

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CITY OF PLYMOUTH

MULLET RIVER - SUHRKE ROAD

STH 67

SHEBOYGAN COUNTY

CITY OF PLYMOUTH

MULLET RIVER - SUHRKE ROAD

STH 67

SHEBOYGAN COUNTY

STATE PROJECT

FEDERAL PROJECT

PROJECT

CONTRACT

4560-05-71

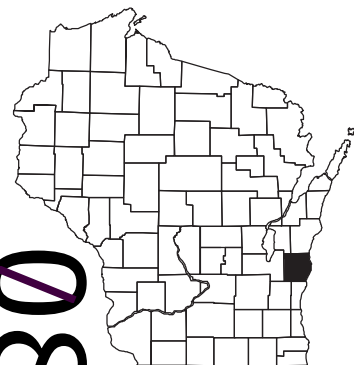
WISC 2014440

1

4560-05-72

ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details (includes Erosion Control)
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section No. 9	Computer Earthwork Data
Section No. 9	Cross Sections
TOTAL SHEETS = 212	



STATE PROJECT NUMBER

4560-05-71

STATE PROJECT NUMBER

4560-05-72

END PROJECT
STA 198+90
Y = 179,153.47
X = 148,053.68

BEGIN PROJECT
STA 154+40
Y = 175,398.84
X = 148,054.86

DESIGN	DESIGNATION	MILWAUKEE	ELIZABETH	CAROLINE
A.A.D.T.	(2014)	= 6100	3400	1500
A.A.D.T.	(2034)	= 7300	4000	2000
D.H.V.	(2014)	= N/A	N/A	N/A
D.D.		= 58/42	58/42	58/42
		= 6.4%	6.4%	6.4%
DESIGN SPEED		= 30 MPH	30 MPH	30 MPH
ESALS		= 861,400	861,400	861,400

CONVENTIONAL SYMBOLS

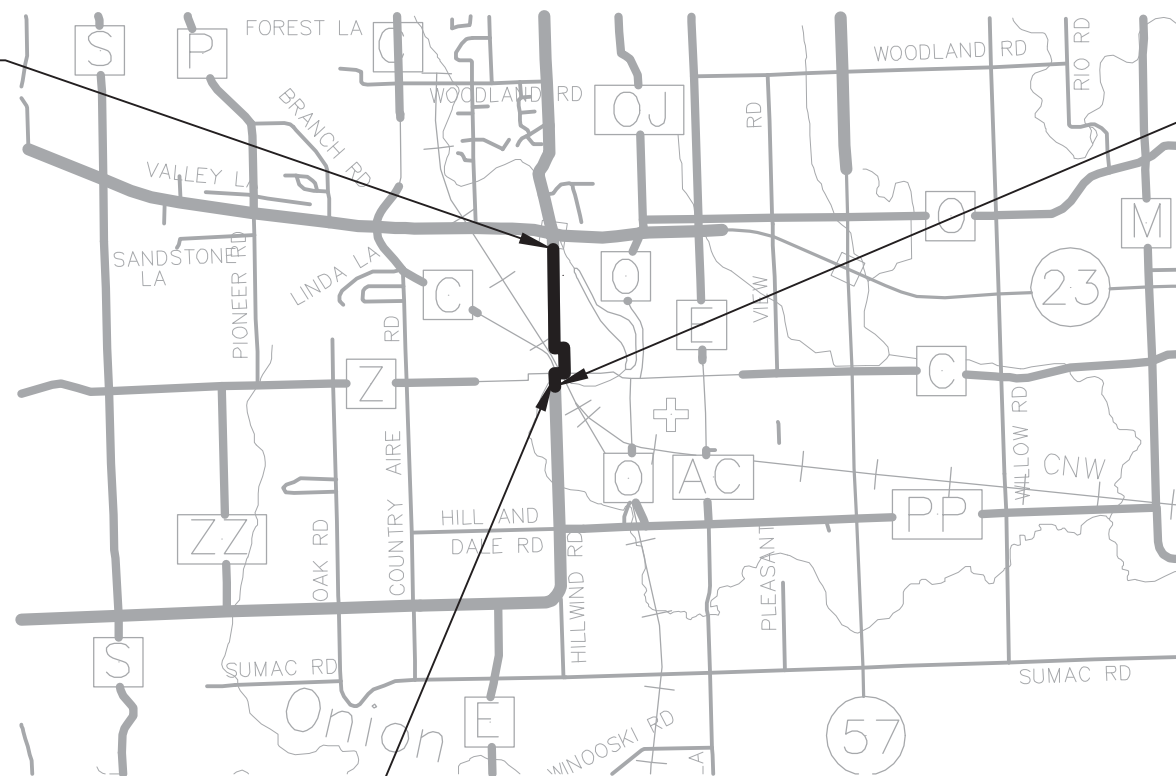
PLAN

CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE

GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

ROCK	
LABEL	
95.36	
E	
FO	
G	
SAN	
SS	
T	
W	



EXCEPTION TO NET CENTERLINE
LENGTH B-59-0138
STA. 154+66.71 - STA. 155+08.77

LAYOUT
SCALE 0 1/2 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.835 MI.

"COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY
COORDINATE SYSTEM (WCCS), SHEBOYGAN COUNTY, NAD83 (1991) AND
NAVD 88 (1997), IN SURVEY FEET."

ORIGINAL PLANS PREPARED BY



7/15/2014 Timothy J. Moyer
(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WDOT
Designer	DONOHUE & ASSOCIATES, INC.
Project Manager	PAUL BRAUER
Regional Examiner	
Regional Supervisor	ROBERT WAGNER
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 7/21/2014
(Signature)

E

GENERAL NOTES

CROSS DRAIN PIPE ELEVATIONS, LENGTHS AND LOCATIONS AS SHOWN ON THE PLANS MAY BE ADJUSTED TO FIT EXISTING FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

ALL DISTURBED AREAS BETWEEN THE EXISTING/PROPOSED SIDEWALKS AND BACK OF PROPOSED CURB AND GUTTER SHALL BE RESTORED WITH TOPSOIL, SEED, FERTILIZER AND URBAN EMAT. ALL OTHER DISTURBED AREAS WITHIN THE RIGHT-OF-WAY ARE TO BE RESTORED WITH TOPSOIL, SEED, FERTILIZER AND MULCH AS DIRECTED BY THE ENGINEER. ANY OTHER DISTURBED AREAS ARE TO BE SEEDED, FERTILIZED AND MULCHED AT THE CONTRACTORS EXPENSE.

THE EXACT LOCATION AND WIDTHS OF PRIVATE AND COMMERCIAL DRIVEWAYS ARE TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

ALL DISTANCES ARE GROUND DISTANCES. TIES ARE HORIZONTAL UNLESS SHOWN OTHERWISE.

THE LOCATIONS OF EXISTING UTILITY FACILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER, UNLESS DESIGNATED ON PLAN.

THE CONTROL SURVEY CONDUCTED FOR THIS PROJECT MET THIRD ORDER CONTROL SURVEY SPECIFICATIONS.

SILT FENCE TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

EXCAVATION BELOW SUBGRADE (EBS) LOCATIONS ARE NOT SHOWN ON THE CROSS SECTIONS. EXCAVATION BELOW SUBGRADE (EBS) IS ESTIMATED TO BE 25% OF THE PROJECT LENGTH AT A DEPTH OF 12-INCHES TO A WIDTH OF 2-FOOT BEHIND THE BACK OF CURB. EBS SHALL BE MEASURED AND PAID FOR AS EXCAVATION COMMON. BACKFILL EBS AREAS WITH BREAKER RUN. LATERAL TRANSITIONS OUT OF EBS AREAS SHALL BE AT A 5:1 SLOPE. EXACT LOCATIONS OF EBS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

EROSION CONTROL IS SHOWN ON THE EROSION CONTROL SHEETS AND IN THE SUMMARY OF MISCELLANEOUS QUANTITIES.

ALL CURB AND GUTTER RADII SHOWN ON THE PLANS ARE MEASURED TO THE FLANGE UNLESS OTHERWISE NOTED.

CONTRACTOR TO VERIFY ELEVATION OF EXISTING CONNECTING STORM SEWERS PRIOR TO INSTALLING OR CONNECTING NEW STRUCTURE.

THERE ARE UTILITY POLES AND LIGHT POLES LOCATED WITHIN 2 FEET OF THE BACK OF CURB AT THE LOCATIONS LISTED BELOW THAT WILL REMAIN DURING CONSTRUCTION. THESE LOCATIONS NEED TO BE ACCOUNTED FOR WHEN PLANNING PAVING AND GRADING OPERATIONS.

#	Location	Description	Distance from Face of Curb
1	155+66, LT	POWER POLE	1.8'
2	156+32, RT	STOP SIGN / FLASHER	1.8'
3	156+56, RT	STREETLIGHT	1.5'
4	156+56, LT	STREETLIGHT	1.5'
5	156+59, LT	STOP SIGN / FLASHER	1.4'
6	156+93, RT	STREETLIGHT	1.5'
7	157+35, LT	STREETLIGHT	1.5'
8	157+72, RT	STREETLIGHT	1.5'
9	158+00, LT	STREETLIGHT	1.5'
10	158+45, RT	STREETLIGHT	1.5'
11	159+90, LT	STREETLIGHT	1.5'
12	159+90, RT	STREETLIGHT	1.5'
13	160+89, LT	POWER POLE	0.5'
14	164+85, LT	POWER POLE	0.5'
15	166+10, LT	POWER POLE	1.3'
16	167+10, LT	POWER POLE	1.8'
17	170+35, RT	STREETLIGHT	1.3'
18	171+30, LT	STREETLIGHT	1.2'
19	187+50, LT	POWER POLE	1.3'

TYPICAL SECTION AND DETAIL
ORDER OF SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PAVING DETAILS
STORM SEWER REMOVAL PLAN
STORM SEWER PLANS (INCLUDING EROSION CONTROL)
WATERMAIN AND SANITARY SEWER DETAILS
PAVEMENT MARKING
PERMANENT SIGNING
TRAFFIC CONTROL OVERVIEW
DETOUR PLAN
ALIGNMENT DIAGRAM

BENCHMARKS			
NO.	STATION/ LOCATION	DESCRIPTION	ELEV.
600	203+20, RT	RR SPIKE IN PPOL# P22A4, 45' E OF CL OF NB STH 67, 150' N OF RUSTIC ST AND 200' N OF CEMETERY ENTRANCE	849.39
601	196+73, LT	CHISLED CROSS ON NE BOLT OF HYD IN SW QUADRANT OF STH 67 AND SUHRKE RD	848.55
602	189+70, LT	CHISLED CROSS ON NE BOLT OF HYD IN NW QUADRAT OF STH 67 AND GROVE ST	877.51
603	176+05, LT	CHISELED CROSS ON NE BOLT OF HYD, 20' WEST OF STH 67 CL AND 200' N OF BRAUN ST	868.96
604	164+30, LT	RR SPIKE IN TELEPHONE PPOL# E149, NW QUADRANT OF STH 67 AND WESTERN AVENUE, 40' +/- S OF THE SOUTH RAIL	848.89
605	154+63, RT	ALUM CAP SE WINGWALL OF b-59-138-90, 100' +/- S OF THE STH 67 INTERSECTION	823.18
606	143+20, RT	CHISELD CROSS ON SE BURY BOLT OF HYD, 25' N OF CL OF REED ST EXTENEDED, 20' W OF CL OF STH 67 AND 2' N OF RAMP	848.22



UTILITY CONTACTS

FRONTIER COMMUNICATIONS (COMMUNICATION LINE)
RYAN OSNESS
118 DIVISION STREET
PLYMOUTH, WI 53073
(920)893-7455
(920)246-3530 (MOBILE)
RYAN.D.OSNESS@FTR.COM

PLYMOUTH UTILITIES (COMMUNICATION LINE)
JAMES R. PETERSON
900 CTH PP
PLYMOUTH, WI 53073
(920)893-1471
(920)946-1953 (MOBILE)
JPETERSON@PLYMOUTHUTILITIES.COM

PLYMOUTH UTILITIES (ELECTRICITY)
JAMES R. PETERSON
900 CTH PP
PLYMOUTH, WI 53073
(920)893-1471
(920)946-1953 (MOBILE)
JPETERSON@PLYMOUTHUTILITIES.COM

PLYMOUTH UTILITIES (SEWER)
WILLIAM IMMICH
900 CTH PP
PLYMOUTH, WI 53073
(920)893-1471
WIMMICH@PLYMOUTHUTILITIES.COM

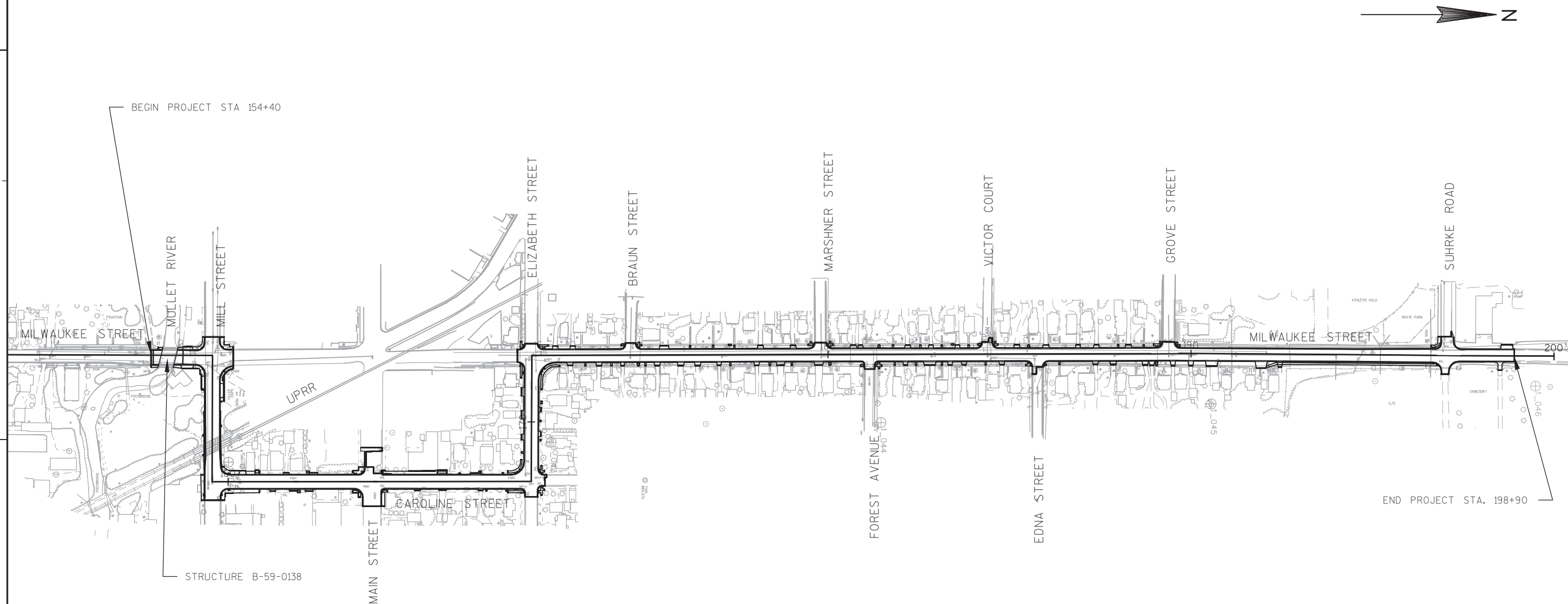
PLYMOUTH UTILITIES (WATER)
WILLIAM IMMICH
900 CTH PP
PLYMOUTH, WI 53073
(920)893-1471
WIMMICH@PLYMOUTHUTILITIES.COM

TIME WARNER CABLE (COMMUNICATION LINE)
STEVE CRAMER
1320 N. DR. MARTIN LUTHER KING JR. DRIVE
MILWAUKEE, WI 53212
(414)277-4045
(414)688-2385 (MOBILE)
STEVE.CRAMER@TWCABLE.COM

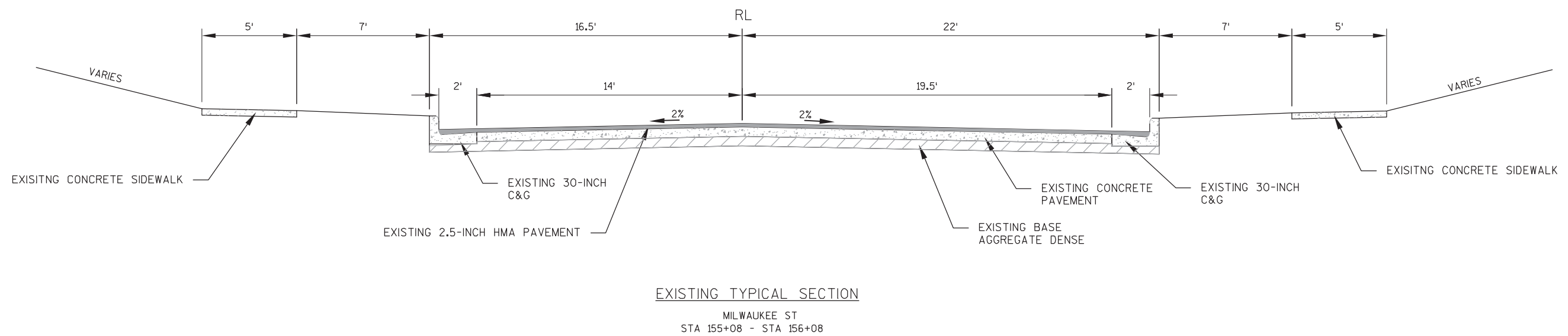
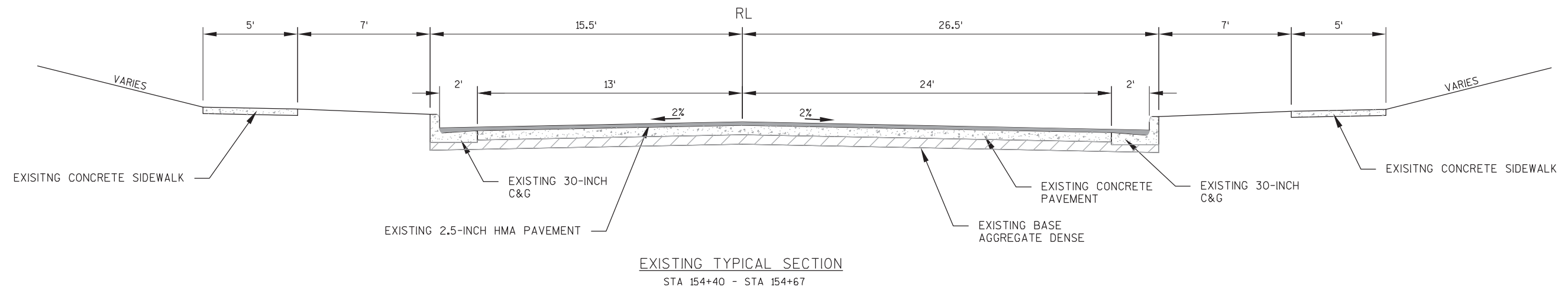
WISCONSIN PUBLIC SERVICE CORPORATION (GAS/PETROLEUM)
MIKE LOWTHER
933 S. WILDWOOD AVENUE
SHEBOYGAN, WI 53081
(920)451-3743
(920)946-3198 (MOBILE)
MLLOWTHER@WISCONSINPUBLICSERVICE.COM

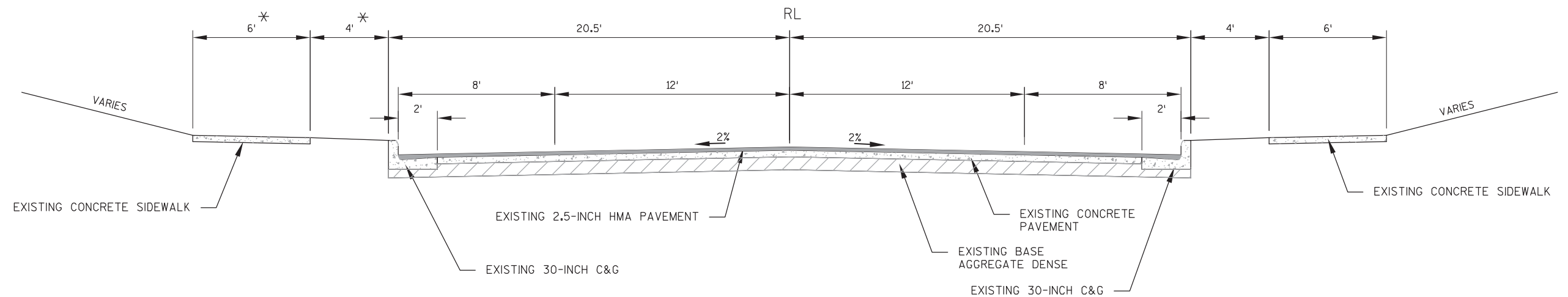
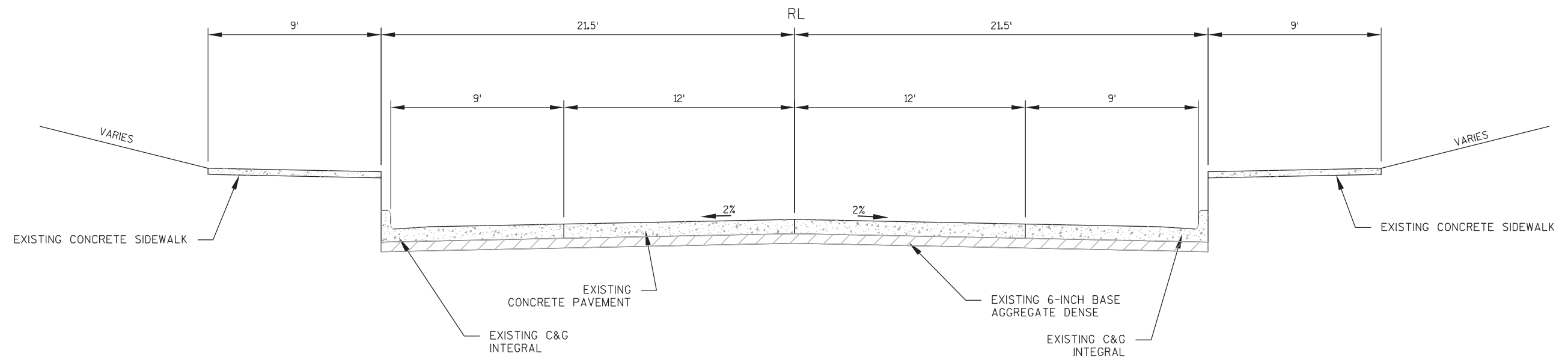
SURVEY CONTACT
CORMAC MCINNIS
WISDOT SURVEY COORDINATOR
944 VANDERPERREN WAY
GREEN BAY, WI 54304
(920)492-5638
CORMAC.MCINNIS@DOT.WI.GOV

DNR CONTACT
JAY SCHIEFFELBEIN
WDNR GREEN BAY SERVICE CENTER
2984 SHAWANO AVENUE
GREEN BAY, WI 54313-6727
(920)662-5130
JAY.SCHIEFFELBEIN@WISCONSIN.GOV



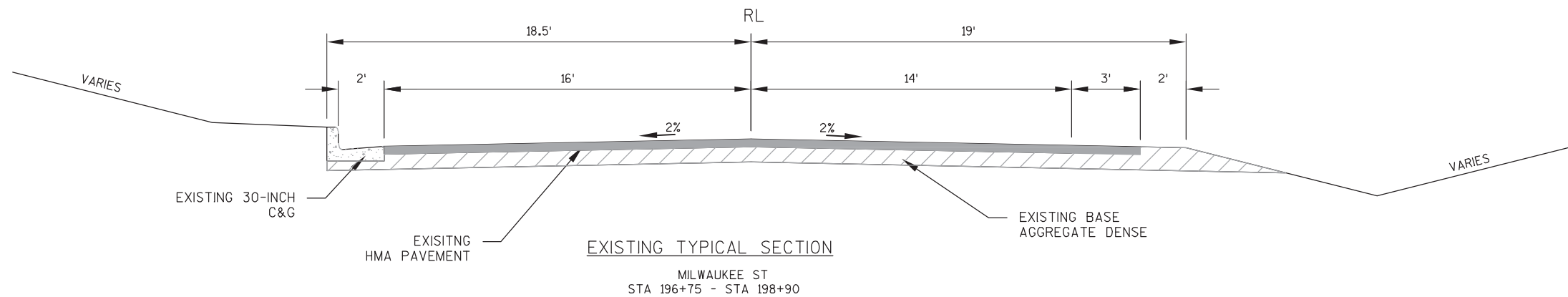
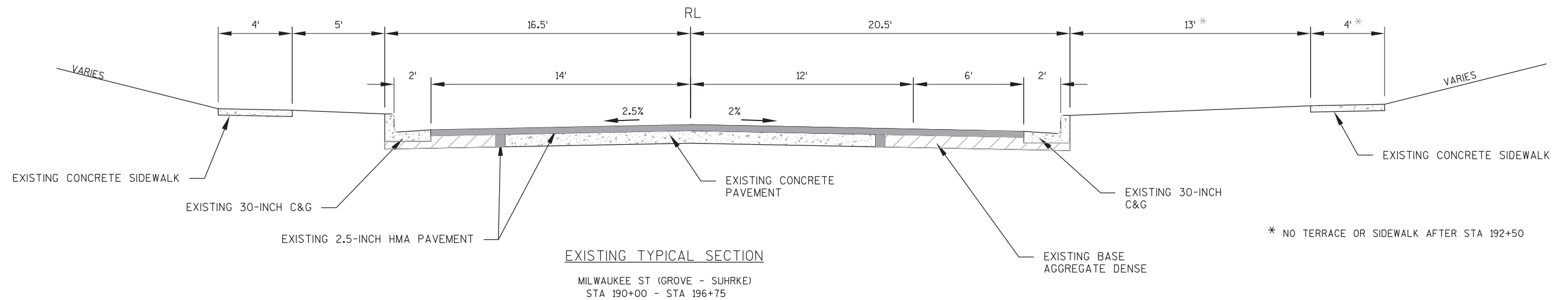
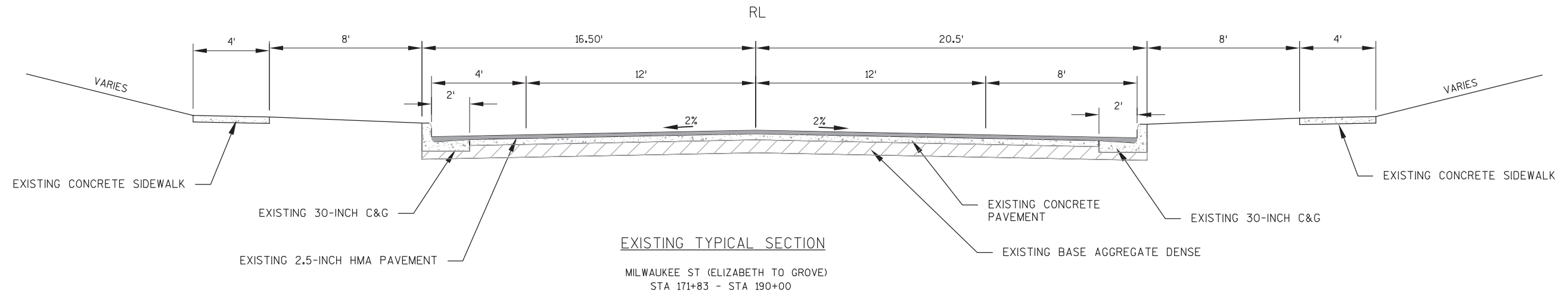
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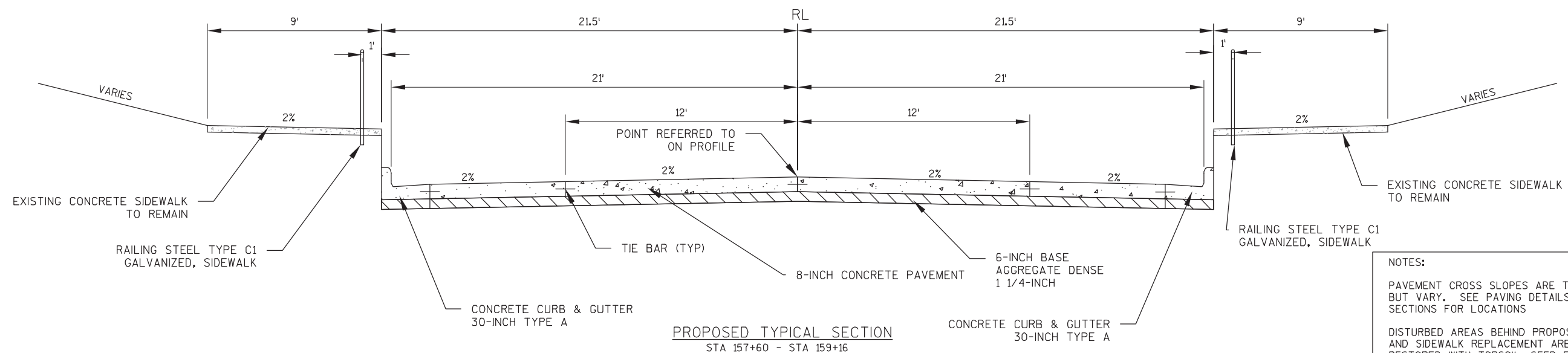
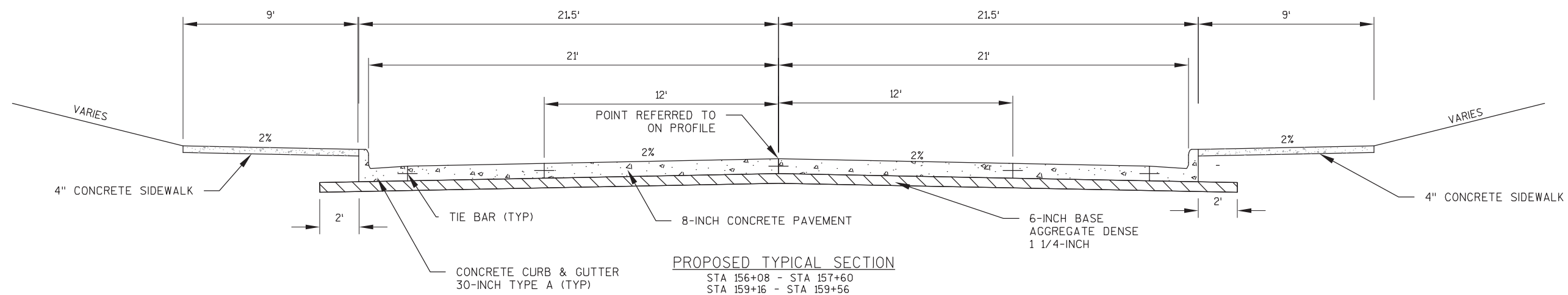
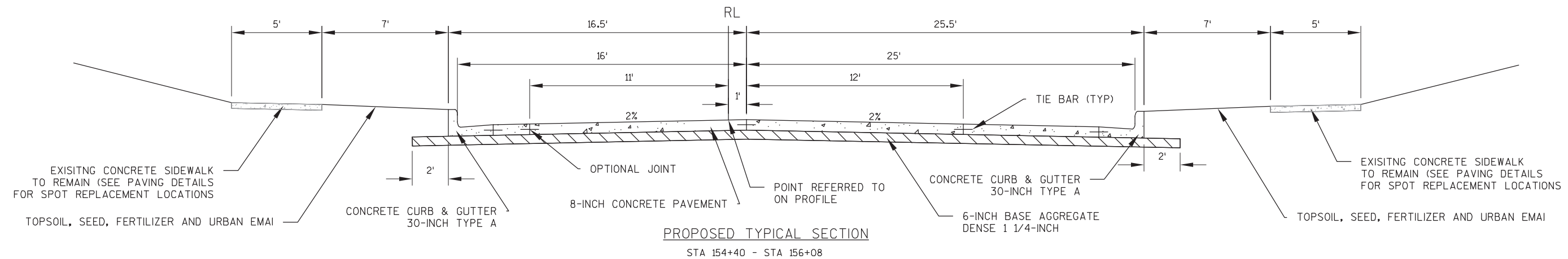




NOTE:

* NO TERRACE, 10' WIDTH SIDEWALK FROM STA 159+56 - STA 160+80
STA 164+20 - STA 165+75

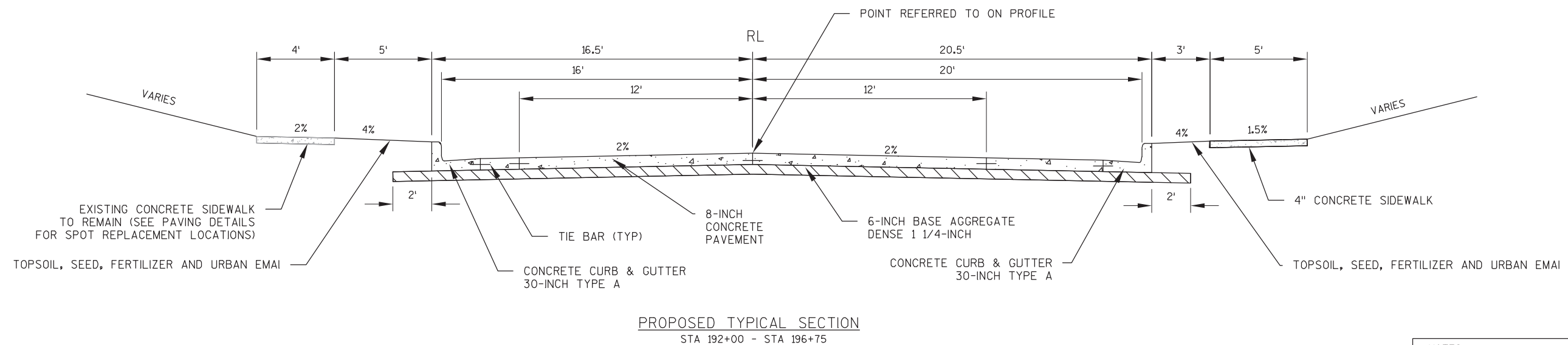
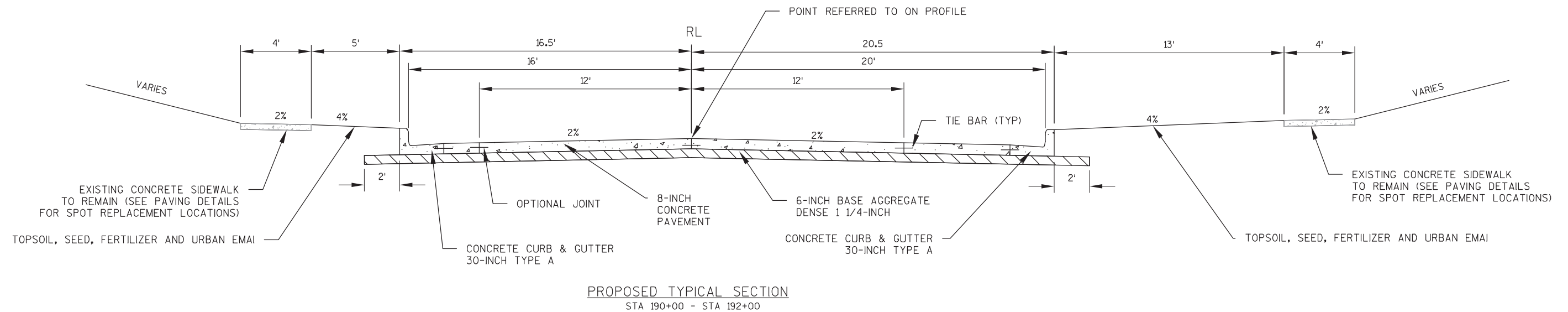




NOTES:

PAVEMENT CROSS SLOPES ARE TYPICALLY 2% BUT VARY. SEE PAVING DETAILS AND CROSS SECTIONS FOR LOCATIONS

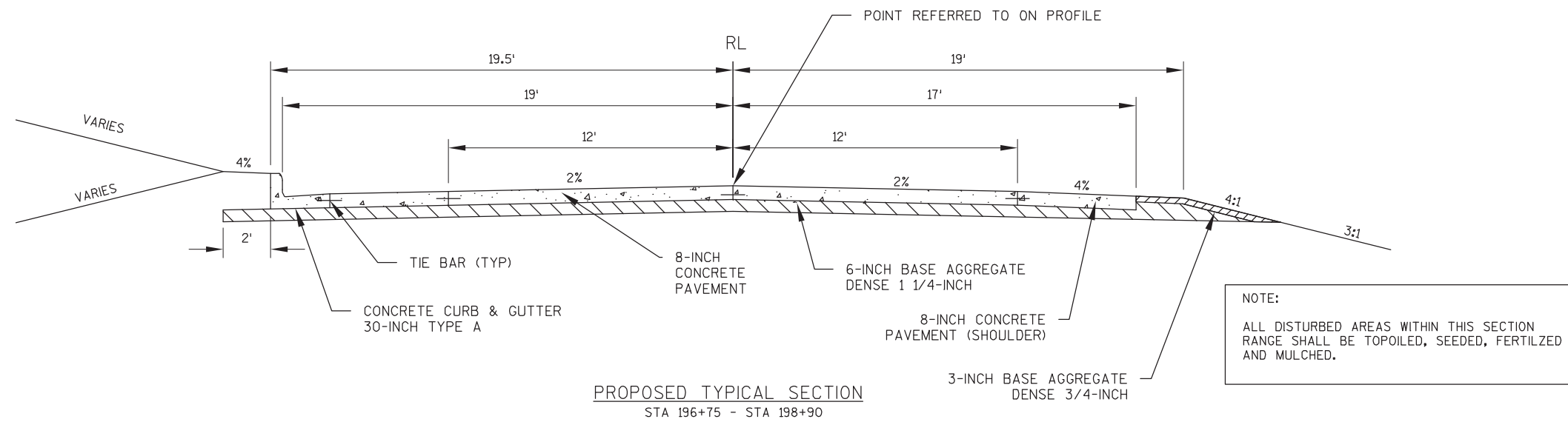
DISTURBED AREAS BEHIND PROPOSED SIDEWALK AND SIDEWALK REPLACEMENT AREAS SHALL BE RESTORED WITH TOPSOIL, SEED FERTILIZER AND MULCH.



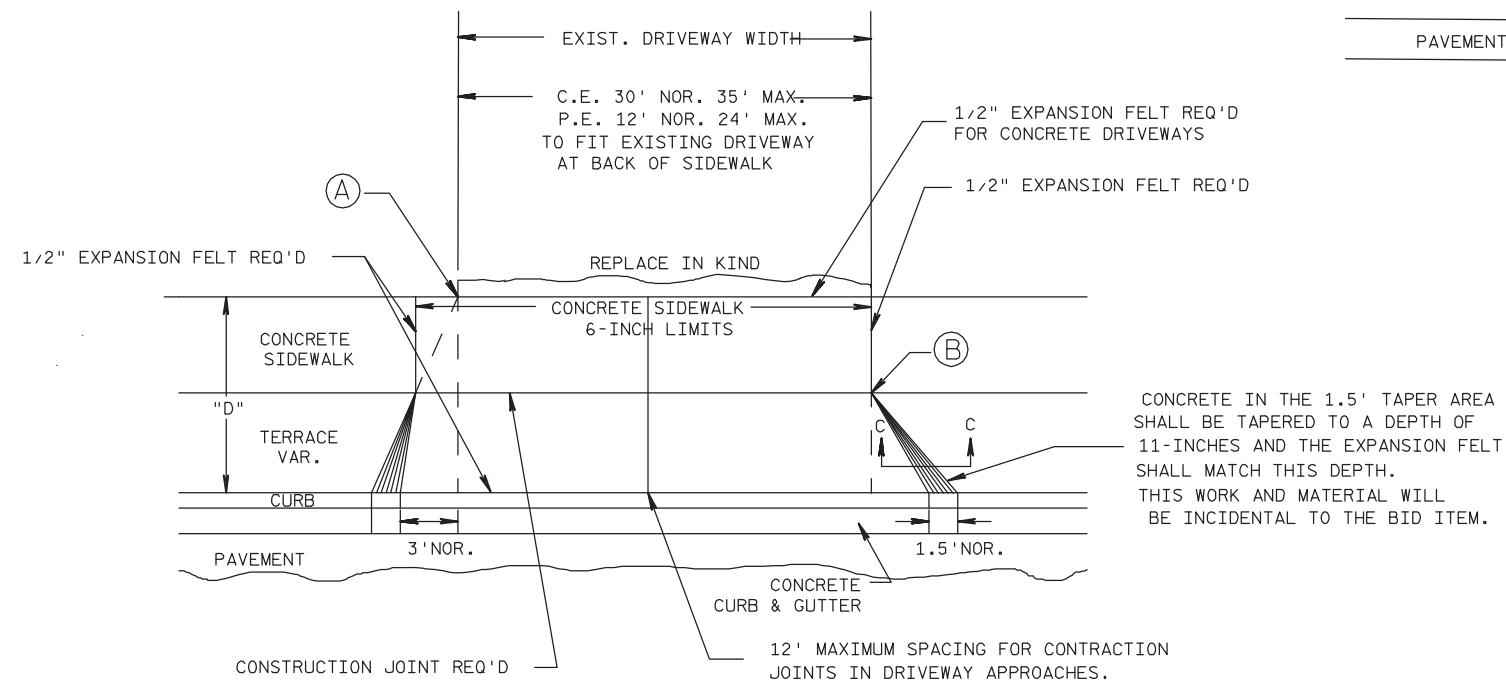
NOTES:

PAVEMENT CROSS SLOPES ARE TYPICALLY 2% BUT VARY. SEE PAVING DETAILS AND CROSS SECTION .FOR LOCATIONS

DISTURBED AREAS BEHIND PROPOSED SIDEWALK AND SIDEWALK REPLACEMENT AREAS SHALL BE RESTORED WITH TOPSOIL, SEED FERTILIZER AND MULCH.



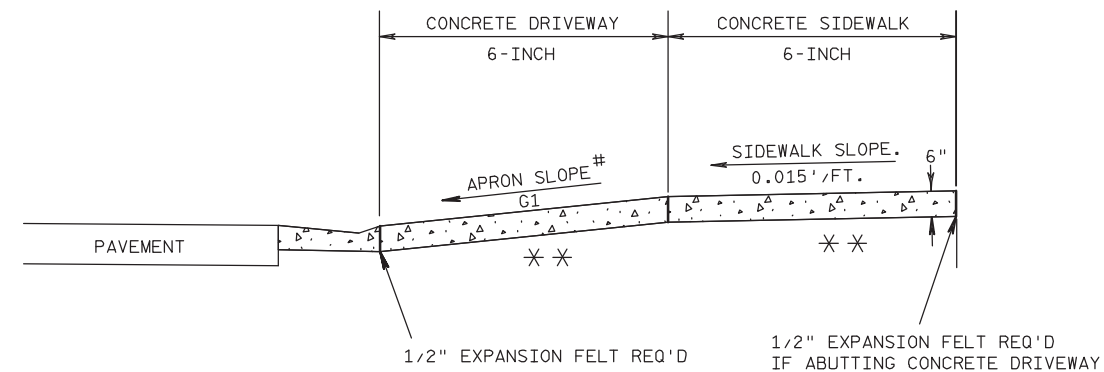
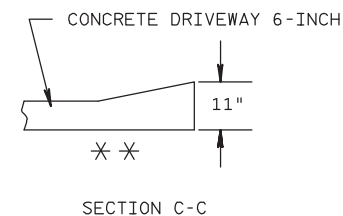
DRIVEWAY ENTRANCE DETAIL WITH SIDEWALK, CURB & GUTTER



PLAN VIEW

(A) WHEN "D" IS 13' OR LESS, ALIGN TAPER WITH BACK OF SIDEWALK

(B) WHEN "D" IS GREATER THAN 13', ALIGN TAPER WITH FRONT OF SIDEWALK



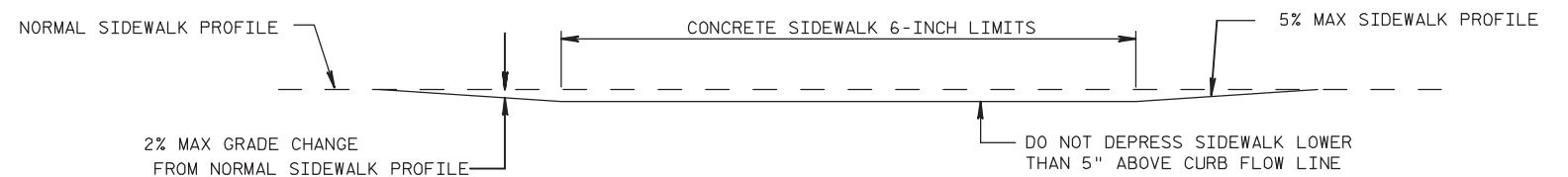
TYPICAL SIDEWALK SECTION

* * = 6" BASE AGG. DENSE 1 1/4-INCH REQ'D UNDER CONCRETE DRWY

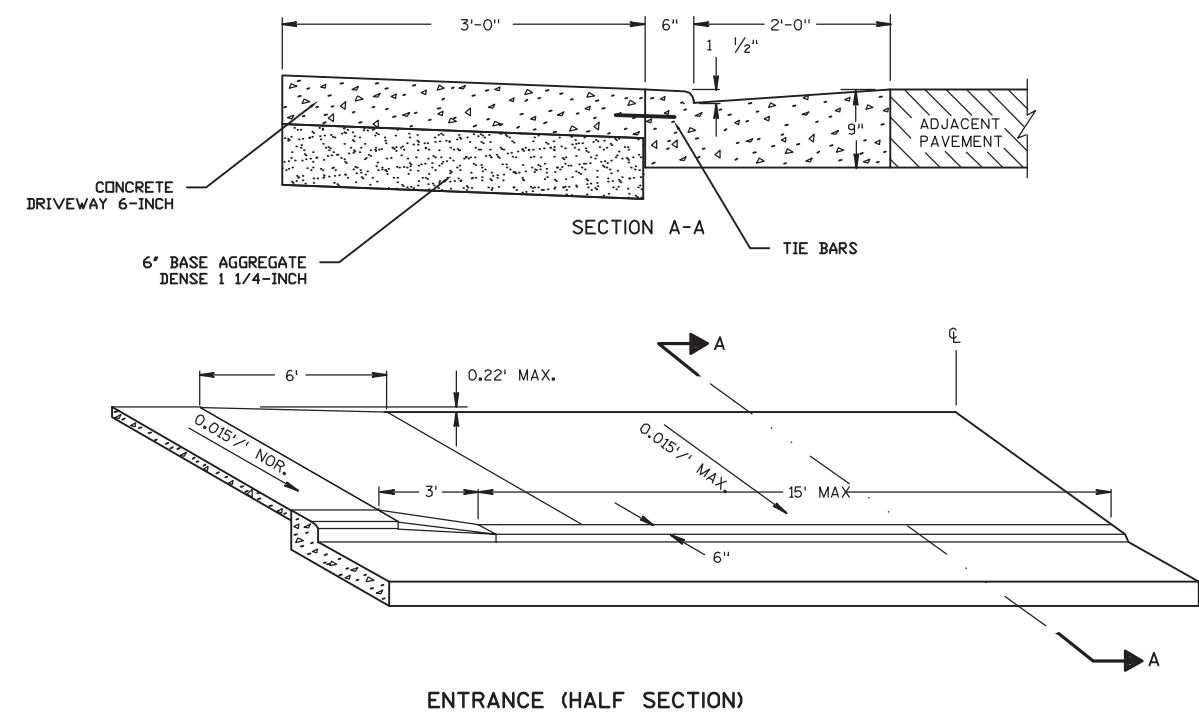
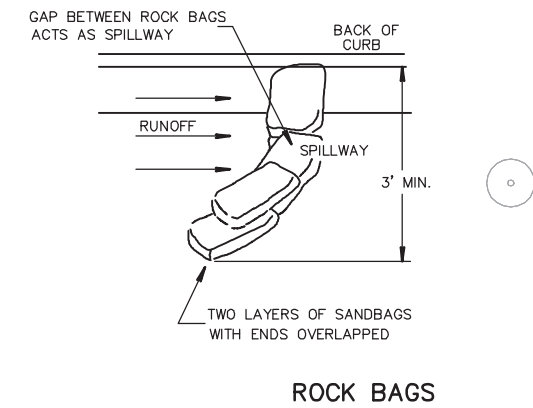
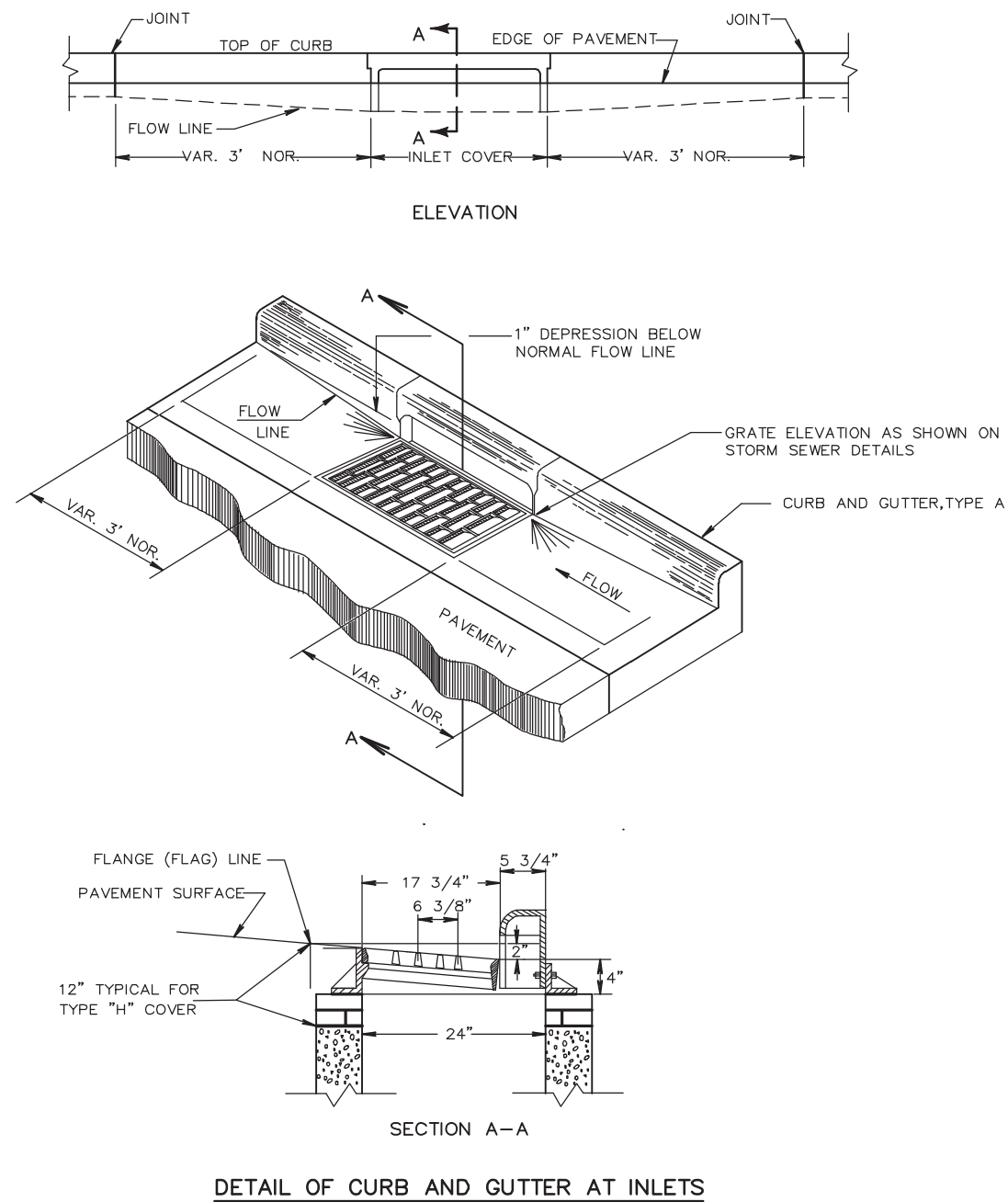
#	TERRACE WIDTH	APRON SLOPE (G1)		
		MIN %	DESIRABLE %	MAX %
	3 FT	7.0	8.5	9.0
	4 FT	5.0	7.0	9.0
	5 FT	4.0	7.0	9.0
	6 FT	4.0	7.0	9.0
	7 FT	3.5	7.0	9.0
	8 FT	3.0	7.0	9.0

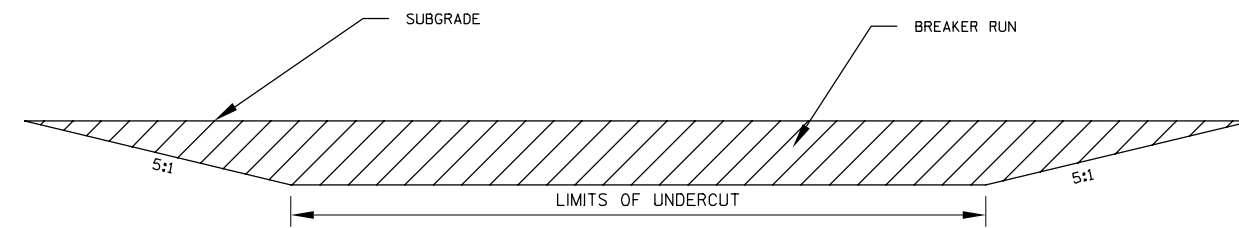
NOTE: ALGEBRAIC DIFFERENCE BETWEEN TANGENT GRADES G1 & G2 TO NOT EXCEED 15%

DEPRESS SIDEWALK PROFILE IF DRIVEWAY APRON EXCEEDS MAX SLOPE

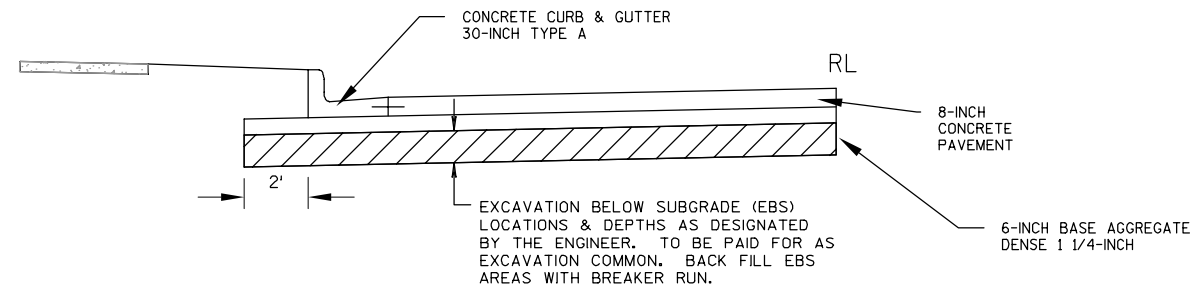


DEPRESSED SIDEWALK PROFILE DETAIL

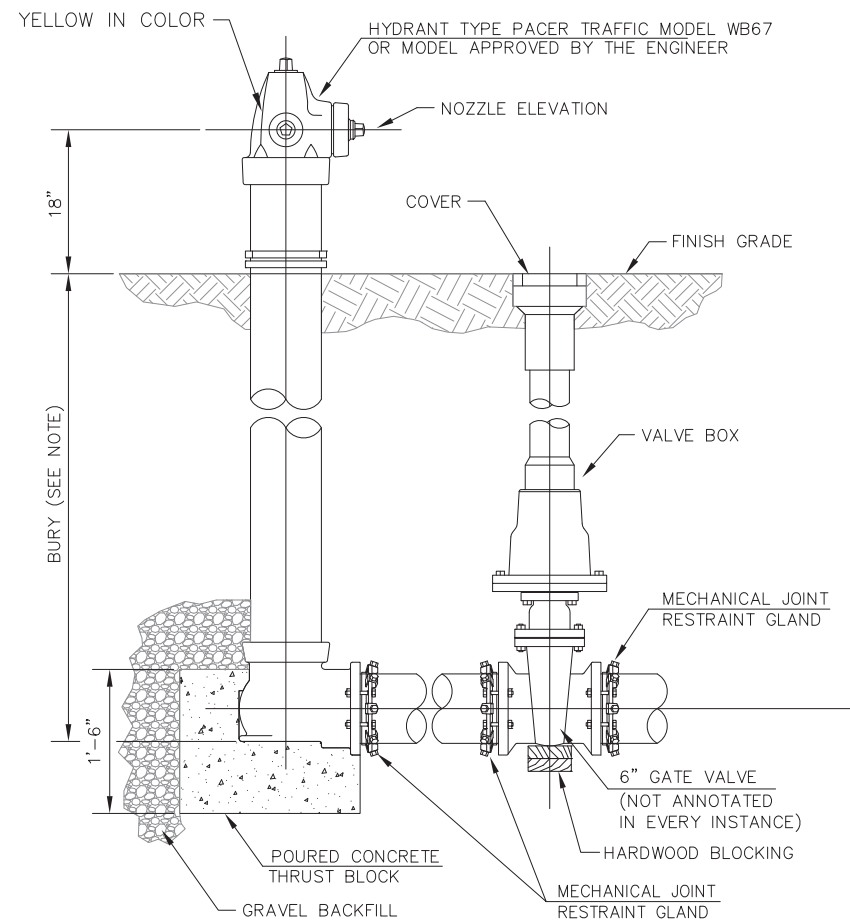




LONGITUDINAL SECTION FOR EBS

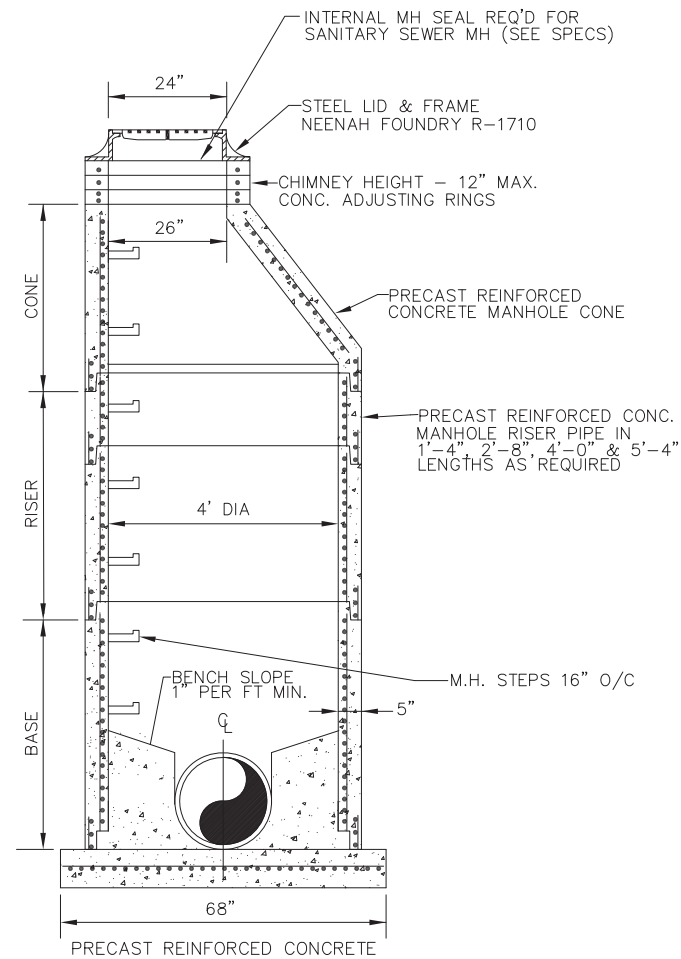


EXCAVATION BELOW SUBGRADE (EBS) HALF SECTION

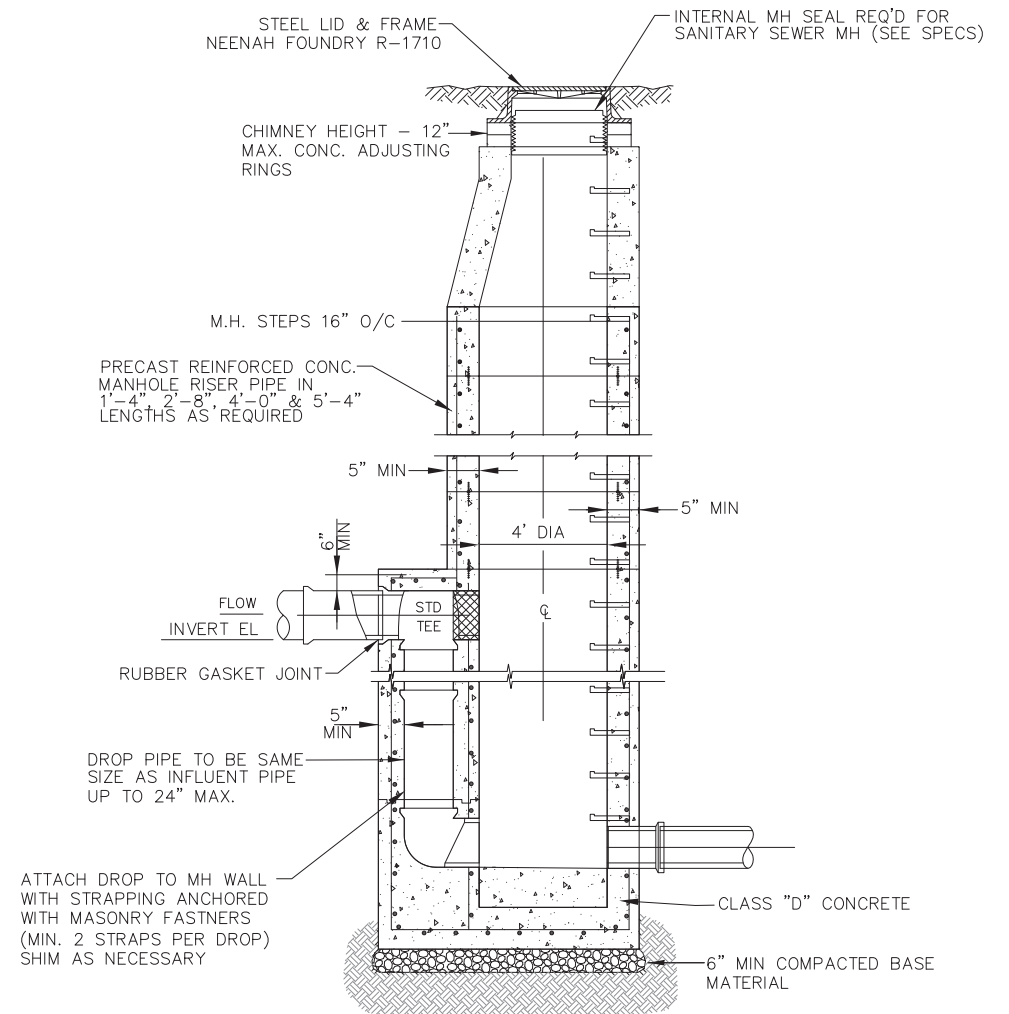


NOTE:
BURY IS THE DISTANCE FROM FINISH
GRADE TO BOTTOM OF CONNECTING PIPE.

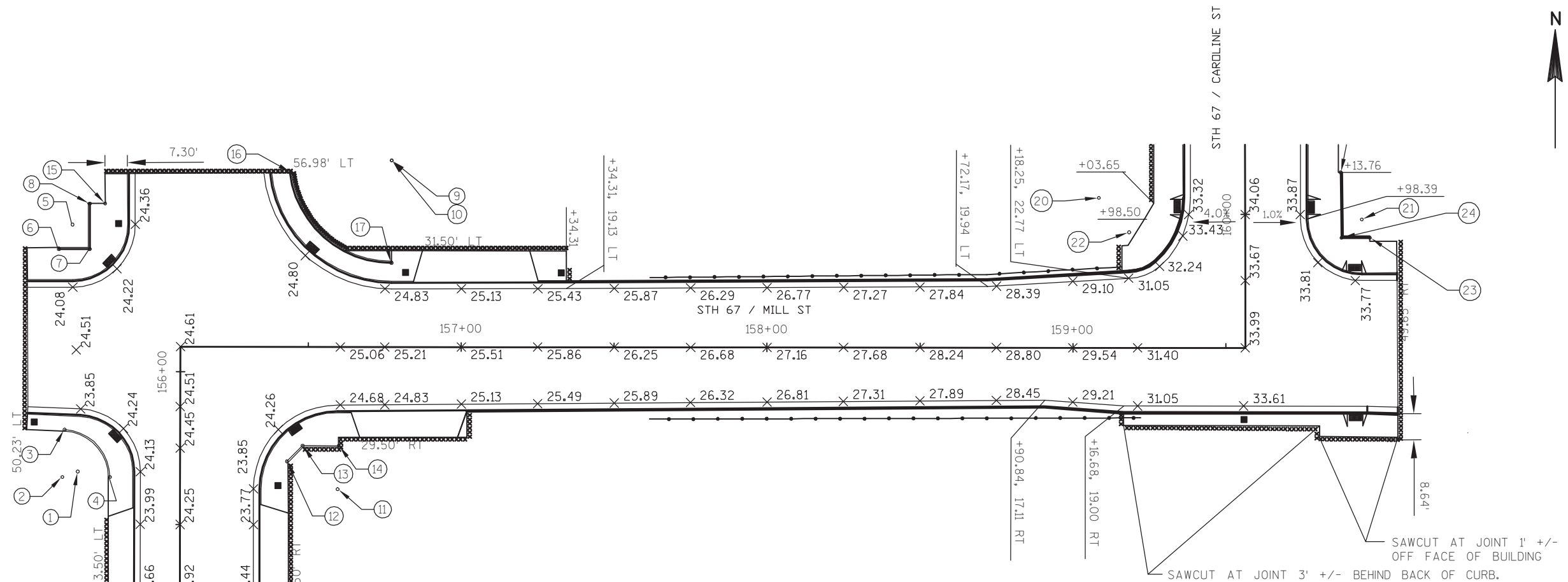
HYDRANT DETAIL
SCALE: N.T.S.



SANITARY 4-FT MANHOLE DETAIL
SCALE: NTS



SANITARY OUTSIDE DROP MANHOLE DETAIL
SCALE: NTS



MILL & MILWAUKEE INTERSECTION					
POINT	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
1	CURB FLANGE 20.5' RADIUS	155+67.25	33.50 LT'	175,526.39	148,021.63
2	PED. CURB 15.5' RADIUS	155+65.47	38.50 LT'	175,524.61	148,016.63
3	PED. CURB END OF RADIUS	155+80.95	37.83 LT'	175,540.10	148,017.34
4	PED. CURB END OF RADIUS	155+65.47	23.00 LT'	175,524.58	148,032.13
5	CURB FLANGE 20.5' RADIUS			175,607.15	148,019.96
6	PED. CURB			175,599.14	148,015.46
7	PED. CURB			175,599.17	148,025.58
8	PED. CURB			175,614.03	148,025.59
9	CURB FLANGE 42' RADIUS	156+77.15	61.00 LT'	175,628.12	148,124.30
10	PED. CURB 35.5' RADIUS	156+77.15	61.00 LT'	175,628.12	148,124.30
11	CURB FLANGE 27.5' RADIUS	156+59.59	46.50 RT'	175,520.64	148,106.62
12	PED. CURB	155+70.73	34.91 RT'	175,529.72	148,090.05
13	PED. CURB	156+48.13	32.28 RT'	175,534.87	148,095.18
14	PED. CURB	156+59.92	32.29 RT'	175,534.85	148,106.97
15	BACK OF CURB			175,614.06	148,030.63
16	PED. CURB	156+44.39	56.98 LT'	175,624.14	148,091.54
17	PED. CURB	156+77.15	27.50 LT'	175,594.62	148,124.26

MILL & CAROLINE INTERSECTION					
POINT	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
20	CURB FLANGE 30.0' RADIUS	160+05.49	47.85 LT'	175,615.87	148,355.58
21	CURB FLANGE 20.0' RADIUS	159+98.39	38.15 RT'	175,608.85	148,441.58
22	CURB FLANGE 15.0' RADIUS	159+18.38	37.77 LT'	175,604.63	148,365.51
23	PED. CURB	159+92.35	40.78 RT'	175,602.82	148,444.22
24	PED. CURB	159+92.35	31.50 RT'	175,602.81	148,434.94
25	PED. CURB	160+13.75	31.26 RT'	175,624.21	148,434.68

■ BOX OUT FOR SIGN - COORDINATE WITH SIGNING PLAN

ADD 800' TO ALL ELEVATION SHOWN.

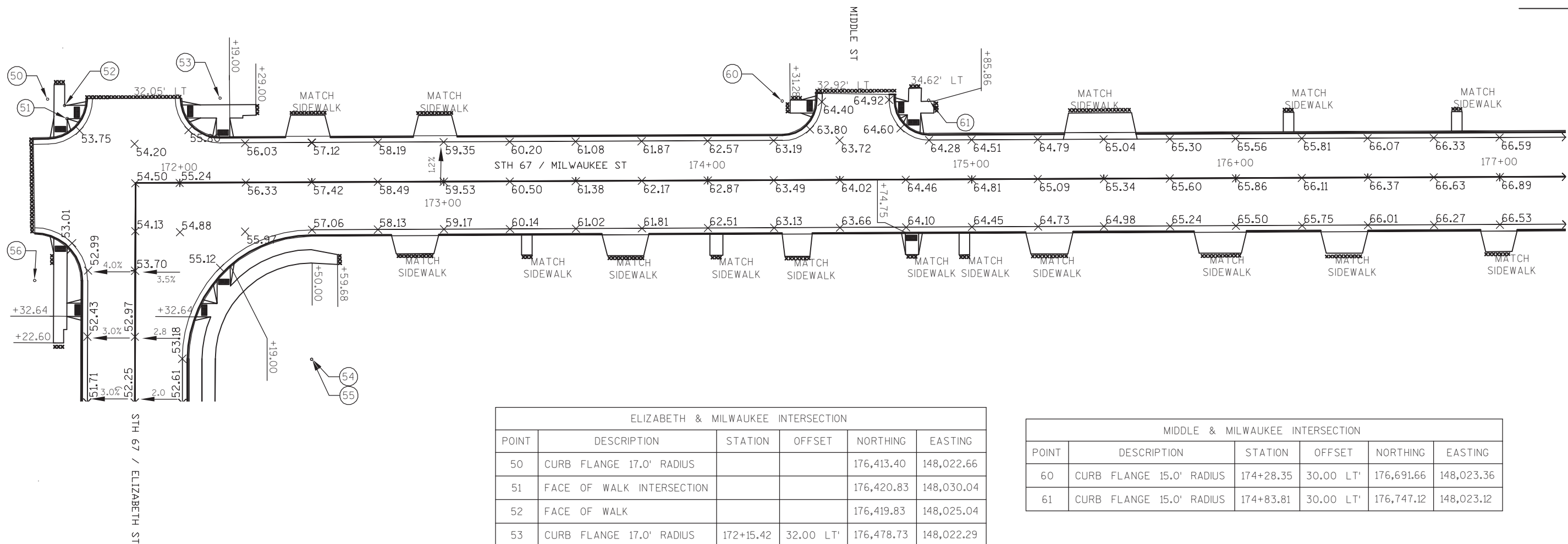


CAROLINE & EAST MAIN INTERSECTION						
POINT	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING	
30	CURB FLANGE 17.5' RADIUS	163+60.89	35.42 LT'	175,971.28	148,367.66	
31	CURB FLANGE 5.0' RADIUS	164+27.68	22.93 LT'	176,038.08	148,380.09	
32	CURB FLANGE 10.0' RADIUS	164+30.81	28.07 RT'	176,041.26	148,431.08	
33	CURB FLANGE 23.5' RADIUS	163+49.32	41.59 RT'	175,959.78	148,444.68	

ADD 800' TO ALL ELEVATION SHOWN.

CAROLINE & ELIZABETH INTERSECTION					
POINT	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
40	CURB FLANGE 37.0' RADIUS	167+80.26	54.99 LT'	176,390.63	148,347.68
41	FACE OF WALK 30.50' RADIUS	167+79.90	54.99 LT'	176,390.27	148,347.68
42	BACK OF WALK 24.50' RADIUS	168+89.76	53.66 LT'	176,391.97	148,347.68
43	CURB FLANGE 17.0' RADIUS	168+69.86	35.00 RT'	176,480.56	148,367.89
44	CURB FLANGE 12.0' RADIUS			176,474.14	148,424.66
45	BACK OF WALK - BACK OF WALK			176,476.64	148,426.33
46	FRONT OF WALK			176,472.61	148,414.78
47	FRONT OF WALK			176,464.11	148,427.09
48	CURB FLANGE 12.0' RADIUS	168+07.89	30.00 RT'	176,418.35	148,432.65

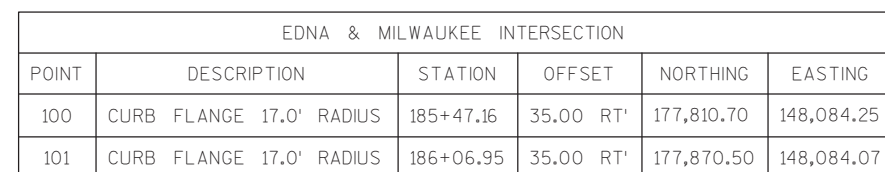
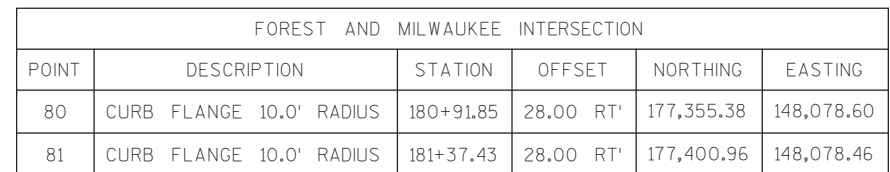
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ELIZABETH & MILWAUKEE INTERSECTION					
POINT	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
50	CURB FLANGE 17.0' RADIUS			176,413.40	148,022.66
51	FACE OF WALK INTERSECTION			176,420.83	148,030.04
52	FACE OF WALK			176,419.83	148,025.04
53	CURB FLANGE 17.0' RADIUS	172+15.42	32.00 LT'	176,478.73	148,022.29
54	CURB FLANGE 49.0' RADIUS	171+16.72	67.00 RT'	176,513.42	148,121.14
55	BACK OF WALK 36.5' RADIUS	171+16.72	67.00 RT'	176,513.42	148,121.14
56	CURB FLANGE 20.0' RADIUS	171+46.18	38.00 LT'	176,408.52	148,091.31

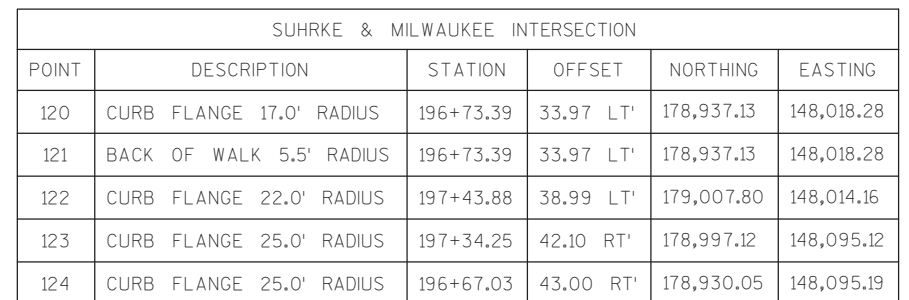
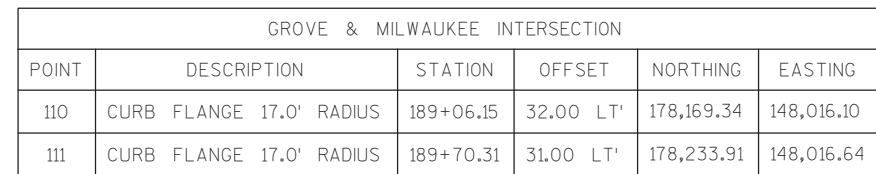
MIDDLE & MILWAUKEE INTERSECTION					
POINT	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
60	CURB FLANGE 15.0' RADIUS	174+28.35	30.00 LT'	176,691.66	148,023.36
61	CURB FLANGE 15.0' RADIUS	174+83.81	30.00 LT'	176,747.12	148,023.12

ADD 800' TO ALL ELEVATION SHOWN.



11

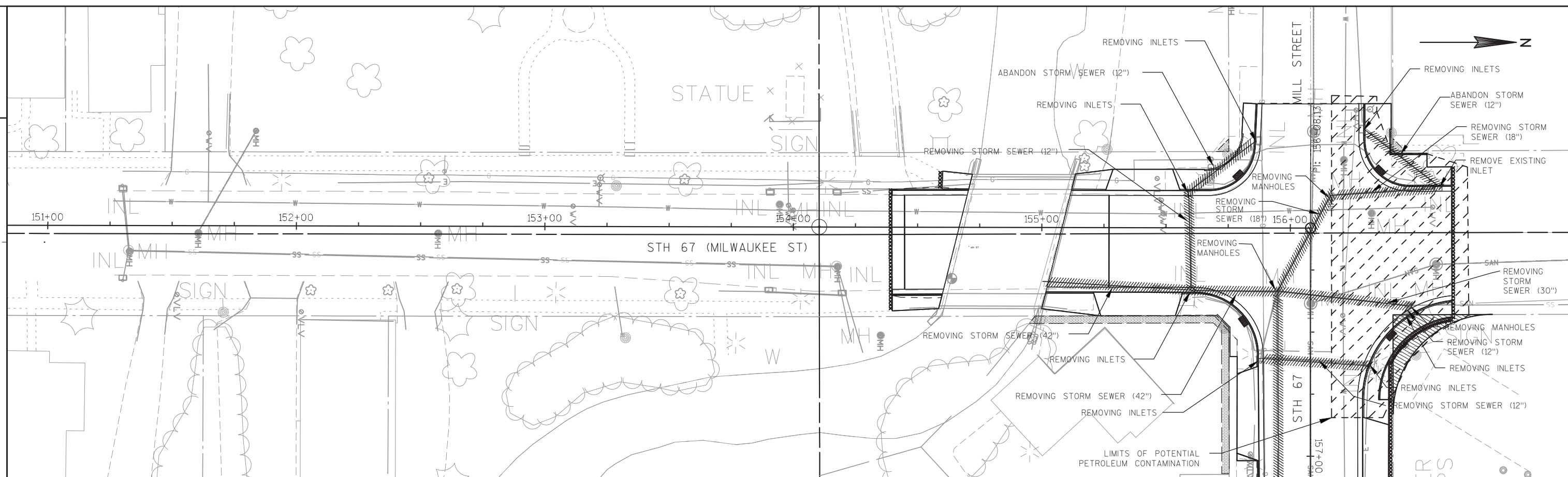
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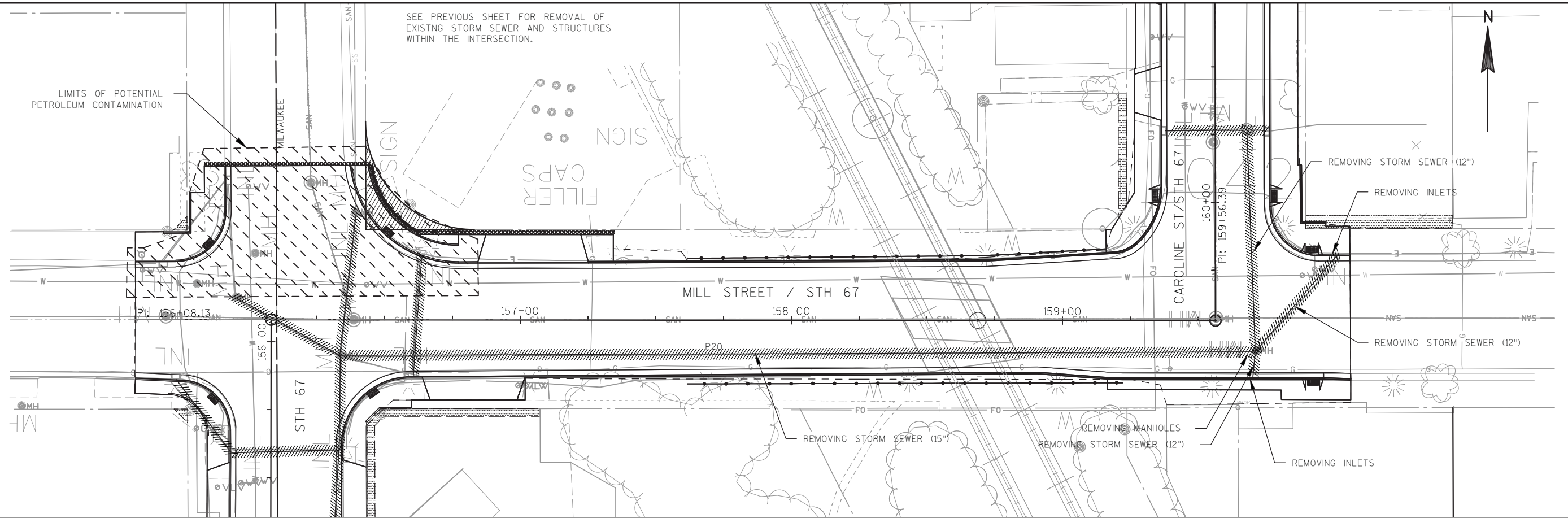
PROJECT NO: 4560-05-71	HWY: STH 67	COUNTY: SHEBOYGAN	PLAN: PAVING DETAILS	SHEET 21	E
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2

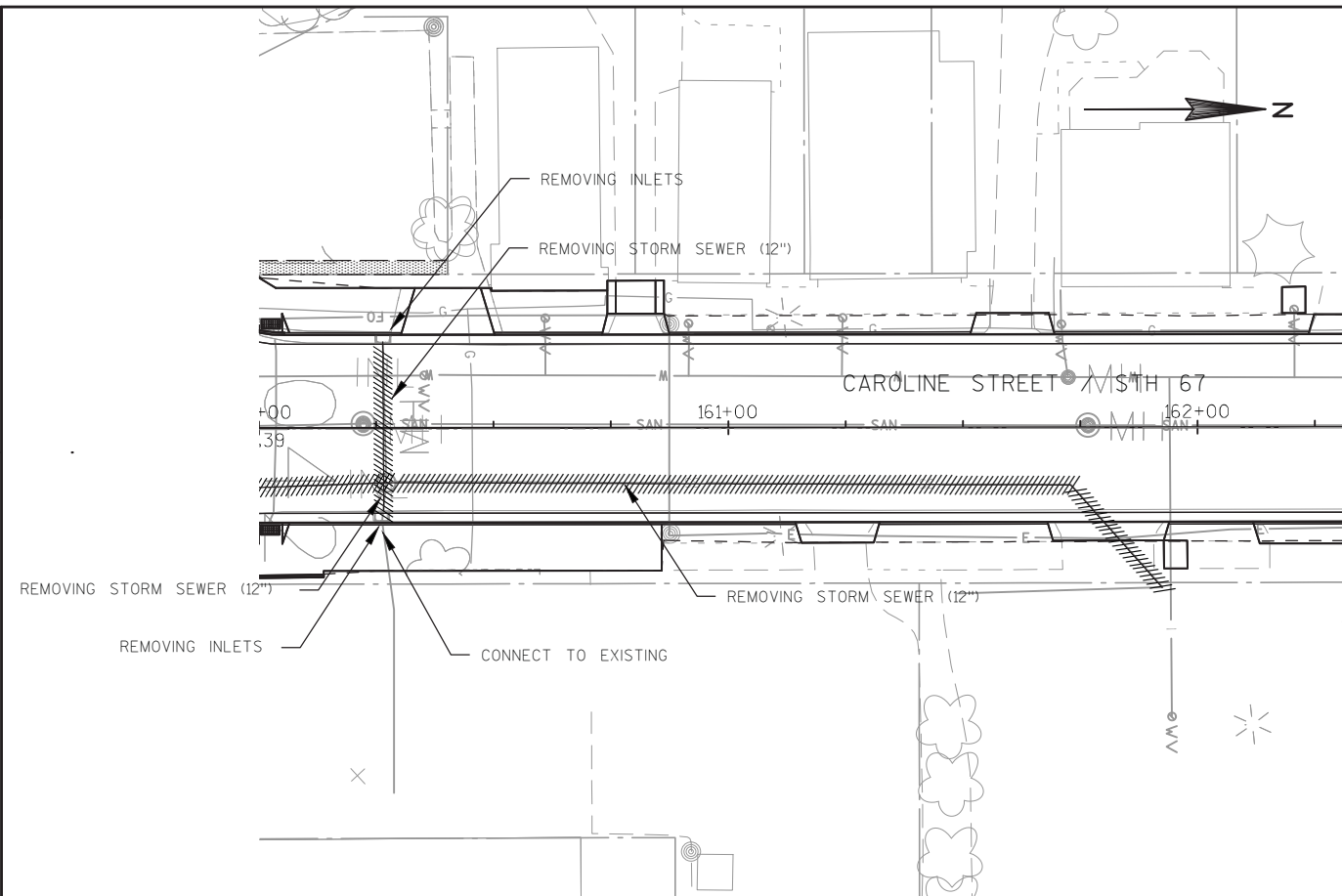
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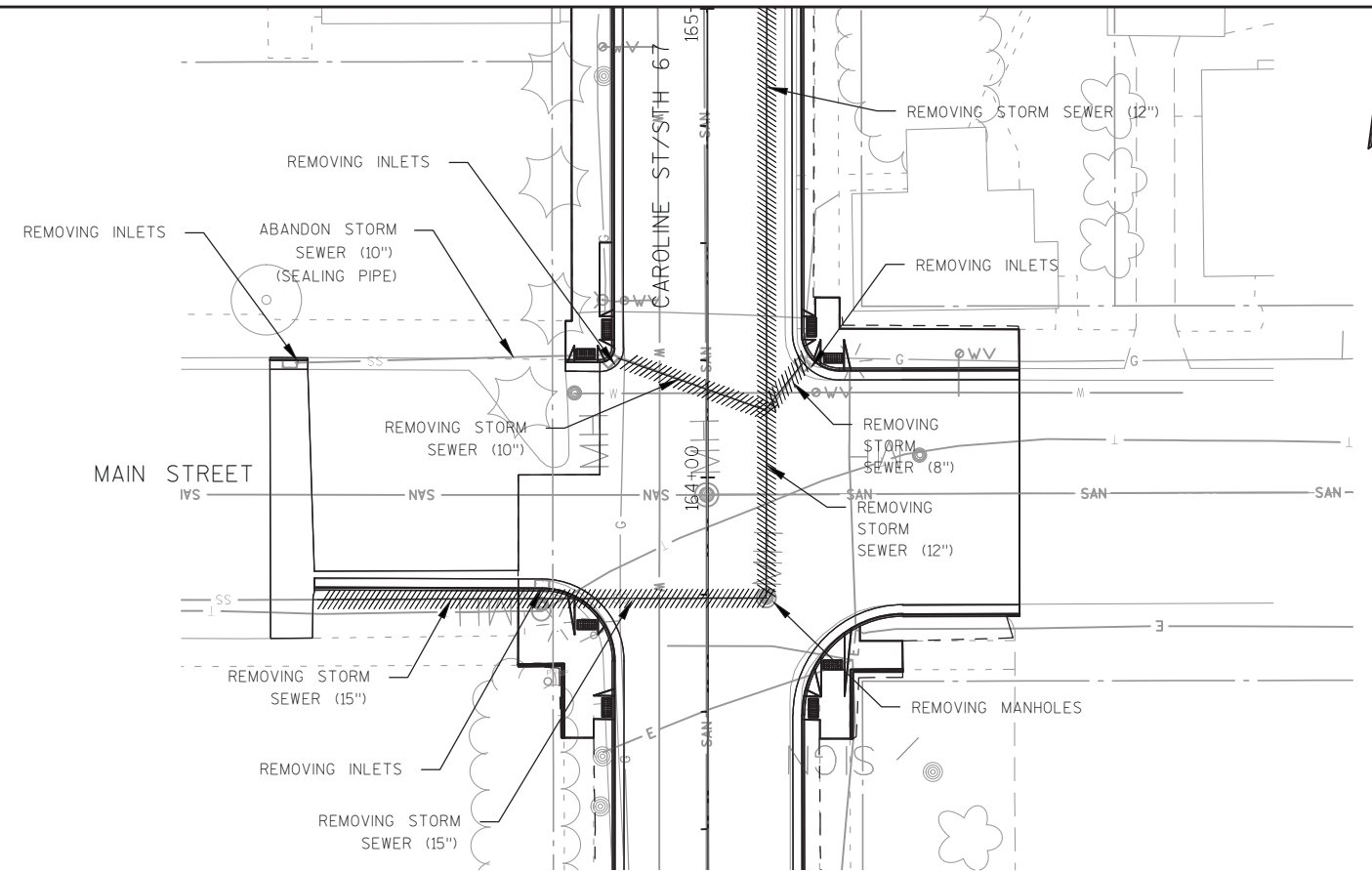
NOTE:
ABANDONING SEWER IS INCIDENTAL TO THE BID
ITEMS REMOVING MANHOLES AND REMOVING INLETS.
PLUG ENDS ACCORDING TO SECTION 204.3.3 OF
THE STANDARD SPECIFICATIONS.

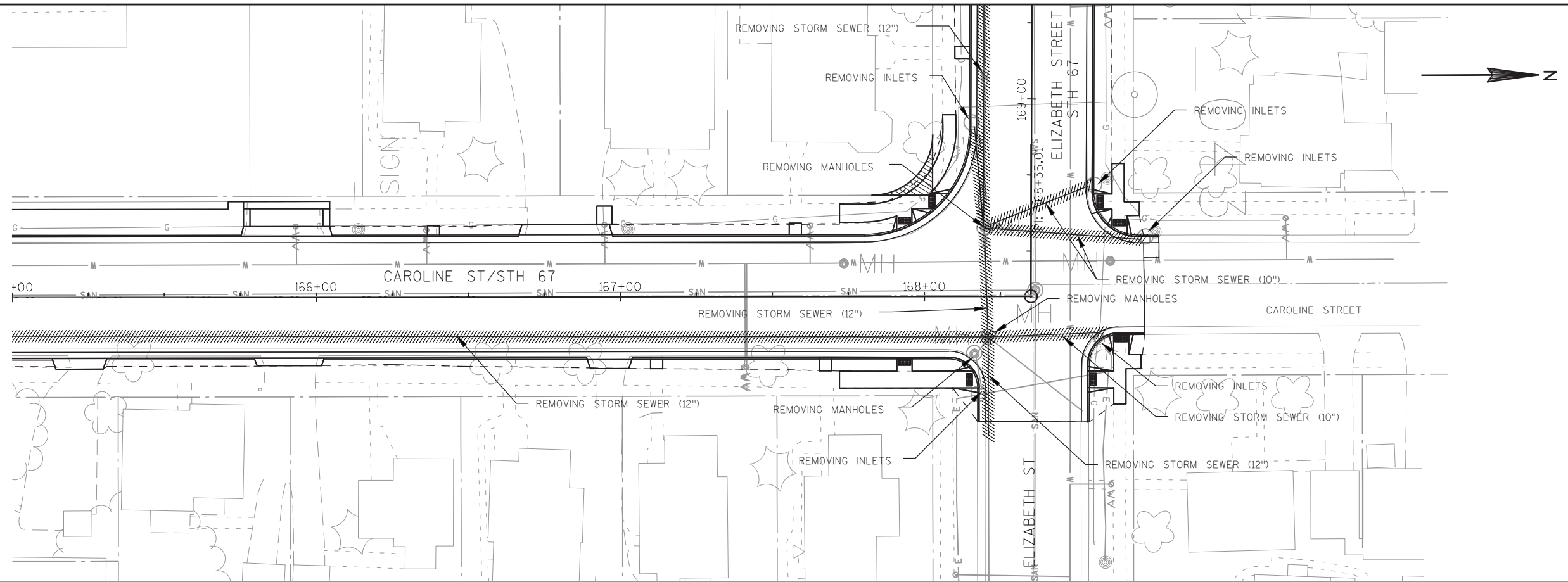


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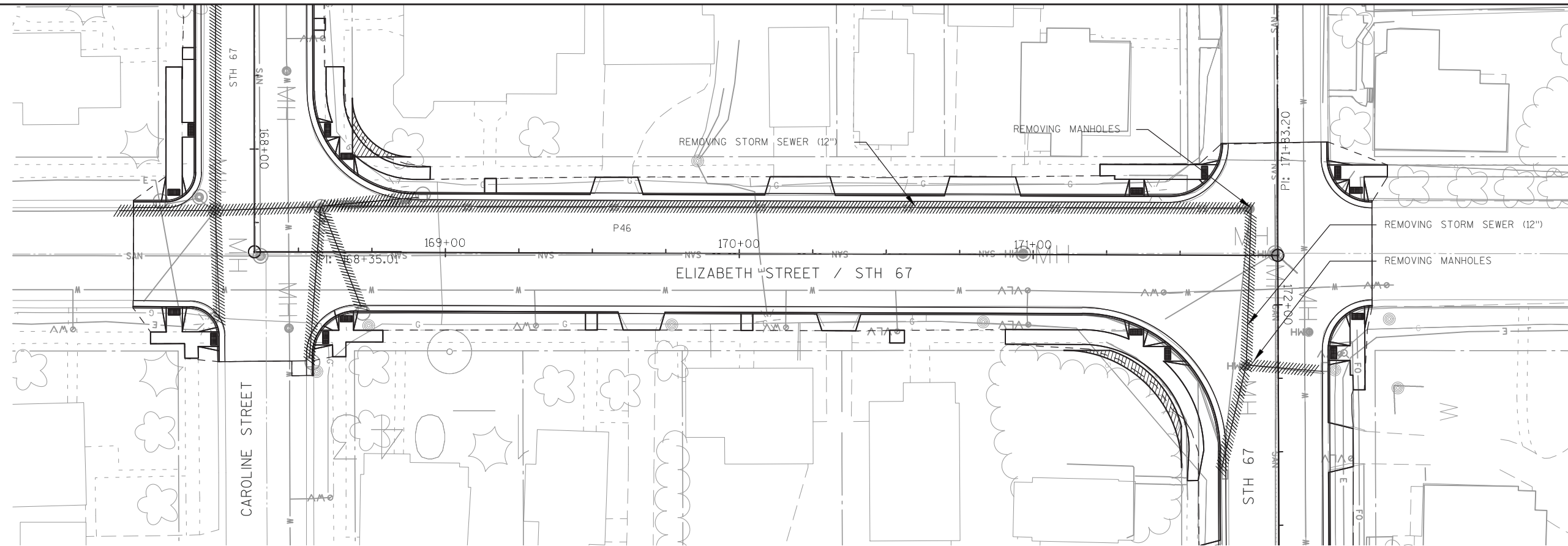


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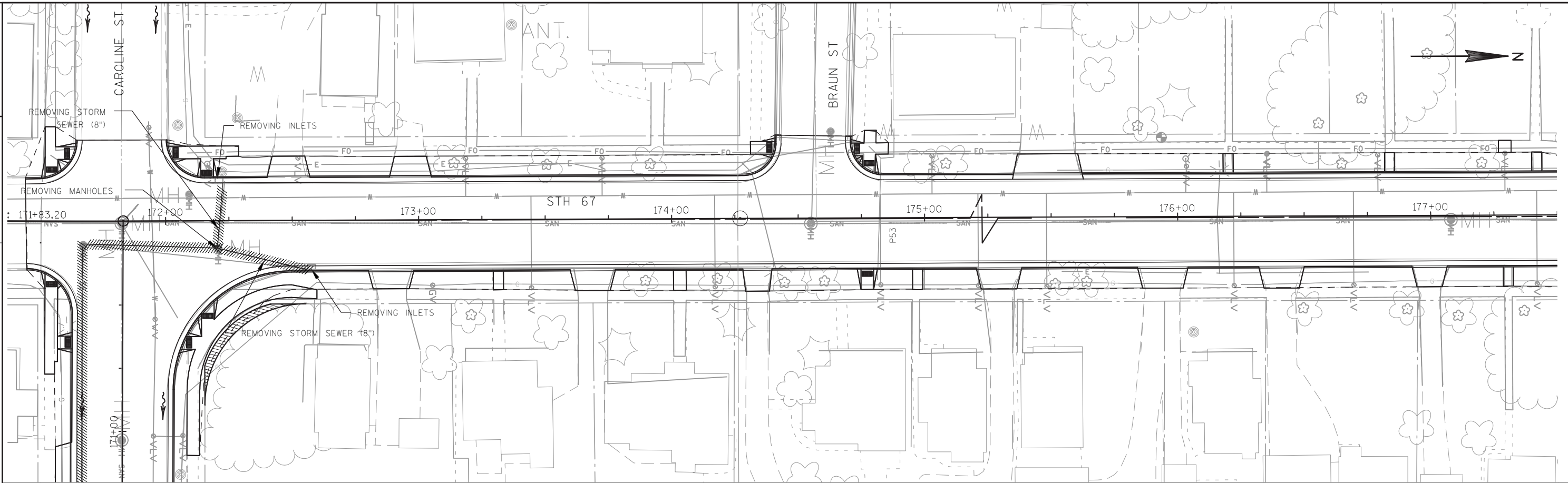


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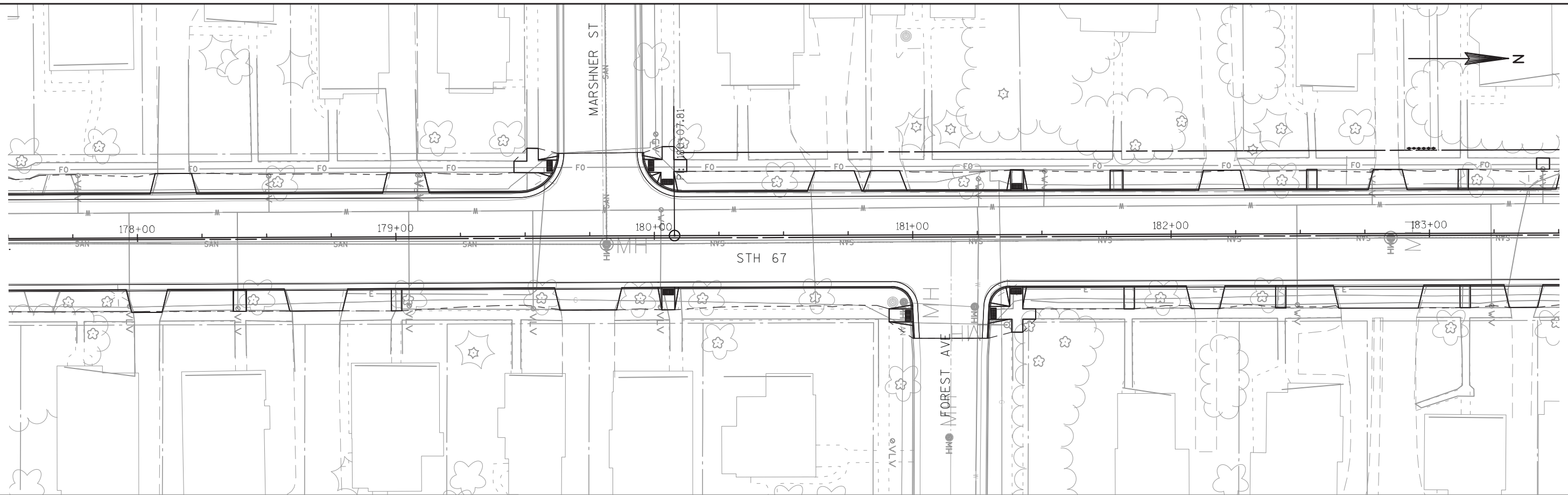


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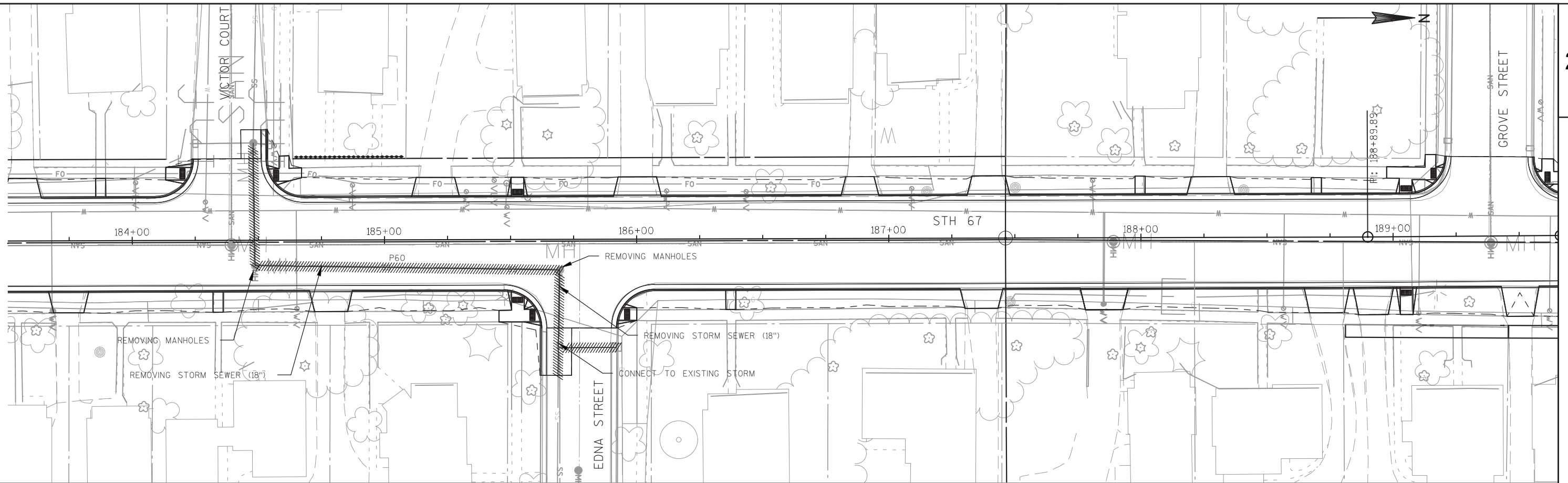


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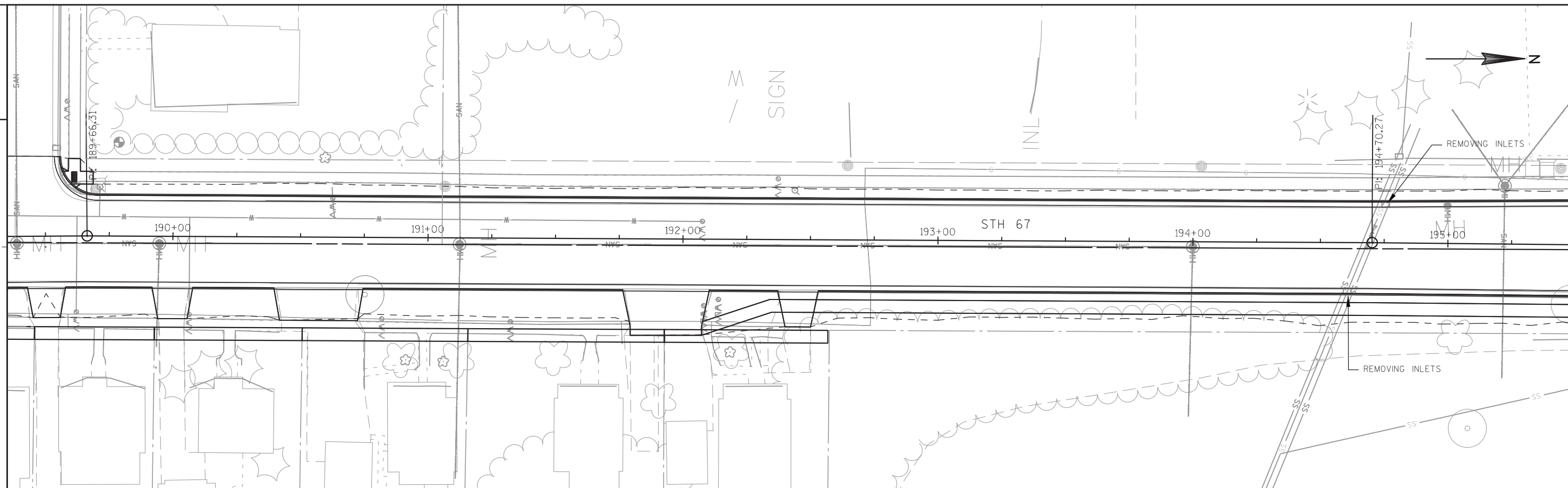
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2



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2



2

PROJECT NO: 4560-05-71

HWY:STH 67

COUNTY: SHEBOYGAN

STORM SEWER REMOVAL PLAN

SHEET	- 30
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	E
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FILE NAME : L:\PROJECTS\11247\DWG\022501_SS.DWG

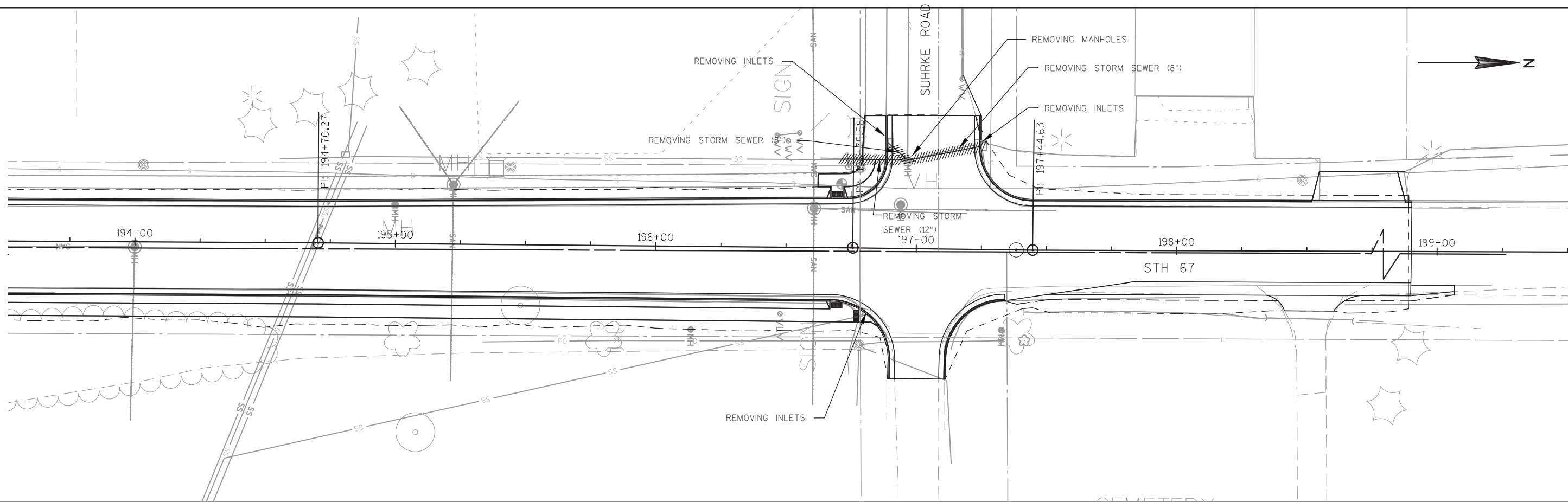
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PLOT BY : MOYER, TIM

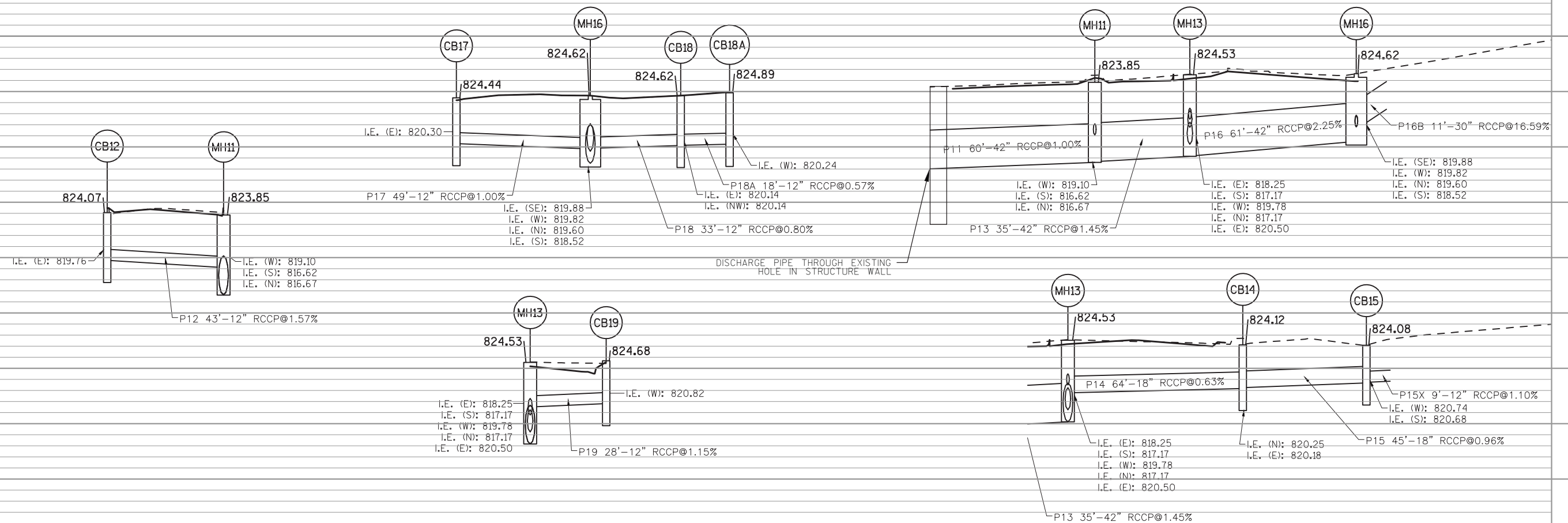
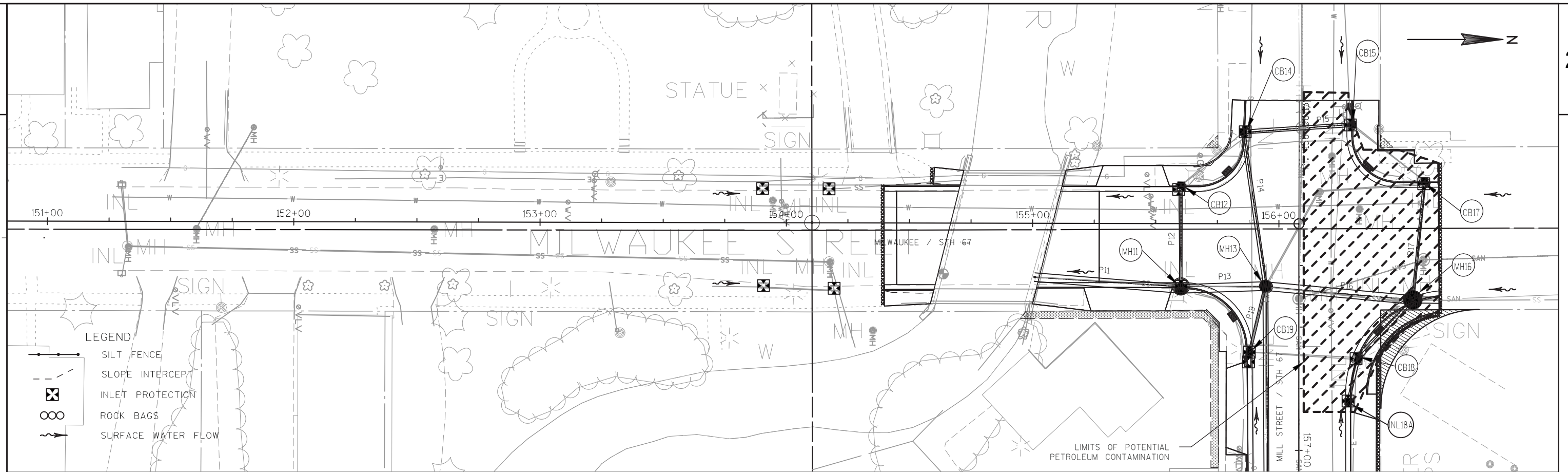
PLOT NAME : -----

WISDOT/CADDS SHEET 41

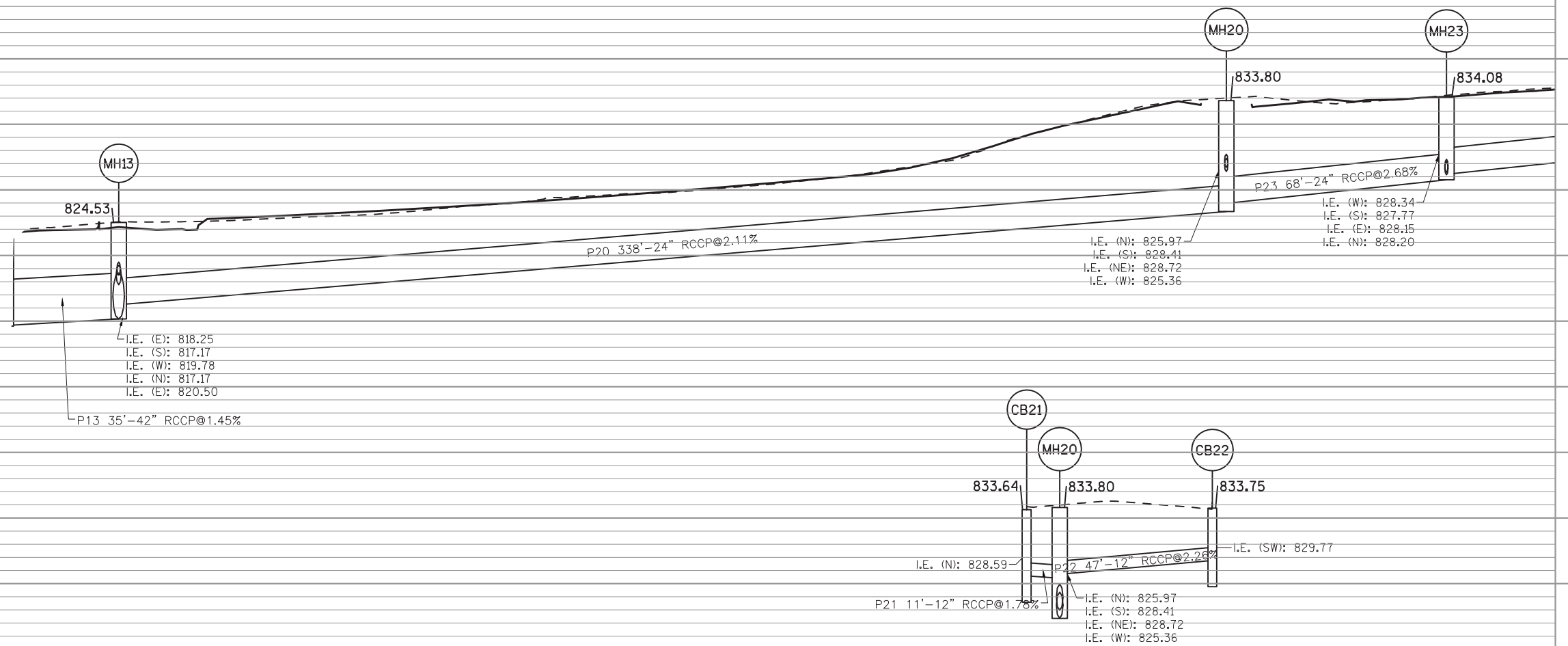
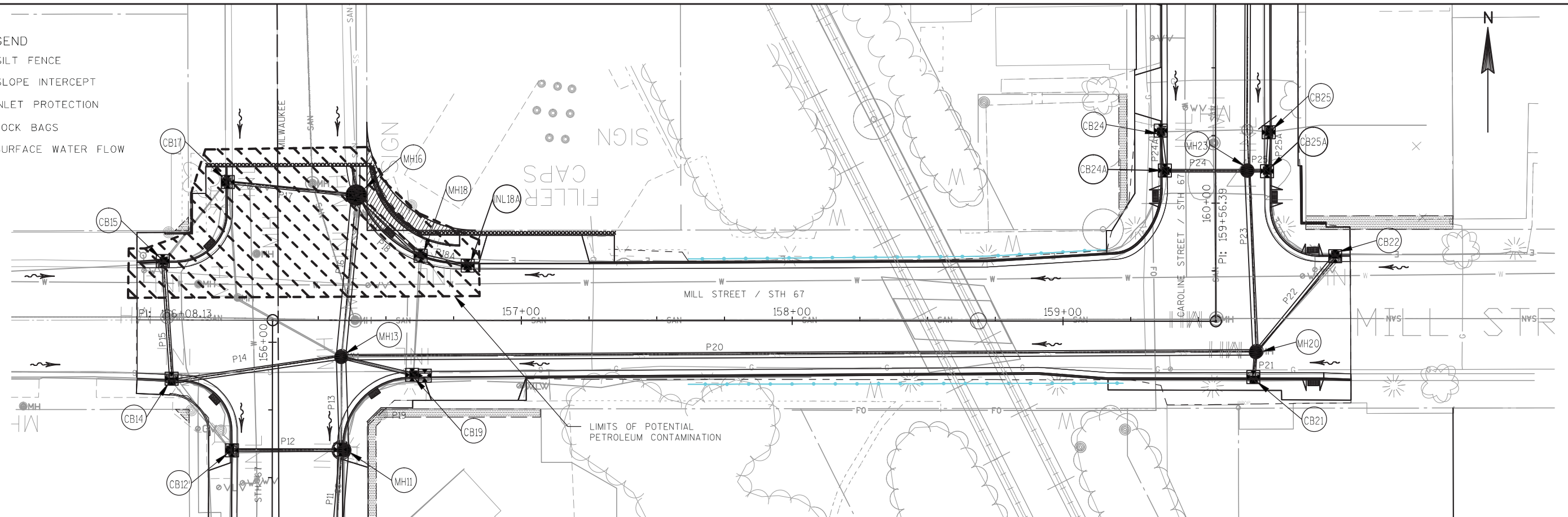
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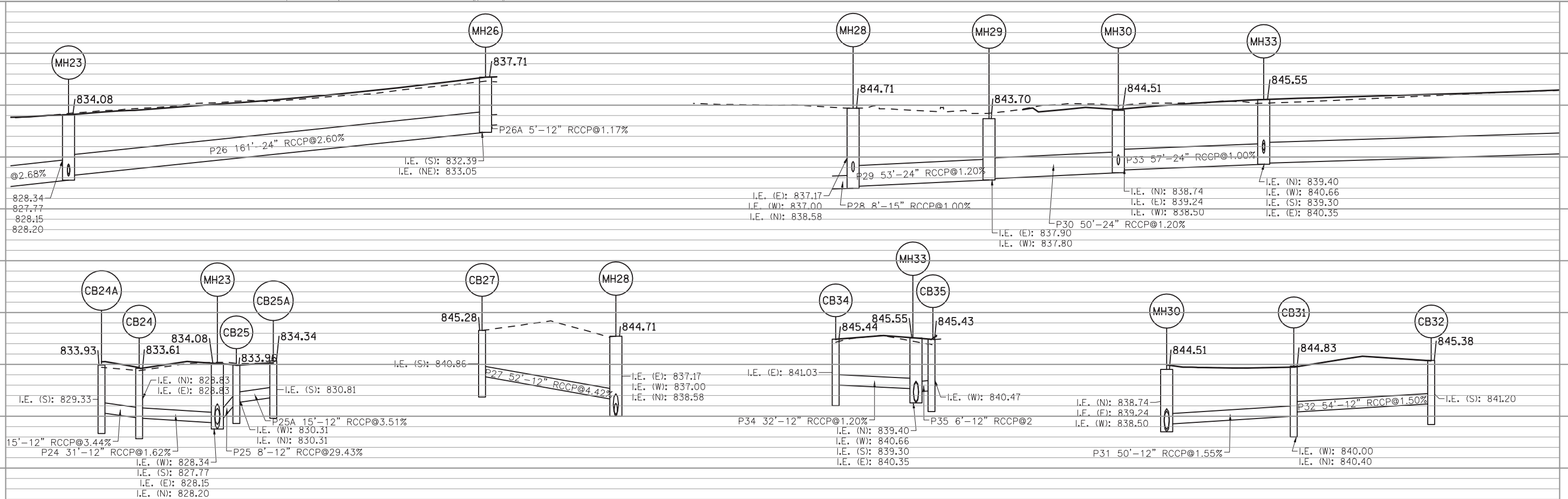
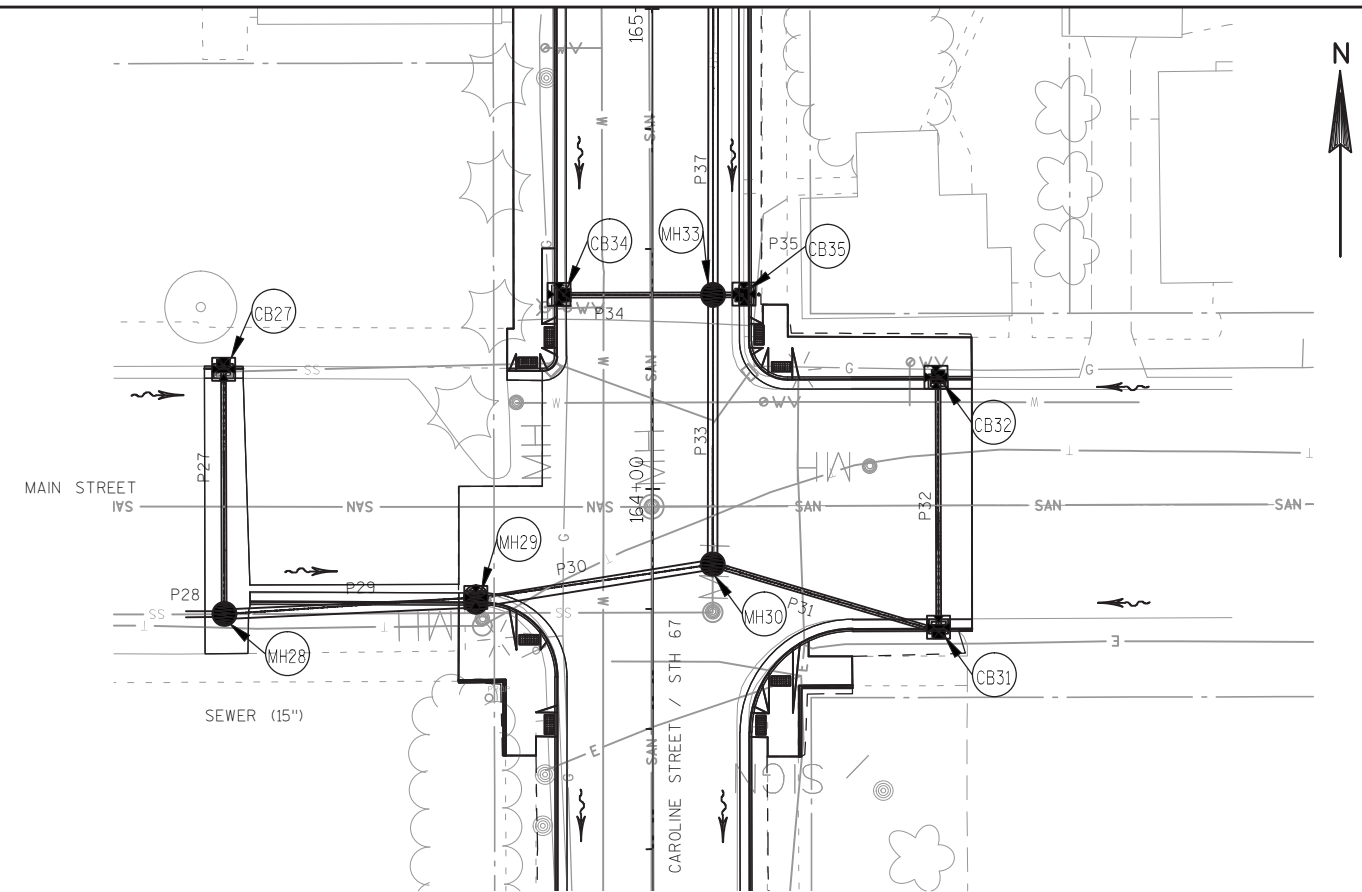
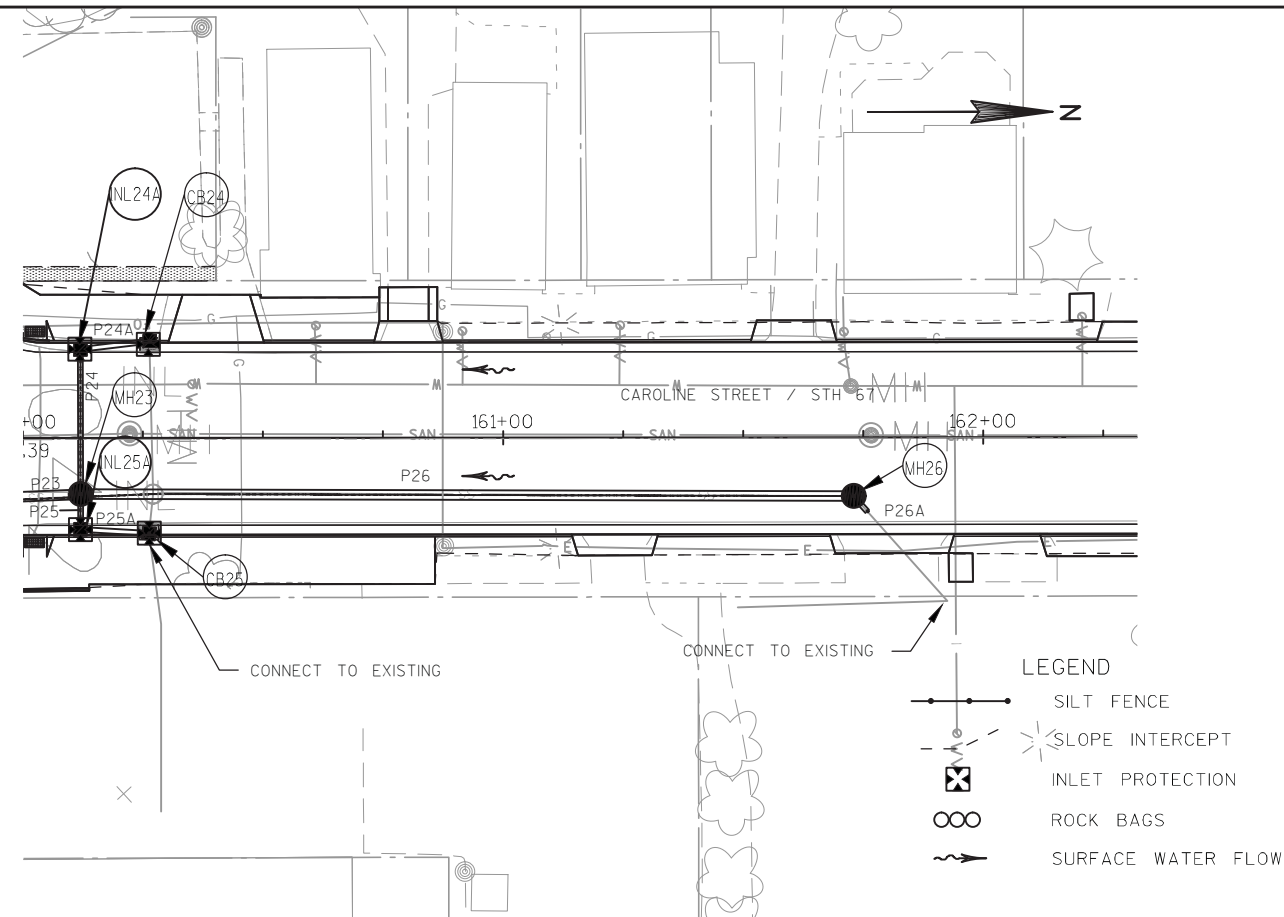


