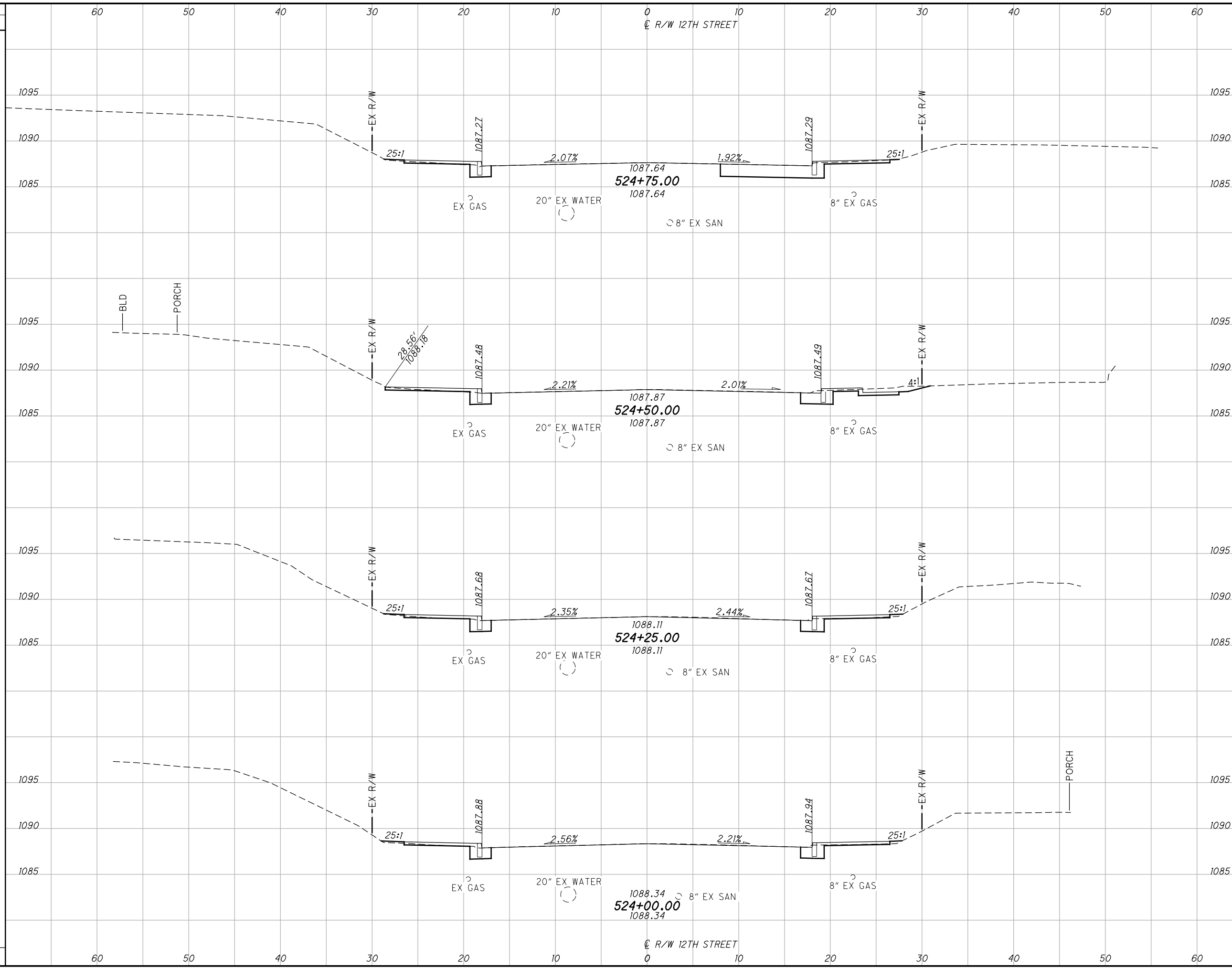
**CROSS SECTIONS - 12TH STREET
STA. 523+00.00 TO STA. 523+75.00**

STA - 12TH STREET

312
790

j:\pre-int\11\11-060 12th Street\STA\85299\roadway\sheets\85299s001.dgn 4/14/2014 4:40:56 PM brion.sezior" ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING	END	
	WIDTH	SO. YDS.
3	60	3
9	60	9
3	60	3
10	60	10
4	60	4
11	60	11
4	60	4
11	60	11
41	60	41



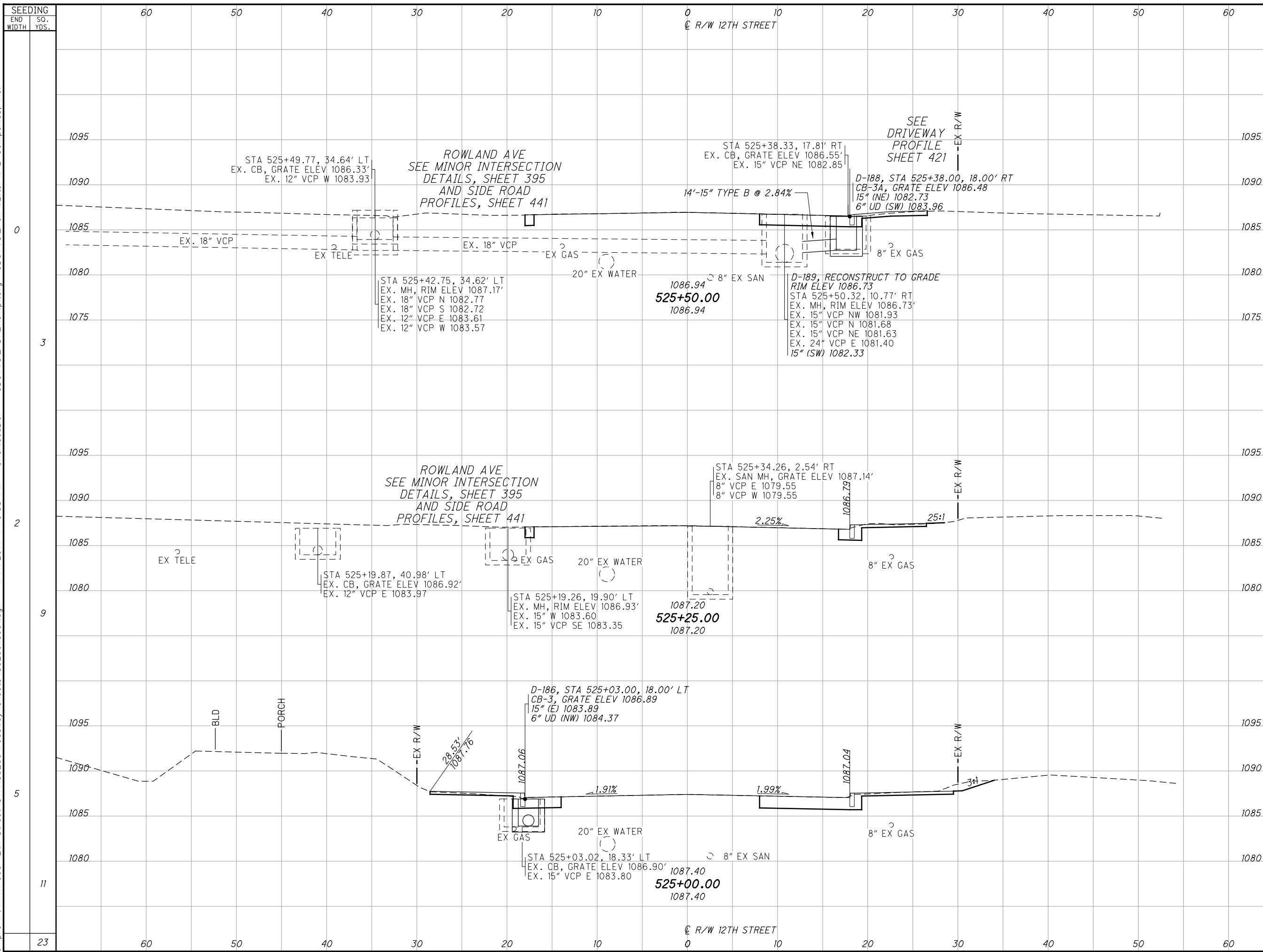
END	AREA		VOLUME	
	CUT	FILL	CUT	FILL
3	21	0	16	0
9	14	0	10	0
3	8	1	7	1
10	8	1	8	0
4	8	1	8	0
11	8	1	8	0
41	41	1	41	1

**CROSS SECTIONS - 12TH STREET
STA. 524+00.00 TO STA. 524+75.00**

STA - 12TH STREET

313
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001.dgn 4/14/2014 4:40:58 PM brion.sezior" ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



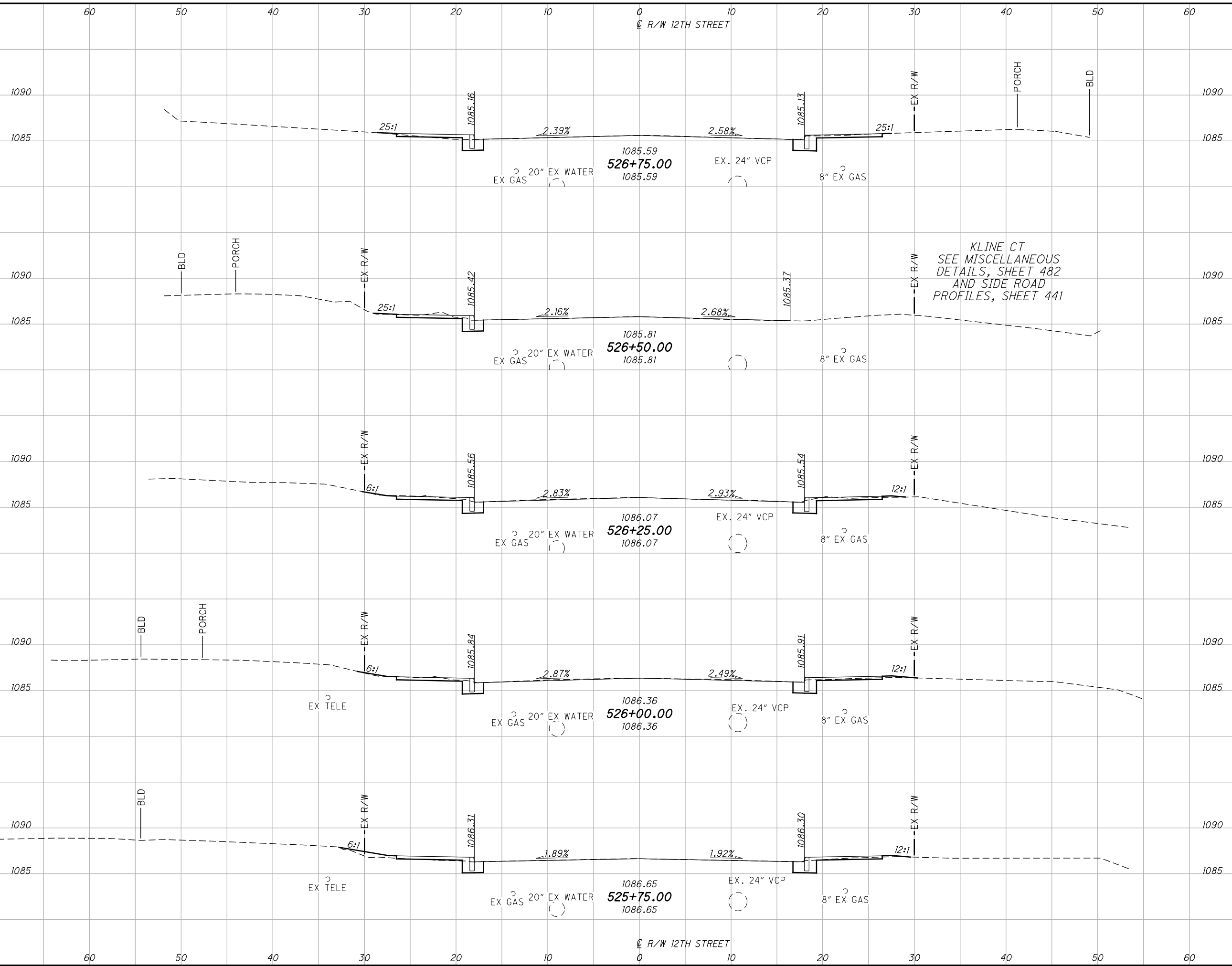
END AREA	VOLUME		CALCULATED SHR	CHECKED	RWK
	CUT	FILL			
18	0	0			
7	0	0			
17	0	0			
29	0	0			
23	0	0			
52	0	0			

CROSS SECTIONS - 12TH STREET
STA. 525+00.00 TO STA. 525+50.00

STA-12TH STREET

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x001.dgn 4/14/2014 4:41:00 PM brion.sedziol' ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING	END SO.	
	WIDTH	YDS.
2	60	50
6	60	50
12	60	50
6	60	50
20	60	50
8	60	50
25	60	50
9	60	50
13	60	50
76	60	50



END AREA	VOLUME	
	CUT	FILL
9	1	7
5	1	8
12	1	10
11	1	9
8	2	21
55	5	

CALCULATED	SHR	CHECKED	RWK

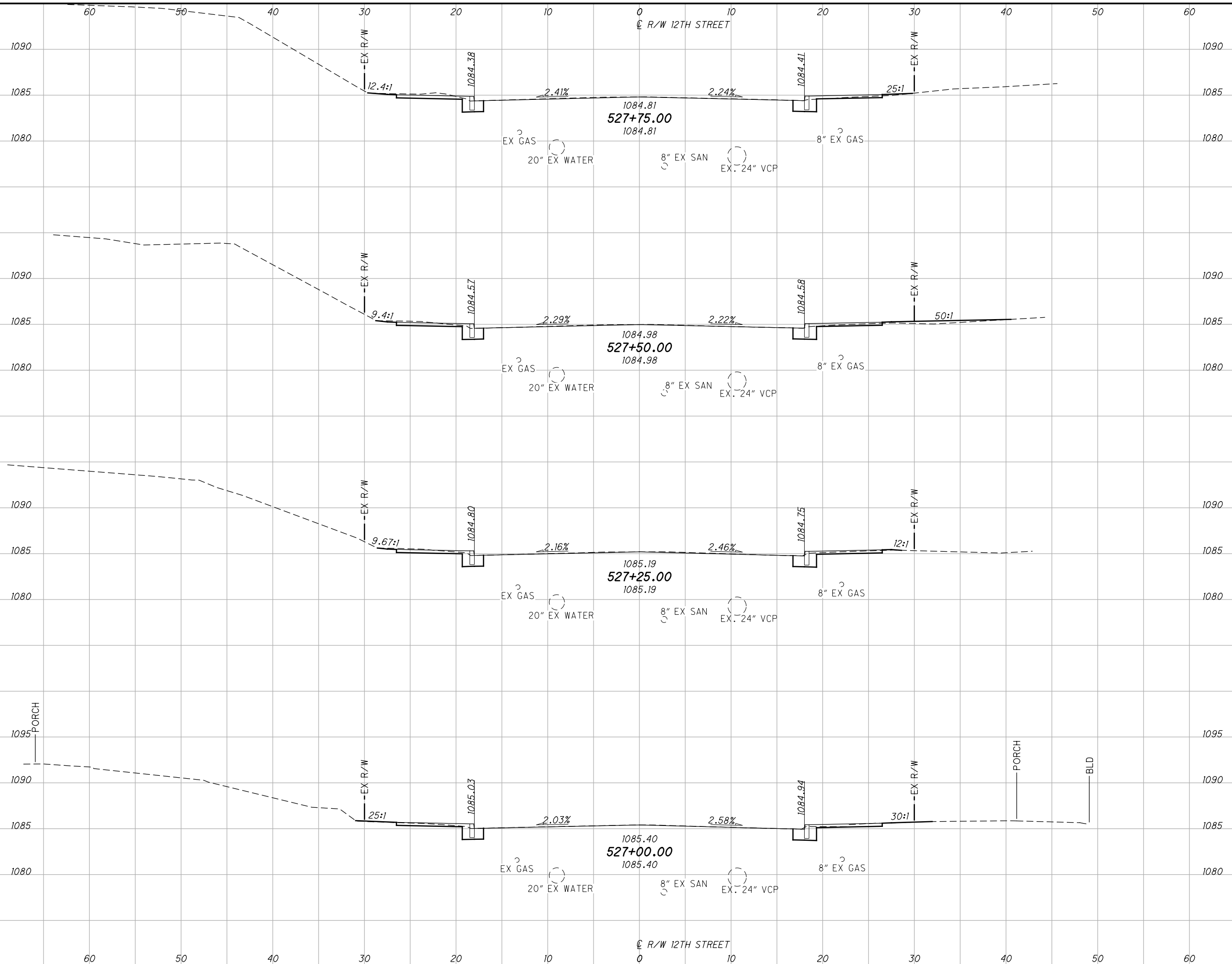
**CROSS SECTIONS - 12TH STREET
STA. 525+75.00 TO STA. 526+75.00**

STA-12TH STREET

315
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001.dgn 4/14/2014 4:41:02 PM brion.sedziol' ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING	END	
	WIDTH	SO. YDS.
6	60	60
32	50	50
16	50	50
28	50	50
4	50	50
19	50	50
10	50	50
17	50	50
96	60	60

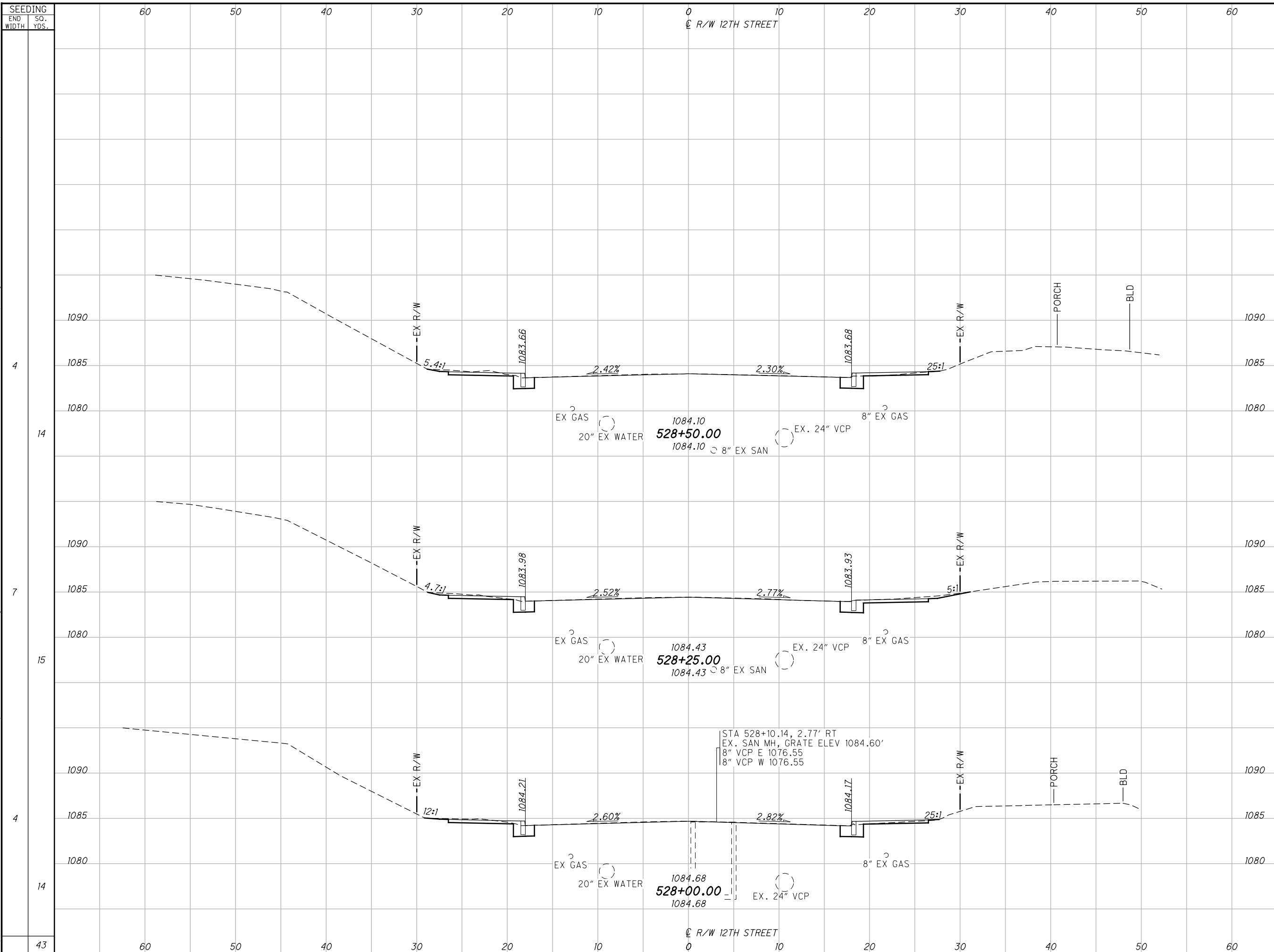


END	AREA		VOLUME	
	CUT	FILL	CUT	FILL
11	0	0	10	1
11	3	0	10	1
12	0	0	10	0
10	0	0	9	0
39	3	0	39	2

CROSS SECTIONS - 12TH STREET
 STA. 527+00.00 TO STA. 527+75.00

316
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x001.dgn 4/14/2014 4:41:04 PM brion.sedziol" ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



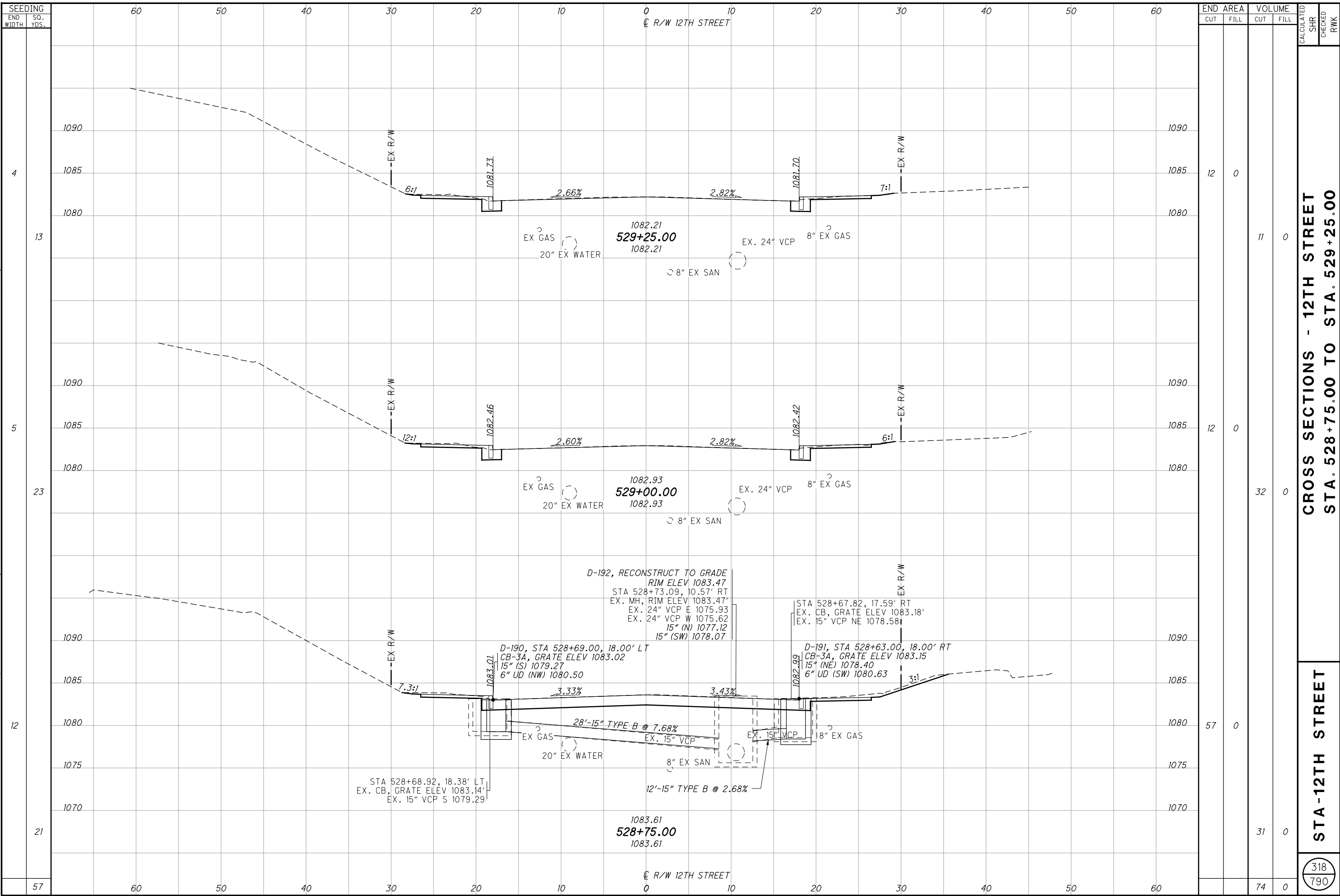
STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
528+00.00	11	0	11	0
528+25.00	13	0	11	0
528+50.00	11	0	10	0
TOTAL	35	0	32	0

CROSS SECTIONS - 12TH STREET
STA. 528+00.00 TO STA. 528+50.00

STA - 12TH STREET

317
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x001.dgn 4/14/2014 4:41:06 PM brion.sedziol\ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.



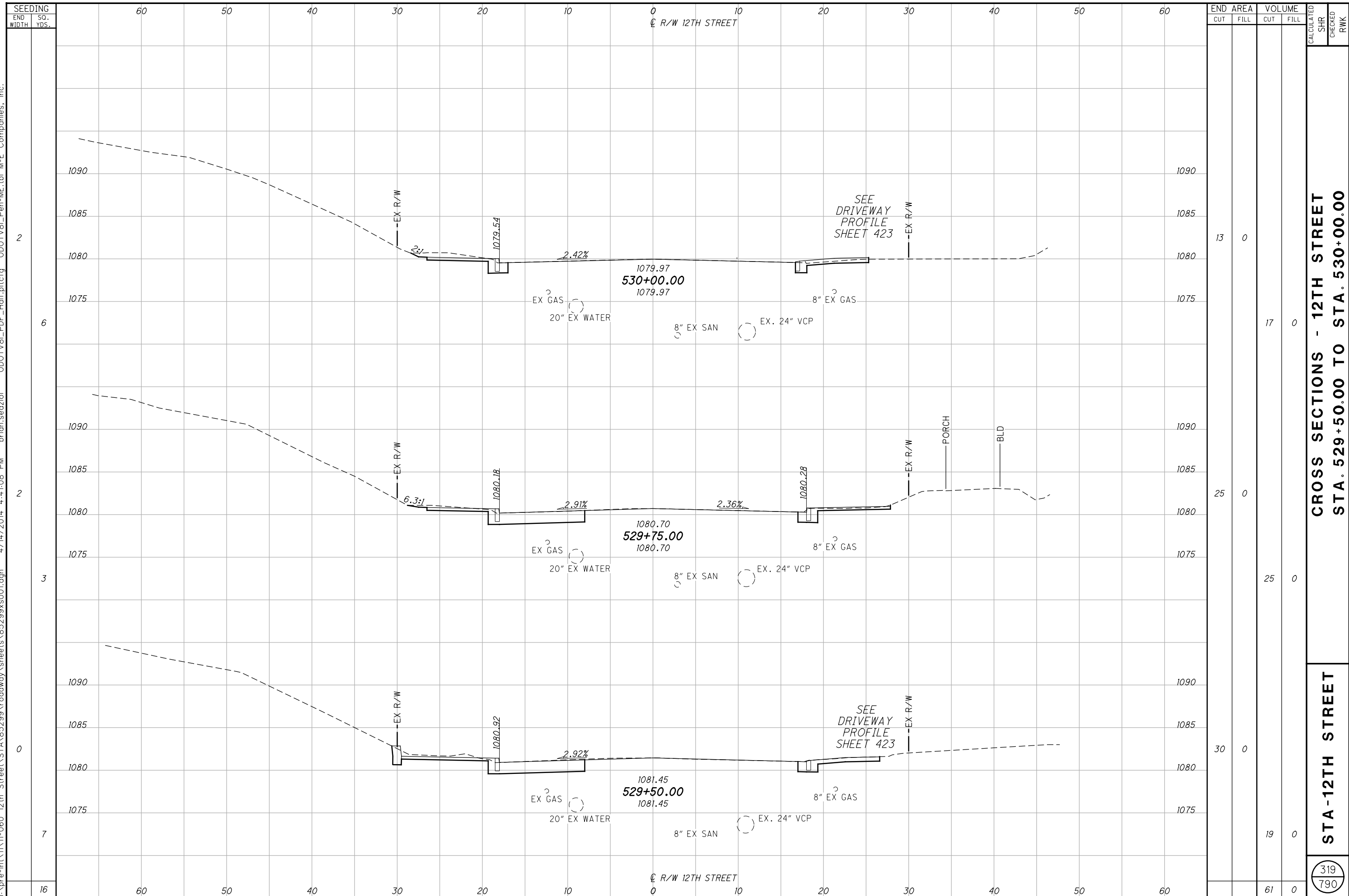
END AREA	VOLUME	CALCULATED	CHECKED	RWK
12	0			
12	0			
57	0			
74	0			

CROSS SECTIONS - 12TH STREET
STA. 528+75.00 TO STA. 529+25.00

STA - 12TH STREET

318
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001.dgn 4/14/2014 4:41:08 PM brion.sedziol' ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



END STA.	END AREA		VOLUME		CALCULATED SHR	CHECKED RWK
	CUT	FILL	CUT	FILL		
530+00.00	13	0	17	0		
529+75.00	25	0	25	0		
529+50.00	30	0	19	0		
TOTAL	68	0	61	0		

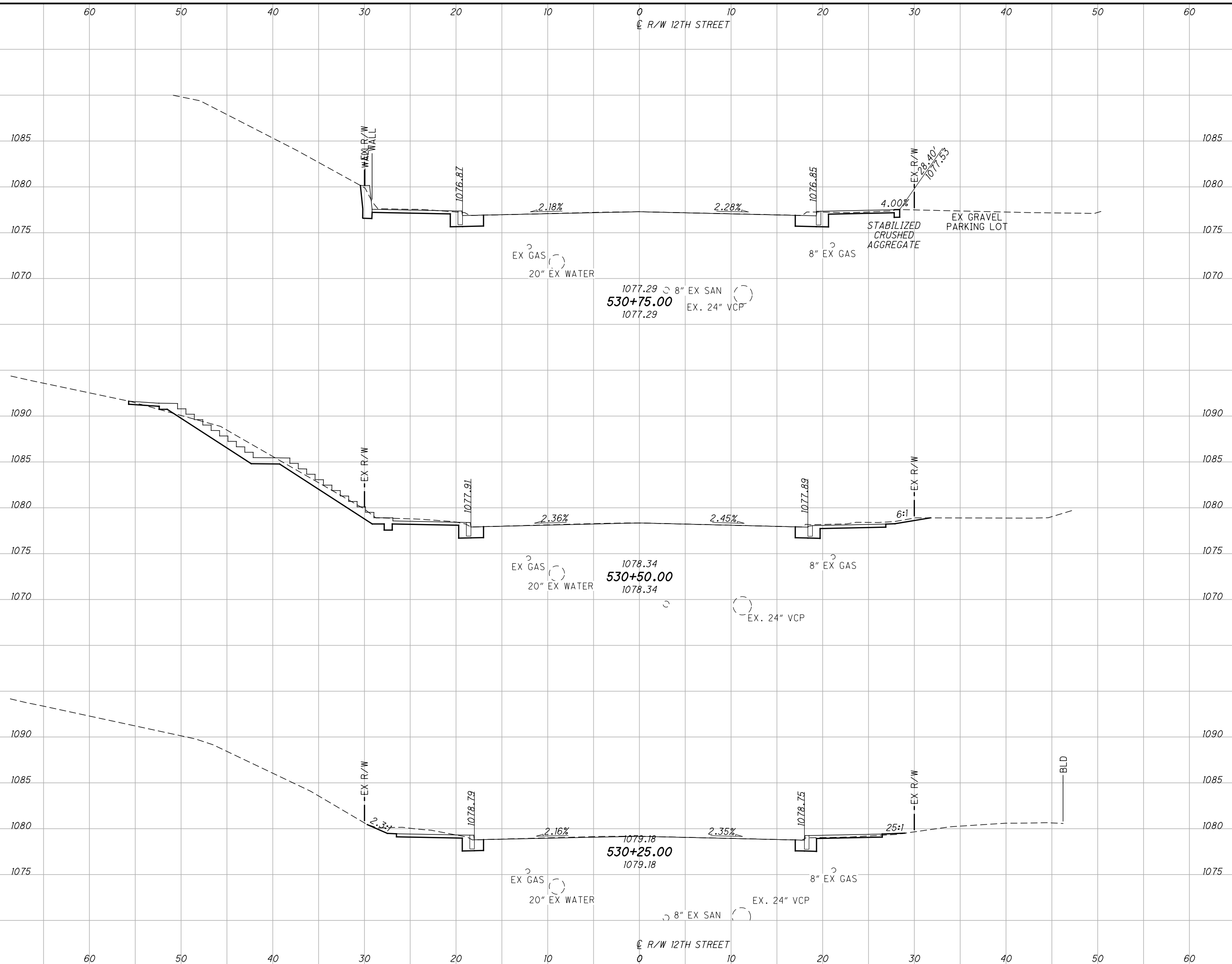
**CROSS SECTIONS - 12TH STREET
 STA. 529+50.00 TO STA. 530+00.00**

STA - 12TH STREET

319
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001.dgn 4/14/2014 4:41:10 PM brian.sedzia\ ODOTV81_PDF_Half.plt c:\odotv81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	END		SO. YDS.
	WIDTH	AREA	
1	60	19	0
8	60	28	0
5	60	42	1
15	60	26	0
6	60	14	0
10	60	13	0
33	60	67	0



END AREA	VOLUME		CALCULATED SHR	CHECKED RWK
	CUT	FILL		
19	0	0		
28	0	0		
42	1	0		
26	0	0		
14	0	0		
13	0	0		
67	0	0		

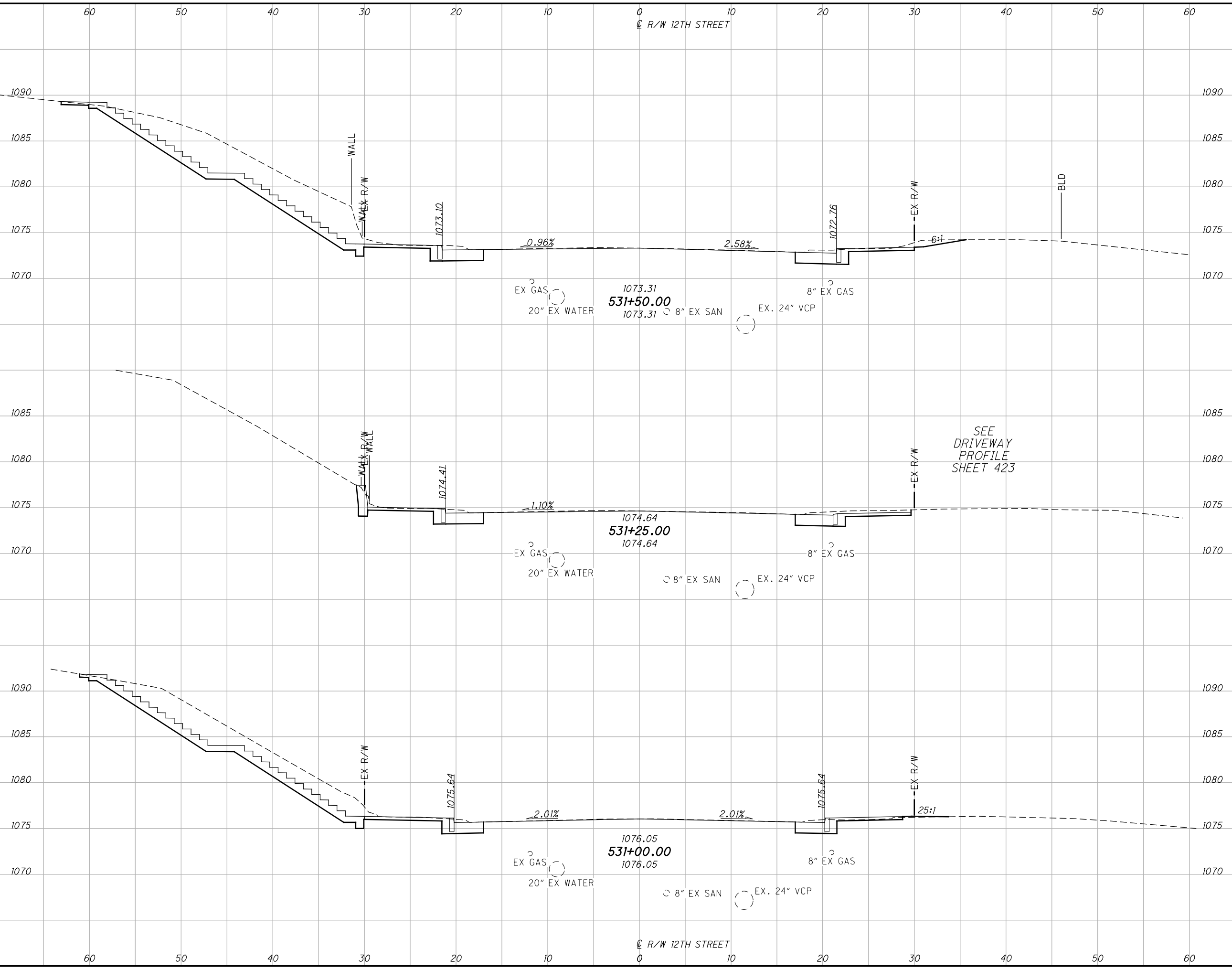
**CROSS SECTIONS - 12TH STREET
STA. 530+25.00 TO STA. 530+75.00**

STA - 12TH STREET

320
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001.dgn 4/14/2014 4:41:12 PM brian.sedzia\ ODOTV81_PDF_Half.plt cfg ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	END AREA		VOLUME		CALCULATED	CHECKED	RWK
	CUT	FILL	CUT	FILL			
7	133	0					
10			74	0			
0	27	0					
7			59	0			
5	101	0					
8			56	0			
25			189	0			



END AREA	VOLUME		CALCULATED	CHECKED	RWK
	CUT	FILL			
133	0				
		74	0		
27	0				
		59	0		
101	0				
		56	0		
		189	0		

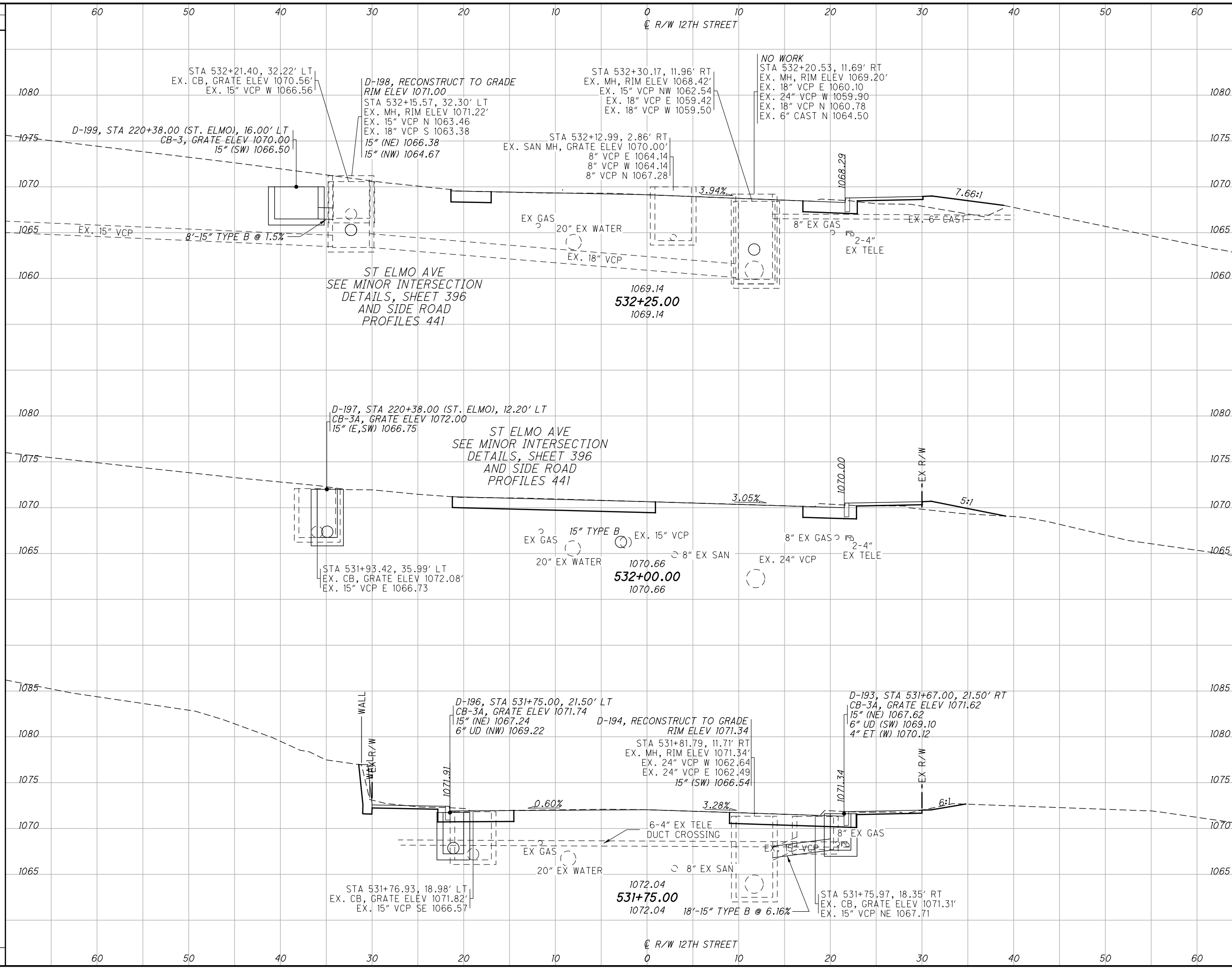
**CROSS SECTIONS - 12TH STREET
STA. 531+00.00 TO STA. 531+50.00**

STA - 12TH STREET

321
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x001.dgn 4/14/2014 4:41:14 PM brian.sedzic\ODOTV81_PDF_Half.plt c:\odotv81_pen-me.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.
60	9
50	25
40	9
30	4
20	5
10	60
0	46
10	
20	
30	
40	
50	
60	



END AREA		VOLUME		CALCULATED SHR	CHECKED	RWK
CUT	FILL	CUT	FILL			
		14	14			
		23	9			
		35	6			
		16	3			
		39	0			
		79	0			
		118	12			

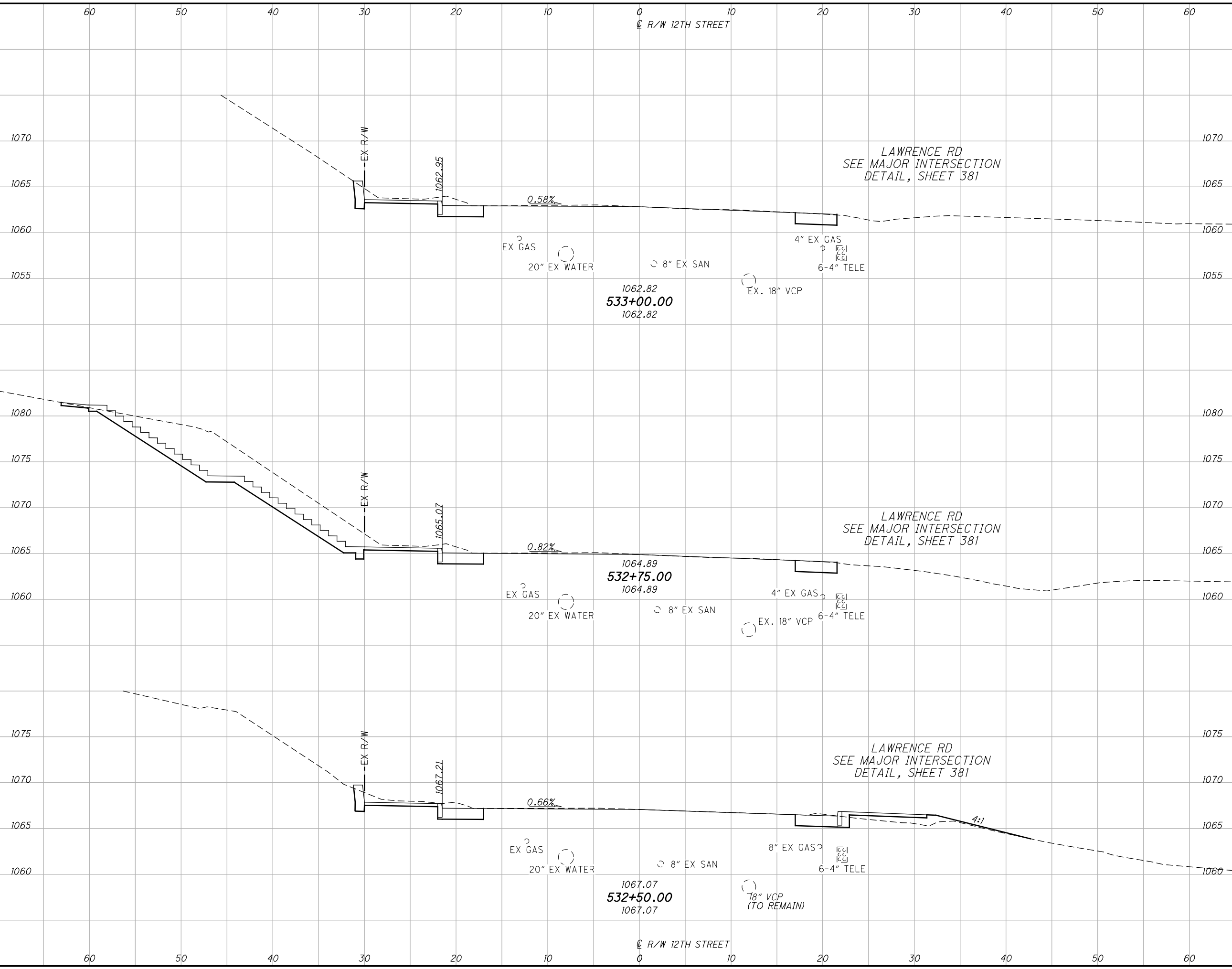
**CROSS SECTIONS - 12TH STREET
STA. 531+75.00 TO STA. 532+25.00**

STA - 12TH STREET

322
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x001.dgn 4/14/2014 4:41:16 PM brian.sedziol\ ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E_Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.
60	0
50	0
40	0
30	0
20	0
10	0
0	0
10	0
20	0
30	0
40	0
50	0
60	0
60	16
50	16
40	16
30	16
20	16
10	16
0	16
10	16
20	16
30	16
40	16
50	16
60	16
60	28
50	28
40	28
30	28
20	28
10	28
0	28
10	28
20	28
30	28
40	28
50	28
60	28
60	44



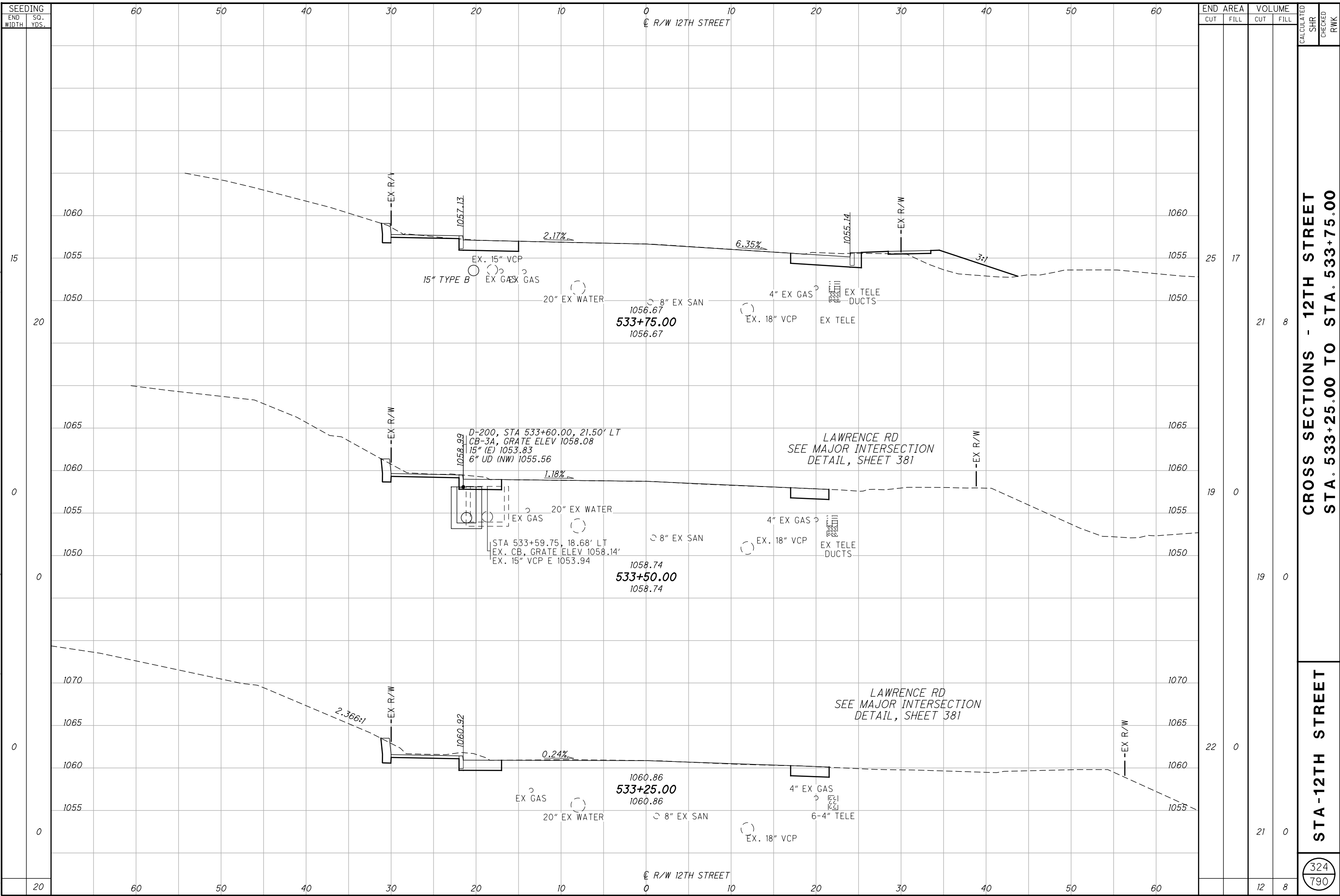
END AREA	VOLUME	CALCULATED		CHECKED	RWK
		CUT	FILL		
23	0				
68	0				
124	0				
68	4				
24	7				
17	10				
153	14				

CROSS SECTIONS - 12TH STREET
STA. 532+50.00 TO STA. 533+00.00

STA - 12TH STREET

323
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001.dgn 4/14/2014 4:41:18 PM brian.sedzia\ ODOTV81_PDF_Half.plt c:\g\odotv81_pen-me.tbl M-E Companies, Inc.



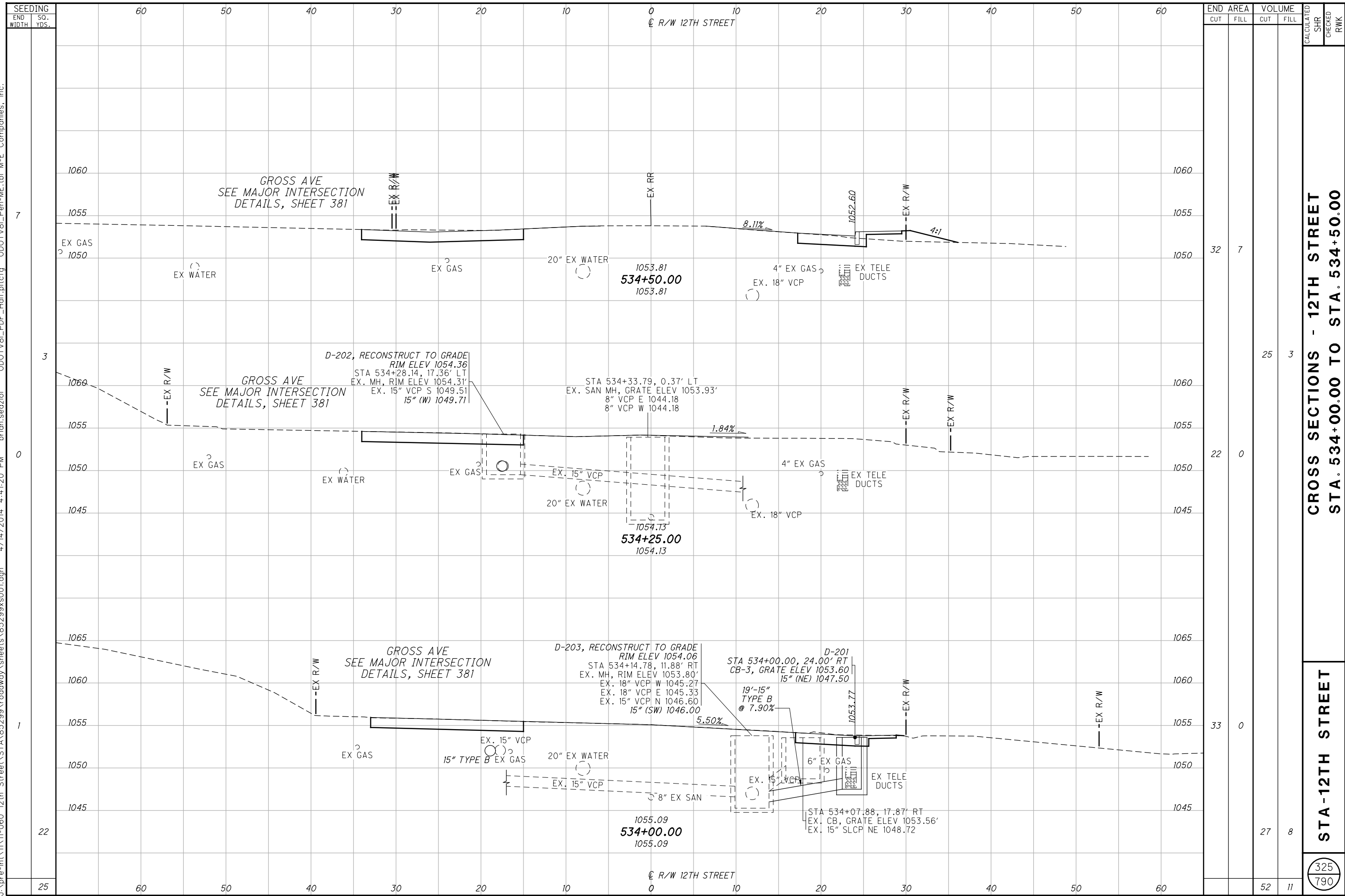
END STA	SEEDING		END AREA		VOLUME		CALCULATED SHR	CHECKED RWK
	END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL		
533+75.00	15		25	17				
533+50.00	20		19	0	19	0		
533+25.00	0		22	0	21	0		
533+00.00	20				12	8		

**CROSS SECTIONS - 12TH STREET
STA. 533+25.00 TO STA. 533+75.00**

STA - 12TH STREET

324
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001.dgn 4/14/2014 4:41:20 PM brion.sedziol\ ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



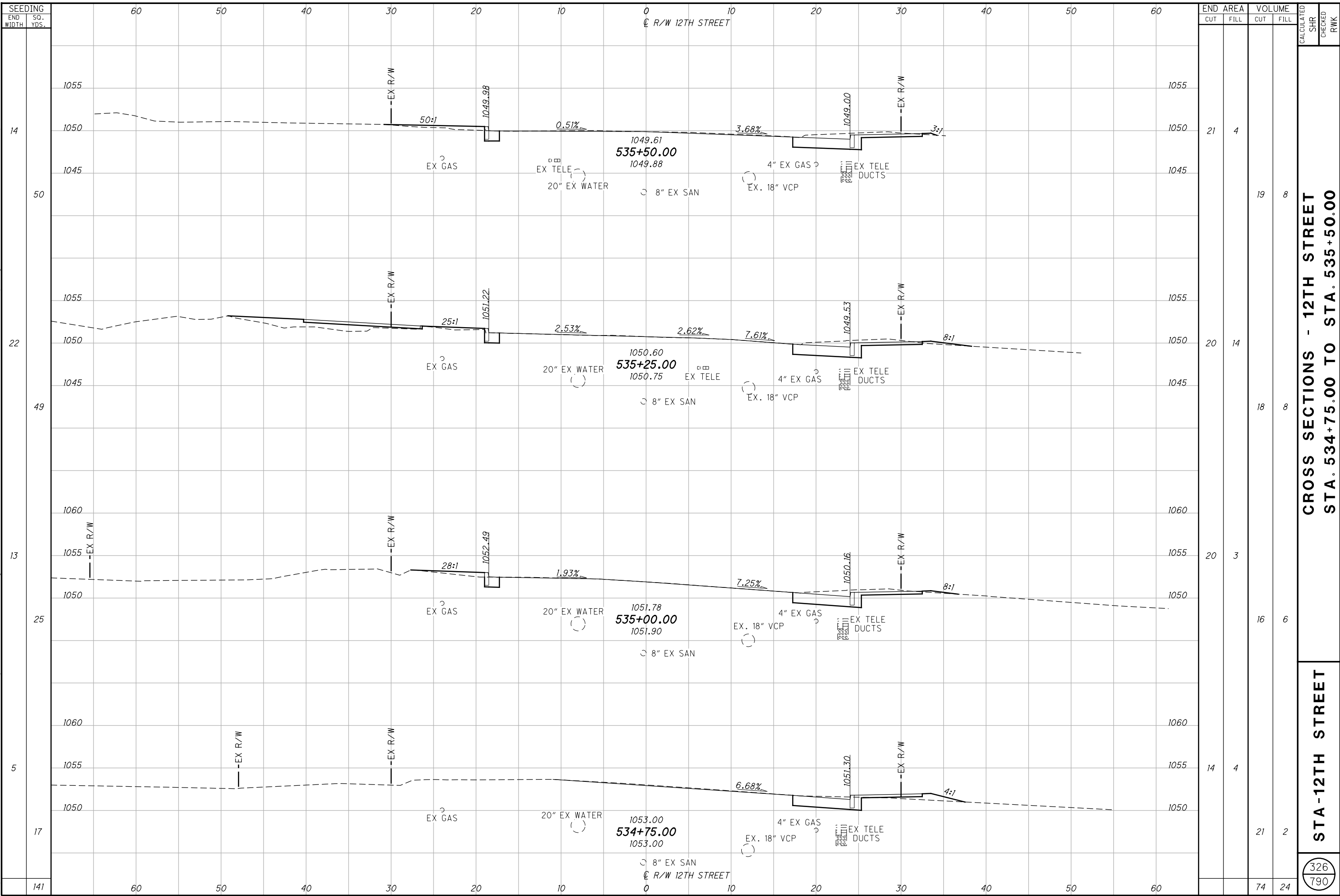
SEEDING		END AREA		VOLUME		CALCULATED	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	SHR	CHECKED
7		32	7				
3		22	0	25	3		
0							
1		33	0				
22				27	8		
25				52	11		

**CROSS SECTIONS - 12TH STREET
STA. 534+00.00 TO STA. 534+50.00**

STA - 12TH STREET

325
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x001.dgn 4/14/2014 4:41:22 PM brion.sedziol' ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



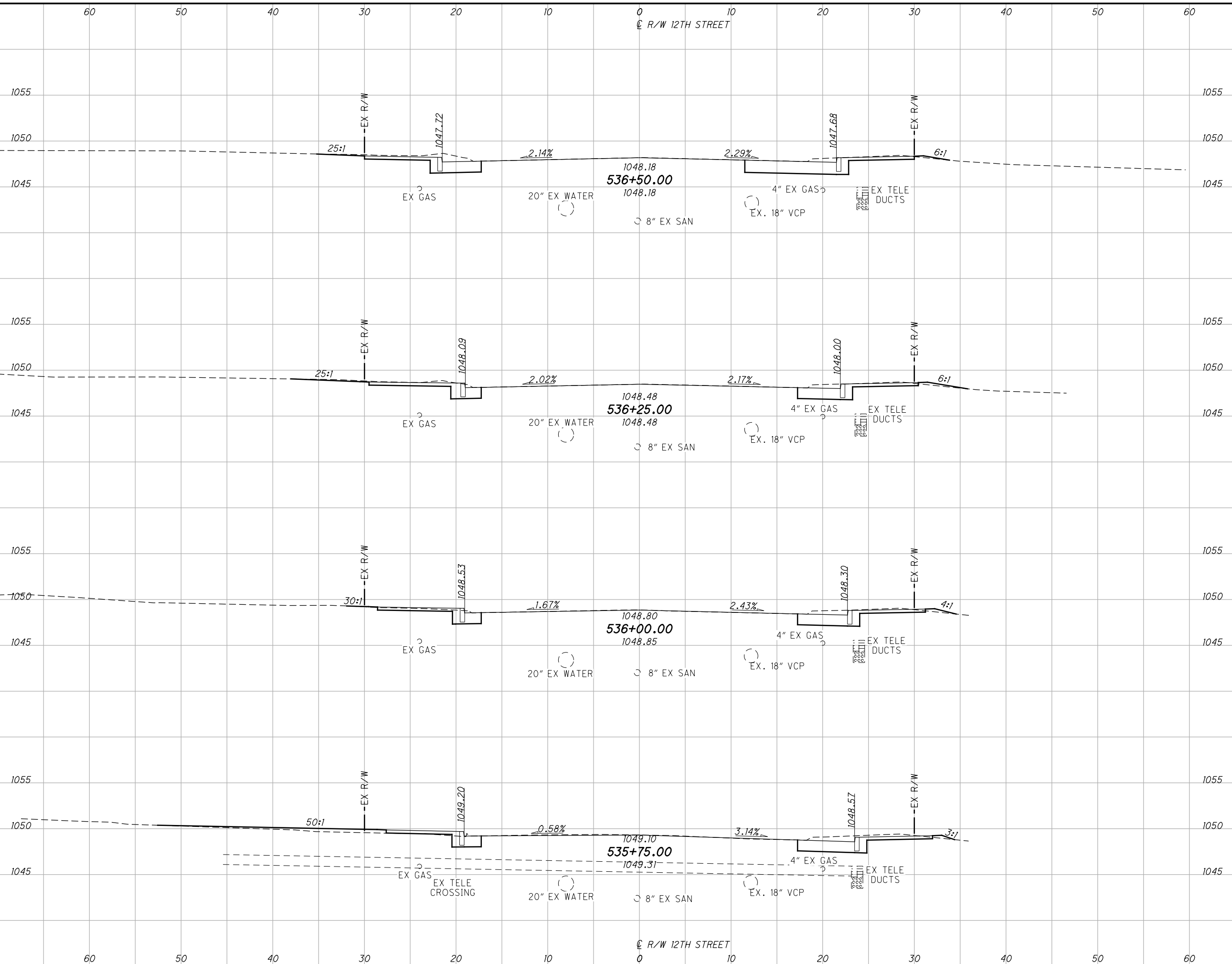
**CROSS SECTIONS - 12TH STREET
STA. 534+75.00 TO STA. 535+50.00**

STA - 12TH STREET

326
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x001.dgn 4/14/2014 4:41:24 PM brion.sedziol" ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING	END SO.	
	WIDTH	YDS.
9	32	14
14	28	7
47	27	57
164		



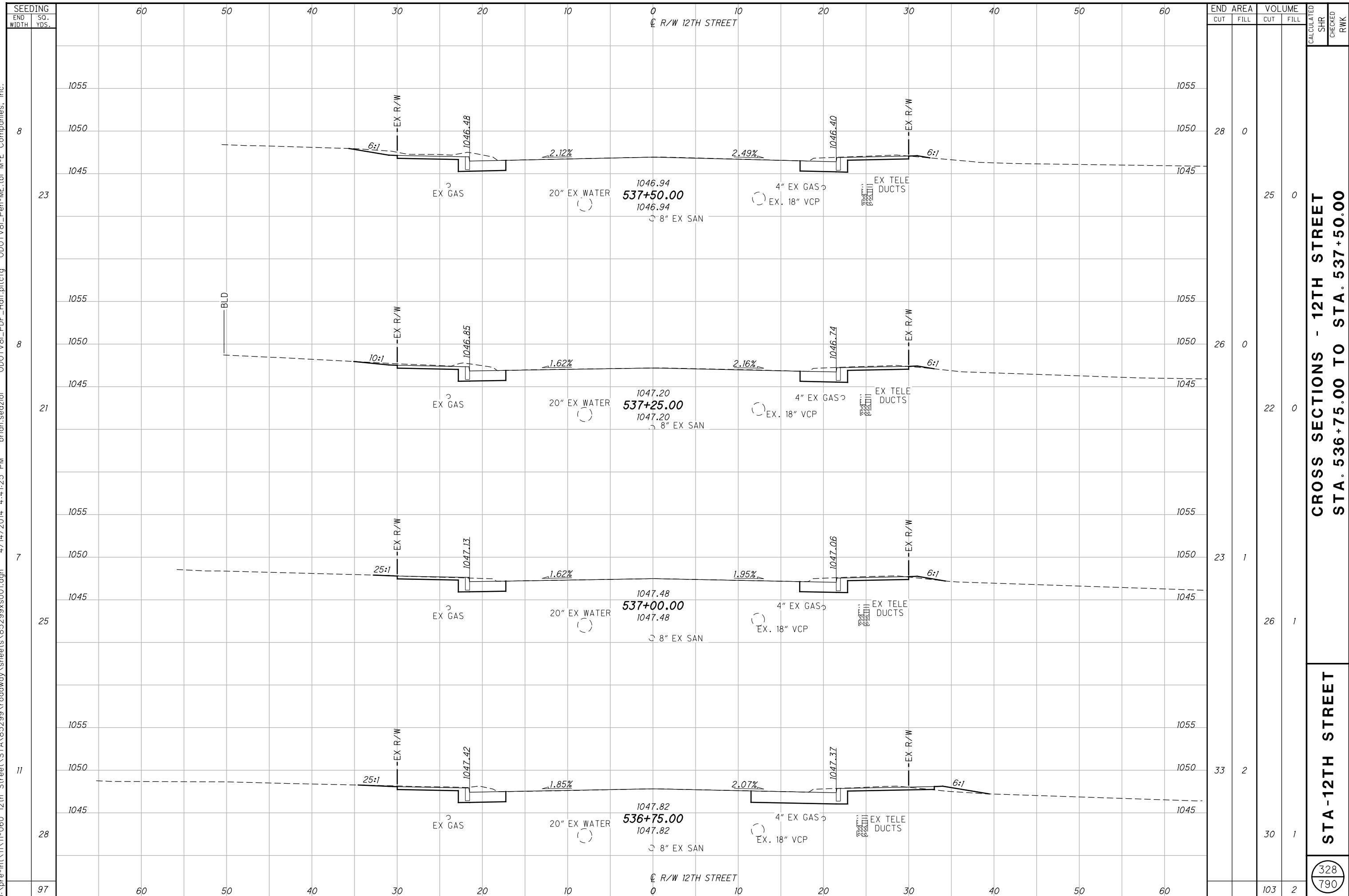
END STA.	AREA		VOLUME		CALCULATED SHR	CHECKED RWK
	CUT	FILL	CUT	FILL		
536+50.00	33	0	27	1		
536+25.00	24	1	21	1		
536+00.00	21	1	19	3		
535+75.00	21	6	19	4		
TOTAL			86	9		

**CROSS SECTIONS - 12TH STREET
STA. 535+75.00 TO STA. 536+50.00**

STA - 12TH STREET

327
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x001.dgn 4/14/2014 4:41:25 PM brion.sedziol\ ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



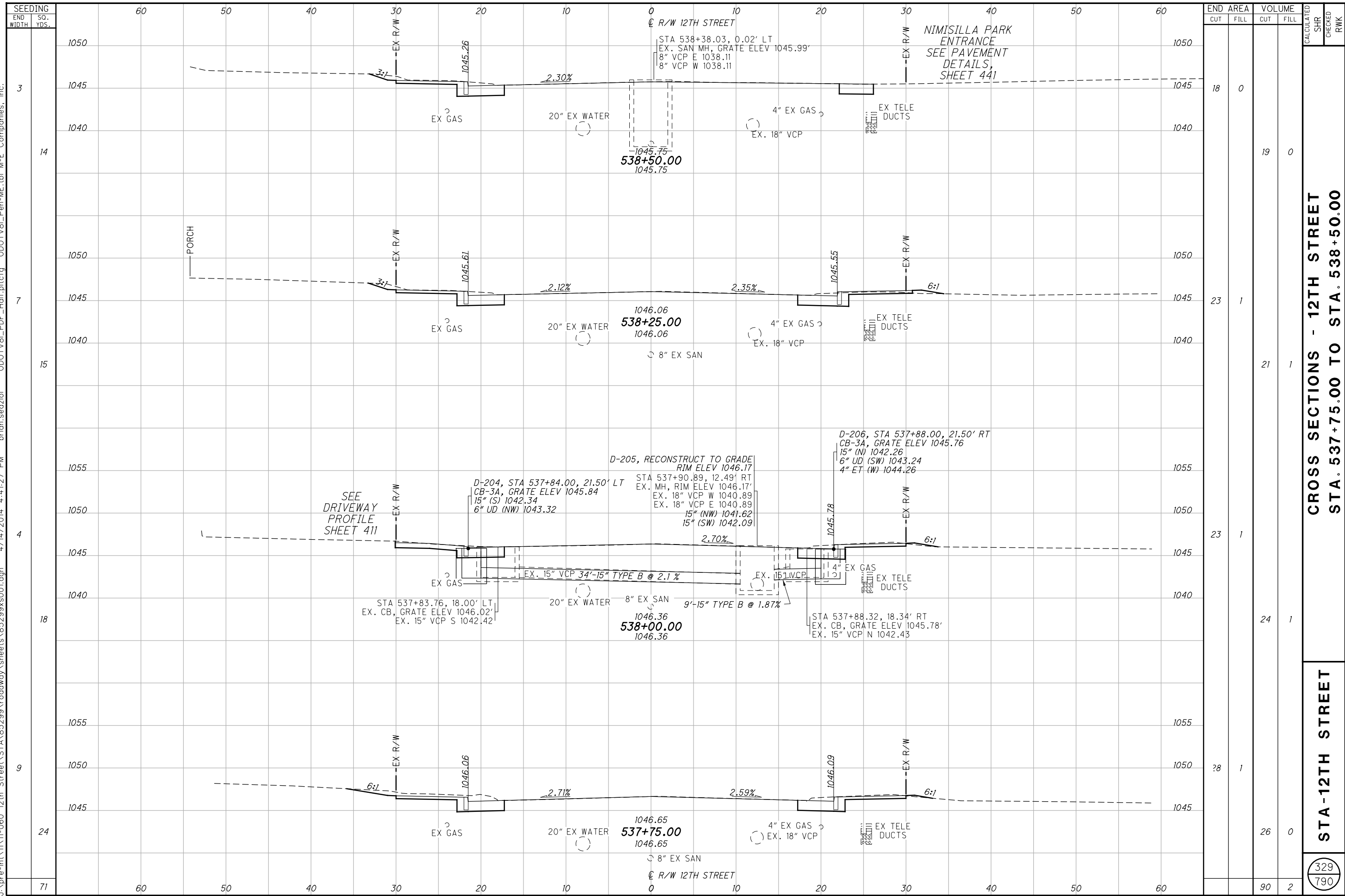
SEEDING	END WIDTH	SO. YDS.	END AREA		VOLUME		CALCULATED SHR	CHECKED	RWK
			CUT	FILL	CUT	FILL			
	8	23	28	0	25	0			
	8	21	26	0	22	0			
	7	25	23	1	26	1			
	11	28	33	2	30	1			
	97				103	2			

**CROSS SECTIONS - 12TH STREET
STA. 536+75.00 TO STA. 537+50.00**

STA - 12TH STREET

328
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001.dgn 4/14/2014 4:41:27 PM brion.sedziol' ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

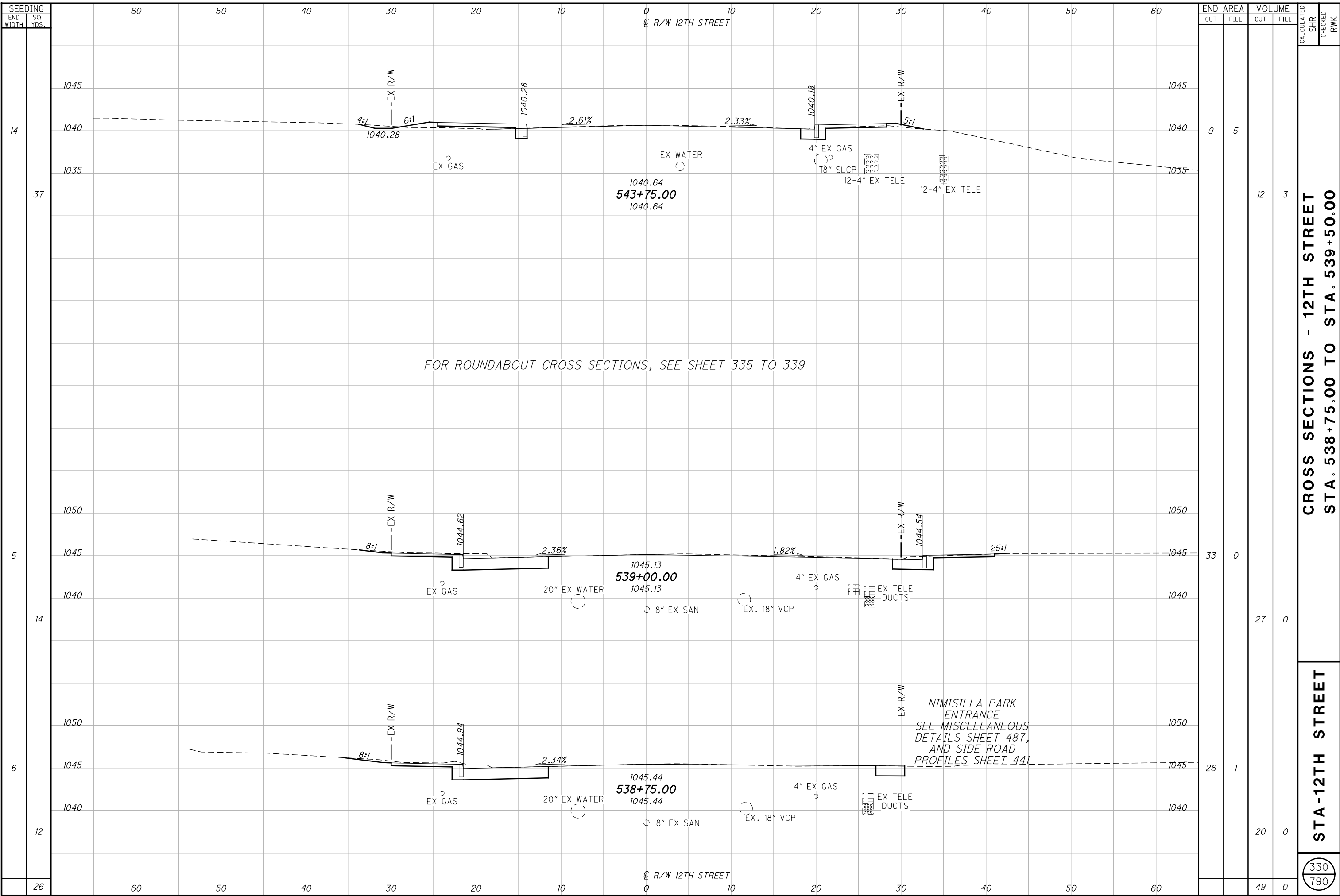


**CROSS SECTIONS - 12TH STREET
STA. 537+75.00 TO STA. 538+50.00**

STA-12TH STREET

329
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x001.dgn 4/14/2014 4:41:29 PM brion.sedziol' ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



FOR ROUNDABOUT CROSS SECTIONS, SEE SHEET 335 TO 339

NIMISILLA PARK
ENTRANCE
SEE MISCELLANEOUS
DETAILS SHEET 487,
AND SIDE ROAD
PROFILES SHEET 441

SEEDING	
END WIDTH	SO. YDS.
14	37
5	14
6	12
26	

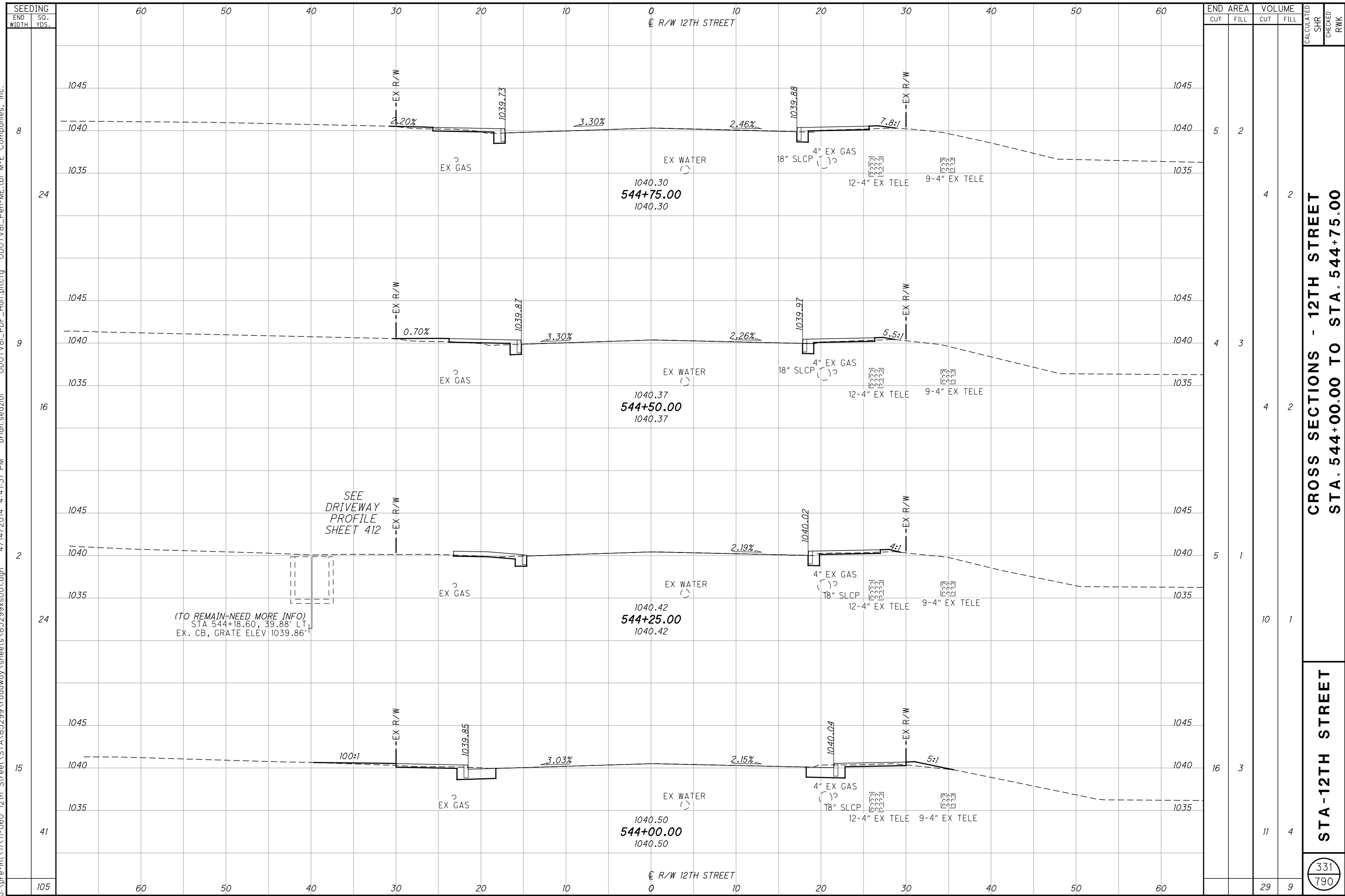
END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	SHR	CHKD
9	5	12	3		
33	0	27	0		
26	1	20	0		
		49	0		

CROSS SECTIONS - 12TH STREET
STA. 538+75.00 TO STA. 539+50.00

STA - 12TH STREET

330
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001.dgn 4/14/2014 4:41:31 PM brian.sedzia\ ODOTV8i_PDF_Half.pltcf ODOTV8i_Pen-ME.tbl M-E_Companies, Inc.



STATION	ELEVATION	GRADE	UTILITY	EX. CB	EX. GRATE	EX. ELEV
544+75.00	1040.30	2.46%	EX WATER, 4" EX GAS, 18" SLCP, 12-4" EX TELE, 9-4" EX TELE	1039.73		1039.73
544+50.00	1040.37	2.26%	EX WATER, 4" EX GAS, 18" SLCP, 12-4" EX TELE, 9-4" EX TELE	1039.87		1039.87
544+25.00	1040.42	2.19%	EX WATER, 4" EX GAS, 18" SLCP, 12-4" EX TELE, 9-4" EX TELE	1040.02		1040.02
544+00.00	1040.50	2.15%	EX WATER, 4" EX GAS, 18" SLCP, 12-4" EX TELE, 9-4" EX TELE	1039.85		1039.85

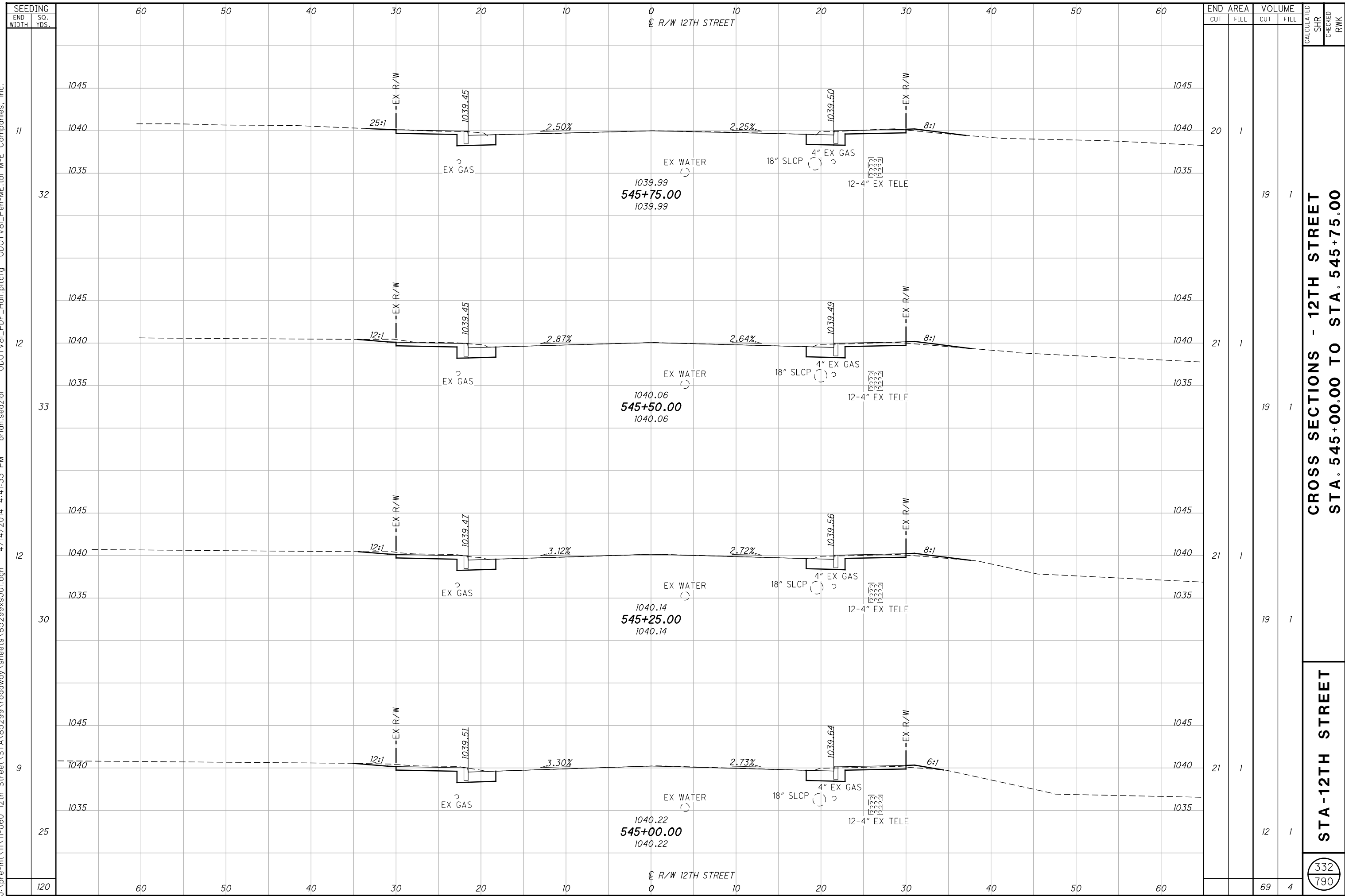
(TO REMAIN-NEED MORE INFO)
STA 544+18.60, 39.88' LT
EX. CB, GRATE ELEV 1039.86'

SEE DRIVEWAY PROFILE SHEET 412

0 R/W 12TH STREET

0 R/W 12TH STREET

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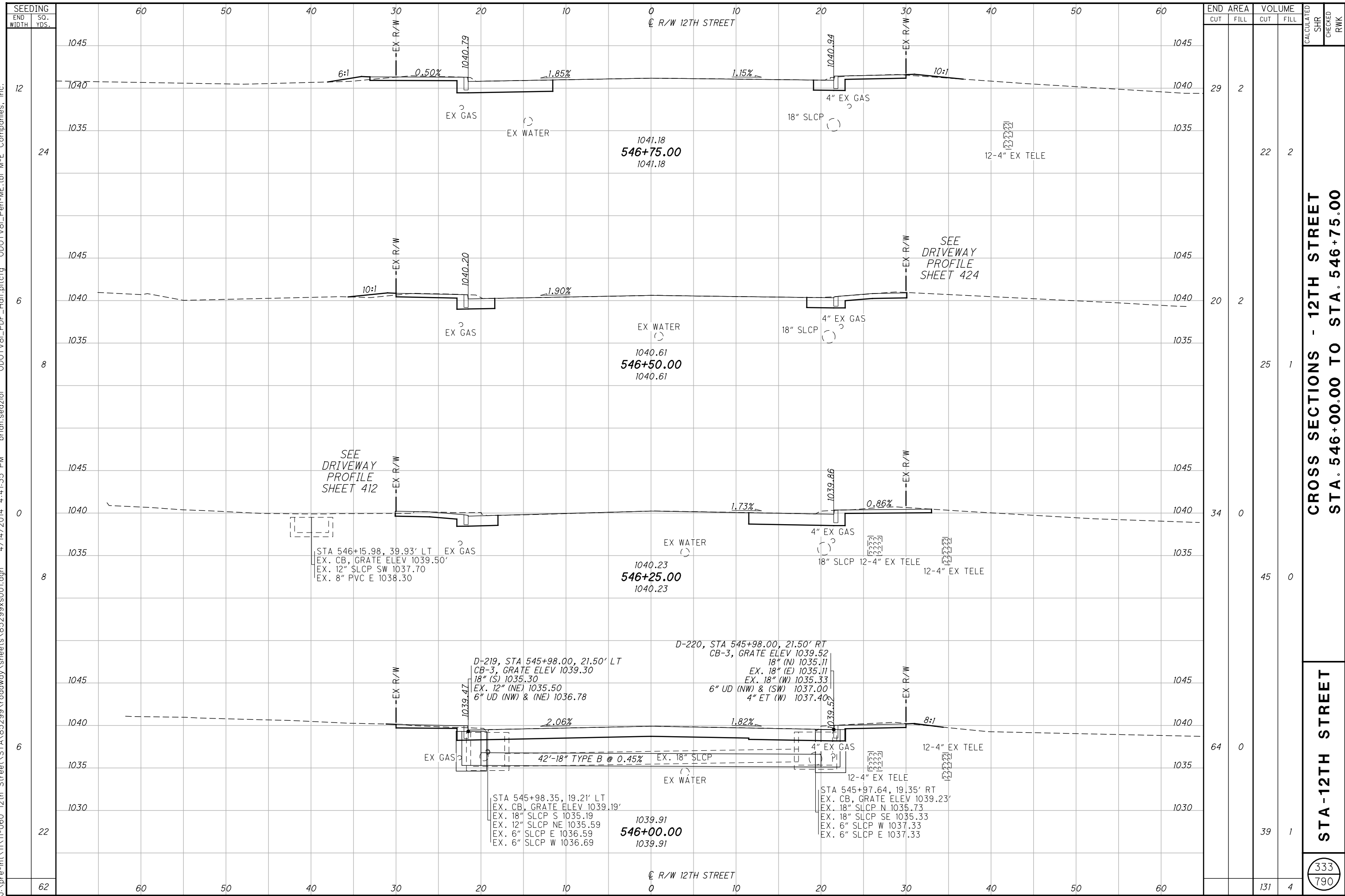
STATION	END AREA		VOLUME		CALCULATED SHR	CHECKED RWK
	CUT	FILL	CUT	FILL		
545+75.00	20	1	19	1		
545+50.00	21	1	19	1		
545+25.00	21	1	19	1		
545+00.00	21	1	12	1		
TOTAL	69	4	69	4		

**CROSS SECTIONS - 12TH STREET
STA. 545+00.00 TO STA. 545+75.00**

STA-12TH STREET

332
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001.dgn 4/14/2014 4:41:35 PM brion.sedziol\ODOTV8i_PDF_Half.pltcfgr\ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



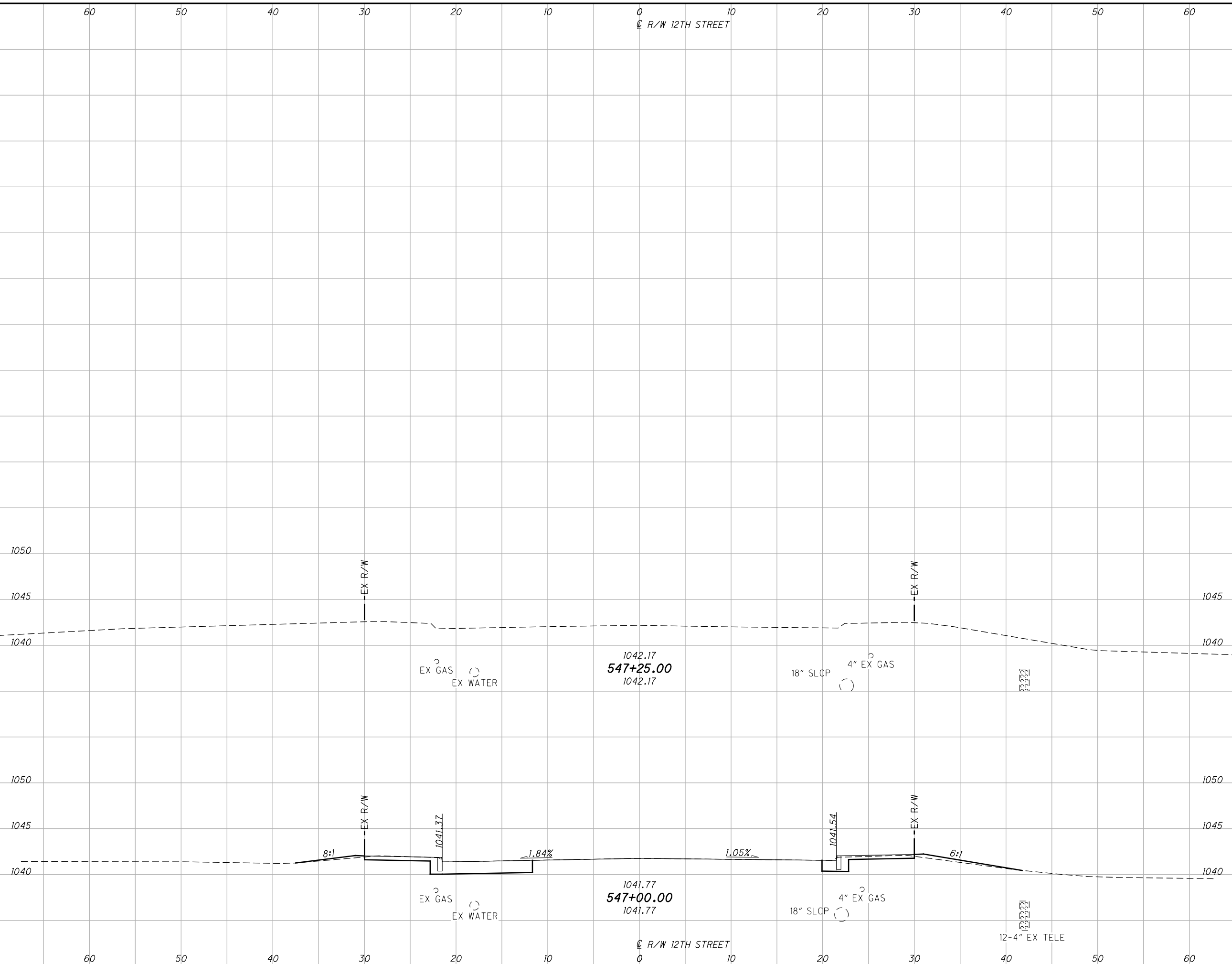
SEEDING	END WIDTH	SO. YDS.
	60	
	50	
	40	
	30	
	20	
	10	
	0	
	10	
	20	
	30	
	40	
	50	
	60	
	60	
	50	
	40	
	30	
	20	
	10	
	0	
	10	
	20	
	30	
	40	
	50	
	60	
	62	

END AREA	VOLUME
CUT	FILL
29	2
20	2
25	1
34	0
45	0
64	0
39	1
131	4

END AREA	VOLUME	CALCULATED	CHECKED
CUT	FILL	SHR	RWK
29	2		
20	2		
25	1		
34	0		
45	0		
64	0		
39	1		
131	4		

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x001.dgn 4/14/2014 4:41:37 PM brion.sedziol' ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING		60	50	40	30	20	10	0	10	20	30	40	50	60	END AREA		VOLUME		CALCULATED SHR	CHECKED RWK
END WIDTH	SO. YDS.														CUT	FILL	CUT	FILL		
															0	0	12	2		
															25	4	25	3		
																	37	5		

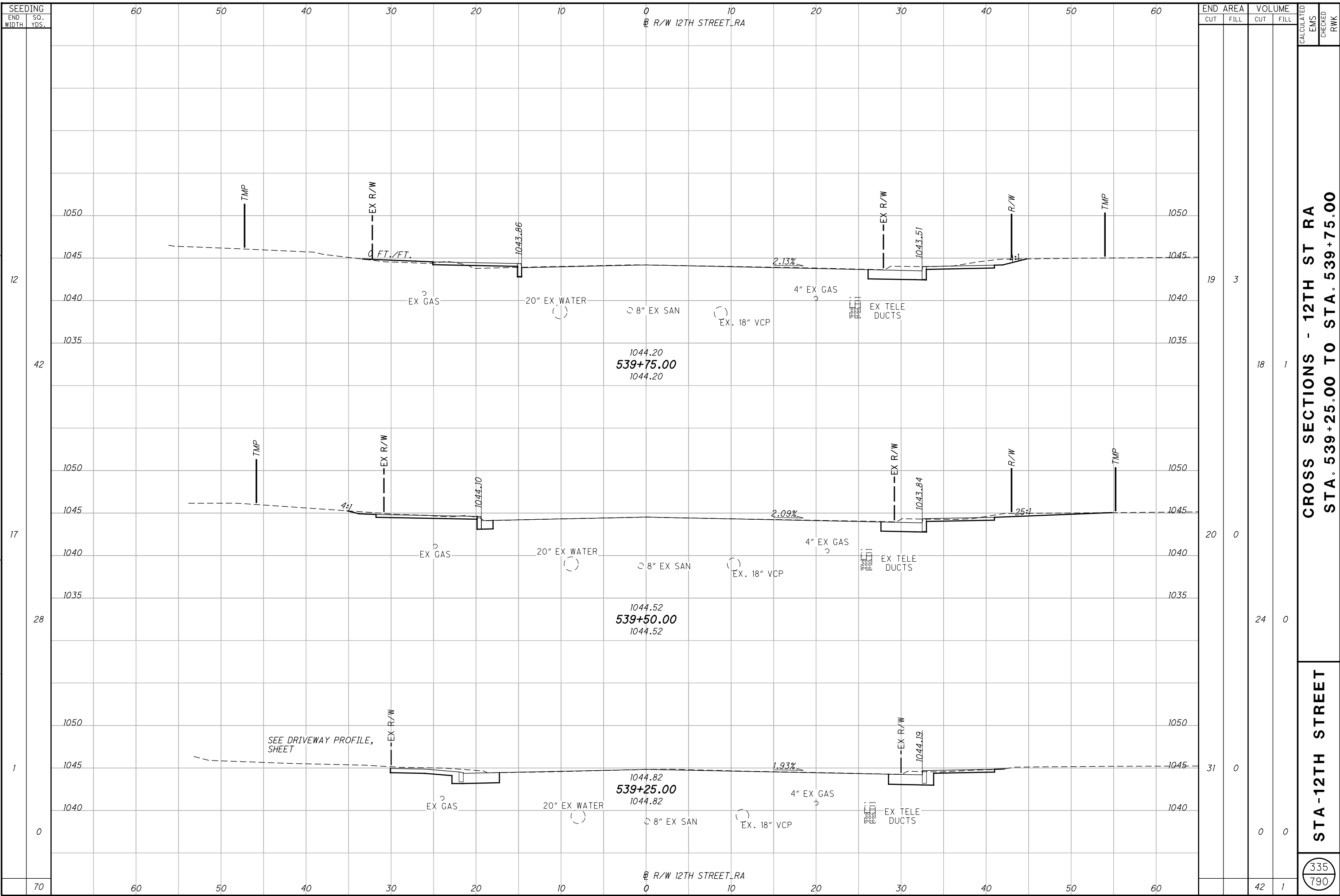


CROSS SECTIONS - 12TH STREET
STA. 547+00.00 TO STA. 574+25.00

STA - 12TH STREET

334
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x001_ra.dgn 4/14/2014 4:41:38 PM brion.sedziol" ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

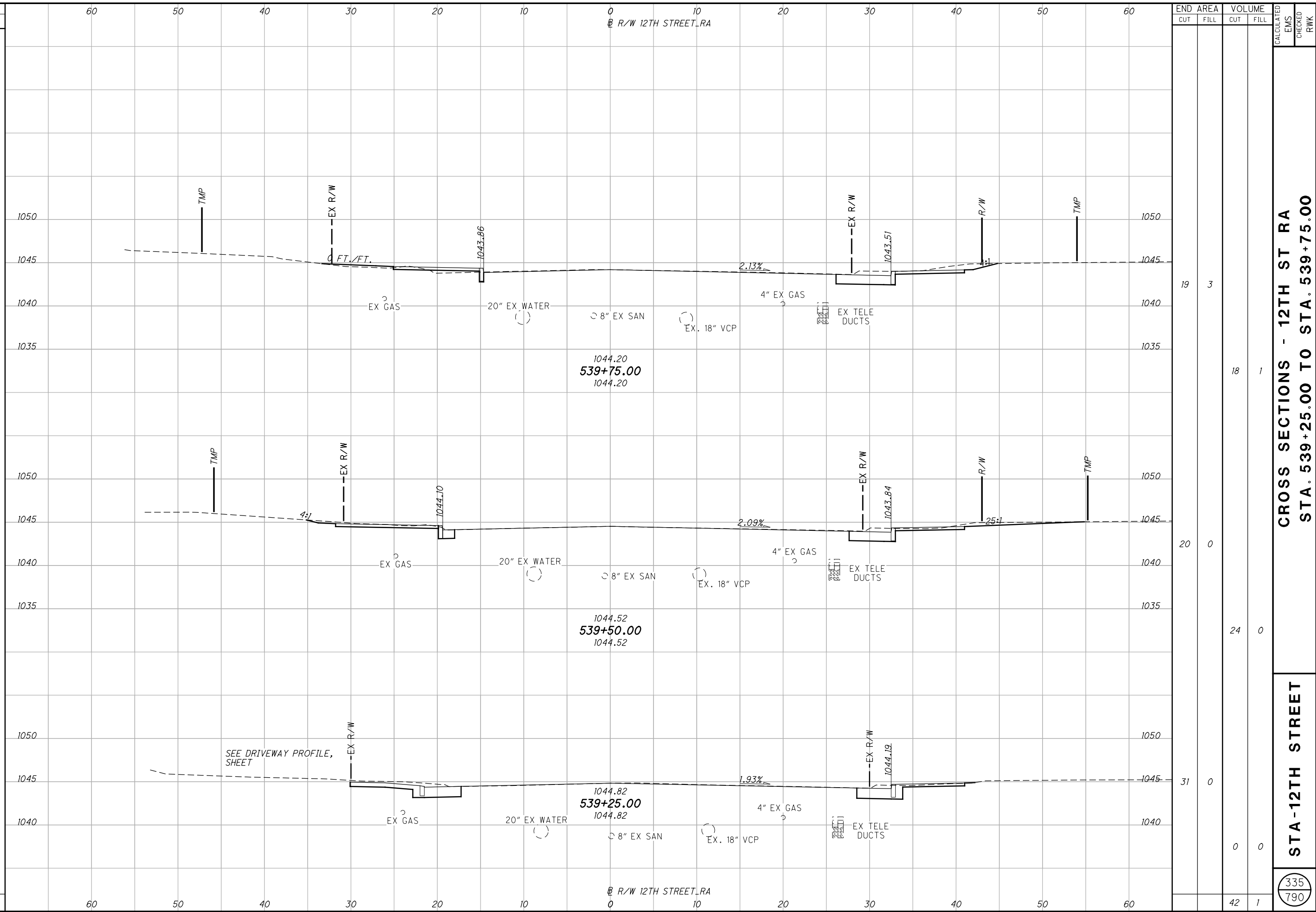


60 50 40 30 20 10 0 10 20 30 40 50 60

1050 1045 1040 1035 1050 1045 1040 1035 1050 1045 1040 1035 1050 1045 1040 1035

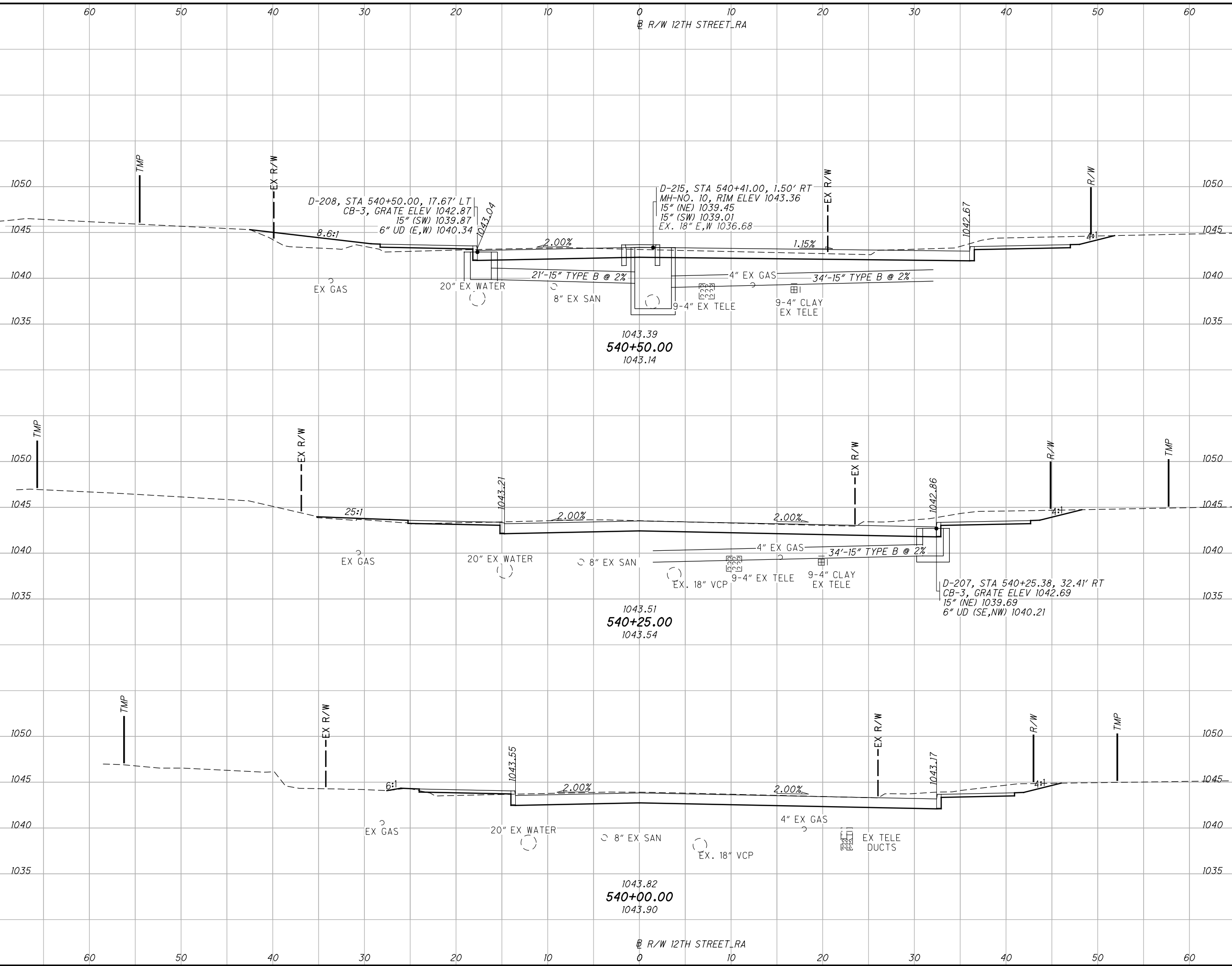
12 42 17 28 1 0 70

19 3 18 1 20 0 24 0 31 0 42 1



j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001_ra.dgn 4/14/2014 4:41:39 PM brion.sedziol" ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING		END AREA		VOLUME		CALCULATED	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	EMS	CHECKED
19	50	68	15	68	8		
16	36	78	2	68	2		
9	31	68	2	40	2		
117				176	12		



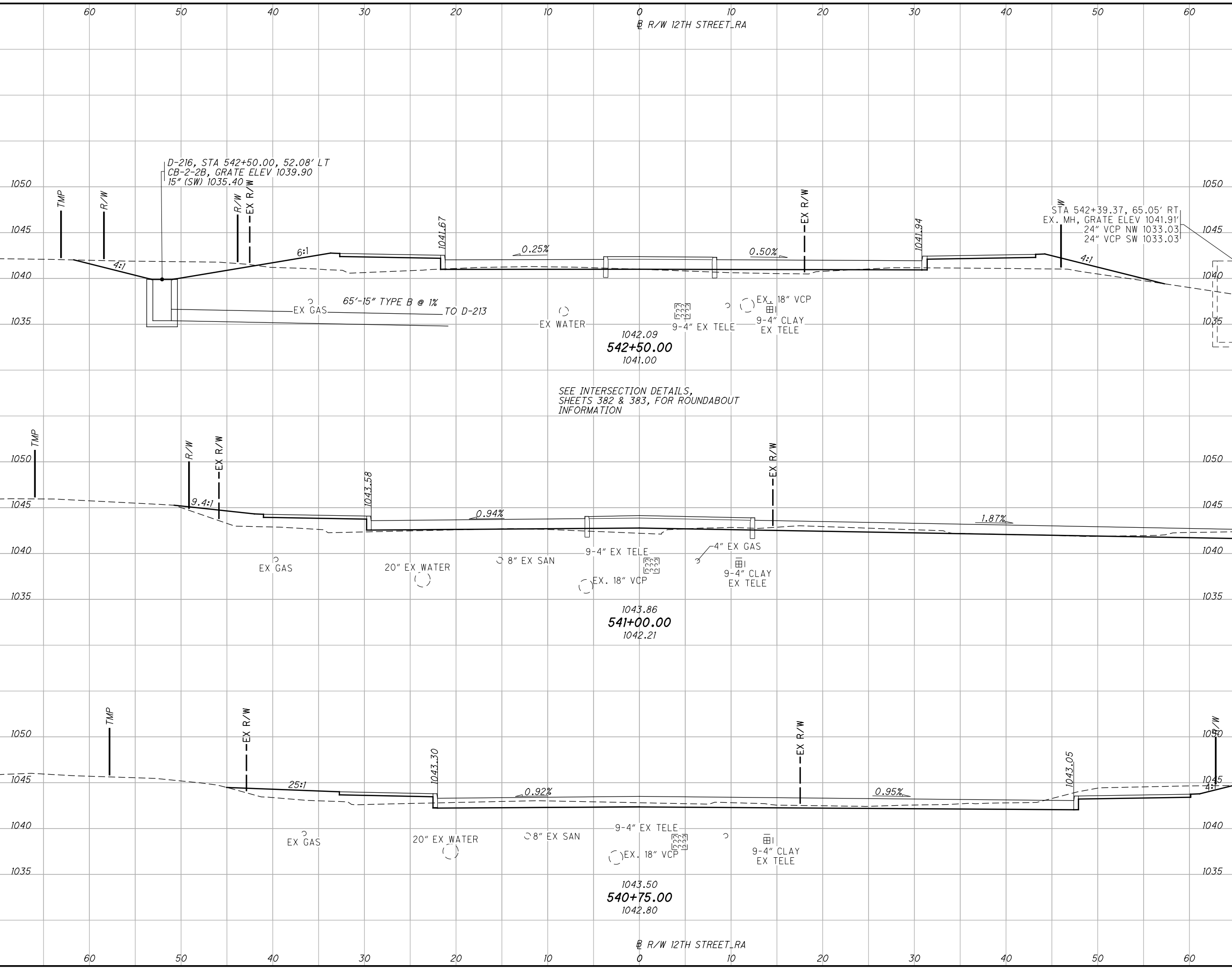
CROSS SECTIONS - 12TH ST RA
STA. 540+00.00 TO STA. 540+50.00

STA-12TH STREET

336
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001_ra.dgn 4/14/2014 4:41:39 PM brion.sedziol" ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	END AREA		VOLUME		CALCULATED	CHECKED	RWK
	CUT	FILL	CUT	FILL			
41		56	28	56			
10		23	33	23			
39		41	41	19			
17		19	56	19			
50		16	57	16			
89		35	98	35			

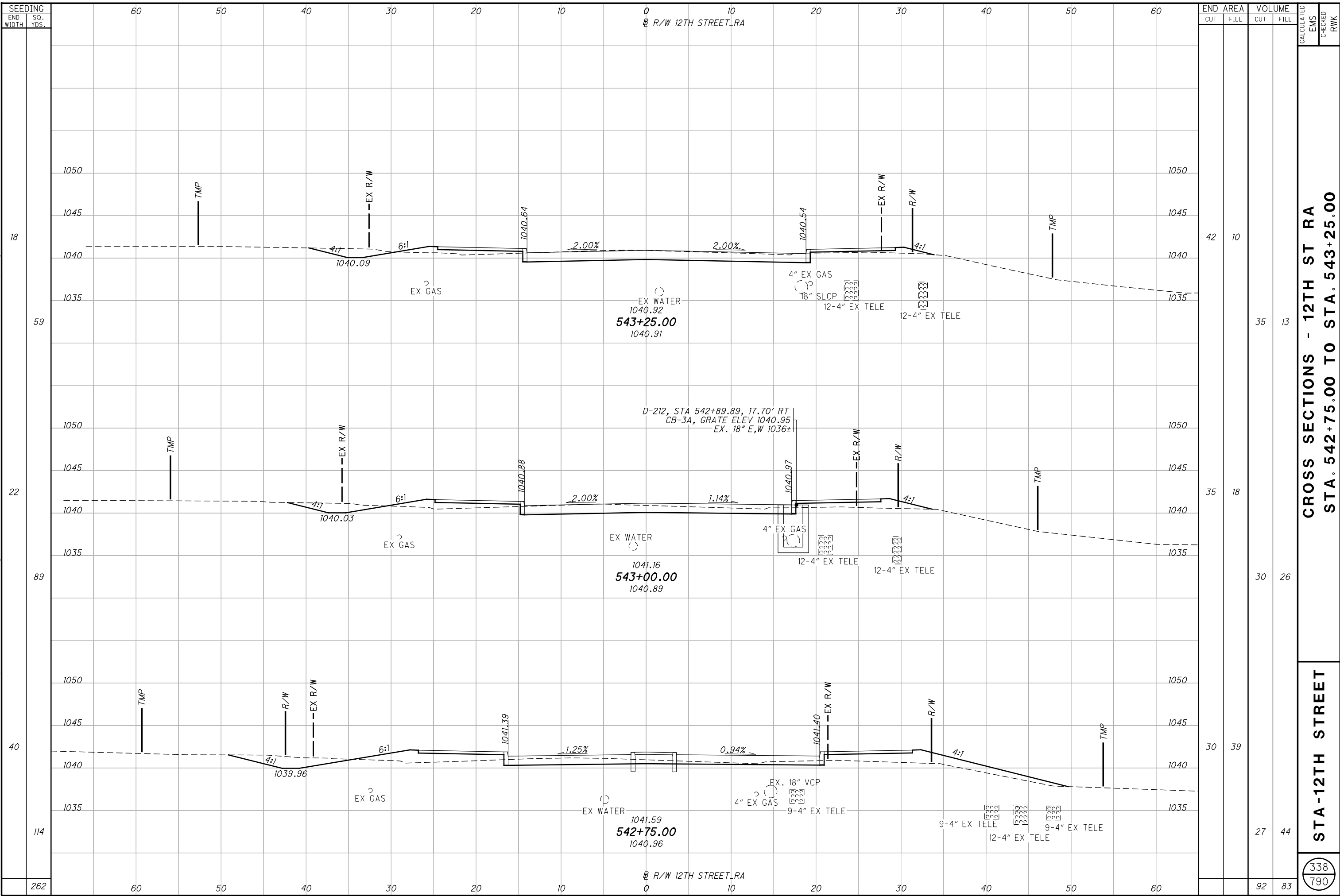


CROSS SECTIONS - 12TH ST RA
STA. 540+75.00 TO STA. 542+50.00

STA-12TH STREET

337
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001_ra.dgn 4/14/2014 4:41:39 PM brion.sedziol" ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.



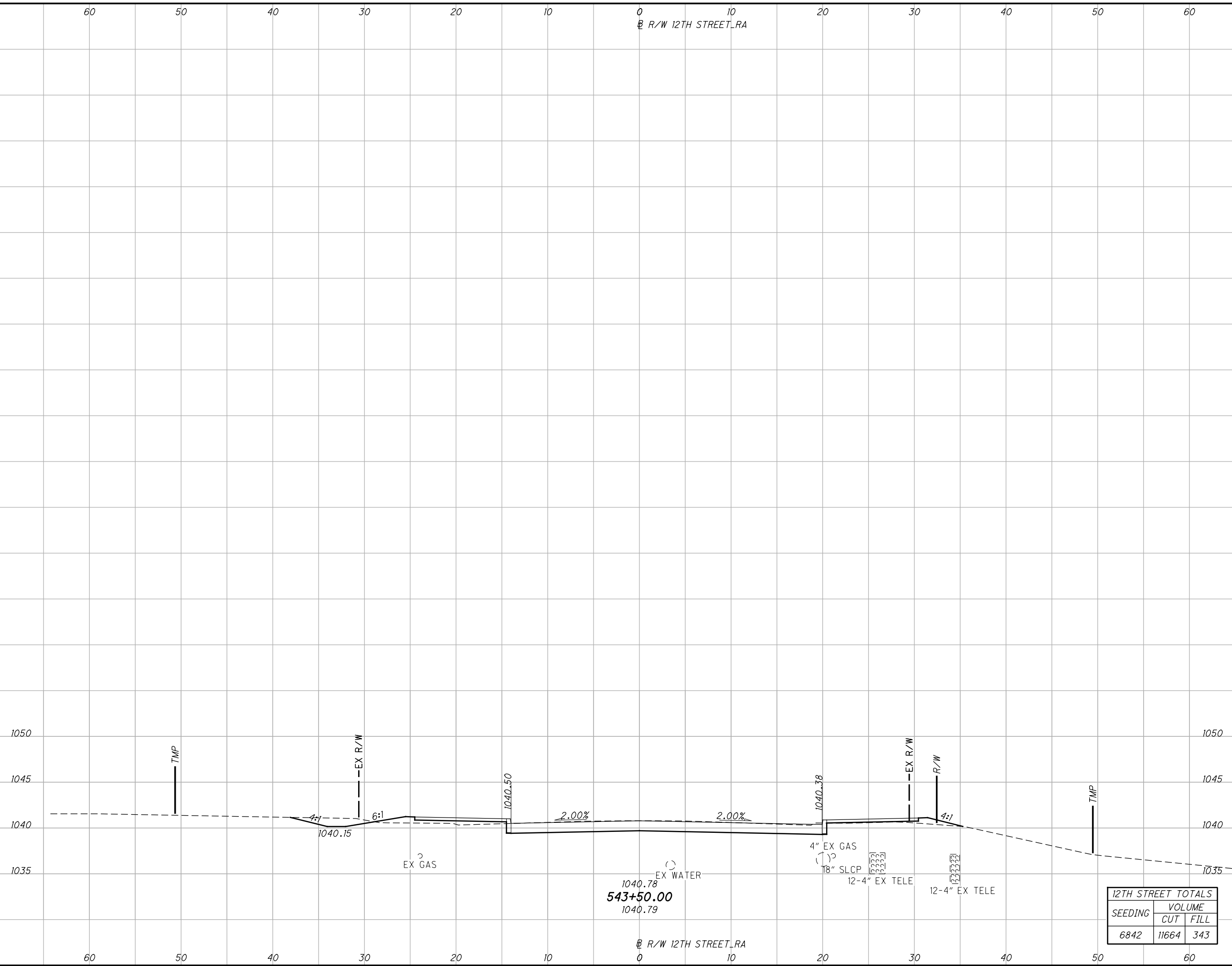
CROSS SECTIONS - 12TH ST RA
STA. 542+75.00 TO STA. 543+25.00

STA-12TH STREET

338
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s001_ra.dgn 4/14/2014 4:41:39 PM brion.sedziol" ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING		60	50	40	30	20	10	0	10	20	30	40	50	60	END AREA		VOLUME		CALCULATED	EMS	CHECKED	RWK
END WIDTH	SO. YDS.														CUT	FILL	CUT	FILL				



12TH STREET TOTALS		
SEEDING	VOLUME	
	CUT	FILL
6842	11664	343

END AREA		VOLUME		CALCULATED	EMS	CHECKED	RWK
CUT	FILL	CUT	FILL				
44	8	40	8				

STA -12TH STREET

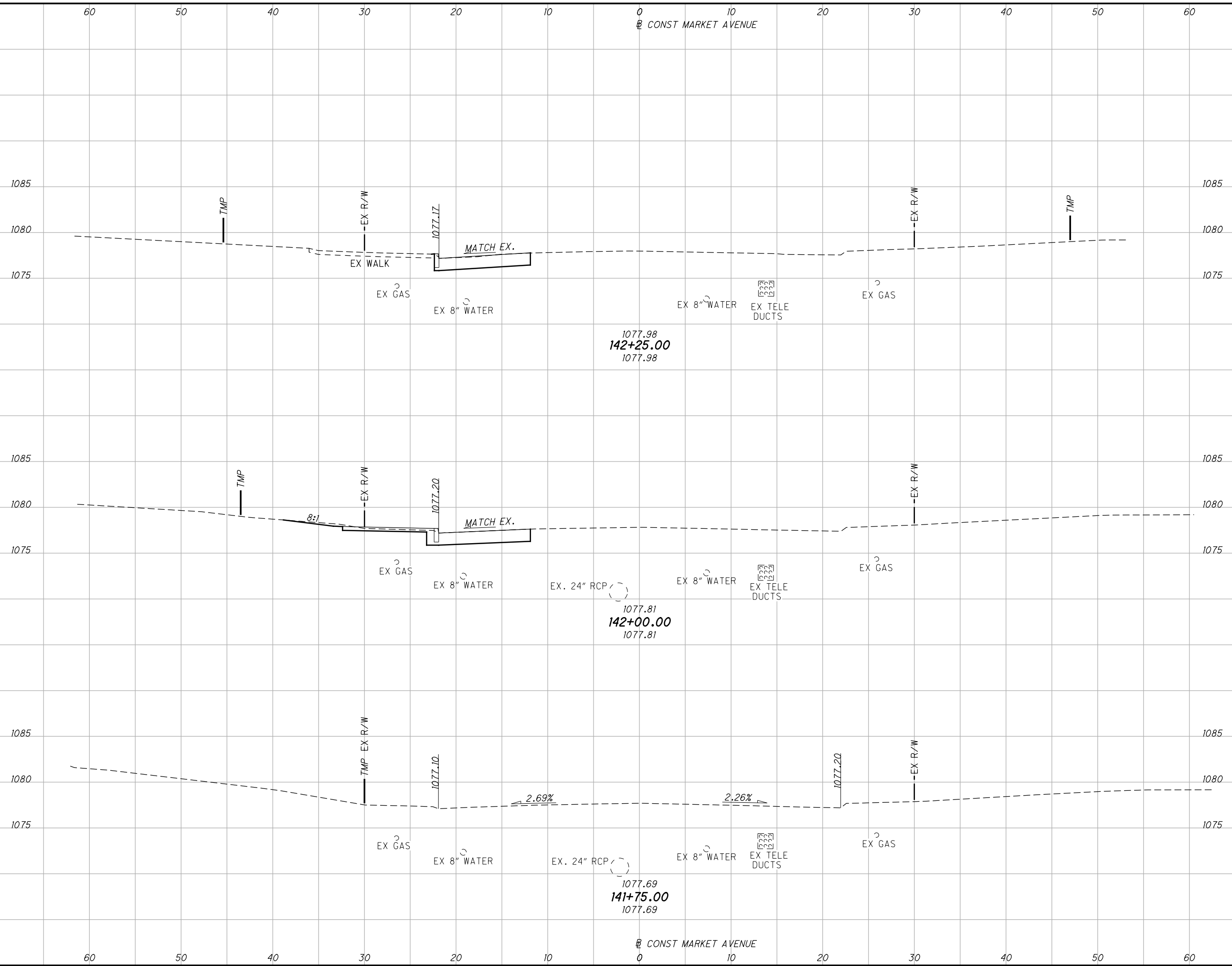
CROSS SECTIONS-12TH ST RA

STA. 543+50.00 TO STA. 543+50.00

339
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s002.dgn 4/14/2014 4:41:41 PM brion.sedziol" ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING		END AREA		VOLUME		CALCULATED	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	KOD	CHECKED
20				24	0		



END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	KOD	CHECKED
14	0	15	0		
19	0	9	0		
0	0	24	0		

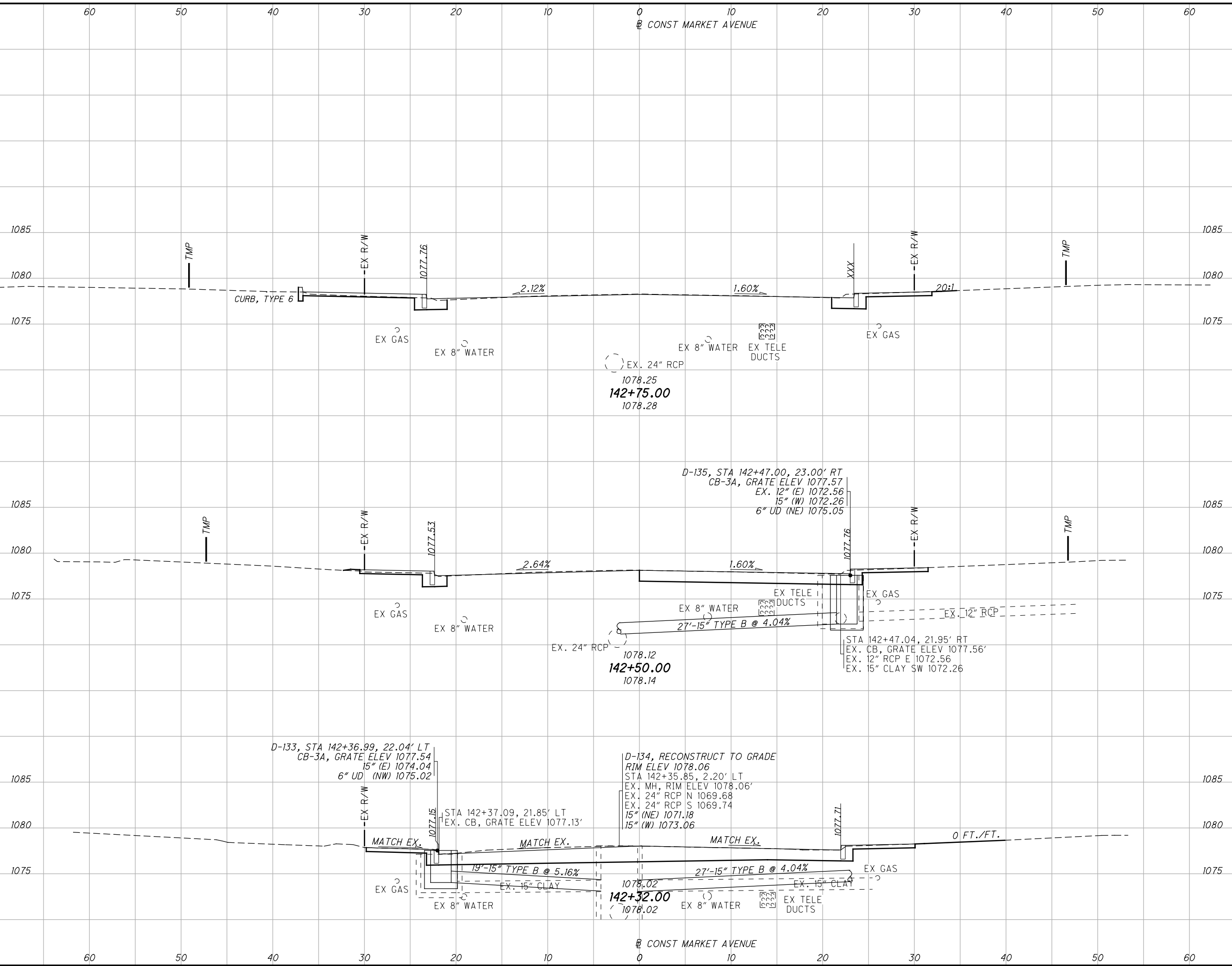
**CROSS SECTIONS - MARKET AVENUE
STA. 141+75.00 TO STA. 142+25.00**

STA-12TH STREET

340
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x002.dgn 4/14/2014 4:41:41 PM brion.sedziol" ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING		SO. YDS.	60	50	40	30	20	10	0	10	20	30	40	50	60	END AREA		VOLUME		CALCULATED KOD	CHECKED RWK
END WIDTH	SO. YDS.															CUT	FILL	CUT	FILL		
3																15	0				
6																	25	0			
2																38	0				
12																38	0				
10																75	0				
14																12	0				
32																75	0				

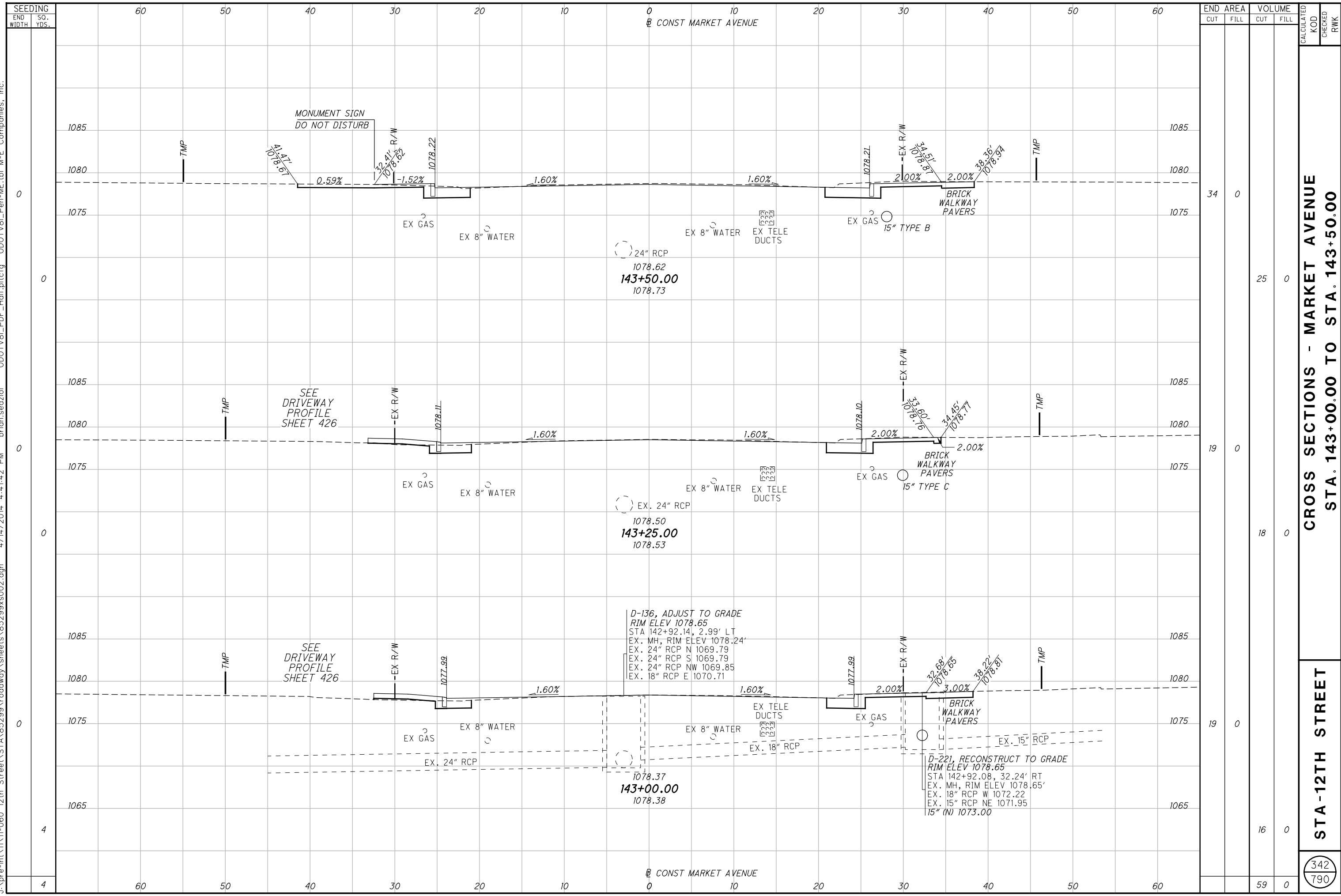


END AREA		VOLUME		CALCULATED KOD	CHECKED RWK
CUT	FILL	CUT	FILL		
15	0				
25	0				
38	0				
38	0				
75	0				
12	0				
75	0				

CROSS SECTIONS - MARKET AVENUE
STA. 142+32.00 TO STA. 142+75.00
STA - 12TH STREET

341
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s002.dgn 4/14/2014 4:41:42 PM brian.sezior\ ODOTV81_PDF_Half.pltctg ODOTV81_Pen-ME.tbl M-E Companies, Inc.



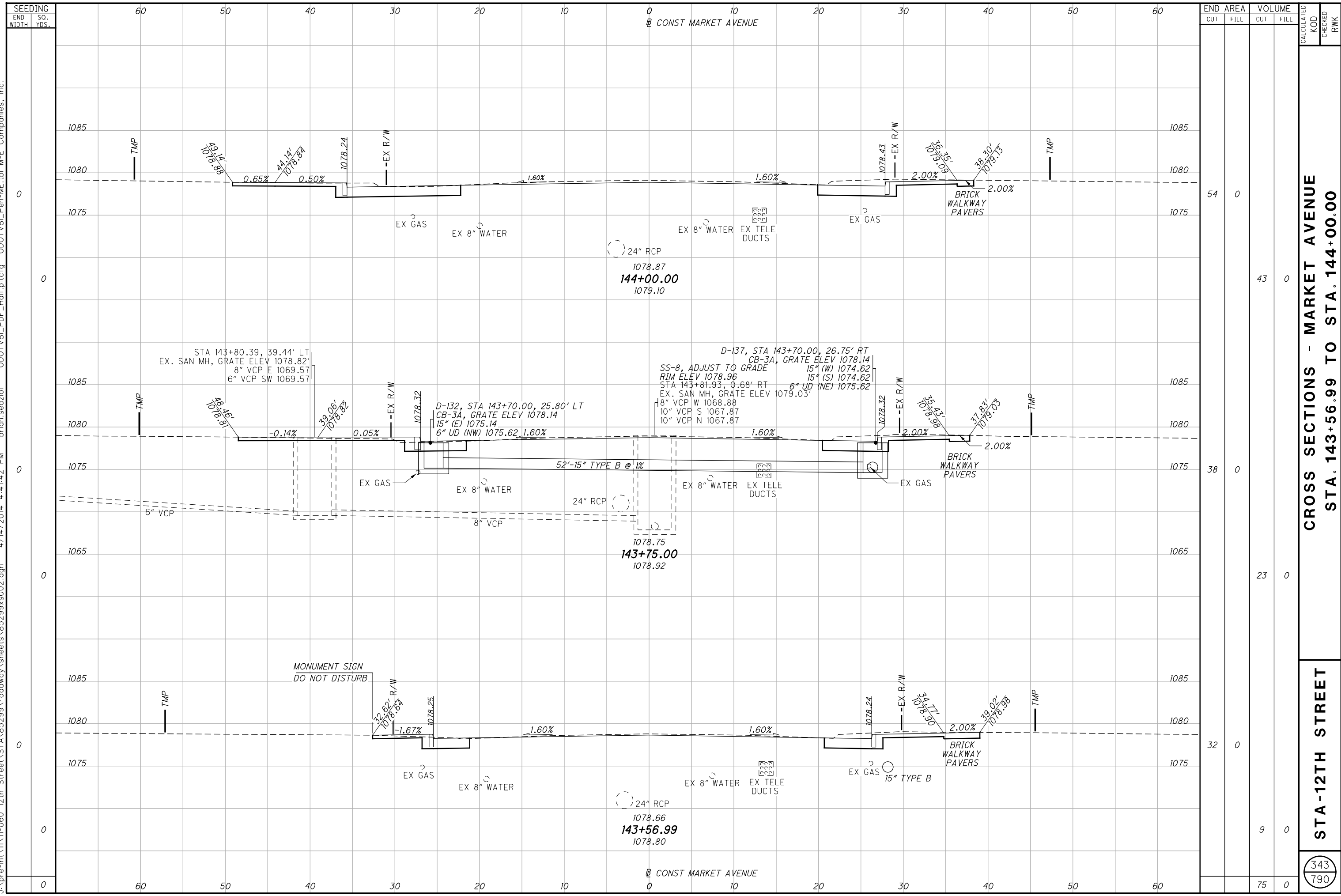
END STA	AREA	VOLUME		CALCULATED	CHECKED	RWK
		CUT	FILL			
143+50.00	34	0	0			
143+25.00	19	0	0			
143+00.00	18	0	0			
142+50.00	19	0	0			
TOTAL	59	0	0			

**CROSS SECTIONS - MARKET AVENUE
STA. 143+00.00 TO STA. 143+50.00**

STA-12TH STREET

342
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x002.dgn 4/14/2014 4:41:42 PM brian.sezior\ ODOTV81_PDF_Half.pltctg ODOTV81_Pen-ME.tbl M-E Companies, Inc.



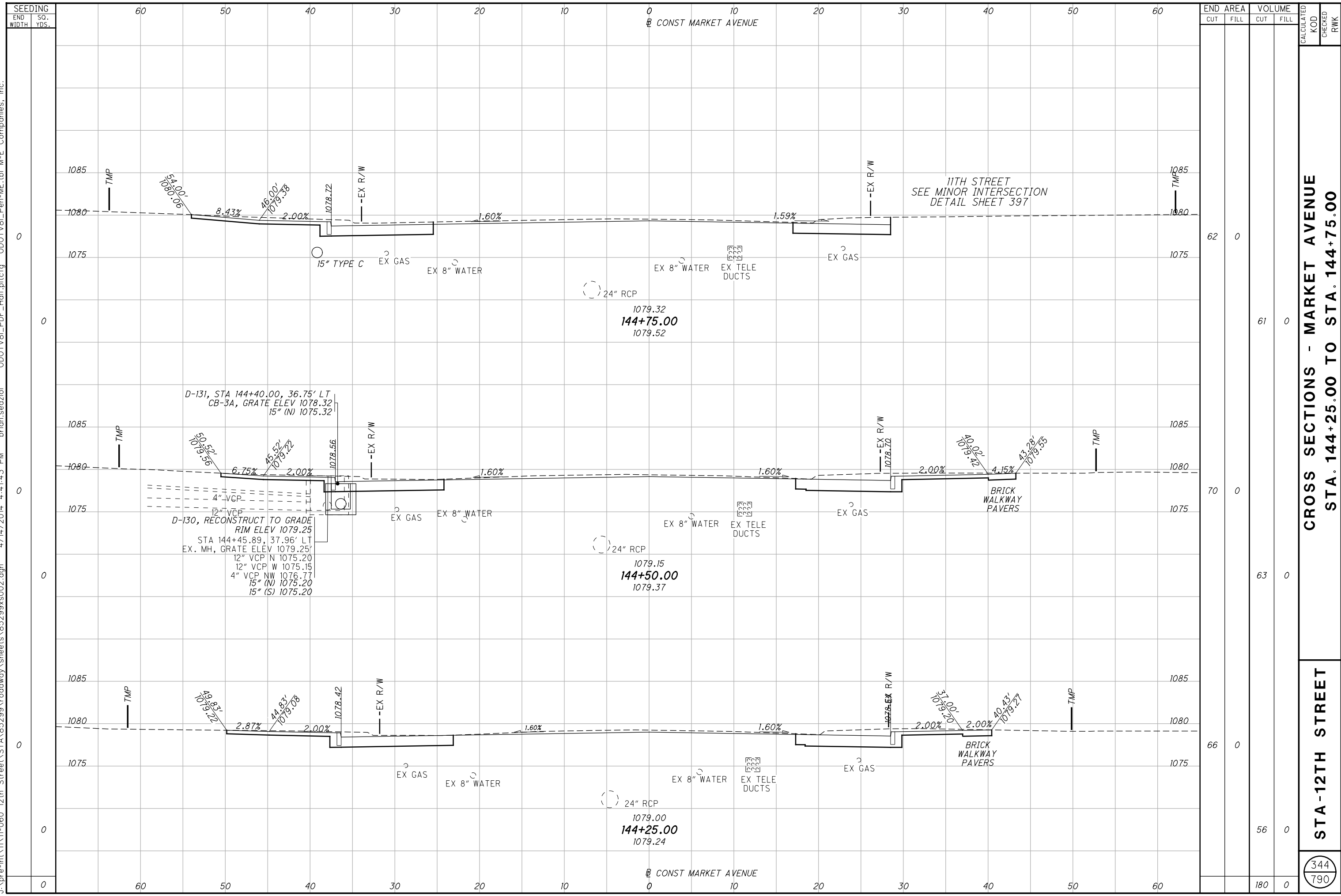
END STA	SEEDING		END AREA	VOLUME		CALCULATED KOD	CHECKED RWK
	END WIDTH	SO. YDS.		CUT	FILL		
144+00.00	60	0	54	0	43	0	
143+75.00	60	0	38	0	23	0	
143+56.99	60	0	32	0	9	0	
					75	0	

**CROSS SECTIONS - MARKET AVENUE
STA. 143+56.99 TO STA. 144+00.00**

STA-12TH STREET

343
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x002.dgn 4/14/2014 4:41:43 PM brian.sezior\ ODOTV81_PDF_Half.pltctg ODOTV81_Pen-ME.tbl M-E Companies, Inc.



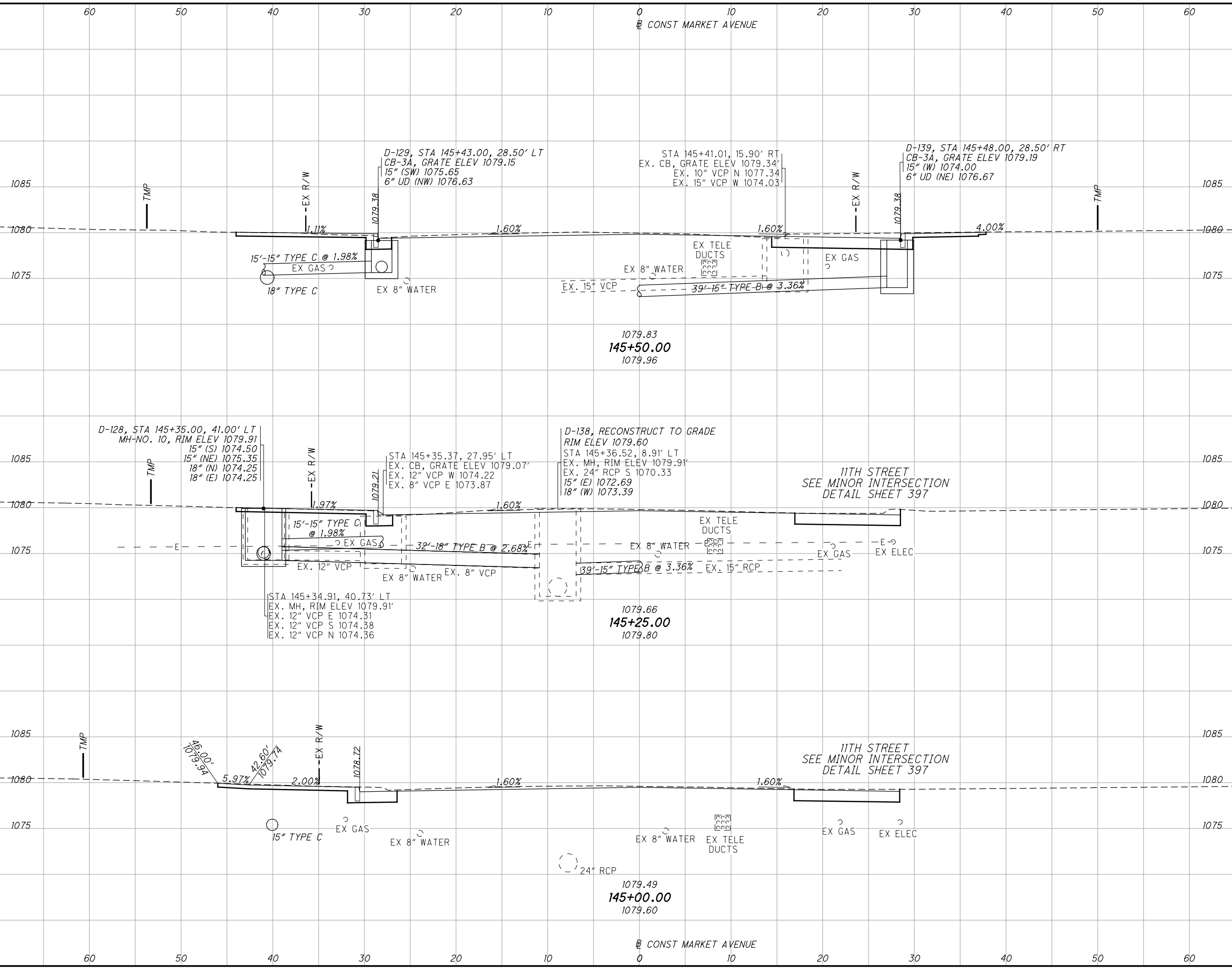
CROSS SECTIONS - MARKET AVENUE
STA. 144+25.00 TO STA. 144+75.00

STA-12TH STREET

344
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s002.dgn 4/14/2014 4:41:43 PM brian.sezior" ODOTV81_PDF_Half.pltctg ODOTV81_Pen-ME.tbl M-E Companies, Inc.

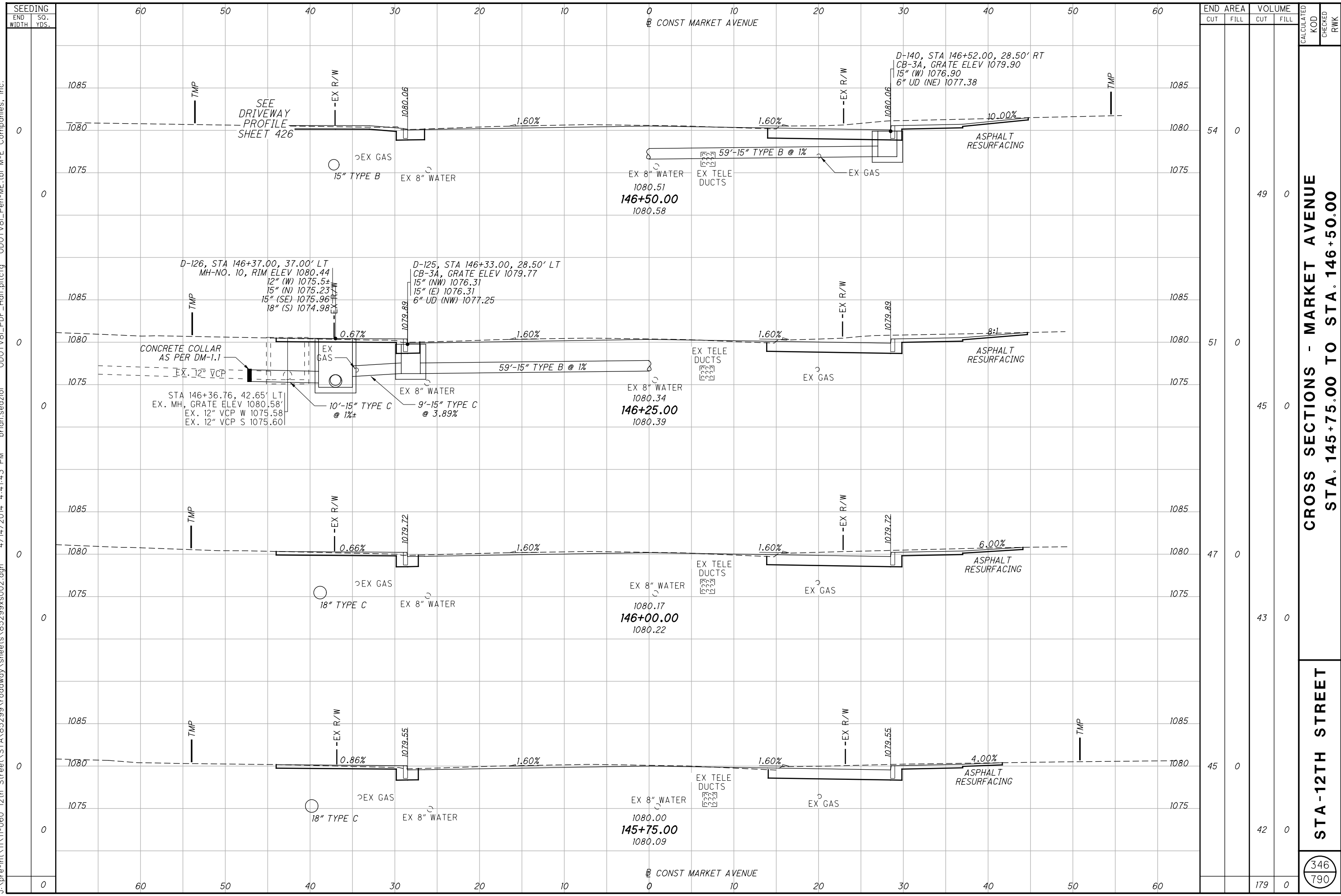
SEEDING														END AREA		VOLUME		CALCULATED			
END WIDTH	SO. YDS.	60	50	40	30	20	10	0	10	20	30	40	50	60	CUT	FILL	CUT	FILL	KOD	CHECKED	RWK
															45	0					
															32	0					
															33	0					
															39	0					
																	116	0			



END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	KOD	CHECKED
45	0				
32	0				
33	0				
39	0				
		116	0		

CROSS SECTIONS - MARKET AVENUE
STA. 145+00.00 TO STA. 145+50.00
STA-12TH STREET
345
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s002.dgn 4/14/2014 4:41:43 PM brian.sezoi\ODOTV81_PDF_Half.pltctg ODOTV81_Pen-ME.tbl M-E Companies, Inc.

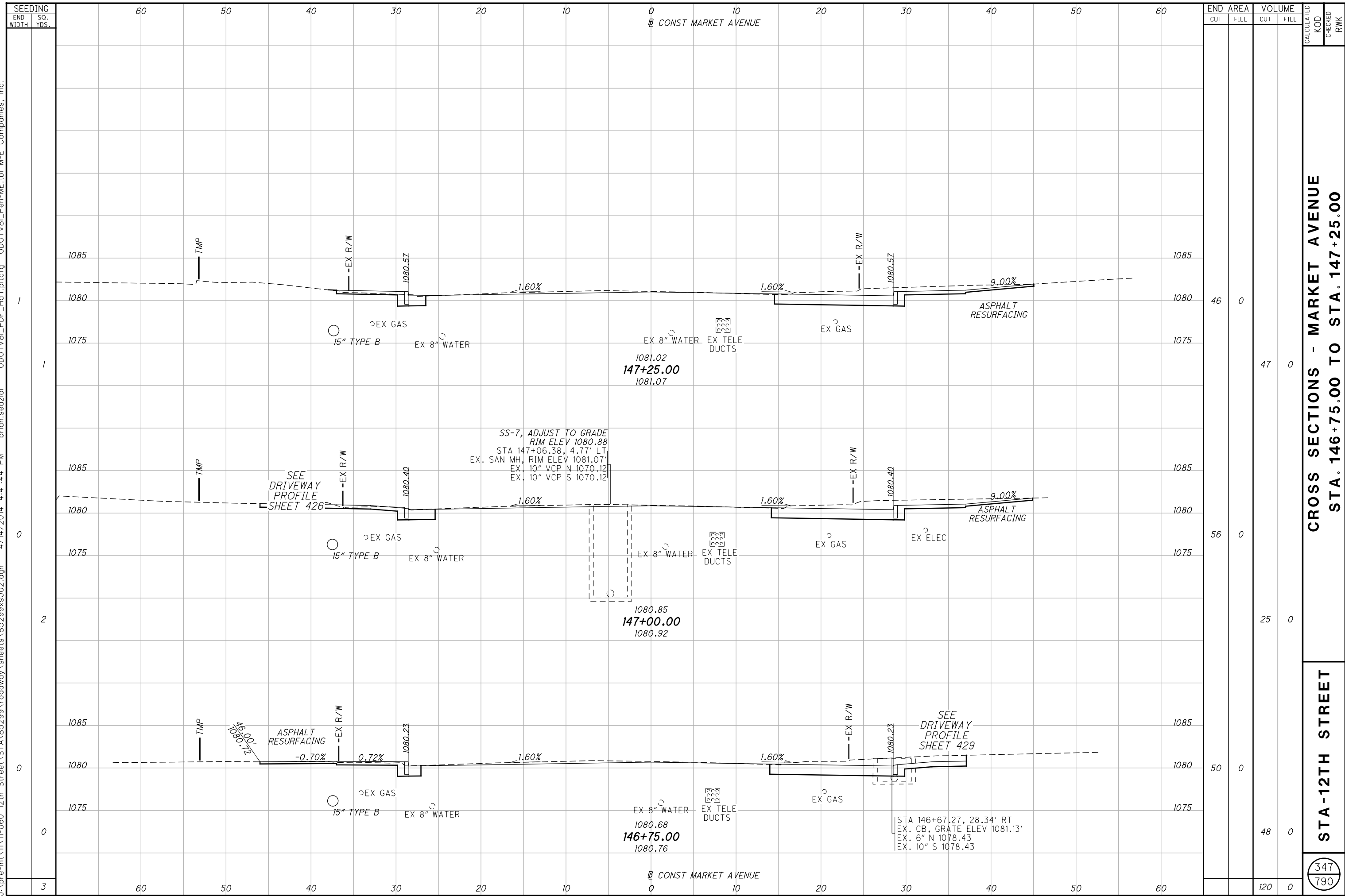


**CROSS SECTIONS - MARKET AVENUE
STA. 145+75.00 TO STA. 146+50.00**

STA-12TH STREET

346
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x002.dgn 4/14/2014 4:41:44 PM brian.sezoi" ODOTV81_PDF_Half.pltctg ODOTV81_Pen-ME.tbl M-E Companies, Inc.



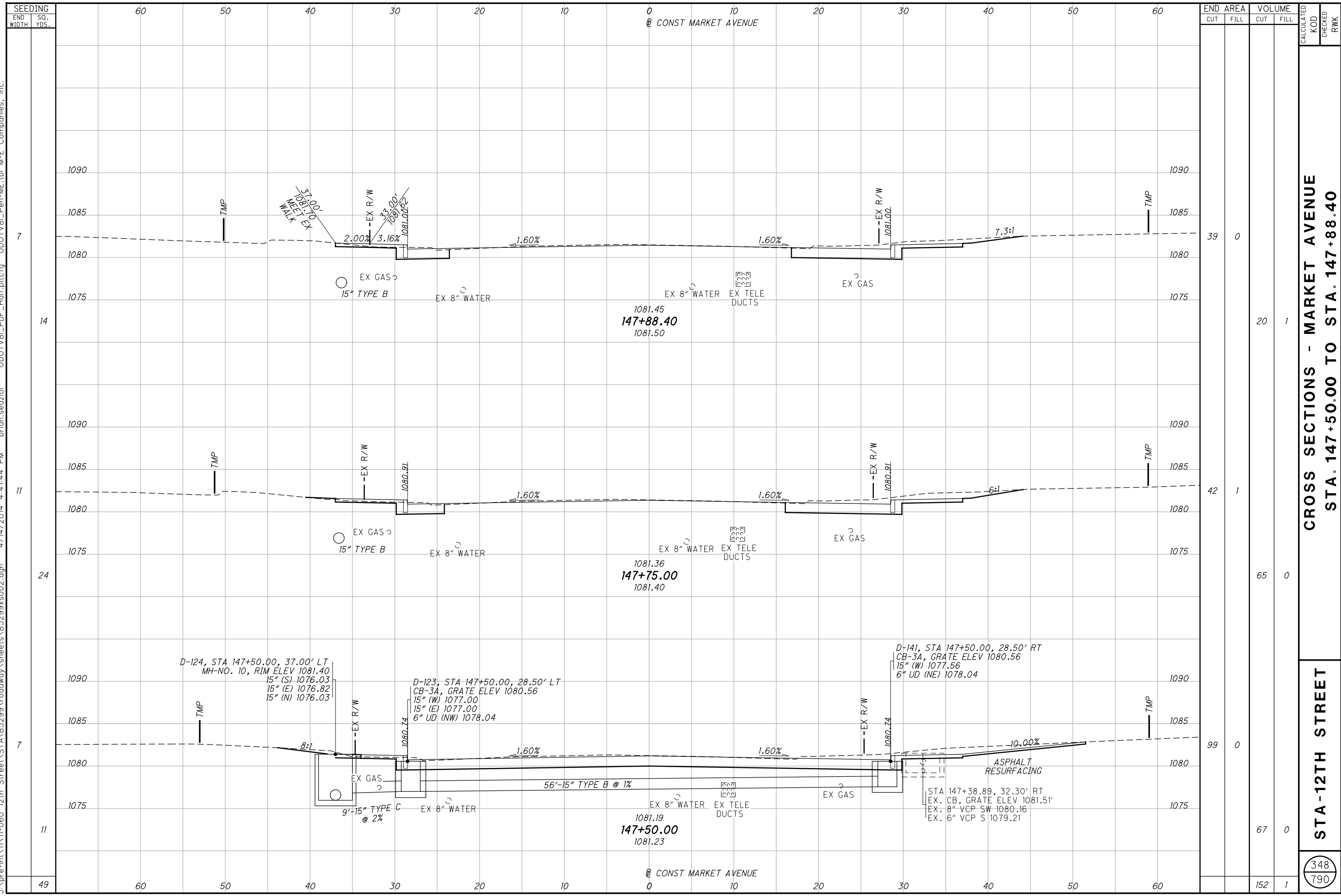
**CROSS SECTIONS - MARKET AVENUE
STA. 146+75.00 TO STA. 147+25.00**

STA-12TH STREET

END AREA	VOLUME	CALCULATED	KOD	CHECKED	RWK
46	0				
56	0				
50	0				
120	0				

347
790

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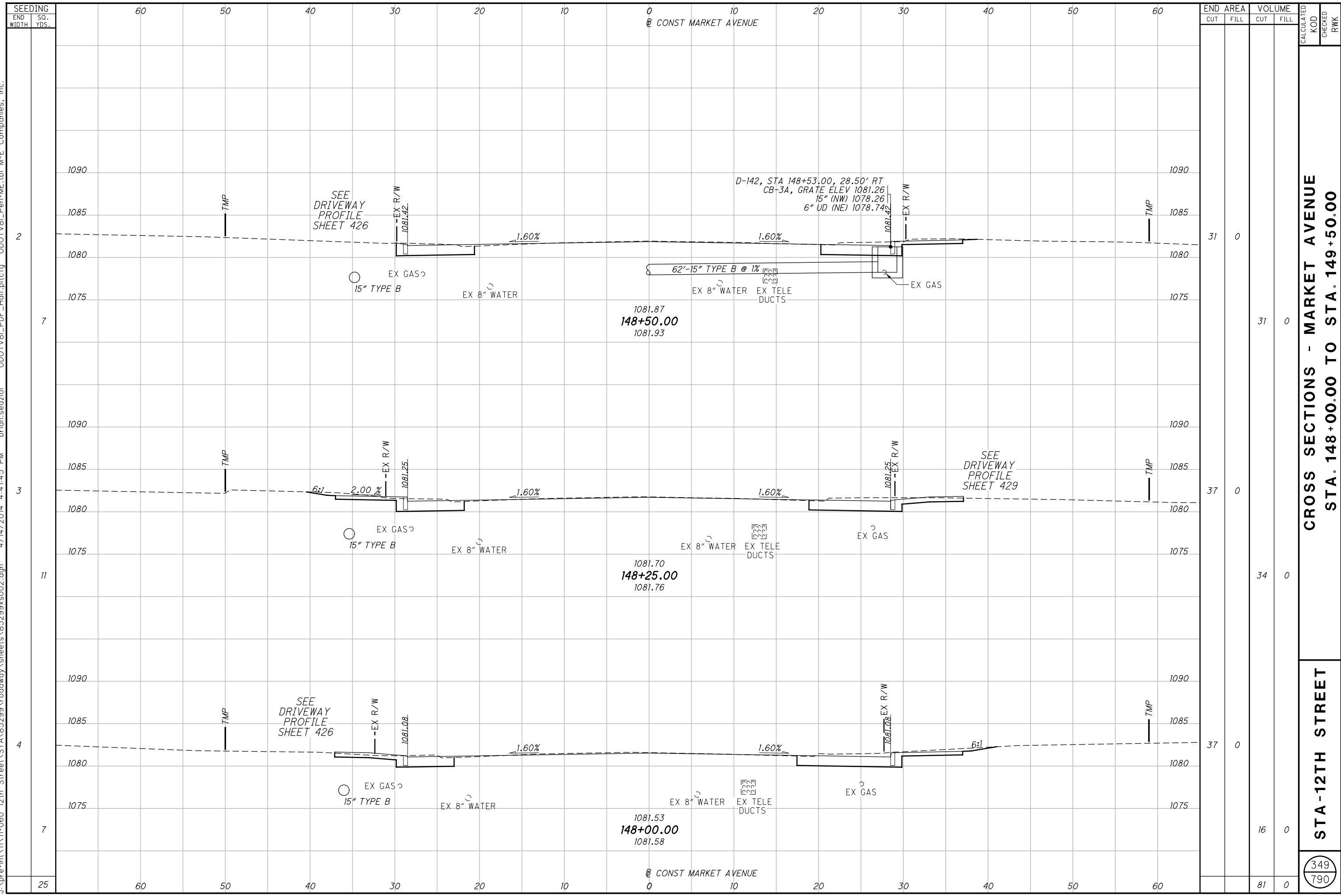


CROSS SECTIONS - MARKET AVENUE
STA. 147+50.00 TO STA. 147+88.40

STA-12TH STREET

348
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s002.dgn 4/14/2014 4:41:45 PM brian.sezior\ ODOTV81_PDF_Half.pltctg ODOTV81_Pen-ME.tbl M-E Companies, Inc.



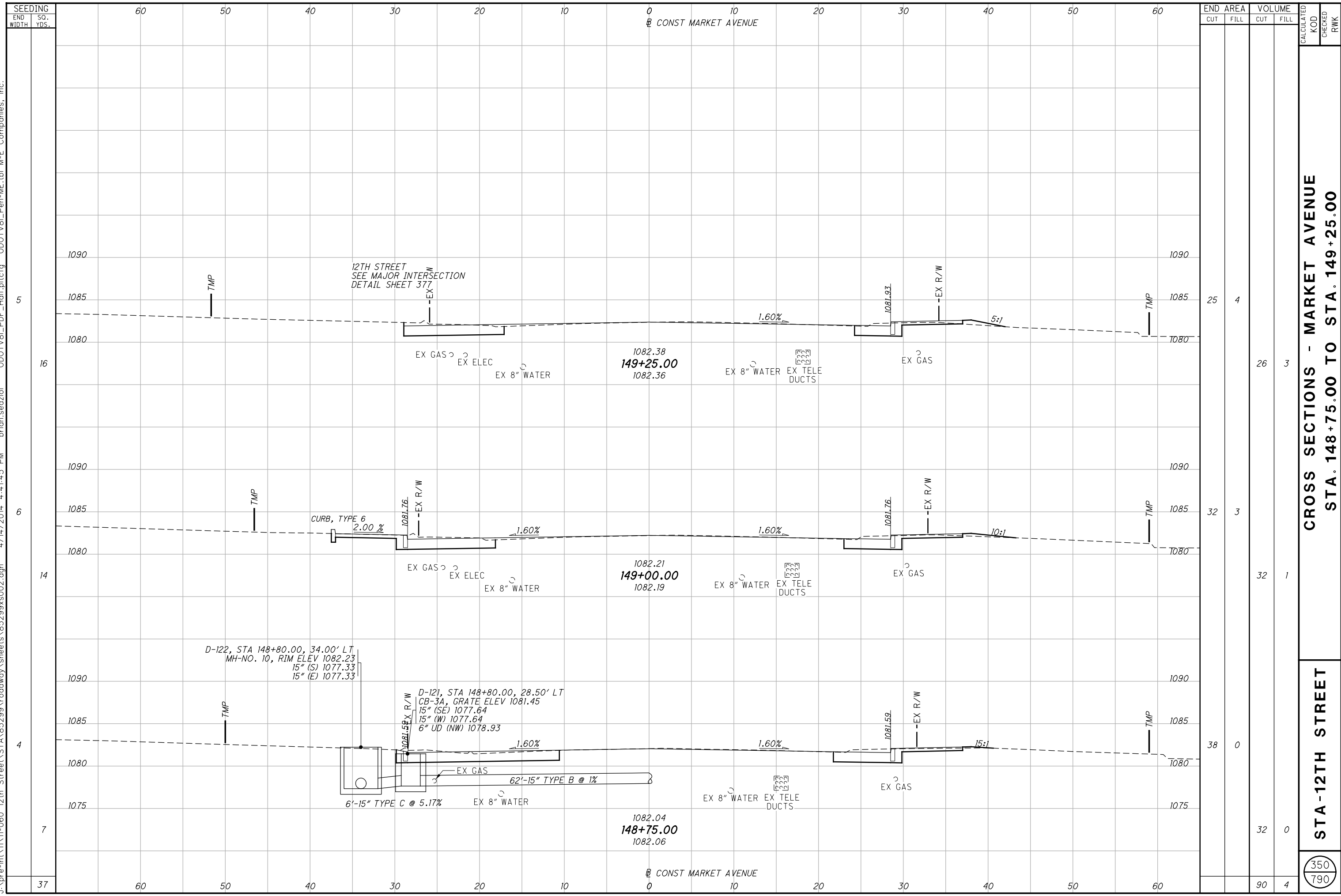
END AREA	VOLUME	CALCULATED		CHECKED	RWK
		CUT	FILL		
31	0				
37	0				
34	0				
37	0				
16	0				
81	0				

CROSS SECTIONS - MARKET AVENUE
STA. 148+00.00 TO STA. 149+50.00

STA-12TH STREET

349
790

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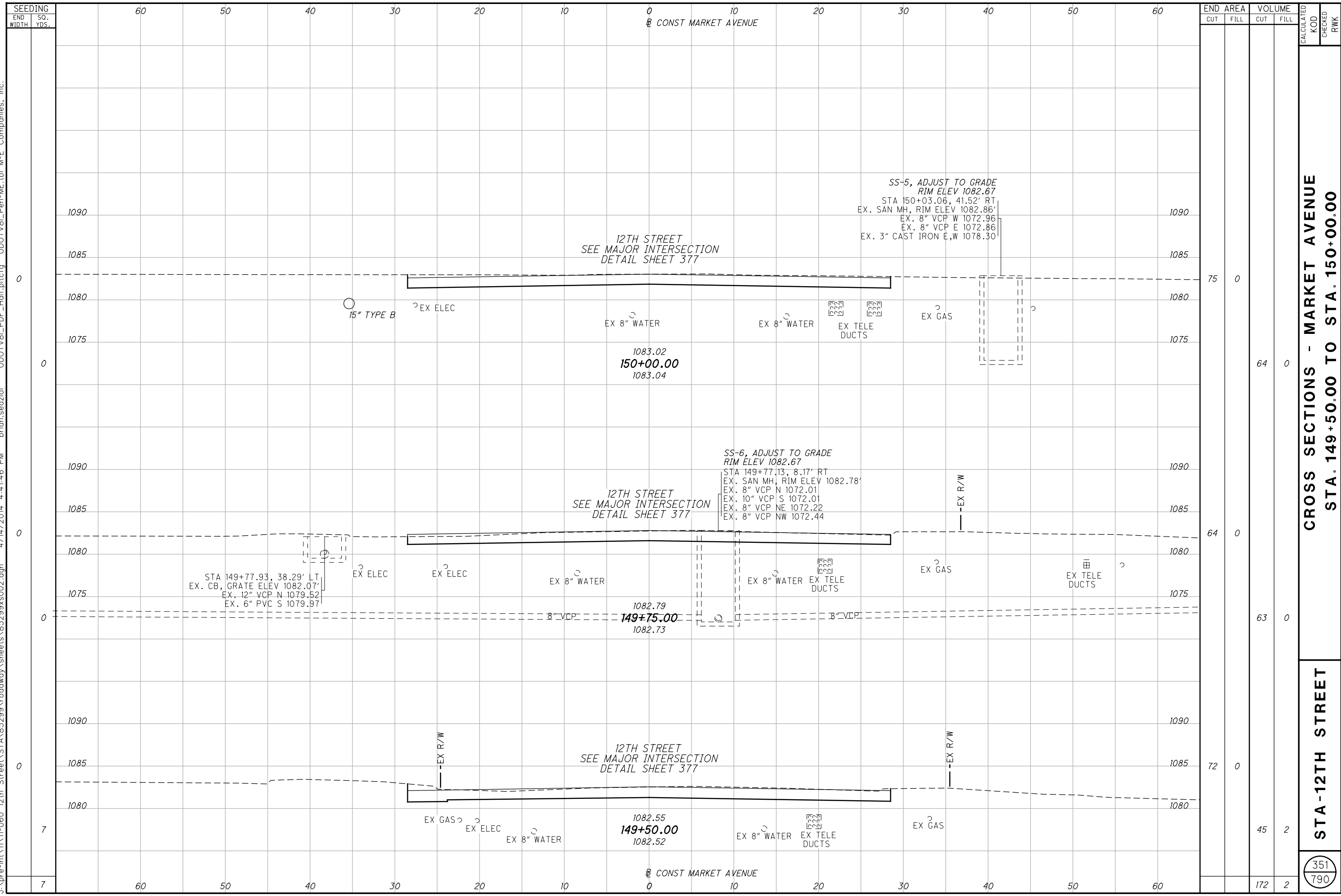
END AREA	VOLUME	CALCULATED	KOD	CHECKED	RWK
25	4				
32	3				
32	1				
38	0				
32	0				
90	4				

**CROSS SECTIONS - MARKET AVENUE
STA. 148+75.00 TO STA. 149+25.00**

STA-12TH STREET

350
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x002.dgn 4/14/2014 4:41:46 PM brion.sezior\ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.



SS-5, ADJUST TO GRADE
RIM ELEV 1082.67
STA 150+03.06, 41.52' RT
EX. SAN MH, RIM ELEV 1082.86'
EX. 8" VCP W 1072.96
EX. 8" VCP E 1072.86
EX. 3" CAST IRON E,W 1078.30

12TH STREET
SEE MAJOR INTERSECTION
DETAIL SHEET 377

15" TYPE B

1083.02
150+00.00
1083.04

SS-6, ADJUST TO GRADE
RIM ELEV 1082.67
STA 149+77.13, 8.17' RT
EX. SAN MH, RIM ELEV 1082.78'
EX. 8" VCP N 1072.01
EX. 10" VCP S 1072.01
EX. 8" VCP NE 1072.22
EX. 8" VCP NW 1072.44

12TH STREET
SEE MAJOR INTERSECTION
DETAIL SHEET 377

STA 149+77.93, 38.29' LT
EX. CB, GRATE ELEV 1082.07'
EX. 12" VCP N 1079.52
EX. 6" PVC S 1079.97

1082.79
149+75.00
1082.73

12TH STREET
SEE MAJOR INTERSECTION
DETAIL SHEET 377

1082.55
149+50.00
1082.52

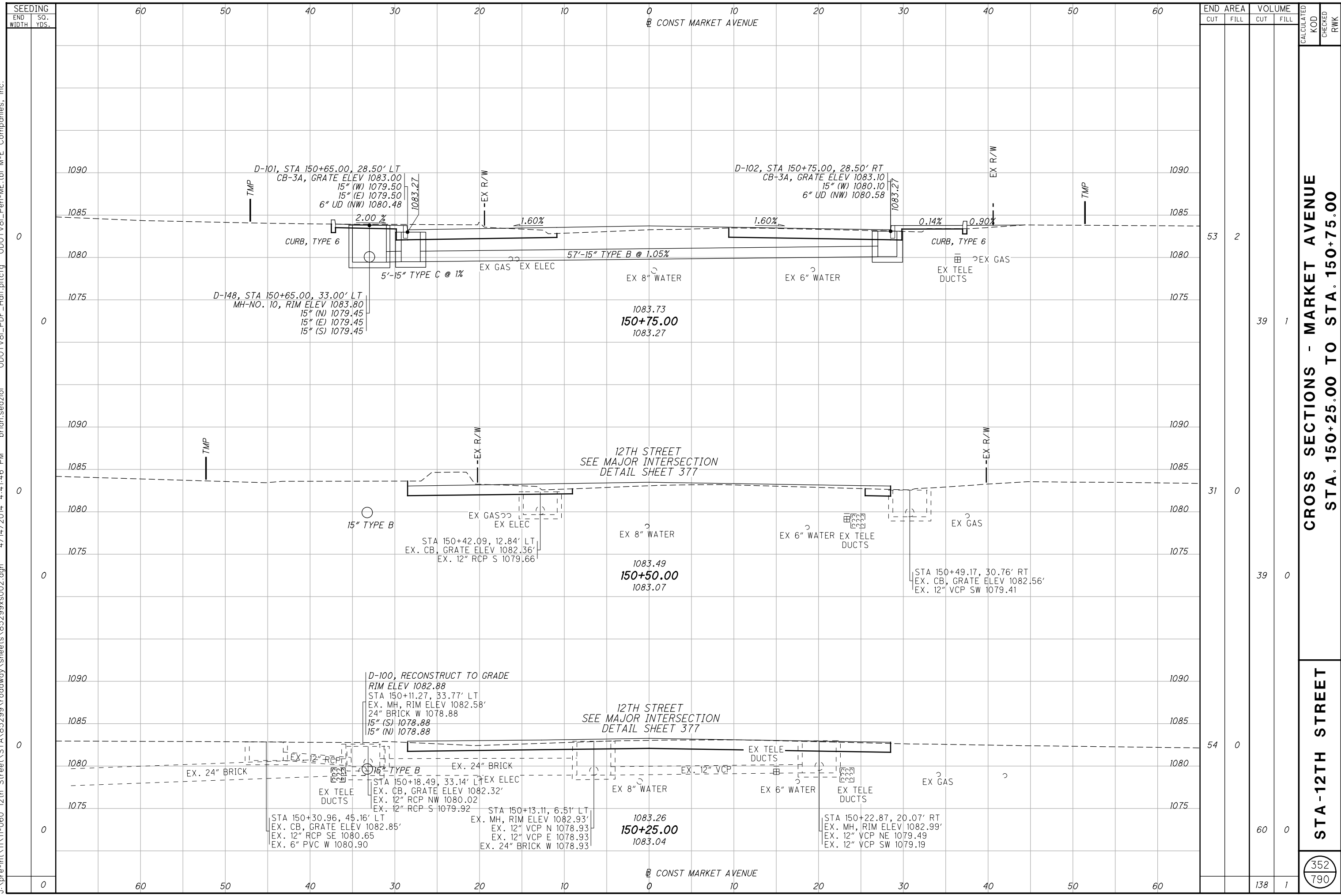
END AREA	VOLUME	CALCULATED	KOD	CHECKED	RWK
75	0				
64	0				
63	0				
72	0				
45	2				
172	2				

CROSS SECTIONS - MARKET AVENUE
STA. 149+50.00 TO STA. 150+00.00

STA-12TH STREET

351
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s002.dgn 4/14/2014 4:41:46 PM brion.sezior\ ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.



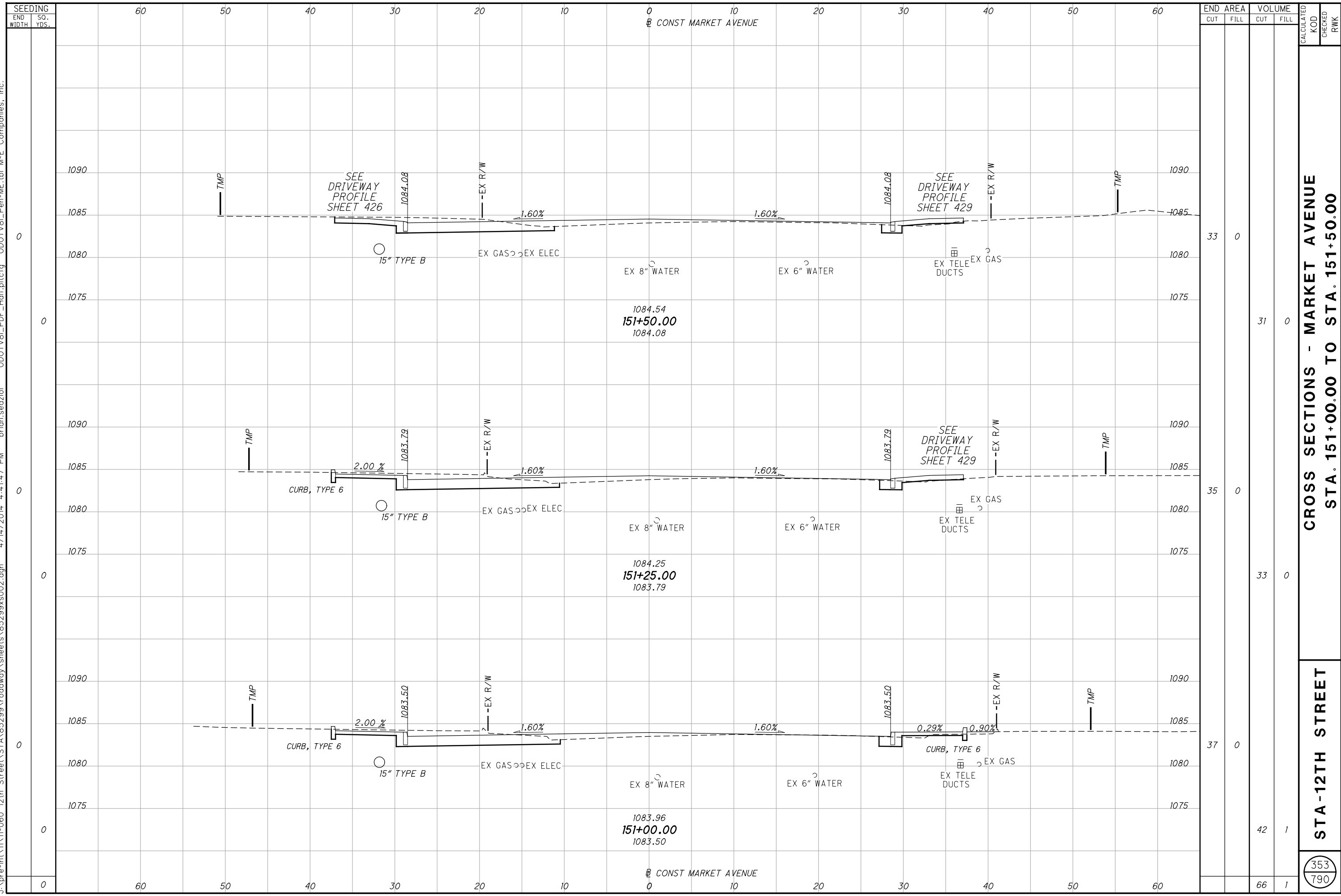
END AREA	VOLUME	CALCULATED	CHECKED	RWK
53	2			
31	0			
54	0			
138	1			

**CROSS SECTIONS - MARKET AVENUE
STA. 150+25.00 TO STA. 150+75.00**

STA-12TH STREET

352
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s002.dgn 4/14/2014 4:41:47 PM brian.sezior\ ODOTV81_PDF_Half.pltctg ODOTV81_Pen-ME.tbl M-E Companies, Inc.



END STA	END AREA		VOLUME		CALCULATED KOD	CHECKED RWK
	CUT	FILL	CUT	FILL		
151+00.00	37	0	42	1		
151+25.00	35	0	33	0		
151+50.00	33	0	31	0		
TOTAL	105	0	106	1		

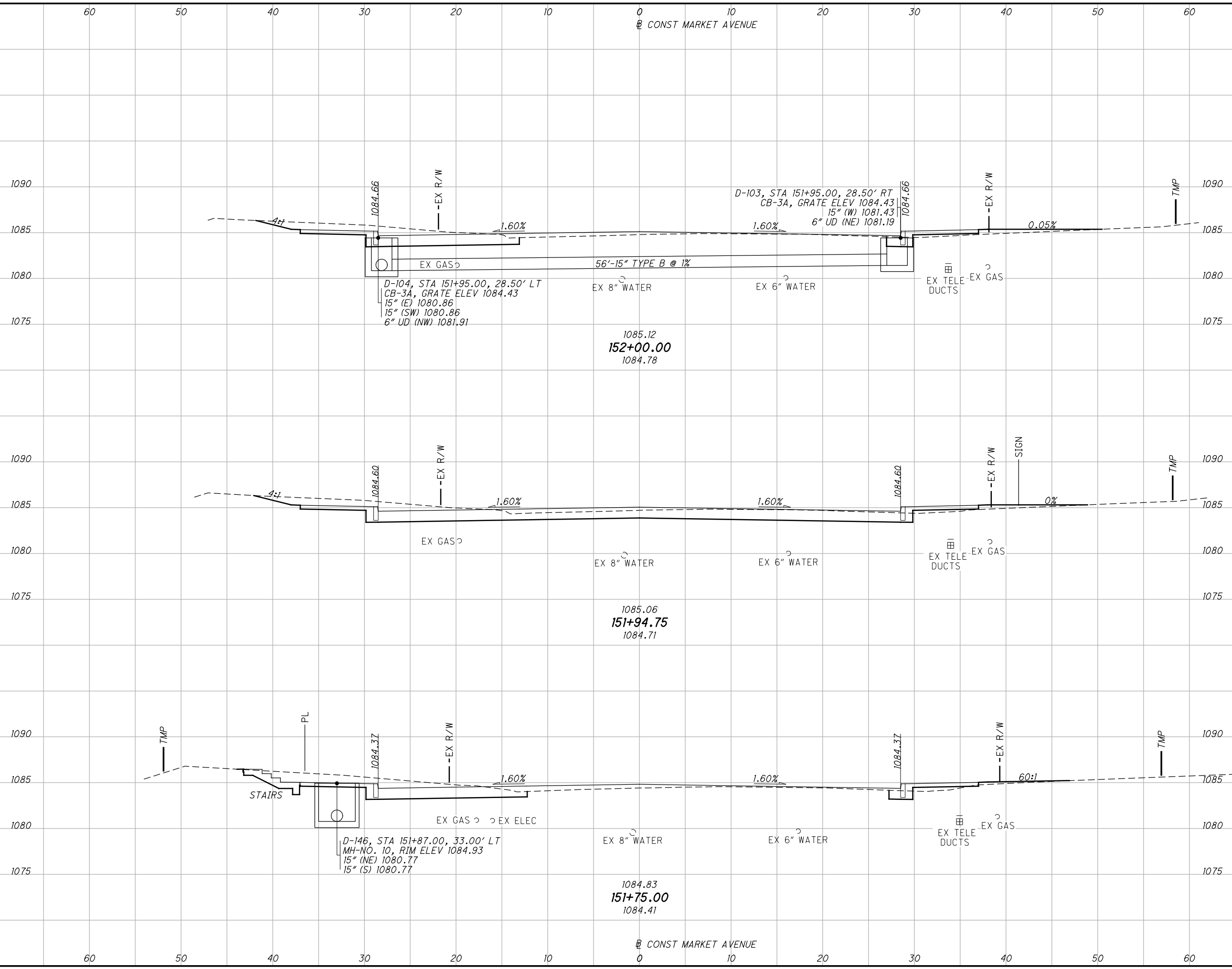
**CROSS SECTIONS - MARKET AVENUE
STA. 151+00.00 TO STA. 151+50.00**

STA-12TH STREET

353
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s002.dgn 4/14/2014 4:41:47 PM brian.sezior\ ODOTV86_PDF_Half.pltctg ODOTV86_Pen-ME.tbl M-E Companies, Inc.

