PROJECT ID: 1470-27-71/1470-33-71/1470-37-71 COUNTY: MANITOWOC

28

GRE FEBRUARY 2025

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1470-27-71		
1470-33-71		
1470-37-71		

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
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 = 240

MANITOWOC - TWO RIVERS
E MAGNOLIA AVE - 12TH STREET
STH 42
MANITOWOC COUNTY

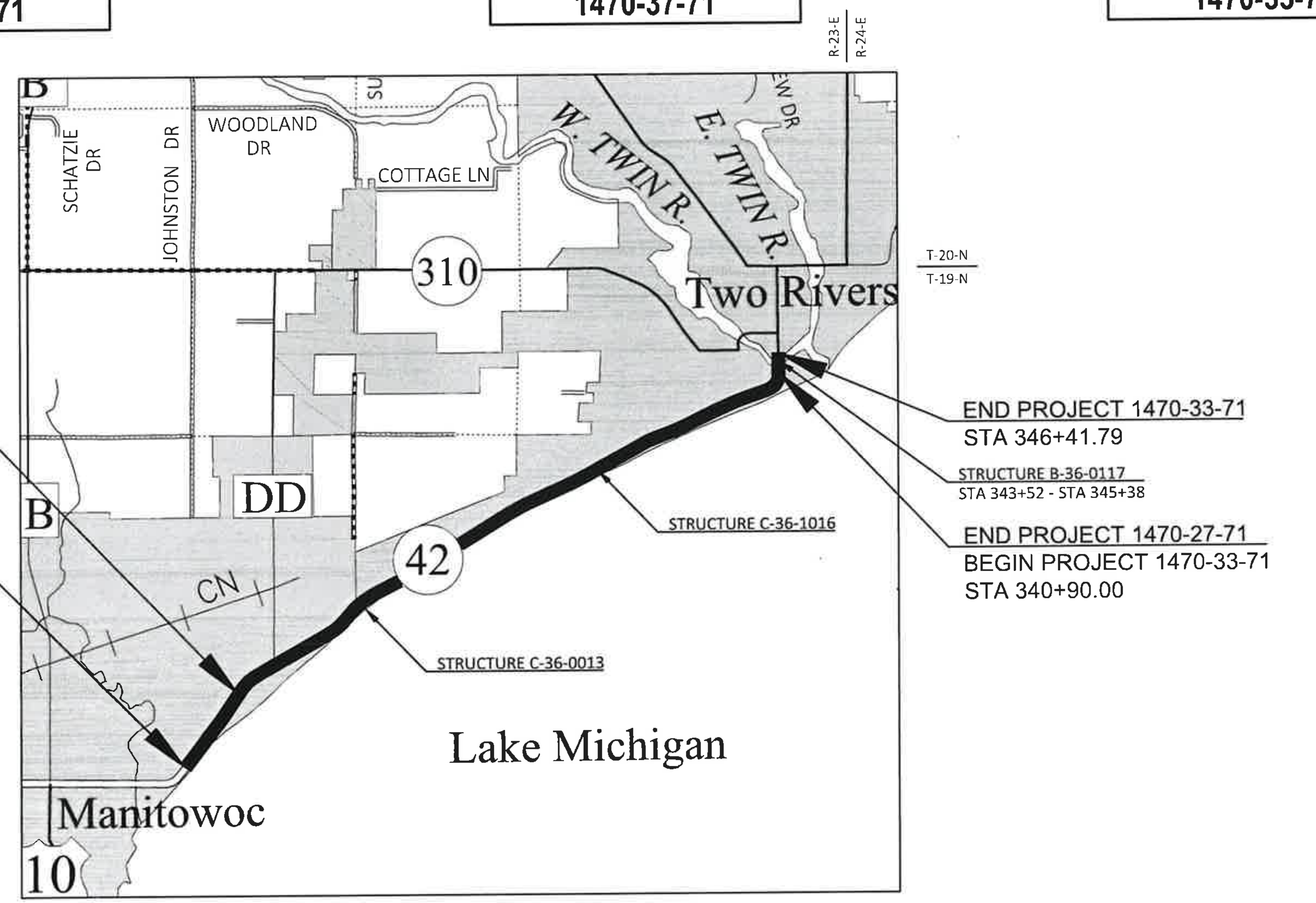
STATE PROJECT NUMBER
1470-27-71

MANITOWOC - TWO RIVERS
WALDO BLVD - E MAGNOLIA AVE
STH 42
MANITOWOC COUNTY

STATE PROJECT NUMBER
1470-37-71

CITY OF TWO RIVERS, WASHINGTON ST
WEST TWIN RIVER BRIDGE B360117
STH 42
MANITWOC COUNTY

STATE PROJECT NUMBER
1470-33-71



DESIGN DESIGNATION 1470-27-71/1470-33-71/1470-37-71

A.A.D.T.	(2025)	=	13,370
A.A.D.T.	(2045)	=	13,370
D.H.V.		=	1,540
D.D.		=	59/41
T.		=	7.1%
DESIGN SPEED		=	50 MPH (1470-33-71 : 30 MPH)
ESALS		=	2,100,000

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 (CAUTION)
MARSH AREA
WOODED OR SHRUB AREA

PROFILE
GRADE LINE
ORIGINAL GROUND
MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
SPECIAL DITCH (LABEL)
GRADE ELEVATION (95.36)
CULVERT (Profile View)

UTILITIES
ELECTRIC (E)
FIBER OPTIC (FO)
GAS (G)
SANITARY SEWER (SAN)
STORM SEWER (SS)
TELEPHONE (T)
WATER (W)
UTILITY PEDESTAL
POWER POLE
TELEPHONE POLE

LAYOUT
SCALE 0 1 MI

PROJECT I.D. 1470-37-71 = 0.550 MILES
PROJECT I.D. 1470-27-71 = 3.938 MILES
PROJECT I.D. 1470-33-71 = 0.104 MILES
TOTAL NET LENGTH OF CENTERLINE = 4.592 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), MANITOWOC COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

ORIGINAL PLANS PREPARED BY
MSA
1702 Pankratz Street, Madison, WI 53704
608-242-7779 1-800-446-0679 Fax: 608-242-5664

WISCONSIN
CHAD D. WAGNER
E-45546
MADISON WI
PROFESSIONAL ENGINEER

DATE: 10-28-24 (Professional Engineer)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT
Designer	MSA PROFESSIONAL SERVICE, INC.
Project Manager	BRIAN HAEN
Regional Examiner	
Regional Supervisor	DANIEL SEGERSTROM

APPROVED FOR THE DEPARTMENT
DATE: 10/30/24 (Signature)

E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\010101-TI.DWG
PLOT DATE : 10/15/2024 6:35 AM
PLOT BY : JASON DOLENS
PLOT NAME :

GENERAL NOTES

THE LIMITS OF PAVEMENT REMOVAL ON SIDE STREETS ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.

REMOVING APRON ENDWALLS SHALL BE PAID FOR UNDER "REMOVING STORM SEWER".

THE REMOVAL OF CONCRETE DRIVEWAY APRONS SHALL BE PAID FOR AS "REMOVING CONCRETE SIDEWALK".

THE ENGINEER SHALL DETERMINE EXACT DAMAGED CURB & GUTTER LOCATIONS IN THE FIELD. APPROXIMATE LOCATIONS ARE SHOWN ON THE PLAN DETAILS.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

UTILITIES

COMMUNICATIONS:
AT&T WISCONSIN
ATTN: CHUCK BARTELT
70 E. DIVISION STREET
FOND DU LAC, WI 54935
PHONE: (920) 410-5104
EMAIL: cb1461@att.com

COMMUNICATIONS:
SPECTRUM
ATTN: SCOTT DECLARK
3545 PLANK ROAD
APPLETON, WI 54915
PHONE: (920) 378-0440
EMAIL: scott.declark@charter.com

COMMUNICATIONS:
COMCAST
ATTN: DAMON BRILEY
801 PLYMOUTH AVENUE N
MINNEAPOLIS, MN 55411
PHONE: (651) 387-7088
EMAIL: damon_briley@cable.comcast.com

COMMUNICATIONS:
FRONTIER COMMUNICATIONS
ATTN: CHRISTOPHER POLLACK
521 N. 4TH STREET
WAUSAU, WI 54403
PHONE: (715) 847-1240
EMAIL: christopher.pollack@ftr.com

COMMUNICATIONS:
MANITOWOC PUBLIC UTILITIES
ATTN: STEVE BACALZO
1303 S. 8TH STREET
P.O. BOX 1090
MANITOWOC, WI 54221-1090
PHONE: (920) 686-4310
EMAIL: sbacalzo@mpu.org

COMMUNICATIONS:
MIDWEST FIBER NETWORKS, LLC
ATTN: CORY SCHMUKI
6070 NORTH FLINT ROAD
GLENDALE, WI 53209
PHONE: (414) 459-3561
EMAIL: cschmuki@midwestfibernetworks.com

COMMUNICATIONS:
NET LEC LLC
ATTN: RICK VINCENT
450 SECURITY BOULEVARD
P.O. BOX 19079
GREEN BAY, WI 54307-9079
PHONE: (920) 617-7316
EMAIL: rick.vincent@nsight.com

ELECTRIC:
MANITOWOC PUBLIC UTILITIES
ATTN: STEVE BACALZO
1303 S. 8TH STREET
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MANITOWOC, WI 54221-1090
PHONE: (920) 686-4310
EMAIL: sbacalzo@mpu.org

ELECTRIC:
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ATTN: BRIAN DELLEMANN
1415 LAKE STREET
P.O. BOX 87
TWO RIVERS, WI 54241-0087
PHONE: (920) 793-5553
EMAIL: bridel@two-rivers.org

SEWER:
CITY OF MANITOWOC
ATTN: GREG MINIKEL
900 QUAY STREET
MANITOWOC, WI 54220
PHONE: (920) 686-6910
EMAIL: gminikel@manitowoc.org

GAS/PETROLEUM:
WISCONSIN PUBLIC SERVICE CORPORATION
ATTN: JOEL SAWICKI
800 COLUMBUS STREET
P.O. BOX 236
TWO RIVERS, WI 54241-0236
PHONE: (920) 657-1862
EMAIL: joel.sawicki@wisconsinpublicservice.com

SEWER & WATER:
CITY OF TWO RIVERS
ATTN: SCOTT AHL
1717 E. PARK STREET
P.O. BOX 87
TWO RIVERS, WI 54241-0087
PHONE: (920) 793-5542
EMAIL: sahl@two-rivers.org

WATER:
MANITOWOC PUBLIC UTILITIES
ATTN: ZACH PETHAN
1520 DEWEY STREET
MANITOWOC, WI 54220
PHONE: (920) 686-4244
EMAIL: zpethan@mpu.org

WATER:
CENTRAL BROWN COUNTY WATER AUTHORITY
ATTN: ZACH PETHAN
1520 DEWEY STREET
MANITOWOC, WI 54220
PHONE: (920) 686-4244
EMAIL: zpethan@mpu.org

DNR LIAISON

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
ATTN: MATT SCHAEVE
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
PHONE: (920) 366-1544
EMAIL: matthew.schaeve@wisconsin.gov

DESIGN CONTACTS

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944 VANDERPERREN WAY
GREEN BAY, WI 54304
PHONE: (920) 366-4788
E-MAIL: brian.haen@dot.wi.gov

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ATTN: BRIAN HUIBREGTSE
1702 PANKRATZ ST
MADISON, WI 53704
PHONE: (608) 242-6650
E-MAIL: bhuibregtse@msa-ps.com

MSA PROFESSIONAL SERVICES
ATTN: CHAD WAGNER
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MADISON, WI 53704
PHONE: (608) 242-6651
E-MAIL: cwagner@msa-ps.com

SURVEY MONUMENT CONTACT

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ATTN: MICHAEL ANDRASCHKO
944 VANDERPERREN WAY
GREEN BAY, WI 54304
PHONE: (920) 492-4166
EMAIL: michael.andraschko@dot.wi.gov

** DENOTES NOT A MEMBER OF DIGGERS HOTLINE

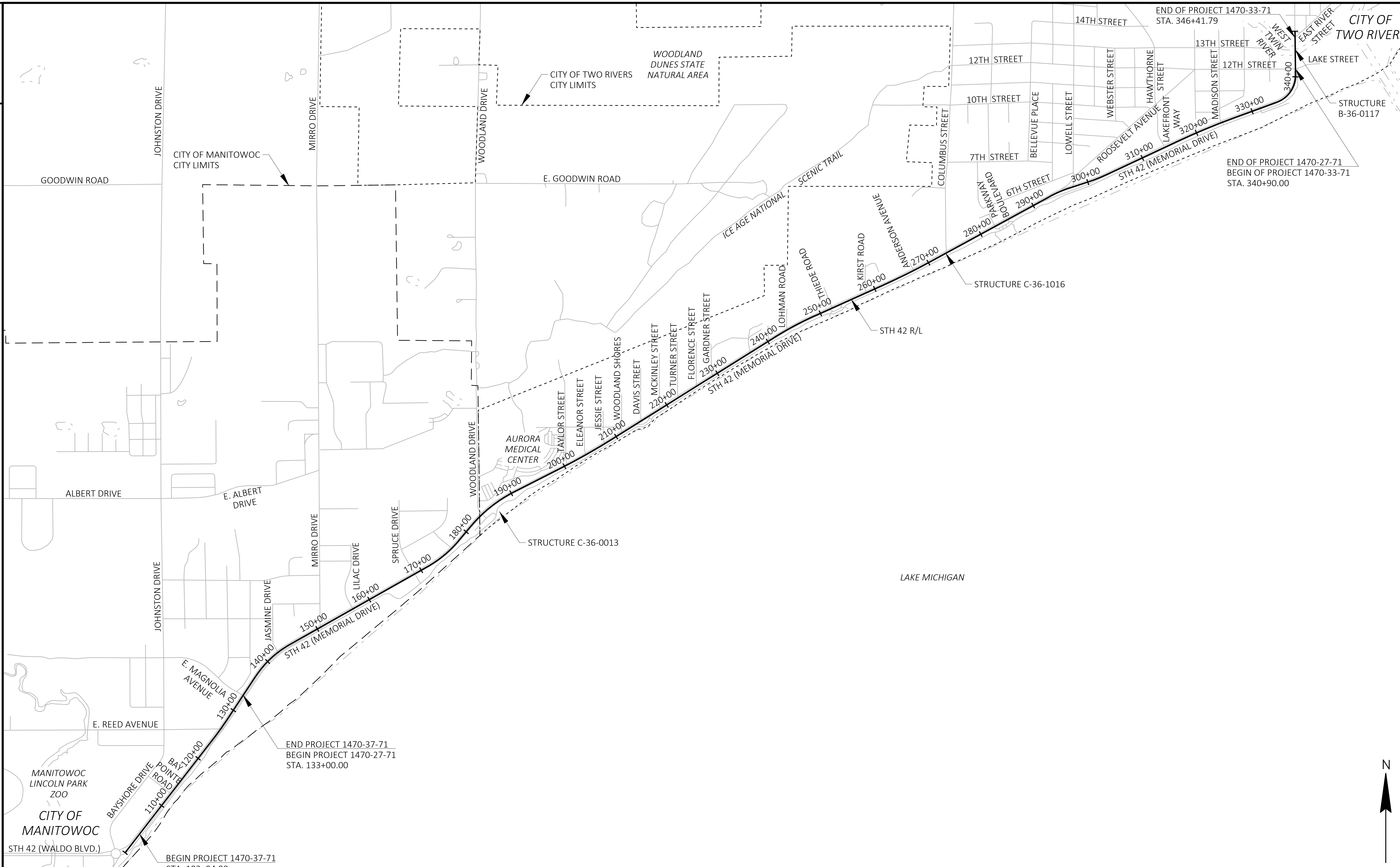
DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

STANDARD ABBREVIATIONS

AC	ACRES
AEW	APRON ENDWALL
AGG	AGGREGATE
AH	AHEAD
ALUM.	ALUMINUM
A.P.	ACCESS POINT
ASPH	ASPHALT
AVE	AVENUE
BAD	BASE AGGREGATE DENSE
BK	BACK
BLK	BLOCK
BOC	BACK OF CURB
BOW	BACK OF SIDEWALK
BM	BENCHMARK
CABC	CRUSHED AGGREGATE BASE COURSE
CL or ℄	CENTERLINE
Δ	CENTRAL ANGLE or DELTA
CMCP	CORRUGATED METAL CULVERT PIPE
CONC	CONCRETE
CP	CONTROL POINT
CPCS	CULVERT PIPE CORRUGATED STEEL
CSM	CERTIFIED SURVEY MAP
CTH	COUNTY TRUNK HIGHWAY
D	DEGREE OF CURVATURE
DES	DESIRABLE
E	EAST
EB	EASTBOUND
EBS	EXCAVATION BELOW SUBGRADE
EOP	EDGE OF PAVEMENT
ET AL	AND OTHERS
EW	ENDWALL
EXIST	EXISTING
FT	FOOT
FT2	SQUARE FEET
GN	GRID NORTH
GV	GAS VALVE
HERCP	HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE
HYD	HYDRANT
IN	INCH
INL	INLET
INV	INVERT
IP	IRON PIPE
L	LENGTH
L	LENGTH OF CURVE
LC	LONG CHORD
LCP	LONG CHORD BEARING
LF	LINEAR FEET
LT	LEFT
MH	MANHOLE
MON	MONUMENT
N	NORTH
NB	NORTHBOUND
N.C.	NORMAL CROWN
NO	NUMBER
PB	PULLBOX
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PLE	PERMANENT LIMITED EASEMENT
POB	POINT OF BEGINNING
PT	POINT OF TANGENCY
R	RADIUS
R	RANGE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REQ'D	REQUIRED
RL or R/L	REFERENCE LINE
RP	RADIUS POINT
RT	RIGHT
R/W	RIGHT OF WAY
S	SOUTH
SAN	SANITARY SEWER
SB	SOUTHBOUND
S.E.	SUPERELEVATION
SEC	SECTION
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
SSPRCHE	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
SQ	SQUARE
ST	STREET
STA	STATION
STD	STANDARD
STH	STATE TRUNK HIGHWAY
STM	STORM SEWER
STR	STRUCTURE
T	TANGENT
TAN	TANGENT
TEMP	TEMPORARY
TLE	TEMPORARY LIMITED EASEMENT
T or TN	TOWN
TYP.	TYPICAL
WM	WATERMIN
WV	WATER VALVE
W	WEST
WB	WESTBOUND
X	EAST GRID COORDINATE
Y	NORTH GRID COORDINATE

INDEX OF TYPICAL SECTIONS & DETAIL SHEETS

2



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PROJECT NO: 1470-27-71/1470- 33-71/1470-37-71	HWY: STH 42	COUNTY: MANITOWOC	PROJECT OVERVIEW	SHEET 3	E

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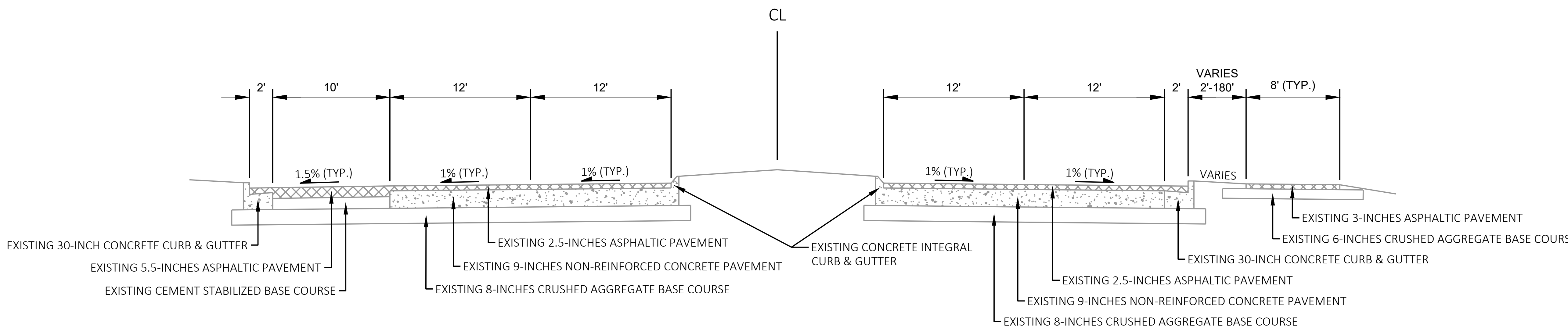
PLOT BY : JASON DOLENS
PLOT NAME :
PLOT SCALE : 1 IN:1500 FT
WISDOT/CADDS SHEET 42

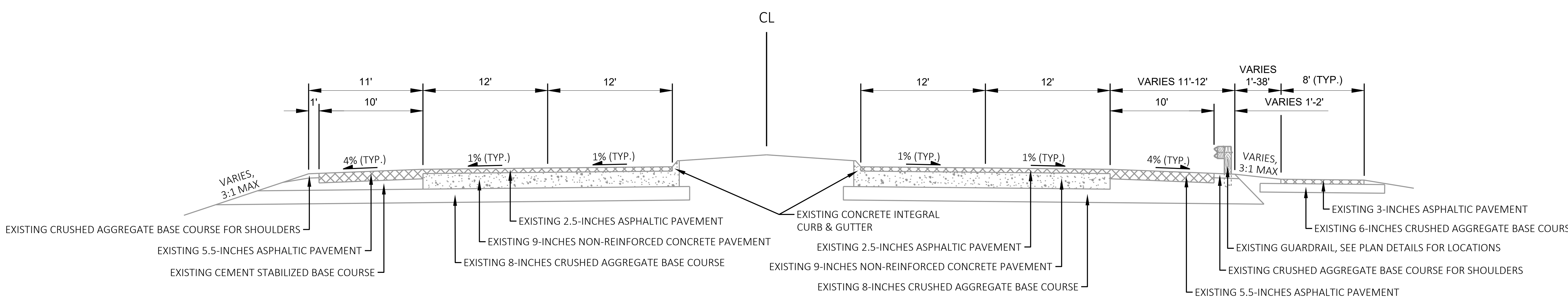


EXISTING TYPICAL SECTION - STH 42

STA. 103+95 - STA. 130+51, LT
STA. 199+34 - STA. 200+41, LT
STA. 205+79 - STA. 209+54, LT
STA. 240+94 - STA. 242+84, LT
STA. 257+04 - STA. 258+04, LT
STA. 295+76 - STA. 302+04, LT
STA. 333+04 - STA. 341+04, LT

EXISTING TYPICAL SECTION - STH 42

STA. 120+93 - STA. 134+39, RT
STA. 334+42 - STA. 341+04, RT



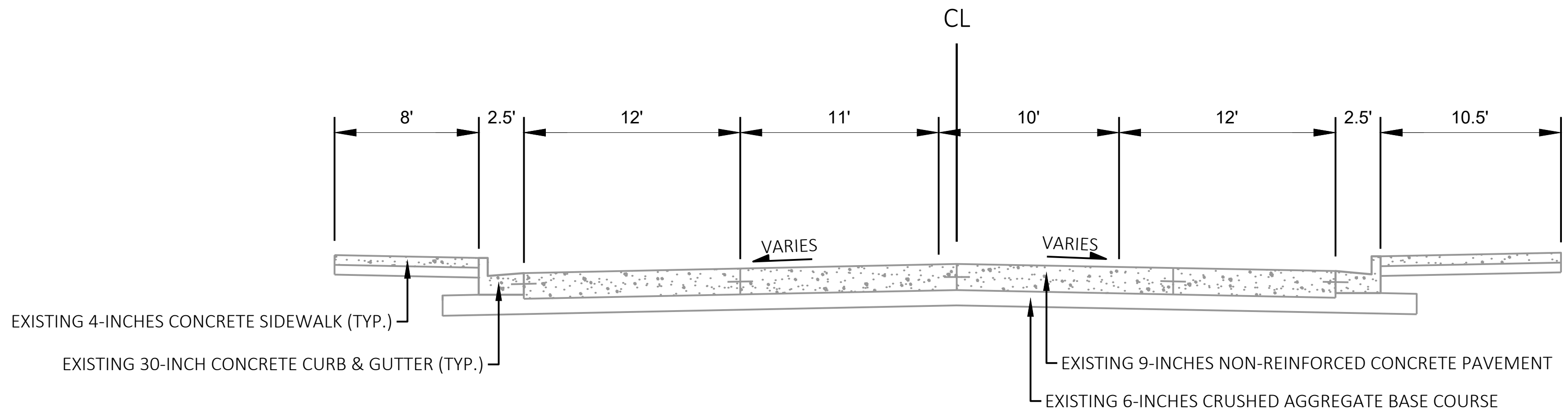
EXISTING TYPICAL SECTION - STH 42

STA. 130+51 - STA. 184+19, LT
STA. 184+19 - STA. 199+34, LT
STA. 200+41 - STA. 205+79, LT
STA. 209+54 - STA. 240+94, LT
STA. 242+84 - STA. 257+04, LT
STA. 258+04 - STA. 295+76, LT
STA. 302+04 - STA. 333+04, LT

EXISTING TYPICAL SECTION- STH 42

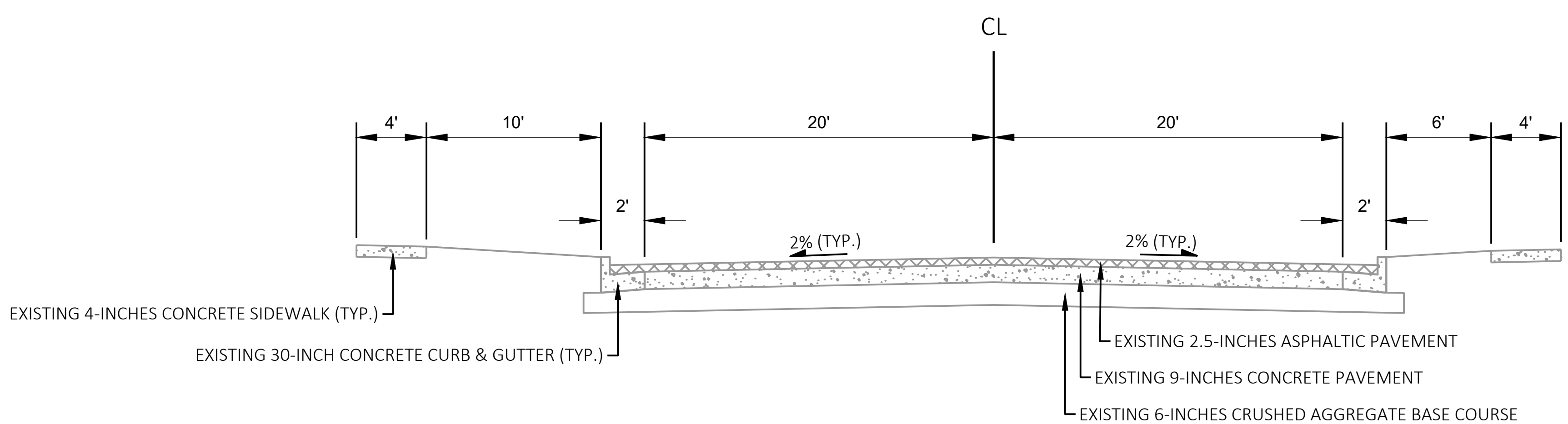
STA. 103+95 - STA. 120+93, RT
STA. 134+39 - STA. 334+42, RT

PROJECT NO: 1470-27-71/1470-33-71/1470-37-71	HWY: STH 42	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 4	E



EXISTING TYPICAL SECTION - STH 42

STA. 341+04 - STA. 343+52
STA. 345+38 - STA. 346+42



EXISTING TYPICAL SECTION - MIRRO DRIVE

STA. 1+16 - STA. 2+68

2

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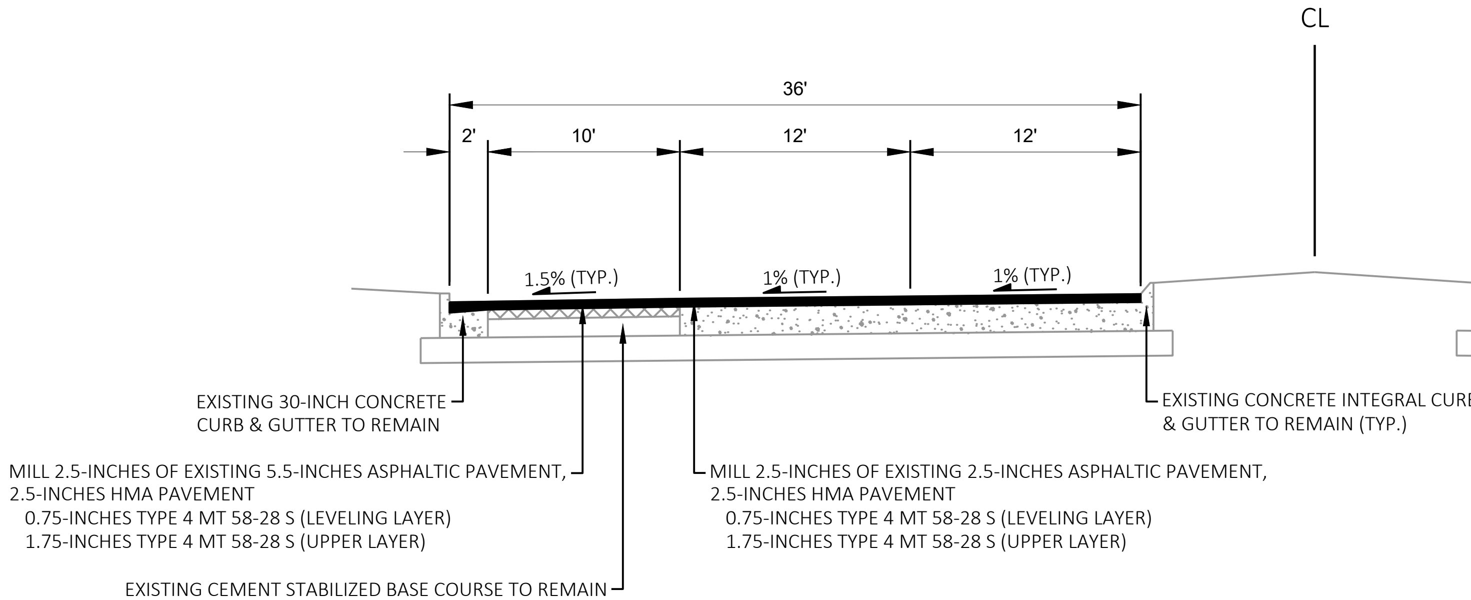
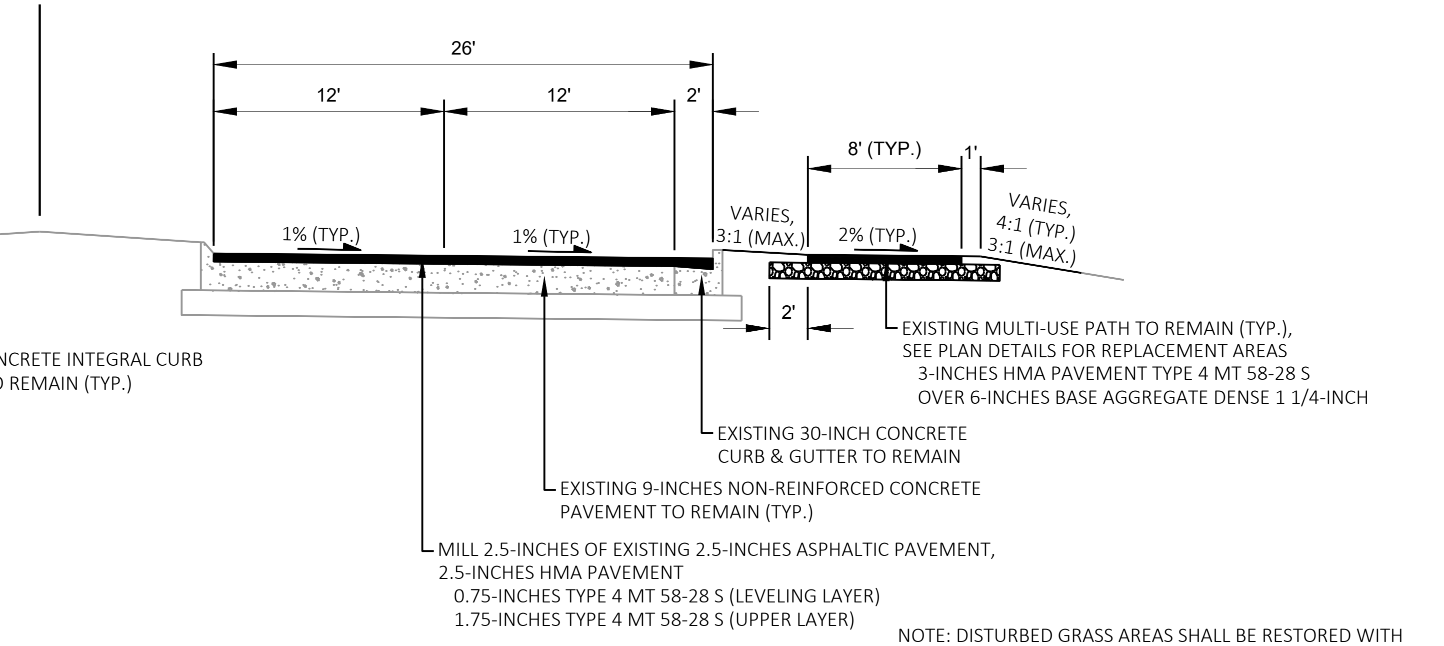


FINISHED TYPICAL SECTION - STH 42

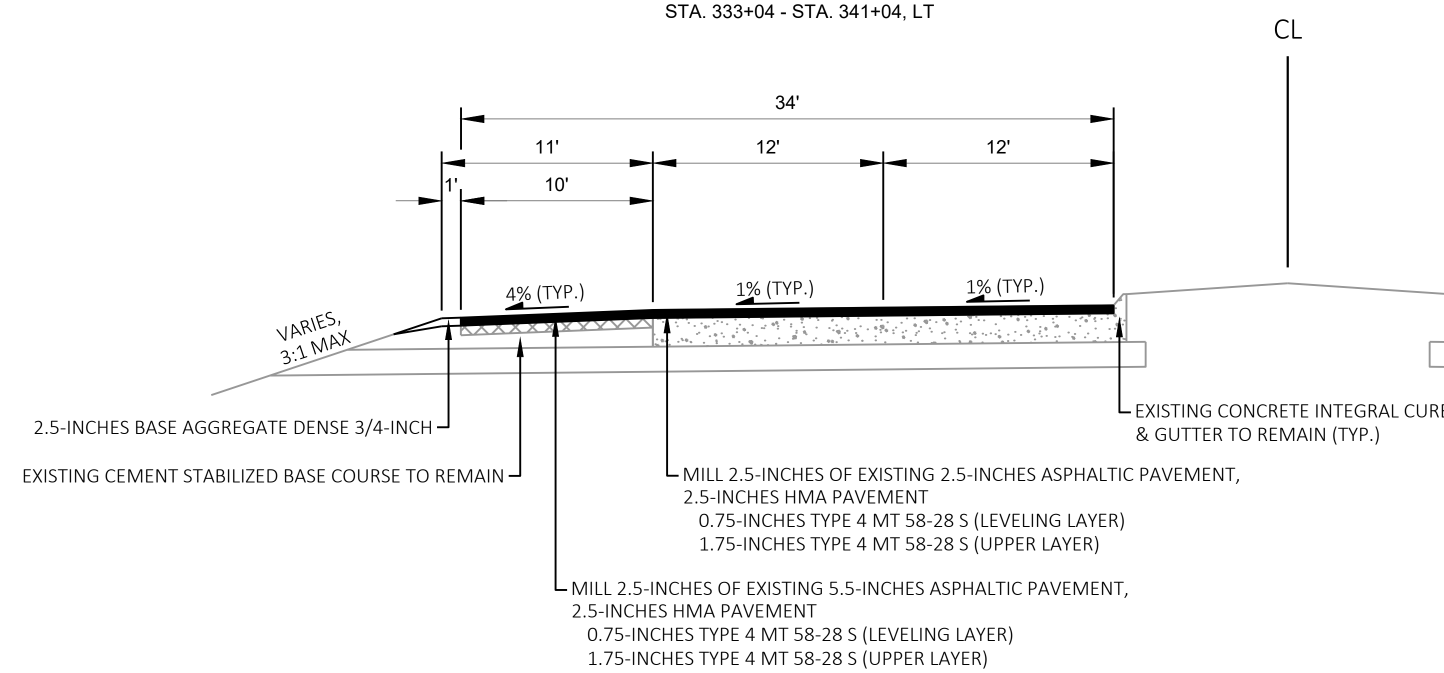
STA. 103+95 - STA. 130+51, LT
STA. 199+34 - STA. 200+41, LT
STA. 205+79 - STA. 209+54, LT
STA. 240+94 - STA. 242+84, LT
STA. 257+04 - STA. 258+04, LT
STA. 295+76 - STA. 302+04, LT
STA. 333+04 - STA. 341+04, LT



FINISHED TYPICAL SECTION - STH 42

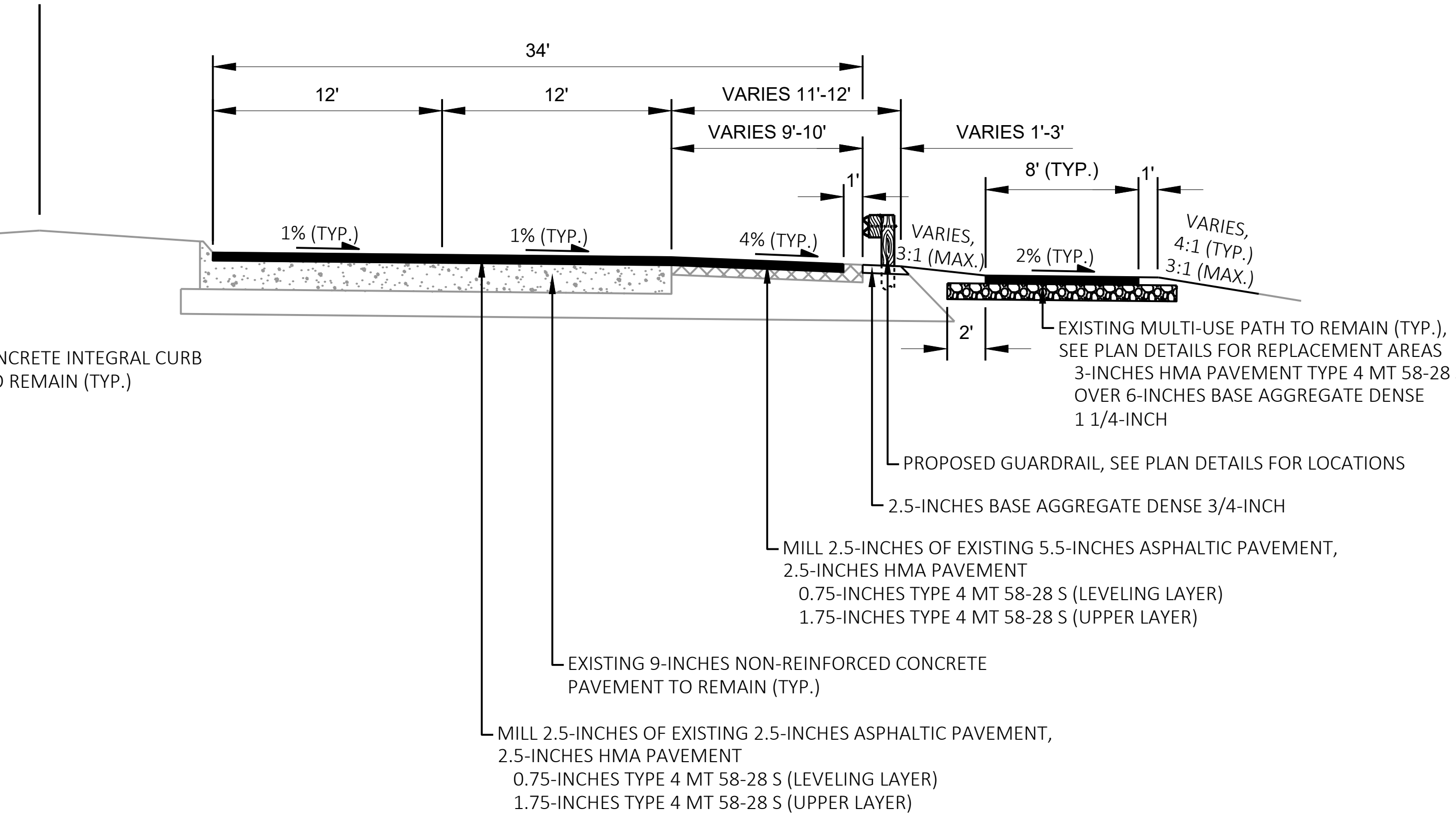
STA. 124+74 - STA. 134+39, RT
STA. 334+42 - STA. 341+04, RT

NOTE: DISTURBED GRASS AREAS SHALL BE RESTORED WITH 6-INCHES TOPSOIL, SEEDING MIXTURE NO. 40, FERTILIZER TYPE B AND EROSION MAT URBAN CLASS I TYPE A (TYP.)
INSTALL SEEDING MIXTURE NO. 60 IN WETLAND AREAS, SEE PLAN DETAILS FOR LOCATIONS.



FINISHED TYPICAL SECTION - STH 42

STA. 130+51 - STA. 184+19, LT
STA. 184+19 - STA. 199+34, LT
STA. 200+41 - STA. 205+79, LT
STA. 209+54 - STA. 240+94, LT
STA. 242+84 - STA. 257+04, LT
STA. 258+04 - STA. 295+76, LT
STA. 302+04 - STA. 333+04, LT

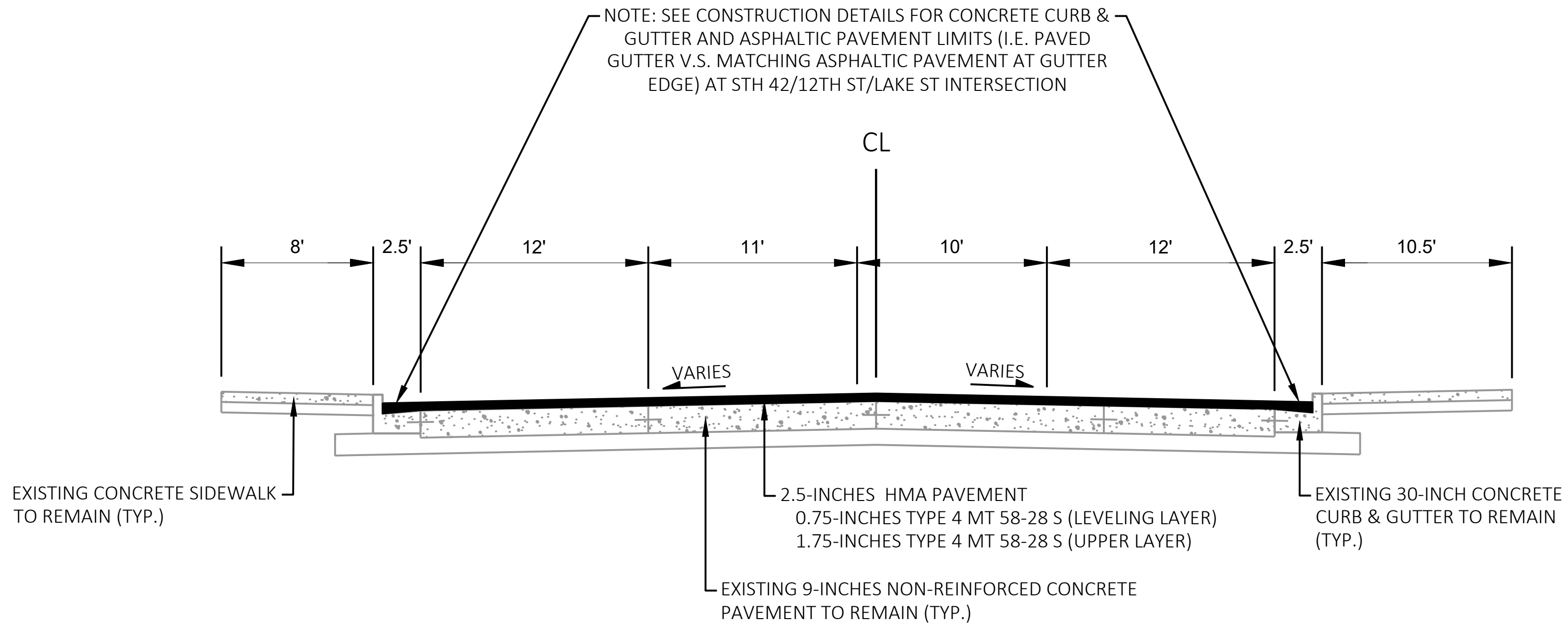


FINISHED TYPICAL SECTION- STH 42

STA. 103+95 - STA. 124+74, RT
STA. 134+39 - STA. 334+42, RT

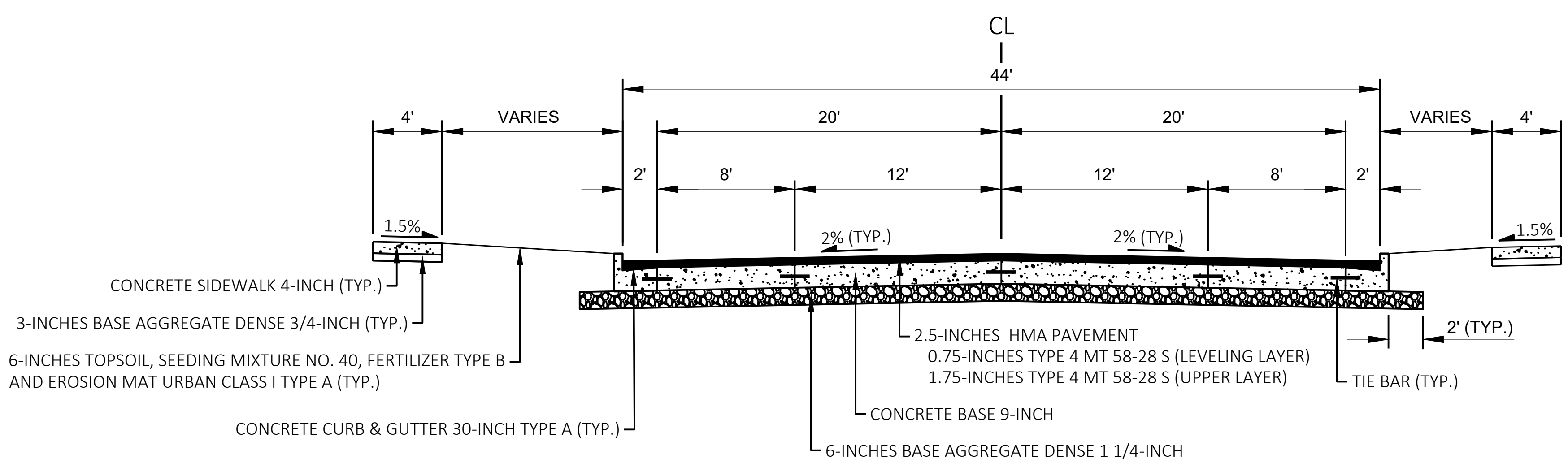
NOTE: DISTURBED GRASS AREAS SHALL BE RESTORED WITH 6-INCHES TOPSOIL, SEEDING MIXTURE NO. 40, FERTILIZER TYPE B AND EROSION MAT URBAN CLASS I TYPE A (TYP.)
INSTALL SEEDING MIXTURE NO. 60 IN WETLAND AREAS, SEE PLAN DETAILS FOR LOCATIONS.

2



FINISHED TYPICAL SECTION - STH 42

STA. 341+04 - STA. 343+52
STA. 345+38 - STA. 346+42

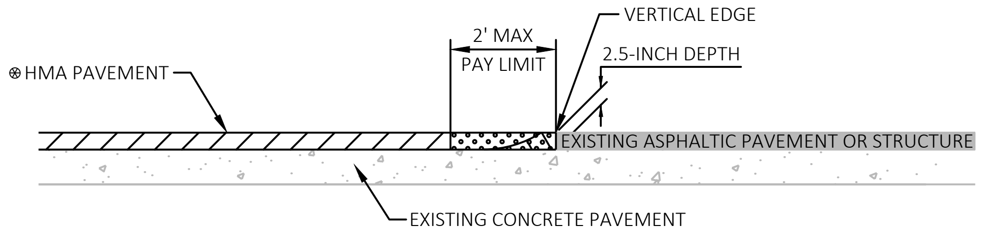


FINISHED TYPICAL SECTION - MIRRO DRIVE

STA. 1+16 - STA. 2+68

PROJECT NO: 1470-27-71/1470-33-71	HWY: STH 42	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 7	E

2

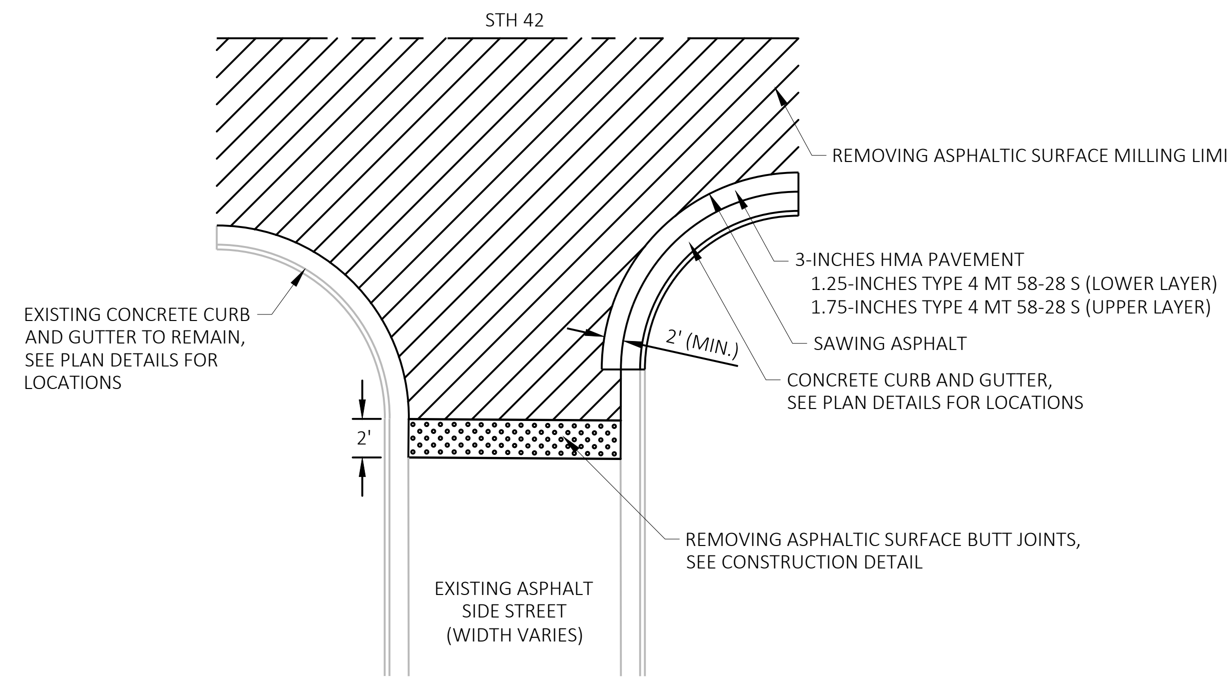


⊛ SEE TYPICAL CROSS SECTION FOR PAVEMENT TYPE AND THICKNESS OF INDIVIDUAL LAYERS

- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- REMOVE ASPHALTIC SURFACE WEDGE AT BUTT JOINT TO CREATE VERTICAL EDGE

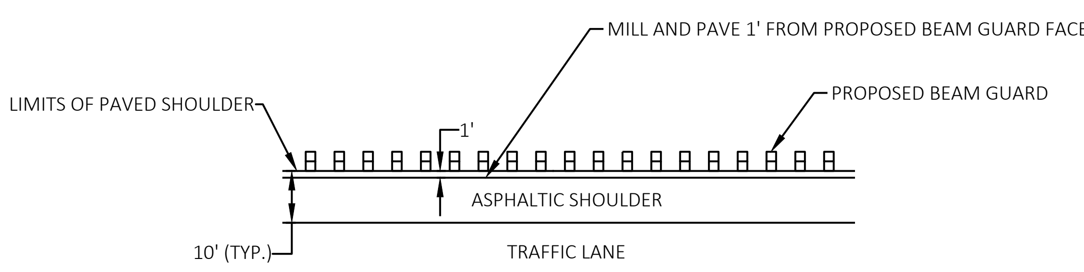
BUTT JOINT DETAIL FOR ASPHALTIC PAVEMENTS (NO PROFILE CHANGE)

STA. 103+95
E. MAGNOLIA AVENUE
JASMINE DRIVE
SPRUCE DRIVE
TAYLOR STREET
ELEANOR STREET
DAVIS STREET
TURNER STREET
LOHMAN ROAD
COLUMBUS STREET
ROOSEVELT AVENUE
MADISON STREET



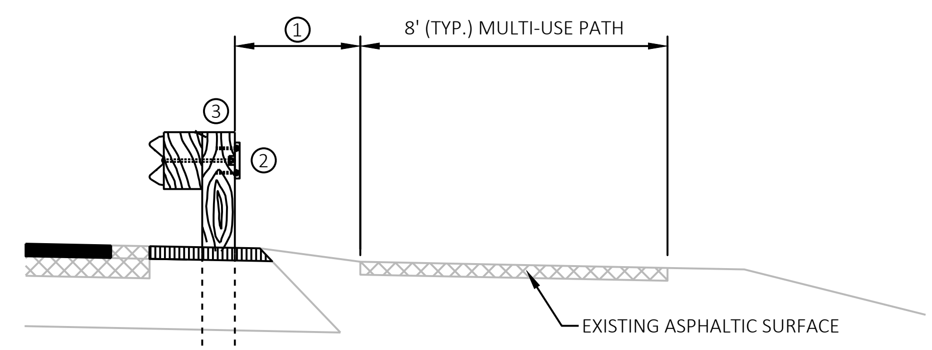
URBAN ASPHALTIC SURFACE SIDE ROAD DETAIL

SIDE ROAD WITH CURB AND GUTTER



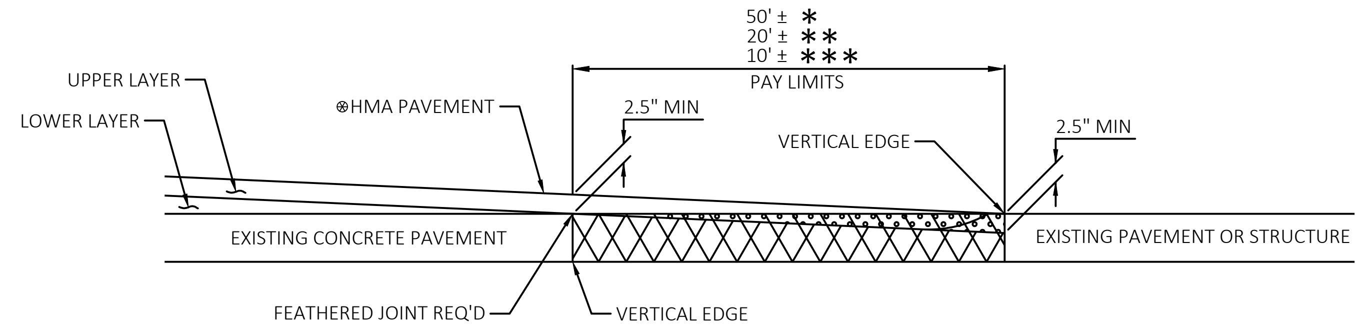
DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD

1. WHEN DISTANCE FROM BACK OF GUARDRAIL POST TO SIDEWALK IS 2-FOOT OR LESS INSTALL 2"X10" TREATED TIMBER RUB RAIL. DO NOT INSTALL ON ENERGY ABSORBING TERMINALS.
2. ATTACH TREATED TIMBER RUB RAIL TO WOOD GUARDRAIL POSTS WITH TWO ½"X6" LAG BOLTS AND ½" FLAT WASHERS PER GUARDRAIL POST. ALL FASTENERS SHALL BE HOT DIP GALVANIZED. SPACE LAG BOLTS AT LEAST 2 INCHES FROM GUARDRAIL BOLT. ALL CARRIAGE BOLTS AND LAG SCREWS THAT ARE ADJACENT TO THE SIDEWALK SHALL BE COUNTERSUNK SUCH THAT BOLTS AND NUTS ARE NOT PROTRUDING FROM TREATED TIMBER RUB RAIL.
3. WOOD GUARDRAIL POSTS TO BE USED IN AREAS WHERE TREATED TIMBER RUB RAIL IS INSTALLED.



TREATED TIMBER RUB RAIL AT GUARDRAIL

STA. 204+50 - STA. 213+95, RT
STA. 216+86 - STA. 242+07, RT
STA. 256+50 - STA. 271+50, RT
STA. 295+19 - STA. 308+04, RT



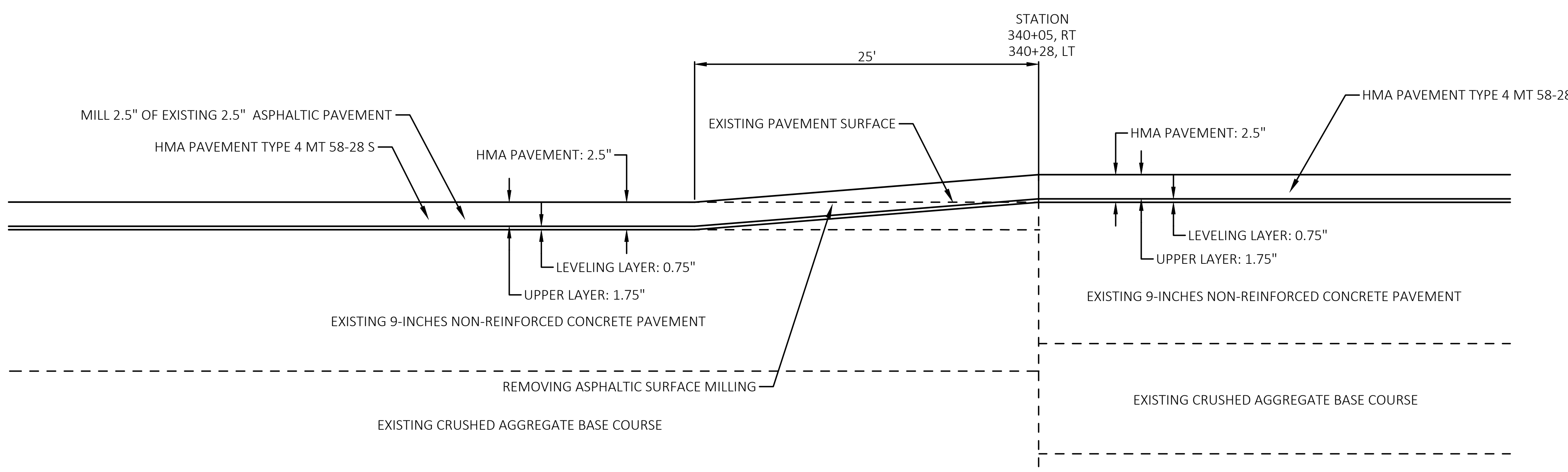
⊛ SEE TYPICAL CROSS SECTION FOR PAVEMENT TYPE AND THICKNESS OF INDIVIDUAL LAYERS

- REMOVING CONCRETE PAVEMENT BUTT JOINTS (FULL DEPTH REMOVAL OPTIONAL)
- CONCRETE PAVEMENT WEDGING (FULL DEPTH REMOVAL OPTION)
- REMOVING CONCRETE PAVEMENT BUTT JOINTS (MILLING OPTION)

* MAINLINE
** SIDEROADS
*** PRIVATE ENTRANCES

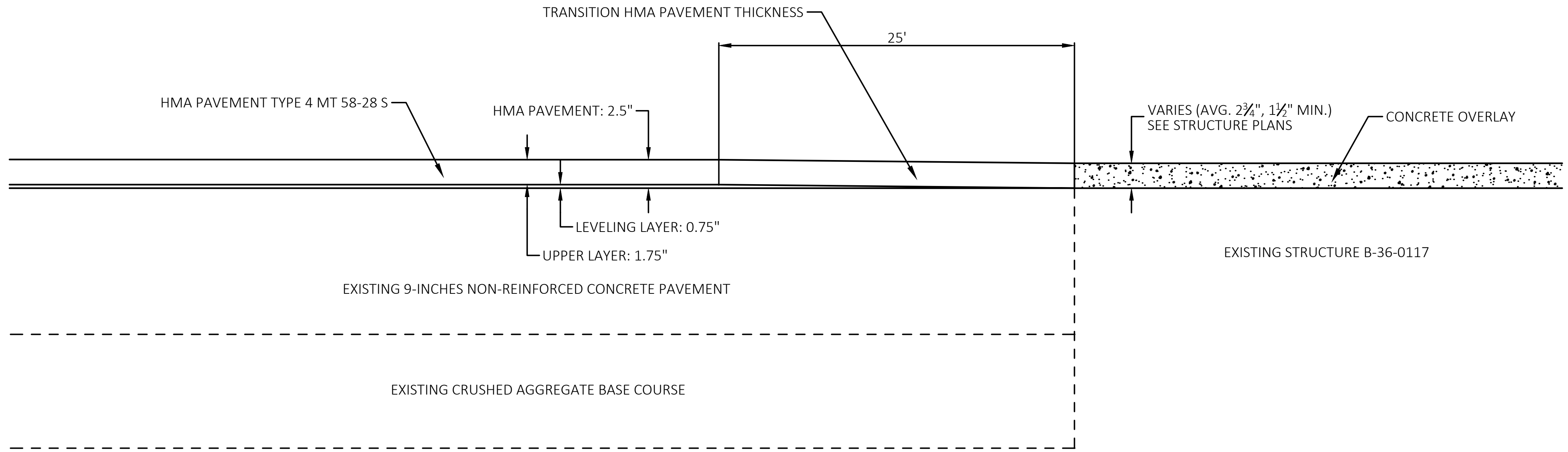
BUTT JOINT DETAIL FOR NON MILLED ASPHALTIC PAVEMENTS (PROFILE CHANGE)

E. REED AVENUE
ROOSEVELT AVENUE
12TH STREET
LAKE STREET
STA. 346+42

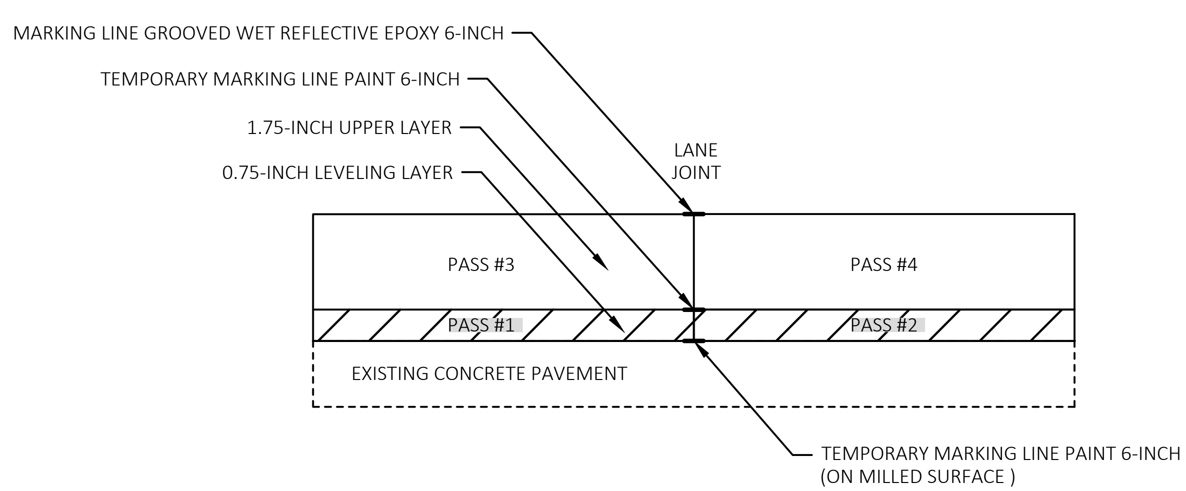


ASPHALT PAVEMENT TO CONCRETE PAVEMENT TRANSITION DETAIL

STA. 340+05, RT
STA. 340+28, LT



CONCRETE PAVEMENT TO STRUCTURE B-36-0117 TRANSITION DETAIL

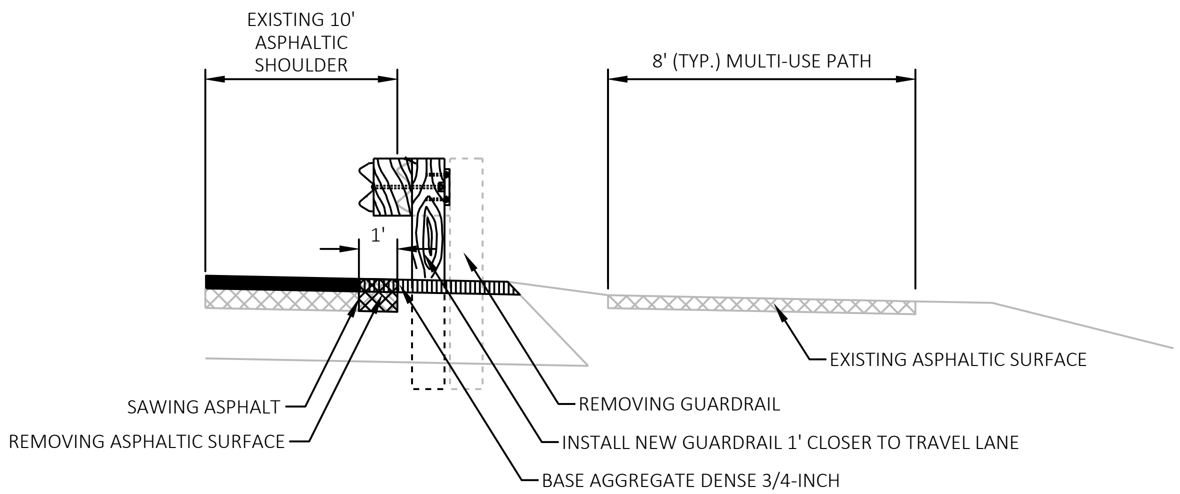


W8-11
48"X48"

NOTES:

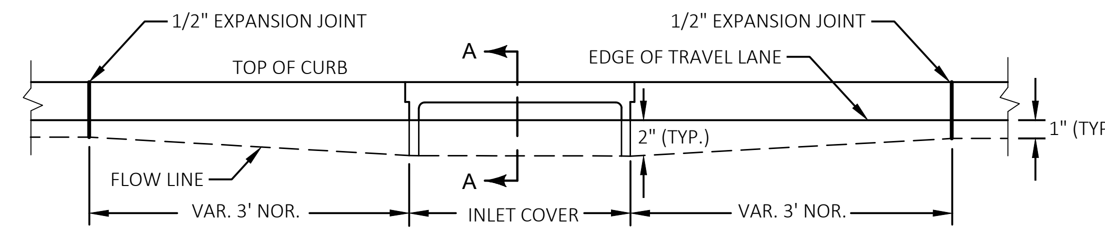
1. TO BE UTILIZED FOR TEMPORARY INSTALLATIONS IN WORK AREAS INVOLVING PAVING LONGITUDINAL JOINTS.
2. UNEVEN LANE SIGNS SHALL BE PLACED AT THE BEGINNING OF JOINT AND AT 1/2 MILE INCREMENTS.
3. SIGNS WILL BE PAID AS TRAFFIC CONTROL SIGNS.
4. REFER TO S.D.D. "TRAFFIC CONTROL, DROP-OFF SIGNING" FOR ADDITIONAL INFORMATION.
5. REFER TO S.D.D. " HMA LONGITUDINAL JOINTS" FOR THE REQUIRED WEDGE AT JOINTS. VERTICAL DROP OFFS ARE NOT ALLOWED.
6. ALL TEMPORARY MARKINGS TO BE OFFSET 3 INCHES FROM LANE JOINT.

LONGITUDINAL JOINTS DETAIL

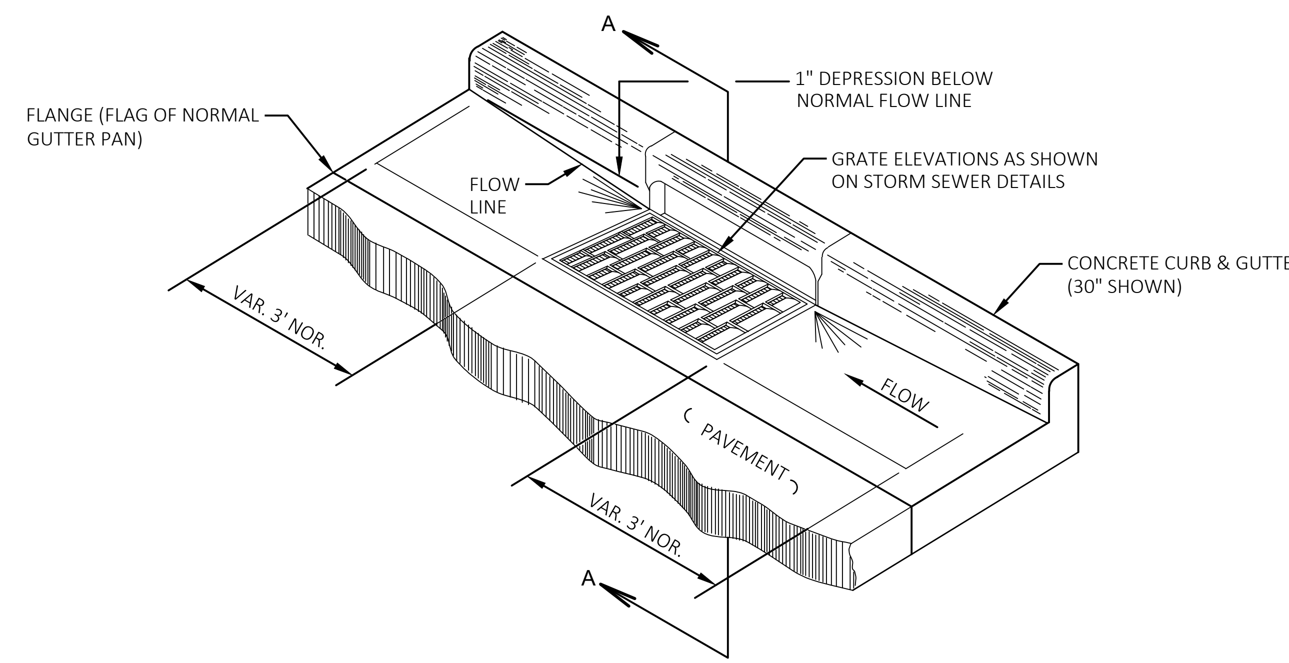


ASPHALTIC SHOULDER REMOVAL FOR GUARDRAIL INSTALLATION NEAR PATH

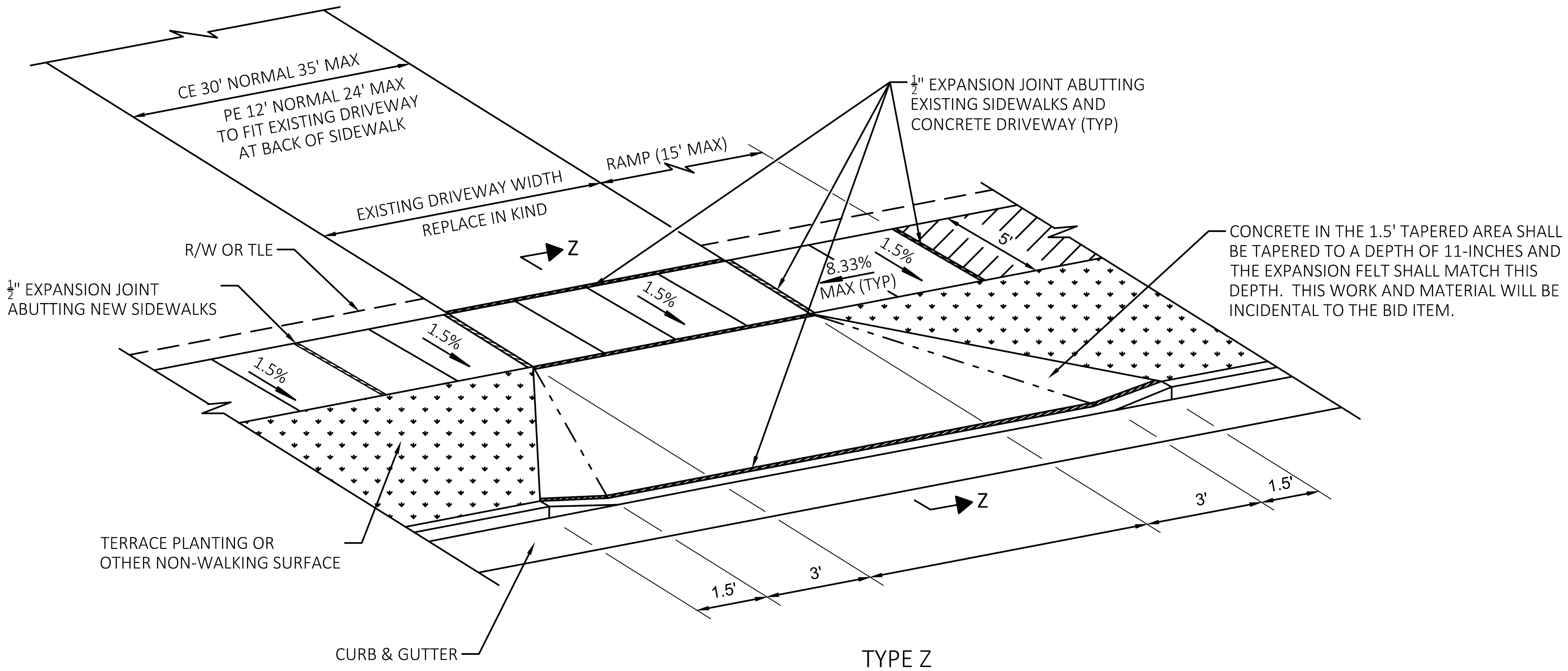
STA. 203+05 - STA. 213+96, RT
STA. 216+84 - STA. 242+08, RT
STA. 253+72 - STA. 274+50, RT
STA. 295+20 - STA. 308+04, RT



ELEVATION



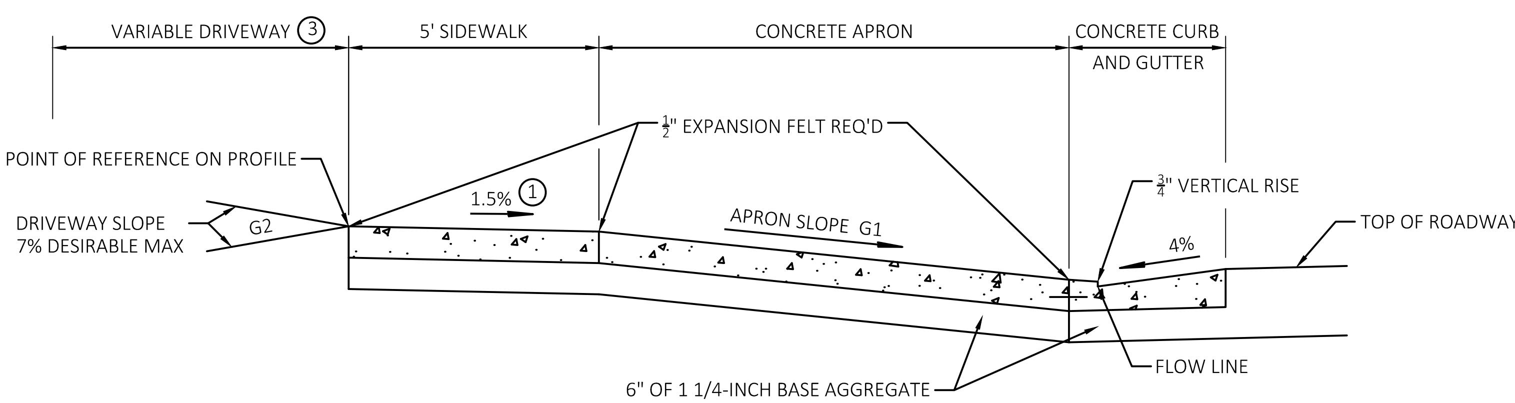
DETAIL OF CURB & GUTTER AT INLETS



TYPE Z

SIDEWALK WITH WIDER TERRACE

TERRACE VARIES 3 TO 8 FEET



SECTION Z-Z

GENERAL NOTES

CONSTRUCTION TOLERANCE OF +/- 0.5% FOR SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

12' MAXIMUM SPACING FOR CONTRACTION JOINTS IN DRIVEWAY APPROACHES.

OFFSETS, ELEVATIONS, AND PERCENT GRADE ARE SHOWN IN THE PLAN.

SIDEWALK AND APRON WITHIN THE LIMITS OF THE DRIVEWAY PAID FOR AS CONCRETE DRIVEWAY, 6-INCH.

USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN PLANS.

DRIVEWAY TYPES

- 6-INCH CONCRETE DRIVEWAY PAVEMENT OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH.
- 3-INCH ASPHALTIC SURFACE OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH.
- 6-INCH BASE AGGREGATE DENSE 3/4-INCH.

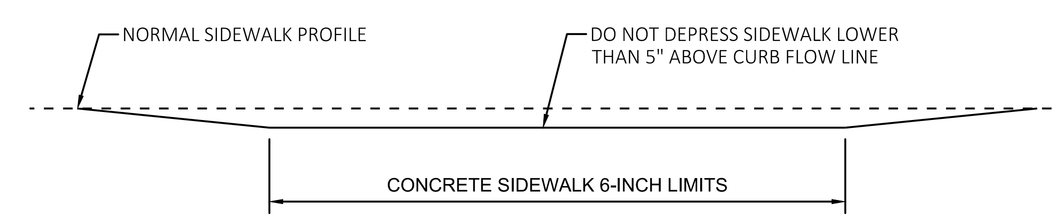
TERRACE WIDTH	APRON SLOPE G1		
	MIN %	DESIRABLE %	MAXIMUM %
3 FT	7.0	8.5	10.0
4 FT	5.0	7.0	10.0
5 FT	4.0	7.0	10.0
6 FT	4.0	7.0	10.0
7 FT	3.5	7.0	10.0
8 FT	3.0	7.0	10.0

NOTE:

ALGEBRAIC DIFFERENCE BETWEEN TANGENT GRADES G1 & G2 NOT TO EXCEED 10% DESIRABLE MAXIMUM.

DEPRESS SIDEWALK PROFILE IF DRIVEWAY APRON EXCEEDS MAXIMUM SLOPE.

SEPARATE PAYMENT FOR BASE AGGREGATE WILL BE MADE.

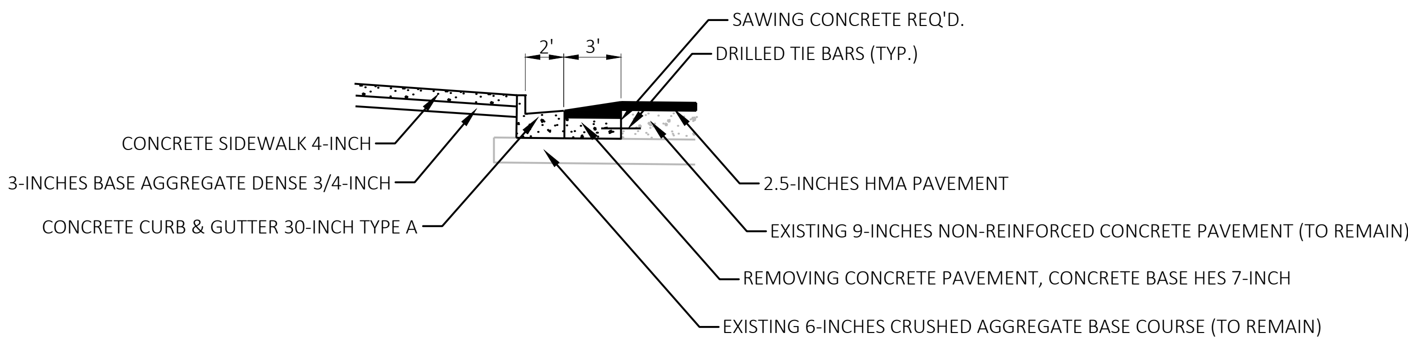


DEPRESSED SIDEWALK PROFILE DETAIL

SEE PLAN FOR ADDITIONAL INFORMATION

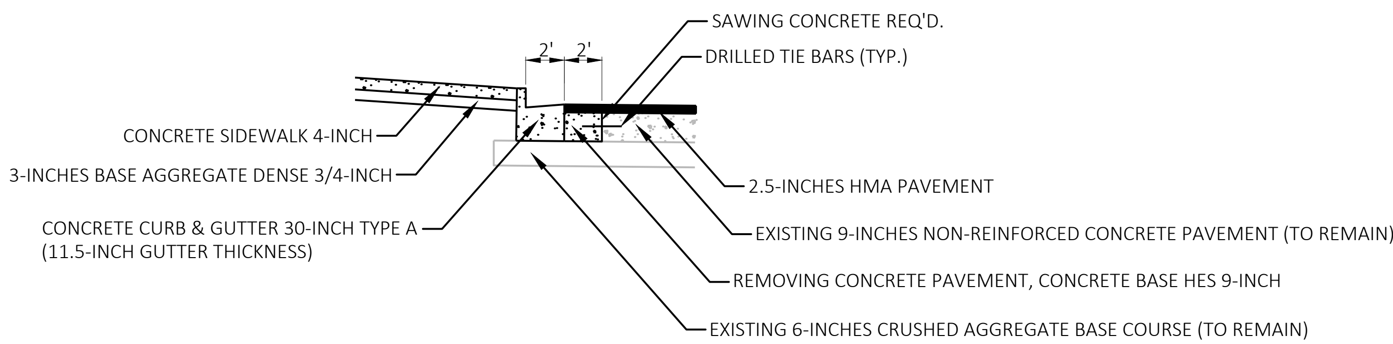
DRIVEWAY ENTRANCE DETAIL WITH SIDEWALK, CURB & GUTTER

STA. 1+59
STA. 1+81



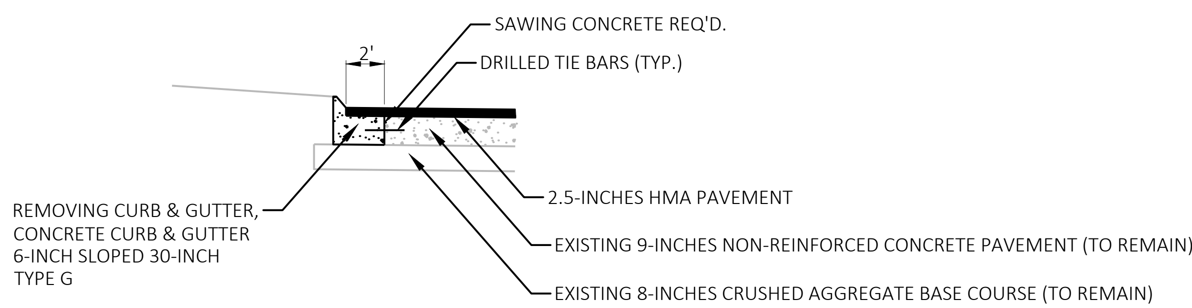
CURB & GUTTER REPLACEMENT AT 12TH STREET/LAKE STREET INTERSECTION

(SOUTHWEST CORNER)

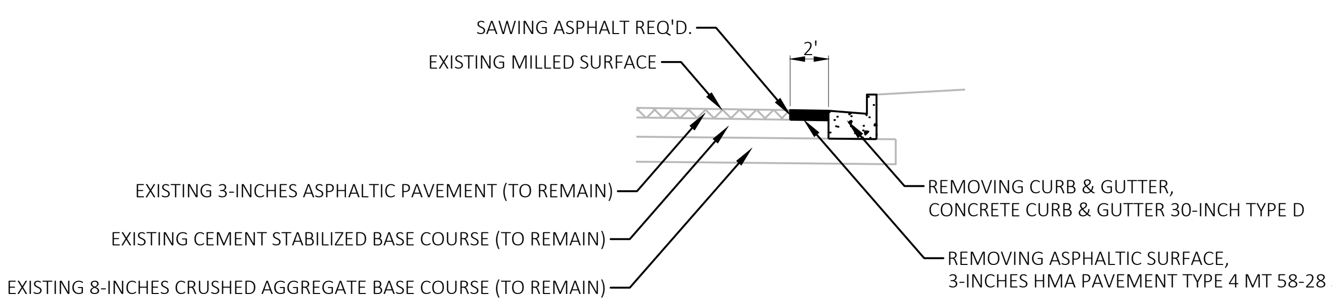


CURB & GUTTER REPLACEMENT AT 12TH STREET/LAKE STREET INTERSECTION

(SOUTHEAST, NORTHEAST AND NORTHWEST CORNERS)

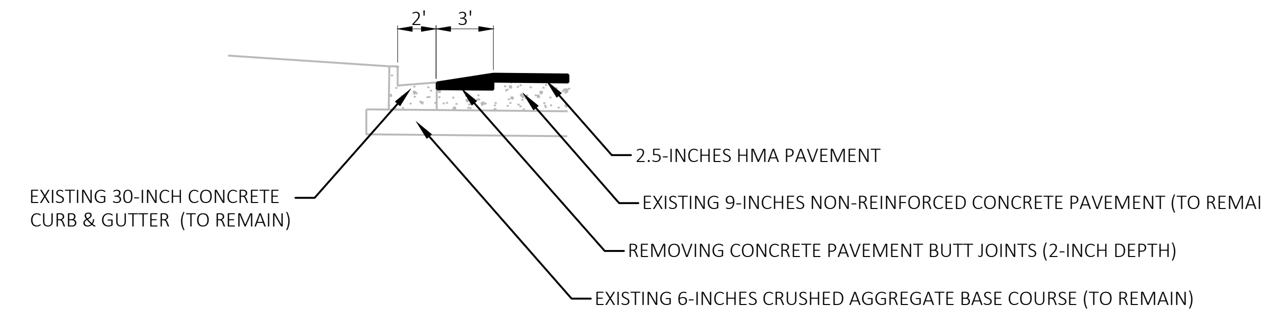


INTEGRAL CURB & GUTTER REPLACEMENT



CURB & GUTTER REPLACEMENT ADJACENT TO ASPHALTIC PAVEMENT

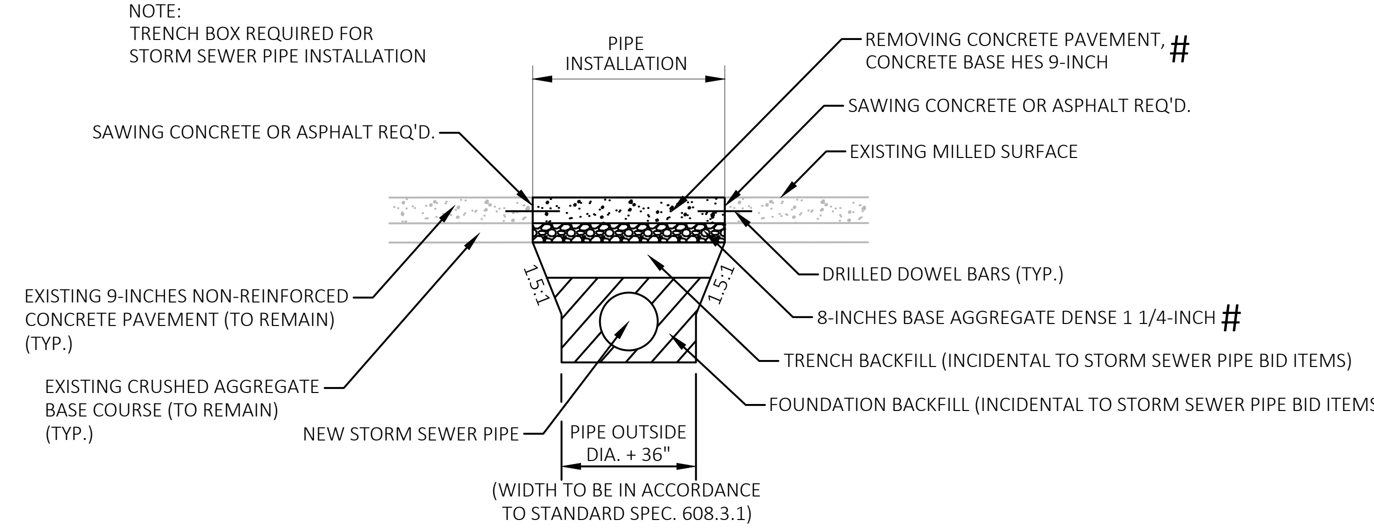
CURB & GUTTER REPLACEMENT DETAIL



CONCRETE PAVEMENT TO CURB & GUTTER TRANSITION DETAIL

STA. 340+28 - STA. 340+87, LT

NOTE:
TRENCH BOX REQUIRED FOR
STORM SEWER PIPE INSTALLATION



PIPE INSTALLATION AREA WILL FOLLOW SECTION 608 FOR INSTALLATION, WIDTHS AND PAYMENT.

CONSTRUCT TRANSITION PERPENDICULAR TO STORM SEWER PIPE.

PAVEMENT SAW CUT TO BE PERPENDICULAR TO ROADWAY ALIGNMENT.

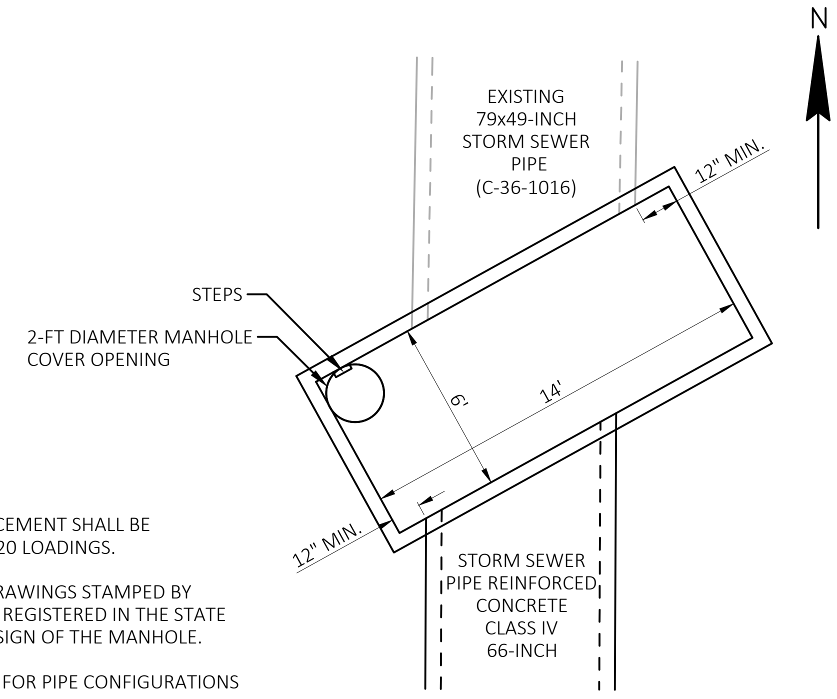
HMA SHOULDER PAVEMENT STRUCTURE SHALL BE:
3-INCHES HMA PAVEMENT TYPE 4 MT 58-28 S OVER
14-INCHES BASE AGGREGATE DENSE 1 1/4-INCH

THE REMOVAL OF THE REMAINING ASPHALT SHOULDER AND EXISTING BASE AGGREGATE DENSE UNDER THE CONCRETE AND ASPHALT PAVEMENTS SHALL BE PAID FOR AS EXCAVATION COMMON.

FOUNDATION BACKFILL

STORM SEWER REPLACEMENT TRENCH DETAIL

2

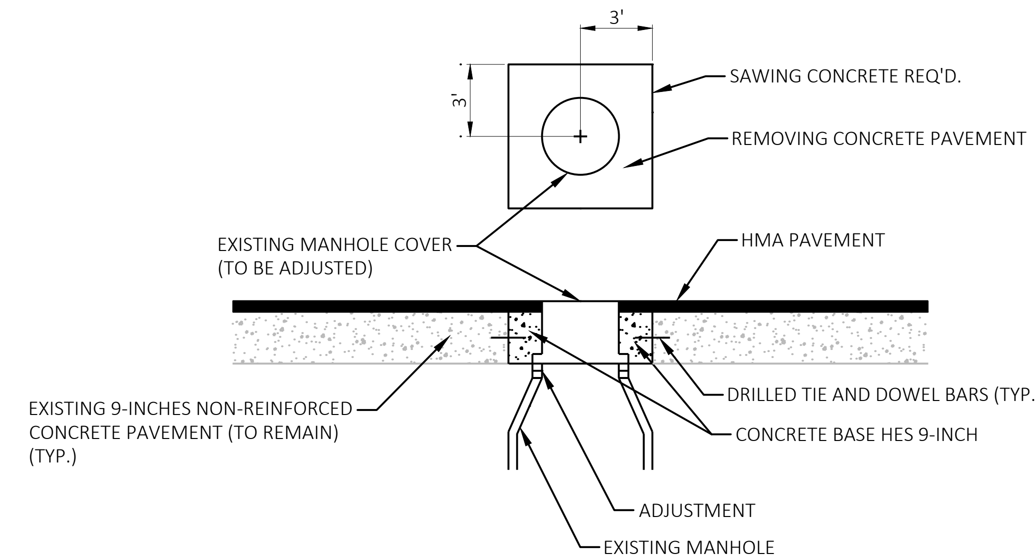


NOTES:

1. STRUCTURES AND REINFORCEMENT SHALL BE DESIGNED TO SUPPORT HS-20 LOADINGS.
2. CONTRACTOR TO SUPPLY DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF WISCONSIN FOR THE DESIGN OF THE MANHOLE.
3. SEE STORM SEWER DETAILS FOR PIPE CONFIGURATIONS AND ELEVATIONS.

MANHOLES 6-FT X 14-FT SPECIAL DETAIL

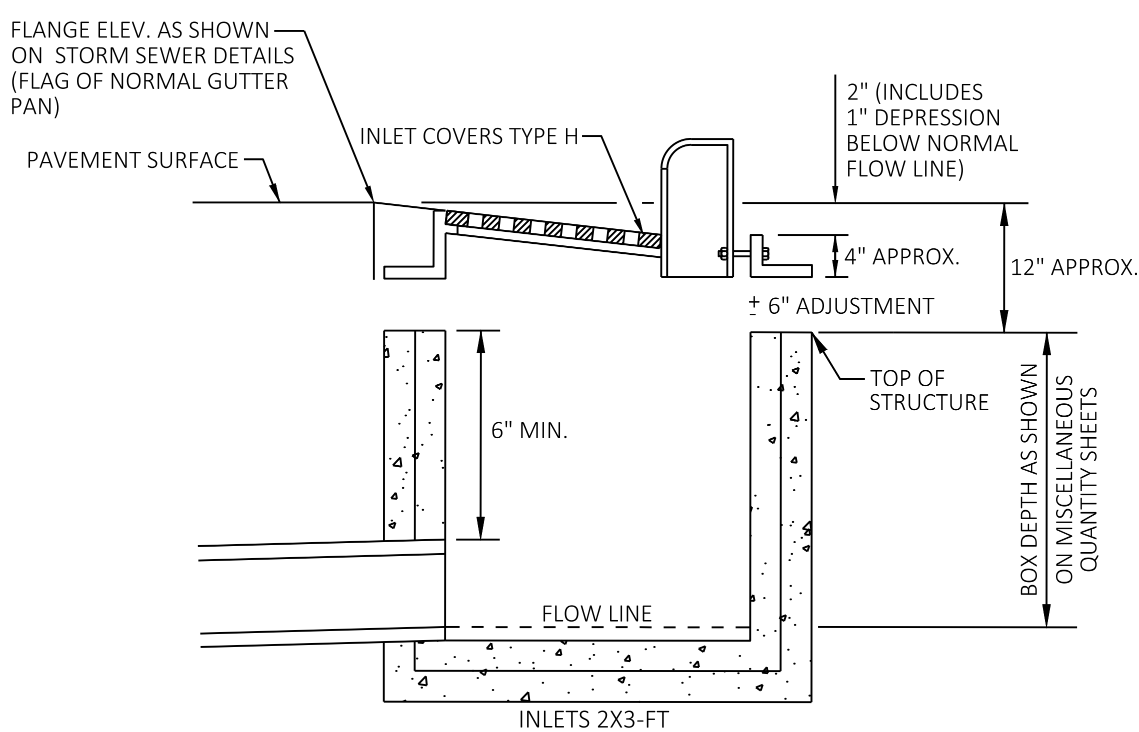
STA. 273+06.5, 37.5' LT.



ADJUSTING MANHOLE COVERS

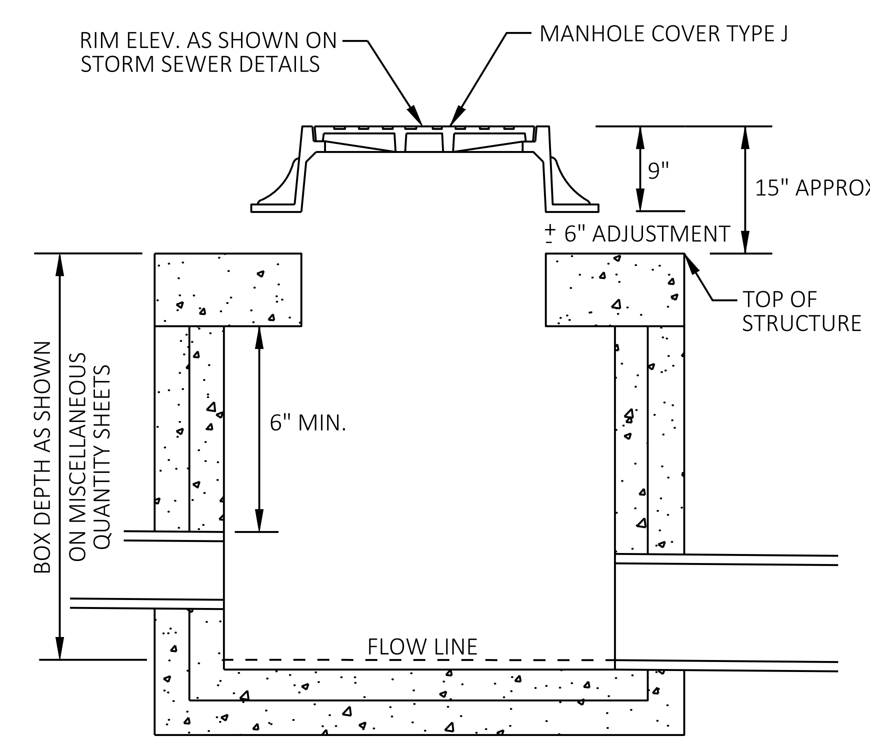
STA. 340+22	STA. 341+61
STA. 340+47	STA. 341+63
STA. 341+07	STA. 341+66
STA. 341+14	STA. 341+97
STA. 341+30	STA. 342+80
STA. 341+40	STA. 345+71
STA. 341+44	

STATION, OFFSETS FOR INLETS
ARE TO CENTER OF STRUCTURE



DETAIL FOR COMPUTING INLET ELEVATIONS

STATION, OFFSETS FOR MANHOLES
ARE TO CENTER OF STRUCTURE

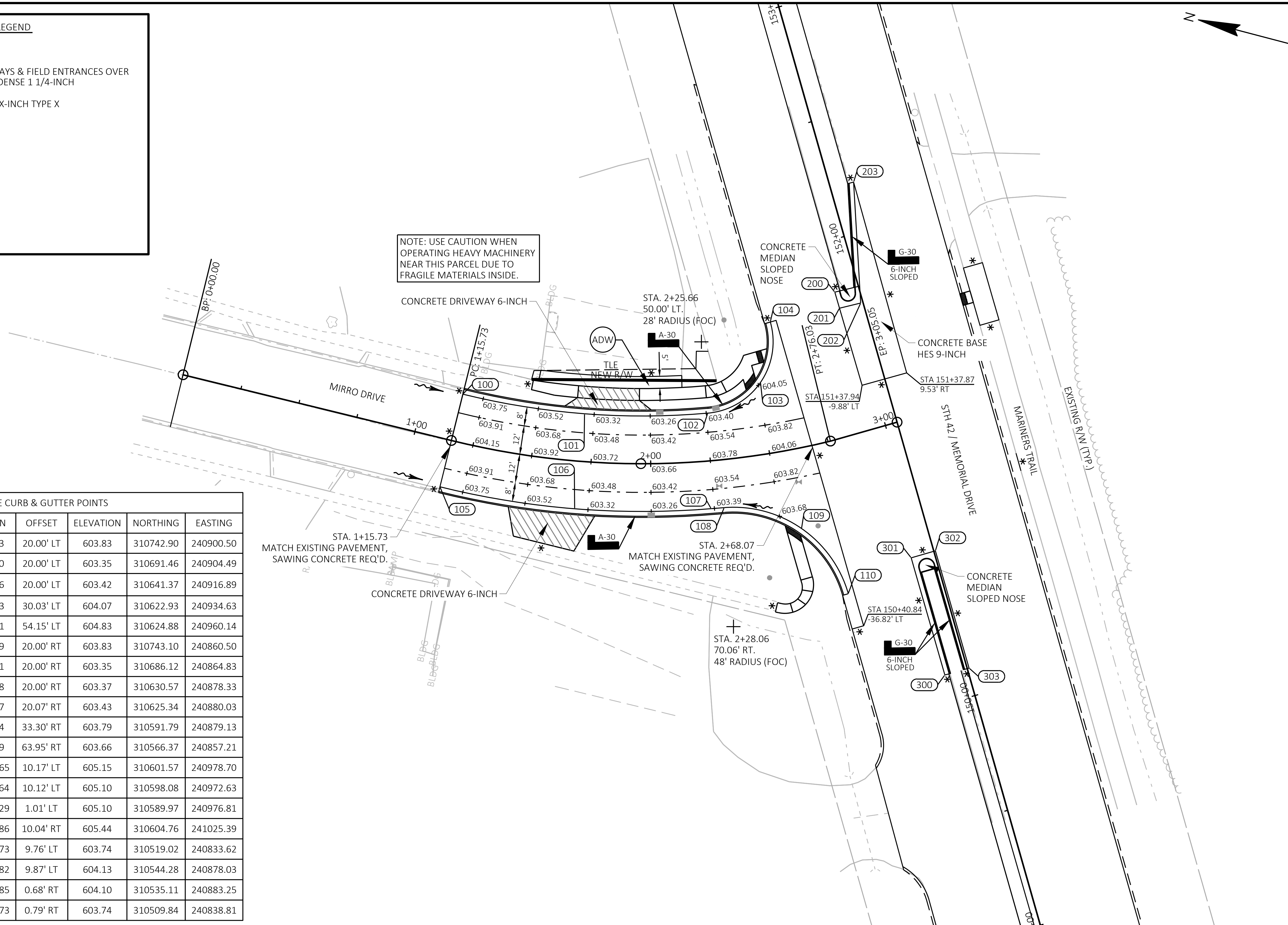


DETAIL FOR COMPUTING MANHOLE ELEVATIONS

2

PAVING DETAIL LEGEND

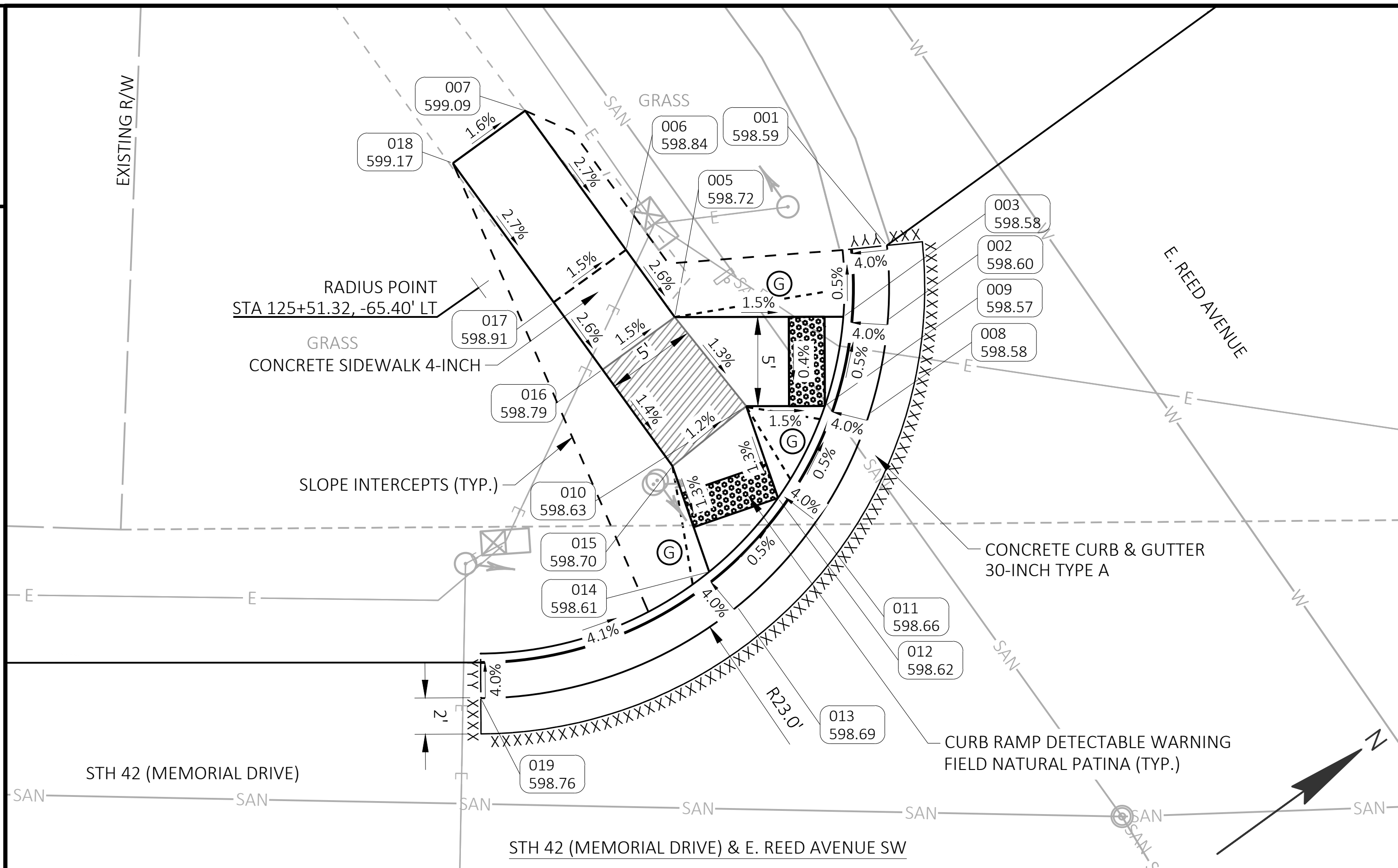
- CONCRETE DRIVEWAY 6-INCH
- ADW — 2-INCHES ASPHALTIC DRIVEWAYS & FIELD ENTRANCES OVER 6-INCHES BASE AGGREGATE DENSE 1 1/4-INCH
- X-XX — CONCRETE CURB & GUTTER XX-INCH TYPE X
- LONGITUDINAL JOINT
- MANHOLE COVER
- INLET COVER
- WATER VALVE
- DRAINAGE DIRECTION
- * SAWCUT REQUIRED

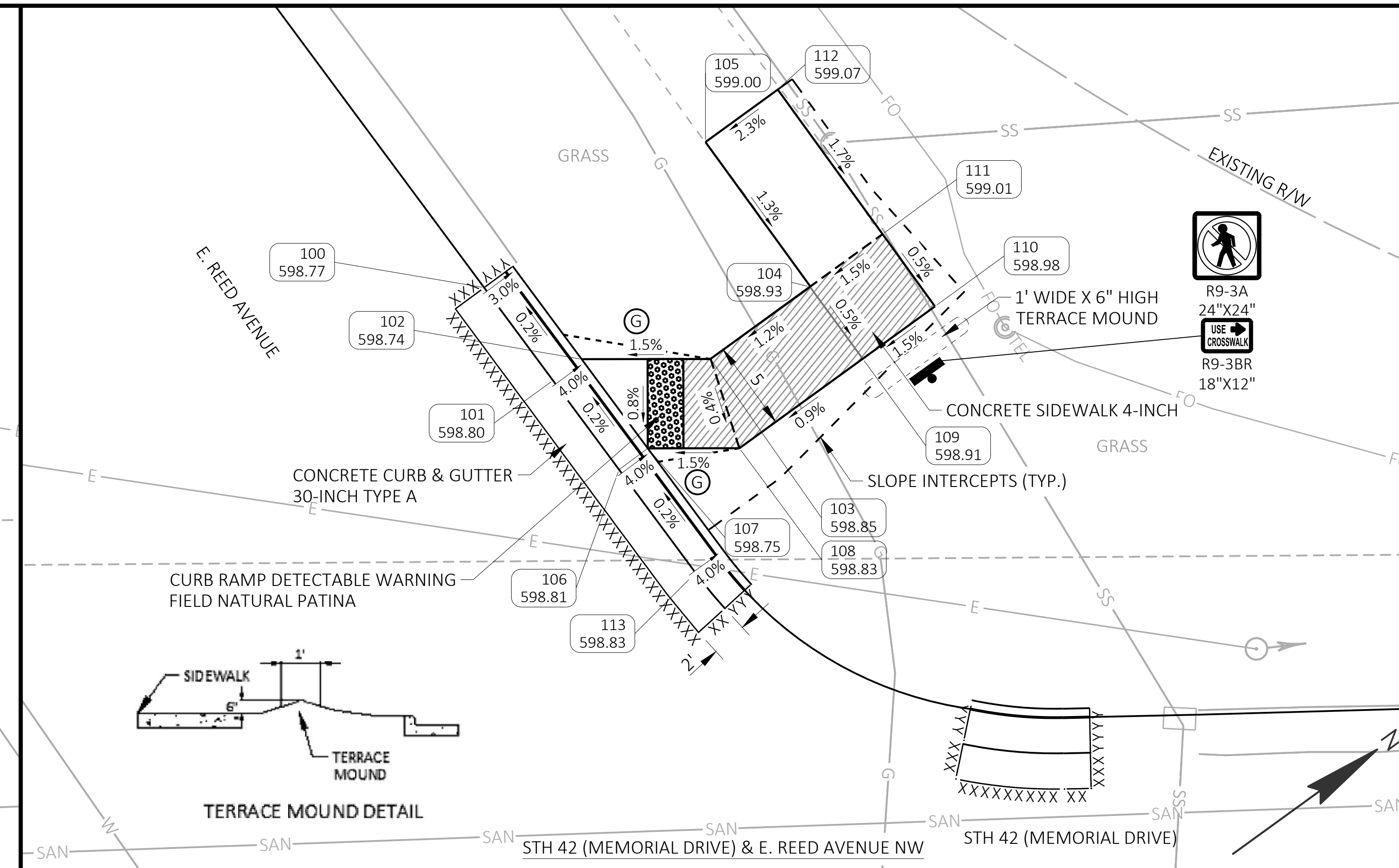


MIRRO DRIVE CURB & GUTTER POINTS

POINT NUMBER	DESCRIPTION	STATION	OFFSET	ELEVATION	NORTHING	EASTING
100	PC	1+15.73	20.00' LT	603.83	310742.90	240900.50
101	MID PT.	1+70.70	20.00' LT	603.35	310691.46	240904.49
102	PT/PC	2+25.66	20.00' LT	603.42	310641.37	240916.89
103	MID PT.	2+51.13	30.03' LT	604.07	310622.93	240934.63
104	PT	2+60.91	54.15' LT	604.83	310624.88	240960.14
105	PC	1+15.69	20.00' RT	603.83	310743.10	240860.50
106	MID PT.	1+69.71	20.00' RT	603.35	310686.12	240864.83
107	PT	2+23.68	20.00' RT	603.37	310630.57	240878.33
108	PC	2+28.87	20.07' RT	603.43	310625.34	240880.03
109	MID PT.	2+57.44	33.30' RT	603.79	310591.79	240879.13
110	PT	2+69.39	63.95' RT	603.66	310566.37	240857.21
200	BEGIN C&G	151+78.65	10.17' LT	605.15	310601.57	240978.70
201	END C&G	151+71.64	10.12' LT	605.10	310598.08	240972.63
202	END C&G	151+71.29	1.01' LT	605.10	310589.97	240976.81
203	BEGIN C&G	152+20.86	10.04' RT	605.44	310604.76	241025.39
300	BEGIN C&G	150+11.73	9.76' LT	603.74	310519.02	240833.62
301	END C&G	150+62.82	9.87' LT	604.13	310544.28	240878.03
302	END C&G	150+62.85	0.68' RT	604.10	310535.11	240883.25
303	BEGIN C&G	150+11.73	0.79' RT	603.74	310509.84	240838.81

2





2

Reed SW

POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
001	125+74.50	68.02' LT	598.59	308830.99	239126.44
002	125+74.57	63.83' LT	598.60	308828.55	239129.85
003	125+72.06	64.00' LT	598.58	308826.67	239128.24
005	125+62.48	63.89' LT	598.72	308819.01	239122.71
006	125+59.67	67.62' LT	598.84	308819.01	239118.07
007	125+53.83	75.36' LT	599.09	308819.01	239108.43
008	125+73.58	58.58' LT	598.58	308824.65	239133.50
009	125+71.06	58.99' LT	598.57	308822.90	239131.69
010	125+66.60	58.94' LT	598.63	308819.33	239129.11
011	125+70.43	52.47' LT	598.66	308818.52	239136.56
012	125+68.44	53.81' LT	598.62	308817.74	239134.31
013	125+66.19	47.71' LT	598.69	308812.32	239137.90
014	125+64.59	49.64' LT	598.61	308812.20	239135.40
015	125+62.45	55.55' LT	598.70	308814.01	239129.39
016	125+58.41	60.91' LT	598.79	308814.01	239122.71
017	125+55.60	64.64' LT	598.91	308814.01	239118.07
018	125+49.75	72.37' LT	599.17	308814.01	239108.43
019	125+51.75	42.41' LT	598.76	308797.68	239133.62

Reed NW

POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
100	126+26.51	68.28' LT	598.77	308872.54	239156.43
101	126+30.41	63.06' LT	598.80	308872.60	239162.90
102	126+32.04	64.25' LT	598.74	308874.60	239162.88
103	126+39.35	64.22' LT	598.85	308880.45	239167.11
104	126+45.04	68.23' LT	598.93	308887.34	239167.11
105	126+39.14	76.39' LT	599.00	308887.36	239157.10
106	126+34.13	58.05' LT	598.81	308872.67	239169.12
107	126+35.77	59.24' LT	598.75	308874.67	239169.10
108	126+40.97	59.22' LT	598.83	308878.83	239172.11
109	126+48.01	64.18' LT	598.91	308887.36	239172.11
110	126+52.14	67.08' LT	598.98	308892.36	239172.11
111	126+49.19	71.16' LT	599.01	308892.36	239167.11
112	126+43.28	79.30' LT	599.07	308892.36	239157.10
113	126+38.45	52.24' LT	598.83	308872.74	239176.33

LEGEND:

XXXX	SAWING ASPHALT REQ'D
YYYY	SAWING CONCRETE REQ'D
	ADA LANDING
G	6:1 GRADED FLARE
C	10:1 CONCRETE FLARE
PED	CONCRETE CURB PEDESTRIAN
XXXX YYY.YY	POINT NUMBER & ELEVATION

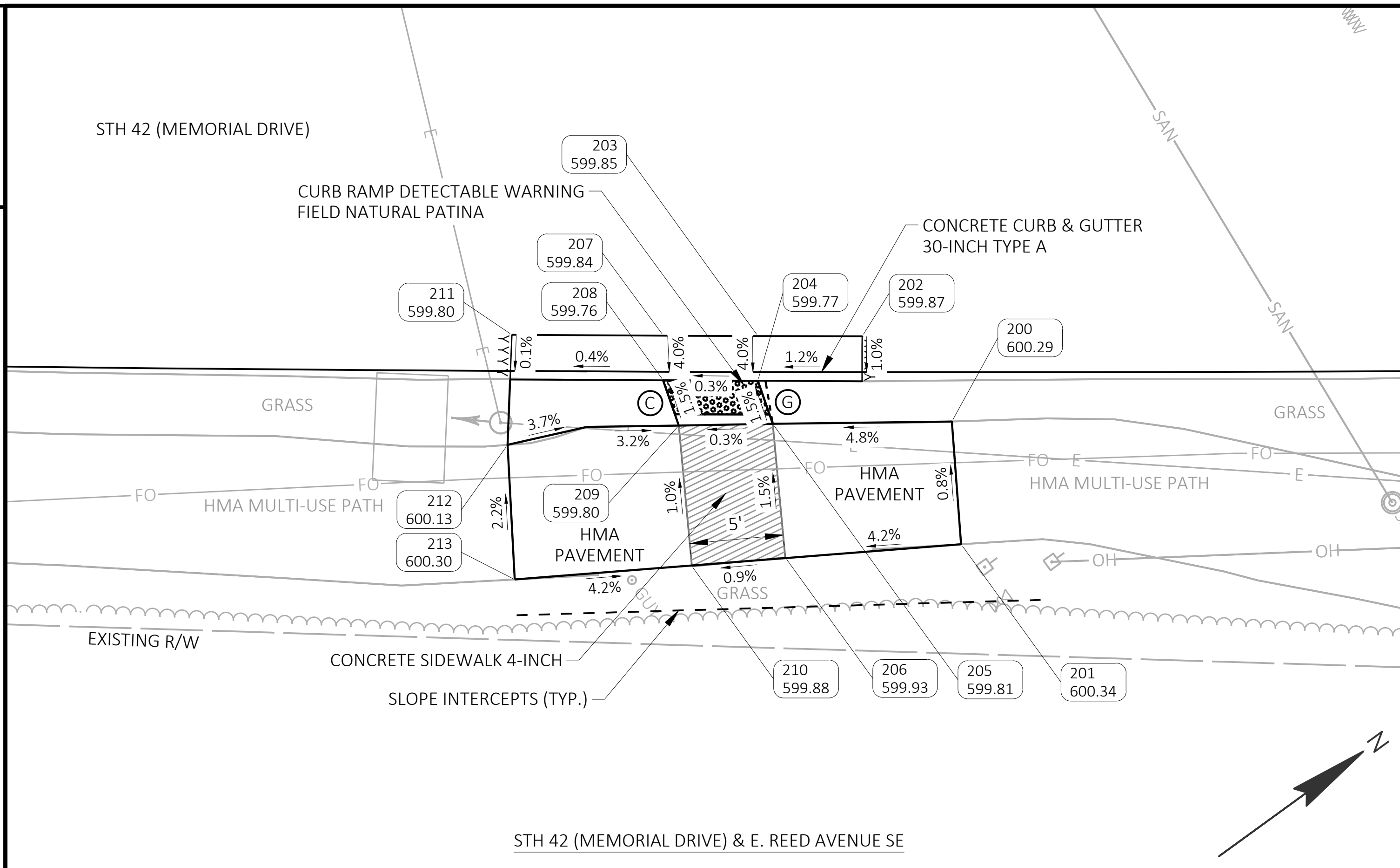
NOTES:

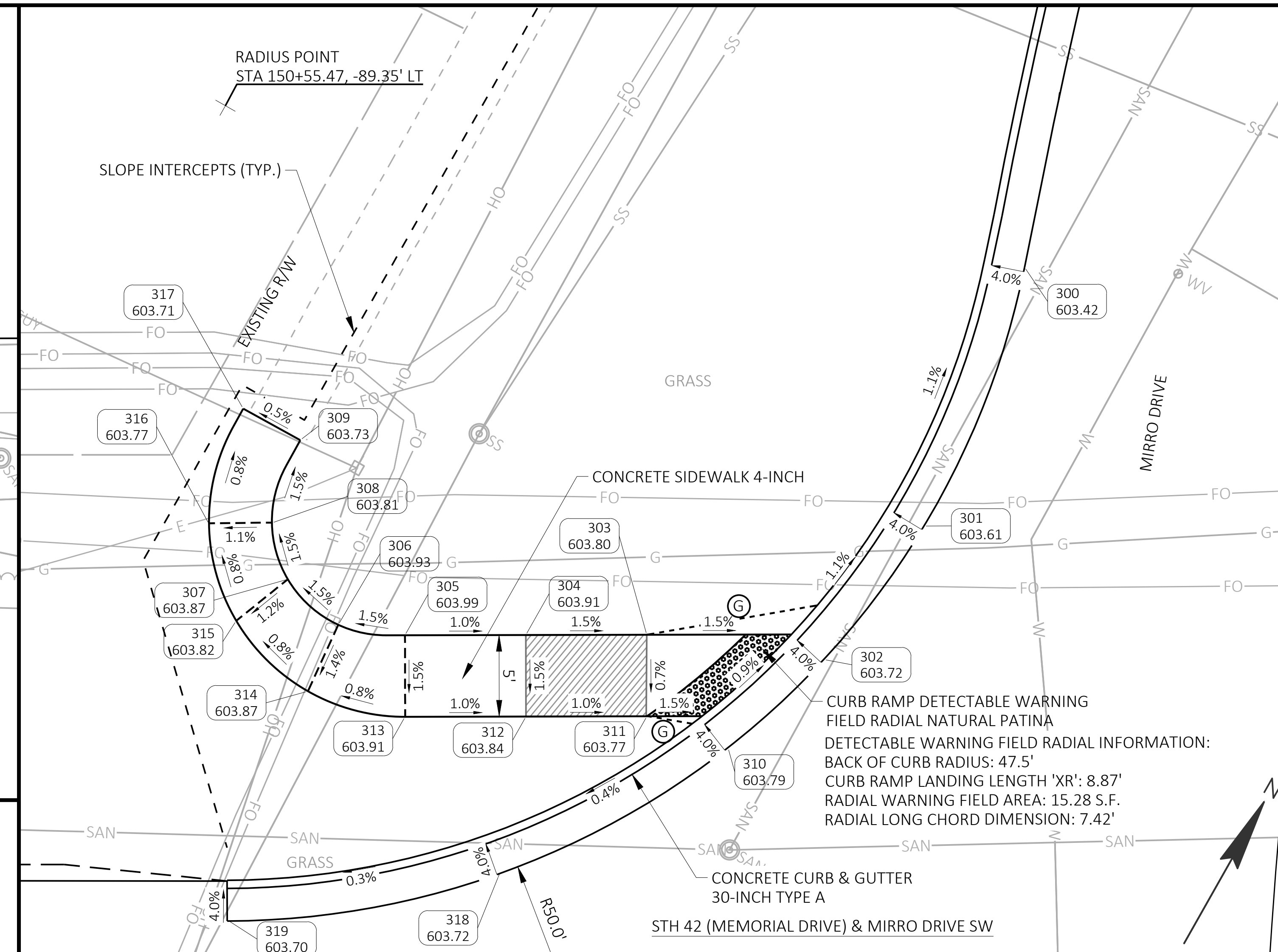
1. FIELD VERIFY ELEVATION GRADES, SLOPES, LENGTHS AND MATCH POINTS, PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.
2. THE ENGINEER MAY ADJUST TO FIT FIELD CONDITIONS.
3. DASHED LINES SHOWN FOR FINISHED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS.
4. SEE AND FOLLOW THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.

PROJECT NO: 1470-37-71	HWY: STH 42	COUNTY: MANITOWOC	CURB RAMP DETAILS	SHEET	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\021301-CR.DWG
LAYOUT NAME - 021301-cr
PLOT DATE : 12/12/2024 4:06 PM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2





2

Reed SE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
200	126+10.65	37.24' RT	600.29	308797.88	239232.65
201	126+11.17	44.09' RT	600.34	308794.28	239238.51
202	126+05.67	32.48' RT	599.87	308796.62	239225.85
203	125+99.88	32.48' RT	599.85	308791.91	239222.42
204	125+99.88	34.98' RT	599.77	308790.44	239224.44
205	126+00.71	37.38' RT	599.81	308789.70	239226.87
206	126+01.42	44.85' RT	599.93	308785.88	239233.33
207	125+94.62	32.48' RT	599.84	308787.64	239219.29
208	125+94.63	34.98' RT	599.76	308786.16	239221.31
209	125+95.50	37.49' RT	599.80	308785.38	239223.86
210	125+96.25	45.35' RT	599.88	308781.36	239230.66
211	125+86.20	32.47' RT	599.80	308780.80	239214.28
212	125+85.99	38.62' RT	600.13	308776.99	239219.11
213	125+86.44	46.14' RT	600.30	308772.90	239225.43

Mirro SW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
300	151+04.47	79.44' LT	603.42	310625.34	240880.03
301	150+98.30	63.57' LT	603.61	310608.48	240882.48
302	150+92.16	55.39' LT	603.72	310598.35	240881.16
303	150+81.30	56.91' LT	603.80	310594.32	240870.96
304	150+73.89	56.89' LT	603.91	310590.65	240864.51
305	150+66.47	56.87' LT	603.99	310586.99	240858.06
306	150+62.38	57.51' LT	603.93	310585.53	240854.19
307	150+59.29	60.31' LT	603.87	310586.44	240850.12
308	150+58.31	63.76' LT	603.81	310588.97	240847.57
309	150+60.06	68.84' LT	603.73	310594.24	240846.59
310	150+86.29	49.98' LT	603.79	310590.74	240878.71

LEGEND:

XXXX	SAWING ASPHALT REQ'D
YYYY	SAWING CONCRETE REQ'D
	ADA LANDING
G	6:1 GRADED FLARE
C	10:1 CONCRETE FLARE
PED	CONCRETE CURB PEDESTRIAN
XXXX YYY.YY	POINT NUMBER & ELEVATION

NOTES:

1. FIELD VERIFY ELEVATION GRADES, SLOPES, LENGTHS AND MATCH POINTS, PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.
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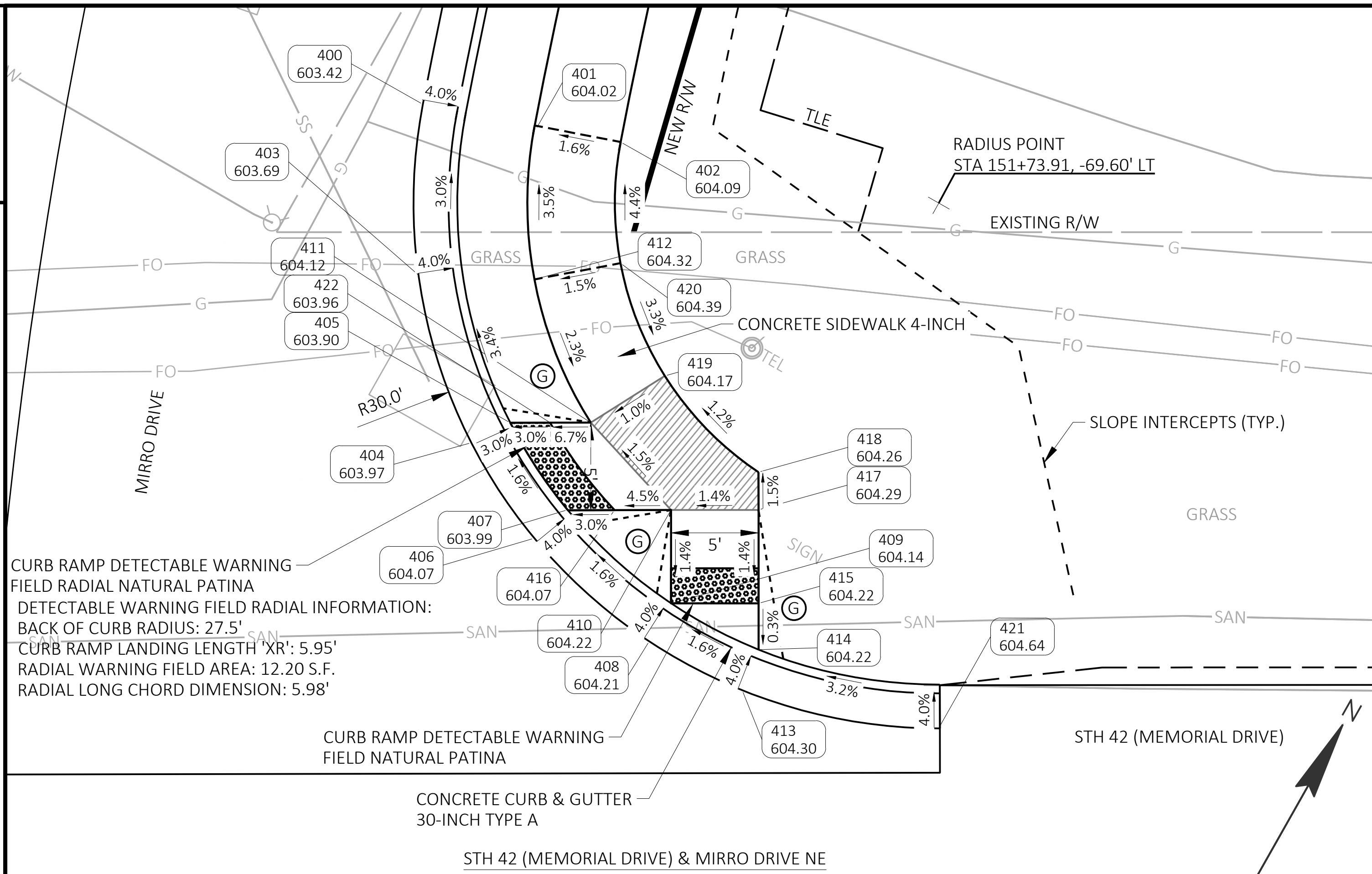
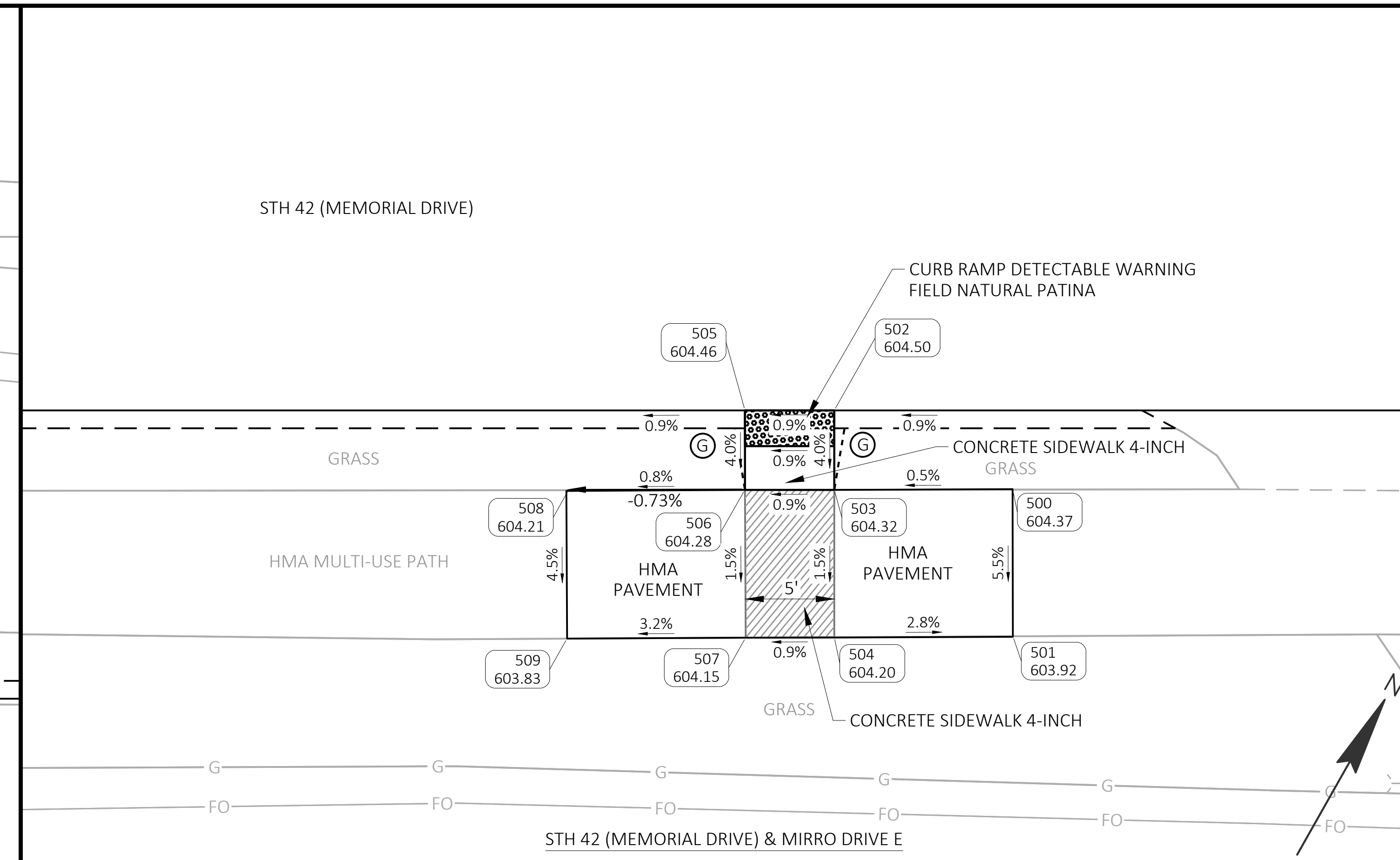
4. SEE AND FOLLOW THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.