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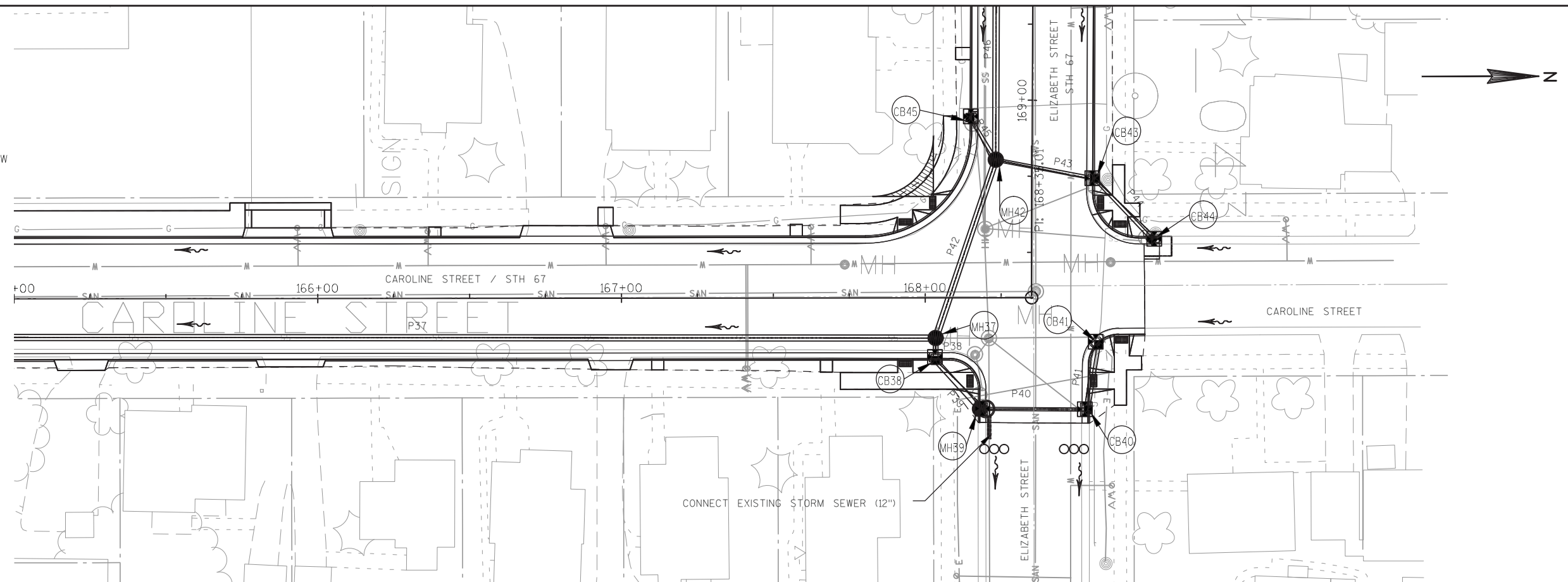


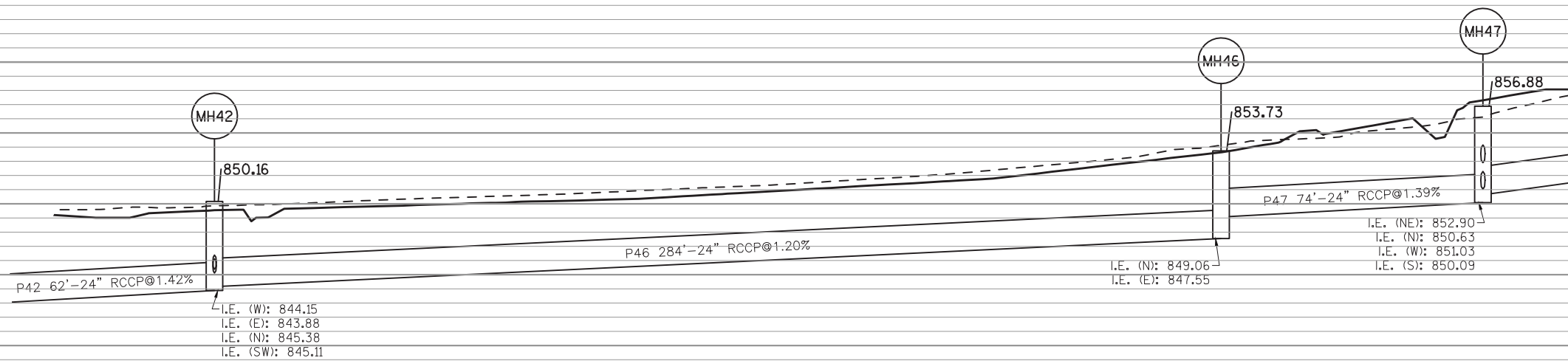
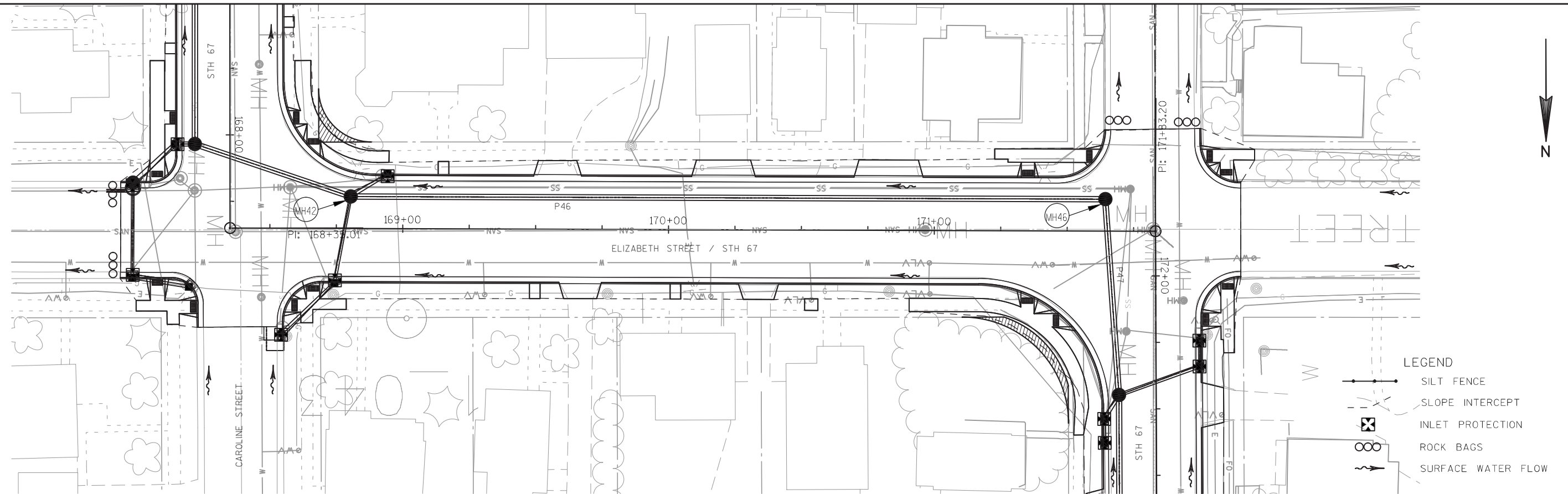
- LEGEND
- SILT FENCE
 - SLOPE INTERCEPT
 - INLET PROTECTION
 - ROCK BAGS
 - SURFACE WATER FLOW

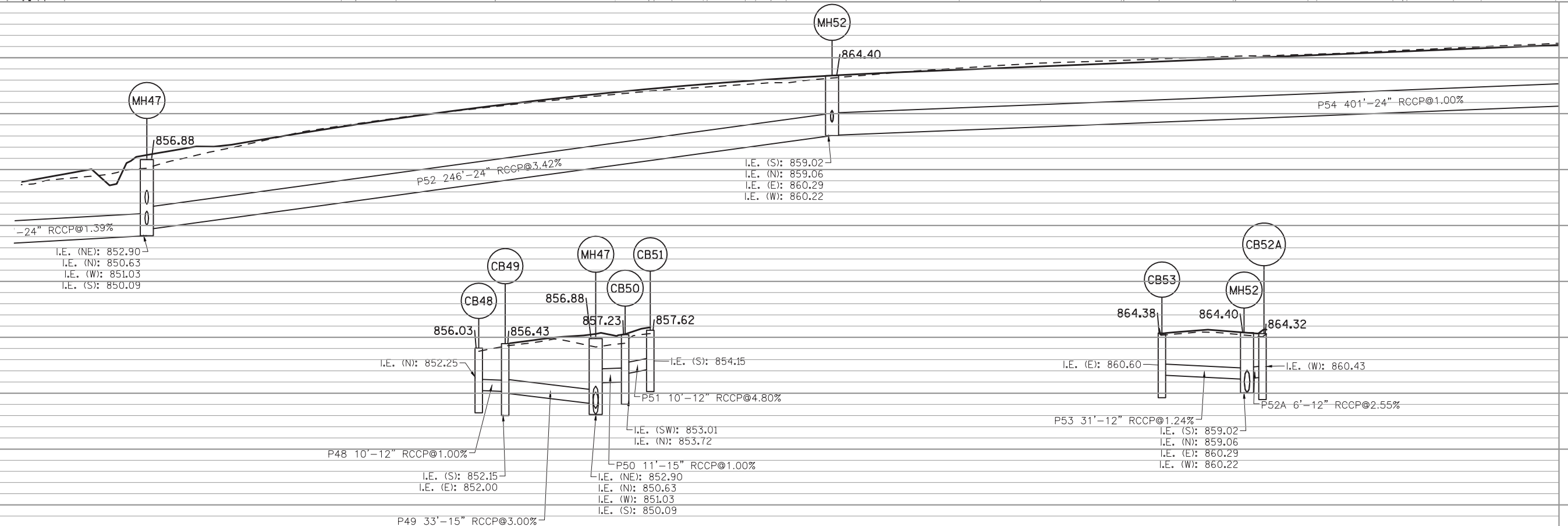
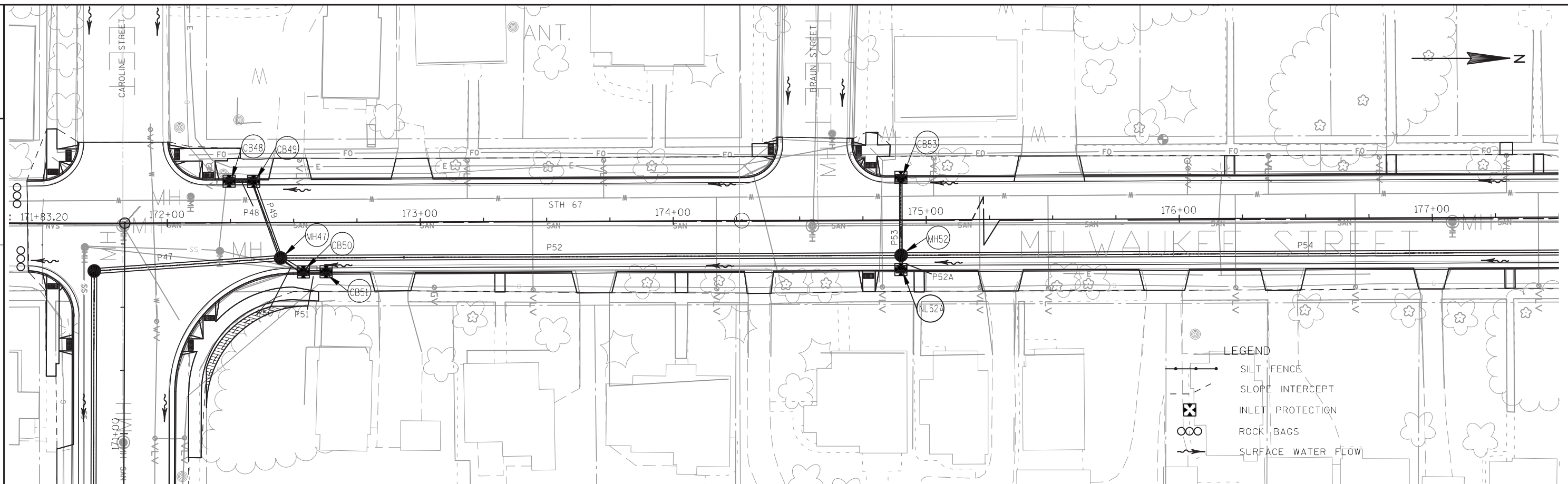




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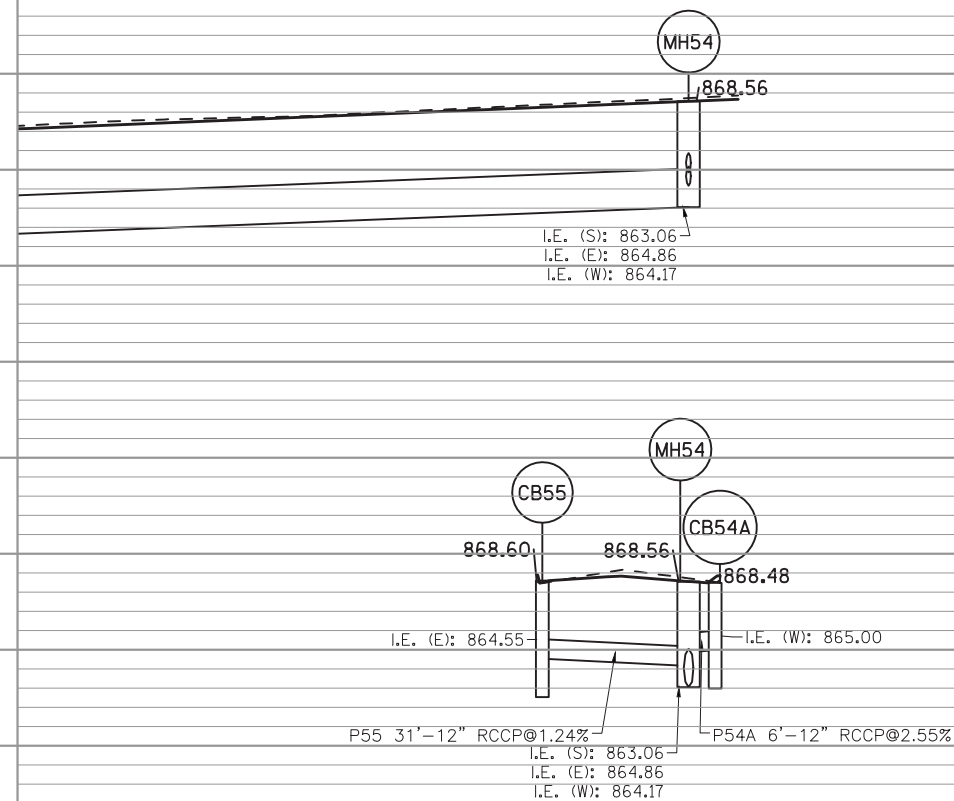
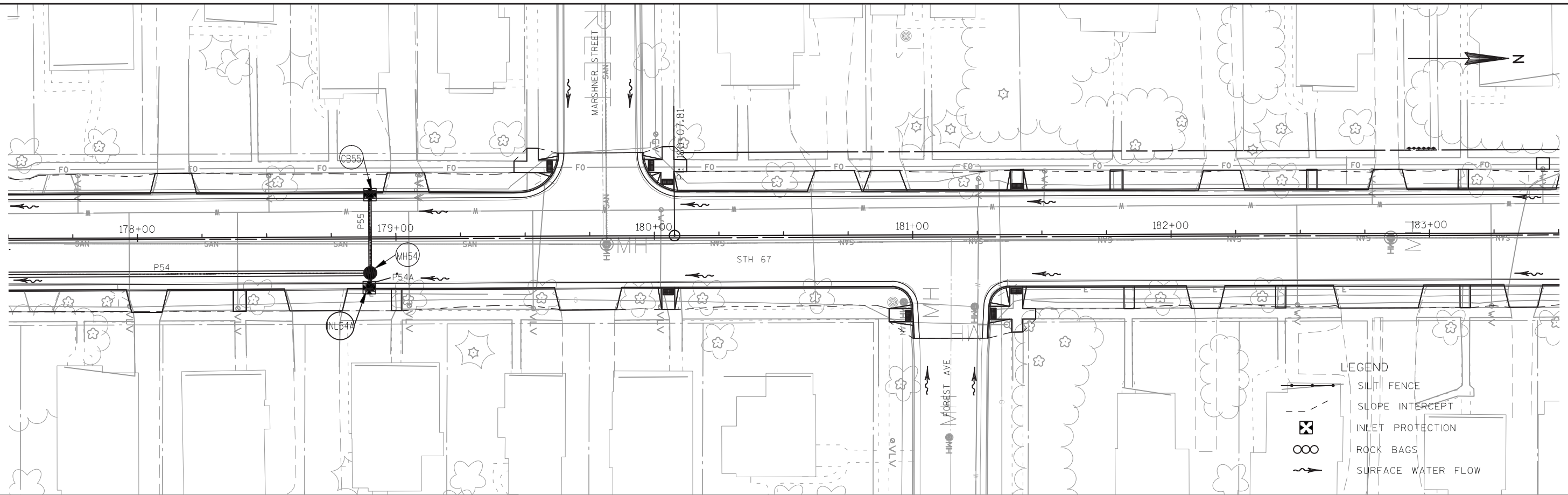






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2 |



PROJECT NO: 4560-05-71

HWY:STH 67

COUNTY: SHEBOYGAN

STORM SEWER PLAN

SHEET - 38

11

FILE NAME : L:\PROJECTS\11247\DWG\022502_SS.DWG

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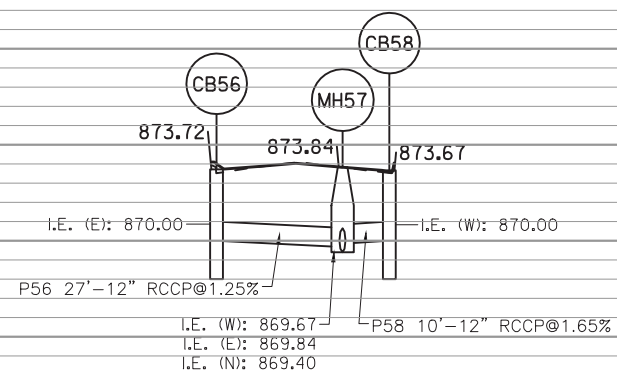
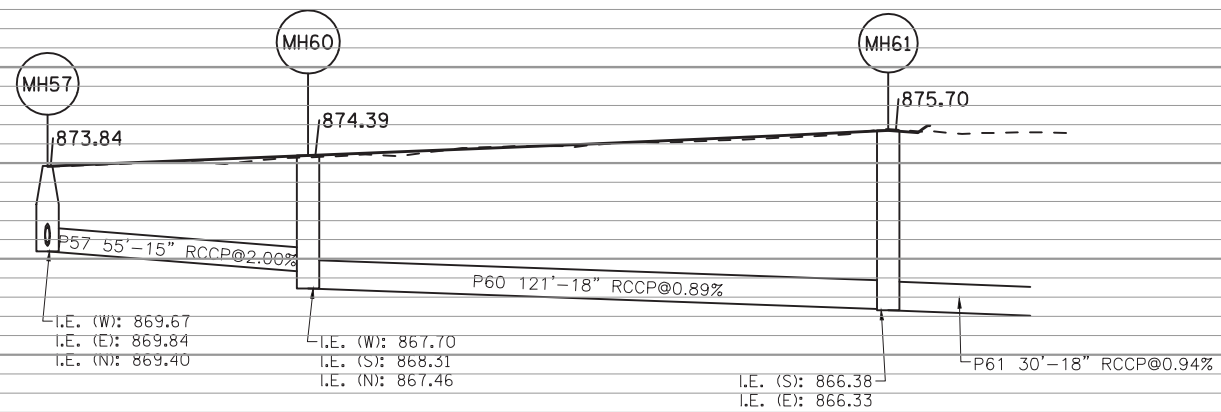
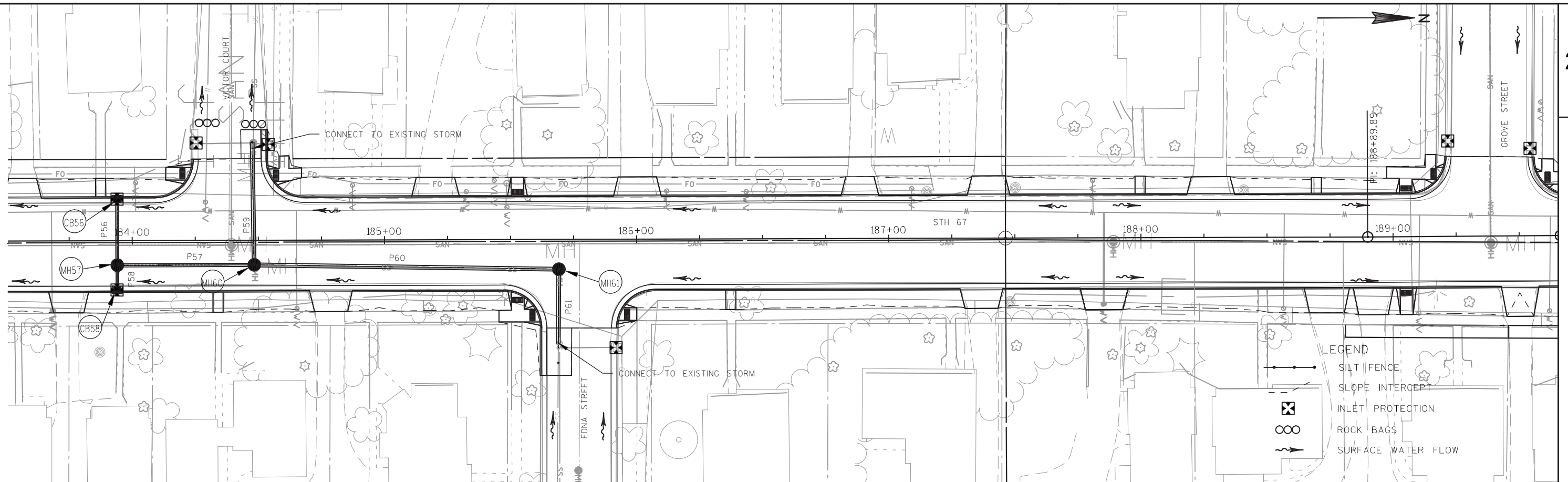
PLOT BY : MOYER, TIM

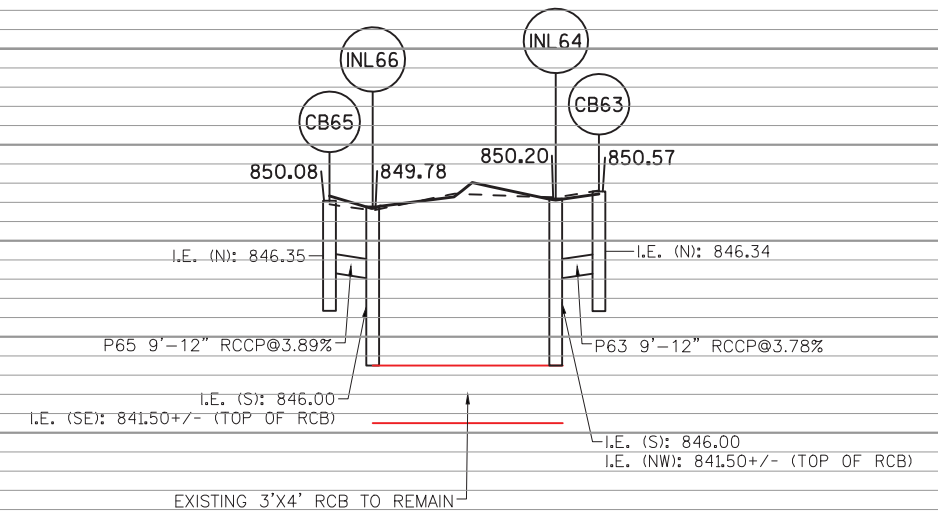
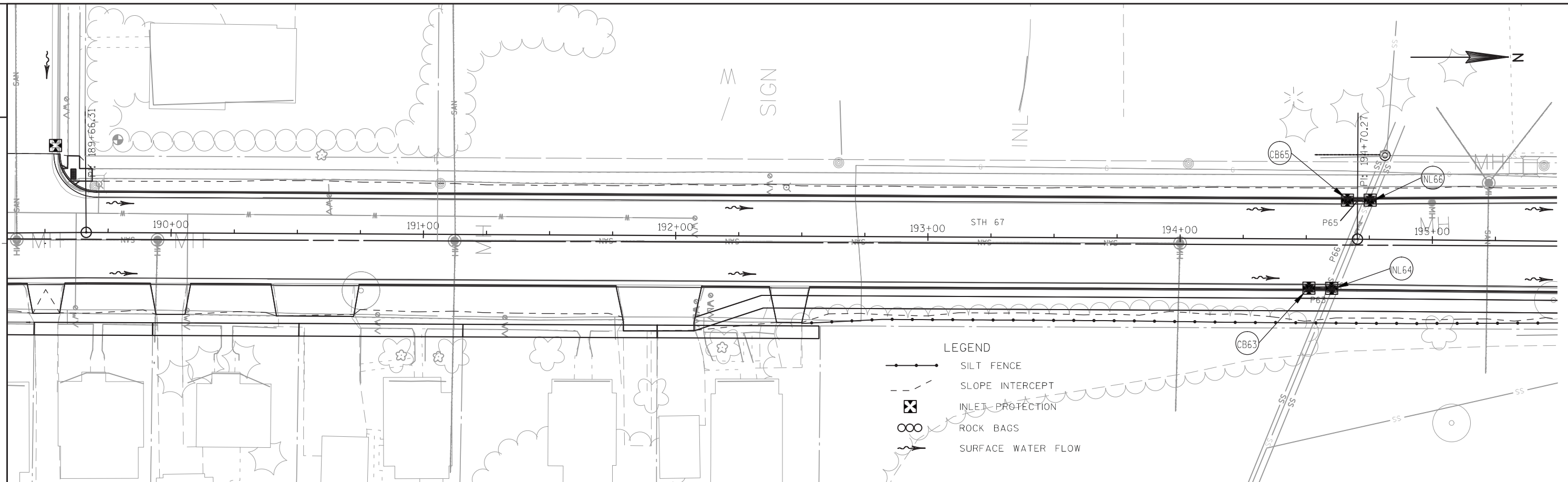
PLOT NAME : -----

WISDOT/CADDS SHEET 41

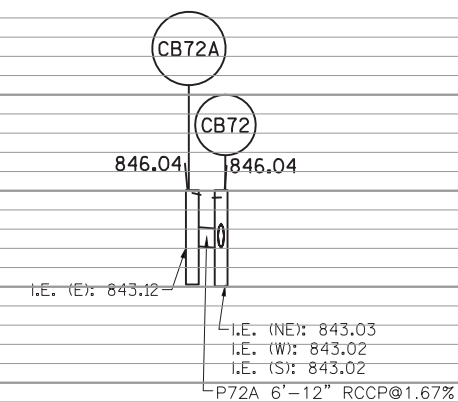
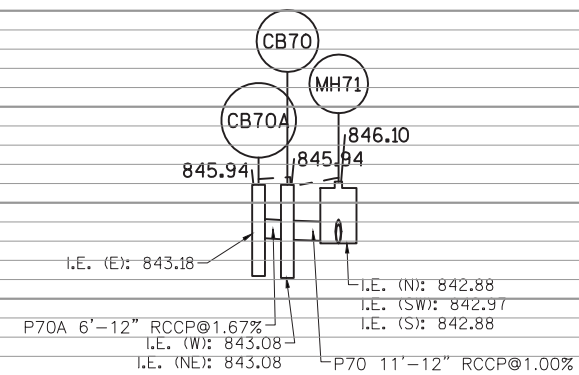
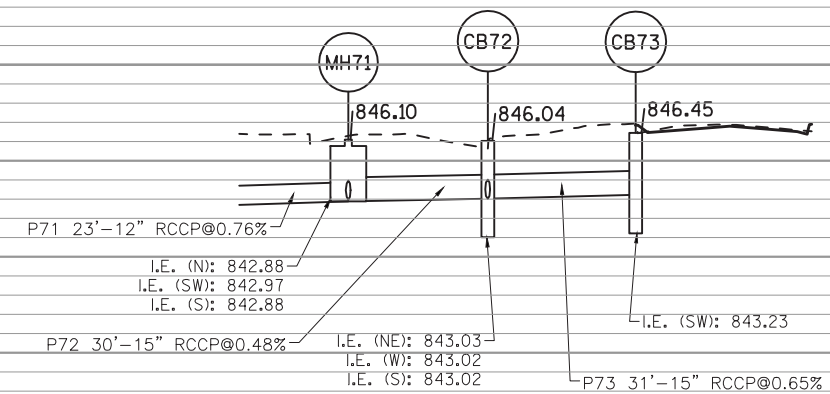
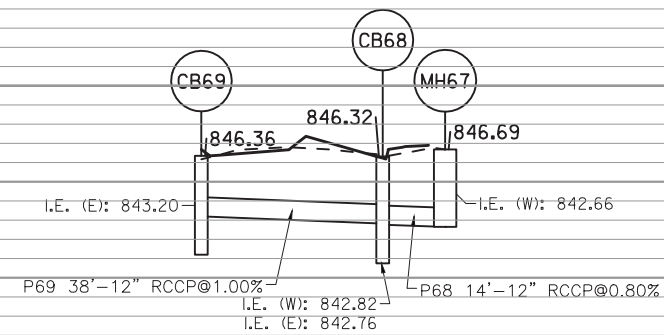
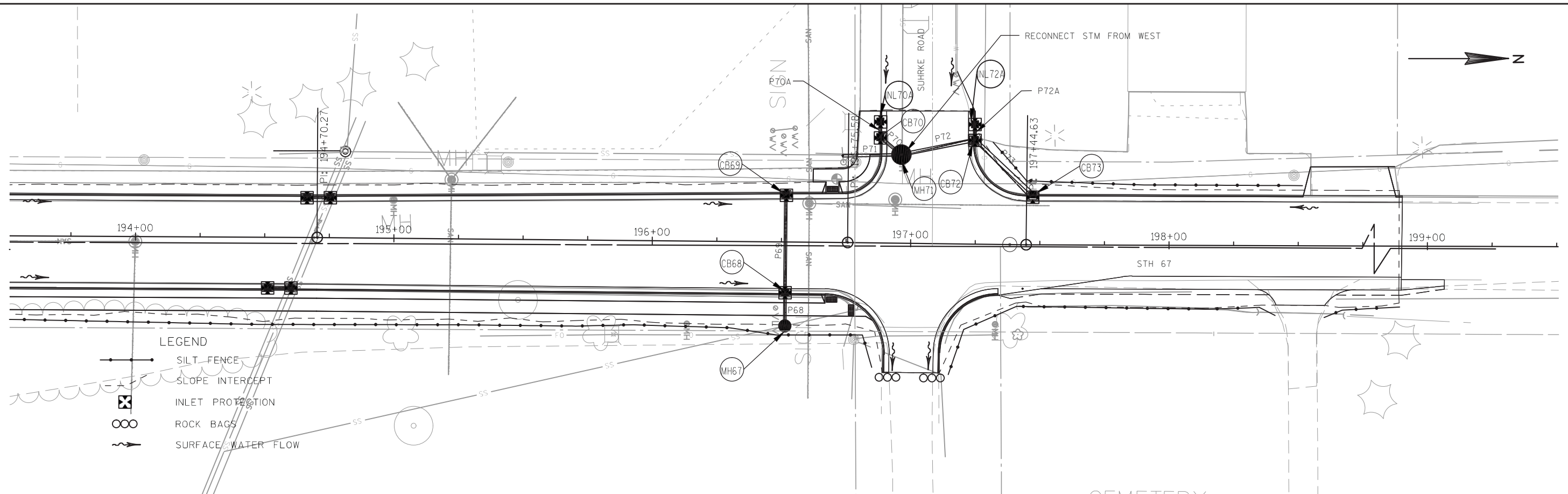
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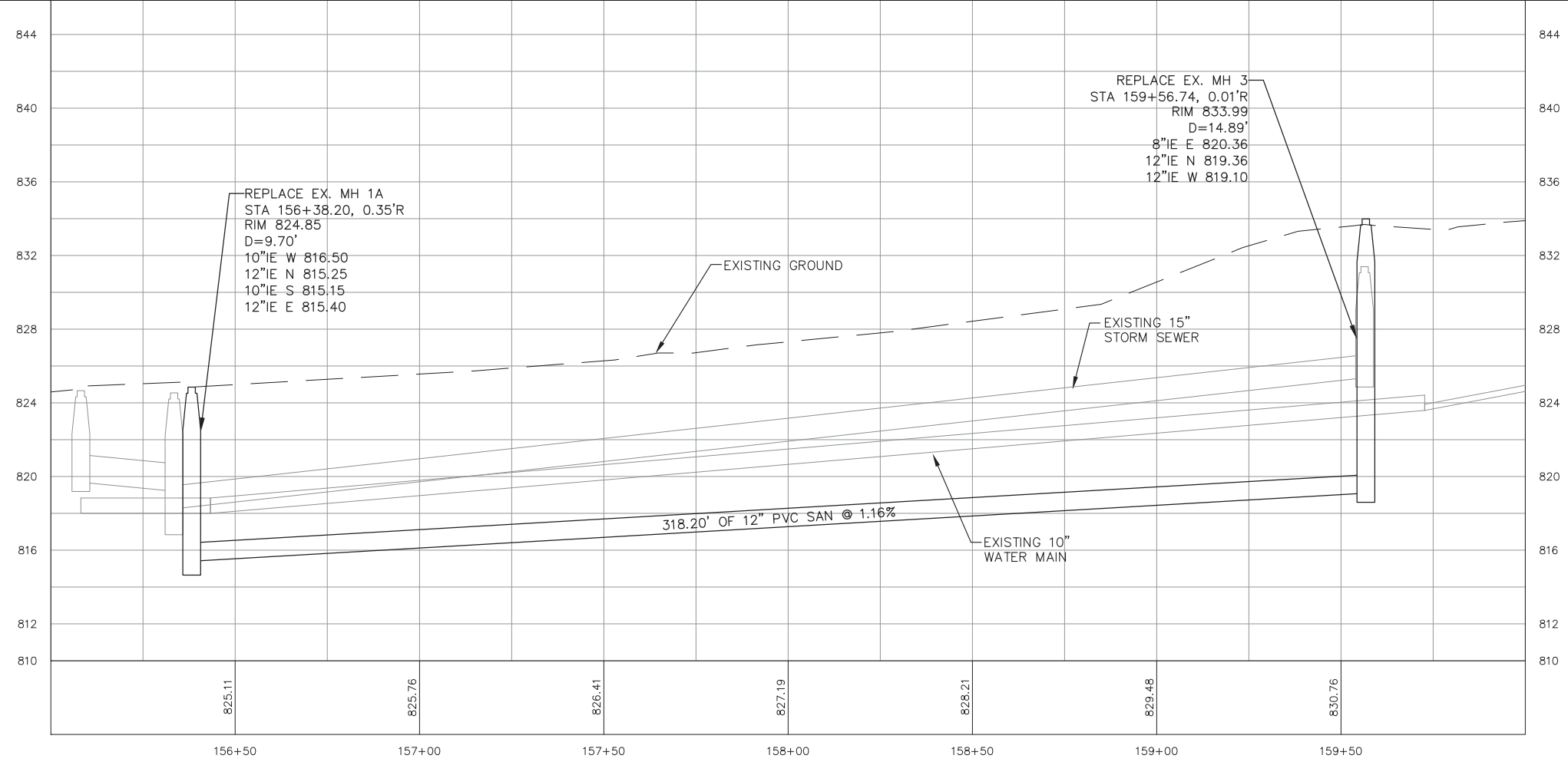
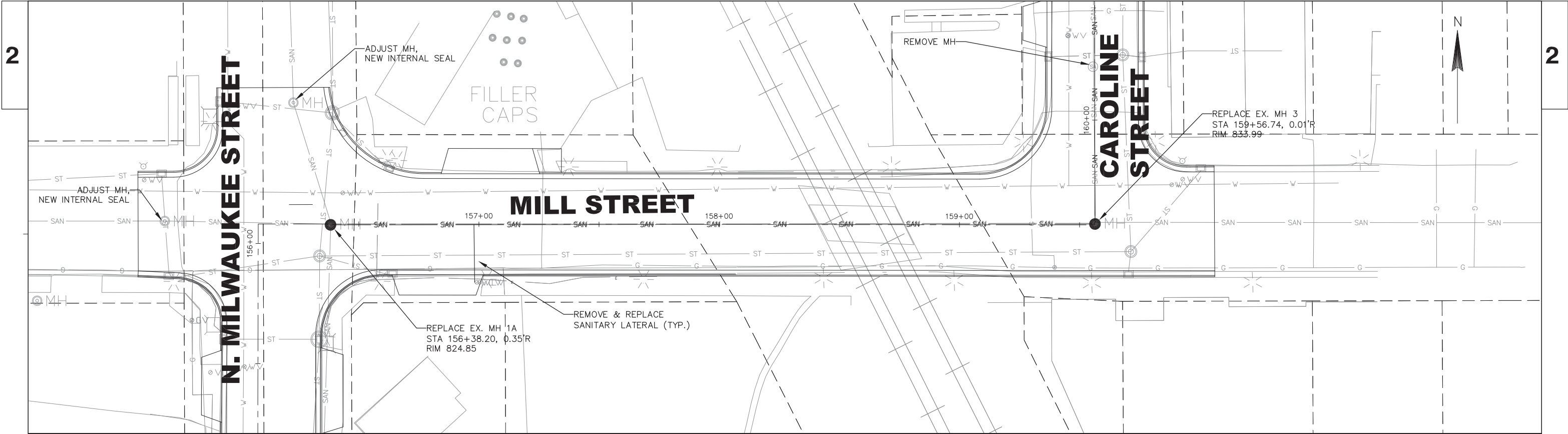
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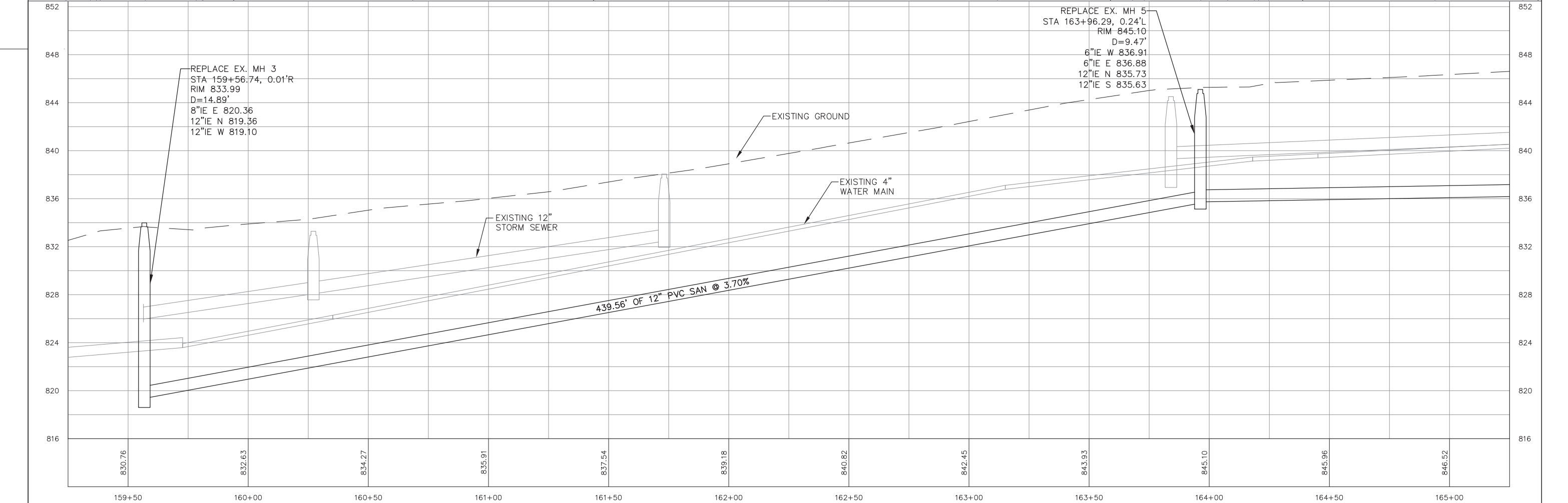
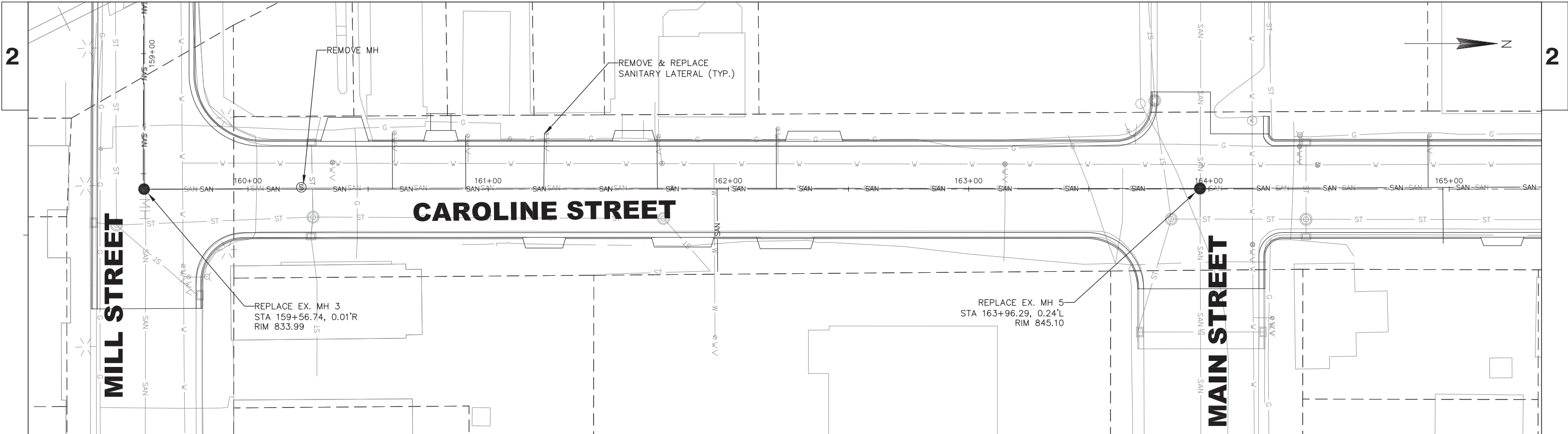


**INLETS 64 AND 66**

EXISTING INLETS CONSTRUCTED OVER EXISTING 3' X 4' REINFORCED CONCRETE BOX. REMOVE AND REPLACE INLETS. DO NOT DAMAGE EXISTING CONCRETE BOX. PLACE NEW INLETS ON EXISTING CONCRETE BOX WITH OUTLET IN BOTTOM OF INLET TO MATCH OPENING IN CONCRETE BOX. SEAL INLETS TO EXISTING CONCRETE BOX WITH MASTIC. ALL WORK INCIDENTAL TO INLETS 2X3-FT.







PROJECT NO: 4560-05-72

HWY: STH 67

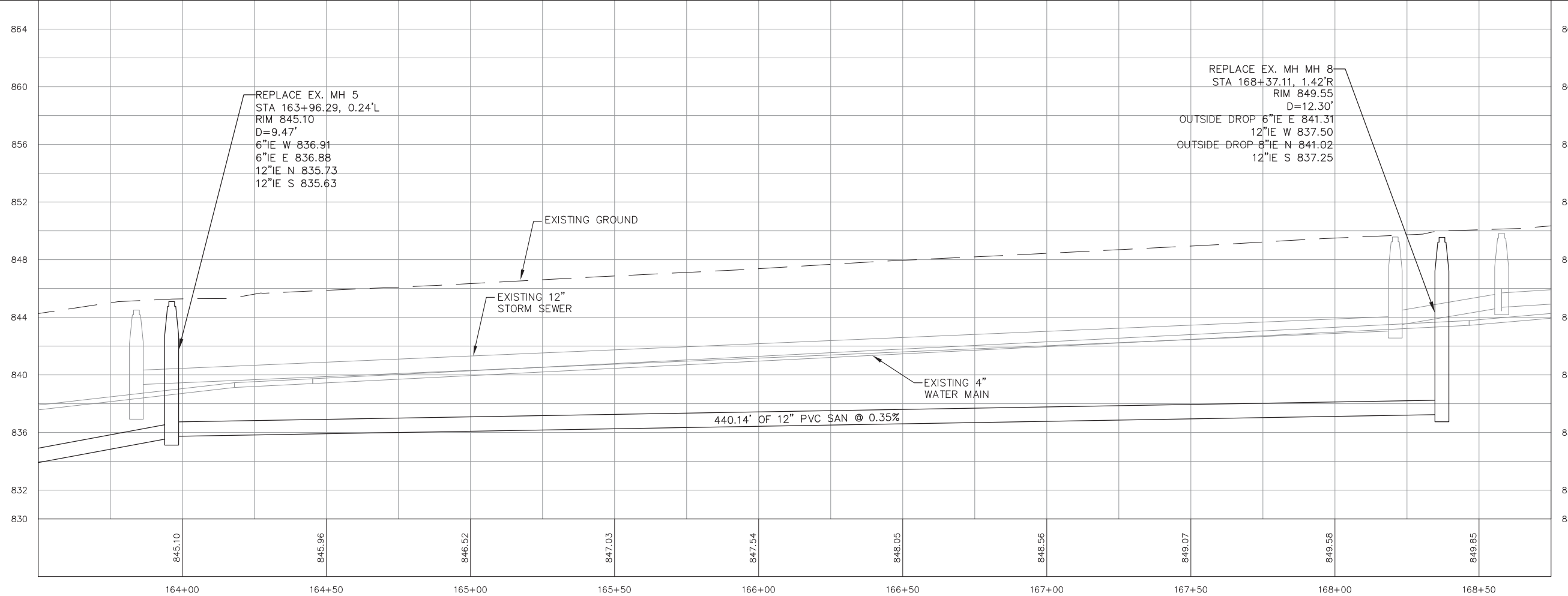
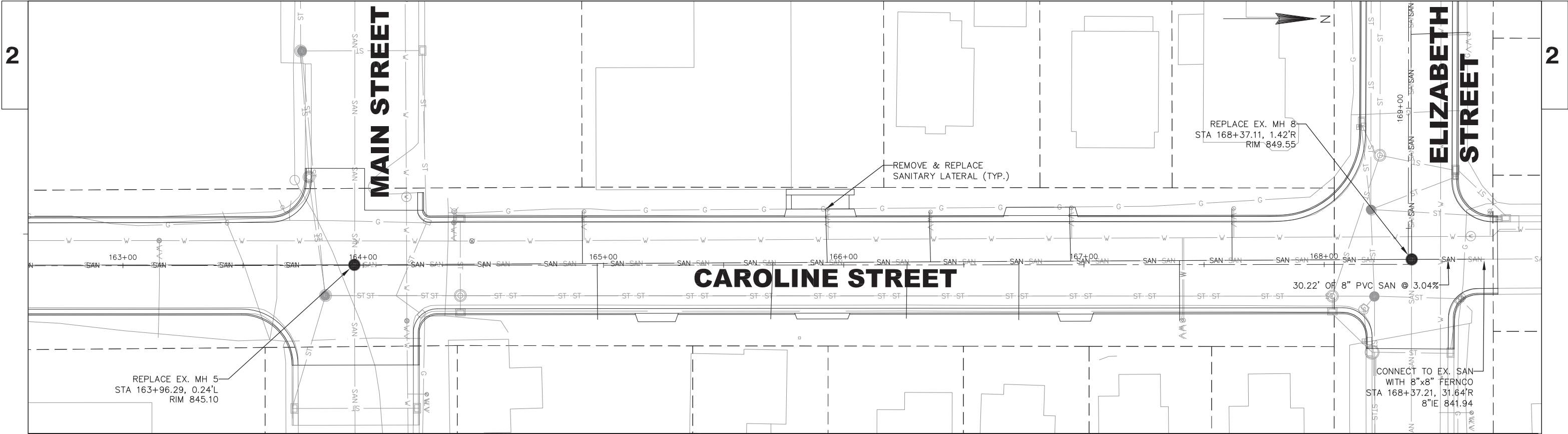
COUNTY: SHEBOYGAN

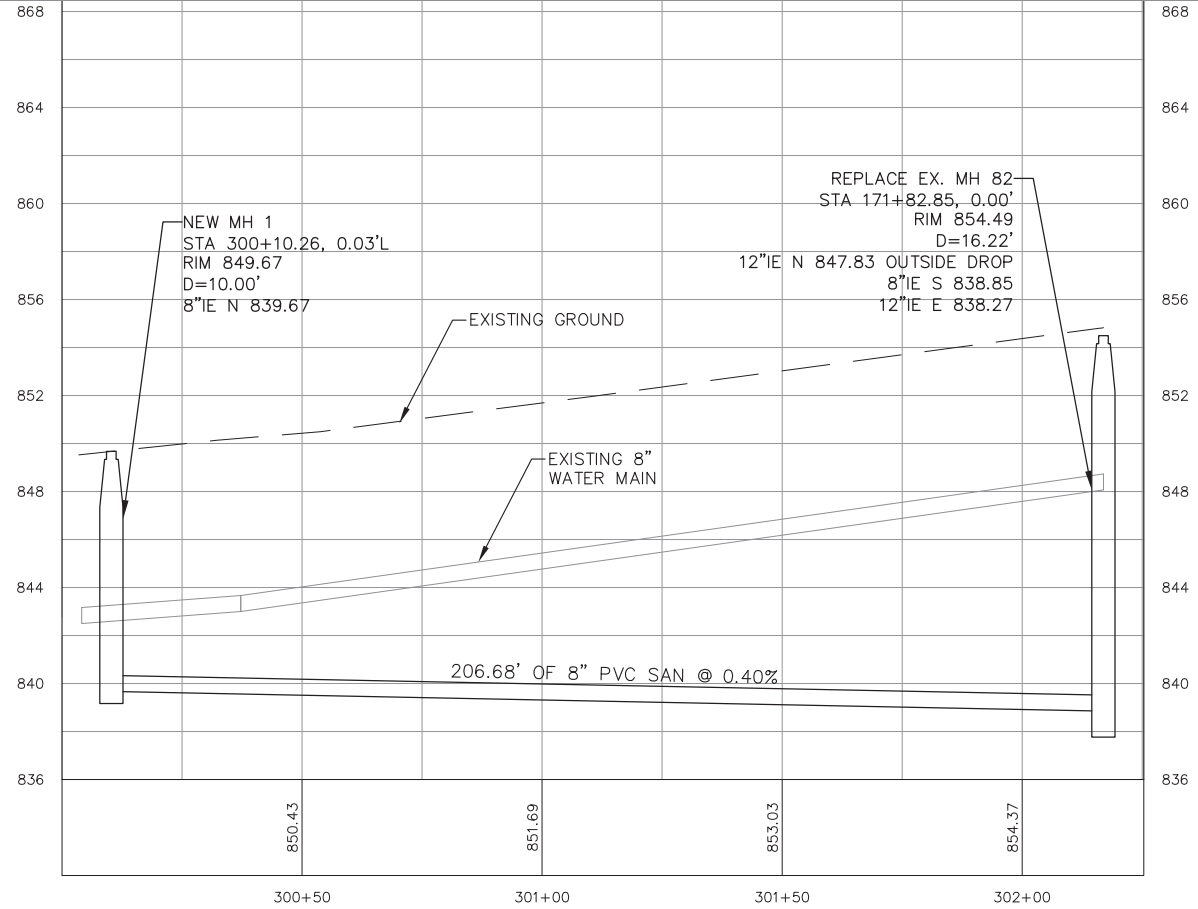
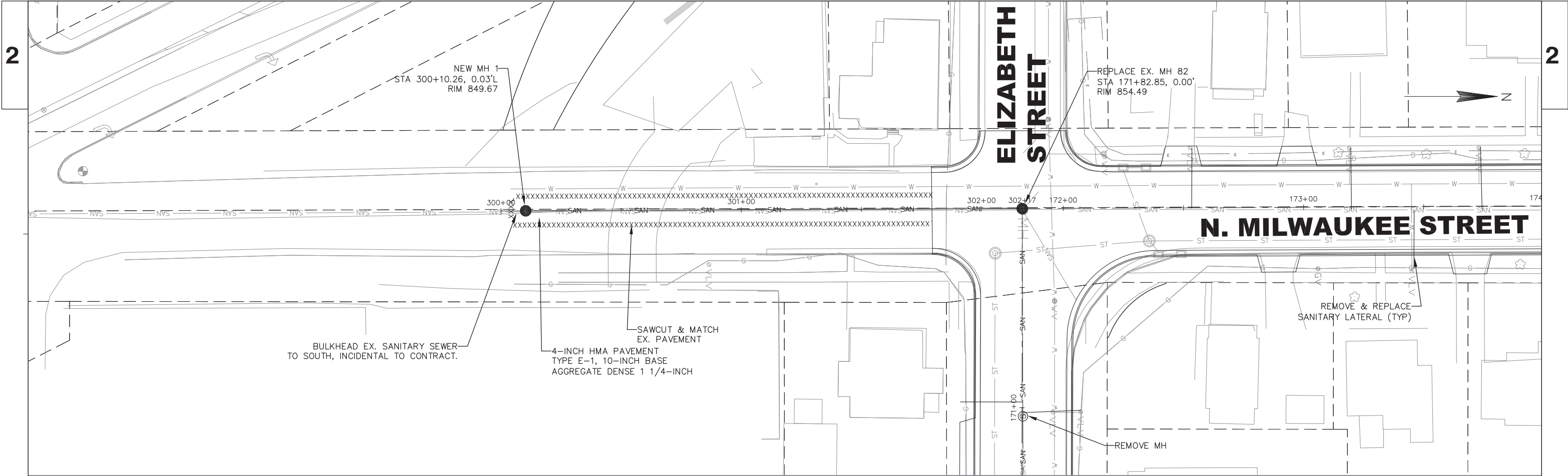
SANITARY SEWER PLAN

SHEET

43

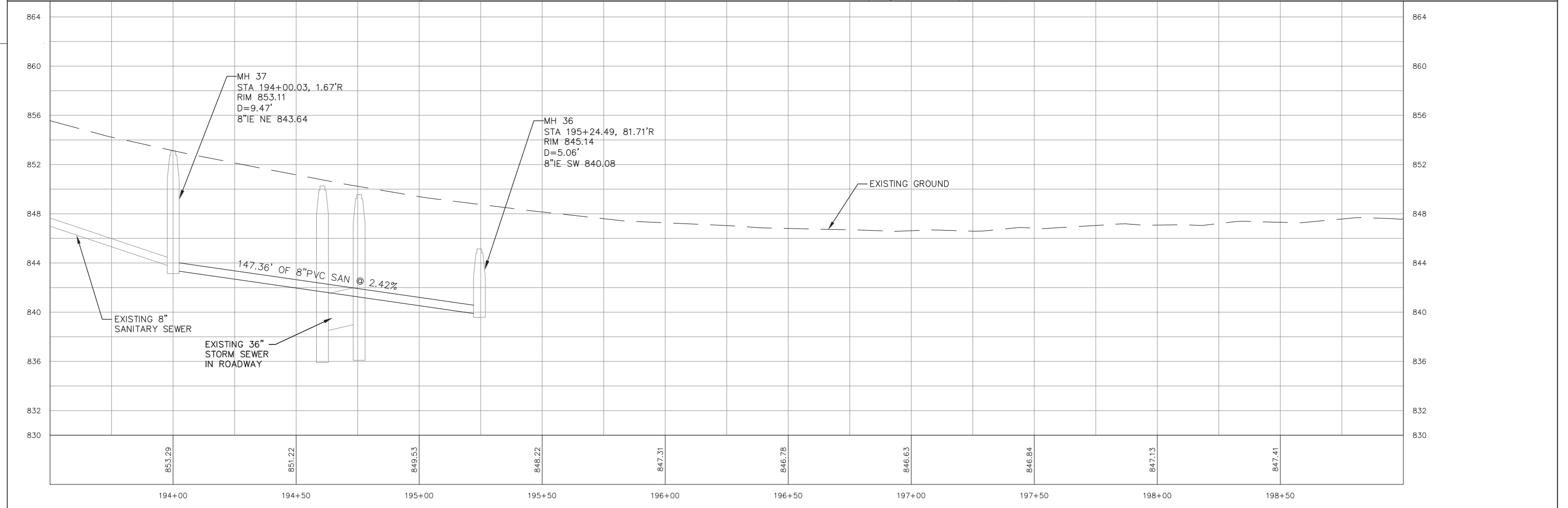
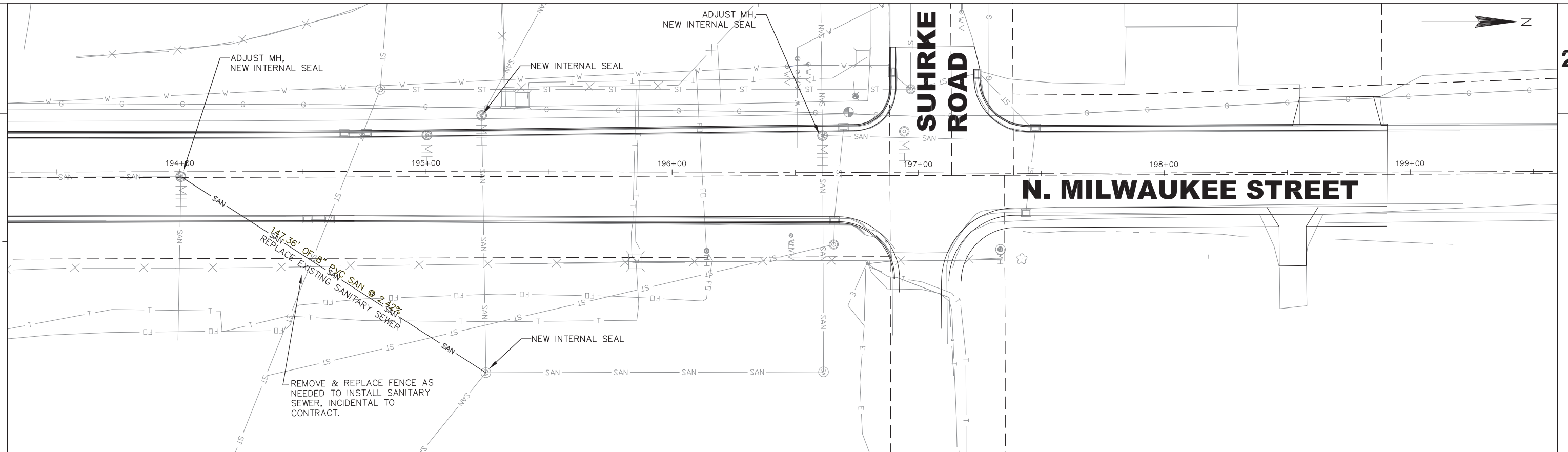
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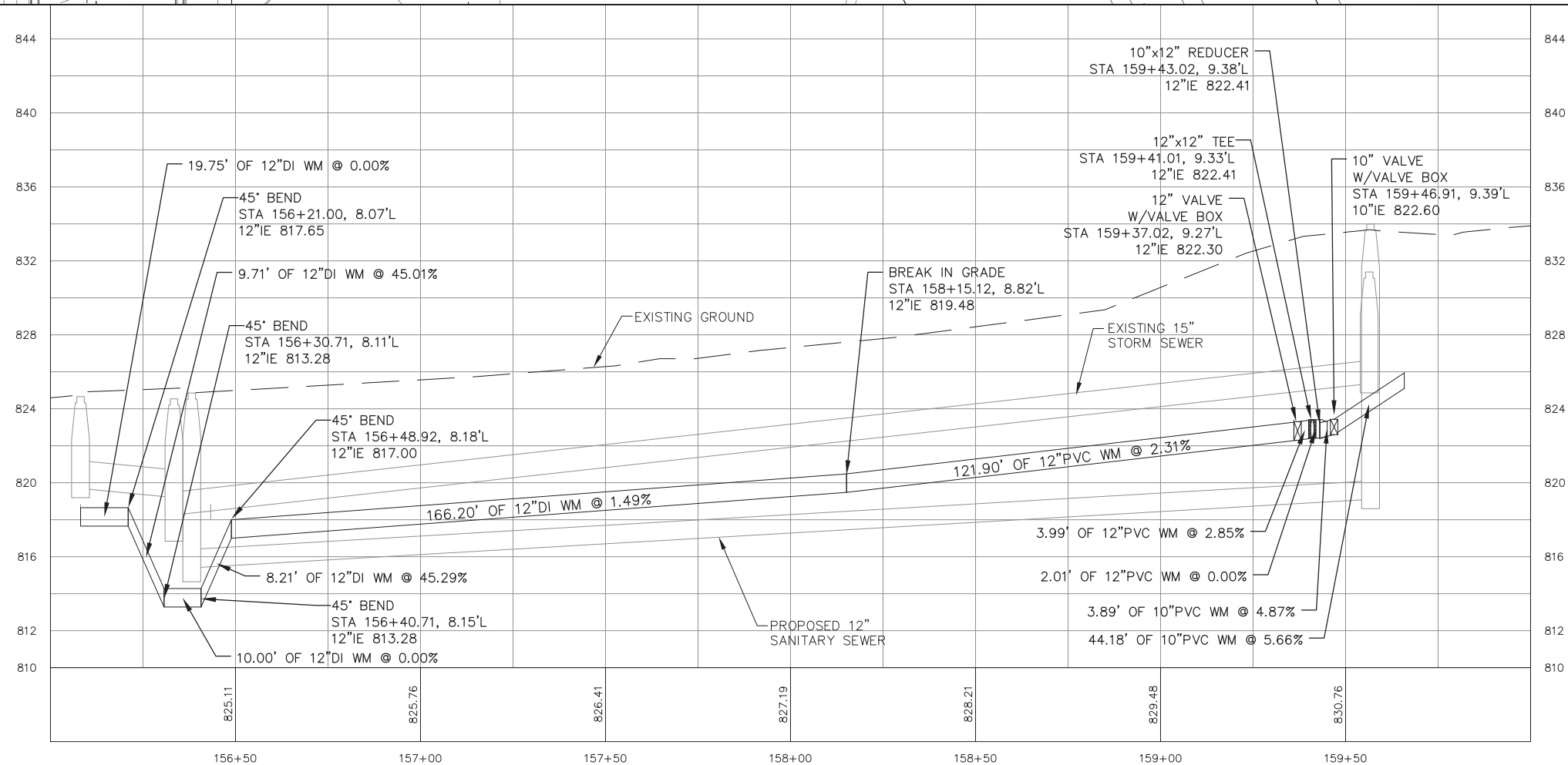
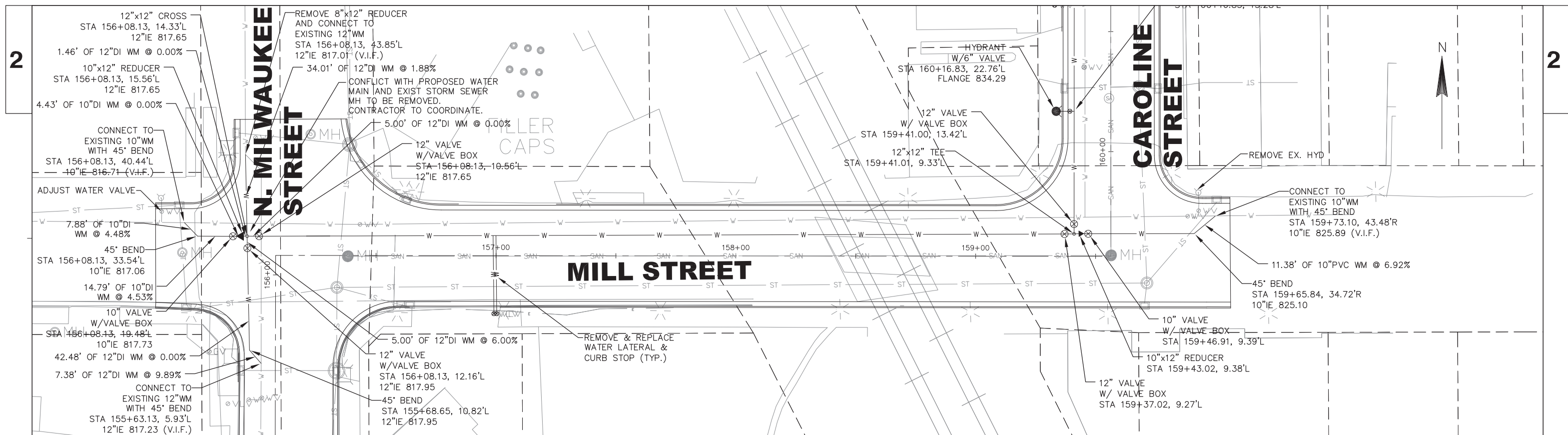


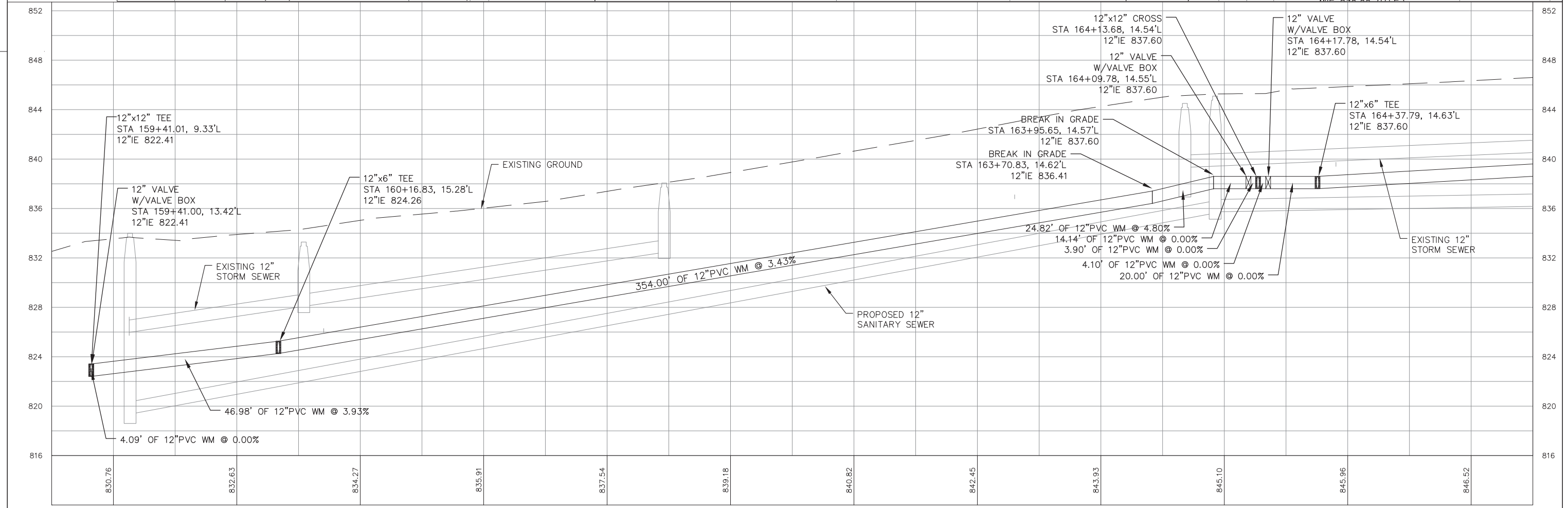


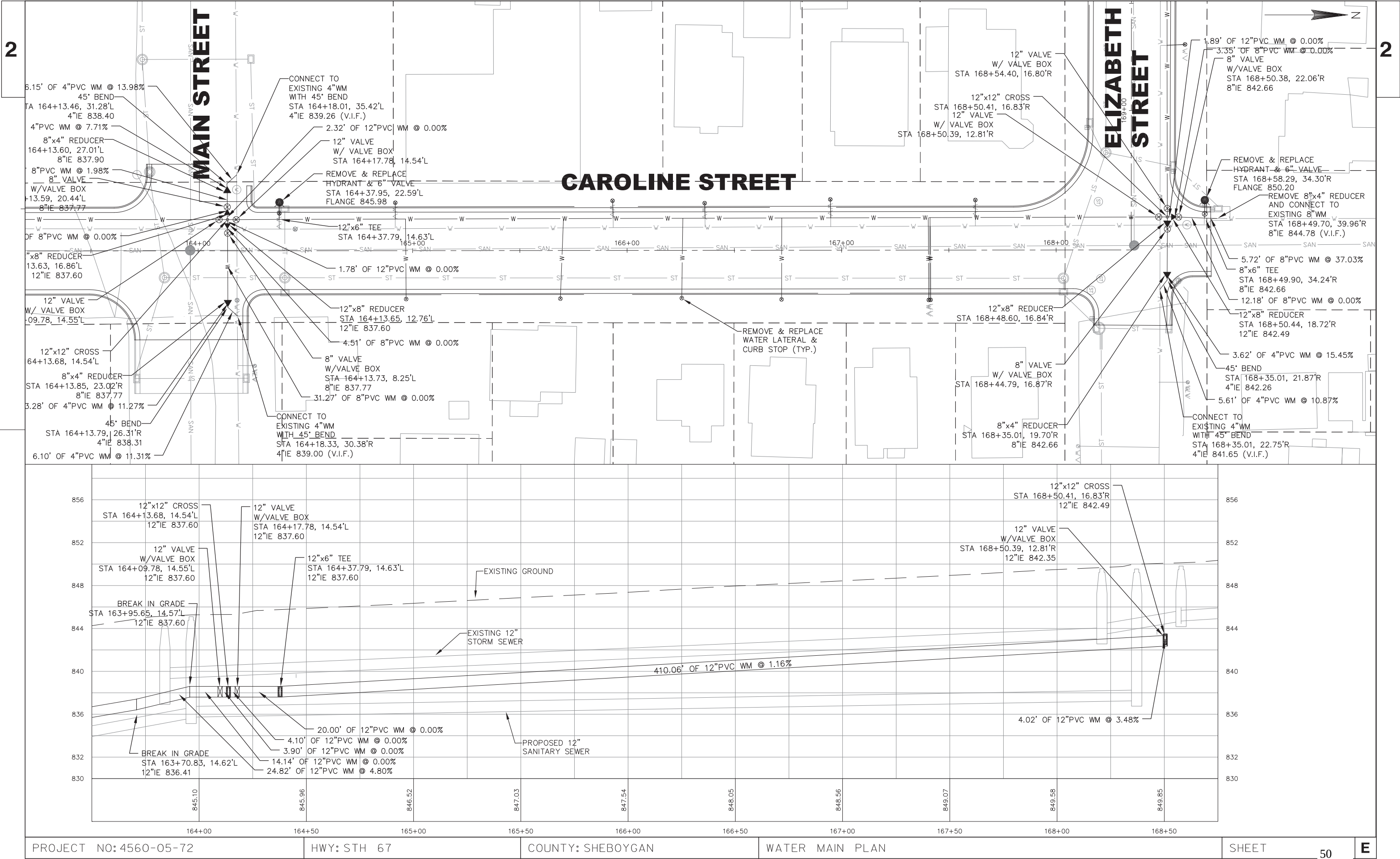
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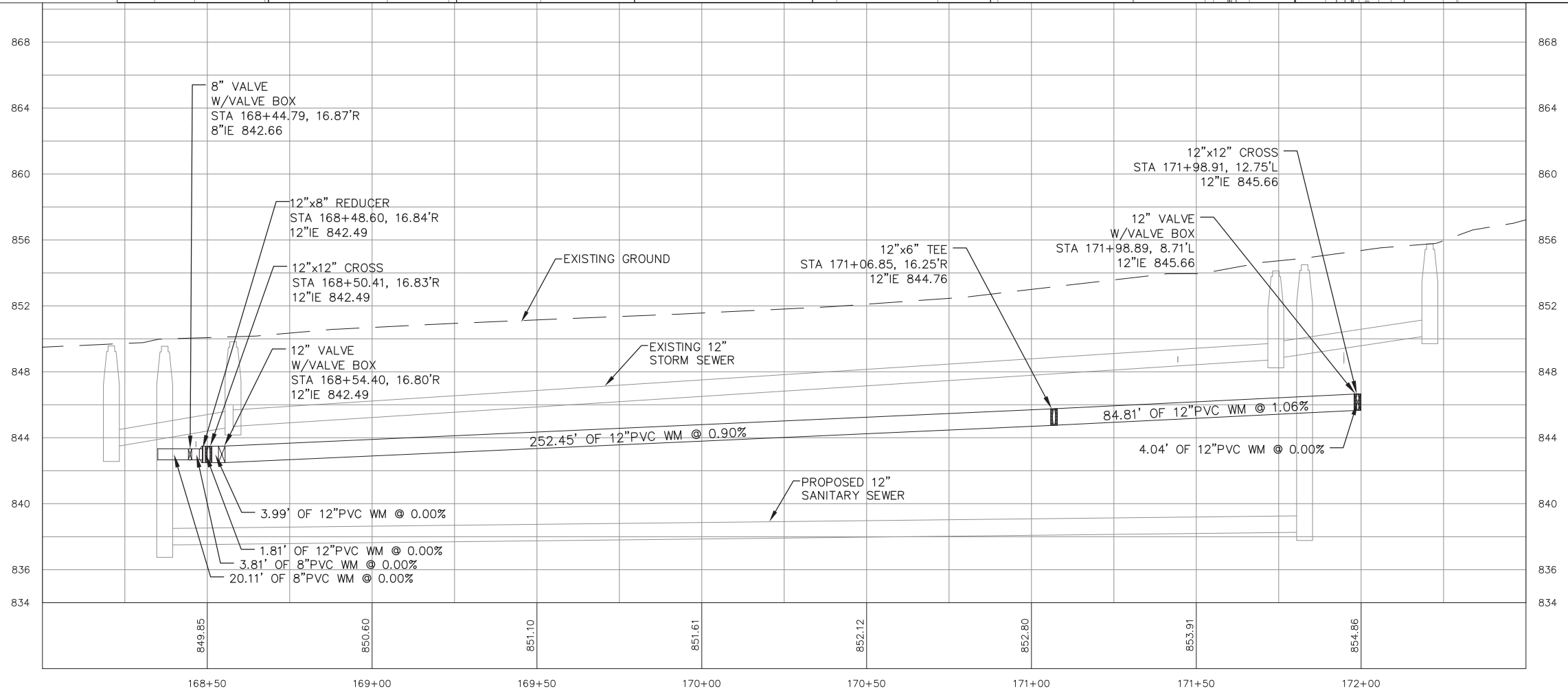
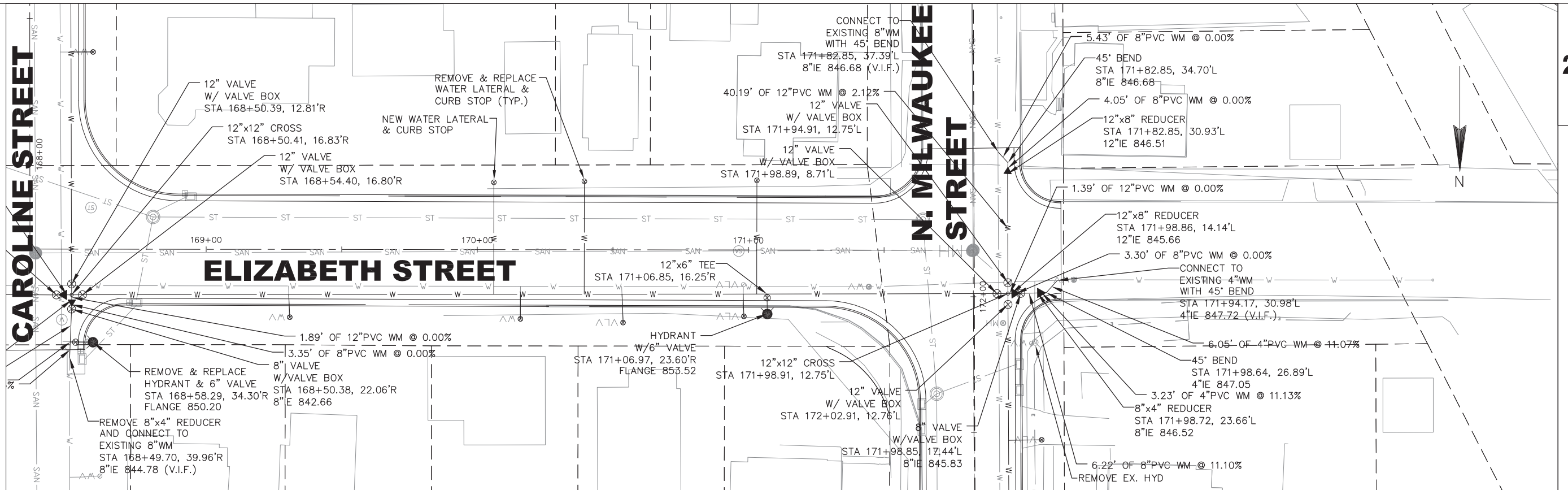
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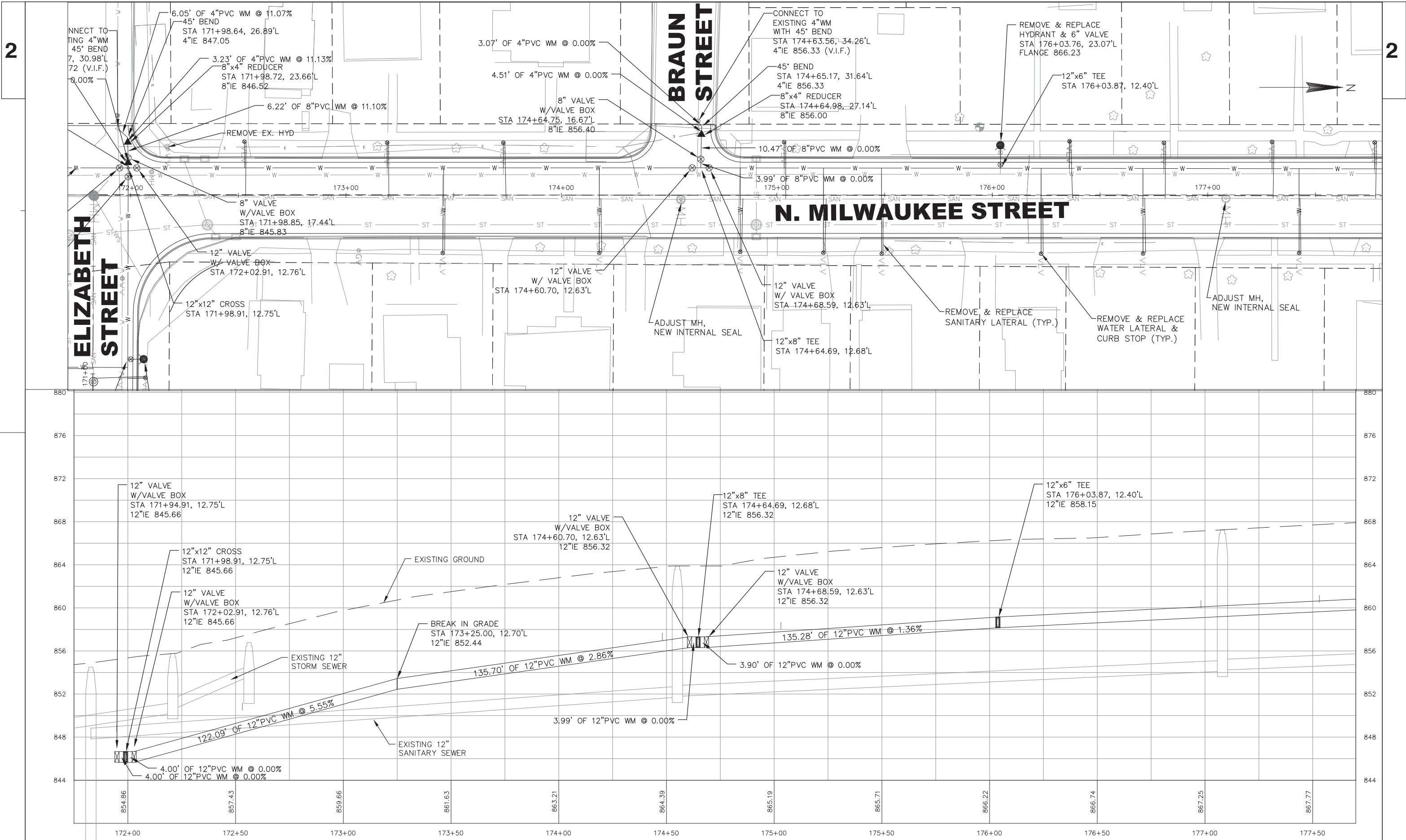


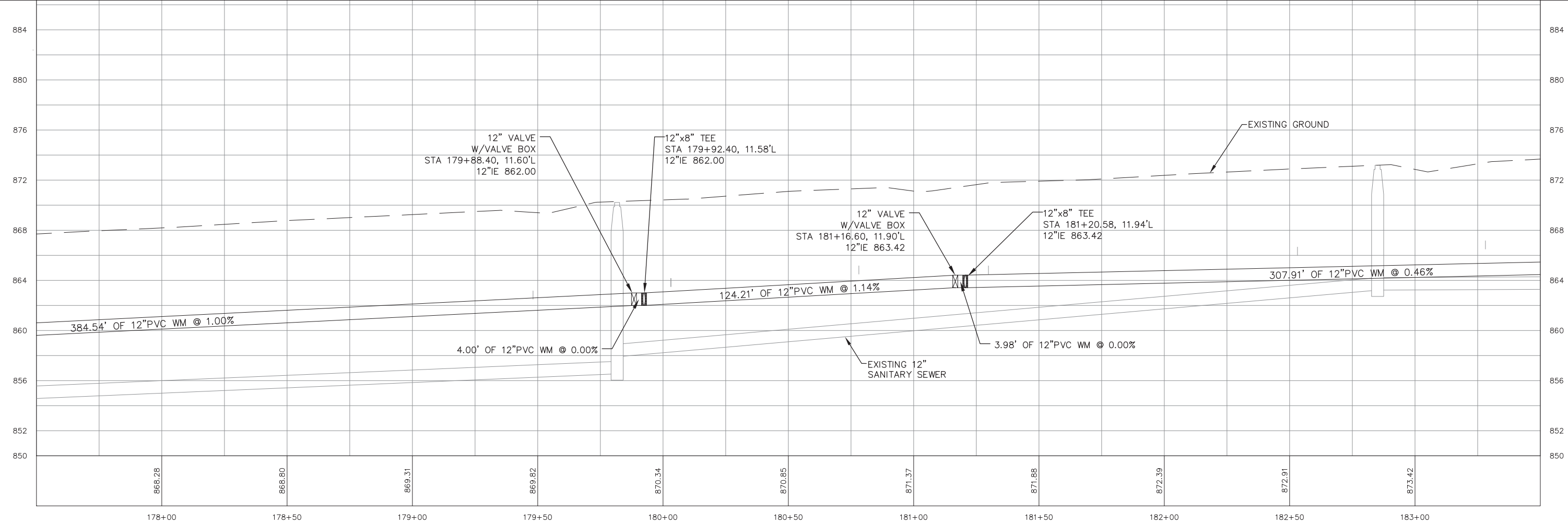
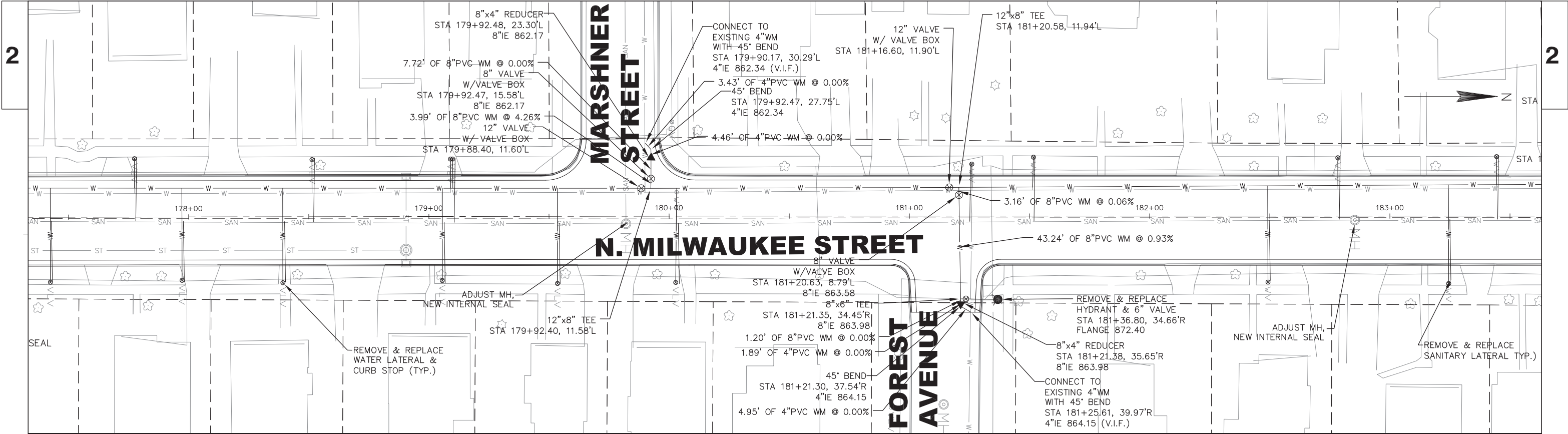


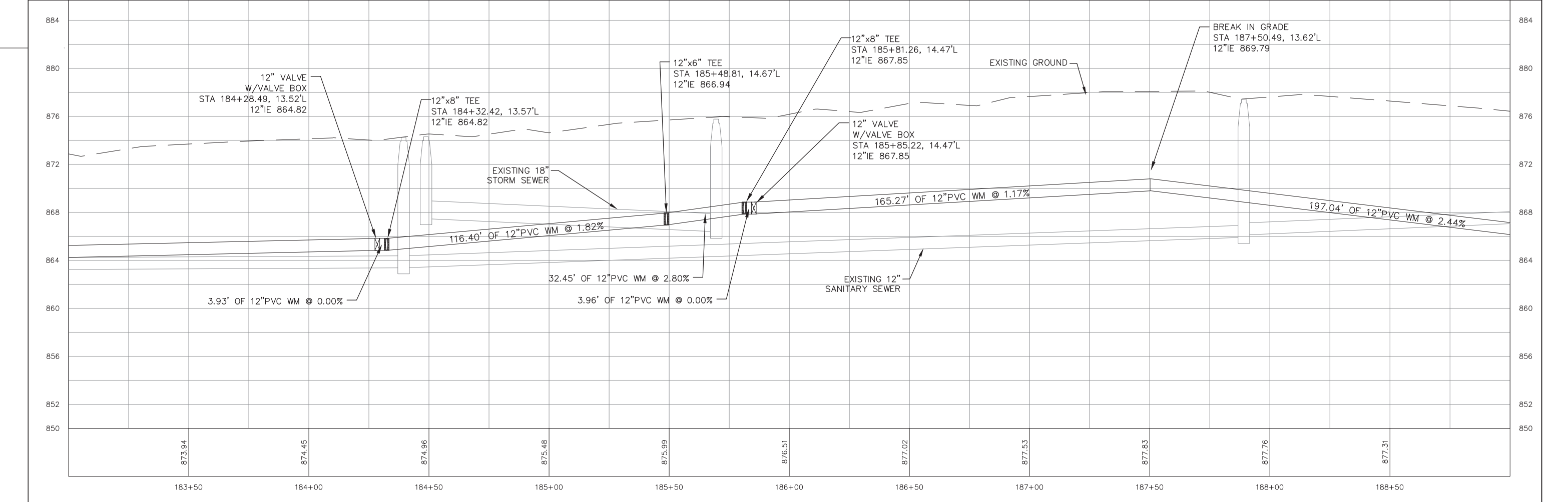
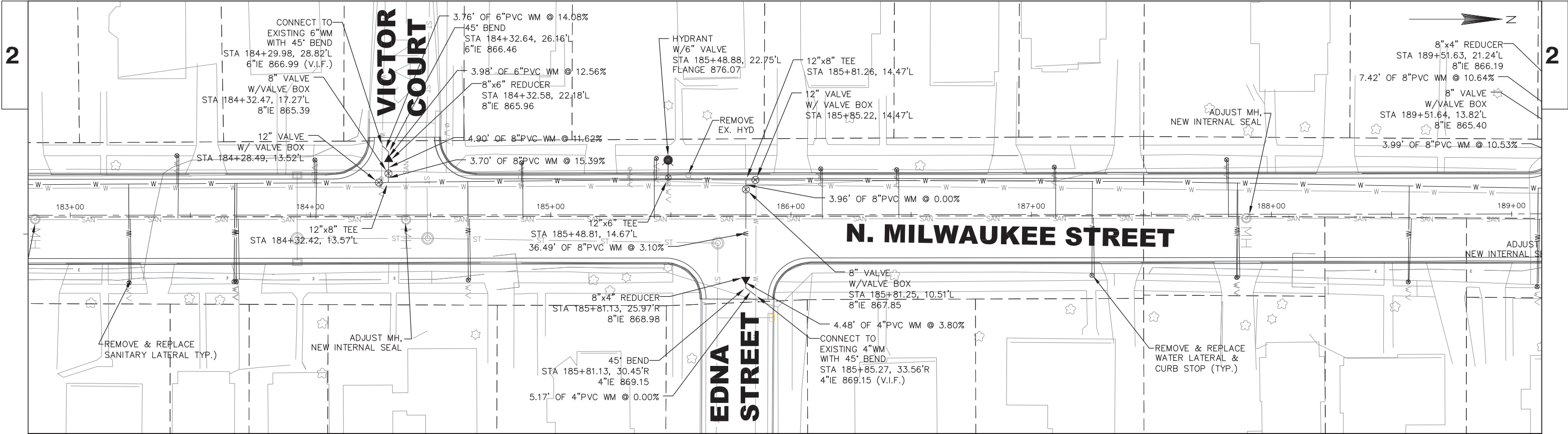


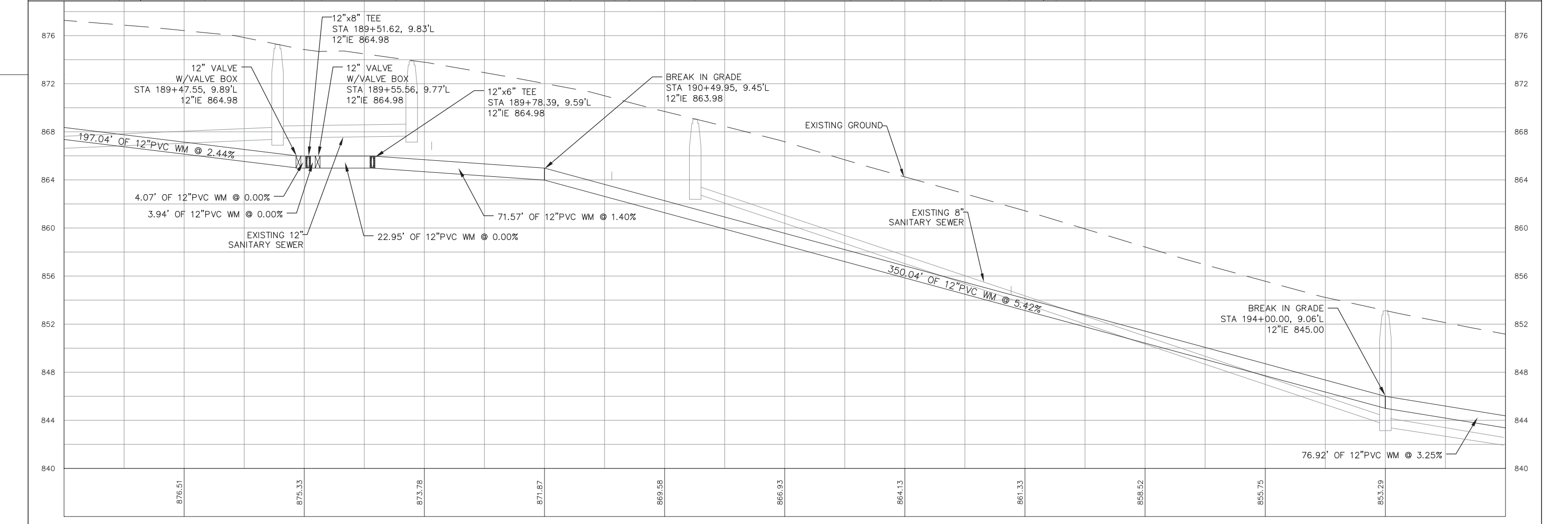
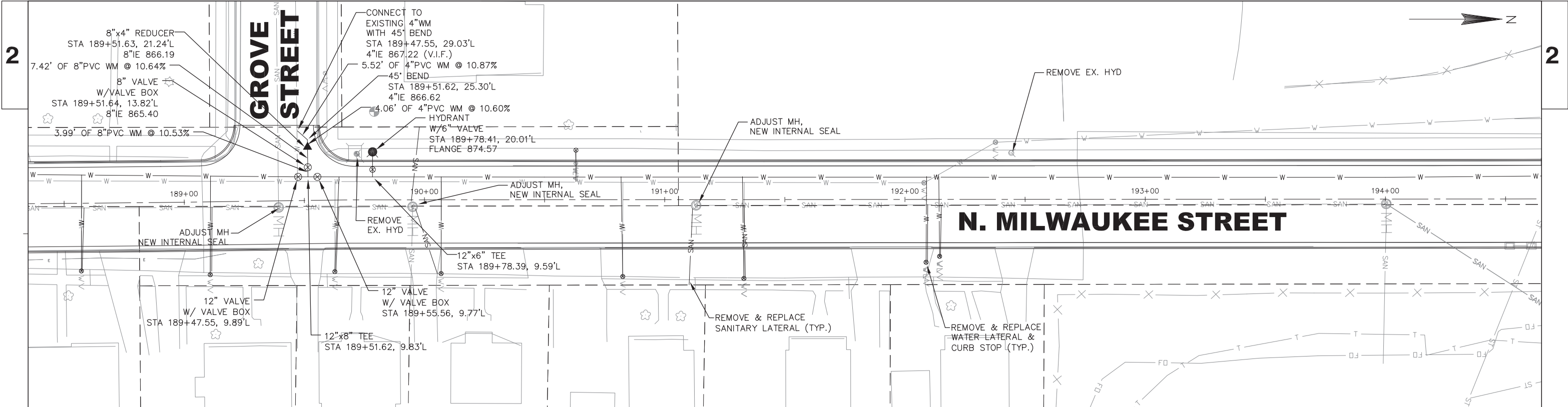


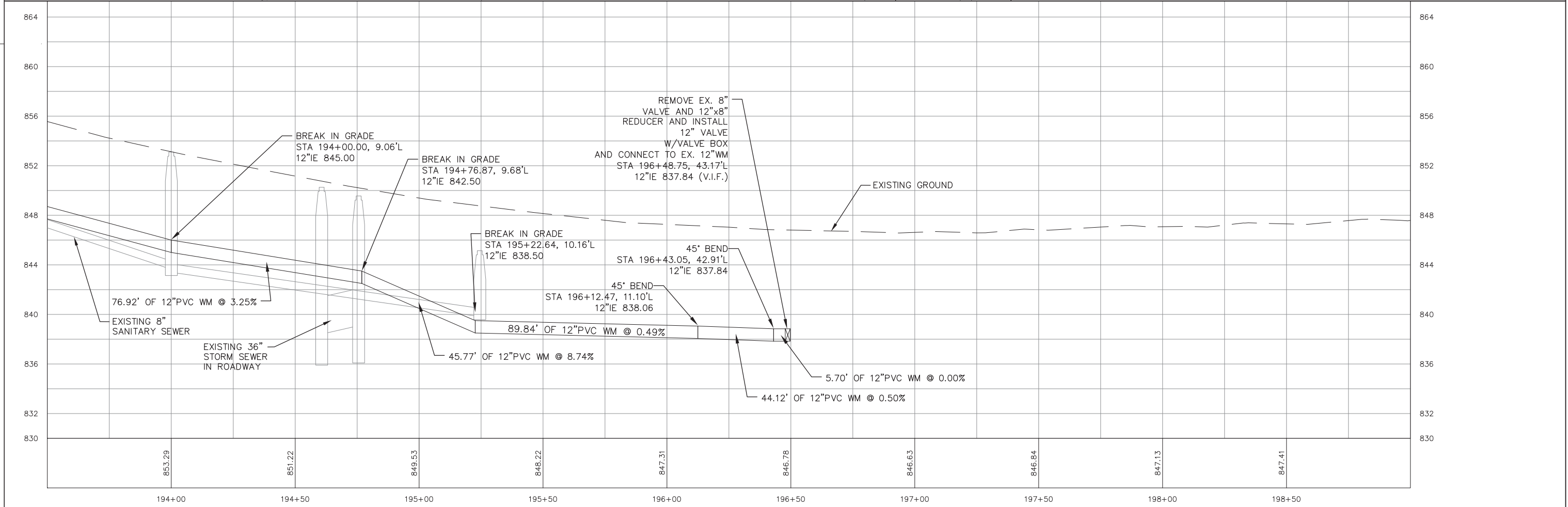
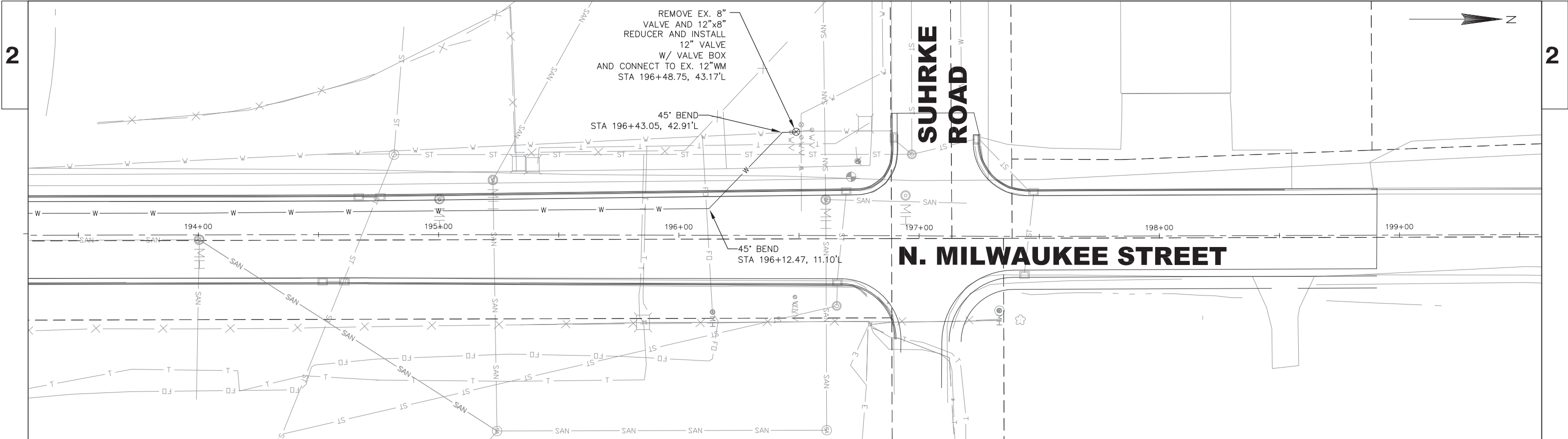












SIGNING NOTES

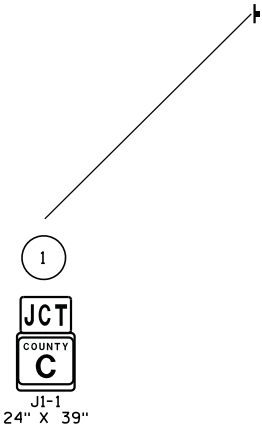
WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.



134+00 135+00 136+00 137+00 138+00 139+00 140+00 141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00 149+00

STH 67



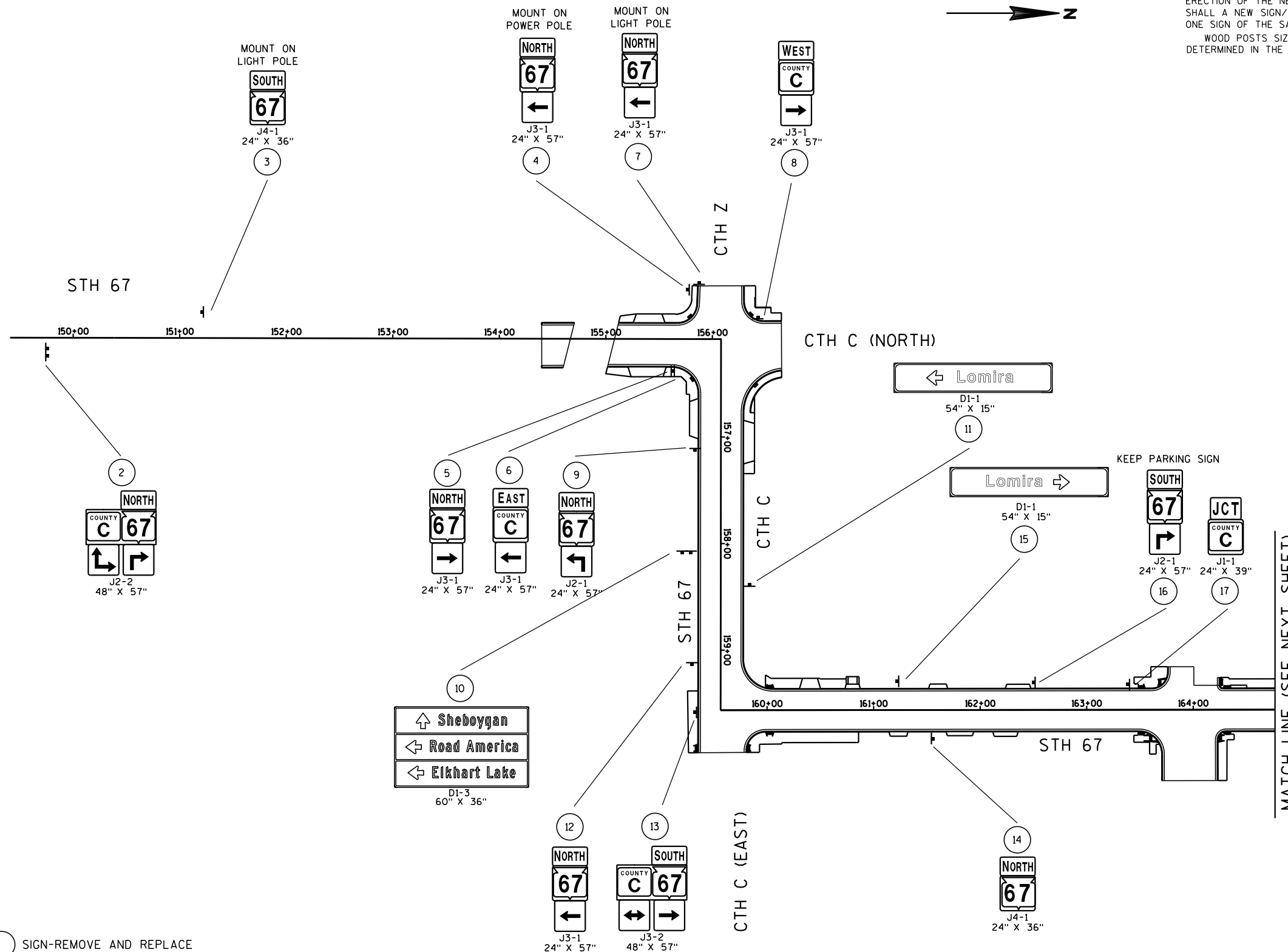
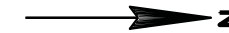
-  SIGN-REMOVE AND REPLACE
-  SIGN-REMOVE EXISTING
-  SIGN-PLACE NEW

PLAN SHEET PRODUCED
BY WISDOT-NE REGION

SIGNING NOTES

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.



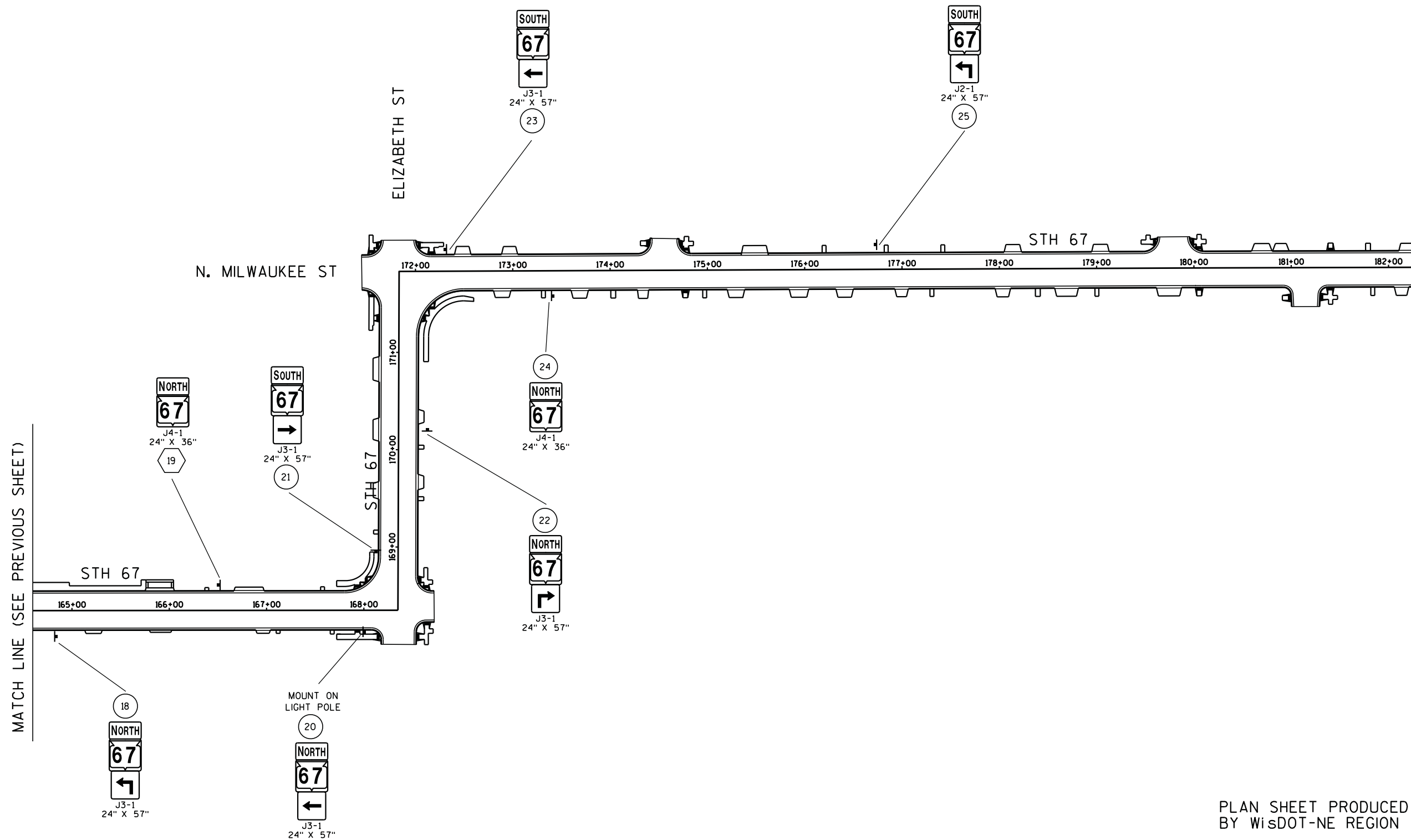
- SIGN-REMOVE AND REPLACE
- SIGN-REMOVE EXISTING
- SIGN-PLACE NEW

PLAN SHEET PRODUCED
BY WISDOT-NE REGION

SIGNING NOTES

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.



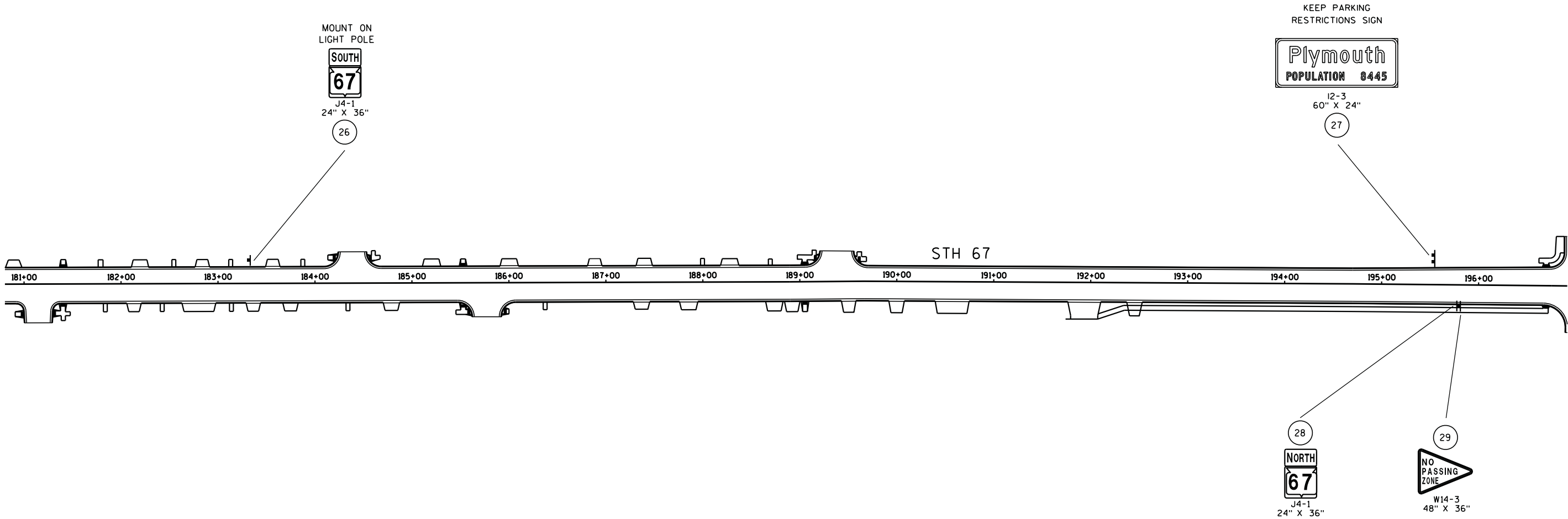
- SIGN-REMOVE AND REPLACE
- SIGN-REMOVE EXISTING
- SIGN-PLACE NEW

PLAN SHEET PRODUCED
BY WISDOT-NE REGION

SIGNING NOTES

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

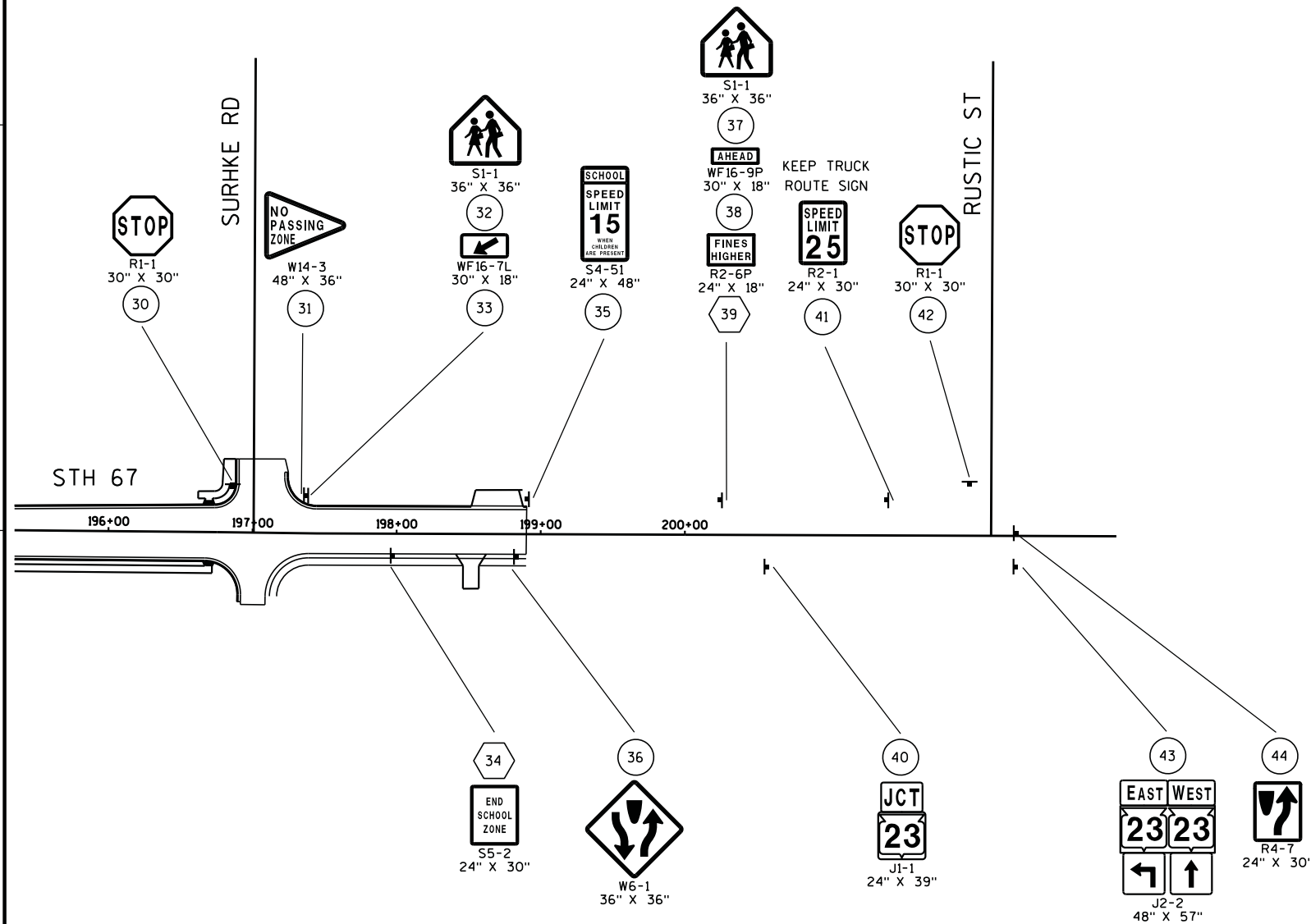


PLAN SHEET PRODUCED
BY WISDOT-NE REGION

SIGNING NOTES

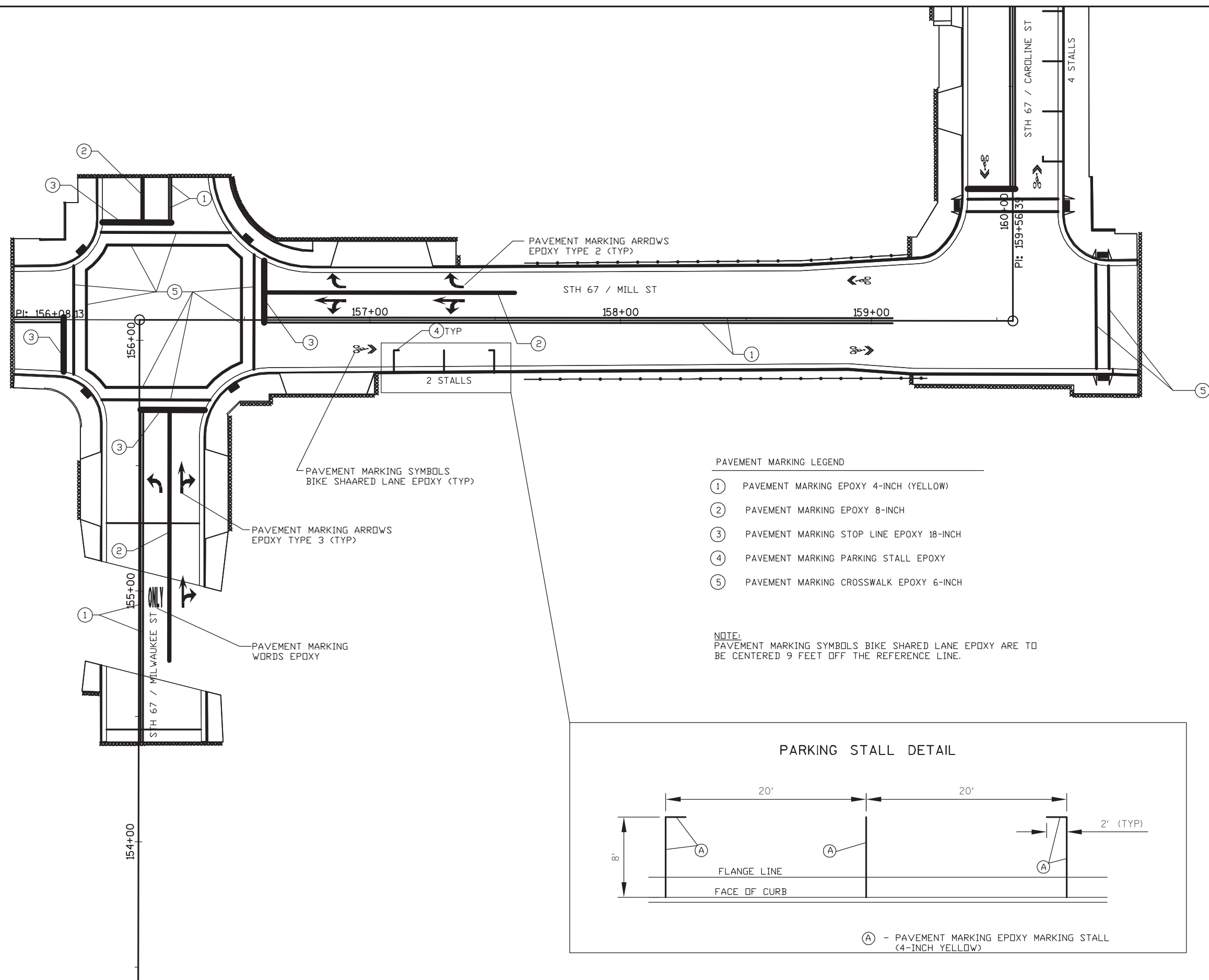
WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.



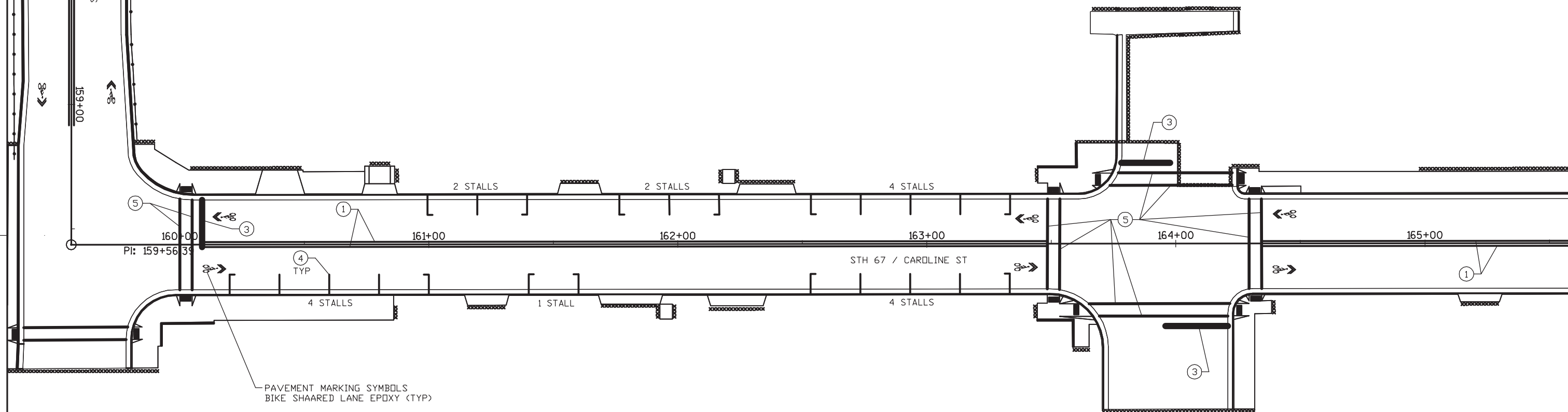
- SIGN-REMOVE AND REPLACE
- SIGN-REMOVE EXISTING
- SIGN-PLACE NEW

PLAN SHEET PRODUCED
BY WisDOT-NE REGION



PAVEMENT MARKING LEGEND

- ① PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- ② PAVEMENT MARKING EPOXY 8-INCH
- ③ PAVEMENT MARKING STOP LINE EPOXY 18-INCH
- ④ PAVEMENT MARKING PARKING STALL EPOXY
- ⑤ PAVEMENT MARKING CROSSWALK EPOXY 6-INCH



NOTE:

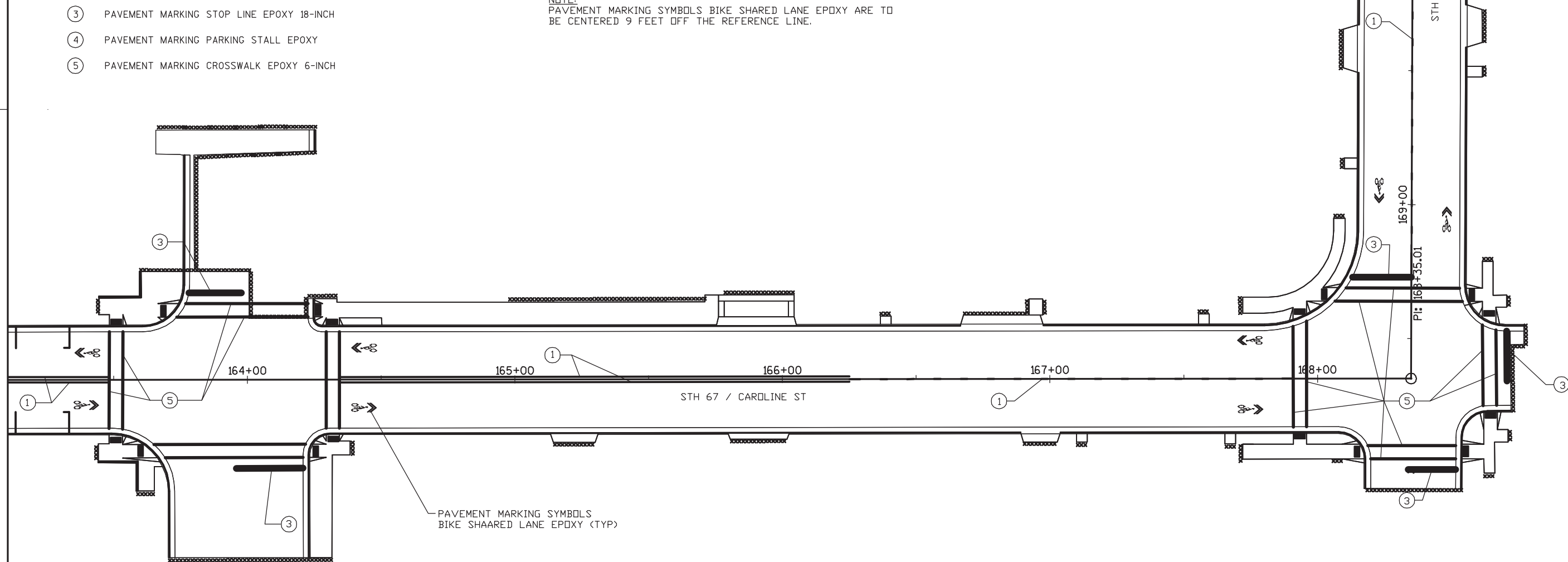
SEE PREVIOUS SHEET FOR PARKING STALL DETAIL.

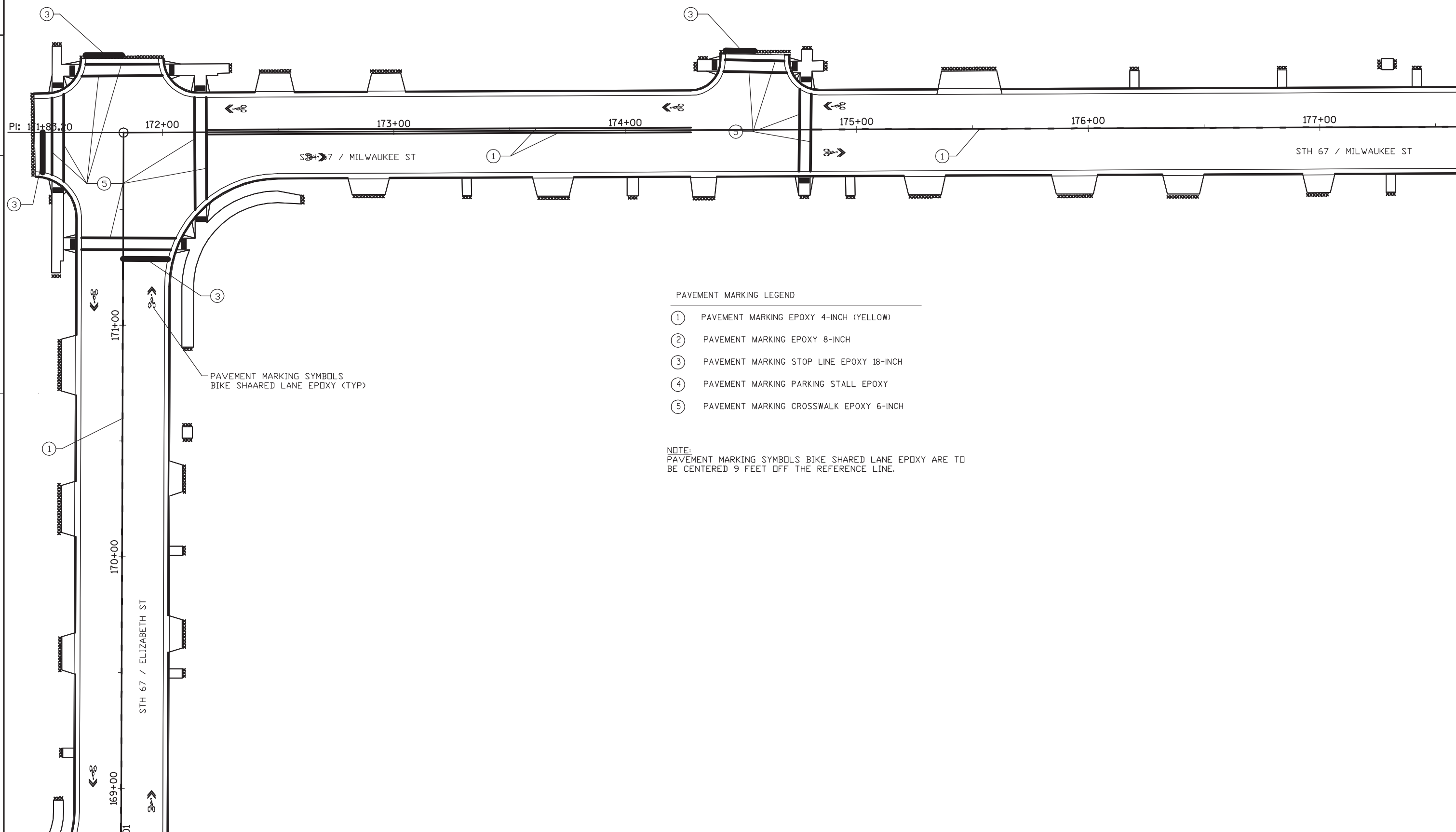
PAVEMENT MARKING SYMBOLS BIKE SHARED LANE EPOXY ARE TO BE CENTERED 9 FEET OFF THE REFERENCE LINE.