SEEDING	END AREA		VOLUME		CALCULATED	KOD	CHECKED	RWK
	CUT	FILL	CUT	FILL				
18	40	5						
10			12	5				
17	79	3						
2			46	2				
11	48	2						
15			38	1				
27			96	8				



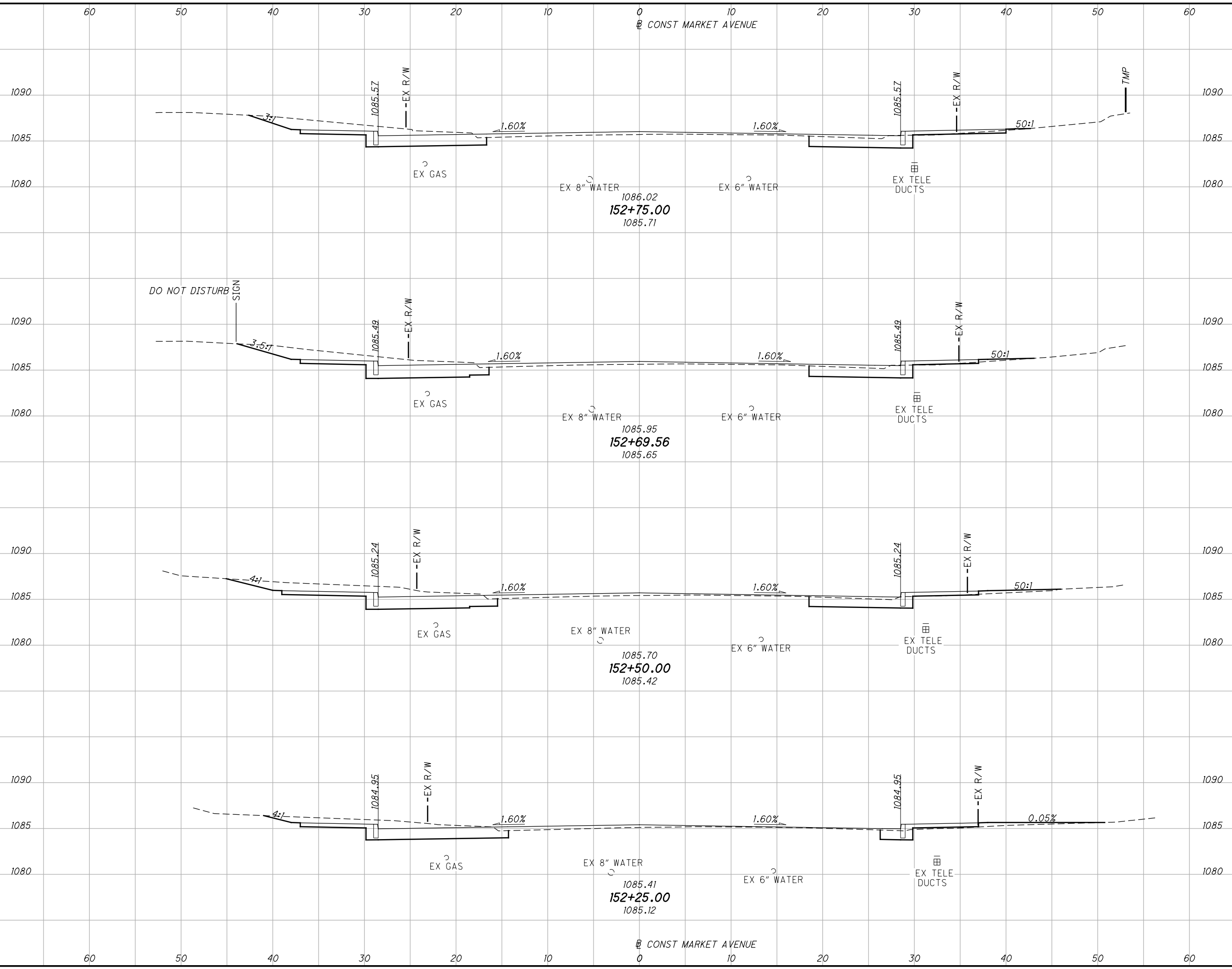
CROSS SECTIONS - MARKET AVENUE
STA. 151+75.00 TO STA. 152+00.00

STA-12TH STREET

354
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s002.dgn 4/14/2014 4:41:47 PM brian.sezior\ ODOTV81_PDF_Half.pltctg ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	END SO.	
	WIDTH	YDS.
9	60	49
13	60	52
31	60	38
15	60	52
46	60	41
18	60	37
51	60	36
135	60	125



END	AREA		VOLUME	
	CUT	FILL	CUT	FILL
9	49	0	10	0
13	52	0	38	1
15	52	2	41	3
18	37	4	36	5
135			125	9

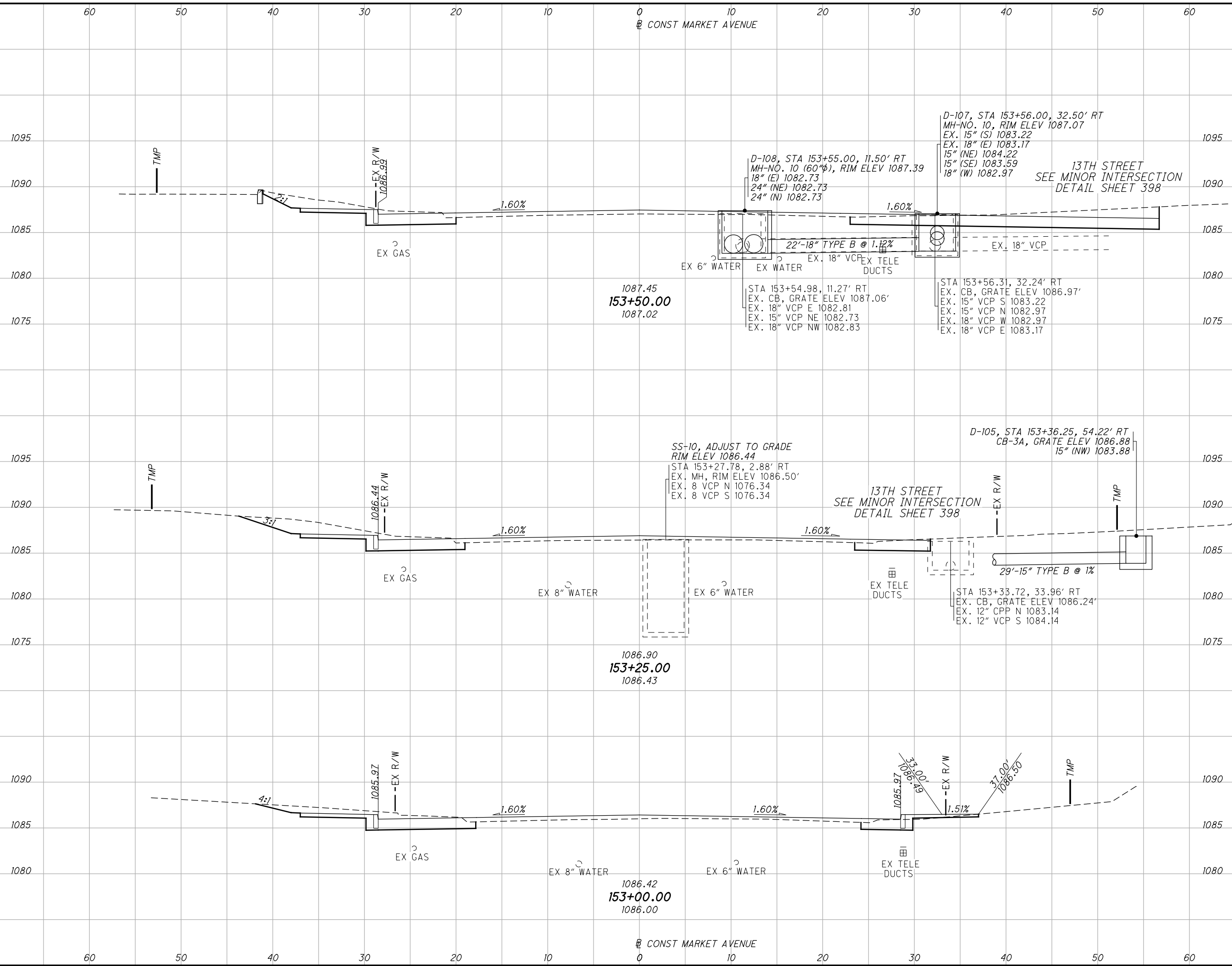
CROSS SECTIONS - MARKET AVENUE
STA. 152+25.00 TO STA. 152+75.00

STA-12TH STREET

355
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s002.dgn 4/14/2014 4:41:48 PM brian.sezior\ ODOTV81_PDF_Half.pltctg ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	END AREA		VOLUME		CALCULATED	KOD	CHECKED	RWK
	CUT	FILL	CUT	FILL				
4		76	0					
16			54	0				
7		41	0					
17			35	0				
5		34	0					
19			38	0				
52		127	0					



END AREA	VOLUME		CALCULATED	KOD	CHECKED	RWK
	CUT	FILL				
76	0					
	54	0				
41	0					
	35	0				
34	0					
	38	0				
127	0					

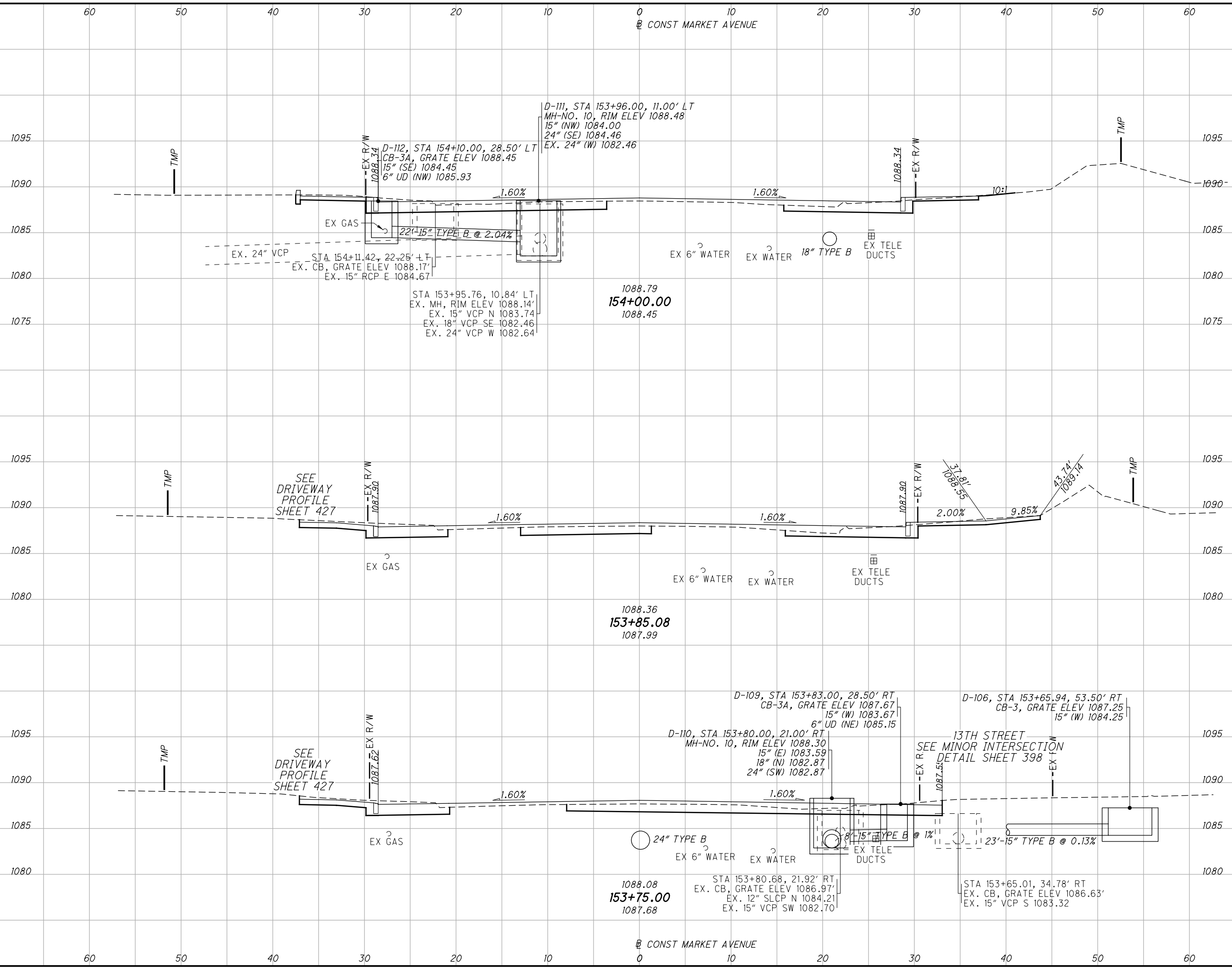
CROSS SECTIONS - MARKET AVENUE
STA. 153+00.00 TO STA. 153+50.00

STA-12TH STREET

356
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s002.dgn 4/14/2014 4:41:48 PM brian.sezior\ ODOTV81_PDF_Half.pltctg ODOTV81_Pen-ME.tbl M-E Companies, Inc.

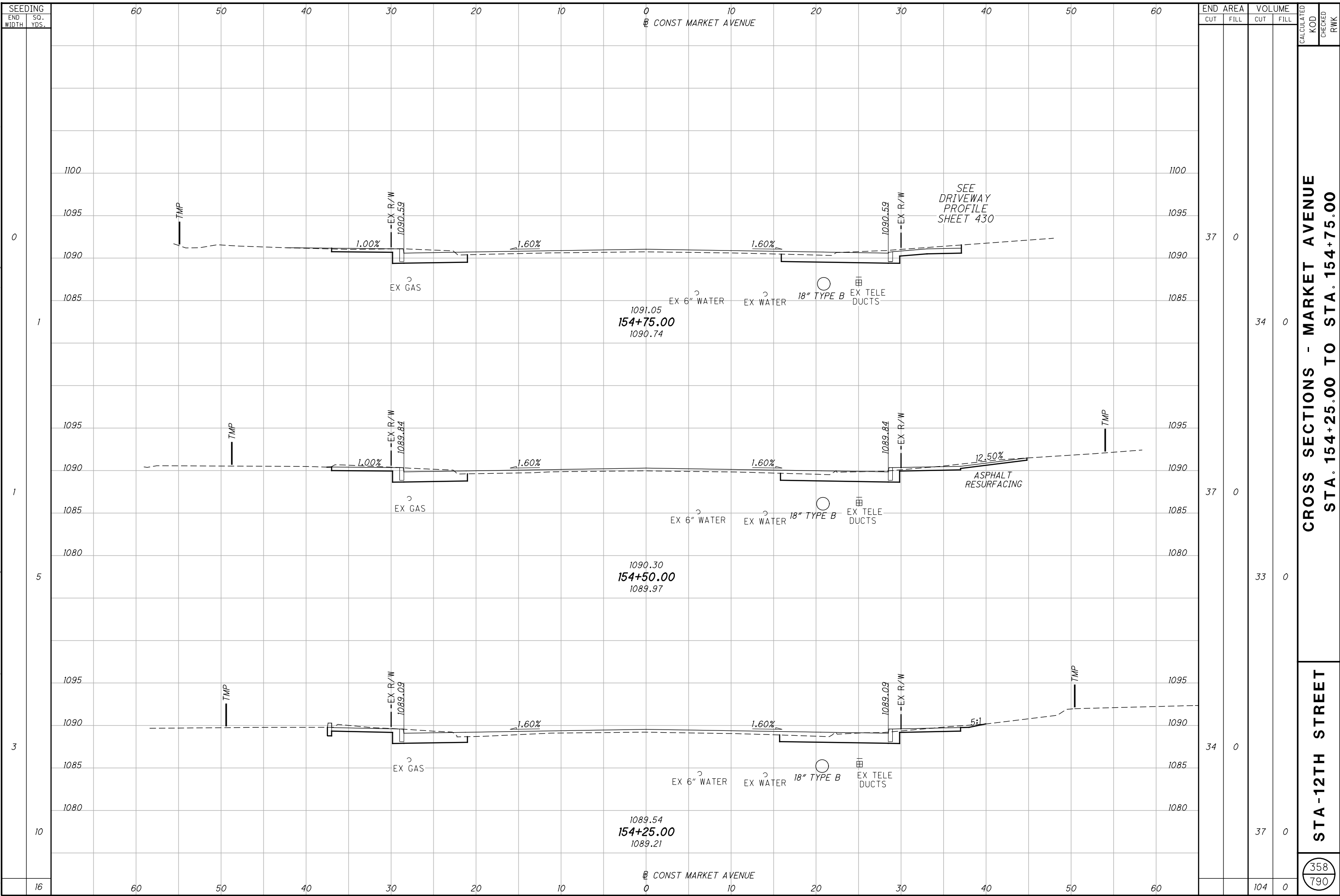
SEEDING	END AREA		VOLUME		CALCULATED	KOD	CHECKED	RWK
	CUT	FILL	CUT	FILL				
4			46	0				
6			46	0				
0			54	0				
5			60	0				
11			106	0				



END AREA	VOLUME		CALCULATED	KOD	CHECKED	RWK
	CUT	FILL				
46		0				
46		0				
54		0				
60		0				
106		0				

CROSS SECTIONS - MARKET AVENUE
STA. 153+75.00 TO STA. 154+00.00
STA - 12TH STREET
357
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s002.dgn 4/14/2014 4:41:49 PM brion.sezior\ODOTV81_PDF_Half.pltctg ODOTV81_Pen-ME.tbl M-E Companies, Inc.



CROSS SECTIONS - MARKET AVENUE
STA. 154+25.00 TO STA. 154+75.00

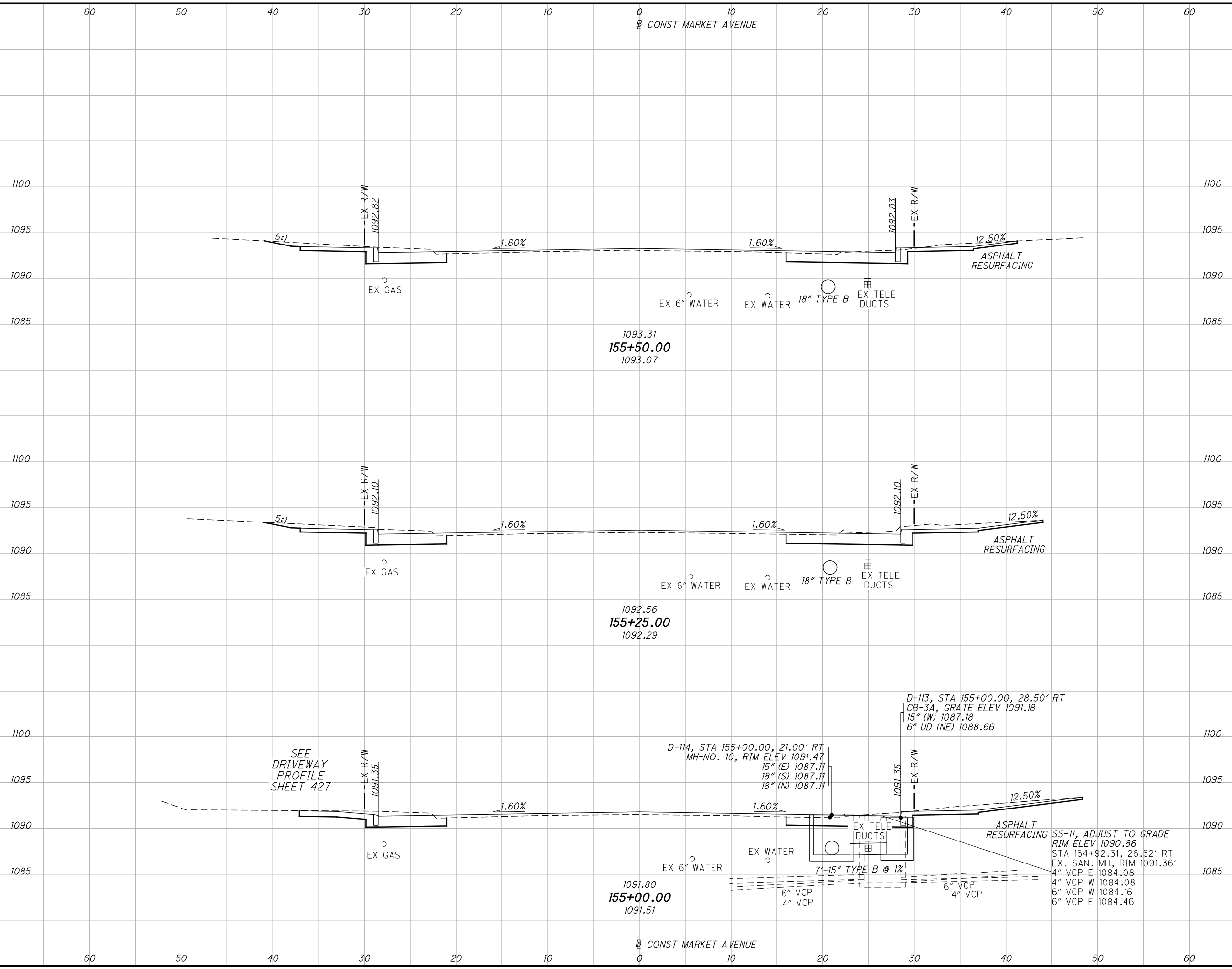
STA-12TH STREET

358
790

SEEDING	SO. YDS.	END WIDTH	0	1	5	3	10	16	END AREA		VOLUME		CALCULATED KOD	CHECKED	RWK
									CUT	FILL	CUT	FILL			
			0	1	5	3	10	16	37	0	34	0			
			1	1	5	3	10	16	37	0	33	0			
			3	10	16				34	0	37	0			
											104	0			

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s002.dgn 4/14/2014 4:41:49 PM brion.sezior\ ODOTV81_PDF_Half.pltctg ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	END SO.		60	50	40	30	20	10	0	10	20	30	40	50	60	END AREA		VOLUME		CALCULATED	KOD	CHECKED	RWK	
	WIDTH	YDS.														CUT	FILL	CUT	FILL					
																	41	0	41	0				
																	47	0	43	0				
																	45	0	38	0				
																			122	0				



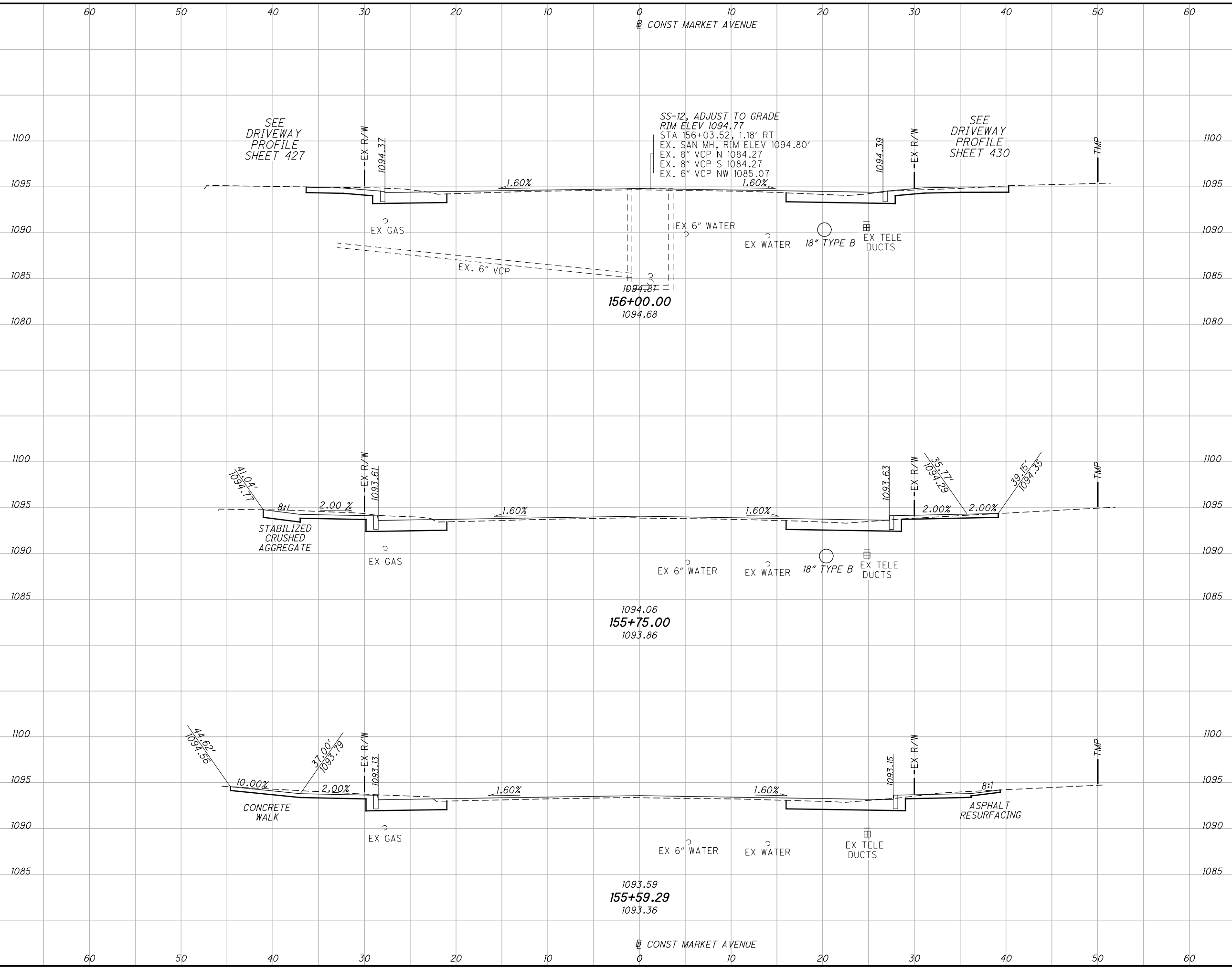
**CROSS SECTIONS - MARKET AVENUE
STA. 155+00.00 TO STA. 155+50.00**

STA-12TH STREET

359
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s002.dgn 4/14/2014 4:41:50 PM brion.sezior\ODOTV8i_PDF_Half.pltctg ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING														END AREA		VOLUME		CALCULATED			
END WIDTH	SO. YDS.	60	50	40	30	20	10	0	10	20	30	40	50	60	CUT	FILL	CUT	FILL	KOD	CHECKED	RWK
															31	0	31	0			
															37	0	22	0			
															40	0	14	0			
6	6																67	0			

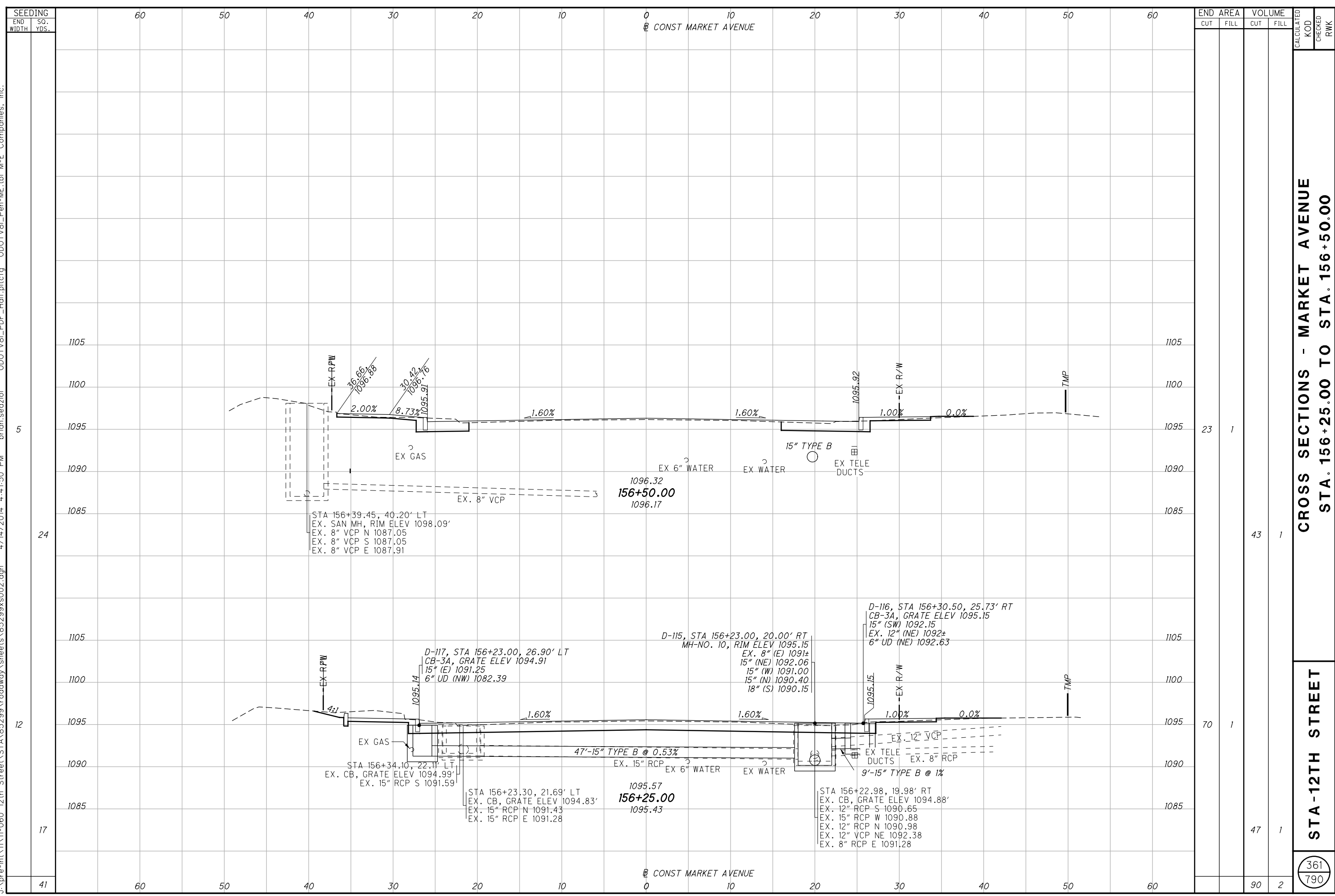


**CROSS SECTIONS - MARKET AVENUE
STA. 155+59.29 TO STA. 156+00.00**

STA-12TH STREET

360
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s002.dgn 4/14/2014 4:41:50 PM brion.sezior\ ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



SEEDING		END AREA		VOLUME		CALCULATED	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	KOD	CHECKED
60	50						
60	40						
60	30						
60	20						
60	10						
60	0						
60	10						
60	20						
60	30						
60	40						
60	50						
60	60						
5		23	1				
24				43	1		
12		70	1				
17				47	1		
41				90	2		

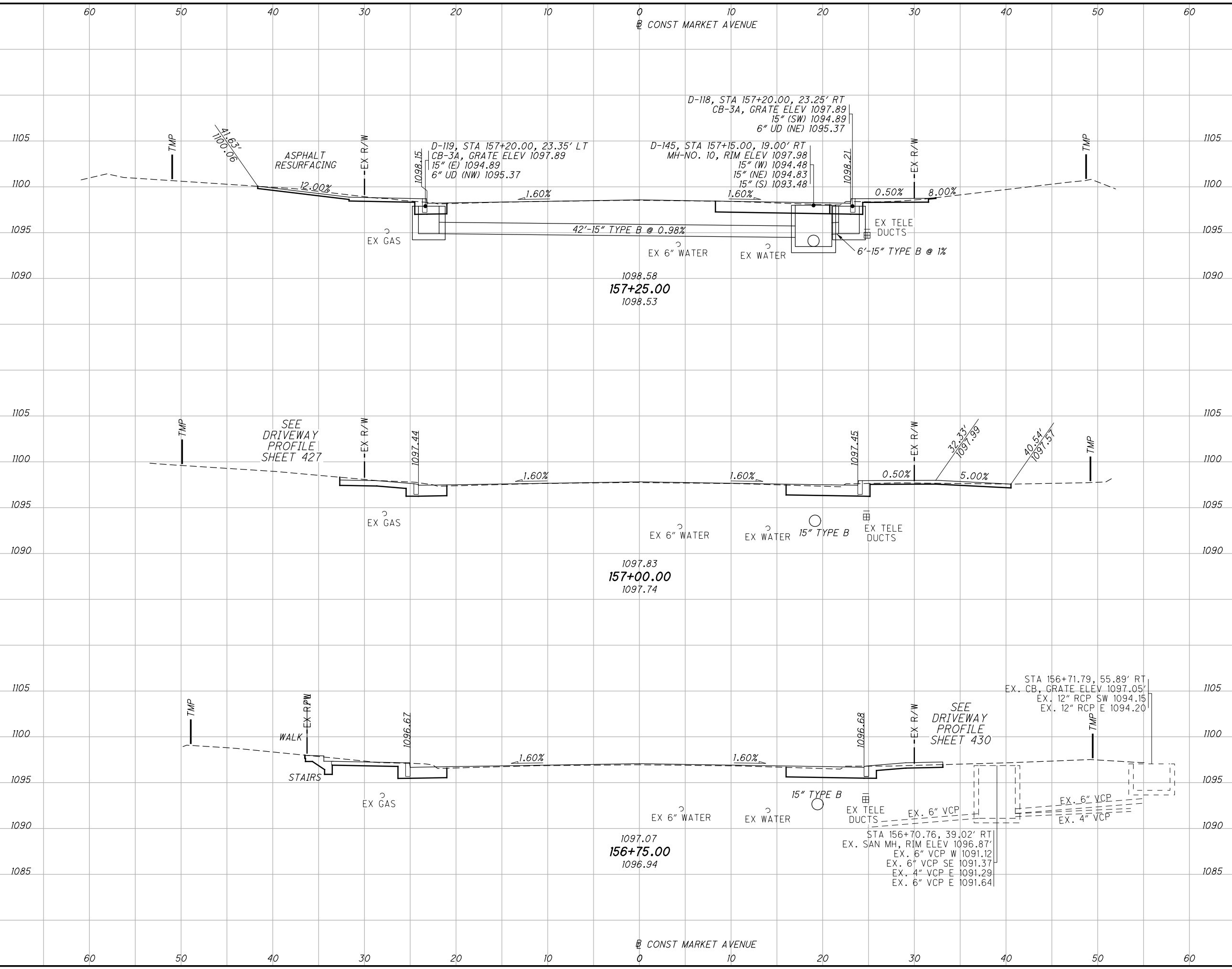
**CROSS SECTIONS - MARKET AVENUE
STA. 156+25.00 TO STA. 156+50.00**

STA-12TH STREET

361
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299s002.dgn 4/14/2014 4:41:50 PM brion.sezior" ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING	END AREA		VOLUME		CALCULATED	KOD	CHECKED	RWK
	CUT	FILL	CUT	FILL				
END WIDTH	60	60	30	0				
SO. YDS.	50	50	25	0				
	40	40	24	0				
	30	30	24	0				
	20	20	24	0				
	10	10	24	0				
	0	0	24	1				
	10	10	24	1				
	20	20	24	1				
	30	30	24	1				
	40	40	24	1				
	50	50	24	1				
	60	60	24	1				
	60	60	73	1				



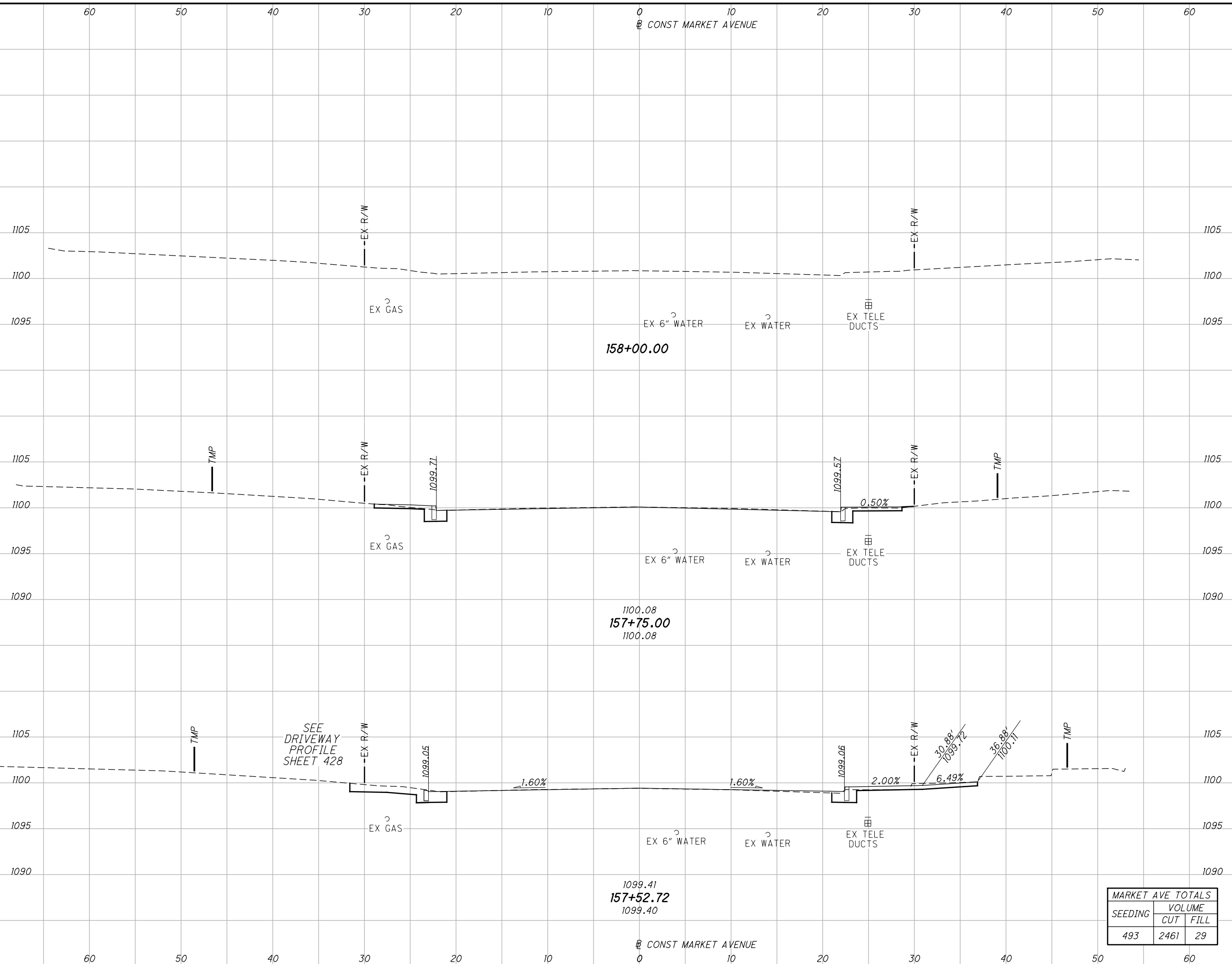
**CROSS SECTIONS - MARKET AVENUE
STA. 156+75.00 TO STA. 157+25.00**

STA-12TH STREET

362
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299x002.dgn 4/14/2014 4:41:51 PM brion.sedziol' ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.
60	0
50	1
40	1
30	1
20	1
10	1
0	1
10	1
20	1
30	1
40	1
50	1
60	1
60	2



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0	5	0
11	0	19	0
24	0		

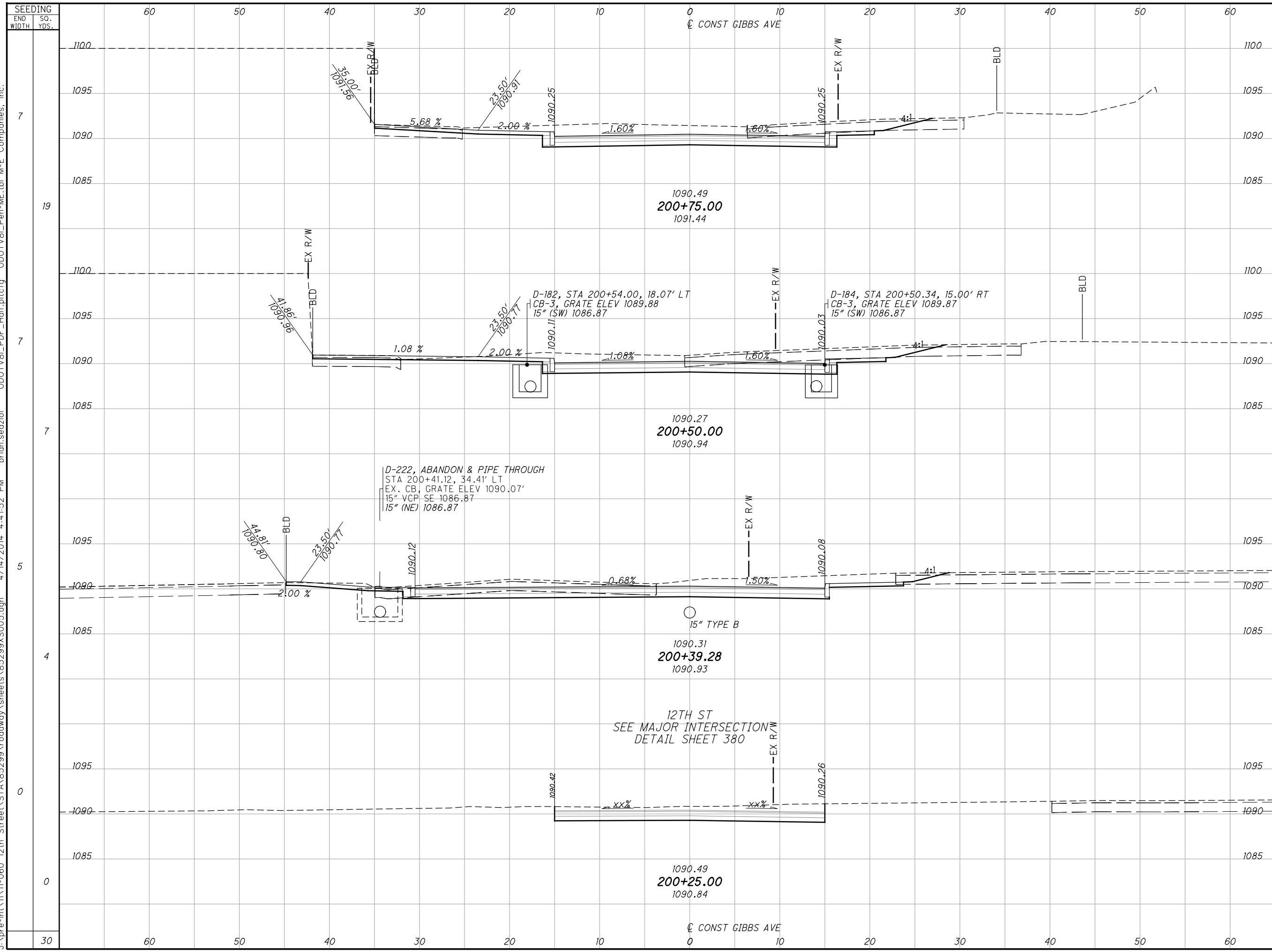
MARKET AVE TOTALS		
SEEDING	VOLUME	
	CUT	FILL
493	2461	29

CROSS SECTIONS - MARKET AVENUE
STA. 157+52.72 TO STA. 158+00.00

STA-12TH STREET

363
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299X5005.dgn 4/14/2014 4:41:52 PM brian.sedziol\ODOTV81_PDF_Half.plt c:\odotv81\Pen-ME.tbl M-E Companies, Inc.



END STA	AREA		VOLUME	
	CUT	FILL	CUT	FILL
200+75.00	102	0	93	0
200+50.00	98	0	41	0
200+39.28	110	0	42	0
200+25.00	49	0	0	0
TOTAL			176	0

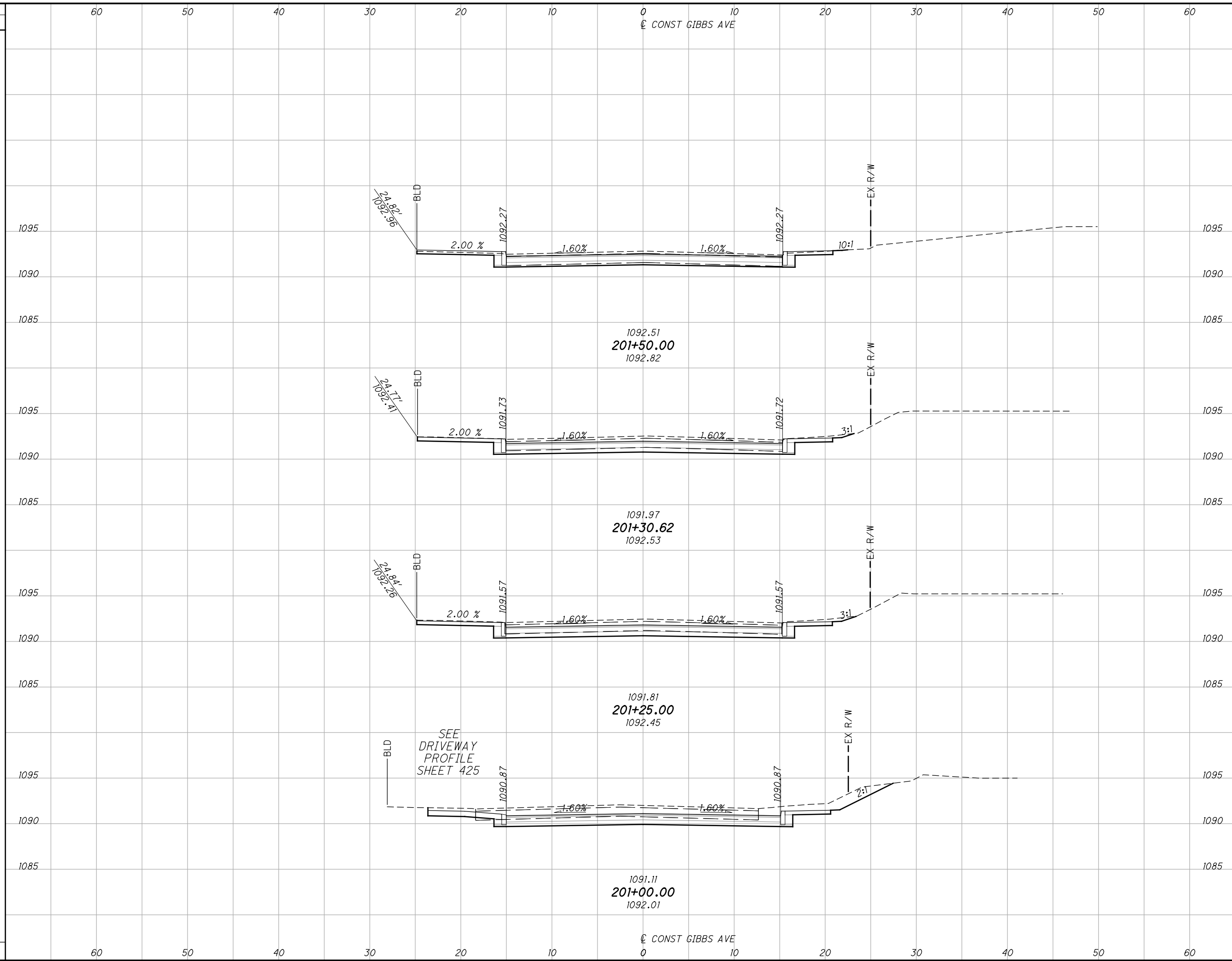
**CROSS SECTIONS GIBBS AVENUE
STA. 200+25.00 TO STA. 200+75.00**

STA-12TH STREET

364
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299X5005.dgn 4/14/2014 4:41:52 PM brian.sedziol\ ODOTV81_PDF_Half.plt:cfig ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	END AREA		VOLUME		CALCULATED	CHECKED	DLW
	CUT	FILL	CUT	FILL			
2	51	0	41	0			
3	62	0	13	0			
3	65	0	70	0			
8	86	0	87	0			
40			211	0			

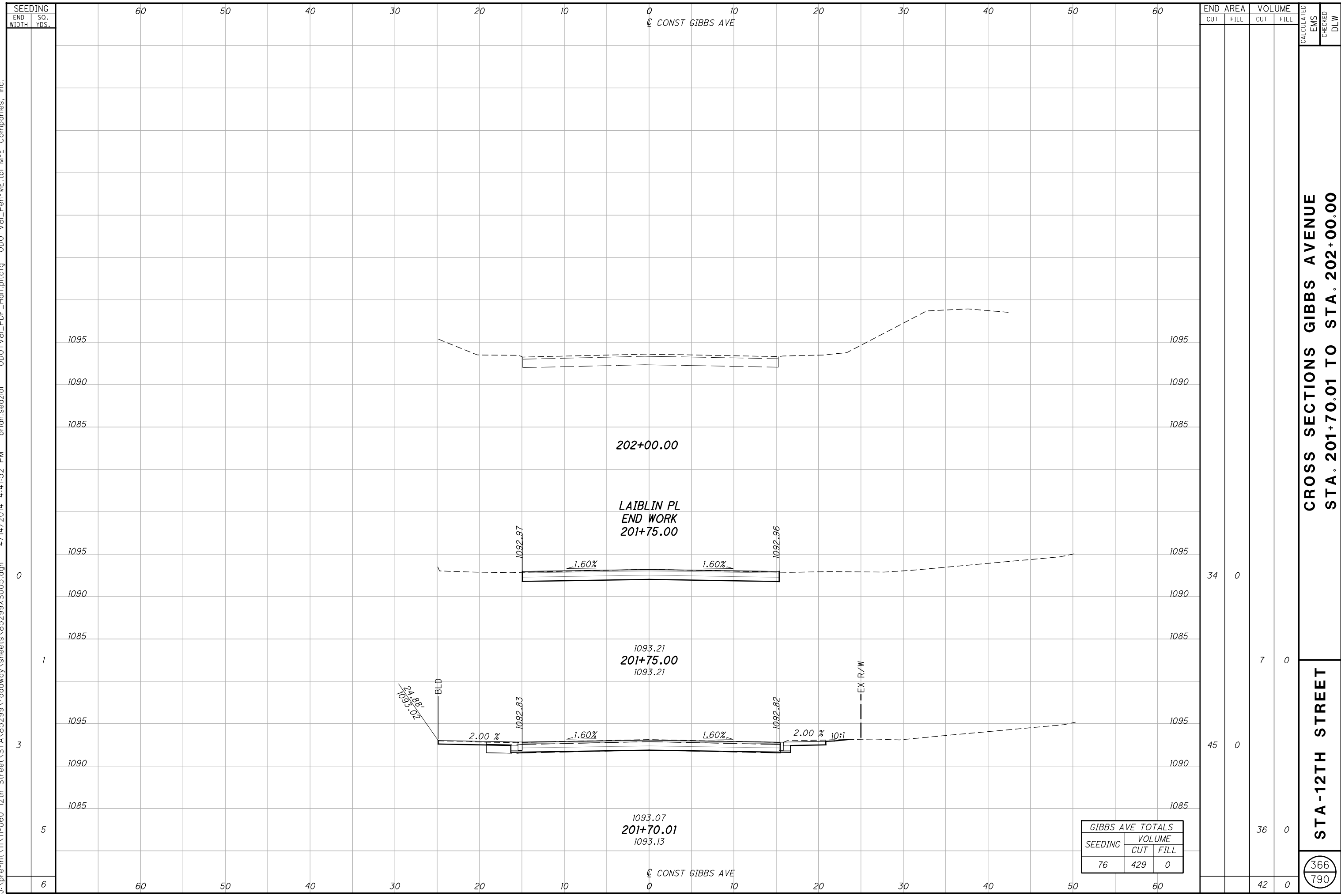


**CROSS SECTIONS GIBBS AVENUE
STA. 201+00.00 TO STA. 201+50.00**

STA-12TH STREET

365
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299\S005.dgn 4/14/2014 4:41:52 PM brian.sedziol ODOTV81_PDF_Half.plt c:\fg ODOTV81_Pen-ME.tbl M-E Companies, Inc.



GIBBS AVE TOTALS		
SEEDING	VOLUME	
	CUT	FILL
76	429	0

END AREA	VOLUME	CALCULATED	CHECKED
34	0	7	0
45	0	36	0
42	0	366	790

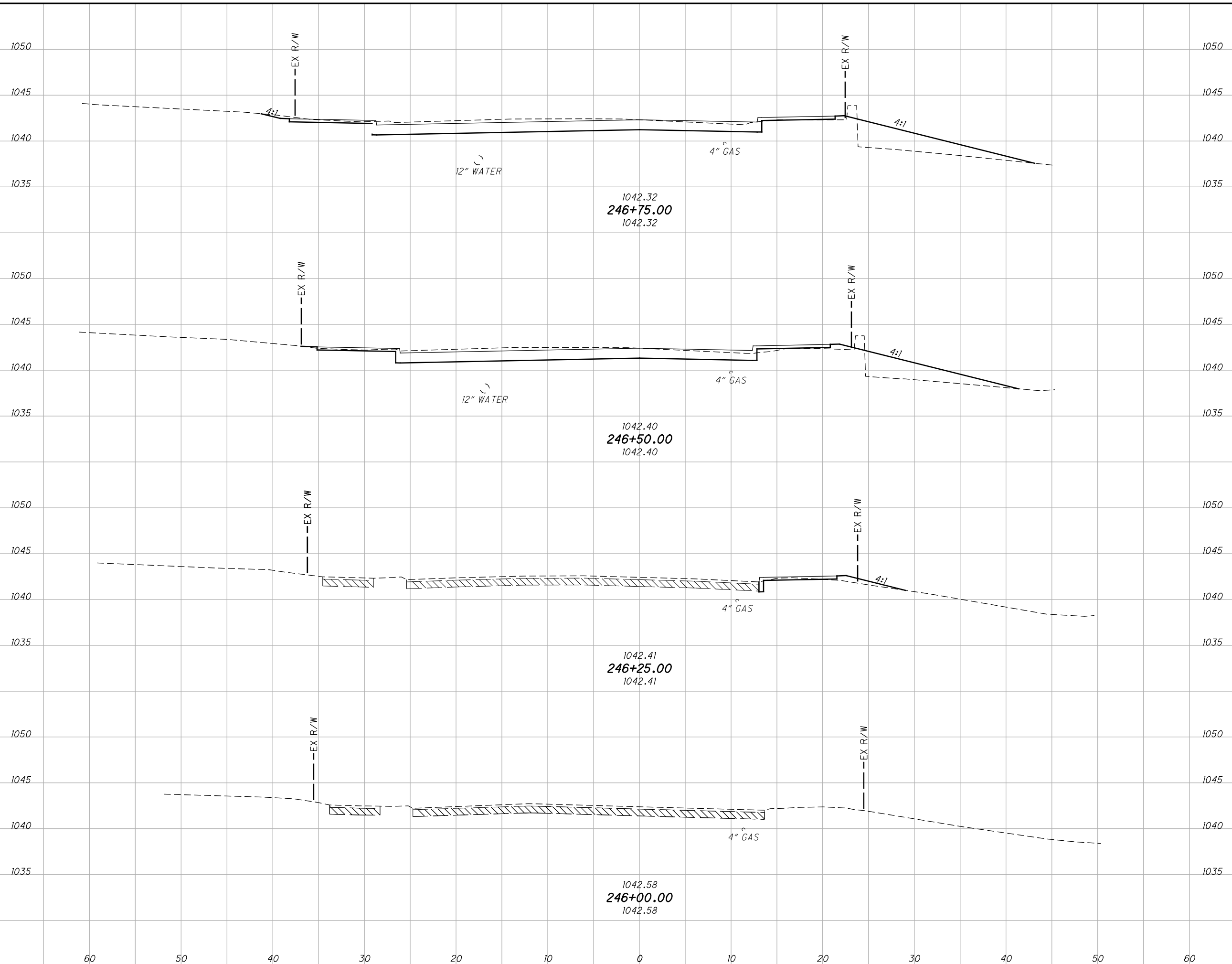
CROSS SECTIONS GIBBS AVENUE
STA. 201+70.01 TO STA. 202+00.00

STA-12TH STREET

366
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299\S008.dgn 4/14/2014 4:41:53 PM brian.sedziol\ ODOTV81_PDF_Half.plt c:\g\ ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.
25	69
23	45
8	0
0	0
114	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
57	29	50	25
50	26	24	13
1	3	0	0
		74	38

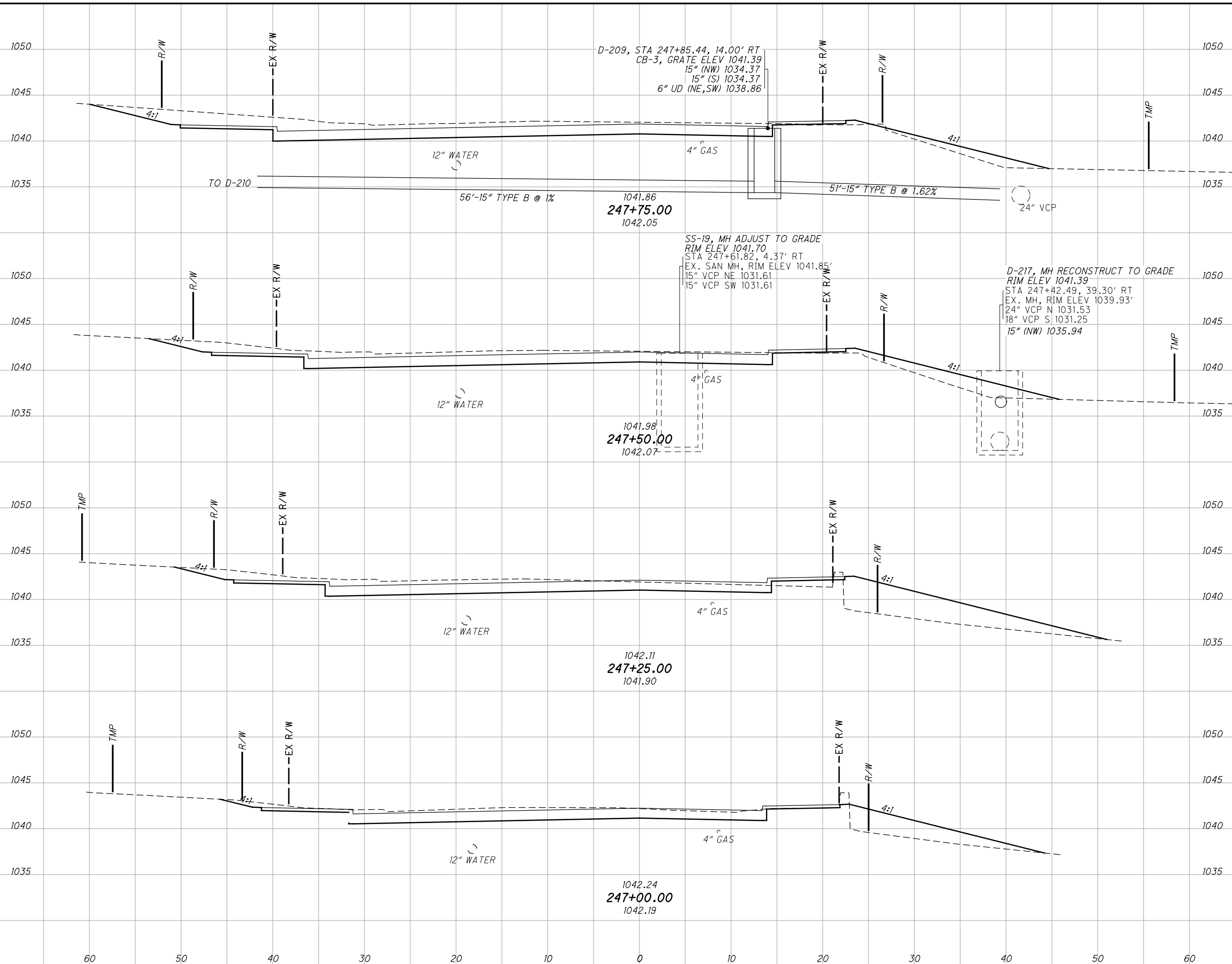
CROSS SECTIONS - OJAY'S PARKWAY
STA. 246+00.00 TO STA. 246+75.00

STA-12TH STREET

367
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299X5008.dgn 4/14/2014 4:41:54 PM briam.sedziol\ODOTV81_PDF_Half.plt\cfig\ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	END AREA		VOLUME		CALCULATED	CHECKED	DLW
	CUT	FILL	CUT	FILL			
33	112	13	93	17			
31	88	24	75	40			
36	75	63	64	44			
28	64	31	56	28			
75			288	129			



SEEDING	END AREA		VOLUME		CALCULATED	CHECKED	DLW
	CUT	FILL	CUT	FILL			
33	112	13	93	17			
31	88	24	75	40			
36	75	63	64	44			
28	64	31	56	28			
75			288	129			

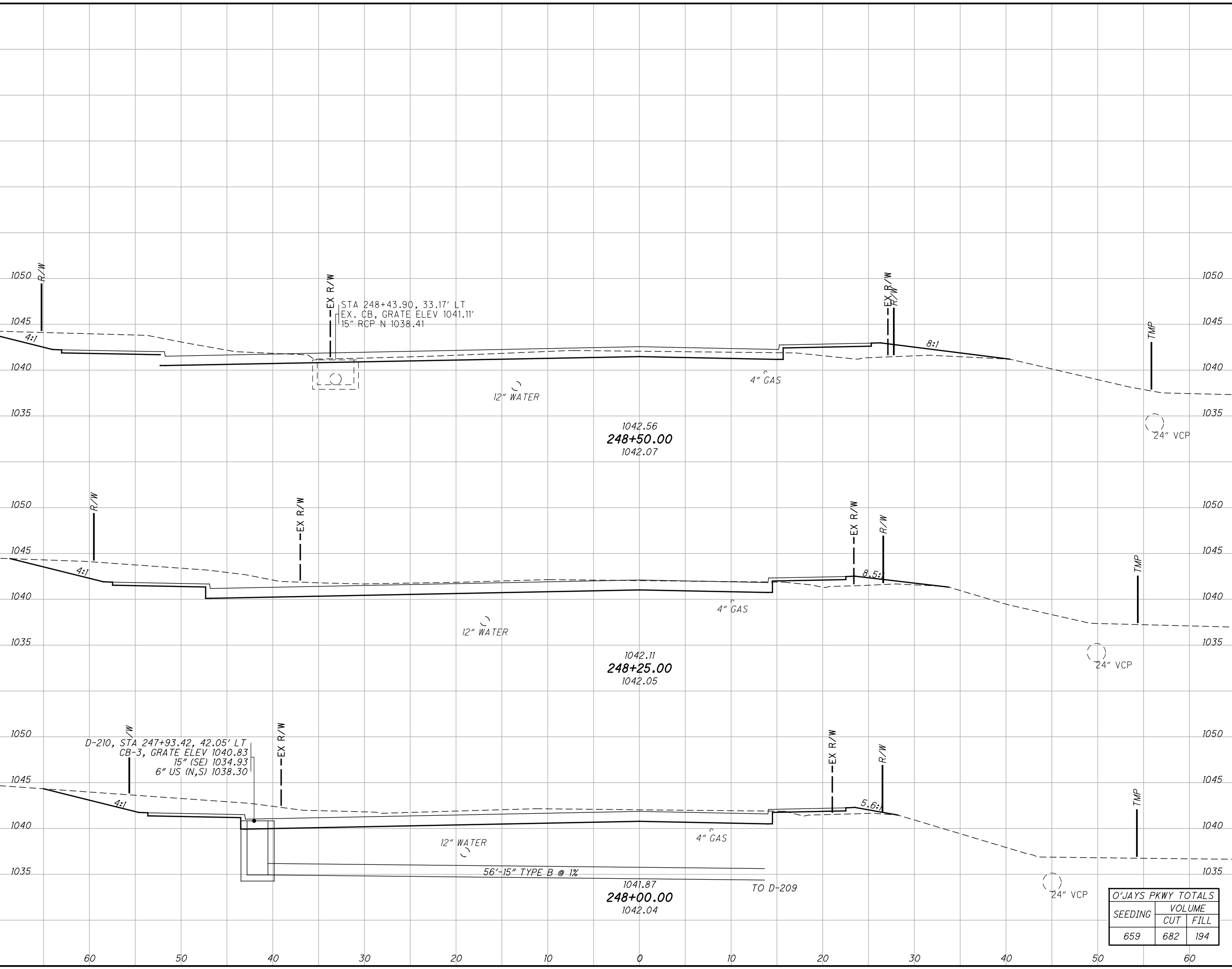
CROSS SECTIONS - OJAY'S PARKWAY
STA. 247+00.00 TO STA. 247+75.00

STA-12TH STREET

368
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299X5008.dgn 4/14/2014 4:41:54 PM briam.sedziol\ ODOTV81_PDF_Half.plt c:\odotv81_pen-me.tbl M-E Companies, Inc.

SEEDING	END AREA		VOLUME		CALCULATED	CHECKED	DLW
	CUT	FILL	CUT	FILL			
END WIDTH							
SO. YDS.							
24	90	20	98	13			
64	121	9	113	6			
22	123	4	109	8			
58							
18							
73							
195							



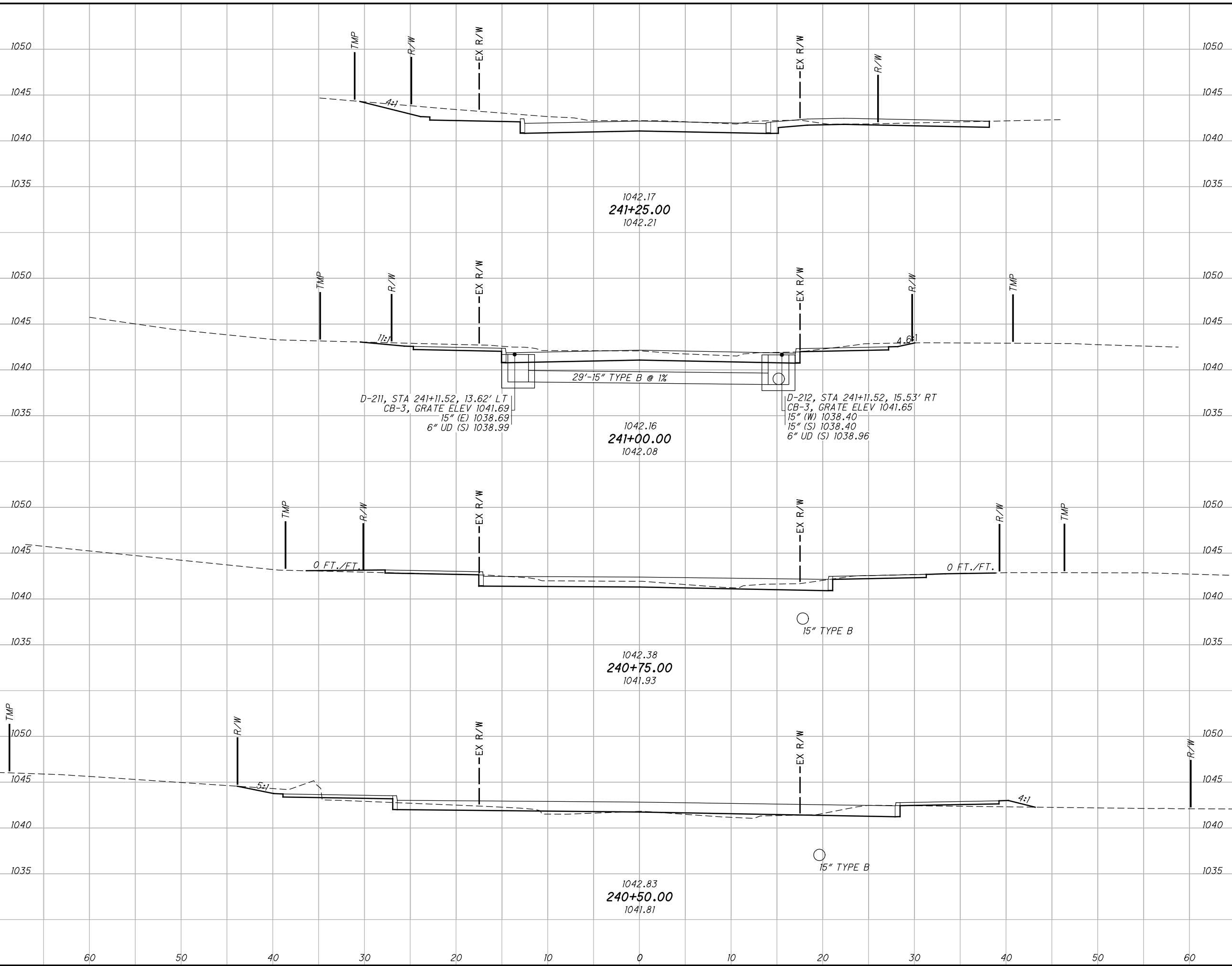
O'JAYS PKWY TOTALS		
SEEDING	VOLUME	
	CUT	FILL
659	682	194

CROSS SECTIONS - OJAY'S PARKWAY
STA. 248+00.00 TO STA. 248+50.00
STA-12TH STREET

369
 790

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SEEDING	
END WIDTH	SO. YDS.
100	0
60	9
50	36
40	17
30	39
20	9
10	25
0	8



END CUT	AREA FILL	VOLUME	
		CUT	FILL
60	0	50	0
47	0	35	0
28	1	24	6
23	11	0	0
		109	0

CALCULATED
 EMS
 CHECKED
 DLW

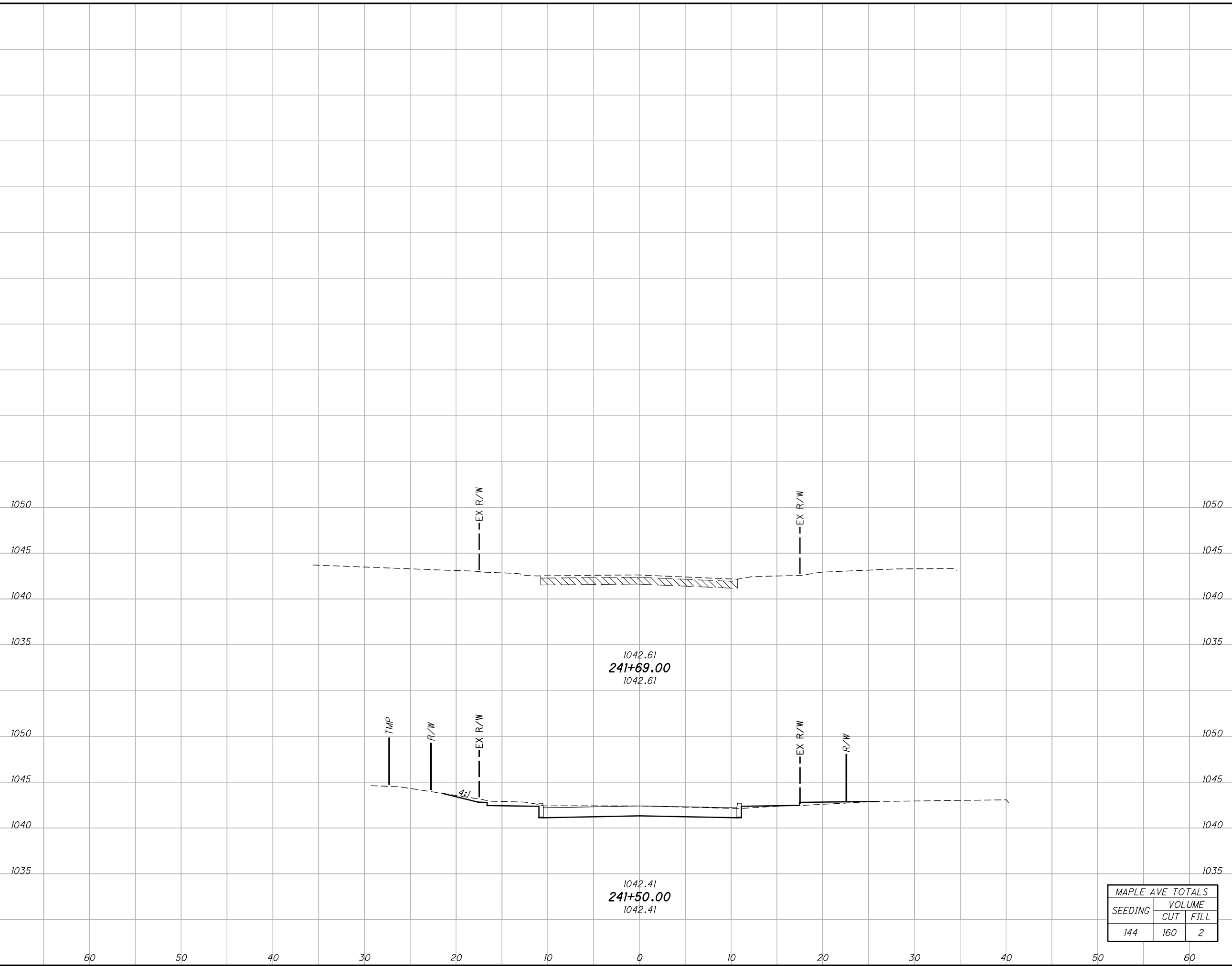
CROSS SECTIONS - MAPLE AVE.
STA. 240+50.00 TO STA. 241+25.00

STA-12TH STREET

370
 790

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SEEDING	
END WIDTH	SO. YDS.
44	
30	
13	
14	
0	
1050	
1045	
1040	
1035	
1050	
1045	
1040	
1035	
60	
50	
40	
30	
20	
10	
0	
10	
20	
30	
40	
50	
60	



MAPLE AVE TOTALS		
SEEDING	VOLUME	
	CUT	FILL
144	160	2

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0	10	1
28	2	41	1
		51	2

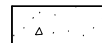
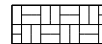

CROSS SECTIONS - MAPLE AVE.
 STA. 241+50.00 TO STA. 241+69.00

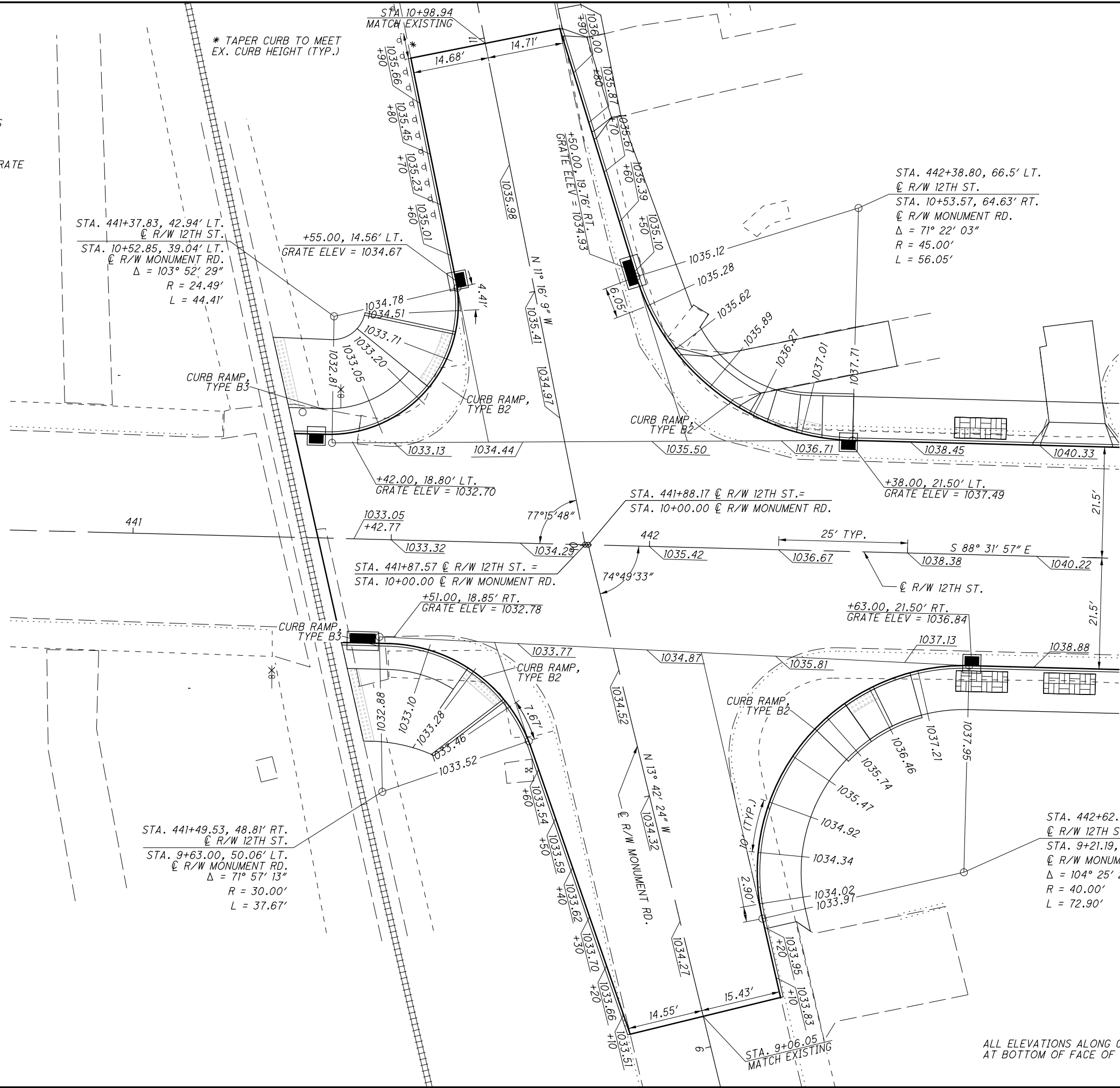
STA-12TH STREET

371
790

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LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



STA. 441+37.83, 42.94' LT.
 @ R/W 12TH ST.
 STA. 10+52.85, 39.04' LT.
 @ R/W MONUMENT RD.
 $\Delta = 103^\circ 52' 29''$
 $R = 24.49'$
 $L = 44.41'$

+55.00, 14.56' LT.
 GRATE ELEV = 1034.67

+42.00, 18.80' LT.
 GRATE ELEV = 1032.70

STA. 441+87.57 @ R/W 12TH ST. =
 STA. 10+00.00 @ R/W MONUMENT RD.

+51.00, 18.85' RT.
 GRATE ELEV = 1032.78

STA. 441+49.53, 48.81' RT.
 @ R/W 12TH ST.
 STA. 9+63.00, 50.06' LT.
 @ R/W MONUMENT RD.
 $\Delta = 71^\circ 57' 13''$
 $R = 30.00'$
 $L = 37.67'$

STA. 442+38.80, 66.5' LT.
 @ R/W 12TH ST.
 STA. 10+53.57, 64.63' RT.
 @ R/W MONUMENT RD.
 $\Delta = 71^\circ 22' 03''$
 $R = 45.00'$
 $L = 56.05'$

+38.00, 21.50' LT.
 GRATE ELEV = 1037.49

+63.00, 21.50' RT.
 GRATE ELEV = 1036.84

STA. 442+62.48, 61.5' RT.
 @ R/W 12TH ST.
 STA. 9+21.19, 55.63' RT.
 @ R/W MONUMENT RD.
 $\Delta = 104^\circ 25' 25''$
 $R = 40.00'$
 $L = 72.90'$

ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT
 AT BOTTOM OF FACE OF CURB ELEVATIONS.

CALCULATED

KOD

CHECKED

RWK

RWK





HORIZONTAL SCALE IN FEET

MAJOR INTERSECTION DETAIL

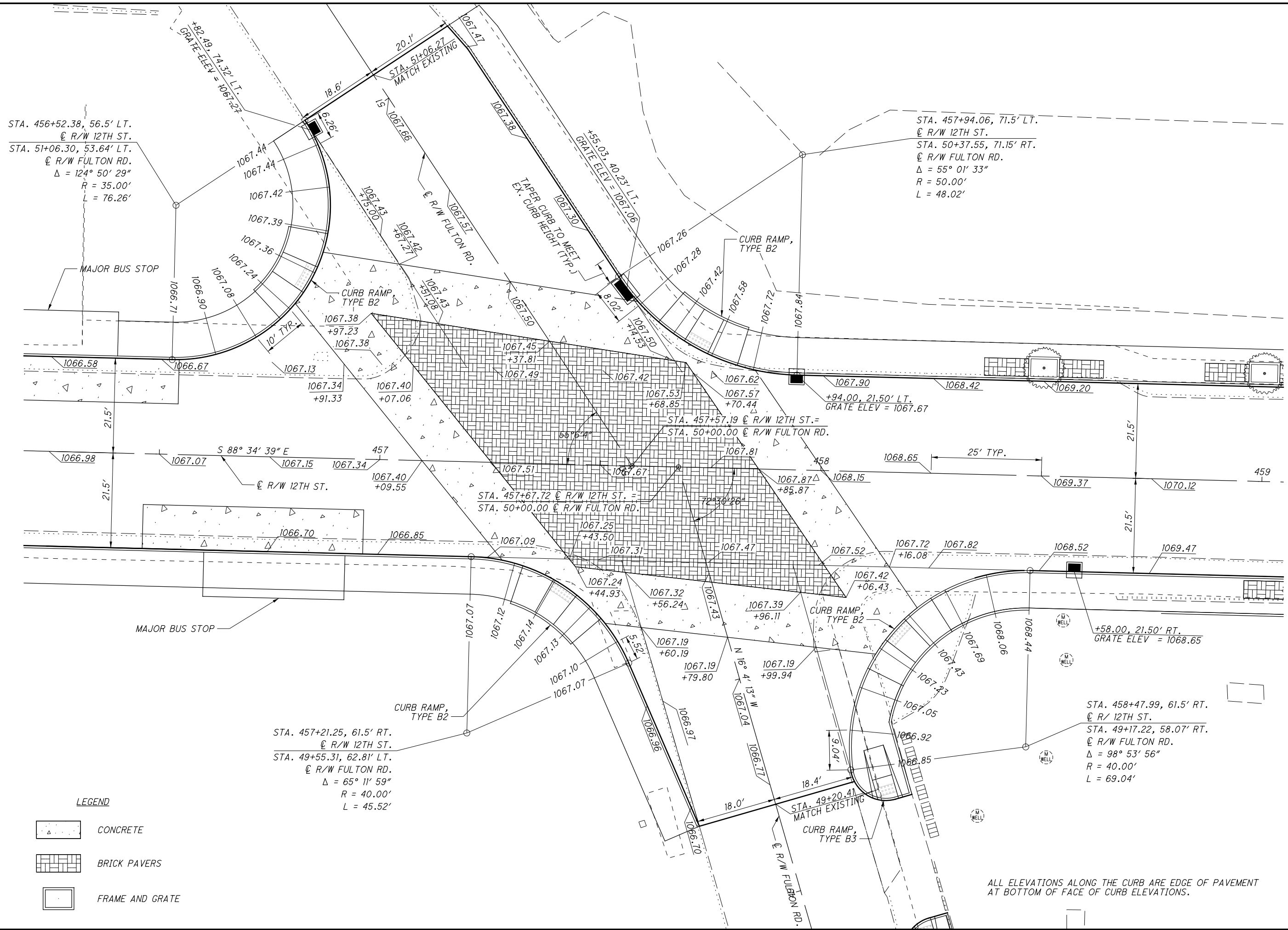
12TH STREET AND MONUMENT ROAD

STA-12TH STREET

372

790

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STA. 456+52.38, 56.5' LT.
@ R/W 12TH ST.
STA. 51+06.30, 53.64' LT.
@ R/W FULTON RD.
 $\Delta = 124^\circ 50' 29''$
 $R = 35.00'$
 $L = 76.26'$




STA. 457+94.06, 71.5' LT.
@ R/W 12TH ST.
STA. 50+37.55, 71.15' RT.
@ R/W FULTON RD.
 $\Delta = 55^\circ 01' 33''$
 $R = 50.00'$
 $L = 48.02'$

STA. 457+67.72 @ R/W 12TH ST. =
STA. 50+00.00 @ R/W FULTON RD.

STA. 457+21.25, 61.5' RT.
@ R/W 12TH ST.
STA. 49+55.31, 62.81' LT.
@ R/W FULTON RD.
 $\Delta = 65^\circ 11' 59''$
 $R = 40.00'$
 $L = 45.52'$

STA. 458+47.99, 61.5' RT.
@ R/ 12TH ST.
STA. 49+17.22, 58.07' RT.
@ R/W FULTON RD.
 $\Delta = 98^\circ 53' 56''$
 $R = 40.00'$
 $L = 69.04'$

LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE

ALL ELEVATIONS ALONG THE CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.






MAJOR INTERSECTION DETAIL
12TH STREET AND FULTON ROAD

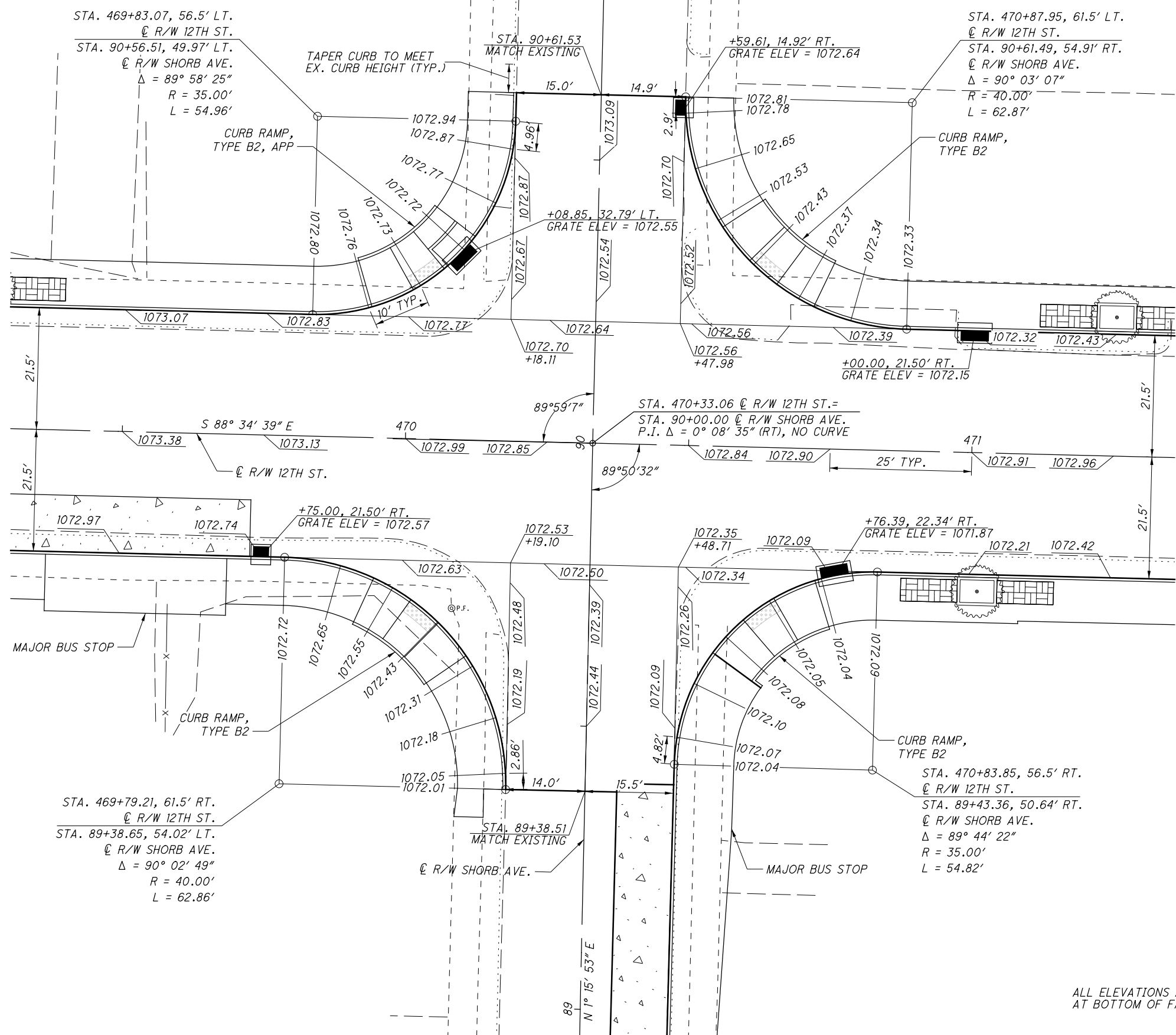
STA-12TH STREET

373
790

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299G003.dgn 4/14/2014 4:41:59 PM brion.sedziol" ODOTV8i_PDF_Hof.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

CALCULATED
KOD
CHECKED
RWK

0 5 10 20
HORIZONTAL SCALE IN FEET




MAJOR INTERSECTION DETAIL
12TH STREET AND SHORB AVENUE

STA-12TH STREET

374
790

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Sta. 476+24.25, 82.95' Lt.
 Sta. 109+34.32, 110.31' Rt.
 $\Delta = 22^\circ 22' 18''$
 $R = 80.00'$
 $L = 31.24'$

- LEGEND**
-  CONCRETE
 -  BRICK PAVERS
 -  FRAME AND GRATE

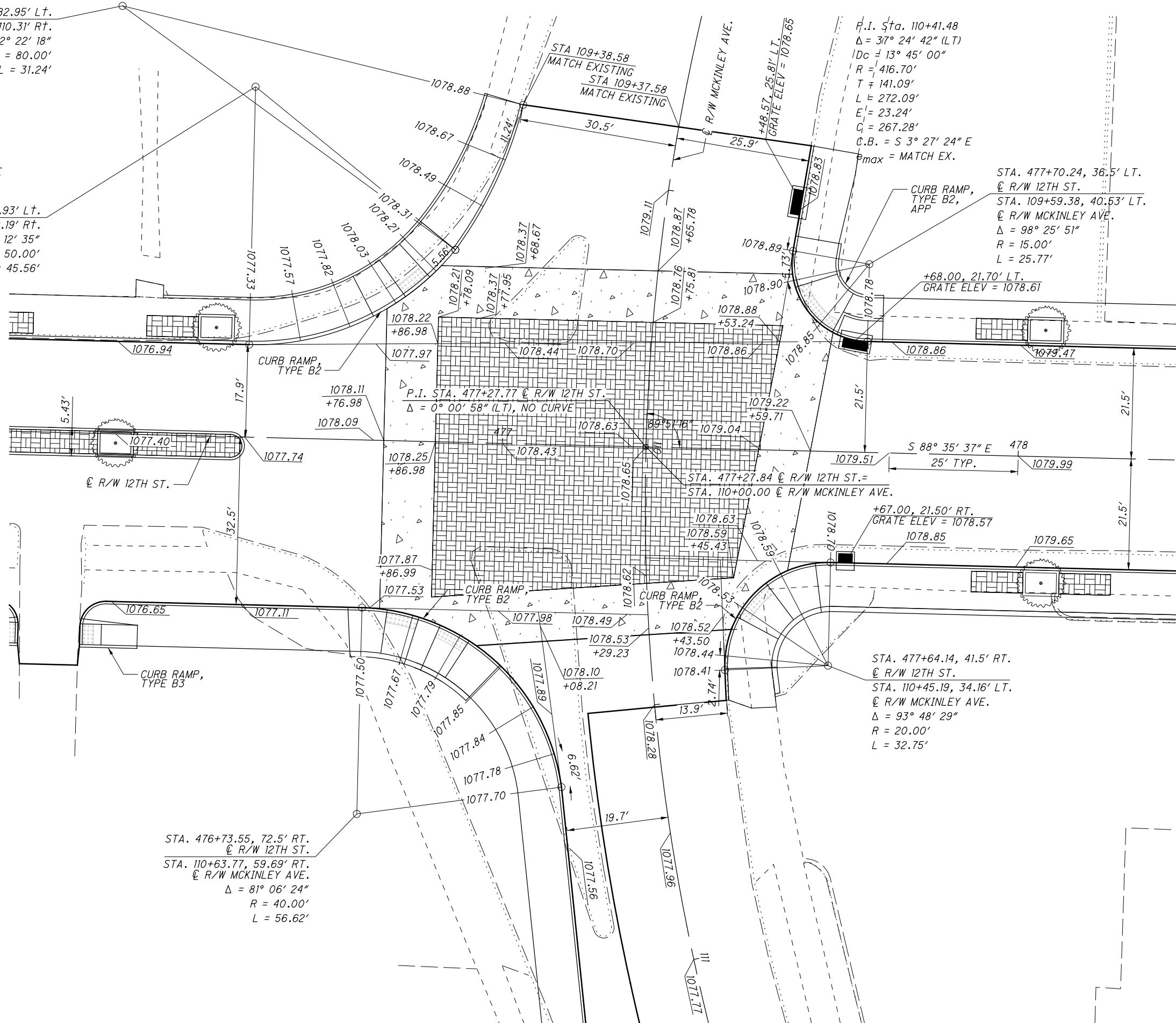
Sta. 476+50.43, 67.93' Lt.
 Sta. 109+43.23, 82.19' Rt.
 $\Delta = 52^\circ 12' 35''$
 $R = 50.00'$
 $L = 45.56'$

STA. 476+73.55, 72.5' RT.
 @ R/W 12TH ST.
 STA. 110+63.77, 59.69' RT.
 @ R/W MCKINLEY AVE.
 $\Delta = 81^\circ 06' 24''$
 $R = 40.00'$
 $L = 56.62'$

P.I. Sta. 110+41.48
 $\Delta = 37^\circ 24' 42''$ (LT)
 $Dc = 13^\circ 45' 00''$
 $R = 416.70'$
 $T = 141.09'$
 $L = 272.09'$
 $E = 23.24'$
 $C = 267.28'$
 $C.B. = S 3^\circ 27' 24'' E$
 $P_{max} = MATCH EX.$

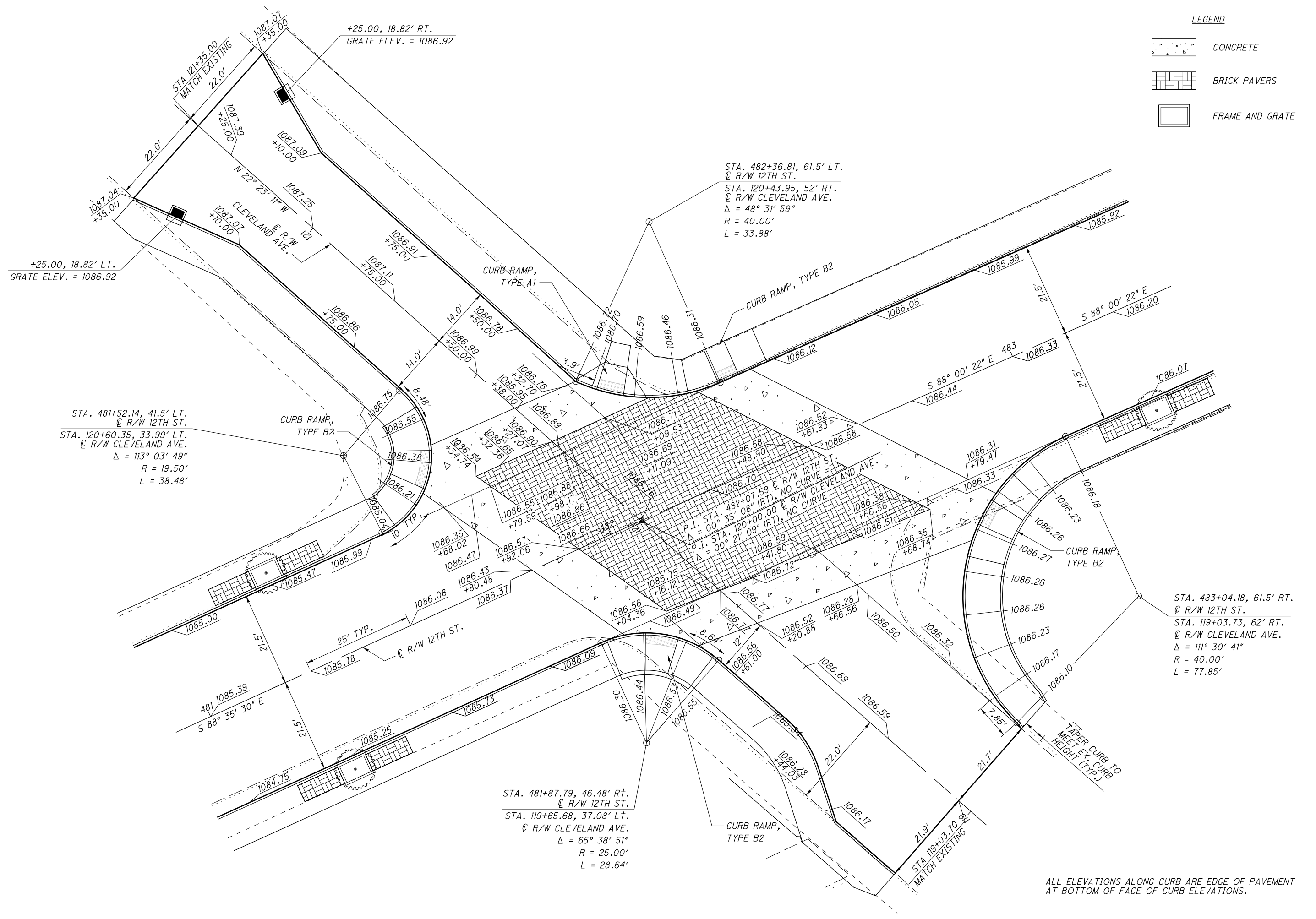
STA. 477+70.24, 36.5' LT.
 @ R/W 12TH ST.
 STA. 109+59.38, 40.63' LT.
 @ R/W MCKINLEY AVE.
 $\Delta = 98^\circ 25' 51''$
 $R = 15.00'$
 $L = 25.77'$

STA. 477+64.14, 41.5' RT.
 @ R/W 12TH ST.
 STA. 110+45.19, 34.16' LT.
 @ R/W MCKINLEY AVE.
 $\Delta = 93^\circ 48' 29''$
 $R = 20.00'$
 $L = 32.75'$






ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

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LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE

CALCULATED
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HORIZONTAL
SCALE IN FEET

**MAJOR INTERSECTION DETAIL
12TH STREET AND CLEVELAND AVENUE**

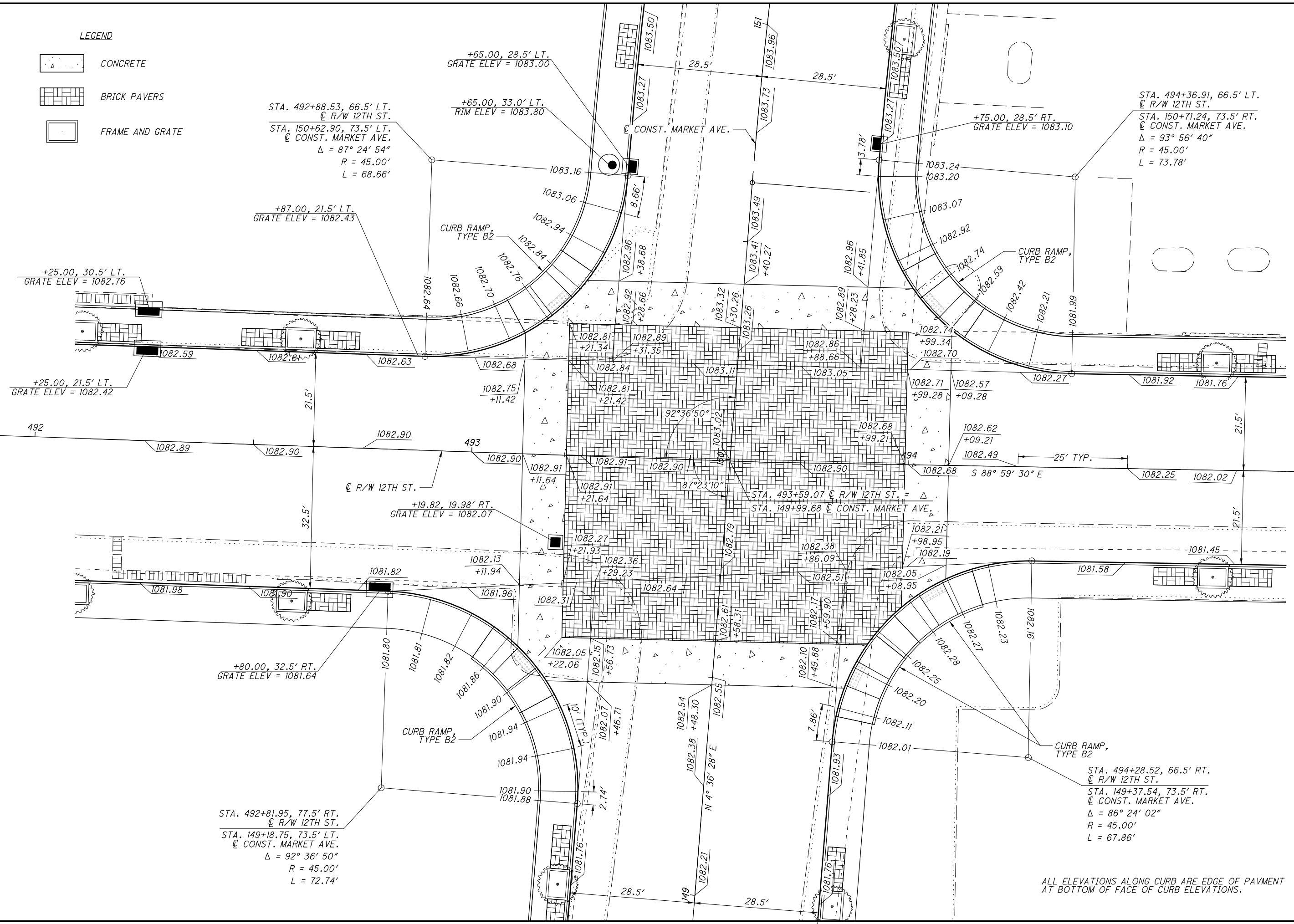
STA-12TH STREET

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LEGEND

- CONCRETE
- BRICK PAVERS
- FRAME AND GRATE



MAJOR INTERSECTION DETAIL
12TH STREET AND MARKET AVENUE

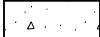


STA-12TH STREET

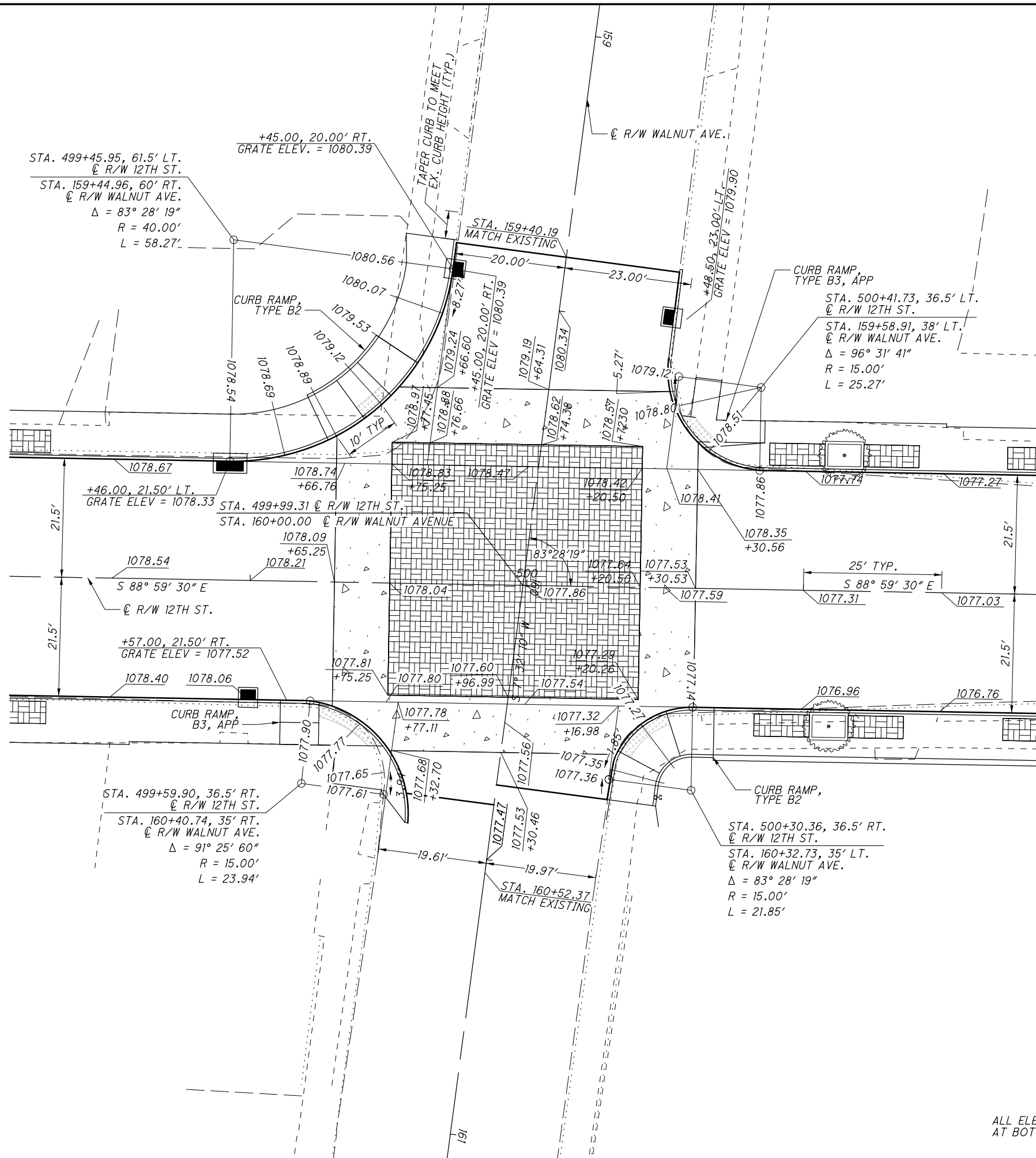
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ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

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LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

CALCULATED
KOD
CHECKED
RWK

0 5 10 20
HORIZONTAL SCALE IN FEET

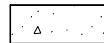
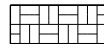

MAJOR INTERSECTION DETAIL
12TH STREET AND WALNUT AVENUE

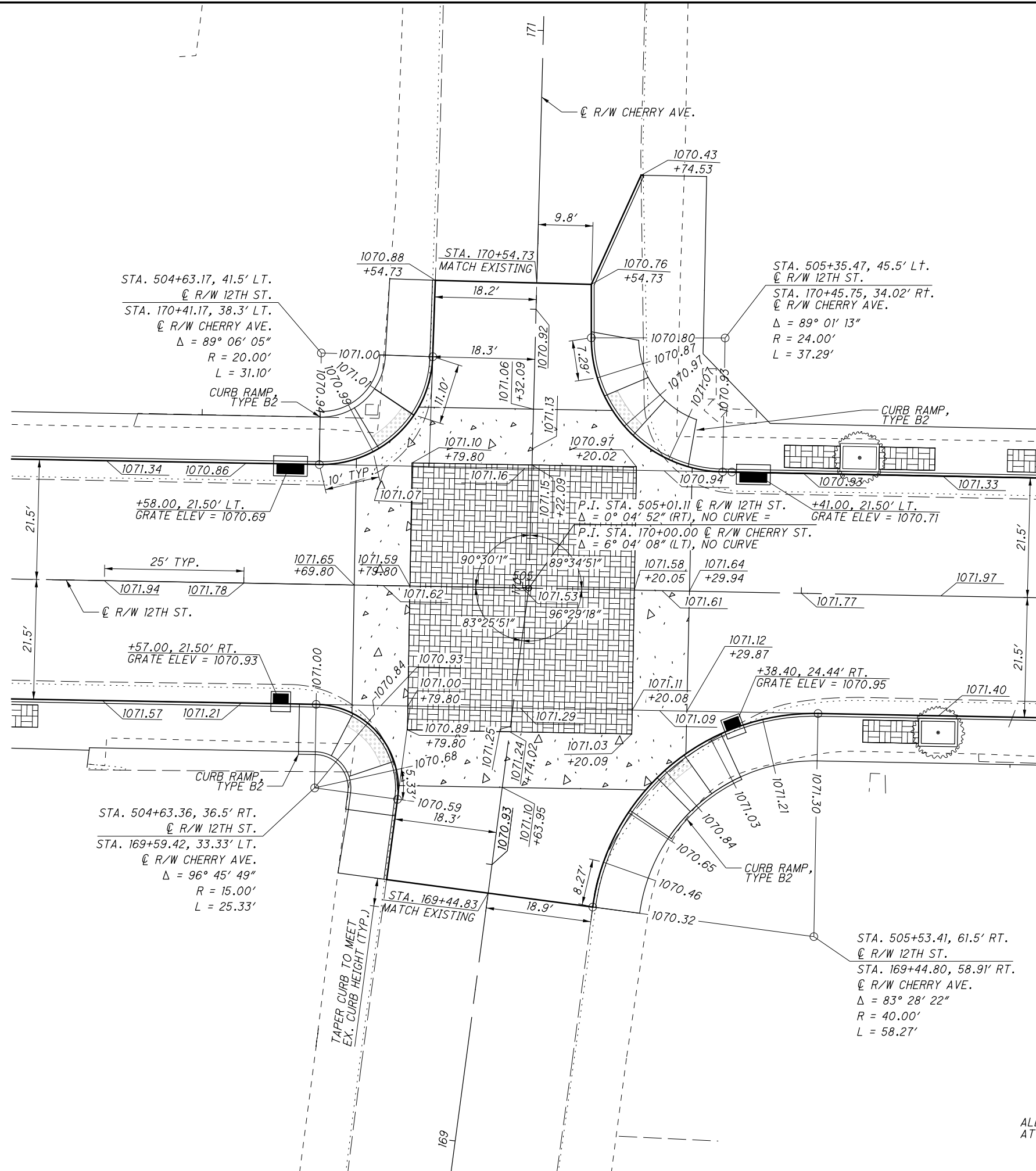
STA-12TH STREET

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LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

CALCULATED
KOD
CHECKED
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


0 5 10 20
HORIZONTAL SCALE IN FEET

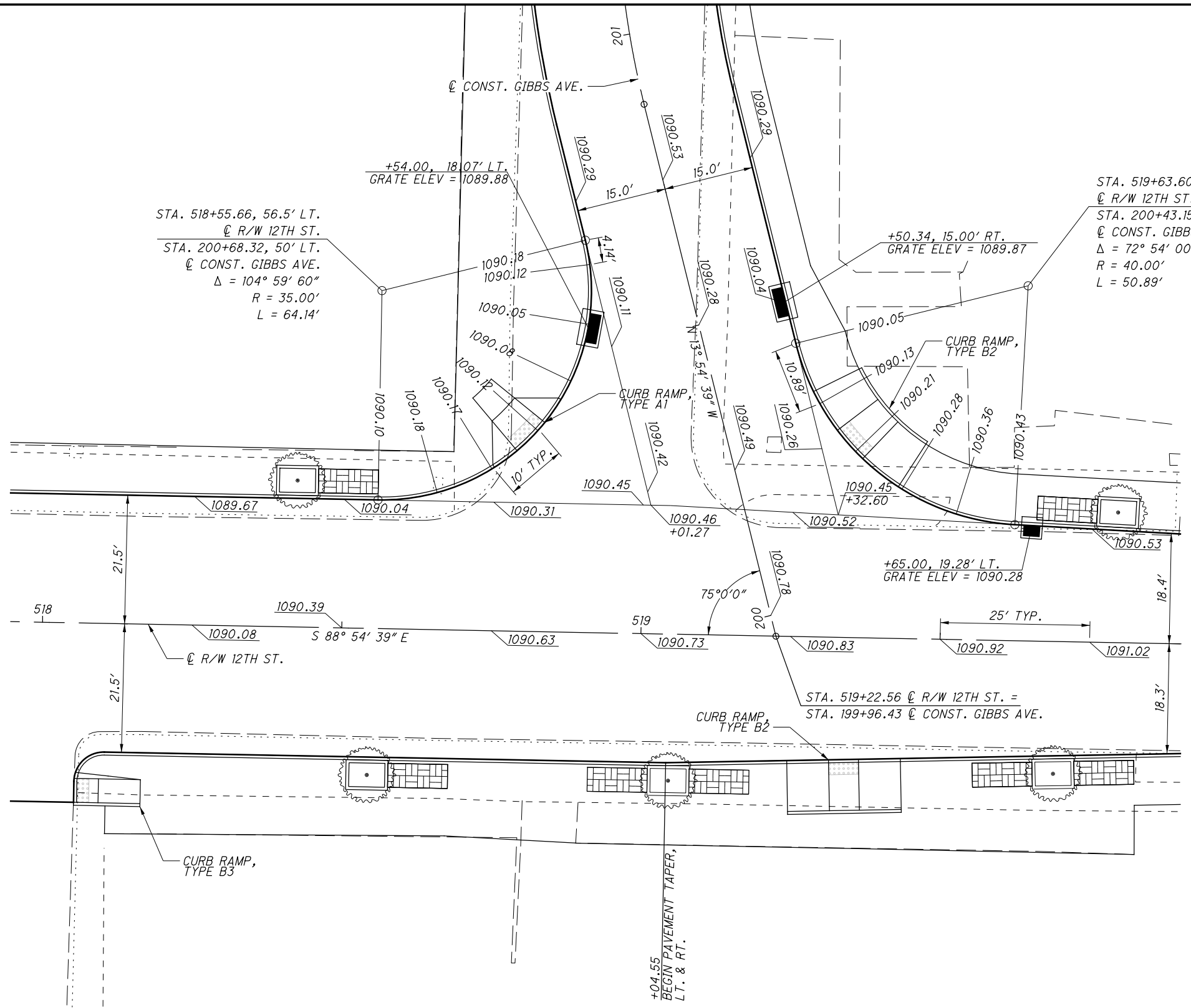
MAJOR INTERSECTION DETAIL
12TH STREET AND CHERRY AVENUE

STA-12TH STREET

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LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



CALCULATED
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0 5 10 20
HORIZONTAL
SCALE IN FEET



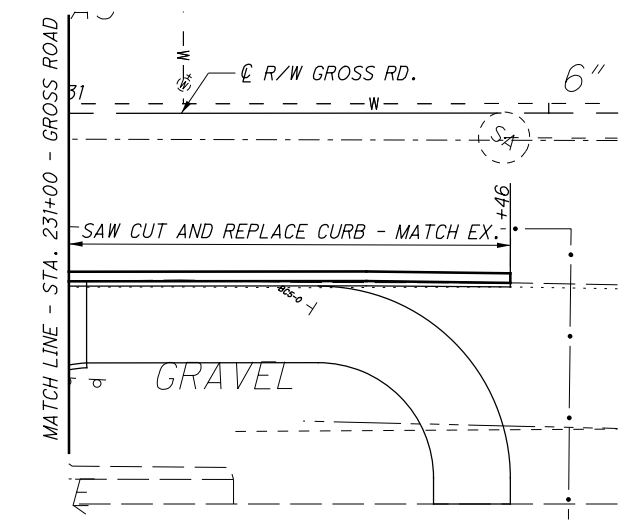
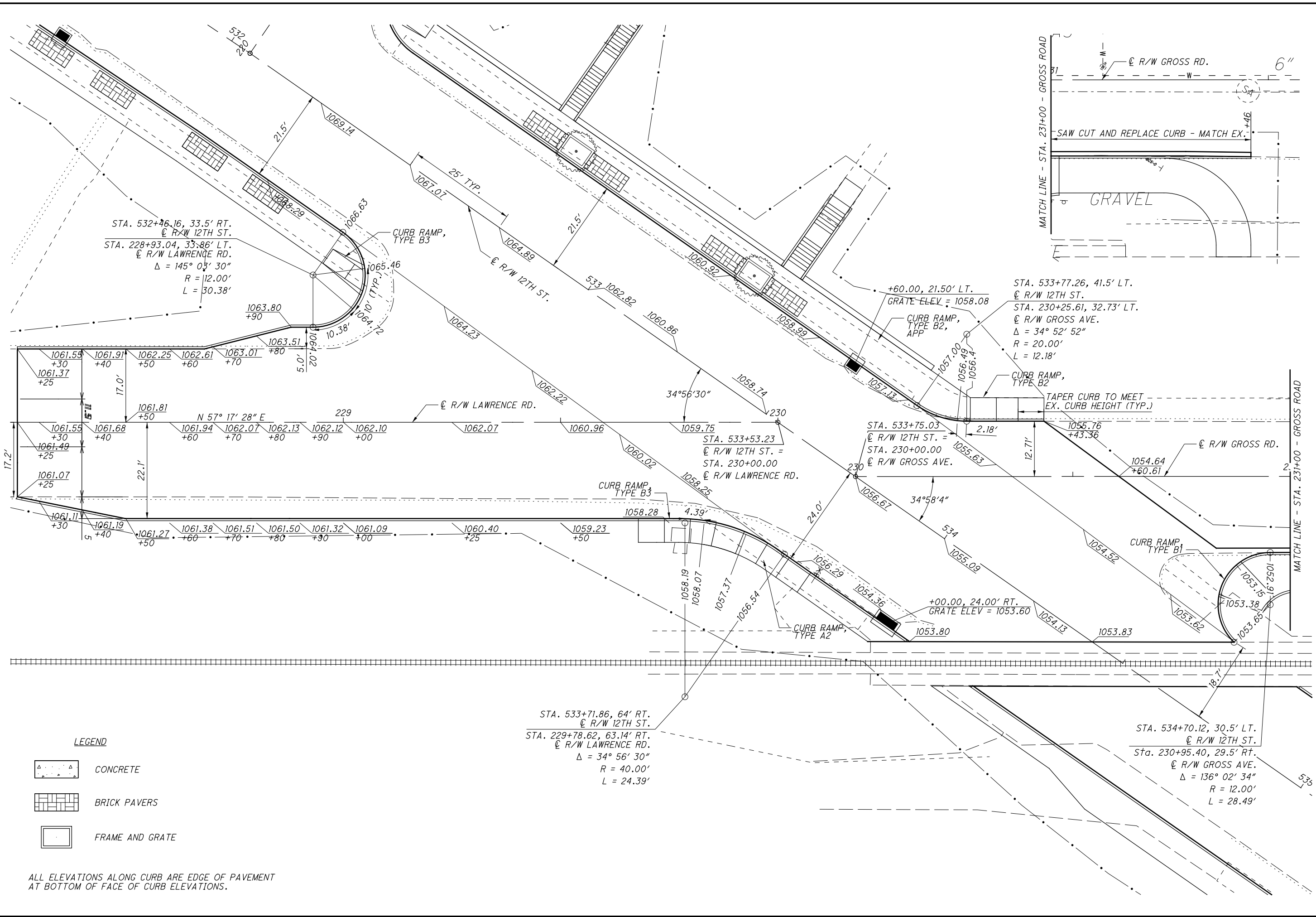
MAJOR INTERSECTION DETAIL
12TH STREET AND GIBBS AVENUE




STA-12TH STREET

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ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

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- LEGEND**
-  CONCRETE
 -  BRICK PAVERS
 -  FRAME AND GRATE

ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

MAJOR INTERSECTION DETAIL
12TH STREET AND LAWRENCE ROAD

STA-12TH STREET

CALCULATED	KOD	CHECKED	RWK
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0 5 10 20
HORIZONTAL SCALE IN FEET

381
790

NOTES:

CENTER OF ROUNDABOUT
@ OJAY'S RA, STA 249+53.88, 0.61' RT
@ 12TH ST RA STA 541+71.03, 7.48' RT

52' TO FACE OF CURB ELEVATIONS

100
 $\Delta = 12^\circ 47' 41''$
 $R = 465.00'$
 $L = 103.84'$
 $PI = 540+29.28, 12.19' LT$
 $PC = 539+77.84, 14.15' LT$
 $PCC = 540+80.26, 23.11' LT$

100
@ 12TH RA STA 540+66.53, 101.92' LT
@ MAPLE, STA 240+90.24, 95.57' LT
 $\Delta = 84^\circ 41' 02''$
 $R = 80.00'$
 $L = 118.24'$

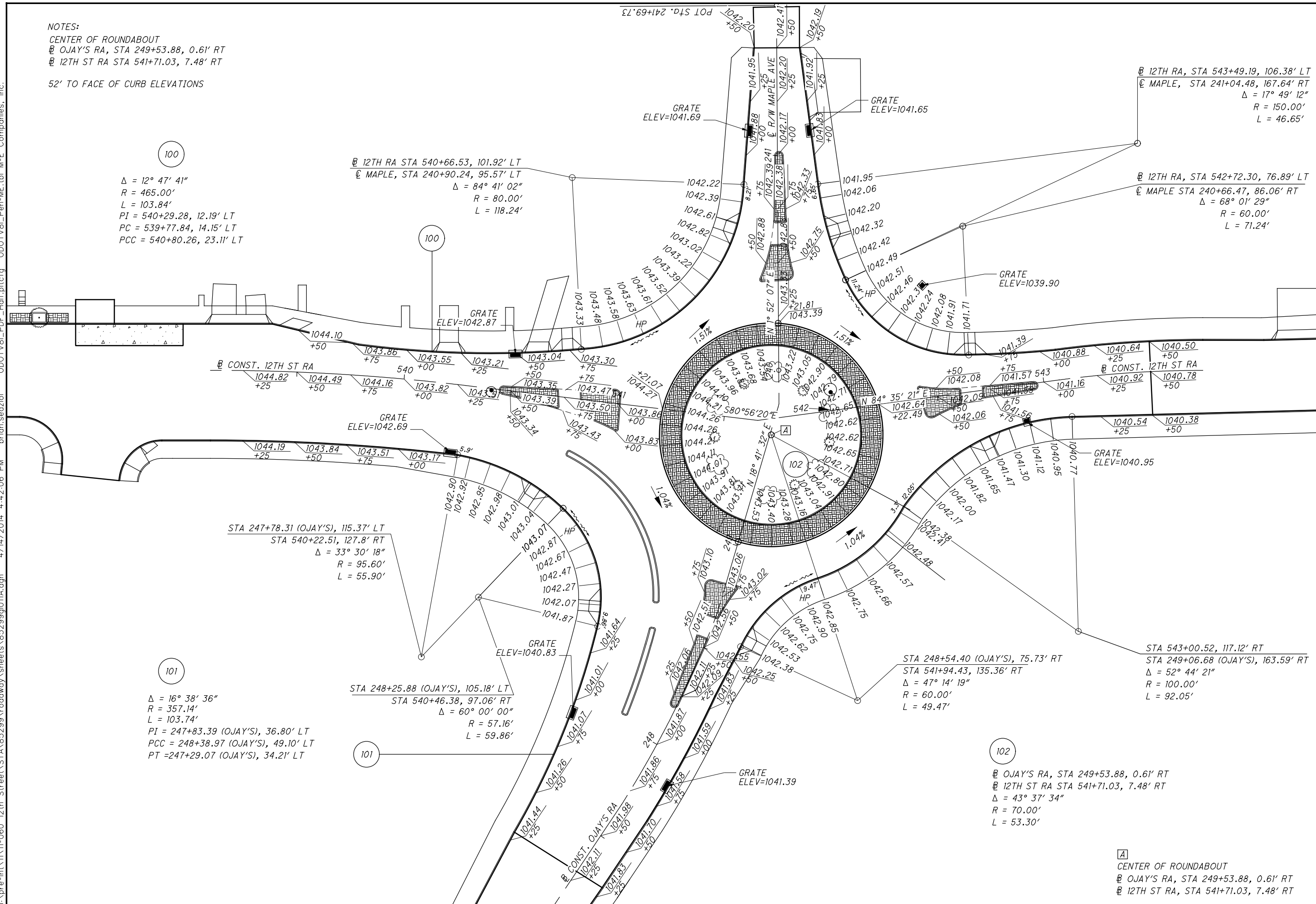
101
 $\Delta = 16^\circ 38' 36''$
 $R = 357.14'$
 $L = 103.74'$
 $PI = 247+83.39 (OJAY'S), 36.80' LT$
 $PCC = 248+38.97 (OJAY'S), 49.10' LT$
 $PT = 247+29.07 (OJAY'S), 34.21' LT$

101
STA 248+25.88 (OJAY'S), 105.18' LT
STA 540+46.38, 97.06' RT
 $\Delta = 60^\circ 00' 00''$
 $R = 57.16'$
 $L = 59.86'$

102
@ OJAY'S RA, STA 249+53.88, 0.61' RT
@ 12TH ST RA STA 541+71.03, 7.48' RT
 $\Delta = 43^\circ 37' 34''$
 $R = 70.00'$
 $L = 53.30'$

A
CENTER OF ROUNDABOUT
@ OJAY'S RA, STA 249+53.88, 0.61' RT
@ 12TH ST RA, STA 541+71.03, 7.48' RT

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ROUNDABOUT DETAIL
12TH / O' JAY'S / MAPLE

STA - 12TH STREET

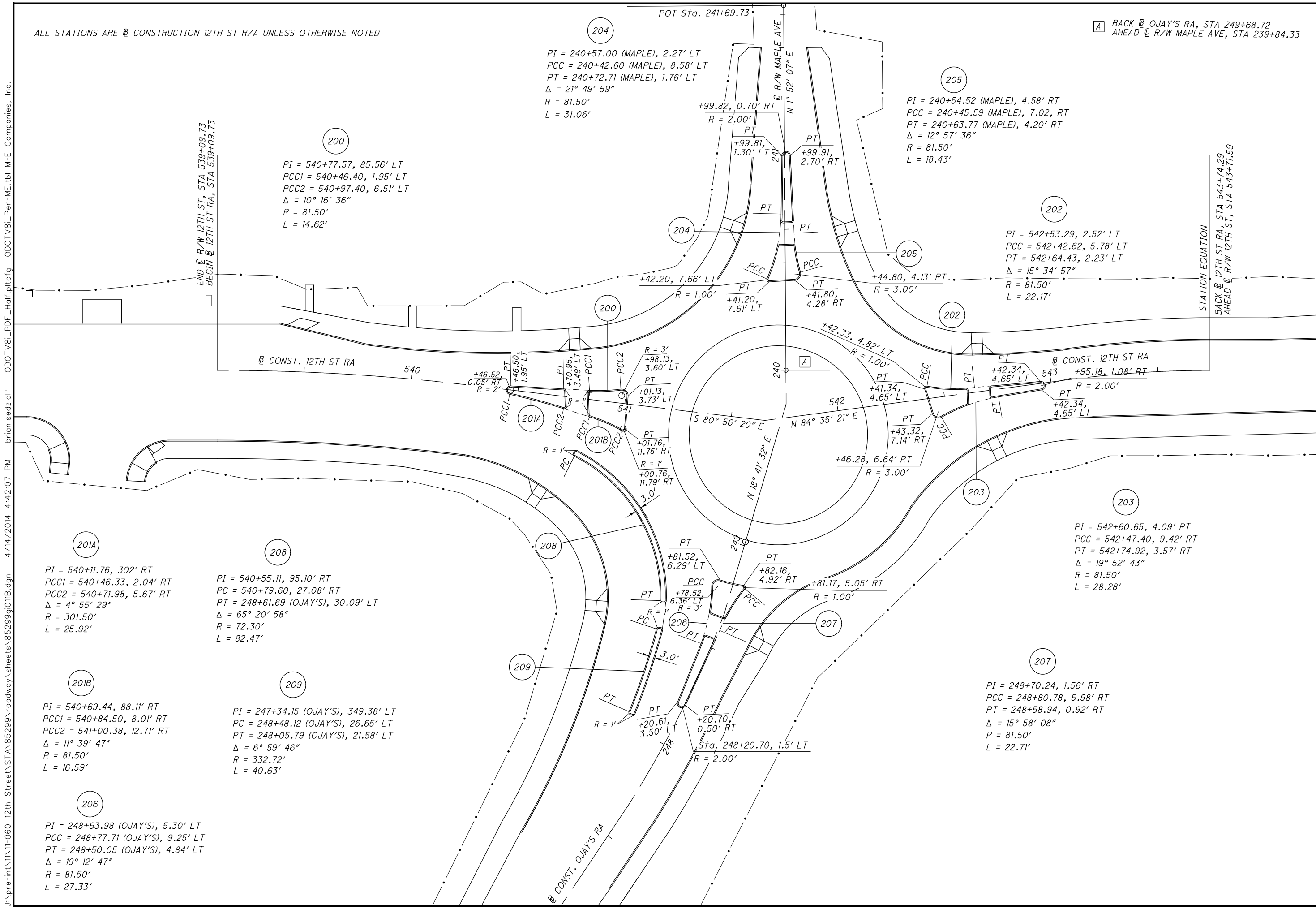
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ALL STATIONS ARE @ CONSTRUCTION 12TH ST R/A UNLESS OTHERWISE NOTED

A BACK @ OJAY'S RA, STA 249+68.72
AHEAD @ R/W MAPLE AVE, STA 239+84.33



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204
PI = 240+57.00 (MAPLE), 2.27' LT
PCC = 240+42.60 (MAPLE), 8.58' LT
PT = 240+72.71 (MAPLE), 1.76' LT
 $\Delta = 21^\circ 49' 59''$
R = 81.50'
L = 31.06'

205
PI = 240+54.52 (MAPLE), 4.58' RT
PCC = 240+45.59 (MAPLE), 7.02' RT
PT = 240+63.77 (MAPLE), 4.20' RT
 $\Delta = 12^\circ 57' 36''$
R = 81.50'
L = 18.43'

200
PI = 540+77.57, 85.56' LT
PCC1 = 540+46.40, 1.95' LT
PCC2 = 540+97.40, 6.51' LT
 $\Delta = 10^\circ 16' 36''$
R = 81.50'
L = 14.62'

202
PI = 542+53.29, 2.52' LT
PCC = 542+42.62, 5.78' LT
PT = 542+64.43, 2.23' LT
 $\Delta = 15^\circ 34' 57''$
R = 81.50'
L = 22.17'

201A
PI = 540+11.76, 302' RT
PCC1 = 540+46.33, 2.04' RT
PCC2 = 540+71.98, 5.67' RT
 $\Delta = 4^\circ 55' 29''$
R = 301.50'
L = 25.92'

208
PI = 540+55.11, 95.10' RT
PC = 540+79.60, 27.08' RT
PT = 248+61.69 (OJAY'S), 30.09' LT
 $\Delta = 65^\circ 20' 58''$
R = 72.30'
L = 82.47'

201B
PI = 540+69.44, 88.11' RT
PCC1 = 540+84.50, 8.01' RT
PCC2 = 541+00.38, 12.71' RT
 $\Delta = 11^\circ 39' 47''$
R = 81.50'
L = 16.59'

209
PI = 247+34.15 (OJAY'S), 349.38' LT
PC = 248+48.12 (OJAY'S), 26.65' LT
PT = 248+05.79 (OJAY'S), 21.58' LT
 $\Delta = 6^\circ 59' 46''$
R = 332.72'
L = 40.63'

206
PI = 248+63.98 (OJAY'S), 5.30' LT
PCC = 248+77.71 (OJAY'S), 9.25' LT
PT = 248+50.05 (OJAY'S), 4.84' LT
 $\Delta = 19^\circ 12' 47''$
R = 81.50'
L = 27.33'

203
PI = 542+60.65, 4.09' RT
PCC = 542+47.40, 9.42' RT
PT = 542+74.92, 3.57' RT
 $\Delta = 19^\circ 52' 43''$
R = 81.50'
L = 28.28'

207
PI = 248+70.24, 1.56' RT
PCC = 248+80.78, 5.98' RT
PT = 248+58.94, 0.92' RT
 $\Delta = 15^\circ 58' 08''$
R = 81.50'
L = 22.71'




SPLITTER ISLAND LAYOUT

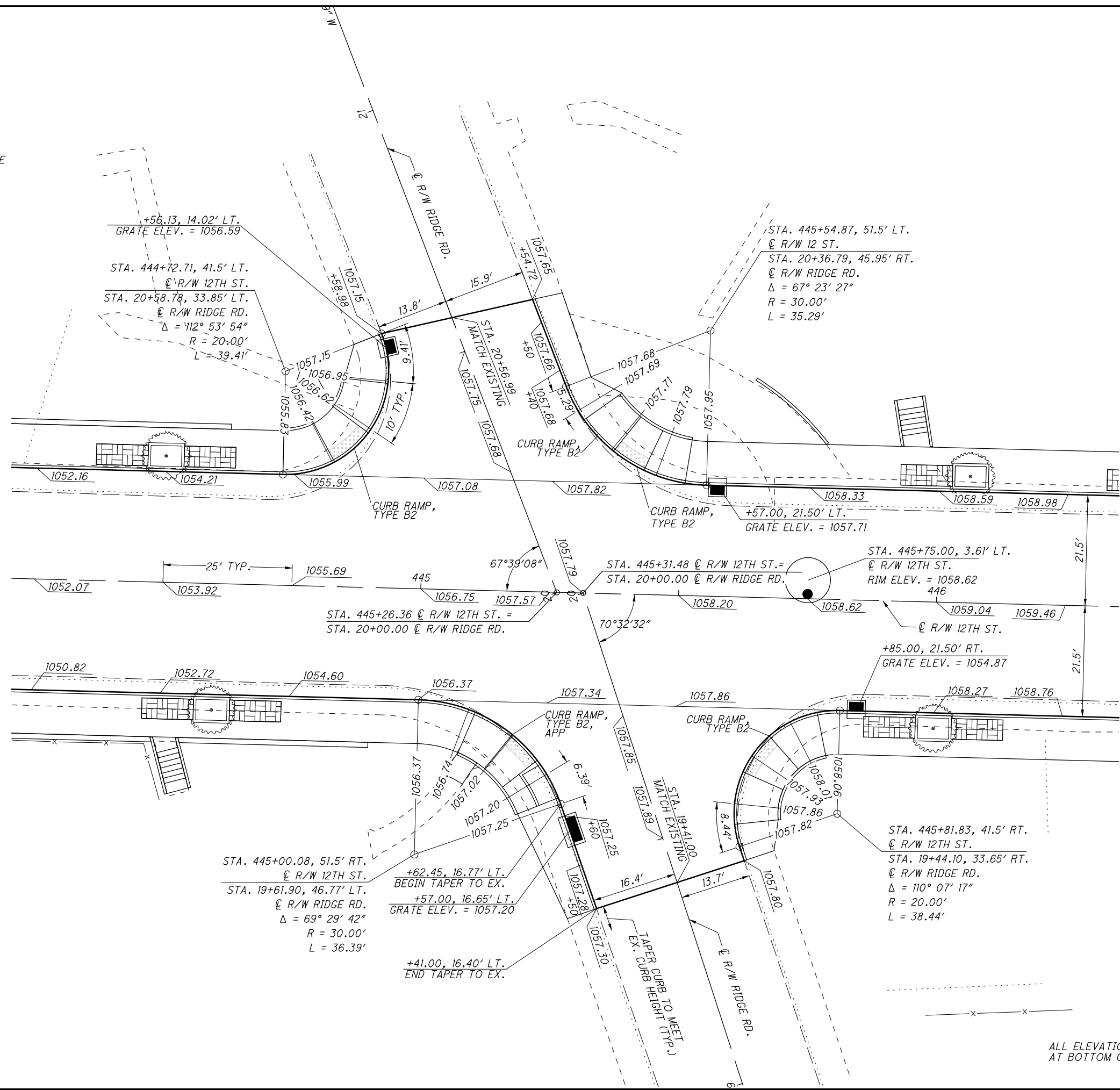
STA-12TH STREET

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LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.




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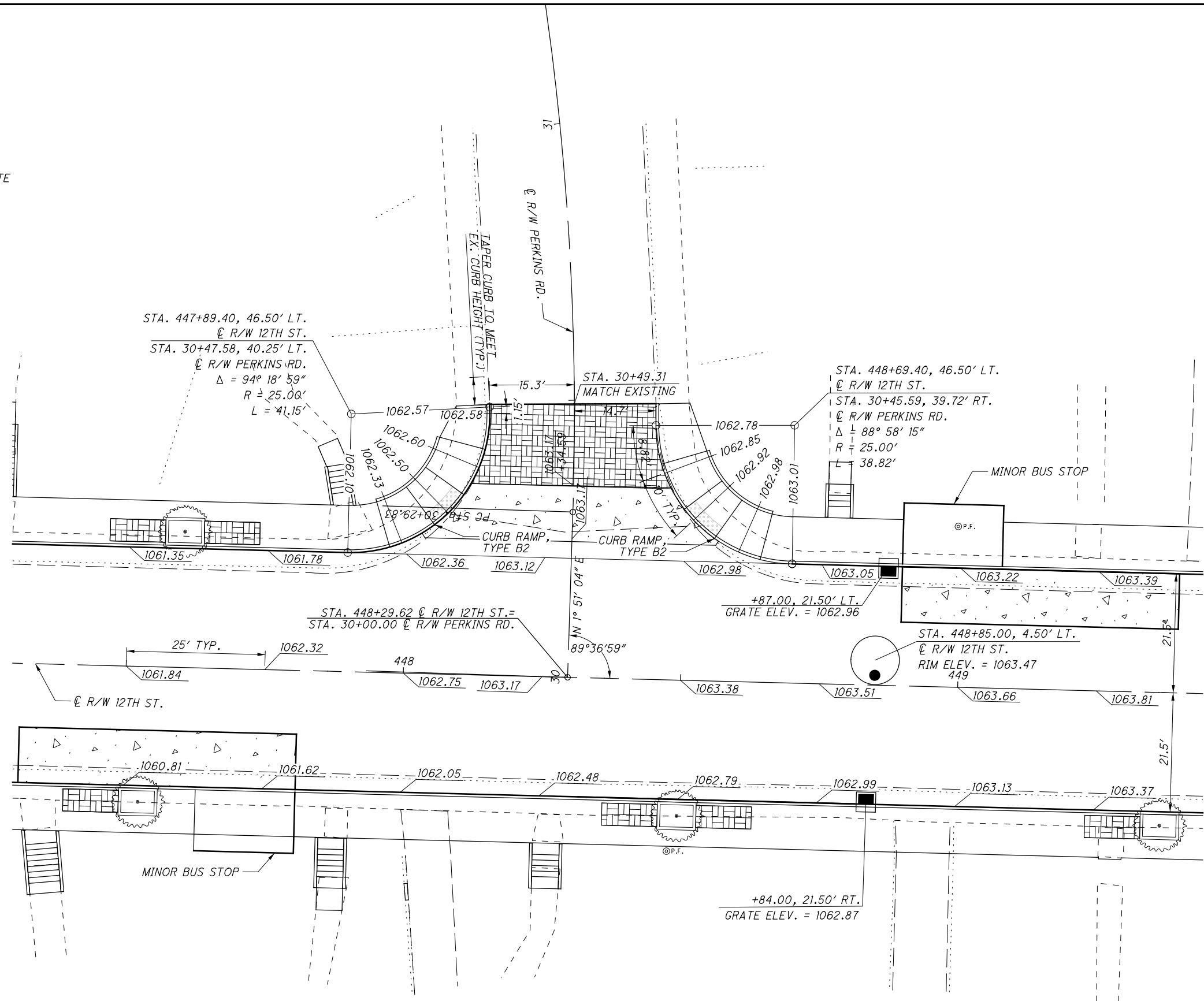
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HORIZONTAL SCALE IN FEET

MINOR INTERSECTION DETAIL
12TH STREET AND RIDGE ROAD

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LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



CALCULATED
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0 5 10 20
HORIZONTAL
SCALE IN FEET

MINOR INTERSECTION DETAIL
12TH STREET AND PERKINS ROAD




STA-12TH STREET

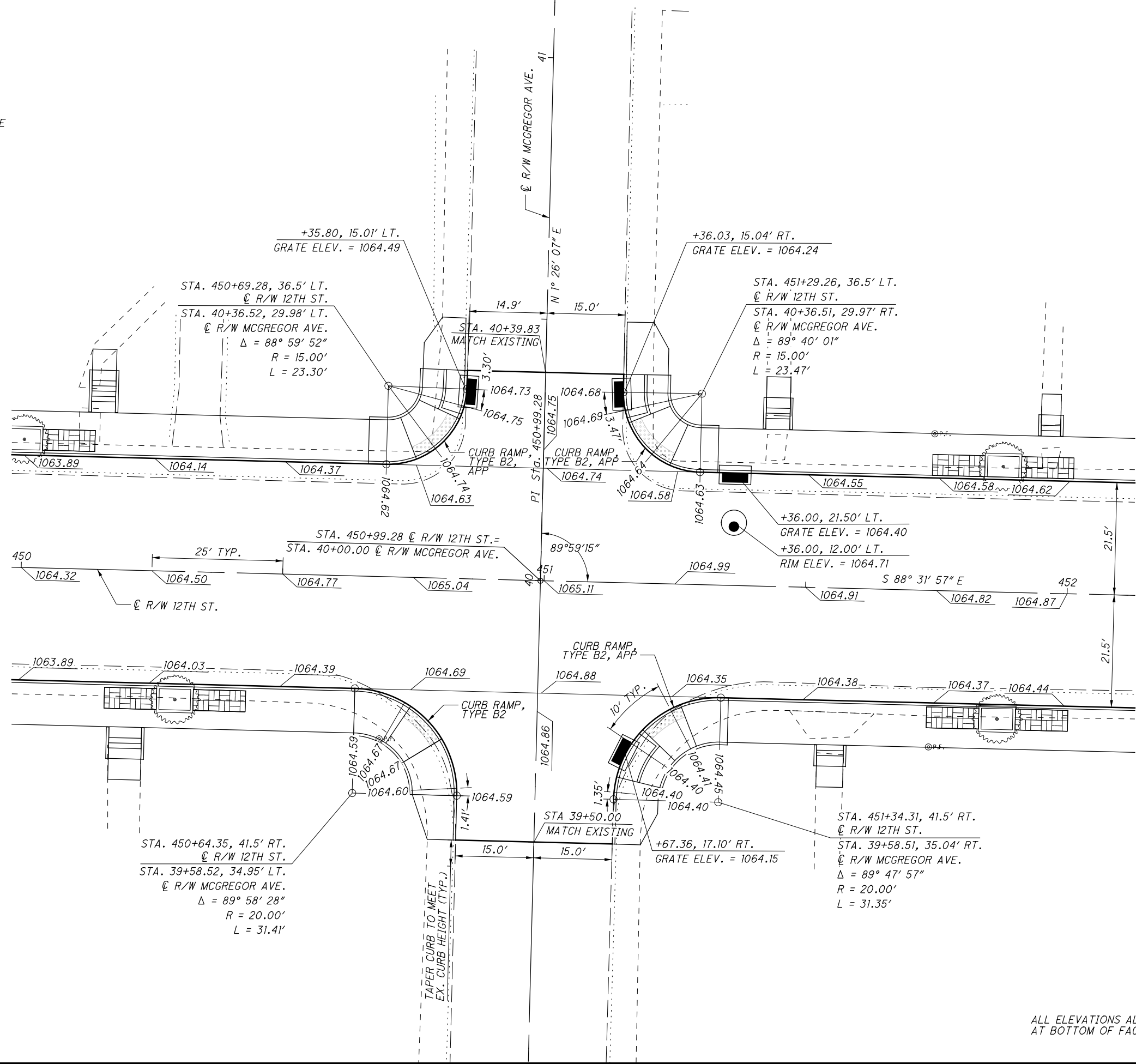
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ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

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LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

CALCULATED
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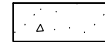


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HORIZONTAL SCALE IN FEET

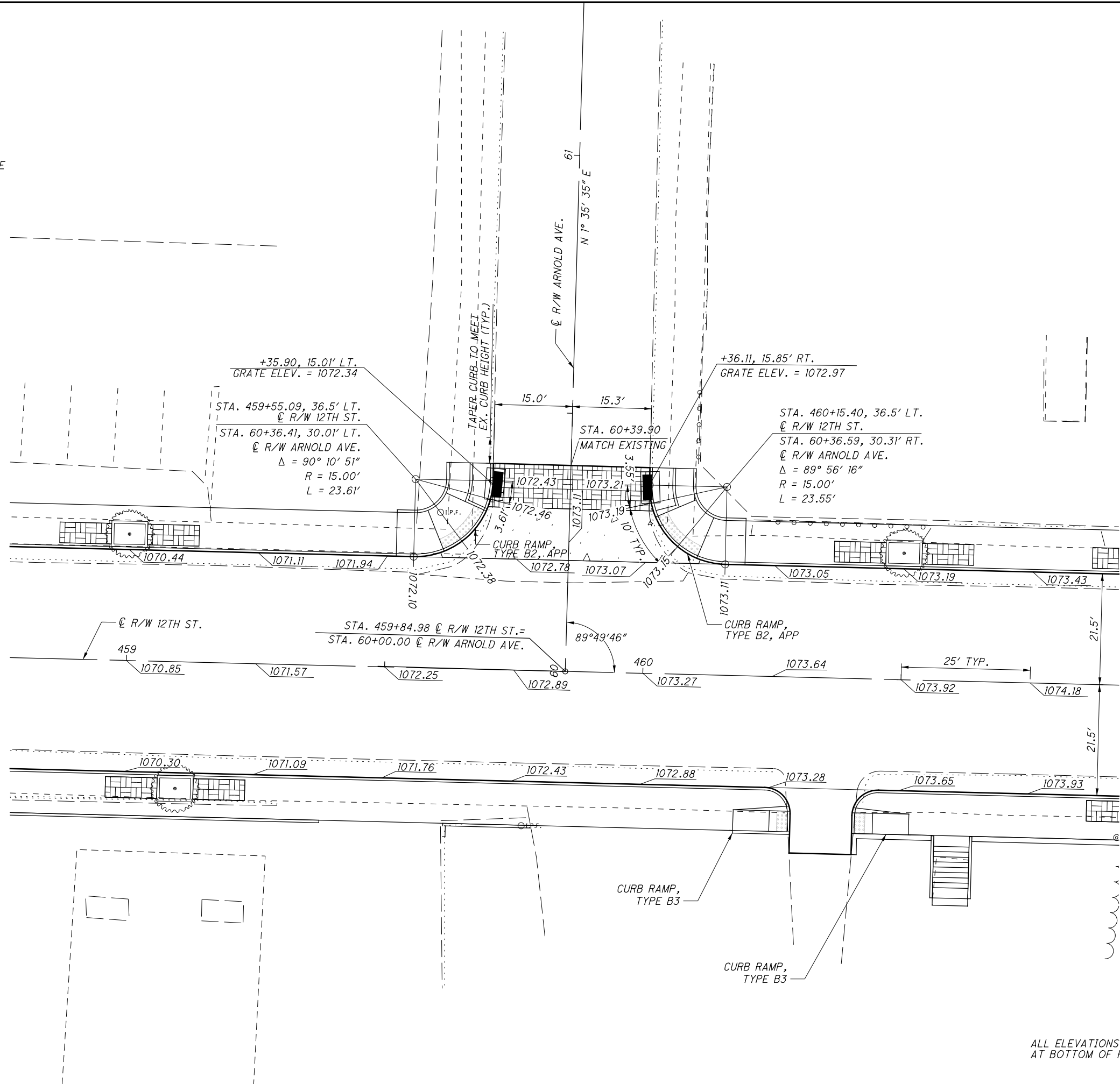
MINOR INTERSECTION DETAIL
12TH STREET AND MCGREGOR AVE

STA-12TH STREET

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LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

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


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HORIZONTAL
SCALE IN FEET

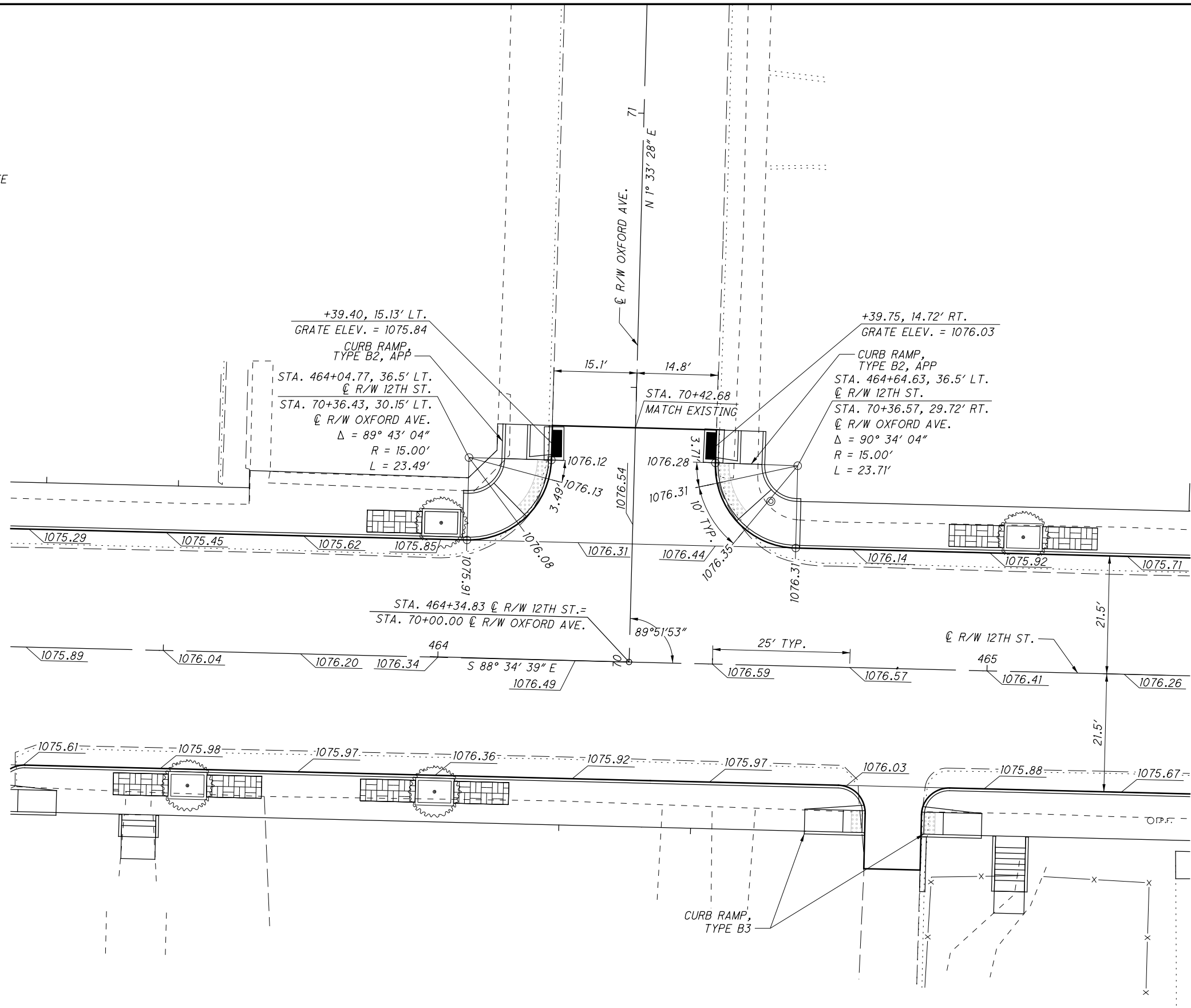
**MINOR INTERSECTION DETAIL
12TH STREET AND ARNOLD AVENUE**

STA-12TH STREET

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LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



CALCULATED
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KOD

0 5 10 20
HORIZONTAL
SCALE IN FEET




MINOR INTERSECTION DETAIL
12TH STREET AND OXFORD AVENUE

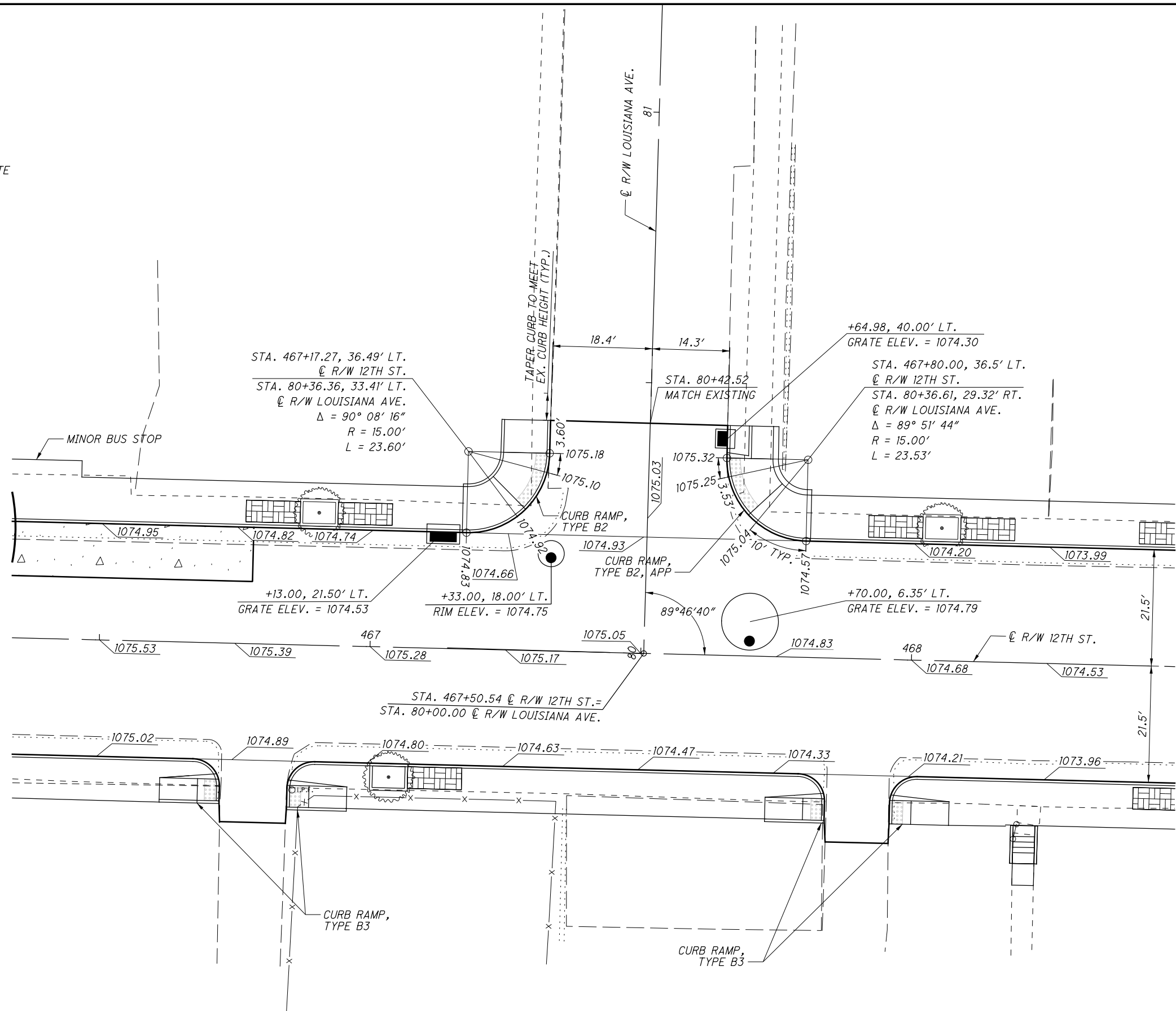
STA-12TH STREET

ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

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LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



CALCULATED
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CHECKED
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0 5 10 20
HORIZONTAL
SCALE IN FEET

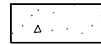
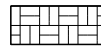

MINOR INTERSECTION DETAIL
12TH STREET AND LOUISIANA AVENUE

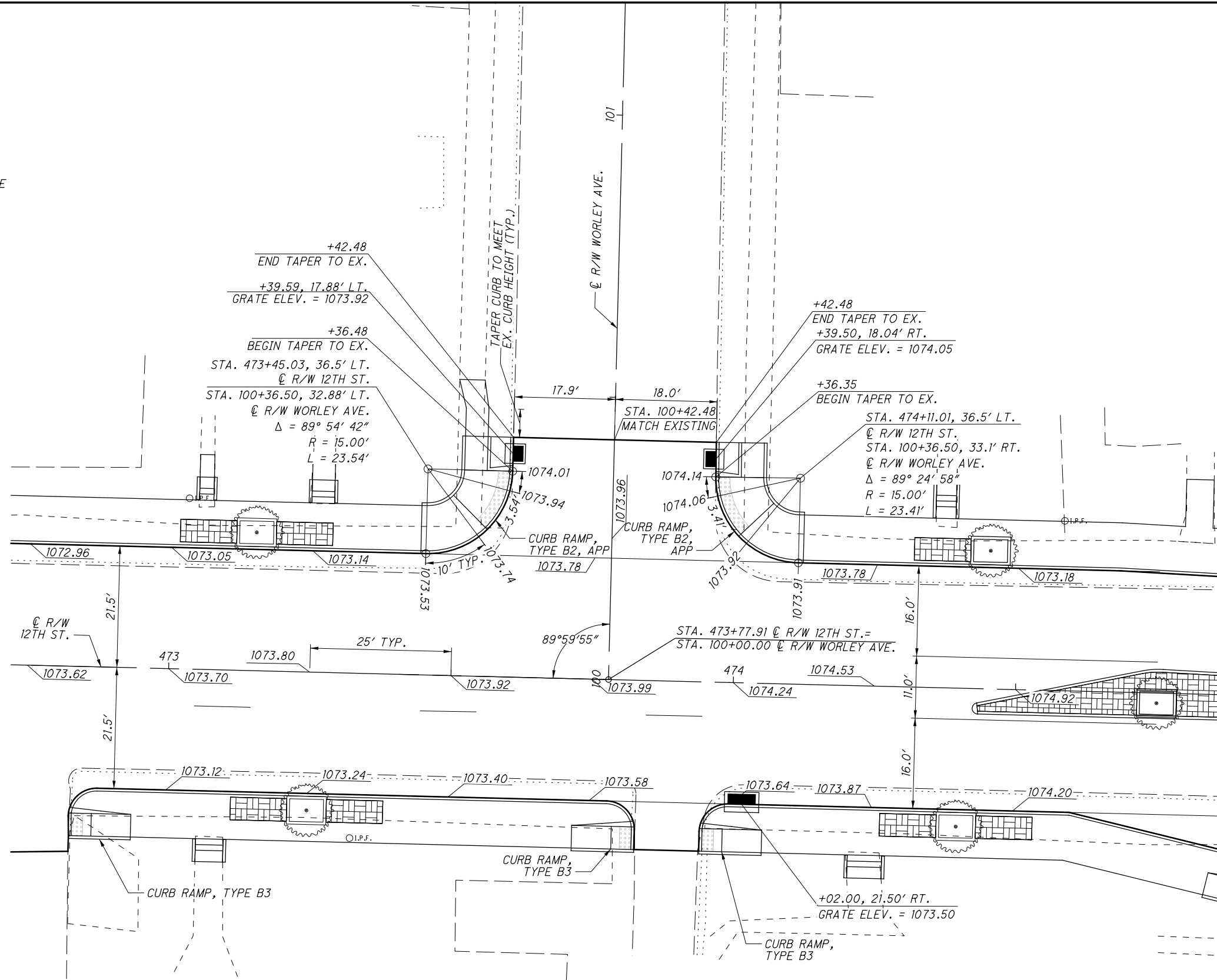
STA-12TH STREET

ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299G107.dgn 4/14/2014 4:42:13 PM brion.sedzlo" ODOTV81_PDF_Half.pltcf ODOTV81_Pen-ME.tbl M-E Companies, Inc.

LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



CALCULATED
DLT
CHECKED
KOD

0 5 10 20
HORIZONTAL
SCALE IN FEET

MINOR INTERSECTION DETAIL
12TH STREET AND WORLEY AVENUE

STA-12TH STREET

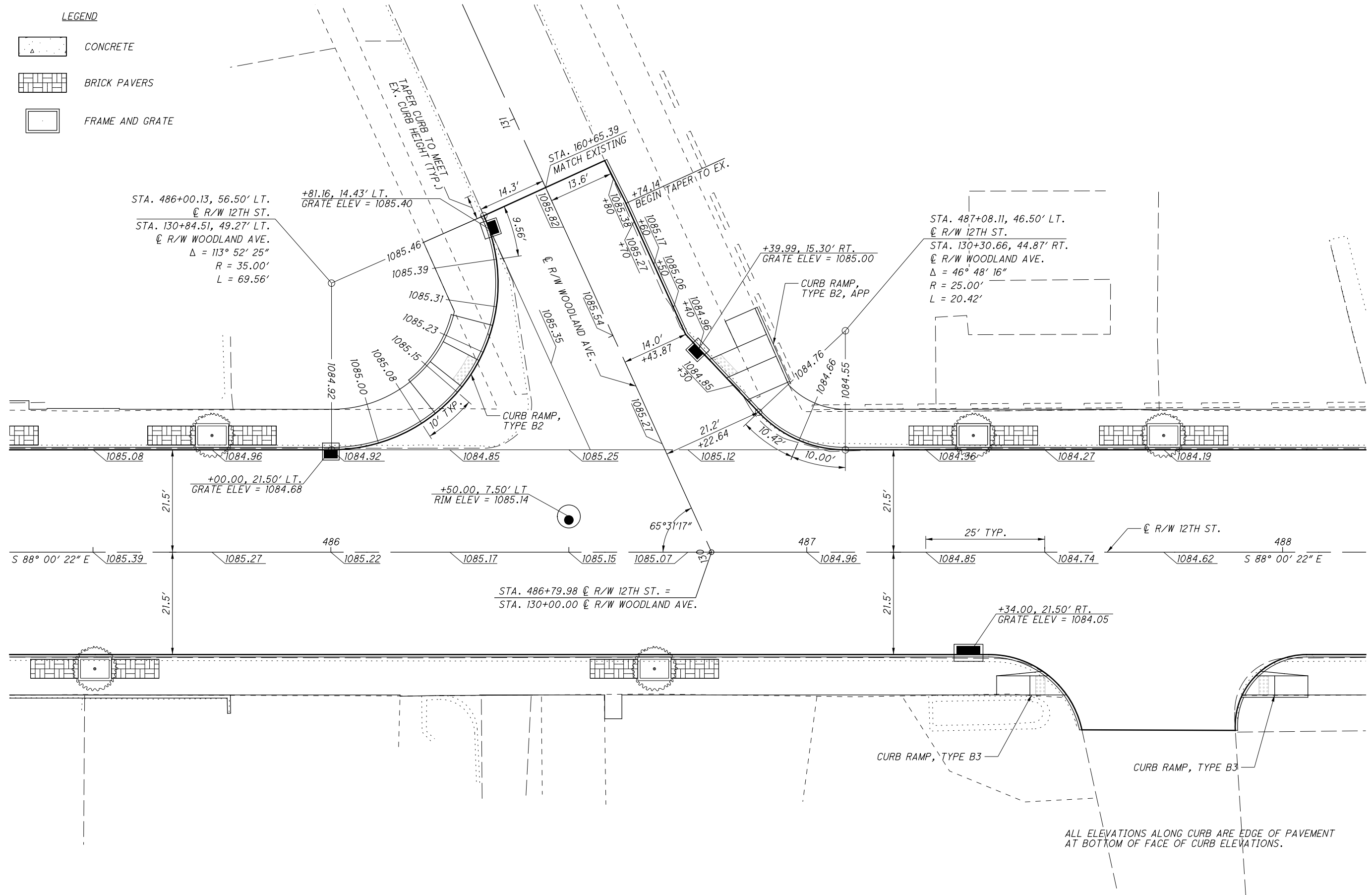
390
790

ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT
AT BOTTOM OF FACE OF CURB ELEVATIONS.

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LEGEND

- CONCRETE
- BRICK PAVERS
- FRAME AND GRATE



ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

CALCULATED
KOD
CHECKED

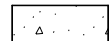
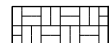
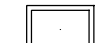
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HORIZONTAL SCALE IN FEET

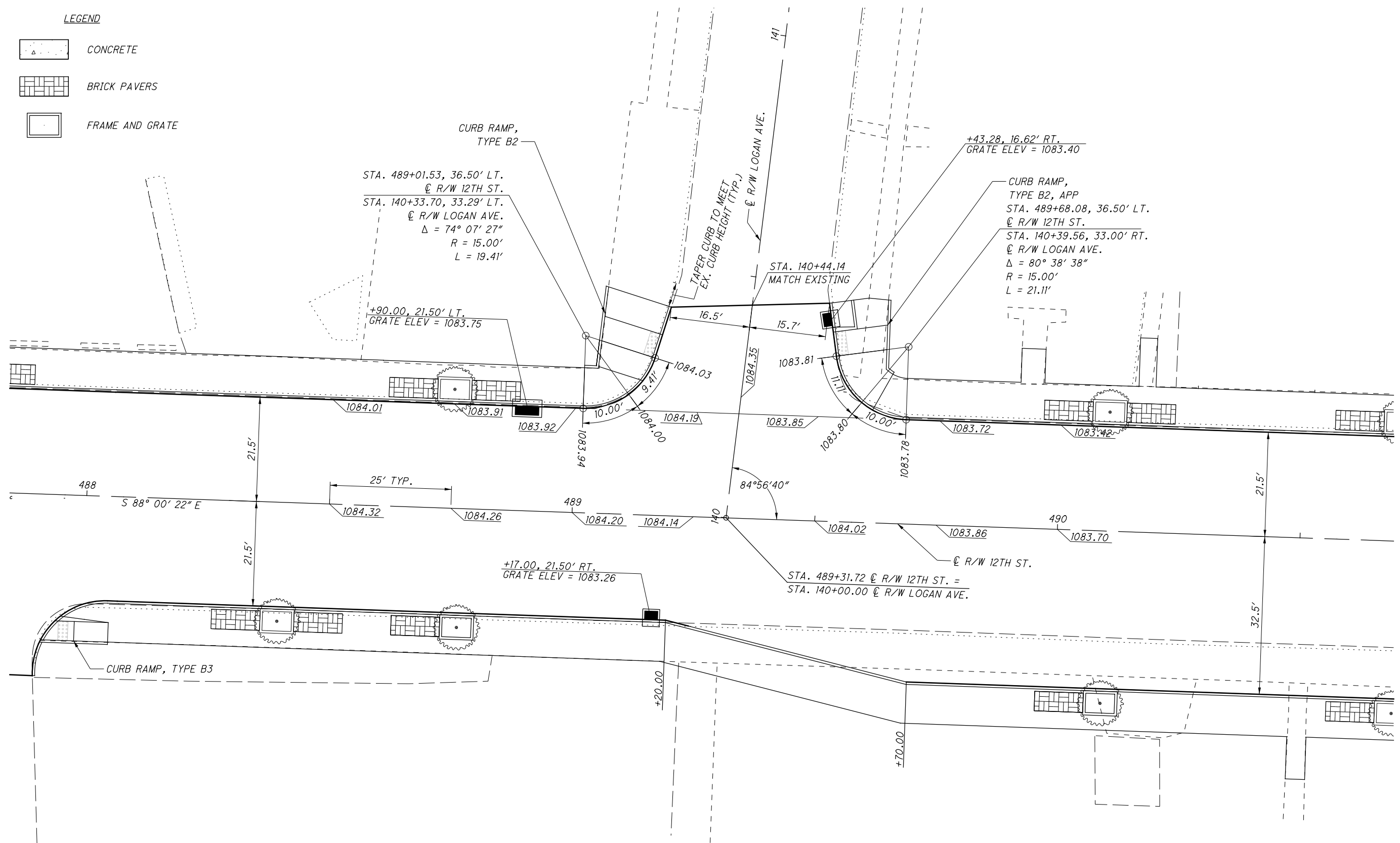
MINOR INTERSECTION DETAIL
12TH STREET AND WODLAND AVE.

STA-12TH STREET

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299G109.dgn 4/14/2014 4:42:16 PM brian.sedzic\ ODOTV81_PDF_Half.pltcf ODOTV81_Pen-ME.tbl M-E Companies, Inc.

LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



STA. 489+01.53, 36.50' LT.
 @ R/W 12TH ST.
 STA. 140+33.70, 33.29' LT.
 @ R/W LOGAN AVE.
 $\Delta = 74^\circ 07' 27''$
 $R = 15.00'$
 $L = 19.41'$

+90.00, 21.50' LT.
 GRATE ELEV = 1083.75

+17.00, 21.50' RT.
 GRATE ELEV = 1083.26

STA. 489+31.72 @ R/W 12TH ST. =
 STA. 140+00.00 @ R/W LOGAN AVE.

+43.28, 16.62' RT.
 GRATE ELEV = 1083.40

CURB RAMP,
 TYPE B2, APP
 STA. 489+68.08, 36.50' LT.
 @ R/W 12TH ST.
 STA. 140+39.56, 33.00' RT.
 @ R/W LOGAN AVE.
 $\Delta = 80^\circ 38' 38''$
 $R = 15.00'$
 $L = 21.11'$

ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT
 AT BOTTOM OF FACE OF CURB ELEVATIONS.

CALCULATED KOD
 CHECKED DLT

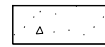
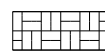

0 5 10 20
 HORIZONTAL SCALE IN FEET

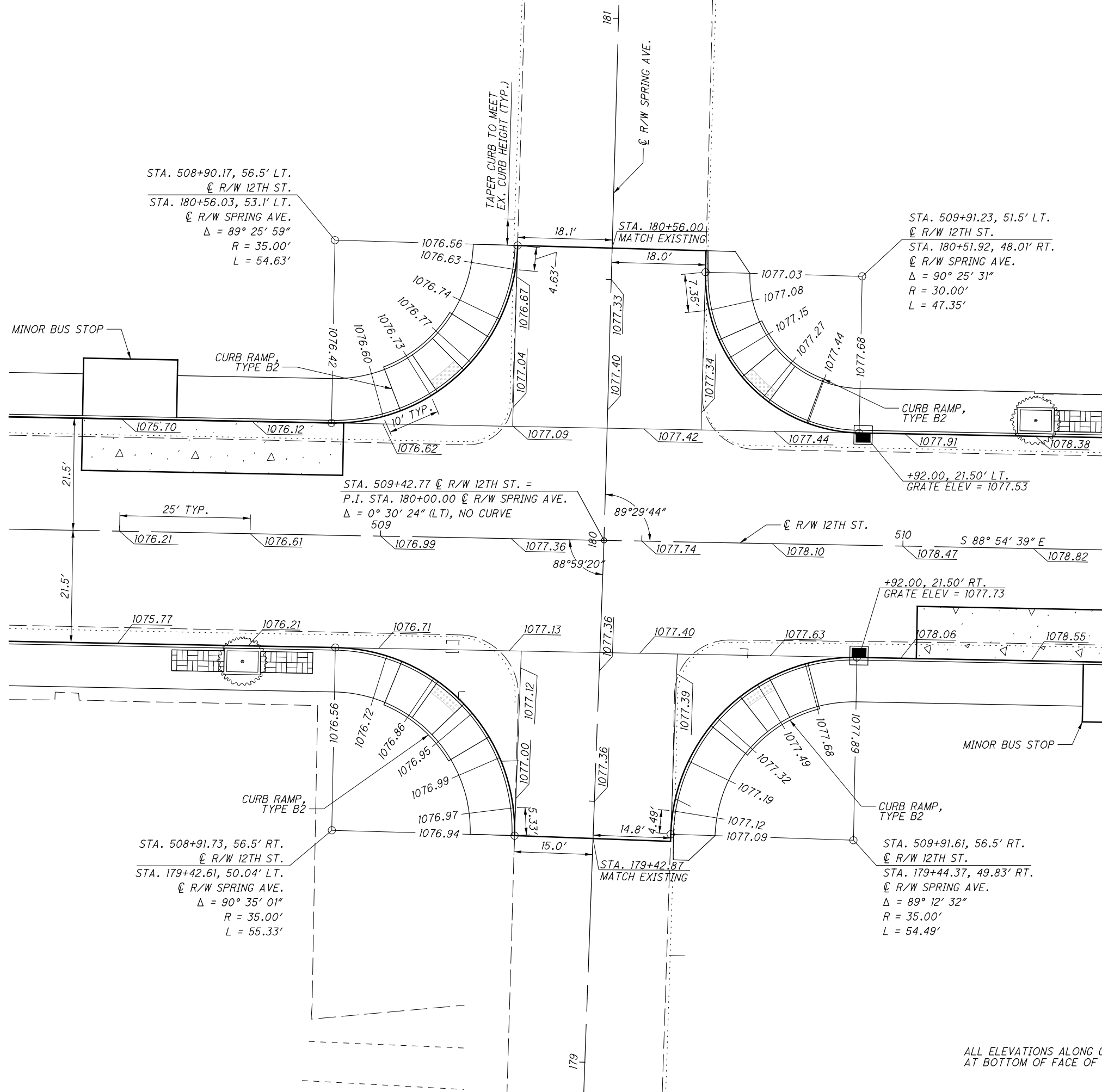
MINOR INTERSECTION DETAIL
 12TH STREET AND LOGAN AVENUE

STA-12TH STREET

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299G110.dgn 4/14/2014 4:42:17 PM brian.sezdiol\ ODOTV81_PDF_Half_plt.ctb ODOTV81_Pen-ME.tbl M-E Companies, Inc.

LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

CALCULATED
KOD
CHECKED
DLT

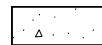


0 5 10 20
HORIZONTAL SCALE IN FEET

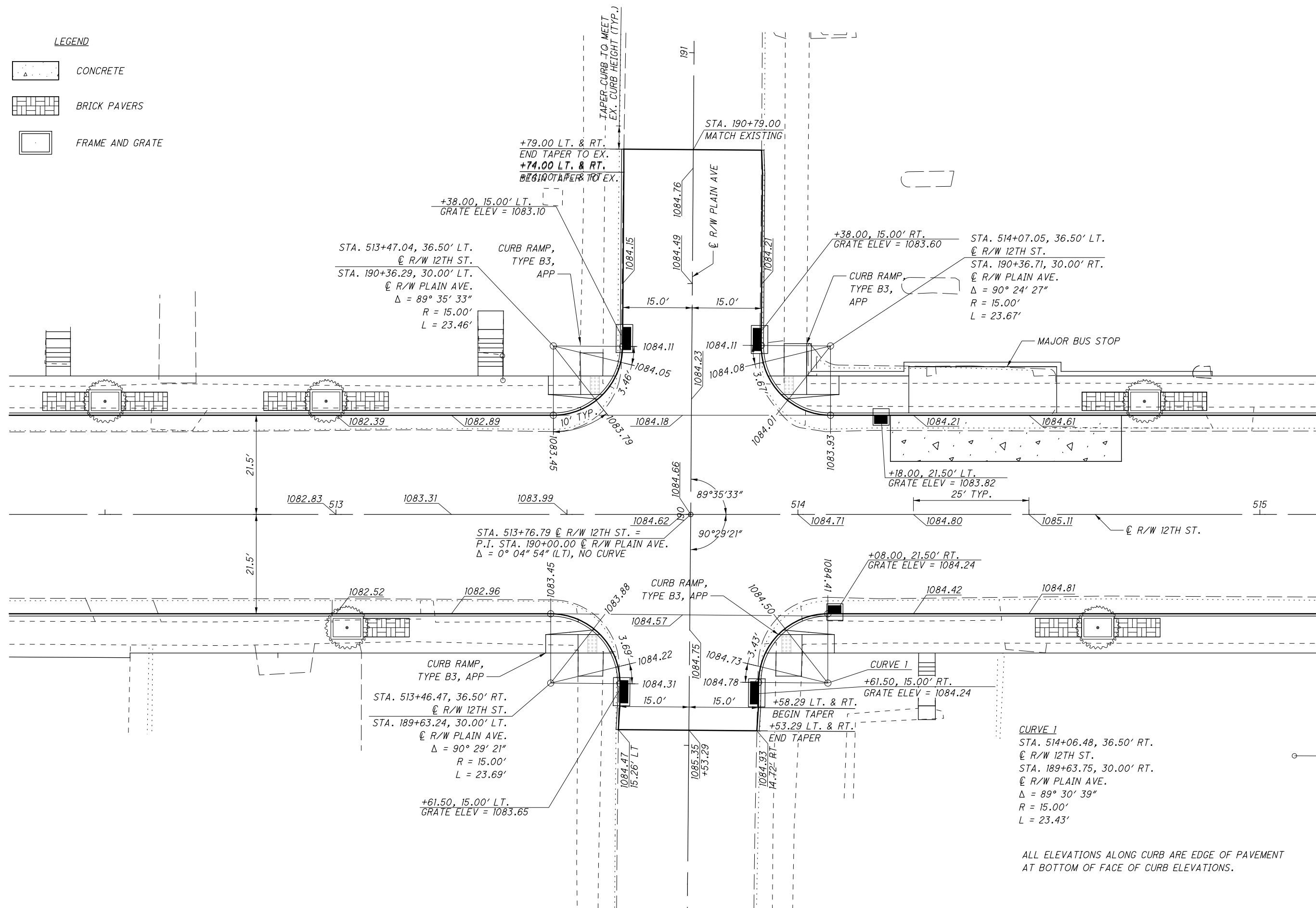
MINOR INTERSECTION DETAIL
12TH STREET AND SPRING AVENUE

STA-12TH STREET

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299G111.dgn 4/14/2014 4:42:18 PM brian.sezior\ ODOTV8I_PDF_Half.pltcfg ODOTV8I_Pen-ME.tbl M-E Companies, Inc.

LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



CALCULATED
KOD
CHECKED
DLT

0 10 20
HORIZONTAL SCALE IN FEET




MINOR INTERSECTION DETAIL
12TH STREET AND PLAIN AVENUE

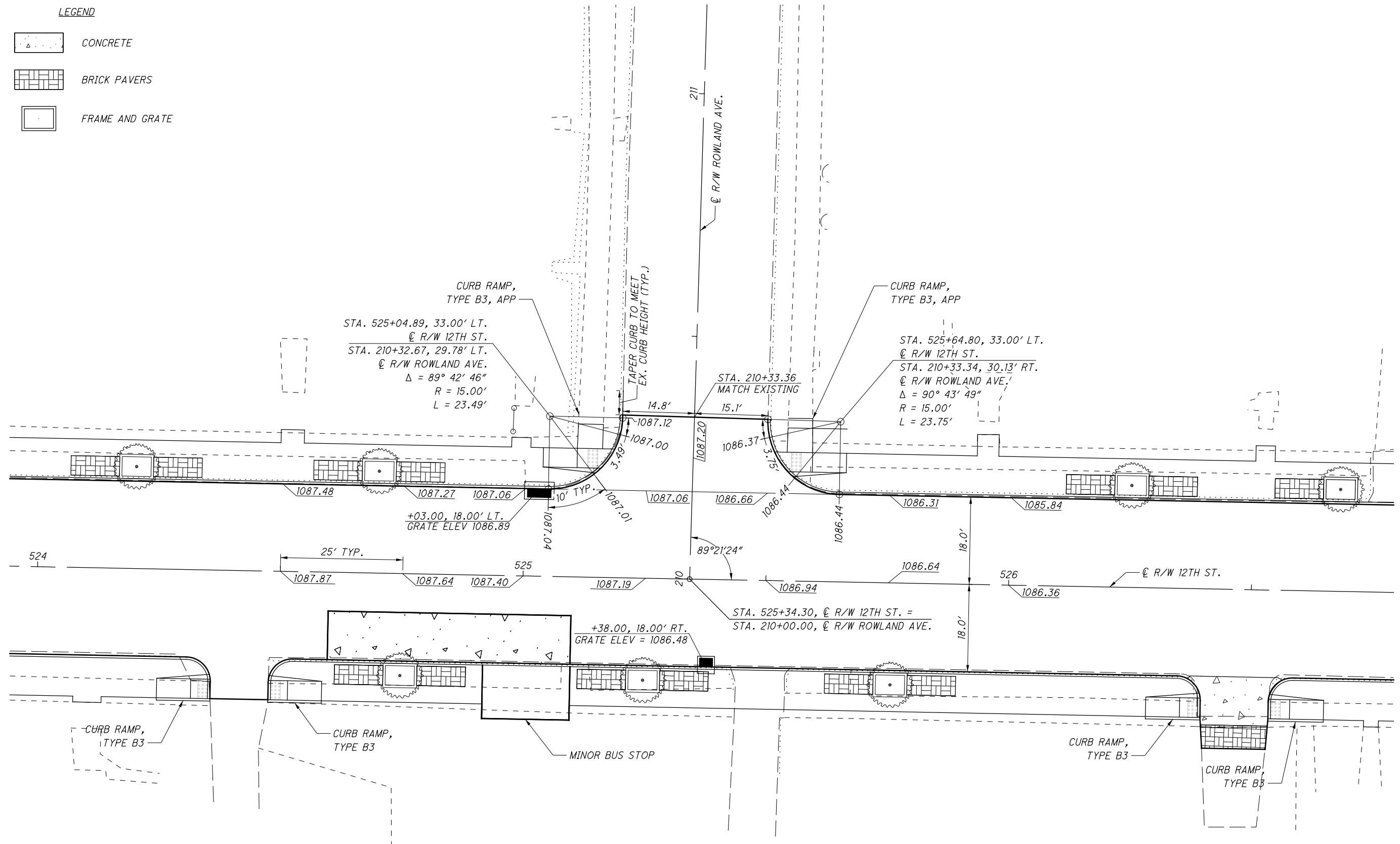
STA-12TH STREET

ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299G112.dgn 4/14/2014 4:42:18 PM brion.sezoiol\ ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

CALCULATED
KOD
CHECKED
DLT

0 5 10 20
HORIZONTAL SCALE IN FEET

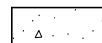


MINOR INTERSECTION DETAIL
12TH STREET AND ROWLAND AVENUE

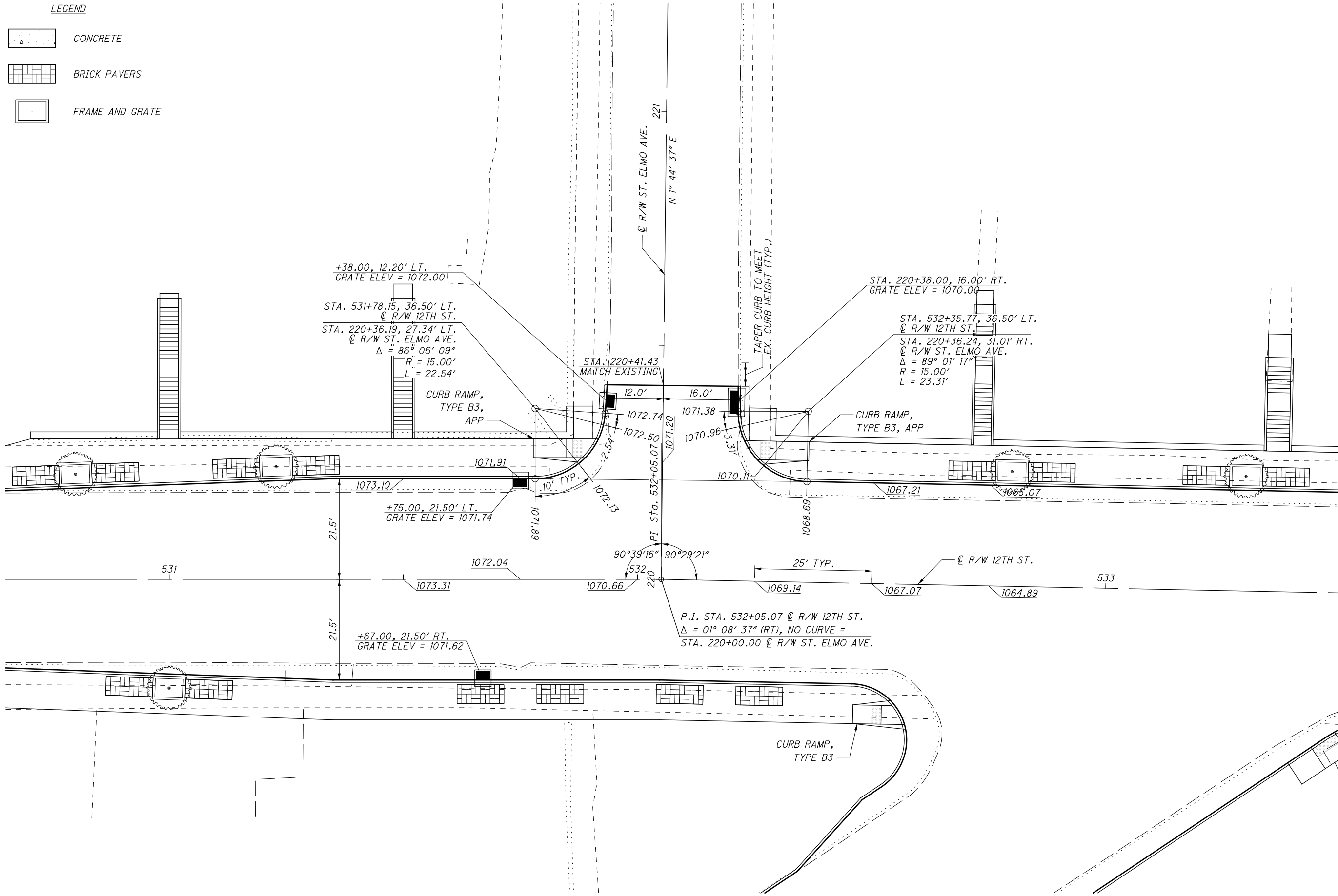
STA-12TH STREET

395
790

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299G113.dgn 4/14/2014 4:42:19 PM brian.sezoiol\ ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



CALCULATED KOD
 CHECKED DLT

0 5 10 20
 HORIZONTAL SCALE IN FEET




MINOR INTERSECTION DETAIL
 12TH STREET AND ST. ELMO AVENUE

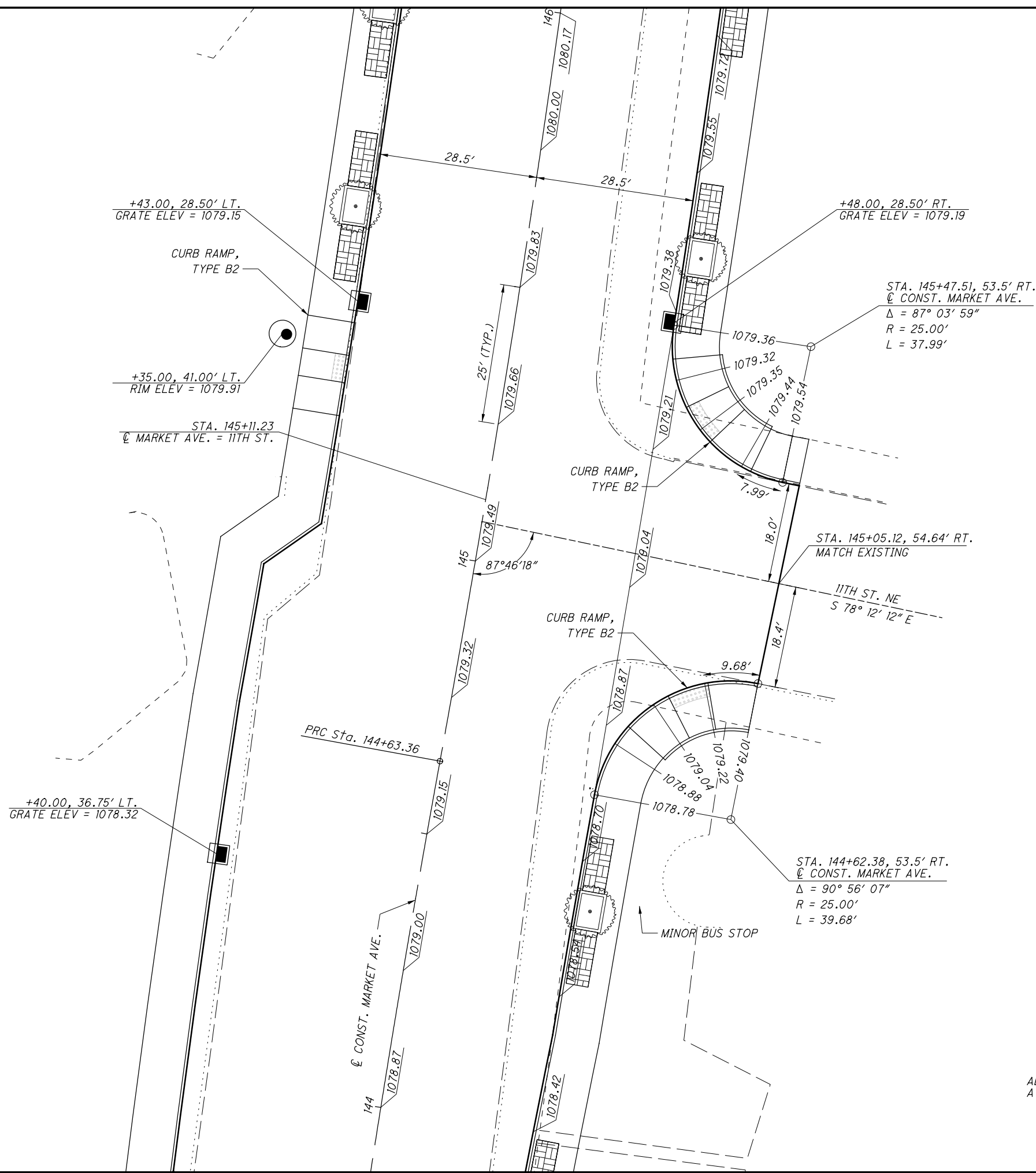
STA-12TH STREET

ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

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LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE



ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

CALCULATED
DLT
CHECKED
KOD




0 5 10 20
HORIZONTAL
SCALE IN FEET

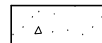

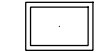
MINOR INTERSECTION DETAIL
MARKET AVENUE AND 11TH STREET

STA-12TH STREET

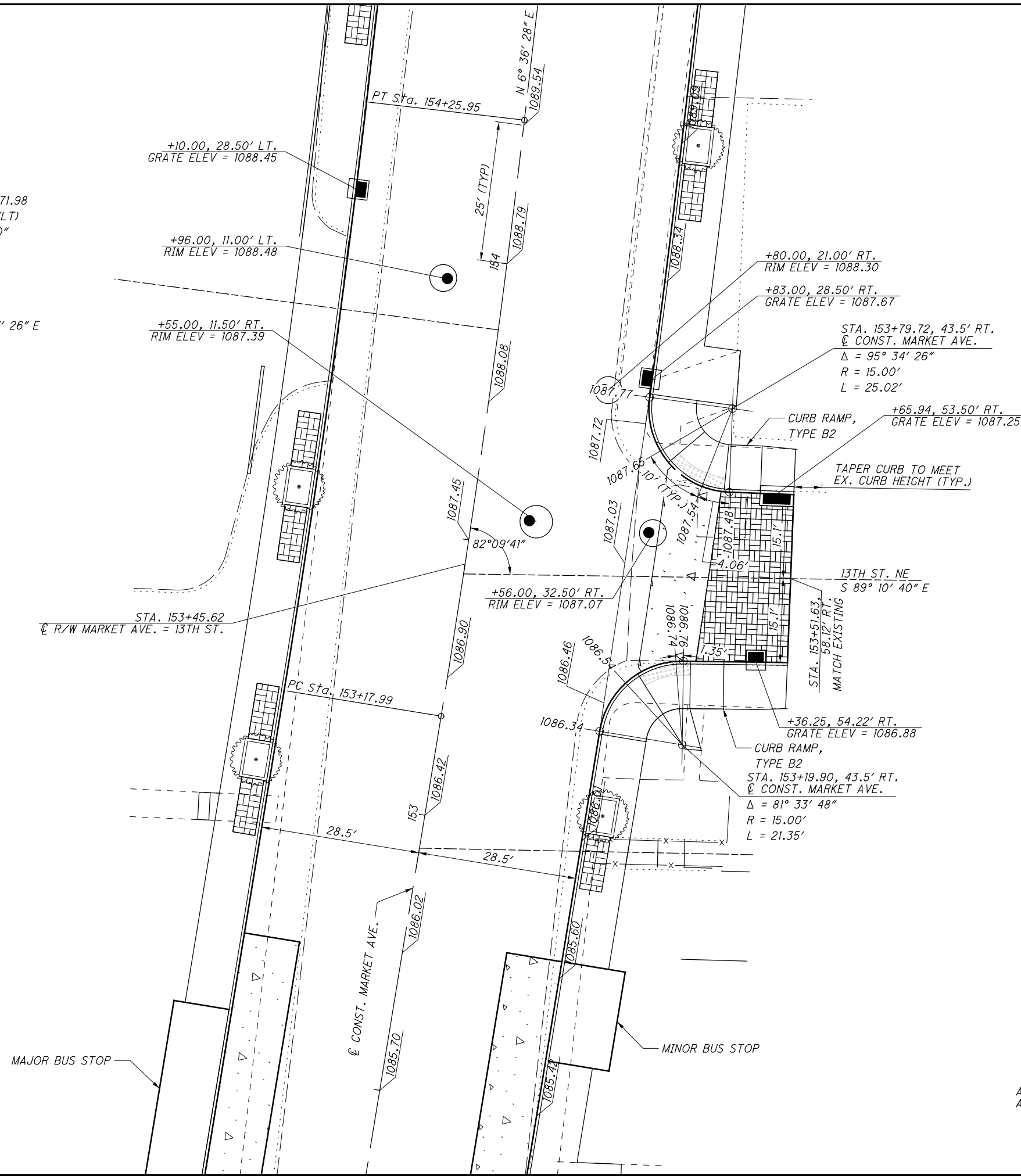
397
790

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299G\202.dgn 4/14/2014 4:42:21 PM brian.sezoiol\ ODOTV8i_PDF_Hof.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

LEGEND

-  CONCRETE
-  BRICK PAVERS
-  FRAME AND GRATE

P.I. Sta. 153+71.98
 $\Delta = 2^\circ 41' 56''$ (LT)
 $D_c = 2^\circ 30' 00''$
 $R = 2,291.83'$
 $T = 53.99'$
 $L = 107.96'$
 $E = 0.64'$
 $C = 107.95'$
 $C.B. = N 7^\circ 57' 26'' E$



ALL ELEVATIONS ALONG CURB ARE EDGE OF PAVEMENT AT BOTTOM OF FACE OF CURB ELEVATIONS.