Mirro NE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
400	151+44.45	75.24' LT	603.42	310641.36	240916.89
401	151+50.90	73.81' LT	604.02	310643.29	240923.22
402	151+55.74	73.08' LT	604.09	310645.05	240927.79
403	151+44.34	65.36' LT	603.69	310632.71	240921.66
404	151+47.22	55.91' LT	603.97	310625.90	240928.82
405	151+49.44	57.05' LT	603.90	310627.99	240930.20
406	151+50.81	50.46' LT	604.07	310622.93	240934.63
407	151+52.71	52.08' LT	603.99	310625.28	240935.49
408	151+57.38	44.58' LT	604.21	310621.04	240943.25
409	151+58.62	46.74' LT	604.14	310623.54	240943.26
410	151+58.62	52.07' LT	604.22	310628.17	240940.64
411	151+54.04	57.06' LT	604.12	310630.26	240934.19

Mirro NE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
412	151+50.82	65.24' LT	604.32	310635.79	240927.37
413	151+62.68	41.78' LT	604.30	310621.22	240949.24
414	151+63.61	44.10' LT	604.22	310623.70	240948.91
415	151+63.62	46.74' LT	604.22	310626.00	240947.61
416	151+55.40	52.06' LT	604.07	310626.58	240937.84
417	151+63.62	52.08' LT	604.29	310630.64	240944.98
418	151+63.61	54.23' LT	604.26	310632.51	240943.92
419	151+58.26	59.73' LT	604.17	310634.67	240936.56
420	151+55.73	66.16' LT	604.39	310639.02	240931.19
421	151+73.91	39.61' LT	604.64	310624.86	240960.08
422	151+51.74	57.05' LT	603.96	310629.12	240932.20

Mirro E					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
500	151+73.61	44.44' RT	604.37	310551.55	241001.20
501	151+73.62	52.65' RT	603.92	310544.41	241005.25
502	151+63.62	40.00' RT	604.50	310550.50	240990.32
503	151+63.62	44.45' RT	604.32	310546.63	240992.51
504	151+63.62	52.70' RT	604.20	310539.44	240996.57
505	151+58.62	40.00' RT	604.46	310548.04	240985.97
506	151+58.62	44.46' RT	604.28	310544.16	240988.16
507	151+58.66	52.73' RT	604.15	310536.98	240992.27
508	151+48.75	44.46' RT	604.21	310539.30	240979.57
509	151+48.66	52.78' RT	603.83	310532.01	240983.59

LEGEND:

- XXXX — SAWING ASPHALT REQ'D
- YYYY — SAWING CONCRETE REQ'D
- ADA LANDING
- G — 6:1 GRADED FLARE
- C — 10:1 CONCRETE FLARE
- PED — CONCRETE CURB PEDESTRIAN
- XXXX YYY.YY — POINT NUMBER & ELEVATION

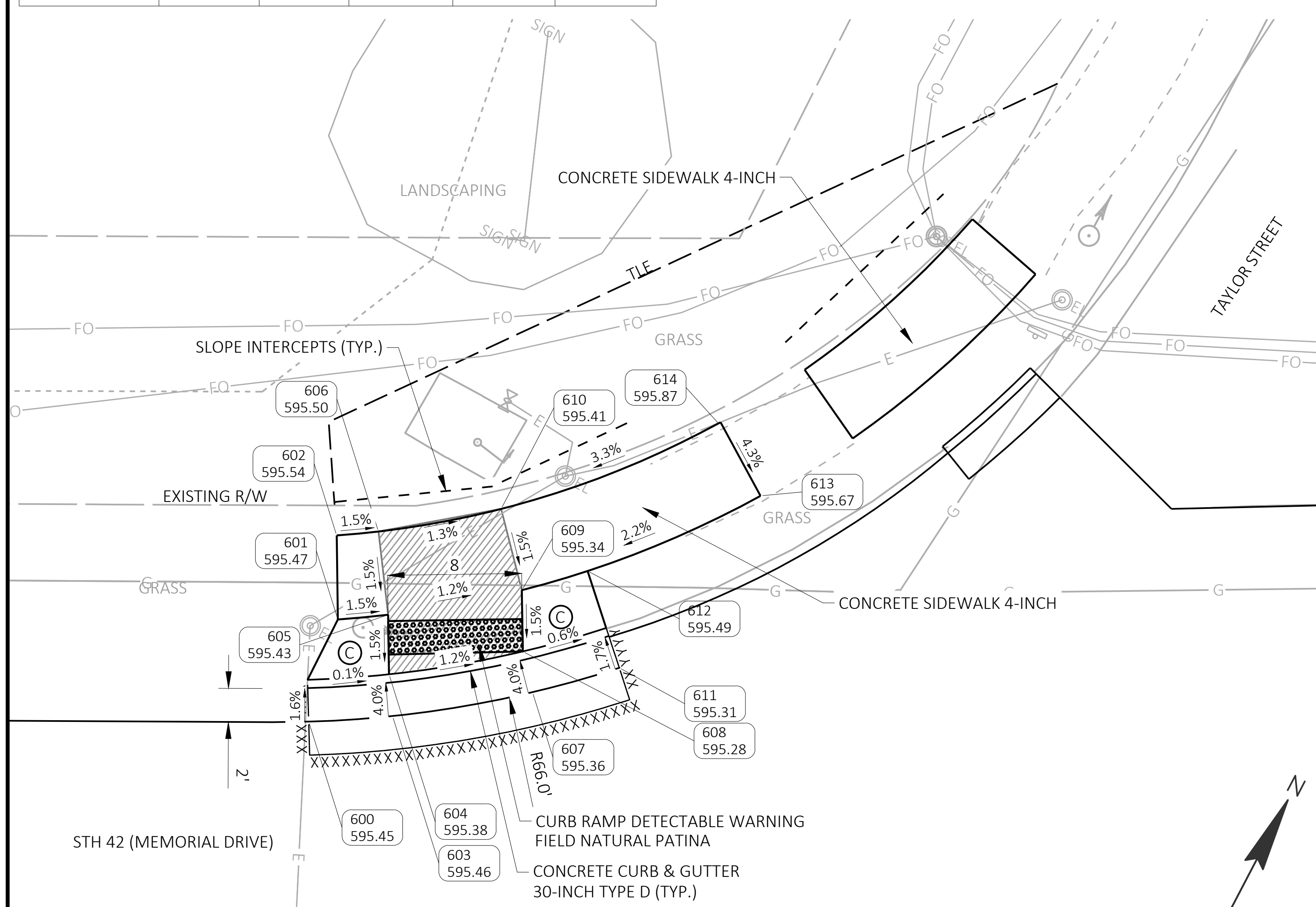
NOTES:

1. FIELD VERIFY ELEVATION GRADES, SLOPES, LENGTHS AND MATCH POINTS, PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.
2. THE ENGINEER MAY ADJUST TO FIT FIELD CONDITIONS.
3. DASHED LINES SHOWN FOR FINISHED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS.
4. SEE AND FOLLOW THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.

RADIUS POINT
STA 199+88.68, -108.00' LT

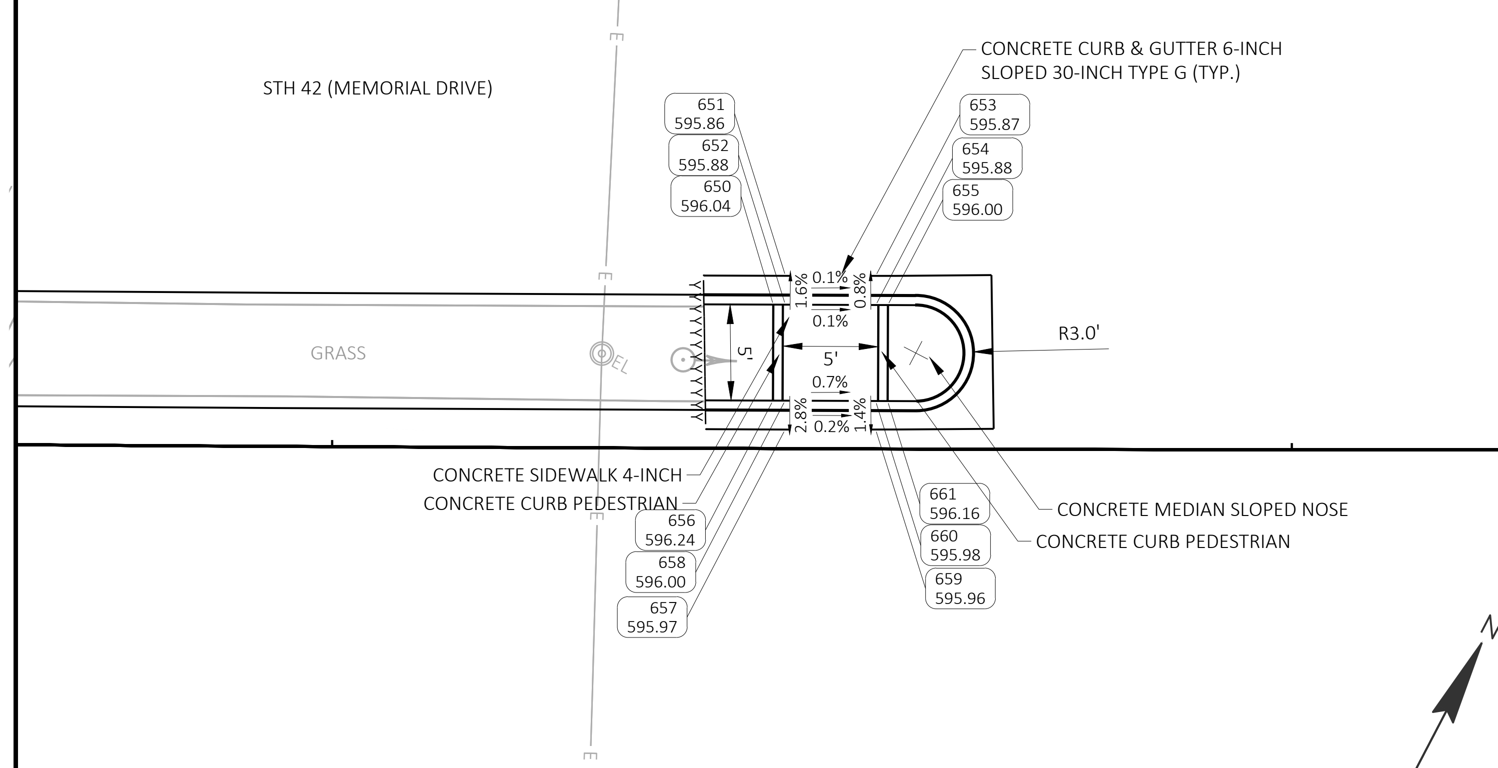
Taylor SW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
600	199+90.86	42.04' LT	595.45	313264.67	244941.75
601	199+92.58	48.14' LT	595.47	313270.88	244940.47
602	199+92.49	53.15' LT	595.54	313275.29	244938.09
603	199+95.88	42.39' LT	595.46	313267.28	244946.03
604	199+95.66	44.88' LT	595.38	313269.39	244944.69
605	199+95.59	48.43' LT	595.43	313272.51	244943.00
606	199+94.99	53.39' LT	595.50	313276.65	244940.19
607	200+04.25	43.84' LT	595.36	313272.40	244952.77

Taylor SW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
608	200+03.66	46.27' LT	595.28	313274.29	244951.13
609	200+03.60	49.93' LT	595.34	313277.51	244949.39
610	200+02.34	54.77' LT	595.41	313281.23	244946.05
611	200+09.45	45.31' LT	595.31	313276.09	244956.69
612	200+07.53	51.08' LT	595.49	313280.33	244952.33
613	200+17.89	55.59' LT	595.67	313289.08	244959.41
614	200+15.43	59.82' LT	595.87	313291.71	244955.29



STH 42 (MEMORIAL DRIVE) & TAYLOR STREET SW

NOTE: DO NOT INSTALL DETECTABLE WARNING FIELDS SINCE 2' OF CONCRETE SURFACE BETWEEN THE WARNING FIELDS CAN NOT BE ACHIEVED.



STH 42 (MEMORIAL DRIVE) & TAYLOR STREET MEDIAN

Taylor Median					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
650	199+97.96	7.49' LT	596.04	313237.24	244963.92
651	199+98.59	9.00' LT	595.86	313238.87	244963.78
652	199+98.59	7.50' LT	595.88	313237.54	244964.47
653	200+03.29	9.02' LT	595.87	313241.04	244967.94
654	200+03.30	7.50' LT	595.88	313239.70	244968.65
655	200+03.93	7.50' LT	596.00	313239.99	244969.21
656	199+97.96	2.50' LT	596.24	313232.81	244966.21
657	199+98.59	1.00' LT	595.97	313231.76	244967.46
658	199+98.59	2.50' LT	596.00	313233.10	244966.77
659	200+03.31	1.02' LT	595.96	313233.95	244971.64
660	200+03.30	2.50' LT	595.98	313235.26	244970.95
661	200+03.93	2.50' LT	596.16	313235.55	244971.51

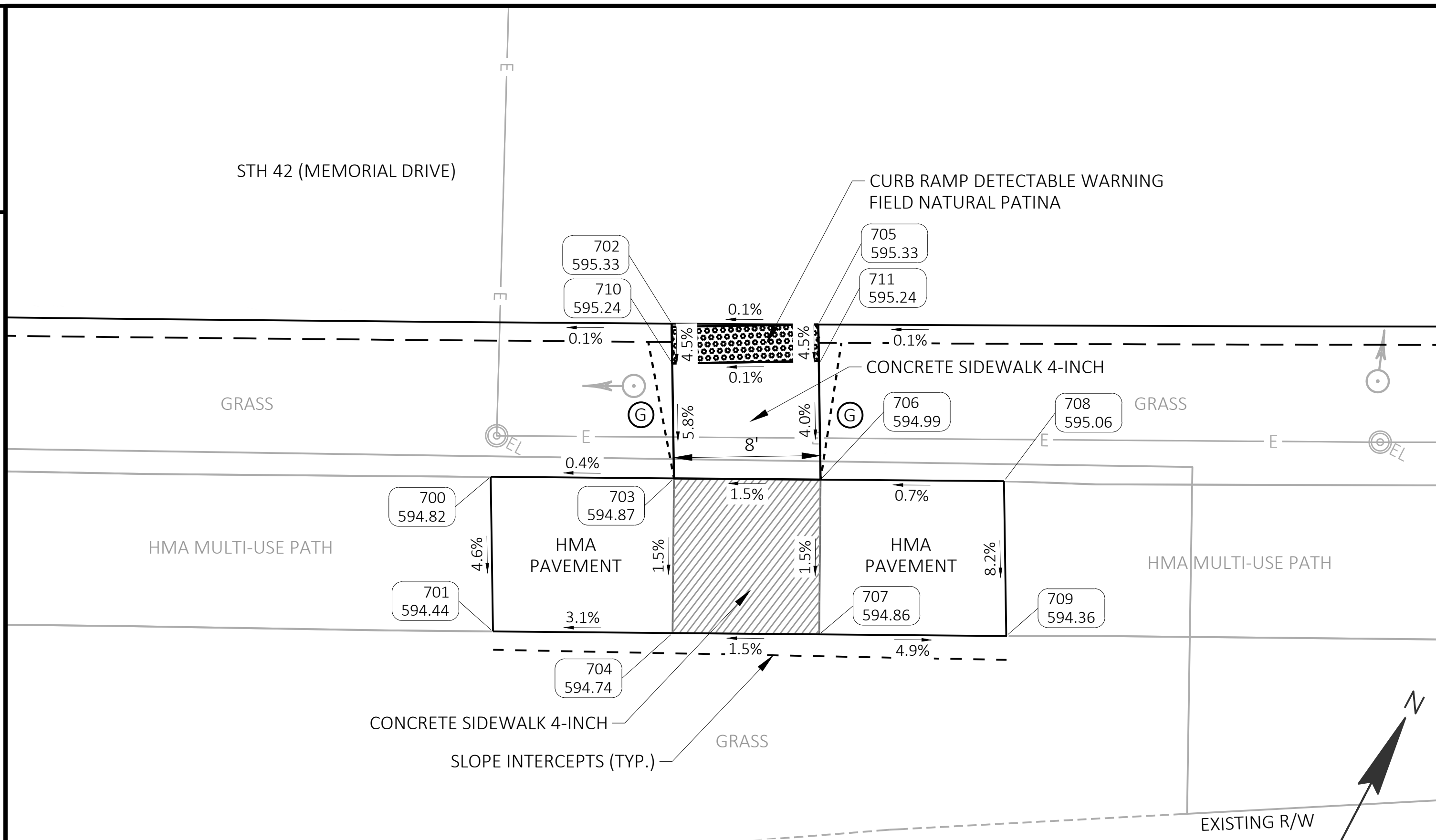
LEGEND:

XXXX	SAWING ASPHALT REQ'D
YYYY	SAWING CONCRETE REQ'D
	ADA LANDING
G	6:1 GRADED FLARE
C	10:1 CONCRETE FLARE
PED	CONCRETE CURB PEDESTRIAN
XXXX YYY.YY	POINT NUMBER & ELEVATION

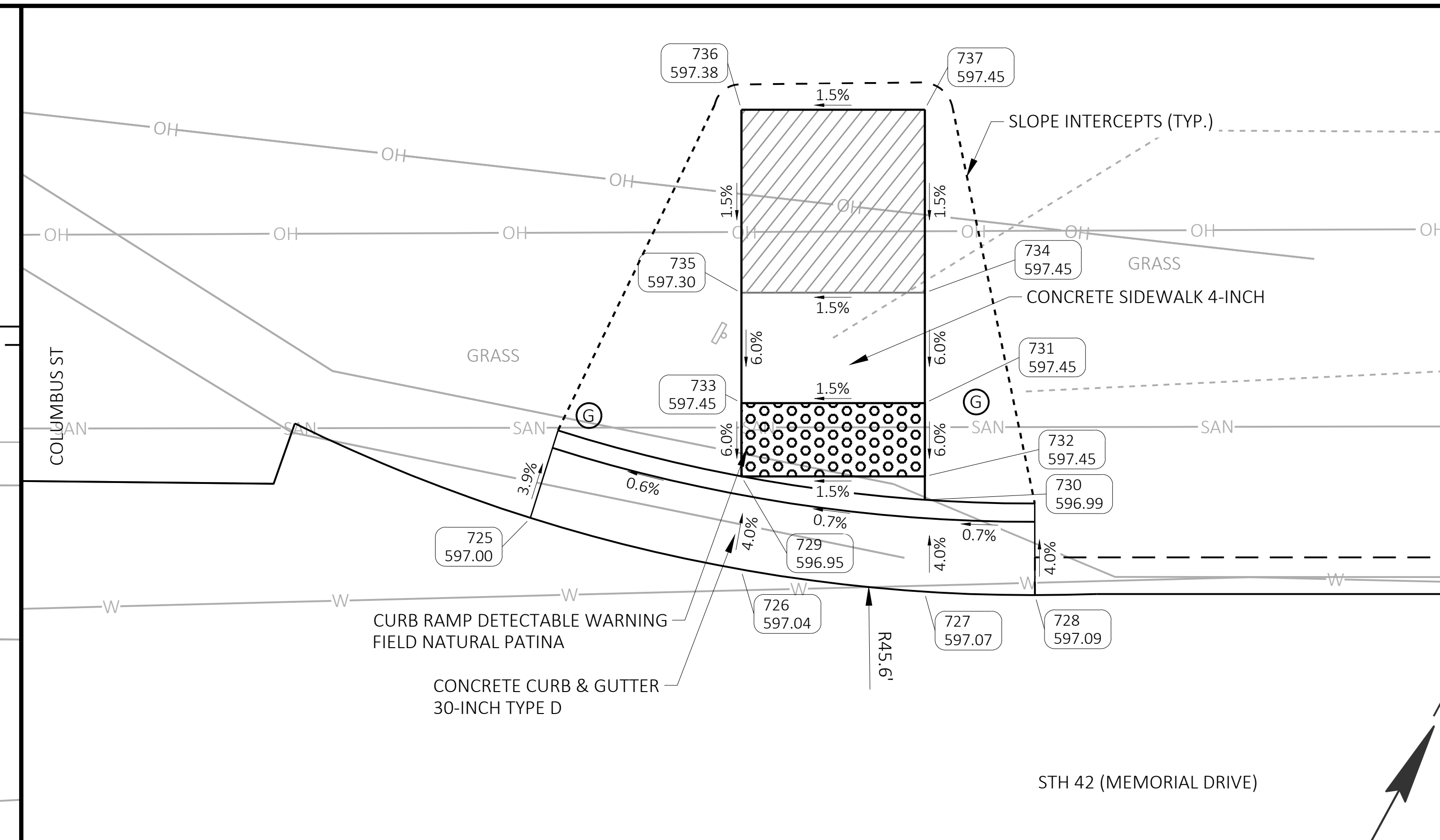
NOTES:

1. FIELD VERIFY ELEVATION GRADES, SLOPES, LENGTHS AND MATCH POINTS, PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.
2. THE ENGINEER MAY ADJUST TO FIT FIELD CONDITIONS.
3. DASHED LINES SHOWN FOR FINISHED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS.
4. SEE AND FOLLOW THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.

2



STH 42 (MEMORIAL DRIVE) & TAYLOR STREET E



STH 42 (MEMORIAL DRIVE) & COLUMBUS STREET NW

SCALE: 1 IN:5 FT

2

Taylor E					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
700	199+87.45	50.88' RT	594.82	313180.56	244981.38
701	199+87.61	59.31' RT	594.44	313173.14	244985.39
702	199+97.26	42.48' RT	595.33	313192.54	244986.27
703	199+97.41	50.92' RT	594.87	313185.11	244990.28
704	199+97.36	59.36' RT	594.74	313177.60	244994.12
705	200+05.23	42.51' RT	595.33	313196.20	244993.38
706	200+05.38	50.97' RT	594.99	313188.75	244997.41
707	200+05.32	59.41' RT	594.86	313181.24	245001.25
708	200+15.33	51.03' RT	595.06	313193.31	245006.31
709	200+15.48	59.48' RT	594.36	313185.88	245010.34
710	199+97.30	44.65' RT	595.24	313190.63	244987.30
711	200+05.27	44.67' RT	595.24	313194.29	244994.41

Columbus NW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
725	274+48.20	44.07' LT	597.00	316898.05	251440.42
726	274+53.94	42.67' LT	597.04	316899.56	251446.13
727	274+58.94	42.06' LT	597.07	316901.42	251450.81
728	274+61.95	41.97' LT	597.09	316902.78	251453.50
729	274+53.95	45.21' LT	596.95	316901.80	251444.93
730	274+58.95	44.57' LT	596.99	316903.63	251449.62
731	274+58.95	47.21' LT	597.45	316905.95	251448.36
732	274+58.95	45.21' LT	597.45	316904.19	251449.32
733	274+53.95	47.21' LT	597.45	316903.55	251443.97
734	274+58.95	50.22' LT	597.45	316908.59	251446.92
735	274+53.95	50.21' LT	597.30	316906.19	251442.54
736	274+53.95	55.21' LT	597.38	316910.58	251440.14
737	274+58.95	55.22' LT	597.45	316912.98	251444.53

LEGEND:

- XXXX — SAWING ASPHALT REQ'D
- YYYY — SAWING CONCRETE REQ'D
- ADA LANDING
- G — 6:1 GRADED FLARE
- C — 10:1 CONCRETE FLARE
- PED — CONCRETE CURB PEDESTRIAN
- XXXX YYY.YY — POINT NUMBER & ELEVATION

NOTES:

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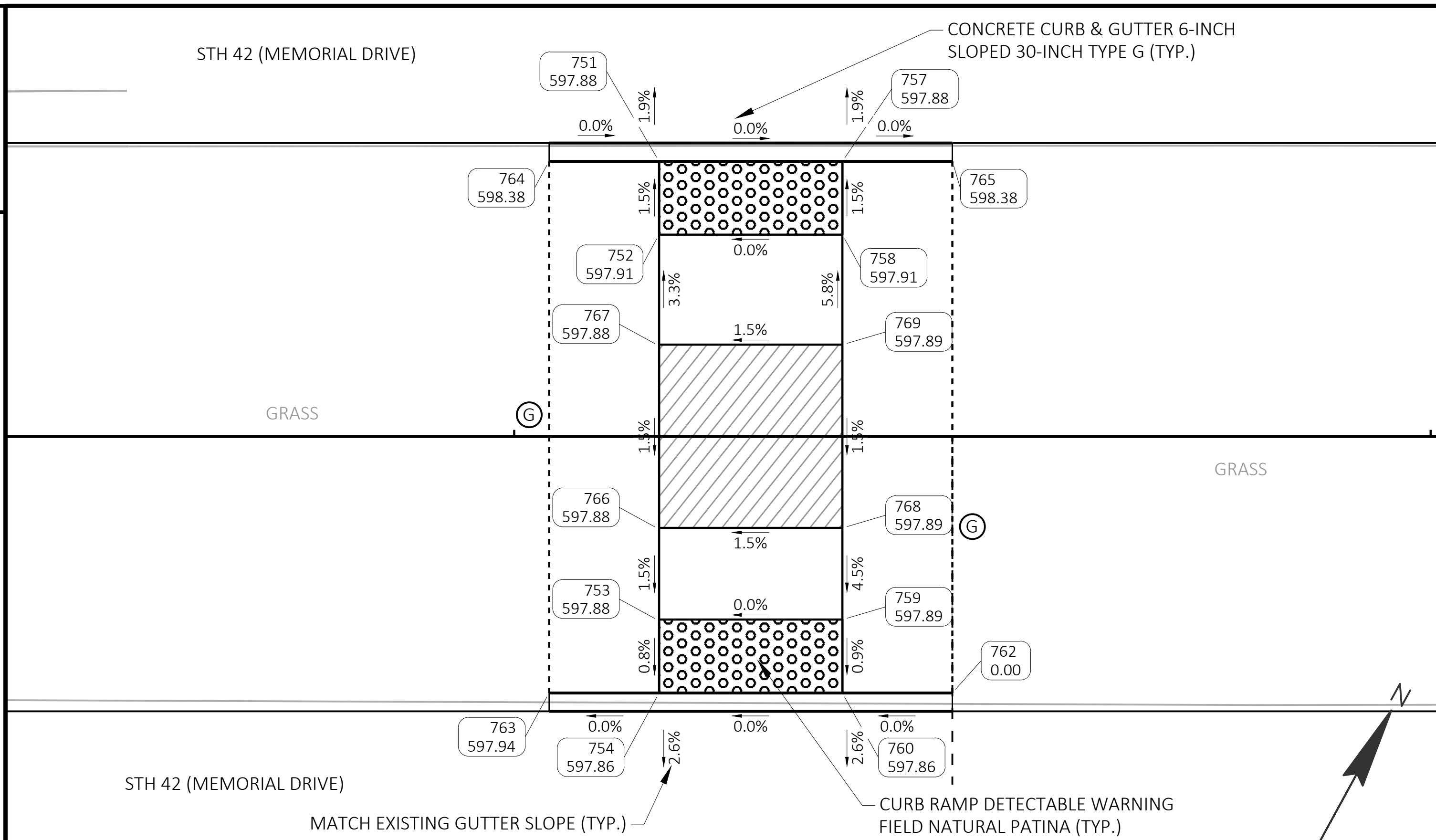
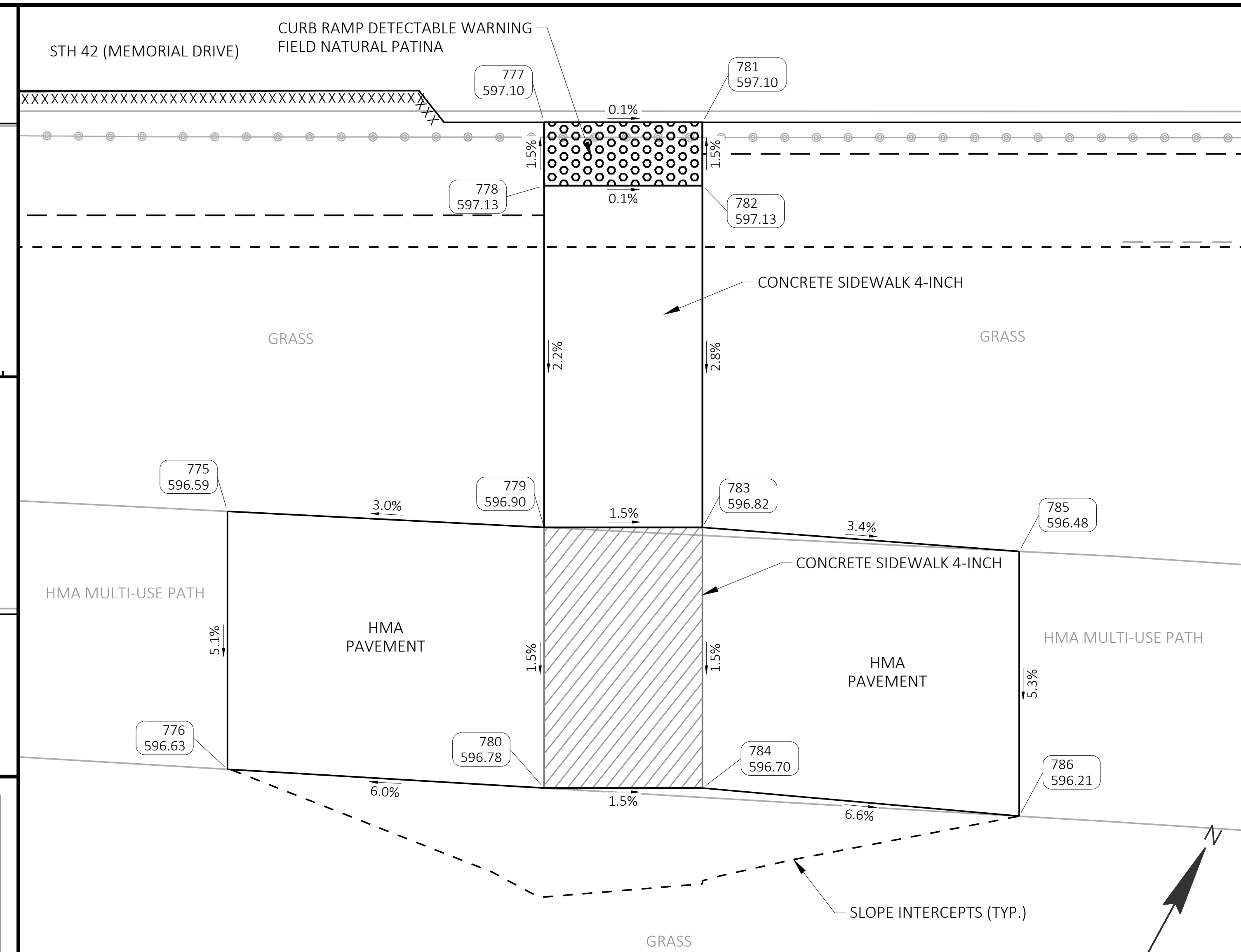


STH 42 (MEMORIAL DRIVE) & COLUMBUS STREET MEDIAN



STH 42 (MEMORIAL DRIVE) & COLUMBUS STREET NE

Columbus Median					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
751	274+53.95	7.50' LT	597.88	316868.69	251462.98
752	274+53.95	5.50' LT	597.91	316866.93	251463.93
753	274+53.95	5.03' RT	597.88	316857.68	251468.97
754	274+53.95	7.00' RT	597.86	316855.96	251469.92
757	274+58.95	7.50' LT	597.88	316871.08	251467.37
758	274+58.95	5.50' LT	597.91	316869.33	251468.32
759	274+58.95	5.00' RT	597.89	316860.11	251473.35
760	274+58.95	7.00' RT	597.86	316858.35	251474.31

Columbus Median					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
762	274+61.95	7.00' RT	0.00	316859.79	251476.94
763	274+50.95	7.00' RT	597.94	316854.52	251467.28
764	274+50.95	7.50' LT	598.38	316867.25	251460.34
765	274+61.95	7.50' LT	598.38	316872.52	251470.00
766	274+53.95	2.53' RT	597.88	316859.88	251467.78
767	274+53.95	2.47' LT	597.88	316864.27	251465.38
768	274+58.95	2.50' RT	597.89	316862.30	251472.15
769	274+58.95	2.50' LT	597.89	316866.69	251469.76

Columbus NE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
766	274+43.95	53.79' RT	596.59	316810.09	251483.53
776	274+43.95	61.94' RT	596.63	316802.93	251487.43
777	274+53.95	41.50' RT	597.10	316825.67	251486.43
778	274+53.95	43.50' RT	597.13	316823.91	251487.39
779	274+53.95	54.30' RT	596.90	316814.43	251492.55
780	274+53.95	62.53' RT	596.78	316807.20	251496.49
781	274+58.95	41.50' RT	597.10	316828.06	251490.82
782	274+58.95	43.50' RT	597.13	316826.30	251491.78
783	274+58.95	54.30' RT	596.82	316816.82	251496.94
784	274+58.95	62.53' RT	596.70	316809.59	251500.88
785	274+68.95	55.06' RT	596.48	316820.94	251506.09
786	274+68.95	63.42' RT	596.21	316813.60	251510.09

NOTES:

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4. SEE AND FOLLOW THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.

LEGEND:

- XXXX — SAWING ASPHALT REQ'D
- YYYY — SAWING CONCRETE REQ'D
- ADA LANDING
- G — 6:1 GRADED FLARE
- C — 10:1 CONCRETE FLARE
- PED — CONCRETE CURB PEDESTRIAN
- XXXX YYY.YY — POINT NUMBER & ELEVATION

2

Madison NW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
800	324+95.51	42.05' LT	587.49	319048.09	256004.18
801	325+00.27	41.93' LT	587.51	319049.68	256008.68
802	325+00.28	44.43' LT	587.43	319052.02	256007.80
803	325+00.32	49.43' LT	587.50	319056.70	256006.05
804	325+00.35	54.43' LT	587.52	319061.38	256004.29
805	325+00.18	59.44' LT	587.57	319066.00	256002.35
806	324+98.23	67.26' LT	587.69	319072.61	255997.73
807	324+94.20	77.45' LT	587.84	319080.68	255990.30
808	324+93.07	88.22' LT	587.93	319090.34	255985.40
809	324+97.67	98.01' LT	588.04	319101.13	255986.24

Madison NW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
810	325+08.24	41.89' LT	587.53	319052.48	256016.17
811	325+08.25	44.39' LT	587.45	319054.82	256015.29
812	325+08.28	49.39' LT	587.52	319059.51	256013.54
813	325+08.31	54.39' LT	587.61	319064.19	256011.79
814	325+08.18	59.37' LT	587.69	319068.80	256009.89
815	325+05.55	70.28' LT	587.81	319078.06	256003.54
816	325+01.58	80.42' LT	587.96	319086.10	255996.19
817	325+00.89	86.88' LT	588.05	319091.89	255993.24
818	325+03.66	92.75' LT	588.14	319098.37	255993.75
819	325+11.23	41.87' LT	587.50	319053.53	256018.98

LEGEND:

XXXX SAWING ASPHALT REQ'D
YYYY SAWING CONCRETE REQ'D
ADA LANDING
G 6:1 GRADED FLARE
C 10:1 CONCRETE FLARE
PED CONCRETE CURB PEDESTRIAN
XXXX YYY.YY POINT NUMBER & ELEVATION

NOTES:

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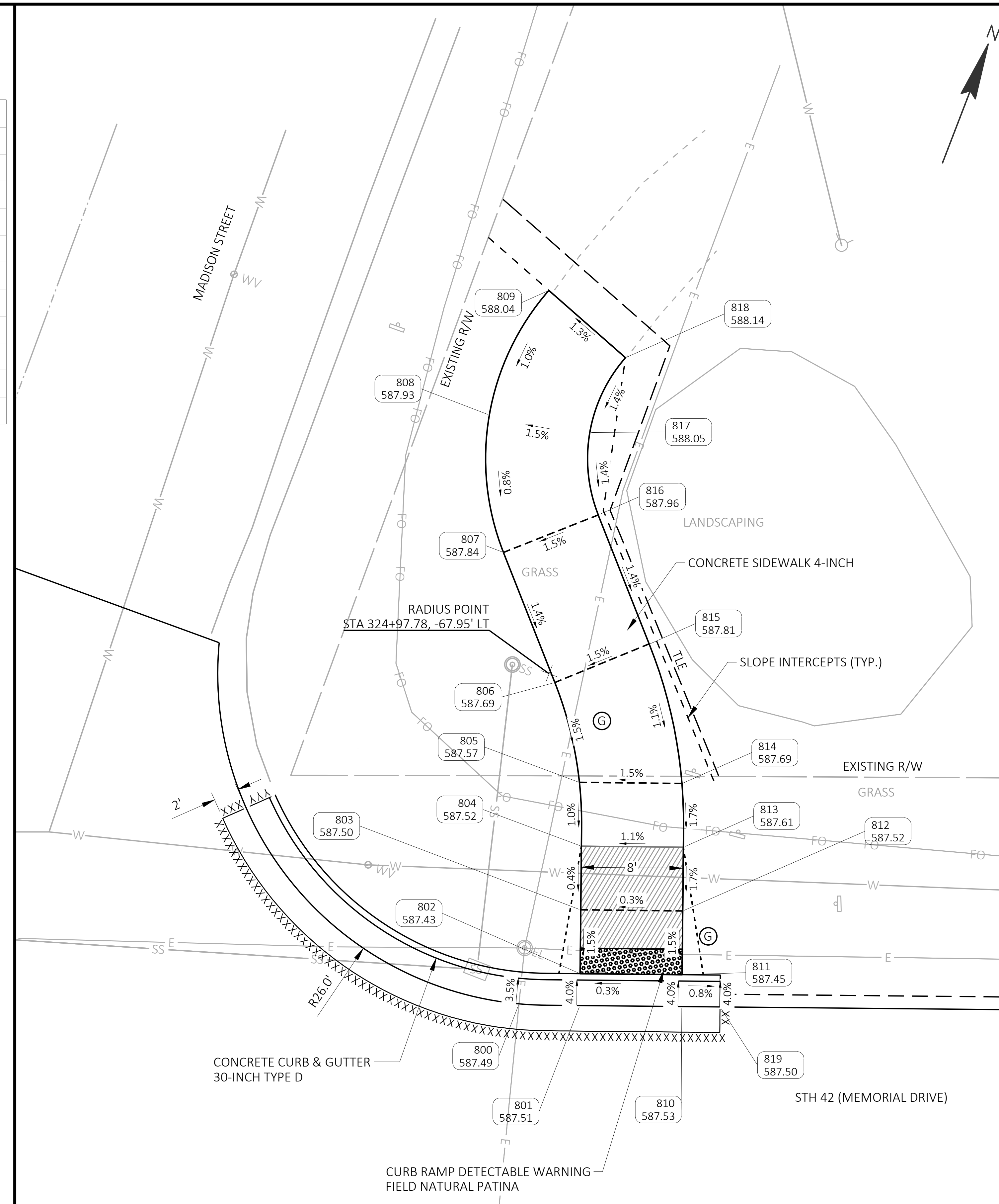
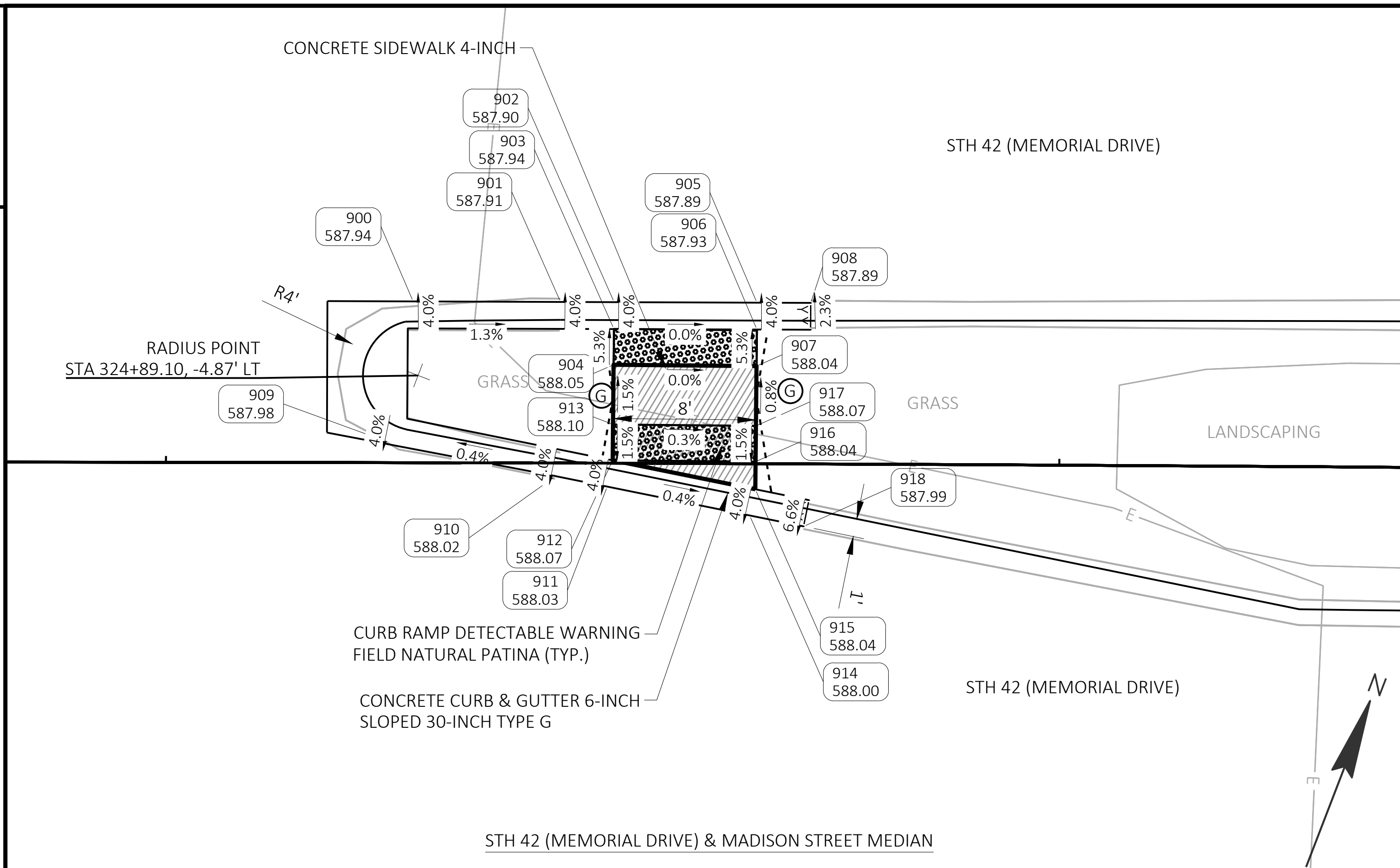


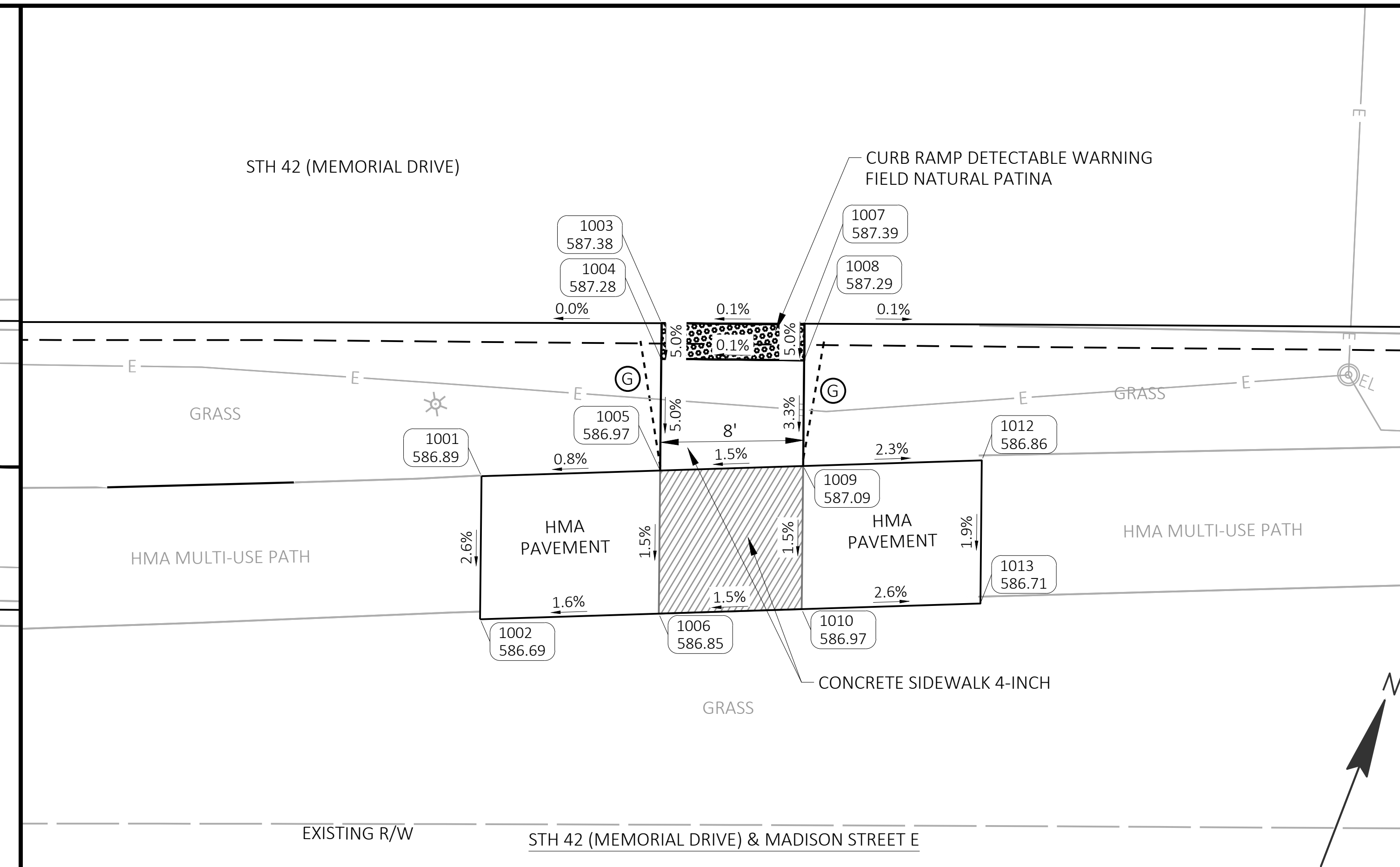
STH 42 (MEMORIAL DRIVE) & MADISON STREET NW

2

PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	CURB RAMP DETAILS	SHEET 22	E

2





2

Madison Median					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
900	324+88.82	9.00' LT	587.94	319014.82	256009.71
901	324+97.06	8.99' LT	587.91	319017.76	256017.42
902	325+00.06	8.99' LT	587.90	319018.83	256020.22
903	325+00.05	7.50' LT	587.94	319017.43	256020.74
904	325+00.04	5.50' LT	588.05	319015.55	256021.44
905	325+08.04	9.00' LT	587.89	319021.68	256027.68
906	325+08.04	7.50' LT	587.93	319020.28	256028.22
907	325+08.03	5.45' LT	588.04	319018.36	256028.94
908	325+11.05	9.00' LT	587.89	319022.75	256030.50
909	324+87.49	1.13' LT	587.98	319006.99	256011.28
910	324+96.81	0.73' RT	588.02	319008.58	256020.65
911	324+99.70	1.31' RT	588.03	319009.07	256023.56
912	325+00.00	0.16' LT	588.07	319010.55	256023.31
913	325+00.01	2.16' LT	588.10	319012.42	256022.61
914	325+07.68	2.89' RT	588.00	319010.43	256031.58
915	325+07.99	1.43' RT	588.04	319011.91	256031.34
916	325+08.00	0.11' LT	588.04	319013.35	256030.81
917	325+08.01	2.11' LT	588.07	319015.23	256030.10

Madison E					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
1001	324+89.63	50.59' RT	586.89	318959.45	256031.76
1002	324+89.57	58.60' RT	586.69	318951.95	256034.57
1003	324+99.73	42.01' RT	587.38	318971.06	256038.10
1004	324+99.72	44.00' RT	587.28	318969.19	256038.79
1005	324+99.68	50.25' RT	586.97	318963.34	256040.98
1006	324+99.62	58.25' RT	586.85	318955.84	256043.79
1007	325+07.76	42.00' RT	587.39	318973.91	256045.57
1008	325+07.75	44.05' RT	587.29	318972.00	256046.29
1009	325+07.71	49.97' RT	587.09	318966.45	256048.36
1010	325+07.67	57.97' RT	586.97	318958.95	256051.17
1012	325+17.76	49.61' RT	586.86	318970.34	256057.58
1013	325+17.72	57.62' RT	586.71	318962.84	256060.39

LEGEND:

XXXX	SAWING ASPHALT REQ'D
YYYY	SAWING CONCRETE REQ'D
	ADA LANDING
G	6:1 GRADED FLARE
C	10:1 CONCRETE FLARE
PED	CONCRETE CURB PEDESTRIAN
XXXX YYY.YY	POINT NUMBER & ELEVATION

NOTES:

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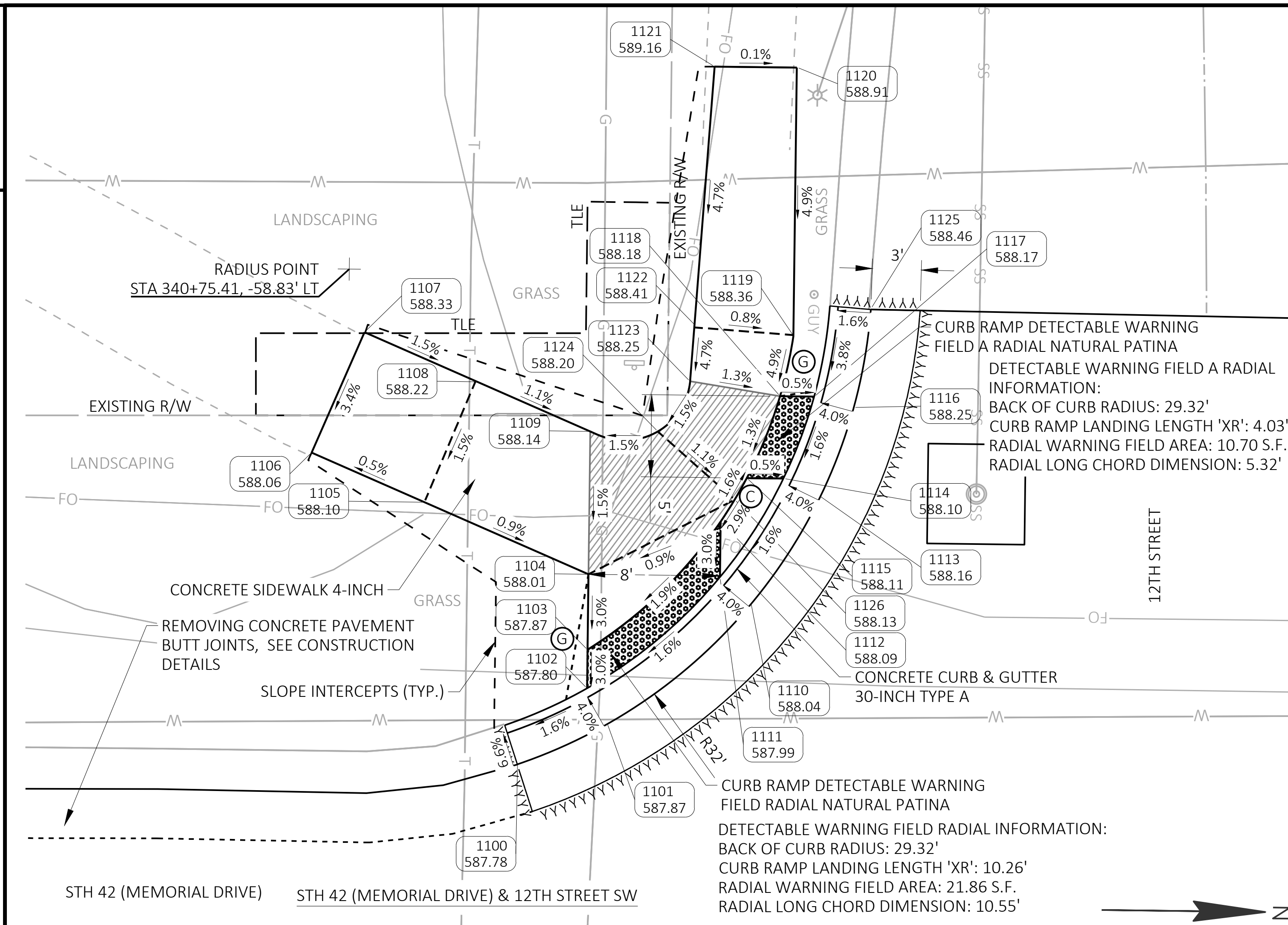
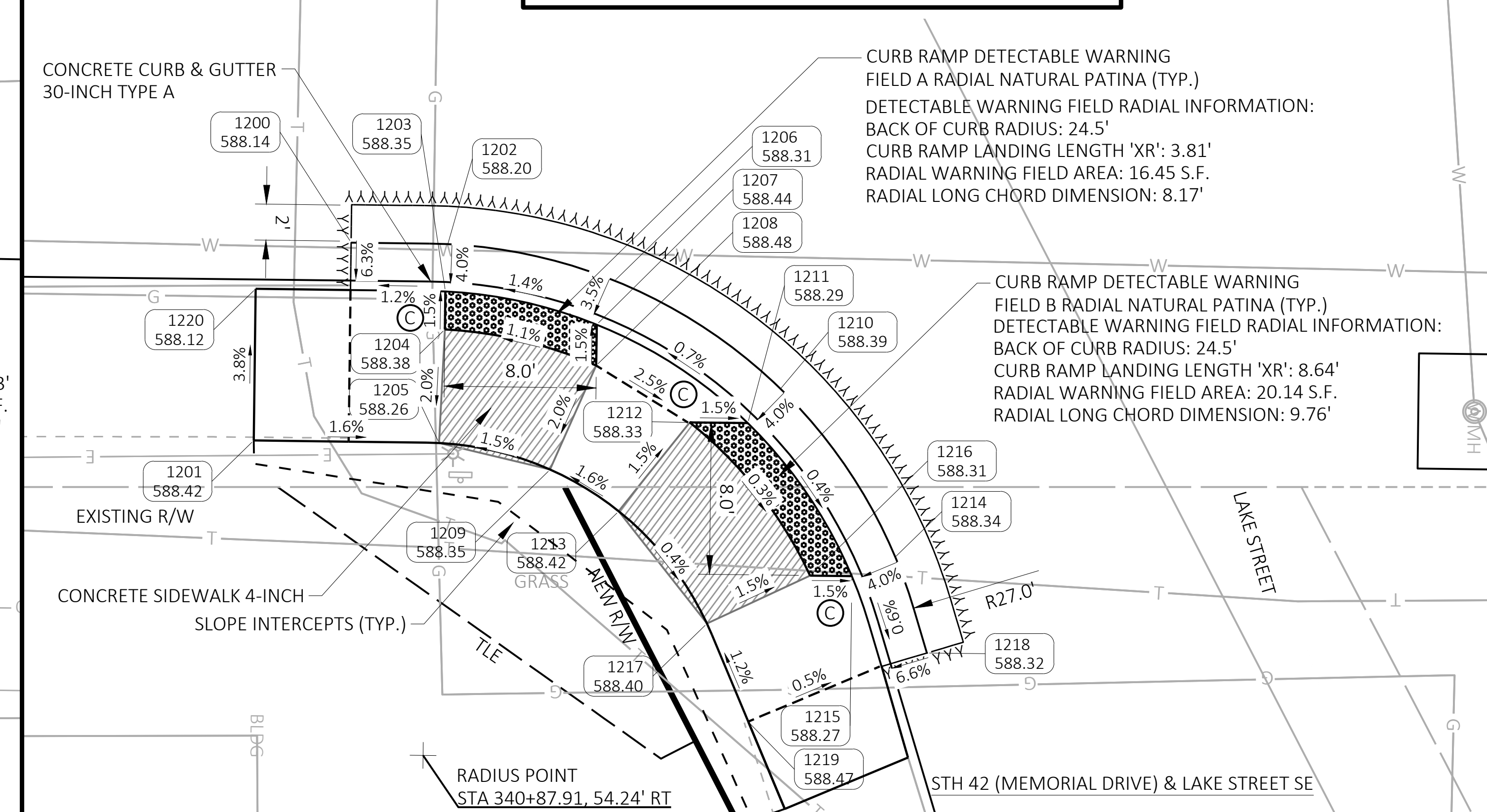
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	CURB RAMP DETAILS	SHEET 23	E



CURB RAMP DETAIL NOTES

1. ALL CURB RAMPS ARE TYPES 2 OR 3 UNLESS OTHERWISE NOTED.



12th SW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
1100	340+85.64	28.77' LT	587.78	319845.01	257190.53
1101	340+91.08	31.21' LT	587.87	319850.42	257188.02
1102	340+89.87	33.32' LT	587.80	319849.18	257185.93
1103	340+89.90	35.67' LT	587.87	319849.18	257183.58
1104	340+89.96	40.26' LT	588.01	319849.18	257178.99
1105	340+79.98	44.65' LT	588.10	319839.15	257174.72
1106	340+73.11	47.67' LT	588.06	319832.24	257171.79
1107	340+76.33	54.99' LT	588.33	319835.37	257164.43
1108	340+83.20	51.97' LT	588.22	319842.27	257167.36
1109	340+90.06	48.95' LT	588.14	319849.18	257170.29
1110	340+99.84	38.53' LT	588.04	319859.08	257180.60
1111	340+97.95	40.09' LT	587.99	319857.18	257179.06
1112	340+98.00	43.46' LT	588.09	319857.18	257175.69
1113	341+03.95	45.08' LT	588.16	319863.11	257174.00

12th SW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
1114	341+01.81	46.09' LT	588.10	319860.96	257173.01
1115	340+99.59	46.12' LT	588.11	319858.74	257173.01
1116	341+06.07	50.41' LT	588.25	319865.16	257168.64
1117	341+03.68	51.07' LT	588.17	319862.77	257168.01
1118	341+01.61	51.09' LT	588.18	319860.69	257168.01
1119	341+02.42	54.78' LT	588.36	319861.46	257164.32
1120	341+02.63	71.11' LT	588.91	319861.46	257147.99
1121	340+97.63	71.14' LT	589.16	319856.46	257148.01
1122	340+96.48	55.38' LT	588.41	319855.51	257163.79
1123	340+96.14	52.00' LT	588.25	319855.21	257167.17
1124	340+94.17	48.95' LT	588.20	319853.29	257170.25
1125	341+07.13	56.41' LT	588.46	319866.15	257162.63
1126	340+98.85	44.80' LT	588.13	319858.01	257174.34

12th SE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
1200	340+84.12	27.19' RT	588.14	319844.18	257246.51
1201	340+78.99	37.63' RT	588.42	319839.18	257257.01
1202	340+89.20	27.35' RT	588.20	319849.26	257246.60
1203	340+89.09	29.77' RT	588.35	319849.18	257249.02
1204	340+89.06	31.77' RT	588.38	319849.18	257251.03
1205	340+88.76	37.77' RT	588.26	319848.94	257257.02
1206	340+97.97	29.25' RT	588.31	319858.05	257248.39
1207	340+97.07	31.52' RT	588.44	319857.18	257250.67
1208	340+97.04	33.68' RT	588.48	319857.18	257252.83
1209	340+94.61	39.16' RT	588.35	319854.81	257258.35
1210	341+06.69	34.98' RT	588.39	319866.84	257254.02
1211	341+05.03	36.72' RT	588.29	319865.20	257255.77
1212	341+01.97	36.68' RT	588.33	319862.15	257255.77
1213	340+98.22	41.36' RT	588.42	319858.46	257260.50
1214	341+12.72	43.86' RT	588.34	319872.98	257262.82

12th SE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
1215	341+10.51	44.78' RT	588.27	319870.79	257263.77
1216	341+08.32	44.76' RT	588.31	319868.59	257263.77
1217	341+02.88	47.29' RT	588.40	319863.18	257266.37
1218	341+14.47	48.84' RT	588.32	319874.79	257267.78
1219	341+05.06	52.49' RT	588.47	319865.43	257271.54
1220	340+79.09	29.63' RT	588.12	319839.18	257249.01

LEGEND:

- XXXX — SAWING ASPHALT REQ'D
- YYYY — SAWING CONCRETE REQ'D
- ADA LANDING
- G — 6:1 GRADED FLARE
- C — 10:1 CONCRETE FLARE
- PED — CONCRETE CURB PEDESTRIAN
- XXXX YYY.YY — POINT NUMBER & ELEVATION

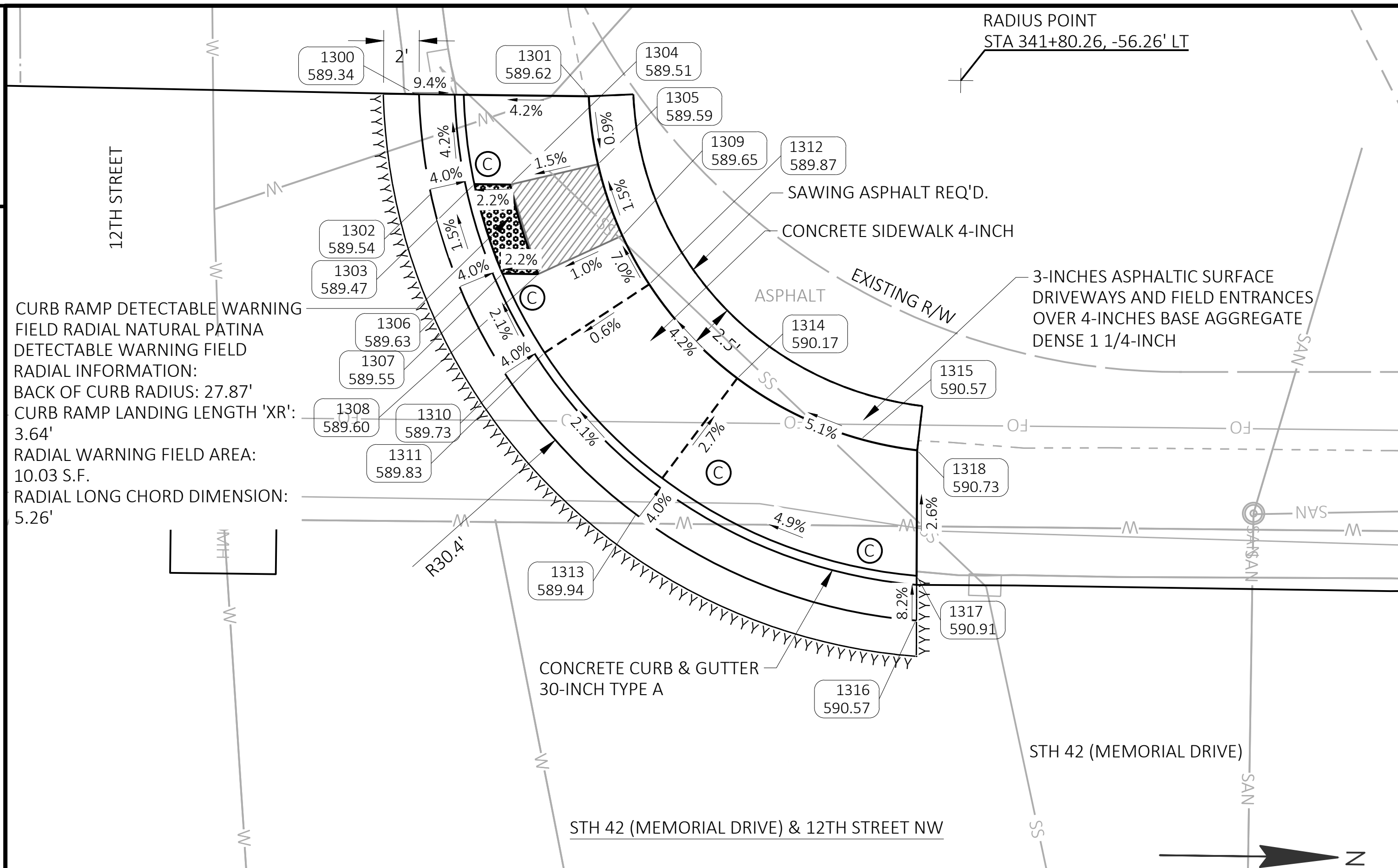
NOTES:

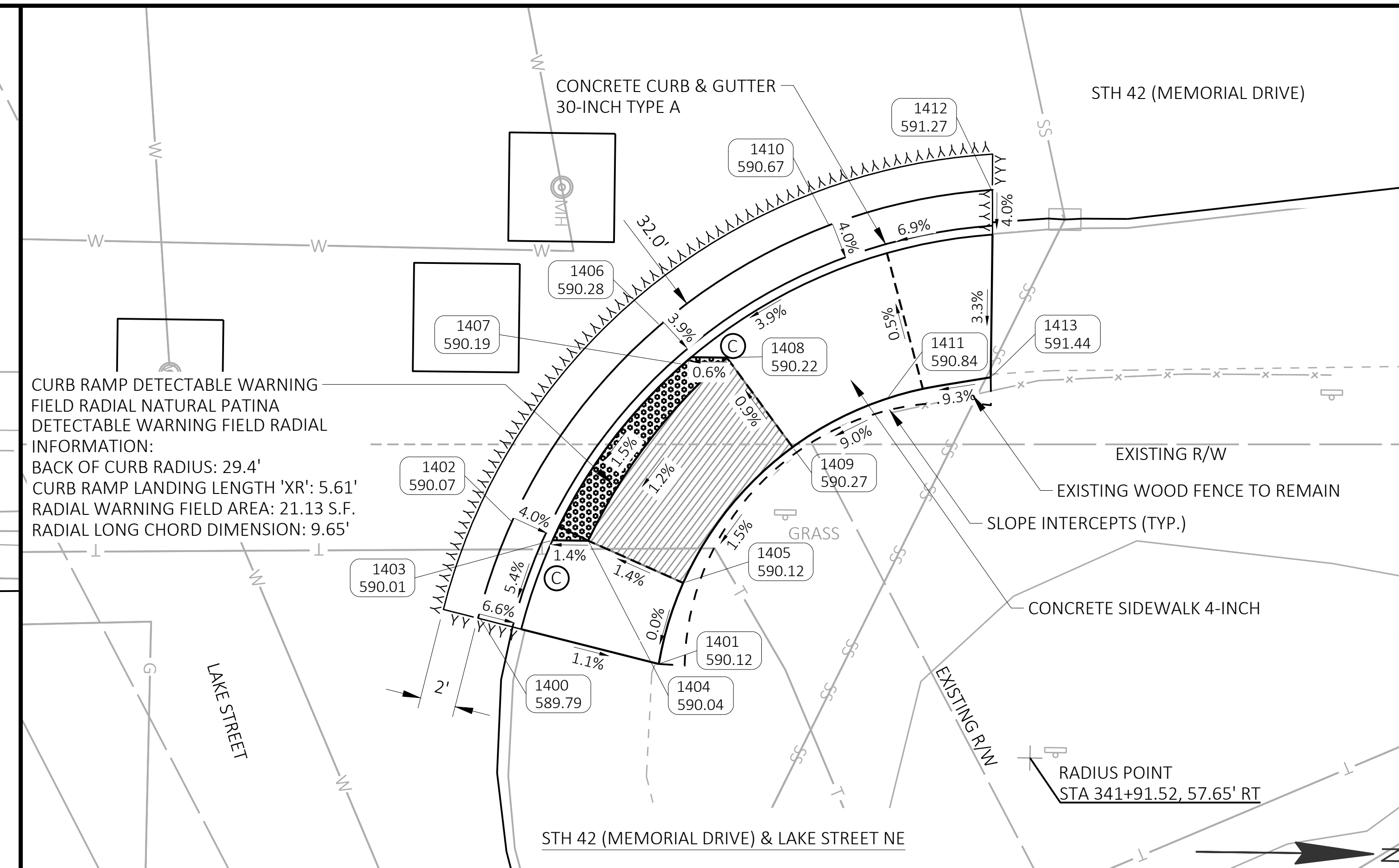
1. FIELD VERIFY ELEVATION GRADES, SLOPES, LENGTHS AND MATCH POINTS, PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.
2. THE ENGINEER MAY ADJUST TO FIT FIELD CONDITIONS.

NOTES CONT'D:

3. DASHED LINES SHOWN FOR FINISHED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS.
4. SEE AND FOLLOW THE STANDARD DETAIL DRAWINGS COMPLETE CURB RAMP REQUIREMENTS.

2





2

12th NW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
1300	341+49.90	55.39' LT	589.34	319908.93	257163.12
1301	341+59.41	55.38' LT	589.62	319918.44	257163.01
1302	341+50.60	49.95' LT	589.54	319909.70	257168.55
1303	341+53.00	50.46' LT	589.47	319912.09	257168.01
1304	341+55.00	50.43' LT	589.51	319914.09	257168.01
1305	341+59.92	51.57' LT	589.59	319919.00	257166.82
1306	341+52.36	44.51' LT	589.63	319911.53	257173.97
1307	341+54.58	45.44' LT	589.55	319913.73	257173.01
1308	341+56.58	45.41' LT	589.60	319915.73	257173.01
1309	341+61.28	47.57' LT	589.65	319920.41	257170.80
1310	341+54.94	39.72' LT	589.73	319914.16	257178.73
1311	341+56.93	41.01' LT	589.83	319916.14	257177.42
1312	341+62.79	44.84' LT	589.87	319921.95	257173.51

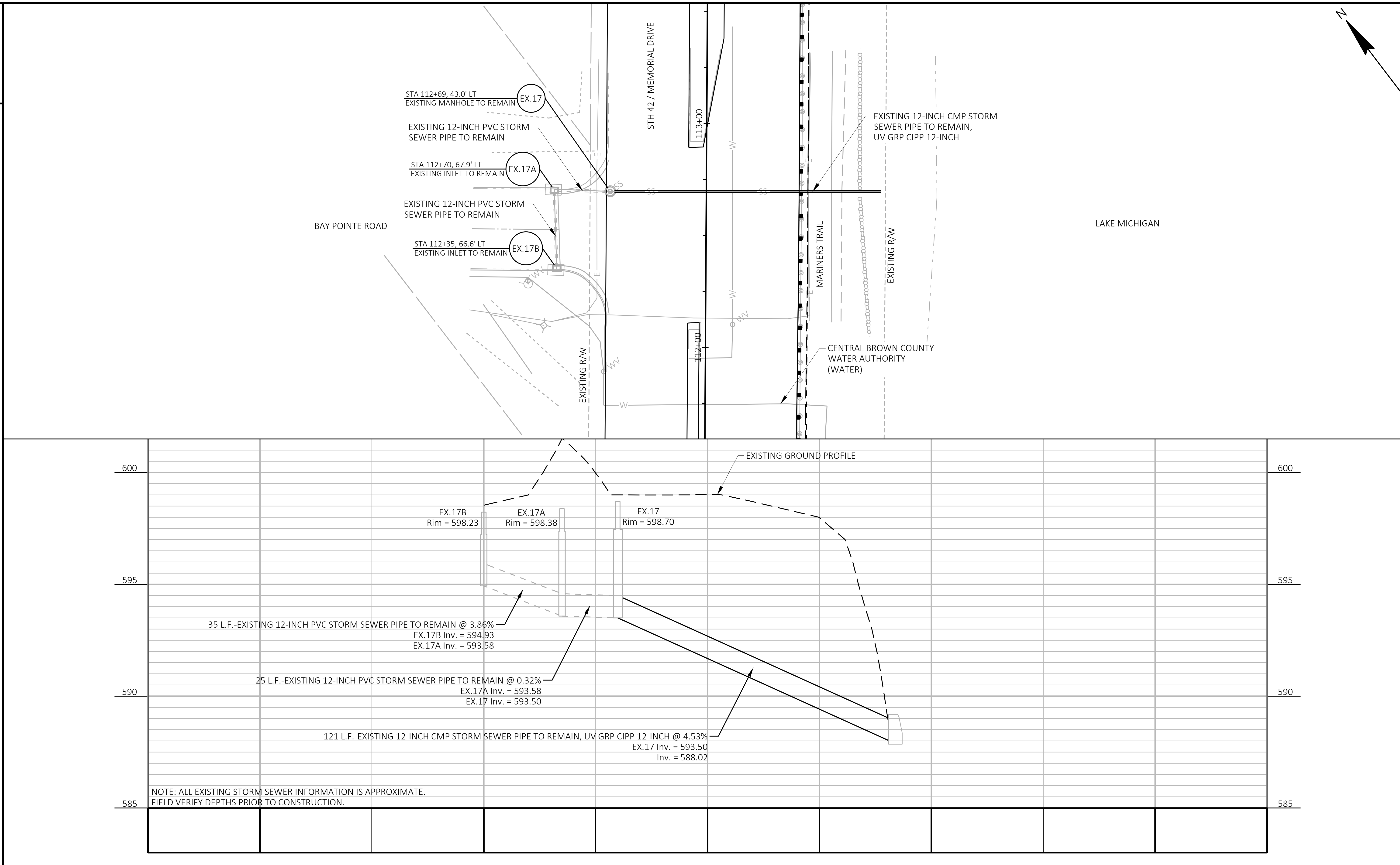
12th NW					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
1313	341+62.10	32.01' LT	589.94	319921.42	257186.34
1314	341+67.73	39.57' LT	590.17	319926.95	257178.72
1315	341+74.67	36.16' LT	590.57	319933.93	257182.04
1316	341+77.75	26.03' LT	590.57	319937.14	257192.14
1317	341+77.79	28.50' LT	590.91	319937.15	257189.66
1318	341+77.82	35.54' LT	590.73	319937.09	257182.62

12th NE					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
1400	341+60.64	49.70' RT	589.79	319920.97	257268.07
1401	341+70.72	52.39' RT	590.12	319931.09	257270.63
1402	341+62.60	44.53' RT	590.07	319922.87	257262.87
1403	341+64.77	45.46' RT	590.01	319925.04	257263.77
1404	341+66.77	45.48' RT	590.04	319927.04	257263.77
1405	341+72.09	47.85' RT	590.12	319932.40	257266.07
1406	341+70.81	33.43' RT	590.28	319930.93	257251.67
1407	341+72.08	35.59' RT	590.19	319932.24	257253.82
1408	341+74.54	35.22' RT	590.22	319934.69	257253.42
1409	341+78.22	40.24' RT	590.27	319938.43	257258.39
1410	341+80.34	27.95' RT	590.67	319940.40	257246.08

LEGEND:

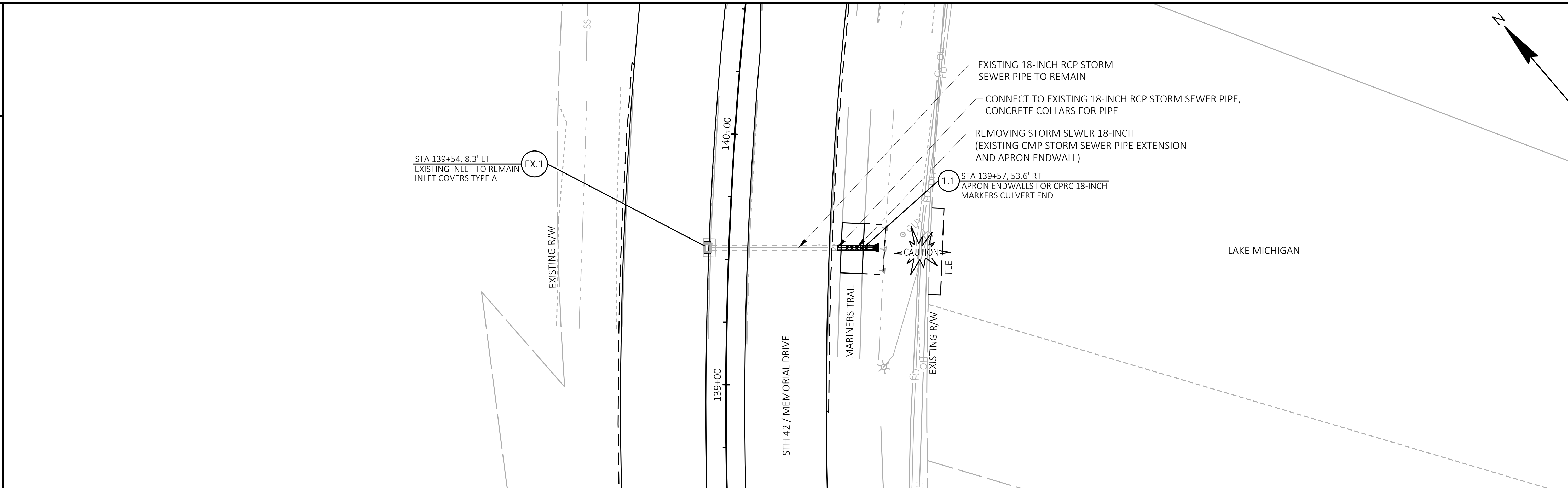
XXXX	SAWING ASPHALT REQ'D
YYYY	SAWING CONCRETE REQ'D
	ADA LANDING
G	6:1 GRADED FLARE
C	10:1 CONCRETE FLARE
PED	CONCRETE CURB PEDESTRIAN
XXXX YYY.YY	POINT NUMBER & ELEVATION

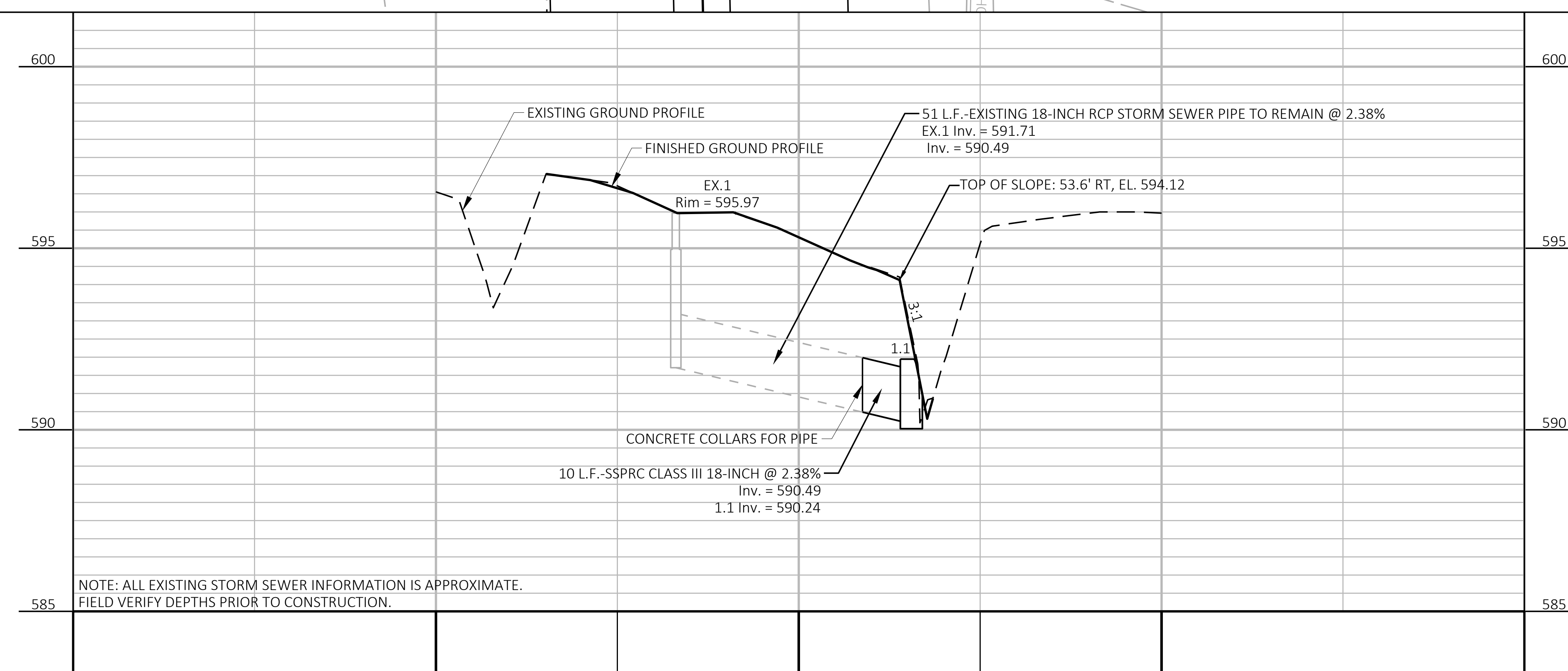
NOTES:
1. FIELD VERIFY ELEVATION GRADES, SLOPES, LENGTHS AND MATCH POINTS, PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION.
2. THE ENGINEER MAY ADJUST TO FIT FIELD CONDITIONS.
3. DASHED LINES SHOWN FOR FINISHED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS.
4. SEE AND FOLLOW THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.

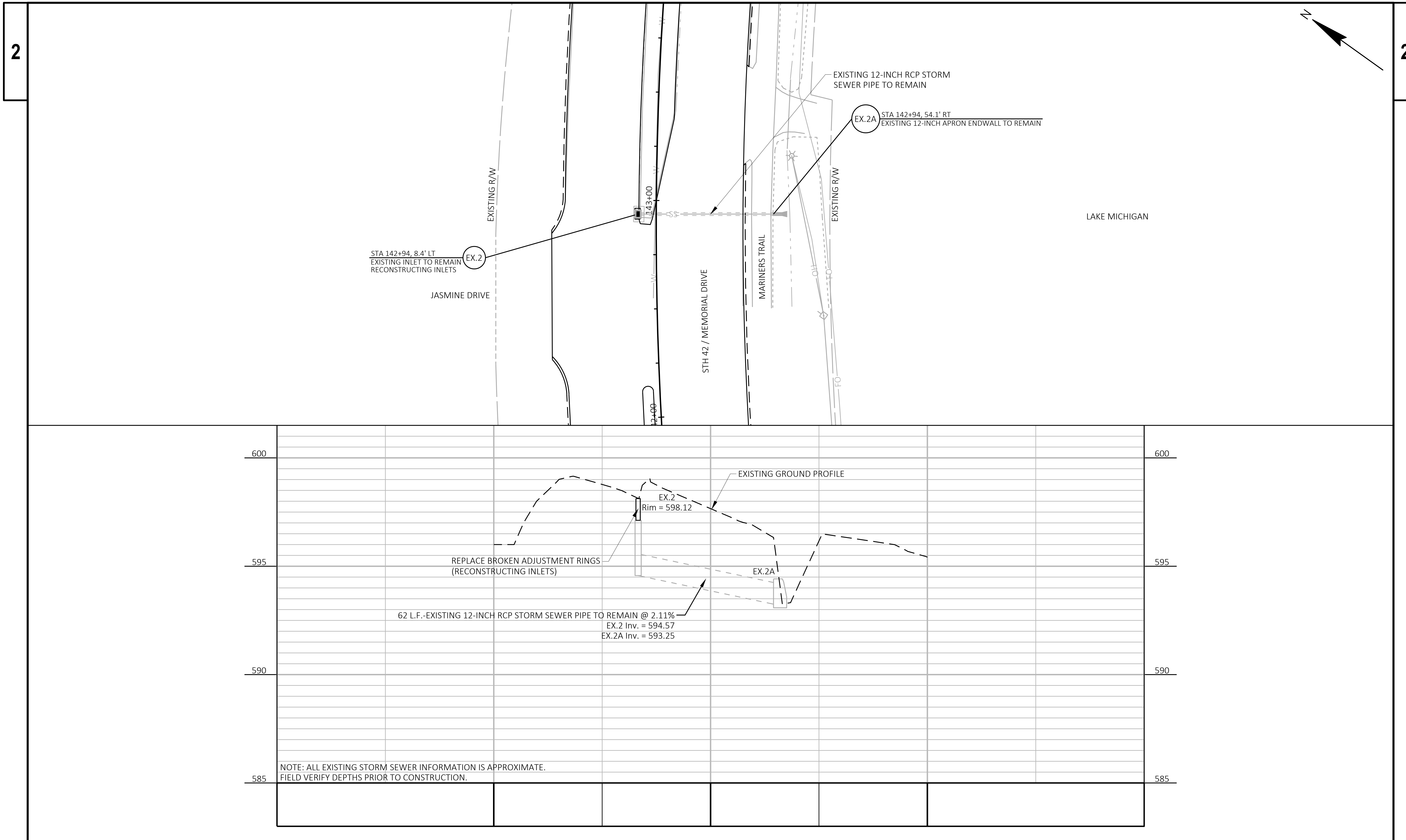


2

PROJECT NO: 1470-37-71	HWY: STH 42	COUNTY: MANITOWOC	STORM SEWER: STATION 112+70	SHEET 26	E


EXISTING 18-INCH RCP STORM
SEWER PIPE TO REMAIN
CONNECT TO EXISTING 18-INCH RCP STORM SEWER PIPE,
CONCRETE COLLARS FOR PIPE
REMOVING STORM SEWER 18-INCH
(EXISTING CMP STORM SEWER PIPE EXTENSION
AND APRON ENDWALL)
STA 139+54, 8.3' LT
EXISTING INLET TO REMAIN
INLET COVERS TYPE A
EX.1
1.1
STA 139+57, 53.6' RT
APRON ENDWALLS FOR CPRC 18-INCH
MARKERS CULVERT END
140+00
139+00
EXISTING R/W
STH 42 / MEMORIAL DRIVE
MARINERS TRAIL
CAUTION
TLE
EXISTING R/W
LAKE MICHIGAN
N


600
595
590
585
EXISTING GROUND PROFILE
FINISHED GROUND PROFILE
51 L.F.-EXISTING 18-INCH RCP STORM SEWER PIPE TO REMAIN @ 2.38%
EX.1 Inv. = 591.71
Inv. = 590.49
TOP OF SLOPE: 53.6' RT, EL. 594.12
EX.1
Rim = 595.97
3:1
1.1
CONCRETE COLLARS FOR PIPE
10 L.F.-SSPRC CLASS III 18-INCH @ 2.38%
Inv. = 590.49
1.1 Inv. = 590.24
NOTE: ALL EXISTING STORM SEWER INFORMATION IS APPROXIMATE.
FIELD VERIFY DEPTHS PRIOR TO CONSTRUCTION.

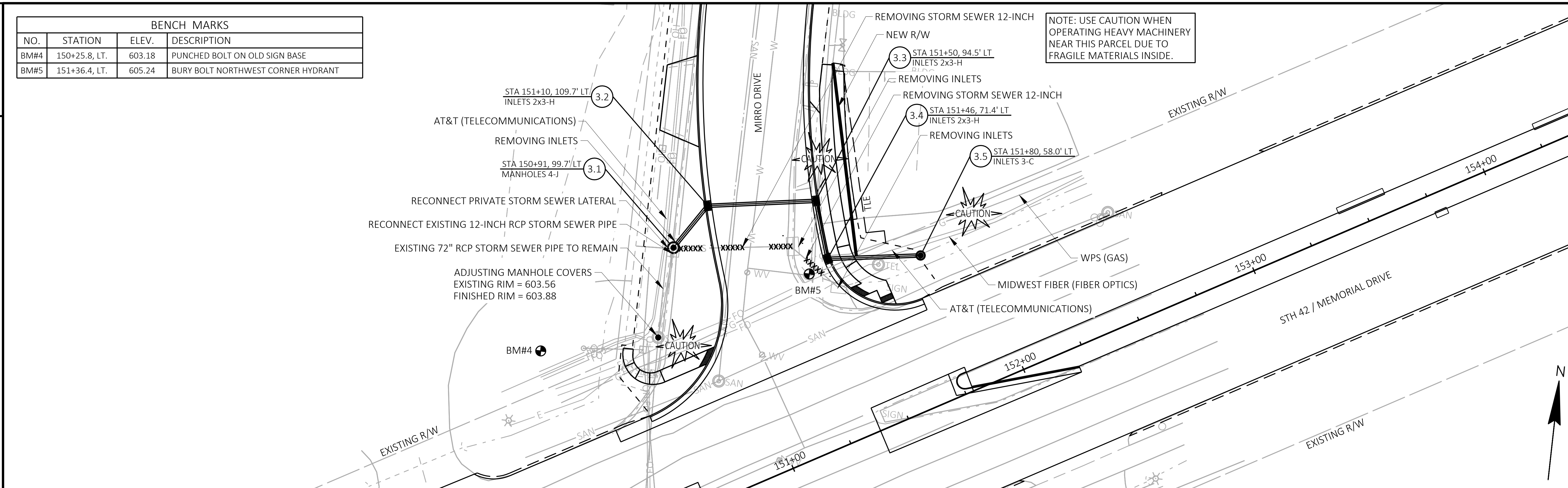


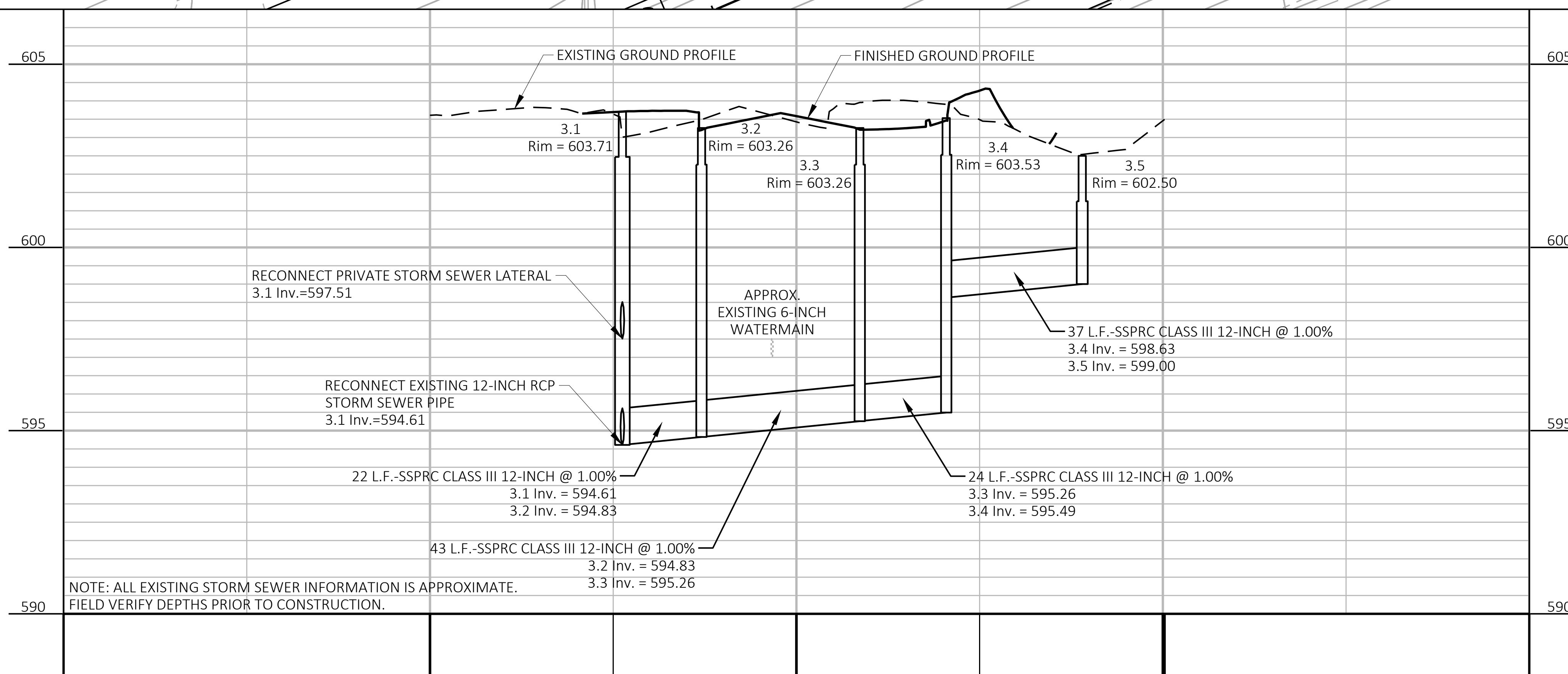
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	STORM SEWER: STATION 142+94	SHEET 28	E

2

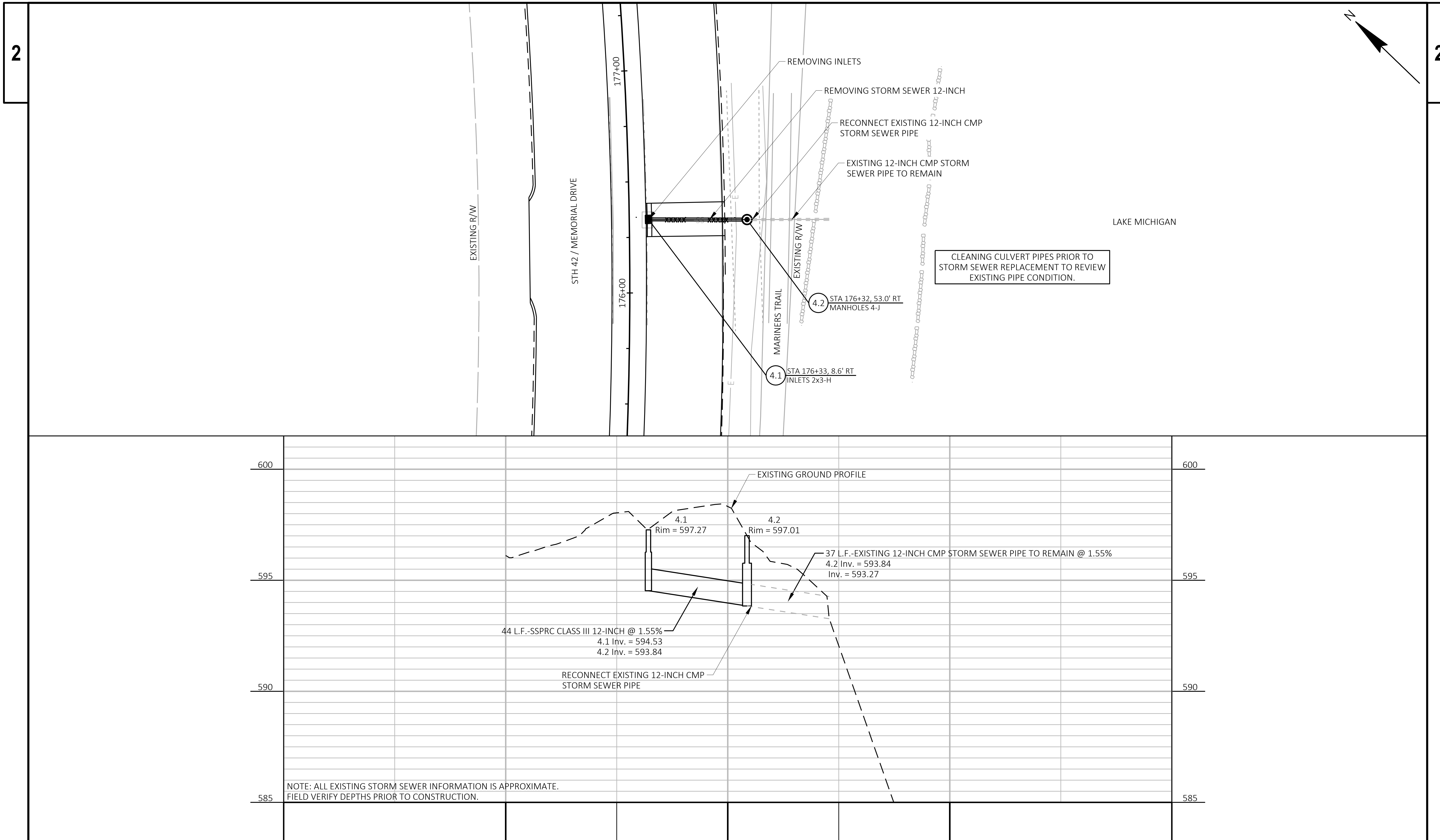
BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
BM#4	150+25.8, LT.	603.18	PUNCHED BOLT ON OLD SIGN BASE
BM#5	151+36.4, LT.	605.24	BURY BOLT NORTHWEST CORNER HYDRANT

NOTE: USE CAUTION WHEN OPERATING HEAVY MACHINERY NEAR THIS PARCEL DUE TO FRAGILE MATERIALS INSIDE.



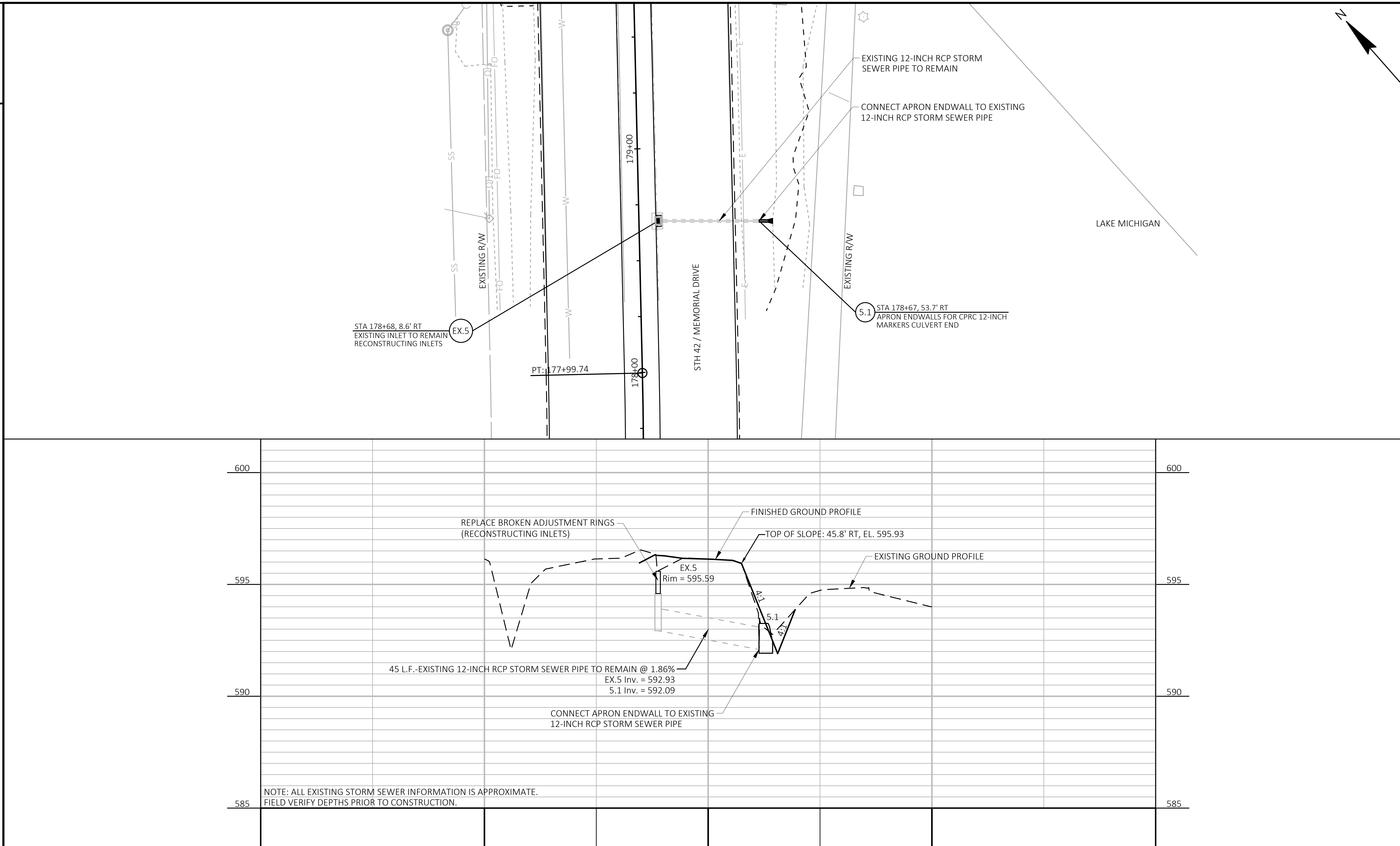


PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	STORM SEWER: MIRRO DRIVE	SHEET 29	E



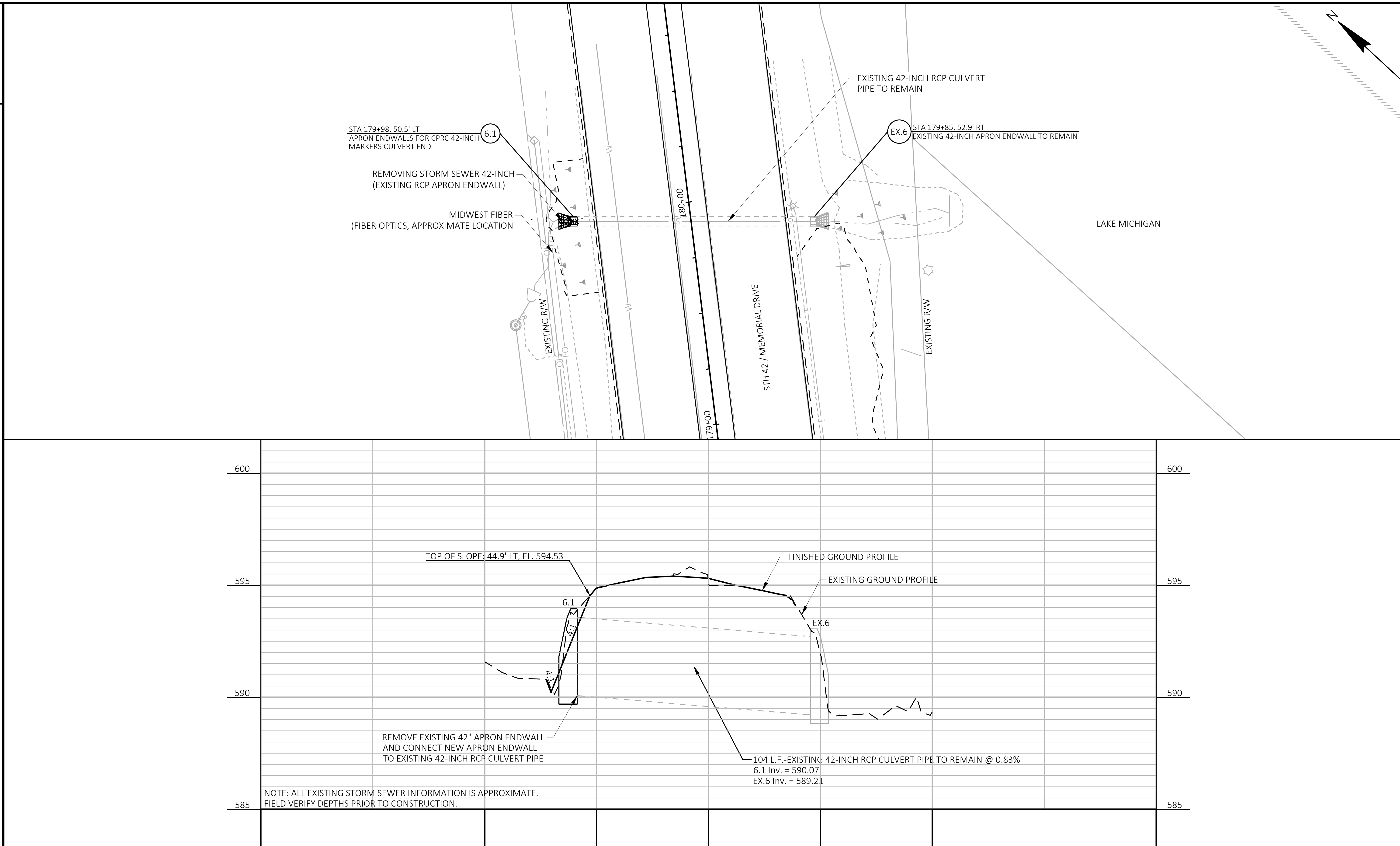
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	STORM SEWER: STATION 176+33	SHEET 30	E

2

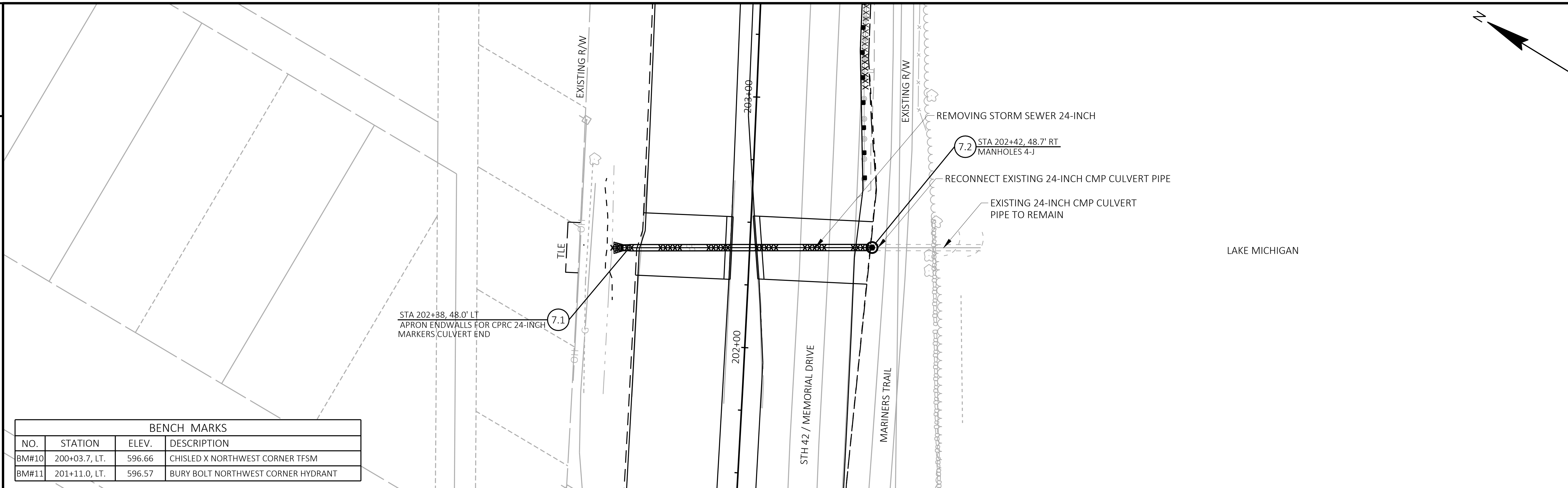


2

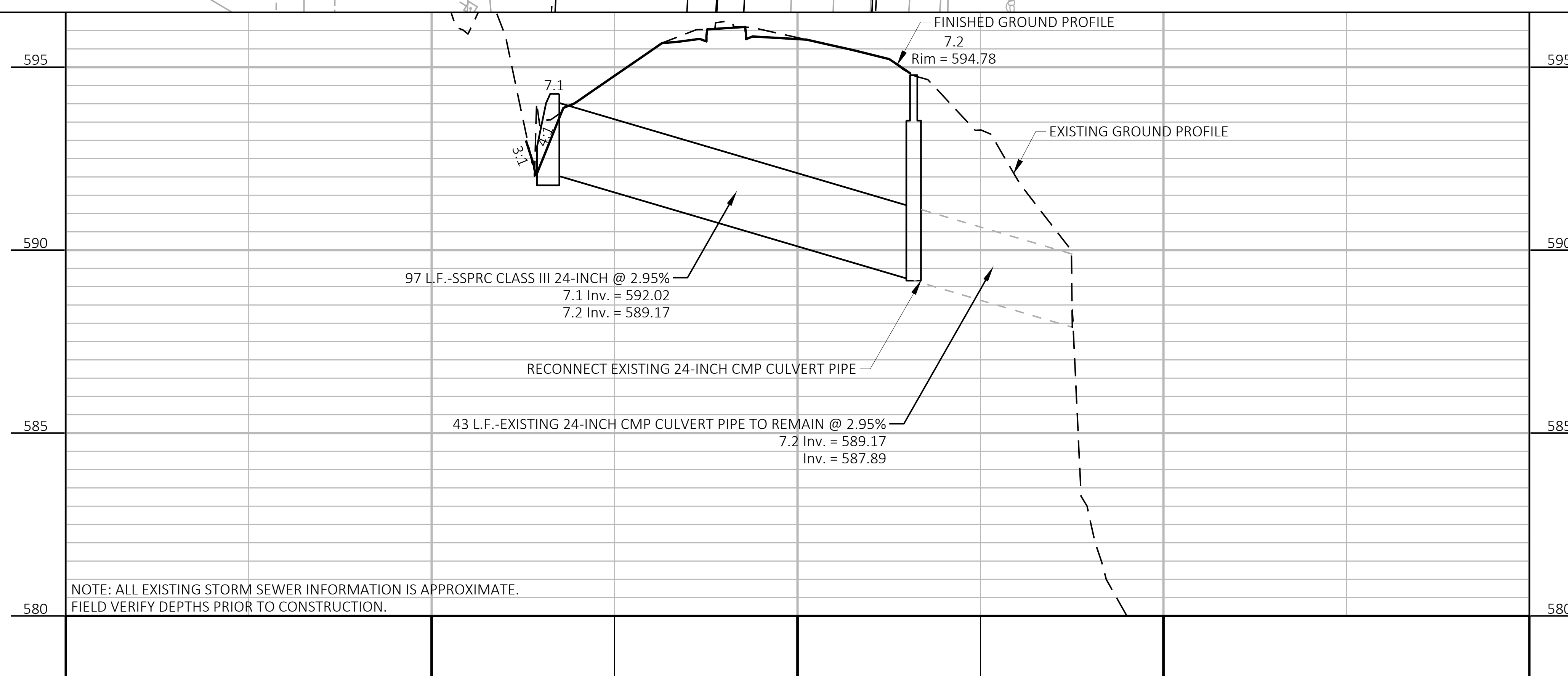
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	STORM SEWER: STATION 178+68	SHEET 31	E



PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	STORM SEWER: STATION 179+92	SHEET 32	E



BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
BM#10	200+03.7, LT.	596.66	CHISLED X NORTHWEST CORNER TFSM
BM#11	201+11.0, LT.	596.57	BURY BOLT NORTHWEST CORNER HYDRANT



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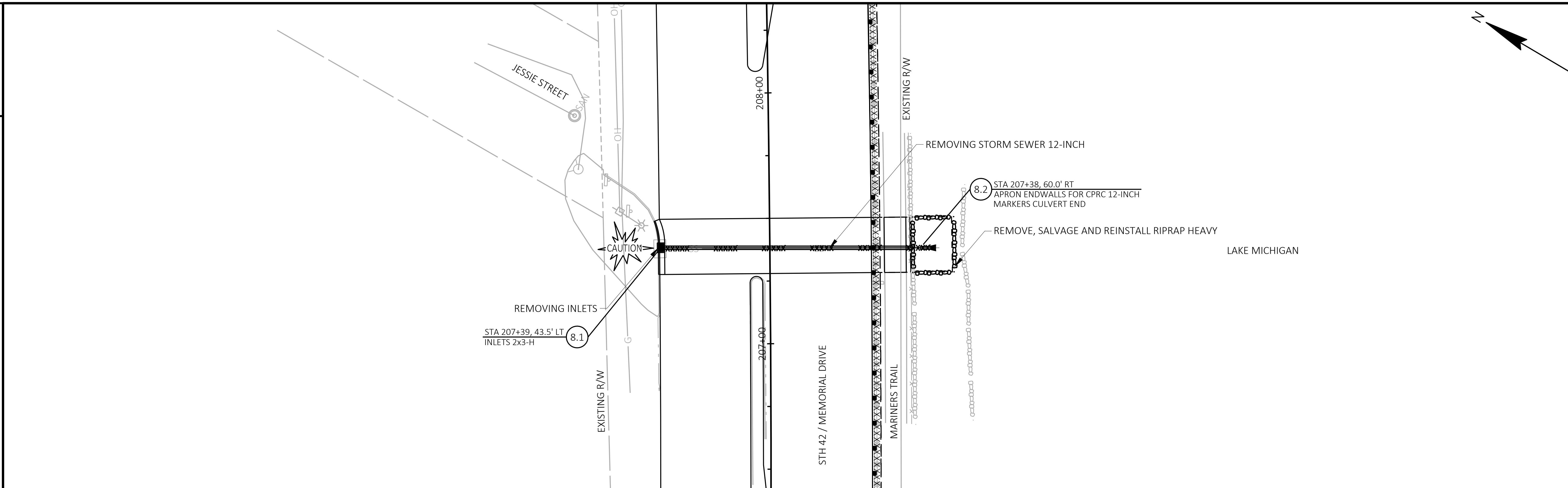
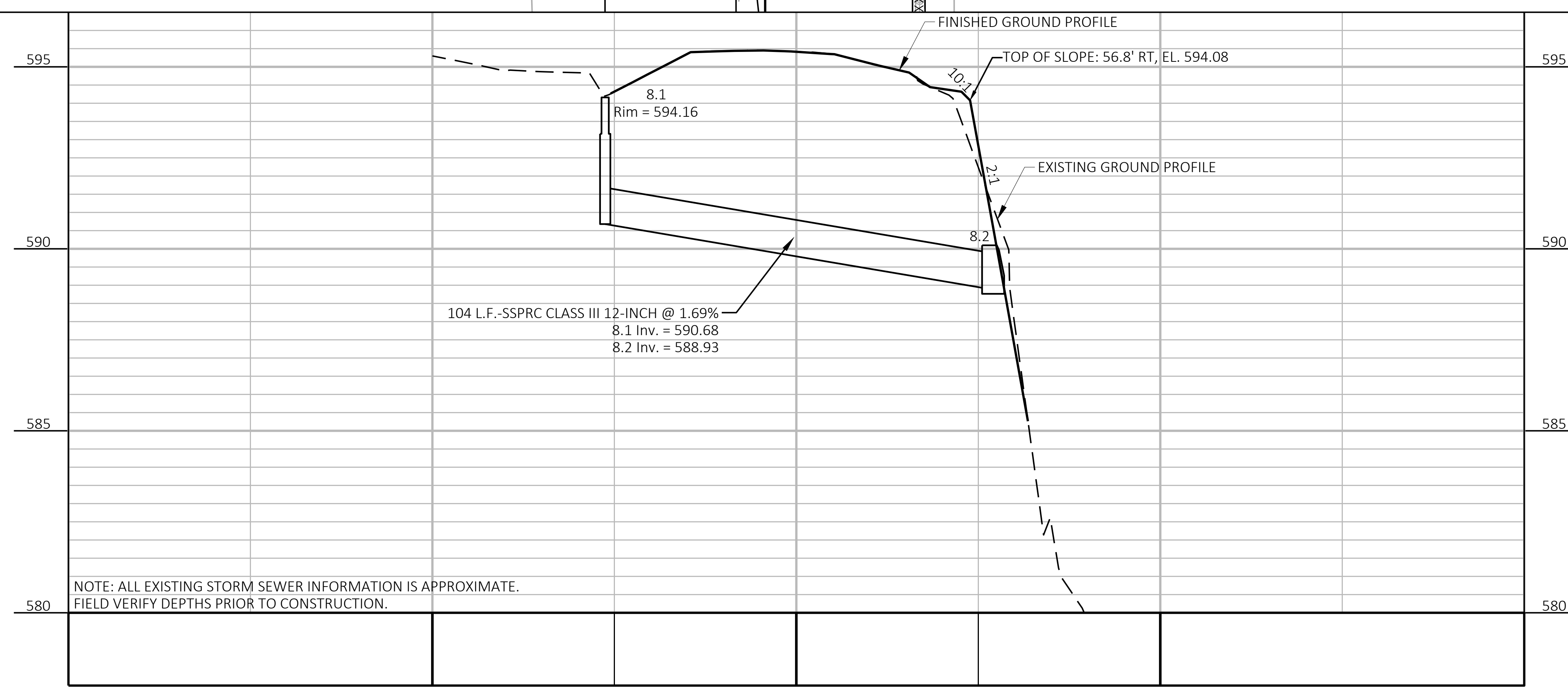
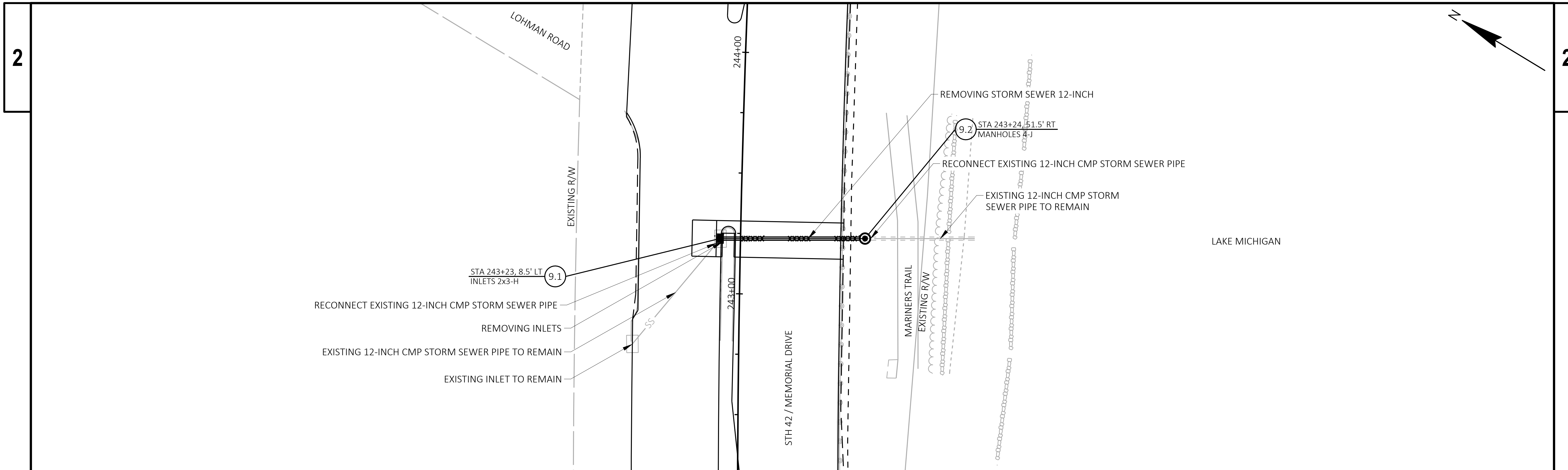
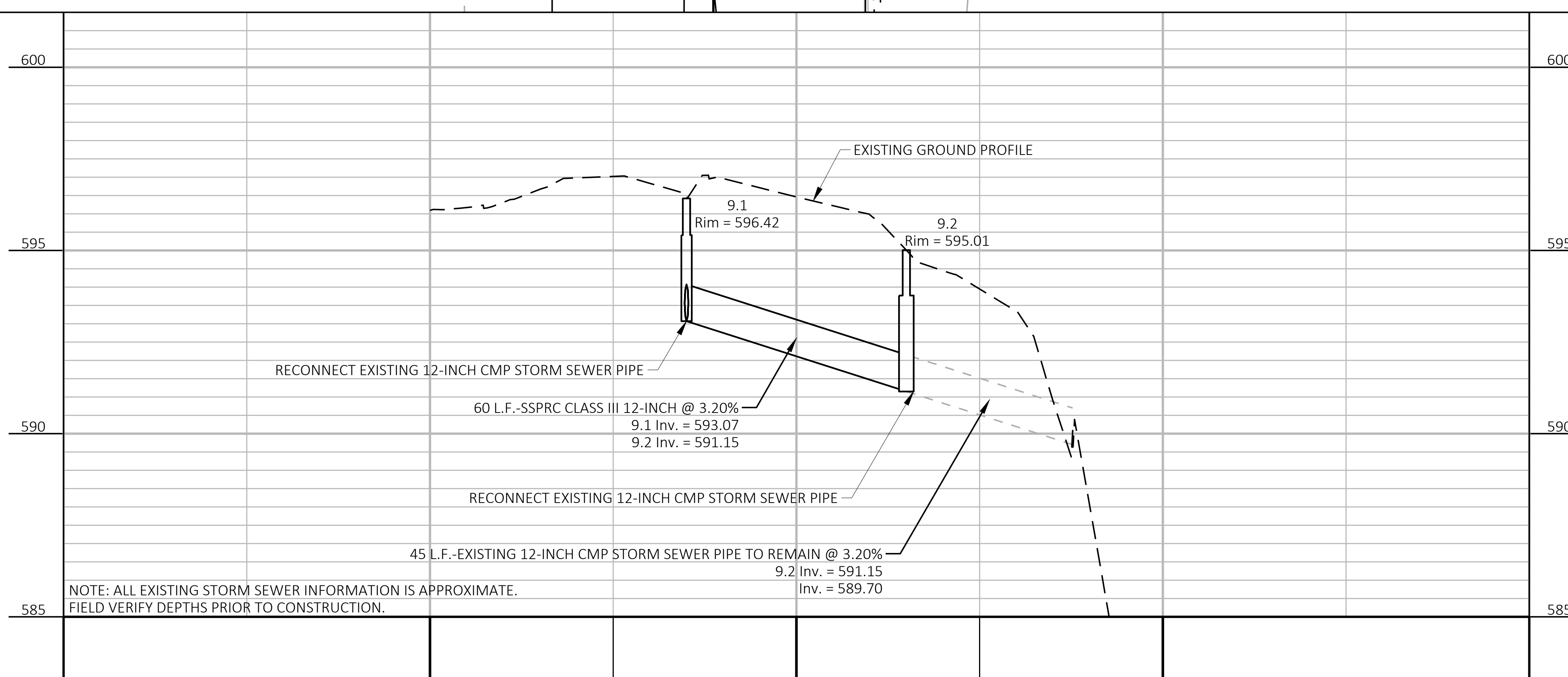


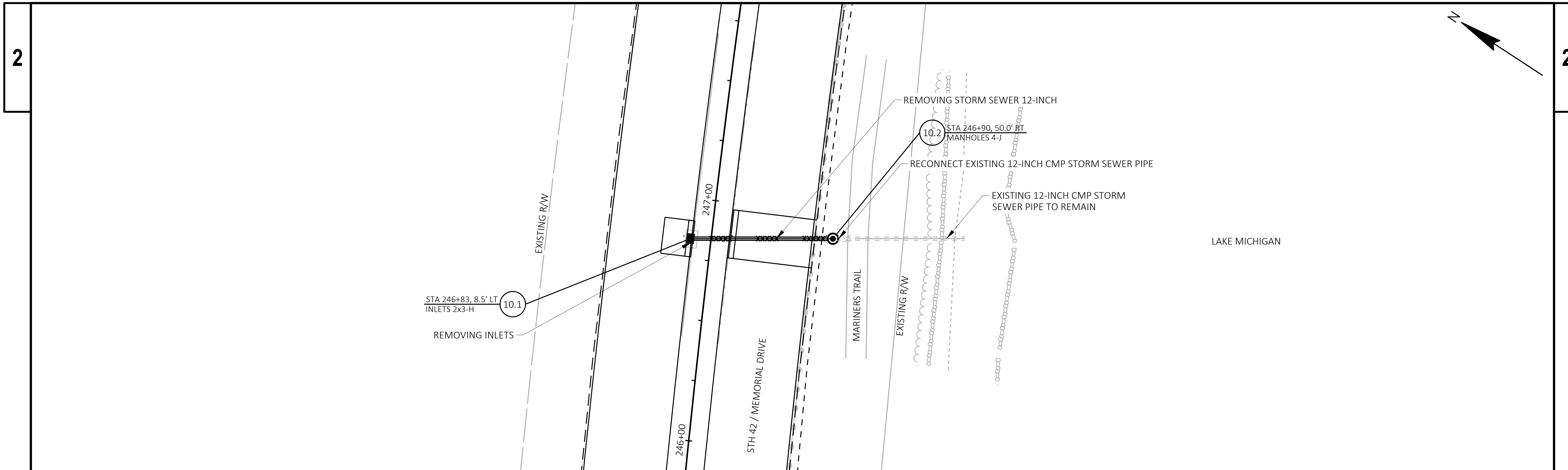


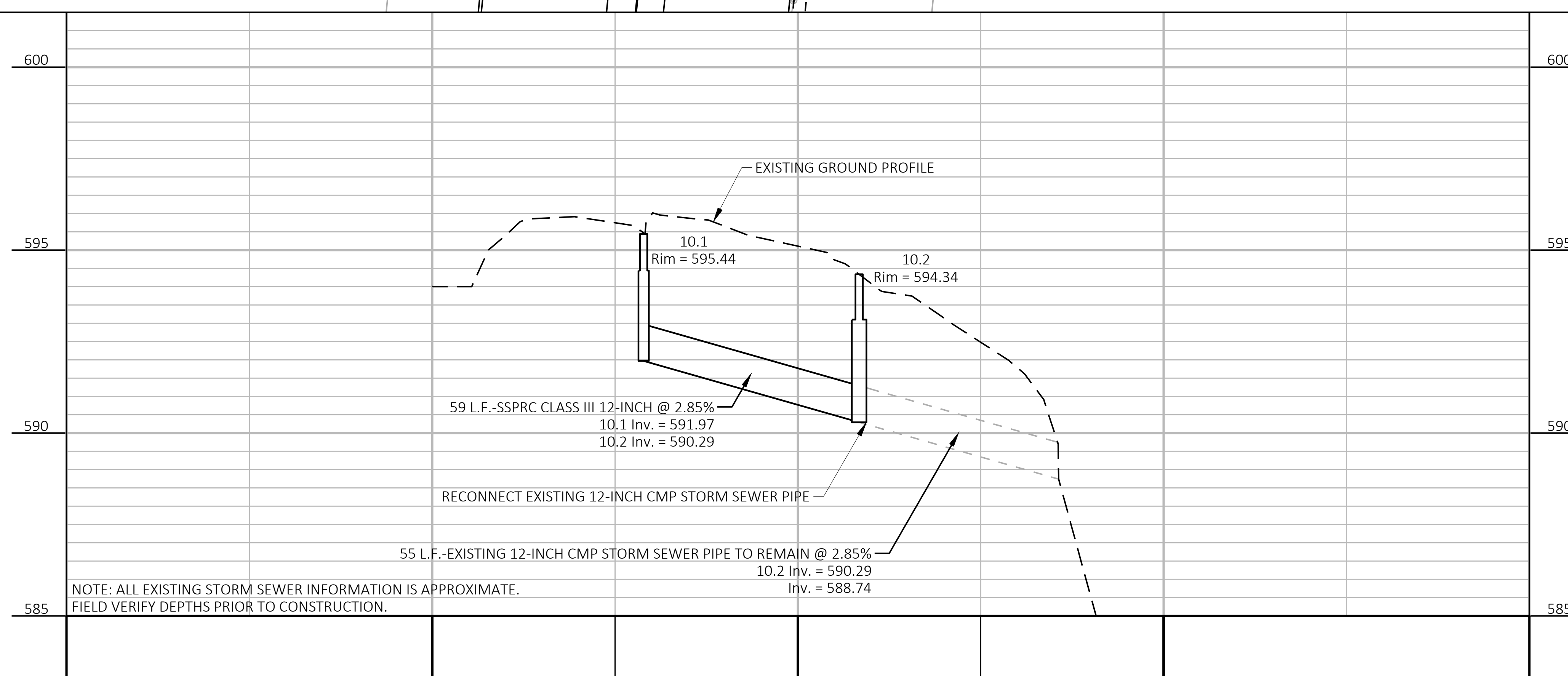
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	STORM SEWER: STATION 207+38	SHEET 34	E





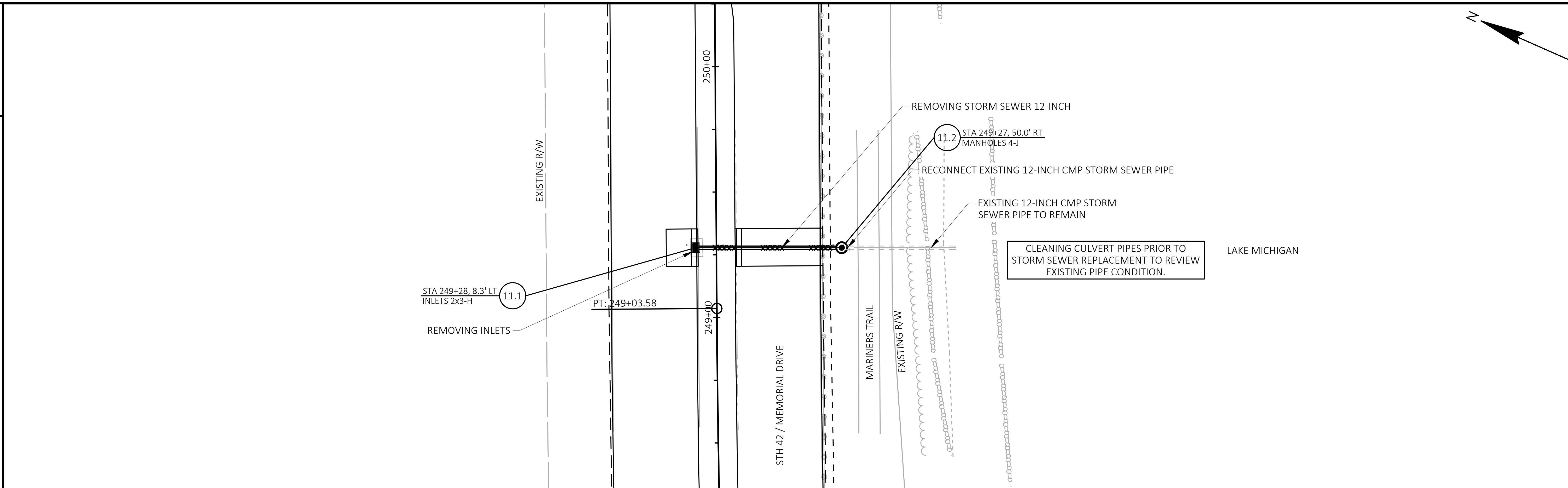
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	STORM SEWER: STATION 243+23	SHEET 35	E





PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	STORM SEWER: STATION 246+84	SHEET 36	E