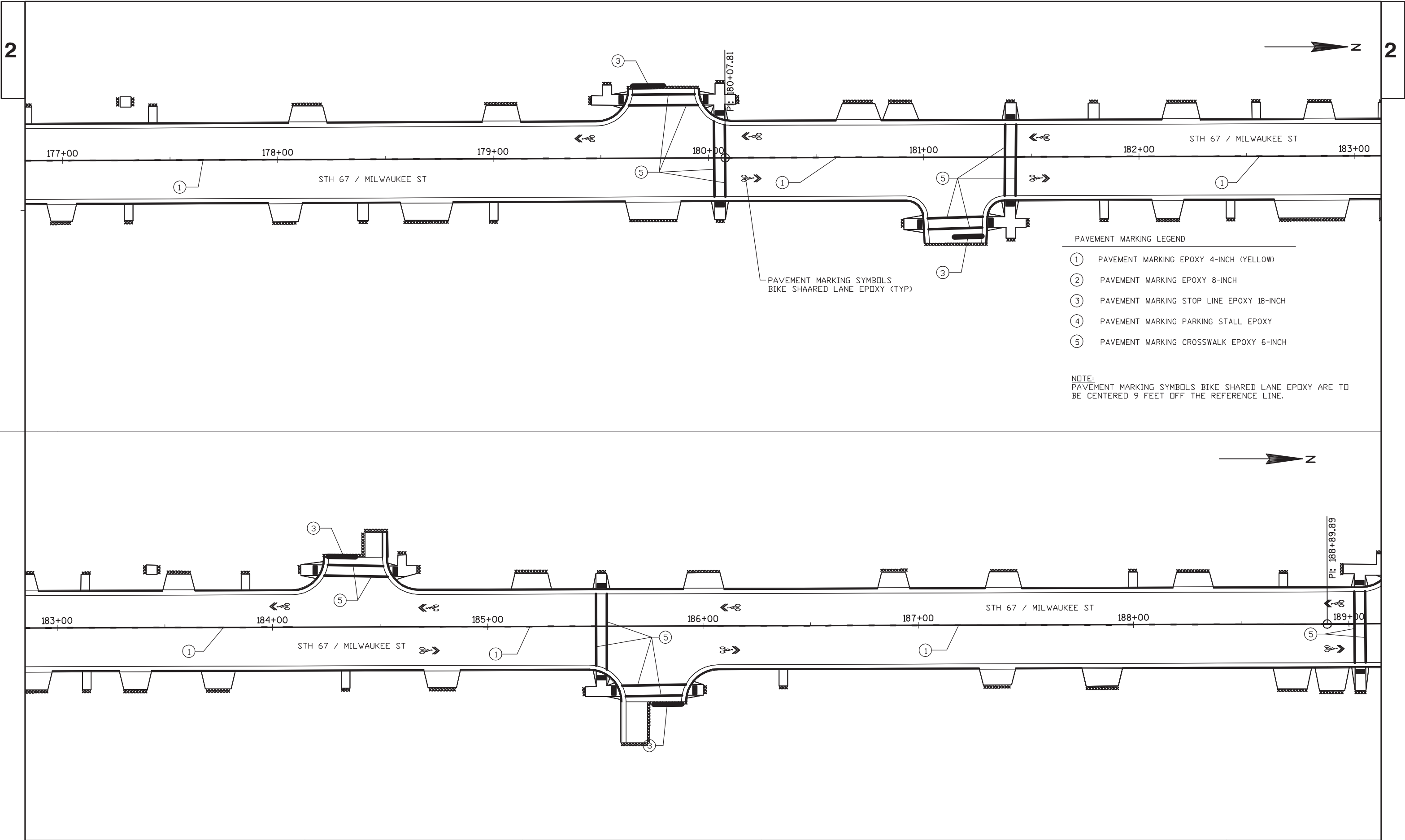
PAVEMENT MARKING LEGEND

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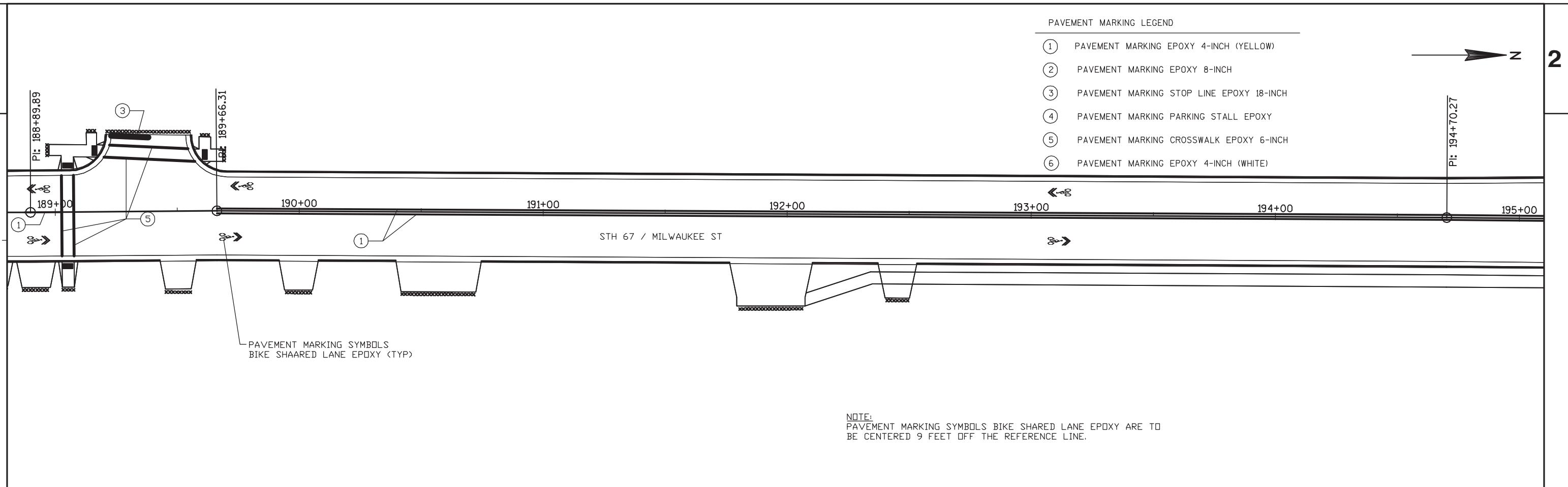
NOTE:
PAVEMENT MARKING SYMBOLS BIKE SHARED LANE EPOXY ARE TO
BE CENTERED 9 FEET OFF THE REFERENCE LINE.



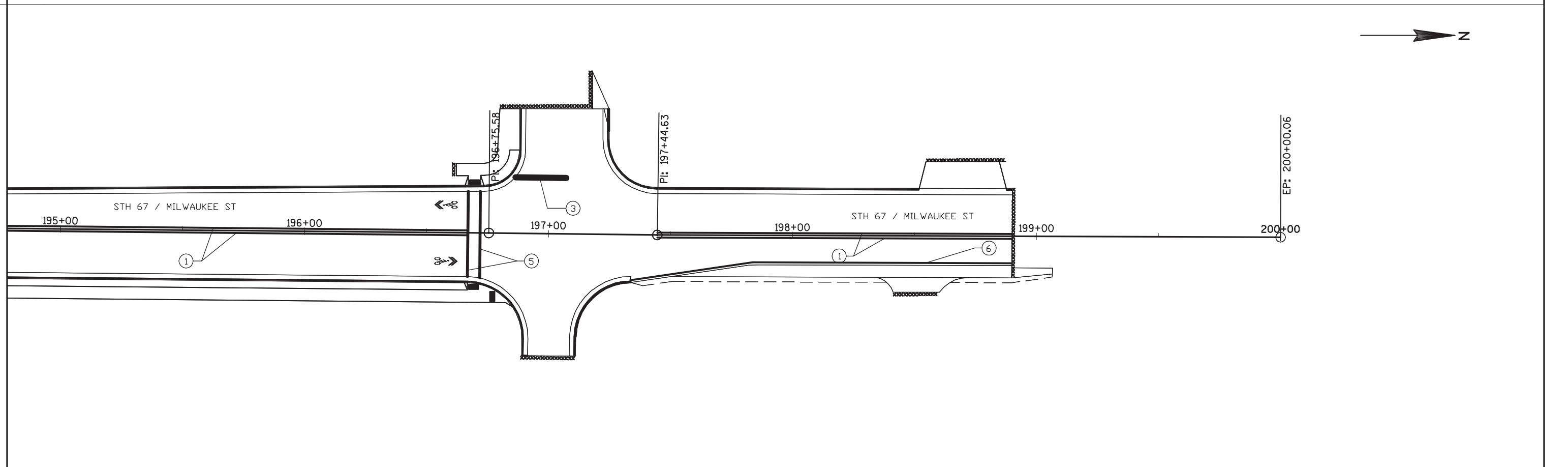




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PROJECT NO: 4560-05-71

HWY: STH 67

COUNTY: SHEBOYGAN

PLAN: PAVEMENT MARKING

SHEET 67

E

FILE NAME : L:\PROJECTS\11247\DWG\024501_PM.DWG

PLOT DATE : 9/25/2014 6:35 AM

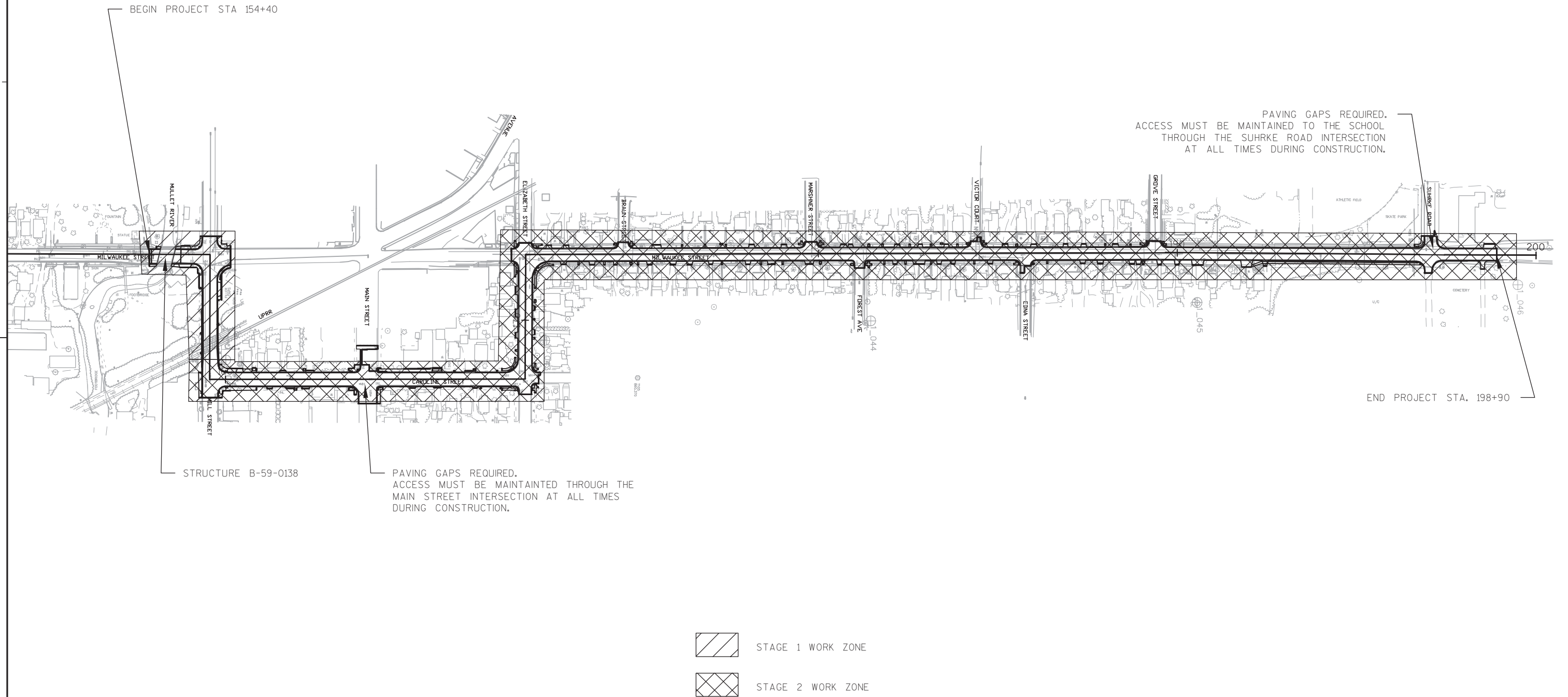
PLOT BY : MOYER, TIM

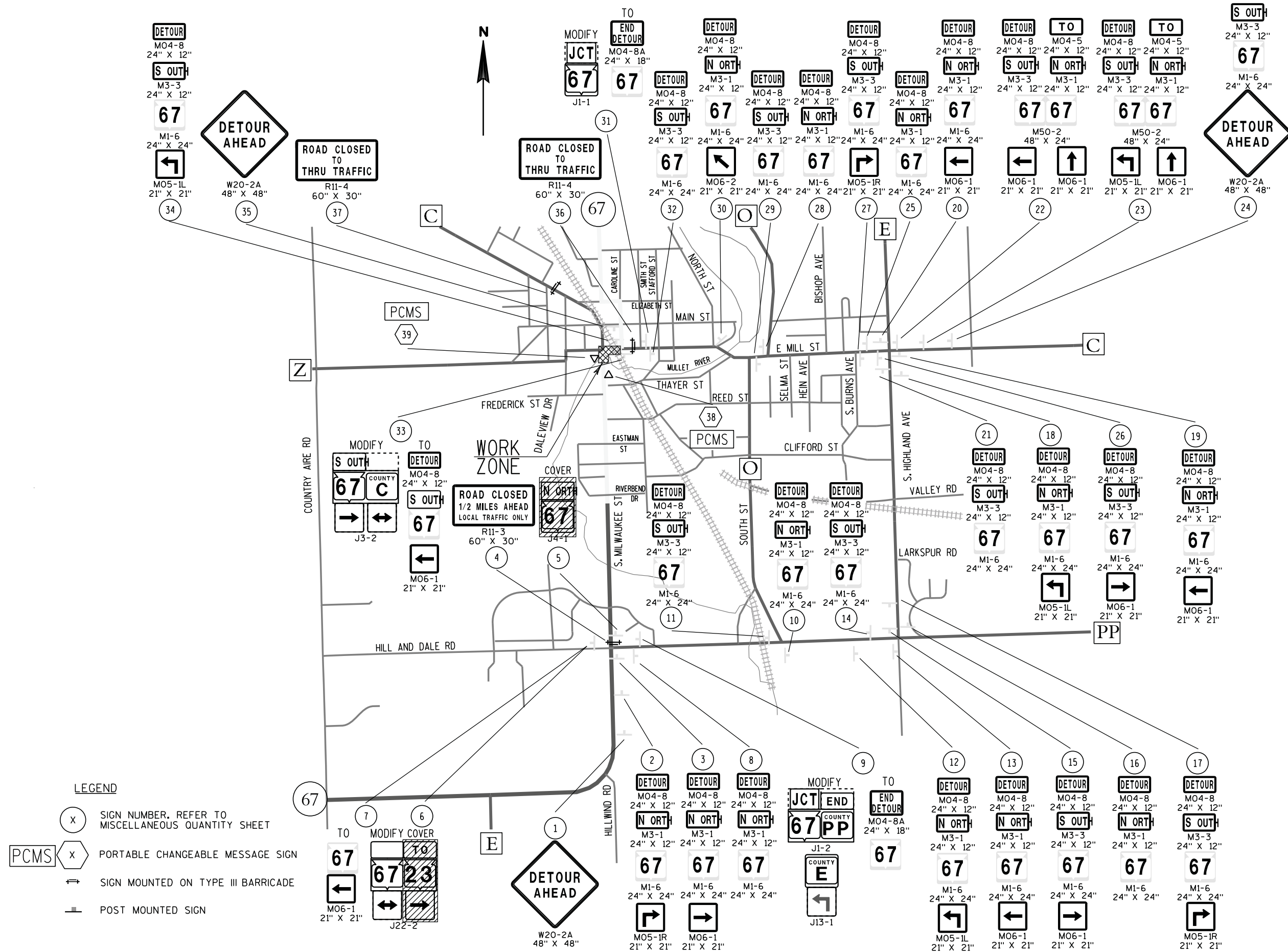
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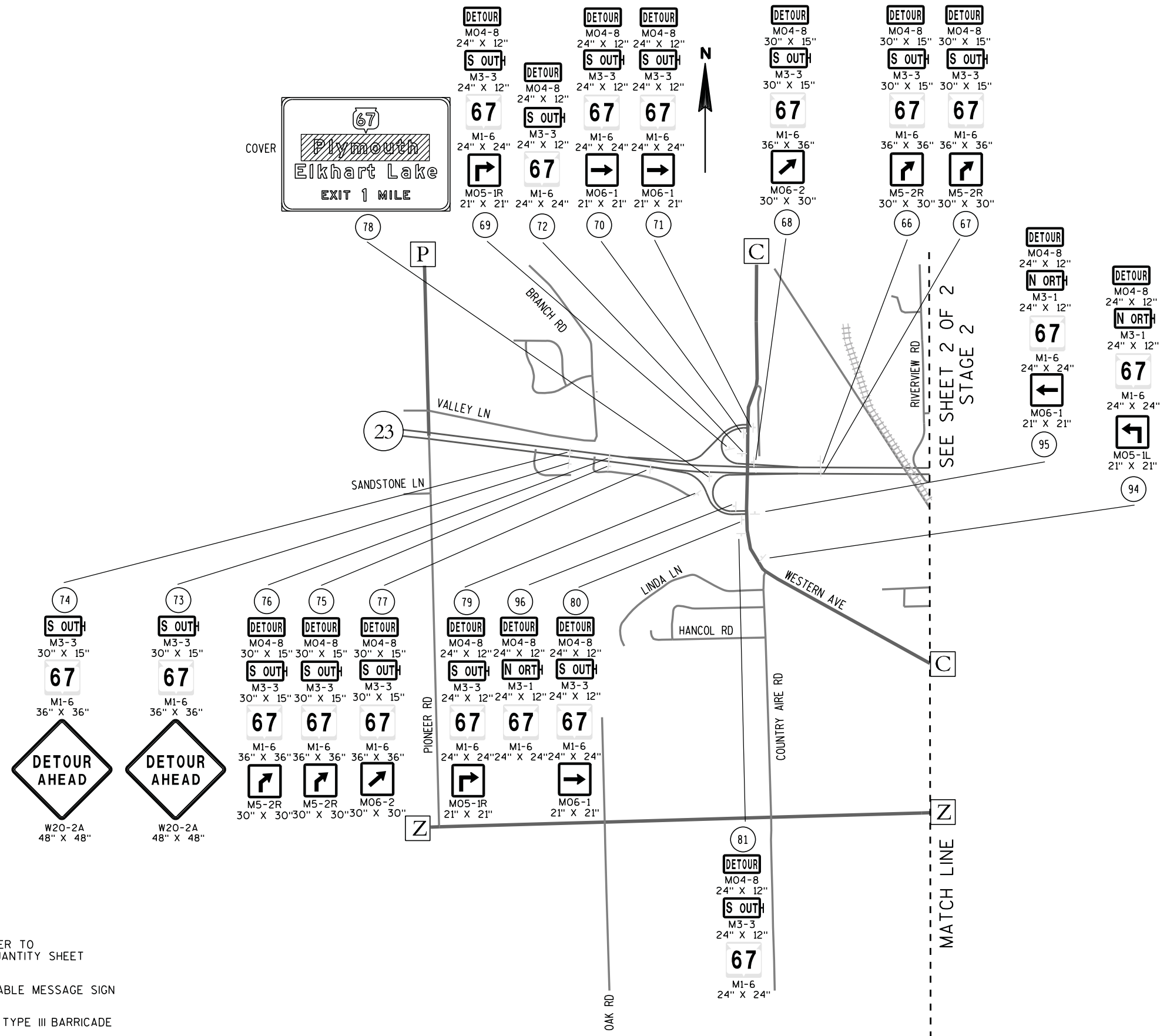
WISDOT/CADDs SHEET 42

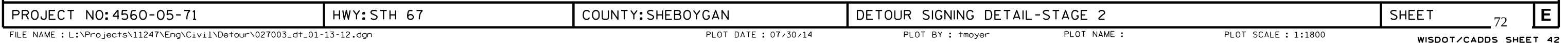
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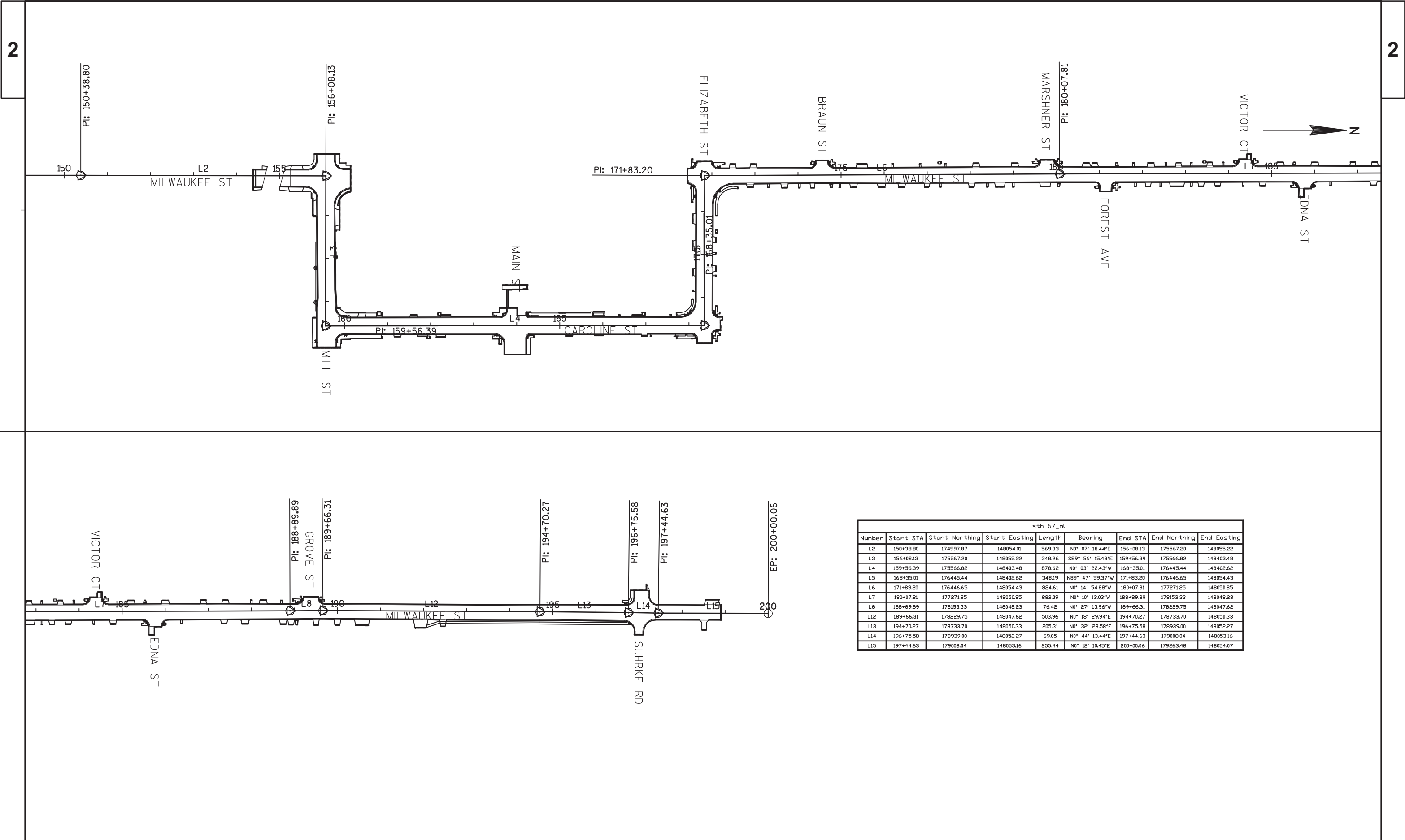
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DATE 08OCT14		E S T I M A T E O F Q U A N T I T I E S				
LINE					4560-05-71	4560-05-72
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	QUANTITY
0010	201.0105	CLEARING	STA	26.000	26.000	
0020	201.0205	GRUBBING	STA	26.000	26.000	
0030	204.0100	REMOVING PAVEMENT	SY	21,820.000	21,820.000	
0040	204.0110	REMOVING ASPHALTIC SURFACE	SY	215.000		215.000
0050	204.0150	REMOVING CURB & GUTTER	LF	41.000	41.000	
0060	204.0155	REMOVING CONCRETE SIDEWALK	SY	1,204.000	1,174.000	30.000
0070	204.0210	REMOVING MANHOLES	EACH	44.000	44.000	
0080	204.0220	REMOVING INLETS	EACH	21.000	21.000	
0090	204.0245	REMOVING STORM SEWER (SIZE) 01. 8-INCH	LF	111.000	111.000	
0100	204.0245	REMOVING STORM SEWER (SIZE) 02. 10-INCH	LF	264.000	264.000	
0110	204.0245	REMOVING STORM SEWER (SIZE) 03. 12-INCH	LF	1,453.000	1,453.000	
0120	204.0245	REMOVING STORM SEWER (SIZE) 04. 15-INCH	LF	338.000	338.000	
0130	204.0245	REMOVING STORM SEWER (SIZE) 05. 18-INCH	LF	288.000	288.000	
0140	204.0245	REMOVING STORM SEWER (SIZE) 06. 30-INCH	LF	54.000	54.000	
0150	204.0245	REMOVING STORM SEWER (SIZE) 07. 42-INCH	LF	94.000	94.000	
0160	204.0280	SEALING PIPES	EACH	1.000	1.000	
0170	205.0100	EXCAVATION COMMON	CY	15,297.000	15,297.000	
0180	205.0501.S	EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL	TON	1,710.000		1,710.000
0190	213.0100	FINISHING ROADWAY (PROJECT) 01. 4560-05-71	EACH	1.000	1.000	
0200	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	20.000	20.000	
0210	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	8,297.000	8,177.000	120.000
0220	311.0110	BREAKER RUN	TON	3,400.000	3,400.000	
0230	415.0080	CONCRETE PAVEMENT 8-INCH	SY	18,531.000	18,531.000	
0240	415.0210	CONCRETE PAVEMENT GAPS	EACH	12.000	12.000	
0250	415.0410	CONCRETE PAVEMENT APPROACH SLAB	SY	169.000	169.000	
0260	416.0160	CONCRETE DRIVEWAY 6-INCH	SY	1,013.000	1,013.000	
0270	416.0610	DRILLED TIE BARS	EACH	64.000	64.000	
0280	416.0620	DRILLED DOWEL BARS	EACH	174.000	174.000	
0290	440.4410.S	INCENTIVE IRI RIDE	DOL	3,340.000	3,340.000	
0300	455.0120	ASPHALTIC MATERIAL PG64-28	TON	3.000		3.000
0310	455.0605	TACK COAT	GAL	5.000		5.000
0320	460.1101	HMA PAVEMENT TYPE E-1	TON	47.000		47.000
0330	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	40.000		40.000
0340	465.0105	ASPHALTIC SURFACE	TON	3.000	3.000	
0350	465.0120	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	TON	3.000	3.000	
0360	492.2010.S	SEALING CRACKS AND JOINTS WITH HOT-APPLIED SEALANT	GAL	170.000	170.000	
0370	502.3200	PROTECTIVE SURFACE TREATMENT	SY	273.000	273.000	
0380	509.0301	PREPARATION DECKS TYPE 1	SY	50.000	50.000	
0390	509.0302	PREPARATION DECKS TYPE 2	SY	25.000	25.000	
0400	509.0500	CLEANING DECKS	SY	197.000	197.000	
0410	509.1500	CONCRETE SURFACE REPAIR	SF	6.000	6.000	
0420	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	16.000	16.000	
0430	520.8000	CONCRETE COLLARS FOR PIPE	EACH	7.000	7.000	
0440	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A	LF	8,508.000	8,508.000	
0450	601.0600	CONCRETE CURB PEDESTRIAN	LF	250.000	250.000	
0460	602.0405	CONCRETE SIDEWALK 4-INCH	SF	13,652.000	13,432.000	220.000
0470	602.0505	CURB RAMP DETECTABLE WARNING FIELD YELLOW	SF	472.000	472.000	
0480	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	906.000	906.000	

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DATE 08OCT14		E S T I M A T E O F Q U A N T I T I E S				4560-05-71	4560-05-72
LINE	NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	QUANTITY
	0490	608.0315	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	LF	157.000	157.000	
	0500	608.0318	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	LF	339.000	339.000	
	0510	608.0324	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	2,155.000	2,155.000	
	0520	608.0330	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH	LF	11.000	11.000	
	0530	608.0336	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH	LF	39.000	39.000	
	0540	608.0342	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 42-INCH	LF	156.000	156.000	
	0550	611.0530	MANHOLE COVERS TYPE J	EACH	18.000	18.000	
	0560	611.0624	INLET COVERS TYPE H	EACH	49.000	49.000	
	0570	611.1230	CATCH BASINS 2X3-FT	EACH	41.000	41.000	
	0580	611.2004	MANHOLES 4-FT DIAMETER	EACH	18.000	18.000	
	0590	611.2006	MANHOLES 6-FT DIAMETER	EACH	2.000	2.000	
	0600	611.2007	MANHOLES 7-FT DIAMETER	EACH	2.000	2.000	
	0610	611.2066	MANHOLES 6X6-FT	EACH	2.000	2.000	
	0620	611.3230	INLETS 2X3-FT	EACH	2.000	2.000	
	0630	619.1000	MOBILIZATION	EACH	1.000	1.000	
	0640	625.0100	TOPSOIL	SY	3,435.000	3,025.000	410.000
	0650	627.0200	MULCHING	SY	627.000	217.000	410.000
	0660	628.1504	SILT FENCE	LF	650.000	650.000	
	0670	628.1520	SILT FENCE MAINTENANCE	LF	650.000	650.000	
	0680	628.2008	EROSION MAT URBAN CLASS I TYPE B	SY	2,808.000	2,808.000	
	0690	628.7005	INLET PROTECTION TYPE A	EACH	45.000	45.000	
	0700	628.7015	INLET PROTECTION TYPE C	EACH	52.000	52.000	
	0710	628.7570	ROCK BAGS	EACH	30.000	30.000	
	0720	629.0210	FERTILIZER TYPE B	CWT	2.900	1.900	1.000
	0730	630.0140	SEEDING MIXTURE NO. 40	LB	62.400	54.400	8.000
	0740	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	23.000	23.000	
	0750	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	20.000	20.000	
	0760	637.2210	SIGNS TYPE II REFLECTIVE H	SF	327.110	327.110	
	0770	637.2230	SIGNS TYPE II REFLECTIVE F	SF	33.000	33.000	
	0780	638.2602	REMOVING SIGNS TYPE II	EACH	84.000	84.000	
	0790	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	37.000	37.000	
	0800	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000	
	0810	643.0300	TRAFFIC CONTROL DRUMS	DAY	11,800.000	11,800.000	
	0820	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	17,470.000	17,470.000	
	0830	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	25,060.000	25,060.000	
	0840	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	3,740.000	3,740.000	
	0850	643.0900	TRAFFIC CONTROL SIGNS	DAY	21,180.000	21,180.000	
	0860	643.0910	TRAFFIC CONTROL COVERING SIGNS TYPE I	EACH	14.000	14.000	
	0870	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	28.000	28.000	
	0880	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 4560-05-71	EACH	1.000	1.000	
	0890	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	24,280.000	24,280.000	
	0900	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	5,787.000	5,787.000	
	0910	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	200.000	200.000	
	0920	647.0110	PAVEMENT MARKING RAILROAD CROSSINGS EPOXY	EACH	2.000	2.000	
	0930	647.0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	EACH	3.000	3.000	
	0940	647.0176	PAVEMENT MARKING ARROWS EPOXY TYPE 3	EACH	4.000	4.000	

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DATE 08OCT14		E S T I M A T E O F Q U A N T I T I E S				4560-05-71	4560-05-72
LINE	NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	QUANTITY
	0950	647.0336	PAVEMENT MARKING SYMBOLS BIKE SHARED LANE EPOXY	EACH	38.000	38.000	
	0960	647.0356	PAVEMENT MARKING WORDS EPOXY	EACH	1.000	1.000	
	0970	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	405.000	405.000	
	0980	647.0656	PAVEMENT MARKING PARKING STALL EPOXY	LF	237.000	237.000	
	0990	647.0766	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	LF	2,256.000	2,256.000	
	1000	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	67.000	67.000	
	1010	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	4,440.000	4,440.000	
	1020	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	1,405.000	1,405.000	
	1030	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	4,440.000	4,440.000	
	1040	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	4,440.000	4,440.000	
	1050	690.0150	SAWING ASPHALT	LF	370.000		370.000
	1060	690.0250	SAWING CONCRETE	LF	1,062.000	992.000	70.000
	1070	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	1,090.000	1,090.000	
	1080	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR	HRS	2,000.000	2,000.000	
	1090	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR	HRS	1,320.000	1,320.000	
	1100	SPV.0060	SPECIAL 01. HYDRANT	EACH	8.000		8.000
	1110	SPV.0060	SPECIAL 02. GATE VALVE AND VALVE BOX 6-INCH	EACH	8.000		8.000
	1120	SPV.0060	SPECIAL 03. GATE VALVE AND VALVE BOX 8-INCH	EACH	11.000		11.000
	1130	SPV.0060	SPECIAL 04. GATE VALVE AND VALVE BOX 10-INCH	EACH	2.000		2.000
	1140	SPV.0060	SPECIAL 05. GATE VALVE AND VALVE BOX 12-INCH	EACH	20.000		20.000
	1150	SPV.0060	SPECIAL 06. SANITARY MANHOLE FRAME AND LID	EACH	6.000		6.000
	1160	SPV.0060	SPECIAL 07. SANITARY MANHOLE INTERNAL SEAL	EACH	21.000		21.000
	1170	SPV.0060	SPECIAL 08. ADJUSTING SANITARY MANHOLE COVERS	EACH	13.000		13.000
	1180	SPV.0060	SPECIAL 09. REMOVING SANITARY MANHOLES	EACH	2.000		2.000
	1190	SPV.0060	SPECIAL 10. SANITARY MANHOLE OUTSIDE DROP 6-INCH	EACH	1.000		1.000
	1200	SPV.0060	SPECIAL 11. SANITARY MANHOLE OUTSIDE DROP 8-INCH	EACH	1.000		1.000
	1210	SPV.0060	SPECIAL 12. SANITARY MANHOLE OUTSIDE DROP 12-INCH	EACH	1.000		1.000
	1220	SPV.0060	SPECIAL 13. BENTONITE TRENCH DAM SPECIAL	EACH	4.000		4.000
	1230	SPV.0060	SPECIAL 14. ADJUSTING WATER VALVE BOXES	EACH	1.000		1.000
	1240	SPV.0075	SPECIAL 01. STREET SWEEPING	HRS	50.000	50.000	
	1250	SPV.0090	SPECIAL 01. HNDRANT LEAD 6-INCH PVC	LF	80.000		80.000
	1260	SPV.0090	SPECIAL 02. WATER SERVICE LATERAL 1-INCH HDPE	LF	1,990.000		1,990.000
	1270	SPV.0090	SPECIAL 03. WATERMAIN 4-INCH PVC GRANULAR BACKFILL	LF	85.000		85.000
	1280	SPV.0090	SPECIAL 04. WATERMAIN 6-INCH PVC GRANULAR BACKFILL	LF	10.000		10.000
	1290	SPV.0090	SPECIAL 05. WATERMAIN 8-INCH PVC GRANULAR BACKFILL	LF	250.000		250.000
	1300	SPV.0090	SPECIAL 06. WATERMAIN 10-INCH PVC GRANULAR BACKFILL	LF	60.000		60.000
	1310	SPV.0090	SPECIAL 07. WATERMAIN 12-INCH PVC GRANULAR BACKFILL	LF	3,880.000		3,880.000

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DATE 08OCT14			E S T I M A T E O F Q U A N T I T I E S			
LINE					4560-05-71	4560-05-72
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	QUANTITY
1320	SPV.0090	SPECIAL 08. WATERMAIN 10-INCH DUCTILE IRON GRANULAR BACKFILL	LF	30.000		30.000
1330	SPV.0090	SPECIAL 09. WATERMAIN 12-INCH DUCTILE IRON GRANULAR BACKFILL	LF	310.000		310.000
1340	SPV.0090	SPECIAL 10. SANITARY SEWER 8-INCH PVC GRANULAR BACKFILL	LF	240.000		240.000
1350	SPV.0090	SPECIAL 11. SANITARY SEWER 12-INCH PVC GRANULAR BACKFILL	LF	1,695.000		1,695.000
1360	SPV.0090	SPECIAL 12. SANITARY SEWER LATERAL 6-INCH PVC GRANULAR BACKFILL	LF	1,830.000		1,830.000
1370	SPV.0090	SPECIAL 13. SANITARY SEWER TELEVISIONING	LF	1,935.000		1,935.000
1380	SPV.0105	SPECIAL 01. CONCRETE JOINT LAYOUT	LS	1.000	1.000	
1390	SPV.0105	SPECIAL 02. RAILING STEEL TYPE C1 GALVANIZED SIDEWALK	LS	1.000	1.000	
1400	SPV.0120	SPECIAL 01. WATER FOR SEEDED AREAS	MGAL	70.000	70.000	
1410	SPV.0120	SPECIAL 02. WATER FOR DUST CONTROL	MGAL	800.000	800.000	
1420	SPV.0200	SPECIAL 01. SANITARY MANHOLE 4-FT	VF	73.000		73.000

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CLEARING AND GRUBBING			
		ITEM NO. 201.0105 CLEARING	ITEM NO. 201.0205 GRUBBING
LOCATION	DESCRIPTION	STA	STA
STA. 165+00 TO 168+00 RT	CAROLINE ST	1	1
STA. 173+00 TO 184+00 LT	N. MILWAUKEE ST	11	11
STA. 173+00 TO 183+00 RT	N. MILWAUKEE ST	10	10
STA. 186+00 TO 187+00 LT	N. MILWAUKEE ST	1	1
STA. 184+00 TO 187+00 RT	N. MILWAUKEE ST	3	3
Total		26	26

REMOVING PAVEMENT, ITEM NO. 204.0100		
LOCATION	DESCRIPTION	S.Y.
STA 154+40 - STA 156+50	S. MILWAUKEE ST	1232
STA 156+50 - STA 160+00	MILL ST	1943
STA 160+00 - STA 168+90	CAROLINE ST	4622
STA 168+90 - STA 172+50	ELIZABETH ST	1205
STA 172+50 - STA 198+90	N. MILWAUKEE ST	12818
Total		21820

REMOVING CURB AND GUTTER, ITEM NO. 204.0150		
LOCATION	DESCRIPTION	LF
STA 155+08 - STA 159+56	S. MILWAUKEE ST	0
STA 159+56 - STA 168+35	MILL ST	0
STA 168+35 - STA 171+83	CAROLINE ST	10
STA 171+83 - STA 185+00	ELIZABETH ST	0
STA 185+00 - STA 198+90	N. MILWAUKEE ST	31
TOTAL		41

REMOVING CONCRETE SIDEWALK, ITEM NO. 204.0155		
LOCATION	DESCRIPTION	SY
STA 155+08 - STA 159+56	S. MILWAUKEE ST	211
STA 159+56 - STA 168+35	MILL ST	92
STA 168+35 - STA 171+83	CAROLINE ST	528
STA 171+83 - STA 185+00	ELIZABETH ST	8
STA 185+00 - STA 198+90	N. MILWAUKEE ST	335
TOTAL		1174

REMOVING MANHOLES, ITEM NO. 204.0210		
LOCATION	DESCRIPTION	EACH
STA 156+08	INTERSECTION	7
STA 159+56	INTERSECTION	2
STA 160+25	CENTER	1
STA 161+75	CNTR, LT	2
STA 163+75	LT, RT	2
STA 164+00	CENTER	1
STA 168+35	INTERSECTION	6
STA 171+00	CENTER	1
STA 171+83	INTERSECTION	4
STA 174+50	CENTER	1
STA 177+10	CENTER	1
STA 179+80	CENTER	1
STA 181+00	RT	2
STA 182+85	CENTER	1
STA 184+45	CNTR, RT	2
STA 185+70	RT	1
STA 187+90	CENTER	1
STA 189+50	CENTER	1
STA 189+95	CENTER	1
STA 191+10	CENTER	1
STA 194+00	CENTER	1
STA 195+00	LT	1
STA 196+80	LT	3
TOTAL		44

ALL ITEMS ON THIS SHEET ARE CATEGORY CODE 0010 UNLESS OTHERWISE NOTED.

REMOVING INLETS, ITEM NO. 204.0220		
LOCATION	DESCRIPTION	EACH
STA 156+08	INTERSECTION	8
STA 160+25	LT, RT	2
STA 164+25	LT, RT	2
STA 168+35	INTERSECTION	3
STA 168+95	LT	1
STA 172+25	LT	1
STA 172+55	RT	1
STA 197+00	INTERSECTION	3
TOTAL		21

REMOVING STORM SEWER AND SEALING PIPES									
LOCATION	DESCRIPTION	ITEM NO. 204.0245.01	ITEM NO. 204.0245.02	ITEM NO. 204.0245.03	ITEM NO. 204.0245.04	ITEM NO. 204.0245.05	ITEM NO. 204.0245.06	ITEM NO. 204.0245.07	ITEM NO. 204.0280 SEALING PIPES EACH
		REMOVING STORM SEWER							
		8-INCH LF	10-INCH LF	12-INCH LF	15-INCH LF	18-INCH LF	30-INCH LF	42-INCH LF	
STA 154+40 - STA 156+50	S. MILWAUKEE ST	---	---	69	---	87	54	94	---
STA 156+50 - STA 160+00	MILL ST	---	---	264	338	---	---	---	---
STA 160+00 - STA 168+90	CAROLINE ST	13	264	750	---	---	---	---	1
STA 168+90 - STA 172+50	ELIZABETH ST	---	---	316	---	---	---	---	---
STA 172+50 - STA 198+90	N. MILWAUKEE ST	98	---	54	---	201	---	---	---
TOTAL		111	264	1453	338	288	54	94	1

EXCAVATION, HAULING AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL, ITEM NO. 205.0501.S *		
CATEGORY CODE 0040		
LOCATION	DESCRIPTION	TONS
MILL / MILWAUKEE INTERSECTION	20' NORTH OF INTERSECTION CENTER TO CONSTRUCTION LIMITS THE WIDTH OF THE MILWAUKEE STREET RIGHT OF WAY	110
TOTAL		110 *

* - ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

EARTHWORK SUMMARY TABLE												
Division	From / To Station	Location	Common Excavation (Item # 205.0100)		Salvaged / Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate + / - (14)	Waste	Borrow	Comment:
			Cut (2)	EBS Excavation (3)				Factor 1.33				
1	155+09 - 159+00	MILWAUKEE / MILL	1195	150	512	683	25	-127	810	810	0	
Division 1 Subtotal			1195	150	512	683	25	-127	810	810	0	
2	159+00 - 168+00	MILL / CAROLINE	3111	330	1149	1962	94	-226	2188	2188	0	
	168+00 - 171+50	ELIZABETH	1303	130	448	855	46	-20687	21542	21542	0	
	171+50 - 198+90	MILWAUKEE	8068	1010	3001	5067	373	-160700	165767	165767	0	
Division 2 Subtotal			12482	1470	4598	7884	513	-181613	189497	189497	0	
Grand Total			13677	1620	5110	8567	538	-181740	190307	190307	0	
Total Common Exc 15297												
1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100 2) Salvaged/Unusable Pavement Material is included in Cut. 3) EBS Excavation to be backfilled with Breaker Run. 4) Salvaged/Unusable Pavement Material 5) Available Material = Cut - Salvaged/Unusable Pavement Material 13) Expanded Fill. Factor = 1.33												
Depending on selections: Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced EBS) * Fill Factor Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh) * Fill Factor Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor) * Fill Factor 14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.												

ALL ITEMS ON THIS SHEET ARE CATEGORY CODE 0010 UNLESS OTHERWISE NOTED.

3

BASE AGGREGATE DENSE AND BREAKER RUN				
LOCATION	DESCRIPTION	ITEM NO. 305.0110 BASE AGGREGATE DENSE 3/4-INCH TONS	ITEM NO. 305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TONS	ITEM NO. 305.0120 BREAKER RUN TONS
STA 154+40 - STA 156+50	S. MILWAUKEE ST	0	460	60
STA 156+50 - STA 160+00	MILL ST	0	681	250
STA 160+00 - STA 168+90	CAROLINE ST	0	1731	695
STA 168+90 - STA 172+50	ELIZABETH ST	0	440	275
STA 172+50 - STA 198+90	N. MILWAUKEE ST	20	4725	2120
STA 154+40 - STA 156+50	DRIVEWAYS	0	20	0
STA 156+50 - STA 160+00	DRIVEWAYS	0	26	0
STA 160+00 - STA 168+90	DRIVEWAYS	0	44	0
STA 168+90 - STA 172+50	DRIVEWAYS	0	25	0
STA 172+50 - STA 198+90	DRIVEWAYS	0	25	0
TOTALS		20	8177	3400
QUANTITY OF BREAKER RUN IS ESTIMATED BASED UPON 25% OF PROJECT LENGTH AT 12-INCH DEPTH. EXACT LOCATIONS TO BE DETERMINED BY ENGINEER IN THE FIELD.				

CONCRETE PAVEMENT							
LOCATION	DESCRIPTION	ITEM NO. 415.0800 CONCRETE PAVEMENT 8-INCH S.Y.	ITEM NO. 416.0620 DRILLED DOWEL BARS EACH	ITEM NO. 416.0610 DRILL TIE BARS EACH	ITEM NO. 415.0410 CONCRETE PAVEMENT APPROACH SLABS SY	ITEM NO. 415.0210 CONCRETE PAVEMENT GAPS EACH	ITEM NO. 492.2010.S SEALING CRACKS/JOINTS WITH HOT APPLIED SEALANT CATEGORY CODE 0040 GAL
STA 154+40 - STA 156+50	S. MILWAUKEE ST	967	37	8	169	2	9
STA 156+50 - STA 160+00	MILL ST	1605	13	4	---	2	15
STA 160+00 - STA 168+90	CAROLINE ST	4077	34	16	---	4	37
STA 168+90 - STA 172+50	ELIZABETH ST	1005	---	---	---	---	9
STA 172+50 - STA 198+90	N. MILWAUKEE ST	10877	90	36	---	4	100
TOTALS		18531	174	64	169	12	170

CONCRETE DRIVEWAY 6-INCH, ITEM NO. 416.0160		
LOCATION	DESCRIPTION	SY
STA 154+40 - STA 156+50	S. MILWAUKEE ST	57
STA 156+50 - STA 160+00	MILL ST	74
STA 160+00 - STA 168+90	CAROLINE ST	124
STA 168+90 - STA 172+50	ELIZABETH ST	70
STA 172+50 - STA 198+90	N. MILWAUKEE ST	688
TOTALS		1013

ASPHALTIC SURFACE, ITEM NO. 465.0105		
LOCATION	DESCRIPTION	TONS
196+75 - 198+90, RT	MILWAUKEE ST, RIGHT SHOULDE	3
TOTALS		3

ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES, ITEM NO. 465.0120		
LOCATION	DESCRIPTION	TONS
STA 156+50 - STA 160+00	MILL ST	3
TOTALS		3

CONCRETE CURB PEDESTRIAN AND CONCRETE CURB AND GUTTER 30-INCH TYPE A			
LOCATION	DESCRIPTION	ITEM NO. 601.0409 CONCRETE CURB AND GUTTER 30-INCH TYPE A L.F.	ITEM NO. 601.0600 CONCRETE CURB PEDESTRIAN L.F.
STA 154+40 - STA 156+50	S. MILWAUKEE ST	351	116
STA 156+50 - STA 160+00	MILL ST	675	--
STA 160+00 - STA 168+90	CAROLINE ST	1736	134
STA 168+90 - STA 172+50	ELIZABETH ST	502	--
STA 172+50 - STA 198+90	N. MILWAUKEE ST	5244	--
TOTALS		8508	250

CONCRETE SIDEWALK 4-INCH, ITEM NO. 602.0405 *		
LOCATION		S.F.
STA 154+40 - STA 156+50	S. MILWAUKEE ST	2098
STA 156+50 - STA 160+00	MILL ST	914
STA 160+00 - STA 168+90	CAROLINE ST	4719
STA 168+90 - STA 172+50	ELIZABETH ST	358
STA 172+50 - STA 198+90	N. MILWAUKEE ST	5343
TOTALS		13432

* ADDITIONAL QUANTITIES ELSEWHERE

ALL ITEMS ON THIS SHEET ARE CATEGORY CODE 0010 UNLESS OTHERWISE NOTED.

3

STORM SEWER PIPE SUMMARY															
PIPE NUMBER	FROM	TO	ITEM NO. 520.8000	ITEM NO. 608.0312	ITEM NO. 608.0315	ITEM NO. 608.0318	ITEM NO. 608.0324	ITEM NO. 608.033	ITEM NO. 608.0336	ITEM NO. 608.0342	INVERT ELEVATION	DISCHARGE ELEVATION	PIPE SLOPE %	COMMENTS	
			CONCRETE COLLAR FOR PIPE EACH	STORM SEWER PIPE REINFORCED CONCRETE CLASS III											
				12-INCH L.F.	15-INCH L.F.	18-INCH L.F.	24-INCH L.F.	30-INCH L.F.	36-INCH L.F.	42-INCH L.F.					
P11	INL11	EW10		---	---	---	---	---	---	60	816.62	816.02	1.00%		
P12	INL12	INL11		43	---	---	---	---	---	---	819.76	819.10	1.53%		
P13	MH13	INL11		---	---	---	---	---	---	35	817.17	816.67	1.43%		
P14	INL14	MH13		---	---	64	---	---	---	---	820.18	819.78	0.62%		
P15	INL15	INL14		---	---	45	---	---	---	---	820.68	820.25	0.96%		
P15X	CT4	INL15		9	---	---	---	---	---	---	820.83	820.74	1.00%		
P16	MH	MH13	1	---	---	---	---	---	---	61	818.52	817.17	2.25%		
P16B	EXISTING	MH16	1	---	---	---	---	11	---	---	821.41	819.60	16.59%		
P17	INL17	MH16		49	---	---	---	---	---	---	820.30	819.82	0.98%		
P18	INL18	MH16		33	---	---	---	---	---	---	820.14	819.88	0.79%		
P18A	INL18A	INL18		18	---	---	---	---	---	---	820.24	820.14	0.56%		
P19	INL19	MH13		28	---	---	---	---	---	---	820.82	820.50	1.14%		
P20	MH20	MH13		---	---	---	338	---	---	---	825.36	818.25	2.10%		
P21	INL21	MH20		11	---	---	---	---	---	---	828.59	828.41	1.64%		
P22	INL22	MH20		47	---	---	---	---	---	---	829.77	828.72	2.23%		
P23	MH23	MH20		---	---	---	67	---	---	---	827.77	825.97	2.69%		
P24	INL24	MH23		32	---	---	---	---	---	---	829.33	828.74	1.84%		
P24A	INL24A	INL24		15	---	---	---	---	---	---	829.33	828.83	3.33%		
P25	INL25	MH23		9	---	---	---	---	---	---	830.81	828.55	25.11%		
P25A	INL25A	INL25		14	---	---	---	---	---	---	830.81	830.31	3.57%		
P26	MH26	MH23		---	---	---	161	---	---	---	832.39	828.20	2.60%		
P27	INL27	MH28		52	---	---	---	---	---	---	840.86	838.58	4.38%		
P28	MH28	EXISTING	1	---	8	---	---	---	---	---	837.00	836.92	1.00%		
P29	INL29	MH28		---	---	---	53	---	---	---	837.80	837.17	1.19%		
P30	MH30	INL29		---	---	---	50	---	---	---	838.50	837.90	1.20%		
P31	INL31	MH30		50	---	---	---	---	---	---	840.00	839.24	1.52%		
P32	INL32	INL31		54	---	---	---	---	---	---	841.20	840.40	1.48%		
P33	MH33	MH30		---	---	---	57	---	---	---	839.30	838.74	0.98%		
P34	INL34	MH33		32	---	---	---	---	---	---	841.03	840.66	1.16%		
P35	INL35	MH33		6	---	---	---	---	---	---	840.47	840.35	2.00%		
P37	MH37	MH33		---	---	---	363	---	---	---	842.30	839.40	0.80%		
P38	INL38	MH37		---	---	8	---	---	---	---	843.00	842.93	0.88%		
P39	INL39	INL38		---	---	22	---	---	---	---	843.21	843.04	0.77%		
P40	INL40	INL39		36	---	---	---	---	---	---	845.00	844.36	1.78%		
P41	INL41	INL40		22	---	---	---	---	---	---	846.45	846.23	1.00%		
P42	MH42	MH37		---	---	---	62	---	---	---	843.88	843.00	1.42%		
P43	INL43	MH42		34	---	---	---	---	---	---	846.00	845.38	1.82%		
P44	INL44	INL43		28	---	---	---	---	---	---	846.56	846.10	1.64%		
P45	INL45	MH42		17	---	---	---	---	---	---	845.50	845.11	2.29%		
P46	MH46	MH42		---	---	---	284	---	---	---	847.55	844.15	1.20%		
P47	MH47	MH46		---	---	---	74	---	---	---	850.09	849.06	1.39%		
P48	INL48	INL49		10	---	---	---	---	---	---	852.25	852.15	1.00%		
P49	INL49	MH47		---	33	---	---	---	---	---	852.00	851.03	2.94%		
P51	INL51	INL50		9	---	---	---	---	---	---	854.15	853.72	4.78%		
P52	MH52	MH47		---	---	---	246	---	---	---	859.02	850.63	3.41%		
P52A	INL52A	MH52		6	---	---	---	---	---	---	860.43	860.29	2.33%		
P53	INL53	MH52		31	---	---	---	---	---	---	860.60	860.22	1.23%		
P54	MH54	MH52		---	---	---	400	---	---	---	863.06	856.09	1.74%		
P54A	INL54A	MH54		6	---	---	---	---	---	---	865.00	864.86	2.33%		
P55	INL55	MH54		31	---	---	---	---	---	---	864.55	864.17	1.23%		
P56	INL56	MH57		27	---	---	---	---	---	---	870.00	869.67	1.22%		
P57	MH57	MH60		---	55	---	---	---	---	---	869.40	868.31	1.98%		
P58	INL58	MH57		10	---	---	---	---	---	---	870.00	869.84	1.60%		
P59	MH59	EXISTING	1	---	---	49	---	---	---	---	868.01	867.70	0.63%		
P60	MH60	MH61		---	---	121	---	---	---	---	867.46	866.38	0.89%		
P61	MH61	EXISTING	1	---	---	30	---	---	---	---	866.33	866.05	0.93%		
P63	INL63	INL64		9	---	---	---	---	---	---	846.34	846.00	3.78%		
P65	INL65	INL66		9	---	---	---	---	---	---	846.35	846.00	3.89%		
P66	INL66	INL64		---	---	---	---	---	39	---	838.50	838.50	0.00%		
P68	INL68	MH67		14	---	---	---	---	---	---	842.76	842.66	0.71%		
P69	INL69	INL68		38	---	---	---	---	---	---	843.20	842.82	1.00%		
P70	INL70	MH71		11	---	---	---	---	---	---	843.08	842.97	1.00%		
P70A	INL70A	INL70		23	---	---	---	---	---	---	843.18	843.08	0.43%		
P71	MH71	EXISTING	1	23	---	---	---	---	---	---	842.88	842.71	0.74%		
P72	INL72	MH71		---	30	---	---	---	---	---	843.02	842.88	0.47%		
P72A	INL72A	INL72		6	---	---	---	---	---	---	843.12	843.02	1.67%		
P73	INL73	INL72		---	31	---	---	---	---	---	843.23	843.03	0.65%		
P75	P26A	MH26	1	4	---	---	---	---	---	---	833.34	833.05	7.25%		
TOTALS			7	906	157	339	2155	11	39	156					

ALL ITEMS ON THIS SHEET ARE CATEGORY CODE 0010 UNLESS OTHERWISE NOTED.

DRAINAGE STRUCTURES, CONTINUED									
STRUCTURE NUMBER	STATION	OFFSET	STRUCTURE	TYPE	COVER TYPE	RIM OR RIM/FLANGE ELEVATION	STRUCTURE INVERT ELEVATION	DEPTH	REMARKS
MH11	155+60.19	25.5 RT	MH	6-FT DIA.	H	823.85	816.62	6.06	
CB12	155+60.19	14.5 LT	CB	2 X 3	H	824.07	819.76	3.14	
CB14	155+85.43	37.2 LT	CB	2 X 3	H	824.12	820.18	2.77	
CB15	SEE REMARKS		CB	2 X 3	H	824.08	820.68	2.23	N: 175589.14, E: 148015.01
MH13	156+33.41	13.63 RT	MH	6 X 6	J	824.53	817.17	5.97	
MH16	156+38.95	46.2 LT	MH	7-FT DIA.	H	824.62	818.52	4.93	FLAT TOP WITH TYPE H COVER
CB17	SEE REMARKS		CB	2 X 3	H	824.44	820.30	2.97	N: 175618.19, E: 148038.91
CB19	156+60.15	20.5 RT	CB	2 X 3	H	824.68	820.82	2.69	
CB18	156+62.96	23.1 LT	CB	2 X 3	H	824.62	820.14	3.31	
CB18A	156+80.14	20.5 LT	CB	2 X 3	H	824.89	820.24	3.48	
MH20	SEE REMARKS		MH	6-FT DIA.	J	833.80	825.36	7.05	N: 175555.36, E: 148418.17
CB21	SEE REMARKS		CB	2 X 3	H	833.64	828.59	3.88	N:175546.31, E: 148417.48
CB22	159+79.96	44.11 RT	CB	2 X 3	H	833.75	829.77	2.81	
MH23	160+12.00	11.66 RT	MH	4-FT DIA.	J	834.08	827.77	4.92	
CB24	160+12.00	19.5 LT	CB	2 X 3	H	833.61	828.83	3.61	
CB24A	160+26.44	19.5 LT	CB	2 X 3	H	833.93	829.33	3.43	
CB 25	160+12.00	19.5 RT	CB	2 X 3	H	833.96	830.31	2.48	
CB25A	160+26.44	19.5 RT	CB	2 X 3	H	834.34	830.81	2.36	
MH26	161+72.97	12.24 RT	MH	4-FT DIA.	J	837.71	832.39	3.93	
CB27	164+25.69	89.37 LT	CB	2 X 3	H	845.28	840.86	3.25	
MH28	163+74.05	89.25 LT	MH	4-FT DIA.	J	844.71	837.00	6.32	
MH29	163+77.06	36.87 LT	MH	4-FT DIA.	H	843.70	837.80	4.73	
MH30	163+84.30	12.48 RT	MH	4-FT DIA.	J	844.51	838.50	4.62	
CB31	163+71.34	59.51 RT	MH	4-FT DIA.	H	844.83	840.00	3.66	
CB32	164+22.31	59.51 RT	CB	2 X 3	H	845.38	841.20	3.01	
MH33	164+40.42	12.58 RT	MH	4-FT DIA.	J	845.55	839.30	4.86	
CB34	164+40.42	19.5 LT	CB	2 X 3	H	845.44	841.03	3.24	
CB35	164+40.42	19.5 RT	CB	2 X 3	H	845.40	840.47	3.76	
MH37	168+03.40	13.19 RT	MH	4-FT DIA.	J	848.93	842.30	5.24	
CB38	168+03.39	19.5 RT	CB	2 X 3	H	848.81	843.00	4.64	
MH39	168+18.36	36.5 RT	MH	4-FT DIA.	H	848.81	843.21	4.43	
CB40	SEE REMARKS		CB	2 X 3	H	849.43	845.00	3.26	N: 176464.04, E: 148439.36
CB41	SEE REMARKS		CB	2 X 3	H	849.58	846.45	1.96	N: 176467.50, E: 148418.04
CB44	168+54.44	39.58 RT	CB	2 X 3	H	850.21	846.56	2.48	

DEPTH OF STRUCTURE IS GUTTER FLANGE OR RIM ELEVATION MINUS THE DEPTH OF FRAME AND RINGS MINUS THE FLOWLINE ELEVATION.
DEPTH OF STRUCTURE FOR ALL CATCH BASINS DOES NOT INCLUDE 2' FOR SUMP.

DEPTH FOR FRAME AND RINGS FOR:
TYPE J AND C = 1.39' (INCLUDES 0.64' FOR ADJUSTING RINGS.)
INLET COVERS TYPE H = 1.17' (INCLUDES 0.64' FOR ADJUSTING RINGS.)

DRAINAGE STRUCTURE SUMMARY TABLE		
ITEM NO.	DESCRIPTION	EACH
611.0530	MANHOLE COVERS TYPE J	18
611.0624	INLET COVERS TYPE H	49
611.1230	CBS 2X3-FT	41
611.2004	MANHOLES 4-FT DIAMETER	18
611.2006	MANHOLES 6-FT DIAMETER	2
611.2007	MANHOLES 7-FT DIAMETER	2
611.2066	MANHOLES 6X6-FT	2
611.3230	INLETS 2X3-FT	2
650.4000	CONSTRUCTION STAKING STORM SEWER	67

ALL ITEMS ON THIS SHEET ARE CATEGORY
CODE 0010 UNLESS OTHERWISE NOTED.

DRAINAGE STRUCTURES, CONTINUED									
STRUCTURE NUMBER	STATION	OFFSET	STRUCTURE	TYPE	COVER TYPE	RIM OR RIM/FLANGE ELEVATION	STRUCTURE INVERT ELEVATION	DEPTH	REMARKS
CB43	168+74.36	19.5 RT	CB	2 X 3	H	849.45	846.00	2.28	
MH42	168+80.38	12.0 LT	MH	6 X 6	J	850.16	843.88	4.89	
CB45	168+94.25	19.5 LT	CB	2 X 3	H	849.40	845.50	2.73	
MH46	171+64.27	12.0 LT	MH	4-FT DIA.	J	853.73	847.55	4.79	
CB48	172+24.50	16.5 LT	CB	2 X 3	H	856.03	852.25	2.61	
CB49	172+34.00	16.5 LT	CB	2 X 3	H	856.42	852.00	3.25	
MH47	172+44.74	14.0 RT	MH	4-FT DIA.	J	856.88	850.09	5.4	
CB50	172+53.68	19.5 RT	CB	2 X 3	H	857.23	853.01	3.05	
CB51	172+62.68	19.5 RT	CB	2 X 3	H	857.62	854.15	2.3	
CB52A	174+90.00	19.5 RT	CB	2 X 3	H	864.31	860.43	2.71	
CB53	174+90.00	16.5 LT	CB	2 X 3	H	864.38	860.60	2.61	
MH52	174+90.00	14.0 RT	MH	4-FT DIA.	J	864.39	859.02	3.98	
CB54A	178+90.00	19.5 RT	CB	2 X 3	H	868.46	865.00	2.29	
CB55	178+90.00	16.5 LT	CB	2 X 3	H	868.60	864.55	2.88	
MH54	178+90.00	14.0 RT	MH	4-FT DIA.	J	868.56	863.06	4.11	
CB56	183+94.00	16.5 LT	CB	2 X 3	H	873.72	870.00	2.55	
CB58	183+94.00	19.5 RT	CB	2 X 3	H	873.66	870.00	2.49	
MH57	183+94.00	9.73 RT	MH	4-FT DIA.	J	873.83	869.40	3.04	
MH60	184+48.31	9.73 RT	MH	4-FT DIA.	J	874.38	867.46	5.53	
MH61	185+69.09	11.80 RT	MH	4-FT DIA.	J	875.71	866.33	7.99	
CB63	194+51.24	19.5 RT	CB	2 X 3	H	850.57	846.34	3.06	
CB65	194+56.31	15.5 LT	CB	2 X 3	H	850.08	846.35	2.56	
INL64	194+60.24	19.5 RT	INLET	2 X 3	H	850.20	841.50	7.53	CONSTRUCT OVER EXISTING 3'X4' RCB
INL66	194+75.24	15.5 LT	INLET	2 X 3	H	849.78	841.50	7.11	CONSTRUCT OVER EXISTING 3'X4' RCB
CB68	196+51.50	19.5 LT	CB	2 X 3	H	846.32	842.76	2.39	
CB69	196+51.50	19.5 RT	CB	2 X 3	H	846.36	843.20	1.99	
MH67	196+51.50	18.0 LT	MH	4-FT DIA.	J	846.69	842.66	2.64	DOG HOUSE OVER EXISTING STORM SEWER
CB70	196+88.57	40.96 LT	CB	2 X 3	H	845.94	843.08	1.69	
CB70A	196+87.63	46.98 LT	CB	2 X 3	H	845.94	843.18	1.59	
MH71	196+95.96	34.24 LT	MH	7-FT DIA.	J	846.10	842.88	1.83	
CB72	197+23.37	40.26 LT	MH	4-FT DIA.	H	846.04	843.02	1.85	
CB72A	197+23.30	46.34 LT	CB	2 X 3	H	846.04	843.12	1.75	
CB73	197+47.24	18.5 LT	CB	2 X 3	H	846.45	843.23	2.05	

CURB RAMP DETECTABLE WARNING FIELDS YELLOW, ITEM NO. 602.0505	
LOCATION	S.F.
STA 156+08, LT & RT	32
STA 156+50, LT & RT	32
STA 159+56, LT & RT	16
STA 160+00, LT & RT	16
STA 163+50, LT & RT	16
STA 163+65, LT & RT	16
STA 164+25, LT & RT	32
STA 167+75, LT & RT	16
STA 168+35, LT & RT	24
STA 168+60, RT	8
STA 168+90, LT & RT	16
STA 171+25, LT & RT	16
STA 171+65, LT	8
STA 171+83, LT & RT	16
STA 172+00, LT	8
STA 172+30, LT & RT	16
STA 174+40, LT	8
STA 174+75, LT & RT	24
STA 179+40, LT	8
STA 180+00, LT & RT	24
STA 181+00, RT	8
STA 181+30, RT	8
STA 181+40, LT & RT	16
STA 184+20, LT	8
STA 184+55, LT	8
STA 185+55, LT & RT	24
STA 185+95, RT	8
STA 189+10, LT & RT	24
STA 189+60, LT	8
STA 196+80, LT	8
TOTALS	472

TOPSOIL, SEED, FERTILIZER, E-MAT AND MULCH							
LOCATION		ITEM NO. 625.0100 TOPSOIL *	ITEM NO. 627.0200 MULCHING *	ITEM NO. 628.2008 EROSION MAT URBAN CLASS 1 TYPE B	ITEM NO. 629.0210 FERTILIZER TYPE B *	ITEM NO. 630.0140 SEEDING MIXTURE NO. 40 *	ITEM NO. SPV.0120.01 WATER FOR SEEDED AREAS
		S.Y.	S.Y.	S.Y.	CWT	LB	MGAL
STA 154+40 - STA 156+50	S. MILWAUKEE ST	15	8	7	0.01	0.3	0.4
STA 156+50 - STA 160+00	MILL ST	---	---	---	---	---	---
STA 160+00 - STA 168+90	CAROLINE ST	543	64	479	0.34	9.8	12.6
STA 168+90 - STA 172+50	ELIZABETH ST	283	29	254	0.18	5.1	6.6
STA 172+50 - STA 198+90	N. MILWAUKEE ST	2184	116	2068	1.38	39.3	50.4
TOTALS		3025 *	217 *	2808	1.9 *	54.4 *	70.0
* - ADDITIONAL QUANTITIES SHOWN ELSEWHERE							

TEMPORARY EROSION CONTROL						
		ITEM NO. 628.1504 SILT FENCE	ITEM NO. 628.1520 SILT FENCE MAINTENANCE	ITEM NO. 628.7005 INLET PROTECTION TYPE A	ITEM NO. 628.7015 INLET PROTECTION TYPE C	ITEM NO. 62.7570 ROCK BAGS
LOCATION		L.F.	L.F.	EACH	EACH	LB
STA 154+40 - STA 156+50	S. MILWAUKEE ST	---	---	8	12	---
STA 156+50 - STA 160+00	MILL ST	---	---	2	2	---
STA 160+00 - STA 168+90	CAROLINE ST	---	---	7	7	10
STA 168+90 - STA 172+50	ELIZABETH ST	---	---	7	7	---
STA 172+50 - STA 198+90	N. MILWAUKEE ST	650	650	21	24	20
TOTALS		650	650	45	52	30

TRAFFIC CONTROL													
LOCATION	APPROX. SERVICE DAYS	<u>643.0300</u>		<u>643.0420</u>		<u>643.0705</u>		<u>643.0715</u>		<u>643.0900</u>		<u>643.1050</u>	
		DRUMS		BARRICADES		WARNING LIGHTS		WARNING LIGHTS		SIGNS		SIGNS	
		NO. IN SERVICE	DAYS	NO. IN SERVICE	DAYS	NO. IN SERVICE	DAYS	NO. IN SERVICE	DAYS	NO. IN SERVICE	DAYS	NO. IN SERVICE	DAYS
STAGE 1													
MAINLINE	70	---	---	24	1680	48	3360	---	---	24	1680	2	7
SIDEROADS	70	---	---	---	---	---	---	---	---	8	---	---	---
UNDISTRIBUTED	70	20	1400	12	840	24	1680	20	1400	---	---	---	---
STAGE 1 SUBTOTAL		1400		2520		5040		1400		1680		7	
STAGE 2													
MAINLINE	130	---	---	24	3120	48	6240	---	---	24	3120	4	7
SIDEROADS	130	---	---	52	6760	104	13520	---	---	98	12740	---	---
UNDISTRIBUTED	130	80	10400	33	4290	2	260	18	2340	28	3640	---	---
STAGE 2 SUBTOTAL		10400		14170		20020		2340		19500		7	
		11800		16690 *		25060		3740		21180		14 *	
* - ADDITIONAL QUANTITIES SHOWN ELSEWHERE													
Notes: UNDISTRIBUTED QUANTITIES ARE FOR DRAINAGE STRUCTURE PROTECTION AND CLOSING SIDEROADS DURING PAVING OPERATIONS													

ALL ITEMS ON THIS SHEET ARE CATEGORY
CODE 0010 UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL DETOUR SIGNS AND COVERING SIGNS

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 130 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.1050.S SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.0910 COVERING SIGNS TYPE 1 EACH *	REMARKS
STAGE 1										
1	500' S OF J1-2 (JCT E; JCT PP)	W20-2-A	48"x48"	1	130	130				
2	RT OF J1-2 (JCT E; JCT PP)	MO 4-8	24"x12"	1	130	130				
	"	M3-1	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
	"	MO 5-1-R	21"x21"	1	130	130				
3	RT OF J13-2 (E-RT; PP-RT)	MO 4-8	24"x12"	1	130	130				
	"	M3-1	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
	"	MO 6-1	21"x21"	1	130	130				RIGHT
4	NE QUAD OF STH 67 & CTH E/PP INTERSECTION	R-11-3	60"x30"	1	130	130	130			1/2 MILE
5	J4-1 (67)								1	67
6	J32-2 (TO-23-RT;67-DBL ARROW)								1	TO-23-RT
7	MODIFY J32-2 (TO-23-RT;67-DBL ARROW)	M1-6	EXISTING							
	"	MO 6-1	21"x21"	1	130	130				RIGHT
8	200' E OF STH 67 INTERSECTION ON CTH E/PP	MO 4-8	24"x12"	1	130	130				
	"	M3-1	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
9	MODIFY J1-3 (JCT 67; END PP; E-AH LT)	MO 4-8-A	24"x18"	1	130	130				
	"	M1-6	EXISTING							67
10	200' E OF CTH O INTERSECTION ON CTH E/PP	MO 4-8	24"x12"	1	130	130				
	"	M3-1	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
11	200' W OF CTH O INTERSECTION ON CTH E/PP	MO 4-8	24"x12"	1	130	130				
	"	M3-3	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
12	LT OF J13-1 (E-AH LT)	MO 4-8	24"x12"	1	130	130				
	"	M3-1	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
	"	MO 5-1-L	21"x21"	1	130	130				
13	RT OF J13-1 (E-LT)	MO 4-8	24"x12"	1	130	130				
	"	M3-1	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
	"	MO 6-1	21"x21"	1	130	130				LEFT
14	200' W OF CTH E INTERSECTION ON CTH E/PP	MO 4-8	24"x12"	1	130	130				
	"	M3-3	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
15	RT OF J13-2 (PP-DBL ARROW; E-RT)	MO 4-8	24"x12"	1	130	130				
	"	M3-3	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
	"	MO 6-1	21"x21"	1	130	130				RIGHT
16	200' N OF CTH PP INTERSECTION ON CTH E	MO 4-8	24"x12"	1	130	130				
	"	M3-1	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
17	RT OF J1-1 (JCT PP)	MO 4-8	24"x12"	1	130	130				
	"	M3-3	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
	"	MO 5-1-R	21"x21"	1	130	130				
18	ABOVE J1-1 (JCT C)	MO 4-8	24"x12"	1	130	130				
	"	M3-1	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
	"	MO 5-1-L	21"x21"	1	130	130				
19	RT OF SIGNAL POLE SE QUAD CTH C & CTH E INTERSECTION	MO 4-8	24"x12"	1	130	130				
	"	M3-1	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
	"	MO 6-1	21"x21"	1	130	130				LEFT
20	LT OF SIGNAL POLE NW QUAD CTH C & CTH E INTERSECTION	MO 4-8	24"x12"	1	130	130				
	"	M3-1	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
	"	MO 6-1	21"x21"	1	130	130				LEFT

STAGE 1 TABLE CONTINUED TO THE RIGHT.

STAGE 1 TABLE CONTINUED FROM THE LEFT.

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 70 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.1050.S SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.0910 COVERING SIGNS TYPE 1 EACH *	REMARKS
21	150' S OF CTH C INTERSECTION ON CTH E	MO 4-8	24"x12"	1	70	70				
	"	M3-3	24"x12"	1	70	70				
	"	M1-6	24"x24"	1	70	70				67
22	100' E OF SIGNAL ON CTH C	MO 4-8	24"x12"	1	70	70				
	"	MO 4-5	24"x12"	1	70	70				
	"	M3-3	24"x12"	1	70	70				
	"	M3-1	24"x12"	1	70	70				
	"	M50-2	48"x24"	1	70	70				67-67
	"	MO 6-1	24"x12"	1	70	70				LEFT
	"	MO 6-1	24"x12"	1	70	70				AHEAD
23	150' E OF SIGNAL AHEAD SIGN	MO 4-8	24"x12"	1	70	70				
	"	MO 4-5	24"x12"	1	70	70				
	"	M3-3	24"x12"	1	70	70				
	"	M3-1	24"x12"	1	70	70				
	"	M50-2	48"x24"	1	70	70				67-67
	"	MO 5-1-L	24"x12"	1	70	70				
	"	MO 6-1	24"x12"	1	70	70				AHEAD
24	75' E OF PLAZA ST INTERSECTION ON CTH C	M3-3	24"x12"	1	70	70				
	"	M1-6	24"x24"	1	70	70				67
	"	W20-2-A	48"x48"	1	70	70				
25	150' W OF CTH E INTERSECTION ON CTH C	MO 4-8	24"x12"	1	70	70				
	"	M3-1	24"x12"	1	70	70				
	"	M1-6	24"x24"	1	70	70				67
26	100' W OF CTH E INTERSECTION ON CTH C	MO 4-8	24"x12"	1	70	70				
	"	M3-3	24"x12"	1	70	70				
	"	M1-6	24"x24"	1	70	70				67
	"	MO 6-1	21"x21"	1	70	70				RIGHT
27	ABOVE J1-1 (JCT C)	MO 4-8	24"x12"	1	70	70				
	"	M3-3	24"x12"	1	70	70				
	"	M1-6	24"x24"	1	70	70				67
	"	MO 5-1-R	21"x21"	1	70	70				
28	50' W OF CTH O INTERSECTION (NORTH LEG) ON CTH C	MO 4-8	24"x12"	1	70	70				
	"	M3-1	24"x12"	1	70	70				
	"	M1-6	24"x24"	1	70	70				67
29	50' E OF CTH O INTERSECTION (SOUTH LEG) ON CTH C	MO 4-8	24"x12"	1	70	70				
	"	M3-3	24"x12"	1	70	70				
	"	M1-6	24"x24"	1	70	70				67
30	RT OF J13-1 (W-C-TILT LT)	MO 4-8	24"x12"	1	70	70				
	"	M3-1	24"x12"	1	70	70				
	"	M1-6	24"x24"	1	70	70				67
	"	MO 6-2	21"x21"	1	70	70				LEFT
31	MODIFY J1-1 (JCT 67)	MO4-8-A	24"x18"	1	70	70				
	"	M1-6	EXISTING							
32	150' E OF STH 67 INTERSECTION ON CTH C	MO 4-8	24"x12"	1	70	70				
	"	M3-3	24"x12"	1	70	70				
	"	M1-6	24"x24"	1	70	70				67
33	MODIFY J3-2 (S-67-RT; C-DBL ARROW)	MO 4-8	24"x12"	1	70	70				
	"	M3-3	24"x12"	1	70	70				
	"	M1-6	24"x24"	1	70	70				67
	"	MO 6-1	21"x21"	1	70	70				LEFT
34	150' E OF STH 67 INTERSECTION ON CTH C	MO 4-8	24"x12"	1	70	70				
	"	M3-3	24"x12"	1	70	70				
	"	M1-6	24"x24"	1	70	70				67
	"	MO 5-1-L	21"x21"	1	70	70				
35	100'N OF MAIN ST INTERSECTION ON STH 67	W20-2-A	48"x48"	1	70	70				
36	NW QUAD OF MILL ST & CAROLINE ST INTERSECTION	R 11-4	60"x30"	1	70	70	70			
37	NW QUAD OF WESTERN AVE & W ELIZABETH ST INTERSECTION	R 11-4	60"x30"	1	70	70	70			
38	NB TO BE FIELD DETERMINED, PRIOR TO CONSTRUCTION	PCMS		1				7		
39	SB TO BE FIELD DETERMINED, PRIOR TO CONSTRUCTION	PCMS		1				7		
STAGE SUBTOTAL				113		7,770	210	14 *	2	

TABLE CONTINUED ON NEXT PAGE FOR STAGE 2.

*TRAFFIC CONTROL COVERING SIGNS TYPE 1 IS FOR 1 CYCLE.

ALL ITEMS ON THIS SHEET ARE CATEGORY CODE 0010 UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL DETOUR SIGNS AND COVERING SIGNS

TABLE CONTINUED FROM PREVIOUS PAGE FOR STAGE 1.

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 130 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.1050.S SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.0910 COVERING SIGNS TYPE 1 EACH *	REMARKS
STAGE 2										
SIGN NUMBER SEQUENCE GAPPED					130					
50	500' N OF J1-1 (JCT 23)	W20-2-A	48"x48"	1	130	130				
51	MODIFY J2-2 (S-67-AH; W-23-AH RT)	MO 4-8	24"x12"	1	130	130				
	"	M3-3	EXISTING							
	"	M1-6	EXISTING							
	"	MO 5-1-R	21"x21"	1	130	130				
52	LT OF J2-2 (E-23-AH; W-23-RT)	MO 4-8	24"x12"	1	130	130				
	"	M3-3	24"x12"	1	130	130				
	"	M1-6	24"x12"	1	130	130				67
	"	MO 6-1	21"x21"	1	130	130				RIGHT
53	SW QUAD OF STH 23 EB EXIT RAMP AND STH 67 INTERSECTION	R-11-3	60"x30"	1	130	130	130			1/2 MILE
54	J2-2 (S-67-AH; E-23-AH RT)								1	S-67-AH
55	SW QUAD OF STH 23 WB EXIT RAMP AND STH 67 INTERSECTION	R-11-3	60"x30"	1	130	130	130			1/2 MILE
56	M1-6 (67)								1	67
57	TYPE 1 (67; PLYMOUTH/ELKHART LAKE; EXIT 1 MILE) @ CTH E								1	PLYMOUTH
58	500' W OF CTH O/OJ INTERSECTION ON STH 23	M3-3	30"x15"	1	130	130				
	"	M1-6	36"x36"	1	130	130				67
	"	W20-2-A	48"x48"	1	130	130				
59	ACROSS FROM SIGN # 58 (MEDIAN SIDE)	M3-3	30"x15"	1	130	130				
	"	M1-6	36"x36"	1	130	130				67
	"	W20-2-A	48"x48"	1	130	130				
60A	500' W OF SIGN # 58	MO 4-8	30"x15"	1	130	130				
	"	M3-3	30"x15"	1	130	130				
	"	M1-6	36"x36"	1	130	130				67
	"	MO 6-1	30"x30"	1	130	130				AHEAD
60B	ACROSS FROM SIGN # 61A (MEDIAN SIDE)	MO 4-8	30"x15"	1	130	130				
	"	M3-3	30"x15"	1	130	130				
	"	M1-6	36"x36"	1	130	130				67
	"	MO 6-1	30"x30"	1	130	130				AHEAD
61	TYPE 1 (67; PLYMOUTH/ELKHART LAKE; TILT RT)								1	PLYMOUTH
62A	LT OF SIGN # 61	MO 4-8	30"x15"	1	130	130				
	"	M3-3	30"x15"	1	130	130				
	"	M1-6	36"x36"	1	130	130				67
	"	MO 6-1	30"x30"	1	130	130				AHEAD
62B	ACROSS FROM SIGN # 62A (MEDIAN SIDE)	MO 4-8	30"x15"	1	130	130				
	"	M3-3	30"x15"	1	130	130				
	"	M1-6	36"x36"	1	130	130				67
	"	MO 6-1	30"x30"	1	130	130				AHEAD
63	200' W OF STH 67 INTERSECTION ON STH 23 ON-RAMP (WB)	MO 4-8	30"x15"	1	130	130				
	"	M3-3	30"x15"	1	130	130				
	"	M1-6	36"x36"	1	130	130				67
64	LT OF TYPE 1 (C; PLYMOUTH; EXIT 1 MILE)	MO 4-8	30"x15"	1	130	130				
	"	M3-3	30"x15"	1	130	130				
	"	M1-6	36"x36"	1	130	130				67
	"	MO 6-1	30"x30"	1	130	130				AHEAD
65	ACROSS FROM SIGN # 64 (MEDIAN SIDE)	MO 4-8	30"x15"	1	130	130				
	"	M3-3	30"x15"	1	130	130				
	"	M1-6	36"x36"	1	130	130				67
	"	MO 6-1	30"x30"	1	130	130				AHEAD
66	800' E OF TYPE 1 (C; PLYMOUTH; TILT RT)	MO 4-8	30"x15"	1	130	130				
	"	M3-3	30"x15"	1	130	130				
	"	M1-6	36"x36"	1	130	130				67
	"	MO 5-2-R	30"x30"	1	130	130				
67	ACROSS FROM SIGN # 66 (MEDIAN SIDE)	MO 4-8	30"x15"	1	130	130				
	"	M3-3	30"x15"	1	130	130				
	"	M1-6	36"x36"	1	130	130				67
	"	MO 5-2-R	30"x30"	1	130	130				
68	LT OF TYPE 1 (C; PLYMOUTH; TILT RT)	MO 4-8	30"x15"	1	130	130				
	"	M3-3	30"x15"	1	130	130				
	"	M1-6	36"x36"	1	130	130				67
	"	MO 6-2	30"x30"	1	130	130				RIGHT
69	300' W OF D1-2 (LT-CRYSTAL LAKE; PLYMOUTH-RT)	MO 4-8	24"x12"	1	130	130				
	"	M3-3	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
	"	MO 5-1-R	21"x21"	1	130	130				
70	RT OF J3-2 (W-C-LT; E-C-RT)	MO 4-8	24"x12"	1	130	130				
	"	M3-3	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
	"	MO6-1	21"x21"	1	130	130				RIGHT
71	RT OF ONE WAY SIGN	MO 4-8	24"x12"	1	130	130				
	"	M3-3	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
	"	MO 6-1	21"x21"	1	130	130				RIGHT
72	200' S OF STH 23 OFF-RAMP INTERSECTION ON CTH C	MO 4-8	24"x12"	1	130	130				
	"	M3-3	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
73	500' E OF CTH P INTERSECTION ON STH 23	M3-3	30"x15"	1	130	130				
	"	M1-6	36"x36"	1	130	130				67
	"	W20-2-A	48"x48"	1	130	130				

STAGE 2 TABLE CONTINUED TO THE RIGHT.

STAGE 2 TABLE CONTINUED FROM THE LEFT.

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 130 DAYS	643.3000 DETOUR SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.1050.S SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.0910 COVERING SIGNS TYPE 1 EACH *	REMARKS
74	ACROSS FROM SIGN # 73 (MEDIAN SIDE)	M3-3	30"x15"	1	130	130				
	"	M1-6	36"x36"	1	130	130				67
	"	W20-2-A	48"x48"	1	130	130				
75	200' E OF INEZ COURT INTERSECTION ON STH 23	MO 4-8	30"x15"	1	130	130				
	"	M3-3	30"x15"	1	130	130				
	"	M1-6	36"x36"	1	130	130				67
	"	MO 5-2-R	30"x30"	1	130	130				
76	ACROSS FROM SIGN # 75 (MEDIAN SIDE)	MO 4-8	30"x15"	1	130	130				
	"	M3-3	30"x15"	1	130	130				
	"	M1-6	36"x36"	1	130	130				67
	"	MO 5-2-R	30"x30"	1	130	130				
77	LT OF TYPE 1 (C; PLYMOUTH; TILT RT)	MO 4-8	30"x15"	1	130	130				
	"	M3-3	30"x15"	1	130	130				
	"	M1-6	36"x36"	1	130	130				67
	"	MO 6-2	30"x30"	1	130	130				RIGHT
78	TYPE 1 (67; PLYMOUTH/ELKHART LAKE; EXIT 1 MILE)								1	PLYMOUTH
79	250' S OF STOP AHEAD SIGN	MO 4-8	24"x12"	1	130	130				
	"	M3-3	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
	"	MO 5-1-R	21"x21"	1	130	130				
80	ACROSS FROM J3-1 (W-C-LT; E-C-RT)	MO 4-8	24"x12"	1	130	130				
	"	M3-3	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
	"	MO 6-1	21"x21"	1	130	130				RIGHT
81	RT OF J4-1 (E-C)	MO 4-8	24"x12"	1	130	130				
	"	M3-3	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
82	75' W OF SUNSET ST INTERSECTION ON CTH C	MO 4-8	24"x12"	1	130	130				
	"	M3-1	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
83	75' E OF SUNSET ST INTERSECTION ON CTH C	MO 4-8	24"x12"	1	130	130				
	"	M3-3	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
84	MODIFY J1-1 (JCT 67)	MO 4-8-A	24"x18"	1	130	130				
	"	M1-6	EXISTING							67
85	D1-3 (AH-L0MIRA; LT-SHEBOYGAN/ELKHART LAKE)								1	LT-SHEBOYGAN/ELKHART LAKE
86	J3-1 (N-67-LT)								1	N-67-LT
87	300' S OF J1-1 (JCT C)	W20-2-A	48"x48"	1	130	130				
88	MODIFY J2-1 (N-67-AH RT)	MO 4-8	24"x12"	1	130	130				
	"	M3-1	EXISTING							67
	"	M1-6	EXISTING							AHEAD
	"	MO 6-1	21"x21"	1	130	130				
89	4 (AH-CRYSTAL LAKE/FOND DU LAC; SHEBOYGAN/ELKHART LAKE-RT)								1	SHEBOYGAN/ELKHART LAKE-RT
90	MODIFY J3-1 (N-67-RT)	MO 4-8	24"x12"	1	130	130				
	"	M3-1	EXISTING							
	"	M1-6	EXISTING							67
	"	MO 6-1	21"x21"	1	130	130				AHEAD
91	SE QUAD OF STH 67 & CTH C INTERSECTION	R 11-3	60"x30"	1	130	130	130			1/2 MILE
92	J2-1 (N-67-AH LT)								1	N-67-AH LT
93	50' N OF RAILROAD AHEAD SIGN	MO 4-8	24"x12"	1	130	130				
	"	M3-1	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
94	300' N OF J1-1 (JCT 23)	MO 4-8	24"x12"	1	130	130				
	"	M3-1	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
	"	MO 5-1-L	21"x21"	1	130	130				
95	ABOVE J3-2 (E-23-LT; W-23-AH)	MO 4-8	24"x12"	1	130	130				
	"	M3-1	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
	"	MO 6-1	21"x21"	1	130	130				LEFT
96	150' W OF CTH C INTERSECTION ON STH 23 ON-RAMP	MO 4-8	24"x12"	1	130	130				
	"	M3-1	24"x12"	1	130	130				
	"	M1-6	24"x24"	1	130	130				67
97	TYPE 1 (67; PLYMOUTH/ELKHART LAKE; TILT RT)								1	PLYMOUTH
98	500' E OF SIGN # 97	MO 4-8-A	24"x18"	1	130	130				
	"	M1-6	24"x24"	1	130	130				
99	D1-2 (PLYMOUTH-RT; LT-ELKHART LAKE)								1	PLYMOUTH-RT
100	J3-2 (N-67-LT; S-67-RT)								1	S-67-RT
STAGE SUBTOTAL				127		16,510	390	0	12	
STAGE 1 SUBTOTAL				113		14,430	390	14	2	
STAGE 2 SUBTOTAL				127		16,510	390	0	12	
PROJECT TOTAL				240		30,940	780	14 **	14 *	

* TRAFFIC CONTROL COVERING SIGNS TYPE 1 IS FOR 1 CYCLE.

** ADDITIONAL QUANTITIES SHOWN IN THE TRAFFIC CONTROL QUANTITY TABLE.

3

PAVEMENT MARKING											
LOCATION	DESCRIPTION	ITEM # 646.0106	ITEM # 646.0126	ITEM # 647.0110	ITEM # 647.0166	ITEM # 647.0176	ITEM # 647.0336	ITEM # 647.0356	ITEM # 647.0556	ITEM # 647.0766	ITEM # 647.0656
		PAVEMENT MARKING EPOXY									
		4-INCH	8-INCH	RAILROAD CROSSINGS	ARROWS TYPE 2	ARROWS TYPE 3	BIKE SHARED LANE	WORDS	STOP LINE 18-INCH	CROSSWALK 6-INCH	PARKING STALL
		LF	LF	EACH	EACH	EACH	EACH	EACH	LF	LF	LF
STA 154+40 - STA 156+50	S. MILWAUKEE ST	340	100	---	1	2	---	1	90	402	---
STA 156+50 - STA 160+00	MILL ST	502	100	---	2	2	3	---	---	83	31
STA 160+00 - STA 168+90	CAROLINE ST	1226	---	---	---	---	8	---	122	710	206
STA 168+90 - STA 172+50	ELIZABETH ST	256	---	---	---	---	4	---	20	---	---
STA 172+50 - STA 198+90	N. MILWAUKEE ST	3463	---	---	---	---	23	---	155	1061	---
MILWAUKEE STREET	RAILROAD CROSSING	---	---	2 *	---	---	---	---	18	---	---
		LF									
Total		5787	200	2 *	3	4	38	1	405	2256	237
* MARKINGS ARE LOCATED ON THE DETOUR ROUTE ON MILWAUKEE STREET BETWEEN MILL STREET AND ELIZABETH STREET.											

CONSTRUCTION STAKING					
STATION	ROADWAY	ITEM NO. 650.9920 SLOPE STAKES	ITEM NO. 650.4500 SUBGRADE	ITEM NO. 650.5500 CURB GUTTER AND CURB & GUTTER	ITEM NO. 650.7000 CONCRETE PAVEMENT
		LF	LF	LF	LF
STA 154+40 - STA 156+50	S. MILWAUKEE ST	210	210	252	210
STA 156+50 - STA 160+00	MILL ST	350	350	399	350
STA 160+00 - STA 168+90	CAROLINE ST	890	890	435	890
STA 168+90 - STA 172+50	ELIZABETH ST	360	360	24	360
STA 172+50 - STA 198+90	N. MILWAUKEE ST	2630	2630	295	2630
TOTAL		4440	4440	1405	4440

SAWING CONCRETE			
			ITEM NO. 690.025 SAWING CONCRETE *
LOCATION	ROADWAY	DESCRIPTION	L.F.
PAVEMENT			
STA 154+40 - STA 156+50	S. MILWAUKEE ST	SIDEROADS AND DRIVEWAYS	57
STA 156+50 - STA 160+00	MILL ST	SIDEROADS AND DRIVEWAYS	86
STA 160+00 - STA 168+90	CAROLINE ST	SIDEROADS AND DRIVEWAYS	115
STA 168+90 - STA 172+50	ELIZABETH ST	SIDEROADS AND DRIVEWAYS	---
STA 172+50 - STA 198+90	N. MILWAUKEE ST	SIDEROADS AND DRIVEWAYS	290
SIDEWALK			
STA 154+40 - STA 156+50	S. MILWAUKEE ST	SIDEWALK	79
STA 156+50 - STA 160+00	MILL ST	SIDEWALK	59
STA 160+00 - STA 168+90	CAROLINE ST	SIDEWALK	186
STA 168+90 - STA 172+50	ELIZABETH ST	SIDEWALK	9
STA 172+50 - STA 198+90	N. MILWAUKEE ST	SIDEWALK	111
TOTALS			992 *
* - ADDITIONAL QUANTITIES SHOWN ELSEWHERE.			

CONCRETE JOINT LAYOUT, ITEM NO. SPV.0105.01		
LOCATION	DESCRIPTION	LS
155+09 - 198+90	STH 67 ROADWAY	1
TOTAL		1

RAILING STEEL TYPE CI GALVANIZED, SIDEWALK, ITEM SPV.0105.02		
STATION / LOCATION	DESCRIPTION	LS
157+60 - 159+16, LT	156 LF OF RAIL, 1' NORTH OF EXISTING WALK EDGE	0.5
157+60 - 159+28, RT	168 LF OF RAIL, 1' SOUTH OF EXISTING WALK EDGE	0.5
TOTAL		1

WATER FOR DUST CONTROL, ITEM NO. SPV.0120.02		
LOCATION	DESCRIPTION	MGAL
STA 154+40 - STA 156+50	S. MILWAUKEE ST	45
STA 156+50 - STA 160+00	MILL ST	70
STA 160+00 - STA 168+90	CAROLINE ST	150
STA 168+90 - STA 172+50	ELIZABETH ST	45
STA 172+50 - STA 198+90	N. MILWAUKEE ST	475
VARIES	DRIVEWAYS	15
TOTAL		800

ALL ITEMS ON THIS SHEET ARE CATEGORY CODE 0010 UNLESS OTHERWISE NOTED.

ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE II

CATEGORY NO.	SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE F S.F.	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	1	S. OF CTH C/CTH Z	J1-1	24" X 39"	6.50		1		2	1	CTH C, SEE PLAN SHEET
0010	2	"	J2-2	48" X 57"	19.00			2	4	2	CTH C, STH 67, SEE PLAN SHEET
0010	3	"	J4-1	24" X 36"	6.00		1		2	1	STH 67, SEE PLAN SHEET
0010	4	"	J3-1	24" X 57"	9.50			1	3	1	STH 67, SEE PLAN SHEET
0010	5	"	J3-1	24" X 57"	9.50			1	3	1	STH 67, SEE PLAN SHEET
0010	6	"	J3-1	24" X 57"	9.50				3		CTH C, MOUNT ON BACK OF SIGN #5, SEE PLAN SHEET
0010	7	CTH Z	J3-1	24" X 57"	9.50			1	3	1	STH 67, SEE PLAN SHEET
0010	8	"	J3-1	24" X 57"	9.50			1	3	1	CTH C, SEE PLAN SHEET
0010	9	S. OF CTH C (NORTH)	J2-1	24" X 57"	9.50			1	3	1	NORTH STH 67, SEE PLAN SHEET
0010	10	"	D1-3	60" X 36"	15.00		2		1	1	SHEBOYGAN, ROAD AMERICA, ELKHART LAKE,SEE SIGN DETAIL
0010	11	"	D1-1	54" X 15"	5.63		2		1	2	LOMIRA, SEE SIGN DETAIL
0010	12	CTH C	J3-1	24" X 57"	9.50			1	3	1	NORTH STH 67, SEE PLAN SHEET
0010	13	"	J3-2	48" X 57"	19.00			1	4	1	CTH C, SOUTH STH 67, SEE PLAN SHEET
0010	14	N. OF CTH C	J4-1	24" X 36"	6.00		1		2	1	NORTH STH 67, SEE PLAN SHEET
0010	15	"	D1-1	54" X 15"	5.63		2		1	1	LOMIRA, SEE SIGN DETAIL
0010	16	"	J2-1	24" X 57"	9.50			1	3	1	NORTH STH 67, SEE PLAN SHEET
0010	17	"	J1-1	24" X 39"	6.50		1		2	1	JCT CTH C, SEE PLAN SHEET
0010	18	S. OF ELIZABETH ST	J3-1	24" X 57"	9.50			1	3	1	NORTH STH 67, SEE PLAN SHEET
0010	19	"	J4-1	24" X 36"	6.00		1				SOUTH STH 67, SEE PLAN SHEET
0010	20	"	J3-1	24" X 57"	9.50			1	3	1	NORTH STH 67, SEE PLAN SHEET
0010	21	E. OF N. MILWAUKEE ST	J3-1	24" X 57"	9.50			1	3	1	SOUTH STH 67, SEE PLAN SHEET
0010	22	"	J3-1	24" X 57"	9.50			1	3	1	NORTH STH 67, SEE PLAN SHEET
0010	23	N. OF ELIZABETH ST	J3-1	24" X 57"	9.50			1	3	1	SOUTH STH 67, SEE PLAN SHEET
0010	24	"	J4-1	24" X 36"	6.00		1		2	1	NORTH STH 67, SEE PLAN SHEET
0010	25	"	J2-1	24" X 57"	9.50			1	3	1	SOUTH STH 67, SEE PLAN SHEET
0010	26	"	J4-1	24" X 36"	6.00		1		1	1	SOUTH STH 67, SEE PLAN SHEET
0010	27	S. OF SURHKE RD	I2-3	60" X 24"	10.00		2		1	1	PLYMOUTH, SEE SIGN DETAIL
0010	28	"	J4-1	24" X 36"	6.00		1		1	1	NORTH STH 67, SEE PLAN SHEET
PAGE SUBTOTALS					256.25	0.00	16	16	66	28	

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE II

CATEGORY NO.	SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE F S.F.	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	29	S. OF SURHKE RD	W14-3	48" X 36"		6.00			1		MOUNT ON BACK OF SIGN #54
0010	30	SUHRKE RD	R1-1	30" X 30"	5.18		1		1	1	
0010	31		W14-3	48" X 36"		6.00			1		
0010	32	N. OF SURHKE RD	S1-1	36" X 36"		6.75		1	1	1	
0010	33	"	WF16-7L	30" X 18"		3.75			1		MOUNT BELOW SIGN #32
0010	34	"	S5-2	24" X 30"	5.00		1				
0010	35		S4-51	24" X 48"	8.00			1			15 MPH
0010	36	S. OF RUSTIC ST	W6-1	36" X 36"	9.00		1		1	1	MOUNT BELOW SIGN #35
0010	37	"	S1-1	36" X 36"		6.75		1	1	1	
0010	38	"	WF16-9P	30" X 18"		3.75			1		MOUNT BELOW SIGN #37
0010	39	"	R2-6P	24" X 18"	3.00						MOUNT BELOW SIGN #38
0010	40	"	J1-1	24" X 39"	6.50		1		2	1	JCT STH 23, SEE PLAN SHEET
0010	41	"	R2-1	24" X 30"	5.00		1		1	1	25 MPH
0010	42	RUSTIC ST	R1-1	30" X 30"	5.18		1		1	1	
0010	43	N. OF RUSTIC ST	J2-2	48" X 57"	19.00			1	5	1	EAST STH 23, WEST STH 23, SEE PLAN SHEET
0010	44	"	R4-7	24" X 30"	5.00		1		1	1	
PAGE SUBTOTALS					70.86	33.00	7	4	18	9	
CATEGORY 0010 TOTALS					327.11	33.00	23	20	84	37	

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

REMOVALS

		204.0110		204.0155		SPV.0060.09	
		REMOVING		REMOVING CONCRETE		REMOVING SANITARY	
		ASPHALTIC SURFACE		SIDEWALK		MANHOLES SPECIAL	
LOCATION	STATION TO STATION	OFFSET	SY	SY		EACH	
CAROLINE ST.	160+22.00	0.74' LT	--	--		1	
CAROLINE ST.	161+95.00	32.00' RT	--	4		--	
CAROLINE ST.	162+20.00	26.00' LT	--	4		--	
CAROLINE ST.	166+95.00	25.00' LT	--	4		--	
ELIZABETH ST.	170+96.00	0.41' RT	--	--		1	
N. MILWAUKEE ST.	177+30.00	26.00' LT	--	4		--	
N. MILWAUKEE ST.	183+44.00	26.00' LT	--	4		--	
N. MILWAUKEE ST.	196+20.00 - 196+33.00	25.00' LT	--	10		--	
N. MILWAUKEE ST.	300+05.00 - 301+79.00	C/L	215	--		--	
TOTAL			215	30		2	

NOTE: ADDITIONAL REMOVING CONCRETE SIDEWALK QUANTITY LOCATED IN OTHER MISCELLANEOUS QUANTITIES TABLES

AGGREGATE AND PAVEMENT

		305.0120		455.0120		455.0605		460.1101	
		BASE AGGREGATE		ASPHALTIC MATERIAL		TACK COAT		HMA PAVEMENT	
		DENSE 1 1/4-INCH		PG 64-28				TYPE E-1	
LOCATION	STATION TO STATION	OFFSET	TON	TON		GAL		TON	
N. MILWAUKEE ST.	300+05.00 - 301+79.00	C/L	120	3		5		47	
TOTAL			120	3		5		47	

EXCAVATION

		205.0501.S					
		EXCAVATE HAUL					
		DISPOSE PETROLEUM					
		CONTAMINATED SOIL					
LOCATION	STATION TO STATION	OFFSET	TON				
N. MILWAUKEE ST.	155+63.00 - 156+08.00	6.00' LT 44.00' LT	265				
MILL ST.	156+08.00 - 157+65.00	40.00' LT 8.00' LT	805				
MILL ST.	156+38.00 - 157+65.00	C/L C/L	530				
TOTAL			1600				

RESTORATION

		625.0100		627.0200		629.0210		630.0140	
		TOPSOIL		MULCHING		FERTILIZER TYPE B		SEEDING MIXTURE	
								NO. 40	
LOCATION	STATION TO STATION	OFFSET	SY	SY		CWT		LB	
N. MILWAUKEE ST.	194+29.00 - 195+30.00	20.50' RT 85.00' RT	296	296		0.6		6.0	
N. MILWAUKEE ST.	196+09.00 - 196+51.00	42.50' LT 43.50' LT	114	114		0.4		2.0	
TOTAL			410	410		1.0		8	

NOTE: ADDITIONAL QUANTITIES LOCATED IN OTHER MISCELLANEOUS QUANTITIES TABLES

SAW CUTS

		690.0150		690.0250	
		SAWING		SAWING	
		ASPHALT		CONCRETE	
LOCATION	STATION TO STATION	OFFSET	LF	LF	
CAROLINE ST.	161+95.00	32.00' RT	--	12	
CAROLINE ST.	162+20.00	26.00' LT	--	12	
CAROLINE ST.	166+95.00	25.00' LT	--	12	
N. MILWAUKEE ST.	177+30.00	26.00' LT	--	12	
N. MILWAUKEE ST.	183+44.00	26.00' LT	--	11	
N. MILWAUKEE ST.	196+26.00	25.00' LT	--	11	
N. MILWAUKEE ST.	300+05.00 - 301+79.00	C/L	370	--	
TOTAL			370	70	

NOTE: ADDITIONAL QUANTITY LOCATED IN OTHER MISCELLANEOUS QUANTITIES TABLES

CONCRETE SIDEWALK

		602.0405	
		CONCRETE	
		SIDEWALK 4-INCH	
LOCATION	STATION TO STATION	OFFSET	SF
CAROLINE ST.	161+95.00	32.00' RT	32
CAROLINE ST.	162+20.00	26.00' LT	31
CAROLINE ST.	166+95.00	25.00' LT	35
N. MILWAUKEE ST.	177+30.00	26.00' LT	27
N. MILWAUKEE ST.	183+44.00	26.00' LT	25
N. MILWAUKEE ST.	196+26.00	25.00' LT	70
TOTAL			220

NOTE: ADDITIONAL QUANTITY LOCATED IN OTHER MISCELLANEOUS QUANTITIES TABLES

BENTONITE TRENCH DAMS

		SPV.0060.13	
		BENTONITE TRENCH	
		DAM SPECIAL	
LOCATION	STATION TO STATION	OFFSET	EACH
N. MILWAUKEE ST.	155+63.00	LT	1
MILL ST.	156+08.00	LT	1
N. MILWAUKEE ST.	156+08.00	LT	1
MILL ST.	158+15.00	LT	1
TOTAL			4

SANITARY MANHOLES

LOCATION	STATION	OFFSET	SPV.0060.06	SPV.0060.07	SPV.0060.08	SPV.0060.10	SPV.0060.11	SPV.0060.12	SPV.0200.01
			SANITARY	SANITARY	ADJUSTING	SANITARY MANHOLE	SANITARY MANHOLE	SANITARY MANHOLE	SANITARY
			MANHOLE FRAME	MANHOLE INTERNAL	SANITARY MANHOLE	OUTSIDE DROP	OUTSIDE DROP	OUTSIDE DROP	MANHOLE
			& LID SPECIAL	SEAL SPECIAL	COVERS SPECIAL	6-INCH SPECIAL	8-INCH SPECIAL	12-INCH SPECIAL	4-FT SPECIAL
			EACH	EACH	EACH	EACH	EACH	EACH	VF
N. MILWAUKEE ST.	156+08.13	39.16' LT	--	1	1	--	--	--	--
N. MILWAUKEE ST.	156+22.44	50.12' LT	--	1	1	--	--	--	--
MILL ST.	156+38.20	0.35' RT	1	1	--	--	--	--	9.70
CAROLINE ST.	159+56.74	0.01' RT	1	1	--	--	--	--	14.89
CAROLINE ST.	163+96.29	0.24' LT	1	1	--	--	--	--	9.47
ELIZABETH ST.	168+37.11	1.42' RT	1	1	--	1	1	--	12.30
N. MILWAUKEE ST.	171+82.82	C/L	1	1	--	--	--	1	16.22
N. MILWAUKEE ST.	174+55.09	1.68' RT	--	1	1	--	--	--	--
N. MILWAUKEE ST.	177+08.10	1.31' RT	--	1	1	--	--	--	--
N. MILWAUKEE ST.	179+81.67	2.90' RT	--	1	1	--	--	--	--
N. MILWAUKEE ST.	182+85.09	1.35' RT	--	1	1	--	--	--	--
N. MILWAUKEE ST.	184+39.43	1.58' RT	--	1	1	--	--	--	--
N. MILWAUKEE ST.	187+89.20	1.31' RT	--	1	1	--	--	--	--
N. MILWAUKEE ST.	189+38.87	2.35' RT	--	1	1	--	--	--	--
N. MILWAUKEE ST.	189+94.71	2.55' RT	--	1	1	--	--	--	--
N. MILWAUKEE ST.	191+12.74	2.08' RT	--	1	1	--	--	--	--
N. MILWAUKEE ST.	194+00.03	1.67' RT	--	1	1	--	--	--	--
N. MILWAUKEE ST.	195+22.47	22.82' LT	--	1	--	--	--	--	--
N. MILWAUKEE ST.	195+24.49	81.71' RT	--	1	--	--	--	--	--
N. MILWAUKEE ST.	196+61.08	14.95' LT	--	1	1	--	--	--	--
N. MILWAUKEE ST.	300+10.26	0.03' LT	1	1	--	--	--	--	10.00
TOTAL			6	21	13	1	1	1	73

SANITARY SEWER

LOCATION	FROM		TO		SPV.0090.10	SPV.0090.11	SPV.0090.13
					SANITARY SEWER	SANITARY SEWER	SANITARY SEWER
					8-INCH PVC GRANULAR	12-INCH PVC GRANULAR	TELEVISIONING
					BACKFILL SPECIAL	BACKFILL SPECIAL	SPECIAL
	STATION	OFFSET	STATION	OFFSET	LF	LF	LF
MILL ST.	156+38.20	0.35' RT	159+56.74	0.01' RT	--	319	319
CAROLINE ST.	159+56.74	0.01' RT	163+96.29	0.24' LT	--	440	440
CAROLINE ST.	163+96.29	0.24' LT	168+37.11	1.42' RT	--	441	441
CAROLINE ST.	168+37.11	1.42' RT	168+37.21	31.64' RT	32	--	32
ELIZABETH ST.	168+37.11	1.42' RT	171+82.85	C/L	--	346	346
N. MILWAUKEE ST.	194+00.03	1.67' RT	195+24.49	81.71' RT	--	149	149
N. MILWAUKEE ST.	300+10.26	0.03' LT	171+82.85	C/L	208	--	208
TOTAL					240	1695	1935

SANITARY SEWER LATERALS

SPV.0090.12
SANITARY SEWER LATERAL
6-INCH PVC GRANULAR
BACKFILL SPECIAL

LOCATION	STATION	OFFSET	LF
MILL ST.	156+99.00	RT	24
CAROLINE ST.	160+60.00	LT	24
CAROLINE ST.	160+91.00	LT	23
CAROLINE ST.	161+24.00	LT	24
CAROLINE ST.	161+71.00	LT	22
CAROLINE ST.	161+95.00	RT	36
CAROLINE ST.	162+20.00	LT	25
CAROLINE ST.	164+91.00	LT	22
CAROLINE ST.	164+97.00	RT	24
CAROLINE ST.	165+69.00	RT	24
CAROLINE ST.	165+93.00	LT	23
CAROLINE ST.	166+26.00	RT	24
CAROLINE ST.	166+36.00	LT	21
CAROLINE ST.	166+72.00	RT	25
CAROLINE ST.	166+94.00	LT	23
CAROLINE ST.	167+40.00	RT	25
CAROLINE ST.	167+62.00	LT	22
ELIZABETH ST.	169+31.00	RT	24
ELIZABETH ST.	170+16.00	RT	25
ELIZABETH ST.	170+39.00	LT	26
ELIZABETH ST.	170+54.00	RT	27
ELIZABETH ST.	170+98.00	RT	25
ELIZABETH ST.	171+03.00	LT	26
N. MILWAUKEE ST.	172+53.00	LT	26
N. MILWAUKEE ST.	173+19.00	LT	26
N. MILWAUKEE ST.	173+46.00	RT	26
N. MILWAUKEE ST.	173+74.00	LT	27
N. MILWAUKEE ST.	174+18.00	RT	26
N. MILWAUKEE ST.	174+84.00	RT	25
N. MILWAUKEE ST.	175+04.00	LT	27
N. MILWAUKEE ST.	175+22.00	RT	26
N. MILWAUKEE ST.	175+49.00	RT	25
N. MILWAUKEE ST.	176+24.00	RT	26
N. MILWAUKEE ST.	176+37.00	LT	27
N. MILWAUKEE ST.	176+71.00	RT	27
N. MILWAUKEE ST.	176+81.00	LT	27
N. MILWAUKEE ST.	177+30.00	LT	27
N. MILWAUKEE ST.	177+43.00	RT	26
N. MILWAUKEE ST.	177+78.00	LT	27
N. MILWAUKEE ST.	177+98.00	RT	26
SUBTOTAL			1011

SANITARY SEWER LATERALS CONTINUED

SPV.0090.12
SANITARY SEWER LATERAL
6-INCH PVC GRANULAR
BACKFILL SPECIAL

LOCATION	STATION	OFFSET	LF
N. MILWAUKEE ST.	178+40.00	RT	26
N. MILWAUKEE ST.	178+52.00	LT	27
N. MILWAUKEE ST.	179+07.00	RT	24
N. MILWAUKEE ST.	179+11.00	LT	27
N. MILWAUKEE ST.	179+55.00	RT	25
N. MILWAUKEE ST.	180+04.00	RT	26
N. MILWAUKEE ST.	181+25.00	LT	24
N. MILWAUKEE ST.	181+52.00	LT	27
N. MILWAUKEE ST.	182+50.00	RT	26
N. MILWAUKEE ST.	182+79.00	LT	26
N. MILWAUKEE ST.	183+25.00	RT	26
N. MILWAUKEE ST.	183+45.00	LT	27
N. MILWAUKEE ST.	183+70.00	RT	26
N. MILWAUKEE ST.	184+03.00	LT	25
N. MILWAUKEE ST.	184+66.00	RT	26
N. MILWAUKEE ST.	184+89.00	LT	24
N. MILWAUKEE ST.	185+43.00	LT	25
N. MILWAUKEE ST.	186+13.00	LT	21
N. MILWAUKEE ST.	186+45.00	LT	21
N. MILWAUKEE ST.	187+10.00	LT	22
N. MILWAUKEE ST.	187+26.00	RT	24
N. MILWAUKEE ST.	187+82.00	LT	24
N. MILWAUKEE ST.	187+87.00	RT	25
N. MILWAUKEE ST.	188+58.00	RT	27
N. MILWAUKEE ST.	189+11.00	RT	28
N. MILWAUKEE ST.	189+64.00	RT	28
N. MILWAUKEE ST.	189+95.00	RT	31
N. MILWAUKEE ST.	190+65.00	LT	24
N. MILWAUKEE ST.	191+12.00	RT	30
N. MILWAUKEE ST.	191+33.00	RT	30
N. MILWAUKEE ST.	192+10.00	RT	24
N. MILWAUKEE ST.	192+15.00	RT	23
SUBTOTAL			819
TOTAL			1830

WATER MAIN APPURTENANCES									
			SPV.0060.01	SPV.0060.02	SPV.0060.03	SPV.0060.04	SPV.0060.05	SPV.0060.14	
			HYDRANT	GATE VALVE & VALVE	GATE VALVE & VALVE	GATE VALVE & VALVE	GATE VALVE & VALVE	ADJUSTING WATER	
			SPECIAL	BOX 6-INCH SPECIAL	BOX 8-INCH SPECIAL	BOX 10-INCH SPECIAL	BOX 12-INCH SPECIAL	VALVE BOXES SPECIAL	
LOCATION	STATION	OFFSET	EACH	EACH	EACH	EACH	EACH	EACH	
MILL ST.	156+08.13	50.87' LT	--	--	--	--	--	1	
MILL ST.	156+08.13	19.48' LT	--	--	--	1	--	--	
N. MILWAUKEE ST.	156+08.13	12.16' LT	--	--	--	--	1	--	
MILL ST.	156+08.13	10.56' LT	--	--	--	--	1	--	
MILL ST.	159+37.02	9.27' LT	--	--	--	--	1	--	
MILL ST.	159+46.91	9.39' LT	--	--	--	1	--	--	
CAROLINE ST.	159+41.00	13.42' LT	--	--	--	--	1	--	
CAROLINE ST.	160+16.83	22.76' LT	1	1	--	--	--	--	
CAROLINE ST.	164+09.78	14.55' LT	--	--	--	--	1	--	
MAIN ST.	164+13.59	20.44' LT	--	--	1	--	--	--	
MAIN ST.	164+13.73	8.25' LT	--	--	1	--	--	--	
CAROLINE ST.	164+17.78	14.54' LT	--	--	--	--	1	--	
CAROLINE ST.	164+37.95	22.59' LT	1	1	--	--	--	--	
ELIZABETH ST.	168+44.79'	16.87' RT	--	--	1	--	--	--	
CAROLINE ST.	168+50.38	22.06' RT	--	--	1	--	--	--	
CAROLINE ST.	168+50.39	12.81' RT	--	--	--	--	1	--	
ELIZABETH ST.	168+54.40	16.80' RT	--	--	--	--	1	--	
CAROLINE ST.	168+58.29	34.30' RT	1	1	--	--	--	--	
ELIZABETH ST.	171+06.97	23.60' RT	1	1	--	--	--	--	
N. MILWAUKEE ST.	171+94.91	12.75' LT	--	--	--	--	1	--	
ELIZABETH ST.	171+98.85	17.44' LT	--	--	1	--	--	--	
ELIZABETH ST.	171+98.89	8.71' LT	--	--	--	--	1	--	
N. MILWAUKEE ST.	172.02.91	12.76' LT	--	--	--	--	1	--	
N. MILWAUKEE ST.	174+60.70	12.63' LT	--	--	--	--	1	--	
BRAUN ST.	174+64.75	16.67' LT	--	--	1	--	--	--	
N. MILWAUKEE ST.	174+68.59	12.68' LT	--	--	--	--	1	--	
N. MILWAUKEE ST.	176+03.76	23.07' LT	1	1	--	--	--	--	
N. MILWAUKEE ST.	179+88.40	11.60' LT	--	--	--	--	1	--	
MARSHNER ST.	179+92.47	15.58' LT	--	--	1	--	--	--	
N. MILWAUKEE ST.	181+16.60	11.90' LT	--	--	--	--	1	--	
FOREST AVE.	181+20.63	8.79' LT	--	--	1	--	--	--	
FOREST AVE.	181+36.80	34.66' RT	1	1	--	--	--	--	
N. MILWAUKEE ST.	184+28.49	13.52' LT	--	--	--	--	1	--	
VICTOR CT.	184+32.47	17.27' LT	--	--	1	--	--	--	
N. MILWAUKEE ST.	185+48.88	22.75' LT	1	1	--	--	--	--	
EDNA ST.	185+81.25	10.51' LT	--	--	1	--	--	--	
N. MILWAUKEE ST.	185+85.22	14.47' LT	--	--	--	--	1	--	
N. MILWAUKEE ST.	189+47.55	9.89' LT	--	--	--	--	1	--	
GROVE ST.	189+51.64	13.82' LT	--	--	1	--	--	--	
N. MILWAUKEE ST.	189+55.56	9.77' LT	--	--	--	--	1	--	
N. MILWAUKEE ST.	189+78.41	20.01' LT	1	1	--	--	--	--	
N. MILWAUKEE ST.	196+48.75	43.17' LT	--	--	--	--	1	--	
TOTAL			8	8	11	2	20	1	

WATER MAIN												
					SPV.0090.01	SPV.0090.03	SPV.0090.04	SPV.0090.05	SPV.0090.06	SPV.0090.07	SPV.0090.08	SPV.0090.09
					HYDRANT	WATER MAIN	WATER MAIN	WATER MAIN	WATER MAIN	WATER MAIN	WATER MAIN	WATER MAIN
					LEAD	4-INCH PVC	6-INCH PVC	8-INCH PVC	10-INCH PVC	12-INCH PVC	10-INCH DUCTILE	12-INCH DUCTILE
					6-INCH PVC	GRANULAR	GRANULAR	GRANULAR	GRANULAR	GRANULAR	IRON GRANULAR	IRON GRANULAR
FROM		TO										
LOCATION	STATION	OFFSET	STATION	OFFSET	SPECIAL	BACKFILL SPECIAL	BACKFILL SPECIAL	BACKFILL SPECIAL	BACKFILL SPECIAL	BACKFILL SPECIAL	BACKFILL SPECIAL	BACKFILL SPECIAL
					LF	LF	LF	LF	LF	LF	LF	LF
MILL ST.	156+08.13	40.44' LT	156+08.13	19.48' LT	--	--	--	--	--	--	30	--
MILL ST.	156+08.13	19.48' LT	158+15.12	8.82' LT	--	--	--	--	--	--	--	222
N. MILWAUKEE ST.	155+63.13	5.93' LT	156+08.13	43.85' LT	--	--	--	--	--	--	--	88
MILL ST.	158+15.12	8.82' LT	159+43.02	9.38' LT	--	--	--	--	--	128	--	--
CAROLINE ST.	159+41.01	9.33' LT	168+50.44	18.72' RT	--	--	--	--	--	889	--	--
MILL ST.	159+43.02	9.38' LT	159+73.10	43.48' RT	--	--	--	--	60	--	--	--
CAROLINE ST.	160+16.83	15.28' LT	160+16.83	22.76' LT	8	--	--	--	--	--	--	--
MAIN ST.	164+13.60	27.01' LT	164+18.01	35.42' LT	--	11	--	--	--	--	--	--
MAIN ST.	164+13.60	27.01' LT	164+13.63	16.86' LT	--	--	--	11	--	--	--	--
MAIN ST.	164+13.63	16.86' LT	164+13.65	12.76' LT	--	--	--	--	--	5	--	--
MAIN ST.	164+13.65	12.76' LT	164+13.85	23.02' RT	--	--	--	36	--	--	--	--
MAIN ST.	164+13.85	23.02' RT	164+18.33	30.38' RT	--	10	--	--	--	--	--	--
CAROLINE ST.	164+37.79	14.63' LT	164+37.95	22.59' LT	8	--	--	--	--	--	--	--
ELIZABETH ST.	168+35.01	19.70' RT	168+35.01	22.75' RT	--	10	--	--	--	--	--	--
ELIZABETH ST.	168+35.01	19.70' RT	168+48.60	16.84' RT	--	--	--	24	--	--	--	--
ELIZABETH ST.	168+48.60	16.84' RT	171+98.86	14.14' LT	--	--	--	--	--	350	--	--
CAROLINE ST.	168+49.70	39.96' RT	168+50.44	18.72' RT	--	--	--	22	--	--	--	--
CAROLINE ST.	168+49.90	34.24' RT	168+58.29	34.30' RT	9	--	--	--	--	--	--	--
ELIZABETH ST.	171+06.85	16.25' RT	171+06.97	23.60' RT	8	--	--	--	--	--	--	--
N. MILWAUKEE ST.	171+82.85	37.39' LT	171+82.85	30.93' LT	--	--	--	10	--	--	--	--
N. MILWAUKEE ST.	171+82.85	30.93' LT	196+46.70	42.96' LT	--	--	--	--	--	2508	--	--
ELIZABETH ST.	171+94.17	30.98' LT	171+98.72	23.66' LT	--	10	--	--	--	--	--	--
ELIZABETH ST.	171+98.72	23.66' LT	171+98.86	14.14' LT	--	--	--	10	--	--	--	--
BRAUN ST.	174+63.56	34.26' LT	174+64.98	27.14' LT	--	8	--	--	--	--	--	--
BRAUN ST.	174+64.69	12.68' LT	174+64.98	27.14' LT	--	--	--	15	--	--	--	--
N. MILWAUKEE ST.	176+03.76	23.07' LT	176+03.87	12.40' LT	11	--	--	--	--	--	--	--
MARSHNER ST.	179+90.17	30.29' LT	179+92.48	23.30' LT	--	8	--	--	--	--	--	--
MARSHNER ST.	179+92.40	11.58' LT	179+92.48	23.30' LT	--	--	--	12	--	--	--	--
FOREST AVE.	181+20.58	11.94' LT	181+21.38	35.65' RT	--	--	--	48	--	--	--	--
FOREST AVE.	181+21.35	34.45' RT	181+36.80	34.66' RT	17	--	--	--	--	--	--	--
FOREST AVE.	181+21.38	35.65' RT	181+25.61	39.97' RT	--	8	--	--	--	--	--	--
VICTOR CT.	184+29.98	28.82' LT	184+32.58	22.18' LT	--	--	10	--	--	--	--	--
VICTOR CT.	184+32.42	13.57' LT	184+32.58	22.18' LT	--	--	--	9	--	--	--	--
N. MILWAUKEE ST.	185+48.81	14.67' LT	185+48.88	22.75' LT	9	--	--	--	--	--	--	--
EDNA ST.	185+81.13	25.97' RT	185+85.22	14.47' LT	--	--	--	41	--	--	--	--
EDNA ST.	185+81.13	25.97' RT	185+85.27	33.56' RT	--	10	--	--	--	--	--	--
GROVE ST.	189+47.55	29.03' LT	189+51.63	21.24' LT	--	10	--	--	--	--	--	--
GROVE ST.	189+51.62	9.83' LT	189+51.63	21.24' LT	--	--	--	12	--	--	--	--
N. MILWAUKEE ST.	189+78.39	9.59' LT	189+78.41	20.01' LT	10	--	--	--	--	--	--	--
TOTAL					80	85	10	250	60	3880	30	310

WATER SERVICE LATERALS

SPV.0090.02
WATER SERVICE LATERAL
1-INCH HDPE SPECIAL

LOCATION	STATION	OFFSET	LF
MILL ST.	156+99.00	RT	38
MILL ST.	157+00.00	RT	38
CAROLINE ST.	160+61.00	LT	9
CAROLINE ST.	160+91.00	LT	8
CAROLINE ST.	161+24.00	LT	9
CAROLINE ST.	161+70.00	LT	7
CAROLINE ST.	161+94.00	RT	51
CAROLINE ST.	162+20.00	LT	11
CAROLINE ST.	164+91.00	LT	8
CAROLINE ST.	164+97.00	RT	38
CAROLINE ST.	165+69.00	RT	38
CAROLINE ST.	165+93.00	LT	9
CAROLINE ST.	166+26.00	RT	38
CAROLINE ST.	166+36.00	LT	8
CAROLINE ST.	166+72.00	RT	38
CAROLINE ST.	166+94.00	LT	9
CAROLINE ST.	167+40.00	RT	39
CAROLINE ST.	167+41.00	RT	39
CAROLINE ST.	167+62.00	LT	9
ELIZABETH ST.	169+31.00	RT	9
ELIZABETH ST.	170+06.00	LT	41
ELIZABETH ST.	170+16.00	RT	10
ELIZABETH ST.	170+39.00	LT	42
ELIZABETH ST.	170+54.00	RT	11
ELIZABETH ST.	170+99.00	RT	9
ELIZABETH ST.	171+03.00	LT	42
N. MILWAUKEE ST.	172+53.00	LT	13
N. MILWAUKEE ST.	173+20.00	LT	12
N. MILWAUKEE ST.	173+45.00	RT	40
N. MILWAUKEE ST.	173+74.00	LT	12
N. MILWAUKEE ST.	174+18.00	RT	40
N. MILWAUKEE ST.	174+83.00	RT	39
N. MILWAUKEE ST.	175+04.00	LT	12
N. MILWAUKEE ST.	175+22.00	RT	40
N. MILWAUKEE ST.	175+49.00	RT	40
N. MILWAUKEE ST.	176+23.00	RT	40
N. MILWAUKEE ST.	176+36.00	LT	13
N. MILWAUKEE ST.	176+70.00	RT	40
N. MILWAUKEE ST.	176+80.00	LT	12
N. MILWAUKEE ST.	177+30.00	LT	13
SUBTOTAL			974

WATER SERVICE LATERALS CONTINUED

SPV.0090.02
WATER SERVICE LATERAL
1-INCH HDPE SPECIAL

LOCATION	STATION	OFFSET	LF
N. MILWAUKEE ST.	177+43.00	RT	40
N. MILWAUKEE ST.	177+78.00	LT	13
N. MILWAUKEE ST.	177+98.00	RT	39
N. MILWAUKEE ST.	178+40.00	RT	40
N. MILWAUKEE ST.	178+52.00	LT	12
N. MILWAUKEE ST.	179+06.00	RT	39
N. MILWAUKEE ST.	179+09.00	LT	13
N. MILWAUKEE ST.	179+10.00	LT	13
N. MILWAUKEE ST.	179+54.00	RT	40
N. MILWAUKEE ST.	180+04.00	RT	40
N. MILWAUKEE ST.	181+26.00	LT	10
N. MILWAUKEE ST.	181+52.00	LT	13
N. MILWAUKEE ST.	182+50.00	RT	41
N. MILWAUKEE ST.	182+79.00	LT	12
N. MILWAUKEE ST.	183+25.00	RT	42
N. MILWAUKEE ST.	183+45.00	LT	12
N. MILWAUKEE ST.	183+68.00	RT	41
N. MILWAUKEE ST.	183+69.00	RT	41
N. MILWAUKEE ST.	184+02.00	LT	10
N. MILWAUKEE ST.	184+66.00	RT	42
N. MILWAUKEE ST.	184+88.00	LT	8
N. MILWAUKEE ST.	185+44.00	LT	9
N. MILWAUKEE ST.	186+13.00	LT	5
N. MILWAUKEE ST.	186+44.00	LT	5
N. MILWAUKEE ST.	187+10.00	LT	6
N. MILWAUKEE ST.	187+26.00	RT	40
N. MILWAUKEE ST.	187+82.00	LT	10
N. MILWAUKEE ST.	187+86.00	RT	40
N. MILWAUKEE ST.	188+57.00	RT	41
N. MILWAUKEE ST.	189+11.00	RT	42
N. MILWAUKEE ST.	189+63.00	RT	41
N. MILWAUKEE ST.	190+07.00	RT	42
N. MILWAUKEE ST.	190+63.00	LT	15
N. MILWAUKEE ST.	190+83.00	RT	43
N. MILWAUKEE ST.	191+33.00	RT	44
N. MILWAUKEE ST.	192+09.00	RT	37
N. MILWAUKEE ST.	192+15.00	RT	35
SUBTOTAL			1016
TOTAL			1990

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

TRANSPORTATION PROJECT PLAT TITLE SHEET

PROJECT NO. 4560-05-21

MULLET RIVER TO SHURKE ROAD

STH 67

SHEBOYGAN COUNTY

STATE PROJECT NUMBER

4560-05-21

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/	AP	RELEASE OF RIGHTS	ROR
DRIVEWAY CONNECTION	AR	REMAINING	REM.
ACCESS RIGHTS	AC	RIGHT-OF-WAY	R/W
ACRES	AC.	SECTION	SEC.
AND OTHERS	ET AL.	STATION	STA.
CENTERLINE	C/L	TEMPORARY LIMITED EASEMENT	TLE
CERTIFIED SURVEY MAP	CSM	VOLUME	V.
CORNER	COR.		
DOCUMENT	DOC.		
EASEMENT	EASE.		
HIGHWAY EASEMENT	H.E.		
LAND CONTRACT	LC		
MONUMENT	MON.		
PAGE	P.		
PERMANENT LIMITED EASEMENT	PLE		
PROPERTY LINE	PL		
RECORDED AS	(100')		
REFERENCE LINE	R/L		

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 4560-05-21
SHEET 2 OF 2
AMENDMENT NO. _____

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	DELTA
LENGTH OF CURVE	L
TANGENT	TAN

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	IF (1" UNLESS NOTED)	PROPOSED R/W LINE	---
R/W MONUMENT	• (SET)	EXISTING H.E. LINE	---
R/W STANDARD	• (SET)	PROPERTY LINE	---
SIGN	ISIGN	LOT & TIE LINES	---
SECTION CORNER MONUMENT	•	SLOPE INTERCEPTS	---
SECTION CORNER SYMBOL	•	CORPORATE LIMITS	---
FEE (HATCH VARIES)	---	RESTRICTED ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	---
TEMPORARY LIMITED EASEMENT	---	RESTRICTED ACCESS (BY ACQUISITION)	---
PERMANENT LIMITED EASEMENT	---	NO ACCESS (BY STATUTORY AUTHORITY)	---
R/W BOUNDARY POINT	---	SECTION LINE	---
PARCEL NUMBER	---	QUARTER LINE	---
SIGN NUMBER (OFF PREMISE)	---	SIXTEENTH LINE	---
BUILDING	---	EXISTING CENTERLINE	---
		PROPOSED REFERENCE LINE	---
		PARALLEL OFFSET	---

CONVENTIONAL UTILITY SYMBOLS

WATER	W
GAS	G
TELEPHONE	T
OVERHEAD	OH
TRANSMISSION LINES	---
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS
NON COMPENSABLE	---
COMPENSABLE	---
POWER POLE	---
TELEPHONE POLE	---
TELEPHONE PEDESTAL	---
LIGHT POLE	---



PROJECT LOCATION



LAYOUT
SCALE 0 1000 2000
1"=2000'

NOTES:

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, SHEBOYGAN COUNTY, NAD83 (1997) ADJUSTMENT IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT. RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD". PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE WISCONSIN DEPARTMENT OF TRANSPORTATION REGION OFFICE IN GREEN BAY, WISCONSIN.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, TEMPORARY LIMITED EASEMENT INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL (TLES) EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

RIGHT-OF-WAY POINTS SHOWN ON THIS PLAT THAT DO NOT CONTAIN THE "R/W MONUMENT (SET)" SYMBOLS HAVE NOT BEEN SET. THE LOCATION IS INACCESSIBLE AND/OR OBSTRUCTED OR AN EXISTING MONUMENT WAS LOCATED AND DETERMINED TO BE IN THE CORRECT POSITION.