CALCULATED
 DLT
 CHECKED
 KOD

0 5 10 20
 HORIZONTAL SCALE IN FEET

**MINOR INTERSECTION DETAIL
 MARKET AVENUE AND 13TH STREET**

STA-12TH STREET

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SHEET	REFERENCE NO.	STATION	SIDE	DRIVE TYPE	DRIVE COMPOSITION	DRIVE ANGLE	APRON LENGTH	APRON WIDTH	DRIVEWAY LENGTH	DRIVE WIDTH AT THE BACK OF THE PROPOSED WALK	DRIVE WIDTH AT THE TIE-IN TO EXISTING	APRON AREA	DRIVE AREA	202	204	301	301	304	305	407	448	452	452	452		
						DEG.	FT.	FT.	FT.	FT.	FT.	AW*L1	((W1+W2)/2)*L2	A2	A1+A2	(3.5/12)*A2	(5/12)*A2	(4/12)*A2	A2/9	0.04*A2	(1.25/12)*A2	A2	A2	A2	A2	A2
												A1	A2	S.Y.	S.Y.	C.Y.	C.Y.	C.Y.	S.Y.	GAL.	C.Y.	S.Y.	S.Y.	S.Y.	S.Y.	S.Y.
183	DR-90	143+12.10	LT	COMMERCIAL	ASPHALT	90°00'00"	16.25	77.86	0.00	47.58	0.00	1265.23	0.00	0.00	140.58											
184	DR-91	146+49.80	LT	COMMERCIAL	ASPHALT	89°48'57"	8.00	28.00	9.00	22.00	22.00	224.00	198.00	22.00	46.89		3.06			0.88				140.58		
184	DR-92	146+70.41	RT	COMMERCIAL	ASPHALT	90°00'00"	8.00	30.00	9.04	24.00	24.00	240.00	216.96	24.11	50.77		3.35			0.96				24.89		
184	DR-93	147+08.58	LT	COMMERCIAL	ASPHALT	89°41'46"	8.00	22.00	9.00	16.00	17.14	176.00	149.13	16.57	36.13		2.30			0.66				26.67		
184	DR-94	147+99.74	LT	COMMERCIAL	ASPHALT	90°00'00"	8.00	22.00	3.00	16.00	17.99	176.00	50.99	5.67	25.22		0.79			0.23				19.56		
184	DR-95	148+30.42	RT	COMMERCIAL	ASPHALT	90°00'00"	8.00	29.71	12.83	23.71	23.71	237.68	304.20	33.80	60.21		4.69			1.35				19.56		
184	DR-96	148+62.68	LT	COMMERCIAL	ASPHALT	90°00'00"	8.00	30.00	4.00	24.00	24.00	240.00	96.00	10.67	37.33		1.48			0.43				26.41		
185	DR-97	151+25.00	RT	COMMERCIAL	ASPHALT	90°00'00"	8.00	30.00	4.00	24.00	24.00	240.00	96.00	10.67	37.33		1.48			0.43				26.67		
185	DR-98	151+50.00	LT	COMMERCIAL	ASPHALT	90°00'00"	8.00	30.00	4.00	24.00	24.00	240.00	96.00	10.67	37.33		1.48			0.43				26.67		
185	DR-99	151+50.54	RT	COMMERCIAL	CONCRETE	83°54'47"	8.00	18.59	8.14	12.46	12.38	148.72	101.10	11.23	27.76									27.76		
185	DR-100	152+08.51	RT	COMMERCIAL	CONCRETE	83°54'09"	8.00	20.11	6.61	14.08	13.81	160.88	92.18	10.24	28.12									28.12		
185	DR-101	153+88.03	LT	COMMERCIAL	ASPHALT	90°00'00"	8.00	30.00	4.20	24.00	24.00	240.00	100.80	11.20	37.87		1.56			0.45				26.67		
186	DR-102	154+66.25	RT	COMMERCIAL	ASPHALT	90°00'00"	8.00	28.00	5.96	22.00	22.00	224.00	131.12	14.57	39.46		2.02			0.58				24.89		
186	DR-103	155+02.38	LT	COMMERCIAL	ASPHALT	84°12'33"	8.00	16.08	1.53	10.00	8.32	128.64	14.01	1.56	15.85		0.22			0.06				14.29		
186	DR-104	155+97.74	LT	COMMERCIAL	ASPHALT	87°28'11"	8.00	16.97	1.99	12.00	12.00	135.76	23.88	2.65	17.74		0.37			0.11				15.08		
186	DR-105	155+50.00	RT	COMMERCIAL	ASPHALT	86°23'42"	8.00	26.00	6.35	20.00	20.00	208.00	127.00	14.11	37.22		1.96			0.56				23.11		
186	DR-106	156+10.20	LT	COMMERCIAL	ASPHALT	89°10'14"	8.00	15.46	5.50	12.00	12.00	123.68	66.00	7.33	21.08		1.02			0.29				13.74		
186	DR-107	156+69.12	RT	COMMERCIAL	ASPHALT	88°25'29"	8.00	25.61	6.85	19.61	18.50	204.88	130.53	14.50	37.27		2.01			0.58				22.76		
186	DR-108	157+02.17	LT	COMMERCIAL	ASPHALT	90°00'00"	8.00	20.00	5.00	14.00	14.00	160.00	70.00	7.78	25.56		1.08			0.31				17.78		
186	DR-109	157+37.77	RT	COMMERCIAL	ASPHALT	90°00'00"	8.00	32.00	3.09	26.00	26.00	256.00	80.34	8.93	37.37		1.24			0.36				28.44		
186	DR-110	157+54.75	LT	COMMERCIAL	ASPHALT	90°00'00"	8.00	30.00	6.48	24.00	24.00	240.00	155.52	17.28	43.95		2.40			0.69				26.67		
TOTALS THIS SHEET														256	841	0	33	0	0	9	0	0	607	0		
TOTALS CARRIED FROM SHEET 399														838	2012	12	63	5	43	23	20	455	890	384		
TOTALS CARRIED FROM SHEET 400														461	1320	4	19	1	5	7	7	367	776	45		
TOTALS CARRIED TO GENERAL SUMMARY														1555	4173		131	6	48	39	27	822	2273	429		

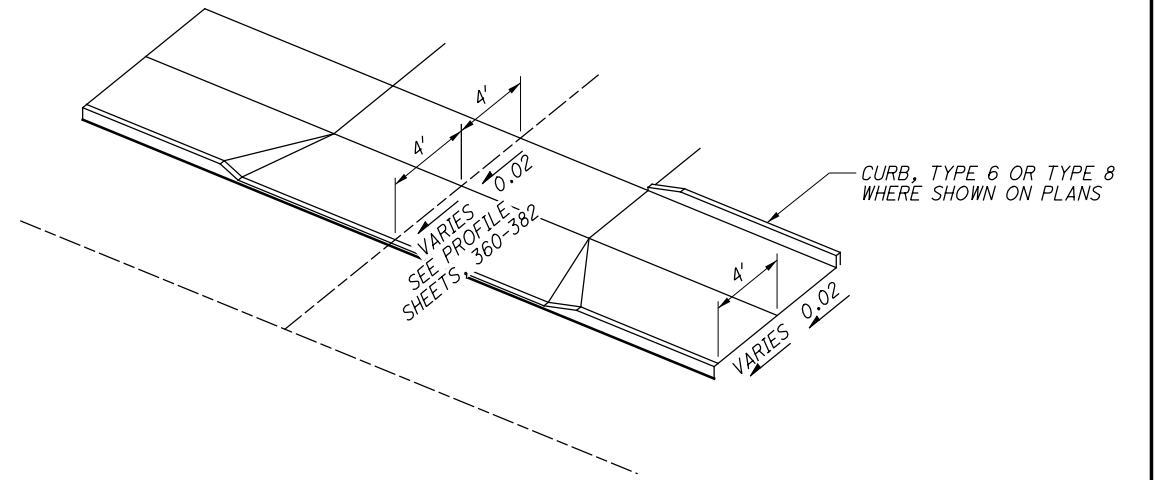
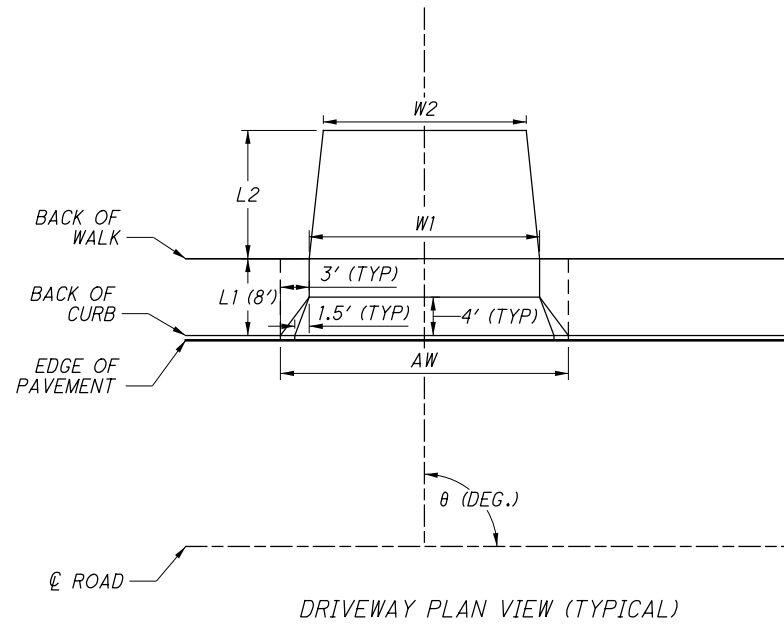
<table border="1"> <tr><td>CALCULATED</td></tr> <tr><td>DCB</td></tr> <tr><td>CHECKED</td></tr> <tr><td>RWK</td></tr> </table>	CALCULATED	DCB	CHECKED	RWK	<p>DRIVE SUBSUMMARY - MARKET AVENUE</p>	<p>STA - 12TH STREET</p>	<table border="1"> <tr><td>401</td></tr> <tr><td>790</td></tr> </table>	401	790
CALCULATED									
DCB									
CHECKED									
RWK									
401									
790									

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NOTES:

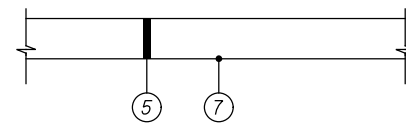
1. FOR DRIVEWAY PROFILE
DETAILS SEE SHEETS 403-430.

- θ - DRIVE ANGLE
- AW - APRON WIDTH
- L1 - APRON LENGTH (8')
- L2 - DRIVEWAY LENGTH
- W1 - DRIVE WIDTH AT THE BACK OF THE PROPOSED WALK
- W2 - DRIVE WIDTH AT THE TIE-IN TO EXISTING

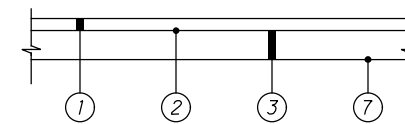


LEGEND

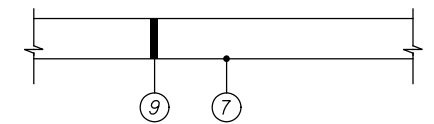
- ① ITEM 448 - 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)
- ② ITEM 407 - TACK COAT (APPLIED AT A RATE OF 0.04 GAL./SQ. YD.)
- ③ ITEM 301 - 3.5" ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)
- ④ ITEM 301 - 5" ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)
- ⑤ ITEM 452 - 6" NON-REINFORCED CONCRETE PAVEMENT
- ⑥ ITEM 452 - 7" NON-REINFORCED CONCRETE PAVEMENT
- ⑦ ITEM 204 - SUBGRADE COMPACTION
- ⑧ ITEM 448 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, PG64-22 (DRIVEWAYS)
- ⑨ ITEM 411 - 10" STABILIZED CRUSHED AGGREGATE
- ⑩ ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, DEPTH VARIES, 2.25" MIN.



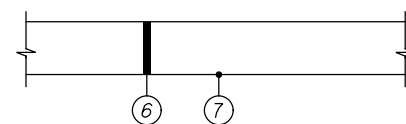
RESIDENTIAL APRON AND
RESIDENTIAL CONCRETE
DRIVEWAY PAVEMENT SECTION



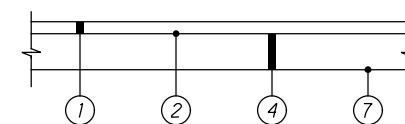
RESIDENTIAL ASPHALT
DRIVEWAY PAVEMENT SECTION



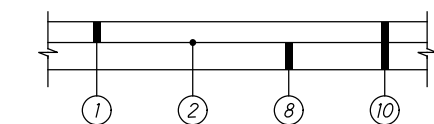
GRAVEL PARKING LOT
PAVEMENT SECTION



COMMERCIAL APRON AND
COMMERCIAL CONCRETE
DRIVEWAY - PARKING LOT
PAVEMENT SECTION



COMMERCIAL ASPHALT
DRIVEWAY PAVEMENT SECTION



COMMERCIAL ASPHALT
PARKING LOT
RESURFACING

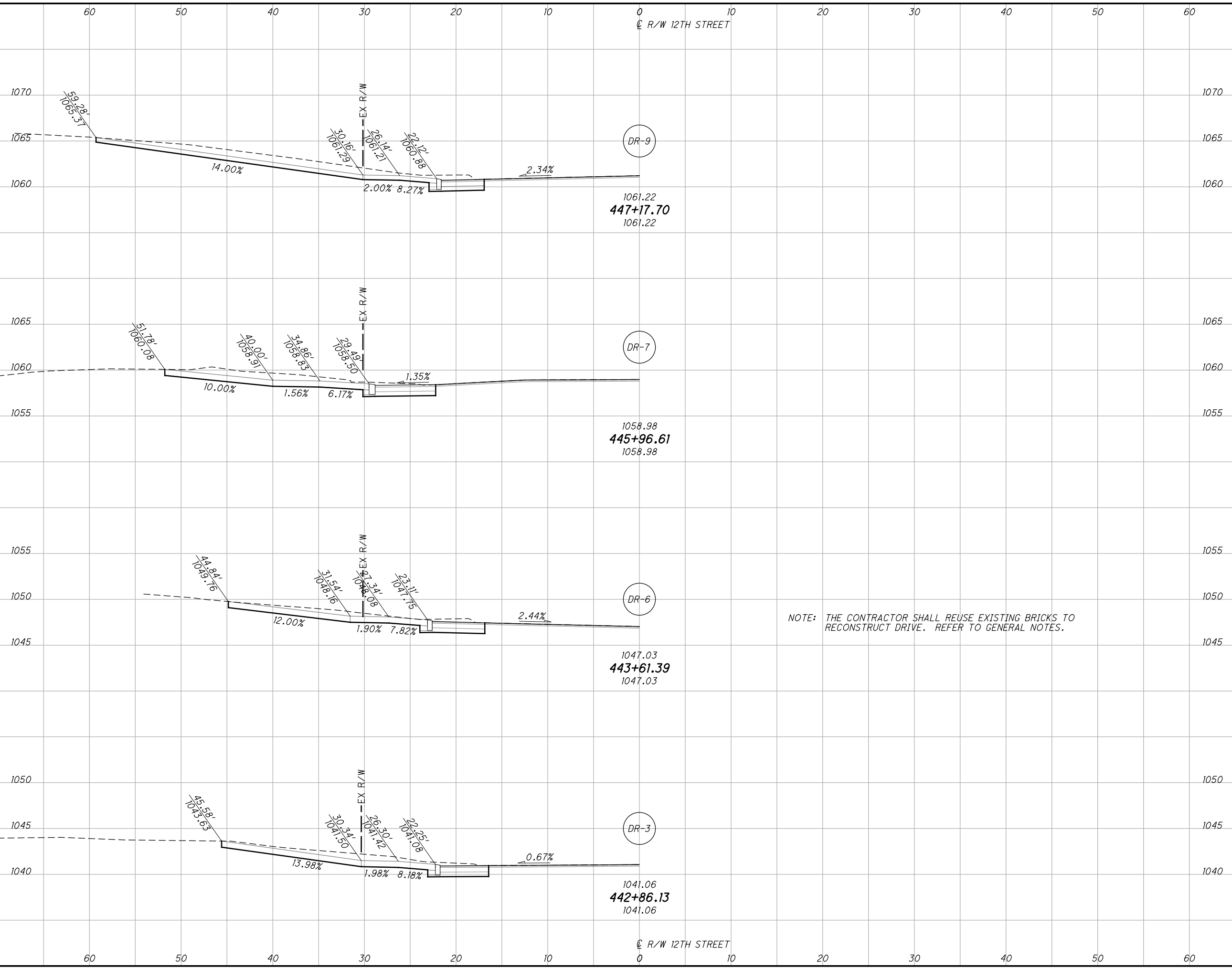
CALCULATED
DCB
CHECKED
RWK

DRIVE DETAILS - PARKING LOT TYPICAL SECTION

STA-12TH STREET

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SEEDING	
END WIDTH	SO. YDS.



NOTE: THE CONTRACTOR SHALL REUSE EXISTING BRICKS TO RECONSTRUCT DRIVE. REFER TO GENERAL NOTES.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

LEFT DRIVE PROFILES - 12TH STREET
STA. 442+86.13 TO STA. 447+17.70

CALCULATED	CHECKED
BSS	DLW

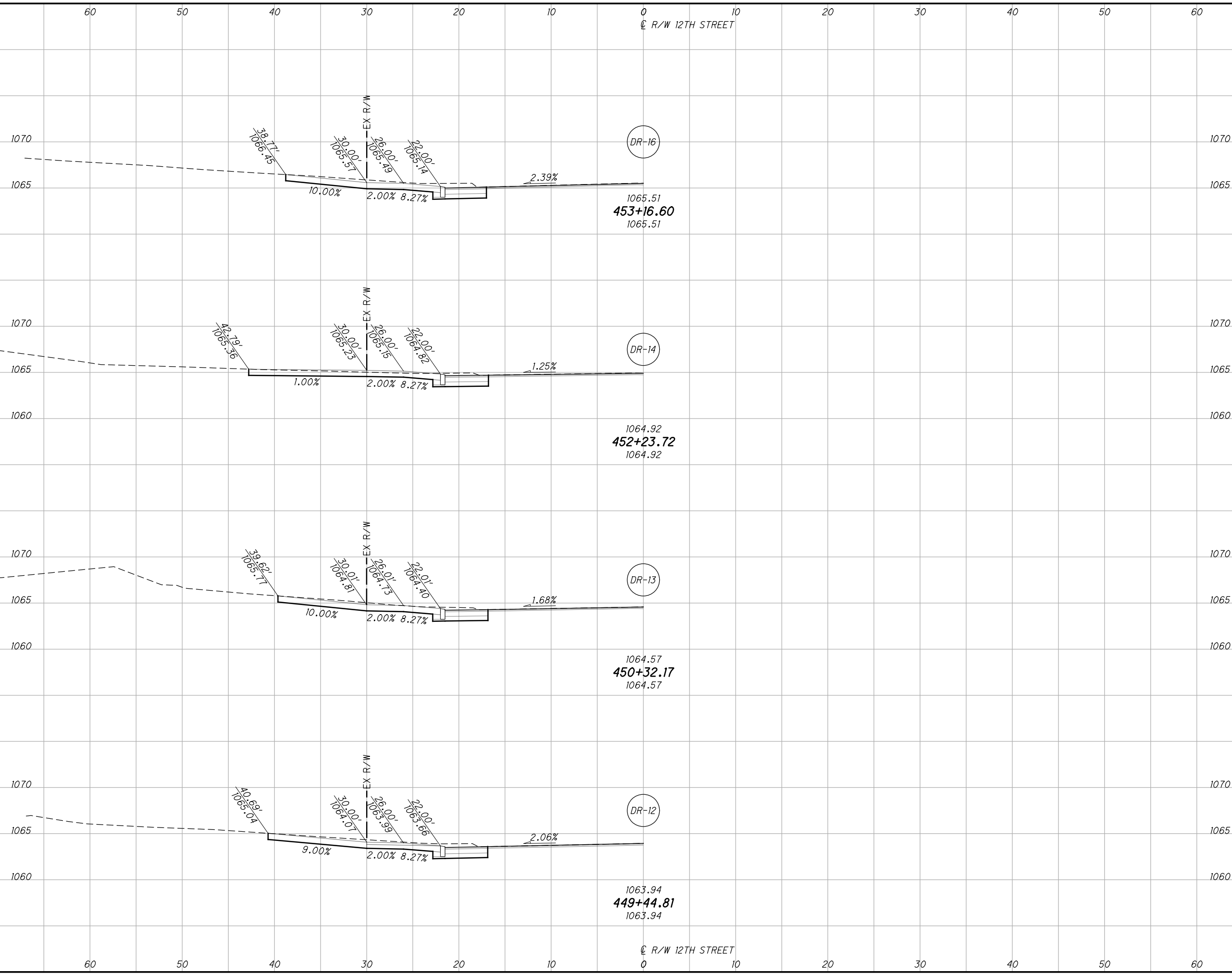
STA - 12TH STREET

(403 / 790)

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GD005.dgn 4/14/2014 4:42:43 PM brion.sedziol" ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	BSS	CHECKED



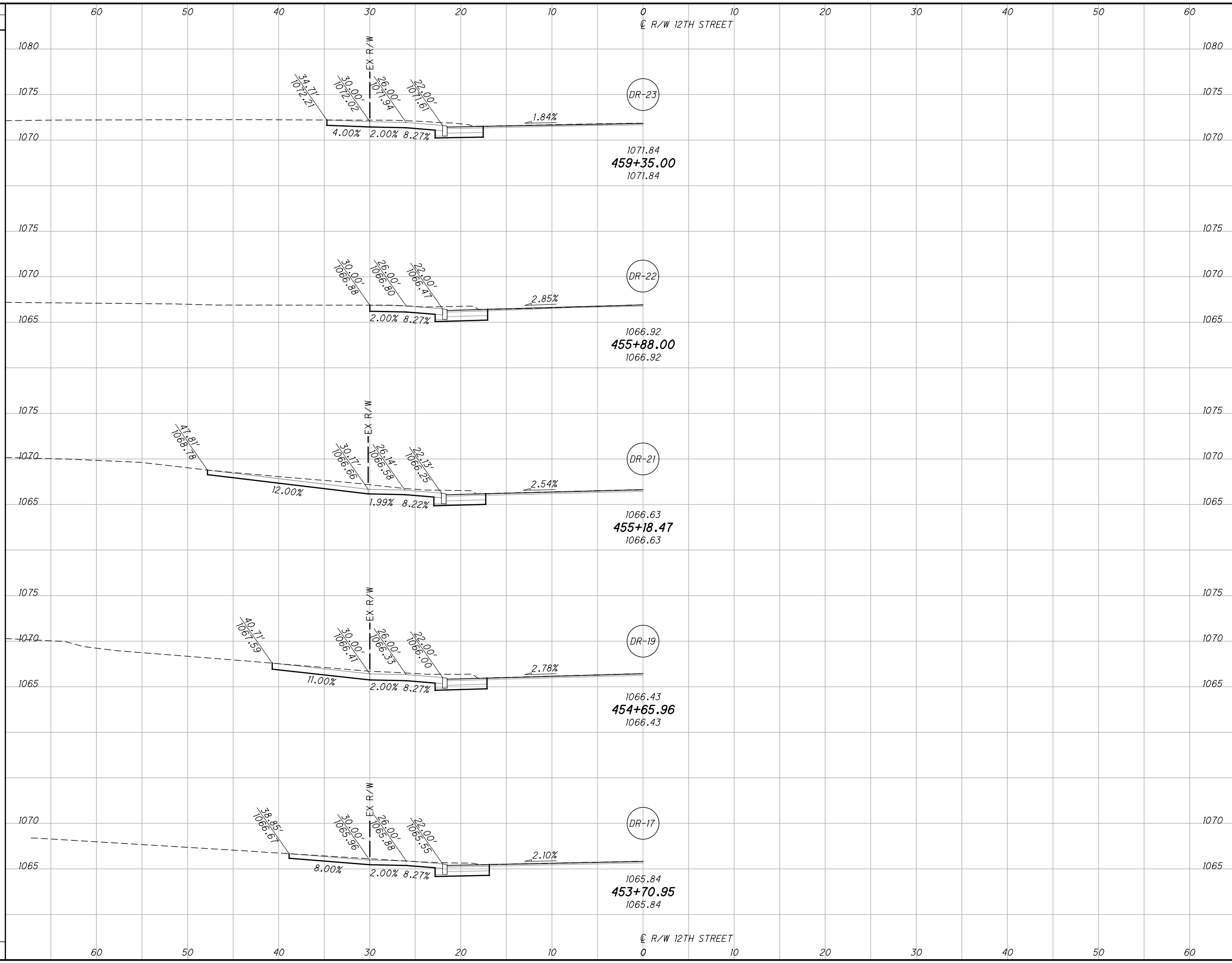
LEFT DRIVE PROFILES - 12TH STREET
 STA. 449+44.81 TO STA. 453+16.60

STA-12TH STREET

404
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GD006.dgn 4/14/2014 4:42:44 PM brion.sedzio\ ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	BSS	DLW

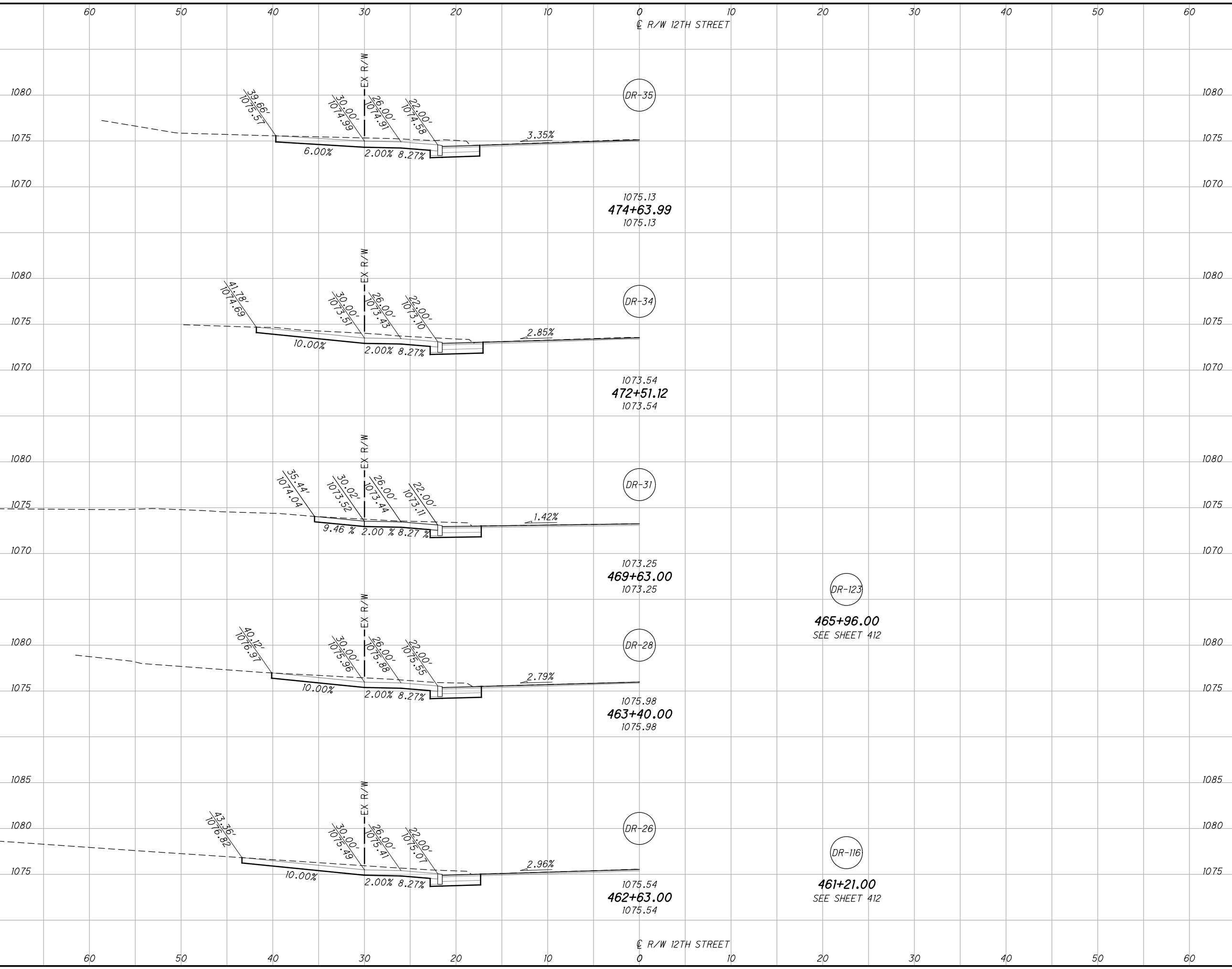
LEFT DRIVE PROFILES - 12TH STREET
STA. 453+70.95 TO STA. 459+35.00

STA - 12TH STREET

(405)
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GD007.dgn 4/14/2014 4:42:45 PM brion.sedzio\ ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.

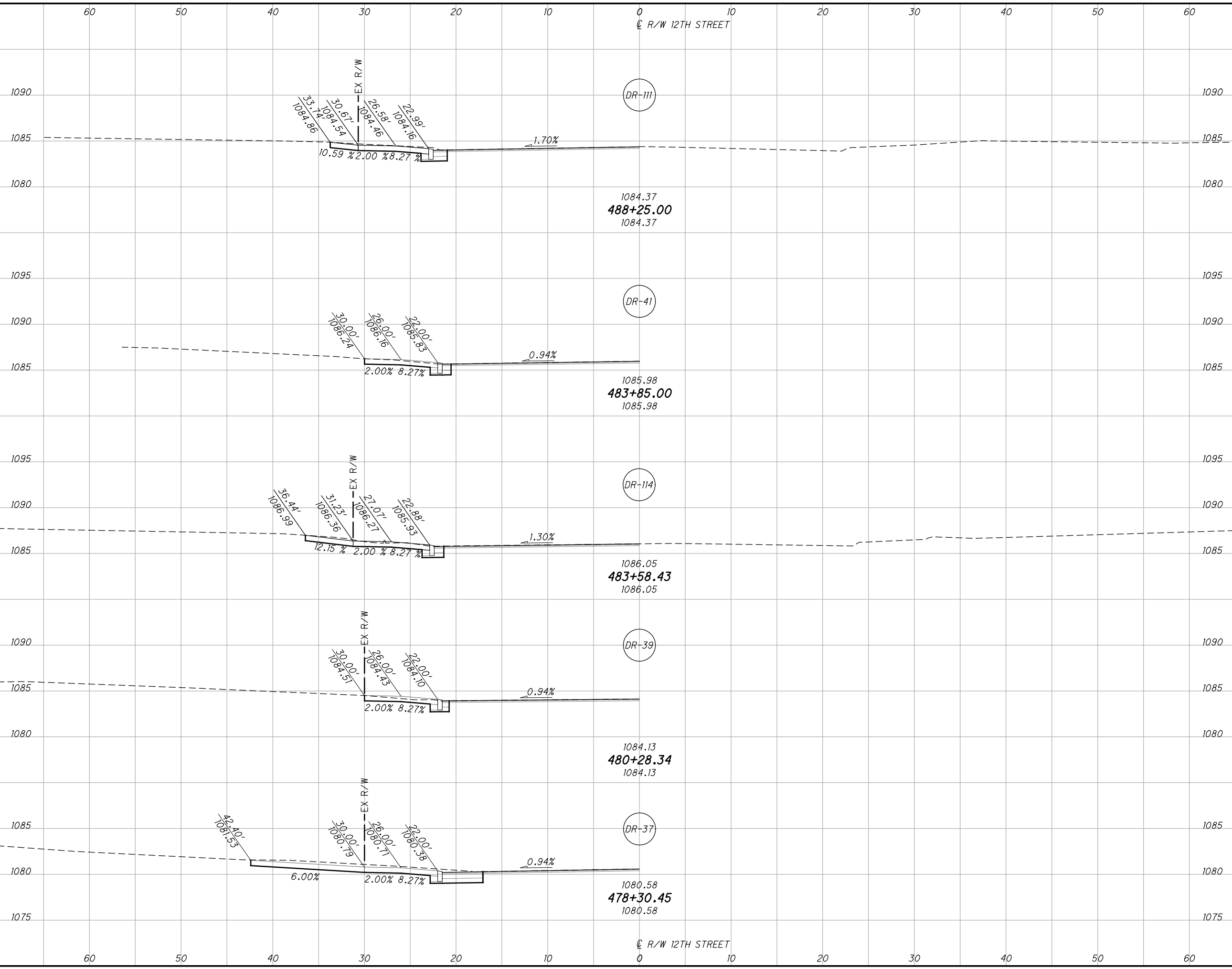


END CUT	AREA FILL	VOLUME CUT	FILL	CALCULATED BSS	CHECKED DLW

LEFT DRIVE PROFILES - 12TH STREET
STA. 462+60.00 TO STA. 474+63.99
STA - 12TH STREET
 406
 790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GD008.dgn 4/14/2014 4:42:45 PM brion.sedzio\ ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.

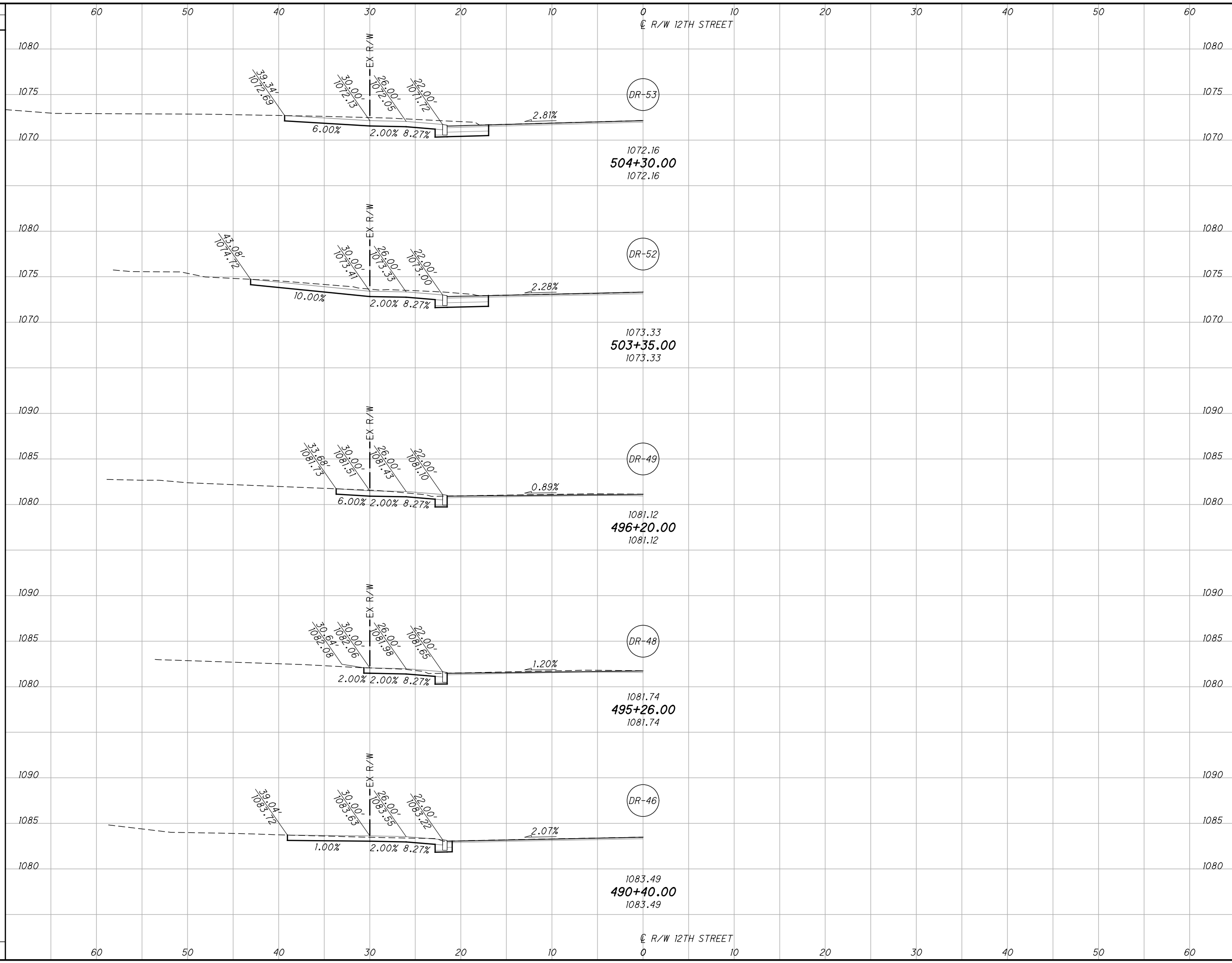


END AREA		VOLUME		CALCULATED BSS	CHECKED DLW
CUT	FILL	CUT	FILL		

LEFT DRIVE PROFILES - 12TH STREET
STA. 478+30.45 TO STA. 488+25.00
STA - 12TH STREET
 (407 / 790)

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GD009.dgn 4/14/2014 4:42:46 PM brian.sedziol" ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME		CALCULATED	BSS	CHECKED	DLW
CUT	FILL	CUT	FILL				

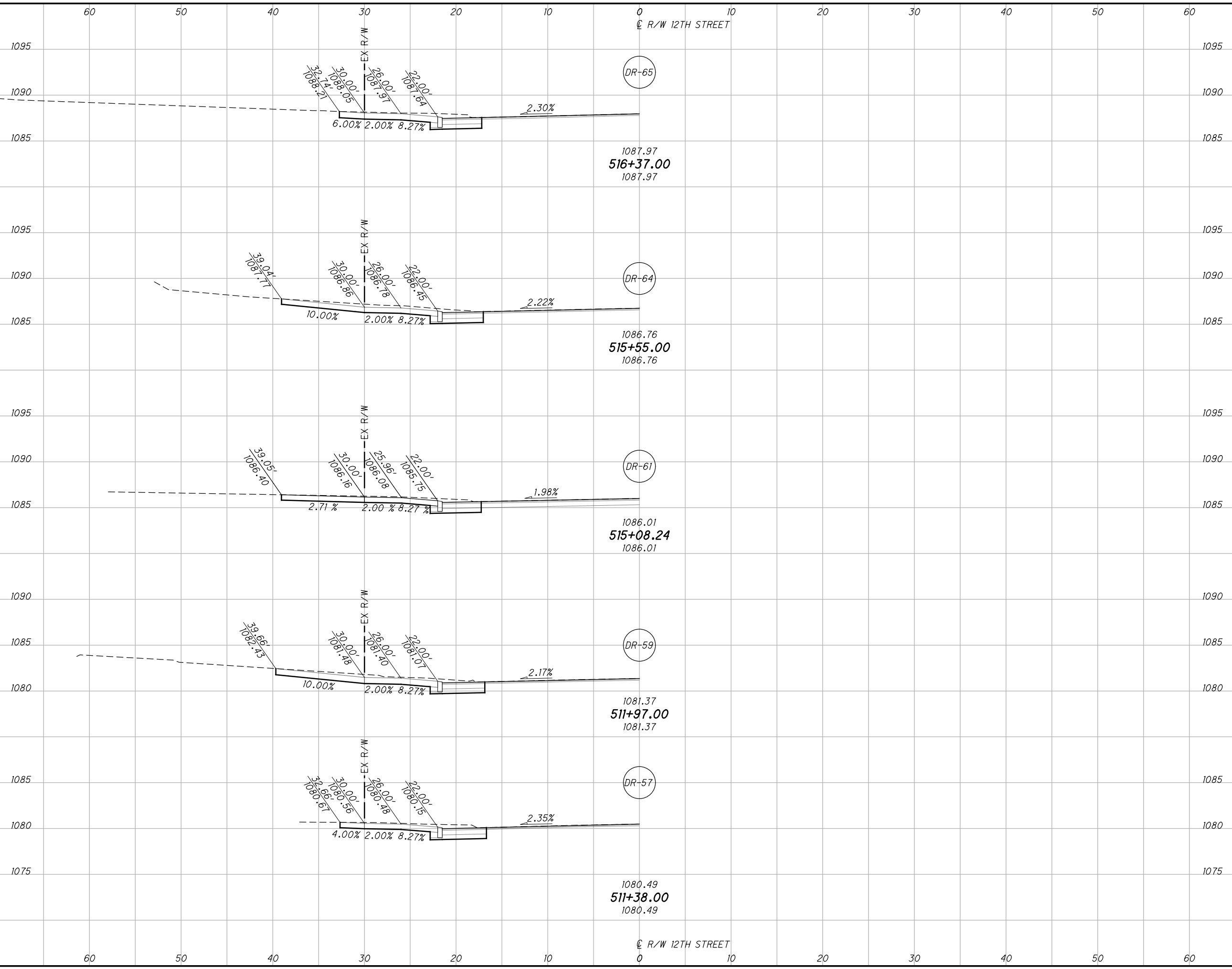
LEFT DRIVE PROFILES - 12TH STREET
STA. 490+40.00 TO STA. 504+30.00

STA-12TH STREET

408
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GD010.dgn 4/14/2014 4:42:47 PM brian.sedziol\ODOTV8i_PDF_Half.pltcfgr\ODOTV8i_Pen-ME.tbl M-E_Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME		CALCULATED	BSS	CHECKED	DLW
CUT	FILL	CUT	FILL				

LEFT DRIVE PROFILES - 12TH STREET
STA. 511+38.00 TO STA. 516+37.00

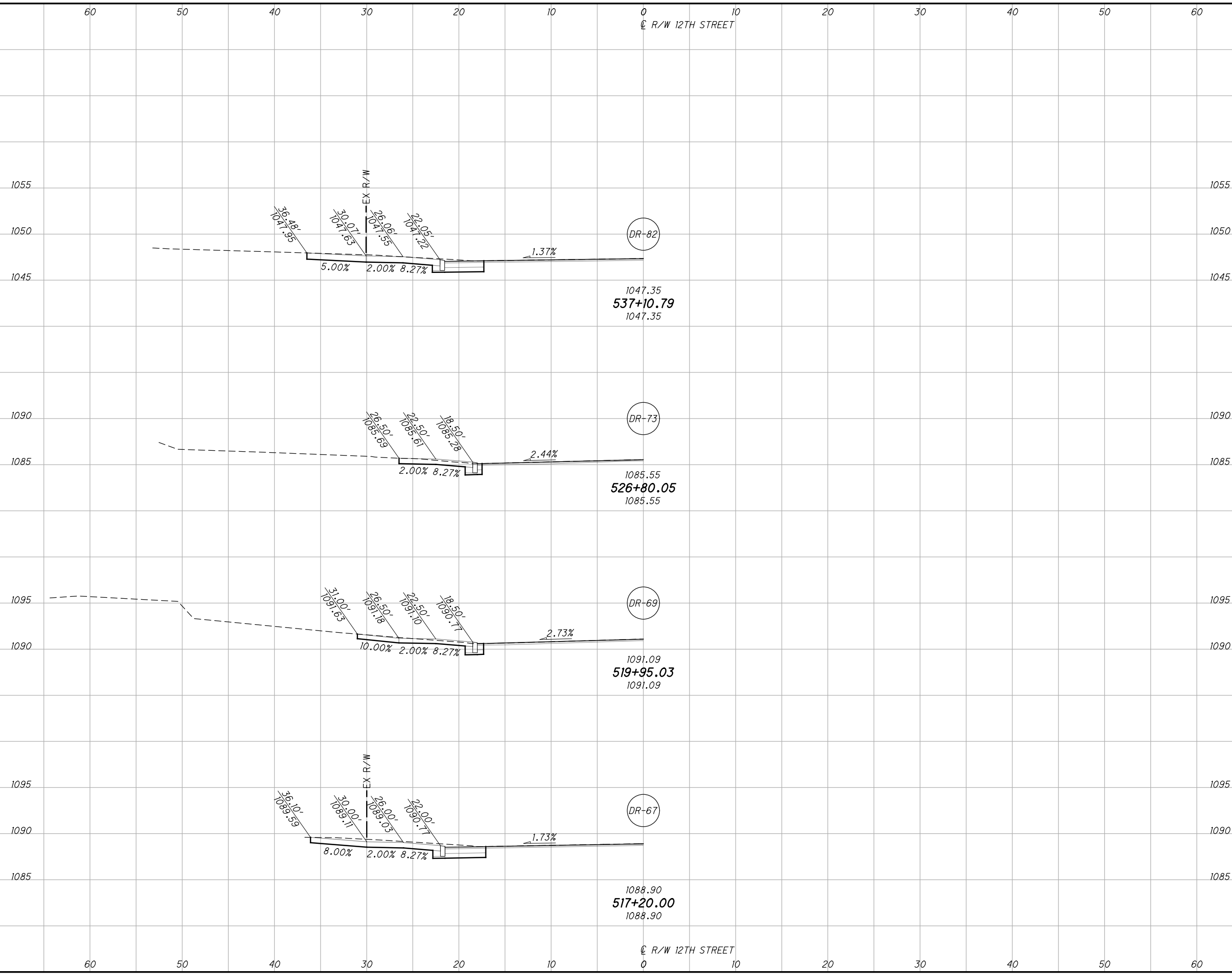
STA - 12TH STREET

409
790

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SEEDING	
END WIDTH	SO. YDS.

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	BSS	CHECKED



LEFT DRIVE PROFILES - 12TH STREET
STA. 517+20.00 TO STA. 537+10.79

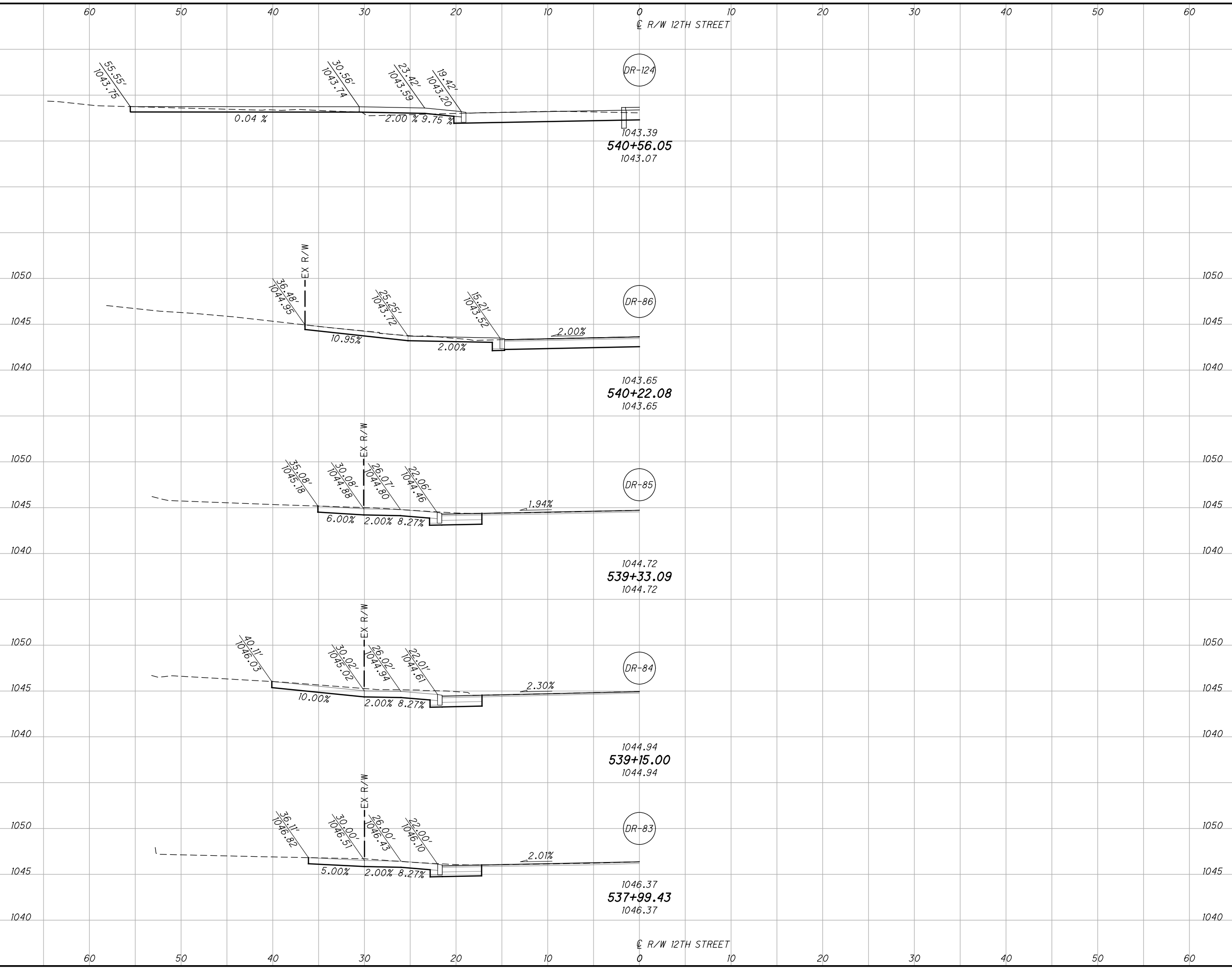
STA-12TH STREET

410
790

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SEEDING	
END WIDTH	SO. YDS.

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	BSS	CHECKED



LEFT DRIVE PROFILES - 12TH STREET
STA. 537+99.43 TO STA. 540+22.08

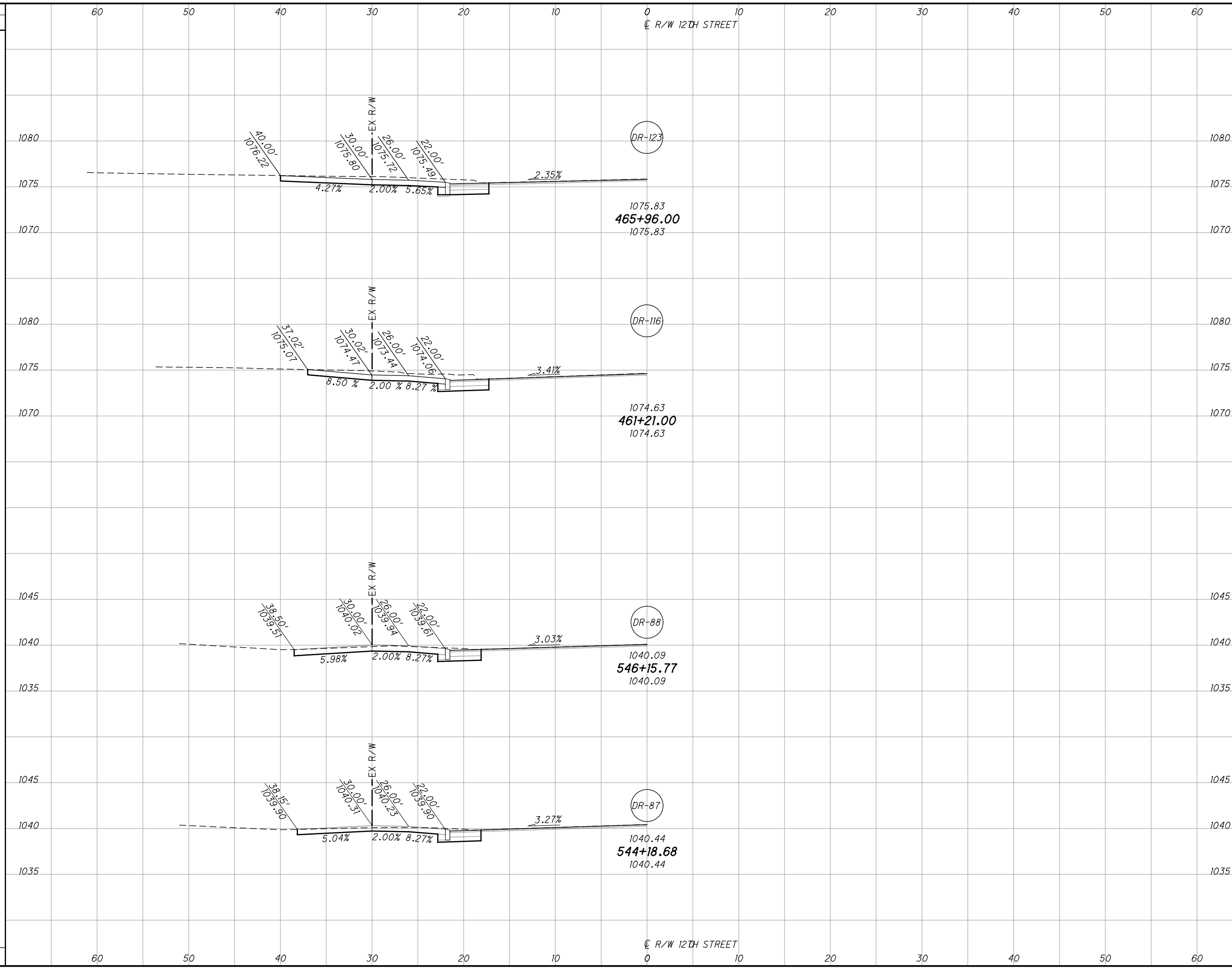
STA - 12TH STREET

411
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299G0013.dgn 4/14/2014 4:42:49 PM briam.sedziol\ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	BSS	CHECKED



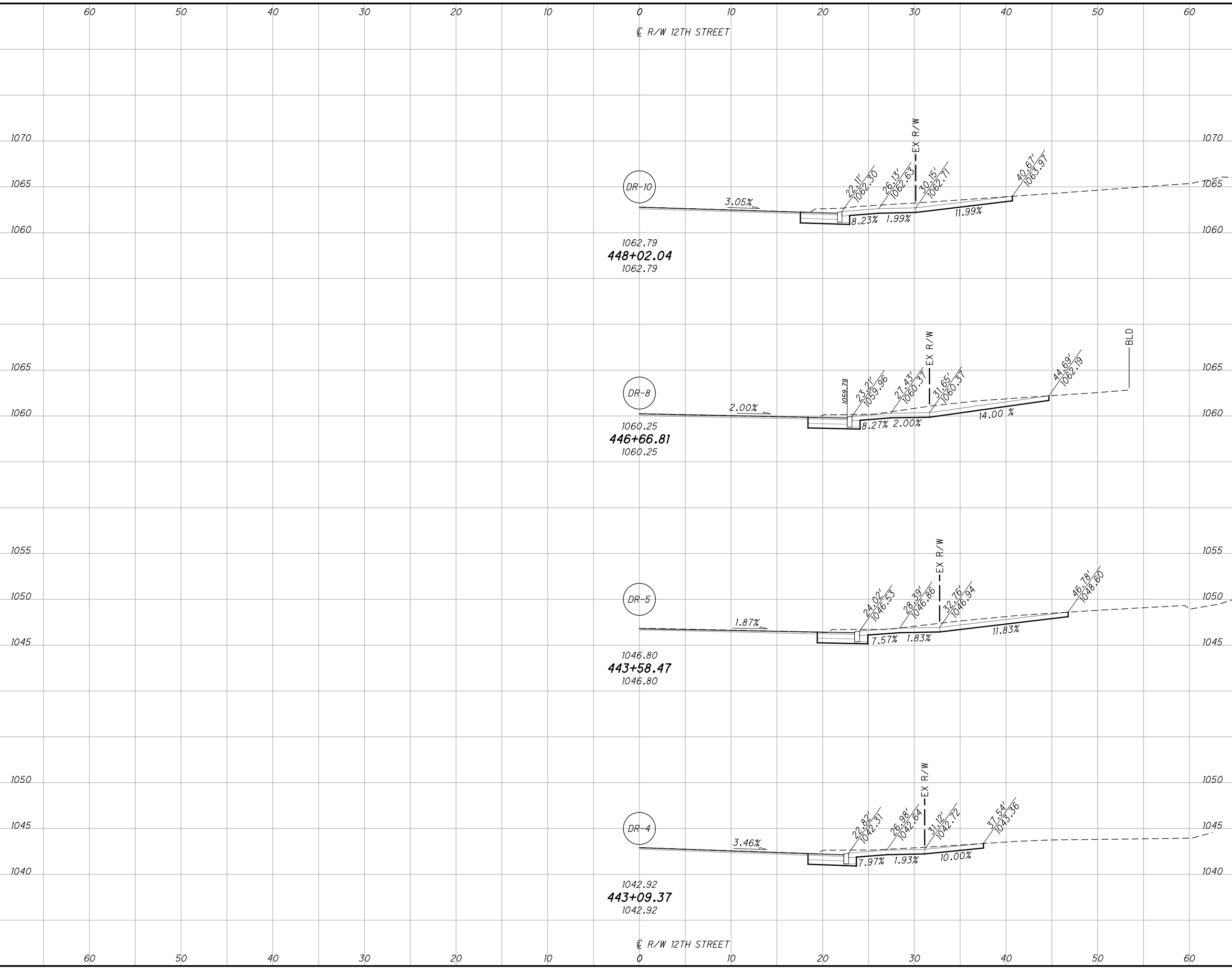
LEFT DRIVE PROFILES - 12TH STREET
STA. 540+71.27 TO STA. 546+15.77

STA - 12TH STREET

412
790

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SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

RIGHT DRIVE PROFILES - 12TH STREET

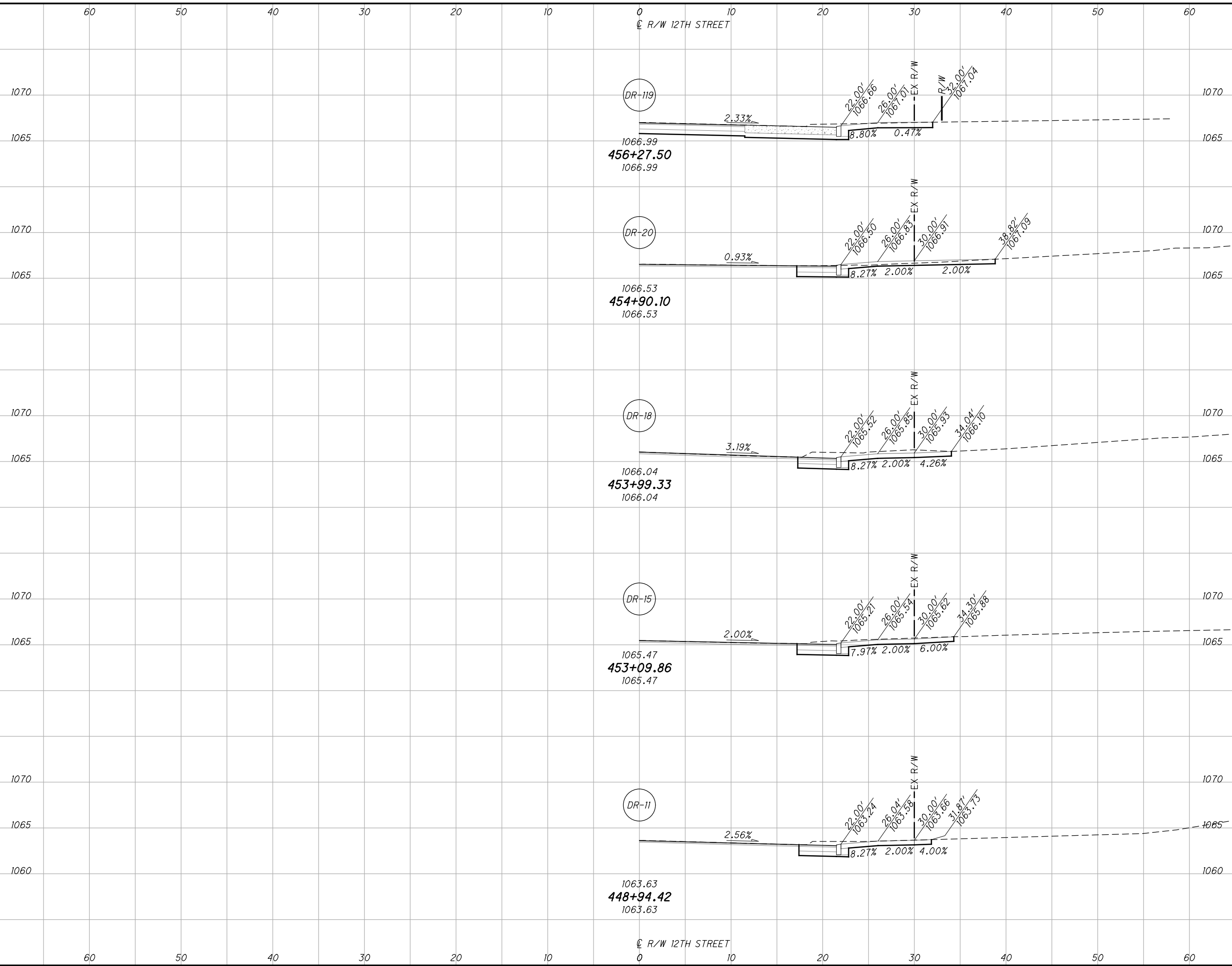
STA. 443+09.37 TO STA. 448+02.04

STA - 12TH STREET

413
790

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SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED	BSS	CHECKED	DLW

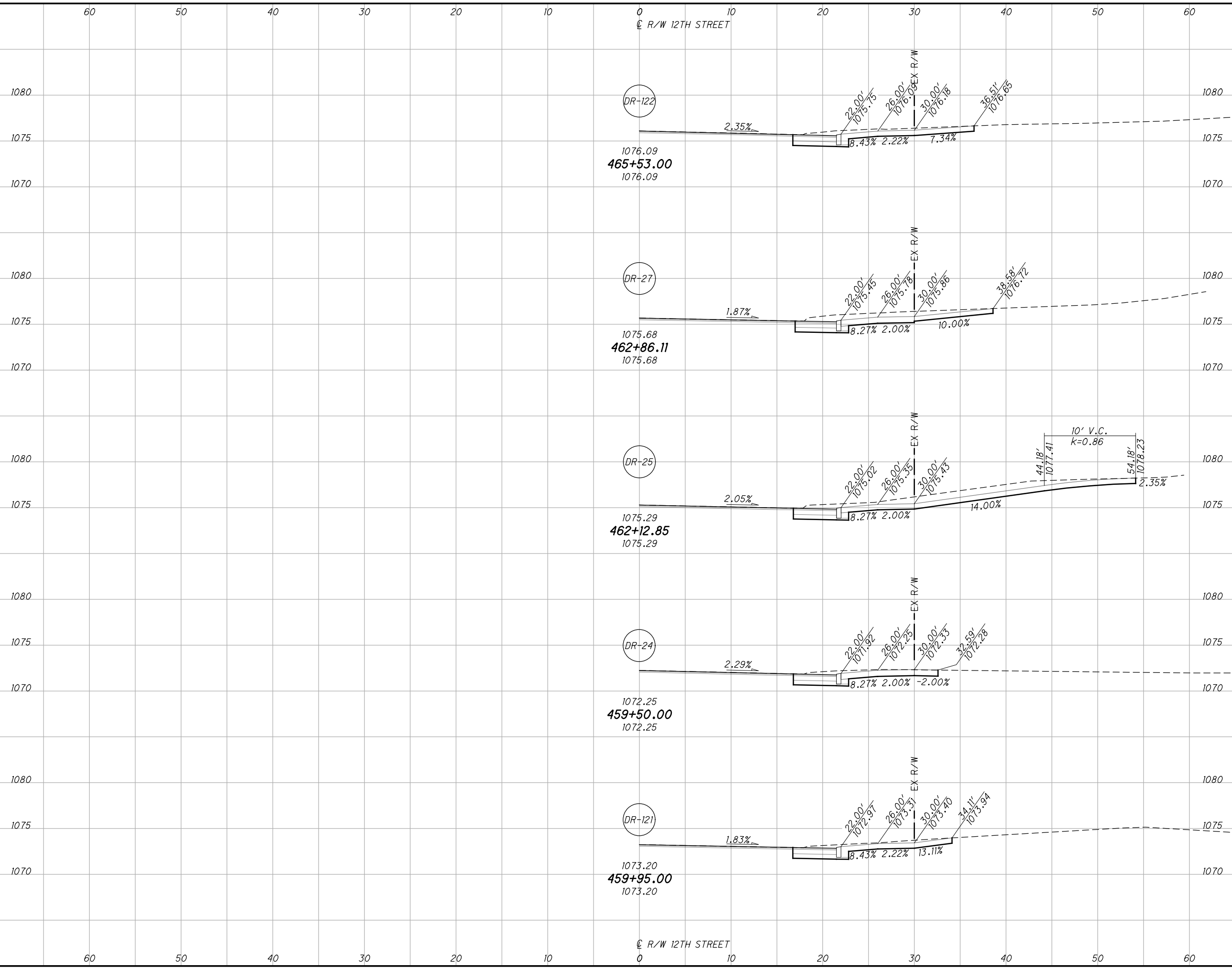
RIGHT DRIVE PROFILES - 12TH STREET
STA. 448+94.42 TO STA. 456+27.50

STA - 12TH STREET

414
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GD016.dgn 4/14/2014 4:42:51 PM brian.sezior\ ODOTV8i_PDF_Half.pltctg ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME		CALCULATED BSS	CHECKED DLW
CUT	FILL	CUT	FILL		

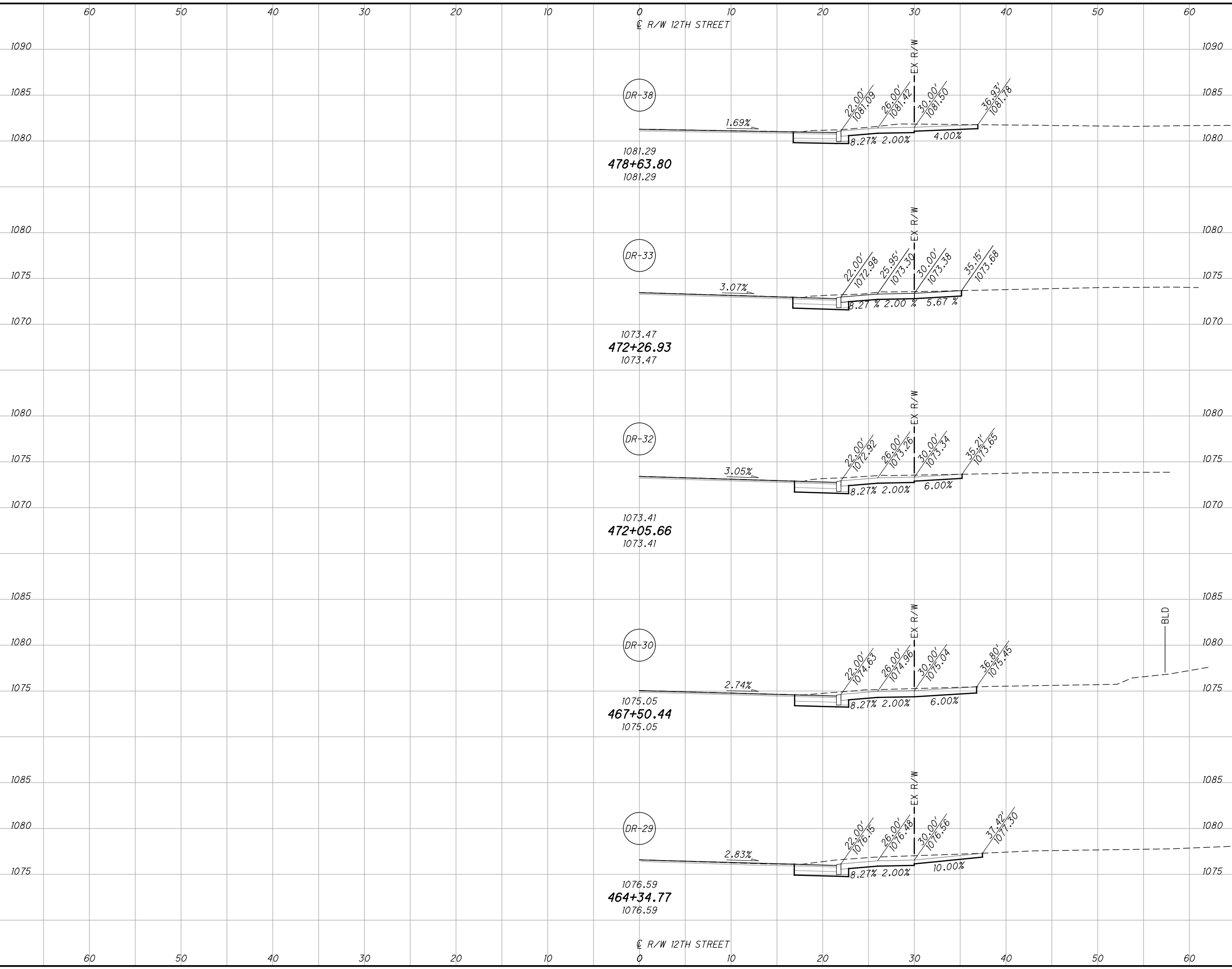
RIGHT DRIVE PROFILES - 12TH STREET
STA. 459+95.00 TO STA. 465+53.00

STA - 12TH STREET

415
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GD017.dgn 4/14/2014 4:42:52 PM briam.sedziol" ODOTV8I_PDF_Half.pltcfgr ODOTV8I_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

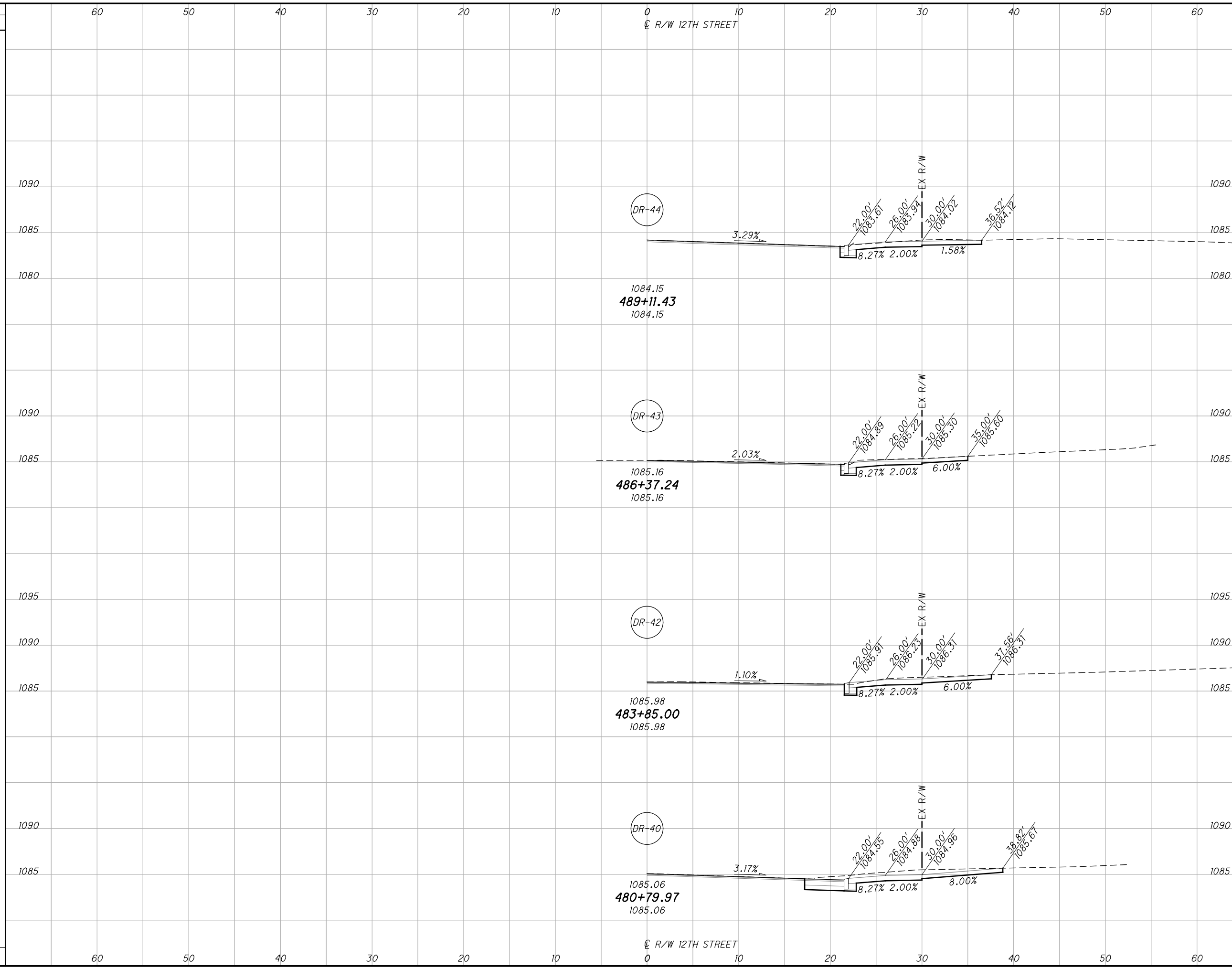
RIGHT DRIVE PROFILES - 12TH STREET
 STA. 464+34.77 TO STA. 478+63.80

416
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299gd018.dgn 4/14/2014 4:42:53 PM brian.sezoi\ ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	BSS	DLW



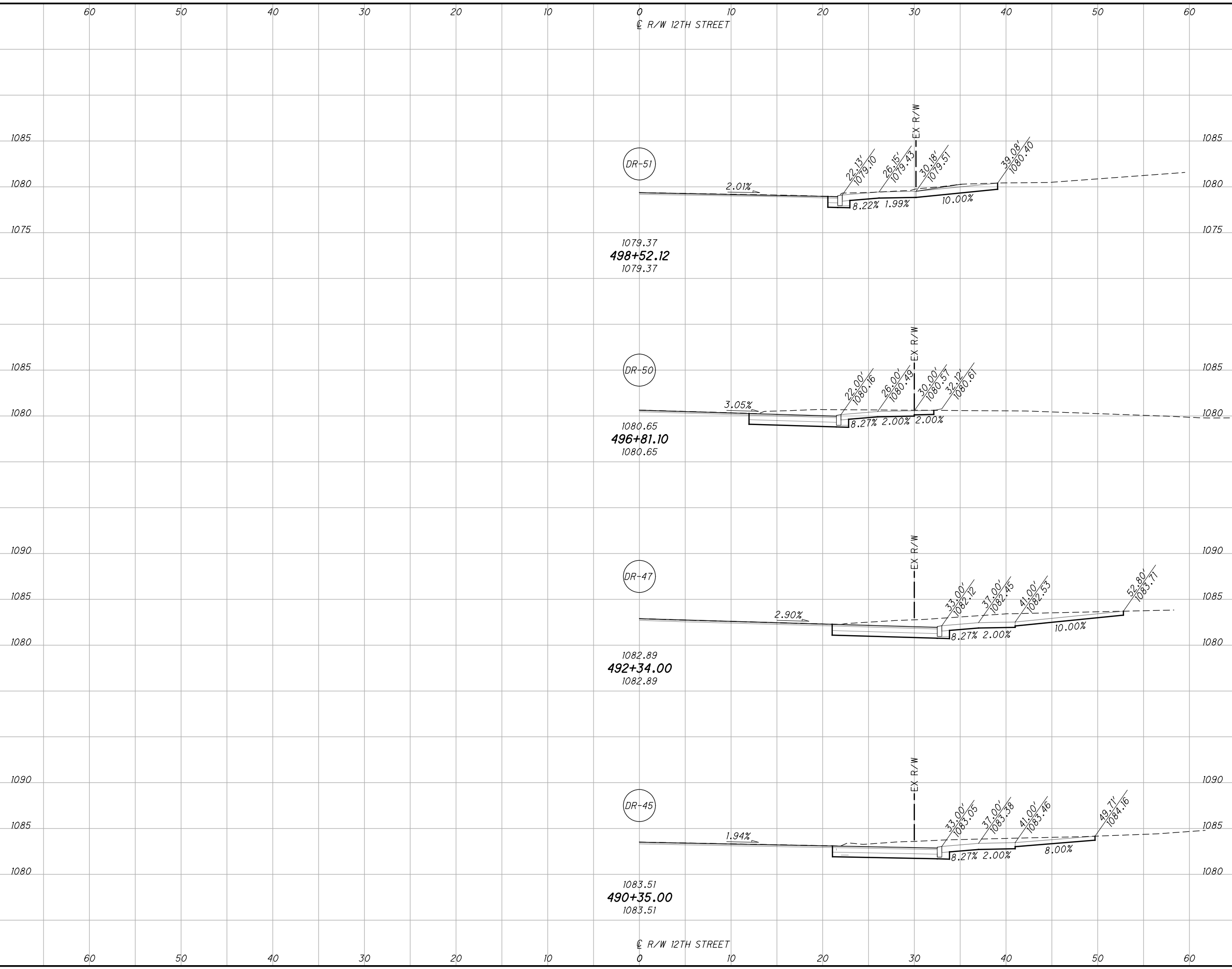
RIGHT DRIVE PROFILES - 12TH STREET
 STA. 480+79.97 TO STA. 489+00.00

STA - 12TH STREET

417
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299gd019.dgn 4/14/2014 4:42:53 PM brian.sezior\ ODOTV81_PDF_Half.pltctg ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED
 BSS
 CHECKED
 DLW

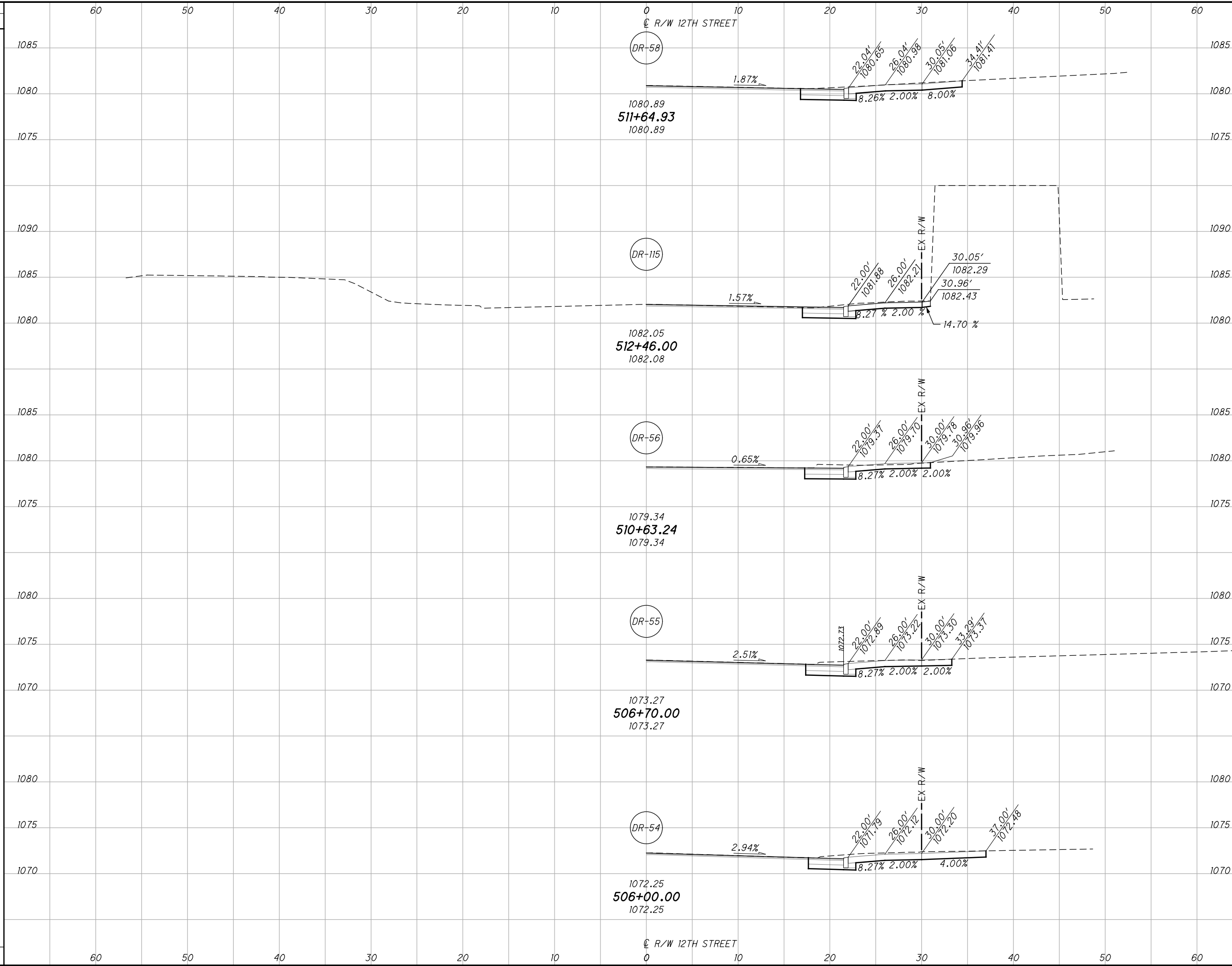
RIGHT DRIVE PROFILES - 12TH STREET
STA. 490+35.00 TO STA. 498+52.12

STA - 12TH STREET

418
 790

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SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED	BSS	CHECKED	DLW
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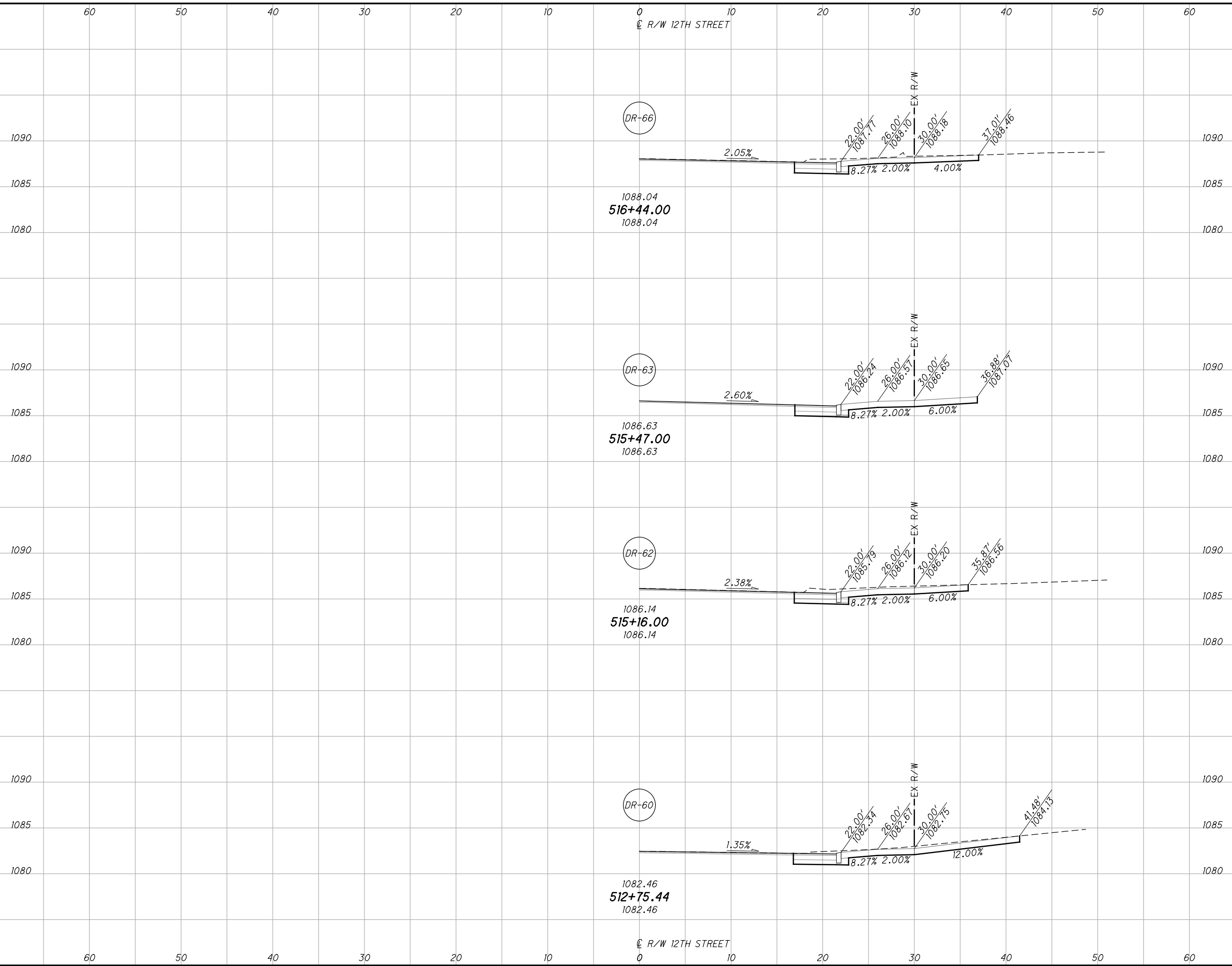
RIGHT DRIVE PROFILES - 12TH STREET
STA. 506+00.00 TO STA. 511+64.93

STA - 12TH STREET

419
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GD021.dgn 4/14/2014 4:42:55 PM briam.sedziol\ ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING		END AREA		VOLUME		CALCULATED	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	BSS	DLW



RIGHT DRIVE PROFILES - 12TH STREET
STA. 512+75.44 TO STA. 516+44.00

STA - 12TH STREET

420
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GD022.dgn 4/14/2014 4:42:56 PM brian.sedzior\ODOTV81_PDF_Half.pltcf 4/14/2014 4:42:56 PM brian.sedzior\ODOTV81_PDF_Half.pltcf

SEEDING	
END WIDTH	SO. YDS.

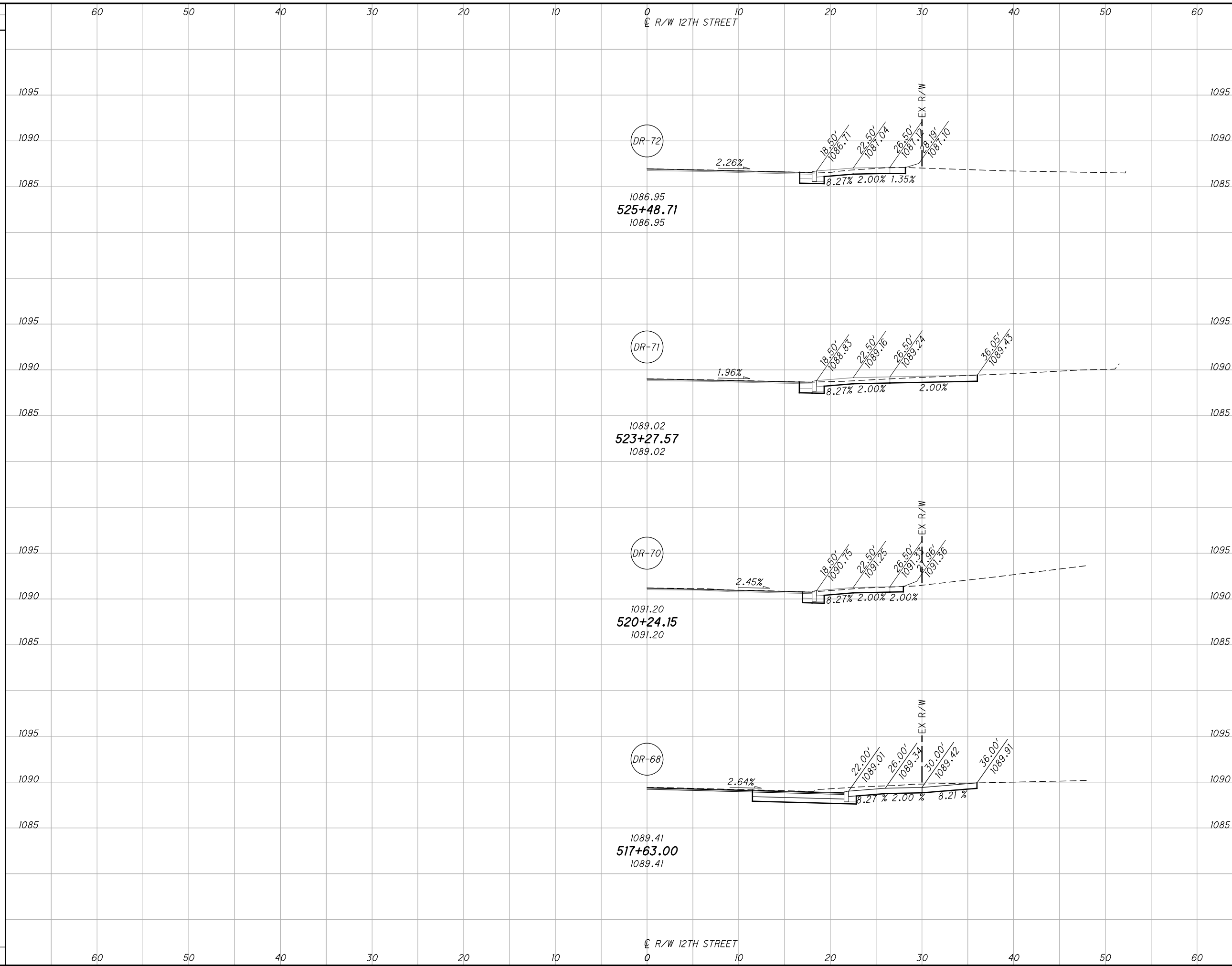
END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	BSS	CHECKED

DLW

RIGHT DRIVE PROFILES - 12TH STREET
STA. 517+20.00 TO STA. 525+48.71

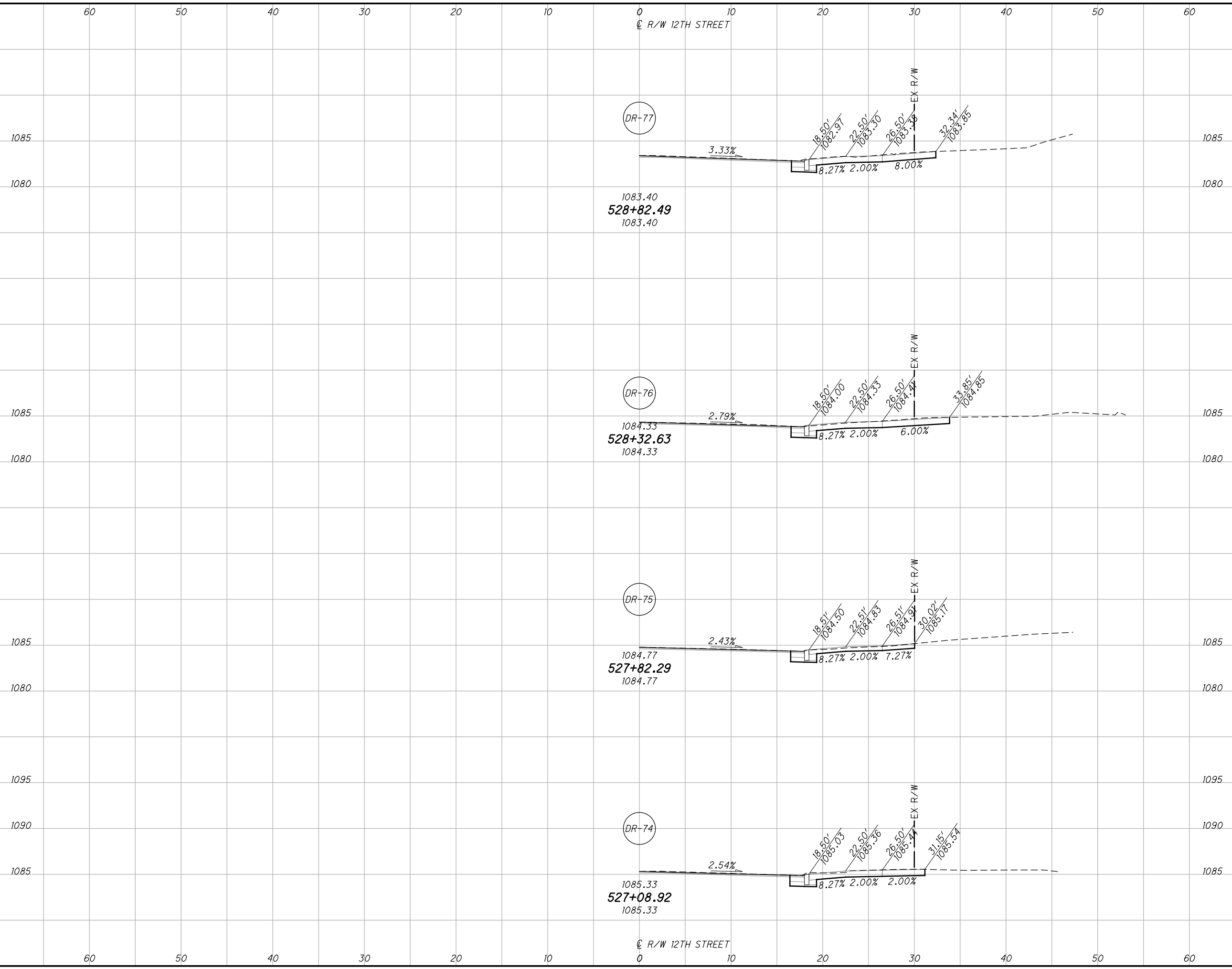
STA - 12TH STREET

421
790



j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GD023.dgn 4/14/2014 4:42:56 PM brian.sedzior\ODOTV81_PDF_Half.pltcf 0DOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.
60	50
50	40
40	30
30	20
20	10
10	0
0	10
10	20
20	30
30	40
40	50
50	60



END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	BSS	DLW

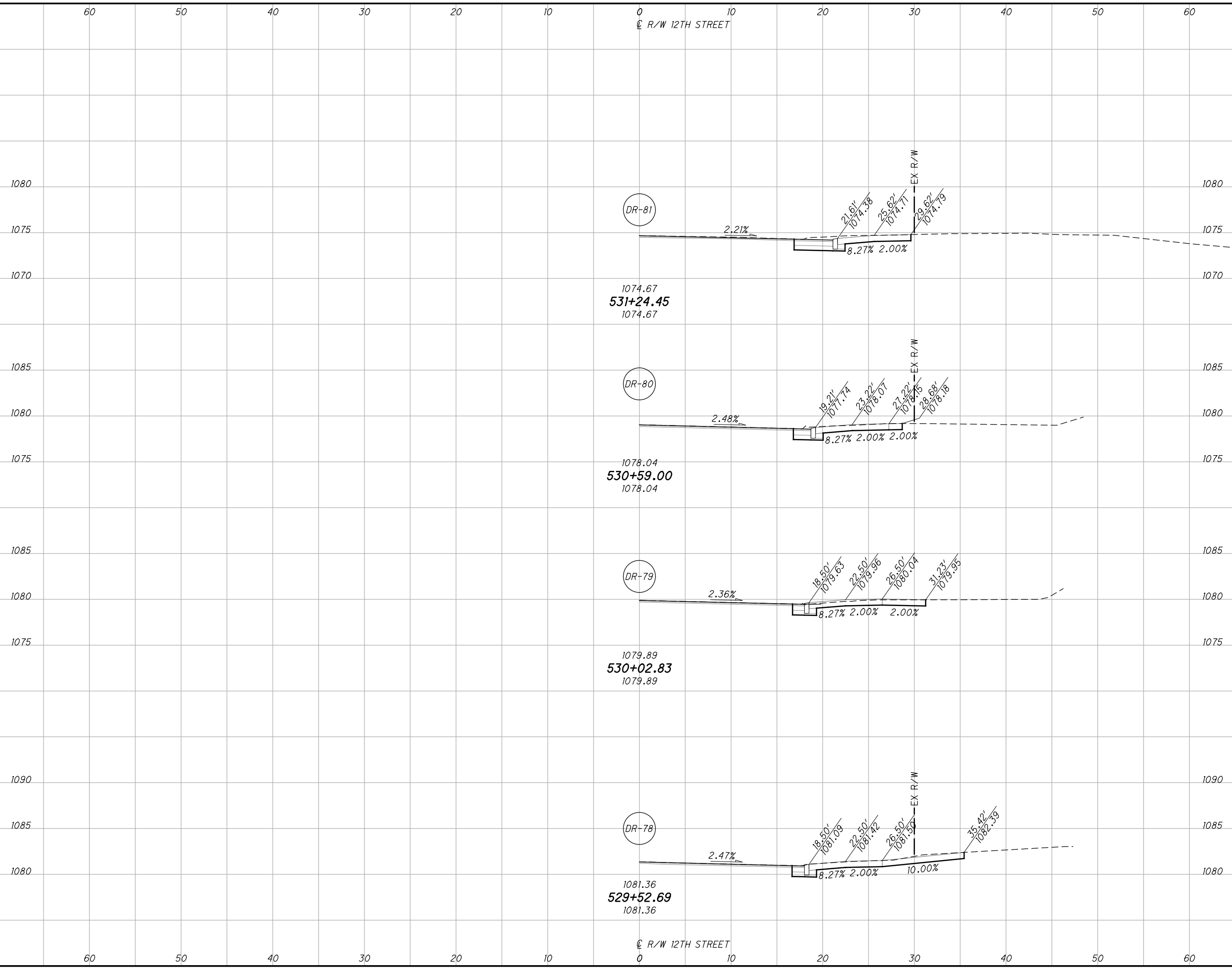
RIGHT DRIVE PROFILES - 12TH STREET
 STA. 527+08.92 to STA. 528+82.49

STA - 12TH STREET

422
790

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SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME		CALCULATED BSS	CHECKED DLW
CUT	FILL	CUT	FILL		

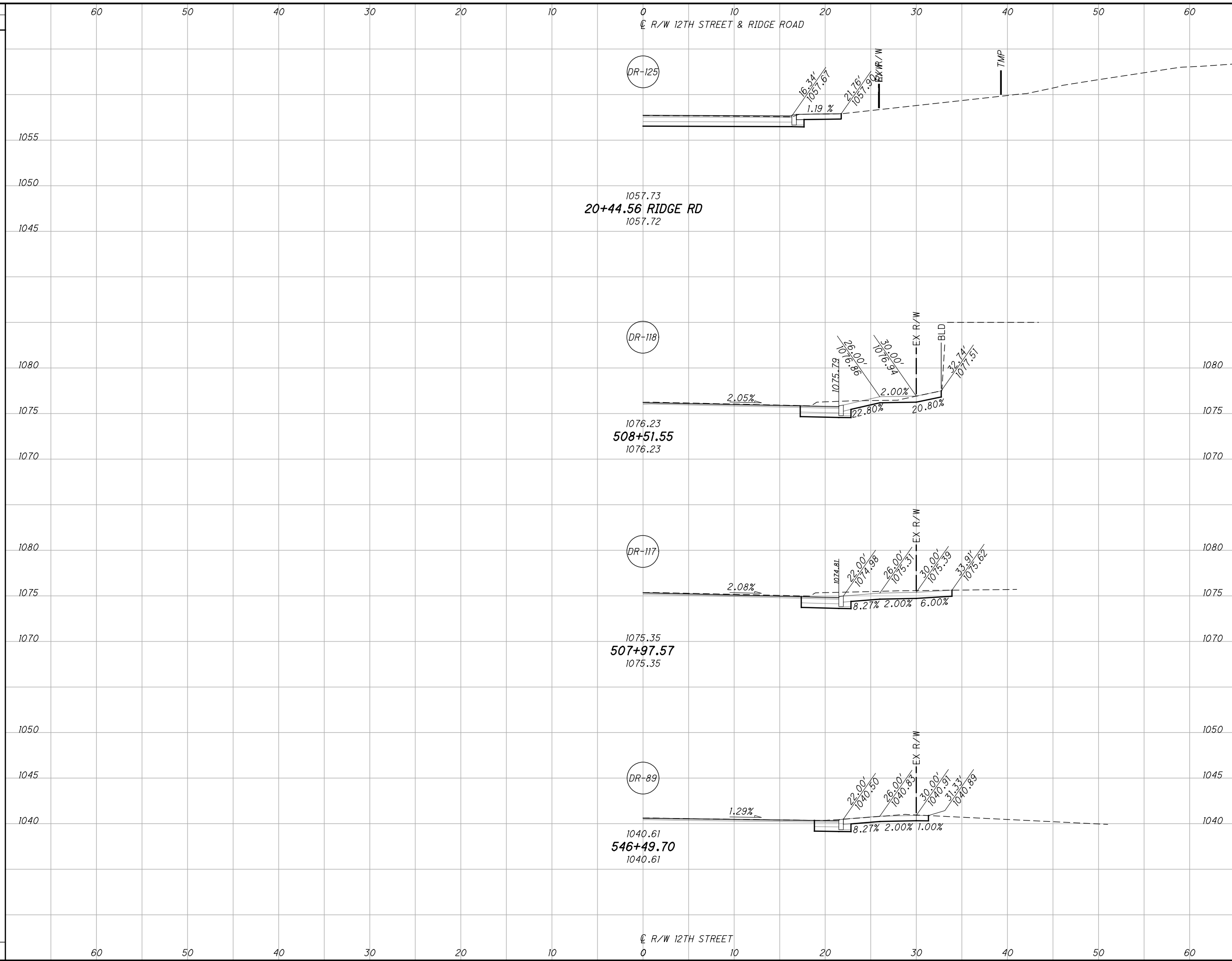
RIGHT DRIVE PROFILES - 12TH STREET
STA. 529+52.69 TO STA. 531+24.45

STA - 12TH STREET

423
790

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SEEDING	
END WIDTH	SO. YDS.



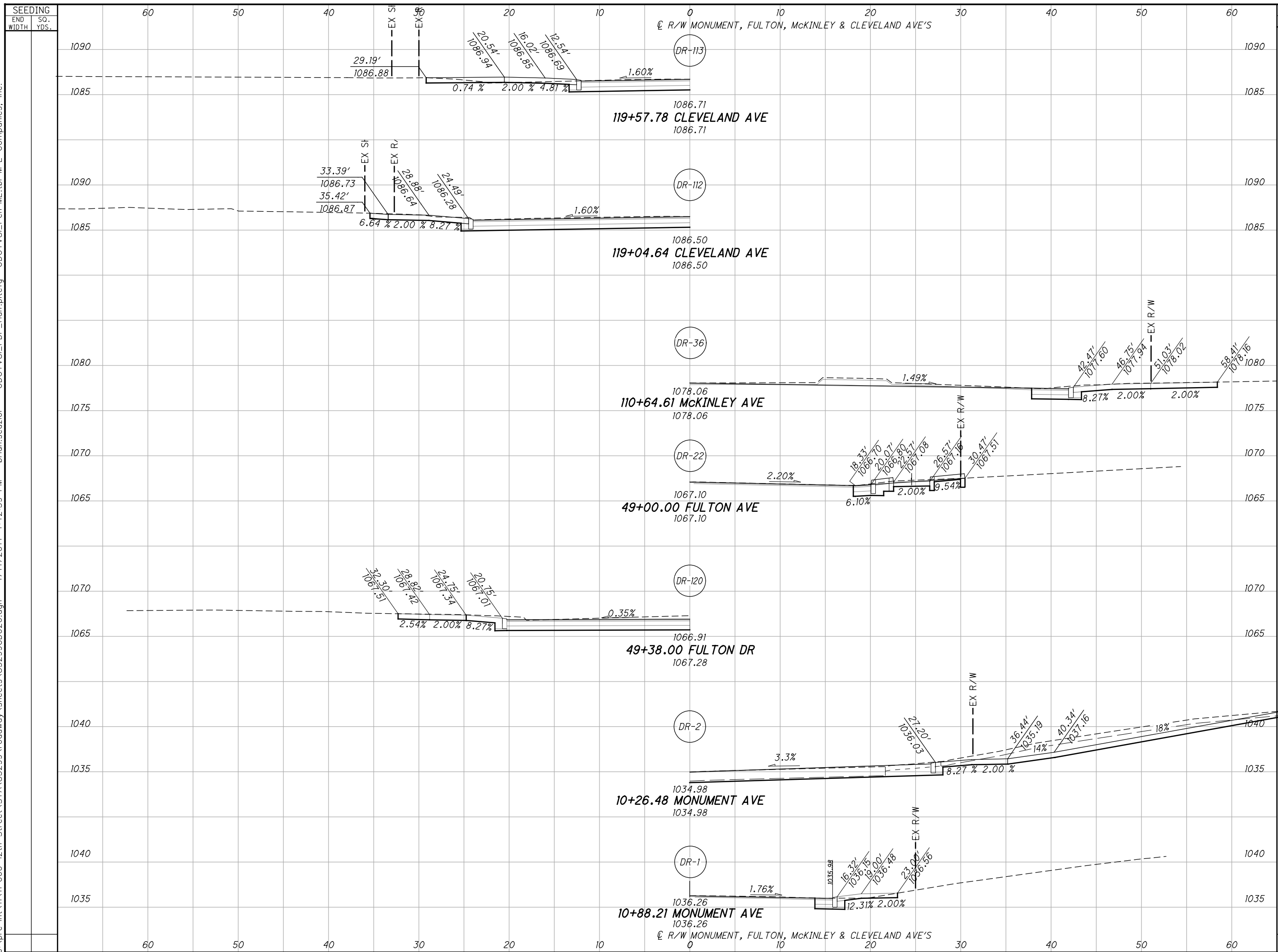
END AREA		VOLUME		CALCULATED	BSS	CHECKED	DLW
CUT	FILL	CUT	FILL				

RIGHT DRIVE PROFILES - 12TH STREET
STA. 546+49.70

STA - 12TH STREET

(424)
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GD026.dgn 4/14/2014 4:42:59 PM brian.sedzoi\ ODOTV81_PDF_Half.plt.cfg ODOTV81_Pen-ME.tbl M-E Companies, Inc.



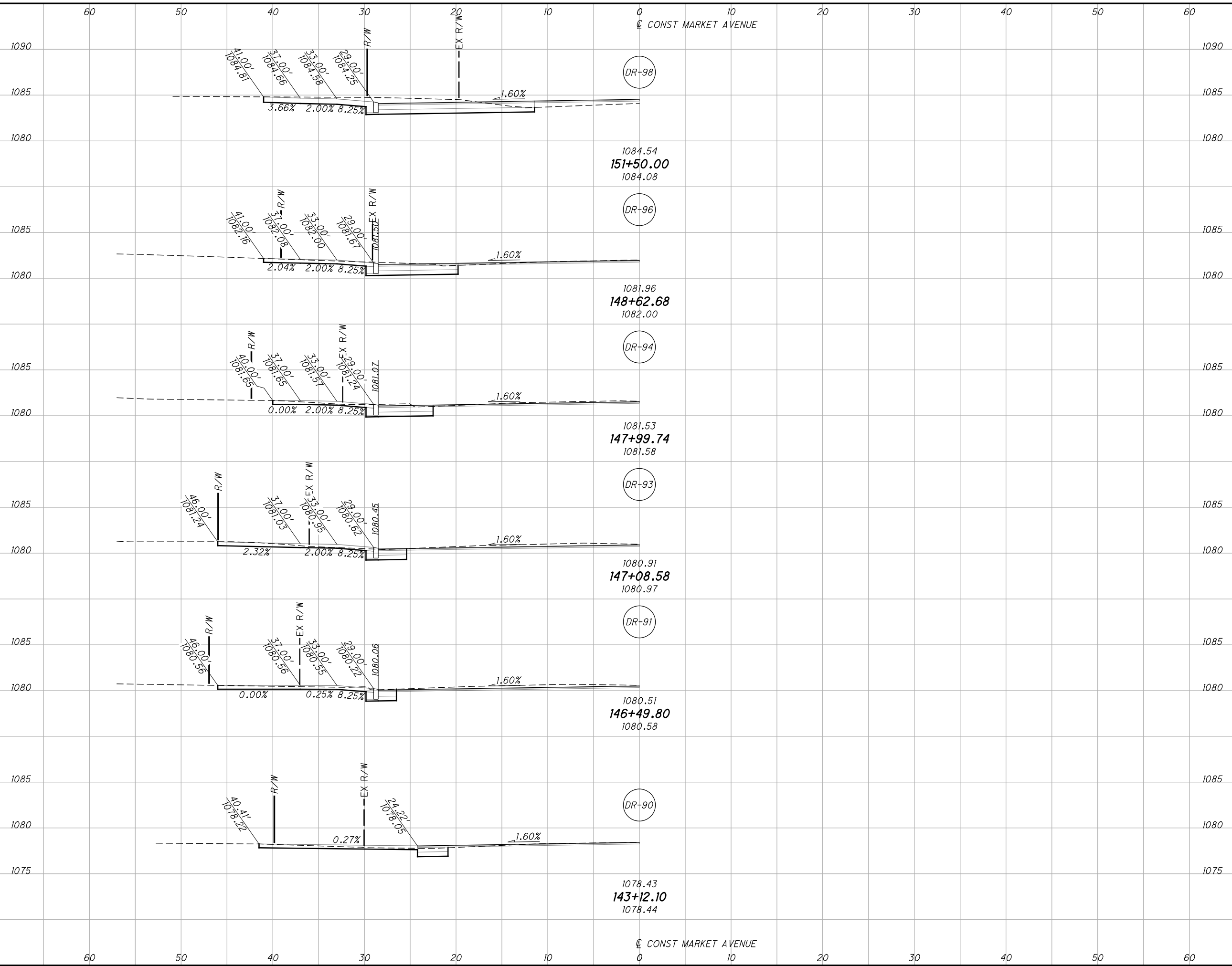
END	AREA	VOLUME	CALCULATED		BSS	CHECKED	DLW
			CUT	FILL			
1090							
1085							
1090							
1085							
1080							
1075							
1070							
1065							
1070							
1065							
1070							
1065							
1040							
1035							
1040							
1035							

DRIVE PROFILES - SIDE ROADS
MONUMENT, FULTON, MCKINLEY & CLEVELAND AVENUES
STA-12TH STREET

425
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299G0028.dgn 4/14/2014 4:43:00 PM brion.sedziol' ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING		END WIDTH	SO. YDS.
CUT	FILL		



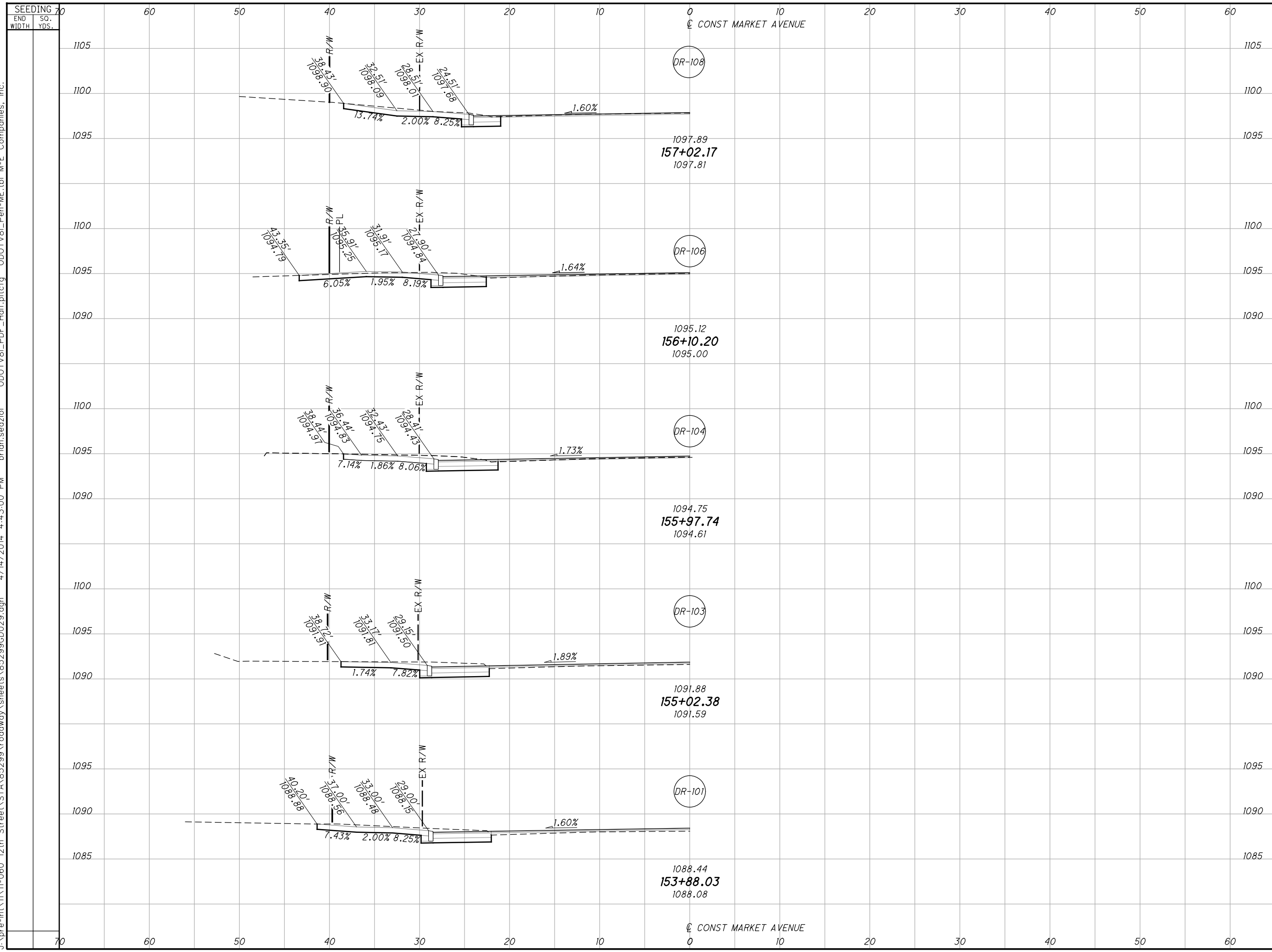
END AREA		VOLUME	
CUT	FILL	CUT	FILL

LEFT DRIVE PROFILES - MARKET AVENUE
 STA. 143+12.10 TO STA. 151+50.00

STA - 12TH STREET

426
790

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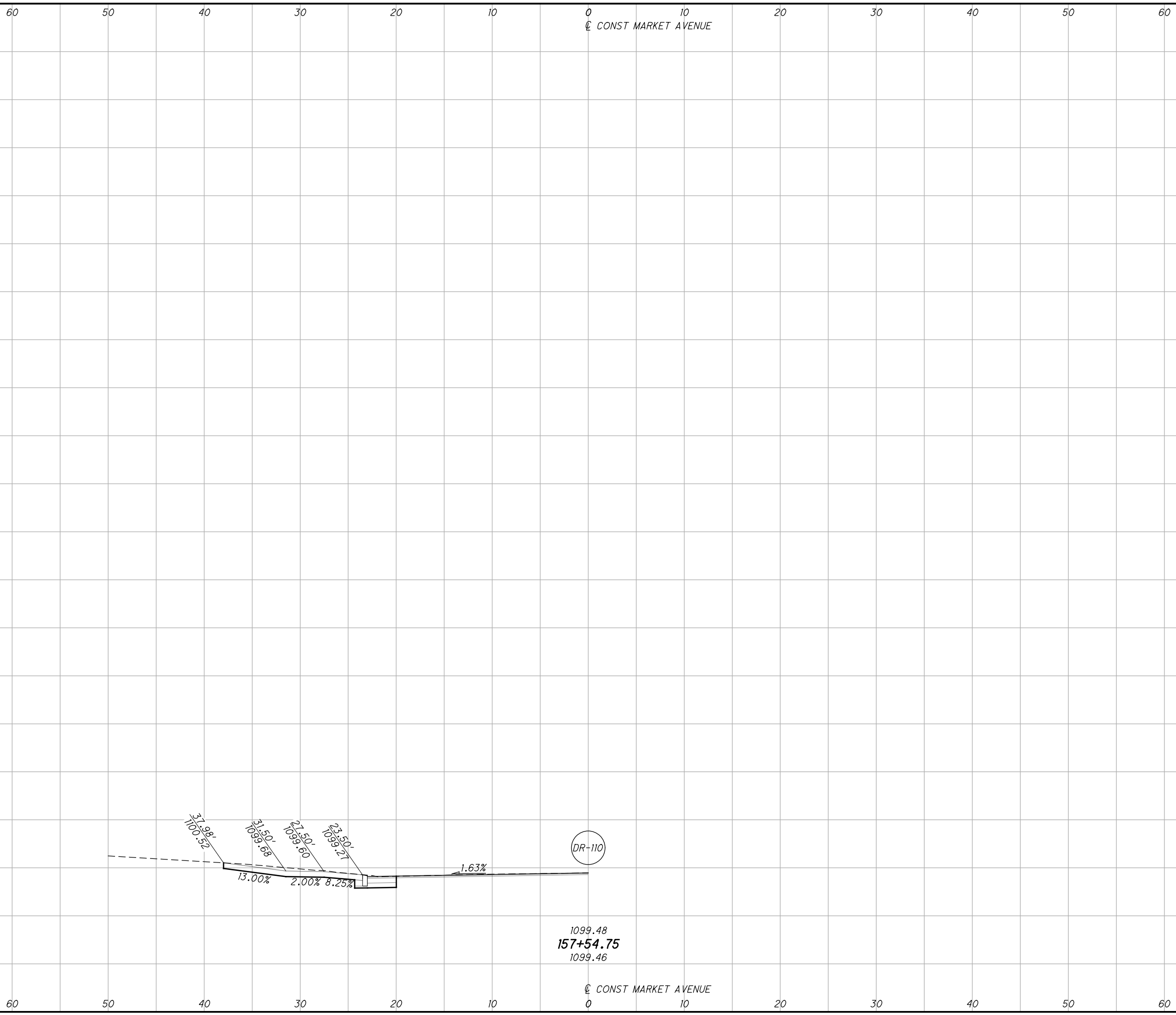


END WIDTH	SO. YDS.	END AREA		VOLUME		CALCULATED KOD	CHECKED RWK
		CUT	FILL	CUT	FILL		
70							
60							
50							
40							
30							
20							
10							
0							
10							
20							
30							
40							
50							
60							
70							

427
790

j:\pre-int\11\11-060 12th Street\STA\85299\roadway\sheets\85299GD030.dgn 4/14/2014 4:43:01 PM brion.sedziol" ODOTV8i_PDF_Half.plt c:\odotv8i_pen-me.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME		CALCULATED KOD	CHECKED RWK
CUT	FILL	CUT	FILL		

LEFT DRIVE PROFILES - MARKET AVENUE
STA. 157+54.75

STA-12TH STREET

428
790

1099.48
157+54.75
 1099.46

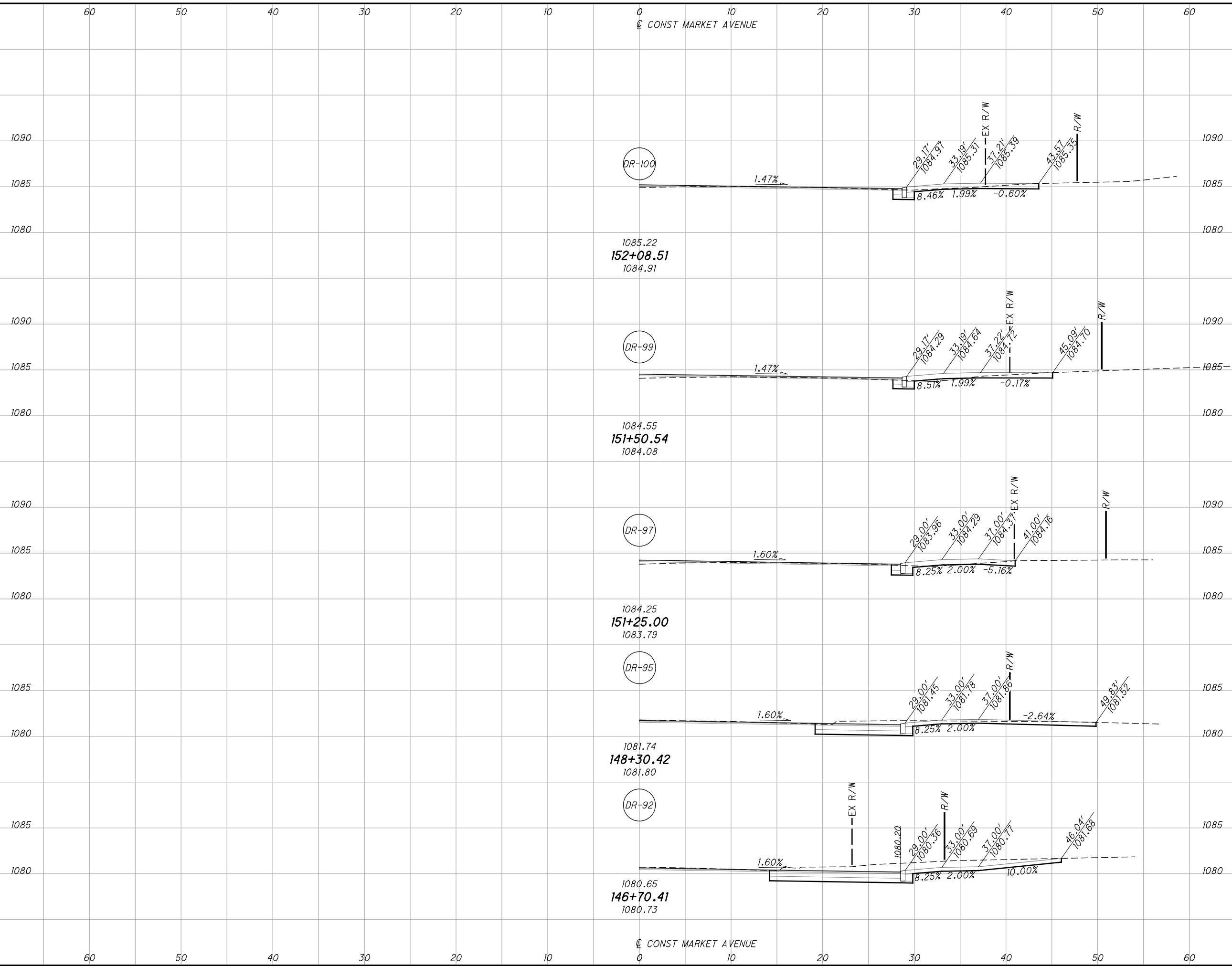
DR-110

0
 Ⓞ CONST MARKET AVENUE

0
 Ⓞ CONST MARKET AVENUE

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GD031.dgn 4/14/2014 4:43:02 PM briam.sedziol" ODOTV8I_PDF_Half.pltcfgr ODOTV8I_Pen-ME.tbl M-E_Companies, Inc.

SEEDING														END AREA		VOLUME		CALCULATED			
END WIDTH	SO. YDS.	60	50	40	30	20	10	0	10	20	30	40	50	60	CUT	FILL	CUT	FILL	KOD	CHECKED	R/WK

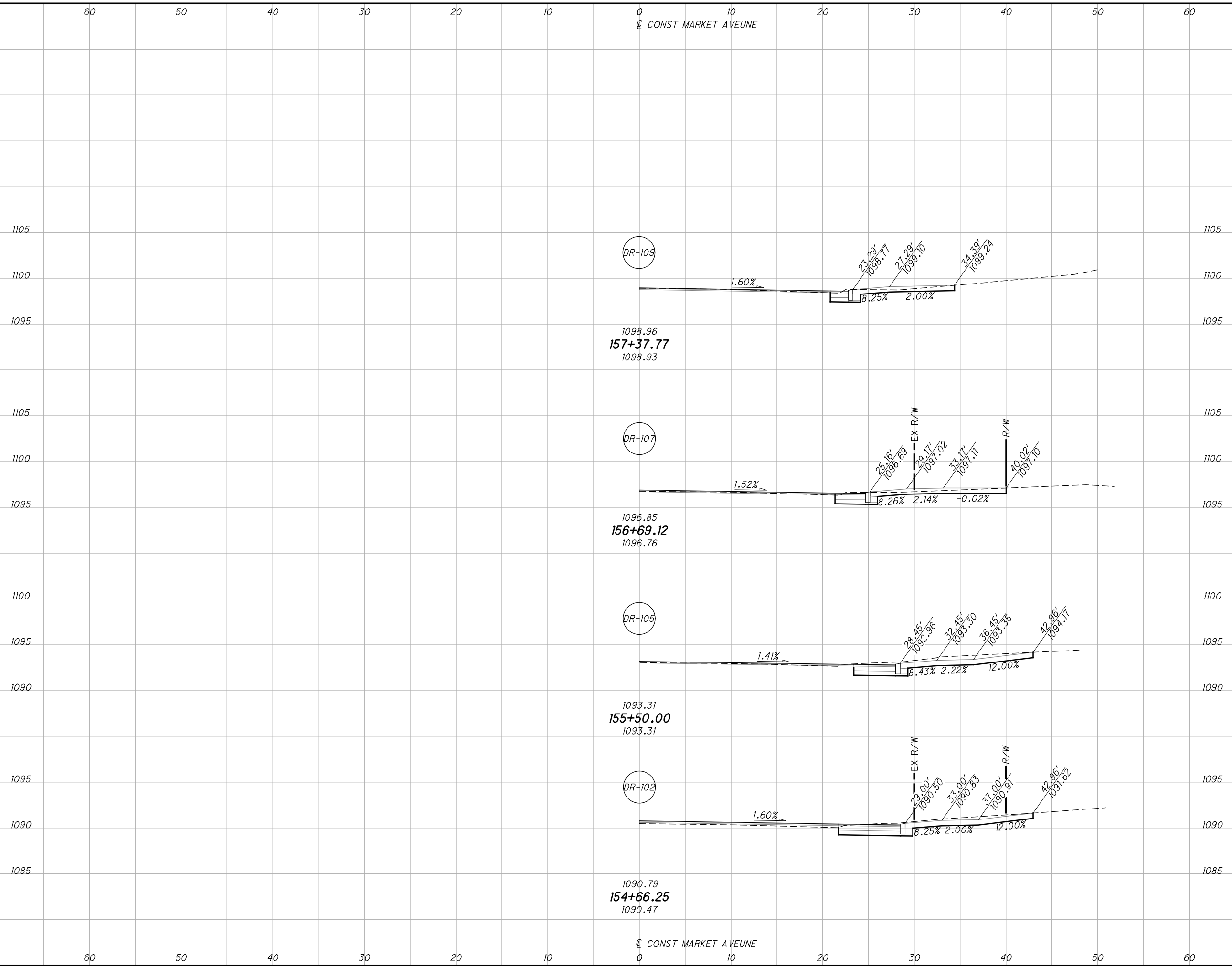


RIGHT DRIVE PROFILES - MARKET AVENUE
STA. 146+70.41 TO STA. 152+08.51
STA -12TH STREET

429
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GD032.dgn 4/14/2014 4:43:03 PM brion.sedziol" ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING														END AREA		VOLUME		CALCULATED			
END WIDTH	SO. YDS.	60	50	40	30	20	10	0	10	20	30	40	50	60	CUT	FILL	CUT	FILL	KOD	CHECKED	RWK



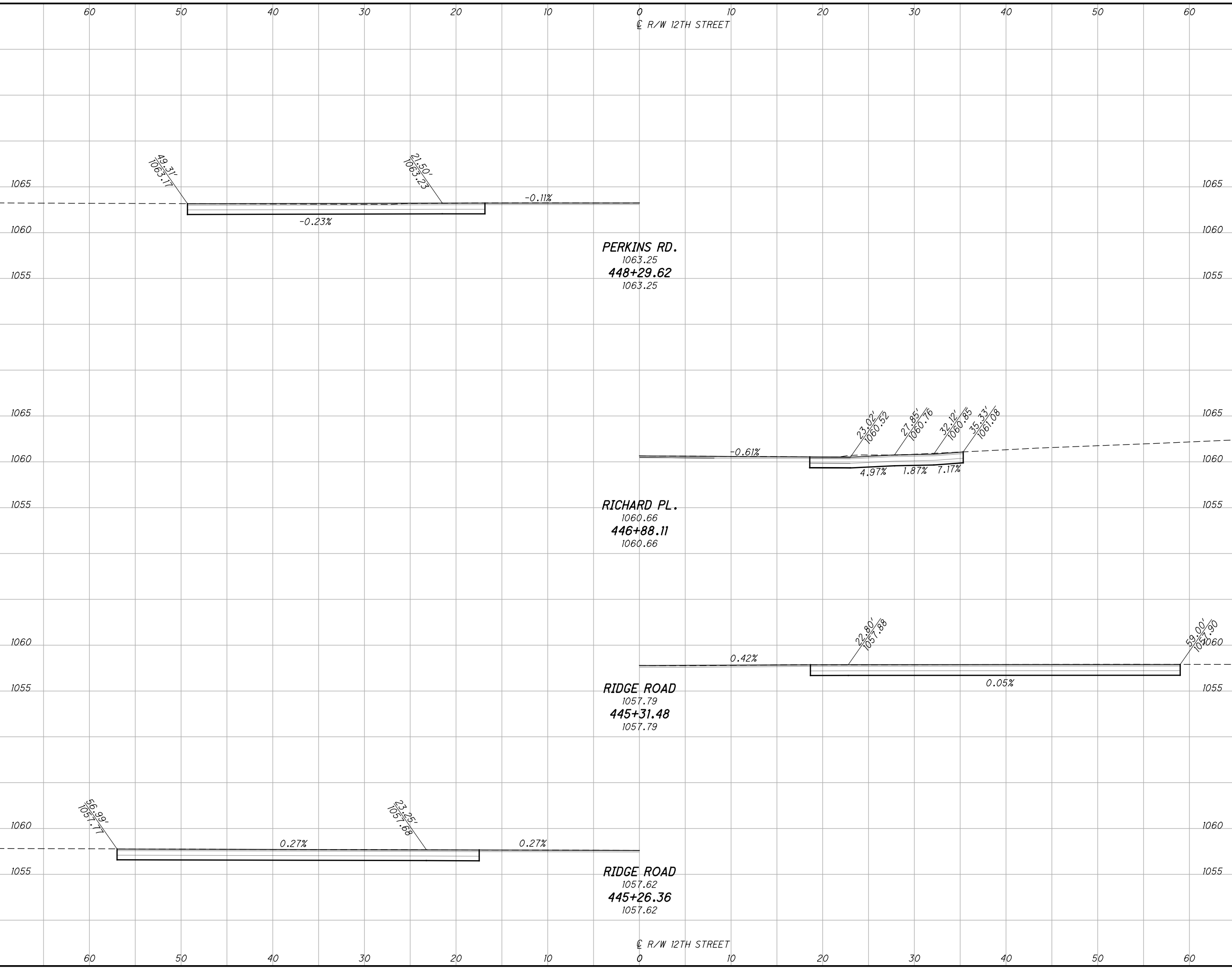
RIGHT DRIVE PROFILES - MARKET AVENUE
STA. 154+66.25 TO STA. 157+37.77

STA-12TH STREET

430
 790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GF001.dgn 4/14/2014 4:43:03 PM brian.sedziol\ ODOTV8i_PDF_Half.plt:cfig ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING
END SO.
WIDTH YDS.



END AREA
CUT FILL

VOLUME
CUT FILL

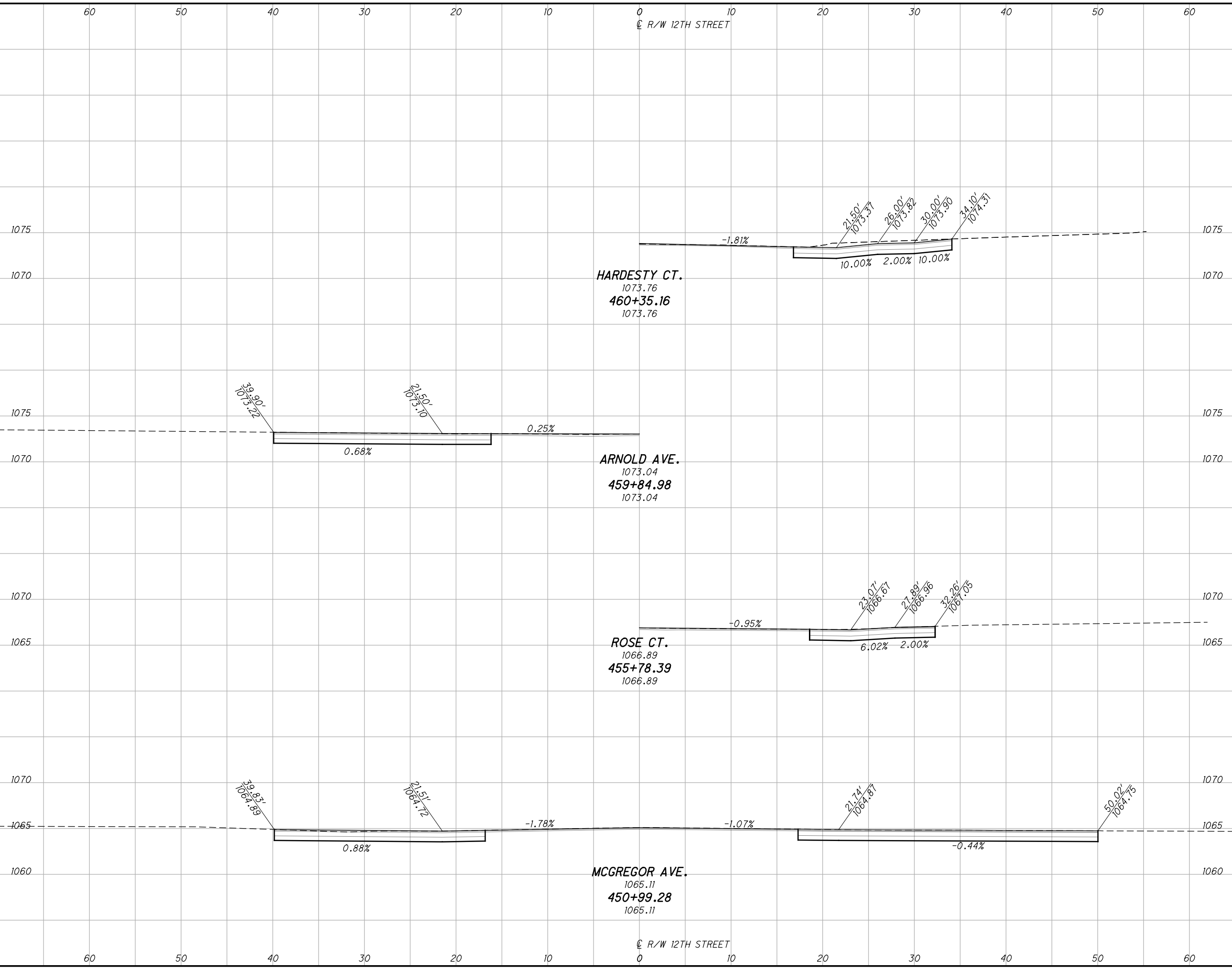
CALCULATED
KOD
CHECKED
RWK

SIDE ROAD PROFILES - 12TH STREET
STA. 445+26.36 TO STA. 448+29.62

431
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GF002.dgn 4/14/2014 4:43:04 PM brion.sedzior\ODOTV81_PDF_Half.pltcfgr\ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

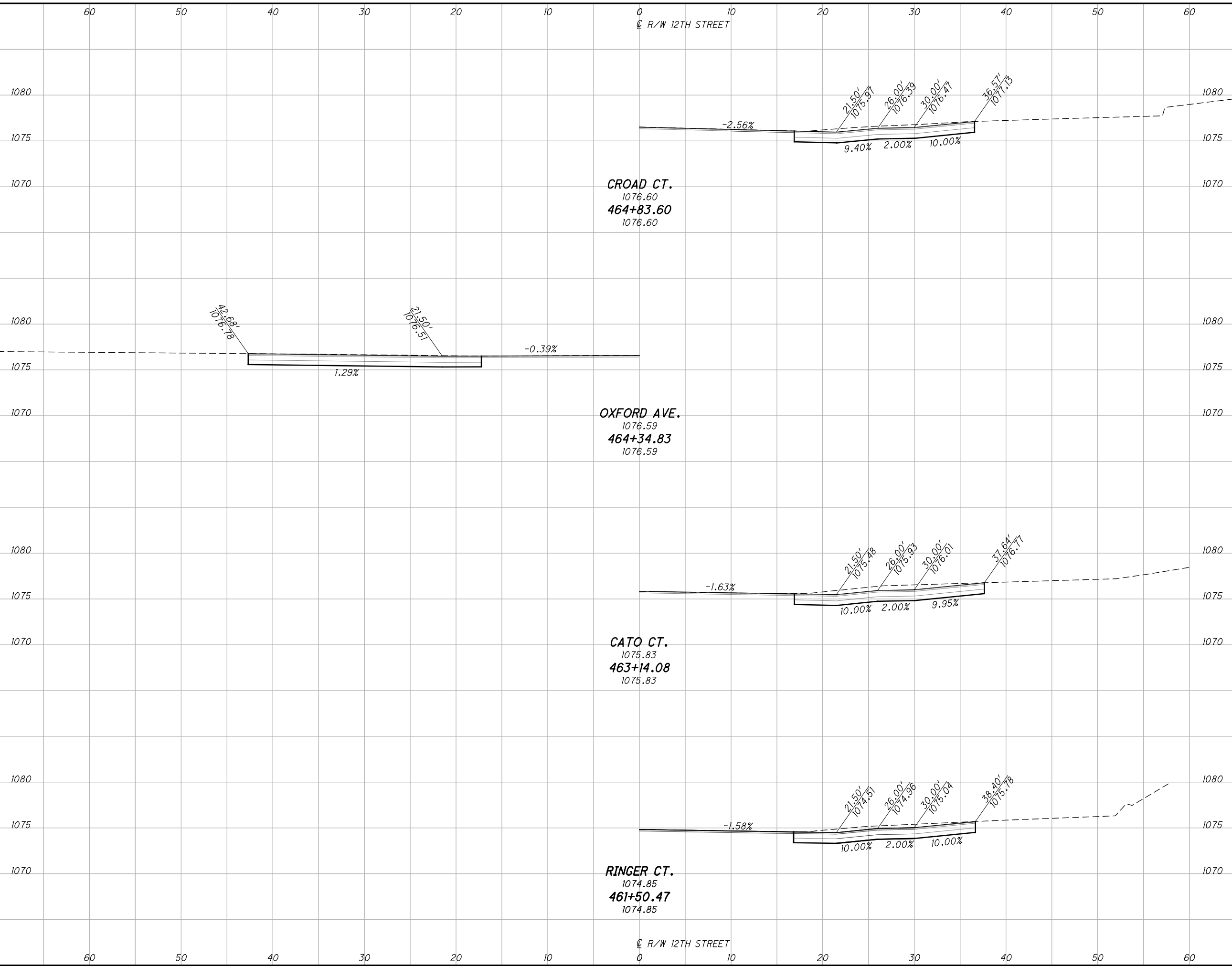
SIDE ROAD PROFILES - 12TH STREET
STA. 450+99.28 TO STA. 460+35.15

STA - 12TH STREET

432
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GF003.dgn 4/14/2014 4:43:05 PM brian.sedzic\ ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

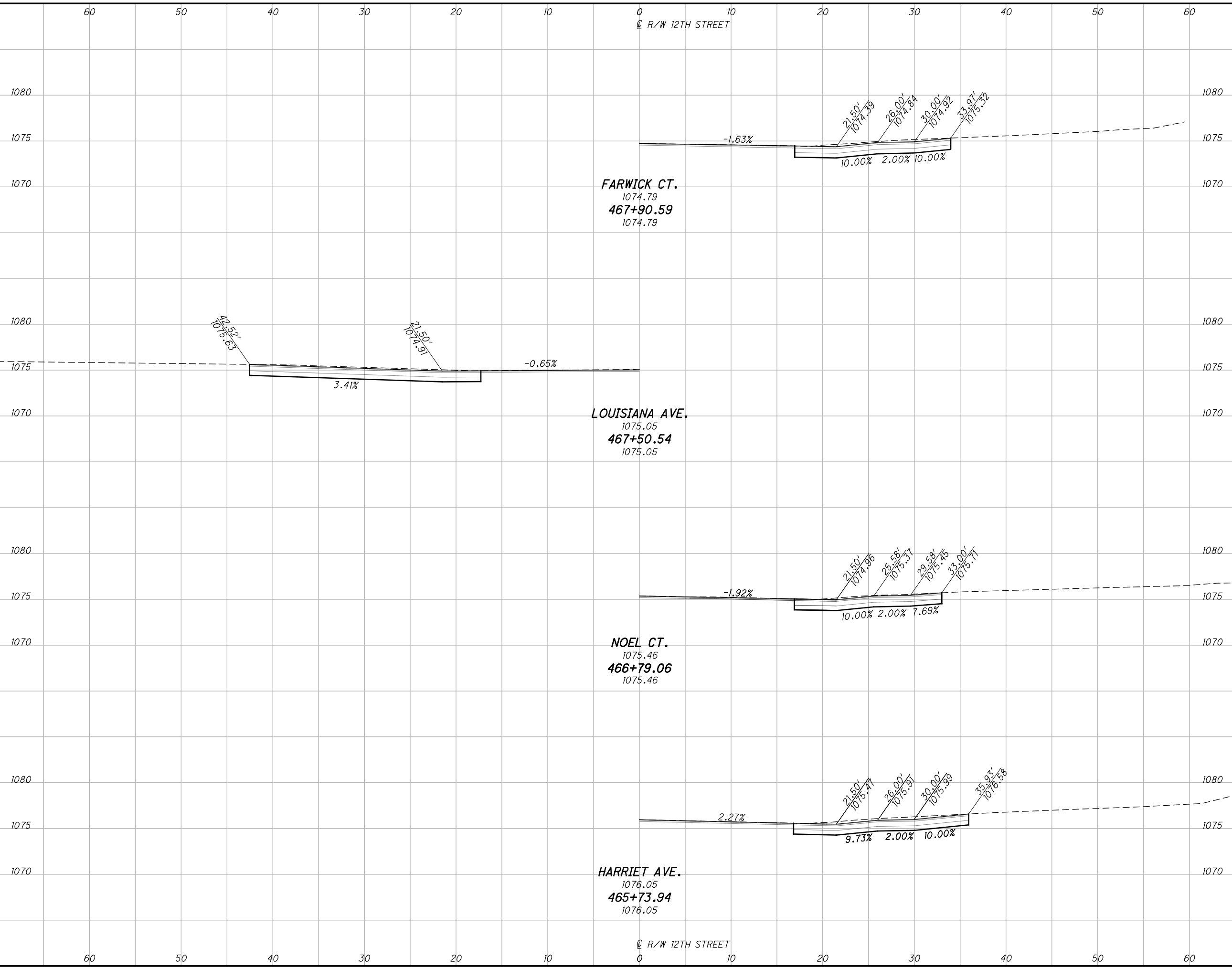
SIDE ROAD PROFILES - 12TH STREET
STA. 461+50.47 TO STA. 464+84.13

STA - 12TH STREET

433
790

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SEEDING	
END WIDTH	SO. YDS.

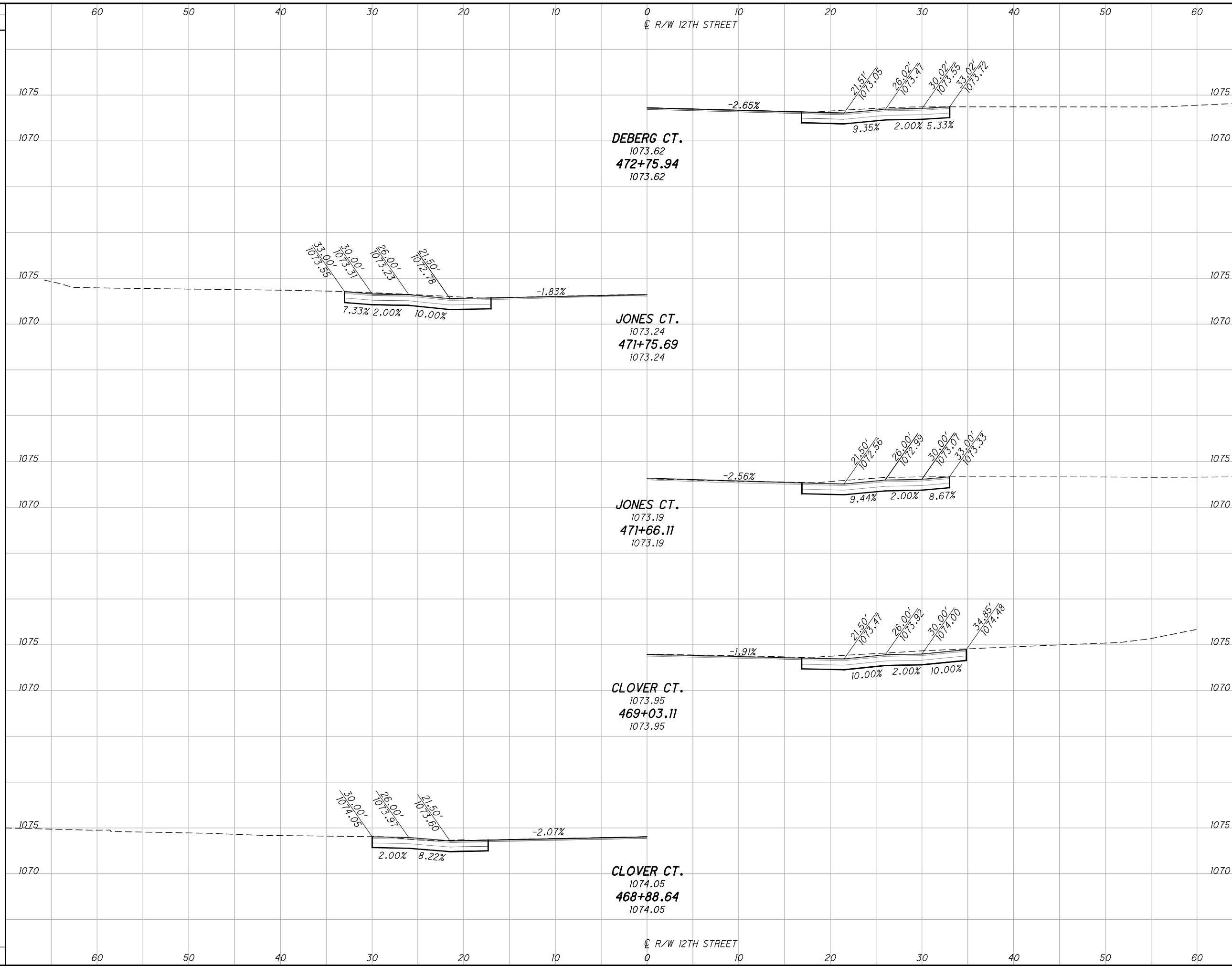


END AREA		VOLUME	
CUT	FILL	CUT	FILL

STA -12TH STREET
SIDE ROAD PROFILES - 12TH STREET
STA. 465+74.24 TO STA. 467+90.97
 CALCULATED
 KOD
 CHECKED
 RWK

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SEEDING	
END WIDTH	SO. YDS.



END AREA	VOLUME	CALCULATED	KOD	CHECKED	RWK

STA-12TH STREET

SIDE ROAD PROFILES - 12TH STREET

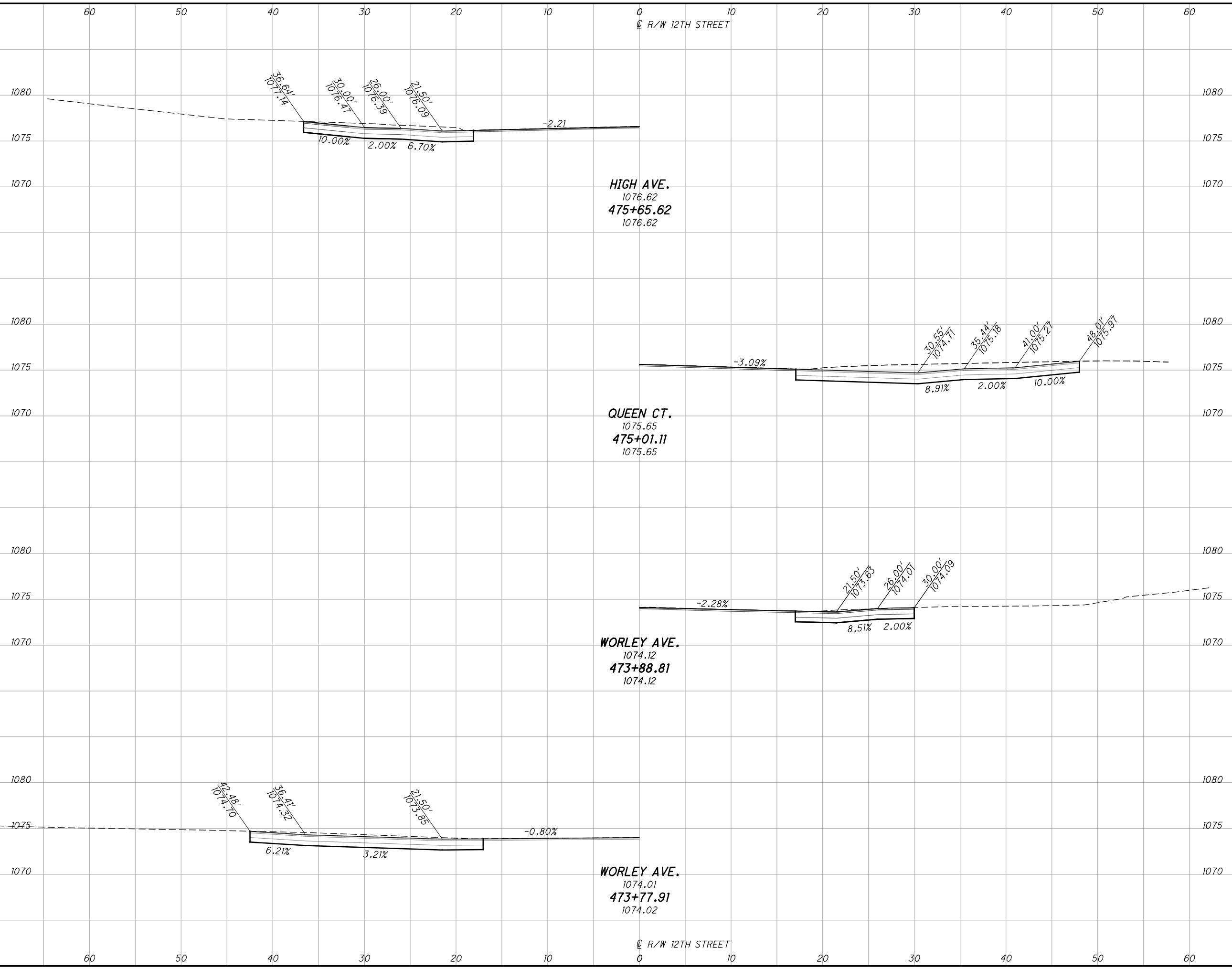
STA. 468+88.64 TO STA. 472+75.94

435
790

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SEEDING	
END WIDTH	SO. YDS.

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	KOD	CHECKED



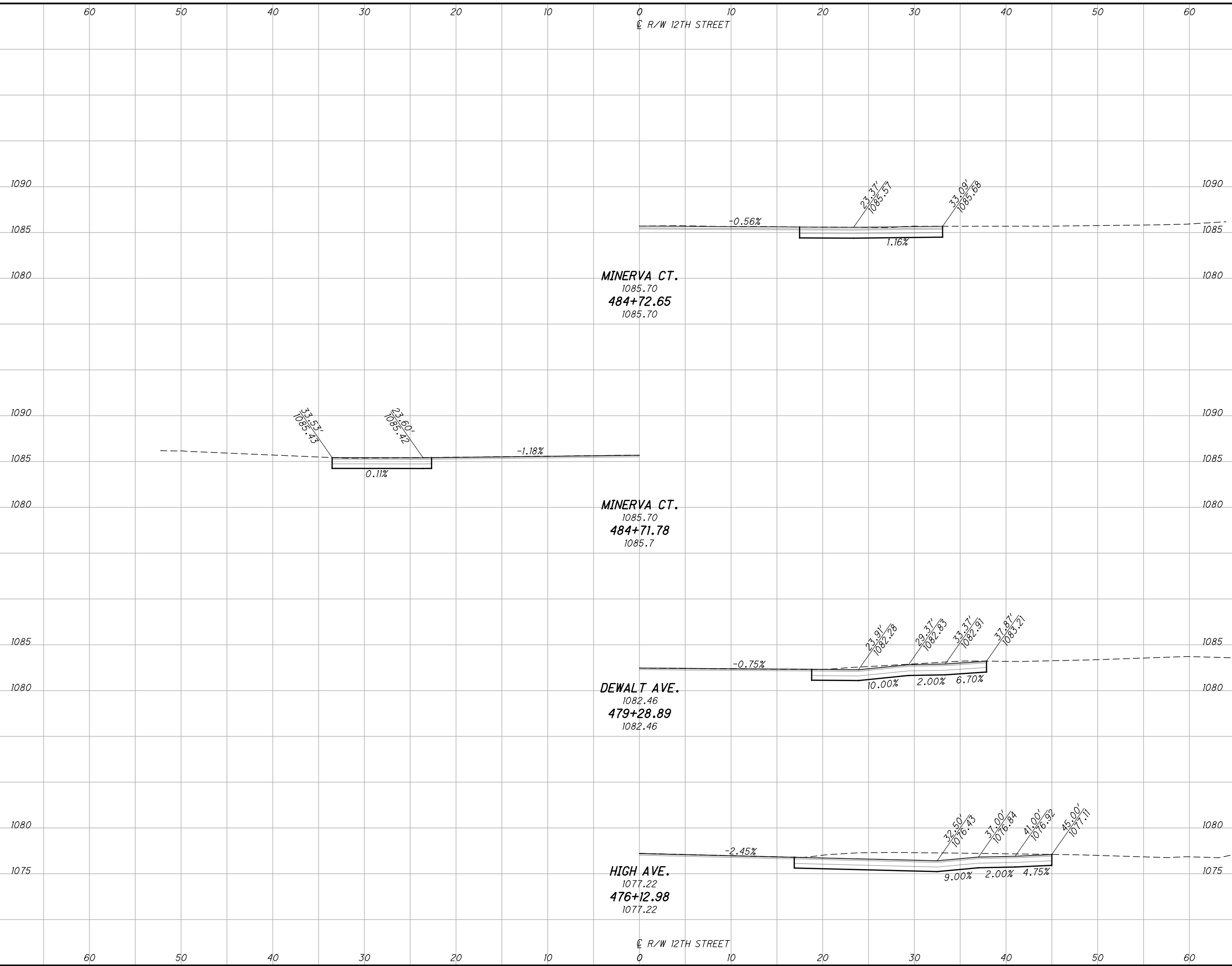
SIDE ROAD PROFILES - 12TH STREET
STA. 473+77.91 TO STA. 475+66.63

STA-12TH STREET

436
790

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SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED	CHECKED
KOD	RWK

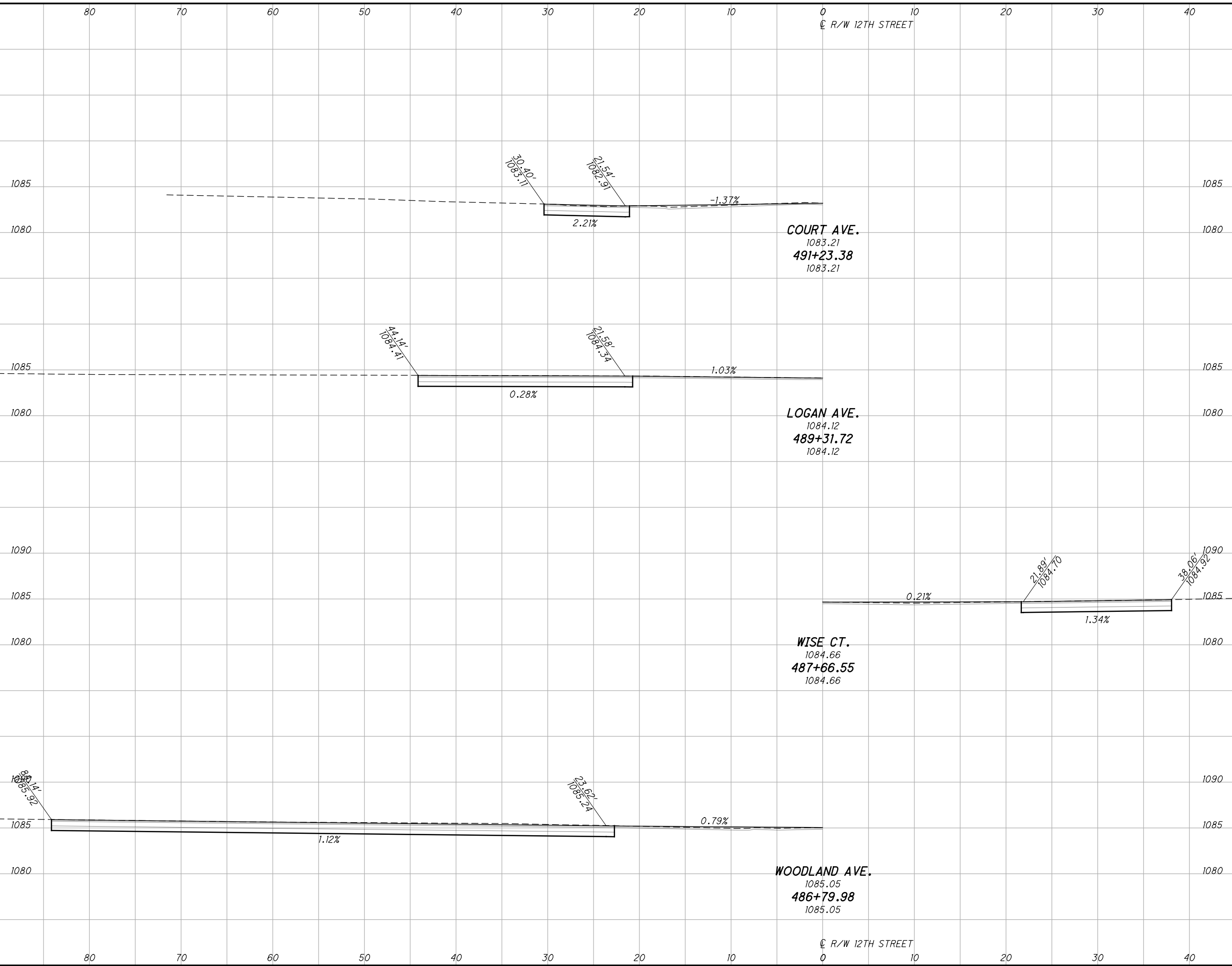
SIDE ROAD PROFILES - 12TH STREET
STA. 476+12.98 TO STA. 484+71.04

STA - 12TH STREET

437
790

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SEEDING		END AREA		VOLUME		CALCULATED	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	KOD	CHECKED



END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	KOD	CHECKED

SIDE ROAD PROFILES - 12TH STREET
STA. 486+79.98 TO STA. 491+23.38

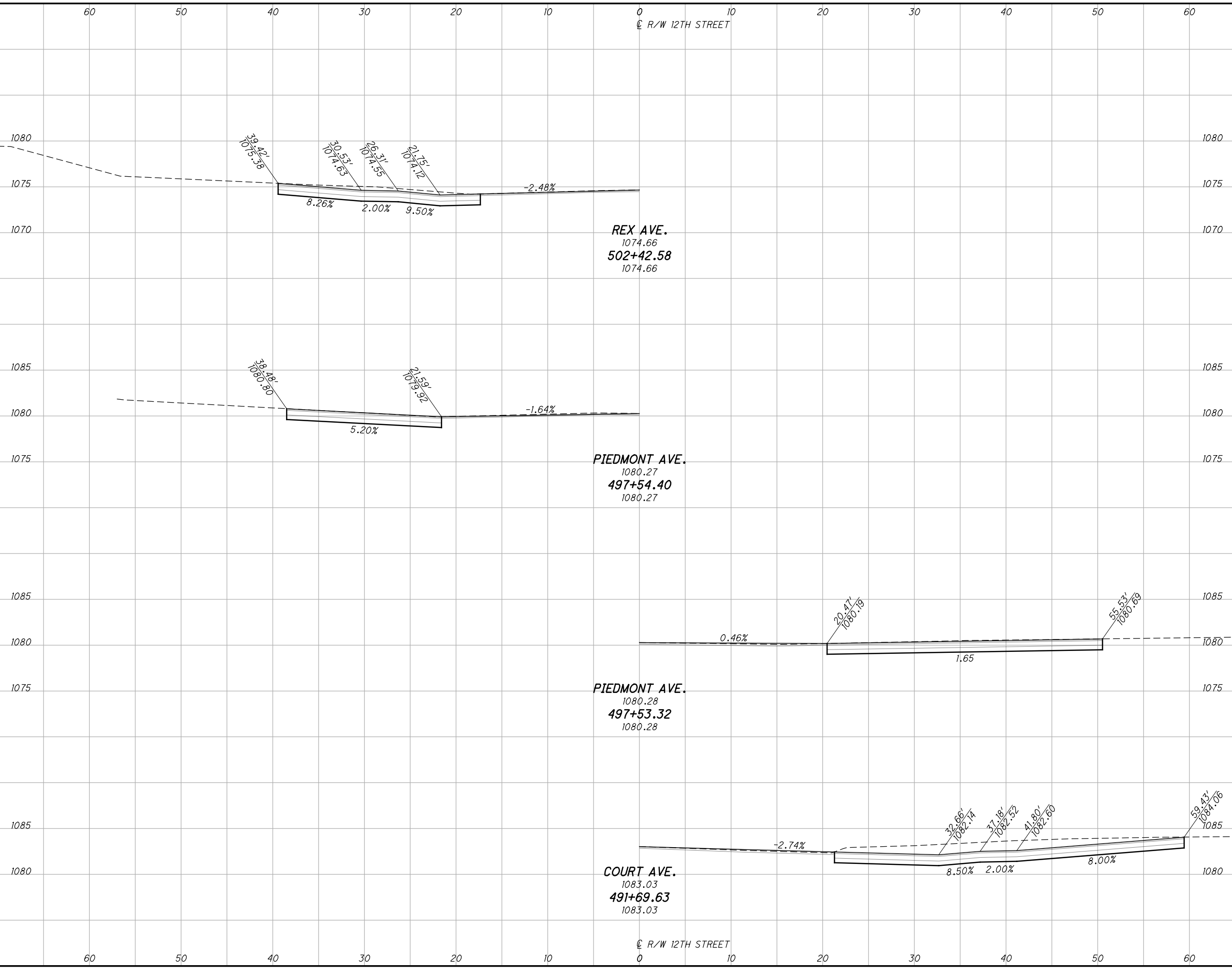
STA - 12TH STREET

438
790

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SEEDING	
END WIDTH	SO. YDS.

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	KOD	CHECKED



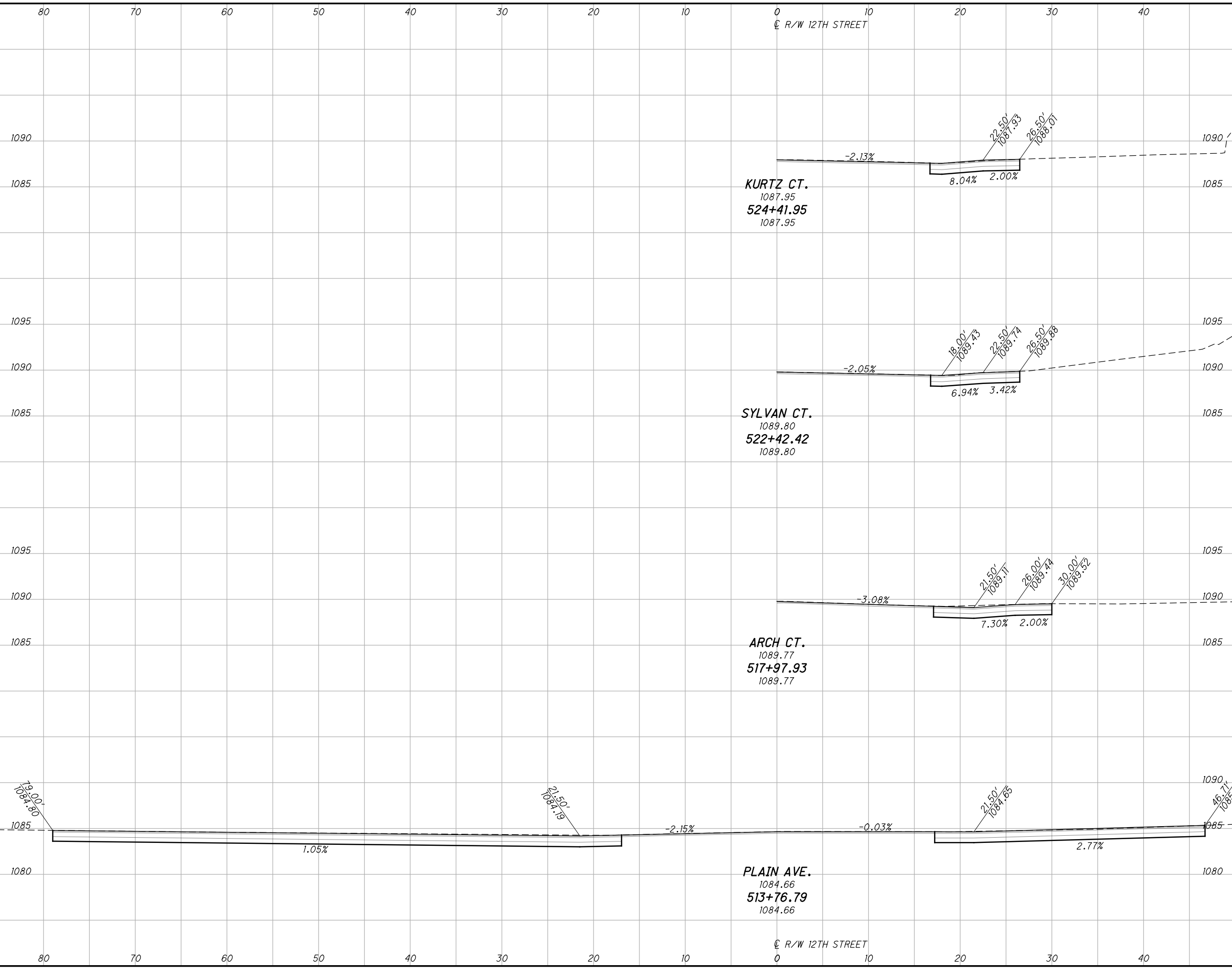
SIDE ROAD PROFILES - 12TH STREET
STA. 491+69.63 TO STA. 502+42.58

STA - 12TH STREET

439
790

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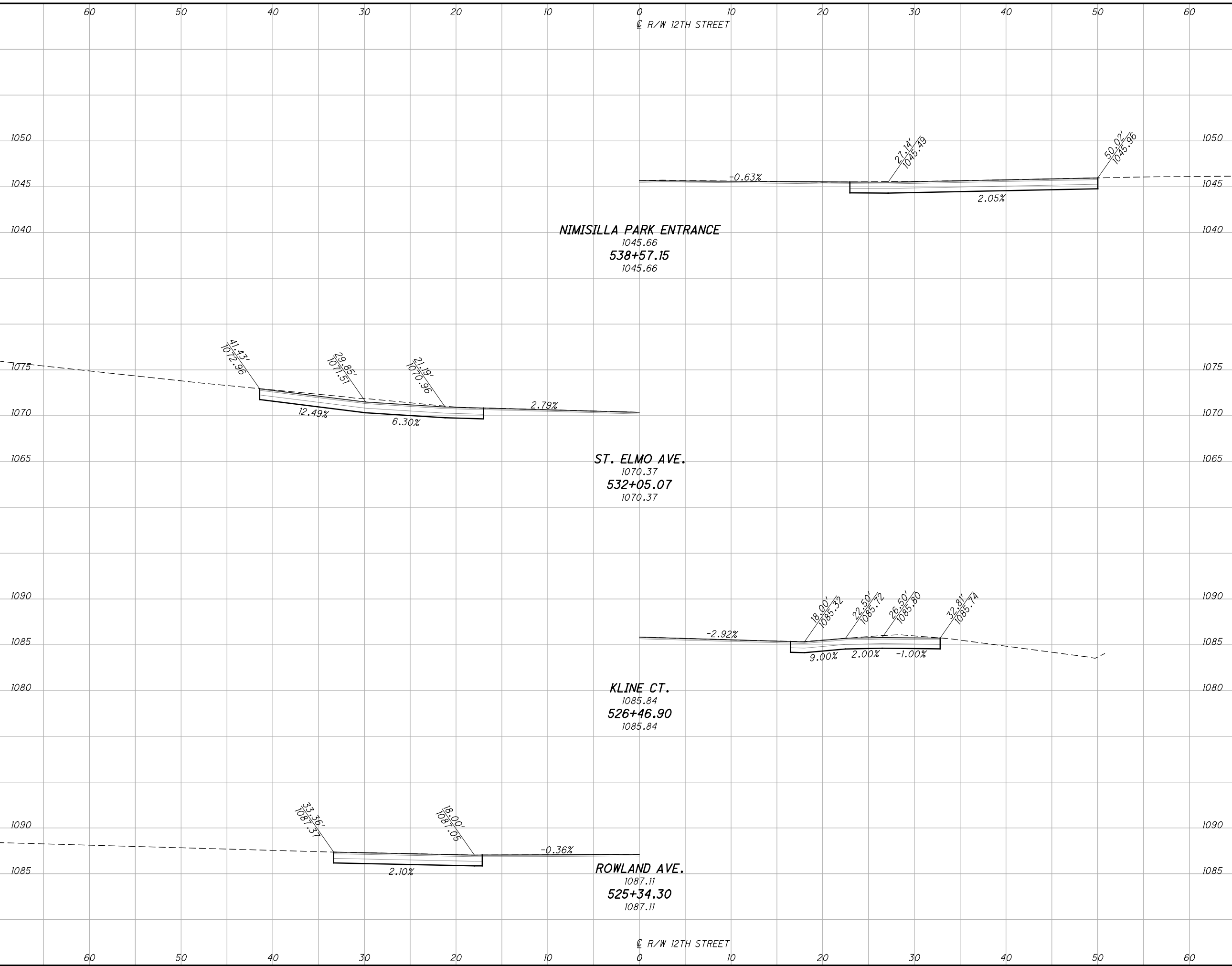
SEEDING		END AREA		VOLUME		CALCULATED	
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	KOD	CHECKED



SIDE ROAD PROFILES - 12TH STREET	
STA. 513+76.79 TO STA. 524+39.80	
440	790

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SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	KOD	CHECKED

SIDE ROAD PROFILES - 12TH STREET
STA. 525+34.30 TO STA. 538+57.15
STA - 12TH STREET
 441
 790

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REF. NO.	SHT. NO.	STATION TO STATION	SIDE	202	202	202	202	202	202	202	202	202	202	202	202	202	202	202	625										
				PAVEMENT REMOVED	WALK REMOVED	TRAFFIC ISLAND REMOVED	CURB REMOVED	PIPE REMOVED, 24" AND UNDER	PIPE REMOVED, OVER 24"	GUARDRAIL REMOVED	SPECIAL - PARKING BLOCK REMOVED AND RESET	MAILBOX REMOVED	BUILDING DEMOLISHED	MANHOLE REMOVED	CATCH BASIN REMOVED	FENCE REMOVED	REMOVAL MISC.: BOLLARD	REMOVAL MISC.: TRENCH DRAIN	LIGHTING, MISC.: REMOVAL OF LIGHT POLE AND/OR WOOD POLE										
				SQ YD	SQ FT	SQ YD	FT	FT	FT	FT	EACH	EACH	LUMP	EACH	EACH	FT	EACH	FT	EACH										
R-1	448	441+40	452+00	LT					20							1													
R-2	448	441+45	452+00	RT					24							1													
R-3	448	NOT USED																											
R-4	449	441+64	441+85	LT					20							1													
R-5	449	441+85	441+94	LT					17							1													
R-6	449	441+88	442+32	LT					44							1													
R-7	449	443+29		LT																									
R-8	449	441+58		RT																									
R-9	449	441+82		RT																									
R-10	449	442+64		RT																									
R-11	449	443+30		RT																									
R-12	449	NOT USED																											
R-13	450	444+93	445+00	LT					7							1													
R-14	450	445+64		LT												1													
R-15	450	446+26		LT																									
R-16	450	444+95		RT					20							1													
R-17	450	445+17	445+28	RT					43							1													
R-18	450	444+85		RT												1													
R-19	450	446+27		RT																									
R-20	450	NOT USED														1													
R-21	451	448+82	448+86	LT					12							1													
R-22	451	447+70		RT																									
R-23	451	448+85		RT					20							1													
R-24	451	NOT USED																											
R-25	452	449+09		LT																									
R-26	452	450+84	450+90	LT					5							1													
R-27	452	450+90	451+14	LT					23							1													
R-28	452	451+28		LT												1													
R-29	452	449+07		RT																									
R-30	452	450+51		RT																									
R-31	452	451+20		RT					34																				
R-32	452	NOT USED														1													
R-33	453	452+09		LT																									
R-34	453	452+11		RT																									
R-35	453	453+63		RT																									
R-36	453	NOT USED																											
R-37	454	454+09		LT					10							1													
R-38	454	455+32		LT																									
R-39	454	454+09		RT					33							1													
R-40	454	455+36		RT																									
R-41	454	NOT USED																											
R-42	455	NOT USED																											
R-43	455	457+07		LT												1													
R-44	455	457+54	457+67	LT					20							1													
R-45	455	457+62		LT																									
R-46	455	457+78	457+84	LT					20							2													
R-47	455	458+30		LT																									
R-48	455	456+62		RT																									
R-49	455	457+44		RT																									
R-50	455	458+20		RT																									
R-51	455	457+98	458+27	RT					30							1													
R-52	455	458+51		RT					25							1													
R-53	455	458+68	459+30	RT																									
R-54	455	NOT USED																											
TOTALS CARRIED TO SHEET 447									62	427							25												

CALCULATED DLW CHECKED BSS
REMOVAL ITEMS SUBSUMMARY
STA - 12TH STREET
 (442 / 790)

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REF. NO.	SHT. NO.	STATION TO STATION	SIDE	202	202	202	202	202	202	202	202	202	202	202	202	202	202	202	625								
				PAVEMENT REMOVED SQ YD	WALK REMOVED SQ FT	TRAFFIC ISLAND REMOVED SQ YD	CURB REMOVED FT	PIPE REMOVED, 24" AND UNDER FT	PIPE REMOVED, OVER 24" FT	GUARDRAIL REMOVED FT	SPECIAL - PARKING BLOCK REMOVED AND RESET EACH	MAILBOX REMOVED EACH	BUILDING DEMOLISHED LUMP	MANHOLE REMOVED EACH	CATCH BASIN REMOVED EACH	FENCE REMOVED FT	REMOVAL MISC.: BOLLARD EACH	REMOVAL MISC.: TRENCH DRAIN FT	LIGHTING, MISC.: REMOVAL OF LIGHT POLE AND/OR WOOD POLE EACH								
R-55	456	459+51	RT																1								
R-56	456	459+70	RT					30																			
R-57	456	460+15	RT																								
R-58	456	460+25	RT																								
R-59	456	460+51	RT																								
R-60	456	461+34	RT																								
R-61	456	459+67	LT																								
R-62	456	NOT USED																									
R-63	457	462+17	RT																								
R-64	457	463+00	RT																								
R-65	457	463+88	RT																								
R-66	457	462+59	RT																								
R-67	457	NOT USED																									
R-68	458	464+20	RT					35																			
R-69	458	464+30	RT					37																			
R-70	458	464+70	RT																								
R-71	458	465+56	RT																								
R-72	458	466+00	RT																								
R-73	458	464+90	RT																								
R-74	458	NOT USED																									
R-75	459	466+63	RT																								
R-76	459	467+67	RT																								
R-77	459	467+74	RT																								
R-78	459	468+76	RT																								
R-79	459	468+50	LT																								
R-80	460	NOT USED																									
R-81	460	470+00	LT																								
R-82	460	470+20	LT																								
R-83	460	449+07	LT					30																			
R-84	460	450+51	LT																								
R-85	460	470+62	LT																								
R-86	460	470+70	LT																								
R-87	460	470+00	RT					35																			
R-88	460	470+50	RT					30																			
R-89	460	470+50	RT																								
R-90	460	470+67	RT					35																			
R-91	460	BLDG SE CORNER OF SHORB																									
R-92	461	471+93	RT																								
R-93	461	472+28	RT					8																			
R-94	461	473+02	RT																								
R-95	461	473+57	RT					28																			
R-96	461	473+85	RT					12																			
R-97	461	472+70	LT																								
R-98	461	473+75	LT					22																			
R-99	461	NOT USED																									
R-100	462	474+11	LT																								
R-101	462	475+10	LT																								
R-102	462	476+00	LT					8																			
R-103	462	475+45	RT																								
R-104	462	476+05	RT																								
R-105	462	476+45	RT																								
R-106	462	NOT USED																									
TOTALS CARRIED TO SHEET 447								310			30			LUMP	1	16	40										

CALCULATED	DLW
	CHECKED
BSS	
REMOVAL ITEMS SUBSUMMARY	
STA - 12TH STREET	
443 790	

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Table with columns: REF. NO., SHT. NO., STATION TO STATION, SIDE, and 20 columns of removal item categories (PAVEMENT REMOVED, WALK REMOVED, TRAFFIC ISLAND REMOVED, CURB REMOVED, PIPE REMOVED, GUARDRAIL REMOVED, etc.). Rows include items R-107 to R-165 and a TOTALS row at the bottom.

Summary section for STA-12TH STREET. Includes vertical text 'REMOVAL ITEMS SUBSUMMARY' and 'STA-12TH STREET'. A circular stamp contains the numbers 444 and 790. At the top right, it lists 'CALCULATED DLW CHECKED BSS'.