2



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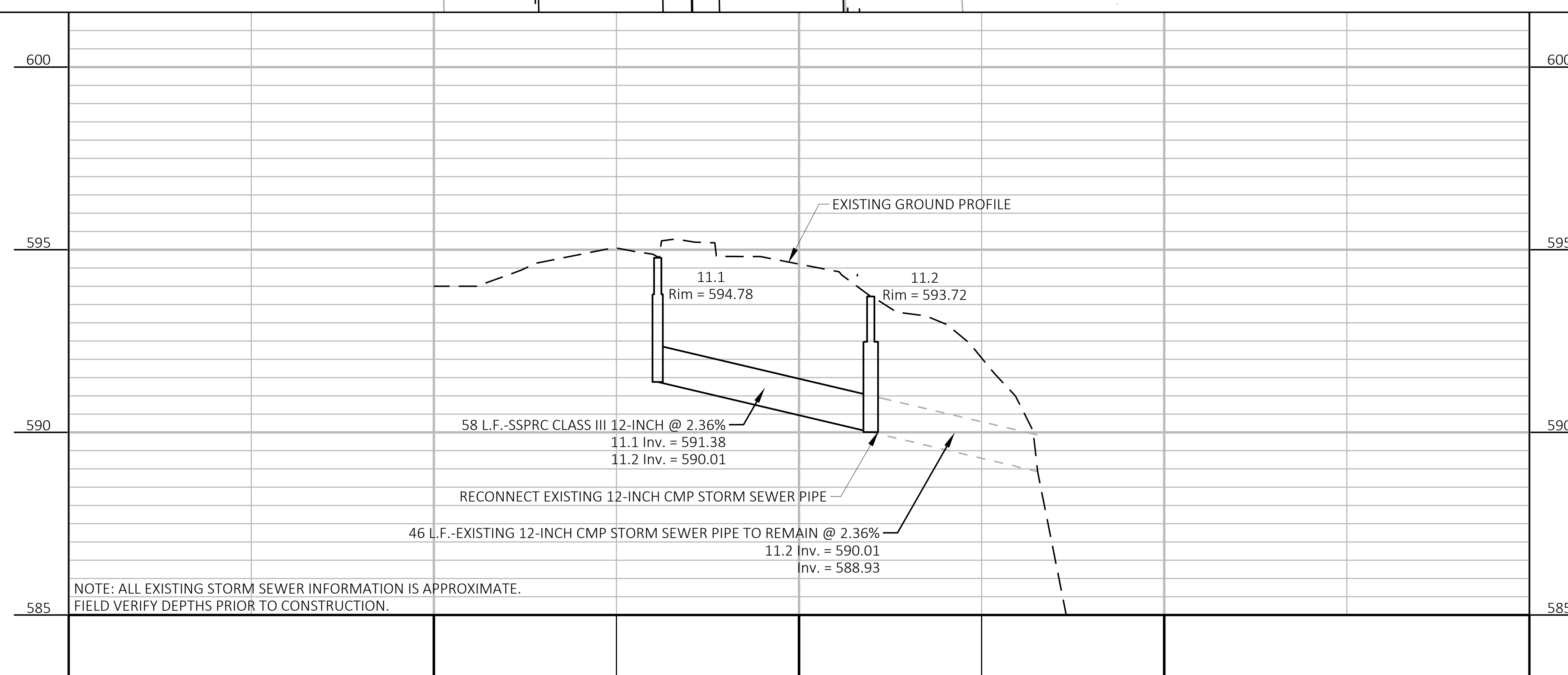
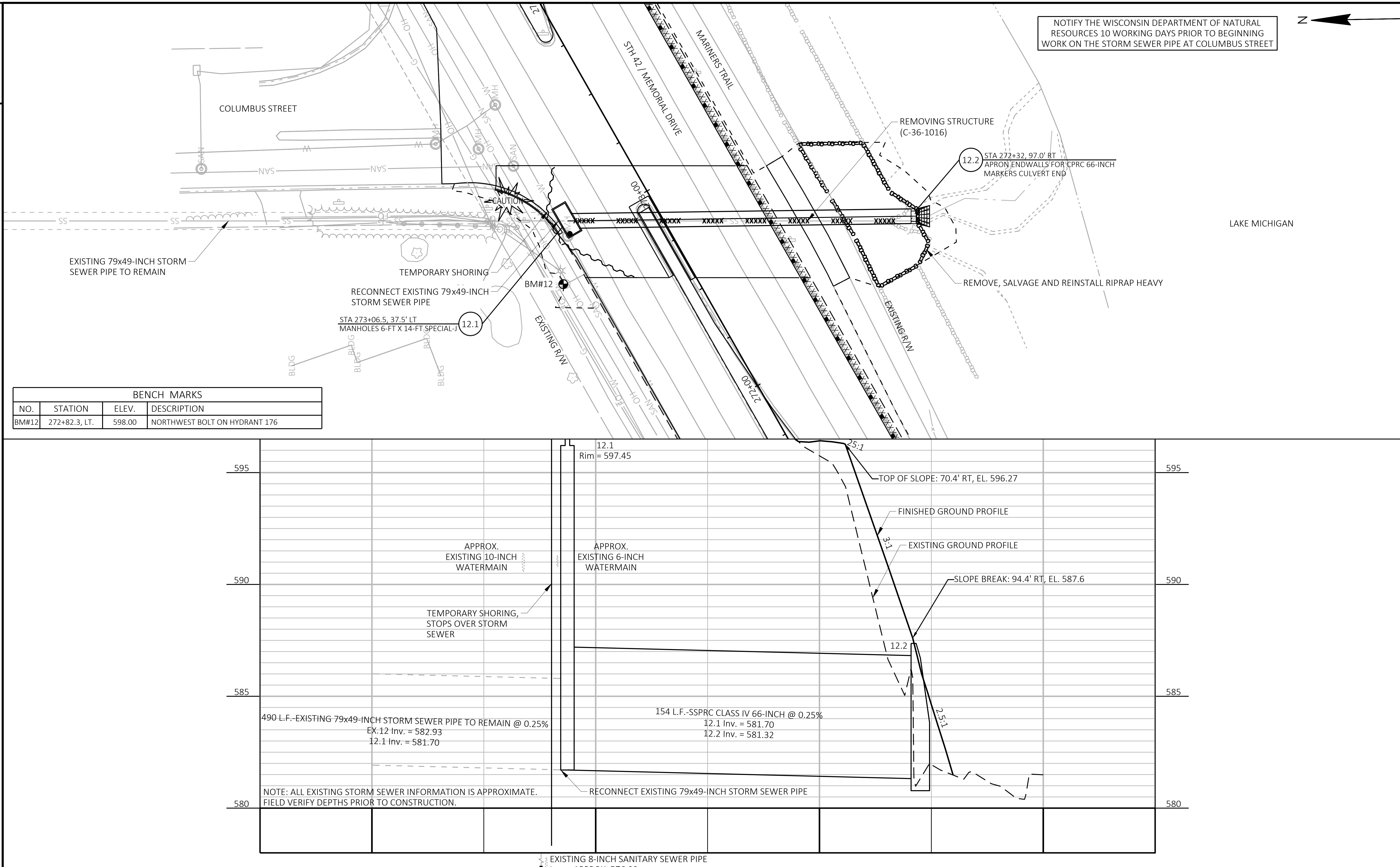
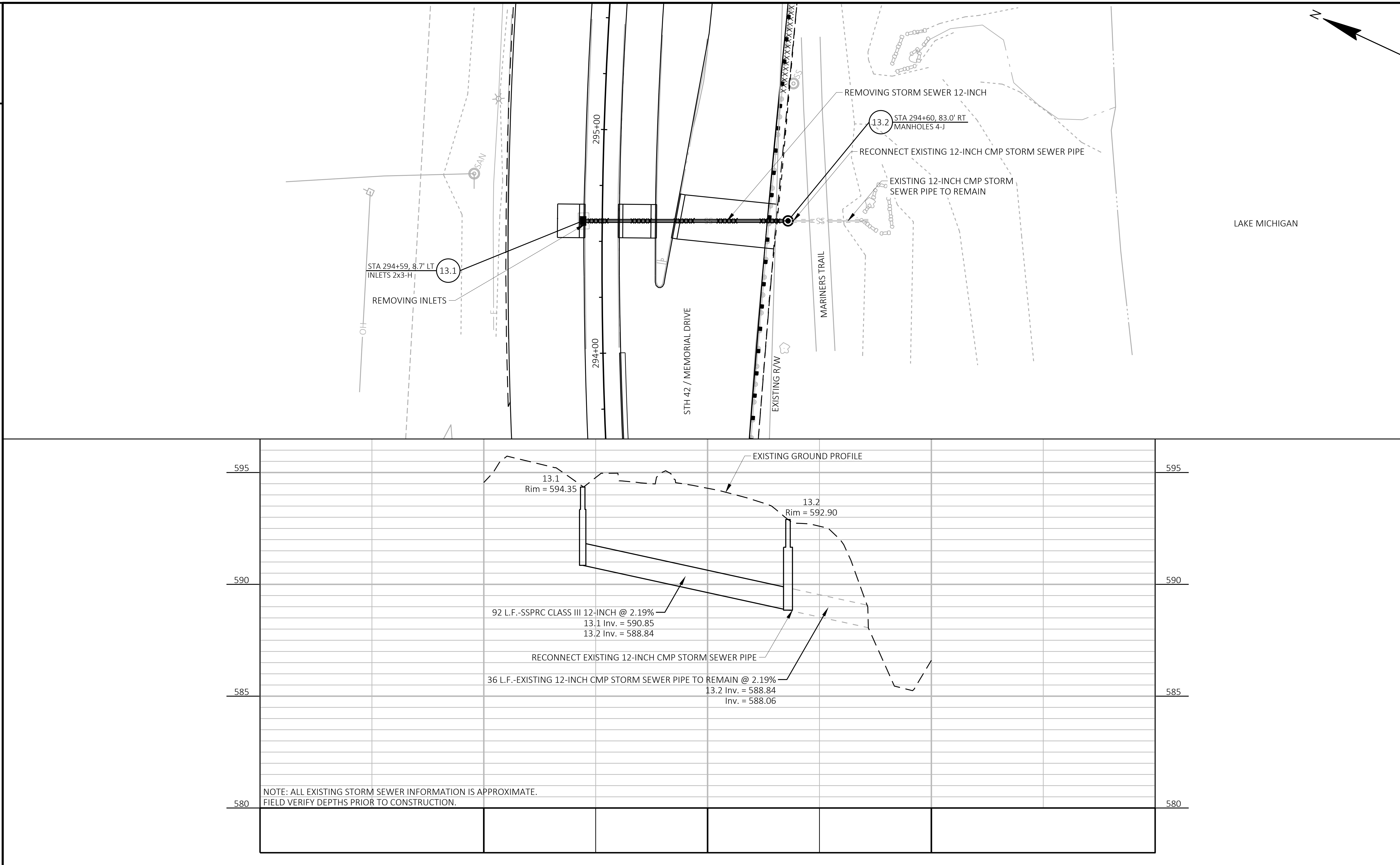


PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	STORM SEWER: STATION 249+28	SHEET 37	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\DESIGN\PIPENETWORKS\STORM SEWER.DWG
LAYOUT NAME - 022511-ss
PLOT DATE : 6/27/2024 9:20 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 41

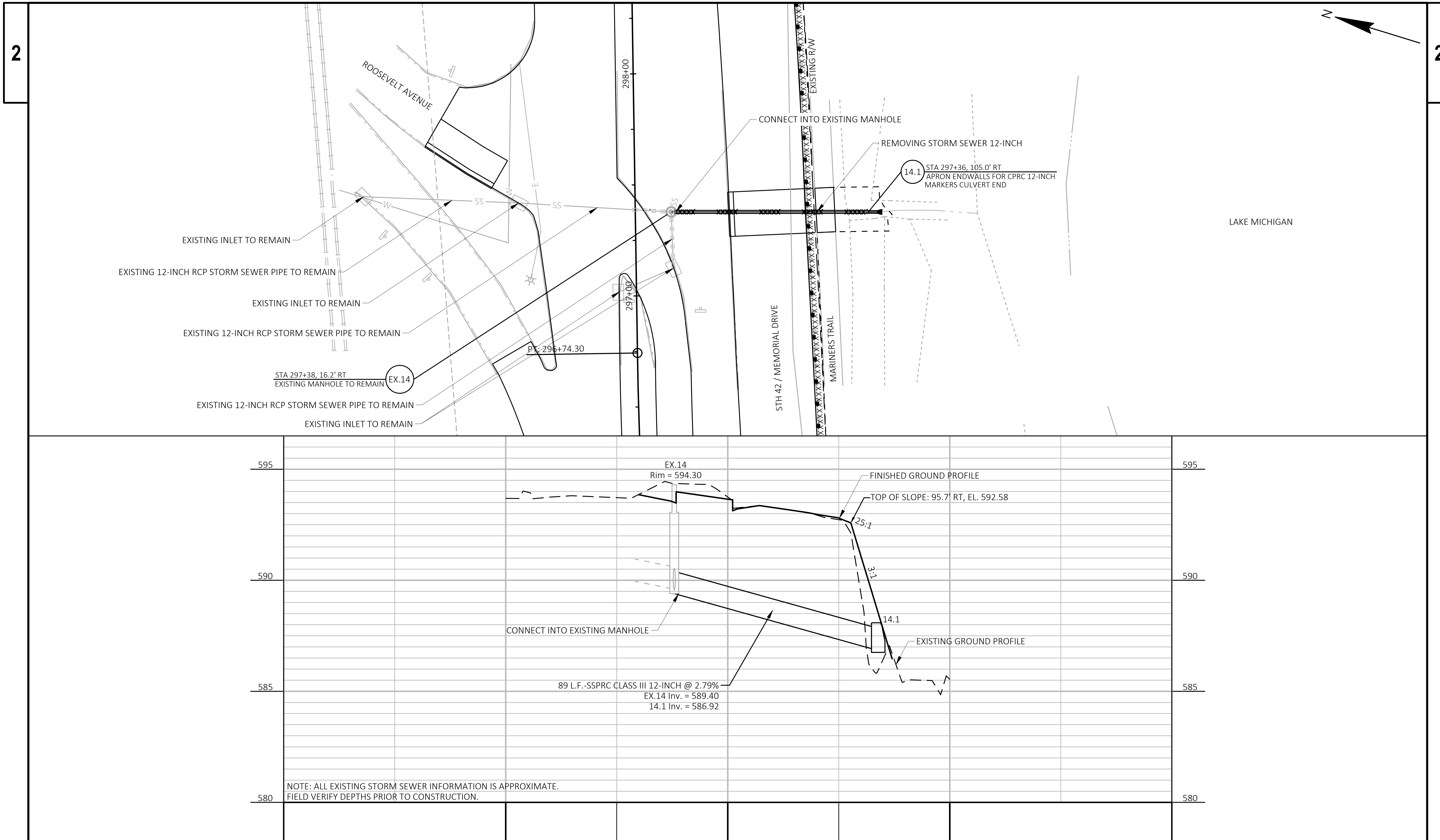


BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
BM#12	272+82.3, LT.	598.00	NORTHWEST BOLT ON HYDRANT 176



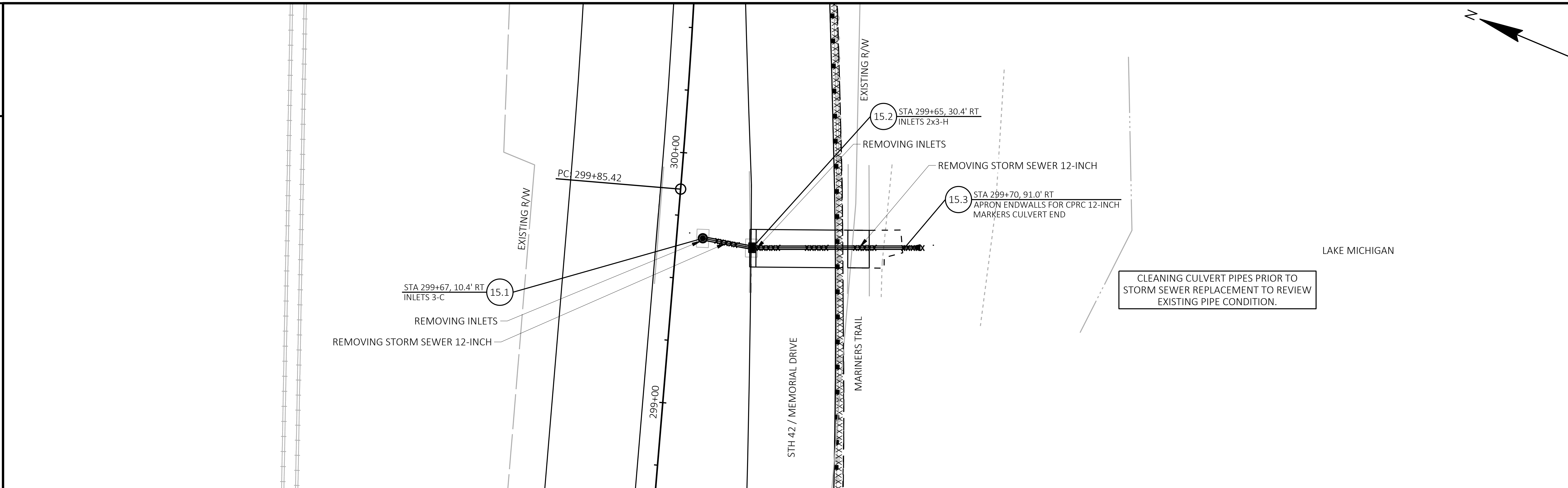
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	STORM SEWER: STATION 294+59	SHEET 39	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\DESIGN\PIPENETWORKS\STORM SEWER.DWG
LAYOUT NAME - 022513-ss
PLOT DATE : 6/27/2024 9:21 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:40 FT



PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	STORM SEWER: STATION 297+36	SHEET 40	E

2



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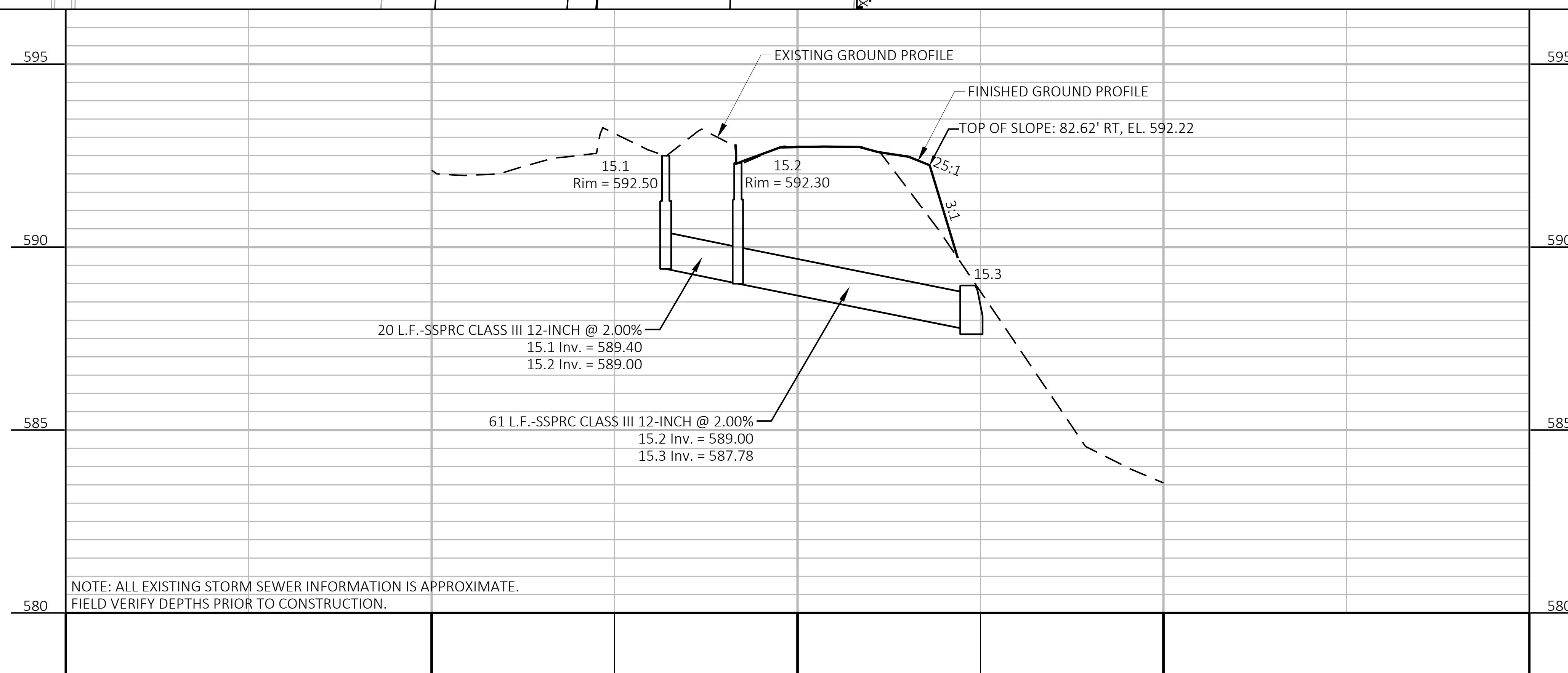
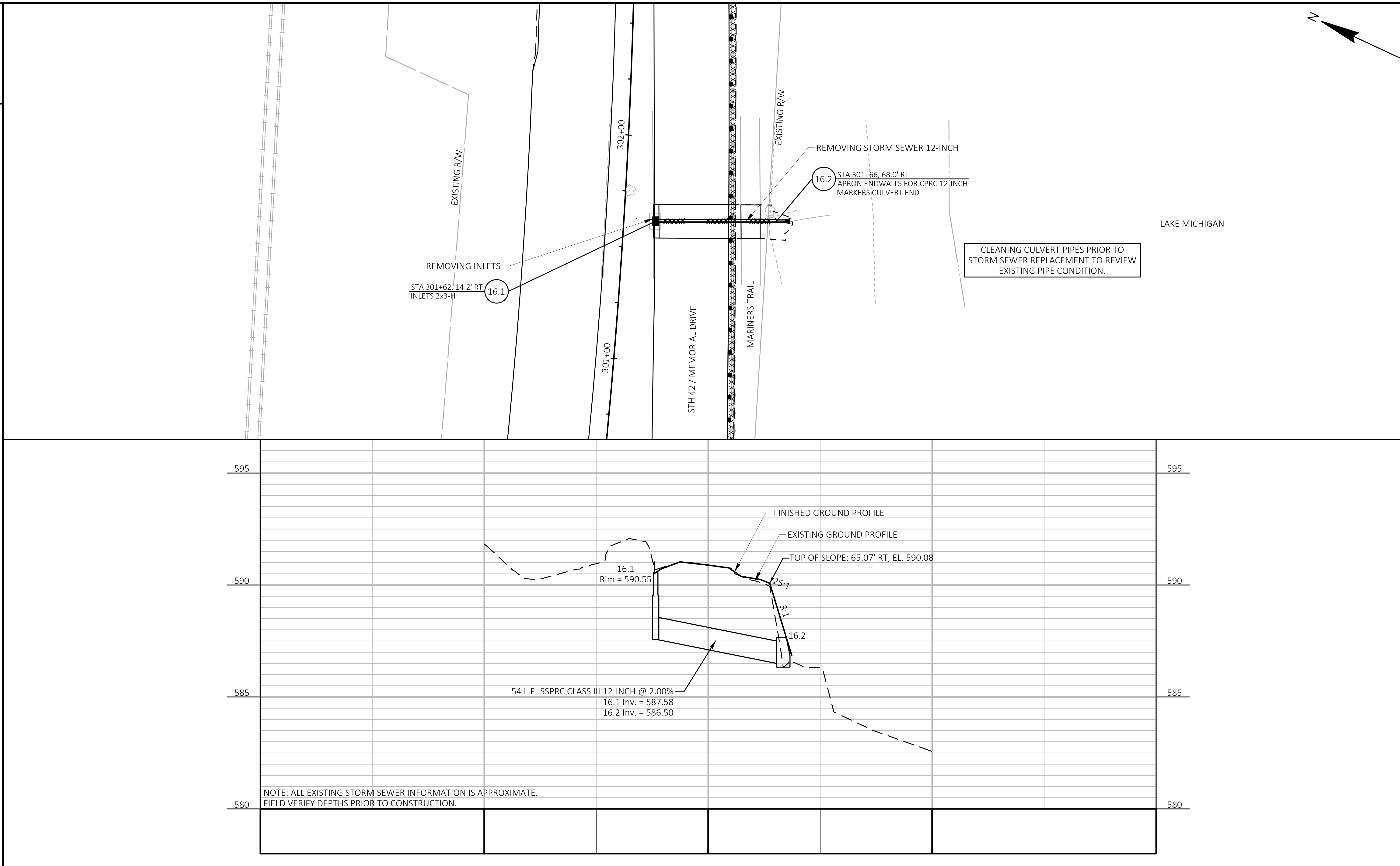


PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	STORM SEWER: STATION 299+65	SHEET 41	E

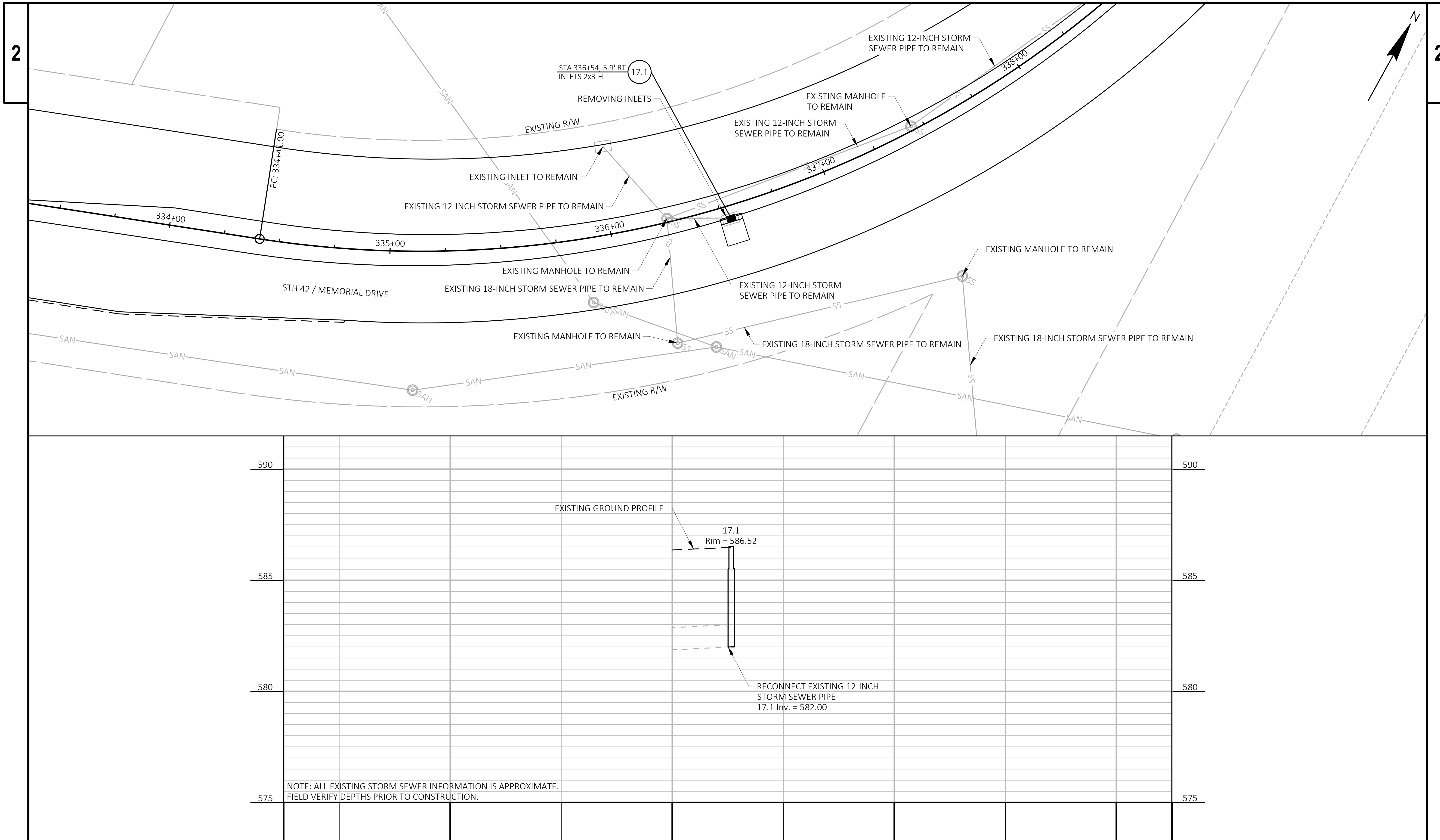
2

2



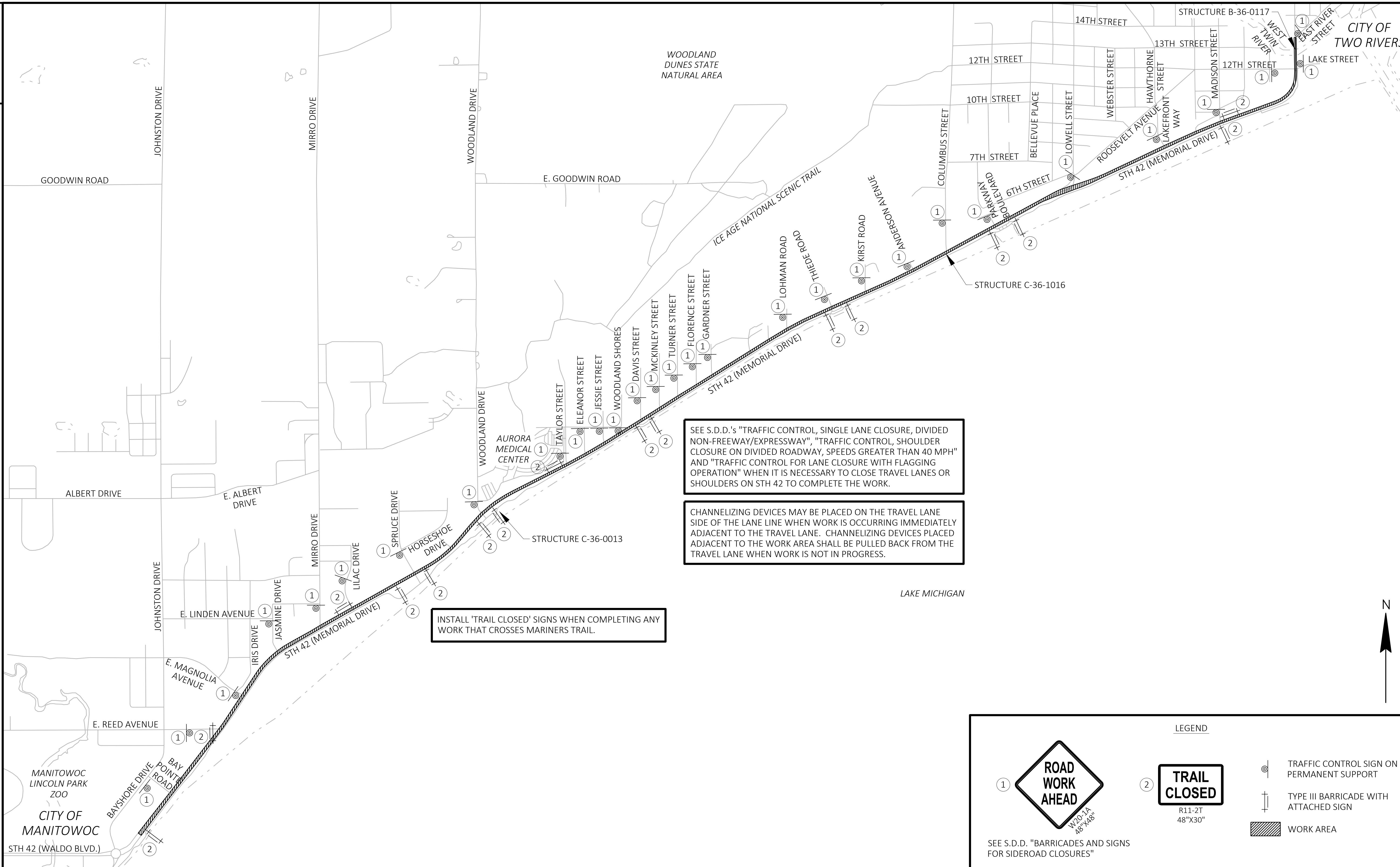
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	STORM SEWER: STATION 301+62	SHEET 42	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\DESIGN\PIPENETWORKS\STORM SEWER.DWG
LAYOUT NAME - 022516-ss
PLOT DATE : 6/27/2024 9:22 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 41



PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	STORM SEWER: STATION 336+54	SHEET 43	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\DESIGN\PIPENETWORKS\STORM SEWER.DWG
LAYOUT NAME - 022518-ss
PLOT DATE : 6/27/2024 9:23 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 41



SEE S.D.D.'s "TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY", "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH" AND "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" WHEN IT IS NECESSARY TO CLOSE TRAVEL LANES OR SHOULDERS ON STH 42 TO COMPLETE THE WORK.

CHANNELIZING DEVICES MAY BE PLACED ON THE TRAVEL LANE SIDE OF THE LANE LINE WHEN WORK IS OCCURRING IMMEDIATELY ADJACENT TO THE TRAVEL LANE. CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

INSTALL 'TRAIL CLOSED' SIGNS WHEN COMPLETING ANY WORK THAT CROSSES MARINERS TRAIL.

LEGEND

1 ROAD WORK AHEAD — W20-1A 48"X48"

2 TRAIL CLOSED — R11-2T 48"X30"

TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT

TYPE III BARRICADE WITH ATTACHED SIGN

WORK AREA

SEE S.D.D. "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES"

PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	TRAFFIC CONTROL OVERVIEW	SHEET 44	E

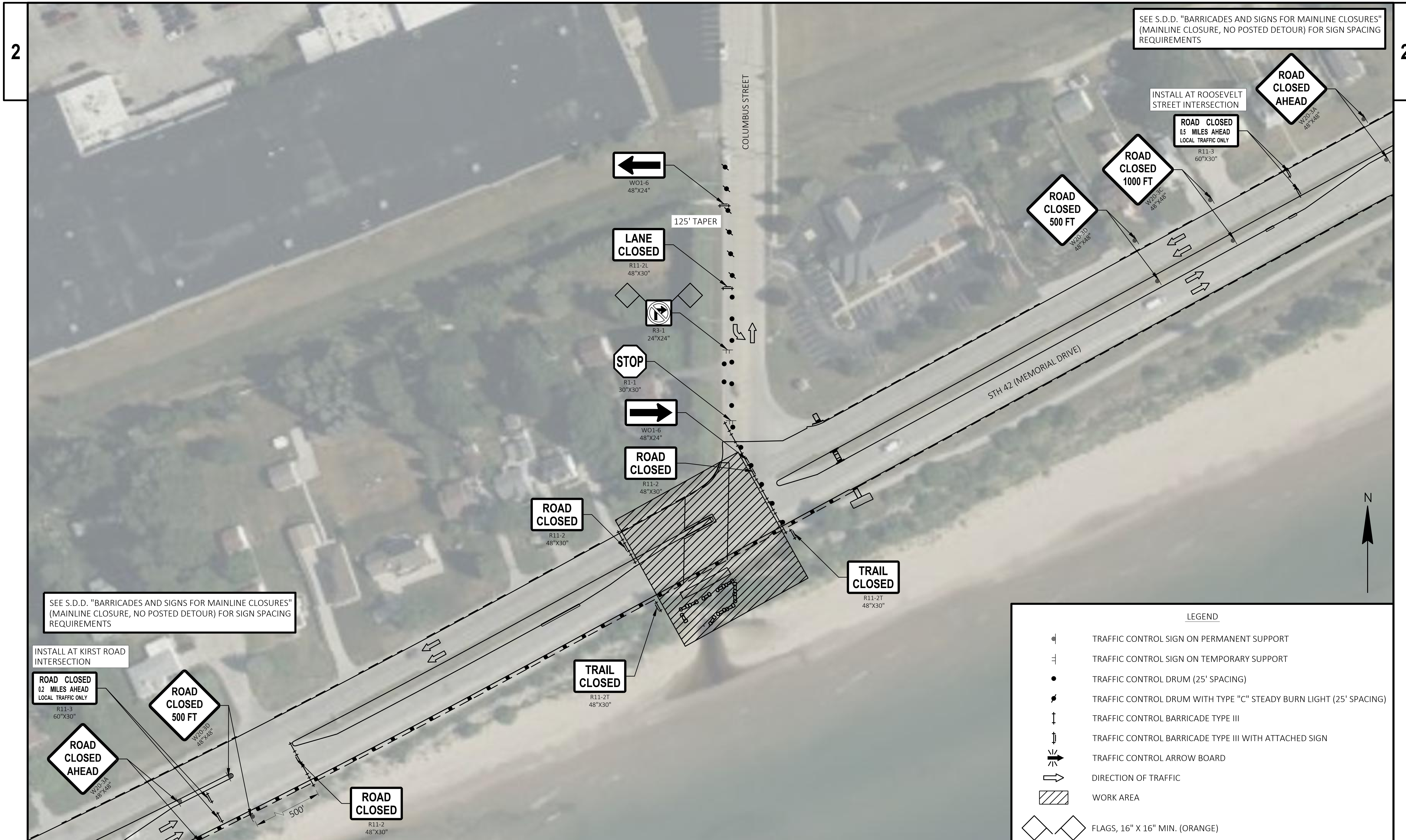
2

2

PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	TRAFFIC CONTROL - MIRRO DRIVE	SHEET 45	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\025201-TC-MIRRO.DWG
LAYOUT NAME - 025201-tc-mirro
PLOT DATE : 10/7/2024 1:29 PM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42



PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	TRAFFIC CONTROL - COLUMBUS STREET	SHEET 46	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\025202-TC-COLUMBUS.DWG
LAYOUT NAME - 025202-tc-columbus
PLOT DATE : 10/8/2024 10:22 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:100 FT

PROJECT NO: 1470-37-71	HWY: STH 42	COUNTY: MANITOWOC	PEDESTRIAN ACCOMMODATION PLAN - E. REED AVENUE	SHEET 47	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\025203-PED PLAN.DWG
LAYOUT NAME - 025201-ped-reed
PLOT DATE : 12/12/2024 4:17 PM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

2

PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PEDESTRIAN ACCOMMODATION PLAN - TAYLOR STREET	SHEET 48	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\025203-PED PLAN.DWG
LAYOUT NAME - 025202-ped-taylor
PLOT DATE : 12/12/2024 4:17 PM
PLOT BY : JASON DOLENS
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PEDESTRIAN ACCOMMODATION PLAN - MADISON STREET	SHEET 49	E

2

2

PROJECT NO: 1470-33-71	HWY: STH 42	COUNTY: MANITOWOC	PEDESTRIAN ACCOMMODATION PLAN - 12TH STREET/LAKE STREET	SHEET 50	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\025203-PED PLAN.DWG
LAYOUT NAME - 025204-ped-12th
PLOT DATE : 12/12/2024 4:17 PM
PLOT BY : JASON DOLENS
PLOT NAME :
PLOT SCALE : 1 IN:150 FT
WISDOT/CADDS SHEET 42

2

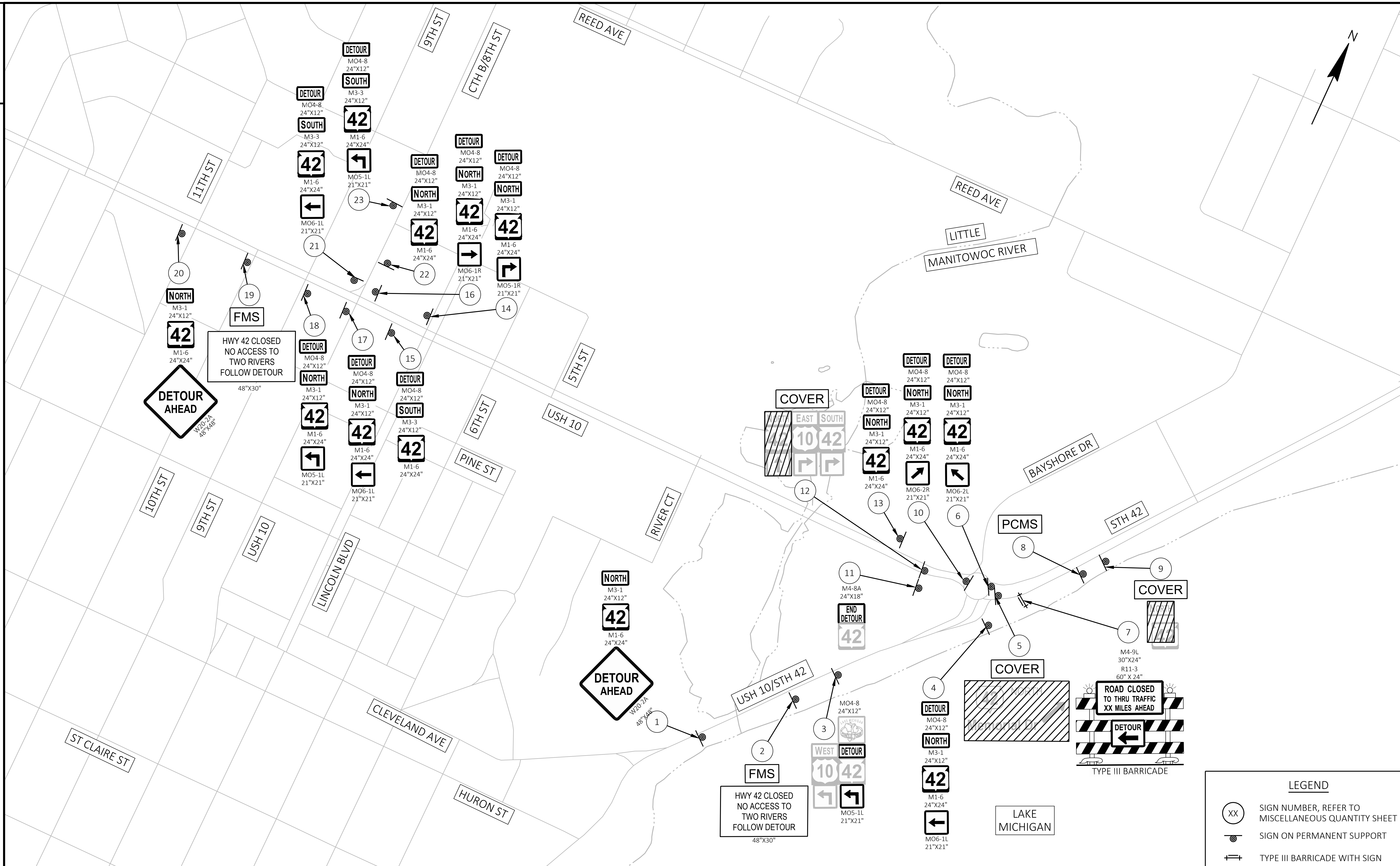
2

PROJECT NO: 1470-33-71	HWY: STH 42	COUNTY: MANITOWOC	PEDESTRIAN DETOUR SIGNING PLAN	SHEET 51	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\025200-TC-PED.DWG
LAYOUT NAME - 025200-tc-ped

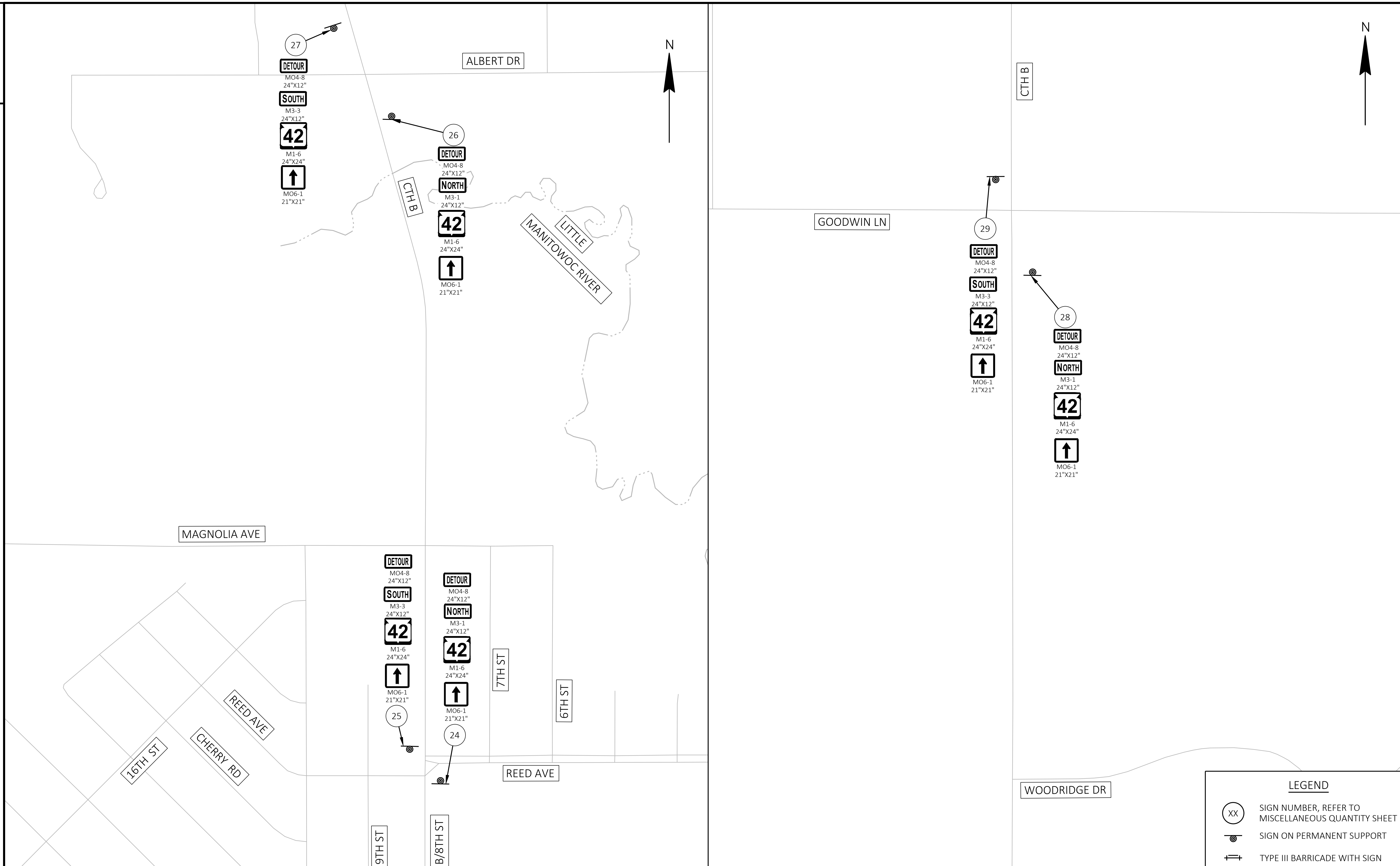
PLOT DATE : 12/12/2024 4:19 PM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:250 FT

WISDOT/CADDS SHEET 42



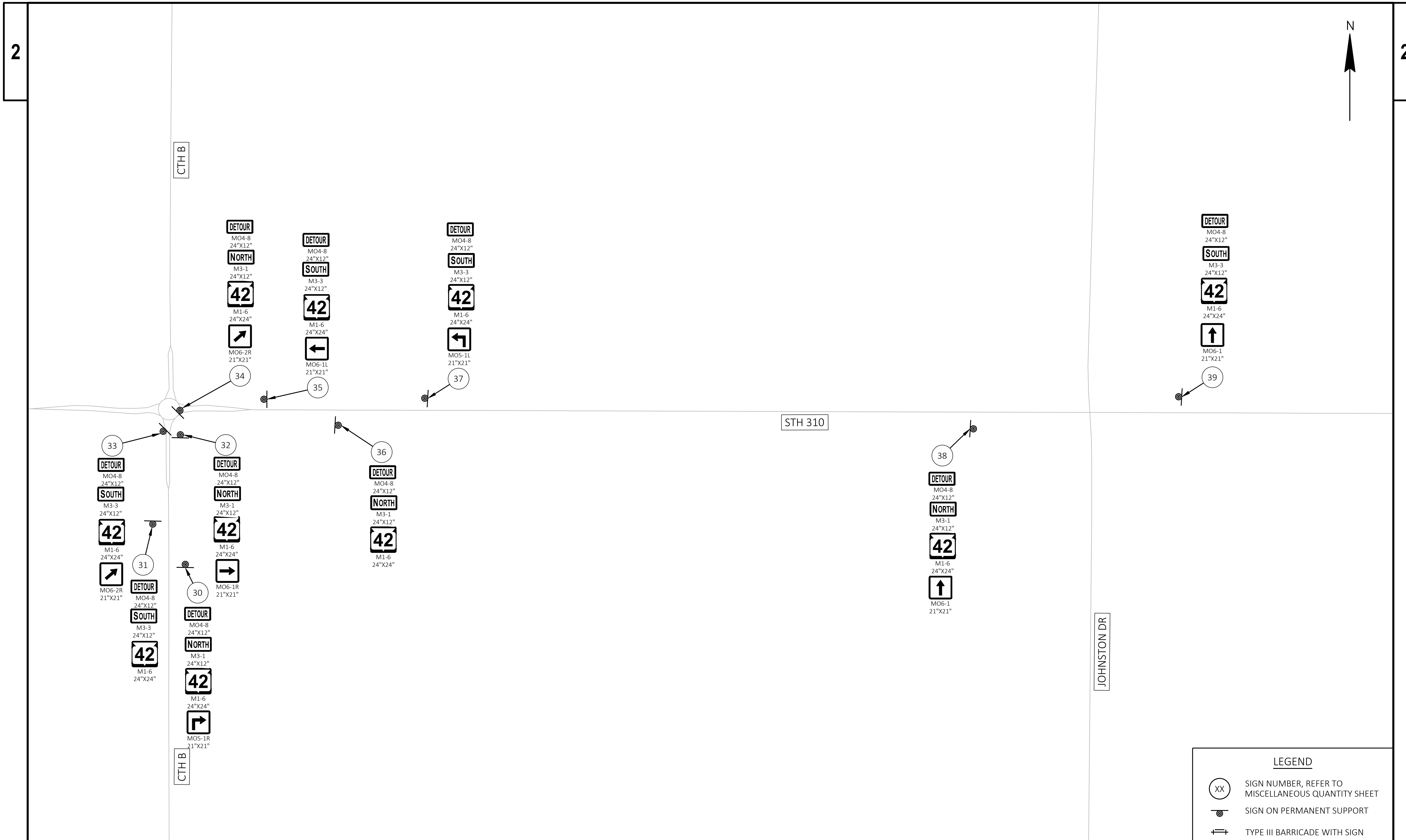
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	DETOUR ROUTE	SHEET 52	E

2



2

PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	DETOUR ROUTE	SHEET 53	E

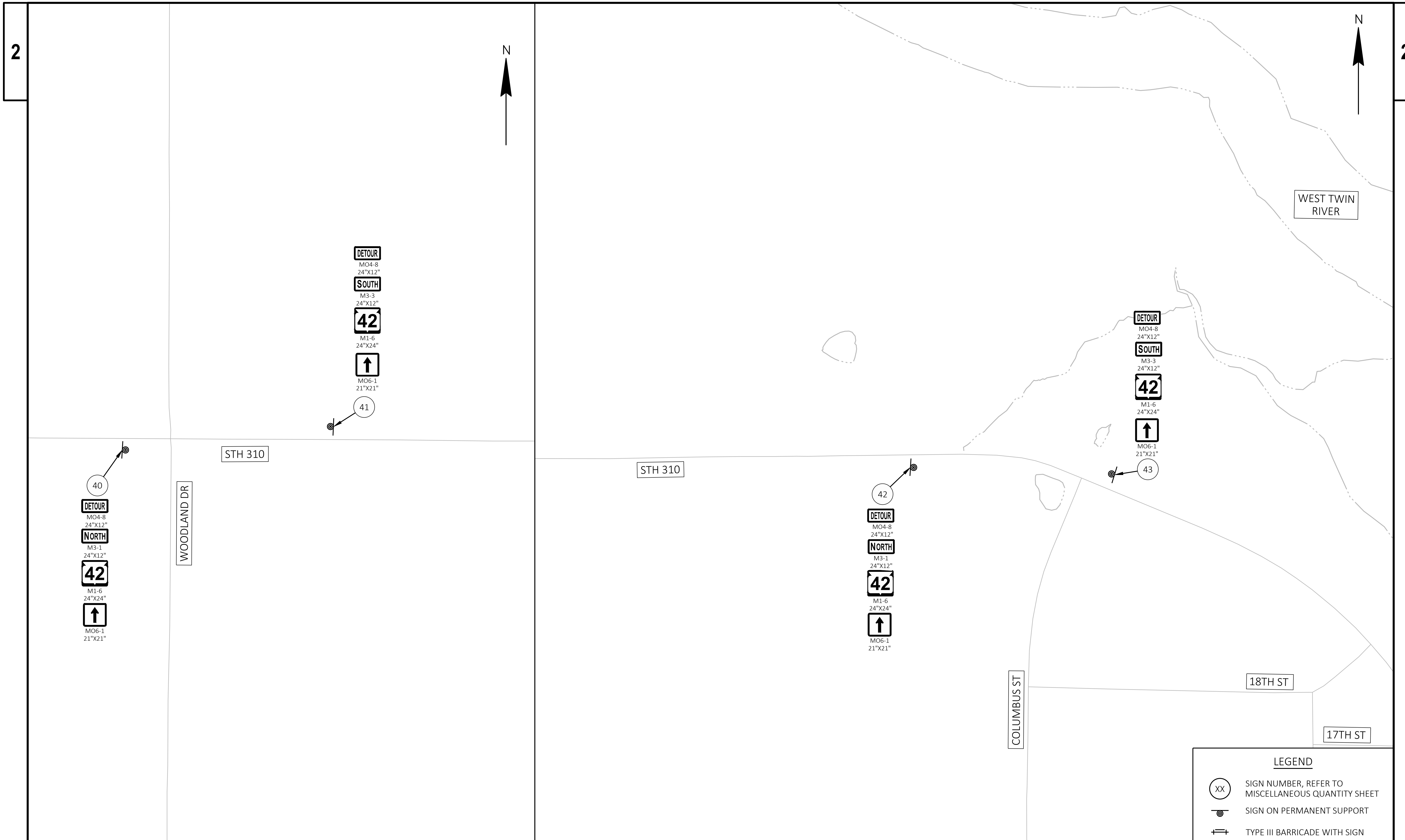


PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	DETOUR ROUTE	SHEET 54	E

FILE NAME : N:\PDS\C3D\14702700\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027003-dt

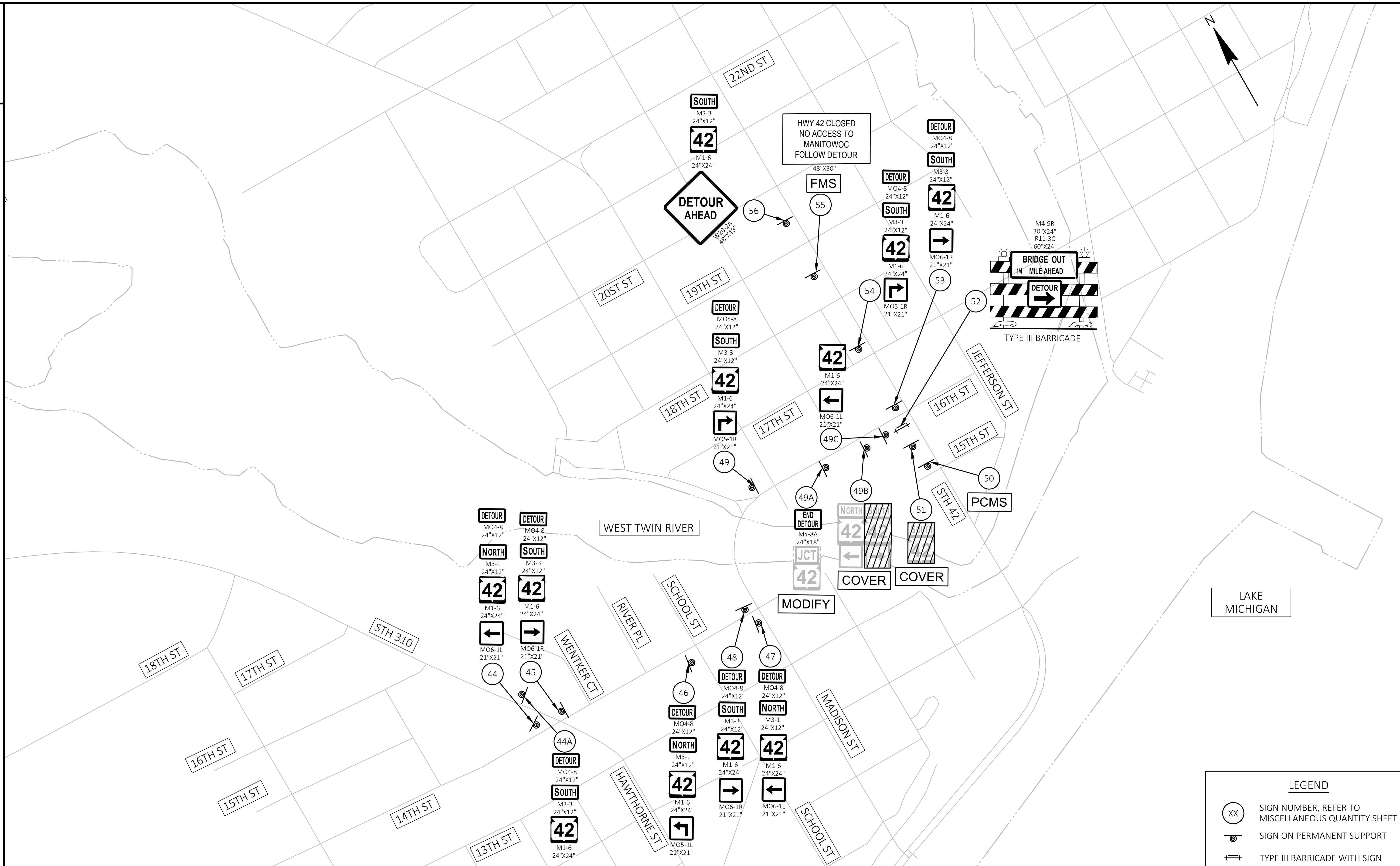
PLOT DATE : 10/17/2024 2:40 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1 IN:500 FT

WISDOT/CADDS SHEET 42



PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	DETOUR ROUTE	SHEET 55	E

FILE NAME : N:\PDS\C3D\14702700\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027004-dt
PLOT DATE : 10/17/2024 2:40 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1 IN:500 FT
WISDOT/CADDS SHEET 42

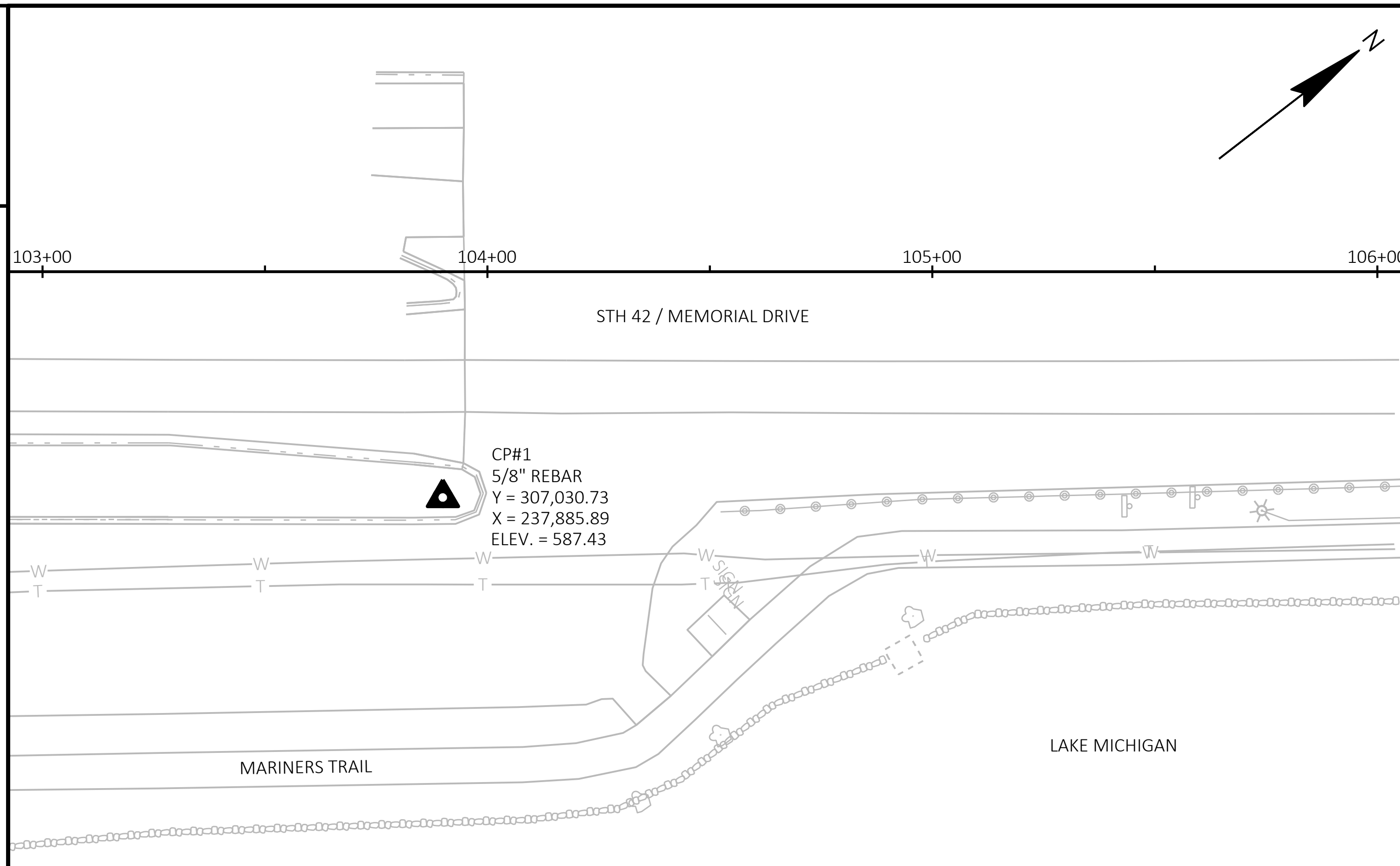


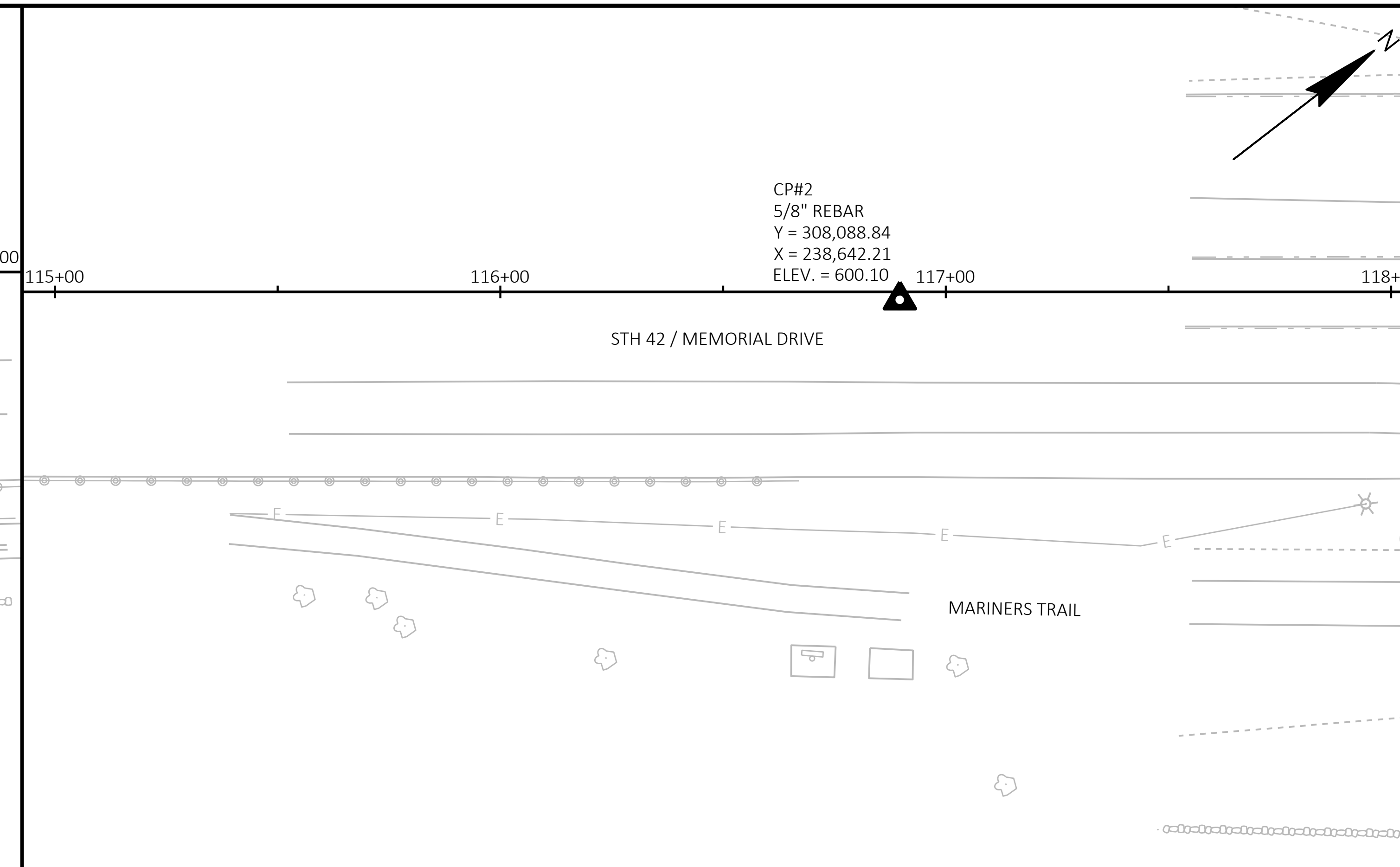
2

PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	DETOUR ROUTE	SHEET 56	E

FILE NAME : N:\PDS\C3D\14702700\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027005-dt
PLOT DATE : 10/17/2024 2:41 PM
PLOT BY : SMITH, JENNIFER B
PLOT NAME :
PLOT SCALE : 1 IN:500 FT
WISDOT/CADDS SHEET 42

2





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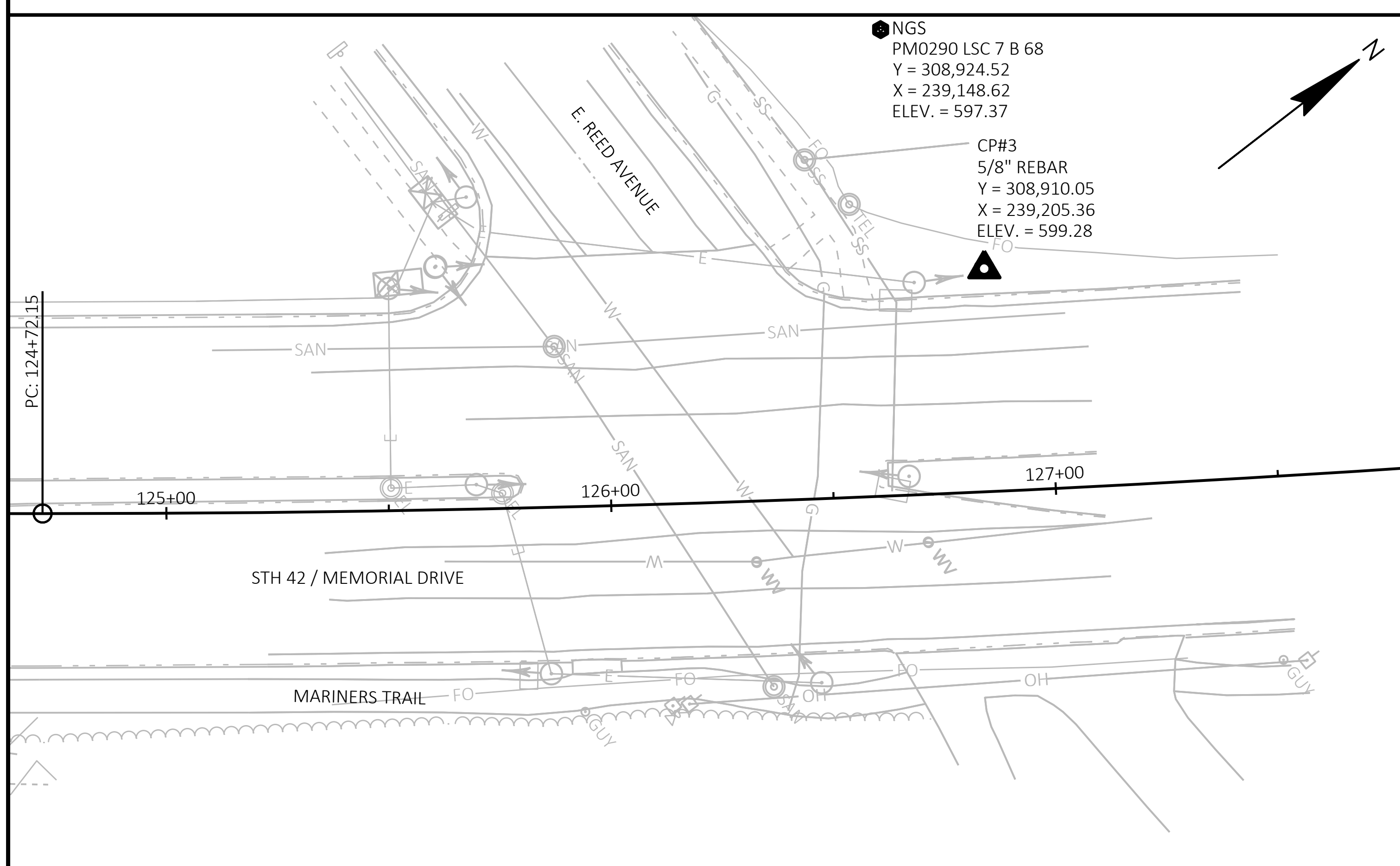
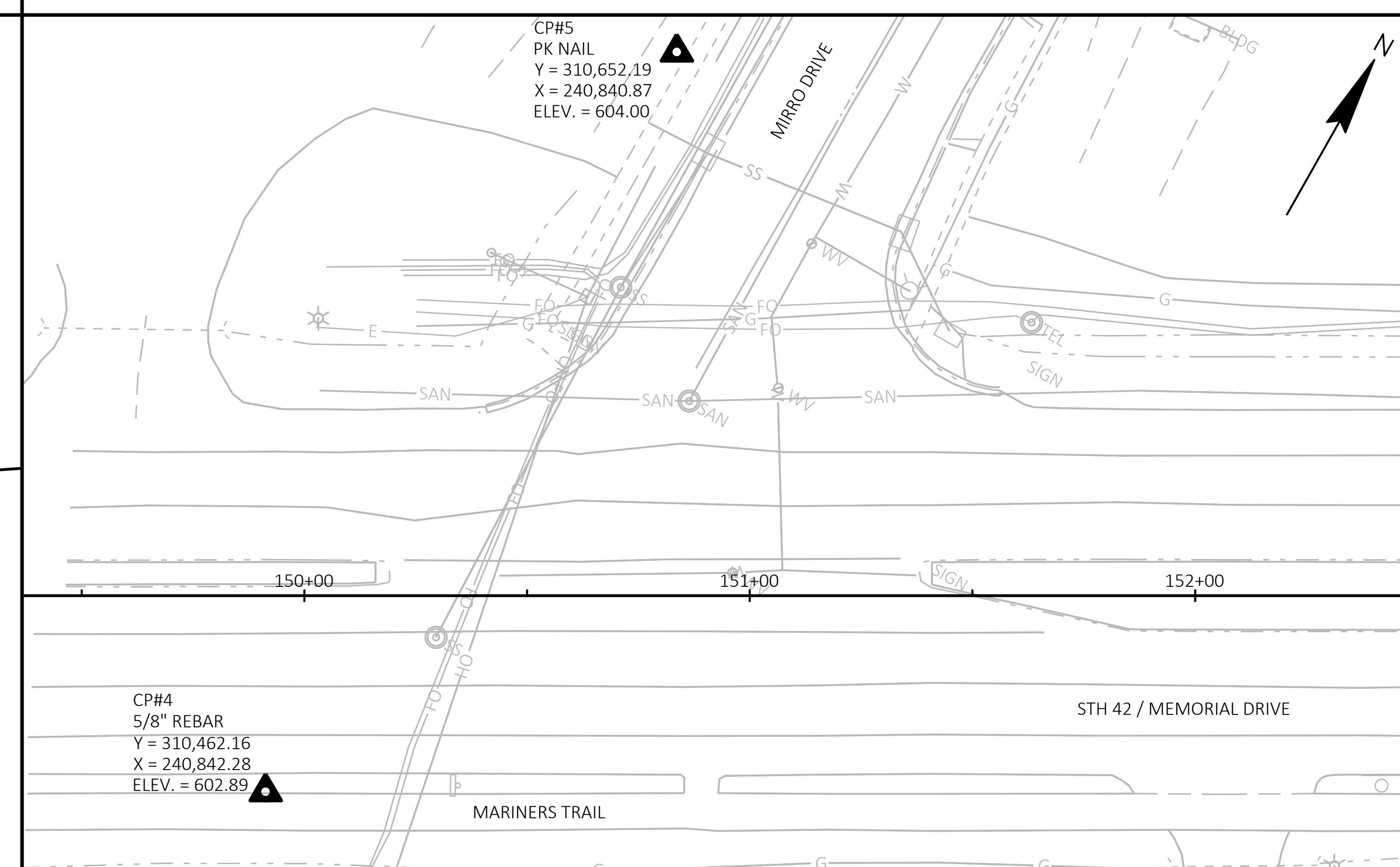
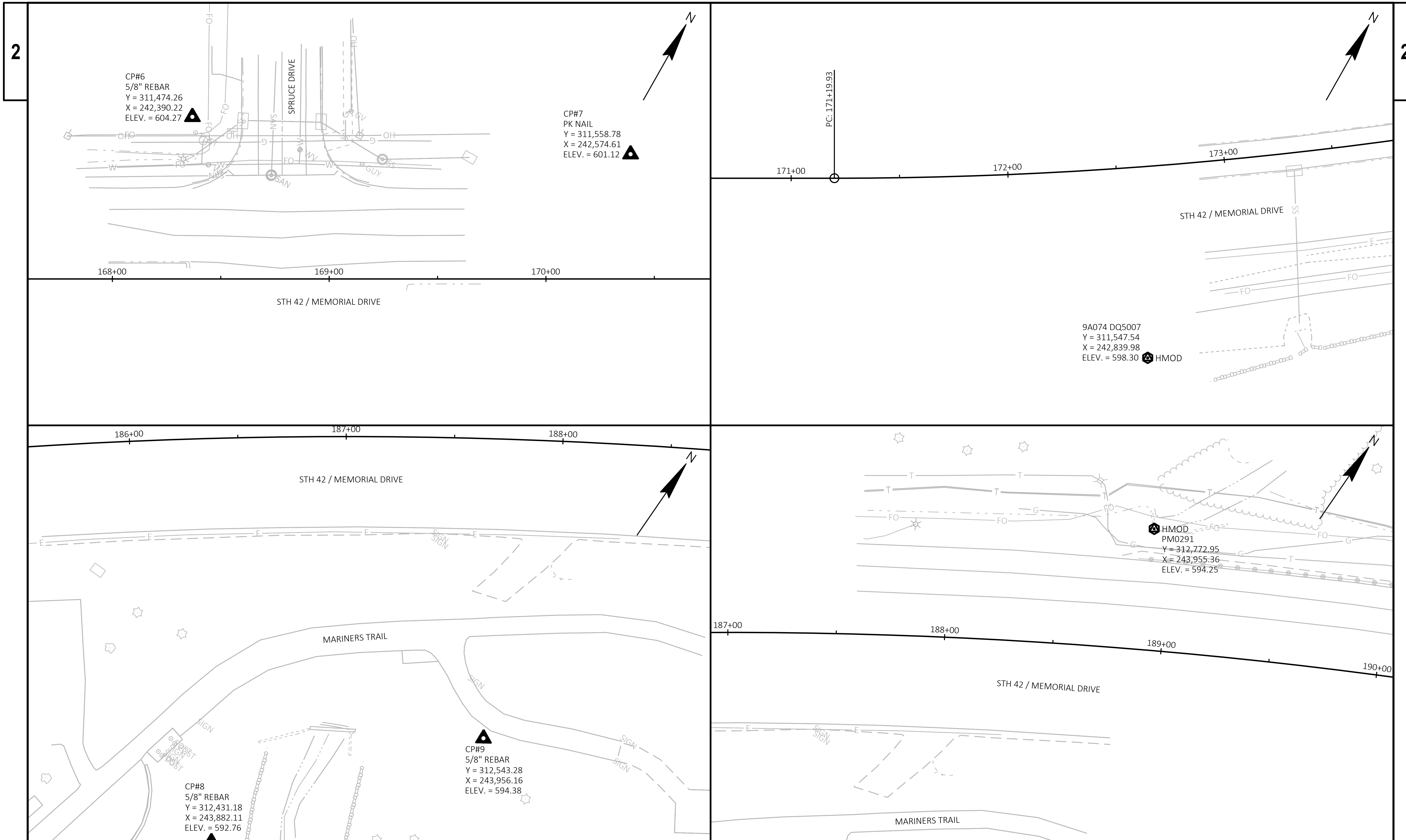




PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	CONTROL POINTS	SHEET 57	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\027301-CP.DWG
LAYOUT NAME - 027301-cp
PLOT DATE : 4/17/2024 7:14 AM
PLOT BY : JASON DOLENS
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42



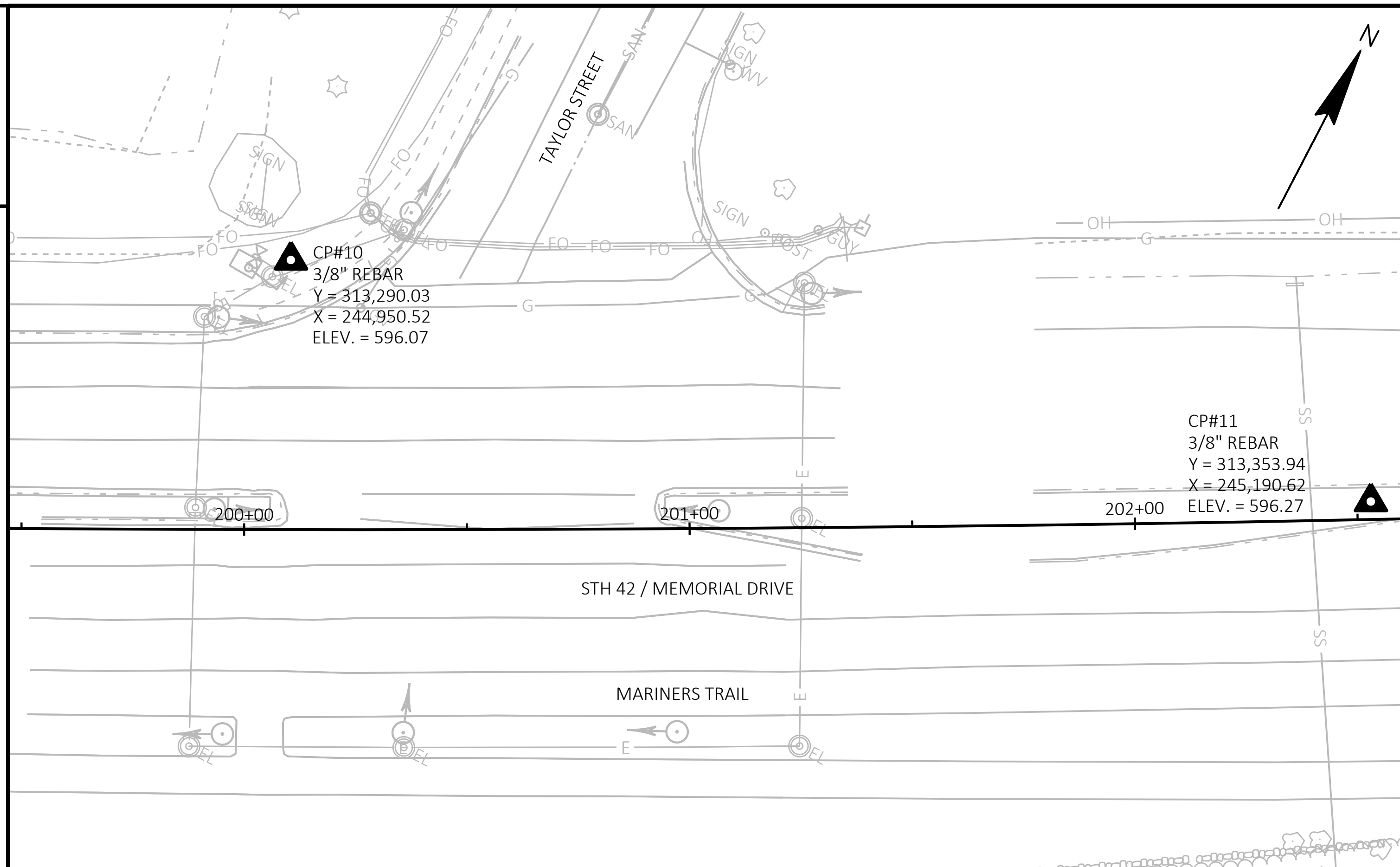
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	CONTROL POINTS	SHEET 58	E

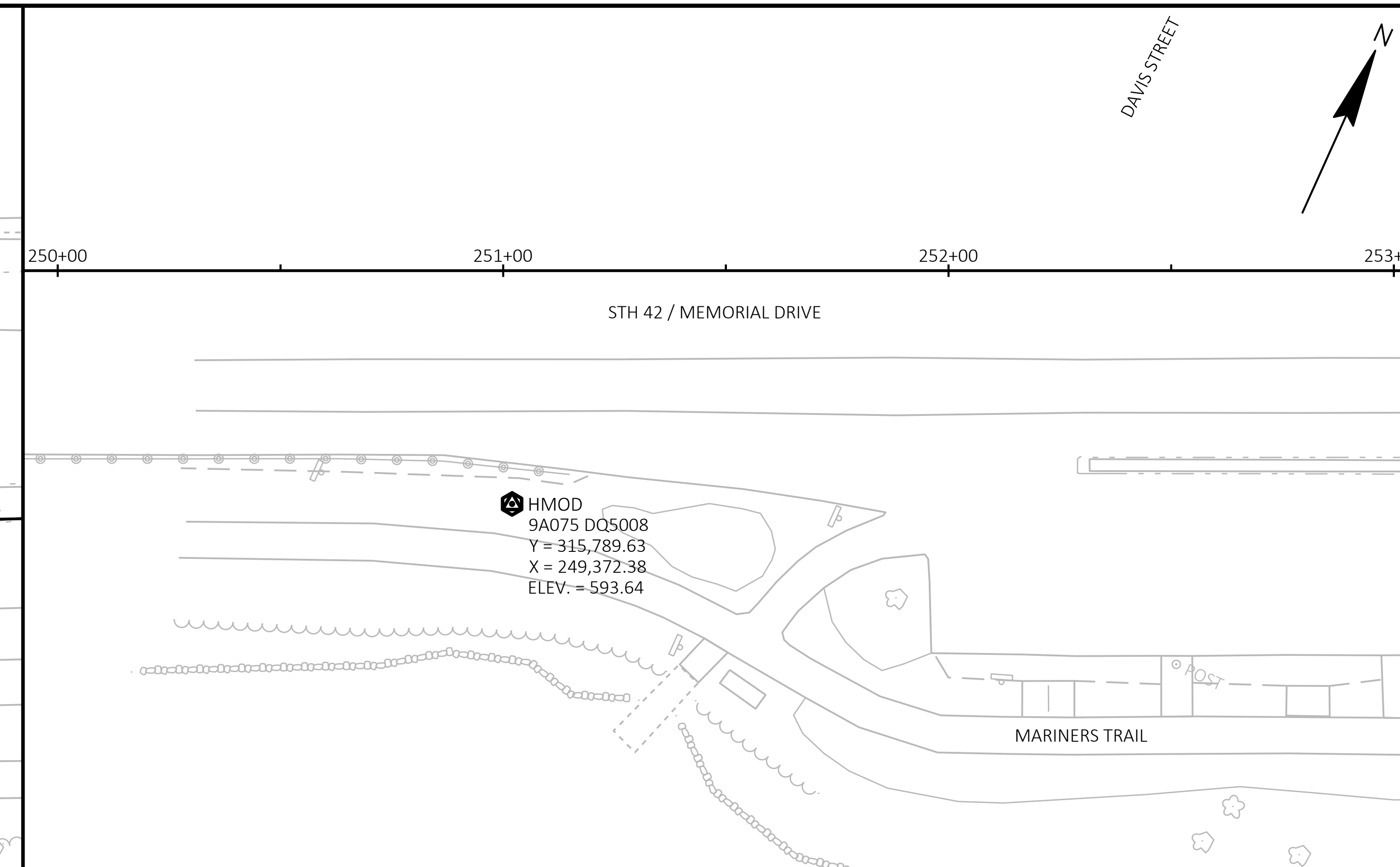
FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\027301-CP.DWG
LAYOUT NAME - 027302-cp

PLOT DATE : 4/17/2024 7:15 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2





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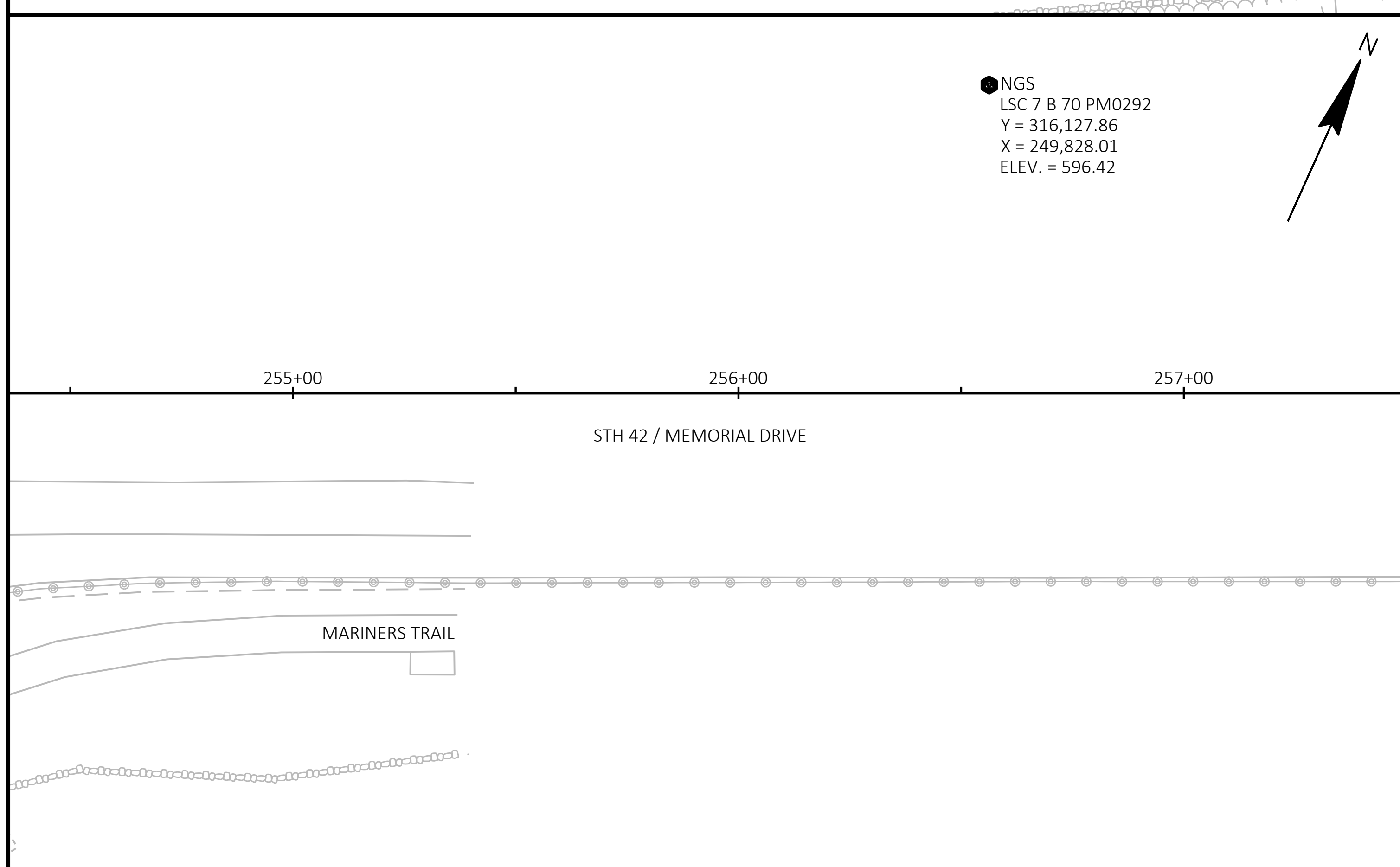
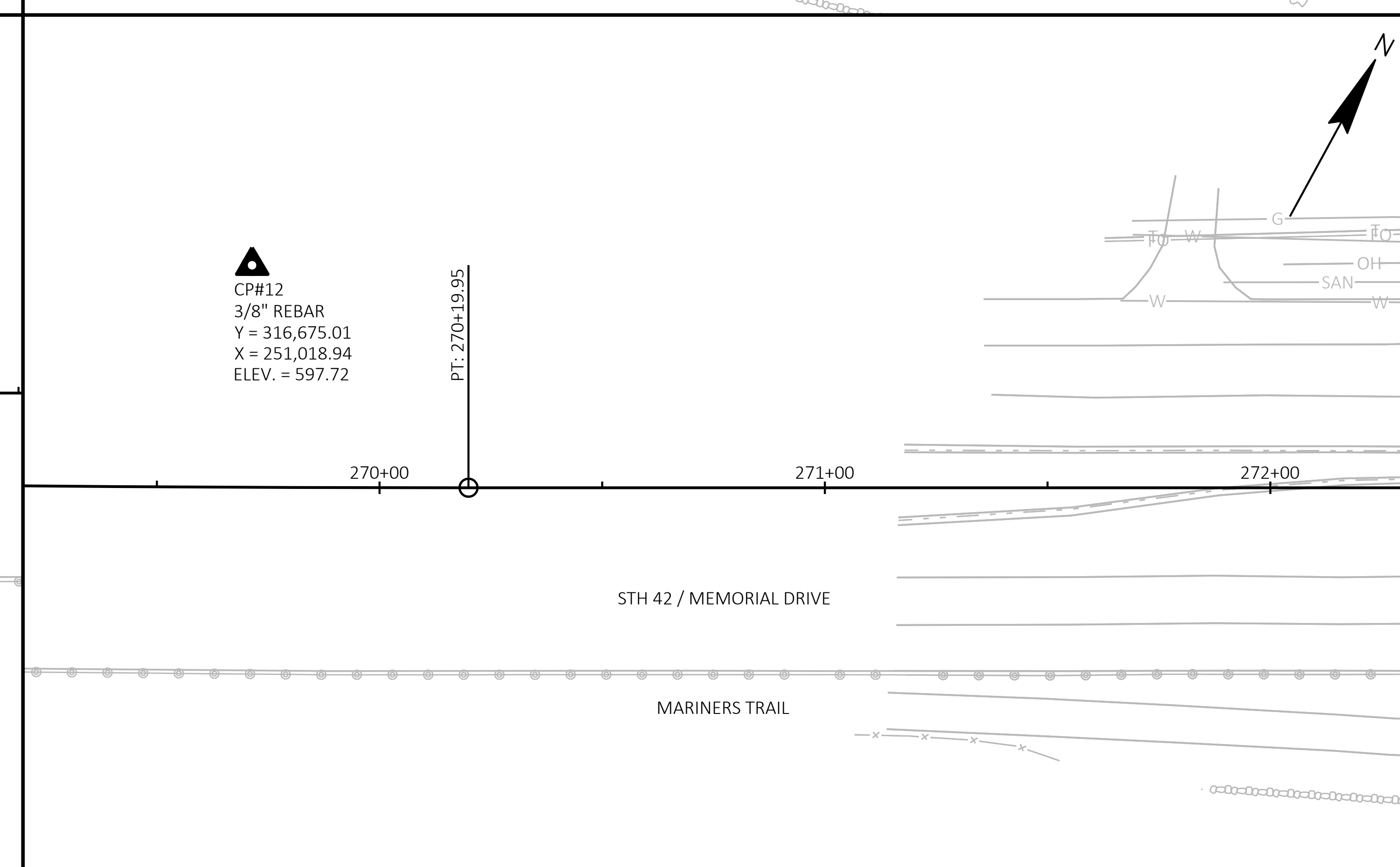
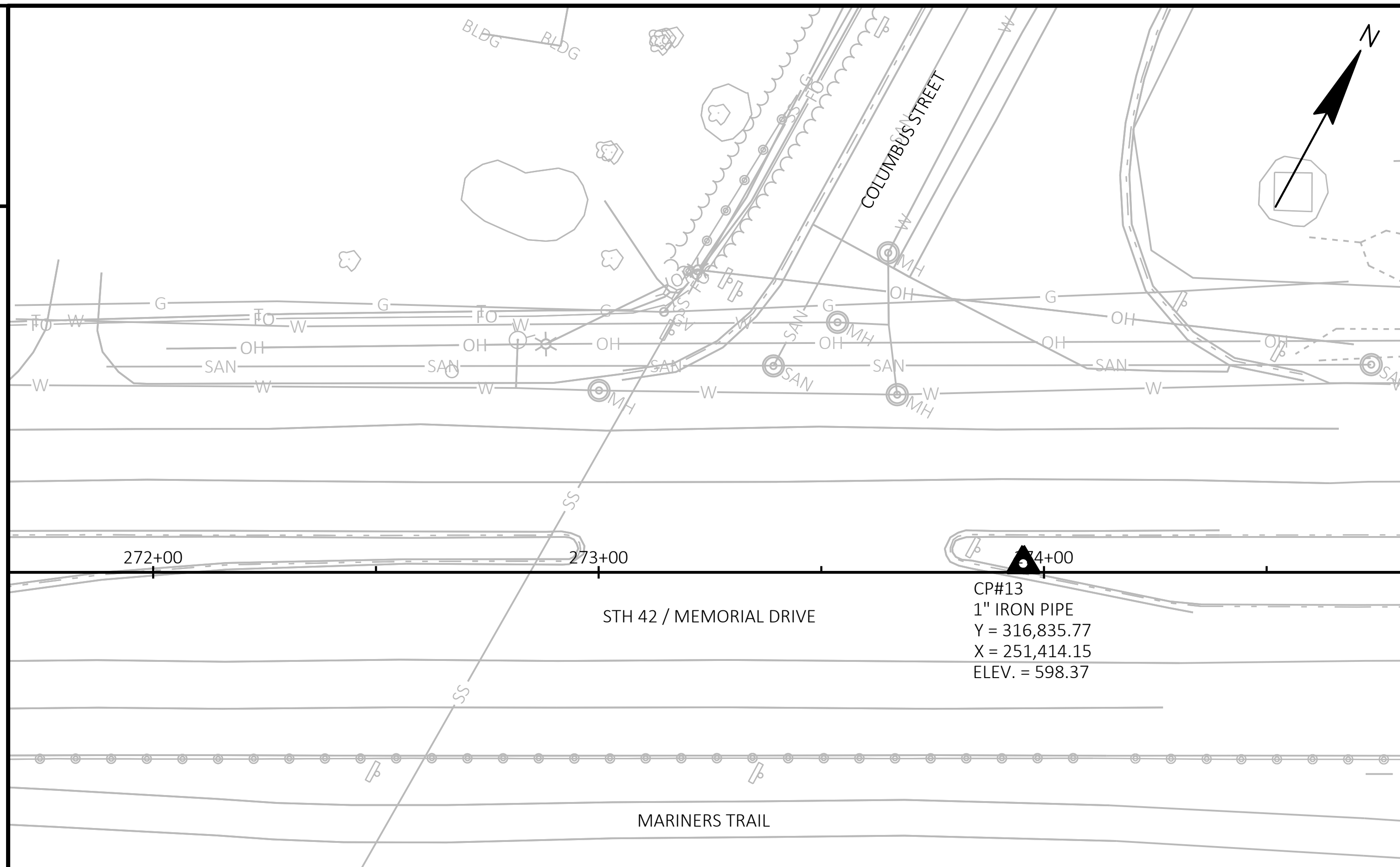


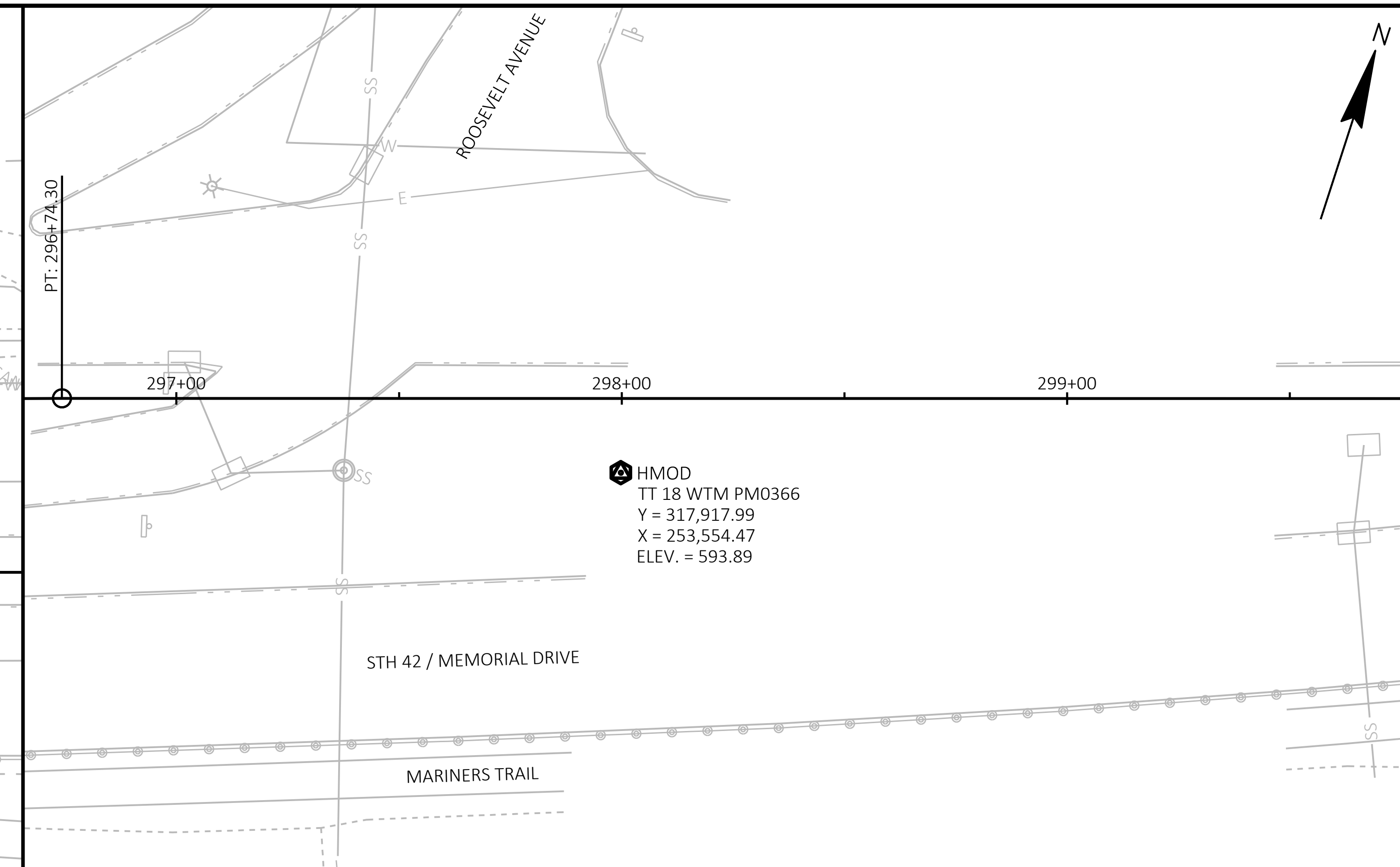


PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	CONTROL POINTS	SHEET 59	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\027301-CP.DWG
LAYOUT NAME - 027303-cp
PLOT DATE : 4/17/2024 7:15 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2





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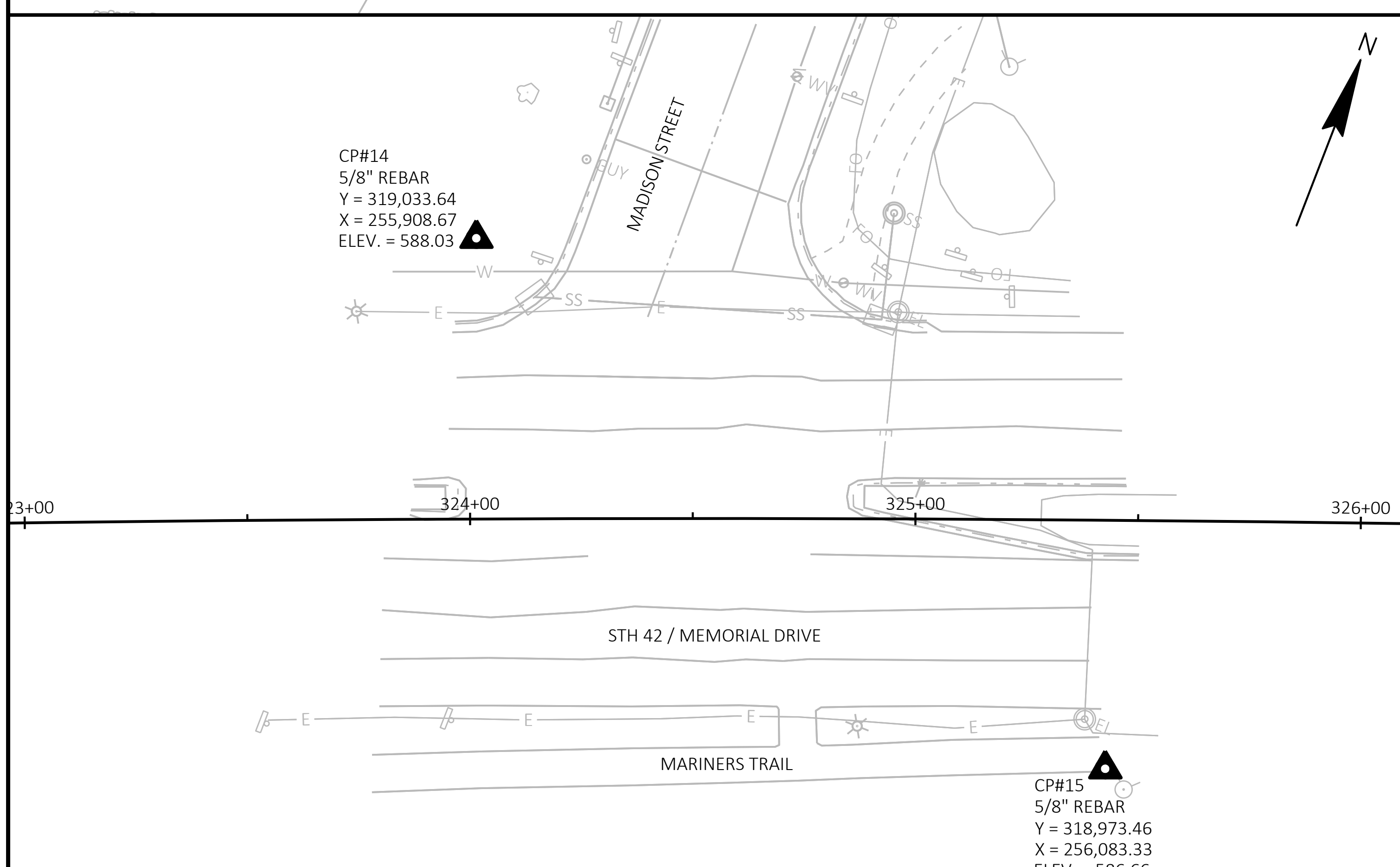
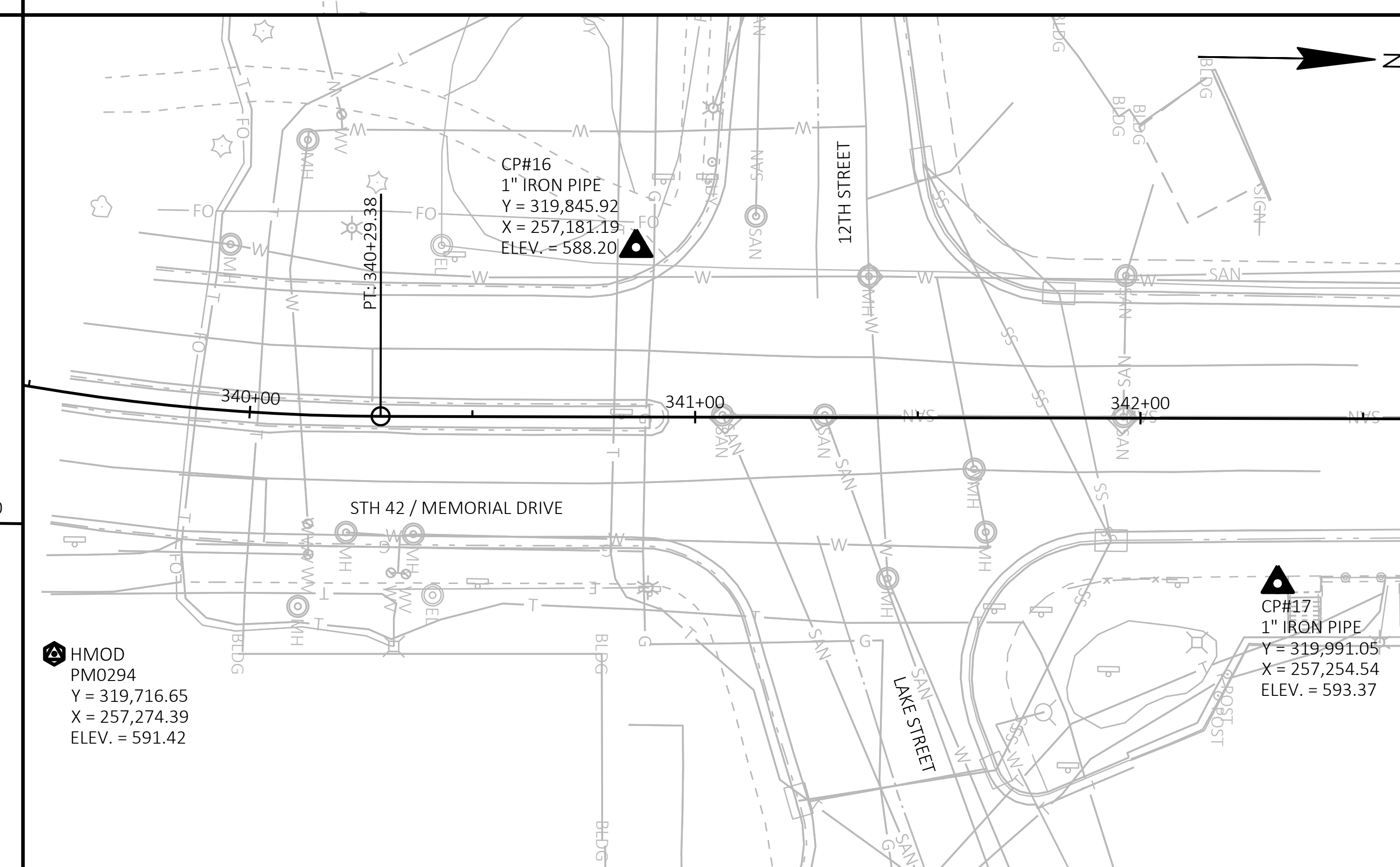
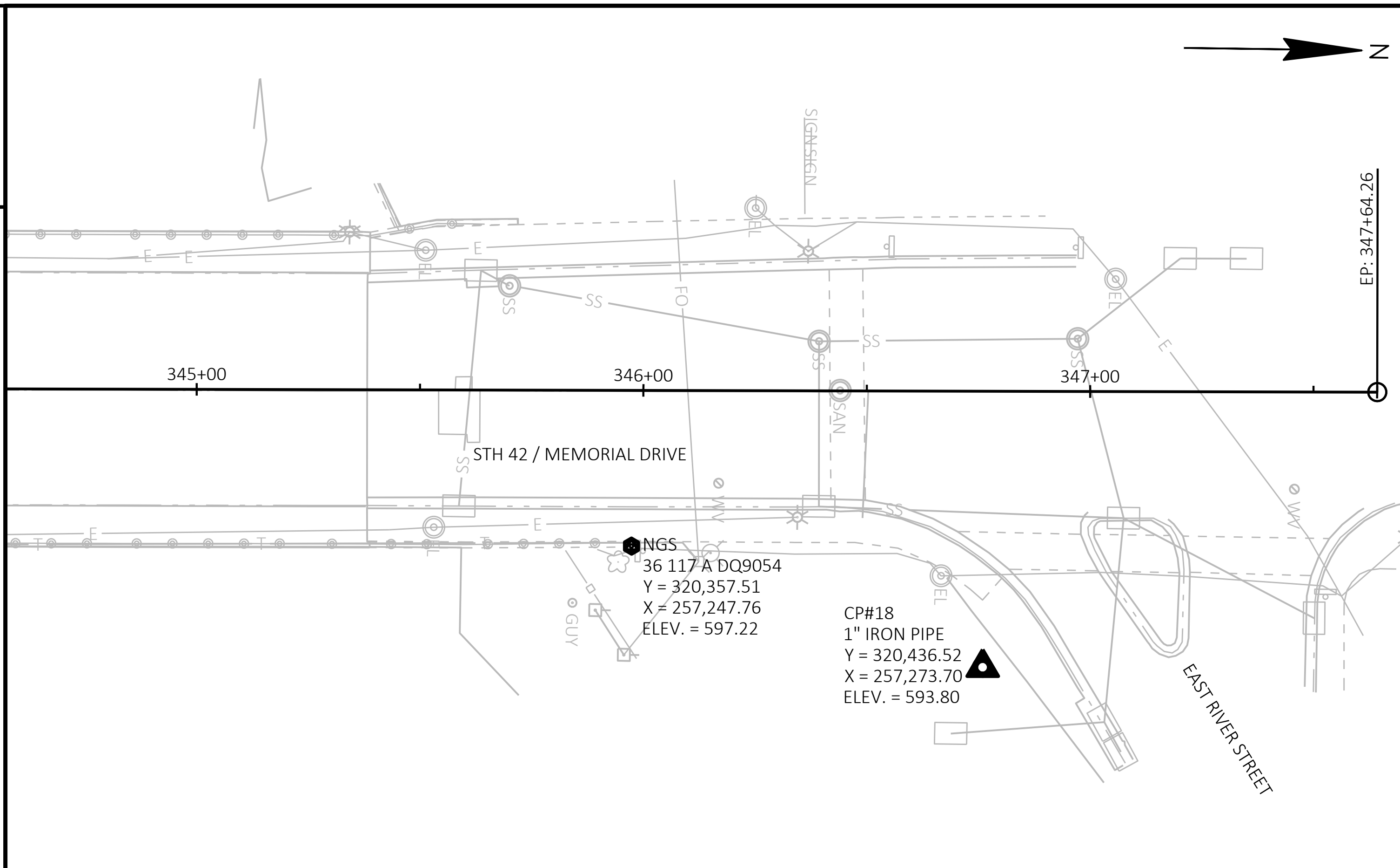




PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	CONTROL POINTS	SHEET 60	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\027301-CP.DWG
LAYOUT NAME - 027304-cp
PLOT DATE : 4/17/2024 7:15 AM
PLOT BY : JASON DOLENS
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2



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PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	CONTROL POINTS	SHEET 61	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\027301-CP.DWG
LAYOUT NAME - 027305-cp
PLOT DATE : 4/17/2024 7:15 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

Estimate Of Quantities

Line	Item	Item Description	Unit	Total	1470-27-71 Qty	1470-33-71 Qty	1470-37-71 Qty
0002	203.0220	Removing Structure (structure) 01. C-36-1016	EACH	1.000	1.000		
0004	203.0220	Removing Structure (structure) 02. C-36-13	EACH	1.000	1.000		
0006	203.0335	Debris Containment Over Waterway (structure) 01. B-36-117	EACH	1.000		1.000	
0008	204.0100	Removing Concrete Pavement	SY	8,417.000	7,381.000	261.000	775.000
0010	204.0105	Removing Concrete Pavement Butt Joints	SY	720.000	80.000	500.000	140.000
0012	204.0110	Removing Asphaltic Surface	SY	1,165.000	1,120.000	7.000	38.000
0014	204.0115	Removing Asphaltic Surface Butt Joints	SY	255.000	215.000		40.000
0016	204.0120	Removing Asphaltic Surface Milling	SY	191,050.000	167,000.000		24,050.000
0018	204.0150	Removing Curb & Gutter	LF	935.000	725.000	50.000	160.000
0020	204.0155	Removing Concrete Sidewalk	SY	370.000	185.000	135.000	50.000
0022	204.0165	Removing Guardrail	LF	11,085.000	9,872.000		1,213.000
0024	204.0190	Removing Surface Drains	EACH	1.000	1.000		
0026	204.0220	Removing Inlets	EACH	13.000	13.000		
0028	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	715.000	715.000		
0030	204.0245	Removing Storm Sewer (size) 02. 18-Inch	LF	16.000	16.000		
0032	204.0245	Removing Storm Sewer (size) 03. 24-Inch	LF	104.000	104.000		
0034	204.0245	Removing Storm Sewer (size) 04. 42-Inch	LF	8.000	8.000		
0036	205.0100	Excavation Common	CY	1,343.000	1,343.000		
0038	206.2001	Excavation for Structures Culverts (structure) 01. C-36-13	EACH	1.000	1.000		
0040	210.2500	Backfill Structure Type B	TON	215.000	215.000		
0042	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 1470-27-71	EACH	1.000	1.000		
0044	211.0101	Prepare Foundation for Asphaltic Paving (project) 02. 1470-33-71	EACH	1.000		1.000	
0046	211.0101	Prepare Foundation for Asphaltic Paving (project) 03. 1470-37-71	EACH	1.000			1.000
0048	211.0301	Prepare Foundation for Concrete Base (project) 01. 1470-27-71	EACH	1.000	1.000		
0050	213.0100	Finishing Roadway (project) 01. 1470-27-71	EACH	1.000	1.000		
0052	213.0100	Finishing Roadway (project) 02. 1470-33-71	EACH	1.000		1.000	
0054	213.0100	Finishing Roadway (project) 03. 1470-37-71	EACH	1.000			1.000
0056	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,225.000	1,100.000	25.000	100.000
0058	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,095.000	2,000.000	45.000	50.000
0060	305.0504.S	Hauling Excess Shoulder Material	CY	75.000	50.000		25.000
0062	311.0110	Breaker Run	TON	55.000	55.000		
0064	320.0155	Concrete Base 9-Inch	SY	780.000	780.000		
0066	320.0335	Concrete Base HES 7-Inch	SY	13.000		13.000	
0068	320.0355	Concrete Base HES 9-Inch	SY	7,260.000	6,275.000	210.000	775.000
0070	416.0610	Drilled Tie Bars	EACH	3,461.000	2,855.000	176.000	430.000
0072	416.0620	Drilled Dowel Bars	EACH	10,027.000	8,556.000	321.000	1,150.000
0074	455.0605	Tack Coat	GAL	23,422.000	20,200.000	312.000	2,910.000
0076	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000		
0078	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	1.000	1.000		
0080	460.2005	Incentive Density PWL HMA Pavement	DOL	20,154.000	17,200.000	370.000	2,584.000
0082	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	9,590.000	8,320.000	100.000	1,170.000
0084	460.2010	Incentive Air Voids HMA Pavement	DOL	27,435.000	23,665.000	370.000	3,400.000
0086	460.6224	HMA Pavement 4 MT 58-28 S	TON	27,435.000	23,665.000	370.000	3,400.000
0088	465.0110	Asphaltic Surface Patching	TON	50.000	45.000		5.000
0090	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	7.000	6.000	1.000	
0092	502.3200	Protective Surface Treatment	SY	1,016.000		1,016.000	
0094	502.3215	Protective Surface Treatment Reseal	SY	210.000		210.000	
0096	502.4205	Adhesive Anchors No. 5 Bar	EACH	44.000	44.000		
0098	504.0100	Concrete Masonry Culverts	CY	40.000	40.000		

Line	Item	Item Description	Unit	Total	1470-27-71 Qty	1470-33-71 Qty	1470-37-71 Qty
0100	505.0400	Bar Steel Reinforcement HS Structures	LB	4,665.000	4,665.000		
0102	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	1,190.000	1,190.000		
0104	509.0301	Preparation Decks Type 1	SY	2.000		2.000	
0106	509.0302	Preparation Decks Type 2	SY	1.000		1.000	
0108	509.0500	Cleaning Decks	SY	1,016.000		1,016.000	
0110	509.1500	Concrete Surface Repair	SF	22.000		22.000	
0112	509.2000	Full-Depth Deck Repair	SY	1.000		1.000	
0114	509.2500	Concrete Masonry Overlay Decks	CY	78.000		78.000	
0116	509.9020.S	Epoxy Crack Sealing	LF	65.000		65.000	
0118	511.1100	Temporary Shoring	SF	1,241.000	1,241.000		
0120	516.0500	Rubberized Membrane Waterproofing	SY	15.000	15.000		
0122	520.8000	Concrete Collars for Pipe	EACH	1.000	1.000		
0124	520.8700	Cleaning Culvert Pipes	EACH	5.000	5.000		
0126	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	5.000	5.000		
0128	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	1.000	1.000		
0130	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	1.000	1.000		
0132	522.1042	Apron Endwalls for Culvert Pipe Reinforced Concrete 42-Inch	EACH	1.000	1.000		
0134	522.1066	Apron Endwalls for Culvert Pipe Reinforced Concrete 66-Inch	EACH	1.000	1.000		
0136	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	720.000	450.000	200.000	70.000
0138	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	240.000	180.000		60.000
0140	601.0413	Concrete Curb & Gutter 6-Inch Sloped 30-Inch Type G	LF	1,050.000	1,000.000		50.000
0142	601.0600	Concrete Curb Pedestrian	LF	20.000	20.000		
0144	602.0405	Concrete Sidewalk 4-Inch	SF	3,560.000	1,945.000	1,220.000	395.000
0146	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	196.000	156.000		40.000
0148	602.0615	Curb Ramp Detectable Warning Field Radial Natural Patina	SF	127.790	27.480	100.310	
0150	602.0810	Concrete Driveway 6-Inch	SY	75.000	75.000		
0152	606.0300	Riprap Heavy	CY	135.000	135.000		
0154	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	767.000	767.000		
0156	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	10.000	10.000		
0158	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	97.000	97.000		
0160	608.0466	Storm Sewer Pipe Reinforced Concrete Class IV 66-Inch	LF	154.000	154.000		
0162	611.0430	Reconstructing Inlets	EACH	2.000	2.000		
0164	611.0530	Manhole Covers Type J	EACH	8.000	8.000		
0166	611.0600	Inlet Covers Type A	EACH	1.000	1.000		
0168	611.0612	Inlet Covers Type C	EACH	2.000	2.000		
0170	611.0624	Inlet Covers Type H	EACH	12.000	12.000		
0172	611.2004	Manholes 4-FT Diameter	EACH	7.000	7.000		
0174	611.3003	Inlets 3-FT Diameter	EACH	2.000	2.000		
0176	611.3230	Inlets 2x3-FT	EACH	12.000	12.000		
0178	611.8110	Adjusting Manhole Covers	EACH	15.000	4.000	11.000	
0180	611.8115	Adjusting Inlet Covers	EACH	1.000	1.000		
0182	614.2300	MGS Guardrail 3	LF	9,030.000	7,870.000		1,160.000
0184	614.2340	MGS Guardrail 3 L	LF	112.500	112.500		
0186	614.2610	MGS Guardrail Terminal EAT	EACH	6.000	5.000		1.000
0188	614.2620	MGS Guardrail Terminal Type 2	EACH	6.000	5.000		1.000
0190	618.0100	Maintenance and Repair of Haul Roads (project) 01. 1470-27-71	EACH	1.000	1.000		
0192	618.0100	Maintenance and Repair of Haul Roads (project) 02. 1470-33-71	EACH	1.000		1.000	
0194	618.0100	Maintenance and Repair of Haul Roads (project) 03. 1470-37-71	EACH	1.000			1.000
0196	619.1000	Mobilization	EACH	1.000	0.660	0.170	0.170

Line	Item	Item Description	Unit	Total	1470-27-71 Qty	1470-33-71 Qty	1470-37-71 Qty
0198	620.0300	Concrete Median Sloped Nose	SF	360.000	320.000	40.000	
0200	624.0100	Water	MGAL	48.000	45.000	1.000	2.000
0202	625.0100	Topsoil	SY	4,210.000	4,000.000	50.000	160.000
0204	628.1504	Silt Fence	LF	12,850.000	11,350.000		1,500.000
0206	628.1520	Silt Fence Maintenance	LF	12,850.000	11,350.000		1,500.000
0208	628.1905	Mobilizations Erosion Control	EACH	24.000	8.000	8.000	8.000
0210	628.1910	Mobilizations Emergency Erosion Control	EACH	12.000	4.000	4.000	4.000
0212	628.2006	Erosion Mat Urban Class I Type A	SY	4,210.000	4,000.000	50.000	160.000
0214	628.7005	Inlet Protection Type A	EACH	10.000	8.000		2.000
0216	628.7020	Inlet Protection Type D	EACH	85.000	50.000	13.000	22.000
0218	628.7555	Culvert Pipe Checks	EACH	23.000	23.000		
0220	629.0210	Fertilizer Type B	CWT	2.700	2.500	0.050	0.150
0222	630.0140	Seeding Mixture No. 40	LB	185.000	175.000	3.000	7.000
0224	630.0160	Seeding Mixture No. 60	LB	3.000	3.000		
0226	630.0500	Seed Water	MGAL	243.000	230.000	5.000	8.000
0228	633.5200	Markers Culvert End	EACH	9.000	9.000		
0230	634.0808	Posts Tubular Steel 2x2-Inch X 8-FT	EACH	1.000			1.000
0232	637.2210	Signs Type II Reflective H	SF	5.500			5.500
0234	638.2102	Moving Signs Type II	EACH	54.000	50.000	1.000	3.000
0236	638.4000	Moving Small Sign Supports	EACH	48.000	44.000	1.000	3.000
0238	642.5401	Field Office Type D	EACH	1.000	0.660	0.170	0.170
0240	643.0300	Traffic Control Drums	DAY	33,550.000	33,550.000		
0242	643.0420	Traffic Control Barricades Type III	DAY	5,244.000	5,244.000		
0244	643.0705	Traffic Control Warning Lights Type A	DAY	10,488.000	10,488.000		
0246	643.0715	Traffic Control Warning Lights Type C	DAY	2,000.000	2,000.000		
0248	643.0800	Traffic Control Arrow Boards	DAY	180.000	180.000		
0250	643.0900	Traffic Control Signs	DAY	22,864.000	20,714.000	2,105.000	45.000
0252	643.0920	Traffic Control Covering Signs Type II	EACH	4.000	4.000		
0254	643.1000	Traffic Control Signs Fixed Message	SF	30.000	30.000		
0256	643.1050	Traffic Control Signs PCMS	DAY	28.000	28.000		
0258	643.3165	Temporary Marking Line Paint 6-Inch	LF	97,525.000	85,270.000	75.000	12,180.000
0260	643.5000	Traffic Control	EACH	1.000	0.660	0.170	0.170
0262	644.1440	Temporary Pedestrian Surface Matting	SF	70.000	70.000		
0264	644.1601	Temporary Pedestrian Curb Ramp	DAY	50.000	50.000		
0266	644.1605	Temporary Pedestrian Detectable Warning Field	SF	20.000	20.000		
0268	644.1810	Temporary Pedestrian Barricade	LF	332.000	140.000	138.000	54.000
0270	645.0105	Geotextile Type C	SY	105.000	105.000		
0272	645.0120	Geotextile Type HR	SY	255.000	255.000		
0274	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	100,420.000	86,950.000	1,255.000	12,215.000
0276	646.4040	Marking Line Grooved Wet Ref Epoxy 10-Inch	LF	3,940.000	3,135.000	40.000	765.000
0278	646.5020	Marking Arrow Epoxy	EACH	4.000	2.000	2.000	
0280	646.5120	Marking Word Epoxy	EACH	1.000		1.000	
0282	646.6120	Marking Stop Line Epoxy 18-Inch	LF	145.000		50.000	95.000
0284	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	1,255.000	440.000	525.000	290.000
0286	646.7520	Marking Crosswalk Epoxy Block Style 24-Inch	LF	90.000	90.000		
0288	646.8220	Marking Island Nose Epoxy	EACH	7.000	6.000	1.000	
0290	650.4000	Construction Staking Storm Sewer	EACH	31.000	31.000		
0292	650.4500	Construction Staking Subgrade	LF	404.000	404.000		
0294	650.5000	Construction Staking Base	LF	455.000	430.000		25.000

Estimate Of Quantities

Line	Item	Item Description	Unit	Total	1470-27-71 Qty	1470-33-71 Qty	1470-37-71 Qty
0296	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	2,030.000	1,650.000	200.000	180.000
0298	650.6501	Construction Staking Structure Layout (structure) 01. C-36-13	EACH	1.000	1.000		
0300	650.7000	Construction Staking Concrete Pavement	LF	487.000	487.000		
0302	650.8000	Construction Staking Resurfacing Reference	LF	24,061.000	20,790.000	366.000	2,905.000
0304	650.9000	Construction Staking Curb Ramps	EACH	24.000	14.000	6.000	4.000
0306	650.9500	Construction Staking Sidewalk (project) 01. 1470-27-71	EACH	1.000	1.000		
0308	650.9500	Construction Staking Sidewalk (project) 02. 1470-33-71	EACH	1.000		1.000	
0310	650.9500	Construction Staking Sidewalk (project) 03. 1470-37-71	EACH	1.000			1.000
0312	650.9911	Construction Staking Supplemental Control (project) 01. 1470-27-71	EACH	1.000	1.000		
0314	650.9911	Construction Staking Supplemental Control (project) 02. 1470-33-71	EACH	1.000		1.000	
0316	650.9911	Construction Staking Supplemental Control (project) 03. 1470-37-71	EACH	1.000			1.000
0318	650.9920	Construction Staking Slope Stakes	LF	713.000	688.000		25.000
0320	690.0150	Sawing Asphalt	LF	7,737.000	7,635.000	31.000	71.000
0322	690.0250	Sawing Concrete	LF	20,743.000	17,155.000	1,100.000	2,488.000
0324	715.0502	Incentive Strength Concrete Structures	DOL	500.000	500.000		
0326	740.0440	Incentive IRI Ride	DOL	73,480.000	63,000.000	1,680.000	8,800.000
0328	SPV.0035	Special 01. Removing Modular Block Wall	CY	2.000	2.000		
0330	SPV.0060	Special 01. Adjusting Water Valve Boxes	EACH	4.000	3.000	1.000	
0332	SPV.0060	Special 02. Cleaning Ditch	EACH	1.000	1.000		
0334	SPV.0060	Special 03. Reconnect Storm Sewer Laterals	EACH	1.000	1.000		
0336	SPV.0060	Special 04. Manholes 6-FT x 14-FT Special	EACH	1.000	1.000		
0338	SPV.0060	Special 05. Temporary Water Diversion C-36-0013	EACH	1.000	1.000		
0340	SPV.0090	Special 01. Remove, Salvage, and Reinstall Wood Fence	LF	25.000	25.000		
0342	SPV.0090	Special 02. Treated Timber Rub Rail	LF	6,200.000	6,200.000		
0344	SPV.0090	Special 03. UV GRP CIPP 12-Inch	LF	121.000			121.000
0346	SPV.0180	Special 01. Remove, Salvage, and Reinstall Riprap Heavy	SY	315.000	315.000		

REMOVING STRUCTURE

CATEGORY	STRUCTURE	STATION	LOCATION	203.0220.01 REMOVING STRUCTURE (STRUCTURE) (01. C-36-1016) EACH	PIPE LENGTH	PIPE DIAMETER	PIPE MATERIAL
PROJECT 1470-27-71							
0010	C-36-1016	272+84	LT & RT	1	154'	60"	CMP
	PROJECT 1470-27-71 TOTAL			1			
			TOTAL	1			

REMOVING MODULAR BLOCK WALL

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0035.01 SPECIAL (01. REMOVING MODULAR BLOCK WALL) CY
PROJECT 1470-27-71					
0010	140+95	-	141+08	LT	2
		PROJECT 1470-27-71 TOTAL			2
				TOTAL	2

REMOVING CONCRETE PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	* 204.0100 REMOVING CONCRETE PAVEMENT SY	REMARKS
PROJECT 1470-27-71						
0010	150+12	-	150+64	LT	58	PAVEMENT
0010	151+39	-	152+22	LT & RT	61	PAVEMENT/CURB & GUTTER
0010	1+16	-	2+68	LT & RT	980	PAVEMENT/CURB & GUTTER
0010	176+25	-	176+40	RT	40	PAVEMENT/CURB & GUTTER
0010	202+27	-	202+52	LT	69	PAVEMENT/CURB & GUTTER
0010	202+27	-	202+52	RT	81	PAVEMENT/CURB & GUTTER
0010	207+27	-	207+49	LT & RT	156	PAVEMENT
0010	243+15	-	243+30	LT & RT	80	PAVEMENT/CURB & GUTTER
0010	246+76	-	246+91	LT	21	PAVEMENT/CURB & GUTTER
0010	246+78	-	246+98	RT	53	PAVEMENT/CURB & GUTTER
0010	249+20	-	249+35	LT	21	PAVEMENT/CURB & GUTTER
0010	249+20	-	249+35	RT	40	PAVEMENT/CURB & GUTTER
0010	272+55	-	273+13	LT & RT	386	PAVEMENT/CURB & GUTTER
0010	294+51	-	294+71	RT	69	PAVEMENT/CURB & GUTTER
0010	294+51	-	294+67	RT	29	PAVEMENT/CURB & GUTTER
0010	294+52	-	294+67	LT	21	PAVEMENT/CURB & GUTTER
0010	297+27	-	297+47	RT	55	PAVEMENT/CURB & GUTTER
0010	297+50	-	297+82	LT	57	PAVEMENT/CURB & GUTTER
0010	299+57	-	299+72	RT	41	PAVEMENT/CURB & GUTTER
0010	301+55	-	301+70	RT	40	PAVEMENT/CURB & GUTTER
0010	336+49	-	336+59	RT	14	PAVEMENT/CURB & GUTTER
0010	340+13	-	340+16	RT	1	WATER VALVE ADJUSTMENT
0010	340+20	-	340+26	RT	4	MANHOLE ADJUSTMENT
0010	340+35	-	340+41	RT	4	MANHOLE ADJUSTMENT
		PROJECT 1470-27-71 TOTAL			2,381	
PROJECT 1470-33-71						
0010	340+85	-	341+17	RT	19	PAVEMENT/CURB & GUTTER
0010	340+86	-	341+10	LT	24	PAVEMENT/CURB & GUTTER
0010	341+04	-	341+10	LT & RT	4	MANHOLE ADJUSTMENT
0010	341+11	-	341+17	LT	4	MANHOLE ADJUSTMENT
0010	341+27	-	341+31	LT & RT	4	MANHOLE ADJUSTMENT
0010	341+37	-	341+41	LT	4	MANHOLE ADJUSTMENT
0010	341+41	-	341+47	RT	4	MANHOLE ADJUSTMENT
0010	341+49	-	341+78	LT	23	PAVEMENT/CURB & GUTTER
0010	341+58	-	341+62	RT	4	MANHOLE ADJUSTMENT
0010	341+59	-	341+90	RT	20	PAVEMENT/CURB & GUTTER
0010	341+60	-	341+66	RT	4	MANHOLE ADJUSTMENT
0010	341+63	-	341+69	RT	4	MANHOLE ADJUSTMENT
0010	341+94	-	342+00	LT & RT	4	MANHOLE ADJUSTMENT
0010	342+77	-	342+83	LT & RT	4	MANHOLE ADJUSTMENT
0010	345+68	-	345+74	LT	4	MANHOLE ADJUSTMENT
0010	346+16	-	346+19	RT	1	WATER VALVE ADJUSTMENT
		PROJECT 1470-33-71 TOTAL			131	
				TOTAL	2,512	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

REMOVING CONCRETE PAVEMENT BUTT JOINTS

CATEGORY	STATION	TO	STATION	LOCATION	204.0105 REMOVING CONCRETE PAVEMENT BUTT JOINTS SY	REMARKS
PROJECT 1470-37-71						
0010	125+75	-	126+10	LT	140	E. REED AVENUE
		PROJECT 1470-37-71 TOTAL			140	
PROJECT 1470-27-71						
0010	297+60	-	297+95	LT	61	ROOSEVELT AVENUE
0010	340+28	-	340+87	LT	19	ADJACENT TO CURB & GUTTER
		PROJECT 1470-27-71 TOTAL			80	
PROJECT 1470-33-71						
0010	341+08	-	341+51	LT	108	12TH STREET
0010	341+24	-	341+68	RT	98	LAKE STREET
0010	345+92	-	346+42	LT & RT	294	STH 42
		PROJECT 1470-33-71 TOTAL			500	
				TOTAL	720	

REMOVING ASPHALTIC SURFACE

CATEGORY	STATION	TO	STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY	REMARKS
PROJECT 1470-37-71						
0010	125+52	-	125+77	LT	9	ADJACENT TO CURB & GUTTER
0010	125+86	-	126+11	RT	22	MULTI-USE PATH
0010	126+25		126+41	LT	5	ADJACENT TO CURB & GUTTER
0010	126+54		126+62	LT	2	ADJACENT TO CURB & GUTTER
		PROJECT 1470-37-71 TOTAL			38	
PROJECT 1470-27-71						
0010	139+46	-	139+66	RT	20	MULTI-USE PATH
0010	150+85	-	150+93	RT	4	ASPHALT RAMP
0010	151+49	-	151+74	RT	23	MULTI-USE PATH
0010	1+48	-	2+15	LT	63	PARKING LOT
0010	199+87	-	200+15	RT	36	MULTI-USE PATH
0010	199+92	-	200+11	LT	4	ADJACENT TO CURB & GUTTER
0010	203+05	-	213+96	RT	122	1' OF SHOULDER
0010	207+27	-	207+49	RT	21	MULTI-USE PATH
0010	216+84	-	242+08	RT	282	1' OF SHOULDER
0010	253+72	-	274+50	RT	231	1' OF SHOULDER
0010	272+22	-	272+84	RT	57	MULTI-USE PATH
0010	274+45	-	274+70	RT	23	MULTI-USE PATH
0010	295+20	-	308+04	RT	143	1' OF SHOULDER
0010	297+27	-	297+47	RT	19	MULTI-USE PATH
0010	299+60	-	266+75	RT	14	MULTI-USE PATH
0010	301+57	-	301+72	RT	14	MULTI-USE PATH
0010	324+70	-	324+79	RT	9	ASPHALT RAMP
0010	324+90	-	325+18	RT	25	MULTI-USE PATH
0010	324+73	-	325+12	LT	10	ADJACENT TO CURB & GUTTER
		PROJECT 1470-27-71 TOTAL			1,120	
PROJECT 1470-33-71						
0010	341+60	-	341+79	LT	7	PARKING LOT
		PROJECT 1470-33-71 TOTAL			7	
				TOTAL	1,165	

REMOVING ASPHALTIC SURFACE BUTT JOINTS

CATEGORY	STATION	TO	STATION	LOCATION	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	REMARKS
PROJECT 1470-37-71						
0010	103+95	-	103+97	LT & RT	20	STH 42 MAINLINE
0010	103+98	-	104+46	RT	10	PARKING LOT ENTRANCE
0010	132+56	-	133+00	LT	10	E. MAGNOLIA AVENUE
		PROJECT 1470-37-71 TOTAL			40	
PROJECT 1470-27-71						
0010	133+00	-	133+34	LT	7	E. MAGNOLIA AVENUE
0010	142+28	-	142+88	LT	13	JASMINE DRIVE
0010	146+73	-	147+03	LT	6	DRIVEWAY
0010	149+38	-	149+85	LT	10	DRIVEWAY
0010	161+66	-	162+20	LT	11	DRIVEWAY
0010	168+51	-	169+07	LT	13	SPRUCE DRIVE
0010	171+39	-	171+96	LT	10	DRIVEWAY
0010	175+93	-	176+47	LT	11	DRIVEWAY
0010	200+35	-	201+09	LT	18	TAYLOR STREET
0010	203+95	-	204+53	LT	12	ELEANOR STREET
0010	214+89	-	215+55	LT	14	DAVIS STREET
0010	222+29	-	222+92	LT	13	TURNER STREET
0010	240+28	-	240+86	LT	12	DRIVEWAY
0010	243+71	-	244+37	LT	14	LOHMAN ROAD
0010	273+48	-	274+44	LT	24	COLUMBUS STREET
0010	296+69	-	296+80	LT	5	ROOSEVELT AVENUE
0010	324+33	-	324+73	LT	9	MADISON STREET
0010	331+23	-	331+79	RT	13	DRIVEWAY
		PROJECT 1470-27-71 TOTAL			215	
				TOTAL	255	