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor Robert F. Schmelzer
Designer _____
Project Manager _____
Regional Examiner _____
Regional Supervisor _____
C.O. Examiner _____

APPROVED FOR THE CITY OF PLYMOUTH

DATE: June 29, 2013 Will Schmelzer DPW
(Signature)

PROJECT ID: 4560-05-21

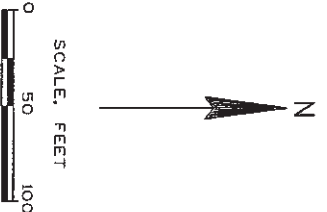
COUNTY: SHEBOYGAN

96

1971138
SHEBOYGAN COUNTY WI
RECORDED ON
06/27/2013 1:07 PM
ELLEN R. SCHLEICHER
REGISTER OF DEEDS
PLAT FEE: \$5.00
Cashier ID: 9

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 4560-05-21
AMENDMENT NO:---

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 4560-05-21
AMENDMENT NO:---



LINE COURSE TABLE		
NUMBER	DIRECTION	DISTANCE
507-400	S 89°56'58" W	3.13
102-103	N 00°11'33" W	35.78
104-105	S 00°11'33" E	35.97
105-106	N 89°55'25" E	35.92
107-108	N 44°55'02" E	11.31
109-110	N 00°06'20" W	15.98
110-111	S 89°51'45" W	15.98
115-116	N 89°48'41" E	32.75
116-117	N 89°48'41" E	33.00
118-119	N 00°11'33" W	13.50
121-120	S 89°51'45" W	15.60
124-130	S 84°52'33" W	7.06
135-075	S 89°48'41" W	0.25

[illegible]

SIGNATURE		SIGNATURE	
SIGN NO.	STATION	OFFSET	SIGN OWNER
S-1	155+458.02	35.16 RT	PATTY PROPERTIES, LLC
S-2	155+558.75	41.10 LT	CAVAR, LLC

OWNER

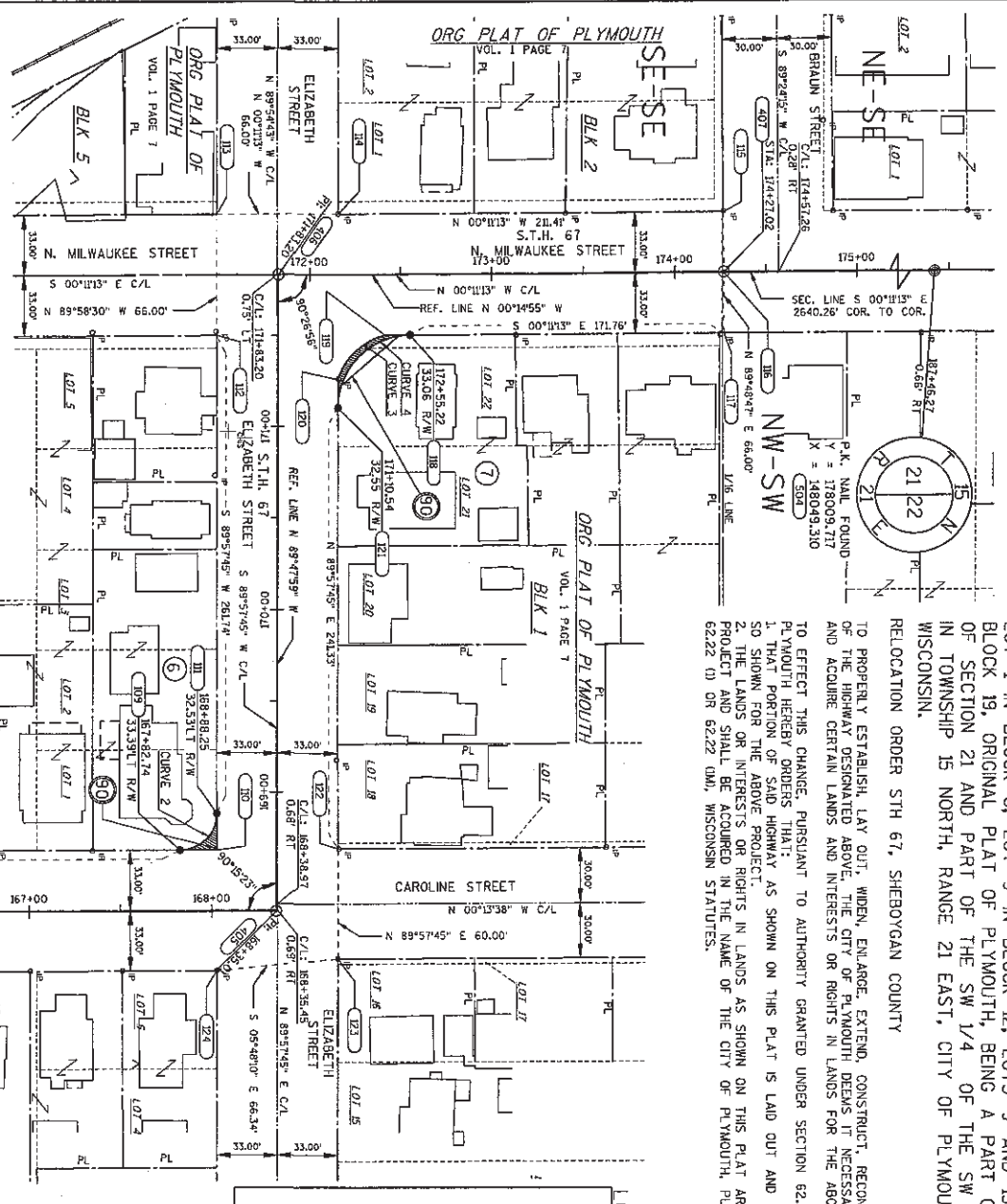
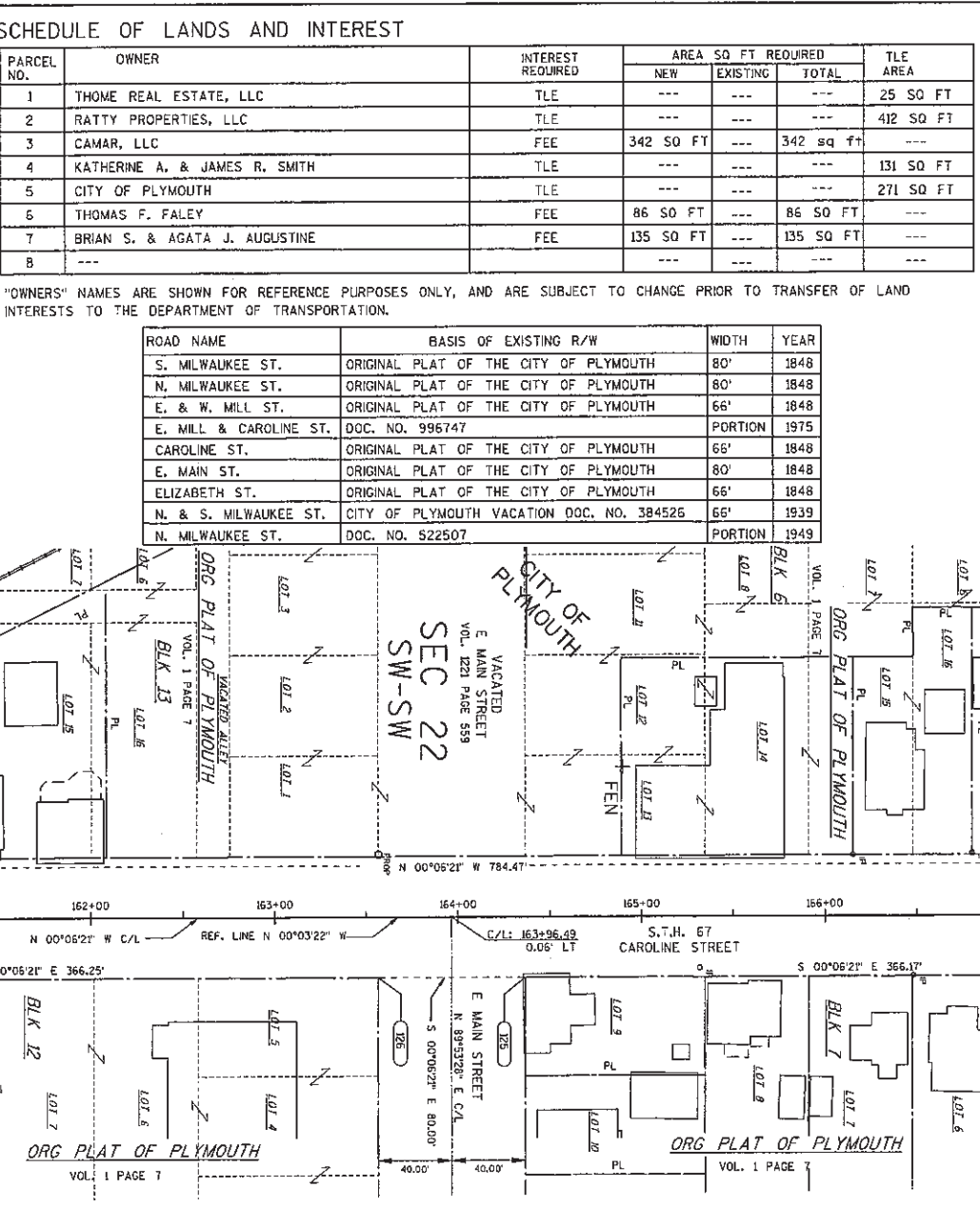
INTEREST

REQUIRED

RELEASE OF RIGHTS

SCHEDULE OF UTILITIES AND INTEREST

UTILITY NO.	OWNER	INTEREST
90	WISCONSIN PUBLIC SERVICE (GAS)	



FILE NAME : C:\2012 PROJECTS\STH 67 PLYMOUTH\TPP\4560-05-21_006.DWG
APPRAISAL PLAT DATE : -----

PLOT SCALE : 1"=100'

4560-05-21 4.01

4

TRANSPORTATION PROJECT PLAT NO: 4560-05-21 - 4.02

THAT PART OF UNPLATTED LANDS LOCATED IN THE SW 1/4 OF THE NW 1/4 OF SECTION 22, TOWNSHIP 15 NORTH, RANGE 21 EAST, CITY OF PLYMOUTH, SHEBOYGAN COUNTY, WISCONSIN.

RELOCATION ORDER STH 67, SHEBOYGAN COUNTY

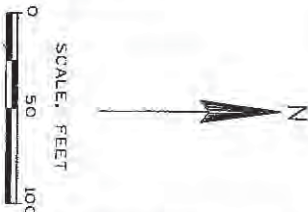
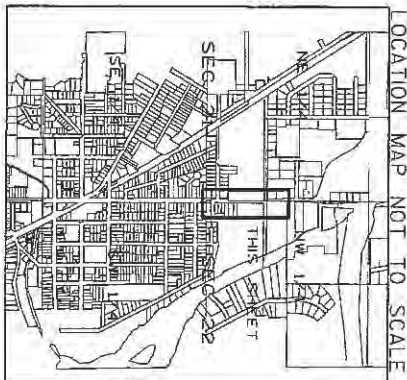
TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE CITY OF PLYMOUTH DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 62.22, WISCONSIN STATUTES, THE CITY OF PLYMOUTH HEREBY PROCLAIMS THAT, AS SHOWN ON THIS PLAT IS Laid OUT AND ESTABLISHED BY THE CITY FOR THE ABOVE PROJECT, THAT PORTION OF THE ABOVE PROJECT, 1. THAT PORTION OF THE ABOVE PROJECT, 2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE CITY FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE CITY OF PLYMOUTH, PURSUANT TO THE PROVISIONS OF SECTION 62.22 (1) OR 62.22 (2), WISCONSIN STATUTES.

SCHEDULE OF LANDS AND INTEREST

PARCEL NO.	OWNER	INTEREST	AREA 50 FT REQUIRED	TLE AREA
9	THOMAS M. & SUSAN M. PHELPS	FEE	323 SQ FT	323 SQ FT
10	PETER L. HERNANDEZ	FEE	235 SQ FT	235 SQ FT
11	PAUL J. & TERESA C. SCHNEIDER	FEE	290 SQ FT	290 SQ FT
12	LARRY T. & CHERYL L. NELLY	FEE	325 SQ FT	325 SQ FT
13	DAVID M. STROBEL	FEE	385 SQ FT	385 SQ FT
14	TRENCE M. & ROSE M. WERSE	FEE	320 SQ FT	320 SQ FT

OWNERS' NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE DEPARTMENT OF TRANSPORTATION.



1971139
SHEBOYGAN COUNTY WIS
RECORDED ON
06/27/2013 1:07 PM
ELLEN R. SCHLECHER
REGISTER OF DEEDS
SHEBOYGAN COUNTY
Vol. 2896(5):131
Ellen R. Schlecher

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 4560-05-21
AMENDMENT NO. 1

SEC 21
SE-NE

SEC 22
SW-NW

CITY OF PLYMOUTH

UNPLATTED
LANDS

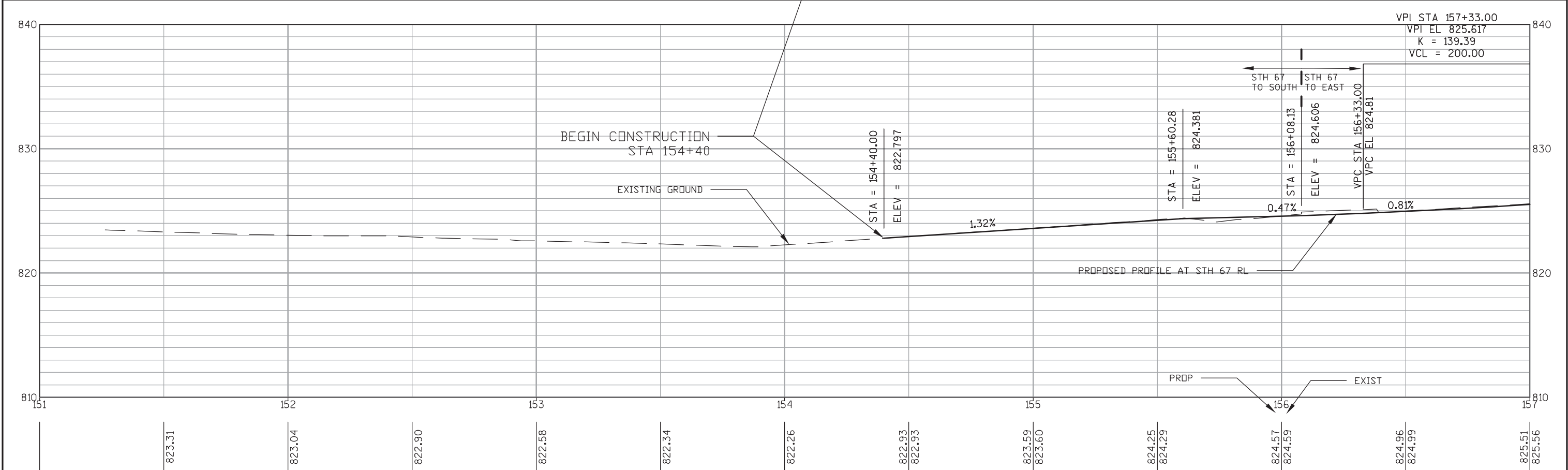
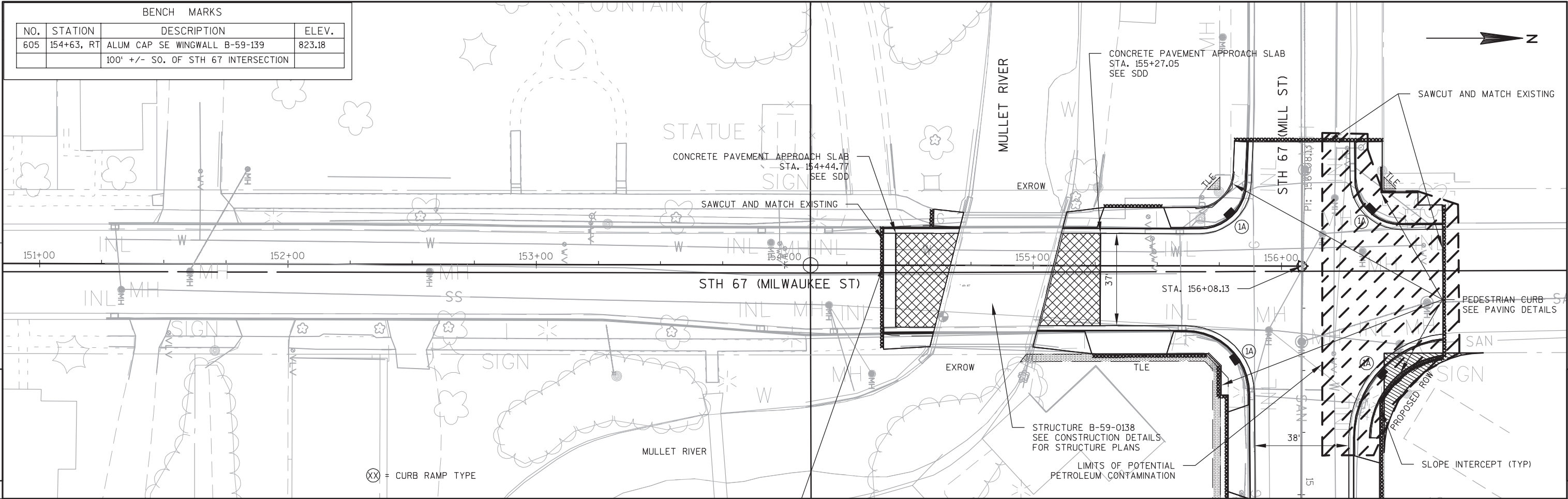
UNPLATTED
LANDS

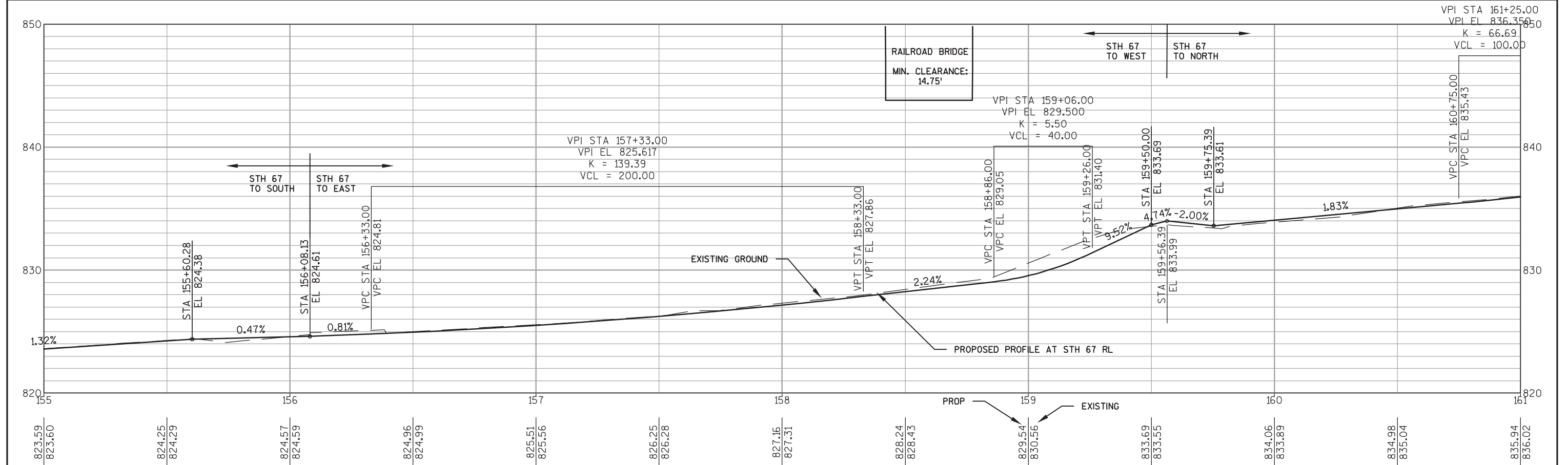
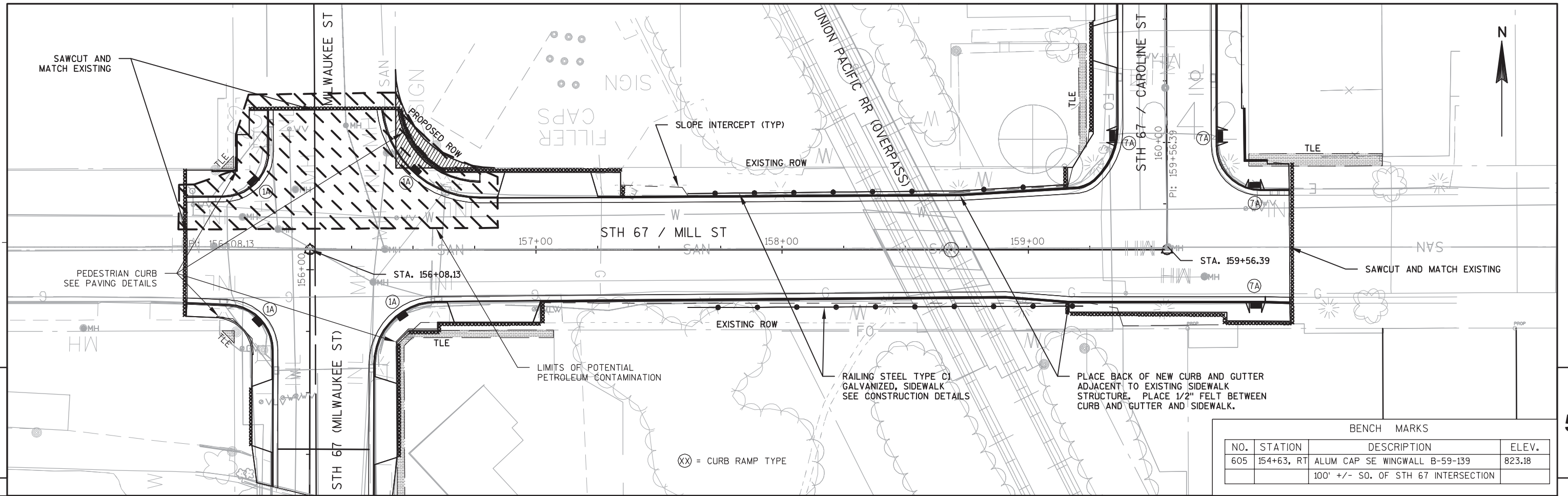
UNPLATTED
LANDS

NUMBER	DIRECTION	DISTANCE
409-410	N 00°10'31" W	163.62
410-411	N 00°21'14" W	76.42
411-412	N 00°18'30" E	503.96
412-413	N 00°32'29" E	205.31
413-414	N 00°44'13" E	63.05
414-415	N 00°44'13" E	62.72
414-415	N 00°44'13" E	63.30

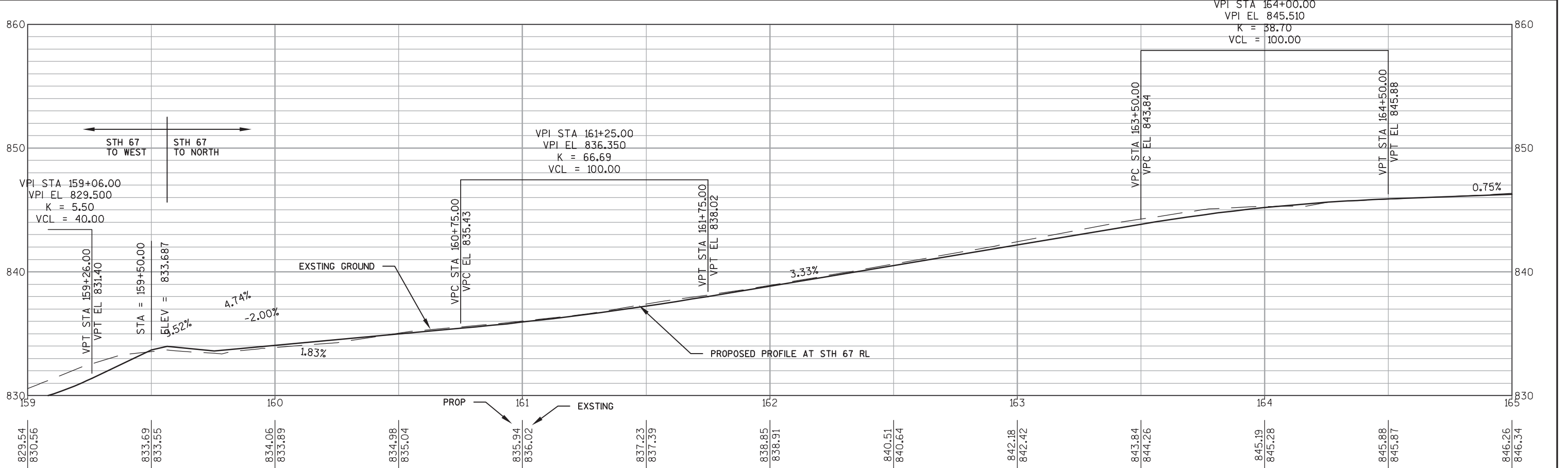
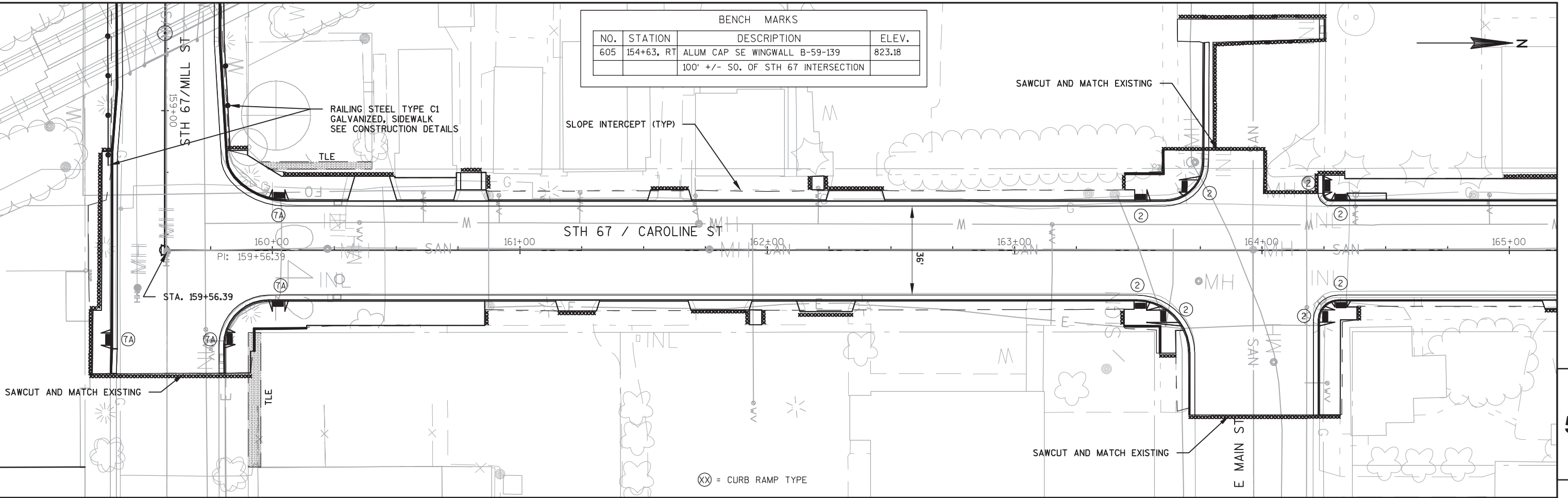
PT.	STATION	OFFSET	DESC.
409	178009.718	148048.653	
410	178153.334	148048.287	
411	178229.749	148047.621	
412	178733.702	148050.333	
413	178933.002	148052.273	
414	179001.720	148053.079	
415	179008.043	148053.381	
416	179498.607	148044.898	

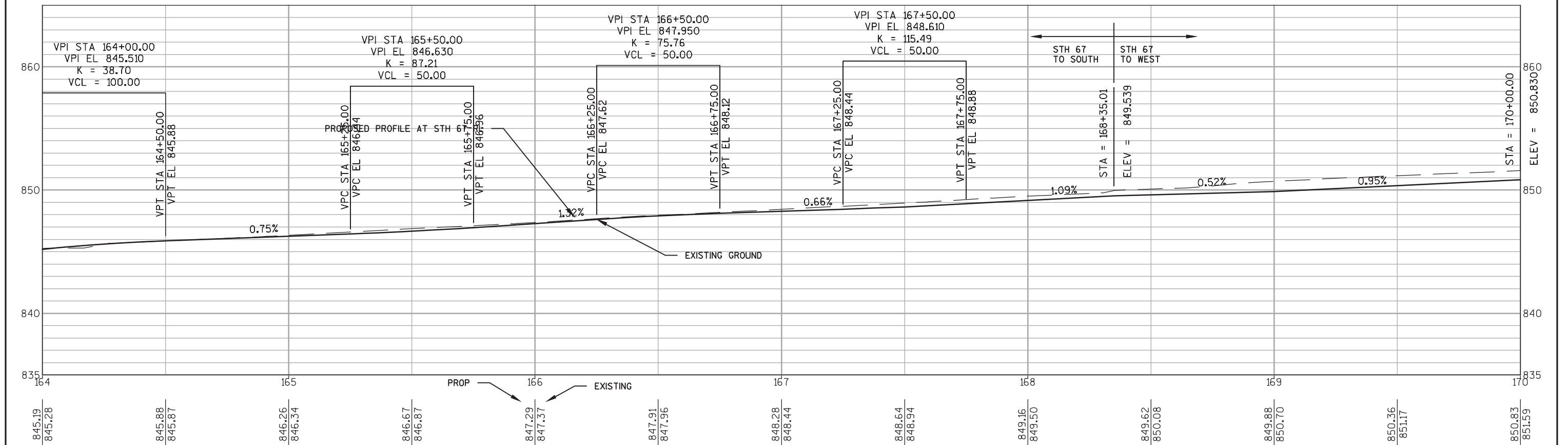
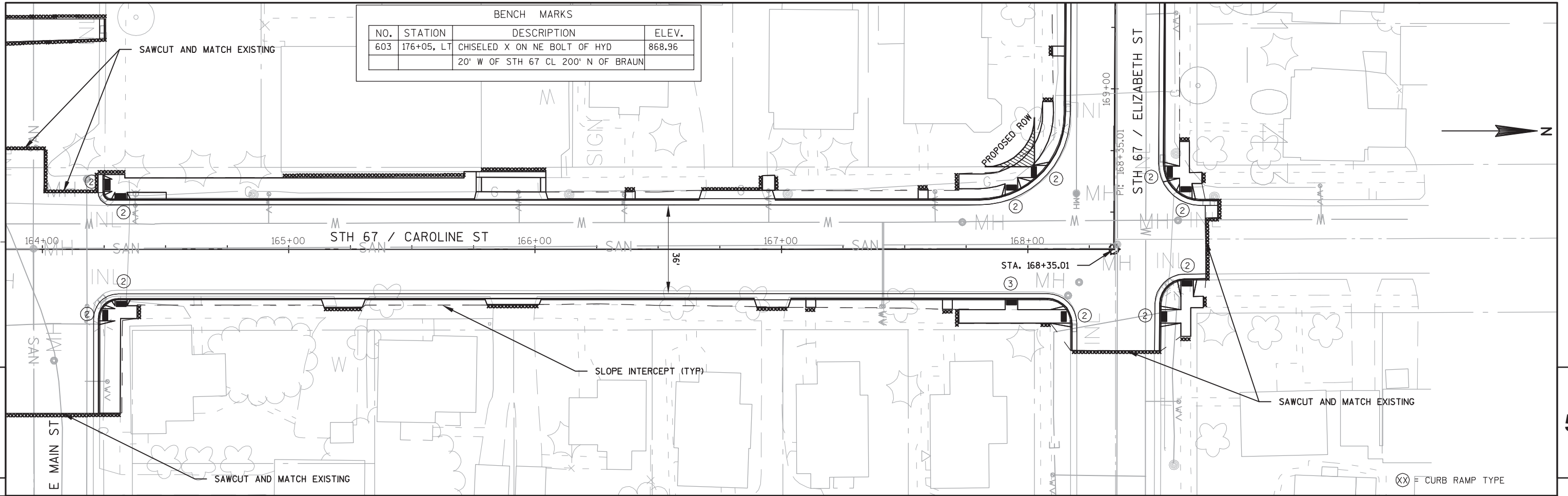
FOLD EXISTING MONUMENT TABLE			
PT.	STATION	OFFSET	DESC.
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102	187446.53	33.80	3" P
103	187446.53	33.80	4" P
104	187446.53	33.80	5" P
105	187446.53	33.80	6" P
106	187446.53	33.80	7" P
107	187446.53	33.80	8" P
108	187446.53	33.80	9" P
109	187446.53	33.80	10" P
110	187446.53	33.80	11" P
111	187446.53	33.80	12" P
112	187446.53	33.80	13" P
113	187446.53	33.80	14" P
114	187446.53	33.80	15" P
115	187446.53	33.80	16" P
116	187446.53	33.80	17" P
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118	187446.53	33.80	19" P
119	187446.53	33.80	20" P
120	187446.53	33.80	21" P
121	187446.53	33.80	22" P
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125	187446.53	33.80	26" P
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138	187446.53	33.80	39" P
139	187446.53	33.80	40" P
140	187446.53	33.80	41" P
141	187446.53	33.80	42" P
142	187446.53	33.80	43" P
143	187446.53	33.80	44" P
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366	187446.53	33.80	267" P
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370	187446.53		

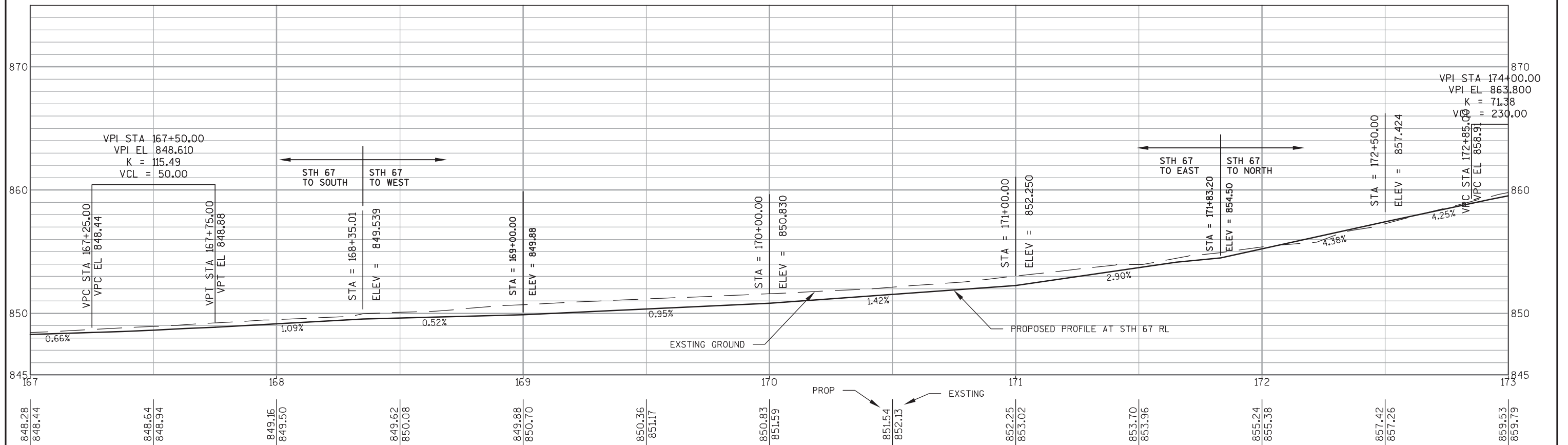
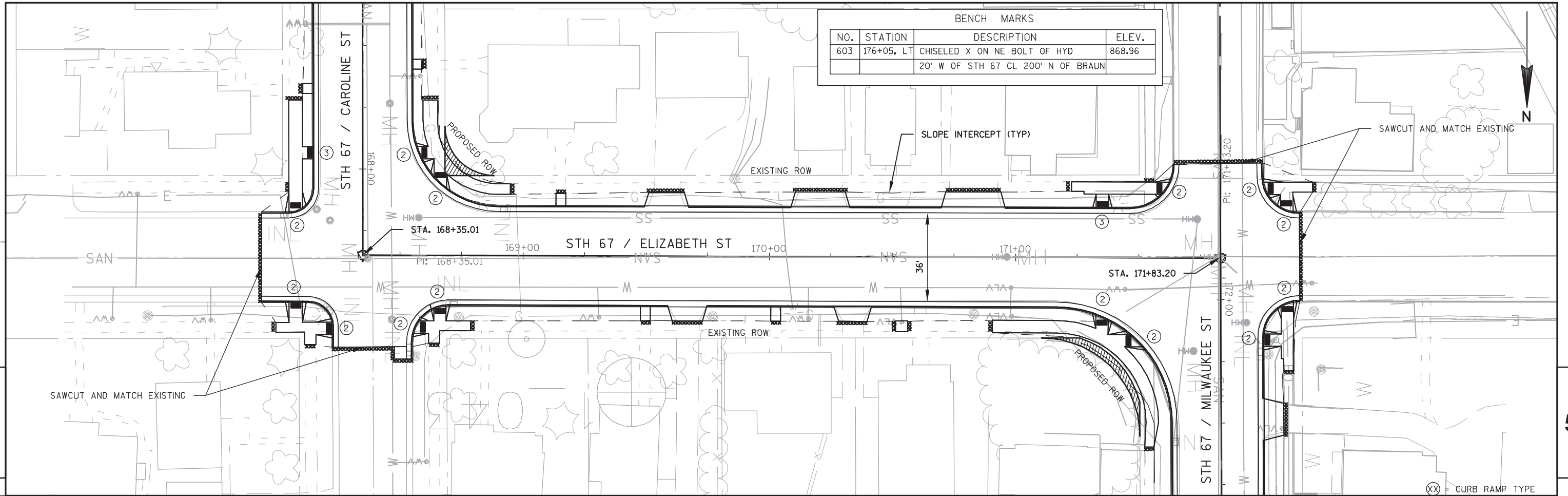


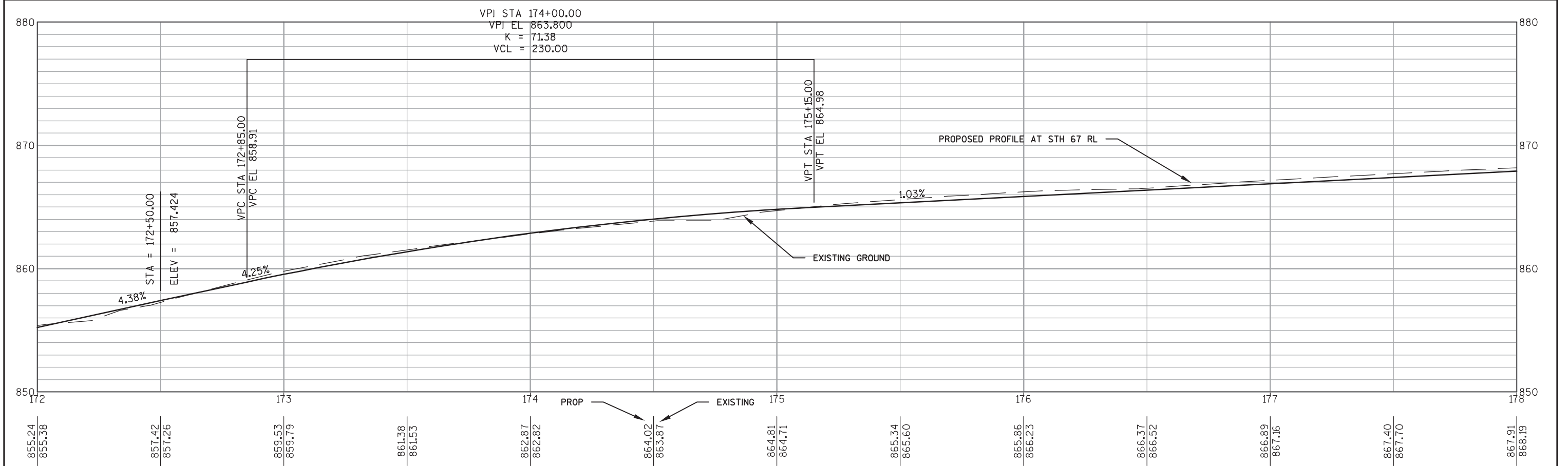
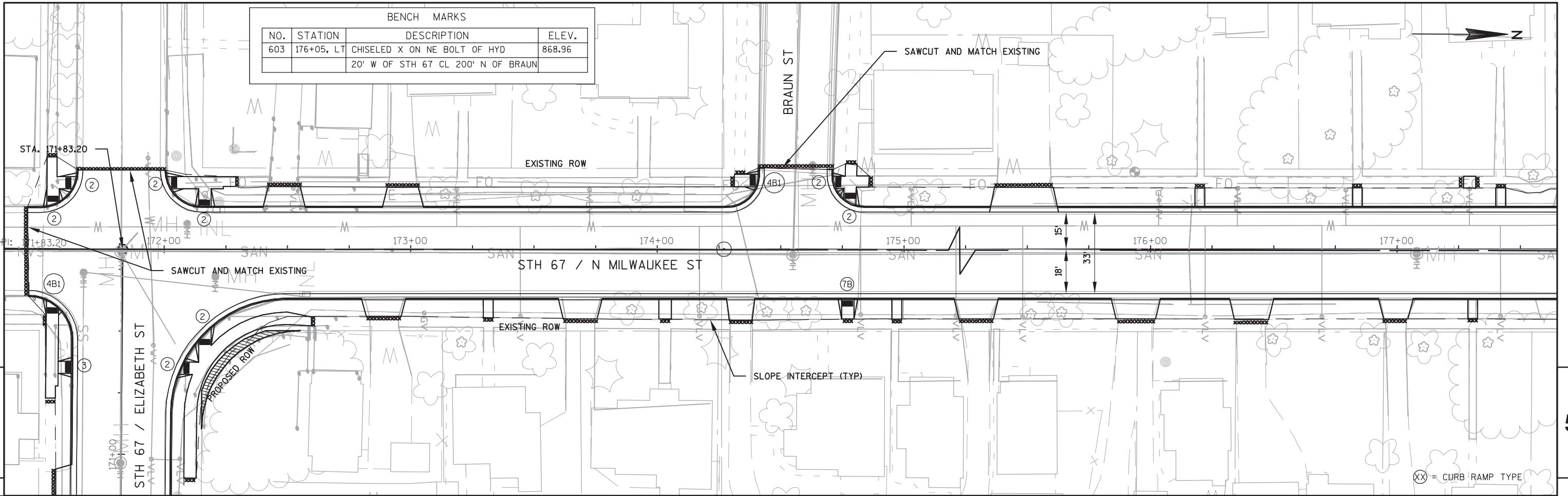


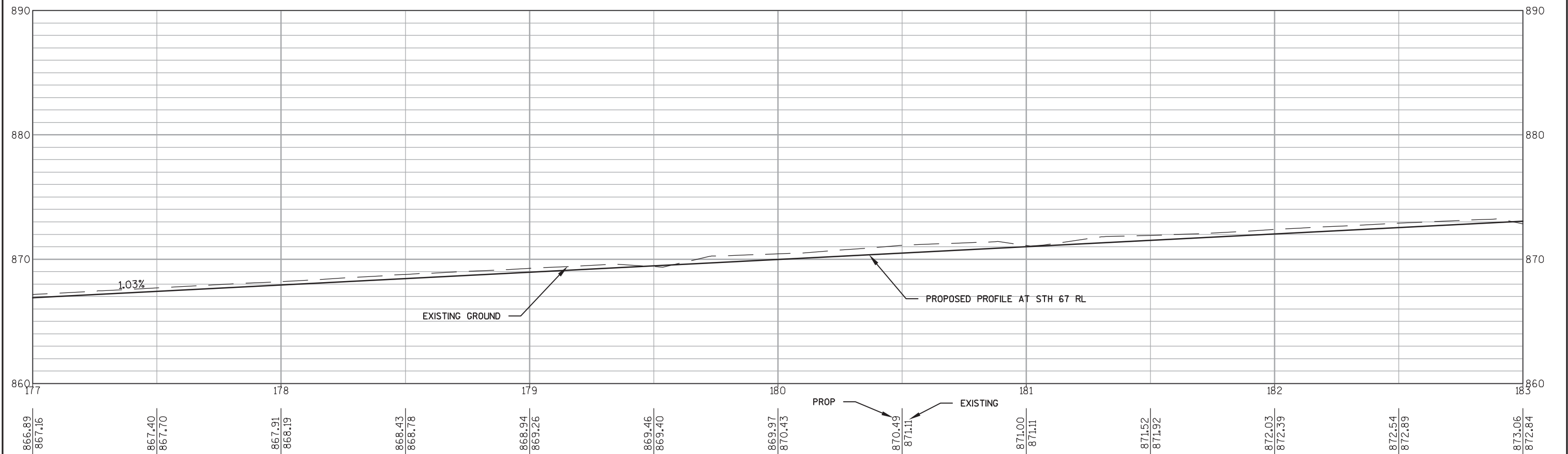
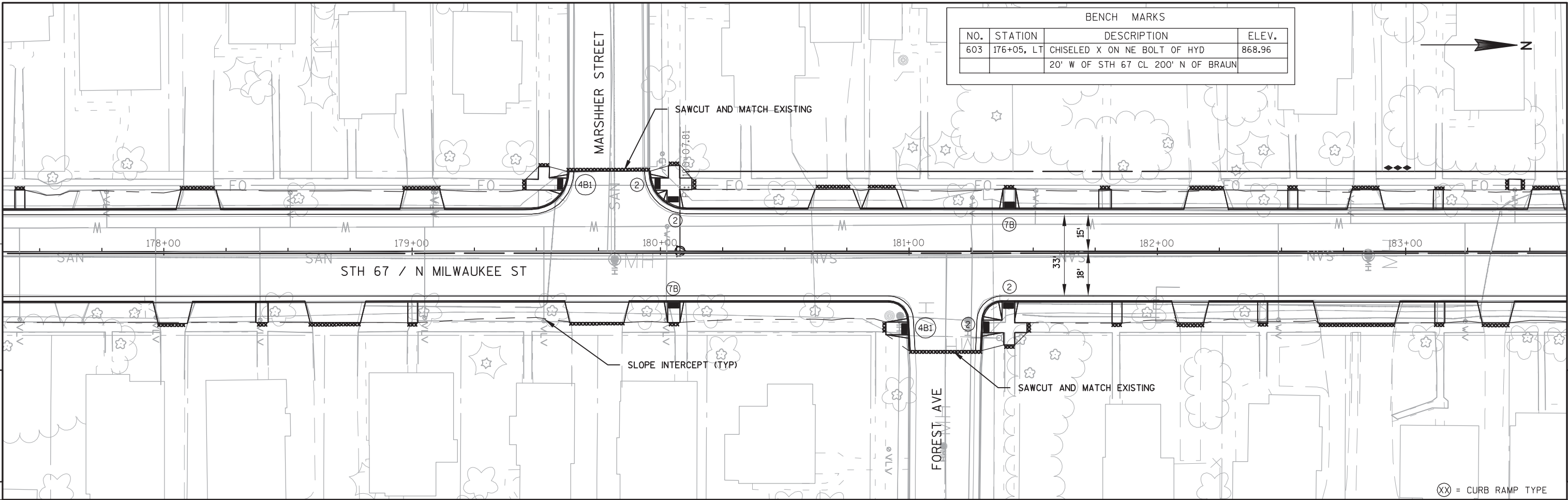
BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
605	154+63, RT	ALUM CAP SE WINGWALL B-59-139	823.18
		100' +/- SO. OF STH 67 INTERSECTION	

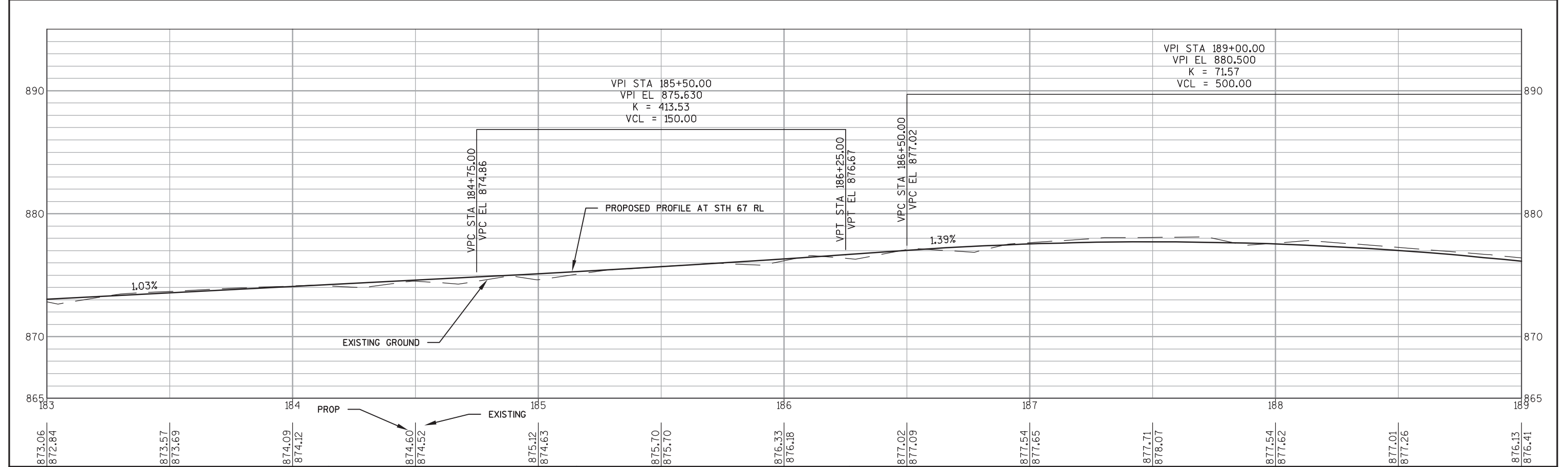
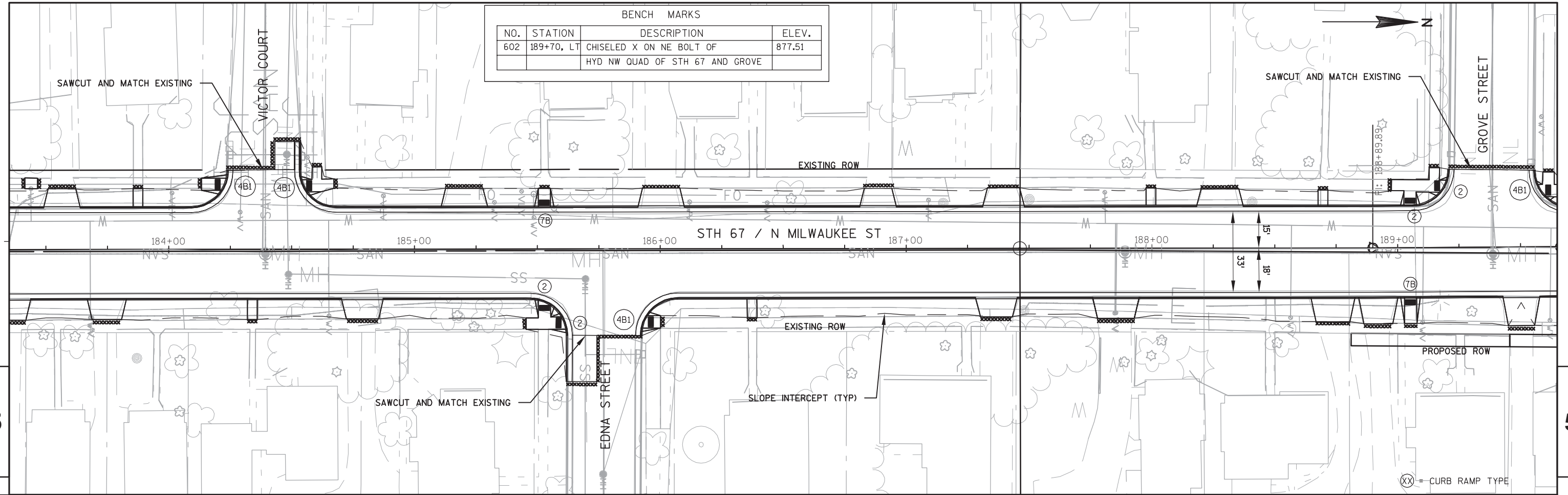


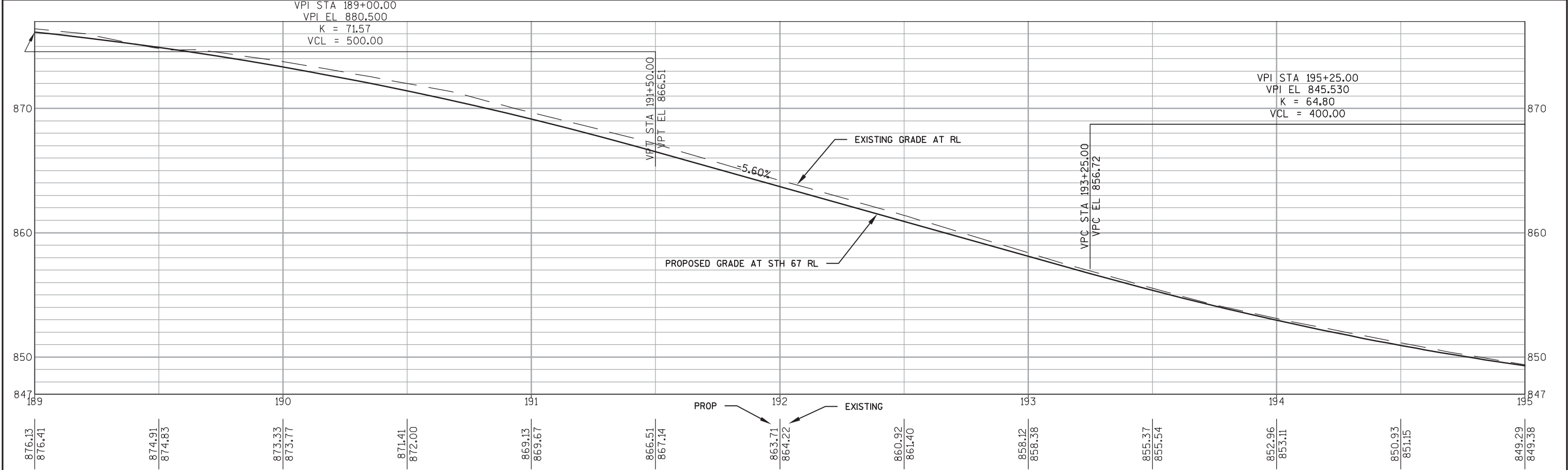
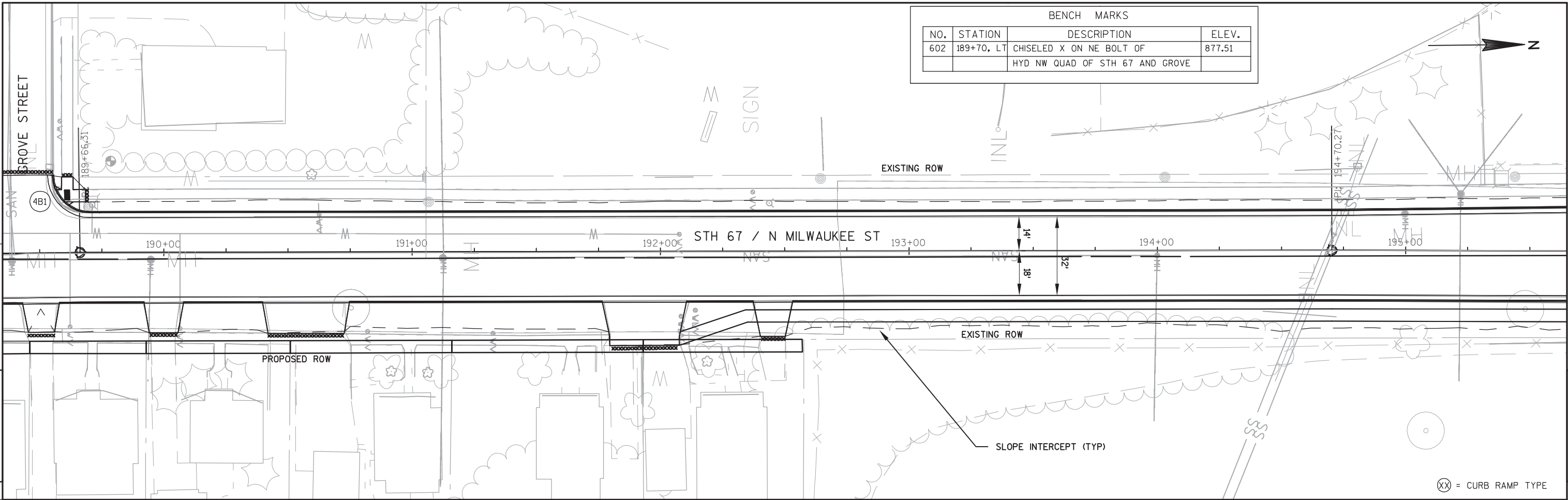


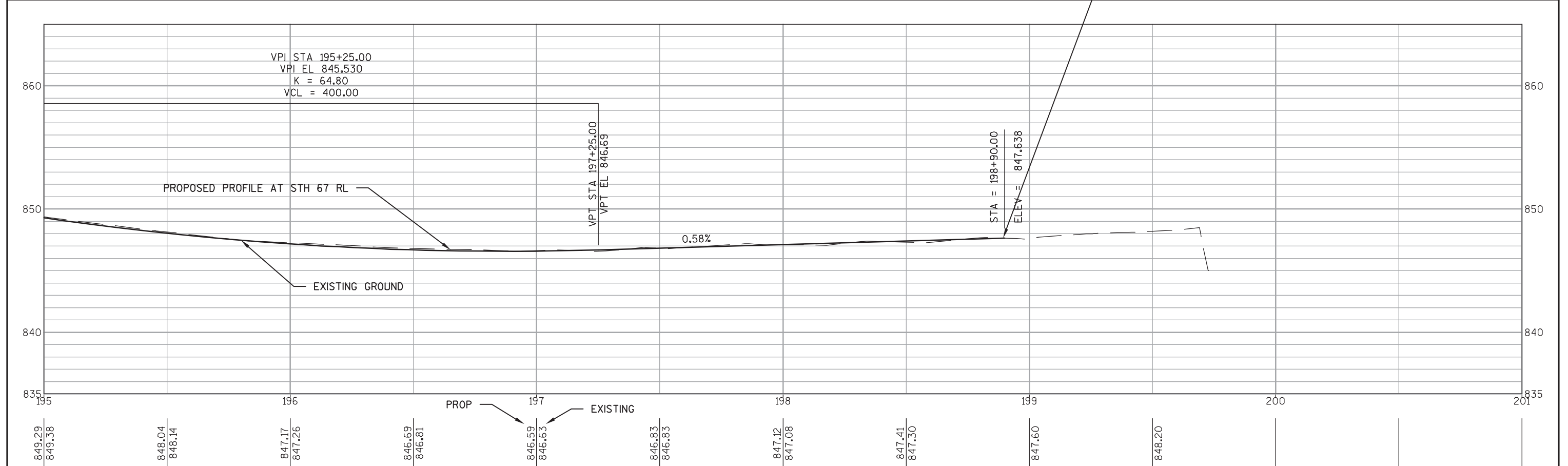
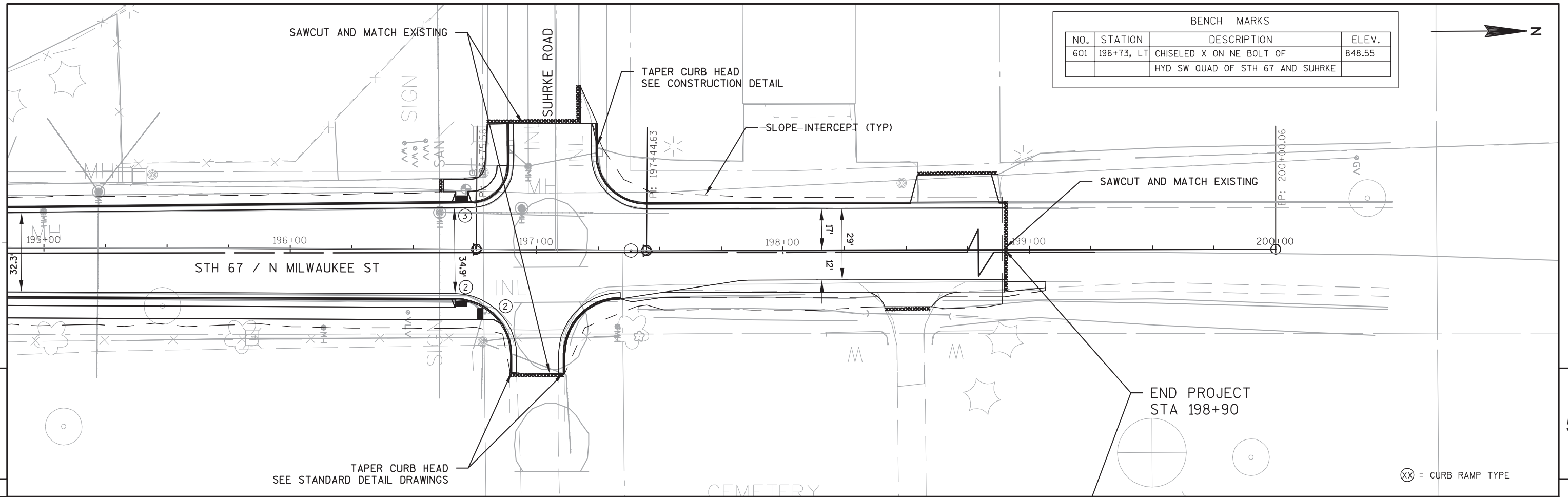






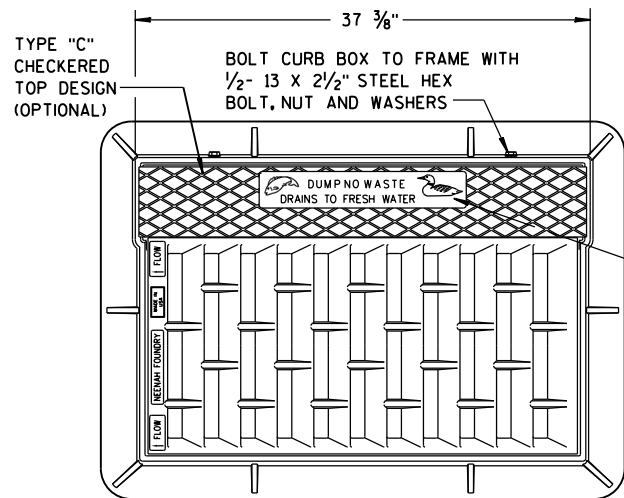




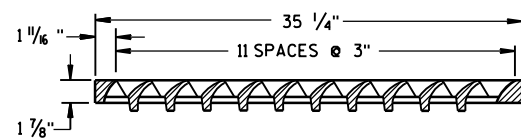
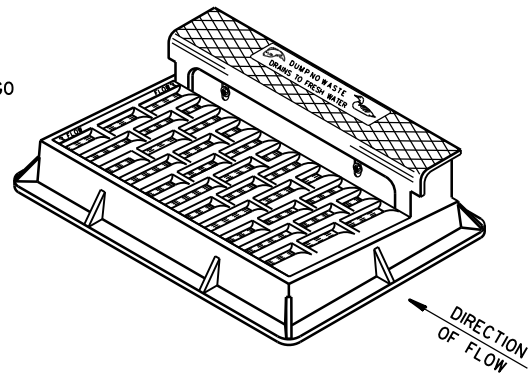


Standard Detail Drawing List

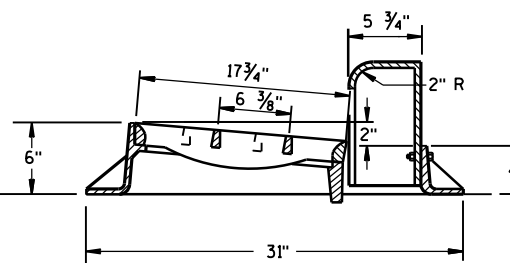
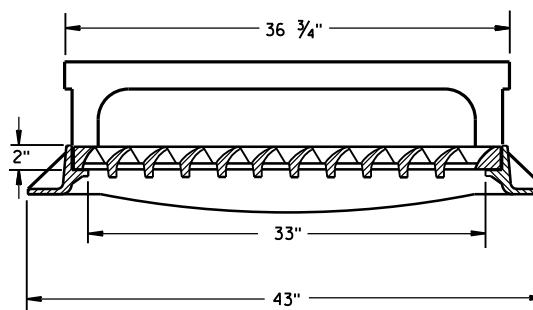
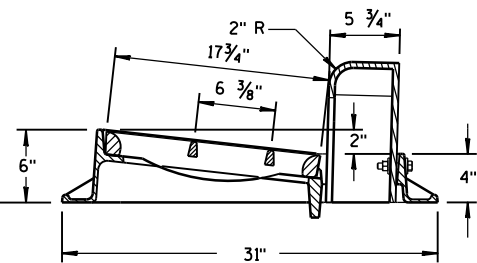
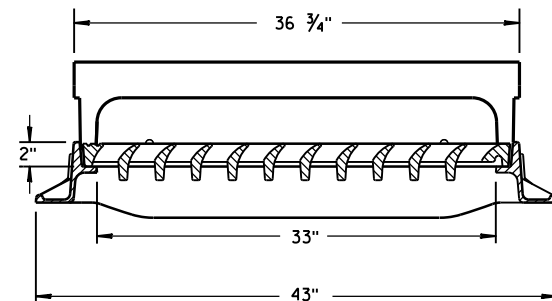
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08A08-01	CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER
08A09-01	CATCH BASINS 2X3-FT AND 2.5X3-FT
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08B10-01	MANHOLES 3X3-FT, 4X4-FT, 5X5-FT AND 6X6-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13B02-07A	CONCRETE BRIDGE APPROACH
13B02-07B	STRUCTURAL APPROACH SLAB AND CONCRETE BRIDGE APPROACH
13C13-08	URBAN DOWELED CONCRETE PAVEMENT
13C18-02A	CONCRETE PAVEMENT JOINTING
13C18-02B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-02C	CONCRETE PAVEMENT JOINT TIES
13C18-02D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES
15C07-12A	PAVEMENT MARKING SYMBOLS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C07-12D	ROUNDBOUT ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C29-03F	PAVEMENT MARKING FOR SHARED LANE 35 MPH OR LESS
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE



NOTE:
GRATE IS REVERSIBLE.

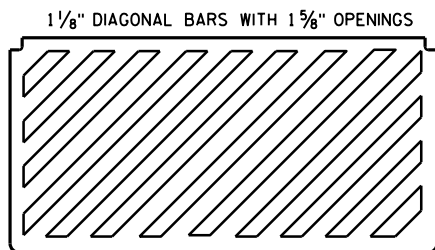


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

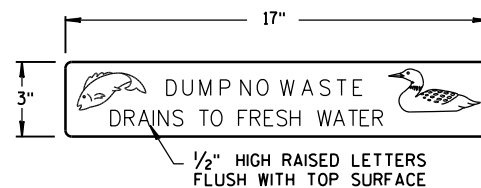


TYPE "H"

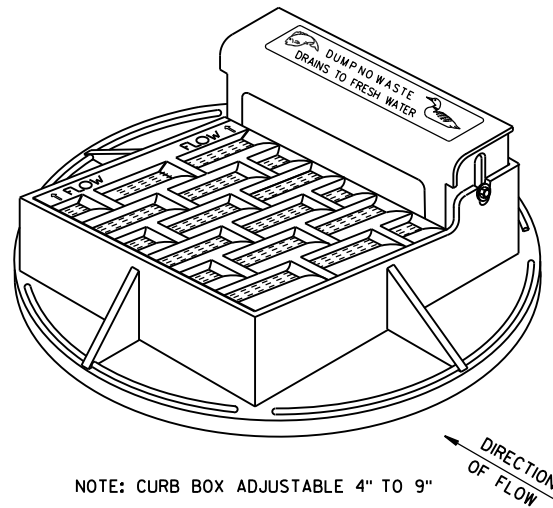
NOTE: EITHER CASTING IS ACCEPTABLE



SPECIAL GRATE FOR
TYPE "H" COVER
(MEASURES 35 1/4" X 17 3/4" X 2")
(NOTED AS TYPE H-S ON DRAINAGE TABLE)

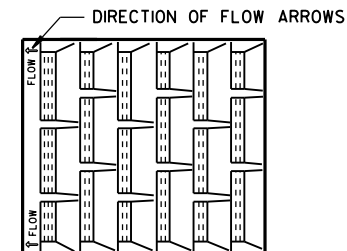


LOGO DETAIL

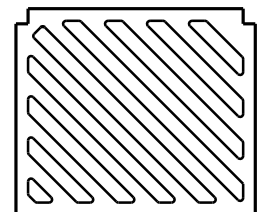


NOTE: CURB BOX ADJUSTABLE 4" TO 9"

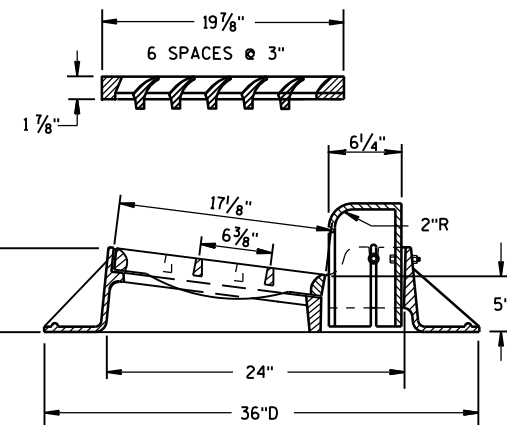
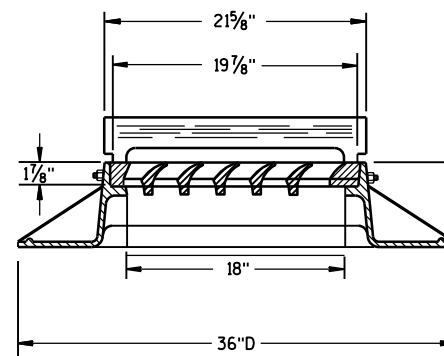
NOTE:
GRATE IS REVERSIBLE.



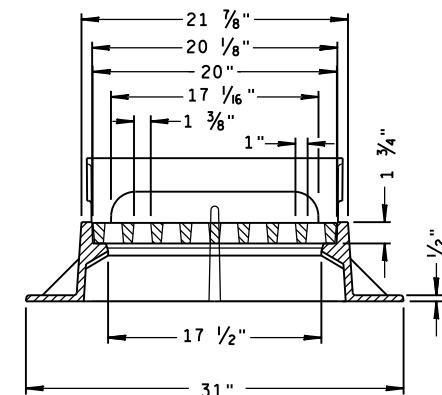
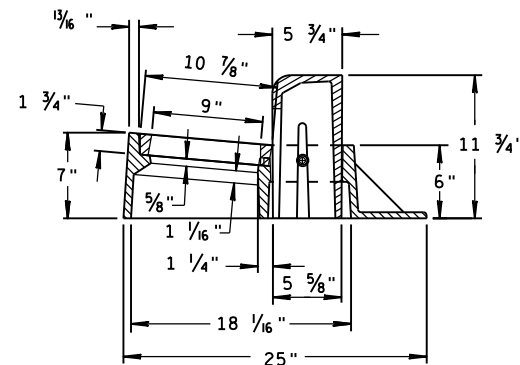
1" DIAGONAL BARS
WITH 1 1/2" OPENINGS



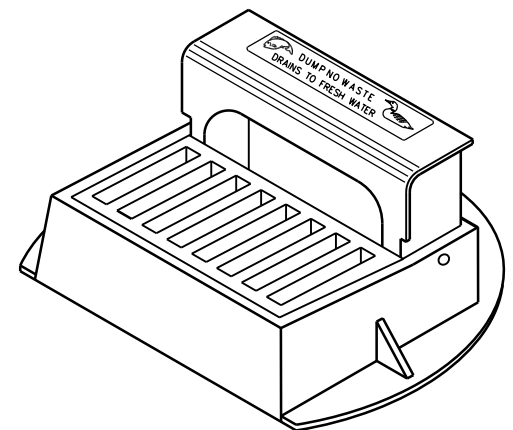
SPECIAL GRATE FOR
TYPE "A" COVER
(MEASURES 19 3/4" X 17" X 1 1/8")
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"



TYPE "Z"

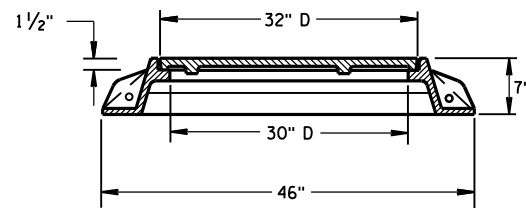
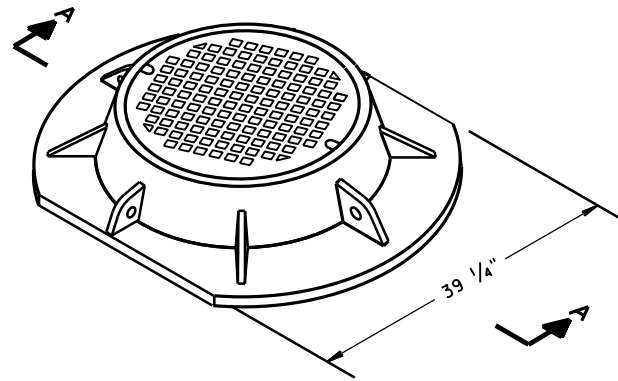


INLET COVERS
TYPE A, H, A-S, H-S & Z

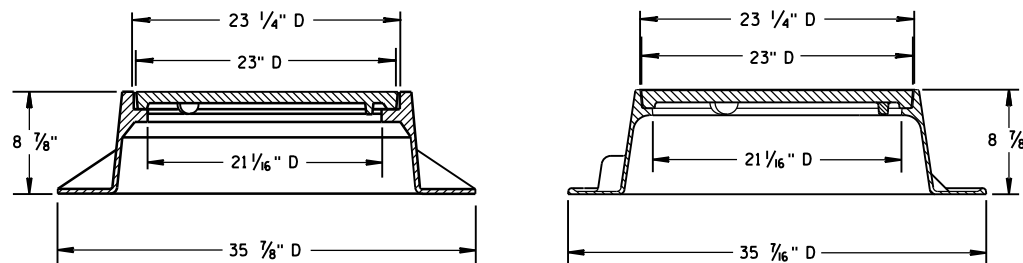
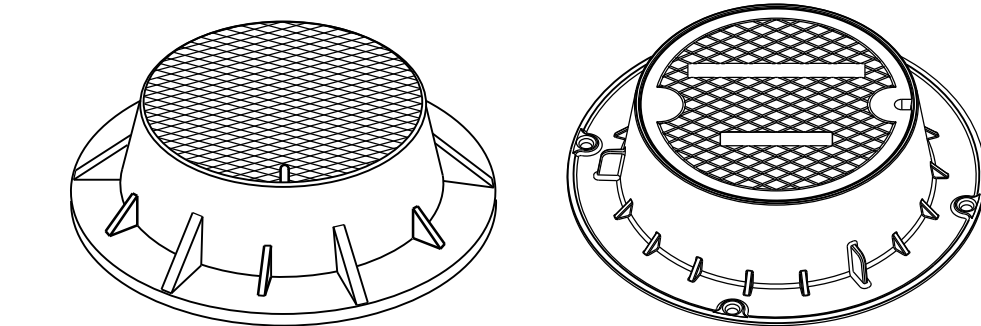
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
II-27-13
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER 109 ENT

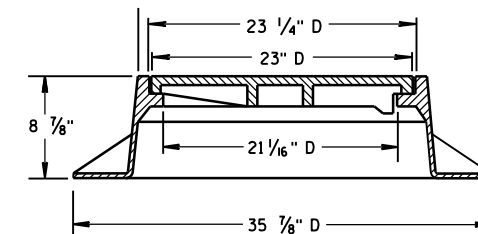
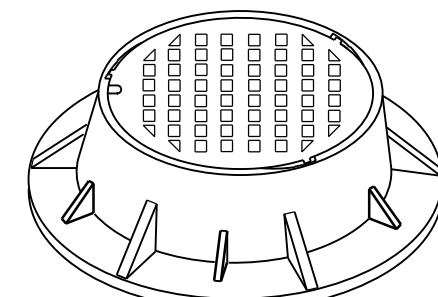
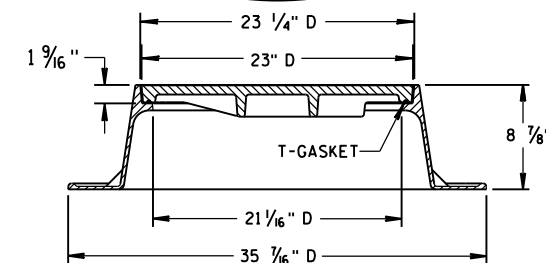
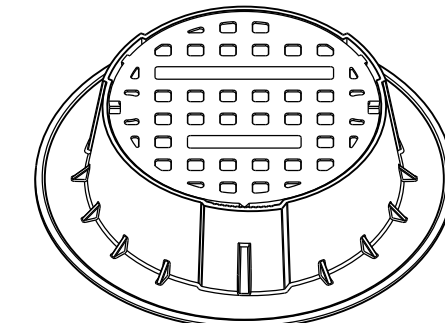


SECTION A-A
TYPE "K"



TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

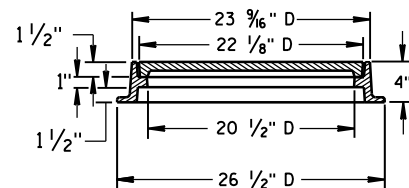
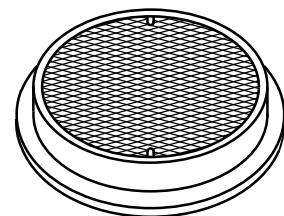


TYPE "J" SPECIAL

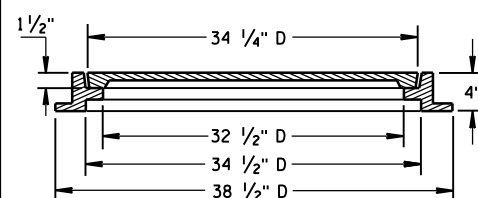
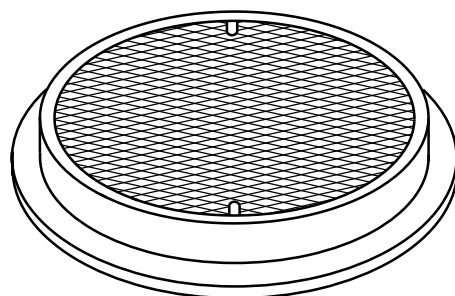
TYPE "B" NON-ROCKING SELF-SEAL LID

(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

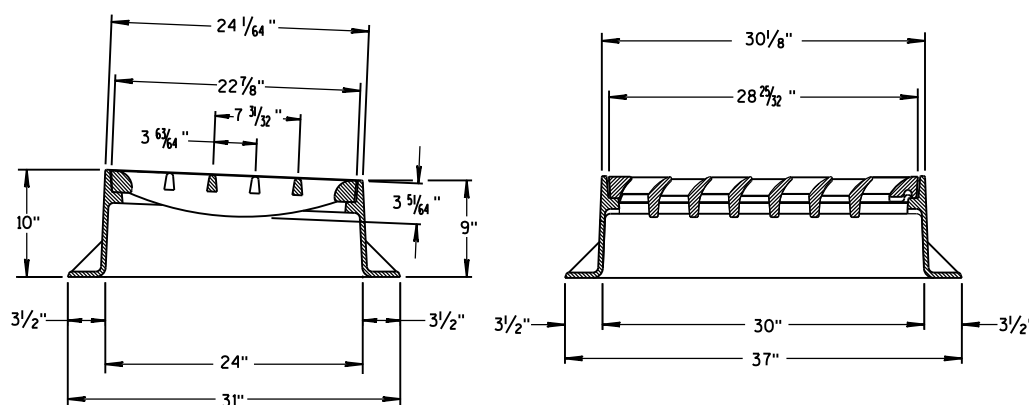
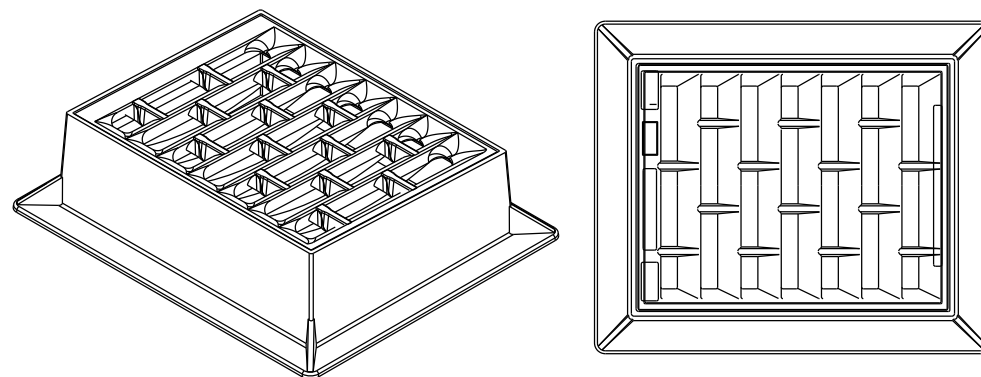
NOTE: EITHER CASTING IS ACCEPTABLE



TYPE "L"



TYPE "M"



INLET COVER TYPE "BW"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

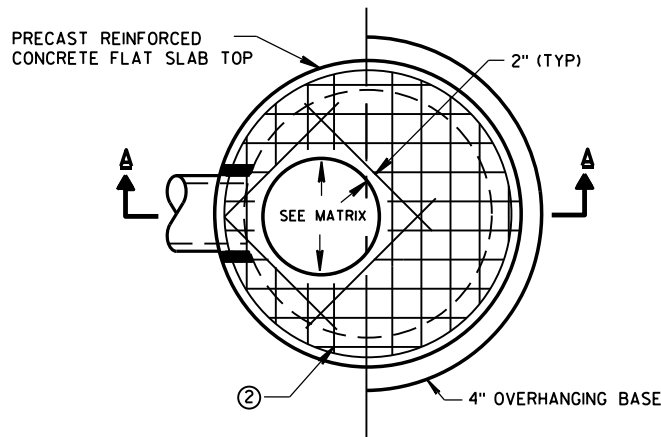
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

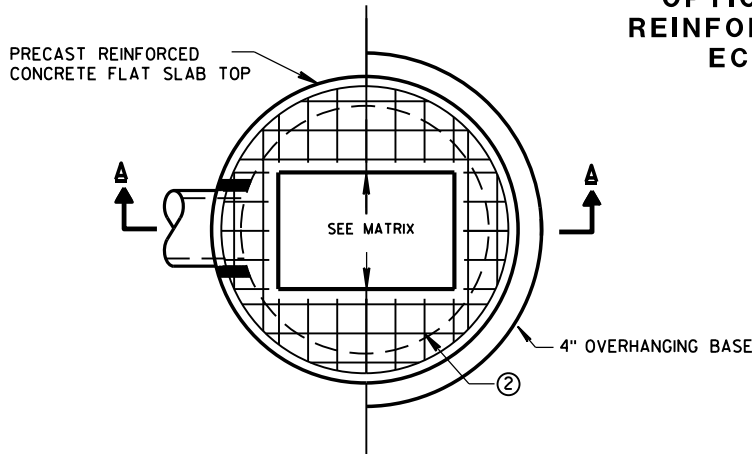
INLET COVER TYPE BW
MANHOLE COVERS, TYPE K,
J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

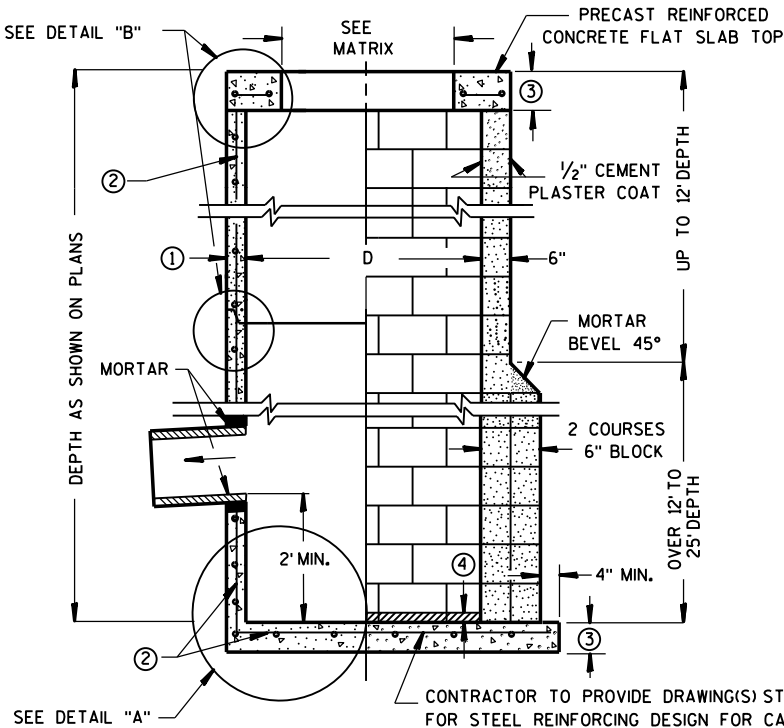
APPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS & 110
ENGINEER
FWHA



PLAN VIEW CIRCULAR OPENING



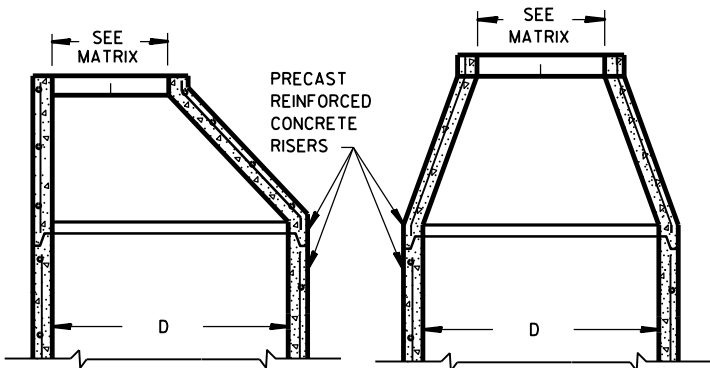
PLAN VIEW RECTANGULAR OPENING



SECTION A-A

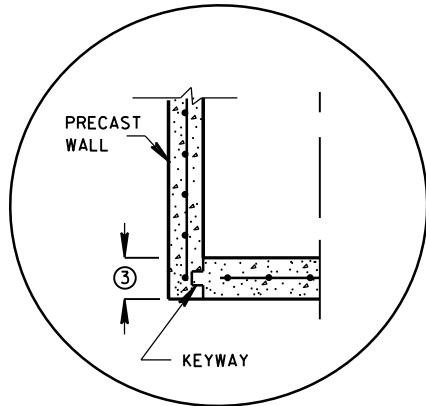
PRECAST REINFORCED
CONCRETE WITH
MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-
IN-PLACE OR PRECAST
REINFORCED CONCRETE BASE ②

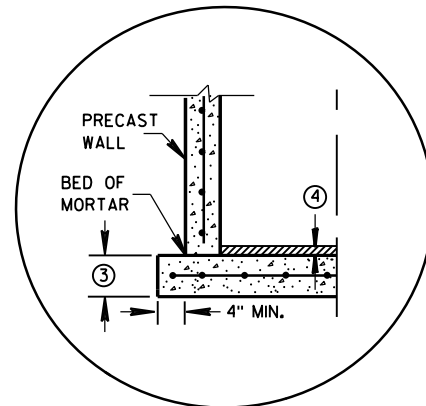


OPTIONAL PRECAST
REINFORCED CONCRETE
ECCENTRIC TOP

OPTIONAL PRECAST
REINFORCED CONCRETE
CONCENTRIC TOP



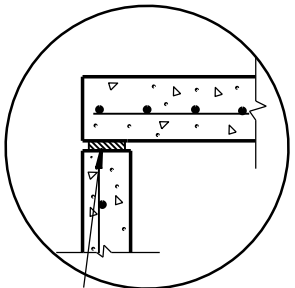
PRECAST REINFORCED
CONCRETE WITH INTEGRAL BASE OPTION



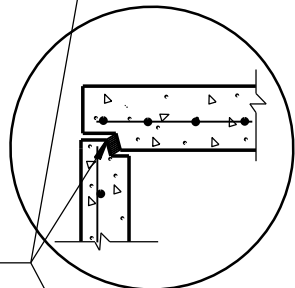
SEPARATE PRECAST REINFORCED
CONCRETE BASE OPTION

DETAIL "A"

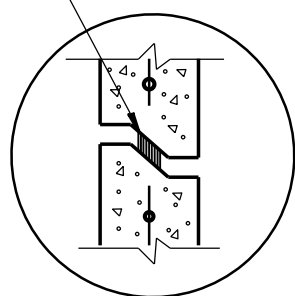
JOINTS TO BE SEALED WITH
A BUTYL RUBBER SEAL PER
SEALANT MANUFACTURERS
RECOMMENDATIONS
CONFORMING TO ASTM C 990
(TYP)



TOP WITH PLAIN END JOINT

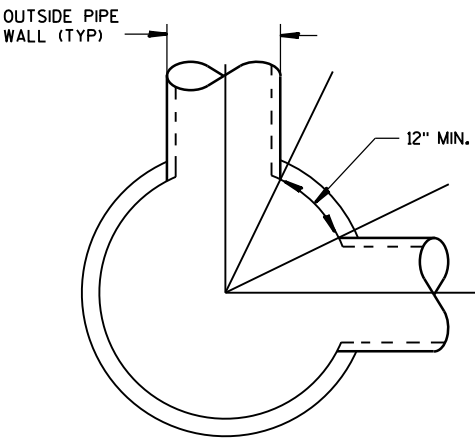


TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"



DETAIL "C"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS. UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST CATCH BASIN UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2 INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

- ① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT AND 7 INCHES FOR 6-FT DIAMETER PRECAST CATCH BASINS.
- ② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".
- ④ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2" SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER OPENING MATRIX

CATCH BASIN SIZE	INLET COVER TYPE OPENING SIZE (FT)	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
3-FT	2X2	X	X					X		X		
	2 DIA.				X							X
4-FT- 6-FT	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2 DIA.				X							X
	2X3						X					
	2.5X3					X						

PIPE MATRIX

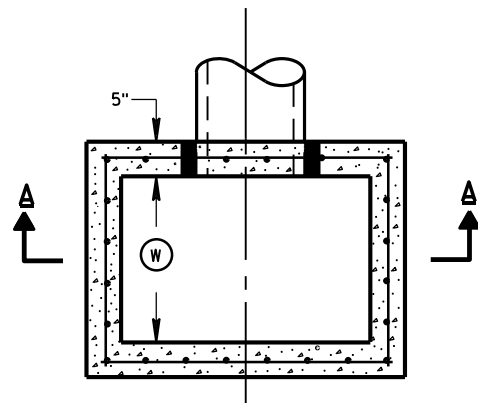
CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	30

CATCH BASINS 3-FT,
4-FT, 5-FT AND
6-FT DIAMETER

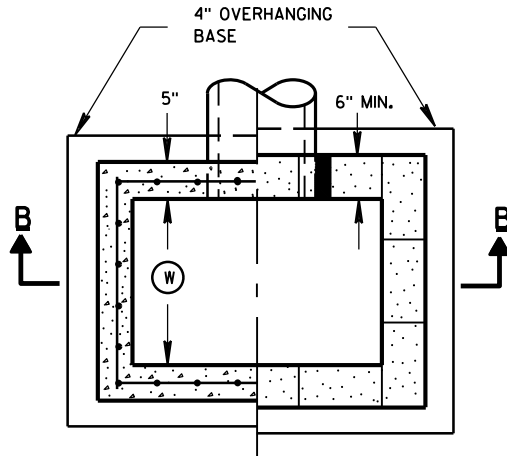
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS ENGINEER
FHWA 111 IENT

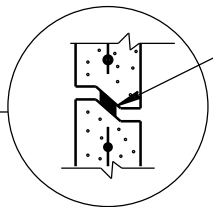
CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER



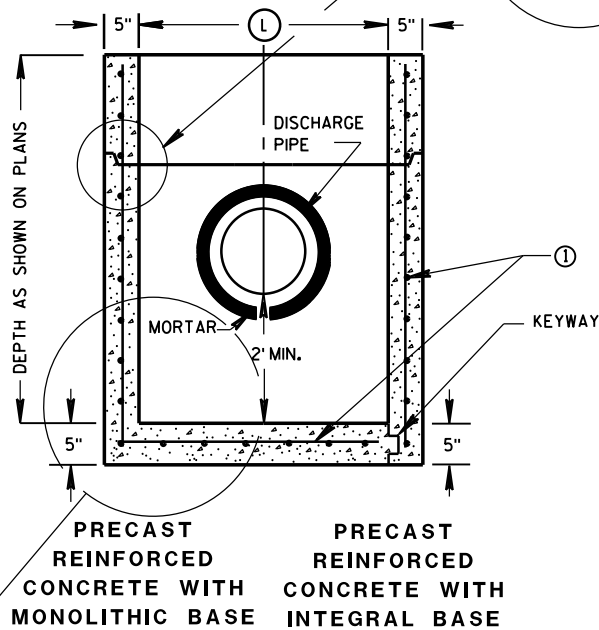
PLAN VIEW



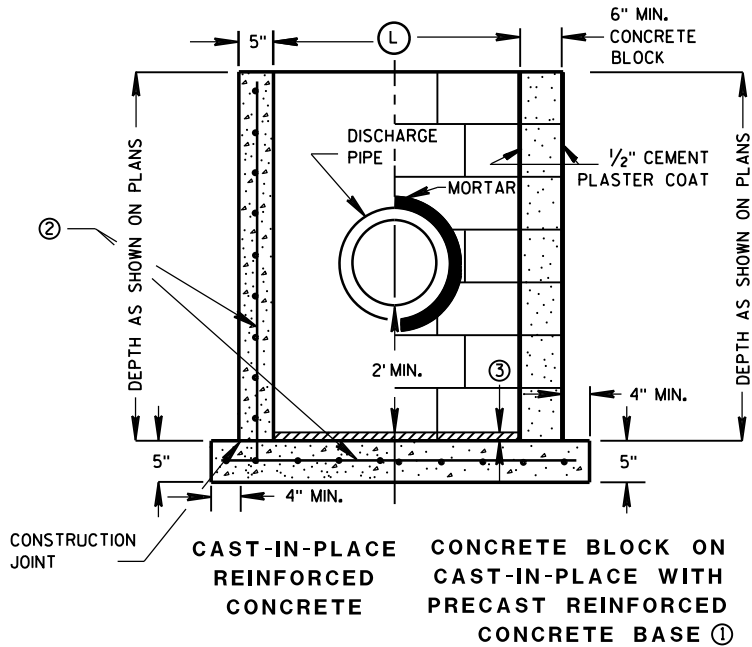
PLAN VIEW



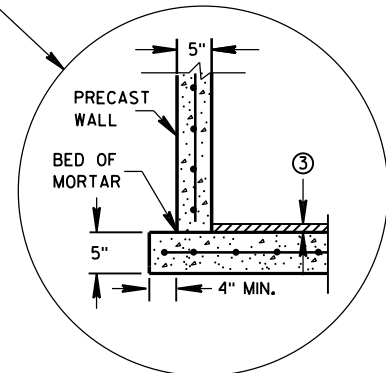
RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

CATCH BASINS 2X3-FT AND 2.5X3-FT

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST CATCH BASIN UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST CATCH BASIN UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

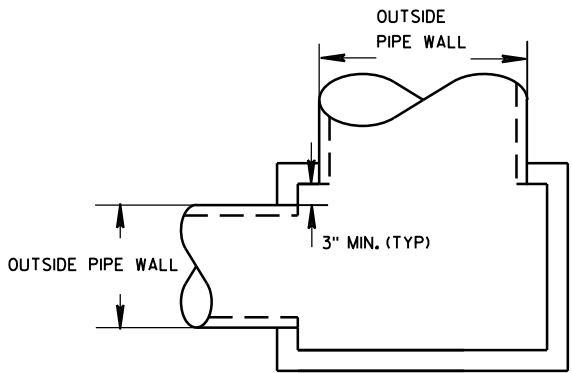
- ① FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.
- ③ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER MATRIX

CATCH BASIN SIZE	WIDTH (W) (FT)	LENGTH (L) (FT)	F	ALL H'S
2X3-FT	2	3		X
2.5X3-FT	2.5	3	X	

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2X3-FT	12	24
2.5X3-FT	18	24

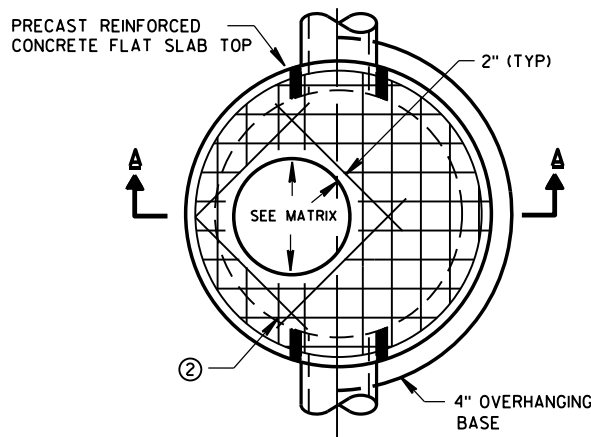


DETAIL "A"

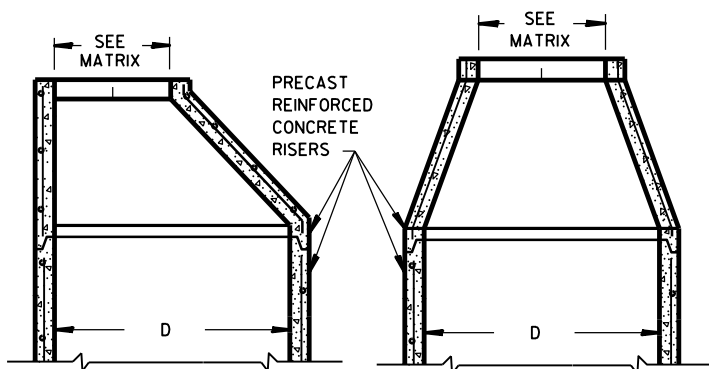
CATCH BASINS 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 DATE /S/ Jerry H. Zogg
FHWA ROADWAY STANDARDS 112 NT
ENGINEER

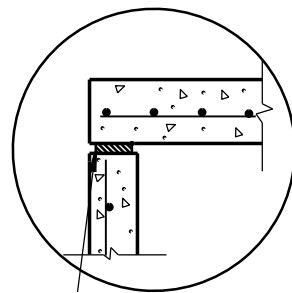


PLAN VIEW CIRCULAR OPENING

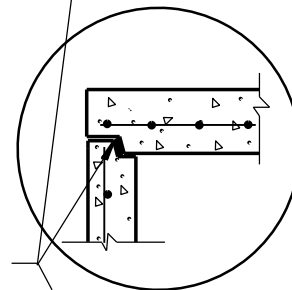


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

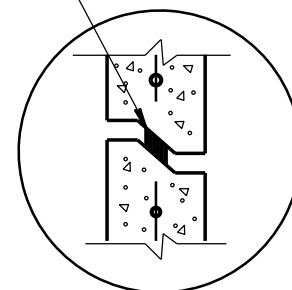
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT

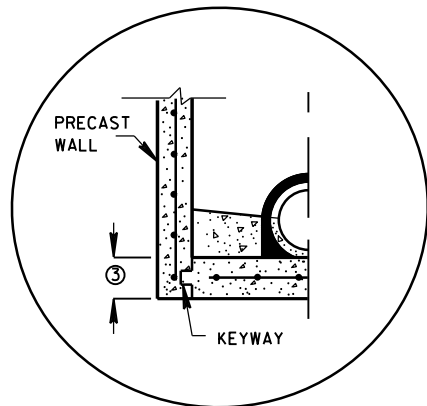


TOP WITH TONGUE AND GROOVE JOINT

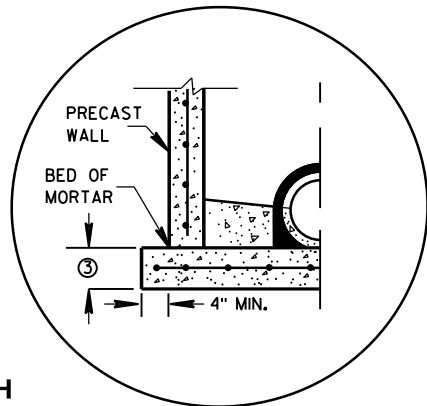


DETAIL "B"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

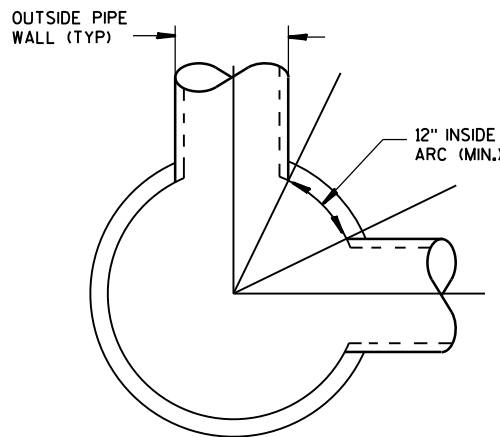


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

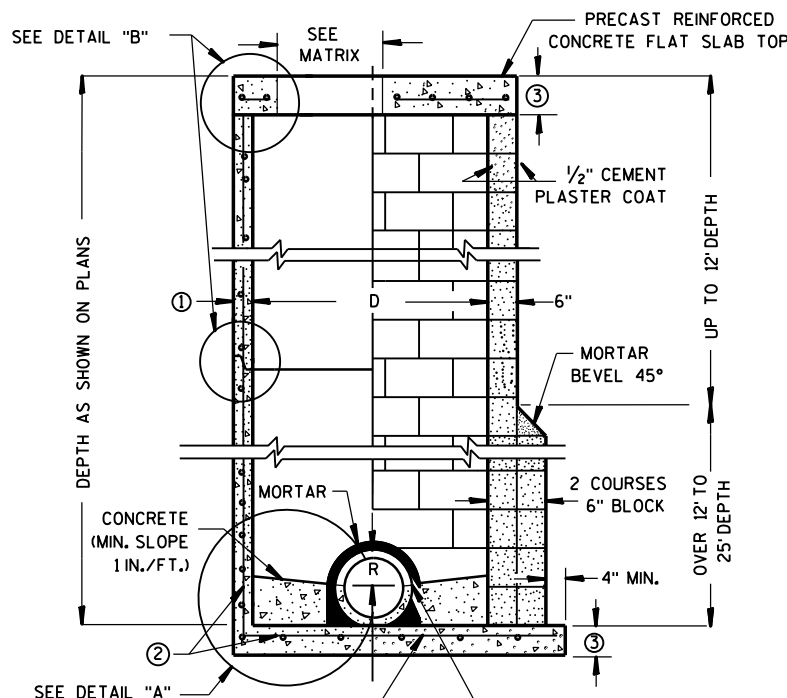


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"



CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES

PRECAST REINFORCED CONCRETE BLOCK WITH CONCRETE WITH MONOLITHIC BASE CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS. UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED. CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

- ① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.
- ② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

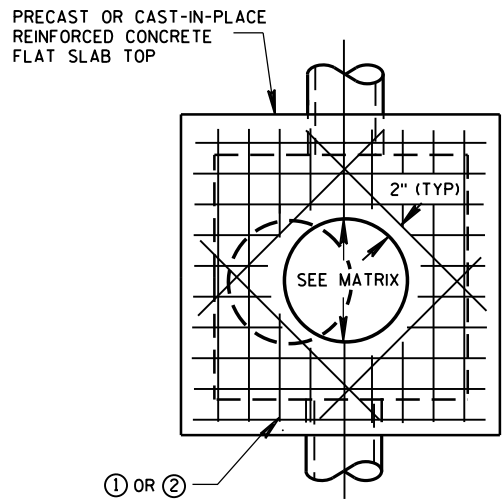
PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

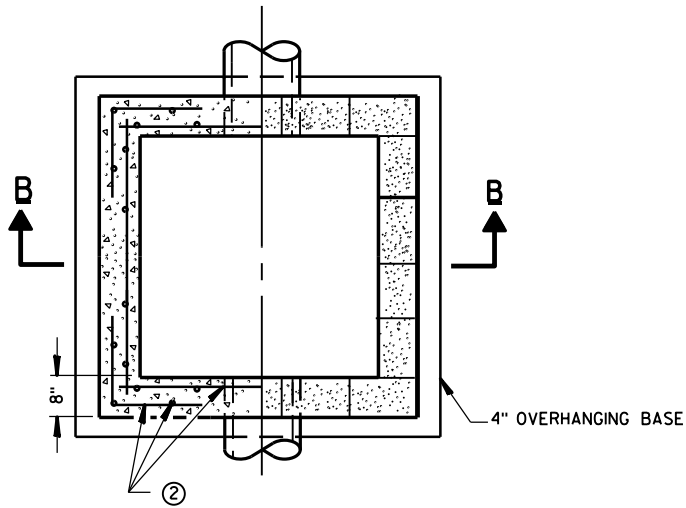
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

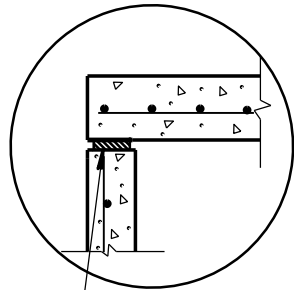
APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER 113
FHWA



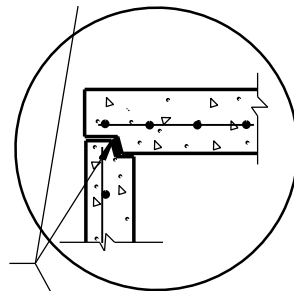
PLAN VIEW
CIRCULAR OPENING



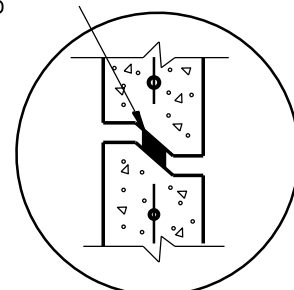
SECTION A-A
PLAN VIEW



TOP WITH PLAIN END JOINT

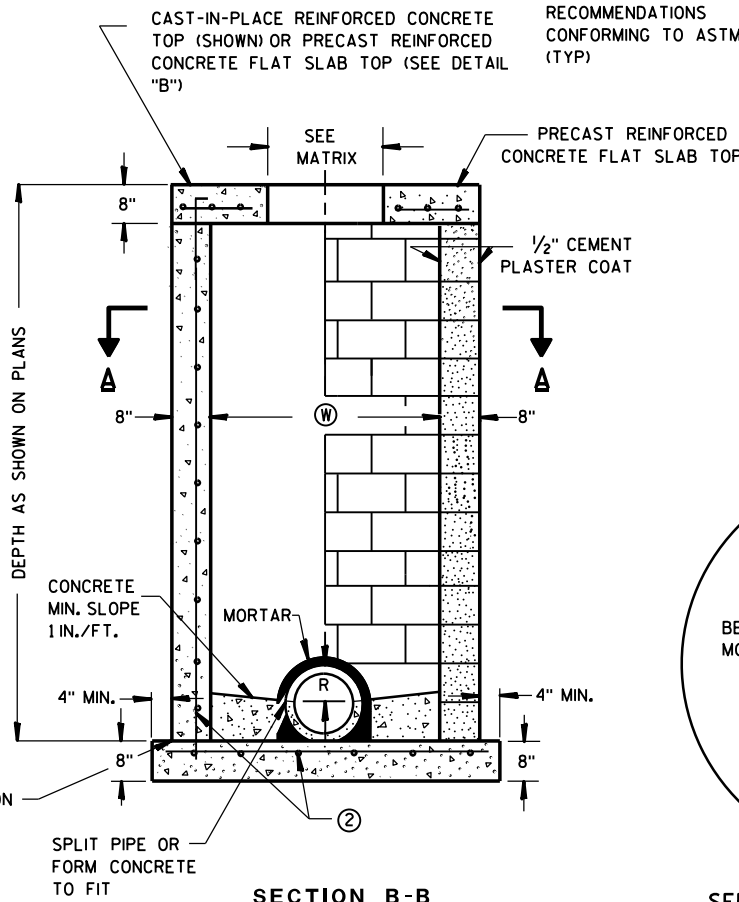
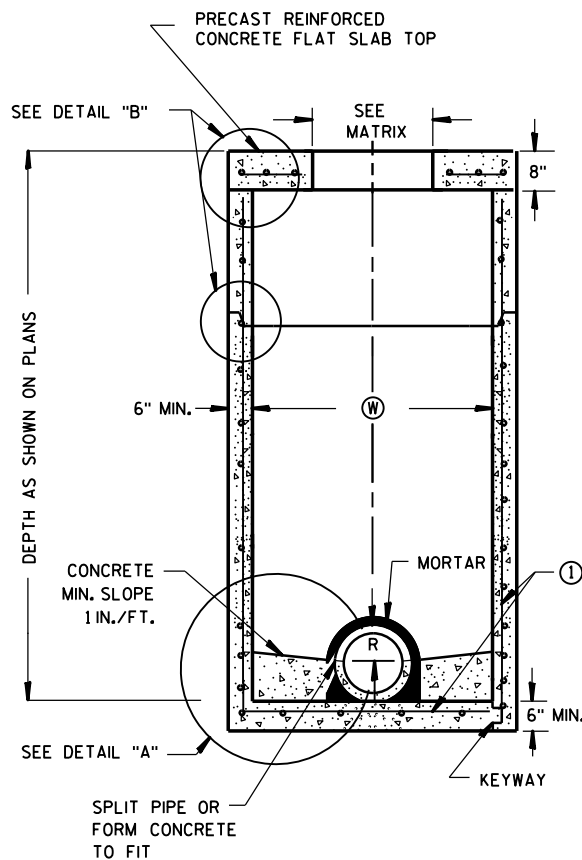


TOP WITH TONGUE AND GROOVE JOINT

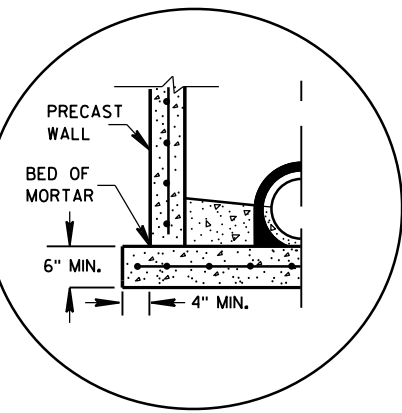


DETAIL "B"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



SECTION B-B



SEPARATE PRECAST REINFORCED
CONCRETE BASE OPTION

DETAIL "A"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2 INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN WIDTH.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "C". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

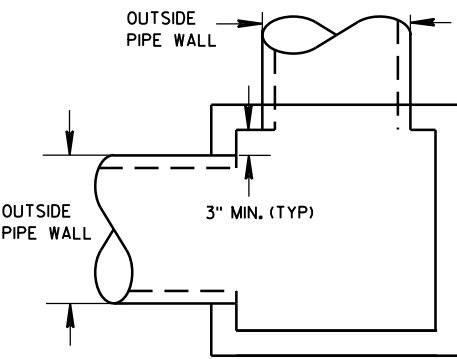
- ① FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (W) (IN)	LENGTH (L) (IN)
3X3-FT	24	24
4X4-FT	30	30
5X5-FT	42	42
6X6-FT	54	54



DETAIL "C"

PRECAST REINFORCED
CONCRETE WITH
MONOLITHIC BASE

PRECAST REINFORCED
CONCRETE WITH
INTEGRAL BASE

CAST-IN-PLACE
REINFORCED
CONCRETE

CONCRETE BLOCK WITH
CAST-IN-PLACE OR
PRECAST REINFORCED
CONCRETE BASE

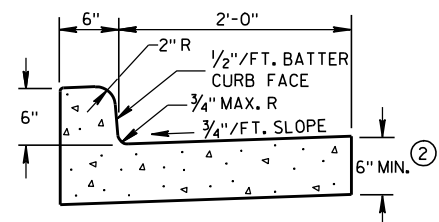
SQUARE MANHOLES W/ FLAT TOP

MANHOLES 3X3-FT, 4X4-FT, 5X5-FT AND 6X6-FT

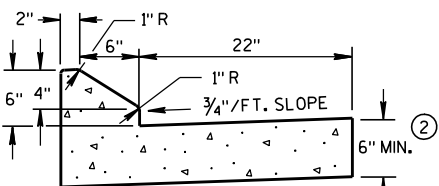
MANHOLES 3X3-FT, 4X4-FT
5X5-FT AND 6X6-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

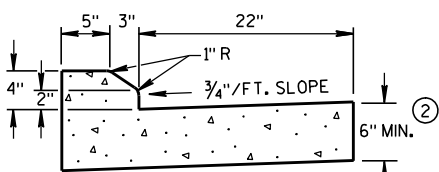
APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS 114 MENT
FHWA ENGINEER



TYPES A & D ①

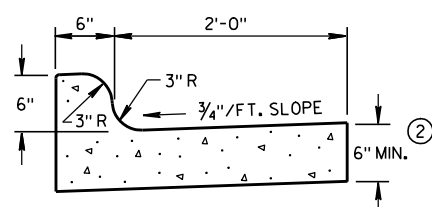


6" SLOPED CURB TYPES G & J ①

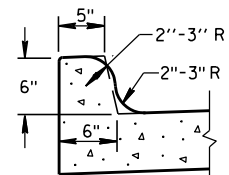
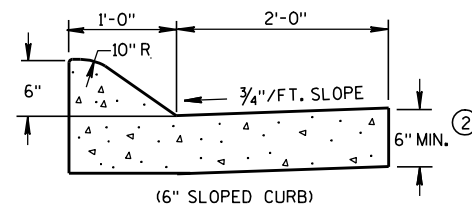


4" SLOPED CURB TYPES G & J ①

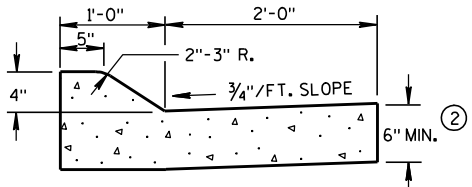
CONCRETE CURB & GUTTER 30"



TYPES K & L ①

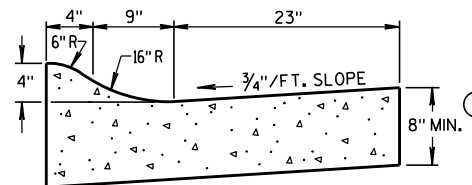
OPTIONAL CURB SHAPE
FOR TYPES K & L ①

(6" SLOPED CURB)

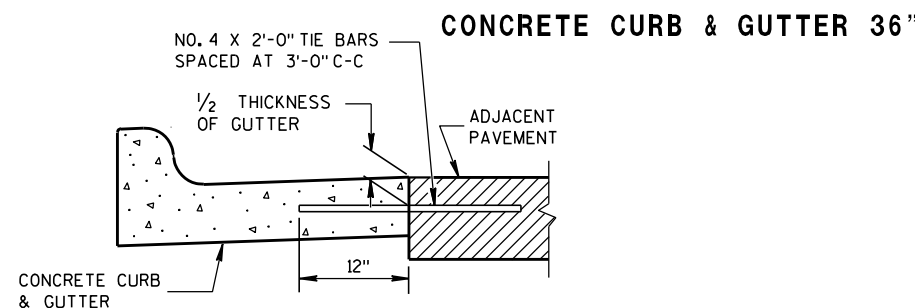


(4" SLOPED CURB)

TYPES A & D ①

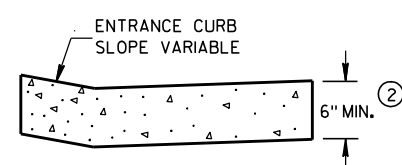


4" SLOPED CURB TYPES R & T ① ④



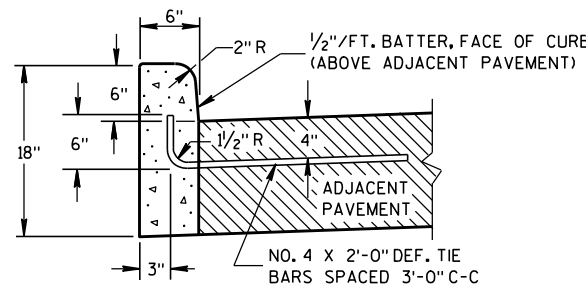
CONCRETE CURB & GUTTER 36"

TYPICAL TIE BAR LOCATION ①



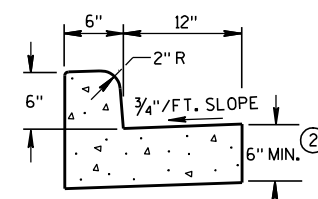
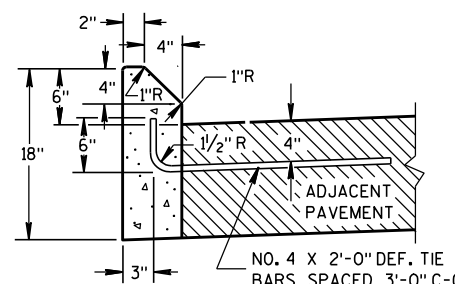
DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)



TYPES A & D ①

CONCRETE CURB

TYPES A & D
CONCRETE CURB & GUTTER 18"

TYPES G & J ①

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

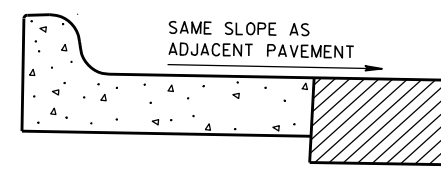
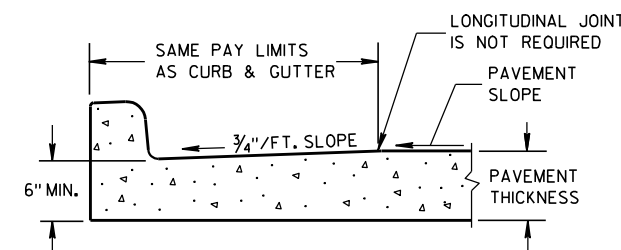
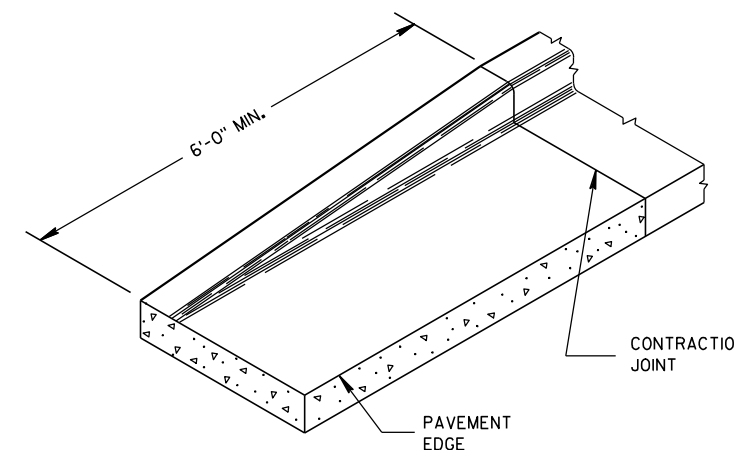
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

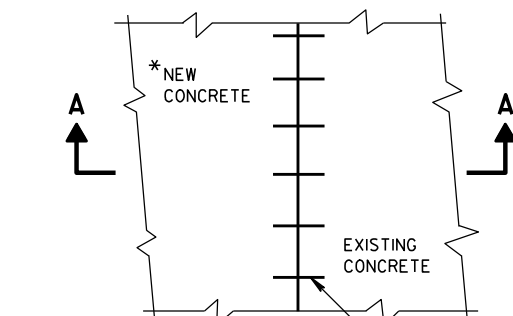
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

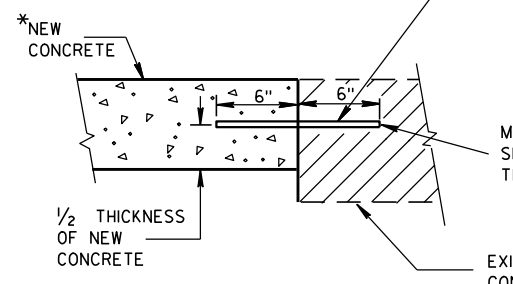
REVERSE SLOPE GUTTER ⑤
(TYPICAL FOR ALL CURB & GUTTER TYPES)PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER

END SECTION CURB & GUTTER



PLAN VIEW

* NEW CURB & GUTTER,
SURFACE DRAINS,
CONCRETE PAVEMENT
OR OTHER NEW CONCRETE.

SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.