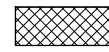

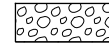


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REF. NO.	SHT. NO.	STATION TO STATION	SIDE	202	202	202	202	202	202	202	202	202	202	202	202	202	202	202	625									
				PAVEMENT REMOVED SQ YD	WALK REMOVED SQ FT	TRAFFIC ISLAND REMOVED SQ YD	CURB REMOVED FT	PIPE REMOVED, 24" AND UNDER FT	PIPE REMOVED, OVER 24" FT	GUARDRAIL REMOVED FT	SPECIAL - PARKING BLOCK REMOVED AND RESET EACH	MAILBOX REMOVED EACH	BUILDING DEMOLISHED LUMP	MANHOLE REMOVED EACH	CATCH BASIN REMOVED EACH	FENCE REMOVED FT	REMOVAL MISC.: BOLLARD EACH	REMOVAL MISC.: TRENCH DRAIN FT	LIGHTING, MISC.: REMOVAL OF LIGHT POLE AND/OR WOOD POLE EACH									
R-166	473	502+66	LT																1									
R-167	473	503+85	LT																1									
R-168	473	502+59	RT																1									
R-169	473	502+56	503+86	RT												105												
R-170	473	503+66	RT																1									
R-171	474	504+63	504+90	LT				47							1													
R-172	474	504+82	LT																1									
R-173	474	505+33	505+38	LT				32							1													
R-174	474	505+46	LT																1									
R-175	474	506+28	506+37	LT				34							1													
R-176	474	504+63	504+90	RT				33							1													
R-177	474	504+76	RT																1									
R-178	474	505+15	RT																1									
R-179	474	482+10	RT																1									
R-180	474	505+33	505+38	RT				14							1													
R-181	474	505+63	RT																1									
R-182	474	506+28	506+42	RT				14							1													
R-183	475	506+53	LT																1									
R-184	475	507+02	LT																1									
R-185	475	507+47	507+41	LT													96											
R-186	475	507+94	LT																1									
R-187	475	506+83	RT															3										
R-188	475	507+34	RT																1									
R-189	475	508+15	RT																1									
R-190	476	509+00	509+17	LT													17											
R-191	476	509+40	509+72	LT				41							1													
R-192	476	509+98	LT																1									
R-193	476	509+40	509+60	RT				20							1													
R-194	476	509+67	RT																									
R-195	477	511+72	LT																1									
R-196	477	512+12	LT																1									
R-197	477	513+62	513+68	LT				7							1													
R-198	477	513+68	513+90	LT				22							1													
R-199	477	512+62	RT																1									
R-200	477	513+07	RT																1									
R-201	477	513+41	RT																1									
R-202	477	513+62	513+67	RT				25																				
R-203	477	513+67	513+90	RT				30							1													
R-204	478	514+03	LT																									
R-205	478	514+03	514+18	LT				32							1													
R-206	478	514+52	LT																									
R-207	478	514+90	LT																									
R-208	478	515+30	LT																									
R-209	478	514+03	514+08	RT				9							1													
R-210	478	515+27	RT																3									
R-211	479	516+52	LT																									
R-212	479	517+57	LT																									
R-213	479	517+72	517+83	LT				33							1													
R-214	479	518+63	LT																									
R-215	479	518+78	518+98	LT				22							1													
R-216	479	516+74	RT																									
R-217	479	517+02	517+82	RT															80									
R-218	479	517+71	RT																									
R-219	479	517+72	517+83	RT				12							1													
R-220	479	518+94	RT																									
TOTALS CARRIED TO SHEET 447								427								17	298	10		26								

REMOVAL ITEMS SUBSUMMARY	STA - 12TH STREET						
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">CALCULATED</td> <td style="font-size: small;">DLW</td> <td style="font-size: small;">CHECKED</td> <td style="font-size: small;">BSS</td> </tr> </table>	CALCULATED	DLW	CHECKED	BSS	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">445</td> <td style="text-align: center;">790</td> </tr> </table>	445	790
CALCULATED	DLW	CHECKED	BSS				
445	790						

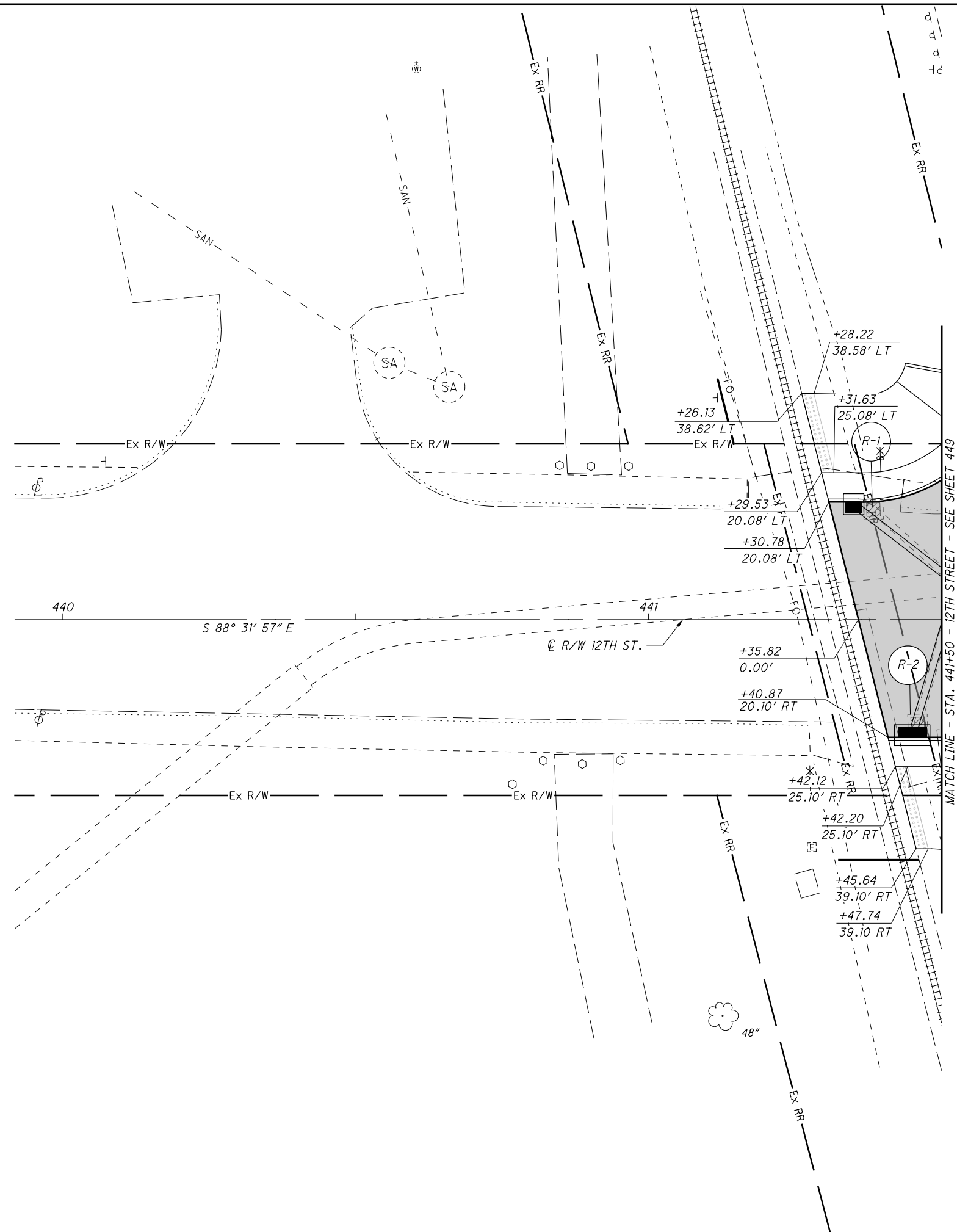
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LEGEND
REFER TO TYPICAL SECTIONS FOR PAVEMENT REPAIR BUILD-UP

-  PAVEMENT REPAIR - ASPHALT
-  PAVEMENT REPAIR - CONCRETE
-  PAVEMENT REPAIR - GRAVEL
-  FULL DEPTH PAVEMENT REPLACEMENT
-  PLANING AND RESURFACING

NOTES:

1. THE PAVEMENT DETAILS/REMOVAL PLANS INCLUDE DETAILS FOR PAVEMENT PLACEMENT, AND PAVEMENT REPAIRS (FOR PARKING LOT RESTORATIONS). INCLUDED ARE REMOVALS FOR EXISTING DRAINAGE, EXISTING UTILITY POLES, AND OTHER MISCELLANEOUS REMOVALS. DETAILS FOR THE REMOVAL, REPLACEMENT AND PROPOSED CONSTRUCTION OF RETAINING WALLS ARE ALSO SHOWN ON THE SHEETS. THE PROPOSED STAIR LOCATIONS ARE LABELED ON THESE PLANS BUT QUANTIFIED IN THE STAIRS SECTION OF THE PLAN SET.
2. CLEARING AND GRUBBING, ITEM 201, WILL PAY FOR SHRUB, BUSH, STUMP AND TREE REMOVALS SHOWN IN THE PLANS AND MARKED WITH AN 'X'.
3. THE REMOVAL, REPLACEMENT, REBUILDING AND PROPOSED CONSTRUCTION OF BLOCK, MODULAR, CONCRETE AND WOOD RETAINING WALLS SHALL BE INCLUDED UNDER ITEM 610 - SPECIAL - RETAINING WALL, MISC.: (REMOVAL AND RECONSTRUCTION, REMOVAL, AND PROPOSED WALL CONSTRUCTION). REFER TO GENERAL NOTES SHEET 19 FOR MORE INFORMATION.
4. PARKING LOT RESTORATION AREAS ARE SHOWN AS PAVEMENT REPAIRS IN THE PLANS. REFER TO SHEET 402 FOR THE BUILD-UP AND QUANTITIES.
5. COMMERCIAL SIGNS ARE ADDRESSED IN THE RIGHT-OF-WAY PLANS.
5. STAIR REMOVALS HAVE BEEN INCLUDED FOR PAYMENT WITH THE PROPOSED STAIRS. REFER TO STAIR NOTES FOR MORE DETAILS.
6. EXISTING CURB AND WALK TO BE REMOVED ARE LISTED IN THE REMOVAL SUBSUMMARY.



R-3
NOT USED

CALCULATED
MAM
CHECKED
JMK

0 5 10 20
HORIZONTAL
SCALE IN FEET

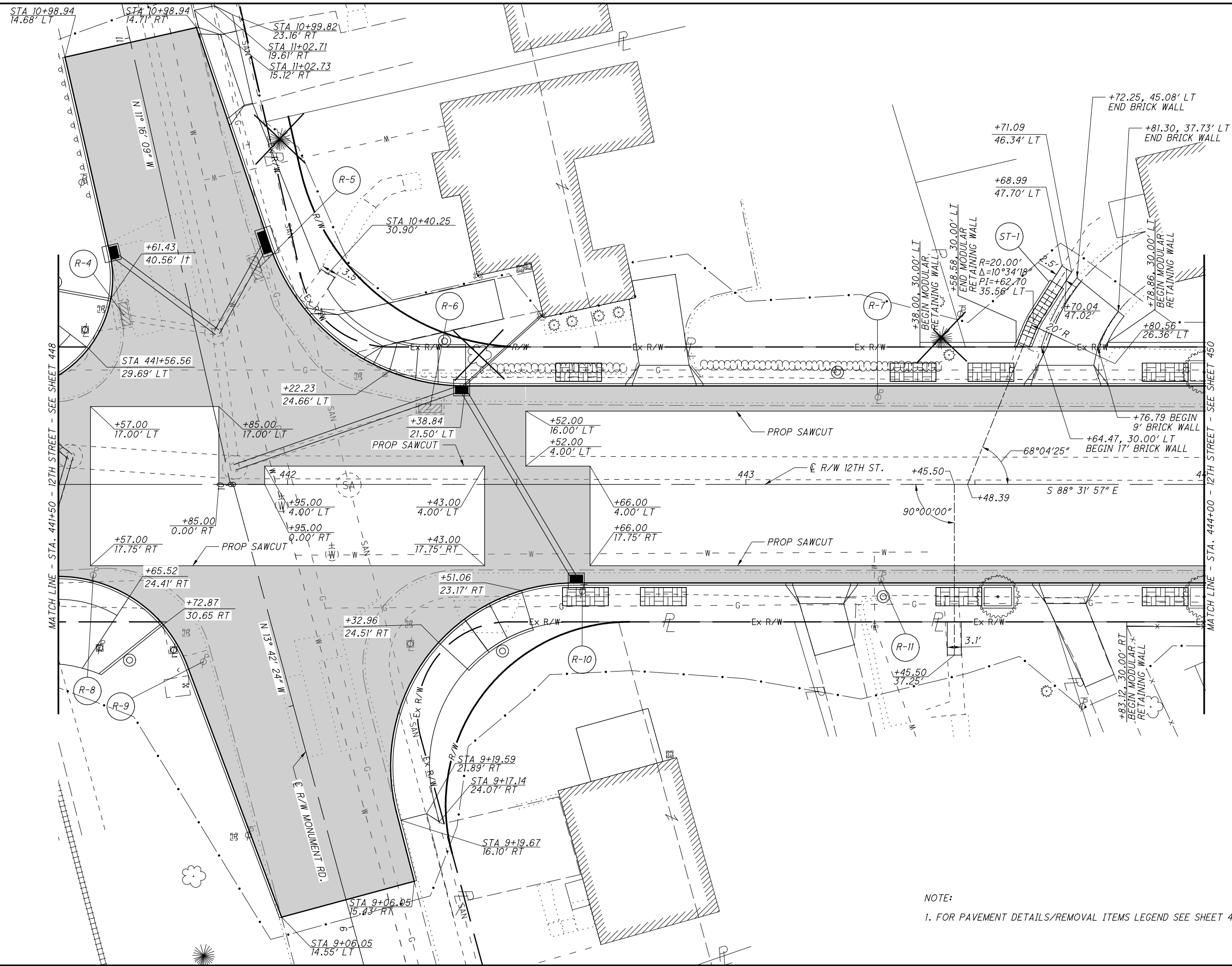


PAVEMENT DETAILS / REMOVAL ITEMS
12TH STREET - STA. 439+00 TO STA. 441+50

STA-12TH STREET

448
790

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CALCULATED MAM CHECKED JMK

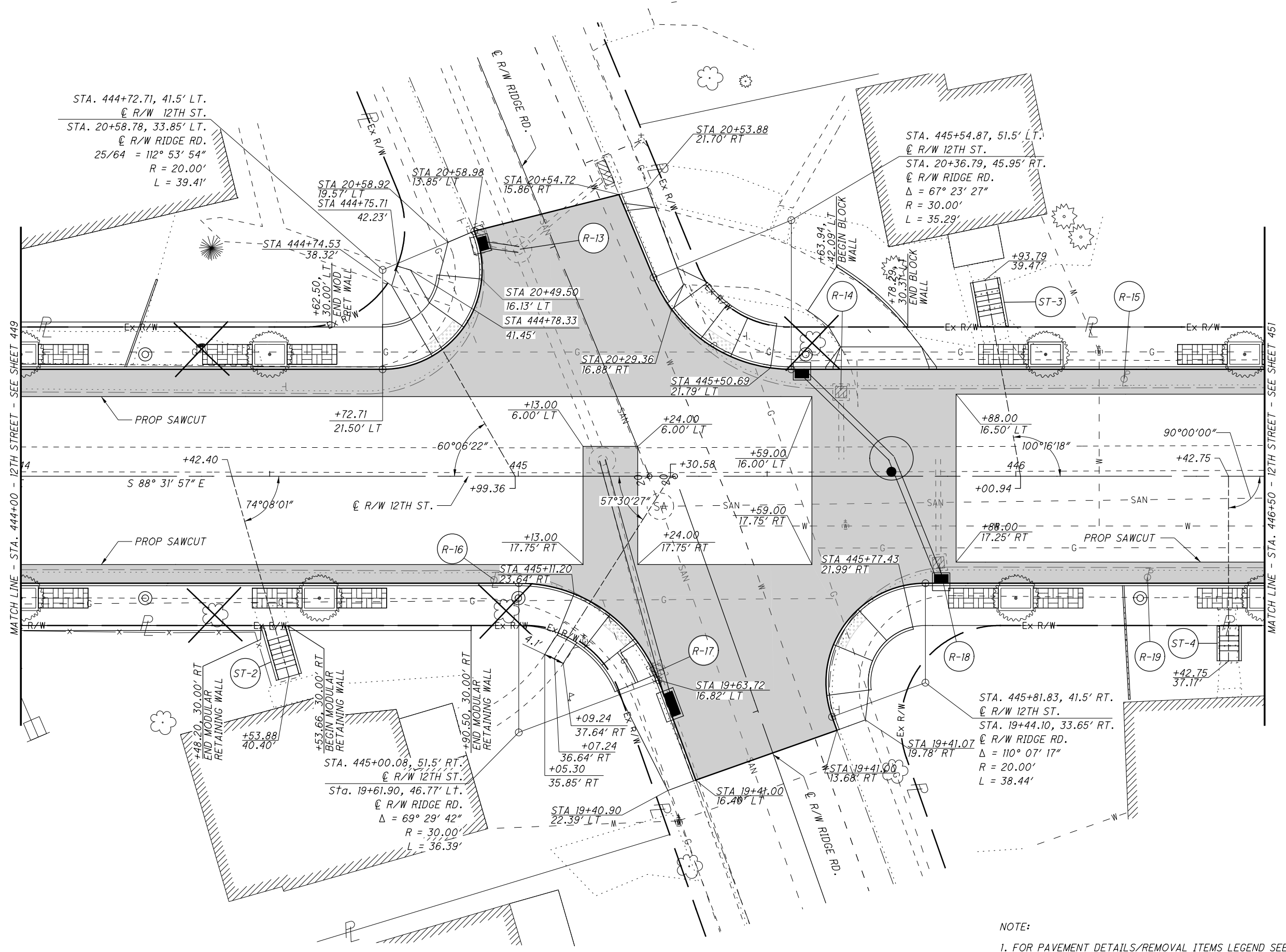
HORIZONTAL SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 441+50 TO STA. 444+00

STA-12TH STREET
 449
 790

(R-12)
 NOT USED

NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.



MATCH LINE - STA. 444+00 - 12TH STREET - SEE SHEET 449

MATCH LINE - STA. 446+50 - 12TH STREET - SEE SHEET 451

STA. 444+72.71, 41.5' LT.
@ R/W 12TH ST.
STA. 20+58.78, 33.85' LT.
@ R/W RIDGE RD.
25/64 = 112° 53' 54"
R = 20.00'
L = 39.41'

STA. 445+54.87, 51.5' LT.
@ R/W 12TH ST.
STA. 20+36.79, 45.95' RT.
@ R/W RIDGE RD.
Δ = 67° 23' 27"
R = 30.00'
L = 35.29'

STA. 445+00.08, 51.5' RT.
@ R/W 12TH ST.
Sta. 19+61.90, 46.77' LT.
@ R/W RIDGE RD.
Δ = 69° 29' 42"
R = 30.00'
L = 36.39'

STA. 445+81.83, 41.5' RT.
@ R/W 12TH ST.
STA. 19+44.10, 33.65' RT.
@ R/W RIDGE RD.
Δ = 110° 07' 17"
R = 20.00'
L = 38.44'

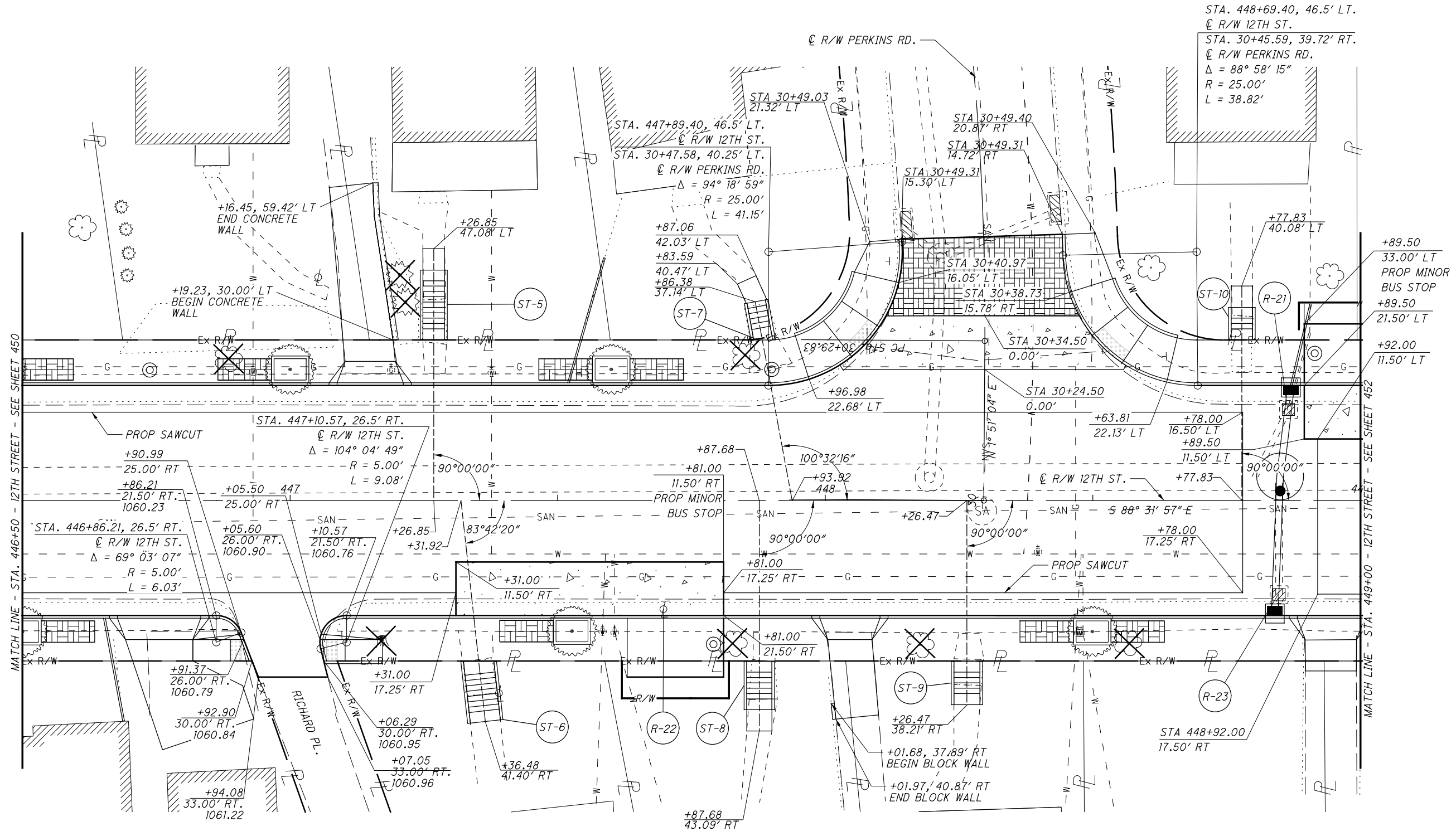
(R-20)
NOT USED

NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

CALCULATED MAM CHECKED JMK
0 5 10 20
HORIZONTAL SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 444+00 TO STA. 446+50

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM004.dgn 4/14/2014 4:43:21 PM brian.sedzjo" ODOTV8i_PDF_Half.plt cfbg ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



MATCH LINE - STA. 446+50 - 12TH STREET - SEE SHEET 450

MATCH LINE - STA. 449+00 - 12TH STREET - SEE SHEET 452

STA. 448+69.40, 46.5' LT.
 @ R/W 12TH ST.
 STA. 30+45.59, 39.72' RT.
 @ R/W PERKINS RD.
 $\Delta = 88^\circ 58' 15''$
 $R = 25.00'$
 $L = 38.82'$

CALCULATED MAM CHECKED JMK

0 10 20
 HORIZONTAL SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 446+50 TO STA. 449+00

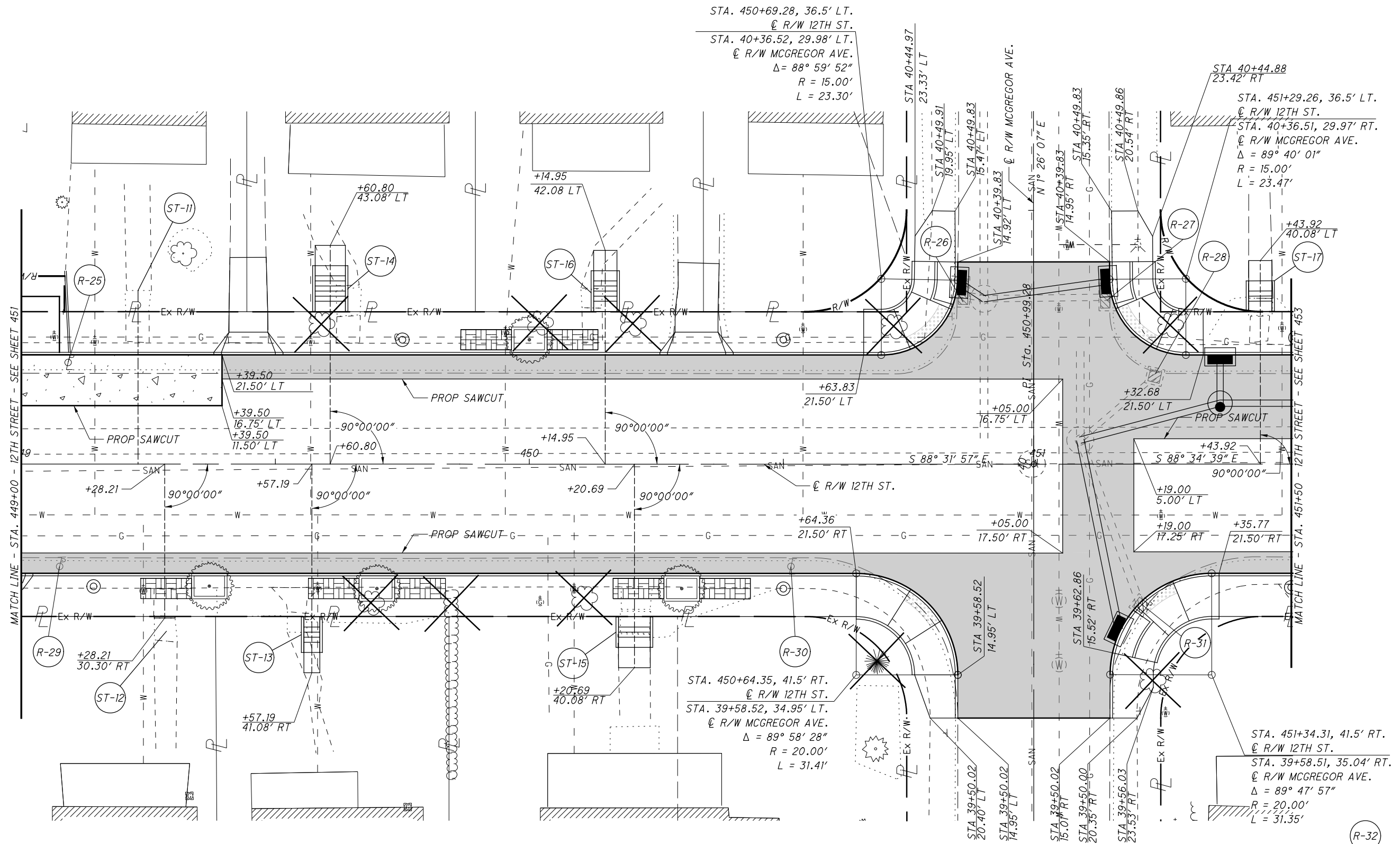
STA-12TH STREET

451
 790

(R-24)
 NOT USED

NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

J:\pre-int\11-060 12th Street\STA.85299\roadway\sheets\85299GM005.dgn 4/14/2014 4:43:22 PM brion.sedziol" ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.



CALCULATED MAM CHECKED JMK

0 5 10 20
HORIZONTAL SCALE IN FEET

PAVEMENT DETAILS / REMOVAL ITEMS
12TH STREET - STA. 449+00 TO STA. 451+50

STA-12TH STREET
452
790

STA. 450+69.28, 36.5' LT.
 C R/W 12TH ST.
 STA. 40+36.52, 29.98' LT.
 C R/W MCGREGOR AVE.
 Δ = 88° 59' 52"
 R = 15.00'
 L = 23.30'

STA. 451+29.26, 36.5' LT.
 C R/W 12TH ST.
 STA. 40+36.51, 29.97' RT.
 C R/W MCGREGOR AVE.
 Δ = 89° 40' 01"
 R = 15.00'
 L = 23.47'

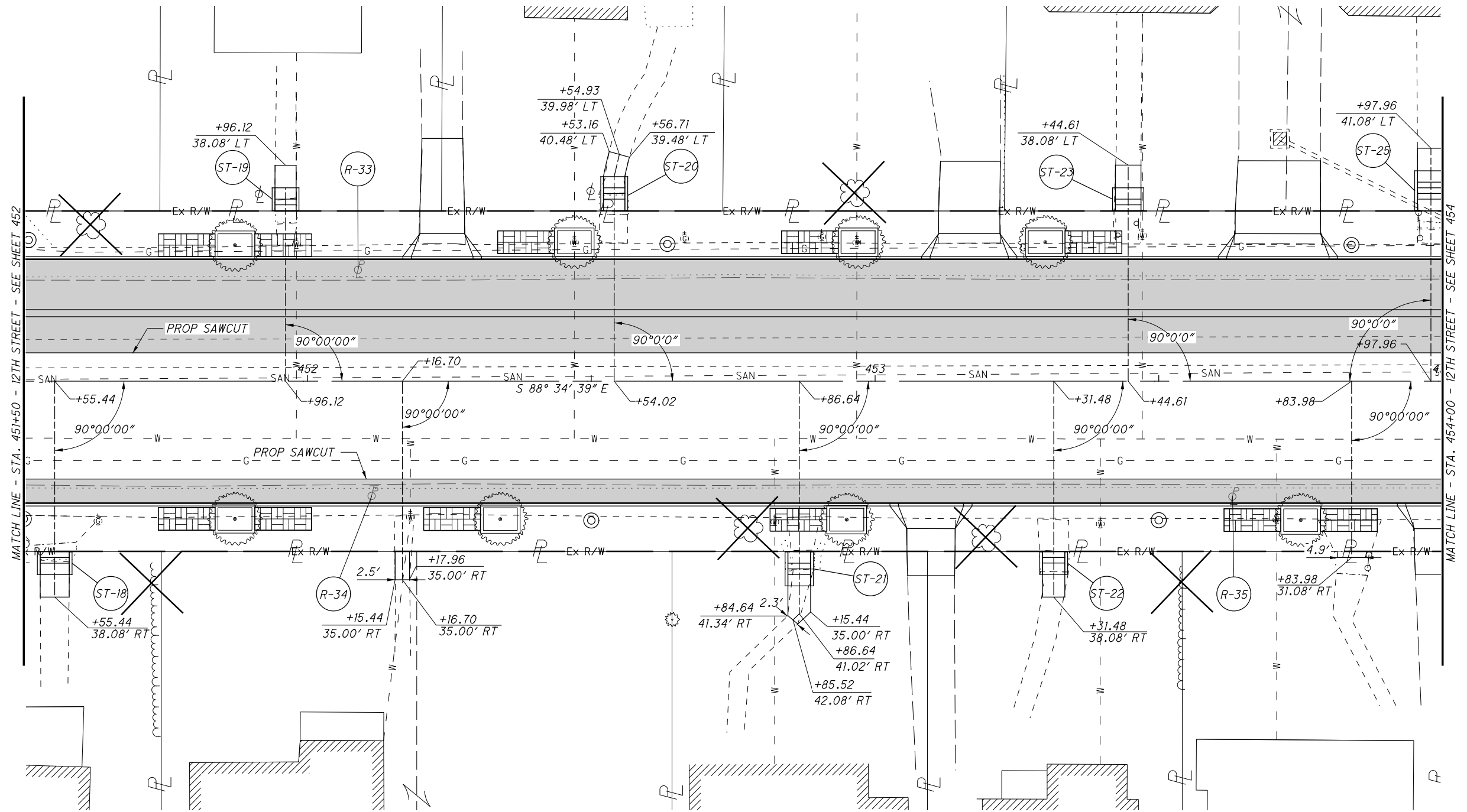
STA. 450+64.35, 41.5' RT.
 C R/W 12TH ST.
 STA. 39+58.52, 34.95' LT.
 C R/W MCGREGOR AVE.
 Δ = 89° 58' 28"
 R = 20.00'
 L = 31.41'

STA. 451+34.31, 41.5' RT.
 C R/W 12TH ST.
 STA. 39+58.51, 35.04' RT.
 C R/W MCGREGOR AVE.
 Δ = 89° 47' 57"
 R = 20.00'
 L = 31.35'

NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

- (R-32) NOT USED
- (ST-11) NOT USED
- (ST-12) NOT USED

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM006.dgn 4/14/2014 4:43:22 PM brion.sedziol" ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.



NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

(R-36)
NOT USED

(ST-24)
NOT USED

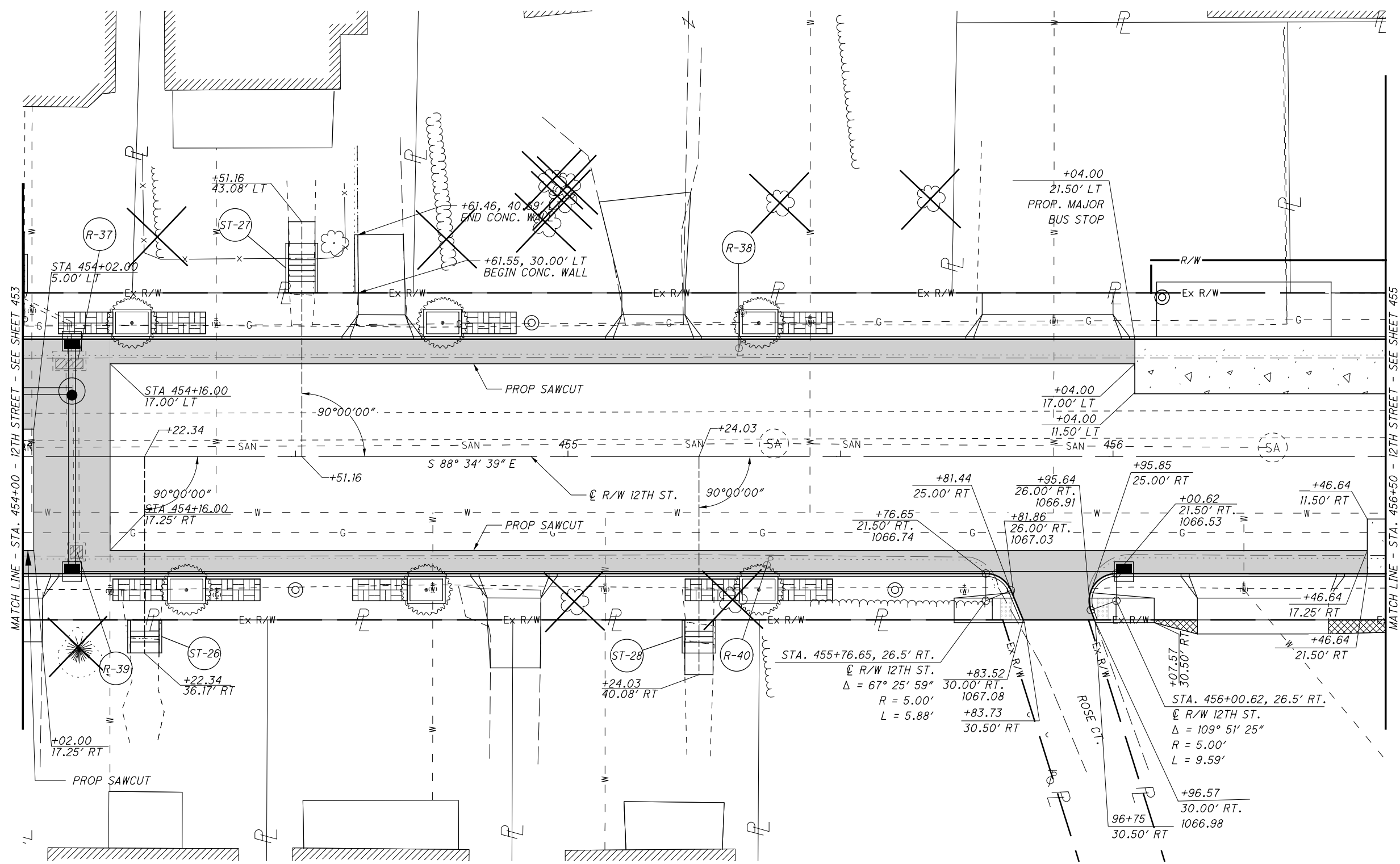


PAVEMENT DETAILS/REMOVAL ITEMS
 12TH STREET - STA. 451+50 TO STA. 454+00

STA-12TH STREET

453
790

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM007.dgn 4/14/2014 4:43:23 PM brion.sedziol" ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.



MATCH LINE - STA. 454+00 - 12TH STREET - SEE SHEET 453

MATCH LINE - STA. 456+50 - 12TH STREET - SEE SHEET 455



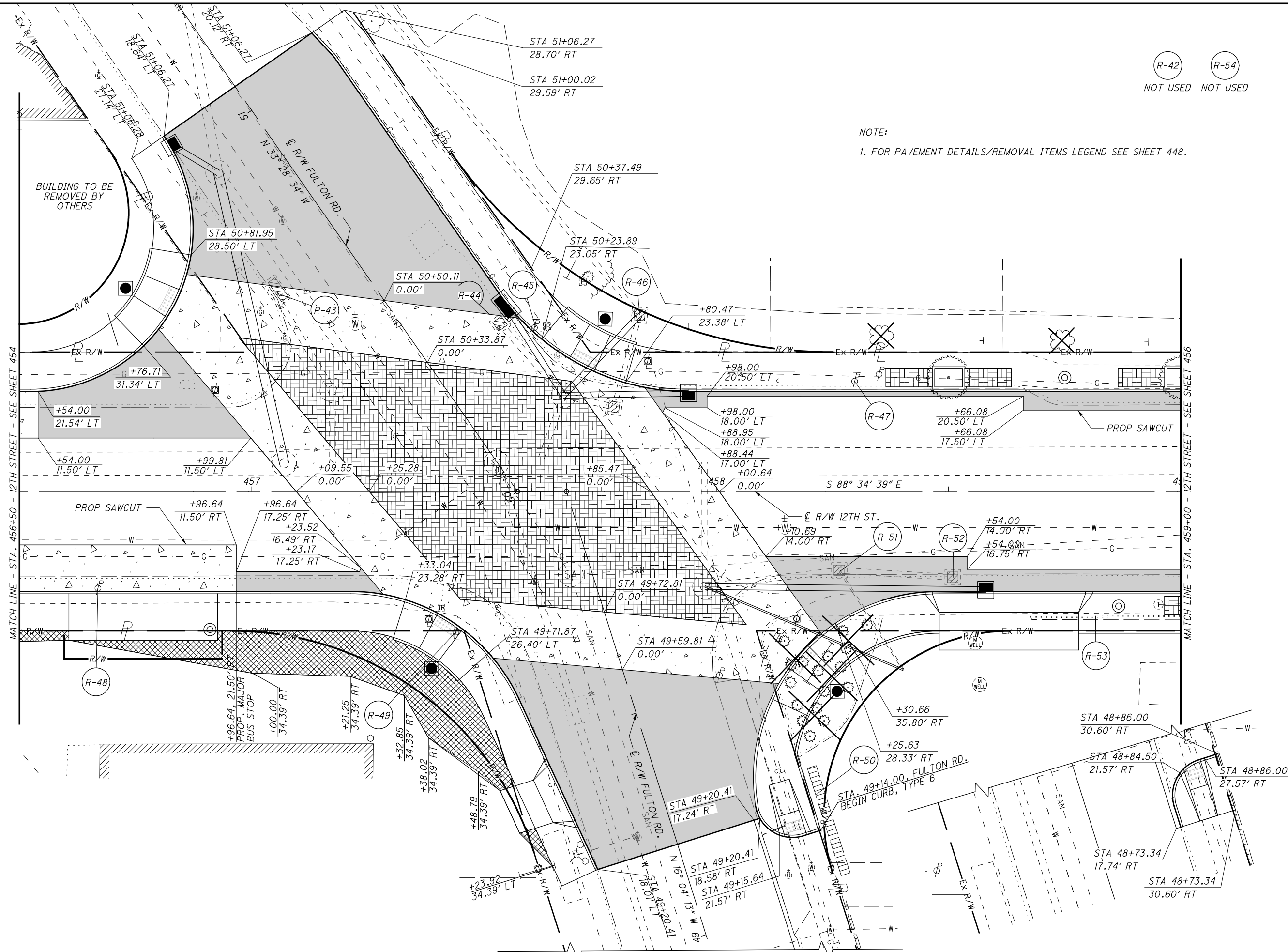
CALCULATED MAM
 CHECKED JMK
PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 454+00 TO STA. 456+50

STA-12TH STREET
 454
 790

(R-41)
NOT USED

NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM008.dgn 4/14/2014 4:43:24 PM brion.sedziol\ ODOTV81_PDF_Half_pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.



NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

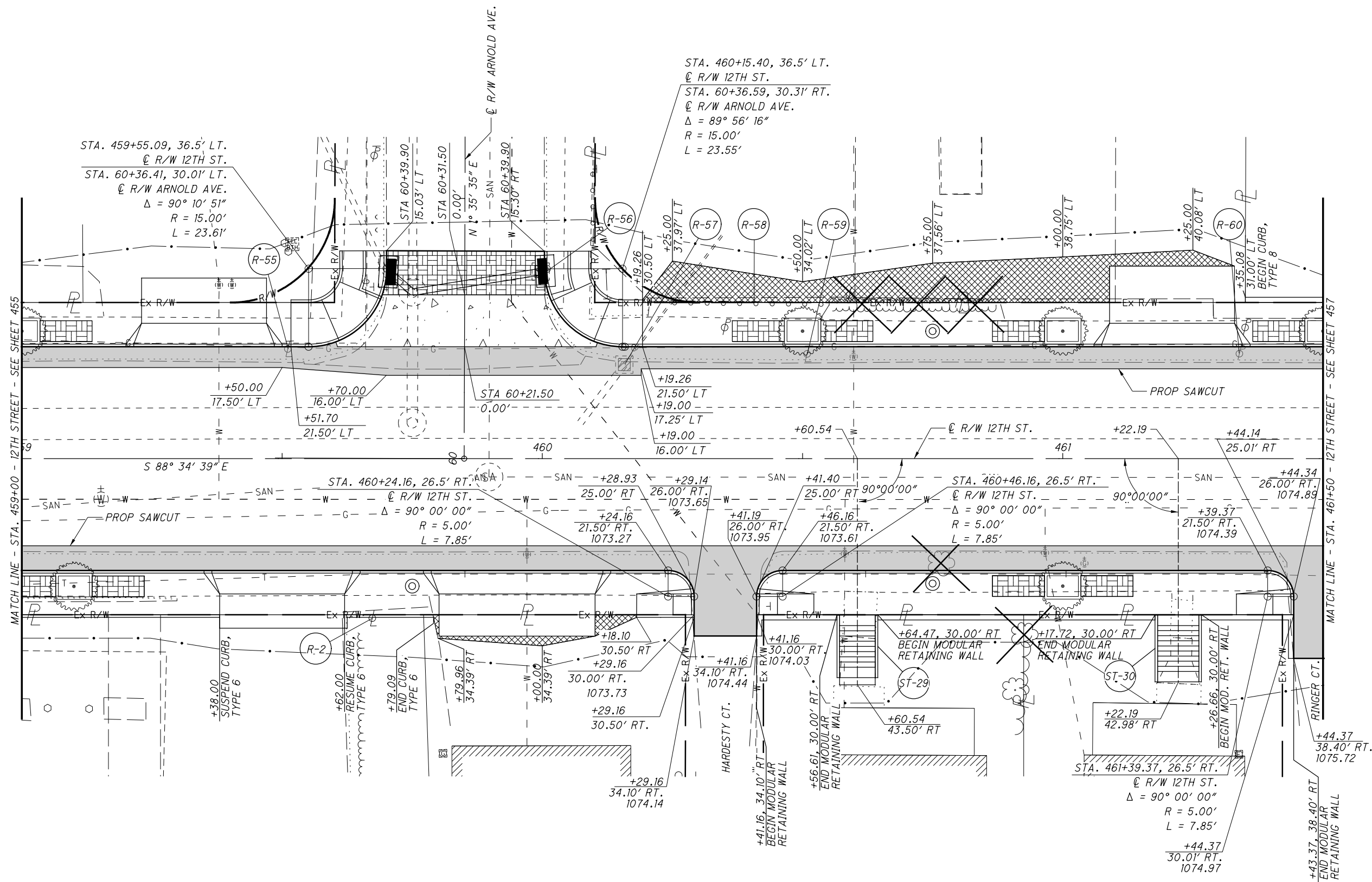
R-42 NOT USED
R-54 NOT USED



CALCULATED MAM CHECKED JMK
PAVEMENT DETAILS / REMOVAL ITEMS
12TH STREET - STA. 456+50 TO STA. 459+00

STA-12TH STREET
455
790

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM009.dgn 4/14/2014 4:43:25 PM brion.sedziol" ODOTV81_PDF_Half_pltctg ODOTV81_Pen-ME.tbl M-E Companies, Inc.



(R-62)
NOT USED

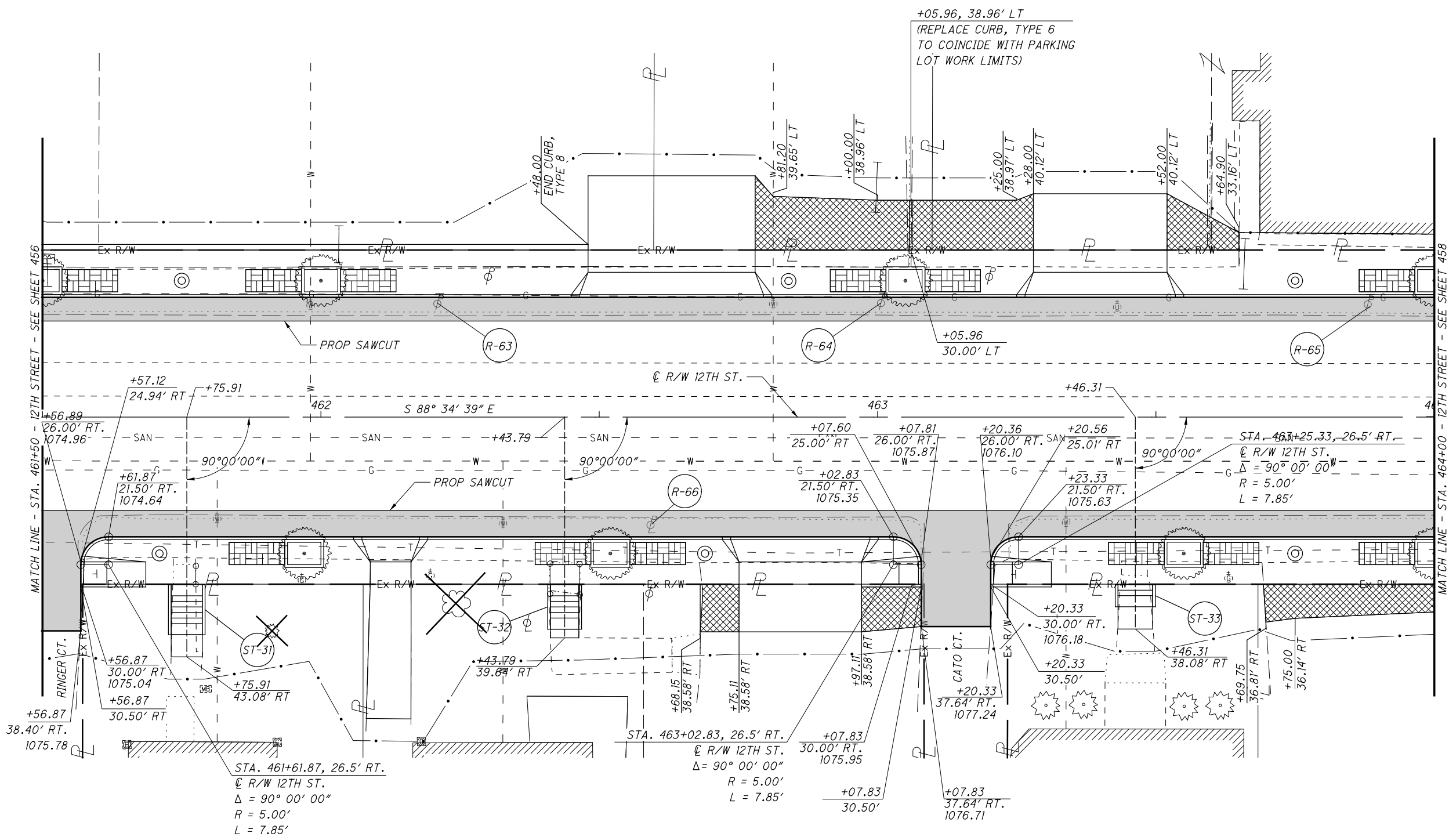
NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

CALCULATED MAM CHECKED JMK

0 5 10 20
HORIZONTAL SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 459+00 TO STA. 461+50

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(R-67)
NOT USED

NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

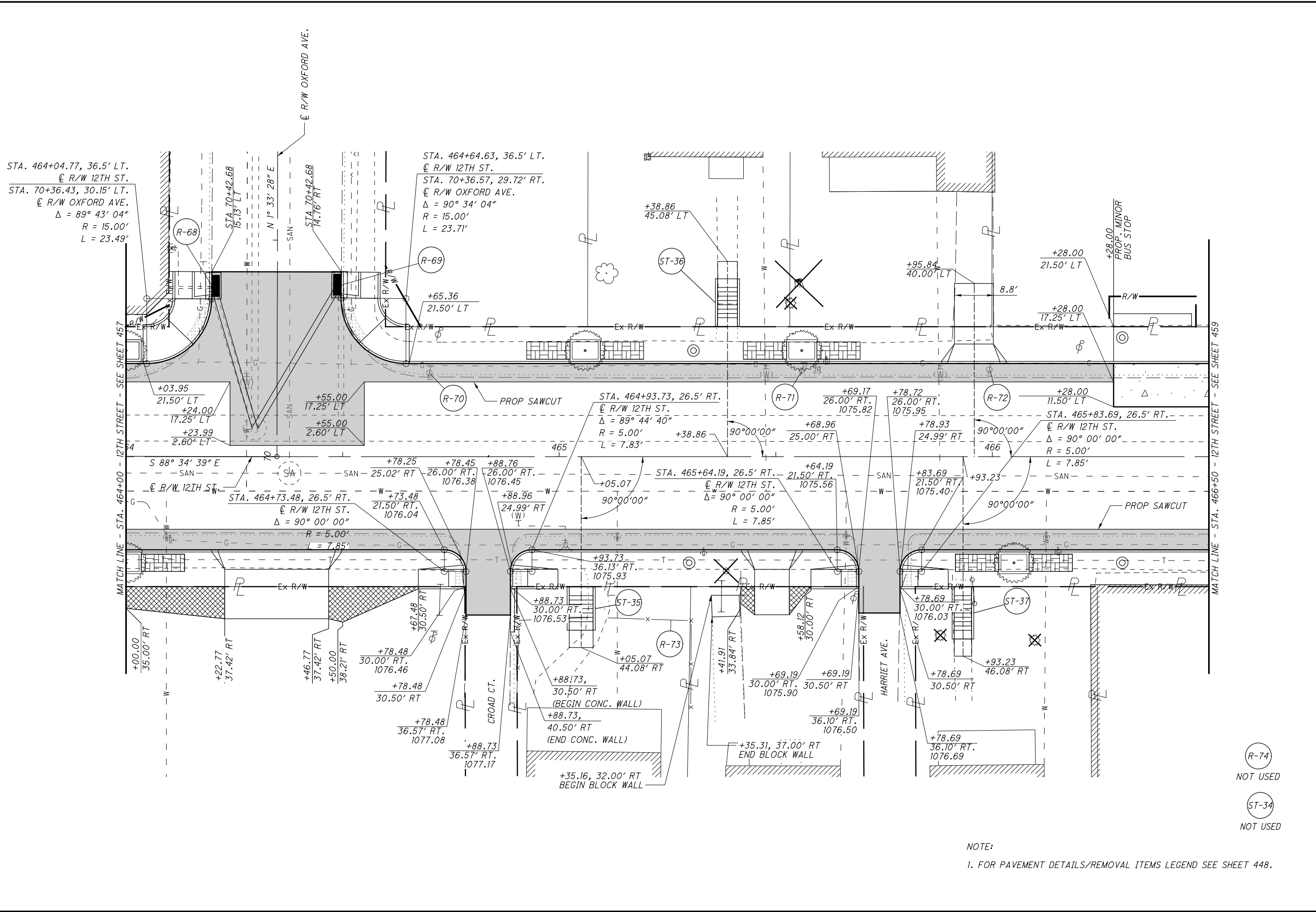
CALCULATED
MAM
CHECKED
JMK

0 5 10 20
HORIZONTAL
SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 461+50 TO STA. 464+00

STA-12TH STREET

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CALCULATED
MAM
CHECKED
JMK

PAVEMENT DETAILS / REMOVAL ITEMS
12TH STREET - STA. 464+00 TO STA. 466+50

STA - 12TH STREET

458
790

(R-74)
NOT USED

(ST-34)
NOT USED

NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM012.dgn 4/14/2014 4:43:28 PM brian.sedzic\ODOTV8i_PDF_Half.plt\cg ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



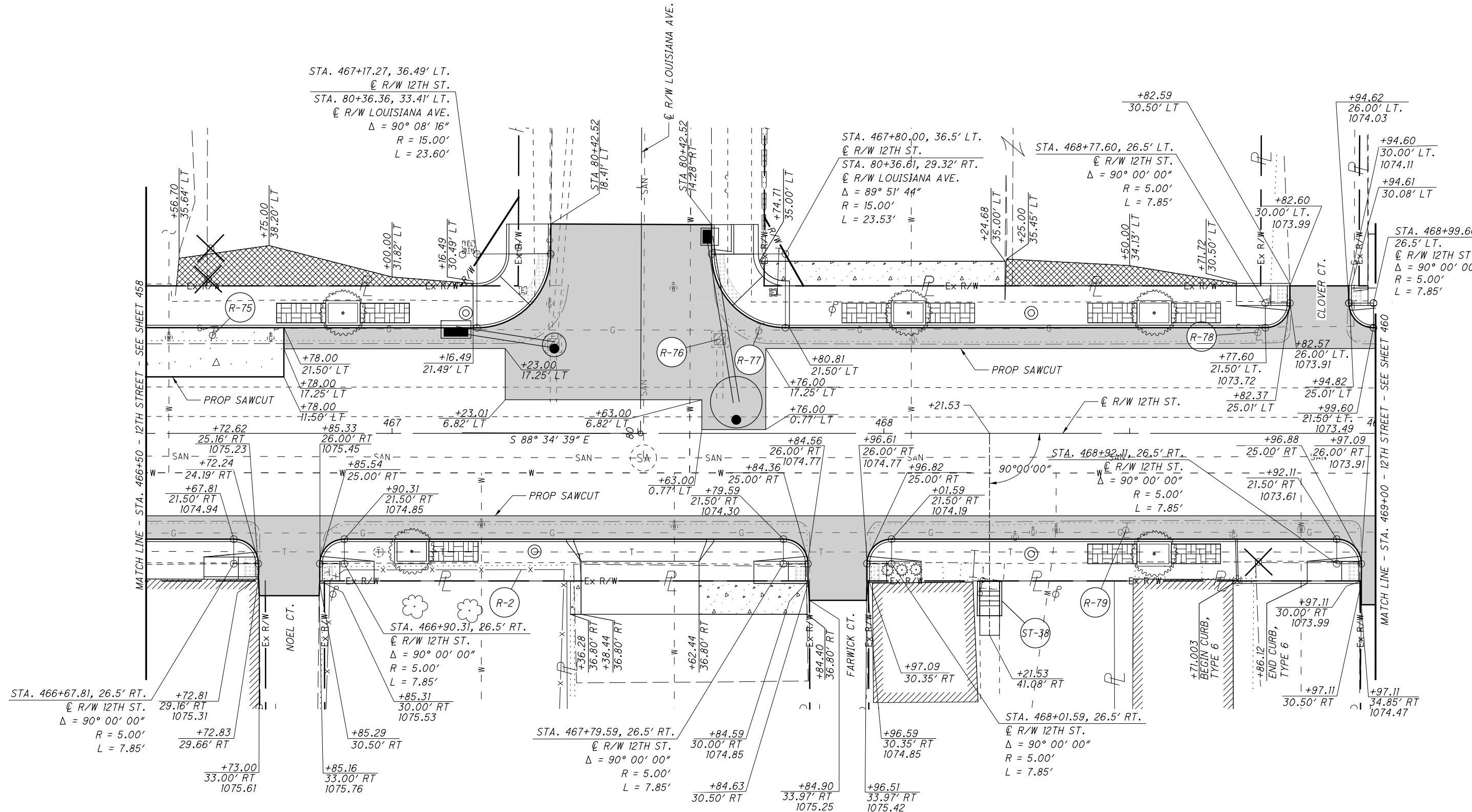
0 5 10 20
HORIZONTAL
SCALE IN FEET

CALCULATED
MAM
CHECKED
JMK

**PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 466+50 TO STA. 469+00**

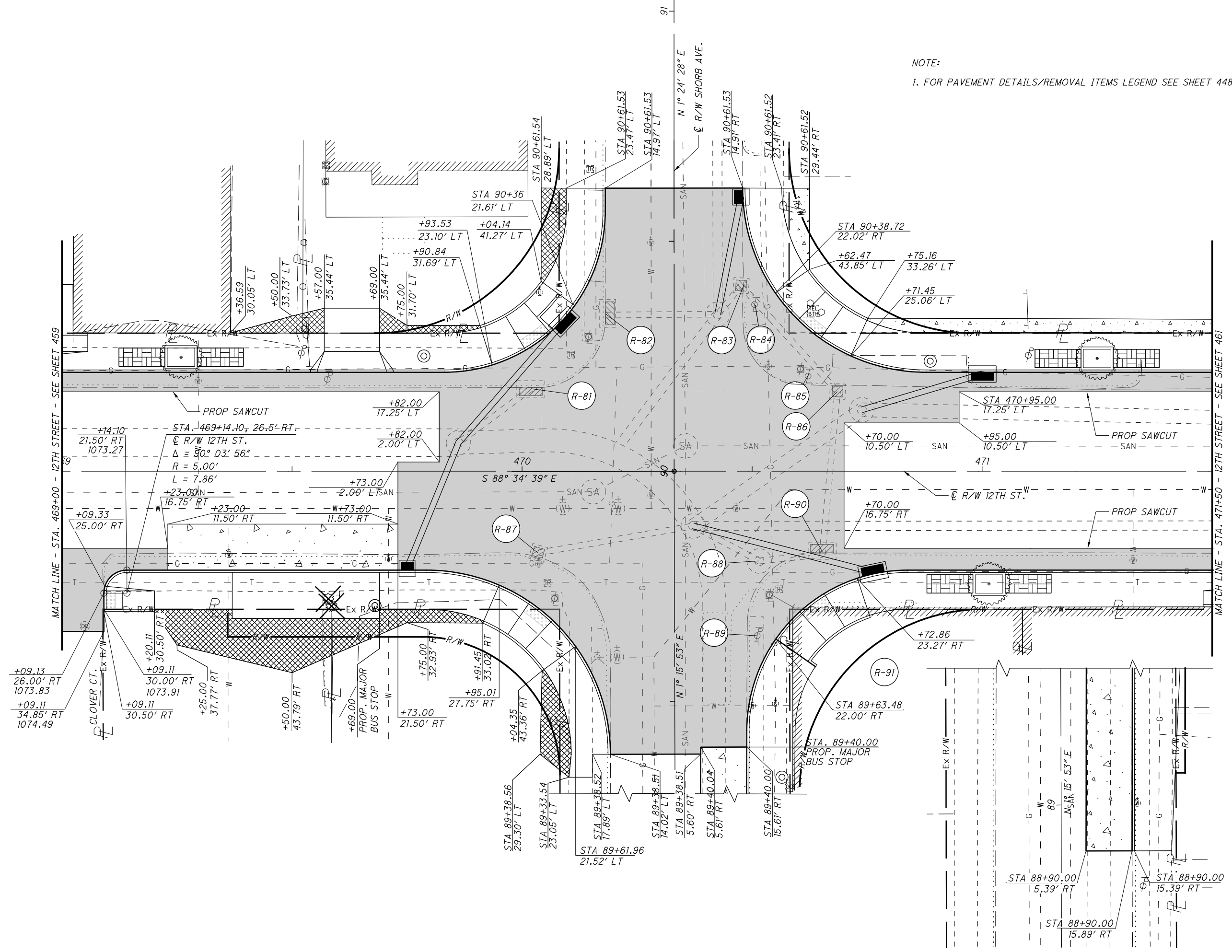
STA-12TH STREET

459
790



NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

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NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

R-80
 NOT USED

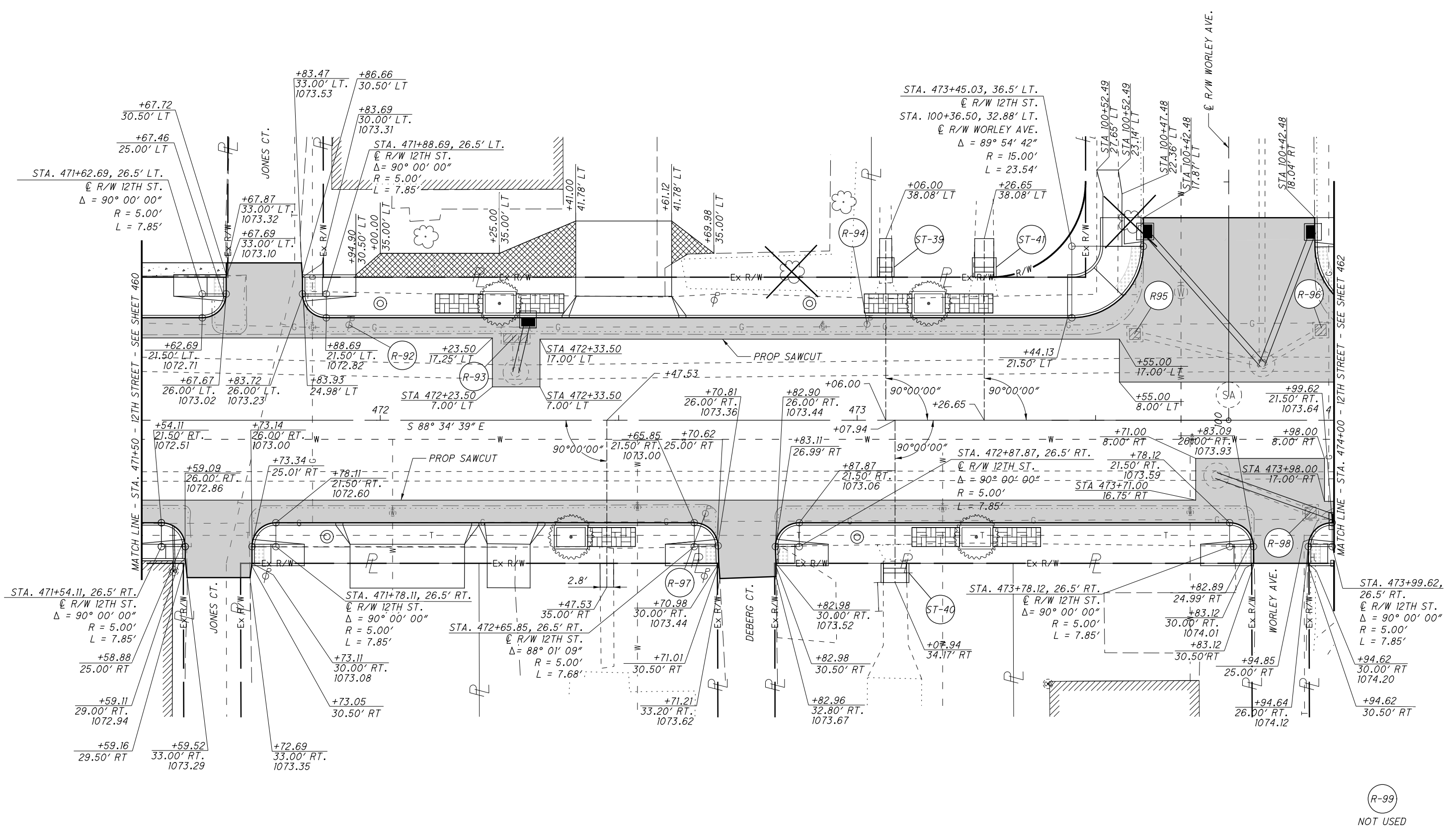


PAVEMENT DETAILS/REMOVAL ITEMS
 12TH STREET - STA. 469+00 TO STA. 471+50

STA-12TH STREET
 460
 790

CALCULATED
 MAM
 CHECKED
 JMK

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM014.dgn 4/14/2014 4:43:30 PM brian.sedzior ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



CALCULATED MAM CHECKED JMK

0 5 10 20
HORIZONTAL SCALE IN FEET

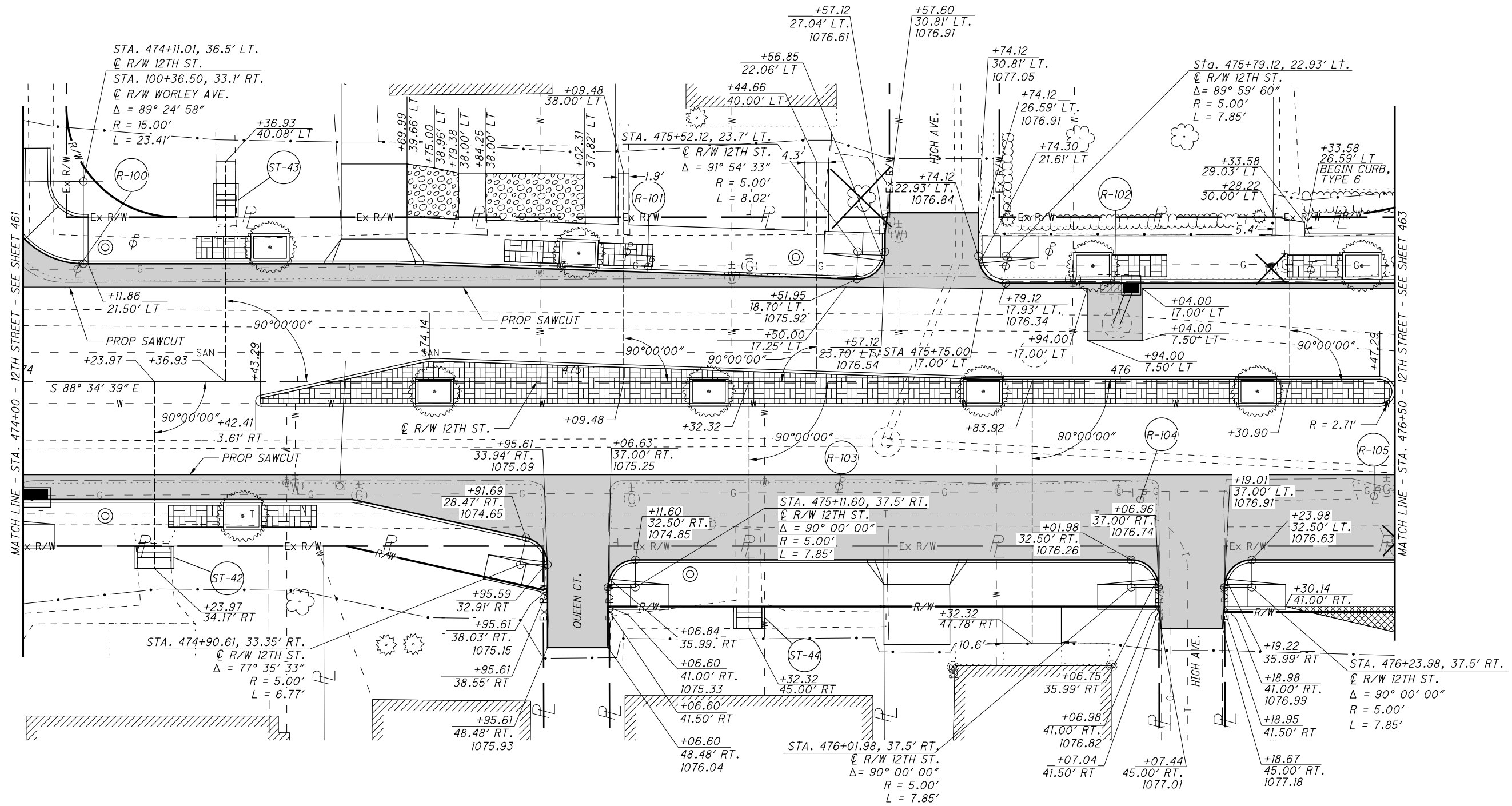
PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 471+50 TO STA. 474+00

STA-12TH STREET

461
790

(R-99)
NOT USED

NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.



PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 474+00 TO STA. 476+50

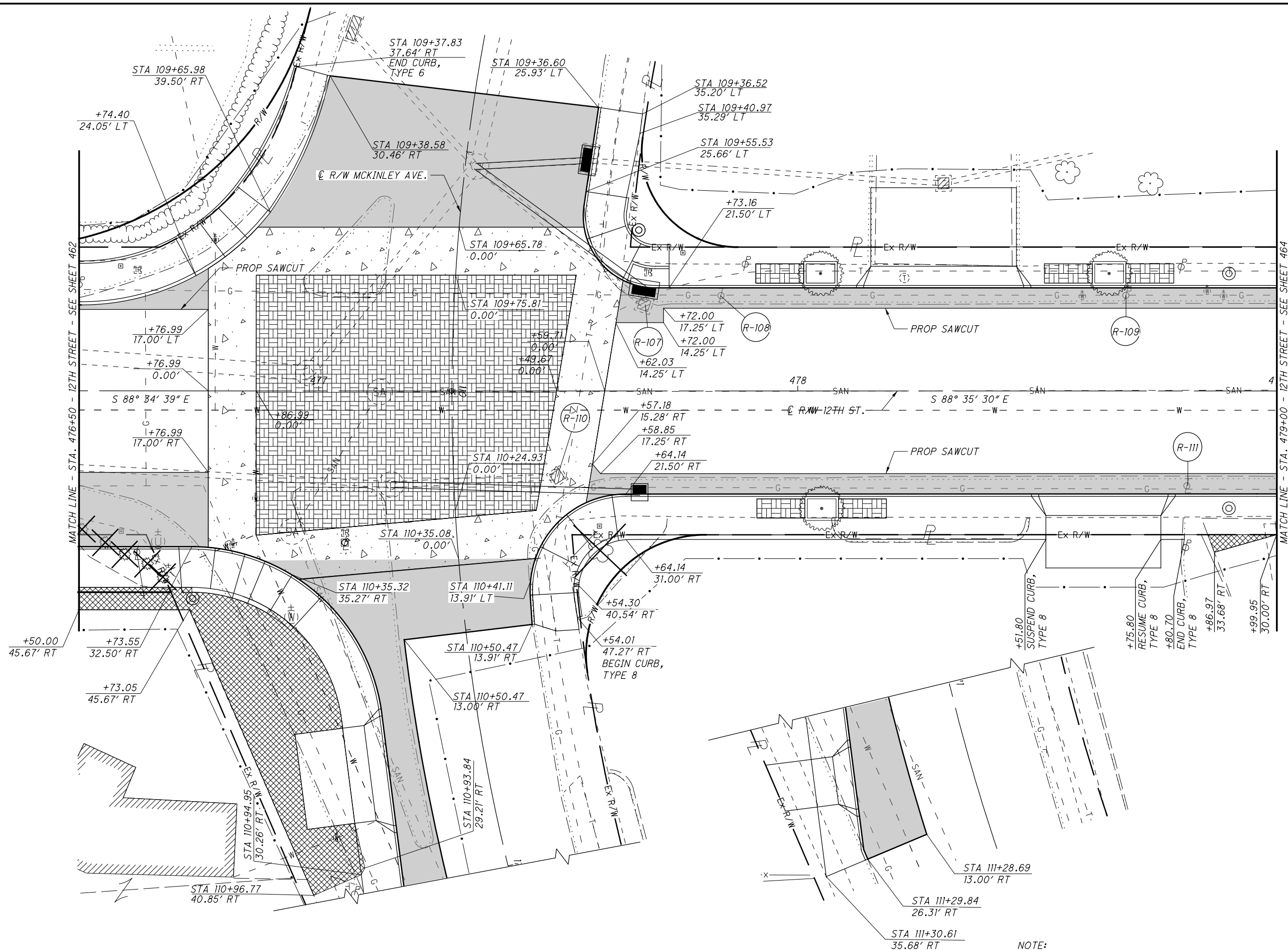
STA-12TH STREET
 462
 790

R-106
NOT USED

ST-45
NOT USED

NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

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CALCULATED
MAM
CHECKED
JMK

0 5 10 20
HORIZONTAL
SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 476+50 TO STA. 479+00

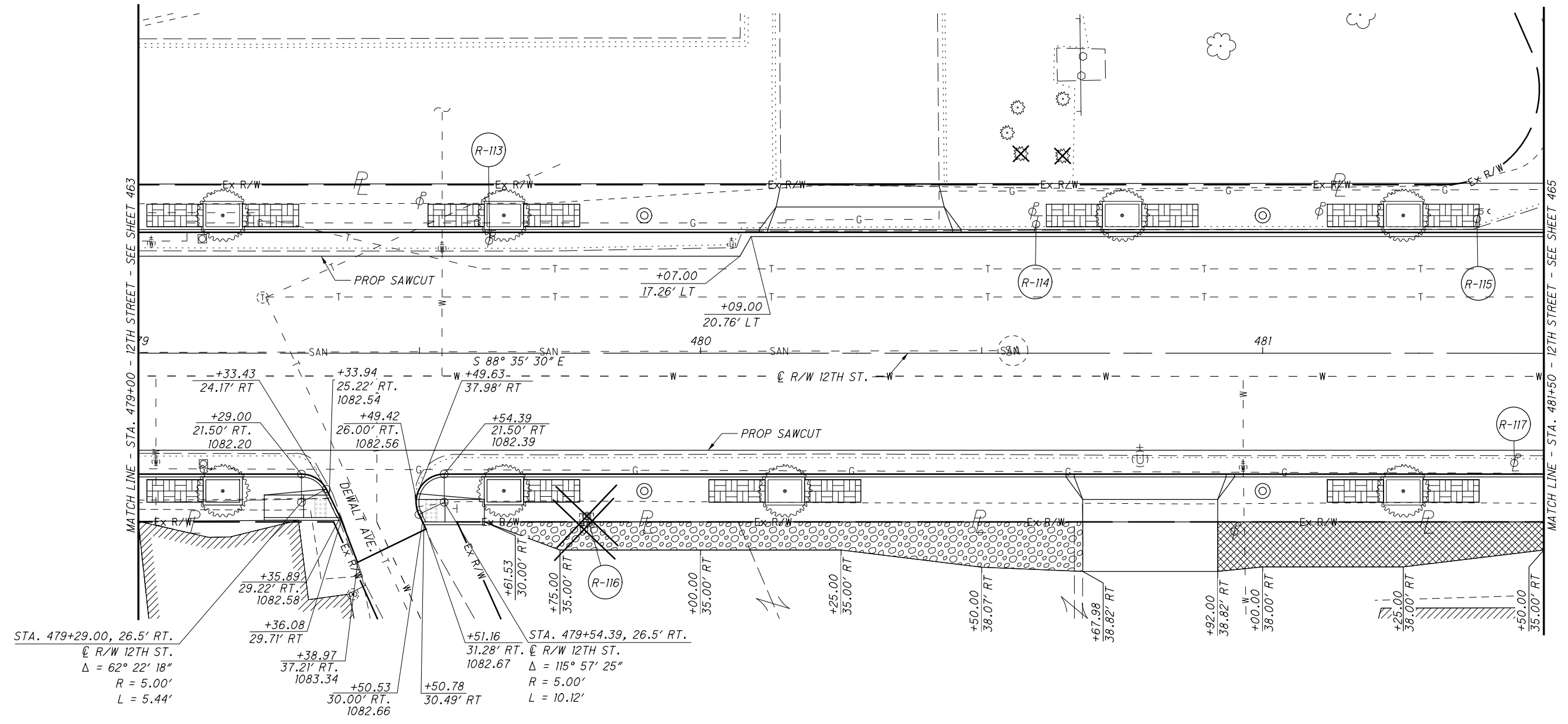
STA-12TH STREET

463
790

(R-112)
NOT USED

NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

J:\pre-int\11-060 12th Street\roadway\roadway\sheets\85299\roadway\85299G017.dgn 4/14/2014 4:43:33 PM brian.sedzic\ ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



STA. 479+29.00, 26.5' RT.
 C R/W 12TH ST.
 $\Delta = 62^\circ 22' 18''$
 $R = 5.00'$
 $L = 5.44'$

+36.08
 29.71' RT.
 +38.97
 37.21' RT.
 1083.34

+50.53
 30.00' RT.
 1082.66

STA. 479+54.39, 26.5' RT.
 C R/W 12TH ST.
 $\Delta = 115^\circ 57' 25''$
 $R = 5.00'$
 $L = 10.12'$

R-118
 NOT USED

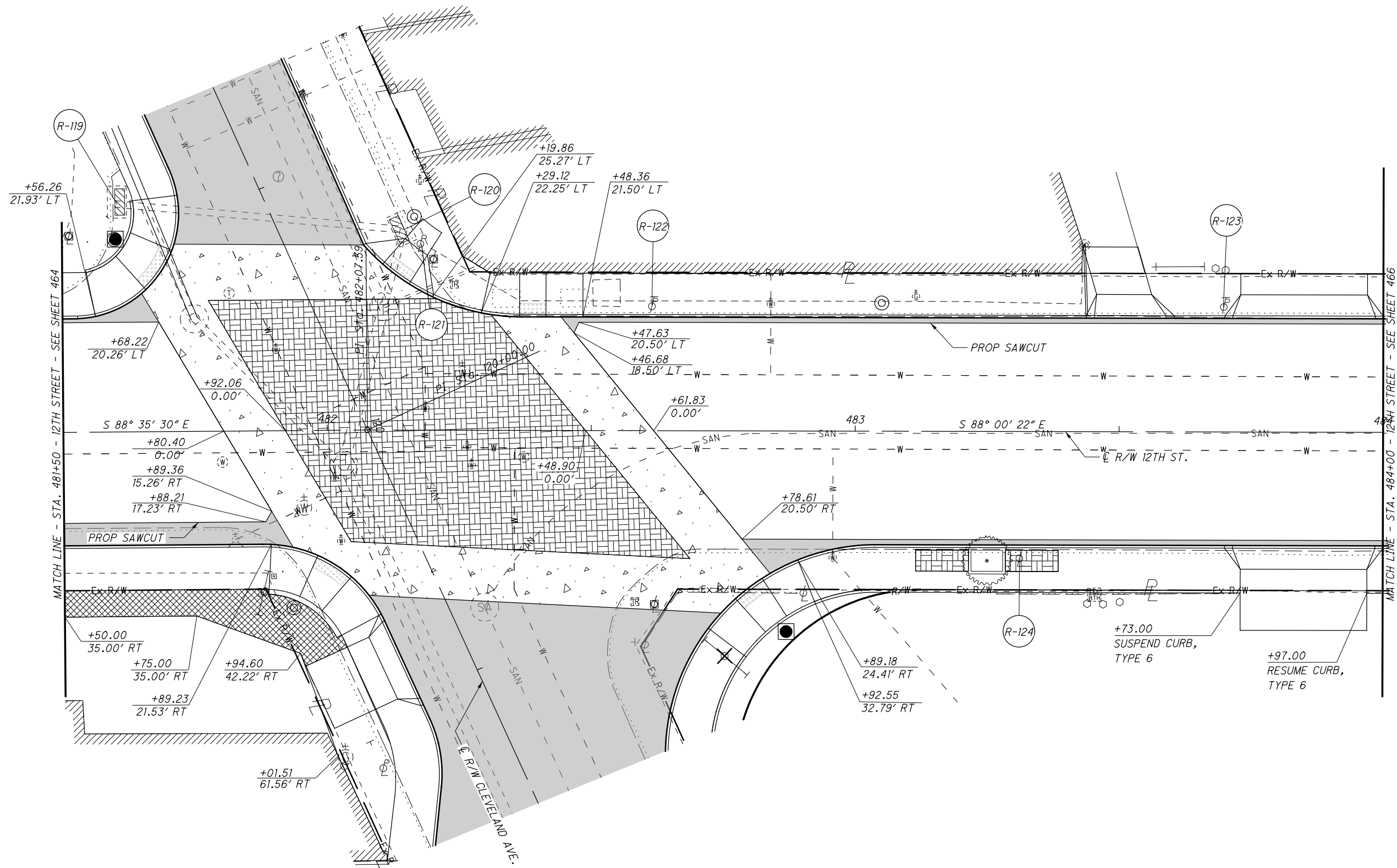
NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

CALCULATED MAM CHECKED JMK

0 5 10 20
 HORIZONTAL SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 479+00 TO STA. 481+50

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM018.dgn 4/14/2014 4:43:34 PM brian.sedzio\ ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



MATCH LINE - STA. 481+50 - 12TH STREET - SEE SHEET 464

MATCH LINE - STA. 484+00 - 12TH STREET - SEE SHEET 466

R-125
NOT USED

NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.
 2. FOR CLEVELAND AVE. PAVEMENT DETAILS/REMOVAL ITEMS PLAN SEE SHEET 492.

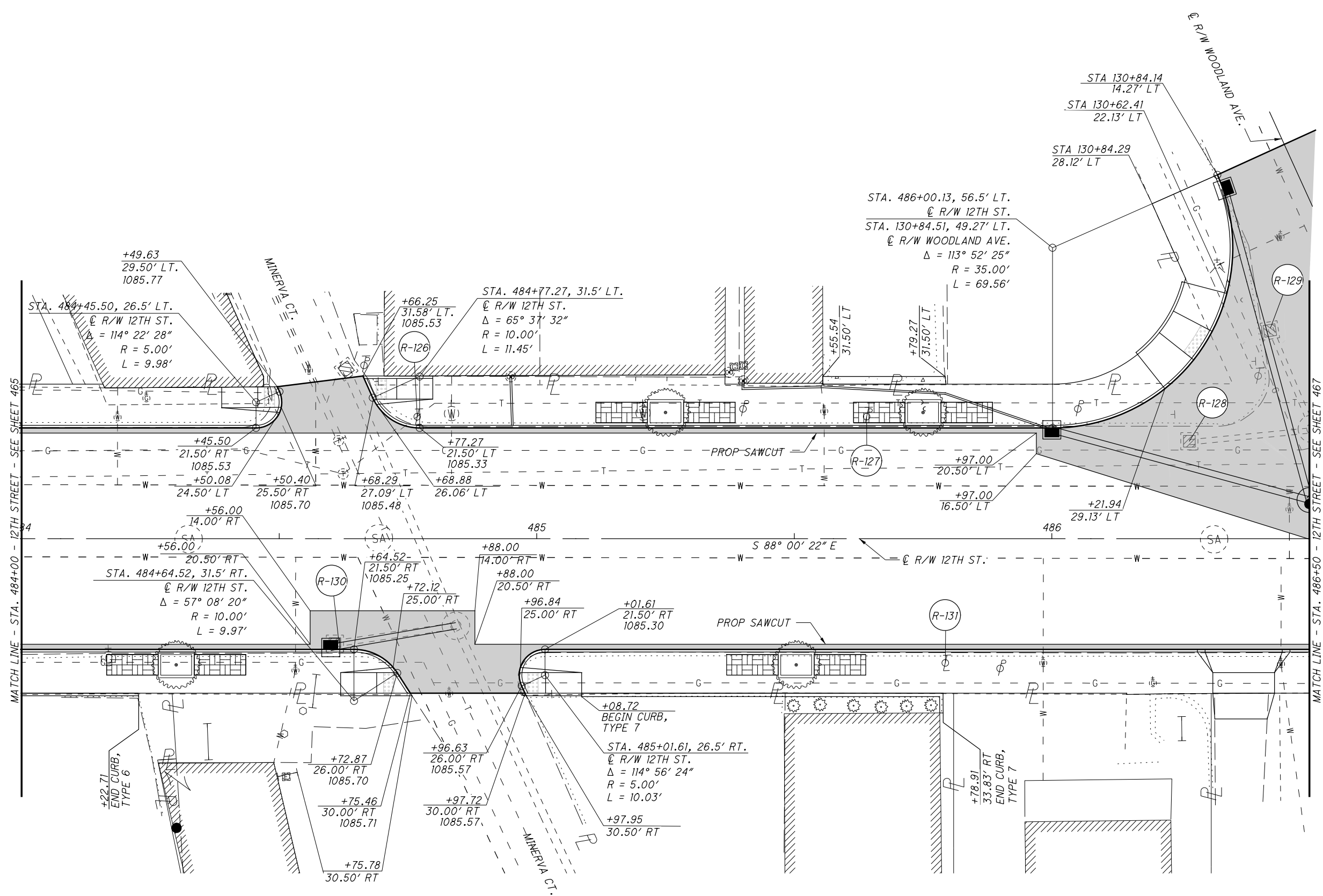
CALCULATED
MAM
CHECKED
JMK

0 5 10 20
HORIZONTAL
SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 481+50 TO STA. 484+00

STA-12TH STREET

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(R-132)
NOT USED

NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.



PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 484+00 TO STA. 486+50

STA-12TH STREET

466
790

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STA 130+84.14
13.64' RT

R/W WOODLAND AVE.

STA 130+32.02
16.32' RT

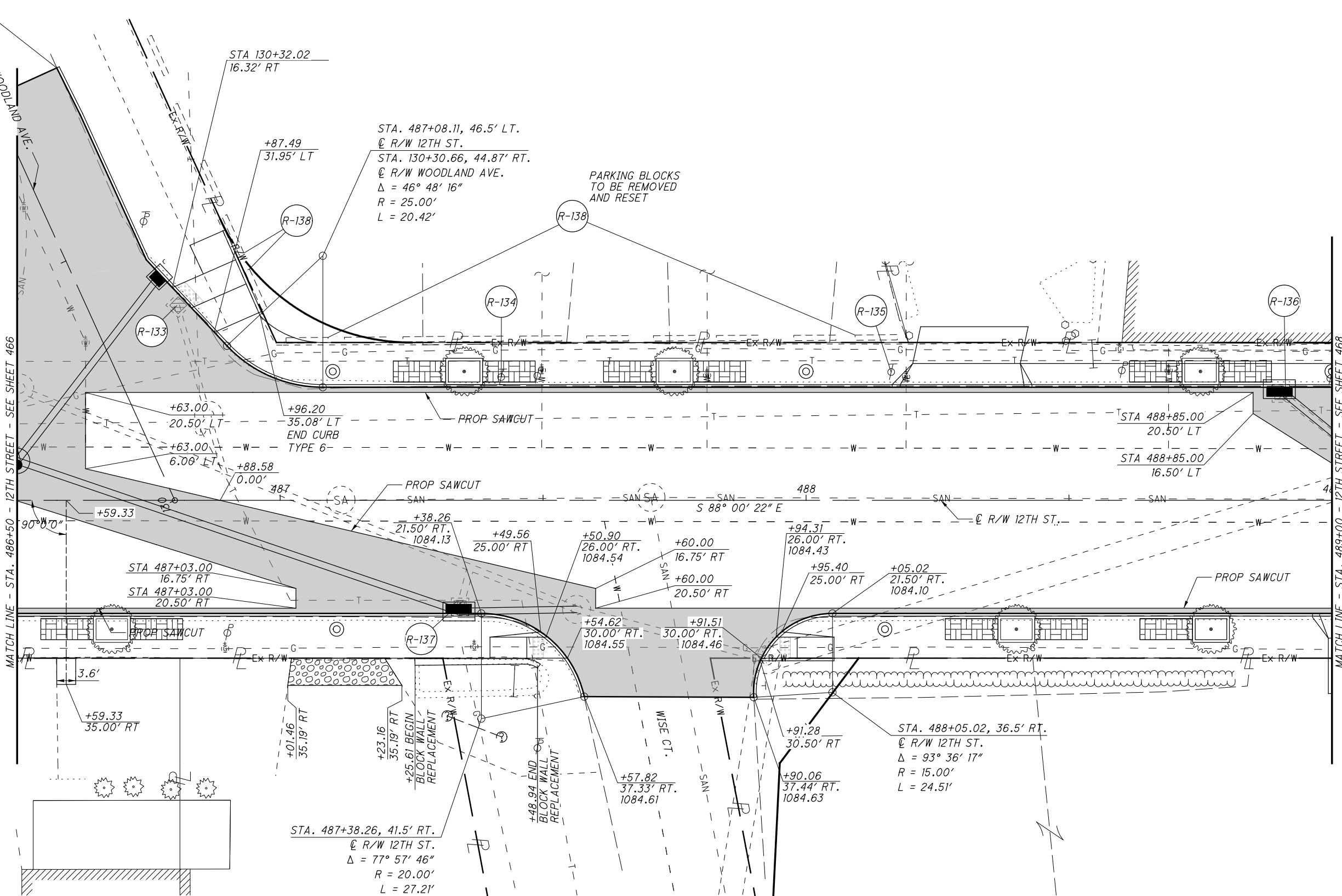
+87.49
31.95' LT

STA. 487+08.11, 46.5' LT.
C/R/W 12TH ST.
STA. 130+30.66, 44.87' RT.
C/R/W WOODLAND AVE.
 $\Delta = 46^\circ 48' 16''$
 $R = 25.00'$
 $L = 20.42'$

PARKING BLOCKS
TO BE REMOVED
AND RESET

MATCH LINE - STA. 486+50 - 12TH STREET - SEE SHEET 466

MATCH LINE - STA. 489+00 - 12TH STREET - SEE SHEET 468



STA 487+03.00
16.75' RT
STA 487+03.00
20.50' RT

+59.33
35.00' RT

STA. 487+38.26, 41.5' RT.
C/R/W 12TH ST.
 $\Delta = 77^\circ 57' 46''$
 $R = 20.00'$
 $L = 27.21'$

+50.90
26.00' RT.
1084.54

+54.62
30.00' RT.
1084.55

+57.82
37.33' RT.
1084.61

+60.00
16.75' RT

+60.00
20.50' RT

+94.31
26.00' RT.
1084.43

+95.40
25.00' RT

+91.28
30.50' RT

+90.06
37.44' RT.
1084.63

+95.02
21.50' RT.
1084.10

STA. 488+05.02, 36.5' RT.
C/R/W 12TH ST.
 $\Delta = 93^\circ 36' 17''$
 $R = 15.00'$
 $L = 24.51'$

STA 488+85.00
20.50' LT

STA 488+85.00
16.50' LT

NOTE:

1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

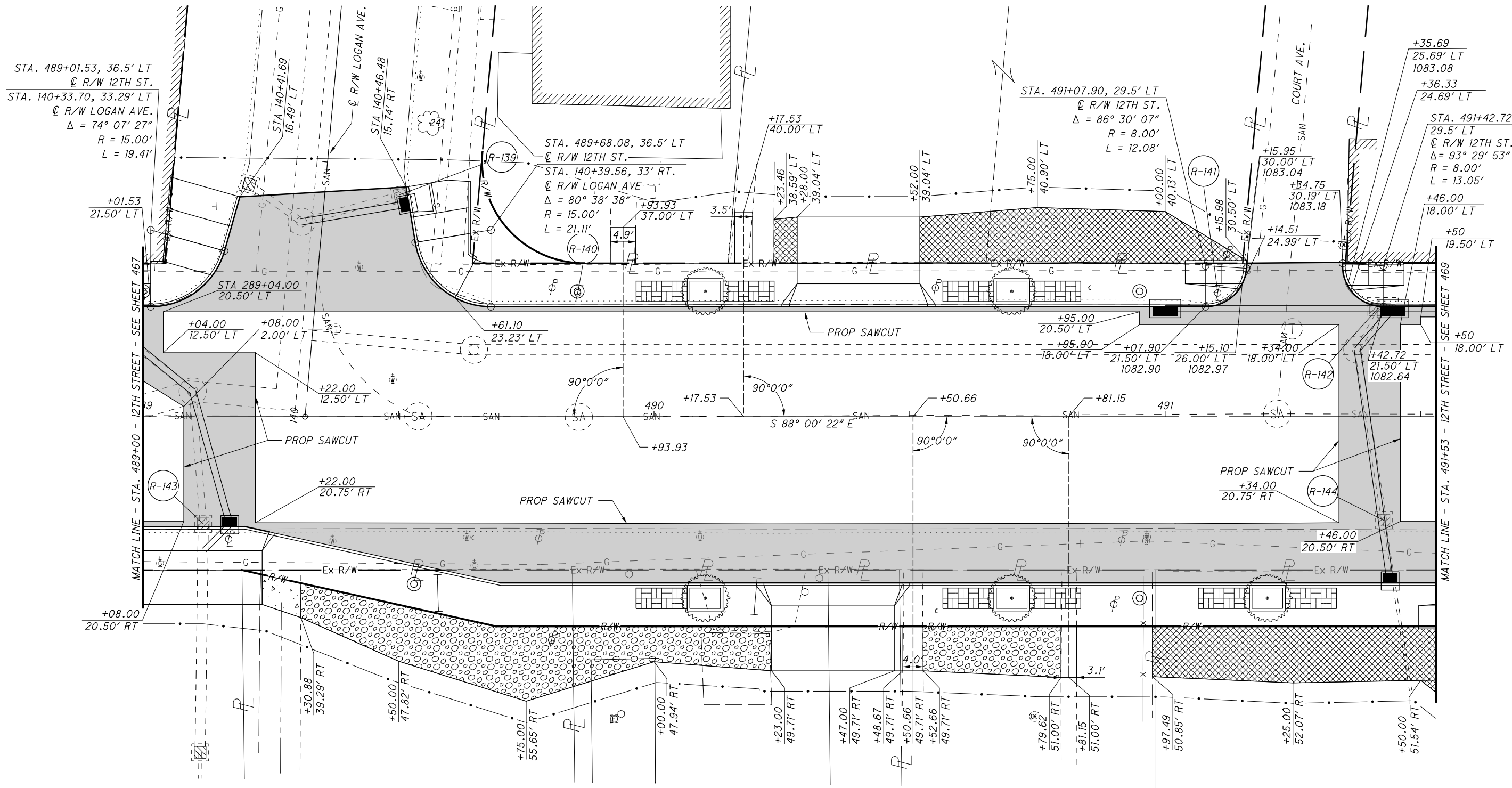


PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 486+50 TO STA. 489+00

STA-12TH STREET

467
790

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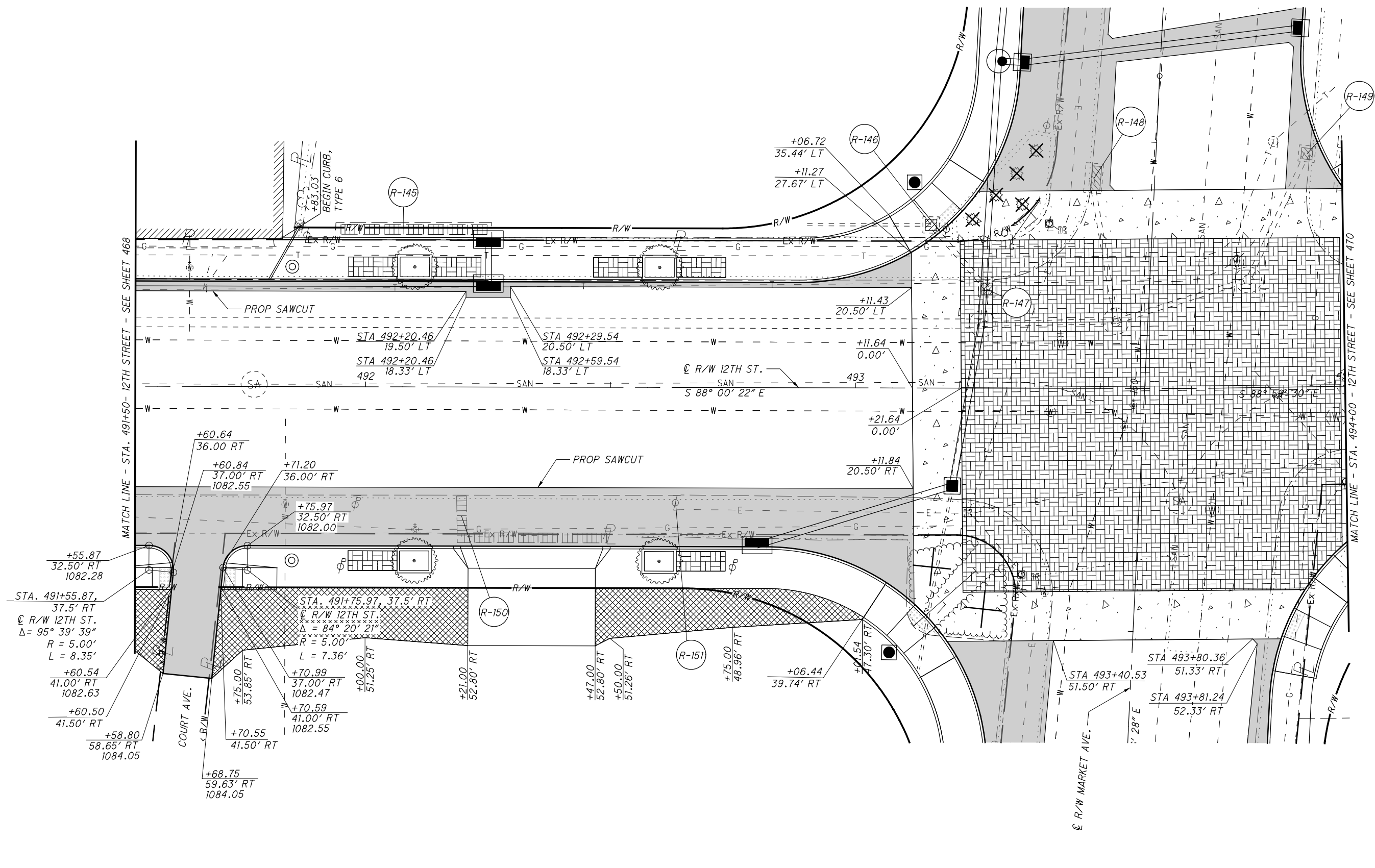


CALCULATED MAM CHECKED JMK
PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 489+00 TO STA. 491+53

STA-12TH STREET
 468
 790

NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

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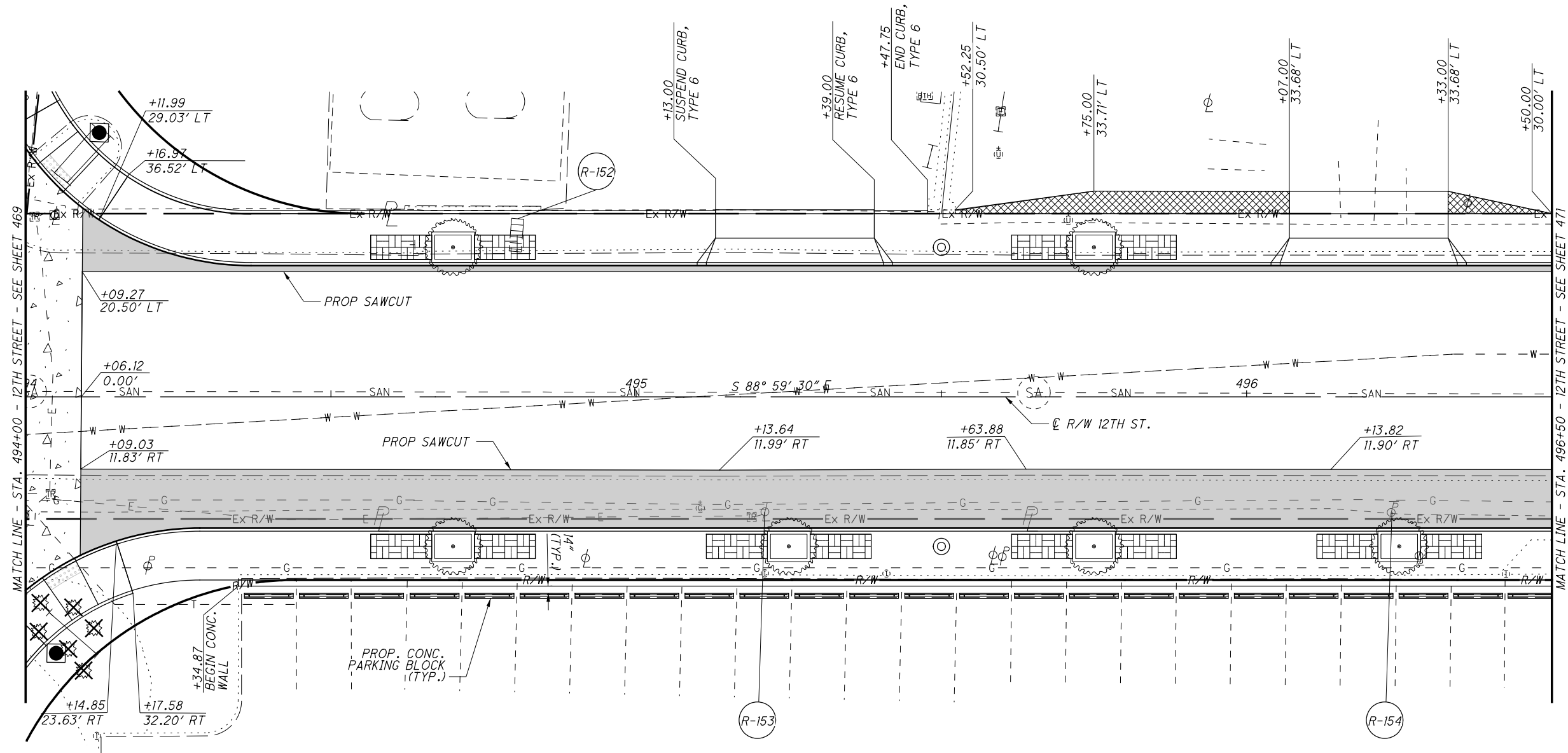
NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.
 2. FOR MARKET AVE PAVEMENT DETAILS/REMOVAL ITEMS PLAN SEE SHEETS 493 TO 499.



CALCULATED MAM CHECKED JMK
PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 491+53 TO STA. 494+00

STA-12TH STREET
 469
 790

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM023.dgn 4/14/2014 4:43:38 PM brion.sedziol" ODOTV81_PDF_Half_pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.



MATCH LINE - STA. 494+00 - 12TH STREET - SEE SHEET 469

MATCH LINE - STA. 496+50 - 12TH STREET - SEE SHEET 471

NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

CALCULATED MAM
CHECKED JMK

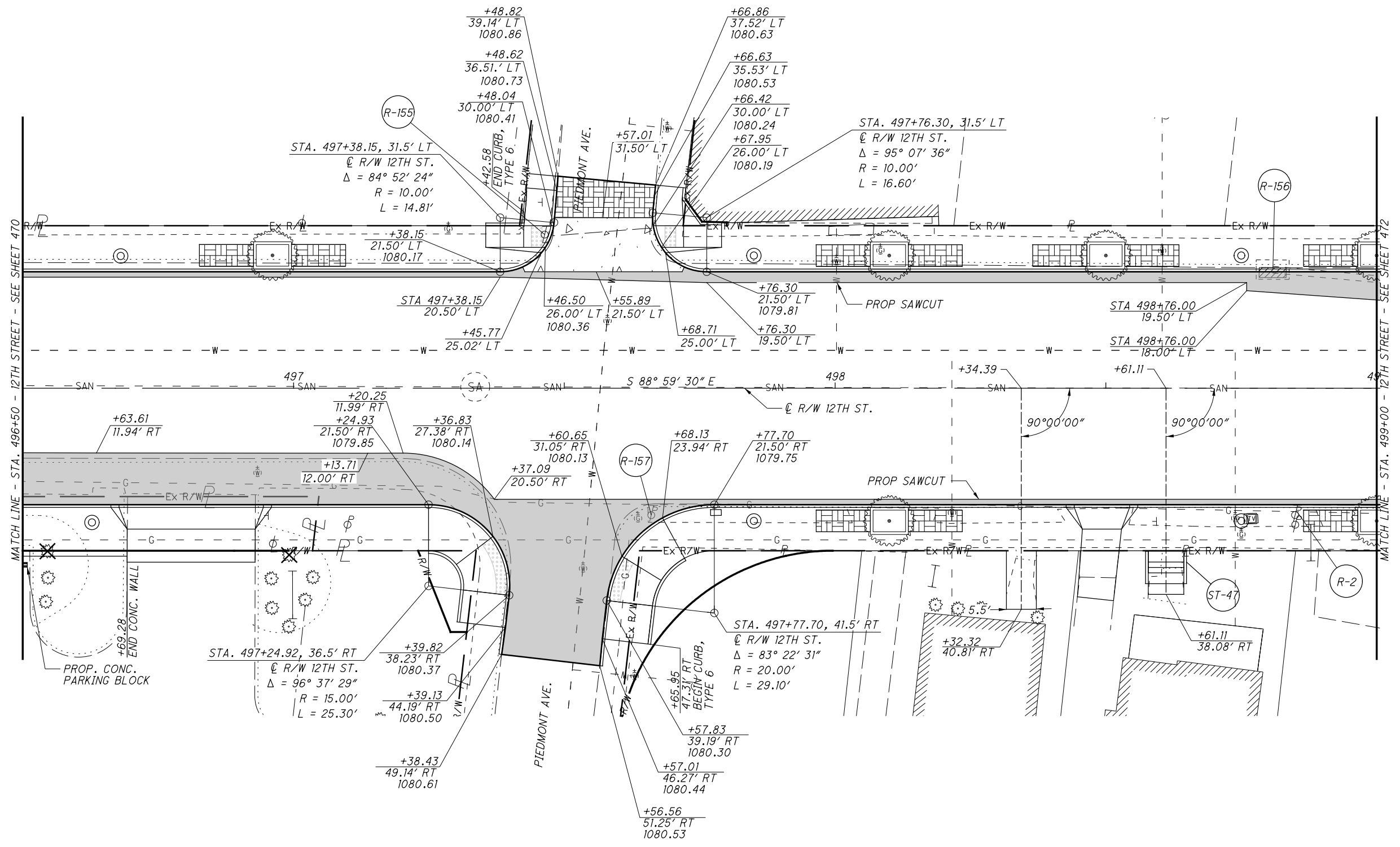
0 5 10 20
HORIZONTAL SCALE IN FEET

PAVEMENT DETAILS / REMOVAL ITEMS
12TH STREET - STA. 494+00 TO STA. 496+50

STA-12TH STREET

470
790

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM024.dgn 4/14/2014 4:43:39 PM brion.sedziol" ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.



NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

ST-46
 NOT USED

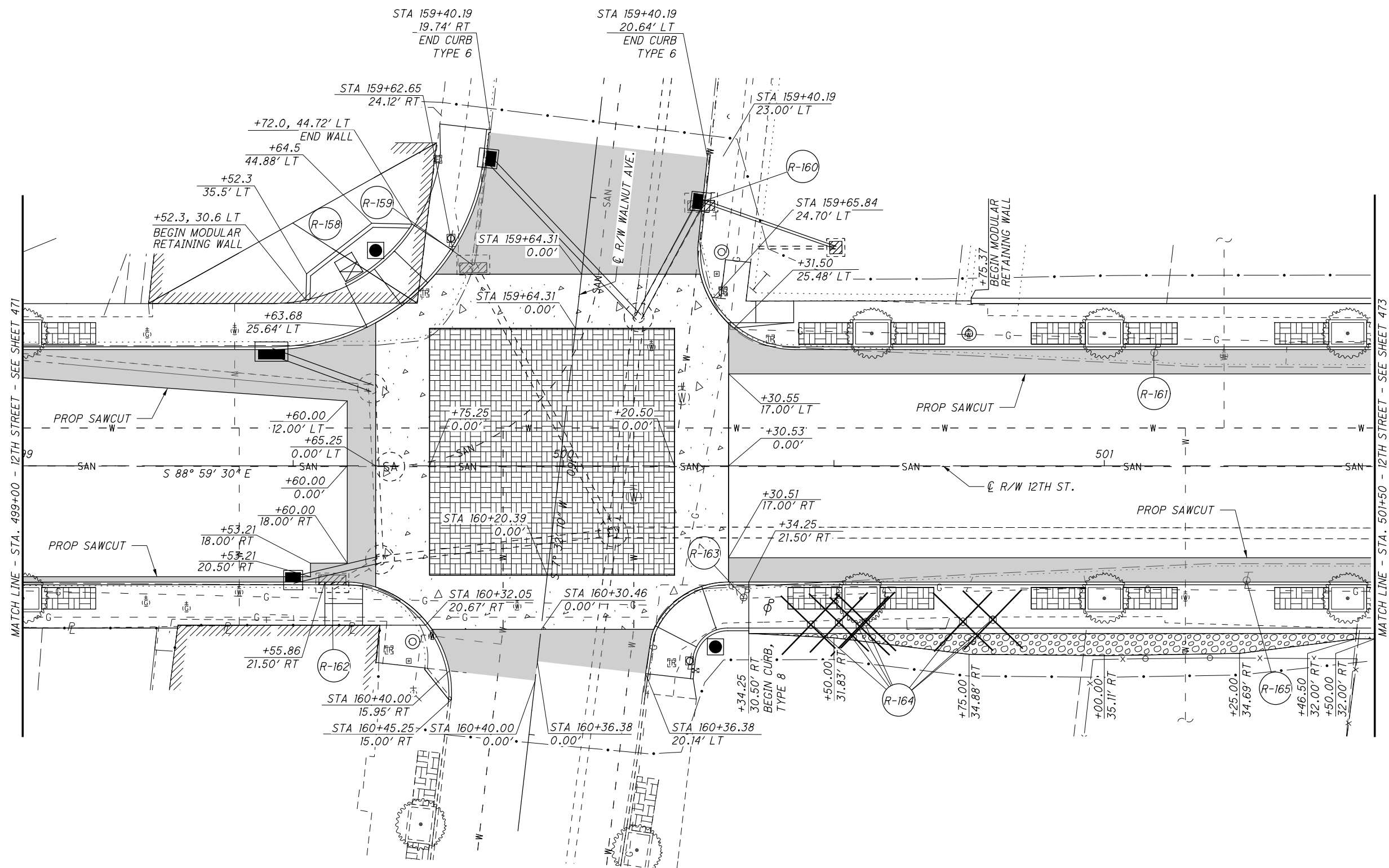
CALCULATED
 MAM
 CHECKED
 JMK

0 5 10 20
 HORIZONTAL
 SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
STA. 496+50 TO STA. 499+00

STA-12TH STREET
 471
 790

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NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

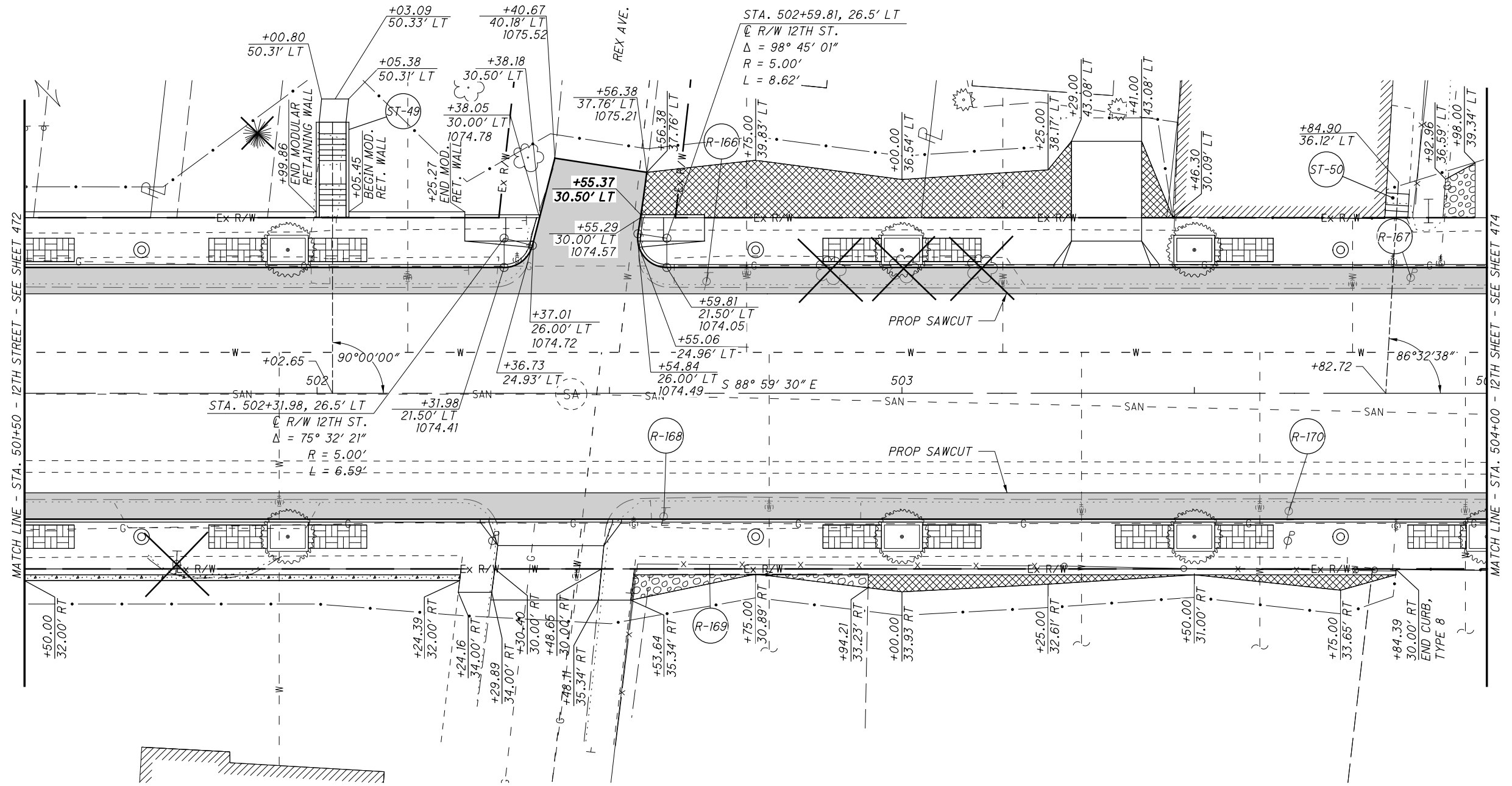
ST-48
 NOT USED



PAVEMENT DETAILS/REMOVAL ITEMS
 12TH STREET - STA. 499+00 TO STA. 501+50

STA-12TH STREET
 472
 790

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299G026.dgn 4/14/2014 4:43:42 PM brion.sedziol" ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

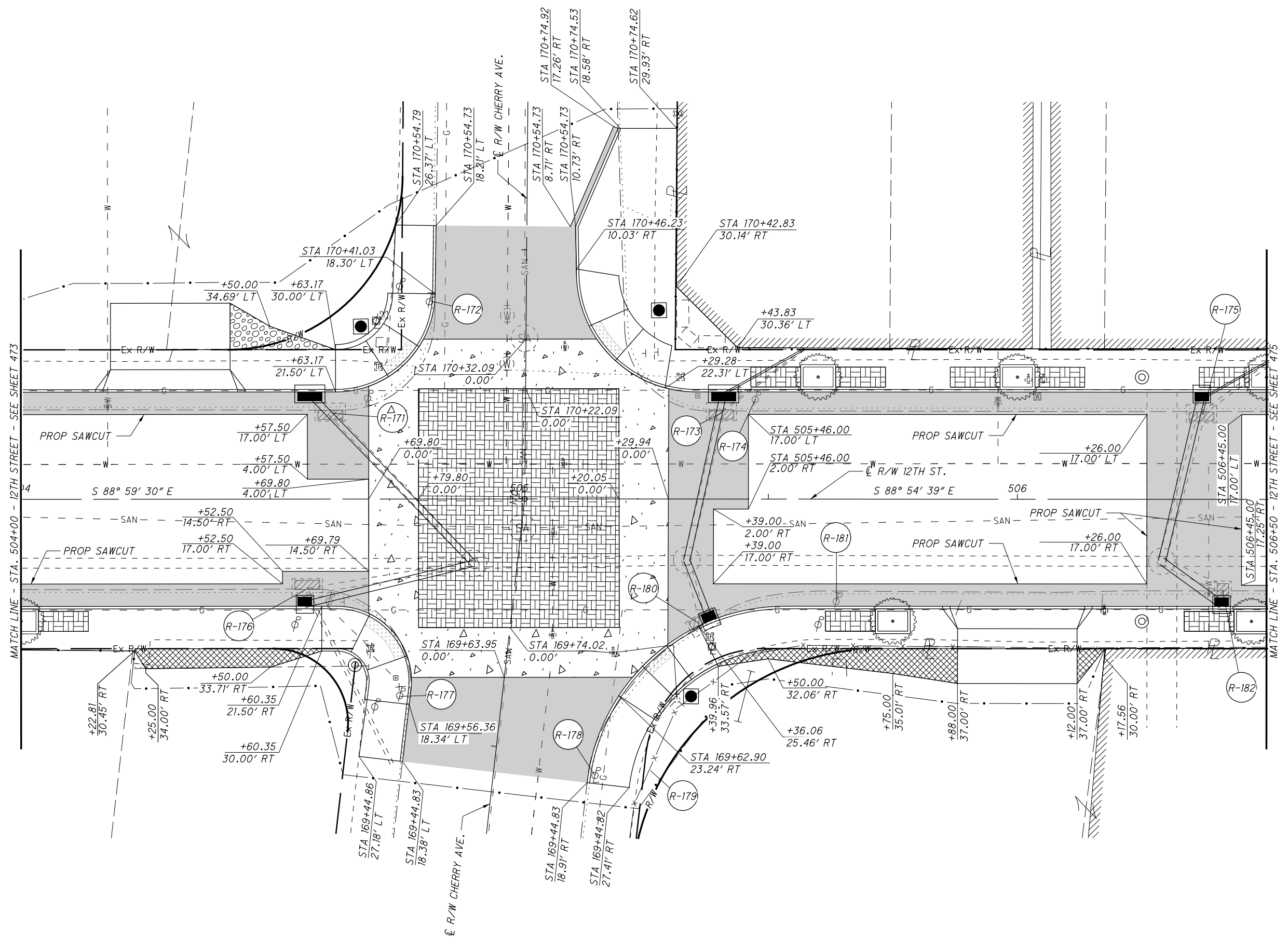


NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

CALCULATED
 MAM
 CHECKED
 JMK

0 5 10 20
 HORIZONTAL
 SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 501+50 TO STA. 504+00



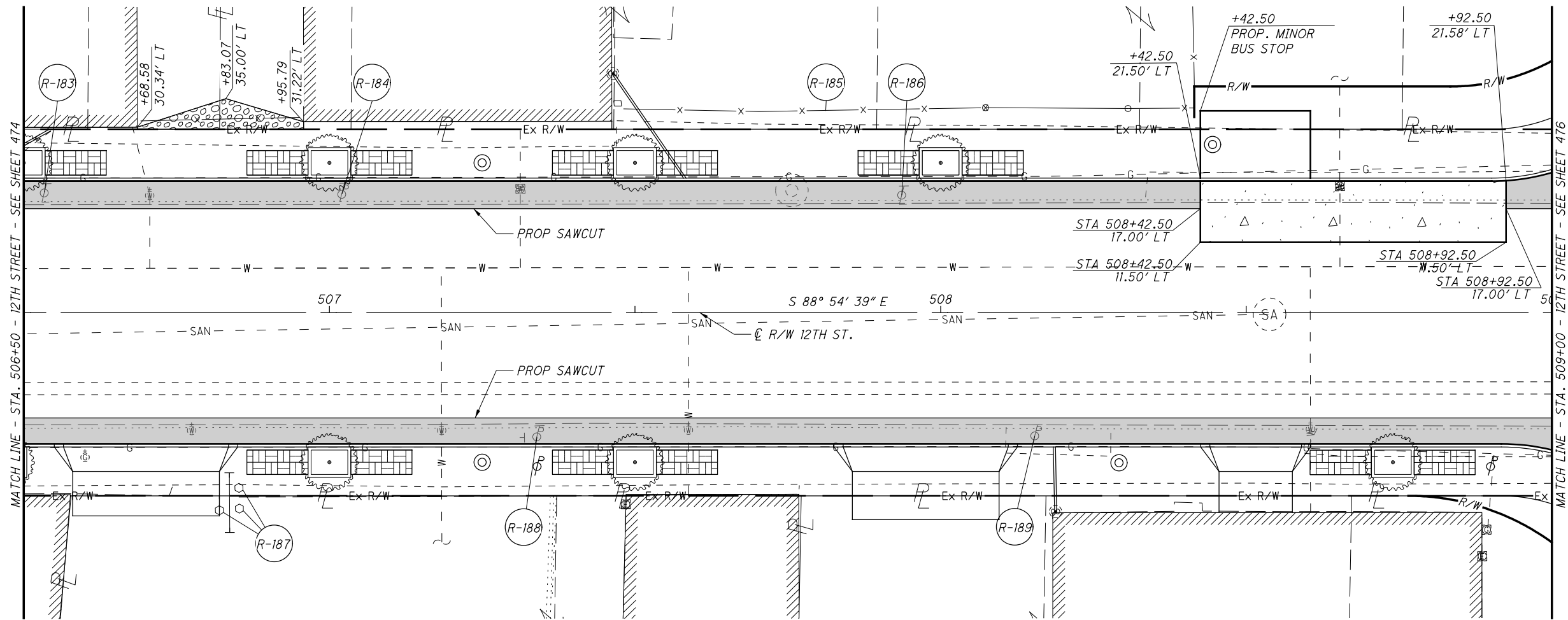
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

CALCULATED
MAM
CHECKED
JMK

0 5 10 20
HORIZONTAL
SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 504+00 TO STA. 506+50

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299G02B.dgn 4/14/2014 4:43:44 PM brion.sedziol" ODOTV8i_PDF_Half.pltctg ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



NOTE:

1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

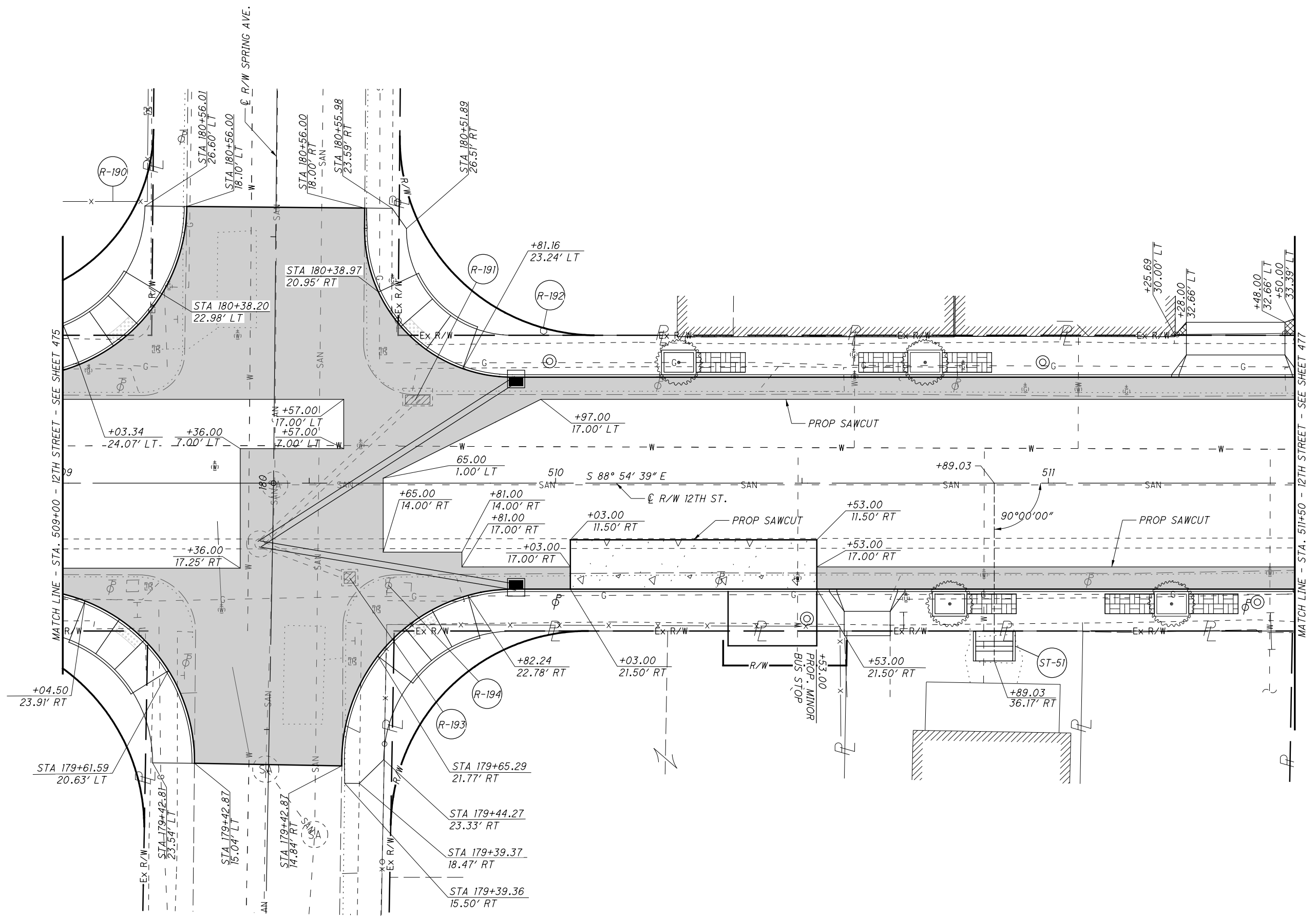


0 5 10 20
HORIZONTAL
SCALE IN FEET

PAVEMENT DETAILS / REMOVAL ITEMS
12TH STREET - STA. 506+50 TO STA. 509+00

STA - 12TH STREET

475
790

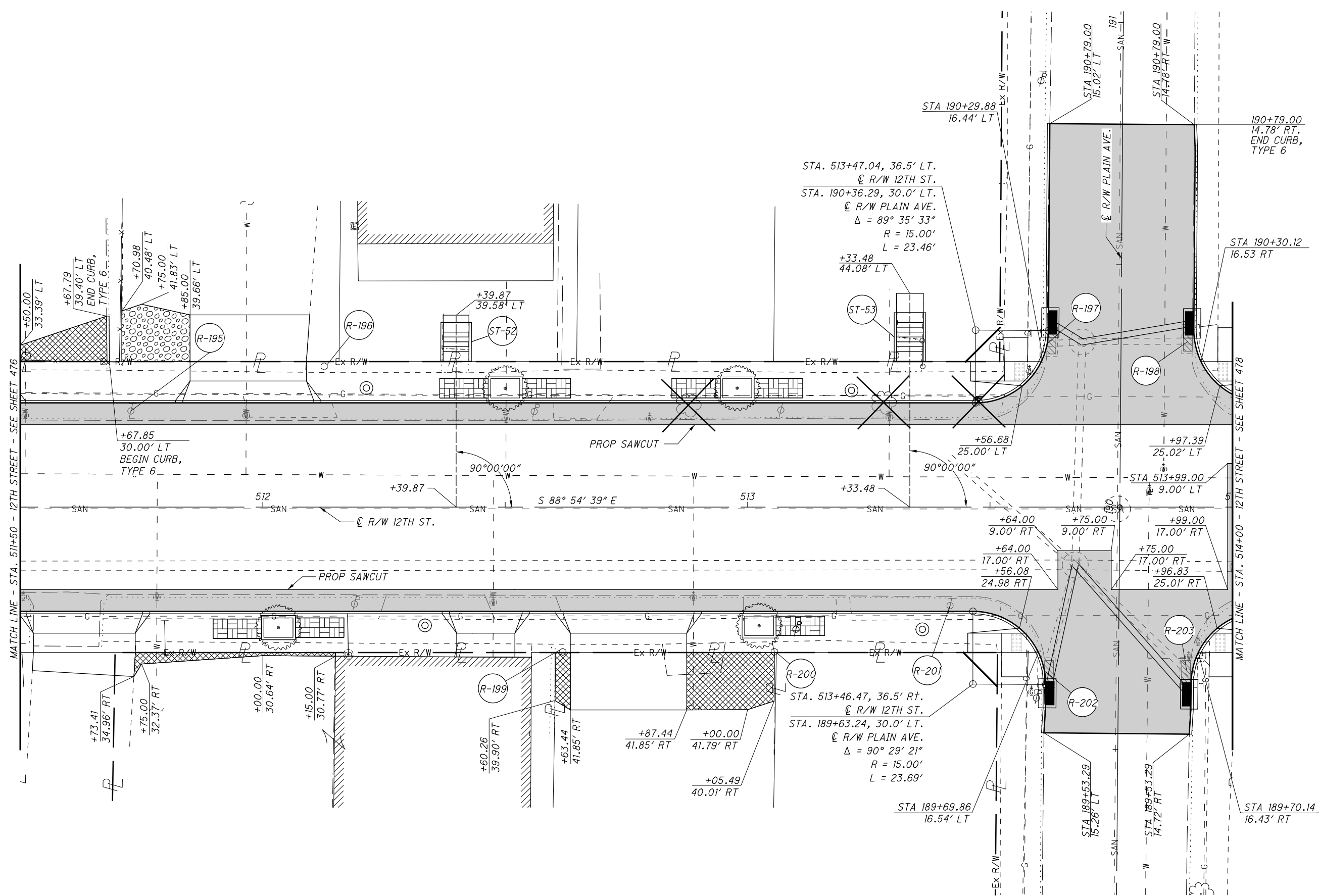


NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

CALCULATED
MAM
CHECKED
JMK

0 5 10 20
HORIZONTAL
SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 509+00 TO STA. 511+50



NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

CALCULATED
MAM
CHECKED
JMK

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 511+50 TO STA. 514+00

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM031.dgn 4/14/2014 4:43:47 PM brian.sedzio" ODOTV8i_PDF_Half.pltcf ODOTV8i_Pen-ME.tbi M-E Companies, Inc.

STA. 514+07.05, 36.5' LT.
 @ R/W 12TH ST.
 STA. 190+36.71, 30.0' RT.
 @ R/W PLAIN AVE.
 $\Delta = 90^\circ 24' 27''$
 $R = 15.00'$
 $L = 23.67'$

+02.92
 36.99' LT.
 BEGIN CURB,
 TYPE 8

+07.05
 21.50' LT

+08.88
 30.00' LT

+24.00
 PROP. MAJOR
 BUS STOP

+20.00
 21.50' LT
 R/W

+70.00
 21.50' LT

+89.66
 30.00' LT
 END CURB
 TYPE 8

+34.99
 38.89' LT

+75.83
 39.21' LT

+16.83
 30.00' LT

+25.00
 32.74' LT

+49.00
 32.74' LT
 +50.00
 32.50' LT

+10.00
 17.00' LT

+10.00
 19.00' LT

+20.00
 4.25' LT

+20.00
 11.50' LT

+70.00
 17.25' LT

+70.00
 11.50' LT

+13.00
 4.25' RT

+13.00
 17.00' RT

+27.90
 90°00'00"

S 88° 54' 39" E

@ R/W 12TH ST.

+03.08
 90°00'00"

MATCH LINE - STA. 514+00 - 12TH STREET - SEE SHEET 477

MATCH LINE - STA. 516+50 - 12TH STREET - SEE SHEET 479

R-204

R-209

ST-54

+27.90
 44.42' RT

+43.29
 31.29' RT

+43.10
 38.22'

+44.30
 37.29' RT

STA. 514+06.48, 36.5' RT.
 @ R/W 12TH ST.
 STA. 189+63.75, 30' RT.
 @ R/W PLAIN AVE.
 $\Delta = 89^\circ 30' 39''$
 $R = 15.00'$
 $L = 23.43'$

+75.00
 35.13' RT

+10.00
 35.87' RT

+22.00
 35.87' RT

+26.95
 36.58' RT

+29.00
 36.88' RT

+65.00
 36.88' RT

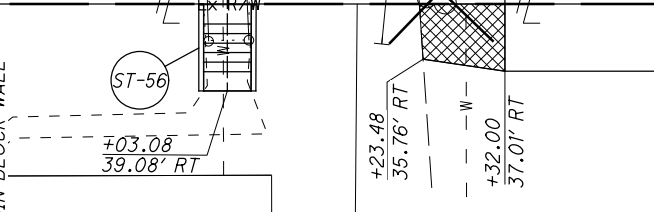
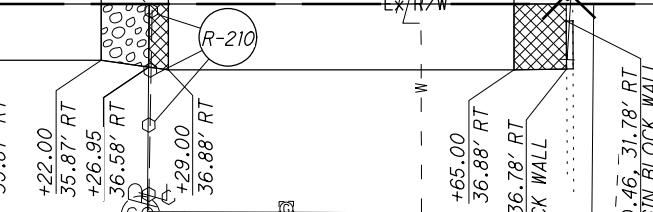
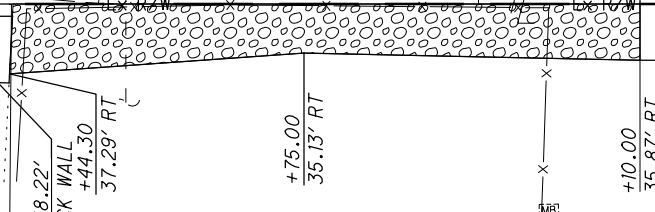
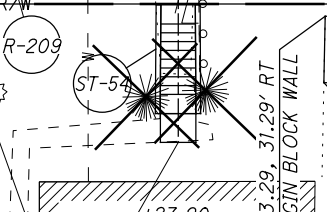
+70.49
 36.78' RT

+70.46
 31.78' RT

+03.08
 39.08' RT

+23.48
 35.76' RT

+32.00
 37.01' RT



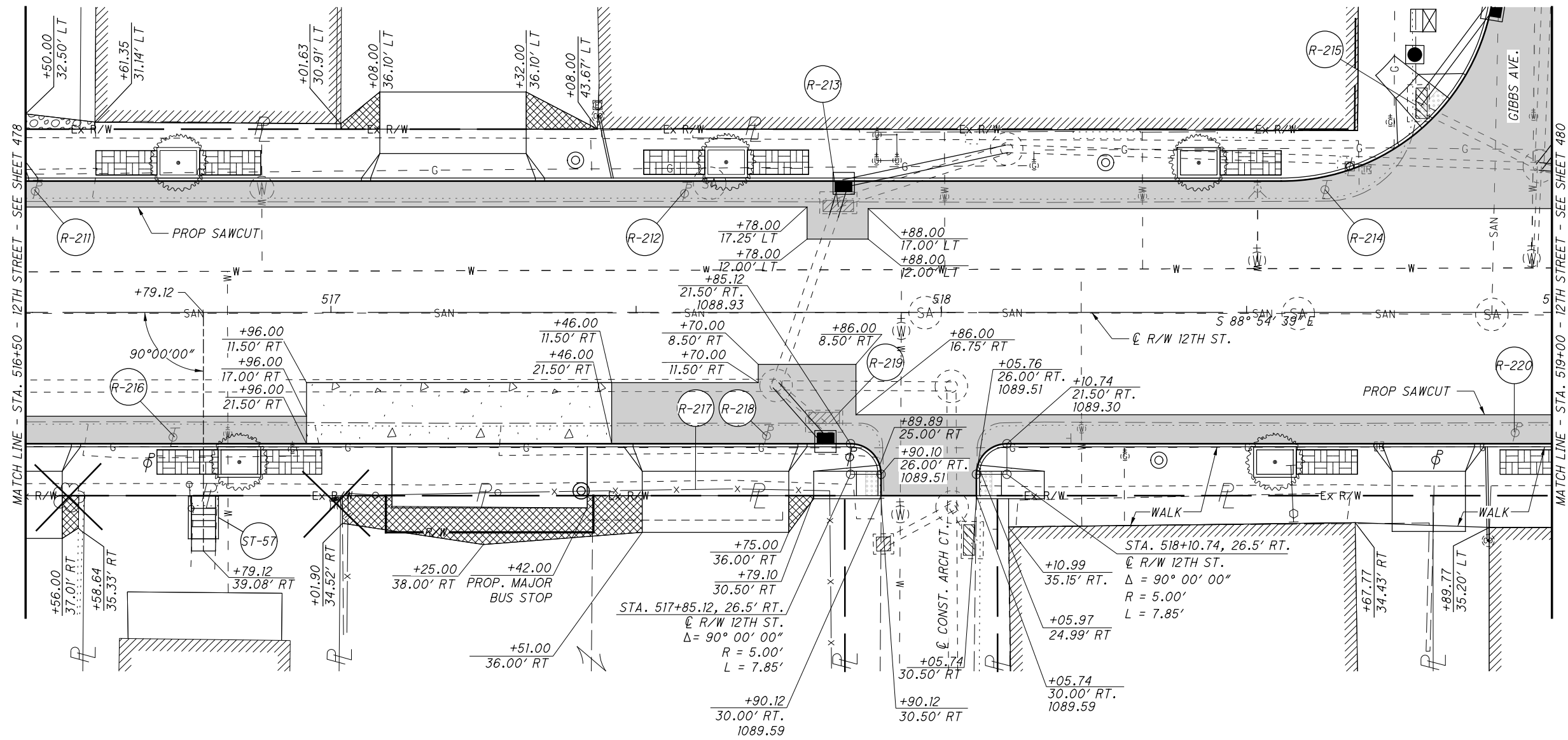
PAVEMENT DETAILS / REMOVAL ITEMS
 12TH STREET - STA. 514+00 TO STA. 516+50

STA - 12TH STREET

478
 790

NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM032.dgn 4/14/2014 4:43:48 PM brion.sedziol\ ODOTV8i_PDF_Half.plt\cfg ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



MATCH LINE - STA. 516+50 - 12TH STREET - SEE SHEET 478

MATCH LINE - STA. 519+00 - 12TH STREET - SEE SHEET 480

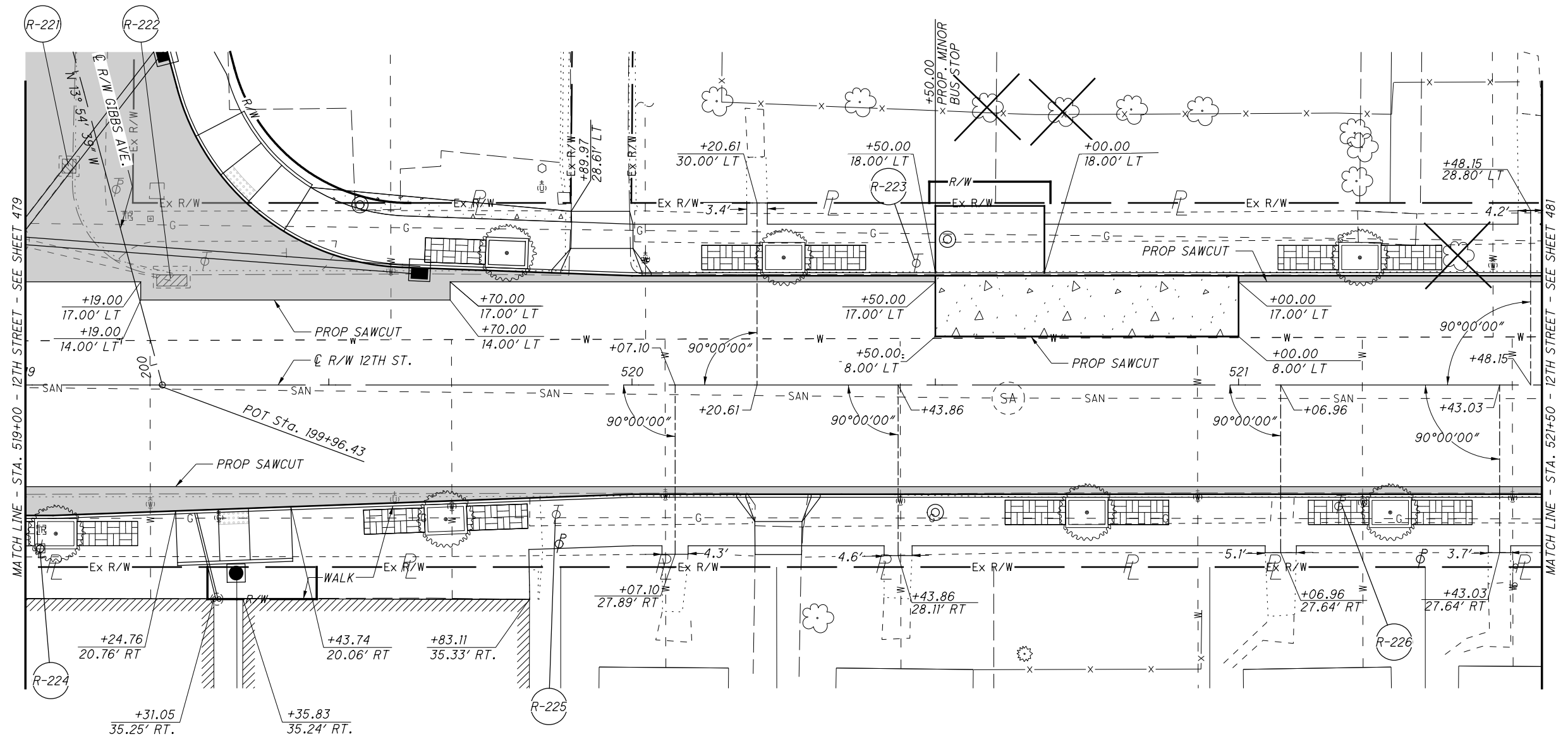
NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.
 2. FOR GIBBS AVE. PAVEMENT DETAILS/REMOVAL ITEMS SEE SHEET 500.

CALCULATED
 MAM
 CHECKED
 JMK

0 5 10 20
 HORIZONTAL
 SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 516+50 TO STA. 519+00

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM033.dgn 4/14/2014 4:43:48 PM brion.sedziol\ ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.



NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.
 2. FOR GIBBS AVE. PAVEMENT DETAILS/REMOVAL ITEMS SEE SHEET 500.

ST-58
 NOT USED

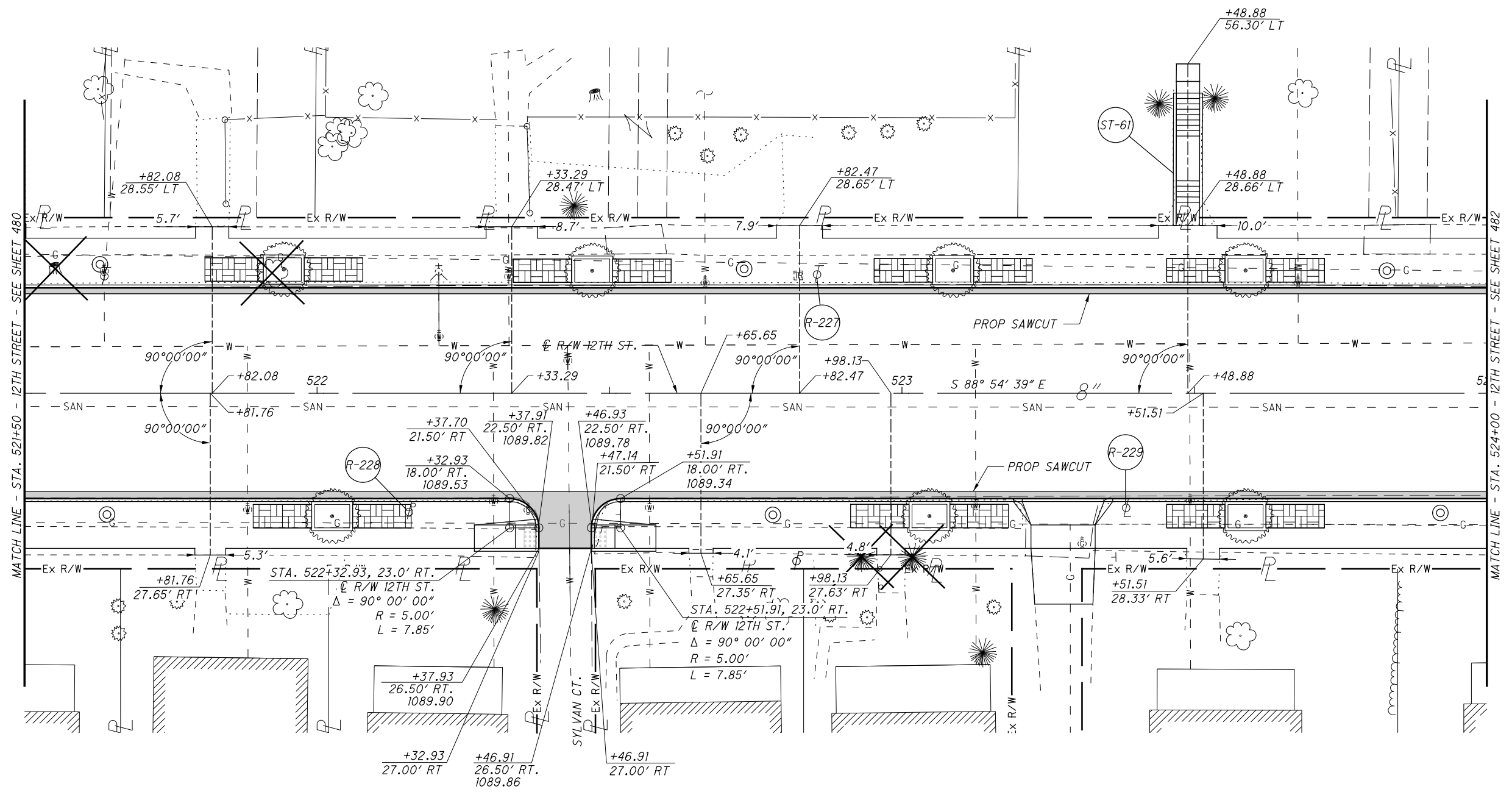
CALCULATED
 MAM
 CHECKED
 JMK

0 5 10 20
 HORIZONTAL
 SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
 12TH STREET - STA. 519+00 TO STA. 521+50

STA-12TH STREET
 480
 790

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM034.dgn 4/14/2014 4:43:49 PM brion.sedziol" ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.



NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

ST-59
NOT USED
ST-60
NOT USED



CALCULATED MAM CHECKED JMK
PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 521+50 TO STA. 524+00

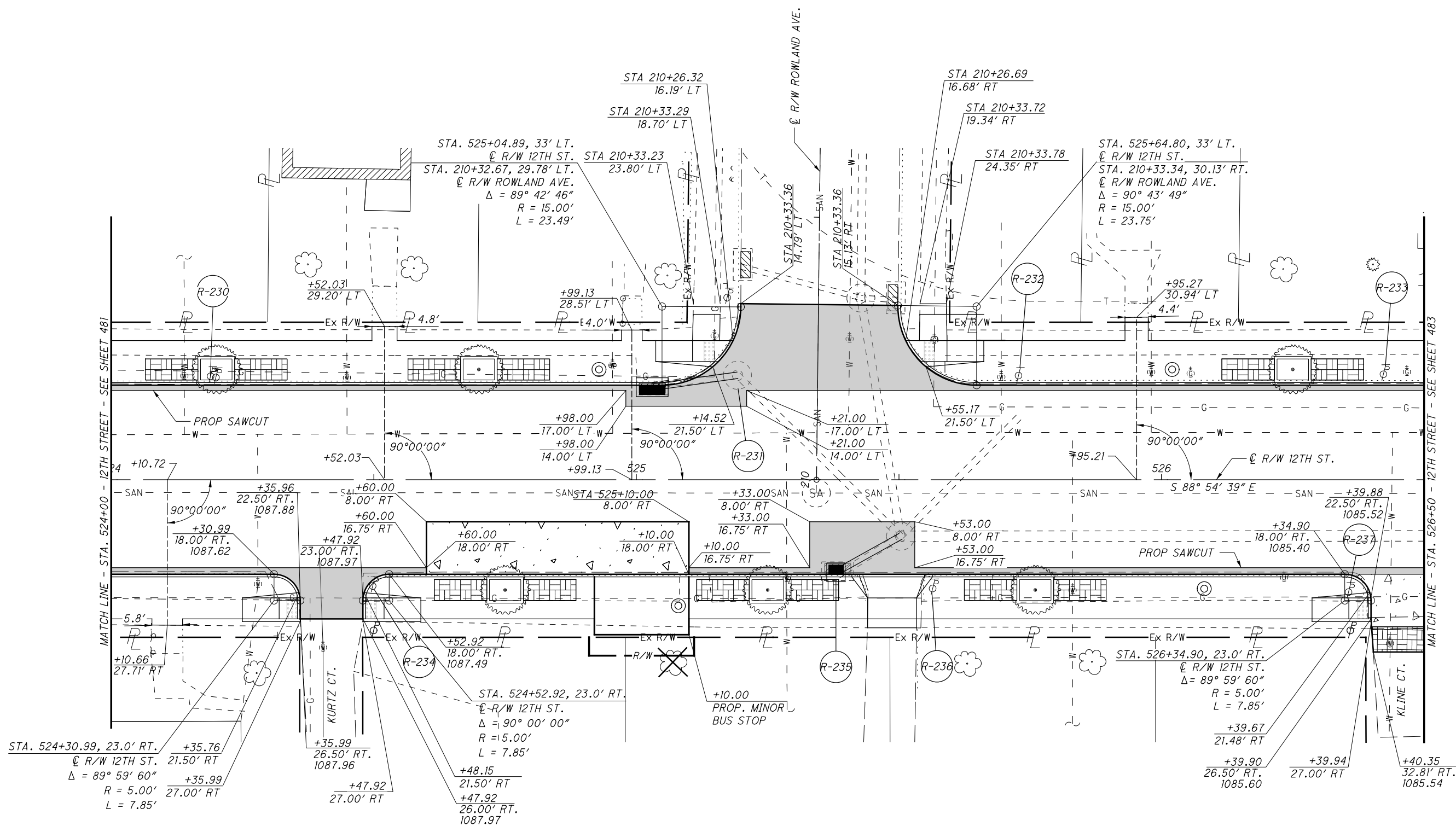
STA-12TH STREET
481
790

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299G035.dgn 4/14/2014 4:43:50 PM brion.sedziol" ODOTV81_PDF_Half_pltcfg ODOTV81_Pen-ME.tbl M-E Companies, Inc.



PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 524+00 TO STA. 526+50

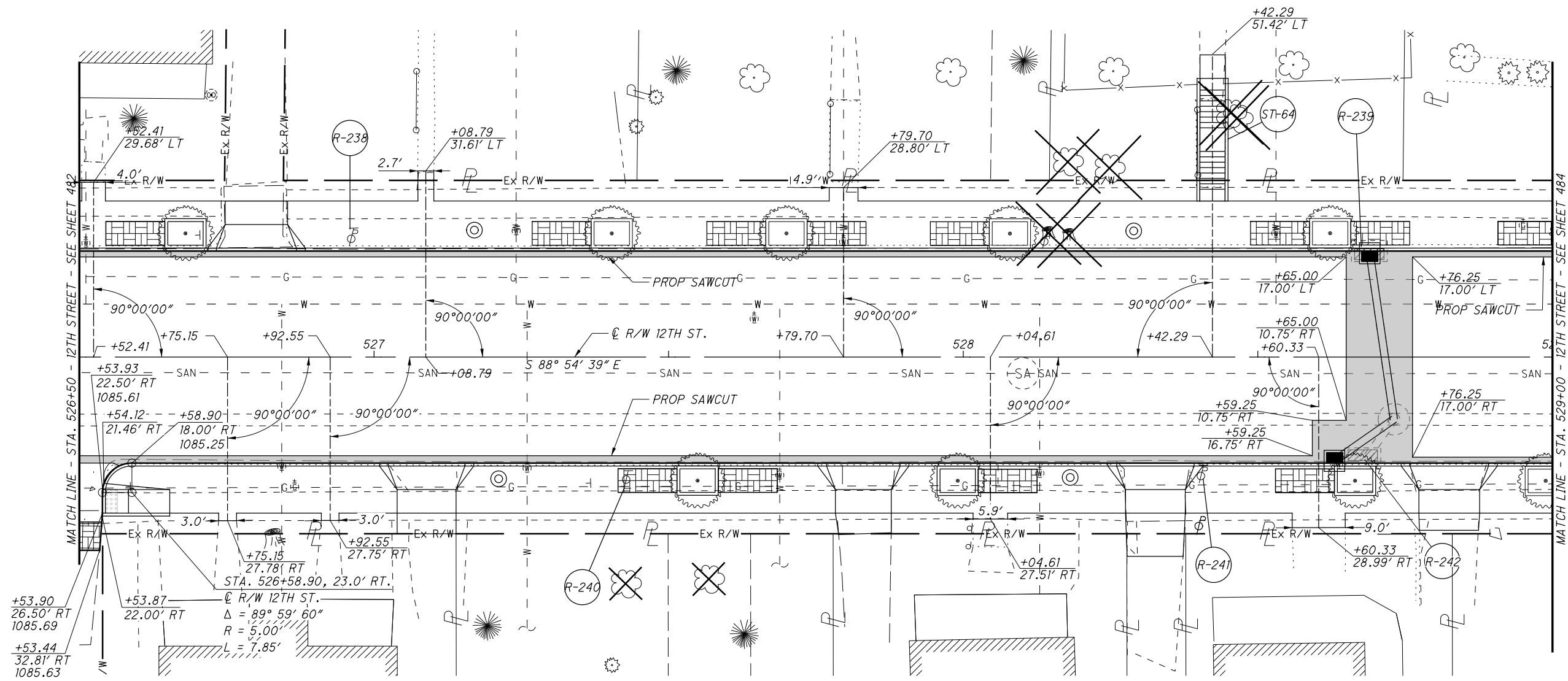
STA-12TH STREET
482
790



NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

- (ST-61) NOT USED
- (ST-62) NOT USED
- (ST-63) NOT USED

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM036.dgn 4/14/2014 4:43:51 PM brian.sezoi\ ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E_Companies, Inc.



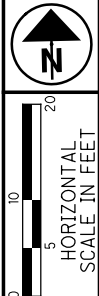
NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

CALCULATED
 MAM
 CHECKED
 JMK

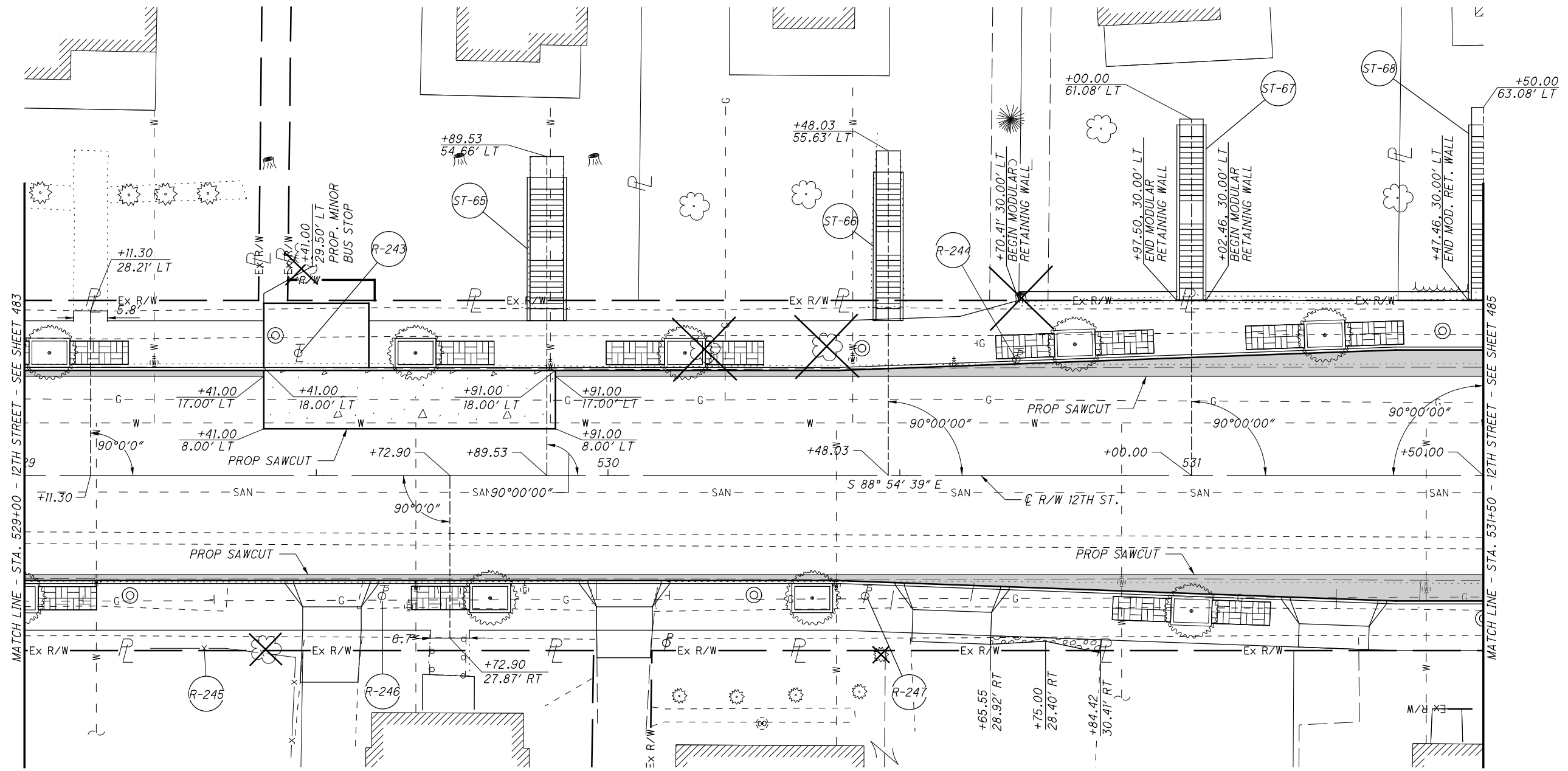
PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 526+50 TO STA. 529+00

STA-12TH STREET

483
 790



J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM037.dgn 4/14/2014 4:43:52 PM brion.sedziol" ODOTV81_PDF_Half_pltfcg ODOTV81_Pen-ME.tbl M-E Companies, Inc.



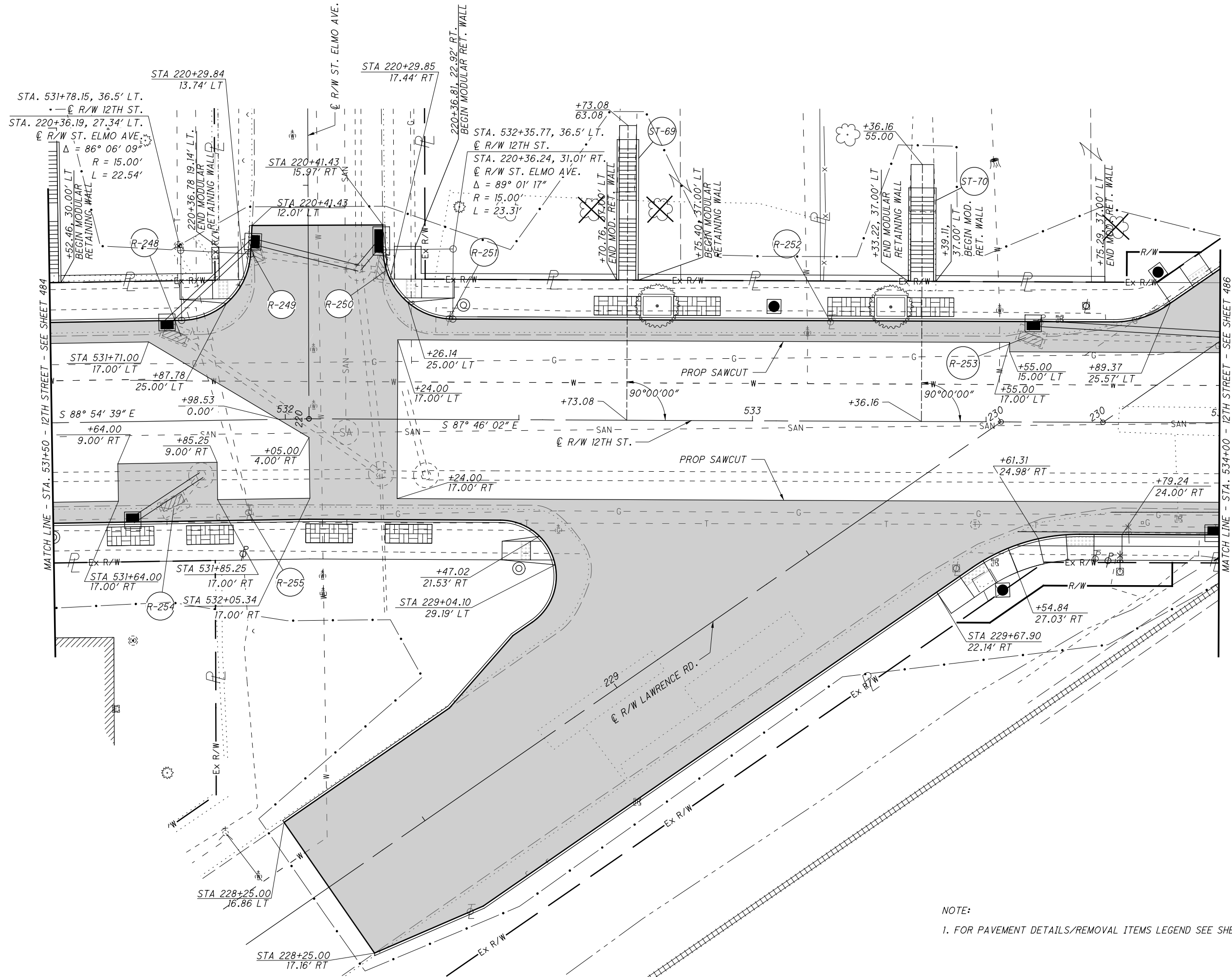
NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.



CALCULATED MAM CHECKED JMK
PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 529+00 TO STA. 531+50

STA-12TH STREET
 484
 790

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM038.dgn 4/14/2014 4:43:53 PM brion.sedziol\ ODOTV81_PDF_half_pltfcg ODOTV81_Pen-ME.tbl M-E Companies, Inc.



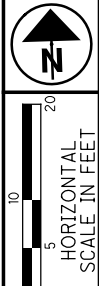
NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

CALCULATED
 MAM
 CHECKED
 JMK

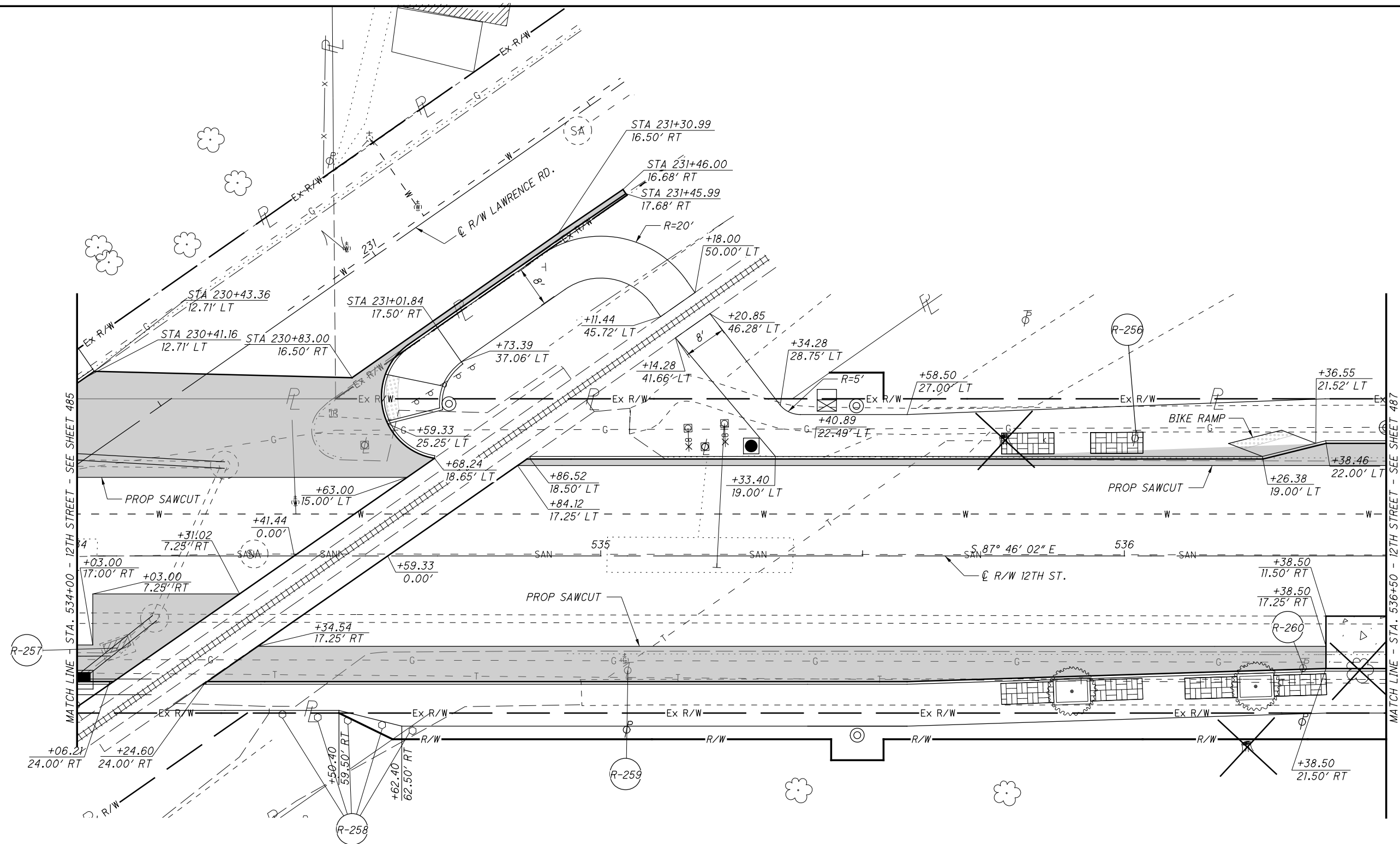
PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 531+50 TO STA. 534+00

STA-12TH STREET

485
 790



J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM039.dgn 4/14/2014 4:43:54 PM brion.sedziol\ ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.



NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

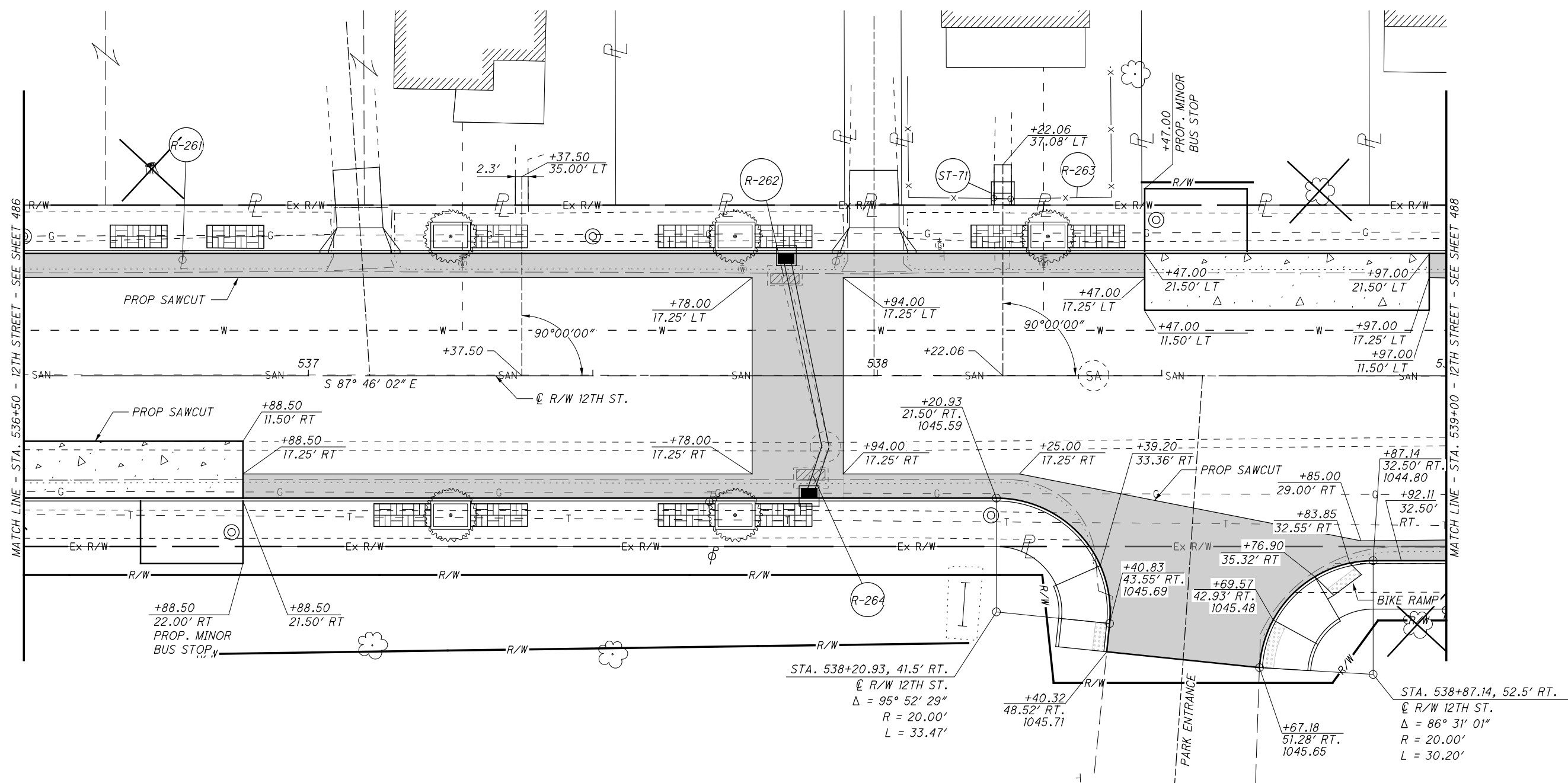
CALCULATED
 MAM
 CHECKED
 JMK

0 5 10 20
 HORIZONTAL
 SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 534+00 TO STA. 536+50

STA-12TH STREET

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM040.dgn 4/14/2014 4:43:55 PM brion.sedziol\ ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



STA. 538+20.93, 41.5' RT.
 C R/W 12TH ST.
 $\Delta = 95^\circ 52' 29''$
 $R = 20.00'$
 $L = 33.47'$

STA. 538+87.14, 52.5' RT.
 C R/W 12TH ST.
 $\Delta = 86^\circ 31' 01''$
 $R = 20.00'$
 $L = 30.20'$

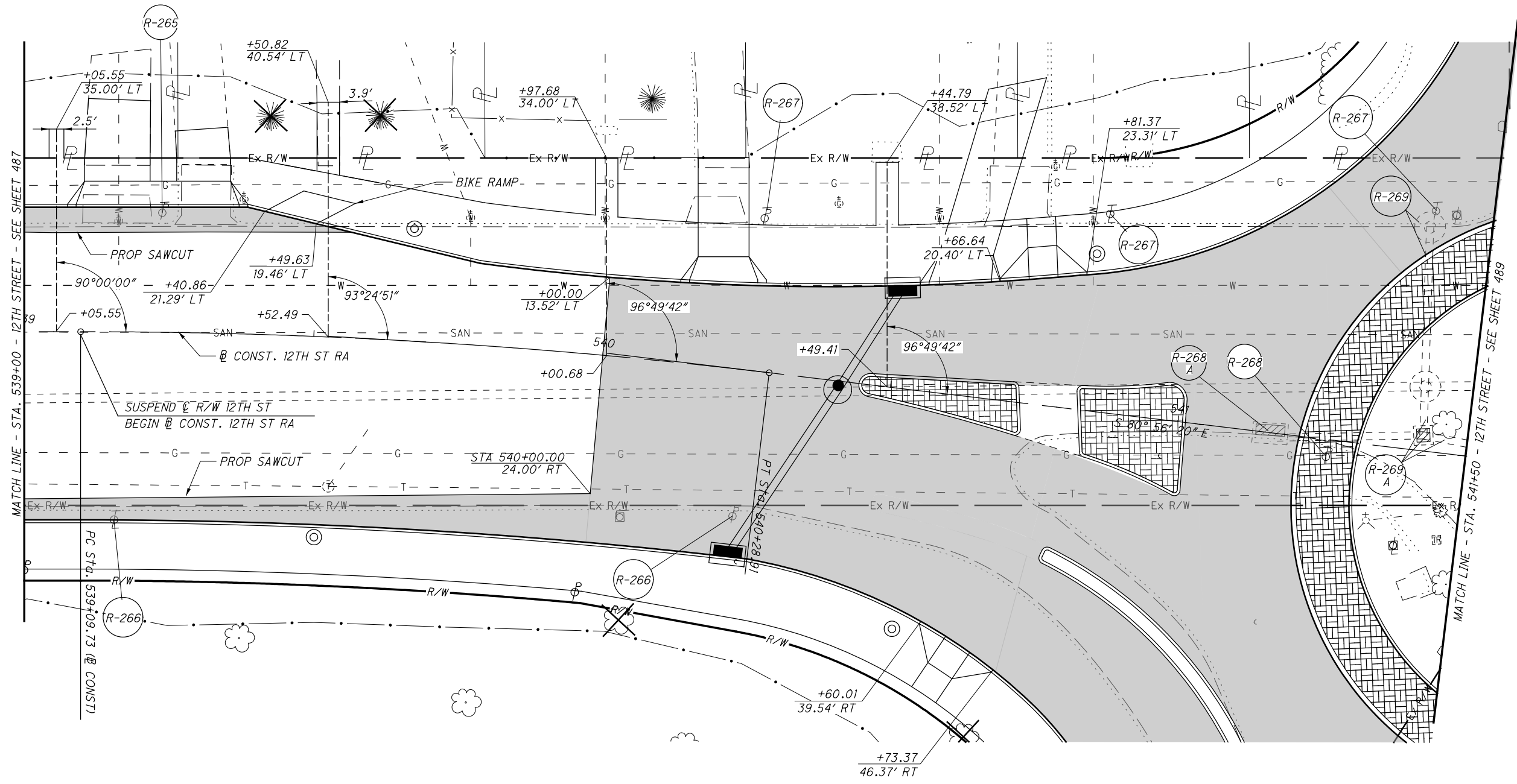
NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

CALCULATED
 MAM
 CHECKED
 JMK

0 5 10 20
 HORIZONTAL
 SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 536+50 TO STA. 539+00

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM041.dgn 4/14/2014 4:43:55 PM brian.sedzio\ ODOTV8i_PDF_Half.plt cfbg ODOTV8i_Pen-ME.tbi M-E Companies, Inc.



NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.
 2. FOR OJAY'S PKWY AND MAPLE AVE. PAVEMENT DETAIL/REMOVAL DETAILS SEE SHEETS 501 & 502.

- ST-72
- ST-73
- ST-74
- ST-75
- NOT USED

CALCULATED
MAM
CHECKED
JMK

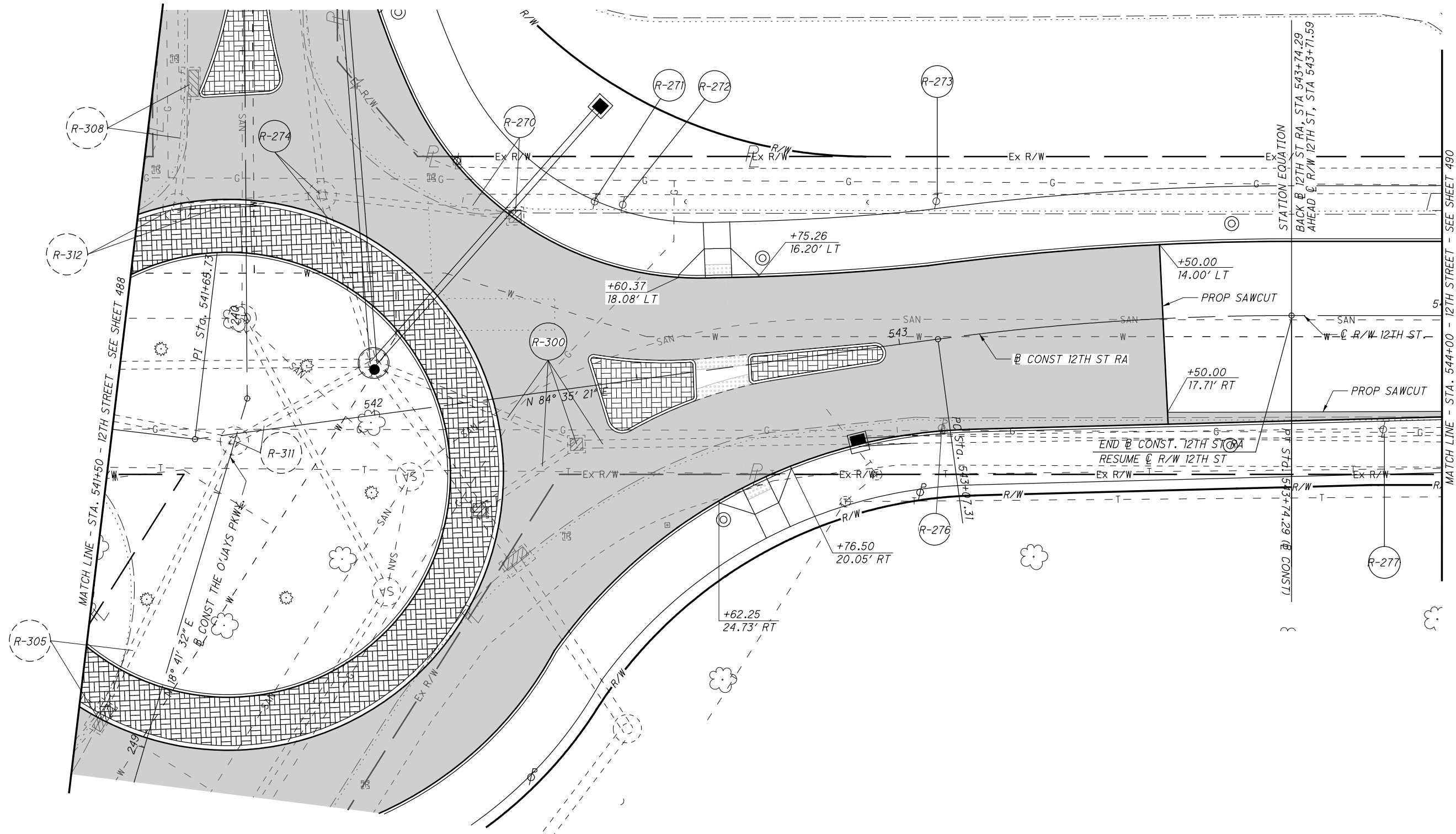
0 5 10 20
HORIZONTAL
SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 539+00 TO STA. 541+50

STA-12TH STREET

488
790

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM042.dgn 4/14/2014 4:43:56 PM brion.sedziol" ODOTV81_PDF_half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

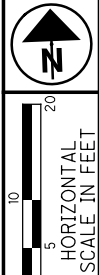


NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.
 2. FOR OJAY'S PKWY AND MAPLE AVE. PAVEMENT DETAIL/REMOVAL DETAILS SEE SHEETS 501 & 502.

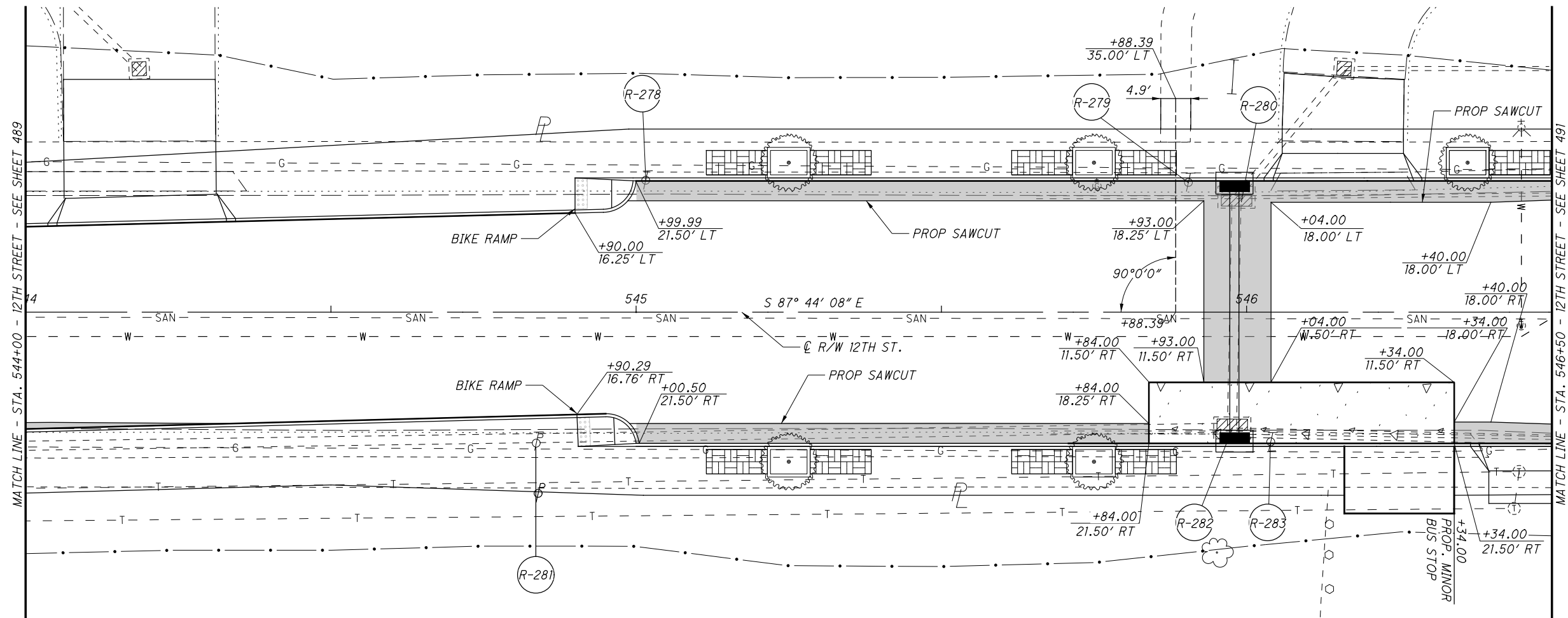
CALCULATED	MAM
CHECKED	JMK

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 541+50 TO STA. 544+00

STA-12TH STREET



J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM04.3.dgn 4/14/2014 4:43:57 PM brion.sedziol\ ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.



NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

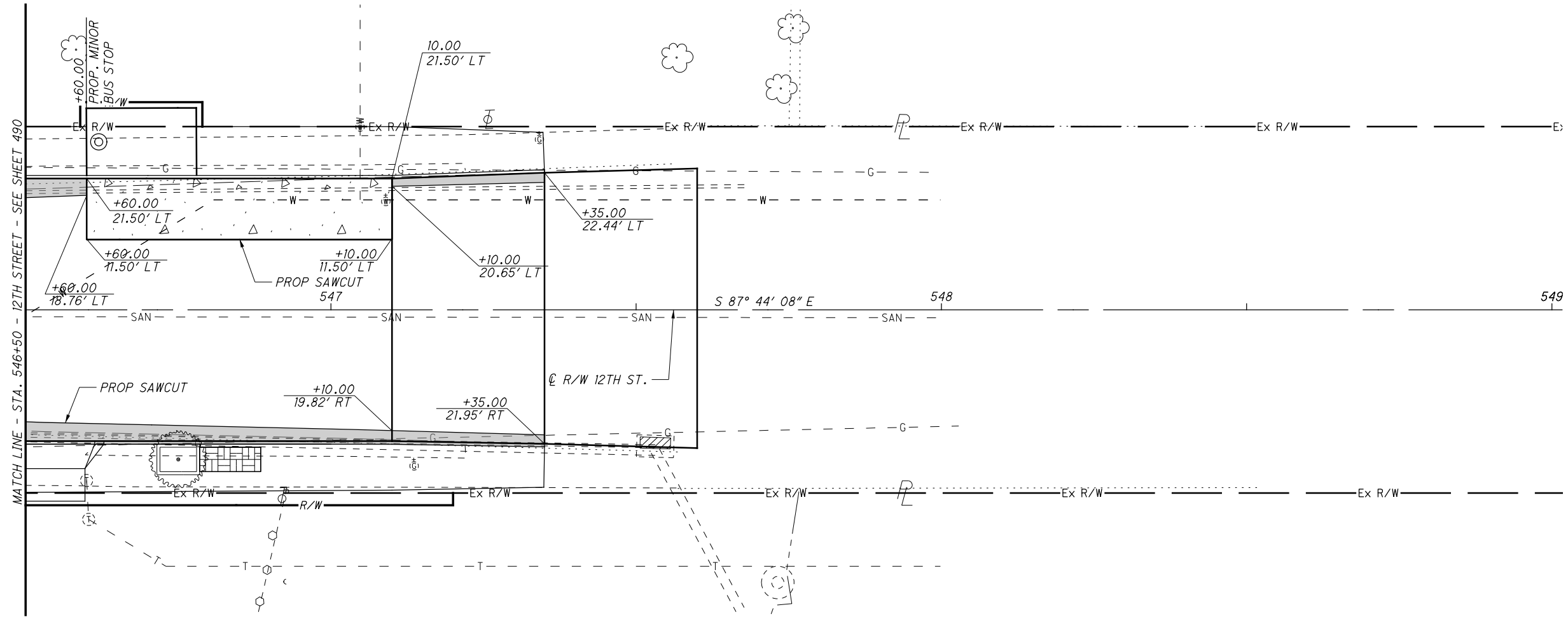
CALCULATED	MAM
CHECKED	JMK

0 5 10 20
 HORIZONTAL SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 544+00 TO STA. 546+50

STA-12TH STREET

490
790



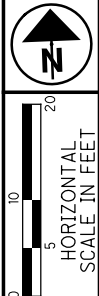
NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

CALCULATED	MAM
CHECKED	JMK

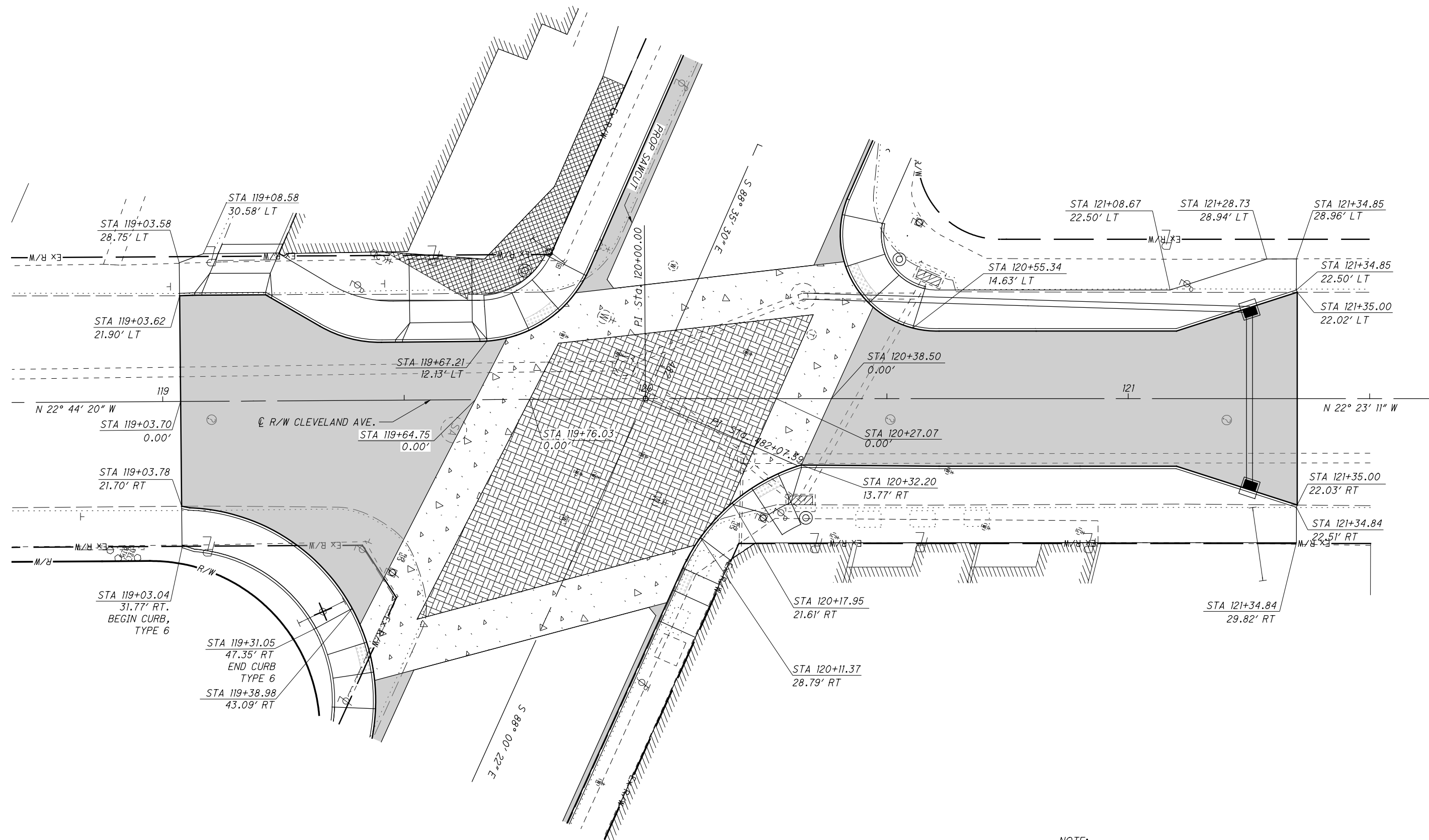
PAVEMENT DETAILS/REMOVAL ITEMS
12TH STREET - STA. 546+50 TO STA. 549+00

STA-12TH STREET

491
790



J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM501.dgn 4/14/2014 4:43:59 PM brian.sedziol\ ODOTV8i_PDF_half.plt\cfig ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



NOTE:
FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

CALCULATED
SHR
CHECKED
RWK

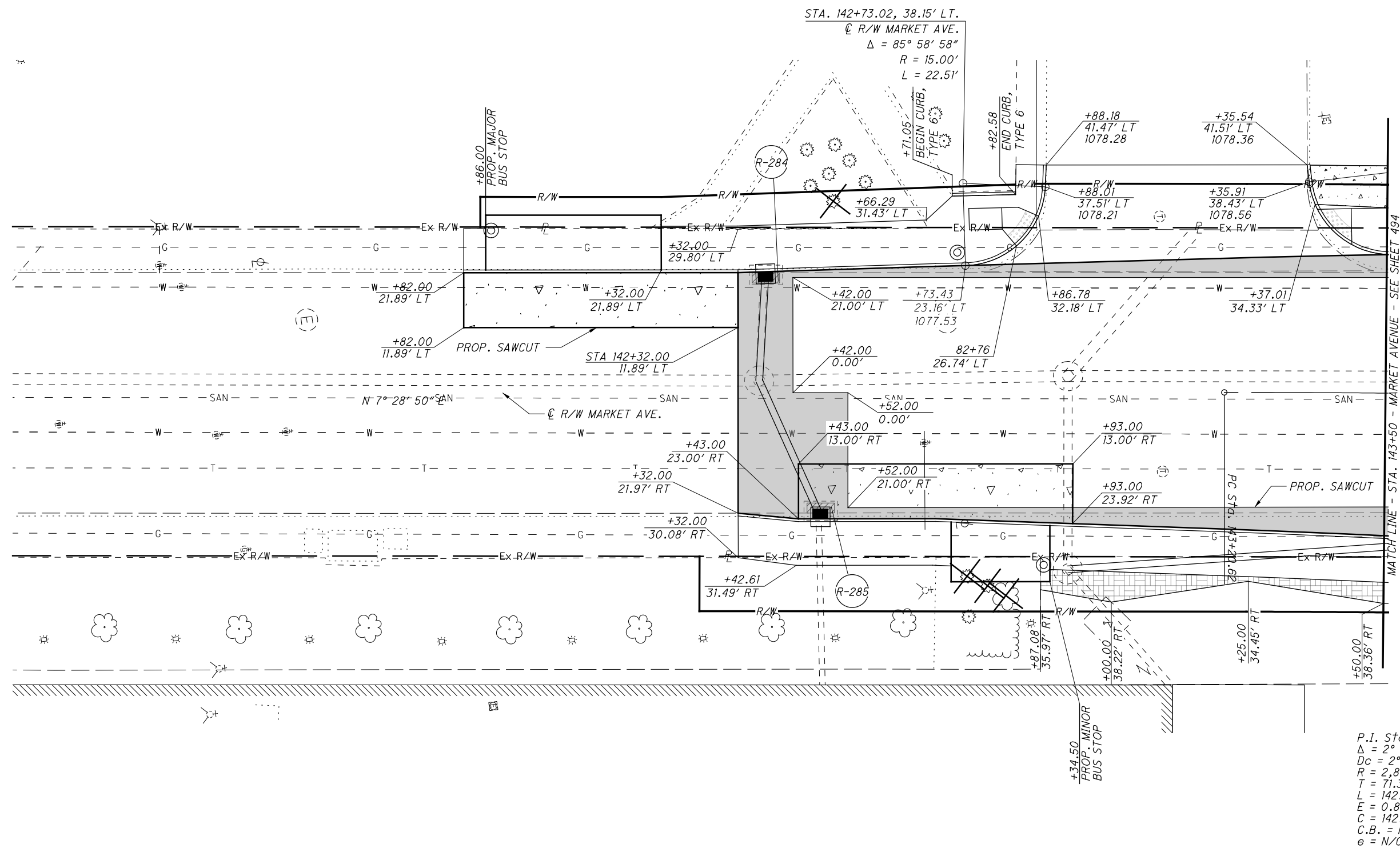
0 5 10 20
HORIZONTAL
SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
CLEVELAND AVE - STA. 118+50 TO STA. 121+50

STA-12TH STREET

492
790

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM201.dgn 4/14/2014 4:44:00 PM brian.sedzia" ODOTV8i_PDF_Half.pltcf ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



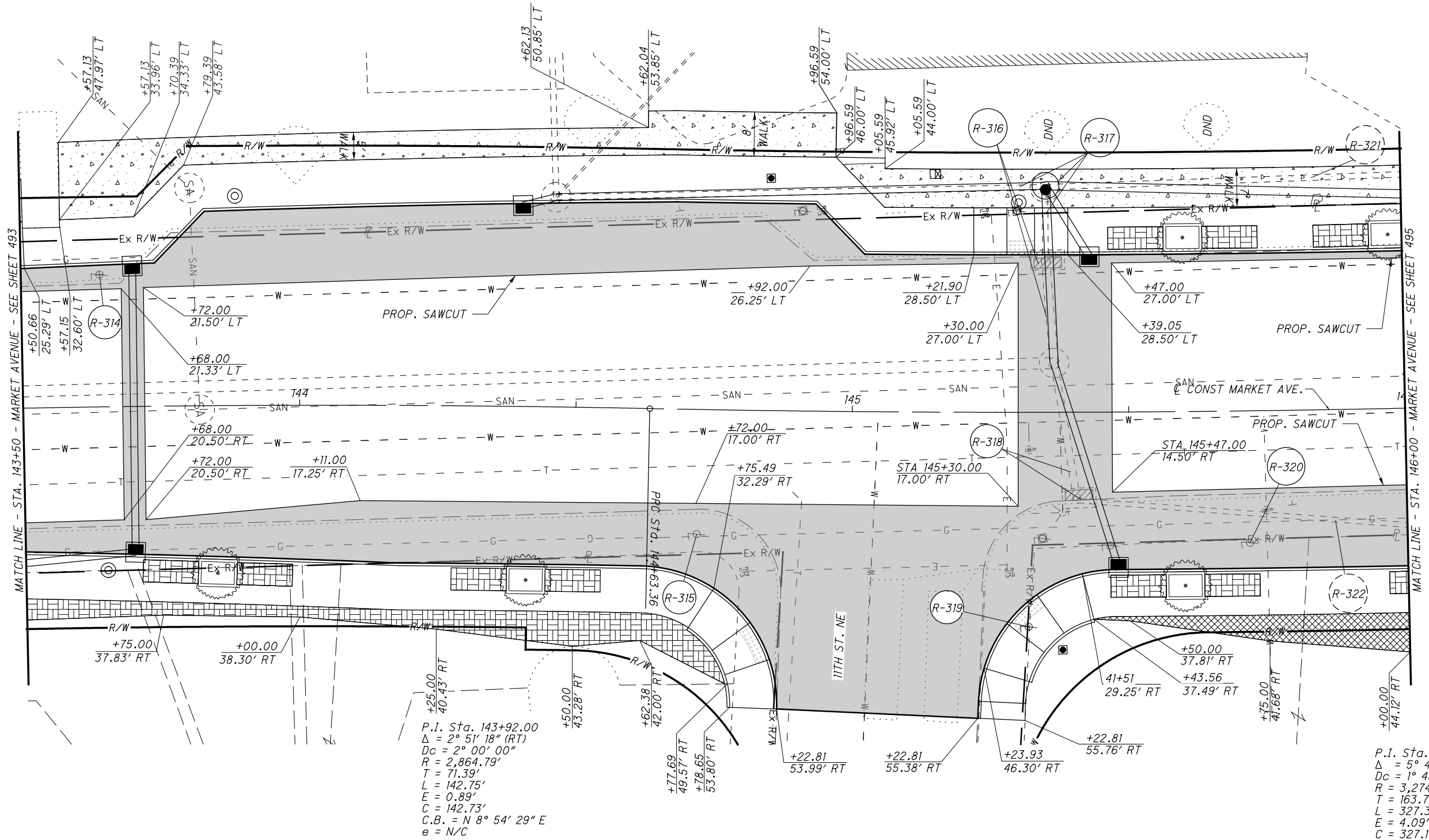
P.I. Sta. 143+92.00
 $\Delta = 2^\circ 51' 18''$ (RT)
 $D_c = 2^\circ 00' 00''$
 $R = 2,864.79'$
 $T = 71.39'$
 $L = 142.75'$
 $E = 0.89'$
 $C = 142.73'$
 $C.B. = N 8^\circ 54' 29'' E$
 $e = N/C$

NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

CALCULATED MAM CHECKED JMK

HORIZONTAL SCALE IN FEET

PAVEMENT DETAILS/REMOVAL ITEMS
MARKET AVE. - STA. 141+82 TO STA. 143+50



P.I. Sta. 143+92.00
 $\Delta = 2^\circ 51' 18''$ (RT)
 $Dc = 2^\circ 00' 00''$
 $R = 2,864.79'$
 $T = 71.39'$
 $L = 142.75'$
 $E = 0.89'$
 $C = 142.73'$
 $C.B. = N 8^\circ 54' 29'' E$
 $e = N/C$

P.I. Sta. 146+27.15
 $\Delta = 5^\circ 43' 40''$ (LT)
 $Dc = 1^\circ 45' 00''$
 $R = 3,274.04'$
 $T = 163.79'$
 $L = 327.31'$
 $E = 4.09'$
 $C = 327.17'$
 $C.B. = N 7^\circ 28' 18'' E$
 $e = N/C$

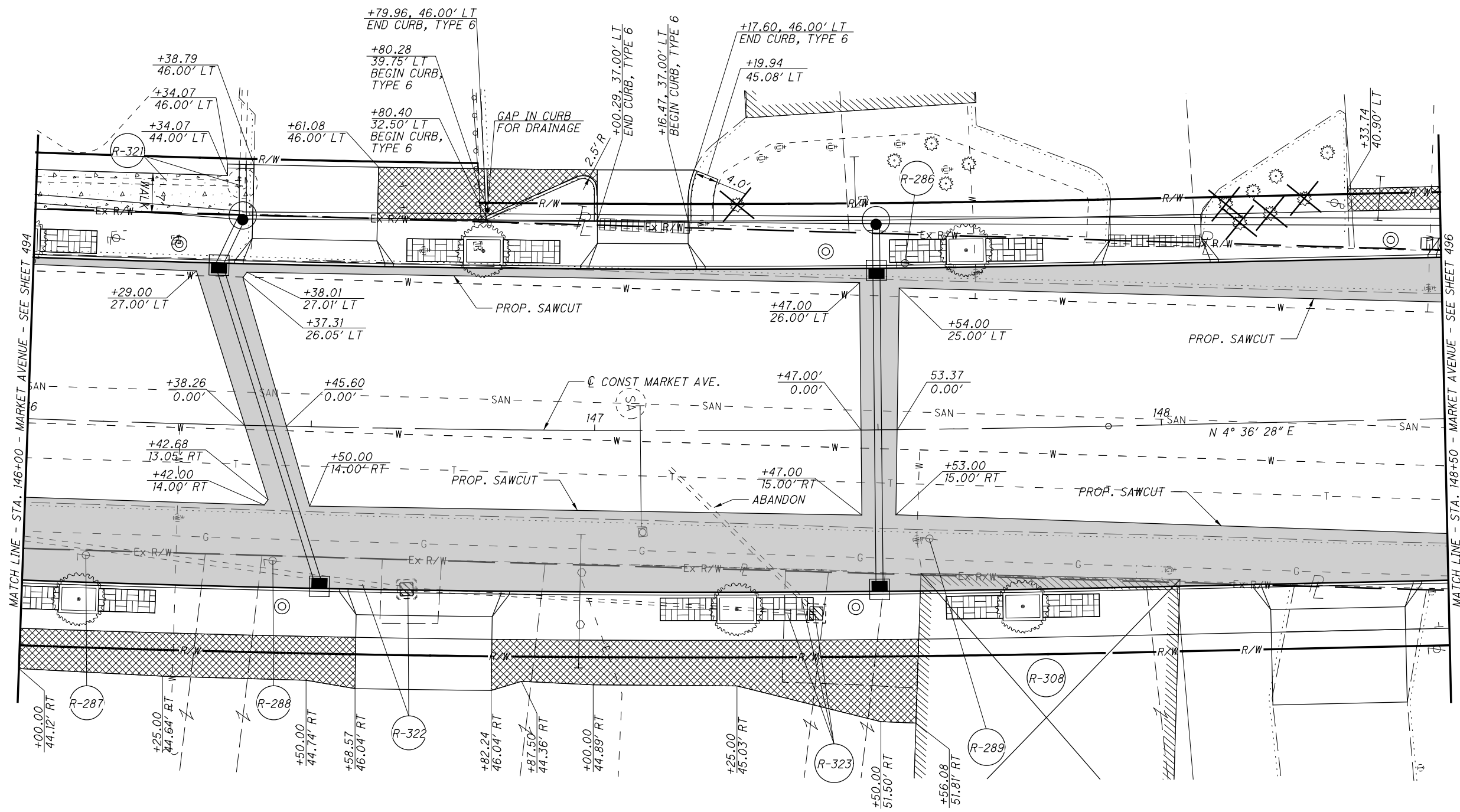
NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.



PAVEMENT DETAILS/REMOVAL ITEMS
 MARKET AVE. - STA. 143+50 TO STA. 146+00

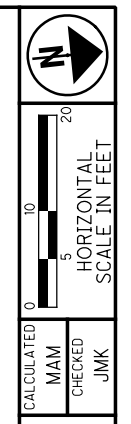
STA-12TH STREET

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM203.dgn 4/14/2014 4:44:01 PM brian.sedzic\ ODOTV8i_PDF_Half.plt\cfig ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



P.I. Sta. 146+27.15
 $\Delta = 5^\circ 43' 40''$ (LT)
 $Dc = 1^\circ 45' 00''$
 $R = 3,274.04'$
 $T = 163.79'$
 $L = 327.31'$
 $E = 4.09'$
 $C = 327.17'$
 $C.B. = N 7^\circ 28' 18'' E$
 $e = N/C$

NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

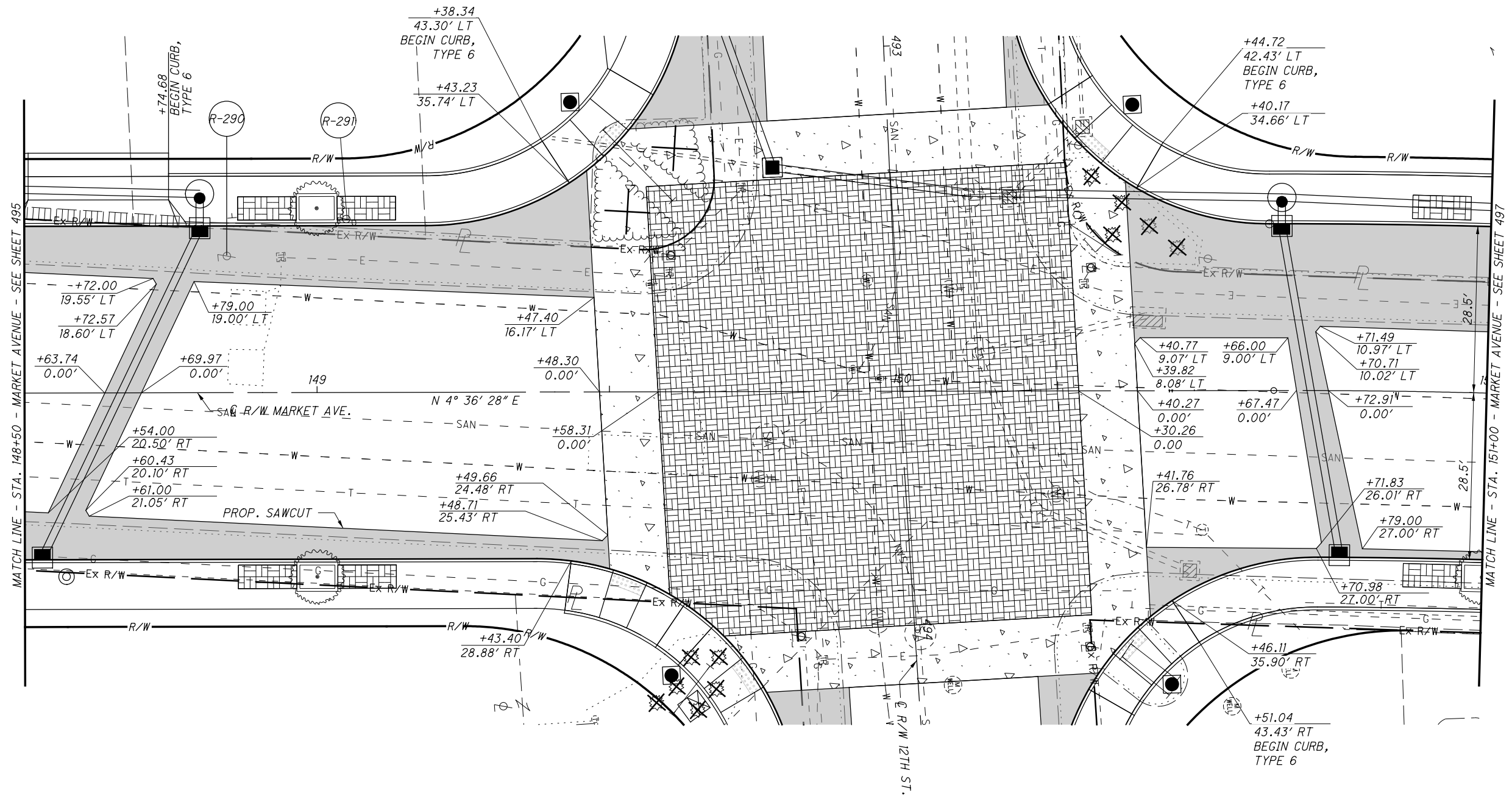


PAVEMENT DETAILS/REMOVAL ITEMS
 MARKET AVE. - STA. 146+00 TO STA. 148+50

STA-12TH STREET

495
 790

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM204.dgn 4/14/2014 4:44:02 PM brion.sedziol\ ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

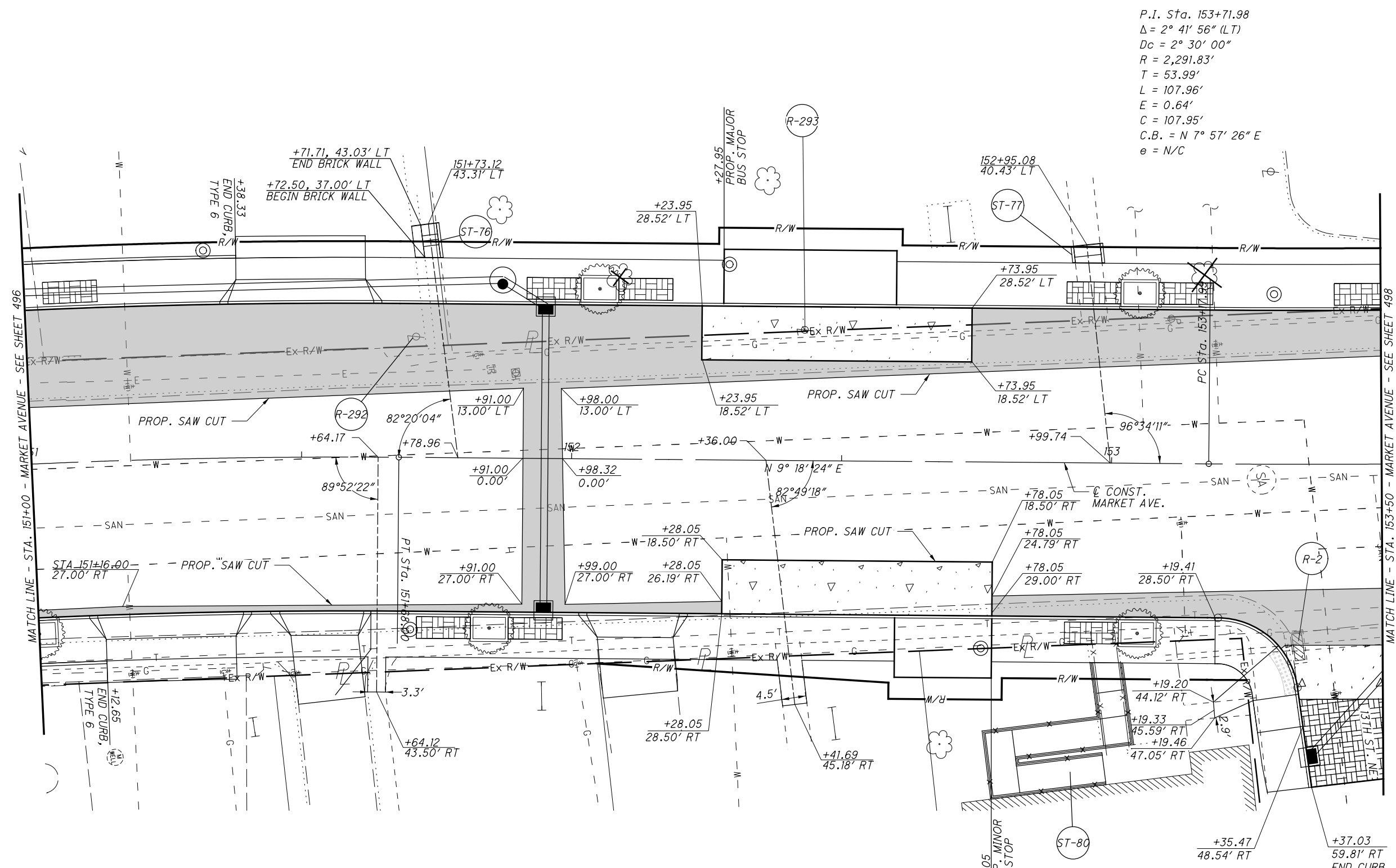


PAVEMENT DETAILS/REMOVAL ITEMS
 MARKET AVE. - STA. 148+50 TO STA. 151+00

STA-12TH STREET
 496
 790

CALCULATED
 MAM
 CHECKED
 JMK

J:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM205.dgn 4/14/2014 4:44:03 PM brion.sedziol" ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.



P.I. Sta. 153+71.98
 $\Delta = 2^\circ 41' 56''$ (LT)
 $Dc = 2^\circ 30' 00''$
 $R = 2,291.83'$
 $T = 53.99'$
 $L = 107.96'$
 $E = 0.64'$
 $C = 107.95'$
 $C.B. = N 7^\circ 57' 26'' E$
 $e = N/C$

P.I. Sta. 151+15.82
 $\Delta = 4^\circ 41' 56''$ (RT)
 $Dc = 4^\circ 30' 00''$
 $R = 1,273.24'$
 $T = 52.24'$
 $L = 104.42'$
 $E = 1.07'$
 $C = 104.39'$
 $C.B. = N 6^\circ 57' 26'' E$

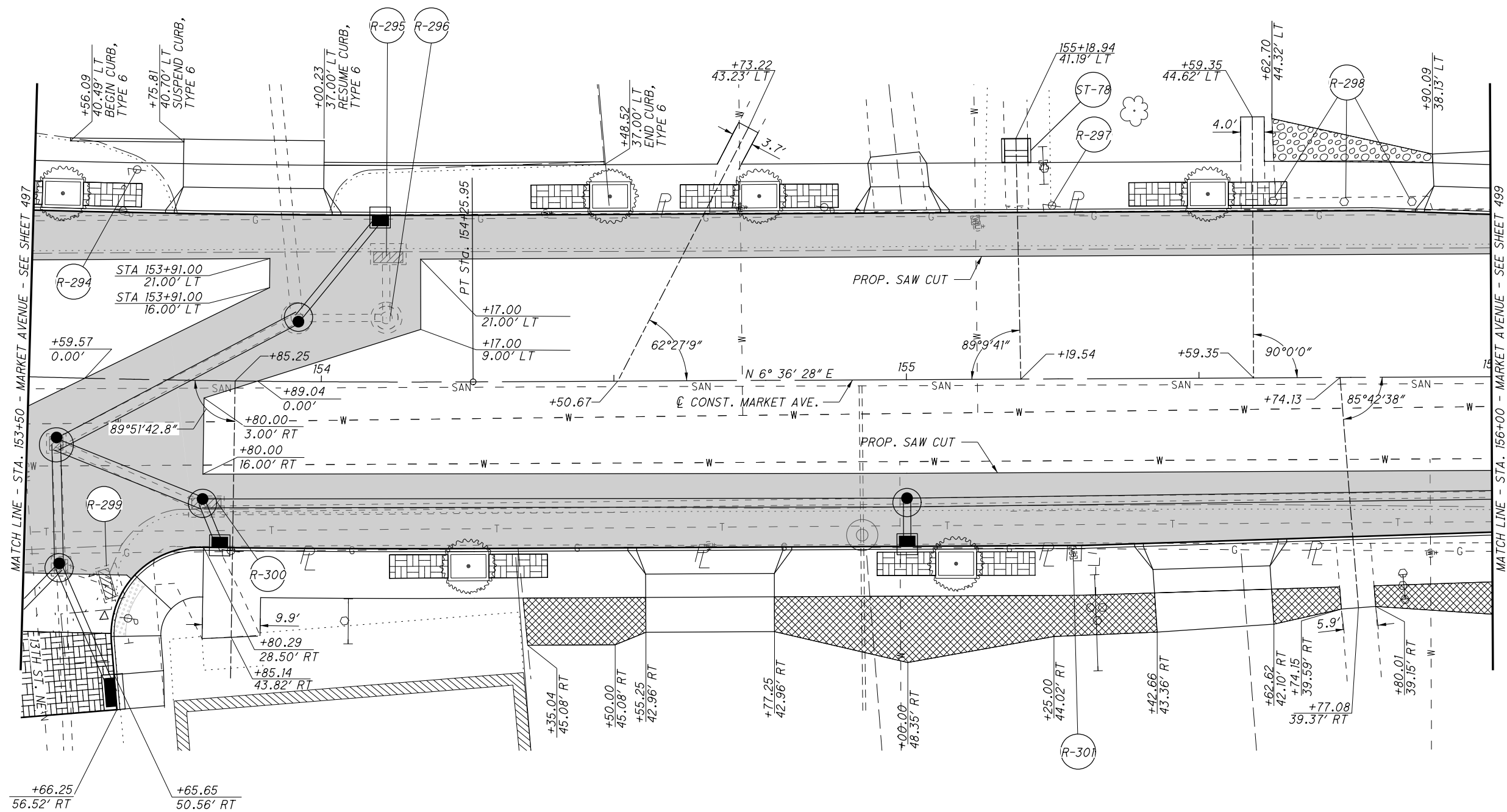
NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.



PAVEMENT DETAILS/REMOVAL ITEMS
 MARKET AVE. - STA. 151+00 TO STA. 153+50

STA-12TH STREET
 497
 790

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P.I. Sta. 153+71.98
 $\Delta = 2^\circ 41' 56''$ (LT)
 $Dc = 2^\circ 30' 00''$
 $R = 2,291.83'$
 $T = 53.99'$
 $L = 107.96'$
 $E = 0.64'$
 $C = 107.95'$
 $C.B. = N 7^\circ 57' 26'' E$
 $e = N/C$

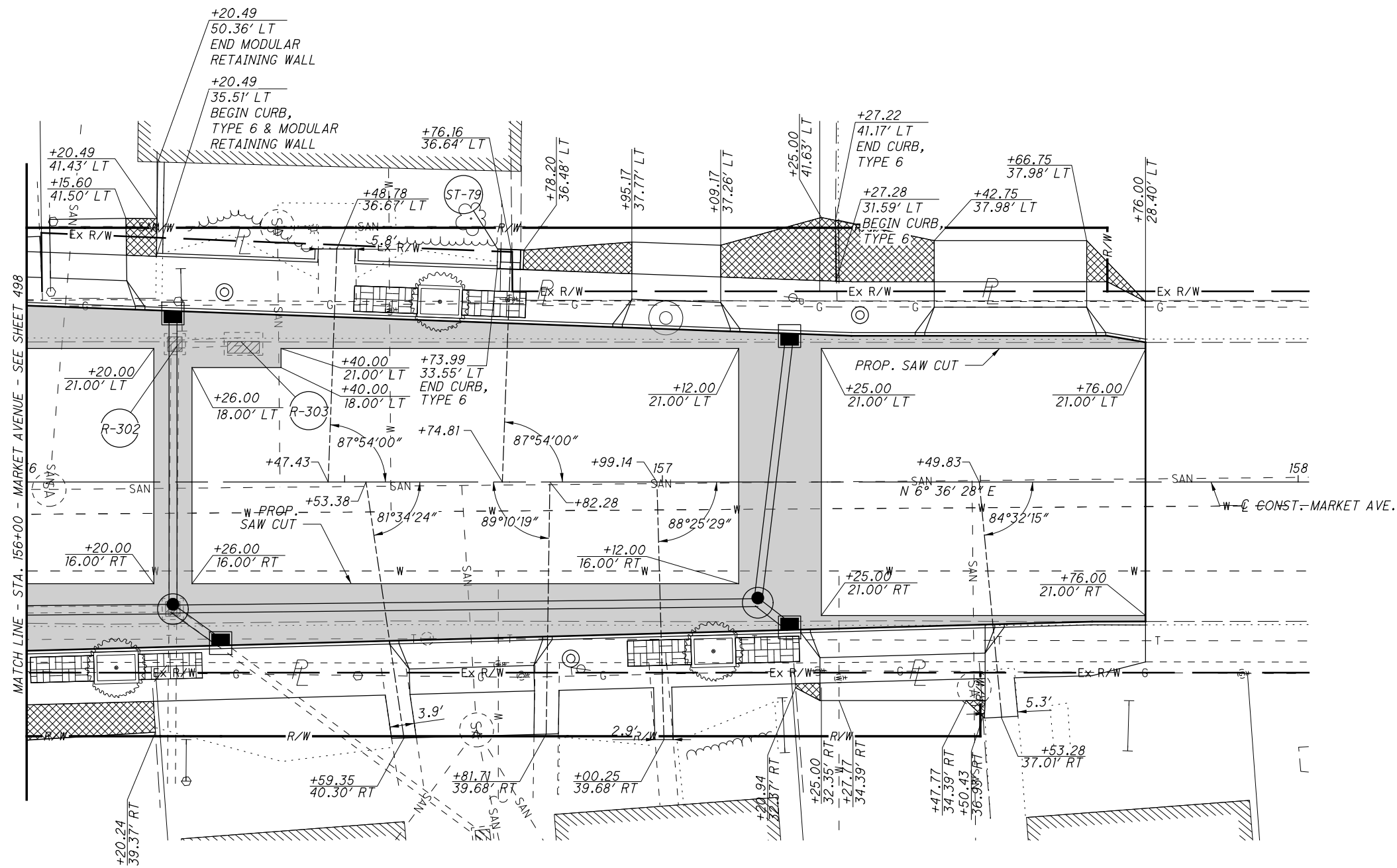
NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

CALCULATED
 MAM
 CHECKED
 JMK

0 5 10 20
 HORIZONTAL
 SCALE IN FEET

PAVEMENT DETAILS / REMOVAL ITEMS
MARKET AVE. - STA. 153+50 TO STA. 156+00

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NOTE:

1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

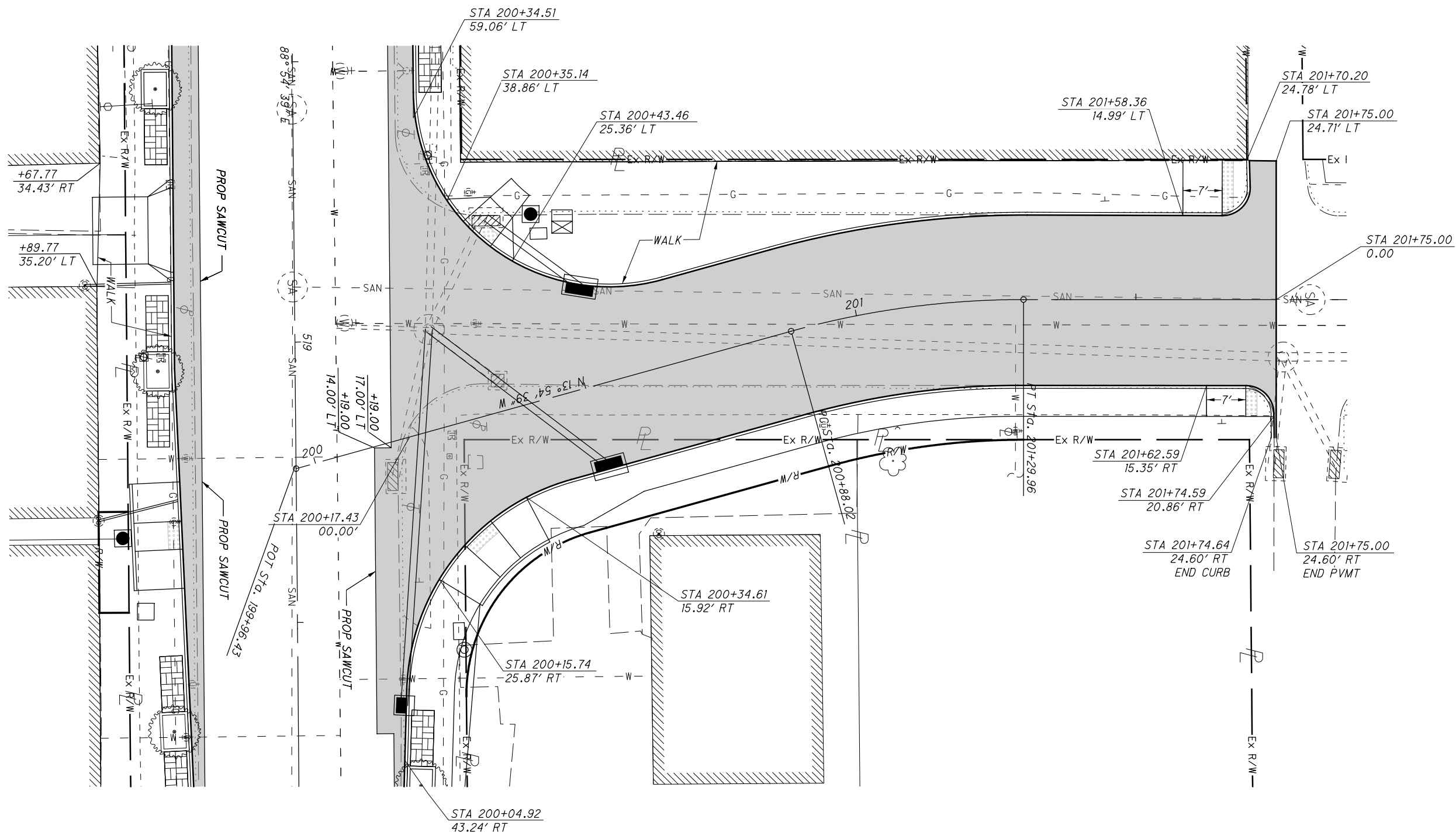


CALCULATED
SHR
CHECKED
RWK

PAVEMENT DETAILS/REMOVAL ITEMS
MARKET AVE. STA. 156+00 TO STA 157+76.00

STA-12TH STREET

499
790



NOTE:
1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.



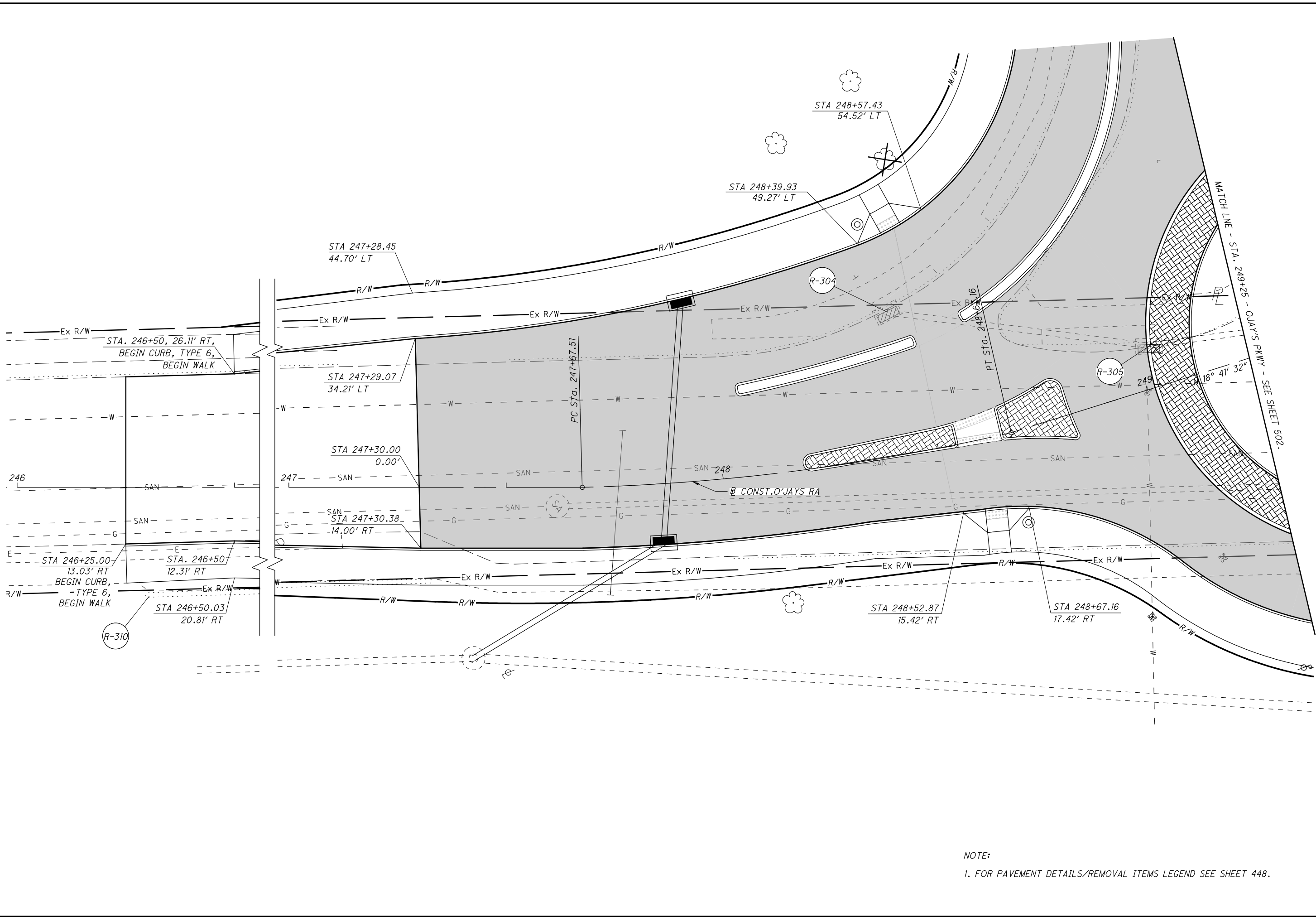
CALCULATED	MAM
CHECKED	JMK

**PAVEMENT DETAILS/REMOVAL ITEMS
GIBBS AVE STA. 199+96 TO STA. 201+25**

STA-12TH STREET



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NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.

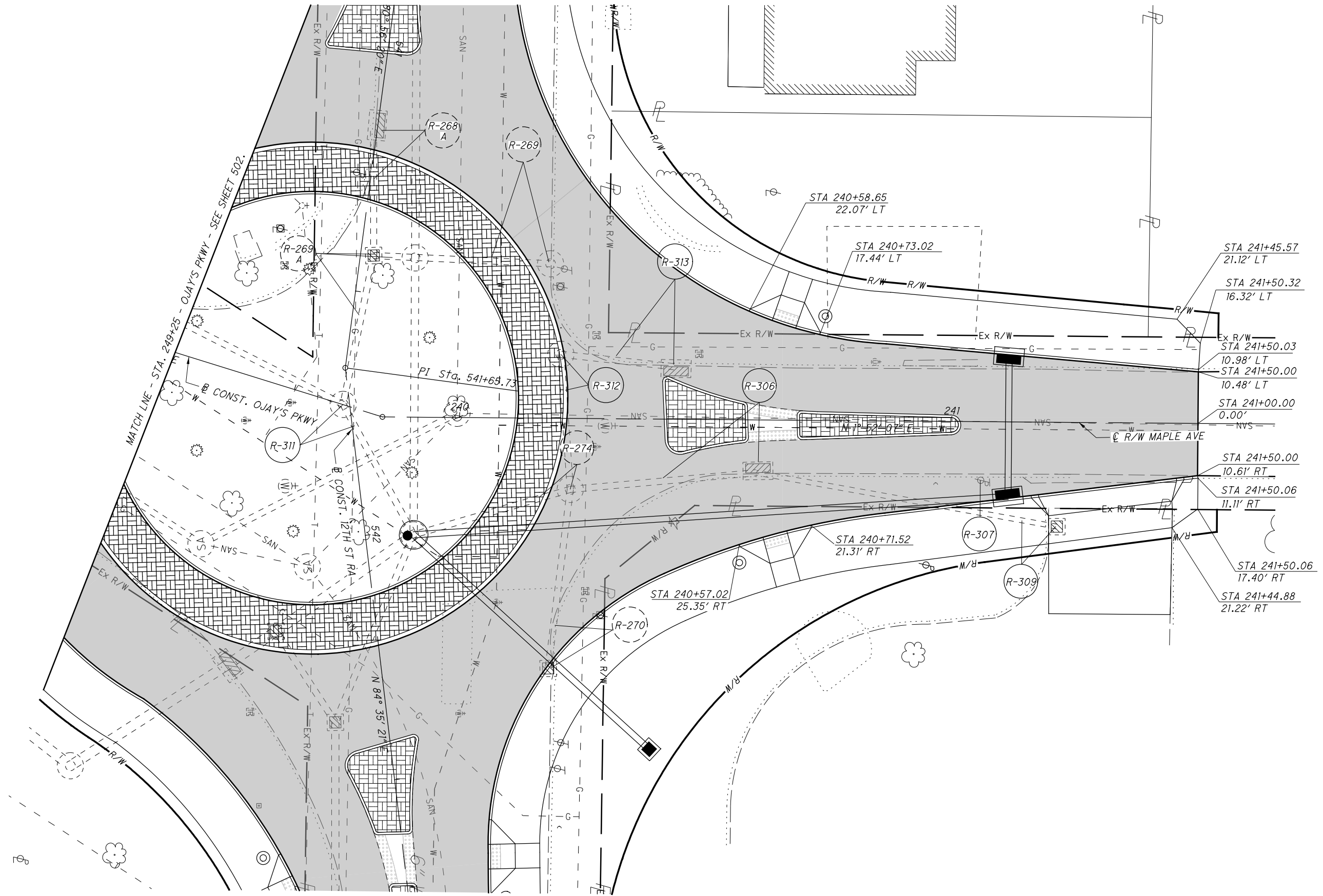
CALCULATED MAM
 CHECKED JMK

PAVEMENT DETAILS/REMOVAL ITEMS
OJAY'S PKWY - STA. 246+52 TO STA. 246+25

STA-12TH STREET

501
790

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NOTE:
 1. FOR PAVEMENT DETAILS/REMOVAL ITEMS LEGEND SEE SHEET 448.



CALCULATED	MAM
CHECKED	JMK

PAVEMENT DETAILS/REMOVAL ITEMS
MAPLE AVE - STA 239+84.33 TO STA 241+50

STA-12TH STREET

502
790

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REF. NO.	SHEET NO.	STATION	SIDE	SKEW	STAIR WIDTH	F - FOOT OF STAIRS	S - STAIR LENGTH	T - TREAD DEPTH	NUMBER OF TREADS 1	R - RISER HEIGHT	NUMBER OF RISERS 1	NUMBER OF TREADS 2	NUMBER OF RISERS 2	LANDING DEPTH	CW - CONCRETE WALK LENGTH	4" CONCRETE WALK, AS PER PLAN	5" CONCRETE WALK, AS PER PLAN	CONCRETE STEPS, TYPE A, AS PER PLAN	CONCRETE STEPS, TYPE B, AS PER PLAN	CONCRETE STEPS, MISC.: TYPE B (WHEELCHAIR RAMP)	CONCRETE STEPS, MISC.: TYPE C	COMMENT		
				ANGLE	FEET	FEET	FEET	INCHES	INCHES	FEET	FEET	FEET	FEET	FEET	FEET	FEET	SQ FT	SQ FT	FEET	FEET	FEET		FEET	
12 TH STREET CONTINUED																								
ST-51	476	510+89.03	RT	90°00'00"	7.53	2.00	4.00	12.00	4	6.50	3							51.18						
ST-52	477	512+39.87	LT	90°00'00"	5.31	2.00	6.00	12.00	6	6.50	5				1.50		7.97	50.48						
ST-53	477	513+33.48	LT	90°00'00"	5.47	2.00	8.00	12.00	8	6.00	7				4.00		21.88	64.7						
ST-54	478	514+27.90	RT	90°00'00"	3.64	2.00	9.34	11.00	10	7.00	9				3.00		10.92	55.68						
ST-55		NOT USED																						
ST-56	478	516+03.08	RT	90°00'00"	4.96	2.00	7.00	12.00	7	6.00	6						0.00	53.64						
ST-57	479	516+79.12	RT	90°00'00"	3.94	2.00	5.00	12.00	5	6.00	4				2.00		7.88	34.58						
ST-58		NOT USED																						
ST-59		NOT USED																						
ST-60		NOT USED																						
ST-61	481	523+48.88	LT	90°00'00"	4.00	4.00	20.66	11.00	6	7.00	5	10	9	7.66	3.00	12.00			123.3					
ST-62		NOT USED																						
ST-63		NOT USED																						
ST-64	483	528+42.29	LT	90°00'00"	4.29	2.00	18.83	11.00	9	7.00	8	8	8	4	4.00	17.16			116.38					
ST-65	484	529+89.53	LT	90°00'00"	5.72	2.00	22.50	11.00	11	7.00	10	10	10	4	3.58	20.48			174.72					
ST-66	484	530+48.03	LT	90°00'00"	4.13	2.00	22.42	11.00	12	7.00	11	10	10	4	3.63	14.99			138.51					
ST-67	484	531+00.00	LT	90°00'00"	3.96	2.00	28.00	11.00	14	7.00	13	13	13	4	1.00	3.96			158.72					
ST-68	484-485	531+50.00	LT	90°00'00"	4.00	2.00	28.00	11.00	14	7.00	13	13	13	4	3.00	12.00			160					
ST-69	485	532+73.08	LT	90°00'00"	3.64	2.00	28.00	11.00	14	7.00	13	13	13	4	3.00	10.92			148.48					
ST-70	485	533+36.16	LT	90°00'00"	4.89	2.00	17.92	11.00	9	7.00	8	7	7	4	5.00	24.45			123.69					
ST-71	486	538+22.06	LT	90°00'00"	3.00	1.00	3.00	12.00	3	5.50	2				3.00		9.00				16			
ST-72		NOT USED																						
ST-73		NOT USED																						
ST-74		NOT USED																						
ST-75		NOT USED																						
MARKET AVENUE																								
ST-76	497	151+78.96	LT	97°39'56"	2.90	2.20	4.00	13.00	4	5 1/2	3							23.4				1.70' WIDE WALL SOUTH		
ST-77	497	152+99.74	LT	96°34'11"	4.92	1.28	2.28	11.00	2	7.00	1										17.76			
ST-78	498	155+19.54	LT	90°50'19"	3.97	1.00	3.00	12.00	3	5.00	2										19.88			
ST-79	499	156+74.81	LT	87°54'00"	3.11	1.00	2.00	11.00	2	7.00	1										12.33			
608																								
REF. NO.	SHEET NO.	STATION	SIDE	SKEW	RAMP WIDTH	L1 - LANDING LENGTH 1	R1 - RAMP LENGTH 1	L2 - LANDING LENGTH 2	R2 - RAMP LENGTH 2	L3 - LANDING LENGTH 3	R3 - RAMP LENGTH 3							4" CONCRETE WALK, AS PER PLAN	5" CONCRETE WALK, AS PER PLAN	CONCRETE STEPS, TYPE A, AS PER PLAN	CONCRETE STEPS, TYPE B, AS PER PLAN	CONCRETE STEPS, MISC.: TYPE B (WHEELCHAIR RAMP)	CONCRETE STEPS, MISC.: TYPE C	COMMENT
				ANGLE	FEET	FEET	FEET	FEET	FEET	FEET	FEET							SQ FT	SQ FT	FEET	FEET	FEET	FEET	
ST-80	497	152+94.00	RT	81°48'00"	5.00	5.36	4.78	5.00	16.50	11.72	16.02											59.38	ADA RAMP	
TOTALS THIS SHEET																								
TOTALS FROM SHEET 503																								
TOTALS CARRIED TO GENERAL SUMMARY																1038	261	1955	1239	60	283			

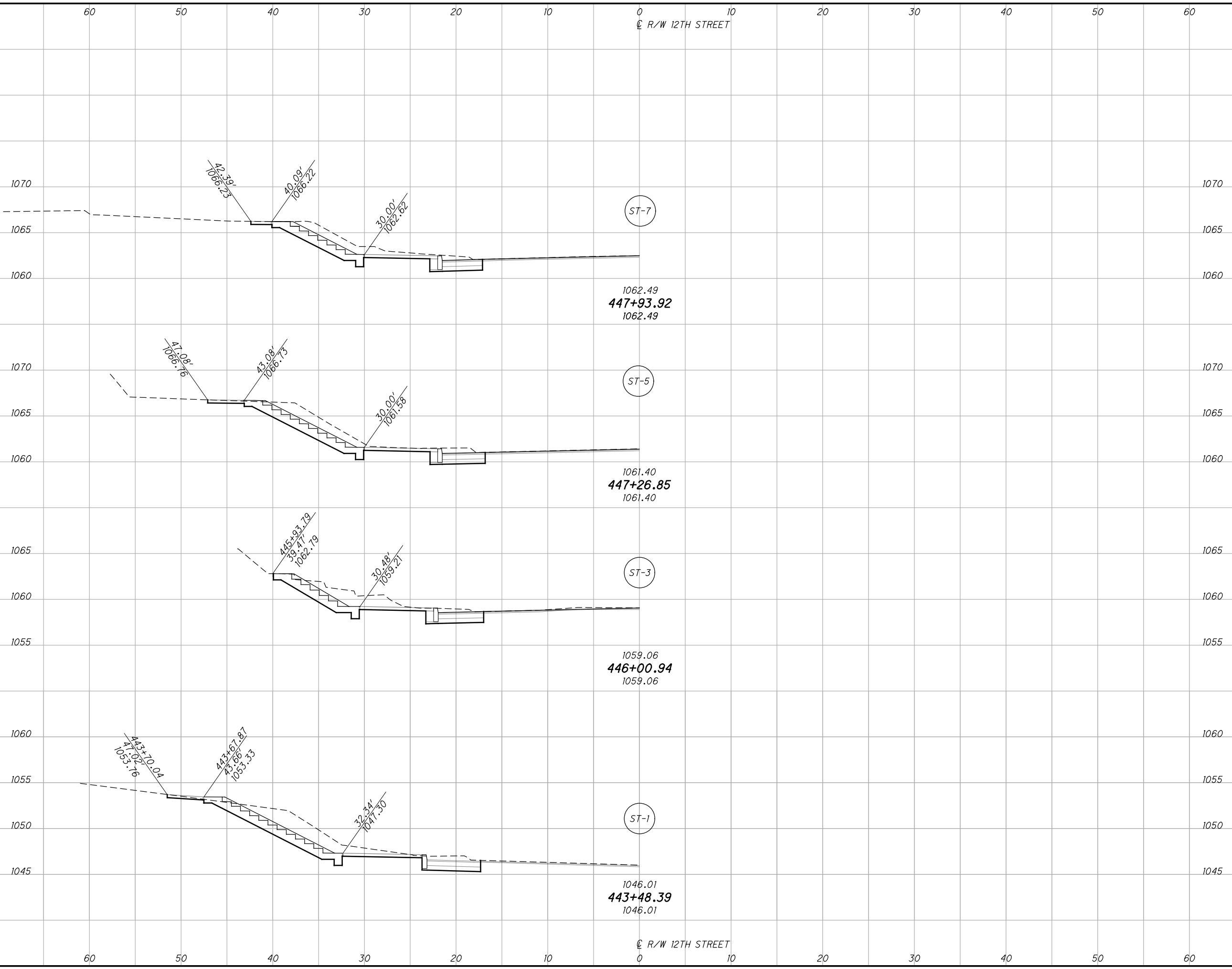
CONCRETE STAIR SUBSUMMARY

STA -12TH STREET

CALCULATED
SHR
CHECKED
RWK

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM405.dgn 4/14/2014 4:44:27 PM brion.sedziol\ ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.



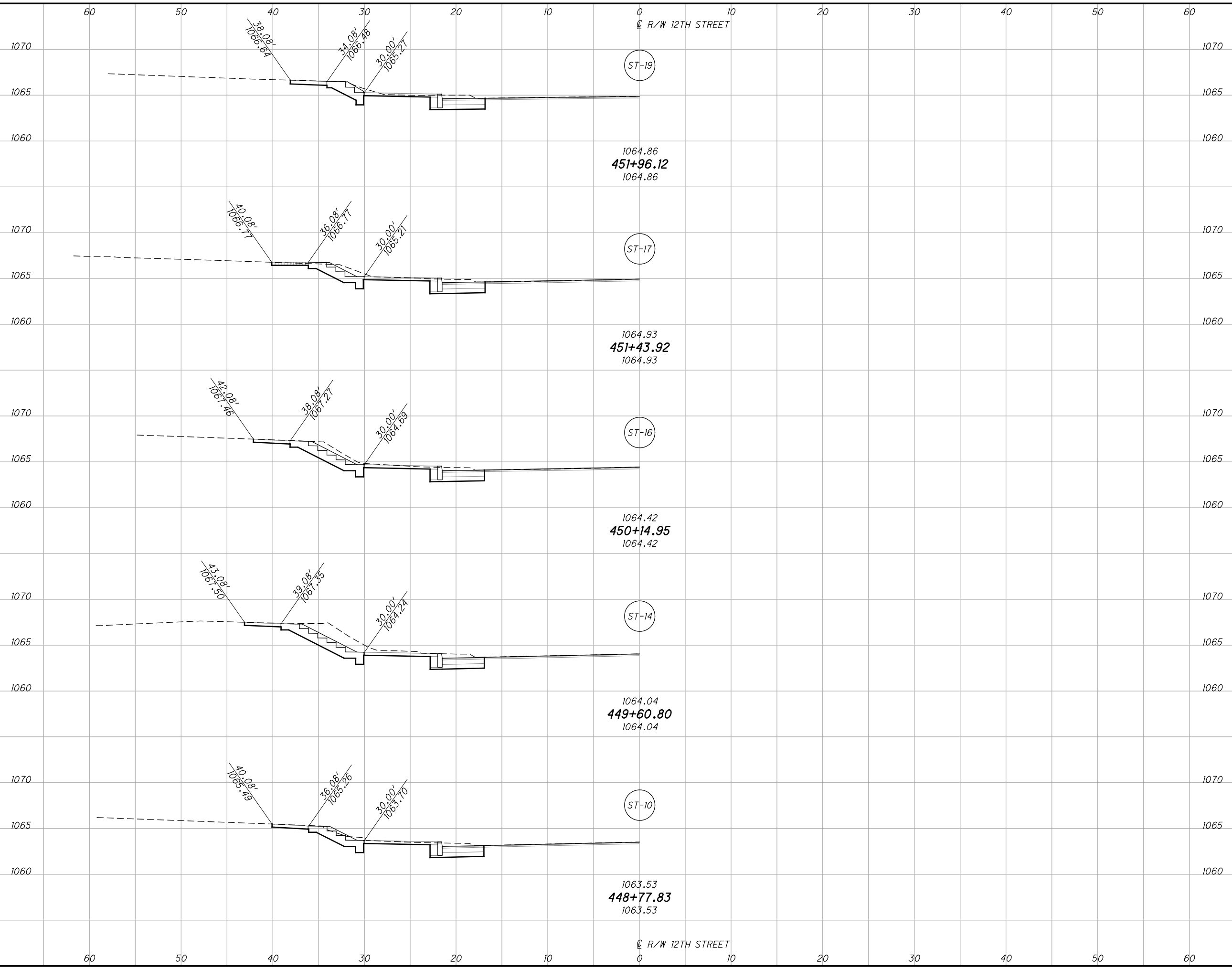
END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	SHR	CHECKED

STA - 12TH STREET	
LEFT STAIRS PROFILES - 12TH STREET	
STA. 443+48.39 TO STA. 447+84.75	

505
790

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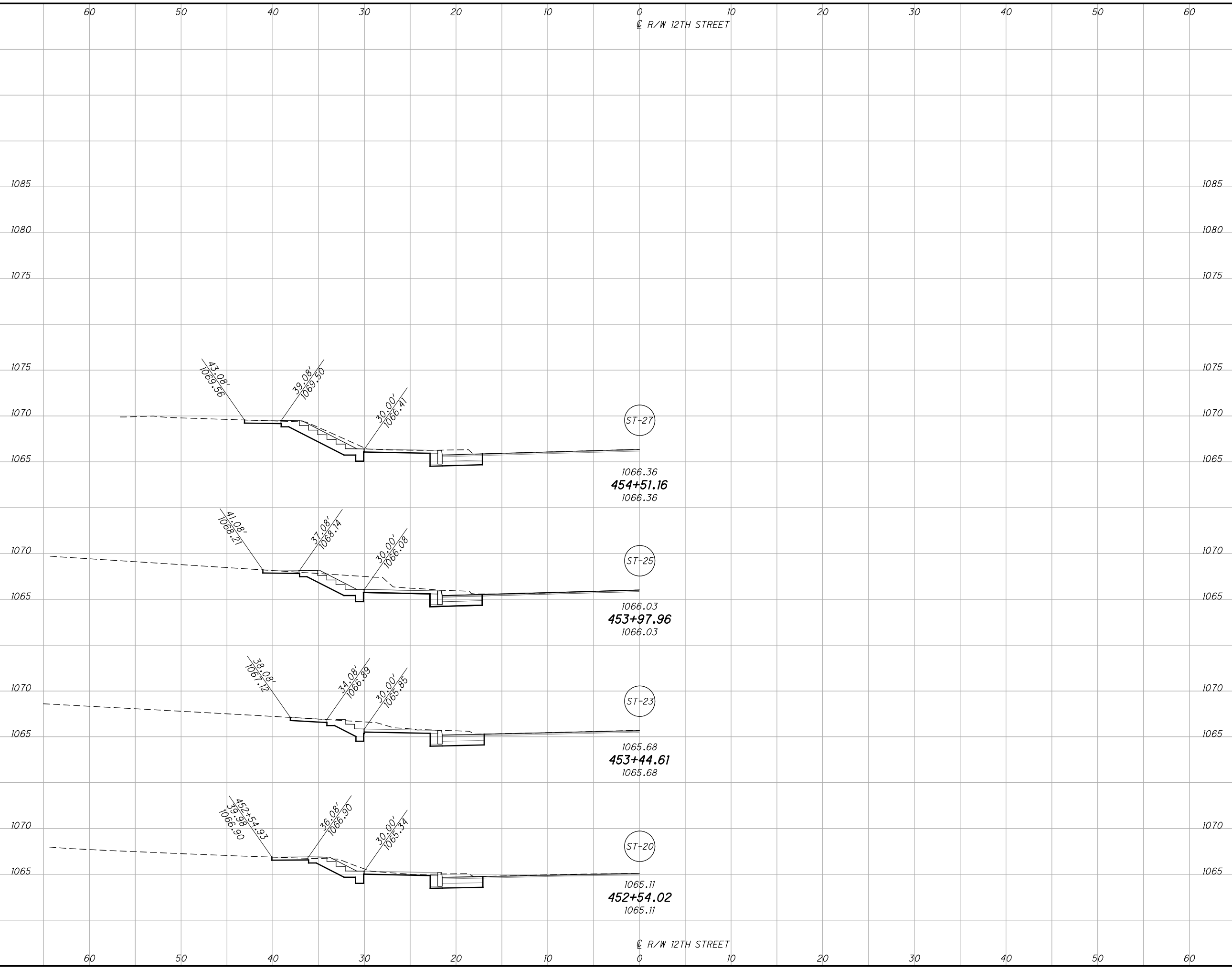
SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	SHR	CHKD
STA-12TH STREET					
LEFT STAIRS PROFILES - 12TH STREET					
STA. 448+77.83 TO STA. 451+96.12					
506 790					

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SEEDING	
END WIDTH	SO. YDS.



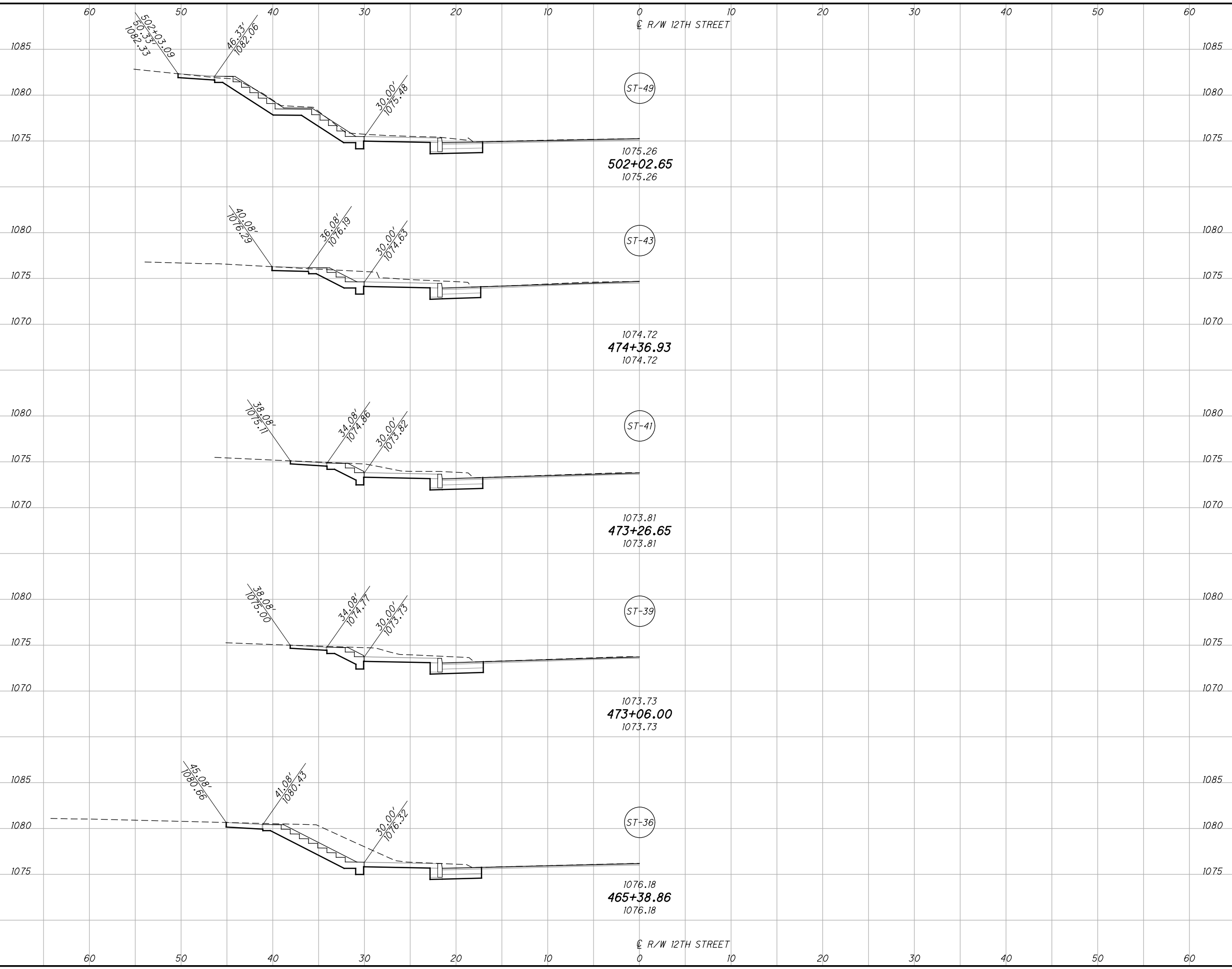
END AREA		VOLUME	
CUT	FILL	CUT	FILL

LEFT STAIRS PROFILES - 12TH STREET
 STA. 452+54.04 TO STA. 464+88.71

507
790

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SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED	
SHR	RWK

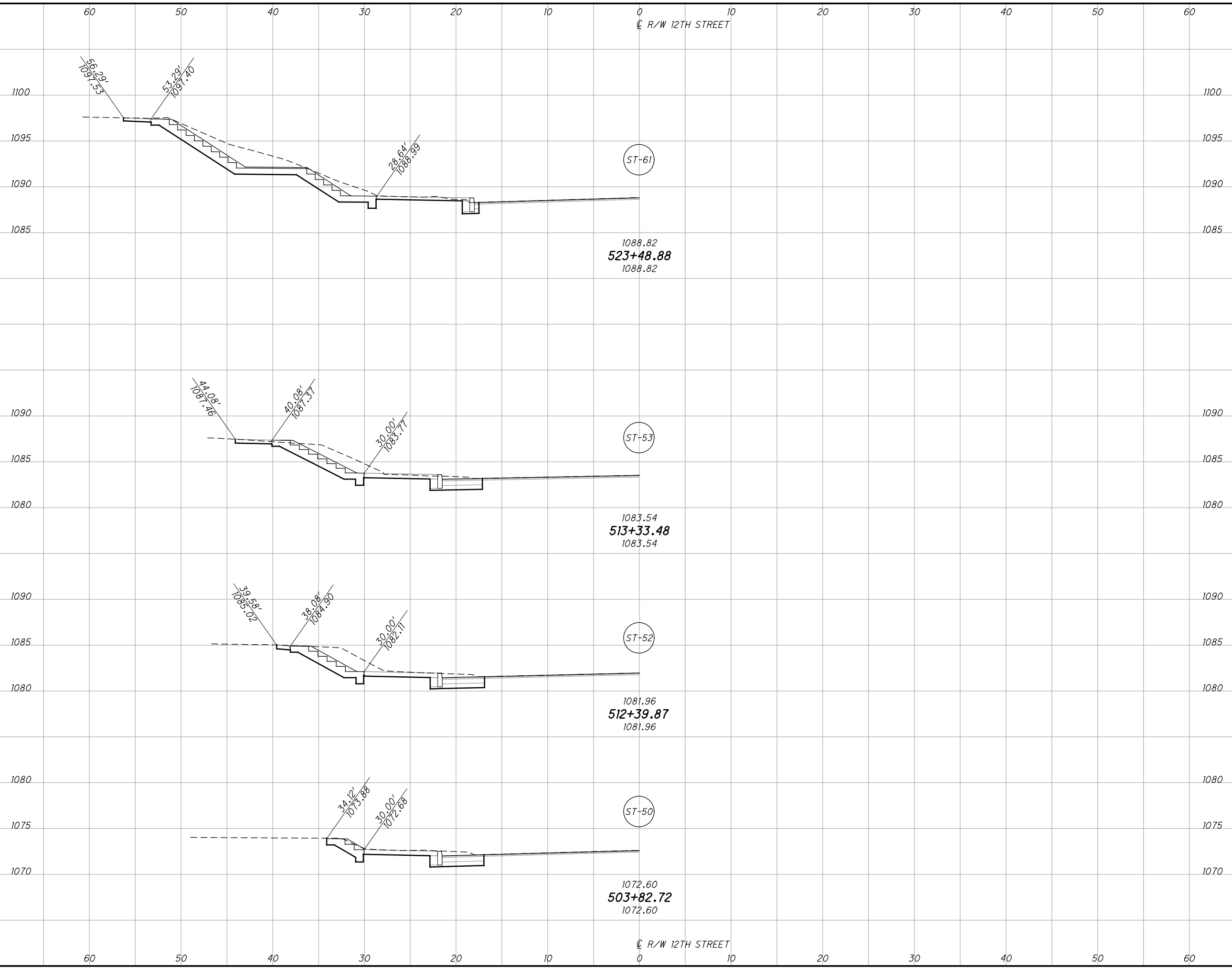
LEFT STAIRS PROFILES - 12TH STREET
STA. 465+38.86 TO STA. 502+02.65

STA - 12TH STREET

508
790

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SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	SHR	CHKD

LEFT STAIRS PROFILES - 12TH STREET	
STA. 503+82.72 TO STA. 525+67.58	
STA - 12TH STREET	
509	790

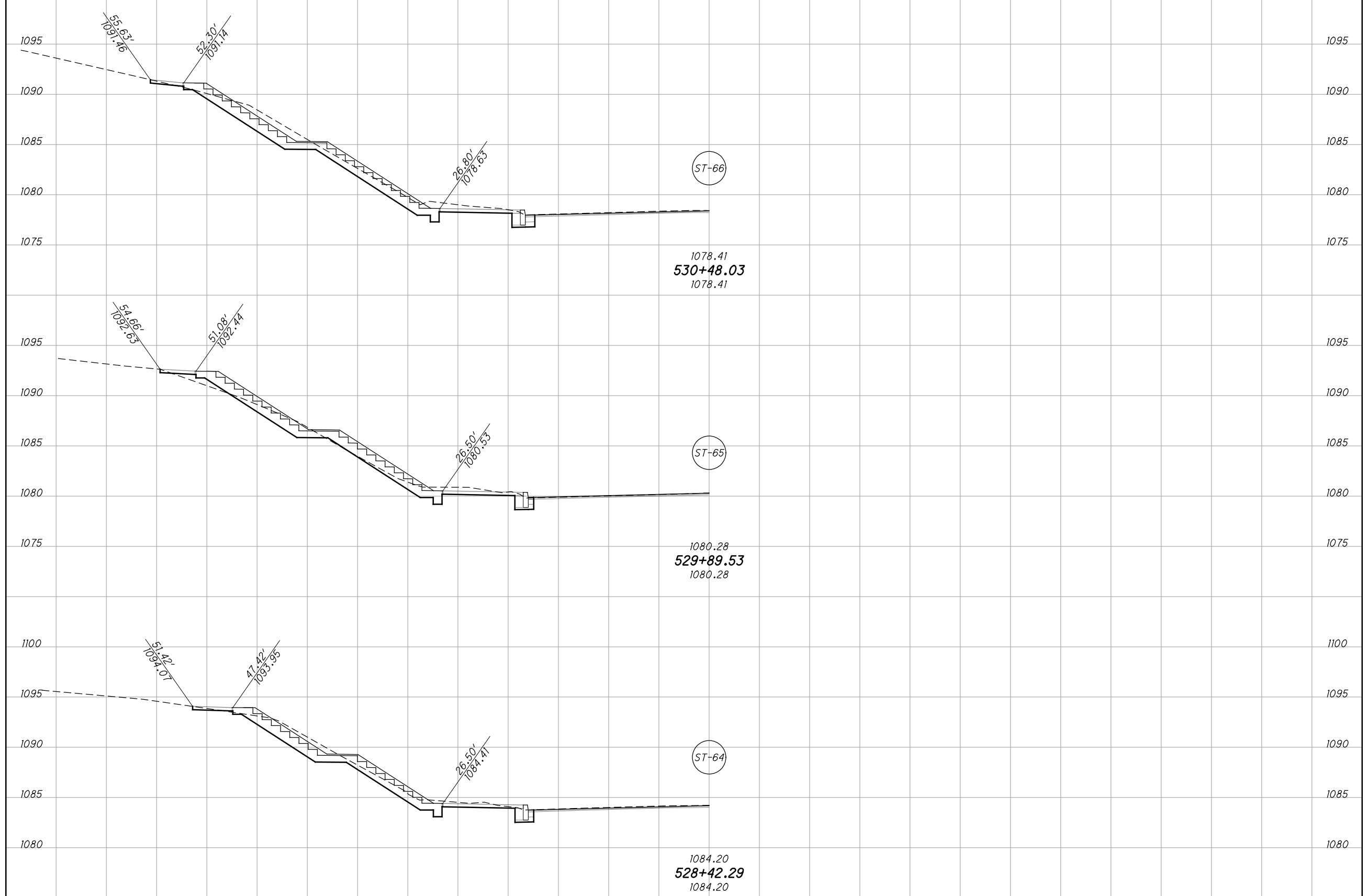
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SEEDING	
END WIDTH	SO. YDS.

60 50 40 30 20 10 0 10 20 30 40 50 60

CL R/W 12TH STREET

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	SHR	CHECKED



60 50 40 30 20 10 0 10 20 30 40 50 60

CL R/W 12TH STREET

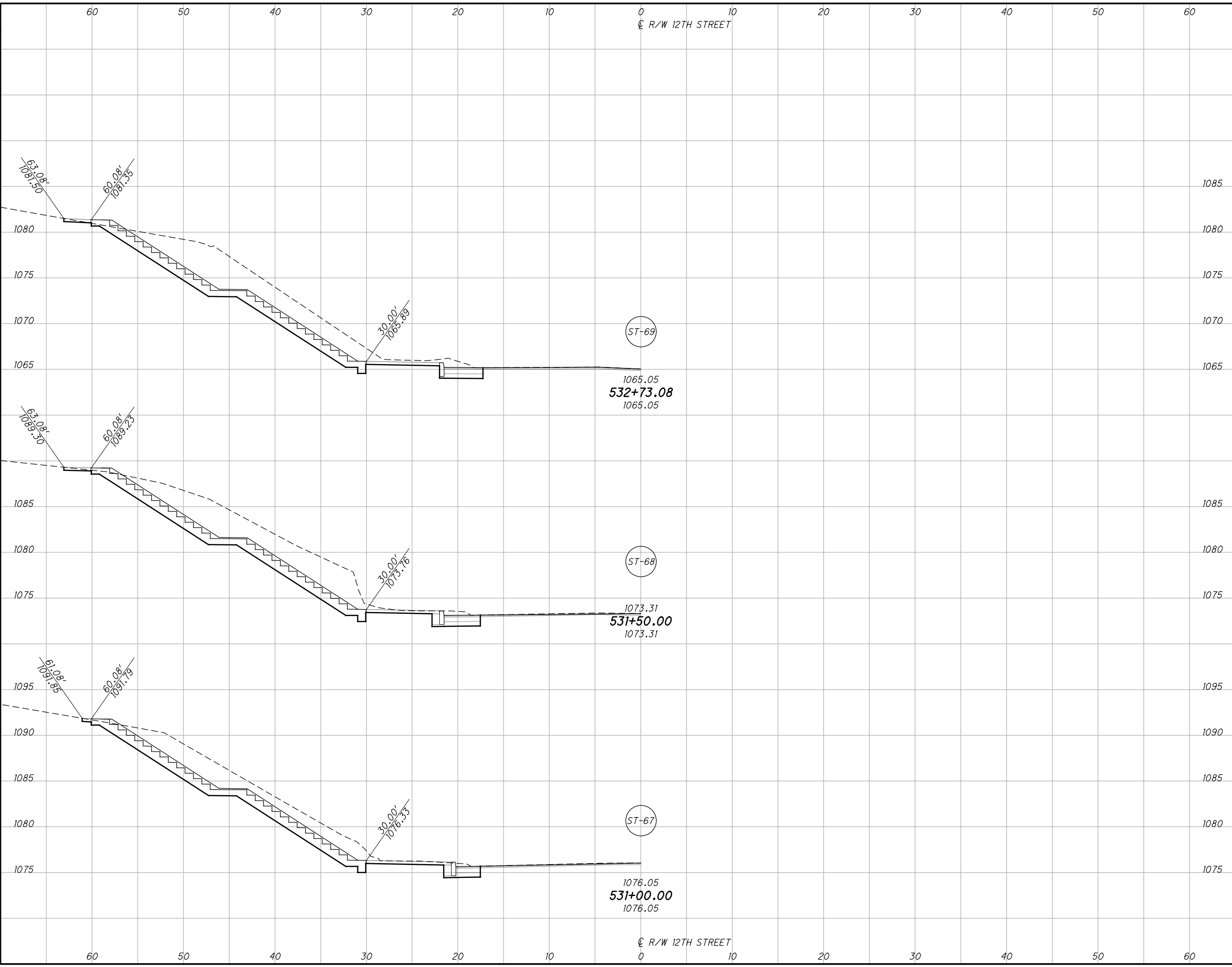
LEFT STAIRS PROFILES - 12TH STREET
STA. 528+42.29 TO STA. 530+48.03

STA-12TH STREET

510
790

j:\pre-int\11\060 12th Street\STA\85299\roadway\sheets\85299GM411.dgn 4/14/2014 4:44:32 PM brian.sezoi\ ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME		CALCULATED SHR	CHECKED RWK
CUT	FILL	CUT	FILL		

LEFT STAIRS PROFILES - 12TH STREET
STA. 531+00.00 TO STA. 532+73.08

STA -12TH STREET

511
790

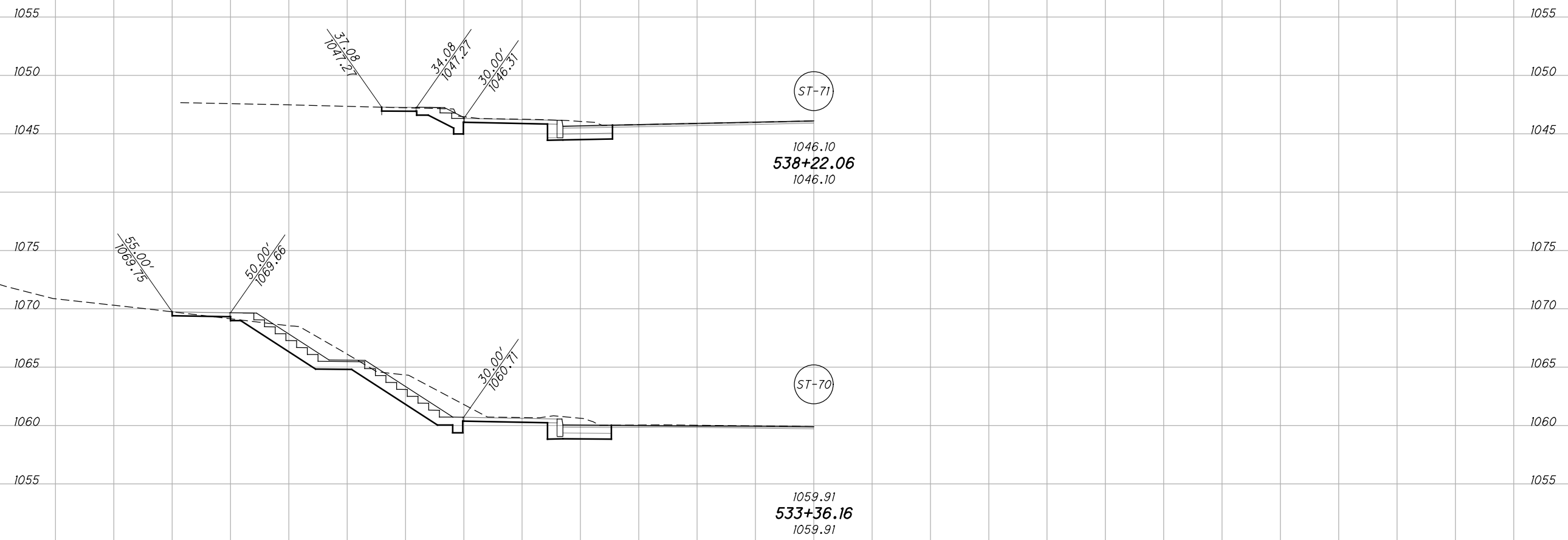
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SEEDING	
END WIDTH	SO. YDS.

60 50 40 30 20 10 0 10 20 30 40 50 60

0 R/W 12TH STREET

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	SHR	CHECKED



60 50 40 30 20 10 0 10 20 30 40 50 60

0 R/W 12TH STREET

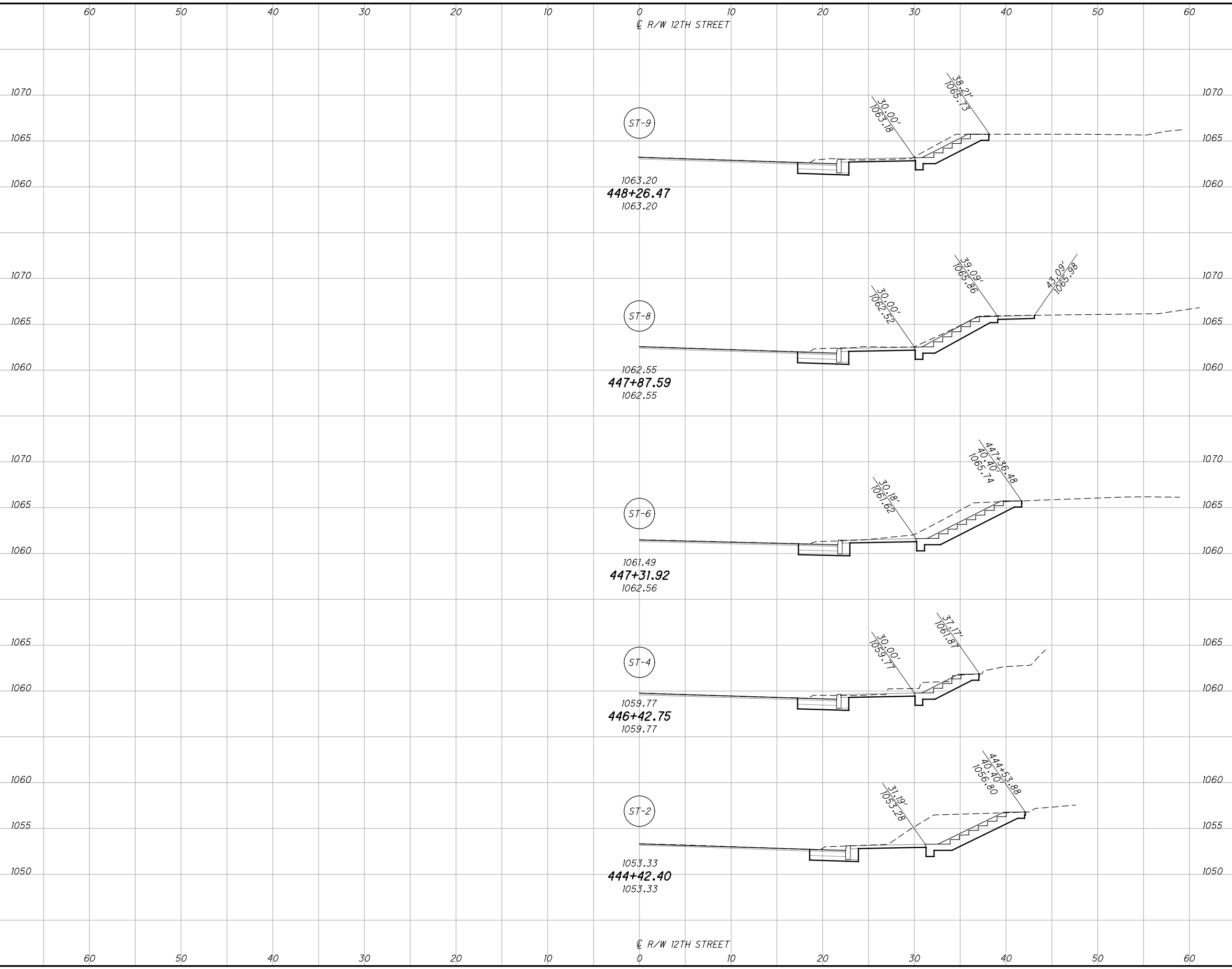
LEFT STAIRS PROFILES - 12TH STREET
STA. 533+36.16 TO STA. 540+48.98

STA -12TH STREET

512
790

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SEEDING	
END WIDTH	SO. YDS.



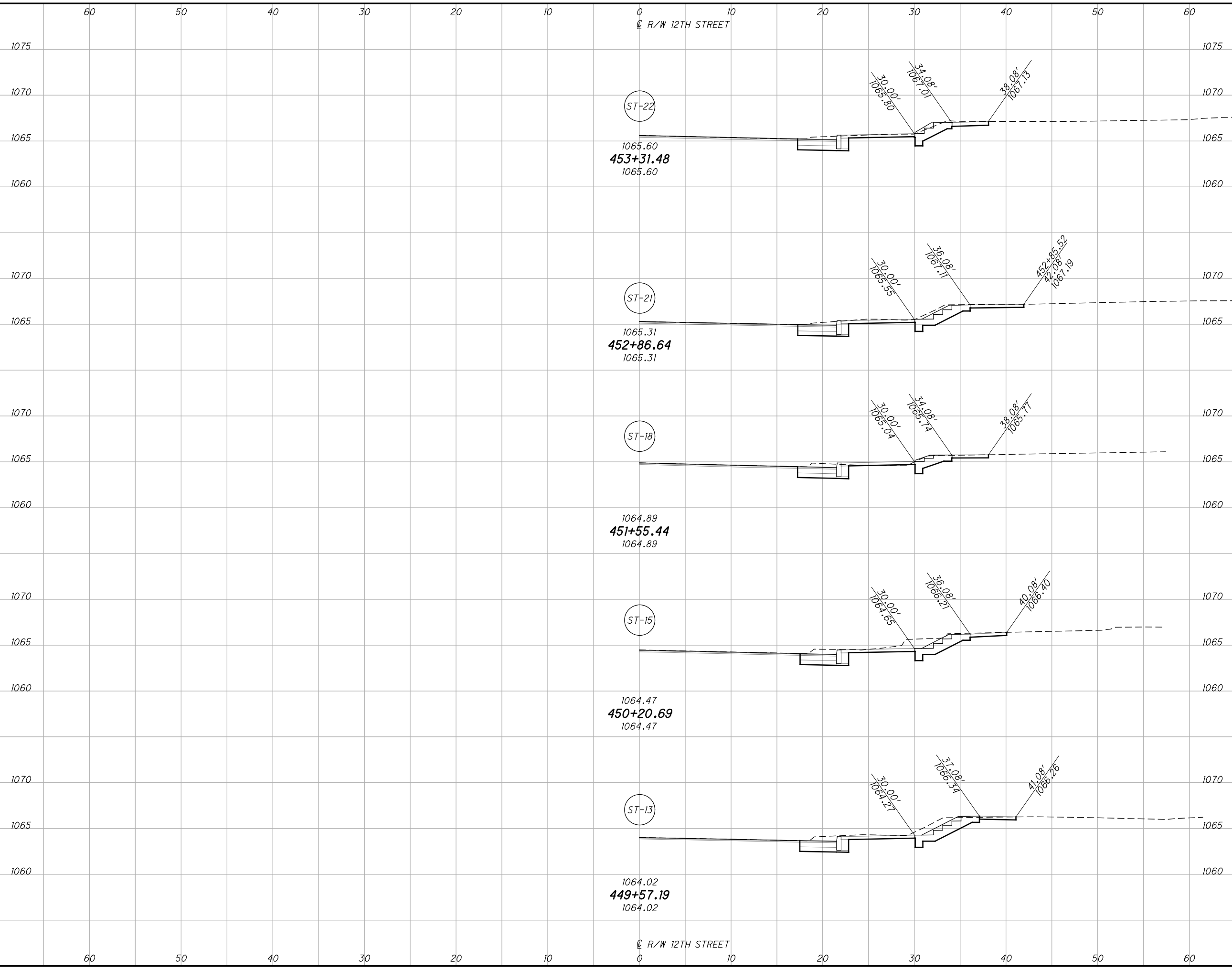
END AREA		VOLUME		CALCULATED SHR	CHECKED RWK
CUT	FILL	CUT	FILL		

RIGHT STAIRS PROFILES - 12 STREET
STA. 444+42.40 TO STA. 448+26.47
STA - 12TH STREET

513
790

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SEEDING	
END WIDTH	SO. YDS.



END AREA	VOLUME	CALCULATED		CHECKED	
		CUT	FILL	SHR	RWK

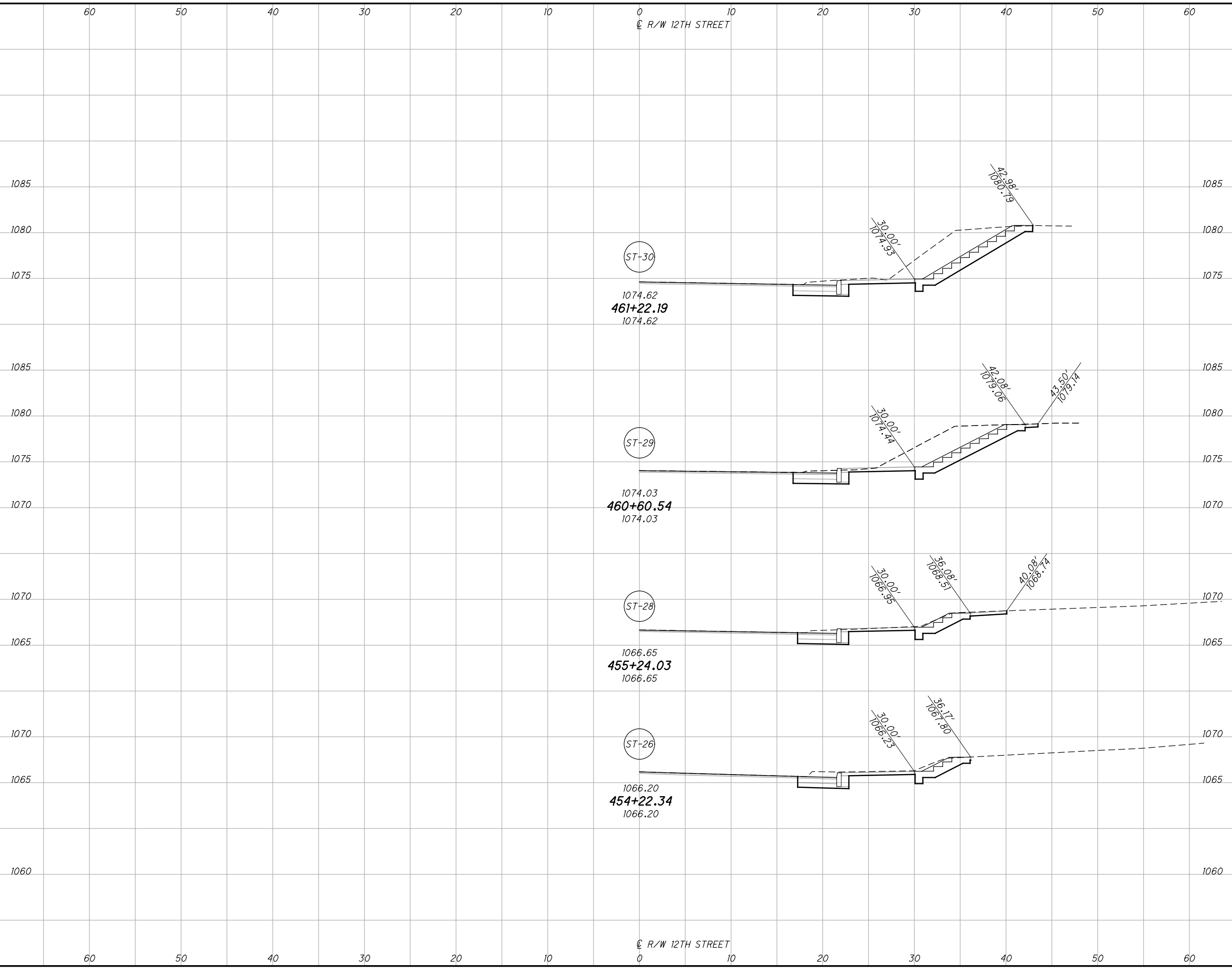
RIGHT STAIRS PROFILES - 12 STREET
STA. 449+57.19 TO STA. 453+31.48

STA-12TH STREET

514
790

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SEEDING		STATIONING												END AREA		VOLUME		CALCULATED			
END WIDTH	SO. YDS.	60	50	40	30	20	10	0	10	20	30	40	50	60	CUT	FILL	CUT	FILL	SHR	CHECKED	RWK
								0	10	20	30	40	50	60							

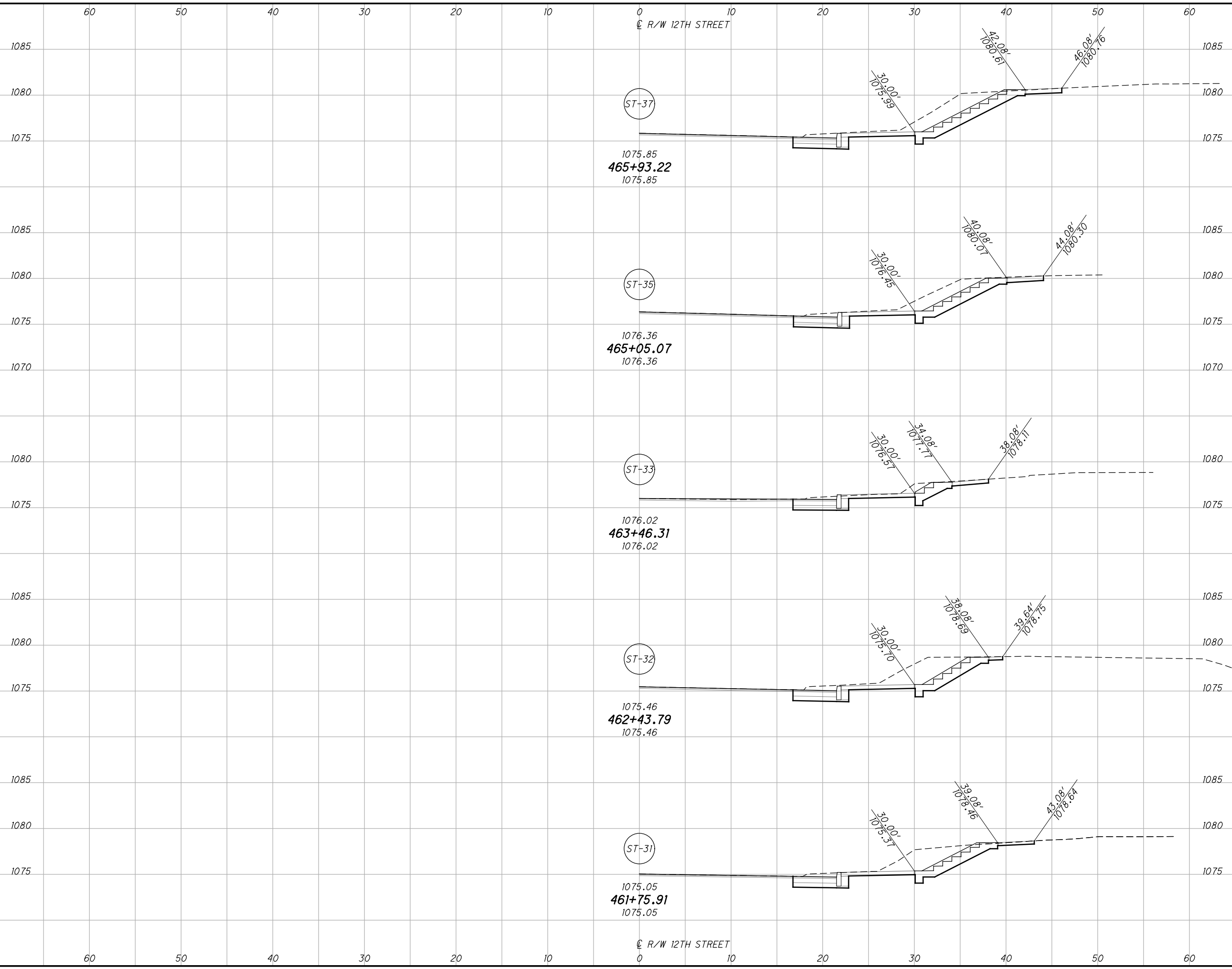


END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	SHR	CHECKED

RIGHT STAIRS PROFILES - 12 STREET	
STA. 453+83.43 TO STA. 461+22.19	
STA -12TH STREET	
515	790

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SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	SHR	CHKD

RIGHT STAIRS PROFILES - 12 STREET
STA. 461+75.61 TO STA. 465+93.22

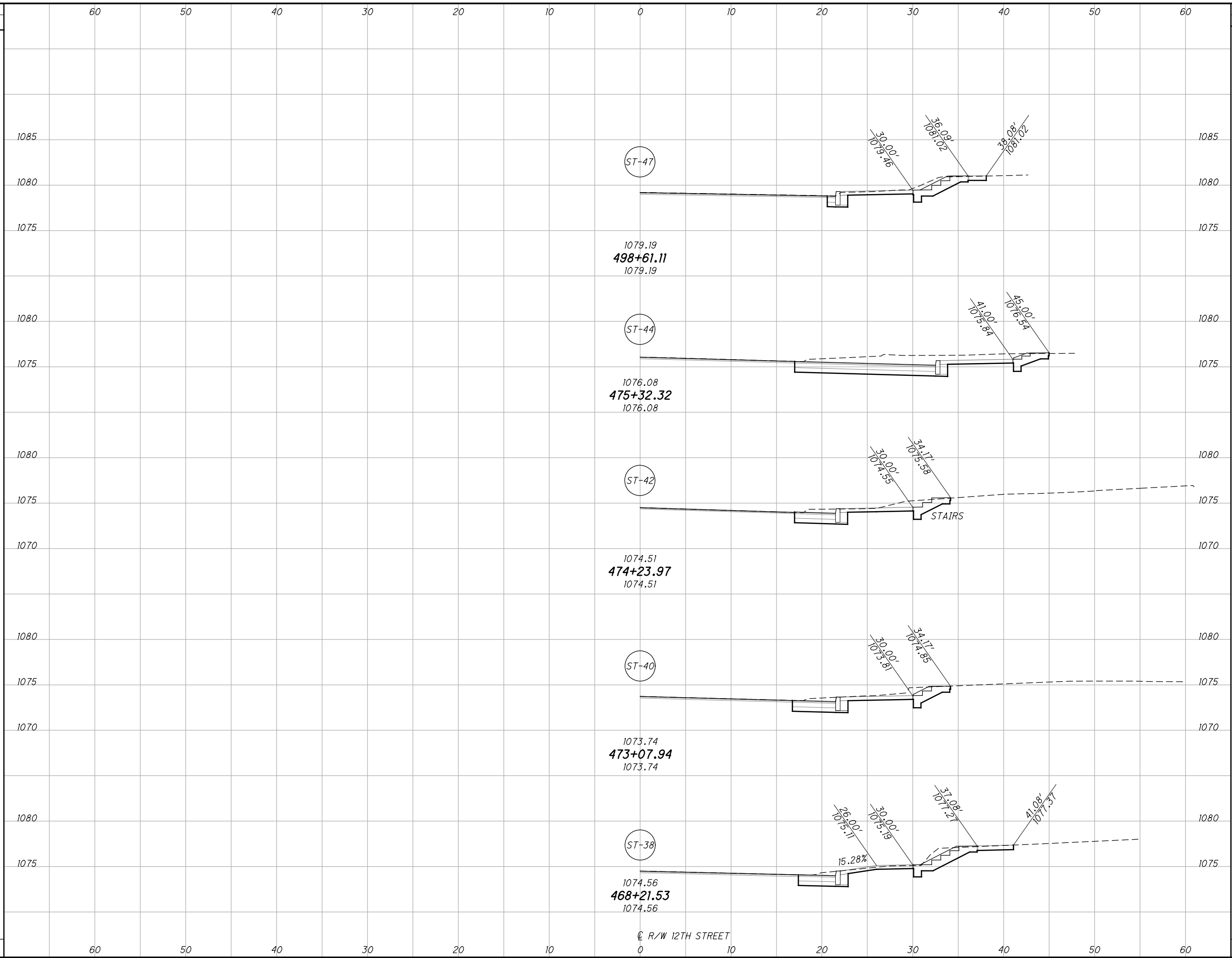
STA - 12TH STREET

516
790

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SEEDING	
END WIDTH	SO. YDS.
60	
50	
40	
30	
20	
10	
0	
10	
20	
30	
40	
50	
60	

END AREA		VOLUME		CALCULATED SHR	CHECKED RWK
CUT	FILL	CUT	FILL		



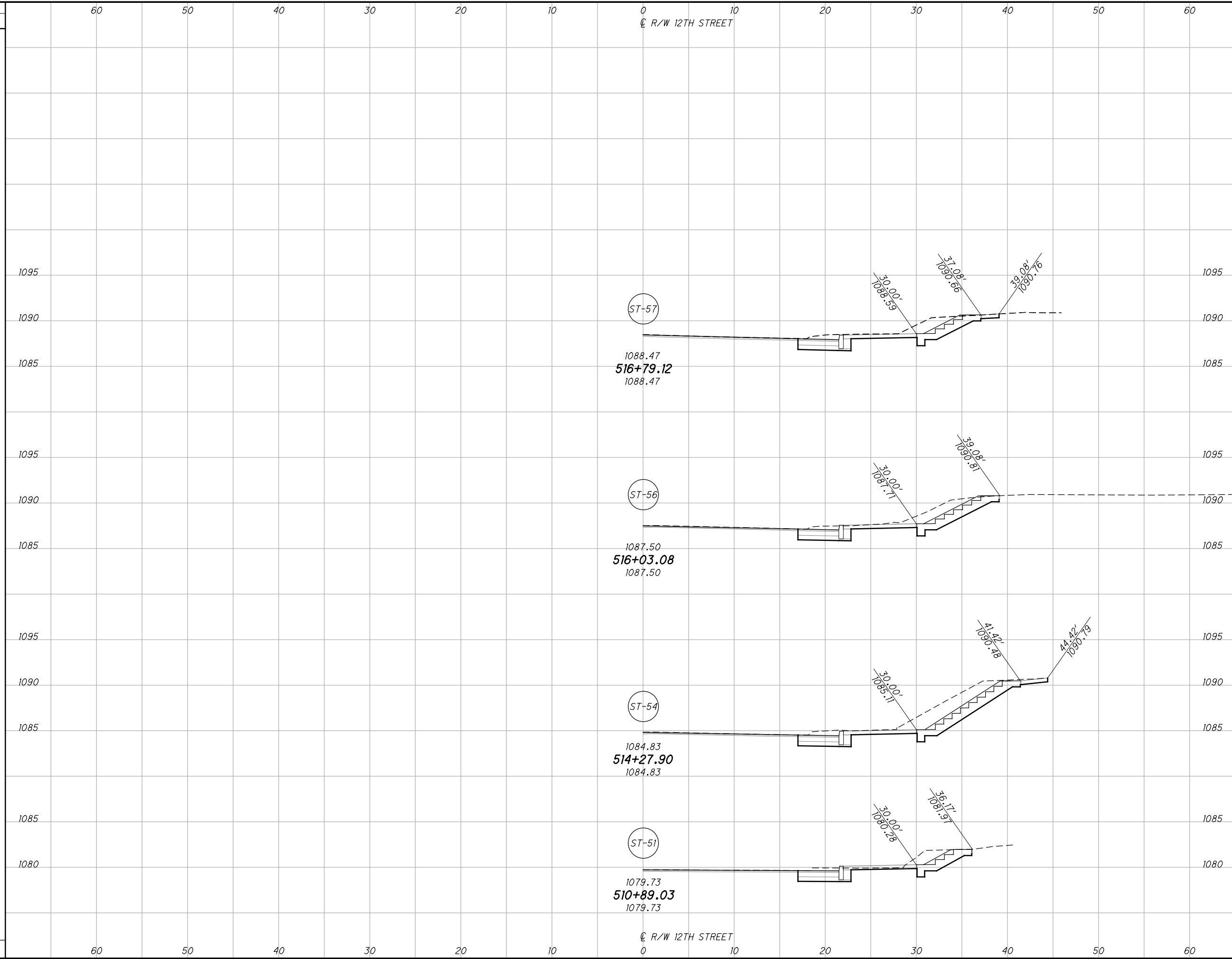
RIGHT STAIRS PROFILES - 12 STREET
STA. 468+21.52 TO STA. 498+61.11

STA -12TH STREET

517
790

j:\pre-int\11-060 12th Street\STA\85299\roadway\sheets\85299GM419.dgn 4/14/2014 4:44:37 PM brian.sedzic\ ODOTV8i_PDF_Half.plt c:\odotv8i_Pen-ME.tbl M-E_Companies, Inc.

SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME		CALCULATED SHR	CHECKED RWK
CUT	FILL	CUT	FILL		

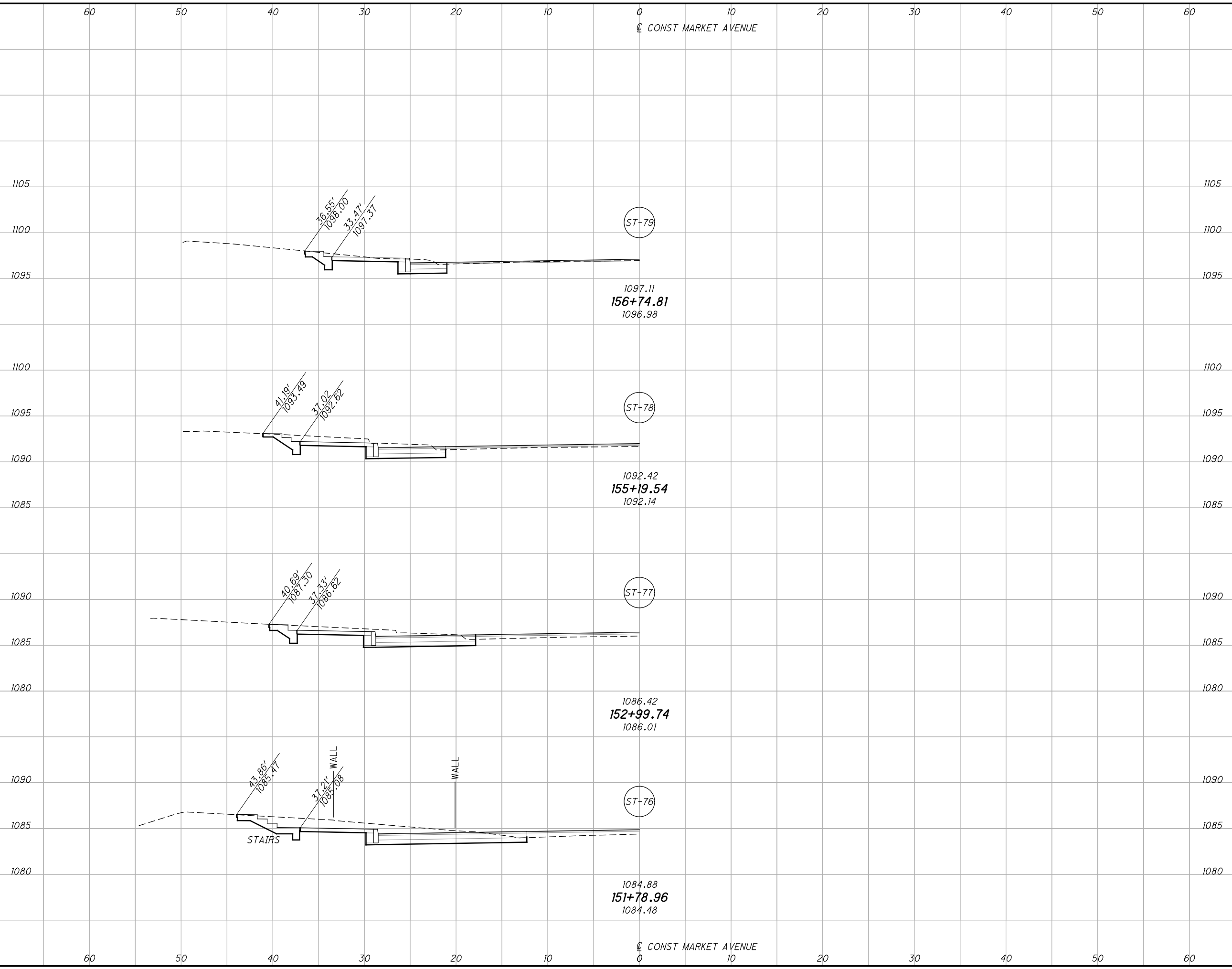
RIGHT STAIRS PROFILES - 12 STREET
STA. 510+89.03 TO STA. 516+79.12

STA -12TH STREET

518
790

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SEEDING	
END WIDTH	SO. YDS.



END AREA		VOLUME		CALCULATED SHR	CHECKED RWK
CUT	FILL	CUT	FILL		

LEFT STAIRS PROFILES - MARKET AVENUE
STA. 151+78.96 TO STA. 156+74.81

STA-12TH STREET

519
790

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NOTES

GENERAL: LOCATE THE TOP OF THE INTEGRAL WALL 1" [25] TO 3" [75] ABOVE GROUND LINE.

TYPE A: FABRICATE HAND RAILING AND STAIR POSTS FROM NOMINAL SIZE 1 1/2" [38] DIAMETER 0.145" [3.7] WALL THICKNESS STEEL PIPE MEETING THE REQUIREMENTS OF THE SPECIFICATION FOR WELDED AND SEAMLESS STEEL PIPE ASTM A 53 STANDARD WEIGHT. SCHEDULE NUMBER 40, OR ALUMINUM PIPE MEETING THE REQUIREMENTS OF THE SPECIFICATION FOR ALUMINUM-ALLOY PIPE ASTM B 241, 6063 T6 ASA, SCHEDULE NUMBER 40.

GALVANIZE STEEL HANDRAILS AND STAIR POSTS AFTER FABRICATION, AS SPECIFIED IN ASTM A 123. FIELD WELD SPLICES FOR STEEL RAILING. RE-GALVANIZE AREAS ON WHICH THE SHELTER COATING HAS BEEN DAMAGED, AS SPECIFIED IN AASHTO M 36, SECTION 24. METALIZING PROCESS OR REPAIR UNDER THE DIRECTION OF THE ENGINEER WITH STICK-FORM GALVANIZING REPAIR COMPOUND MEETING FEDERAL SPECIFICATION O-G-93.

INSTALL A SINGLE HANDRAIL TO THE RIGHT SIDE OF THE STAIRS, FACING UP, UNLESS OTHERWISE SHOWN ON THE PLANS.

FOR STAIR WIDTHS GREATER THAN 43" [1100], A HANDRAIL IS REQUIRED ON BOTH SIDES OF THE STAIRS. INSTALL HAND RAILINGS ON BOTH SIDES OF STAIRS THAT ARE LESS THAN 43" [1100] WIDE, WHEN REQUIRED BY THE PLANS.

PROVIDE SPLICES FOR ALUMINUM RAILING WITH INTERNAL SLEEVES, AND AFTER WELDING, BE SMOOTH AND WATER TIGHT.

CAST-IN-PLACE OR SET STAIR POSTS IN SOCKETS FILLED WITH 1:3 PROPORTIONED CEMENT MORTAR. PROVIDE A HEAVY COATING OF ASPHALT VARNISH OR COAL-TAR PITCH PAINT (BOTH INSIDE AND OUTSIDE) TO THE PORTION OF ALUMINUM STAIR POSTS SET INTO CONCRETE OR MORTAR.

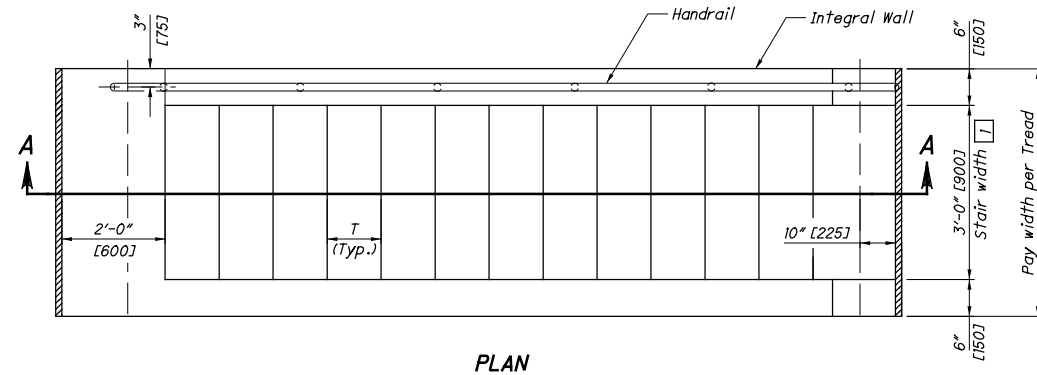
EMBED THE STAIR POSTS A MINIMUM DEPTH 4" [100].

INSTALL STAIR POSTS AND HANDRAILS FREE OF BURRS, OR SHARP PROJECTIONS.

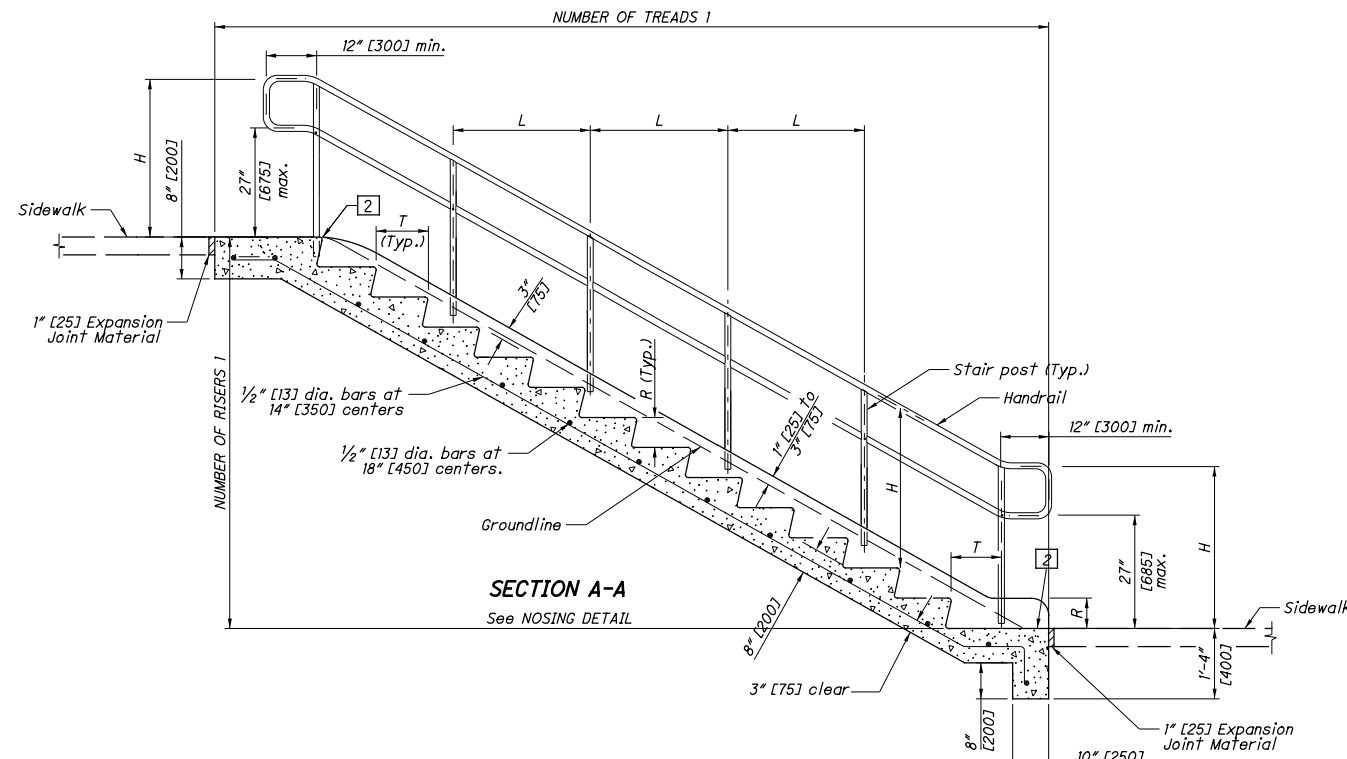
LEGEND

H ~ 34" [850] MIN., 38" [950] MAX.
 R ~ 4" [100] MIN., 7" [175] MAX.
 T ~ 1" [25] MIN., 15" [375] MAX.
 L ~ EQUAL INTERIOR PANEL LENGTHS EQUAL. THE UPPER AND LOWER PANEL LENGTHS MAY VARY. PANEL LENGTHS ARE NOT TO EXCEED 3'-0" [1.0 M].

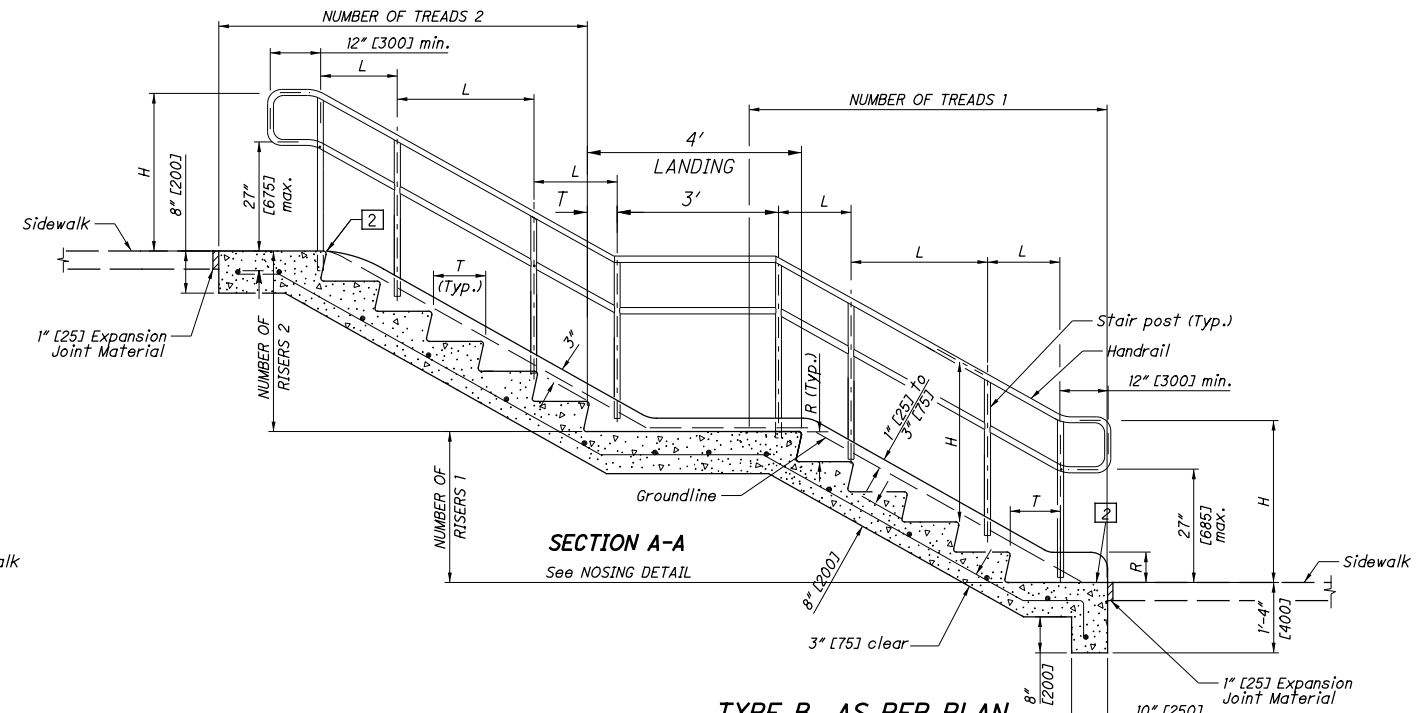
1 UNLESS SHOWN OTHERWISE ON THE PLANS.
 2 MEASURABLE TREAD PER CMS 608.08



PLAN



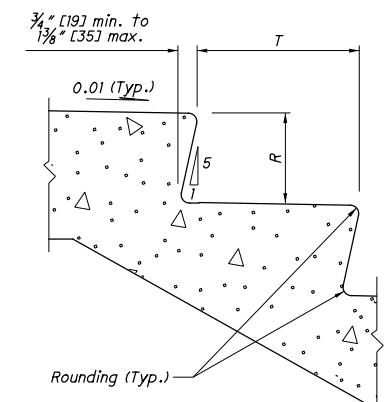
TYPE A, AS PER PLAN (For 3 Risers or more)



TYPE B, AS PER PLAN (For 3 Risers or more) AND TYPE B (WHEELCHAIR RAMP)

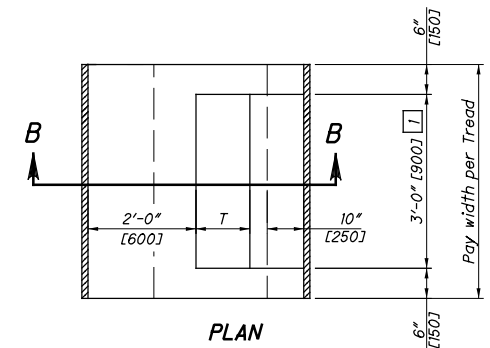
- NOTES:**
- FOR ADDITIONAL CONCRETE STAIRS DETAILS SEE SHEETS 521.
 - FOR STAIR TREAD AND RISER TABULATION SEE SHEETS 503 & 504.

ITEM 608 - CONCRETE STEPS, MISC.: TYPE B (WHEELCHAIR RAMP)
 THE EXISTING CONCRETE WHEELCHAIR RAMP AND RAILINGS SHALL BE REMOVED PRIOR TO PLACING THE PROPOSED. THE EXCAVATION, FORM PLACEMENT, CONCRETE, FINISHING FOR THE CONCRETE WHEELCHAIR RAMP AND RAILING INSTALLATION SHALL BE AS PER THE 2013 CONSTRUCTION MATERIAL SPECIFICATIONS SECTION 202 FOR THE RAMP REMOVALS AND SECTION 608 FOR THE CONCRETE WHEELCHAIR RAMP. PAYMENT FOR THE RAMP SHALL BE FULL COMPENSATION FOR RAMP REMOVAL, RAILING REMOVAL, EXCAVATION, BACKFILL, CONCRETE, CUTTING/SAWING, BASE COURSE MATERIAL, EXPANSION JOINT MATERIALS, REINFORCING STEEL, HAND RAILING AND ANY INCIDENTALS REQUIRED TO COMPLETE THE INSTALLATION AS SPECIFIED. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LINEAR FOOT PRICE OF ITEM 608 - CONCRETE STEPS, MISC.: TYPE B (WHEELCHAIR RAMP).



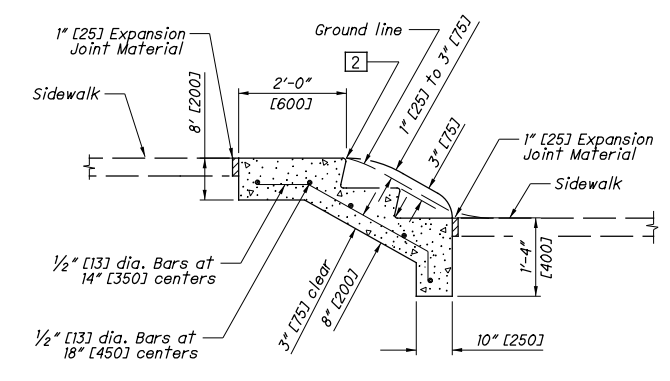
NOSING DETAIL

All risers shall be of equal height and all treads shall be of equal depths on any set of stairs.



PLAN

TYPE C, AS PER PLAN (Less than 3 Risers)



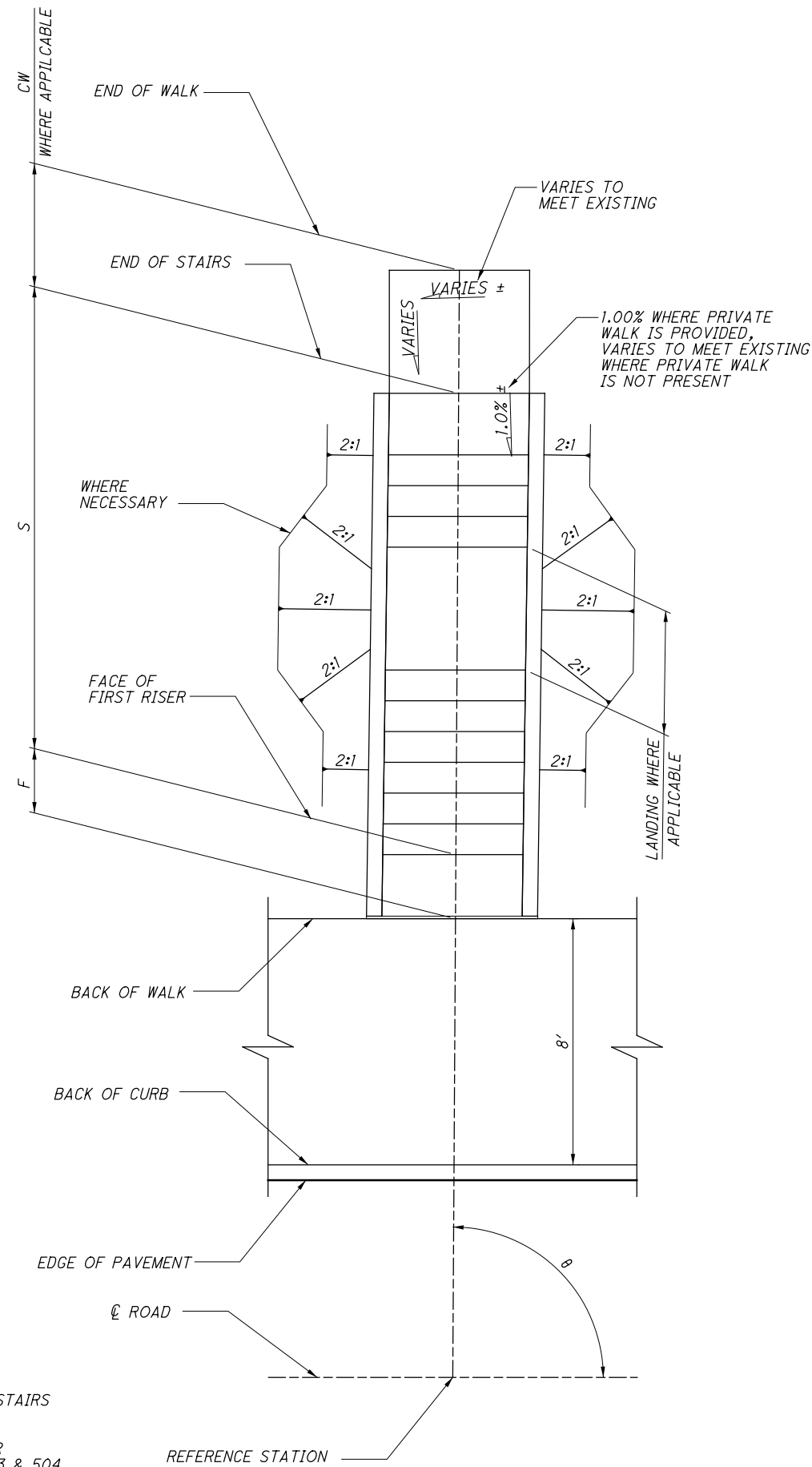
SECTION B-B See NOSING DETAIL

CONCRETE STAIRS DETAILS

STA-12TH STREET

CALCULATED
SHR
CHECKED
RWK

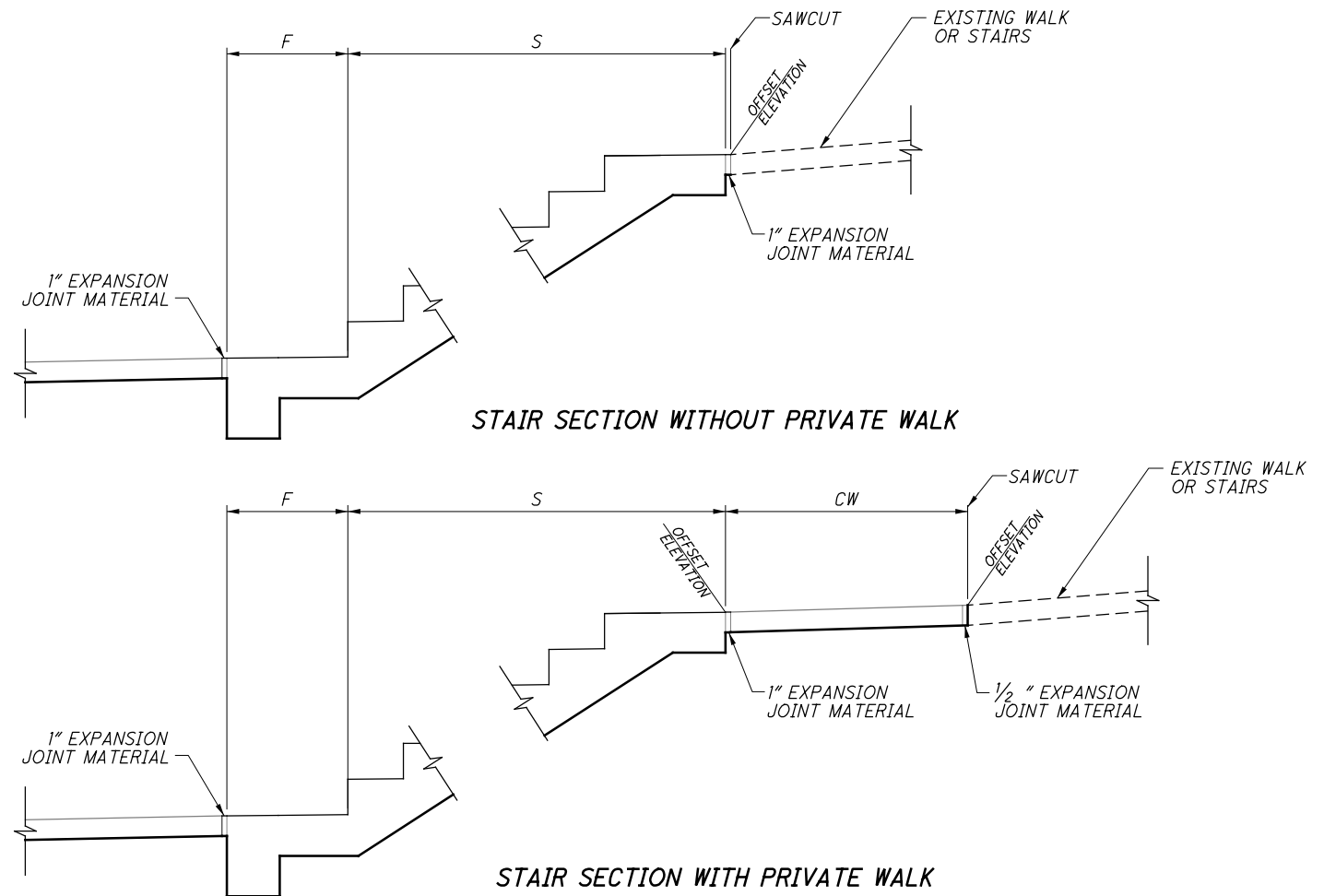
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STAIR PLAN VIEW (TYPICAL)

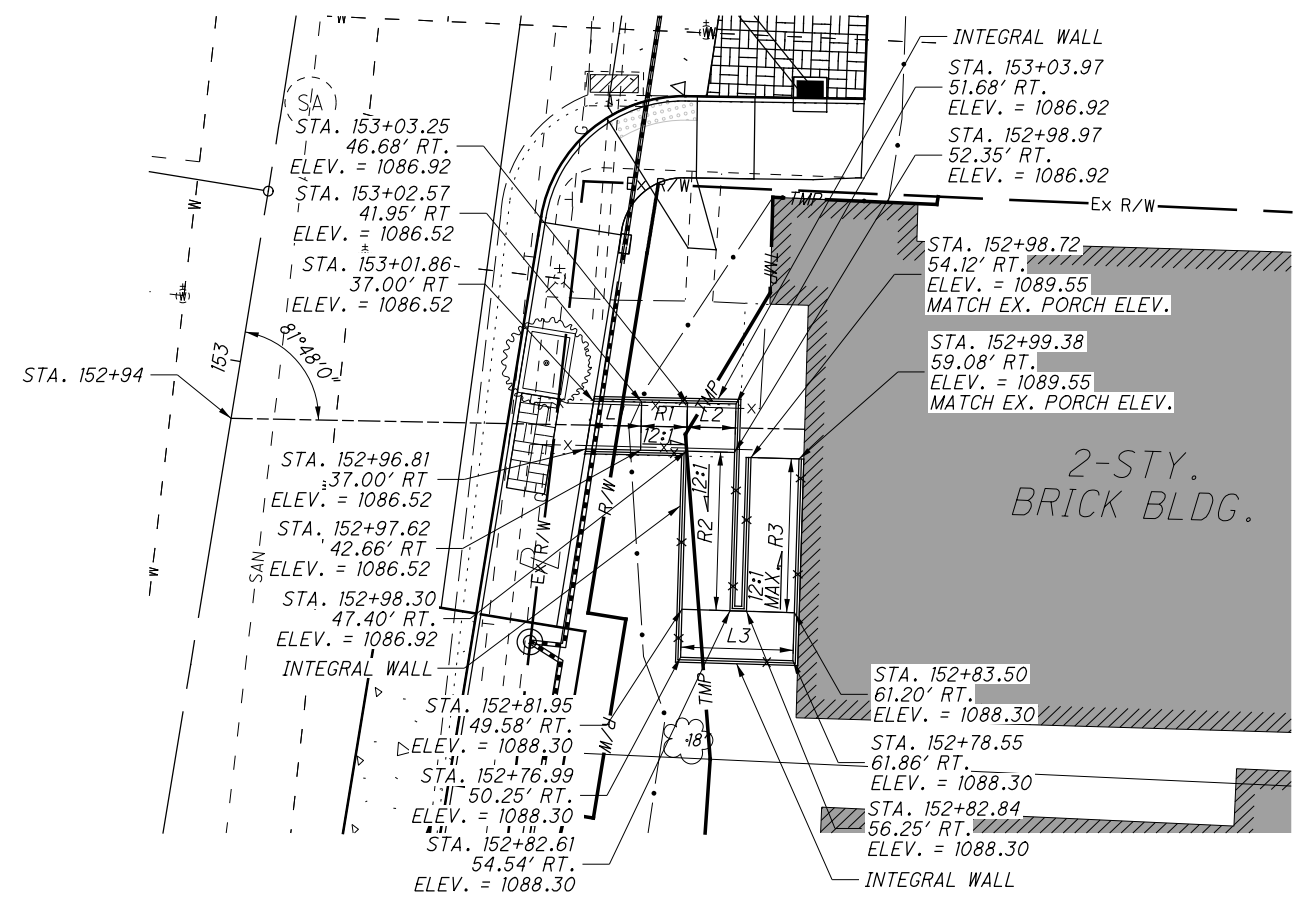
- NOTES:
1. FOR ADDITIONAL CONCRETE STAIRS DETAILS SEE SHEETS 520.
 2. FOR STAIR TREAD AND RISER TABULATION SEE SHEETS 503 & 504.

- θ - STAIR ANGLE
- F - FOOT OF STAIRS
- S - STAIR LENGTH
- CW - CONCRETE WALK LENGTH



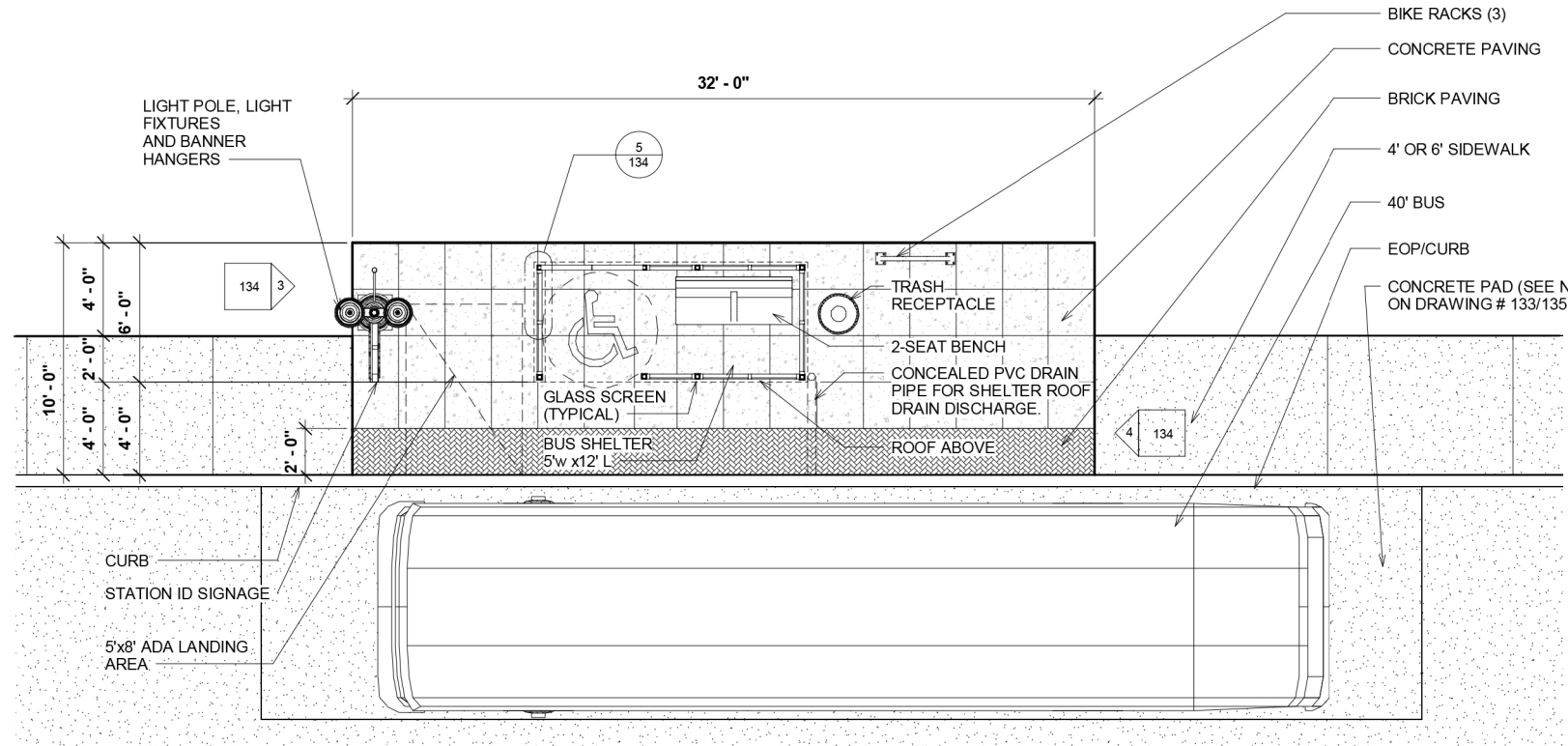
STAIR SECTION WITHOUT PRIVATE WALK

STAIR SECTION WITH PRIVATE WALK

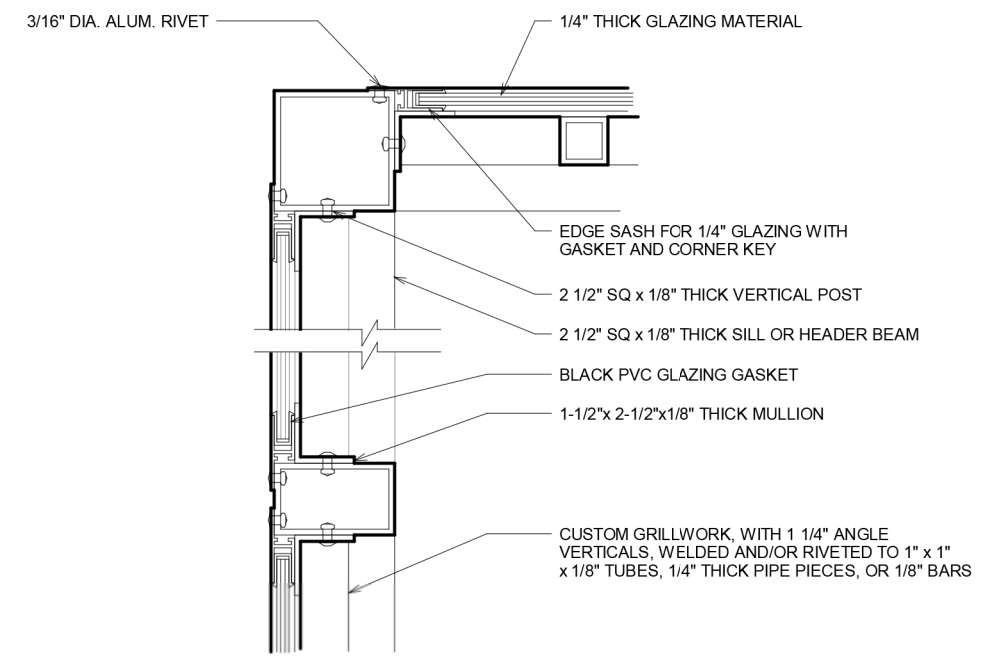


WHEELCHAIR RAMP DETAIL - STA. 152+94 MARKET AVENUE

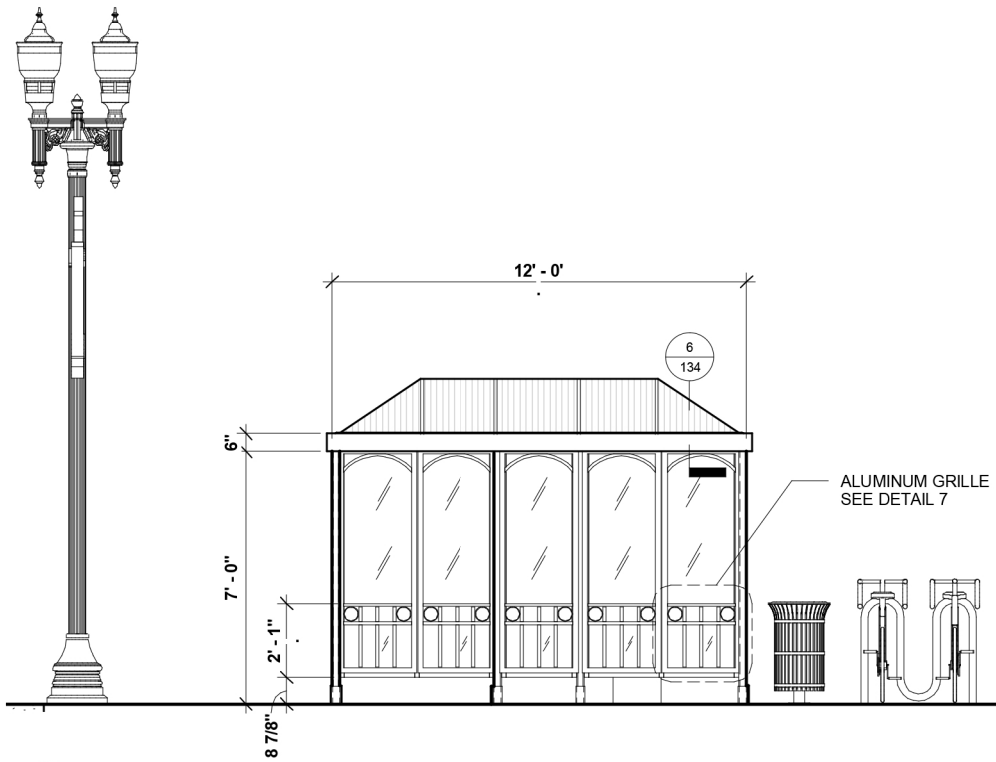
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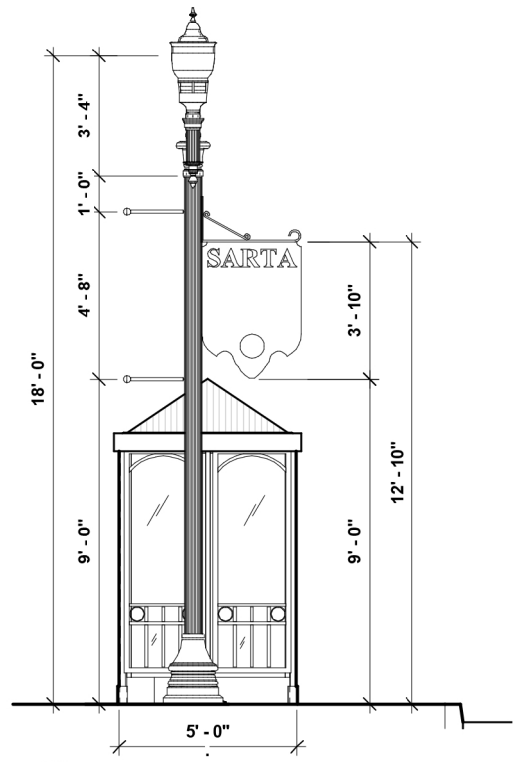
1 TYPICAL MAJOR BUS STOP PLAN
1/4" = 1'-0"



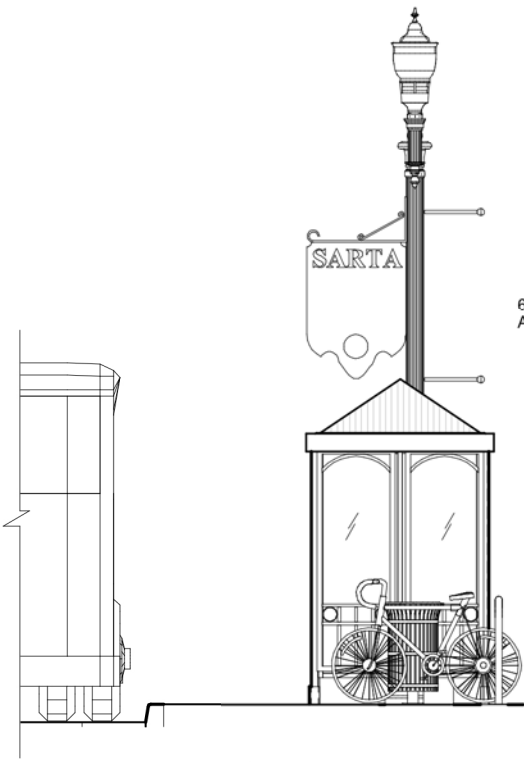
5 DETAIL
6" = 1'-0"



2 ELEVATION
3/8" = 1'-0"



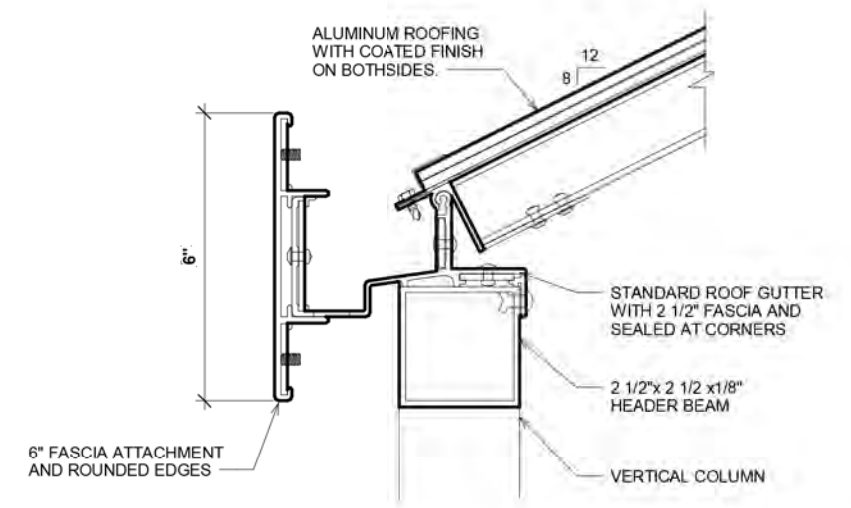
3 ELEVATION
3/8" = 1'-0"



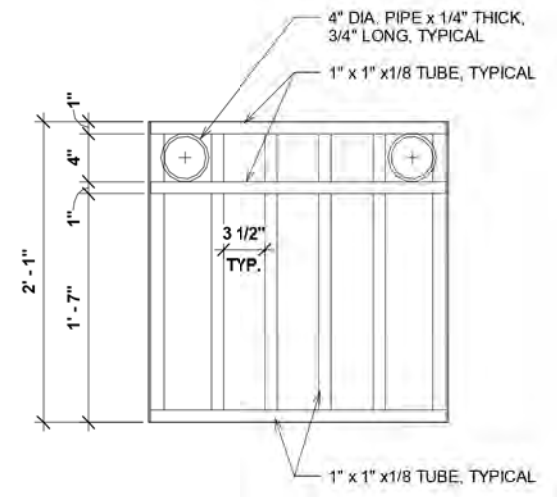
4 ELEVATION
3/8" = 1'-0"

GENERAL NOTES:

- ALL GENERAL NOTES, PRODUCT NOTE AND DIMENSIONAL INFORMATION SHOWN ON TYPICAL MINOR BRT STOP WITHOUT BUS SHELTER DRAWING APPLY TO THIS DRAWING, UNLESS NOTED OTHERWISE.
- EACH MAJOR BUS STOP SHALL INCLUDE A BUS SHELTER, BENCH, TRASH RECEPTACLE, BIKE RACK, STATION ID SIGN, AND HANGER BRACKET. THE COSTS FOR ALL CONCRETE PAVEMENT, CURBS, SIDEWALKS, BRICK, AND LIGHTING SHALL BE INCLUDED IN THE APPROPRIATE PAY ITEMS IN THE ROADWAY PLANS. PAYMENT FOR THE MAJOR BUS STOP ITEMS SHALL BE INCLUDED WITH ITEM 690E98000, SPECIAL - MISC.: TYPICAL MAJOR BRT STOP WITH BUS SHELTER, EACH, FOR PAYMENT.

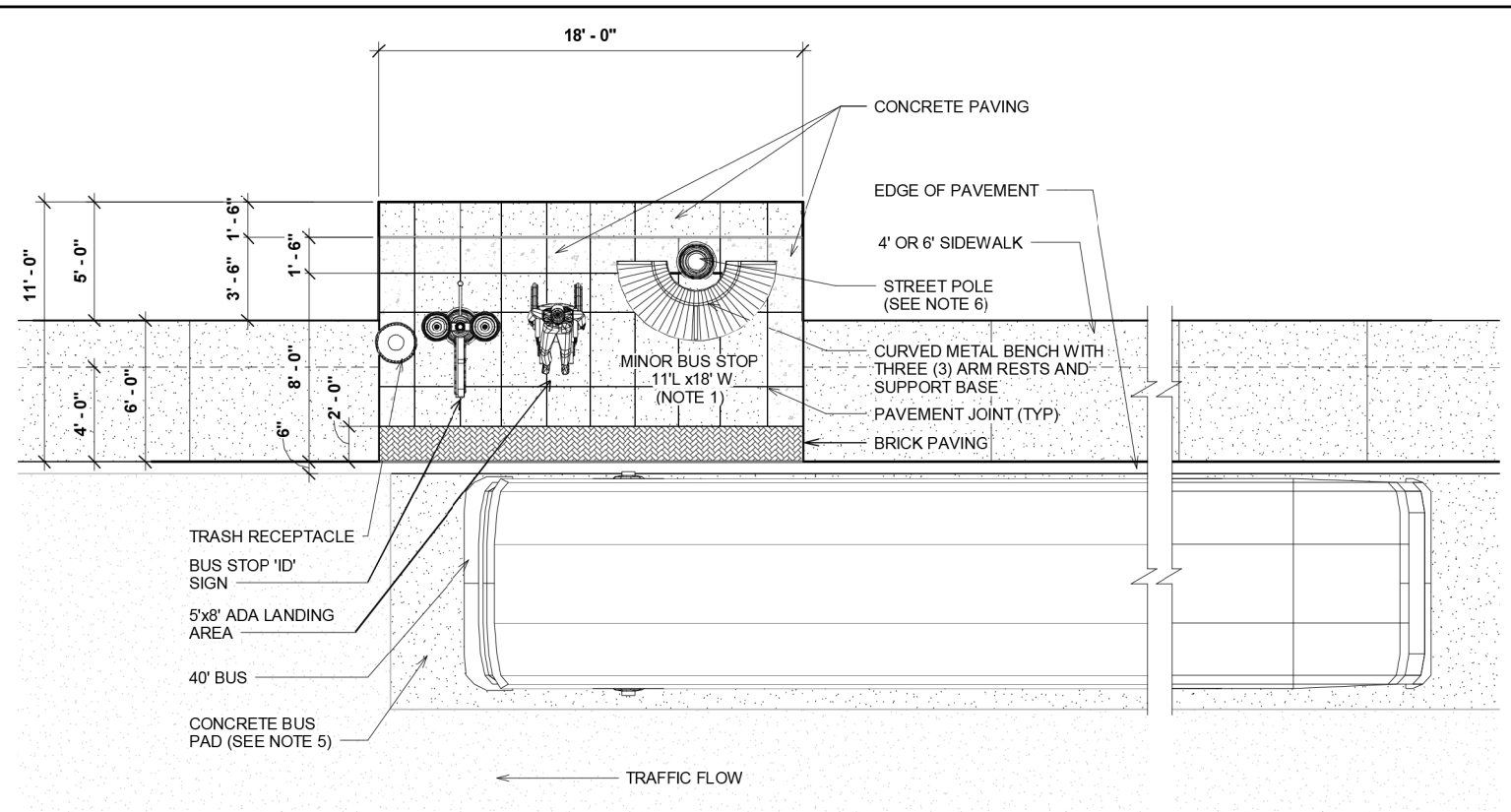


6 ROOF DETAIL
6" = 1'-0"

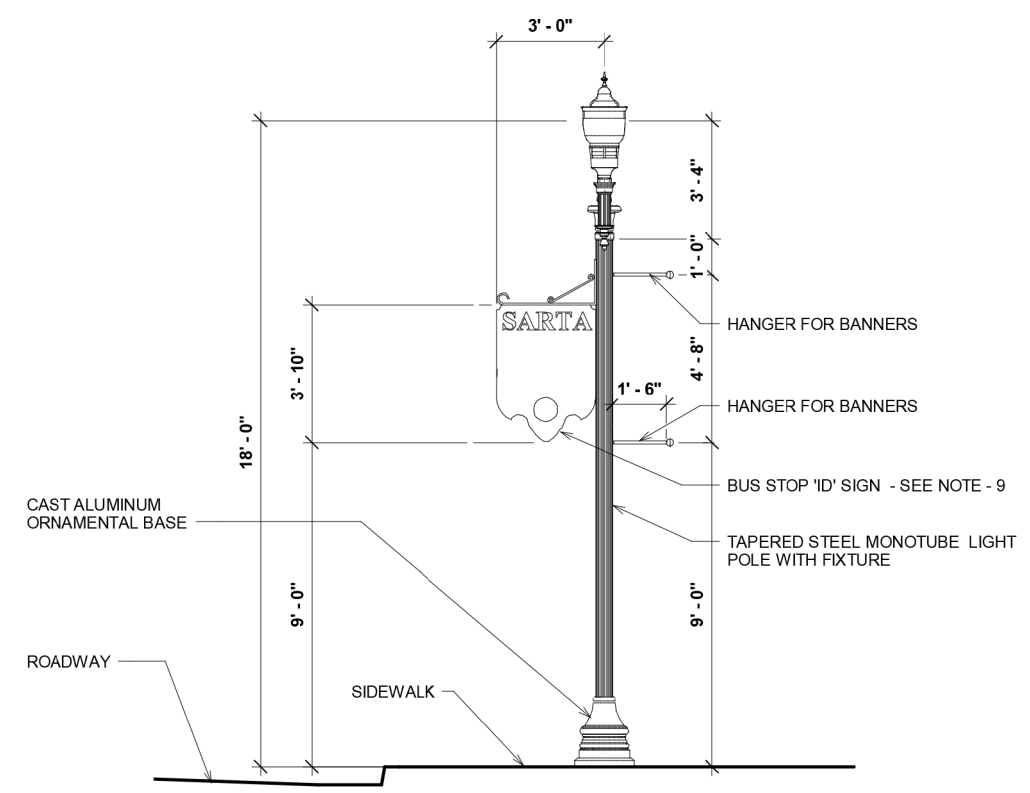


7 GRILL WORK DETAIL
1 1/2" = 1'-0"

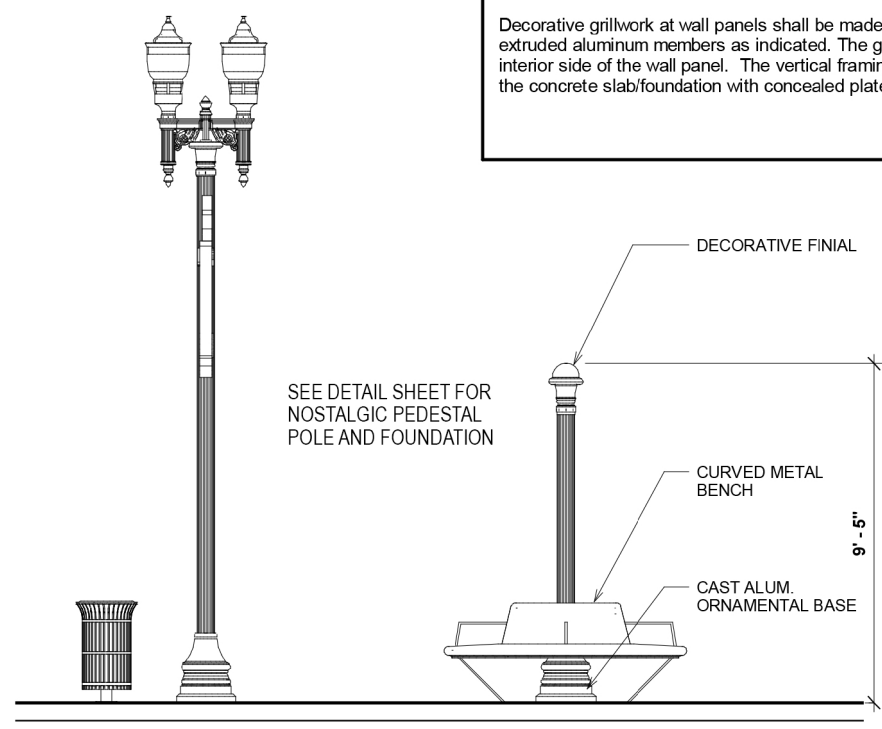
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1 TYPICAL MINOR BUS STOP PLAN
1/4" = 1'-0"



2 BUS STOP ID SIGN POST
3/8" = 1'-0"



3 ELEVATION
3/8" = 1'-0"

PRODUCT NOTES:

Specifications

1. Bus Shelter

All bus shelters are free standing structures and shall be designed and installed with provisions as indicated in project documents. The bus shelter shall comply with all local, state & federal codes, standards and regulations including the Access Board's ADA - Accessibility Guidelines (ADAAG). Each bus shelter shall be of minimum clear inside dimensions of 5' - 0" width, 12' - 0" length & 7' - 0" clear high wall openings at entry points.

A. Submittal Requirements

Prior to fabrication of these bus shelter units, the following shall be submitted to the Owner for review and acceptance.

1. Submit complete shop drawings for shelter design, benches, bike rack, trash receptacles and street pole showing design dimensions and installation details, materials and finishes.
2. Submit necessary structural design calculations for wind loads and other code compliance. All documents shall be stamped and sealed by a registered professional Engineer for the State of Ohio.
3. Submit the polyester powder coating finish warranty document for ten (10) years from substantial completion.
4. Submit manufacturer's standard color chart for polyester powder coat finish for owner to select the color.

B. Shelter Roof Systems

The bus shelter shall have hip roof configuration and watertight construction with aluminum structural framing system supporting standing seam structural aluminum roofing system.

C. Shelter Framing Systems

Framing systems shall be engineered to contribute strength, durability and aesthetics to bus shelter's design.

Standard material for is 6063-T5 extruded aluminum. For certain applications, 6061-T6 or 6005-T6 alloy/temper aluminum will be acceptable.

Framing members, roofing panels and grillwork finish shall be polyester powder coat in the color black as selected by the Owner.

D. Shelter Wall Systems

The shelter wall configuration shall have three and one half sides fully closed from roof to floor. The walls shall be framed with aluminum structural members with 1/2" thick clear tempered safety glass. The decorative grill work shall be incorporated in the wall panels.

Decorative grillwork at wall panels shall be made from welded 1" x 1" x 1/8" extruded aluminum members as indicated. The grillwork shall be applied to the interior side of the wall panel. The vertical framing members shall be connected to the concrete slab/foundation with concealed plates and fasteners.

E. Finish Requirements

The roofing panels, framing members and grillwork shall have polyester powder coat finish with graffiti-resistant coating. The color shall be black as selected by the Owner. The 1/4" safety glass shall also have the graffiti-resistant coating. The polyester powder coat finish shall be warranted for 10 years to be free from cracking, peeling, chalking or fading against ultraviolet exposure.

2. Benches Specifications

- a. Curved metal bench with back (Semi-circular bench): - Each bench shall be comprised of two components of 90o to form one curved metal bench with back and minimum three armrests per each curved shall have min. 40.25 inch outside radius and 14.25 inch inside radius. The bench shall have concealed in-ground support mounting. Curved metal benches shall be furnished and installed as indicated. Acceptable product design is "Model NRB-90" design by Victor Stanley, Inc. (modified for project requirements) or accepted equal.
- b. Straight metal bench with backs: - The bench shall be 4' - 0" nominal length x 2' - 4" wide with 3 armrests, one at each end and one at mid point. The bench shall have concealed in-ground support mounting. Benches shall be furnished and installed as indicated.

Straight and curved benches shall be welded construction using 1/4" x 1 1/2" steel bars, 5/8" O steel rods and schedule 40 steel pipes. Customize the design as necessary to comply with project requirements. All bench designs for the project shall be ADA compliant and shall have electrostatic polyester powder coated 8-10 mils. Thick minimum coated finish. The color shall be black as selected by owner from color chart #52007 by Victor Stanley, Inc.

3. Bike Rack Specifications

Bike racks shall be made from tubular 2 3/8" O.D., schedule 40 steel pipe arc type design. The bike rack mounting shall be concealed in the pavement. The finish shall be factory applied electrostatic polyester powder coating with 8-10 mils. minimum thickness. The acceptable product design is "model BK-3" as manufactured by Victor Stanley, Inc., Dunkirk, Maryland, or accepted equal. The color shall be black as selected by owner from color chart #52007 for powder coatings by Victor Stanley, Inc. Bike rack units shall be furnished and installed as indicated.

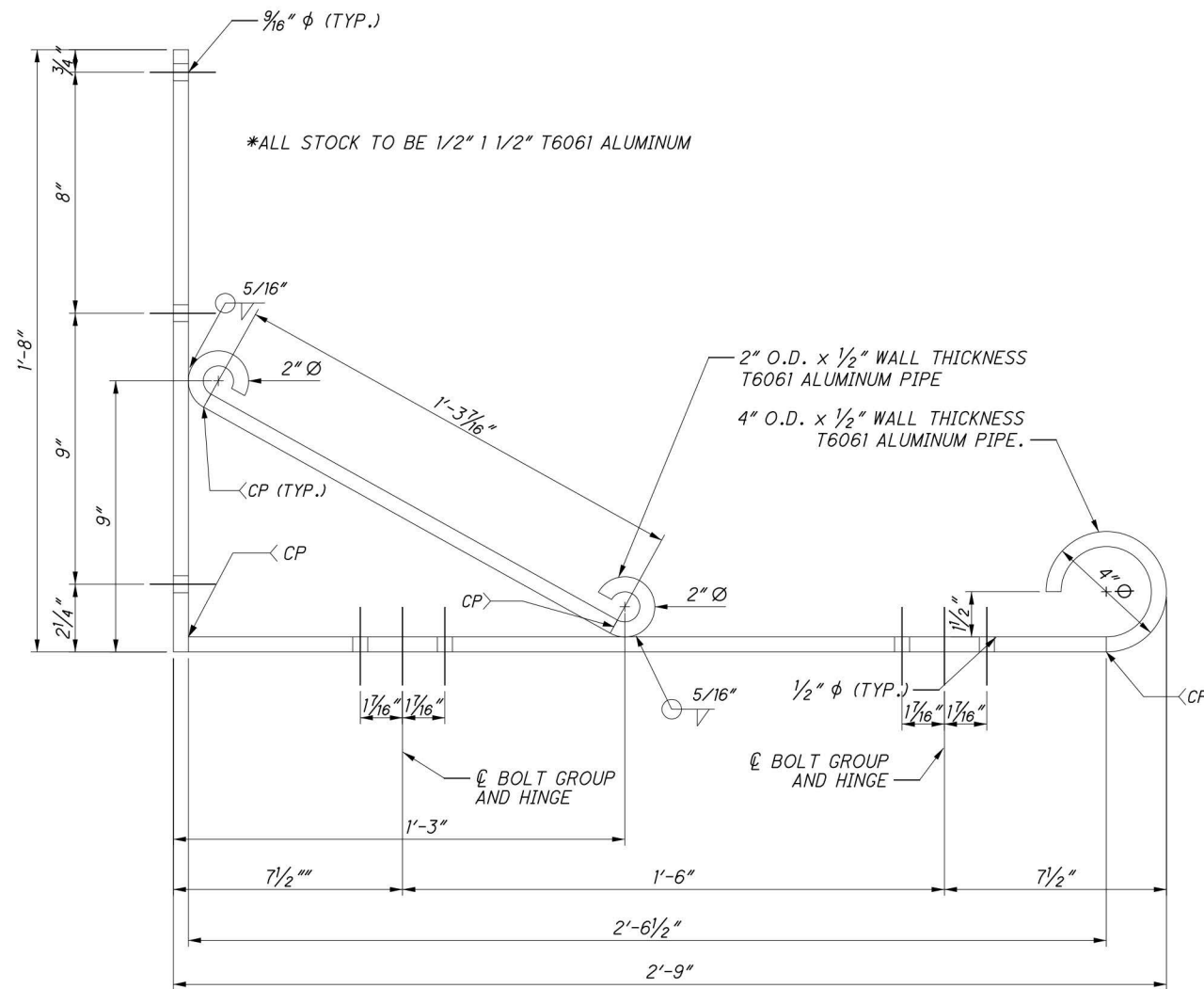
4. Trash Receptacle Specifications

Trash receptacles shall be top loading, 36 gallons capacity made from solid steel 5/8 inch top ring with 3/8 x 1 inch vertical steel bars welded construction with elevated recessed pedestal type base and electrostatic polyester powder coated finish. The coating shall be minimum 8-10 mils. thick. The color shall be black as selected by owner from color chart #52007 for powder coatings by Victor Stanley, Inc. Each trash receptacle shall also be supplied with high-density black plastic formed liner. It shall be reinforced, ribbed and molded for durability. The trash receptacle shall be anchor bolted to the pavement. Trash receptacle units shall be furnished and installed as indicated. The acceptable product design is 'Ironsites' series, Model S-42 with standard tapered formed lid as manufactured by Victor Stanley, Inc., Dunkirk, Maryland, or accepted equal.

GENERAL NOTES:

1. BICYCLE RACKS ARE NOT REQUIRED WITH MINOR BRT STOPS.
2. SUBMIT COMPLETE SHOP DRAWING AND SAMPLES FOR EACH PRODUCT SHOWING MATERIALS, DESIGN/FABRICATION DETAILS WITH DIMENSIONS, FINISH DETAILS AND COLOFCHARTS FOR OWNER'S APPROVAL.
3. NO PRODUCT SHALL BE PROCURED OR FABRICATED PRIOR TO ITS SHOP DRAWING APPROVAL BY THE OWNER.
4. SEE PLAN SHEETS FOR LOCATION OF STOPS AND AMENITIES.
5. SEE PLAN SHEETS FOR CONCRETE PAD DIMENSIONS / DETAILS.
6. STREET POLE SHALL HAVE POWDER COATED FINISH AND COLOR SHALL BE GREEN TO MATCH THE CITY STREET LIGHT POLES. THE CAST ALUMINUM ORNAMENTAL BASE SHALL ALSO MATCH THE CITY STREET LIGHT POLE DESIGN.
7. EACH MINOR BUS STOP SHALL INCLUDE A STREET POLE WITH FINIAL AND DECORATIVE BASE, CURVED BENCH, TRASH RECEPTACLE, STATION ID SIGN, AND HANGER BRACKET. THE COSTS FOR ALL CONCRETE PAVEMENT, CURBS, SIDEWALKS, BRICK, AND LIGHTING SHALL BE INCLUDED IN THE APPROPRIATE PAY ITEMS IN THE ROADWAY PLANS. PAYMENT FOR THE MINOR BUS STOP ITEMS SHALL BE INCLUDED WITH ITEM 690E98000, SPECIAL - MISC.: TYPICAL MINOR BRT STOP, EACH, FOR PAYMENT.
8. ALL CAST CONCRETE, BRICK WORK AND LIGHT POLES SHALL BE PAID FOR UNDER INDIVIDUAL PAY ITEMS.
9. SEE DRAWING 135/135 FOR BUS STOP ID SIGN.

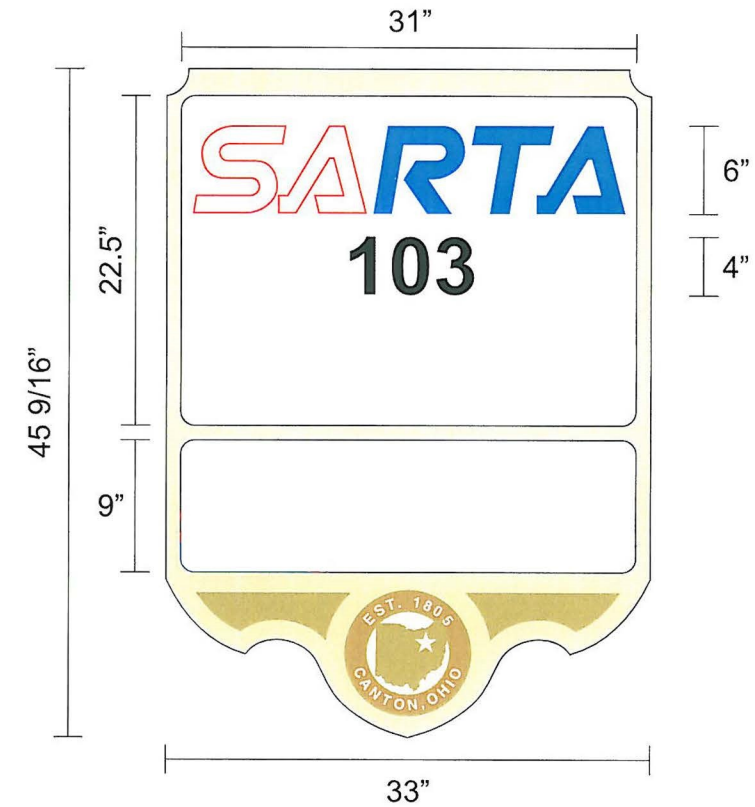
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BRT STOP STATION ID SIGN SUPPORT BRACKET

SUPPORT BRACKET NOTES:

- 1) HOLES SHALL BE DRILLED IN MEMBERS PRIOR TO WELDING.
- 2) ALL WELDS SHALL BE GROUND SMOOTH BEFORE POWDER COATING.
- 3) BRACKET ASSEMBLIES SHALL BE POWDER COATED AFTER FABRICATION.
THE COLOR SHALL BE GREEN TO MATCH THE CITY STANDARD FOR LIGHT POLES.
- 4) EACH BRACKET SHALL BE SUPPLIED WITH 2 STAINLESS STEEL FULL MORTISE DOOR HINGES.
HINGES SHALL BE 3.5"x3.5"x0.123" THICK.
- 5) BRACKETS SHALL INCLUDE 8 - 1/2" DIAMETER x 1/2" LONG STAINLESS STEEL BOLTS WITH 2 STAINLESS STEEL WASHERS AND 2 STAINLESS STEEL NUTS PER BOLT.
- 6) EACH BOLT SHALL BE DOUBLE NUTTED.
- 7) THE HOLE SPACING OF THE HINGES SHALL BE VERIFIED PRIOR TO FABRICATING THE BRACKETS.
- 8) THE HOLES IN THE BAR STOCK SHALL BE CENTERED IN THE MEMBERS.
- 9) BRACKETS SHALL BE POWDER COATED CBD GREEN (COLOR AND FORMULA IS ON FILE AT THE MIDWEST TANK SERVICES CO., INC., CANTON, OH).



BRT STOP STATION ID SIGN

SIGN NOTES:

- 1) SIGN SHALL BE MADE FROM 6mm WHITE/WHITE DIBOND WITH 16 PASS DIGITAL PRINTED GRAPHICS ON 3M 180-C VINYL WITH 3M MATTE LAMINATE APPLIED OVER ALL GRAPHICS.
- 2) ONE SIGN SHALL BE PROVIDED AT EACH BUS STOP ON WALNUT AND CHERRY WITHIN THE PROJECT LIMITS (10 TOTAL).
- 3) CONTRACTOR SHALL PROVIDE A SAMPLE SIGN TO THE CITY FOR APPROVAL PRIOR TO ORDERING ALL OTHER SIGNS.
- 4) SIGN SHALL BE DOUBLE SIDED.
- 5) BUS STOP ROUTE NUMBERS TO BE PROVIDED BY SARTA AT THE PRECONSTRUCTION MEETING.
- 6) GRAPHICS WILL BE PROVIDED BY THE CITY OF CANTON AT THE PRECONSTRUCTION MEETING AND WILL INCLUDE REQUIRED FEDERAL COLOR NUMBERS.
- 7) 5/16" DIAMETER HOLES WILL BE FIELD DRILLED FOR ATTACHMENT TO BRACKET HINGES.
- 8) 1/4" DIAMETER SS BOLTS WITH LOCK NUTS SHALL BE PROVIDED (4 PER SIGN).

CALCULATED
CJP
CHECKED
WLC

TYPICAL BRT STOP SIGNAGE DETAILS

STA - 12TH STREET

523A
790

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ITEM 630 - SIGN, DOUBLE FACED, STREET NAME, AS PER PLAN (AS PER CITY STANDARD)

ALL SIGNS SHALL HAVE HIGH-INTENSITY SHEETING AND BE MADE WITH .080 5052H-38 ALUMINUM. STREET NAME SIGNS SHALL BE DOUBLE FACED ON 9" BLANKS W/ RADIUS CORNERS AND SHALL USE UPPER AND LOWER CASE LETTERING ON GREEN BACKGROUND WITH 6" NAME AND 3" SUFFIXES. ALL SIGN RELATED HARDWARE IS TO BE INCLUDED, SUCH AS HEAVY DUTY U-CHANNEL CAPS AND STREET NAME CROSSES. SIGNS SHALL VARY IN LENGTH BETWEEN 9" X 24", 9" X 30", OR 9" X 36" DEPENDING ON THE LENGTH OF THE STREET NAME. FONT STYLE SHALL BE CLEARVIEW.

ITEM 630 - SIGN, STREET NAME, AS PER PLAN (AS PER CITY STANDARD)

OVERHEAD STREET NAME SIGNS SHALL BE 5052H-38 ALUMINUM .100" THICK. THE SIGN SHALL BE 14" OR 16" WIDE AND VARY IN LENGTH BETWEEN 5' AND 9.5' LONG DEPENDING ON THE STREET NAME AND SHALL HAVE ROUNDED CORNERS. THE BACKGROUND SHEETING SHALL BE ENGINEERING GRADE GREEN WITH HIGH INTENSITY WHITE TEXT AND BORDER. THE SIGN LEGEND SHALL BE CLEARVIEW 2W 10" HIGH UPPER/LOWER CASE WITH 10" UPPER CASE SUFFIXES. ALL HOLES TO BE FIELD DRILLED. 3M PRODUCT #1150, CLEAR VINYL OVERLAY, SHALL BE APPLIED TO EACH SIGN FACE.

ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND STORAGE

THIS ITEM SHALL INCLUDE DELIVERY OF SIGNS TO A LOCATION DESIGNATED BY THE CITY OF CANTON.

ITEM 630 - OVERHEAD SIGN SUPPORT, BY TYPE, AS PER PLAN

OVERHEAD SIGN SUPPORTS AND ARMS SHALL BE PACIFIC FAMILY 50312GF SERIES AND MANUFACTURED BY:

UNION METAL CORPORATION
1432 MAPLE AVENUE N.E.
P.O. BOX 9920
CANTON, OH. 44711
PHONE: 330-456-7653

THE CONTRACTOR SHALL FURNISH AND INSTALL NOSTALGIA OVERHEAD SIGN SUPPORTS AS PER PLANS. ALL HARDWARE AND RELATED EQUIPMENT SHALL BE INCLUDED WITH THIS ITEM.

THE MANUFACTURER SHALL PROVIDE WRITTEN CERTIFICATION TO THE CITY THAT THE ACCEPTED SUPPORT, ARM, AND DECORATIVE SHROUD, IS OR WILL BECOME A STOCK ITEM, READILY AVAILABLE WITH REPLACEMENT PARTS FOR MINIMUM TEN (10) YEAR PERIOD. ALL MATERIAL SUPPLIES SHALL BE WARRANTED BY THE MANUFACTURER FOR ONE (1) YEAR AFTER DELIVERY AGAINST FAULTY MATERIALS AND WORKMANSHIP. A PERMANENT LEGIBLE MARKING INDICATION SHALL BE INCLUDED ON EACH SIGN SUPPORT AND ARM. THE FOLLOWING INDICATIONS SHALL BE REQUIRED AS A MINIMUM:

A. POLE INDICATIONS: MONTH/DATE OF FABRICATION: POLE GAUGE: BOTTOM DIAMETER: POLE HEIGHT: BOLT CIRCLE: ANCHOR BOLT DIAMETER: FLANGE BOLT DIAMETER: AND INTERSECTION LOCATION INCLUDING CORNER QUADRANT.

B. ARM INDICATIONS: MONTH/DATE OF FABRICATION: ARM GAUGE; ARM DIAMETER: ARM LENGTH: CONNECTING FLANGE BOLT DIAMETER: AND INTERSECTION LOCATION INCLUDING CORNER QUADRANT.

THE ORNAMENTAL BASE SHALL BE UNION METAL BASE NO. 731. THE FOUNDATION SURFACE SHALL BE LEVEL IN ORDER TO ACCEPT THE BASE ASSEMBLY. ALL PROPOSED EXTERIOR CONNECTIONS TO NOSTALGIA SIGN SUPPORTS SHALL BE FIELD DRILLED. BANDING OR STRAPPING ON THE NOSTALGIA SIGN SUPPORTS SHALL NOT BE PERMITTED.