REMOVING ASPHALTIC SURFACE MILLING

CATEGORY	STATION	TO	STATION	LOCATION	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY
PROJECT 1470-37-71					
0010	103+95	-	133+00	LT & RT	24,050
		PROJECT 1470-37-71 TOTAL			24,050
PROJECT 1470-27-71					
0010	133+00	-	340+28	LT & RT	167,000
		PROJECT 1470-27-71 TOTAL			167,000
				TOTAL	191,050

REMOVING CURB & GUTTER

CATEGORY	STATION	TO	STATION	LOCATION	204.0150 REMOVING CURB & GUTTER LF	REMARKS
PROJECT 1470-37-71						
0010	107+00	-	108+00	RT	5	DAMAGED CURB & GUTTER
0010	109+00	-	110+00	RT	10	DAMAGED CURB & GUTTER
0010	124+00	-	125+00	RT & LT	10	DAMAGED CURB & GUTTER
0010	124+00	-	125+00	RT	10	DAMAGED CURB & GUTTER
0010	125+52	-	125+75	LT	35	
0010	125+86	-	126+06	RT	20	
0010	126+28	-	126+42	LT	23	
0010	126+55	-	126+62	LT	7	
0010	129+00	-	130+00	RT	10	DAMAGED CURB & GUTTER
0010			UNDISTRIBUTED		30	
			PROJECT 1470-37-71 TOTAL		160	
PROJECT 1470-27-71						
0010	139+52	-	139+57	LT	5	
0010	142+92	-	142+97	LT	5	
0010	153+00	-	154+00	LT	20	DAMAGED CURB & GUTTER
0010	153+00	-	154+00	RT	5	DAMAGED CURB & GUTTER
0010	154+00	-	155+00	LT	20	DAMAGED CURB & GUTTER
0010	178+66	-	178+71	RT	5	
0010	199+92	-	200+10	LT	18	
0010	199+95	-	200+19	LT	32	
0010	200+30	-	200+35	LT	7	
0010	207+27	-	207+49	LT	22	
0010	252+00	-	253+00	RT	10	DAMAGED CURB & GUTTER
0010	270+25	-	271+25	RT	50	DAMAGED CURB & GUTTER
0010	273+06	-	273+35	LT	33	
0010	274+50	-	274+63	LT	13	
0010	274+52	-	274+63	LT	11	
0010	274+52	-	274+63	RT	11	
0010	280+00	-	281+00	RT	20	DAMAGED CURB & GUTTER
0010	292+50	-	294+50	RT	100	DAMAGED CURB & GUTTER
0010	316+00	-	317+00	RT	5	DAMAGED CURB & GUTTER
0010	324+87	-	325+12	LT & RT	56	
0010	324+77	-	325+03	LT	32	
0010	327+00	-	328+00	RT	5	DAMAGED CURB & GUTTER
0010	329+00	-	330+00	RT	10	DAMAGED CURB & GUTTER
0010			UNDISTRIBUTED		230	
			PROJECT 1470-27-71 TOTAL		725	
PROJECT 1470-33-71						
0010	340+83	-	340+94	LT & RT	25	
0010	UNDISTRIBUTED			LT & RT	25	
			PROJECT 1470-33-71 TOTAL		50	
				TOTAL	935	``

NOTE: ENGINEER TO DETERMINE EXACT DAMAGED CURB & GUTTER LOCATIONS IN THE FIELD, SEE PLAN DETAILS FOR APPROXIMATE LOCATIONS

REMOVING CONCRETE SIDEWALK

CATEGORY	STATION	TO	STATION	LOCATION	204.0155 REMOVING CONCRETE SIDEWALK SY	REMARKS
PROJECT 1470-37-71						
0010	125+50	-	125+70	LT	16	
0010	125+90	-	126+01	RT	4	
0010	126+38	-	126+61	LT	30	
			PROJECT 1470-37-71 TOTAL		50	
PROJECT 1470-27-71						
0010	150+50	-	150+64	LT	11	
0010	1+45	-	1+75	RT	30	DRIVEWAY APRON
0010	1+46	-	2+46	LT	63	SIDEWALK & DRIVEWAY APRON
0010	199+94	-	200+19	LT	17	
0010	199+97	-	200+07	LT	5	MEDIAN
0010	200+22	-	200+36	LT	10	
0010	324+77	-	325+04	LT	49	
			PROJECT 1470-27-71 TOTAL		185	
PROJECT 1470-33-71						
0010	340+74	-	341+04	LT	42	
0010	340+80	-	341+14	RT	38	
0010	341+53	-	341+78	LT	27	
0010	341+64	-	341+90	RT	28	
			PROJECT 1470-33-71 TOTAL		135	
				TOTAL	370	

NOTE: THE REMOVAL OF CONCRETE DRIVEWAY APRONS SHALL BE PAID FOR AS REMOVING CONCRETE SIDEWALK

3

REMOVING GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF
PROJECT 1470-37-71					
0010	104+54	-	116+67	RT	1,213
			PROJECT 1470-37-71 TOTAL		1,213
PROJECT 1470-27-71					
0010	188+86	-	190+75	LT	192
0010	202+65	-	214+03	RT	1,140
0010	216+84	-	251+15	RT	3,426
0010	253+85	-	282+42	RT	2,862
0010	285+48	-	308+04	RT	2,252
			PROJECT 1470-27-71 TOTAL		9,872
				TOTAL	11,085

REMOVING INLETS

CATEGORY	STATION	LOCATION	204.0220 REMOVING INLETS EACH
PROJECT 1470-27-71			
0010	150+91	99.7' LT	1
0010	151+34	81.7' LT	1
0010	151+45	59.4' LT	1
0010	176+33	8.6' RT	1
0010	207+39	43.5' LT	1
0010	243+23	8.5' LT	1
0010	246+83	8.5' LT	1
0010	249+28	8.3' LT	1
0010	294+59	8.7' LT	1
0010	299+67	10.4' RT	1
0010	299+65	30.4' RT	1
0010	301+62	14.2' RT	1
0010	336+54	5.9' RT	1
	PROJECT 1470-27-71 TOTAL		13
		TOTAL	13

REMOVING SURFACE DRAINS

CATEGORY	STATION	TO	STATION	LOCATION	204.0190 REMOVING SURFACE DRAINS EACH
PROJECT 1470-27-71					
0010	209+54	-	209+70	LT	1
			PROJECT 1470-27-71 TOTAL		1
				TOTAL	1

REMOVING STORM SEWER

CATEGORY	FROM STATION	LOCATION	TO	TO STATION	LOCATION	204.0245.01 REMOVING STORM SEWER (SIZE) (01. 12-INCH) LF	204.0245.02 REMOVING STORM SEWER (SIZE) (02. 18-INCH) LF	204.0245.03 REMOVING STORM SEWER (SIZE) (03. 24-INCH) LF	204.0245.04 REMOVING STORM SEWER (SIZE) (04. 42-INCH) LF
PROJECT 1470-27-71									
0010	136+56	RT	-	139+57	RT	-	16	-	-
0010	150+91	LT	-	151+34	LT	47	-	-	-
0010	151+34	LT	-	151+45	LT	25	-	-	-
0010	176+33	RT	-	176+32	RT	44	-	-	-
0010	179+98	LT	-	179+98	LT	-	-	-	8
0010	202+37	LT	-	202+42	RT	-	-	104	-
0010	207+39	LT	-	207+38	RT	111	-	-	-
0010	243+23	LT	-	243+24	RT	60	-	-	-
0010	246+83	LT	-	246+90	RT	59	-	-	-
0010	249+28	LT	-	249+27	RT	58	-	-	-
0010	294+59	LT	-	294+60	RT	92	-	-	-
0010	297+38	RT	-	297+36	RT	87	-	-	-
0010	266+67	RT	-	299+65	RT	20	-	-	-
0010	299+65	RT	-	299+70	RT	55	-	-	-
0010	301+62	RT	-	301+66	RT	57	-	-	-
			PROJECT 1470-27-71 TOTALS			715	16	104	8
					TOTALS	715	16	104	8

NOTE: REMOVING APRON ENDWALLS PAID FOR AS REMOVING STORM SEWER PIPE

3

PROJECT 1470-27-71

DIVISION	FROM/TO STATION	LOCATION	205.0100 EXCAVATION COMMON (1) CUT (2)	EBS EXCAVATION (3)	SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13) FACTOR 1.30	MASS ORDINATE +/- (14)	WASTE	COMMENT
DIVISION 1											
STH 42-STA 178+25 TO 180+25	178+25.00/180+25.00	LT & RT	144	0	0	144	9	12	132	0	
STH 42-STA 187+36 TO 191+92	187+35.86/191+92.49	LT	1	0	0	1	50	65	-64	0	
MIRRO DR	1+16.00/2+71.48	LT & RT	580	0	334	246	100	130	116	0	
DIVISION 1 SUBTOTAL			725	0	334	391	159	207	184	184	
DIVISION 2 - STORM SEWER LOCATIONS											
STH 42-STA 139+54		RT	9	0	0	9	6	7	2	2	
STH 42-STA 176+33		RT	14	0	0	14	0	0	14	14	
STH 42-STA 202+40		LT & RT	79	0	0	79	1	1	78	78	
STH 42-STA 207+38		LT & RT	57	0	0	57	4	5	52	52	
STH 42-STA 243+23		LT & RT	29	0	0	29	0	0	29	29	
STH 42-STA 246+84		LT & RT	44	0	0	44	0	0	44	44	
STH 42-STA 249+28		LT & RT	36	0	0	36	0	0	36	36	
STH 42-STA 272+84		LT & RT	148	0	0	148	87	113	35	35	
STH 42-STA 294+59		LT & RT	64	0	0	64	0	0	64	64	
STH 42-STA 297+36		LT & RT	72	0	0	72	19	25	46	46	
STH 42-STA 299+65		LT & RT	47	0	0	47	11	15	32	32	
STH 42-STA 301+62		LT & RT	20	0	0	20	3	4	16	16	
DIVISION 2 SUBTOTAL			618	0	0	618	131	170	447	447	
GRAND TOTAL			1,343	0	334	1,009	290	377	631	631	
TOTAL EXC COMMON			1,343								

NOTES:
(1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT BORROW MATERIAL. NOTE: THIS IS DESIGNERS CHOICE, CAN BE BACKFILLED WITH BORROW, OR CUT AS WELL.
(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL INCLUDE EXISTING CONCRETE AND ASPHALTIC ITEMS
5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
(13) EXPANDED FILL FACTOR = 1.30
(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.
(15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

3

REMOVE, SALVAGE, AND REINSTALL WOOD FENCE

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0090.01 SPECIAL (01. REMOVE, SALVAGE, AND REINSTALL WOOD FENCE) LF
PROJECT 1470-27-71					
0010	207+25	-	207+50	RT	25
			PROJECT 1470-27-71		25
				TOTAL	25

CLEANING DITCH

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0060.02 SPECIAL (02. CLEANING DITCH) EACH
PROJECT 1470-27-71					
0010	137+53	-	138+00	RT	1
			PROJECT 1470-27-71 TOTAL		1
				TOTAL	1

3

REMOVE, SALVAGE, AND REINSTALL RIPRAP HEAVY

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0180.01 SPECIAL (01. REMOVE, SALVAGE, AND REINSTALL RIPRAP HEAVY) SY
PROJECT 1470-27-71					
0010	186+42	-	187+08	RT	80
0010	202+27	-	202+49	RT	40
0010	272+11	-	272+85	RT	195
			PROJECT 1470-27-71 TOTAL		315
				TOTAL	315

BASE AGGREGATE DENSE

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	305.0504.S HAULING EXCESS SHOULDER MATERIAL CY	624.0100 WATER MGAL	REMARKS
PROJECT 1470-37-71									
0010	104+44	-	121+00	RT	83	-	-	1.16	SHOULDER
0010	107+00	-	108+00	RT	-	0	-	0.00	DAMAGED CURB & GUTTER
0010	109+00	-	110+00	RT	-	1	-	0.01	DAMAGED CURB & GUTTER
0010	124+00	-	125+00	RT & LT	-	1	-	0.01	DAMAGED CURB & GUTTER
0010	124+00	-	125+00	RT	-	1	-	0.01	DAMAGED CURB & GUTTER
0010	125+50	-	125+72	LT	3	-	-	0.04	SIDEWALK
0010	125+52	-	125+75	LT	-	12	-	0.17	CURB & GUTTER
0010	125+86	-	126+01	RT	1	-	-	0.01	SIDEWALK
0010	125+86	-	126+06	RT	-	4	-	0.06	CURB & GUTTER
0010	125+86	-	126+11	RT	-	11	-	0.15	MULTI-USE PATH
0010	126+28	-	126+44	LT	-	7	-	0.10	CURB & GUTTER
0010	126+32	-	126+52	LT	3	-	-	0.04	SIDEWALK
0010	126+54	-	126+62	LT	-	2	-	0.03	CURB & GUTTER
0010	129+00	-	130+00	RT	-	1	-	0.01	DAMAGED CURB & GUTTER
0010	130+55	-	132+56	LT	3	-	-	0.04	SHOULDER
0010			UNDISTRIBUTED		7	10	25	0.16	
			PROJECT 1470-37-71 TOTALS		100	50	25	2.00	
PROJECT 1470-27-71									
0010	133+34	-	142+30	LT	14	-	-	0.20	SHOULDER
0010	134+63	-	143+19	RT	12	-	-	0.17	SHOULDER
0010	139+46	-	139+66	RT	-	9	-	0.13	MULTI-USE PATH
0010	139+52	-	139+57	LT	-	1	-	0.01	CURB & GUTTER
0010	142+86	-	150+56	LT	10	-	-	0.14	SHOULDER
0010	142+92	-	142+97	LT	-	1	-	0.01	CURB & GUTTER
0010	143+64	-	151+83	RT	11	-	-	0.15	SHOULDER
0010	150+12	-	150+64	LT & RT	-	27	-	0.38	MEDIAN LENGTHENING
0010	150+57	-	150+91	LT	4	-	-	0.06	SIDEWALK
0010	1+16	-	2+68	LT & RT	-	316	-	4.42	MIRROR DRIVE ROADWAY
0010	1+44	-	1+78	RT	-	10	-	0.14	DRIVEWAY
0010	1+46	-	1+67	LT	2	-	-	0.03	SIDEWALK
0010	1+48	-	2+15	LT	-	11	-	0.15	PARKING LOT
0010	1+62	-	2+01	LT	-	6	-	0.08	DRIVEWAY
0010	1+95	-	2+57	LT	6	-	-	0.08	SIDEWALK
0010	151+39	-	15+22	LT & RT	-	59	-	0.83	MEDIAN SHORTENING
0010	151+49	-	151+74	RT	-	11	-	0.15	MULTI-USE PATH
0010	151+59	-	151+64	RT	1	-	-	0.01	SIDEWALK
0010	151+75	-	156+65	LT	7	-	-	0.10	SHOULDER
0010	152+29	-	168+41	RT	22	-	-	0.31	SHOULDER
0010	153+00	-	154+00	LT	-	1	-	0.01	DAMAGED CURB & GUTTER
0010	153+00	-	154+00	RT	-	1	-	0.01	DAMAGED CURB & GUTTER
0010	154+00	-	155+00	LT	-	1	-	0.01	DAMAGED CURB & GUTTER
0010	157+25	-	168+37	LT	15	-	-	0.21	SHOULDER
0010	169+08	-	176+25	RT	10	-	-	0.14	SHOULDER
0010	169+28	-	183+52	LT	19	-	-	0.27	SHOULDER
0010	176+25	-	176+40	RT	-	19	-	0.27	CONCRETE BASE
0010	176+25	-	176+40	RT	-	19	-	0.27	ASPHALT SHOULDER
0010	176+25	-	176+40	RT	1	-	-	0.01	SHOULDER
0010	176+40	-	183+66	RT	11	-	-	0.15	SHOULDER
0010	178+66	-	178+71	RT	-	1	-	0.01	CURB & GUTTER
0010	184+28	-	202+27	RT	30	-	-	0.42	SHOULDER
0010	184+50	-	199+44	LT	45	-	-	0.63	SHOULDER
0010	199+87	-	200+15	RT	-	13	-	0.18	MULTI-USE PATH
0010	199+91	-	200+19	LT	3	-	-	0.04	SIDEWALK

(CONTINUED ON NEXT SHEET)

BASE AGGREGATE DENSE (CONTINUED)

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	305.0504.S HAULING EXCESS SHOULDER MATERIAL CY	624.0100 WATER MGAL	REMARKS
0010	199+92	-	200+10	LT	-	1	-	0.01	CURB & GUTTER
0010	199+95	-	200+10	LT	-	1	-	0.01	CURB & GUTTER
0010	199+98	-	200+06	RT	3	-	-	0.04	SIDEWALK
0010	199+99	-	200+04	LT (MEDIAN)	0	-	-	0.00	SIDEWALK
0010	200+30	-	200+35	LT	-	1	-	0.01	CURB & GUTTER
0010	200+21	-	200+35	LT	1	-	-	0.01	SIDEWALK
0010	201+39	-	202+27	LT	1	-	-	0.01	SHOULDER
0010	202+27	-	202+52	LT	-	33	-	0.46	CONCRETE BASE
0010	202+27	-	202+52	LT	-	32	-	0.45	ASPHALT SHOULDER
0010	202+27	-	202+52	LT	1	-	-	0.01	SHOULDER
0010	202+27	-	202+52	RT	-	39	-	0.55	CONCRETE BASE
0010	202+27	-	202+52	RT	-	41	-	0.57	ASPHALT SHOULDER
0010	202+27	-	202+52	RT	5	-	-	0.07	SHOULDER
0010	202+52	-	203+99	LT	2	-	-	0.03	SHOULDER
0010	202+52	-	207+27	RT	26	-	-	0.36	SHOULDER
0010	204+50	-	205+53	LT	2	-	-	0.03	SHOULDER
0010	202+27	-	202+52	LT	-	28	-	0.39	ASPHALT SHOULDER
0010	202+27	-	202+52	LT & RT	-	69	-	0.97	CONCRETE BASE
0010	202+27	-	202+52	RT	-	28	-	0.39	ASPHALT SHOULDER
0010	207+27	-	207+49	RT	3	-	-	0.04	SHOULDER
0010	207+27	-	207+49	RT	-	10	-	0.14	MULTI-USE PATH
0010	207+49	-	214+17	RT	36	-	-	0.50	SHOULDER
0010	209+77	-	211+14	LT	2	-	-	0.03	SHOULDER
0010	211+72	-	214+92	LT	5	-	-	0.07	SHOULDER
0010	215+53	-	218+57	LT	5	-	-	0.07	SHOULDER
0010	216+63	-	243+15	RT	156	-	-	2.18	SHOULDER
0010	219+35	-	222+33	LT	5	-	-	0.07	SHOULDER
0010	222+90	-	225+98	LT	4	-	-	0.06	SHOULDER
0010	226+64	-	228+96	LT	4	-	-	0.06	SHOULDER
0010	229+64	-	243+74	LT	17	-	-	0.24	SHOULDER
0010	243+15	-	243+30	LT & RT	-	38	-	0.53	CONCRETE BASE
0010	243+15	-	243+30	RT	-	22	-	0.31	ASPHALT SHOULDER
0010	243+15	-	243+30	RT	1	-	-	0.01	SHOULDER
0010	243+30	-	246+78	RT	5	-	-	0.07	SHOULDER
0010	244+34	-	251+90	LT	12	-	-	0.17	SHOULDER
0010	246+76	-	246+91	LT	-	11	-	0.15	CONCRETE BASE
0010	246+78	-	246+98	RT	-	29	-	0.41	CONCRETE BASE
0010	246+78	-	246+98	RT	-	29	-	0.41	ASPHALT SHOULDER
0010	246+78	-	246+98	RT	1	-	-	0.01	SHOULDER
0010	246+98	-	249+20	RT	3	-	-	0.04	SHOULDER
0010	249+20	-	249+35	LT	-	11	-	0.15	CONCRETE BASE
0010	249+20	-	249+35	RT	-	19	-	0.27	CONCRETE BASE
0010	249+20	-	249+35	RT	-	22	-	0.31	ASPHALT SHOULDER
0010	249+20	-	249+30	RT	1	-	-	0.01	SHOULDER
0010	249+35	-	251+16	RT	3	-	-	0.04	SHOULDER
0010	252+00	-	253+00	RT	-	1	-	0.01	DAMAGED CURB & GUTTER
0010	252+63	-	255+07	LT	3	-	-	0.04	SHOULDER
0010	253+72	-	272+33	RT	114	-	-	1.60	SHOULDER
0010	258+91	-	266+93	LT	11	-	-	0.15	SHOULDER
0010	267+42	-	272+97	LT	6	-	-	0.08	SHOULDER

(CONTINUED ON NEXT SHEET)

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BASE AGGREGATE DENSE (CONTINUED)

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	305.0504.S HAULING EXCESS SHOULDER MATERIAL CY	624.0100 WATER MGAL	REMARKS
0010	270+25	-	271+25	RT	-	3	-	0.04	DAMAGED CURB & GUTTER
0010	272+22	-	272+84	RT	-	28	-	0.39	MULTI-USE PATH
0010	272+29	-	272+96	RT	-	80	-	1.12	ASPHALT SHOULDER
0010	272+33	-	272+88	RT	8	-	-	0.11	SHOULDER
0010	272+38	-	273+32	LT & RT	-	179	-	2.51	CONCRETE BASE
0010	272+75	-	273+44	LT	-	90	-	1.26	ASPHALT SHOULDER
0010	272+88	-	282+43	RT	22	-	-	0.31	SHOULDER
0010	274+45	-	274+70	RT	-	11	-	0.15	MULTI-USE PATH
0010	274+50	-	274+63	LT	-	1	-	0.01	CURB & GUTTER
0010	274+52	-	274+63	LT	-	1	-	0.01	CURB & GUTTER
0010	274+52	-	274+63	RT	-	1	-	0.01	CURB & GUTTER
0010	274+55	-	274+60	LT	1	-	-	0.01	SIDEWALK
0010	274+55	-	274+60	LT & RT (MEDIAN)	1	-	-	0.01	SIDEWALK
0010	274+55	-	274+60	RT	2	-	-	0.03	SIDEWALK
0010	274+63	-	295+83	LT	25	-	-	0.35	SHOULDER
0010	280+00	-	281+00	RT	-	1	-	0.01	DAMAGED CURB & GUTTER
0010	285+51	-	294+51	RT	54	-	-	0.76	SHOULDER
0010	292+50	-	294+50	RT	-	6	-	0.08	DAMAGED CURB & GUTTER
0010	294+51	-	294+71	RT	-	33	-	0.46	CONCRETE BASE
0010	294+51	-	294+71	RT	-	28	-	0.39	ASPHALT SHOULDER
0010	294+51	-	294+71	RT	3	-	-	0.04	SHOULDER
0010	294+52	-	294+67	LT	-	11	-	0.15	CONCRETE BASE
0010	294+52	-	294+67	RT	-	16	-	0.22	CONCRETE BASE
0010	294+71	-	297+27	RT	15	-	-	0.21	SHOULDER
0010	297+27	-	297+47	RT	-	26	-	0.36	CONCRETE BASE
0010	297+27	-	297+47	RT	-	29	-	0.41	ASPHALT SHOULDER
0010	297+27	-	297+47	RT	3	-	-	0.04	SHOULDER
0010	297+27	-	297+47	RT	-	9	-	0.13	MULTI-USE PATH
0010	297+47	-	299+57	RT	12	-	-	0.17	SHOULDER
0010	297+48	-	297+81	LT	-	29	-	0.41	CONCRETE BASE
0010	299+57	-	299+72	RT	-	20	-	0.28	CONCRETE BASE
0010	299+57	-	299+72	RT	-	20	-	0.28	ASPHALT SHOULDER
0010	299+57	-	299+72	RT	2	-	-	0.03	SHOULDER
0010	299+60	-	299+75	RT	-	7	-	0.10	MULTI-USE PATH
0010	299+72	-	301+55	RT	9	-	-	0.13	SHOULDER
0010	301+55	-	301+70	RT	-	19	-	0.27	CONCRETE BASE
0010	301+55	-	301+70	RT	-	20	-	0.28	ASPHALT SHOULDER
0010	301+55	-	301+70	RT	2	-	-	0.03	SHOULDER
0010	301+57	-	301+72	RT	-	7	-	0.10	MULTI-USE PATH
0010	301+70	-	331+15	RT	74	-	-	1.04	SHOULDER
0010	302+27	-	310+12	LT	12	-	-	0.17	SHOULDER
0010	311+27	-	323+97	LT	19	-	-	0.27	SHOULDER
0010	316+00	-	317+00	RT	-	1	-	0.01	DAMAGED CURB & GUTTER
0010	324+85	-	325+12	LT & RT	-	2	-	0.03	CURB & GUTTER
0010	324+90	-	325+18	RT	-	12	-	0.17	MULTI-USE PATH
0010	324+93	-	325+09	LT	8	-	-	0.11	SIDEWALK
0010	324+73	-	325+12	LT	-	3	-	0.04	CURB & GUTTER
0010	325+01	-	325+09	LT & RT (MEDIAN)	1	-	-	0.01	SIDEWALK
0010	325+01	-	325+09	RT	2	-	-	0.03	SIDEWALK
0010	325+12	-	333+07	LT	12	-	-	0.17	SHOULDER

(CONTINUED ON NEXT SHEET)

3

BASE AGGREGATE DENSE (CONTINUED)

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	305.0504.S HAULING EXCESS SHOULDER MATERIAL CY	624.0100 WATER MGAL	REMARKS
0010	327+00	-	328+00	RT	-	1	-	0.01	DAMAGED CURB & GUTTER
0010	329+00	-	330+00	RT	-	1	-	0.01	DAMAGED CURB & GUTTER
0010	331+80	-	334+83	RT	5	-	-	0.07	SHOULDER
0010	336+49	-	336+59	RT	-	7	-	0.10	CONCRETE BASE
0010			UNDISTRIBUTED		147	327	50	8.32	
			PROJECT 1470-27-71 TOTALS		1,100	2,000	50	45.00	
PROJECT 1470-33-71									
0010	340+74	-	341+04	LT	7	-	-	0.10	SIDEWALK
0010	340+80	-	341+14	RT	6	-	-	0.08	SIDEWALK
0010	340+83	-	340+95	LT & RT	-	3	-	0.04	MEDIAN SHORTENING
0010	340+85	-	341+10	LT	-	9	-	0.13	PAVEMENT/CURB & GUTTER
0010	340+85	-	341+17	RT	-	9	-	0.13	PAVEMENT/CURB & GUTTER
0010	341+49	-	341+78	LT	-	10	-	0.14	PAVEMENT/CURB & GUTTER
0010	341+53	-	341+78	LT	5	-	-	0.07	SIDEWALK
0010	341+59	-	341+90	RT	-	9	-	0.13	PAVEMENT/CURB & GUTTER
0010	341+60	-	341+78	LT	-	2	-	0.03	PARKING LOT
0010	341+64	-	341+90	RT	5	-	-	0.07	SIDEWALK
0010			UNDISTRIBUTED		2	3	-	0.08	
			PROJECT 1470-33-71 TOTALS		25	45	0	1.00	
				TOTALS	1,225	2,095	75	48.00	

NOTE: WATER BID ITEM IS FOR BASE AGGREGATE DENSE DUST CONTROL AND COMPACTION.

CONCRETE PAVEMENT REPLACEMENT

CATEGORY	STATION	TO	STATION	LOCATION	* 204.0100 REMOVING CONCRETE PAVEMENT SY	* 320.0355 CONCRETE BASE HES 9-INCH SY	* 416.0610 DRILLED TIE BARS EACH	* 416.0620 DRILLED DOWEL BARS EACH	* 690.0250 SAWING CONCRETE LF
PROJECT 1470-37-71									
0010			UNDISTRIBUTED		775	775	390	1,150	2,300
			PROJECT 1470-37-71 TOTALS		775	775	390	1,150	2,300
PROJECT 1470-27-71									
0010			UNDISTRIBUTED		5,000	5,000	2,500	7,500	15,000
			PROJECT 1470-27-71 TOTALS		5,000	5,000	2,500	7,500	15,000
PROJECT 1470-33-71									
0010			UNDISTRIBUTED		130	130	65	193	385
			PROJECT 1470-33-71 TOTALS		130	130	65	193	385
				TOTALS	5,905	5,905	2,955	8,843	17,685

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

3

CONCRETE BASE

CATEGORY	STATION	TO	STATION	LOCATION	320.0155 CONCRETE BASE 9-INCH SY	320.0335 CONCRETE BASE HES 7-INCH SY	* 320.0355 CONCRETE BASE HES 9-INCH SY	* 416.0610 DRILLED TIE BARS EACH	* 416.0620 DRILLED DOWEL BARS EACH	REMARKS
PROJECT 1470-27-71										
0010	1+16	-	2+68	LT & RT	780	-	-	44	47	MIRRO DRIVE
0010	151+39	-	152+22	LT & RT	-	-	103	41	17	MEDIAN SHORTENING
0010	176+25	-	176+40	RT	-	-	36	-	44	STORM SEWER REPLACEMENT TRENCH
0010	202+27	-	202+52	LT	-	-	62	-	44	STORM SEWER REPLACEMENT TRENCH
0010	202+27	-	202+52	RT	-	-	74	-	53	STORM SEWER REPLACEMENT TRENCH
0010	207+27	-	207+49	LT & RT	-	-	156	-	128	STORM SEWER REPLACEMENT TRENCH
0010	243+15	-	243+30	LT	-	-	17	5	20	STORM SEWER REPLACEMENT TRENCH
0010	243+15	-	243+30	RT	-	-	53	-	64	STORM SEWER REPLACEMENT TRENCH
0010	246+76	-	246+91	LT	-	-	17	5	20	STORM SEWER REPLACEMENT TRENCH
0010	246+78	-	246+98	RT	-	-	48	-	44	STORM SEWER REPLACEMENT TRENCH
0010	249+20	-	249+35	LT	-	-	17	5	20	STORM SEWER REPLACEMENT TRENCH
0010	249+20	-	249+35	RT	-	-	36	-	44	STORM SEWER REPLACEMENT TRENCH
0010	272+55	-	273+13	LT & RT	-	-	365	-	133	STORM SEWER REPLACEMENT TRENCH
0010	294+51	-	294+71	RT	-	-	64	-	58	STORM SEWER REPLACEMENT TRENCH
0010	294+51	-	294+67	RT	-	-	21	-	24	STORM SEWER REPLACEMENT TRENCH
0010	294+52	-	294+67	LT	-	-	16	5	20	STORM SEWER REPLACEMENT TRENCH
0010	297+27	-	297+47	RT	-	-	49	-	44	STORM SEWER REPLACEMENT TRENCH
0010	297+52	-	297+82	LT	-	-	47	12	24	PAVEMENT/CURB & GUTTER
0010	299+57	-	299+72	RT	-	-	37	-	44	STORM SEWER REPLACEMENT TRENCH
0010	301+55	-	301+70	RT	-	-	37	-	44	STORM SEWER REPLACEMENT TRENCH
0010	336+49	-	336+59	RT	-	-	11	3	20	STORM SEWER REPLACEMENT TRENCH
0010	340+13	-	340+16	RT	-	-	1	2	6	WATER VALVE ADJUSTMENT
0010	340+20	-	340+26	RT	-	-	4	4	12	MANHOLE ADJUSTMENT
0010	340+35	-	340+41	RT	-	-	4	4	12	MANHOLE ADJUSTMENT
			PROJECT 1470-27-71 TOTALS		780	0	1,275	130	986	
PROJECT 1470-33-71										
0010	340+83	-	340+95	LT & RT	-	-	5	8	6	MEDIAN SHORTENING
0010	340+85	-	341+17	RT	-	-	10	13	2	PAVEMENT/CURB & GUTTER
0010	340+86	-	341+10	LT	-	13	-	14	2	PAVEMENT/CURB & GUTTER
0010	341+04	-	341+10	LT & RT	-	-	4	4	10	MANHOLE ADJUSTMENT
0010	341+11	-	341+17	LT	-	-	4	4	10	MANHOLE ADJUSTMENT
0010	341+27	-	341+31	LT & RT	-	-	4	4	10	MANHOLE ADJUSTMENT
0010	341+37	-	341+43	LT	-	-	4	4	10	MANHOLE ADJUSTMENT
0010	341+41	-	341+47	RT	-	-	4	4	10	MANHOLE ADJUSTMENT
0010	341+49	-	341+78	LT	-	-	11	16	2	PAVEMENT/CURB & GUTTER
0010	341+58	-	341+62	RT	-	-	4	4	10	MANHOLE ADJUSTMENT
0010	341+59	-	341+90	RT	-	-	9	14	2	PAVEMENT/CURB & GUTTER
0010	341+60	-	341+66	RT	-	-	4	4	10	MANHOLE ADJUSTMENT
0010	341+63	-	341+69	RT	-	-	4	4	10	MANHOLE ADJUSTMENT
0010	341+94	-	342+00	LT & RT	-	-	4	4	10	MANHOLE ADJUSTMENT
0010	342+77	-	342+83	LT & RT	-	-	4	4	10	MANHOLE ADJUSTMENT
0010	345+68	-	345+74	LT	-	-	4	4	10	MANHOLE ADJUSTMENT
0010	346+16	-	346+19	RT	-	-	1	2	4	WATER VALVE ADJUSTMENT
			PROJECT 1470-33-71 TOTALS		0	13	80	111	128	
			TOTALS		780	13	1,355	241	1,114	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

PWL TEST STRIPS

CATEGORY	LOCATION	460.0105.S HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP VOLUMETRICS EACH	460.0110.S HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP DENSITY EACH
PROJECT 1470-27-71			
0010	PROJECT 1470-27-71	1	1
	PROJECT 1470-27-71 TOTALS	1	1
	TOTALS	1	1

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HMA PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	REMARKS
PROJECT 1470-37-71							
0010	103+95	-	133+00	LT & RT	1,294	776	TRAVEL LANE LEVELING LAYER
0010	103+95	-	133+00	LT & RT	921	1,807	TRAVEL LANE UPPER LAYER
0010	103+95	-	125+52	LT	212	128	SHOULDER LEVELING LAYER
0010	103+95	-	125+52	LT	152	298	SHOULDER UPPER LAYER
0010	103+95	-	122+18	RT	152	91	SHOULDER LEVELING LAYER
0010	103+95	-	122+18	RT	109	214	SHOULDER UPPER LAYER
0010	125+52	-	125+77	LT	1	1	ADJACENT TO CURB & GUTTER
0010	126+25	-	126+41	LT	1	1	ADJACENT TO CURB & GUTTER
0010	126+54	-	126+62	LT	1	1	ADJACENT TO CURB & GUTTER
0010	125+86	-	126+11	RT	-	3	MULTI-USE PATH
0010	128+44	-	133+00	LT	39	24	SHOULDER LEVELING LAYER
0010	128+44	-	133+00	LT	28	56	SHOULDER UPPER LAYER
	PROJECT 1470-37-71 TOTALS				2,910	3,400	
PROJECT 1470-27-71							
0010	133+00	-	340+90	LT & RT	8,549	5,124	TRAVEL LANE LEVELING LAYER
0010	133+00	-	340+90	LT & RT	6,096	11,952	TRAVEL LANE UPPER LAYER
0010	133+00	-	295+84	LT	1,340	804	SHOULDER LEVELING LAYER
0010	133+00	-	295+84	LT	957	1,878	SHOULDER UPPER LAYER
0010	134+39	-	334+42	RT	1,505	904	SHOULDER LEVELING LAYER
0010	134+39	-	334+42	RT	1,075	2,108	SHOULDER UPPER LAYER
0010	139+46	-	139+66	RT	-	3	MULTI-USE PATH
0010	1+16	-	2+68	LT & RT	43	37	TRAVEL LANE LEVELING LAYER
0010	1+16	-	2+68	LT & RT	43	86	TRAVEL LANE UPPER LAYER
0010	151+49	-	151+74	RT	-	3	MULTI-USE PATH
0010	176+25	-	176+40	RT	1	3	ASPHALT SHOULDER LOWER LAYER
0010	199+87	-	200+15	RT	-	3	MULTI-USE PATH
0010	199+92	-	200+11	LT	0	1	ADJACENT TO CURB & GUTTER
0010	202+27	-	202+52	LT	2	5	ASPHALT SHOULDER LOWER LAYER
0010	202+27	-	202+52	RT	2	5	ASPHALT SHOULDER LOWER LAYER
0010	207+27	-	207+49	LT	1	4	ASPHALT SHOULDER LOWER LAYER
0010	207+27	-	207+49	RT	1	4	ASPHALT SHOULDER LOWER LAYER
0010	207+27	-	207+49	RT	-	4	MULTI-USE PATH
0010	243+15	-	243+30	RT	1	3	ASPHALT SHOULDER LOWER LAYER
0010	246+78	-	246+98	RT	1	4	ASPHALT SHOULDER LOWER LAYER
0010	249+20	-	249+35	RT	1	3	ASPHALT SHOULDER LOWER LAYER
0010	272+22	-	272+84	RT	-	10	MULTI-USE PATH
0010	272+33	-	272+96	RT	3	10	ASPHALT SHOULDER LOWER LAYER
0010	272+74	-	273+44	LT	5	15	ASPHALT SHOULDER LOWER LAYER
0010	274+45	-	274+70	RT	-	3	MULTI-USE PATH
0010	294+51	-	294+71	RT	1	4	ASPHALT SHOULDER LOWER LAYER
0010	297+27	-	297+47	RT	1	4	ASPHALT SHOULDER LOWER LAYER
0010	297+27	-	297+47	RT	-	3	MULTI-USE PATH
0010	298+25	-	339+42	LT	332	199	SHOULDER LEVELING LAYER
0010	298+25	-	339+42	LT	237	464	SHOULDER UPPER LAYER
0010	299+57	-	299+72	RT	1	3	ASPHALT SHOULDER LOWER LAYER
0010	299+60	-	299+75	RT	-	2	MULTI-USE PATH
0010	301+55	-	301+70	RT	1	3	ASPHALT SHOULDER LOWER LAYER
0010	301+57	-	301+72	RT	-	2	MULTI-USE PATH
0010	324+90	-	325+18	RT	-	3	MULTI-USE PATH
0010	324+73	-	325+12	LT	1	2	ADJACENT TO CURB & GUTTER
	PROJECT 1470-27-71 TOTALS				20,200	23,665	

(CONTINUED)

HMA PAVEMENT (CONTINUED)

CATEGORY	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	REMARKS
PROJECT 1470-33-71							
0010	340+90	-	343+52	LT & RT	141	86	LEVELING LAYER
0010	340+90	-	343+52	LT & RT	101	199	UPPER LAYER
0010	345+38	-	346+42	LT & RT	41	26	LEVELING LAYER
0010	345+38	-	346+42	LT & RT	29	59	UPPER LAYER
	PROJECT 1470-33-71 TOTALS				312	370	
				TOTALS	23,422	27,435	

ASPHALTIC SURFACE PATCHING

CATEGORY	LOCATION	465.0110 ASPHALTIC SURFACE PATCHING TON	REMARKS
PROJECT 1470-37-71			
0010	UNDISTRIBUTED	5	FILLING POTHOLES, POP OUTS, RAMPING PRIOR TO OVERLAY
PROJECT 1470-37-71 TOTAL		5	
PROJECT 1470-27-71			
0010	UNDISTRIBUTED	45	FILLING POTHOLES, POP OUTS, RAMPING PRIOR TO OVERLAY
PROJECT 1470-27-71 TOTAL		45	
	TOTAL	50	

ASPHALTIC DRIVEWAYS AND FIELD ENTRANCES

CATEGORY	STATION	TO	STATION	LOCATION	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	REMARKS
PROJECT 1470-27-71						
0010	1+48	-	2+15	LT	6	PARKING LOT
			PROJECT 1470-27-71 TOTAL		6	
PROJECT 1470-33-71						
0010	341+60	-	341+78	LT	1	PARKING LOT
			PROJECT 1470-33-71 TOTAL		1	
				TOTAL	7	

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HMA MIXTURE ACCEPTANCE

PROJECT 1470-37-71								
							QUALITY MANAGEMENT PROGRAM TO BE USED	
LOCATION	STATION/LOCATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
(4) 12-FOOT DRIVING LANES	103+95 - 133+00	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	1,808	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	PWL INCENTIVE DENSITY HMA PAVEMENT 460.2005
SHOULDERS, SIDEROADS, GUARDRAIL WIDENINGS	VARIOUS	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	570	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	DEPARTMENT ACCEPTANCE (SS 460.3.3.2) *NOT ELIGIBLE FOR INCENTIVE
(4) 12-FOOT DRIVING LANES	103+95 - 133+00	LOWER LAYER	EXISTING CONCRETE PAVEMENT	4 MT 58-28 S	776	0.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	PWL INCENTIVE DENSITY HMA PAVEMENT 460.2005
SHOULDERS, SIDEROADS, GUARDRAIL WIDENINGS	VARIOUS	LOWER LAYER	MILLED SURFACE	4 MT 58-28 S	243	0.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	DEPARTMENT ACCEPTANCE (SS 460.3.3.2) *NOT ELIGIBLE FOR INCENTIVE
MULTI-USE PATH	125+86 - 126+11, RT	UPPER LAYER	BASE AGGREGATE	4 MT 58-28 S	3	3.00"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	DEPARTMENT ACCEPTANCE (SS 460.3.3.2) *NOT ELIGIBLE FOR INCENTIVE
PATCHING	VARIOUS	LOWER LAYER	MILLED SURFACE	ASPHALTIC SURFACE PATCHING	5	VARIES	(SS 465)	ORDINARY COMPACTION (SS 450.3.2.6.2)

HMA MIXTURE ACCEPTANCE

PROJECT 1470-27-71								
							QUALITY MANAGEMENT PROGRAM TO BE USED	
LOCATION	STATION/LOCATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
(4) 12-FOOT DRIVING LANES	133+00 - 340+90	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	11,952	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	PWL INCENTIVE DENSITY HMA PAVEMENT 460.2005
(2) 12-FOOT DRIVING LANES	1+16 - 2+68	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	86	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	PWL INCENTIVE DENSITY HMA PAVEMENT 460.2005
SHOULDERS, SIDEROADS, GUARDRAIL WIDENINGS	VARIOUS	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	4,452	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	DEPARTMENT ACCEPTANCE (SS 460.3.3.2) *NOT ELIGIBLE FOR INCENTIVE
(4) 12-FOOT DRIVING LANES	133+00 - 340+90	LOWER LAYER	EXISTING CONCRETE PAVEMENT	4 MT 58-28 S	5,125	0.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	PWL INCENTIVE DENSITY HMA PAVEMENT 460.2005
(2) 12-FOOT DRIVING LANES	1+16 - 2+68	LOWER LAYER	CONCRETE PAVEMENT	4 MT 58-28 S	37	0.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	PWL INCENTIVE DENSITY HMA PAVEMENT 460.2005
SHOULDERS, SIDEROADS, GUARDRAIL WIDENINGS	VARIOUS	LOWER LAYER	MILLED SURFACE	4 MT 58-28 S	1,977	0.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	DEPARTMENT ACCEPTANCE (SS 460.3.3.2) *NOT ELIGIBLE FOR INCENTIVE
MULTI-USE PATH	VARIOUS	UPPER LAYER	BASE AGGREGATE	4 MT 58-28 S	36	3.00"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	DEPARTMENT ACCEPTANCE (SS 460.3.3.2) *NOT ELIGIBLE FOR INCENTIVE
DRIVEWAY	1+48 - 2+15	UPPER LAYER	BASE AGGREGATE	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	6	3.00"	QMP as per SS 465	ORDINARY COMPACTION (SS 450.3.2.6.2)
PATCHING	VARIOUS	LOWER LAYER	MILLED SURFACE	ASPHALTIC SURFACE PATCHING	45	VARIES	(SS 465)	ORDINARY COMPACTION (SS 450.3.2.6.2)

HMA MIXTURE ACCEPTANCE

PROJECT 1470-33-71								
							QUALITY MANAGEMENT PROGRAM TO BE USED	
LOCATION	STATION/LOCATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
(4) DRIVING LANES	340+90 - 343+52	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	199	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	PWL INCENTIVE DENSITY HMA PAVEMENT 460.2005
(4) DRIVING LANES	345+38 - 346+42	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 S	59	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	PWL INCENTIVE DENSITY HMA PAVEMENT 460.2005
(4) DRIVING LANES	340+90 - 343+52	LOWER LAYER	EXISTING CONCRETE PAVEMENT	4 MT 58-28 S	86	0.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	PWL INCENTIVE DENSITY HMA PAVEMENT 460.2005
(4) DRIVING LANES	345+38 - 346+42	LOWER LAYER	EXISTING CONCRETE PAVEMENT	4 MT 58-28 S	26	0.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	PWL INCENTIVE DENSITY HMA PAVEMENT 460.2005
DRIVEWAY	341+60 - 341+78, LT	UPPER LAYER	BASE AGGREGATE	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	1	3.00"	QMP as per SS 465	ORDINARY COMPACTION (SS 450.3.2.6.2)

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TEMPORARY SHORING

CATEGORY	STATION	TO	STATION	LOCATION	511.1100 TEMPORARY SHORING SF
PROJECT 1470-27-71					
0010	272+69	-	273+30	LT	1,241
		PROJECT 1470-27-71 TOTAL			1,241
				TOTAL	1,241

CONCRETE COLLARS FOR PIPE

CATEGORY	STATION	LOCATION	520.8000 CONCRETE COLLARS FOR PIPE EACH	REMARKS
PROJECT 1470-27-71				
0010	139+56	43' RT	1	18-INCH PIPE
	PROJECT 1470-27-71 TOTAL		1	
		TOTAL	1	

CLEANING CULVERT PIPES

CATEGORY	STATION	LOCATION	520.8700 CLEANING CULVERT PIPES EACH	REMARKS
PROJECT 1470-27-71				
0010	176+33	RT	1	81 LF - 12-INCH CMP
0010	249+28	LT & RT	1	104 LF - 12-INCH CMP
0010	299+65	RT	1	81 LF - 12-INCH CMP
0010	301+62	RT	1	54 LF - 12-INCH CMP
0010	UNDISTRIBUTED		1	
	PROJECT 1470-27-71 TOTAL		5	
		TOTAL	5	

ADJUSTING WATER VALVE BOXES

CATEGORY	STATION	LOCATION	SPV.0060.01 SPECIAL (01. ADJUSTING WATER VALVE BOXES) EACH
PROJECT 1470-27-71			
0010	2+28	RT	1
0010	2+60	RT	1
0010	340+14	RT	1
	PROJECT 1470-27-71 TOTAL		3
PROJECT 1470-33-71			
0010	346+17	21' RT	1
	PROJECT 1470-33-71 TOTAL		1
		TOTAL	4

UV GRP CIPP 12-INCH

CATEGORY	STATION	LOCATION	SPV.0090.03 SPECIAL (03. UV GRP CIPP 12-INCH) LF
PROJECT 1470-37-71			
0010	112+69	LT & RT	121
	PROJECT 1470-37-71 TOTAL		121
		TOTAL	121

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CONCRETE CURB & GUTTER

CATEGORY	STATION	TO	STATION	LOCATION	* 416.0610 DRILLED TIE BARS EACH	* 416.0620 DRILLED DOWEL BARS EACH	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	601.0413 CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G LF	601.0600 CONCRETE CURB PEDESTRIAN LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	REMARKS
PROJECT 1470-37-71												
0010	107+00	-	108+00	RT	2	-	-	-	5	-	5	DAMAGED CURB & GUTTER
0010	109+00	-	110+00	RT	3	-	-	-	10	-	10	DAMAGED CURB & GUTTER
0010	124+00	-	125+00	RT & LT	3	-	-	-	10	-	10	DAMAGED CURB & GUTTER
0010	124+00	-	125+00	RT	3	-	10	-	-	-	10	DAMAGED CURB & GUTTER
0010	125+52	-	125+75	LT	3	-	10	25	-	-	35	
0010	125+86	-	126+06	RT	7	-	20	-	-	-	20	
0010	126+28	-	126+42	LT	4	-	13	9	-	-	22	
0010	126+55	-	126+62	LT	-	-	-	7	-	-	7	
0010	129+00	-	130+00	RT	3	-	-	-	10	-	10	DAMAGED CURB & GUTTER
0010	UNDISTRIBUTED				12	-	17	19	15	-	51	
	PROJECT 1470-37-71 TOTALS				40	0	70	60	50	0	180	
PROJECT 1470-27-71												
0010	139+52	-	139+57	LT	2	-	-	-	5	-	5	
0010	142+92	-	142+97	LT	2	-	-	-	5	-	5	
0010	150+12	-	150+56	LT	17	10	-	-	44	-	44	
0010	150+12	-	150+56	LT	17	-	-	-	44	-	44	
0010	1+16	-	2+61	LT	-	-	153	-	-	-	153	
0010	1+16	-	2+69	RT	-	-	186	-	-	-	186	
0010	151+79	-	152+21	LT & RT	-	-	-	-	44	-	44	
0010	153+00	-	154+00	LT	7	-	-	-	20	-	20	DAMAGED CURB & GUTTER
0010	153+00	-	154+00	RT	2	-	-	-	5	-	5	DAMAGED CURB & GUTTER
0010	154+00	-	155+00	LT	7	-	-	-	20	-	20	DAMAGED CURB & GUTTER
0010	176+26	-	176+41	RT	-	-	-	-	15	-	15	
0010	178+66	-	178+71	RT	2	-	-	-	5	-	5	
0010	199+92	-	200+10	LT	-	-	-	18	-	-	18	
0010	199+95	-	200+06	LT	6	-	-	-	11	-	11	
0010	199+95	-	200+06	LT	6	-	-	-	11	-	11	
0010	199+98	-	199+98	LT	-	-	-	-	-	5	5	
0010	200+04	-	200+04	LT	-	-	-	-	-	5	5	
0010	200+30	-	200+35	LT	-	-	-	7	-	-	7	
0010	202+27	-	202+52	RT	-	-	-	-	25	-	25	
0010	202+27	-	202+52	LT	-	-	-	-	25	-	25	
0010	207+27	-	207+49	LT	-	-	-	22	-	-	22	
0010	243+16	-	243+26	LT	-	10	-	-	10	-	10	
0010	243+16	-	243+26	LT	-	-	-	-	10	-	10	
0010	246+76	-	246+91	LT	-	-	-	-	15	-	15	
0010	246+78	-	246+98	RT	-	-	-	-	20	-	20	
0010	249+20	-	249+35	LT	-	-	-	-	15	-	15	
0010	249+20	-	249+35	RT	-	-	-	-	15	-	15	
0010	252+00	-	253+00	RT	3	-	-	-	10	-	10	DAMAGED CURB & GUTTER
0010	270+25	-	271+25	RT	17	-	-	-	50	-	50	DAMAGED CURB & GUTTER
0010	272+56	-	272+94	LT	-	-	-	-	38	-	38	
0010	272+62	-	272+94	LT	-	-	-	-	32	-	32	
0010	273+06	-	273+35	LT	-	-	-	36	-	-	36	
0010	274+50	-	274+63	LT	-	-	-	13	-	-	13	
0010	274+52	-	274+63	LT	4	-	-	-	11	-	11	
0010	274+52	-	274+63	RT	4	-	-	-	11	-	11	
0010	280+00	-	281+00	RT	7	-	-	-	20	-	20	DAMAGED CURB & GUTTER
0010	292+50	-	294+50	RT	33	-	-	-	100	-	100	DAMAGED CURB & GUTTER
0010	294+51	-	294+71	LT	-	-	-	-	20	-	20	
0010	294+52	-	294+67	LT	-	-	-	-	15	-	15	
0010	294+52	-	294+67	RT	-	-	-	-	15	-	15	

(CONTINUED ON NEXT SHEET)

NOTE: ENGINEER TO DETERMINE EXACT DAMAGED CURB & GUTTER LOCATIONS IN THE FIELD, SEE PLAN DETAILS FOR APPROXIMATE LOCATIONS

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

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CONCRETE CURB & GUTTER (CONTINUED)

CATEGORY	STATION	TO	STATION	LOCATION	* 416.0610 DRILLED TIE BARS EACH	* 416.0620 DRILLED DOWEL BARS EACH	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	601.0413 CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G LF	601.0600 CONCRETE CURB PEDESTRIAN LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	REMARKS
0010	294+52	-	294+67	RT	-	-	-	-	15	-	15	
0010	297+27	-	297+47	RT	-	-	-	-	20	-	20	
0010	297+50	-	297+71	LT	-	-	35	-	-	-	35	
0010	299+57	-	299+72	RT	-	-	-	-	15	-	15	
0010	301+55	-	301+70	RT	-	-	-	-	15	-	15	
0010	316+00	-	317+00	RT	2	-	-	-	5	-	5	DAMAGED CURB & GUTTER
0010	324+89	-	325+12	LT	9	7	-	-	23	-	23	
0010	324+89	-	325+12	LT & RT	9	-	-	-	23	-	23	
0010	324+77	-	325+12	LT	-	-	-	44	-	-	44	
0010	327+00	-	328+00	RT	2	-	-	-	5	-	5	DAMAGED CURB & GUTTER
0010	329+00	-	330+00	RT	3	-	-	-	10	-	10	DAMAGED CURB & GUTTER
0010	336+49	-	336+59	RT	-	-	-	-	10	-	10	
0010	UNDISTRIBUTED				64	43	76	40	173	10	299	
			PROJECT 1470-27-71 TOTALS		225	70	450	180	1,000	20	1,650	
PROJECT 1470-33-71												
0010	340+85	-	341+13	RT	-	-	38	-	-	-	38	
0010	340+86	-	341+06	LT	-	-	35	-	-	-	35	
0010	341+53	-	341+78	LT	-	-	41	-	-	-	41	
0010	341+63	-	341+90	RT	-	-	38	-	-	-	38	
0010	UNDISTRIBUTED				-	-	48	-	-	-	48	
			PROJECT 1470-33-71 TOTALS		0	0	200	0	0	0	200	
			TOTALS		265	70	720	240	1,050	20	2,030	

NOTE: ENGINEER TO DETERMINE EXACT DAMAGED CURB & GUTTER LOCATIONS IN THE FIELD, SEE PLAN DETAILS FOR APPROXIMATE LOCATIONS

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

CONCRETE DRIVEWAY

CATEGORY	STATION	TO	STATION	LOCATION	602.0810 CONCRETE DRIVEWAY 6-INCH SY
PROJECT 1470-27-71					
0010	1+44	-	1+78	RT	47
0010	1+62	-	2+01	LT	28
			PROJECT 1470-27-71 TOTAL		75
				TOTAL	75

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CONCRETE SIDEWALK

CATEGORY	STATION	TO	STATION	LOCATION	602.0405 CONCRETE SIDEWALK 4-INCH SF	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA SF	602.0615 CURB RAMP DETECTABLE WARNING FIELD RADIAL NATURAL PATINA SF	650.9000 CONSTRUCTION STAKING CURB RAMPS EACH	650.9500.01 CONSTRUCTION STAKING SIDEWALK (PROJECT) (01. 1470-27-71) EACH	650.9500.02 CONSTRUCTION STAKING SIDEWALK (PROJECT) (02. 1470-33-71) EACH	650.9500.03 CONSTRUCTION STAKING SIDEWALK (PROJECT) (03. 1470-37-71) EACH
PROJECT 1470-37-71											
0010	125+50	-	125+72	LT	170	20	-	2	-	-	-
0010	125+86	-	126+01	RT	80	10	-	1	-	-	-
0010	126+32	-	126+52	LT	145	10	-	1	-	-	-
0010			PROJECT 1470-37-71		-	-	-	-	-	-	1
			PROJECT 1470-37-71 TOTALS		395	40	0	4	0	0	1
PROJECT 1470-27-71											
0010	150+57	-	150+91	LT	200	-	15.28	1	-	-	-
0010	1+46	-	1+67	LT	95	-	-	-	-	-	-
0010	1+95	-	2+57	LT	320	10	12.20	2	-	-	-
0010	151+59	-	151+64	RT	65	10	-	1	-	-	-
0010	199+91	-	200+19	LT	185	16	-	1	-	-	-
0010	199+98	-	200+06	RT	135	16	-	1	-	-	-
0010	199+99	-	200+04	LT (MEDIAN)	25	-	-	-	-	-	-
0010	200+21	-	200+35	LT	70	-	-	-	-	-	-
0010	274+55	-	274+60	LT	50	10	-	1	-	-	-
0010	274+55	-	274+60	LT & RT (MEDIAN)	75	20	-	2	-	-	-
0010	274+55	-	274+60	RT	105	10	-	1	-	-	-
0010	324+93	-	325+09	LT	425	16	-	1	-	-	-
0010	325+01	-	325+09	LT & RT (MEDIAN)	65	32	-	2	-	-	-
0010	325+01	-	325+09	RT	130	16	-	1	-	-	-
0010			PROJECT 1470-27-71		-	-	-	-	1	-	-
			PROJECT 1470-27-71 TOTALS		1,945	156	27.48	14	1	0	0
PROJECT 1470-33-71											
0010	340+74	-	341+04	LT	390	-	32.56	2	-	-	-
0010	340+80	-	341+14	RT	340	-	36.59	2	-	-	-
0010	341+53	-	341+78	LT	245	-	10.03	1	-	-	-
0010	341+64	-	341+90	RT	245	-	21.13	1	-	-	-
0010			PROJECT 1470-33-71		-	-	-	-	-	1	-
			PROJECT 1470-33-71 TOTALS		1,220	0	100.31	6	0	1	0
				TOTALS	3,560	196	127.79	24	1	1	1

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STORM SEWER PIPE REINFORCED CONCRETE

CATEGORY	STRUCTURE NO.	TO	STRUCTURE NO.	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH LF	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	608.0466 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 66-INCH LF
PROJECT 1470-27-71							
0010	EX.1	-	1.1	-	10	-	-
0010	3.1	-	3.2	22	-	-	-
0010	3.2	-	3.3	43	-	-	-
0010	3.3	-	3.4	24	-	-	-
0010	3.4	-	3.5	37	-	-	-
0010	4.1	-	4.2	44	-	-	-
0010	7.1	-	7.2	-	-	97	-
0010	8.1	-	8.2	104	-	-	-
0010	9.1	-	9.2	60	-	-	-
0010	10.1	-	10.2	59	-	-	-
0010	11.1	-	11.2	58	-	-	-
0010	12.1	-	12.2	-	-	-	154
0010	13.1	-	13.2	92	-	-	-
0010	EX.14	-	14.1	89	-	-	-
0010	15.1	-	15.2	20	-	-	-
0010	15.2	-	15.3	61	-	-	-
0010	16.1	-	16.2	54	-	-	-
			PROJECT 1470-27-71 TOTALS	767	10	97	154
			TOTALS	767	10	97	154

ADJUSTING MANHOLE AND INLET COVERS

CATEGORY	STATION	LOCATION	611.8110 ADJUSTING MANHOLE COVERS EACH	611.8115 ADJUSTING INLET COVERS EACH	REMARKS
PROJECT 1470-27-71					
0010	150+71	LT	1	-	STORM SEWER
0010	150+86	LT	1	-	SANITARY SEWER
0010	324+92	LT	-	1	STORM SEWER
0010	340+22	RT	1	-	WATER MAIN
0010	340+47	RT	1	-	WATER MAIN
	PROJECT 1470-27-71 TOTALS		4	1	
PROJECT 1470-33-71					
0010	341+07	ONLINE	1	-	SANITARY SEWER
0010	341+14	45' LT	1	-	STORM SEWER
0010	341+30	ONLINE	1	-	SANITARY SEWER
0010	341+40	31' LT	1	-	WATER MAIN
0010	341+44	37' RT	1	-	WATER MAIN
0010	341+61	34' RT	1	-	WATER MAIN
0010	341+63	12' RT	1	-	WATER MAIN
0010	341+66	26' RT	1	-	WATER MAIN
0010	341+97	ONLINE	1	-	SANITARY SEWER
0010	342+80	ONLINE	1	-	SANITARY SEWER
0010	345+71	21' LT	1	-	STORM SEWER
	PROJECT 1470-33-71 TOTALS		11	0	
		TOTALS	15	1	

RECONSTRUCTING INLETS

CATEGORY	STRUCTURE NO.	STATION	LOCATION	611.0430 RECONSTRUCTING INLETS EACH
PROJECT 1470-27-71				
0010	EX.2	142+94	8.4' LT	1
0010	EX.5	178+68	8.6' RT	1
		PROJECT 1470-27-71 TOTAL		2
			TOTAL	2

RECONNECT STORM SEWER LATERALS

CATEGORY	STATION	LOCATION	SPV.0060.03 SPECIAL (03. RECONNECT STORM SEWER LATERALS) EACH
PROJECT 1470-27-71			
0010	150+91	100' LT	1
	PROJECT 1470-27-71 TOTAL		1
		TOTAL	1

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STORM SEWER STRUCTURES

CATEGORY	STRUCTURE NO.	STATION	LOCATION	522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH EACH	522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	522.1042 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 42-INCH EACH	522.1066 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 66-INCH EACH	611.0530 MANHOLE COVERS TYPE J EACH	611.0600 INLET COVERS TYPE A EACH	611.0612 INLET COVERS TYPE C EACH	611.0624 INLET COVERS TYPE H EACH	611.2004 MANHOLES 4-FT DIAMETER EACH	611.3003 INLETS 3-FT DIAMETER EACH	611.3230 INLETS 2X3-FT EACH	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	SPV.0060.04 SPECIAL (04. MANHOLES 6-FT X 14-FT SPECIAL) EACH	TOP OF STRUCTURE ELEVATION	BOX DEPTH ELEVATION	RIM ELEVATION	INVERT ELEVATION
PROJECT 1470-27-71																					
0010	EX.1	139+54	8.3' LT	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	595.97	591.71
0010	1.1	139+57	53.6' RT	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	590.24
0010	3.1	150+91	99.7' LT	-	-	-	-	-	1	-	-	-	1	-	-	1	-	602.46	7.85	603.71	594.61
0010	3.2	151+10	109.7' LT	-	-	-	-	-	-	-	-	1	-	-	1	1	-	602.26	7.43	603.26	594.83
0010	3.3	151+50	94.5' LT	-	-	-	-	-	-	-	-	1	-	-	1	1	-	602.26	7.00	603.26	595.26
0010	3.4	151+46	71.4' LT	-	-	-	-	-	-	-	-	1	-	-	1	1	-	602.53	7.04	603.53	595.49
0010	3.5	151+80	58.0' LT	-	-	-	-	-	-	-	1	-	-	1	-	1	-	601.26	2.26	602.50	599.00
0010	4.1	176+33	8.6' RT	-	-	-	-	-	-	-	-	1	-	-	1	1	-	596.27	1.74	597.27	594.53
0010	4.2	176+32	53.0' RT	-	-	-	-	-	1	-	-	-	1	-	-	1	-	595.76	1.92	597.01	593.84
0010	5.1	178+67	53.7' RT	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	592.09
0010	6.1	179+98	50.5' LT	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	590.07
0010	7.1	202+38	48.0' LT	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	592.02
0010	7.2	202+42	48.7' RT	-	-	-	-	-	1	-	-	-	1	-	-	1	-	593.53	4.36	594.78	589.17
0010	8.1	207+39	43.5' LT	-	-	-	-	-	-	-	-	1	-	-	1	1	-	593.16	2.48	594.16	590.68
0010	8.2	207+38	60.0' RT	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	588.93
0010	9.1	243+23	8.5' LT	-	-	-	-	-	-	-	-	1	-	-	1	1	-	595.42	2.35	596.42	593.07
0010	9.2	243+24	51.5' RT	-	-	-	-	-	1	-	-	-	1	-	-	1	-	593.76	2.61	595.01	591.15
0010	10.1	246+83	8.5' LT	-	-	-	-	-	-	-	-	1	-	-	1	1	-	594.44	2.47	595.44	591.97
0010	10.2	246+90	50.0' RT	-	-	-	-	-	1	-	-	-	1	-	-	1	-	593.09	2.80	594.34	590.29
0010	11.1	249+28	8.3' LT	-	-	-	-	-	-	-	-	1	-	-	1	1	-	593.78	2.40	594.78	591.38
0010	11.2	249+27	50.0' RT	-	-	-	-	-	1	-	-	-	1	-	-	1	-	592.47	2.46	593.72	590.01
0010	12.1	273+06.5	37.5' LT	-	-	-	-	-	1	-	-	-	-	-	-	1	1	596.20	14.50	597.45	581.70
0010	12.2	272+32	97.0' RT	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	581.32
0010	13.1	294+59	8.7' LT	-	-	-	-	-	-	-	-	1	-	-	1	1	-	593.35	2.50	594.35	590.85
0010	13.2	294+60	83.0' RT	-	-	-	-	-	1	-	-	-	1	-	-	1	-	591.65	2.81	592.90	588.84
0010	14.1	297+36	105.0' RT	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	586.92
0010	15.1	299+67	10.4' RT	-	-	-	-	-	-	-	1	-	-	1	-	1	-	591.26	1.86	592.50	589.40
0010	15.2	299+65	30.4' RT	-	-	-	-	-	-	-	-	1	-	-	1	1	-	591.30	2.30	592.30	589.00
0010	15.3	299+70	91.0' RT	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	587.78
0010	16.1	301+62	14.2' RT	-	-	-	-	-	-	-	-	1	-	-	1	1	-	589.55	1.97	590.55	587.58
0010	16.2	301+66	68.0' RT	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	586.50
0010	17.1	336+54	5.9' RT	-	-	-	-	-	-	-	-	1	-	-	1	1	-	585.52	3.52	586.52	582.00
	PROJECT 1470-27-71 TOTALS			5	1	1	1	1	8	1	2	12	7	2	12	31	1				
			TOTALS	5	1	1	1	1	8	1	2	12	7	2	12	31	1				

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GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2340 MGS GUARDRAIL 3 L LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH	SPV.0090.02 SPECIAL (02. TREATED TIMBER RUB RAIL) LF
PROJECT 1470-37-71									
0010	104+54	-	116+67	RT	1,160	-	1	1	-
			PROJECT 1470-37-71 TOTALS		1,160	0	1	1	0
PROJECT 1470-27-71									
0010	187+92	-	190+66	LT	114	112.5	1	1	-
0010	202+68	-	213+95	RT	1,080	-	1	1	945
0010	216+86	-	242+07	RT	2,467	-	1	1	2,467
0010	253+88	-	274+50	RT	2,013	-	1	1	1,500
0010	285+50	-	308+02	RT	2,196	-	1	1	1,288
			PROJECT 1470-27-71 TOTALS		7,870	112.5	5	5	6,200
				TOTALS	9,030	112.5	6	6	6,200

CONCRETE MEDIAN SLOPED NOSE

CATEGORY	STATION	TO	STATION	LOCATION	620.0300 CONCRETE MEDIAN SLOPED NOSE SF	REMARKS
PROJECT 1470-27-71						
0010	150+56	-	150+63	LT	75	TYPE 1
0010	151+72	-	151+79	LT	70	TYPE 1
0010	200+05	-	200+10	LT	45	TYPE 1
0010	243+26	-	243+31	LT	50	TYPE 1
0010	272+94	-	272+99	LT	45	TYPE 1
0010	324+85	-	324+90	LT	35	TYPE 1
			PROJECT 1470-27-71 TOTAL		320	
PROJECT 1470-33-71						
0010	340+83	-	340+89	LT & RT	40	TYPE 1
			PROJECT 1470-33-71 TOTAL		40	
				TOTAL	360	

RESTORATION ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	629.0210 FERTILIZER TYPE B CWT	630.0140 SEEDING MIXTURE NO. 40 LB	630.0160 SEEDING MIXTURE NO. 60 LB	630.0500 SEED WATER MGAL
PROJECT 1470-37-71										
0010	107+00	-	108+00	RT	6	6	0.01	0.1	-	0
0010	109+00	-	110+00	RT	7	7	0.01	0.2	-	0
0010	124+00	-	125+00	RT & LT	7	7	0.01	0.2	-	0
0010	124+00	-	125+00	RT	7	7	0.01	0.2	-	0
0010	125+52	-	125+75	LT	40	40	0.02	1.6	-	2
0010	125+86	-	126+11	RT	10	10	0.01	0.5	-	1
0010	126+28	-	126+65	LT	60	60	0.04	2.7	-	3
0010	129+00	-	130+00	RT	3	3	0.01	0.2	-	0
0010	UNDISTRIBUTED				20	20	0.03	1.3	-	2
	PROJECT 1470-37-71 TOTALS				160	160	0.15	7.0	0.0	8
PROJECT 1470-27-71										
0010	137+50	-	138+00	RT	106	106	0.07	4.8	-	6
0010	139+52	-	139+57	LT	2	2	0.00	0.1	-	0
0010	139+46	-	139+66	RT	27	27	0.02	1.2	0.2	2
0010	142+90	-	142+97	LT	5	5	0.00	0.2	-	0
0010	150+12	-	150+56	LT	27	27	0.02	1.2	-	2
0010	1+16	-	2+68	RT	348	348	0.22	15.6	-	20
0010	1+16	-	2+68	LT	107	107	0.07	4.8	-	6
0010	150+85	-	150+93	RT	3	3	0.00	0.1	-	0
0010	151+49	-	151+74	RT	13	13	0.01	0.6	-	1
0010	151+79	-	152+21	LT & RT	51	51	0.03	2.3	-	3
0010	153+00	-	154+00	LT	7	7	0.00	0.3	-	0
0010	153+00	-	154+00	RT	2	2	0.00	0.1	-	0
0010	154+00	-	155+00	LT	7	7	0.00	0.3	-	0
0010	176+25	-	176+40	LT & RT	62	62	0.04	2.8	-	3
0010	178+25	-	179+83	RT	475	475	0.30	21.4	0.2	27
0010	178+66	-	178+71	RT	4	4	0.00	0.2	-	0
0010	179+65	-	180+25	LT	115	115	0.07	-	2.1	7
0010	186+50	-	188+00	RT	540	540	0.34	24.3	-	31
0010	199+87	-	200+15	RT	21	21	0.01	1.0	-	1
0010	199+92	-	200+38	LT	22	22	0.01	1.0	-	1
0010	199+95	-	199+99	LT	2	2	0.00	0.1	-	0
0010	202+16	-	202+66	LT	83	83	0.05	3.8	-	5
0010	202+27	-	202+52	LT & RT	26	26	0.02	1.2	-	1
0010	202+27	-	202+52	RT	17	17	0.01	0.8	-	1
0010	207+27	-	207+49	LT	3	3	0.00	0.2	-	0
0010	207+27	-	207+49	RT	46	46	0.03	2.1	-	3
0010	243+15	-	243+15	LT	5	5	0.00	0.2	-	0
0010	243+15	-	243+15	RT	38	38	0.02	1.7	-	2
0010	246+76	-	246+98	LT & RT	36	36	0.02	1.6	-	2
0010	246+76	-	246+98	RT	31	31	0.02	1.4	-	2
0010	249+20	-	249+35	LT	25	25	0.02	1.1	-	1
0010	249+20	-	249+35	RT	23	23	0.01	1.1	-	1
0010	252+75	-	253+00	LT & RT	3	3	0.00	0.2	-	0
0010	270+25	-	271+25	RT	17	17	0.01	0.8	-	1
0010	272+11	-	272+88	RT	386	386	0.24	17.4	-	22
0010	272+62	-	272+94	LT	9	9	0.01	0.4	-	1
0010	272+65	-	273+45	LT	81	81	0.05	3.7	-	5
0010	274+45	-	274+70	RT	19	19	0.01	0.9	-	1
0010	274+50	-	274+65	LT & RT	10	10	0.01	0.4	-	1
0010	274+50	-	274+65	LT	16	16	0.01	0.7	-	1

(CONTINUED ON NEXT SHEET)

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RESTORATION ITEMS (CONTINUED)

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	629.0210 FERTILIZER TYPE B CWT	630.0140 SEEDING MIXTURE NO. 40 LB	630.0160 SEEDING MIXTURE NO. 60 LB	630.0500 SEED WATER MGAL
0010	280+00	-	280+75	RT	7	7	0.00	0.3	-	0
0010	293+00	-	294+00	RT	33	33	0.02	1.5	-	2
0010	294+52	-	294+67	LT & RT	25	25	0.02	1.1	-	1
0010	294+51	-	294+71	RT	20	20	0.01	0.9	-	1
0010	294+51	-	294+71	RT	34	34	0.02	1.5	-	2
0010	297+27	-	297+47	RT	81	81	0.05	3.6	-	5
0010	297+27	-	297+47	RT	51	51	0.03	2.3	-	3
0010	297+50	-	297+71	LT	12	12	0.01	0.5	-	1
0010	299+57	-	299+72	LT & RT	63	63	0.04	2.8	-	4
0010	299+57	-	299+72	RT	19	19	0.01	0.9	-	1
0010	301+55	-	301+70	LT & RT	35	35	0.02	1.6	-	2
0010	301+55	-	301+70	RT	18	18	0.01	0.8	-	1
0010	316+25	-	316+75	RT	2	2	0.00	0.1	-	0
0010	324+70	-	325+19	RT	40	40	0.03	1.8	-	2
0010	324+75	-	325+12	LT	84	84	0.05	3.8	-	5
0010	324+89	-	325+12	LT	11	11	0.01	0.5	-	1
0010	327+50	-	328+00	RT	2	2	0.00	0.1	-	0
0010	329+00	-	329+50	RT	3	3	0.00	0.2	-	0
0010	336+49	-	336+59	LT & RT	17	17	0.01	0.8	-	1
0010		UNDISTRIBUTED			623	623	0.41	27.8	0.5	38
		PROJECT 1470-27-71 TOTALS			4,000	4,000	2.50	175.0	3.0	230
PROJECT 1470-33-71										
0010	340+74	-	341+06	LT	24	24	0.01	1.1	-	1
0010	340+78	-	340+83	LT & RT	3	3	0.01	0.2	-	1
0010	340+80	-	341+14	RT	10	10	0.01	0.4	-	1
0010	341+71	-	341+90	RT	6	6	0.01	0.3	-	1
0010		UNDSITRIBUTED			7	7	0.01	1.0	-	1
		PROJECT 1470-33-71 TOTALS			50	50	0.05	3.0	0.0	5
				TOTALS	4,210	4,210	2.70	185.0	3.0	243

INLET PROTECTION

CATEGORY	STATION	LOCATION	628.7005 INLET PROTECTION TYPE A EACH	628.7020 INLET PROTECTION TYPE D EACH	REMARKS
PROJECT 1470-37-71					
0010	103+42	RT	-	1	EXISTING INLET
0010	103+47	LT	-	1	EXISTING INLET
0010	103+52	RT	-	1	EXISTING INLET
0010	103+52	RT	-	1	EXISTING INLET
0010	103+56	LT	-	1	EXISTING INLET
0010	103+57	LT	-	1	EXISTING INLET
0010	103+62	RT	-	1	EXISTING INLET
0010	103+66	LT	-	1	EXISTING INLET
0010	104+75	RT	-	1	EXISTING INLET
0010	106+59	LT	-	1	EXISTING INLET
0010	112+35	LT	-	1	EXISTING INLET
0010	112+69	LT	-	1	EXISTING INLET
0010	118+06	LT	-	1	EXISTING INLET
0010	118+39	RT	1	-	EXISTING INLET
0010	120+71	RT	1	-	EXISTING INLET
0010	120+73	LT	-	1	EXISTING INLET
0010	122+55	LT	-	1	EXISTING INLET
0010	122+57	RT	-	1	EXISTING INLET
0010	124+05	RT	-	1	EXISTING INLET
0010	125+81	RT	-	1	EXISTING INLET
0010	126+64	LT	-	1	EXISTING INLET
0010	126+66	LT	-	1	EXISTING INLET
0010	129+11	RT	-	1	EXISTING INLET
0010	131+55	RT	-	1	EXISTING INLET
PROJECT 1470-37-71 TOTALS			2	22	
PROJECT 1470-27-71					
0010	134+46	RT	-	1	EXISTING INLET
0010	137+54	LT	-	1	EXISTING INLET
0010	139+54	LT	-	1	EXISTING INLET
0010	142+94	LT	-	1	EXISTING INLET
0010	150+91	LT	-	1	EXISTING INLET
0010	151+10	LT	-	1	PROPOSED INLET
0010	151+34	LT	-	1	EXISTING INLET
0010	151+45	LT	1	-	EXISTING INLET
0010	151+46	LT	-	1	PROPOSED INLET
0010	151+50	LT	-	1	PROPOSED INLET
0010	151+80	LT	1	-	PROPOSED INLET
0010	168+60	LT	-	1	EXISTING INLET
0010	168+96	LT	-	1	EXISTING INLET
0010	169+65	LT	1	-	EXISTING INLET
0010	173+32	RT	-	1	EXISTING INLET
0010	176+33	RT	-	1	EXISTING INLET
0010	176+33	RT	-	1	PROPOSED INLET
0010	178+68	RT	-	1	EXISTING INLET
0010	183+47	LT	-	1	EXISTING INLET
0010	184+64	RT	-	1	EXISTING INLET
0010	185+82	LT	-	1	EXISTING INLET
0010	185+82	RT	1	-	EXISTING INLET
0010	188+30	LT	-	1	EXISTING INLET
0010	TAYLOR STREET		-	2	EXISTING INLET
0010	207+39	LT	-	1	EXISTING INLET

(CONTINUED)

INLET PROTECTION (CONTINUED)

CATEGORY	STATION	LOCATION	628.7005 INLET PROTECTION TYPE A EACH	628.7020 INLET PROTECTION TYPE D EACH	REMARKS
0010	207+39	LT	-	1	PROPOSED INLET
0010	209+71	LT	-	1	EXISTING INLET
0010	209+97	LT	1	-	EXISTING INLET
0010	242+79	LT	-	1	EXISTING INLET
0010	243+23	LT	-	1	EXISTING INLET
0010	243+23	LT	-	1	PROPOSED INLET
0010	246+83	LT	-	1	EXISTING INLET
0010	246+83	LT	-	1	PROPOSED INLET
0010	249+28	LT	-	1	EXISTING INLET
0010	249+28	LT	-	1	PROPOSED INLET
0010	292+65	LT	1	-	EXISTING INLET
0010	294+59	LT	-	1	EXISTING INLET
0010	294+59	LT	-	1	PROPOSED INLET
0010	297+02	LT	-	1	EXISTING INLET
0010	297+12	LT	-	1	EXISTING INLET
0010	297+43	LT	-	1	EXISTING INLET
0010	297+47	LT	-	1	EXISTING INLET
0010	299+65	RT	-	1	EXISTING INLET
0010	299+65	RT	-	1	PROPOSED INLET
0010	299+67	RT	1	-	EXISTING INLET
0010	299+67	RT	1	-	PROPOSED INLET
0010	301+62	RT	-	1	EXISTING INLET
0010	301+62	RT	-	1	EXISTING INLET
0010	310+50	LT	-	1	EXISTING INLET
0010	310+82	LT	-	1	EXISTING INLET
0010	324+15	LT	-	1	EXISTING INLET
0010	324+92	LT	-	1	EXISTING INLET
0010	336+05	LT	-	1	EXISTING INLET
0010	336+54	RT	-	1	EXISTING INLET
0010	336+54	RT	-	1	PROPOSED INLET
0010	339+00	LT	-	1	EXISTING INLET
0010	339+42	RT	-	1	EXISTING INLET
PROJECT 1470-27-71 TOTALS			8	50	
PROJECT 1470-33-71					
0010	341+24	RT	-	1	EXISTING INLET
0010	341+51	LT	-	1	EXISTING INLET
0010	341+67	RT	-	1	EXISTING INLET
0010	341+82	LT	-	1	EXISTING INLET
0010	341+93	RT	-	1	EXISTING INLET
0010	345+59	RT	-	1	EXISTING INLET
0010	345+63	LT	-	1	EXISTING INLET
0010	346+40	RT	-	1	EXISTING INLET
0010	347+04	RT	-	1	EXISTING INLET
0010	347+07	RT	-	1	EXISTING INLET
0010	347+08	RT	-	1	EXISTING INLET
0010	347+20	LT	-	1	EXISTING INLET
0010	347+35	LT	-	1	EXISTING INLET
PROJECT 1470-33-71 TOTALS			0	13	
TOTALS			10	85	

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SILT FENCE

CATEGORY	STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
PROJECT 1470-37-71						
0010	104+50	-	116+75	RT	1,250	1,250
0010		UNDISTRIBUTED			250	250
		PROJECT 1470-37-71 TOTALS			1,500	1,500
PROJECT 1470-27-71						
0010	176+00	-	176+65	RT	75	75
0010	186+25	-	187+50	RT	200	200
0010	202+00	-	214+05	RT	1,305	1,305
0010	216+75	-	247+97	RT	3,125	3,125
0010	248+07	-	251+45	RT	340	340
0010	254+22	-	255+26	RT	110	110
0010	255+36	-	282+22	RT	2,875	2,875
0010	286+25	-	308+25	RT	2,300	2,300
0010		UNDISTRIBUTED			1,020	1,020
		PROJECT 1470-27-71 TOTALS			11,350	11,350
				TOTALS	12,850	12,850

MOBILIZATIONS EROSION CONTROL

CATEGORY	DESCRIPTION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT 1470-37-71			
0010	PROJECT 1470-37-71	8	4
	PROJECT 1470-37-71 TOTALS	8	4
PROJECT 1470-27-71			
0010	PROJECT 1470-27-71	8	4
	PROJECT 1470-27-71 TOTALS	8	4
PROJECT 1470-33-71			
0010	PROJECT 1470-33-71	8	4
	PROJECT 1470-33-71 TOTALS	8	4
	TOTALS	24	12

CULVERT PIPE CHECKS

CATEGORY	STATION	LOCATION	628.7555 CULVERT PIPE CHECKS EACH	CULVERT SIZE
PROJECT 1470-27-71				
0010	138+00	RT	2	15-INCH
0010	141+07	LT	5	30-INCH
0010	179+98	LT	8	42-INCH
0010	202+38	LT	3	24-INCH
0010	307+34	LT	5	30-INCH
	PROJECT 1470-27-71 TOTAL		23	
		TOTAL	23	

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PERMANENT SIGNING

CATEGORY	STATION	LOCATION	SIGN CODE	SIGN SIZE	634.0808 POSTS TUBULAR STEEL 2X2-INCH X 8-FT EACH	637.2210 SIGNS TYPE II REFLECTIVE H SF	REMARKS
PROJECT 1470-37-71							
0010	126+52	LT	R9-3A	24" X 24"	1	4.0	4' MOUNTING HEIGHT TO BOTTOM SIGN
0010	126+52	LT	R9-3BR	18" X 12"	-	1.5	
			PROJECT 1470-37-71 TOTALS		1	5.5	
				TOTALS	1	5.5	

MARKERS CULVERT END

CATEGORY	STATION	LOCATION	633.5200 MARKERS CULVERT END EACH
PROJECT 1470-27-71			
0010	139+57	RT	1
0010	178+67	RT	1
0010	179+98	LT	1
0010	202+38	LT	1
0010	207+38	RT	1
0010	272+32	RT	1
0010	297+36	RT	1
0010	299+70	RT	1
0010	301+66	RT	1
	PROJECT 1470-27-71 TOTAL		9
		TOTAL	9

MOVING SIGNS

CATEGORY	FROM STATION	LOCATION	TO STATION	LOCATION	638.2102 MOVING SIGNS TYPE II EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH	REMARKS
PROJECT 1470-37-71							
0010	104+54	-	116+67	RT	3	3	GUARDRAIL REPLACEMENT
			PROJECT 1470-37-71 TOTALS		3	3	
PROJECT 1470-27-71							
0010	142+95	LT	143+00	LT	1	1	KEEP RIGHT SYMBOL
0010	150+60	LT	150+87	LT	1	1	SOUTH STH 42 RIGHT
0010	150+64	LT	150+94	LT	1	1	STOP
0010	151+44	LT	151+82	LT	1	1	KEEP RIGHT SYMBOL
0010	151+67	LT	151+76	LT	2	1	CTH DD RIGHT, DO NOT ENTER
0010	1+53	LT	1+53	LT	1	1	NO PARKING
0010	202+65	-	214+03	RT	8	8	GUARDRAIL REPLACEMENT
0010	216+84	-	242+07	RT	17	14	GUARDRAIL REPLACEMENT
0010	253+85	-	282+42	RT	10	9	GUARDRAIL REPLACEMENT
0010	274+53	LT	274+51	LT	1	1	DO NOT ENTER
0010	285+48	-	308+04	RT	5	4	GUARDRAIL REPLACEMENT
0010	324+90	LT	324+90	LT	1	1	KEEP RIGHT SYMBOL
0010	324+93	LT	324+93	LT	1	1	STREET NAME SIGNS
			PROJECT 1470-27-71 TOTALS		50	44	
PROJECT 1470-33-71							
0010	340+83	ONLINE	340+80	ONLINE	1	1	KEEP RIGHT SYMBOL
			PROJECT 1470-33-71 TOTALS		1	1	
				TOTALS	54	48	

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TRAFFIC CONTROL

CATEGORY	DESCRIPTION	DRUMS NO. DEVICES	643.0300 TRAFFIC CONTROL DRUMS DAY	BARRICADES TYPE III NO. DEVICES	* 643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	WARNING LIGHTS TYPE A NO. DEVICES	* 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	WARNING LIGHTS TYPE C NO. DEVICES	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	ARROW BOARDS NO. DEVICES	643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	SIGNS NO. DEVICES	* 643.0900 TRAFFIC CONTROL SIGNS DAY	643.5000 TRAFFIC CONTROL EACH	644.1440 TEMPORARY PEDESTRIAN SURFACE MATTING SF	TEMPORARY CURB RAMP NO. DEVICES	644.1601 TEMPORARY PEDESTRIAN CURB RAMP DAY	644.1605 TEMPORARY PEDESTRIAN DETECTABLE WARNING FIELD SF	* 644.1810 TEMPORARY PEDESTRIAN BARRICADE LF	DURATION
PROJECT 1470-27-71																				
0010	ADVANCE WARNING SIGNS (SIDEROADS)	-	-	-	-	-	-	-	-	-	-	29	3,335	-	-	-	-	-	-	115 DAYS
0010	MIRRO DRIVE CLOSURE	37	1,369	22	814	44	1,628	12	444	1	37	20	740	-	50	1	37	10	66	37 DAYS
0010	COLUMBUS STREET CLOSURE	20	380	25	475	50	950	6	114	-	-	24	456	-	-	-	-	-	-	19 DAYS
0010	MARINERS TRAIL CLOSURE	-	-	16	752	32	1,504	-	-	-	-	16	752	-	-	-	-	-	-	47 DAYS
0010	SINGLE LANE CLOSURE	250	28,750	23	2,645	46	5,290	11	1,265	1	115	33	3,795	-	-	-	-	-	-	115 DAYS
0010	LANE CLOSURE WITH FLAGGING OPERATION	-	-	-	-	-	-	-	-	-	-	10	300	-	-	-	-	-	-	30 DAYS
0010	UNEVEN LANES	-	-	-	-	-	-	-	-	-	-	10	300	-	-	-	-	-	-	30 DAYS
0010	"DIP" SIGNS (MAINLINE AND SIDEROADS)	-	-	-	-	-	-	-	-	-	-	32	1,504	-	-	-	-	-	-	47 DAYS
0010	MOVING PAVEMENT MARKING OPERATIONS	-	-	-	-	-	-	-	-	-	-	6	18	-	-	-	-	-	-	3 DAYS
0010	PROJECT 1470-27-71	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	
0010	UNDISTRIBUTED	-	3,051	-	464	-	928	-	177	-	28	-	1,150	-	20	-	13	10	38	
	PROJECT 1470-27-71 TOTALS		33,550		5,150		10,300		2,000		180		12,350	1	70		50	20	104	
	TOTALS		33,550		5,150		10,300		2,000		180		12,350	1	70		50	20	104	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

PEDESTRIAN ACCOMMODATIONS

CATEGORY	DESCRIPTION	SIGNS NO. DEVICES	* 643.0900 TRAFFIC CONTROL SIGNS DAY	* 644.1810 TEMPORARY PEDESTRIAN BARRICADE LF	DURATION
PROJECT 1470-37-71					
0010	E. REED AVENUE	5	45	54	9 DAYS
	PROJECT 1470-37-71 TOTALS		45	54	
PROJECT 1470-27-71					
0010	TAYLOR STREET	2	18	12	9 DAYS
0010	MADISON STREET	3	27	24	9 DAYS
	PROJECT 1470-27-71 TOTALS		45	36	
PROJECT 1470-33-71					
0010	PEDESTRIAN DETOUR	43	2,021	96	47 DAYS
0010	12TH STREET/LAKE STREET	7	84	42	12 DAYS
	PROJECT 1470-33-71 TOTALS		2,105	138	
	TOTALS		2,195	228	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

TRAFFIC CONTROL SIGNS PCMS

CATEGORY	DESCRIPTION	* 643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	REMARKS
PROJECT 1470-27-71			
0010	STH 42 NORTHBOUND, WEST OF PROJECT LIMITS	7	ADVANCE PROJECT NOTIFICATION
0010	STH 42 SOUTHBOUND, EAST OF PROJECT LIMITS	7	ADVANCE PROJECT NOTIFICATION
	PROJECT 1470-27-71 TOTAL	14	
	TOTAL	14	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

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TRAFFIC CONTROL DETOUR SIGN SUMMARY

PROJECT 1470-27-71

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 47 DAYS	* 643.0900 SIGNS DAYS	* 643.0420 BARRICADES TYPE III DAYS	* 643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 SIGNS FIXED MESSAGE SF	* 643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO OF CYCLES	643.0920 SIGNS COVERING TYPE II EACH	REMARKS
1	US 10/STH 42, PLACE 1500' S. OF 10/42 RAB INTERSECTION	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	W 20-2A	48"X48"	1	47	47							
2	US 10/STH 42, PLACE 1000' S. OF 10/42 RAB INTERSECTION	FMS	48"X30"	1					10				SEE SIGN DETAIL SHEET
3	US 10/STH 42, MODIFY EXISTING J2-2 SIGN AS SHOWN	MO 4-8	24"X12"	1	47	47							
	"	MO 5-1L	21"X21"	1	47	47							
4	US 10/STH 42, PLACE RIGHT OF EXISTING R1-2 SIGN AT 10/42 RAB INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							LEFT
5	STH 42, COVER EXISTING SPLITTER ISLAND SIGN AT EAST LEG OF RAB										1	1	COVER ENTIRE SIGN
6	STH 42, PLACE NEXT TO SIGN #5 IN SPLITTER ISLAND	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-2L	21"X21"	1	47	47							TILT LEFT
7	STH 42, PLACE ON RIGHT SHOULDER ON EAST LEG OF RAB	R 11-3	60"X24"	1	47	47	47	94					XX MILES AHEAD, WILL CHANGE AS CULVERT LOCATIONS MOVE
	"	M 4-9L	30"X24"	1	47	47							
8	STH 42, N. OF 10/42 RAB, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1						7			PLACE IN ADVANCE OF CLOSURE
9	STH 42, N. OF 10/42 RAB, COVER EXISTING J4-1 SIGN										1	1	COVER ENTIRE SIGN
10	US 10, AT 10/42 RAB, PLACE NEXT TO WEST LEG SPLITTER ISLAND	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-2R	21"X21"	1	47	47							TILT RIGHT
11	US 10, W. OF 10/42 RAB, MODIFY EXISTING J1-1 SIGN AS SHOWN	MO 4-8A	24"X18"	1	47	47							
12	US 10, W. OF 10/42 RAB, COVER EXISTING J3-3 SIGN AS SHOWN										1	1	COVER "NORTH 42 AHEAD"
13	US 10, W. OF 10/42 RAB, PLACE RIGHT OF EXISTING J4-1 SIGN	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
14	US 10, E. OF CTH B, PLACE 750' E. OF CTH B INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 5-1R	21"X21"	1	47	47							
15	US 10, E. OF CTH B, PLACE RIGHT OF EXISTING J4-1 SIGN	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
16	US 10, E. OF CTH B, PLACE 150' E. OF CTH B INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							RIGHT
17	US 10, W. OF CTH B, PLACE 150' W. OF CTH B INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							LEFT
	PAGE SUBTOTALS			40		1,786	47	94	10	7		3	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

(CONTINUED ON NEXT SHEET)

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TRAFFIC CONTROL DETOUR SIGN SUMMARY (CONTINUED)

PROJECT 1470-27-71

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 47 DAYS	* 643.0900 SIGNS DAYS	* 643.0420 BARRICADES TYPE III DAYS	* 643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 SIGNS FIXED MESSAGE SF	* 643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO OF CYCLES	643.0920 SIGNS COVERING TYPE II EACH	REMARKS
18	US 10, W. OF CTH B, PLACE 750' W. OF CTH B INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 5-1L	21"X21"	1	47	47							
19	US 10, W. OF CTH B, PLACE 1500' W. OF CTH B INTERSECTION	FMS	48"X30"	1					10				SEE SIGN DETAIL SHEET
20	US 10, W. OF CTH B, PLACE 2250' W. OF CTH B INTERSECTION	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	W 20-2A	48"X48"	1	47	47							
21	CTH B, N. OF US 10, PLACE 150' N. OF US 10 INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							LEFT
22	CTH B, N. OF US 10, PLACE 250' N. OF US 10 INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
23	CTH B, N. OF US 10, PLACE 750' N. OF US 10 INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 5-1L	21"X21"	1	47	47							
24	CTH B, S. OF REED AVE, PLACE 250' S. OF REED AVE INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							AHEAD
25	CTH B, N. OF REED AVE, PLACE 250' N. OF REED AVE INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							AHEAD
26	CTH B, S. OF ALBERT DR, PLACE 250' S. OF ALBERT DR INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							AHEAD
27	CTH B, N. OF ALBERT DR, PLACE 250' N. OF ALBERT DR INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							AHEAD
28	CTH B, S. OF GOODWIN RD, PLACE 250' S. OF GOODWIN RD INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							AHEAD
29	CTH B, N. OF GOODWIN RD, PLACE 250' N. OF GOODWIN RD INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							AHEAD
	PAGE SUBTOTALS			43		1,974	0	0	10	0		0	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

(CONTINUED ON NEXT SHEET)

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TRAFFIC CONTROL DETOUR SIGN SUMMARY (CONTINUED)

PROJECT 1470-27-71

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 47 DAYS	* 643.0900 SIGNS DAYS	* 643.0420 BARRICADES TYPE III DAYS	* 643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 SIGNS FIXED MESSAGE SF	* 643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO OF CYCLES	643.0920 SIGNS COVERING TYPE II EACH	REMARKS
30	CTH B, S. OF STH 310, PLACE 750' S. OF STH 310 RAB INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 5-1R	21"X21"	1	47	47							
31	CTH B, S. OF STH 310, PLACE RIGHT OF EXISTING J4-1 SIGN	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
32	CTH B, AT STH 310, PLACE RIGHT OF EXISTING R1-2 SIGN AT STH 310 RAB	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							RIGHT
33	CTH B, AT STH 310, PLACE NEXT TO EXISTING SPLITTER ISLAND SIGN ON SOUTH LEG	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-2R	21"X21"	1	47	47							TILT RIGHT
34	STH 310, AT CTH B, PLACE NEXT TO EXISTING SPLITTER ISLAND SIGN ON EAST LEG	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-2R	21"X21"	1	47	47							TILT RIGHT
35	STH 310, AT CTH B, PLACE RIGHT OF EXISTING R1-2 SIGN AT CTH B RAB INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							LEFT
36	STH 310, E. OF CTH B, PLACE RIGHT OF EXISTING J4-1 SIGN	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
37	STH 310, E. OF CTH B, PLACE 750' E. OF CTH B RAB INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 5-1L	21"X21"	1	47	47							
38	STH 310, W. OF JOHNSTON DR, PLACE 250' W. OF JOHNSTON DR INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							AHEAD
39	STH 310, E. OF JOHNSTON DR, PLACE 250' E. OF JOHNSTON DR INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							AHEAD
40	STH 310, W. OF WOODLAND DR, PLACE 250' W. OF WOODLAND DR INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							AHEAD
	PAGE SUBTOTALS			42		1,974	0	0	0	0		0	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

(CONTINUED ON NEXT SHEET)

TRAFFIC CONTROL DETOUR SIGN SUMMARY (CONTINUED)

PROJECT 1470-27-71

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 47 DAYS	* 643.0900 SIGNS DAYS	* 643.0420 BARRICADES TYPE III DAYS	* 643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 SIGNS FIXED MESSAGE SF	* 643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO OF CYCLES	643.0920 SIGNS COVERING TYPE II EACH	REMARKS
41	STH 310, E. OF WOODLAND DR, PLACE 250' E. OF WOODLAND DR INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							AHEAD
42	STH 310, W. OF COLUMBUS ST, PLACE 250' W. OF COLUMBUS ST INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							AHEAD
43	STH 310, E. OF COLUMBUS ST, PLACE 250' E. OF COLUMBUS ST INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							AHEAD
44	STH 310, N. OF 14TH ST, PLACE 150' N. OF 14TH ST INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							LEFT
44A	STH 310, N. OF 14TH ST, PLACE 250' N. OF 14TH ST INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
45	STH 310, E. OF HAWTHORNE AVE, PLACE 150' E. OF HAWTHORNE AVE INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							RIGHT
46	STH 310, W. OF MADISON ST, PLACE 750' W. OF MADISON ST INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 5-1L	21"X21"	1	47	47							
47	STH 310, W. OF MADISON ST, PLACE 150' W. OF MADISON ST INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-1	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							LEFT
48	STH 310, N. OF 14TH ST, PLACE 150' N. OF 14TH ST INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							RIGHT
49	STH 310, N. OF 14TH ST, PLACE 750' N. OF 14TH ST INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 5-1R	21"X21"	1	47	47							
49A	STH 310, S. OF STH 42, MODIFY EXISTING J1-1 SIGN AS SHOWN	MO4-8A	24"X18"	1	47	47							
49B	STH 310, S. OF STH 42, COVER EXISTING J2-2 SIGN AS SHOWN										1	1	COVER "SOUTH 42 RIGHT" PORTION OF SIGN
49C	STH 310, S. OF STH 42, PLACE 150' S. OF STH 42 INTERSECTION	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							LEFT
50	STH 42, S. OF STH 310, PLACE IN PARKING LANE, FIELD DETERMINE LOCATION	PCMS		1						7			PLACE IN ADVANCE OF CLOSURE
51	STH 42, S. OF STH 310, COVER EXISTING J4-1 SIGN AS SHOWN												COVER ENTIRE SIGN
	PAGE SUBTOTALS			43		1,974	0	0	0	7		1	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

(CONTINUED ON NEXT SHEET)

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TRAFFIC CONTROL DETOUR SIGN SUMMARY (CONTINUED)

PROJECT 1470-27-71

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 47 DAYS	* 643.0900 SIGNS DAYS	* 643.0420 BARRICADES TYPE III DAYS	* 643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 SIGNS FIXED MESSAGE SF	* 643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO OF CYCLES	643.0920 SIGNS COVERING TYPE II EACH	REMARKS
52	STH 42, AT STH 310, PLACE ON RIGHT SHOULDER IN SW QUADRANT OF INTERSECTION	R 11-3C	60"X24"	1	47	47	47	94					1/4 MILE AHEAD
	"	M 4-9R	30"X24"	1	47	47							
53	STH 42, N. OF STH 310, PLACE 150' N. OF STH 310 INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 6-1	21"X21"	1	47	47							RIGHT
54	STH 42, N. OF STH 310, PLACE 750' N. OF STH 310 INTERSECTION	MO 4-8	24"X12"	1	47	47							
	"	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	MO 5-1R	21"X21"	1	47	47							
55	STH 42, N. OF STH 310, PLACE 1250' N. OF STH 310 INTERSECTION	FMS	48"X30"	1					10				SEE SIGN DETAIL PLAN
56	STH 42, N. OF STH 310, PLACE 1750' N. OF STH 310 INTERSECTION	M 3-3	24"X12"	1	47	47							
	"	M 1-6	24"X24"	1	47	47							42
	"	W 20-2A	48"X48"	1	47	47							
	PAGE SUBTOTALS			14		611	47	94	10	0		0	
	PROJECT DETOUR CLOSURE TOTALS			182		8,319	94	188	30	14		4	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

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PAVEMENT MARKINGS

CATEGORY	STATION	TO	STATION	LOCATION	643.3165 TEMPORARY MARKING LINE PAINT 6-INCH (WHITE) LF	646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW) LF	646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) LF	646.4040 MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) LF	646.5020 MARKING ARROW EPOXY (WHITE, TYPE 2) EACH	646.5020 MARKING ARROW EPOXY (WHITE, TYPE 3) EACH	646.5120 MARKING WORD EPOXY (WHITE, ONLY) EACH	646.6120 MARKING STOP LINE EPOXY 18-INCH (WHITE) LF	646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE) LF	646.7520 MARKING CROSSWALK EPOXY BLOCK STYLE 24-INCH (WHITE) LF	646.8220 MARKING ISLAND NOSE EPOXY (YELLOW) EACH
PROJECT 1470-37-71															
0010	103+95	-	133+00	LT & RT	12,180	5,165	7,050	765	-	-	-	95	290	-	-
				PROJECT 1470-37-71 TOTALS	12,180	12,215		765	0		0	95	290	0	0
PROJECT 1470-27-71															
0010	133+00	-	325+00	LT & RT	78,440	43,825	36,150	3,020	2	-	-	-	295	-	6
0010	325+00	-	340+90	LT & RT	6,830	3,025	3,950	115	-	-	-	-	145	90	-
				PROJECT 1470-27-71 TOTALS	85,270	86,950		3,135	2		0	0	440	90	6
PROJECT 1470-33-71															
0010	340+90	-	346+50	LT & RT	75	1,020	235	40	1	1	1	50	525	-	1
				PROJECT 1470-33-71 TOTALS	75	1,255		40	2		1	50	525	0	1
				TOTALS	97,525	100,420		3,940	4		1	145	1,255	90	7

NOTE: TEMPORARY MARKINGS FOR THE MILLED SURFACE AND THE LEVELING HMA SURFACE ARE INCLUDED WITH BID ITEM 643.3165.

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT LF	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 1470-27-71) EACH	650.9911.02 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (02. 1470-33-71) EACH	650.9911.03 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (03. 1470-37-71) EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
PROJECT 1470-37-71												
0010	103+95	-	133+00	LT & RT	-	-	-	2,905	-	-	-	-
0010	125+86	-	126+11	RT	-	25	-	-	-	-	-	25
0010	PROJECT 1470-37-71				-	-	-	-	-	-	1	-
	PROJECT 1470-37-71 TOTALS				0	25	0	2,905	0	0	1	25
PROJECT 1470-27-71												
0010	133+00	-	340+90	LT & RT	-	-	-	20,790	-	-	-	-
0010	139+46	-	139+66	RT	-	20	-	-	-	-	-	20
0010	1+16	-	2+68	LT & RT	152	-	152	-	-	-	-	152
0010	151+39	-	152+22	LT & RT	-	-	83	-	-	-	-	-
0010	151+49	-	151+74	RT	-	25	-	-	-	-	-	-
0010	176+25	-	176+40	RT	15	15	15	-	-	-	-	-
0010	178+25	-	179+83	RT	-	-	-	-	-	-	-	158
0010	179+65	-	180+25	LT	-	-	-	-	-	-	-	60
0010	199+87	-	200+15	RT	-	28	-	-	-	-	-	28
0010	202+27	-	202+52	LT & RT	25	25	25	-	-	-	-	25
0010	207+27	-	207+49	LT & RT	22	22	22	-	-	-	-	22
0010	243+15	-	243+30	LT & RT	15	15	15	-	-	-	-	-
0010	246+76	-	246+98	LT & RT	22	22	22	-	-	-	-	-
0010	249+20	-	249+35	LT & RT	15	15	15	-	-	-	-	-
0010	272+22	-	272+84	RT	-	62	-	-	-	-	-	62
0010	272+55	-	273+13	LT & RT	58	58	58	-	-	-	-	58
0010	274+45	-	274+70	RT	-	25	-	-	-	-	-	25
0010	294+51	-	294+71	LT & RT	20	20	20	-	-	-	-	-
0010	297+27	-	297+47	RT	20	20	20	-	-	-	-	20
0010	299+57	-	299+72	RT	15	15	15	-	-	-	-	15
0010	301+55	-	301+70	RT	15	15	15	-	-	-	-	15
0010	324+90	-	325+18	RT	-	28	-	-	-	-	-	28
0010	336+49	-	336+59	RT	10	-	10	-	-	-	-	-
0010	PROJECT 1470-27-71				-	-	-	-	1	-	-	-
	PROJECT 1470-27-71 TOTALS				404	430	487	20,790	1	0	0	688
PROJECT 1470-33-71												
0010	340+90	-	343+52	LT & RT	-	-	-	262	-	-	-	-
0010	345+38	-	346+42	LT & RT	-	-	-	104	-	-	-	-
0010	PROJECT 1470-33-71				-	-	-	-	-	1	-	-
	PROJECT 1470-33-71 TOTALS				0	0	0	366	0	1	0	0
	TOTALS				404	455	487	24,061	1	1	1	713

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SAWING

CATEGORY	STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT LF	* 690.0250 SAWING CONCRETE LF	REMARKS
PROJECT 1470-37-71							
0010	107+00	-	108+00	RT	-	10	DAMAGED CURB & GUTTER AND PAVEMENT
0010	109+00	-	110+00	RT	-	15	DAMAGED CURB & GUTTER AND PAVEMENT
0010	124+00	-	125+00	RT & LT	-	15	DAMAGED CURB & GUTTER AND PAVEMENT
0010	124+00	-	125+00	RT	-	15	DAMAGED CURB & GUTTER AND PAVEMENT
0010	125+50	-	125+54	LT	-	5	SIDEWALK
0010	125+52	-	125+77	LT	32	19	CURB & GUTTER AND PAVEMENT
0010	125+75	-	126+09	LT	-	41	PAVEMENT
0010	125+86	-	126+06	RT	-	25	CURB & GUTTER AND PAVEMENT
0010	125+86	-	-	RT	7	-	MULTI-USE PATH
0010	126+11	-	-	RT	7	-	MULTI-USE PATH
0010	126+25	-	126+42	LT	13	18	CURB & GUTTER AND PAVEMENT
0010	126+39	-	126+44	LT	-	5	SIDEWALK
0010	126+54	-	126+62	LT	12	5	CURB & GUTTER AND PAVEMENT
0010	129+00	-	130+00	RT	-	15	DAMAGED CURB & GUTTER AND PAVEMENT
	PROJECT 1470-37-71 TOTALS				71	188	
PROJECT 1470-27-71							
0010	139+46	-	139+66	RT	16	-	MULTI-USE PATH
0010	139+52	-	139+57	LT	-	10	CURB & GUTTER AND PAVEMENT
0010	142+92	-	142+97	LT	-	10	CURB & GUTTER AND PAVEMENT
0010	150+12	-	150+56	LT	-	119	CURB & GUTTER AND PAVEMENT
0010	1+16	-	1+16	LT & RT	-	45	PAVEMENT AND CURB & GUTTER
0010	1+46	-	1+46	LT	-	-	SIDEWALK
0010	1+47	-	1+71	RT	-	26	SIDEWALK
0010	1+49	-	2+15	LT	60	-	PARKING LOT
0010	2+68	-	2+68	LT & RT	-	143	PAVEMENT AND CURB & GUTTER
0010	150+85	-	150+93	RT	8	-	ASPHALT RAMP
0010	151+39	-	152+22	LT & RT	-	148	PAVEMENT AND CURB & GUTTER
0010	151+49	-	151+74	RT	16	-	MULTI-USE PATH
0010	153+00	-	154+00	LT	-	25	DAMAGED CURB & GUTTER AND PAVEMENT
0010	153+00	-	154+00	RT	-	10	DAMAGED CURB & GUTTER AND PAVEMENT
0010	154+00	-	155+00	LT	-	25	DAMAGED CURB & GUTTER AND PAVEMENT
0010	176+25	-	176+40	RT	20	48	CURB & GUTTER, PAVEMENT AND ASPHALT SHOULDER
0010	178+66	-	178+71	RT	-	10	CURB & GUTTER AND PAVEMENT
0010	199+92	-	200+11	LT	23	5	CURB & GUTTER AND ASPHALT SHOULDER
0010	199+95	-	200+10	LT	-	41	CURB & GUTTER AND PAVEMENT
0010	199+87	-	200+15	RT	16	-	MULTI-USE PATH
0010	200+17	-	200+17	LT	-	5	SIDEWALK
0010	200+23	-	200+33	LT	-	10	SIDEWALK
0010	200+30	-	200+35	LT	-	12	CURB & GUTTTER AND PAVEMENT
0010	202+27	-	202+52	LT & RT	44	108	CURB & GUTTER, PAVEMENT AND ASPHALT SHOULDER
0010	203+05	-	213+96	RT	1,094	-	ASPHALT SHOULDER
0010	207+27	-	207+49	LT & RT	57	132	CURB & GUTTER, PAVEMENT, ASPHALT SHOULDER AND MULTI-USE PATH
0010	209+54	-	209+54	LT	-	2	CURB & GUTTER AT SURFACE DRAIN
0010	216+84	-	242+08	RT	2,526	-	ASPHALT SHOULDER
0010	243+15	-	243+30	LT & RT	20	113	CURB & GUTTER, PAVEMENT AND ASPHALT SHOULDER
0010	246+76	-	246+98	LT & RT	20	88	CURB & GUTTER, PAVEMENT AND ASPHALT SHOULDER
0010	249+20	-	249+35	LT & RT	20	88	CURB & GUTTER, PAVEMENT AND ASPHALT SHOULDER
0010	252+00	-	253+00	RT	-	15	DAMAGED CURB & GUTTER AND PAVEMENT
0010	253+72	-	274+50	RT	2,087	-	ASPHALT SHOULDER
0010	270+25	-	271+25	RT	-	55	DAMAGED CURB & GUTTER AND PAVEMENT
0010	272+22	-	273+44	LT & RT	84	142	CURB & GUTTER, PAVEMENT, ASPHALT SHOULDER AND MULTI-USE PATH

(CONTINUED ON NEXT SHEET)

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

SAWING (CONTINUED)

CATEGORY	STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT LF	* 690.0250 SAWING CONCRETE LF	REMARKS
0010	274+45	-	274+70	RT	16	-	MULTI-USE PATH
0010	274+49	-	274+63	LT	14	2.5	CURB & GUTTER
0010	274+52	-	274+63	LT	-	16	CURB & GUTTER AND PAVEMENT
0010	274+52	-	274+63	RT	-	16	CURB & GUTTER AND PAVEMENT
0010	280+00	-	281+00	RT	-	30	DAMAGED CURB & GUTTER AND PAVEMENT
0010	292+50	-	294+50	RT	-	105	DAMAGED CURB & GUTTER AND PAVEMENT
0010	294+51	-	294+71	LT & RT	20	136	CURB & GUTTER, PAVEMENT AND ASPHALT SHOULDER
0010	295+20	-	308+04	RT	1,286	-	ASPHALT SHOULDER
0010	297+27	-	297+47	RT	37	48	CURB & GUTTER, PAVEMENT, ASPHALT SHOULDER AND MULTI-USE PATH
0010	297+50	-	297+82	LT	-	65	CURB & GUTTER AND PAVEMENT
0010	299+57	-	299+72	RT	37	48	CURB & GUTTER, PAVEMENT, ASPHALT SHOULDER AND MULTI-USE PATH
0010	301+55	-	301+70	RT	37	48	CURB & GUTTER, PAVEMENT, ASPHALT SHOULDER AND MULTI-USE PATH
0010	316+00	-	317+00	RT	-	10	DAMAGED CURB & GUTTER AND PAVEMENT
0010	324+70	-	324+79	RT	11	-	ASPHALT RAMP
0010	324+85	-	325+12	LT & RT	-	65	CURB & GUTTER AND PAVEMENT
0010	324+90	-	325+18	RT	16	-	MULTI-USE PATH
0010	324+73	-	325+12	LT	50	2.5	CURB & GUTTER AND ASPHALT SHOULDER
0010	324+98	-	325+04	LT	-	8	SIDEWALK
0010	327+00	-	328+00	RT	-	10	DAMAGED CURB & GUTTER AND PAVEMENT
0010	329+00	-	330+00	RT	-	15	DAMAGED CURB & GUTTER AND PAVEMENT
0010	336+49	-	336+59	RT	-	35	CURB & GUTTER AND PAVEMENT
0010	340+13	-	340+16	RT	-	12	WATER VALVE ADJUSTMENT
0010	340+20	-	340+26	RT	-	24	MANHOLE ADJUSTMENT
0010	340+35	-	340+41	RT	-	24	MANHOLE ADJUSTMENT
	PROJECT 1470-27-71 TOTALS				7,635	2,155	
PROJECT 1470-33-71							
0010	340+74	-	340+77	LT	-	8	SIDEWALK
0010	340+80	-	340+80	RT	-	8	SIDEWALK
0010	340+83	-	340+95	LT & RT	-	30	PAVEMENT/CURB & GUTTER
0010	340+85	-	341+17	RT	-	52	PAVEMENT/CURB & GUTTER
0010	340+86	-	341+10	LT	-	51	PAVEMENT/CURB & GUTTER
0010	340+98	-	341+03	LT	-	5	SIDEWALK
0010	341+04	-	341+10	LT & RT	-	24	MANHOLE ADJUSTMENT
0010	341+08	-	341+14	RT	-	7	SIDEWALK
0010	341+10	-	341+49	LT	-	39	PAVEMENT
0010	341+11	-	341+17	LT	-	24	MANHOLE ADJUSTMENT
0010	341+24	-	341+68	RT	-	45	PAVEMENT
0010	341+27	-	341+31	LT & RT	-	24	MANHOLE ADJUSTMENT
0010	341+37	-	341+41	LT	-	24	MANHOLE ADJUSTMENT
0010	341+41	-	341+47	RT	-	24	MANHOLE ADJUSTMENT
0010	341+49	-	341+78	LT	-	57	PAVEMENT/CURB & GUTTER
0010	341+53	-	341+60	LT	-	7	SIDEWALK
0010	341+58	-	341+62	RT	-	24	MANHOLE ADJUSTMENT
0010	341+59	-	341+90	RT	-	52	PAVEMENT/CURB & GUTTER
0010	341+60	-	341+78	LT	31	-	PARKING LOT
0010	341+60	-	341+66	RT	-	24	MANHOLE ADJUSTMENT
0010	341+63	-	341+69	RT	-	24	MANHOLE ADJUSTMENT
0010	341+64	-	341+71	RT	-	8	SIDEWALK
0010	341+78	-	341+78	LT	-	7	SIDEWALK
0010	341+90	-	341+90	RT	-	8	SIDEWALK
0010	341+94	-	342+00	LT & RT	-	24	MANHOLE ADJUSTMENT
0010	342+77	-	342+83	LT & RT	-	24	MANHOLE ADJUSTMENT
0010	345+68	-	345+74	LT	-	24	MANHOLE ADJUSTMENT
0010	346+16	-	346+19	RT	-	12	WATER VALVE ADJUSTMENT
0010	346+42	-	346+42	LT & RT	-	55	PAVEMENT
	PROJECT 1470-33-71 TOTALS				31	715	
				TOTALS	7,737	3,058	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

R/W PROJECT NUMBER 1470-27-21	SHEET NUMBER	TOTAL SHEETS
CONSTRUCTION PROJECT NUMBER 1470-27-71	4.01	4

PLAT OF RIGHT OF WAY REQUIRED FOR

MANITOWOC - TWO RIVERS
E. MAGNOLIA AVE - 12TH STREET

STH 42 — MANITOWOC COUNTY

CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W OR HE LINE
PROPERTY LINE
LOT, TIE & OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC) — W (TYPE)
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)
TEMPORARY LIMITED EASEMENT AREA
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)
TRANSMISSION STRUCTURES
BUILDING — TO BE REMOVED
BRIDGE — CULVERT

SECTION CORNER SYMBOL
SECTION CORNER MONUMENT
GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
SIGN — OFF-PREMISE SIGN

R/W MONUMENT (TO BE SET)
NON-MONUMENTED R/W POINT
FOUND IRON PIN (1-INCH UNLESS NOTED) — IP

	COMPENSABLE	NON-COMPENSABLE
ELECTRIC POLE		
TELEPHONE POLE		
PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)		

ACCESS RESTRICTED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)
PARCEL NUMBER (25) — UTILITY NUMBER (40)
PARALLEL OFFSETS

CONVENTIONAL UTILITY SYMBOLS

WATER	W
GAS	G
TELEPHONE	T
OVERHEAD TRANSMISSION LINES	OH
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS
ELECTRIC TOWER	

CURVE DATA ABBREVIATIONS

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ/DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS	AR	OUTLOT	OL
ACRES	AC	PAGE	P
AHEAD	AH	POINT OF TANGENCY	PT
ALUMINUM	ALUM	PROPERTY LINE	PL
AND OTHERS	ET AL	RECORDED AS	(100')
BACK	BK	REEL / IMAGE	R/I
BLOCK	BLK	REFERENCE LINE	R/L
CENTERLINE	C/L	PERMANENT LIMITED EASEMENT	PLE
CERTIFIED SURVEY MAP	CSM	POINT OF BEGINNING	POB
CONCRETE	CONC	POINT OF CURVATURE	PC
COUNTY	CO	POINT OF COMPOUND CURVE	PCC
COUNTY TRUNK HIGHWAY	CTH	POINT OF INTERSECTION	PI
DISTANCE	DIST	REMAINING	REM
CORNER	COR	RESTRICTIVE DEVELOPMENT EASEMENT	RDE
DOCUMENT NUMBER	DOC	RIGHT	RT
EASEMENT	EASE	RIGHT OF WAY	R/W
EXISTING	EX	SECTION	SEC
GAS VALVE	GV	SEPTIC VENT	SEPV
GRID NORTH	GN	SQUARE FEET	SF
HIGHWAY EASEMENT	HE	STATE TRUNK HIGHWAY	STH
IDENTIFICATION	ID	STATION	STA
LAND CONTRACT	LC	TELEPHONE PEDESTAL	TP
LEFT	LT	TEMPORARY LIMITED EASEMENT	TLE
MONUMENT	MON	TRANSPORTATION PROJECT PLAT	TPP
NATIONAL GEODETIC SURVEY	NGS	UNITED STATES HIGHWAY	USH
NUMBER	NO	VOLUME	V

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), MANITOWOC COUNTY, NAD83 (2011) 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 (TYPICALLY 3/4"X24" REBAR) AND ARE PLACED AT THE COMPLETION OF THE CONSTRUCTION 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.

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

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, 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 DESIRABLE. ALL (TLES) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

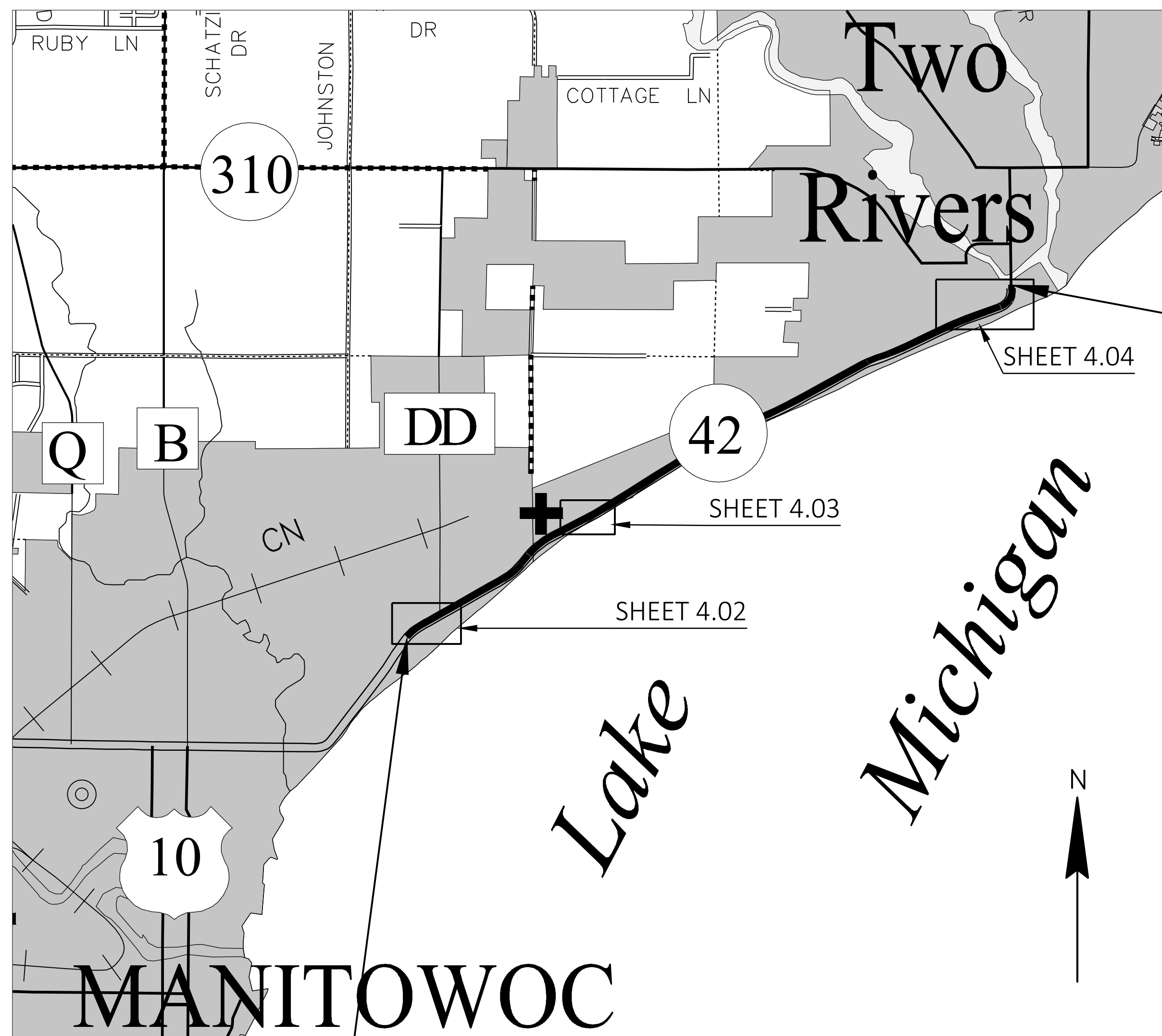
PROPERTY LINES SHOWN ON THIS PLAT FOR PROPERTIES BEING IMPACTED ARE DRAWN FROM DATA DERIVED FROM FILED/RECORDED MAPS AND DOCUMENTS OF PUBLIC RECORD. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

INFORMATION FOR THE BASIS OF EXISTING HIGHWAY RIGHT-OF-WAY POINTS OF REFERENCE ARE LISTED ON THE DETAIL PAGES.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, CENTERLINE OF EXISTING PAVEMENTS, AND/OR EXISTING OCCUPATIONAL LINES

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN GREEN BAY. ACCESS CONTROL AS SHOWN IS BASED ON PROJECT CA 01-4(1).

R-24-E — R-25-E



T-20-N

T-19-N

END RELOCATION ORDER
STA. 342+00.00
Y = 319,959.711
X = 257,217.885

410.85 FEET EAST OF AND 649.49 FEET SOUTH OF THE CENTER CORNER OF SECTION 1, T-19-N, R-24-E, CITY OF TWO RIVERS, MANITOWOC COUNTY, WI

BEGIN RELOCATION ORDER
STA. 139+00.00
Y = 309,885.438
X = 239,927.353

951.40 FEET WEST OF AND 155.77 FEET SOUTH OF THE CENTER CORNER OF SECTION 16, T-19-N, R-24-E, CITY OF MANITOWOC, MANITOWOC COUNTY, WI

LAYOUT
SCALE 0 — 1MI

TOTAL NET LENGTH OF CENTERLINE = --- MI

ORIGINAL PLAT PREPARED BY

MSA

1702 Pankratz Street, Madison, WI 53704
608-242-7779 1-800-446-0679 Fax: 608-242-5664

WISCONSIN
BRADLEY L. TISDALE
S-2824
WAUNAKEE WI
LAND SURVEYOR

06/19/2023 (DATE) — (Professional Land Surveyor)

PROJECT LOCATION

CAUTION:
THIS PLAT IS FOR ILLUSTRATIVE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES.

WI DEPT. OF TRANSPORTATION
APPROVED FOR THE DEPARTMENT
DATE: 06/20/2023 — (Signature)
JON L. H

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\RW\DWG\00093676_PLAT.DWG — PLOT DATE : 6/20/2023 12:38 PM — PLOT BY : BRAD TISDALE — PLOT NAME :

SCHEDULE OF LANDS & INTERESTS REQUIRED

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

PARCEL NUMBER	OWNER(S)	INTEREST(S) REQUIRED	FEE R/W SQ FT REQUIRED			TLE SQ FT
			NEW	EXISTING	TOTAL	
1	JOSEPH E. TRADER, OR HIS SUCCESSOR IN TRUST, AS TRUSTEE OF THE JOSEPH E. TRADER LIVING TRUST DATED JULY 8, 2009, AS AMENDED	TLE	--	--	--	171
2	DAVID A. MARTIN	FEE, TLE	759	--	759	381

AREA FIGURES ARE REFERENCED TO THIS SHEET ONLY.

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	OWNER(S)	PARCEL AFFECTED	INTEREST REQUIRED	EASEMENT AFFECTING
80	WISCONSIN PUBLIC SERVICE (GAS)	2	RELEASE OF RIGHTS	NO RECORD

CURVE INFORMATION					
CURVE	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
500-503	34.62'	1557.03'	1°16'26"	N42°48'29"E	34.61'

FOUND EXISTING MONUMENTS			
IP POINT	STATION	OFFSET	TYPE
1000	150+52.07	-67.90'	1" IP
1001	151+36.09	-67.94'	1" IP
1002	151+92.82	-168.09'	1" IP

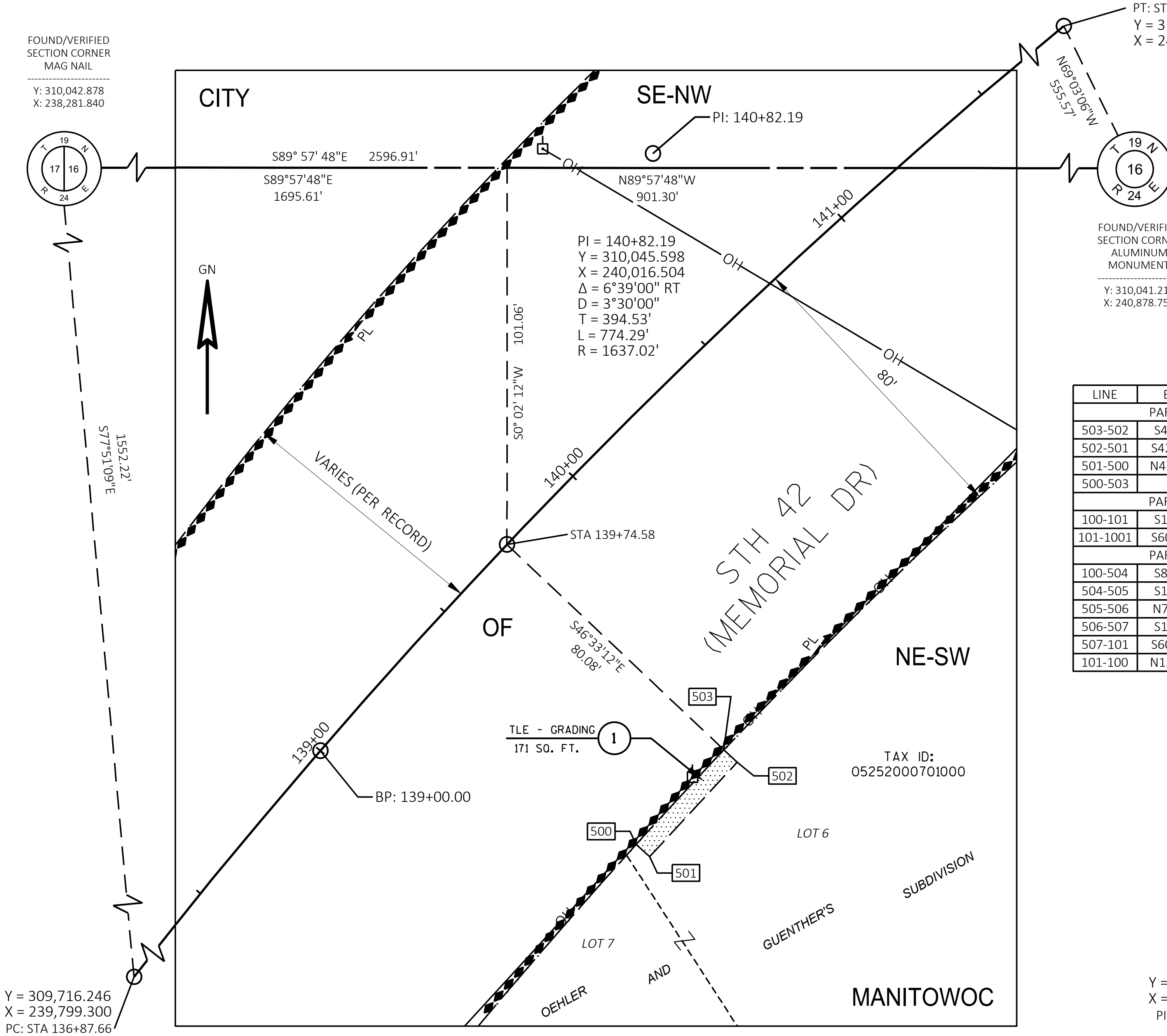
RW POINT	STATION	OFFSET
100	151+78.23	-142.33'
101	151+56.49	-67.94'

TLE POINT	STATION	OFFSET
500	139+38.19	80.08'
501	139+38.17	84.95'
502	139+74.64	84.95'
503	139+74.58	80.08'
504	151+82.53	-139.47'
505	151+63.73	-74.90'
506	151+70.71	-72.74'
507	151+69.31	-67.94'

EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 42 AND MIRRO RD SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: TRANSPORTATION PROJECT 1470-26-00 - 4.05

NOTE: THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS.