MAXIMUM DRILL HOLE
SIZE IS 1/8" GREATER
THAN TIE BAR DIAMETER

EXISTING
CONCRETE

CONCRETE CURB, CONCRETE
CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

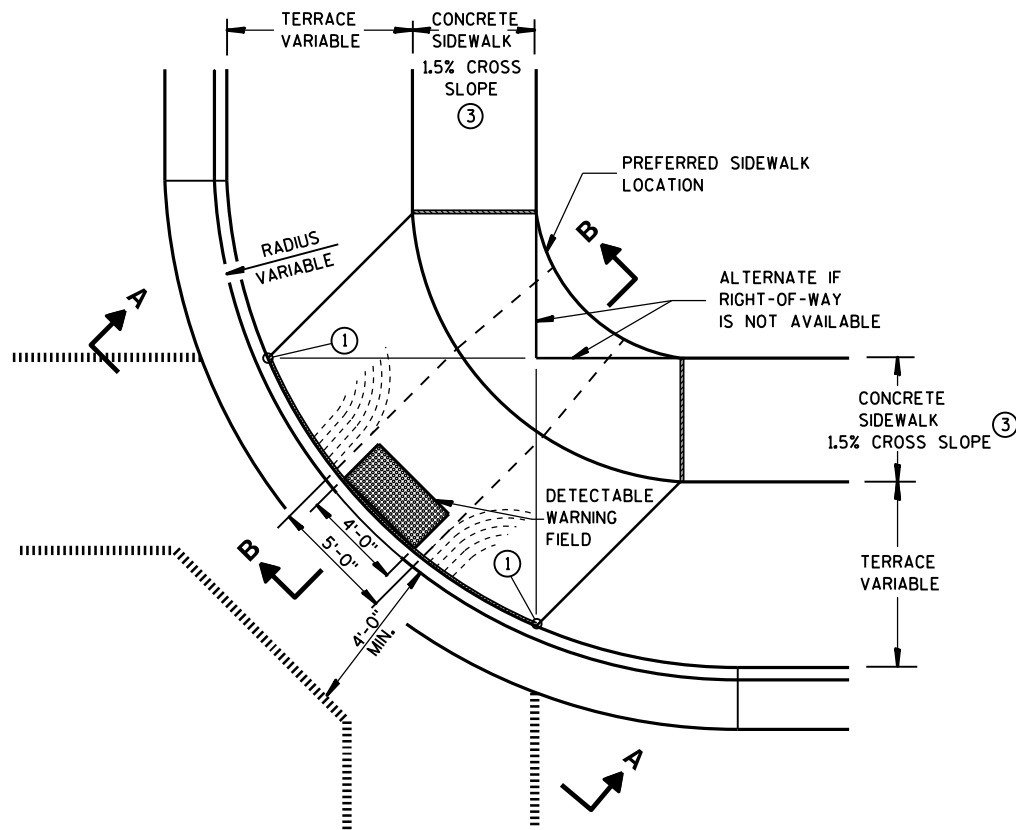
9/4/08

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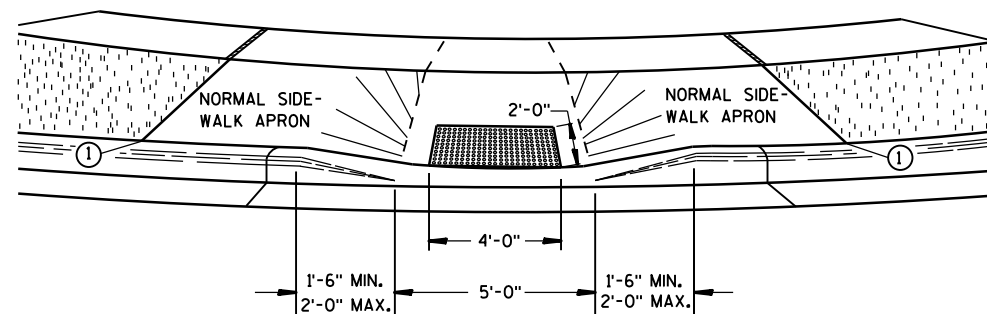
FHWA

/S/ Jerry H. 7-115
ROADWAY STANDARDS ENGINEER

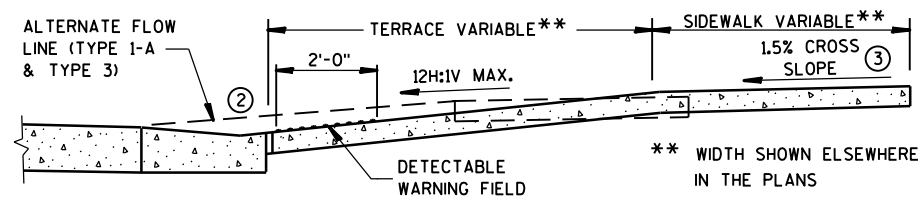
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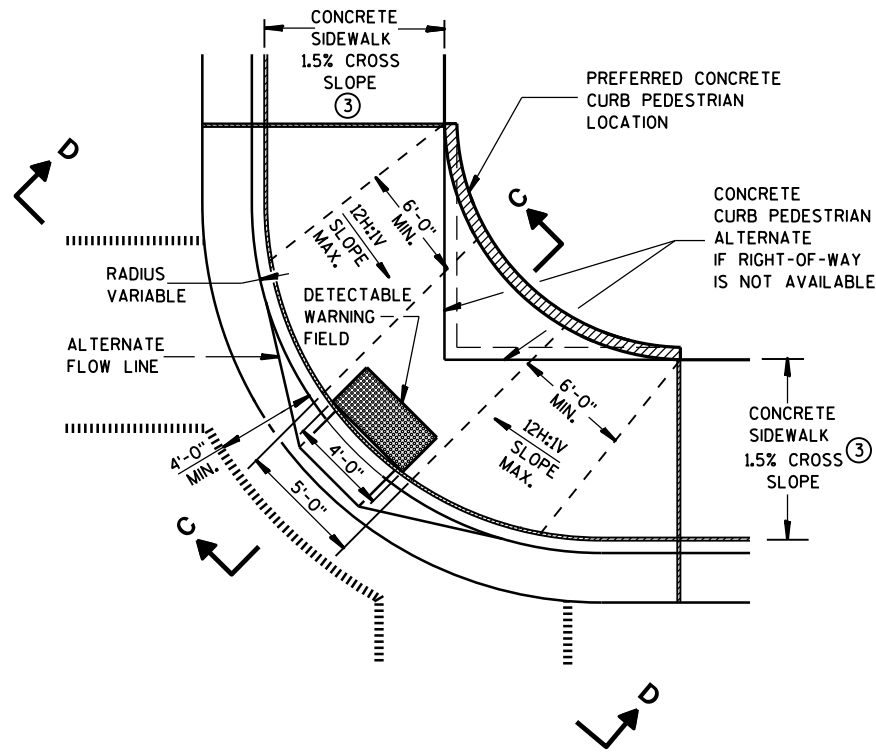
**PLAN VIEW
TYPE 1 RAMP**
(CENTER OF CORNER RADIUS)



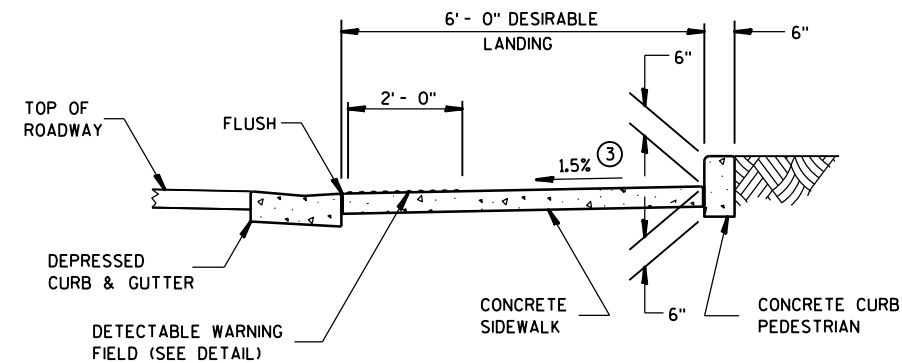
VIEW A-A



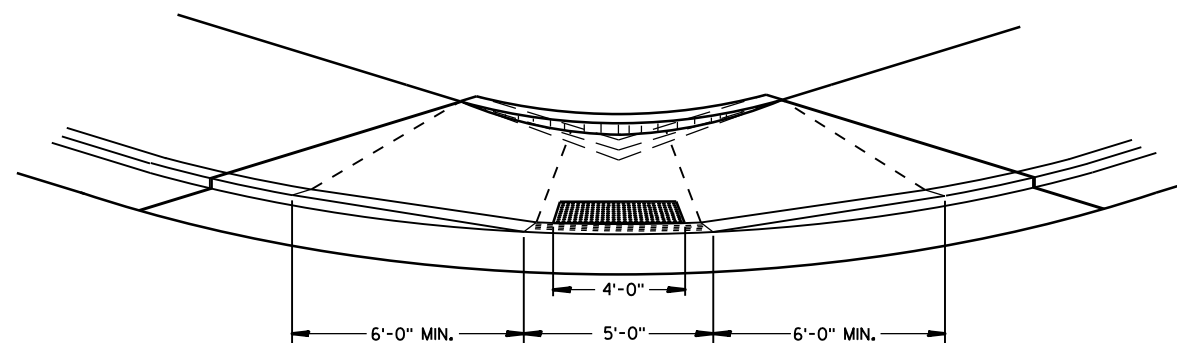
SECTION B-B



**PLAN VIEW
TYPE 1-A RAMP**
(NO TERRACE)



SECTION C-C



VIEW D-D

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

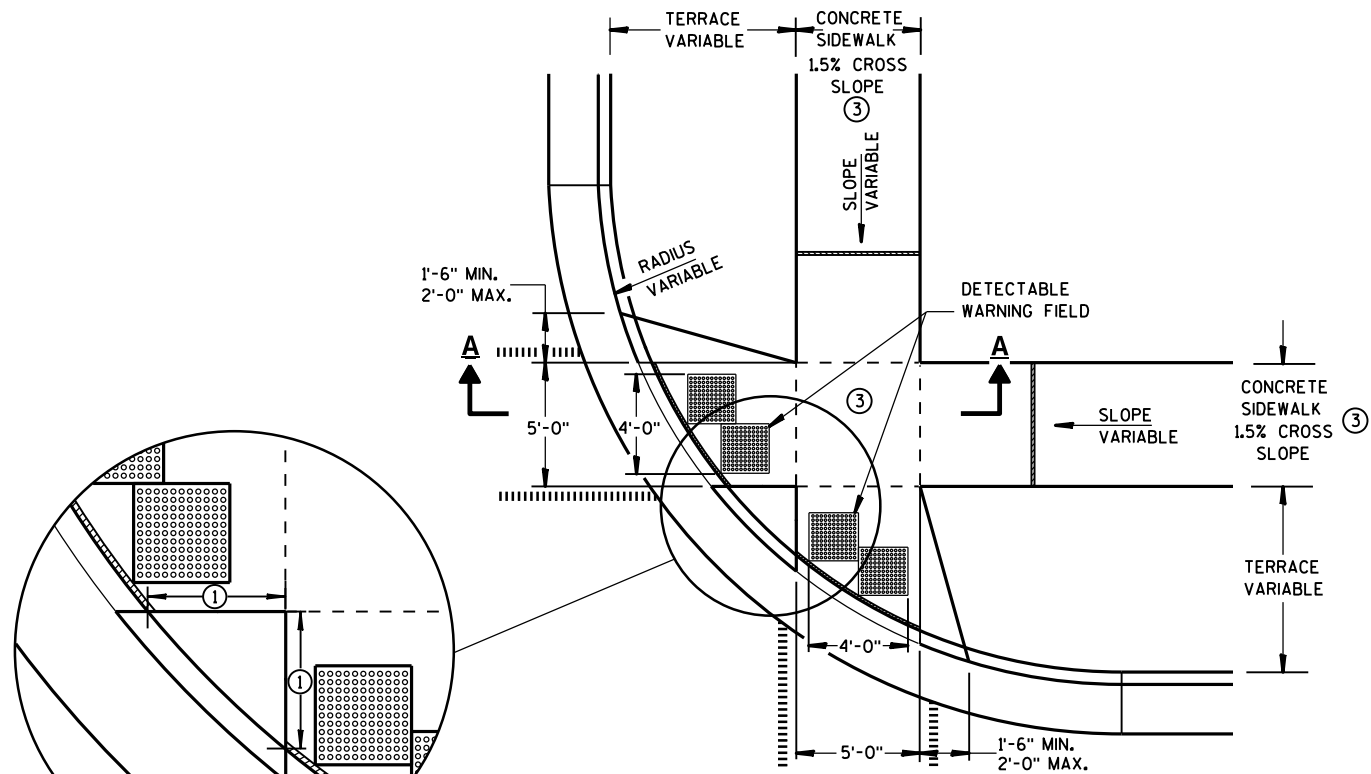
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

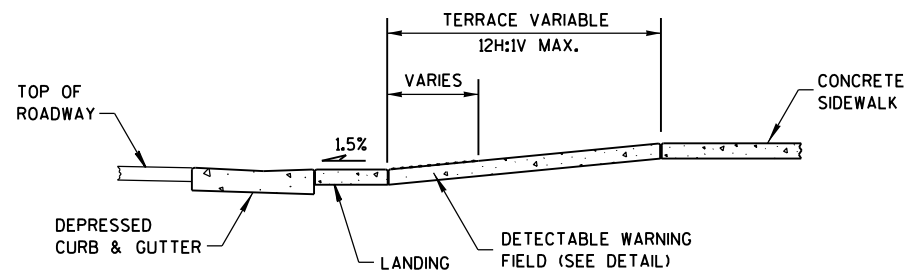
- 1/2" EXPANSION JOINT-SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

**CURB RAMPS
TYPES 1 AND 1-A**

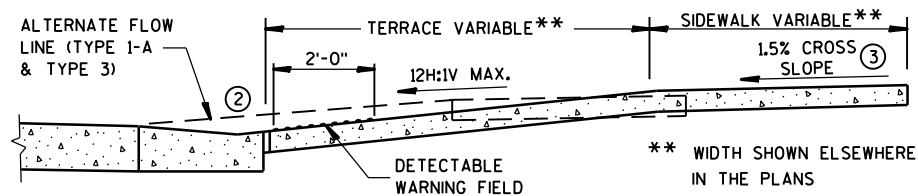
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 116



PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

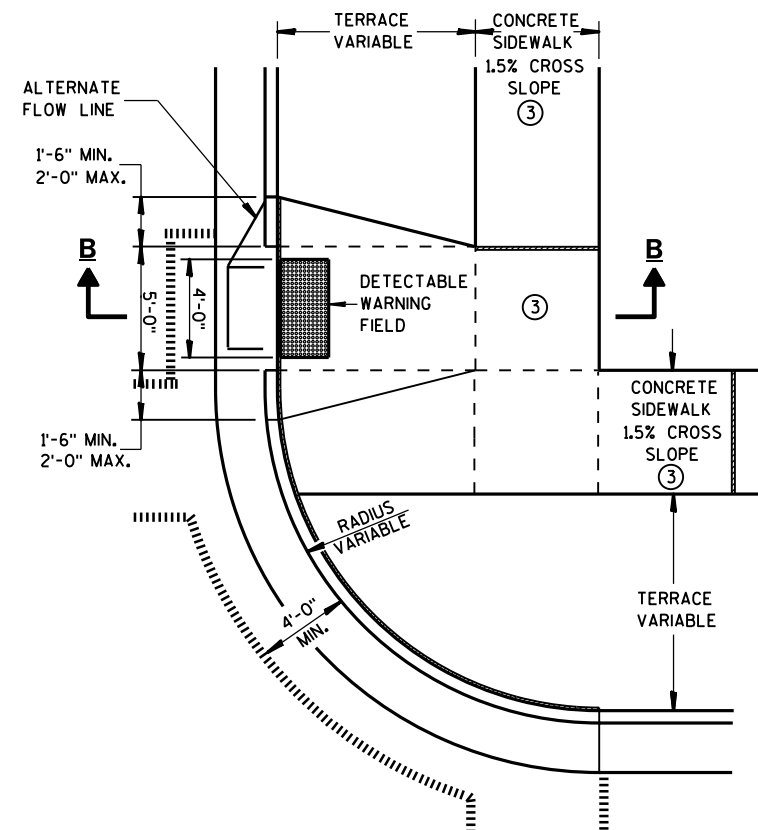
USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 117

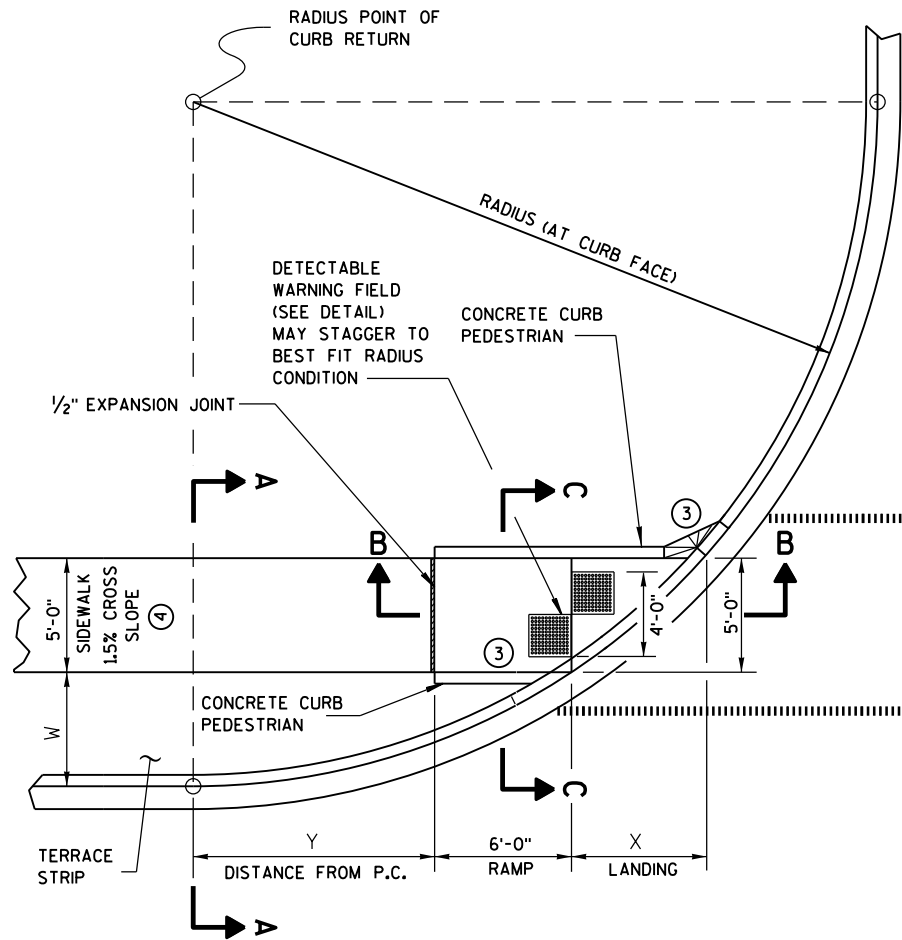


CURB RAMP TYPE 4A

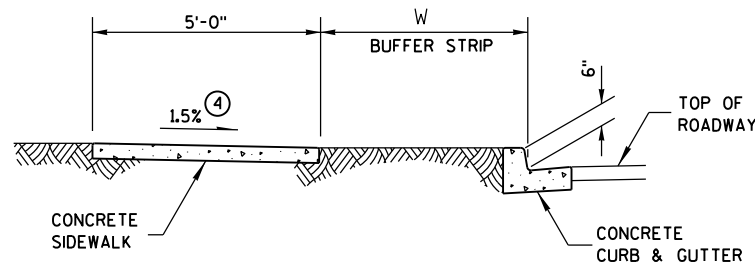


INTERMEDIATE RADII CAN BE INTERPOLATED

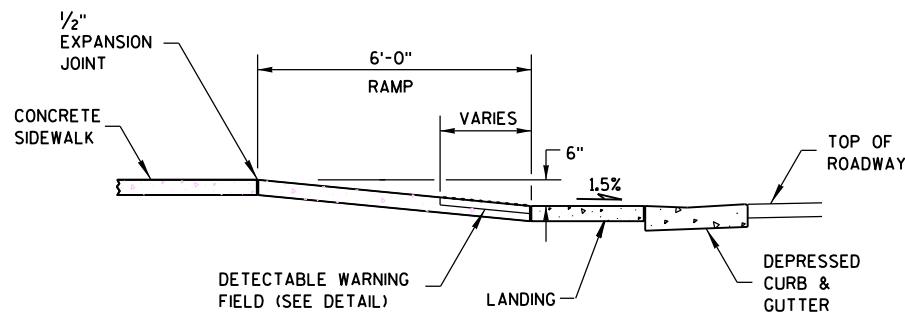




CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B

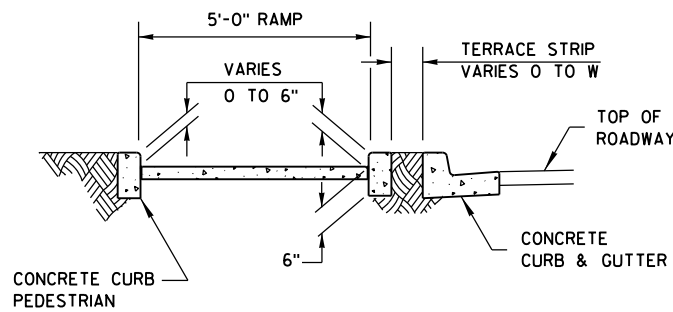


SECTION B-B FOR TYPE 4B

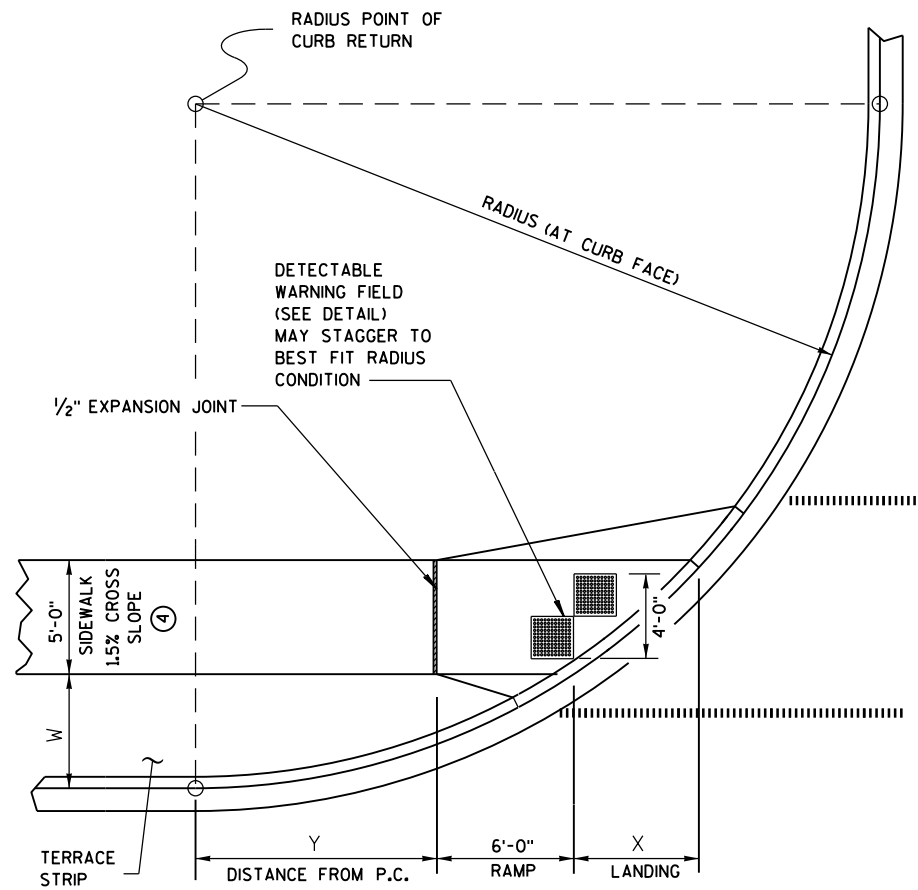
- LEGEND**
- 1/2" EXPANSION JOINT-SIDEWALK
 - CONTRACTION JOINT FIELD LOCATED
 - PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5 1/2"	4'-6 1/2"	4'-8 1/2"	6'-0"	4'-1"	7'-2 3/4"	3'-7"	8'-3 1/2"	3'-1 1/2"	9'-2 1/2"
30 FEET	7'-3 3/4"	7'-1"	6'-5 1/2"	8'-11 1/2"	5'-9 1/4"	10'-7"	5'-2 1/2"	12'-0"	4'-8 3/4"	13'-3 1/4"
40 FEET	8'-9 1/2"	9'-2 1/2"	7'-10"	11'-5 1/4"	7'-1"	13'-4 1/2"	6'-5 3/4"	15'-3 1/4"	5'-11 1/2"	16'-7 1/4"
50 FEET	10'-3 1/4"	11'-3 1/4"	9'-1 1/4"	13'-7 1/4"	8'-2 1/2"	15'-9 1/2"	7'-6 1/2"	17'-9"	6'-11 3/4"	19'-6 1/4"
60 FEET	11'-2 1/2"	12'-8 3/4"	10'-3 1/4"	15'-6 1/2"	9'-2 1/4"	17'-11 3/4"	8'-5 3/4"	20'-1 3/4"	7'-10 1/2"	22'-1 1/2"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION C-C FOR TYPE 4B



CURB RAMP TYPE 4B1
PLAN VIEW

GENERAL NOTES

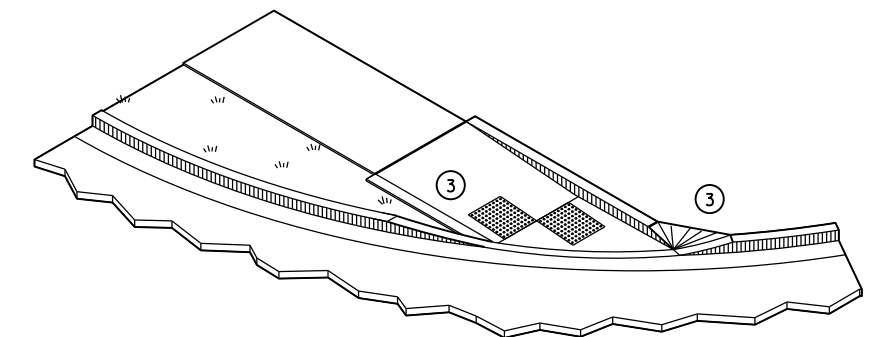
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

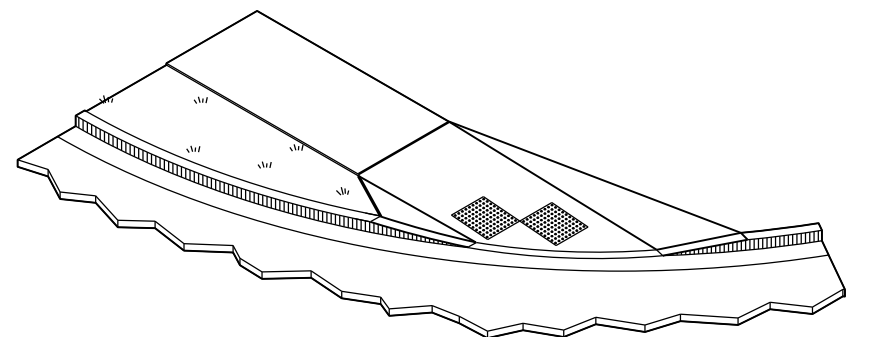
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



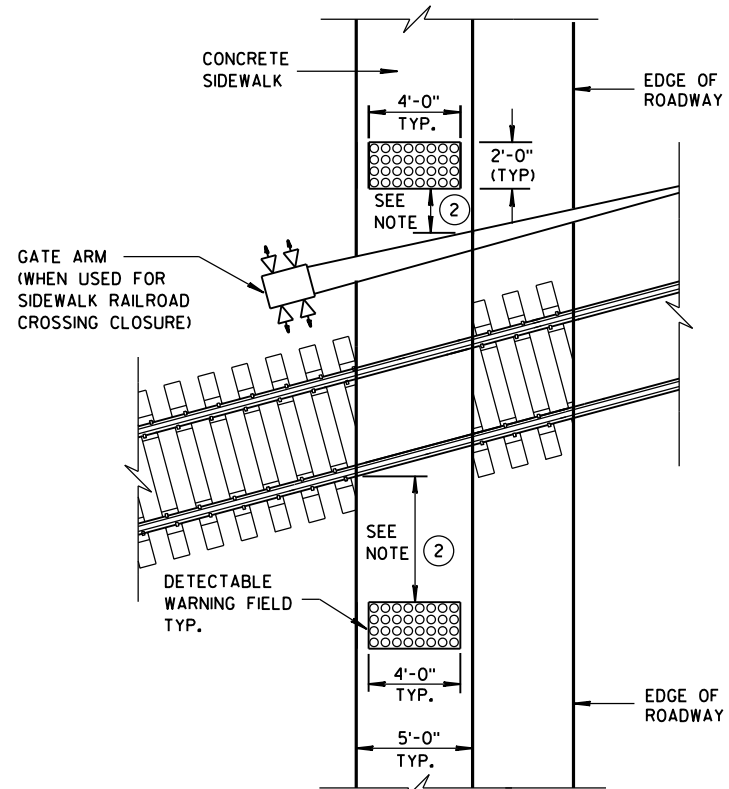
ISOMETRIC VIEW FOR TYPE 4B



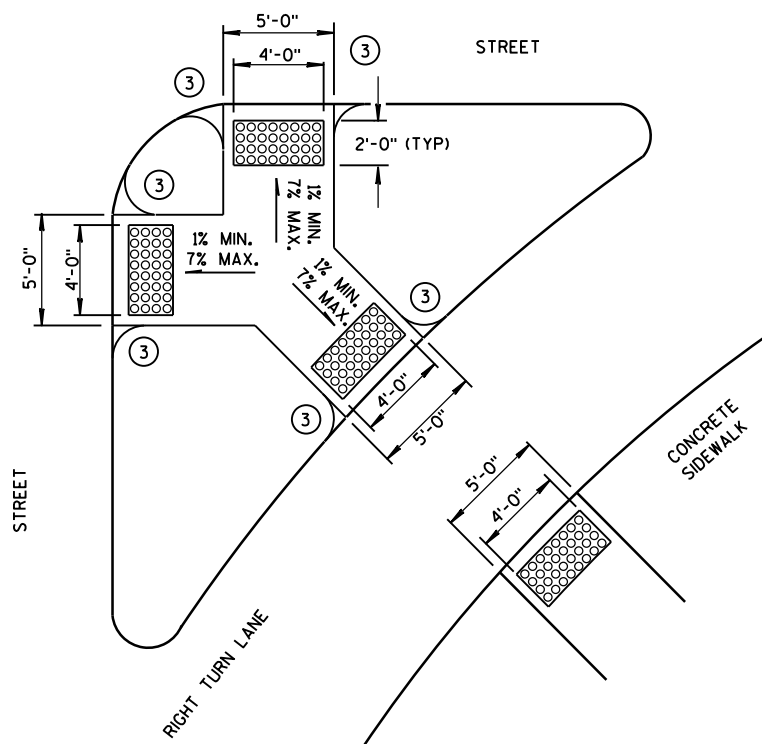
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS
TYPE 4B AND 4B1

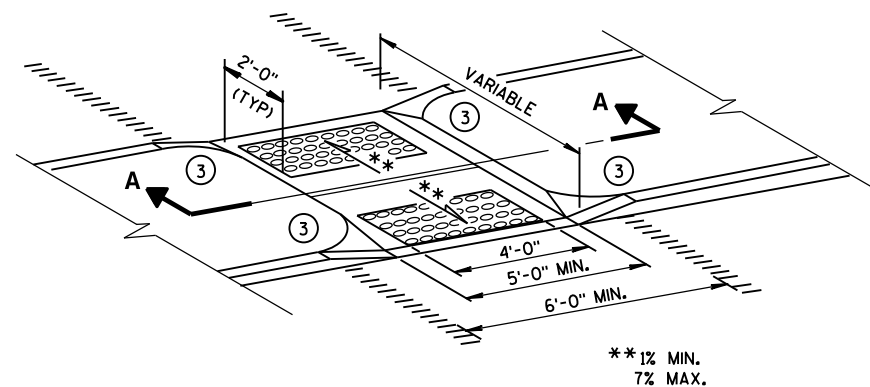
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 119



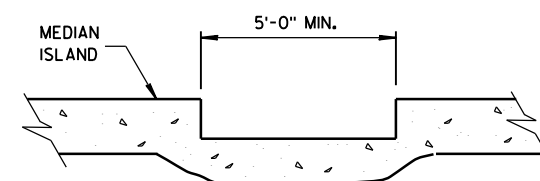
TYPE 8
DETECTABLE WARNINGS
AT RAILROAD CROSSING



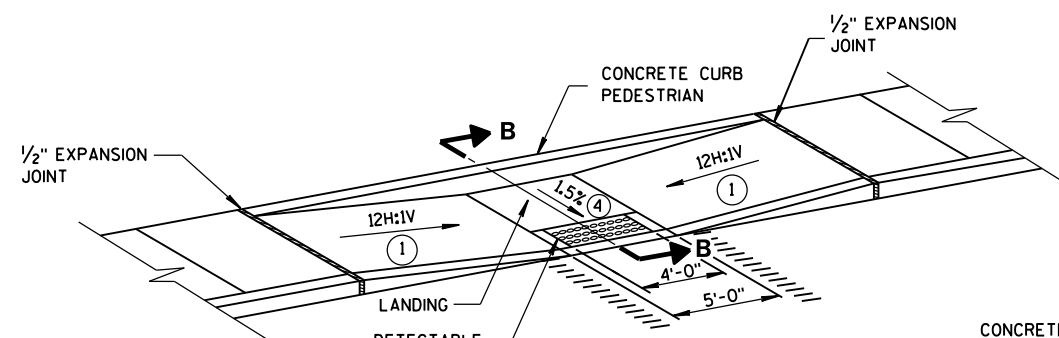
TYPE 6
DETECTABLE WARNING AT ISLANDS



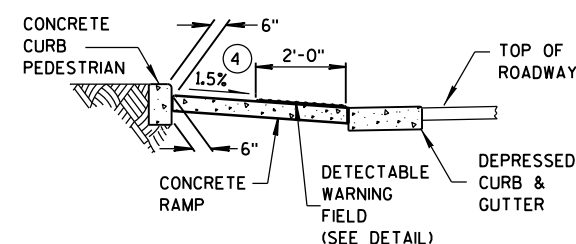
MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5



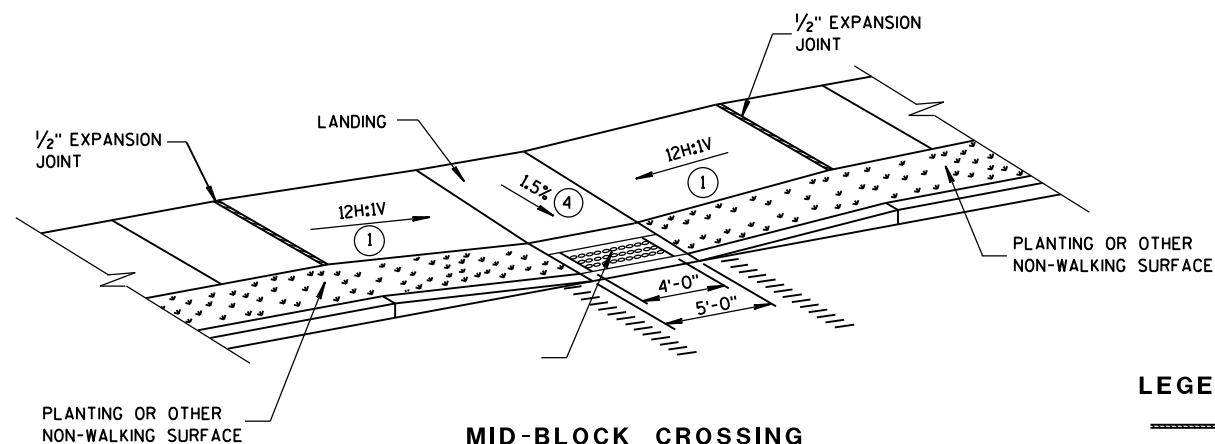
SECTION A-A



MID-BLOCK CROSSING
TYPE 7A



SECTION B-B



MID-BLOCK CROSSING
TYPE 7B

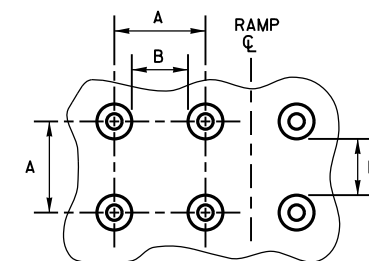
NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

GENERAL NOTES

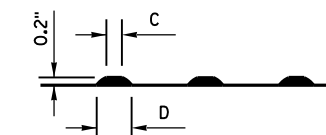
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- 1 SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- 2 THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET $\pm$ 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.
- 3 INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.
- 4 $\pm$ 0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



PLAN VIEW



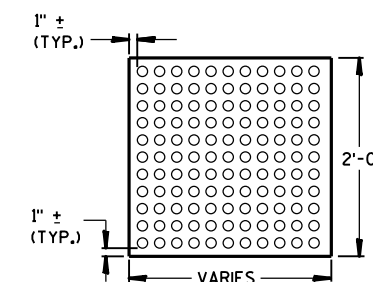
ELEVATION VIEW

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

TRUNCATED DOMES

DETECTABLE WARNING PATTERN DETAIL



PLAN VIEW
DETECTABLE WARNING
FIELD (TYPICAL)

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

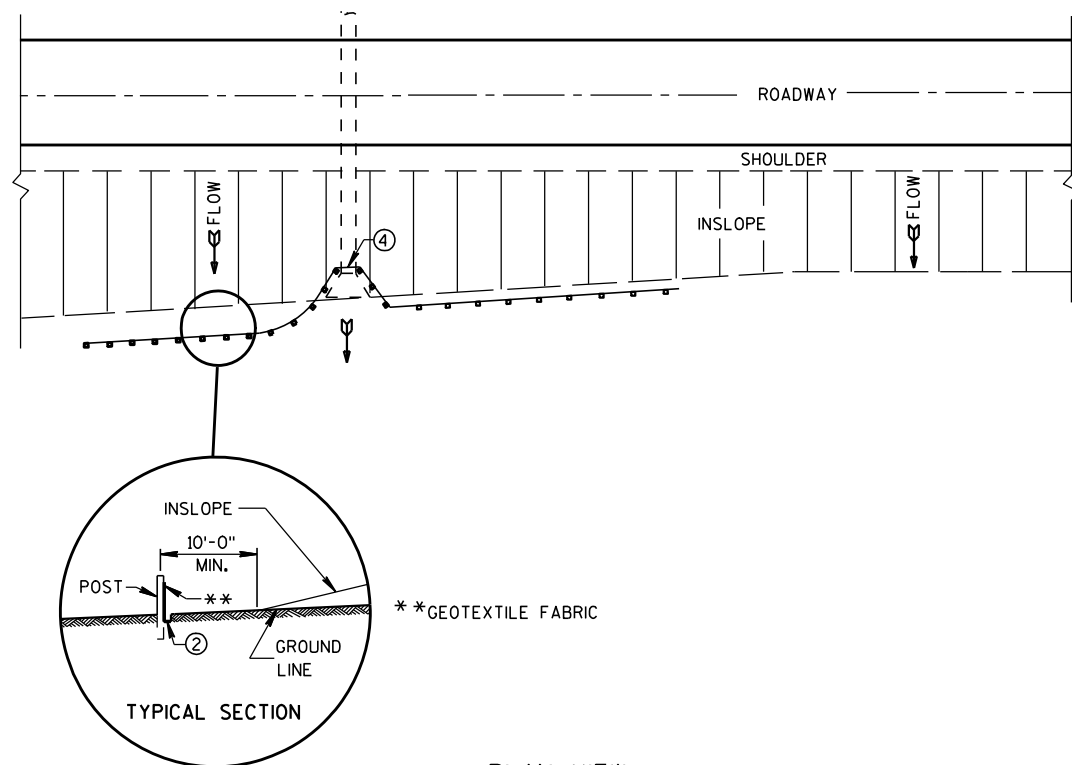
APPROVED

2-6-2013
DATE

FHWA

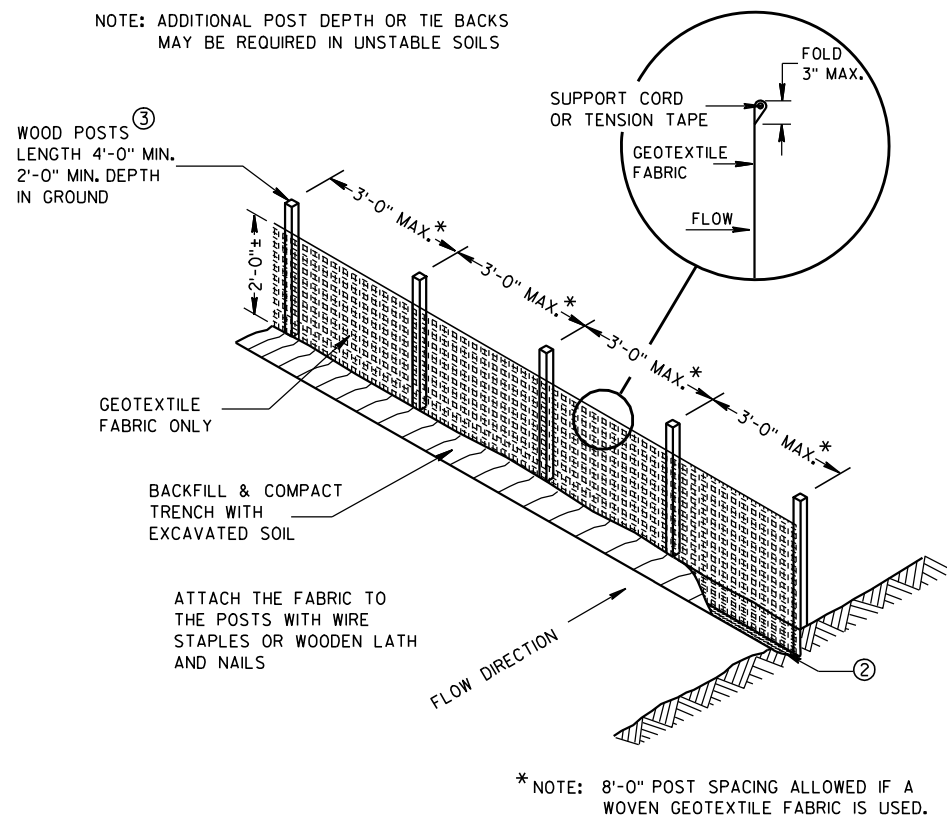
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

120 INT



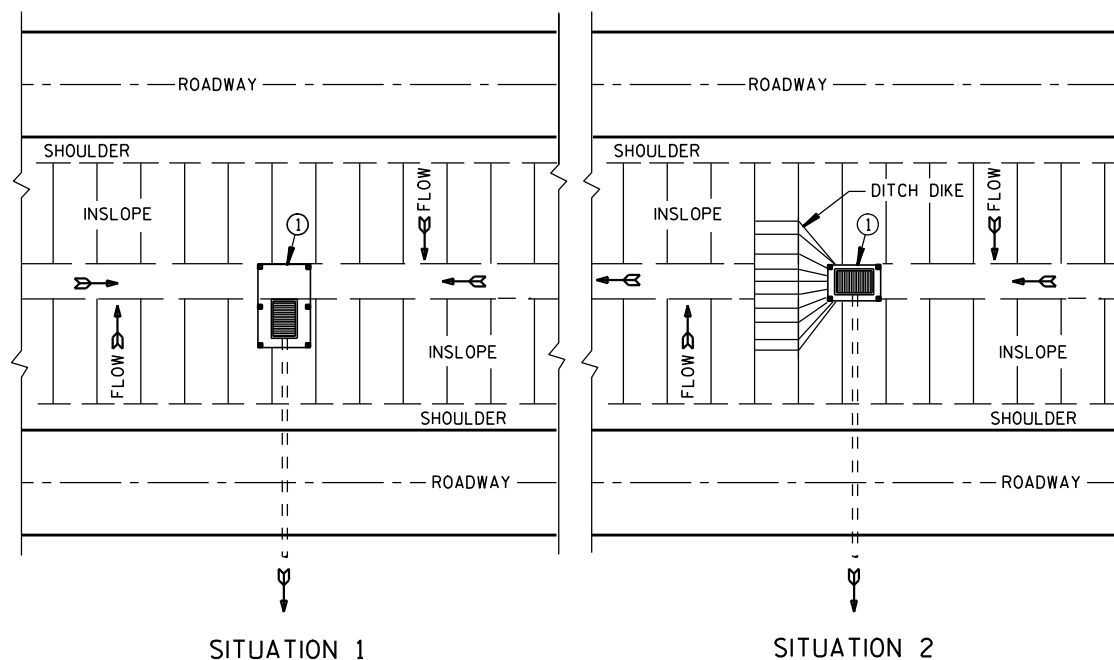
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS
MAY BE REQUIRED IN UNSTABLE SOILS

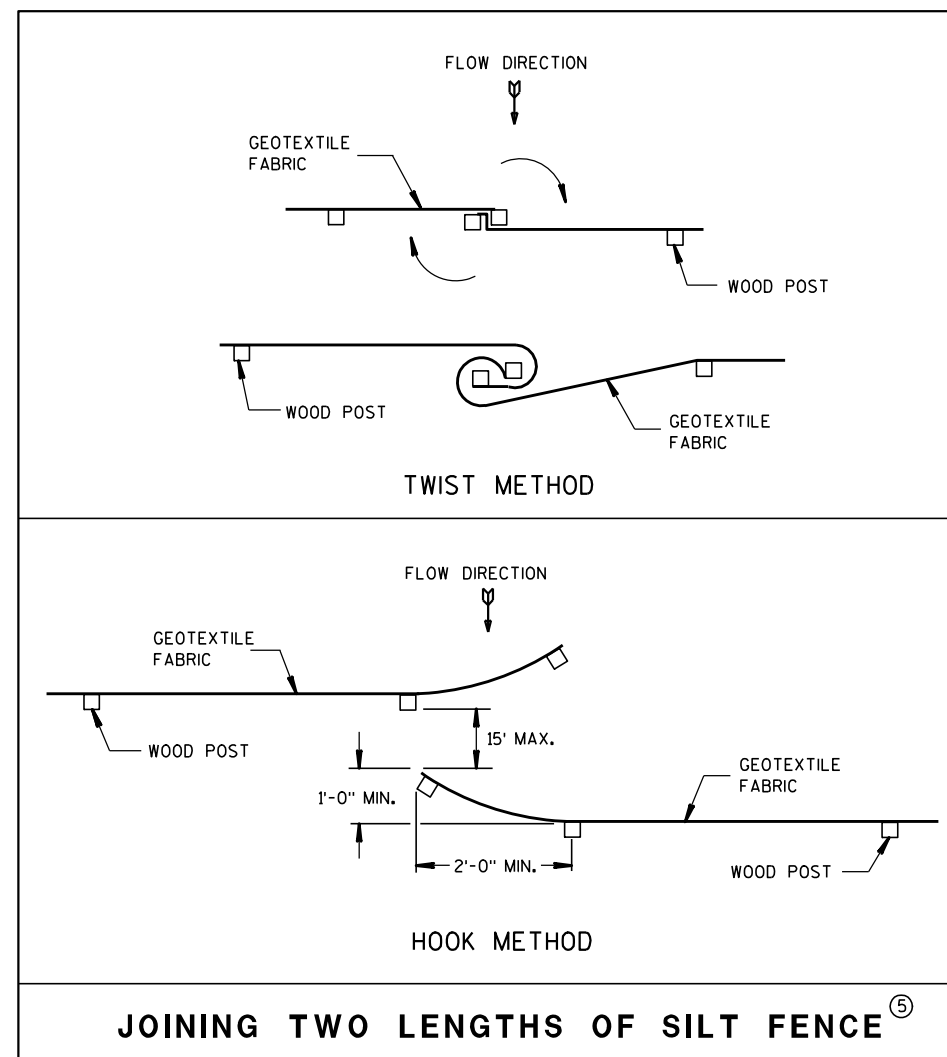


SILT FENCE

* NOTE: 8'-0" POST SPACING ALLOWED IF A
WOVEN GEOTEXTILE FABRIC IS USED.



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

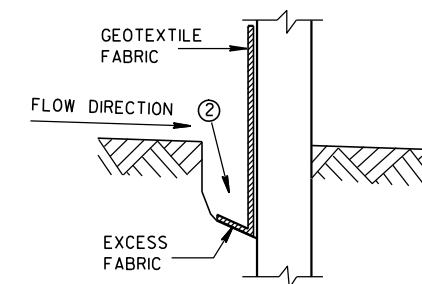


JOINING TWO LENGTHS OF SILT FENCE^⑤

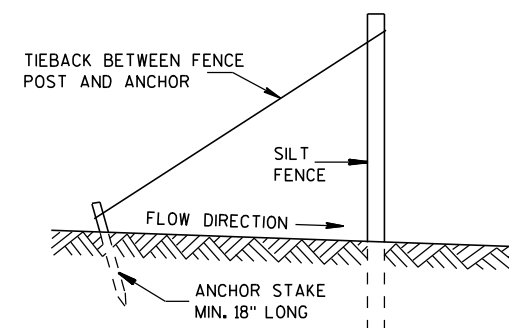
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

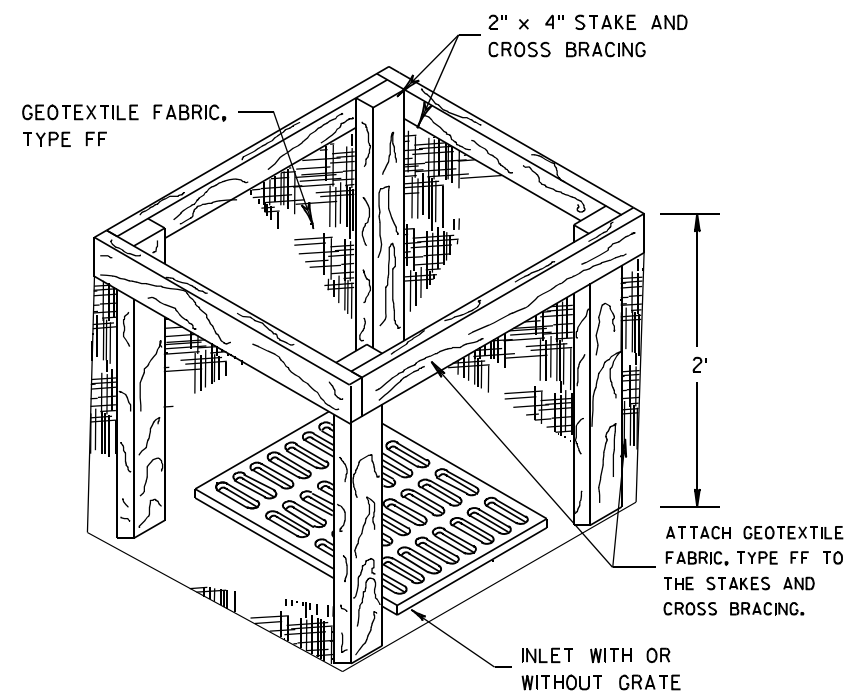
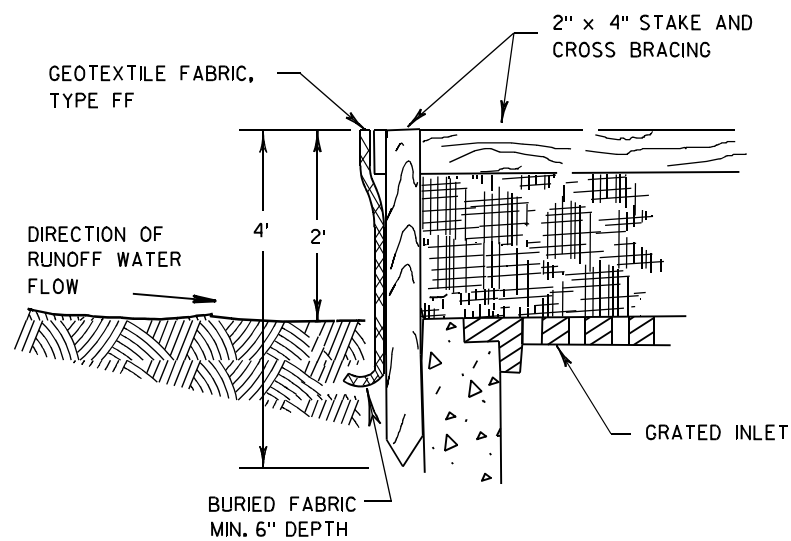
APPROVED

4-29-05
DATE

FHWA

/S/ Beth Conn
CHIEF ROADWAY DEVELOPER

ENGINEER



INLET PROTECTION, TYPE A

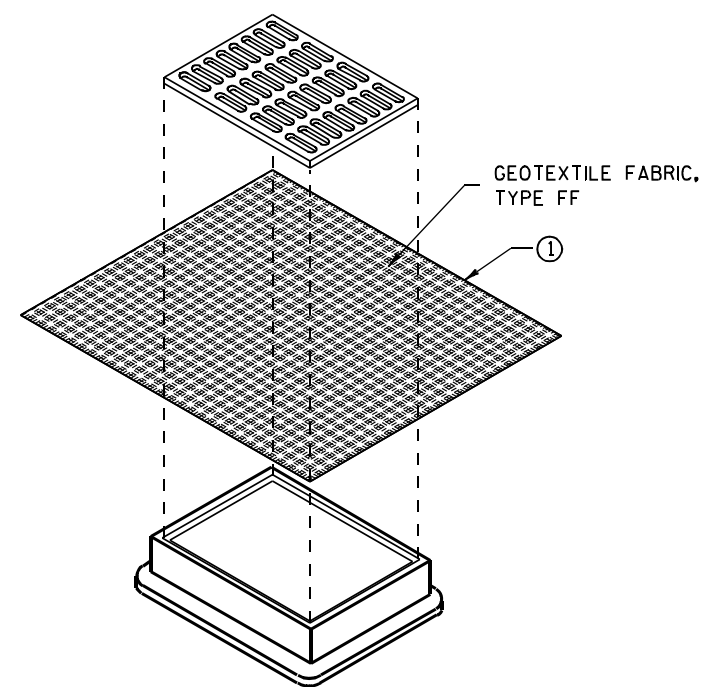
GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

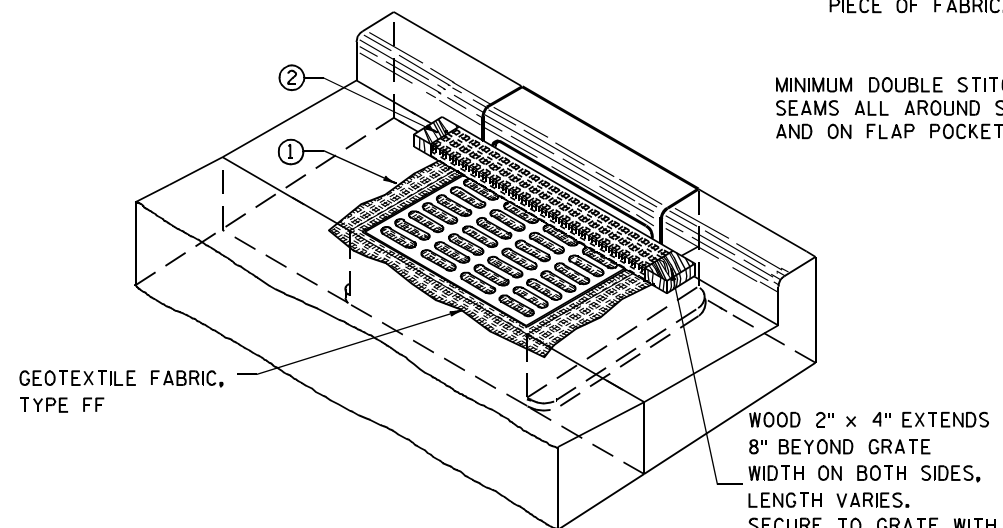
MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**
(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

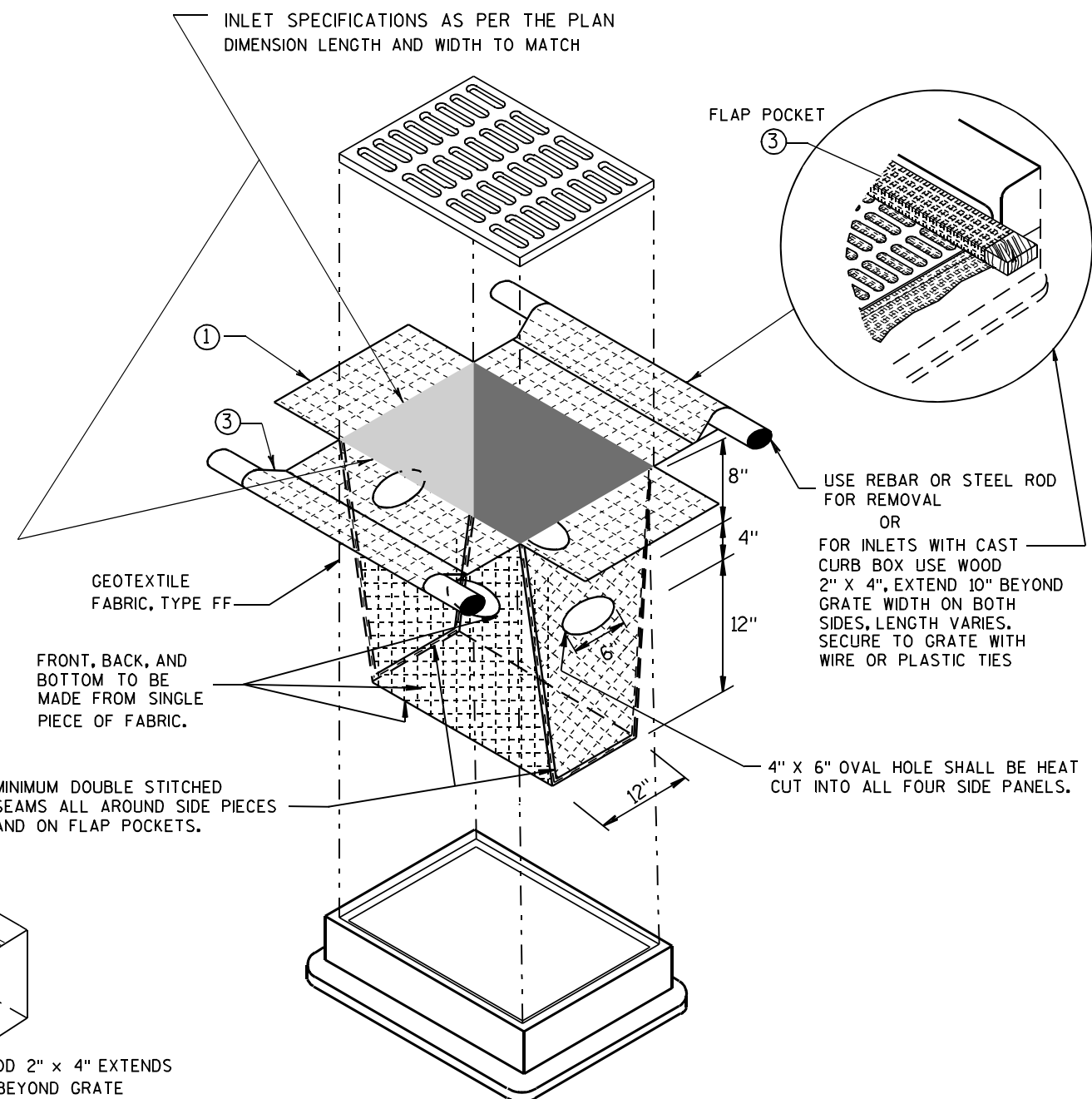
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLower THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



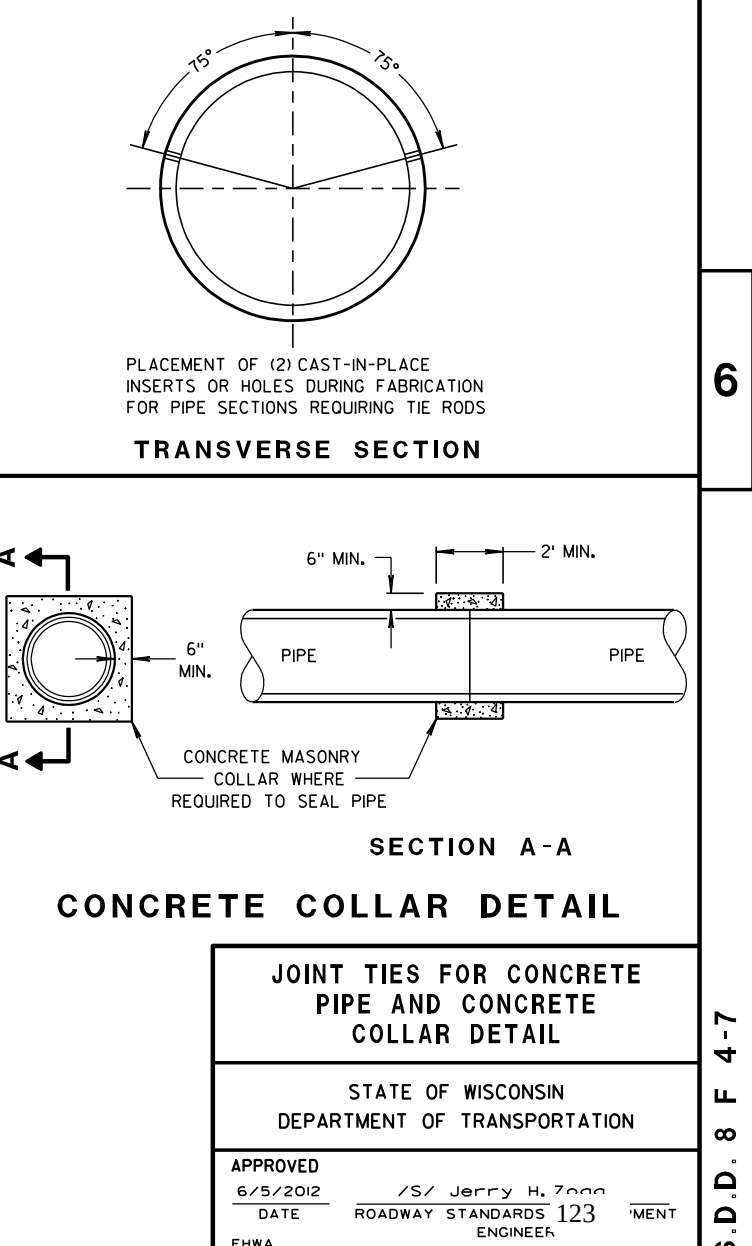
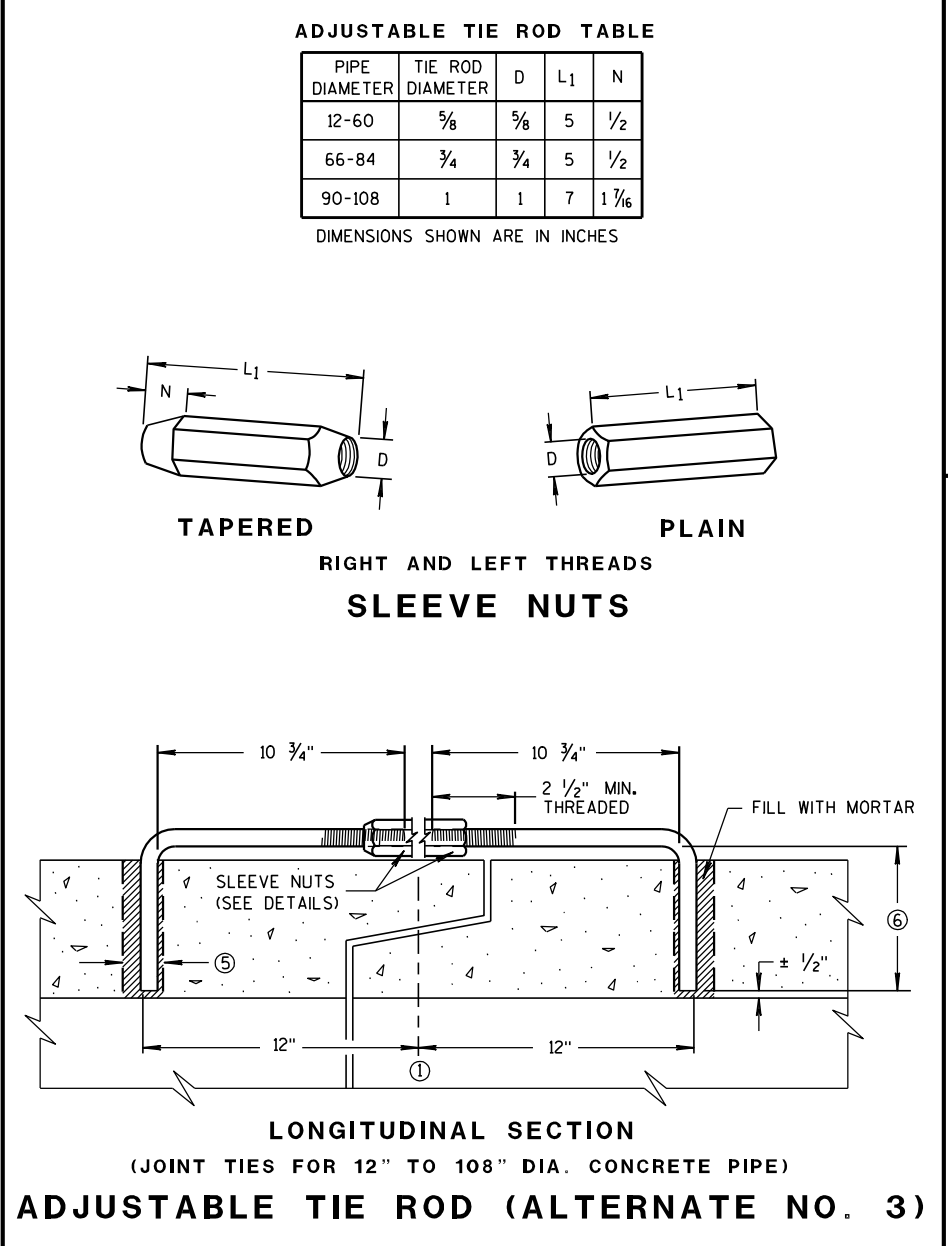
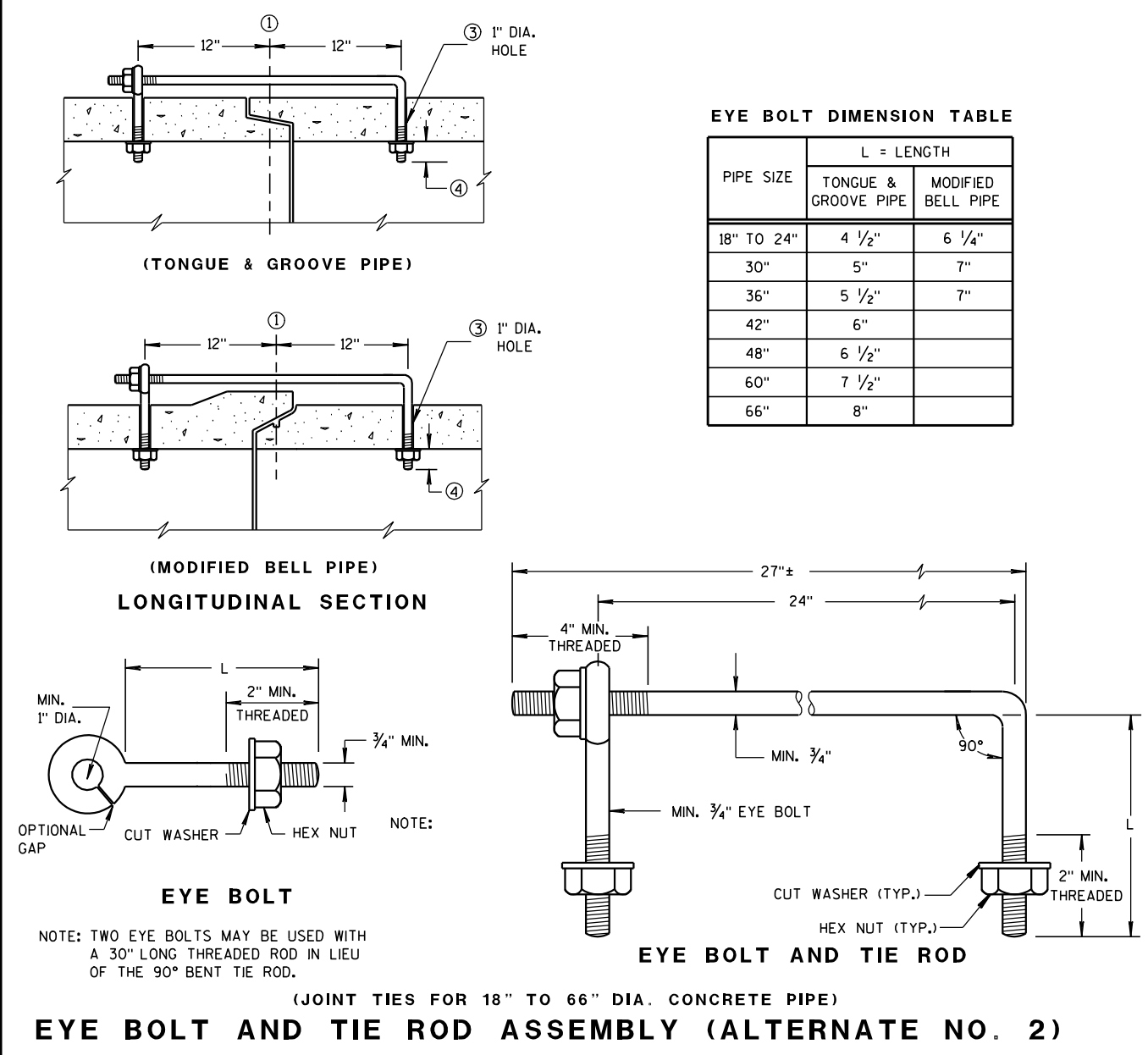
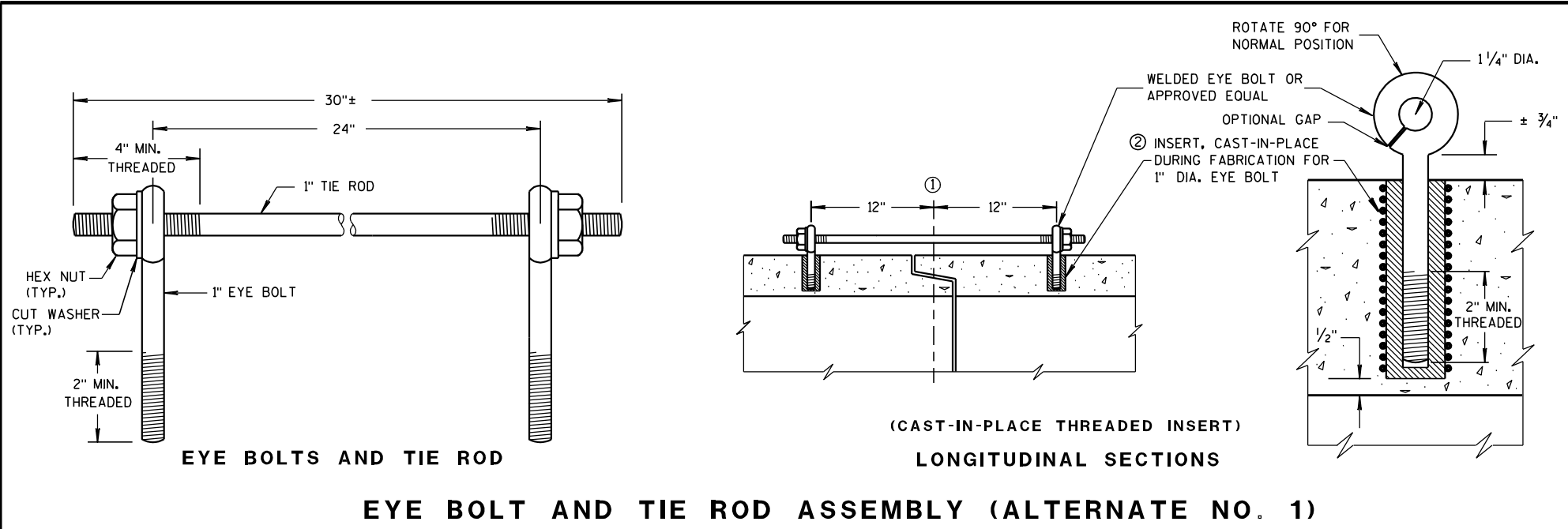
INLET PROTECTION, TYPE D

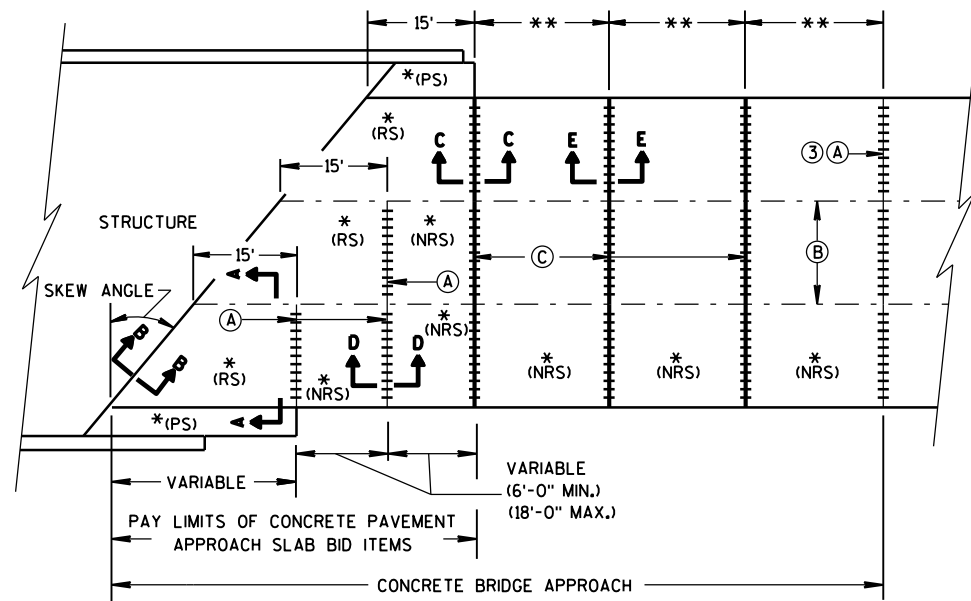
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

**INLET PROTECTION
TYPE A, B, C, AND D**

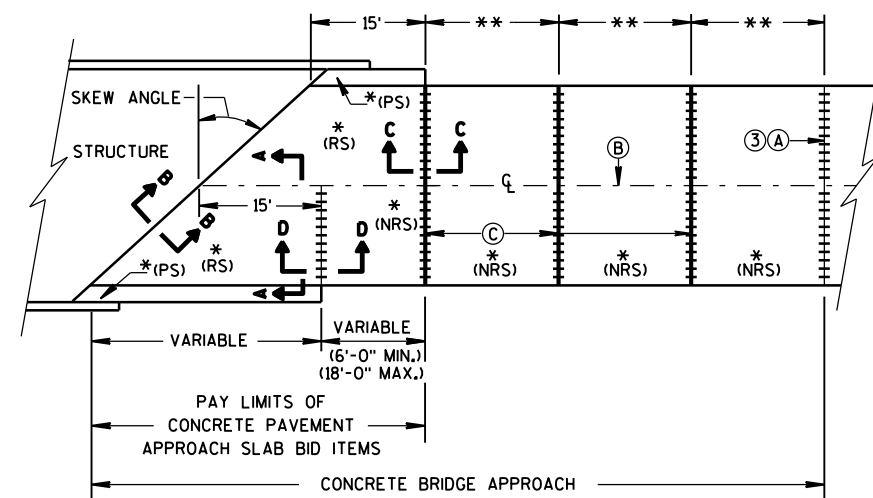
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Connolly
DATE 122
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER

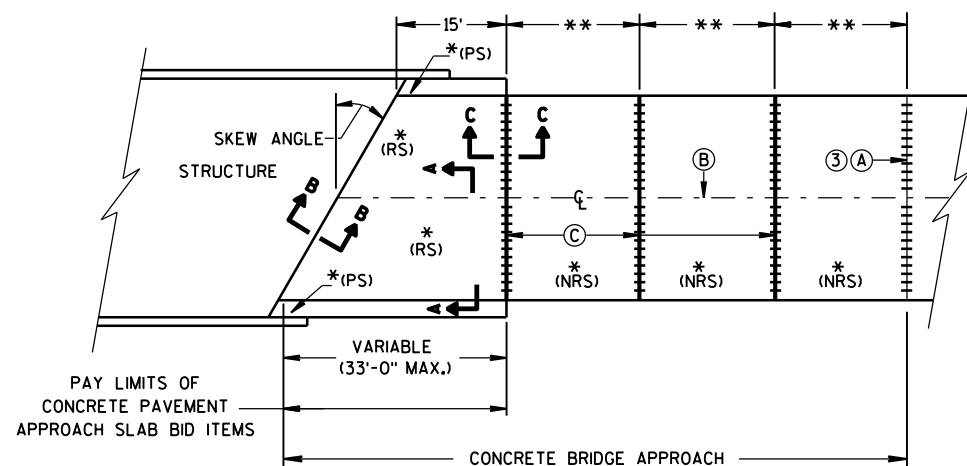




**SKewed APPROACH
(PAVEMENT MORE THAN 2 LANES)**



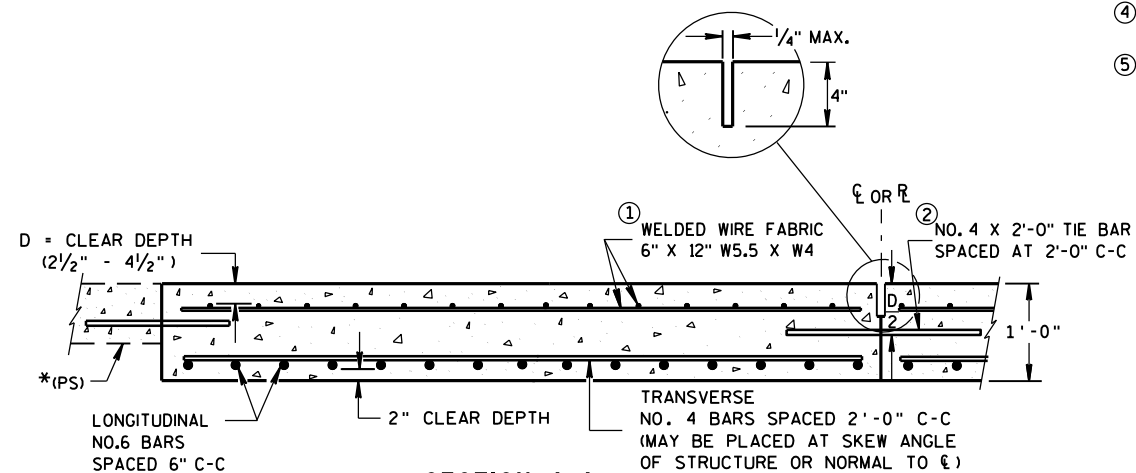
**SKews > 30°
(PAVEMENT WIDTH ≤ 30')**



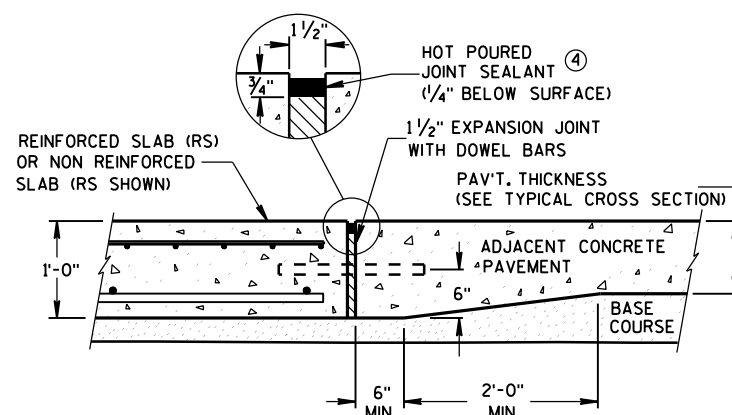
**SKews ≤ 30°
(PAVEMENT WIDTH ≤ 30')
APPROACH SLAB AND ADJACENT PAVEMENT**

- *(RS) = REINFORCED CONCRETE SLAB
 *(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
 (SEE DETAILS ELSEWHERE IN THE PLAN)
 *(NRS) = NON-REINFORCED CONCRETE SLAB
 **STANDARD TRANSVERSE JOINT SPACING
 (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
 ***STANDARD DOWEL BAR DIAMETER
 (SEE SDD 13C11, & SDD 13C13)

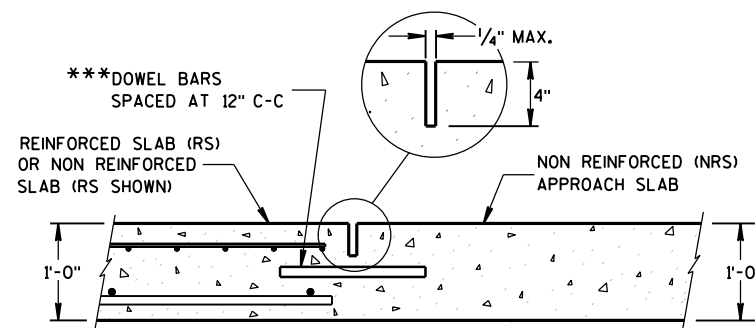
- (A) STANDARD CONTRACTION JOINT NORMAL TO R_L OR R_R
 (B) STANDARD LONGITUDINAL JOINT AND TIE BARS.
 (C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO R_L OR R_R



**SECTION A-A
REINFORCEMENT POSITIONING DETAIL**



**SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**



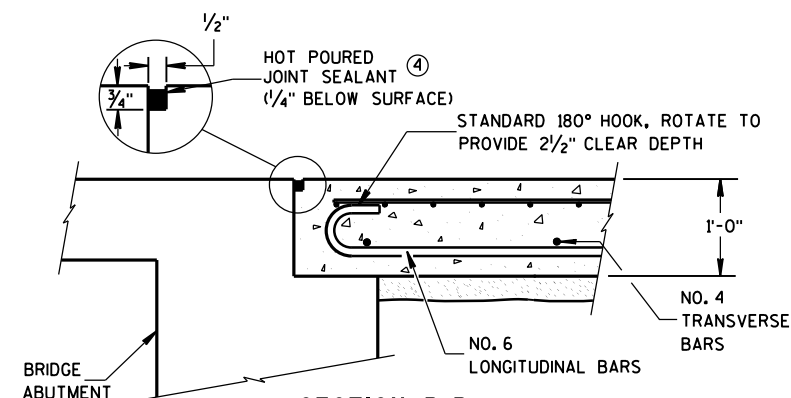
**SECTION D-D
CONTRACTION JOINT**

GENERAL NOTES

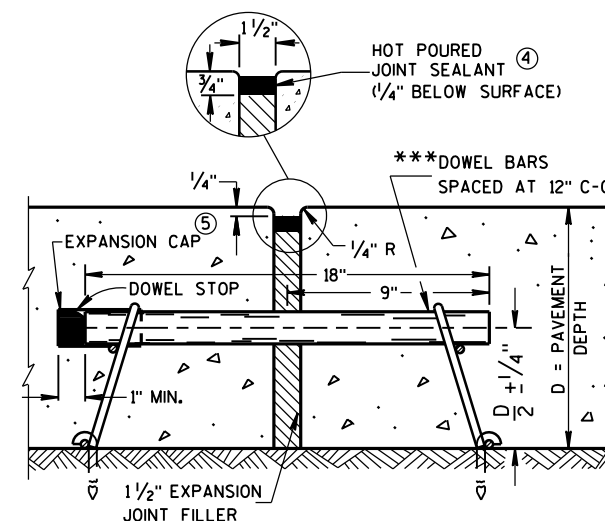
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.
- USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.
- PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



**SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT**



**SECTION E-E
EXPANSION JOINT**

CONCRETE BRIDGE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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June, 2014

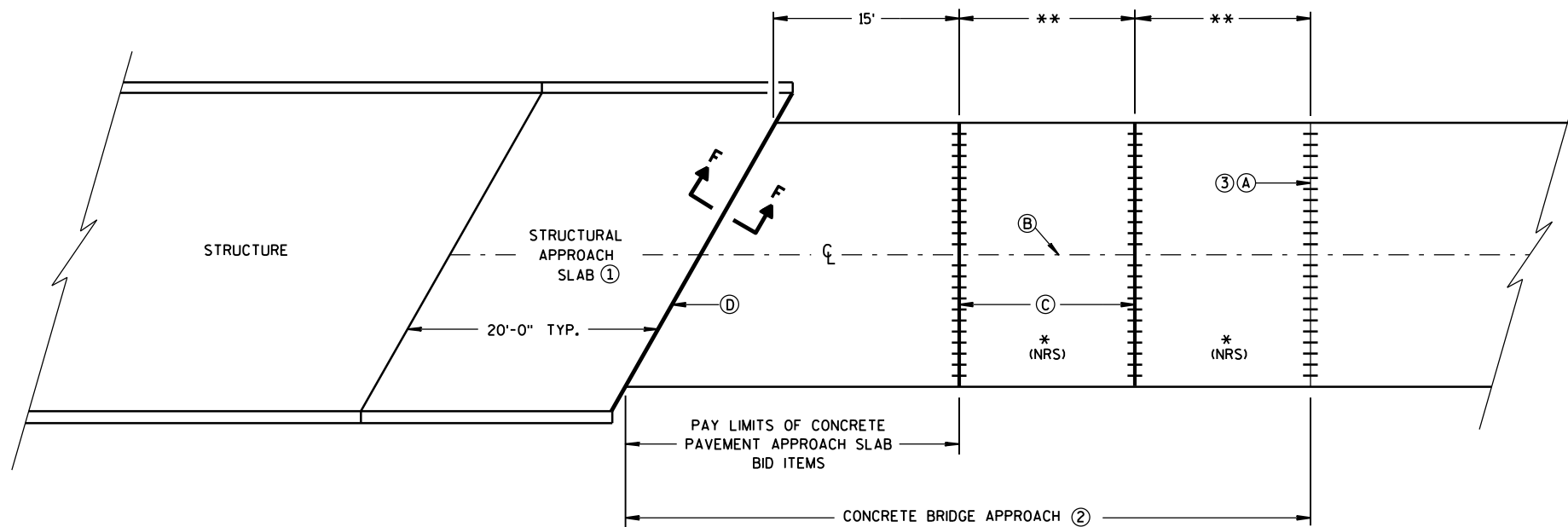
DATE

/S/ Deb Bischoff

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BRIDGE APPROACHES

GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE BRIDGE APPROACH.

- ① CONFORM TO APPLICABLE BRIDGE MANUAL STANDARD DRAWINGS FOR *STRUCTURAL APPROACH SLABS* (SEE CHAPTER 12 - ABUTMENTS).
- ② CONFORM TO SHEET (a) OF THIS SET FOR *CONCRETE BRIDGE APPROACH* DETAILS, WITH ONE EXCEPTION—WHEN CONSTRUCTING A *CONCRETE BRIDGE APPROACH* NEXT TO A *STRUCTURAL APPROACH SLAB*, AS SHOWN IN THE DETAIL DRAWING, THE *CONCRETE BRIDGE APPROACH* WILL ONLY HAVE TWO EXPANSION JOINTS; THE THIRD EXPANSION JOINT IS AT THE END OF THE *STRUCTURAL APPROACH SLAB*.
- ③ DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.

*(NRS) = NON-REINFORCED CONCRETE SLAB

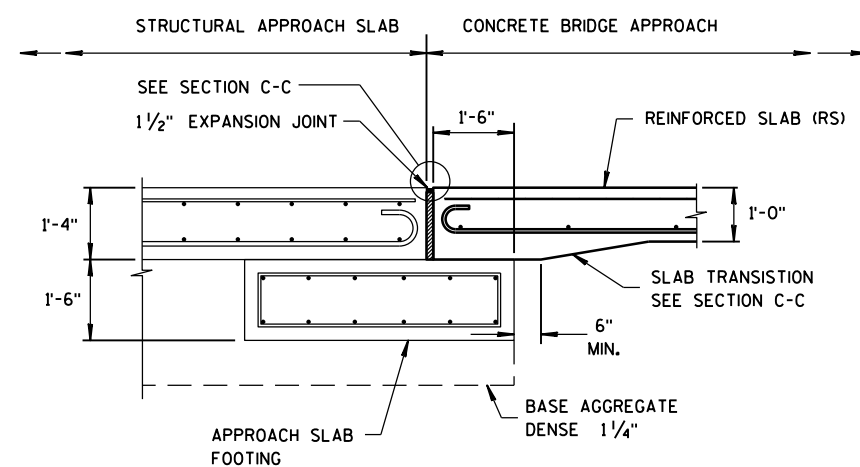
**STANDARD TRANSVERSE JOINT SPACING
(SEE SDD 13C4, SDD 13C11, & SDD 13C13)

A STANDARD CONTRACTION JOINT NORMAL TO R_L OR C_L

B STANDARD LONGITUDINAL JOINT AND TIE BARS.

C 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO R_L OR C_L

D 1½" EXPANSION JOINT (NO DOWELS)



SECTION F-F

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB
AND
CONCRETE BRIDGE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2014

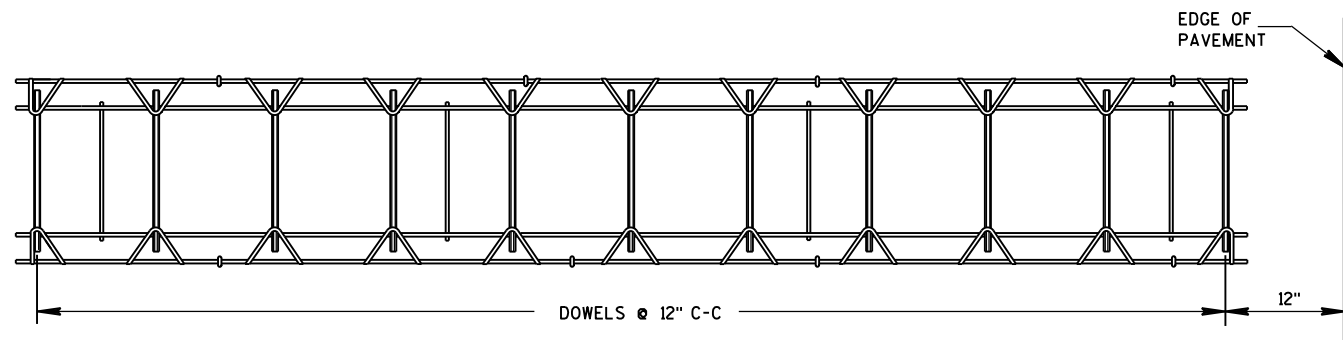
DATE

FHWA

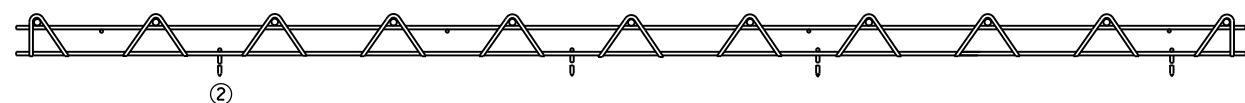
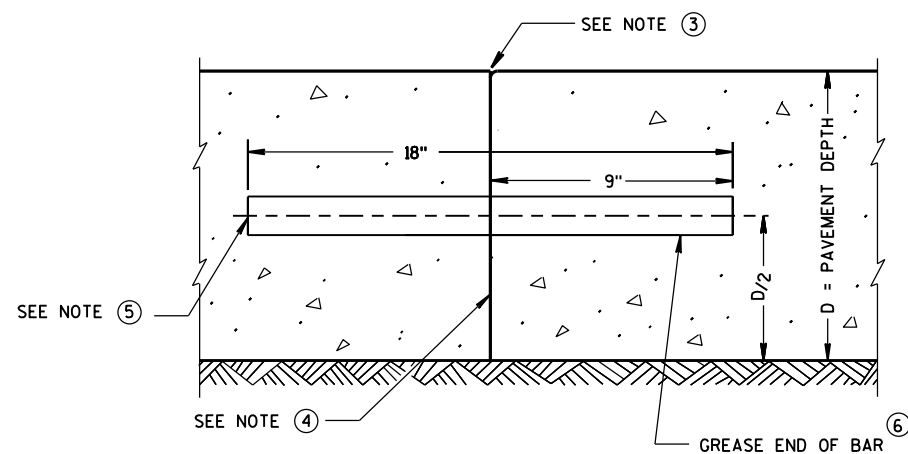
/S/ Deb Bischoff

PAVEMENT POLICY & DE 125

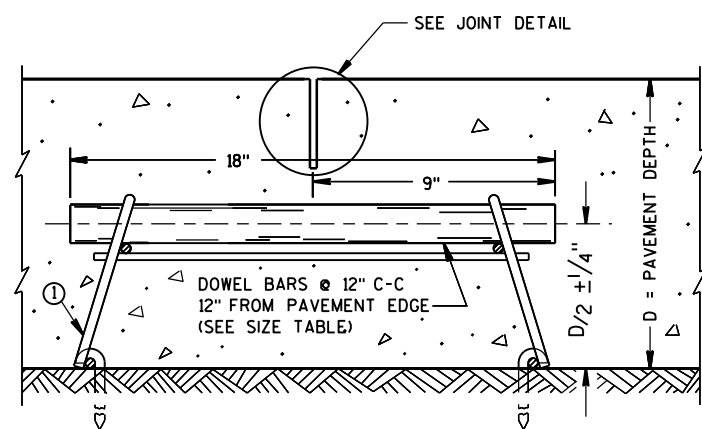
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PLAN VIEW

SIDE VIEW
CONTRACTION JOINT DOWEL ASSEMBLY ②

TRANSVERSE CONSTRUCTION JOINT



DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

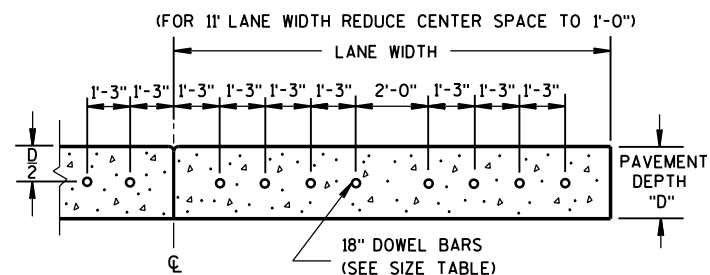
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE LONGITUDINAL JOINT AND THE FREE EDGE OF PAVEMENT.

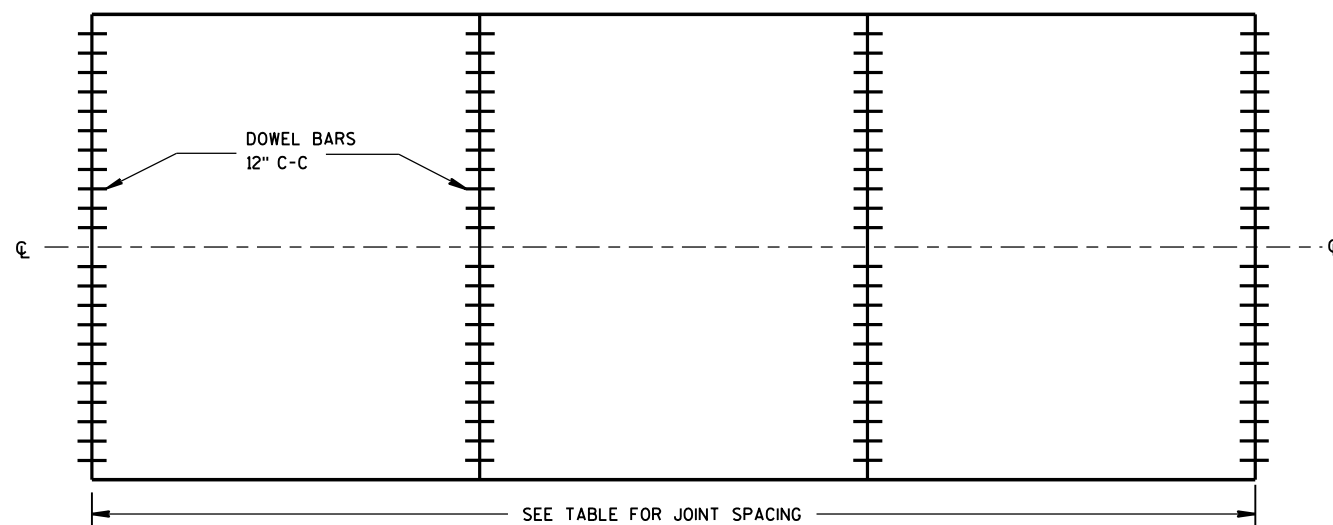
CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

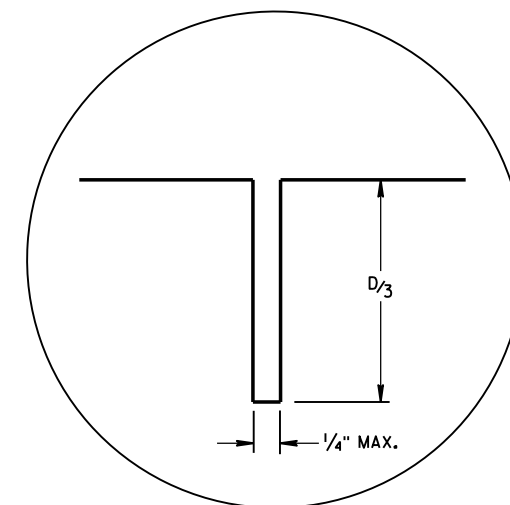
- ① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.
- ② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.
- ③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.
- ④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.
- ⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.
- ⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- ⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



CONTRACTION JOINT LOCATIONS



JOINT DETAIL

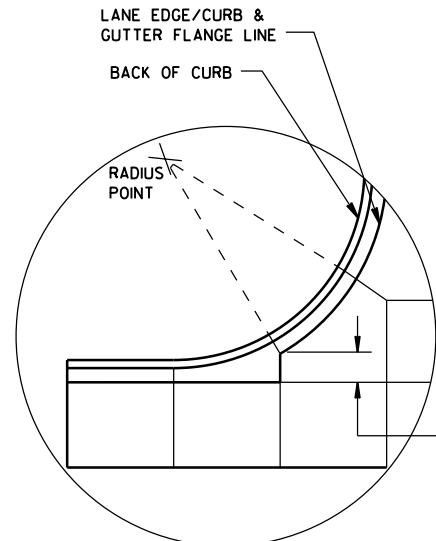
URBAN DOWELED
CONCRETE PAVEMENTSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

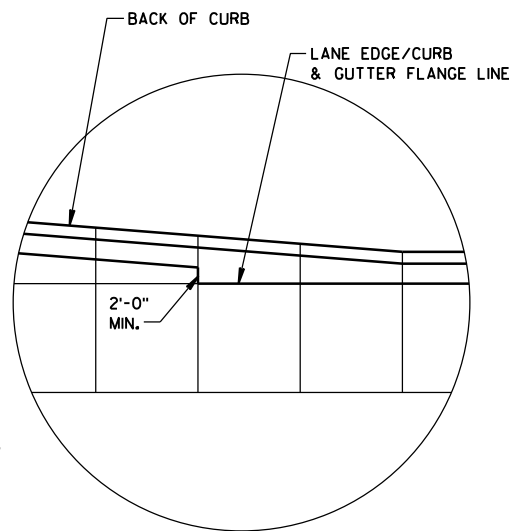
5/3/2013
DATE/S/ Deb Bischoff
PAVEMENT POLICY & DE 126

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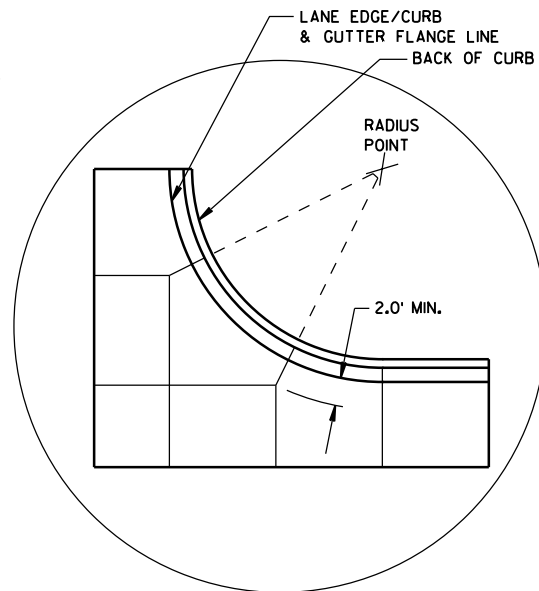
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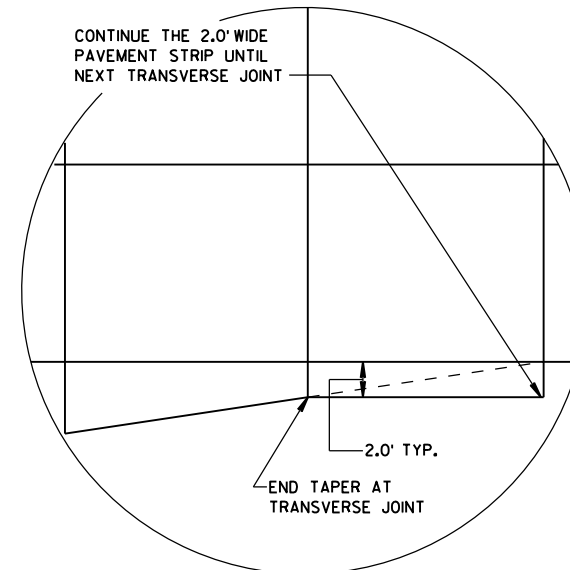
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

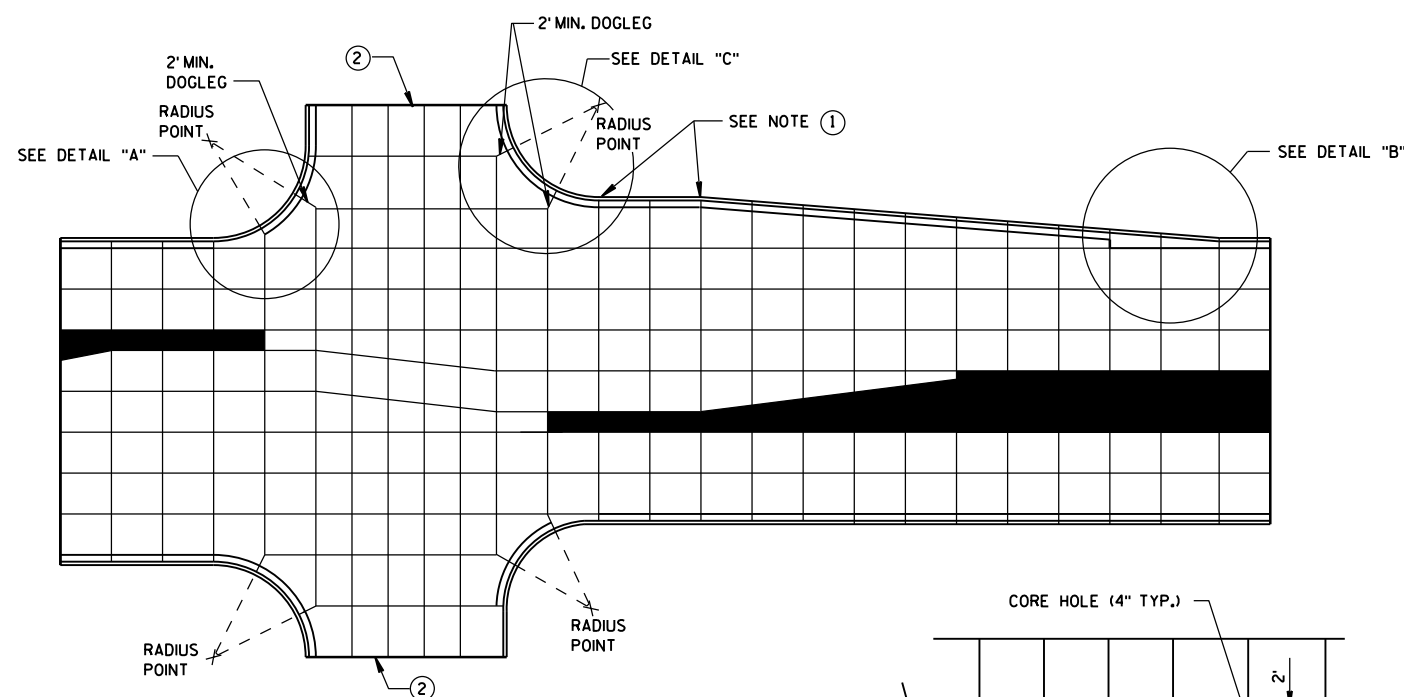
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

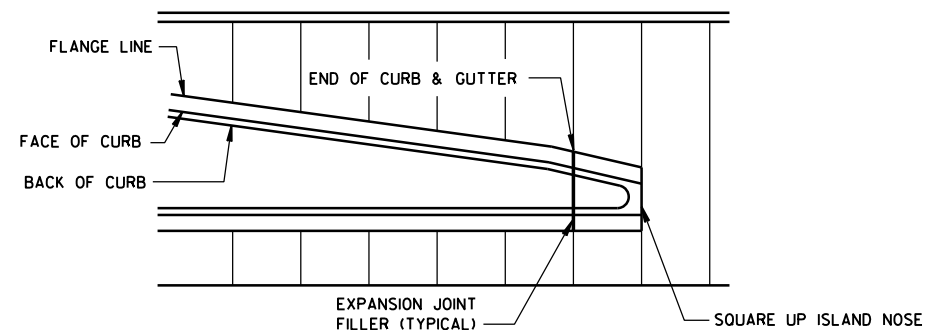
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

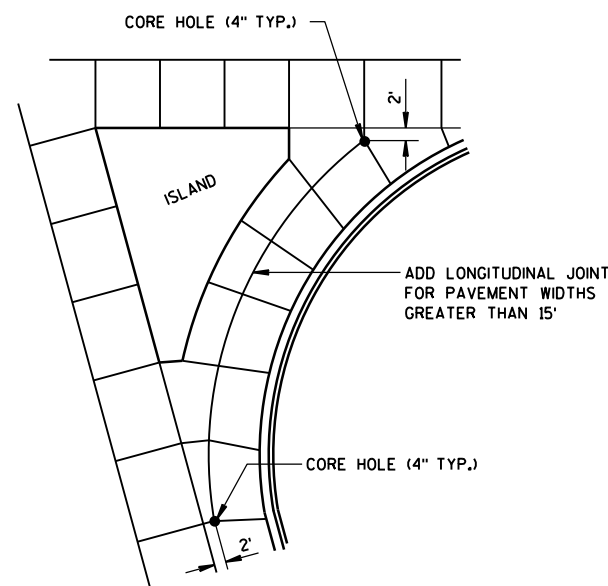
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



STANDARD INTERSECTION



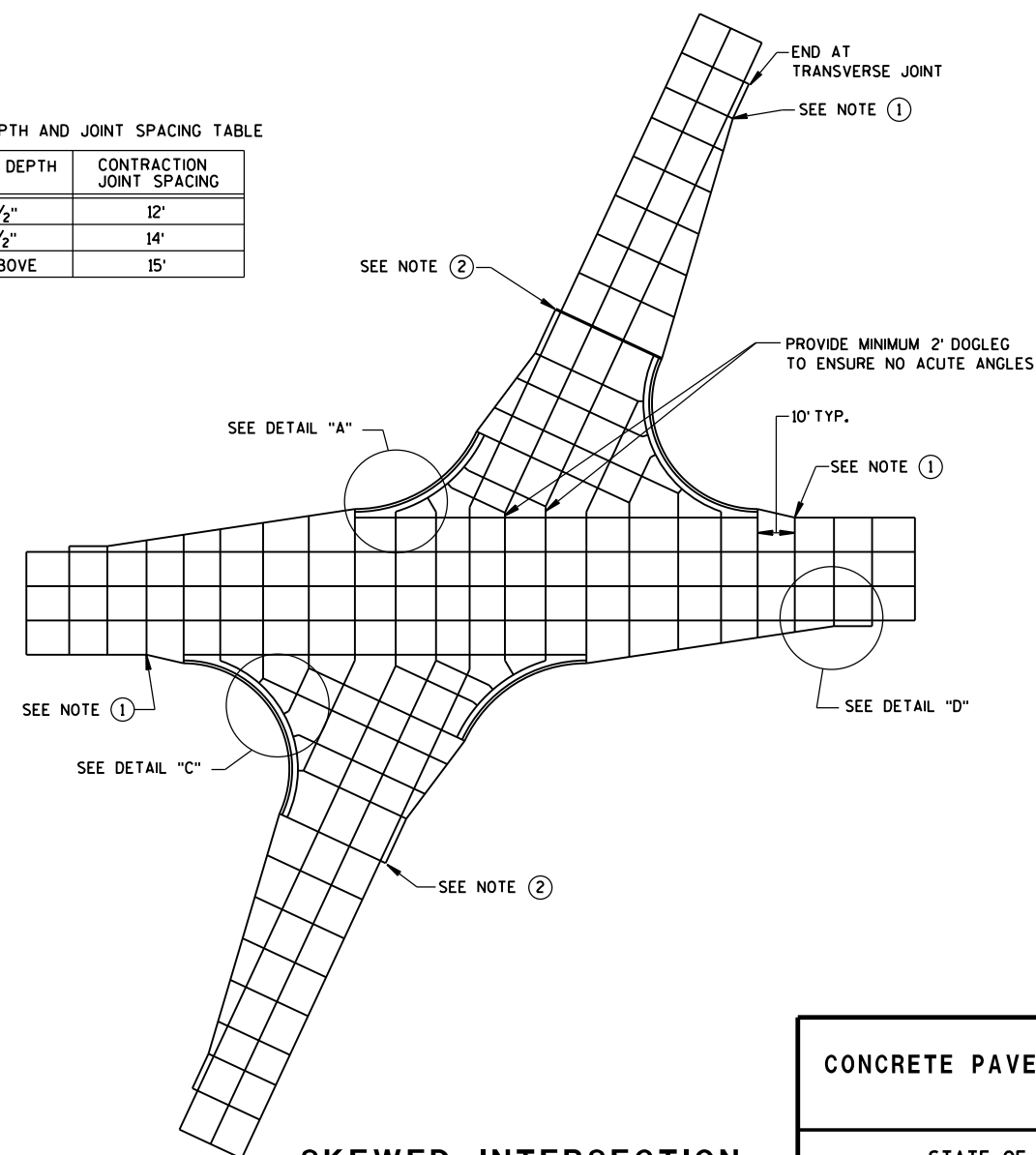
APPROACH TO MEDIAN



LARGE RIGHT TURN

PAVEMENT DEPTH AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



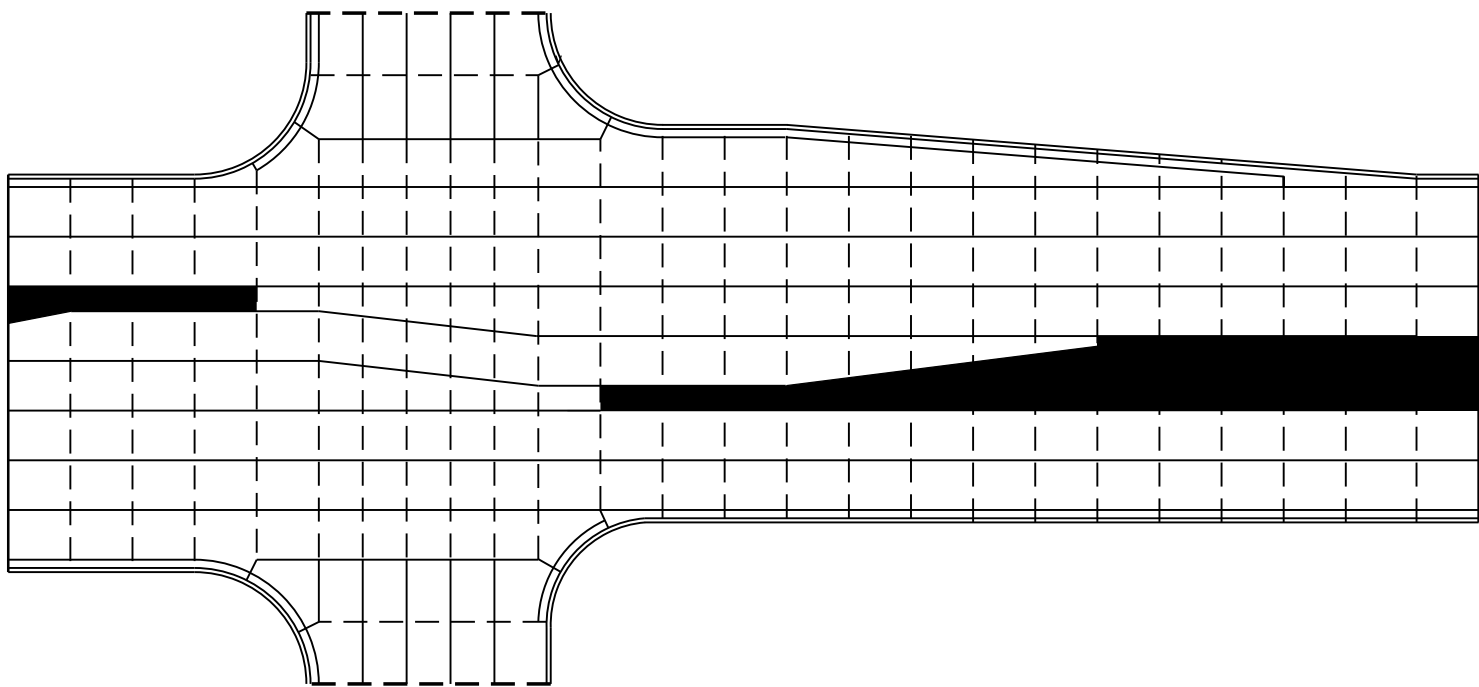
SKewed INTERSECTION

CONCRETE PAVEMENT JOINTING

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DEPARTMENT OF TRANSPORTATION

LEGEND

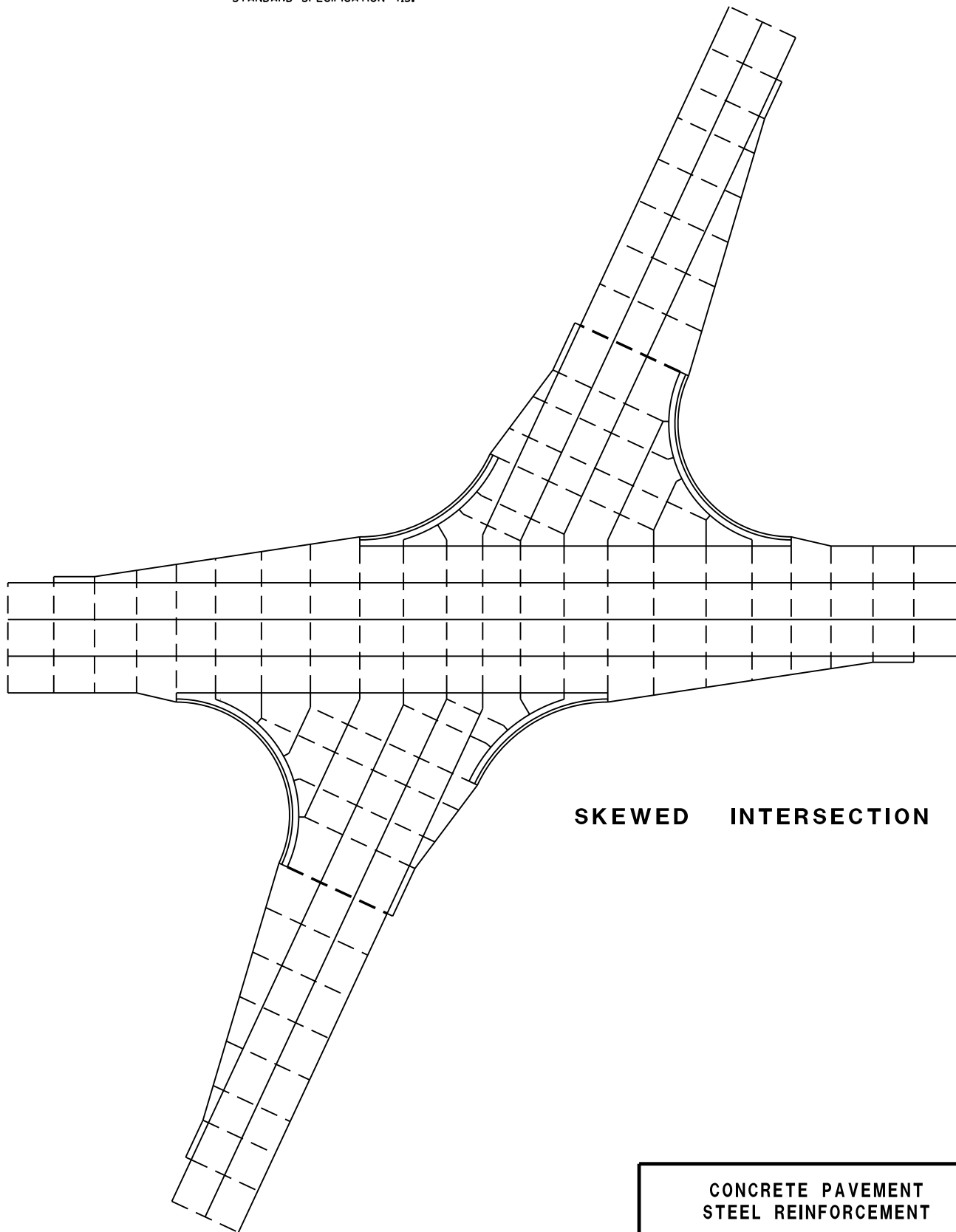
- POTENTIAL DOWELED EXPANSION JOINT
- DOWELED JOINT
- TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.

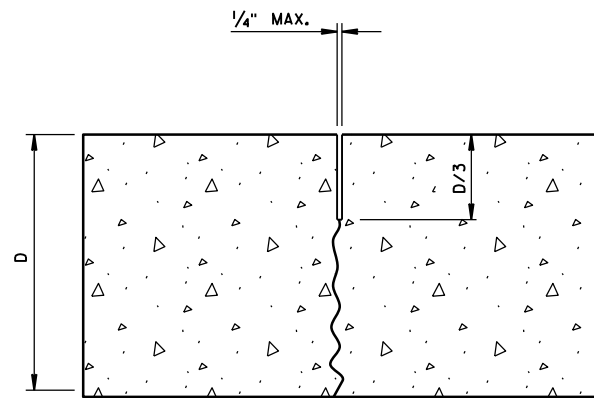


SKewed INTERSECTION

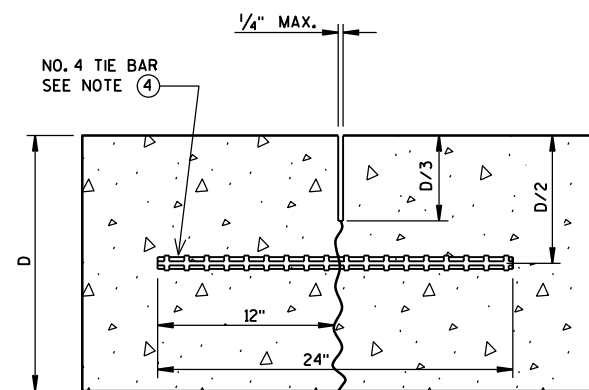
CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

128

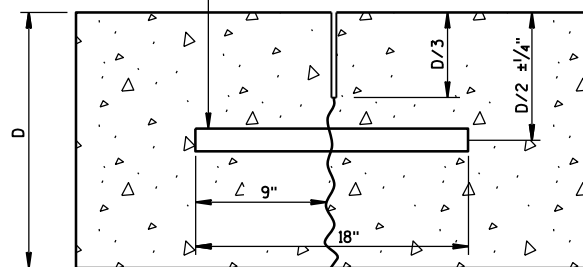


UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

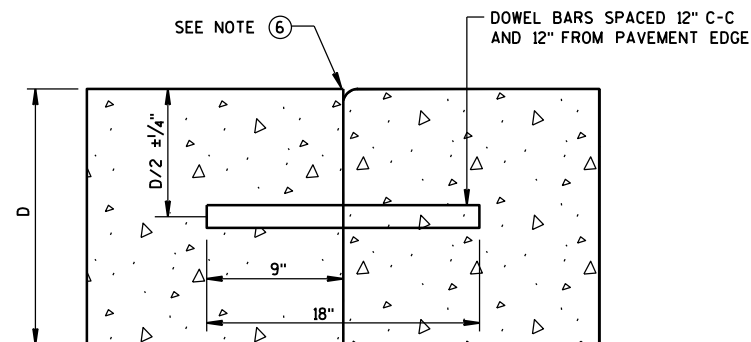
DOWEL BARS AT 12" C-C
12" FROM PAVEMENT EDGE



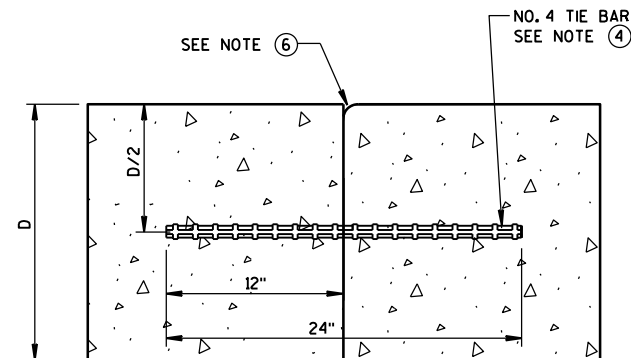
DOWELED-TRANSVERSE

CONTRACTION JOINTS

SEE NOTE ②

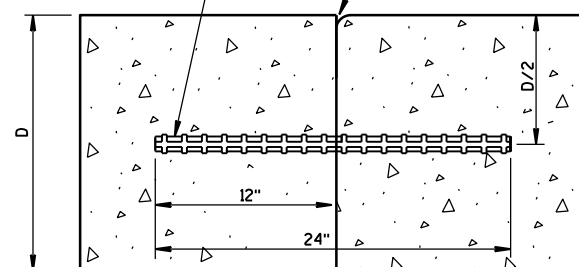
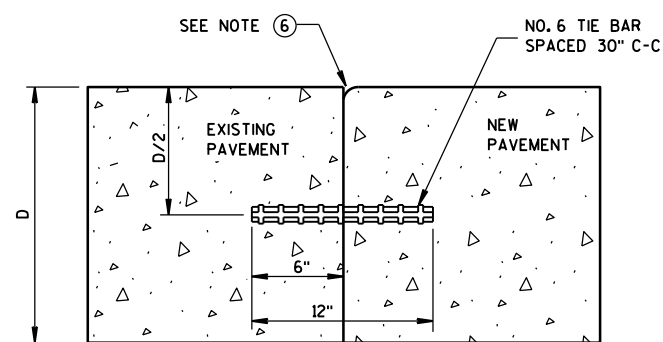


DOWELED TRANSVERSE



TIED LONGITUDINAL

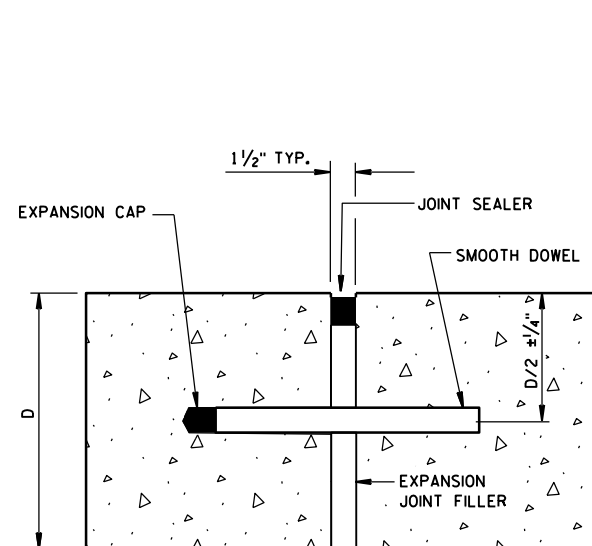
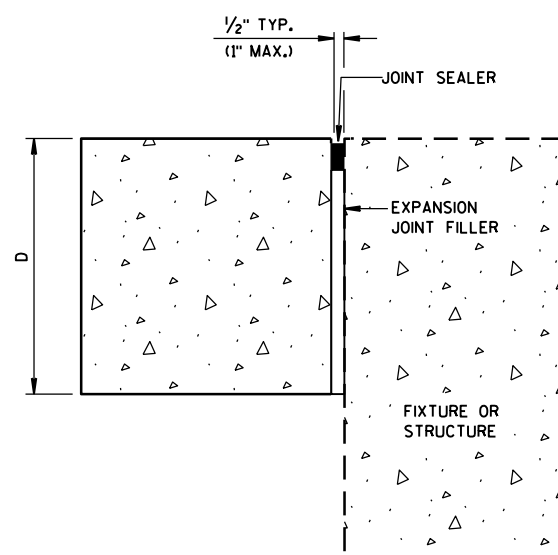
NO. 6 TIE BARS SPACED 12" C-C
AND 12" FROM PAVEMENT EDGE

TIED TRANSVERSE
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)

TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

SEE NOTE ⑤

DOWELED-TRANSVERSE
SEE NOTE ①

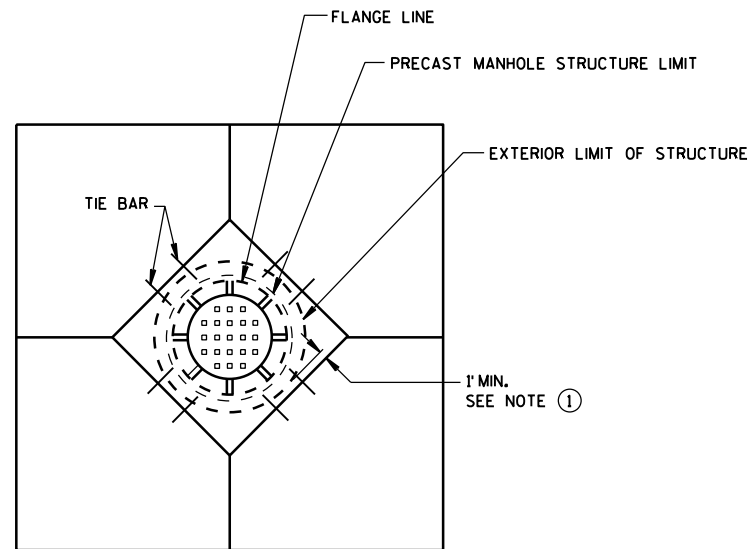
UNTIED-LONGITUDINAL

EXPANSION JOINTS

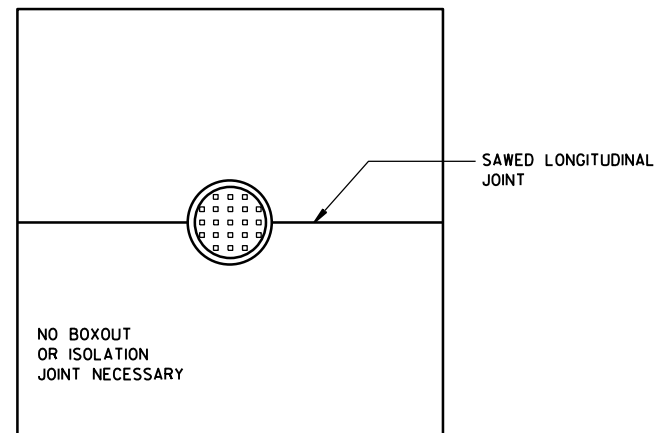
GENERAL NOTES

1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.