CALCULATED
BSS
CHECKED
DLW

TRAFFIC CONTROL NOTES

STA -12TH STREET

524
790

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630												
							REMOVAL OF GROUND MOUNTED SIGN AND STORAGE EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE EACH	REMOVAL OF POLE MOUNTED SIGN AND STORAGE EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL EACH								
544	R-1	12TH ST		LT						1									
544	R-2			LT						1	1								
544	R-3			RT						1									
544	R-4			LT			1	1											
544	R-5			RT						1	1								
544	R-6		NOT USED																
545	R-7			LT							1								
545	R-8			LT			1	1											
545	R-9			LT			2	1											
545	R-10			LT			2	1											
545	R-11			RT			3	1											
545	R-12			RT			1	1											
546	R-13			LT			2	1											
546	R-14			RT							1								
546	R-15			LT			1	1											
546	R-16			LT			2	1											
546	R-17			LT							1								
546	R-18			LT			2	1											
546	R-19			RT			2	1											
546	R-20			RT			1	1											
546	R-21			LT							1								
547	R-22			LT							2								
547	R-23			RT			3	1											
548	R-24			RT							1								
548	R-25			LT						1									
548	R-26			RT						1									
548	R-27			LT						1									
548	R-28			RT						1									
548	R-29			LT							1								
548	R-30			LT							1								
548	R-31			LT			3	1											
548	R-32			RT			2	1											
549	R-33			RT			2	1											
549	R-34			RT			3	1											
549	R-35			LT			2	1											
549	R-36			LT							1								
550	R-37			RT			1	1											
550	R-38			RT			2	1											
550	R-39			LT			1	1											
550	R-40			LT							2								
550	R-41			RT			3	1											
550	R-42			RT			1	1											
550	R-43			LT			3	1											
551	R-44			RT						1	1								
551	R-45			LT						1	1								
551	R-46			RT						1	1								
551	R-47			LT						1	1								
551	R-48			LT							3								
551	R-49			LT			2	1											
551	R-50			RT			3	1											
551	R-51			LT			1	1											
552	R-52			RT						2		1							
552	R-53			RT			3	1											
552	R-54			RT			2	1											
552	R-55		NOT USED																
552	R-56			LT			3	1											
552	R-57			RT,LT						2									
552	R-58			RT						1									
552	R-59			RT			1	1											
552	R-60	12TH ST		LT			2	1											
TOTALS CARRIED TO SHEET 528							63	32	17	21	1								

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STA - 12TH STREET
525
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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630															
							REMOVAL OF GROUND MOUNTED SIGN AND STORAGE EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE EACH	REMOVAL OF POLE MOUNTED SIGN AND STORAGE EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL EACH											
552	R-61	12TH ST	NOT USED																			
553	R-62			LT																		
553	R-63			RT			3	1	2		1											
553	R-64			LT					2													
553	R-65			LT					1													
553	R-66			RT			1	1														
553	R-67			RT			1	1														
553	R-68			RT,LT					4													
554	R-69			LT								1										
554	R-70			LT								1										
554	R-71			RT			3	1														
554	R-72			LT			1	1														
554	R-73			LT			3	1														
554	R-74			LT								1										
554	R-75			RT			2	1														
555	R-76			LT								1										
555	R-77			LT			2	1														
555	R-78		NOT USED																			
555	R-79			RT			1	1														
555	R-80			LT								1										
556	R-81			LT						1												
556	R-82			RT						1												
556	R-83			LT						1												
556	R-84			RT						1												
556	R-85			LT			1	1														
556	R-86			RT			1	1														
557	R-87			LT								1										
557	R-88			LT			2	1														
557	R-89			RT								1										
557	R-90			RT			1	1														
557	R-91			RT			1	1				1										
557	R-92			LT						2												
557	R-93			LT								5										
557	R-94			RT						1												
557	R-95			RT								7										
557	R-96			RT						2												
557	R-97			LT			2	1														
557	R-98			LT								2										
557	R-99			RT								4										
557	R-100			LT								3										
557	R-101			RT								3										
558	R-102			LT			1	1														
558	R-103			LT			3	1														
558	R-104			RT								1										
558	R-105			RT								1										
558	R-106			LT								3										
558	R-107			RT			1	1				1										
558	R-108			LT								4										
558	R-109			RT			1	1														
558	R-110			LT						2												
558	R-111			LT								3										
558	R-112			LT						1												
558	R-113			LT			2	1														
558	R-114			LT			3	1														
558	R-115			RT						2												
558	R-116			RT								3										
558	R-117			RT								2										
558	R-118			LT								1										
559	R-119			RT			2	1														
559	R-120	12TH ST		LT								3										
TOTALS CARRIED TO SHEET 528							38	22	23	54	1											

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STA - 12TH STREET
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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630												
							REMOVAL OF GROUND MOUNTED SIGN AND STORAGE	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE	REMOVAL OF POLE MOUNTED SIGN AND STORAGE	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL								
							EACH	EACH	EACH	EACH	EACH								
559	R-121	12TH ST		LT			4	1											
559	R-122			RT			1	1											
559	R-123			RT			2	1											
559	R-124			LT			1	1											
559	R-125			RT							1								
559	R-126			RT			1	1											
559	R-127			LT							1								
559	R-128			RT							1								
560	R-129			LT							2								
560	R-130			RT							1								
560	R-131			LT			1	1											
560	R-132			RT			4	1											
560	R-133			RT							1								
561	R-134			LT			1	1											
561	R-135			RT							1								
561	R-136			LT			1	1											
561	R-137			RT							1								
561	R-138			RT			1	1											
561	R-139			RT			1	1											
561	R-140			LT						2									
561	R-141			LT			1	1											
561	R-142			RT						1									
561	R-143			RT							2								
561	R-144			RT						1									
561	R-145			LT			2	1											
561	R-146			LT			1	1				1							
561	R-147			RT							1								
561	R-148			LT							1								
562	R-149			RT			2	1											
562	R-150			LT			1	1											
562	R-151			RT			1	1											
562	R-152			RT			1	1											
562	R-153			RT							2								
562	R-154			LT			3	1											
562	R-155			RT			2	1											
562	R-156			LT			1	1											
563	R-157			RT			1	1											
563	R-158			RT			1	1											
563	R-159			RT			1	1											
563	R-160			RT			1	1											
564	R-161			LT			3	1											
564	R-162			RT							1								
564	R-163			RT						1									
564	R-164			LT							1								
564	R-165			LT							2								
564	R-166			LT						1									
564	R-167			LT						2									
564	R-168			LT							3								
564	R-169			RT							2								
565	R-170			LT			1	1											
566	R-171			RT						5		1							
566	R-172			RT			1	1											
566	R-173			LT						2	1								
566	R-174			RT						2	1								
566	R-175			LT						1									
566	R-176			LT						1									
567	R-177	12TH ST		RT							1								
TOTALS CARRIED TO SHEET 528							42	28	19	28	1								

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STA - 12TH STREET

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630														
							REMOVAL OF GROUND MOUNTED SIGN AND STORAGE	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE	REMOVAL OF POLE MOUNTED SIGN AND STORAGE	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL										
							EACH	EACH	EACH	EACH	EACH										
568	R-1	MARKET AVE		LT							2										
568	R-2			LT			1	1													
568	R-3			LT					1												
568	R-4			LT					1	1											
568	R-5			RT					1	1											
568	R-6			RT			1	1													
569	R-7		NOT USED						2												
569	R-8			RT			1	1													
570	R-9			LT					2	3											
570	R-10			LT						1											
570	R-11			LT						1											
570	R-12			RT			1	1													
570	R-13			RT			3	1													
570	R-14	MARKET AVE		RT						1											

TOTALS FROM THIS SHEET							7	5	7	10	0											
TOTALS FROM SHEET 525							63	32	17	21	1											
TOTALS FROM SHEET 526							38	22	23	54	1											
TOTALS FROM SHEET 527							42	28	19	28	1											
TOTALS CARRIED TO GENERAL SUMMARY							150	87	66	113	3											

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STA - 12TH STREET
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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630													SIGNAL	TYPE	HEIGHT	QTY	AREA	VOLUME	MATERIAL	REMARKS
							GROUND MOUNTED SUPPORT, NO. 3 POST	ONE WAY SUPPORT, NO. 3 POST	STREET NAME SIGN SUPPORT, NO. 3 POST	SIGN POST REFLECTOR	OVERHEAD SIGN SUPPORT, TYPE TC-16.2I, DESIGN 6, AS PER PLAN	OVERHEAD SIGN SUPPORT, TYPE TC-16.2I, DESIGN 9, AS PER PLAN	OVERHEAD SIGN SUPPORT, TYPE TC-16.2I, DESIGN 10, AS PER PLAN	SIGN HANGER ASSEMBLY, MAST ARM	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET	SIGN, DOUBLE FACED, STREET NAME, AS PER PLAN (AS PER CITY STANDARD)	SIGN, STREET NAME, AS PER PLAN (AS PER CITY STANDARD)	SIGN BACKING ASSEMBLY								
FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	SQ FT	EACH	EACH	EACH	EACH													
572	S-1	MONUMENT RD	10+52	LT	R1-1-36 D3-1	36 X 36			15.0	1									9.0								
572	S-4	MONUMENT RD	9+48	RT	D3-1 R1-1-36				15.0	1																	
572	S-5	MONUMENT RD	10+70	RT	R7-1-12	12 X 18	14.0												1.5								
572	S-6	12TH ST	443+00	LT	R3-H8BH-36	36 X 30	14.0												7.5								
573	S-7	12TH ST	LIGHT POLE	LT	R3-17-30 R8-3-24	30 X 24 24 X 24													5.0	1							
573	S-8	12TH ST	LIGHT POLE	RT	R3-17-30 R8-3-24	30 X 24 24 X 24													5.0	1							
573	S-9	12TH ST	LIGHT POLE	LT	W10-1-36 R1-1-30	36 X 36 30 X 30			15.0	1									9.0	1							
573	S-10	RIDGE RD	19+40	RT	D3-1 (2) R7-SPECIAL-9																						
573	S-11	RIDGE RD	20+60	LT	R1-1-30 D3-1 (2) R7-SPECIAL-9	30 X 30 30 X 30 9 X 12			15.0	1									6.3								
573	S-14	12TH ST	447+08	RT	R1-1-30 D3-1	30 X 30			15.0	1									6.3								
573	S-15	12TH ST	LIGHT POLE	RT	R2-1-30 D3-1	30 X 36													7.5	1							
574	S-17	PERKINS RD	30+50	LT	D3-1 R1-1-30																						
574	S-18	12TH ST	LIGHT POLE	RT	R3-17-30 R8-3-24	30 X 24 24 X 24													5.0	1							
574	S-19	12TH ST	LIGHT POLE	LT	R3-17-30 R8-3-24	30 X 24 24 X 24													5.0	1							
574	S-20	MCGREGOR AVE	40+43	LT	R1-1-30 D3-1	30 X 30			15.0	1									6.3								
574	S-21	MCGREGOR AVE	39+50	LT	R2-1-24 R12-1-24	24 X 30 24 X 30	15.0												5.0								
574	S-22	MCGREGOR AVE	39+60	RT	R1-1-30 D3-1	30 X 30			15.0	1									6.3								
574	S-23	12TH ST	LIGHT POLE	RT	R3-17-30 R8-3-24	30 X 24 24 X 24													5.0	1							
575	S-24	12TH ST	LIGHT POLE	LT	R2-1-30	30 X 36													7.5	1							
575	S-25	12TH ST	LIGHT POLE	LT	R3-17-30 R8-3-24	30 X 24 24 X 24													5.0	1							
575	S-26	12TH ST	LIGHT POLE	RT	R3-H8BH-36 R1-1-30	36 X 30 30 X 30			15.0	2									7.5	1							
575	S-27	12TH ST	456+00	RT	R5-1-30 R6-2R-24 R3-5L-30	30 X 30 24 X 30 30 X 36													6.3								
576	S-28	12TH ST	MAST ARM	LT	R3-5L-30 STREET NAME	30 X 36 84 X 14													7.5	1							
576	S-29	12TH ST	MAST ARM	LT	R3-5L-30 STREET NAME	30 X 36 72 X 14													7.5	1							
576	S-30	12TH ST	MAST ARM	RT	R3-5L-30 STREET NAME	30 X 36 84 X 14													7.5	1							
576	S-31	12TH ST	MAST ARM	RT	R3-5L-30 STREET NAME	30 X 36 72 X 14													7.5	1							
576	S-32	12TH ST	LIGHT POLE	LT	R3-H8BH-36 R1-1-30	36 X 30 30 X 30			15.0										7.5	1							
576	S-33	ARNOLD AVE	60+40	LT	D3-1																						
576	S-34	12TH ST	LIGHT POLE	RT	R2-1-30	30 X 36													7.5	1							
TOTALS CARRIED TO SHEET 536							43.0	15.0	135.0	10	0	0	0	8	20	235.3	17	4	0	0							

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STA - 12TH STREET
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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630													SIGN, DOUBLE FACED, STREET NAME, AS PER PLAN (AS PER CITY STANDARD)	SIGN, STREET NAME, AS PER PLAN (AS PER CITY STANDARD)	SIGN BACKING ASSEMBLY	RIGID OVERHEAD SIGN SUPPORT FOUNDATION
							GROUND MOUNTED SUPPORT, NO. 3 POST FT	ONE WAY SUPPORT, NO. 3 POST FT	STREET NAME SIGN SUPPORT, NO. 3 POST FT	SIGN POST REFLECTOR EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.21, DESIGN 6, AS PER PLAN EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.21, DESIGN 9, AS PER PLAN EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.21, DESIGN 10, AS PER PLAN EACH	SIGN HANGER ASSEMBLY, MAST ARM EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	SIGN, FLAT SHEET SQ FT	SIGN, DOUBLE FACED, STREET NAME, AS PER PLAN (AS PER CITY STANDARD) EACH	SIGN, STREET NAME, AS PER PLAN (AS PER CITY STANDARD) EACH	SIGN BACKING ASSEMBLY EACH				
576	S-35	12TH ST	460+45	RT	RI-1-30 D3-1	30 X 30			15.0	1						6.3	1						
577	S-36	12TH ST	LIGHT POLE	RT	R3-17-30 R8-3-24	30 X 24 24 X 24									1 1	5.0 4.0							
577	S-37	12TH ST	LIGHT POLE	LT	R3-17-30 R8-3-24	30 X 24 24 X 24									1 1	5.0 4.0							
577	S-38	12TH ST	461+60	RT	RI-1-30 D3-1	30 X 30			15.0	1						6.3	1						
577	S-39	12TH ST	LIGHT POLE	LT	R2-1-30	30 X 36									1	7.5							
577	S-40	12TH ST	463+22	RT	RI-1-30 D3-1	30 X 30			15.0	1						6.3	1						
577	S-41	12TH ST	LIGHT POLE	LT	R3-17-30 R8-3-24	30 X 24 24 X 24									1 1	5.0 4.0							
577	S-42	OXFORD AVE	70+43	LT	RI-1-30 D3-1	30 X 30			15.0	1						6.3	1						
577	S-43	12TH ST	464+93	RT	RI-1-30 D3-1	30 X 30			15.0	1						6.3	1						
578	S-44	12TH ST	465+80	RT	RI-1-30 D3-1	30 X 30			15.0	1						6.3	1						
578	S-45	12TH ST	LIGHT POLE	RT	R3-17-30 R8-3-24	30 X 24 24 X 24									1 1	5.0 4.0							
578	S-46	12TH ST	466+89	RT	RI-1-30 D3-1	30 X 30			15.0	1						6.3	1						
578	S-47	12TH ST	LIGHT POLE	LT	R3-17-30 R8-3-24	30 X 24 24 X 24									1 1	5.0 4.0							
578	S-48	LOUISIANA AVE	80+40	LT	RI-1-30 D3-1	30 X 30			15.0	1						6.3	1						
578	S-49	12TH ST	468+00	RT	RI-1-30 D3-1	30 X 30			15.0	1						6.3	1						
578	S-50	12TH ST	468+80	LT	RI-1-30 D3-1	30 X 30			15.0	1						6.3	1						
578	S-51	12TH ST	469+13	RT	RI-1-30 D3-1	30 X 30			15.0	1						6.3	1						
579	S-52	SHORB AVE	90+45	LT	RI-1-30 D3-1	30 X 30			15.0	1						6.3	1						
579	S-53	SHORB AVE	89+57	RT	RI-1-30 D3-1	30 X 30			15.0	1						6.3	1						
579	S-54	12TH ST	471+64	LT	RI-1-30 R3-2-24 D3-1	30 X 30 24 X 24			15.0	1						6.3 4.0	1						
579	S-55	12TH ST	471+78	RT	RI-1-30 R3-2-24 D3-1	30 X 30 24 X 24			15.0	1						6.3 4.0	1						
579	S-56	12TH ST	LIGHT POLE	RT	R2-1-30	30 X 36									1	7.5							
579	S-57	12TH ST	LIGHT POLE	LT	R3-H8BH-36	36 X 30									1	7.5							
579	S-58	12TH ST	472+87	RT	RI-1-30 D3-1	30 X 30			15.0	1						6.3	1						
579	S-59	12TH ST	LIGHT POLE	RT	R3-17-30 R8-3-24	30 X 24 24 X 24									1 1	5.0 4.0							
579	S-60	12TH ST	LIGHT POLE	LT	R3-17-30 R8-3-24	30 X 24 24 X 24									1 1	5.0 4.0							
579	S-61	WORLEY AVE	100+40	LT	RI-1-30 D3-1 (2)	30 X 30			15.0	1						6.3	2						
579	S-62	12TH ST	473+98	RT	RI-1-30 D3-1	30 X 30			15.0	1						6.3	1						
580	S-63	12TH ST	474+60	RT	R4-4-36	36 X 30	14.0	0.0								7.5							

TOTALS CARRIED TO SHEET 536

14.0 0.0 270.0 18 0 0 0 0 0 17 213.5 23 0 0 0

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630											SIGN, FLAT SHEET SIGN, DOUBLE FACED, STREET NAME, AS PER PLAN (AS PER CITY STANDARD)	SIGN, STREET NAME, AS PER PLAN (AS PER CITY STANDARD)	SIGN BACKING ASSEMBLY	RIGID OVERHEAD SIGN SUPPORT FOUNDATION
							GROUND MOUNTED SUPPORT, NO.3 POST FT	ONE WAY SUPPORT, NO. 3 POST FT	STREET NAME SIGN SUPPORT, NO. 3 POST FT	SIGN POST REFLECTOR EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.21, DESIGN 6, AS PER PLAN EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.21, DESIGN 9, AS PER PLAN EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.21, DESIGN 10, AS PER PLAN EACH	SIGN HANGER ASSEMBLY, MAST ARM EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	SQ FT	EACH				
580	S-64	12TH ST	475+11	RT	R1-1-30 R3-2-24 D3-1	30 X 30 24 X 24			15.0	1						6.3 4.0					
580	S-65	12TH ST	LIGHT POLE	LT	R2-1-30	30 X 36									1	7.5	1				
580	S-66	12TH ST	475+41	RT	R3-5A-30 R3-5R-30	30 X 36 30 X 36					1					7.5 7.5				1	
580	S-67	12TH ST	475+55	LT	R1-1-30 R3-2-24 D3-1	30 X 30 24 X 24			15.0	1						6.3 4.0				1	
580	S-68	12TH ST	LIGHT POLE	LT	R3-17-30 R8-3-24	30 X 24 24 X 24									1 1	5.0 4.0					
580	S-69	12TH ST	476+23	RT	R1-1-30 R3-2-24 D3-1	30 X 30 24 X 24			15.0	1						6.3 4.0				1	
580	S-70	12TH ST	MAST ARM	RT	STREET NAME	72 X 14									1					1	
580	S-71	12TH ST	MAST ARM	LT	R6-2L-24 STREET NAME	24 X 30 108 X 16									1 1	5.0				1	
580	S-72	12TH ST	MAST ARM	RT	R3-5L-30 STREET NAME R6-2R-24	30 X 36 108 X 16 24 X 30									1 1 1	7.5				1	
580	S-73	12TH ST	477+79	LT	R3-5R-30 R6-1R-36 R6-1L-36	30 X 36 36 X 12 36 X 12		14.0							1	7.5 3.0 3.0					
580	S-74	12TH ST	LIGHT POLE	RT	R3-17-30 R8-3-24	30 X 24 24 X 24									1 1	5.0 4.0					
581	S-75	12TH ST	479+40	LT	R3-5L-30 R3-5A-30	30 X 36 30 X 36					1					7.5 7.5				1	
581	S-76	12TH ST	479+54	RT	R1-1-30 R3-2-24 D3-1	30 X 30 24 X 24			15.0	1						6.3 4.0				1	
581	S-77	12TH ST	LIGHT POLE	RT	R3-H8BA-30	30 X 30									1	6.3					
581	S-78	12TH ST	LIGHT POLE	LT	R3-17-30 R8-3-24	30 X 24 24 X 24									1 1	5.0 4.0					
581	S-79	12TH ST	LIGHT POLE	RT	R6-1R-36 R6-1L-36	36 X 12 36 X 12									1 1	3.0 3.0					
581	S-80	12TH ST	MAST ARM	LT	R3-5L-30 R6-2R-24 STREET NAME	30 X 36 24 X 30 114 X 14									1 1 1	7.5 5.0				1	
581	S-81	12TH ST	MAST ARM	LT	STREET NAME R6-2R-24	72 X 14 24 X 30									1 1					1 1	
581	S-82	12TH ST	MAST ARM	RT	R6-2L-24 STREET NAME	24 X 30 114 X 14									1 1	5.0 5.0				1	
581	S-83	CLEVELAND AVE	116+50	LT	R3-H8CH-48	48 X 30	14.0	14.0								10.0					
581	S-84	CLEVELAND AVE	116+50	RT	R3-7R-36	36 X 36		14.0								9.0					
581	S-85	CLEVELAND AVE	119+05	LT	R3-H8CH-48	48 X 30	14.0	14.0								10.0					
581	S-85	CLEVELAND AVE	119+05	RT	R3-H8CH-48	48 X 30	14.0	14.0								10.0					
582	S-86	12TH ST	LIGHT POLE	RT	R3-17-30 R8-3-24	30 X 24 24 X 24									1 1	5.0 4.0					
582	S-87	12TH ST	LIGHT POLE	LT	R3-17-30 R8-3-24	30 X 24 24 X 24									1 1	5.0 4.0					
582	S-88	12TH ST	484+47	LT	R1-1-30 D3-1	30 X 30			15.0	1						6.3				1	
582	S-89	12TH ST	485+01	RT	R1-1-30 D3-1	30 X 30			15.0	1						6.3				1	
582	S-90	WOODLAND AVE	130+70	LT	R1-1-30 D3-1 (2)	30 X 30			15.0	1						6.3				2	
582	S-91	WOODLAND AVE	130+78	RT	R7-1-12	12 X 18	14.0									1.5					
582	S-92	12TH ST	487+94	RT	R1-1-30 D3-1	30 X 30			15.0	1						6.3				1	
582	S-93	12TH ST	LIGHT POLE	RT	R3-17-30 R8-3-24	30 X 24 24 X 24									1 1	5.0 4.0					
TOTALS CARRIED TO SHEET 536							112.0	14.0	120.0	8	2	0	0	14	16	263.8	9	6	0	2	

SIGNING SUBSUMMARY

STA -12TH STREET

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630												SIGN, FLAT SHEET SIGN, DOUBLE FACED, STREET NAME, AS PER PLAN (AS PER CITY STANDARD)	SIGN, STREET NAME, AS PER PLAN (AS PER CITY STANDARD)	SIGN BACKING ASSEMBLY	RIGID OVERHEAD SIGN SUPPORT FOUNDATION
							GROUND MOUNTED SUPPORT, NO.3 POST FT	ONE WAY SUPPORT, NO. 3 POST FT	STREET NAME SIGN SUPPORT, NO. 3 POST FT	SIGN POST REFLECTOR EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.21, DESIGN 6, AS PER PLAN EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.21, DESIGN 9, AS PER PLAN EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.21, DESIGN 10, AS PER PLAN EACH	SIGN HANGER ASSEMBLY, MAST ARM EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	SQ FT	EACH	EACH				
588	S-146	PLAIN AVE	189+65	RT	RI-1-30 D3-1	30 X 30			15.0	1							6.3					
588	S-147	12TH ST	LIGHT POLE	RT	R3-H8BA-30 D3-1	30 X 30												1				
589	S-148	12TH ST	LIGHT POLE	LT	R3-17-30 R8-3A-24	30 X 24 24 X 24												1				
589	S-149	12TH ST	518+08	RT	RI-1-30 R3-2-24 D3-1	30 X 30 24 X 24			15.0	1								1				
589	S-150	12TH ST	MAST ARM	LT	R3-5L-30 R10-HIIF-36 STREET NAME	30 X 36 36 X 48 84 X 14												1				
589	S-151	12TH ST	MAST ARM	RT	STREET NAME	84 X 14													1			
589	S-152	12TH ST	MAST ARM	RT	STREET NAME	66 X 14													1			
589	S-153	GIBBS AVE	201+45	LT	R7-1-12	12 X 18	14.0															
589	S-154	12TH ST	519+22	RT	SI-1-36 W16-7PL-24	30 X 30 24 X 12	14.0															
589	S-155	GIBBS AVE	201+60	RT	SI-1-36 S4-3-24	30 X 30 24 X 8	14.0															
589	S-156	12TH ST	519+46	LT	SI-1-36 W16-7PL-24	30 X 30 24 X 12	14.0															
589	S-157	12TH ST	LIGHT POLE	RT	R3-17-30 R8-3A-24	30 X 24 24 X 24												1				
590	S-158	12TH ST	522+48	RT	RI-1-30 D3-1	30 X 30			15.0	1									1			
590	S-159	12TH ST	LIGHT POLE	RT	R2-1-30	30 X 36													1			
590	S-160	12TH ST	524+49	RT	RI-1-30 D3-1	30 X 30			15.0	1										1		
590	S-160A	12TH ST	524+34	RT	W14-2-30	30 X 30	14.0															
590	S-161	12TH ST	LIGHT POLE	LT	R3-17-30 R8-3A-24	30 X 24 24 X 24													1			
590	S-162	ROWLAND AVE	210+35	LT	RI-1-30 D3-1	30 X 30			15.0	1										1		
590	S-163	12TH ST	526+55	RT	RI-1-30 D3-1	30 X 30			15.0	1										1		
591	S-164	12TH ST	LIGHT POLE	RT	R3-17-30 R8-3A-24	30 X 24 24 X 24													1			
591	S-165	12TH ST	LIGHT POLE	LT	R3-17-30 R8-3A-24	30 X 24 24 X 24													1			
591	S-166	12TH ST	LIGHT POLE	LT	R2-1-30	30 X 36													1			
591	S-167	12TH ST	LIGHT POLE	RT	W10-1-36	36 X 36													1			
591	S-168	12TH ST	LIGHT POLE	LT	M3-4-24 M1-5-30-3	24 X 12 37.5 X 30													1			
592	S-169	12TH ST	LIGHT POLE	RT	R3-H8BH-36	36 X 30													1			
592	S-170	ST ELMO AVE	220+40	LT	RI-1-30 D3-1	30 X 30			15.0	1										1		
592	S-172	12TH ST	SIGNAL POLE	RT	D3-1															1		
592	S-173	LAWRENCE RD	227+70	RT	R3-H8BJ-36	36 X 30	14.0													1		
592	S-174	LAWRENCE RD	228+60	RT	R3-17-30	30 X 24	14.0															
592	S-175	LAWRENCE RD	229+50	RT	R3-7R-36	36 X 36	14.0															
592	S-176	12TH ST	SIGNAL POLE	LT	D3-1															1		
592	S-177	12TH ST	MAST ARM	RT	STREET NAME STREET NAME	96 X 14 114 X 14															1	
592	S-178	12TH ST	MAST ARM	RT	STREET NAME STREET NAME	96 X 14 114 X 14															1	
592	S-179	12TH ST	LIGHT POLE	RT	R2-1-30	30 X 36													1			
593	S-180	12TH ST	LIGHT POLE	LT	W10-1-36	36 X 36														1		
593	S-181	12TH ST	LIGHT POLE	LT	R3-17-30 R8-3A-24	30 X 24 24 X 24														1		
TOTALS CARRIED TO SHEET 536							112.0	0.0	105.0	7	0	0	0	9	24	238.6	12	7	2	0		

SIGNING SUBSUMMARY

STA-12TH STREET

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630												SIGN, FLAT SHEET	SIGN, STREET NAME, AS PER PLAN (AS PER CITY STANDARD)	SIGN, OVERHEAD STREET NAME SIGN, AS PER PLAN (AS PER CITY STANDARD)	SIGN BACKING ASSEMBLY	RIGID OVERHEAD SIGN SUPPORT FOUNDATION
							GROUND MOUNTED SUPPORT, NO. 3 POST	ONE WAY SUPPORT, NO. 3 POST	STREET NAME SIGN SUPPORT, NO. 3 POST	SIGN POST REFLECTOR	OVERHEAD SIGN SUPPORT, TYPE TC-16.21, DESIGN 6, AS PER PLAN	OVERHEAD SIGN SUPPORT, TYPE TC-16.21, DESIGN 9, AS PER PLAN	OVERHEAD SIGN SUPPORT, TYPE TC-16.21, DESIGN 10, AS PER PLAN	SIGN HANGER ASSEMBLY, MAST ARM	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SQ FT	EACH	EACH					
593	S-182	12TH ST	537+47	RT	R8-3A-24	24 X 24	14.0								1	4.0							
					M3-2-24	24 X 12									1	2.0							
					M1-5-30-3	37.5 X 30									1	7.8							
593	S-183	12TH ST	LIGHT POLE	RT	R3-8 LT-R-36	36 X 36									1	9.0							
593	S-185	12TH ST	538+70	RT	R1-1-30	30 X 30	14.0				1					6.3							
593	S-186	12TH ST	538+93	RT	R3-17-30	30 X 24	14.0									5.0							
593	S-187	12TH ST	LIGHT POLE	RT	R3-17BP-30	30 X 12										2.5							
					R9-6-12	12 X 18									1	1.5							
					R3-H8BH-36	36 X 30									1	7.5							
593	S-188	12TH ST	LIGHT POLE	LT	R3-17-30	30 X 24									1	5.0							
					R3-17BP-30	30 X 12									1	2.5							
595	S-189	12TH ST	LIGHT POLE	RT	W11-2-36	36 X 36									1	9.0							
					R9-6-12	12 X 18									1	1.5							
595	S-190	12TH ST	538+70	RT	R1-2-36	36 X 36	14.0				1					4.5							
595	S-191	12TH ST	LIGHT POLE	LT	W11-2-36	36 X 36									1	9.0							
					R9-6-12	12 X 18									1	1.5							
595	S-192	12TH ST	540+98	LT	D3-1					14.0							1						
595	S-193	MAPLE AVE	250+30	LT	R1-2-36	36 X 36	14.0				1					4.5							
					W11-2-36	36 X 36									1	9.0							
595	S-194	MAPLE AVE	LIGHT POLE	LT	R9-6-12	12 X 18									1	1.5							
595	S-195	MAPLE AVE	252+30	LT	W2-6-30	30 X 30	14.0									6.3							
					W16-9P-24	24 X 12									1	2.0							
595	S-196	MAPLE AVE	LIGHT POLE	RT	W11-2-36	36 X 36									1	9.0							
					R9-6-12	12 X 18									1	1.5							
595	S-197	MAPLE AVE	250+29	LT	D3-1					14.0							1						
595	S-198	MAHONING RD	542+50	LT	R1-2-36	36 X 36	14.0				1					4.5							
595	S-199	MAHONING RD	542+46	LT	D3-1					14.0							1						
595	S-200	12TH ST	541+33	RT	R6-4-30	30 X 24	14.0									2.5							
595	S-201	12TH ST	541+57	LT	R6-4-30	30 X 24	14.0									2.5							
595	S-202	12TH ST	542+04	LT	R6-4-30	30 X 24	14.0									2.5							
595	S-203	12TH ST	541+66	RT	R6-4-30	30 X 24	14.0									2.5							
595	S-204	MAHONING RD	LIGHT POLE	RT	W11-2-36	36 X 36									1	9.0							
					R9-6-12	12 X 18									1	1.5							
					W11-2-36	36 X 36									1	9.0							
					R9-6-12	12 X 18									1	1.5							
595	S-206	MAHONING RD	LIGHT POLE	RT	R8-3A-24	24 X 24									1	4.0							
595	S-207	MAHONING RD	LIGHT POLE	LT	R8-3A-24	24 X 24									1	4.0							
					M3-2-24	24 X 12									1	2.0							
596	S-208	MAHONING RD	LIGHT POLE	RT	M1-5-30-3	37.5 X 30									1	7.8							
					R2-1-30	30 X 36									1	7.5							
596	S-209	MAHONING RD	LIGHT POLE	LT	W2-6-30	30 X 30									1	6.3							
					W16-9P-24	24 X 12									1	2.0							
596	S-210	MAHONING RD	LIGHT POLE	RT	R3-17-30	30 X 24									1	5.0							
					R8-3A-24	24 X 24									1	4.0							
					R3-17-30	30 X 24									1	5.0							
596	S-211	MAHONING RD	LIGHT POLE	LT	R8-3A-24	24 X 24									1	4.0							
596	S-212	MAHONING RD	LIGHT POLE	LT	R2-1-30	30 X 36									1	7.5							
596	S-213	MAHONING RD	547+20	RT	W1-8L-24	24 X 30	14.0				1					5.0							
					R3-17-30	30 X 24									1	5.0							
592	S-214	12TH ST	538+93	RT	R3-17BP-30	30 X 12									1	2.5							
581	S-215	CLEVELAND AVE	119+16	RT	R5-1-30	30 X 30	14.0				1					6.3							
TOTALS CARRIED TO SHEET 536							182.0	0.0	42.0	6	0	0	0	0	34	225.6	3	0	0	0			

CALCULATED BSS CHECKED DLW
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STA - 12TH STREET
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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630																		
							GROUND MOUNTED SUPPORT, NO. 3 POST	ONE WAY SUPPORT, NO. 3 POST	STREET NAME SIGN SUPPORT, NO. 3 POST	SIGN POST REFLECTOR	OVERHEAD SIGN SUPPORT, TYPE TC-16.2I, DESIGN 6, AS PER PLAN	OVERHEAD SIGN SUPPORT, TYPE TC-16.2I, DESIGN 9, AS PER PLAN	OVERHEAD SIGN SUPPORT, TYPE TC-16.2I, DESIGN 10, AS PER PLAN	SIGN HANGER ASSEMBLY, MAST ARM	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET	SIGN, DOUBLE FACED, STREET NAME, AS PER PLAN (AS PER CITY STANDARD)	SIGN, STREET NAME, AS PER PLAN (AS PER CITY STANDARD)	SIGN BACKING ASSEMBLY	RIGID OVERHEAD SIGN SUPPORT FOUNDATION					
							FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	SQ FT	EACH	EACH	EACH	EACH					
599	S-1	MARKET AVE	LIGHT POLE	LT	R2-1-30	30 X 36										1	7.5								
599	S-2		NOT USED																						
599	S-3	MARKET AVE	MAST ARM	LT	R3-5L-30	30 X 36									1	7.5									
					R3-6R-30	30 X 36							1	7.5											
					STREET NAME	60 X 14								1											
					STREET NAME	60 X 14								1											
					STREET NAME	84 X 14								1											
599	S-4	11TH ST		RT	R3-H8BD-30	30 X 30	14.0									7.5	6.3								
600	S-5	MARKET AVE	147+10	RT	R3-5L-30	30 X 36										7.5					1				
					R3-5A-30	30 X 36									7.5										
					R3-6R-30	30 X 36									7.5										
601	S-6	MARKET AVE	151+80	LT	R3-5L-30	30 X 36							1			7.5					1				
					R3-5A-30	30 X 36									7.5										
					R3-6R-30	30 X 36									7.5										
601	S-7	MARKET AVE	151+80	LT	M2-1-21	21 X 15									1	2.2									
					M1-5-30-3	37.5 X 30									1	7.8									
					M5-1L-21	21 X 15									1	2.2									
601	S-8	MARKET AVE	LIGHT POLE	RT	R2-1-30	30 X 36									1	7.5									
601	S-9	MARKET AVE	153+68	RT	R1-1-30	30 X 30			15.0		1					6.3									
					D3-1											1									
605	S-1	THE O'JAYS PKWY	243+95	LT	R3-H8BA-30	30 X 30	14.0									6.3									
605	S-2	THE O'JAYS PKWY	246+50	LT	R3-H8BA-30	30 X 30	14.0									6.3									
605	S-3	THE O'JAYS PKWY	246+50	RT	W2-6-30	30 X 30	14.0									6.3									
					W16-9P-24	24 X 12									2.0										
605	S-4	THE O'JAYS PKWY	248+50	RT	W11-2-36	36 X 36	14.0									9.0									
					R9-6-12	12 X 18								1.5											
605	S-5	THE O'JAYS PKWY	248+75	RT	R1-2-36	36 X 36	14.0				1				4.5										
605	S-6	THE O'JAYS PKWY	248+79	LT	D3-1				14.0											1					
605	S-7	THE O'JAYS PKWY	248+65	LT	W11-2-36	36 X 36	14.0									9.0									
					R9-6-12	12 X 18								1.5											
TOTALS FROM THIS SHEET							98.0	0.0	29.0	2	0	1	1	6	5	153.4	3	3	0	2					
TOTALS FROM SHEET 529							43.0	15.0	135.0	10	0	0	0	8	20	235.3	17	4	0	0					
TOTALS FROM SHEET 530							14.0	0.0	270.0	18	0	0	0	0	17	213.5	23	0	0	0					
TOTALS FROM SHEET 531							112.0	14.0	120.0	8	2	0	0	14	16	263.8	9	6	0	2					
TOTALS FROM SHEET 532							28.0	0.0	45.0	3	0	1	0	15	28	234.9	5	7	0	1					
TOTALS FROM SHEET 533							84.0	0.0	60.0	4	0	0	0	8	33	236.2	7	3	0	0					
TOTALS FROM SHEET 534							112.0	0.0	105.0	7	0	0	0	9	24	238.6	12	7	2	0					
TOTALS FROM SHEET 535							182.0	0.0	42.0	6	0	0	0	0	34	225.6	3	0	0	0					
TOTALS CARRIED TO GENERAL SUMMARY							673.0	29.0	806.0	58	2	2	1	60	177	1801.3	79	30	2	5					

CALCULATED BSS CHECKED DLW
SIGNING SUBSUMMARY
STA - 12TH STREET
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SHEET NO.	REFERENCE NO.	LOCATION	STATION		SIDE	644																	646		
			FROM	TO		EDGE LINE, 4" (WHITE)	EDGE LINE, 4" (YELLOW)	LANE LINE, 4"	CENTER LINE (SOLID, DOUBLE)	CENTER LINE (BROKEN AND SOLID, DOUBLE)	CHANNELIZING LINE, 8"	STOP LINE	CROSSWALK LINE	TRAVERSE/DIAGONAL LINE (WHITE)	TRAVERSE/DIAGONAL LINE (YELLOW)	ISLAND MARKING (YELLOW)	RAILROAD SYMBOL MARKING	SCHOOL SYMBOL MARKING, 96"	LANE ARROW	WORD ON PAVEMENT, 48"	DOTTED LINE, 4" (WHITE)	DOTTED LINE, 4" (YELLOW)	BIKE LANE SYMBOL MARKING	YEILD LINE	CENTER LINE (BROKEN AND SOLID, DOUBLE)
						MILE	MILE	MILE	MILE	MILE	FT	FT	FT	FT	FT	FT	SO. FT	EACH	EACH	EACH	EACH	FT	FT	EACH	FT
571	CH-1	12TH STREET	437+15	438+10	LT																				
571	CH-2		438+75	439+50	LT					95															
571	A-1		437+25		LT												1								
571	A-2		438+05		LT												1								
571	A-3		438+85		LT												1								
571	A-4		439+35		LT												1								
571-573	CL-1		438+75	443+60	RT/LT				0.09																
572-594	EW-1		442+54	540+29	RT	1.85																			
572-593	EW-2		442+30	539+58	LT	1.84																			
572	CH-3		440+25	441+51	RT					126															
572	CH-4		442+30	442+90	LT					60															
572	A-5		440+35		RT/LT												1								
572	A-6		441+01		RT/LT												1								
572	A-7		442+30		RT/LT												1								
572	A-8		442+80		RT/LT												1								
572	SL-1		441+51		RT/LT						22														
572	SL-4		441+13		LT						14														
572	DW-1		441+60	442+54	RT														190						
572	XW-1		441+74	442+35	RT							61													
572	XW-2	12TH STREET	441+57	442+30	LT							138													
572	CL-2	MONUMENT RD	8+50	11+80	RT/LT				0.06																
572	CH-5		NOT USED																						
572	CH-6		NOT USED																						
572	SL-2		9+54		RT						32														
572	SL-3		10+50		LT						16														
572	A-9		NOT USED																						
572	A-10		NOT USED																						
572	A-11		NOT USED																						
572	A-12	MONUMENT RD	NOT USED																						
573-575	CSD-1	12TH STREET	443+60	455+70	RT																		0.23		
573-575	CSD-2		443+60	455+70	LT																		0.23		
573	AC-1		444+50		RT/LT												2								
573	AC-2		446+65		RT/LT												2								
573	BS-1		443+25		RT																	1			
573	BS-2		443+25		LT																	1			
573	BS-3		446+30		RT																	1			
573	RS-1		444+00		LT																				
574	BS-4		447+80		LT																				
574	BS-5		449+45		RT										1										
574	BS-6		449+75		LT																				
574	BS-7		451+75		RT/LT																				
574	AC-3		449+55		RT/LT																				
574	AC-4		452+25		RT/LT												2								
575	BS-8		454+45		RT/LT												2								
575	AC-5		454+70		RT/LT																				
575-576	CL-3		455+70	459+20	RT/LT				0.07								2								
576	CH-7		456+40	457+08	RT					68															
576	CH-8		458+10	458+70	LT					60															
576	A-13		456+50		RT/LT												1								
576	A-14		456+88		RT/LT												1								
576	A-15		458+20		RT/LT												1								
576	A-16		458+60		RT/LT												1								
576	SL-5		456+98		RT/LT																				
576	SL-6		457+08		RT						11														
576	SL-7		458+10		RT/LT						16														
576	AC-6		459+40		RT/LT						27														
576	BS-9		458+75		RT/LT												2								
576-579	CSD-3		459+20	470+00	RT				0.20																
576-579	CSD-4	12TH STREET	459+20	470+00	LT				0.20																
TOTALS CARRIED TO SHEET 543						3.69	0.00	0.00	0.63	0.46	484	138	199	0	0	0	1	0	24	0	190	0	12	0	0.00

CALCULATED
MAM
CHECKED
BSS
PAVEMENT MARKING SUBSUMMARY
STA - 12TH STREET

(537/790)

j:\pre-int\11-060 12th Street\STA\85299\traffic\sheets\85299ts007.dgn 4/14/2014 4:46:12 PM brian.sezior\ODOTV8i_PDF_Hof.plt\cfig ODOTV8i_Pen-ME.tbl M-E Companies, Inc.

SHEET NO.	REFERENCE NO.	LOCATION	STATION		SIDE	644																			646	
			FROM	TO		EDGE LINE, 4" (WHITE)	EDGE LINE, 4" (YELLOW)	LANE LINE, 4"	CENTER LINE (SOLID, DOUBLE)	CENTER LINE (BROKEN AND SOLID, DOUBLE)	CHANNELIZING LINE, 8"	STOP LINE	CROSSWALK LINE	TRAVERSE/DIAGONAL LINE (WHITE)	TRAVERSE/DIAGONAL LINE (YELLOW)	ISLAND MARKING (YELLOW)	RAILROAD SYMBOL MARKING	SCHOOL SYMBOL MARKING, 96"	LANE ARROW	WORD ON PAVEMENT, 48"	DOTTED LINE, 4" (WHITE)	DOTTED LINE, 4" (YELLOW)	BIKE LANE SYMBOL MARKING	YEILD LINE		CENTER LINE (BROKEN AND SOLID, DOUBLE)
			MILE	MILE		MILE	MILE	MILE	FT	FT	FT	FT	FT	SO. FT	EACH	EACH	EACH	EACH	FT	FT	EACH	FT	MILE			
605	SL-1	OJAY'S PKWY	243+95		RT/LT						24															
605	CL-1		243+95	248+18	RT/LT				0.08																	
605	CL-2		247+60	248+18	RT/LT				0.01																	
605	CH-1		243+95	244+50	LT					55																
605	CH-2		247+00	248+05	LT					105																
605	CH-3		247+00	248+05	LT					105																
605	CH-4		248+85		RT/LT					22																
605	A-1		244+00		LT												1									
605	A-2		248+90		RT/LT												1									
605	LL-1		244+50	247+00	LT			0.05																		
605	EW-1		248+05	249+05	LT	0.02																				
605	EY-1		248+05	249+05	LT		0.02																			
605	EY-2		248+18	248+85	LT		0.01																			
605	EY-3		248+18	248+85	RT		0.01																			
605	XW-1		248+44		RT/LT						160															
605	YL-1		248+80	248+85	RT																	16				
605	DW-1	OJAY'S PKWY	248+85	248+96	RT													31								
TOTALS FROM THIS SHEET						0.02	0.06	0.05	0.09	0.00	287	24	160	0	0	0	0	2	0	31	0	0	16	0.00		
TOTALS CARRIED FROM SHEET 537						3.69	3.69	0.00	0.00	0.63	0.46	138	199	0	0	0	1	0	24	0	190	0	12	0	0.00	
TOTALS CARRIED FROM SHEET 538						0.00	0.00	0.02	0.30	0.05	1051	224	250	0	0	39	0	0	42	0	100	0	14	0	0.00	
TOTALS CARRIED FROM SHEET 539						0.00	0.00	0.05	0.39	0.17	1656	263	0	0	98	0	0	0	36	0	100	0	13	0	0.00	
TOTALS CARRIED FROM SHEET 540						0.00	0.00	0.05	0.36	0.43	750	194	196	0	42	0	0	0	26	1	0	0	15	0	0.00	
TOTALS CARRIED FROM SHEET 541						0.02	0.06	0.00	0.49	0.00	845	117	669	70	0	0	3	1	13	0	393	117	14	0	0.00	
TOTALS CARRIED FROM SHEET 542						0.00	0.02	1.13	0.77	0.00	802	184	407	0	178	0	0	0	17	0	103	0	2	54	0.04	
TOTALS CARRIED TO GENERAL SUMMARY						7.57	1.31	3.68	5391	1144	1881	388	39	4	1	160	1	1034	70	70	0.04					

PAVEMENT MARKING SUBSUMMARY

STA - 12TH STREET

CALCULATED
 MAM
 CHECKED
 BSS

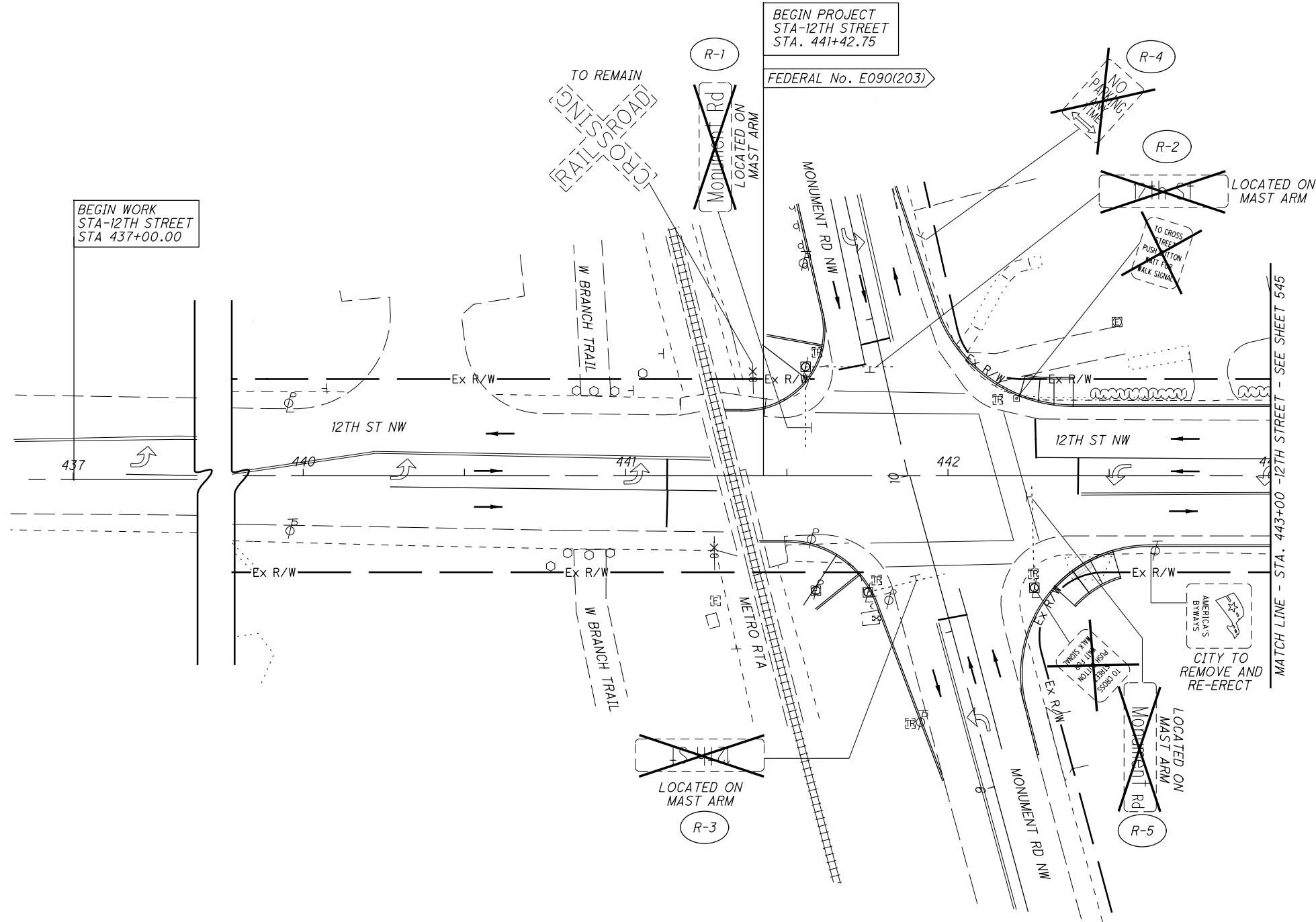
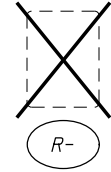
543
790

EXISTING SIGN REMOVAL LEGEND

EXISTING SIGN TO REMIAN



EXISTING SIGN REMOVED



BEGIN WORK
STA-12TH STREET
STA 437+00.00

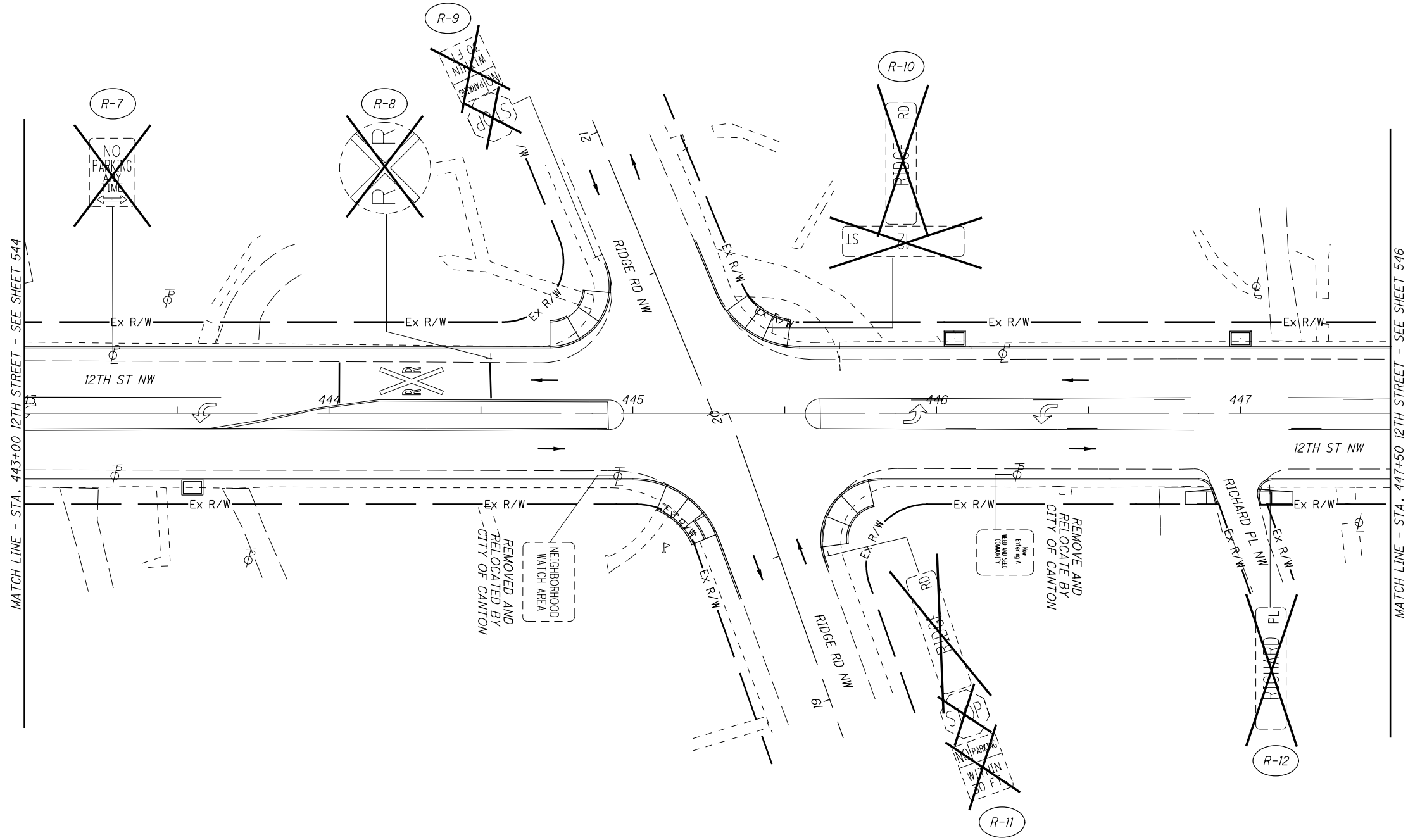
BEGIN PROJECT
STA-12TH STREET
STA. 441+42.75

CALCULATED MAM
CHECKED DLW

10
HORIZONTAL
SCALE IN FEET

SIGN REMOVAL PLAN
12TH STREET - STA. 437+00 TO STA. 443+00

STA-12TH STREET



NOTES:

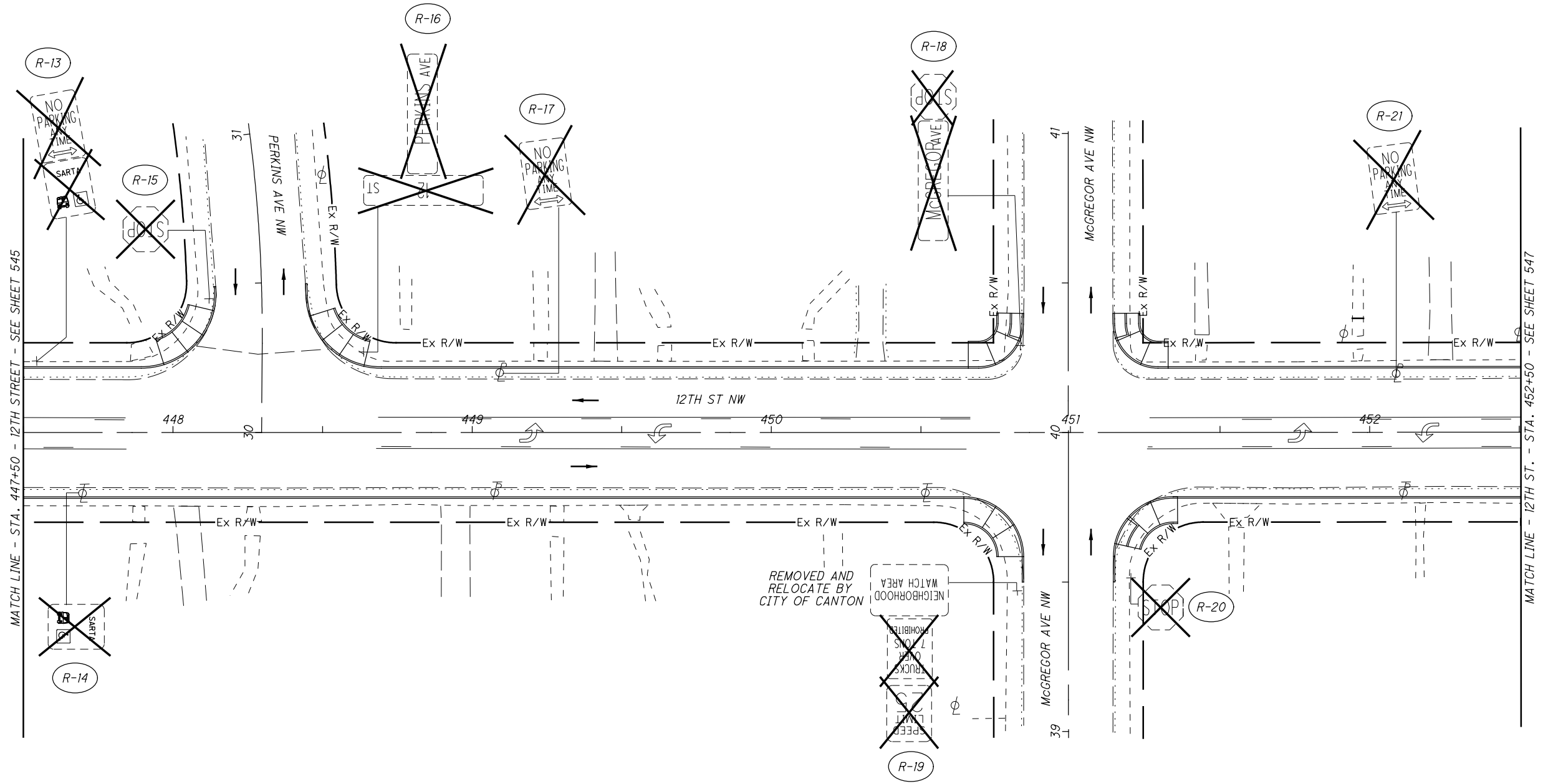
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
2. EXISTING GROUND MOUNTED STREET NAME SIGNS SHOWN ARE DOUBLE FACED.

CALCULATED	MAM
CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

STA-12TH STREET
SIGN REMOVAL PLAN
12TH STREET - STA. 443+00 TO STA. 447+50

545
790



NOTES:

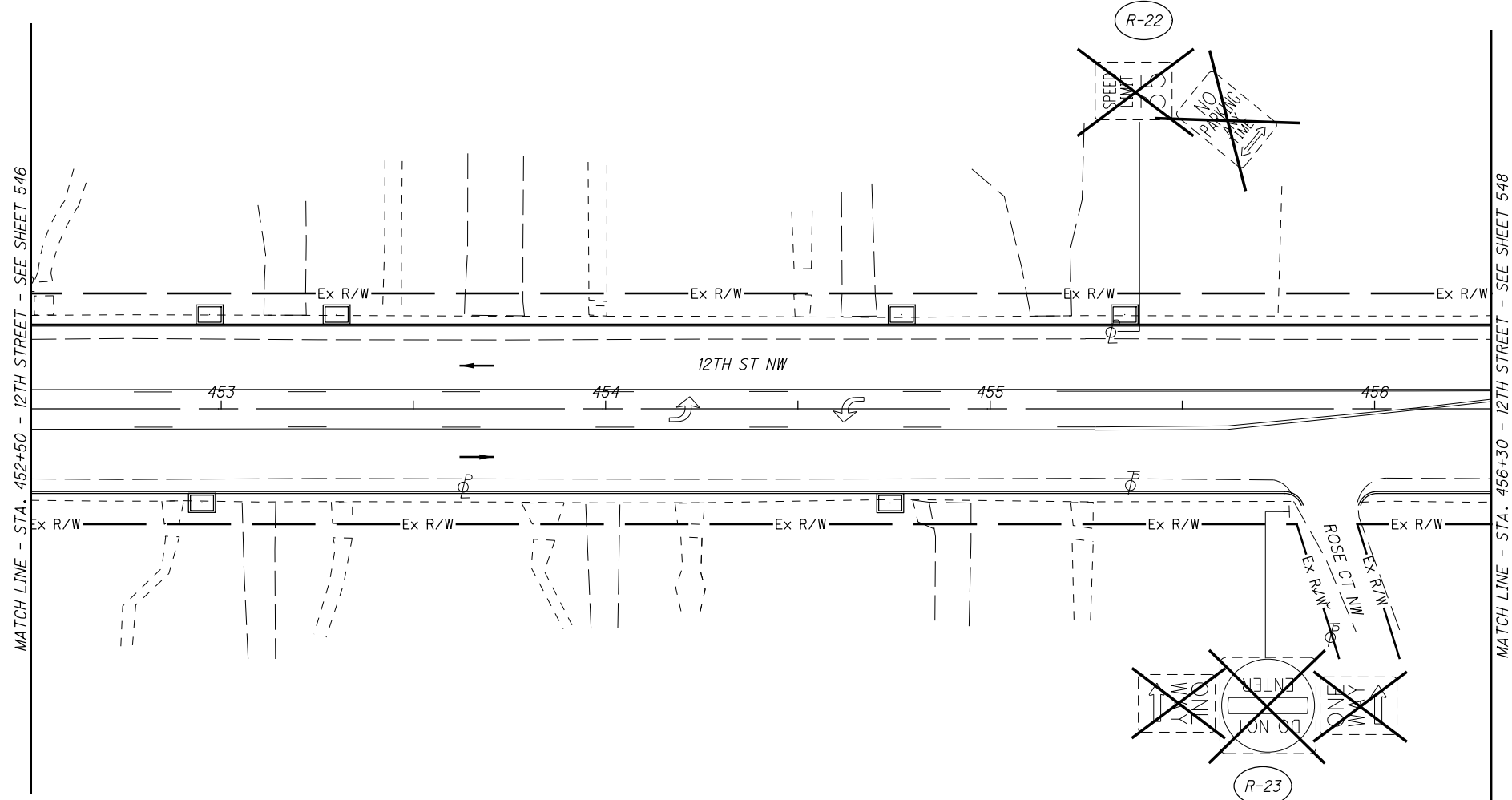
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED	MAM
CHECKED	DLW

0 20 40
HORIZONTAL
SCALE IN FEET

STA-12TH STREET
SIGN REMOVAL PLAN
12TH STREET - STA. 447+50 TO STA. 452+50

546
790



NOTES:

1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.

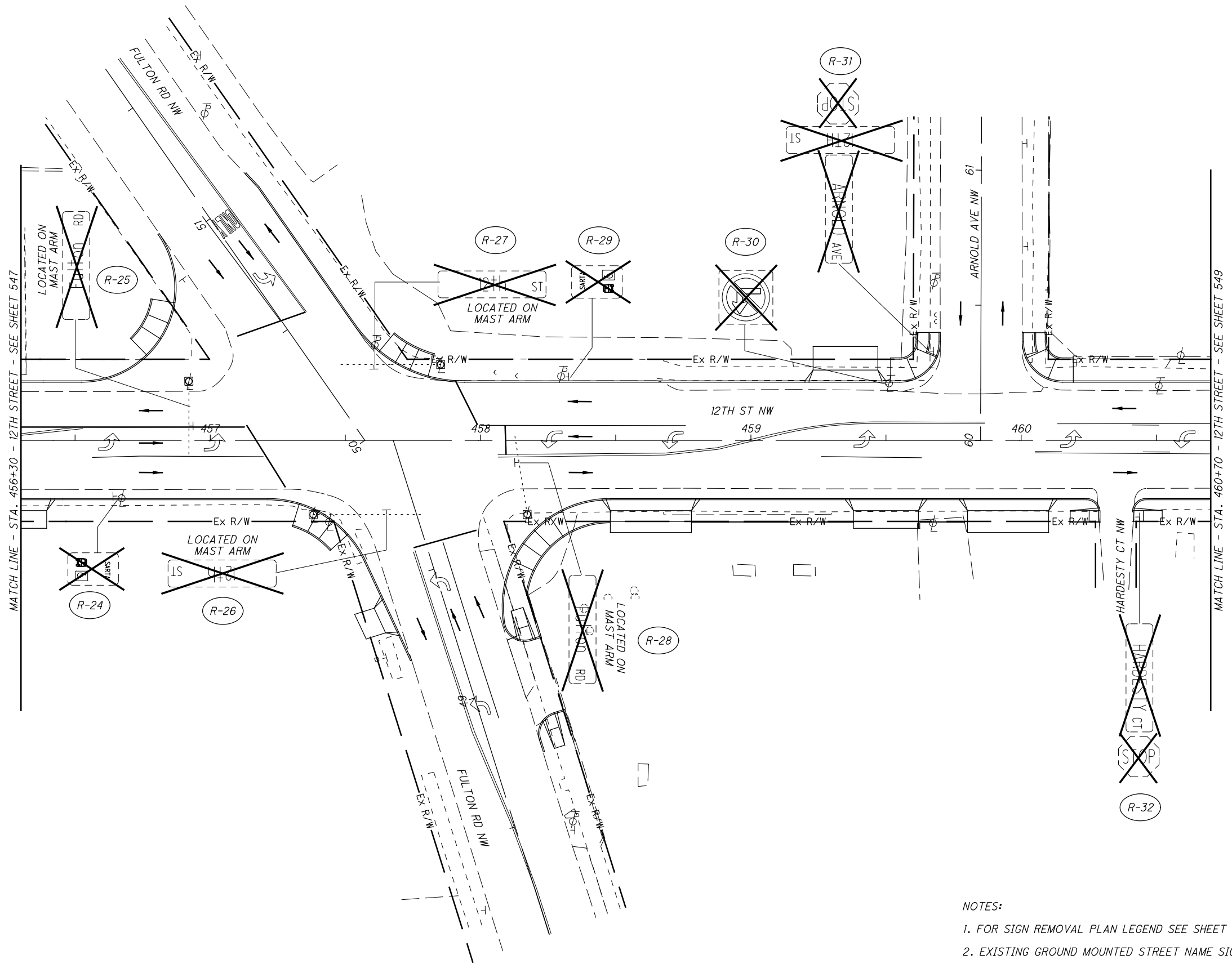
CALCULATED	MAM
CHECKED	DLW

0 20 40
1" = 40'
HORIZONTAL
SCALE IN FEET

SIGN REMOVAL PLAN
12TH STREET - STA. 452+50 TO STA. 456+30

STA-12TH STREET

547
790



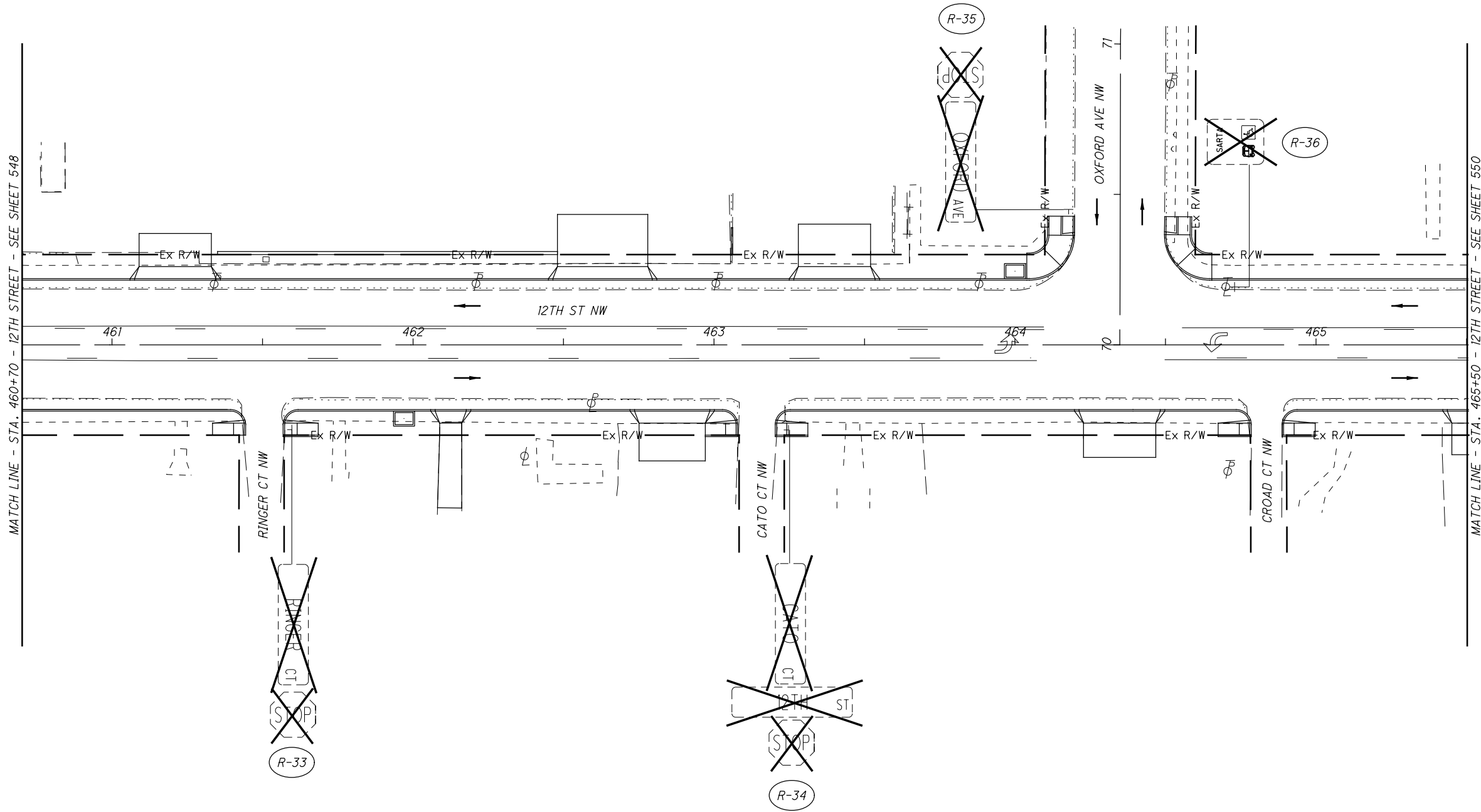
- NOTES:
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
 2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED
MAM
CHECKED
DLW

0 20 40
1" = 40'
HORIZONTAL
SCALE IN FEET

SIGN REMOVAL PLAN
12TH STREET - STA. 456+30 TO STA. 460+70

STA-12TH STREET



NOTES:

1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

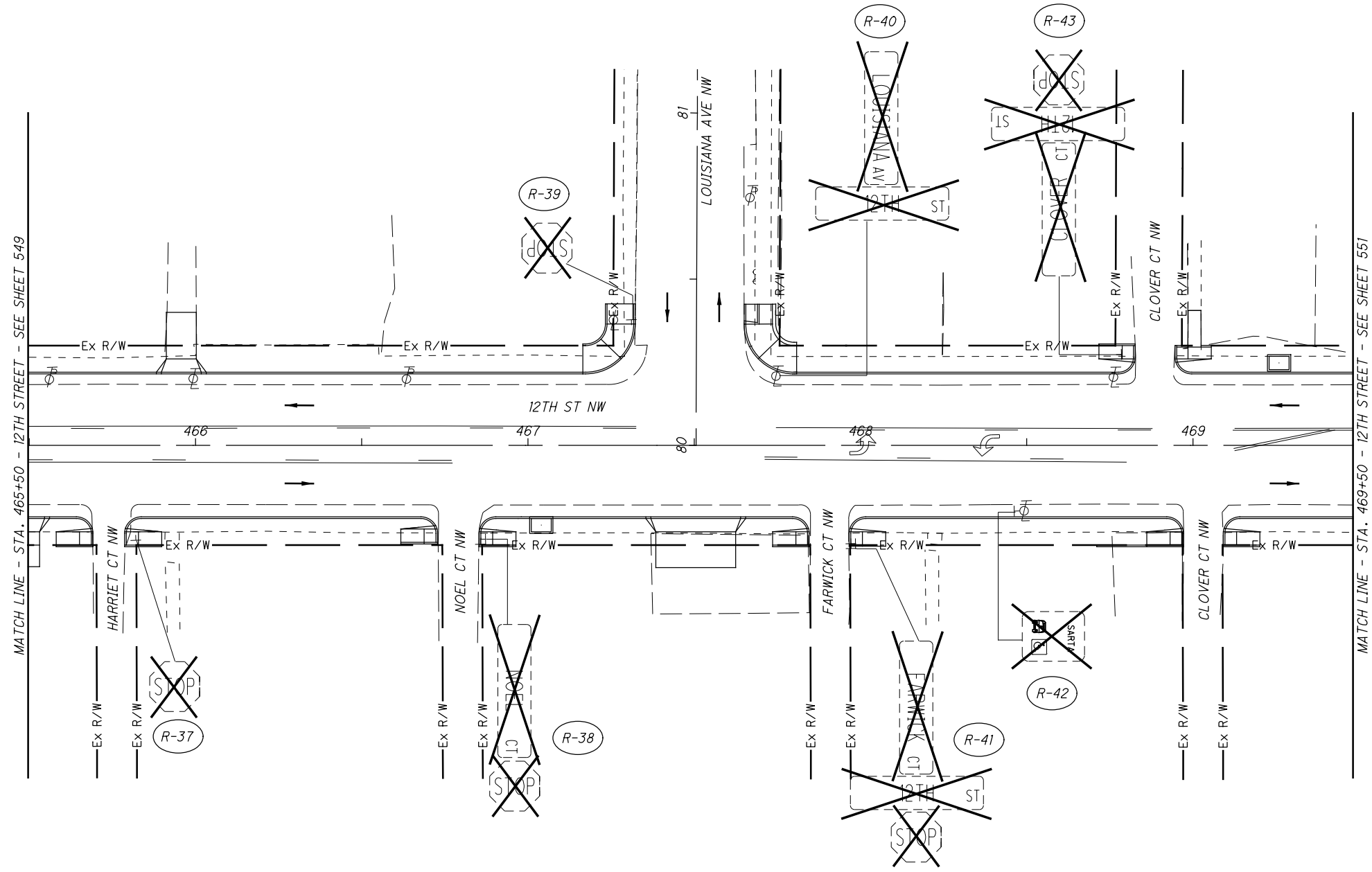
CALCULATED	MAM
CHECKED	DLW

STA-12TH STREET
SIGN REMOVAL PLAN
12TH STREET - STA. 460+70 TO STA. 465+50

549
790

0 20 40
 1" = 40'
 HORIZONTAL
 SCALE IN FEET





NOTES:

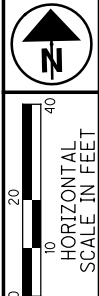
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

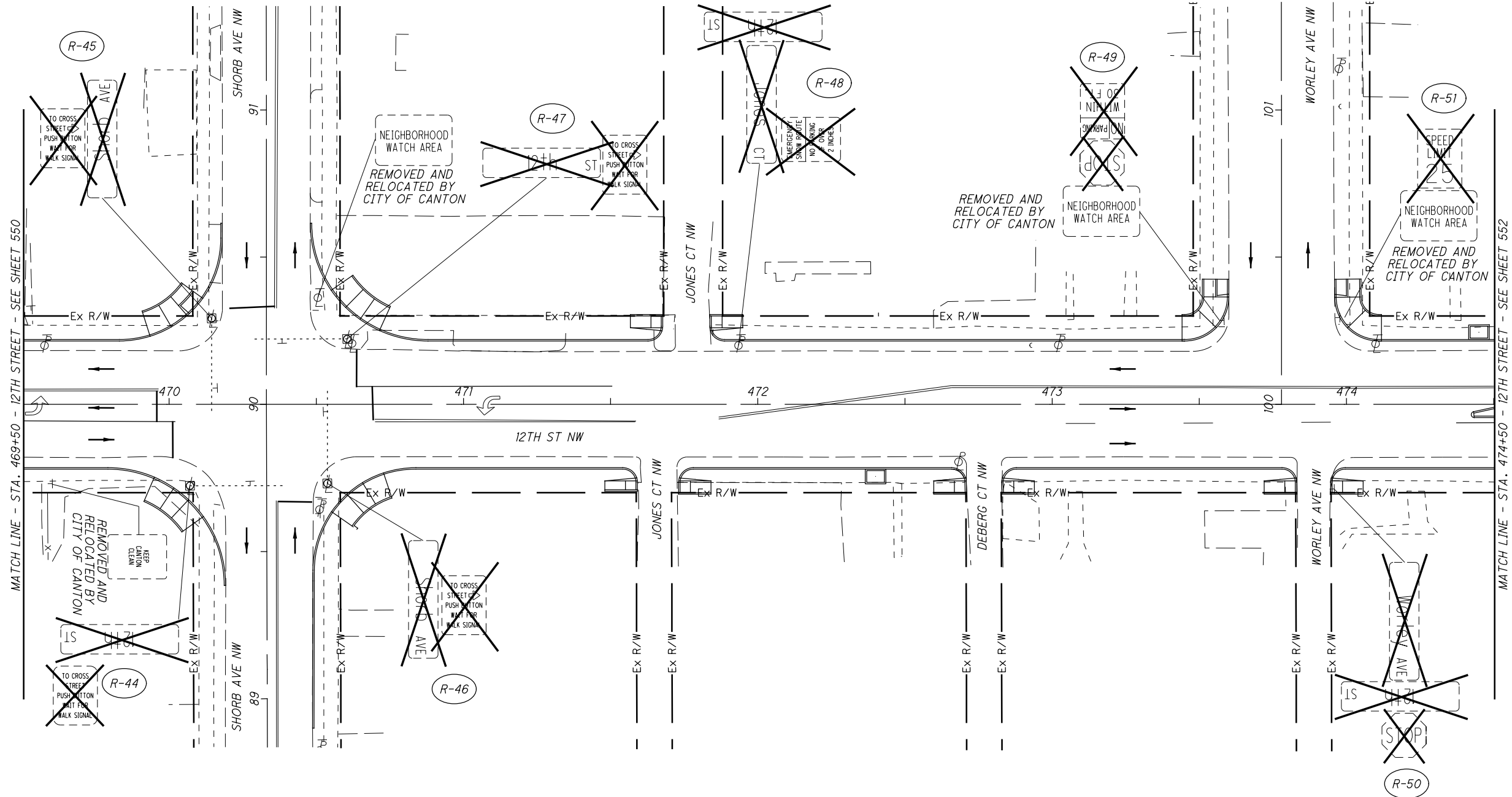
CALCULATED	MAM
CHECKED	DLW

12TH STREET - STA. 465+50 TO STA. 469+50

STA-12TH STREET

550
790





NOTES:

1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED
MAM
CHECKED
DLW

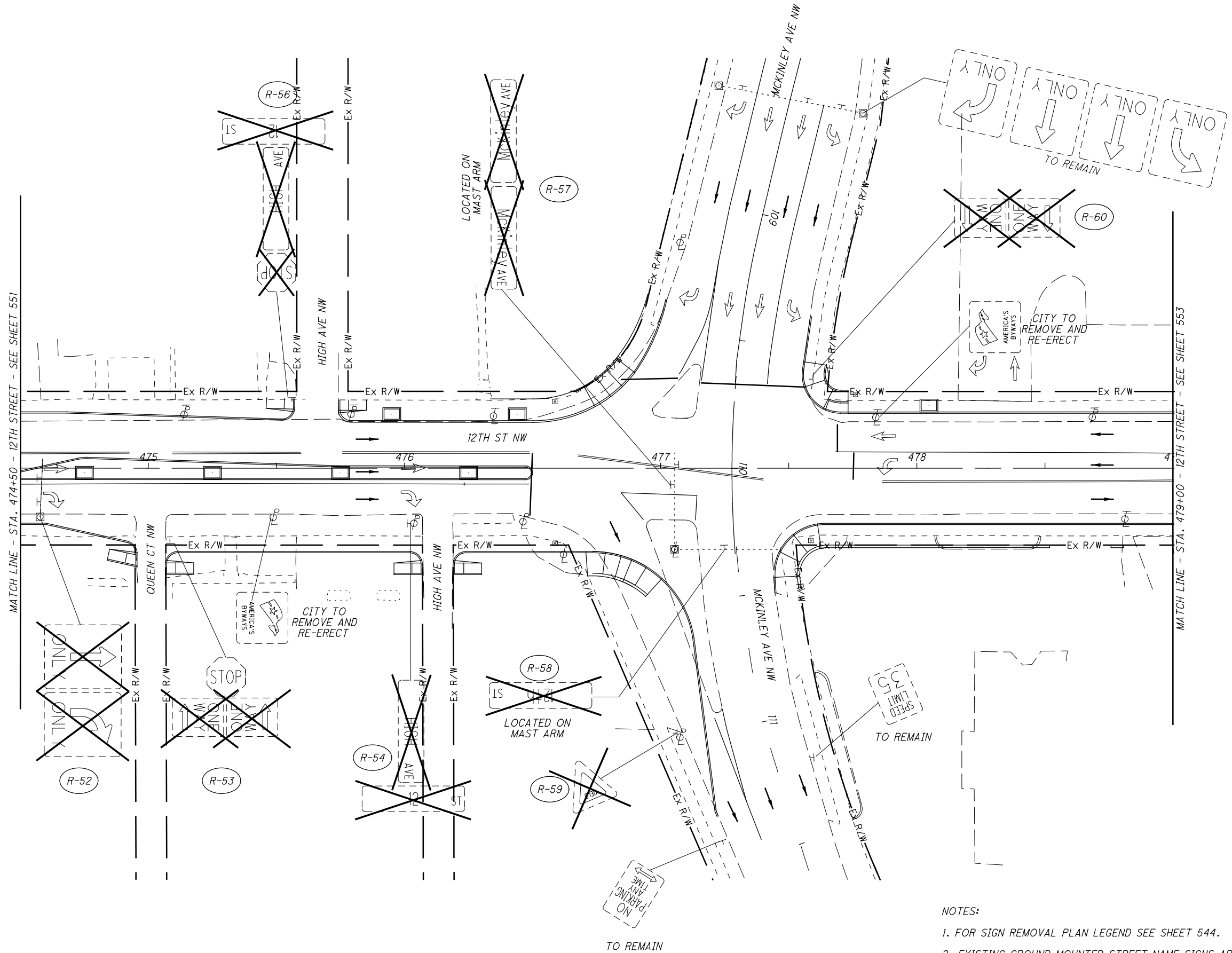
0 20 40
10
HORIZONTAL
SCALE IN FEET

↑
N

SIGN REMOVAL PLAN
12TH STREET - STA. 469+50 TO STA. 474+50

STA-12TH STREET

551
790



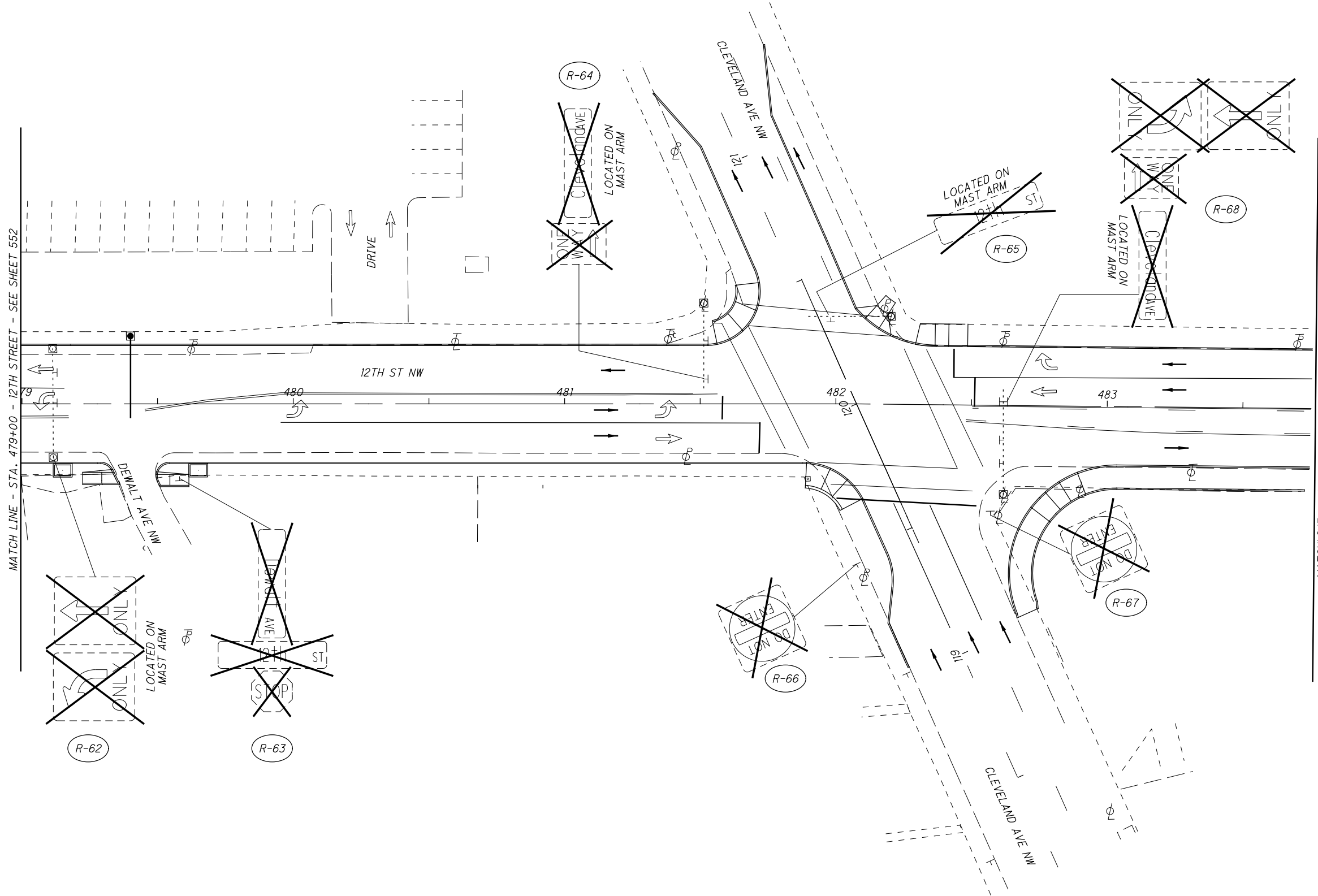
- NOTES:
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED	0
MAM	10
CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

SIGN REMOVAL PLAN
12TH STREET - STA. 474+50 TO STA. 479+00

MATCH LINE - STA. 479+00 - 12TH STREET - SEE SHEET 552



MATCHLINE - STA. 483+80 - 12TH STREET - SEE SHEET 554

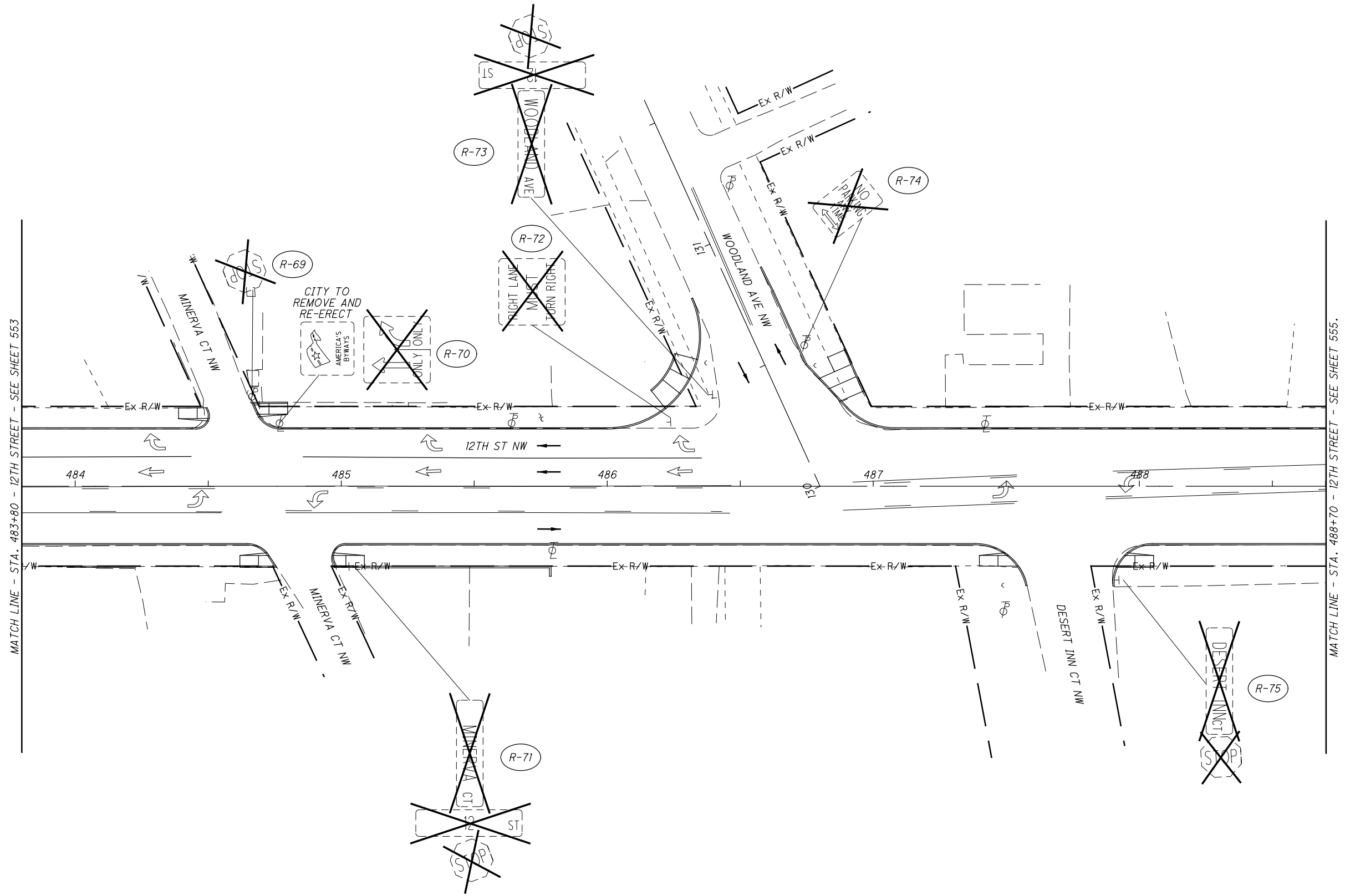
- NOTES:
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
 2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED MAM
CHECKED DLW

0 20 40
HORIZONTAL SCALE IN FEET

SIGN REMOVAL PLAN
12TH STREET - STA. 479+00 TO STA. 483+80

STA-12TH STREET

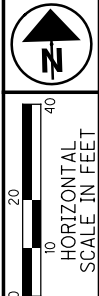


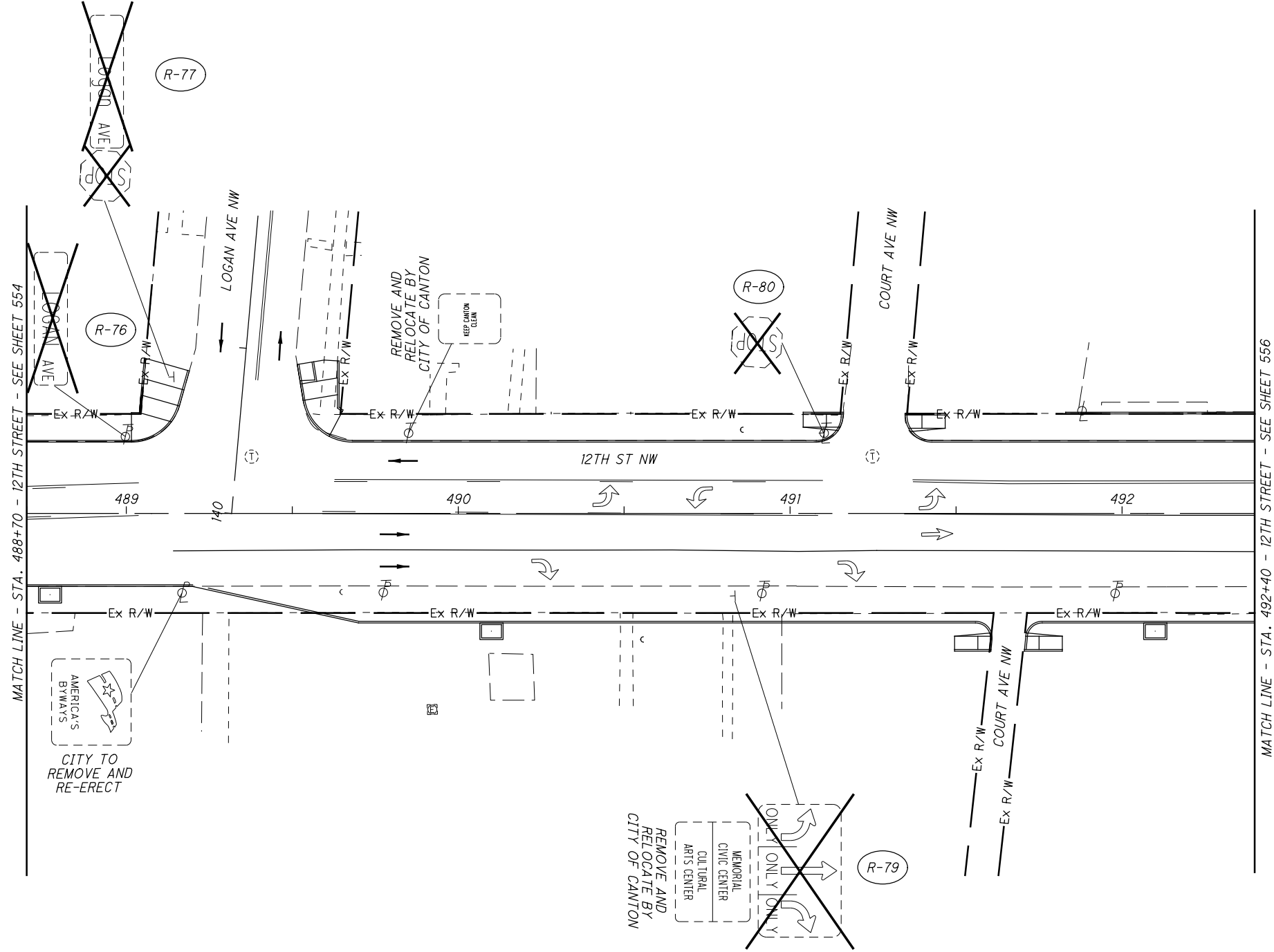
NOTES:
 1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
 2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED	MAM
CHECKED	DLW

STA-12TH STREET
SIGN REMOVAL PLAN
12TH STREET - STA. 483+80 TO STA. 488+70

554
790





NOTES:

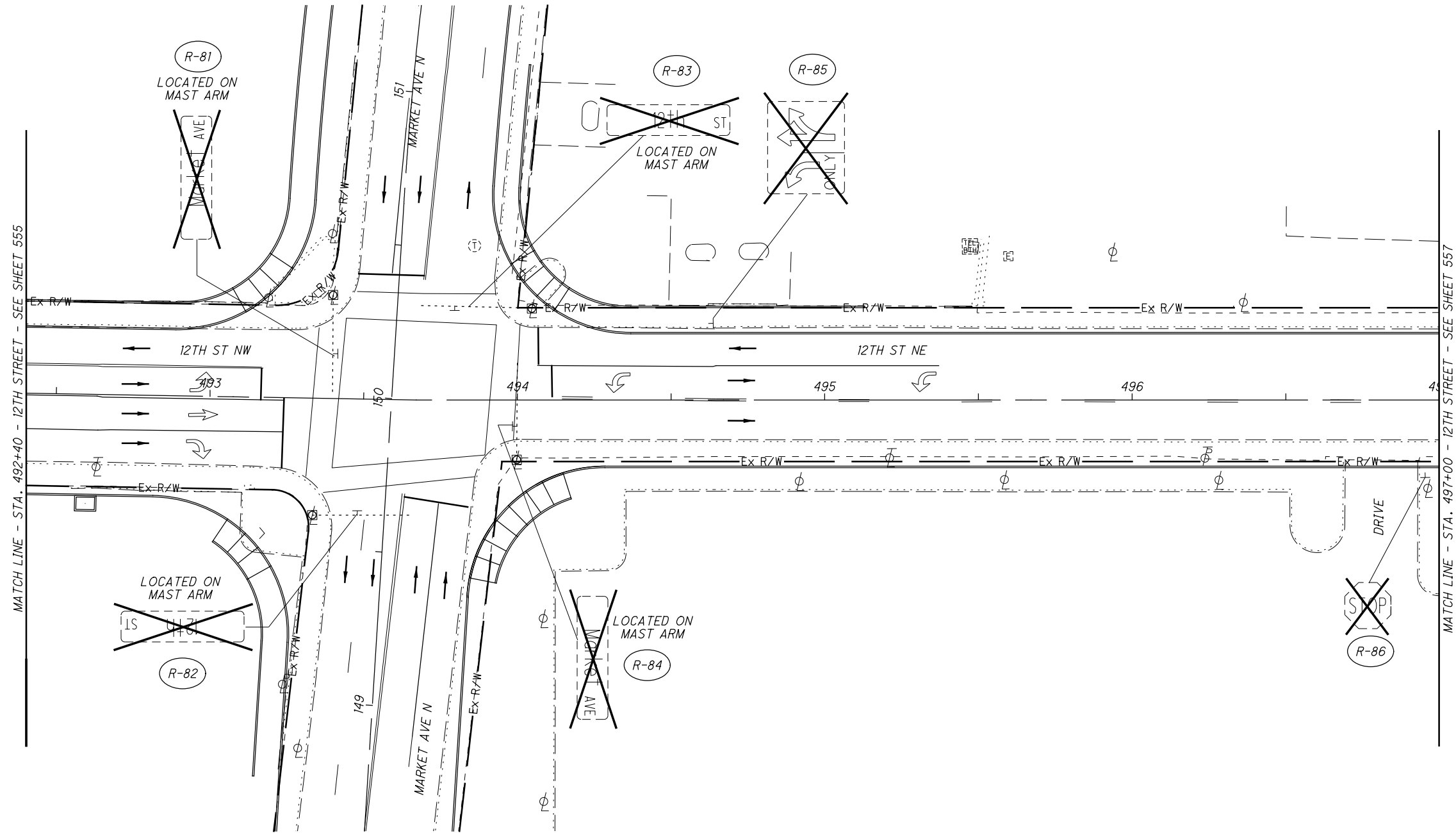
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED	MAM
CHECKED	DLW

STA -12TH STREET
SIGN REMOVAL PLAN
12TH STREET - STA. 488+70 TO STA. 492+40

555
790





NOTES:

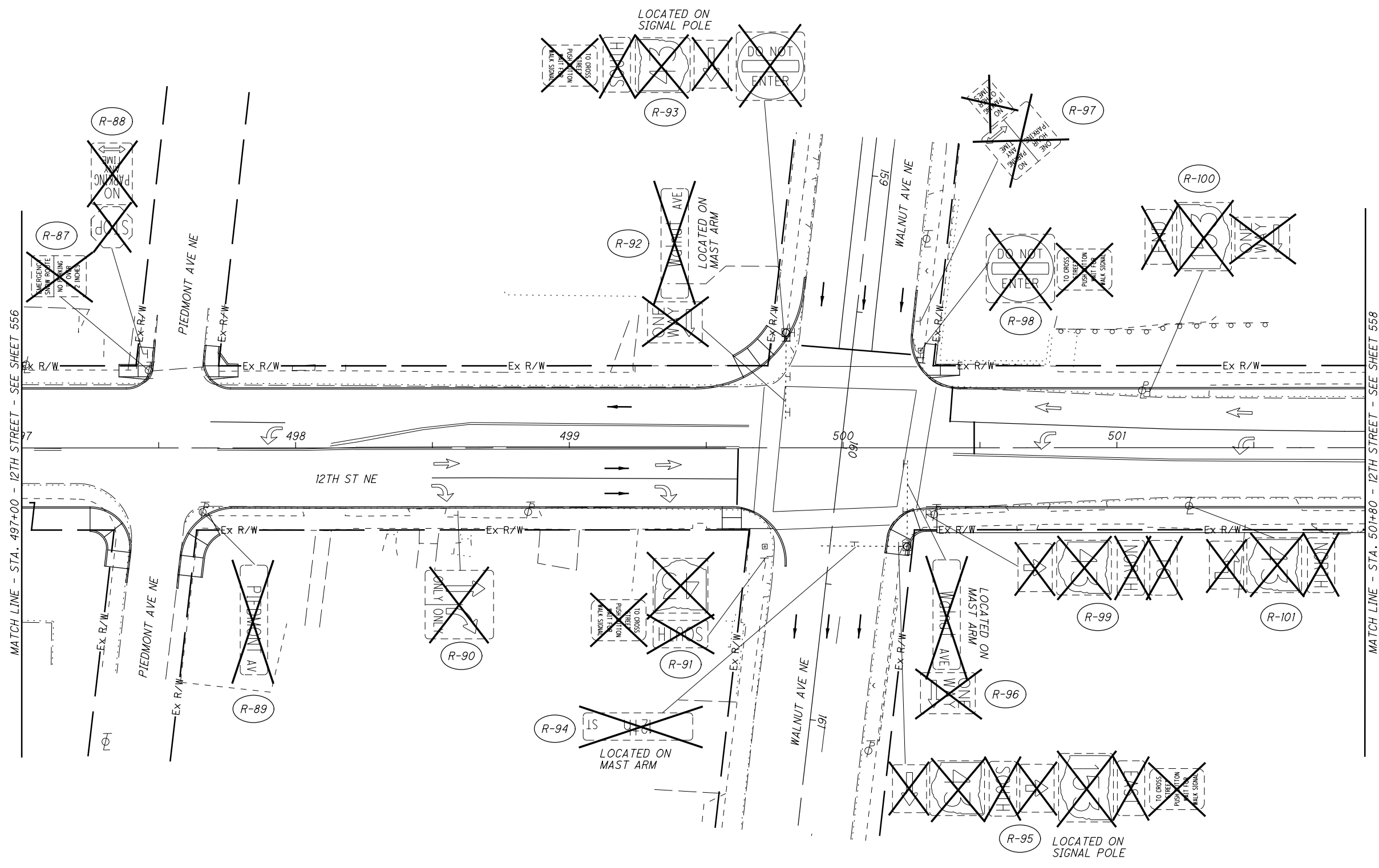
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.

CALCULATED	MAM
CHECKED	DLW

0 20 40
HORIZONTAL
SCALE IN FEET

SIGN REMOVAL PLAN
12TH STREET - STA. 492+40 TO STA. 497+00

STA-12TH STREET



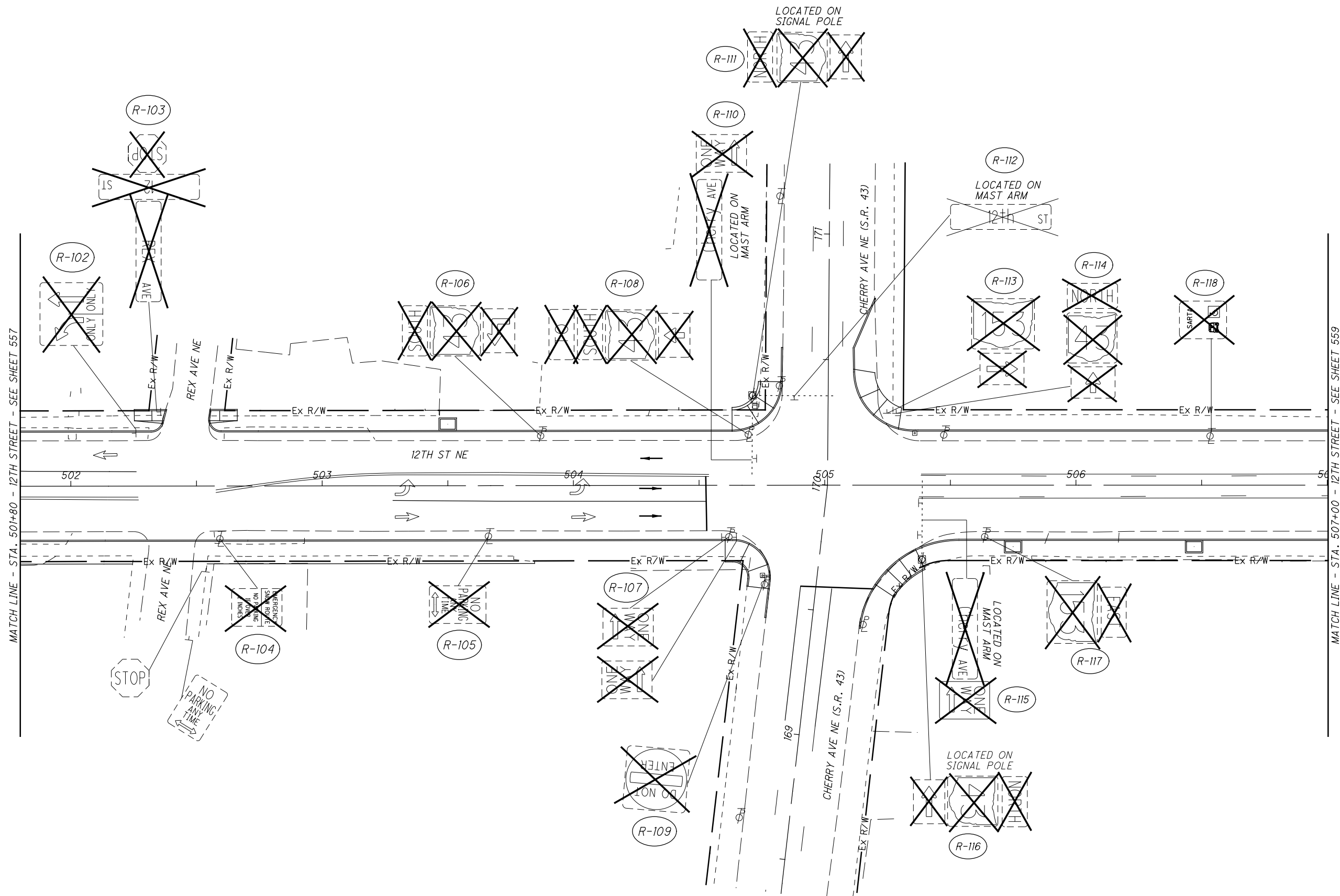
- NOTES:
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
 2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED
MAM
CHECKED
DLW

0 20 40
1" = 40'
HORIZONTAL
SCALE IN FEET

SIGN REMOVAL PLAN
12TH STREET - STA. 497+00 TO STA. 501+80

STA-12TH STREET



NOTES:

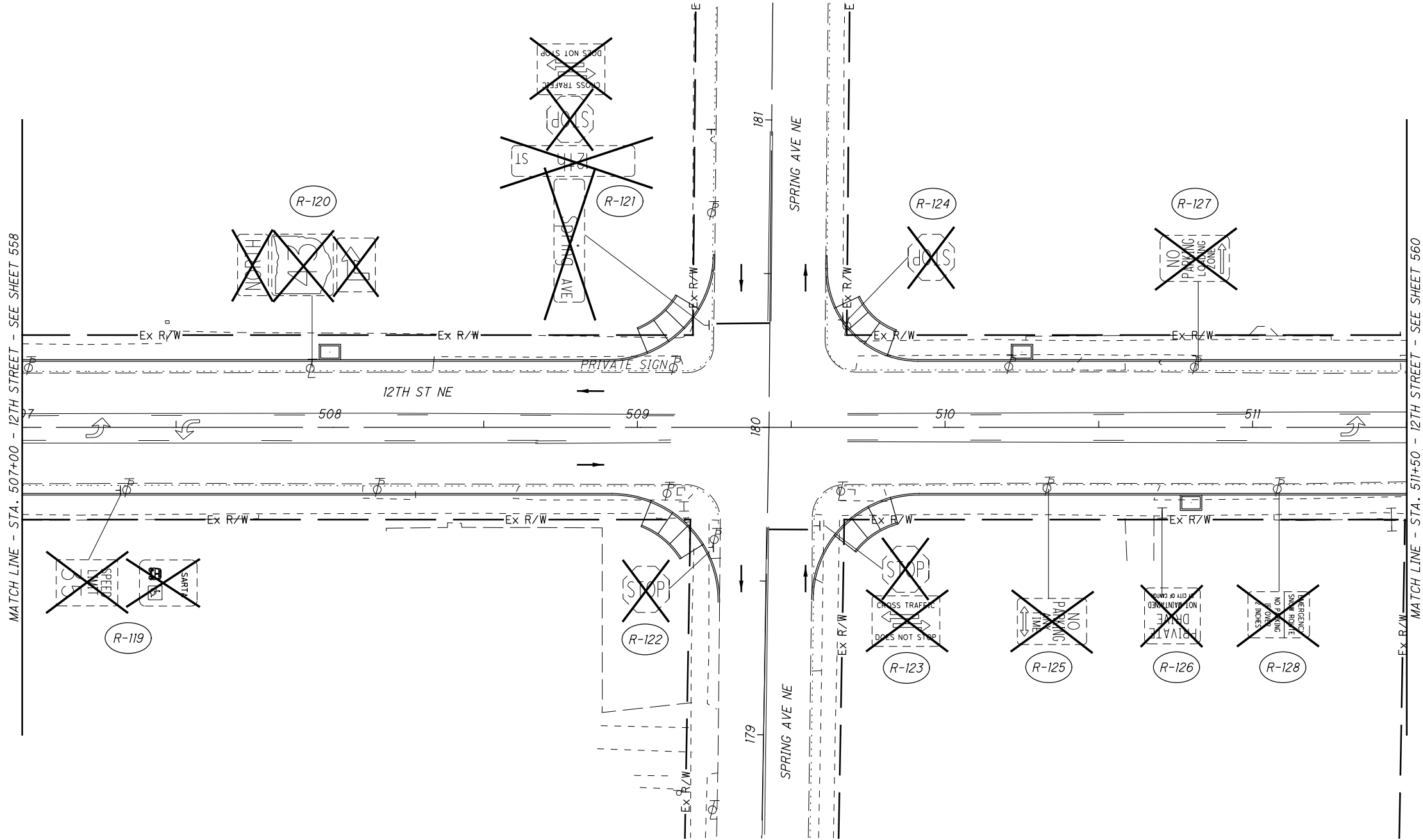
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED
MAM
CHECKED
DLW

0 20 40
HORIZONTAL
SCALE IN FEET

SIGN REMOVAL PLAN
12TH STREET - STA. 501+80 TO STA. 507+00

STA-12TH STREET



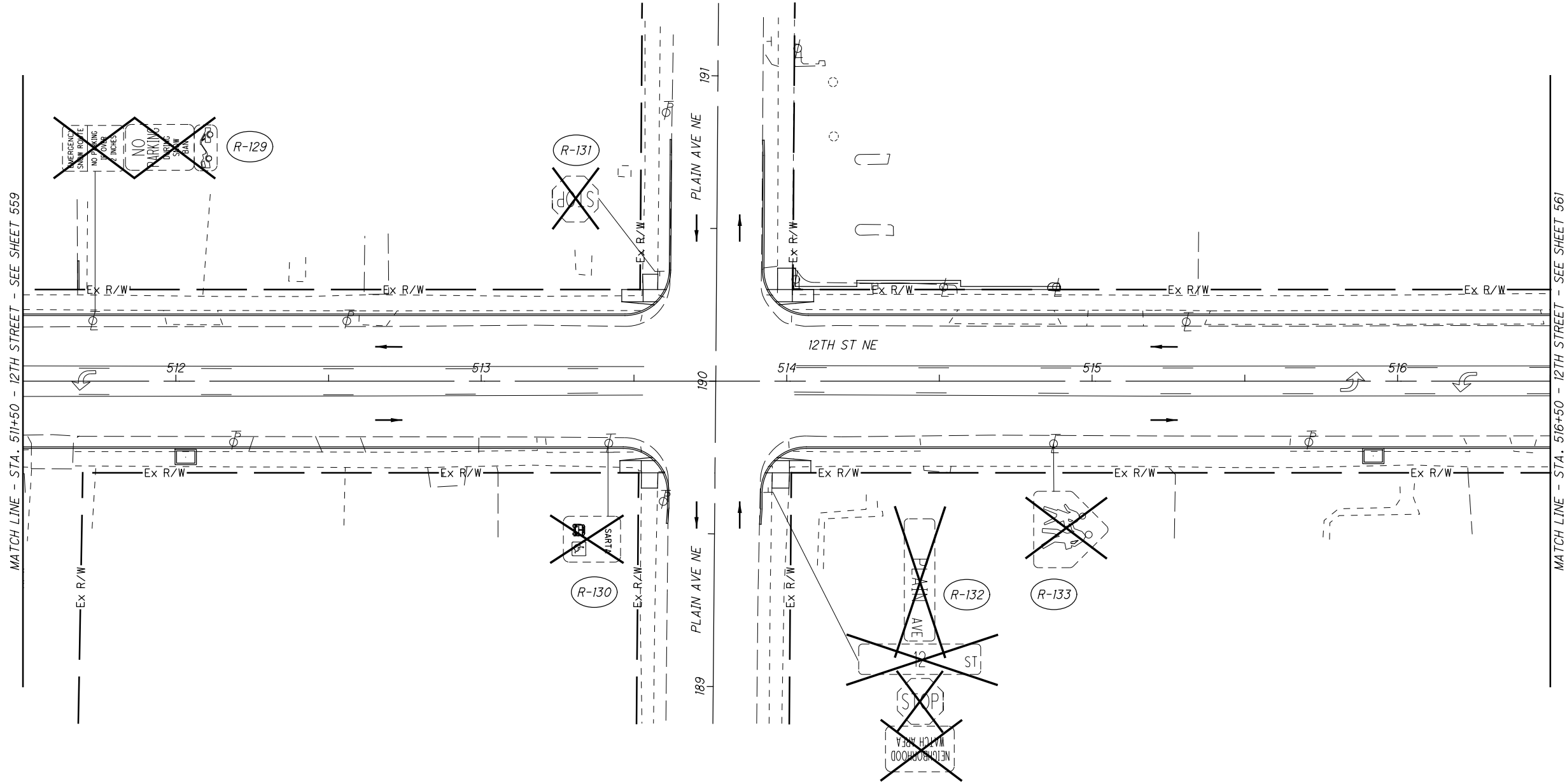
- NOTES:
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
 2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED	MAM
CHECKED	DLW

0 20 40
1" = 40'
HORIZONTAL
SCALE IN FEET

SIGN REMOVAL PLAN
12TH STREET - STA. 507+00 TO STA. 511+50

STA-12TH STREET



NOTES:

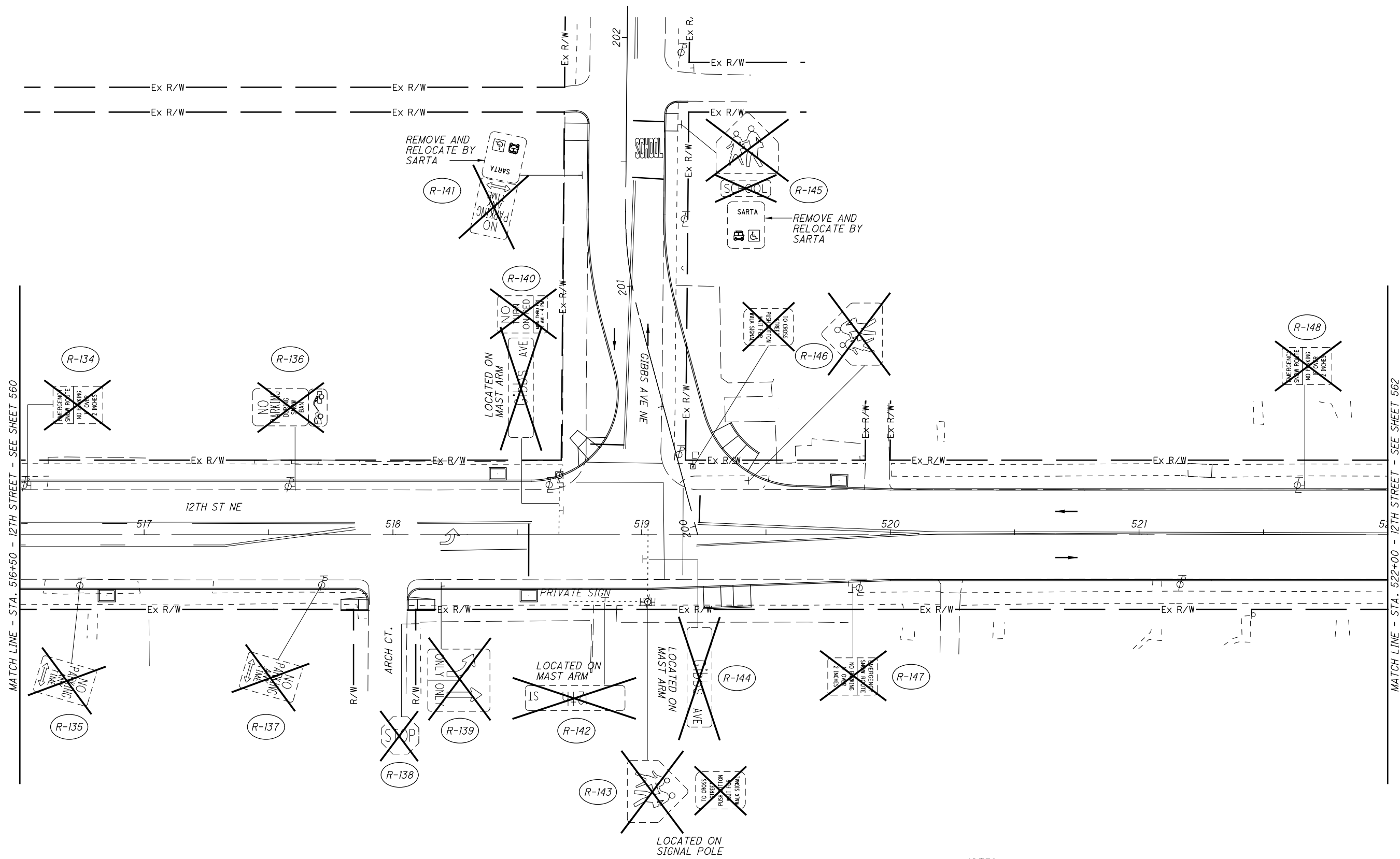
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED	MAM
CHECKED	DLW

STA -12TH STREET
12TH STREET - STA. 511+50 TO STA. 516+50

560
790





MATCH LINE - STA. 516+50 - 12TH STREET - SEE SHEET 560

MATCH LINE - STA. 522+00 - 12TH STREET - SEE SHEET 562

NOTES:

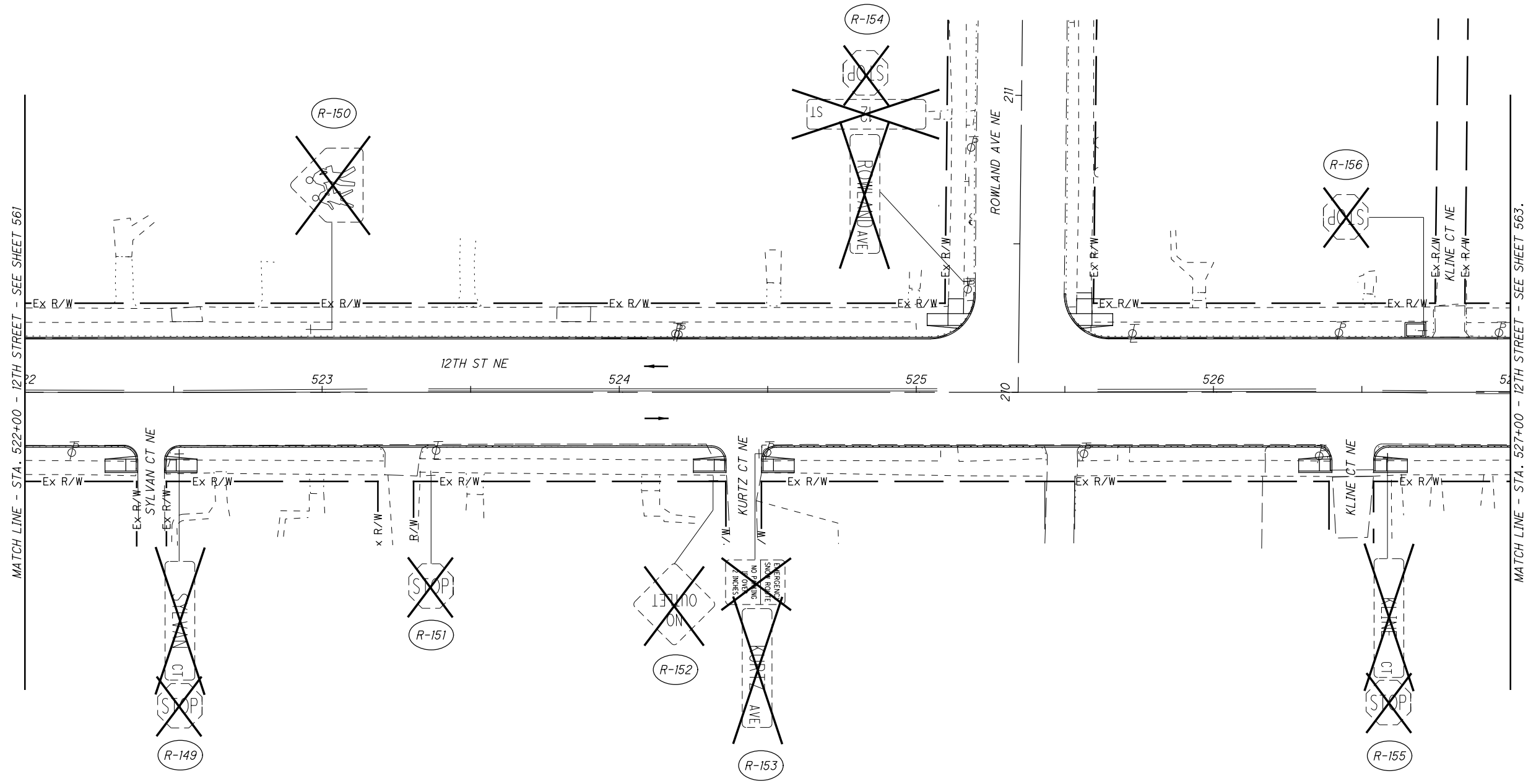
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED MAM
CHECKED DLW

0 20 40
HORIZONTAL SCALE IN FEET

SIGN REMOVAL PLAN
12TH STREET - STA. 516+50 TO STA. 522+00

STA-12TH STREET



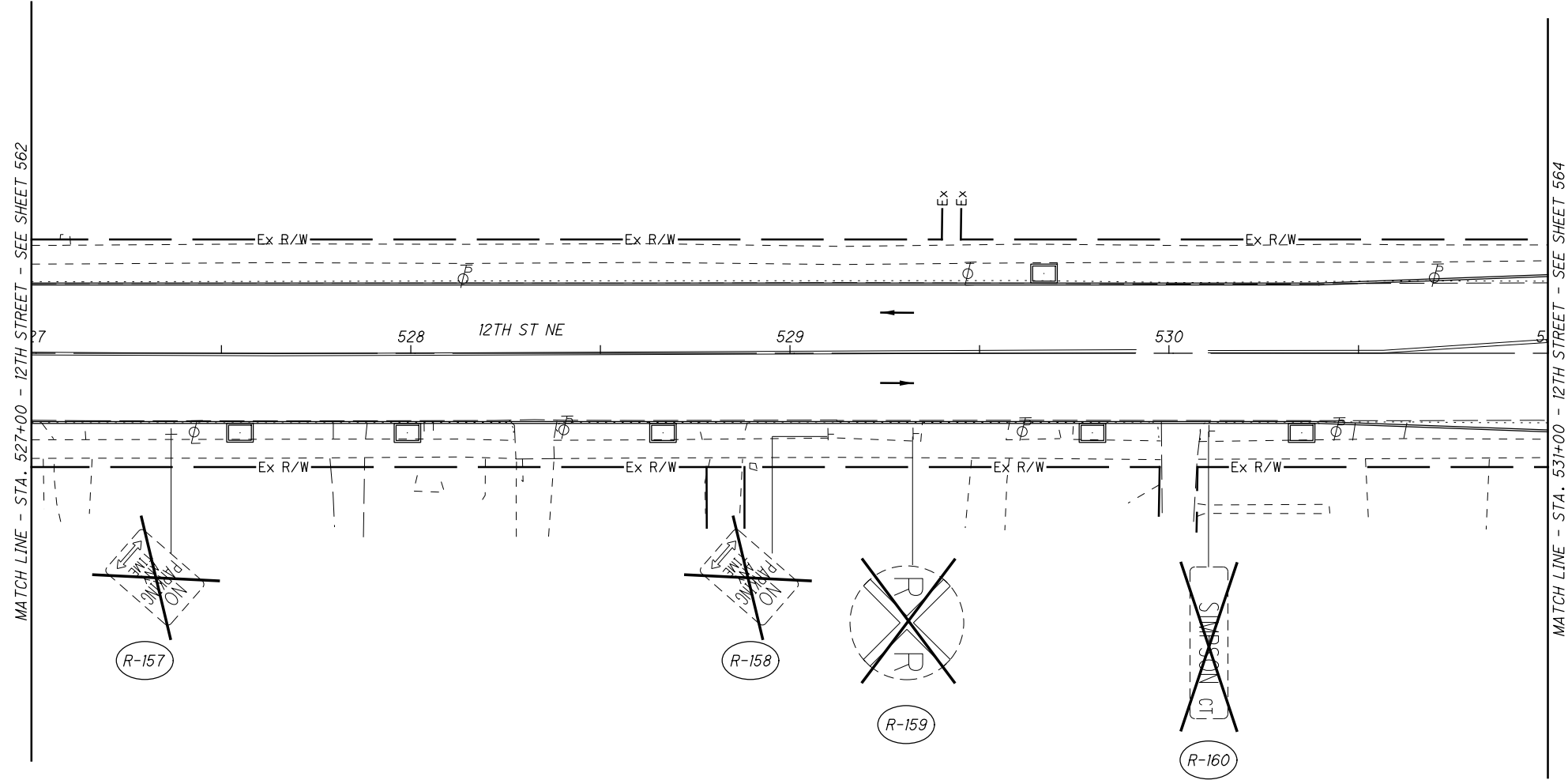
- NOTES:
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
 2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED	MAM
CHECKED	DLW

STA-12TH STREET
SIGN REMOVAL PLAN
12TH STREET - STA. 522+00 TO STA. 527+00

562
790





NOTES:

1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

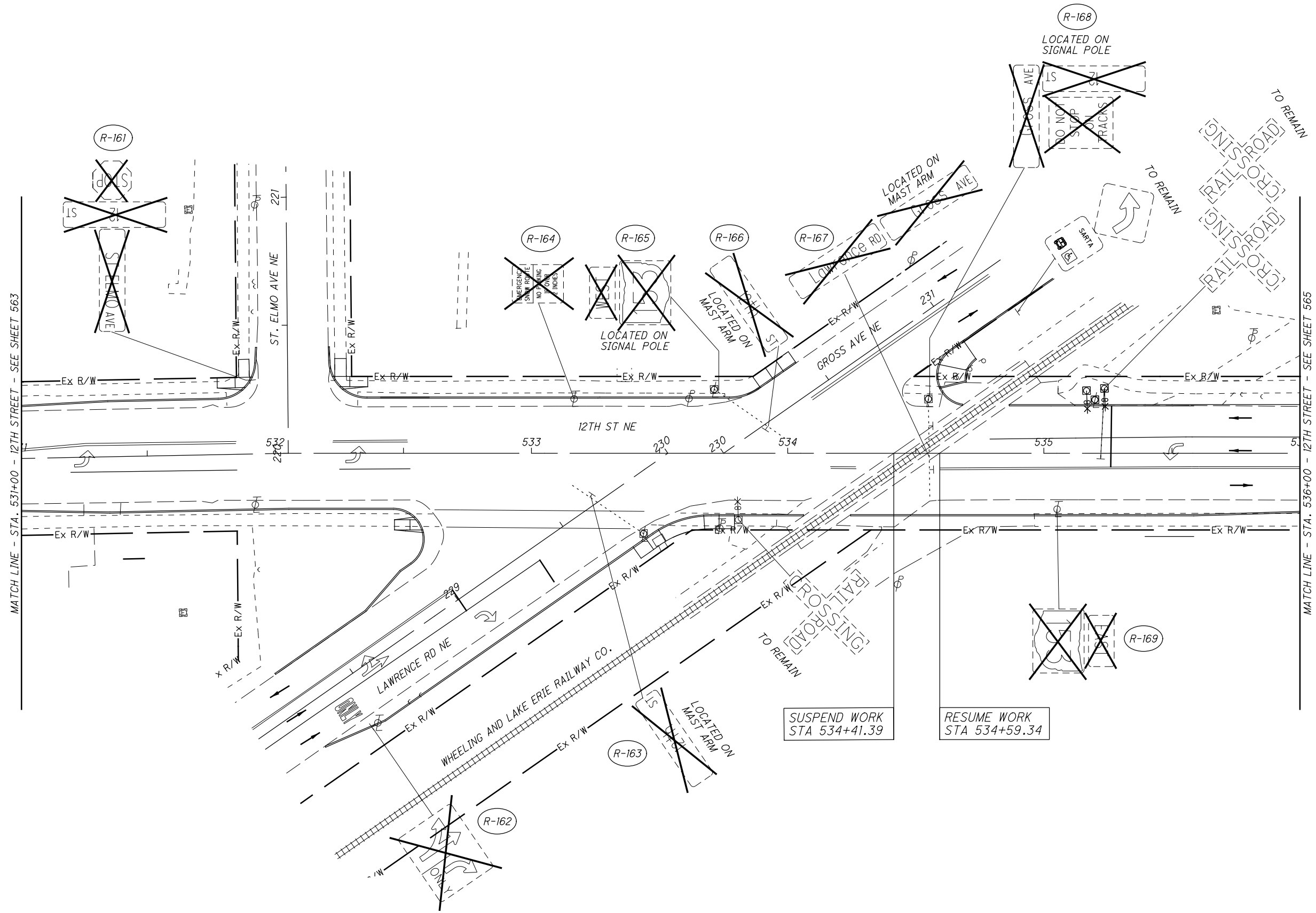
CALCULATED	MAM	CHECKED	DLW

0 20 40
HORIZONTAL
SCALE IN FEET

SIGN REMOVAL PLAN
12TH STREET - STA. 527+00 TO STA. 531+00

STA-12TH STREET

J:\pre-int\11-060 12th Street\STA\85299\traffic\sheets\85299tp121.dgn 4/14/2014 4:46:30 PM brion.sedzlo" ODOTV81_PDF_Half.pltcf ODOTV81_Pen-ME.tbl M-E Companies, Inc.



MATCH LINE - STA. 531+00 - 12TH STREET - SEE SHEET 563

MATCH LINE - STA. 536+00 - 12TH STREET - SEE SHEET 565

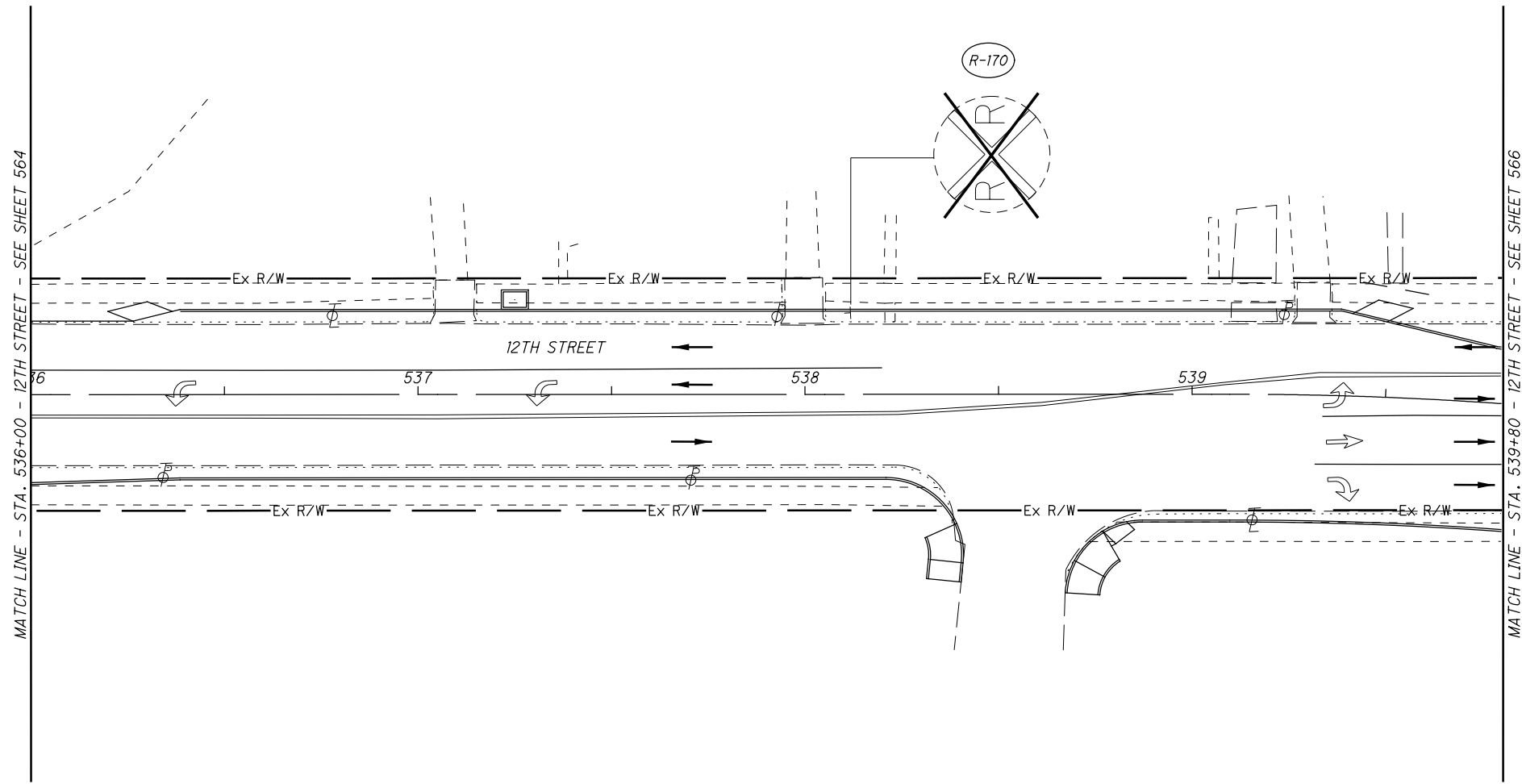
- NOTES:
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
 2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED MAM CHECKED DLW

0 20 40
HORIZONTAL SCALE IN FEET

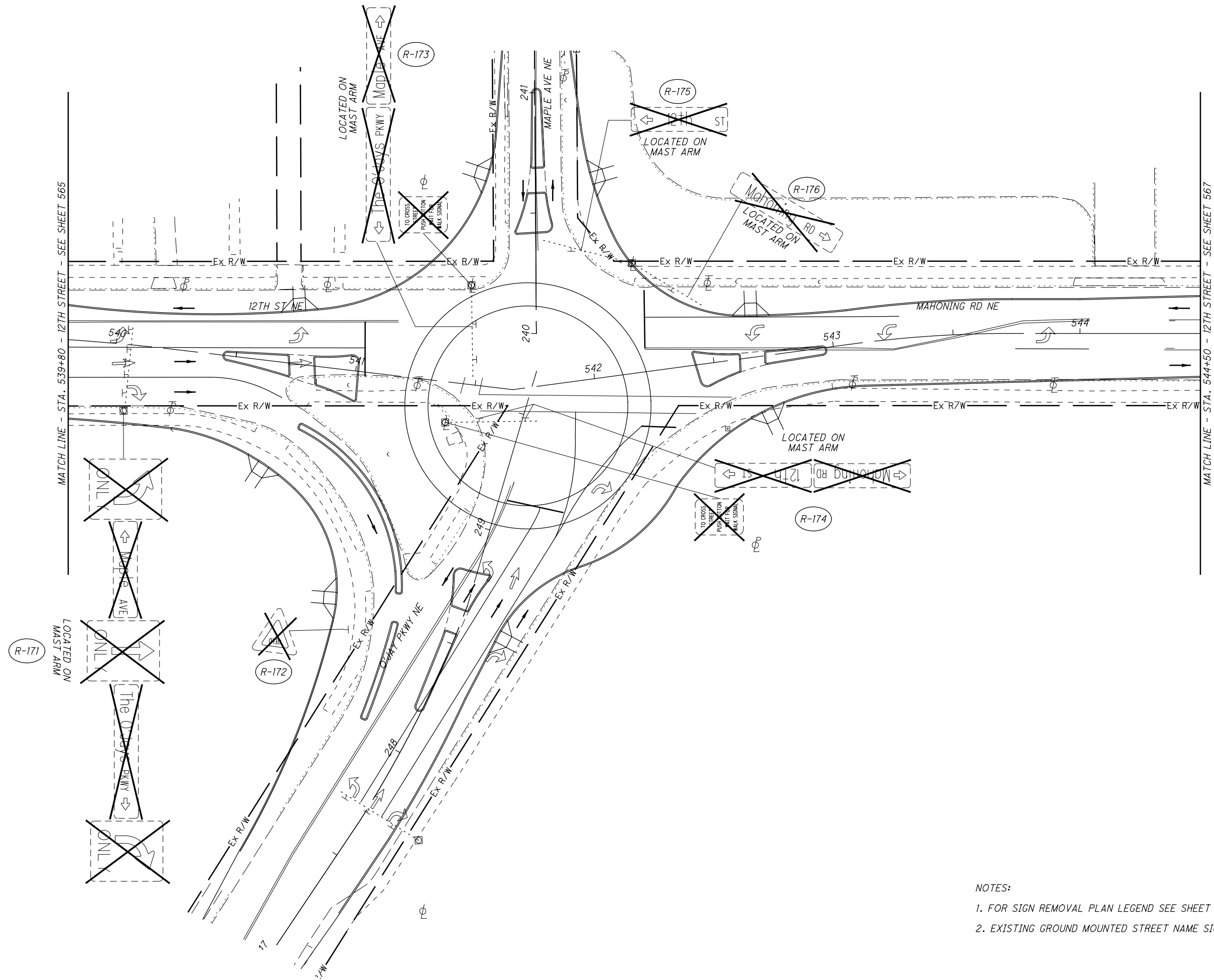
SIGN REMOVAL PLAN

12TH STREET - STA. 531+00 TO STA. 536+00



NOTES:

1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.



NOTES:
 1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
 2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

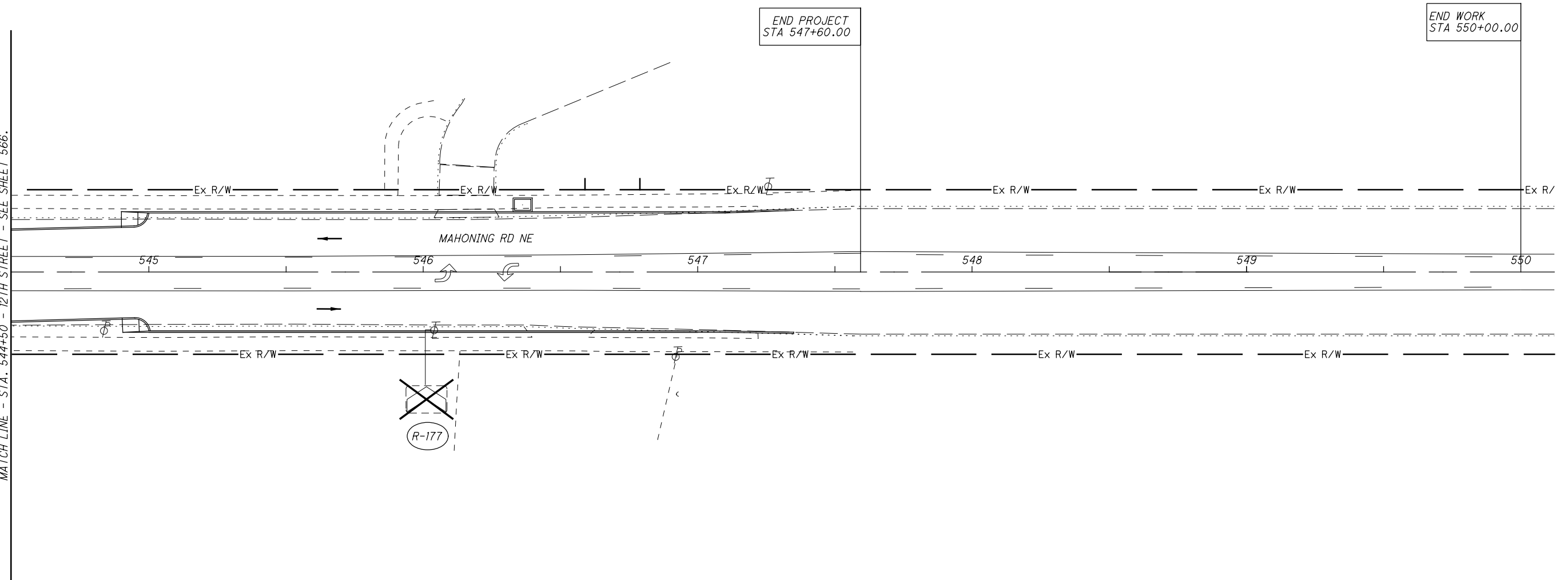
CALCULATED MAM
 CHECKED DLW

0 10 20 30 40
 HORIZONTAL SCALE IN FEET

SIGN REMOVAL PLAN
12TH STREET - STA. 539+80 TO STA. 544+50

J:\pre-int\11-060 12th Street\STA\85299\traffic\sheets\85299ip124.dgn 4/14/2014 4:46:32 PM brian.sezior\OD0TV8i_PDF_Half.pltcfg OD0TV8i_Pen-ME.tbl M-E Companies, Inc.

MATCH LINE - STA. 544+50 - 12TH STREET - SEE SHEET 566.



NOTES:
 1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.

CALCULATED
MAM

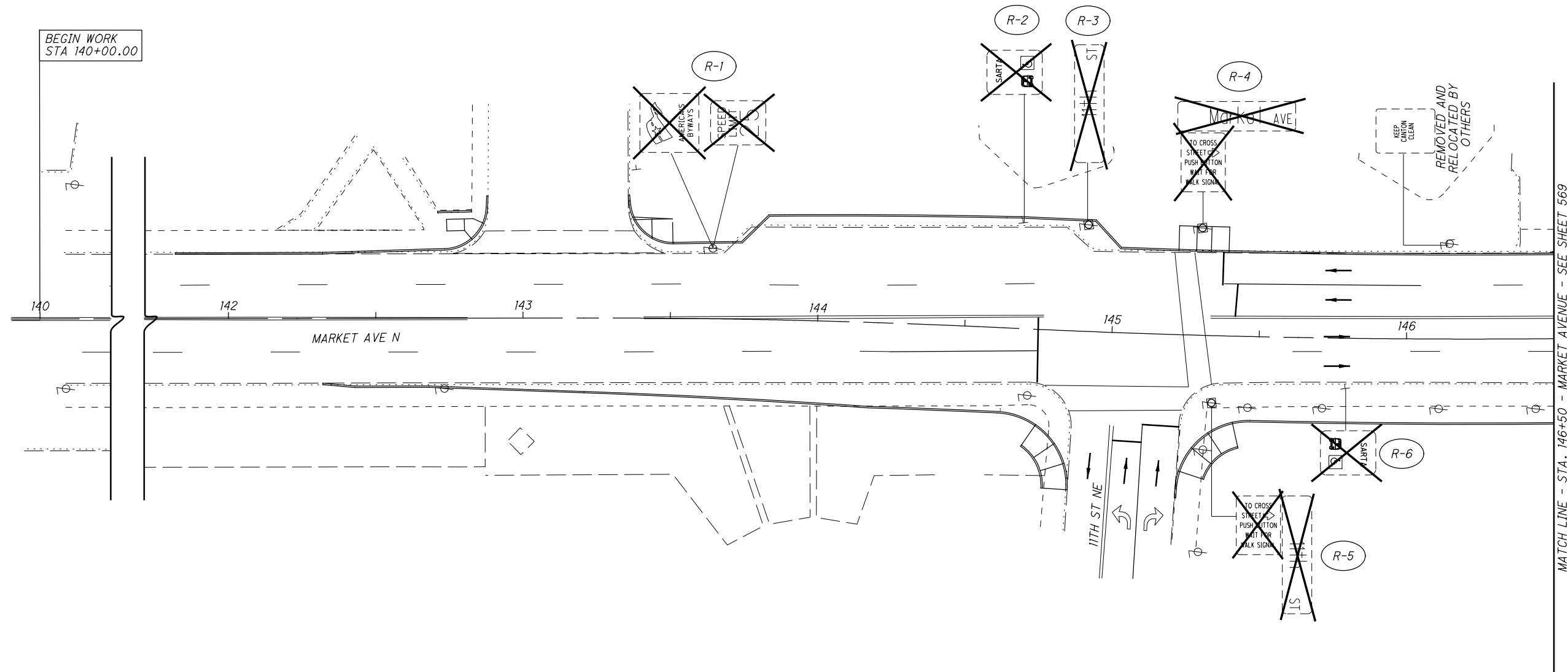
CHECKED
DLW

0 10 20 30 40
HORIZONTAL
SCALE IN FEET

SIGN REMOVAL PLAN
12TH STREET - STA. 544+50 TO STA. 550+00

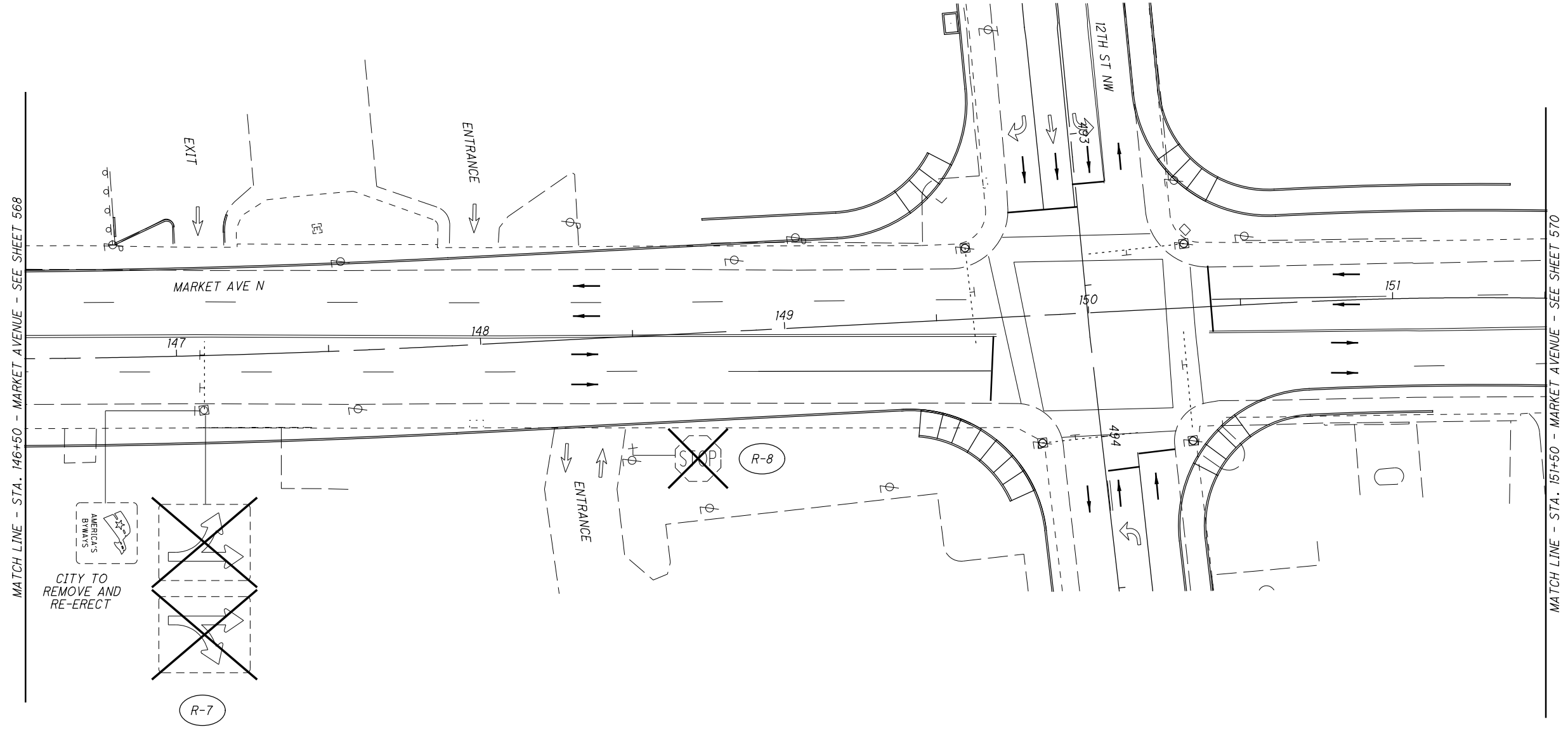
STA-12TH STREET

567
790



- NOTES:
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
 2. EXISTING GROUND MOUNTED SIGNS ARE DOUBLE FACED.

CALCULATED MAM CHECKED DLW	 1" = 40' HORIZONTAL SCALE IN FEET	STA-12TH STREET	SIGN REMOVAL PLAN	MARKET AVENUE - STA. 140+00 TO STA. 146+50
		568 790		



NOTES:

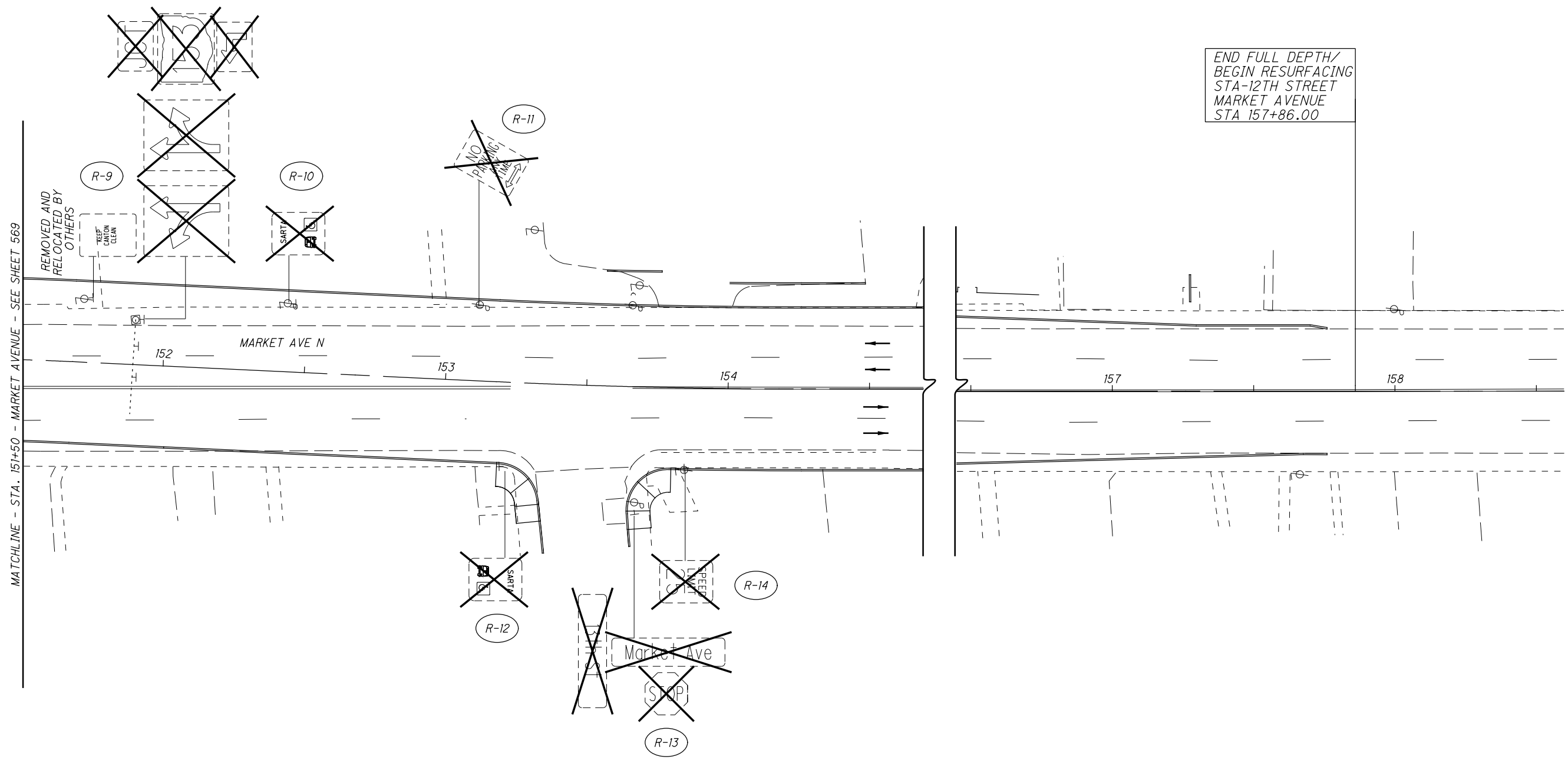
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
2. FOR 12TH STREET SIGN REMOVAL PLANS SEE SHEETS 544 TO 567.

CALCULATED	MAM
CHECKED	DLW

STA -12TH STREET
MARKET AVENUE - STA. 146+50 TO STA. 151+50
SIGN REMOVAL PLAN

569
790

















- NOTES:
1. FOR SIGN REMOVAL PLAN LEGEND SEE SHEET 544.
 2. EXISTING GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.







	<p>40 HORIZONTAL SCALE IN FEET</p>			
	<table border="1"> <tr> <td>CALCULATED</td> <td>MAM</td> </tr> <tr> <td>CHECKED</td> <td>DLW</td> </tr> </table>	CALCULATED	MAM	CHECKED
CALCULATED	MAM			
CHECKED	DLW			
<p>SIGN REMOVAL PLAN</p> <p>MARKET AVENUE - STA. 151+50 TO STA. 157+86</p>				
<p>STA-12TH STREET</p>				
<p>570 790</p>				







J:\pre-int\11-060 12th Street\STA\85299\traffic\sheets\85299ip200.dgn 4/14/2014 4:46:35 PM brian.sedzio\ ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbl M-E Companies, Inc.




SIGN AND PAVEMENT MARKING LEGEND

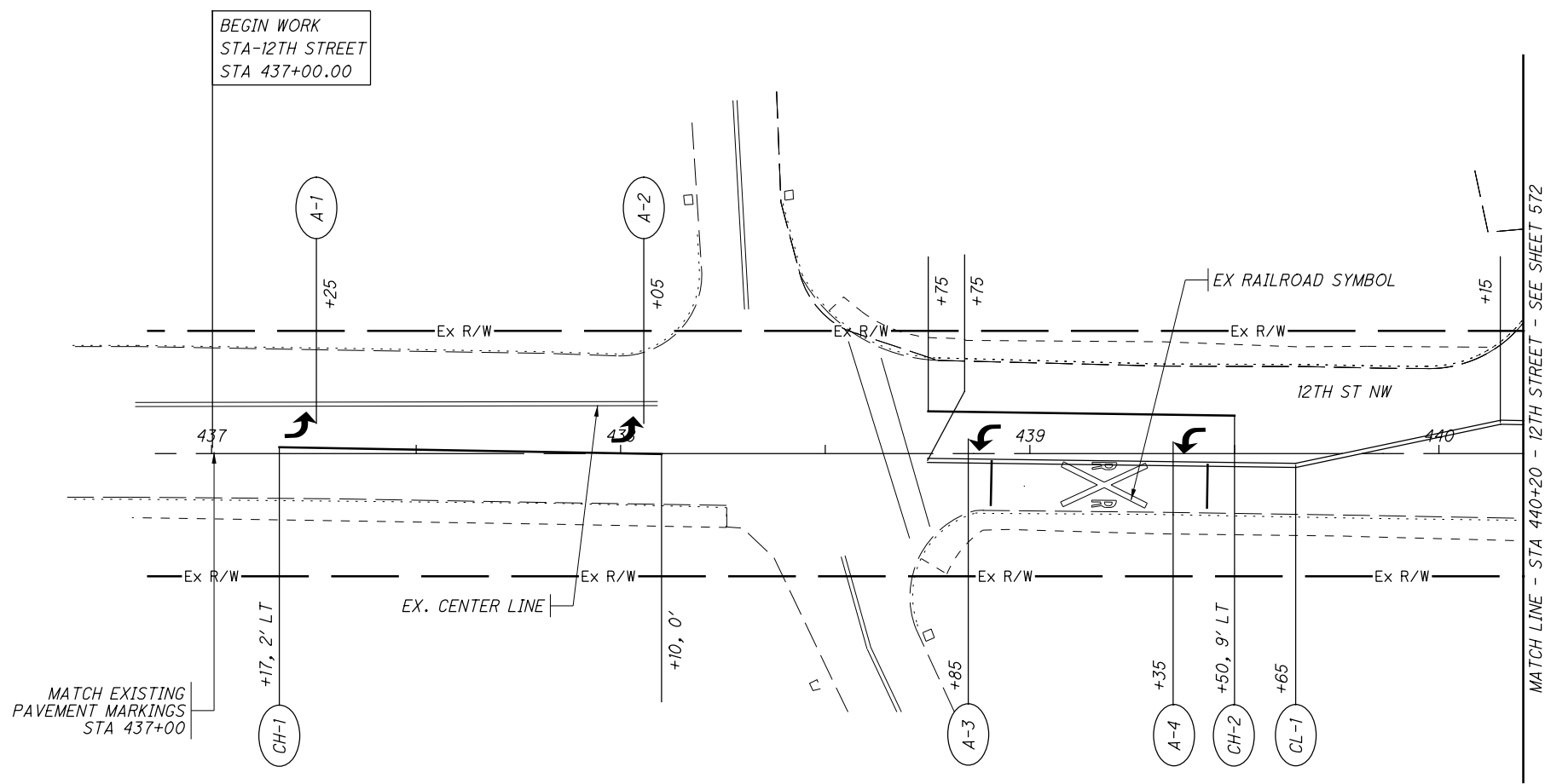
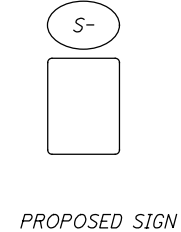
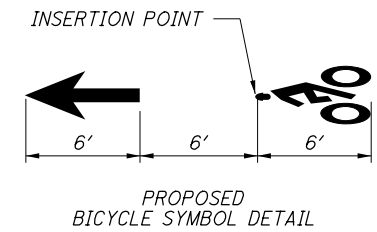
-  EDGE LINE, 4" (WHITE)
-  EDGE LINE, 4" (YELLOW)
-  LANE LINE, 4"
-  CENTER LINE: SOLID, DOUBLE
-  CENTER LINE: BROKEN, DOUBLE
-  CENTER LINE: BROKEN, SINGLE

-  CENTER LINE: BROKEN AND SOLID, DOUBLE
-  CHANNELIZING LINE, 8"
-  STOP LINE
-  CROSSWALK LINE
-  TRANSVERSE/DIAGONAL LINE (WHITE)
-  TRANSVERSE/DIAGONAL LINE (YELLOW)

-  CURB MARKING (WHITE)
-  CURB MARKING (YELLOW)
-  ISLAND MARKING (WHITE)
-  ISLAND MARKING (YELLOW)
-  RAILROAD SYMBOL MARKING
-  SCHOOL SYMBOL MARKING, 96"

-  LANE ARROW: SINGLE
-  LANE ARROW: COMBINED
-  WORD ON PAVEMENT, 48"
-  DOTTED LINE, 4" (WHITE)
-  DOTTED LINE, 4" (YELLOW)
-  BIKE SYMBOL MARKING, 48"

-  * PAVEMENT MARKINGS WILL BE ITEM 646
-  DIRECTION OF TRAVEL
-  FLEXIBLE BARRIER



NOTE TO REVIEWER:
 CROSSWALKS AND STOP LINES WERE NOT INSTALLED WHERE NONE EXISTED, INCLUDING SPRING AVE NE DUE TO THE PERMANENT REMOVAL OF THE TRAFFIC SIGNAL.

NOTES:
 1. PROPOSED PAVEMENT MARKINGS FROM STA 437+00 TO 441+24 ARE TO REPLACE EXISTING PAVEMENT MARKINGS REMOVED DURING MAINTENANCE OF TRAFFIC.





HORIZONTAL SCALE IN FEET

CALCULATED MAM
 CHECKED DLW

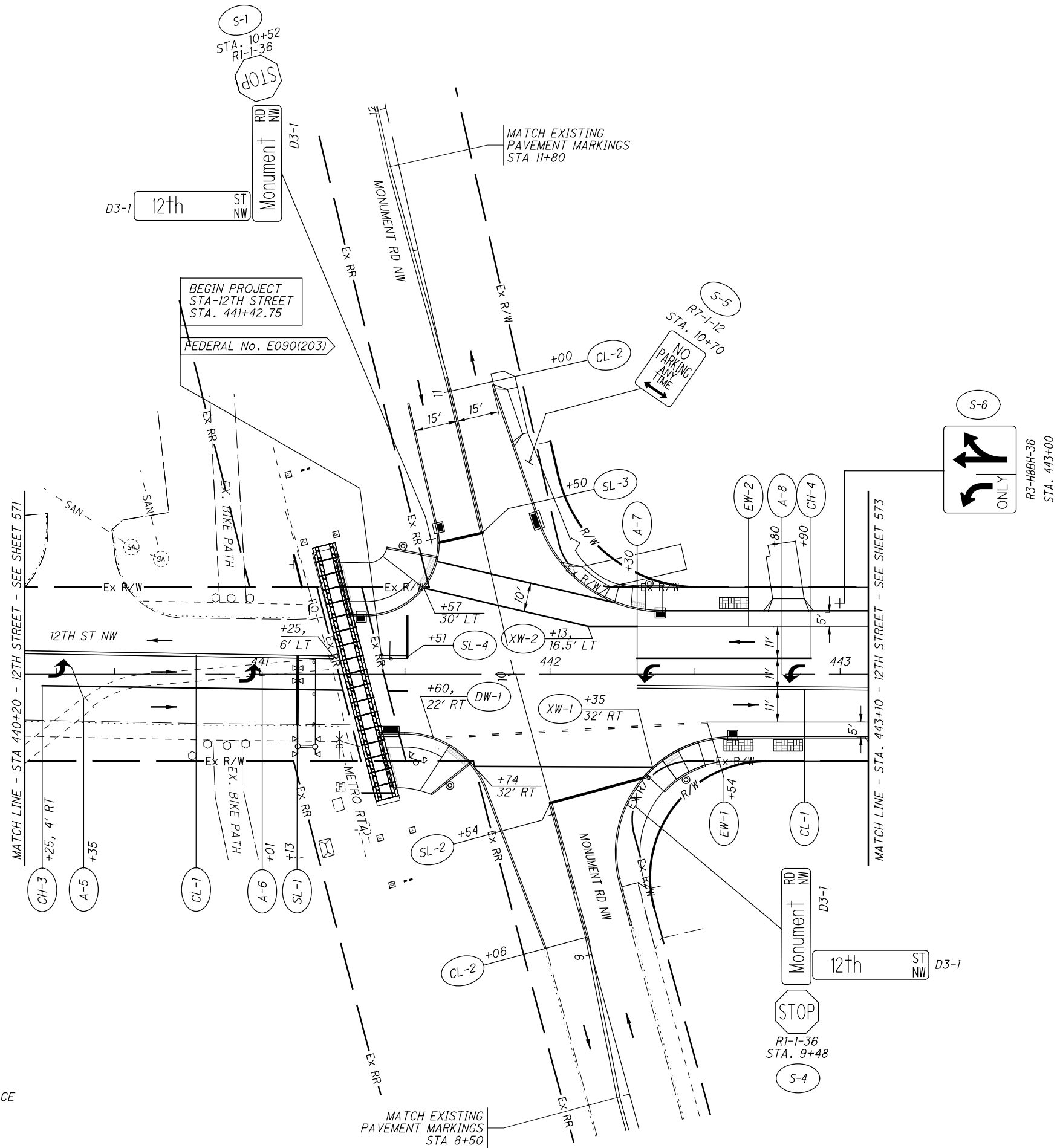
SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA 437+00 TO STA 440+20

STA-12TH STREET

571
790

NOTES:

1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
2. PROPOSED GROUND MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.
3. PROPOSED PAVEMENT MARKINGS FROM STA 437+16 TO 441+24 ARE TO REPLACE EXISTING PAVEMENT MARKINGS REMOVED DURING MAINTENANCE OF TRAFFIC.



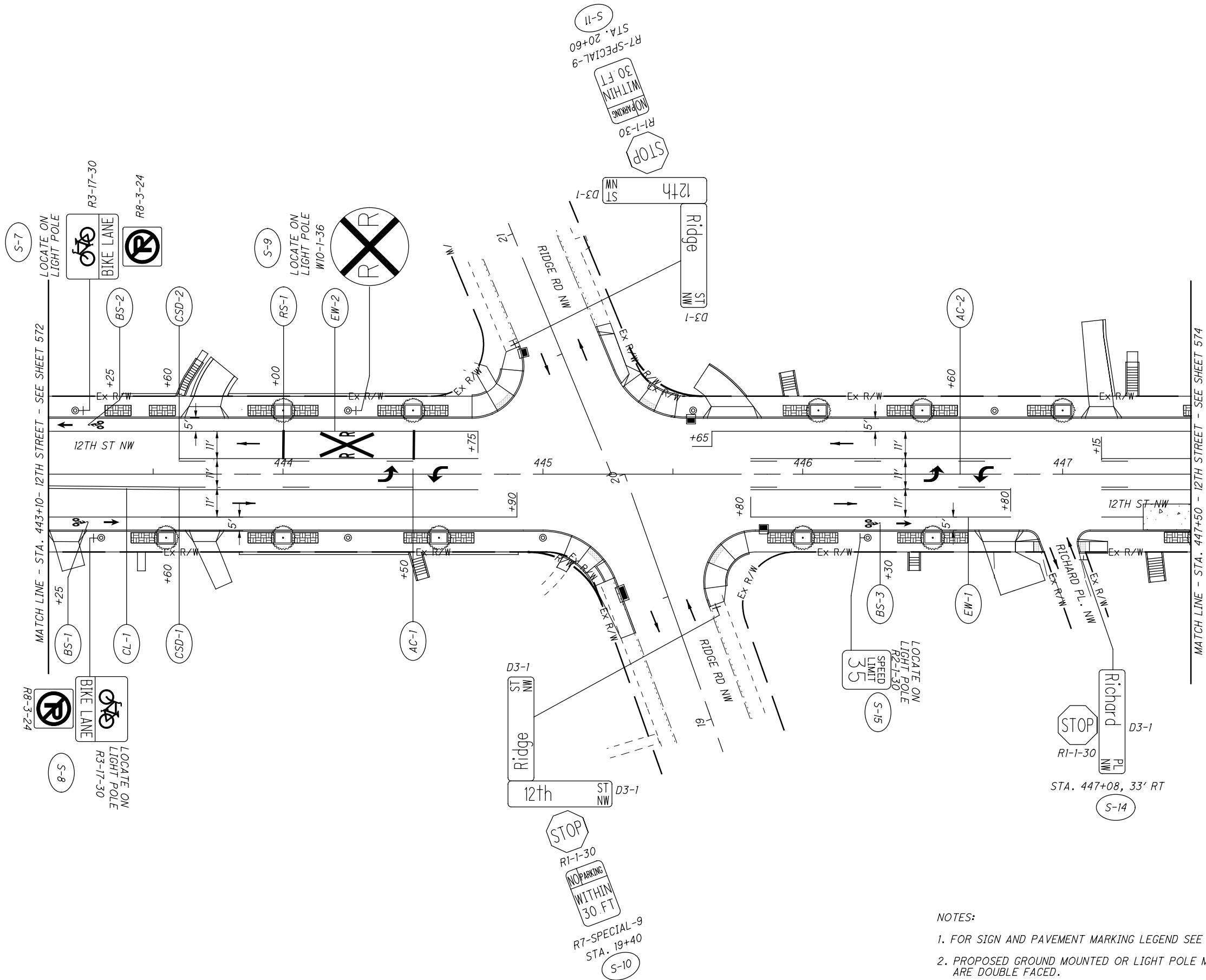
CALCULATED MAM
CHECKED DLW

0 20 40
10
HORIZONTAL
SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA 440+20 TO STA 443+10

STA-12TH STREET

572
790

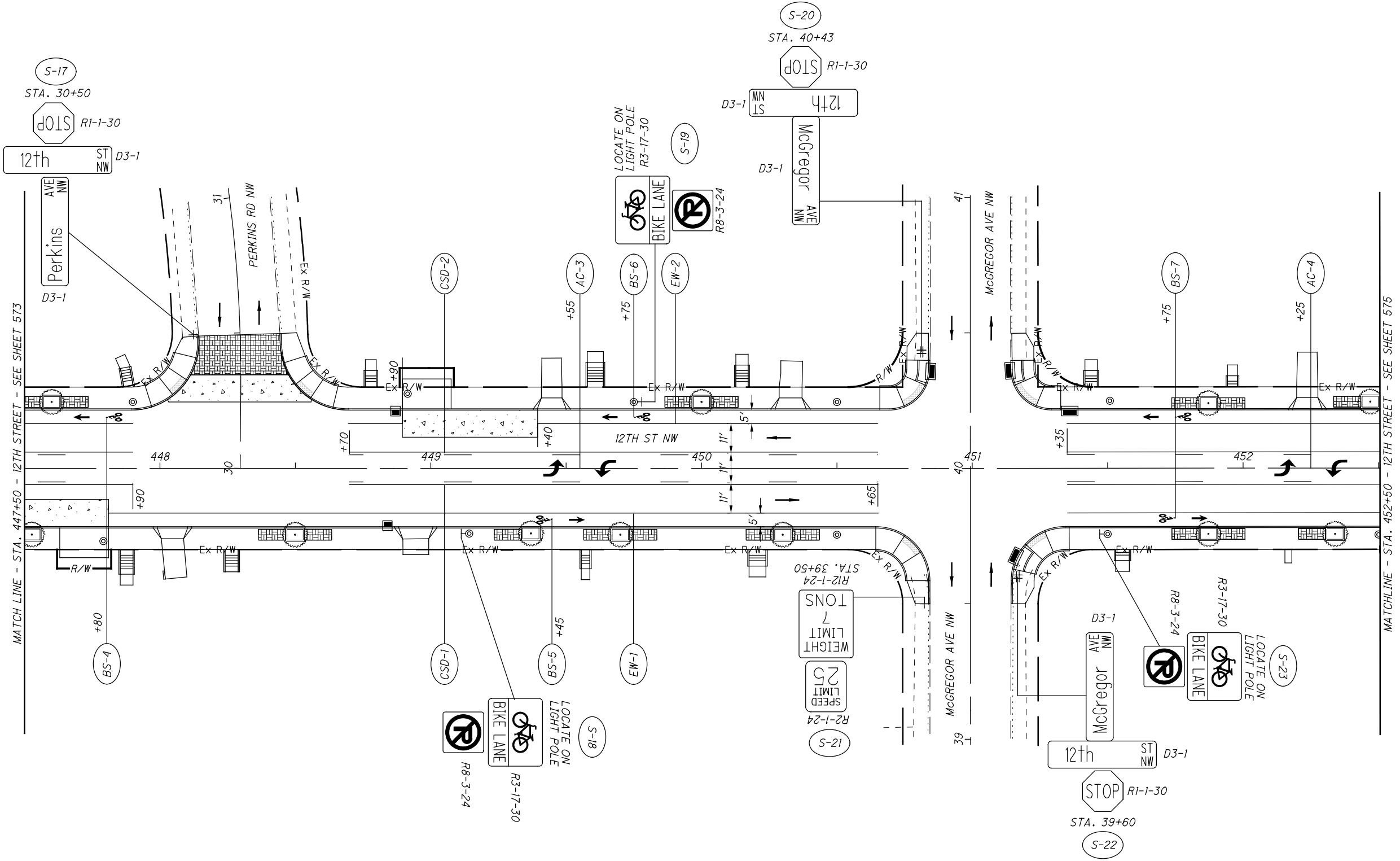


NOTES:
 1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
 2. PROPOSED GROUND MOUNTED OR LIGHT POLE MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED	MAM
CHECKED	DLW

0 20 40
 1" = 40'
 HORIZONTAL SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 443+10 TO STA. 447+50



NOTES:

1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
2. PROPOSED GROUND MOUNTED OR LIGHT POLE MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

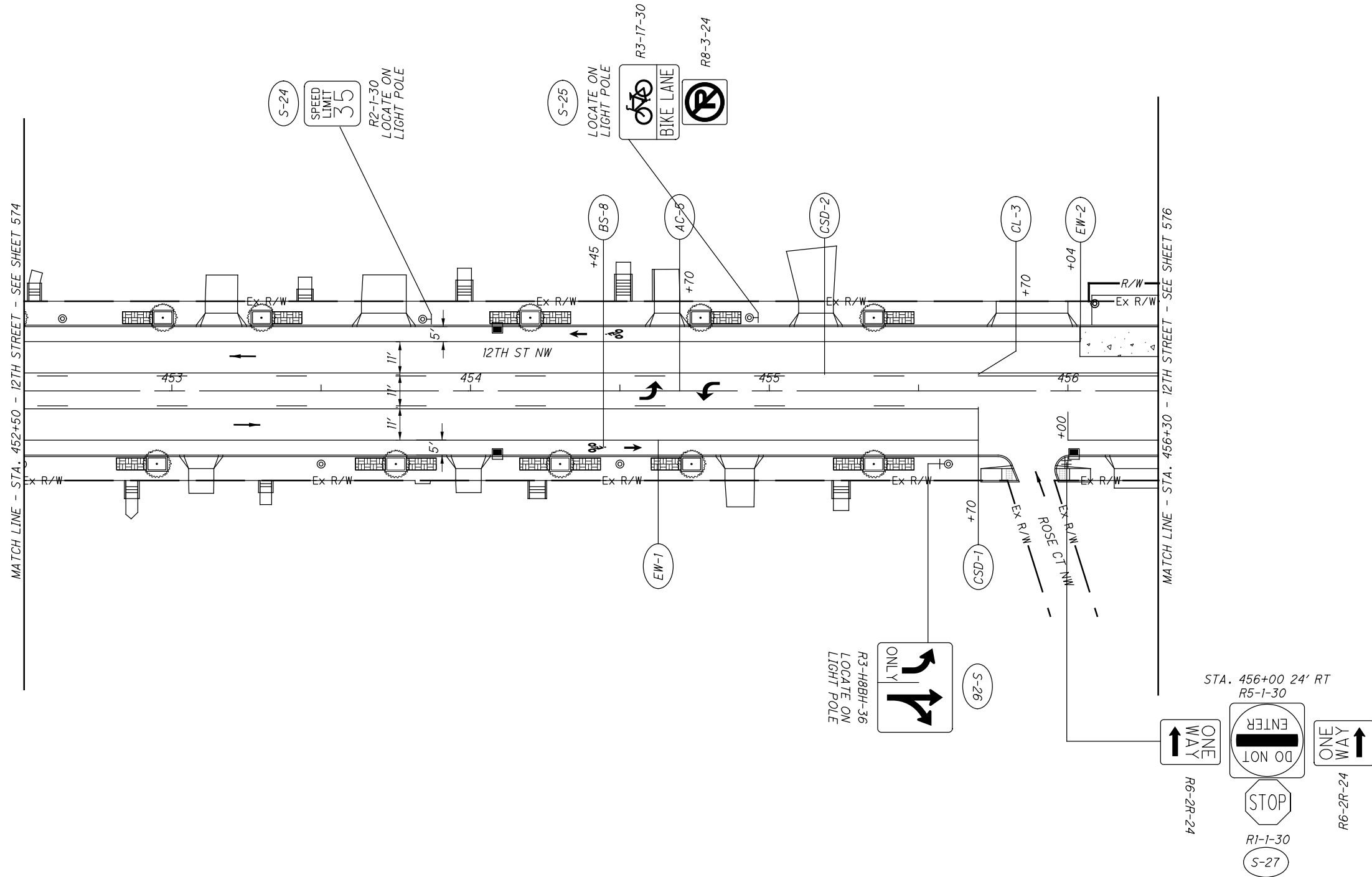
CALCULATED MAM CHECKED DLW

0 20 40
10
HORIZONTAL SCALE IN FEET

STA-12TH STREET

SIGN AND PAVEMENT MARKING PLAN

12TH STREET - STA. 447+50 TO STA. 452+50



NOTES:
 1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.

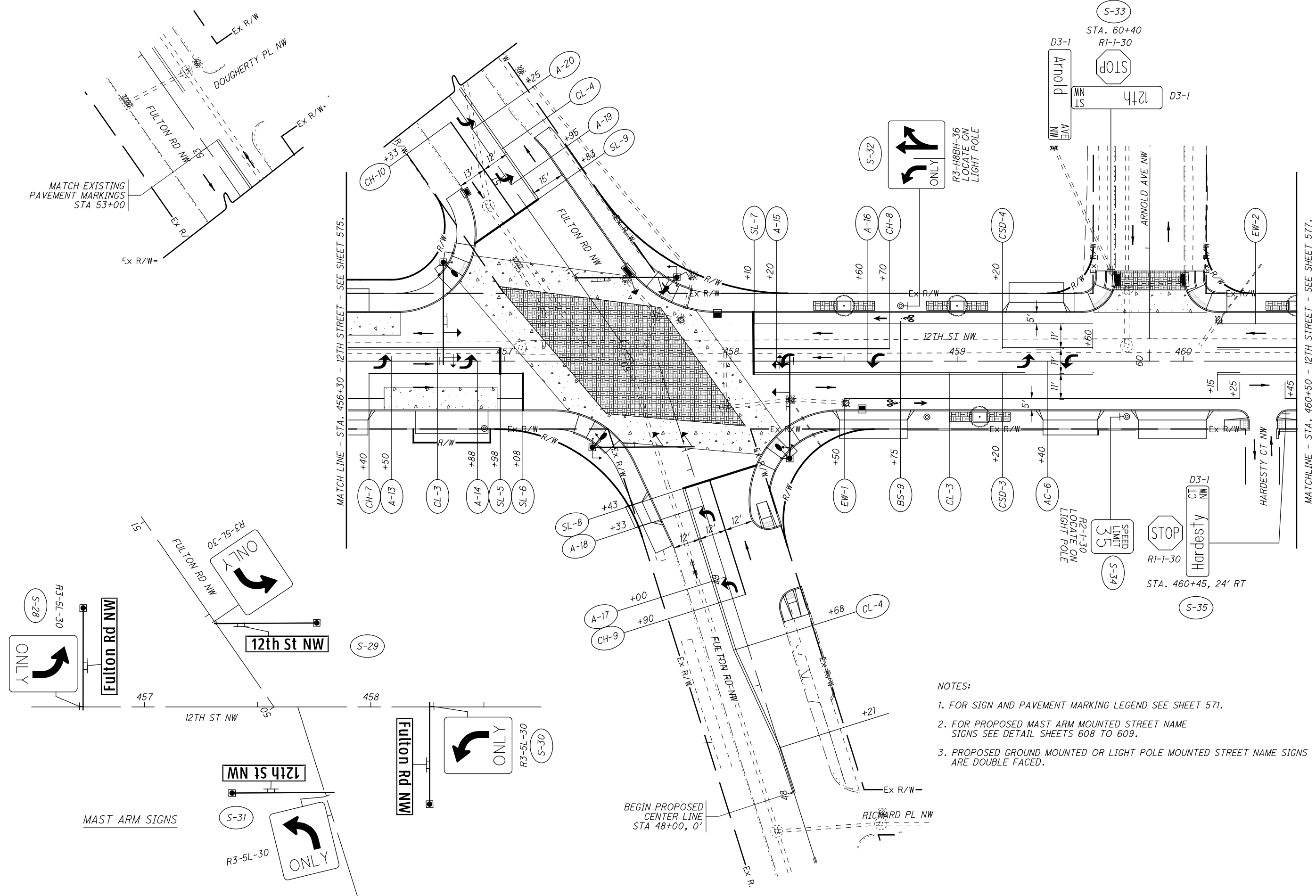
CALCULATED	MAM
CHECKED	DLW

0 20 40
 1" = 40'
 HORIZONTAL
 SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 452+50 TO STA. 456+30

STA-12TH STREET

575
 790



MATCH EXISTING PAVEMENT MARKINGS STA 53+00

MATCH LINE - STA. 456+30 - 12TH STREET - SEE SHEET 575.

MATCHLINE - STA. 460+50 - 12TH STREET - SEE SHEET 577.

BEGIN PROPOSED CENTER LINE STA 48+00, 0'

NOTES:

1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
2. FOR PROPOSED MAST ARM MOUNTED STREET NAME SIGNS SEE DETAIL SHEETS 608 TO 609.
3. PROPOSED GROUND MOUNTED OR LIGHT POLE MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

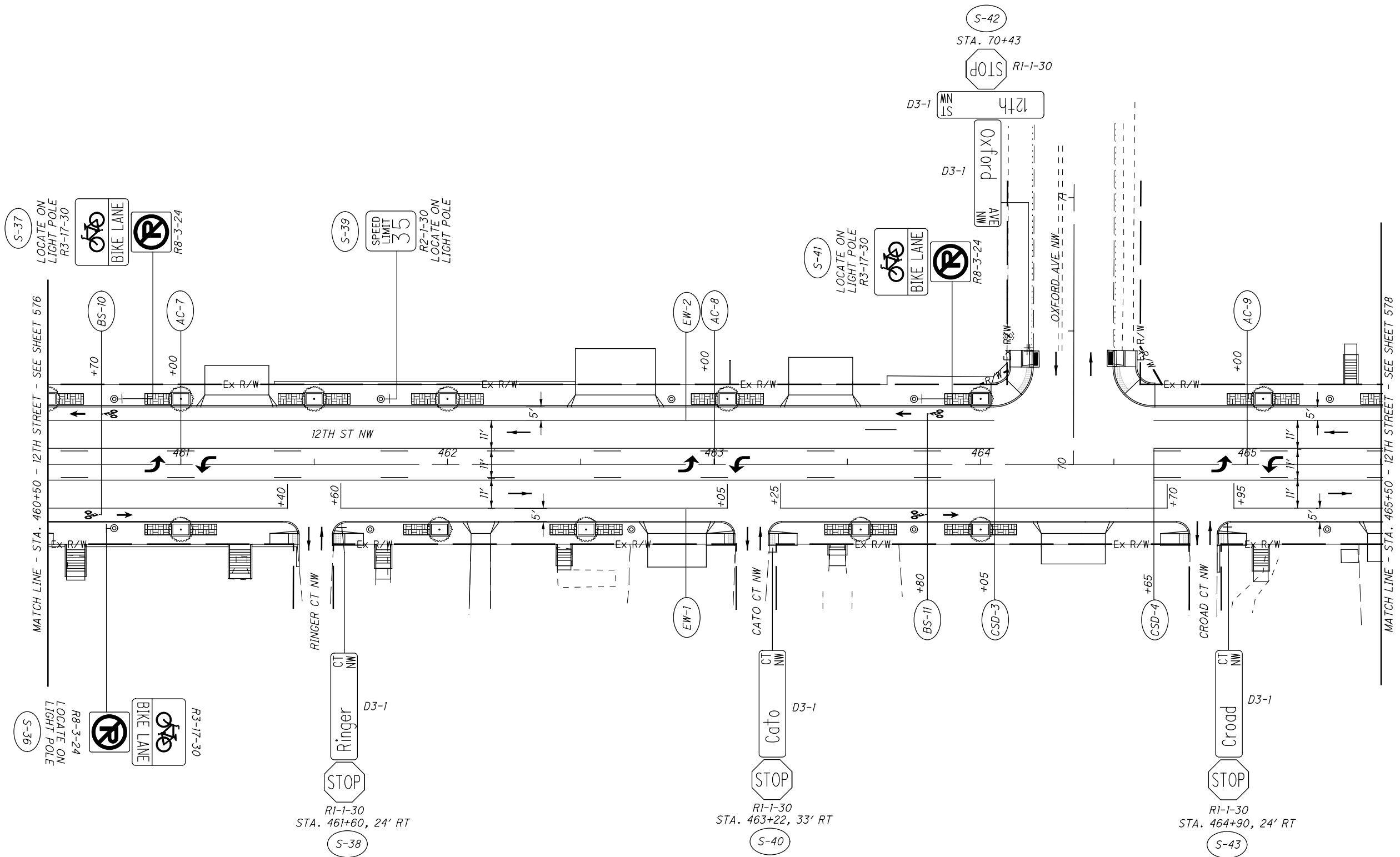
CALCULATED MAM CHECKED DLW

0 20 40
10 HORIZONTAL SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 456+30 TO STA. 460+50

STA-12TH STREET

576
790



NOTES:

1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
2. PROPOSED GROUND MOUNTED OR LIGHT POLE MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

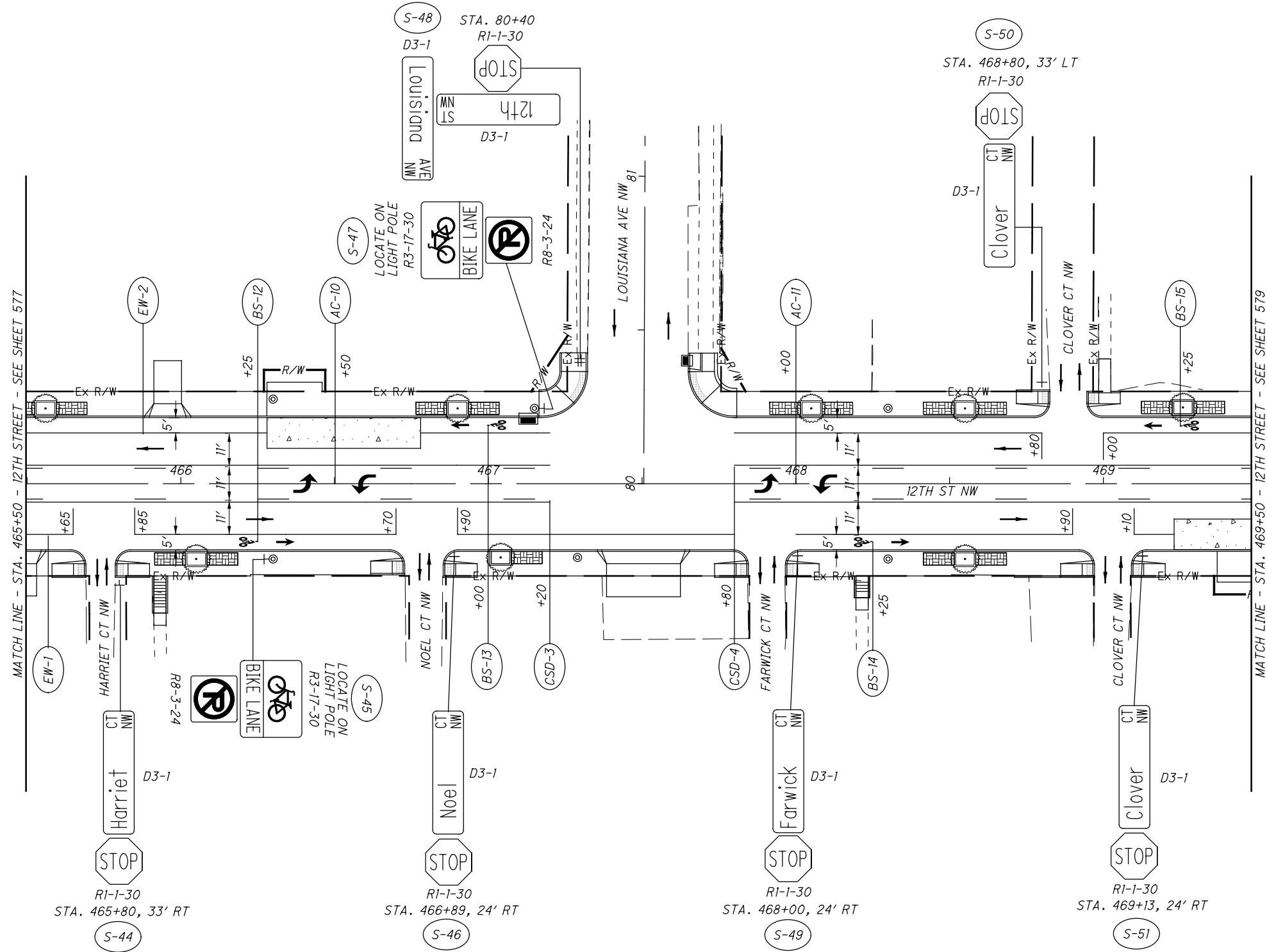
CALCULATED MAM
CHECKED DLW

0 20 40
1" = 40'
HORIZONTAL SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 460+50 TO STA. 465+50

STA-12TH STREET

577
790



NOTES:

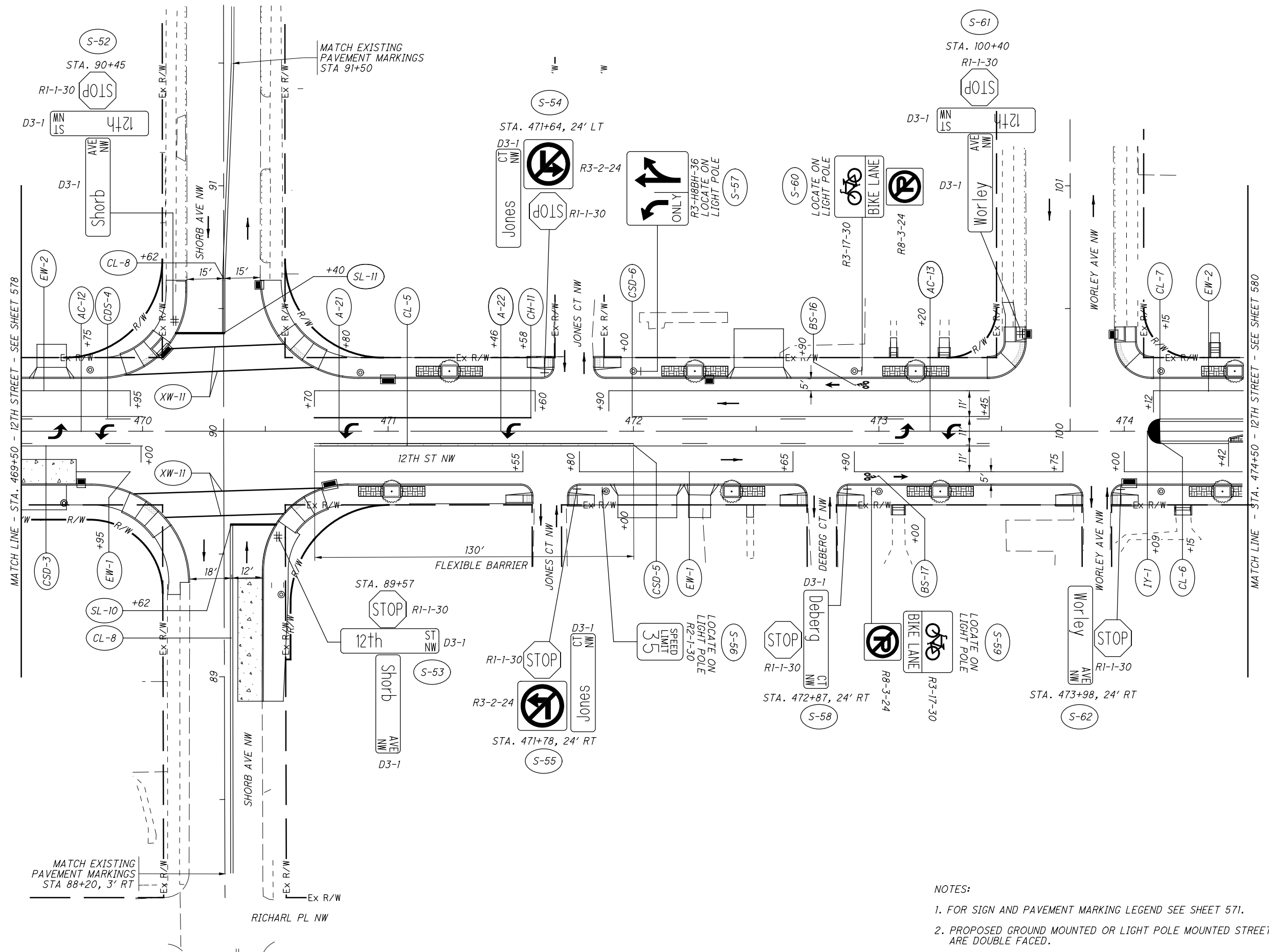
1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
2. PROPOSED GROUND MOUNTED OR LIGHT POLE MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED MAM
CHECKED DLW

0 20 40
1" = 40'
HORIZONTAL SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 465+50 TO STA. 469+50

STA-12TH STREET



MATCH LINE - STA. 469+50 - 12TH STREET - SEE SHEET 578

MATCH EXISTING PAVEMENT MARKINGS STA 88+20, 3' RT

MATCH EXISTING PAVEMENT MARKINGS STA 91+50

MATCH LINE - STA. 474+50 - 12TH STREET - SEE SHEET 580

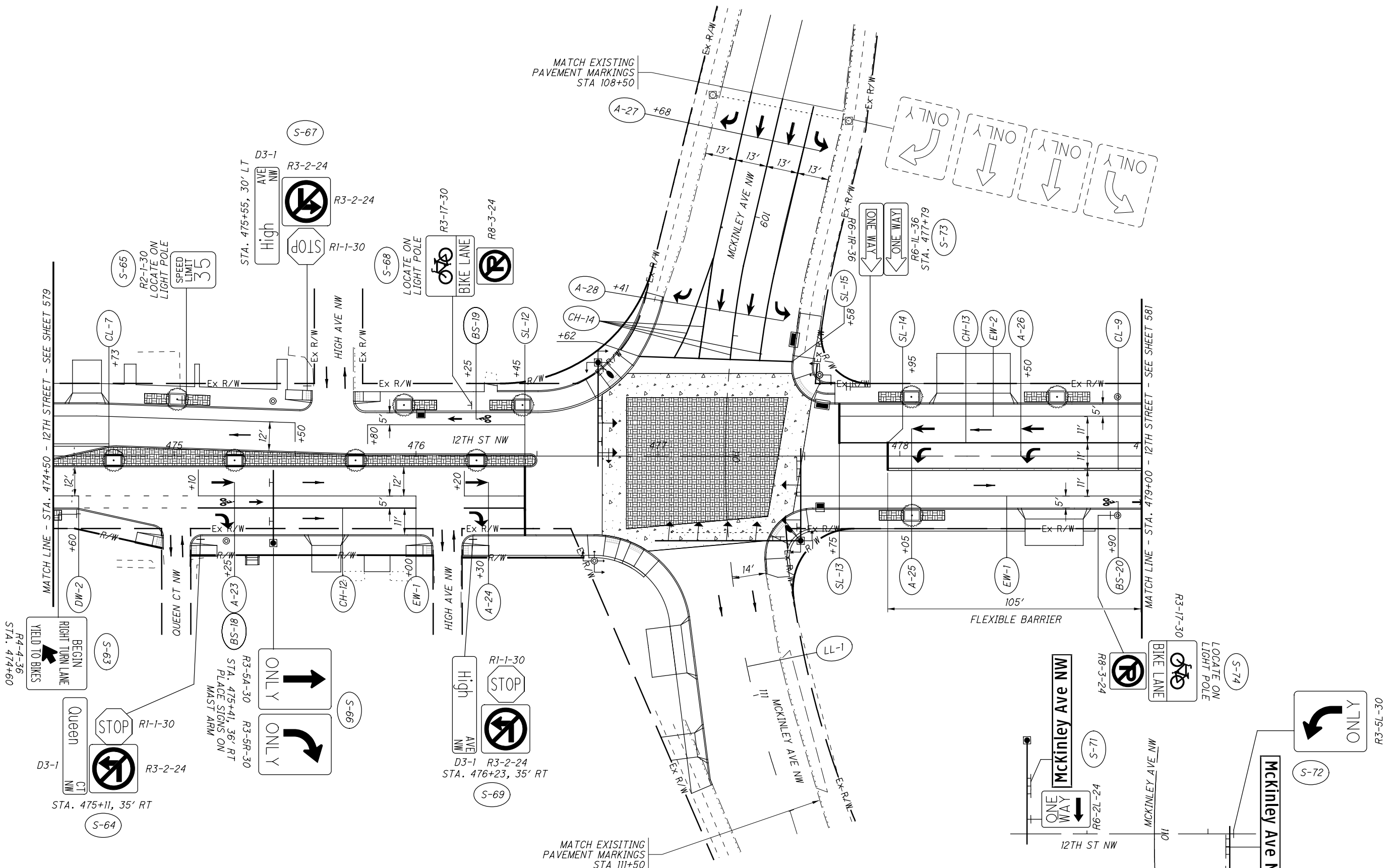
NOTES:

1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
2. PROPOSED GROUND MOUNTED OR LIGHT POLE MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED	MAM
CHECKED	DLW

0 20 40
HORIZONTAL SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 469+50 TO STA. 474+50



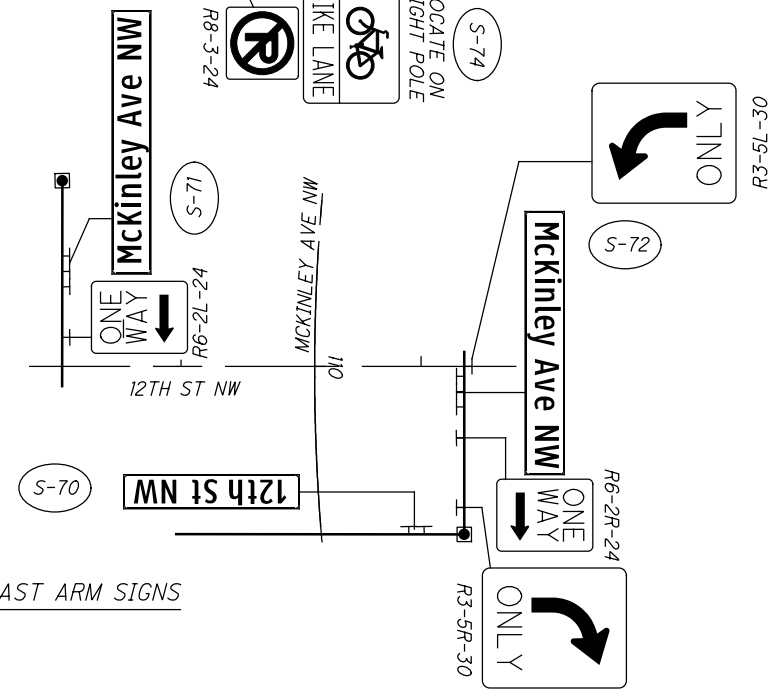
MATCH EXISTING PAVEMENT MARKINGS STA 108+50

MATCH EXISTING PAVEMENT MARKINGS STA 111+50

NOTES:

- 1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
- 2. PROPOSED GROUND MOUNTED OR LIGHT POLE MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.
- 3. FOR PROPOSED MAST ARM MOUNTED STREET NAME SIGNS SEE DETAIL SHEETS 608 TO 609.
- 4. FOR SIGN ELEVATION DETAILS SEE SHEETS 606 TO 607.