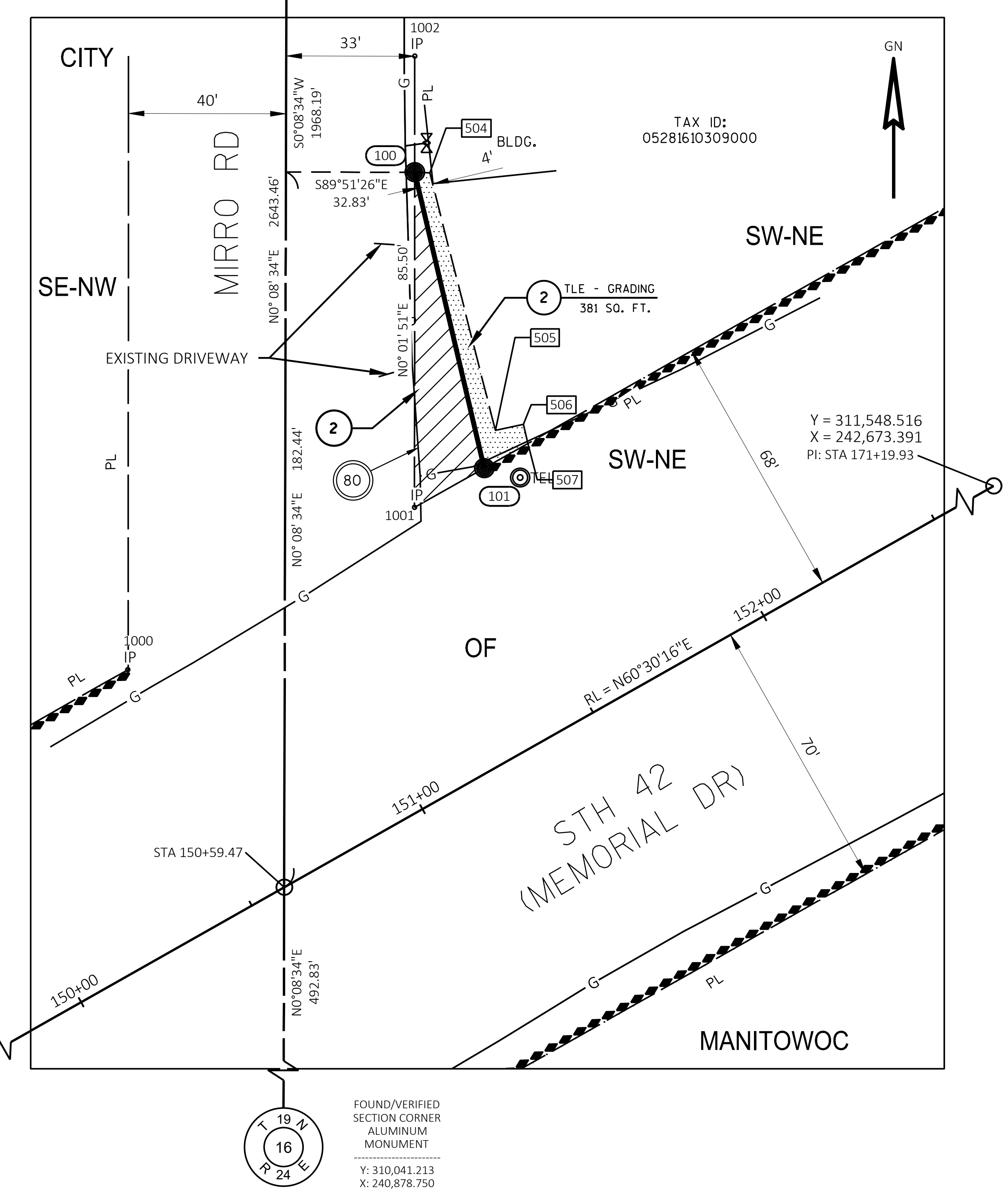
4



LINE	BEARING	DISTANCE
PARCEL 1 - TLE		
503-502	S47°11'25"E	4.87'
502-501	S42°48'35"W	34.58'
501-500	N47°38'38"W	4.87'
500-503	SEE CURVE INFO.	
PARCEL 2 - FEE		
100-101	S13°12'18"E	77.51'
101-1001	S60°30'16"W	20.39'
PARCEL 2 - TLE		
100-504	S88°13'00"E	3.84'
504-505	S14°17'34"E	67.81'
505-506	N77°43'58"E	7.31'
506-507	S13°12'18"E	5.00'
507-101	S60°30'16"W	12.82'
101-100	N13°12'18"W	77.51'

FOUND/VERIFIED SECTION CORNER MAG NAIL WITH WASHER

Y: 312,684.661
X: 240,885.332



4

REVISION DATE	DATE 06/19/2023	SCALE, FEET 0 20 40	HWY: STH 42	STATE R/W PROJECT NUMBER 1470-27-21	PLAT SHEET 4.02	E
	GRID FACTOR		COUNTY: MANITOWOC	CONSTRUCTION PROJECT NUMBER 1470-27-71	PS&E SHEET	

FILE NAME : 00093676_PLAT.DWG LAYOUT NAME - SHEET 2 PLOT DATE : 6/20/2023 12:38 PM PLOT BY : BRAD TISDALE PLOT NAME : PLOT SCALE :

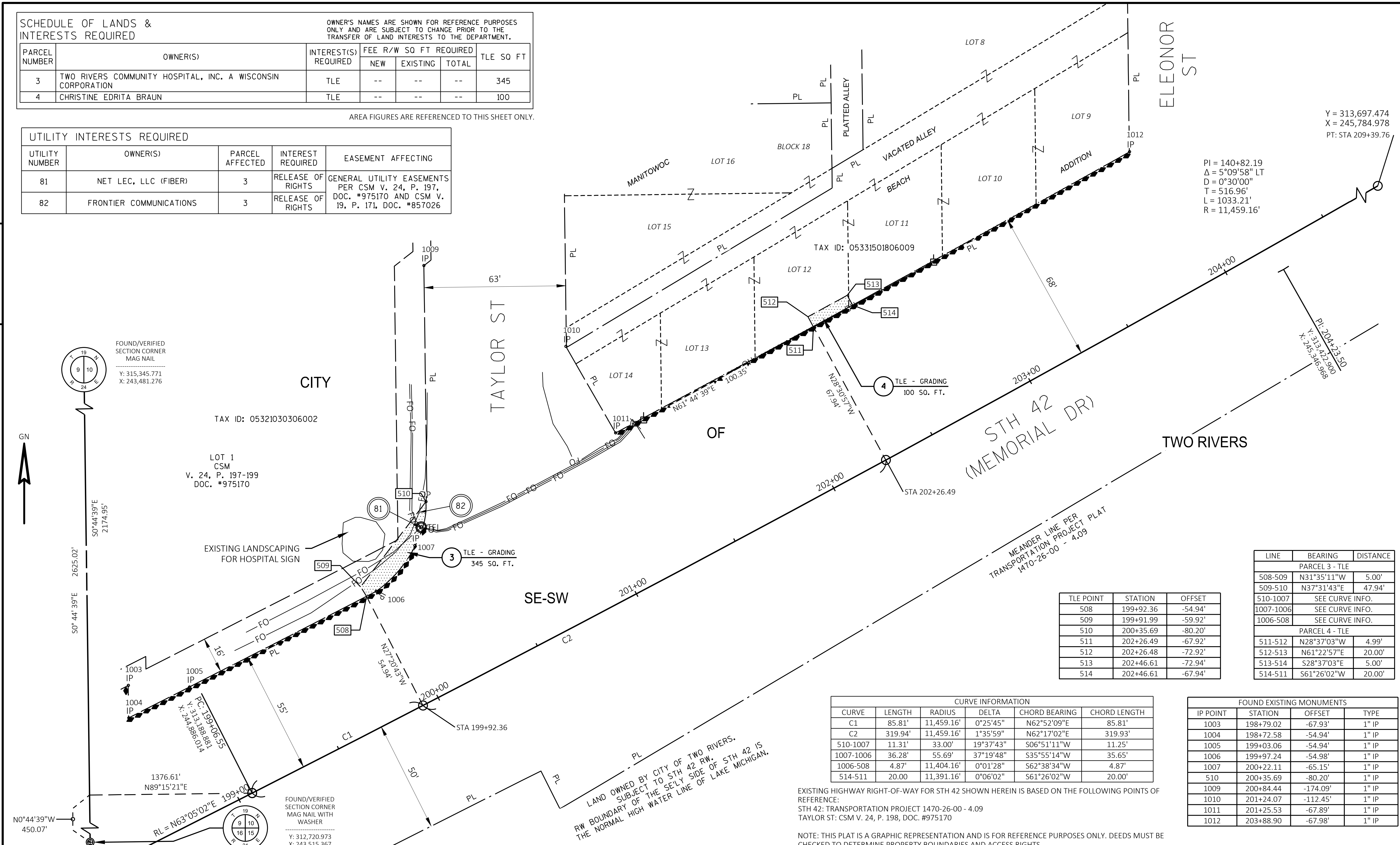
WISDOT/CADDS SHEET 75

SCHEDULE OF LANDS & INTERESTS REQUIRED						
PARCEL NUMBER	OWNER(S)	INTEREST(S) REQUIRED	FEE R/W SQ FT REQUIRED NEW	EXISTING	TOTAL	TLE SQ FT
3	TWO RIVERS COMMUNITY HOSPITAL, INC. A WISCONSIN CORPORATION	TLE	--	--	--	345
4	CHRISTINE EDRITA BRAUN	TLE	--	--	--	100

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

AREA FIGURES ARE REFERENCED TO THIS SHEET ONLY.

UTILITY INTERESTS REQUIRED				
UTILITY NUMBER	OWNER(S)	PARCEL AFFECTED	INTEREST REQUIRED	EASEMENT AFFECTING
81	NET LEC, LLC (FIBER)	3	RELEASE OF RIGHTS	GENERAL UTILITY EASEMENTS PER CSM V. 24, P. 197, DOC. #975170 AND CSM V. 19, P. 171, DOC. #857026
82	FRONTIER COMMUNICATIONS	3	RELEASE OF RIGHTS	



TLE POINT	STATION	OFFSET
508	199+92.36	-54.94'
509	199+91.99	-59.92'
510	200+35.69	-80.20'
511	202+26.49	-67.92'
512	202+26.48	-72.92'
513	202+46.61	-72.94'
514	202+46.61	-67.94'

LINE	BEARING	DISTANCE
PARCEL 3 - TLE		
508-509	N31°35'11"W	5.00'
509-510	N37°31'43"E	47.94'
510-1007	SEE CURVE INFO.	
1007-1006	SEE CURVE INFO.	
1006-508	SEE CURVE INFO.	
PARCEL 4 - TLE		
511-512	N28°37'03"W	4.99'
512-513	N61°22'57"E	20.00'
513-514	S28°37'03"E	5.00'
514-511	S61°26'02"W	20.00'

CURVE INFORMATION					
CURVE	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C1	85.81'	11,459.16'	0°25'45"	N62°52'09"E	85.81'
C2	319.94'	11,459.16'	1°35'59"	N62°17'02"E	319.93'
510-1007	11.31'	33.00'	19°37'43"	S06°51'11"W	11.25'
1007-1006	36.28'	55.69'	37°19'48"	S35°55'14"W	35.65'
1006-508	4.87'	11,404.16'	0°01'28"	S62°38'34"W	4.87'
514-511	20.00	11,391.16'	0°06'02"	S61°26'02"W	20.00'

FOUND EXISTING MONUMENTS			
IP POINT	STATION	OFFSET	TYPE
1003	198+79.02	-67.93'	1" IP
1004	198+72.58	-54.94'	1" IP
1005	199+03.06	-54.94'	1" IP
1006	199+97.24	-54.98'	1" IP
1007	200+22.11	-65.15'	1" IP
510	200+35.69	-80.20'	1" IP
1009	200+84.44	-174.09'	1" IP
1010	201+24.07	-112.45'	1" IP
1011	201+25.53	-67.89'	1" IP
1012	203+88.90	-67.98'	1" IP

EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 42 SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
STH 42: TRANSPORTATION PROJECT 1470-26-00 - 4.09
TAYLOR ST: CSM V. 24, P. 198, DOC. #975170

NOTE: THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS.

REVISION DATE	DATE 06/19/2023	SCALE, FEET 0 20 40	HWY: STH 42	STATE R/W PROJECT NUMBER 1470-27-21	PLAT SHEET 4.03	E
	GRID FACTOR		COUNTY: MANITOWOC	CONSTRUCTION PROJECT NUMBER 1470-27-71	PS&E SHEET	

SCHEDULE OF LANDS & INTERESTS REQUIRED

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

PARCEL NUMBER	OWNER(S)	INTEREST(S) REQUIRED	FEE R/W SQ FT REQUIRED NEW	EXISTING	TOTAL	TLE SQ FT
5	CITY OF TWO RIVERS	FEE/TLE	1731	--	1731	1144

EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 42 SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
STH 42: TRANSPORTATION PROJECT 1470-26-00 - 4.09
MADISON ST: CSM V. 31, P. 73, DOC. #1139953, TRANSPORTATION PROJECT 1470-26-00 - 4.09
12TH ST: CSM V. 15, P. 391, DOC. #763752, TRANSPORTATION PROJECT 1470-26-00 - 4.09
LAKE ST: ORIGINAL PLAT OF TWO RIVERS, TRANSPORTATION PROJECT 1470-26-00 - 4.09

AREA FIGURES ARE REFERENCED TO THIS SHEET ONLY.

NOTE: THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS.

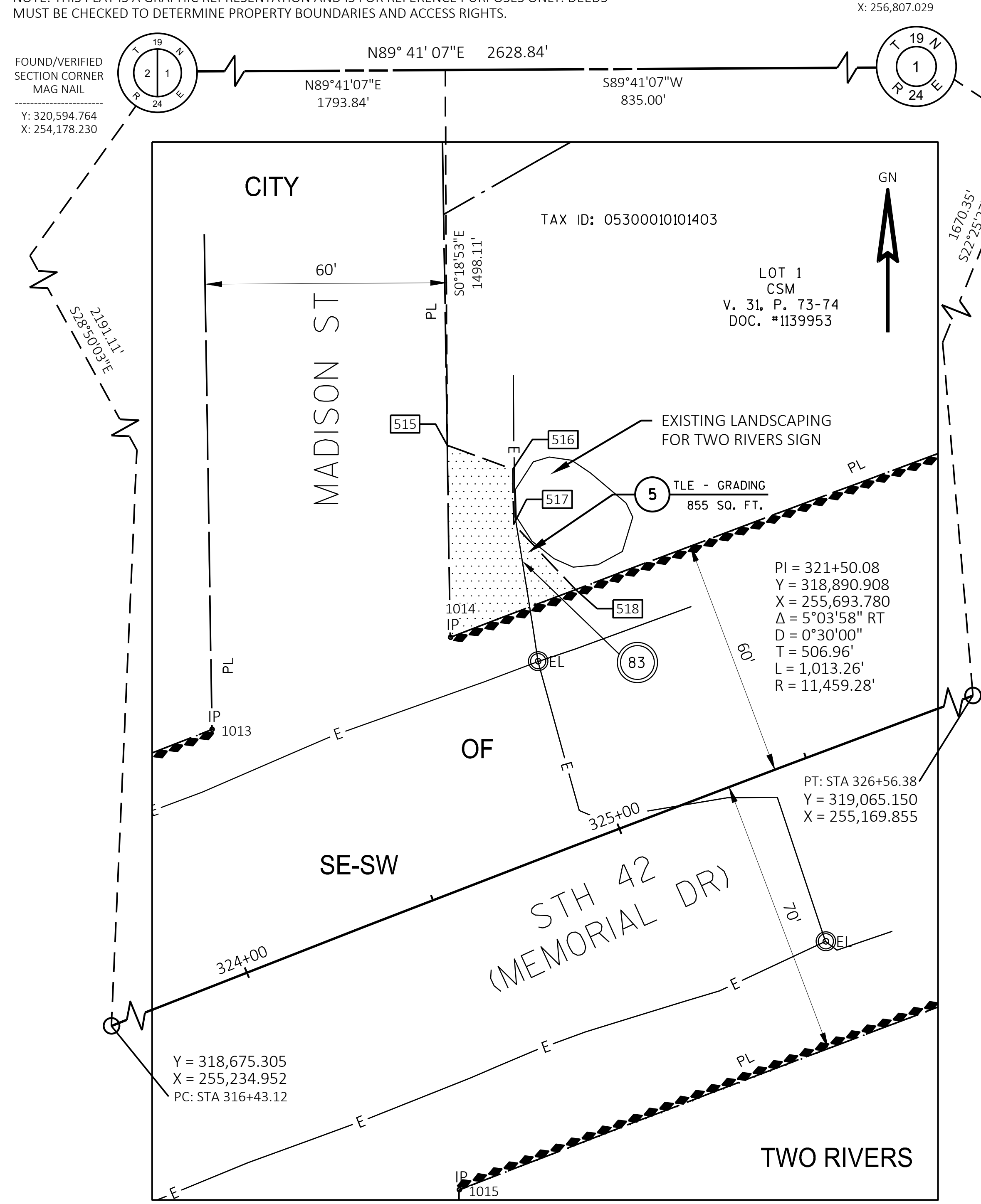
UTILITY INTERESTS REQUIRED

UTILITY NUMBER	OWNER(S)	PARCEL AFFECTED	INTEREST REQUIRED	EASEMENT AFFECTING
83	CITY OF TWO RIVERS (ELEC.)	5	RELEASE OF RIGHTS	NO RECORD
84	CITY OF TWO RIVERS (SAN.)	5	RELEASE OF RIGHTS	NO RECORD

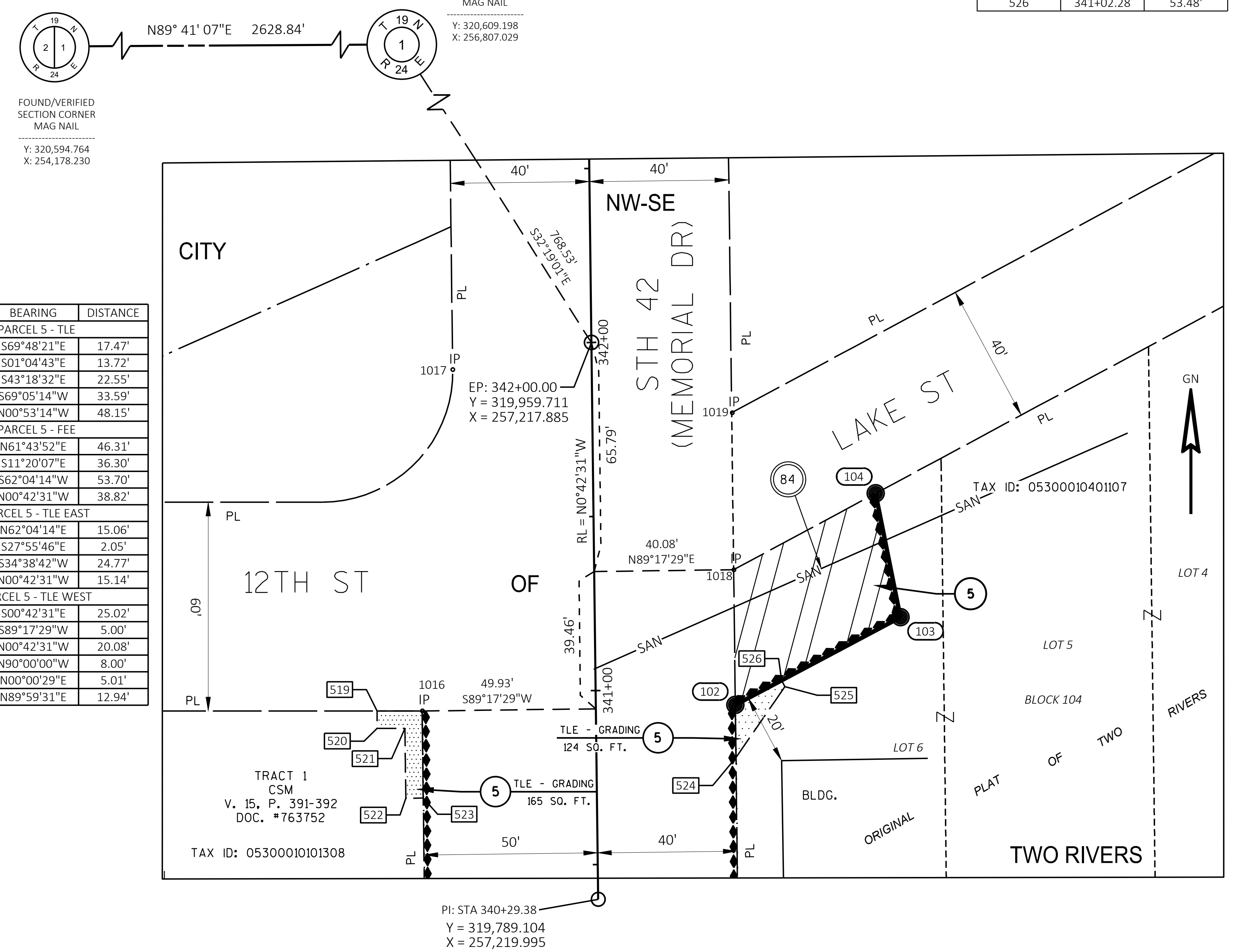
FOUND EXISTING MONUMENTS			
IP POINT	STATION	OFFSET	TYPE
1013	324+14.05	-59.97'	1" IP
1014	324+77.72	-59.93'	1" IP
1015	324+29.84	70.07'	1" IP
1016	340+94.74	-49.88'	1" IP
1017	341+92.65	-39.93'	1" IP
1018	341+34.17	40.14'	CUT X
1019	341+79.31	40.22'	1" IP

RW POINT	STATION	OFFSET
102	340+95.39	40.08'
103	341+19.95	87.84'
104	341+55.64	81.14'

TLE POINT	STATION	OFFSET
515	324+94.05	-105.18'
516	325+07.11	-93.70'
517	325+02.50	-80.79'
518	325+11.06	-59.95'
519	340+94.91	-62.87'
520	340+89.90	-62.93'
521	340+89.80	-54.93'
522	340+69.72	-54.93'
523	340+69.72	-49.93'
524	340+80.25	40.08'
525	341+00.45	54.42'
526	341+02.28	53.48'

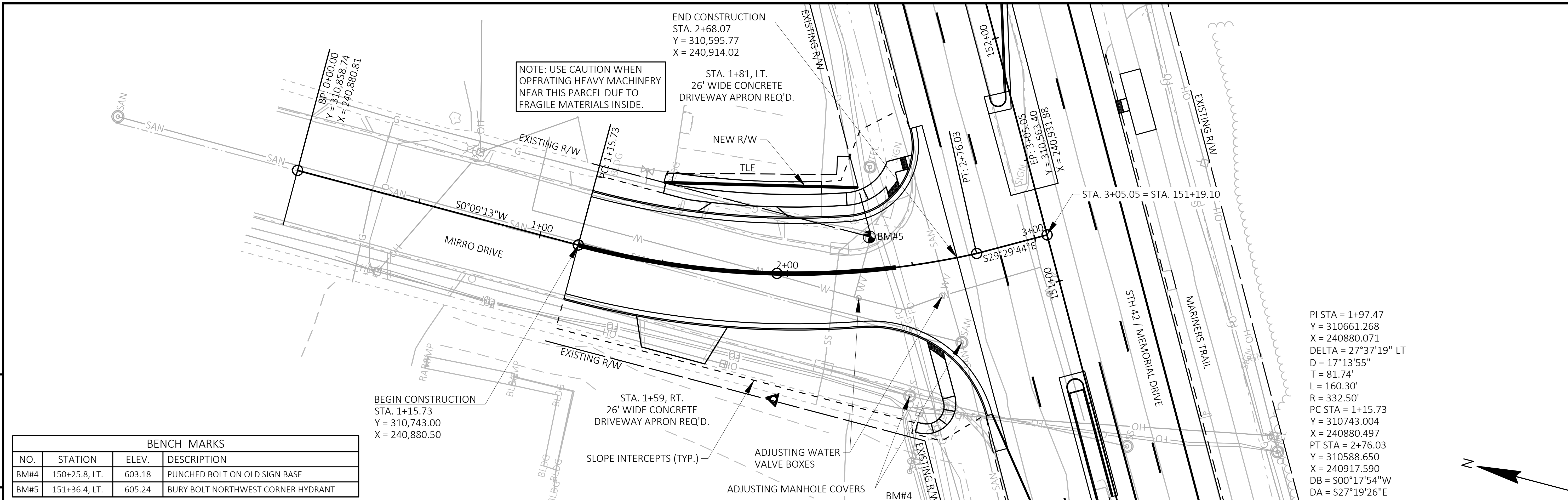


LINE	BEARING	DISTANCE
PARCEL 5 - TLE		
515-516	S69°48'21"E	17.47'
516-517	S01°04'43"E	13.72'
517-518	S43°18'32"E	22.55'
518-1014	S69°05'14"W	33.59'
1014-515	N00°53'14"W	48.15'
PARCEL 5 - FEE		
1018-104	N61°43'52"E	46.31'
104-103	S11°20'07"E	36.30'
103-102	S62°04'14"W	53.70'
102-1018	N00°42'31"W	38.82'
PARCEL 5 - TLE EAST		
102-526	N62°04'14"E	15.06'
526-525	S27°55'46"E	2.05'
525-524	S34°38'42"W	24.77'
524-102	N00°42'31"W	15.14'
PARCEL 5 - TLE WEST		
1016-523	S00°42'31"E	25.02'
523-522	S89°17'29"W	5.00'
522-521	N00°42'31"W	20.08'
521-520	N90°00'00"W	8.00'
520-519	N00°00'29"E	5.01'
519-1016	N89°59'31"E	12.94'



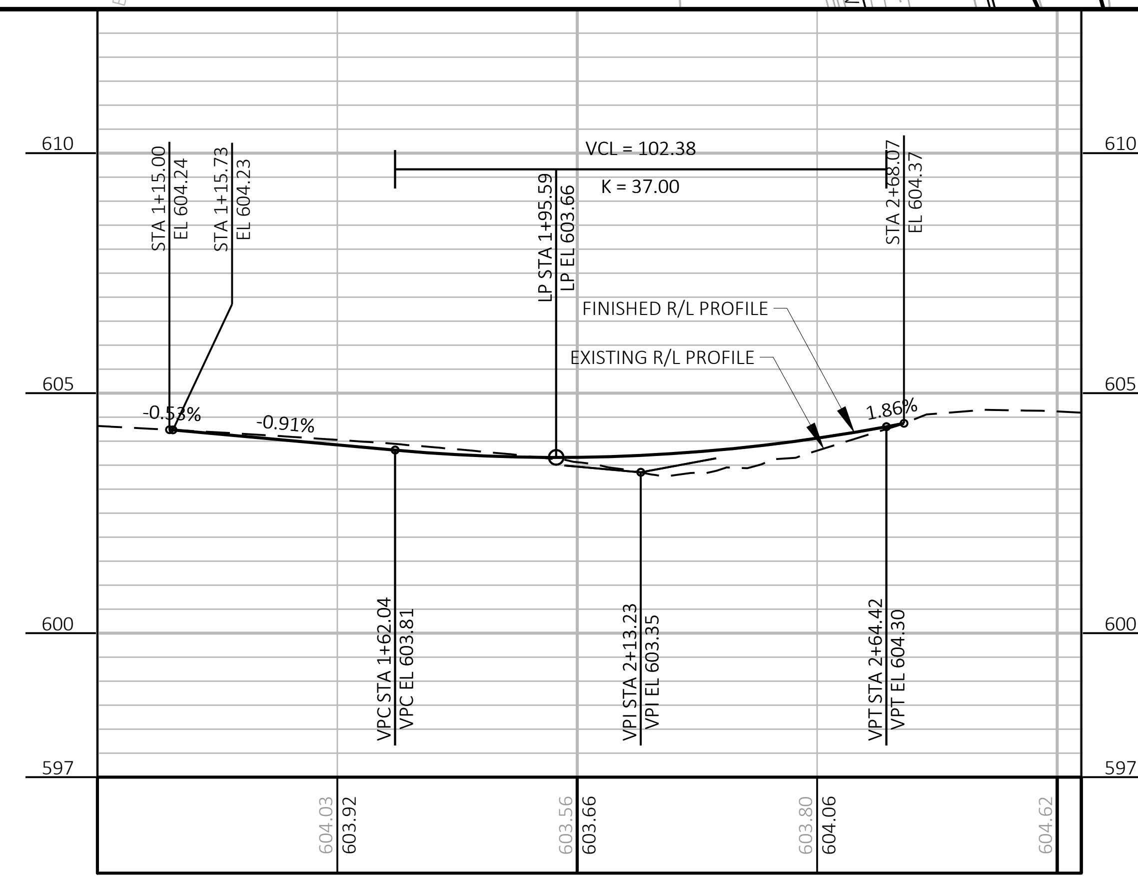
REVISION DATE	DATE 06/19/2023	SCALE, FEET 0 20 40	HWY: STH 42	STATE R/W PROJECT NUMBER 1470-27-21	PLAT SHEET 4.04	
	GRID FACTOR		COUNTY: MANITOWOC	CONSTRUCTION PROJECT NUMBER 1470-27-71	PS&E SHEET	E

FILE NAME : 00093676_PLAT.DWG
LAYOUT NAME - SHEET 4
PLOT DATE : 6/20/2023 12:38 PM
PLOT BY : BRAD TISDALE
PLOT NAME :
PLOT SCALE :
WISDOT/CADDS SHEET 75



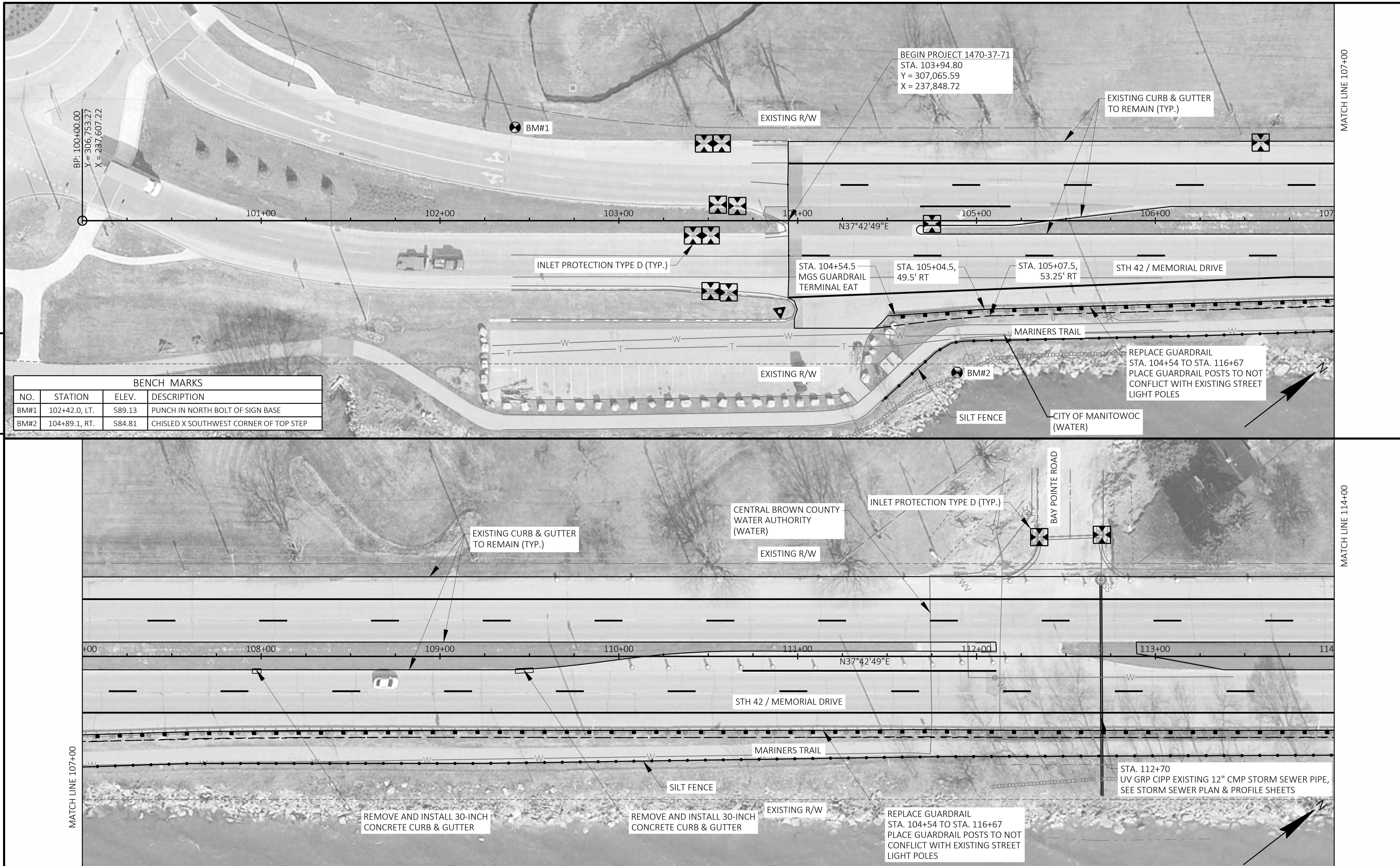
BENCH MARKS

NO.	STATION	ELEV.	DESCRIPTION
BM#4	150+25.8, LT.	603.18	PUNCHED BOLT ON OLD SIGN BASE
BM#5	151+36.4, LT.	605.24	BURY BOLT NORTHWEST CORNER HYDRANT



PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN AND PROFILE: MIRRO DRIVE	SHEET 106	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 050101-pp
PLOT DATE : 6/25/2024 4:31 PM
PLOT BY : JASON DOLENS
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44



BENCH MARKS

NO.	STATION	ELEV.	DESCRIPTION
BM#1	102+42.0, LT.	589.13	PUNCH IN NORTH BOLT OF SIGN BASE
BM#2	104+89.1, RT.	584.81	CHISLED X SOUTHWEST CORNER OF TOP STEP

PROJECT NO: 1470-27-71 | HWY: STH 42 | COUNTY: MANITOWOC | PLAN SHEETS | SHEET 107 | E

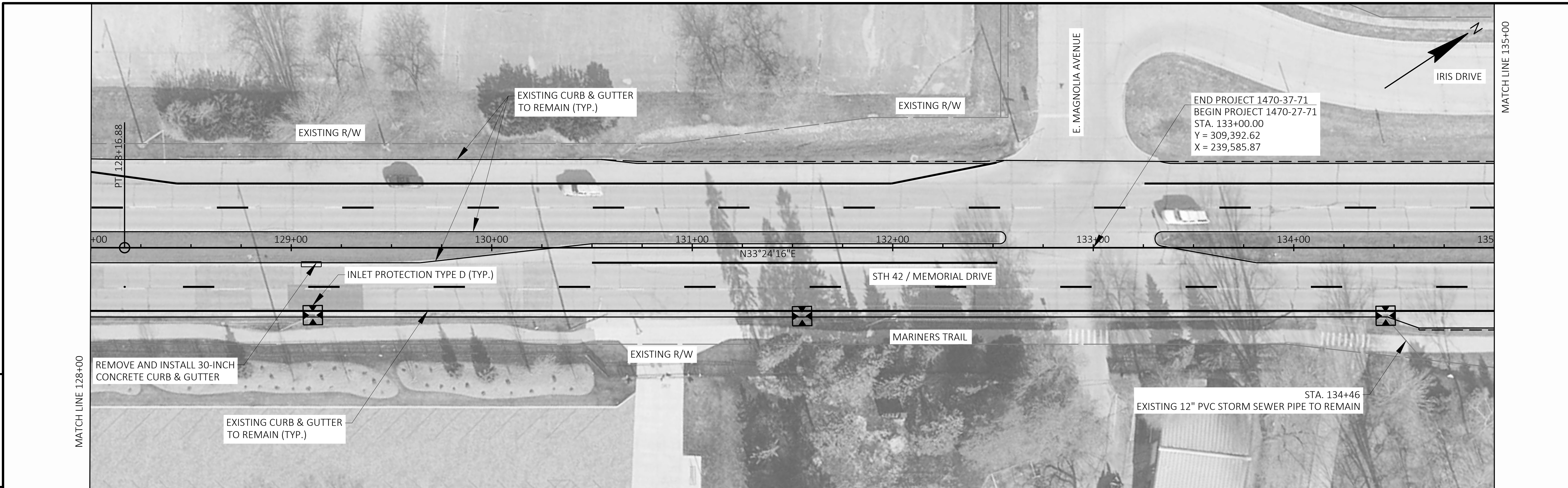
FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050201-pn
PLOT DATE : 10/29/2024 6:16 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

BENCH MARKS

NO.	STATION	ELEV.	DESCRIPTION
BM#3	126+46.7, RT.	602.10	CHISLED X SOUTHWEST CORNER OF TOP STEP

PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 108	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050202-pn
PLOT DATE : 12/12/2024 5:00 PM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44



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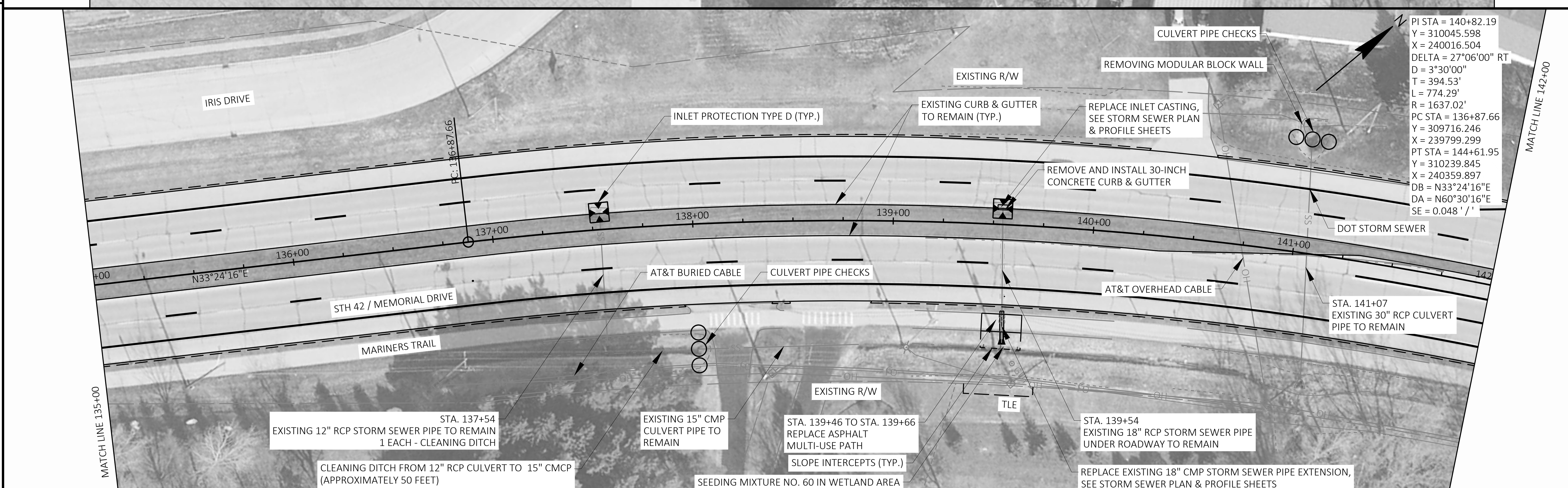
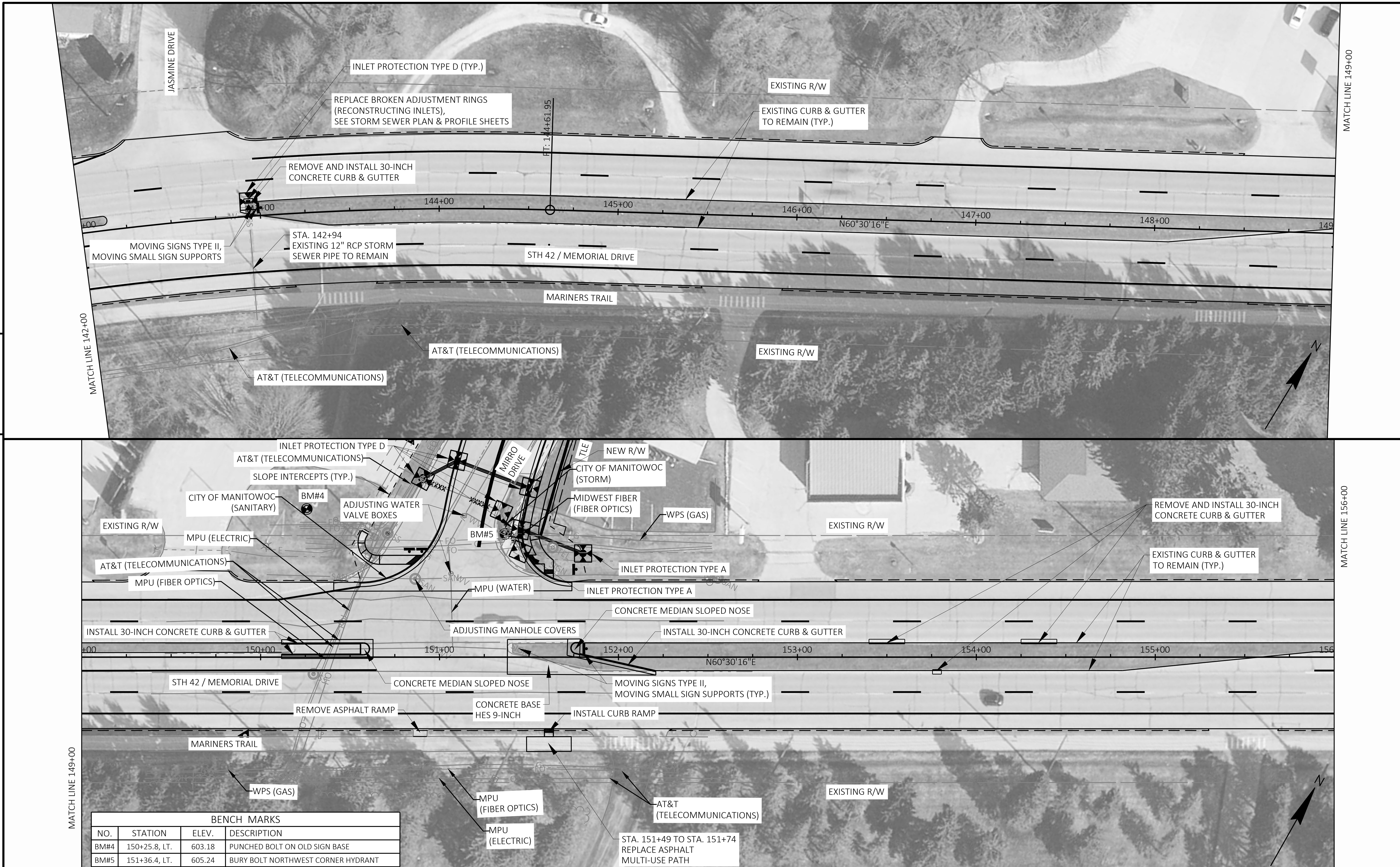


PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 109	E



BENCH MARKS

NO.	STATION	ELEV.	DESCRIPTION
BM#4	150+25.8, LT.	603.18	PUNCHED BOLT ON OLD SIGN BASE
BM#5	151+36.4, LT.	605.24	BURY BOLT NORTHWEST CORNER HYDRANT

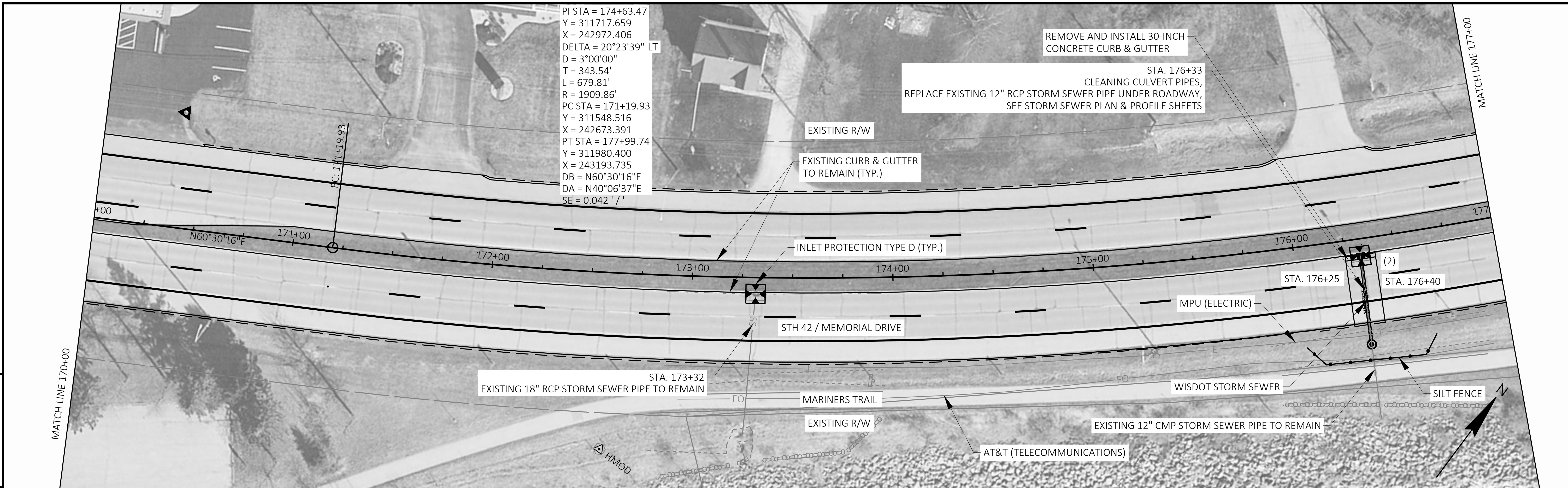
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 110	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050204-pn
PLOT DATE : 10/29/2024 6:18 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

BENCH MARKS

NO.	STATION	ELEV.	DESCRIPTION
BM#6	167+79.3, LT.	605.92	HIGH POINT SQ BOLT WEST FACE OF POWERPOLE
BM#7	168+41.2, LT.	605.90	BURY BOLT SOUTHWEST CORNER HYDRANT

PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 111	E



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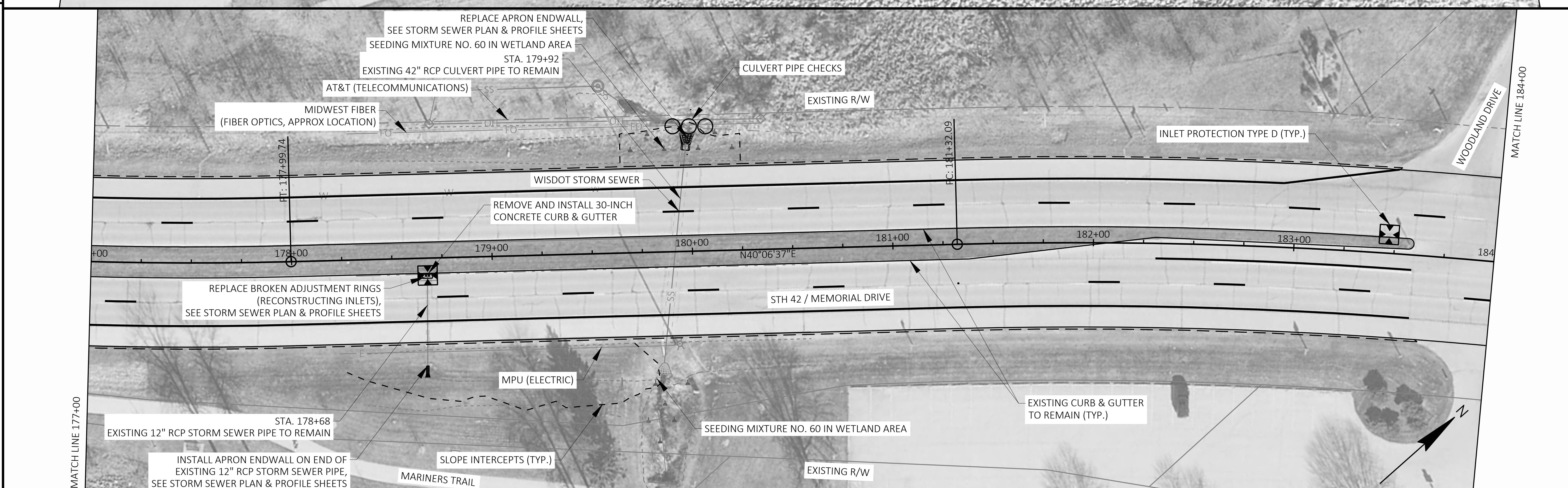
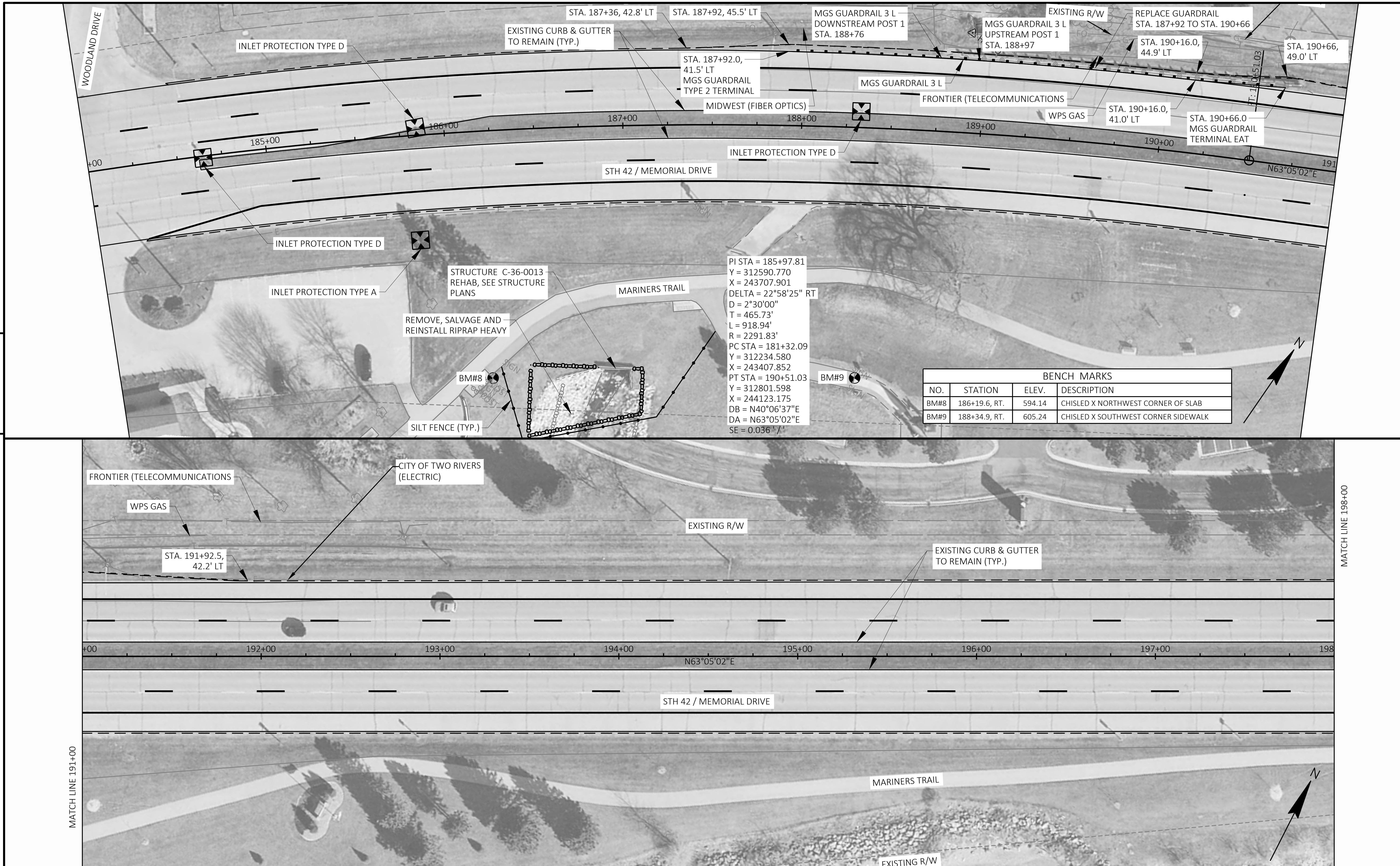


PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 112	E

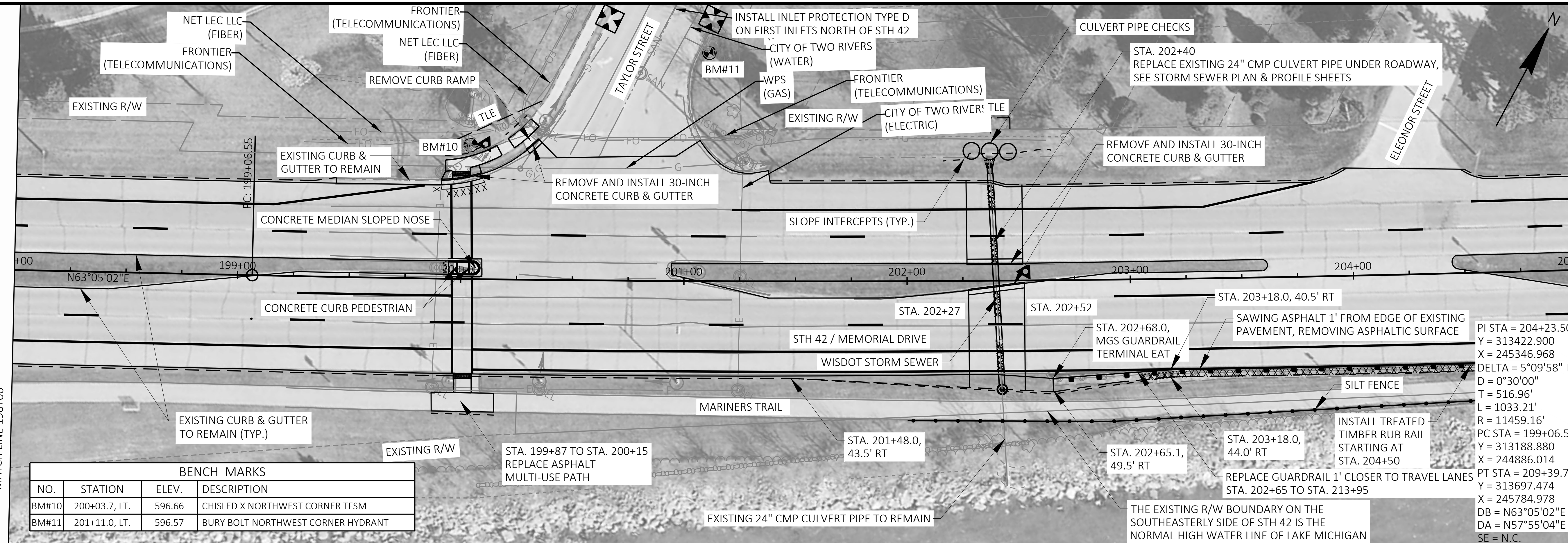
FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050206-pn
PLOT DATE : 10/29/2024 6:19 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44



BENCH MARKS

NO.	STATION	ELEV.	DESCRIPTION
BM#8	186+19.6, RT.	594.14	CHISLED X NORTHWEST CORNER OF SLAB
BM#9	188+34.9, RT.	605.24	CHISLED X SOUTHWEST CORNER SIDEWALK

PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 113	E



BENCH MARKS

NO.	STATION	ELEV.	DESCRIPTION
BM#10	200+03.7, LT.	596.66	CHISLED X NORTHWEST CORNER TFSM
BM#11	201+11.0, LT.	596.57	BURY BOLT NORTHWEST CORNER HYDRANT

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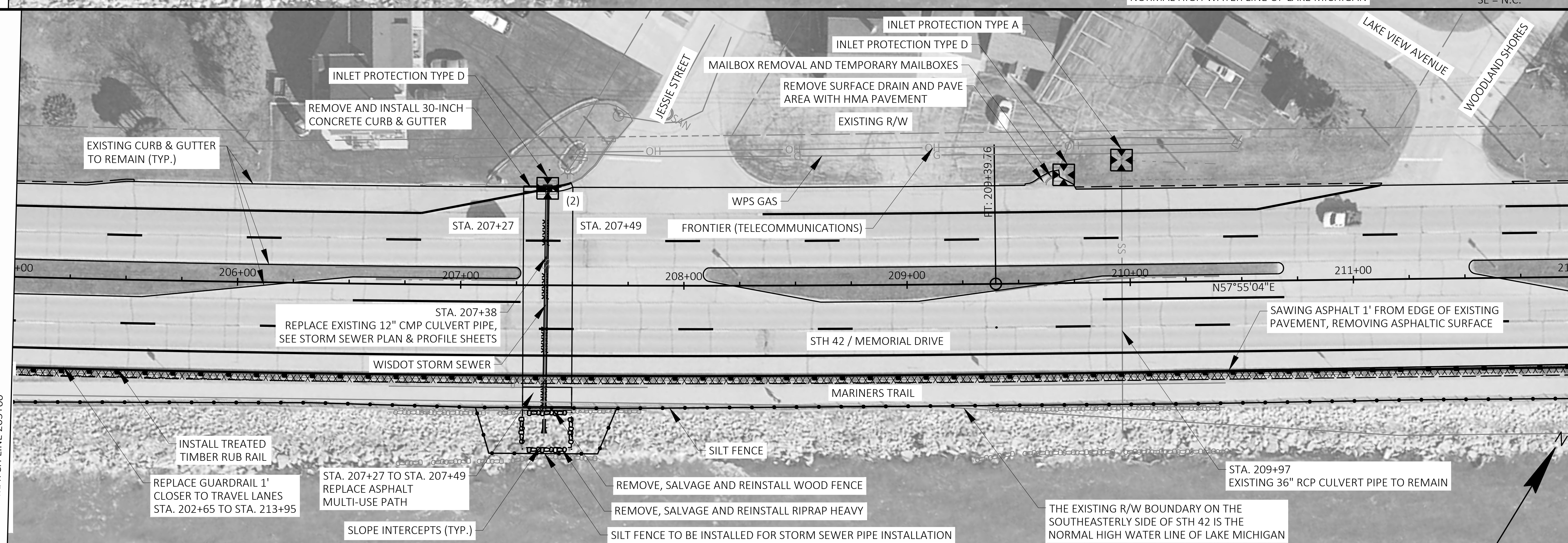
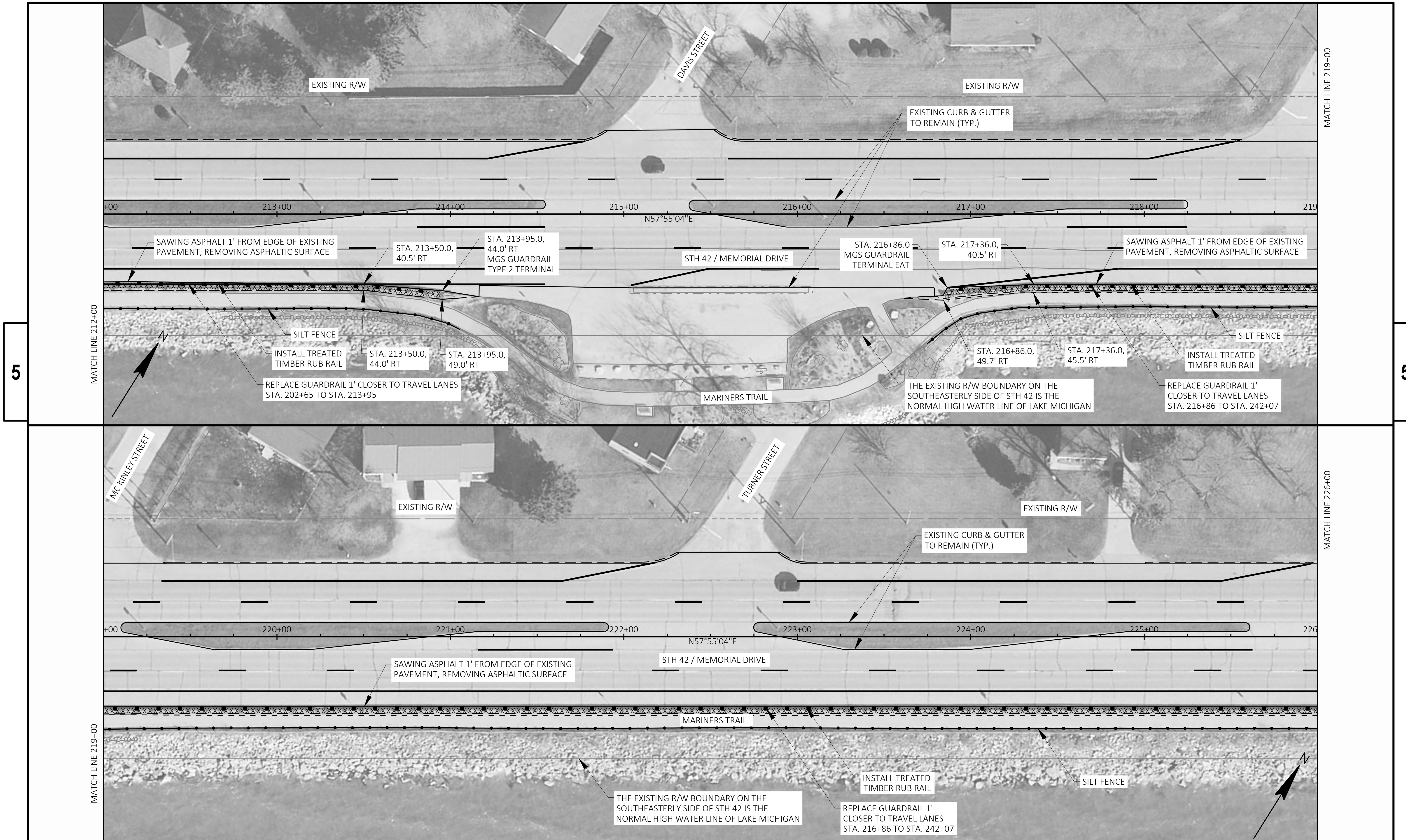


PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 114	E



PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 115	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050209-pn
PLOT DATE : 10/29/2024 6:21 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

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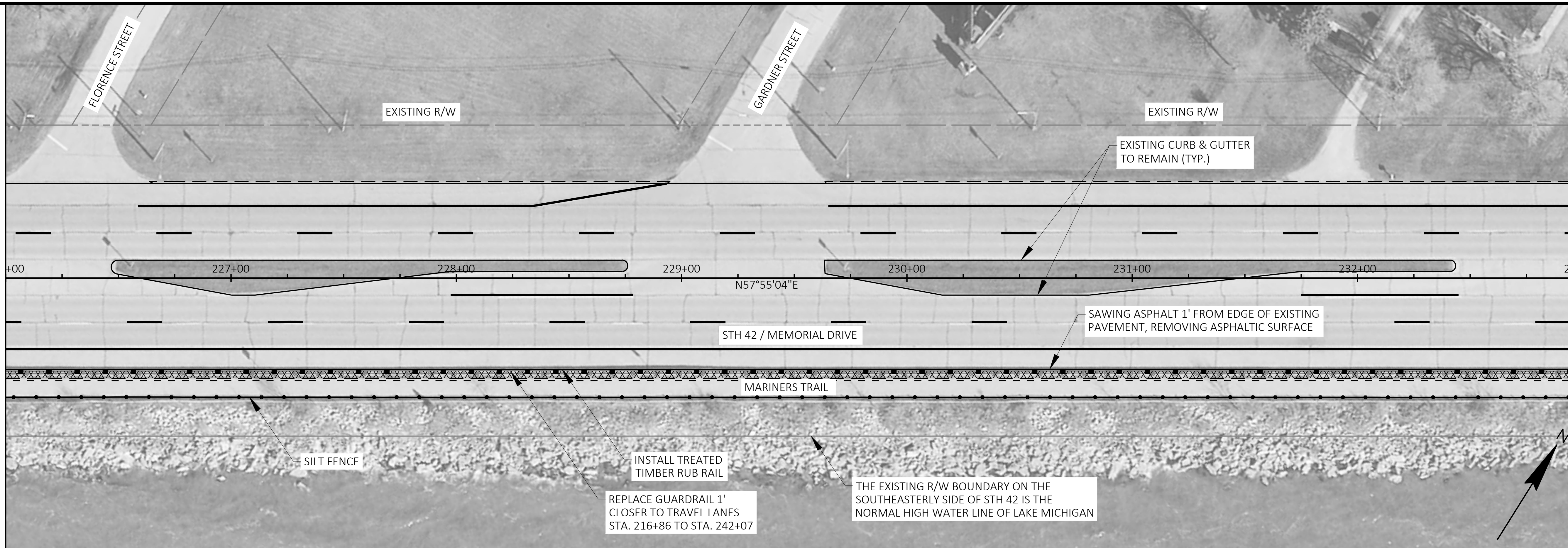
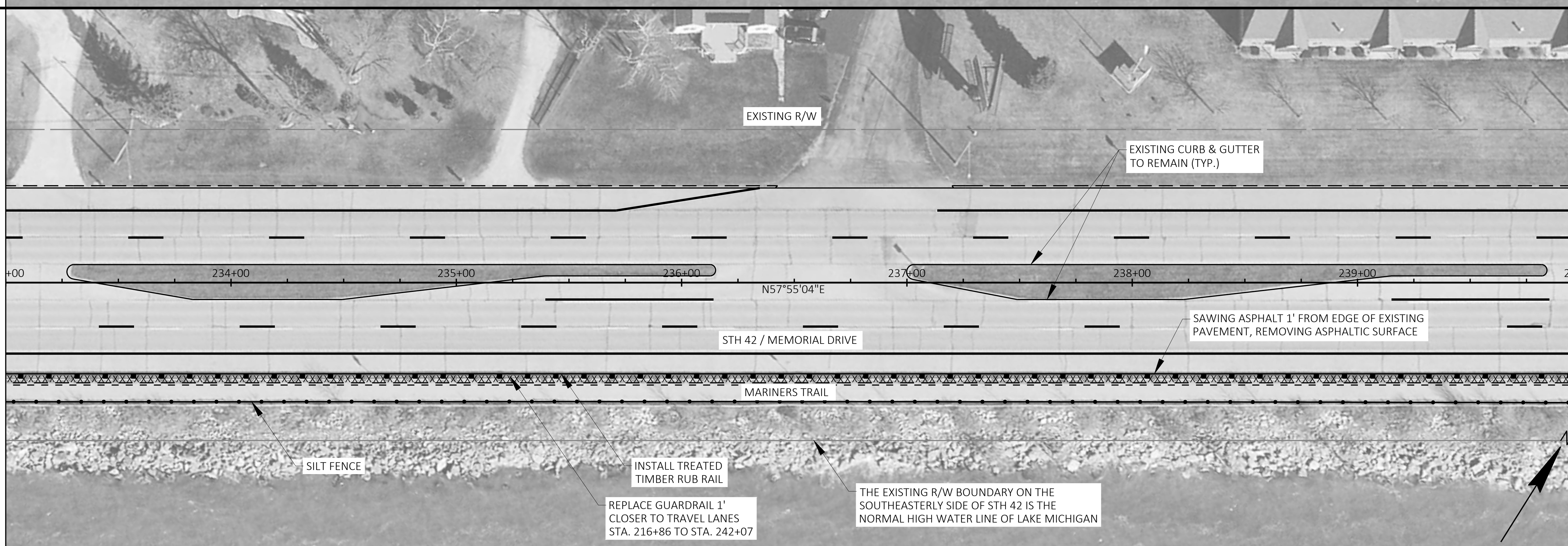
MATCH LINE 226+00



MATCH LINE 233+00

5

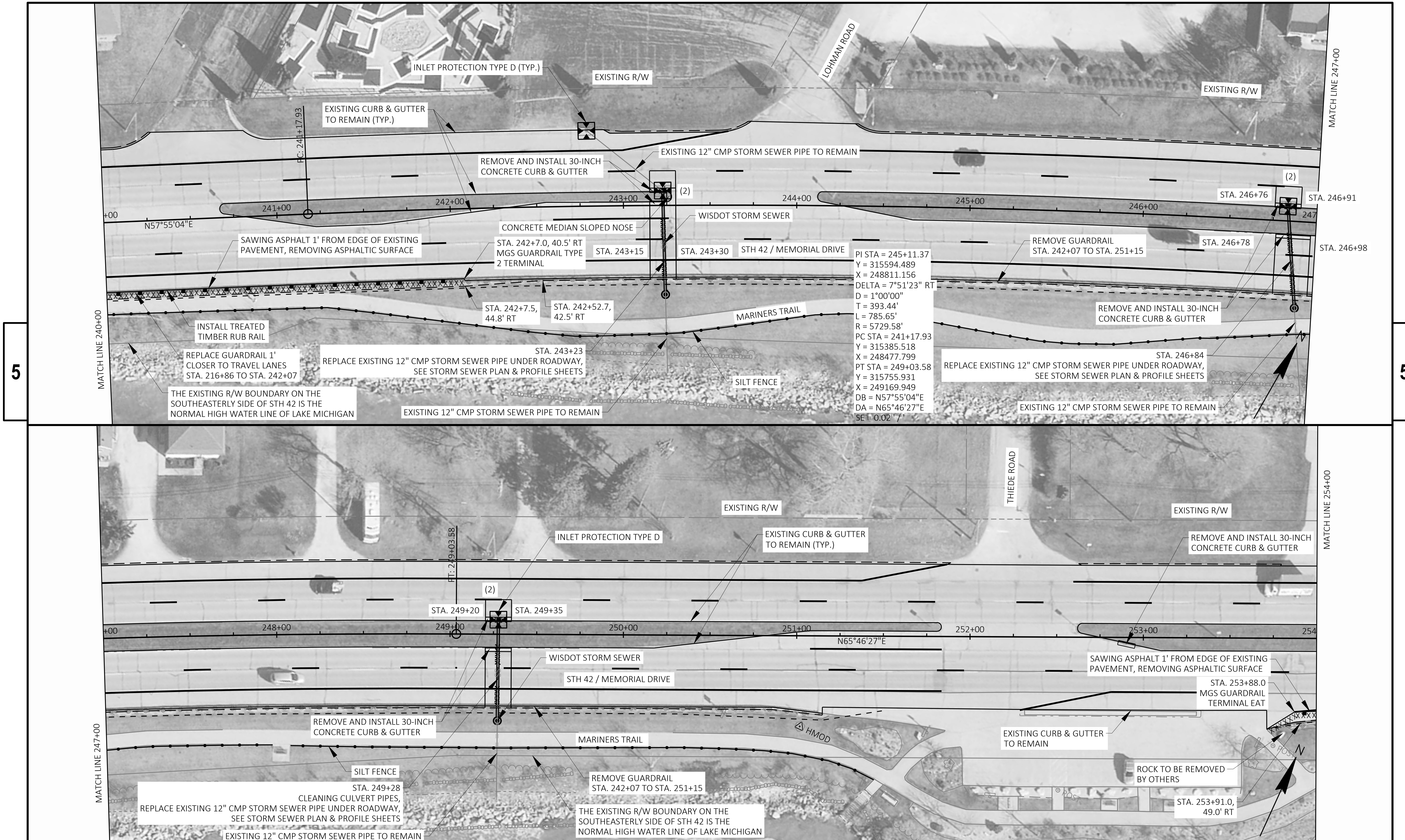
MATCH LINE 233+00



MATCH LINE 240+00

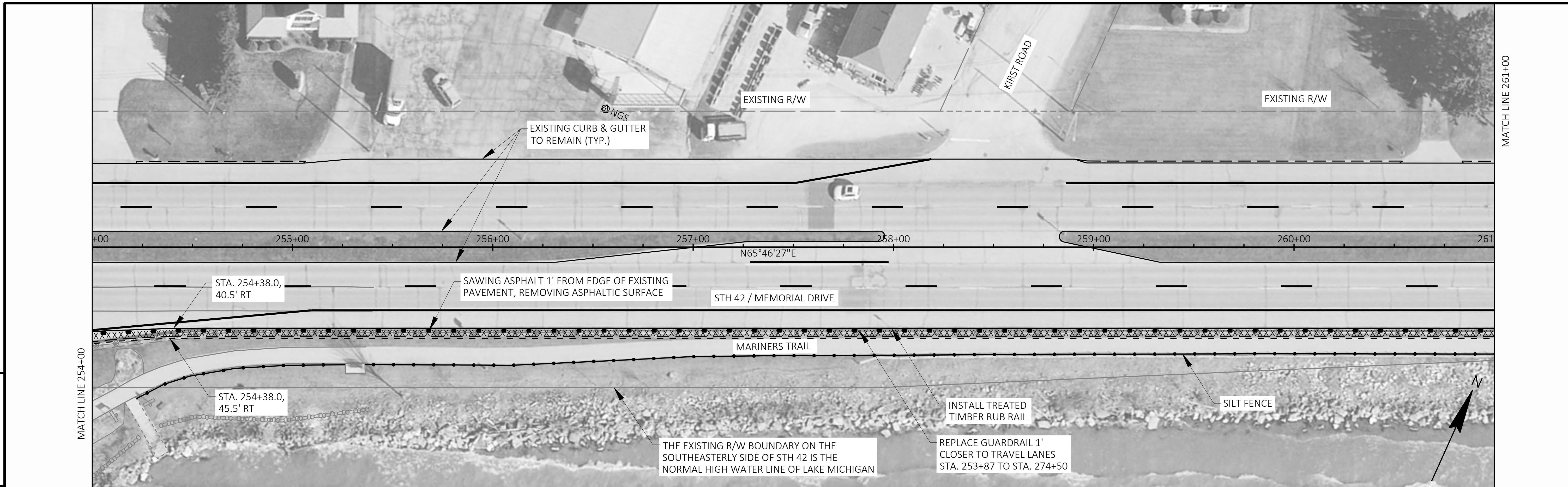
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 116	E

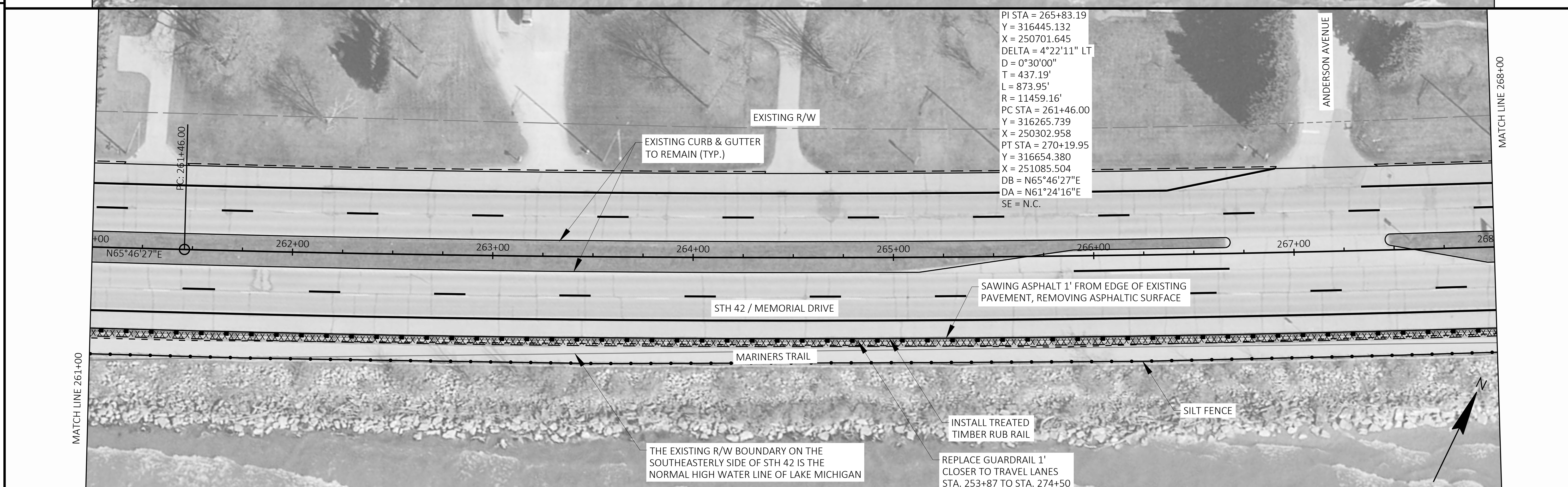
FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050210-pn
PLOT DATE : 10/29/2024 6:21 AM
PLOT BY : JASON DOLENS
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44



PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 117	E

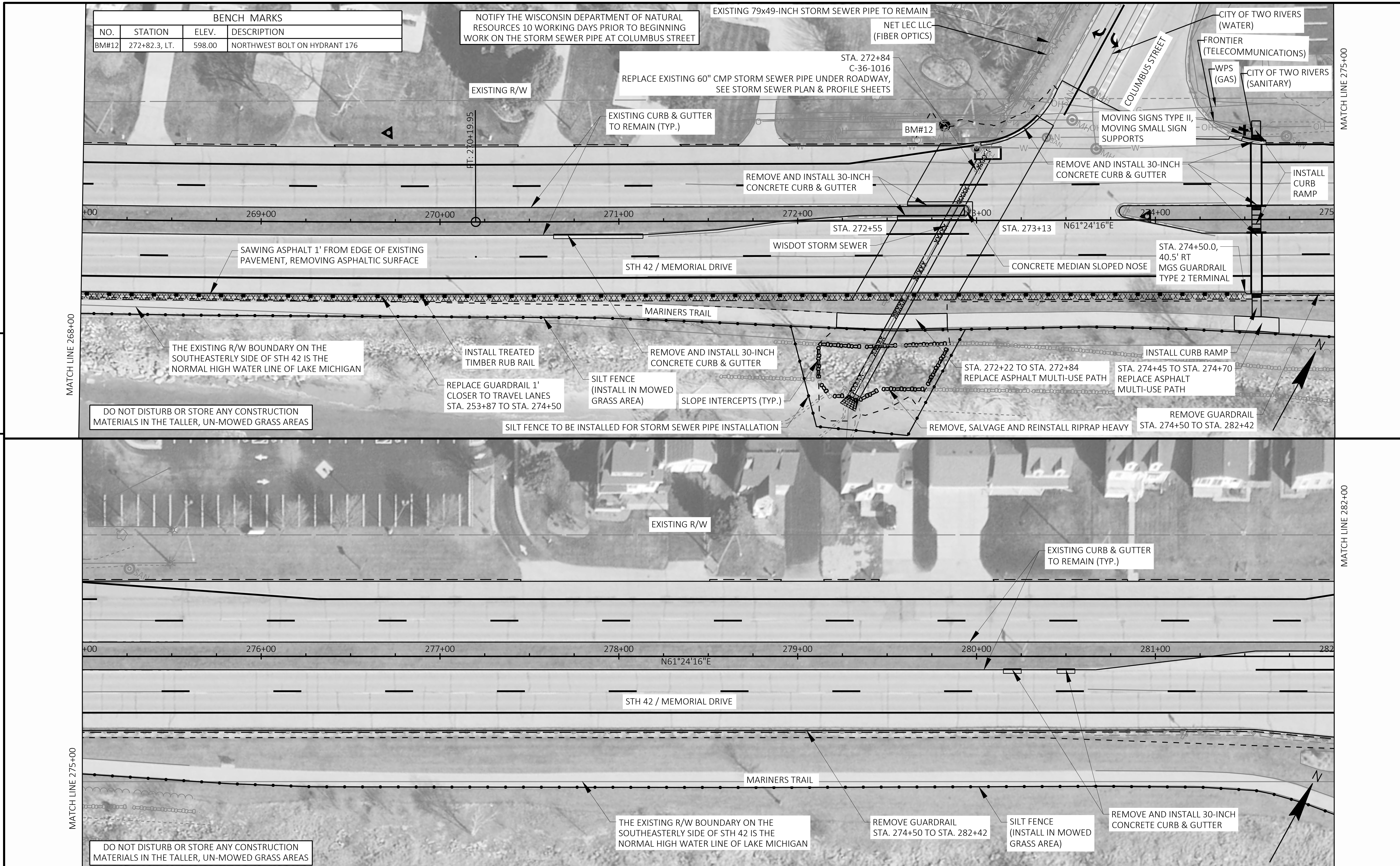
FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050211-pn
PLOT DATE : 10/29/2024 6:22 AM
PLOT BY : JASON DOLENS
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44





PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 118	E

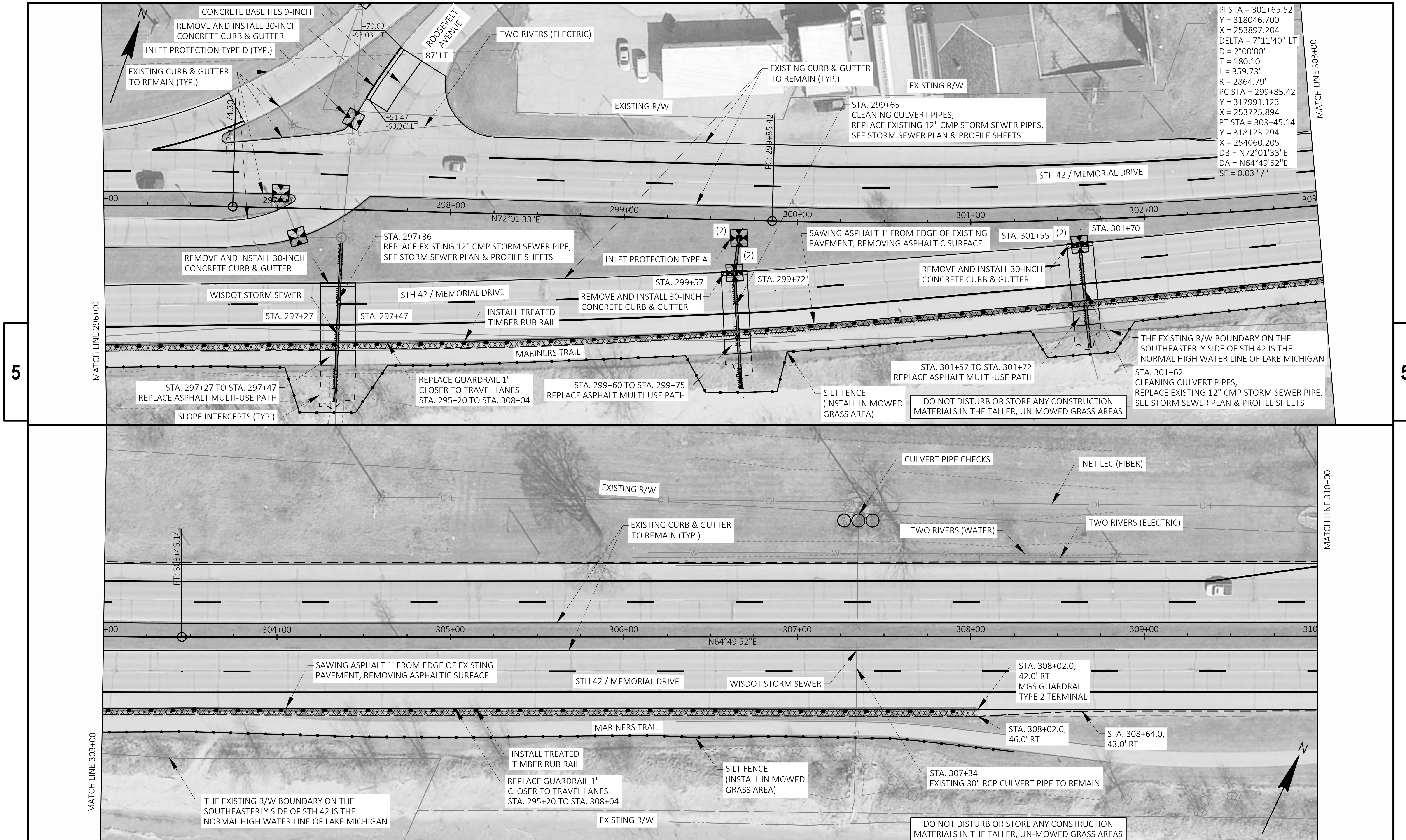
BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
BM#12	272+82.3, LT.	598.00	NORTHWEST BOLT ON HYDRANT 176



PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 119	E

PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 120	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050214-pn
PLOT DATE : 10/29/2024 6:24 AM
PLOT BY : JASON DOLENS
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44



PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 121	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050215-pn
PLOT DATE : 10/29/2024 6:24 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

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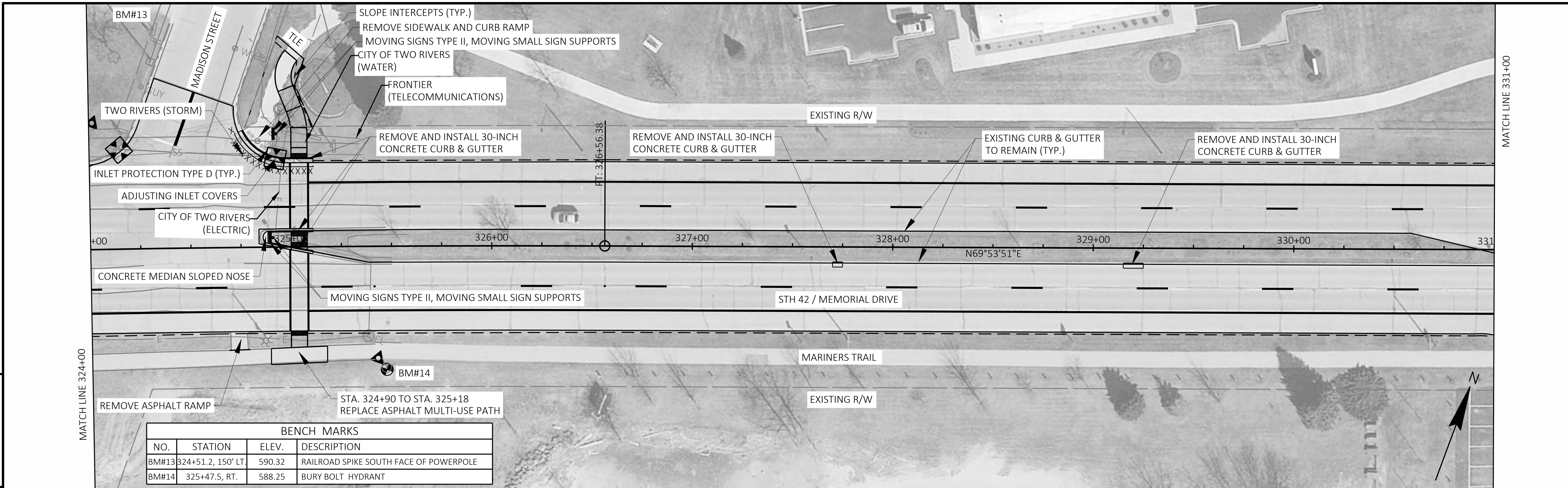
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 122	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050216-pn
PLOT DATE : 10/29/2024 6:25 AM
PLOT BY : JASON DOLENS
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44



BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
BM#13	324+51.2, 150' LT.	590.32	RAILROAD SPIKE SOUTH FACE OF POWERPOLE
BM#14	325+47.5, RT.	588.25	BURY BOLT HYDRANT

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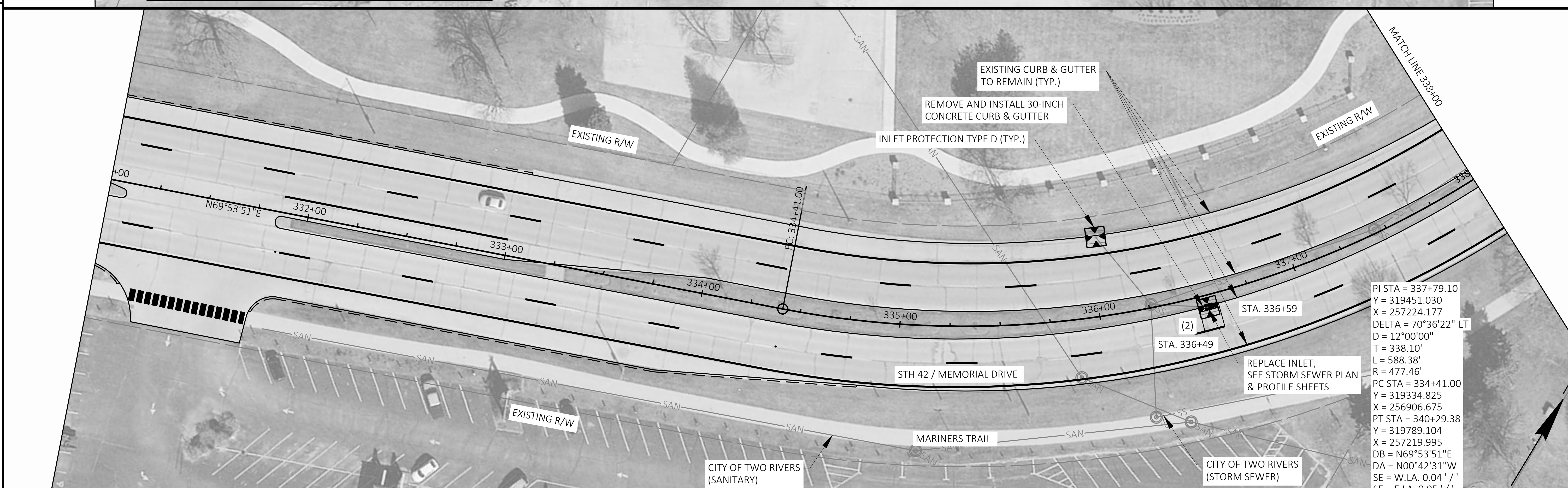
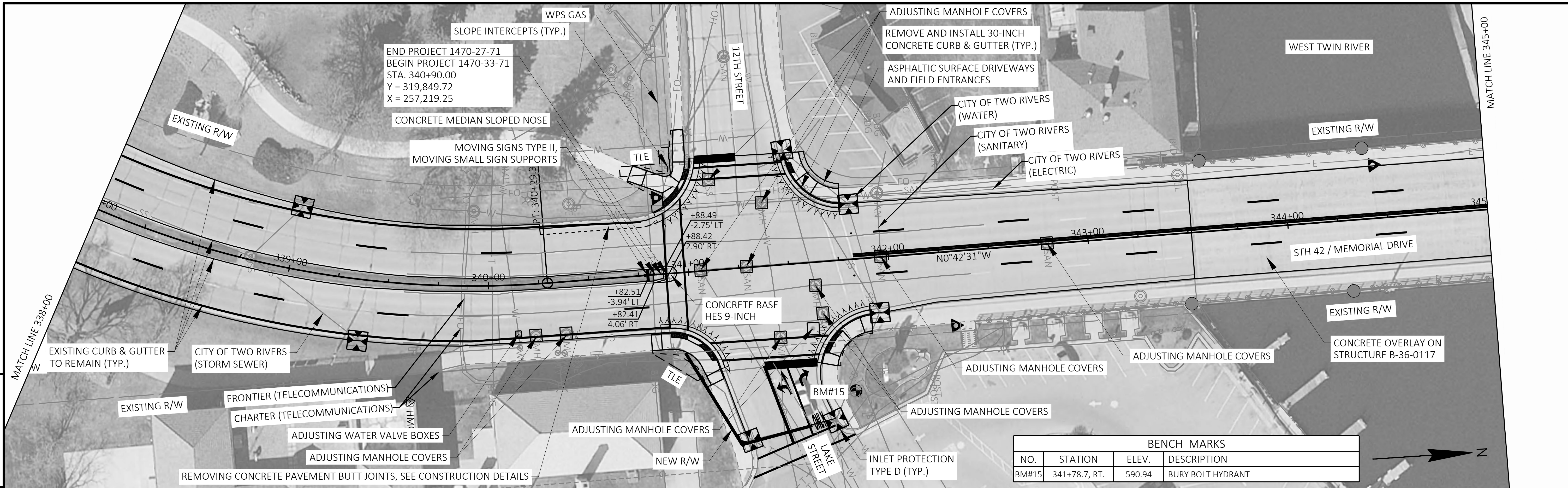


PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 123	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050217-pn
PLOT DATE : 12/12/2024 5:03 PM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44



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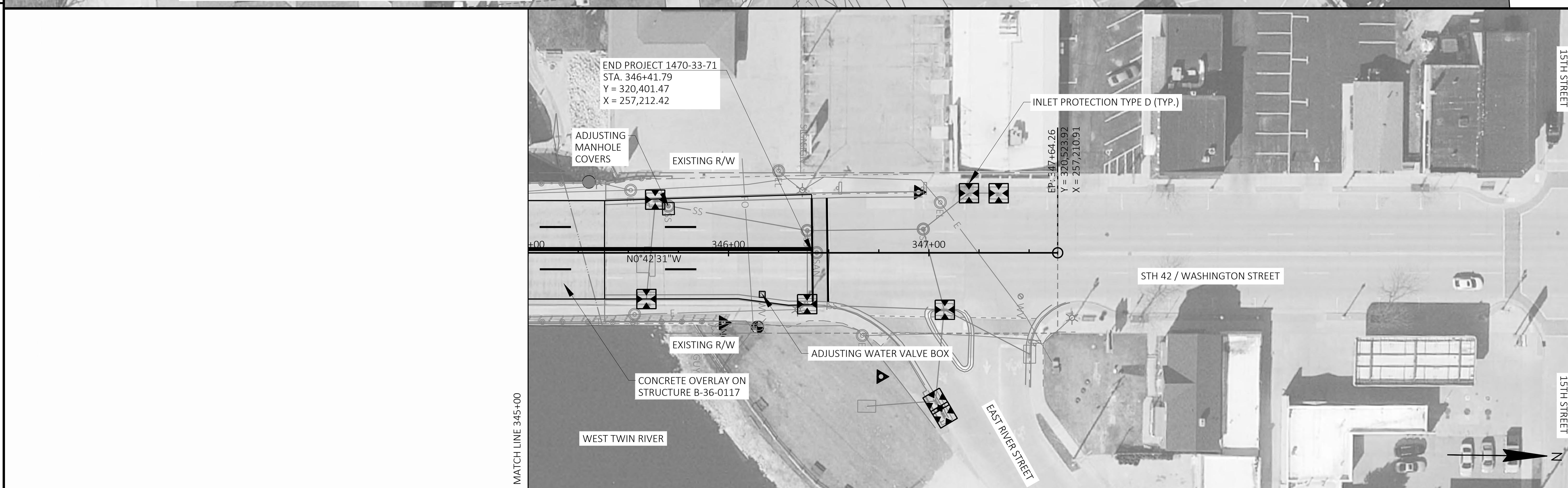
BENCH MARKS

NO.	STATION	ELEV.	DESCRIPTION
BM#15	341+78.7, RT.	590.94	BURY BOLT HYDRANT



PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 124	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050218-pn
PLOT DATE : 10/29/2024 6:26 AM
PLOT BY : JASON DOLENS
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

08A05-21A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-21B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-21E	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-04	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08C06-03	INLETS 3-FT AND 4-FT DIAMETER
08C07-03	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT, 2.5X3-FT & 2X3.5-FT
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-21A	CURB RAMPS TYPES 1 AND 1-A
08D05-21B	CURB RAMPS TYPES 2 AND 3
08D05-21C	CURB RAMPS TYPES 4A AND 4A1
08D05-21D	CURB RAMPS TYPE 4B AND 4B1
08D05-21E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-21F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-21G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
11B02-02	CONCRETE MEDIAN NOSE
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-17A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-17B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-17C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C14-07A	BASE PATCHING CONCRETE
13C14-07B	BASE PATCHING CONCRETE
13C14-07C	BASE PATCHING CONCRETE
13C15-08A	CONCRETE BASE
13C15-08B	CONCRETE BASE
13C18-08A	CONCRETE PAVEMENT JOINTING
13C18-08B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-08C	CONCRETE PAVEMENT JOINT TYPES
13C18-08D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
13C18-08F	CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER
13C19-03	HMA LONGITUDINAL JOINTS
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B43-04A	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-04B	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-04C	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-05A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05D	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05E	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05F	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05G	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END

6

Standard Detail Drawing List

15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C07-15C	PAVEMENT MARKING ARROWS
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C08-23C	PAVEMENT MARKING (TURN LANES)
15C08-23D	PAVEMENT MARKING (TURN LANES)
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C18-08B	MEDIAN ISLAND MARKING MEDIAN ISLAND NOSE
15C19-09C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C33-05	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15D20-08A	TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY
15D21-07A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D21-07B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D30-09F	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09K	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D40-05A	TRAFFIC CONTROL, FULL LANE SHIFT NON-FREEWAY OR MULTILANE DIVIDED 45 MPH AND UNDER
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

6

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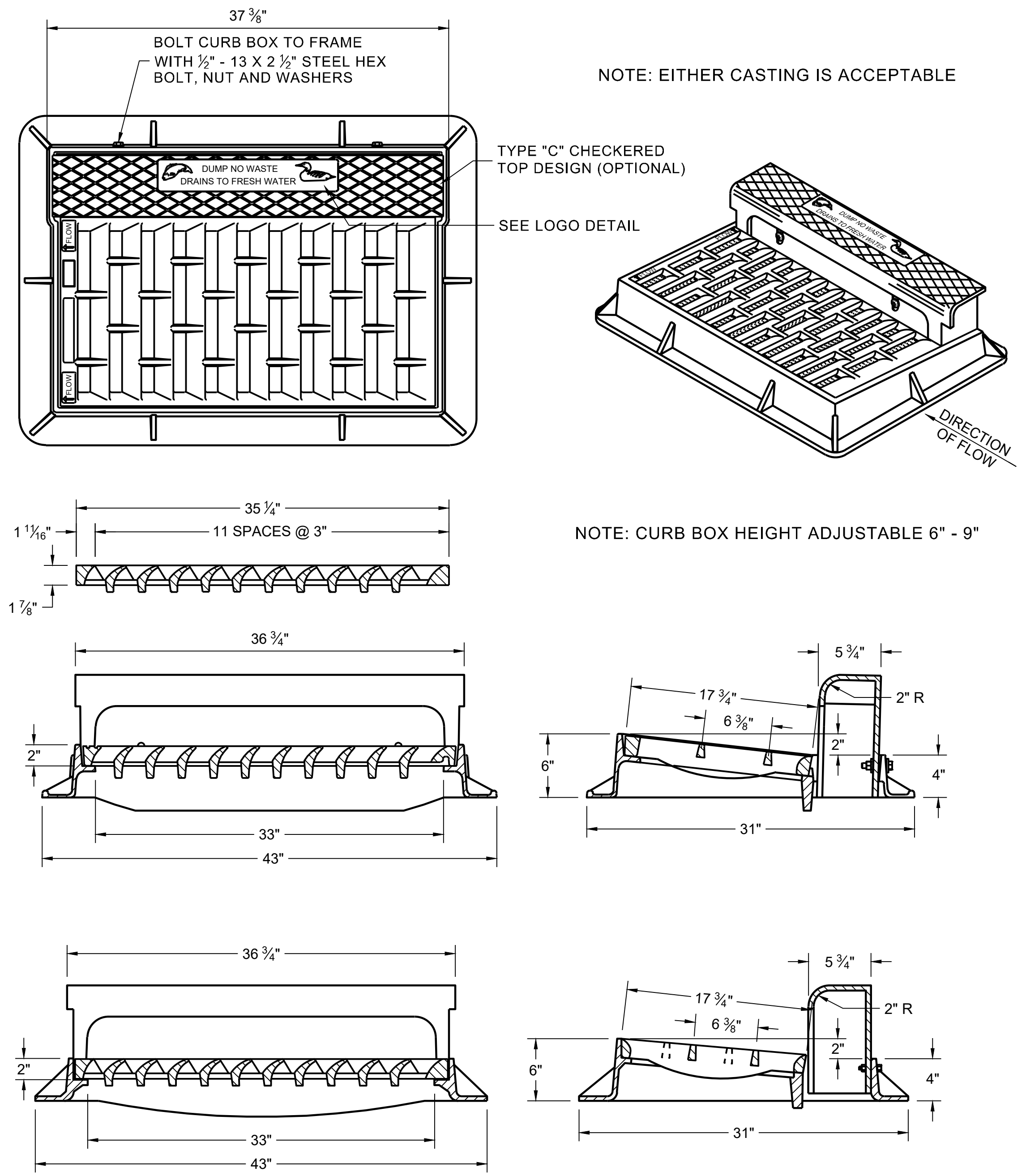
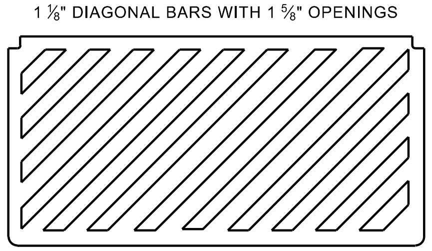


TYPE "H"

NOTE: EITHER CASTING IS ACCEPTABLE

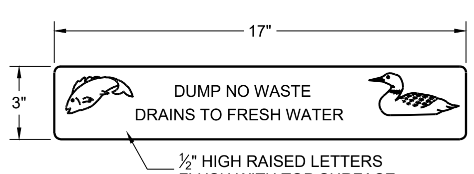
1 ⅛" DIAGONAL BARS WITH 1 ⅝" OPENINGS



SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35" X 17 ¾" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



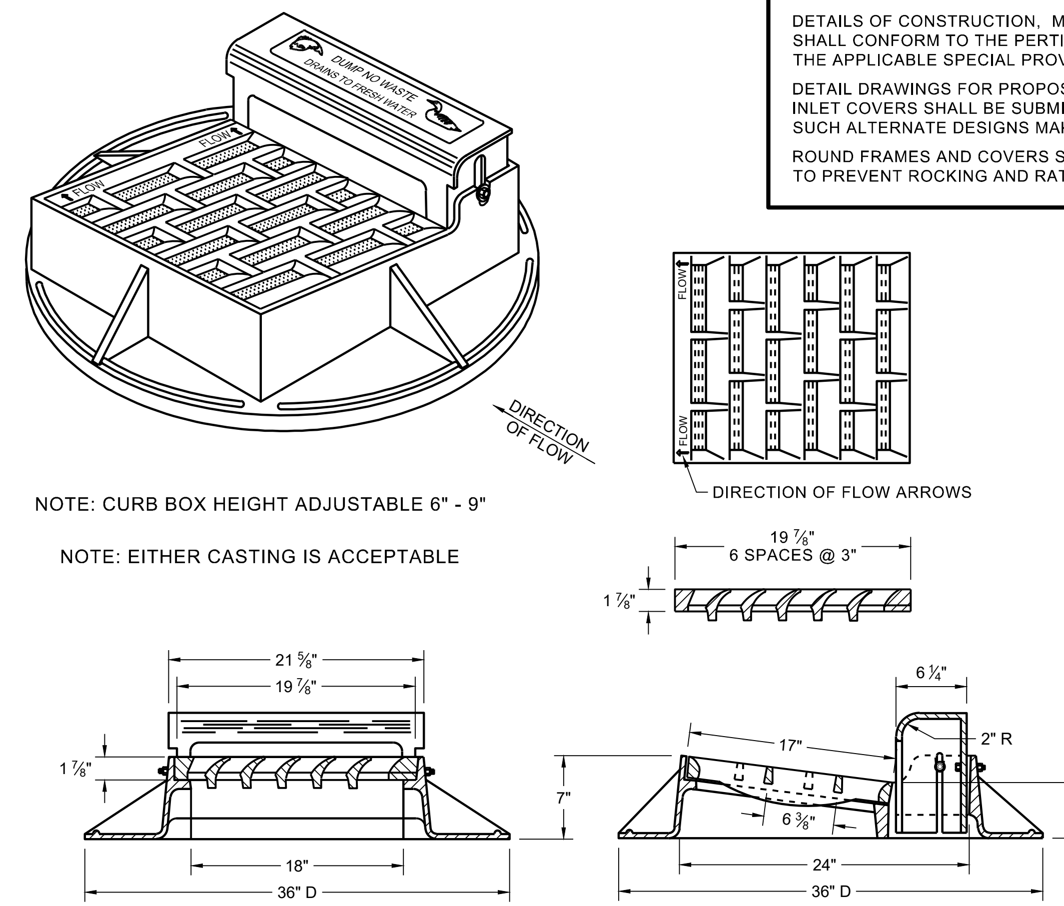
LOGO DETAIL

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.

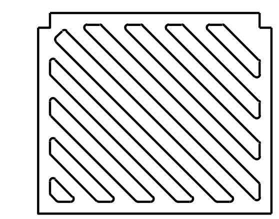
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



TYPE "A"

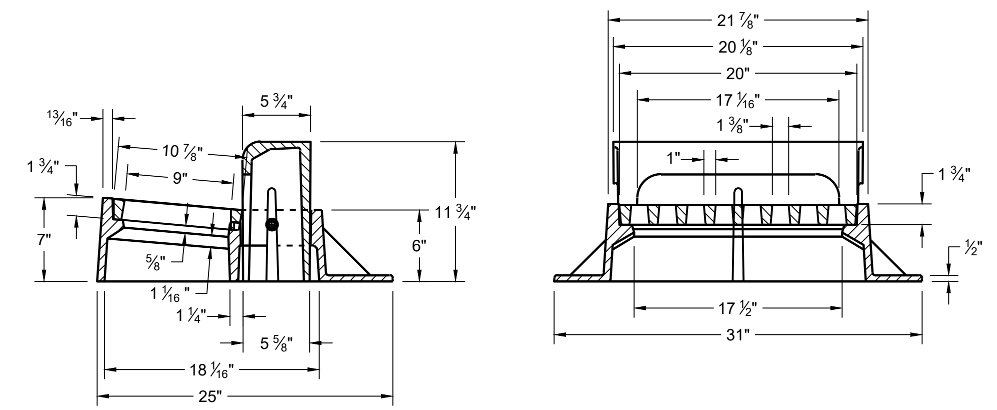
1" DIAGONAL BARS WITH 1 ½" OPENINGS

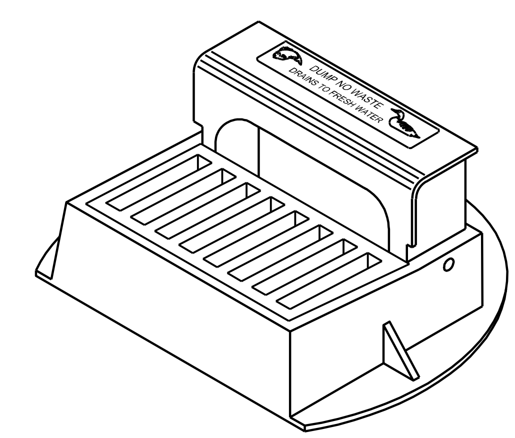


SPECIAL GRATE FOR TYPE "A" COVER

(MEASURES 19 ¾" X 17" X 1 ⅞")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)





TYPE "Z"

6

INLET COVERS TYPES A, H, A-S, H-S AND Z

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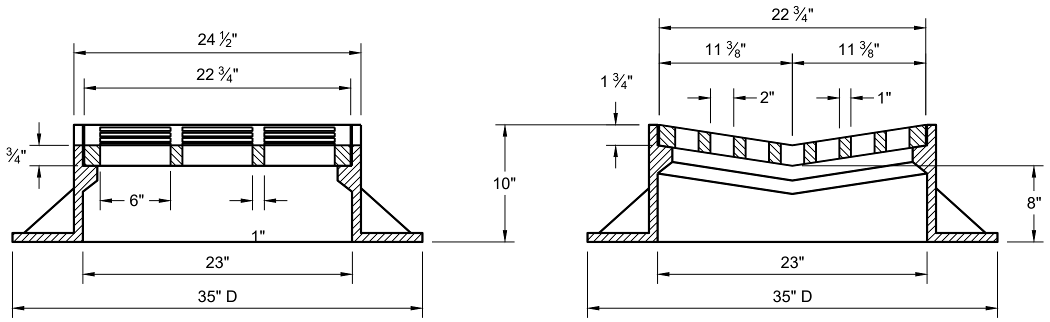
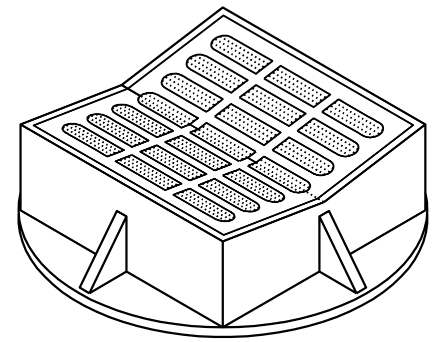
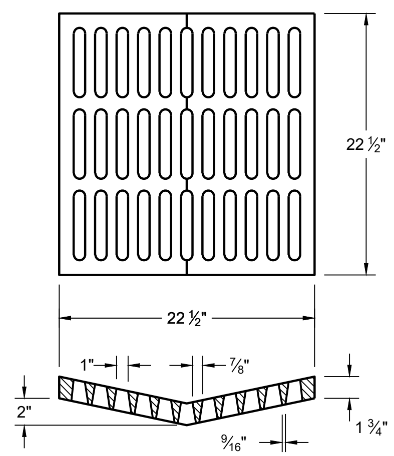




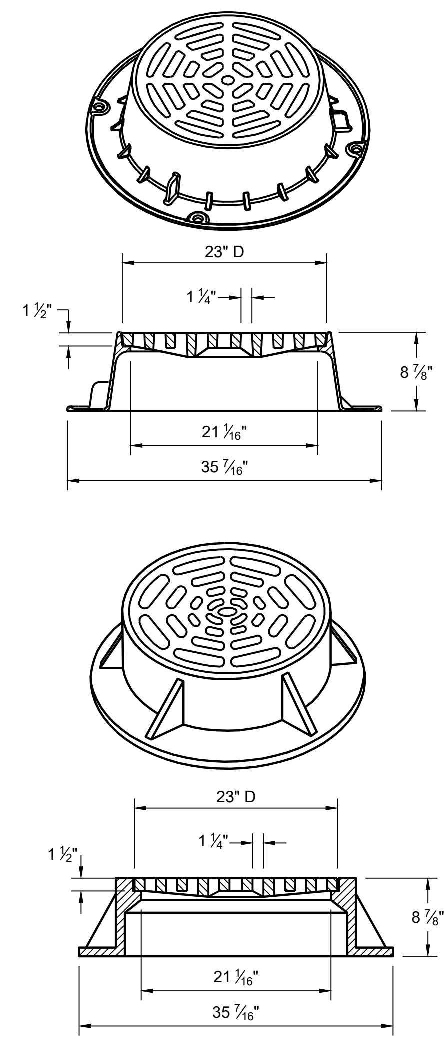
TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OF BICYCLE TRAFFIC IS POSSIBLE

NOTED AS TYPE B - A ON THE DRAINAGE TABLE



TYPE "C"

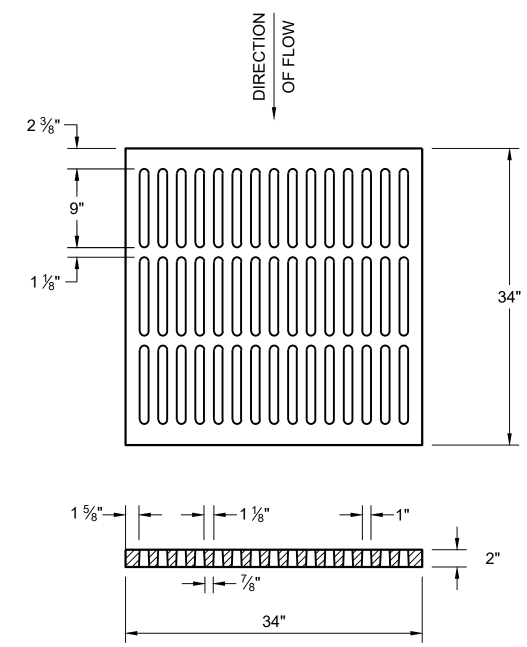
NOTE: EITHER CASTING IS ACCEPTABLE

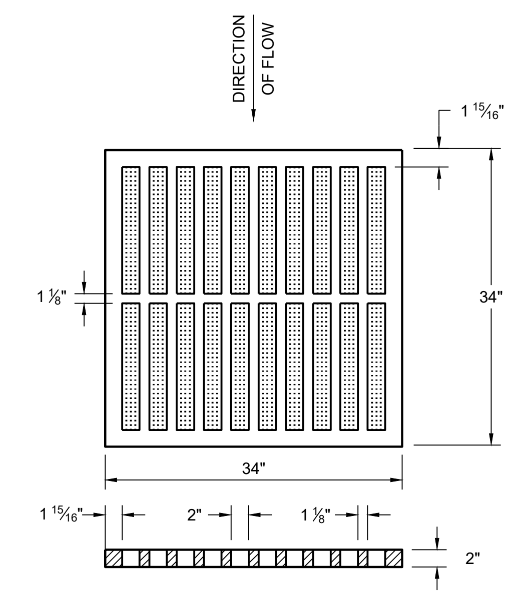
GENERAL NOTES

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 CATCH BASIN, MANHOLE AND INLET 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.





ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OF BICYCLE TRAFFIC IS PERMITTED

NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS

NOTED AS TYPE MS ON THE DRAINAGE TABLE

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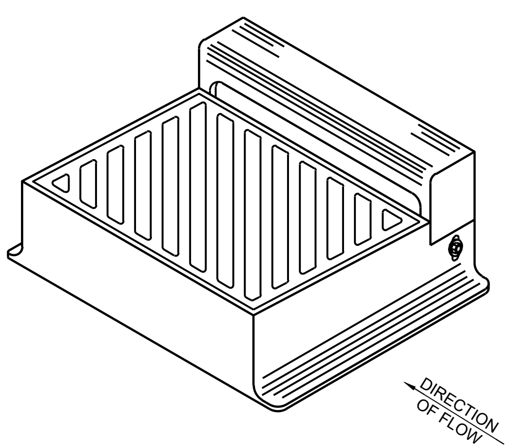
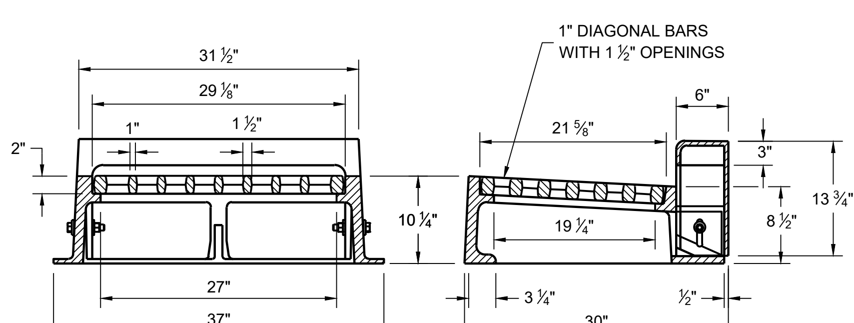


DIAGONAL SLOTS SHALL BE ORIENTEDTO THE DIRECTION OF FLOW AS ILLUSTRATED.
GRATES ARE MANUFACTURED TO BE REVERSIBLE.



TYPE "WM"

NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

INLET COVERS TYPES B, B-A, C, MS, MS-A AND WM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
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DATE	ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

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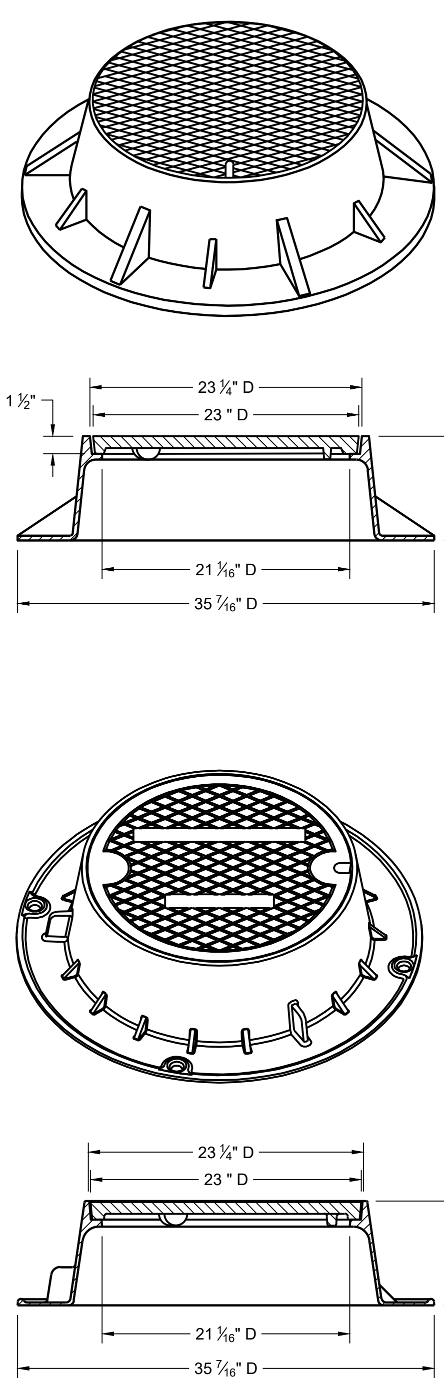
SDD 08A05-21b

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.

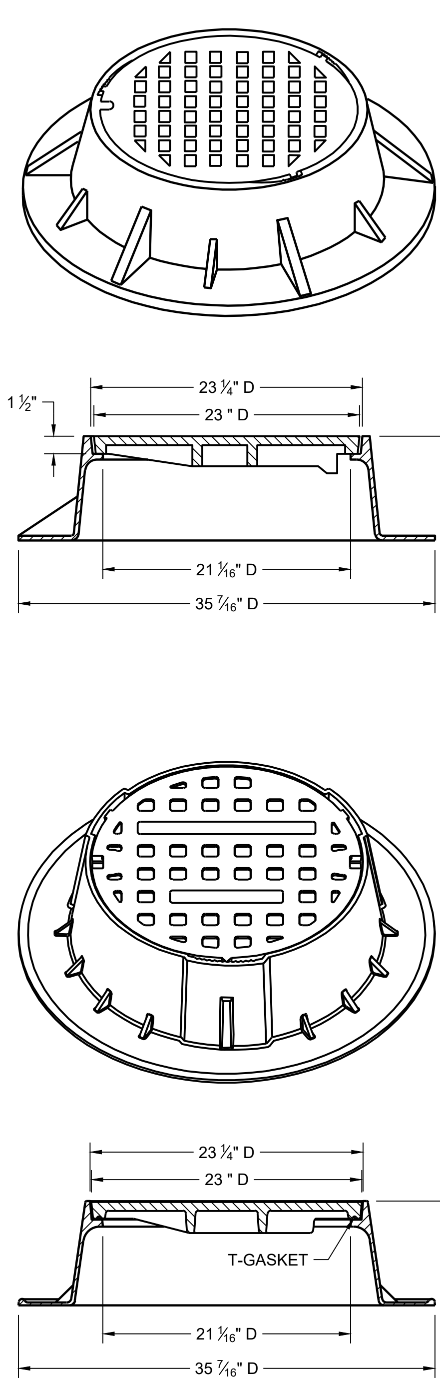
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



TYPE "J"

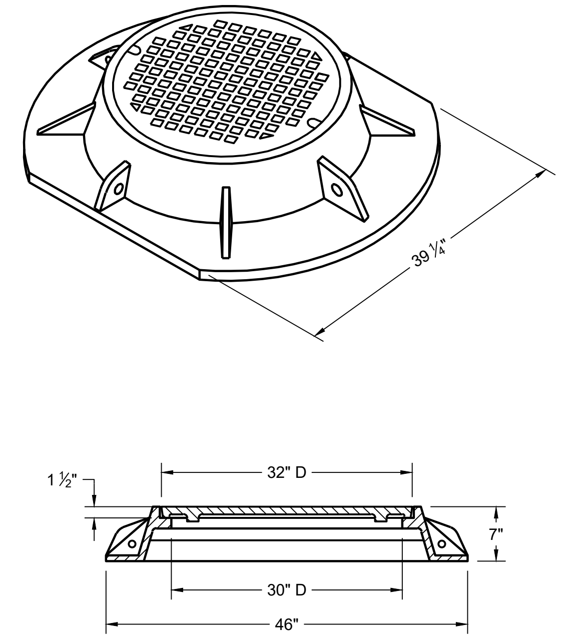
NOTE: EITHER CASTING IS ACCEPTABLE



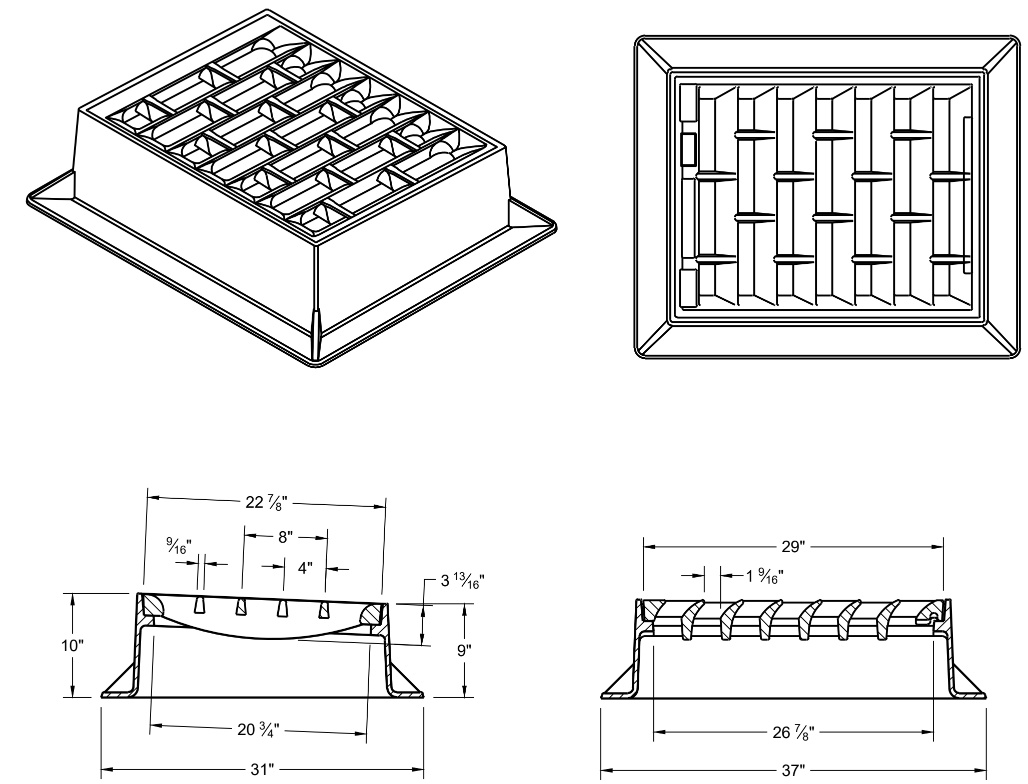
TYPE "J" SPECIAL

TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

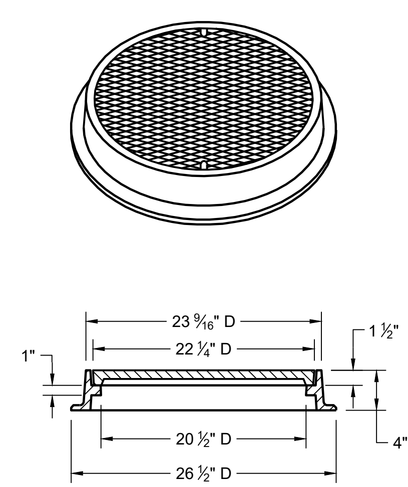
NOTE: EITHER CASTING IS ACCEPTABLE



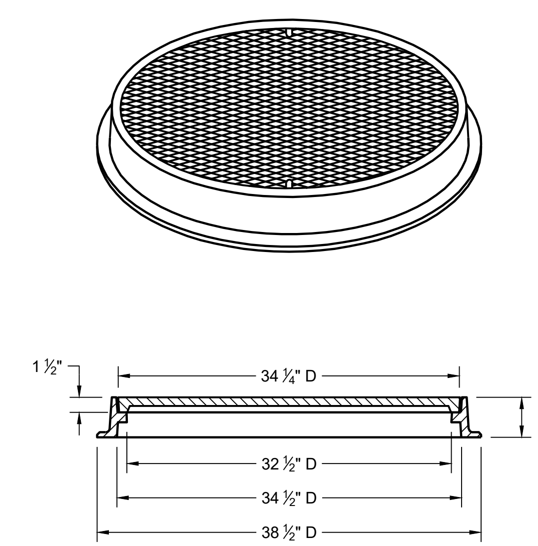
TYPE "K"



INLET COVER TYPE "BW"



TYPE "L"



TYPE "M"

INLET COVERS TYPES BW MANHOLE COVERS TYPES K, J, J-S, L, AND M

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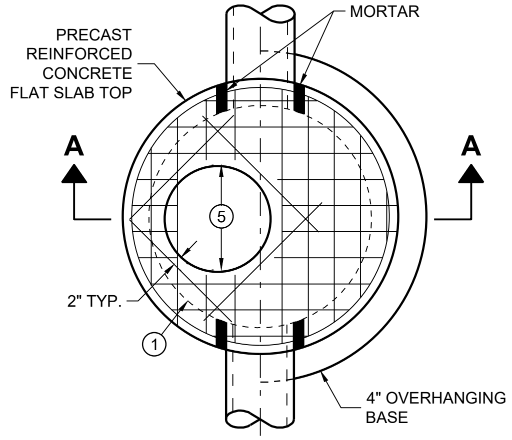
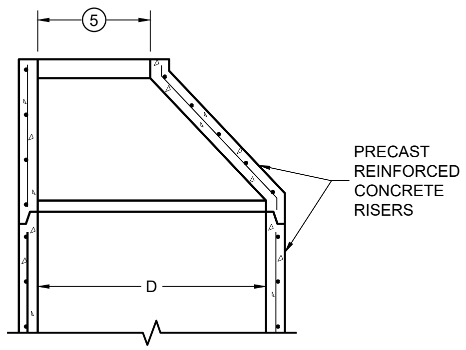
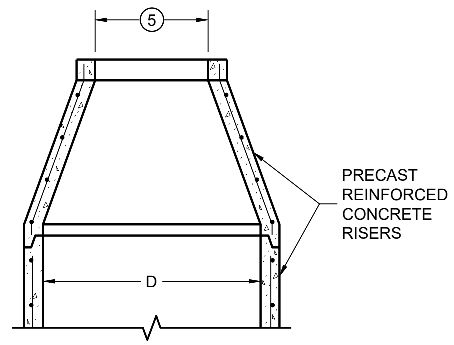


PLAN VIEW
CIRCULAR OPENING



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP



OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

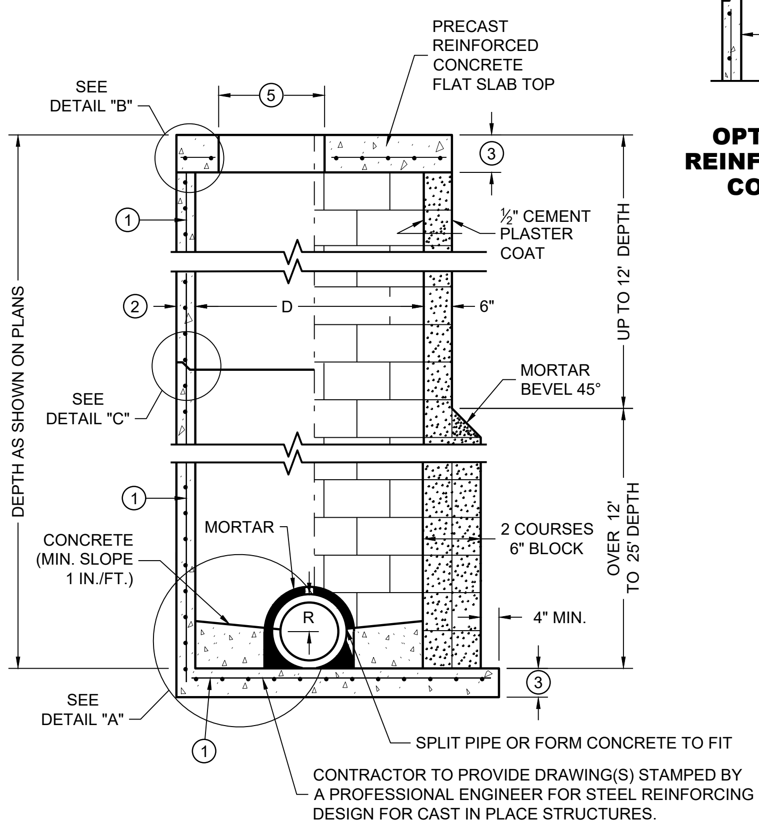
MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE / OPENING SIZE (FT.) (5)	C	ALL J'S	K	L	M
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

MANHOLE SIZE (DIA.)	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES		MINIMUM WALL THICKNESS (IN)	MINIMUM PRECAST FLAT SLAB TOP AND BASE THICKNESS
	180° SEPARATION (IN)	90° SEPARATION (IN)		
3-FT	15	12	4	6
4-FT	24	18	4	6
5-FT	36	24	5	8
6-FT	42	36	6	8
7-FT	48	36/42 *	7	8
8-FT	60	42	8	8
9-FT	66	54	9	10
10-FT	72	60	10	10

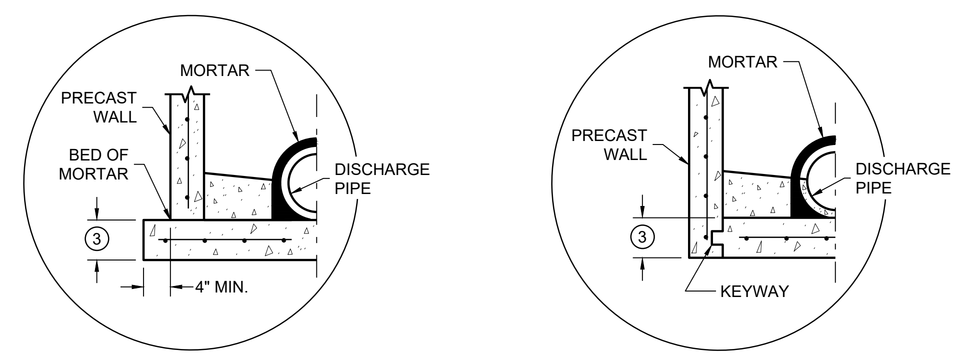
*A 36" PIPE AND A 42" PIPE CAN BE PLACED WITHIN 90 DEGREES. SEE MINIMUM HORIZONTAL PIPE SEPARATION DETAIL.



SECTION A - A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

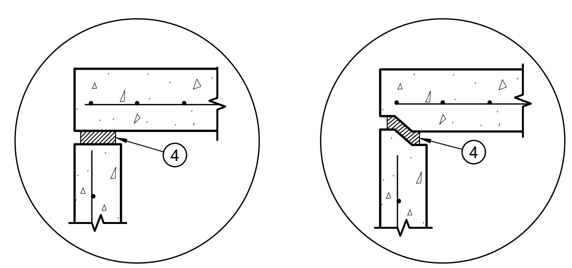
CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE (1)



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

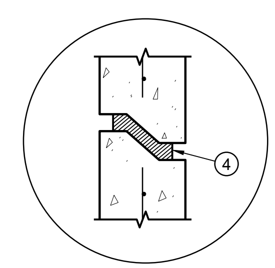
DETAIL "A"



TOP WITH PLAIN END JOINT

TOP WITH TONGUE AND GROOVE JOINT

DETAIL "B"



RISER WITH TONGUE AND GROOVE JOINT

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 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 FOUNDATION 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.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES. 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 IMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½ 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 MANHOLE 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 "D".

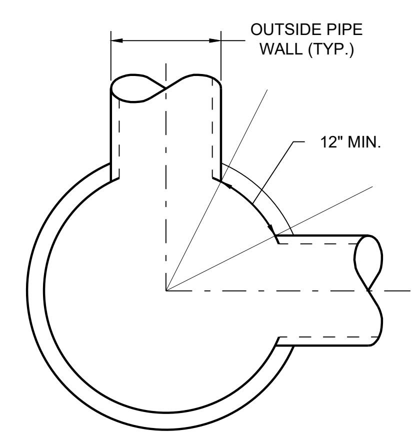
(1) FOR PRECAST MANHOLES AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

(2) SEE PIPE MATRIX TABLE FOR MINIMUM WALL THICKNESS FOR PRECAST MANHOLES

(3) SEE PIPE MATRIX TABLE FOR MINIMUM THICKNESS OF PRECAST FLAT SLAB TOPS AND BASES.

(4) JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 OR RUBBER GASKETS CONFORMING TO ASTM C443.

(5) SEE MANHOLE COVER OPENING MATRIX.



MINIMUM HORIZONTAL PIPE SEPARATION

DETAIL "D"

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER

MANHOLES, 3-FT, 4-FT 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER

STATE OF WISCONSIN
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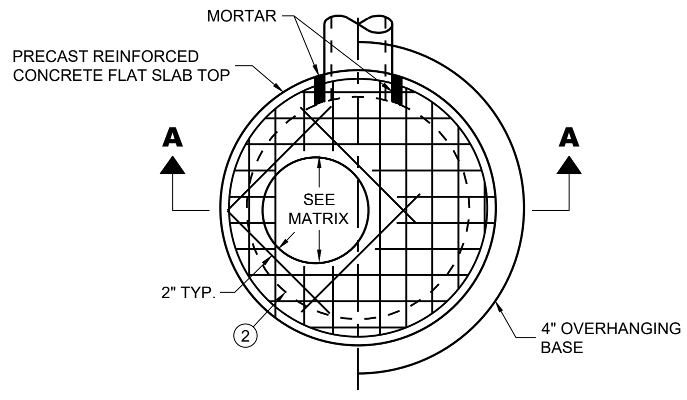
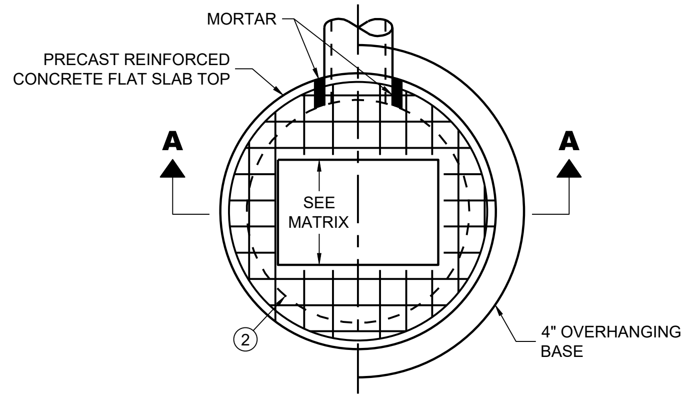
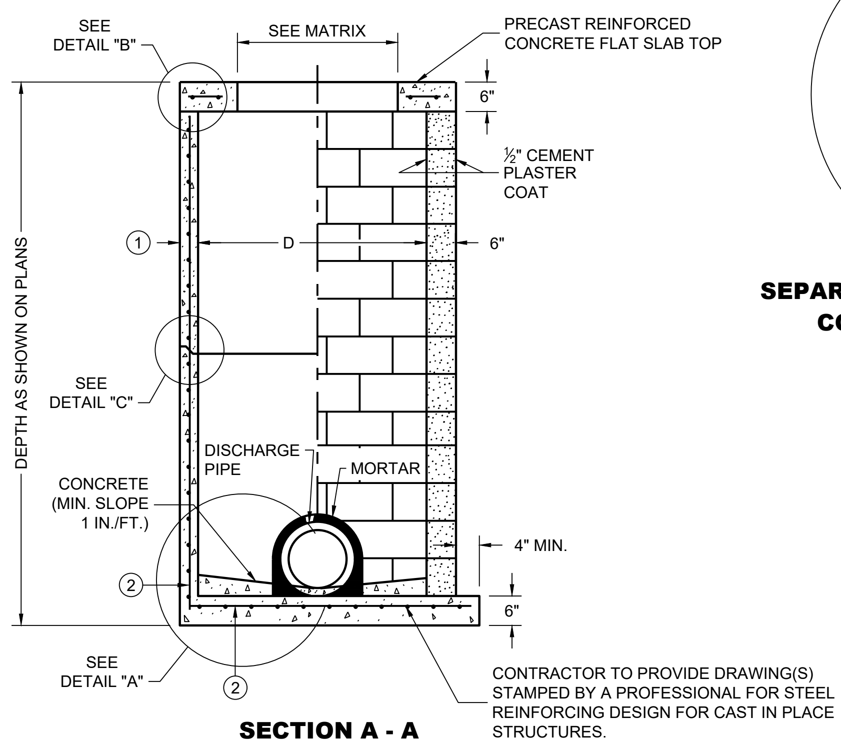


PLAN VIEW CIRCULAR OPENING



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

CIRCULAR INLETS WITH FLAT TOP

CATCH BASIN COVER OPENING MATRIX

INLET 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	2 DIA.				X							X
	2 X 2	X	X					X		X		
4-FT	2 DIA.				X							X
	2 X 2	X	X					X		X		
	2 X 2.5			X				X	X	X	X	
	2 X 3						X					
	2.5 X 3					X						

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

GENERAL NOTES

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BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION 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.

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.

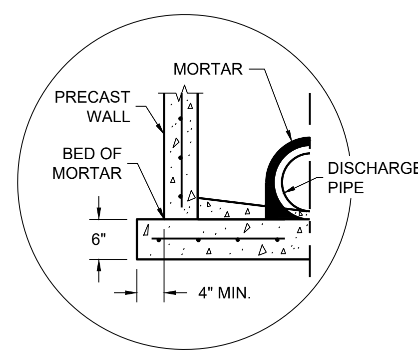
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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 "D".