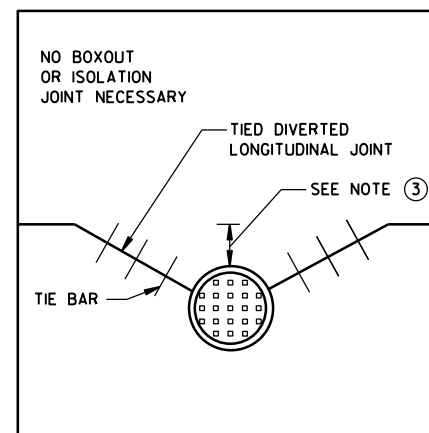
CONCRETE PAVEMENT
JOINT TYPESSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 129



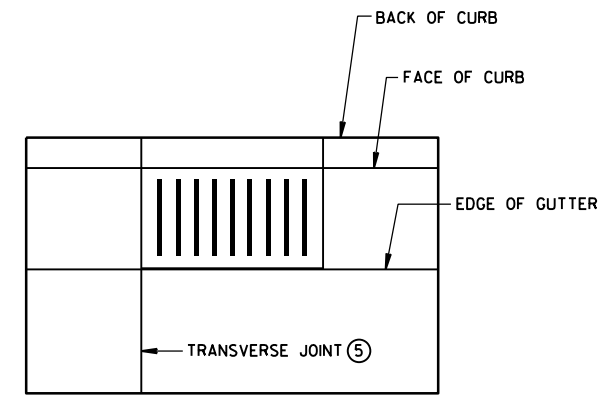
**DIAGONAL MANHOLE BOXOUT
FOR CONSTRUCTION JOINTS**



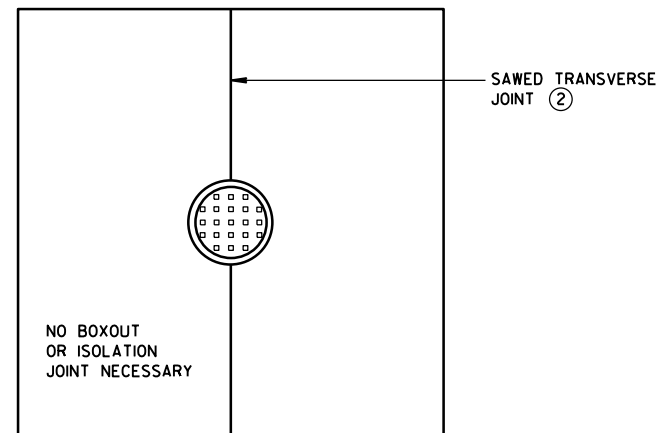
**MANHOLE WITH
LONGITUDINAL JOINT**



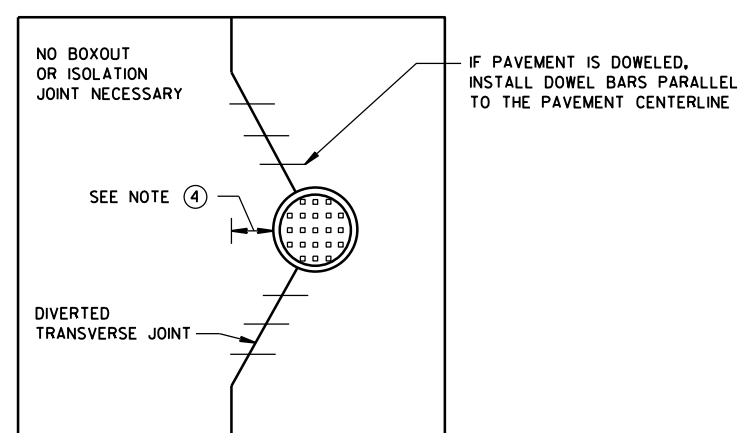
**MANHOLE WITH DIVERTED
LONGITUDINAL CONTRACTION JOINT**



**INLET WITH
TRANSVERSE JOINT**



**MANHOLE WITH
TRANSVERSE JOINT**



**MANHOLE WITH DIVERTED
TRANSVERSE CONTRACTION JOINT**

GENERAL NOTES

- ① USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
- ② ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
- ③ IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.
- ④ IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.
- ⑤ ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

**CONCRETE PAVEMENT
JOINTING AT UTILITY FIXTURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

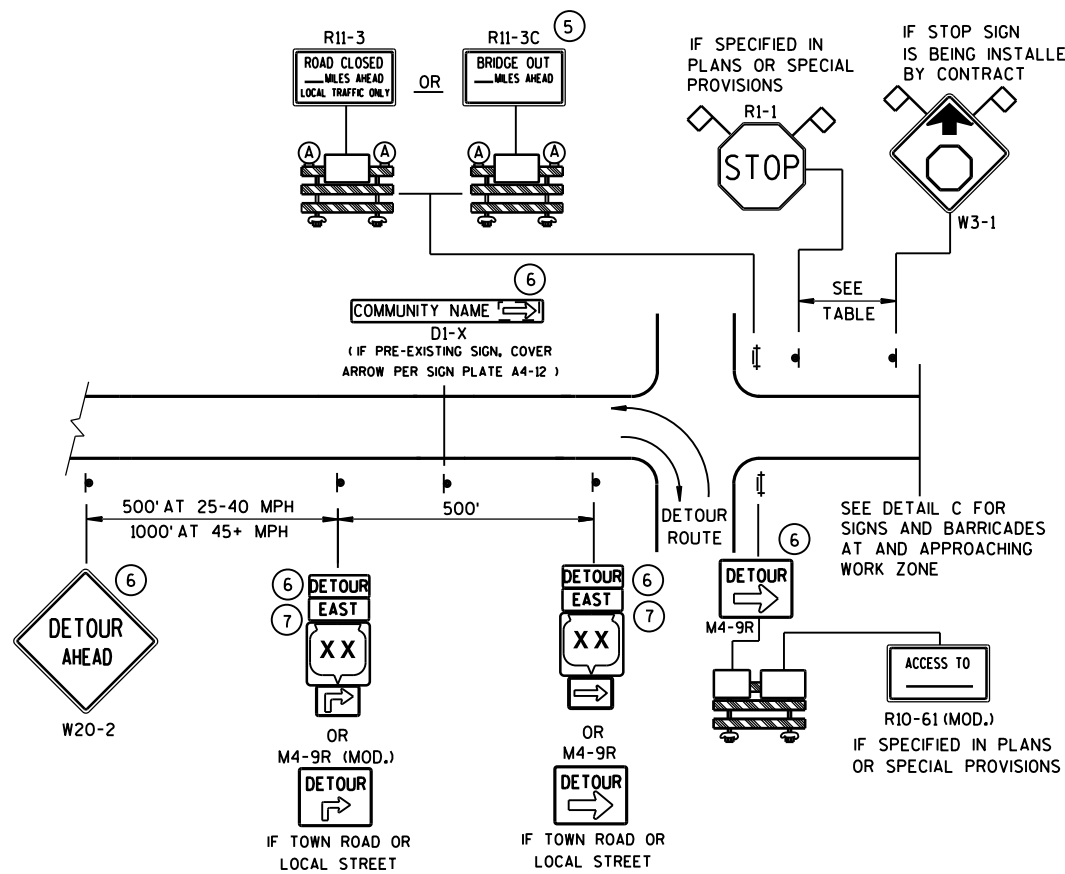
5-3-2013
DATE

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130

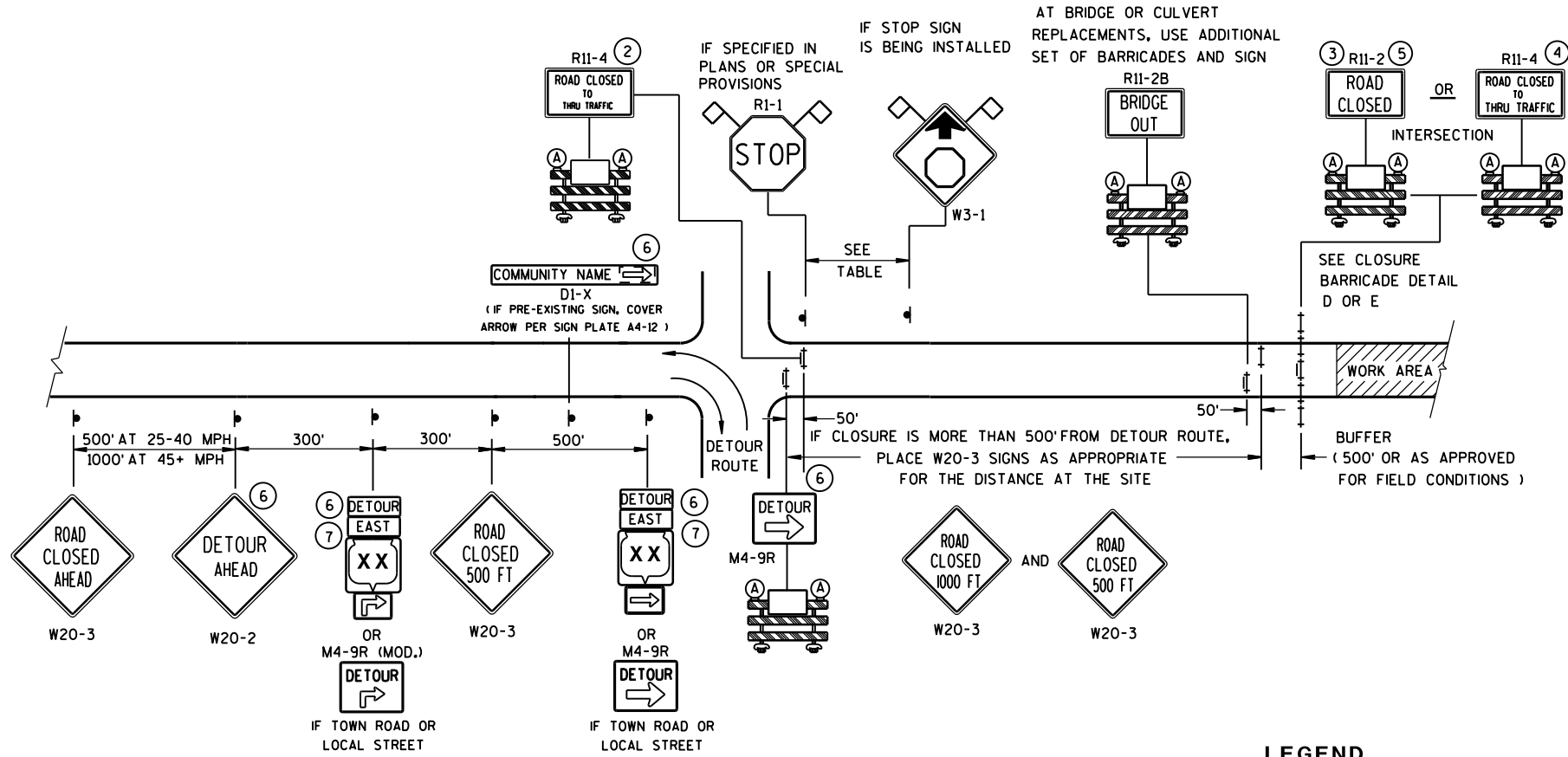
NEER

FHWA



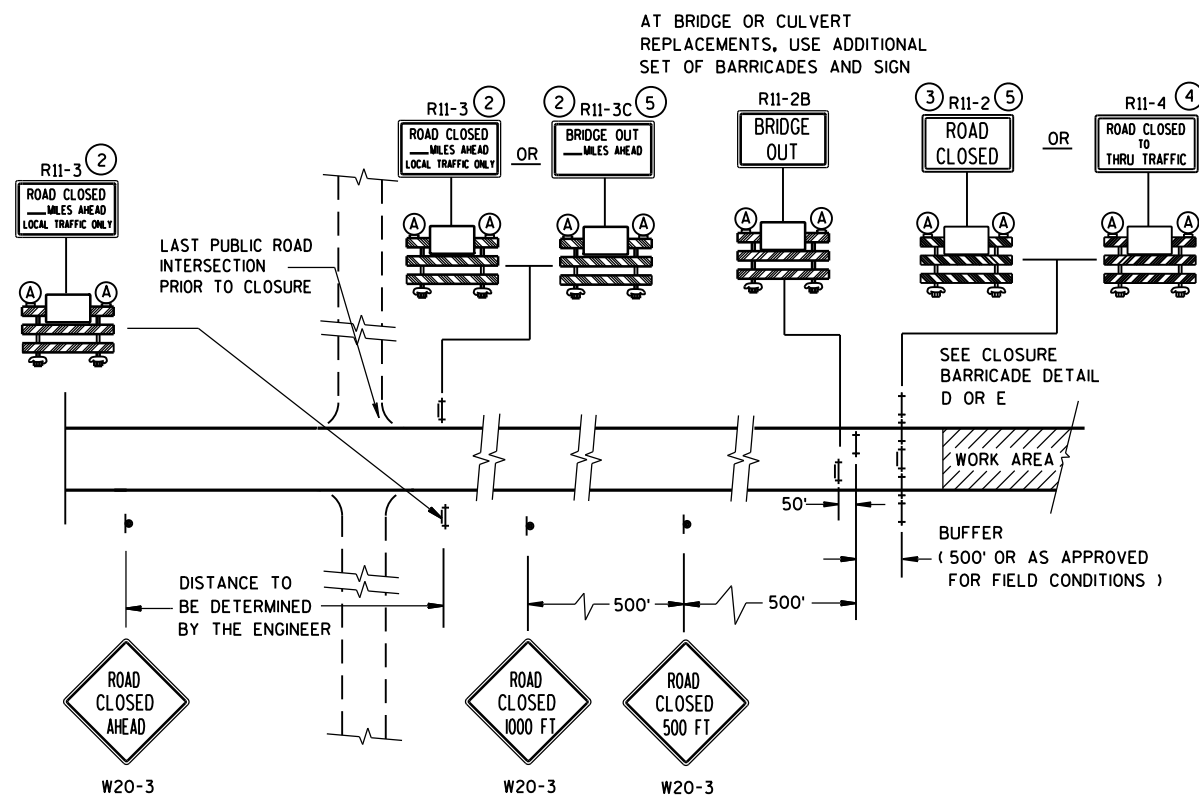
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

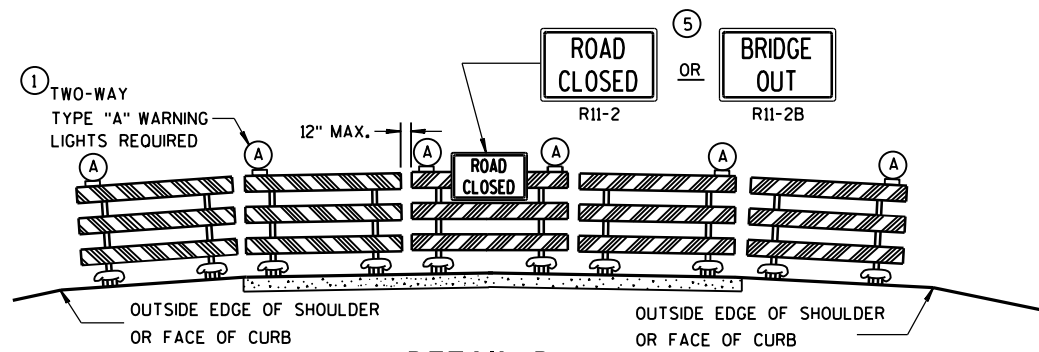
LEGEND

- SIGN ON PERMANENT SUPPORT
- ⊥ TYPE III BARRICADE
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- Ⓐ TYPE "A" WARNING LIGHT (FLASHING)
- ▨ WORK AREA
- DETOUR EAST M4-8 M3-X
- XX OR COUNTY XX OR XX M1-4 M1-5A M1-6
- OR M05-1 M06-1
- ◇ ◇ FLAGS, 16" X 16" MIN., (ORANGE)

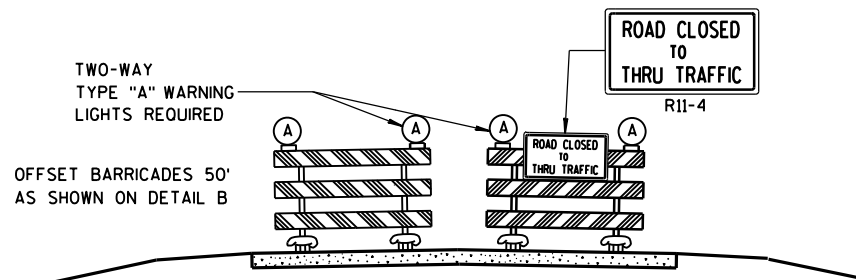
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

BARRICADES AND SIGNS FOR MAINLINE CLOSURES		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINE 131	ESIGN
FHWA		



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

R11-2 SHALL BE 48" X 30".

R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".

M4-9 SHALL BE 30" X 24".

M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)

M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)

M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)

M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)

D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

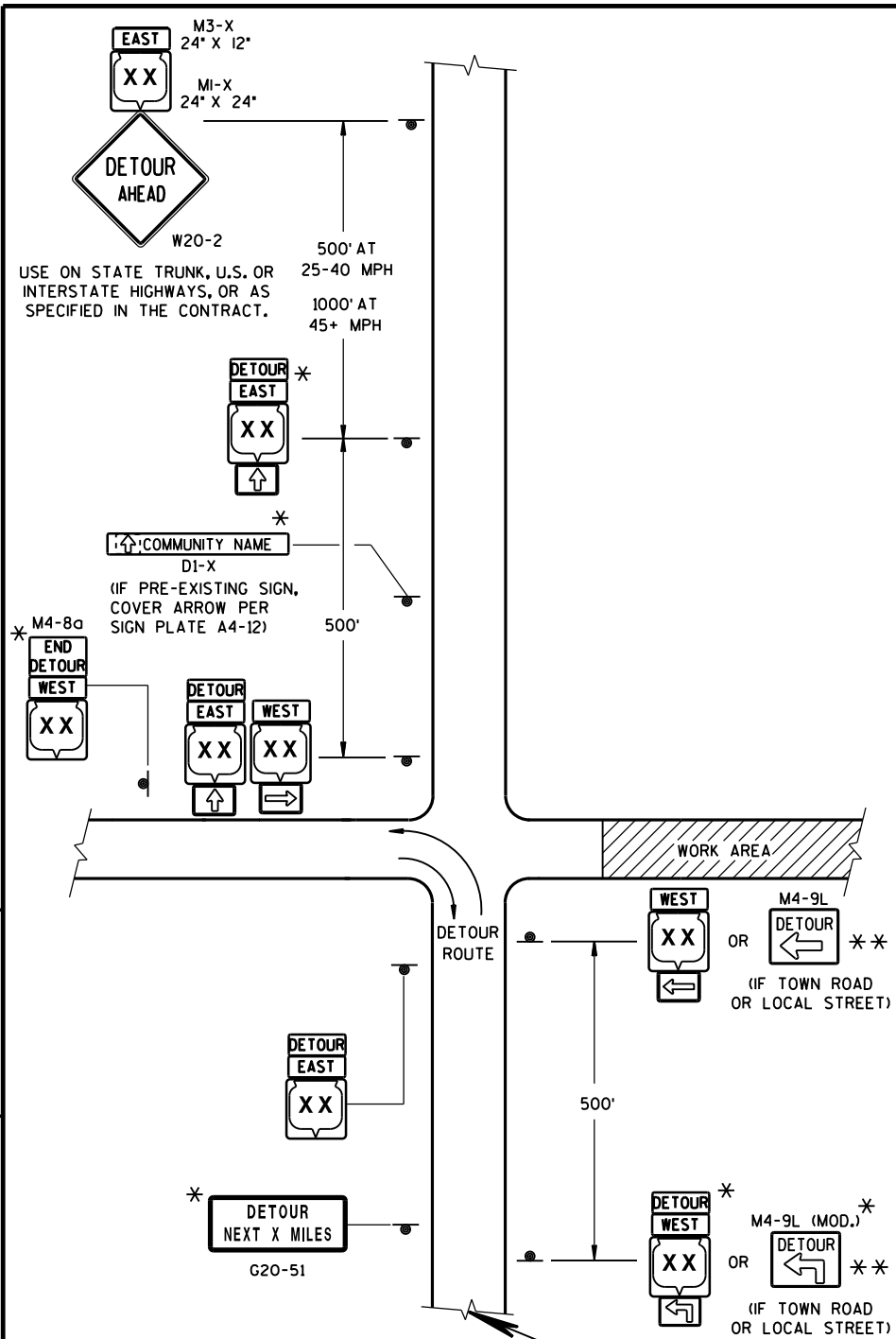
R1-1 SHALL BE 36" X 36".

- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINE 132 ESIGN
FHWA



LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR EAST M4-8 M3-X
- MI-4 MI-5A MI-6
- M05-1 M06-1 M06-1

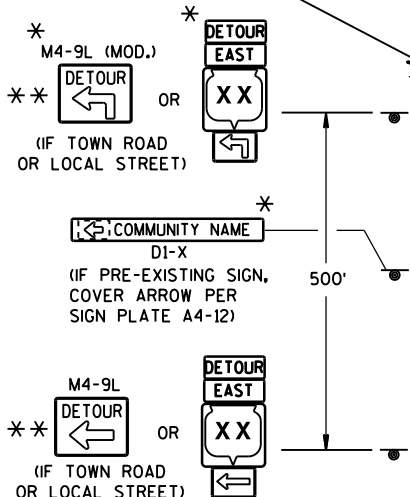
SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD 15C2-SHEET "a"

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

MATCH POINT

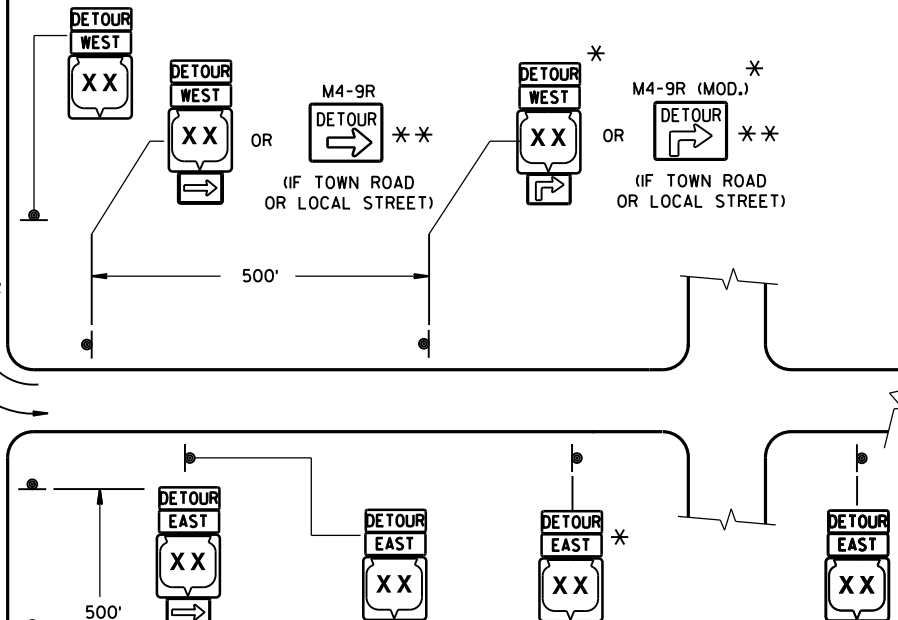
DETAIL F
DETOUR SIGNING

USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT.



GENERAL NOTES

- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS, MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOWS:
 - M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-9 SHALL BE 30" X 24".
 - M4-8a SHALL BE 24" X 18".
 - G20-51 SHALL BE 60" X 24".
 - W20-2 SHALL BE 48" X 48".
 - D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

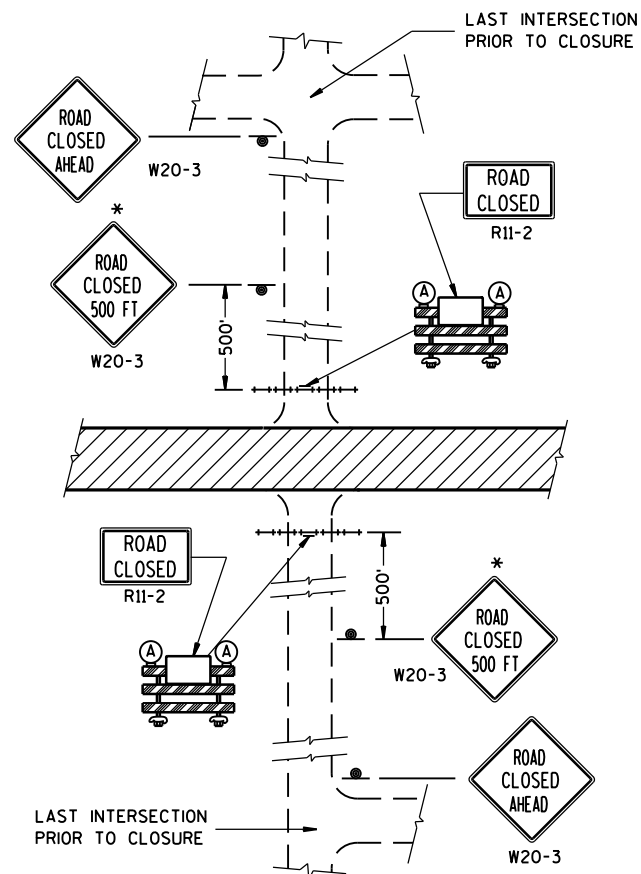


PLACE SIGNS BEYOND INTERSECTIONS WITH STATE OR COUNTY TRUNK HIGHWAYS OR AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF URBAN AREA.)

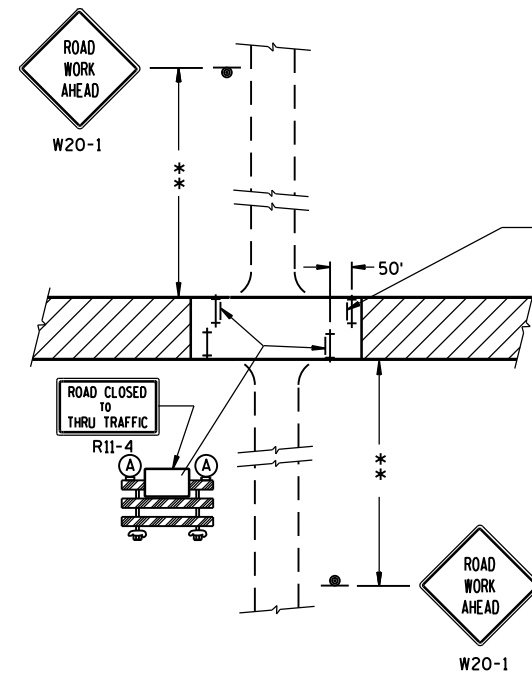
DETOUR SIGNING FOR
MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

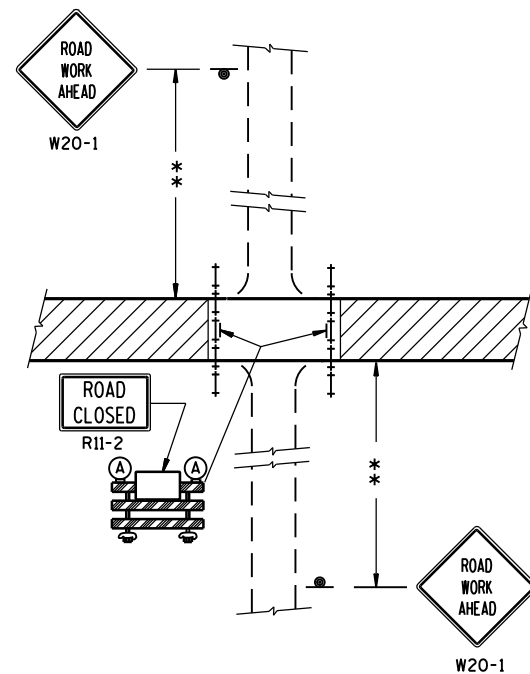
APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINE 133
FHWA SIGN



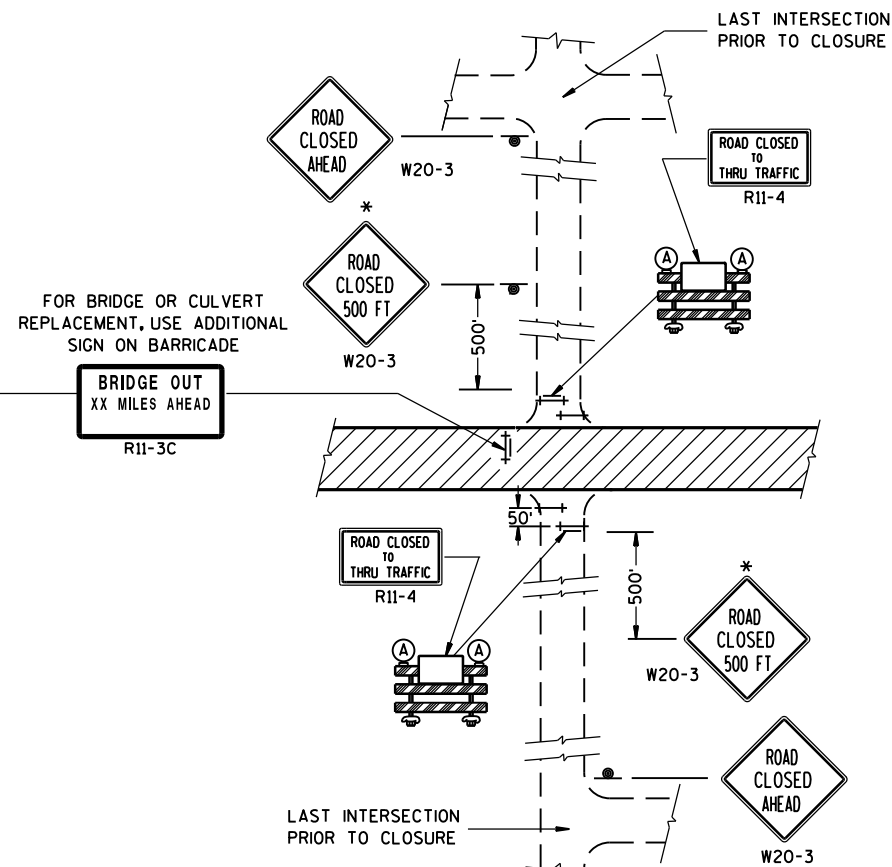
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT).



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3 AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

R11-2 SHALL BE 48" X 30".

R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- ⊥ TYPE III BARRICADE
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- ▨ WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

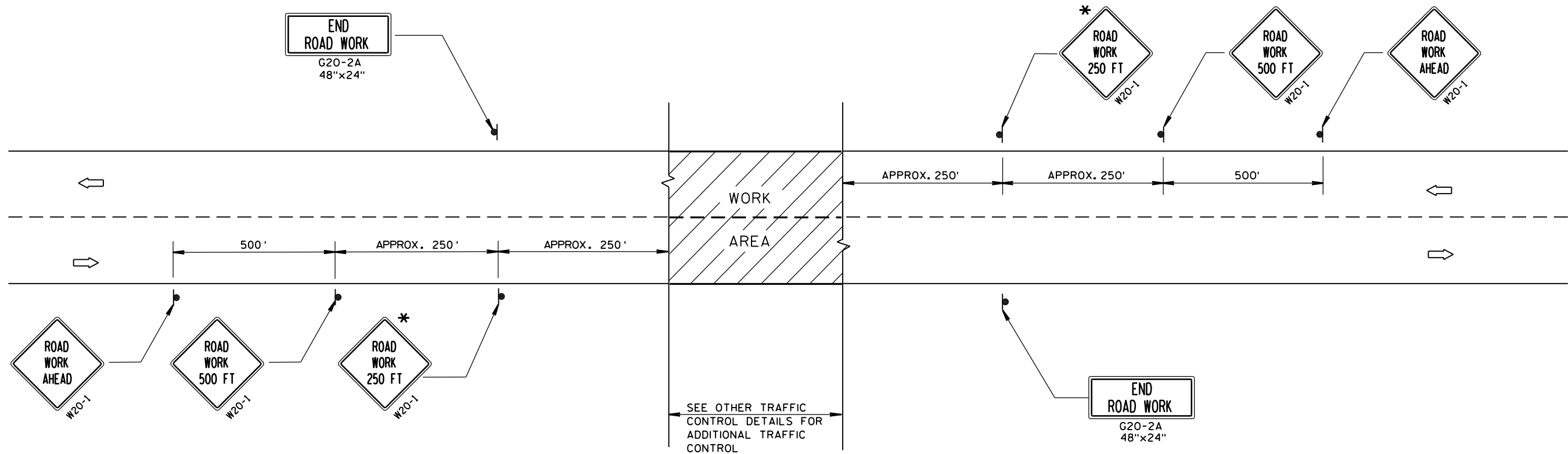
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 /S/ Travis Feltes

DATE STATE TRAFFIC ENGINE 134

FWHA SIGN



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

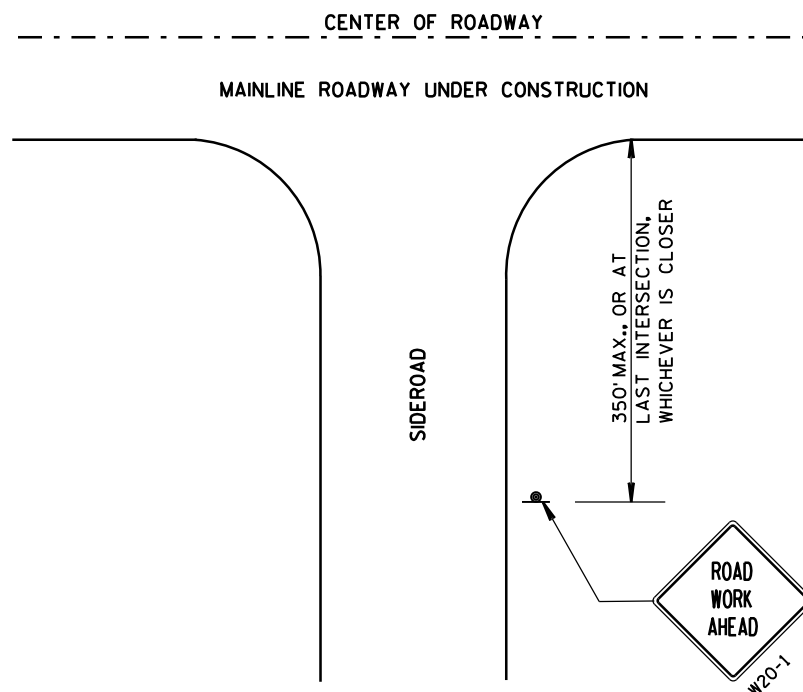
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



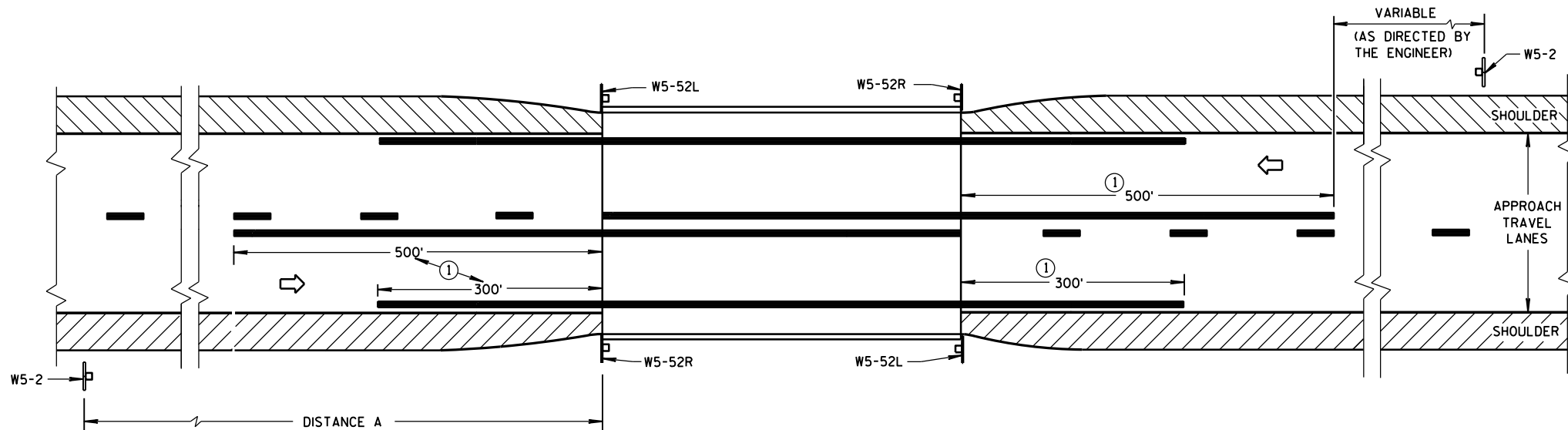
LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 40 M.P.H.
OR LESS TWO-WAY UNDIVIDED
ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER SIGN
FHWA



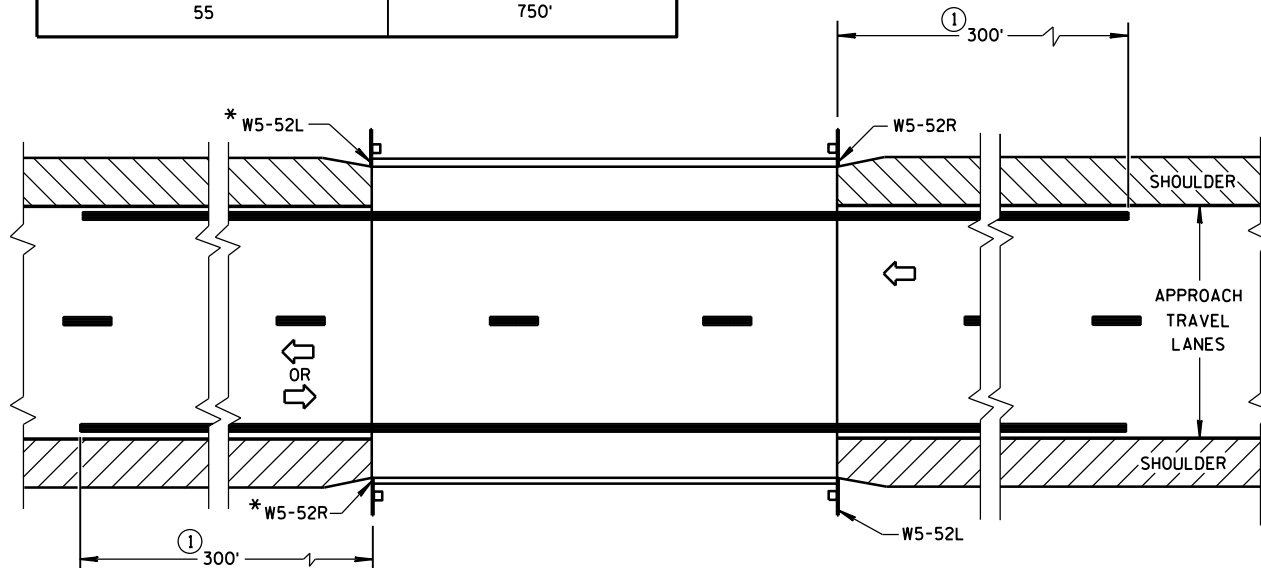
SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

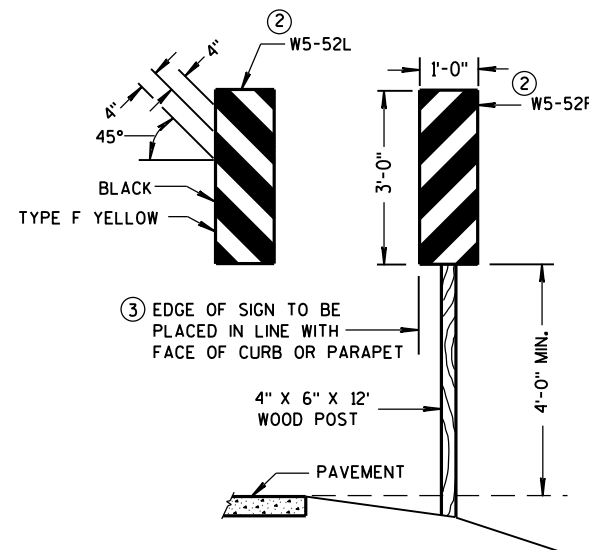


*OMIT ON ONE-WAY TRAVELLED WAYS

SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



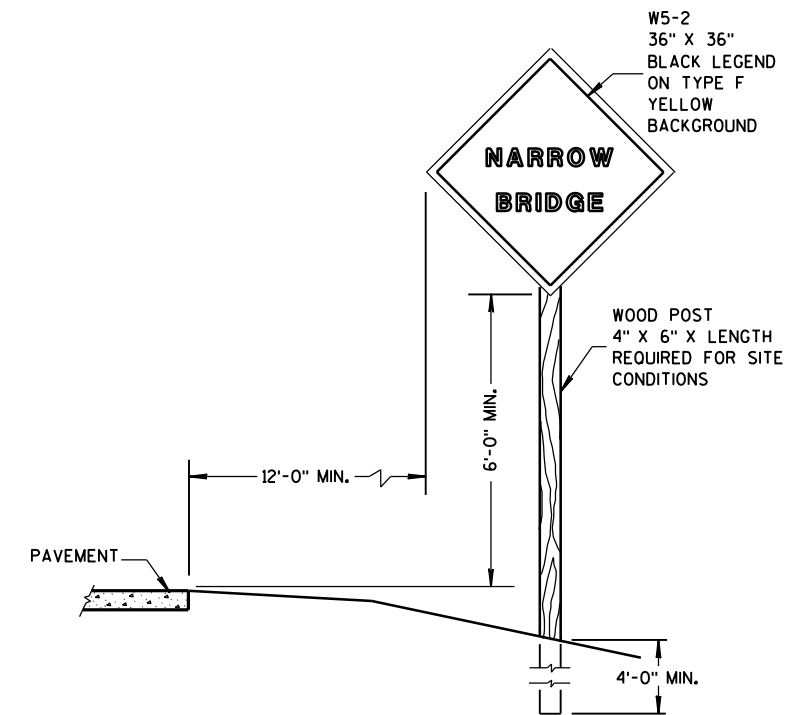
OBJECT MARKER PLACEMENT

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

- ① MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.
- ② FACE OF OBJECT MARKERS W5-52R, AND W5-52L SHALL BE COVERED WITH TYPE F REFLECTIVE SHEETING.
- ③ LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.



SIGN PLACEMENT

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

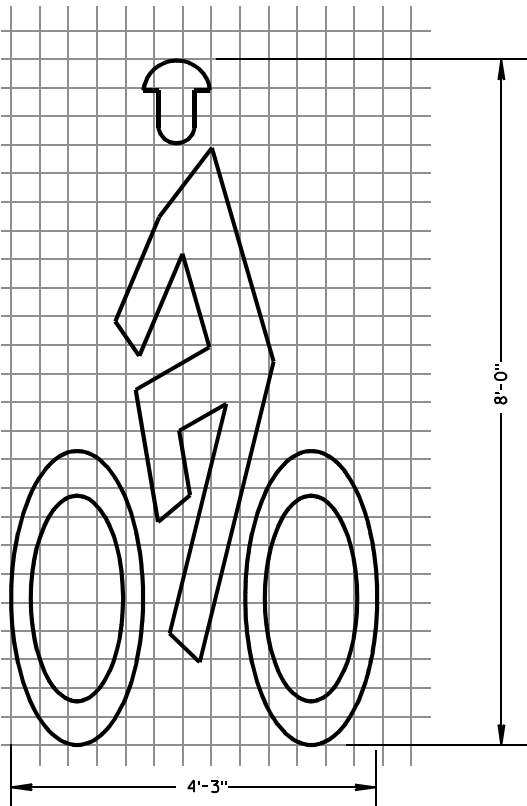
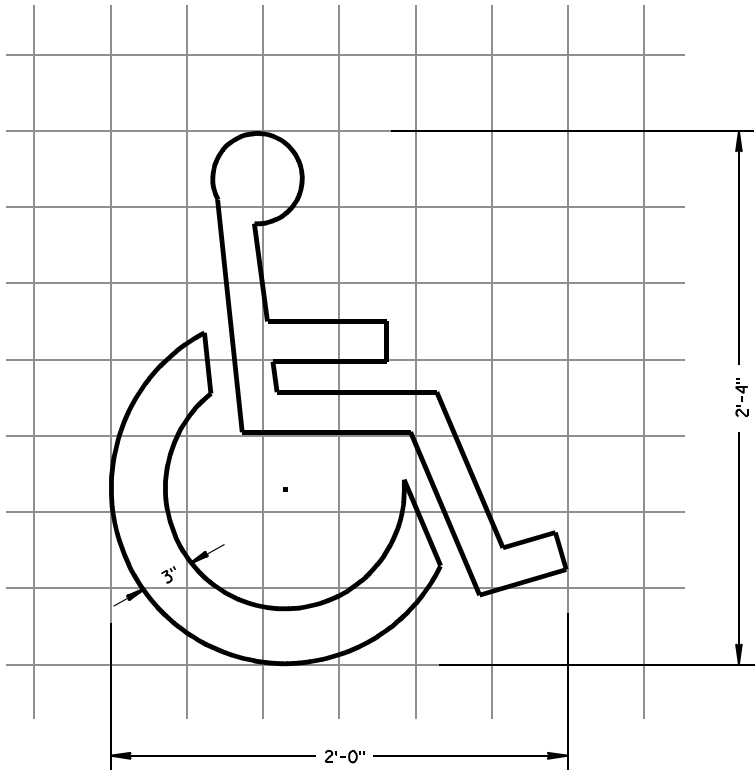
APPROVED

3-2014
DATE

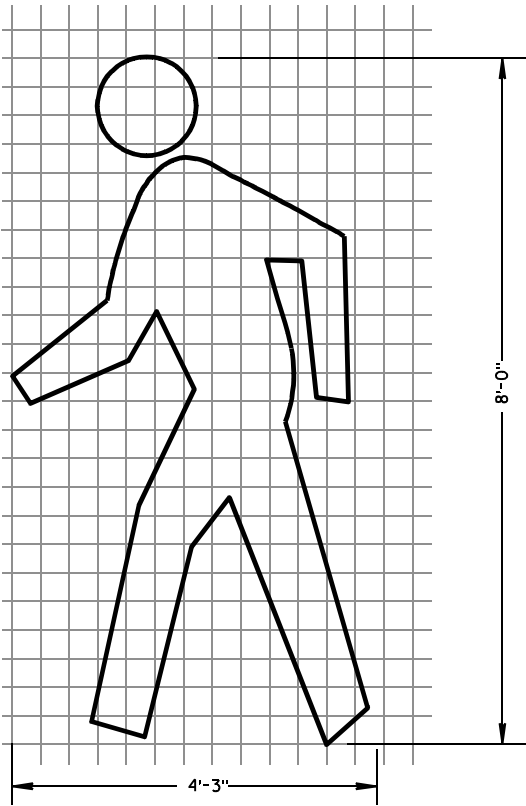
FHWA

/S/ Travis Feltz

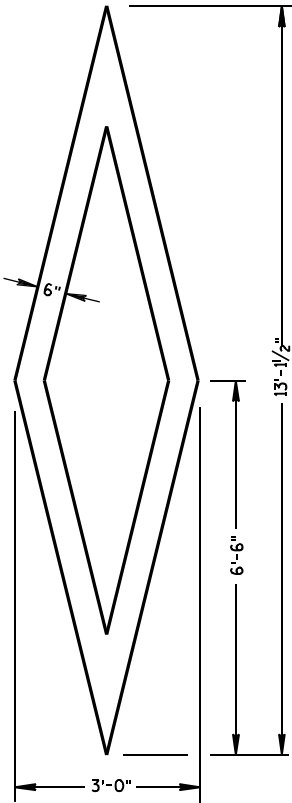
STATE TRAFFIC ENGINEER 136 JGN



BIKE CROSSING SYMBOL



PEDESTRIAN SYMBOL



PREFERENTIAL
LANE SYMBOL

GENERAL NOTES

DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

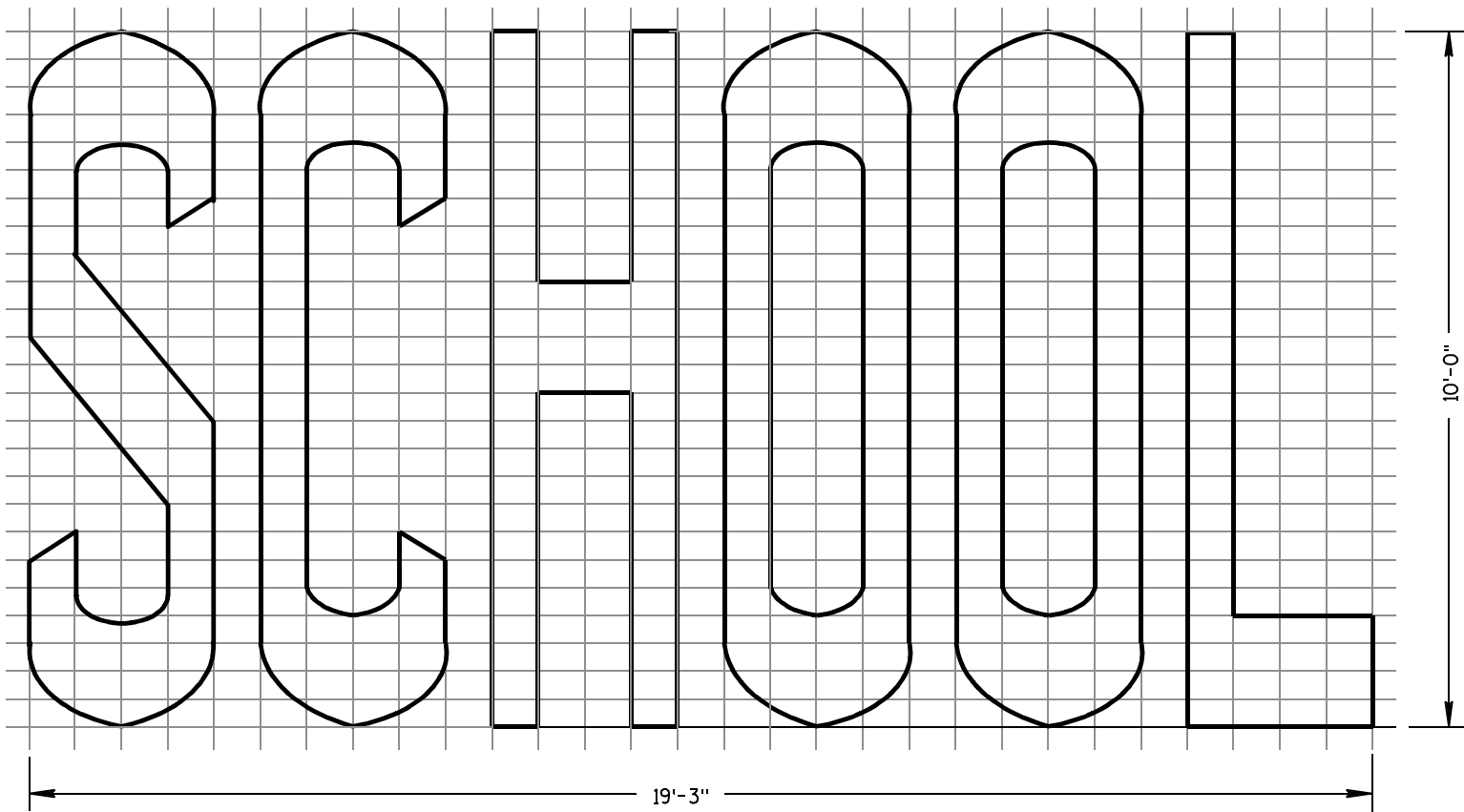
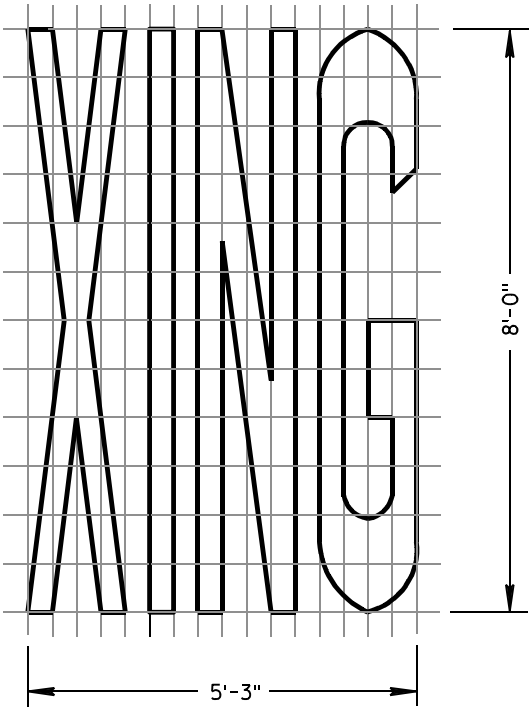
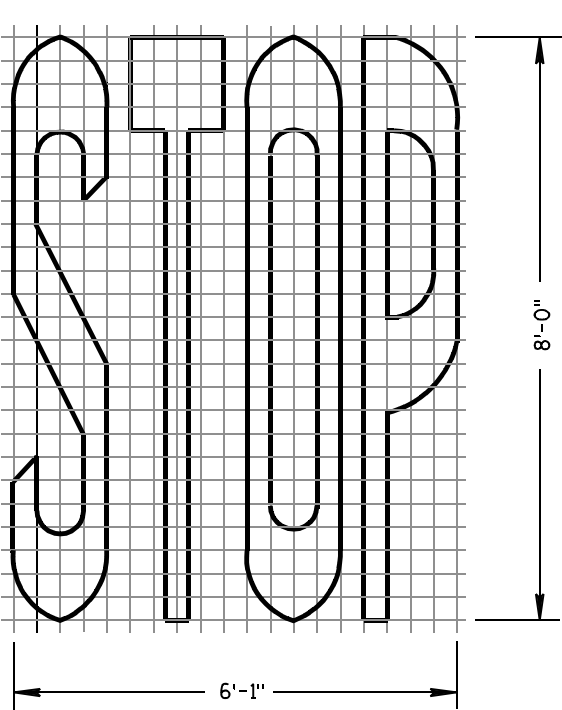
A DETAILED DRAWING OF THE HANDICAPPED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.

PAVEMENT MARKING SYMBOLS			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED			
DATE	7/1/11	/S/ Thomas N. Nathan	STATE TRAFFIC ENGINEER
FHWA			

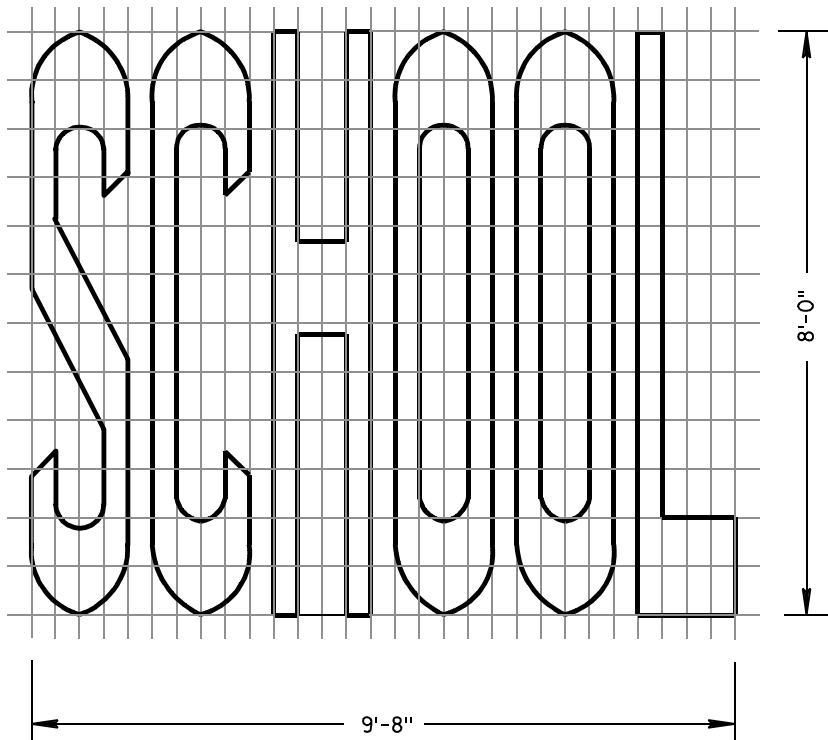
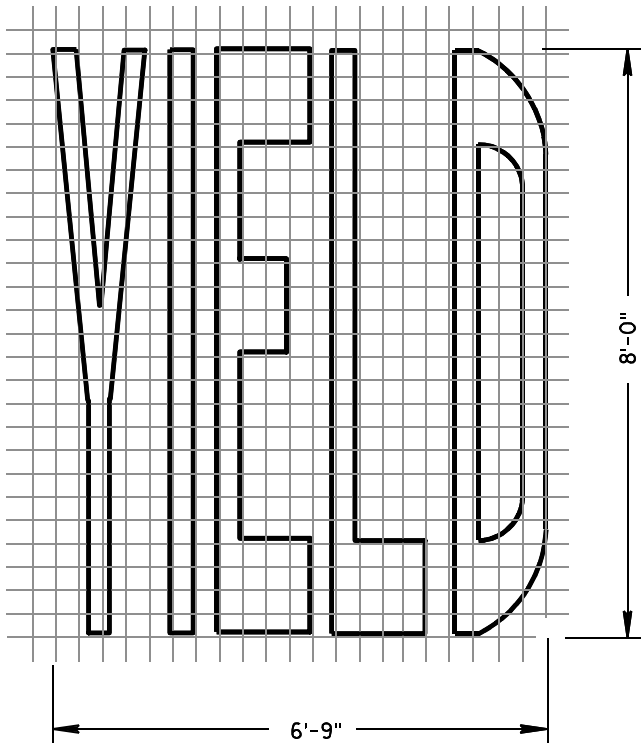
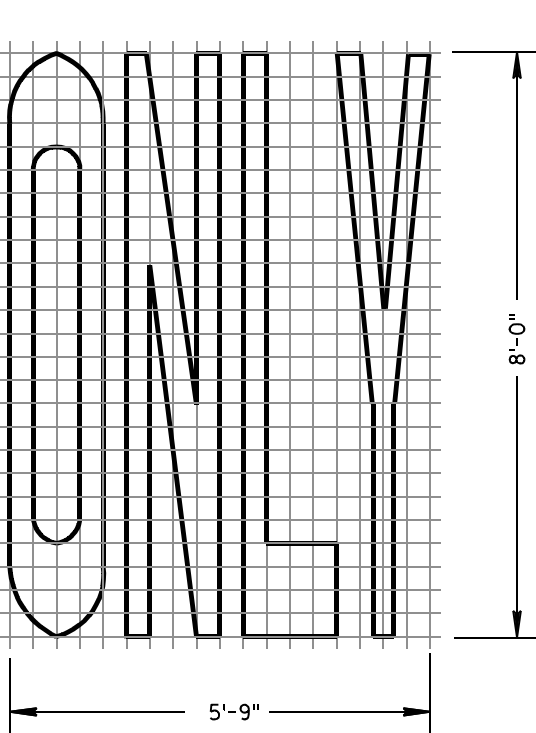
GENERAL NOTES

DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

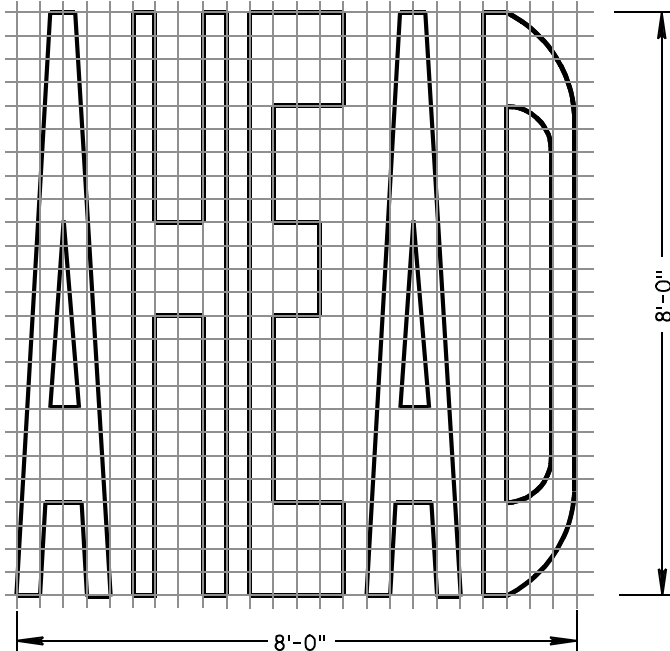
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



TWO-LANE



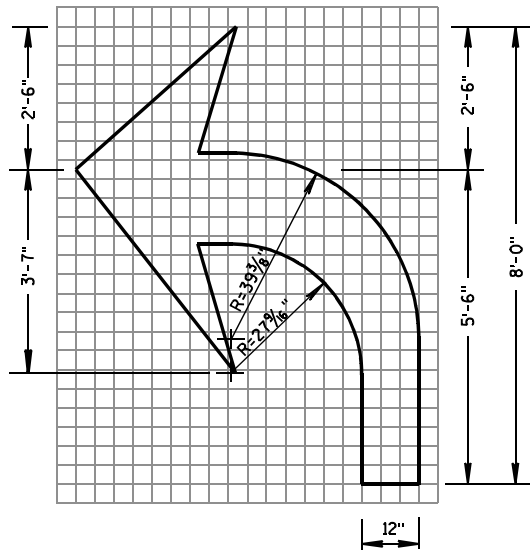
SINGLE-LANE



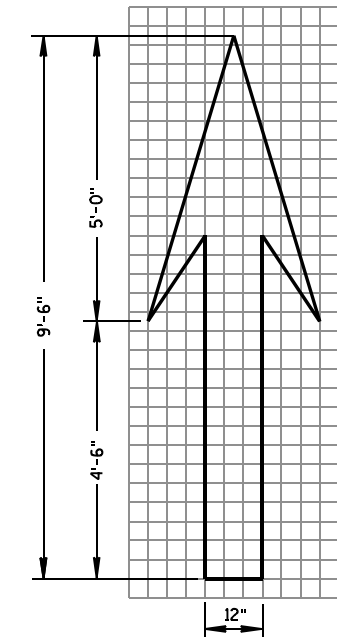
PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

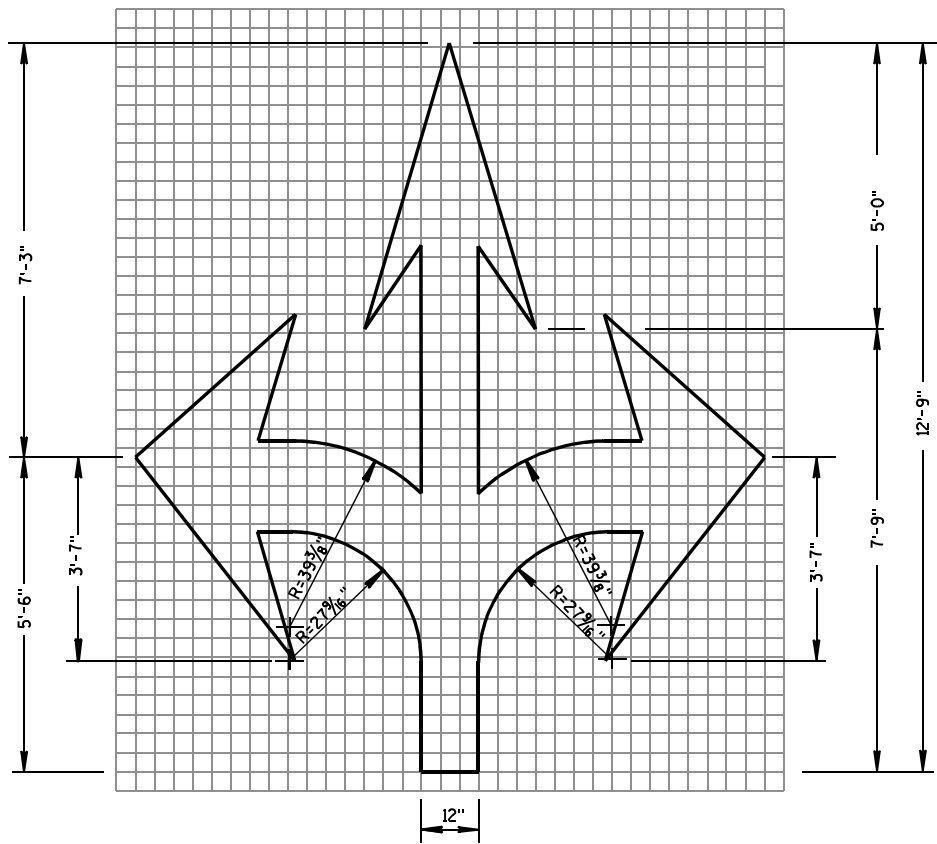
APPROVED
7-1-11 /S/ Thomas N. Nothmann
DATE STATE TRAFFIC ENGINEE 138 IGN
FHWA



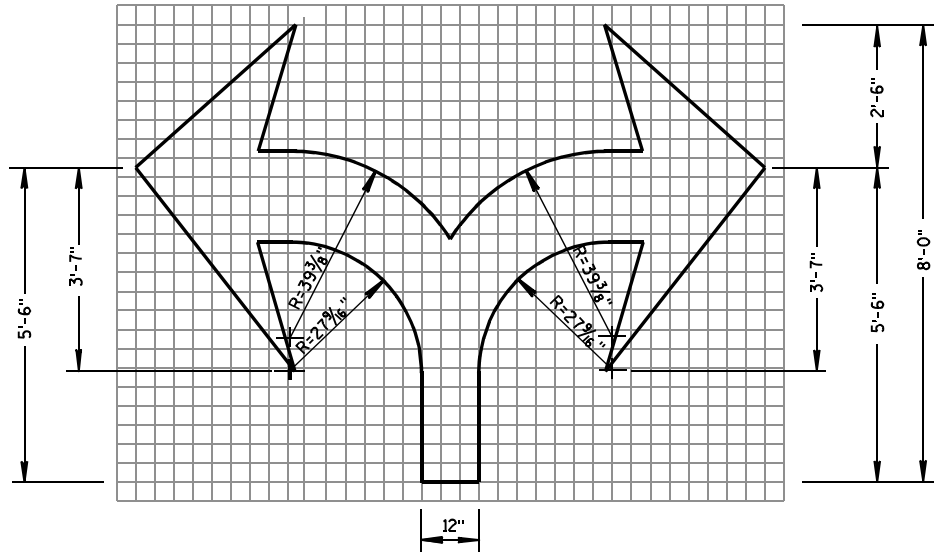
TYPE 2



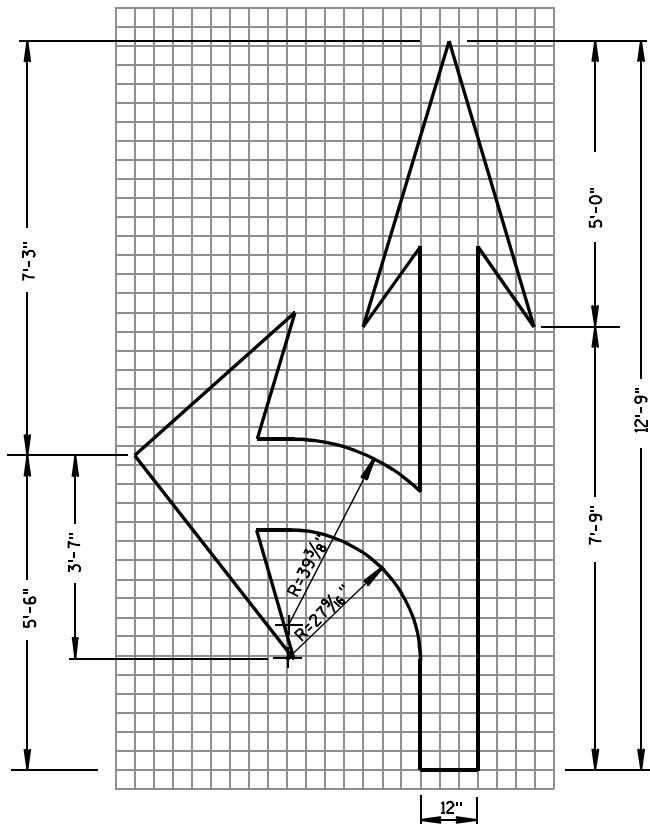
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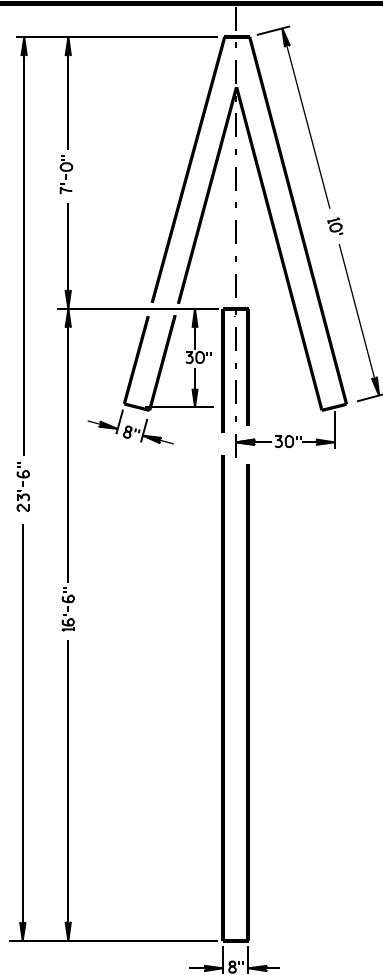
TYPE 6



TYPE 7



TYPE 3

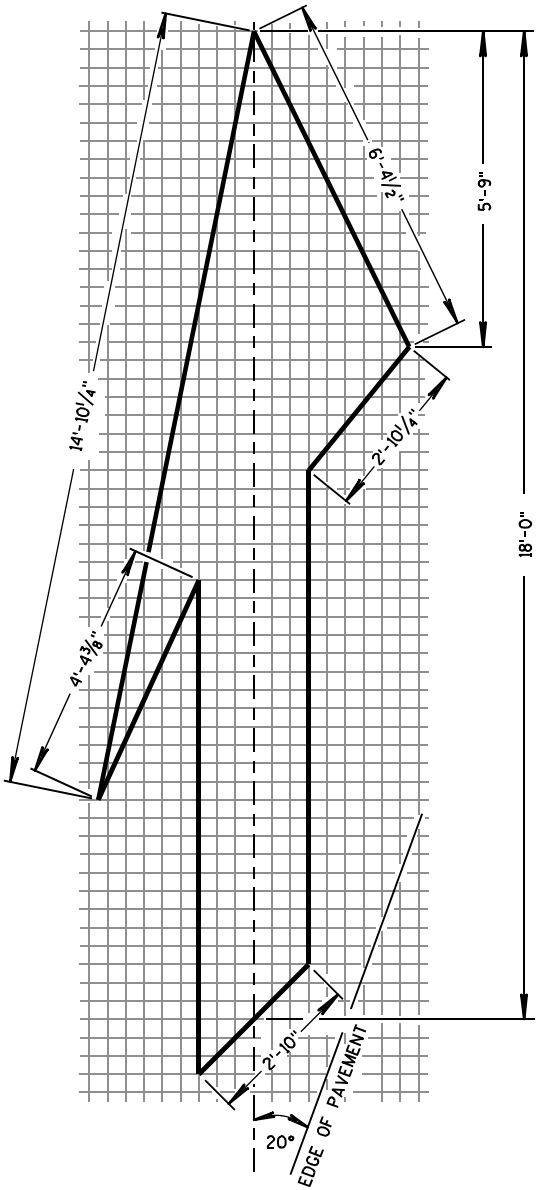


TYPE 4

GENERAL NOTES

DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

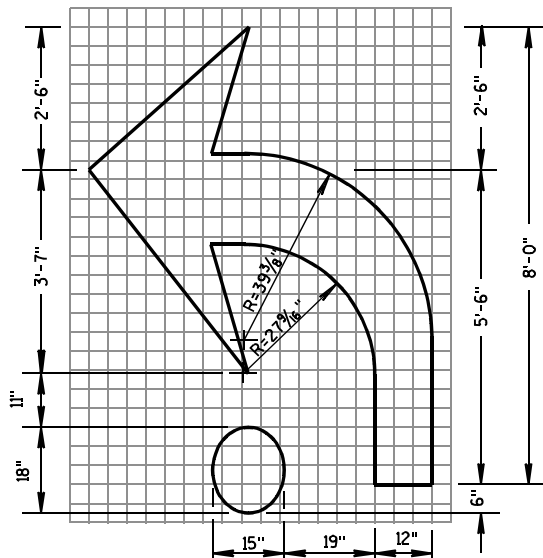


TYPE 5 LANE DROP ARROW

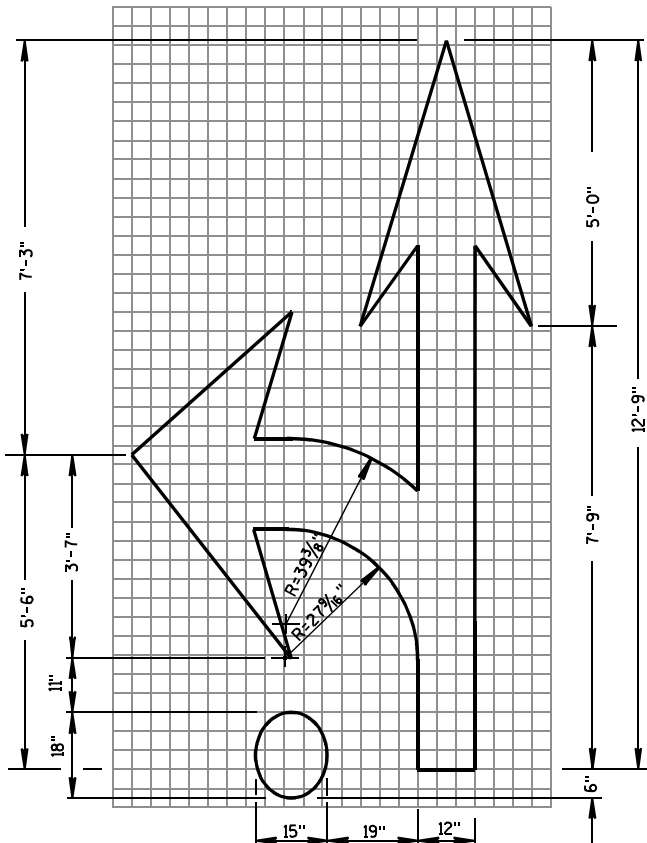
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

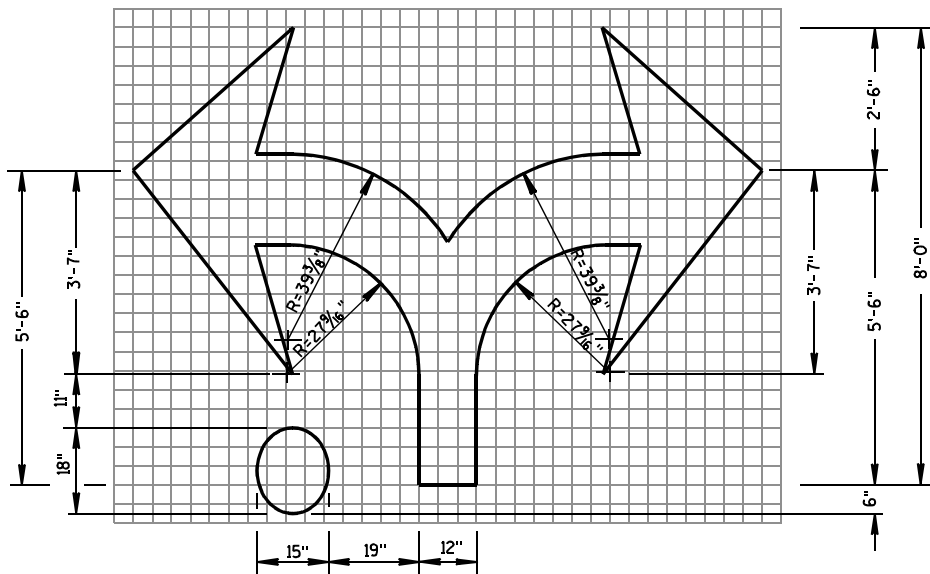
APPROVED
7/1/11
DATE
/S/ Thomas N. Nathahn
STATE TRAFFIC ENGINEER 139
SIGN
FHWA



TYPE 2R



TYPE 3R

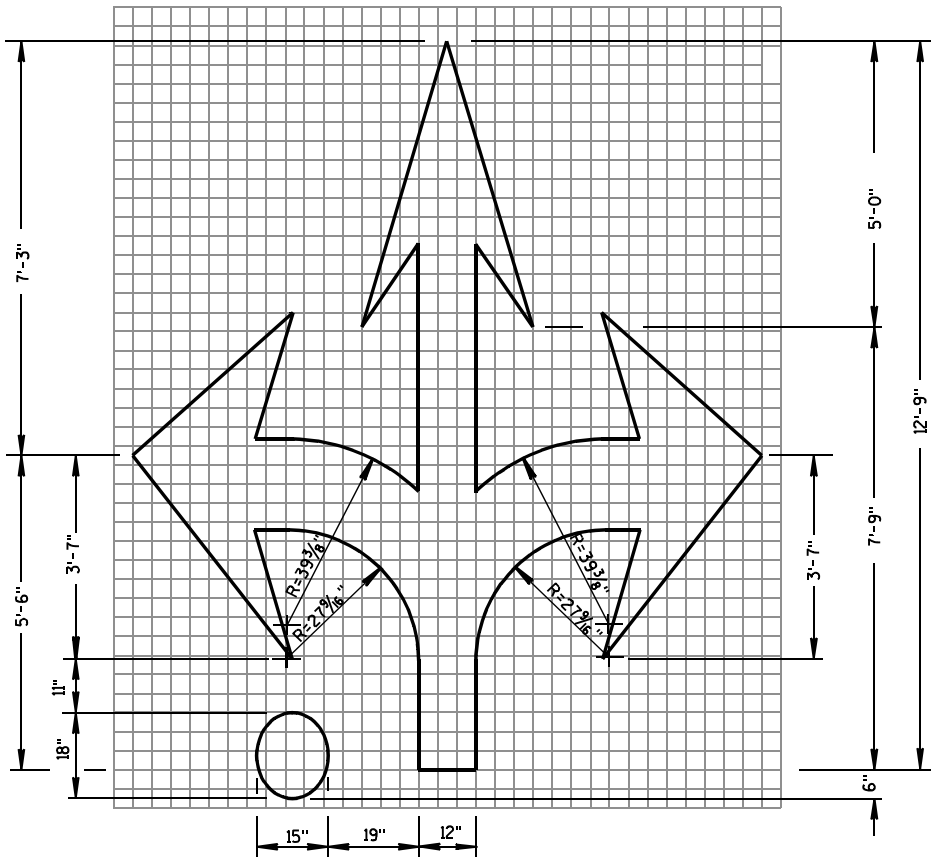


TYPE 7R

GENERAL NOTES

DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



TYPE 6R

ROUNDABOUT ARROWS

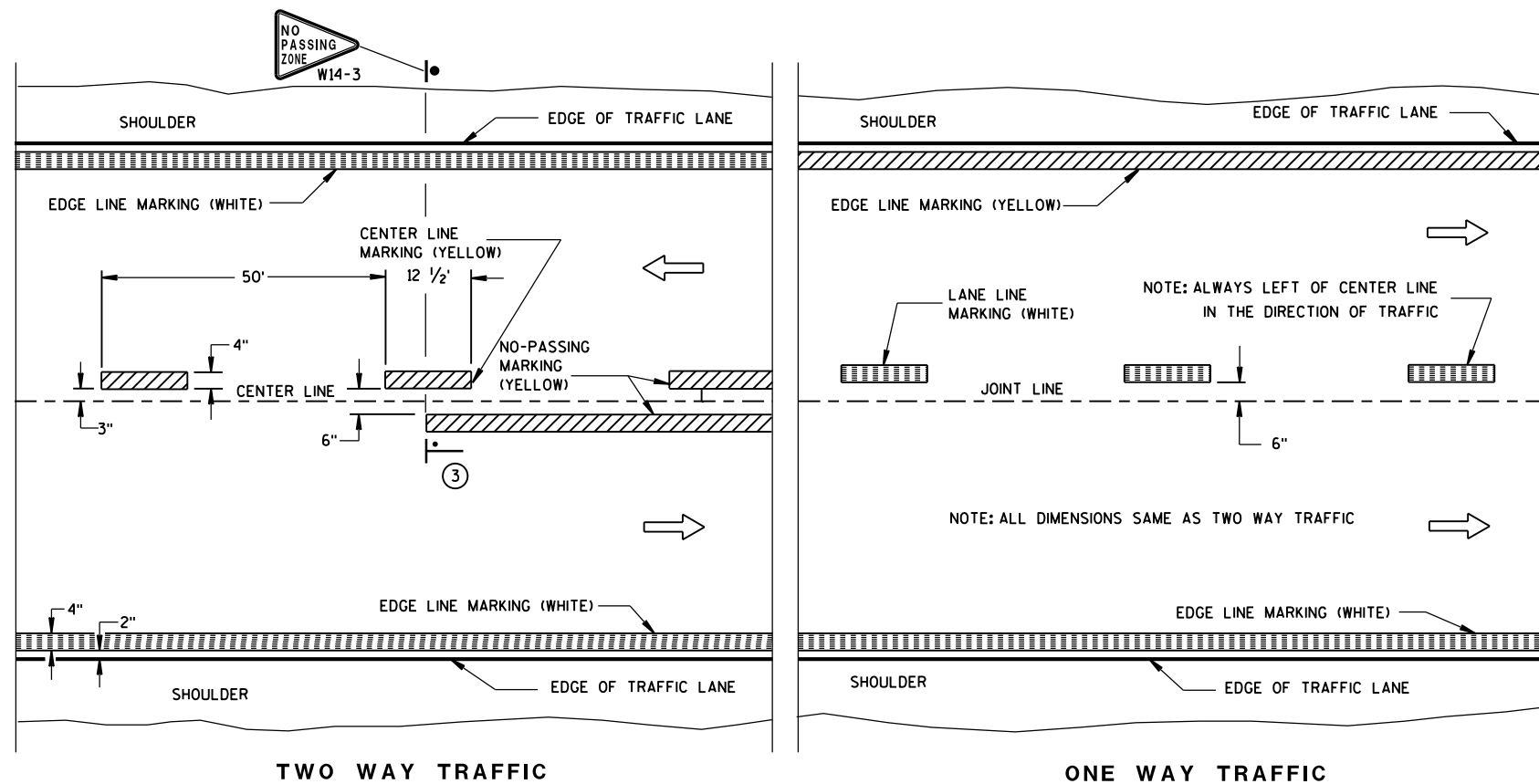
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11
DATE

/S/ Thomas N. Neumann
STATE TRAFFIC ENGINE 140 SIGN

FHWA



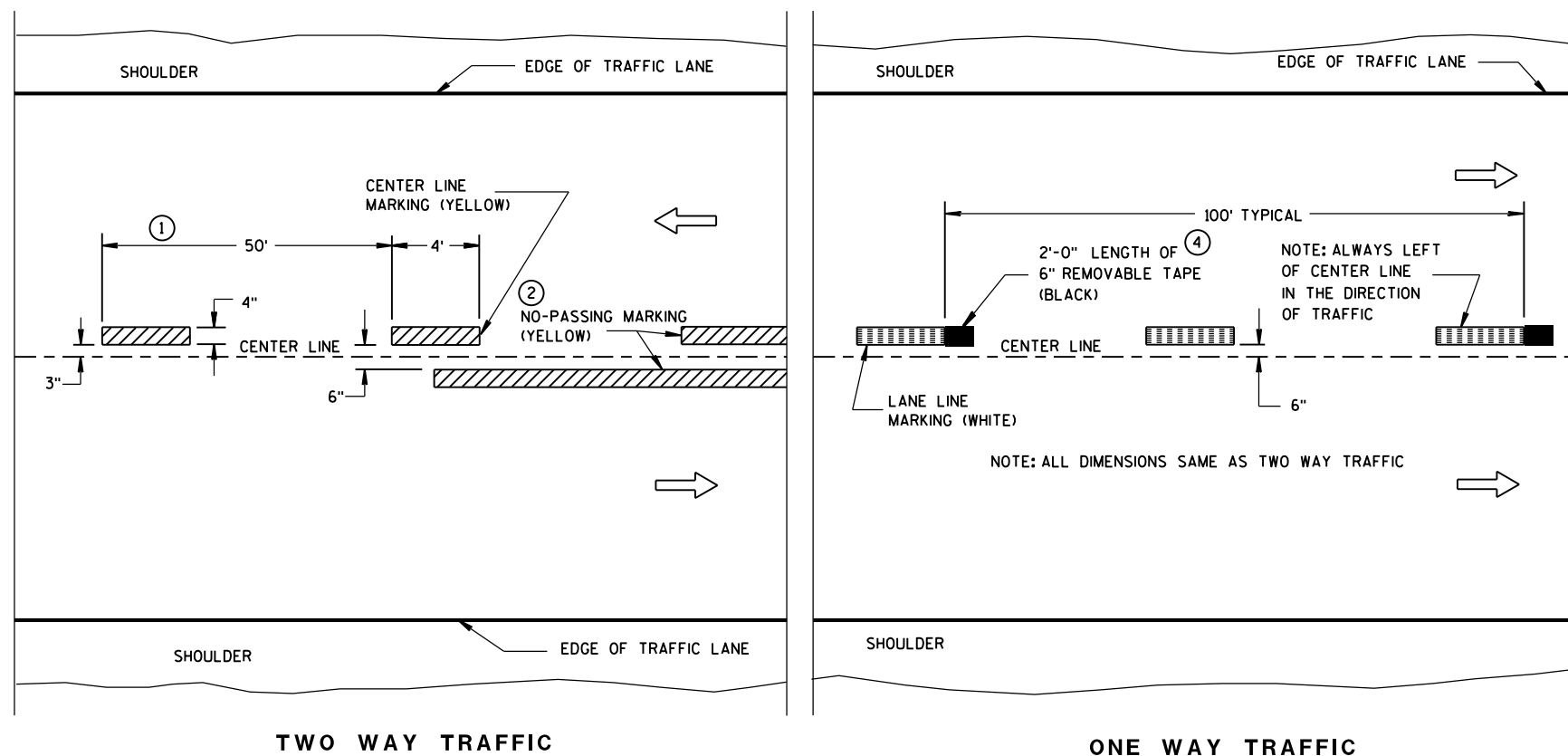
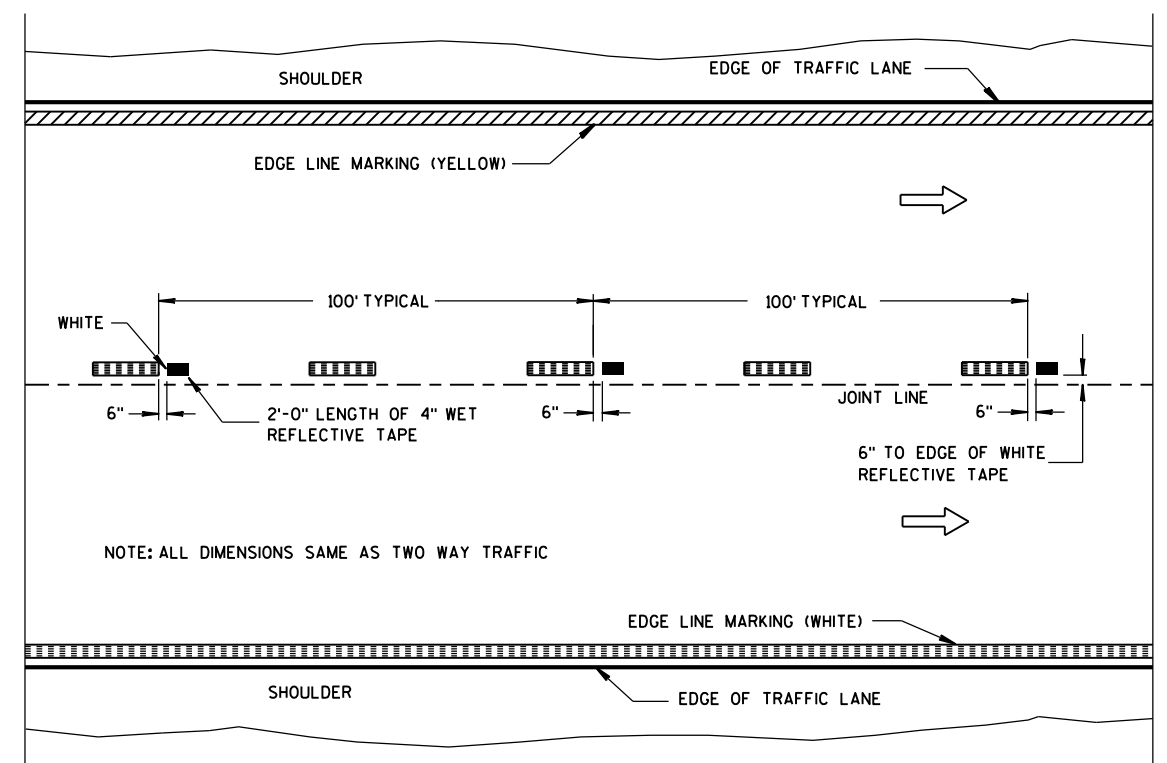
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- ① HALF CYCLE LENGTHS (25'±) WITH 2" MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- ② NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- ③ NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- ④ CONCRETE ONLY.

NOTE

ARROW SYMBOL () SHOWS DIRECTION OF TRAVEL



LEGEND

 "T" MARKING

● POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

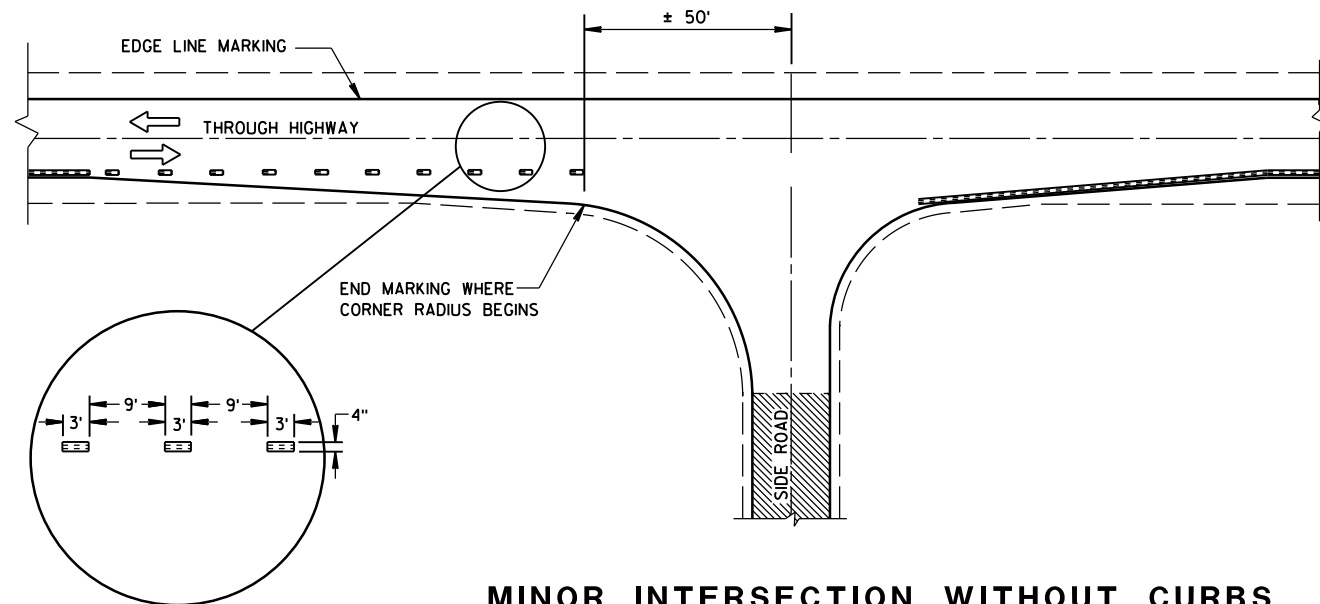
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E 141

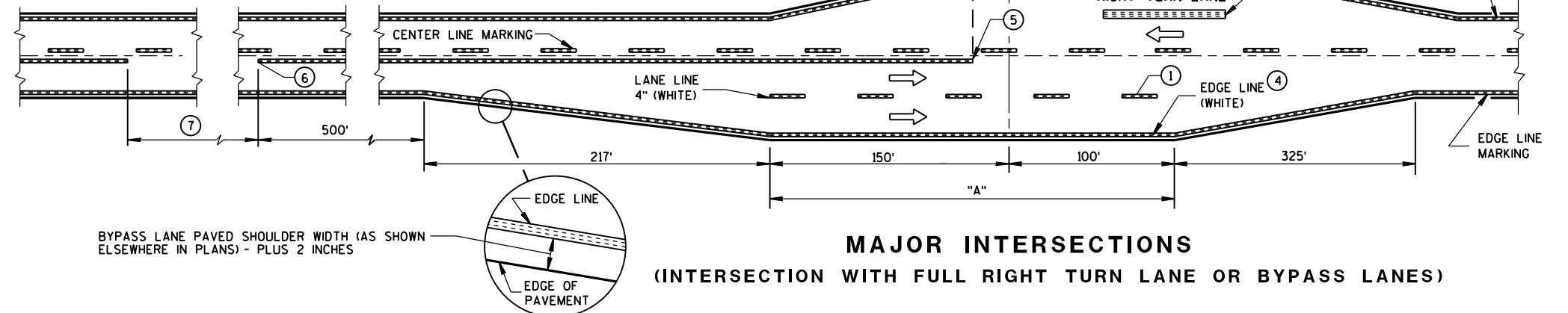
FHWA



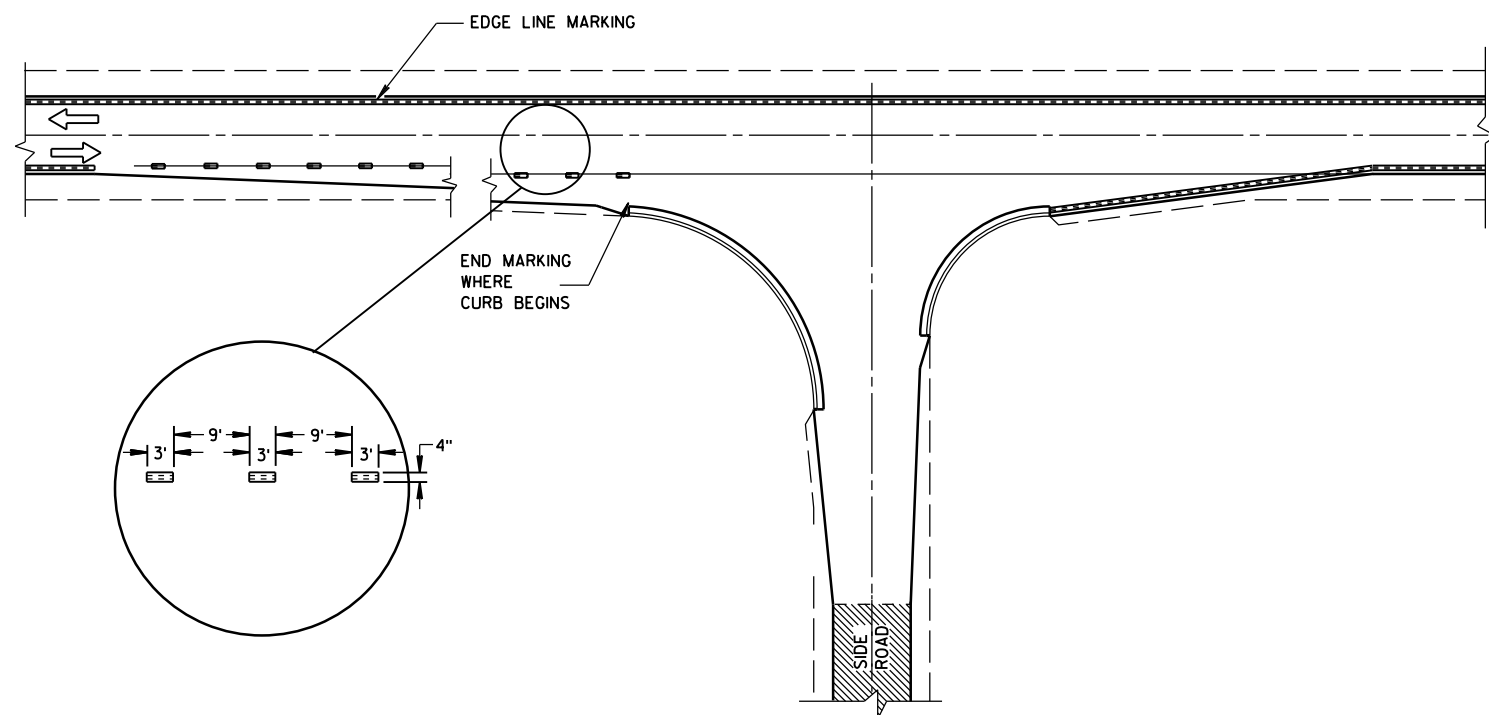
MINOR INTERSECTION WITHOUT CURBS

⑦

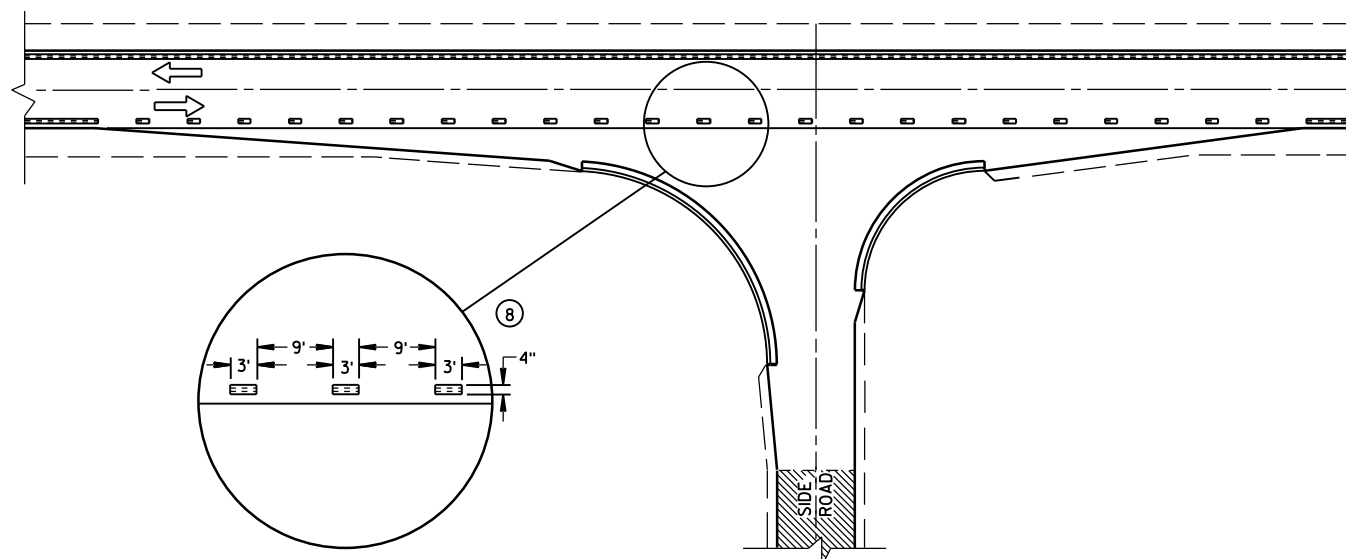
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



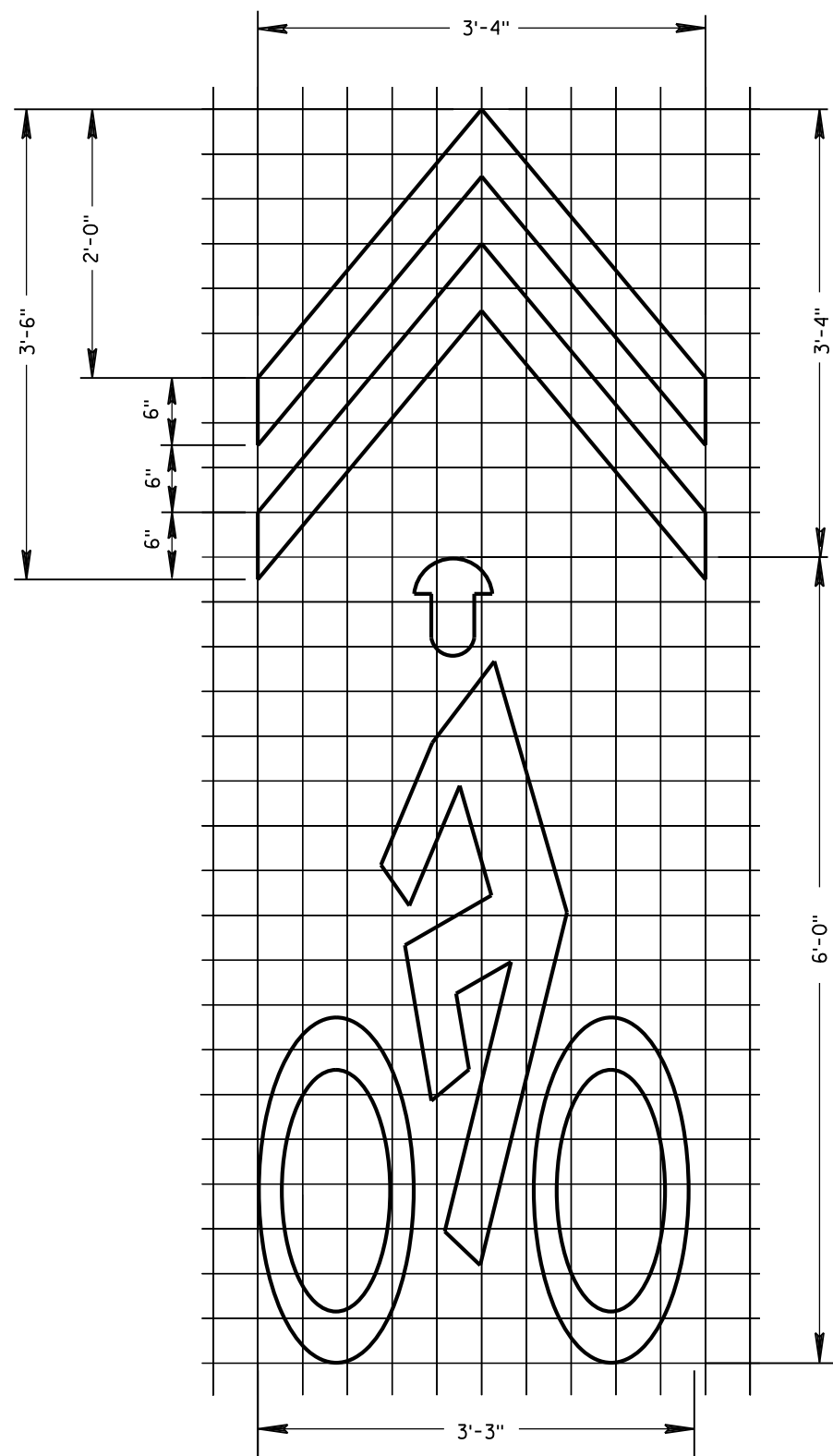
MINOR INTERSECTION WITH CURBS
③ (FOR SPECIAL CONDITIONS AS SPECIFIED)

GENERAL NOTES

- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
 - ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
 - ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
 - ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
 - ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
 - ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
 - ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
 - ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

**PAVEMENT MARKING
(INTERSECTIONS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 142

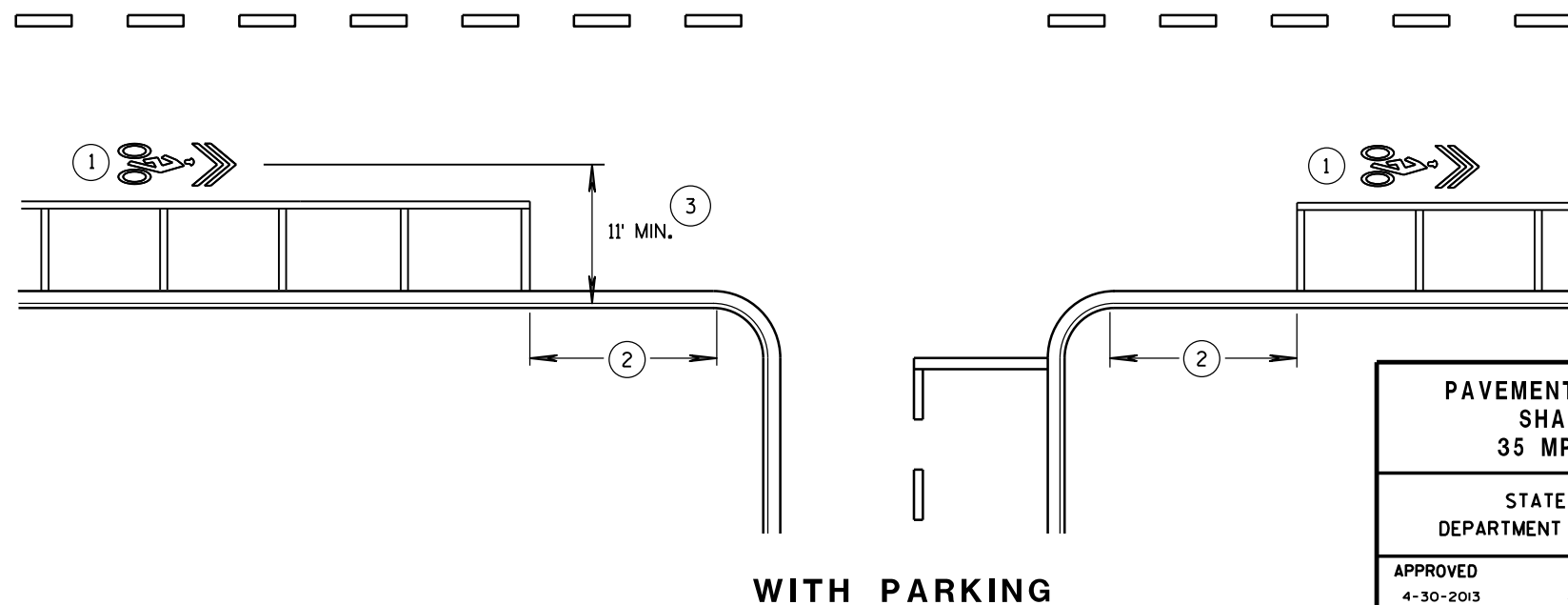
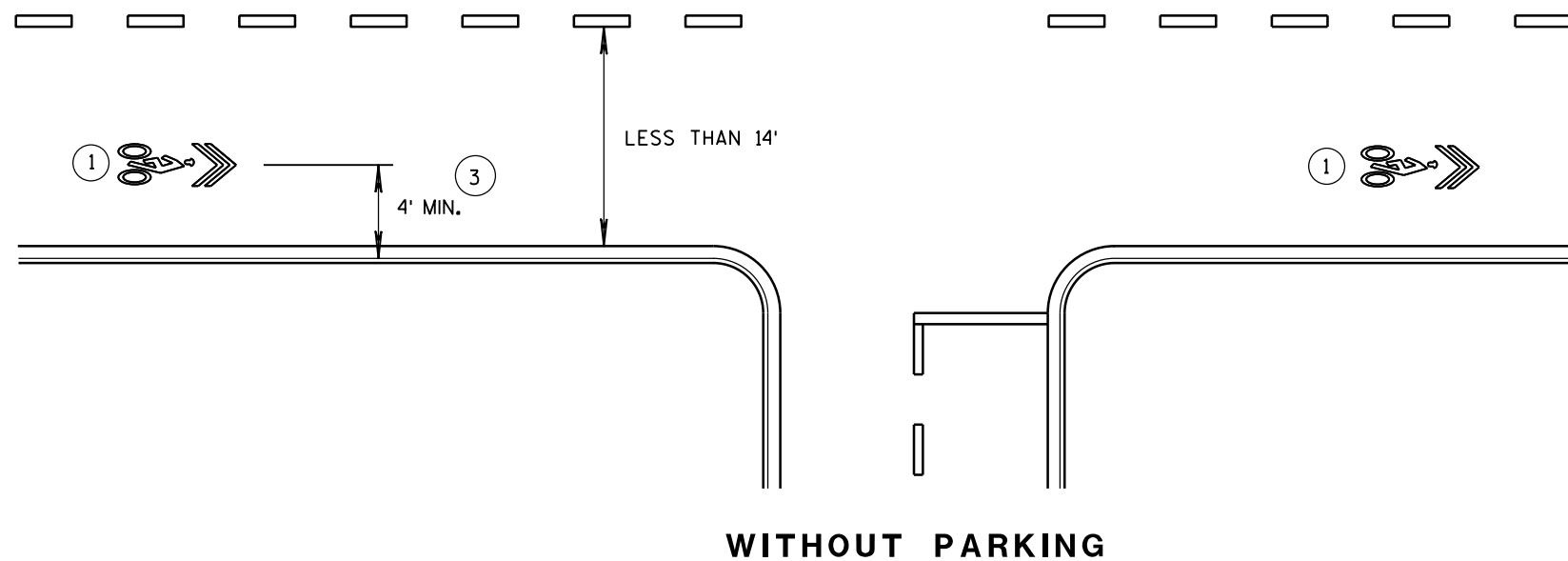


BIKE SYMBOL FOR SHARED LANE

GENERAL NOTES

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

- ① SPACED A MAXIMUM OF 250 FEET.
- ② 20 FOOT MINIMUM FROM CURB RADIUS.
- ③ OR TO EDGE OF PAVEMENT WITHOUT CURB.