MAST ARM SIGNS



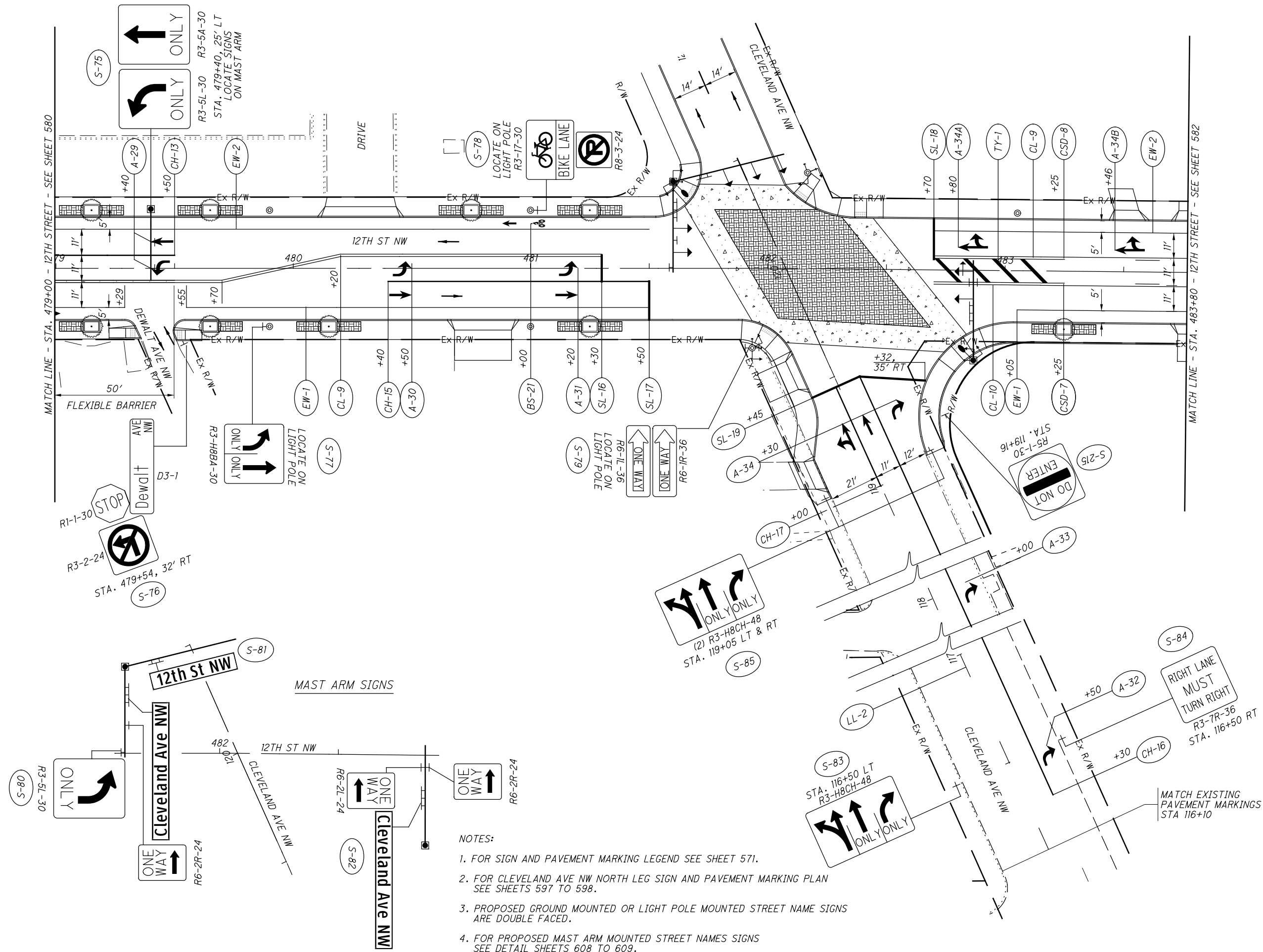
CALCULATED MAM
CHECKED DLW

HORIZONTAL SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 474+50 TO STA. 479+00

STA-12TH STREET

(580 / 790)



NOTES:

1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
2. FOR CLEVELAND AVE NW NORTH LEG SIGN AND PAVEMENT MARKING PLAN SEE SHEETS 597 TO 598.
3. PROPOSED GROUND MOUNTED OR LIGHT POLE MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.
4. FOR PROPOSED MAST ARM MOUNTED STREET NAMES SIGNS SEE DETAIL SHEETS 608 TO 609.
5. FOR SIGN ELEVATION DETAILS SEE SHEETS 606 TO 607.

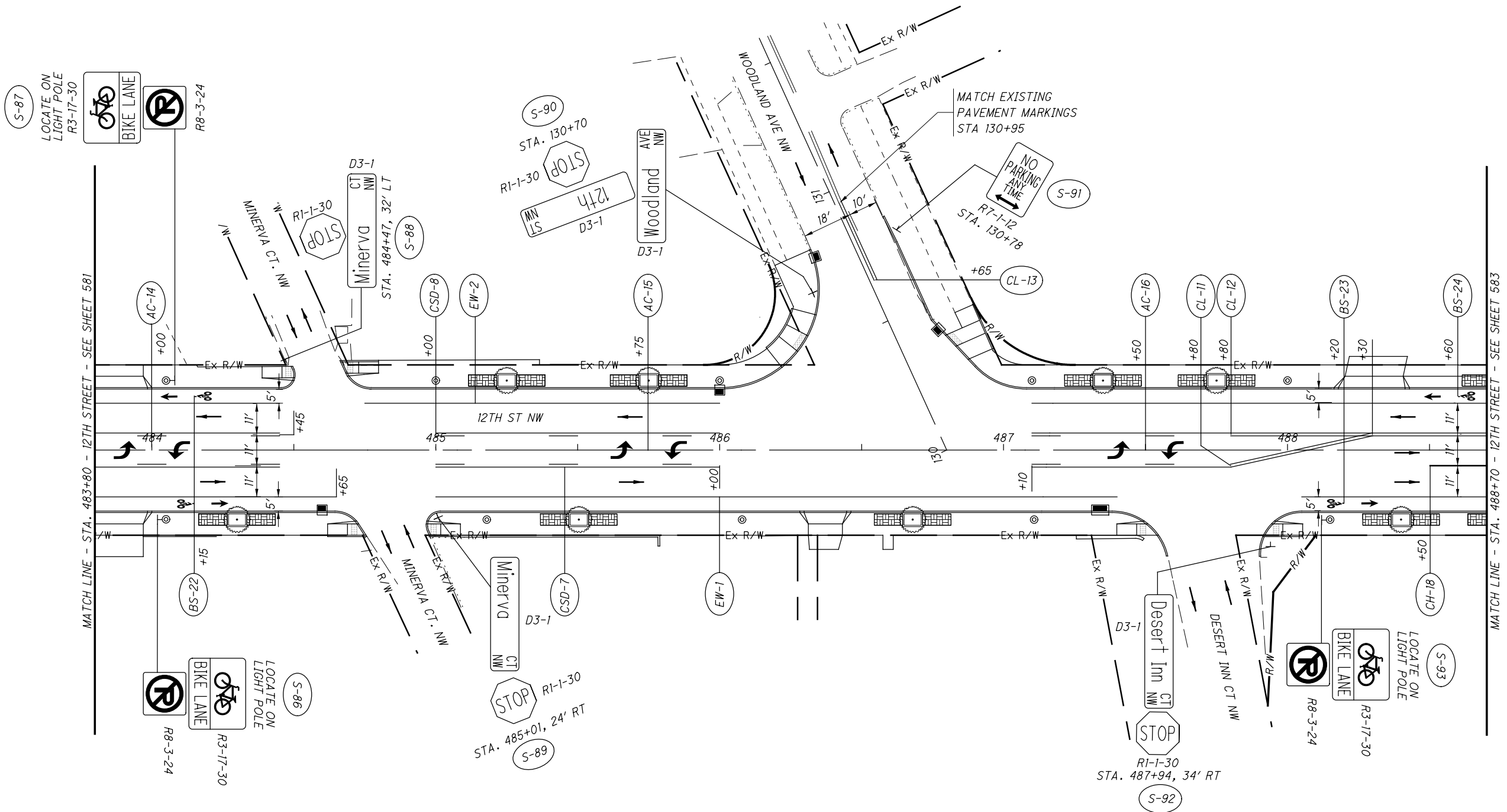
CALCULATED MAM
CHECKED DLW

0 20 40
10
HORIZONTAL SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 479+00 TO STA. 483+80

STA-12TH STREET

581
790

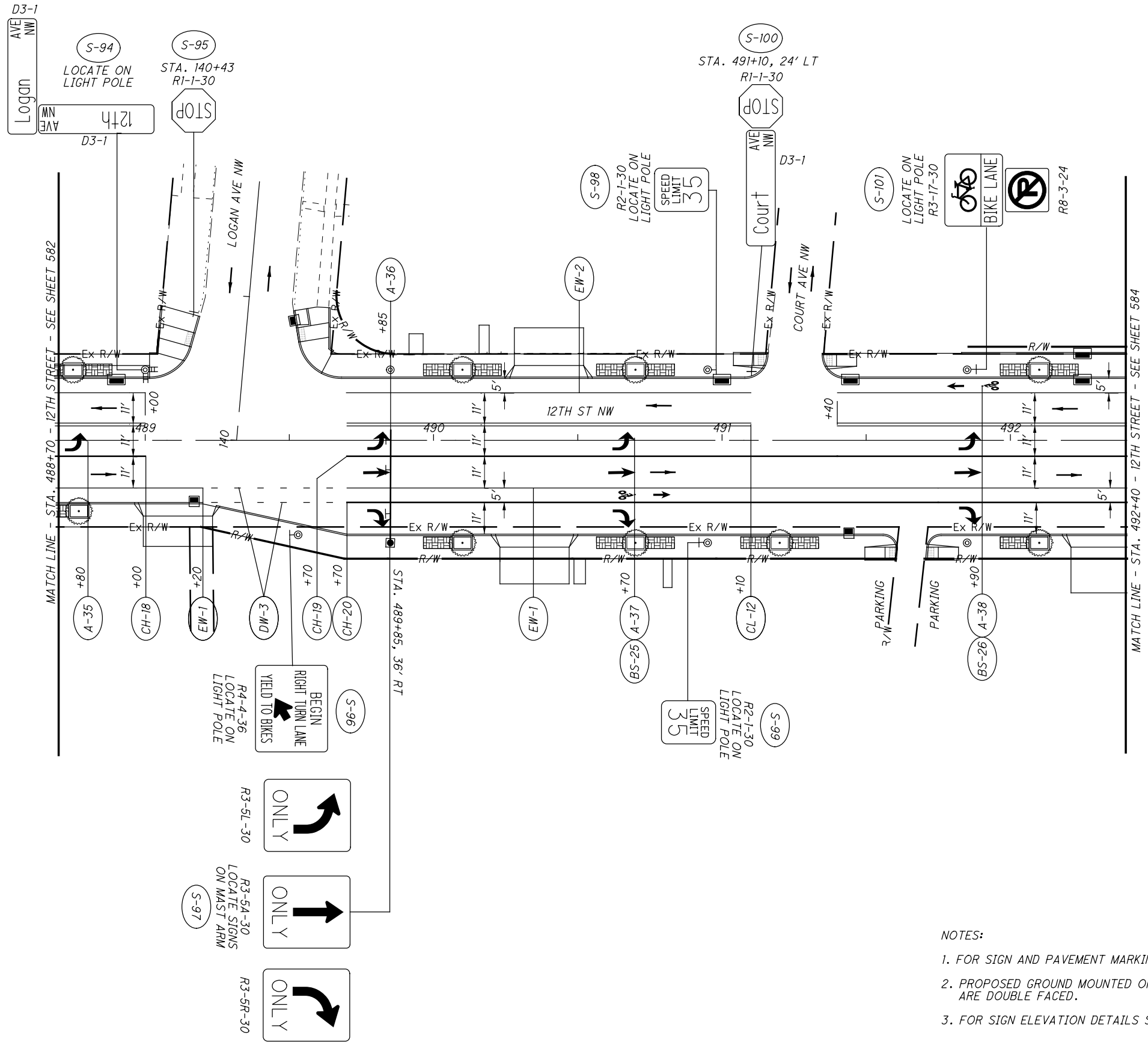


- NOTES:
1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
 2. PROPOSED GROUND MOUNTED OR LIGHT POLE MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

CALCULATED MAM CHECKED DLW

0 20 40
10
HORIZONTAL SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 483+80 TO STA. 488+70

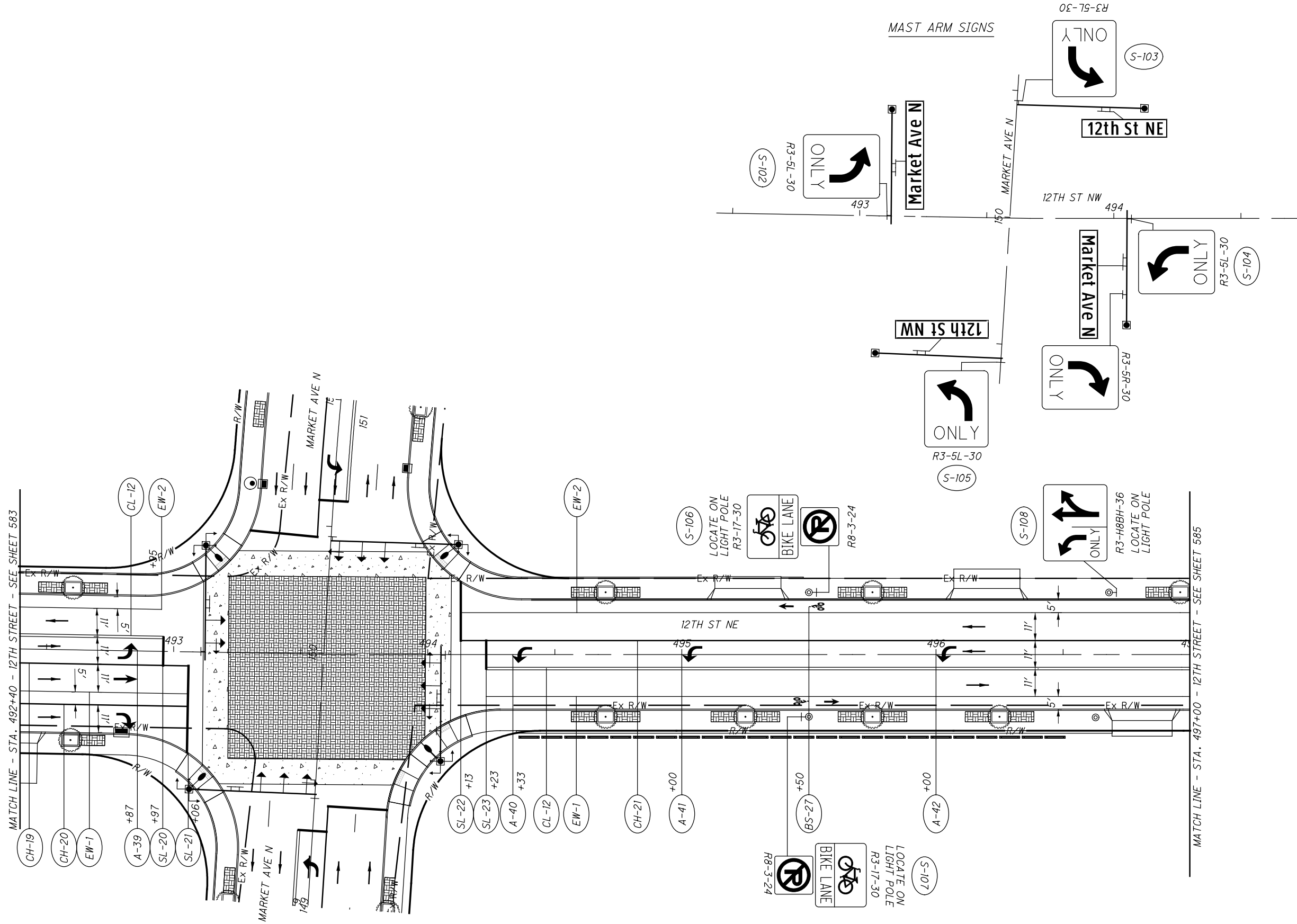


- NOTES:
1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
 2. PROPOSED GROUND MOUNTED OR LIGHT POLE MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.
 3. FOR SIGN ELEVATION DETAILS SEE SHEETS 606 TO 607.

CALCULATED MAM
CHECKED DLW

0 20 40
1" = 40'
HORIZONTAL SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 488+70 TO STA. 492+40



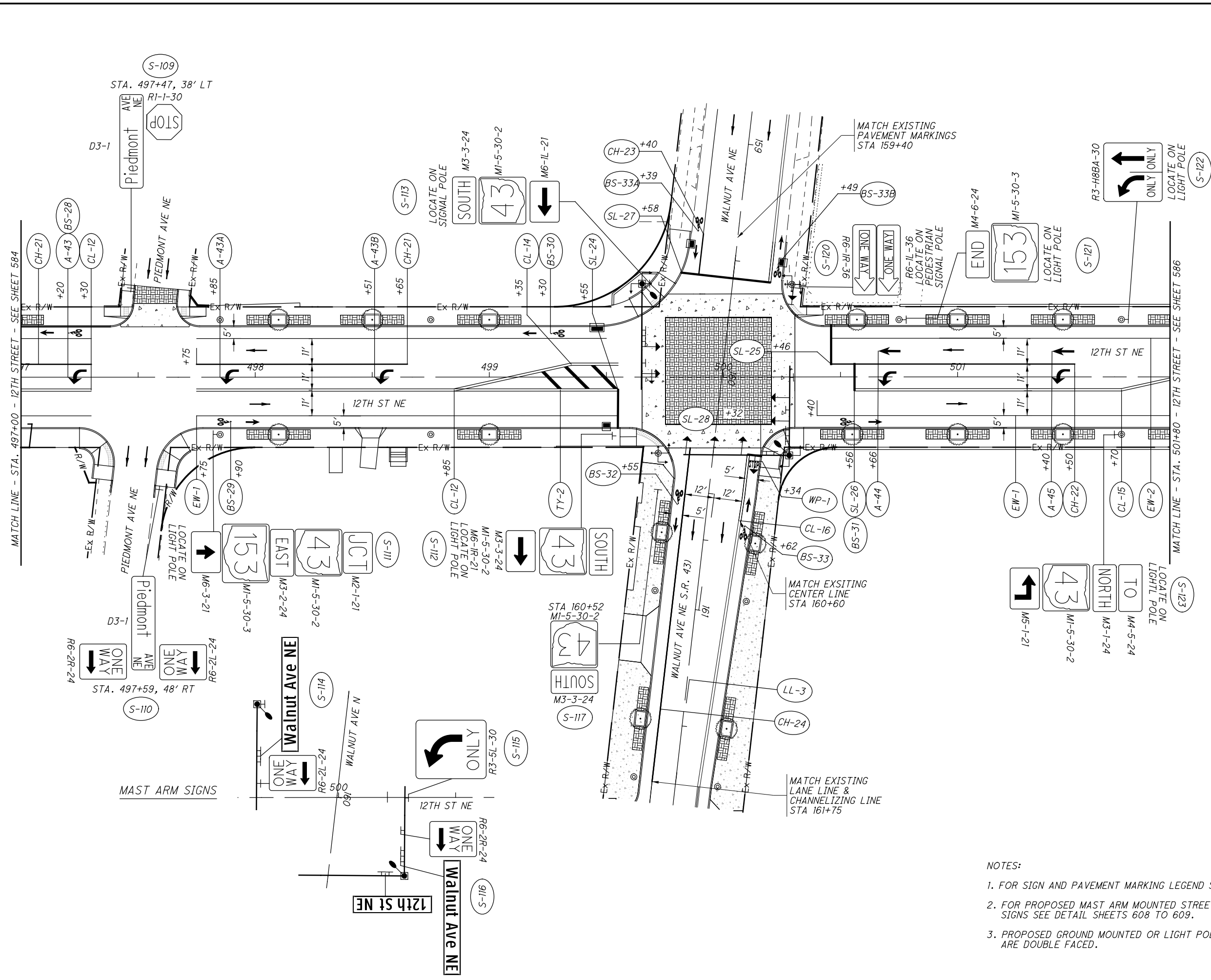
NOTES:

1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
2. FOR PROPOSED MAST ARM MOUNTED STREET NAME SIGNS SEE DETAIL SHEETS 608 TO 609.
3. FOR MARKET AVE N SIGN AND PAVEMENT MARKING PLANS SEE SHEETS 599 TO 604.

CALCULATED
MAM
CHECKED
DLW

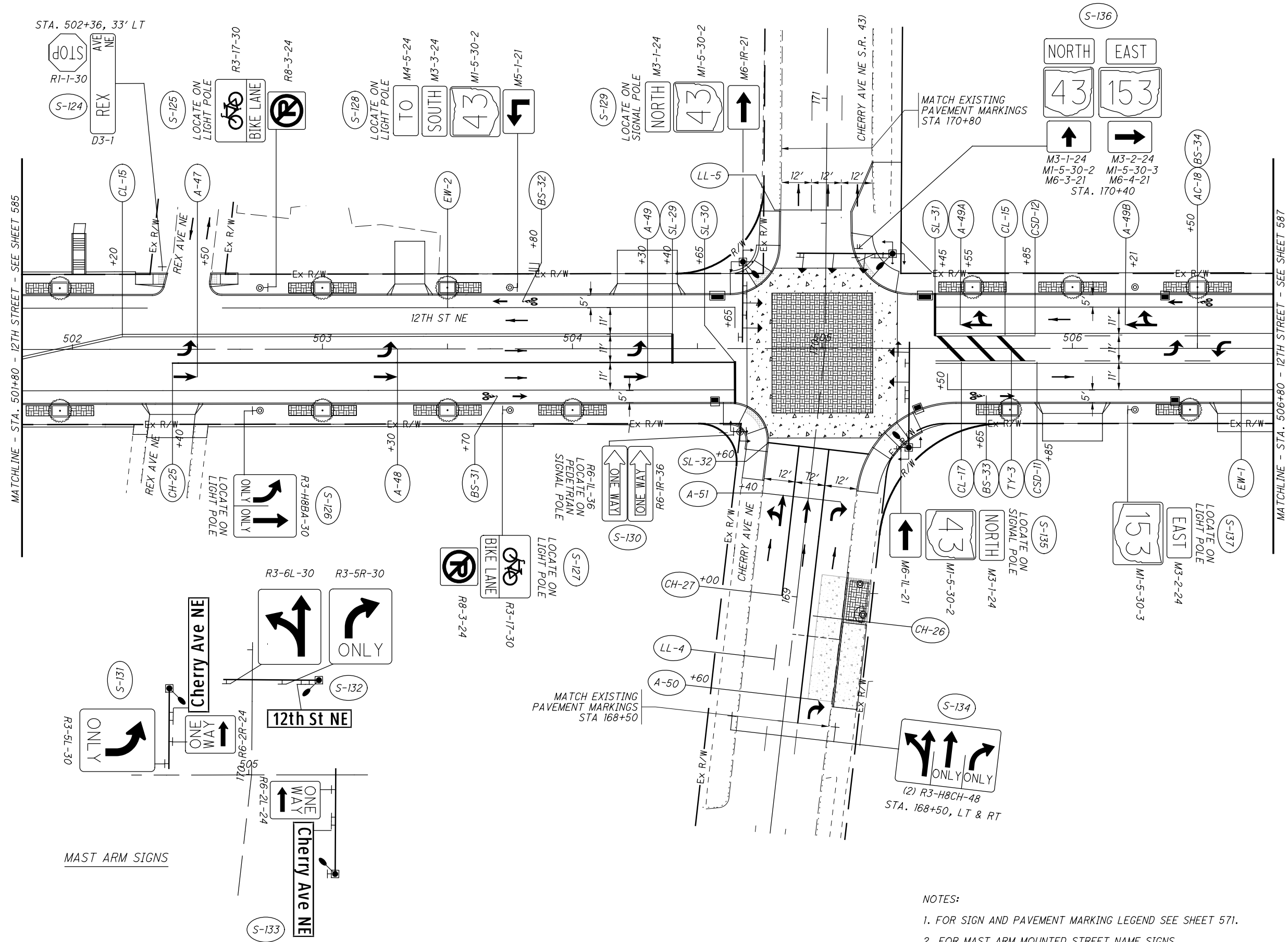
0 20 40
10
HORIZONTAL
SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 492+40 TO STA. 497+00



- NOTES:
1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
 2. FOR PROPOSED MAST ARM MOUNTED STREET NAMES SIGNS SEE DETAIL SHEETS 608 TO 609.
 3. PROPOSED GROUND MOUNTED OR LIGHT POLE MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

STA -12TH STREET	SIGN AND PAVEMENT MARKING PLAN 12TH STREET - STA. 497+00 TO STA. 501+80
	 HORIZONTAL SCALE IN FEET
CALCULATED MAM	CHECKED DLW
585 790	



MAST ARM SIGNS

NOTES:

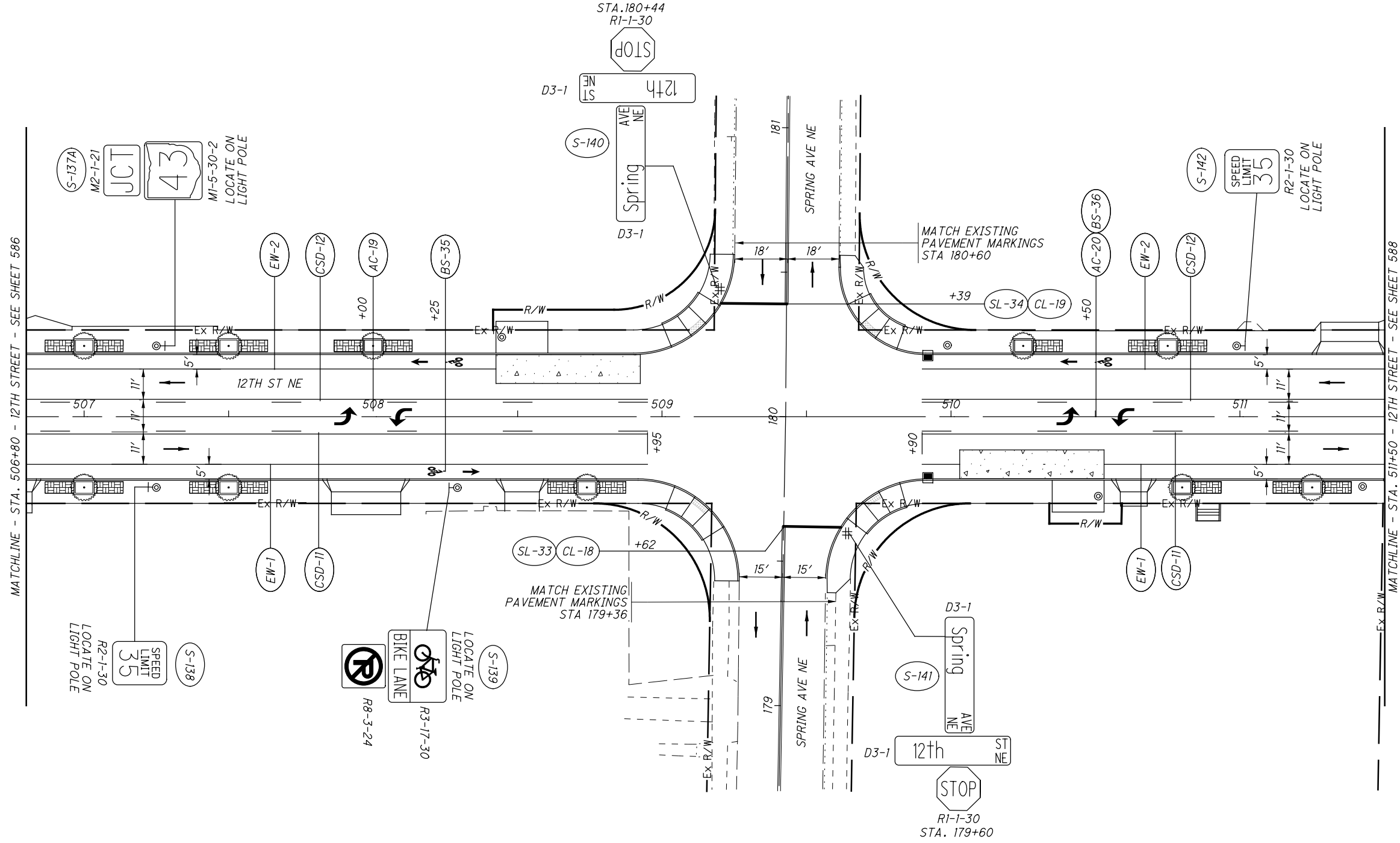
1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
2. FOR MAST ARM MOUNTED STREET NAME SIGNS SEE DETAIL SHEETS 608 TO 609.
3. PROPOSED GROUND MOUNTED OR LIGHT POLE MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.



CALCULATED	MAM
CHECKED	DLW

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 501+80 TO STA. 506+80

STA-12TH STREET



- NOTES:
1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
 2. PROPOSED GROUND MOUNTED OR LIGHT POLE MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

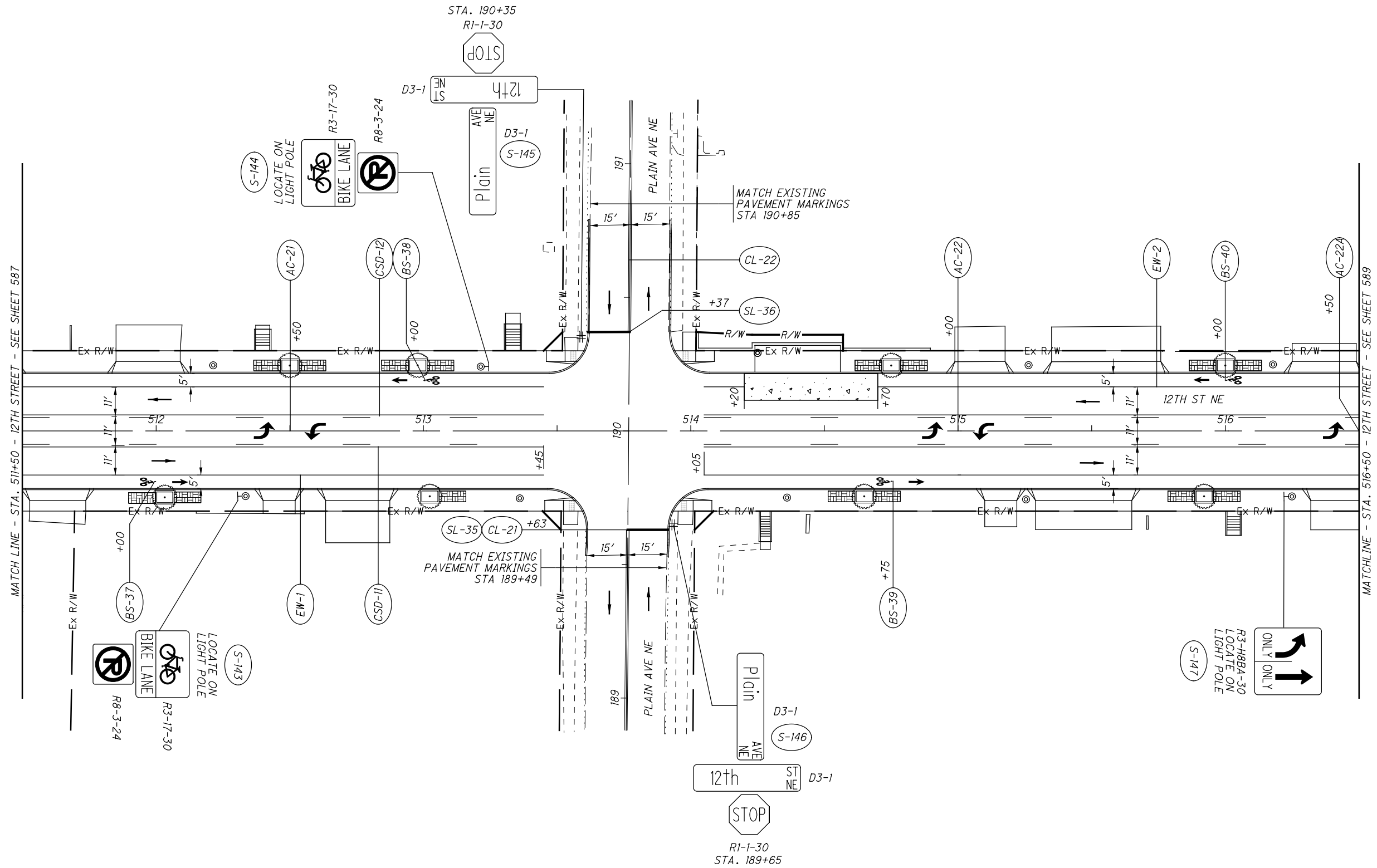
CALCULATED	MAM
CHECKED	DLW

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 506+80 TO STA. 511+50

STA-12TH STREET

587
790

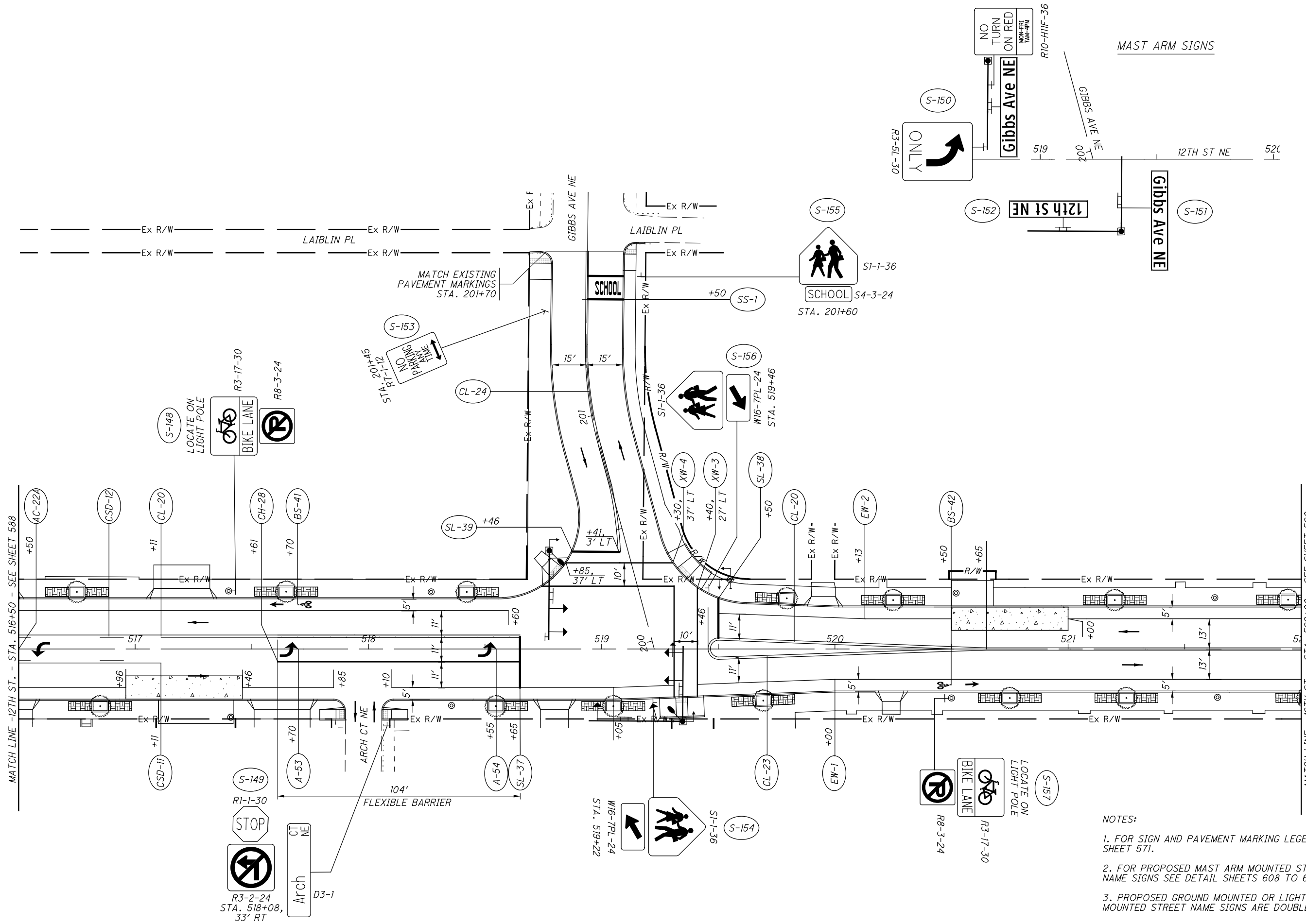




CALCULATED MAM
CHECKED DLW

0 20 40
1" = 40'
HORIZONTAL SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 511+50 TO STA. 516+50



- NOTES:
1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
 2. FOR PROPOSED MAST ARM MOUNTED STREET NAME SIGNS SEE DETAIL SHEETS 608 TO 609.
 3. PROPOSED GROUND MOUNTED OR LIGHT POLE MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.

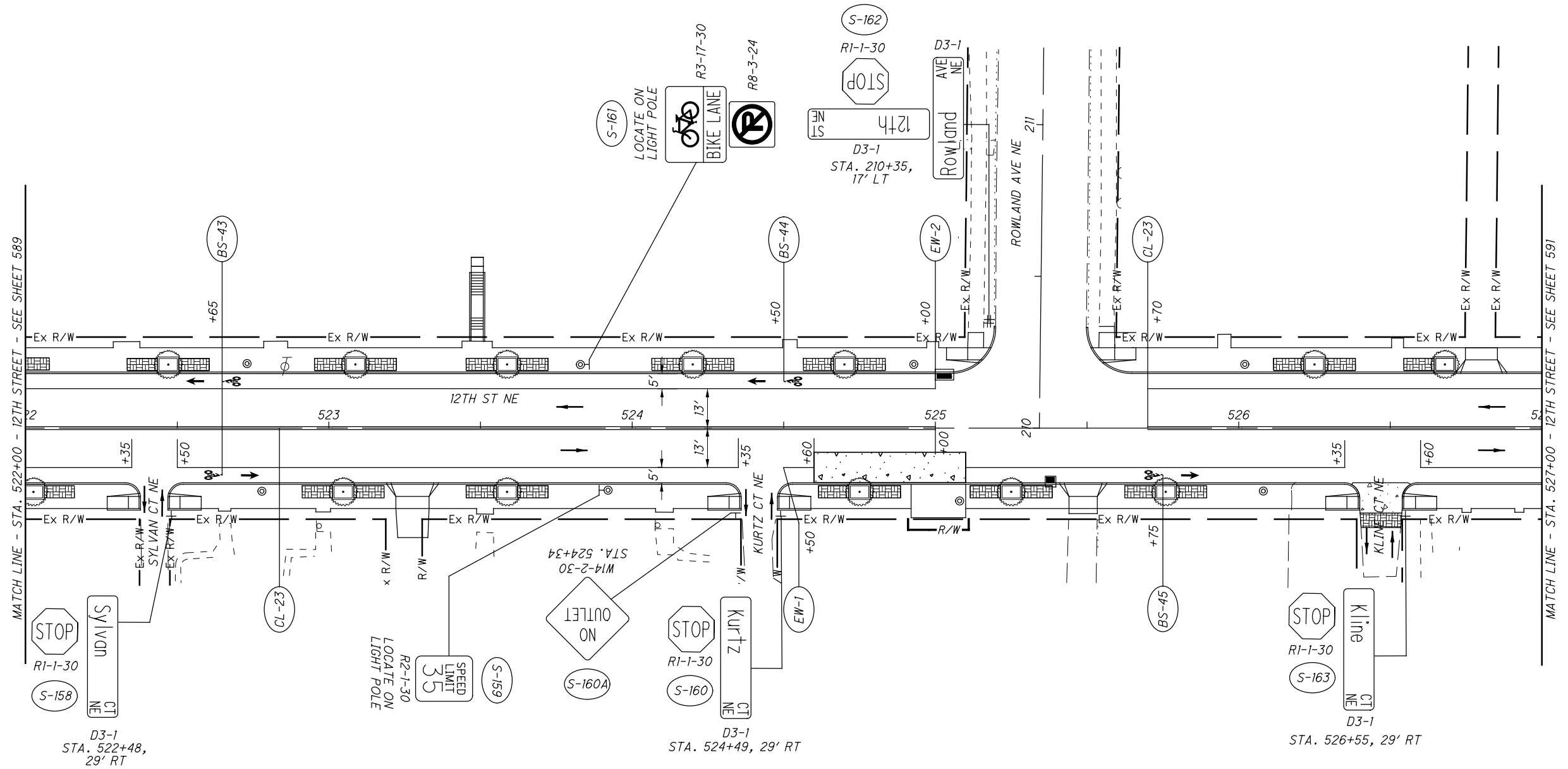


SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 516+50 TO STA. 522+00

STA-12TH STREET

CALCULATED	MAM
CHECKED	DLW

589
790



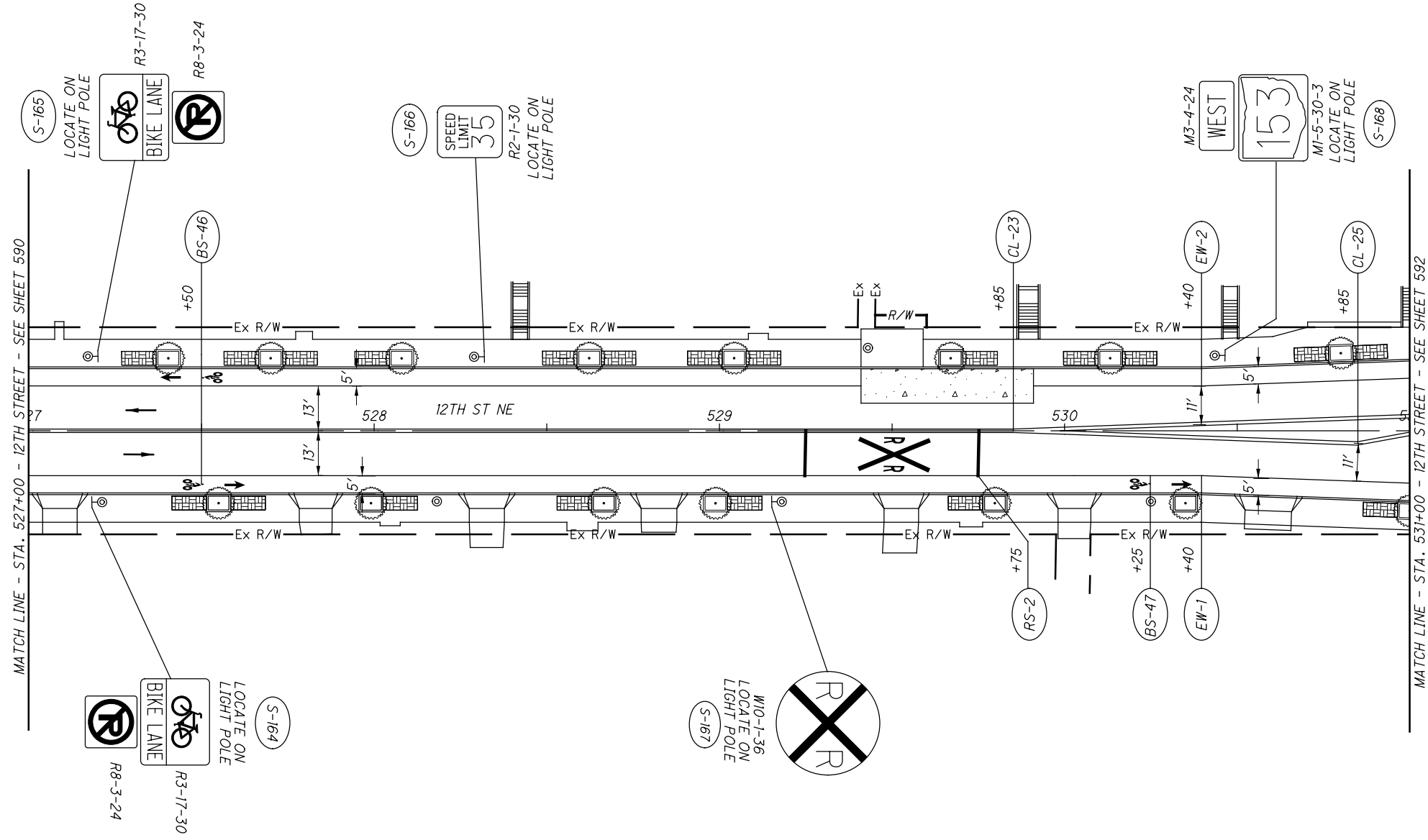
CALCULATED MAM
CHECKED DLW

0 20 40
10
HORIZONTAL
SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 522+00 TO STA. 527+00

STA-12TH STREET

590
790



NOTES:

1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.

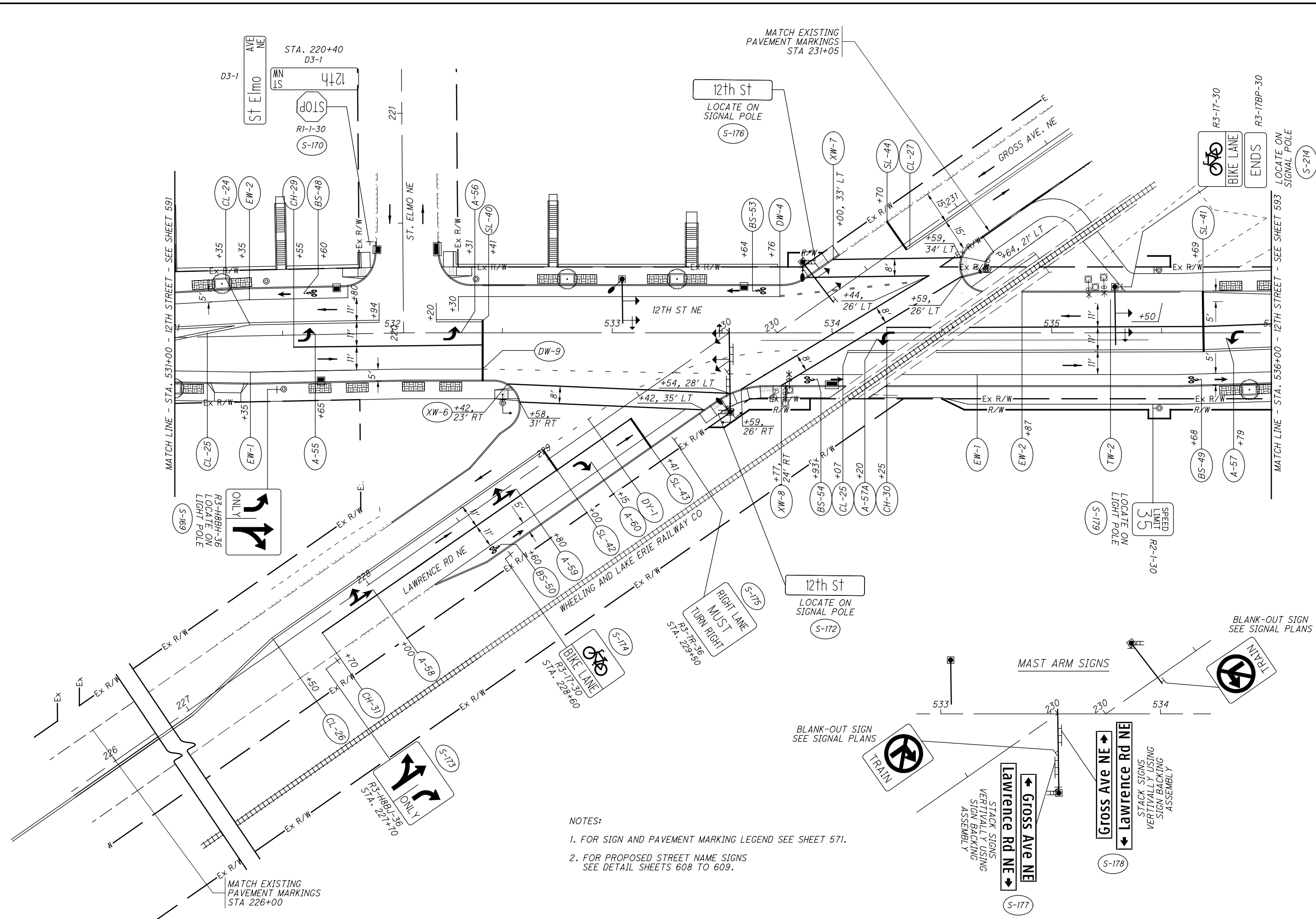
CALCULATED	MAM
CHECKED	DLW

0 20 40
1" = 40'
HORIZONTAL
SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 527+00 TO STA. 531+00

STA-12TH STREET

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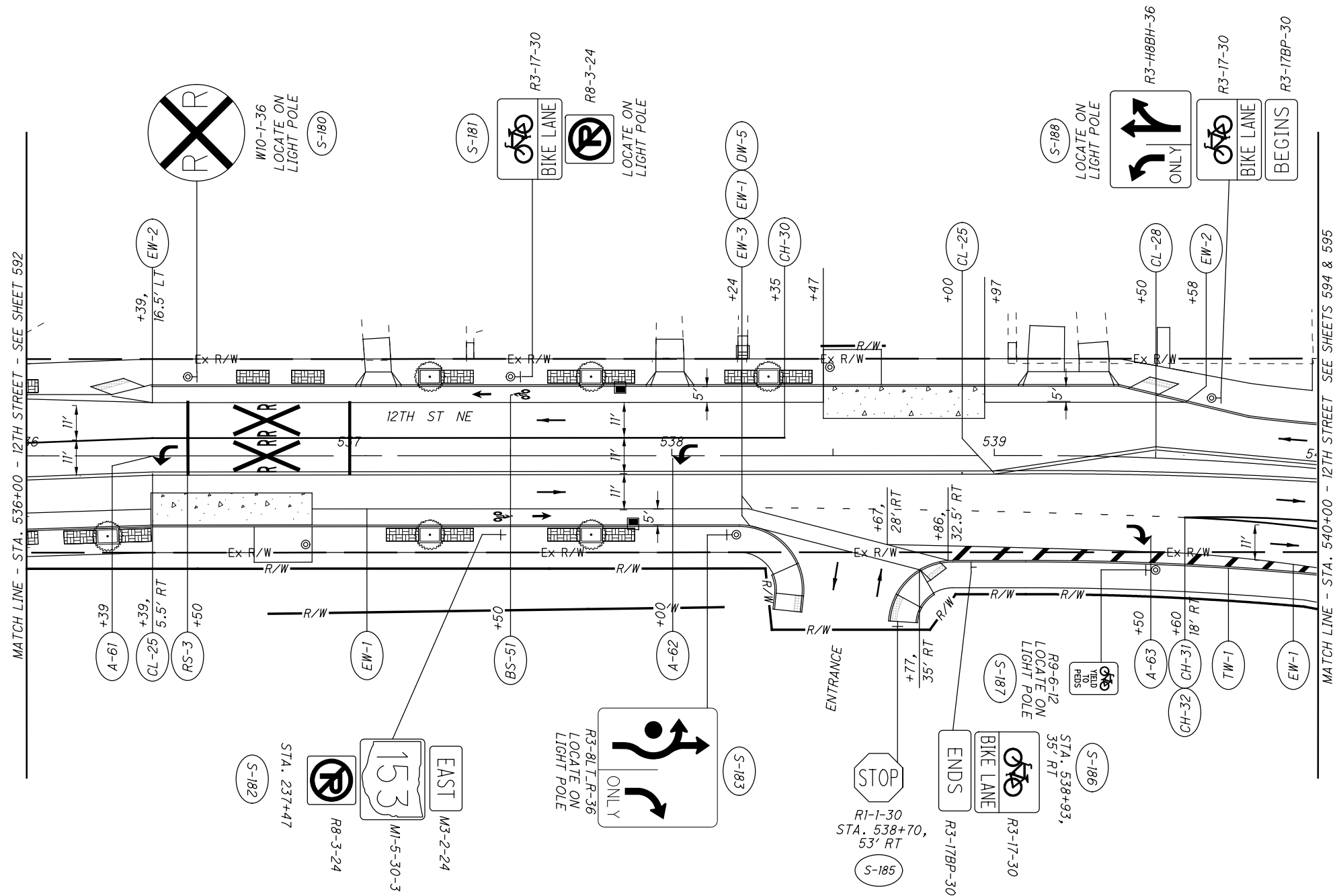


- NOTES:
1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
 2. FOR PROPOSED STREET NAME SIGNS SEE DETAIL SHEETS 608 TO 609.

CALCULATED MAM CHECKED DLW

0 20 40
HORIZONTAL SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 531+00 TO STA. 536+00



NOTES:

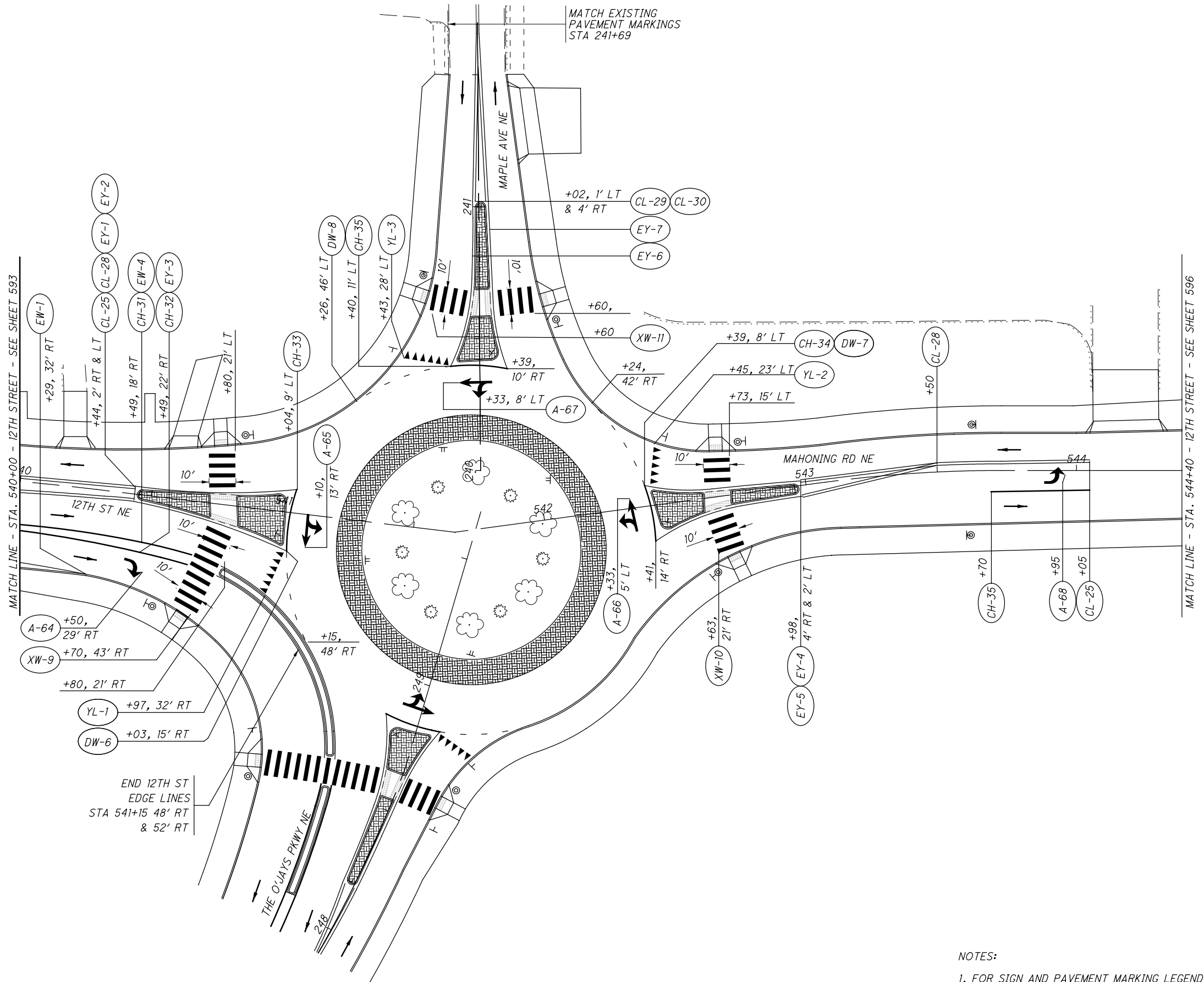
1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.

CALCULATED MAM
CHECKED DLW

0 20 40
10
HORIZONTAL
SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 536+00 TO STA. 540+00

STA-12TH STREET



MATCH LINE - STA. 540+00 - 12TH STREET - SEE SHEET 593

MATCH LINE - STA. 544+40 - 12TH STREET - SEE SHEET 596

MATCH EXISTING PAVEMENT MARKINGS STA 241+69

END 12TH ST
EDGE LINES
STA 541+15 48' RT
& 52' RT

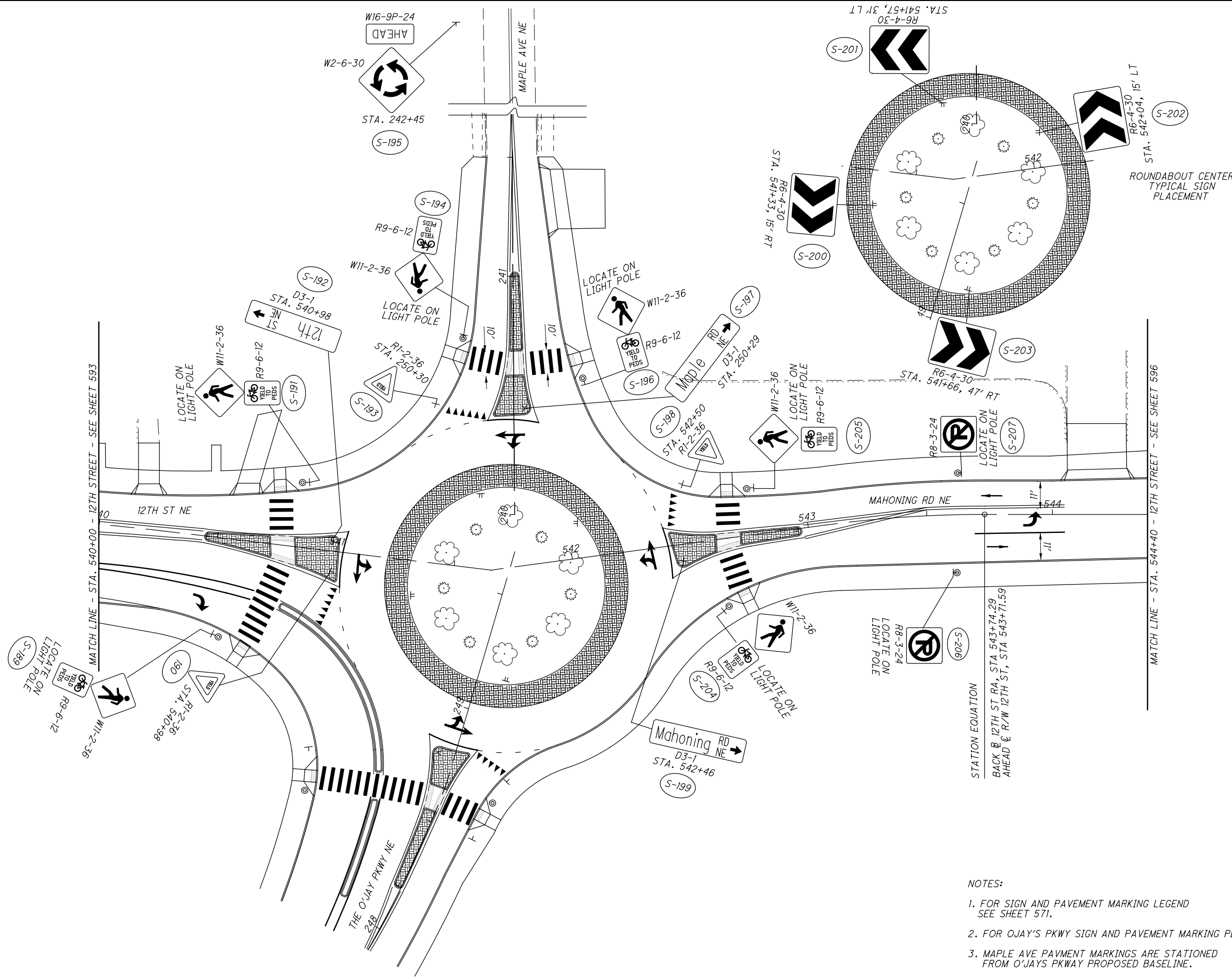
- NOTES:
1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
 2. FOR OJAY'S PKWY SIGN AND PAVEMENT MARKING PLAN SEE SHEET 605.

CALCULATED	MAM
CHECKED	DLW

0 10 20 30 40
HORIZONTAL SCALE IN FEET

ROUNDABOUT PAVEMENT MARKING PLAN
12TH STREET - STA. 540+00 TO STA. 544+40

STA - 12TH STREET

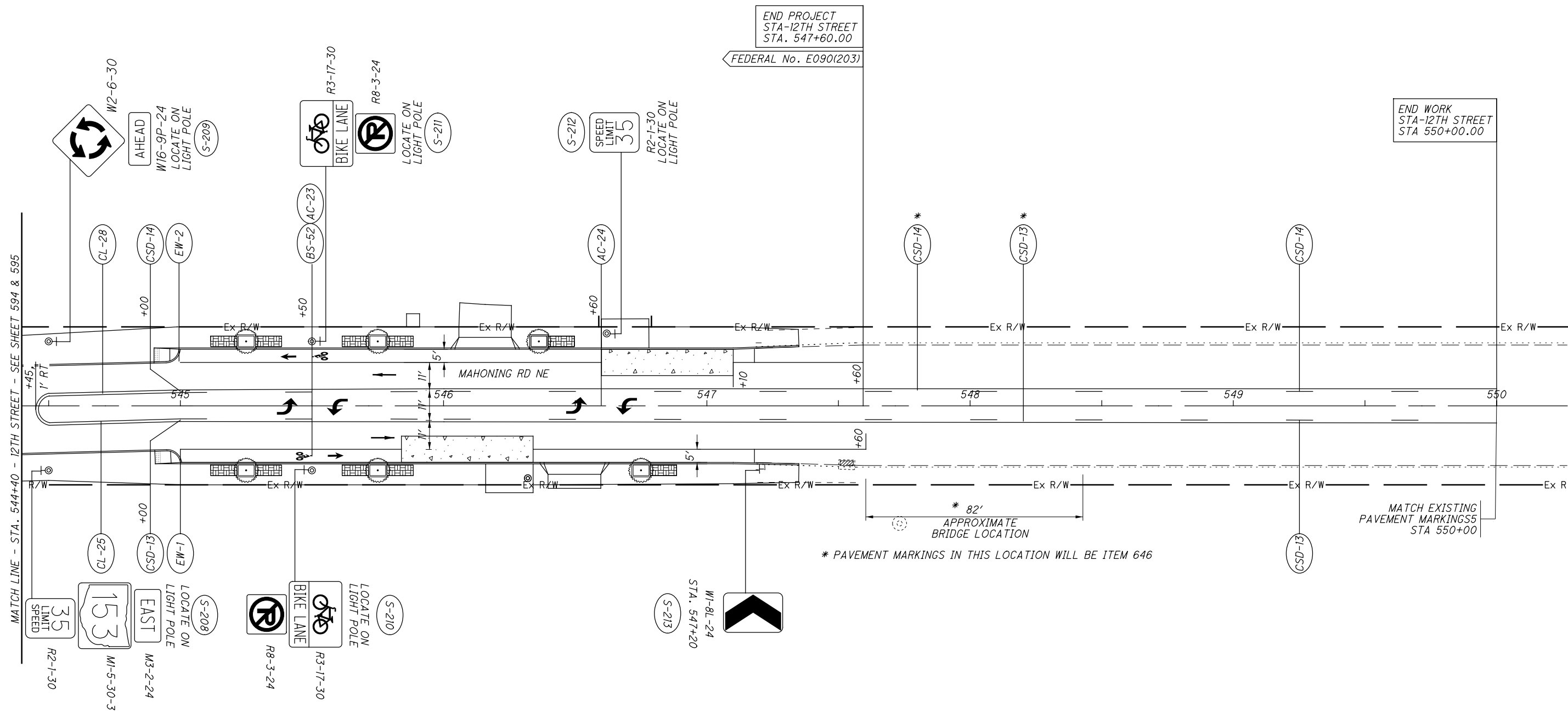


- NOTES:
1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
 2. FOR O'JAY'S PKWY SIGN AND PAVEMENT MARKING PLAN SEE SHEET 605.
 3. MAPLE AVE PAVEMENT MARKINGS ARE STATIONED FROM O'JAYS PKWAY PROPOSED BASELINE.

CALCULATED	MAM
CHECKED	DLW

0 10 20 30 40
HORIZONTAL SCALE IN FEET

ROUNDABOUT SIGN PLAN
12TH STREET - STA. 540+00 TO STA. 544+00



END PROJECT
 STA-12TH STREET
 STA. 547+60.00
 FEDERAL No. E090(203)

END WORK
 STA-12TH STREET
 STA 550+00.00

NOTES:
 1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.

CALCULATED MAM CHECKED DLW

0 10 20
 HORIZONTAL SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
12TH STREET - STA. 544+40 TO STA. 550+00



NOTES:

1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
2. FOR THE SOUTH LEG OF CLEVELAND AVE SIGN AND PAVEMENT MARKING SEE SHEET 581.



CALCULATED	MAM
CHECKED	DLW

**RESURFACING PAVEMENT MARKING PLAN
CLEVELAND AVENUE-STA. 121+00 TO STA. 125+50**

STA -12TH STREET

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MATCH LINE - STA. 125+50 - CLEVELAND AVENUE - SEE SHEET 597

THE CENTERLINE SHOWN IN THE RESURFACING AREA HAS BEEN PLACED BASED UPON AN AERIAL AND DOES NOT TIE INTO ANY MONUMENTATION AND IS NOT BASED UPON SURVEY DATA.
 REFERENCE TO THE CENTERLINE FOR PAVEMENT MARKINGS IS FOR QUANTITY PURPOSES ONLY.
 LOCATION OF MARKINGS SHOULD BE FIELD VERIFIED BY THE CITY ENGINEER.

NOTES:

1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
2. FOR THE SOUTH LEG OF CLEVELAND AVE SIGN AND PAVEMENT MARKING SEE SHEET 581.

CALCULATED	MAM
CHECKED	DLW

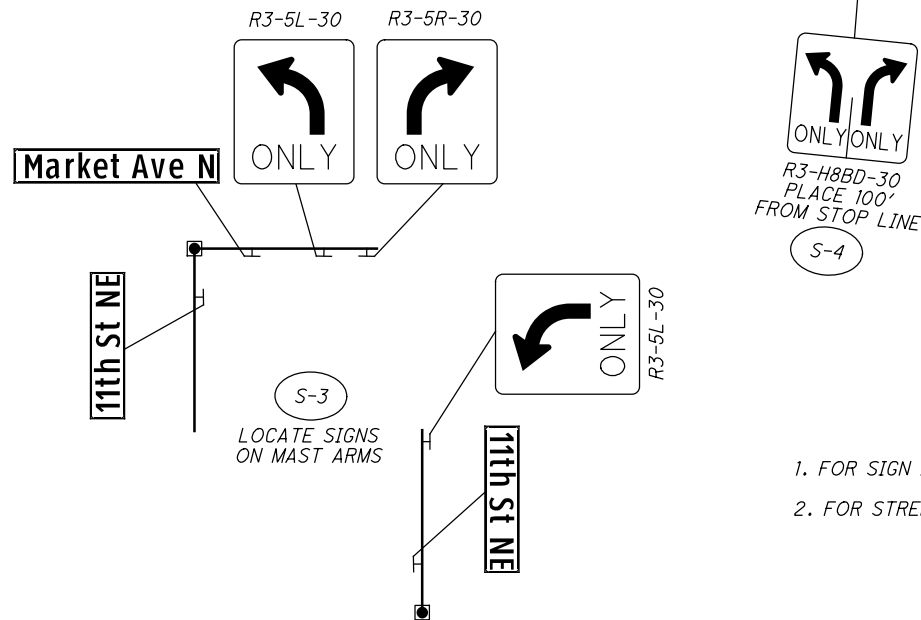
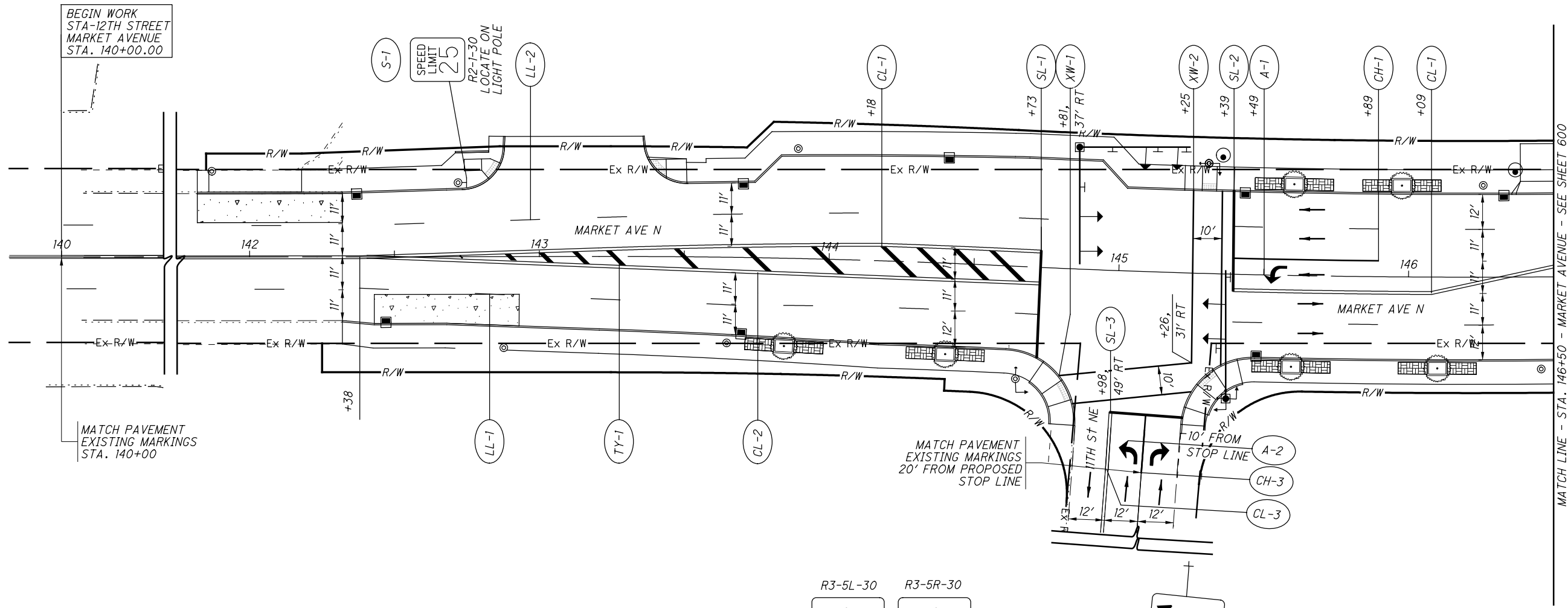
0 20 40
 1" = 40'
 HORIZONTAL
 SCALE IN FEET

PAVEMENT MARKING PLAN
CLEVELAND AVE. - STA. 125+50 TO STA. 000+00

STA-12TH STREET

598
790

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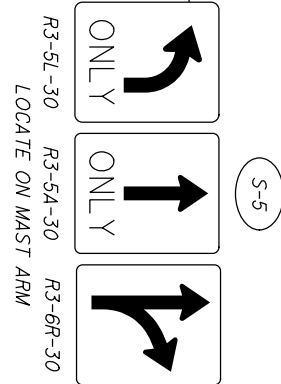
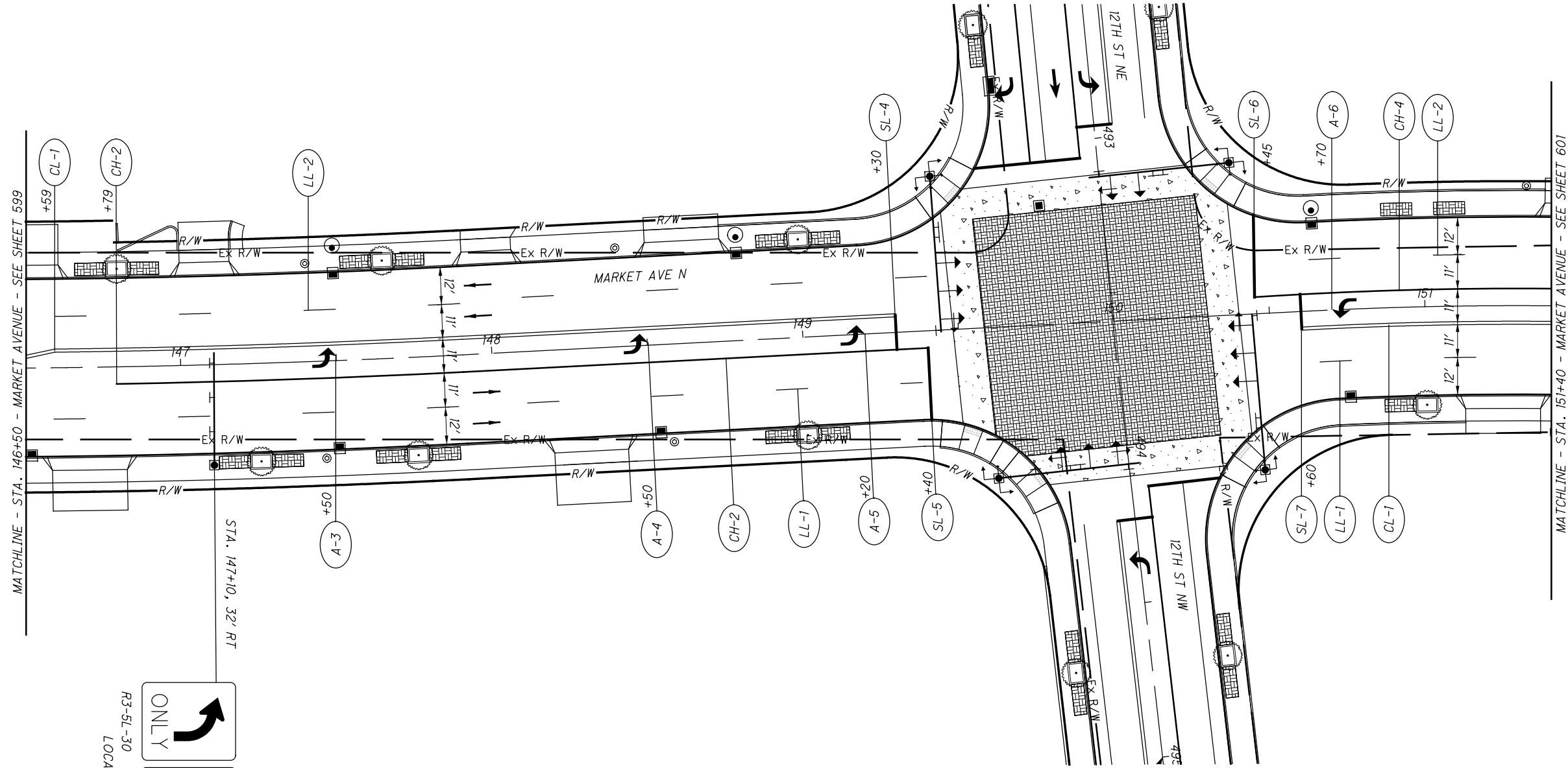


1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
2. FOR STREET NAME SIGN DETAILS SEE SHEETS 608 TO 609.

CALCULATED MAM
CHECKED DLW

0 20 40
10
HORIZONTAL
SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
MARKET AVENUE - STA. 140+00 TO STA. 146+50



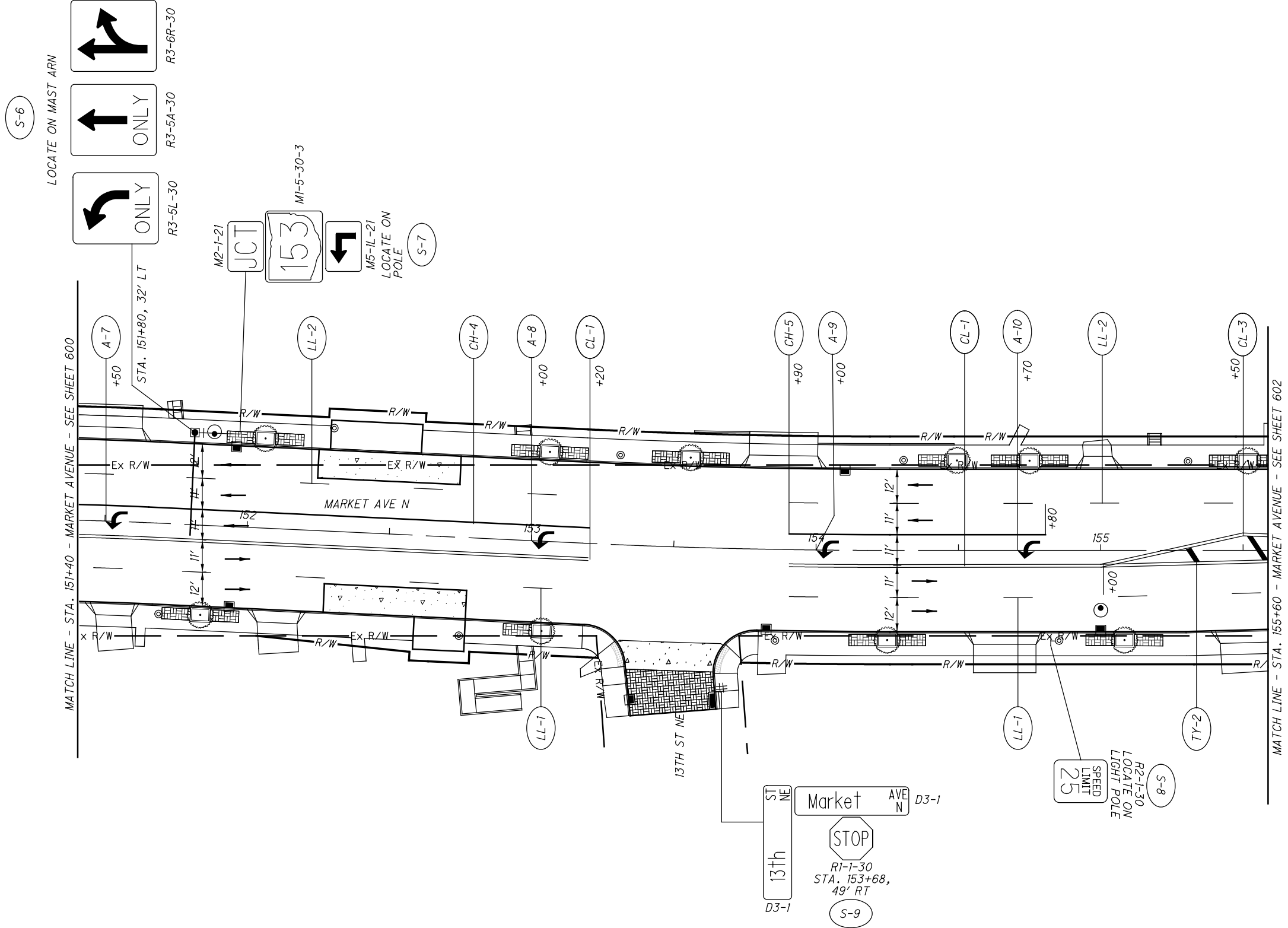
NOTES:

1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
2. FOR SIGN AND PAVEMENT MARKINGS ON 12TH ST NE/NW SEE SHEETS 571 TO 596.
3. FOR SIGN ELEVATION DETAILS SEE SHEETS 606 TO 607.



CALCULATED MAM CHECKED DLW
SIGN AND PAVEMENT MARKING PLAN
MARKET AVENUE - STA. 146+50 TO STA. 151+40

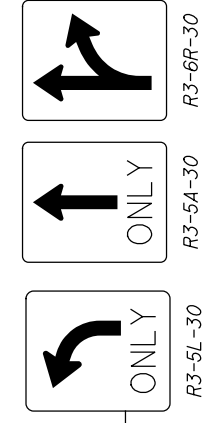
STA-12TH STREET
 600
 790



MATCH LINE - STA. 151+40 - MARKET AVENUE - SEE SHEET 600

MATCH LINE - STA. 155+60 - MARKET AVENUE - SEE SHEET 602

S-6



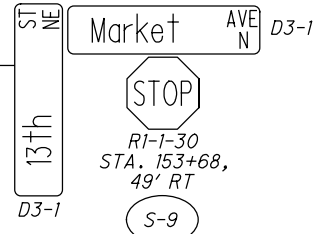
S-7



S-8



S-9



- NOTES:
- FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
 - PROPOSED GROUND MOUNTED OR LIGHT POLE MOUNTED STREET NAME SIGNS ARE DOUBLE FACED.
 - FOR SIGN ELEVATION DETAILS SEE SHEETS 606 TO 607.

STA-12TH STREET

601
790

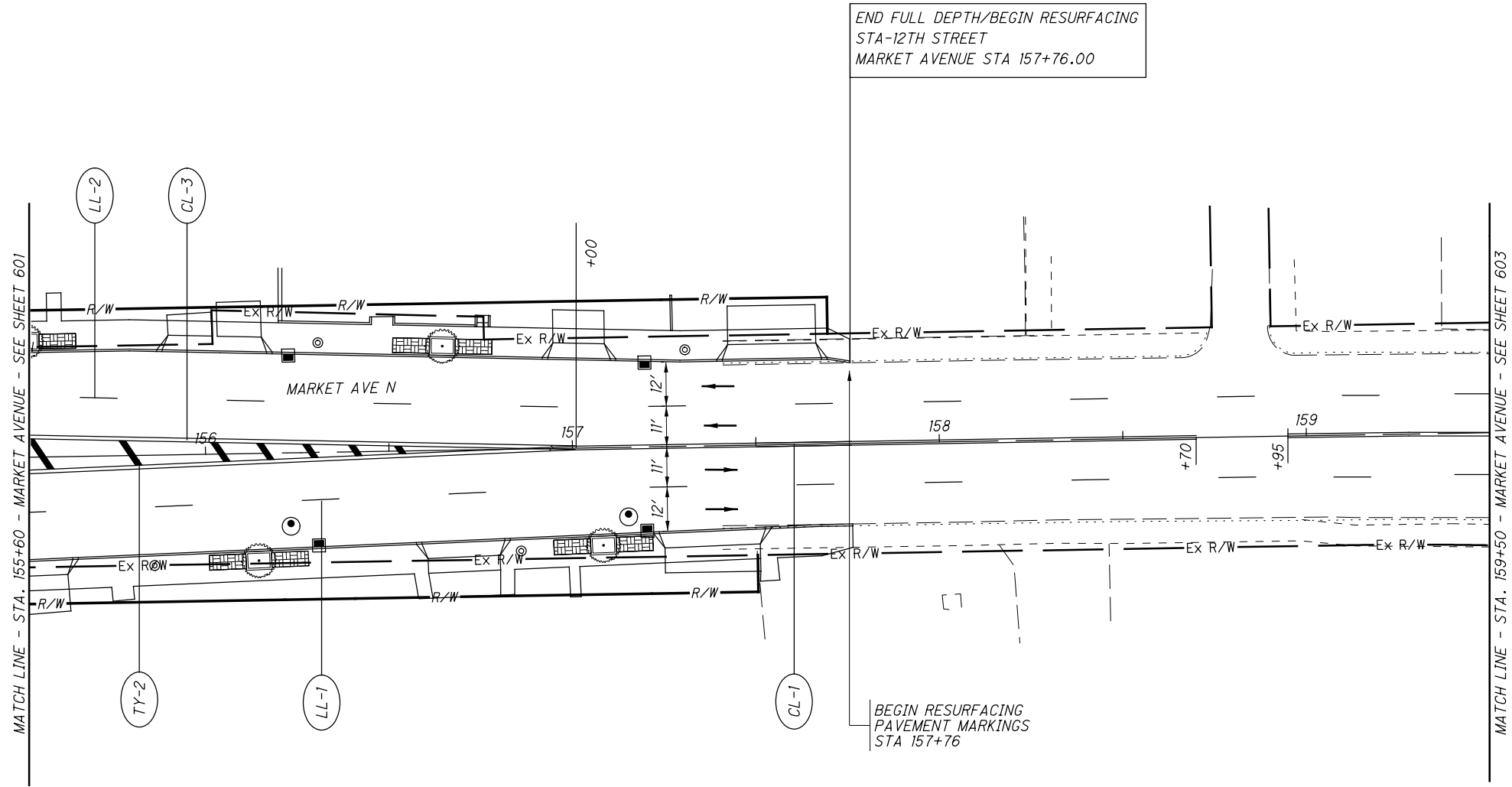
SIGN AND PAVEMENT MARKING PLAN

MARKET AVE. - STA. 151+40 TO STA. 155+60

CALCULATED
BSS
CHECKED
DLW

0 20 40
HORIZONTAL
SCALE IN FEET

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NOTES:
 1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.

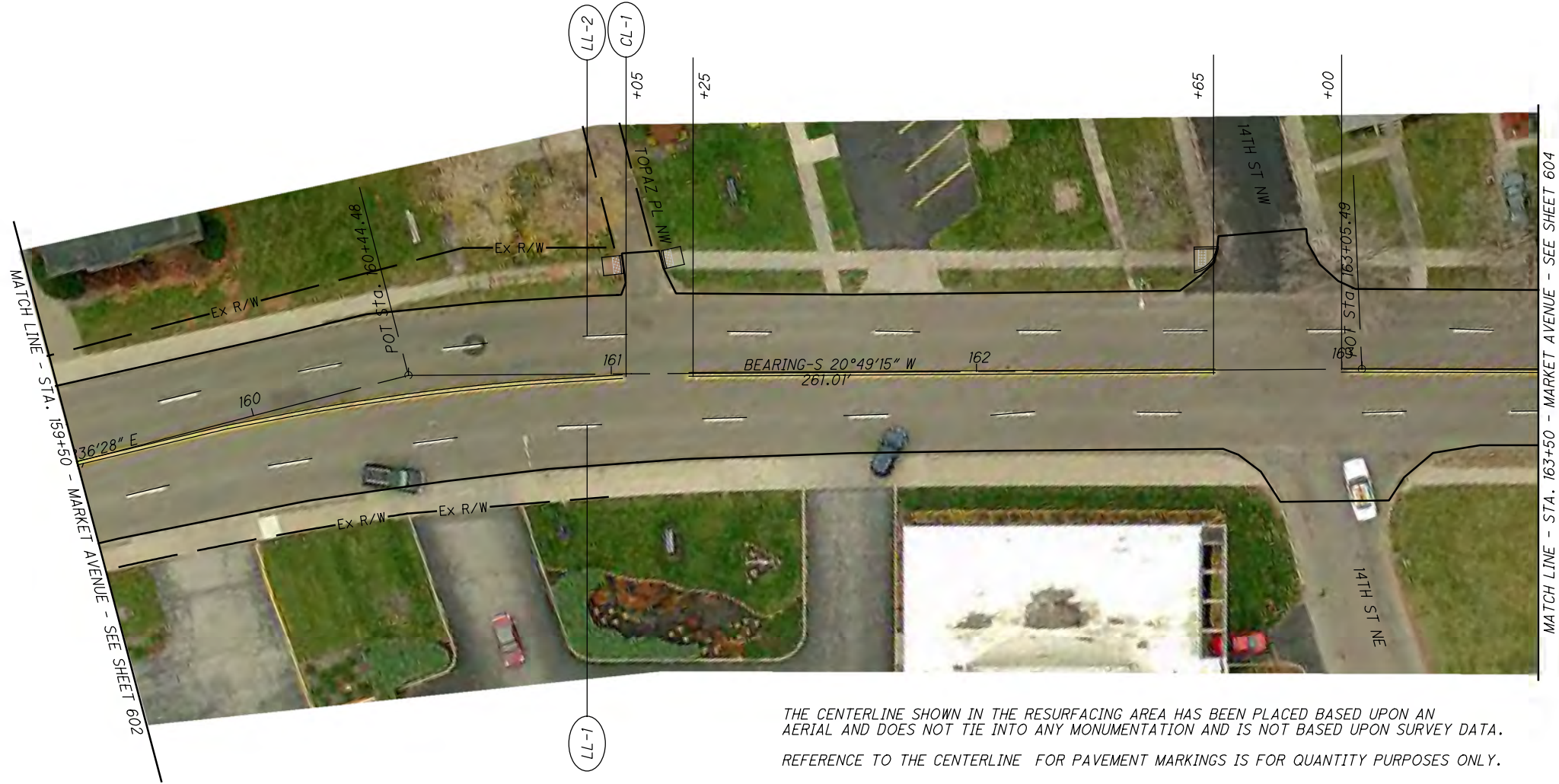
CALCULATED	MAM
CHECKED	DLW

0 20 40
 1" = 40'
 HORIZONTAL
 SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
MARKET AVE. - STA. 155+60 TO STA. 159+50

STA-12TH STREET

602
790



THE CENTERLINE SHOWN IN THE RESURFACING AREA HAS BEEN PLACED BASED UPON AN AERIAL AND DOES NOT TIE INTO ANY MONUMENTATION AND IS NOT BASED UPON SURVEY DATA. REFERENCE TO THE CENTERLINE FOR PAVEMENT MARKINGS IS FOR QUANTITY PURPOSES ONLY. LOCATION OF MARKINGS SHOULD BE FIELD VERIFIED BY THE CITY ENGINEER.

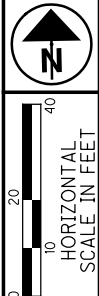
NOTES:
1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.

CALCULATED	MAM
CHECKED	DLW

RESURFACING PAVEMENT MARKING PLAN
MARKET AVENUE-STA. 159+50 TO STA. 163+50

STA -12TH STREET

603
790



MATCH LINE - STA. 163+50 - MARKET AVENUE - SEE SHEET 603



THE CENTERLINE SHOWN IN THE RESURFACING AREA HAS BEEN PLACED BASED UPON AN AERIAL AND DOES NOT TIE INTO ANY MONUMENTATION AND IS NOT BASED UPON SURVEY DATA. REFERENCE TO THE CENTERLINE FOR PAVEMENT MARKINGS IS FOR QUANTITY PURPOSES ONLY. LOCATION OF MARKINGS SHOULD BE FIELD VERIFIED BY THE CITY ENGINEER.

NOTES:
1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.

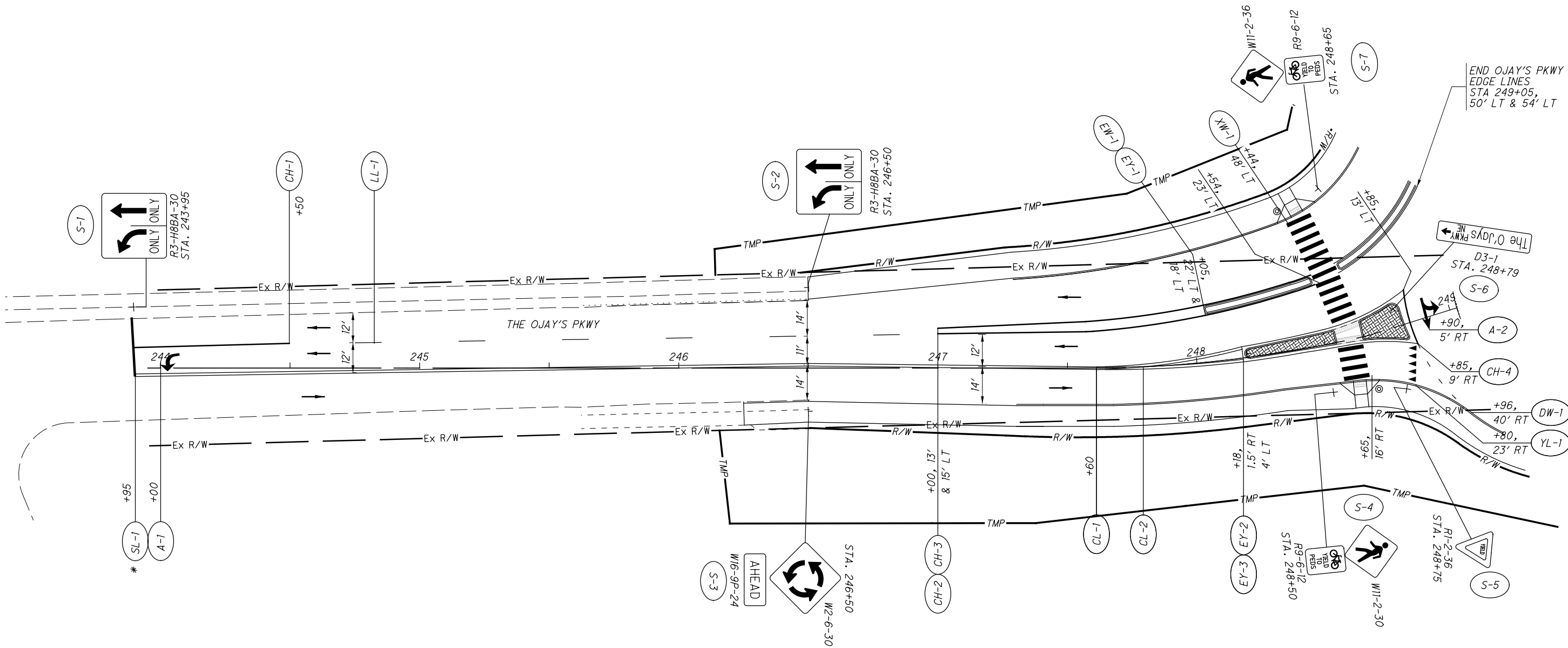
CALCULATED	MAM
CHECKED	DLW

RESURFACING PAVEMENT MARKING PLAN
MARKET AVENUE-STA. 163+50 TO STA. 166+79.39

STA-12TH STREET

604
790





CALCULATED	MAM
CHECKED	DLW

0 10 20
HORIZONTAL
SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
THE O'JAYS PKWY-STA 244+00 TO STA 249+05

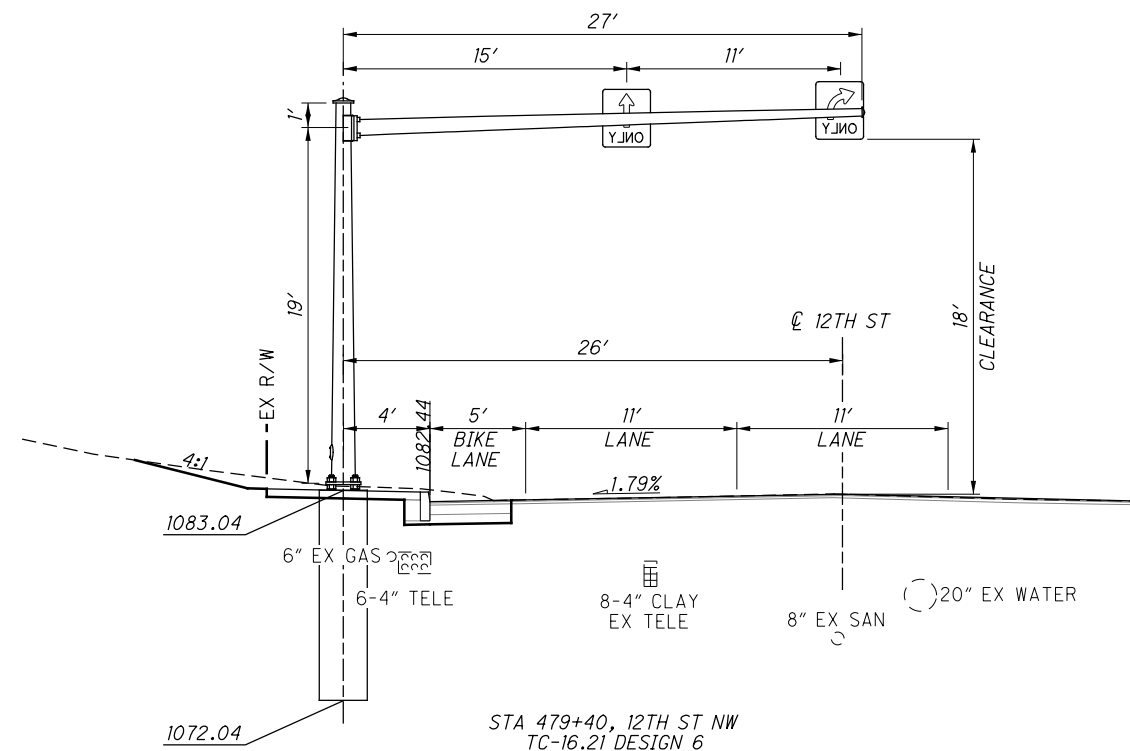
STA-12TH STREET

605
790

NOTES:

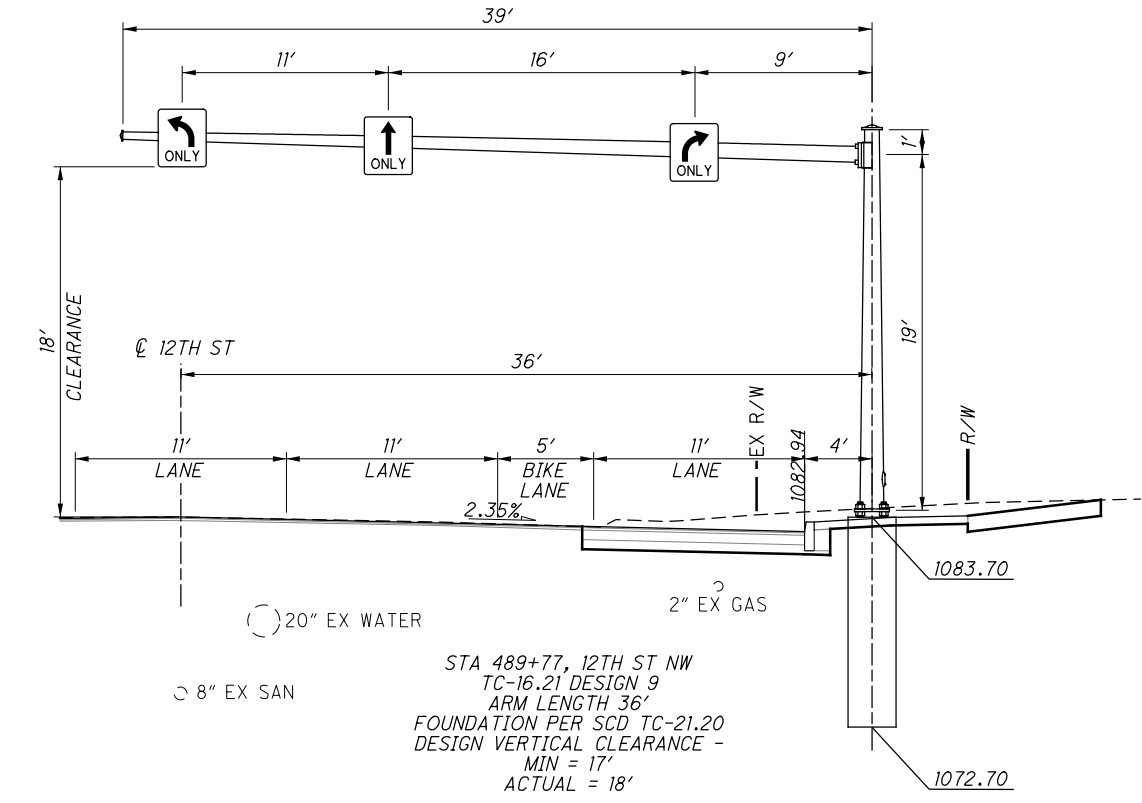
- 1. FOR SIGN AND PAVEMENT MARKING LEGEND SEE SHEET 571.
- * 2. STOP LINE IS APPROXIMATE. FIELD VERIFY TO MATCH LOCATION OF EXISTING STOP LINE.

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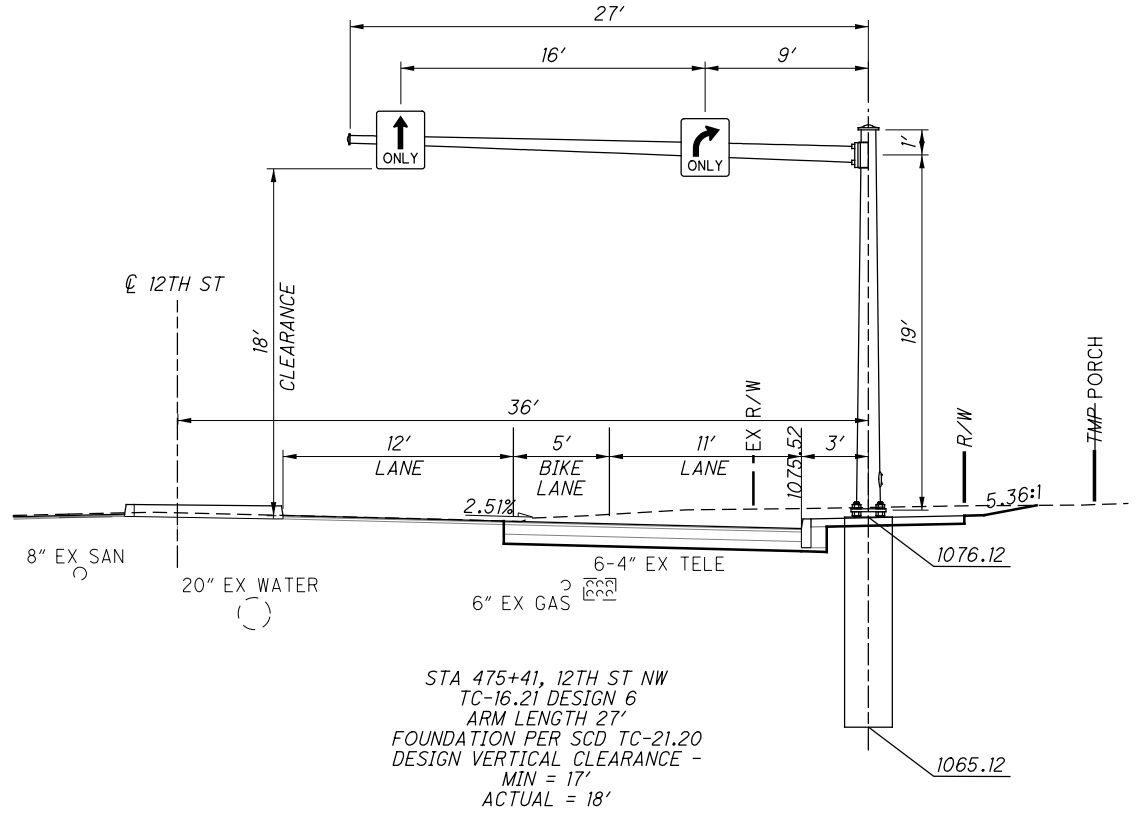
STA 479+40, 12TH ST NW
 TC-16.21 DESIGN 6
 ARM LENGTH 27'
 FOUNDATION PER SCD TC-21.20
 DESIGN VERTICAL CLEARANCE -
 MIN = 17'
 ACTUAL = 18'

(S-75)



STA 489+77, 12TH ST NW
 TC-16.21 DESIGN 9
 ARM LENGTH 36'
 FOUNDATION PER SCD TC-21.20
 DESIGN VERTICAL CLEARANCE -
 MIN = 17'
 ACTUAL = 18'

(S-97)



STA 475+41, 12TH ST NW
 TC-16.21 DESIGN 6
 ARM LENGTH 27'
 FOUNDATION PER SCD TC-21.20
 DESIGN VERTICAL CLEARANCE -
 MIN = 17'
 ACTUAL = 18'

(S-66)

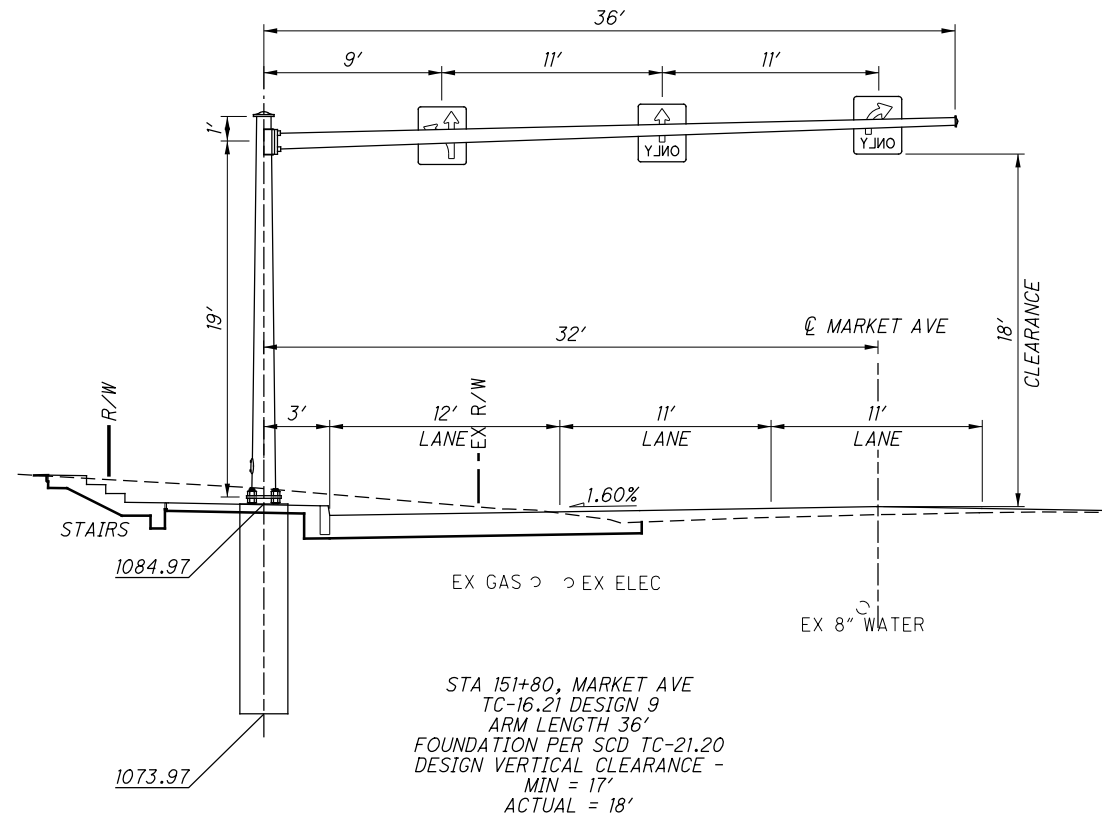
CALCULATED
 BSS
 CHECKED
 DLW

SIGN ELEVATION DETAILS

STA - 12TH STREET

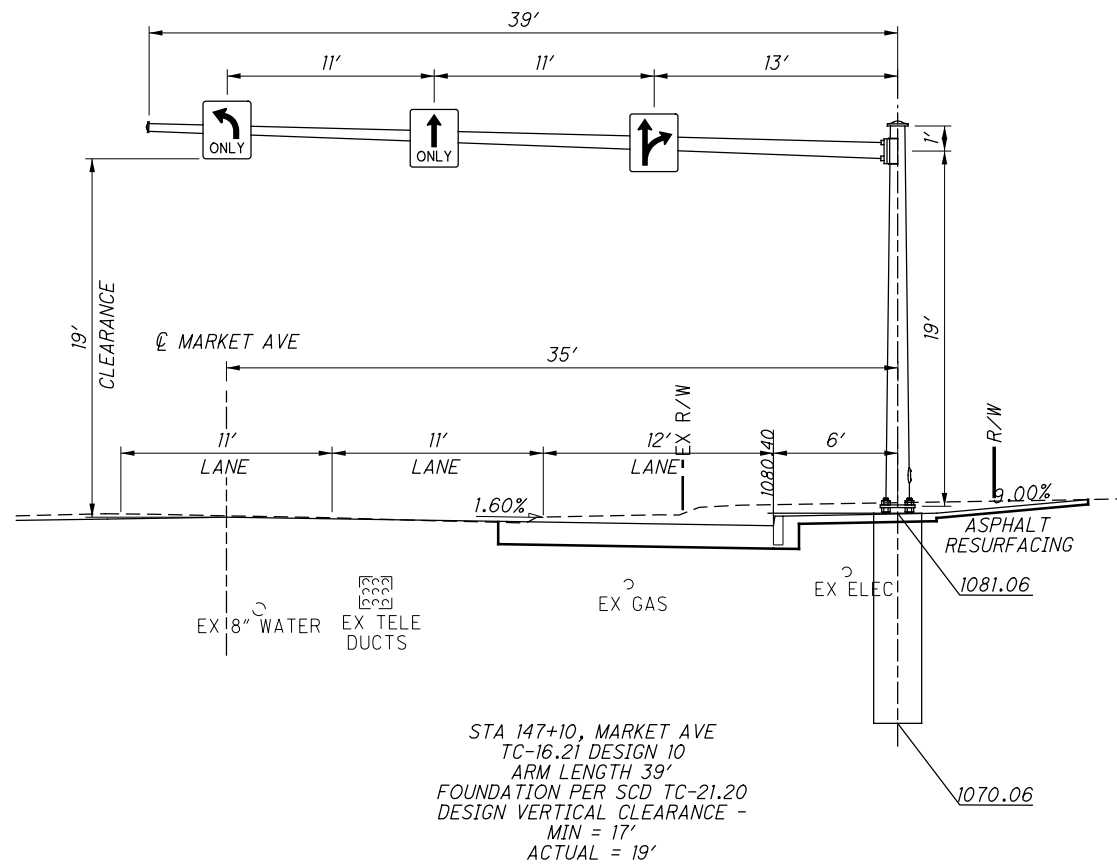
606
 790

J:\pre-int\11-060 12th Street\STA\85299\traffic\sheets\85299t002.dgn 4/14/2014 4:47:40 PM brian.sedziol\ ODOTV8i_PDF_Half.plt c:\g\DOTV8i_Pen-ME.tbl M-E_Companies, Inc.



STA 151+80, MARKET AVE
 TC-16.21 DESIGN 9
 ARM LENGTH 36'
 FOUNDATION PER SCD TC-21.20
 DESIGN VERTICAL CLEARANCE -
 MIN = 17'
 ACTUAL = 18'

(S-6)



STA 147+10, MARKET AVE
 TC-16.21 DESIGN 10
 ARM LENGTH 39'
 FOUNDATION PER SCD TC-21.20
 DESIGN VERTICAL CLEARANCE -
 MIN = 17'
 ACTUAL = 19'

(S-5)

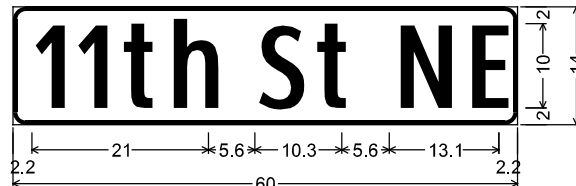
CALCULATED
 BSS
 CHECKED
 DLW

SIGN ELEVATION DETAILS

STA -12TH STREET

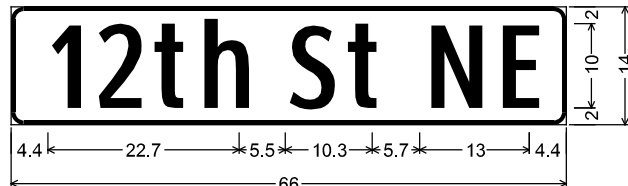
607
 790

J:\pre-int\11-060 12th Street\STA\85299\traffic\sheets\85299t003.dgn 4/14/2014 4:47:41 PM brian.sedziol" ODOTV8i_PDF_Half.pltcfgr_Pen-NE.tbl M-E Companies, Inc.



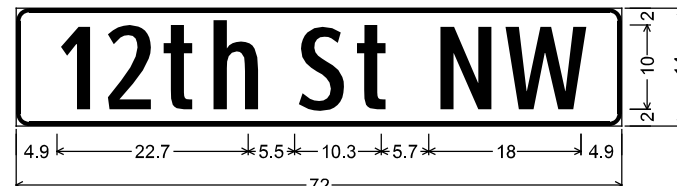
1.5" Radius, 0.5" Border, White on Green;
 [11th St NE] ClearviewHwy-2-W 80% spacing;
 Table of letter and object lefts.

1	1	t	h	S	t	N	E
2.2	7.3	12.5	17.8	28.8	35.5	44.7	53.2



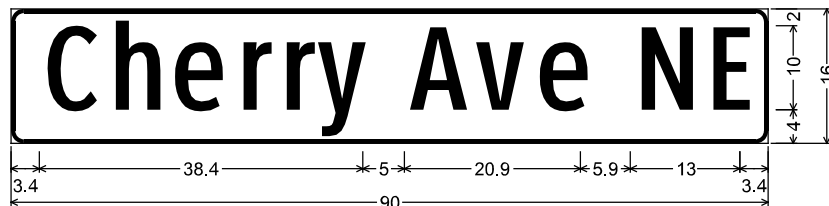
1.5" Radius, 0.5" Border, White on Green;
 [12th St NE] ClearviewHwy-2-W 80% spacing;
 Table of letter and object lefts.

1	2	t	h	S	t	N	E
4.4	9.6	16.3	21.6	32.6	39.3	48.6	57.1



1.5" Radius, 0.5" Border, White on Green;
 [12th St NW] ClearviewHwy-2-W 80% spacing;
 Table of letter and object lefts.

1	2	t	h	S	t	N	W
4.9	10.1	16.8	22.1	33.1	39.8	49.1	57.2



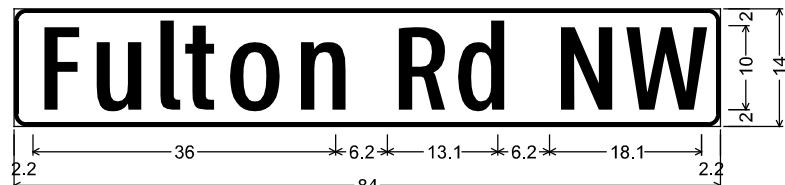
1.5" Radius, 0.5" Border, White on Green;
 [Cherry Ave NE] ClearviewHwy-2-W 80% spacing;
 Table of letter and object lefts.

C	h	e	r	r	y	A	v	e	N	E
3.4	11.1	18.5	26.3	31.4	35.9	46.8	54.7	61.9	73.6	82.1



1.5" Radius, 0.5" Border, White on Green;
 [Cleveland Ave NW] ClearviewHwy-2-W 80% spacing;
 Table of letter and object lefts.

C	l	e	v	e	l	a	n	d	A	v	e	N	W
2.5	10.2	14.1	21.2	28.4	36.2	40.0	47.9	55.3	66.6	74.5	81.7	93.5	101.6



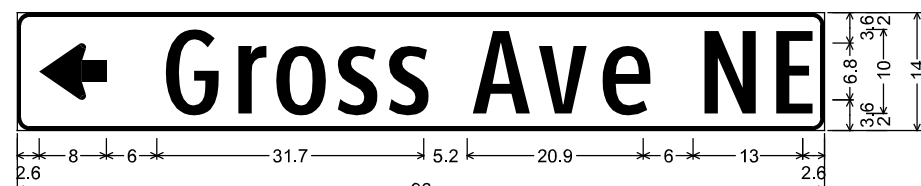
1.5" Radius, 0.5" Border, White on Green;
 [Fulton Rd NW] ClearviewHwy-2-W 80% spacing;
 Table of letter and object lefts.

F	u	l	t	o	n	R	d	N	W
2.2	8.4	16.0	19.7	24.7	32.8	44.4	51.8	63.7	71.8



1.5" Radius, 0.5" Border, White on Green;
 [Gibbs Ave NE] ClearviewHwy-2-W 80% spacing;
 Table of letter and object lefts.

G	i	b	b	s	A	v	e	N	E
3.6	11.8	15.7	23.3	30.4	40.5	48.5	55.6	67.4	75.9



1.5" Radius, 0.5" Border, White on Green;
 Standard Arrow Custom 8.0" X 6.8" 180°;
 [Gross Ave NE] ClearviewHwy-2-W 80% spacing;
 Table of letter and object lefts.

←	G	r	o	s	s	A	v	e	N	E
2.6	16.6	24.9	29.8	37.3	43.4	53.5	61.4	68.6	80.4	88.9



1.5" Radius, 0.5" Border, White on Green;
 [Gross Ave NE] ClearviewHwy-2-W 80% spacing;
 Standard Arrow Custom 8.0" X 6.8" 0°;
 Table of letter and object lefts.

G	r	o	s	s	A	v	e	N	E	→
2.6	10.9	15.8	23.3	29.4	39.5	47.4	54.6	66.4	74.9	85.4



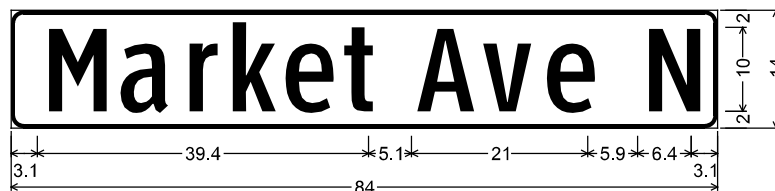
1.5" Radius, 0.5" Border, White on Green;
 Standard Arrow Custom 8.0" X 6.8" 180°; [Lawrence Rd NE] ClearviewHwy-2-W 80% spacing;
 Table of letter and object lefts.

←	L	a	w	r	e	n	c	e	R	d	N	E
2.8	16.8	22.2	29.6	40.7	45.6	53.4	60.8	67.2	78.9	86.4	98.2	106.7



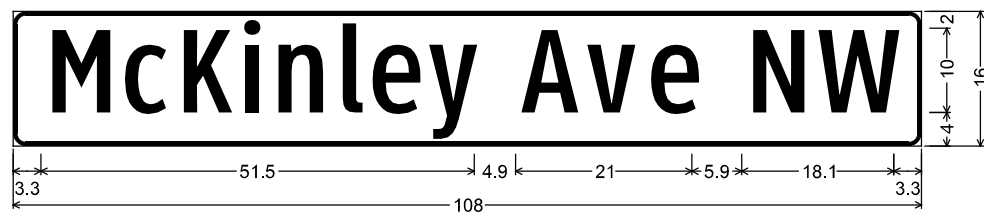
1.5" Radius, 0.5" Border, White on Green;
 [Lawrence Rd NE] ClearviewHwy-2-W 80% spacing; Standard Arrow Custom 8.0" X 6.8" 0°;
 Table of letter and object lefts.

L	a	w	r	e	n	c	e	R	d	N	E	→
2.8	8.2	15.6	26.7	31.6	39.4	46.8	53.2	64.9	72.4	84.2	92.7	103.2



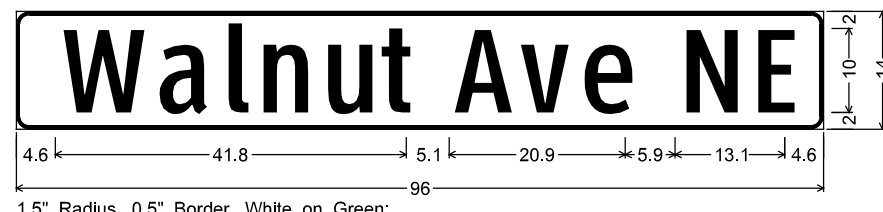
1.5" Radius, 0.5" Border, White on Green;
 [Market Ave N] ClearviewHwy-2-W 80% spacing;
 Table of letter and object lefts.

M	a	r	k	e	t	A	v	e	N
3.1	12.0	19.9	25.0	31.7	38.9	47.6	55.6	62.7	74.5



1.5" Radius, 0.5" Border, White on Green;
 [McKinley Ave NW] ClearviewHwy-2-W 80% spacing;
 Table of letter and object lefts.

M	c	K	i	n	l	e	y	A	v	e	N	W
3.3	12.3	18.9	26.3	30.2	37.8	41.8	48.9	59.7	67.7	74.9	86.6	94.8



1.5" Radius, 0.5" Border, White on Green;
 [Walnut Ave NE] ClearviewHwy-2-W 80% spacing;
 Table of letter and object lefts.

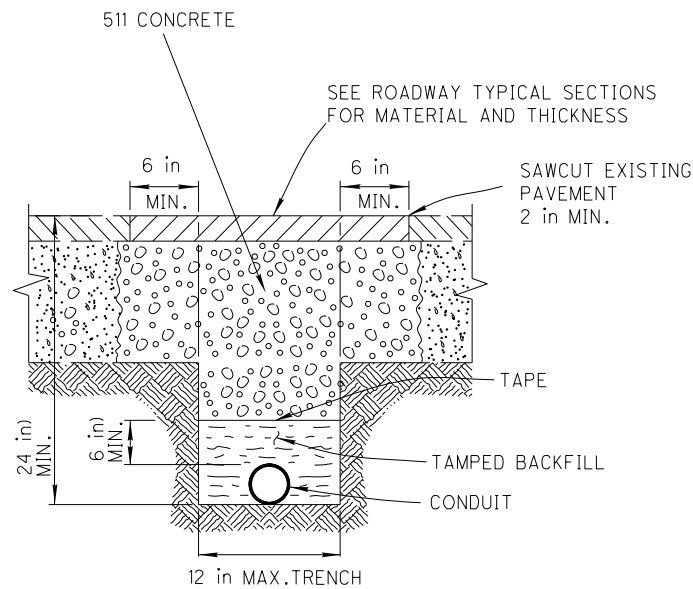
W	a	l	n	u	t	A	v	e	N	E
4.6	16.1	23.9	28.0	35.7	42.7	51.5	59.4	66.6	78.3	86.8

ITEM 625 - PULL BOX, MISC.: 725.06 (BY SIZE)

PULL BOXES SHALL BE MANUFACTURED BY CARSON BROOKS, QUAZITE OR SYNERTech OR APPROVED EQUAL. ALL PULL BOXES SHALL INCLUDE A POLYMER CONCRETE RING AND COVER TYPE, OR EQUAL, AND SHALL BE MARKED "TRAFFIC". THE PULL BOX SHALL BE FIBERGLASS REINFORCED POLYESTER, OR EQUAL, WITH INSERTS AND SHALL BE 18" IN DEPTH. EACH PULL BOX SHALL INCLUDE TWO (2) STAINLESS STEEL HEX BOLTS. EACH PULL BOX AND COVER SHALL HAVE A MINIMUM LOAD RATING OF 20,000 POUNDS CAPACITY IN ACCORDANCE WITH THE WESTERN UNDERGROUND COMMITTEE GUIDE 3.6. UNDERDRAINS SHALL NOT BE INSTALLED IN PULL BOXES.

ITEM 625 - TRENCH IN PAVED AREA BY TYPE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 625.13, THIS ITEM SHALL INCLUDE FULL PAVEMENT REPLACEMENT WHEN TRENCHING IN THE ROADWAY. BORING OR JACKING THE CONDUIT UNDER THE PAVEMENT CAN BE PERFORMED IN LIEU OF TRENCHING. IF BORING OR JACKING IS PERFORMED IN LIEU OF TRENCHING, THE CONDUIT PLACED SHALL BE 725.04 ANY EXTRA COST FOR THE 725.04 CONDUIT SHALL BE INCLUDED IN THIS ITEM.



"T" TRENCH IN PAVED AREA

ITEM 632 - POWER SERVICE, AS PER PLAN

POWER SERVICE SHALL BE AS PER ODOT SPECIFICATION 632 AND ODOT STANDARD CONSTRUCTION DRAWING TC-83.10. ELECTRIC POWER SHALL BE SUPPLIED BY AMERICAN ELECTRIC POWER (AEP). POWER SERVICE IS TO BE UNMETERED. THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE HOOK UP. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE POWER COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE POWER CABLE INTO THE POWER COMPANY'S CIRCUITS. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 240V OR 208V. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYING OF ALL FEES. THE CONTRACTOR SHALL PAY ALL POWER CHARGES UNTIL THE SIGNAL IS ACCEPTED BY THE CITY OF CANTON.

ITEM 632 - SIGNALIZATION, MISC.: PTZ CAMERA

THE CONTRACTOR SHALL FURNISH AND INSTALL A CLOSED CIRCUIT TELEVISION (CCTV) SYSTEM CONSISTING OF FIELD EQUIPMENT AND OTHER AUXILIARY AND INCIDENTAL EQUIPMENT REQUIRED TO ASSEMBLE A FULLY FUNCTIONING INTEGRATED TRAFFIC SURVEILLANCE SYSTEM. THE CCTV SYSTEM SHALL BE FURNISHED BY HONEYWELL, AXIS OR APPROVED EQUAL. ALL PROVIDED COMPONENTS SHALL PROVIDE A MEAN TIME BETWEEN FAILURES (MTBFL) OF 50,000 HOURS MINIMUM. COMPLIANCE WITH APPLICABLE ISO QUALITY ASSURANCE STANDARDS IS REQUIRED.

FOR EACH CAMERA, THERE SHALL BE SUPPLIED, INSTALLED, CONNECTED TO THE CAMERA AND MADE OPERATIONAL A VIDEO/DATA TRANSCEIVER. THE TRANSCEIVER SHALL BE CAPABLE OF ETHERNET COMMUNICATIONS PROTOCOL. THE TRANSCEIVER SHALL BE MOUNTED WITHIN A NEMA 4 ENCLOSURE AT THE BASE OF THE POLE ON WHICH THE CAMERA IS MOUNTED.

FOR EACH CAMERA THERE SHALL BE SUPPLIED, INSTALLED, CONNECTED TO THE CAMERA AND MADE OPERATIONAL AN OUTDOOR RATED POWER THE POWER SUPPLY SHALL MEET THE SAME ENVIRONMENTAL SUPPLY. PERFORMANCE STANDARDS AS THOSE OF THE CAMERA AND VIDEO/DATA TRANSCEIVER. THE POWER SUPPLY SHALL BE MOUNTED WITHIN THE SIGNAL CONTROLLER CABINET.

THE CAMERA AND BRACKET ARM SHALL BE BLACK AS TO MATCH ALL OTHER SIGNAL HARDWARE.

THE CCTV FIELD EQUIPMENT REQUIRED FOR THE CAMERA SITE SHALL INCLUDE INSTALLATION OF THE ITEMS DESCRIBED BELOW. PROCESS AND CONTROL EQUIPMENT FOR THE VIEWING WITH THE SURVEILLANCE CAMERAS IS INCLUDED AS PART OF ITEM 632 SIGNALIZATION, MISC.: PTZ CAMERA.

CAMERA
 THE CAMERA SHALL MEET OR EXCEED THE FOLLOWING MINIMUM REQUIREMENTS:

1. COLOR /MONOCHROME ADVANCED DIGITAL SIGNAL PROCESSING (CDSP)
2. 18X OPTICAL ZOOM (4.1 MM TO 73.8 MM) WITH 8X DIGITAL (144X)
3. UTILIZE 1/4-INCH CCD, USING THE MOST CURRENT TECHNOLOGY
4. PROVIDE A MINIMUM HORIZONTAL RESOLUTION OF 470 TVL (NTSC)
5. PROVIDE SHARP, DETAILED IMAGES DOWN TO 0.7 LUX COLOR, .05 LUX COLOR WITH 1/4-SECOND SHUTTER, AND .01 LUX MONOCHROME.
6. WHEN SWITCHING TO MONOCHROME MODE, THE CAMERA MUST AUTOMATICALLY REMOVE THE IR CUT FILTER WHEN NECESSARY, WHICH WILL INCREASE THE INFRARED SENSITIVITY. WHEN ENOUGH AMBIENT LIGHT IS AVAILABLE TO PRODUCE AN ACCEPTABLE COLOR IMAGE, THE CAMERA MUST AUTOMATICALLY ENABLE THE IR CUT FILTER.
7. CONTINUOUS AUTO FOCUS. WHEN REQUIRED, OPERATOR OVERRIDE OF THE AUTO FOCUS SETTINGS MUST BE ALLOWED. AUTO IRIS WITH MANUAL OVERRIDE MUST ALSO BE ALLOWED.

DOME
 THE CAMERA HOUSING/DOME SHALL MEET OR EXCEED THE FOLLOWING MINIMUM REQUIREMENTS:

1. BE COMPRISED OF A HIGH-SPEED PAN/TILT ASSEMBLY USING PRECISION MOTORS AND HIGH-STRENGTH BELT DRIVE, RESULTING IN ACCURATE AND QUIET OPERATION.
2. INCORPORATE A SEALED SLIP RING TO PROVIDE A CONTINUOUS THREE HUNDRED SIXTY DEGREES (360°) OF ROTATION AND AUTOMATICALLY ADJUST PAN AND TILT SPEED IN PROPORTION TO THE ZOOM POSITION FOR GREATER CONTROL.
3. MANUAL PAN SPEEDS RANGE FROM 0.1° TO 400° PER SECOND
4. MANUAL TILT SPEEDS MUST RANGE FROM 0.1° TO 200° PER SECOND
5. AUTO-PIVOT TRACKING THAT ALLOWS THE DOME TO AUTOMATICALLY TURN 180-DEGREES WHEN REACHING ITS LOWER LIMIT SO TO ALLOW THE OPERATOR TO AUTOMATICALLY TRACK AN INDIVIDUAL MOVING DIRECTLY BELOW THE CAMERA.
6. DUST TIGHT, WEATHERPROOF, AND ABLE TO WITHSTAND MECHANICAL IMPACT IN ACCORDANCE WITH THE INTERNATIONAL ELECTROTECHNICAL COMMISSION STANDARD IP549.
7. BOTTOM OF DOME SHALL BE AVAILABLE IN EITHER CLEAR OR SMOKED, AND SHALL BE ATTACHED WITH A KEY-LOCK TO RESIST TAMPERING.
8. THERMOSTAT-CONTROLLED 24VAC HEATER AND BLOWER MUST BE AVAILABLE TO MAINTAIN A SUFFICIENT OPERATING TEMPERATURE.
9. BUILT-IN POWER ISOLATION AND LIGHTNING SURGE PROTECTION.
10. EQUIPPED WITH A SUN SHADE
11. PRESSURIZED HOUSING MIL-SPEC RESISTANT TO SALT AIR, DUST, HUMIDITY, OR SMOG.

MOUNTING BRACKET
 THE MOUNTING HARDWARE SHALL PERMIT THE CAMERA TO BE SECURELY ATTACHED TO THE TOP OR SIDE OF A POLE. ALL BRACKETS, STRUTS, AND MISCELLANEOUS HARDWARE TO ATTACH THE HOUSING AND POWER SUPPLY SHALL BE INCLUDED AS PART OF THIS ITEM. ALL PARTS SHALL BE MADE OF CORROSION RESISTANT MATERIALS SUCH AS PLASTIC, STAINLESS STEEL, ALUMINUM, OR BRASS. THE MOUNTING HEIGHT SHALL BE A MINIMUM OF 25 FEET ABOVE THE ROADWAY.

CABINET
 A POLE MOUNTED NEMA 4X RATED CABINET SHALL ENCLOSE THE VIDEO TRANSMISSION EQUIPMENT AND A POWER SUPPLY ASSEMBLY. THE SHALL MEET THE ENVIRONMENTAL REQUIREMENTS OF THE VIDEO HOUSING TRANSMISSION EQUIPMENT. ALL EQUIPMENT SPECIFIED HEREIN SHALL OPERATE ON A POWER SERVICE FROM 95 TO 135 VAC, 60HZ, 3HZ, SINGLE PHASE.

LIGHTNING PROTECTION
 THE CONTRACTOR SHALL FURNISH AND INSTALL A PROPERLY FUNCTIONING LIGHTNING ROD AND TRANSIENT SURGE SUPPRESSOR TO PROTECT THE FIELD EQUIPMENT FROM LIGHTNING STRIKES AND SUPPLY VOLTAGE SURGES. THIS ITEM IS TO INCLUDE A LIGHTNING ROD.

TESTING AND CERTIFICATION
 A. THE CONTRACTOR SHALL DEMONSTRATE THE FUNCTIONALITY OF THE PTZ CAMERA UPON COMPLETION OF INSTALLATION, DOCUMENTING THE RESULT OF ALL TESTS AND PROVIDING THESE RESULTS TO THE OWNER. THE PTZ CAMERA SHALL BE TESTED IN ACCORDANCE WITH THE FOLLOWING:

1. THE CONTRACTOR SHALL CONDUCT A COMPLETE INSPECTION AND TEST OF ALL INSTALLED PTZ CAMERA EQUIPMENT. THIS INCLUDES TESTING AND VERIFYING OPERATION WITH CONNECTED EQUIPMENT.
2. THE CONTRACTOR SHALL PROVIDE STAFF TO TEST ALL DEVICES AND ALL OPERATIONAL FEATURES OF THE SYSTEM FOR VIOLATION BY THE OWNER'S REPRESENTATIVE AND THE AUTHORITY HAVING JURISDICTION. ALL TESTING MUST BE WITNESSED BY THE OWNER'S REPRESENTATIVE, PRIOR TO ACCEPTANCE.
3. THE TESTING AND CERTIFICATION SHALL TAKE PLACE AS FOLLOWS:
 - a. THE PTZ CAMERA SHALL BE TESTED IN CONJUNCTION WITH THE MANUFACTURER'S REPRESENTATIVE.
 - b. ALL DEFICIENCIES NOTED IN THE ABOVE TEST SHALL BE CORRECTED.
 - c. TEST RESULTS SHALL BE SUBMITTED TO THE CONSULTANT OR OWNER'S REPRESENTATIVE.
 - d. THE TEST AND CORRECTION OF ANY DEFICIENCIES SHALL BE WITNESSED BY THE OWNER'S REPRESENTATIVE, AND NOTE.
 - e. THE OWNER'S REPRESENTATIVE SHALL ACCEPT THE SYSTEM.
 - f. THE SYSTEM TEST SHALL BE WITNESSED BY THE AUTHORITY HAVING JURISDICTION. ANY DEFICIENCIES NOTED DURING THE TESTING MUST BE CORRECTED.

4. A LETTER OF CERTIFICATION SHALL BE PROVIDED TO INDICATE THAT THE TESTS HAVE BEEN PERFORMED, AND ALL DEVICES ARE OPERATIONAL.

ITEM 632 - POWER CABLE, 1 CONDUCTOR, NO. 10 AWG, AS PER PLAN

POWER CABLE SHALL BE 1 CONDUCTOR, NO. 10 AWG STRANDED, COPPER, TYPE UF, 600 VOLT.

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ITEM 632 - VEHICULAR SIGNAL HEAD (LED), BLACK, BY SECTION, BY TYPE, 12" LENS, 1 WAY, POLYCARBONATE WITH BACKPLATE, APP

IN ADDITION TO THE REQUIREMENTS OF CMS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:

- A. VEHICULAR SIGNAL HEADS SHALL BE FREE SWINGING.
- B. ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL FOR SIGNAL DISPLAYS OF TWO OR MORE SECTIONS.
- C. THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.
- D. VEHICULAR SIGNAL HEADS SHALL BE PROVIDED WITH A PIVOT AND LOCK BALANCE ADJUSTER. ALL BALANCE ADJUSTERS SHALL HAVE A MINIMUM THREE-QUARTER INCH (19 MILLIMETER) EYE BOLT AND THREE-QUARTER INCH (19 MILLIMETER) WIDE SLOT. EYE BOLTS ARE CAST FROM 316 STAINLESS STEEL AND PROVIDED WITH A SATIN FINISH. THREE-QUARTER INCH (19 MILLIMETER) BODY HALVES ARE CAST FROM AN MINIMUM 65-45-12 DUCTILE IRON AND PROVIDED WITH A BRIGHT ZINC FINISH (ZNI).
- E. ALL LAMP UNITS SHALL BE THE 12 INCH (303 MILLIMETER) SIZE AND BE EQUIPPED WITH 12"x11" CUTAWAY VISORS, UNLESS OTHERWISE NOTED IN PLANS.
- F. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.
- G. PIPE, SPACERS AND FITTINGS CONSTRUCTED OF ALUMINUM.
- H. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING. ALL EXTERIOR COLOR SHALL BE FEDERAL HIGHWAY BLACK AT INTERSECTIONS THAT CONTAIN NOSTALGIA SIGNAL SIGNAL SUPPORTS AND PEDESTALS.
- I. ALL SIGNAL HEADS SHALL HAVE BLACK BACKPLATES WITH YELLOW RETROREFLECTIVE BORDER STRIP, 2 INCH BORDER AND BE LOUVERED AND FOLLOW THE SHAPE OF THE SIGNAL HEAD.

THE CONTRACTOR SHALL PROVIDE THE CITY, IN WRITING, THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURER FOR ALL LED UNITS TO BE USED IN THE TRAFFIC SIGNAL HEADS PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES. THE INFORMATION SHALL BE SENT TO THE FOLLOWING LOCATION:

TRAFFIC ENGINEERING DEPARTMENT
2436-30TH STREET N.E.
CANTON, OHIO 44705
ATTN: NICHOLAS LOUKAS, P.E.

ODOT WILL MEASURE "VEHICULAR SIGNAL HEAD WITH LED LAMP UNITS, BY TYPE, AS PER PLAN" BY THE NUMBER OF COMPLETE UNITS FURNISHED AND INSTALLED, AND WILL INCLUDE ALL SUPPORT AND MOUNTING HARDWARE, DISCONNECT HANGERS, CLOSURE CAPS, DIMMERS, BACKPLATES AND LAMPS AS SPECIFIED.

ITEM 632 - PEDESTRIAN SIGNAL HEAD (LED), (COUNTDOWN), TYPE D2, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:

- A. LED, LIGHT EMITTING DIODE, SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF CMS 732.04. ALL LAMP UNITS SHALL BE THE 16 INCH SIZE AND A SINGLE UNIT.
- B. THE LED LAMP UNIT SHALL DISPLAY THE SYMBOLS FOR THE UPRaised HAND OR THE WALKING PERSON, FILLED.
- C. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.
- D. ALL LAMP UNITS SHALL BE PROVIDED WITH QUICK COUPLERS FOR SIDE OF POLE MOUNTING OR WITH TOP OF PEDESTAL MOUNTING HARDWARE, AS SPECIFIED IN THE PLANS.
- E. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL (BLACK) RATHER THAN PAINTING.

THE CONTRACTOR SHALL PROVIDE THE CITY, IN WRITING, THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURER FOR ALL LED UNITS TO BE USED IN THE TRAFFIC PEDESTRIAN HEADS PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES. THE INFORMATION SHALL BE SENT TO THE FOLLOWING LOCATION:

TRAFFIC ENGINEERING DEPARTMENT
2436-30TH STREET N.E.
CANTON, OHIO 44705
ATTN: NICHOLAS LOUKAS, P.E.

ODOT WILL MEASURE "PEDESTRIAN SIGNAL HEAD (LED), (COUNTDOWN), TYPE D2, AS PER PLAN" BY THE NUMBER OF COMPLETE UNITS FURNISHED AND INSTALLED, AND WILL INCLUDE ALL SUPPORT AND MOUNTING HARDWARE, CLOSURE CAPS, AND LAMPS AS SPECIFIED.

ALL PROPOSED CONNECTIONS SHALL BE FIELD DRILLED. BANDING OR STRAPPING ON THE NOSTALGIA SIGNAL POLES SHALL NOT BE PERMITTED.

ITEM 632 - PEDESTRIAN PUSHBUTTON, AS PER PLAN

PEDESTRIAN PUSHBUTTON SHALL BE AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANT AND FREEZE PROOF. IN ORDER TO CONFORM TO ADA, THE REQUIREMENTS OF 632.09 AND 732.06 ARE MODIFIED AS FOLLOWS:

- A. THE MAXIMUM FORCE REQUIRED TO OPERATE THE PUSHBUTTON SHALL BE FIVE (5) POUNDS PER FOOT.
- B. THE PUSHBUTTON SHALL BE RAISED OR FLUSH AND SHALL BE A MINIMUM OF TWO (2) INCHES AT THE SMALLEST DIMENSION.
- C. THE PUSHBUTTONS LOCATED AT THE INTERSECTION OF 12TH STREET & MARKET AVENUE SHALL BE SOUND EMITTING.

ITEM 632 - SIGNAL SUPPORT FOUNDATION, AS PER PLAN

THIS PROJECT REQUIRES CONSTRUCTION OF SIGNAL SUPPORT FOUNDATIONS IN LOCATIONS WHICH CONTAIN NUMEROUS EXISTING UNDERGROUND UTILITIES. ORDERS FOR SIGNAL POLES AND MAST ARMS SHALL BE PLACED SYSTEMATICALLY AFTER THEIR RESPECTIVE FOUNDATIONS HAVE BEEN CONSTRUCTED. FOUNDATIONS THAT HAVE BEEN CONSTRUCTED SHALL BE PROTECTED AS PER SECTION 107.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. WITHIN TWO (2) WEEKS OF RECEIVING A SIGNED CONTRACT, THE CONTRACTOR SHALL LAYOUT THE PERIMETER OF EACH FOUNDATION THEN CONTACT OUPS AND ODOT (330-297-0801, EXT 298). A MEETING BETWEEN THE CONTRACTOR, ENGINEER AND A REPRESENTATIVE FROM THE CITY OF CANTON WILL BE HELD ON SITE NO LATER THEN TWO (2) WEEKS AFTER THE OUPS NOTIFICATION. BASED UPON THE PRIORITIES DETERMINED AT THIS MEETING, THE CONTRACTOR WILL CONSTRUCT FOUNDATIONS BEGINNING WITH THE HIGHEST PRIORITY FIRST. IF A UTILITY OR OTHER CONFLICT EXISTS WHICH REQUIRES THAT A SIGNAL SUPPORT BE CONSTRUCTED AT A LOCATION OTHER THAN WHAT IS INDICATED IN THE PLAN, THE ENGINEER SHALL DETERMINE WHETHER THE SPECIFIED MAST ARM LENGTH IS APPROPRIATE. IF A LONGER ARM IS REQUIRED, WITHIN TEN (10) WORKING DAYS, THE CONTRACTOR WILL BE PROVIDED WITH REVISED POLE AND ARM DATA. THE CONTRACTOR SHALL NOT ORDER THE POLES PRIOR TO RECEIVING THIS DATA. SUPPORT FOUNDATION LOCATIONS SHALL BE ADJUSTED ONLY WHEN APPROVED BY THE ENGINEER. THE CONTRACTOR IS ADVISED TO LOCATE AND CONSTRUCT THE SIGNAL SUPPORT FOUNDATIONS AS SOON AS POSSIBLE IN ORDER TO PROVIDE AMPLE LEAD TIME TO ORDER THE SIGNAL SUPPORTS AND THEIR ASSOCIATED MAST ARMS. ALL FOUNDATIONS SHALL BE HAND EXCAVATED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. NO TIME EXTENSIONS SHALL BE GRANTED FOR DELAYS WHICH ARE CAUSED BY THE CONTRACTOR'S FAILURE TO PLAN FOUNDATION WORK AS SOON AS POSSIBLE IN THE CONTRACTORS PROGRESS SCHEDULE.

PAYMENT FOR ITEM 632 - SIGNAL SUPPORT FOUNDATION, AS PER PLAN SHALL BE MADE AT THE UNIT CONTRACT PRICE BID PER EACH. PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND OTHER INCIDENTALS NECESSARY TO EXCAVATE AND BUILD THE FOUNDATION SYSTEM, COMPLETE IN PLACE AND ACCEPTED.

BECAUSE OF THE RECOGNIZED TIME DELAY BETWEEN THE CONSTRUCTION OF THE FOUNDATIONS AND THE DELIVERY OF THE SIGNAL SUPPORTS AND/OR PEDESTALS FROM THE MANUFACTURER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE NEW CONSTRUCTED FOUNDATIONS BY A DEVICE SUCH AS A WOODEN BOX IN ACCORDANCE WITH ODOT SECTION 107.07. THE TYPE OF PROTECTIVE DEVICE SHALL BE APPROVED BY ODOT PRIOR TO ITS APPLICATION IN THE FIELD. TRAFFIC CONES SHALL NOT BE ACCEPTABLE. PROTECTIVE DEVICES CAN BE REUSED IF THEY ARE NO LONGER NEEDED AT A PREVIOUS INTERSECTION AND THEY MEET ODOT SECTION 107.07.

FOUNDATIONS FOR NOSTALGIA SIGNAL SUPPORTS AND NOSTALGIA PEDESTALS SHALL BE CONSTRUCTED AS PER CITY STANDARDS.

ITEM 632 - REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

THE REMOVAL SHALL CONSIST OF VEHICULAR SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS, CONTROLLER WITH CABINET, TRAFFIC POLES AND PEDESTALS, FOUNDATIONS, PULL BOXES, MAST ARMS, SIGNAL CABLE, CONDUIT RISER, MISCELLANEOUS ATTACHMENTS, POLE AND MAST ARM MOUNTED SIGNS, AND ALL OTHER PORTIONS OF A TRAFFIC SIGNAL INSTALLATION PER SECTION 632.26. UNLESS OTHERWISE DESIGNATED, ALL TRAFFIC POLES AND ARMS REMOVED SHALL BE DELIVERED TO THE CITY OF CANTON TRAFFIC SIGN AND PAINT DIVISION AT 2506 CLEVELAND AVENUE S.W., CANTON, OHIO. IN ADDITION, UNLESS OTHERWISE DESIGNATED, ALL OTHER ITEMS REMOVED EXCEPT SIGNAL CABLES SHALL BE DELIVERED TO THE CITY OF CANTON TRAFFIC SIGNAL DIVISION AT 2436-30TH STREET N.E., CANTON, OHIO. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF SIGNAL CABLES, AND ANY OTHER TRAFFIC SIGNAL ITEMS DESIGNATED BY THE ENGINEER.

ALL DECORATIVE POLES (MONUMENT, FULTON AND MARKET) SHALL BE DELIVERED TO THE CITY TRAFFIC SIGNAL DIVISION ON 30TH STREET.

ALL PROPOSED SIGNALIZED INTERSECTIONS WITHIN THIS PROJECT SHALL HAVE THE REMOVAL OF THE EXISTING SIGNAL AFTER THE INSTALLATION OF THE PROPOSED SIGNALS. THE EXISTING SIGNAL SHALL ALSO BE REMOVED AT THE INTERSECTION OF 12TH STREET & MONUMENT AVENUE, 12TH STREET & SHORB AVENUE AND 12TH STREET & THE O'JAYS PARKWAY. A TOTAL OF 12 EACH OF ITEM 632 - REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN WILL BE CARRIED TO THE GENERAL SUMMARY.

ITEM 630 - SIGNING MISC.: LED BLANK-OUT SIGN

THIS ITEM SHALL CONSIST OF A 30"x 36" LED BLANK-OUT SIGN WHICH WILL HAVE THE INTERNATIONAL SYMBOL FOR "NO RIGHT TURN" WITH THE WORD "TRAIN" UNDER THE SYMBOL. THE WORD TRAIN SHALL BE IN HIGH INTENSITY WHITE LED'S. THE FABRICATION AND INSTALLATION OF THE SIGN ON THE MAST ARM SHALL BE INCLUDED IN THE UNIT PRICE BID OF EACH FOR ITEM 630 SIGNING, MISC.: LED BLANK-OUT SIGN.



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ITEM 633 - CONTROLLER ITEM, MISC.: RAILROAD PREEMPTION

804-4.3.1 TRAFFIC SIGNAL CONTROLLER

THE TRAFFIC SIGNAL CONTROLLER SHALL BE PROVIDED WITH EITHER A RELAY BASED INTERFACE, A SOLID STATE INTERFACE USING DC ISOLATOR CARDS OR A SERIAL DATA INTERFACE USING THE IEEE 1570 PROTOCOL. IF NOT SPECIFIED ON THE PLANS, A BASIC CONTROLLER UNIT WITH A CABINET RELAY INTERFACE SHALL BE PROVIDED. THE INTERFACE SHALL FUNCTION AS FOLLOWS:

1. ADVANCE PREEMPTION. THIS CIRCUIT WILL NOTIFY THE TRAFFIC SIGNAL CONTROLLER OF AN APPROACHING TRAIN PRIOR TO THE OPERATION OF THE ACTIVE WARNING DEVICES. TWO RELAYS OR BOTH CHANNELS OF AN ISOLATOR CARD ARE REQUIRED. THE RAILROAD WILL RETURN A NORMALLY OPEN AND A NORMALLY CLOSED CIRCUIT. PREEMPTION WILL BE INITIATED WHEN THE NORMALLY CLOSED CIRCUIT OPENS. THE NORMALLY OPEN CIRCUIT CLOSES WHEN PREEMPTION IS INITIATED INDICATING THE PROPER FUNCTIONING OF THE SUPERVISION CIRCUIT.
2. SIMULTANEOUS PREEMPTION. THIS CIRCUIT WILL NOTIFY THE TRAFFIC SIGNAL CONTROLLER OF AN APPROACHING TRAIN AT THE POINT THE ACTIVE WARNING DEVICES BEGIN THEIR OPERATION. ONE RELAY OR ONE CHANNEL OF A DC ISOLATOR CARD IS REQUIRED. THE RAILROAD WILL RETURN A NORMALLY CLOSED CIRCUIT WHICH OPENS WHEN THE RAILROAD WARNING DEVICES BEGIN TO OPERATE.
3. ISLAND OCCUPIED. THIS CIRCUIT WILL NOTIFY THE TRAFFIC SIGNAL CONTROLLER OF THE ARRIVAL OF THE TRAIN AT THE ISLAND CIRCUIT. ONE RELAY OR ONE CHANNEL OF A DC ISOLATOR CARD IS REQUIRED. THE RAILROAD WILL RETURN A NORMALLY CLOSED CIRCUIT WHICH OPENS WHEN THE TRAIN OCCUPIES THE ISLAND CIRCUIT.
4. GATE DOWN. THIS CIRCUIT WILL NOTIFY THE TRAFFIC SIGNAL CONTROLLER WHEN THE GATE(S) CONTROLLING ACCESS TO THE TRACK(S) IS LOWERED TO WITHIN 5 DEGREES OF HORIZONTAL. ONE RELAY OR ONE CHANNEL OF A DC ISOLATOR CARD IS REQUIRED. THE RAILROAD WILL RETURN A NORMALLY OPEN CIRCUIT WHICH CLOSES WHEN THE GATE(S) CONTROLLING ACCESS OVER THE CROSSING APPROACHING THE INTERSECTION IS LOWERED.
5. GATE UP. THIS CIRCUIT WILL NOTIFY THE TRAFFIC SIGNAL CONTROLLER WHEN ALL GATES AT THE CROSSING ARE RAISED. ONE RELAY OR ONE CHANNEL OF A DC ISOLATOR CARD IS REQUIRED. THE RAILROAD WILL RETURN A NORMALLY CLOSED CIRCUIT WHICH OPENS WHEN ALL THE GATES AT THE CROSSING ARE RAISED.
6. TRAFFIC SIGNAL HEALTH. THIS CIRCUIT WILL NOTIFY THE RAILROAD WARNING SYSTEM WHENEVER THE TRAFFIC SIGNAL HAS ENTERED CONFLICT FLASH OR THE POWER HAS FAILED. THIS IS AN OUTPUT FROM THE TRAFFIC SIGNAL CONTROLLER TO THE RAILROAD CONTROL EQUIPMENT. IT SHALL BE 12 VDC WHICH IS OUTPUT WHENEVER THE TRAFFIC SIGNAL IS NOT IN FLASH AND POWER IS ON. IF THE TRAFFIC SIGNAL IS IN FLASH OR THE POWER IS OFF, THE OUTPUT SHALL BE 0 VDC. A SIMPLE METHOD IS TO USE A 12V TRANSFORMER AND RECTIFIER CONNECTED TO THE COIL OF THE SIGNAL BUS CONTROL RELAY OR MERCURY CONTACTOR. THE INTENT IS THAT THE TRAFFIC SIGNAL HEALTH OUTPUT WILL BE DE-ENERGIZED EVEN IF THE SIGNAL BUS CONTACTOR OUTPUT REMAINS CLOSED. THE OUTPUT SHOULD BE FUSED.
7. AN OUTPUT SHALL BE INCLUDED TO PROVIDE FOR THE OPERATION OF ILLUMINATED BLANK-OUT SIGNS. THE SIGNS SHALL BE ILLUMINATED WHENEVER THE CONTROLLER UNIT IS IN RAILROAD PREEMPTION AS INDICATED BY AN OUTPUT CIRCUIT PROVIDED BY THE CONTROLLER UNIT. A SOLID STATE RELAY, CRYDOM PART NUMBER D1210 OR EQUAL MOUNTED ON THE INTERFACE PANEL OR UNUSED LOADSWITCH ELEMENT SHALL BE USED TO ILLUMINATE THE BLANK-OUT SIGNS.

8. IF A RELAY INTERFACE IS PROVIDED, THE RELAYS CONNECTED TO THE RAILROAD EQUIPMENT SHALL OPERATE AT 24 VDC. A 24 VDC ISOLATED NEMA TS-2 POWER SUPPLY (SUCH AS RENO A&E MODEL CPS-TS2) SHALL BE PROVIDED AND CONNECTED TO THE PREEMPTION ISOLATION PANEL ASSEMBLY TO POWER THE RELAYS AND INDICATOR LIGHTS. THE POWER SUPPLY OUTPUTS SHALL NOT BE CONNECTED TO ANY OTHER VOLTAGE SOURCE OR COMMON SUCH AS LOGIC GROUND, AC NEUTRAL OR EARTH GROUND. THE POWER SUPPLY SHALL BE CAPABLE OF PROVIDING ENOUGH CURRENT TO SIMULTANEOUSLY ENERGIZE ALL OF THE RELAYS AND ILLUMINATE ALL OF THE INDICATORS AT MAXIMUM TEMPERATURE PLUS A 20 PERCENT DE-RATING. THE POWER SUPPLY SHALL BE CAPABLE OF PROVIDING A CARRYOVER OF 50MS AT FULL LOAD. THE INPUT AND THE OUTPUT OF THE POWER SUPPLY SHOULD BE APPROPRIATELY FUSED AND THE POWER SUPPLY SHOULD BE FULLY ISOLATED WITH NO GROUNDED CONDUCTORS. 24 VDC RELAYS SHOULD BE MAGNECRAFT 788XBXM4L-24D OR EQUAL WHICH INCLUDE AN INTERNAL LED INDICATOR. IN THIS DOCUMENT, "OR EQUAL" MEANS A PIN-FOR-PIN INTERCHANGEABLE EQUIVALENT. 120 VAC RELAYS SHALL BE MAGNECRAFT 788XBXM4L-120A OR EQUAL WHICH INCLUDE AN INTERNAL LED INDICATOR. RELAYS SHALL BE INSTALLED IN AN APPROPRIATE SOCKET, MAGNECRAFT 70-463-1 OR EQUAL. HOLD DOWN CLIPS, MAGNECRAFT 16-1351 OR EQUAL SHALL BE PROVIDED FOR EACH RELAY. ADEQUATE TERMINALS, NUMBERED OR LABELED AND IDENTIFIED ON THE WIRING DIAGRAM SHALL BE PROVIDED FOR ALL FIELD CONNECTIONS AND ALL INTERNAL CONNECTIONS. THE RELAYS AND TERMINALS SHALL BE MOUNTED ON A SUITABLE ALUMINUM PANEL LOCATED IN AN AREA ACCESSIBLE FOR INSPECTION AND CONNECTION.

9. IF A SOLID STATE INTERFACE IS PROVIDED, THE ISOLATOR CARDS SHALL BE MOUNTED IN A SEPARATE 4 POSITION RACK. THREE MODEL 242 DC ISOLATOR CARDS AND A 24 VDC, 5 AMP POWER SUPPLY CARD SHALL BE PROVIDED. THE POWER SUPPLY SHALL BE CAPABLE OF PROVIDING CARRYOVER IN THE EVENT OF PRIMARY POWER LOSS FOR A MINIMUM PERIOD OF 35 MS AT FULL RATED LOAD. ADEQUATE TERMINALS, NUMBERED OR LABELED AND IDENTIFIED ON THE WIRING DIAGRAM SHALL BE PROVIDED FOR ALL FIELD CONNECTIONS AND ALL INTERNAL CONNECTIONS. THE TERMINALS SHALL BE MOUNTED ON A SUITABLE ALUMINUM PANEL LOCATED IN AN AREA ACCESSIBLE FOR INSPECTION AND CONNECTION. THE RACK SHALL BE MOUNTED IN AN AREA SUITABLE FOR VIEWING OF THE CARD MOUNTED INDICATORS AND FOR REMOVAL AND INSERTION OF CARDS. THE INPUT CONFIGURATION SHOULD BE AS FOLLOWS:

CARD 1 INPUT 1 - ADVANCE PREEMPT NORMALLY CLOSED
 CARD 1 INPUT 2 - ADVANCE PREEMPT NORMALLY OPEN
 CARD 2 INPUT 1 - SIMULTANEOUS PREEMPT
 CARD 2 INPUT 2 - ISLAND
 CARD 3 INPUT 1 - GATE UP
 CARD 3 INPUT 2 - GATE DOWN

804-4.3.2 NOMENCLATURE AND TERMINALS

THE NOMENCLATURE AND TERMINALS SHALL BE AS INDICATED ON THE INTERFACE PANEL WIRING DIAGRAM. TERMINALS SHALL UTILIZE A "CAGE-CLAMP" DESIGN SUCH AS MANUFACTURED BY WAGO CORPORATION OR EQUIVALENT. TERMINALS WHICH PROVIDE "SIDE WIPE" CONNECTIONS OR SET SCREWS ARE NOT ACCEPTABLE. SEE SUBSECTION 804-4.6 FOR ADDITIONAL INFORMATION REGARDING TERMINAL NUMBERS.

804-4.3.3 HARNESS

THE APPROPRIATE HARNESS (MS D, C11 OR OTHER) FOR THE SPECIFIC CONTROLLER UNIT PROVIDED SHALL BE FURNISHED AND CONNECTED TO THE PREEMPTION INTERFACE PANEL.

804-4.3.4 PREEMPTION INPUT TEST SWITCH PANEL

A PREEMPTION INPUT TEST SWITCH PANEL WITH SIX TEST SWITCHES SHALL BE PROVIDED AND MOUNTED IN A CONVENIENT LOCATION WITHIN THE CONTROLLER CABINET. THE RAILROAD CIRCUITS SHALL BE CONNECTED THROUGH THE TEST SWITCH PANEL TO DIRECTLY SIMULATE THE INPUT FROM THE RAILROAD. EACH SWITCH SHALL BE LABELED EXACTLY AS INDICATED BELOW BY USE OF A SILK SCREENED LEGEND OR AN ENGRAVED PLASTIC PLATE. RUB-ON, ADHESIVE OR OTHER MARKINGS WHICH ARE NOT PERMANENT ARE NOT ACCEPTABLE. THE FOLLOWING SWITCHES SHALL BE PROVIDED:

1. ADVANCE PREEMPTION TEST - THIS SWITCH SHALL BE DPDT AND ARRANGED SUCH THAT THE UP POSITION IS NORMAL AND THE DOWN POSITION IS TEST. WHEN UP, THE TWO ADVANCE PREEMPTION CIRCUITS FROM THE RAILROAD SHOULD PASS THROUGH THE TEST SWITCH. WHEN DOWN, THE ADVANCE PREEMPT NORMALLY CLOSED CIRCUIT SHALL BE OPEN AND THE ADVANCE PREEMPTION NORMALLY OPEN CIRCUIT SHALL BE CLOSED. THIS SWITCH SHALL BE LABELED "ADVANCE PREEMPTION NORMAL" FOR THE UP POSITION AND "ADVANCE PREEMPTION TEST" FOR THE DOWN POSITION.
2. SIMULTANEOUS PREEMPTION TEST - THIS SWITCH SHALL BE SPDT AND ARRANGED SUCH THAT THE UP POSITION IS NORMAL AND THE DOWN POSITION IS TEST. WHEN UP, THE SIMULTANEOUS PREEMPTION CIRCUIT FROM THE RAILROAD SHALL PASS THROUGH THE TEST SWITCH. WHEN DOWN, THE SIMULTANEOUS PREEMPTION CIRCUIT SHALL BE OPEN. THIS SWITCH SHALL BE LABELED "SIMULTANEOUS PREEMPTION NORMAL" FOR THE UP POSITION AND "SIMULTANEOUS PREEMPTION TEST" FOR THE DOWN POSITION.
3. ISLAND CIRCUIT TEST - THIS SWITCH SHALL BE SPDT AND ARRANGED SUCH THAT THE UP POSITION IS NORMAL AND THE DOWN POSITION IS TEST. WHEN UP, THE ISLAND PREEMPTION CIRCUIT FROM THE RAILROAD SHALL PASS THROUGH THE TEST SWITCH. WHEN DOWN, THE ISLAND PREEMPTION CIRCUIT SHALL BE OPEN. THIS SWITCH SHALL BE LABELED "ISLAND CIRCUIT NORMAL" FOR THE UP POSITION AND "ISLAND CIRCUIT TEST" FOR THE DOWN POSITION.
4. GATE UP TEST - THIS SWITCH SHALL BE SPDT AND ARRANGED SUCH THAT THE UP POSITION IS NORMAL AND THE DOWN POSITION IS TEST. WHEN UP, THE GATE UP PREEMPTION CIRCUIT FROM THE RAILROAD SHALL PASS THROUGH THE TEST SWITCH. WHEN DOWN, THE GATE UP PREEMPTION CIRCUIT SHALL BE OPEN. THIS SWITCH SHALL BE LABELED "GATE UP CIRCUIT NORMAL" FOR THE UP POSITION AND "GATE UP CIRCUIT TEST" FOR THE DOWN POSITION.
5. GATE DOWN TEST - THIS SWITCH SHALL BE SPDT AND ARRANGED SUCH THAT THE UP POSITION IS NORMAL AND THE DOWN POSITION IS TEST. WHEN UP, THE GATE DOWN PREEMPTION CIRCUIT FROM THE RAILROAD SHALL PASS THROUGH THE TEST SWITCH. WHEN DOWN, THE GATE UP PREEMPTION CIRCUIT SHALL BE CLOSED. THIS SWITCH SHALL BE LABELED "GATE DOWN CIRCUIT NORMAL" FOR THE UP POSITION AND "GATE DOWN CIRCUIT TEST" FOR THE DOWN POSITION.
6. TRAFFIC SIGNAL HEALTH TEST - THIS SWITCH SHALL BE SPDT AND ARRANGED SUCH THAT THE UP POSITION IS NORMAL AND THE DOWN POSITION IS TEST. WHEN UP, THE TRAFFIC SIGNAL HEALTH PREEMPTION CIRCUIT TO THE RAILROAD SHALL PASS THROUGH THE TEST SWITCH. WHEN DOWN, THE TRAFFIC SIGNAL HEALTH PREEMPTION CIRCUIT SHALL BE OPEN. THIS SWITCH SHALL BE LABELED "TRAFFIC SIGNAL HEALTH NORMAL" FOR THE UP POSITION AND "TRAFFIC SIGNAL HEALTH TEST" FOR THE DOWN POSITION.

ITEM 633 - CONTROLLER ITEM, MISC.: INDICATOR PANEL

804-4.3.5 INDICATOR PANEL

AN INDICATOR PANEL SHALL BE PROVIDED FOR MOUNTING ON THE SIGNAL SUPPORT OR STRAIN POLE ADJACENT TO THE CONTROLLER. THE INDICATOR PANEL SHALL BE FABRICATED FROM STAINLESS STEEL AND SHALL BE PROVIDED WITH 6 LED INDICATORS.

1. INDICATOR LIGHTS SHALL BE 1-INCH DIAMETER, WATERPROOF WITH LED LAMPS MEETING NEMA 4X AND IP66 REQUIREMENTS. UNITS SHALL BE DIALIGHT SERIES 556 OR APPROVED EQUIVALENT. INDICATORS SHALL BE PROVIDED FOR THE FOLLOWING:

ADVANCE PREEMPT - NORMALLY CLOSED - GREEN (556-1604-304F)
 ADVANCE PREEMPT - NORMALLY OPEN - YELLOW (556-1704-304F)
 SIMULTANEOUS PREEMPT - RED (556-1504-304F)
 ISLAND - ORANGE (556-1904-304F)
 GATE UP - BLUE (556-1804-304F)
 GATE DOWN - WHITE (556-1004-304F)

2. THE INDICATORS SHALL BE ARRANGED IN TWO COLUMNS OF THREE. THE ARRANGEMENT, WHEN VIEWED FROM THE FRONT SHALL BE:

AP - NC	GU
AP - NO	GD
SP	ISL

3. ENCLOSURE SHALL BE HOFFMAN A8064C HEMC SS OR EQUIVALENT NEMA 4X STAINLESS STEEL ENCLOSURE WITH STAINLESS STEEL OR ALUMINUM INTERNAL TERMINAL PANEL. SUITABLE TERMINAL STRIPS SHALL BE PROVIDED ON THE INTERNAL TERMINAL PANEL FOR CONNECTION OF THE INDICATORS TO THE HOME RUN CABLE TO THE CONTROLLER.
4. A HUB PLATE OR SUITABLE BRACKET SHALL BE PROVIDED ON THE BOTTOM OF THE ENCLOSURE FOR MOUNTING AND CABLE ENTRY.
5. THE INDICATOR PANEL SHALL BE ATTACHED TO THE SIGNAL SUPPORT OR STRAIN POLE NEAREST THE GRADE CROSSING CONTROL EQUIPMENT CABINET OR BUNGALOW AND SHALL BE ORIENTED SO AS TO FACE THE RAILROAD CABINET OR BUNGALOW SO AS TO PROVIDE AN UNOBSTRUCTED VIEW OF THE INDICATORS. THE INDICATOR PANEL SHALL BE MOUNTED NO LESS THAN TEN FEET ABOVE ROADWAY LEVEL. THE INDICATORS SHOULD ALSO BE SO LOCATED SO AS TO PROVIDE A MINIMAL VISIBILITY TO ROADWAY USERS AT OR APPROACHING THE INTERSECTION.
6. A SEVEN CONDUCTOR IMSA SIGNAL CABLE SHALL BE INSTALLED BETWEEN THE INDICATOR PANEL AND THE INTERFACE PANEL.
7. THE INDICATOR COMMON SHALL BE CONNECTED TO THE +24 VDC OUTPUT FROM THE PREEMPTION RACK POWER SUPPLY OR FROM THE RELAY PANEL POWER SUPPLY.
8. WHERE DC ISOLATOR CARDS ARE USED FOR THE INTERCONNECTION INTERFACE, THE INDICATORS SHALL BE CONNECTED TO THEIR RESPECTIVE ISOLATOR INPUTS FROM THE RAILROAD CIRCUITS.
9. WHERE A RELAY ISOLATION PANEL IS USED FOR THE INTERCONNECTION INTERFACE, THE INDICATORS SHALL BE CONNECTED TO THEIR RESPECTIVE RELAY INPUTS FROM THE RAILROAD CIRCUITS IN ACCORDANCE WITH THE TYPICAL WIRING DIAGRAM.
7. A WARNING LABEL SHALL BE PROVIDED AND INSTALLED BY THE AGENCY RESPONSIBLE FOR THE MAINTENANCE OF THE TRAFFIC SIGNAL ON THE INTERIOR OF THE CABINET INDICATING THE INTERCONNECTION OF THE TWO SYSTEMS (SEE FIGURE 898-1).

PAYMENT FOR THE ITEM 633 - CONTROLLER ITEM, MISC.: INDICATOR PANEL SHALL BE AT THE UNIT PRICE FOR EACH INDICATOR PANEL COMPLETELY INSTALLED AND OPERATIONAL.

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ITEM 632 - SIGNAL SUPPORT, MISC.: NOSTALGIA SIGNAL SUPPORT (BY TYPE)

NOSTALGIA SIGNAL SUPPORTS (MAST ARM POLES AND ARMS) SHALL BE PACIFIC FAMILY 50312GF SERIES AND MANUFACTURED BY:

UNION METAL CORPORATION
1432 MAPLE AVENUE N.E.
P.O. BOX 9920
CANTON, OH. 44711
PHONE: 330-456-7653

THE CONTRACTOR SHALL FURNISH AND INSTALL NOSTALGIA SIGNAL SUPPORTS AS PER PLANS. ALL HARDWARE INCLUDING LUMINAIRES AND RELATED EQUIPMENT SHALL BE INCLUDED WITH THIS ITEM.

THE MANUFACTURER SHALL PROVIDE WRITTEN CERTIFICATION TO THE CITY THAT THE ACCEPTED POLE, ARM, LUMINAIRE, AND DECORATIVE SHROUD, IS OR WILL BECOME A STOCK ITEM, READILY AVAILABLE WITH REPLACEMENT PARTS FOR MINIMUM TEN (10) YEAR PERIOD. ALL MATERIAL SUPPLIES SHALL BE WARRANTED BY THE MANUFACTURER FOR ONE (1) YEAR AFTER DELIVERY AGAINST FAULTY MATERIALS AND WORKMANSHIP. THE POLE TOP SHALL BE MECHANICALLY ATTACHED TO THE TOP OF THE POLE SHAFT TO PROVIDE ACCESS FOR WIRING SIGNALS SECURED BY A J-HOOK WIRE SUPPORT. AN OPTIONAL OUTLET FRAME SHALL BE INTEGRALLY WELDED INTO THE POLE SHAFT TO ACCOMMODATE A 20A - 125V GFCI DUPLEX RECEPTACLE WHICH IS ALSO INCLUDED. THE RECEPTACLE COVER SHALL BE WEATHERPROOF WHILE IN USE AND PAINTED TO MATCH POLE. THE MAST ARM SHALL BE DRILLED IN THE FIELD 1' FROM REQUIRED SIGNAL LOCATIONS. TWO (2) RUBBER GROMMETS SHALL BE FURNISHED WITH EACH MAST ARM. SIGNAL HANGER CLAMPS SHALL BE SUPPLIED BY THE SIGNAL SUPPLIER OR MANUFACTURER, AS REQUIRED. A PERMANENT LEGIBLE MARKING INDICATION SHALL BE INCLUDED ON EACH SIGNAL SUPPORT AND ARM. THE FOLLOWING INDICATIONS SHALL BE REQUIRED AS A MINIMUM:

- A. POLE INDICATIONS: MONTH/DATE OF FABRICATION: POLE GAUGE: BOTTOM DIAMETER: POLE HEIGHT: BOLT CIRCLE: ANCHOR BOLT DIAMETER: FLANGE BOLT DIAMETER: AND INTERSECTION LOCATION INCLUDING CORNER QUADRANT.
- B. ARM INDICATIONS: MONTH/DATE OF FABRICATION: ARM GAUGE; ARM DIAMETER: ARM LENGTH: CONNECTING FLANGE BOLT DIAMETER: AND INTERSECTION LOCATION INCLUDING CORNER QUADRANT.

THE ORNAMENTAL BASE SHALL BE UNION METAL BASE NO. 731. THE FOUNDATION SURFACE SHALL BE LEVEL IN ORDER TO ACCEPT THE BASE ASSEMBLY. ALL PROPOSED EXTERIOR CONNECTIONS (PEDESTRIAN SIGNAL HEADS, ETC.) TO NOSTALGIA SIGNAL POLES SHALL BE FIELD DRILLED. BANDING OR STRAPPING ON THE NOSTALGIA SIGNAL POLES SHALL NOT BE PERMITTED.

THE CONTRACTOR SHALL COORDINATE WITH THE CITY THE RELOCATION TO THE NEW SIGNAL POLE OF ANY EXISTING SHOT SPOTTER DEVICE LOCATED ON THE EXISTING POLES. THE RELOCATION OF THE SHOT SPOTTER DEVICE SHALL BE INCLUDED IN THE PRICE OF THE SIGNAL SUPPORT.

THE NORTHWEST SIGNAL POLE, P4-2, AT CLEVELAND AVENUE AND 12TH STREET SHALL BE DESIGNED WITH A HINGE TO ALLOW FOR THE MAST ARM OVER CLEVELAND AVENUE TO SWING OUT OF THE WAY (NOT OVER ROADWAY) FOR PARADE ACTIVITIES.

ITEM 633 - PREEMPTION

THIS ITEM OF WORK SHALL CONSIST OF THE INSTALLATION OF PREEMPTION EQUIPMENT AS SHOWN IN THE PLANS.

THE COMMUNICATIONS MEDIUM SHALL EMPLOY SOUND DETECTION TECHNIQUES TO DETERMINE AND LOG THE PRESENCE OF THE EMERGENCY VEHICLE. THE SYSTEM SHALL DETECT THE PRESENCE OF THE VEHICLE THROUGH EXISTING DEVICES MOUNTED ON THE EMERGENCY VEHICLE.

EACH INTERSECTION SHOWN IN THE PLANS AND THE ADDITIONAL SPARES SHALL BE SUPPLIED WITH THE FOLLOWING COMPONENTS:
A. PRE-EMPT RECEIVING UNIT
B. PRE-EMPT PHASE SELECTOR ASSEMBLY
C. PRE-EMPT INTERFACE PANEL

THE PREEMPTION SHALL CONFORM TO ODOT SPECIFICATION 632 AND SHALL UTILIZE COMMUNICATIONS TO IDENTIFY THE PRESENCE OF AN EMERGENCY PRIORITY VEHICLE. IT SHALL CAUSE THE TRAFFIC SIGNAL CONTROLLER TO SELECT A PRE-PROGRAMMED PREEMPTION PLAN THAT WILL DISPLAY AND HOLD THE DESIRED SIGNAL PHASE FOR THE DIRECTION OF THE EMERGENCY VEHICLE.

THE EQUIPMENT SHALL BE SHELF MOUNTED AND EASILY REMOVABLE AND REPLACEABLE WITHIN THE CABINET. THE EQUIPMENT SHALL BE COMPLETELY WIRED IN THE CONTROLLER CABINET AND TESTED.

THE PREEMPTION DETECTOR CABLE SHALL BE SUPPLIED AND BID SEPARATELY.

THE CONTRACTOR SHALL THOROUGHLY CHECK OUT THE INSTALLED SYSTEM. AS A MINIMUM, THE CONTRACTOR SHALL VERIFY THAT ALL CONNECTIONS ARE PROPERLY MADE TO THE CONTROLLER CABINETS. THE CONTRACTOR SHALL CHECK THAT THE RANGE SETTING IS PROPER. THE CONTRACTOR SHALL VERIFY THAT ALL VEHICLE EMITTERS ARE BEING PROPERLY DETECTED.

PAYMENT FOR ITEM 633 - PREEMPTION WILL BE MADE AT THE CONTRACT LUMP SUM PRICE FOR PREEMPTION IN PLACE AND FULLY OPERATIONAL AS SHOWN IN THE PLANS, EXCEPT FOR THOSE ITEMS BID SEPARATELY.

ITEM 633 - PREEMPT PHASE SELECTOR

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPT PHASE SELECTORS INCLUDING WIRING INTERFACE PANELS IN THE LOCAL CONTROLLER CABINET AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT PHASE SELECTORS COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS. THIS ITEM SHALL INCLUDE THE EXTRA CABINET SPACE NECESSARY TO BE LOCATED IN THE LOCAL CONTROLLER CABINETS WHERE INDICATED IN THE PLANS.

THE PHASE SELECTORS SHALL CONSIST OF A MODULE OR MODULES THAT WILL PROVIDE THE NECESSARY INPUTS TO THE CONTROLLER. PHASE SELECTORS SHALL BE SUPPLIED WITH SUFFICIENT QUANTITIES OF CHANNELS TO PROVIDE PREEMPTION FOR ALL APPROACHES TO THE INTERSECTION SEPARATELY. POWER SHALL BE OBTAINED FROM THE PHASE SELECTOR OR PHASE SELECTOR POWER SUPPLY AND NOT FROM THE LOCAL CONTROLLER TIMER.

THE PHASE SELECTORS SHALL HAVE FRONT PANEL INDICATORS FOR ACTIVE PREEMPT CHANNEL STATUS. IT SHALL HAVE TEST SWITCHES TO ACTIVATE ALL PREEMPT CHANNELS.

FURNISH PREEMPT PHASE SELECTORS WITH 60-MONTH WARRANTIES OR FOR THE MANUFACTURER'S STANDARD WARRANTY WHICHEVER IS GREATER. ENSURE THAT THE WARRANTY PERIOD BEGINS ON THE DATE OF SHIPMENT TO THE PROJECT. ENSURE THAT EACH UNIT HAS A PERMANENT LABEL OR STAMP INDICATING THE DATE OF SHIPMENT.

PAYMENT FOR ITEM 633 "PREEMPT PHASE SELECTOR" SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH PHASE SELECTOR IN PLACE, COMPLETELY INSTALLED IN THE LOCAL CONTROLLER SHOWN IN THE PLANS, WIRED, TESTED AND ACCEPTED.

ITEM 633 - PREEMPTION RECEIVING UNIT

RECEIVING UNITS SHALL BE BLACK AND CONSIST OF A LIGHTWEIGHT, WEATHER PROOF AND DIRECTIONAL ASSEMBLY. EACH RECEIVING UNIT SHALL BE 360 DEGREE ADJUSTABLE. THE RECEIVING UNIT SHALL BE CAPABLE OF SENDING THE PROPER ELECTRICAL SIGNAL TO THE TRAFFIC SIGNAL CONTROLLER VIA THE PREEMPTION DETECTOR CABLE. RECEIVING UNITS SHALL BE SUPPLIED WITH MAST ARM MOUNTING HARDWARE AS SHOWN IN THE PLANS.

FURNISH PREEMPTION RECEIVING UNITS WITH 60-MONTH WARRANTIES OR FOR THE MANUFACTURER'S STANDARD WARRANTY WHICHEVER IS GREATER. ENSURE THAT THE WARRANTY PERIOD BEGINS ON THE DATE OF SHIPMENT TO THE PROJECT. ENSURE THAT EACH UNIT HAS A PERMANENT LABEL OR STAMP INDICATING THE DATE OF SHIPMENT.

PAYMENT FOR ITEM 633 "PREEMPTION RECEIVING UNIT" SHALL BE AT THE CONTRACT UNIT FOR EACH RECEIVING UNIT IN PLACE, COMPLETELY INSTALLED AT THE LOCATION SHOWN IN THE PLANS, WIRED, TESTED AND ACCEPTED.

ITEM 633 - PREEMPTION DETECTOR CABLE, AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPTION DETECTOR HOME RUN CABLE IN THE LOCATIONS SHOWN IN THE PLANS. IT SHALL CONNECT THE PREEMPT RECEIVING UNITS TO THE PHASE SELECTORS IN THE LOCAL CONTROLLER CABINET.

PREEMPTION DETECTOR CABLE SHALL BE NO. 20 AWG SHIELDED 300 VOLT, TYPE PLTC, 2 CONDUCTOR CABLE IN ACCORDANCE WITH ISMA 50-2. ONLY ONE EXTERNAL SPLICE SHALL BE PERMITTED BETWEEN PREEMPTION RECEIVER UNIT AND CONTROLLER CABINET. THIS SPLICE SHALL MEET THE REQUIREMENTS OF CMS 632.23 USING A WATERPROOF EPOXY SPLICE KIT. THE CABLE SHALL BE APPROVED FOR BOTH OVERHEAD AND UNDERGROUND USE. THE JACKET SHALL WITHSTAND EXPOSURE TO SUNLIGHT AND ATMOSPHERIC TEMPERATURES AND STRESSES REASONABLY EXPECTED IN NORMAL INSTALLATIONS.

PAYMENT FOR ITEM 633 "PREEMPTION DETECTOR CABLE, AS PER PLAN" SHALL BE MADE AT THE CONTRACT UNIT PRICE PER FOOT FOR THE CABLE FURNISHED, IN PLACE, ALL CONNECTIONS MADE AND WIRING COMPLETED, TESTED AND ACCEPTED.

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TRAFFIC SIGNAL NOTES

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ITEM 633 - CONTROLLER ITEM, MISC.: FIBER OPTIC ETHERNET TRANSCEIVER, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING AN INDUSTRY HARDENED, FULLY MANAGED ETHERNET SWITCH PROVIDING DUAL GIGABIT FIBER OPTICAL ETHERNET (1000BASE-T) PORTS USING INDUSTRY STANDARD SC FIBER OPTIC CONNECTORS AND 8 FAST ETHERNET (10/100BASE TX) RJ45 COPPER PORTS. THE TRANSCEIVER SHALL OPERATE ON 120VAC, 10 WATTS AND SHALL MEET AND/OR EXCEED NEMA TS2 ENVIRONMENTAL REQUIREMENTS.

THE FIBER OPTIC TRANSCEIVER SHALL INTERFACE TO SINGLE-MODE (8/125) FIBER OPTIC CABLE WITH AN OPTICAL WAVELENGTH OF 1310NM USING SC CONNECTORS. IT SHALL BE CAPABLE OF OPERATING OVER A DISTANCE OF AT LEAST 10KM WITH AN OPTICAL POWER BUDGET OF 17DB. THE TRANSCEIVER SHALL BE CAPABLE OF OPERATING IN A FAULT TOLERANT FIBER OPTIC LOOP.