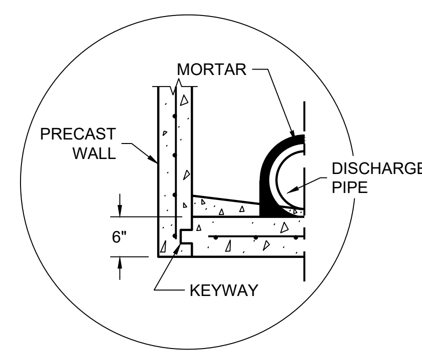
1 MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT DIAMETER AND 5 INCHES FOR 4-FT DIAMTER PRECAST INLETS.

2 FOR PRECAST INLETS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

3 JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 OR RUBBER GASKETS CONFORMING TO ASTM C443.

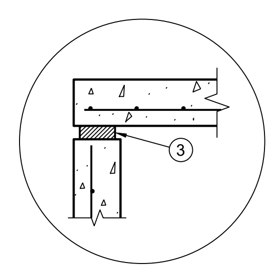


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

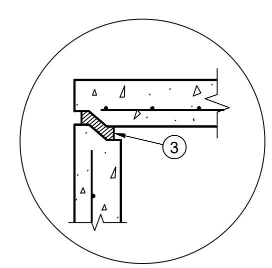


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

DETAIL "A"

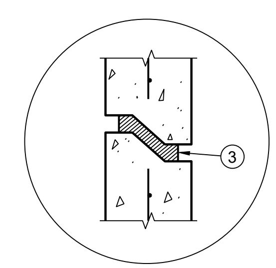


TOP WITH PLAIN END JOINT



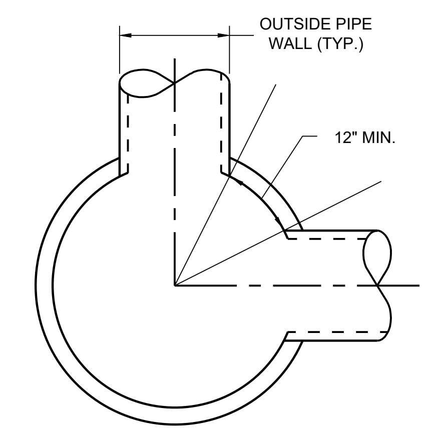
TOP WITH TONGUE AND GROOVE JOINT

DETAIL "B"



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "C"



MINIMUM HORIZONTAL PIPE SEPARATION

DETAIL "D"

INLETS 3-FT AND 4-FT DIAMETER

INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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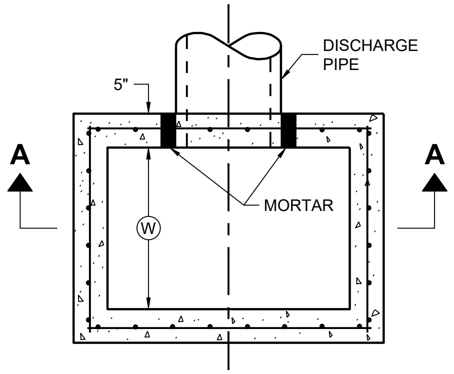
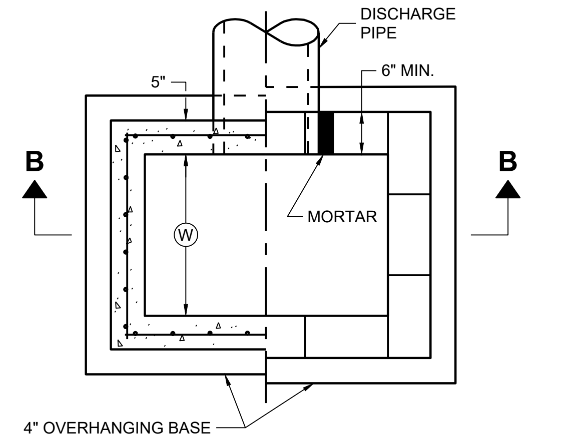
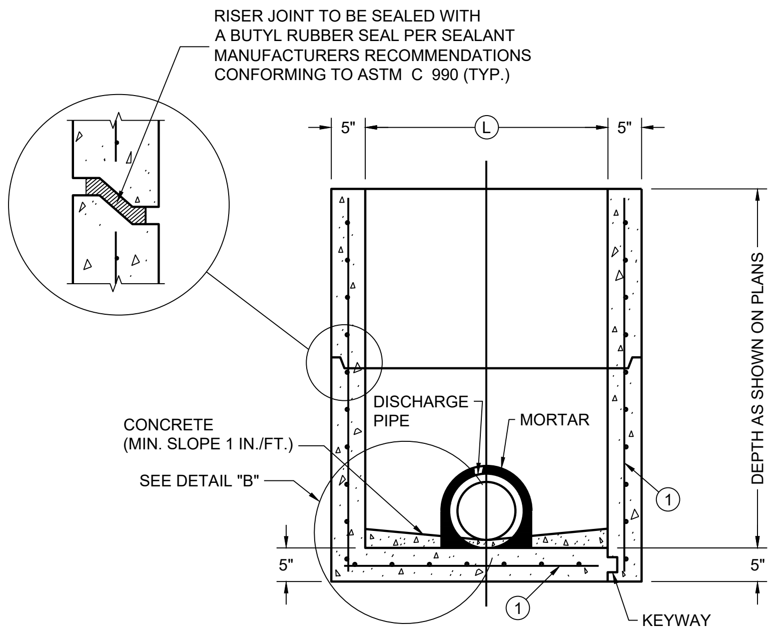
December 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA



PLAN VIEW



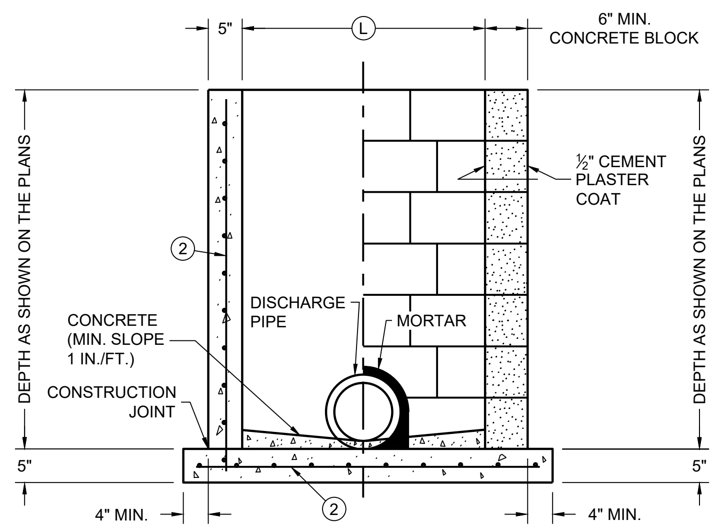
PLAN VIEW



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE

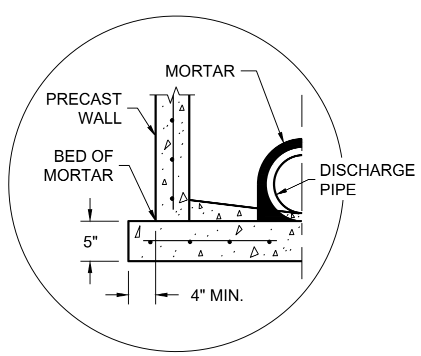
SECTION A - A



CAST IN PLACE REINFORCED CONCRETE

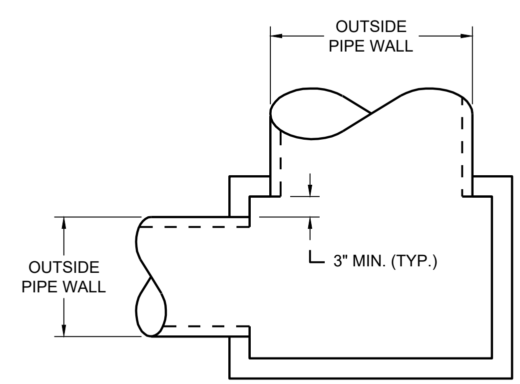
CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE (1)

SECTION B - B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "B"



DETAIL "A"

INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2X3.5-FT

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP N0T 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 INLET 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 INLET 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 FOUNDATION 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 INLETS AND REINFORCED CONCRETE BASES 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.

CATCH BASIN COVER MATRIX

INLET SIZE	WIDTH (W) (FT.)	LENGTH (L) (FT.)	INLET COVER TYPE									
			ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM	V V-B
2 X 2-FT	2	2	X	X				X				
2 X 2.5-FT	2	2.5			X			X	X	X	X	
2 X 3-FT	2	3					X					
2.5 X 3-FT	2.5	3				X						
2 X 3.5-FT	2	3.5										X

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2 X 2-FT	12	12
2 X 2.5-FT	12	18
2 X 3-FT	12	24
2.5 X 3-FT	18	24
2 X 3.5-FT	12	30

INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2 X 3.5-FT

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FHWA

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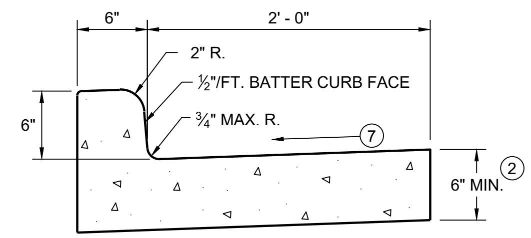
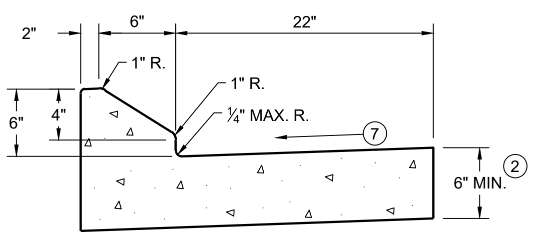
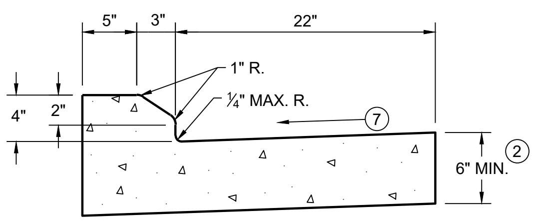
SDD 08C07-03



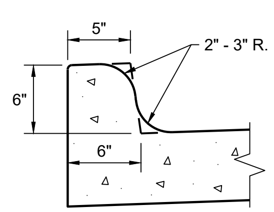
TYPES A (1) & D



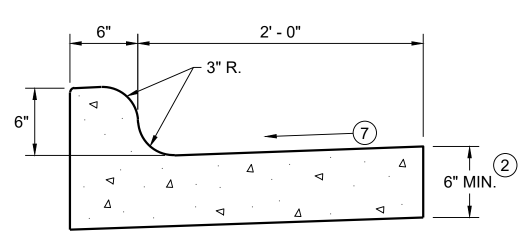
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

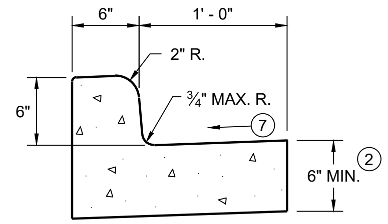


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



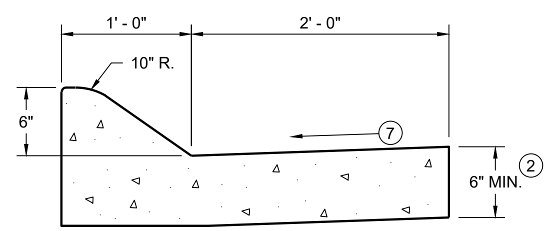
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

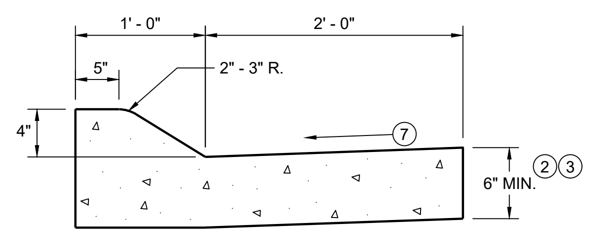


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

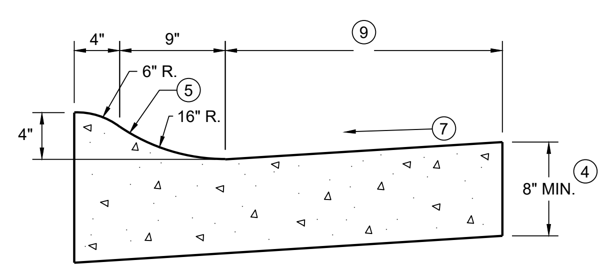


6" SLOPED CURB TYPES A (1) & D



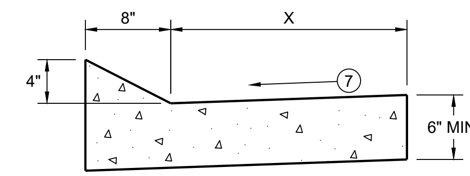
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T

TBT & TBTT	X
30"	22"
36"	28"



TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

GENERAL NOTES

DETAILS OF CONSTRUCTION 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 AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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 GUTTERS TYPES A, G, K, R, AND TBTT.

(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) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) 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.

(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

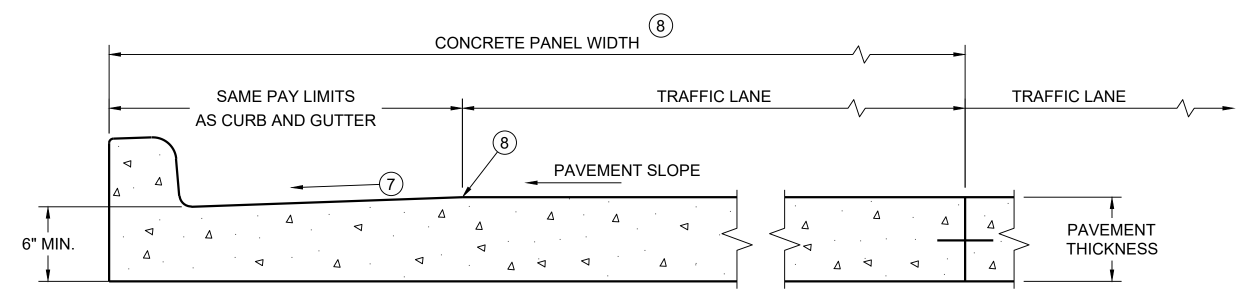
(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

(9) CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

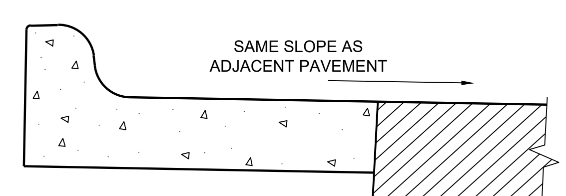
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER (6)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 08D01-23a

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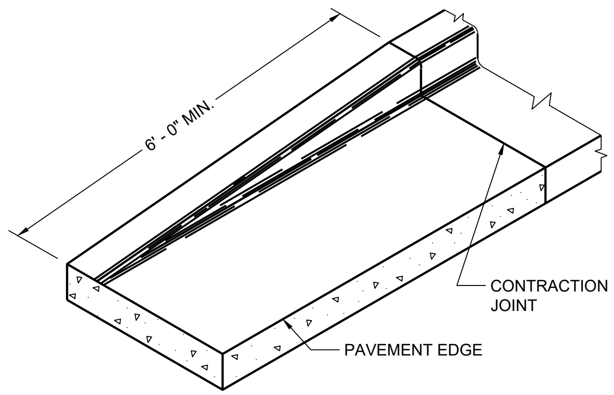
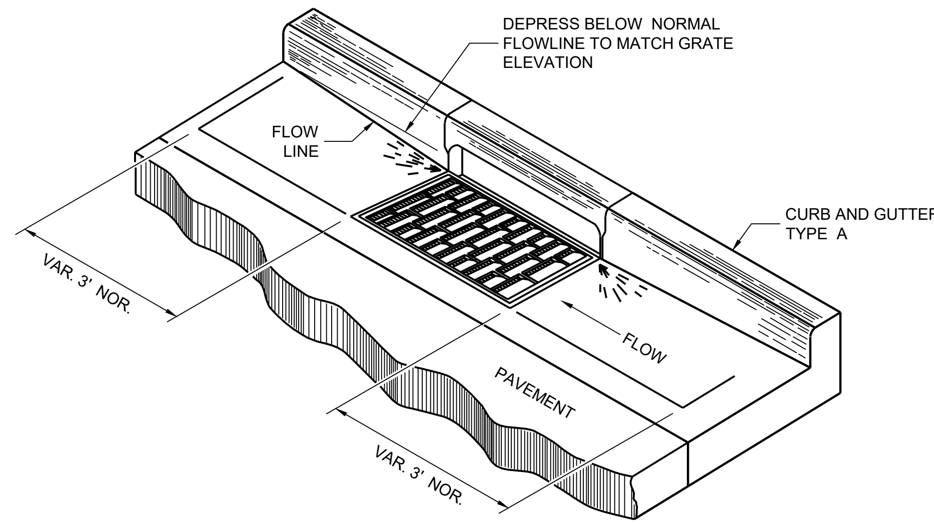


END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

DETAILS OF CONSTRUCTION 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.

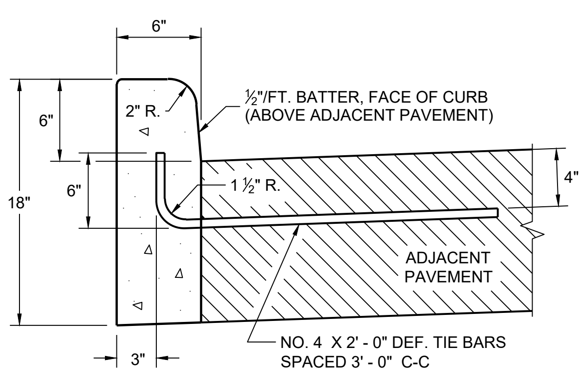
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

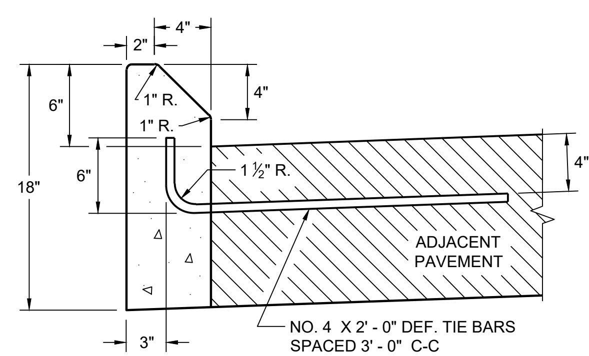
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(10) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

(11) PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.

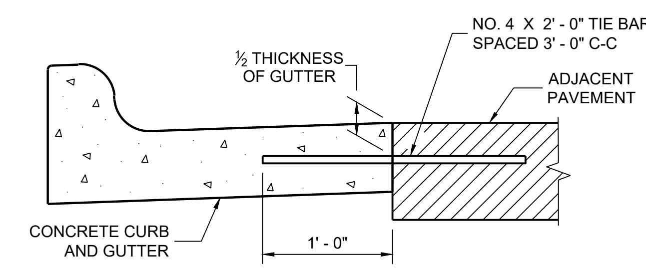


TYPES A (1) & D

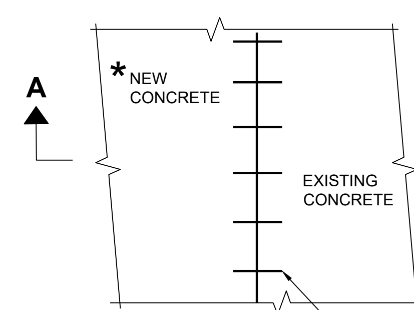


TYPES G (1) & J

CONCRETE CURB

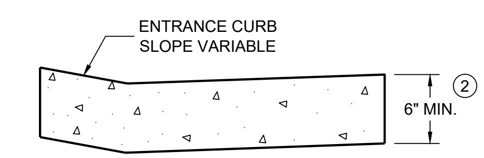


TYPICAL TIE BAR LOCATION (1)



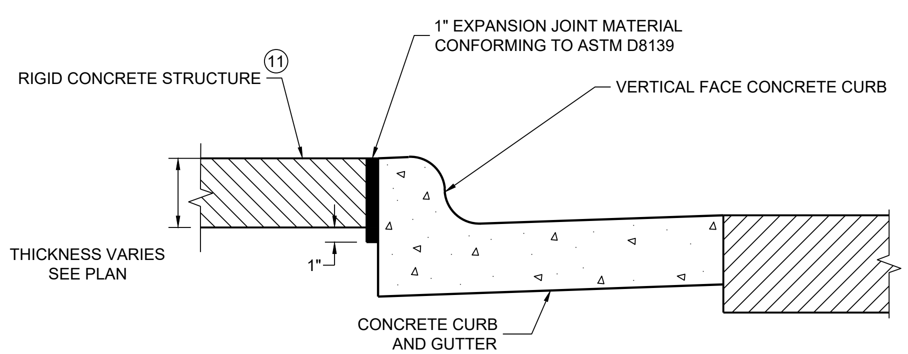
* NEW CURB AND GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

PLAN VIEW

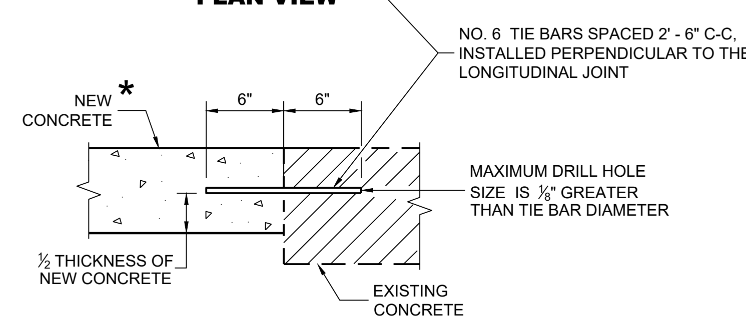


DRIVEWAY ENTRANCE CURB (10)

(WHEN DIRECTED BY THE ENGINEER)



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE (11)



SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT

6

6

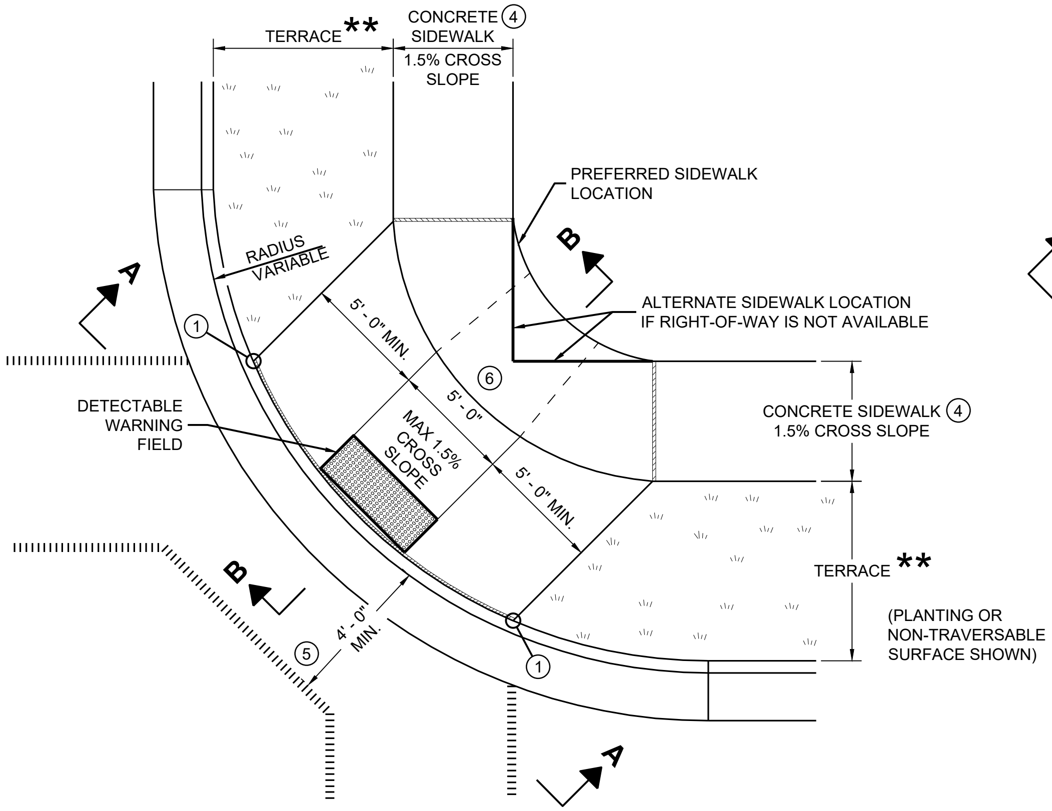
SDD 08D01-23b

SDD 08D01-23b

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

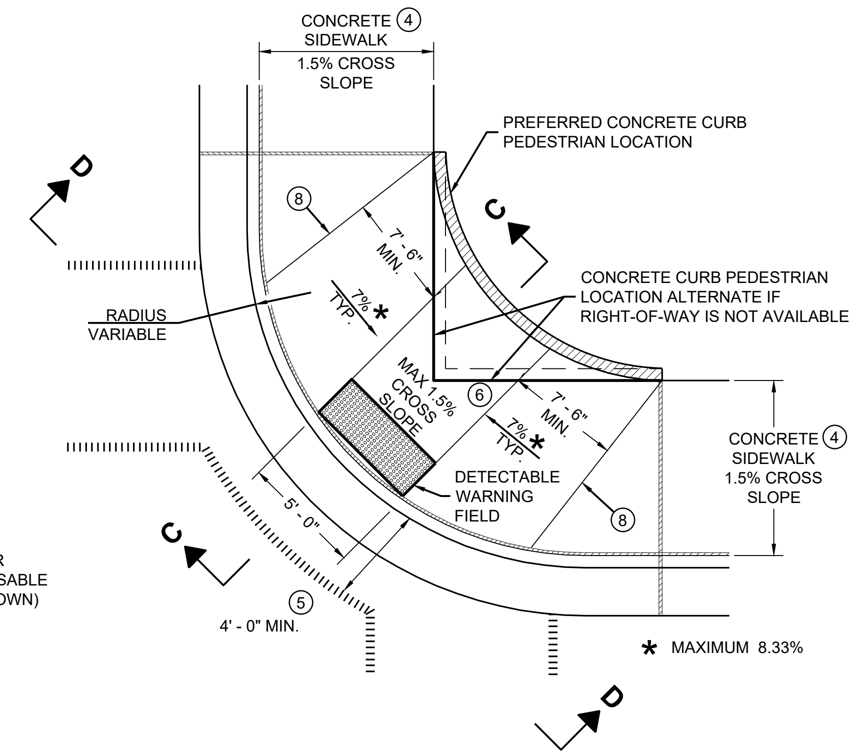
APPROVED
May 2023 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA



PLAN VIEW

CURB RAMP TYPE 1

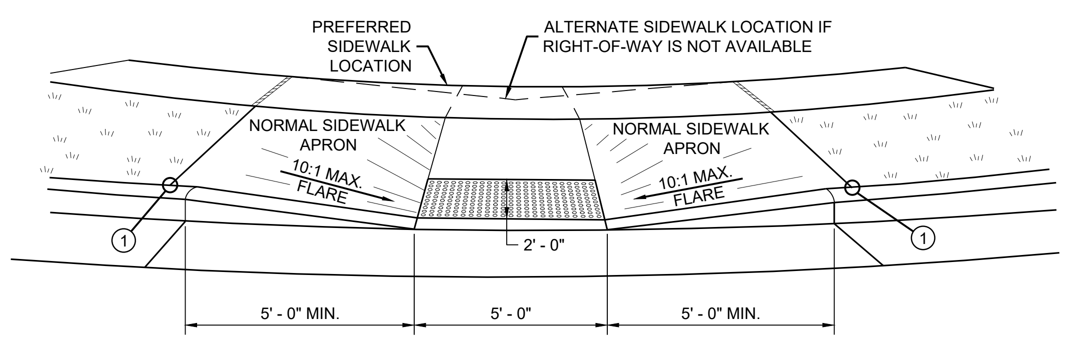
(CENTER OF CORNER RADIUS)



PLAN VIEW

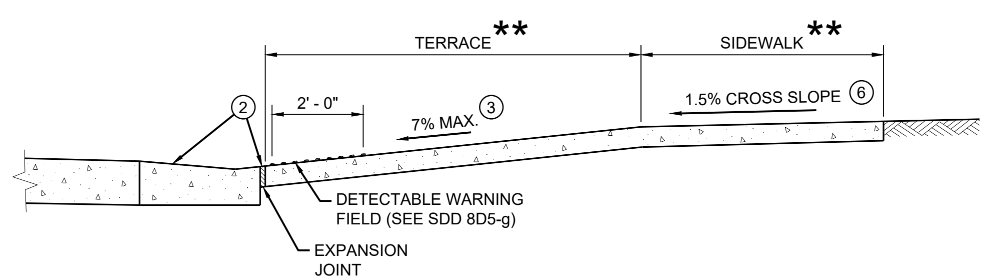
CURB RAMP TYPE 1 - A

(NO TERRACE)



VIEW A - A FOR TYPE 1

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B - B FOR TYPE 1

GENERAL NOTES

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

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.

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

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

DETECTABLE WARNING FILED 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 LINEAR 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.

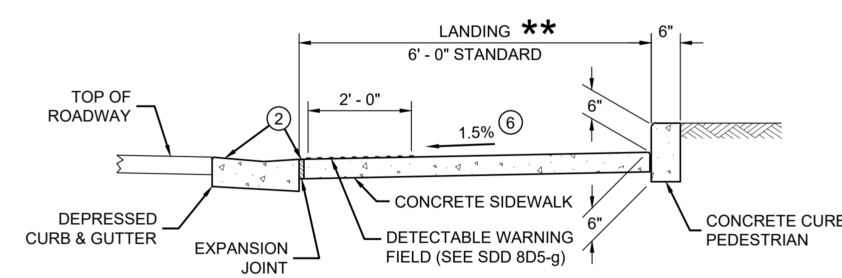
1. THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
2. GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN $\frac{1}{4}$ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
3. MAXIMUM 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
4. ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
5. PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA. 4 FOOT WIDTH IS MEASURED FROM THE FLANGE LINE
6. PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
8. PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

LEGEND

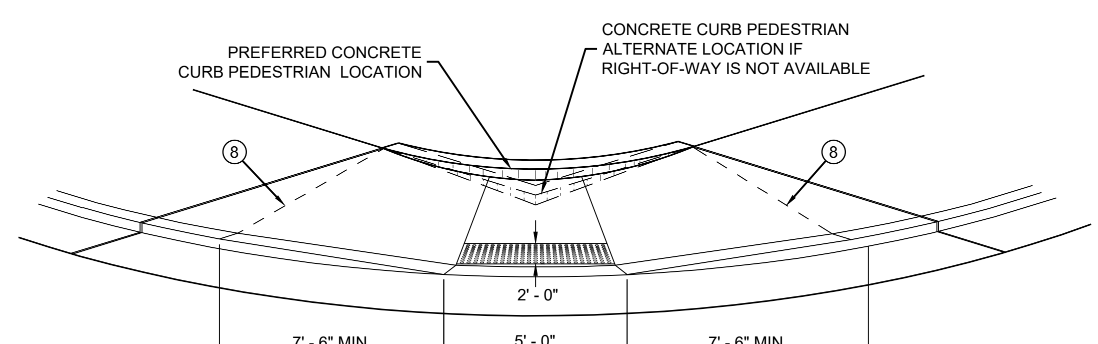
$\frac{1}{2}$" EXPANSION JOINT SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)



SECTION C - C FOR TYPE 1 - A

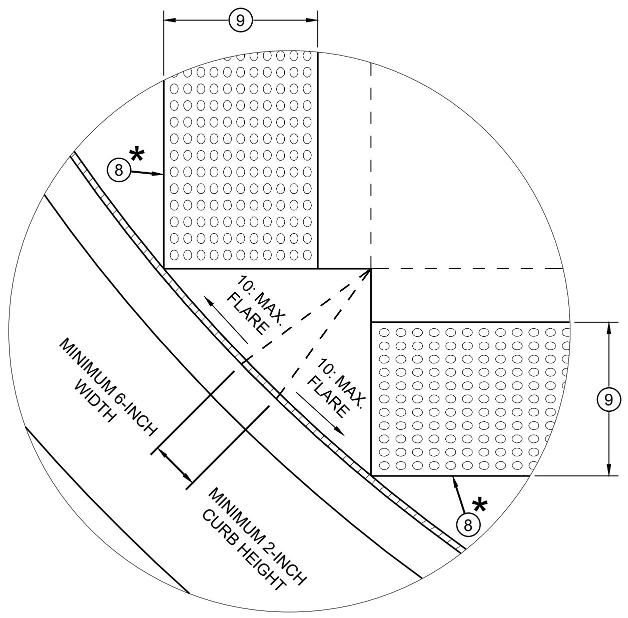


VIEW D - D FOR TYPE 1 - A

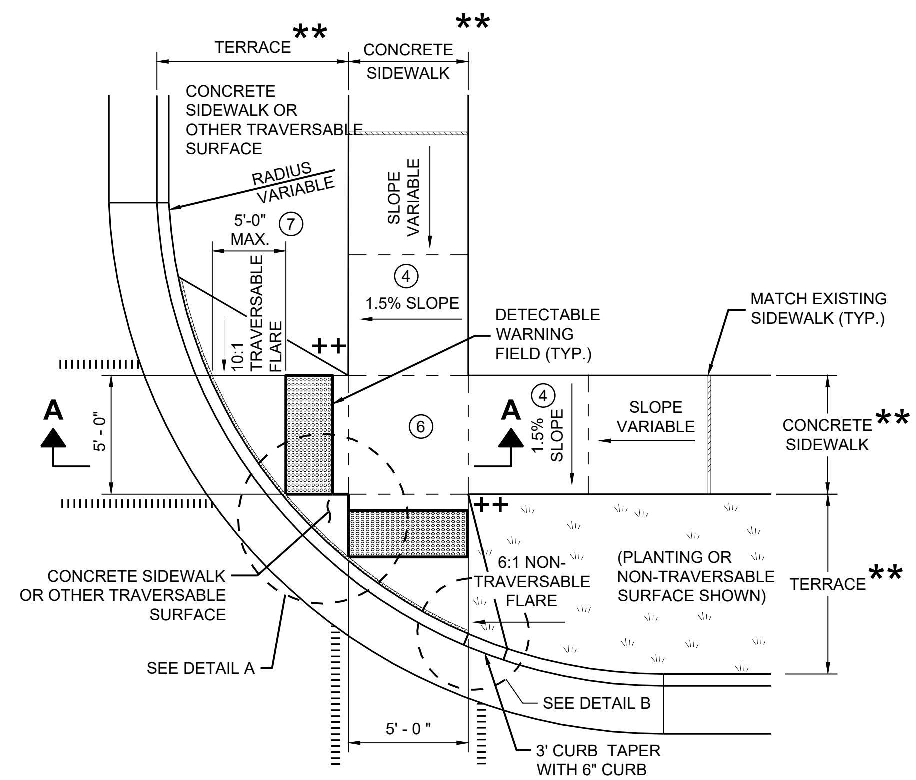
CURB RAMPS
TYPE 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D05-21a
6



DETAIL A



PLAN VIEW
CURB RAMP TYPE 2
(CENTER OF CORNER RADIUS)

GENERAL NOTES

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

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.

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

2 GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

3 AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (2.67% OR LESS) AND NOT TO EXCEED 11% GRADE CHANGE.

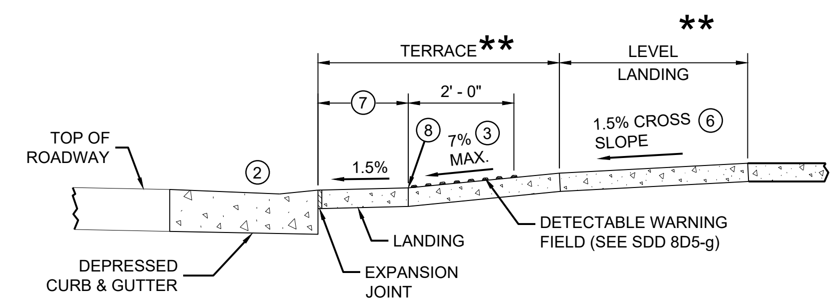
4 ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

6 PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET X 5 FEET.

7 WHEN GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

8 PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

9 WHEN DISTANCE IS LESS THAN 6' - 0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

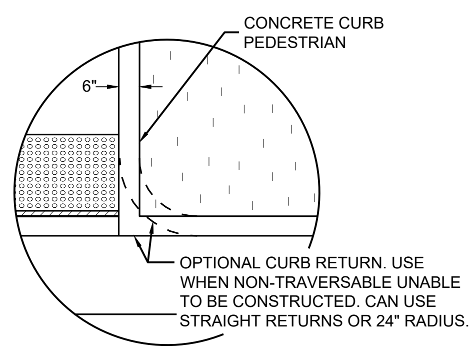


SECTION A - A FOR TYPE 2

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

** WIDTH SHOWN ELSEWHERE IN THE PLANS

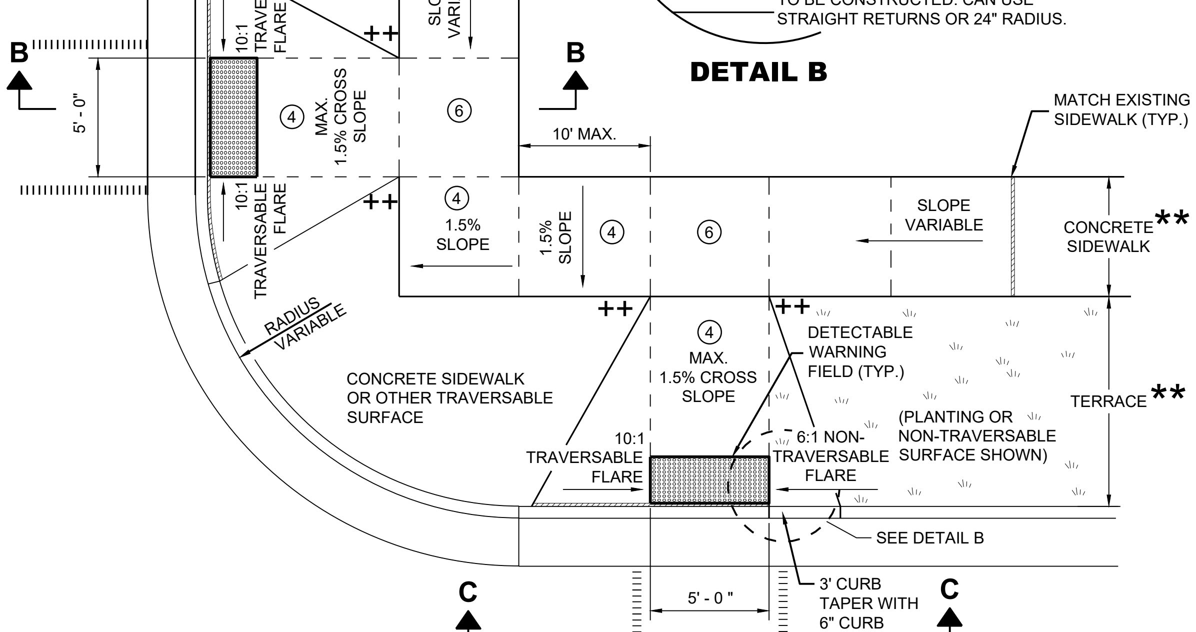
++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE



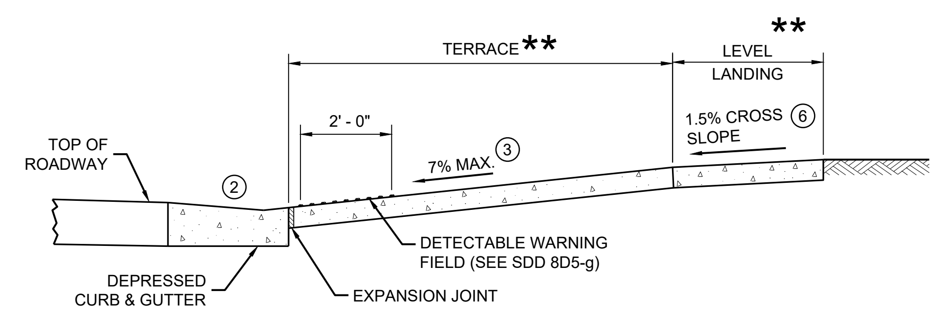
DETAIL B

LEGEND

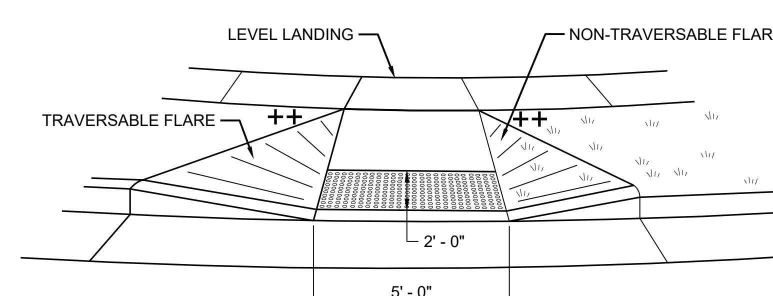
- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)



PLAN VIEW
CURB RAMP TYPE 3
(OUTSIDE OF CROSSWALK AREA)



SECTION B - B FOR TYPE 3



VIEW C - C FOR TYPE 3

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CURB RAMPS
TYPE 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D05-21b

SDD 08D05-21b

GENERAL NOTES

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

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.

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

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

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

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

LEGEND

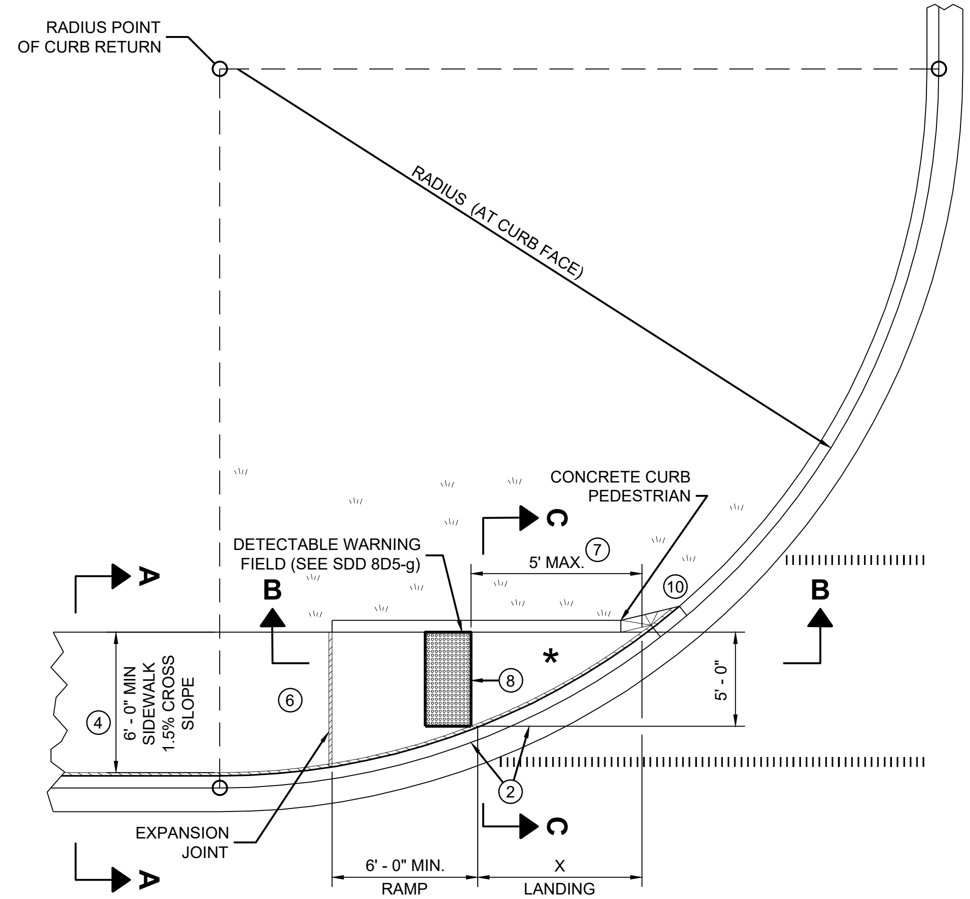
½" EXPANSION JOINT SIDEWALK

CONTRACTION JOINT SIDEWALK

PAVEMENT MARKING CROSSWALK (WHITE)

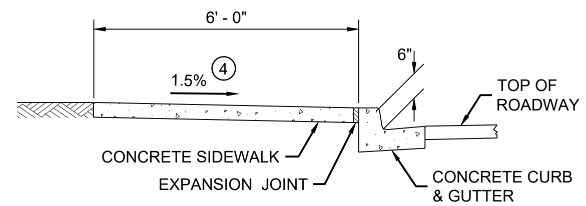
RADIUS (AT CURB FACE)	X
10 FEET	4' - 7"

INTERMEDIATE RADII CAN BE INTERPOLATED

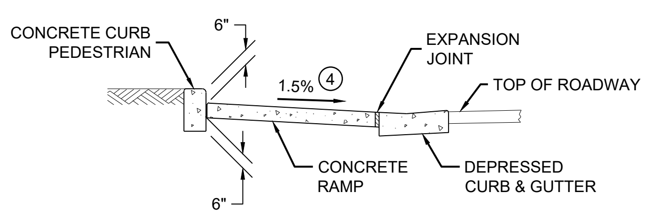


PLAN VIEW

CURB RAMP TYPE 4A

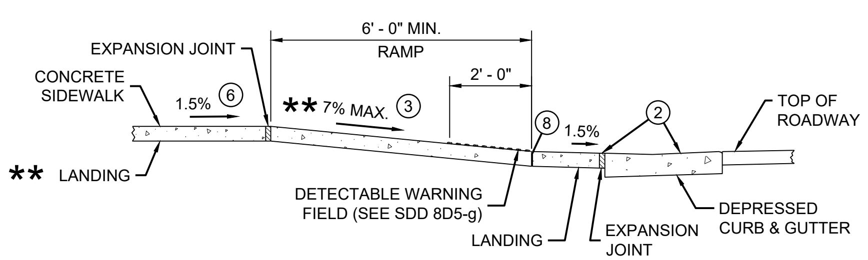


SECTION A - A FOR TYPE 4A



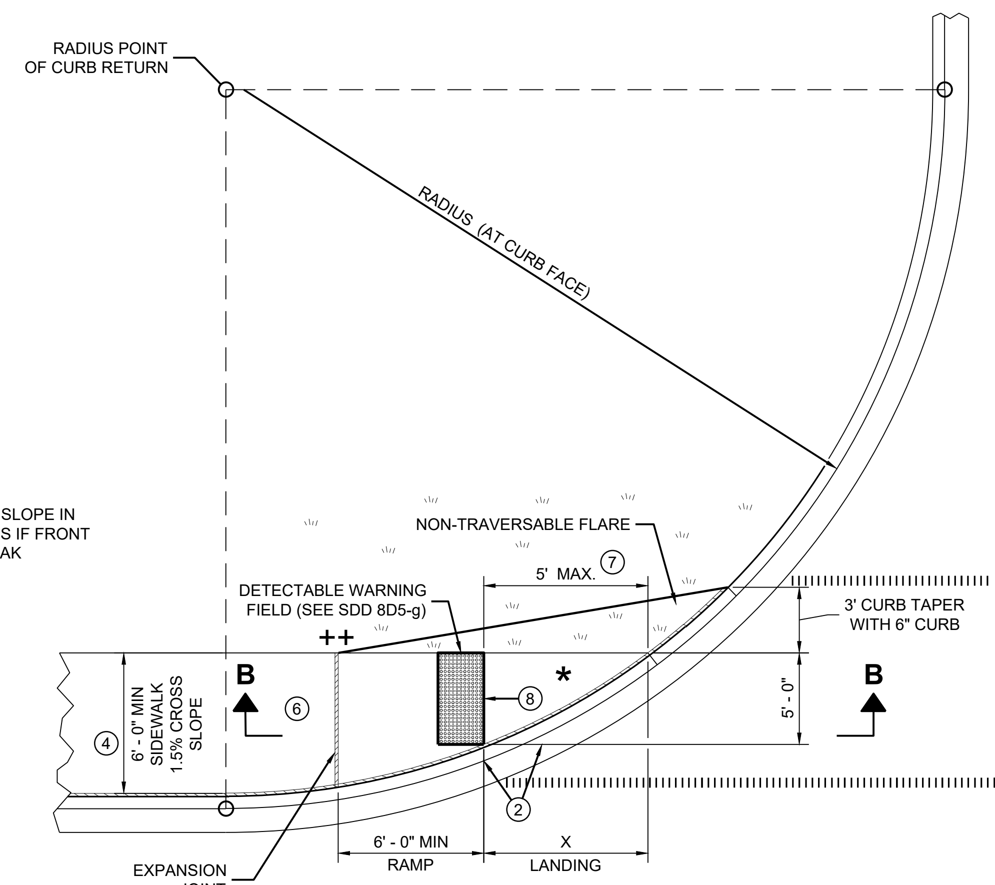
SECTION C - C FOR TYPE 4A

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK



** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

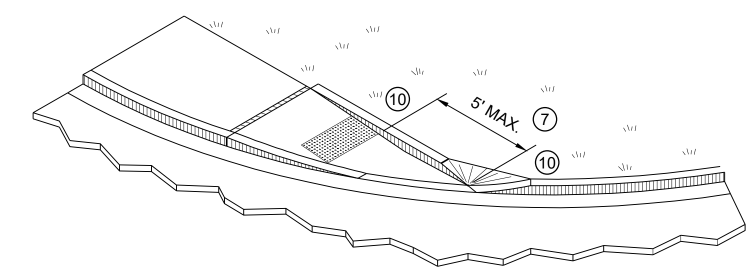
SECTION B - B FOR TYPE 4A AND TYPE 4A1



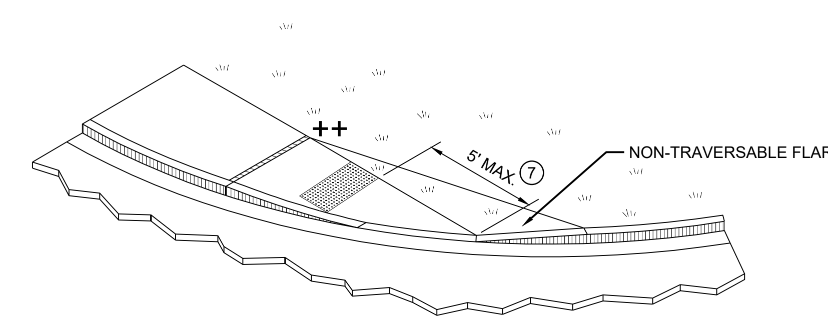
PLAN VIEW

CURB RAMP TYPE 4A1

++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE



ISOMETRIC VIEW FOR TYPE 4A



ISOMETRIC VIEW FOR TYPE 4A1

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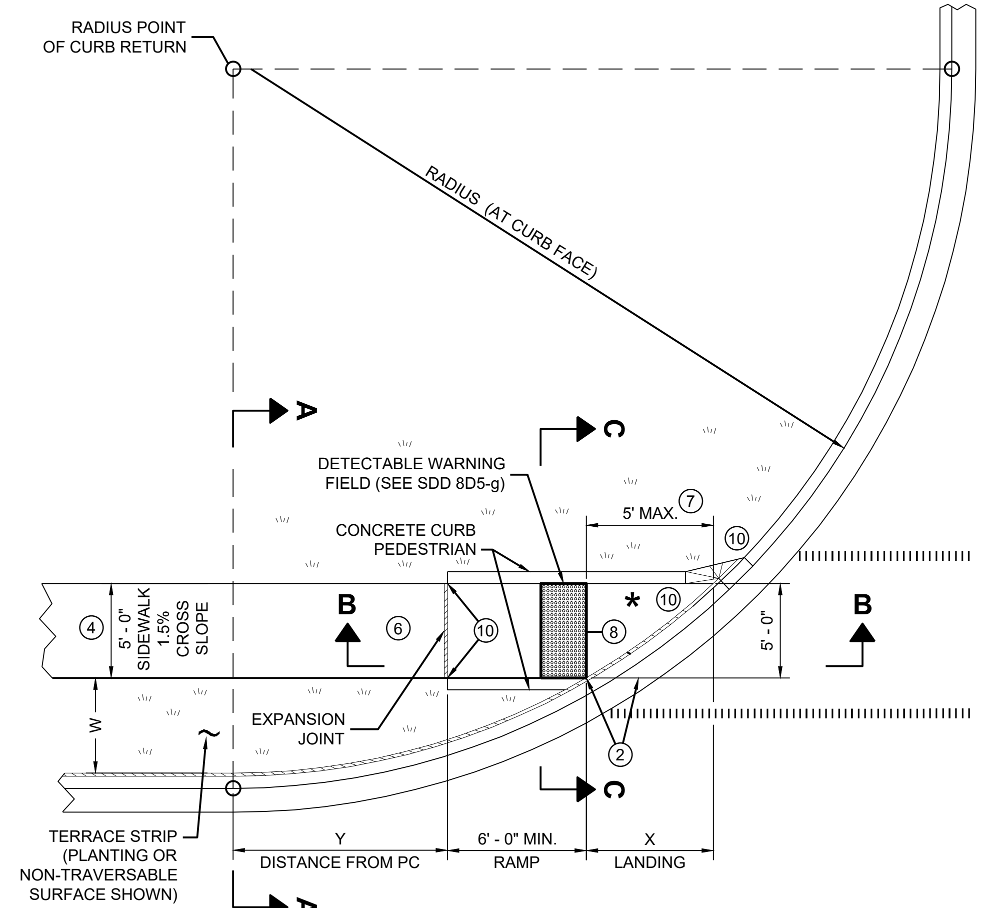
SDD 08D05-21c

SDD 08D05-21c

CURB RAMPS TYPE 4A AND 4A1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



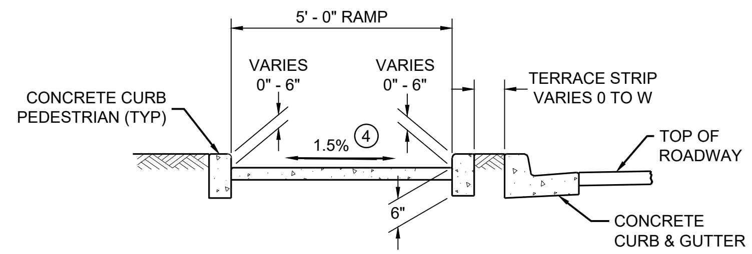
PLAN VIEW
CURB RAMP TYPE 4B

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"		W = 8' - 0"		W = 9' - 0"		W = 10' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2' - 10 ¼"	0' - 5"	2' - 1"	1' - 4 ½"	1' - 5"	2' - 1"	0' - 10"	2' - 7 ½"	0' - 3 ¼"	3' - 0 ¼"						
15 FEET	4' - 6 ¾"	2' - 1 ¾"	3' - 9"	3' - 5 ¾"	3' - 1 ¼"	4' - 6"	2' - 6 ¾"	5' - 4 ½"	2' - 1"	6' - 1"	1' - 8"	6' - 8 ½"	1' - 3 ¼"	7' - 2 ½"	0' - 10 ¾"	7' - 7 ¼"
20 FEET			4' - 11 ½"	5' - 1 ¾"	4' - 3 ¼"	6' - 5 ½"	3' - 8 ¾"	7' - 7"	3' - 3"	8' - 6 ½"	2' - 10"	9' - 4 ½"	2' - 5 ½"	10' - 1 ¼"	2' - 1 ¼"	10' - 9"
30 FEET									4' - 10 ¾"	12' - 5 ¾"	4' - 5 ½"	13' - 7 ¾"	4' - 0 ¾"	14' - 8 ½"	3' - 8 ½"	15' - 8 ¼"
40 FEET															4' - 10 ¾"	19' - 8 ¼"

INTERMEDIATE RADII CAN BE INTERPOLATED
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH

LEGEND

½" EXPANSION JOINT SIDEWALK
CONTRACTION JOINT SIDEWALK
PAVEMENT MARKING CROSSWALK (WHITE)



SECTION C - C FOR TYPE 4B

GENERAL NOTES

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

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.

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

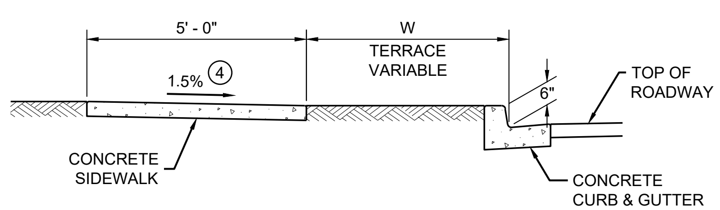
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

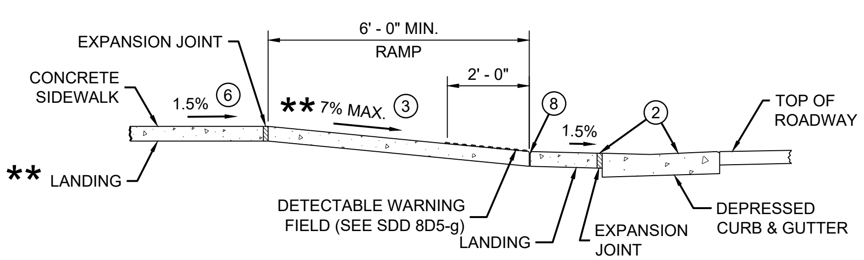
(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

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



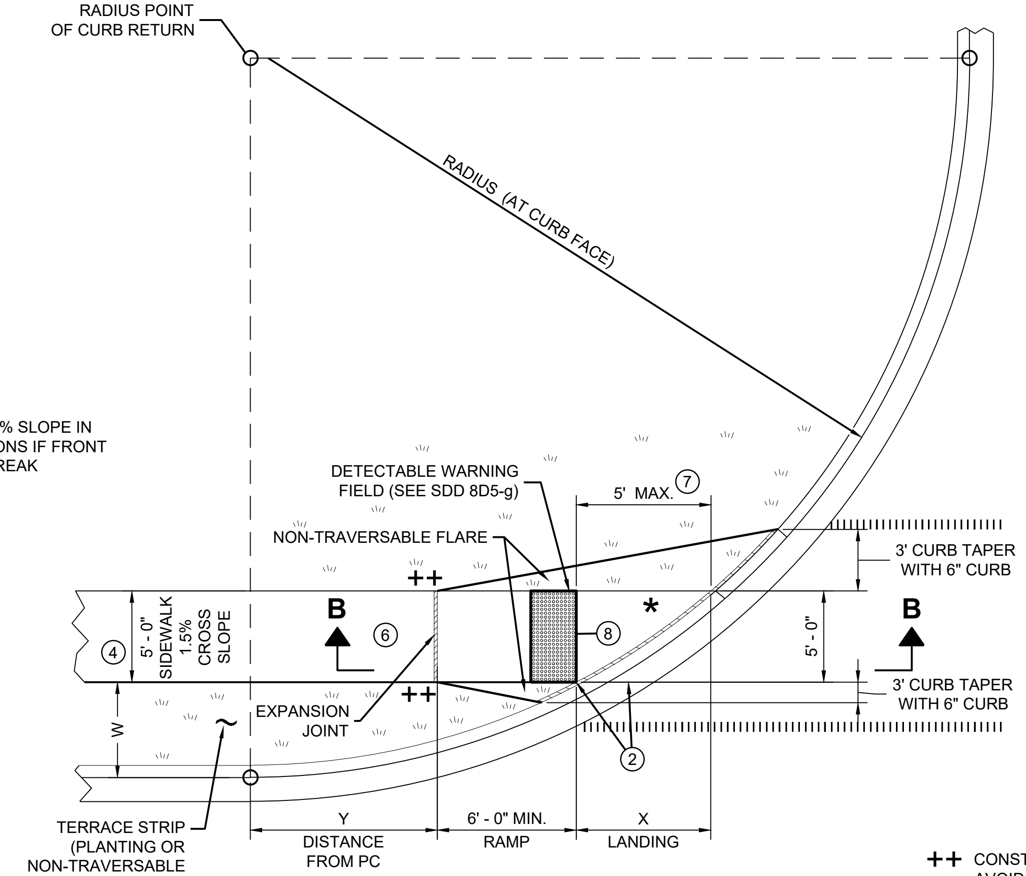
SECTION A - A FOR TYPE 4B

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK



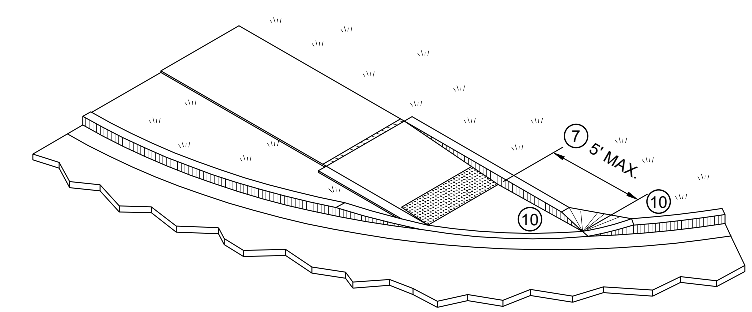
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

SECTION B - B FOR TYPE 4B AND TYPE 4B1

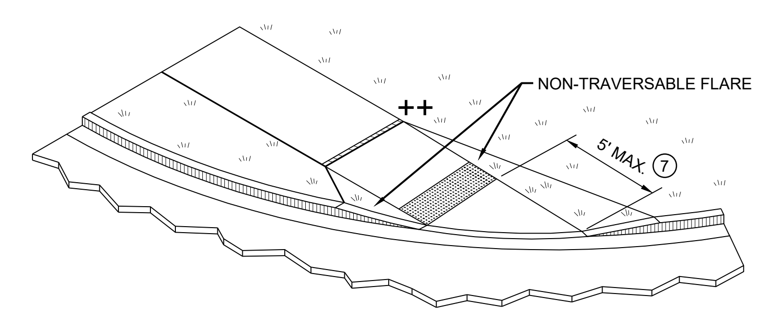


++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

PLAN VIEW
CURB RAMP TYPE 4B1



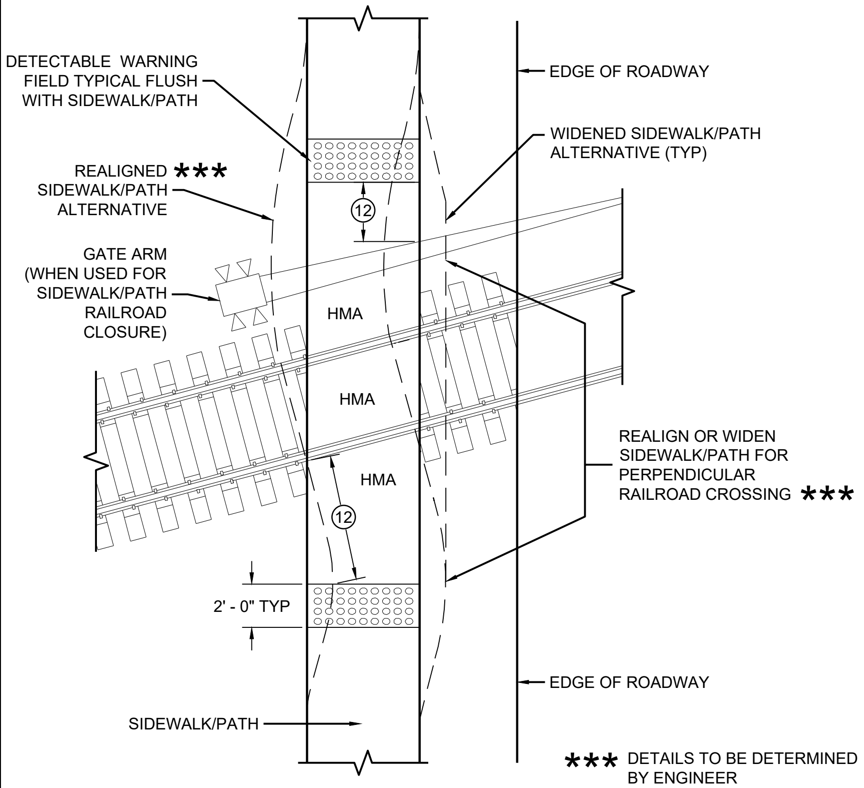
ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1

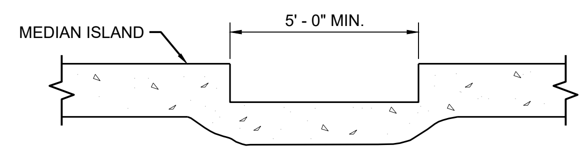
CURB RAMPS
TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

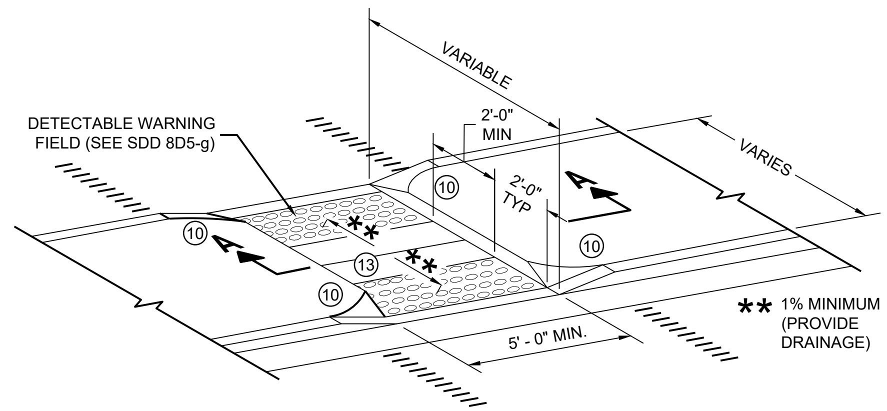


CURB RAMP TYPE 8

DETECTABLE WARNINGS FOR SIDEWALKS OR SHARED USE PATHS AT RAILROAD CROSSINGS



SECTION A - A FOR TYPE 5



CURB RAMP TYPE 5

MEDIAN ISLAND NON-ELEVATED PEDESTRIAN CROSSING

GENERAL NOTES

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

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.

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.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

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

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

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

(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ±0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK/PATH. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD TRACK IS 15 FEET MAXIMUM AND 12 FEET MINIMUM, 15 FEET TYPICAL FROM THE NEAREST RAIL.

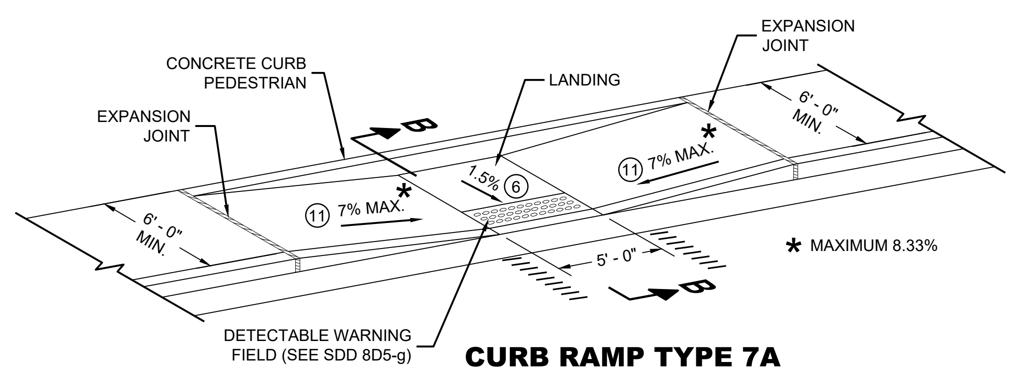
(13) DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STEET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

LEGEND

½" EXPANSION JOINT SIDEWALK

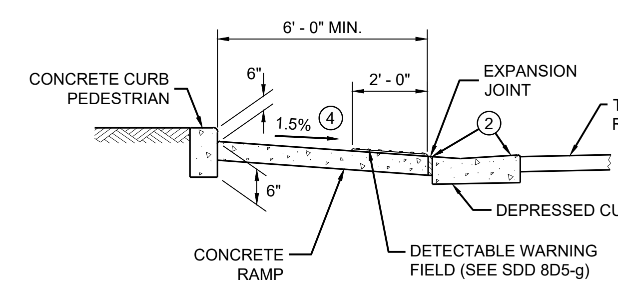
CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)

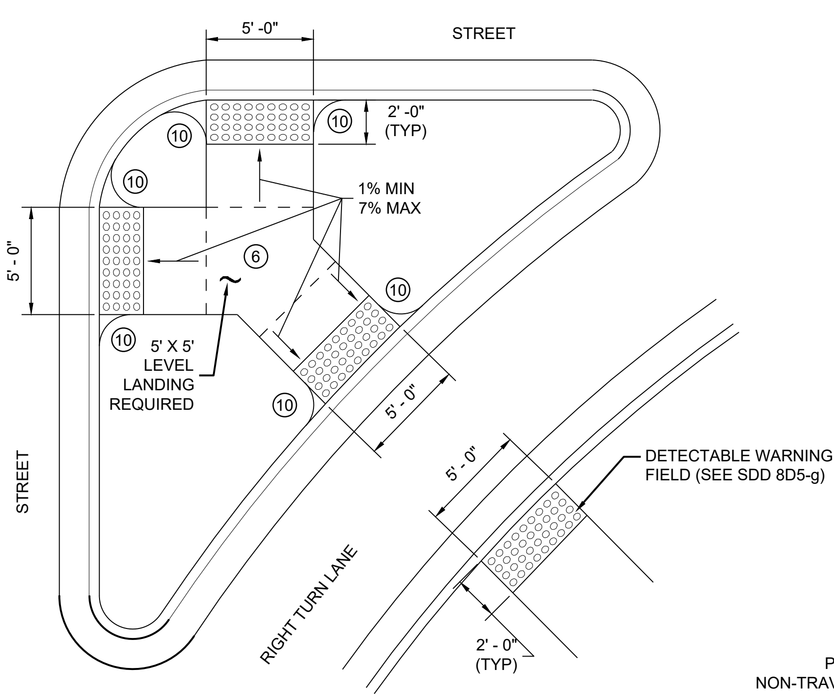


CURB RAMP TYPE 7A

FOR INTERSECTIONS AND MID BLOCK CROSSINGS



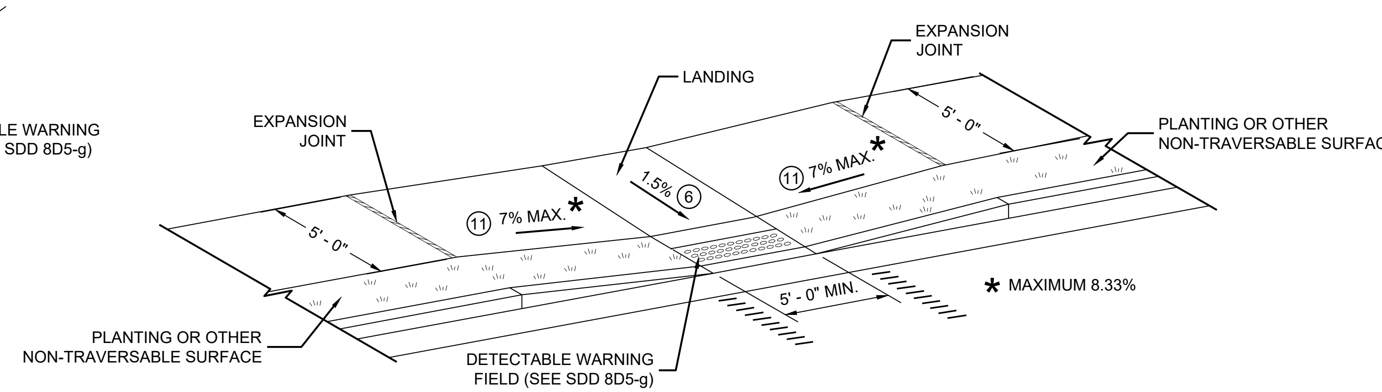
SECTION B - B FOR TYPE 7A



CURB RAMP TYPE 6

DETECTABLE WARNING AT ISLANDS

REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS



CURB RAMP TYPE 7B

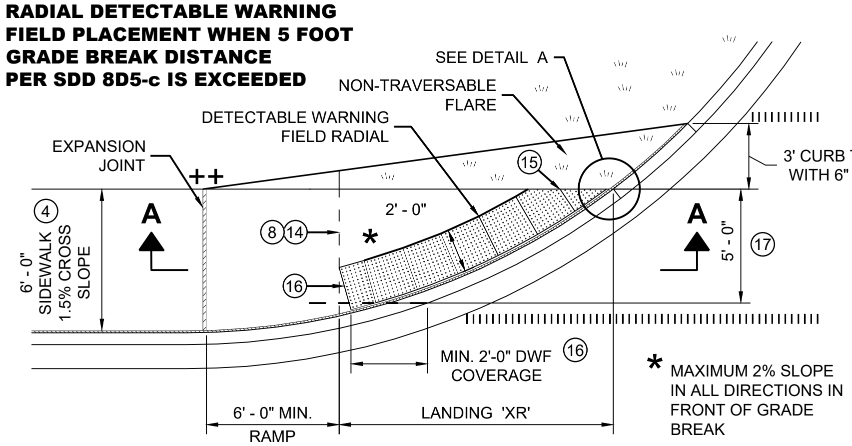
FOR INTERSECTIONS AND MID BLOCK CROSSINGS

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

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

6

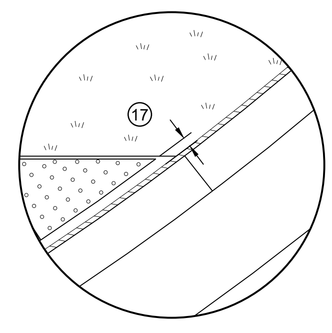
SDD 08D05-21e



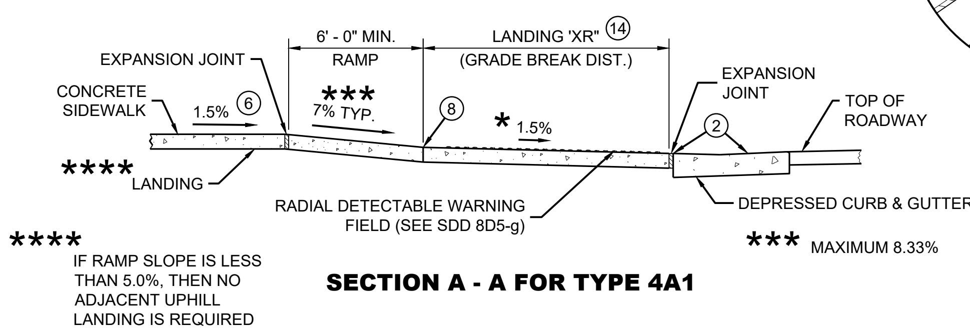
PLAN VIEW

CURB RAMP TYPE 4A1

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



DETAIL A



SECTION A - A FOR TYPE 4A1

LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

GENERAL NOTES

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

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.

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

APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.

REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.

DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AD ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

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

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET BY 5 FEET.

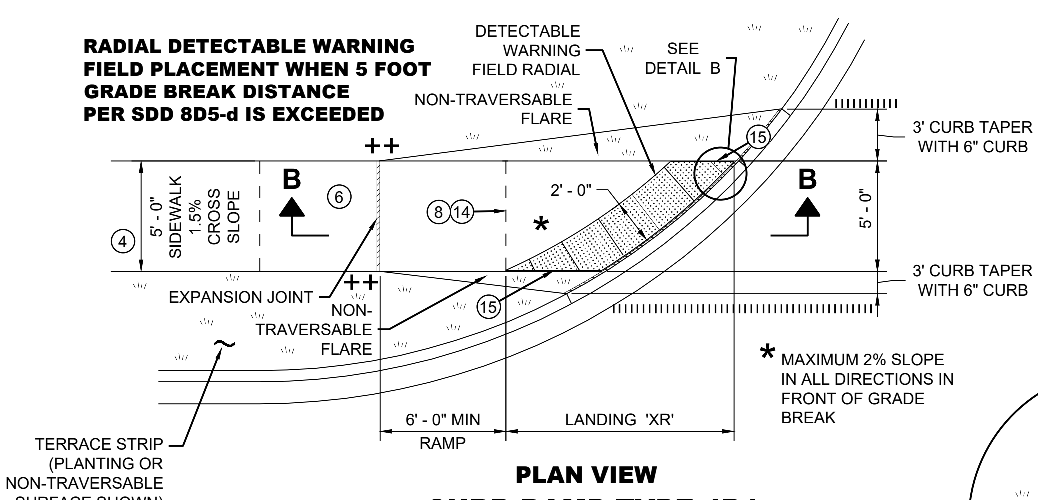
(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(14) CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN ⅛" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

(16) USE 1' X 2" RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2' - 0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.

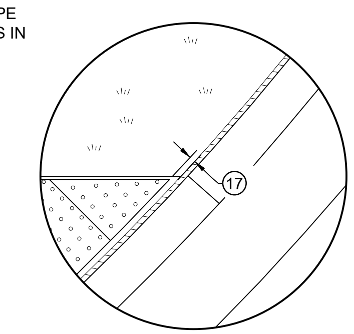
(17) A MAXIMUM 3 INCH CONCRETE BORDER WIDTH IS ALLOWABLE IN FRONT OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.



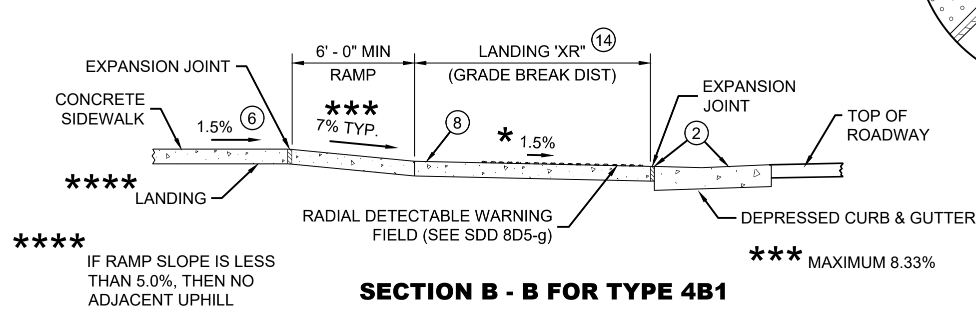
PLAN VIEW

CURB RAMP TYPE 4B1

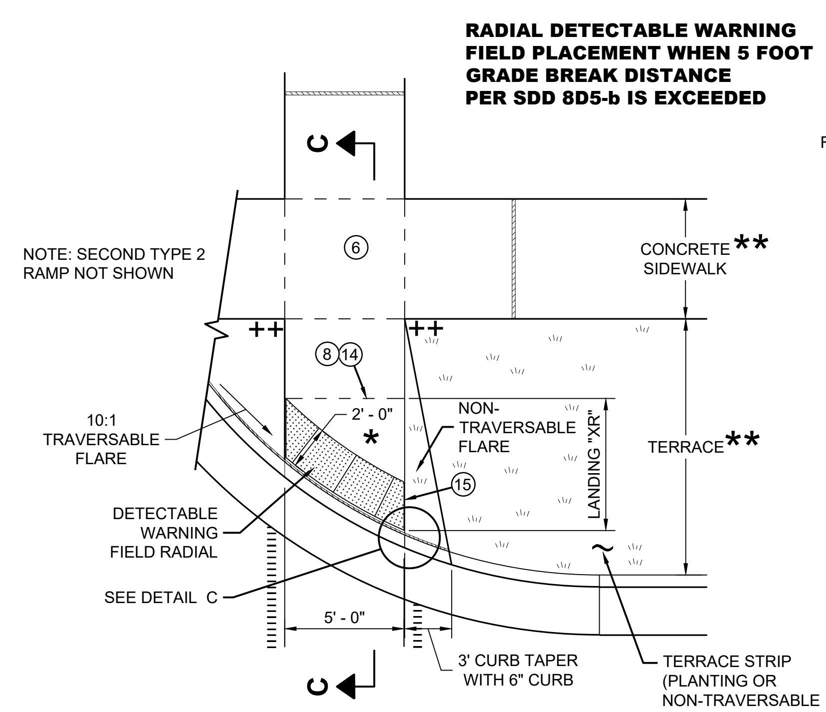
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



DETAIL B



SECTION B - B FOR TYPE 4B1

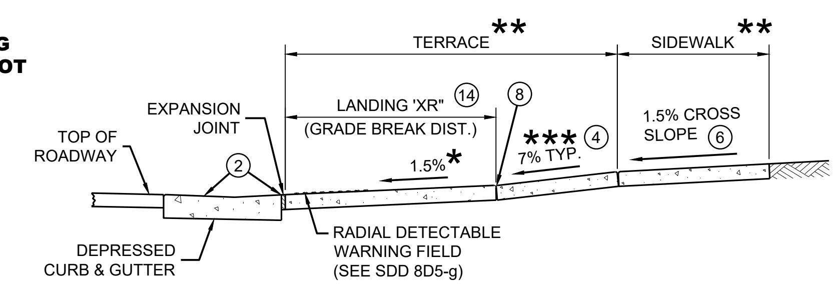


PLAN VIEW

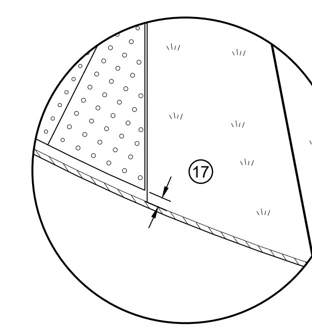
CURB RAMP TYPE 2

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)

(ON LINE WITH SIDEWALK)



SECTION C - C FOR TYPE 2



DETAIL C

* MAXIMUM 2% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

** WIDTH SHOWN ELSEWHERE IN THE PLANS

*** MAXIMUM 8.33%

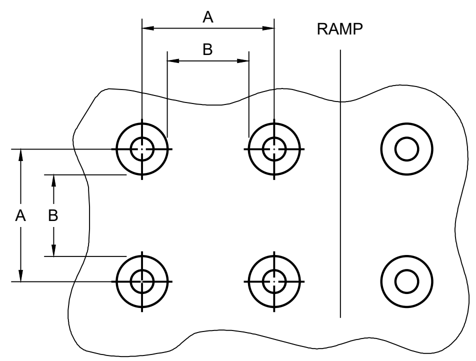
++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

CURB RAMPS
RADIAL DETECTABLE WARNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

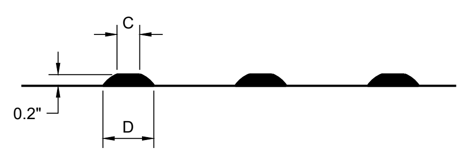
SDD 08D05-21f



	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.

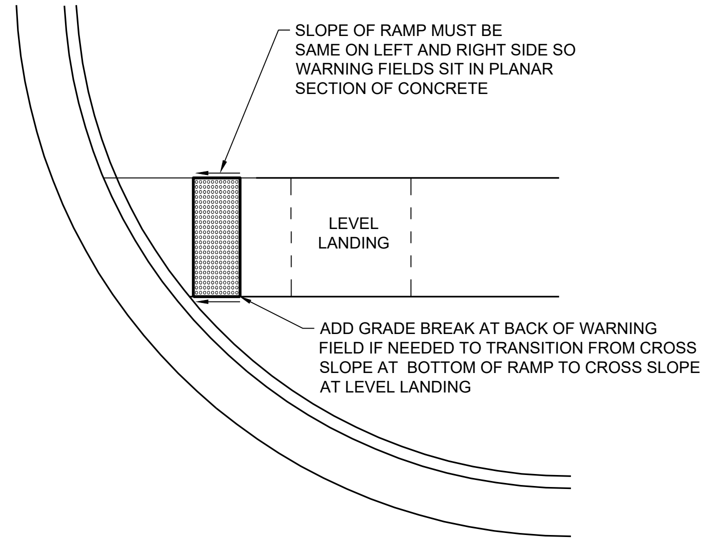
PLAN VIEW



ELEVATION VIEW

TRUNCATED DOMES

DETECTABLE WARNING PATTERN DETAIL



DETECTABLE WARNING FIELD

PLANAR INSTALLATION

GENERAL NOTES

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AT A CURB RAMP SHALL BE FROM THE SAME MANUFACTURER.

PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.

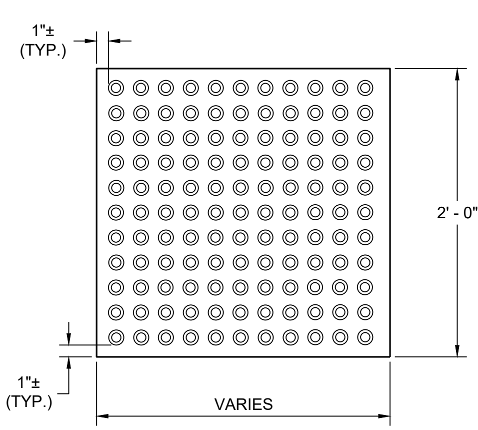
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGE PLATES IN COMBINATION WITH SQUARE PLATES ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

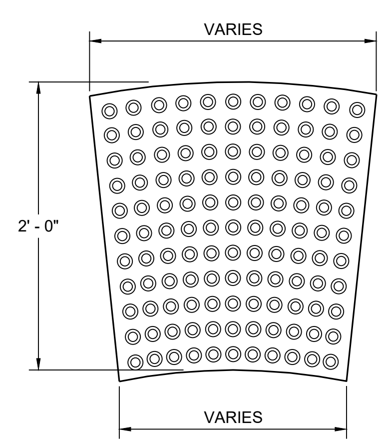
REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN ⅛" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.



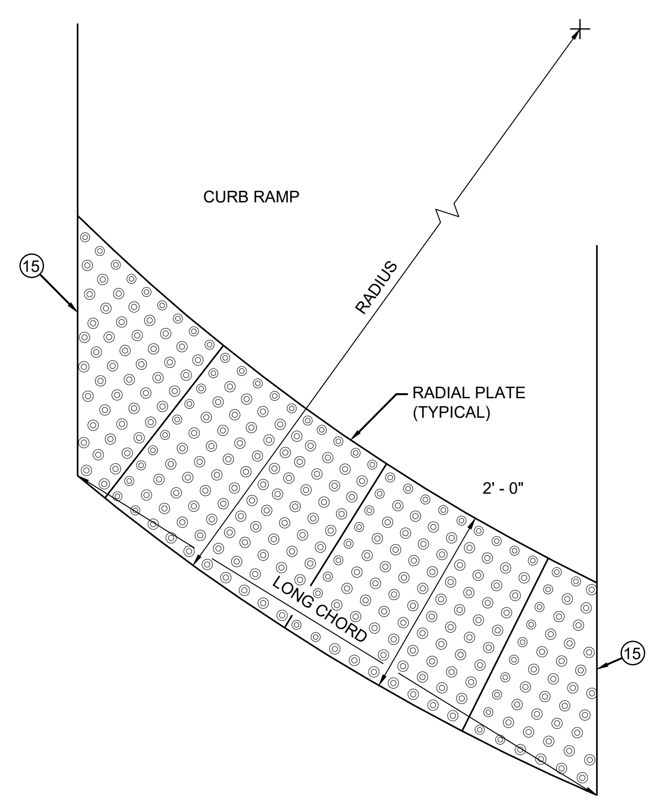
RECTANGULAR PLATES



RADIAL PLATES

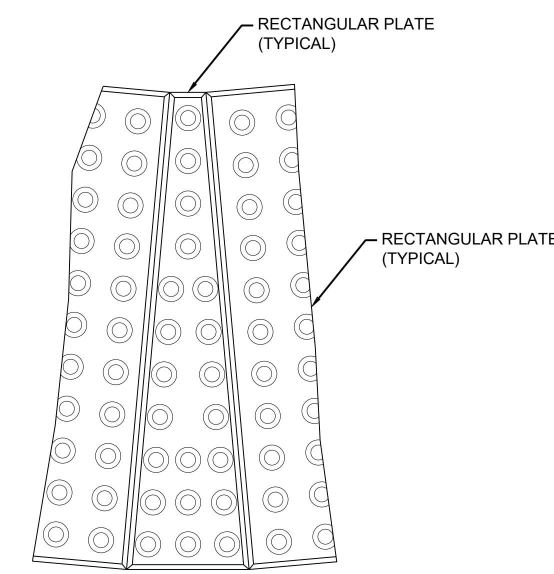
PLAN VIEW

DETECTABLE WARNING FIELDS (TYPICAL)



PLAN VIEW

RADIAL DETECTABLE WARNING FIELD ATTRIBUTES



PLAN VIEW

RADIAL WEDGE PLATE CONNECTION DETAIL

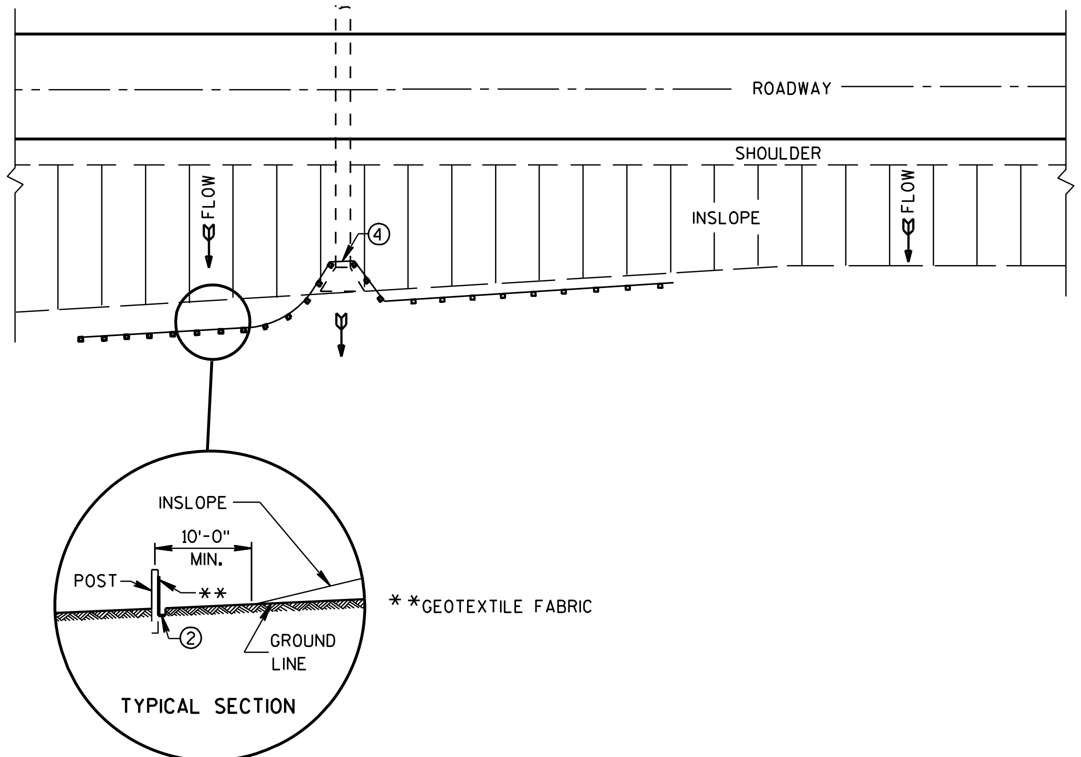
CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2023
DATE

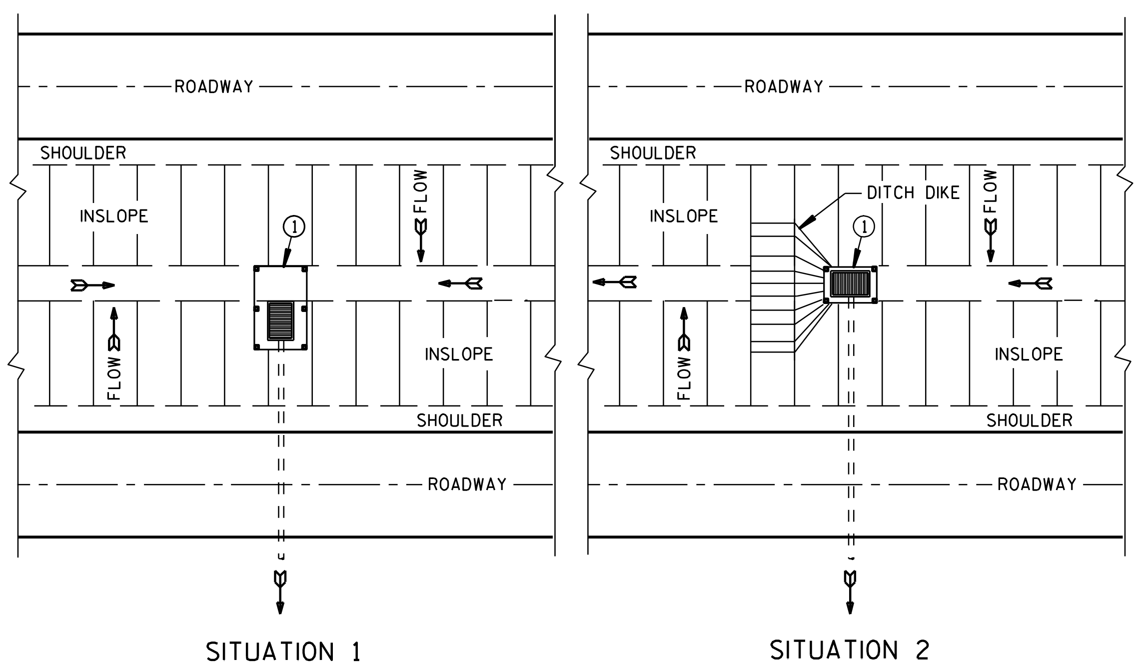
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



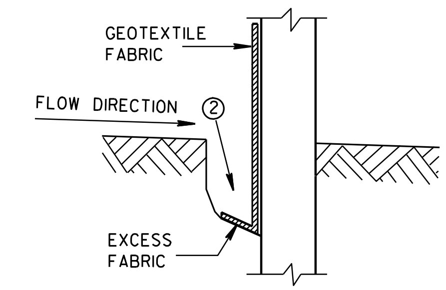
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

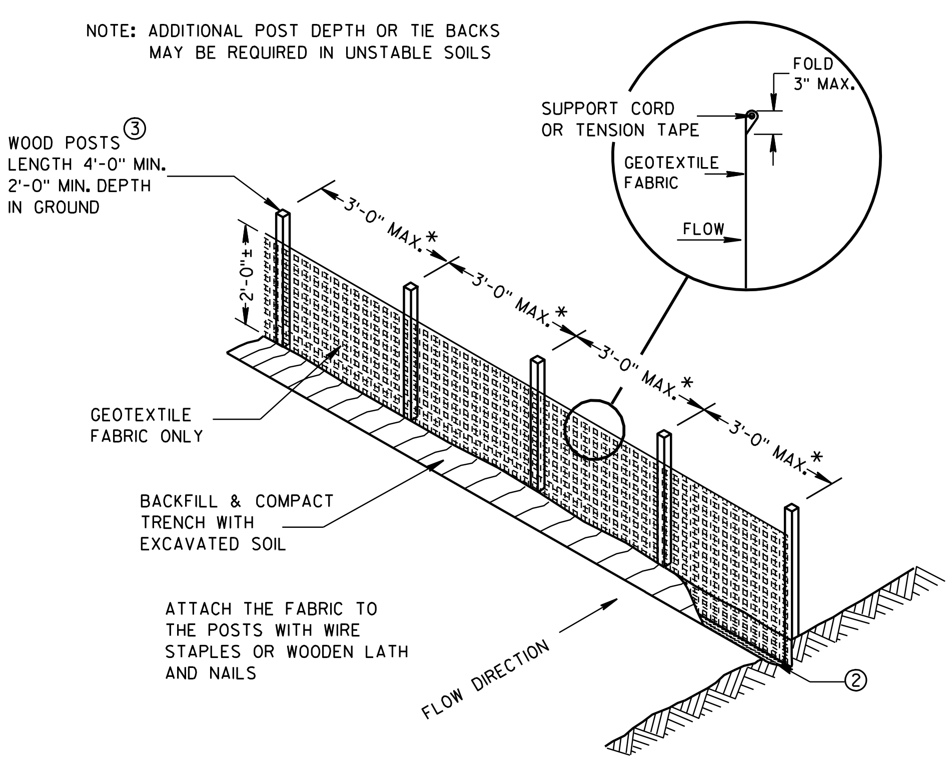
GENERAL NOTES

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 $1\frac{1}{8}$" X $1\frac{1}{8}$" 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.

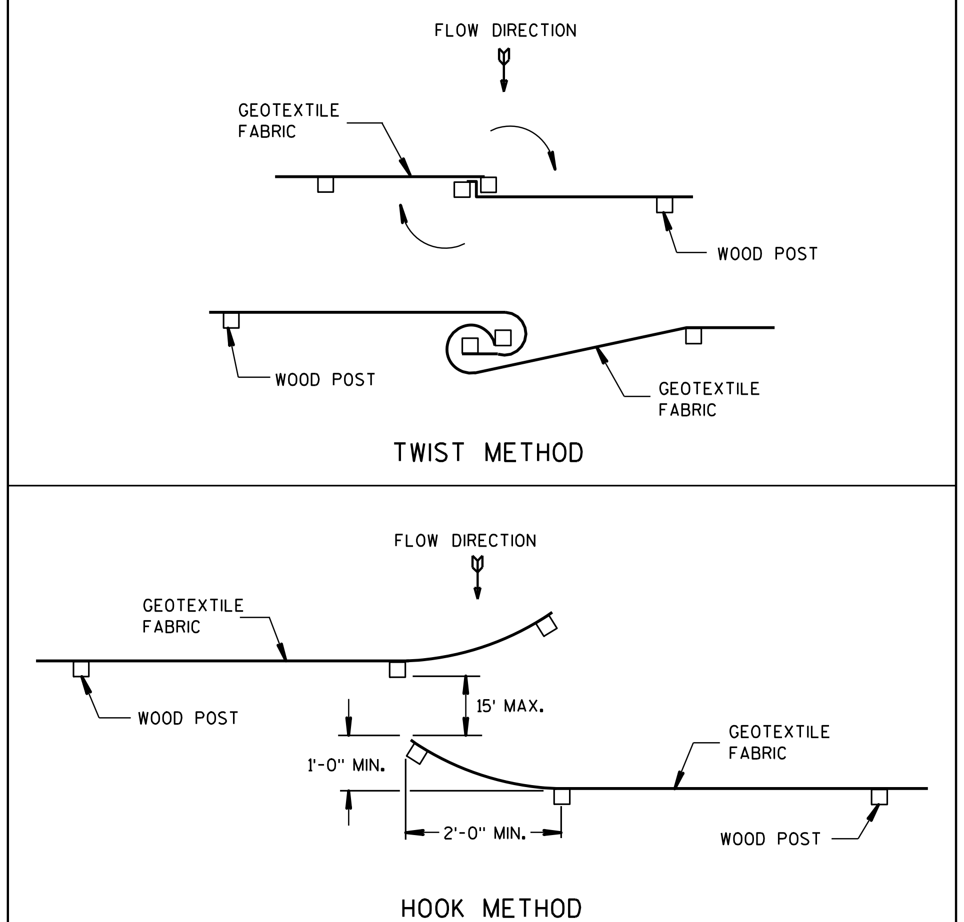


TRENCH DETAIL

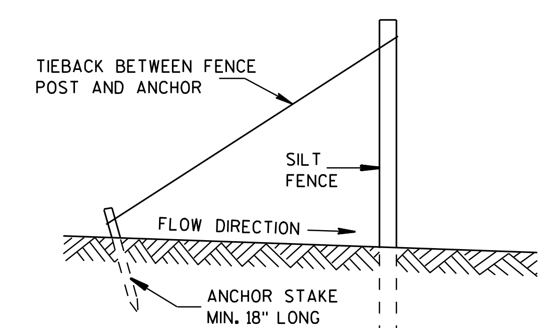


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE 5



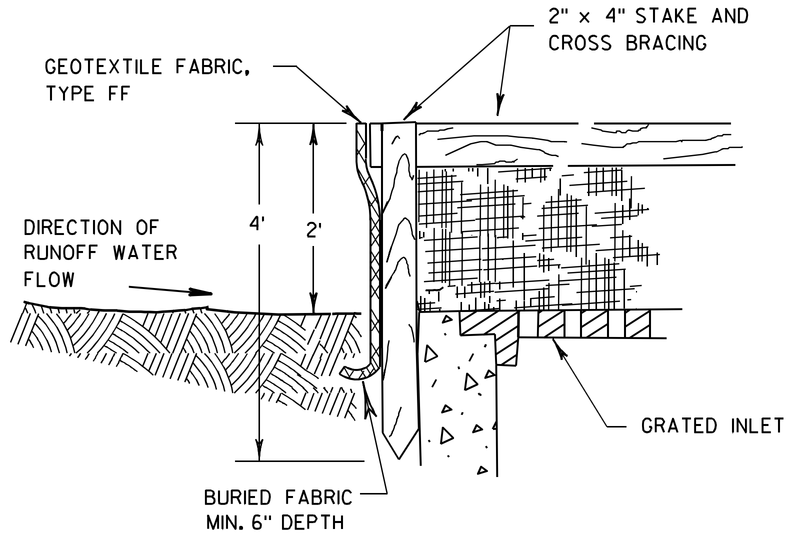
SILT FENCE TIE BACK

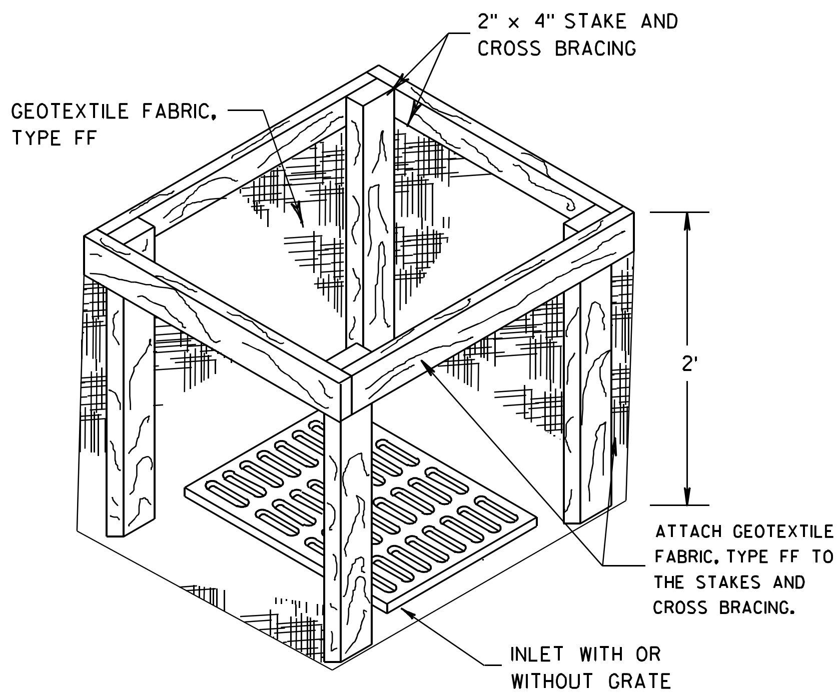
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

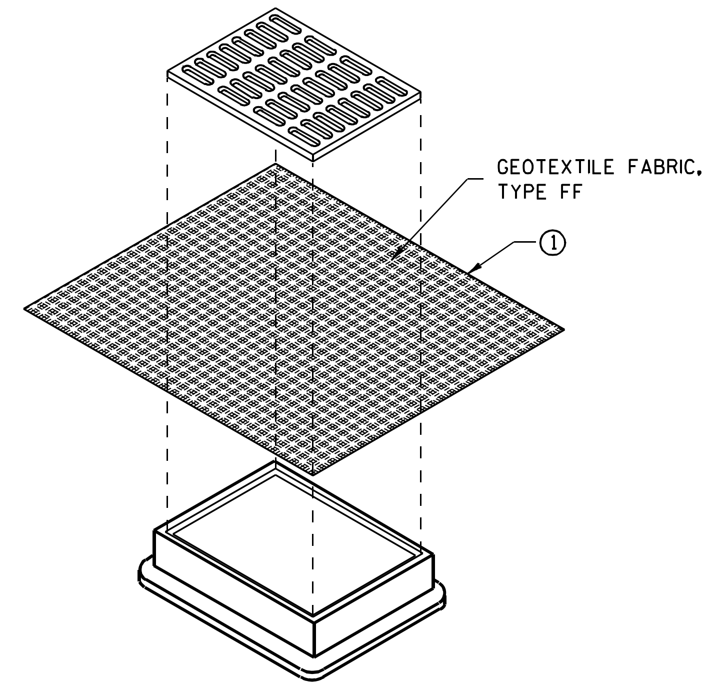
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05
DATE
/S/ Beth Cann[illegible]
CHIEF ROADWAY DEVELOP[illegible] [illegible]INEER
FHWA

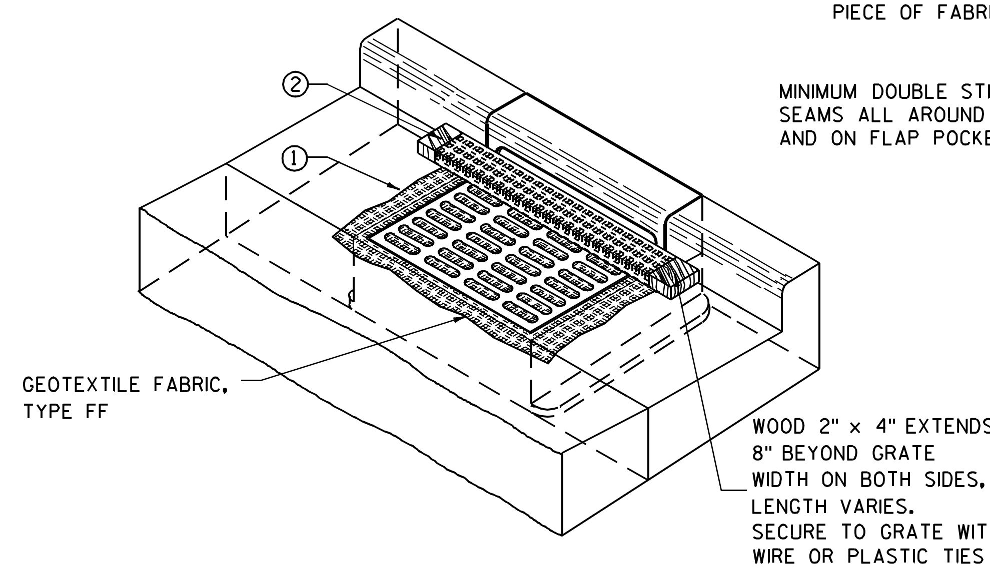




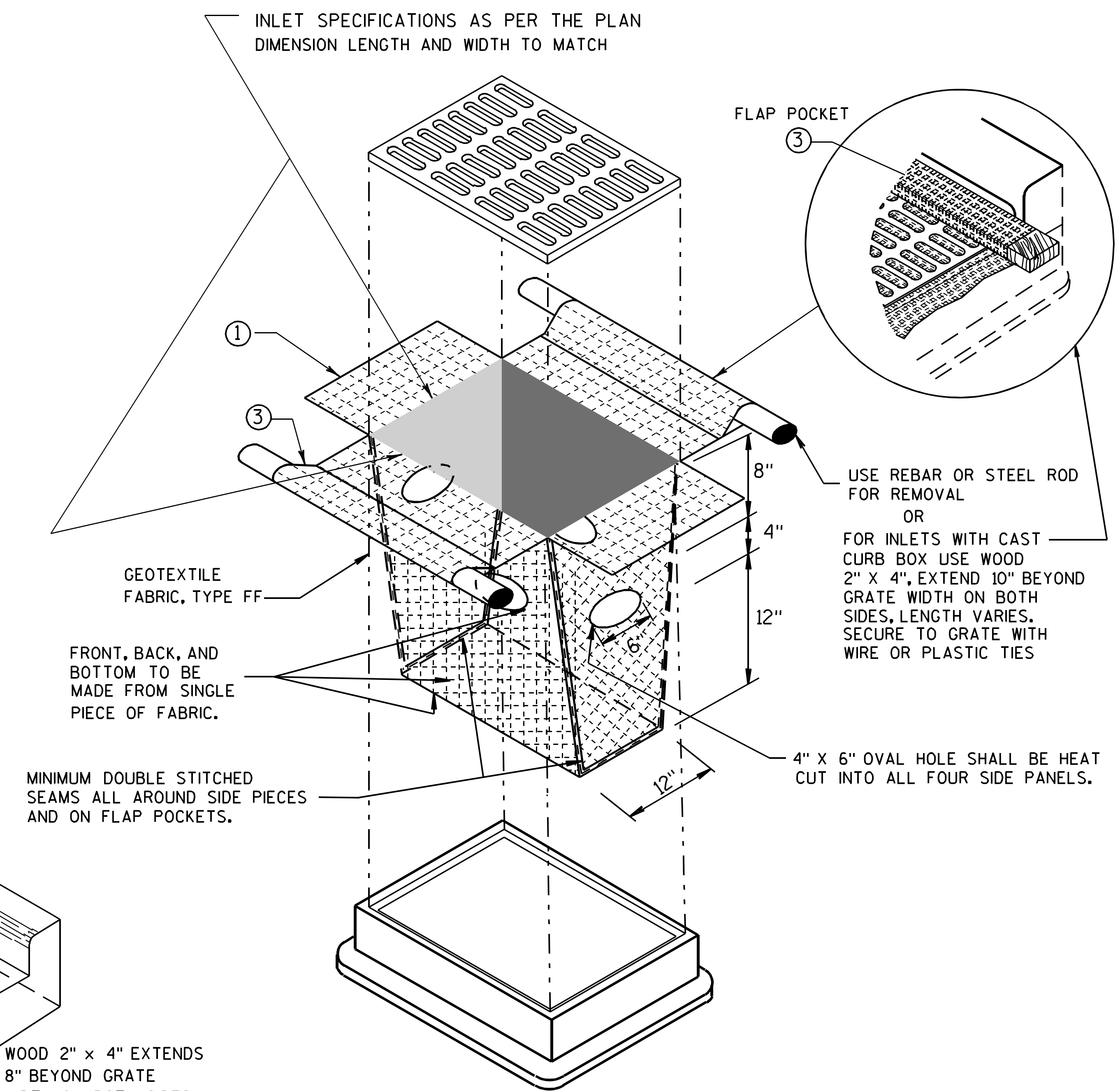
INLET PROTECTION, TYPE A



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



INLET PROTECTION, TYPE C (WITH CURB BOX)



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

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.

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.

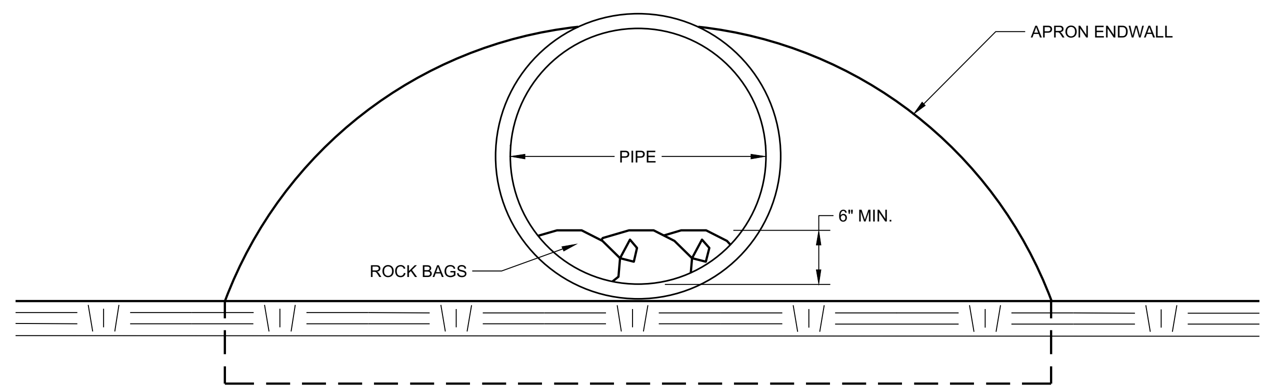
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

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.

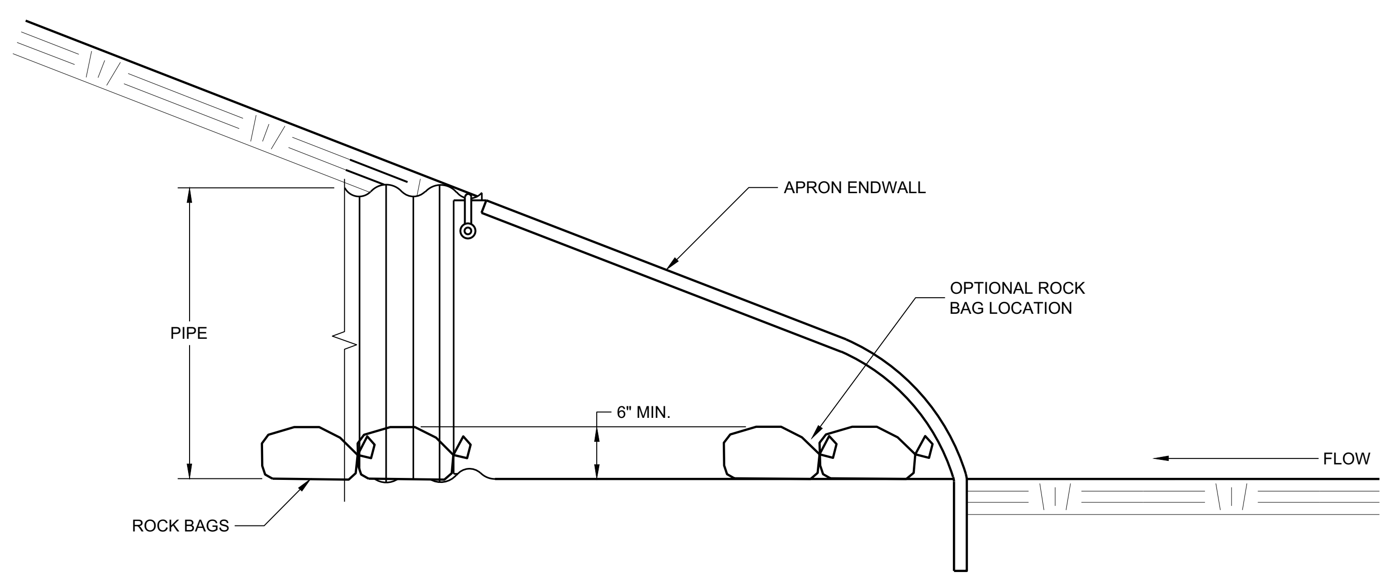
INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

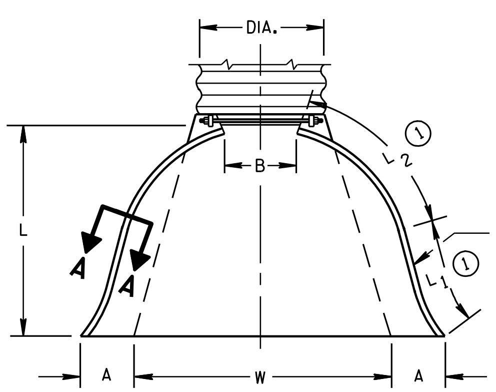
CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGI
FHWA	

METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L_1 ①	L_2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

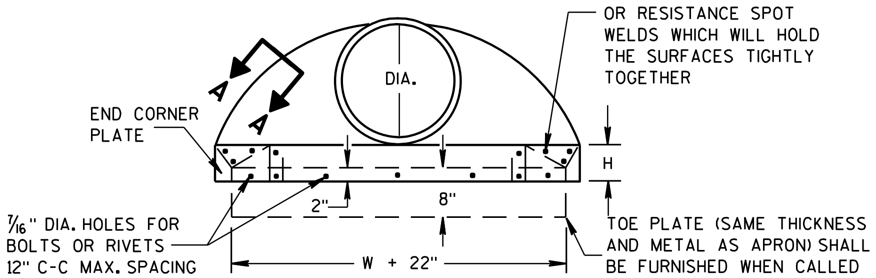
× EXCEPT CENTER PANEL
SEE GENERAL NOTES

REINFORCED CONCRETE APRON ENDWALLS								
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 7/8	72 7/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	*33 1/4-35**	*98 1/4-100**	90	5 1/2	2 2/5 to 1
60	6	*30-35**	60	39	99	96	5	2 to 1
66	6 1/2	*24-30**	*72-78**	*21-27**	99	102	5 1/2	2 to 1
72	7	*24-36**	78	21	99	108	6	2 to 1
78	7 1/2	*24-36**	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

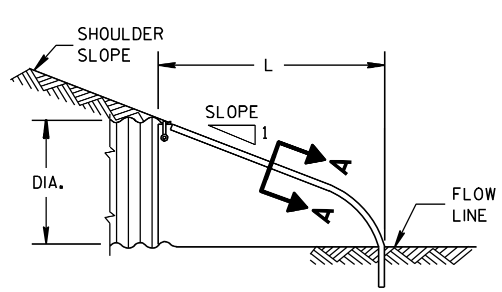
*MINIMUM
**MAXIMUM



PLAN VIEW

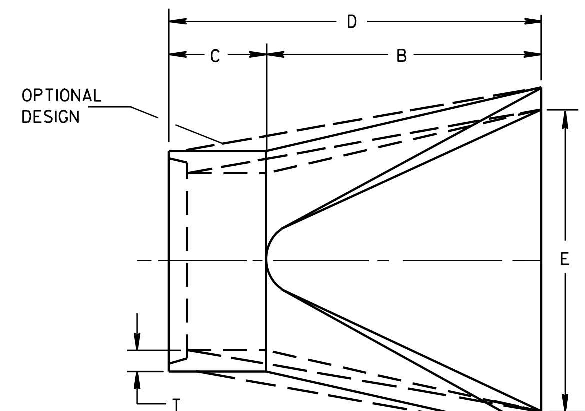


END VIEW

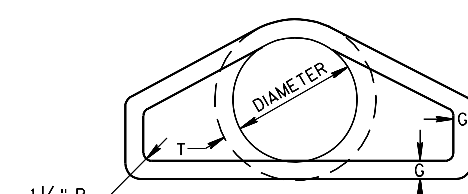


SIDE ELEVATION

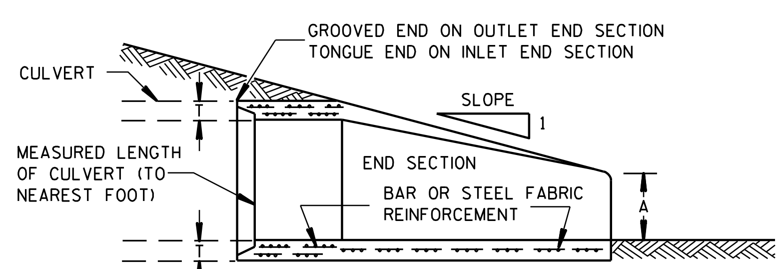
METAL ENDWALLS



PLAN

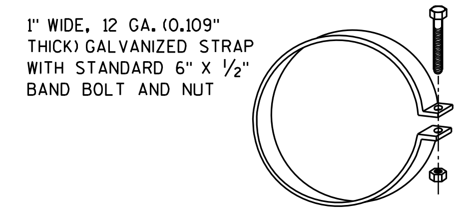


END VIEW



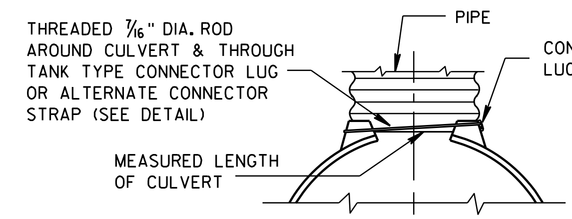
LONGITUDINAL SECTION

CONCRETE ENDWALLS

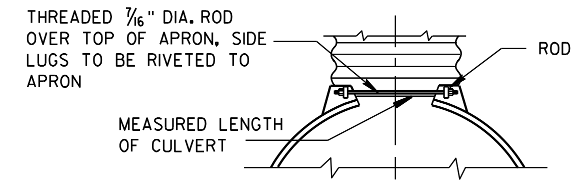


ALTERNATE FOR TYPE 1 CONNECTION

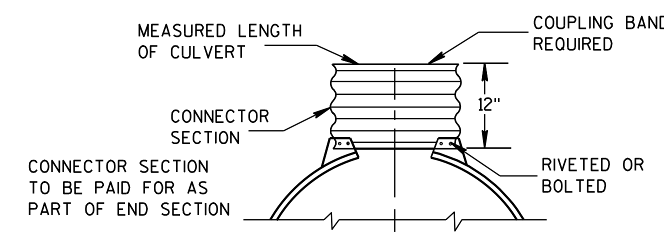
END SECTION CONNECTOR STRAP



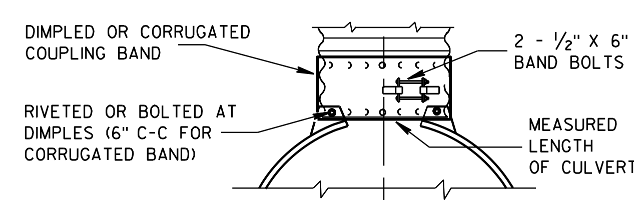
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

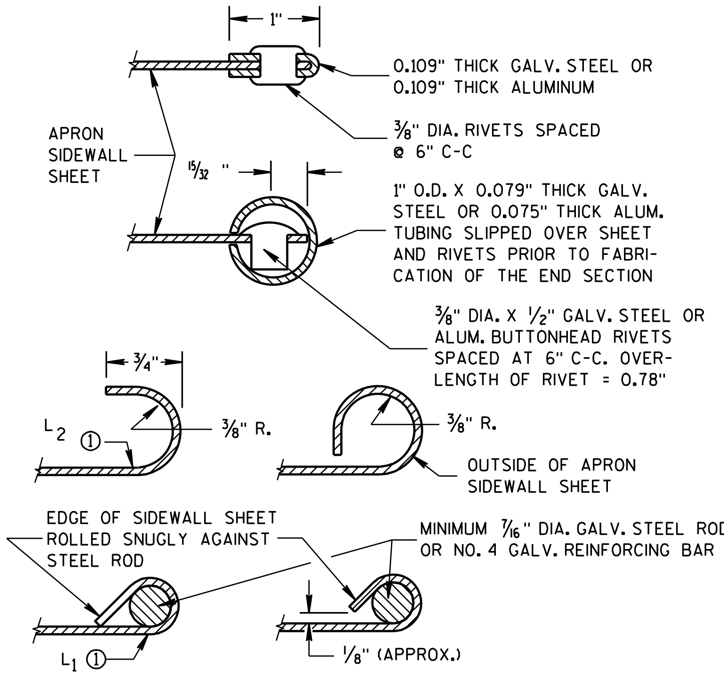
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

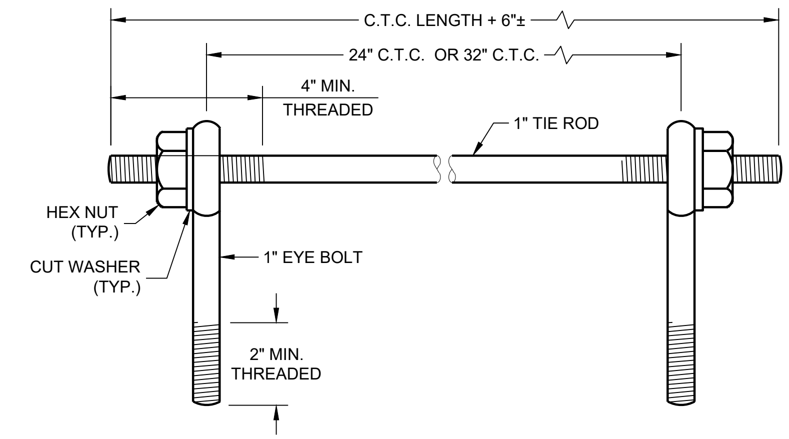
LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

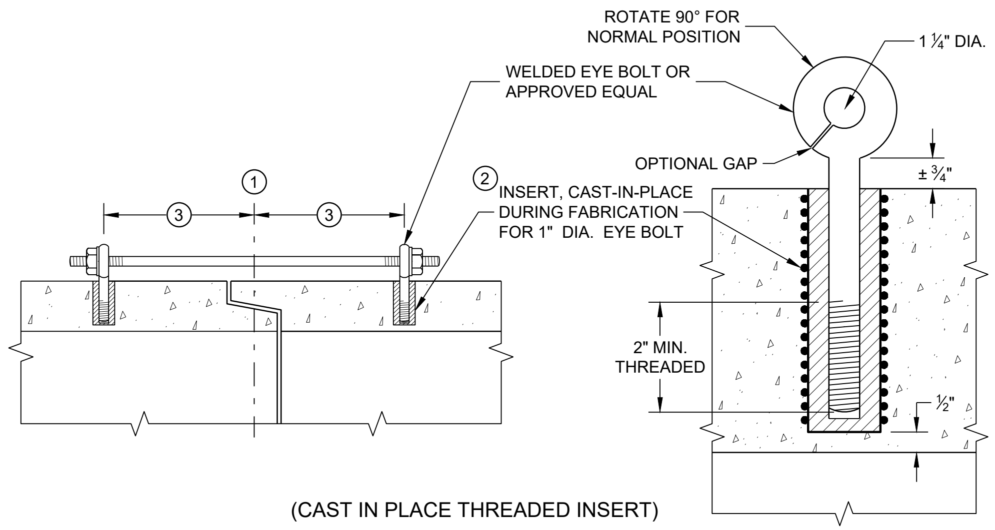
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 /S/ Rory L. Rhinesmith
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



EYE BOLTS AND TIE ROD



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

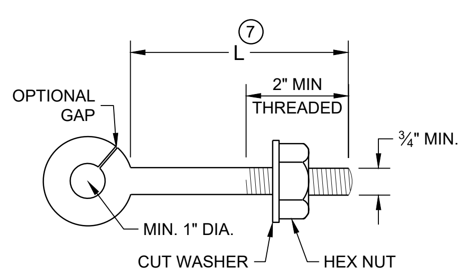
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

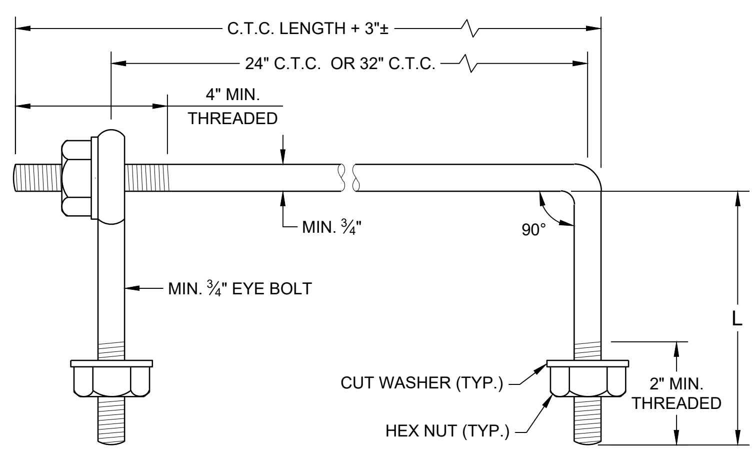
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

1. CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
2. THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
3. HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
4. BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
5. OPENING TO BE ROD DIAMETER PLUS 1 INCH.
6. LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.
7. EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

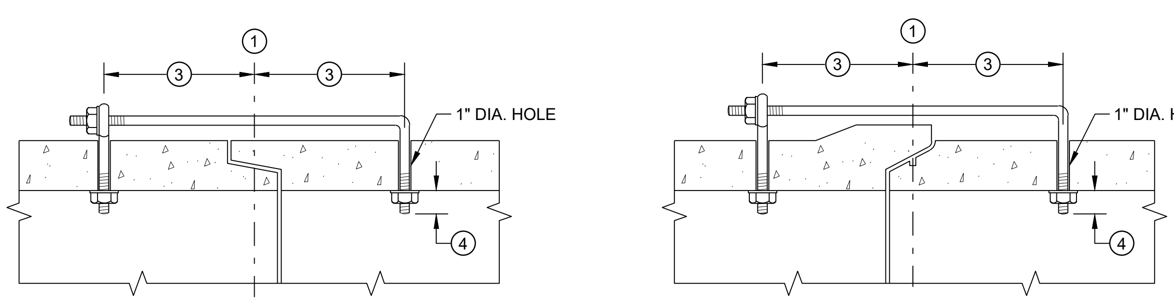


EYE BOLT 7

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)

(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

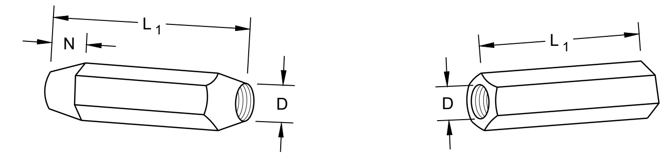
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

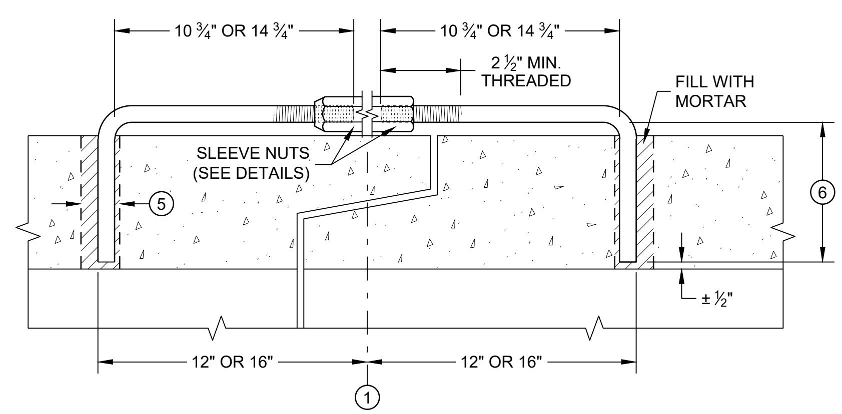
PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12 - 60	⅝	⅝	5	½
66 - 84	¾	¾	5	½
90 - 144	1	1	7	1 7⁄16

DIMENSIONS SHOWN ARE IN INCHES



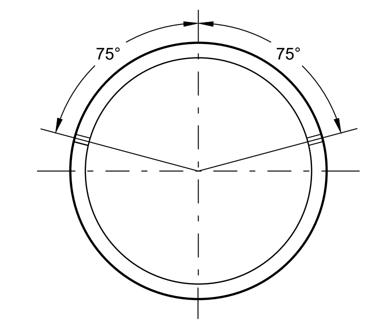
RIGHT AND LEFT THREADS

SLEEVE NUTS



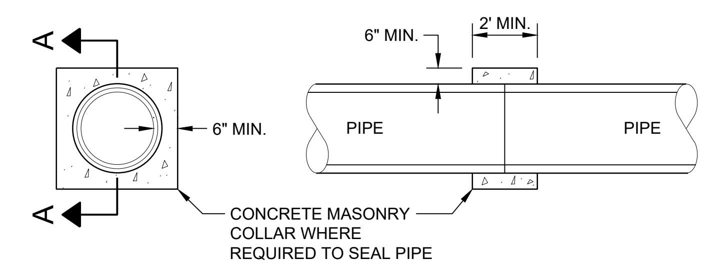
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A - A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

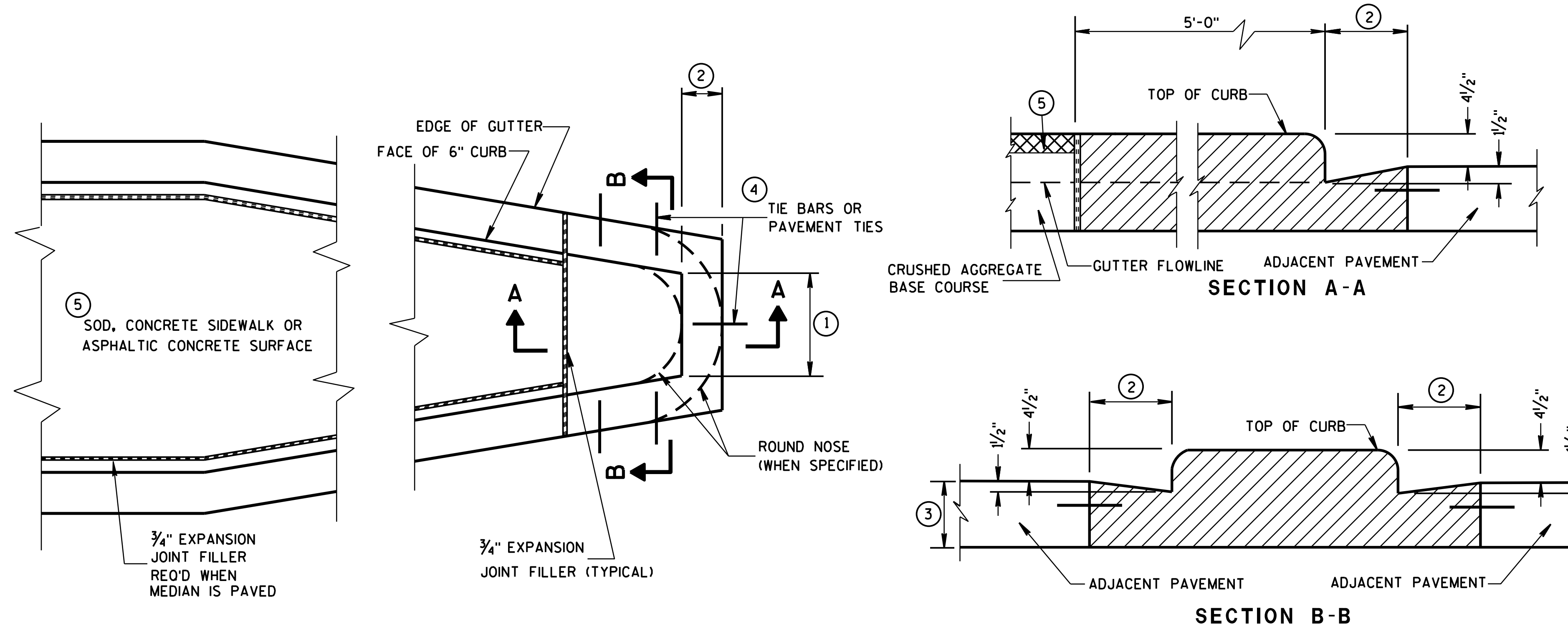
SDD 08F04 - 08
6

GENERAL NOTES

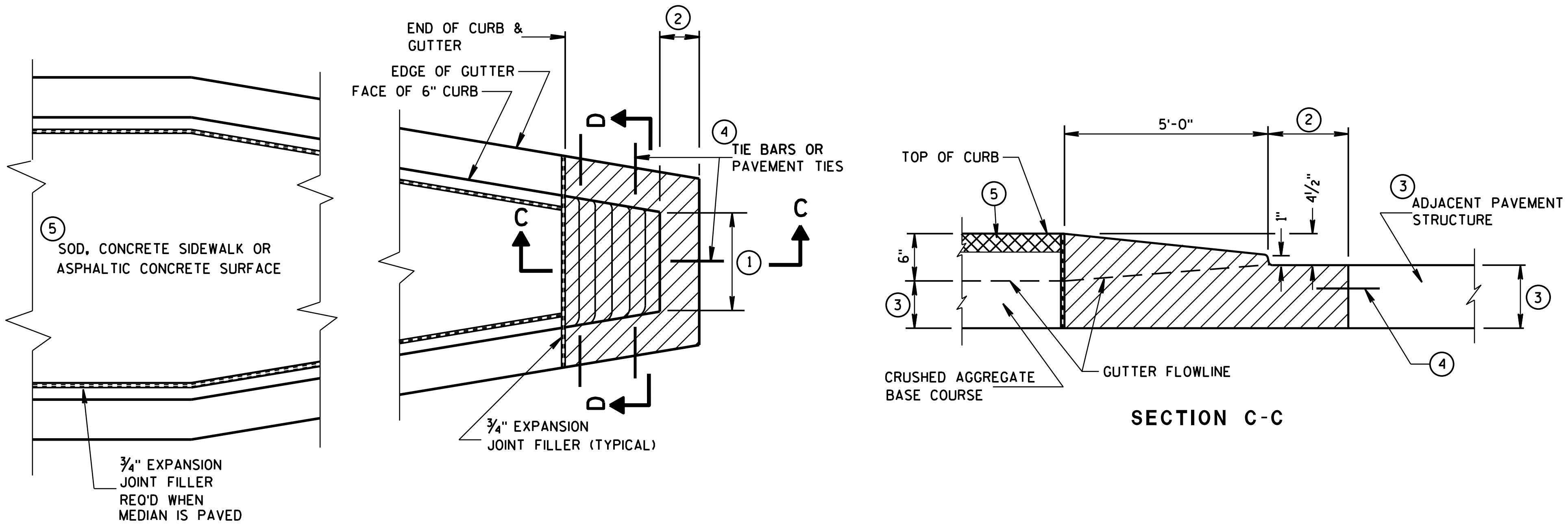
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

1. SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
2. WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
3. DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
   (1) NEW OR EXISTING CONCRETE PAVEMENT.
   (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
   (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.
4. TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

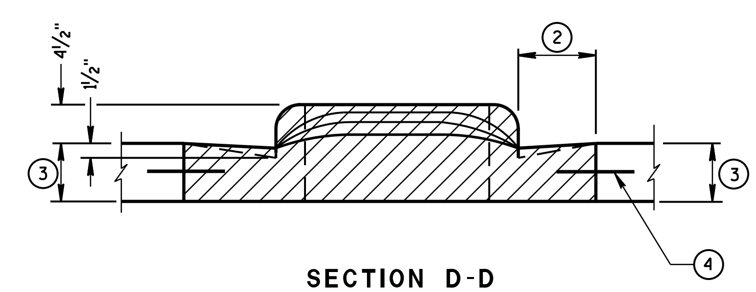
   PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.
5. SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

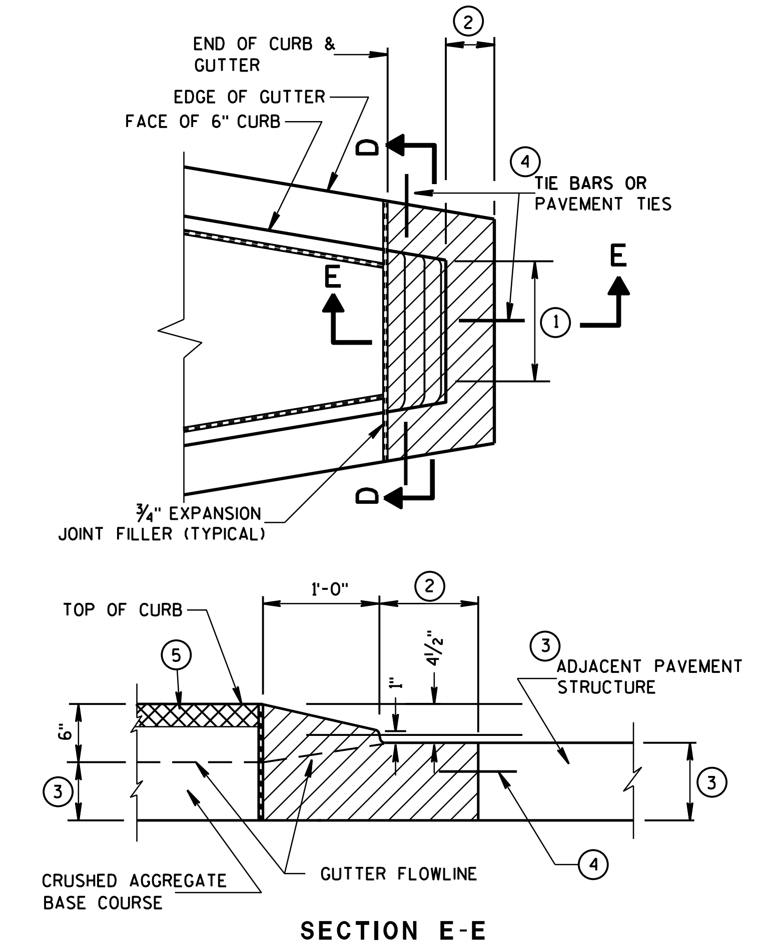


CONCRETE MEDIAN BLUNT NOSE DETAIL



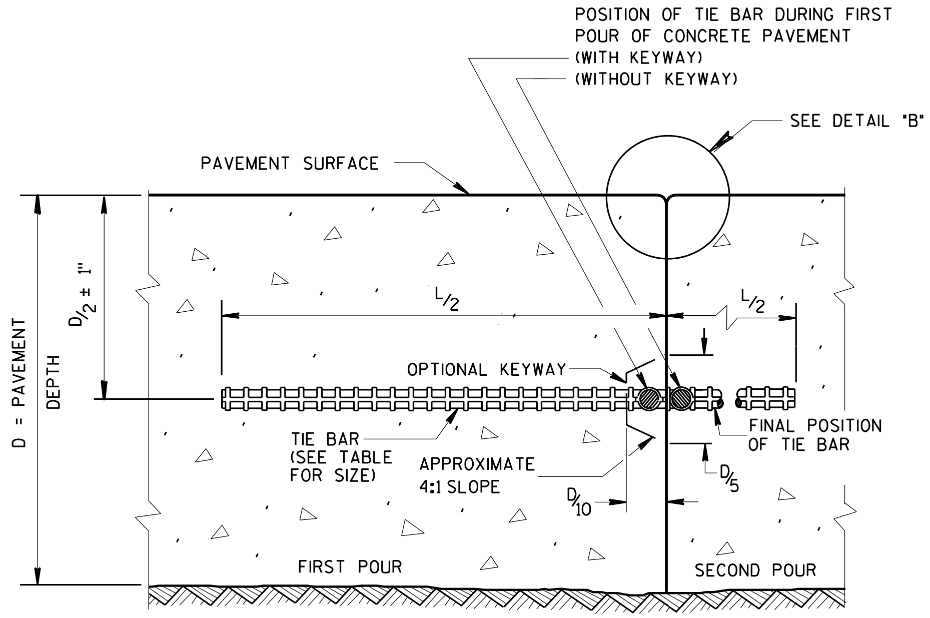
CONCRETE MEDIAN SLOPED NOSE TYPE 1



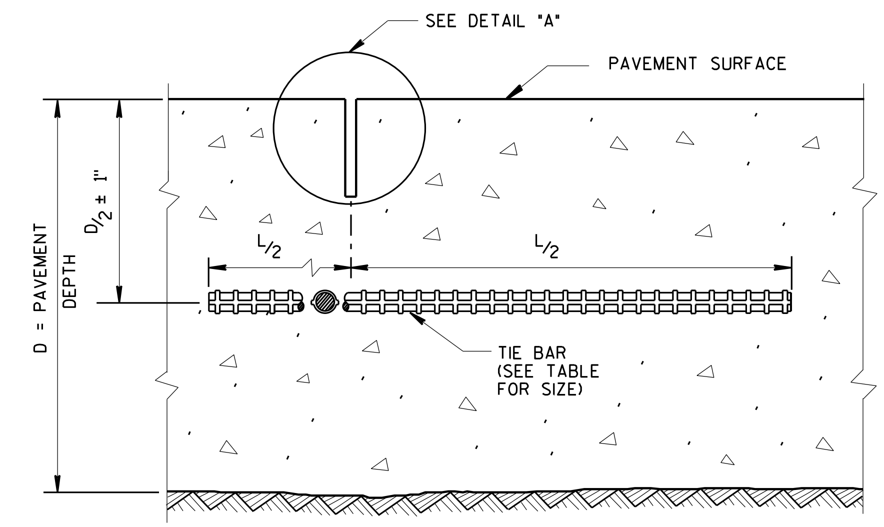


CONCRETE MEDIAN SLOPED NOSE TYPE 2

CONCRETE MEDIAN NOSE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
6/8/2006 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



CONSTRUCTION JOINT



SAWED JOINT

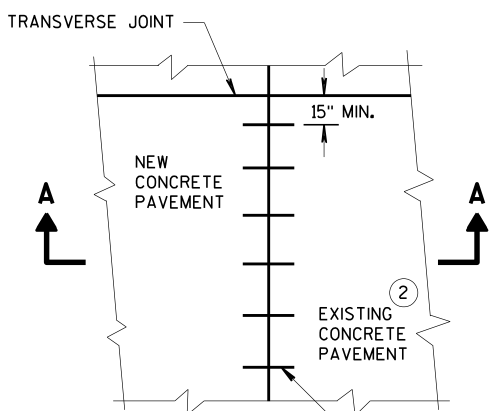
GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

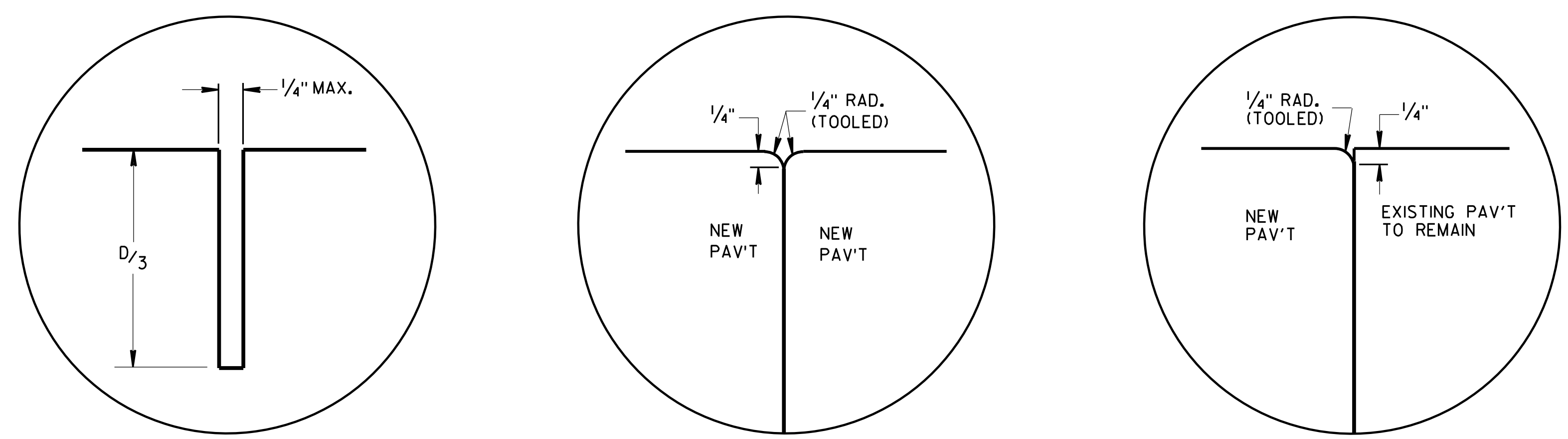
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.