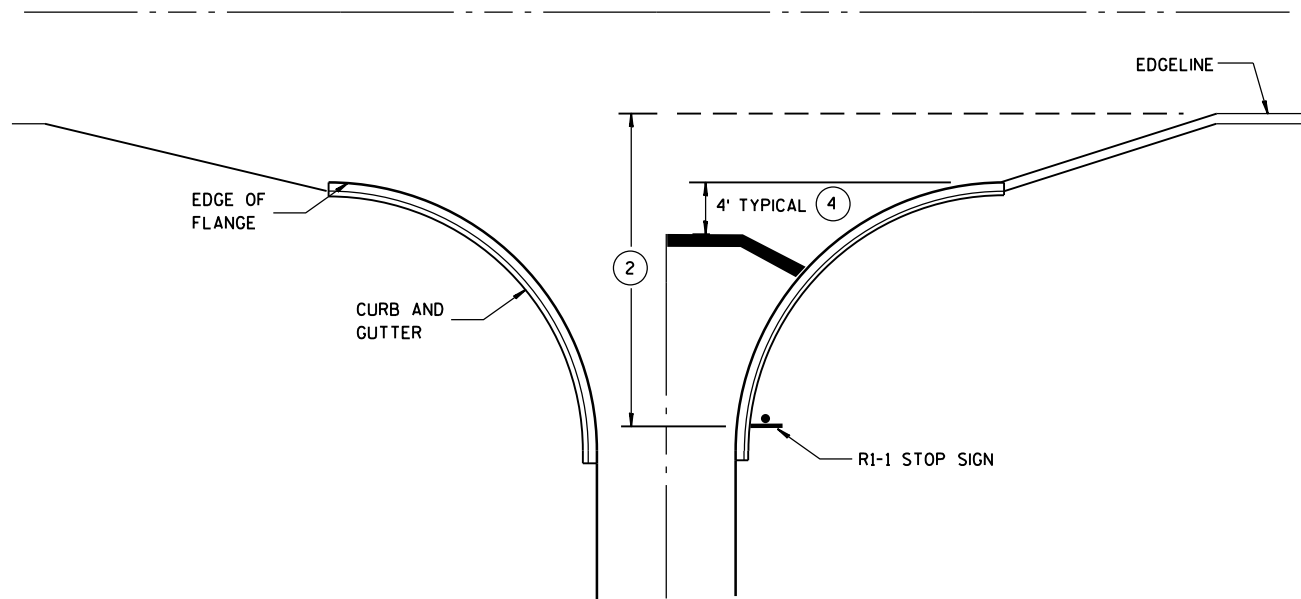


PAVEMENT MARKING FOR
SHARED LANE
35 MPH OR LESS

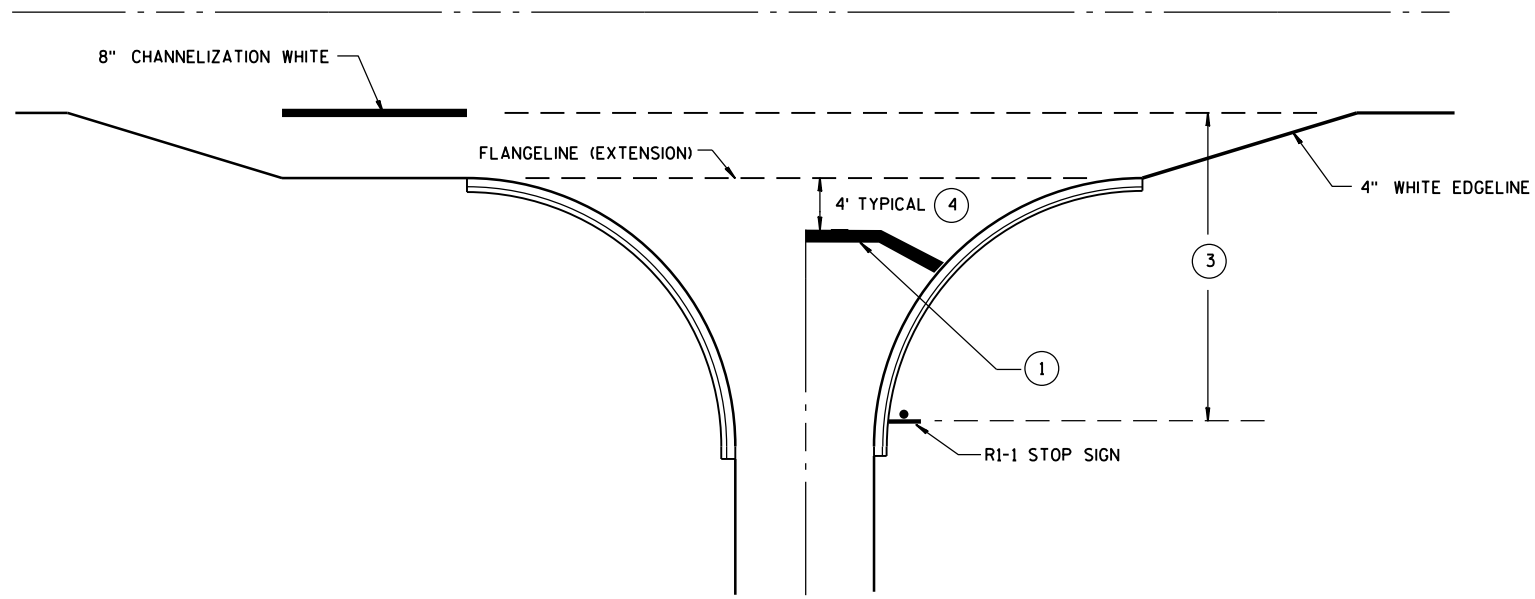
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-30-2013
DATE
FHWA

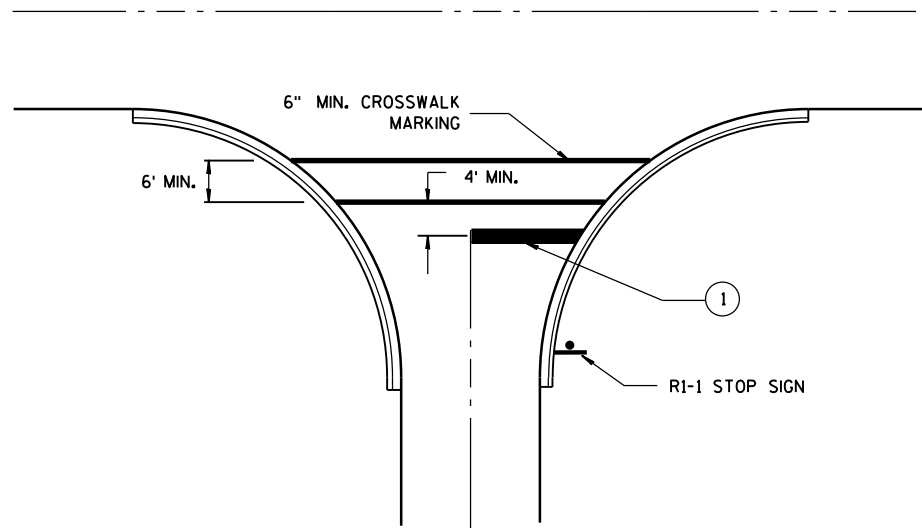
/S/ Travis Feltes
STATE TRAFFIC EN 143



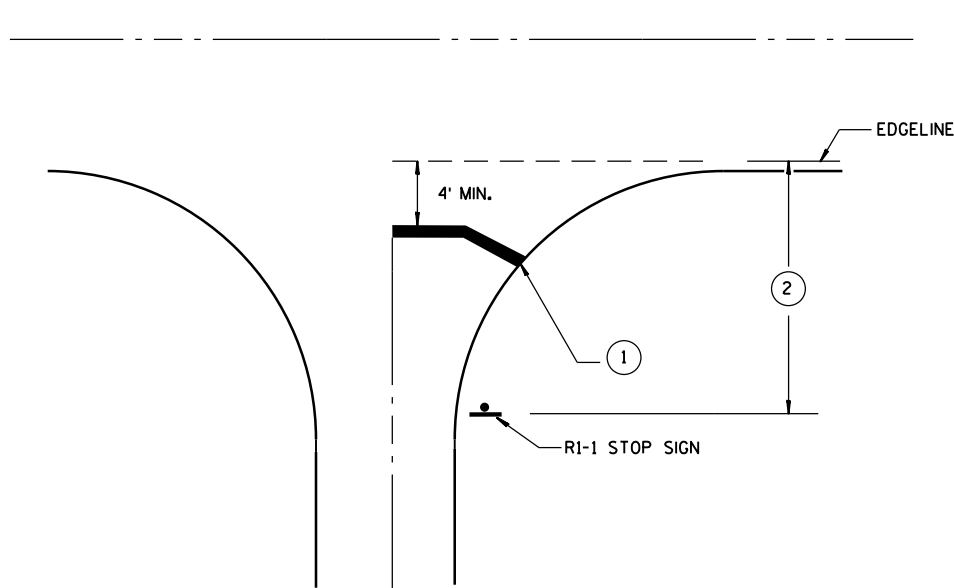
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

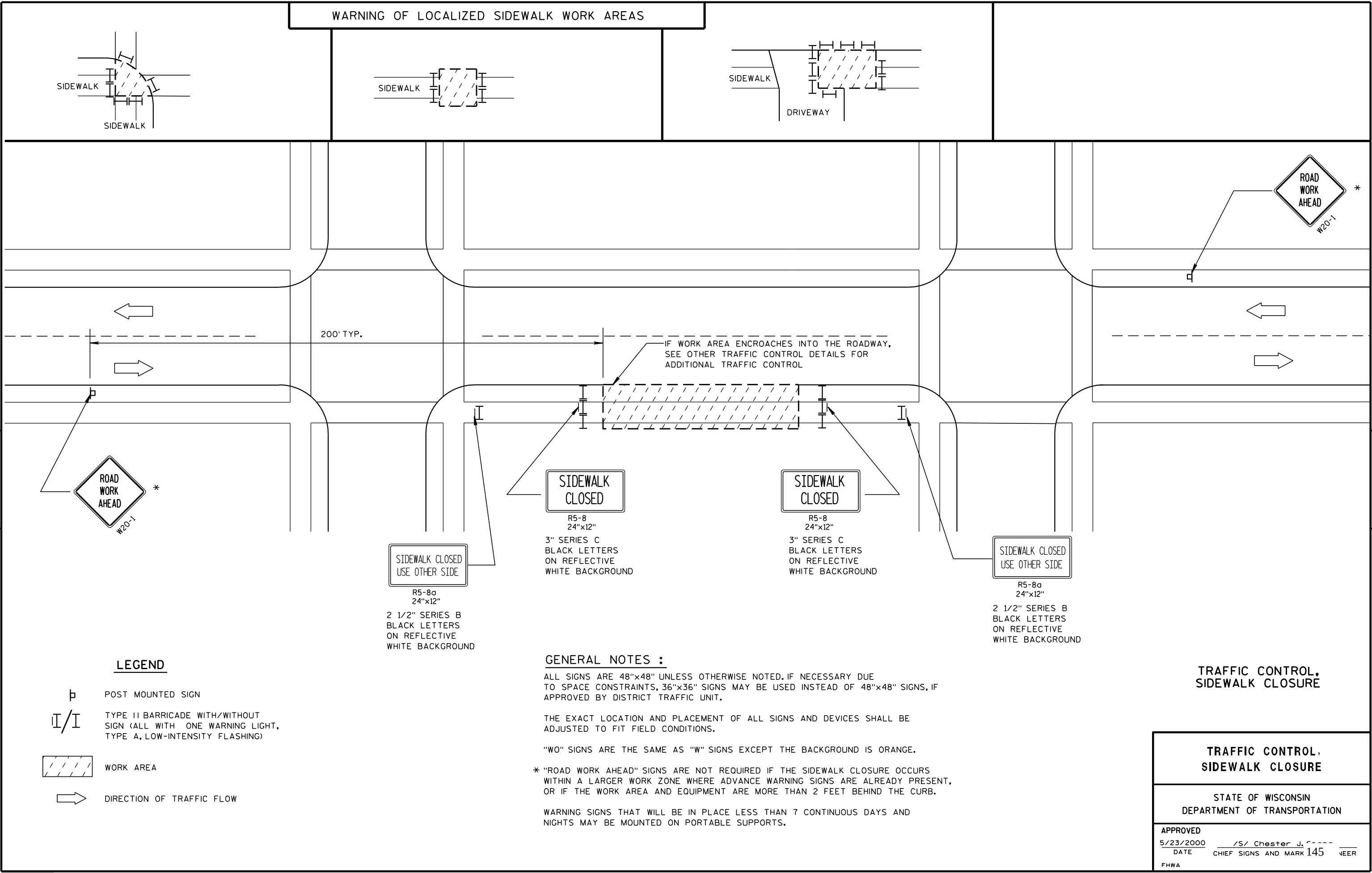
GENERAL NOTES

- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGE LINE THAN NO STOP LINE IS REQUIRED.
- ③ IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
- ④ MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

STOP LINE AND CROSSWALK
PAVEMENT MARKING

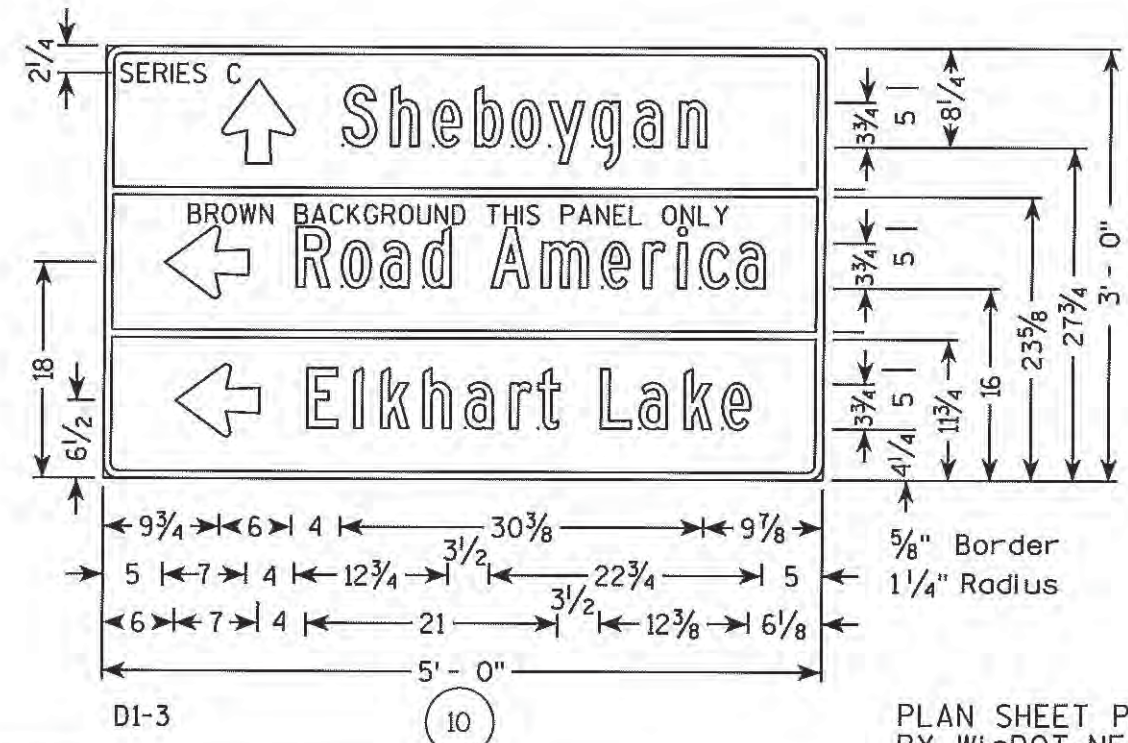
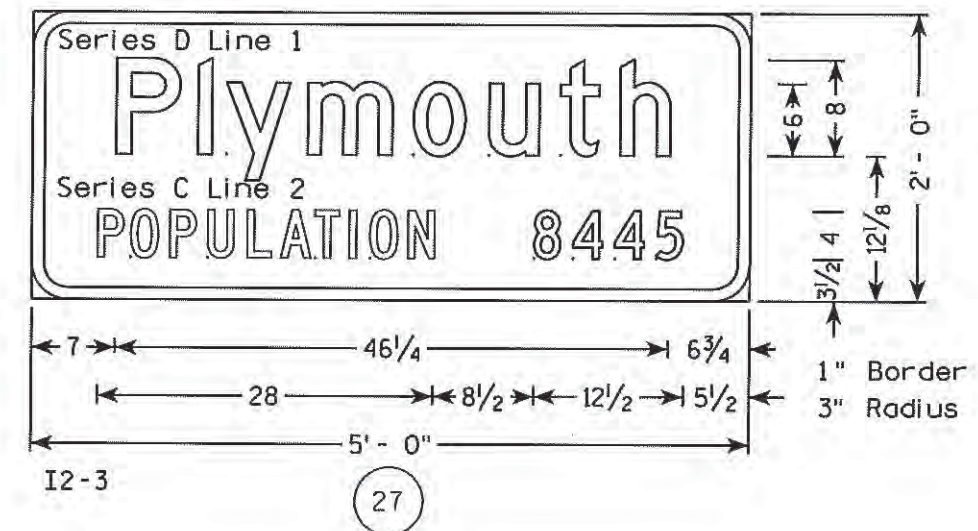
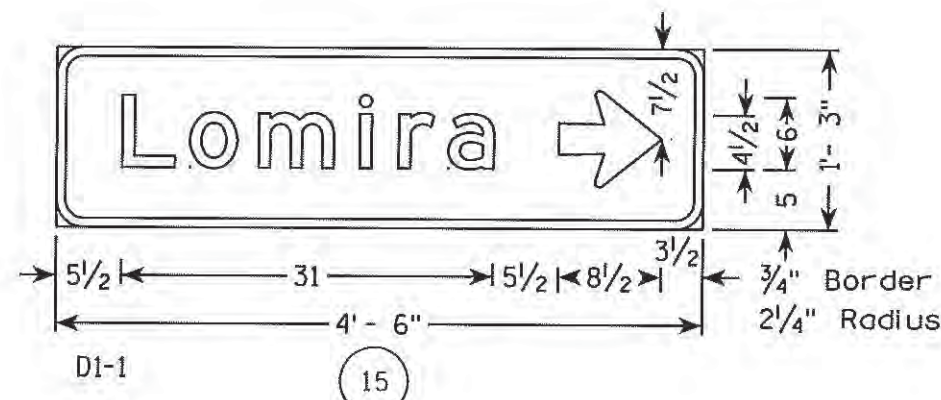
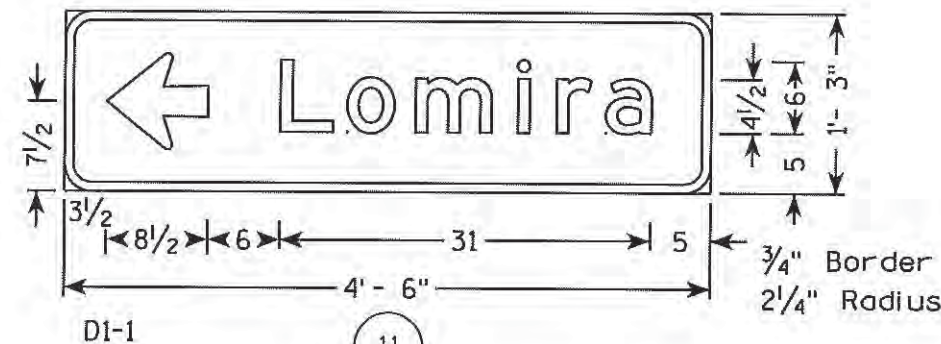
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 4/30/2013 /S/ Travis Feltes
STATE TRAFFIC ENGINEER 144
FHWA



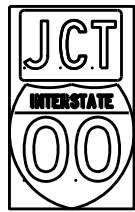
NOTES

1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - GREEN except as Noted
Message - WHITE
3. Message Series - E Except as Noted

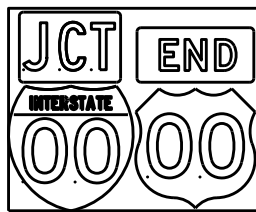


PLAN SHEET PRODUCED
BY WISDOT-NE REGION

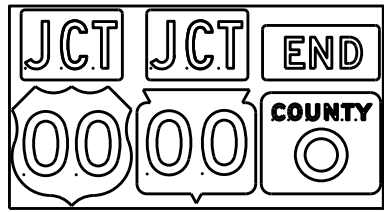
TYPICAL ASSEMBLIES



J1-1



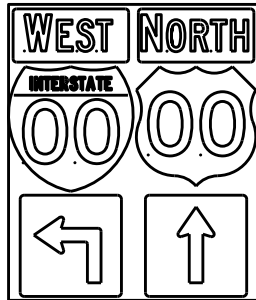
J1-2



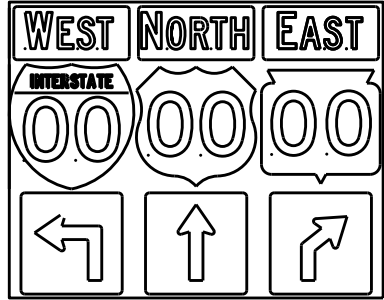
J1-3



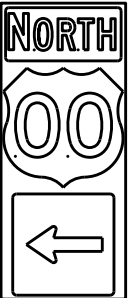
J2-1



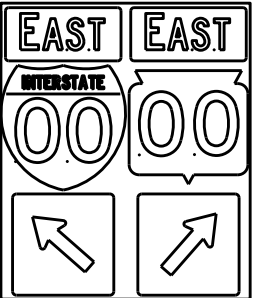
J2-2



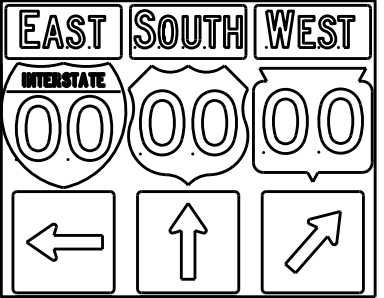
J2-3



J3-1



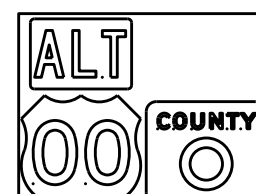
J3-2



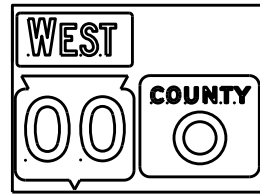
J3-3



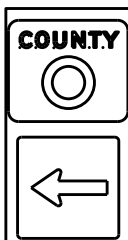
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1



J23-1

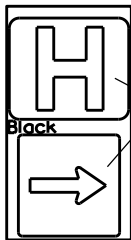


J22-1



JV

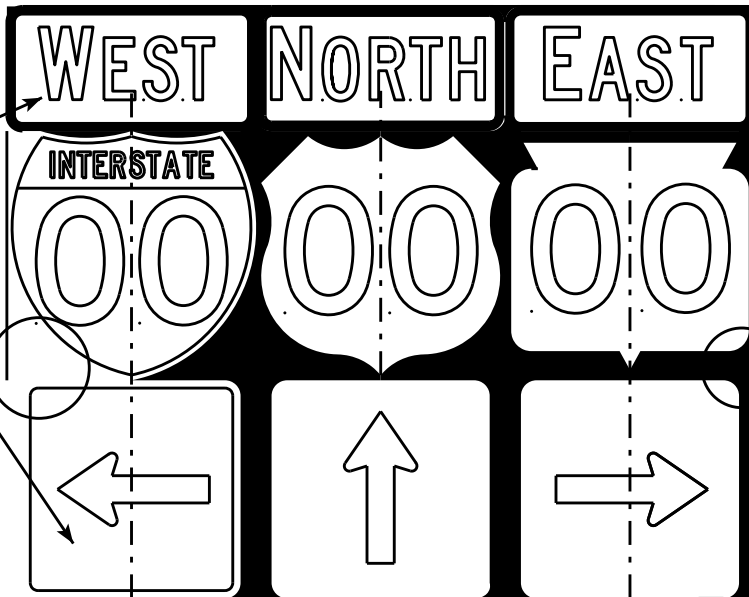
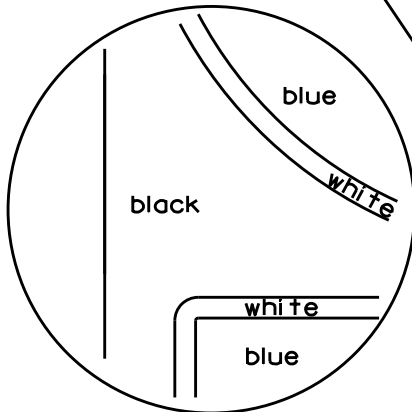
(Typical Vertical J-Assembly
See Note 10 and 11)



JH-1

Blue Background

[blue background
with interstate]



[black background]

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

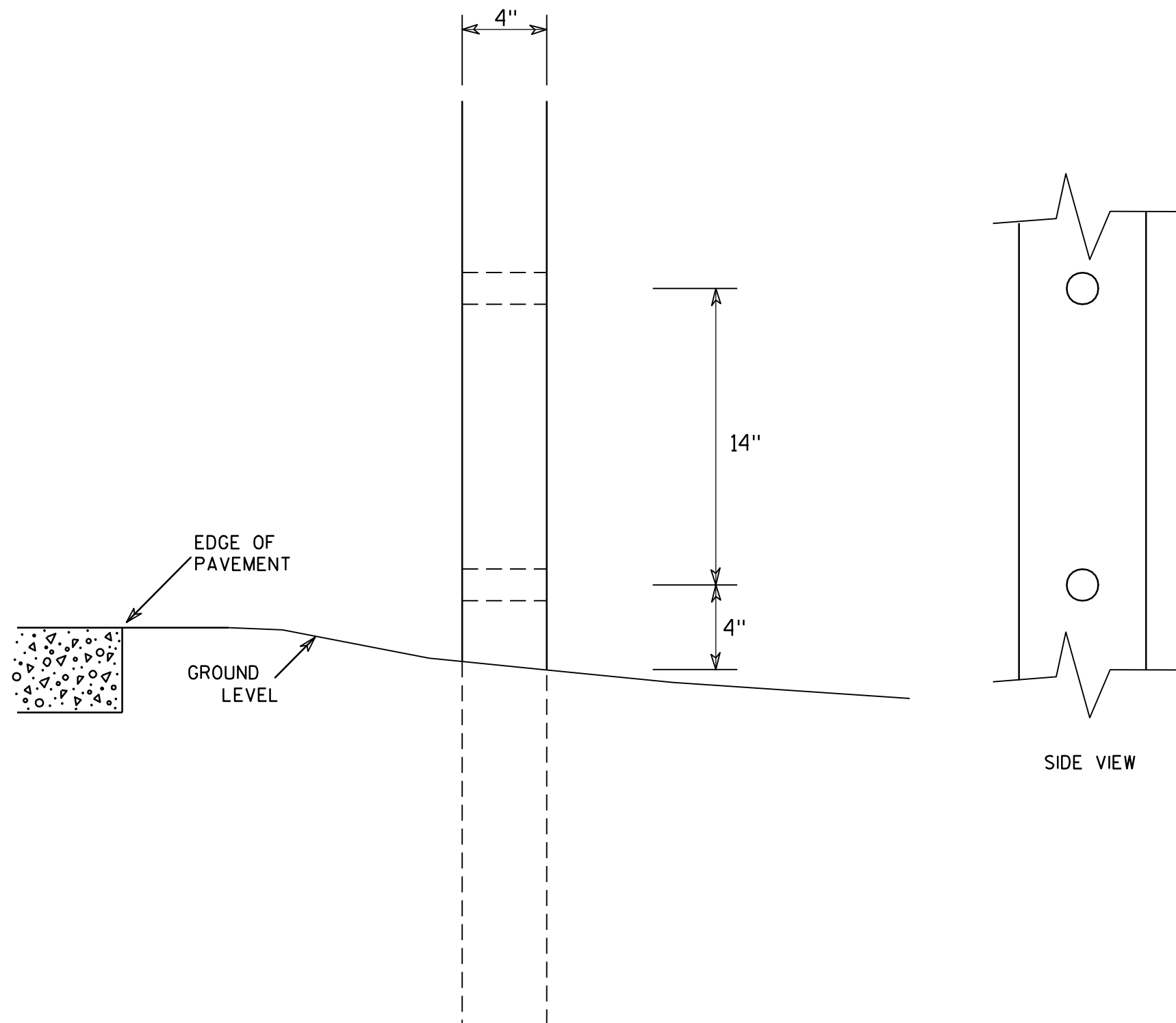
DATE 2/06/14 PL 147 A2-1S.8

SHEET NO: E

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Black Non-reflective
Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

7



GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

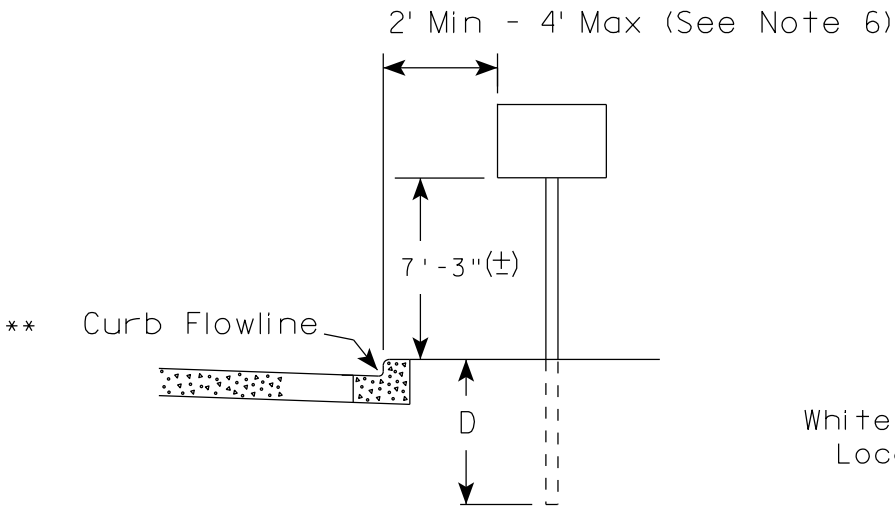
HWY:

COUNTY:

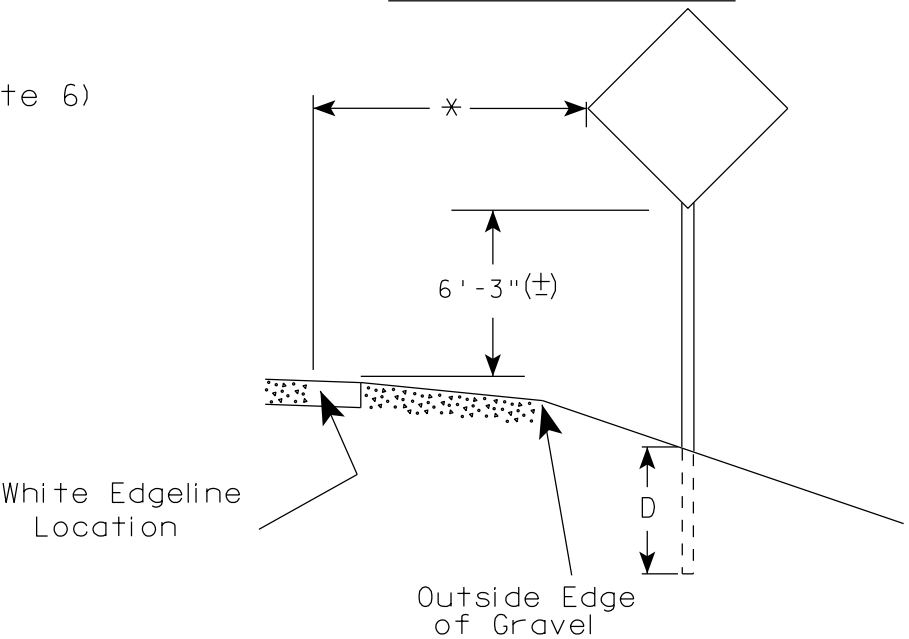
SHEET NO: 148

E

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

×× The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-3.18

149

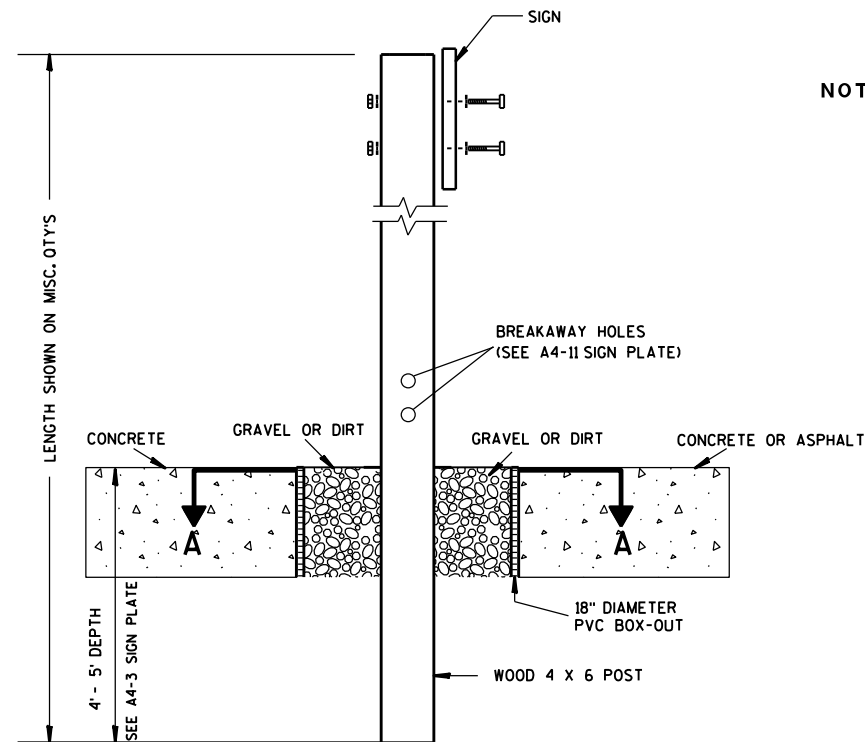
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

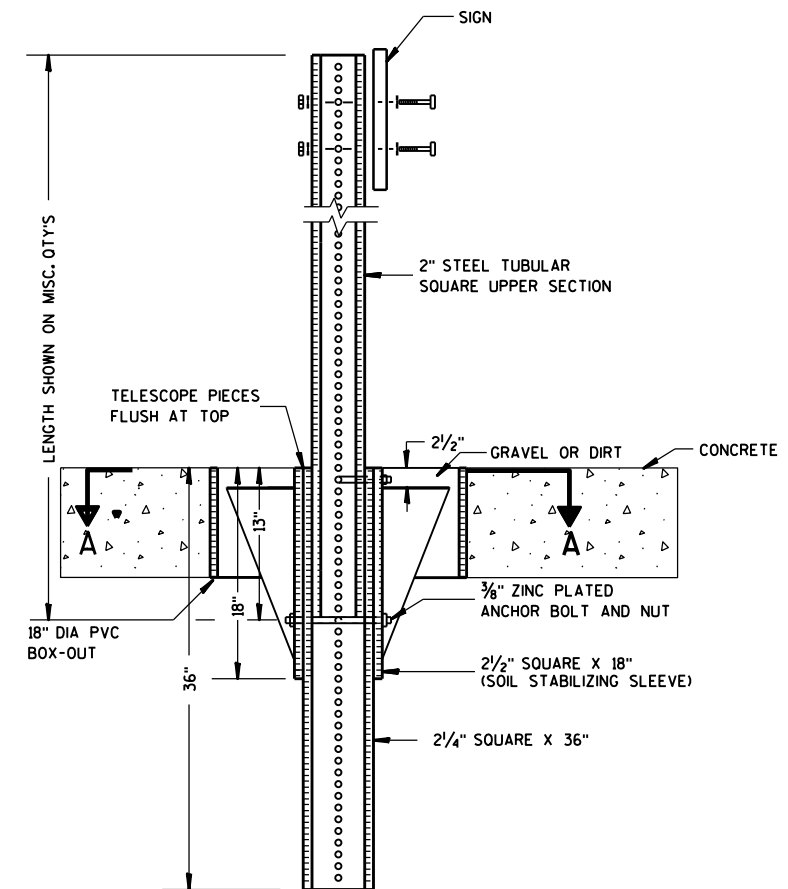
E



ELEVATION VIEW

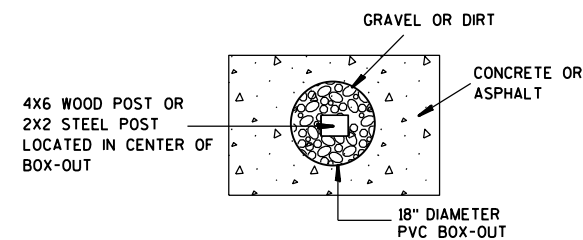
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES: 1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLAT 150 A4-3B.1

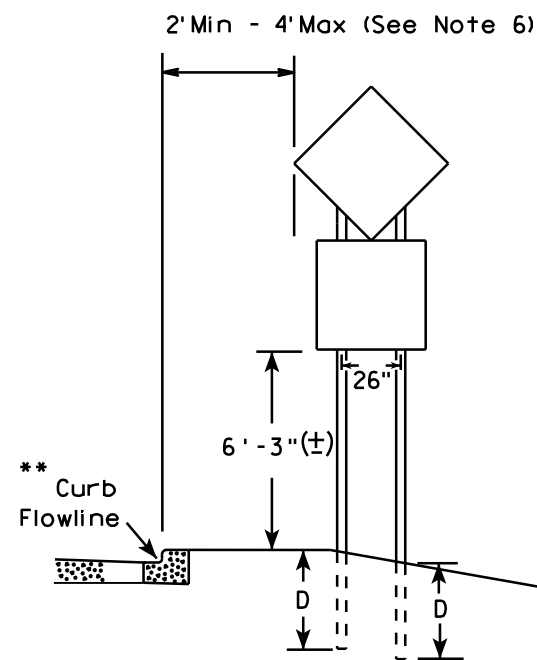
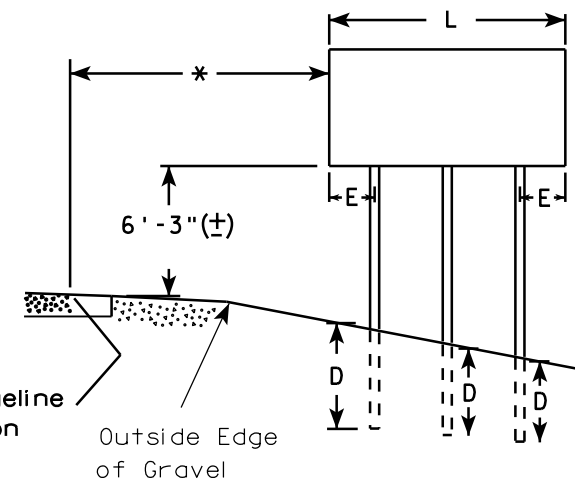
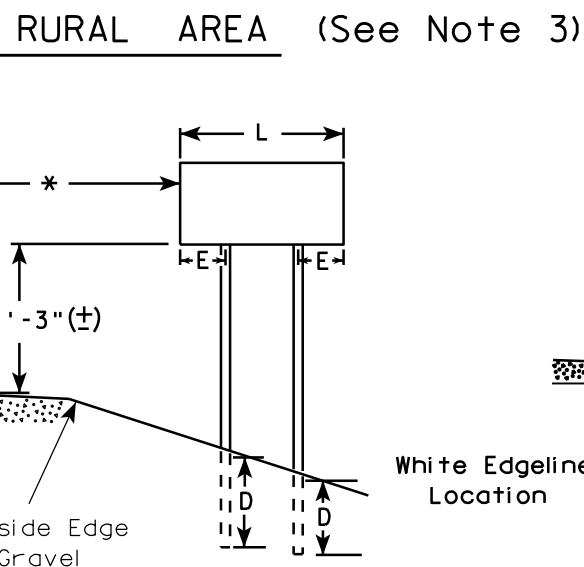
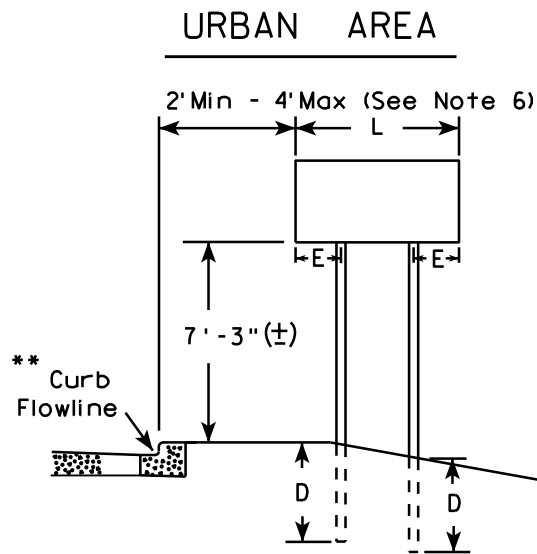
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HWY:

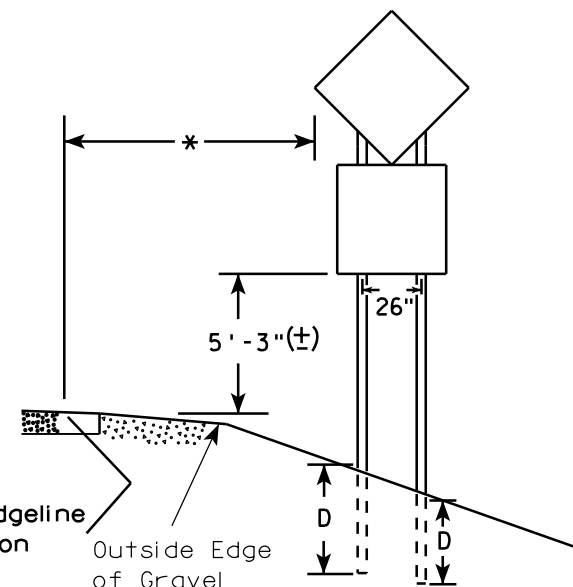
COUNTY:

SHEET NO:

E



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

- GENERAL NOTES**
1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
 2. See tables below for required number of posts.
 3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
 4. The (±) tolerance for mounting height is 3 inches.
 5. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
 8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width or less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

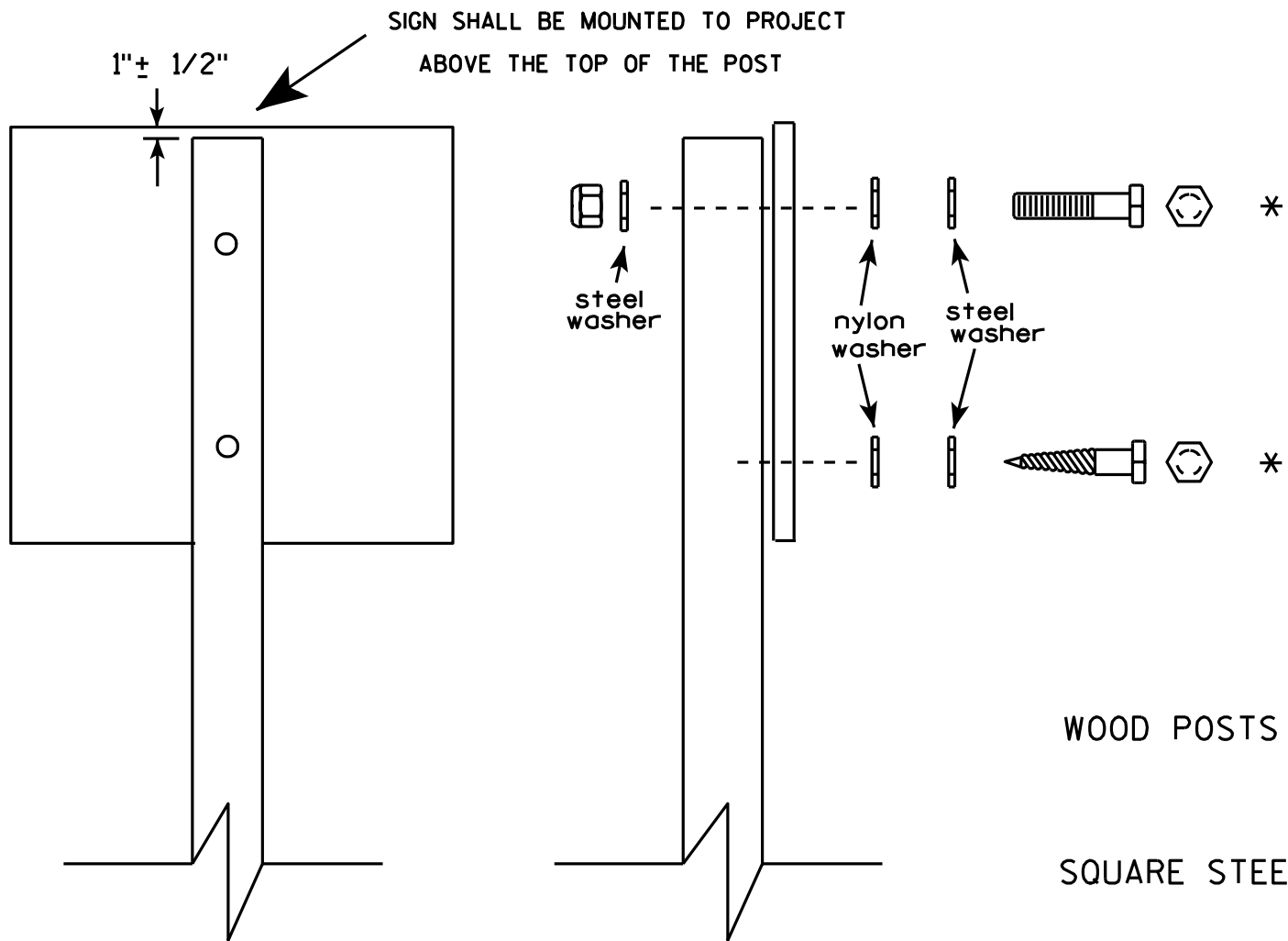
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/29/14 PLATE NO. 151 13

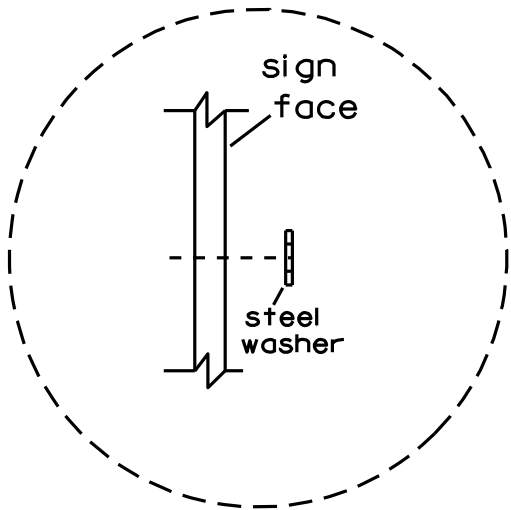


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3"
- MACHINE BOLTS - $\frac{5}{16}$ " X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts
- RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
- O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON for all Type H signs.

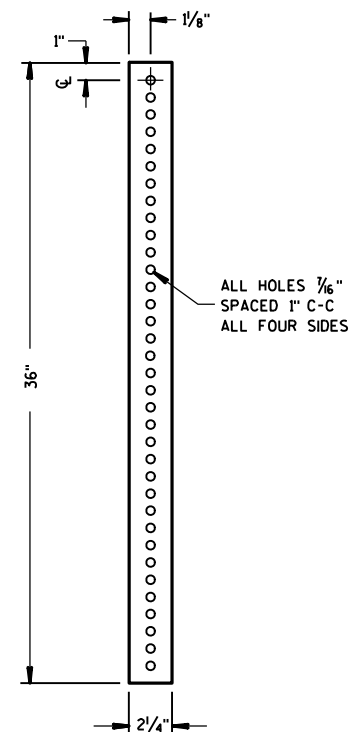


Washer Placement when Sign Has Other Than Type H or Type F Face

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7

**2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



2 1/2" or 2 1/4" TELESPAR TUBE

4" x 12" x 10 GA. STEEL PLATE (CUT AS SHOWN) WELDED TO ALL FOUR CORNERS OF TELESPAR TUBE

4"

2 1/2"

12"

3 1/2"

10'

LENGTH SHOWN ON MISC. QTY'S
 18" DIA PVC BOX-OUT
 36"
 18"
 13"
 TELESCOPE PIECES FLUSH AT TOP
 2" STEEL TUBULAR SQUARE UPPER SECTION
 ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES
 $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT
 $2\frac{1}{2}$ " GRAVEL OR DIRT
 $\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT
 $2\frac{1}{2}$ " SQUARE X 18" (SOIL STABILIZING SLEEVE)
 $2\frac{1}{4}$ " SQUARE X 36"
 SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
 SIGN

Technical drawing of a signpost assembly, showing a cross-section and side view with dimensions and material specifications.

Dimensions and Components:

- Sign:** Indicated by an arrow pointing to the top section.
- Sign Plate:** SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL.
- 2" STEEL TUBULAR SQUARE UPPER SECTION:** The main vertical support.
- ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES:** Specification for the tubular section.
- TELESCOPE PIECES FLUSH AT TOP:** Indicated by an arrow pointing to the top section.
- $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT:** Indicated by an arrow pointing to the anchor bolt.
- $\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT:** Indicated by an arrow pointing to the anchor bolt.
- $2\frac{1}{2}$ " SQUARE X 18" (SOIL STABILIZING SLEEVE):** Indicated by an arrow pointing to the sleeve.
- $2\frac{1}{4}$ " SQUARE X 36":** Indicated by an arrow pointing to the main vertical section.
- Vertical Dimensions:**
 - 36" (Total height of the main vertical section)
 - 18" (Height of the upper section)
 - 12" (Height of the lower section)
 - 1" (Spacing between anchor bolts)
- Horizontal Dimensions:**
 - 1" (Spacing between anchor bolts)
- Other Labels:**
 - LENGTH SHOWN ON MISC. QTY'S (Vertical dimension on the left)
 - A (Points to the anchor bolts)

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

DIRECTION OF TRAFFIC

SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer
DATE 5/30/12 PLATE NO. A4-9.7

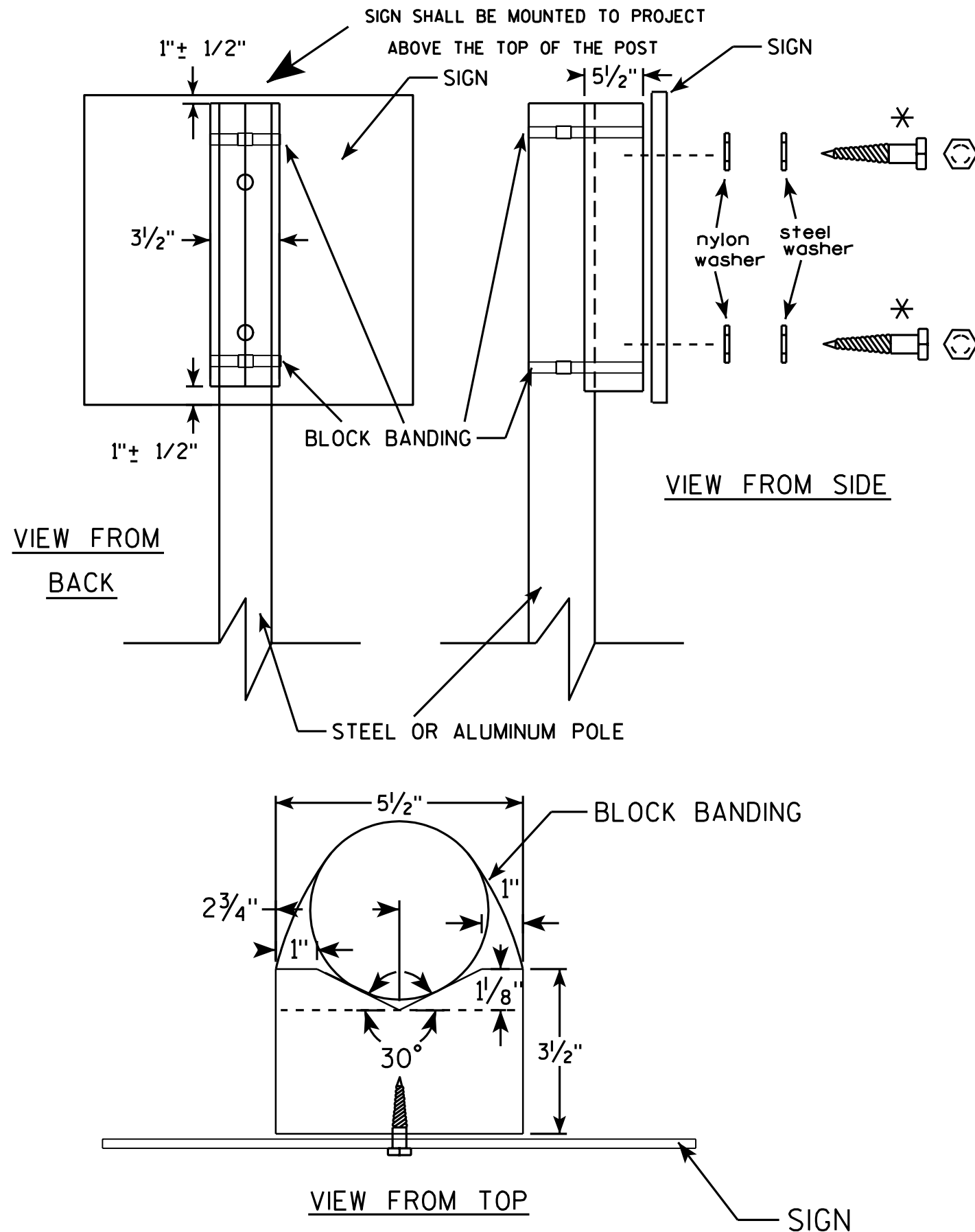
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 153

E



GENERAL NOTES

1. WOOD 4"x6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
 - b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
 - c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/12/07 PLATE NO. A5-10.1

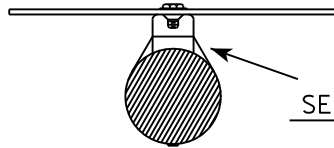
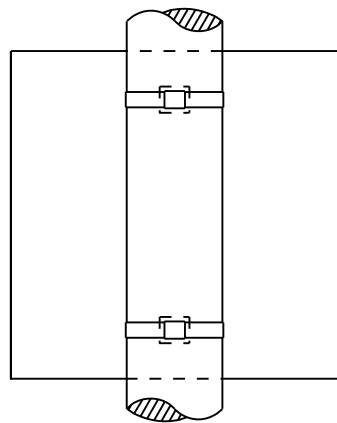
PROJECT NO:

SHEET NO: 154

E

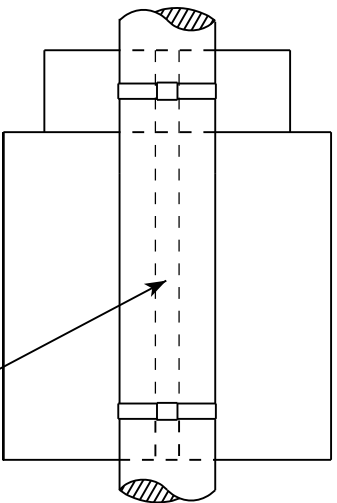
BANDING

SINGLE SIGN

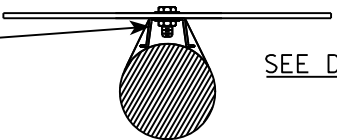


SEE DETAIL A

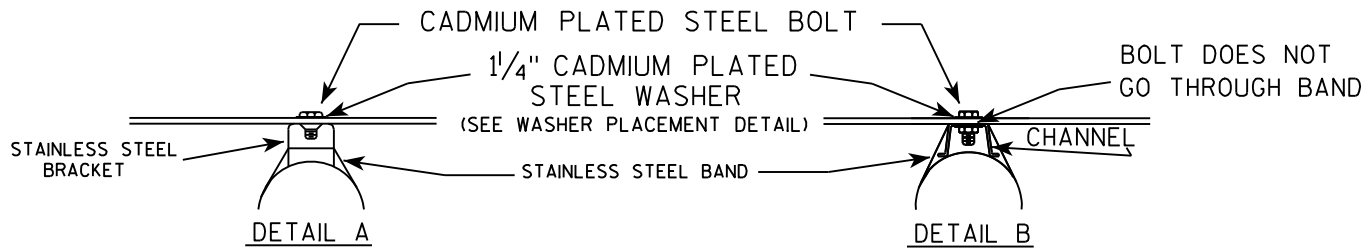
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



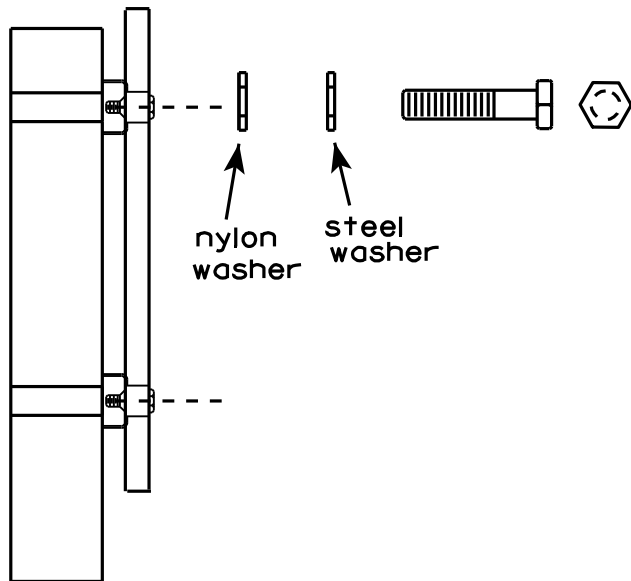
SEE DETAIL B



GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be $\frac{3}{4}$ " in width and 0.025" thickness.

WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

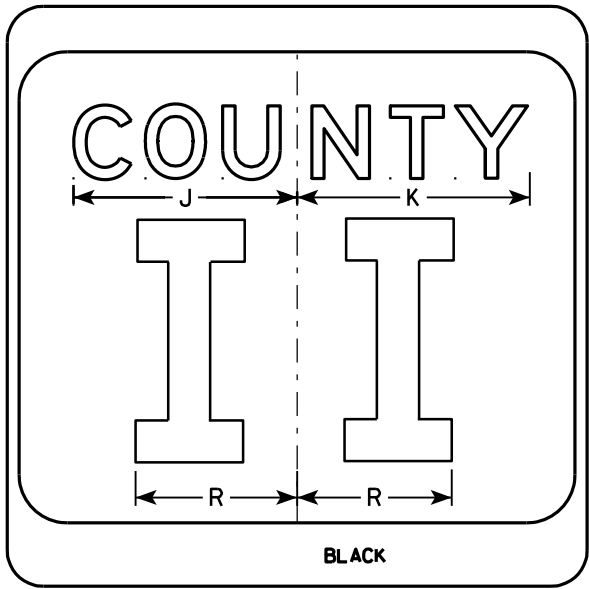
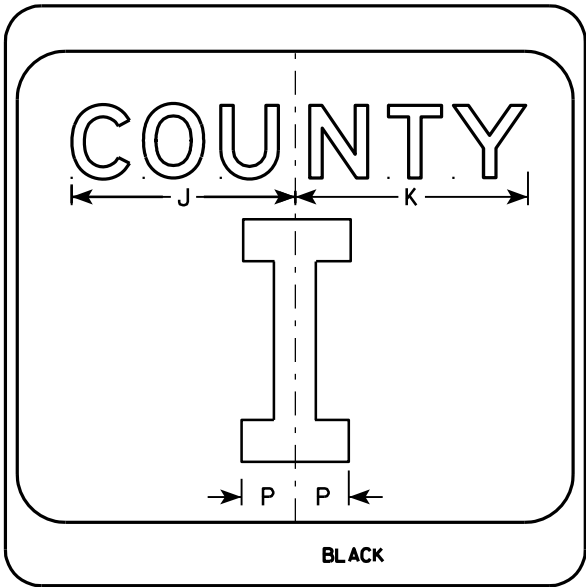
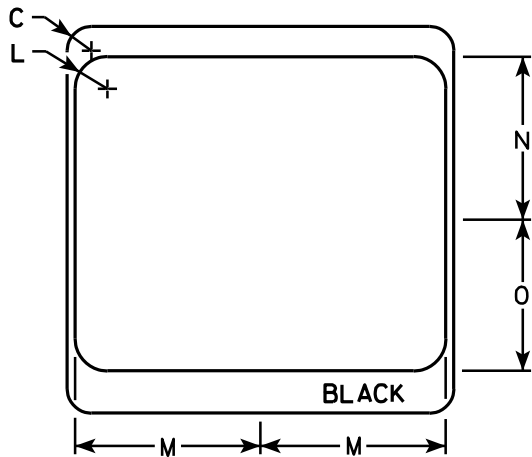
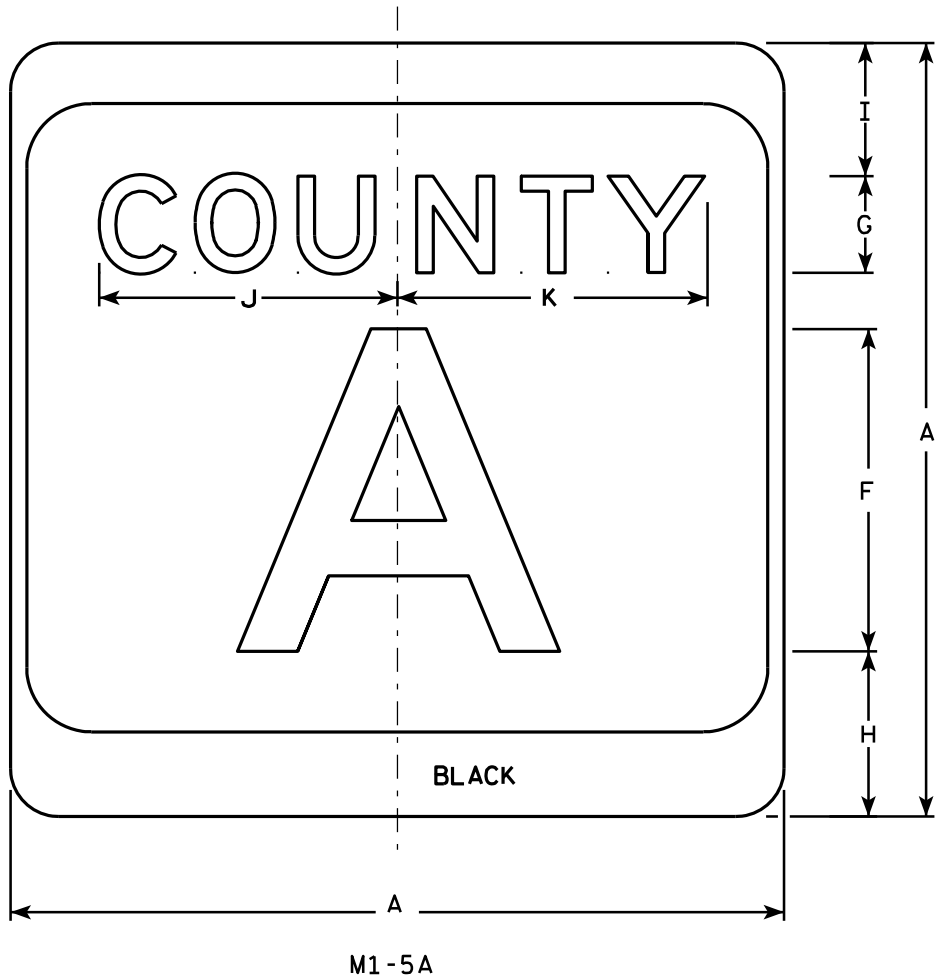
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

7



NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 7
Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
Message Series D for 2 letters unless message is too big then Series C.
Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 156	E
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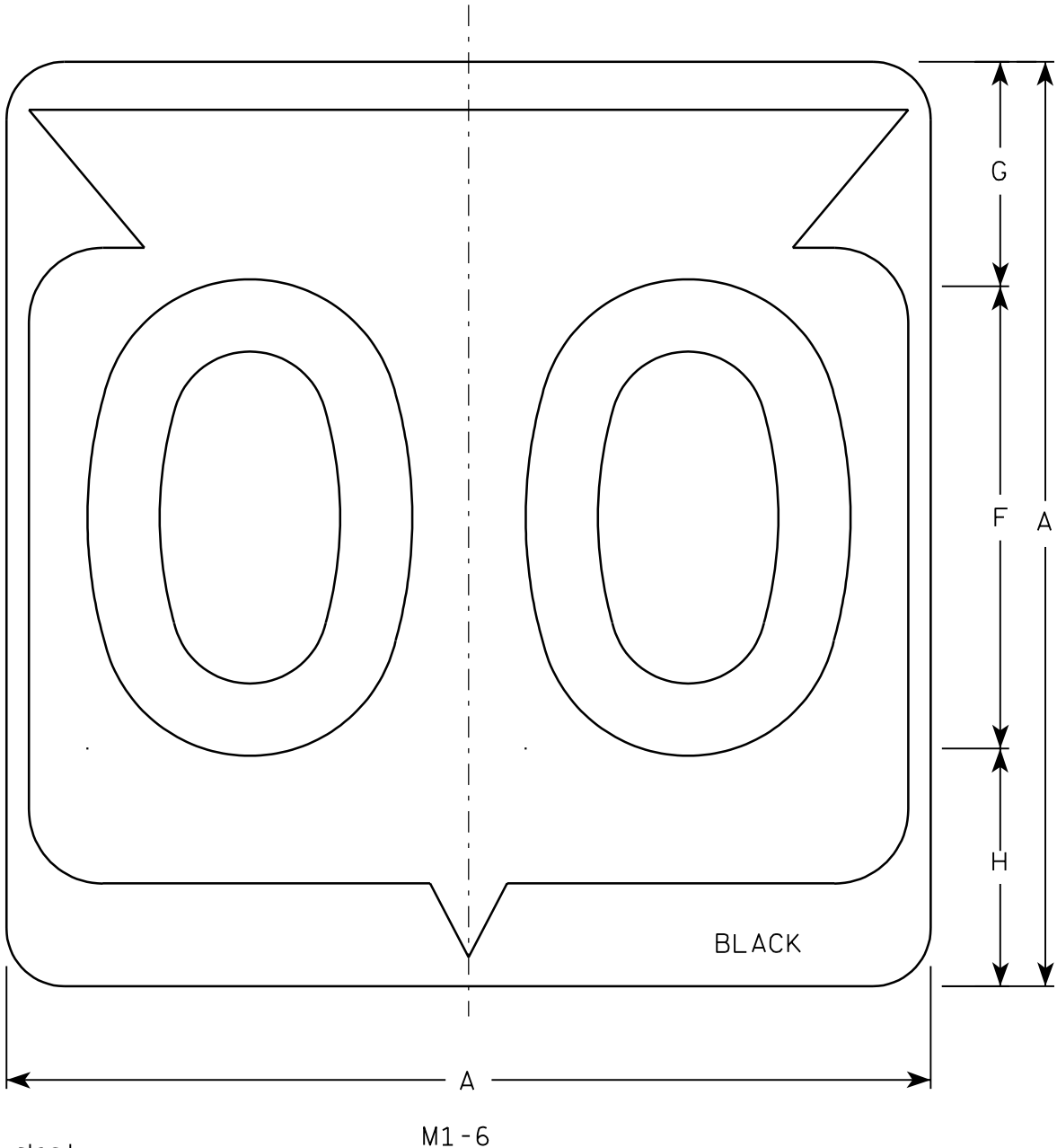
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

7



Metric equivalent
for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

PROJECT NO:

HWY:

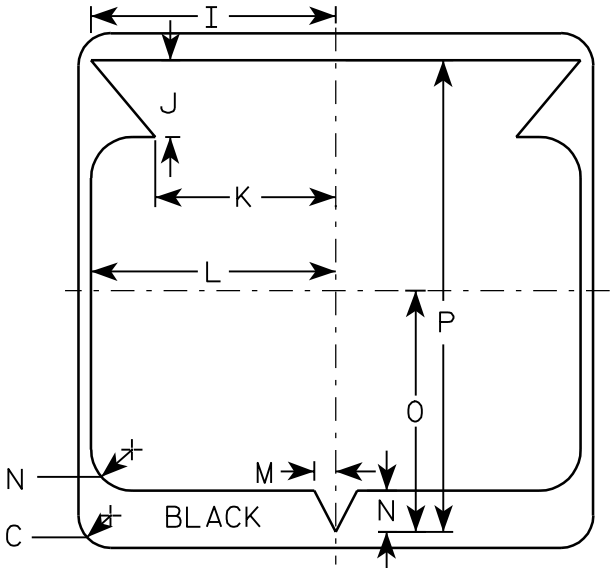
COUNTY:

SHEET NO: 157

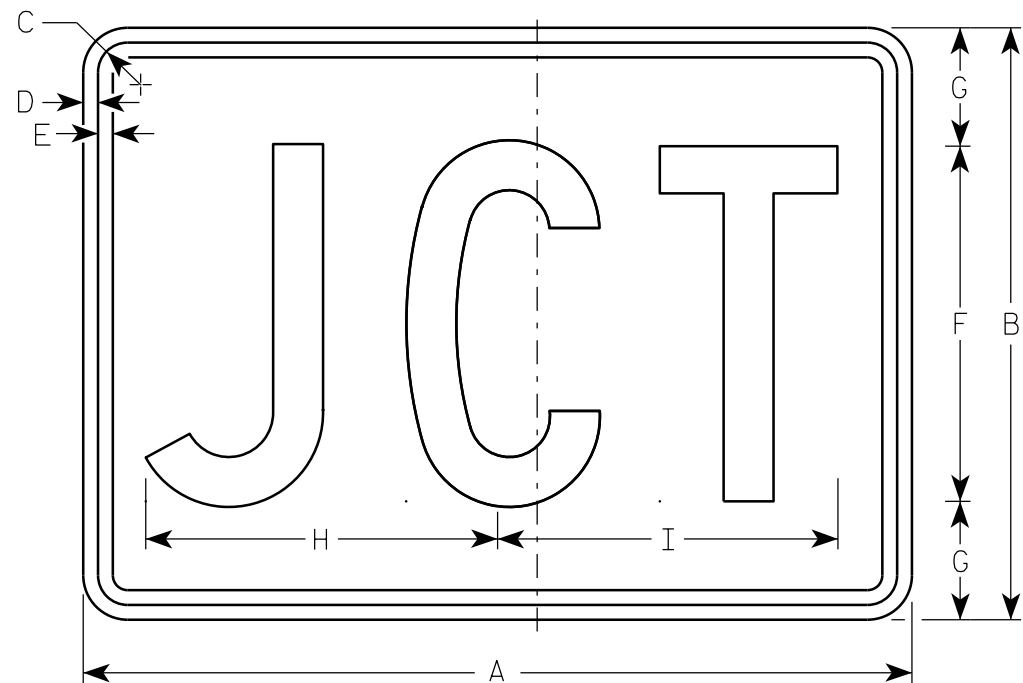
E

NOTES

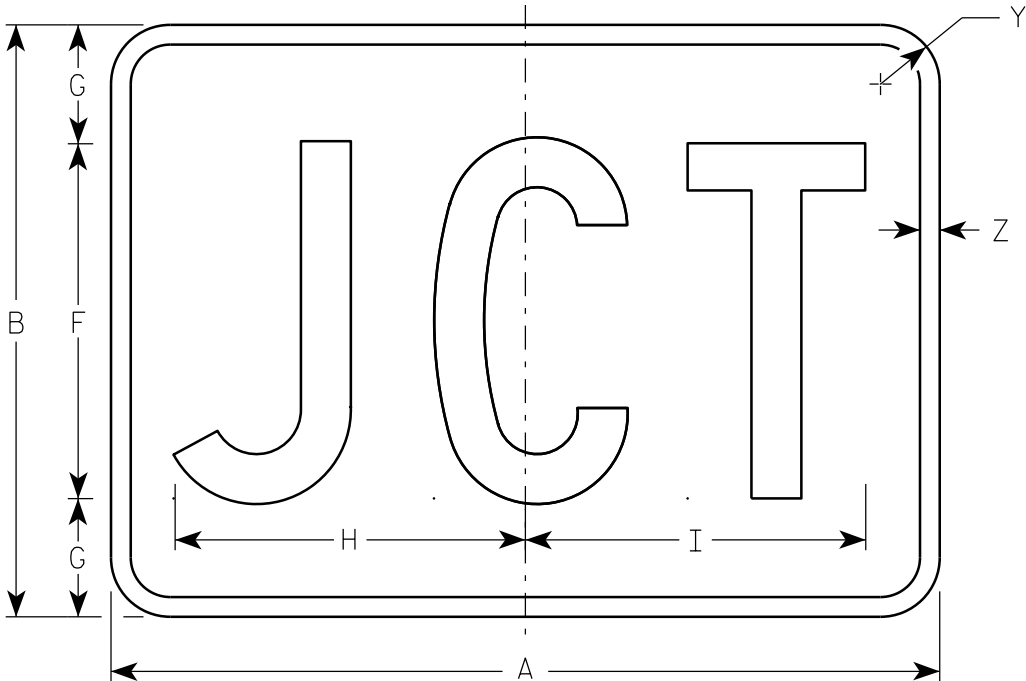
- Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - White & Black - See Note 6
Message - Black
- Message Series - See note 5
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
- Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective



7



M2-1
MK2-1
MM2-1
MN2-1
MR2-1



MB2-1

NOTES

- 1. Sign is Type II - Type H
- 2. Color:
 - Background - See note 5
 - Message - See note 5
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. M2-1 Background - White
Message - Black
MB2-1 Background - Blue
Message - White
MK2-1 Background - Green
Message - White
MM2-1 Background - White
Message - Green
MN2-1 Background - Brown
Message - White
MR2-1 Background - Brown
Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

STANDARD SIGN

M2 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

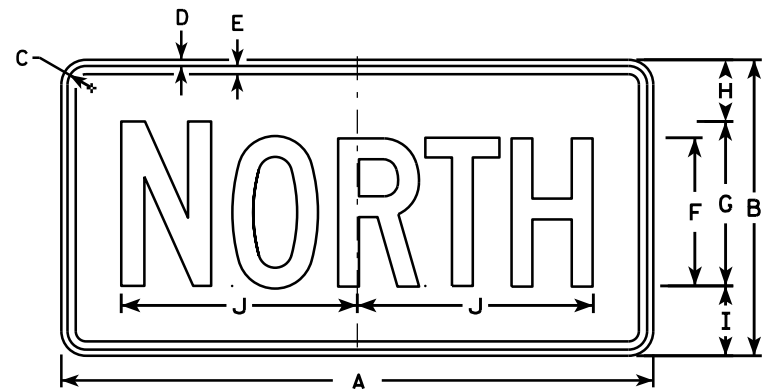
Matthew R. Rauch

For State Traffic Engineer

DATE 6/30/14

PLATE 158

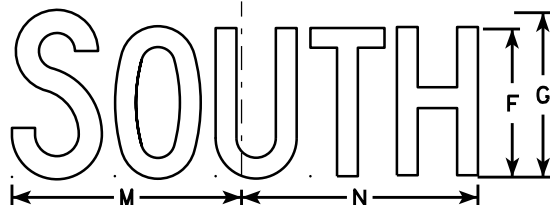
'2-1.11



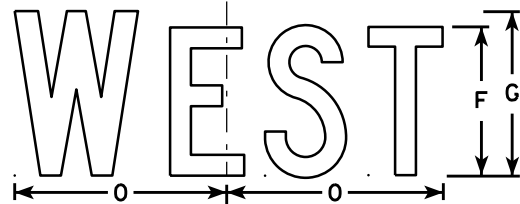
M3-1
MK3-1
MM3-1
MN3-1



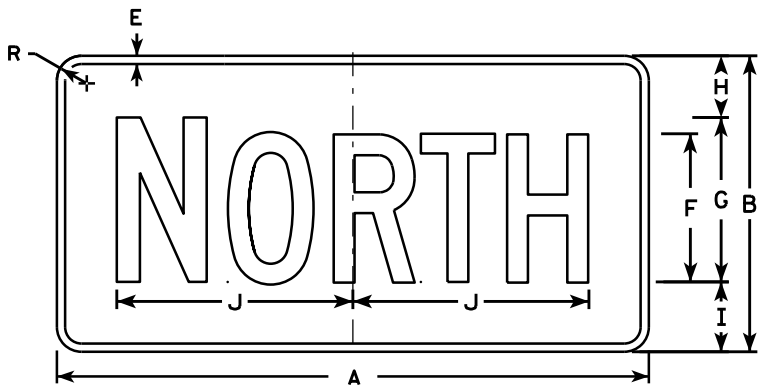
M3-2
MK3-2
MM3-2
MN3-2



M3-3
MK3-3
MM3-3
MN3-3



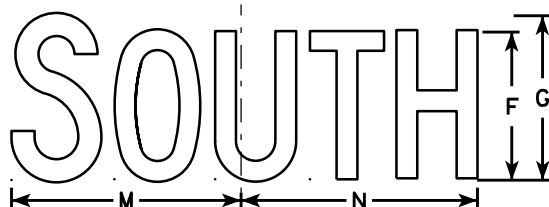
M3-4
MK3-4
MM3-4
MN3-4



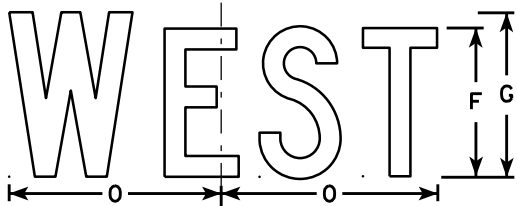
MB3-1



MB3-2



MB3-3



MB3-4

NOTES

1. All Signs Type II - Type H
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White
MK3-1 thru MK3-4 Background - Green
Message - White
MM3-1 thru MM3-4 Background - White
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thru M3-4
SERIES

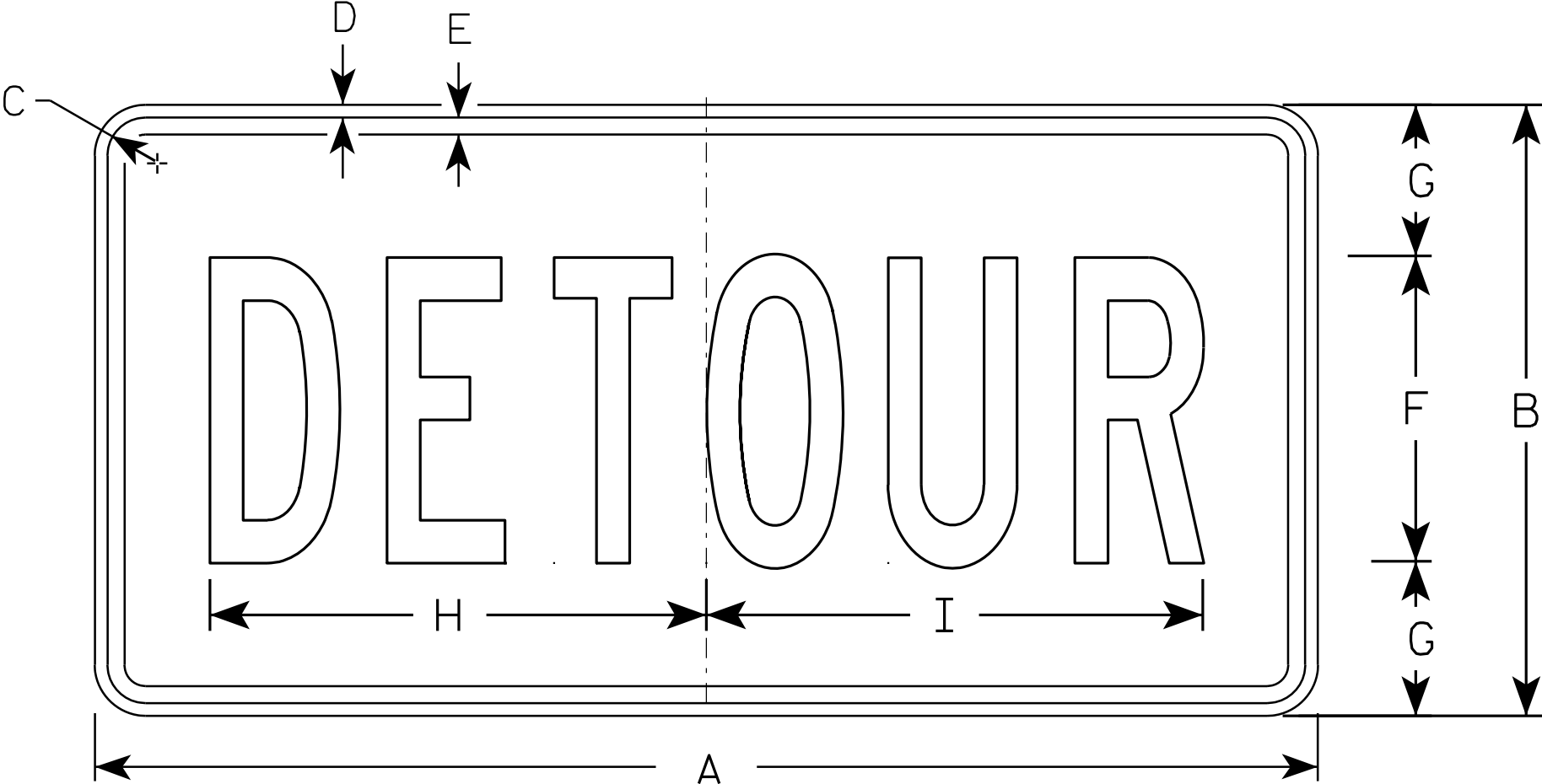
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 6/30/14 PLAT 159 M3-1.13

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - B
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



M4 - 8

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

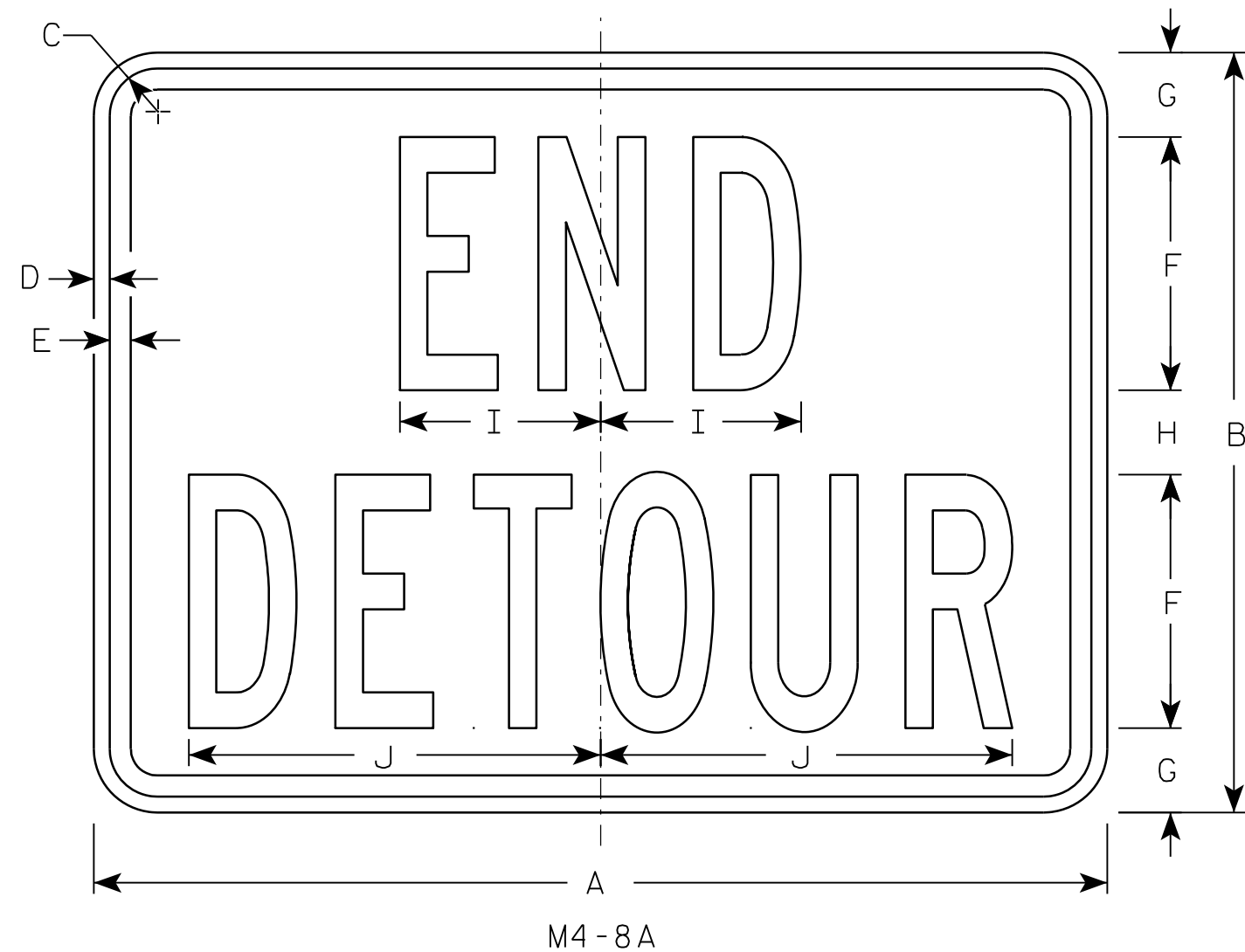
STANDARD SIGN
M4 - 8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

7



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

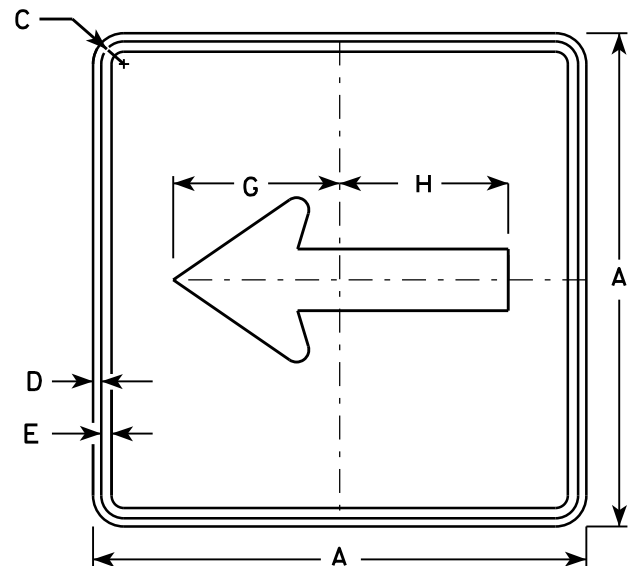
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 161	E
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STANDARD SIGN
M4-8A

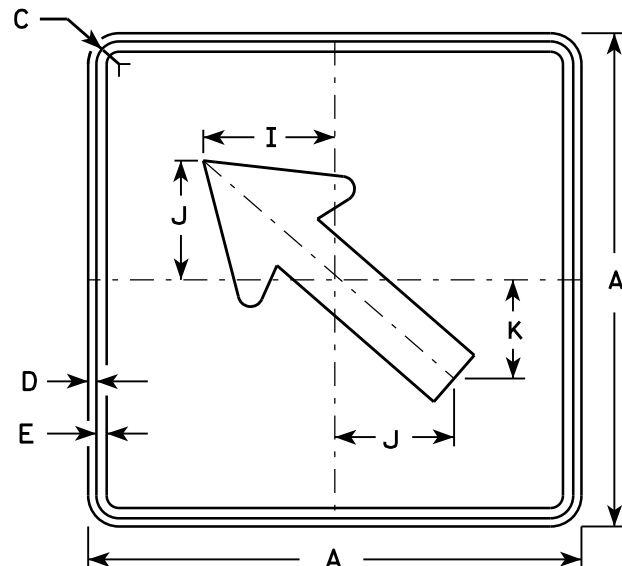
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

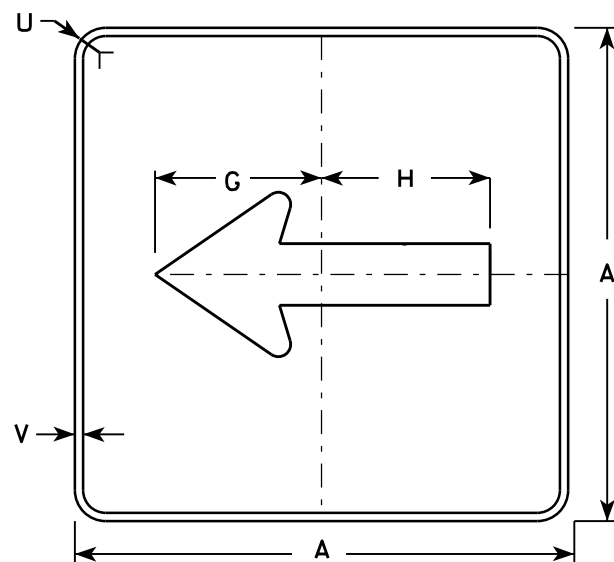
DATE 3/9/11 PLATE NO. M4-8A.2



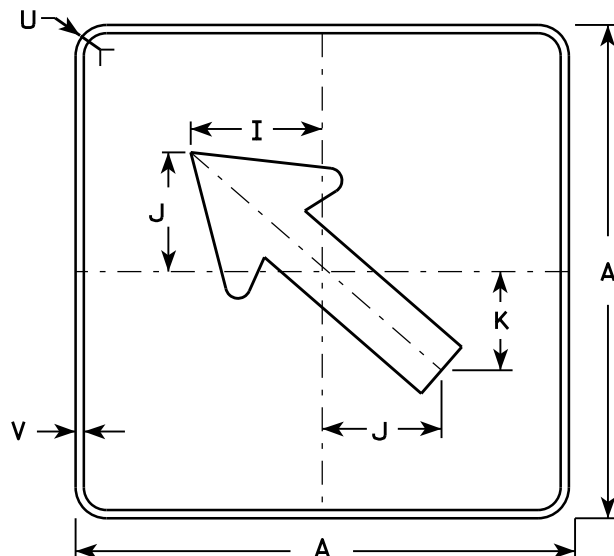
M6 - 1
MK6 - 1
MM6 - 1
MN6 - 1
M06 - 1
MP6 - 1
MR6 - 1



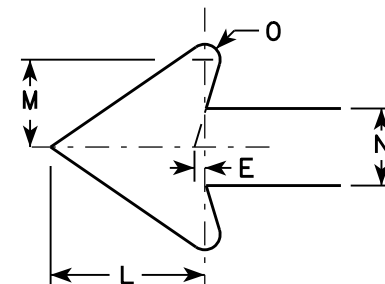
M6 - 2
MK6 - 2
MM6 - 2
MN6 - 2
M06 - 2
MP6 - 2
MR6 - 2



MB6 - 1



MB6 - 2



NOTES

- Signs are Type II - Type H except as Shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MG6-1 and MG6-2 Background - Green
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow

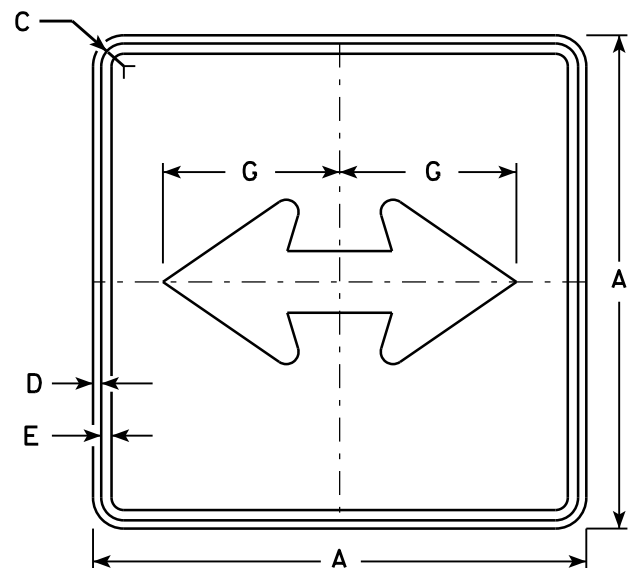
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

STANDARD SIGN
M6 - 1 & M6 - 2
SERIES

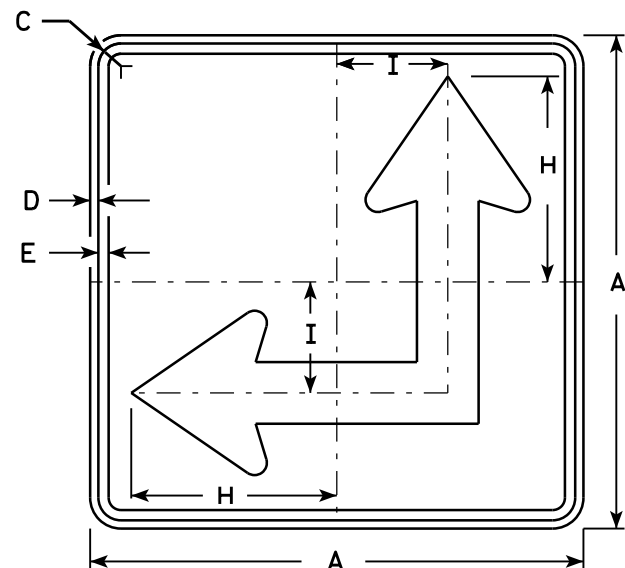
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

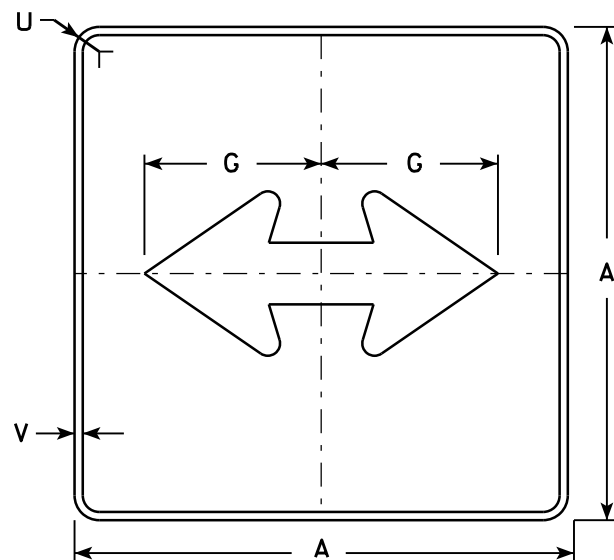
DATE 7/03/14 PLAT 162 M6-1.14



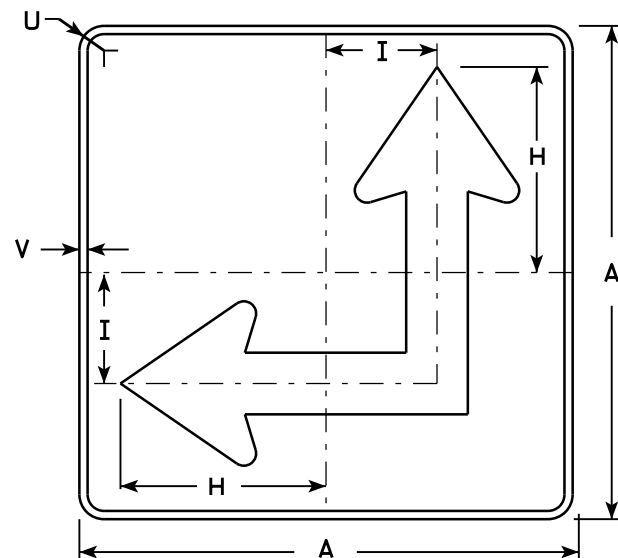
M6 - 4
MK6 - 4
MM6 - 4
MN6 - 4
MO6 - 4
MP6 - 4
MR6 - 4



M6 - 6
MK6 - 6
MM6 - 6
MN6 - 6
MO6 - 6
MP6 - 6
MR6 - 6



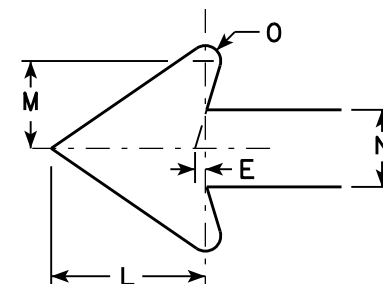
MB6 - 4



MB6 - 6

NOTES

- Signs are Type II - Type H except as Shown
- Color:
Background - See Note 4
Message - See Note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-4 and M6-6 Background - White
Message - Black
MB6-4 and MB6-6 Background - Blue
Message - White
MK6-4 and MK6-6 Background - Green
Message - White
MM6-4 and MM6-6 Background - White
Message - Green
MN6-4 and MN6-6 Background - Brown
Message - White
MO6-4 and MO6-6 Background - Orange - Type F Reflective
Message - Black
MP6-4 and MP6-6 Background - White
Message - Blue
MR6-4 and MR6-6 Background - Brown
Message - Yellow
- M6-6R same as M6-6L except arrow points ahead and right.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

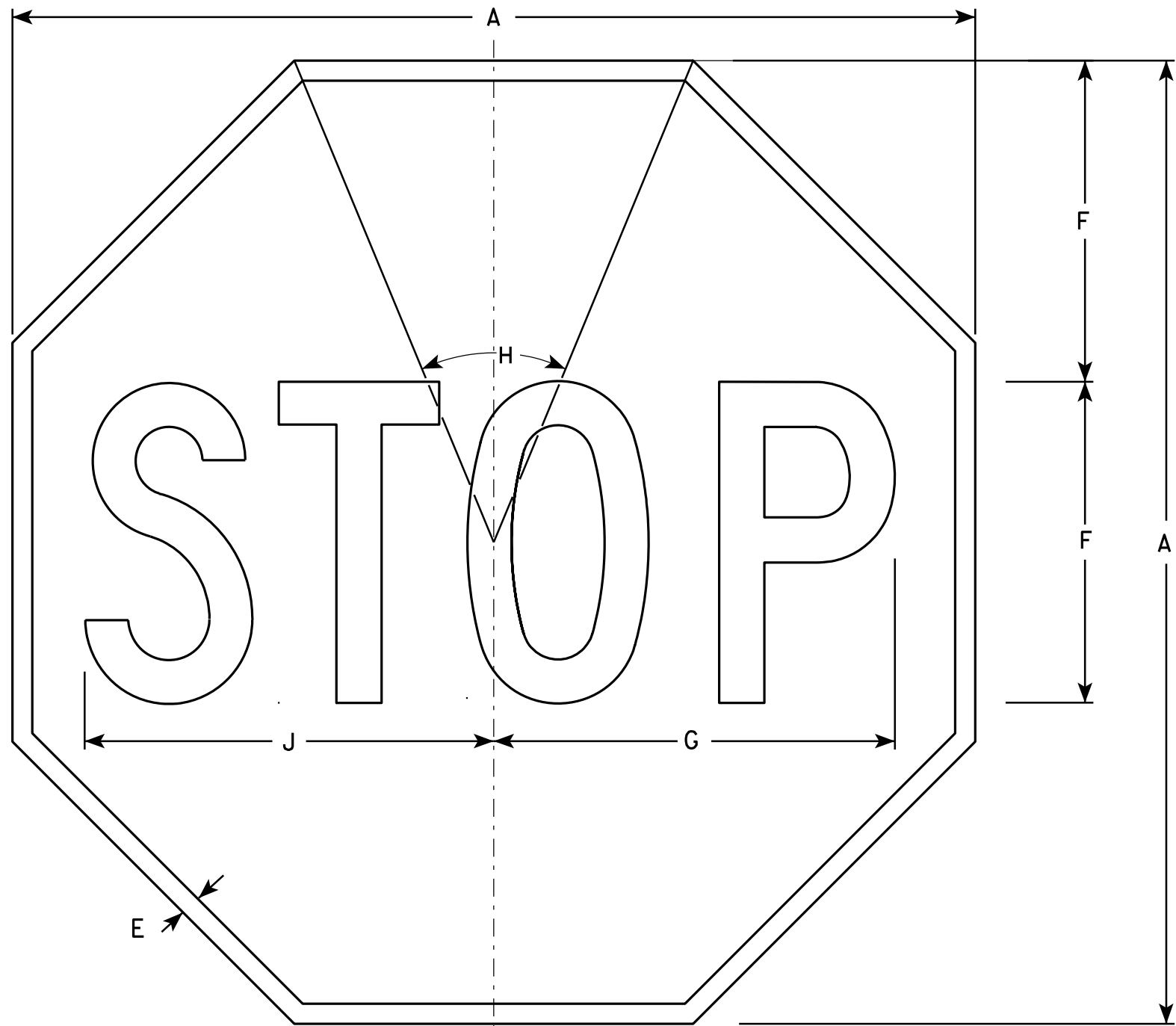
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN
M6 - 4 & M6 - 6
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/03/14 PLAT 163 '16-4.9



NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Red
Message - White
- 3. Message Series - C

R1-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN
R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

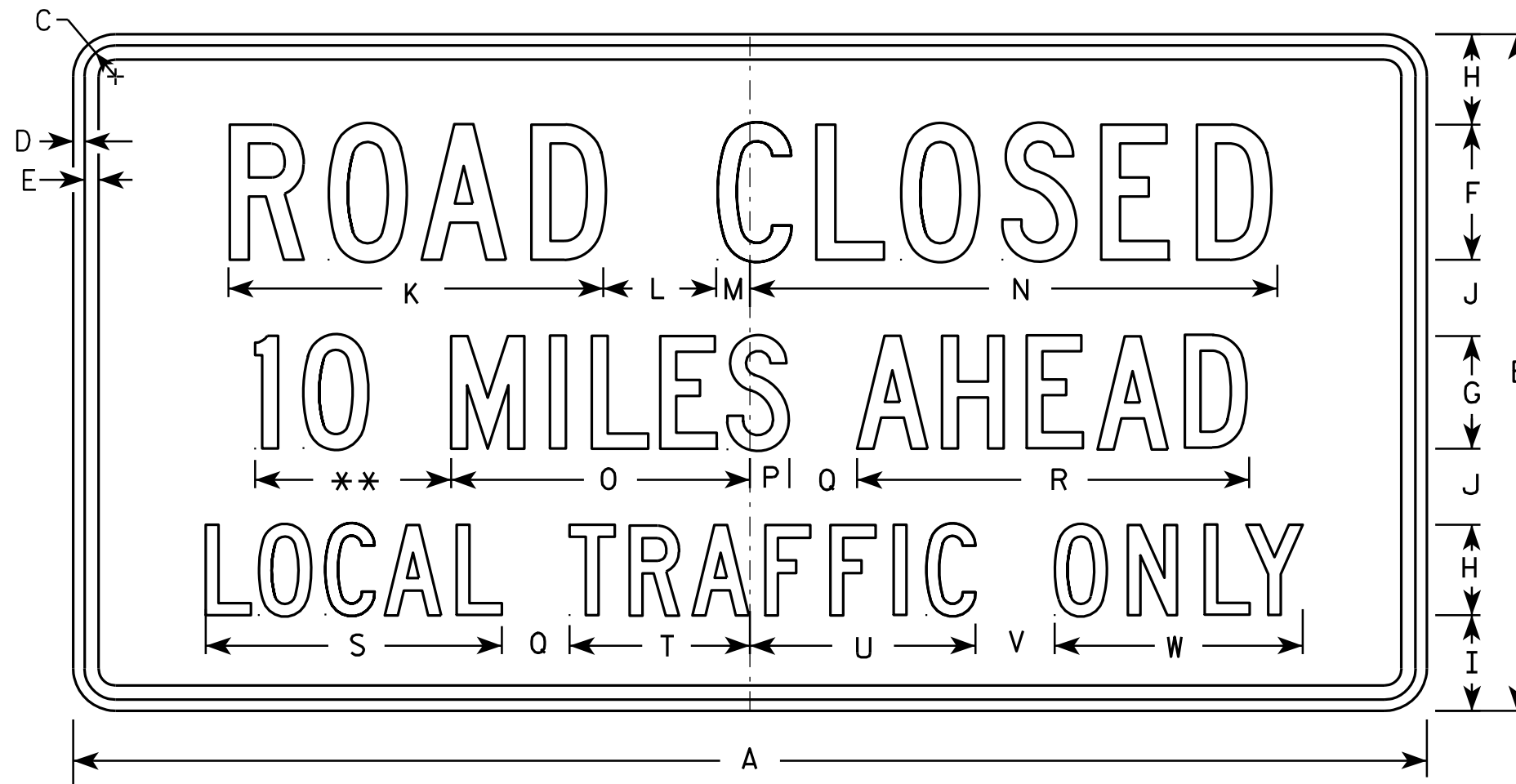
DATE 12/03/10 PLATE NO. R1-1.12

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 164



R11-3

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

** See Note 5

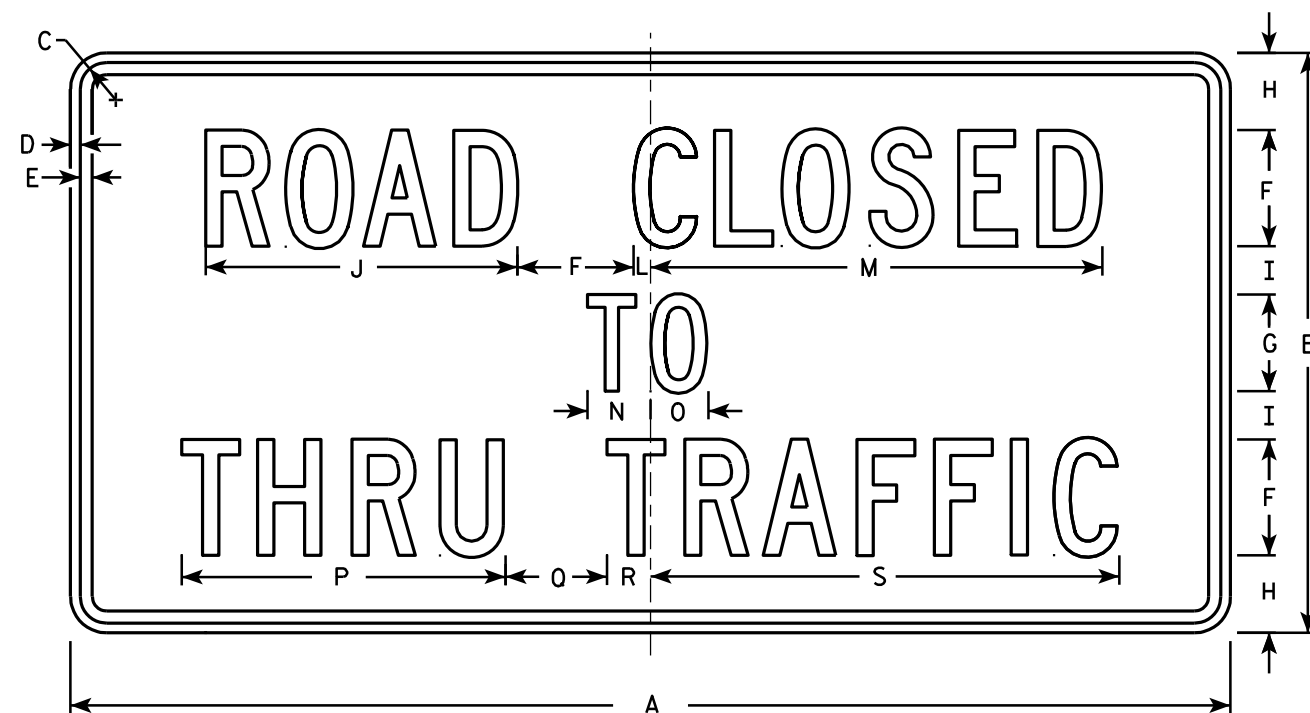
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	11 1/8	3	1 1/8	15 1/4	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4				4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11				12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11				12.5
3																											
4																											
5																											

STANDARD SIGN R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 4/1/11 PLATE NO. R11-3.6

PROJECT NO: HWY: COUNTY: SHEET NO: 165 E



R11-4

NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - White
Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	30	1 3⁄8	1⁄2	5⁄8	6	5	4	2 1⁄2	16 1⁄8		7⁄8	23 3⁄8	3 1⁄4	3	16 3⁄4	5 1⁄4	2 1⁄4	24 1⁄4								12.5
2M	60	30	1 3⁄8	1⁄2	5⁄8	6	5	4	2 1⁄2	16 1⁄8		7⁄8	23 3⁄8	3 1⁄4	3	16 3⁄4	5 1⁄4	2 1⁄4	24 1⁄4								12.5
3																											
4																											
5																											

STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

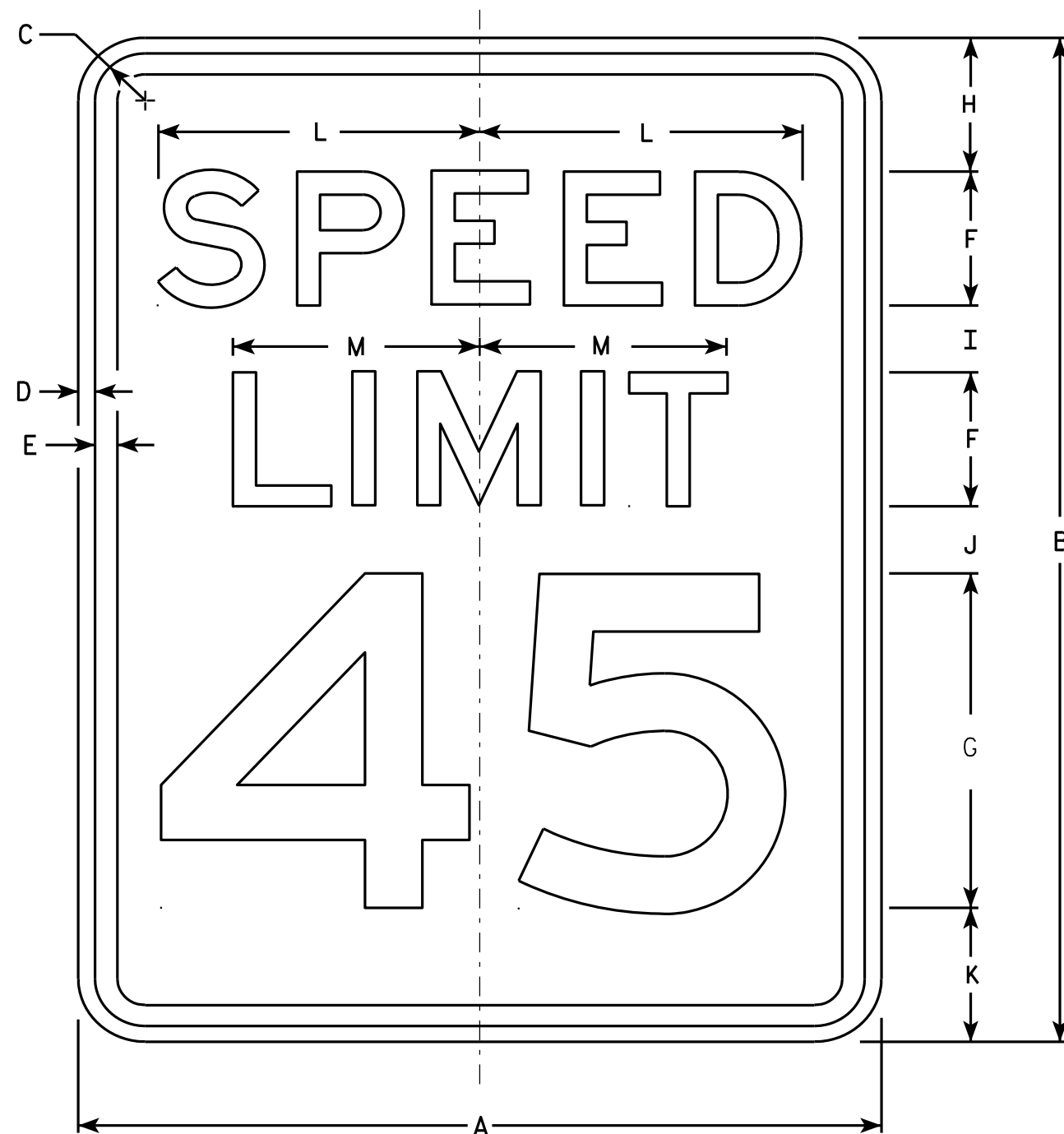
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 166

E



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

R2-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 167

E



R2-6P

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	18	1 1/8	3/8	3/8	4	3 1/2	3	7 5/8	9 1/4																	3.0
2M	24	18	1 1/8	3/8	3/8	4	3 1/2	3	7 5/8	9 1/4																	3.0
3	36	24	1 1/8	3/8	1/2	6	4 1/8	3 3/4	12	14																	6.0
4	36	24	1 1/8	3/8	1/2	6	4 1/8	3 3/4	12	14																	6.0
5	48	36	1 3/8	1/2	5/8	8	7	6	15 1/8	19																	12.0

STANDARD SIGN
R2-6P

WISCONSIN DEPT OF TRANSPORTATION

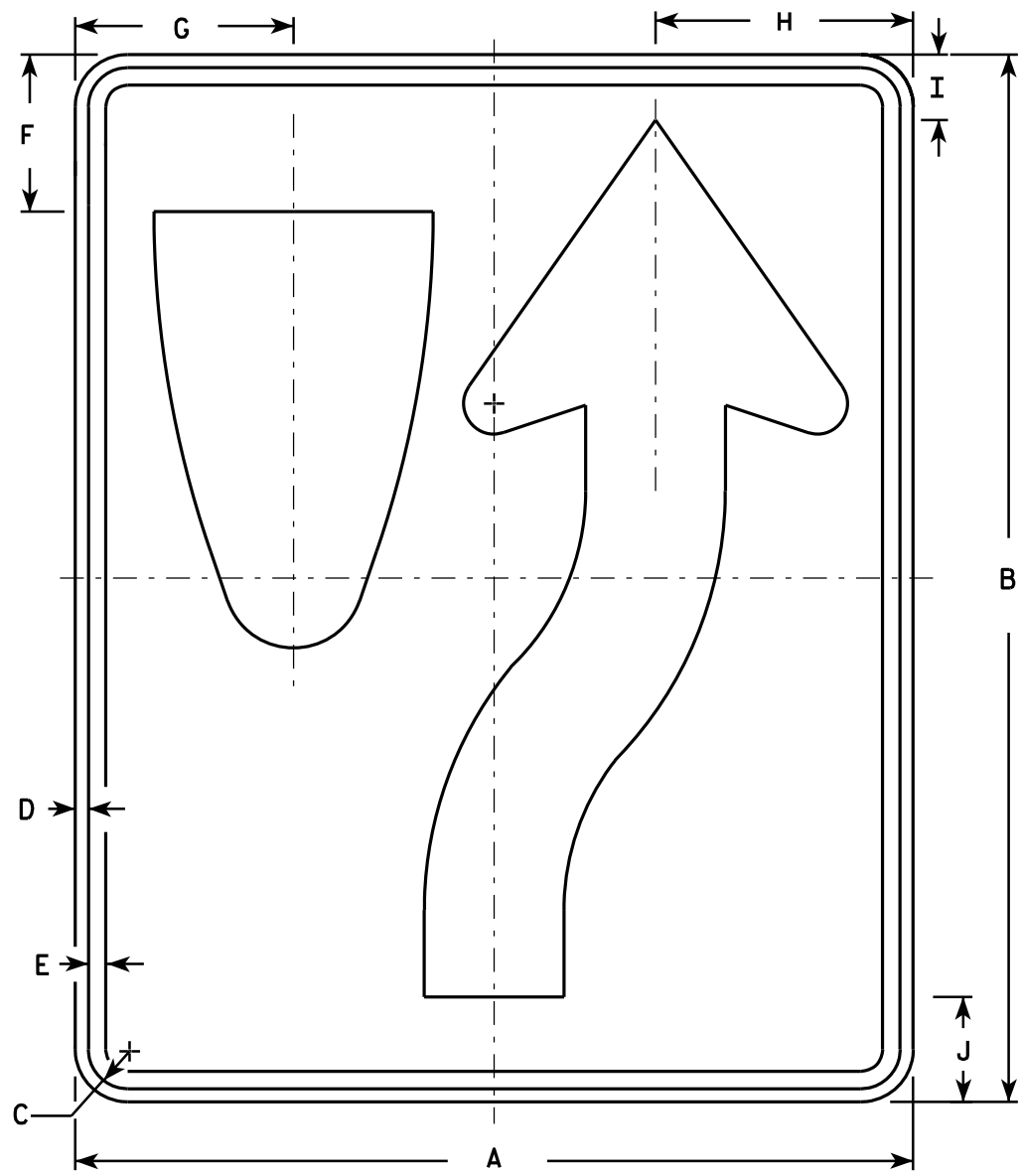
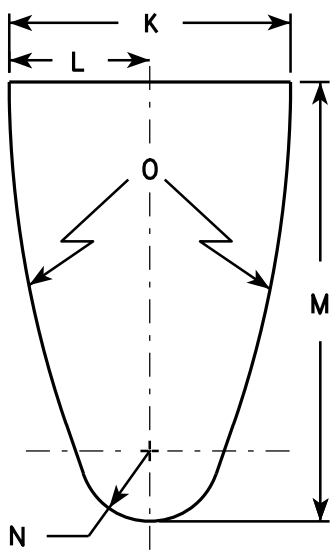
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/20/10 PLATE NO. R2-6P.2

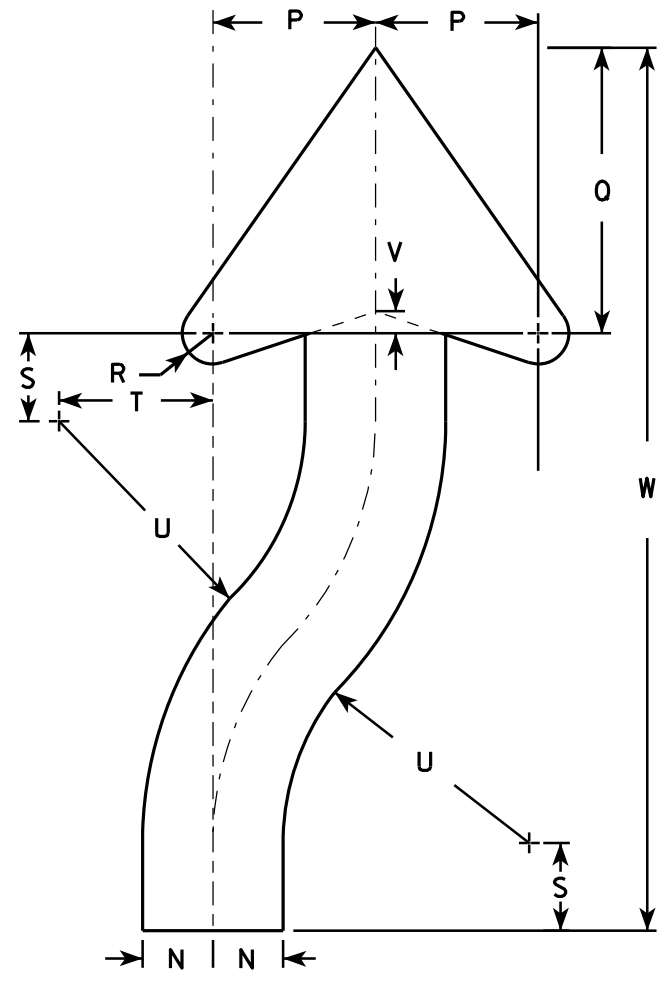
PROJECT NO:	HWY:	COUNTY:	SHEET NO: 168		E
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NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
- 2. Color:
Background - White
Message - Black
- 3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
- 4. R4-8 is the same as R4-7 except Legend is reversed.



R4-7



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

STANDARD SIGN

R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

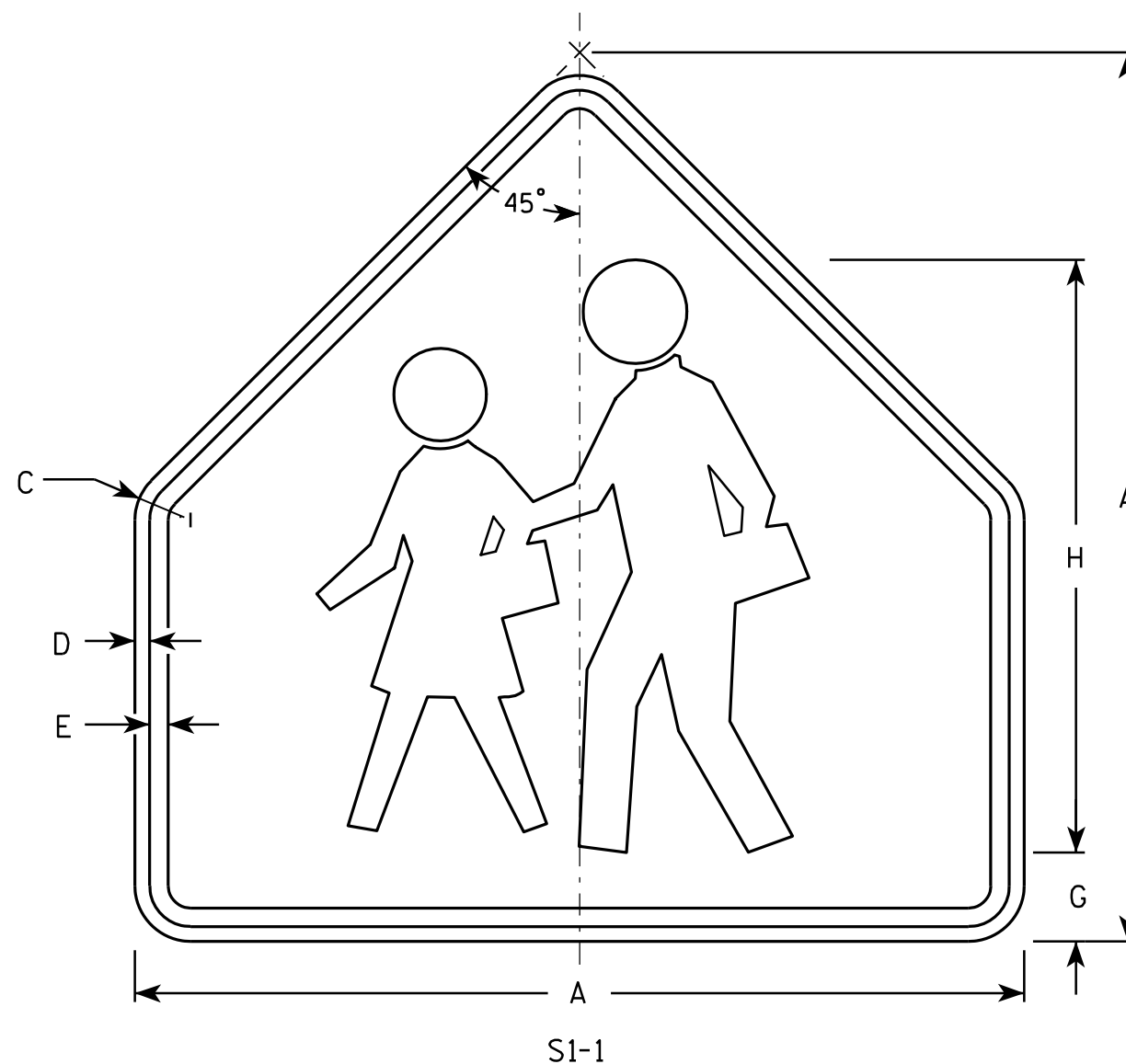
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 169

E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow-Green
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		3	20																			4.69
2	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
3	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
4	48		2 1/4	3/4	1		4 3/4	32																			12
5																											

STANDARD SIGN S1-1

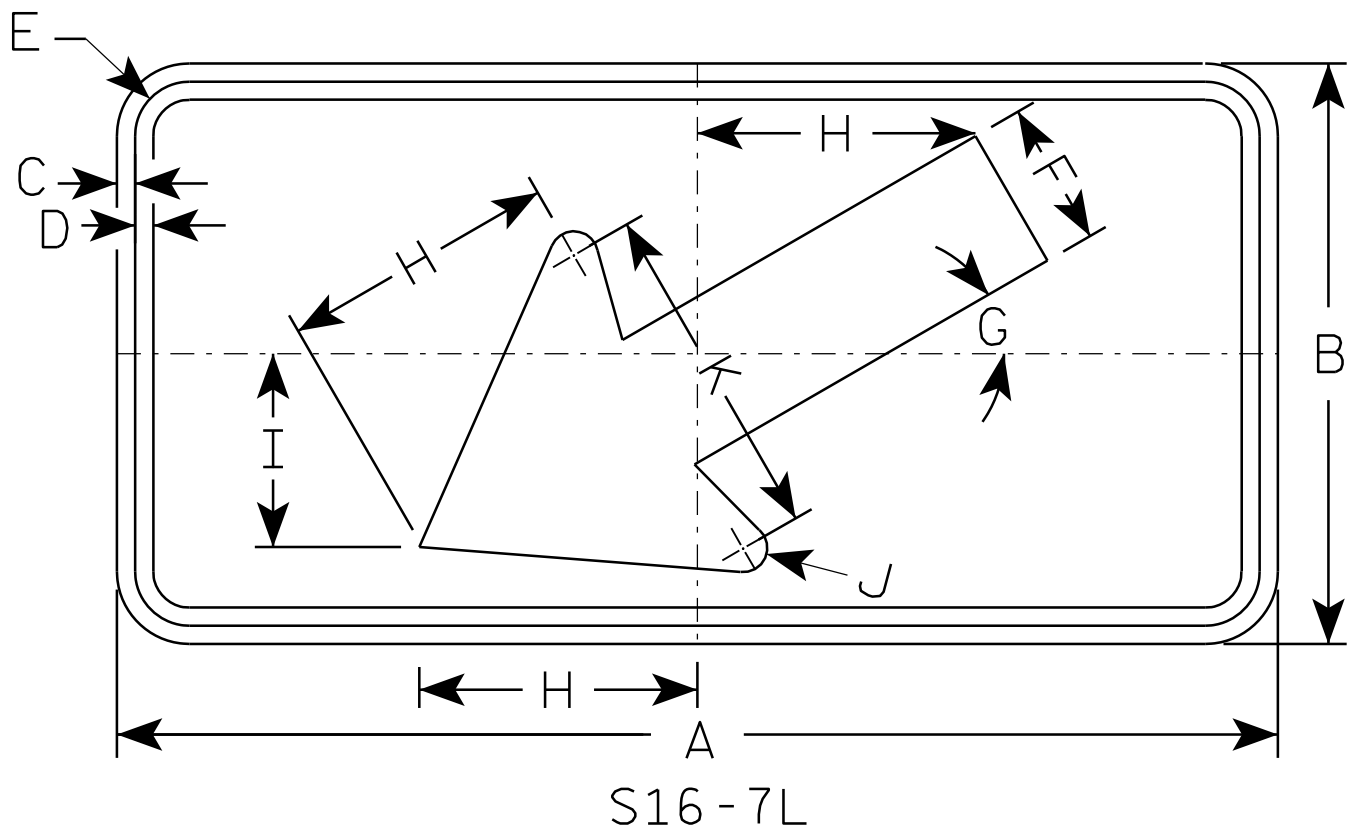
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch
for State Traffic Engineer
DATE 6/30/05 PLATE NO. S1-1.8

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: 170 **E**

NOTES

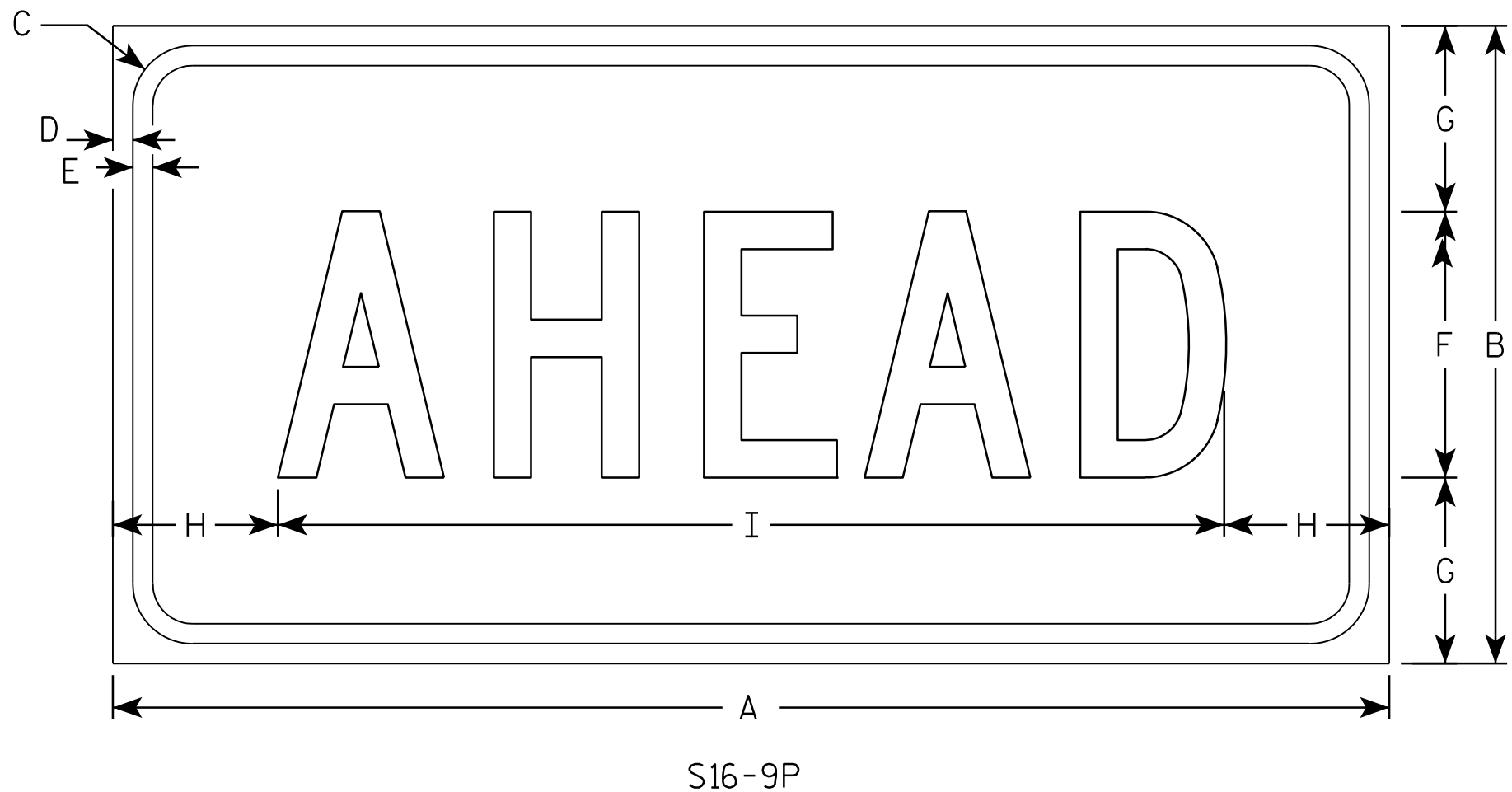
1. Sign is Type II - Type F Reflective -
reference WIS DOT Standard Specification for
HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow-Green
Message - Black
3. Corners may be square or rounded when base
material is plywood but borders shall be rounded
as shown. When base material is metal, the
corners and borders shall be rounded.
4. S16-7R are the same as
S16-7L except the arrow is reversed along
the vertical centerline.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	12	3/8	3/8	1 1/8	3	30°	5 3/4	4	1/2	7																2.0
2S	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
2M	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
3	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
4	48	24	1/2	5/8	1 3/8	6	30°	11 1/2	8	1	14																8.0
5																											

STANDARD SIGN	
S16-7	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 7/22/13	PLATE NO. S16-7.1

7



NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow-Green
Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	12	1 1/8	3/8	3/8	5	3 1/2	3 1/8	17 3/4																		2.0
2S	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
2M	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
3	30	18	1 1/8	3/8	1/2	7	3 1/2	2 3/4	24 1/2																		3.75
4	48	24	1 3/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
5																											

STANDARD SIGN

S16-9P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

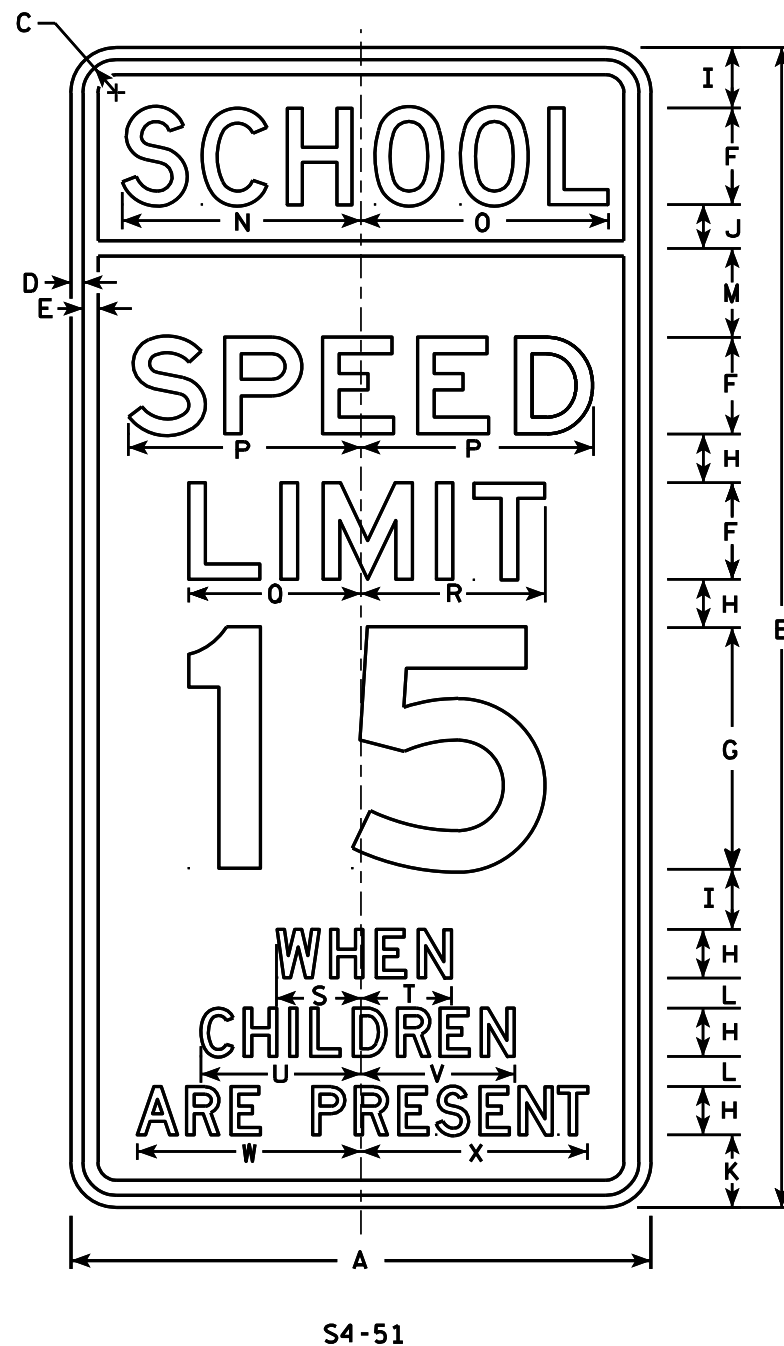
DATE 7/22/13 PLATE NO. S16-9P.1

Metric equivalent
for this sign is:

SIZE	
1	
2	600 mm X 1200 mm
3	900 mm X 1800 mm
4	
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
1																												
2	24	48	1 ⅜	½	⅝	4	10	2	2 ½	1 ¾	3	1 ¼	3 ¾	9 ⅞	10 ¼	9 ⅝	7 ⅛	7 ⅝	3 ½	3 ⅜	6 ⅝	6 ⅜	9 ¼	9 ⅜			8.00	0.72
3	36	72	2 ¼	¾	1	6	15	3	3 ¾	2 ¾	4 ½	1 ⅞	5 ½	15	15 ¼	14 ½	11 ¼	11 ½	5 ½	5 ¾	10	9 ¾	14	14 ⅛			18.00	1.62
4																												
5																												

PROJECT NO:			HWY:			COUNTY:			SHEET NO: 173			E
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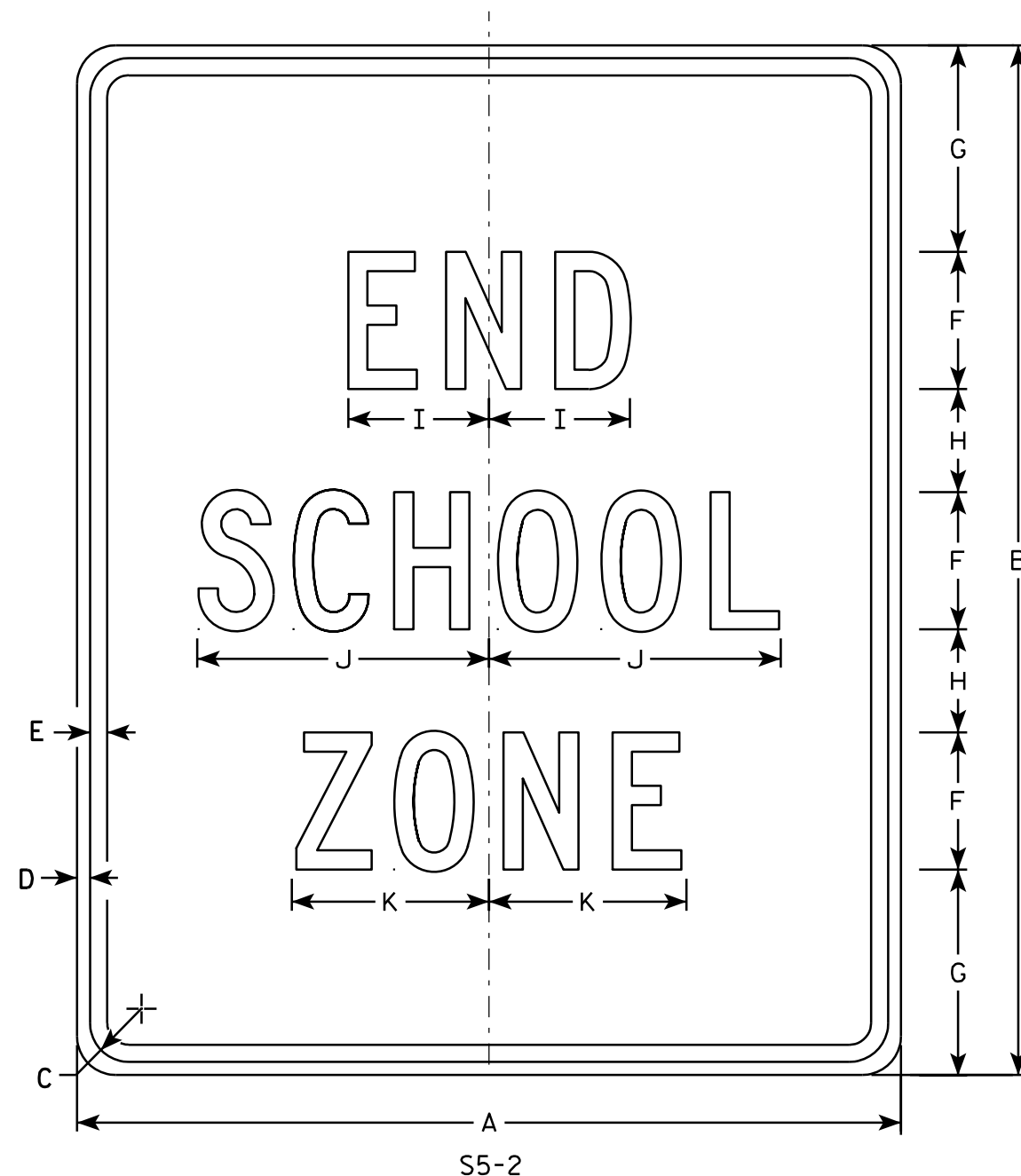
NOTES

- Sign is Type II - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition. (See note 5).
- Color:
Background - See note 5
Message - Black
- Message Series - See note 6
- Corners may be square or rounded when base
material is plywood but borders shall be rounded
as shown. When base material is metal, the
corners and borders shall be rounded.
- Top panel (SCH00L) background - Yellow Green -Type F Reflective.
Lower panel background - White -Type H Reflective.
- From top to bottom:
Lines 1, 5, 6 & 7 are series D
Lines 2, 3 & 4 are series E
- Line 4 substitute appropriate numerals and
adjust spacing to achieve proper balance.