PROVIDE A TRANSCEIVER THAT IS FULLY COMPLIANT WITH IEEE 802.3, 802.3U & 802.3Z. THE TRANSCEIVER SHALL PROVIDE FULL-DUPLEX OPERATION AND FLOW CONTROL.

PROVIDE A SIMPLE INTUITIVE USER INTERFACE FOR CONFIGURATION AND MONITORING OF THE TRANSCEIVER VIA STANDARD HTML GRAPHICAL WEB BROWSER, INCLUDING DETAILED ON-LINE HELP. EVENT LOGGING AND RECORDING SHALL BE INCLUDED. ALL SIGNIFICANT EVENTS SHALL BE STORED IN A NON-VOLATILE SYSTEM LOG.

THE OPTICAL ETHERNET TRANSCEIVER SHALL CONNECT TO ALL ETHERNET DEVICES IN THE CONTROLLER CABINET INCLUDING THE CONTROLLER (IF APPLICABLE), VIDEO DETECTION COMMUNICATIONS INTERFACE PANEL AND VIDEO SERVERS AND ANY OTHER ETHERNET DEVICES USING PROPERLY RATED CAT5E CABLES WITH RJ45 CONNECTORS.

SHALL BE INSTALLED IN ALL CONTROLLERS IN THE CLOSED LOOP SYSTEMS DEFINED BY THE CITY OF CANTON.

PAYMENT FOR 633 CONTROLLER ITEM, MISC.: FIBER OPTIC ETHERNET TRANSCEIVER, AS PER PLAN SHALL BE MADE AT THE CONTRACT PRICE BID. PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, TESTING, CERTIFICATIONS AND OTHER INCIDENTALS NECESSARY TO FURNISH COMPLETE IN PLACE, INCLUDING ALL CONNECTIONS MADE AND WIRING COMPLETE, TESTED AND ACCEPTED.

ITEM 633 - CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TSI, AS PER PLAN (ECONOLITE)

THE CONTROLLER UNITS PROVIDED IN THIS PROJECT SHALL BE NEMA TYPE MANUFACTURED BY:

ECONOLITE CONTROL PRODUCTS
3360 EAST LA PALMA
ANAHEIM, CA 92806
PHONE: 800-225-6480

THE CONTROLLER SHALL BE MODEL "COBALT". THIS ITEM SHALL CONSIST OF FURNISHING AN ACTUATED, SOLID STATE DIGITAL MICROPROCESSOR TYPE CONTROLLER WITH MENU DRIVEN PROMPTS, INTERNAL TBC, FSK TELEMETRY MODULE FOR CLOSED LOOP COMMUNICATIONS AND ALL OTHER ACCESSORIES THAT ARE REQUIRED TO MAKE THE CONTROLLER COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS.

MANUFACTURER GUARANTEES OR WARRANTIES ON ALL INSTALLED TRAFFIC SIGNAL CONTROL EQUIPMENT SHALL BE TRANSFERRED TO THE CITY OF CANTON TRAFFIC SIGNAL DEPARTMENT FOR ACCEPTANCE OF THE EQUIPMENT.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, TESTING, CERTIFICATIONS, AND OTHER INCIDENTALS NECESSARY TO FURNISH THE CONTROLLER COMPLETE, INCLUDING ALL CONNECTIONS MADE AND WIRING COMPLETE. TESTED, AND ACCEPTED.

THE CONTROLLER ASSEMBLY AND CABINET SHALL INCLUDE A NEMA TS2 TYPE 2 CONTROLLER AND A NEMA TS2 TYPE 16 MALFUNCTION MANAGEMENT UNIT (MMU) COMPLETE IN A NEMA TSI CABINET ASSEMBLY. IN ADDITION, THE CONTROLLER ASSEMBLY AND CABINET SHALL CONFORM TO ODOT SPECIFICATION 633. THE CONTROLLER SHALL BE CAPABLE OF AN ADDITIONAL 12 STANDARD OVERLAPS BY ASSIGNING EACH PHASE OUTPUT TO AN OVERLAP.

THE CONTROLLER SHALL INCLUDE TIME-OF-DAY AND COORDINATION CAPABILITIES. IN ADDITION, THE CONTROLLER SHALL INCLUDE PREEMPTION CAPABILITIES INCLUDING SIX (6) RAILROAD, FIRE, AND EMERGENCY VEHICLE HIGH-PRIORITY PREEMPTORS AND FOUR (4) LOW-PRIORITY BUS-PREEMPTORS. CONTROLLER SHALL BE PROGRAMMABLE TO ALLOW FOR FLASHING "DON'T WALK" THROUGH THE YELLOW SIGNAL PHASE. THE CABINET SHALL BE WIRED FOR MONITORING EACH APPROACH SEPARATELY. ALL VEHICLE SIGNAL CIRCUITS SHALL BE ISOLATED (SPLITTING THE HEADS FOR PRE-EMPTION PURPOSES).

THE MMU SHALL PASS ALL TESTS AS PERFORMED BY AN AUTOMATIC MONITOR TESTER. TEST RESULTS SHALL BE PRINTED AND SUPPLIED WITH EACH CABINET. THE POLICE PANEL SHALL HAVE SWITCH ACCESS FOR SIGNAL ON/OFF, FLASH CONTROL, AUTOMATIC/MANUAL TRANSFER, AND MANUAL PUSHBUTTON WITH TEN (10) FEET COILED HAND CORD.

TECHNICIAN SWITCH PANEL SHALL BE MOUNTED ON THE INSIDE OF THE MAIN CABINET DOOR AND SHALL HAVE SWITCH ACCESS FOR STOP TIME ON/OFF, FLASH CONTROL, TIMER POWER ON/OFF, DETECTOR TEST, MOMENTARY PUSHBUTTON.

THE CABINET SHALL BE ALUMINUM, WITH A NATURAL SATIN FINISH OUTSIDE WITH A PAINTED SEMI-GLOSS WHITE ENAMEL FINISH INSIDE. THE CABINETS SHALL COMPLY WITH THE REQUIREMENTS OF 733.03 (SECTION A).

WIRE CONNECTIONS TO THE BACKPANEL SHALL BE MADE WITH CRIMP TERMINALS AND THREADED FASTENERS. SOLDER CONNECTIONS MAY BE USED ON THE BACKSIDE OF A PANEL THAT UTILIZES FEED-THRU STYLE TERMINAL BLOCKS. PRINTED CIRCUIT BOARDS SHALL NOT BE USED ON ANY PART OF THE TERMINALS AND FACILITIES PROVIDED WITHIN THE CABINET. ALL WIRES FASTENED TO THE LOAD SWITCH, FLASHER AND FLASH TRANSFER RELAY SOCKETS SHALL BE SOLDERED IN PLACE. A GOOD MECHANICAL CONNECTION MUST BE MADE PRIOR TO SOLDERING. ALL WIRING OF HARNESSSES AND INTERPANEL WIRING, INCLUDING WIRING TO THE POLICE PANEL SHALL BE PROTECTED WITH A NYLON MESH OR "SNAKE SKIN". ANY EXPOSED WIRES, OR THE USE OF CABLE TIES TO HOLD THE WIRE BUNDLES TOGETHER SHALL NOT BE ALLOWED. FOR EASE OF MAINTENANCE, ALL HARNESSSES SHALL BE OF SUFFICIENT LENGTH TO PLACE THE EQUIPMENT ON TOP OF THE CABINET AND BE OPERATIONAL.

- A. COLOR-CODED WIRING SYSTEM SHALL BE USED THROUGHOUT THE WIRING OF THE CABINET. ALL SYSTEMS FUNCTIONS OF THE CONTROLLER SHALL BE TERMINATED ON A SINGLE PANEL. WIRING COLOR-CODE SHALL BE AS FOLLOWS:
- B. BLUE CONTROLLER UNIT
- C. VIOLET MMU
- D. RED RED LOAD SWITCH OUTPUT
- E. YELLOW YELLOW LOAD SWITCH OUTPUT
- F. BROWN GREEN LOAD SWITCH OUTPUT
- G. BLACK AC LINE POWER
- H. WHITE AC NEUTRAL
- I. GREEN EARTH GROUND
- J. GRAY LOGIC GROUND
- K. ORANGE FLASH PROGRAMMING

TWO (2) SETS OF CABINET WIRING DIAGRAMS, SERVICE MANUALS, PROGRAMMING AND MAINTENANCE INSTRUCTIONS SHALL BE FURNISHED FOR EACH CABINET AND EQUIPMENT ITEM.

THE CABINET WIRING DIAGRAMS SHALL BE SUPPLIED IN A CLEAR PLASTIC POUCH FASTENED TO THE INSIDE OF THE CONTROLLER CABINET. AN ADDITIONAL ONE (1) CONTROLLER UNIT ASSEMBLIES WITH CABINETS. SUBJECT TO ALL OF THESE SPECIFICATIONS, SHALL BE SUPPLIED AS SPARES UNDER BID ITEM 633 - CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TSI, AS PER PLAN.

THE SUPPLIER SHALL PROVIDE CONTROLLER TRAINING TO THE CITY OF CANTON WITHIN FIVE (5) DAYS OF SYSTEM ACCEPTANCE. TRAINING SHALL BE DIVIDED INTO TWO (2) COURSES, MAINTENANCE TRAINING AND OPERATION TRAINING, AND SHALL INCLUDE, BUT NOT LIMITED TO. THE SOFTWARE AND TROUBLESHOOTING. TRAINING SHALL BE CONDUCTED AT A LOCATION DESIGNATED BY THE CITY OF CANTON. TRAINING COURSES SHALL ACCOMMODATE UP TO TEN (10) PEOPLE AND SHALL CONSIST OF A MINIMUM FOUR (4) HOURS EACH. THE LENGTH OF EACH TRAINING COURSE IS AT THE DISCRETION OF THE CITY OF CANTON. THE COST FOR TRAINING SHALL BE INCIDENTAL TO THE CONTROLLER BID ITEMS (BID ITEMS 633).

ALTERNATE BID ITEM

ITEM 633 - CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TSI, AS PER PLAN (INTELIGHT)

THIS ITEM SHALL BE AN INTELIGHT X SERIES - TS2(TYPE2) CONTROLLER AND THE CONTROLLER SHALL HAVE COLOR TOUCHSCREEN CAPABILITIES AND THE ABILITY TO SHOW MULTIPLE CAMERAS ON THE SCREEN.

THIS ITEM SHALL MEET THE SPECIFICATIONS OF THE BASE BID ITEM (ITEM 633 - CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TSI, AS PER PLAN (ECONOLITE)

THE SUPPLIER SHALL PROVIDE CONTROLLER TRAINING TO THE CITY OF CANTON WITHIN FIVE (5) DAYS OF SYSTEM ACCEPTANCE. TRAINING SHALL BE DIVIDED INTO TWO (2) COURSES, MAINTENANCE TRAINING AND OPERATION TRAINING, AND SHALL INCLUDE, BUT NOT LIMITED TO. THE SOFTWARE AND TROUBLESHOOTING. TRAINING SHALL BE CONDUCTED AT A LOCATION DESIGNATED BY THE CITY OF CANTON. TRAINING COURSES SHALL ACCOMMODATE UP TO TEN (10) PEOPLE AND SHALL CONSIST OF A MINIMUM FOUR (4) HOURS EACH. THE LENGTH OF EACH TRAINING COURSE IS AT THE DISCRETION OF THE CITY OF CANTON. THE COST FOR TRAINING SHALL BE INCIDENTAL TO THE CONTROLLER BID ITEMS (BID ITEMS 633).

PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, TESTING, CERTIFICATIONS, AND OTHER INCIDENTALS NECESSARY TO FURNISH THE CONTROLLER COMPLETE, INCLUDING A SPARE AND ALL CONNECTIONS MADE AND WIRING COMPLETE. TESTED, AND ACCEPTED.

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ITEM 633 - CONTROLLER ITEM, MISC.: CENTRAL SIGNAL SYSTEM (ECONOLITE "CENTRACS")

THIS ITEM SHALL CONSIST OF ALL EQUIPMENT, INSTALLATION, OR OTHER MATERIALS AND INSTALLATION REQUIRED TO INSTALL A NEW CENTRAL SIGNAL SYSTEM TO BE LOCATED AT THE CITY OF CANTON, CITY ENGINEERING BUILDING. THE CENTRAL SIGNAL SYSTEM SHALL BE AN INTELLIGENT TRANSPORTATION SYSTEM (ITS) APPLICATION THAT PROVIDES A CENTRALIZED AND INTEGRATED PLATFORM FOR TRAFFIC SIGNAL SYSTEM CONTROL, CLOSED-CIRCUIT TV (CCTV) MONITORING AND CONTROL, INFORMATION MANAGEMENT, AND GRAPHICAL DATA DISPLAY. ALL COMPONENTS SHALL BE COMPOSED OF NEW EQUIPMENT AND MATERIALS, COMPLETE WITHOUT DEFECT. NO USED OR RE-FURBISHED ITEMS SHALL BE ACCEPTED.

THE CENTRAL SIGNAL SYSTEM SHALL BE CAPABLE OF COMMUNICATING WITH AND FULLY INTEGRATING ECONOLITE NTCIP CONTROLLERS (ASC2, ASC3 & COBALT). THE SYSTEM MUST MAINTAIN FULL FUNCTIONALITY WITH SAID CONTROLLERS.

ALL FIBER OPTIC CABLES ARE TO TERMINATE IN THE CIVIC CENTER AND BE CONNECTED TO THE CITY NETWORK. ALL OTHER EQUIPMENT SHALL BE LOCATED IN THE CITY ENGINEERING BUILDING.

PRIMARY COMPONENTS

THE SYSTEM SHALL INCLUDE ALL SOFTWARE AND HARDWARE TO PROVIDE FULL ACCESS TO AND CONTROL OF THE INSTALLED FIELD DEVICES. THE SYSTEM SHALL INCLUDE THE FOLLOWING BASIC COMPONENTS:

- FILE/ APPLICATION (CORE) SERVER
- COMMUNICATIONS SERVER/ TERMINAL SERVICES CENTER
- COMPUTER RACK AND SERVER ACCESSORIES
- 2 WORKSTATIONS SHALL BE LOCATED AT THE LOCATION DETERMINED BY THE CITY OF CANTON.
- 2 LAPTOP COMPUTER(S): PROVIDE TWO (2) LAPTOPS FOR MOBILE SYSTEM MANAGEMENT
- 2 SIGNAL ANALYSIS & OPTIMIZATION SOFTWARE INSTALLATIONS (LICENSES/SEATS)
- FURNITURE (SEE NOTE)

SOFTWARE

1) OVERVIEW:

-THE SYSTEM SHALL BE A COMMERCIALY-AVAILABLE OFF-THE-SHELF (COTS), NATIONAL TRANSPORTATION COMMUNICATION FOR ITS PROTOCOL (NTCIP) COMPLIANT, AND ADVANCED TRANSPORTATION MANAGEMENT SYSTEM (ATMS) SOFTWARE APPLICATION.

-THE SOFTWARE SHALL PROVIDE AN INTERSECTION CONTROL AND TRAFFIC MANAGEMENT SOFTWARE PLATFORM, FROM WHICH ADDITIONAL ITS APPLICATIONS CAN BE INTEGRATED. ALL ADDITIONAL ITS FEATURES AND FUNCTIONALITIES SHALL BE MODULAR AND INTEGRATED SEAMLESSLY INTO A SINGLE USER INTERFACE.

2) STANDARDS:

-NTCIP 1201 AND 1202 COMMUNICATIONS PROTOCOL STANDARD SHALL BE IMPLEMENTED SUCH THAT THE SYSTEM CAN ADAPT TO CHANGES IN TECHNOLOGY AND INCREASE FUNCTIONALITY OVER TIME WITH MINIMAL IMPACT ON INDIVIDUAL SYSTEM COMPONENTS. THE SYSTEM DEVELOPER AND THE CONTROLLER MANUFACTURER SHALL VERIFY THAT THE SYSTEM AND CONTROLLER FIRMWARE ARE NTCIP COMPLIANT AND COMPATIBLE.

-THE PRIMARY COMMUNICATIONS STANDARDS SHALL BE NTCIP 1202 AND 1202 BASED FOR COMMUNICATING FROM CENTER-TO-FIELD (C2F) AND THE DEVELOPER SHALL DOCUMENT THE STANDARDS TO WHICH THE SYSTEMS LEVEL OF CONFORMITY OF EACH STANDARD IS DEVELOPED.

-THE SERVER-WORKSTATION COMMUNICATIONS INTERFACE SHALL BE DESIGNED TO MINIMIZE ITS NETWORK BANDWIDTH.

3) ARCHITECTURE

-THE SYSTEM SHALL BE MODULAR AND SCALABLE AT ALL LEVELS, USING A DISTRIBUTED PROCESSING CLIENT/SERVER ARCHITECTURE.

-DATA PROCESSING SHALL BE DISTRIBUTED ACROSS MULTIPLE SERVERS AND APPLICATIONS TO MAINTAIN HIGH SYSTEM PERFORMANCE WHEN EXPANDED.

-SOFTWARE ARCHITECTURE SHALL NOT REQUIRE A SINGLE CENTRAL PROCESSOR TO PERFORM ALL REAL-TIME FUNCTIONS, PROTECTING THE CITY'S SYSTEMS HARDWARE/SOFTWARE INVESTMENT AND ALLOTING FOR INCREMENTAL EXPANSION (MODULARITY) TO HANDLE ANY FUNCTIONS AND FEATURES THAT MAY NOT BE ANTICIPATED OR INCORPORATED AT THIS TIME.

-ALL SYSTEM DEVICES SHALL COMMUNICATE THROUGH COMMUNICATIONS SERVERS UTILIZING DEVICE MANAGER SOFTWARE TO TRANSLATE DATA BEING TRANSMITTED BETWEEN THE CENTRAL SYSTEM AND FIELD DEVICES. EACH DEVICE SHALL BE CONFIGURED TO BE ON-LINE OR OFF-LINE TO REDUCE FAILURES AND ALERTS FOR DEVICES NOT CURRENTLY CONNECTED TO THE SYSTEM.

4) USER INTERFACE

THE CENTRAL SYSTEM SOFTWARE SHALL EMPLOY A GRAPHICAL USER INTERFACE. THE GRAPHICAL USER INTERFACE SHALL INTEGRATE WITH THE SYSTEM TO INCORPORATE GRAPHICAL ELEMENTS THAT FACILITATE, AT MINIMUM, THE FOLLOWING FUNCTIONALITIES:

- ALLOW USER IMPORTED, MULTI-LAYERED MAPPING INTEGRATED AS THE MAJOR PORTION OF THE MAIN GRAPHICS DISPLAY, AND PROVIDE ANY UTILITIES NEEDED TO IMPORT OR GENERATE NEW MAPS FOR ON-DEMAND UPDATES FROM NEW SOURCE FILES. STANDARD GIS MAP FILES (ESRI .SHP FILES, ETC.) SHALL BE SUPPORTED ALONG WITH A FULL ARRAY OF USER VIEW MANIPULATION TOOLS (PAN, ZOOM, WINDOW, ETC.).
- MAPPING SHALL INTEGRATE SEAMLESSLY WITH THE SIMILARLY MULTI-LAYERED AND CONFIGURABLE USER SYSTEM INTERFACE TO DISPLAY DETAILED CATEGORIES OF DYNAMIC AND REAL-TIME SYSTEM OR DEVICE DATA, BASED UPON DEVICE SELECTION AND/OR ZOOM LEVEL.
- PROVIDE A SCHEDULER FOR USER DEFINED AND SCHEDULED EVENTS AND FUNCTIONS TO BE IMPLEMENTED OR TERMINATED BY TIME OF DAY (TOD)/ DAY OF WEEK (DOW) AND FREQUENCIES INCLUDING DAILY, WEEKLY, ANNUALLY, SEASONALLY, HOLIDAYS, SPECIAL, OR ONE-TIME EVENT. ANY SCHEDULED EVENT SHALL BE CONFIGURABLE BY ANY COMBINATION OF INDIVIDUAL FIELD DEVICES, GROUPS OF DEVICES, SECTIONS, OR SYSTEM-WIDE IMPLEMENTATION. ALL EVENTS AND SCHEDULING SHALL INTEGRATE WITH ALL REQUIRED ALERT AND REPORTING FUNCTIONS OF THE SYSTEM.
- MANUAL COMMANDS SHALL BE AVAILABLE WITH THE SAME FUNCTIONALITY AS THE SCHEDULER AND OFFER FULL AUTONOMY FOR IMMEDIATE OR SCHEDULED OVERRIDES.
- PROVIDE ADDITIONAL DISPLAY UTILITIES INCLUDING AT MINIMUM AN "ENTITY" OR DEVICE TREE, DEVICE STATUS, LIST OF CURRENT USERS, ALTERS, FAVORITES, AND INTERSECTION DISPLAY. EACH DISPLAY UTILITY SHALL BE EASILY ACCESSIBLE FROM THE MAIN MAP AND GRAPHICAL USER INTERFACE. CONTROL OF ALL DEVICES SHALL BE ACCESSIBLE FROM MULTIPLE USER INTERFACES.
- PROVIDE USER CUSTOMIZABLE AND DYNAMIC INTERSECTION DISPLAY FEATURES WHERE, AT MINIMUM, INTERSECTION TIMINGS, PHASE DETAILS, DETECTION, COORDINATION, STATUS, AND ALARMS CAN BE VIEWED OR ACCESSED FOR CONFIGURATION

CENTRAL SYSTEM HARDWARE

THE ASSOCIATED HARDWARE SPECIFICATIONS SHALL, AT MINIMUM, INCLUDE ALL OF THE FOLLOWING (OR APPROVED EQUALS):

FILE / APPLICATION (CORE) SERVER:
 Processor: Quad Core Intel Xeon 2nd Processor L5410, 2x6MB Cache 2.33GHz, 1333MHz FSB, PE295D
 Memory: 4GB 6567 MHz (2x2GB), Dual ranked DIMMs
 Hard Drive: 4 each - 146GB SAS, 3.5-inch, 15K RPM Hard Drive
 Hard Drive Controller: PERC6i SAS RAID Controller+ 2x4 Connectors, Int, PCIe, 256MB cache, x6 Bkpl Floppy Disk Driver No Floppy Drive for x6 Backplane.
 Operating System: Windows Server 2008 R2 standard Edition with SP2 Includes 5 CALs
 NIC: ONBOARD BROADCOM 5708 IGBE Networking CD-ROM or DVD-ROM Drive: 24x IDE CD-RW/DVD ROM Drive

COMPUTER RACK AND SERVER ACCESSORIES

48" Enclosed Rack (84"x19"x36") w/ 55cfm fan, Plexiglas front door, louvered rear door, castors
 UPS: MS Standard- 3000 VA 120V
 Ethernet Switch: 16 port 10/100 LAN Managed Switches (2)
 Keyboard/Video Switch: 8 Port KVM Switch with Server Interface Pods
 Telephone Surge Protector: Telephone Surge Prot. 4-port
 Keyboard/Monitor Console: 15FP, 1U Rack console with Rapid Rails, 15" TFT LCD, 83 key mini-keyboard, U.S.

WORKSTATIONS

Processor: Mini Tower, Quad Core Xeon Proc E5405, 2.00GHz, 2x6MB L2 Cache13J3MHz
 Memory: 2GB, DDR2 ECC SDRAM Memory 667MHz, 2X1GB
 Keyboard: Entry level, USB, Not hot keys keyboards
 Dual Monitors: Dual Flat Panels with Height Adjustable Stand, 19.0 Inch
 VIS Video Card: Dual nVidia, Quadro FX 570 256MB dual DVI, Graphics Card
 Hard Drive: 160GB SATA 3.0Gb/s, 7200RPM, Hard Drive with 8MB data burst Cache
 Hard Drive Controller: CI All SATA Hard Drives Non- RAID for 1 Hard Drive
 Operating system: Windows 7 SPI Business License
 Mouse: USB 2 Button Optical Mouse with Scroll
 NIC: Broadcom NetXtreme 10/100/1000Gigabit Ethernet controller PCI Express
 CD-ROM/DVD-ROM Drive: 16XDVD AND 16XDVD+/-RW, Data Only Roxio Creator Dell Edition,9.0 Cyberlink Power DVD 8.0,with Media
 Wall Monitors: (2) 52" Flatscreen monitors mounted on wall located by the city

LAPTOP COMPUTERS

Processor: Intel Core 2 Duo T8300, 2.40GHz, 800Mhz 3M L2 Cache, Dual Core
 Memory: 2GB, DDR2-667 SDRAM Memory 667MHz, 2X1GB
 Keyboard: Internal English Keyboard
 Monitor: 14.1 inch Wide Screen WXGA RGDLCD
 Video Card: Intel Integrated Graphics Media Accelerator
 Hard drive: 80GB Shock Mounted Hard drives 9.5MM, 4200RPM
 Hard Drive Controller: CI All SATA Hard Drives Non- RAID for 1 Hard Drive
 Operating System: WINDOWS 7 with business License
 Mouse: Touchpad with UPEK fingerprint reader
 NIC: Broadcom NetXtreme 10/100/1000Gigabit Ethernet controller
 CD-ROM/DVD-ROM Drive: 8X DVD+/-RW Roxio Creator Dell Edition,9.0 Cyberlink Power DVD 8.0,with Media

- 2) NETWORK HARDWARE SHALL BE CONFIGURABLE TO BE GATEWAY-INTERFACED IN THE FUTURE WITH AN EXISTING LAN.
- 3) THE SYSTEM SHALL INCLUDE A CORE SERVER AND A COMMUNICATIONS SERVER. IT SHALL ACCOMMODATE UP TO ONE HUNDRED (100) DEVICES. ALL CORE SERVER APPLICATIONS AND COMMUNICATIONS SERVER APPLICATIONS SHALL BE INSTALLED SEPARATELY ON THEIR RESPECTIVE SERVERS.
- 4) THE SYSTEM SHALL SUPPORT MULTIPLE COMMUNICATIONS SERVERS FOR INTER-JURISDICTIONAL SYSTEMS OR FOR SYSTEMS WITH A LARGE NUMBER OF DEVICES EACH COMMUNICATIONS SERVER SHALL SUPPORT UP TO TWO HUNDRED FIFTY (250) DEVICES.
- 5) THE CENTRAL SOFTWARE SHALL INCORPORATE A MEANS FOR CLIENT WORKSTATIONS TO BE AUTOMATICALLY UPDATED WITH NEW VERSIONS THAT ARE INSTALLED ON THE SERVER. ALL UPDATES WILL BE INCLUDED DURING THE FIRST YEAR OF OPERATION AS PART OF THE STANDARD WARRANTY PERIOD. SUBSEQUENT UPDATES SHALL BE PROVIDED AUTOMATICALLY AS PART OF AN ANNUAL SOFTWARE MAINTENANCE AGREEMENT, THROUGH WHICH ANY AND ALL UPGRADES DURING THE MAINTENANCE AGREEMENT PERIOD WILL BE INCLUDED.

CALCULATED
JAW
CHECKED
DLW

TRAFFIC SIGNAL NOTES

STA-12TH STREET

615
790

SYSTEM FUNCTION

1) CENTER-TO-FIELD COMMUNICATIONS: COMMUNICATE TO THE FIELD DEVICES IN ACCORDANCE WITH NTCIP PROTOCOLS USING ETHERNET AND THE PROPOSED FIBER-OPTIC INTERCONNECT SYSTEM. THE SYSTEM SHALL BE CAPABLE OF CONTROLLING, RECEIVING STATUS AND DATA FROM, AND UPLOADING AND DOWNLOADING FIELD DATA, AND APPLICABLE CONTROL PARAMETERS TO AND FROM EACH DEVICE.

2) DATABASE:

THE SYSTEM SHALL MANAGE THE ATMS AND ALL DEVICE DATABASES AND MONITOR AND CONTROL ALL FIELD DEVICES FROM ONE CENTRAL LOCATION (CANTON CITY HALL) AND OPTIONAL REMOTE FACILITIES. -EACH SYSTEM WORKSTATION OR LAPTOP SHALL REQUIRE A USERNAME AND PASSWORD FOR ANY USER, TO BE ASSIGNED BY THE SYSTEM ADMINISTRATOR. THE SYSTEM SHALL ALLOW FOR USER AND GROUP PRIVILEGES TO BE DEFINED AND ASSIGNED BY THE ADMINISTRATOR. -DATABASE MANAGEMENT SHALL ALLOW PROGRAMMING OF THE INTERSECTION CONTROLLER DATABASES. UPLOAD/DOWNLOAD SHALL TRANSFER THE PROGRAMMABLE DATABASE FROM/TO THE SELECTED DEVICE. EACH DEVICE SHALL HAVE SEPARATE DATABASE PROGRAMMING PAGES. THESE PAGES SHALL CONTAIN ALL THE PROGRAMMING OPTIONS UNIQUE TO EACH DEVICE. -STANDARD INDUSTRY ACCEPTED TRAFFIC ENGINEERING TERMINOLOGY SHALL BE USED THROUGHOUT THE PROGRAMMING DISPLAYS. THE SYSTEM'S DEVICE DATABASE MANAGEMENT SHALL PROVIDE AN OPERATOR MENU SELECTION INTERFACE THAT IS SIMILAR TO THE CONTROLLER'S MENU SELECTION.

3) MAINTENANCE AND MALFUNCTION MANAGEMENT

THE SYSTEM SHALL BE CAPABLE OF THE FOLLOWING UPON DETECTING PROBLEMS WITH THE SYSTEM OR FROM ANY DEVICE: -AUTOMATIC ALPHANUMERIC MESSAGES (SMS - TEXT MESSAGING) TO CELLULAR TELEPHONES AND EMAIL ADDRESSES) -POP-UP ALARM OR SIMILAR NOTIFICATIONS FOR ANY WORKSTATION OR LAPTOP LOGGED INTO THE SYSTEM -USER ACKNOWLEDGMENT CONFIRMATIONS AND PROGRAMMABLE ALERT RECURRENCE -LOGGING OFF ALL MALFUNCTION NOTIFICATIONS, RETRIES, AND/OR ACKNOWLEDGMENTS WITH TIME AND DATE STAMPS.

4) INTERSECTION CONTROL

THE SYSTEM AND USER INTERFACE SHALL FACILITATE FULL ACCESS TO AUTHORIZED USERS FOR DYNAMIC, REAL-TIME STATUS AND OPERATIONAL CONTROL OF INTERCONNECTED NEMA, 2070, COMMUNICATIONS PROTOCOLS. INTERSECTION CONTROL STATUS AND OPERATIONAL DETAILS SHALL BE AVAILABLE FROM THE MAP AND OTHER USER INTERFACE DISPLAYS. -CONTROLLER STATUS SHALL BE AVAILABLE DYNAMICALLY FROM ALL ZOOM LEVELS OF THE MAIN MAP INTERFACE AND STATUSES SHALL INCLUDE: FREE, COORDINATED, AND TRANSITIONAL OPERATIONS, FLASH, PREEMPTION, TRANSIT SIGNAL PRIORITY, AND/OR LOSS OF COMMUNICATIONS. -ADDITIONAL DETAILED INFORMATION SHALL BE CUSTOMIZABLE WITH ZOOM LEVELS AND INCLUDE BUT NOT BE LIMITED TO: SIGNAL COLORS OR OVERLAPS, ACTIVE COORDINATION PATTERN, ACTIVE PREEMPTION PLAN, AND GRAPHICAL INDICATION OF DEMANDS UPON VEHICULAR OR PEDESTRIAN PHASES. -CUSTOMARY CONTROLLER PROGRAMMING AND OPERATION FEATURES SHALL BE ACCESSIBLE AT THE INTERSECTION LEVEL AND, AT MINIMUM, INCLUDE INTERSECTION CONTROL MODE, COORDINATION STATUS, PROGRAMMED AND ACTUAL CYCLE LENGTH/ OFFSET/PHASE TIMINGS, ALARM STATUS, OVERLAP TIMINGS AND STATUS, AND PHASE NEXT. INTERSECTION CONTROL MODES INCLUDE: TRAFFIC RESPONSIVE (TR), TIME OF DAY (TOD), MANUAL, FAILED, LOCAL, AND CENTRAL, TECHNICIAN, OR CONFLICT FLASH.

5) TIME SYNCHRONIZATION

CONTINUOUS MONITORING AND MANAGEMENT OF SYSTEM AND ALL CONTROLLERS SHALL BE PROVIDED TO MINIMIZE TIME DRIFT THROUGHOUT THE SYSTEM AND MAINTAIN ACCEPTABLE TIME SYNCHRONIZATION. THIS SHALL, AT MINIMUM, INCLUDE CAPABILITIES TO: -RECEIVE CLOCK UPDATES FROM AN EXTERNAL TIME SYNCHRONIZATION SOURCE -BROADCAST, UNICAST, OR USE A COMBINATION OF BOTH TO SEND TIME UPDATES TO CONTROLLERS ON A USER-CONFIGURABLE SCHEDULE INCLUDING CONTROL OVER FREQUENCY, TIMING, AND REPETITION SETTINGS. -AUTOMATICALLY CORRECT TIME DRIFT RELATIVE TO A PRE-CONFIGURED THRESHOLD. -MANUALLY UPDATE OR OVERRIDE INDIVIDUAL AND SYSTEM-WIDE TIME CLOCKS.

6) SYSTEM ANALYSIS & ENGINEERING

SOFTWARE SYSTEM TO MONITOR, ANALYZE, AND ENGINEER THE ONGOING TRAFFIC OPERATIONS UNDER CONTROL OF THE SYSTEM, INCLUDING: -THIS SHALL INCLUDE THE ABILITY TO TRANSFER CONTROLLER PHASE TIMING AND COORDINATION DATA AND DETECTOR DATA TO/FROM THE SOFTWARE FOR ANALYSIS AND MODIFICATION. -TIME/SPACE DIAGRAMS' PROVIDE FULL DISPLAY OF PROGRAMMED AND REAL-TIME COORDINATION TIMINGS, OFFSETS, PROGRESSION BANDS, AND PHASES/OVERLAPS, AND -REAL TIME MONITORING OF INTERSECTION PHASING/TIMING SPLITS AND TOOLS TO EVALUATE ACTUAL SPLIT CONDITIONS RELATIVE TO PROGRAMMED CONDITIONS OVER USER QUERIED TIME PERIODS.

7) REPORTING

THE SYSTEM SHALL PROVIDE REPORTING FUNCTIONS FOR INFORMATION COMPILED FROM SYSTEM RETRIEVED DATA AND ANY FIELD DEVICE CAPABLE OF LOGGING DATA. THESE REPORTS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING: -SYSTEM REPORTS SUCH AS ALERTS LOG, DEVICE COMMUNICATIONS CONFIGURATION, DEVICE CONFIGURATION, ENTITY HIERARCHY, EVENTS LOG, SCHEDULER, SYSTEM ACTIVITY, UPLOAD, AND USER LOGIN REPORT -DEVICE REPORTS SUCH AS: DETECTOR DATA, SIGNAL DETECTOR EVENTS, SIGNAL EVENTS, SPLIT MONITOR, AND TIME DRIFT REPORT. -USER CUSTOMIZED REPORTS

BUILDING INTEGRATION & ADAPTATION

THE CENTRAL SIGNAL SYSTEM AND TWO (2) WORKSTATIONS SHALL BE INSTALLED IN THE CITY OF CANTON ENGINEERING BUILDING.

ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO INSTALL THE CENTRAL SIGNAL SYSTEM IN EXISTING CITY OF CANTON FACILITIES AS INDICATED HEREIN SHALL BE INCLUDED. THIS MAY INCLUDE BUT NOT LIMITED TO ADAPTATIONS TO EXISTING ELECTRICAL AND COMMUNICATIONS SYSTEMS TO ASSURE ADEQUATE POWER SERVICE AND COMMUNICATIONS ARE ACHIEVED FOR THE SYSTEM AS SPECIFIED. THE CONTRACTOR SHALL OBTAIN EXISTING ARCHITECTURAL PLANS FROM THE CITY OF CANTON AND/OR CONDUCT ADVANCE FIELD VERIFICATION OF EXISTING FACILITIES AS NEEDED TO ASSURE SUCH ADDITIONAL ELEMENTS OF INSTALLATION ARE ADEQUATELY ADDRESSED.

IT IS THE INTENT OF THESE PLANS TO SHOW THE LOCATION WHERE THE FIBER OPTIC WILL ENTER THE CITY OF CANTON ENGINEERING BUILDING.

ADMINISTRATION & SUPPORT

1) TRAINING

PROVIDE TRAINING FOR THE CENTRAL SYSTEM IN ACCORDANCE WITH CMS 633.16, AND TO INCLUDE THE FOLLOWING: A MINIMUM OF TWO (2) DAYS (16 HOURS) FORMAL CLASSROOM TRAINING AND EIGHT (8) HOURS "HANDS-ON" OPERATIONS TRAINING SHALL BE PROVIDED FOR PERSONNEL DESIGNATED BY THE CITY OF CANTON. SYSTEM TRAINING SHALL BE PROVIDED BY EXPERIENCED INSTRUCTORS AND SHALL INCLUDE ALL TRAINING MATERIAL FOR FORMAL CLASSROOM AND HANDS-ON WORK. THE TRAINING SHALL COVER BOTH OPERATION AND MAINTENANCE OF THE SYSTEM SOFTWARE. COPIES OF COURSE MATERIALS SHALL BE SUPPLIED TO AND BE RETAINED BY THE CITY OF CANTON. HANDS-ON TRAINING SHALL BE PROVIDED TO CITY OF CANTON PERSONNEL ASSIGNED TO THE PROJECT. THE TRAINING SHALL CONSIST OF, AT A MINIMUM' SYSTEM OPERATION, SYSTEM PERFORMANCE ANALYSIS, AND REVISION OF SYSTEM OPERATING PARAMETERS BASED ON THE ANALYSIS FAMILIARITY WITH CONSTRUCTION DETAILS OF CENTRAL OFFICE EQUIPMENT (DISCONNECT LOCATIONS, CABLE ROUTING, ETC) OPERATION AND CONTROL OF ALL DEVICES, GENERATION AND EDITING OF DEVICE DATABASES, UPLOADING/DOWNLOADING OF DEVICE DATABASES, EXPLANATION OF THE COMMUNICATION SYSTEM, BASIC TROUBLESHOOTING PROCEDURES TO ISOLATE MALFUNCTIONS.

ALL CENTRAL SYSTEM TRAINING WILL BE PAID FOR UNDER ITEM 633, CONTROLLER ITEM MISC, CENTRAL SIGNAL SYSTEM TRAINING FOR THE CONTRACT LUMP SUM PRICE BID.

2) LICENSING

PROVIDE FULL LICENSING DOCUMENTATION FOR ANY AND ALL SOFTWARE OR COMPONENTS REQUIRED HEREIN INCLUDING, AT MINIMUM, THE CENTRAL SYSTEM AND SIGNAL ANALYSIS AND OPTIMIZATION SOFTWARE. FULL LICENSURE SHALL BE INCLUDED FOR THE USE OF ALL SYSTEM COMPONENTS AND SOFTWARE REQUIRED BY THE CENTRAL SYSTEM TO INCLUDE ANY ASSOCIATED THIRD PARTY COMPONENTS OR SOFTWARE.

3) DOCUMENTATION

OPERATION AND MAINTENANCE MANUALS SHALL BE SUPPLIED FOR ALL EQUIPMENT AND COMPONENTS OF THE SYSTEM. PROVIDE IN BOTH ELECTRONIC AND HARD COPY FORMAT. A MINIMUM OF THREE (3) HARD COPIES SHALL BE SUPPLIED.

4) INSTALLATION AND TESTING

UPON CONTRACT AWARD, ASSIGN A CENTRAL SYSTEM PROJECT MANAGER TO OVERSEE THE DEVELOPMENT OF THE SYSTEM IMPLEMENTATION SCHEDULE AND TO SERVE AS THE MAIN POINT OF CONTACT TO THE CITY OF CANTON. THE PROJECT MANAGER SHALL HAVE PROVEN EXPERIENCE IN MANAGING TRAFFIC MANAGEMENT SYSTEM PROJECTS OF THE SIZE OUTLINED IN THIS SPECIFICATION. THE PROJECT MANAGER SHALL DEVELOP A MICROSOFT PROJECT (OR COMPATIBLE) SCHEDULE DETAILING THE TASKS REQUIRED TO FURNISH THE SPECIFIED SYSTEM. THIS SCHEDULE SHALL FORM THE BASIS OF ALL SYSTEM PROJECT MILESTONES.

IN ADDITION, ASSIGN A PROJECT ENGINEER TO OVERSEE THE DESIGN, ASSEMBLY, AND TESTING OF THE SYSTEM HARDWARE AND SOFTWARE. UPON COMPLETION OF THE SYSTEM DESIGN, THE PROJECT ENGINEER SHALL ASSEMBLE ALL CENTRAL SYSTEM HARDWARE AND SOFTWARE INTO A WORKING SYSTEM. THE PROJECT ENGINEER SHALL THEN COMPLETE A STANDARD FACTORY ACCEPTANCE TEST ON THE ASSEMBLED SYSTEM HARDWARE AND SOFTWARE. A COPY OF THE COMPLETED FACTORY ACCEPTANCE TEST SHALL BE PROVIDED TO THE PURCHASING AGENCY UPON REQUEST. AFTER COMPLETION OF THE FACTORY ACCEPTANCE TEST THE SYSTEM SHALL BE DISASSEMBLED, PACKED, AND SHIPPED TO THE PURCHASING AGENCY.

THE PROJECT MANAGER SHALL OVERSEE, AND THE PROJECT ENGINEER SHALL BE ON-SITE TO UNPACK, ASSEMBLE, AND PERFORM INITIAL TESTS ON THE NEW SYSTEM. ON-SITE SYSTEM INTEGRATION SHALL INCLUDE, A TESTING AND VERIFICATION OF THE INSTALLED INTERCONNECT INFRASTRUCTURE BY ACTUALLY COMMUNICATING TO EACH CONTROLLER CONNECTED TO THE SYSTEM, AND PERFORM AN A FULL ARRAY OF TESTS NECESSARY TO VALIDATE FULL SYSTEM FUNCTIONALITY AS REWIRED HEREIN.

5) WARRANTY

ALL SYSTEM SOFTWARE AND COMPONENTS SHALL BE WARRANTED FOR A MINIMUM OF TEN (10) YEARS FROM SYSTEM ACCEPTANCE. ANY CORRECTIONS OR REQUIRED MODIFICATIONS FOR PROPER SYSTEM OPERATION PER THESE SPECIFICATIONS SHALL BE FURNISHED TO THE CITY OF CANTON AT NO ADDITIONAL COST DURING THE WARRANTY PERIOD. PROVIDE BOTH PHONE AND EMAIL SUPPORT. AVAILABLE DURING NORMAL BUSINESS HOURS, FOR THE SYSTEM DURING THE WARRANTY PERIOD AT NO ADDITIONAL COST.

SYSTEM SOFTWARE UPDATES AND ONE ANNUAL ON-SITE VISIT FOR UP TO 32 HOURS SHALL BE PROVIDED. THIS VISIT SHALL BE CONDUCTED TO UPDATE SYSTEM SOFTWARE, CONDUCT SYSTEM CHECKUP, AND CONDUCT SUPPLEMENTAL TRAINING IF NEEDED.

ANY THIRD PARTY HARDWARE AND SOFTWARE WARRANTIES SHALL BE PASSED TO THE CITY OF CANTON.

TRAFFIC RESPONSIVE (TR) CONTROL GENERAL DESCRIPTION

THE SYSTEM SHALL UTILIZE A V+KO (VOLUME PLUS SCALED OCCUPANCY) ALGORITHM DEVELOPED BY THE US DEPARTMENT OF TRANSPORTATION FOR TRAFFIC-RESPONSIVE OPERATIONS. SYSTEM DETECTOR DATA SHALL PROVIDE THE BASIS FOR ALL TR PLAN SELECTIONS BY THE SYSTEM. THE SYSTEM SHALL UTILIZE A THRESHOLD-BASED ALGORITHM, UTILIZING COMPUTATIONAL CHANNELS TO EVALUATE SYSTEM CONGESTION AND TRAFFIC FLOWS. THE TR OPERATION SHALL AUTOMATICALLY SELECT THE TIMING PLANS FOR WHICH TRAFFIC FLOW PARAMETERS HAVE BEEN DEFINED THAT EXCEED THE USER-DEFINED THRESHOLD OF TRAFFIC. THE TR MODE SHALL BE SELECTED BY A MANUAL USER COMMAND OR ON A TOD BASIS. TR DATABASE SHALL IDENTIFY THE SYSTEM DETECTORS THAT ARE TO BE USED FOR TR PLAN SELECTION FOR EACH SECTION. THE DETECTOR DATA SHALL HAVE SMOOTHING FACTORS TO CONFIGURE IMPORTANCE OF MOST RECENT DATA VS. HISTORICAL DATA. THE DETECTOR DATA SHALL HAVE SCALING FACTORS TO ACCOMMODATE LOOP PLACEMENT AND REDUNDANCY AS WELL AS ESTABLISH RATIO OF DETECTORS USED TO ESTABLISH COMPUTATIONAL CHANNEL. A SEPARATE WEIGHTING FACTOR IS USED FOR EACH DETECTOR BUT EACH SHARES THE SAME "K" VALUE.

PLAN IMPLEMENTATION TECHNIQUES

PLANS SHALL BE SELECTED FOR IMPLEMENTATION USING THE FOLLOWING PROCESS SEQUENCE:

1. PROCESS VEHICLE VOLUMES AND OCCUPANCIES FROM DEFINED SYSTEM DETECTORS.
2. CALCULATE WEIGHTED SUM OF VOLUMES PLUS A FACTOR OF OCCUPANCIES (V+KO).
3. COMPARE THE V+KO VALUE WITH THE PROGRAMMED THRESHOLDS.
4. SELECT THE PLAN WITH THE CLOSEST MATCH TO THE CALCULATED VALUE AND THAT SATISFIES THE USER CONFIGURED CHANGE THRESHOLD.
5. THE SELECTED TIMING PLAN SHALL BE TRANSMITTED TO THE CONTROLLERS. THE PLAN WILL BE INVOKED PROVIDED THAT IT IS AVAILABLE AT EACH CONTROLLER IN THE APPLICABLE SECTION OR SYSTEM.

THE DURATION OF EACH TR SAMPLING PERIOD SHALL BE OPERATOR-SELECTABLE. TR OPERATION SHALL BE CAPABLE OF BEING OVERRIDDEN BY MANUAL SELECTION. SYSTEM DETECTORS SHALL PROVIDE VOLUME AND OCCUPANCY DATA FOR ARCHIVED STORAGE AND ANALYSIS PURPOSES. PLAN CHANGES SHALL BE IMPLEMENTED UNDER TR ONLY IF THE MINIMUM CHANGE THRESHOLD HAS BEEN EXCEEDED. PLAN CHANGES SHALL BE IMPLEMENTED UNDER TR ONLY IF THE USER-SPECIFIED PERCENTAGE OF VALID DETECTION IS MET OR EXCEEDED.

CENTRAL SYSTEM MODULES:

VIDEO MONITORING SYSTEM - INCLUDE

THE ATMS SOFTWARE SHALL PROVIDE AN ADVANCED CCTV VIDEO MONITORING SYSTEM AS AN ADDITIONAL MODULE (IN ADDITION TO THE STANDARD CCTV VIEWER).

1. THE CCTV SYSTEM SHALL BE IP-BASED AND PROVIDE FOR NETWORK-BASED SWITCHING OF DIGITIZED VIDEO STREAMS.
2. THE CCTV SYSTEM SHALL BE CAPABLE OF SUPPORTING UNICAST VIDEO STREAMS
3. THE CCTV SYSTEM SHALL BE CAPABLE OF SUPPORTING MULTICAST VIDEO STREAMS, DEPENDING ON THE CAPABILITIES OF THE NETWORK SWITCHES AND ROUTERS.
4. THE CCTV SYSTEM SHALL SUPPORT MULTIPLE CAMERA TYPES AND MANUFACTURERS.
5. THE CCTV SYSTEM SHALL SUPPORT ANY NUMBER OF MULTIPLE USERS OR CLIENTS, BASED UPON NUMBER OF LICENSES PROVIDED CCTV CAMERAS AND ENCODERS

1. THE SYSTEM SHALL SUPPORT IP CAMERAS THAT DIRECTLY GENERATE DIGITAL IP VIDEO STREAMS.
2. THE SYSTEM SHALL SUPPORT ANALOG VIDEO CAMERAS DIGITAL IP VIDEO STREAM.
3. THE SYSTEM SHALL SUPPORT CONFIGURATION OF CAMERA OR ENCODER IMAGE SIZE, QUALITY, AND FRAME-RATE WHERE SUPPORTED BY THE HARDWARE.
4. DEPENDING ON THE CAPABILITY OF THE ATTACHED CAMERAS OR ENCODERS, THE SYSTEM SHALL SUPPORT MOTION JPEG, MPEG4 PART 2 AND MPEG4 PART 10 (H.264).
5. THE SYSTEM SHALL SUPPORT BOTH FIXED AND PTZ CAMERAS.
6. THE SYSTEM SHALL BE EXTENSIBLE TO ALLOW AT LEAST 1000 ATTACHED CAMERAS OR ENCODERS. ADDITIONAL LICENSING FEES MAY BE REQUIRED.
7. THE NUMBER OF SIMULTANEOUS VIDEO STREAMS SHALL BE LIMITED ONLY BY THE INSTALLED HARDWARE, NETWORK BANDWIDTH, AND NUMBER OF LICENSED CAMERAS.

CCTV CLIENTS - INCLUDE

1. THE SYSTEM SHALL SUPPORT BOTH RICH-CLIENT AND WEB BROWSER MEANS TO VIEW AND CONTROL THE CAMERAS IN THE ADVANCED CCTV SYSTEM (I.E. FOR POLICE OR CITY USE).
2. THE SYSTEM SHALL SUPPORT MULTIPLE, CONCURRENT CLIENTS, EACH CAPABLE OF OPENING MULTIPLE CCTV VIDEO PLAYER WINDOWS.

3. THE VIDEO PLAYER WINDOW SHALL PROVIDE MOUSE GESTURES TO PAN, TILT AND ZOOM A PTZ CAMERA. IT SHALL BE POSSIBLE TO ZOOM THE CAMERA BY USING THE MOUSE SCROLL WHEEL.
4. CCTV CAMERAS SHALL BE REPRESENTED AS DEVICES ON THE SYSTEM MAP OR MAPS AND IN THE SYSTEM CONTROL TREE VIEW.
5. THE OPERATOR SHALL BE ABLE TO DOUBLE-CLICK ON A CAMERA OBJECT IN A MAP OR TREE TO OPEN THE PLAYER WINDOW.
6. IT SHALL BE POSSIBLE TO DRAG AND DROP THE CAMERA VIEWER WINDOW INTO A SYSTEM CONTAINER AREA.
7. THE CLIENT VIDEO PLAYER WINDOW SHALL SUPPORT PTZ PRESETS FOR CAMERAS THAT SUPPORT THIS FEATURE. THE PLAYER SHALL SUPPORT AS MANY PRESETS AS THE CAMERA SUPPORTS UP TO A MAXIMUM OF 255 PRESETS.
8. THE CLIENT VIDEO PLAYER WINDOW SHALL SUPPORT TOURS OR TIMED SWITCHING BETWEEN PROGRAMMED CAMERAS AND PRESETS. THE SYSTEM SHALL SUPPORT AT LEAST 64 TOURS AND AT LEAST 64 CAMERA PRESETS PER TOUR. THE DWELL TIME FOR EACH CAMERA PRESET OR STOP SHALL BE CONFIGURABLE IN SECONDS.
9. THE CLIENT PLAYER WINDOW SHALL PROVIDE THE ABILITY TO STOP THE VIDEO STREAM AND THEN RESTART THE STREAM.
10. THE CLIENT PLAYER SHALL PROVIDE THE ABILITY TO SAVE A "SNAPSHOT" OF THE VIDEO IMAGE AS A JPEG OR BMP FILE.

CCTV WALL MONITORS - INCLUDE

1. THE CCTV SYSTEM SHALL PROVIDE A MEANS TO DISPLAY VIDEO IMAGES ON A WALL MONITOR OR VIDEO WALL.
2. IT SHALL BE POSSIBLE TO SEND CAMERA TOURS (AS DESCRIBED UNDER THE CCTV CLIENTS SECTION ABOVE) TO THE WALL.
3. A SINGLE VIDEO SIGNAL SENT TO A WALL MONITOR SHALL BE CAPABLE OF DISPLAYING MULTIPLE VIDEO STREAMS IN TILED WINDOWS.

CCTV SECURITY AND ACCESS - INCLUDE

1. ACCESS TO THE CCTV SYSTEM SHALL BE CONTROLLED BY PRIVILEGES ASSOCIATED WITH USER LOGIN NAMES AND PASSWORDS. PRIVILEGES SHALL EXIST TO ALLOW OR DISALLOW DIRECT PTZ CONTROL OF A CAMERA, TO ALLOW OR DISALLOW PLAYING OF A PREDEFINED CAMERA TOUR, AND TO ALLOW OR DISALLOW CREATION OF CAMERA TOURS.
2. EACH USER SHALL HAVE A PRIORITY SETTING TO CONTROL WHICH USER HAS PRIORITY IF MORE THAN ONE USER ATTEMPTS TO ACCESS THE PTZ CONTROL OF A CAMERA AT THE SAME TIME. ONCE A USER HAS TAKEN OVER THE PTZ CONTROL OF A CAMERA, THAT USER SHALL MAINTAIN CONTROL OF THE CAMERA FROM ANY EQUAL OR LOWER PRIORITY USER UNTIL A PTZ INACTIVITY TIMER HAS EXPIRED (WITHOUT ANY PTZ MOVEMENT) AT WHICH POINT CONTROL WILL BE RELINQUISHED.

CCTV RECORDING - INCLUDE

1. A SEPARATE VIDEO RECORDING SYSTEM (NOT INCLUDED IN THE STANDARD CCTV SYSTEM OR ADVANCED CCTV MODULE) SHALL EXIST TO ALLOW RECORDING OF VIDEO STREAMS.
2. IT SHALL BE POSSIBLE TO START AND STOP RECORDING FROM THE CLIENT VIDEO PLAYER WINDOW.
3. IT SHALL BE POSSIBLE TO CONFIGURE THE CCTV SYSTEM TO RECORD VIDEO BASED ON A TOD SCHEDULE.

ALTERNATE BID ITEM

ITEM 633 - CONTROLLER ITEM, MISC.: CENTRAL SIGNAL SYTEM, (INTELIGHT)

THIS CENTRAL SIGNAL SYSTEM ITEM SHALL USE THE FOLLOWING MODEL: INTELIGHT MAXVIEW.

THIS ITEM SHALL MEET THE SPECIFICATIONS OF THE BASE BID ITEM (ITEM 633 - CONTROLLER ITEM, MISC.: CENTRAL SIGNAL SYSTEM (ECONOLITE "CENTRACS")

THIS ITEM SHALL INCLUDE THE SAME MODULES AS ITEM 633 - CONTROLLER ITEM, MISC.: CENTRAL SIGNAL SYSTEM, (CENTRACS), AS PER PLAN

THE SUPPLIER SHALL PROVIDE CENTRAL SIGNAL SYSTEM TRAINING TO THE CITY OF CANTON WITHIN FIVE (5) DAYS OF SYSTEM ACCEPTANCE. TRAINING SHALL BE DIVIDED INTO TWO (2) COURSES, MAINTENANCE TRAINING AND OPERATION TRAINING, AND SHALL INCLUDE, BUT NOT LIMITED TO. THE SOFTWARE AND TROUBLESHOOTING. TRAINING SHALL BE CONDUCTED AT A LOCATION DESIGNATED BY THE CITY OF CANTON. TRAINING COURSES SHALL ACCOMMODATE UP TO TEN (10) PEOPLE AND SHALL CONSIST OF A MINIMUM FOUR (4) HOURS EACH. THE LENGTH OF EACH TRAINING COURSE IS AT THE DISCRETION OF THE CITY OF CANTON. THE COST FOR TRAINING SHALL BE INCIDENTAL TO THE CONTROLLER BID ITEMS (BID ITEMS 633).

ITEM 633 - CONTROLLER ITEM, MISC.: CENTRAL SIGNAL SYSTEM FURNITURE

PROVIDE FURNITURE TO HOUSE AND OPERATE ALL CENTRAL SIGNAL SYSTEM COMPONENTS AT THE ENGINEERING BUILDING (ROOM TO BE DETERMINED BY THE CITY). THIS SHALL INCLUDE FURNITURE TO HOUSE AND OPERATE ALL SYSTEM COMPONENTS INCLUDING, BUT NOT LIMITED TO, SERVERS AND WORKSTATIONS. THE CONTRACTOR SHALL DEVELOP A PROPOSED FURNITURE PLAN WITH AN ALLOWANCE OF \$15,000 (MATERIALS AND LABOR).

PRIOR TO ORDERING MATERIAL, THE CONTRACTOR WILL ATTEND A COORDINATION MEETING TO OUTLINE THE FURNITURE REQUIREMENTS. FROM THE COORDINATION MEETING THE CONTRACTOR SHALL PROVIDE DETAILED SHOP DRAWINGS FOR CITY APPROVAL AS WELL AS AN ITEMIZED COST FOR THE FURNITURE PIECES INCLUDING APPLICABLE TAXES AND ACTUAL FREIGHT CHARGES. ADDITIONALLY, THE CONTRACTOR SHALL INCLUDE AN ADDITIONAL 15 PERCENT MARKUP ON THESE COSTS.

UPON ACCEPTANCE OF THE CONTRACTOR'S SHOP DRAWINGS AND ITEMIZED MATERIAL COSTS, THE CITY SHALL PAY FOR THE CONTRACTOR'S ACTUAL INVOICE COSTS (AS QUOTED), FOR THE FURNITURE APPROVED BY THE CITY BASED ON THE CONTRACTOR'S SHOP DRAWINGS. LABOR FOR THE INSTALLATION OF THE FURNITURE SHALL BE TRACKED ACCORDING TO 109.05.C.2. DELIVERY OF THE FURNITURE SHALL BE COORDINATED WITH THE INSPECTOR NO LESS THAN 48 HOURS PRIOR TO DELIVERY.

THIS ITEM WILL BE PAID AS A PERCENTAGE OF THE LUMP SUM BASED UPON THE DOCUMENTATION OF THE ACTUAL TOTAL COST OF FURNITURE DELIVERED AND INSTALLED INCLUDING BOTH LABOR AND MATERIAL.

ITEM 633 - CONTROLLER ITEM, MISC.: ADAPTIVE ALGORITHM

- A. THE ATMS SOFTWARE SHALL INCLUDE AN INTEGRATED ADAPTIVE SYSTEM
- B. THE ADAPTIVE SYSTEM SHALL BE ABLE TO OPERATE WITHIN THE ATMS CONFIGURATION WITHOUT THE NEED FOR ADDITIONAL HARDWARE OR SERVERS
- C. THE ADAPTIVE SYSTEM SHALL BE CAPABLE OF NATIVELY RUNNING IN CONJUNCTION WITH THE TRAFFIC RESPONSIVE AND TOD OPERATIONS OF THE ATMS
- D. INCLUDES ALL NECESSARY HARDWARE FOR A TOTAL OF 9 INTERSECTIONS.

PAYMENT FOR THE ADAPTIVE SYSTEM LISTED ABOVE SHALL BE INCLUDED IN THE LUMP SUM BID OF ITEM 633-CONTROLLER ITEM, MISC.: ADAPTIVE ALGORITHM.

ITEM 633 - CONTROLLER ITEM, MISC.: UPGRADE OF EXISTING CITY SIGNAL SYSTEM

THIS ITEM SHALL INCLUDE ANY NECESSARY DEVICES TO UPGRADE THE EXISTING CITY CONTROLLER FROM ANALOG TO ETHERNET COMMUNICATIONS TO COMMUNICATE WITH THE CENTRAL SIGNAL SYSTEM. THE EXISTING CONTROLLERS COMMUNICATE THROUGH COPPER INTERCONNECT CABLE OR RADIO COMMUNICATIONS. THERE ARE 48 TOTAL CABINETS THAT SHALL BE UPGRADED. CURRENTLY 39 HAVE COPPER CONNECTIONS, 8 HAVE RADIO COMMUNICATIONS AND ONE HAS BOTH. THE CONTRACTOR SHALL CONTACT THE CITY FOR THE LOCATIONS OF THE CONTROLLERS THAT SHALL BE UPGRADED.

PAYMENT FOR ITEM 633 - CONTROLLER ITEM, MISC.: UPGRADE OF EXISTING CITY SIGNAL SYSTEMS SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH CONTROLLER UPGRADED IN PLACE AND FULLY OPERATIONAL AS DIRECTED BY THE CITY. ALL MATERIALS AND WORK REQUIRED TO COMPLETE THIS ITEM, INCLUDING ATTACHMENT BRACKETS, SHALL BE INCLUDED IN THE UNIT COST. A QUANTITY OF 48 EACH ITEM 633 - CONTROLLER ITEM, MISC.: UPGRADE OF EXISTING CITY SIGNAL SYSTEMS IS CARRIED TO THE GENERAL SUMMARY.

CALCULATED
JAW
CHECKED
DLW

TRAFFIC SIGNAL NOTES

STA - 12TH STREET

617
790

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ITEM 816 - VIDEO DETECTION SYSTEM, AS PER PLAN

THIS ITEM OF WORK SHALL MEET STATE OF OHIO DEPARTMENT OF TRANSPORTATION (ODOT) SUPPLEMENTAL SPECIFICATION 816, VIDEO DETECTION SYSTEM. IN ADDITION TO THE REQUIREMENTS OF ODOT'S SUPPLEMENTAL SPECIFICATION 907 THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:

THE THERMAL TRAFFIC SENSOR AND DETECTION MODULE MUST BE INTEGRATED IN ONE HOUSING WITHOUT THE NEED FOR ANY ADDITIONAL DETECTION SOFTWARE OUTSIDE OF THIS HOUSING. BY USING ONE OR MORE PREDEFINED DETECTION ZONES, THE DETECTION SOFTWARE WILL HAVE THE ABILITY TO DETECT VEHICLES AND BICYCLES ON MULTIPLE LANES. BICYCLE DETECTION ZONES WILL BE SEPARATE FROM VEHICLE DETECTION ZONES AND WILL UTILIZE A DIFFERENT SET OF DETECTION ALGORITHMS.

THE DETECTION SOFTWARE WILL HAVE THE ABILITY TO DIFFERENTIATE BETWEEN VEHICLES AND BICYCLES WITH A HIGH LEVEL OF ACCURACY AND ALLOW FOR SEPARATE OUTPUTS TO BE USED FOR VEHICLE PRESENCE AND BICYCLE PRESENCE.

THE DETECTION SYSTEM SHALL GENERATE SEPARATE VEHICLE AND BICYCLE PRESENCE EVENTS AND COUNTING DATA. THE GENERATED VEHICLE AND BICYCLE PRESENCE EVENTS WILL BE SENT TO A TRAFFIC SIGNAL CONTROLLER.

IT MUST BE POSSIBLE TO PUT 4 VIRTUAL BICYCLE PRESENCE DETECTION ZONES IN THE IMAGE. STORAGE OF BICYCLE COUNT INFORMATION SHALL BE POSSIBLE.

THE NECESSARY VIDEO DETECTION CAMERAS MUST PROVIDE A COMMUNICATIONS INTERFACE THAT FULLY SUPPORTS AN ETHERNET IEEE 802.3 COMPLIANT 10/100BASE T AUTO SENSING PORT FOR ADVANCED SYSTEMS COMMUNICATIONS. THE ETHERNET PORT SHALL PROVIDE AN UPSTREAM CONNECTION TO OTHER ETHERNET DEVICES IN THE CABINET. AN INDUSTRY STANDARD RJ-45 TYPE CONNECTOR SHALL BE INCLUDED THAT SUPPORTS A SIMPLE CAT5E PATCH CABLE INTERFACE.

THE THERMAL TRAFFIC SENSOR SHALL INCLUDE A 1-YEAR WARRANTY ON THE THERMAL DETECTOR. ALL SOFTWARE UPGRADES NECESSARY TO MAINTAIN THE FUNCTIONALITY OF THIS ITEM IS INCLUDED IN THE COST OF THIS ITEM.

ALL CAMERAS SHALL HAVE THE CAPABILITY TO REACH 350 FEET TO DETECT SYSTEM DETECTION ZONES.

THE THERMAL IMAGING SENSOR SHALL BE FLIR ITS TRAFISENSE, BOSCH MODEL VOT-320 THERMAL IP, OR WTI MODEL C-MAX THERMAL SERIES 320.

THE SUPPLIER SHALL PROVIDE VIDEO DETECTION TRAINING TO THE CITY OF CANTON WITHIN FIVE (5) DAYS OF SYSTEM ACCEPTANCE. TRAINING SHALL BE DIVIDED INTO TWO (2) COURSES, MAINTENANCE TRAINING AND OPERATION TRAINING, AND SHALL INCLUDE, BUT NOT LIMITED TO THE SOFTWARE AND TROUBLESHOOTING. TRAINING SHALL BE CONDUCTED AT A LOCATION DESIGNATED BY THE CITY OF CANTON. TRAINING COURSES SHALL ACCOMMODATE UP TO TEN (10) PEOPLE AND SHALL CONSIST OF A MINIMUM FOUR (4) HOURS EACH. THE LENGTH OF EACH TRAINING COURSE IS AT THE DISCRETION OF THE CITY OF CANTON. THE COST FOR TRAINING SHALL BE INCIDENTAL TO THE CONTROLLER BID ITEMS (BID ITEMS 633).

PAYMENT FOR ITEM 816 - VIDEO DETECTION SYSTEM, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH VIDEO DETECTION CAMERA IN PLACE AND FULLY OPERATIONAL AS SHOWN IN THE PLANS. ALL MATERIALS AND WORK REQUIRED TO COMPLETE THIS ITEM, INCLUDING ATTACHMENT BRACKETS, SHALL BE INCLUDED IN THE UNIT COST.

ALTERNATE BID ITEM

ITEM 816 - VIDEO DETECTION SYSTEM, (TRAFICON), AS PER PLAN

THIS VIDEO DETECTION SYSTEM ITEM SHALL HAVE THE SAME SPECIFICATIONS AS ITEM 633 - VIDEO DETECTION SYSTEM, AS PER PLAN EXCEPT FOR THE FOLLOWING:

1. THE DETECTION SHALL USE THE TRAFICON USA TRAFFIC VIDEO DETECTION.
2. THE VIDEO DETECTION CAMERAS SHALL BE THERMAL CAMERAS MANUFACTURED BY FLIR.

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) AND THE TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.
 - A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.
 - B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
 - C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.
 - D. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.
 - E. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.
 - F. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.
2. CONDUITS.
 - A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
 - B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
 - C. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
 - D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

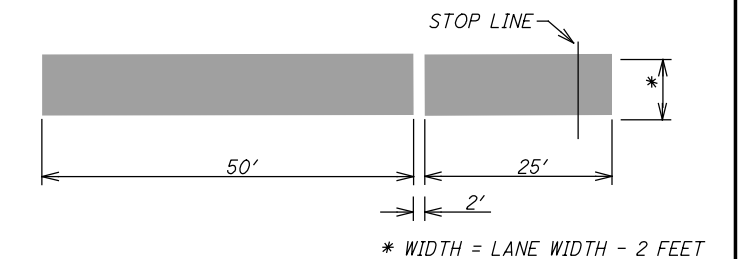
3. WIRE FOR GROUNDING AND BONDING.
 - A. USE INSULATED, STRANDED COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:
 - I. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.
 - II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
 - III. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.
4. GROUND ROD.
 - A. A 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
 - B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 6 AWG INSULATED, STRANDED COPPER.
5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:

COND NO.	COLOR	VEHICLE SIGNAL	PEDESTRIAN SIGNAL
1	BLACK	GREEN BALL	#1 WALK
2	WHITE	AC NEUTRAL	AC NEUTRAL
3	RED	RED BALL	#1 DW/FDW
4	GREEN	EQUIPMENT GROUND	EQUIPMENT GROUND
5	ORANGE	YELLOW BALL	#2 DW/FDW
6	BLUE	GREEN ARROW	#2 WALK
7	WHITE/BLACK STRIPE	YELLOW ARROW	NOT USED
6. POWER SERVICE AND DISCONNECT SWITCH.
 - A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPICE.

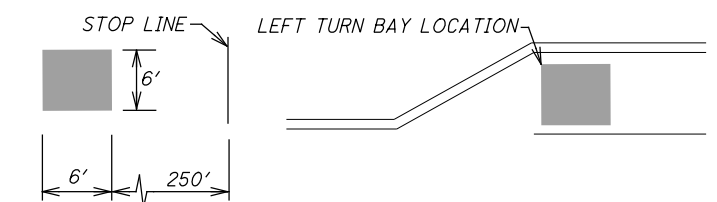
- B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.
 - I. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.
 - II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.
7. PAYMENT - ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.

VEHICLE DETECTION

STOP LINE DETECTION: THE DETECTION ZONE WILL BE LOCATED 5' IN FRONT OF THE STOP LINE. THE LENGTH AND SPACING SHALL BE AS SHOWN BELOW.



UPSTREAM DETECTION (NOT SHOWN IN PLANS): THE DETECTION ZONE WILL BE LOCATED 250' BEHIND (UPSTREAM OF) THE STOP LINE IN EACH LANE. THE LENGTH AND SPACING SHALL BE AS SHOWN BELOW. ZONES SHALL BE CONNECTED TO THE CORRESPONDING MAINLINE AND LEFT TURN PHASE.



SHEET NO.	LOCATION	625			633						804											
		CONDUIT, 2", 725.05	PULL BOX, MISC.: 725.06, 13" x 24"	PULL BOX, MISC.: 725.06, 36" x 36"	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT	CONTROLLER ITEM, MISC.: INDICATOR PANEL	CONTROLLER ITEM, MISC.: RAILROAD PREEMPTION	CONTROLLER ITEM, MISC.: FIBER OPTIC ETHERNET TRANSCEIVER	CONTROLLER ITEM, MISC.: CENTRAL SIGNAL SYSTEM (CENTRACS?)	CONTROLLER ITEM, MISC.: CENTRAL SIGNAL SYSTEM FURNITURE	FIBER OPTIC CABLE, ARMORED, 24 FIBER	FAN-OUT KIT, 12 FIBER	DROP CABLE, 12 FIBER	FIBER OPTIC PATCH CHORD, 1 FIBER	TERMINATION PANEL, 24 FIBER	FUSION SPLICE	SLACK INSTALLATION	SPLICE ENCLOSURE	FIBER OPTIC CONNECTOR	FIBER OPTIC CABLE TESTING		
		FT	EACH	EACH	EACH	EACH	EACH	EACH	LUMP	LUMP	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	LUMP		
633	MONUMENT ROAD	314	3	1						514												
634		488	3							488	2	1	2	1								
635		575	3							575												
636	FULTON ROAD	511	2							511												
622	PB2-4 TO PB2-1 TO CONTROLLER				1			1		112	2	1	2	1	12	1	1	2				
637		545	3							545												
638		418	2							418												
639		534	3							534												
640	MCKINLEY AVENUE	390	1							390												
623	PB3-2 TO PB3-1 TO CONTROLLER				1			1		92	2	1	2	1	12	1	1	2				
641	CLEVELAND AVENUE	575	1							575												
624	PB4-1 TO CONTROLLER				1			1		44	2	1	2	1	12	1	1	2				
642		544	3							544												
643	MARKET AVENUE	451	2							451												
625	PB5-1 TO CONTROLLER				1			1		37	2	1	2	1	12	1	1	2				
644		336	2							336												
645	WALNUT AVENUE	487	1							487												
626	PB6-4 TO PB6-1 TO CONTROLLER				1			1		88	2	1	2	1	12	1	1	2				
646	CHERRY AVENUE	504	2							504												
627	PB7-2 TO CONTROLLER				1			1		33	2	1	2	1	12	1	1	2				
647		627	4							627												
648	GIBBS AVENUE	320	2							320												
628	PB8-3 TO PB8-2 TO PB8-1 TO CONTROLLER				1			1		86	2	1	2	1	12	1	1	2				
649		570	2							570												
650		561	3							561												
651	LAWRENCE ROAD	276	1							276												
629	PB9-2 TO PB9-1 TO CONTROLLER				1	1	1	1		87	2	1	2	1	12	1	1	2				
652		497	3							497												
653	THE O'JAYS BLVD	770	4	1						770												
654		410	1	1						410												
655	11TH STREET	620	3							620	2	1	2	1								
630	PB11-3 TO PB11-1 TO CONTROLLER				1			1		149					12	1	2	2				
	TRAFFIC MANAGEMENT CENTER							2		500	16	10	10	2	120	4		8				
655A		838	4							838												
655B		10	1							10												

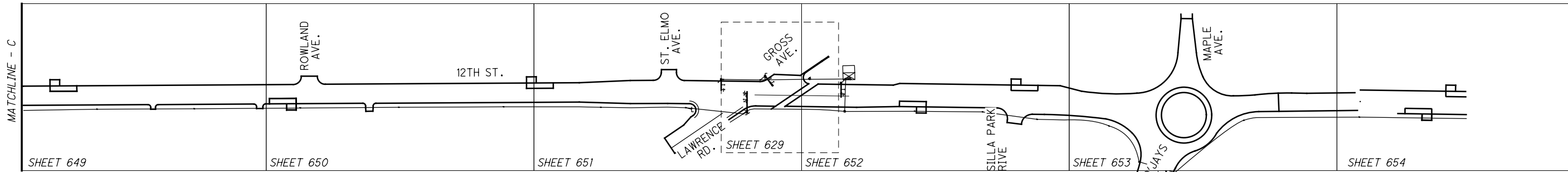
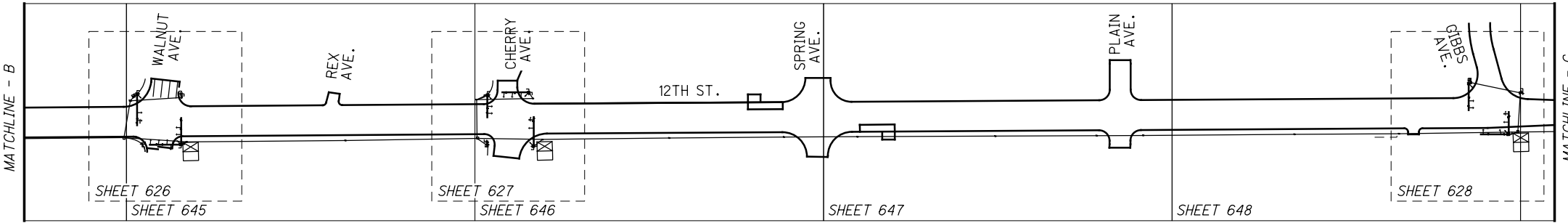
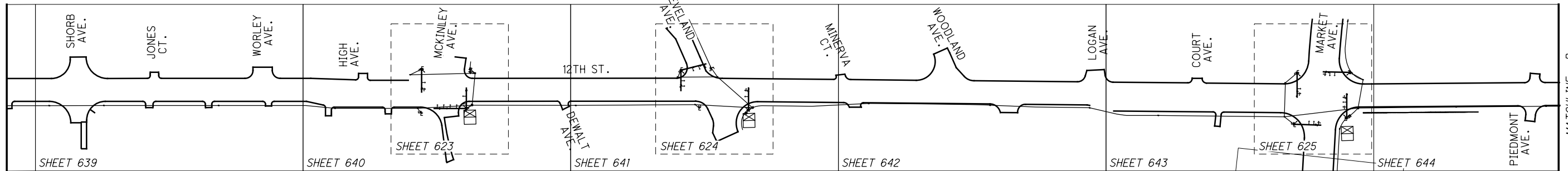
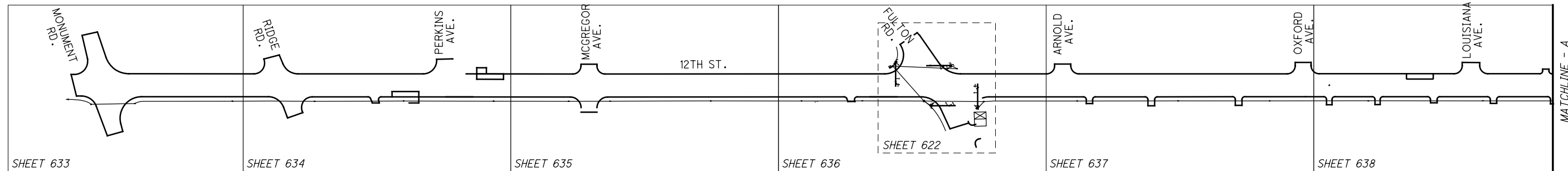
CALCULATED JAW	CHECKED DLW
INTERCONNECT SUBSUMMARY	
STA-12TH STREET	
620	790

TOTALS CARRIED TO GENERAL SUMMARY




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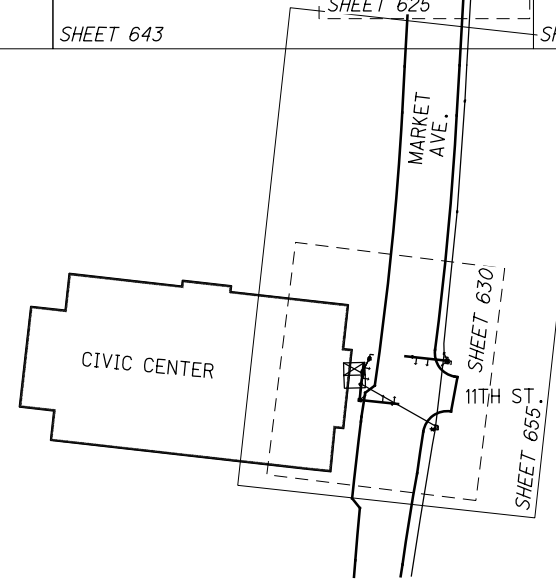
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LEGEND

-  SIGNAL CONTROLLER
-  SEE TRAFFIC SIGNAL PLAN SHEET
-  SEE INTERCONNECT PLAN SHEET



CALCULATED JAW CHECKED DLW




HORIZONTAL SCALE IN FEET

TRAFFIC SIGNAL INDEX
12TH STREET & MARKET AVENUE

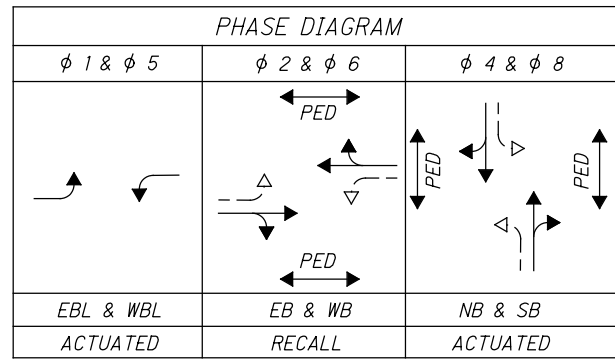
STA-12TH STREET

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790

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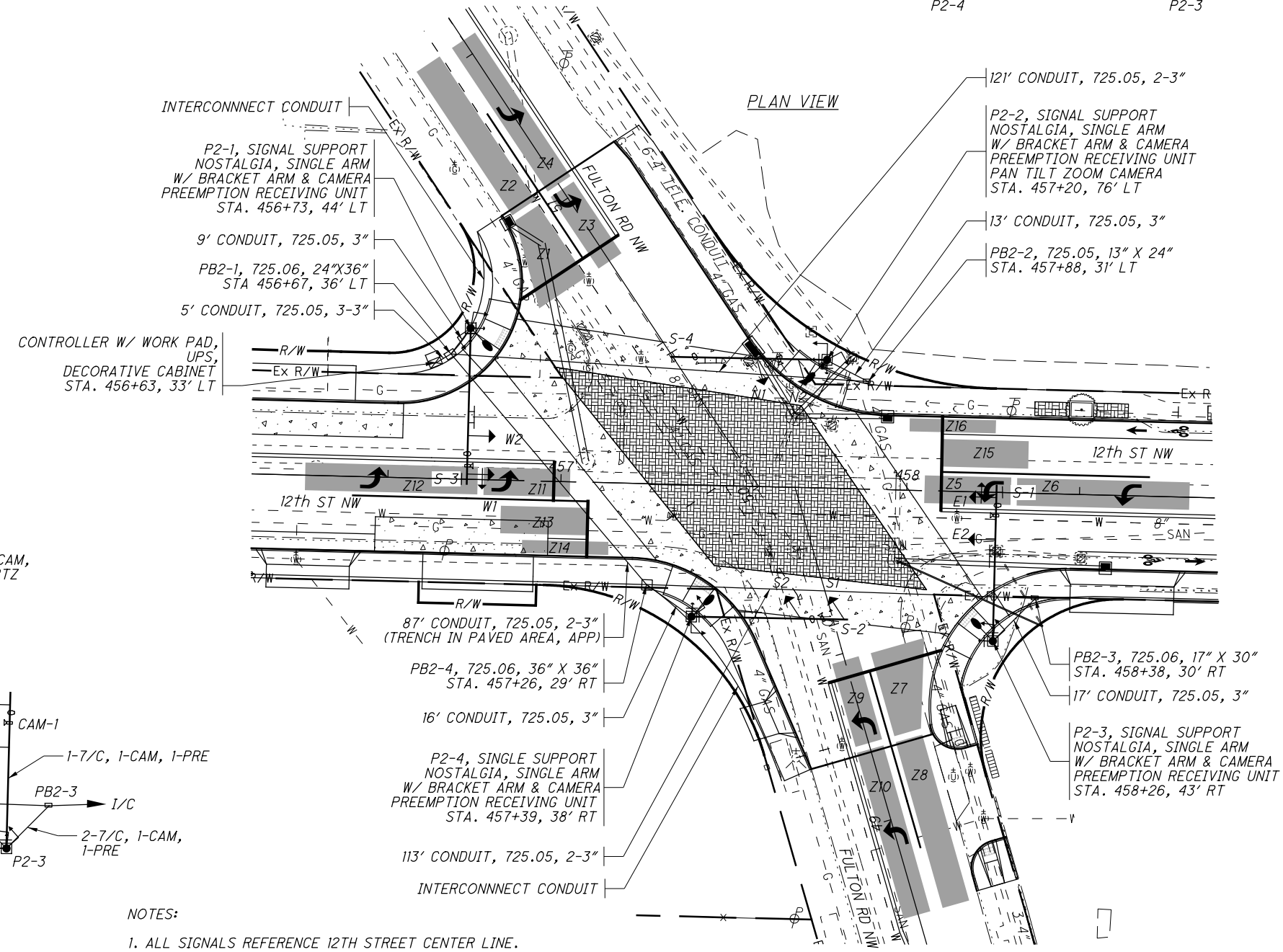
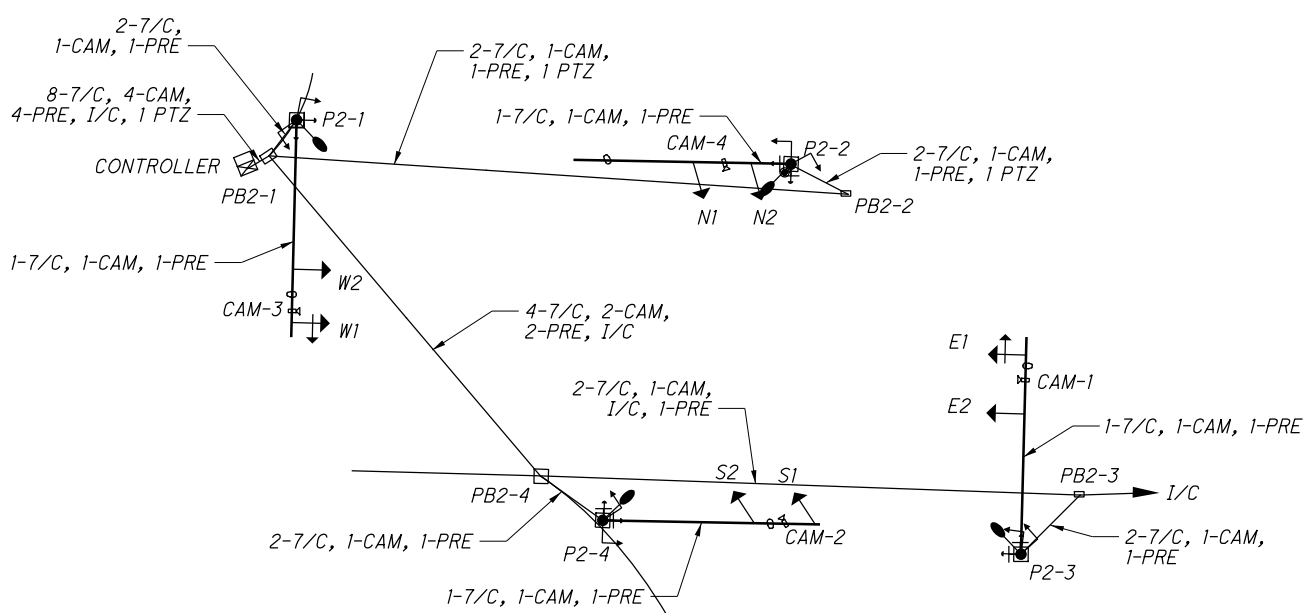
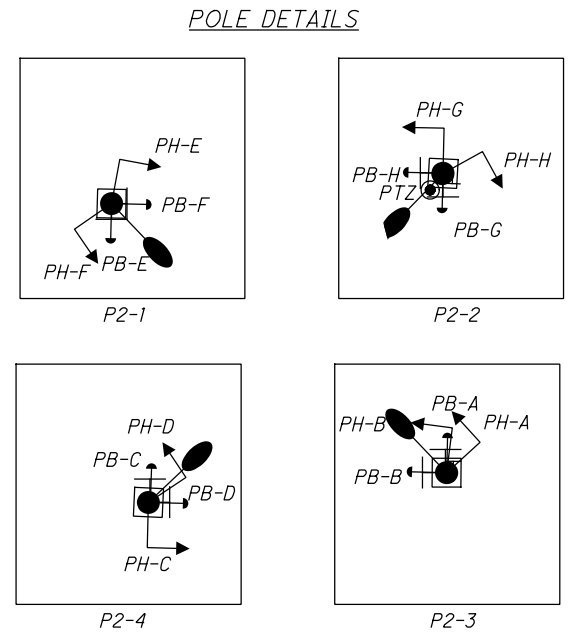
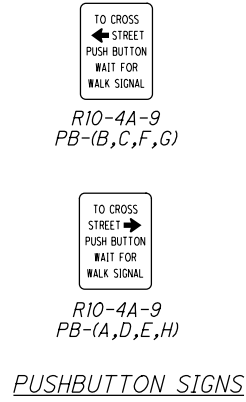
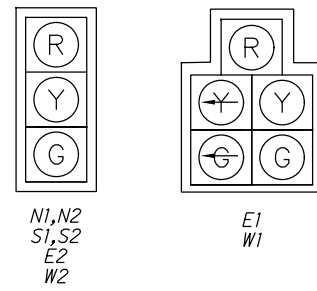
LEGEND

- PROP. CONTROLLER
- PROP. SIGNAL POLE
- PROP. PEDESTAL
- PROP. PULL BOX (PB-1)
- PROP. CONDUIT
- PROP. DETECTION ZONE
- PROP. DETECTION CAMERA
- PROP. PREEMPTION RECEIVING UNIT
- PROP. SIGNAL HEAD (3 SECTION)
- PROP. SIGNAL HEAD (5 SECTION)
- PROP. LUMINAIRE
- PROP. LIGHT POLE
- PROP. PEDESTRIAN SIGNAL HEAD (PH-X)
- PROP. PEDESTRIAN PUSHBUTTON (PB-X)
- TRAFFIC SIGN
- PAN TILT ZOOM CAMERA
- 7/C SIGNAL CABLE (7 CONDUCTOR)
- 3/C SIGNAL CABLE (3 CONDUCTOR)
- CAM VIDEO DETECTION CABLE (CAM-1)
- I/C INTERCONNECT CABLE
- PRE PREEMPTION CABLE



FIELD WIRING HOOK-UP CHART

SIGNAL HEAD	INDICATION	TERMINAL HEAD	FLASH
S1, S2 (SB)	R	φ 4 R	R
	Y	φ 4 Y	
	G	φ 4 G	
N1, N2 (NB)	R	φ 8 R	R
	Y	φ 8 Y	
	G	φ 8 G	
E1 (EBLT)	R	φ 2 R	R
	Y	φ 2 Y	
	G	φ 2 G	
	---	φ 5 Y	
E2 (EB)	R	φ 2 R	R
	Y	φ 2 Y	
	G	φ 2 G	
	---	φ 5 G	
W1 (WBLT)	R	φ 6 R	R
	Y	φ 6 Y	
	G	φ 6 G	
	---	φ 1 Y	
W2 (WB)	R	φ 6 R	R
	Y	φ 6 Y	
	G	φ 6 G	
	---	φ 1 G	



NOTES:

- ALL SIGNALS REFERENCE 12TH STREET CENTER LINE.
- FOR LOOP DETECTOR CHARTS AND SIGNAL DETAILS SEE SHEET 631.

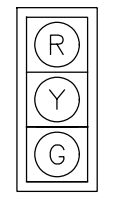
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 HORIZONTAL SCALE IN FEET
 CALCULATED BSS CHECKED DLW

TRAFFIC SIGNAL PLAN
12TH STREET AND FULTON ROAD

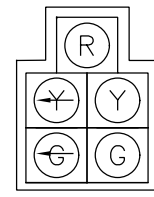
STA-12TH STREET

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 790

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S1,S2,S3,S4
E1,E2
W2



W1

POLYCARBONATE
SIGNAL INDICATIONS
12" LED LENS

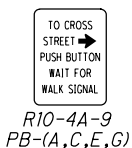


D2 16" LED (COUNTDOWN) SIGNAL
(CLAMSHELL MFG.)
PH-(A-H)

PEDESTRIAN
SIGNAL HEADS



R10-4A-9
PB-(B,D,F,H)

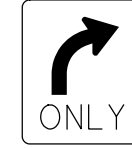


R10-4A-9
PB-(A,C,E,G)

PUSHBUTTON SIGNS

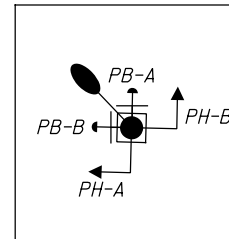


S-1

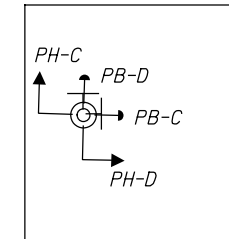


S-2

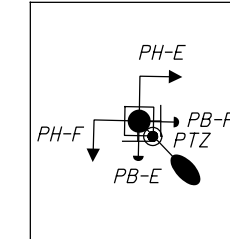
MAST ARM SIGNS
(SHOWN AND PAID FOR IN
TRAFFIC CONTROL PLANS)



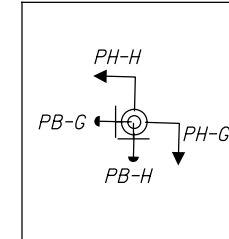
P3-1



CB-2
(LIGHT POLE)

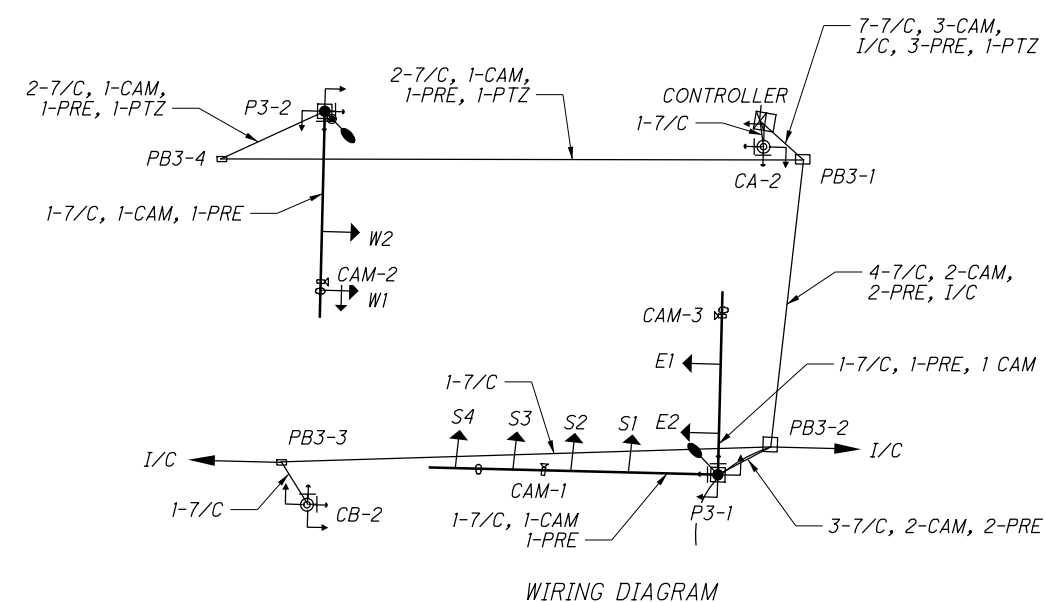


P3-2

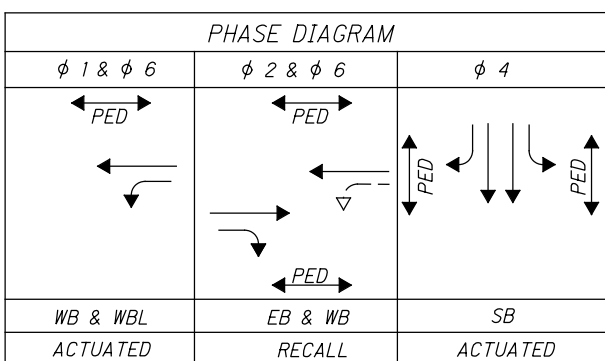


CA-2
(LIGHT POLE)

POLE DETAILS

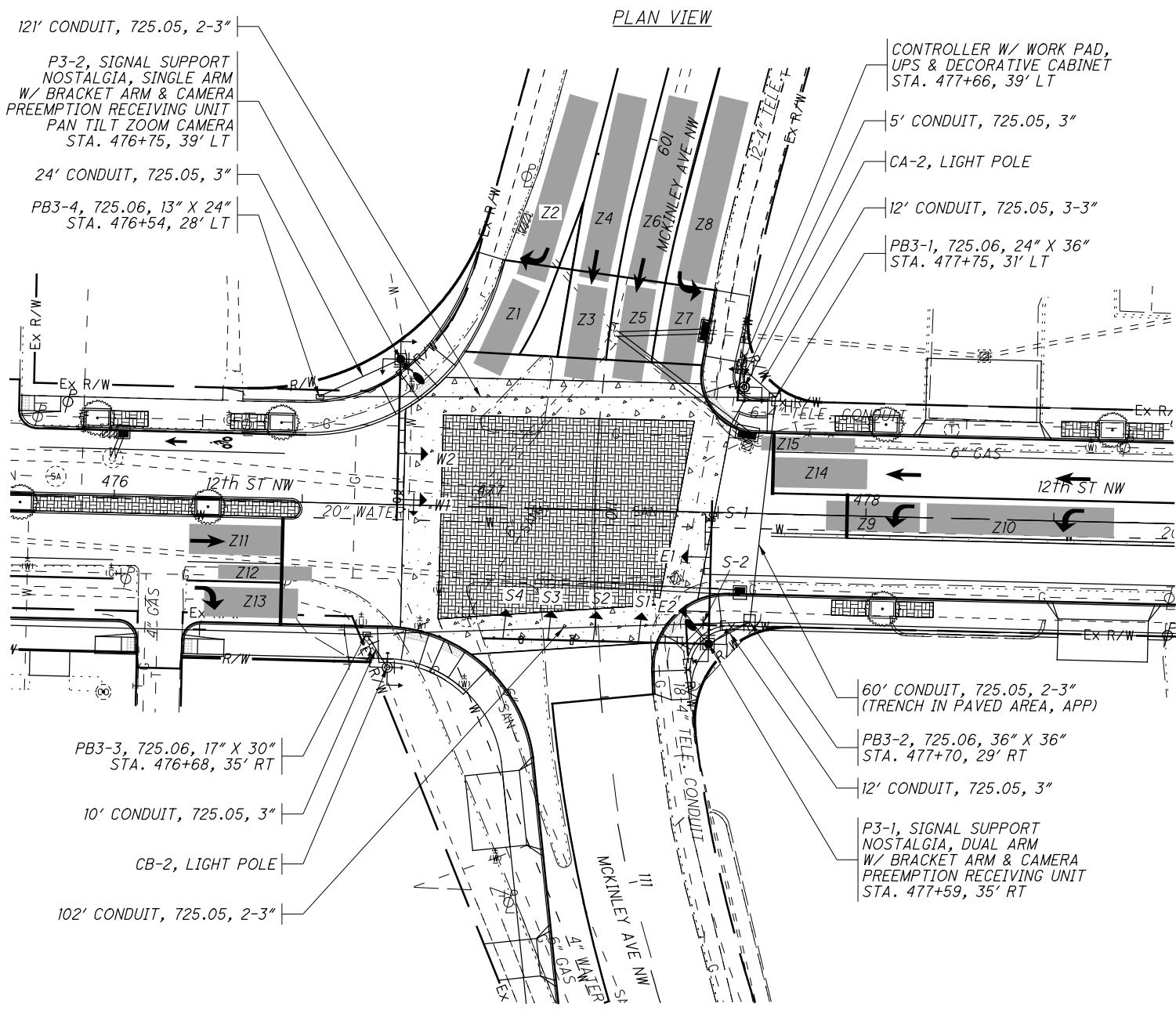


WIRING DIAGRAM



FIELD WIRING HOOK-UP CHART			
SIGNAL HEAD	INDICATION	TERMINAL HEAD	FLASH
S1,S2, S3,S4 (SB)	R	φ 4 R	R
	Y	φ 4 Y	
	G	φ 4 G	
E1,E2 (EB)	R	φ 2 R	R
	Y	φ 2 Y	
	G	φ 2 G	
W1 (WBLT)	R	φ 6 R	R
	Y	φ 6 Y	
	G	φ 6 G	
	Y	φ 1 Y	
	G	φ 1 G	
W2 (WB)	R	φ 6 R	R
	Y	φ 6 Y	
	G	φ 6 G	

- NOTES:
- ALL SIGNALS REFERENCE 12TH STREET CENTER LINE.
 - FOR LOOP DETECTOR CHARTS AND SIGNAL DETAILS SEE SHEET 631.
 - FOR SIGNAL LEGENDS SEE SHEET 622.

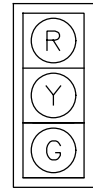


PLAN VIEW



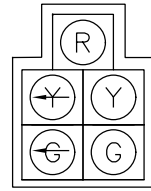
CALCULATED TJR
 CHECKED DLW
 HORIZONTAL SCALE IN FEET
 0 20 40
 1" = 40'

TRAFFIC SIGNAL PLAN
 12TH STREET AND MCKINLEY AVENUE
 STA-12TH STREET

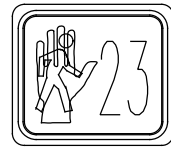


N1,N2,N3
E2
W1,W2

POLYCARBONATE
SIGNAL INDICATIONS
12" LED LENS



E1



D2 16" LED (COUNTDOWN) SIGNAL
(CLAMSHELL MTG.)
PH-(A-H)

PEDESTRIAN
SIGNAL HEADS

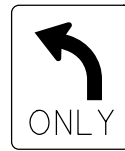


R10-4A-9
PB-(B,D,F,H)



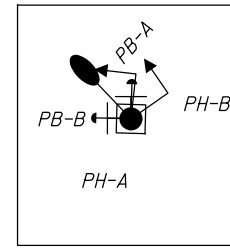
R10-4A-9
PB-(A,C,E,G)

PUSHBUTTON SIGNS

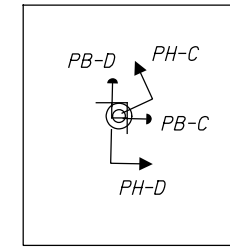


S-1

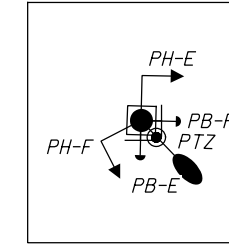
MAST ARM SIGN
(SHOWN AND PAID FOR IN
TRAFFIC CONTROL PLANS)



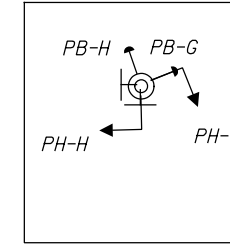
P4-1



CD-3
(LIGHT POLE)



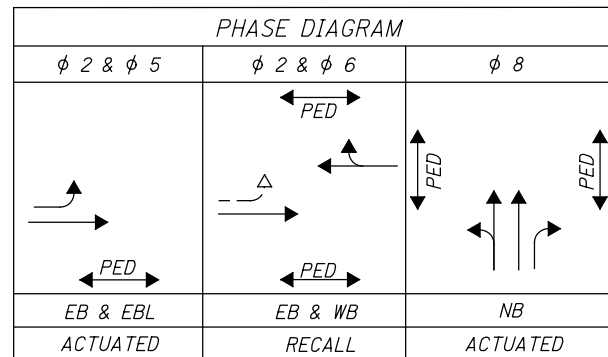
P4-2



CC-3
(LIGHT POLE)

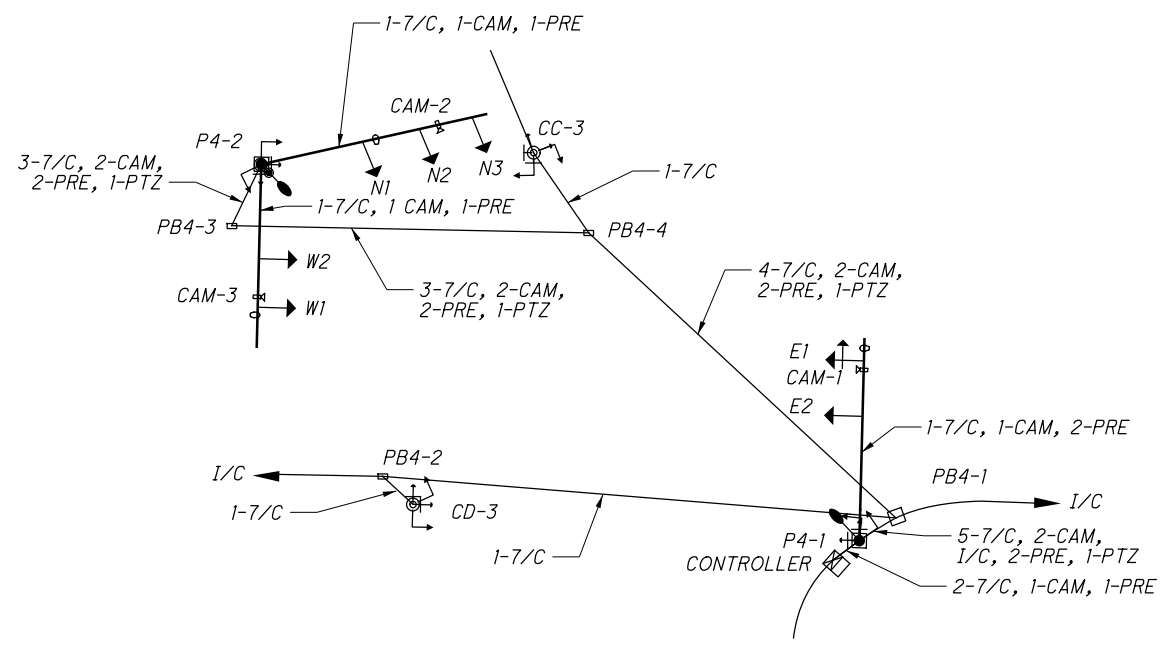
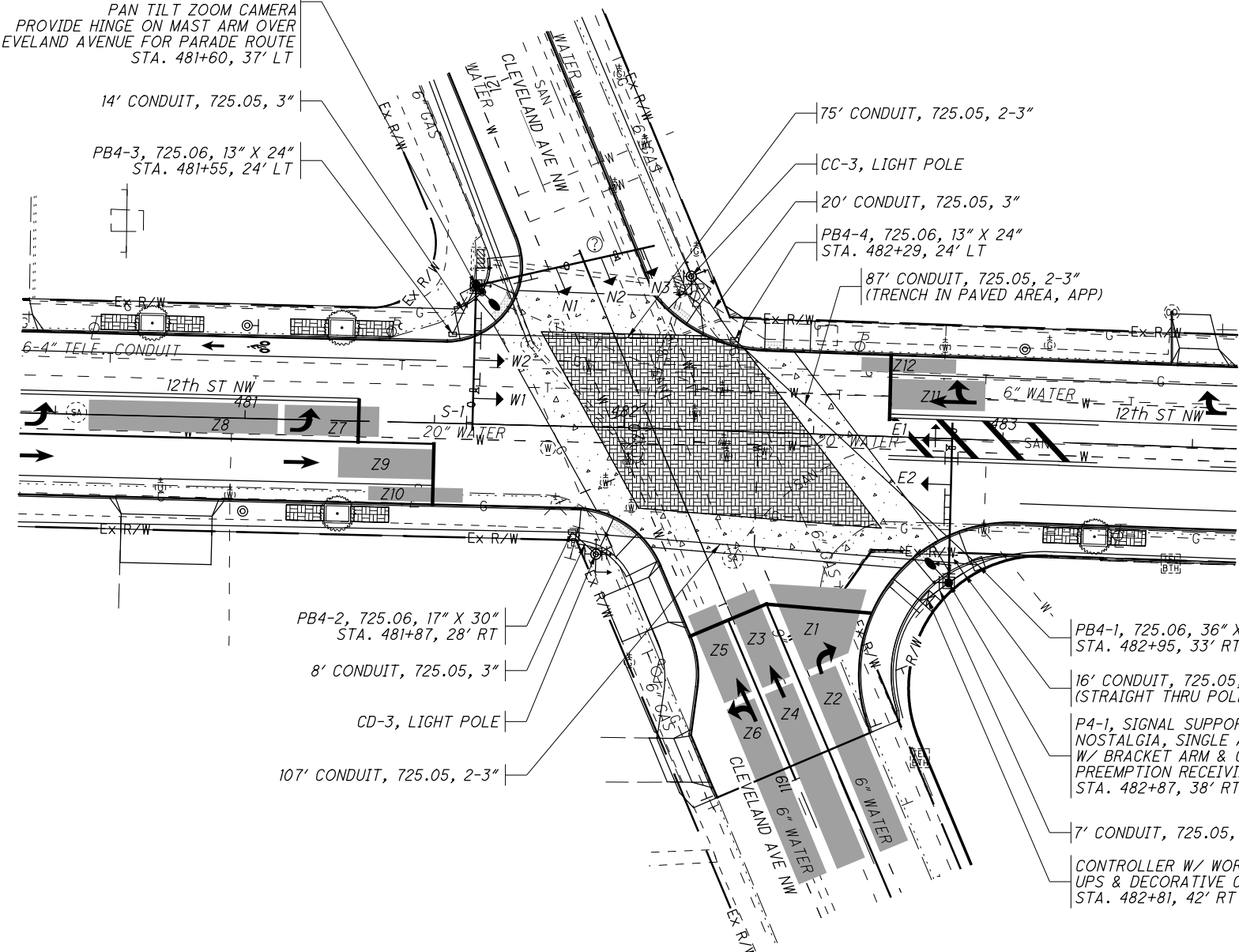
POLE DETAILS

FIELD WIRING HOOK-UP CHART			
SIGNAL HEAD	INDICATION	TERMINAL HEAD	FLASH
N1,N2,N3 (NB)	R	φ 8 R	R
	Y	φ 8 Y	
	G	φ 8 G	
E2 (EB)	R	φ 2 R	R
	Y	φ 2 Y	
	G	φ 2 G	
E1 (EBLT)	R	φ 2 R	R
	Y	φ 2 Y	
	G	φ 2 G	
	Y	φ 5 Y	
W1,W2 (WB)	R	φ 6 R	R
	Y	φ 6 Y	
	G	φ 6 G	



P4-2, SIGNAL SUPPORT
NOSTALGIA, DUAL ARM
W/ BRACKET ARM & CAMERA
PREEMPTION RECEIVING UNIT
PAN TILT ZOOM CAMERA
PROVIDE HINGE ON MAST ARM OVER
CLEVELAND AVENUE FOR PARADE ROUTE
STA. 481+60, 37' LT

PLAN VIEW



WIRING DIAGRAM

NOTES:

1. ALL SIGNALS REFERENCE 12TH STREET CENTER LINE.
2. FOR LOOP DETECTOR CHARTS AND SIGNAL DETAILS SEE SHEET 631.
3. FOR SIGNAL LEGENDS SEE SHEET 622.

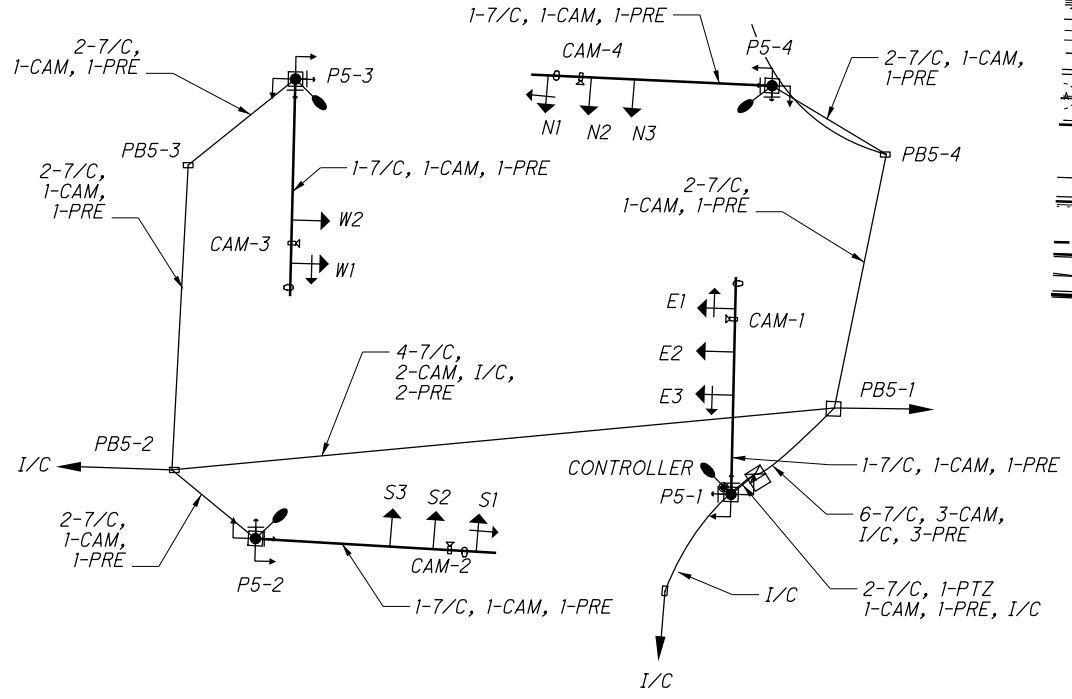
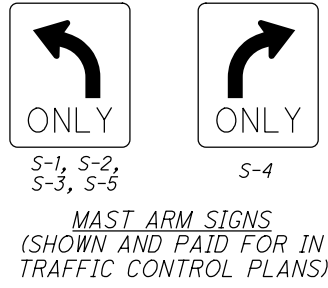
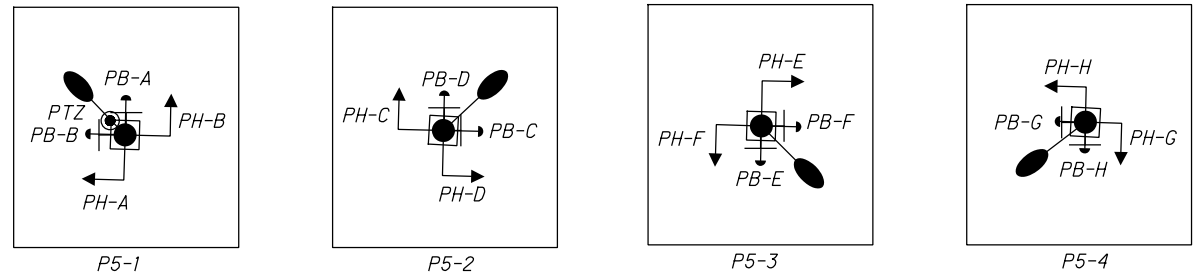
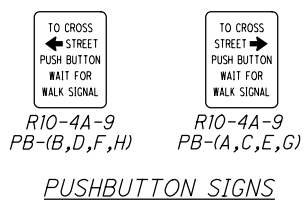
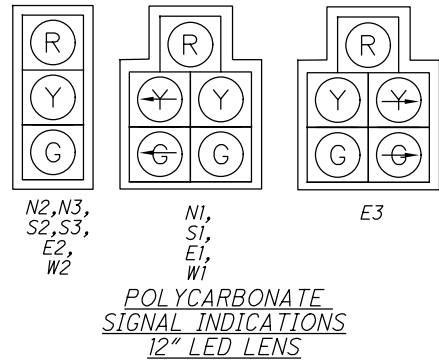
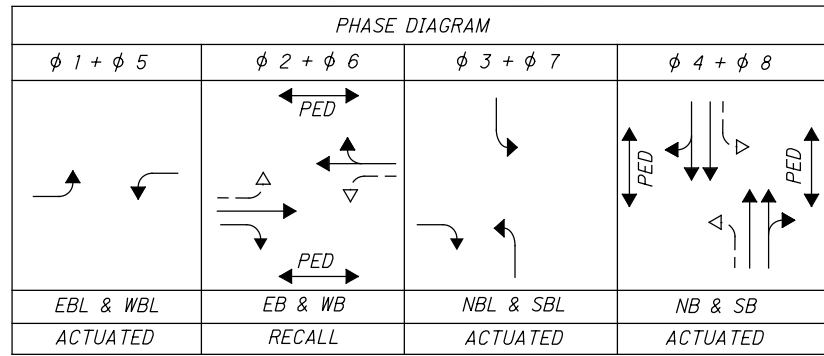


TRAFFIC SIGNAL PLAN
12TH STREET AND CLEVELAND AVENUE

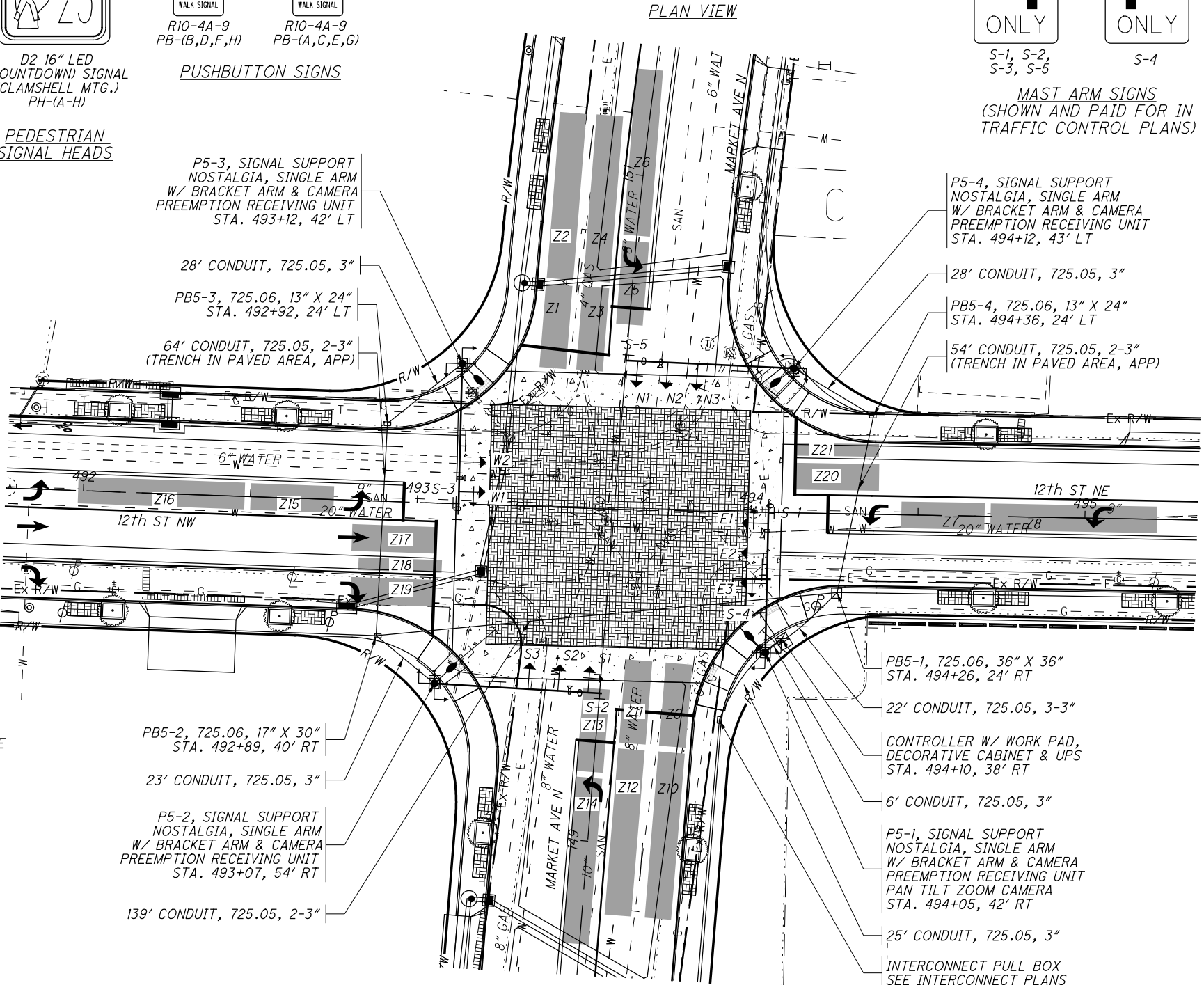
STA-12TH STREET

j:\pre-int\11-060 12th Street\STA\85299\signals\sheet\85299cp005.dgn 4/14/2014 4:47:58 PM brion.sedzoi\ODOTV81_PDF_Half.plt\cg ODOTV81_Pen-ME.tbl M-E Companies, Inc.

FIELD WIRING HOOK-UP CHART			
SIGNAL HEAD	INDICATION	TERMINAL HEAD	FLASH
S1 (SBLT)	R	φ 4 R	R
	Y	φ 4 Y	
	G	φ 4 G	
	⊘	φ 7 Y	
S2,S3 (SB)	R	φ 4 R	R
	Y	φ 4 Y	
	G	φ 4 G	
	⊘	φ 7 G	
N1 (NBLT)	R	φ 8 R	R
	Y	φ 8 Y	
	G	φ 8 G	
	⊘	φ 3 Y	
N2,N3 (NB)	R	φ 8 R	R
	Y	φ 8 Y	
	G	φ 8 G	
	⊘	φ 2 R	
E1 (EBLT)	Y	φ 2 Y	R
	G	φ 2 G	
	⊘	φ 5 Y	
	⊘	φ 5 G	
E2 (EB)	R	φ 2 R	R
	Y	φ 2 Y	
	G	φ 2 G	
E3 (EBRT)	R	φ 2 R	R
	Y	φ 2 Y	
	G	φ 2 G	
	⊘	φ 3 Y	
W1 (WBLT)	R	φ 6 R	R
	Y	φ 6 Y	
	G	φ 6 G	
	⊘	φ 1 Y	
W2 (WB)	R	φ 6 R	R
	Y	φ 6 Y	
	G	φ 6 G	
	⊘	φ 1 G	



NOTES:
 1. ALL SIGNALS REFERENCE 12TH STREET CENTER LINE.
 2. FOR LOOP DETECTOR CHARTS AND SIGNAL DETAILS SEE SHEET 631.
 3. FOR SIGNAL LEGENDS SEE SHEET 622.



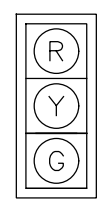
TRAFFIC SIGNAL PLAN
12TH STREET AND MARKET AVENUE
STA-12TH STREET



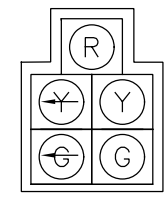
CALCULATED
TJR
CHECKED
DLW

TRAFFIC SIGNAL PLAN
12TH STREET AND WALNUT AVENUE (SR 43)

STA-12TH STREET



E1,E2,
W2,
S1,S2,S3



W1



D2 16" LED (COUNTDOWN) SIGNAL
(CLAMSHELL MTG.)
PH-(A-H)

PEDESTRIAN
SIGNAL HEADS



R10-4A-9
PB-(B,C,D,F,H)



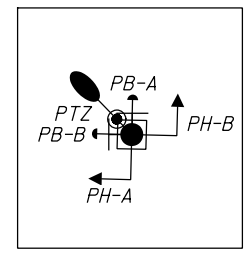
R10-4A-9
PB-(A,E,G)

PUSHBUTTON SIGNS

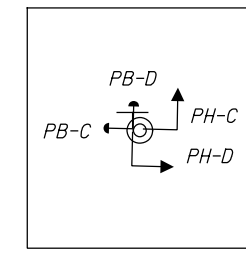


S-1

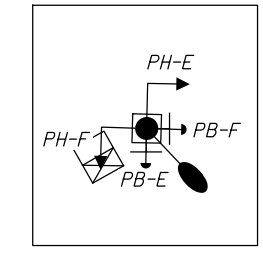
MAST ARM SIGNS
(SHOWN AND PAID FOR IN
TRAFFIC CONTROL PLANS)



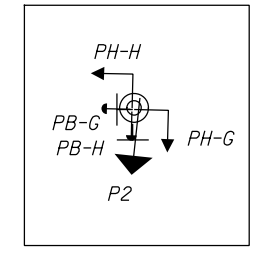
P6-2



DD-9
(LIGHT POLE)



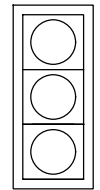
P6-1



DC-9
(LIGHT POLE)

POLE DETAILS

POLYCARBONATE
SIGNAL INDICATIONS
12" LED LENS

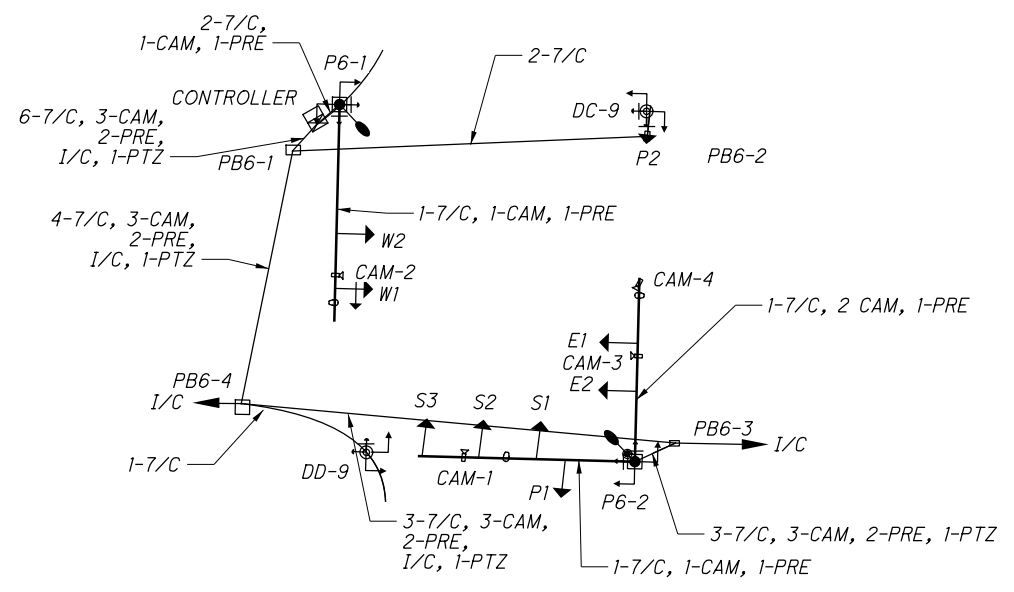
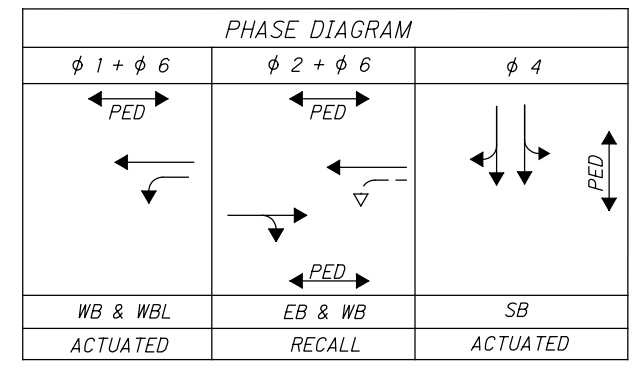


P1,P2

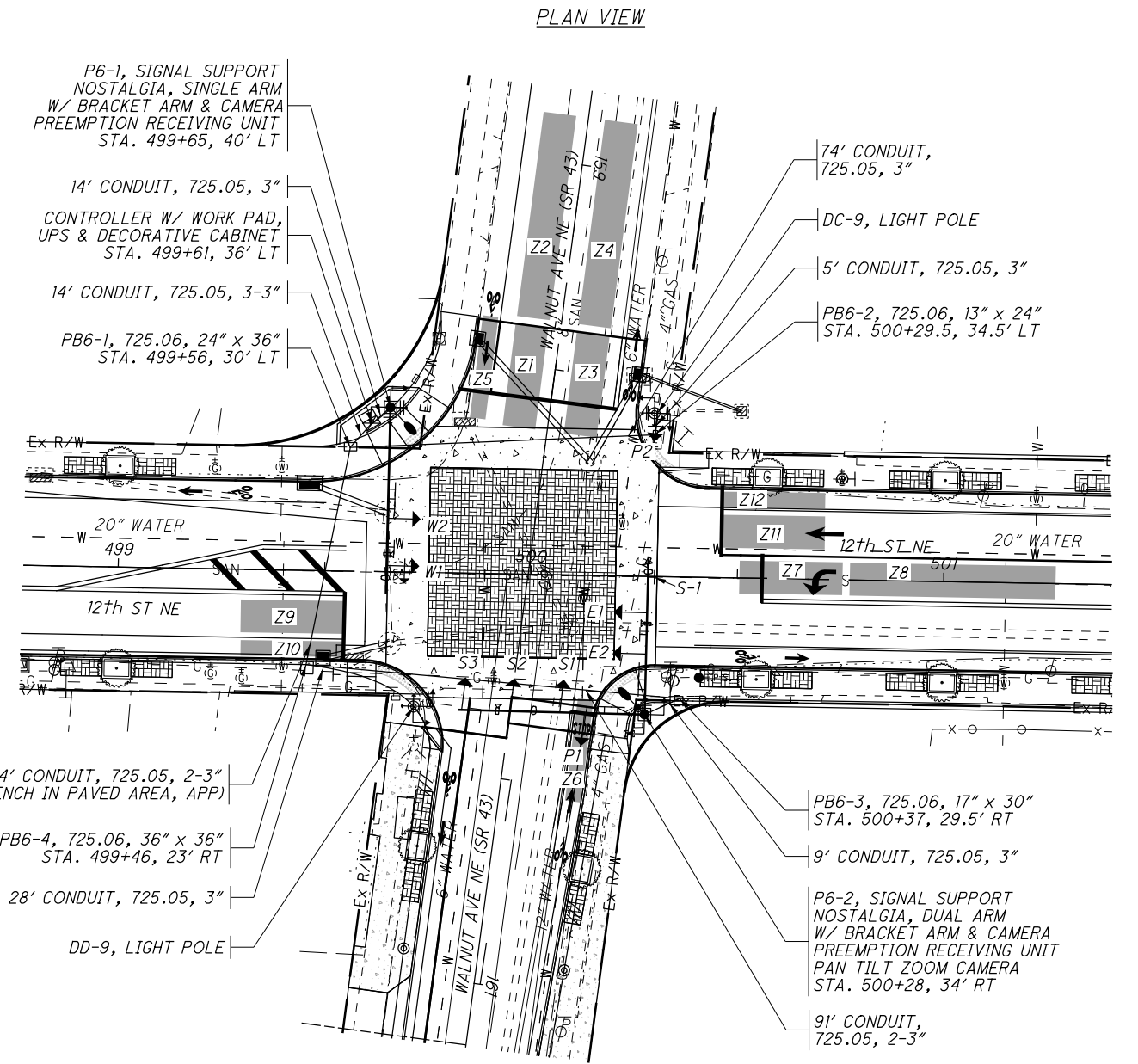
EXISTING BIKE
CROSSING HEADS

TO BE REMOVED AND RELOCATED TO NEW
MAST ARM/PEDESTAL AS
SHOWN ON PLANS AND WIRED TO CONTROLLER
INTO A SEPARATE PHASE AS TO NOT
CONFLICT WITH PREEMPTION PHASING.

FIELD WIRING HOOK-UP CHART			
SIGNAL HEAD	INDICATION	TERMINAL HEAD	FLASH
S1,S2, S3 (SB)	R	φ 4 R	R
	Y	φ 4 Y	
	G	φ 4 G	
E1,E2 (EB)	R	φ 2 R	R
	Y	φ 2 Y	
	G	φ 2 G	
W1 (WBLT)	R	φ 6 R	R
	Y	φ 6 Y	
	G	φ 6 G	
	Y	φ 1 Y	
	G	φ 1 G	
W2 (WB)	R	φ 6 R	R
	Y	φ 6 Y	
	G	φ 6 G	



WIRING DIAGRAM

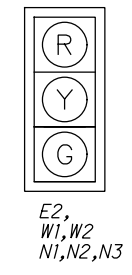


PLAN VIEW

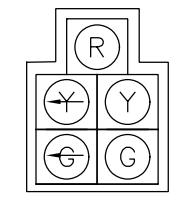
- NOTES:
- ALL SIGNALS REFERENCE 12TH STREET CENTER LINE.
 - FOR LOOP DETECTOR CHARTS AND SIGNAL DETAILS SEE SHEET 631.
 - FOR SIGNAL LEGENDS SEE SHEET 622.

J:\pre-int\11-060 12th Street\STA\85299\signals\sheets\85299cp006.dgn 4/14/2014 4:48:01 PM brian.sezoiol" ODOTV81_PDF_Half.pltcfgr ODOTV81_Pen-ME.tbl M-E Companies, Inc.

j:\pre-int\11-060 12th Street\STA\85299\signals\sheets\85299cp007.dgn 4/14/2014 4:48:02 PM brion.sedziol\ODOTV8i_PDF_Half.pltcfgr ODOTV8i_Pen-ME.tbi M-E Companies, Inc.



E2,
W1,W2
N1,N2,N3



E1



D2 16" LED (COUNTDOWN) SIGNAL
(CLAMHELL MTG.)
PH-(A-H)

PEDESTRIAN
SIGNAL HEADS



R10-4A-9
PB-(B,D,F,H)



R10-4A-9
PB-(A,C,E,G)

PUSHBUTTON SIGNS



S-1

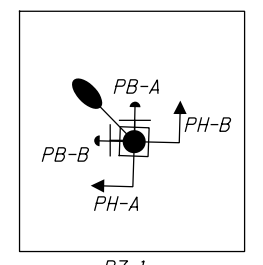


S-2

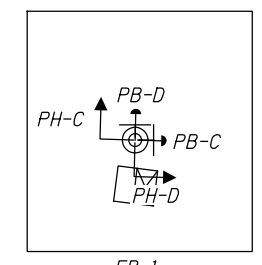


S-3

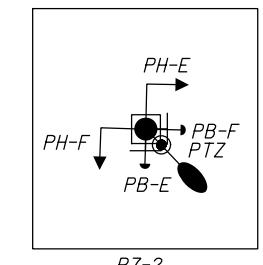
MAST ARM SIGNS
(SHOWN AND PAID FOR IN
TRAFFIC CONTROL PLANS)



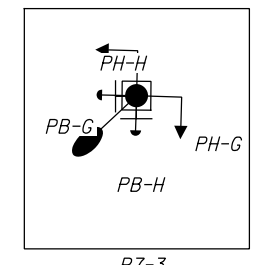
P7-1



EB-1
(LIGHT POLE)



P7-2

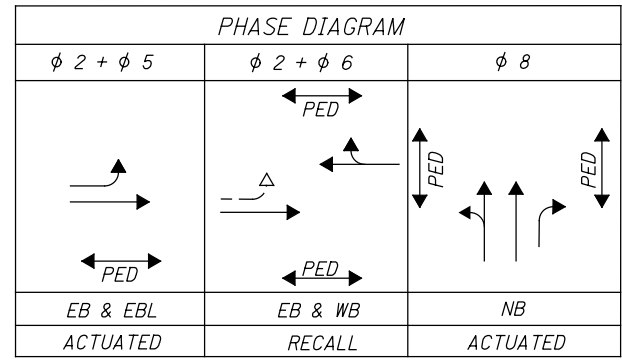


P7-3

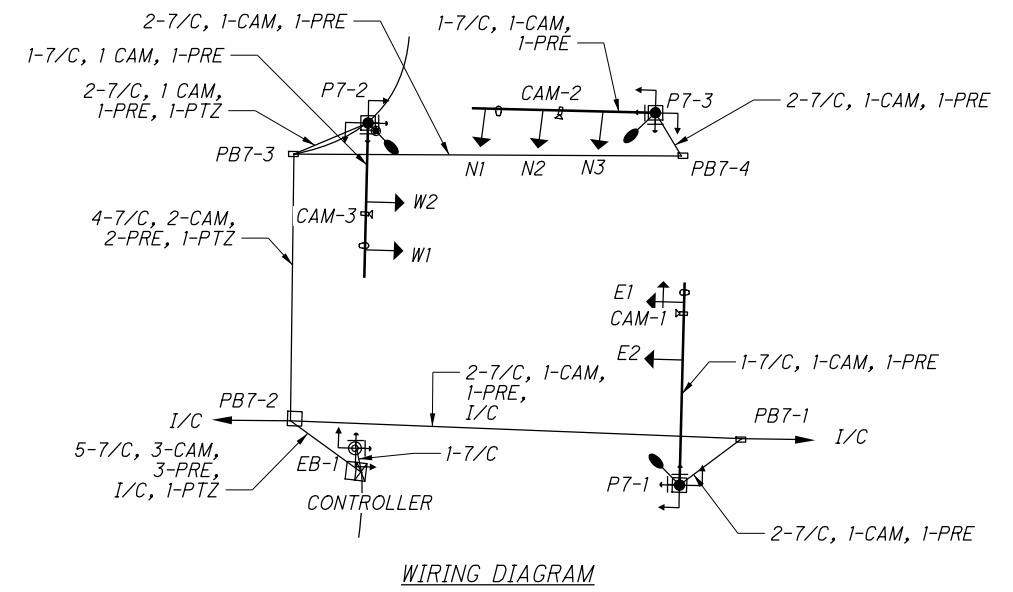
POLE DETAILS

POLYCARBONATE
SIGNAL INDICATIONS
12" LED LENS

FIELD WIRING HOOK-UP CHART			
SIGNAL HEAD	INDICATION	TERMINAL HEAD	FLASH
N1,N2, N3 (NB)	R	φ 8 R	R
	Y	φ 8 Y	
	G	φ 8 G	
E2 (EB)	R	φ 2 R	R
	Y	φ 2 Y	
	G	φ 2 G	
E1 (EBLT)	R	φ 2 R	R
	Y	φ 2 Y	
	G	φ 2 G	
	+	φ 5 Y	
	-	φ 5 G	
W1,W2 (WB)	R	φ 6 R	R
	Y	φ 6 Y	
	G	φ 6 G	

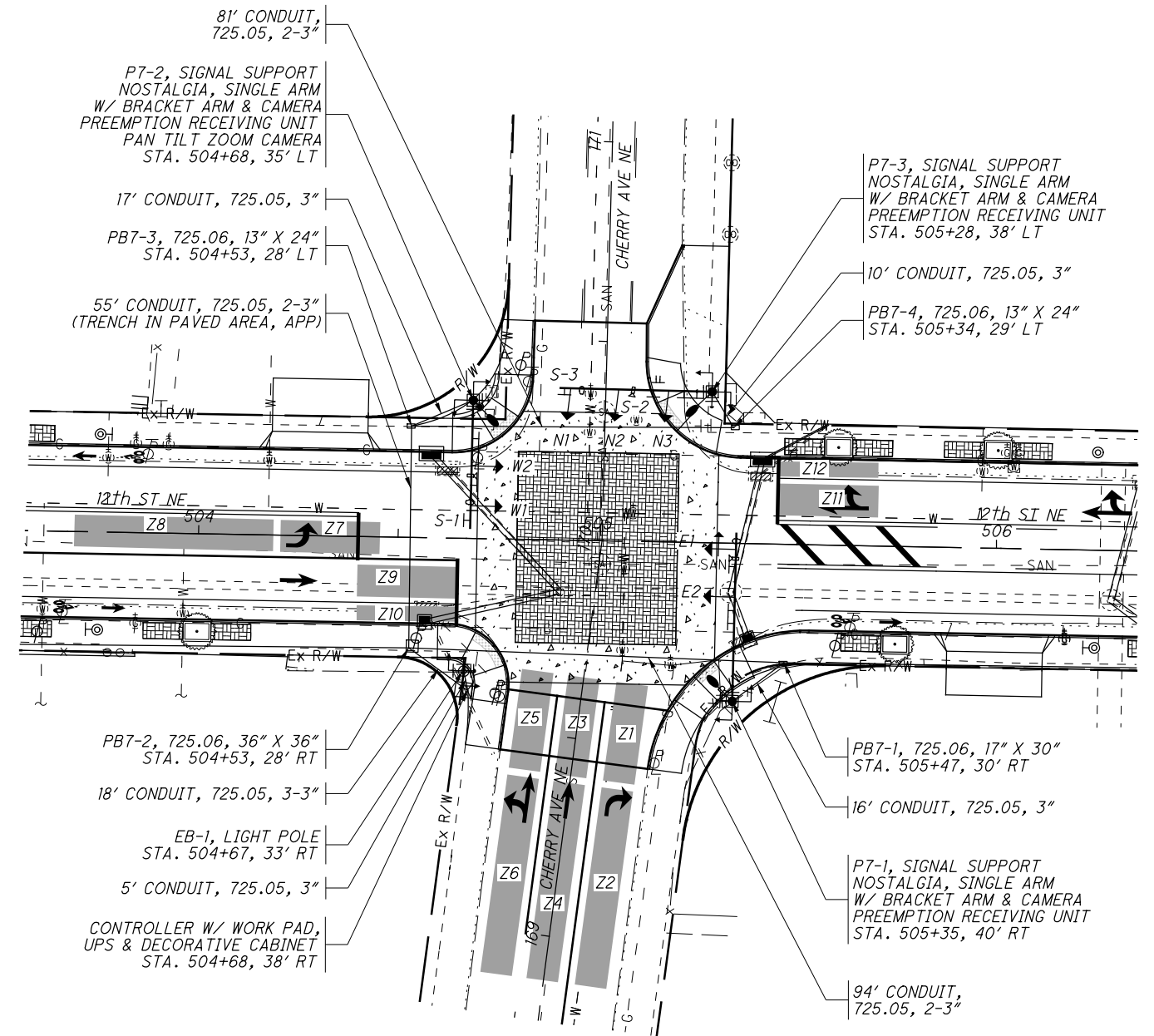


PHASE DIAGRAM



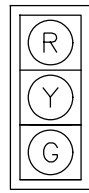
WIRING DIAGRAM

- NOTES:
- ALL SIGNALS REFERENCE 12TH STREET CENTER LINE.
 - FOR LOOP DETECTOR CHARTS AND SIGNAL DETAILS SEE SHEET 631.
 - FOR SIGNAL LEGENDS SEE SHEET 622.

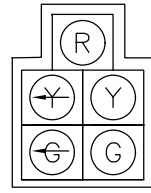


CALCULATED 0 20 40
 TJR
 CHECKED DLW
 HORIZONTAL SCALE IN FEET
 TRAFFIC SIGNAL PLAN
 12TH STREET AND CHERRY AVENUE

J:\pre-int\11-060 12th Street\STA\85299\signals\sheets\85299cp008.dgn 4/14/2014 4:48:02 PM brian.sedzoi\ ODOTV81_PDF_Half.pltcfg ODOTV81_Pen-ME.tbi M-E Companies, Inc.



E2,
W1, W2,
S1, S2



E1

POLYCARBONATE
SIGNAL INDICATIONS
12" LED LENS



D2 16" LED (COUNTDOWN) SIGNAL
(CLAMHELL MTG.)
PH-(A-H)

PEDESTRIAN
SIGNAL HEADS

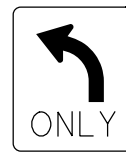


R10-4A-9
PB-(A,D)



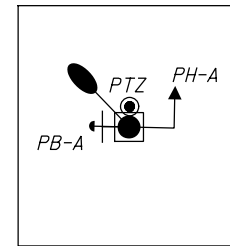
R10-4A-9
PB-(B,C)

PUSHBUTTON SIGNS

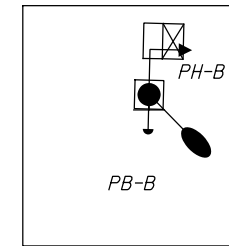


S-1

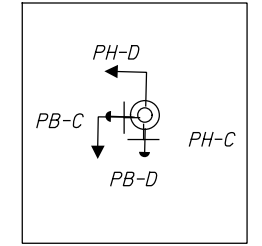
MAST ARM SIGN
(SHOWN AND PAID FOR IN
TRAFFIC CONTROL PLANS)



P8-2



P8-1

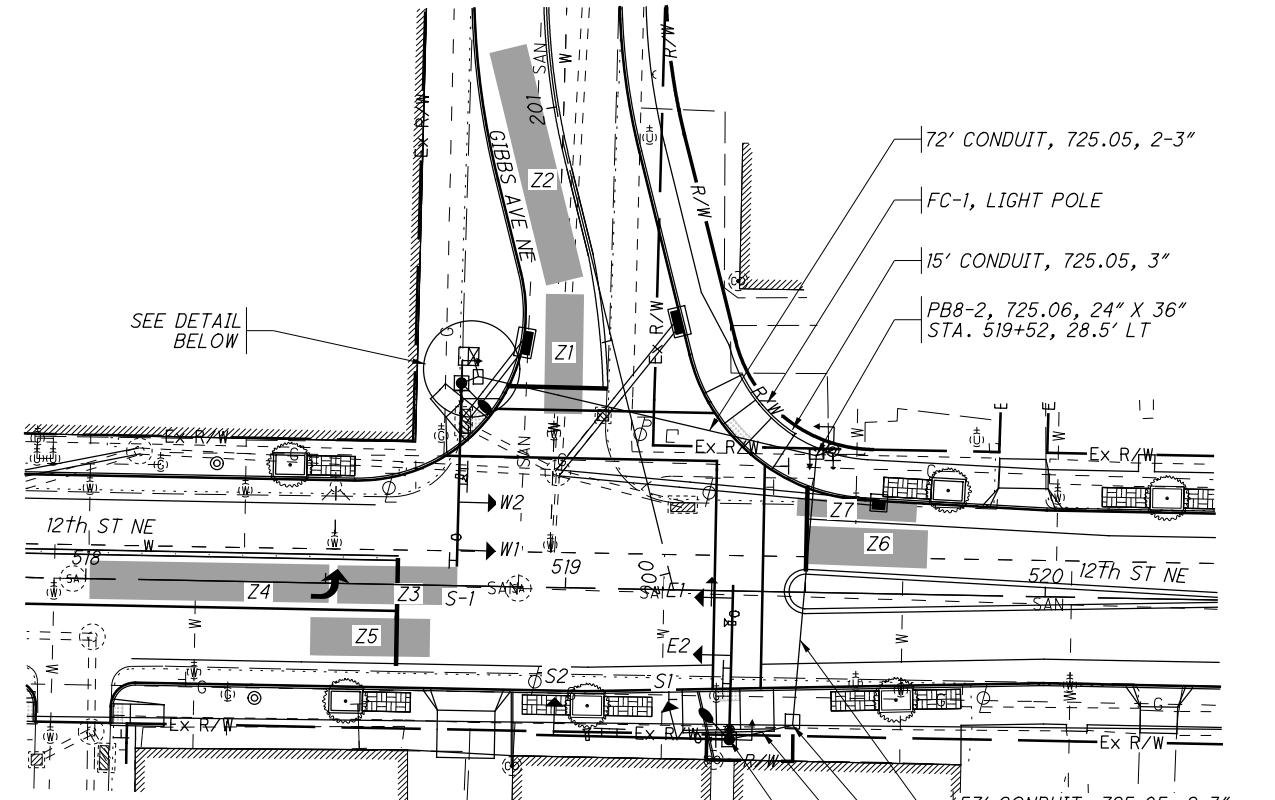
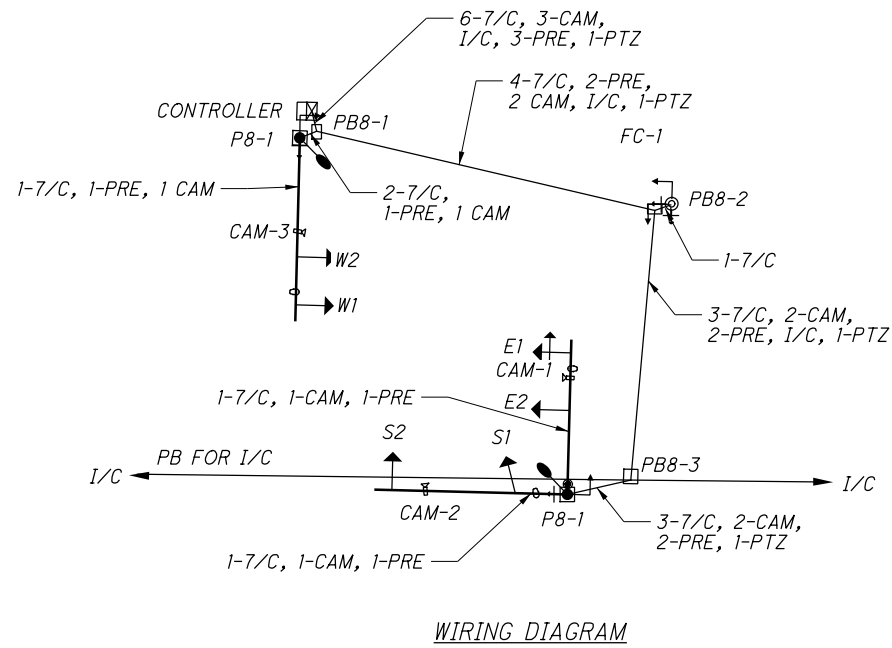
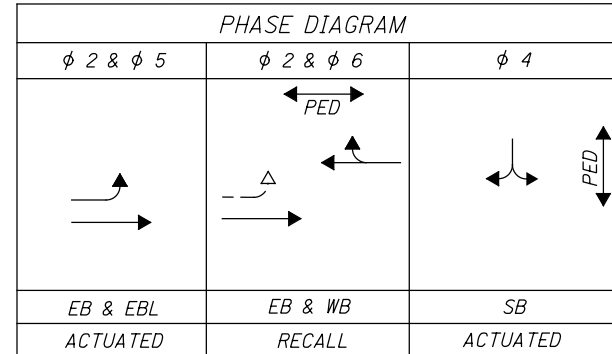


FC-1
(LIGHT POLE)

POLE DETAILS

FIELD WIRING HOOK-UP CHART

SIGNAL HEAD	INDICATION	TERMINAL HEAD	FLASH
S1, S2 (SB)	R	φ 4 R	R
	Y	φ 4 Y	
	G	φ 4 G	
E2 (EB)	R	φ 2 R	R
	Y	φ 2 Y	
	G	φ 2 G	
E1 (EBLT)	R	φ 2 R	R
	Y	φ 2 Y	
	G	φ 2 G	
	Y	φ 5 Y	
	G	φ 5 G	
W1, W2 (WB)	R	φ 6 R	R
	Y	φ 6 Y	
	G	φ 6 G	



NOTES:

1. ALL SIGNALS REFERENCE 12TH STREET CENTER LINE.
2. FOR LOOP DETECTOR CHARTS AND SIGNAL DETAILS SEE SHEET 631.
3. FOR SIGNAL LEGENDS SEE SHEET 622.



TRAFFIC SIGNAL PLAN
12TH STREET AND GIBBS AVENUE

STA-12TH STREET

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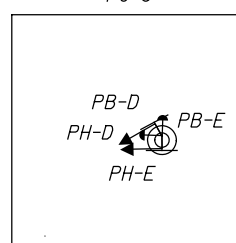
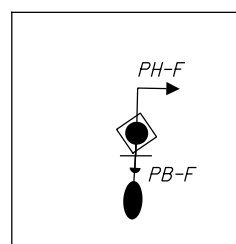
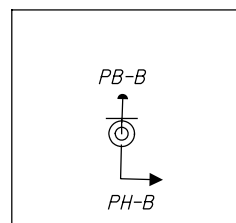
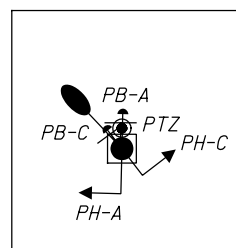


0 20 40
HORIZONTAL SCALE IN FEET
CALCULATED TJR
CHECKED DLW

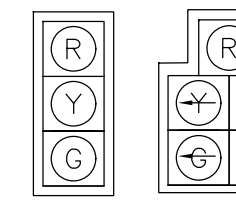
TRAFFIC SIGNAL PLAN - 12TH STREET AT LAWRENCE ROAD AND GROSS AVENUE

STA-12TH STREET

629
790



FC-14 (LIGHT POLE)
POLE DETAILS



E2, W2, W4, S1, S2, N1, N2
E1, W1, W3
POLYCARBONATE SIGNAL INDICATIONS
12" LED LENS



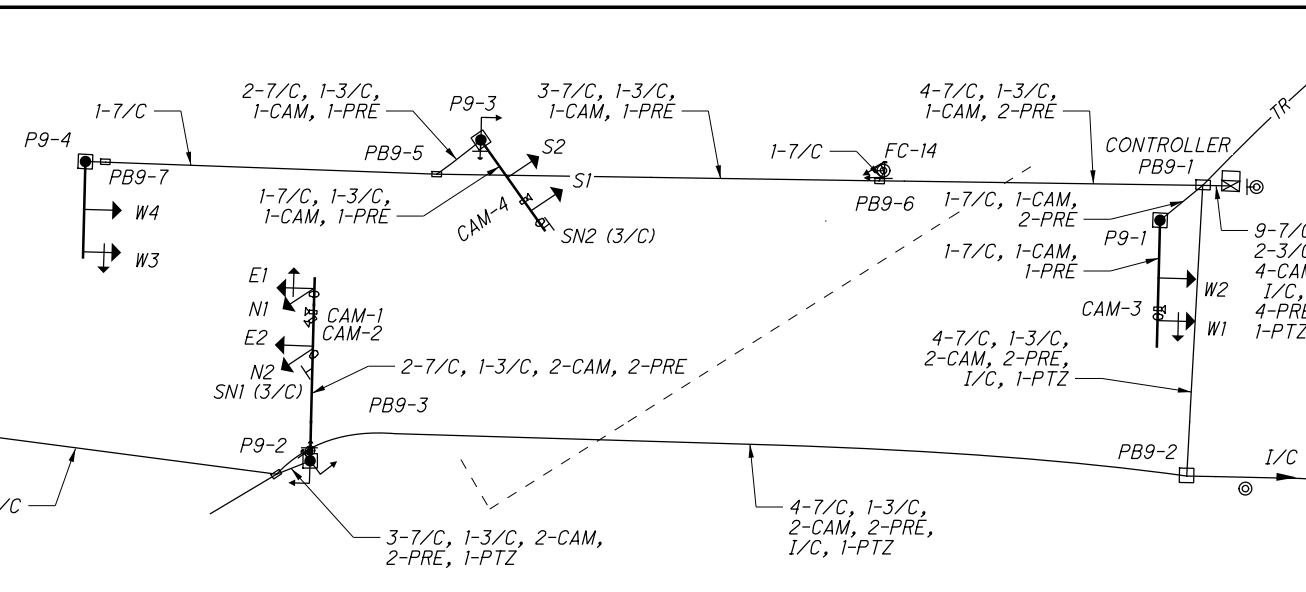
ILLUMINATED (LED) NO RIGHT TURN W/ TRAIN 30" X 36" SN1



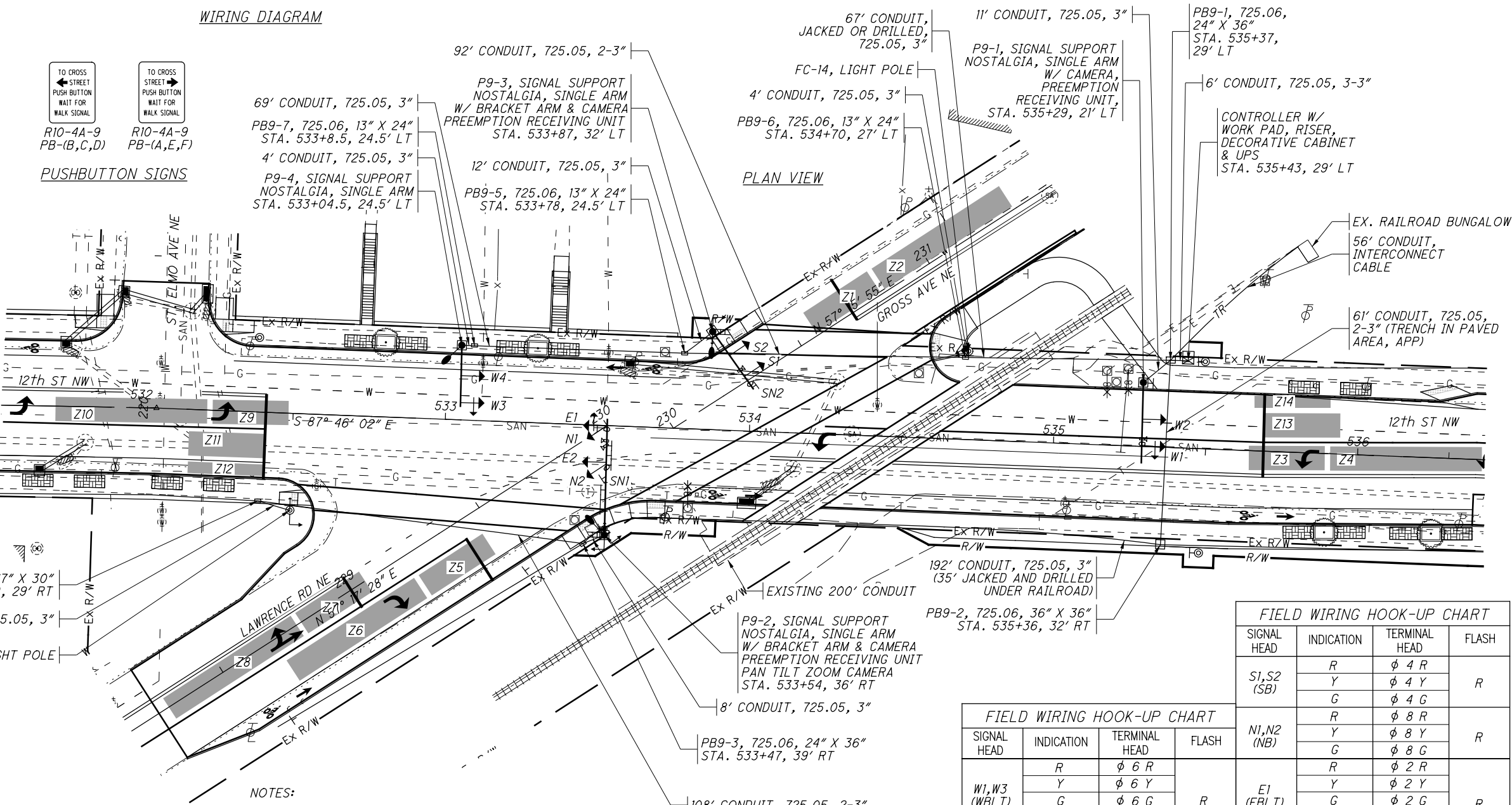
ILLUMINATED (LED) NO LEFT TURN W/ TRAIN 30" X 36" SN2



D2 16" LED (COUNTDOWN) SIGNAL (CLAMHELL MTG.) PH-(A-H)
PEDESTRIAN SIGNAL HEADS

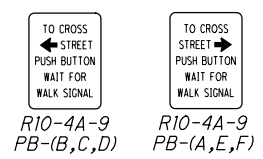


WIRING DIAGRAM



PLAN VIEW

PHASE DIAGRAMS							
NORMAL OPERATION				RAILROAD PREEMPTION			
φ 5	φ 1 + OLA φ 6 + OLB	φ 2 & φ 6 + OLB	φ 4 & φ 8	φ 1 & φ 6	φ 2 & φ 5		
	φ 6 OLB φ 1 OLA	PED	OLB PED				
EBL	WB	EB & WB	NB & SB	TRACK CLEARANCE GREEN INTERVAL	TRACK DWELL		
ACTUATED	ACTUATED	RECALL	ACTUATED				



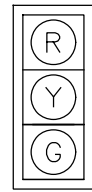
PUSHBUTTON SIGNS
R10-4A-9 PB-(B,C,D) R10-4A-9 PB-(A,E,F)

69' CONDUIT, 725.05, 3"
PB9-7, 725.06, 13" X 24" STA. 533+8.5, 24.5' LT
4' CONDUIT, 725.05, 3"
P9-4, SIGNAL SUPPORT NOSTALGIA, SINGLE ARM STA. 533+04.5, 24.5' LT
92' CONDUIT, 725.05, 2-3"
P9-3, SIGNAL SUPPORT NOSTALGIA, SINGLE ARM W/ BRACKET ARM & CAMERA PREEMPTION RECEIVING UNIT STA. 533+87, 32' LT
12' CONDUIT, 725.05, 3"
PB9-5, 725.06, 13" X 24" STA. 533+78, 24.5' LT
67' CONDUIT, JACKED OR DRILLED, 725.05, 3"
FC-14, LIGHT POLE
4' CONDUIT, 725.05, 3"
PB9-6, 725.06, 13" X 24" STA. 534+70, 27' LT
11' CONDUIT, 725.05, 3"
PB9-1, 725.06, 24" X 36" STA. 535+37, 29' LT
6' CONDUIT, 725.05, 3-3"
CONTROLLER W/ WORK PAD, RISER, DECORATIVE CABINET & UPS STA. 535+43, 29' LT
61' CONDUIT, 725.05, 2-3" (TRENCH IN PAVED AREA, APP)

FIELD WIRING HOOK-UP CHART			
SIGNAL HEAD	INDICATION	TERMINAL HEAD	FLASH
S1, S2 (SB)	R	φ 4 R	
	Y	φ 4 Y	R
	G	φ 4 G	
N1, N2 (NB)	R	φ 8 R	
	Y	φ 8 Y	R
	G	φ 8 G	
E1 (EBLT)	R	φ 2 R	
	Y	φ 2 Y	R
	G	φ 2 G	
W1, W3 (WBLT)	R	φ 6 R	
	Y	φ 6 Y	R
	G	φ 6 G	
W2 (WB)	R	φ 6 R	
	Y	φ 6 Y	R
	G	φ 6 G	

- NOTES:
1. ALL SIGNALS REFERENCE 12TH STREET CENTER LINE.
2. FOR LOOP DETECTOR CHARTS AND SIGNAL DETAILS SEE SHEET 631.
3. FOR SIGNAL LEGENDS SEE SHEET 622.

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N1, N2,
S1, S2
W1, W2

POLYCARBONATE
SIGNAL INDICATIONS
12" LED LENS



D2 16" LED (COUNTDOWN) SIGNAL
(CLAMSHELL MTG.)
PH-(A-H)

PEDESTRIAN
SIGNAL HEADS

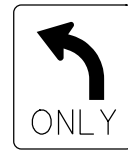


R10-4A-9
PB-(C,D)

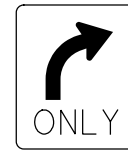


R10-4A-9
PB-(A,B)

PUSHBUTTON SIGNS

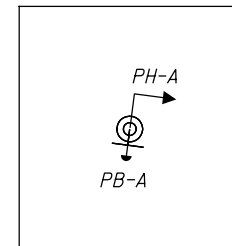


S-1

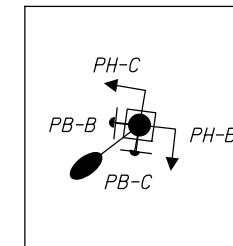


S-2

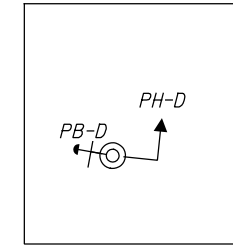
MAST ARM SIGNS
(SHOWN AND PAID FOR IN
TRAFFIC CONTROL PLANS)



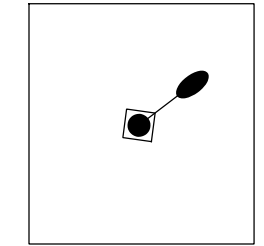
DB-8
(LIGHT POLE)



P11-2



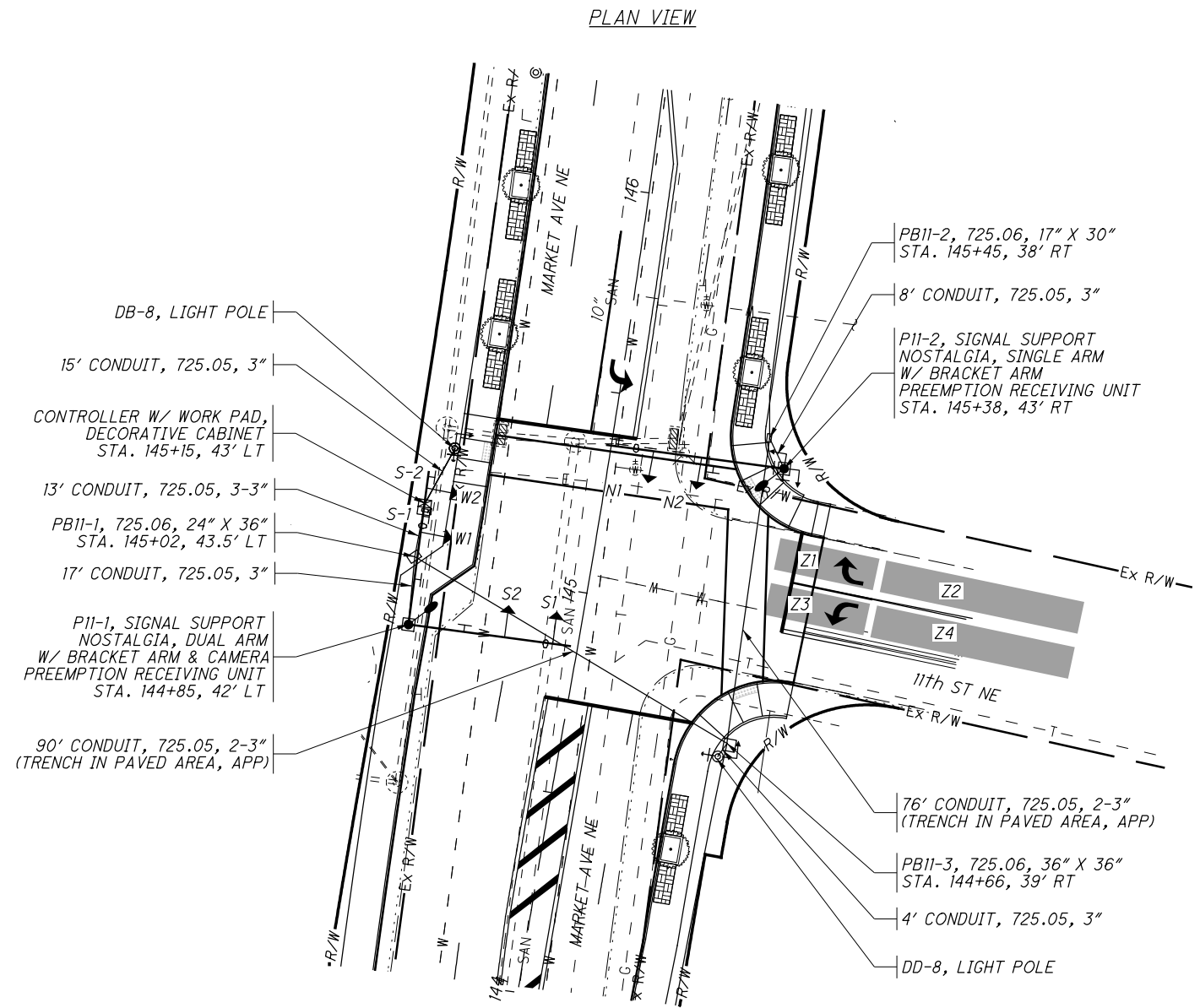
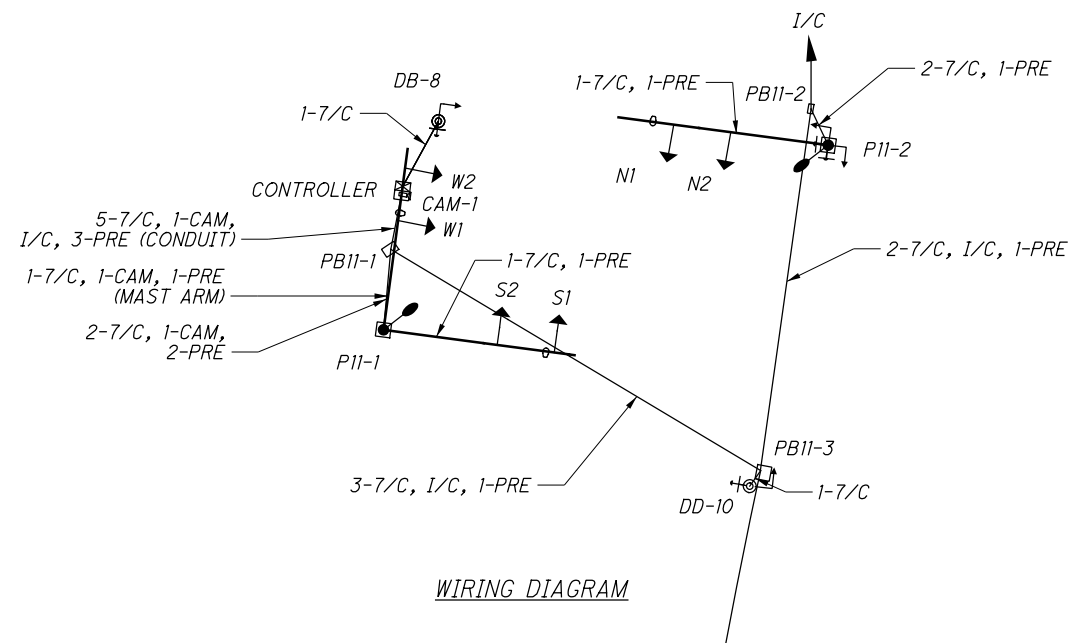
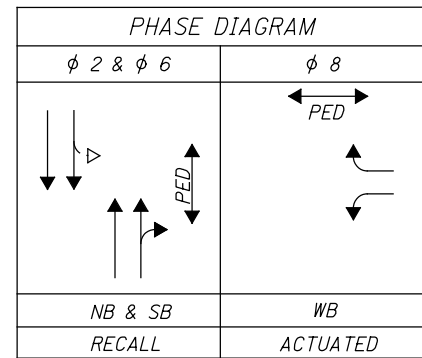
DD-8
(LIGHT POLE)



P11-4

POLE DETAILS

FIELD WIRING HOOK-UP CHART			
SIGNAL HEAD	INDICATION	TERMINAL HEAD	FLASH
S1, S2 (SB)	R	φ 6 R	R
	Y	φ 6 Y	
	G	φ 6 G	
N1, N2 (NB)	R	φ 2 R	R
	Y	φ 2 Y	
	G	φ 2 G	
W1 (WB)	R	φ 8 R	R
	Y	φ 8 Y	
	G	φ 8 G	



NOTES:

1. ALL SIGNALS REFERENCE MARKET AVENUE CENTER LINE.
2. FOR LOOP DETECTOR CHARTS AND SIGNAL DETAILS SEE SHEET 631.
3. FOR SIGNAL LEGENDS SEE SHEET 622.



TRAFFIC SIGNAL PLAN
MARKET AVENUE AT 11TH STREET

STA-12TH STREET

DETECTION SUMMARY

INT	ZONE	ZONE DETECTION TYPE	CAMERA	DETECTOR TYPE	PRESENCE/PULSE	CONNECT TO PHASE	LOCK/NON-LOCK	MOVEMENT	DELAY	EXT	REMARKS
12TH ST. & FULTON RD.	Z1	STOP LINE	CAM-2	VIDEO	PRESENCE	φ4	NON-LOCK	SB	10		DELAY INHIBITED DURING GREEN PHASE
	Z2	STOP LINE	CAM-2	VIDEO	PRESENCE	φ4	NON-LOCK	SB	5		DELAY INHIBITED DURING GREEN PHASE
	Z3	STOP LINE	CAM-2	VIDEO	PRESENCE	φ4	NON-LOCK	SB	10		DELAY INHIBITED DURING GREEN PHASE
	Z4	STOP LINE	CAM-2	VIDEO	PRESENCE	φ4	NON-LOCK	SB	5		DELAY INHIBITED DURING GREEN PHASE
	Z5	STOP LINE	CAM-3	VIDEO	PRESENCE	φ1	NON-LOCK	WB LT	10		DELAY INHIBITED DURING GREEN PHASE
	Z6	STOP LINE	CAM-3	VIDEO	PRESENCE	φ1	NON-LOCK	WB LT	5		DELAY INHIBITED DURING GREEN PHASE
	Z7	STOP LINE	CAM-4	VIDEO	PRESENCE	φ8	NON-LOCK	NB	10		DELAY INHIBITED DURING GREEN PHASE
	Z8	STOP LINE	CAM-4	VIDEO	PRESENCE	φ8	NON-LOCK	NB	5		DELAY INHIBITED DURING GREEN PHASE
	Z9	STOP LINE	CAM-4	VIDEO	PRESENCE	φ8	NON-LOCK	NB	10		DELAY INHIBITED DURING GREEN PHASE
	Z10	STOP LINE	CAM-4	VIDEO	PRESENCE	φ8	NON-LOCK	NB	5		DELAY INHIBITED DURING GREEN PHASE
	Z11	STOP LINE	CAM-1	VIDEO	PRESENCE	φ5	NON-LOCK	EB LT	10		DELAY INHIBITED DURING GREEN PHASE
	Z12	STOP LINE	CAM-1	VIDEO	PRESENCE	φ5	NON-LOCK	EB LT	5		DELAY INHIBITED DURING GREEN PHASE
	Z13	STOP LINE	CAM-1	VIDEO	PRESENCE	φ2	NON-LOCK	EB			
	Z14	STOP LINE	CAM-1	VIDEO	PRESENCE	φ2	NON-LOCK	EB			
	Z15	STOP LINE	CAM-3	VIDEO	PRESENCE	φ6	NON-LOCK	WB			
	Z16	STOP LINE	CAM-3	VIDEO	PRESENCE	φ6	NON-LOCK	WB			
12TH ST. & MCKINLEY AVENUE NW	Z1	STOP LINE	CAM-1	VIDEO	PRESENCE	φ4	NON-LOCK	SB	10		DELAY INHIBITED DURING GREEN PHASE
	Z2	STOP LINE	CAM-1	VIDEO	PRESENCE	φ4	NON-LOCK	SB	5		DELAY INHIBITED DURING GREEN PHASE
	Z3	STOP LINE	CAM-1	VIDEO	PRESENCE	φ4	NON-LOCK	SB	10		DELAY INHIBITED DURING GREEN PHASE
	Z4	STOP LINE	CAM-1	VIDEO	PRESENCE	φ4	NON-LOCK	SB	5		DELAY INHIBITED DURING GREEN PHASE
	Z5	STOP LINE	CAM-1	VIDEO	PRESENCE	φ4	NON-LOCK	SB	10		DELAY INHIBITED DURING GREEN PHASE
	Z6	STOP LINE	CAM-1	VIDEO	PRESENCE	φ4	NON-LOCK	SB	5		DELAY INHIBITED DURING GREEN PHASE
	Z7	STOP LINE	CAM-1	VIDEO	PRESENCE	φ4	NON-LOCK	SB	10		DELAY INHIBITED DURING GREEN PHASE
	Z8	STOP LINE	CAM-1	VIDEO	PRESENCE	φ4	NON-LOCK	SB	5		DELAY INHIBITED DURING GREEN PHASE
	Z9	STOP LINE	CAM-2	VIDEO	PRESENCE	φ1	NON-LOCK	WBLT	10		DELAY INHIBITED DURING GREEN PHASE
	Z10	STOP LINE	CAM-2	VIDEO	PRESENCE	φ1	NON-LOCK	WBLT	5		DELAY INHIBITED DURING GREEN PHASE
	Z11	STOP LINE	CAM-3	VIDEO	PRESENCE	φ2	NON-LOCK	EB			
	Z12	STOP LINE	CAM-3	VIDEO	PRESENCE	φ2	NON-LOCK	EB			
	Z13	STOP LINE	CAM-3	VIDEO	PRESENCE	φ2	NON-LOCK	EB			
	Z14	STOP LINE	CAM-2	VIDEO	PRESENCE	φ6	NON-LOCK	WB			
Z15	STOP LINE	CAM-2	VIDEO	PRESENCE	φ6	NON-LOCK	WB				
12TH ST. & CLEVELAND AVENUE NW	Z1	STOP LINE	CAM-2	VIDEO	PRESENCE	φ8	NON-LOCK	NB	10		DELAY INHIBITED DURING GREEN PHASE
	Z2	STOP LINE	CAM-2	VIDEO	PRESENCE	φ8	NON-LOCK	NB	5		DELAY INHIBITED DURING GREEN PHASE
	Z3	STOP LINE	CAM-2	VIDEO	PRESENCE	φ8	NON-LOCK	NB	10		DELAY INHIBITED DURING GREEN PHASE
	Z4	STOP LINE	CAM-2	VIDEO	PRESENCE	φ8	NON-LOCK	NB	5		DELAY INHIBITED DURING GREEN PHASE
	Z5	STOP LINE	CAM-2	VIDEO	PRESENCE	φ8	NON-LOCK	NB	10		DELAY INHIBITED DURING GREEN PHASE
	Z6	STOP LINE	CAM-2	VIDEO	PRESENCE	φ8	NON-LOCK	NB	5		DELAY INHIBITED DURING GREEN PHASE
	Z7	STOP LINE	CAM-1	VIDEO	PRESENCE	φ5	NON-LOCK	EBLT	10		DELAY INHIBITED DURING GREEN PHASE
	Z8	STOP LINE	CAM-1	VIDEO	PRESENCE	φ5	NON-LOCK	EBLT	5		DELAY INHIBITED DURING GREEN PHASE
	Z9	STOP LINE	CAM-1	VIDEO	PRESENCE	φ2	NON-LOCK	EB			
	Z10	STOP LINE	CAM-1	VIDEO	PRESENCE	φ2	NON-LOCK	EB			
	Z11	STOP LINE	CAM-3	VIDEO	PRESENCE	φ6	NON-LOCK	WB			
	Z12	STOP LINE	CAM-3	VIDEO	PRESENCE	φ6	NON-LOCK	WB			
12TH ST. & W MARKET AVENUE	Z1	STOP LINE	CAM-2	VIDEO	PRESENCE	φ4	NON-LOCK	SB	10		DELAY INHIBITED DURING GREEN PHASE
	Z2	STOP LINE	CAM-2	VIDEO	PRESENCE	φ4	NON-LOCK	SB	5		DELAY INHIBITED DURING GREEN PHASE
	Z3	STOP LINE	CAM-2	VIDEO	PRESENCE	φ4	NON-LOCK	SB	10		DELAY INHIBITED DURING GREEN PHASE
	Z4	STOP LINE	CAM-2	VIDEO	PRESENCE	φ4	NON-LOCK	SB	5		DELAY INHIBITED DURING GREEN PHASE
	Z5	STOP LINE	CAM-2	VIDEO	PRESENCE	φ7	NON-LOCK	SBLT	10		DELAY INHIBITED DURING GREEN PHASE
	Z6	STOP LINE	CAM-2	VIDEO	PRESENCE	φ7	NON-LOCK	SBLT	5		DELAY INHIBITED DURING GREEN PHASE
	Z7	STOP LINE	CAM-3	VIDEO	PRESENCE	φ1	NON-LOCK	WBLT	10		DELAY INHIBITED DURING GREEN PHASE
	Z8	STOP LINE	CAM-3	VIDEO	PRESENCE	φ1	NON-LOCK	WBLT	5		DELAY INHIBITED DURING GREEN PHASE
	Z9	STOP LINE	CAM-4	VIDEO	PRESENCE	φ8	NON-LOCK	NB	10		DELAY INHIBITED DURING GREEN PHASE
	Z10	STOP LINE	CAM-4	VIDEO	PRESENCE	φ8	NON-LOCK	NB	5		DELAY INHIBITED DURING GREEN PHASE
	Z11	STOP LINE	CAM-4	VIDEO	PRESENCE	φ8	NON-LOCK	NB	10		DELAY INHIBITED DURING GREEN PHASE
	Z12	STOP LINE	CAM-4	VIDEO	PRESENCE	φ8	NON-LOCK	NB	5		DELAY INHIBITED DURING GREEN PHASE
	Z13	STOP LINE	CAM-4	VIDEO	PRESENCE	φ3	NON-LOCK	NBLT	10		DELAY INHIBITED DURING GREEN PHASE
	Z14	STOP LINE	CAM-4	VIDEO	PRESENCE	φ3	NON-LOCK	NBLT	5		DELAY INHIBITED DURING GREEN PHASE
	Z15	STOP LINE	CAM-1	VIDEO	PRESENCE	φ5	NON-LOCK	EBLT	10		DELAY INHIBITED DURING GREEN PHASE
	Z16	STOP LINE	CAM-1	VIDEO	PRESENCE	φ5	NON-LOCK	EBLT	5		DELAY INHIBITED DURING GREEN PHASE
	Z17	STOP LINE	CAM-1	VIDEO	PRESENCE	φ2	NON-LOCK	EB			
	Z18	STOP LINE	CAM-1	VIDEO	PRESENCE	φ2	NON-LOCK	EB			
	Z19	STOP LINE	CAM-1	VIDEO	PRESENCE	φ2	NON-LOCK	EB			
	Z20	STOP LINE	CAM-3	VIDEO	PRESENCE	φ6	NON-LOCK	WB			
	Z21	STOP LINE	CAM-3	VIDEO	PRESENCE	φ6	NON-LOCK	WB			

DETECTION SUMMARY

INT	ZONE	ZONE DETECTION TYPE	CAMERA	DETECTOR TYPE	PRESENCE/PULSE	CONNECT TO PHASE	LOCK/NON-LOCK	MOVEMENT	DELAY	EXT	REMARKS
12TH ST. & WALNUT AVENUE (SR 43)	Z1	STOP LINE	CAM-1	VIDEO	PRESENCE	φ4	NON-LOCK	SB	10		DELAY INHIBITED DURING GREEN PHASE
	Z2	STOP LINE	CAM-1	VIDEO	PRESENCE	φ4	NON-LOCK	SB	5		DELAY INHIBITED DURING GREEN PHASE
	Z3	STOP LINE	CAM-1	VIDEO	PRESENCE	φ4	NON-LOCK	SB	10		DELAY INHIBITED DURING GREEN PHASE
	Z4	STOP LINE	CAM-1	VIDEO	PRESENCE	φ4	NON-LOCK	SB	5		DELAY INHIBITED DURING GREEN PHASE
	Z5	STOP LINE	CAM-1	VIDEO	PRESENCE	φ9	NON-LOCK	SB BIKE			
	Z6	STOP LINE	CAM-4	VIDEO	PRESENCE	φ10	NON-LOCK	NB BIKE			
	Z7	STOP LINE	CAM-2	VIDEO	PRESENCE	φ1	NON-LOCK	WBLT	10		DELAY INHIBITED DURING GREEN PHASE
	Z8	STOP LINE	CAM-2	VIDEO	PRESENCE	φ1	NON-LOCK	WBLT	5		DELAY INHIBITED DURING GREEN PHASE
	Z9	STOP LINE	CAM-3	VIDEO	PRESENCE	φ2	NON-LOCK	EB			
	Z10	STOP LINE	CAM-3	VIDEO	PRESENCE	φ2	NON-LOCK	EB			
	Z11	STOP LINE	CAM-2	VIDEO	PRESENCE	φ6	NON-LOCK	WB			
	Z12	STOP LINE	CAM-2	VIDEO	PRESENCE	φ6	NON-LOCK	WB			
12TH ST. & CHERRY AVENUE NE	Z1	STOP LINE	CAM-2	VIDEO	PRESENCE	φ8	NON-LOCK	NB	10		DELAY INHIBITED DURING GREEN PHASE
	Z2	STOP LINE	CAM-2	VIDEO	PRESENCE	φ8	NON-LOCK	NB	5		DELAY INHIBITED DURING GREEN PHASE
	Z3	STOP LINE	CAM-2	VIDEO	PRESENCE	φ8	NON-LOCK	NB	10		DELAY INHIBITED DURING GREEN PHASE
	Z4	STOP LINE	CAM-2	VIDEO	PRESENCE	φ8	NON-LOCK	NB	5		DELAY INHIBITED DURING GREEN PHASE
	Z5	STOP LINE	CAM-2	VIDEO	PRESENCE	φ8	NON-LOCK	NB	10		DELAY INHIBITED DURING GREEN PHASE
	Z6	STOP LINE	CAM-2	VIDEO	PRESENCE	φ8	NON-LOCK	NB	5		DELAY INHIBITED DURING GREEN PHASE
	Z7	STOP LINE	CAM-1	VIDEO	PRESENCE	φ5	NON-LOCK	EBLT	10		DELAY INHIBITED DURING GREEN PHASE
	Z8	STOP LINE	CAM-1	VIDEO	PRESENCE	φ5	NON-LOCK	EBLT	5		DELAY INHIBITED DURING GREEN PHASE
12TH ST. & GIBBS AVENUE	Z9	STOP LINE	CAM-1	VIDEO	PRESENCE	φ2	NON-LOCK	EB			
	Z10	STOP LINE	CAM-1	VIDEO	PRESENCE	φ2	NON-LOCK	EB			
	Z11	STOP LINE	CAM-3	VIDEO	PRESENCE	φ6	NON-LOCK	WB			
	Z12	STOP LINE	CAM-3	VIDEO	PRESENCE	φ6	NON-LOCK	WB			
	Z13	STOP LINE	CAM-2	VIDEO	PRESENCE	φ4	NON-LOCK	SB	10		DELAY INHIBITED DURING GREEN PHASE
	Z14	STOP LINE	CAM-1	VIDEO	PRESENCE	φ5	NON-LOCK	EBLT	10		DELAY INHIBITED DURING GREEN PHASE
12TH ST. & LAWRENCE ROAD	Z1	STOP LINE	CAM-2	VIDEO	PRESENCE	φ4	NON-LOCK	SB	5		DELAY INHIBITED DURING GREEN PHASE
	Z2	STOP LINE	CAM-2	VIDEO	PRESENCE	φ4	NON-LOCK	SB			
	Z3	STOP LINE	CAM-1	VIDEO	PRESENCE	φ5	NON-LOCK	EBLT	10		DELAY INHIBITED DURING GREEN PHASE
	Z4	STOP LINE	CAM-1	VIDEO	PRESENCE	φ5	NON-LOCK	EBLT	5		DELAY INHIBITED DURING GREEN PHASE
	Z5	STOP LINE	CAM-1	VIDEO	PRESENCE	φ2	NON-LOCK	EB			
	Z6	STOP LINE	CAM-3	VIDEO	PRESENCE	φ6	NON-LOCK	WB			
	Z7	STOP LINE	CAM-2	VIDEO	PRESENCE	φ8	NON-LOCK	NB	10		DELAY INHIBITED DURING GREEN PHASE
	Z8	STOP LINE	CAM-2	VIDEO	PRESENCE	φ8	NON-LOCK	NB	5		DELAY INHIBITED DURING GREEN PHASE
12TH ST. & MARKET AVENUE & 11TH ST NE	Z9	STOP LINE	CAM-1	VIDEO	PRESENCE	φ5	NON-LOCK	EBLT	10		DELAY INHIBITED DURING GREEN PHASE
	Z10	STOP LINE	CAM-1	VIDEO	PRESENCE	φ5	NON-LOCK	EBLT	5		DELAY INHIBITED DURING GREEN PHASE
	Z11	STOP LINE	CAM-1	VIDEO	PRESENCE	φ2	NON-LOCK	EB			
	Z12	STOP LINE	CAM-1	VIDEO	PRESENCE	φ2	NON-LOCK	EB			
	Z13	STOP LINE	CAM-3	VIDEO	PRESENCE	φ6	NON-LOCK	WB			
	Z14	STOP LINE	CAM-3	VIDEO	PRESENCE	φ6	NON-LOCK	WB			
	Z1	STOP LINE	CAM-1	VIDEO	PRESENCE	φ8	NON-LOCK	WB	10		DELAY INHIBITED DURING GREEN PHASE
Z2	STOP LINE	CAM-1	VIDEO	PRESENCE	φ8	NON-LOCK	WB	5		DELAY INHIBITED DURING GREEN PHASE	
Z3	STOP LINE	CAM-1	VIDEO	PRESENCE	φ8	NON-LOCK	WB	10		DELAY INHIBITED DURING GREEN PHASE	
Z4	STOP LINE	CAM-1	VIDEO	PRESENCE	φ8	NON-LOCK	WB	5		DELAY INHIBITED DURING GREEN PHASE	

CALCULATED
TJR
CHECKED
DLW

DETECTOR CHARTS

STA-12TH STREET