PLAN VIEW

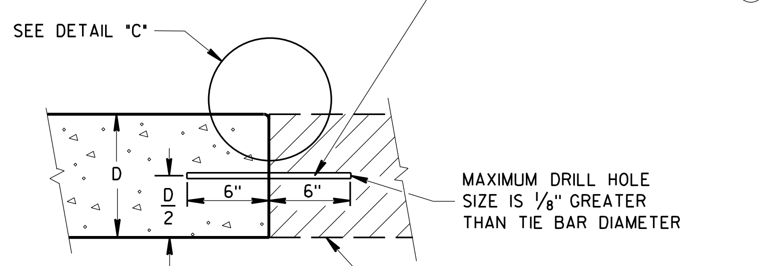


DETAIL "A"

DETAIL "B"

DETAIL "C"

NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. (1)



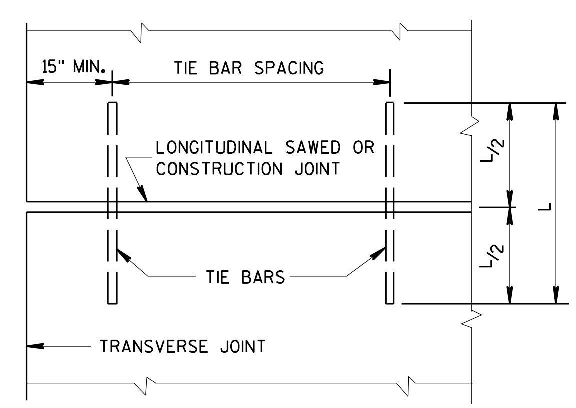
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Peter Kemp P.E. — PAVEMENT SUPERVISOR
FHWA

6

S.D.D. 13 C 1-19

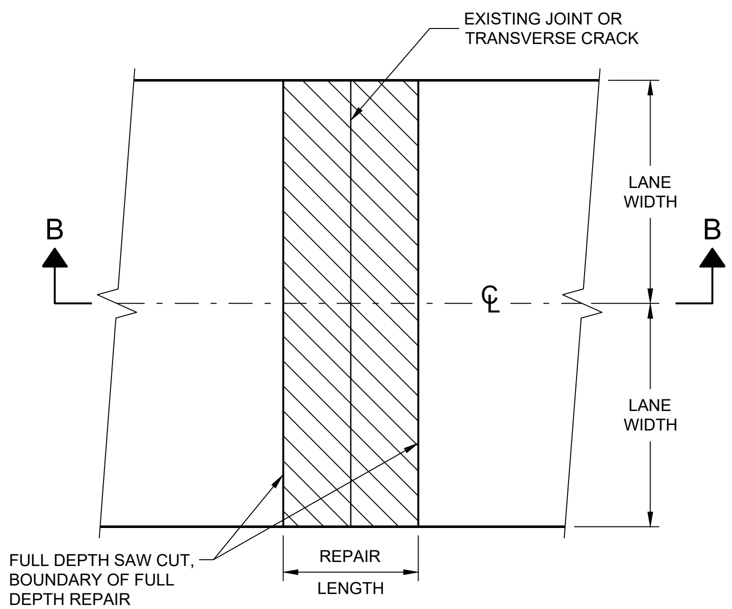
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

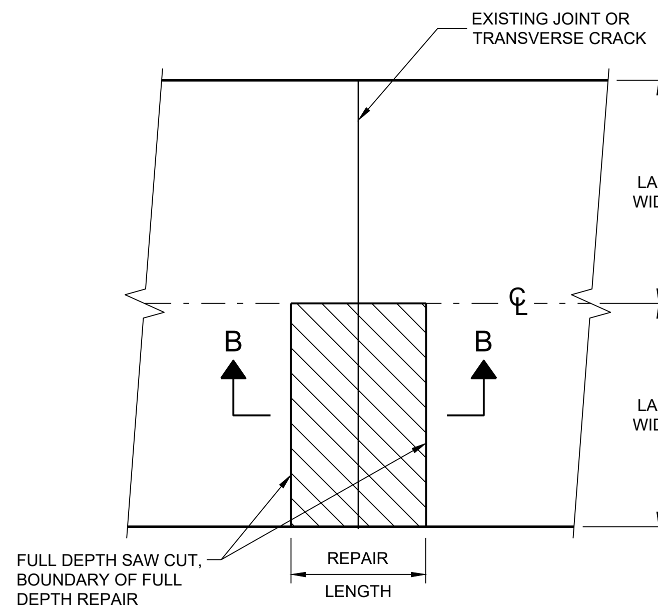
PROVIDE A 6 FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREA TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NON-DOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

(1) DOWEL BARS MAY NOT BE PRESENT.

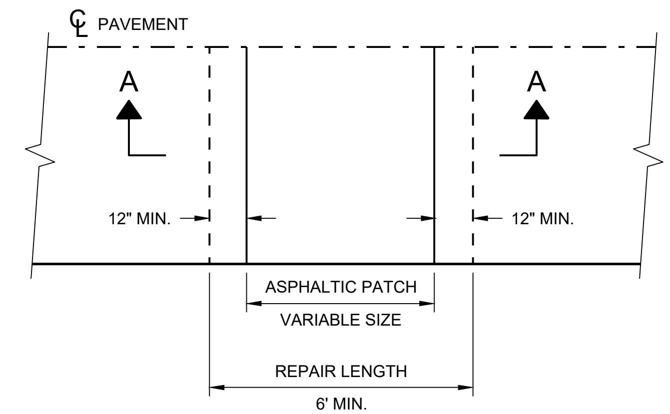


PLAN VIEW (DOUBLE LANE REPAIR)

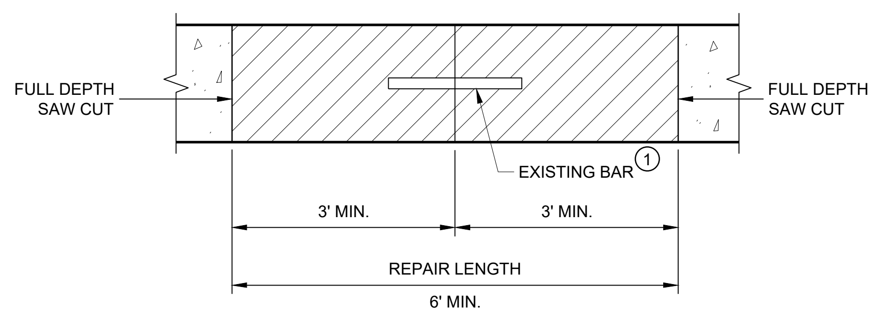


PLAN VIEW (SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL

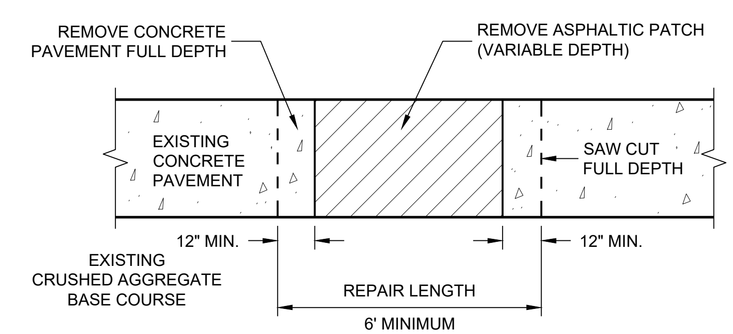


PLAN VIEW



SECTION B - B

CONCRETE REMOVAL



SECTION A - A

HMA PATCH REMOVAL

6

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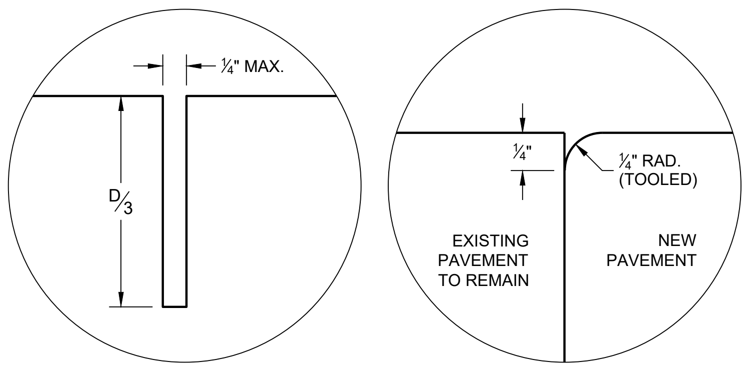
SDD 13C09 - 17a

SDD 13C09 - 17a

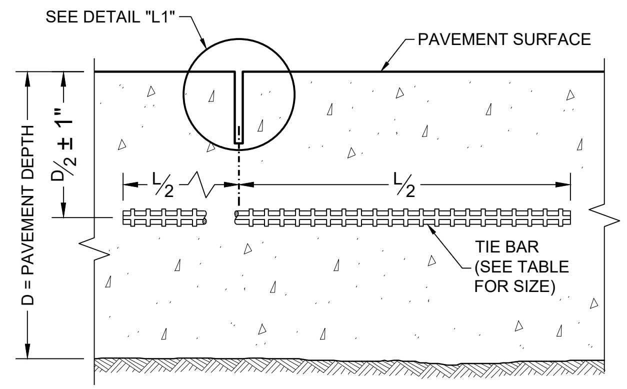
CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI

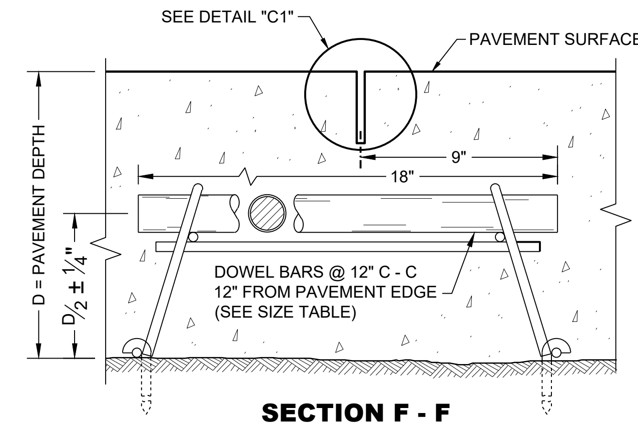


C1 C2

TRANSVERSE JOINTS



SECTION C - C
SAWED LONGITUDINAL JOINT



SECTION F - F
DOWELED CONTRACTION JOINT

GENERAL NOTES

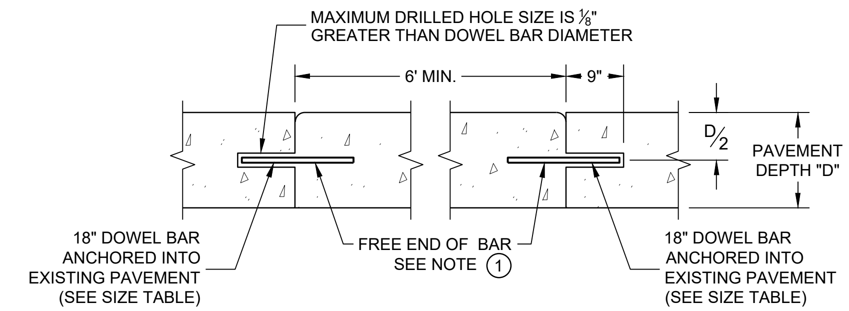
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE PAVEMENT REPAIRS OF EXISTING NON-DOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

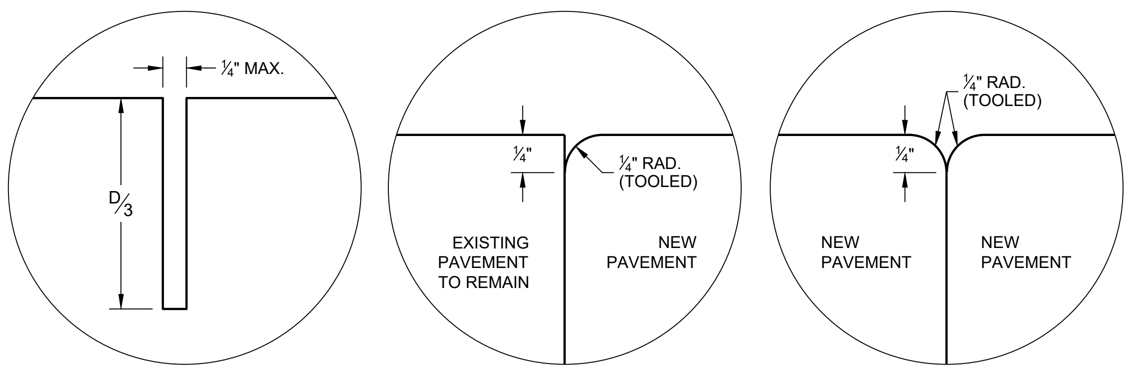
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

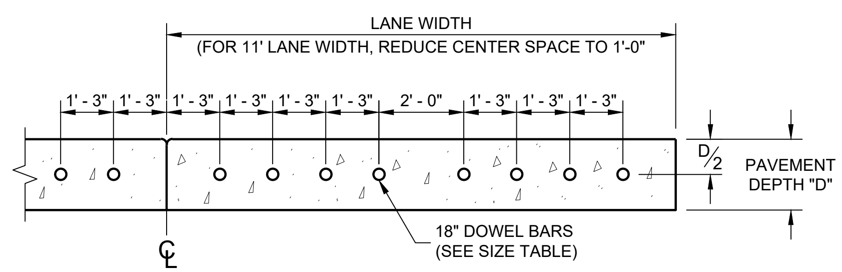


SECTION D - D



L1 L2 L3

LONGITUDINAL JOINTS



SECTION E - E
DRILLED DOWEL BAR CONSTRUCTION JOINT

TIE BAR TABLE

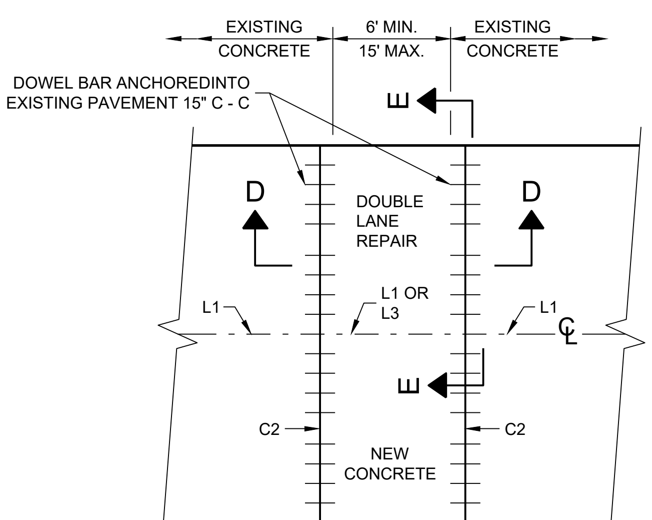
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

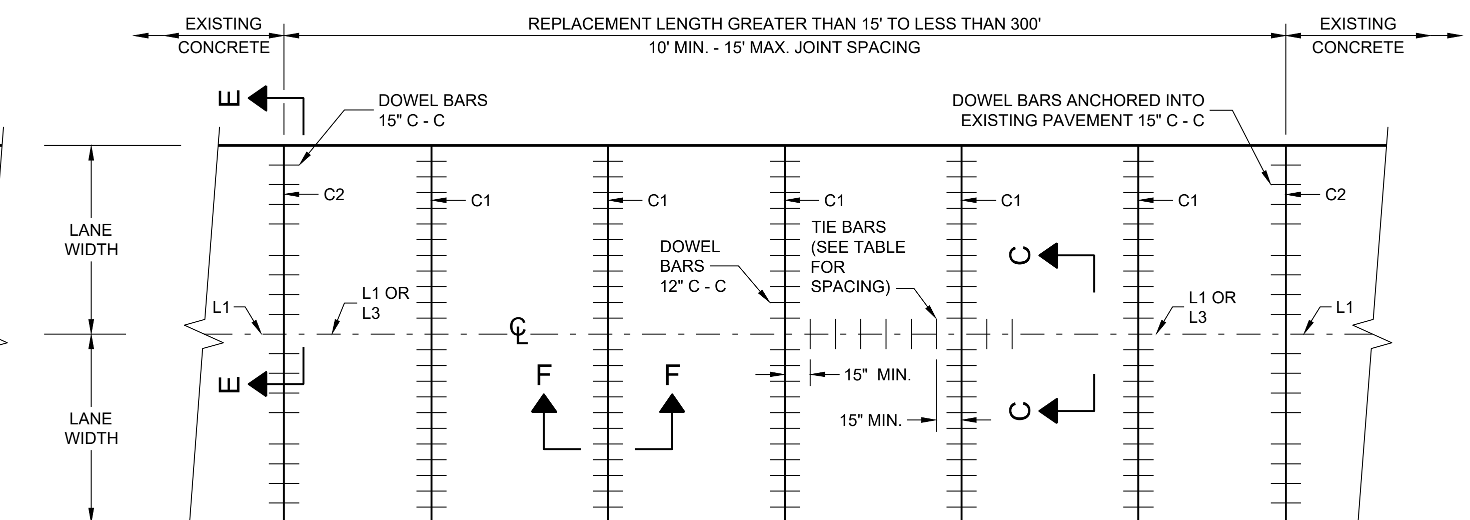
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	DRILLED DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
6", 6 ½"	NONE	NONE	12'
7", 7 ½"	1"	1"	14'
8" & ABOVE	1 ¼"	1 ¼"	15'



PLAN VIEW
MULTILANE CONCRETE PAVEMENT REPAIR



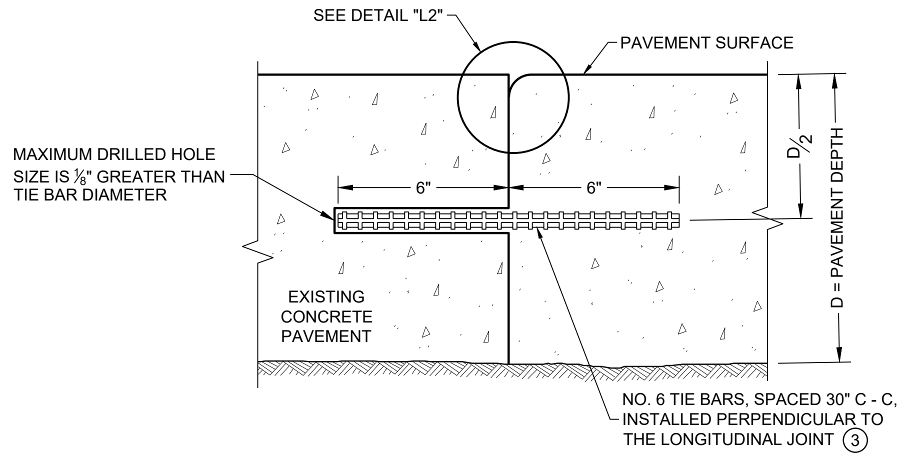
PLAN VIEW
MULTILANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT 150

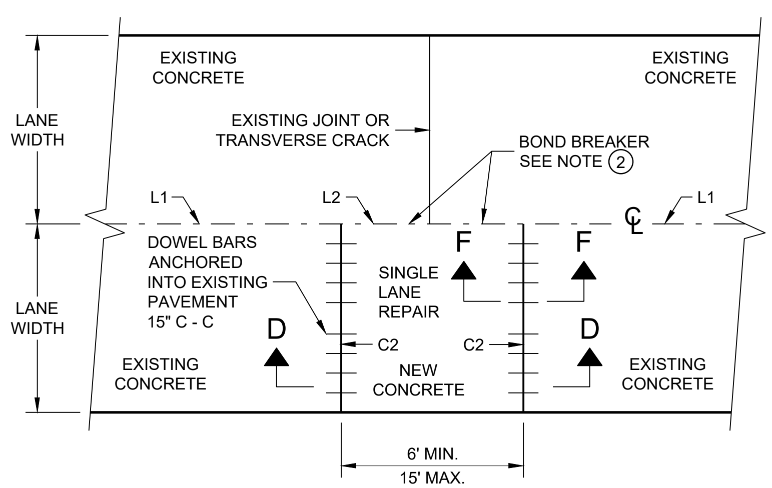
GENERAL NOTES

1. WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
2. USE AN ENGINEER APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.
3. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



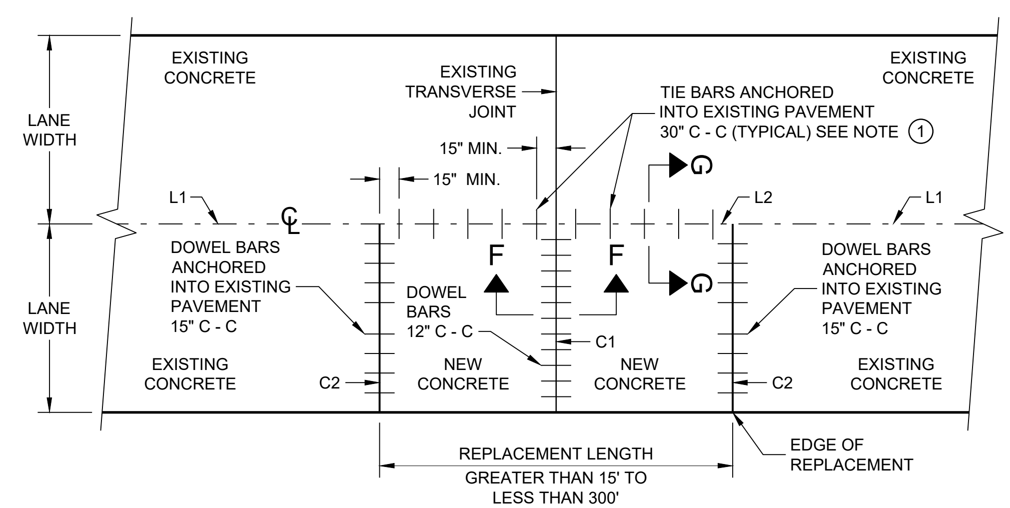
SECTION G - G

TIE BARS ANCHORED INTO EXISTING PAVEMENT



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 — DATE
/S/ Peter Kemp P.E. — PAVEMENT SUPERVISOR
FHWA

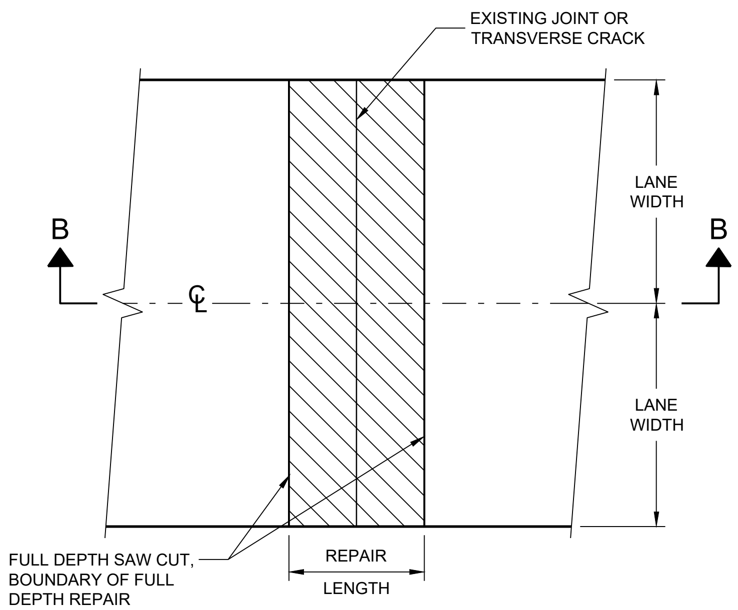
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

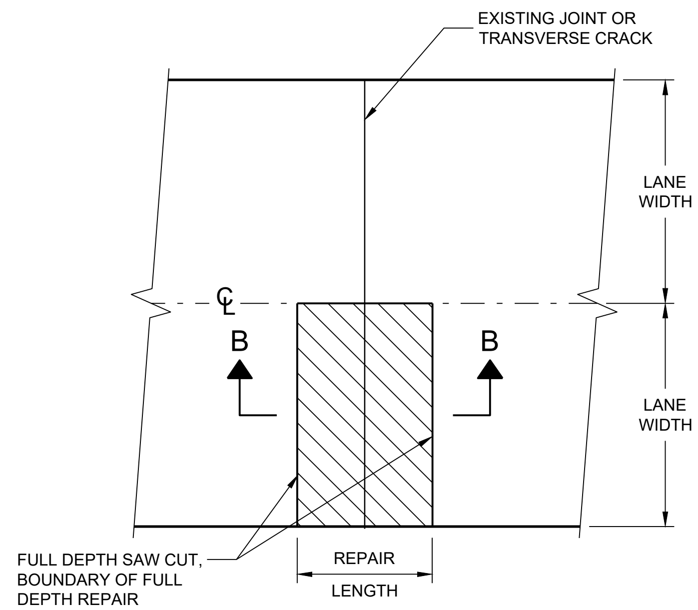
PROVIDE A 6 FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREA TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NON-DOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

1 DOWEL BARS MAY NOT BE PRESENT.

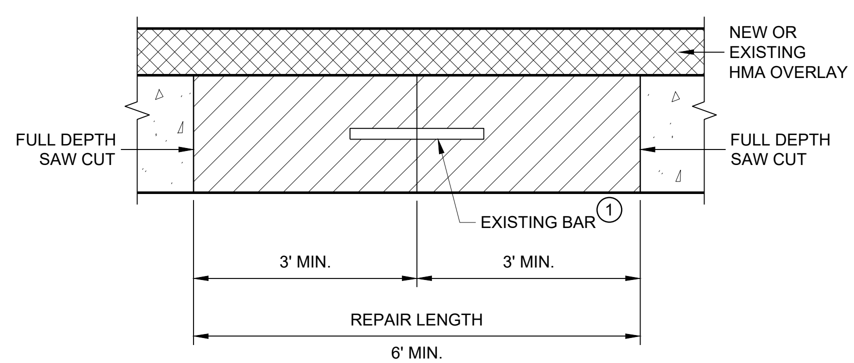


PLAN VIEW
DOUBLE LANE REPAIR



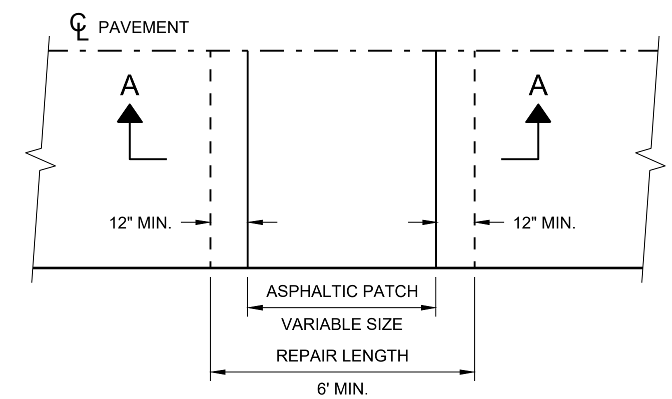
PLAN VIEW
SINGLE LANE REPAIR

FULL DEPTH CONCRETE PAVEMENT REMOVAL

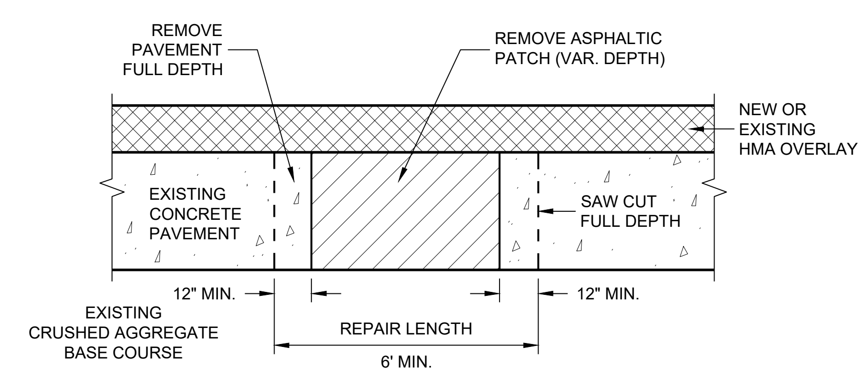


SECTION B - B

CONCRETE REMOVAL



PLAN VIEW



SECTION A - A

HMA PATCH REMOVAL

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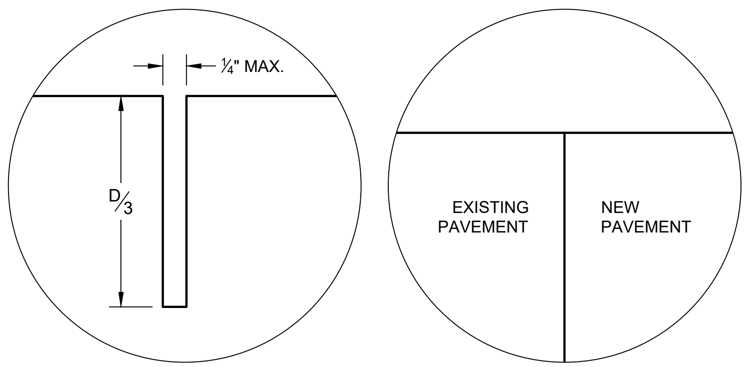
SDD 13C14 - 07a

BASE PATCHING CONCRETE

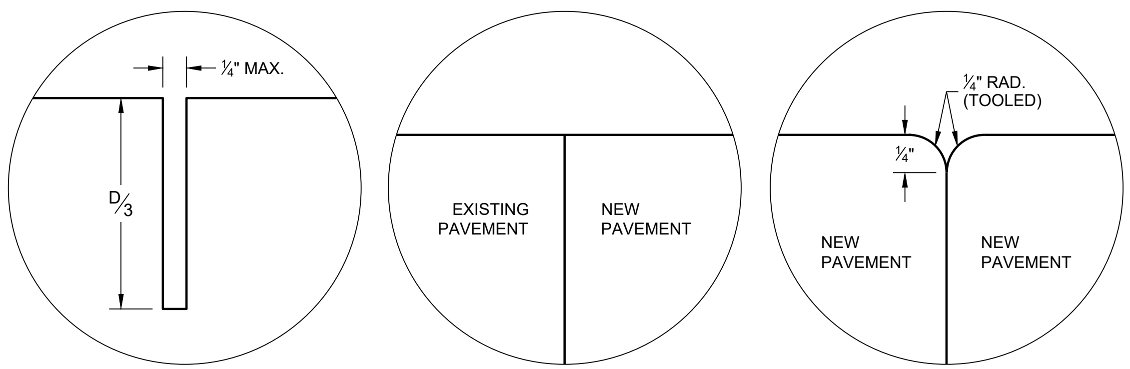
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT 152

6

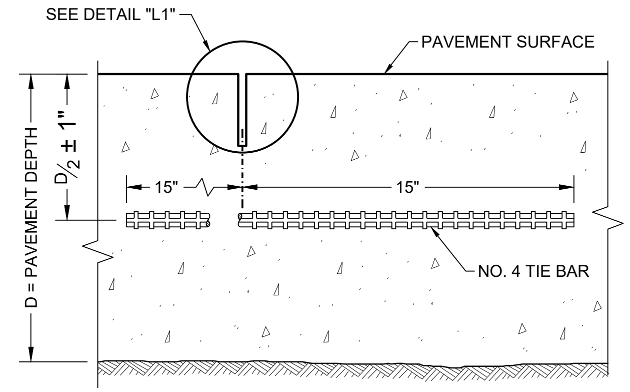
SDD 13C14 - 07a



TRANSVERSE JOINTS

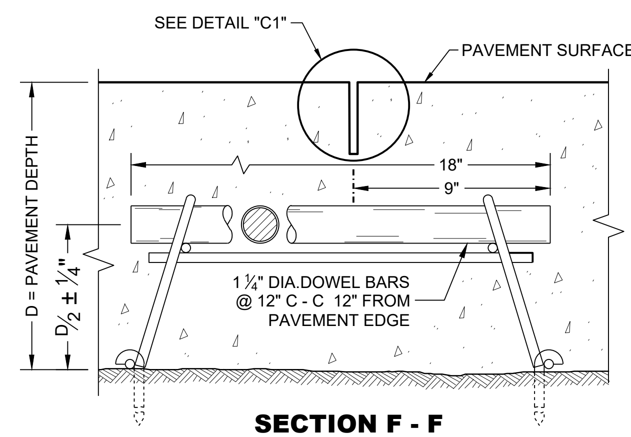


LONGITUDINAL JOINTS



SECTION C - C

SAWED LONGITUDINAL JOINT



SECTION F - F

CONTRACTION JOINT

GENERAL NOTES

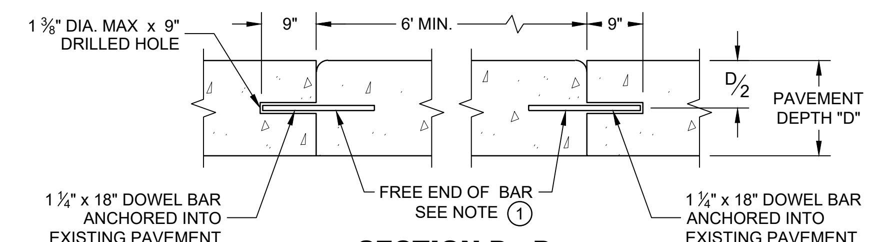
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE BASE PATCHES OF EXISTING NON-DOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

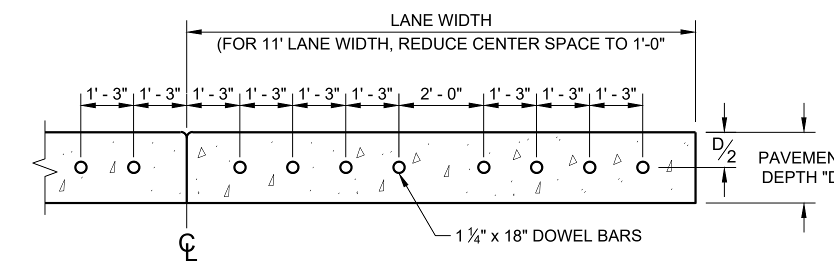
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

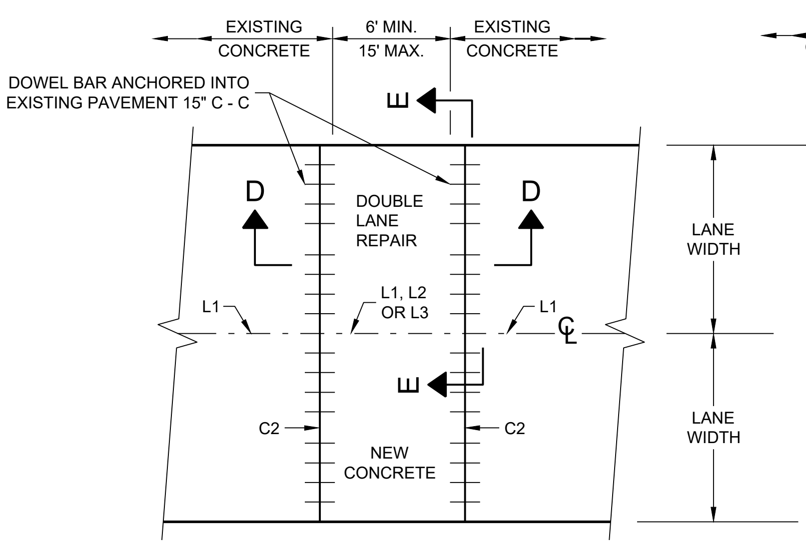


SECTION D - D



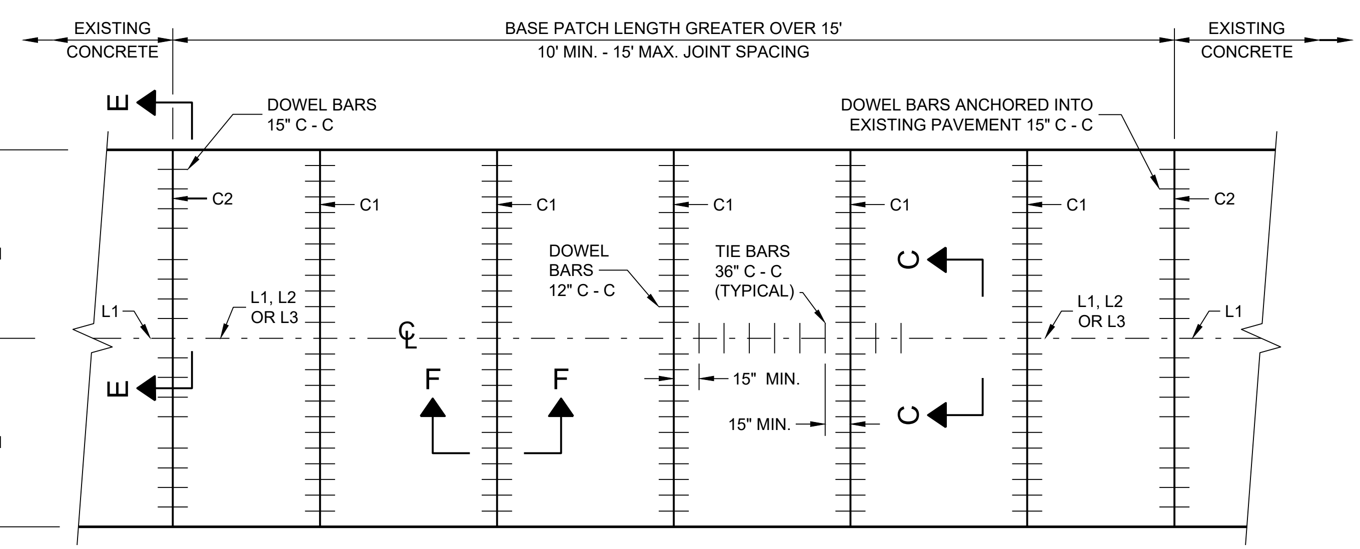
SECTION E - E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT



PLAN VIEW

MULTILANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

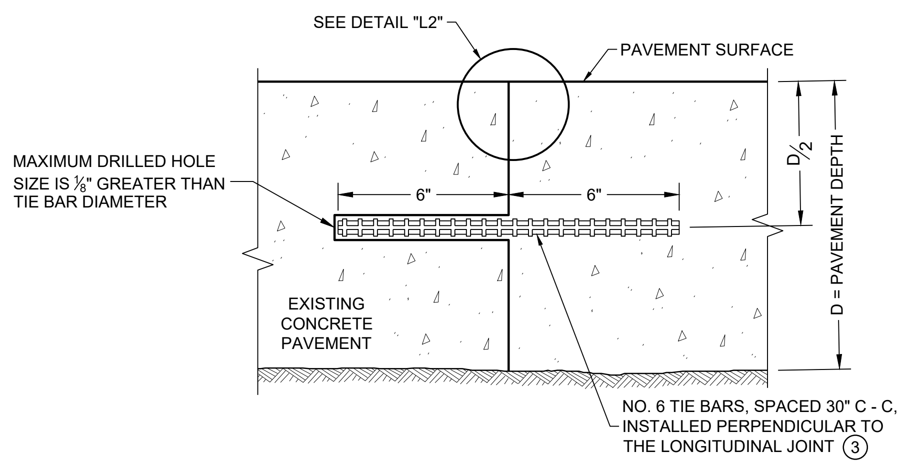
MULTILANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

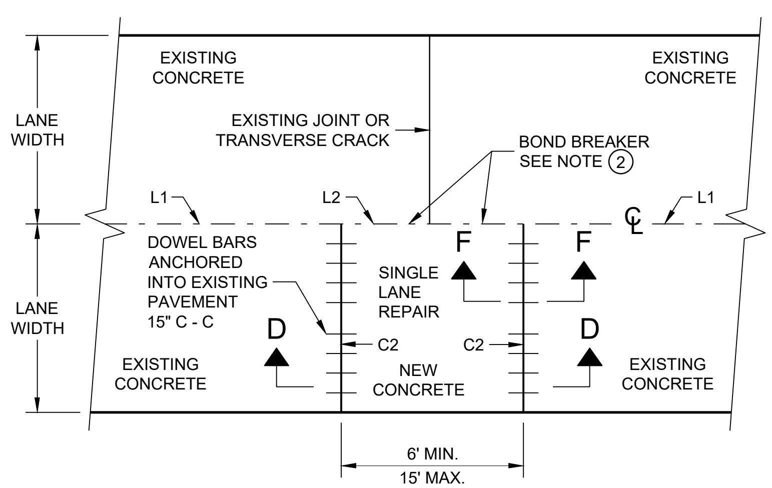
GENERAL NOTES

1. WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
2. USE AN ENGINEER APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.
3. ANCHOR TIE BARS INTO DRILLED HOES WITH AN EPOXY.



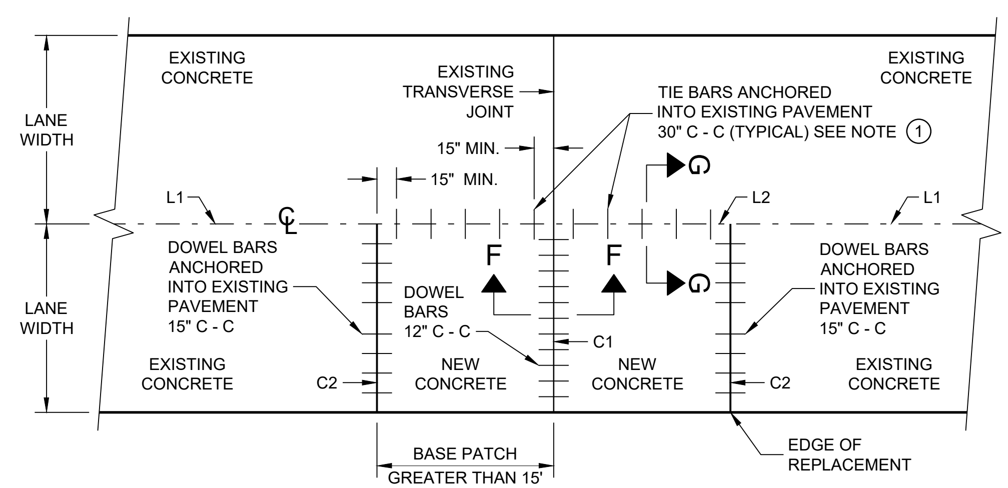
SECTION G - G

TIE BARS ANCHORED INTO EXISTING PAVEMENT



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' LENGTH

6

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BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPERVISOR
FHWA

SDD 13C14 - 07c

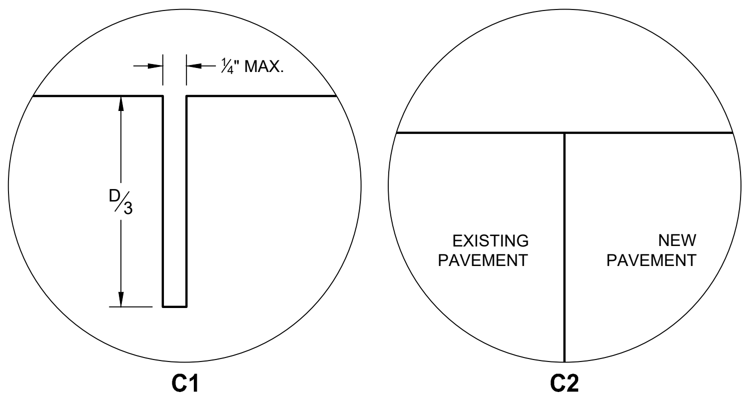
SDD 13C14 - 07c

GENERAL NOTES

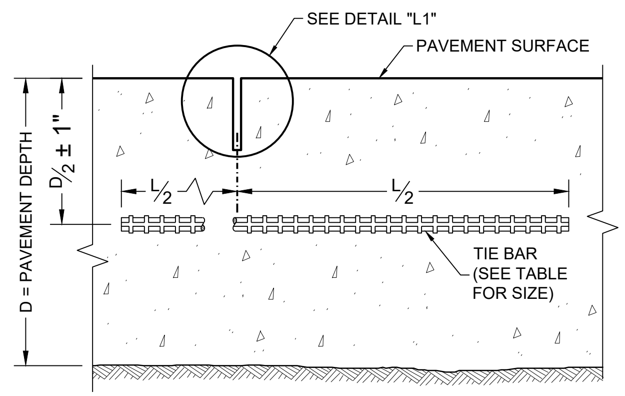
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MIMIMUM DISTANCE OF 15 INCHES FROM AN EXISTING TRANSVERSE JOINT OR EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

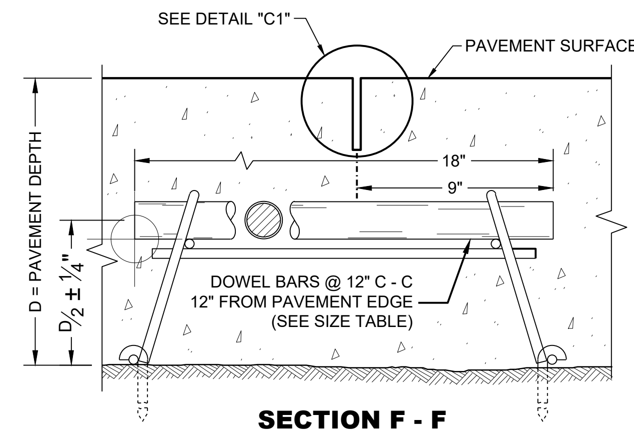
1. INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.
2. APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



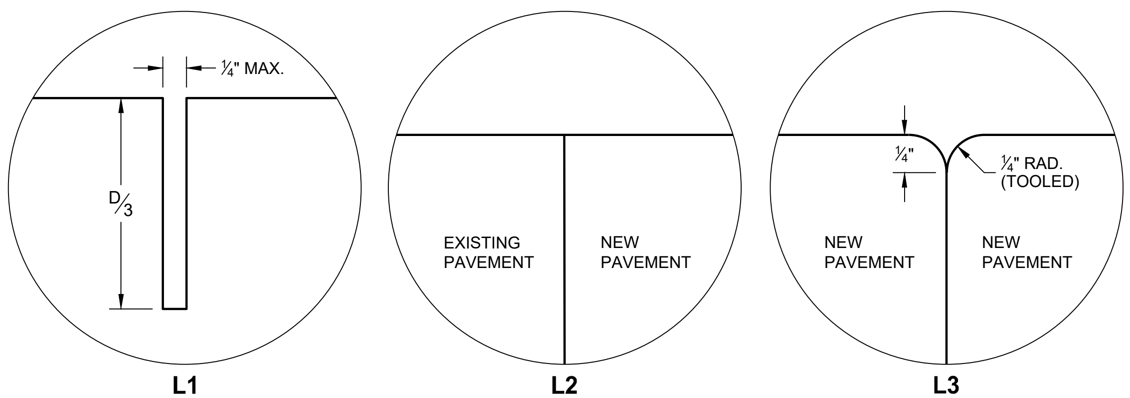
TRANSVERSE JOINTS



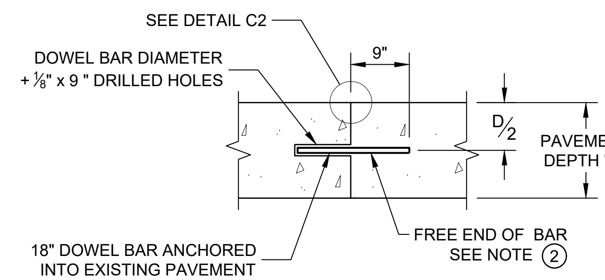
SECTION C - C
SAWED JOINT



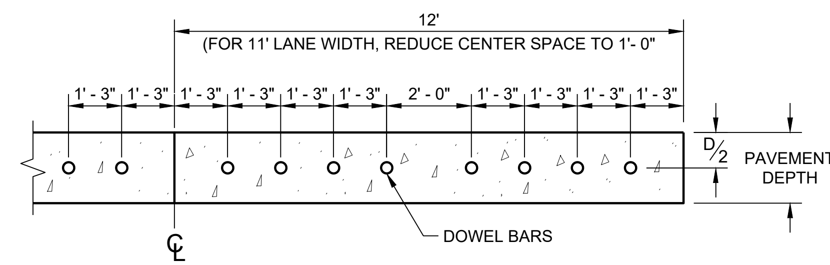
SECTION F - F
CONTRACTION JOINT



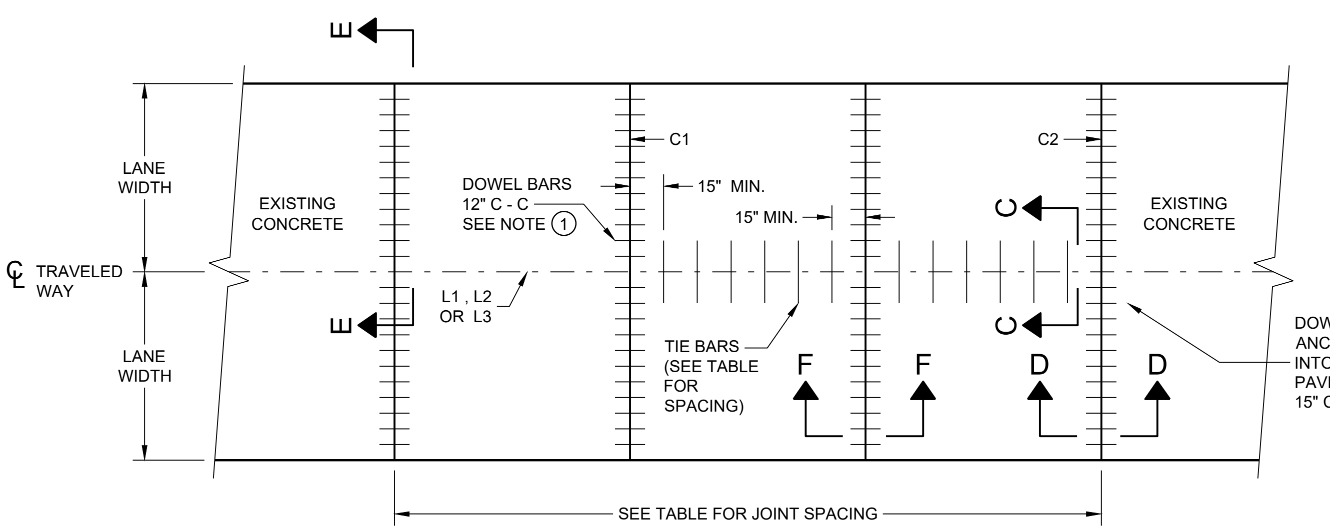
LONGITUDINAL JOINTS



SECTION D - D



SECTION E - E
SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT



PLAN VIEW
CONCRETE BASE CONTRACTION JOINT LOCATIONS

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8" & ABOVE	1 ¼"	15'

CONCRETE BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA 155

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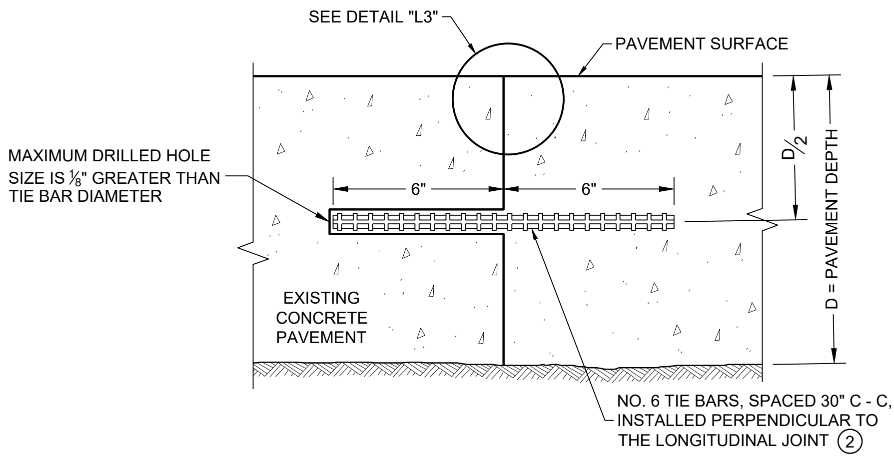
SDD 13C15 - 08a

SDD 13C15 - 08a

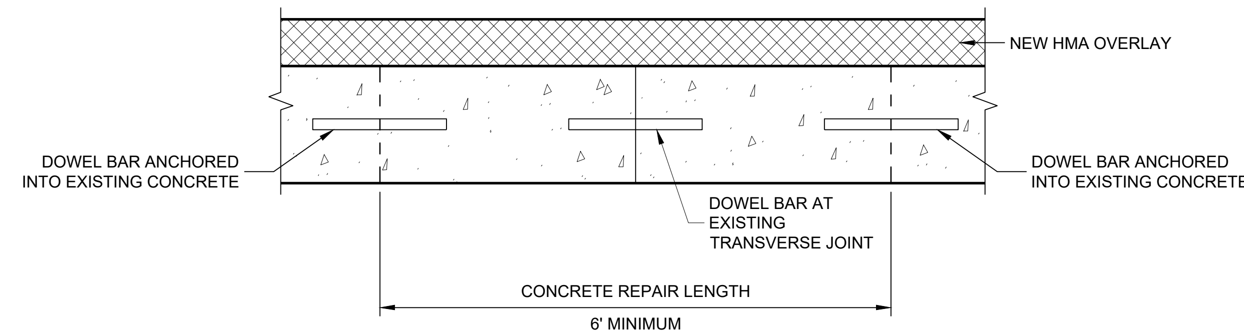
GENERAL NOTES

1. USE AN ENGINEER APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) AT THE LONGITUDINAL JOINT IN LIEU OF TIE BARS FOR SINGLE LANE CONCRETE BASE REPAIRS UP TO 15 FEET IN LENGTH.
2. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
3. PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

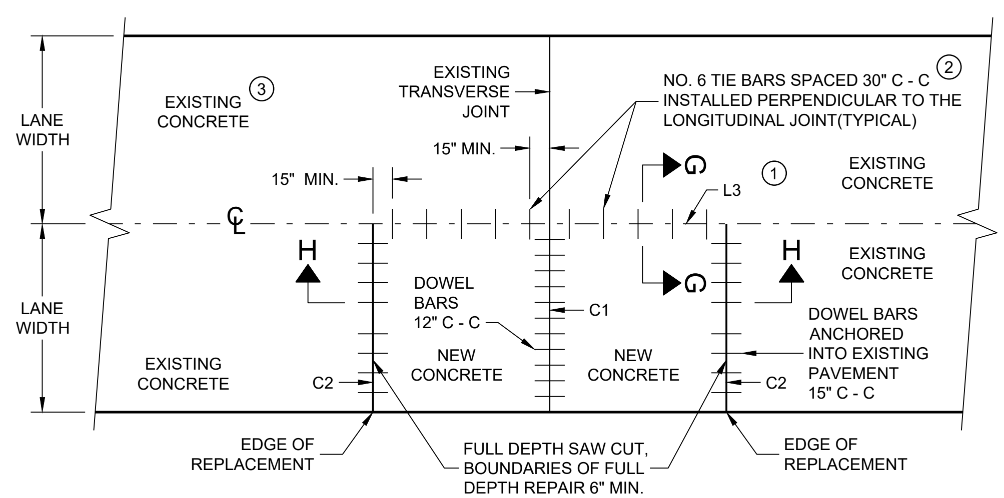


SECTION G - G

TIE BARS ANCHORED INTO EXISTING PAVEMENT



SECTION H - H



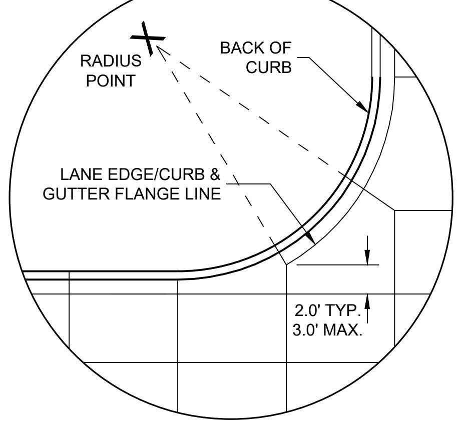
PLAN VIEW

SINGLE LANE CONCRETE BASE REPAIR

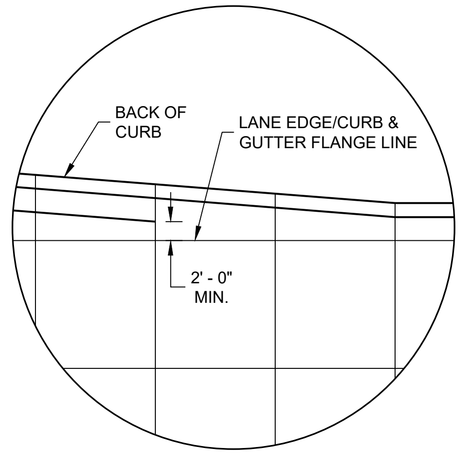
CONCRETE BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

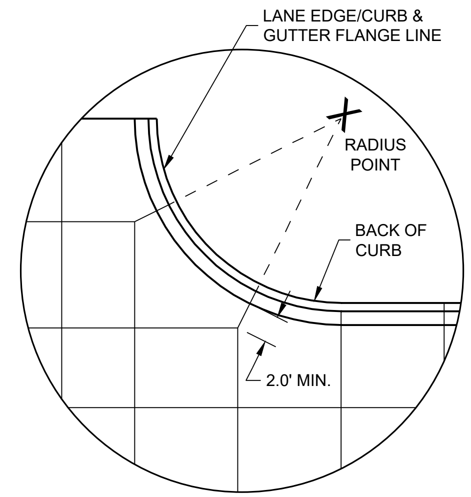
APPROVED
November 2022 /S/ Peter Kemp P.E.
DATE PAVEMENT SUPERVISO
FHWA



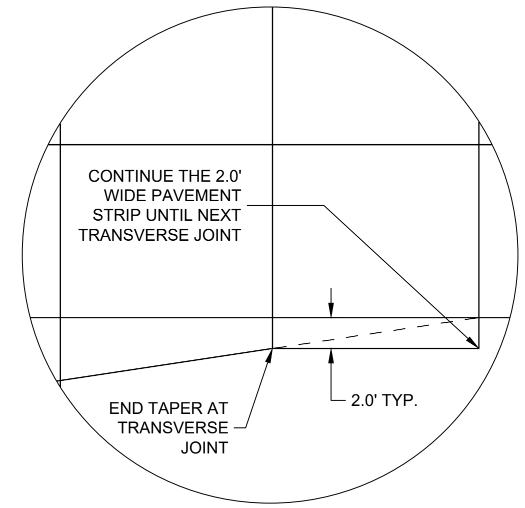
DETAIL "A"



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.

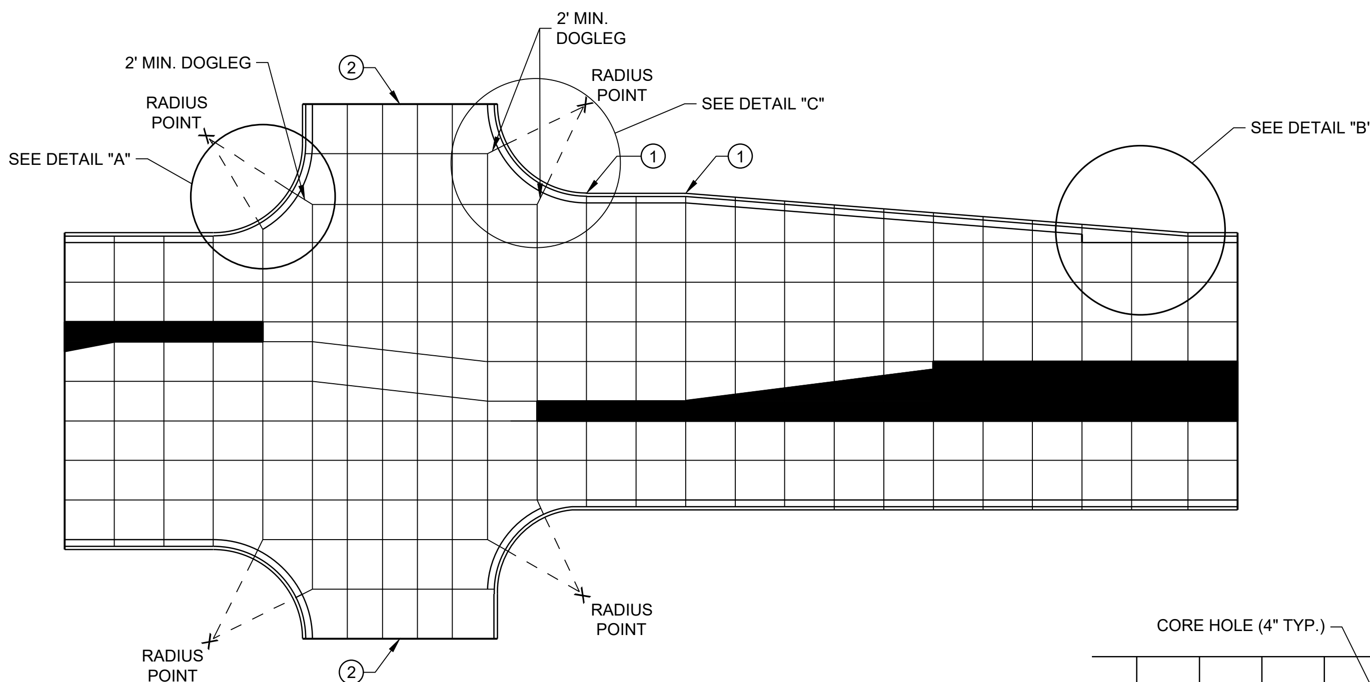
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

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.

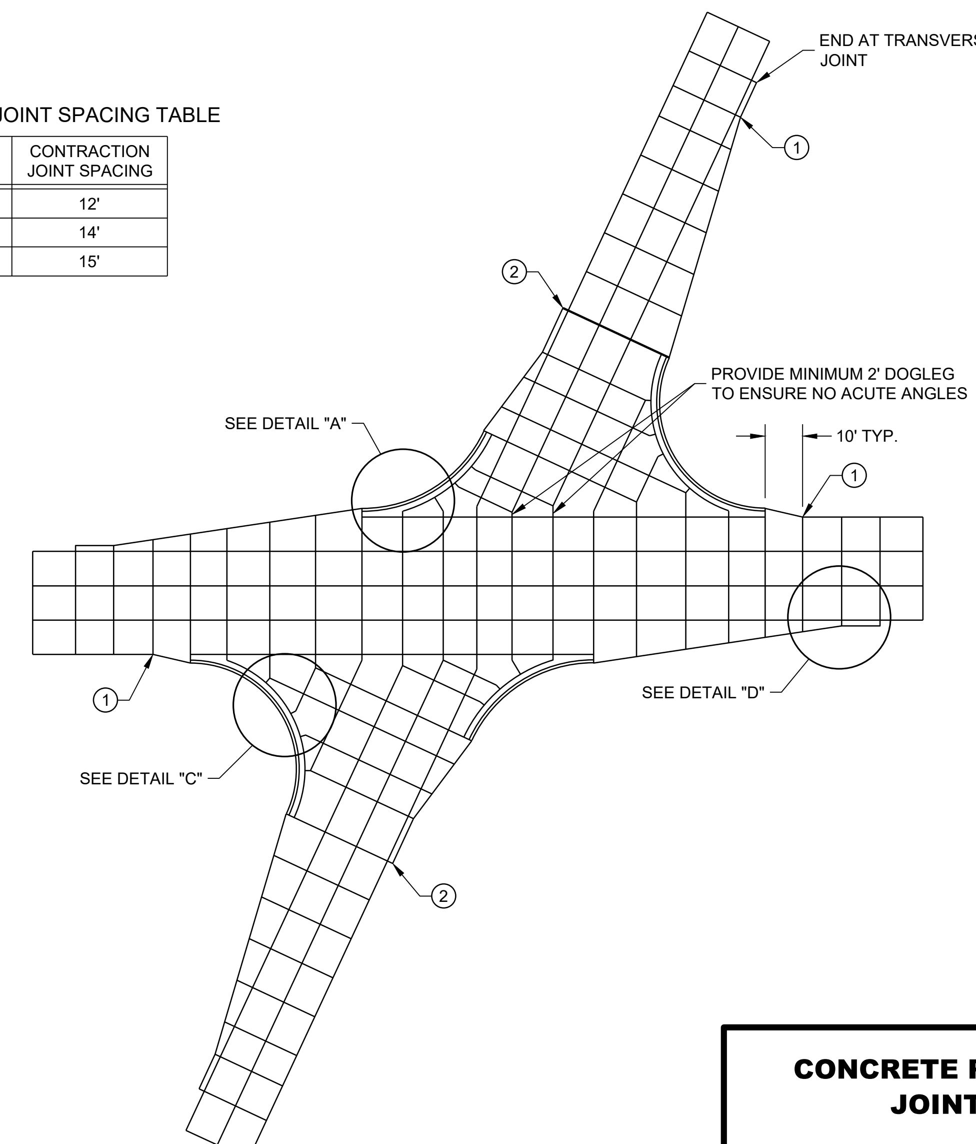
3 THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.

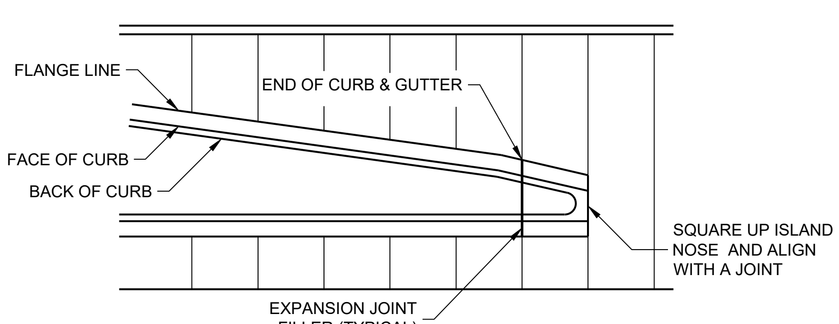


STANDARD INTERSECTION

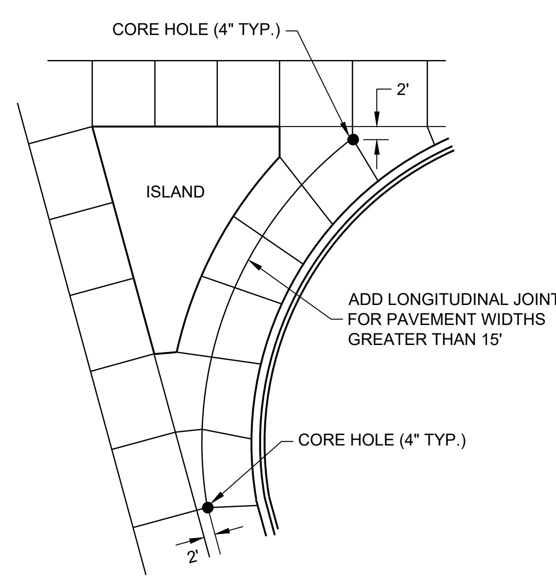
PAVEMENT DEPTH AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 ½"	12'
7", 7 ½"	14'
8" & ABOVE	15'





APPROACH TO MEDIAN



LARGE RIGHT TURN

SKEWED INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT

LEGEND

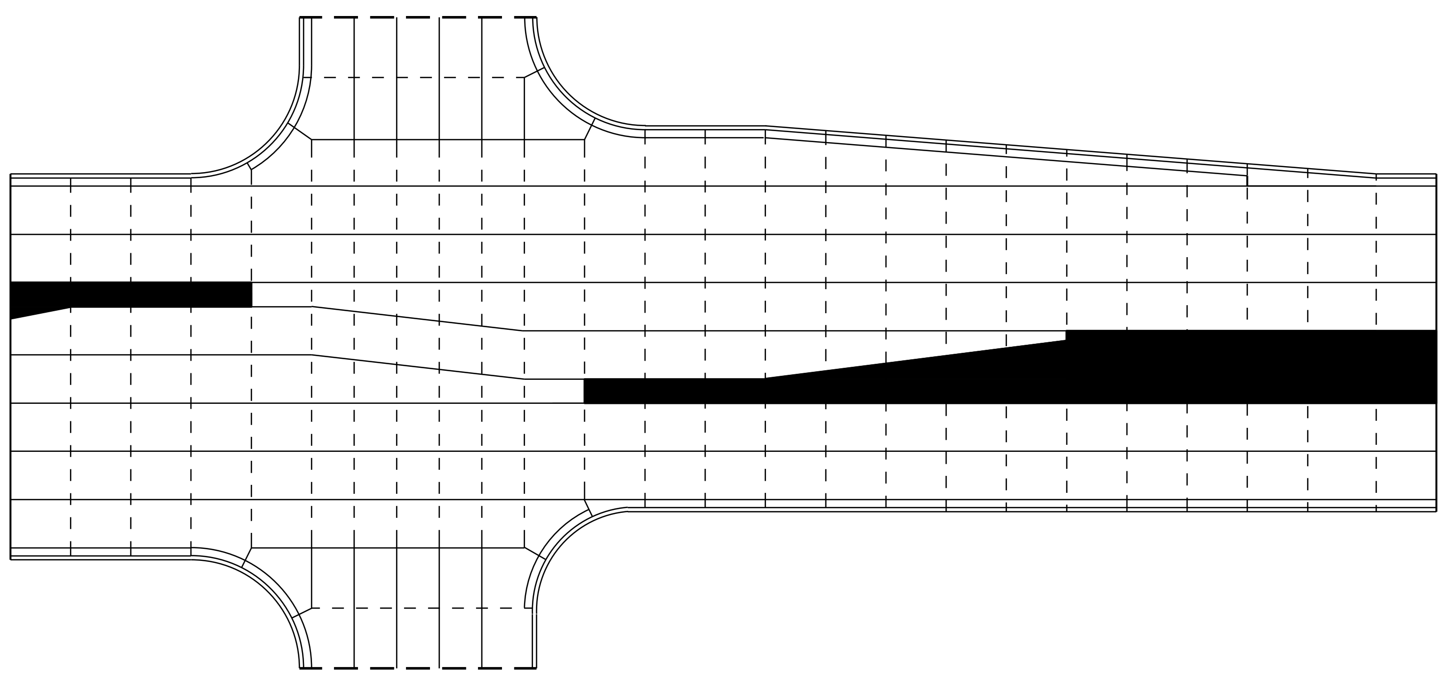
POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

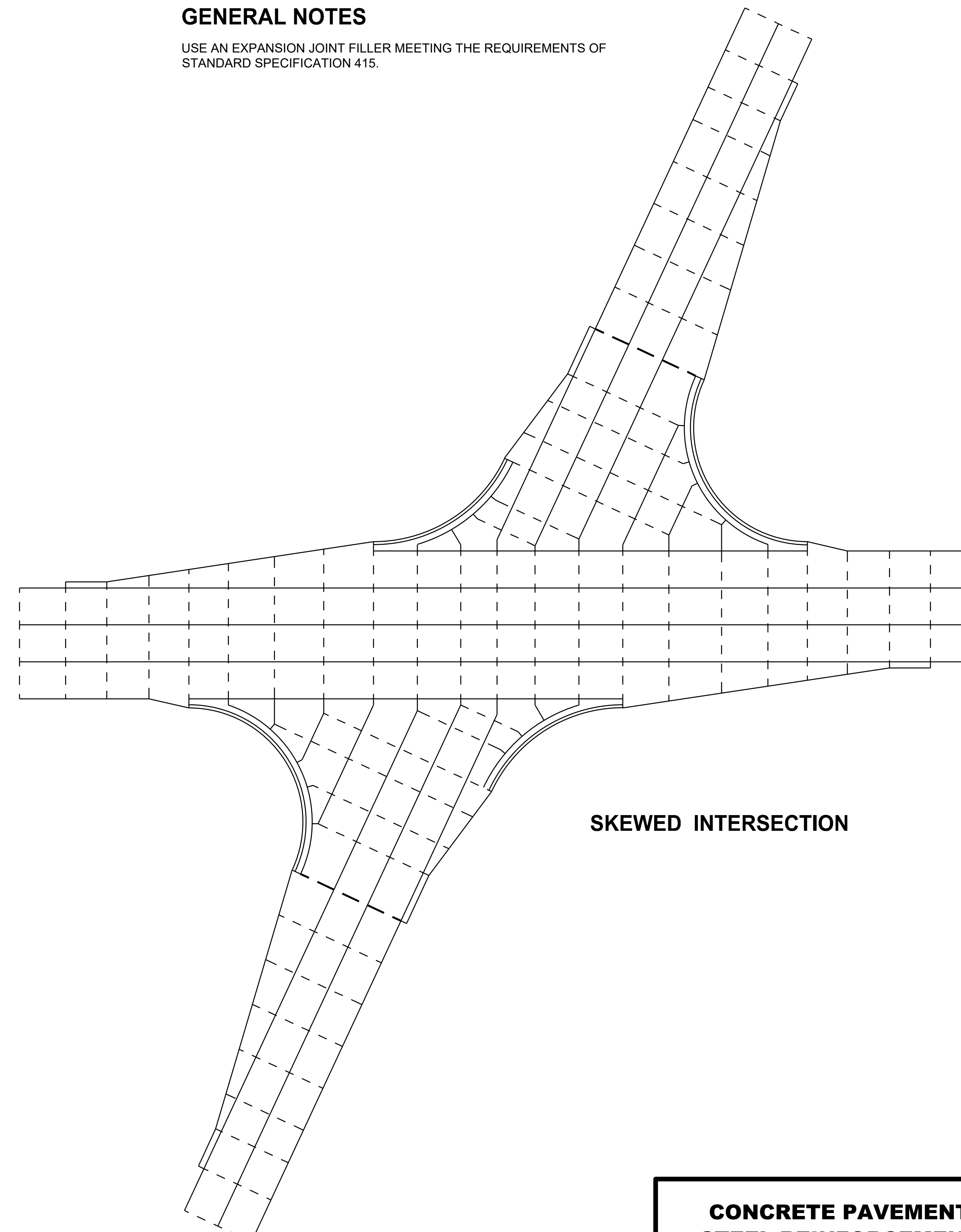
TIED JOINT

GENERAL NOTES

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



STANDARD INTERSECTION



SKEWED INTERSECTION

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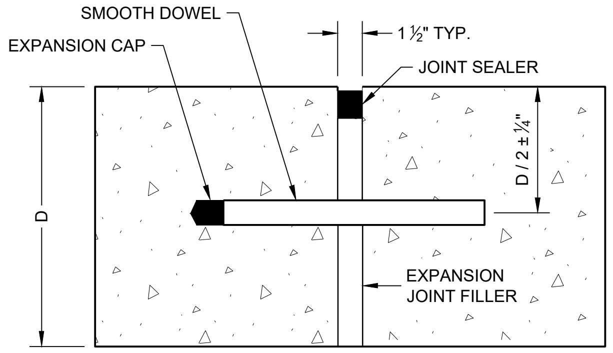
SDD 13C18 - 08b

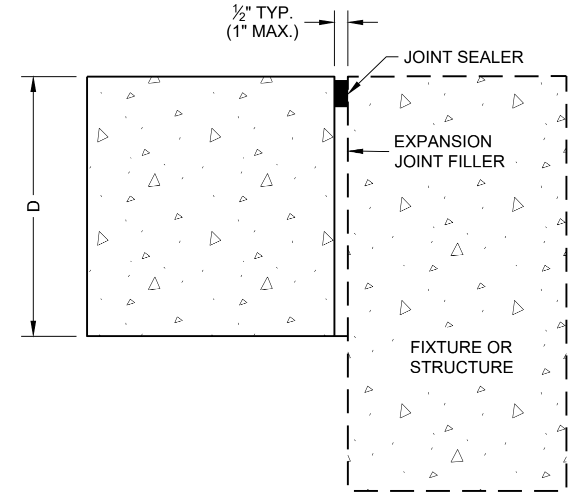
SDD 13C18 - 08b

CONCRETE PAVEMENT STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI



DOWELED TRANSVERSE ①



UNTIED - LONGITUDINAL

EXPANSION JOINTS

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4*	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

① USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATETHE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.

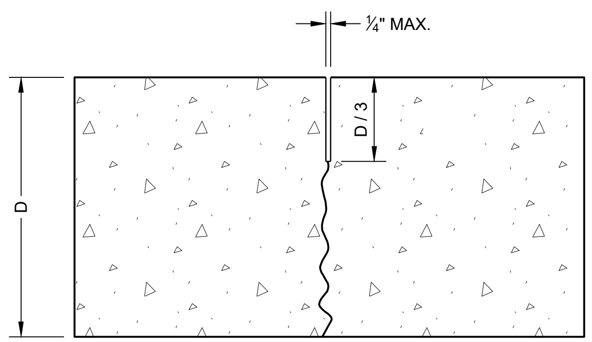
② SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.

③ LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

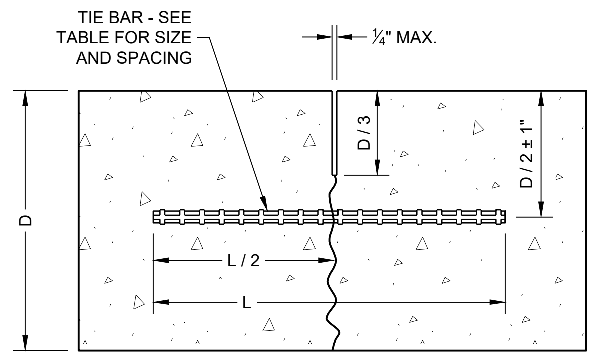
④ CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.

⑤ IF JOINT IS FORMED, PROVIDE A ¼" RADIUS.

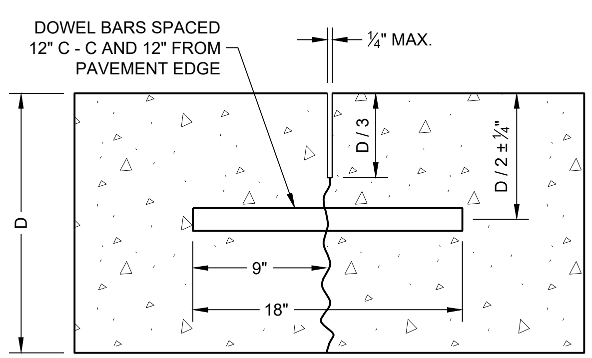
⑥ ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



UNDOWELED TRANSVERSE

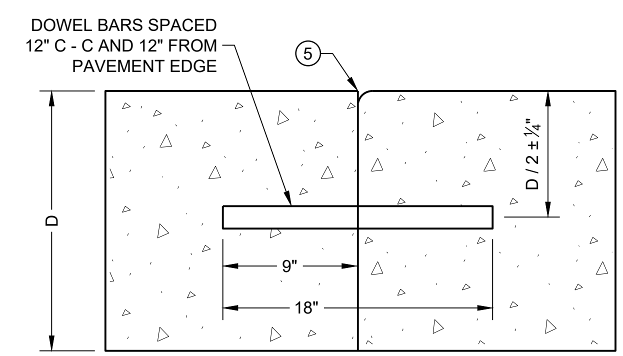


TIED LONGITUDINAL

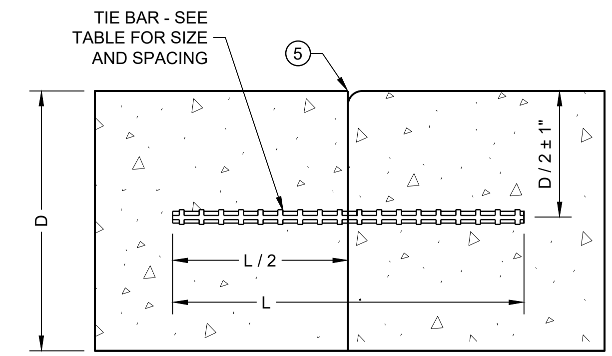


DOWELED TRANSVERSE

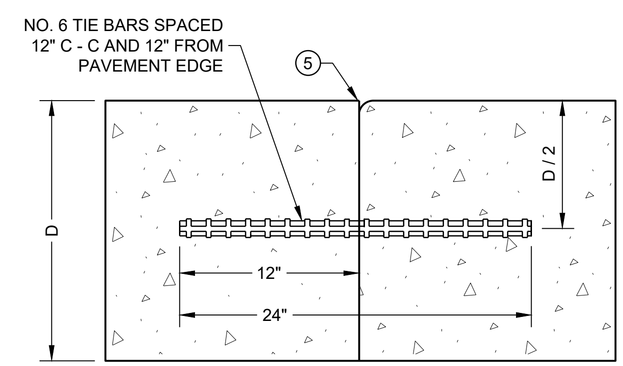
CONTRACTION JOINTS ②



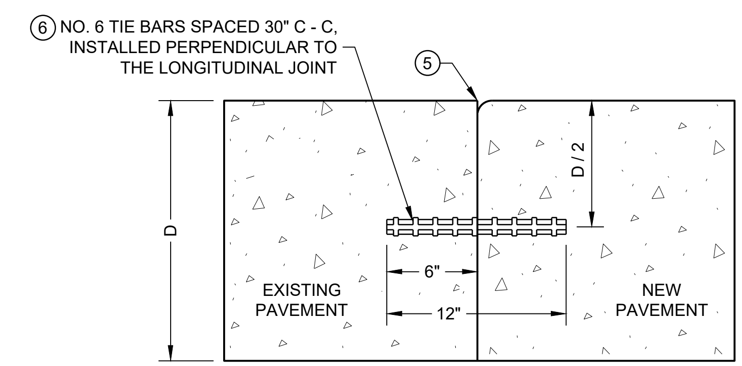
DOWELED TRANSVERSE ③



TIED LONGITUDINAL



TIED TRANSVERSE ③
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS ④

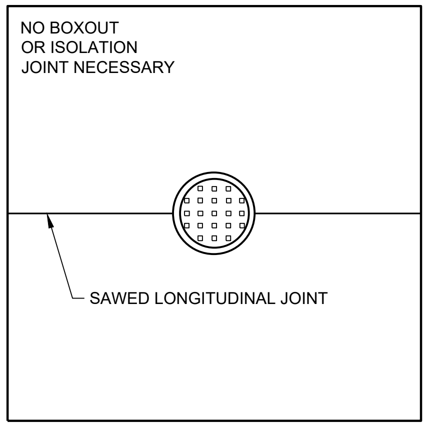
CONCRETE PAVEMENT JOINT TYPES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI

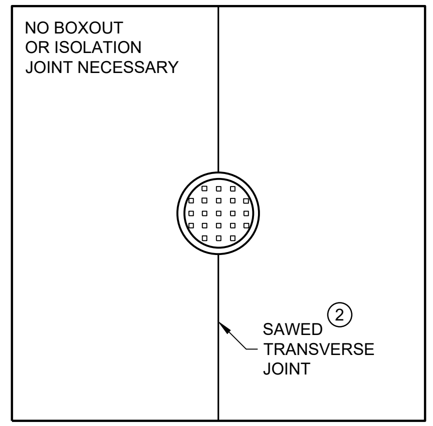
SDD 13C18 - 08c
6

GENERAL NOTES

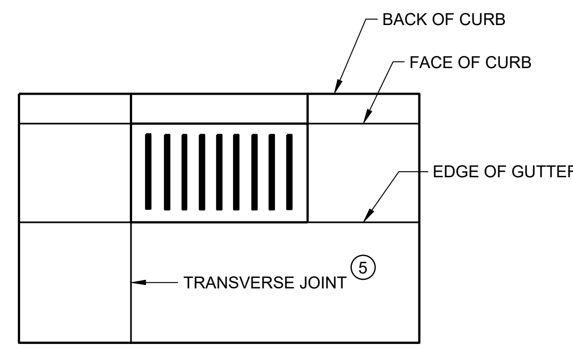
1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF 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 REINFORCEMENT REBAR AROUND THE MANHOLE.
4. IF THE DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS LESS 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 REINFORCEMENT REBAR AROUND THE MANHOLE.
5. ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.



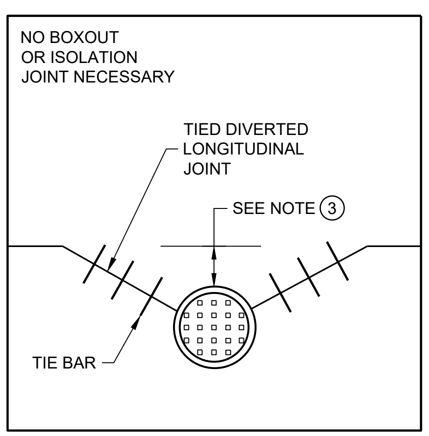
**MANHOLE WITH
LONGITUDINAL JOINT**



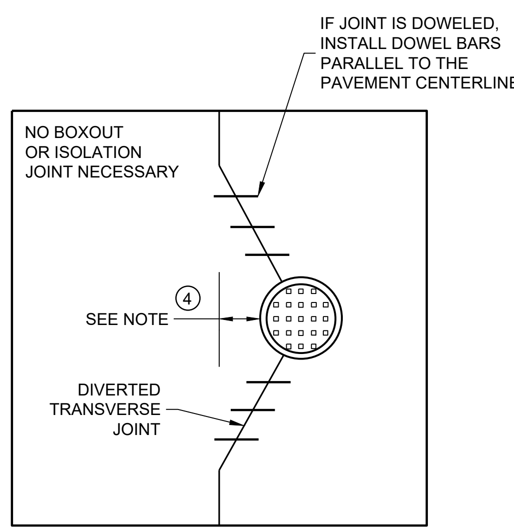
**MANHOLE WITH
TRANSVERSE JOINT**



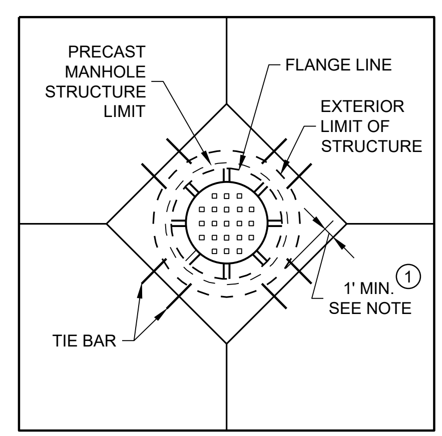
**INLET WITH
TRANSVERSE JOINT**



**MANHOLE WITH DIVERTED
LONGITUDINAL CONTRACTION JOINT**



**MANHOLE WITH DIVERTED
TRANSVERSE CONTRACTION JOINT**



**DIAGONAL MANHOLE BOXOUT
FOR CONSTRUCTION JOINTS**

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SDD 13C18 - 08d

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**CONCRETE PAVEMENT
JOINTING AT UTILITY
FIXTURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Peter Kemp P.E.
PAVEMENT SUPERVISI

FHWA

LEGEND

- DOWELED JOINT
- TIED JOINT
- EXPANSION JOINT
- POTENTIAL DOWELED (1) EXPANSION JOINT
- DIRECTION OF TRAFFIC

GENERAL NOTES

1. 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 THE EDGE OF RADIUS.
2. PROVIDE TIED JOINT AT THE FLANGE OF SCAB ON CURB IF SCAB ON CURB AND GUTTER IS USE.

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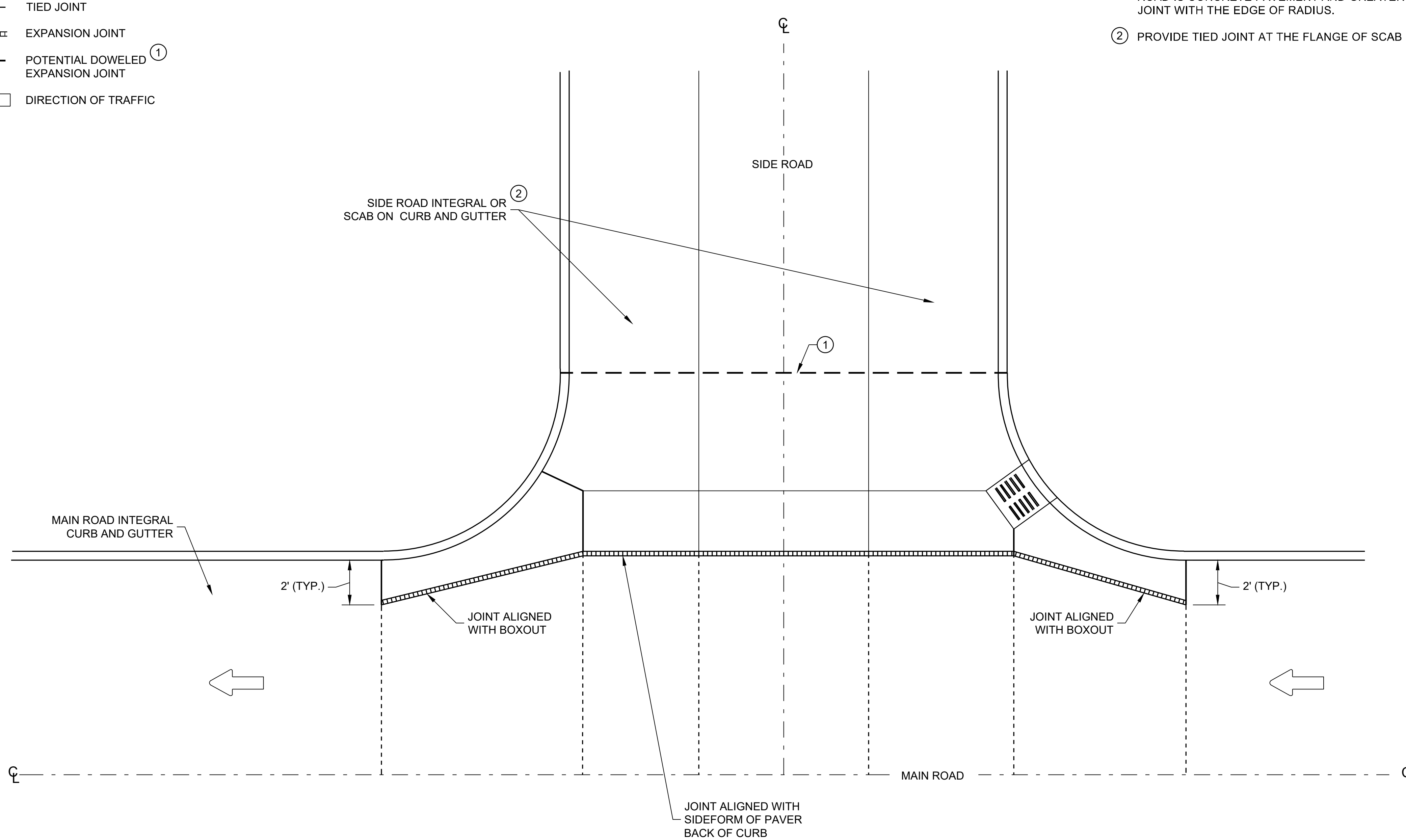

INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER

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CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVISI

FHWA

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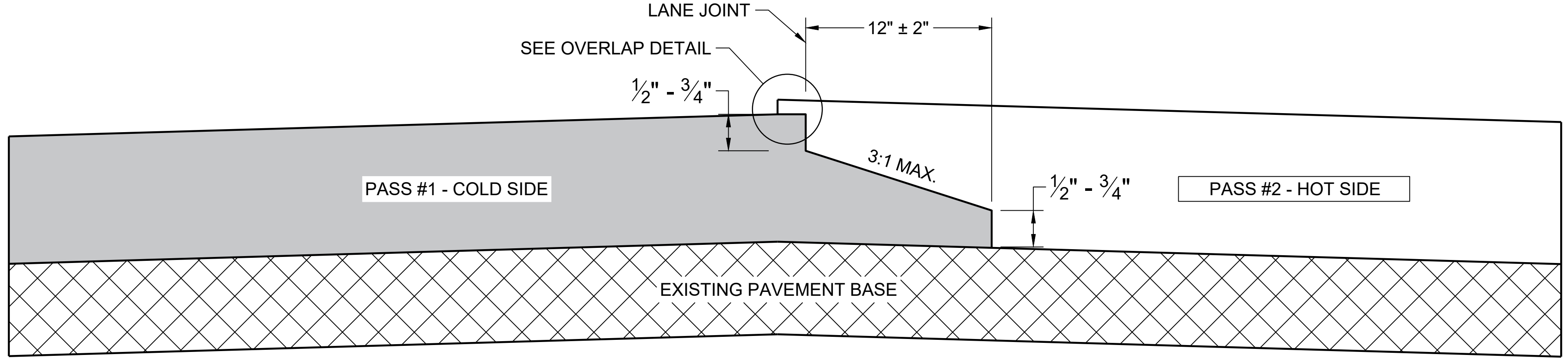


TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT

GENERAL NOTES

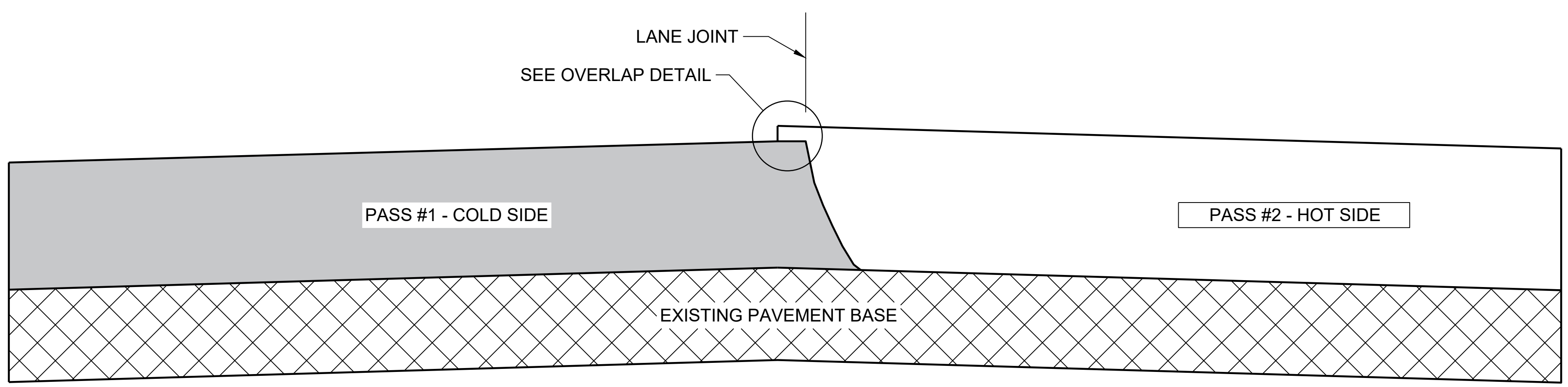
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 0.5" AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

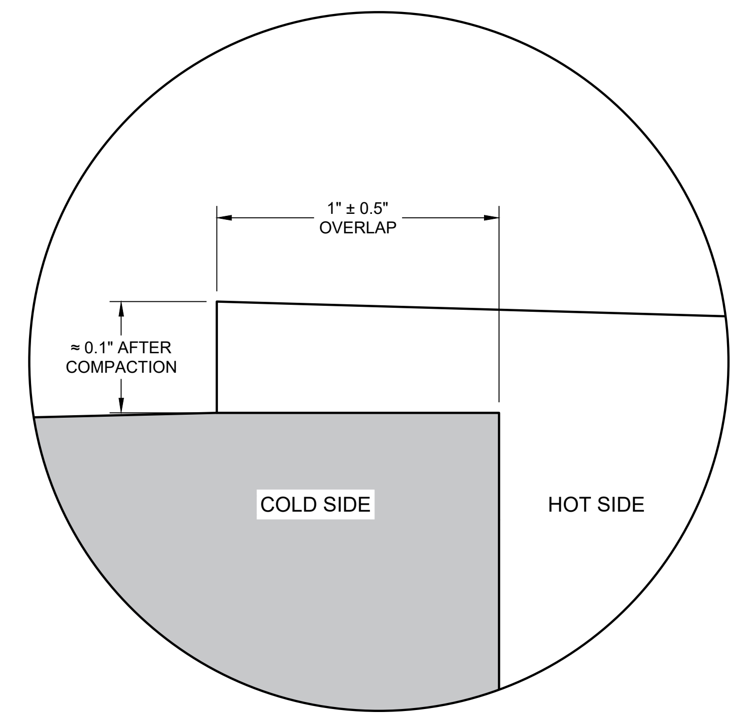
ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



OVERLAP DETAIL (TYPICAL)

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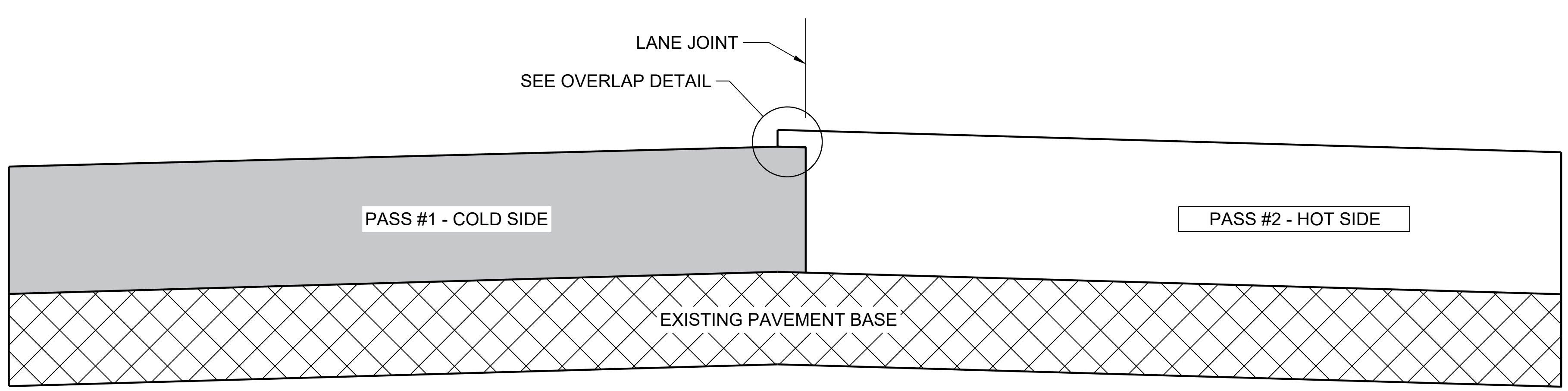


TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

SDD 13C19 - 03

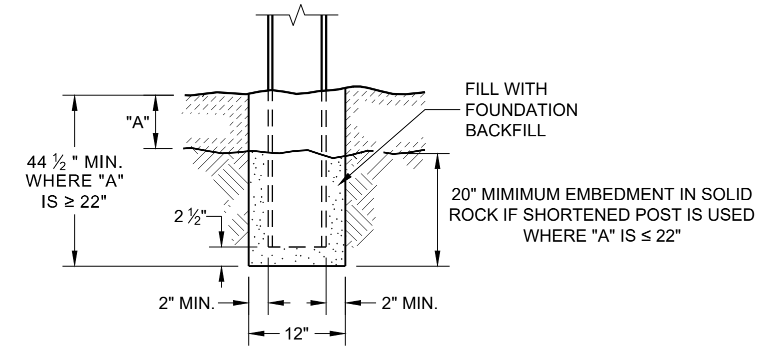
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

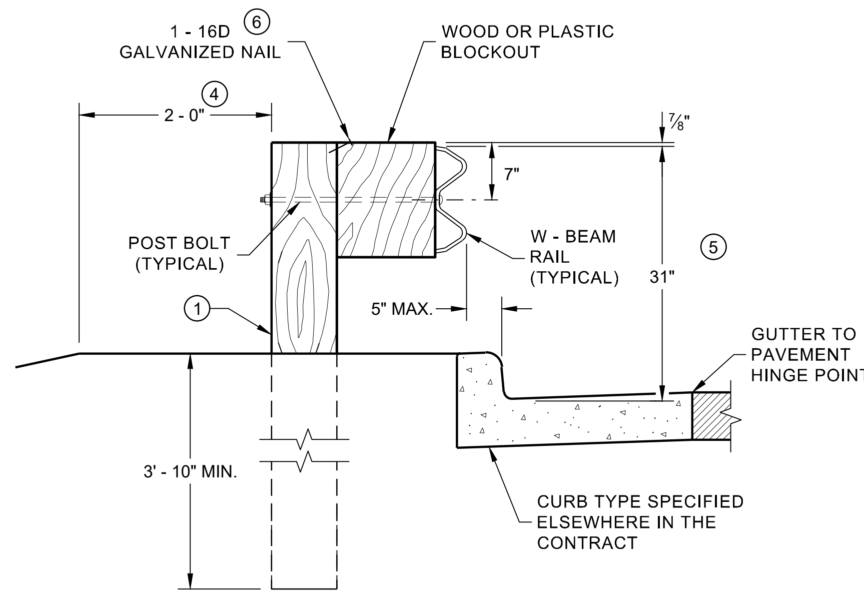
APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN
FHWA

SDD 13C19 - 03

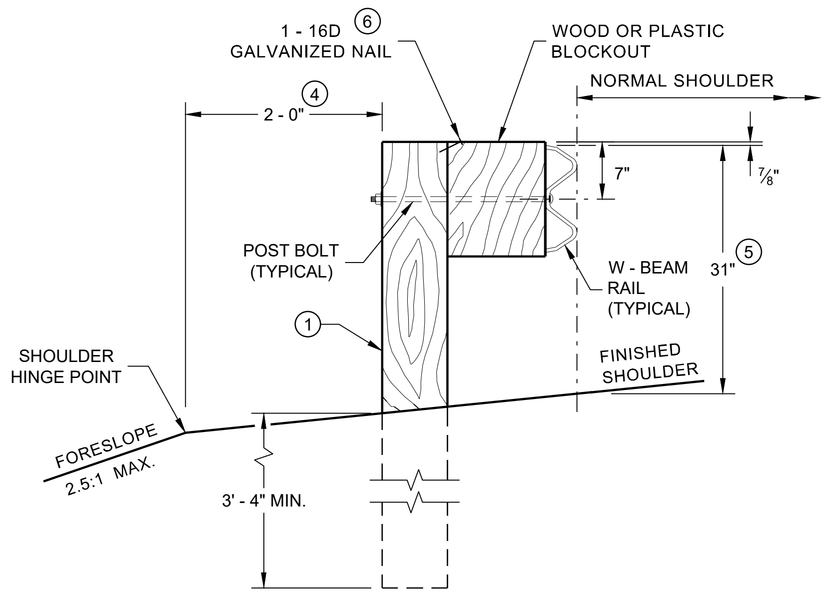
1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
2. USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
4. WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".
6. WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
7. TOTAL POST LENGTH FOR TYPE K IS 7' - 0". TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



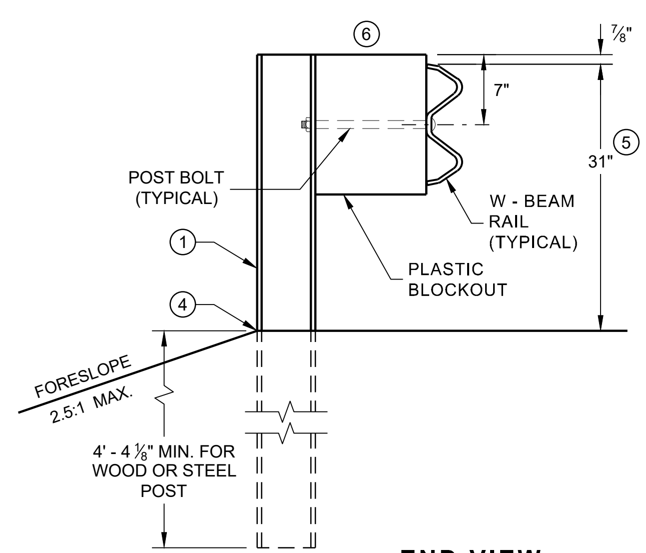
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



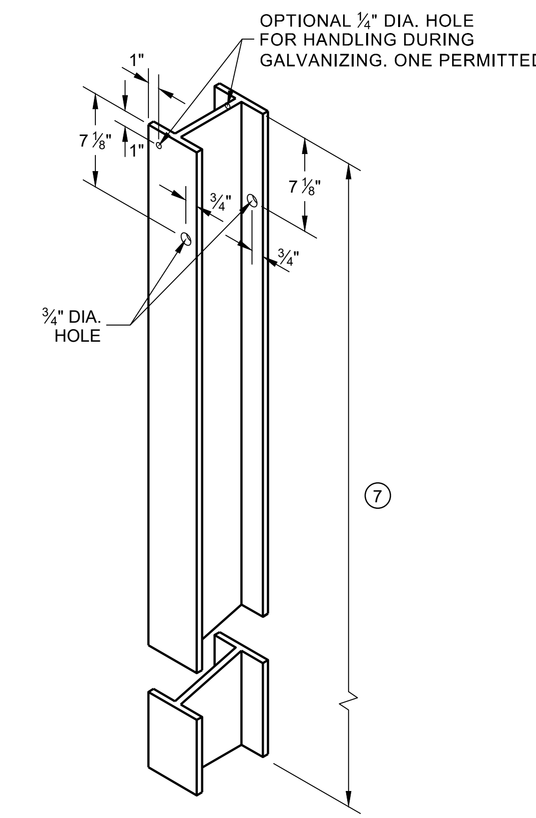
END VIEW
LOCATED ALONG A CURBED ROADWAY



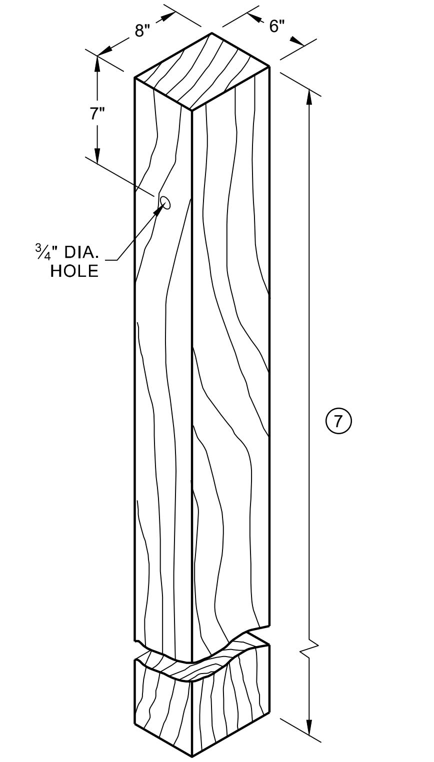
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



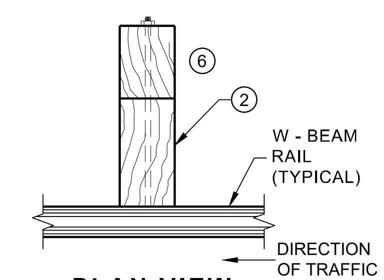
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



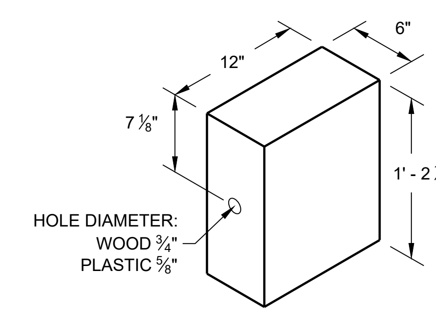
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



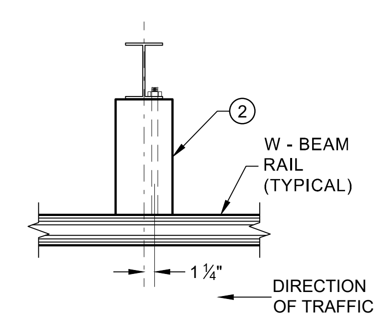
WOOD POST (6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)



PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B42 - 07a

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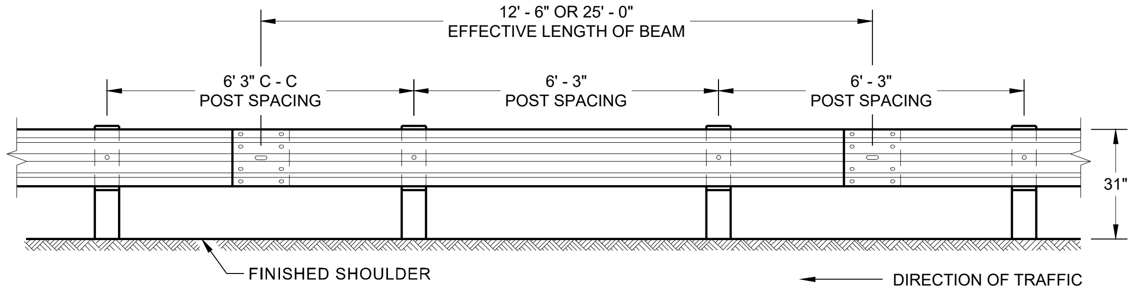
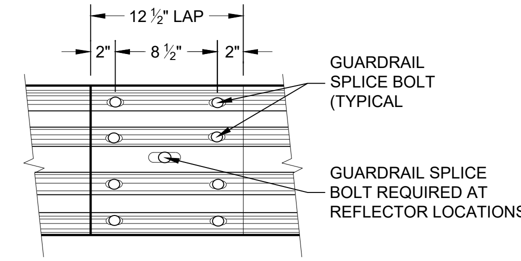


FRONT VIEW
POST SPACING STANDARD INSTALLATION



FRONT VIEW
MID-SPAN BEAM SPLICE

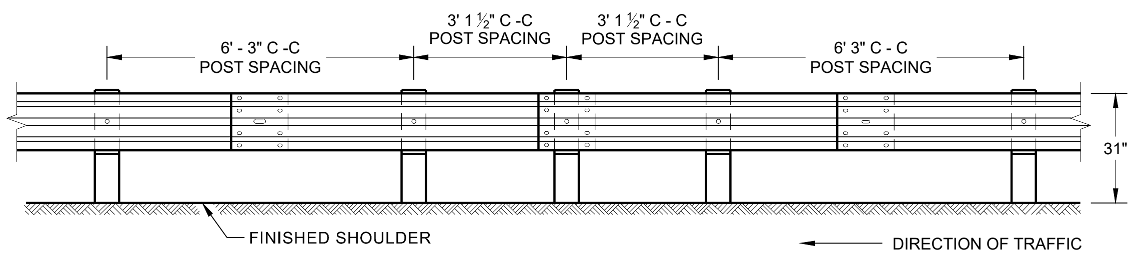
GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

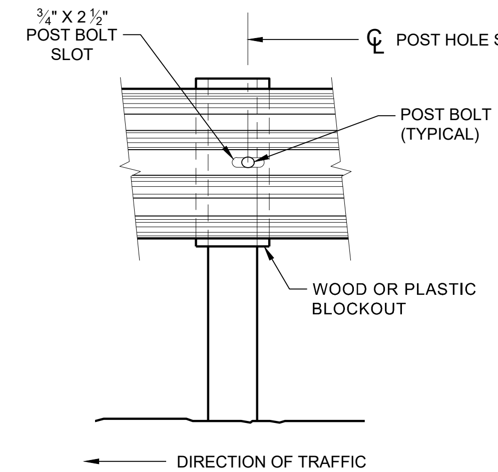
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

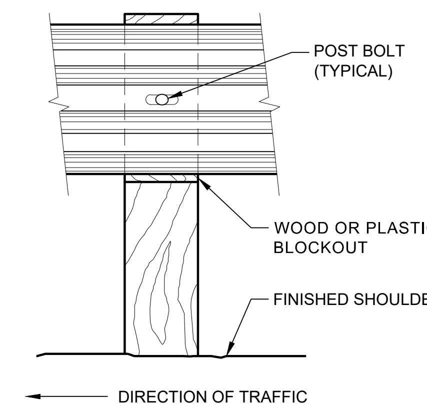
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



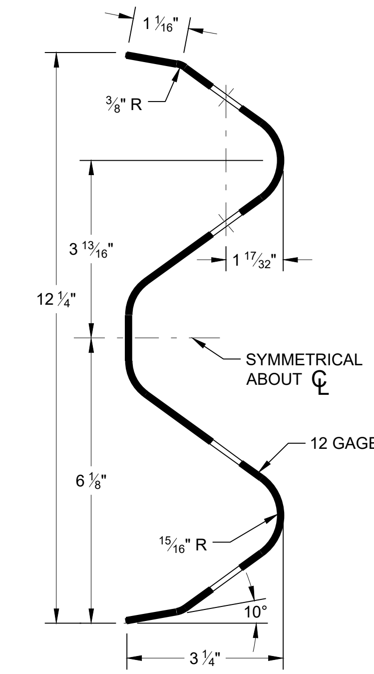
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



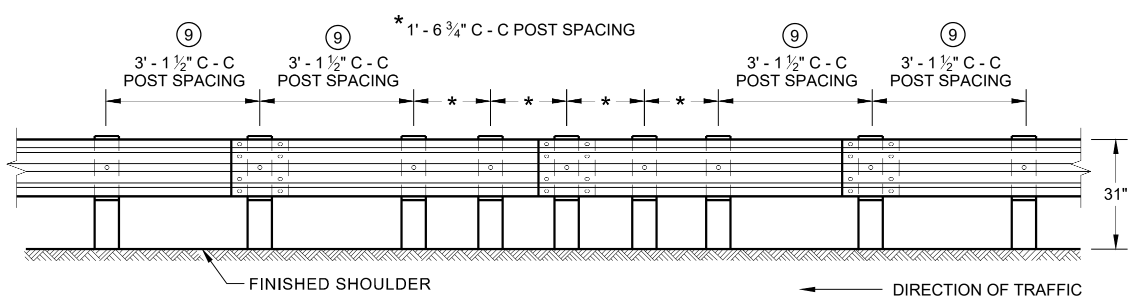
FRONT VIEW AT STEEL POST



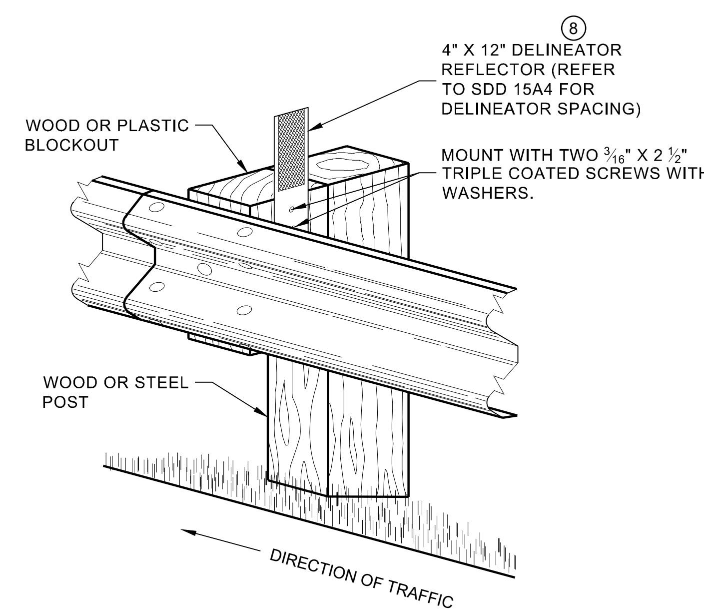
FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



FRONT VIEW
QUARTER POST SPACING (QS)



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI

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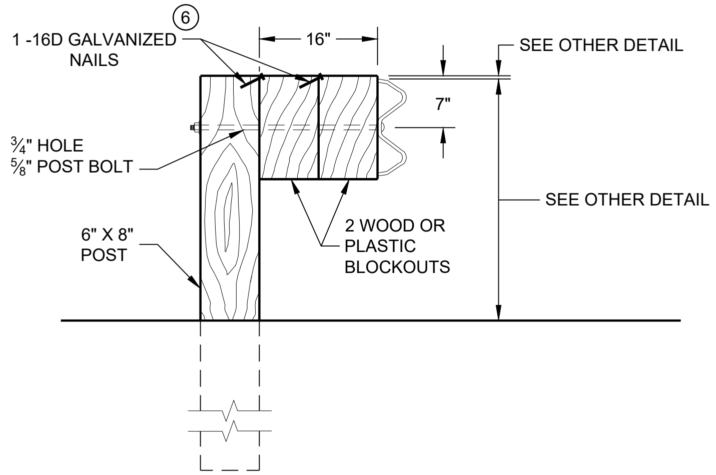
SDD 14B42 - 07b

SDD 14B42 - 07b

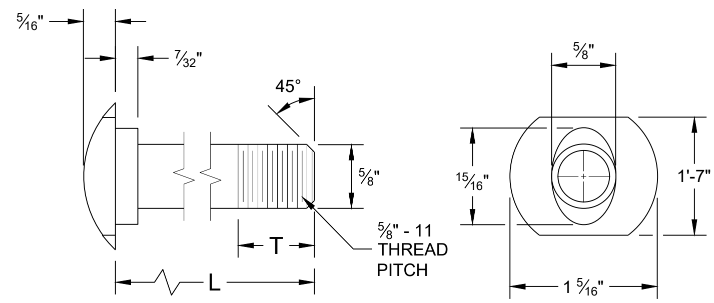


DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

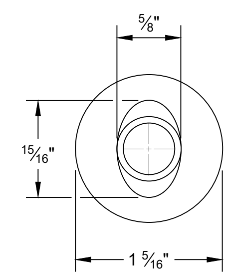
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

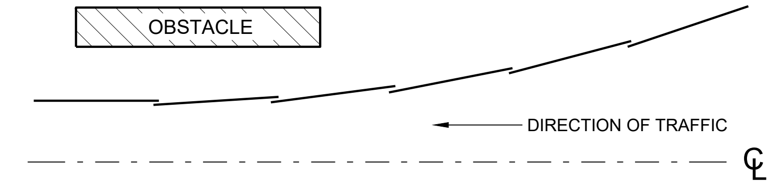


POST BOLT TABLE

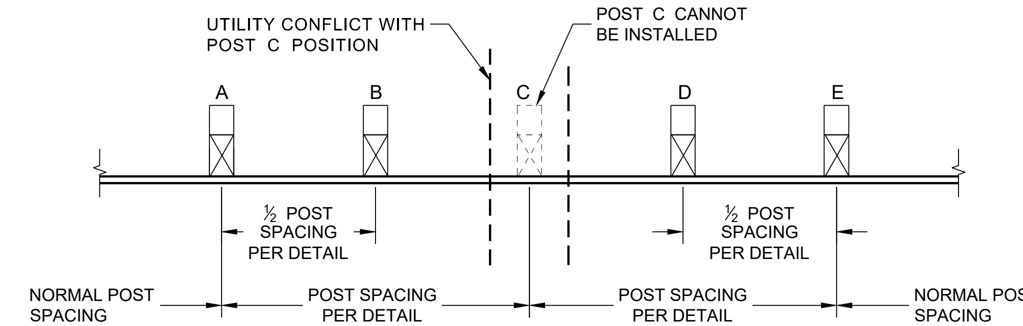
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



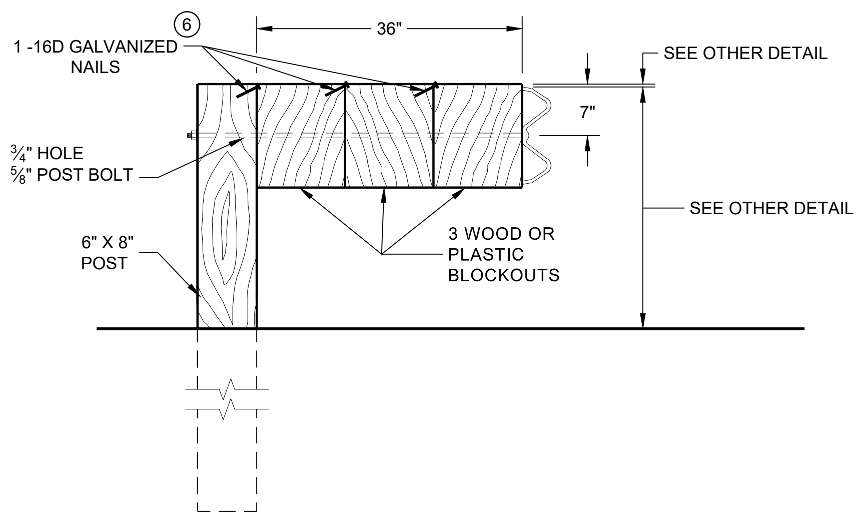
ALTERNATE BOLT HEAD



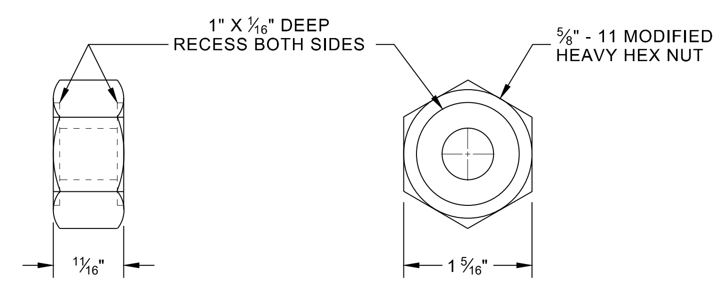
PLAN VIEW
BEAM LAPPING DETAIL



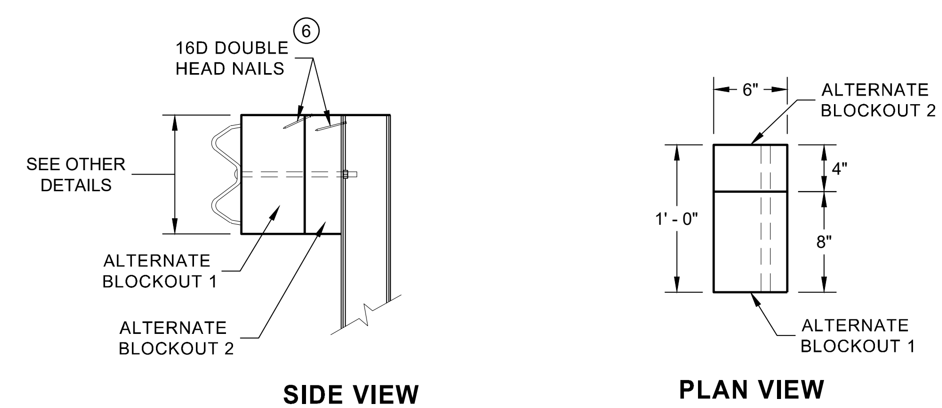
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



ALTERNATE WOOD BLOCKOUT DETAIL

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT

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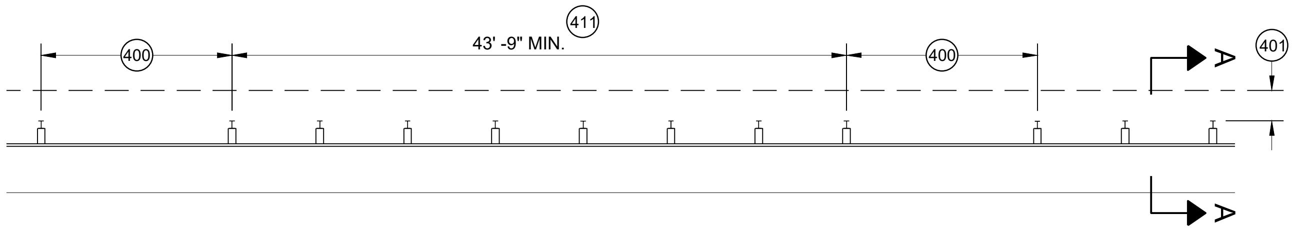
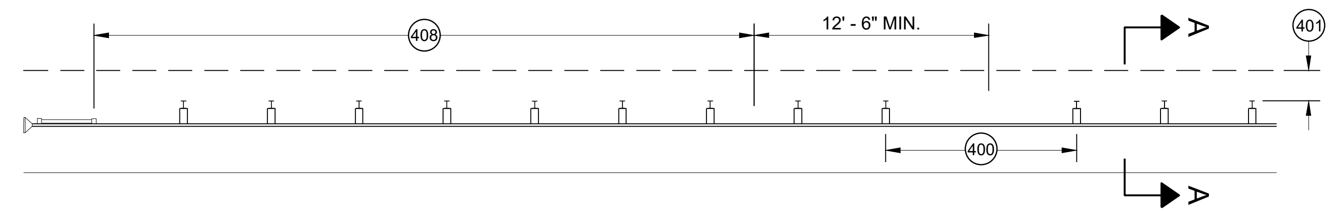
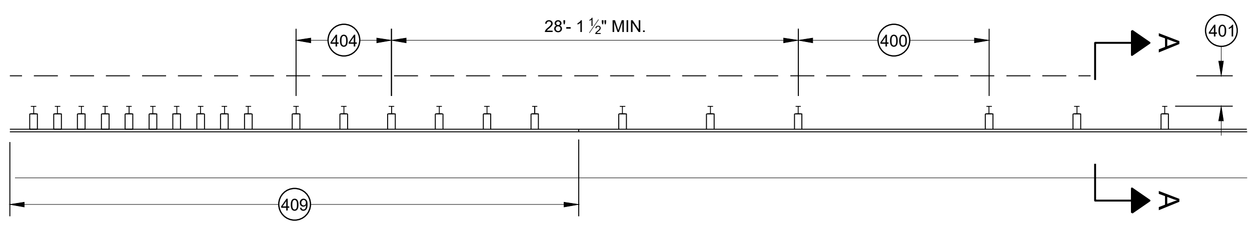


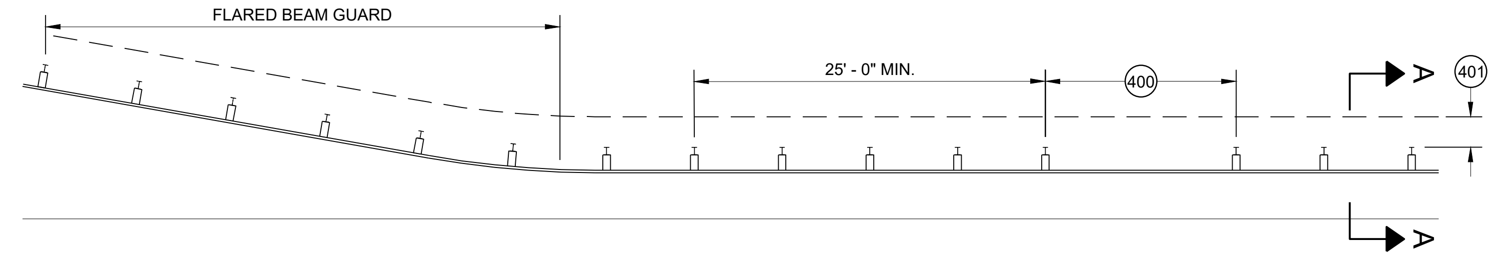
MISSING POST IN MGS GUARDRAIL



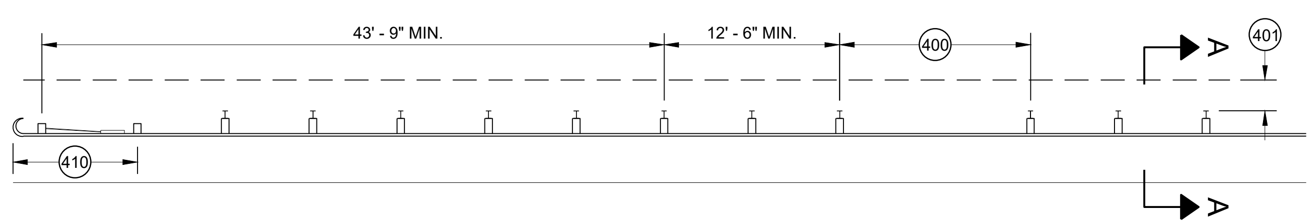
MISSING POST IN MGS GUARDRAIL NEAR EAT



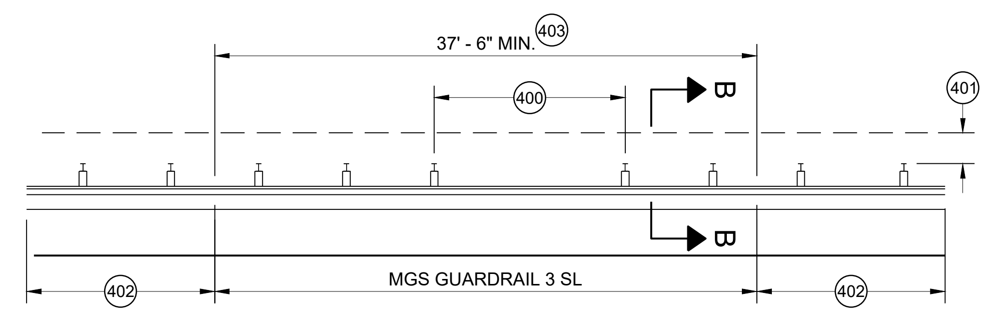
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

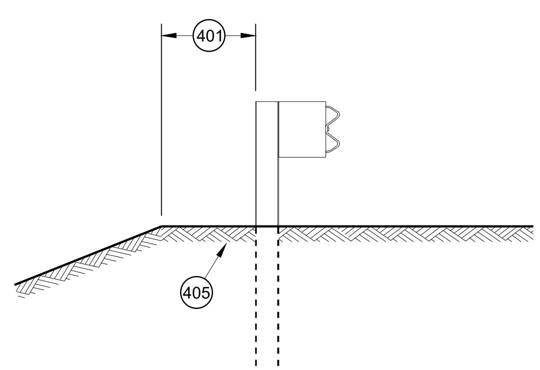


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

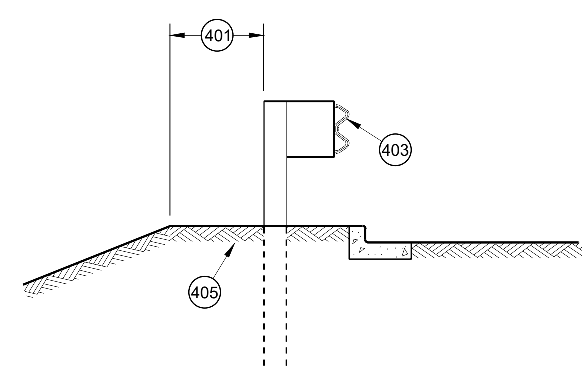


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

- 400 MAX SPAN 12' - 6"
- 401 2' MIN.
- 402 MGS GUARDRAIL 3
- 403 NESTING BEAM GUARD
- 404 ASYMMETRIC TRANSITION
- 405 SOIL WELL DRAINED AND COMPACTED
- 406 SEE OTHER DRAWINGS IN THIS SDD
- 407 SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
- 408 SEE SDD 14B44
- 409 SEE SDD 14B45
- 410 SEE SDD 14B47
- 411 MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2021 — DATE

/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

6

SDD 14B42 - 07d

SDD 14B42 - 07d

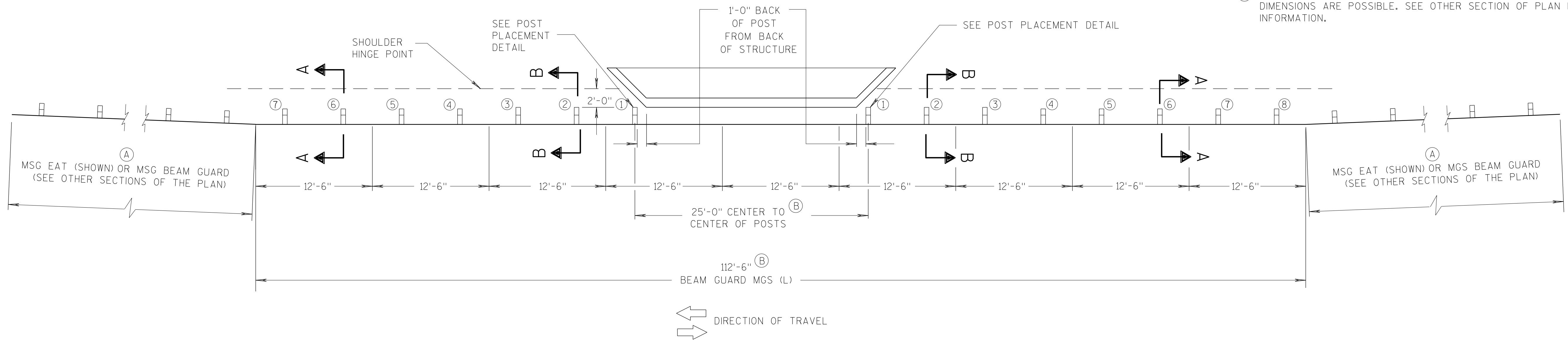
GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

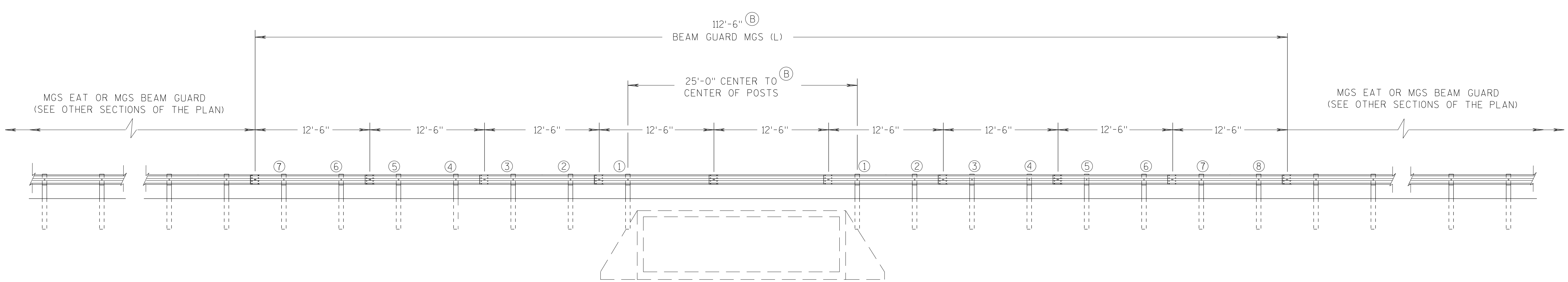
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) TWO-WAY TRAFFIC

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 43-4a

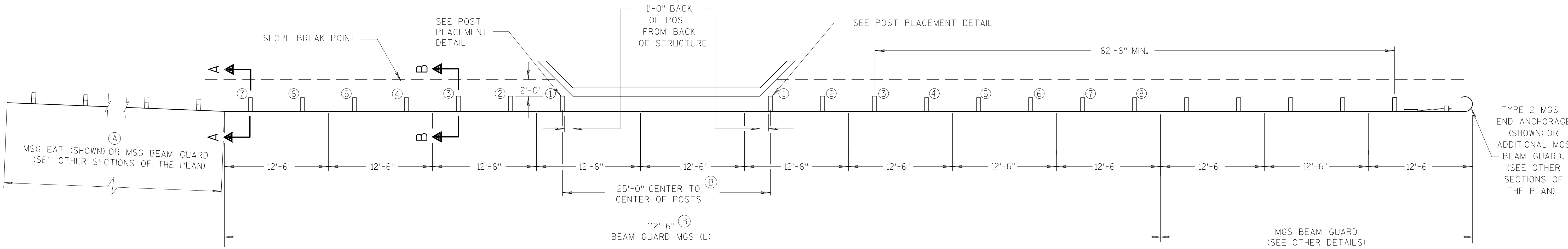
GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

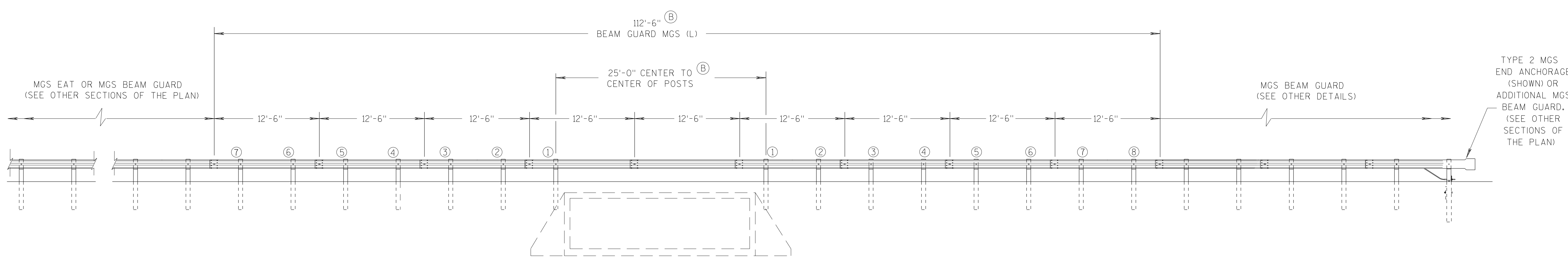
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.