STANDARD SIGN S4-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 4/26/10 PLATE NO. S4-51.9



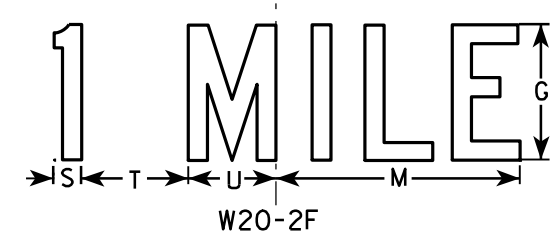
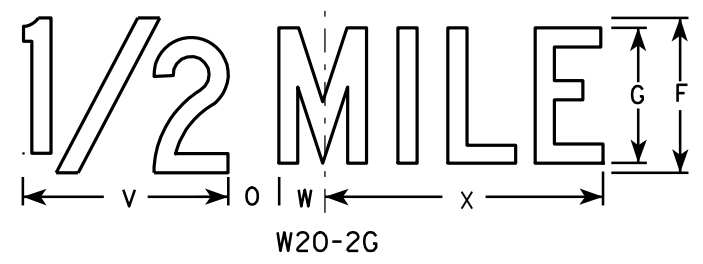
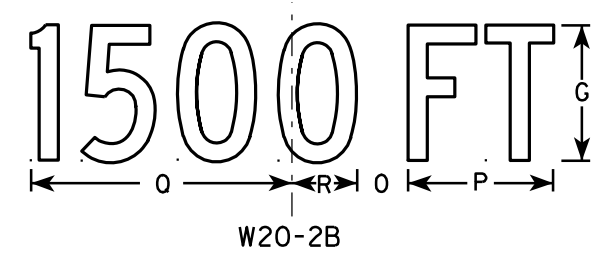
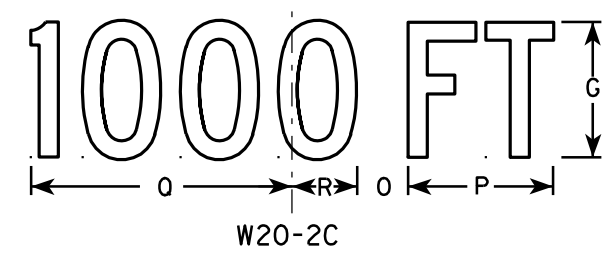
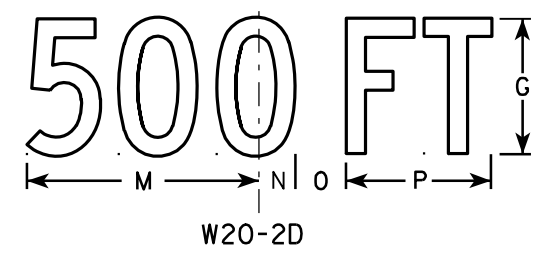
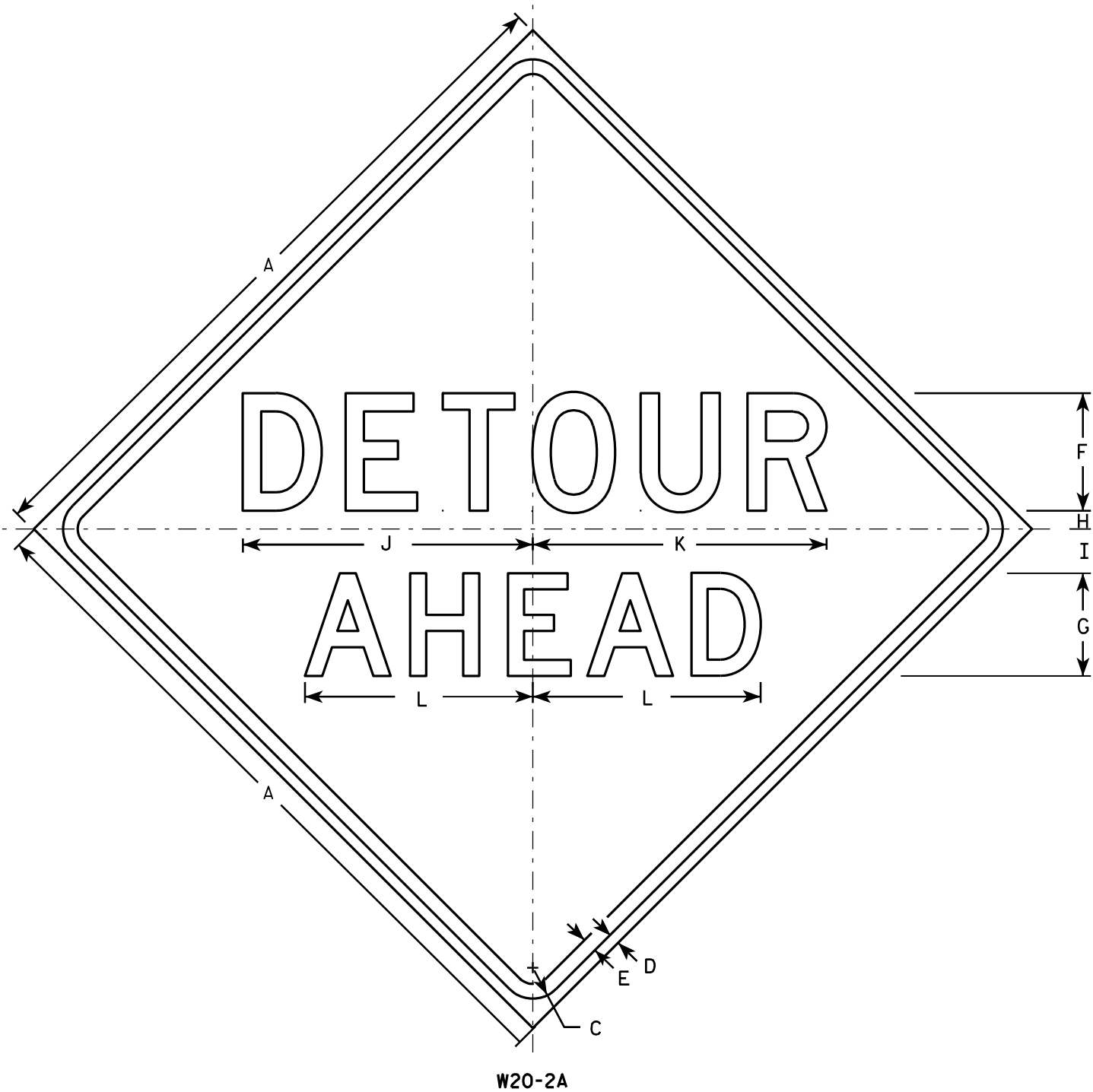
NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	30	1 1/8	3/8	1/2	4	6	3	4 1/8	8 1/2	5 3/4																5.0
3	36	42	1 5/8	5/8	3/4	6	7	5	6 1/8	12 5/8	8 5/8																10.5
4																											
5																											

STANDARD SIGN S5-2	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/8/11	PLATE NO. S5-2.2

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 174	E
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NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

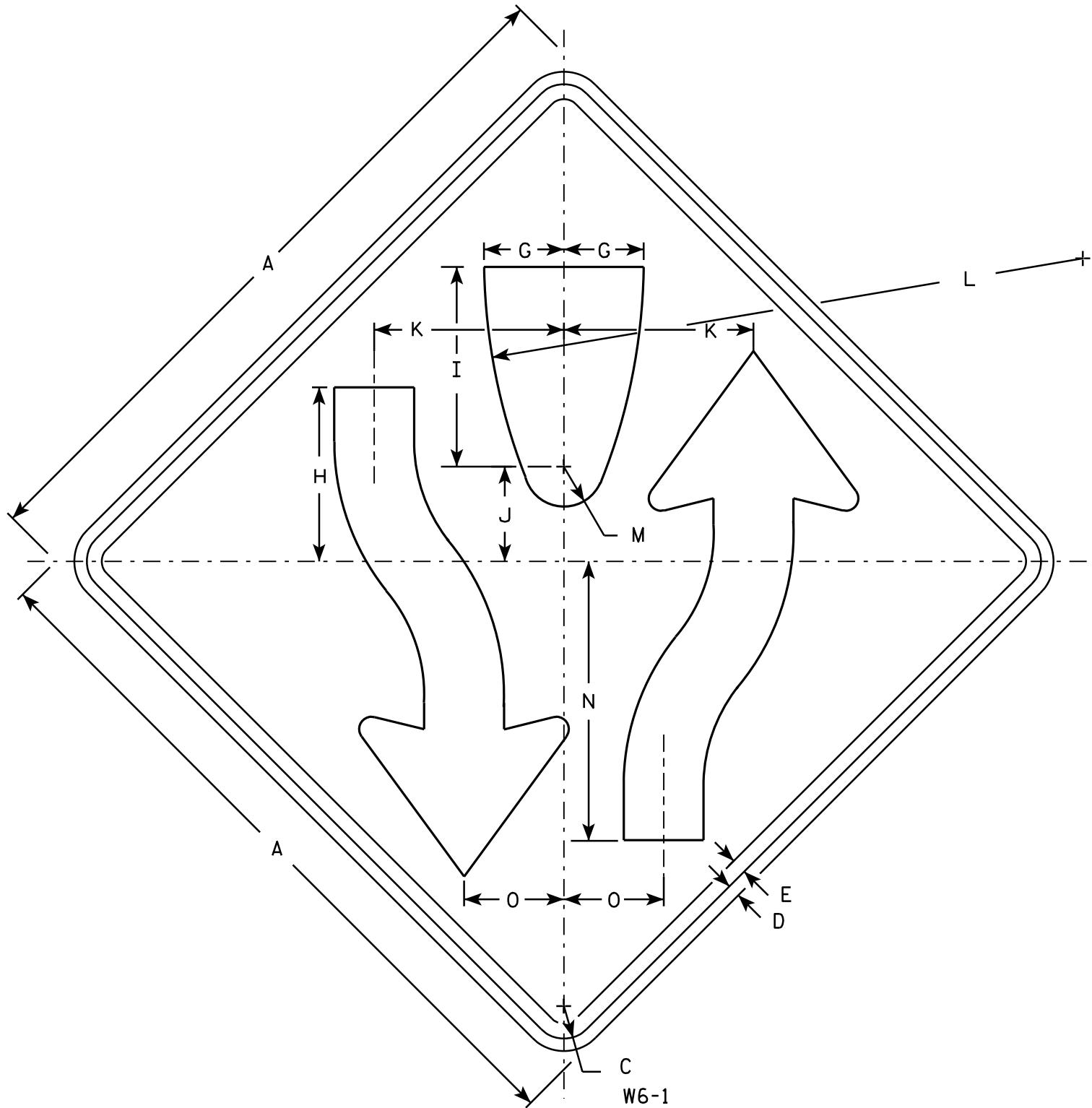
PROJECT NO:

HWY:

COUNTY:

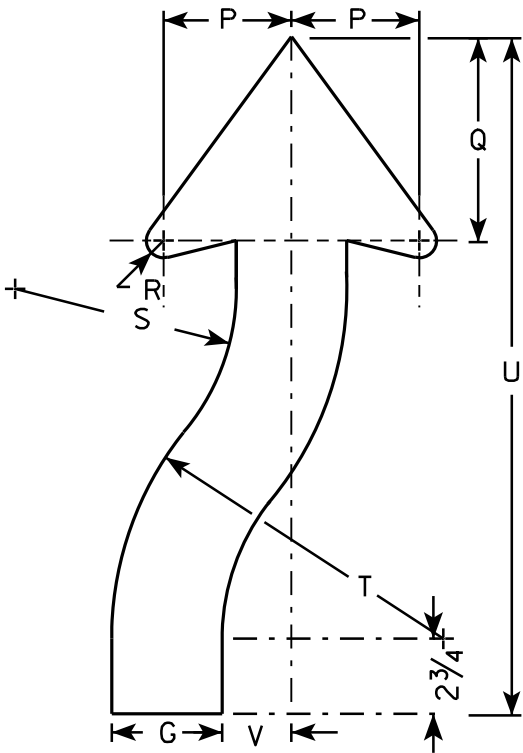
SHEET NO: 175

E



NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. W6-2 same as W6-1 but is rotated 180° when mounted.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		3 1/4	8	8 1/4	4 1/8	7 7/8	25	1 3/4	11 5/8	4 1/8	3 7/8	6 3/4	5/8	6 5/8	9 7/8	21 5/8	2					6.25
2S	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
2M	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
3																											
4	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
5	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0

STANDARD SIGN
W6-1 & W6-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W6-1.14

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: _____ HS20
INVENTORY RATING FACTOR: _____ HS23
OPERATING RATING FACTOR: _____ HS38
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): _____ 220 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SLAB _____ f'_c = 4,000 P.S.I.
CONCRETE MASONRY ALL OTHER _____ f'_c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 _____ F_y = 60,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE AND THE FRONT FACE AND THE TOP OF THE PARAPET.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN $\frac{1}{2}$ ".

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

REMOVE ANY/ALL LOOSE DECK CONCRETE UNDER BID ITEM "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSHED CLEANED PRIOR TO THE CONCRETE SURFACE REPAIRS BEING COMPLETED. REPAIR AREAS SHALL BE VERIFIED BY THE FIELD ENGINEER.

CONTRACTOR NOTE: AN INFRARED THERMOGRAPHIC INVESTIGATION OF B-59-138 WAS COMPLETED ON 4/9/14 AND PROVIDED NO INDICATION OF DECK DELAMINATION. UNDISTRIBUTED DECK PREPARATION QUANTITIES INCLUDED IN THIS PLAN ARE FOR ESTIMATE PURPOSES ONLY AND ACTUAL REPAIR AREAS SHALL BE VERIFIED BY THE FIELD ENGINEER.

HYDRAULIC DATA

(DATA PROVIDED BASED ON ORIGINAL PLAN INFORMATION)

100 YEAR FREQUENCY

Q_{100} = 3200 C.F.S.
VEL. = 7.2 F.P.S.
 HW_{100} = EL. 825.9
WATERWAY AREA = 237 SQ.FT.
DRAINAGE AREA = 59 SQ.MI.

TRAFFIC VOLUME

STH 67

A.D.T. = 5500 (2034)

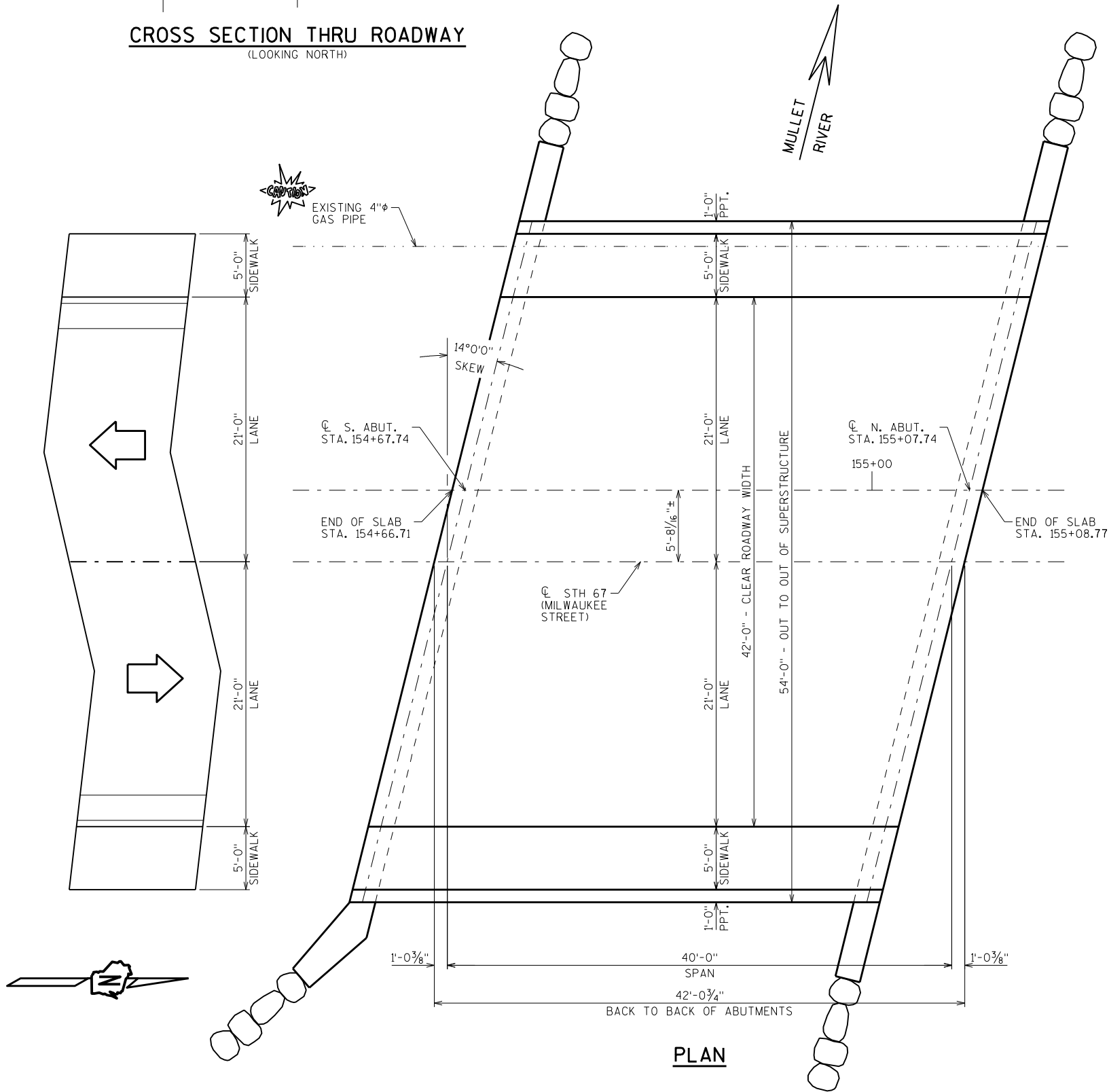
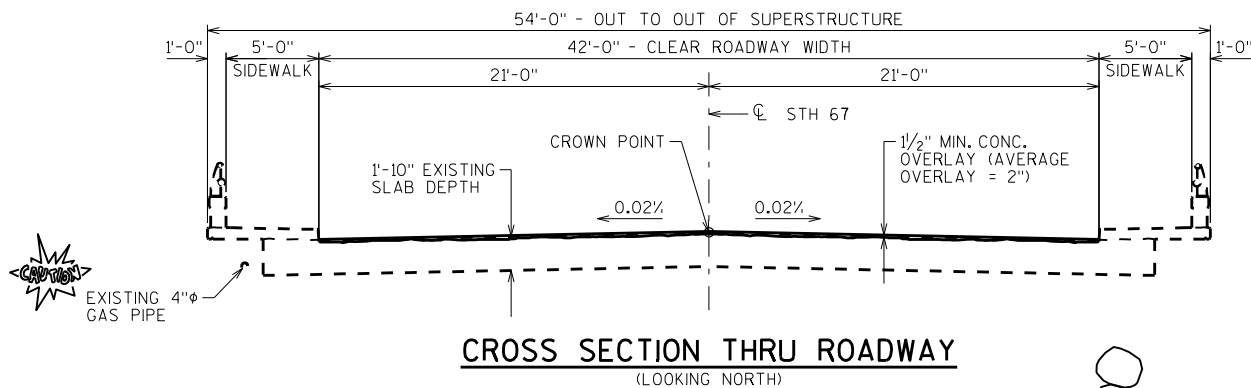
R.D.S. = 30 M.P.H.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	SOUTH ABUT.	NORTH ABUT.	TOTALS
502.3200	PROTECTIVE SURFACE TREATMENT	SY	273	—	—	273
509.0301	PREPARATION DECKS TYPE 1	SY	50	—	—	50
509.0302	PREPARATION DECKS TYPE 2	SY	25	—	—	25
509.0500	CLEANING DECKS	SY	197	—	—	197
509.1500	CONCRETE SURFACE REPAIR	SF	—	3	3	6
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	16	—	—	16

LIST OF DRAWINGS

1. CONCRETE OVERLAY

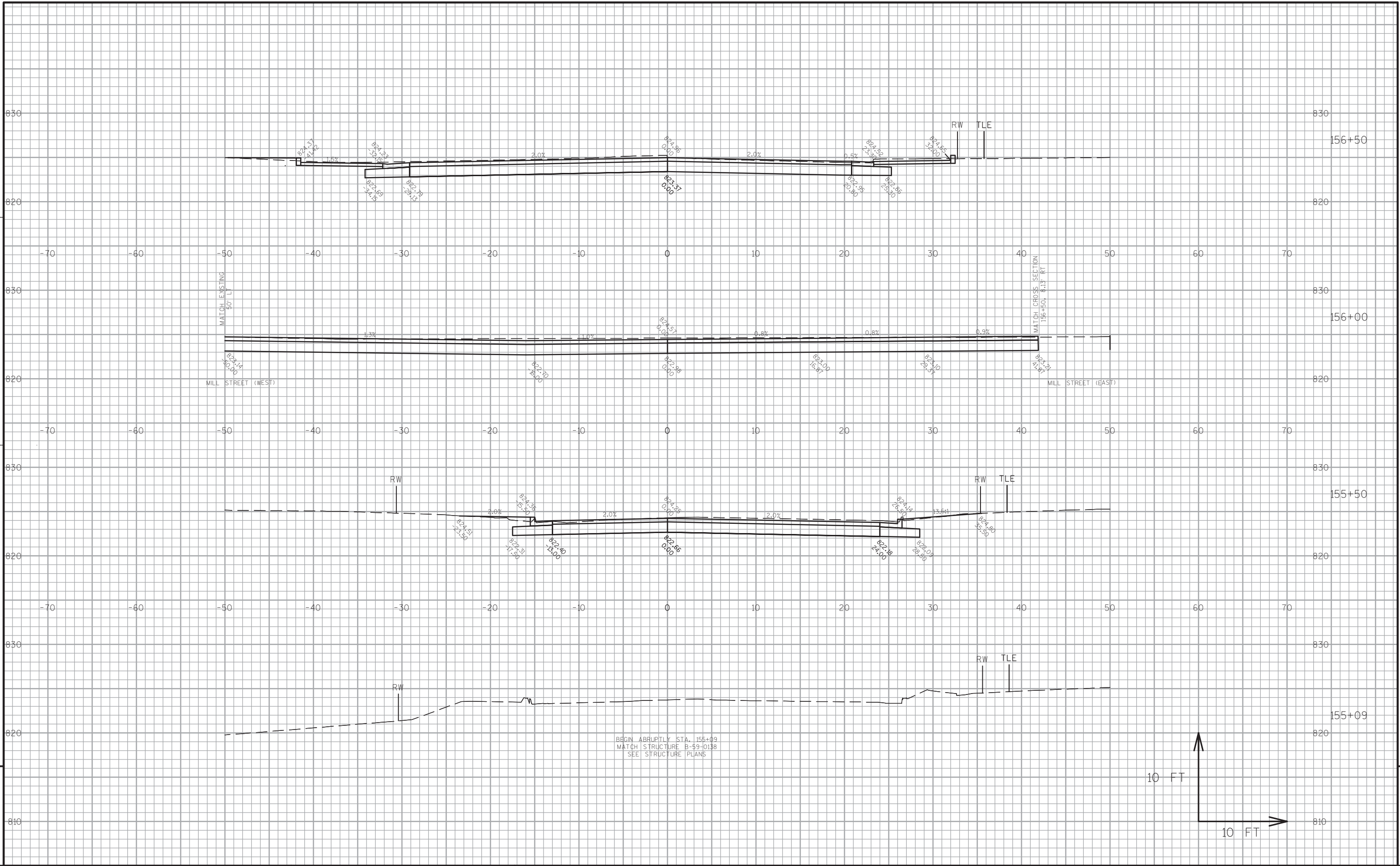


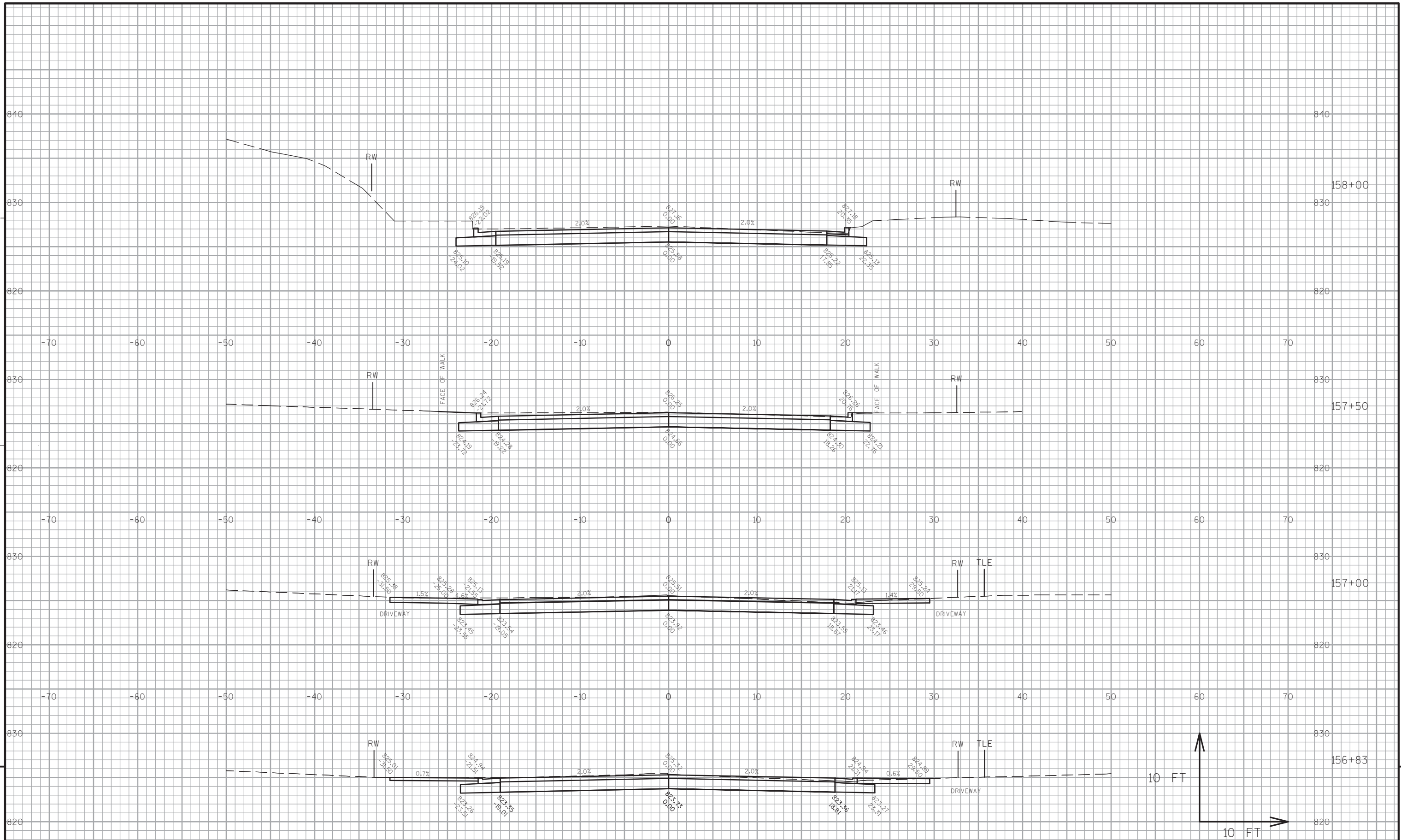
STRUCTURE DESIGN CONTACTS:
AARON BONK (608) 261-0261
DAVE KIEKBUSCH (608) 266-5084

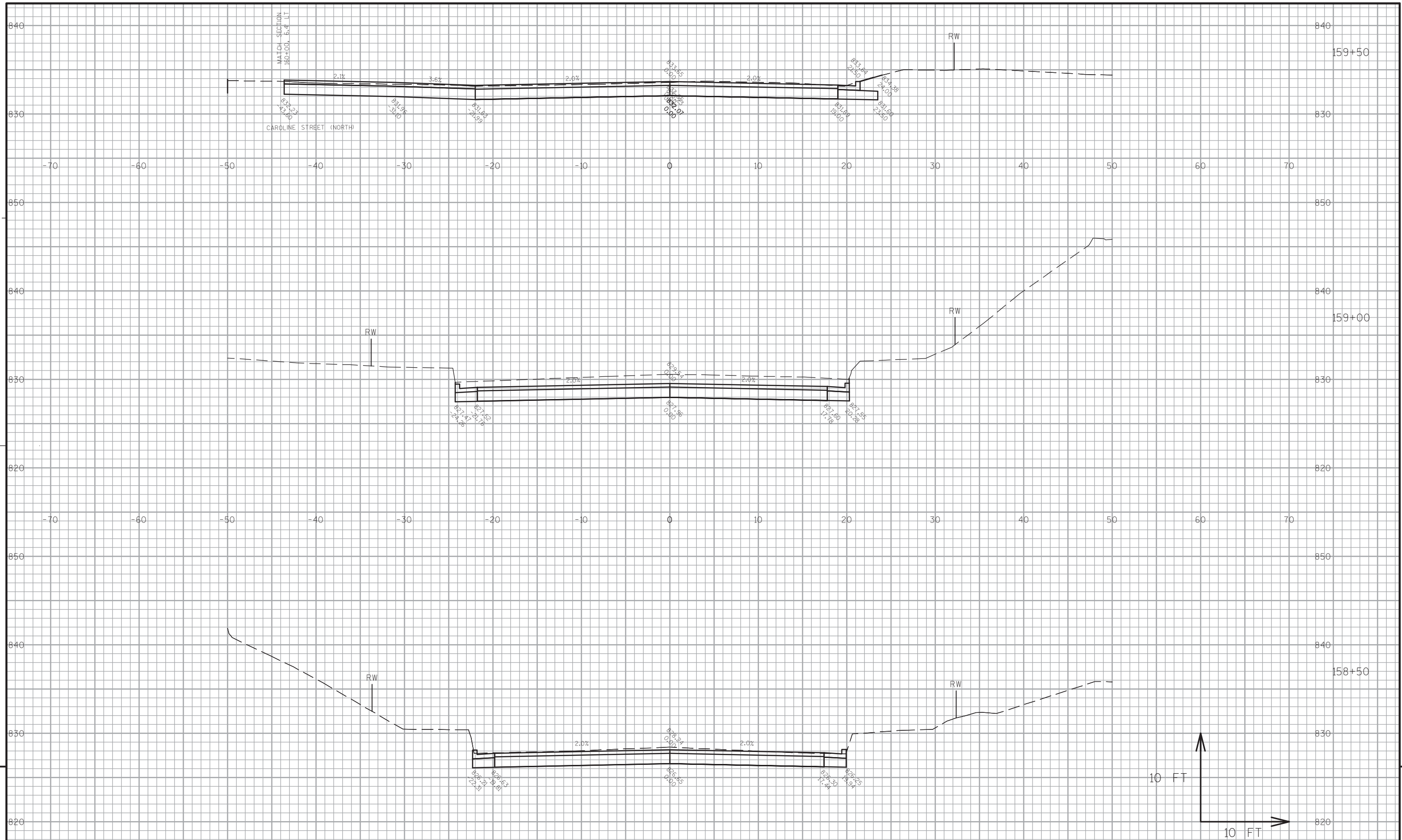
NO.	DATE	REVISION	BY
 Plans Prepared By WISDOT BUREAU OF STRUCTURES ACCEPTED <i>William C. Dehler</i> 7/22/14 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-59-138			
STH 67 OVER MULLETT RIVER			
COUNTY	SHEBOYGAN	TOWN/CITY/VILLAGE	PLYMOUTH
DESIGN SPEC.			
DESIGNED BY	AMB	DESIGN CK'D.	MWL
REHABILITATION	N/A	DRAWN BY	AMB
PLANS CK'D.	MWL		
CONCRETE OVERLAY			SHEET 1 OF 1
			177

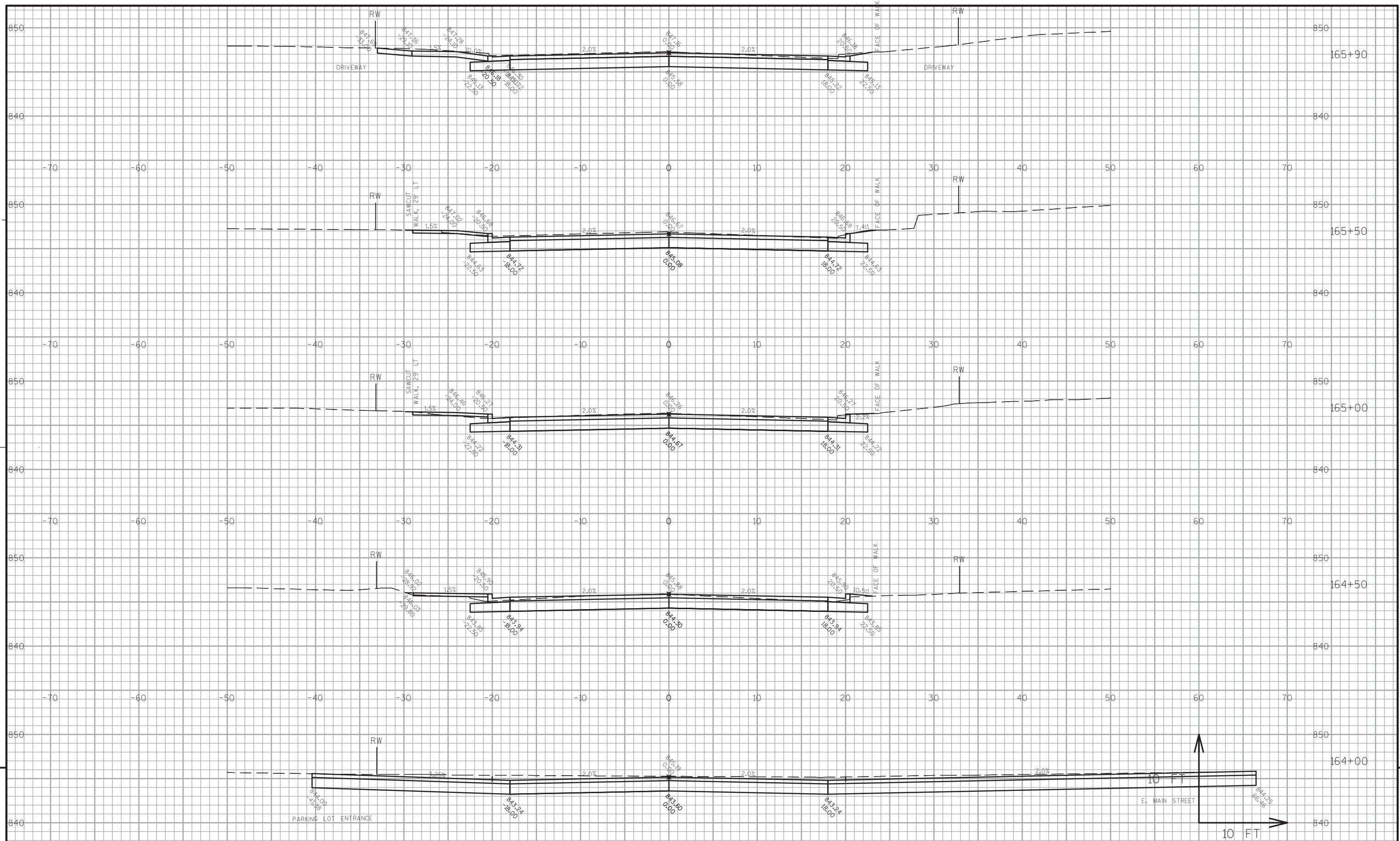
STATION	DISTANCE	CUT AREA SF	FILL AREA SF	EXCAVATION COMMON CY	FILL CY	EXPANDED FILL (1.25 FACTOR) CY	UNUSEABLE MATERIAL CY	NET VOLUME (- = WASTE) CY
155+09	---	77.5	5.2	---	---	---	---	0
155+50	41	77.5	5.2	117.7	7.9	9.9	43.7	-64.1
156+00	50	151.4	0.0	210.2	4.8	6.0	89.8	-178.5
156+50	50	105.2	2.4	239.6	2.2	2.8	93.2	-322.2
156+83	33	78.5	0.9	111.9	2.0	2.5	37.5	-394.1
157+00	17	78.8	0.7	25.0	0.2	0.3	19.5	-399.2
157+50	50	75.2	3.7	142.6	4.1	5.1	57.0	-479.7
158+00	50	62.8	0.0	127.8	3.4	4.3	57.0	-546.2
158+50	50	55.3	0.0	109.4	0.0	0.0	57.0	-598.5
159+00	50	64.4	0.0	110.8	0.0	0.0	57.0	-652.3
159+50	50	176.8	2.7	223.3	2.5	3.1	71.6	-800.9
160+00	50	176.8	1.2	327.3	3.6	4.5	71.6	-1052.2
160+40	40	77.1	1.9	188.0	2.3	2.8	45.6	-1191.8
160+50	10	74.7	1.8	28.1	0.7	0.8	11.4	-1207.6
160+80	30	78.4	1.7	85.0	1.9	2.4	34.2	-1256.1
161+00	20	63.2	4.9	52.4	2.4	3.0	22.8	-1282.6
161+24	24	65.7	2.6	57.3	3.4	4.2	27.4	-1308.3
161+50	26	67.6	4.3	64.2	3.3	4.2	29.7	-1338.7
161+61	11	68.4	2.4	27.7	1.4	1.7	12.5	-1352.1
162+00	39	66.6	2.2	97.5	3.4	4.2	44.5	-1400.9
162+36	36	72.1	2.6	92.5	3.2	4.1	41.1	-1448.3
162+50	14	72.4	4.4	37.5	1.8	2.3	16.0	-1467.5
163+00	50	79.8	4.4	140.9	8.2	10.2	57.0	-1541.2
163+50	50	112.0	1.4	177.6	5.4	6.8	57.0	-1655.0
164+00	50	193.3	0.0	282.7	1.3	1.7	103.5	-1832.5
164+50	50	63.4	3.4	237.6	3.1	3.9	103.5	-1962.7
165+00	50	71.7	3.9	125.0	6.8	8.4	57.0	-2022.2
165+60	60	77.5	4.0	165.8	8.8	11.0	68.4	-2108.6
165+90	30	80.8	2.1	88.0	3.4	4.3	34.2	-2158.1
166+00	10	79.9	2.1	29.8	0.8	1.0	11.4	-2175.5
166+50	50	67.2	4.4	136.3	6.0	7.5	57.0	-2247.2
166+82	32	69.8	3.7	81.2	4.8	6.0	36.5	-2285.9
167+00	18	73.2	2.5	47.7	2.1	2.6	20.5	-2310.4
167+50	50	80.2	4.4	142.0	6.4	8.0	57.0	-2387.4
168+00	50	109.7	3.4	175.8	7.2	9.0	57.0	-2497.2
168+50	50	149.5	0.0	240.0	3.1	3.9	81.3	-2652.1
169+00	50	93.8	4.7	225.3	4.3	5.4	81.3	-2790.7
169+50	50	96.8	4.5	176.5	8.5	10.6	57.0	-2899.5
169+58	8	100.4	3.1	29.2	1.1	1.4	9.1	-2918.2
169+67	9	99.5	2.7	33.3	1.0	1.2	10.3	-2940.0
170+00	33	93.0	5.1	117.7	4.8	6.0	37.6	-3014.1
170+21	21	95.1	3.1	73.2	3.2	4.0	24.0	-3059.3
170+34	13	90.2	2.5	44.6	1.3	1.7	14.8	-3087.4
170+50	16	82.1	4.8	51.1	2.2	2.7	18.3	-3117.5
170+83	33	83.2	3.8	101.0	5.3	6.6	37.6	-3174.3
171+00	17	81.5	6.4	51.9	3.2	4.0	19.4	-3202.7
171+38	38	88.9	1.8	119.9	5.8	7.2	43.3	-3272.1
171+50	12	87.8	7.1	39.3	2.0	2.5	13.7	-3295.2
172+00	50	93.5	0.0	167.9	6.6	8.2	57.0	-3397.8
172+50	50	59.4	5.9	141.6	5.5	6.8	57.0	-3475.5
172+89	39	77.4	2.8	98.8	6.3	7.9	42.3	-3524.1
173+00	11	80.4	2.9	32.1	1.2	1.5	11.3	-3543.5
173+50	50	73.5	4.5	142.5	6.9	8.6	51.5	-3626.0
173+69	19	72.5	2.8	51.4	2.6	3.2	19.6	-3654.6
174+00	31	64.2	4.7	78.5	4.3	5.4	31.9	-3695.7
174+34	34	66.6	2.7	82.4	4.7	5.8	35.0	-3737.3
174+50	16	85.1	6.1	44.9	2.6	3.3	20.1	-3758.8
175+00	50	64.7	6.3	138.7	11.5	14.4	62.9	-3820.3
175+29	29	79.7	2.8	77.5	4.9	6.1	29.9	-3861.9
175+50	21	83.7	2.7	63.5	2.1	2.7	21.6	-3901.1
176+00	50	84.1	3.1	155.4	5.4	6.7	51.5	-3998.3
176+41	41	78.4	3.1	123.4	4.7	5.9	42.2	-4073.6
176+50	9	73.0	5.0	25.2	1.4	1.7	9.3	-4087.9
177+00	50	78.1	3.2	139.9	7.6	9.5	51.5	-4166.8
177+50	50	75.8	4.6	142.5	7.2	9.0	51.5	-4248.8
177+63	13	81.4	2.5	37.8	1.7	2.1	13.4	-4271.1
SUB- TOTALS				7353.1		314.1	2767.9	-4271.1
CONTINUED IN TABLE TO RIGHT								

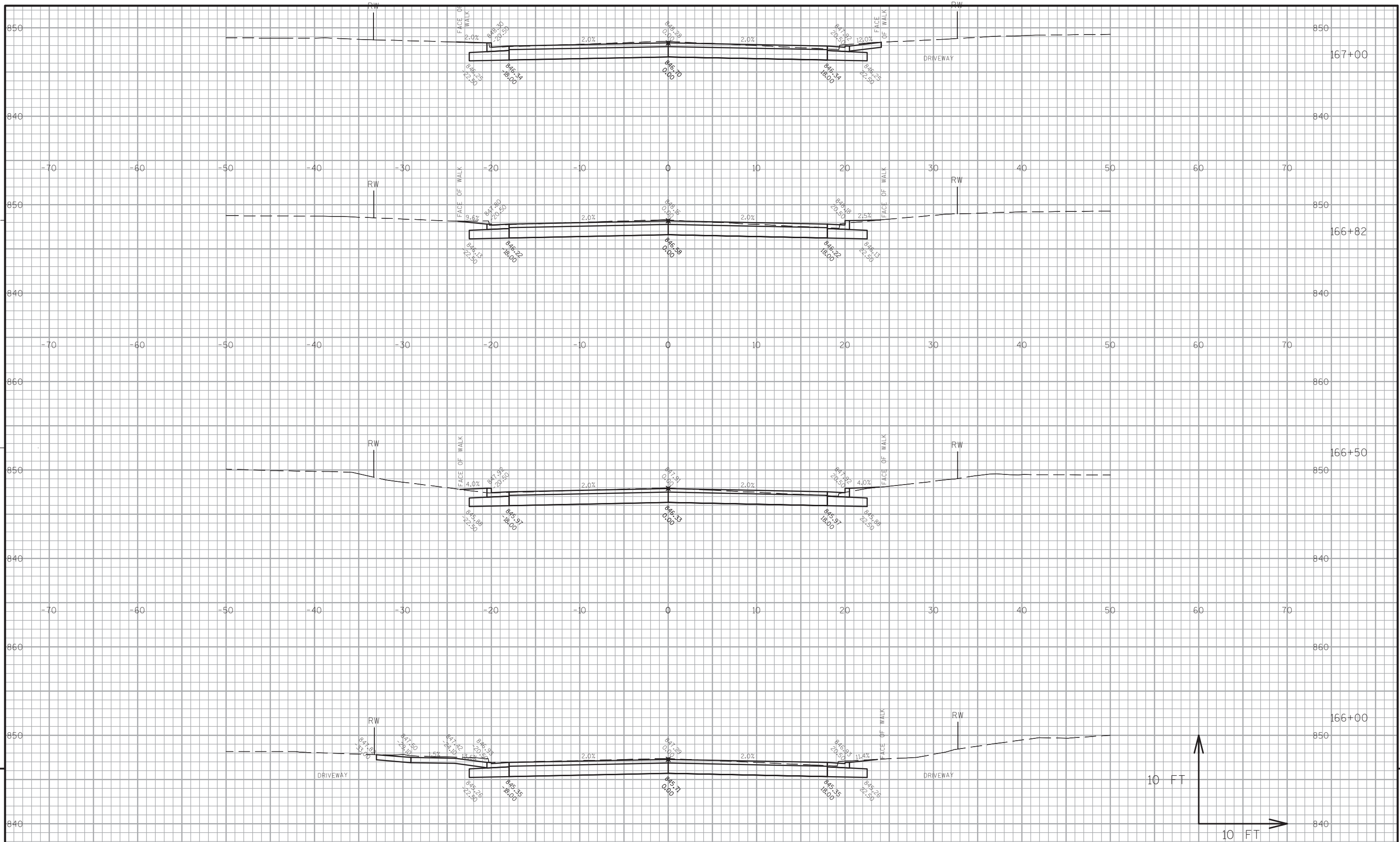
CONTINUED FROM TABLE TO LEFT								
STATION	DISTANCE	CUT AREA SF	FILL AREA SF	EXCAVATION COMMON CY	FILL CY	EXPANDED FILL (1.25 FACTOR) CY	UNUSEABLE MATERIAL CY	NET VOLUME (- = WASTE) CY
177+70	7	81.3	2.5	21.1	0.6	0.8	7.2	-4284.2
178+00	30	80.5	2.4	89.9	2.7	3.4	30.9	-4339.8
178+14	14	78.2	2.2	41.1	1.2	1.5	14.4	-4365.0
178+50	36	74.9	5.2	102.1	4.9	6.2	37.1	-4423.9
178+69	19	79.2	3.3	54.2	3.0	3.7	19.6	-4454.8
179+00	31	79.5	2.4	91.1	3.3	4.1	31.9	-4509.9
179+50	50	73.4	4.4	141.6	6.3	7.9	51.5	-4592.1
179+74	24	111.8	0.4	82.3	2.1	2.7	30.3	-4641.4
180+00	26	81.5	3.7	93.1	2.0	2.5	32.8	-4699.2
180+50	50	87.3	4.1	156.3	7.2	9.0	51.5	-4795.0
180+70	20	92.0	2.6	66.4	2.5	3.1	20.6	-4837.7
180+90	20	91.9	2.6	68.1	1.9	2.4	20.6	-4882.8
181+00	10	81.4	2.2	32.1	0.9	1.1	11.7	-4902.1
181+50	50	83.4	4.5	152.6	6.2	7.8	70.3	-4976.6
182+00	50	78.7	4.5	150.1	8.3	10.4	63.1	-5053.2
182+13	13	88.5	0.8	40.3	1.3	1.6	13.4	-5078.4
182+50	37	81.3	4.4	116.3	3.6	4.5	38.1	-5152.2
182+80	30	85.1	0.7	92.4	2.8	3.5	30.9	-5210.2
183+00	20	66.2	4.3	56.0	1.9	2.3	20.6	-5243.4
183+36	36	72.3	2.4	92.3	4.5	5.6	37.1	-5293.1
183+50	14	66.3	4.3	35.9	1.7	2.2	14.4	-5312.4
183+57	7	70.3	2.6	17.7	0.9	1.1	7.2	-5321.8
183+74	17	73.2	2.3	45.2	1.5	1.9	17.5	-5347.5
184+00	26	66.6	4.4	67.3	3.2	4.0	26.8	-5384.0
184+50	50	83.2	2.1	138.7	6.0	7.5	51.5	-5463.7
184+78	28	65.8	2.5	77.3	2.4	3.0	28.8	-5509.2
185+00	22	54.2	4.5	48.9	2.9	3.6	22.7	-5531.9
185+20	20	65.9	2.4	44.5	2.6	3.2	20.6	-5552.6
185+50	30	63.7	4.7	72.0	3.9	4.9	30.9	-5588.7
186+00	50	72.7	2.6	126.3	6.8	8.4	51.5	-5655.1
186+50	50	69.2	5.0	131.4	7.0	8.8	51.5	-5726.2
186+89	39	70.0	3.4	100.5	6.1	7.6	40.2	-5779.0
187+00	11	67.2	5.2	27.9	1.8	2.2	11.3	-5793.4
187+37	37	83.3	0.8	103.1	4.1	5.1	38.1	-5853.3
187+50	13	78.6	4.6	39.0	1.3	1.6	13.4	-5877.3
187+85	35	80.1	2.6	102.9	4.7	5.8	36.0	-5938.3
188+00	15	76.3	4.0	43.4	1.8	2.3	15.4	-5964.0
188+27	27	80.2	3.4	78.3	3.7	4.6	27.8	-6009.8
188+50	23	74.9	4.6	66.1	3.4	4.3	23.7	-6047.9
188+74	24	80.9	2.6	69.2	3.2	4.0	24.7	-6088.5
188+91	17	79.5	2.7	50.5	1.7	2.1	17.5	-6119.4
189+00	9	75.0	4.4	25.8	1.2	1.5	9.3	-6134.4
189+50	50	97.6	0.3	159.8	4.4	5.4	62.2	-6226.5
190+00	50	91.5	2.8	175.1	2.9	3.6	62.2	-6335.8
190+50	50	101.0	2.7	178.2	5.1	6.4	51.5	-6456.2
191+00	50	88.8	4.8	175.7	6.9	8.7	51.5	-6571.8
191+50	50	94.8	4.6	170.0	8.7	10.9	51.5	-6679.4
192+00	50	101.2	2.7	181.5	6.8	8.4	51.5	-6801.0
192+50	50	83.6	2.2	171.1	4.5	5.7	51.5	-6914.9
193+00	50	74.0	4.6	145.9	6.3	7.9	51.5	-7001.5
193+50	50	70.0	5.3	133.3	9.2	11.5	51.5	-7071.9
194+00	50	68.8	5.7	128.5	10.2	12.7	51.5	-7136.2
194+50	50	69.1	8.6	127.7	13.2	16.6	51.5	-7195.9
195+00	50	65.6	7.0	124.7	14.4	18.1	51.5	-7251.0
195+50	50	67.3	5.8	123.1	11.9	14.8	51.5	-7307.8
196+00	50	72.3	4.8	129.3	9.8	12.3	51.5	-7373.3
196+50	50	75.3	4.9	136.7	9.0	11.2	51.5	-7447.3
197+00	50	178.6	0.0	235.1	4.5	5.7	95.2	-7581.5
197+50	50	68.6	3.8	228.9	3.5	4.4	95.2	-7710.8
198+00	50	66.4	3.4	125.0	6.7	8.3	51.5	-7776.0
198+50	50	67.5	2.2	124.0	5.2	6.5	51.5	-7842.0
198+71	21	69.2	2.1	53.2	1.7	2.1	21.6	-7871.5
198+89	18	67.8	4.0	45.7	2.0	2.5	18.5	-7896.1
SUB-TOTALS				6323.7		357.4	2341.4	-3624.9
TOTALS				13676.9		671.5	5109.3	-7896.1

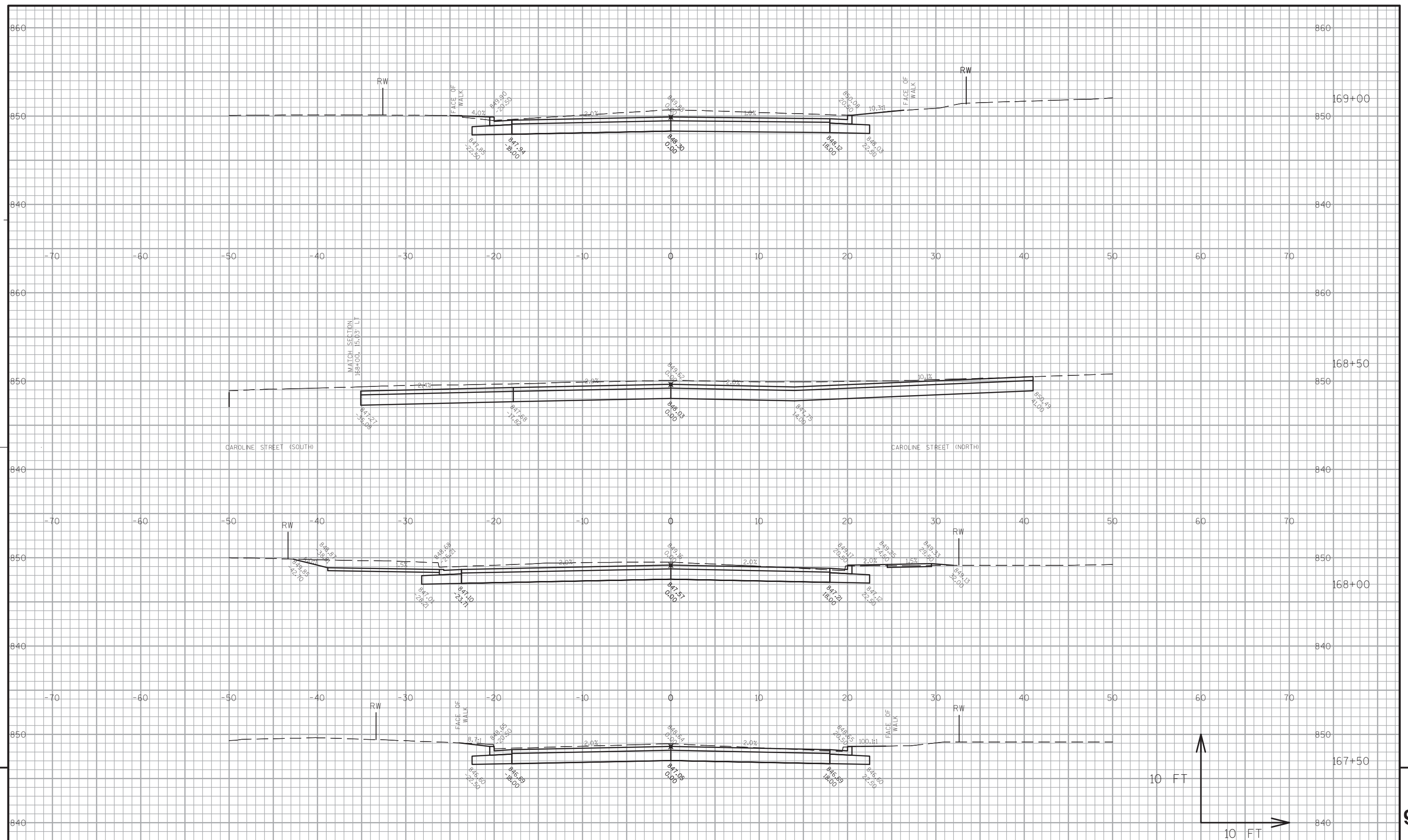


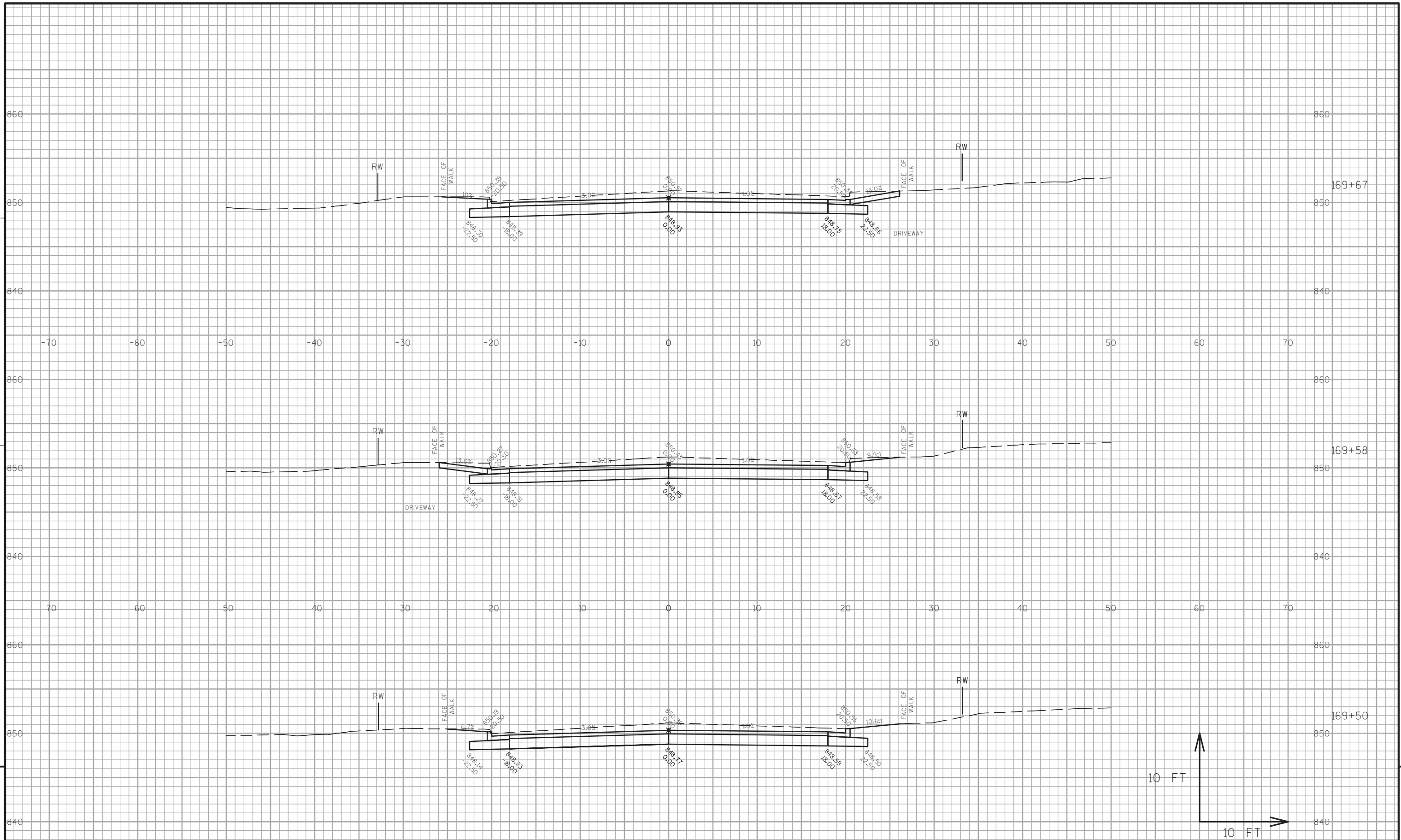


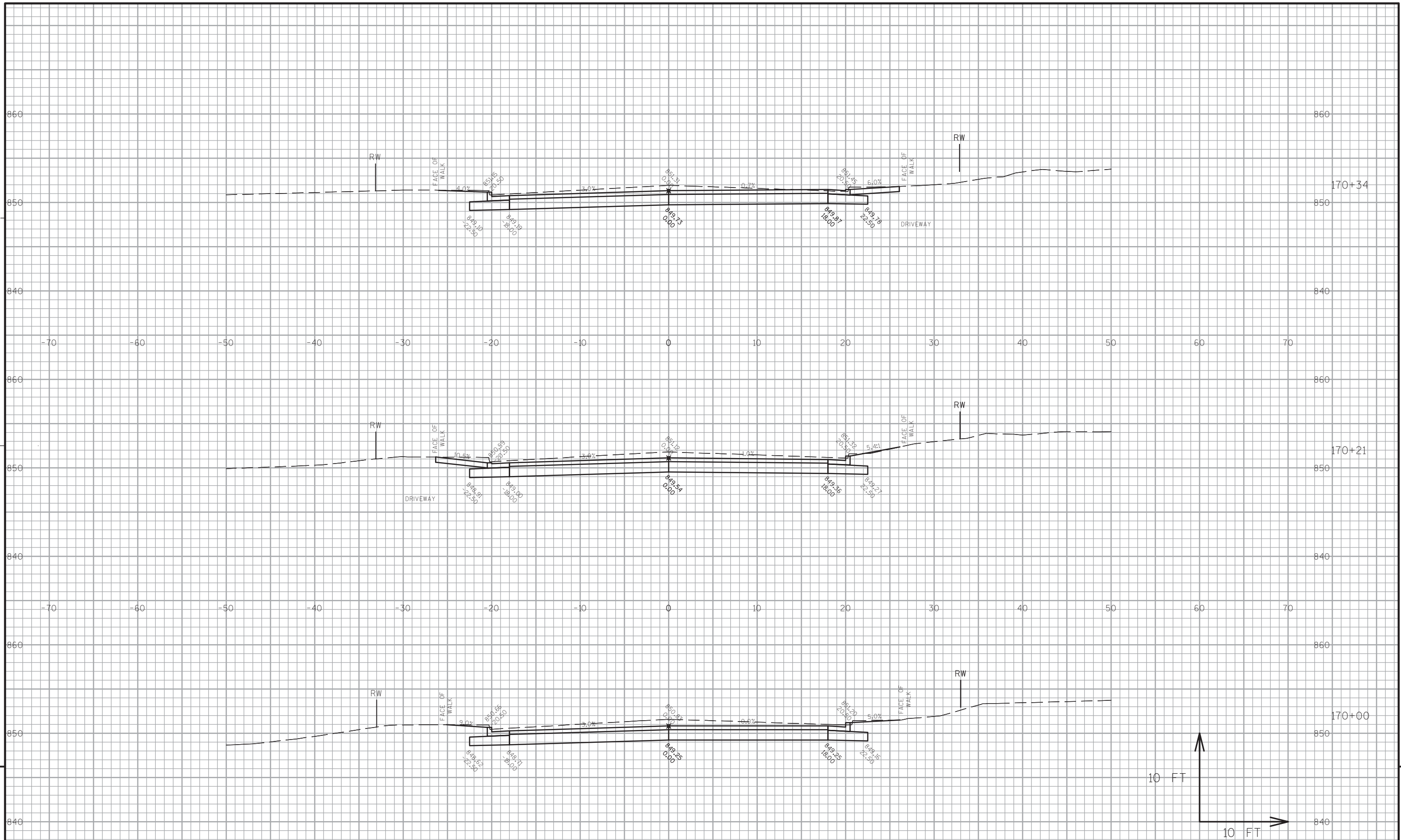


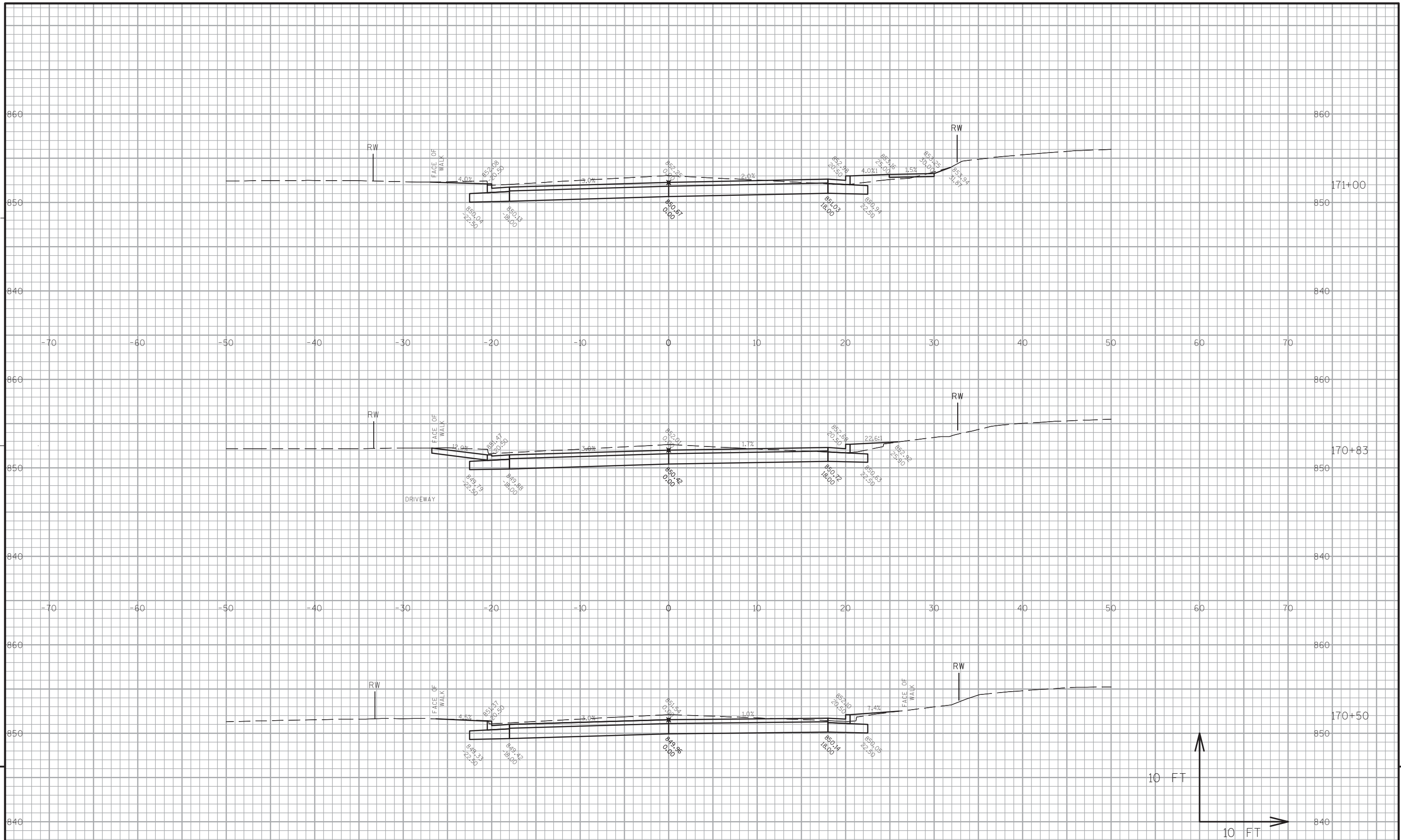


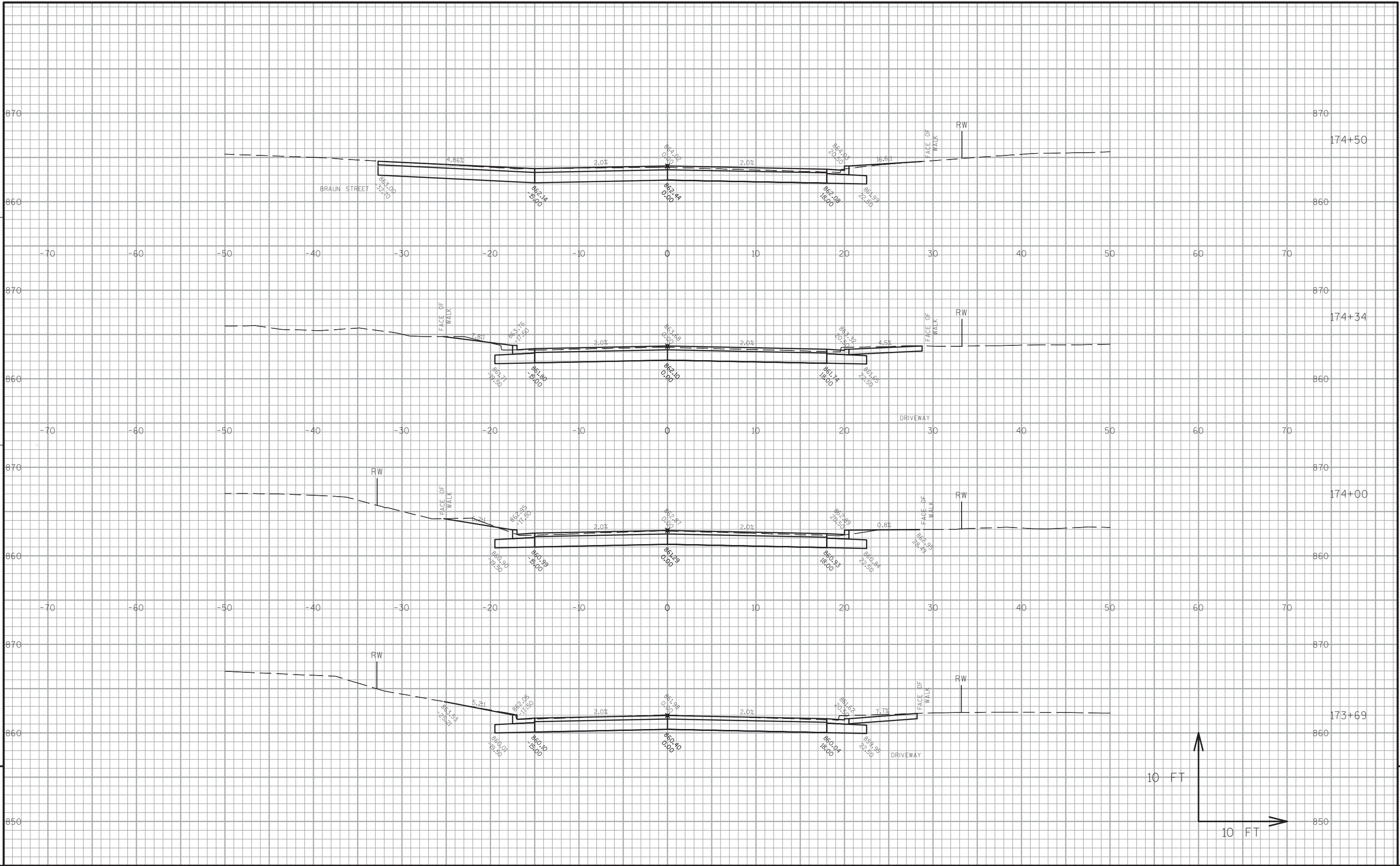


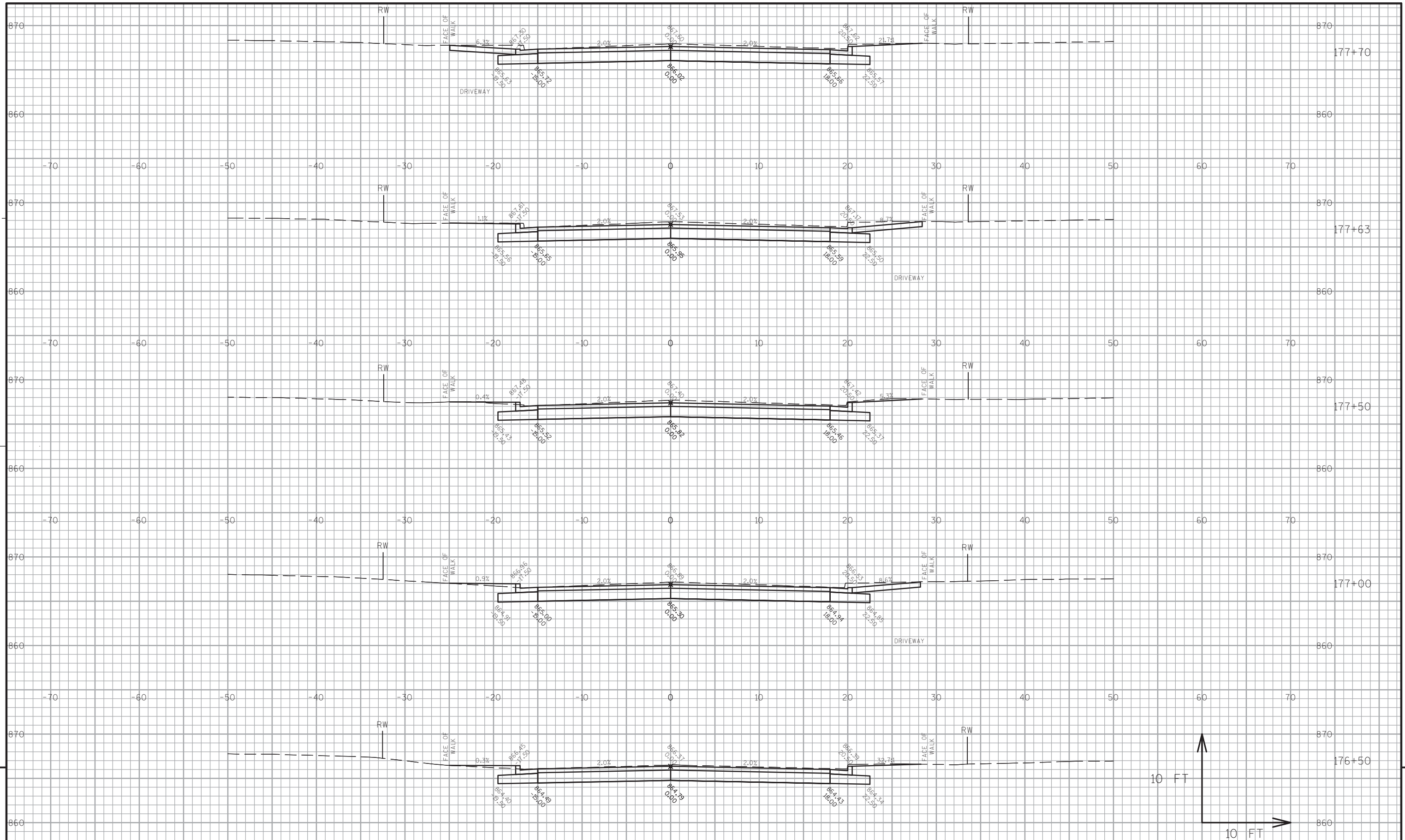


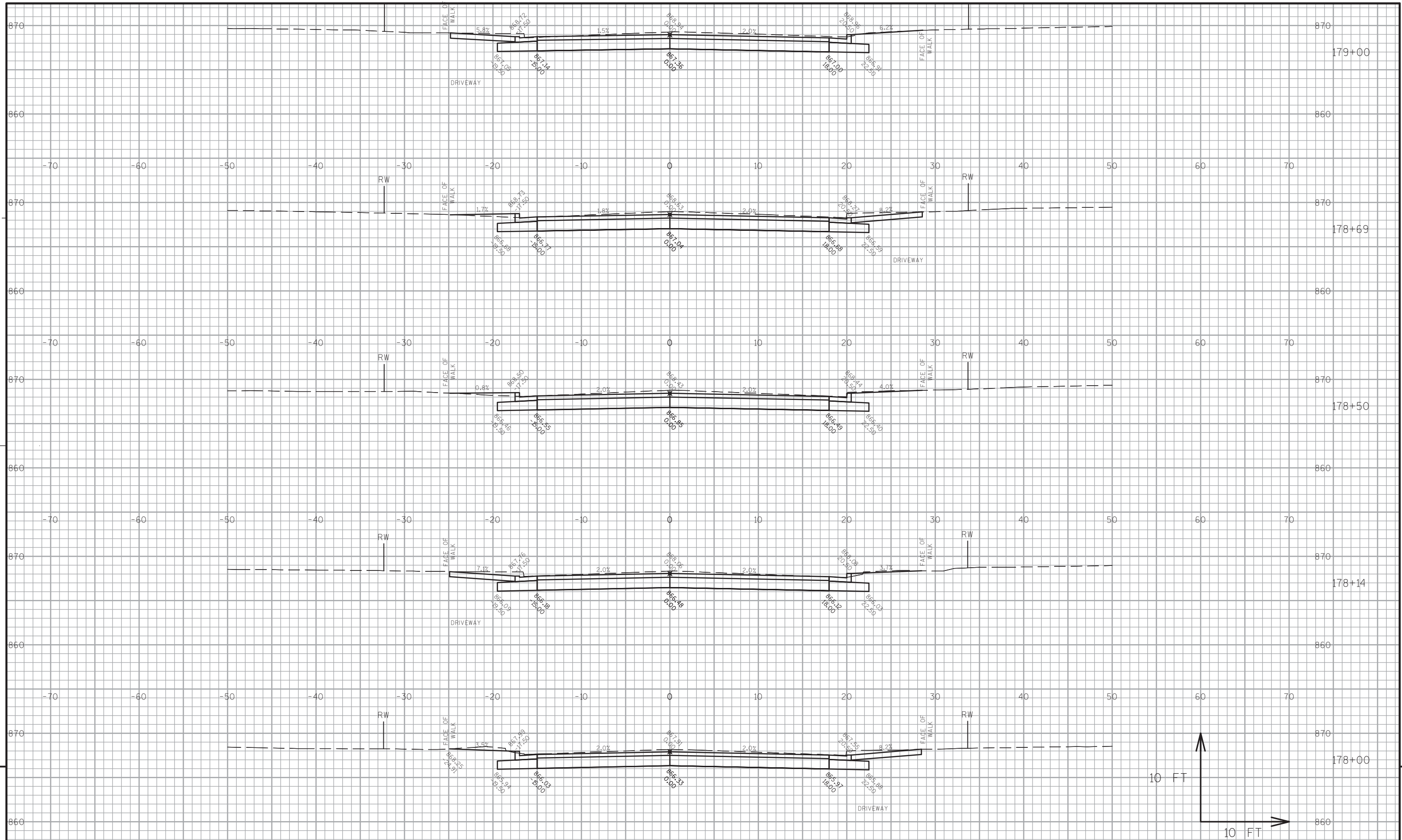


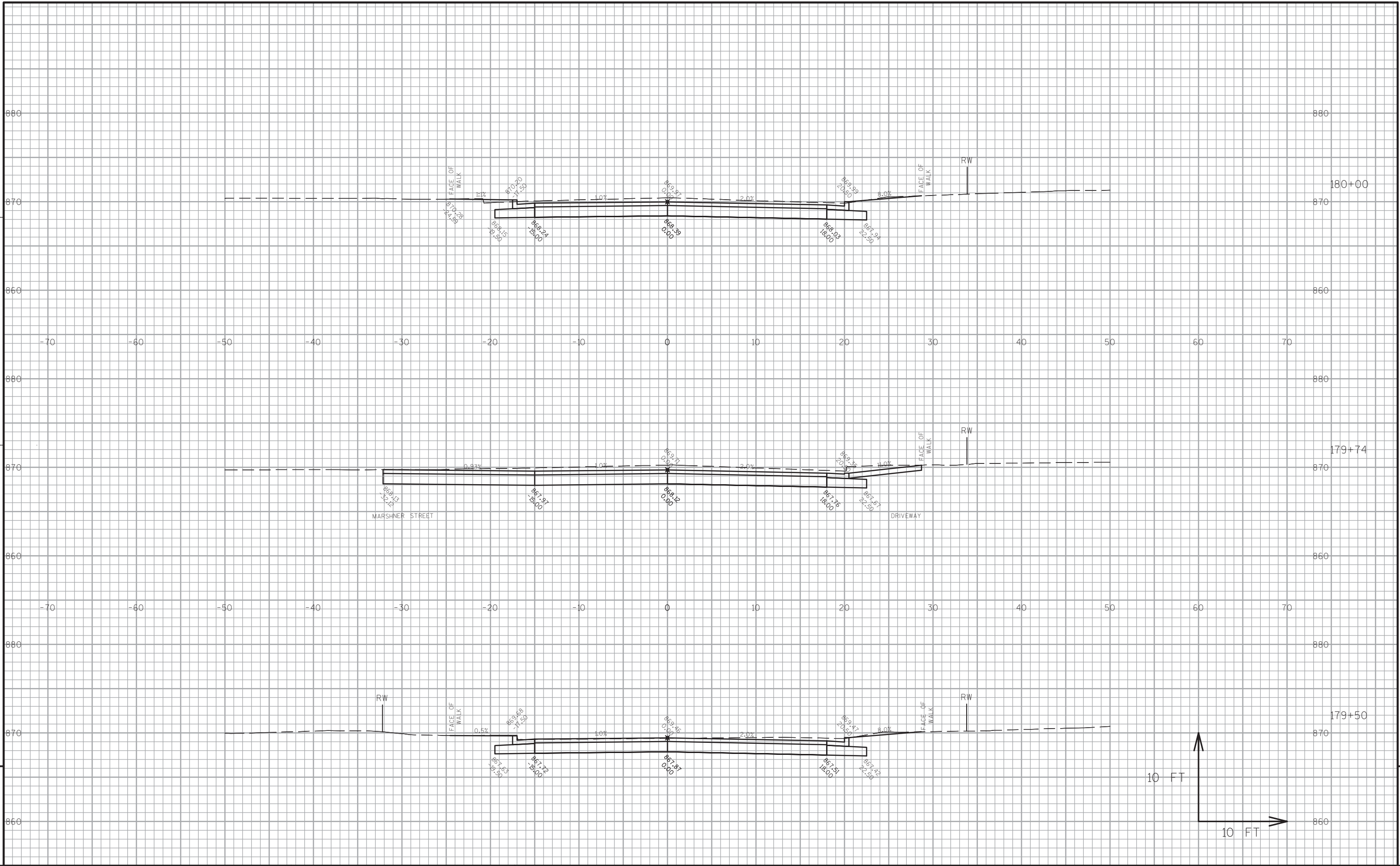


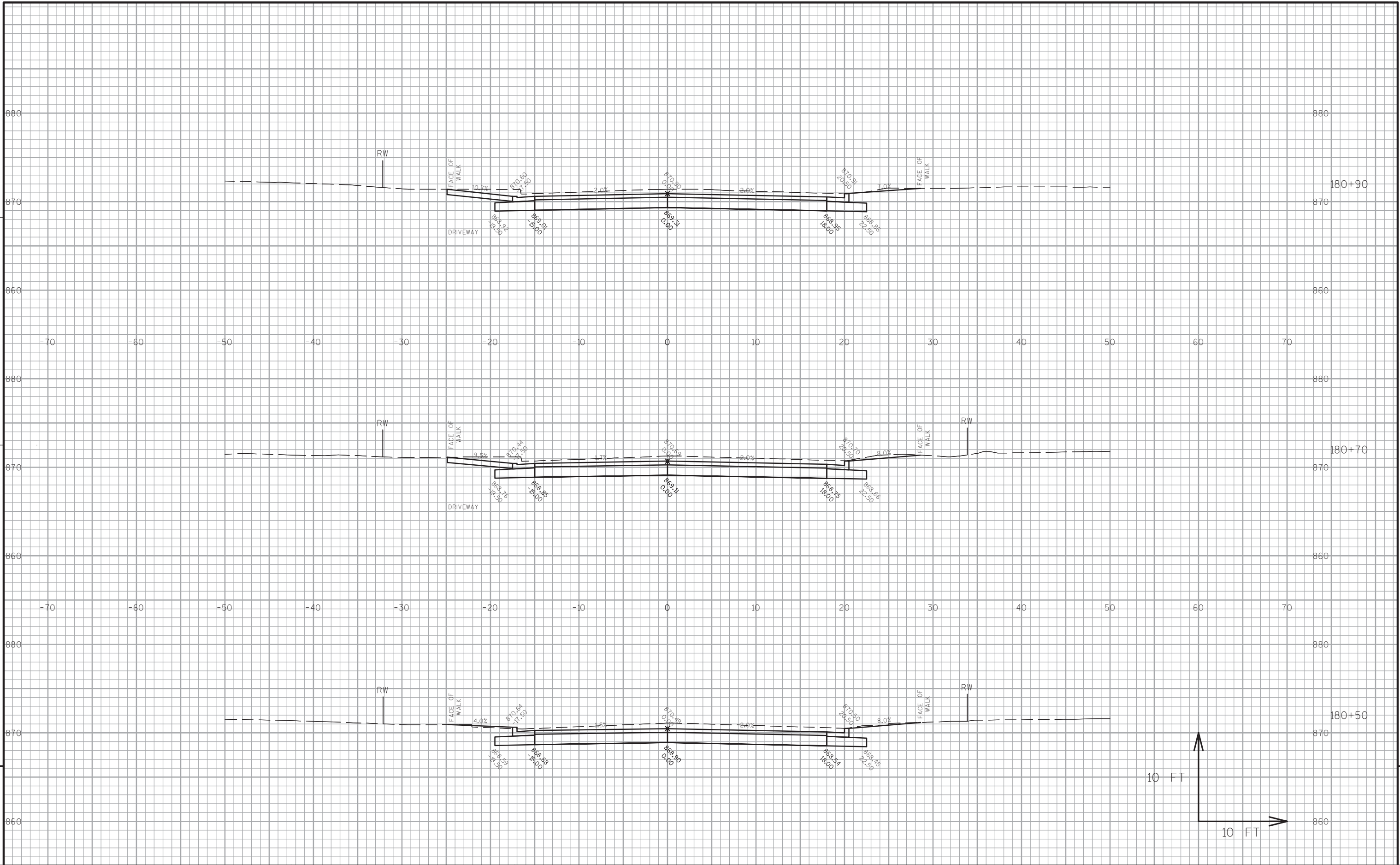


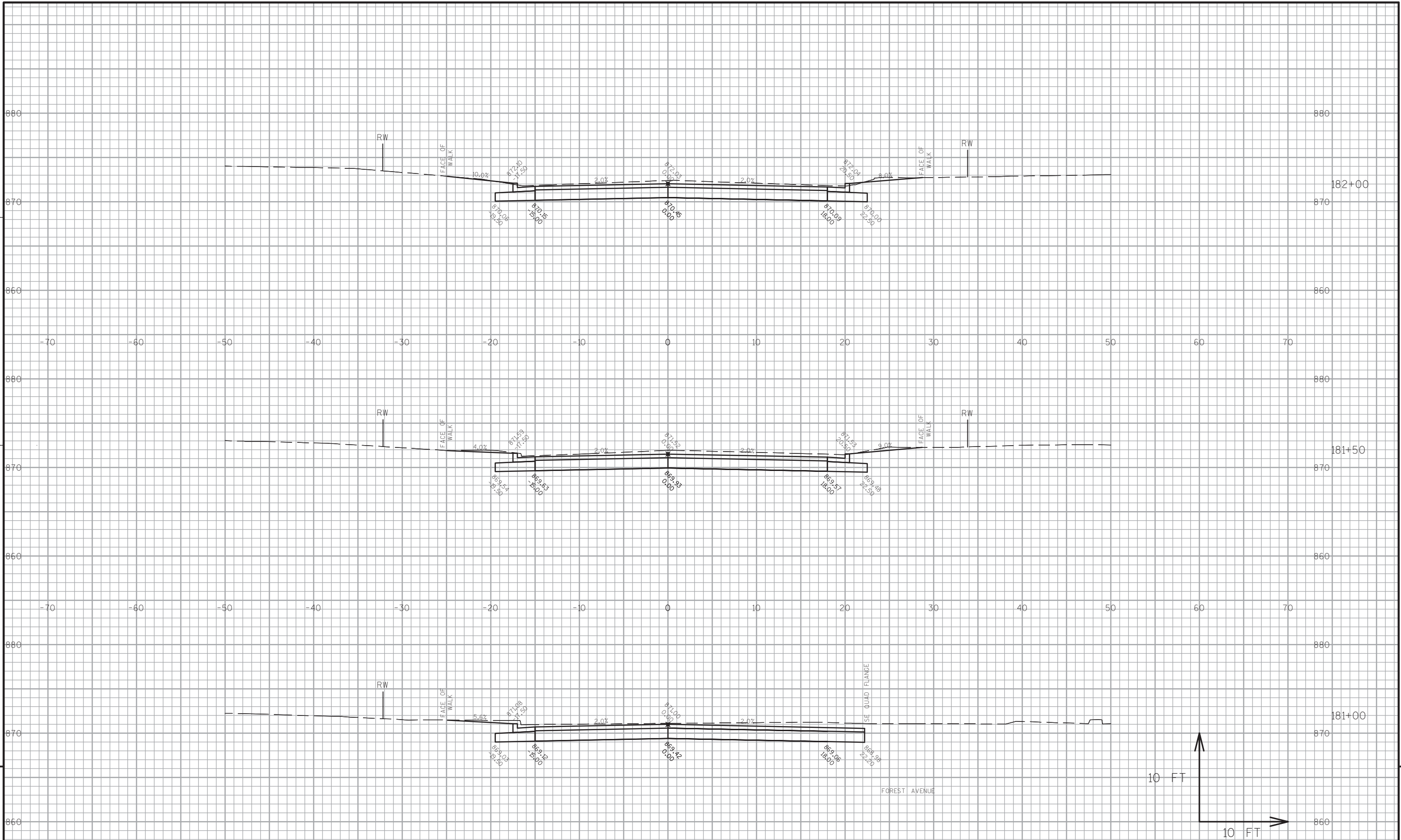


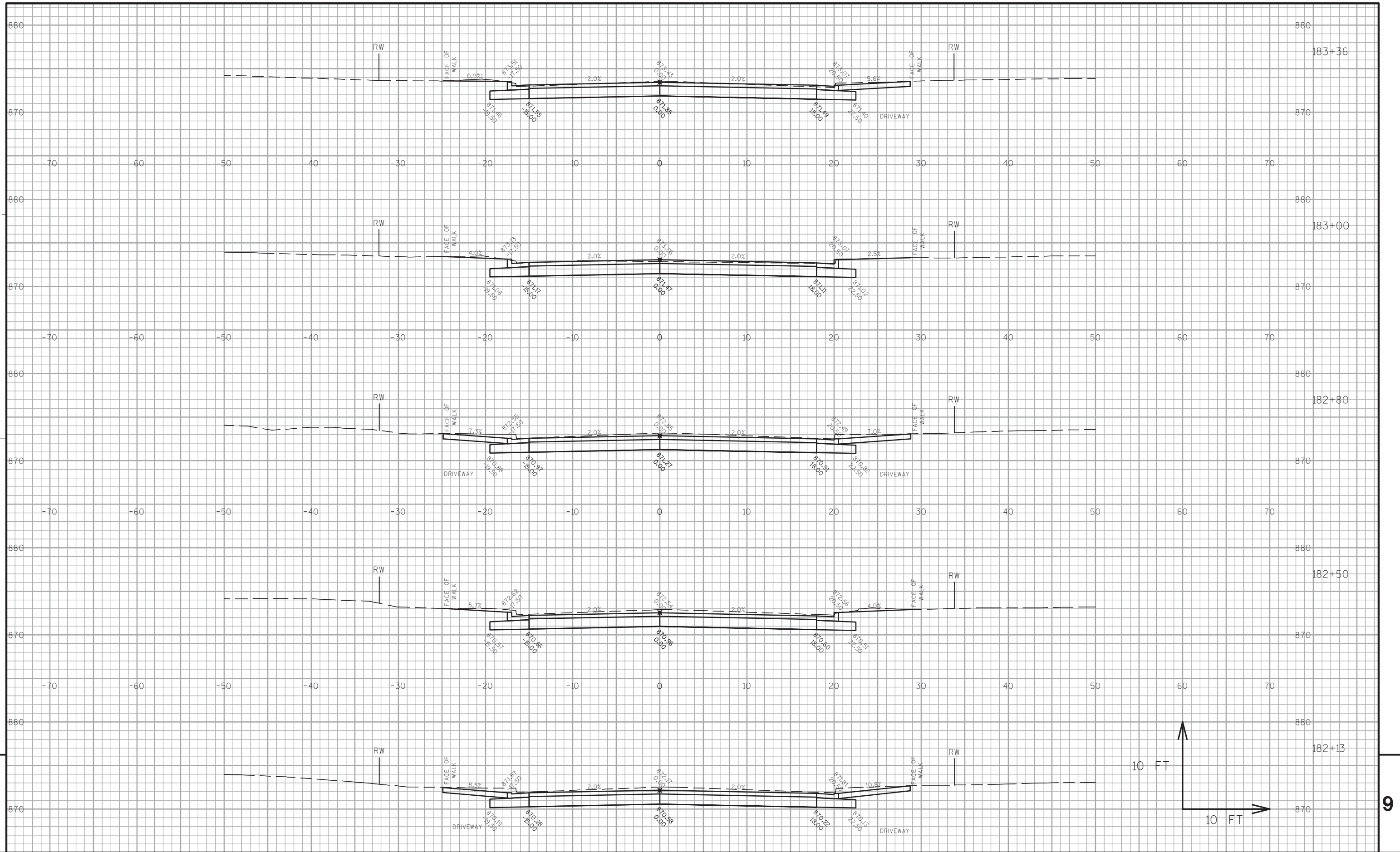


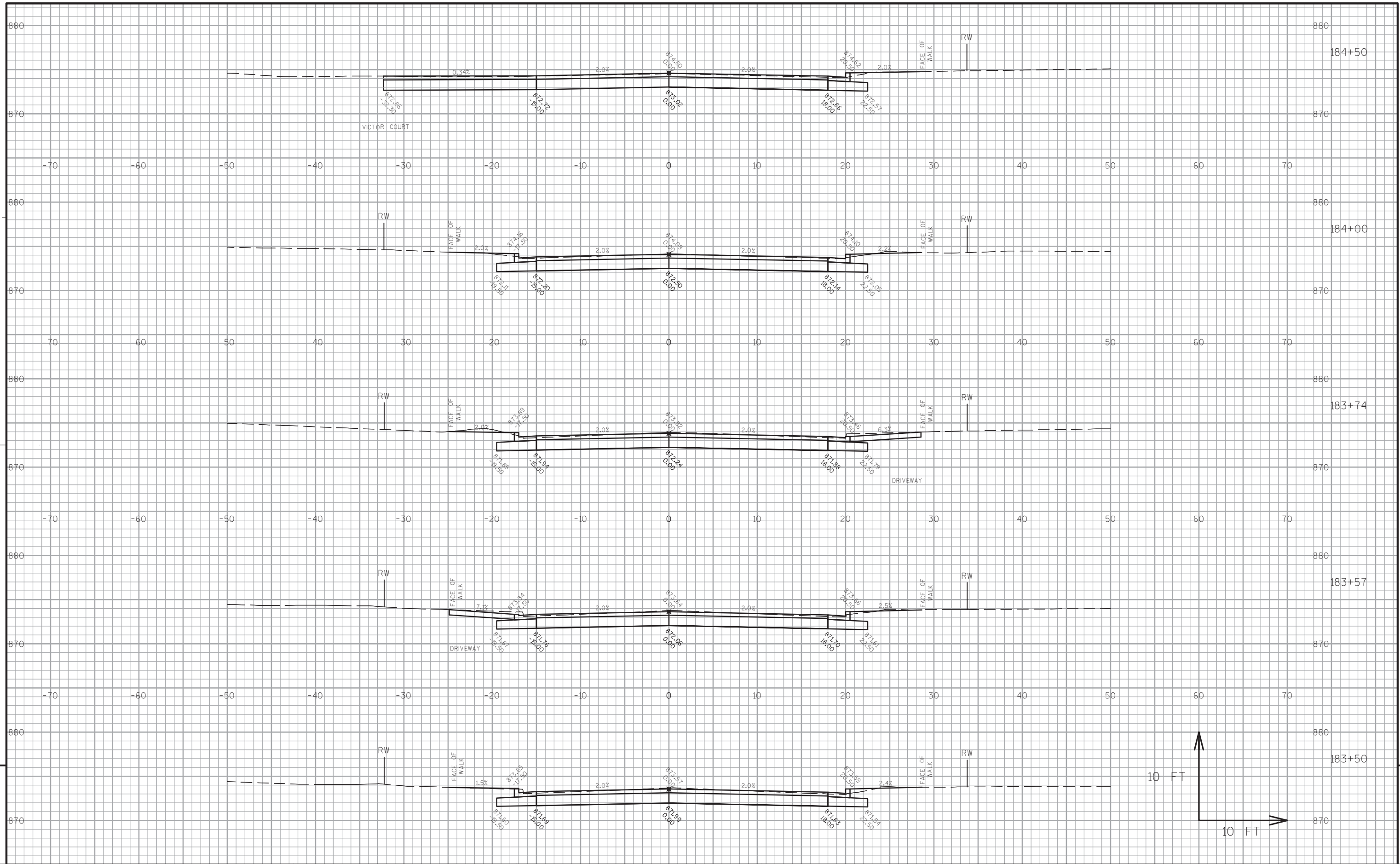


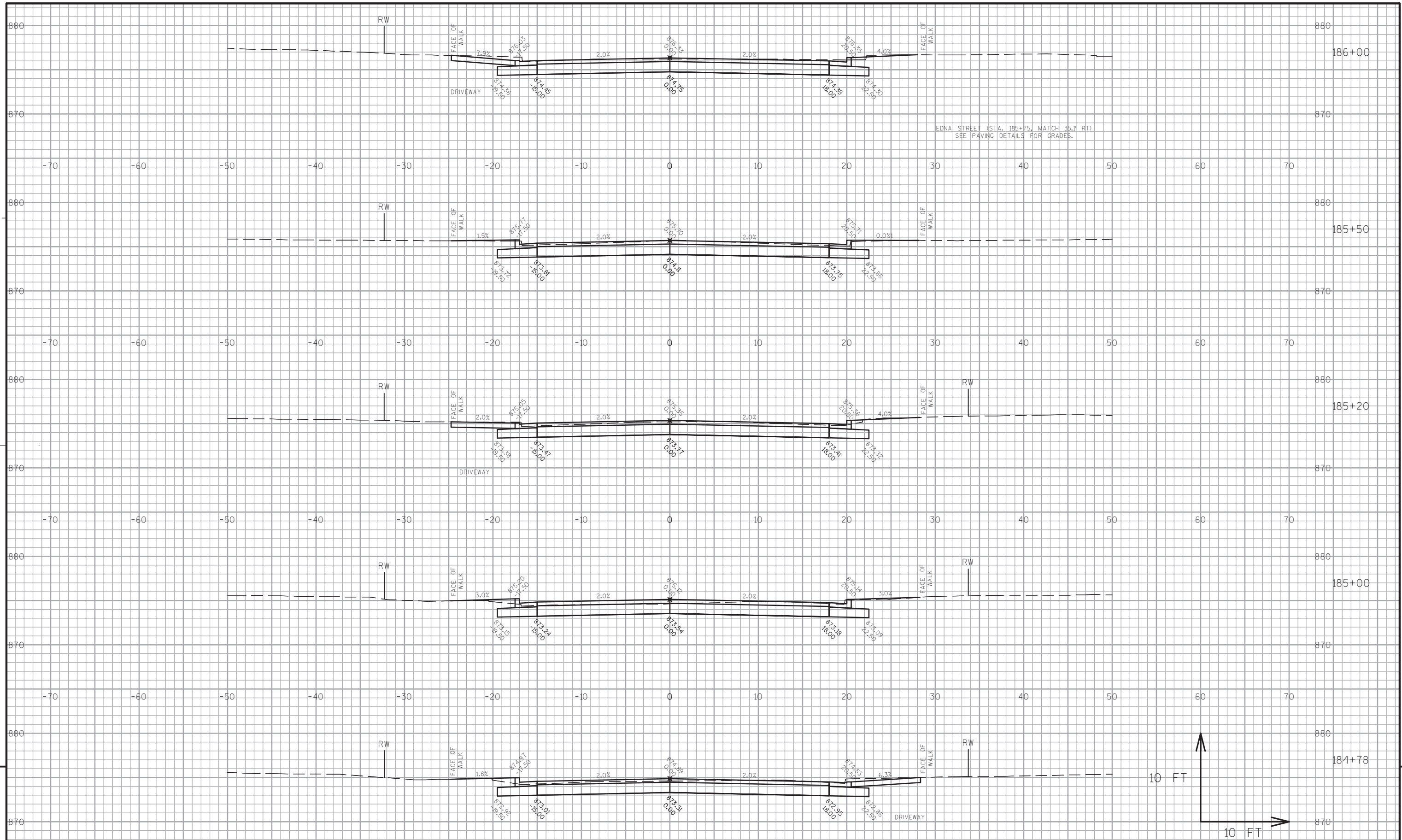


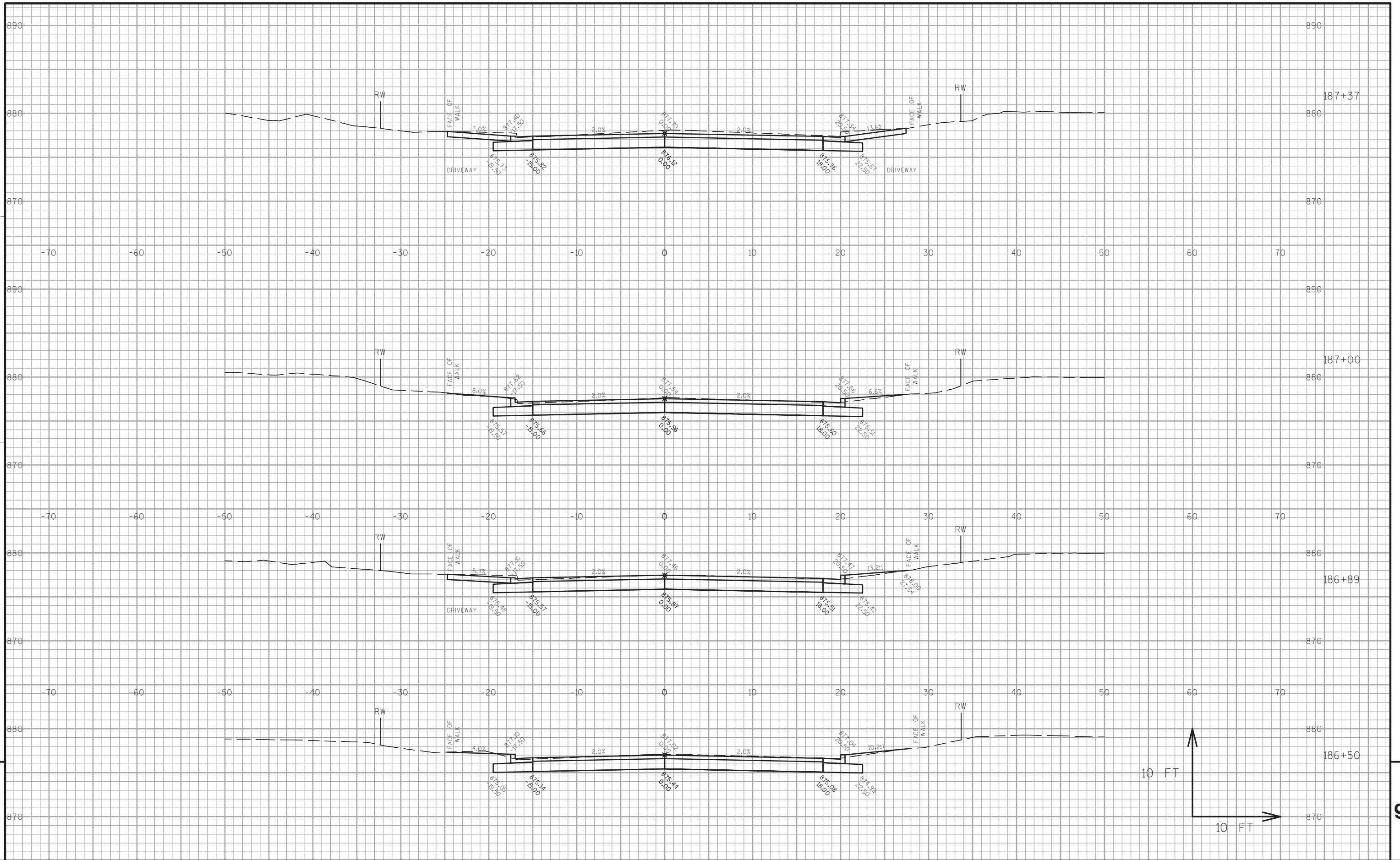


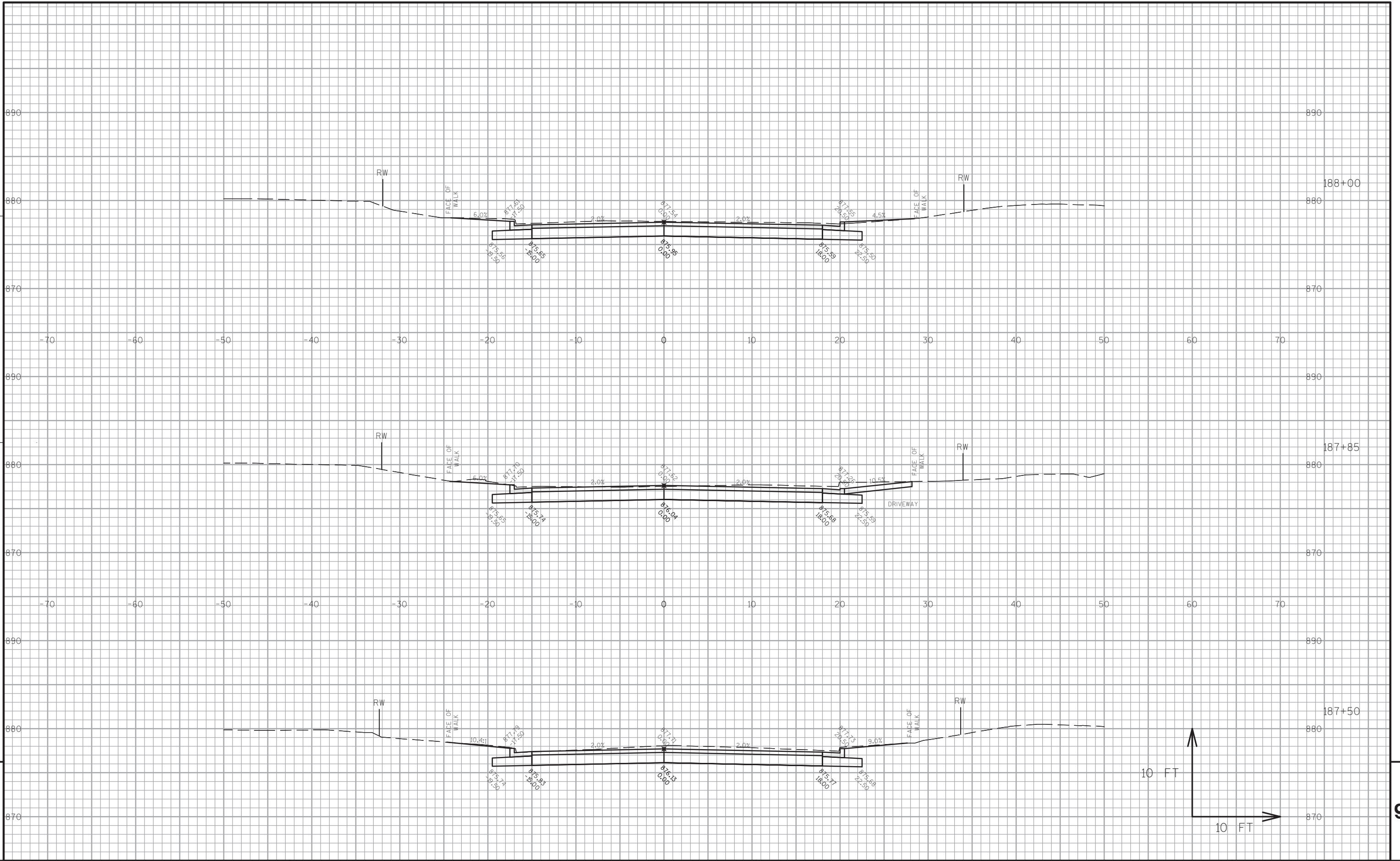


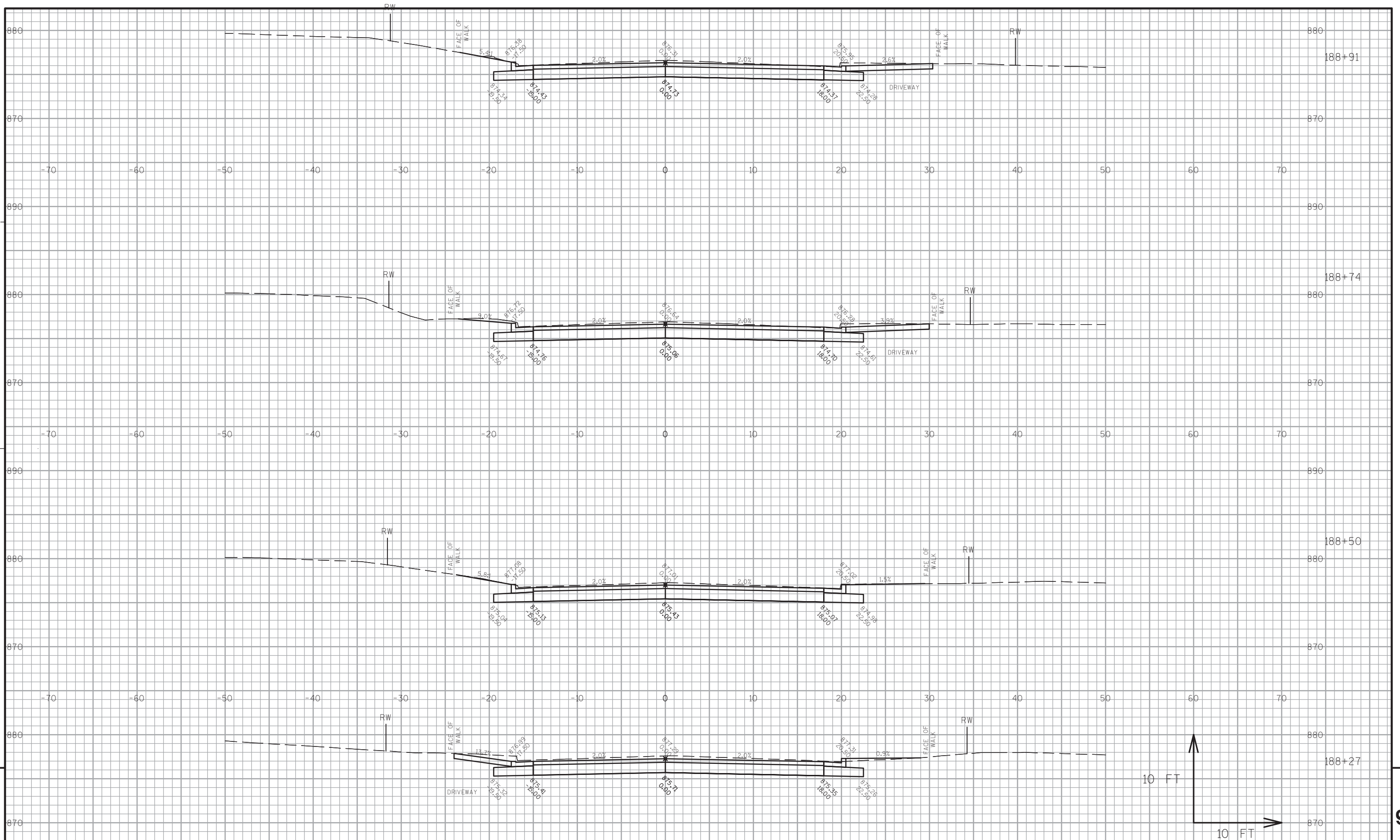


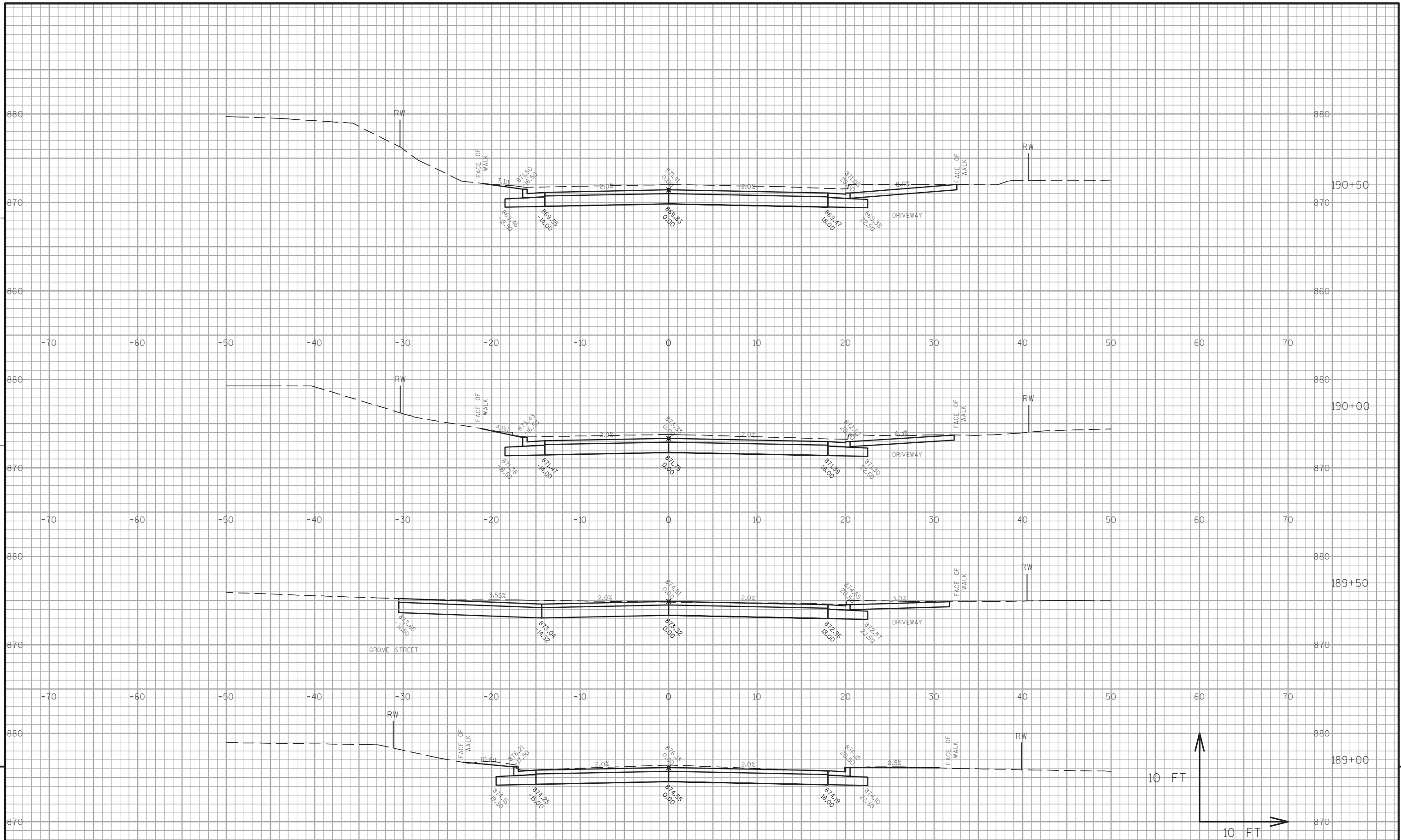


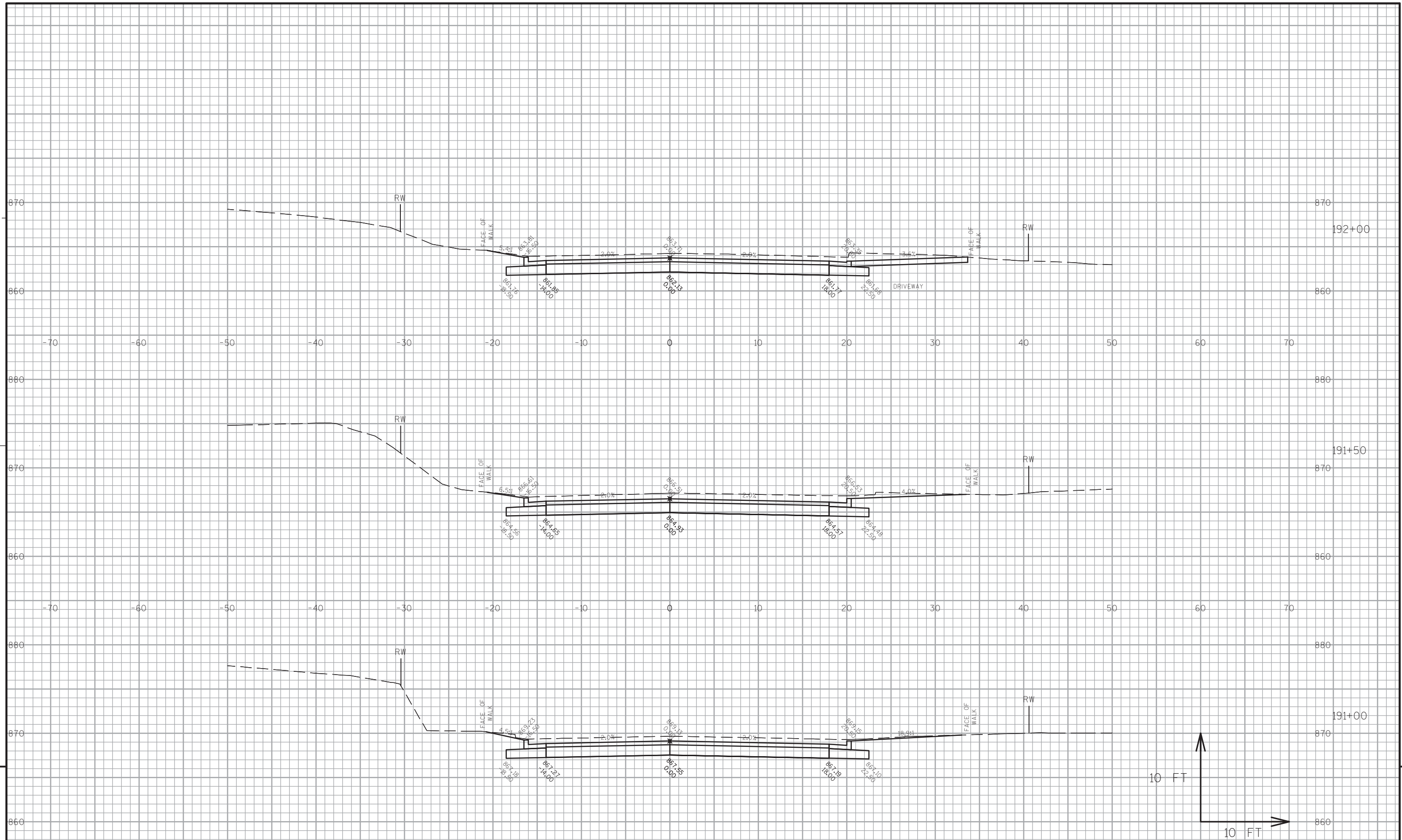


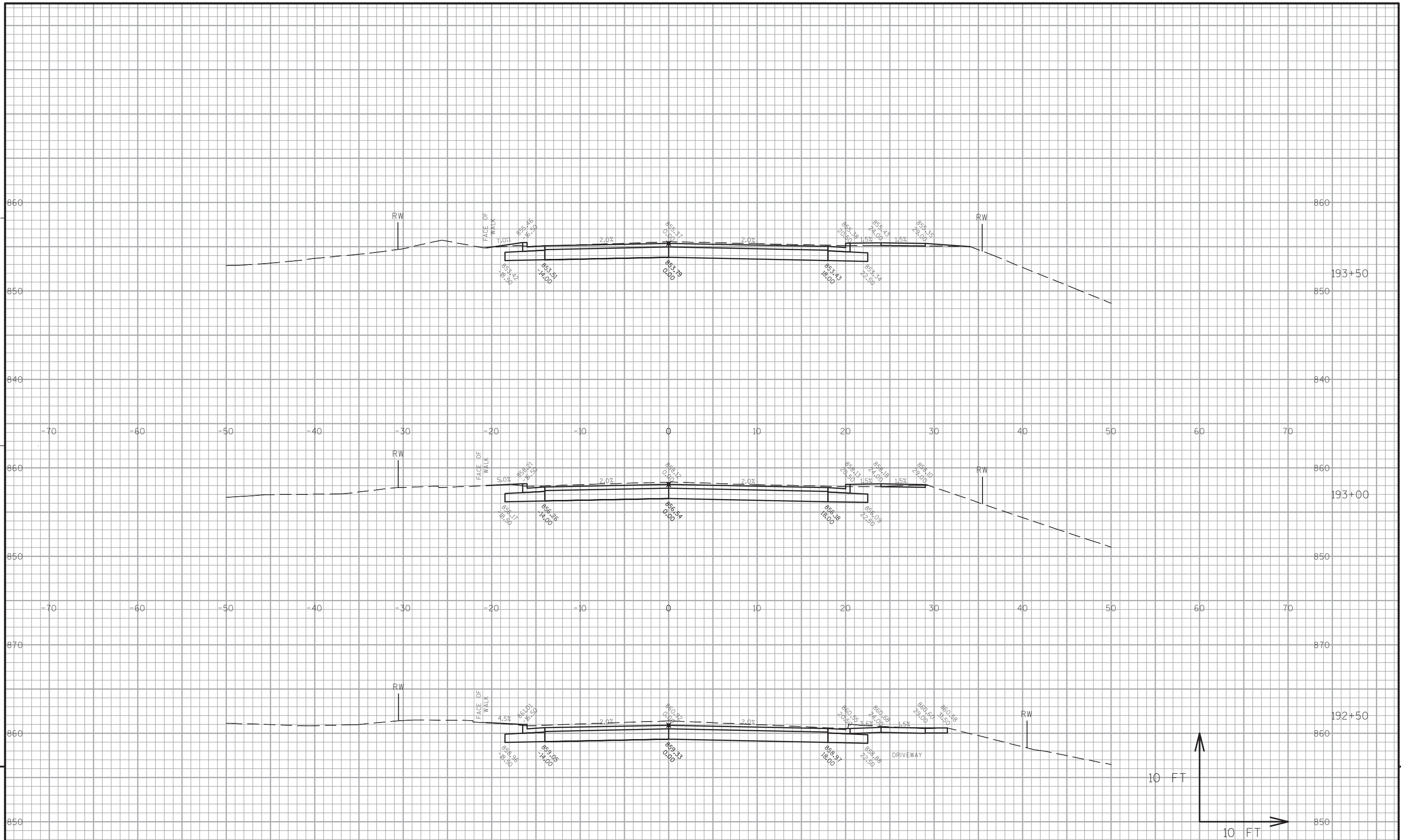


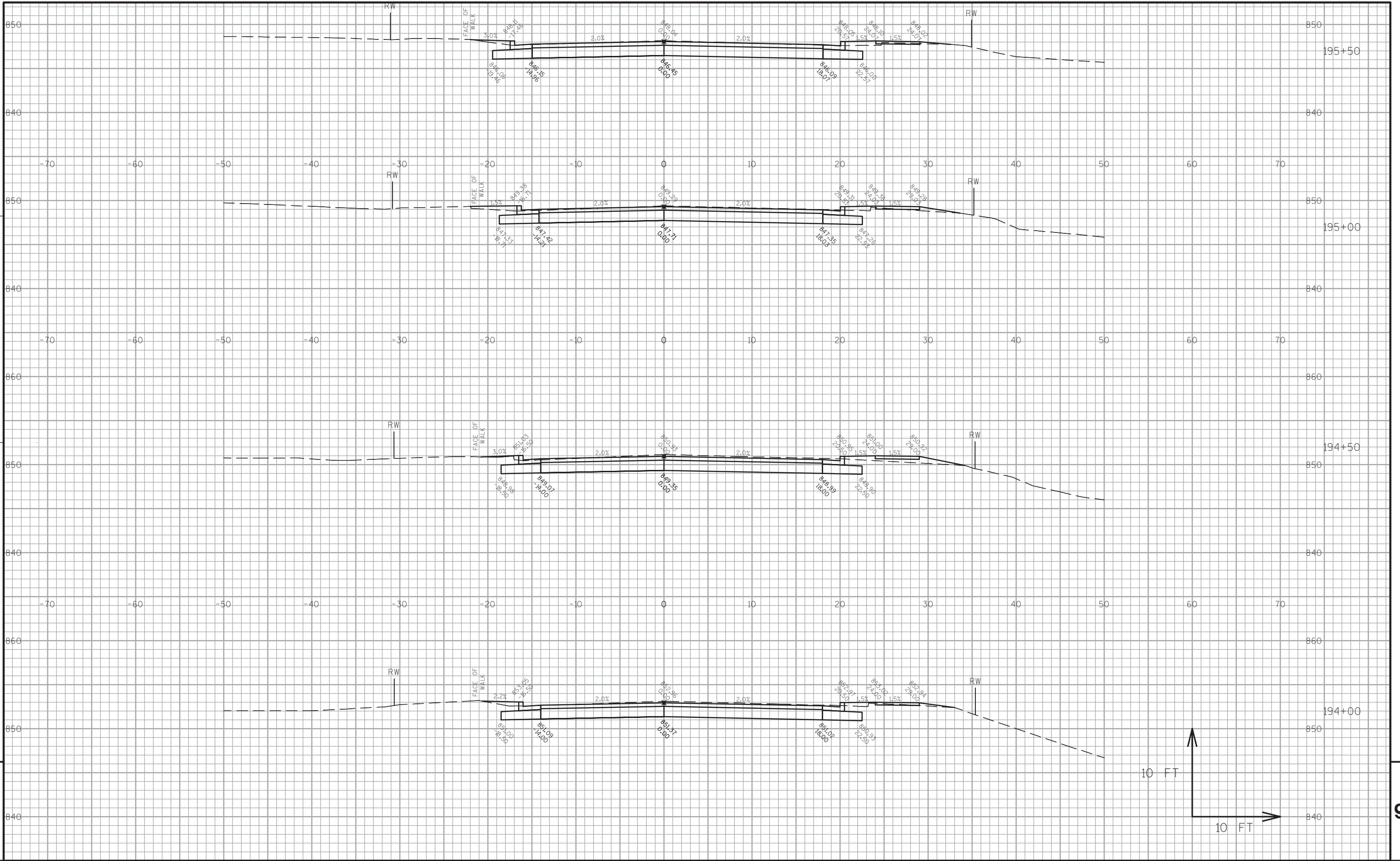


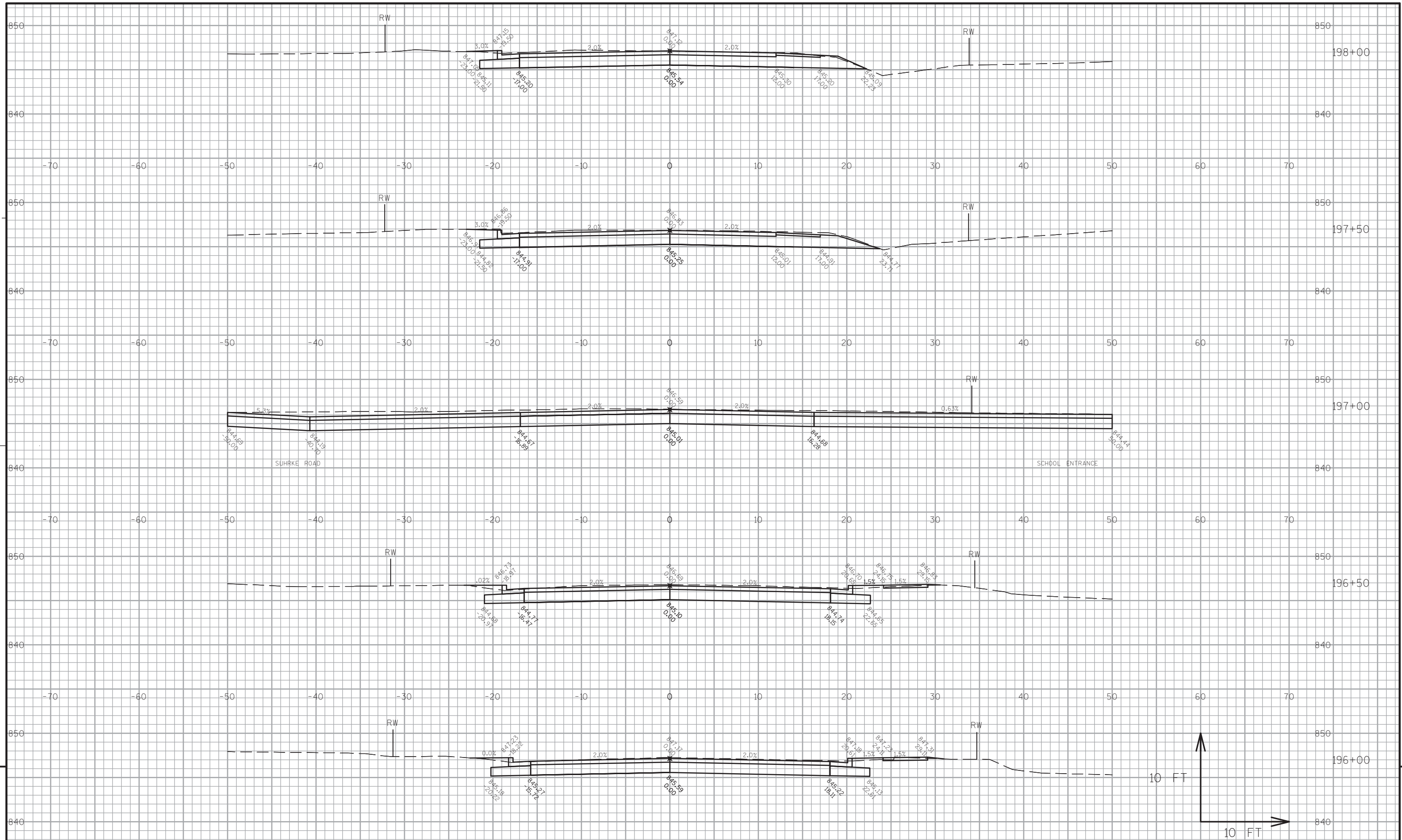


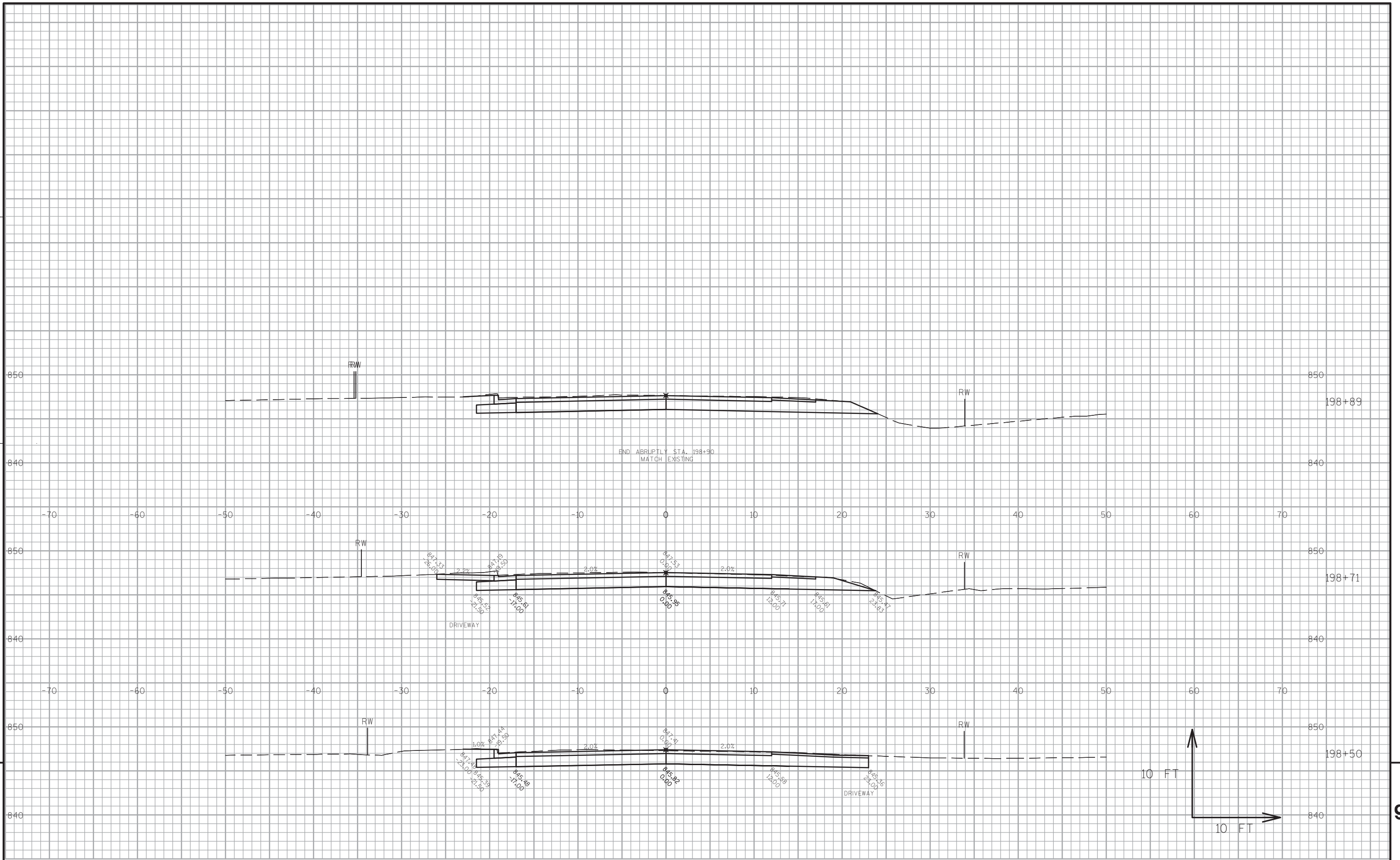


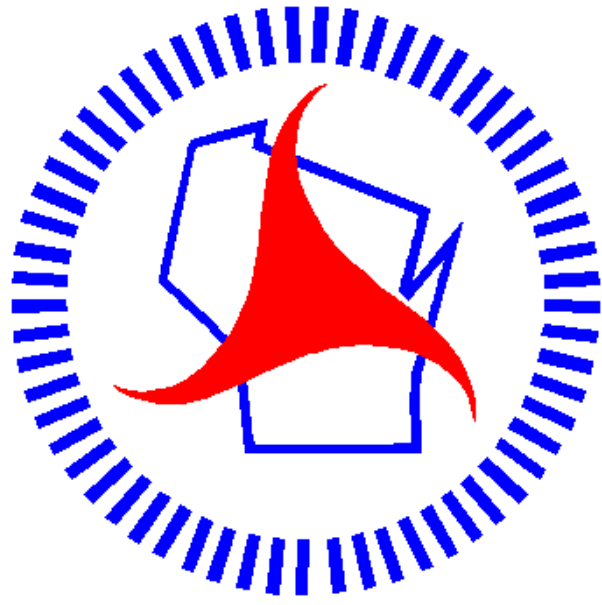












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