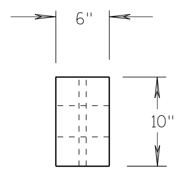
PLAN VIEW



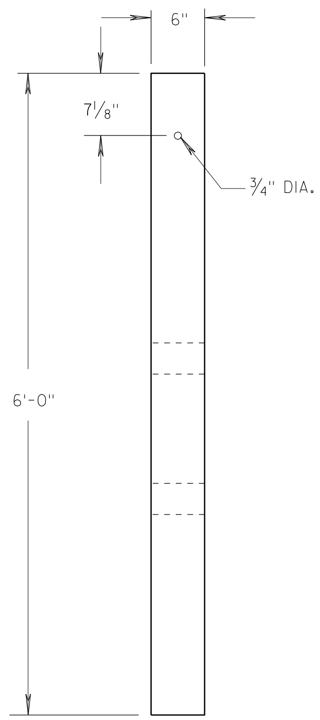
ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) ONE-WAY TRAFFIC

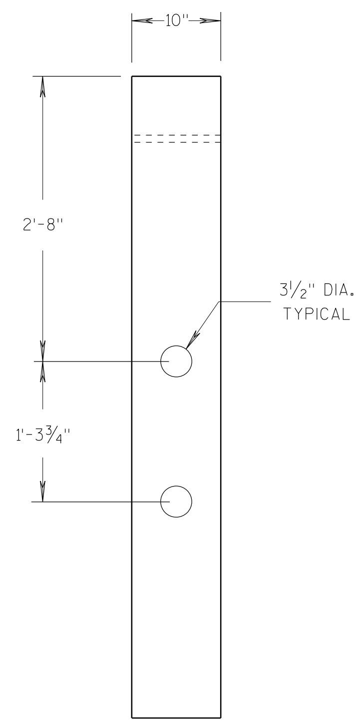
MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
STATE OF WISCONSIN DEPARTMENT OF TRANSPOR



PLAN VIEW

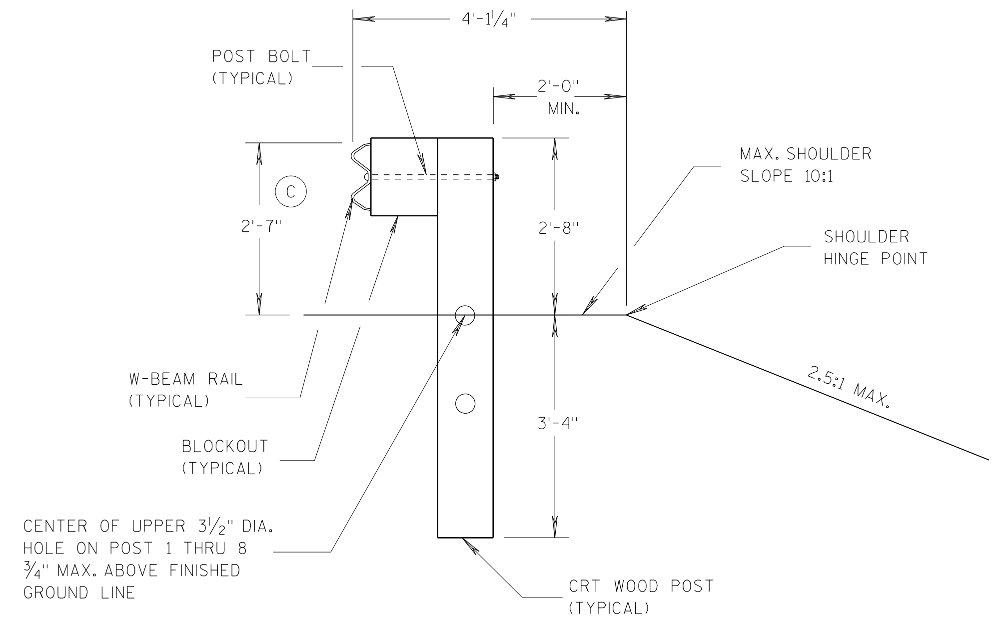


FRONT VIEW



SIDE VIEW

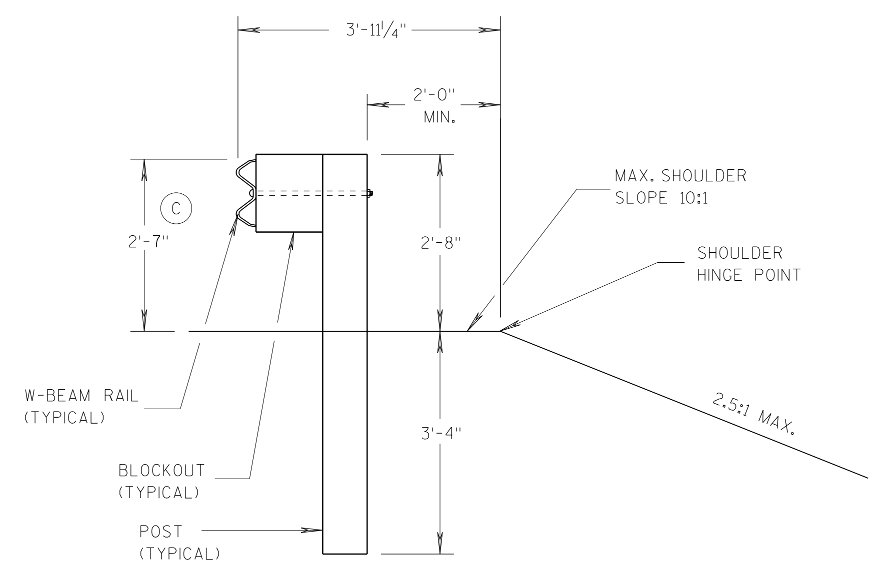
CRT WOOD POST



SECTION B-B

POSTS NO. 1-3

SEE OTHER DETAILS



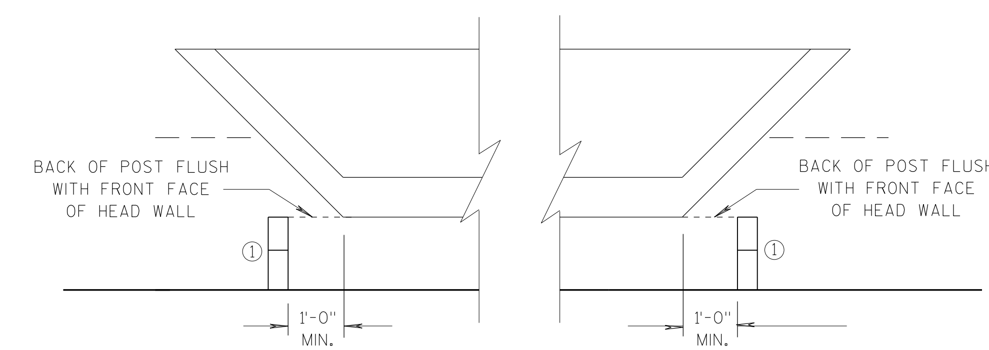
SECTION A-A

POSTS NO. 4-8

SEE OTHER DETAILS

GENERAL NOTES

C TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



POST PLACEMENT DETAIL

6

6

MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D 169 NT
ENGINEER
FHWA

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

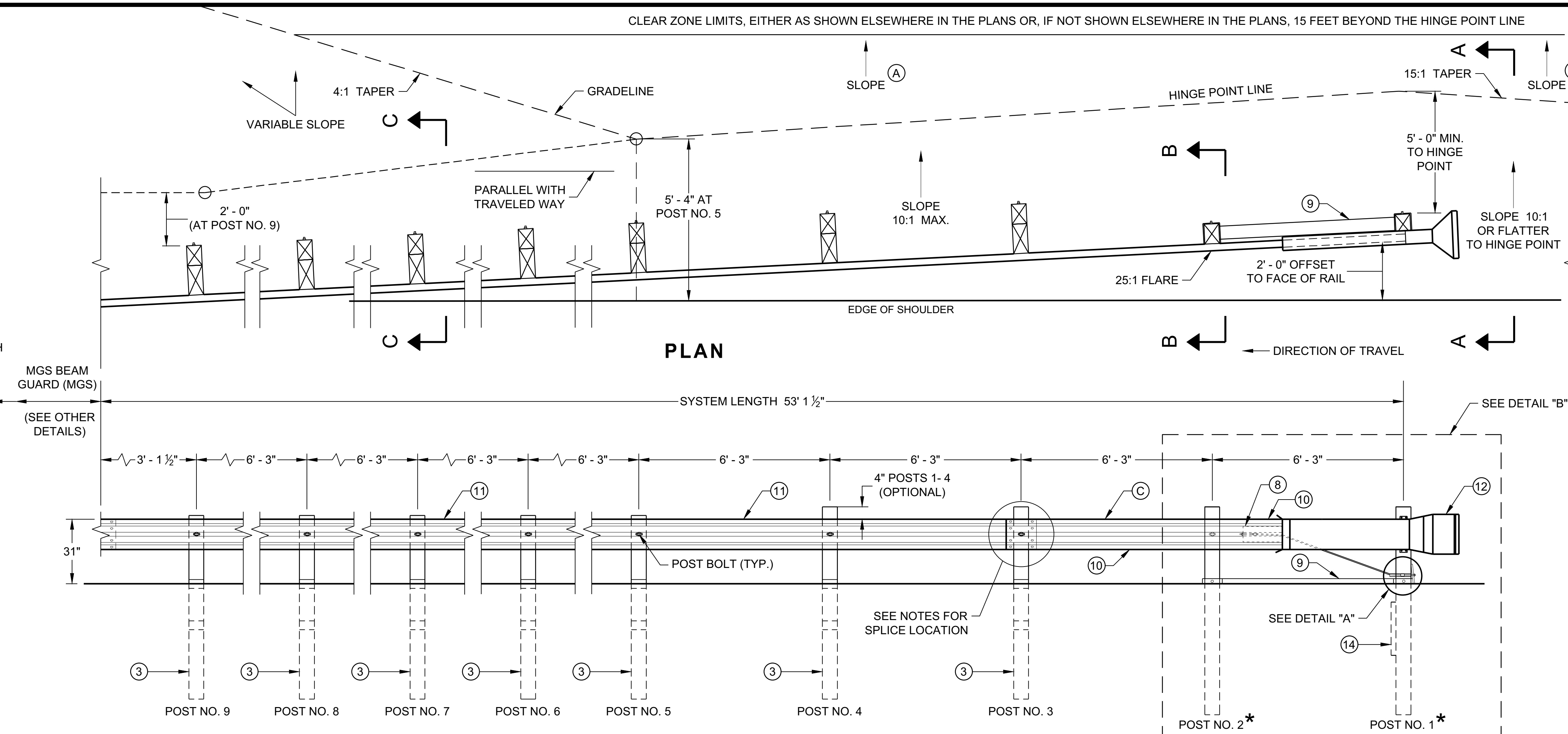
SEE SDD 14B42 FOR MORE INFORMATION.

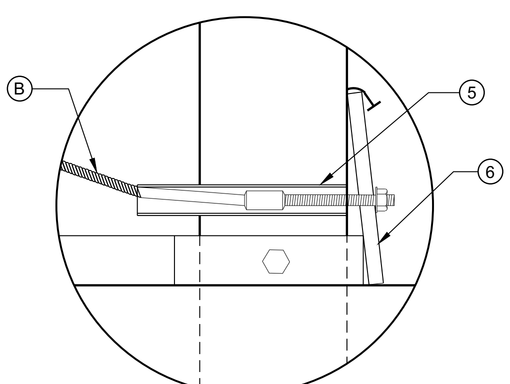
* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

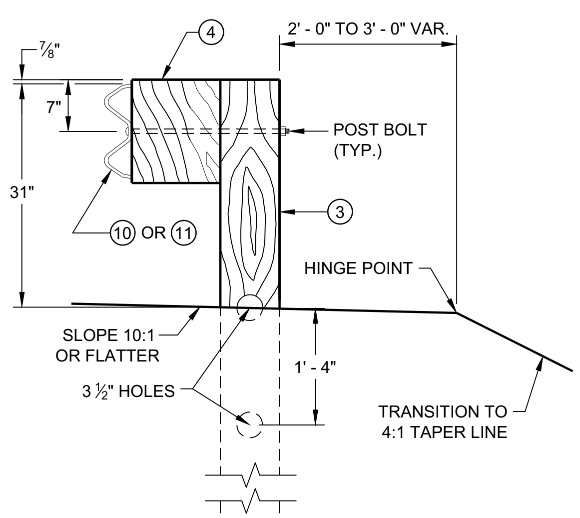
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

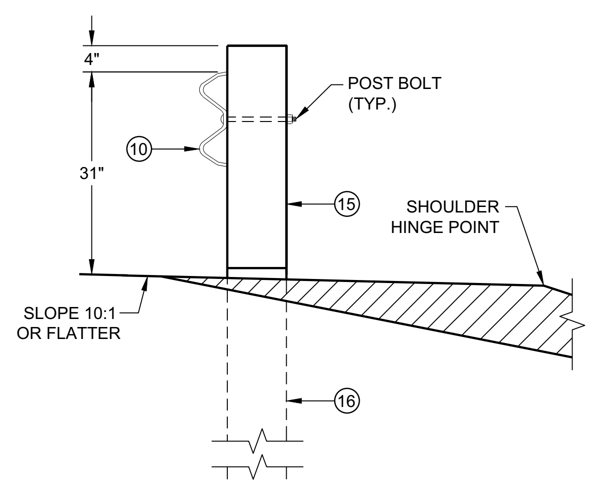




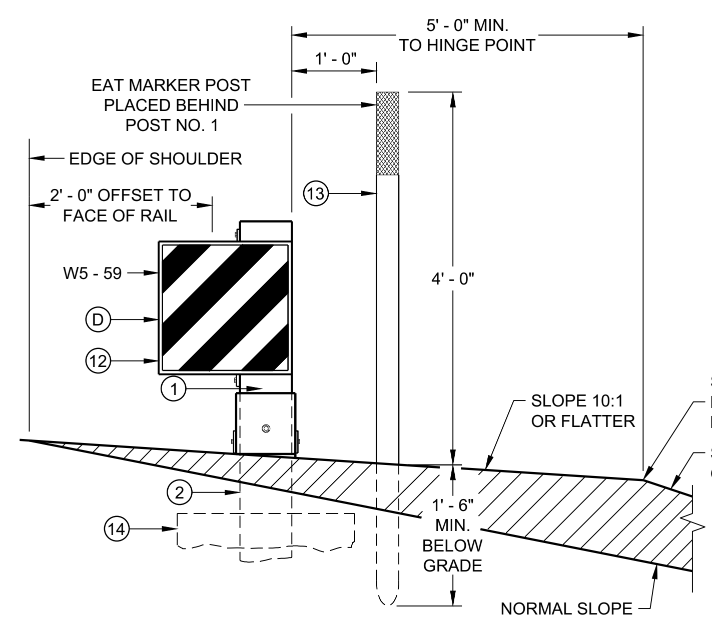
DETAIL "A" (E)



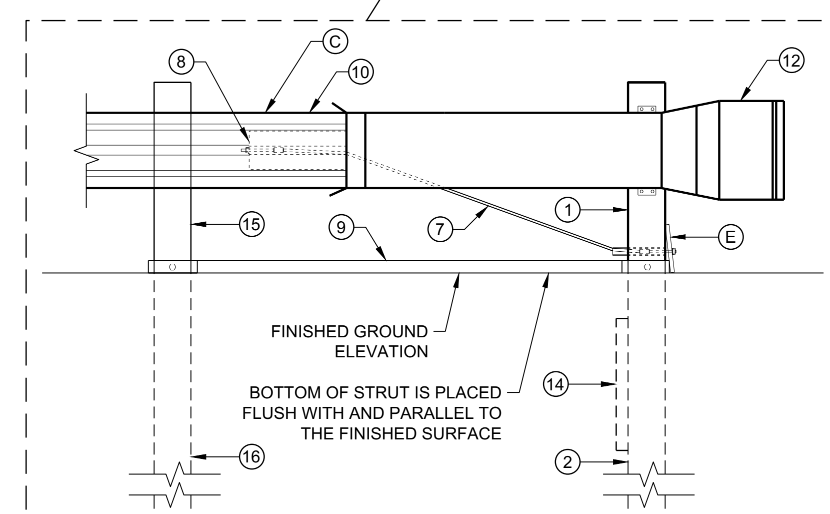
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



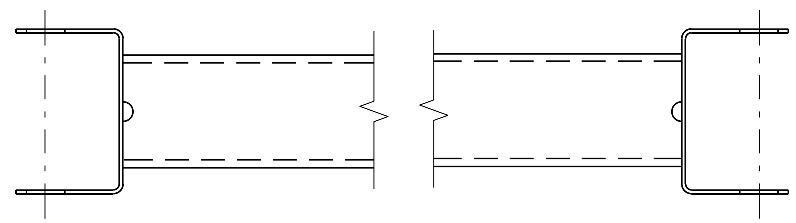
SECTION A - A
TYPICAL AT POST NO. 1*



DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI



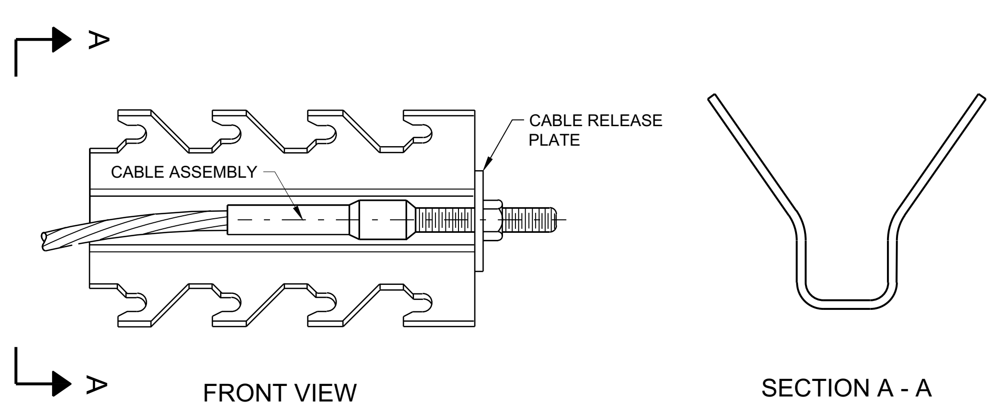
GENERIC GROUND STRUT ⑨Ⓔ

BILL OF MATERIALS

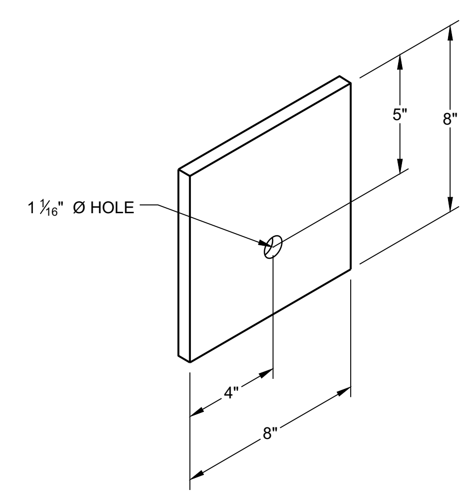
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
1	UPPER POST NO. 1 6" X 6" TUBE
2	LOWER POST NO. 1
3	WOOD CRT
4	WOOD BLOCKOUT
5	PIPE SLEEVE
6	BEARING PLATE
7	BCT CABLE ASSEMBLY
8	ANCHOR CABLE BOX
9	GROUND STRUT
10	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
11	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
12	IMPACT HEAD
13	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
14	SOIL PLATE
15	UPPER POST NO. 2
16	LOWER POST NO. 2

6

6



GENERIC ANCHOR CABLE BOX ⑨Ⓔ



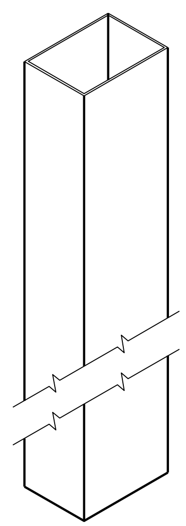
BEARING PLATE ⑥Ⓔ

SDD 14B44 - 04b

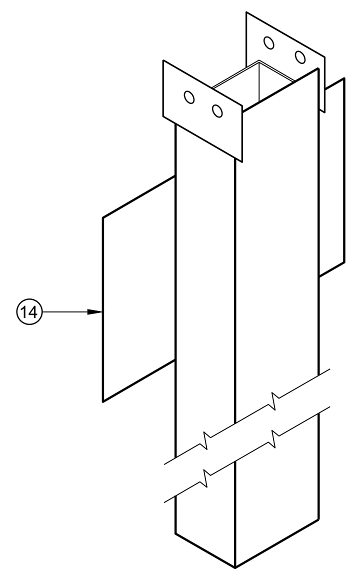
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

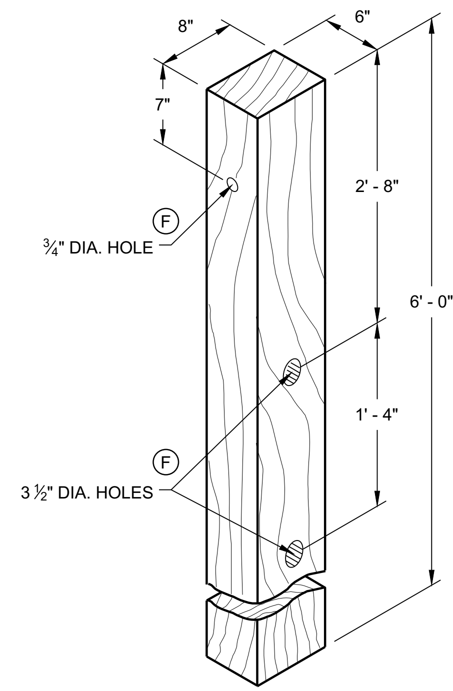
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI



UPPER POST NO. 1 ① Ⓔ

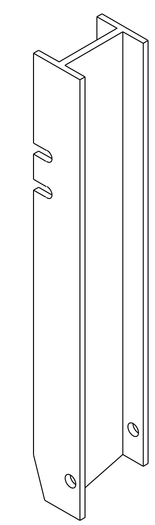


LOWER POST NO. 1 ② Ⓔ

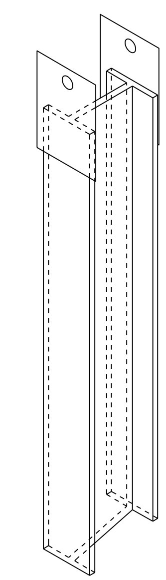


WOOD CRT POST ③ Ⓔ

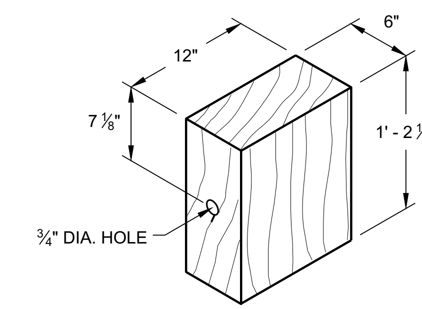
POSTS NUMBER 3-9



UPPER POST NO. 2 ⑮ Ⓔ

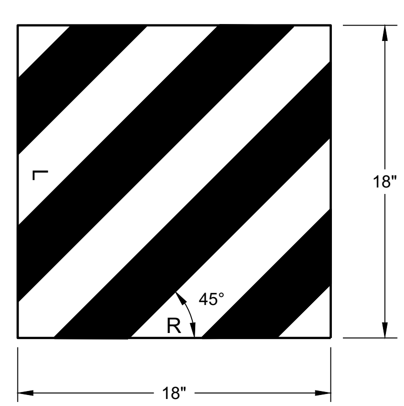


LOWER POST NO. 2 ⑯ Ⓔ



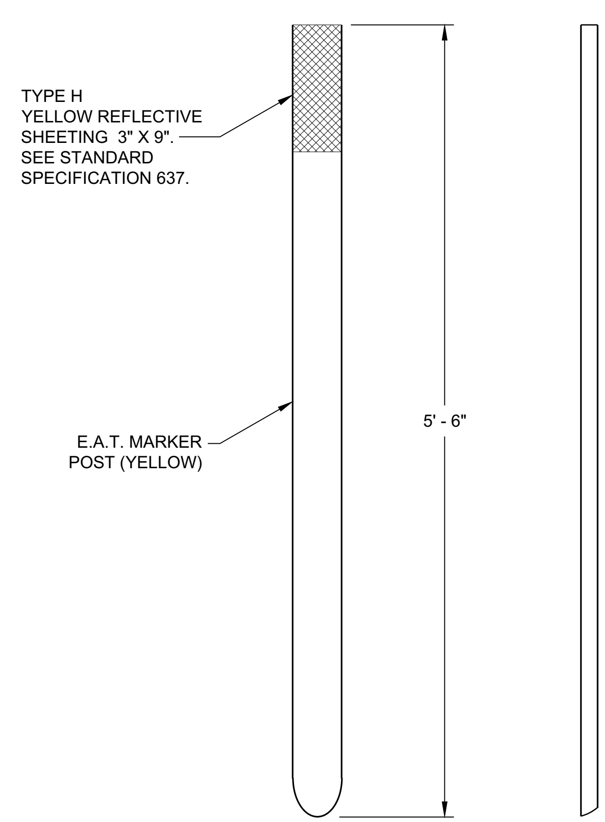
WOOD BLOCKOUT ④

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



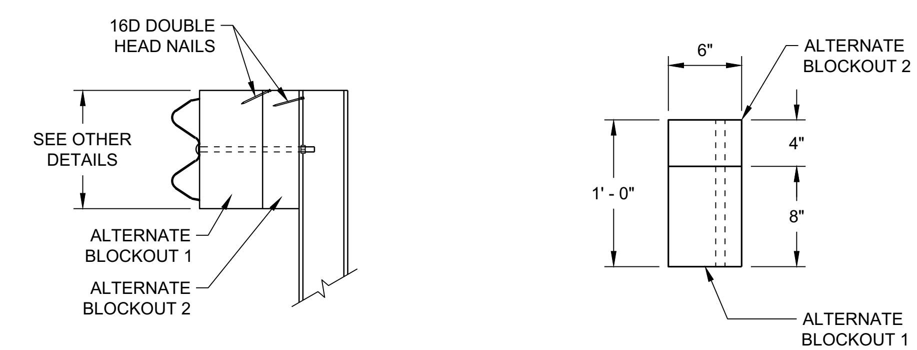
W5 - 59

REFLECTIVE SHEETING DETAIL Ⓔ



FRONT VIEW SIDE VIEW

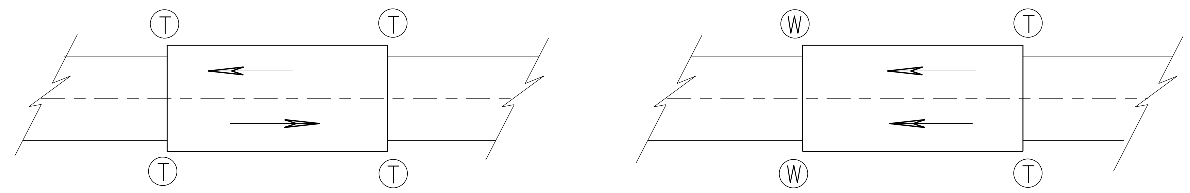
E.A.T. MARKER POST ⑬



SIDE VIEW TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 7/2018 — DATE /S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR FHWA



TWO WAY TRAFFIC **ONE WAY TRAFFIC**

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

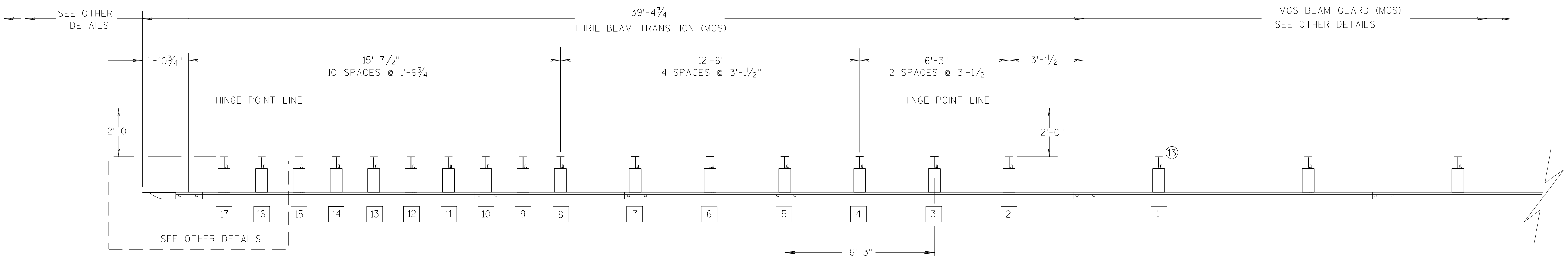
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

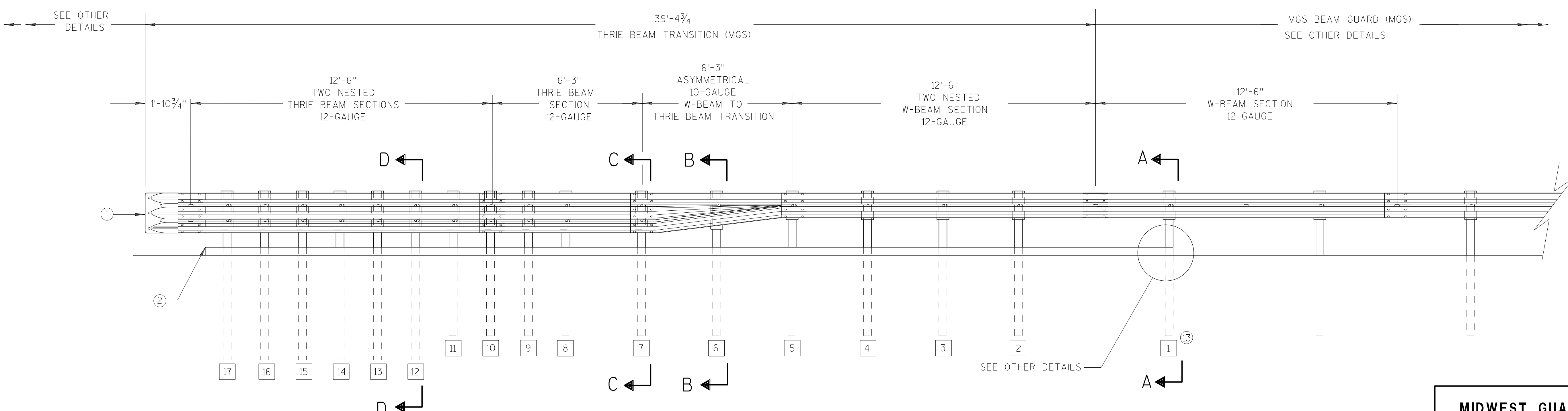
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5a

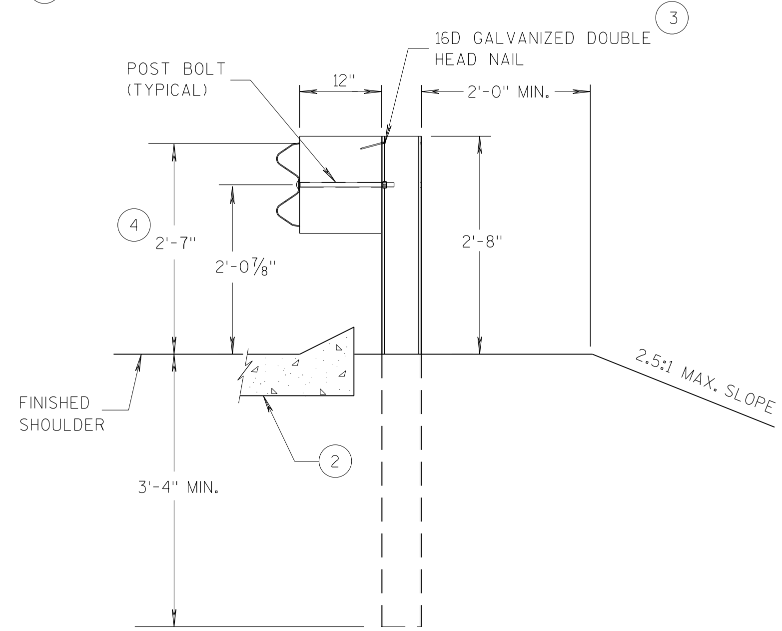
GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE_FEATURE SEE PLAN FOR INFORMATION.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

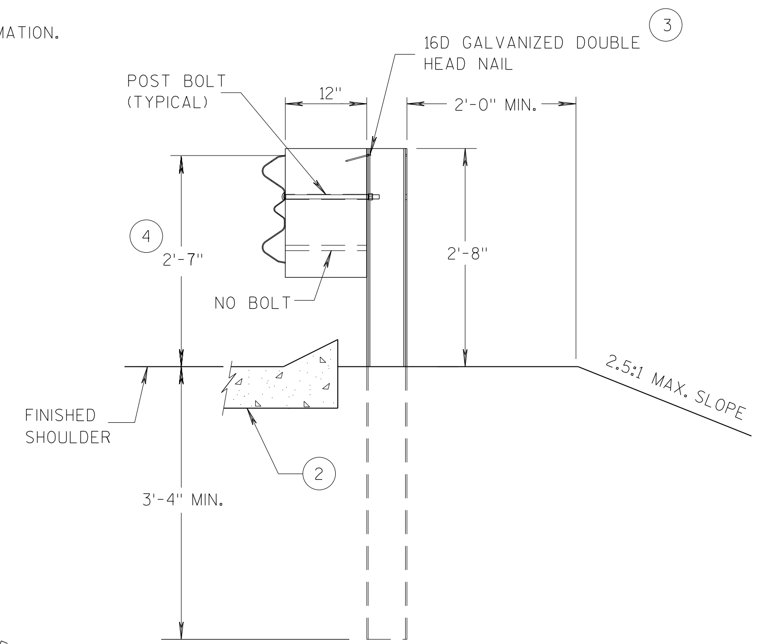
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



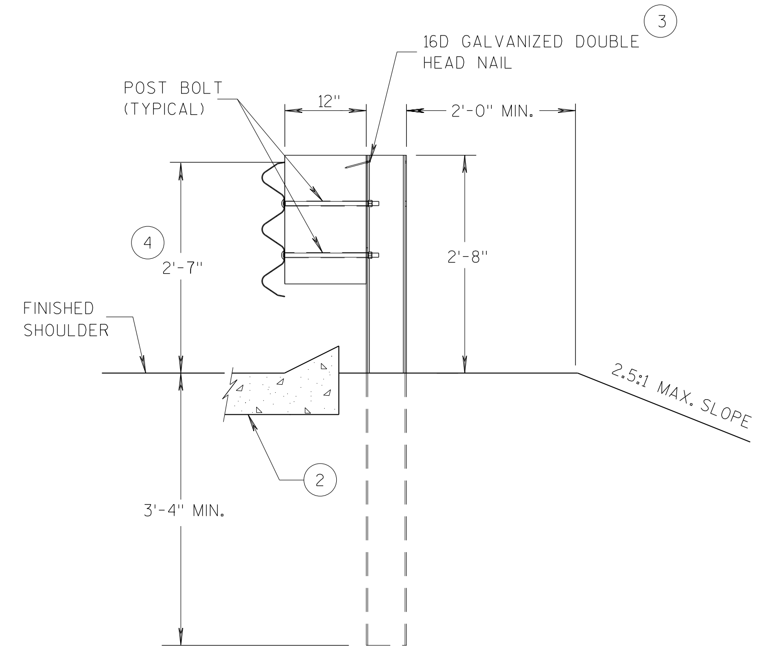
SECTION A-A (13)

POSTS 1-5



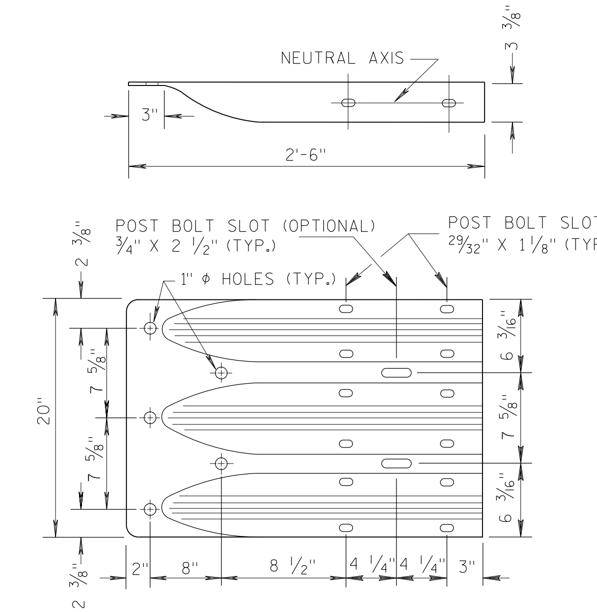
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

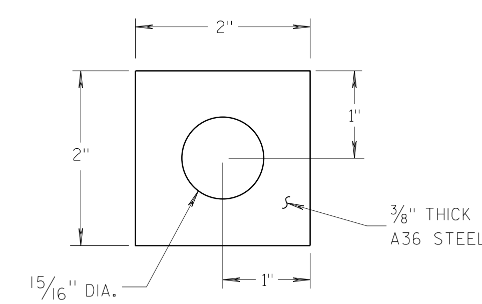
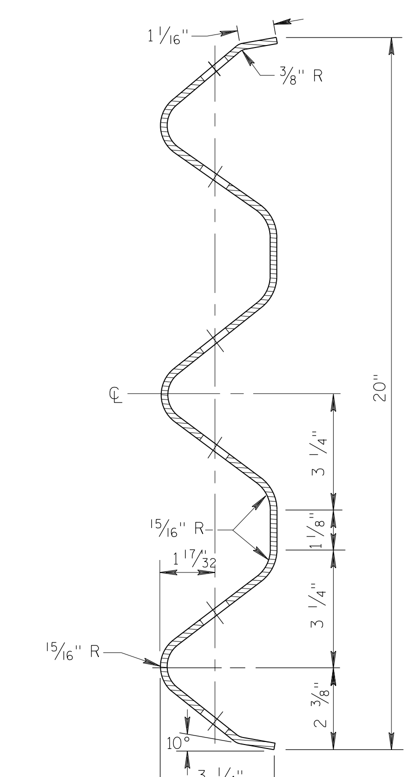
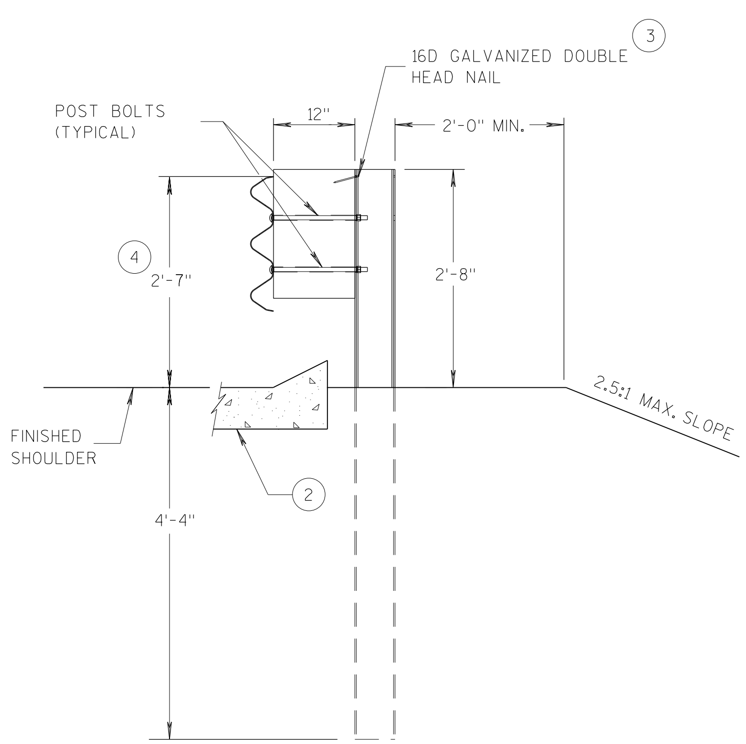


PLATE WASHER DETAIL

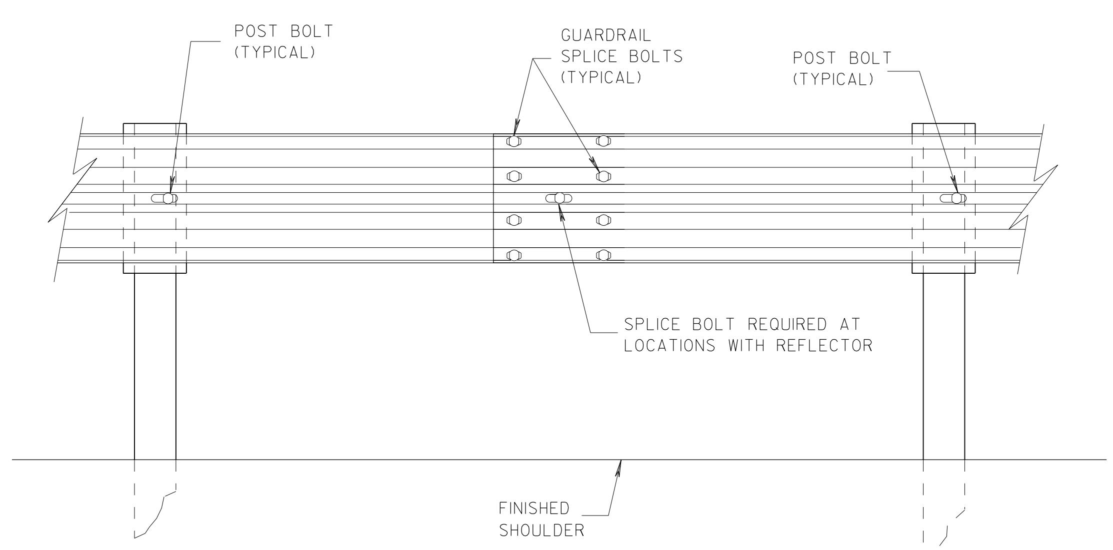


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



SPLICE DETAIL

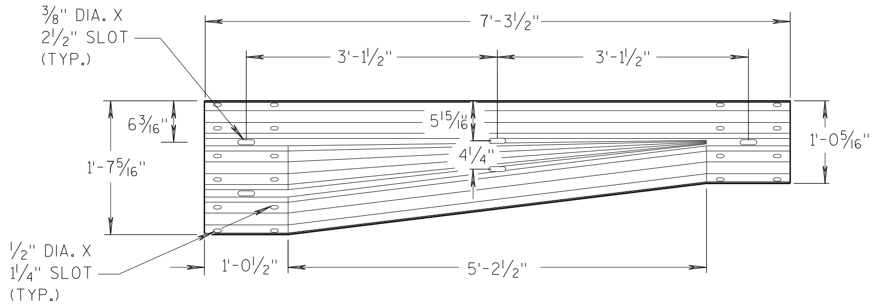
6

6

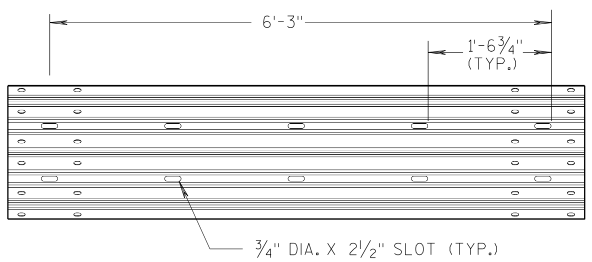
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN DEPARTMENT OF TRANSPOR

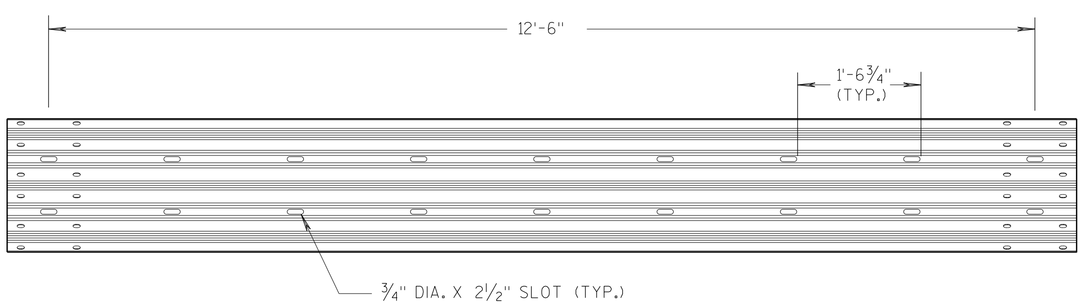
S.D.D. 14 B 45-5b



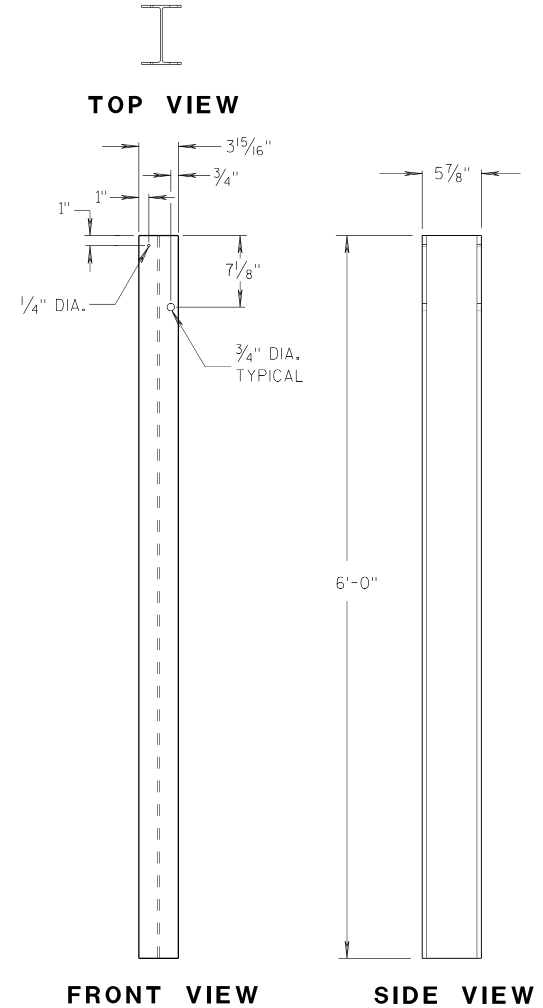
W-BEAM TO THRIE BEAM TRANSITION SECTION



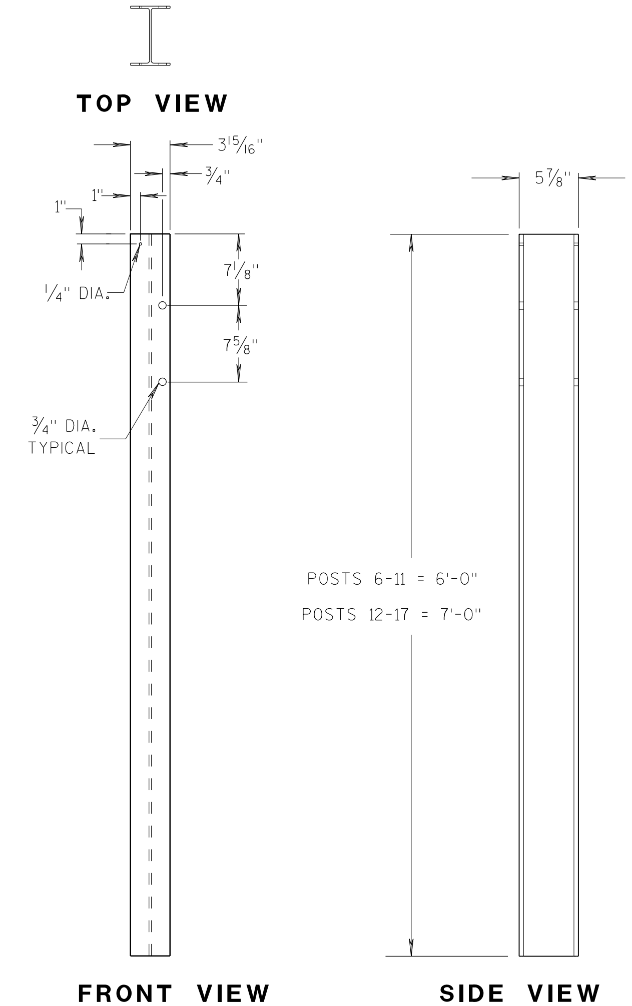
6'-3" THRIE BEAM SECTION



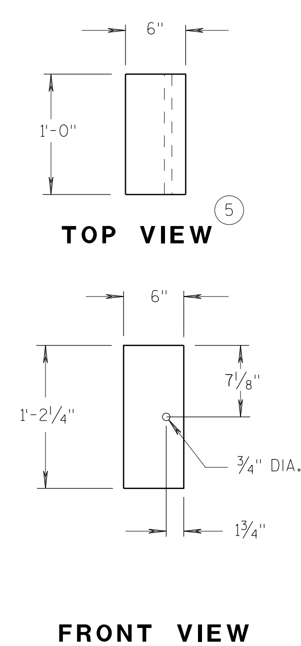
12'-6" THRIE BEAM SECTION



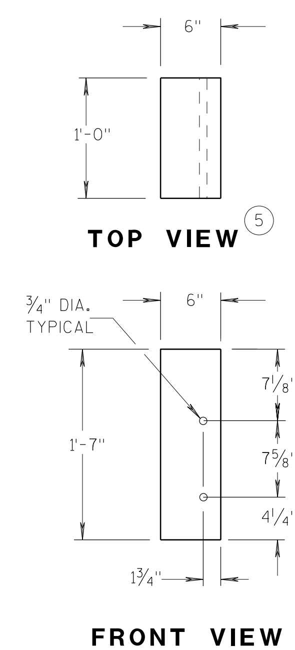
STEEL POSTS 1-5 (13)



STEEL POSTS 6-17



BLOCKOUT POSTS 1-5



BLOCKOUT POSTS 6-17

GENERAL NOTES

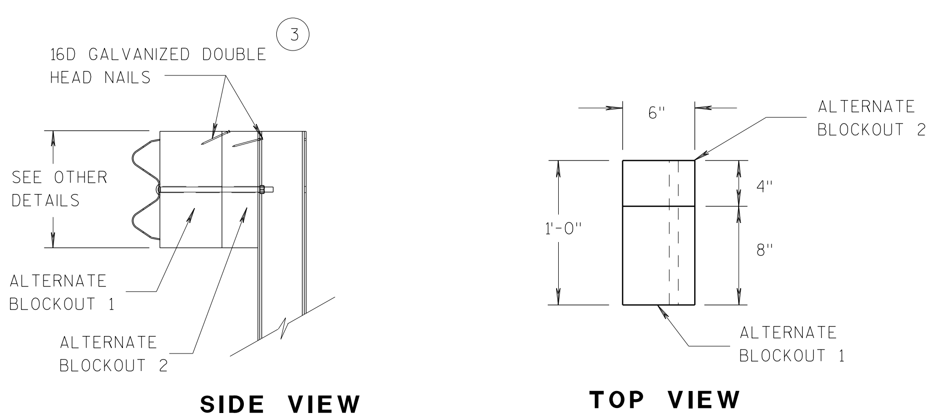
STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.



ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

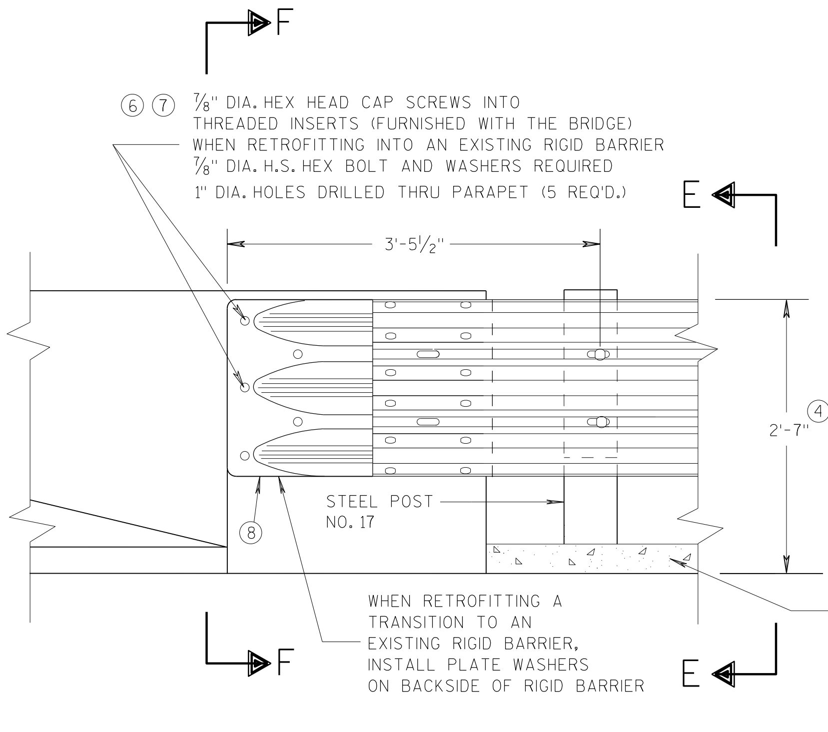
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

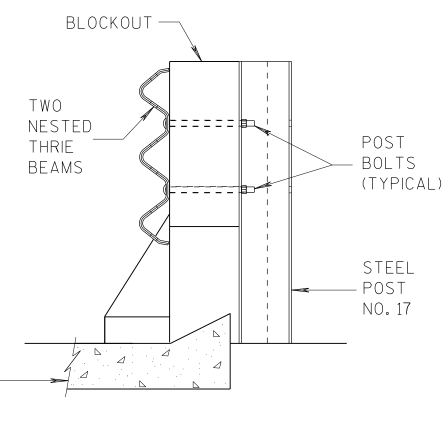
S.D.D. 14 B 45-5c

6

S.D.D. 14 B 45-5c



FRONT VIEW



SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

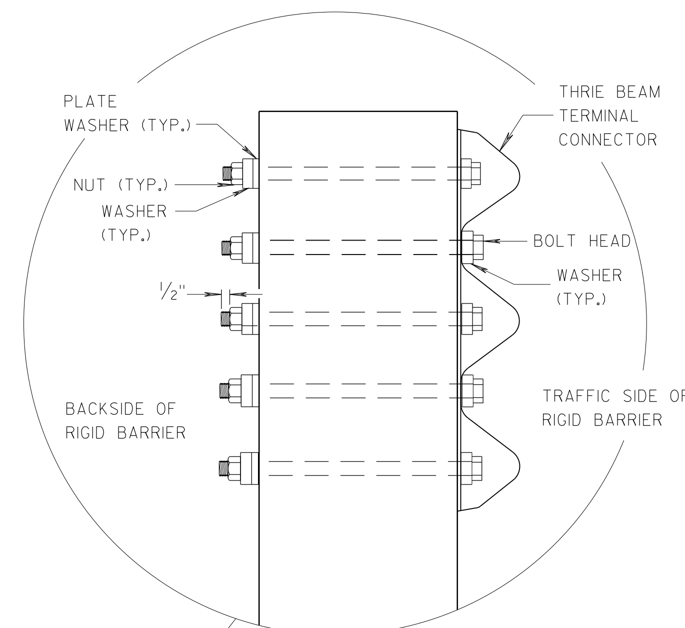
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

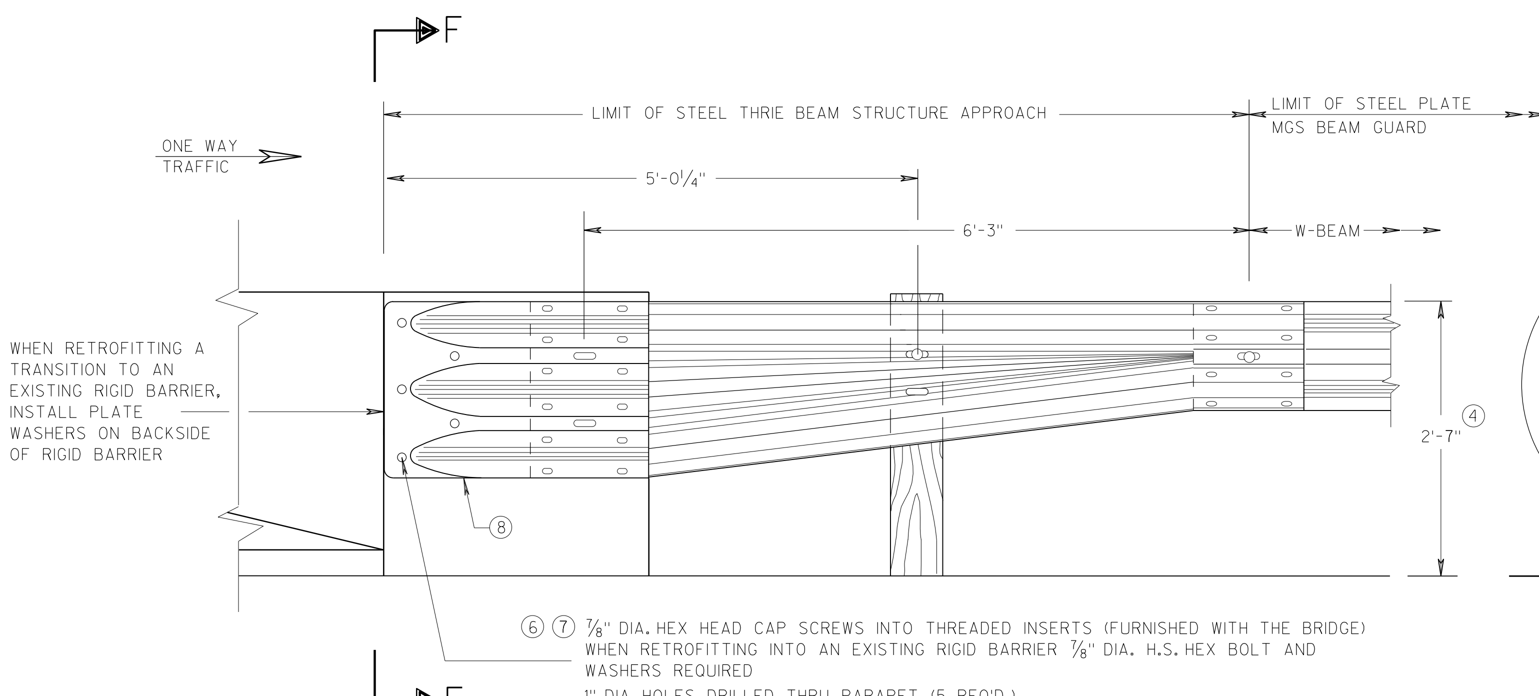
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

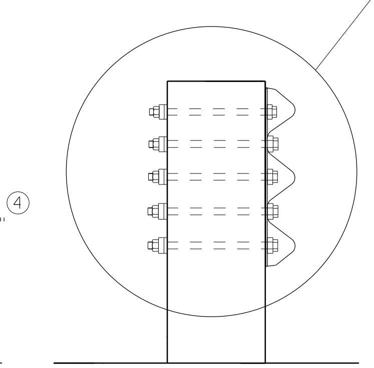
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

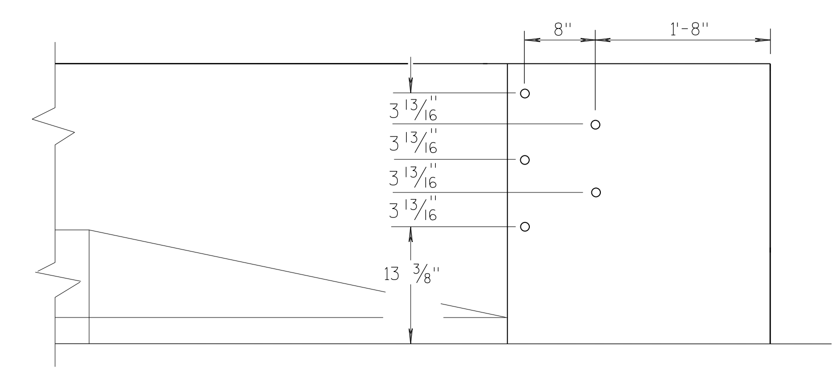




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

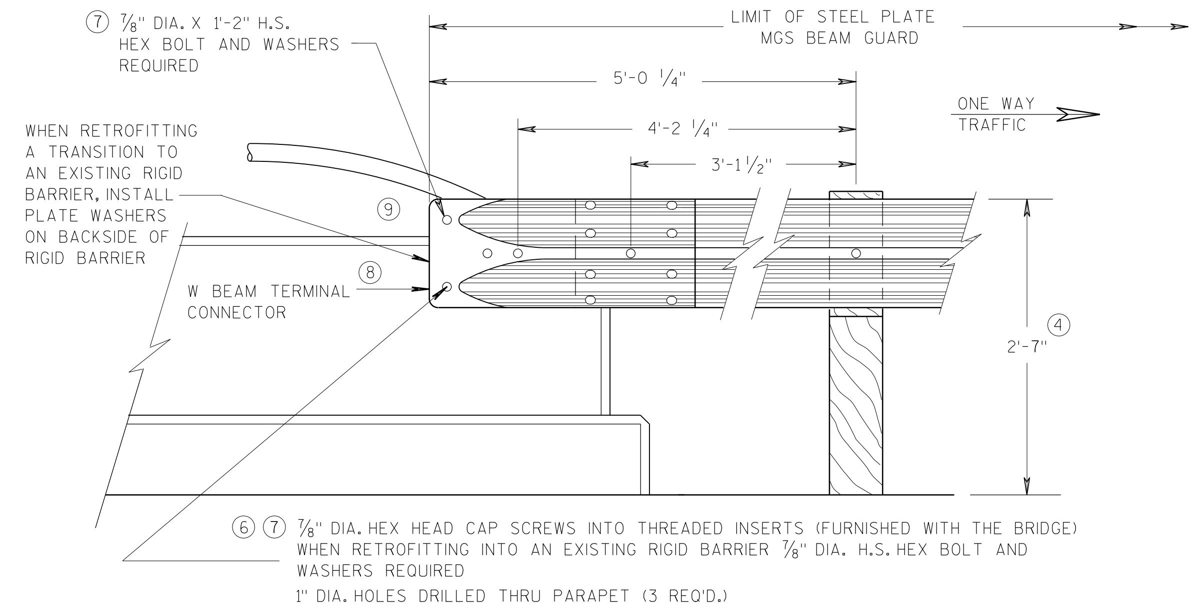
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

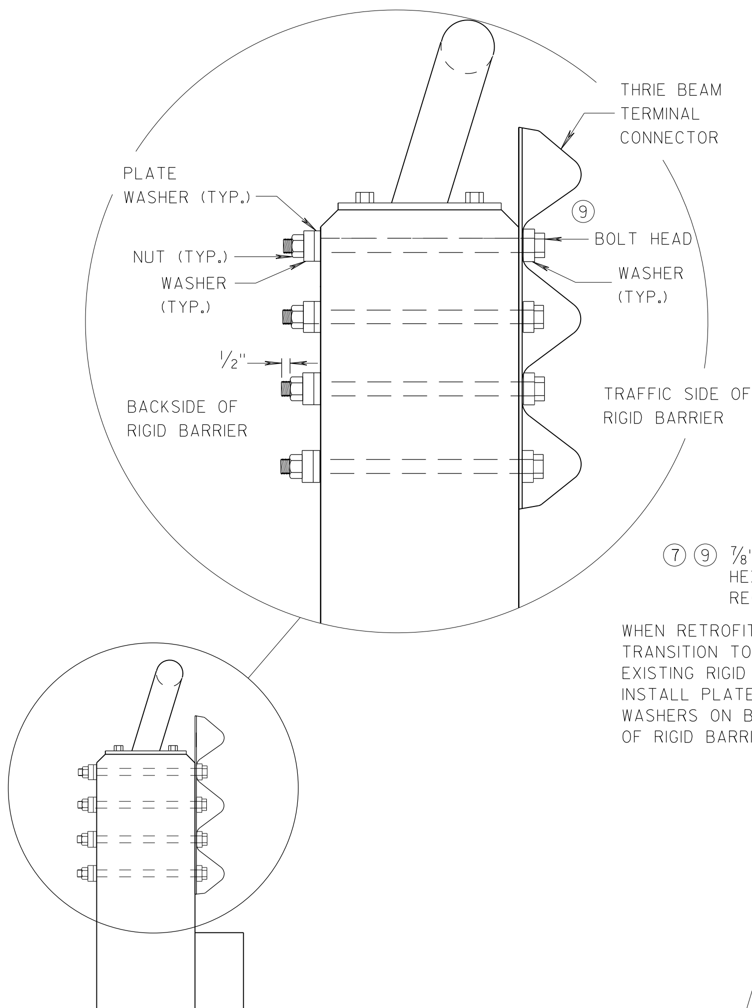
(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.



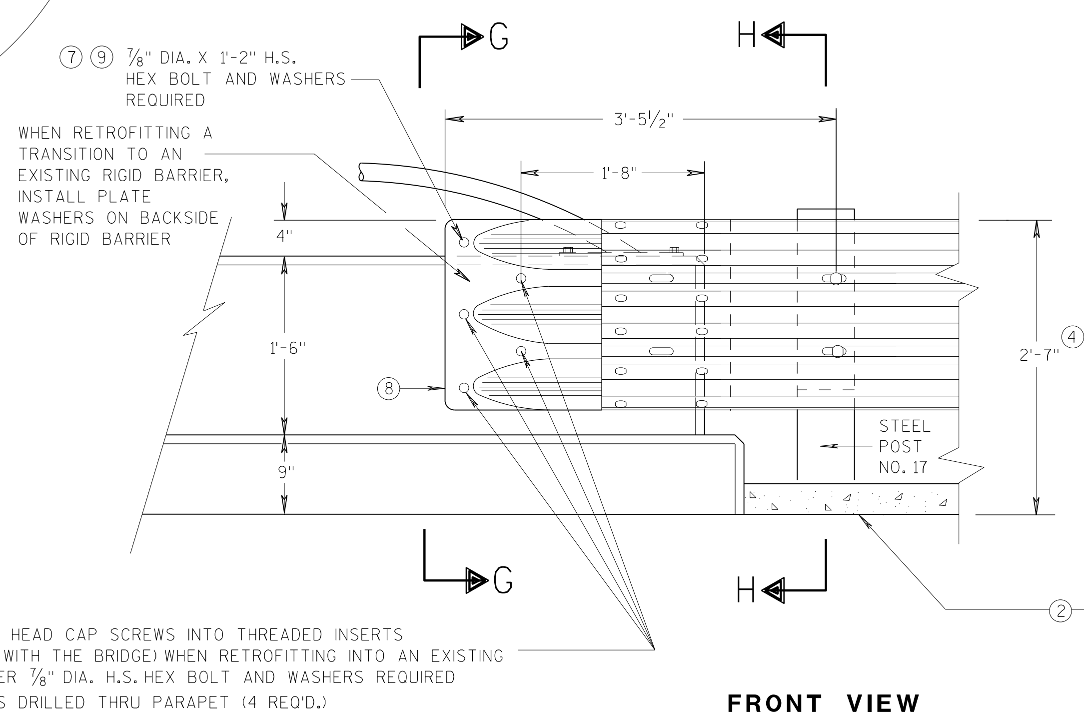
FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

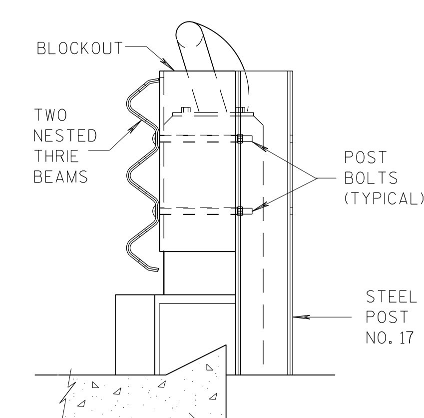
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION G-G



FRONT VIEW



SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

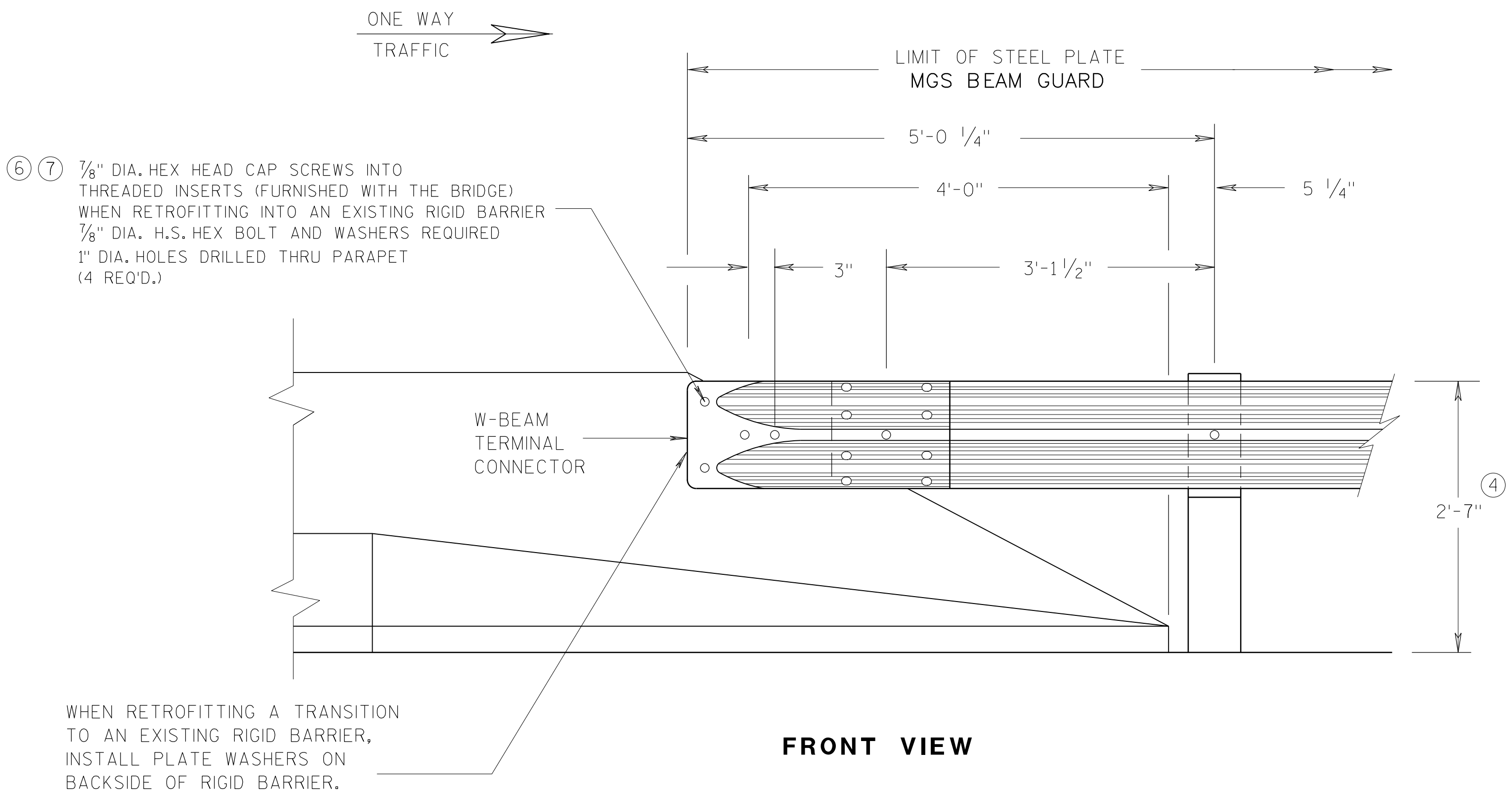
GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

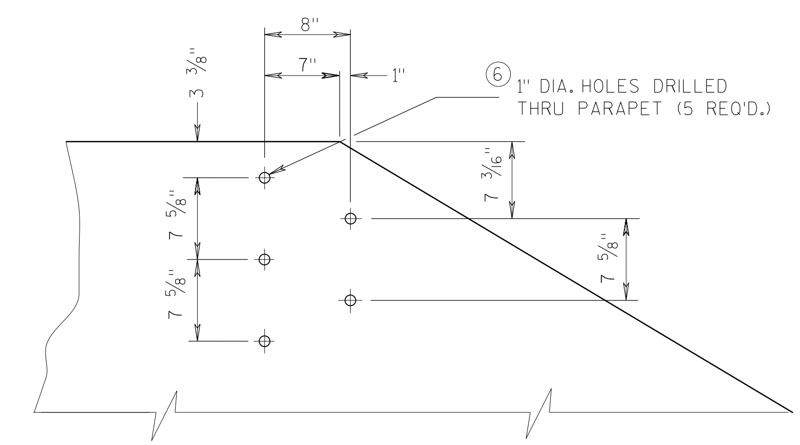
(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X **5/32"** THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



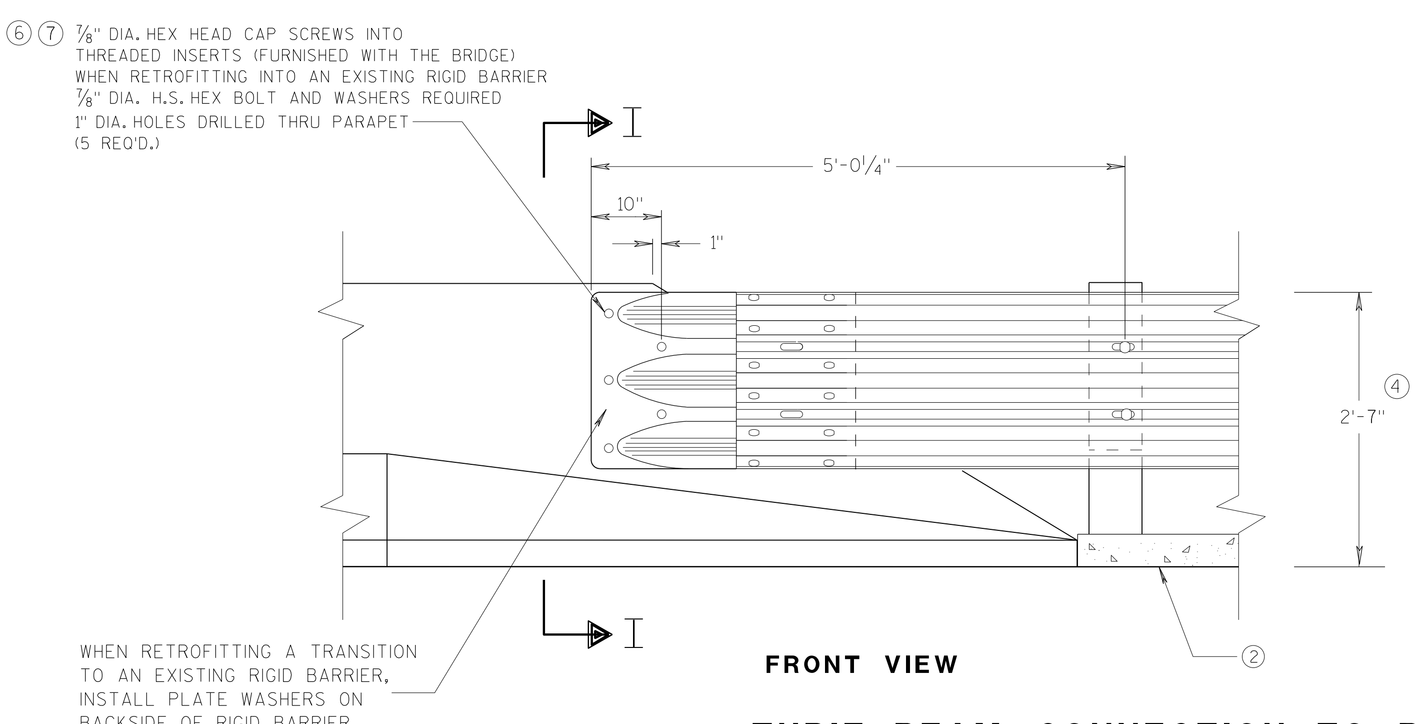
FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

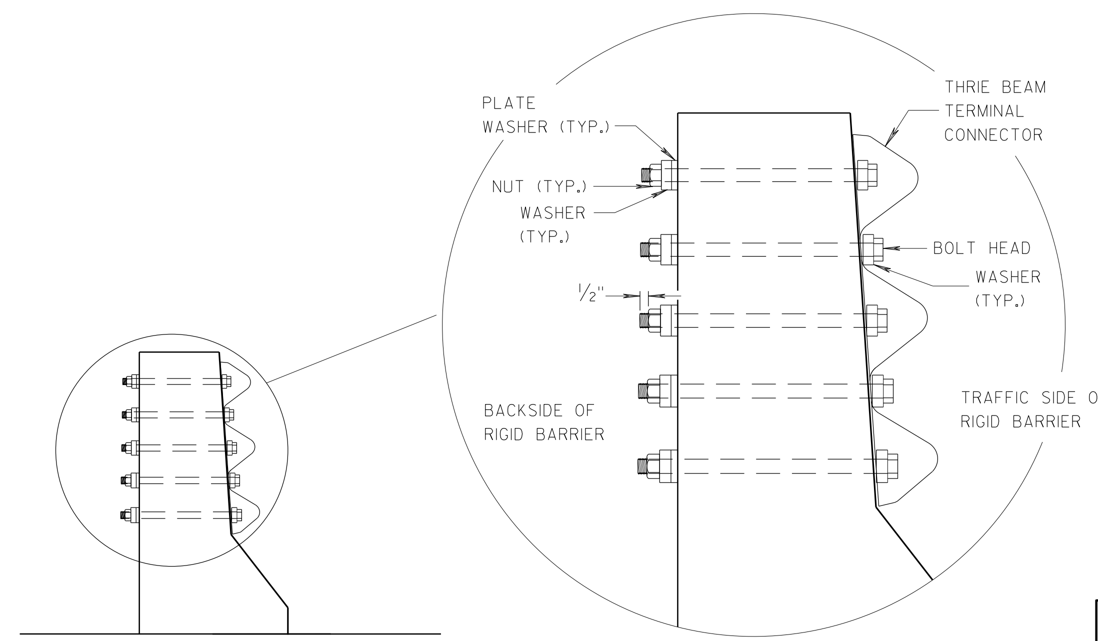
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)



DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 07/2018 DATE /S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR FHWA

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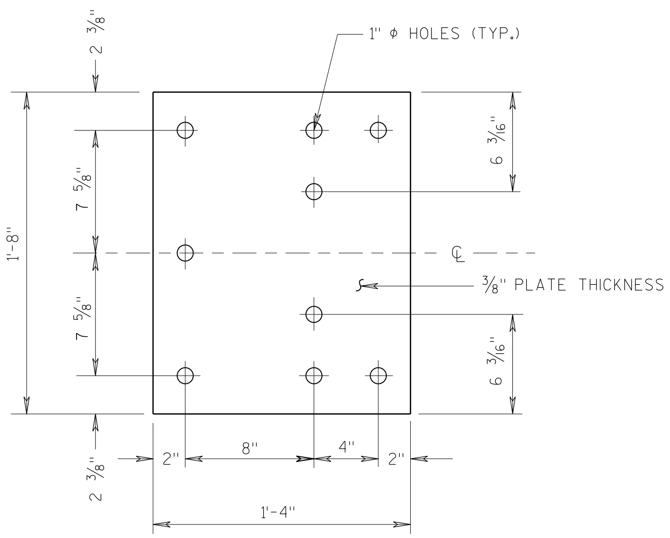
S.D.D. 14 B 45-5f

S.D.D. 14 B 45-5f

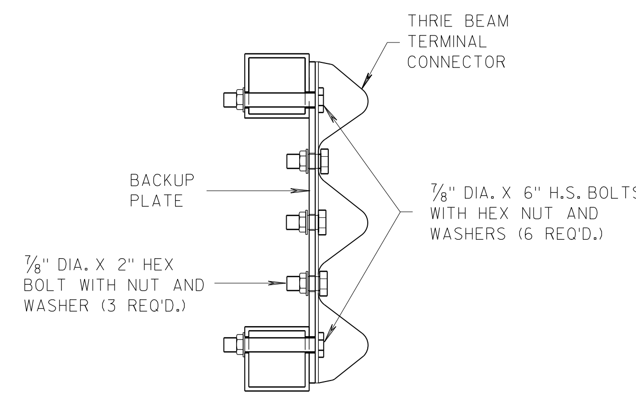
GENERAL NOTES

4 TOLERANCE FOR TOP OF BEAM IS ± 1".

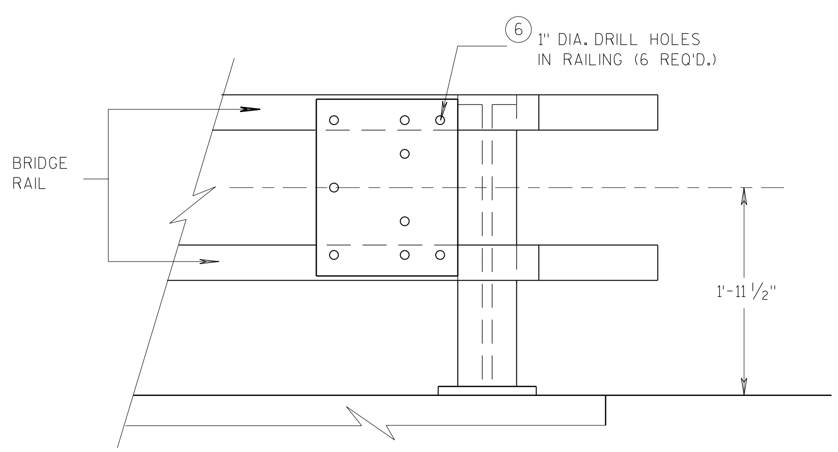
6 DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.



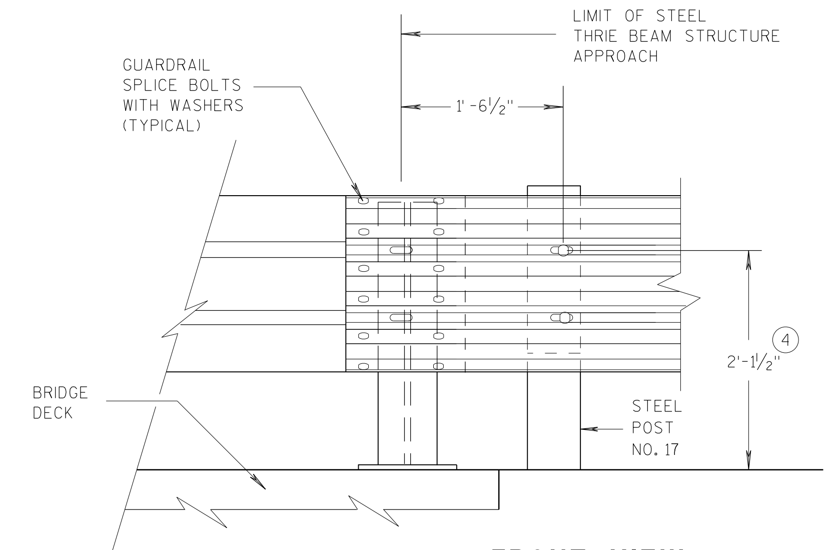
BACK-UP PLATE DETAIL



SECTION J-J

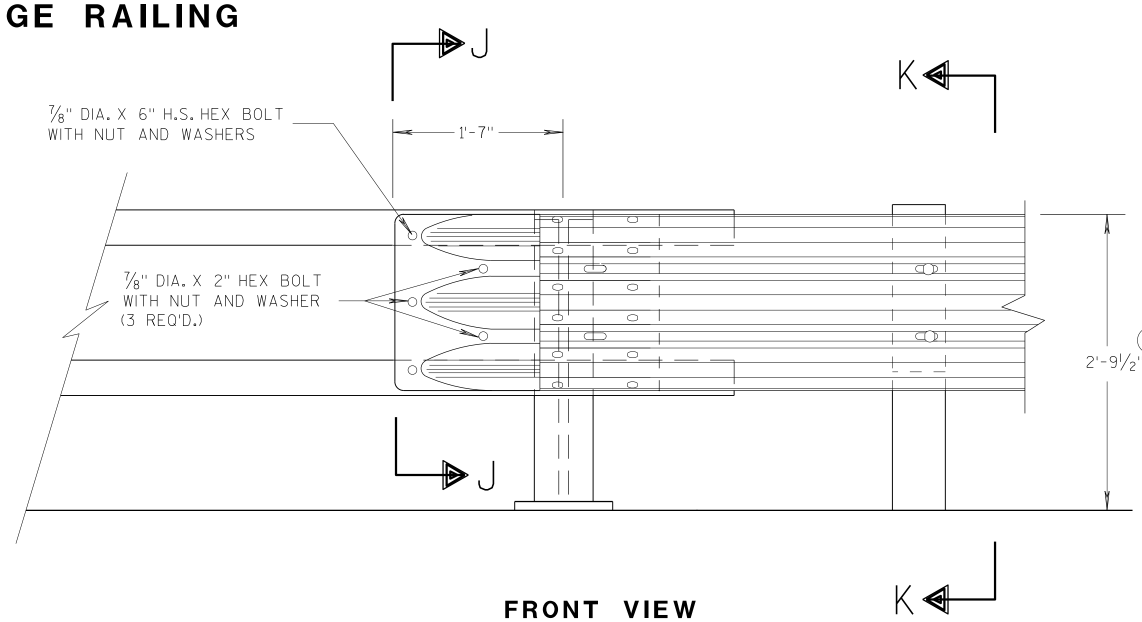


BACK-UP PLATE MOUNTING
ONTO BRIDGE RAILING

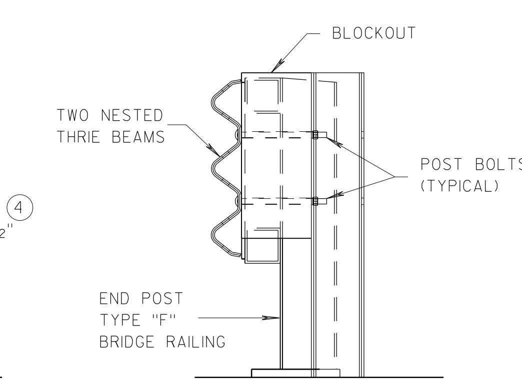


FRONT VIEW

THRIE BEAM CONNECTION TO
STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO
TUBULAR RAILING TYPE "F"

6

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MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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07/2018
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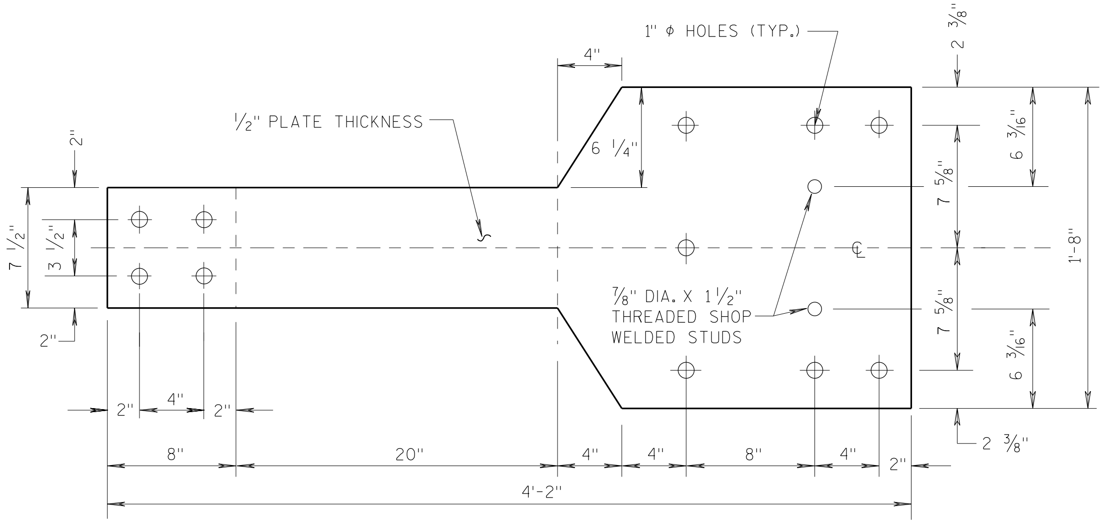
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

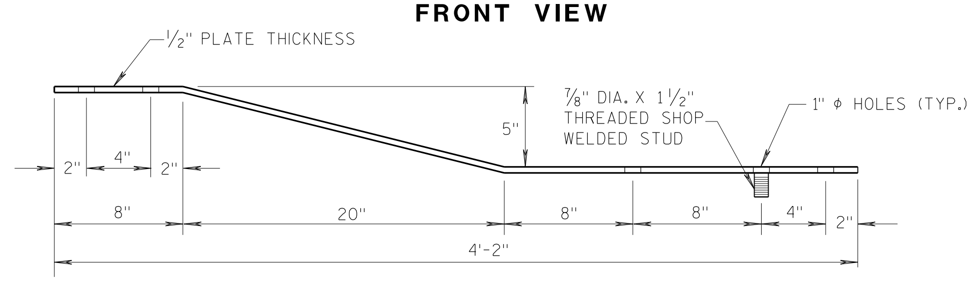
S.D.D. 14 B 45-5g

GENERAL NOTES

(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

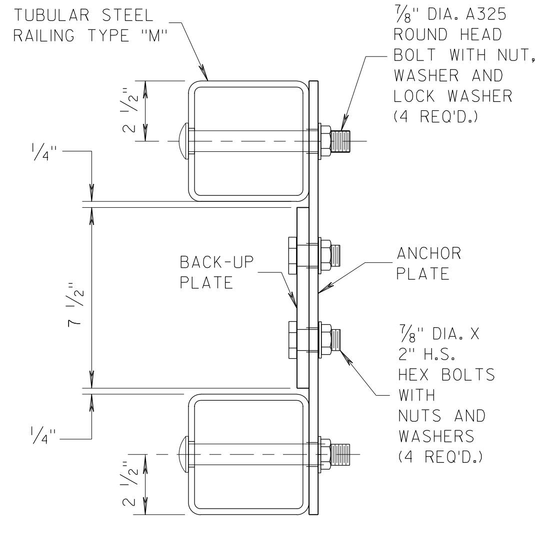


FRONT VIEW

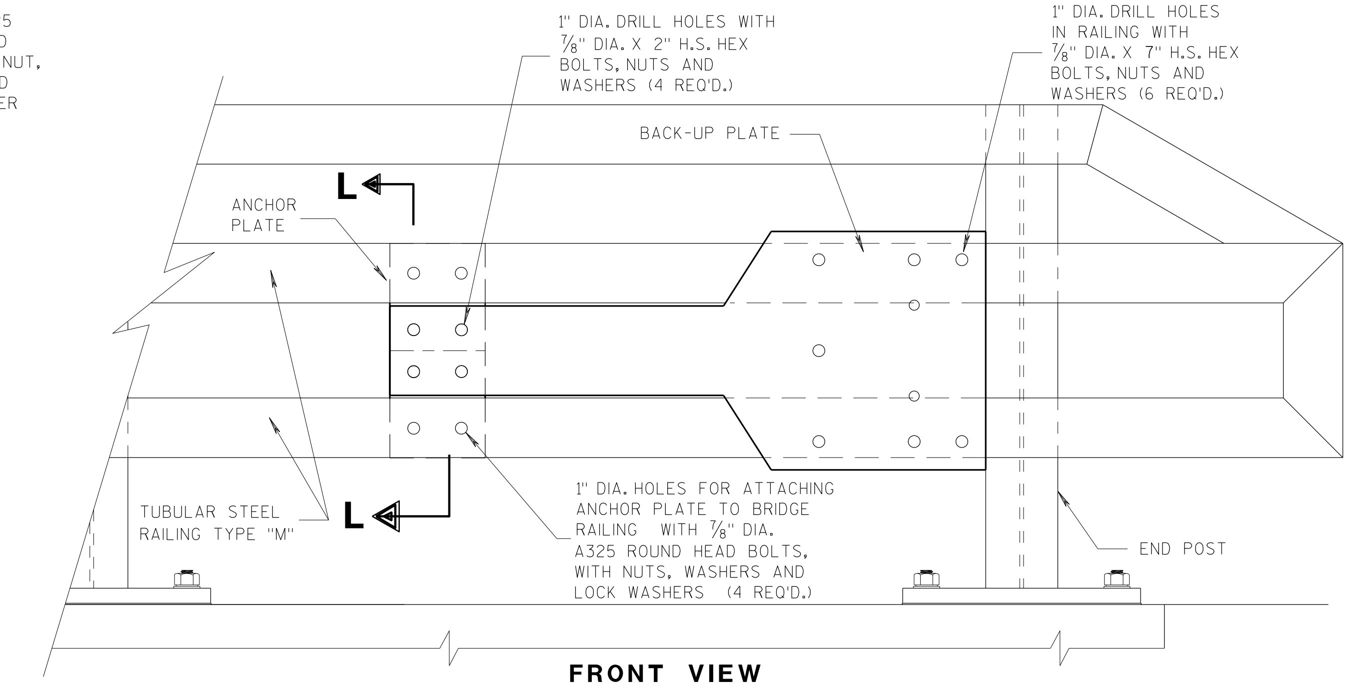


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

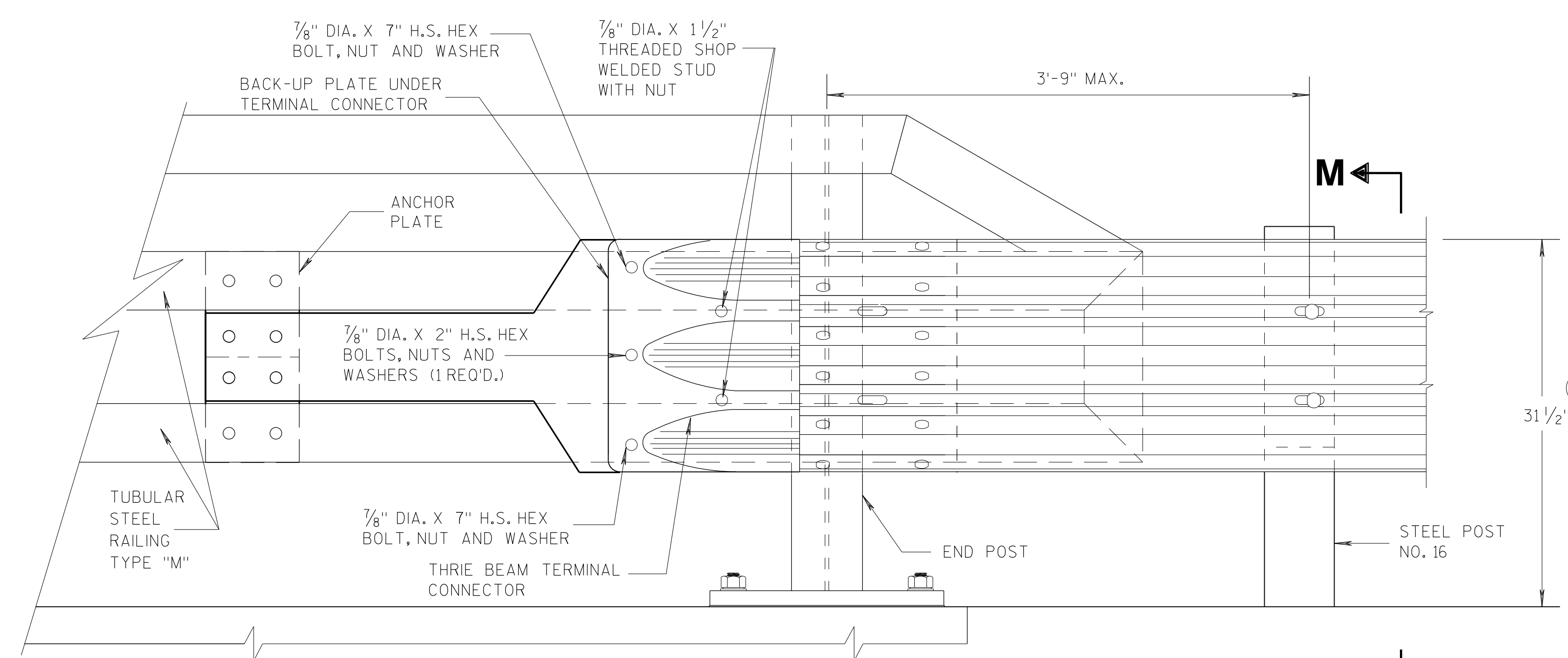


SECTION L-L

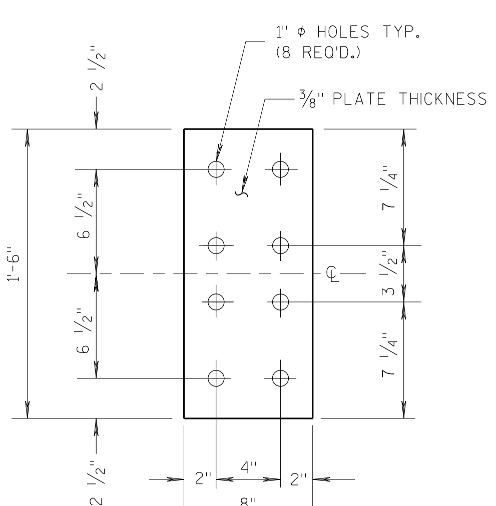


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"

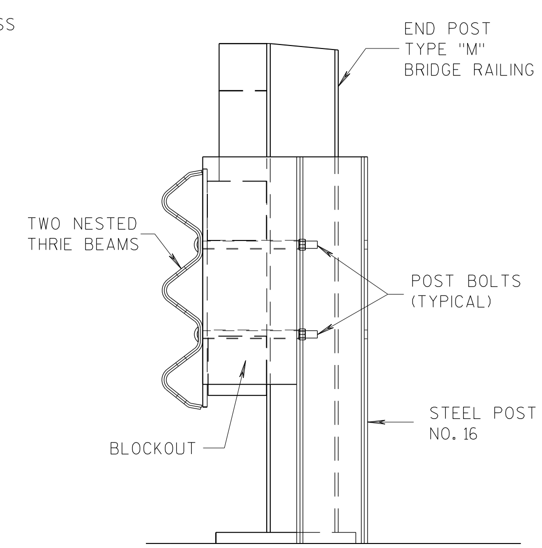


FRONT VIEW

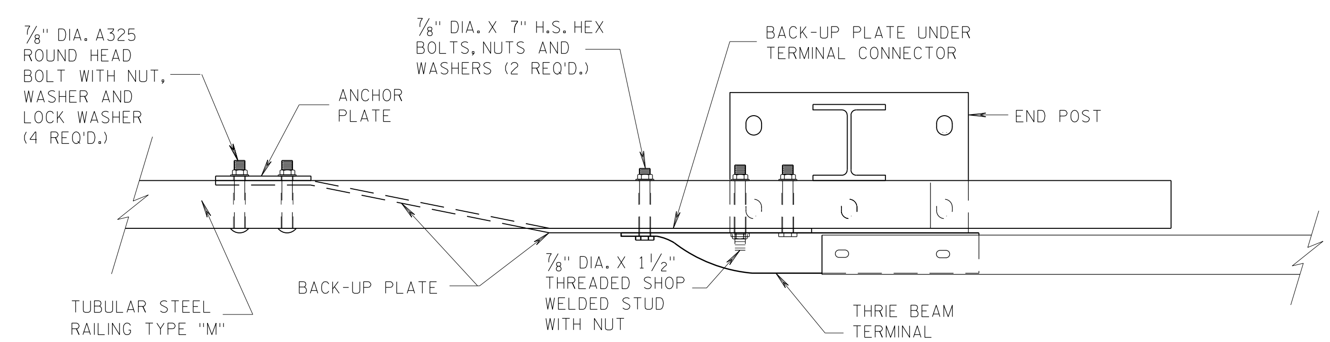


FRONT VIEW

ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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S.D.D. 14 B 45-5h

S.D.D. 14 B 45-5h

GENERAL NOTES

COVER PLATE PANELS ARE $\frac{3}{16}$" THICK.

ALL STIFFENERS ARE $\frac{1}{4}$" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

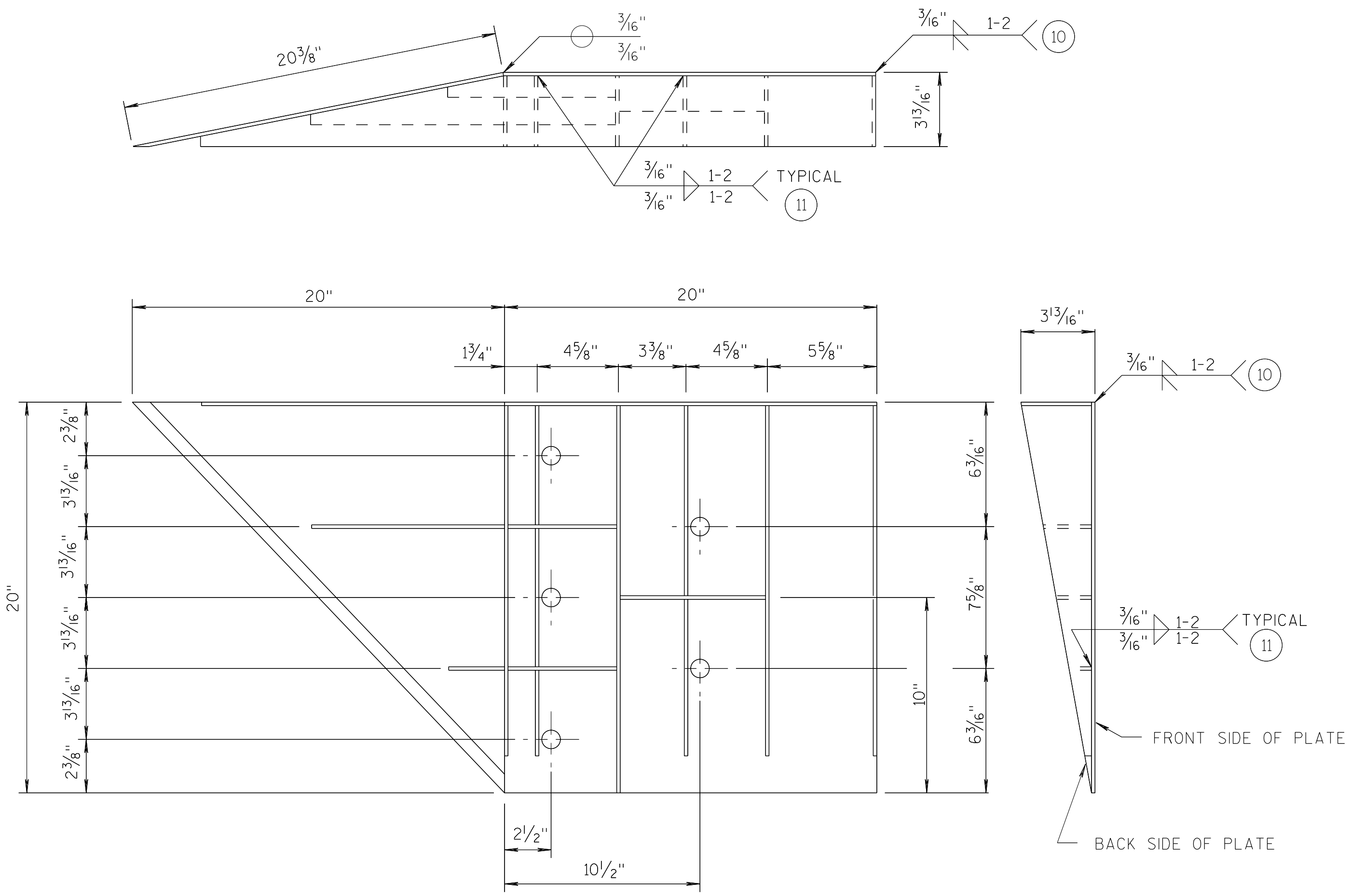
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS: SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND $\frac{3}{16}$" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS: $\frac{3}{16}$" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

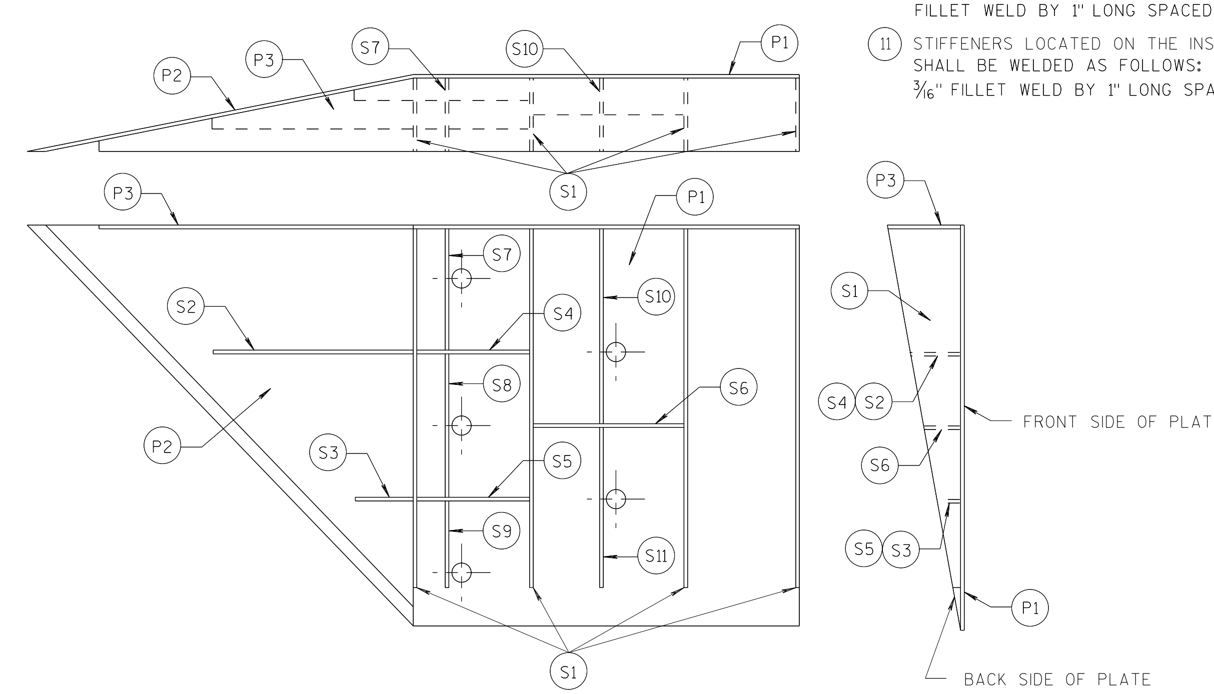


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A × B × C × D)	THICKNESS
P1	1		20" × 20"	$\frac{3}{16}$"
P2	1		20" × 20" × 28$\frac{9}{16}$"	$\frac{3}{16}$"
P3	1		39" × 3$\frac{5}{8}$" × 20" × 19$\frac{5}{16}$"	$\frac{3}{16}$"
S1	4		18$\frac{7}{16}$" × 3$\frac{5}{8}$" × 18$\frac{3}{4}$"	$\frac{1}{4}$"
S2	1		10$\frac{1}{4}$" × 2$\frac{7}{16}$" × 10$\frac{3}{8}$" × $\frac{1}{2}$"	$\frac{1}{4}$"
S3	1		3" × 1$\frac{1}{16}$" × 3$\frac{1}{8}$" × $\frac{1}{2}$"	$\frac{1}{4}$"
S4	1		6$\frac{1}{8}$" × 2$\frac{7}{16}$"	$\frac{1}{4}$"
S5	1		6$\frac{1}{8}$" × 1$\frac{1}{16}$"	$\frac{1}{4}$"
S6	1		7$\frac{3}{4}$" × 1$\frac{3}{4}$"	$\frac{1}{4}$"
S7	1		2$\frac{9}{16}$" × 6" × 3$\frac{5}{8}$" × 5$\frac{7}{8}$"	$\frac{1}{4}$"
S8	1		1$\frac{5}{32}$" × 7$\frac{1}{2}$" × 2$\frac{1}{2}$" × 7$\frac{3}{8}$"	$\frac{1}{4}$"
S9	1		6$\frac{1}{16}$" × 6$\frac{3}{16}$" × 1$\frac{3}{32}$"	$\frac{1}{4}$"
S10	1		1$\frac{7}{8}$" × 9$\frac{7}{8}$" × 3$\frac{5}{8}$" × 9$\frac{11}{16}$"	$\frac{1}{4}$"
S11	1		8$\frac{1}{2}$" × 8$\frac{3}{4}$" × 1$\frac{13}{16}$"	$\frac{1}{4}$"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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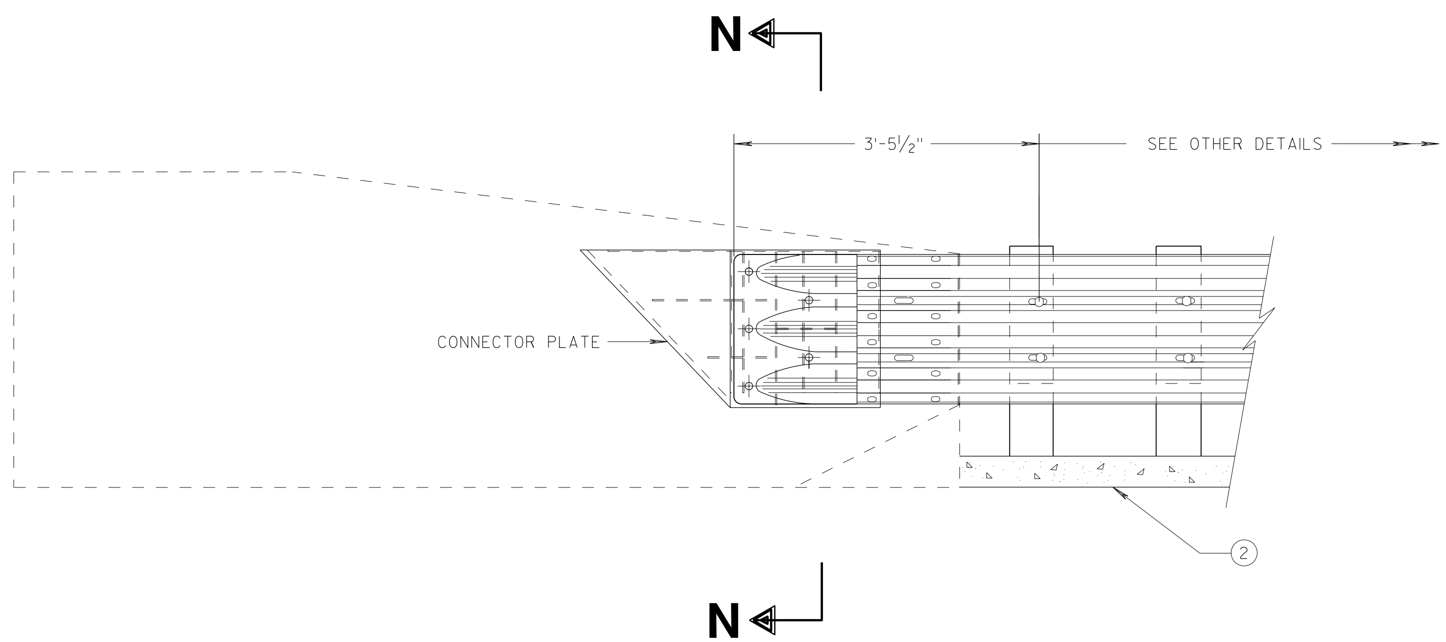
DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

GENERAL NOTES

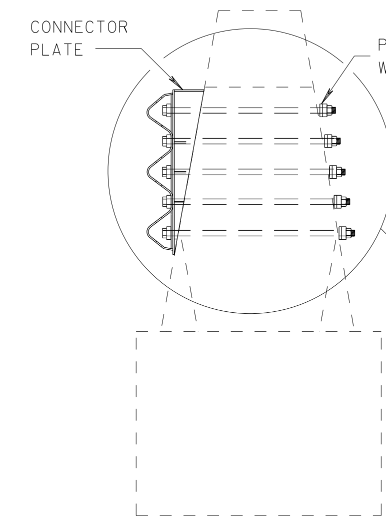
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

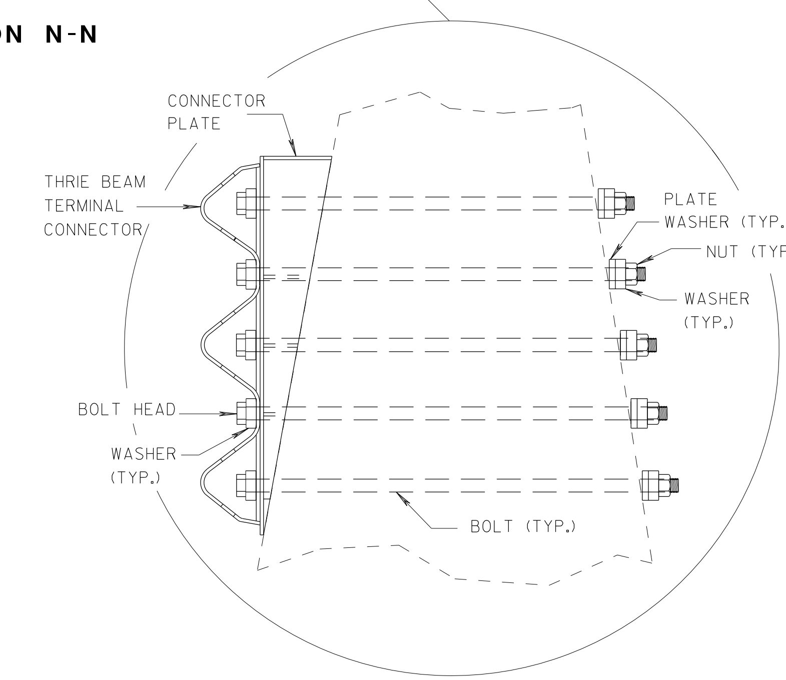
(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X **5/32"** THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

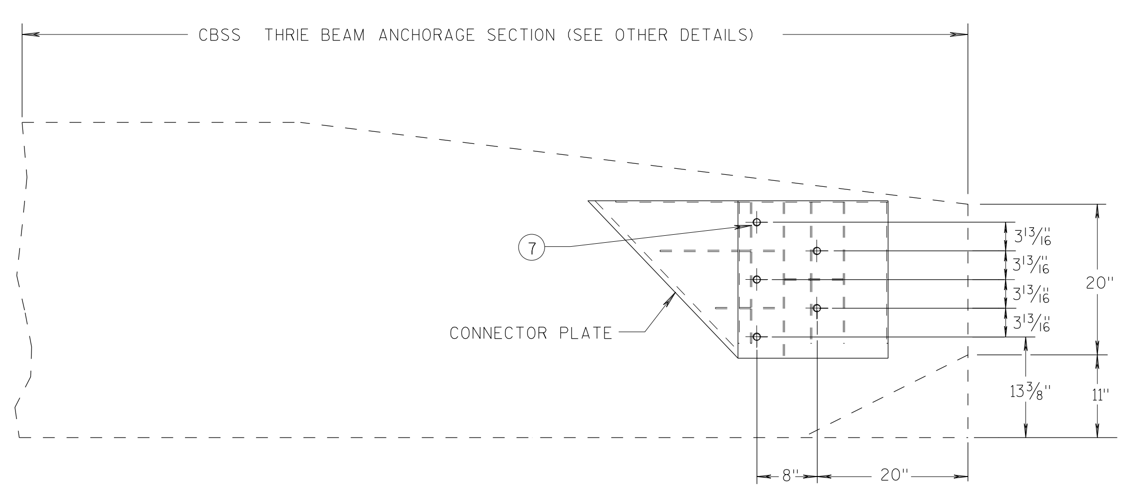


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



SECTION N-N





SINGLE SLOPE CONNECTION PLATE PLACEMENT

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MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 7/2018 DATE /S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR FHWA

S.D.D. 14 B 45-5j

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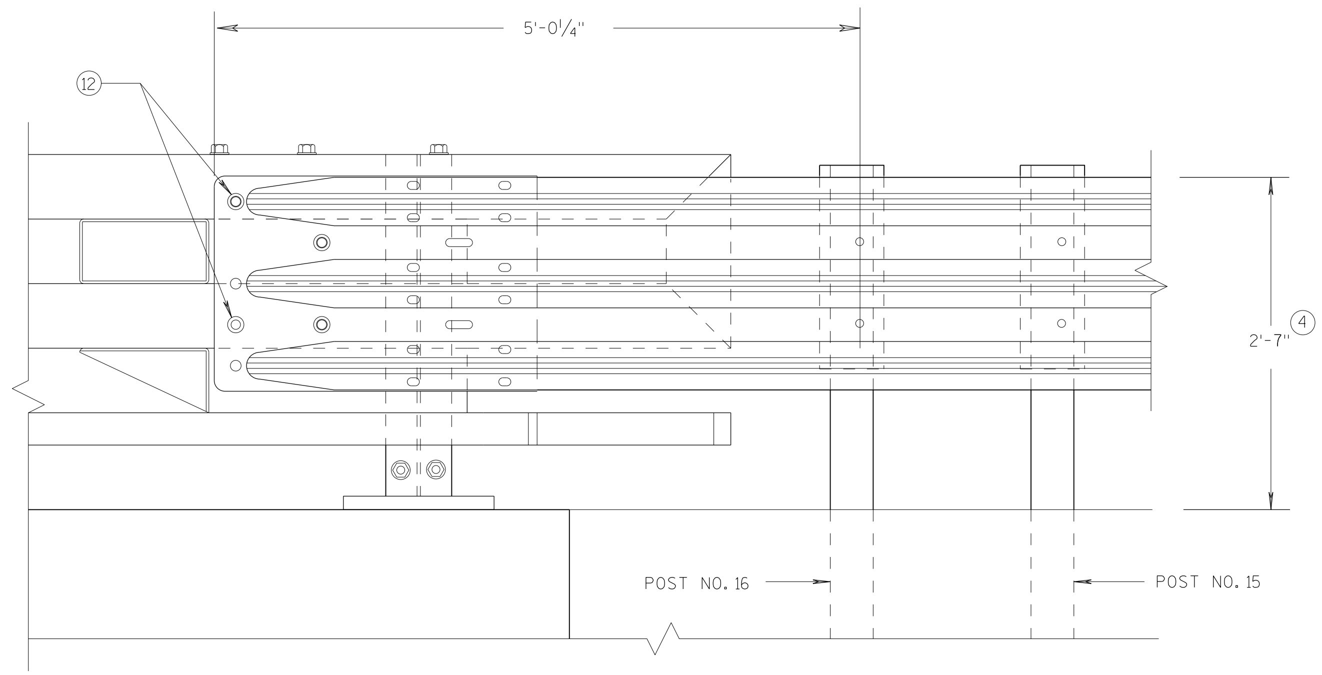
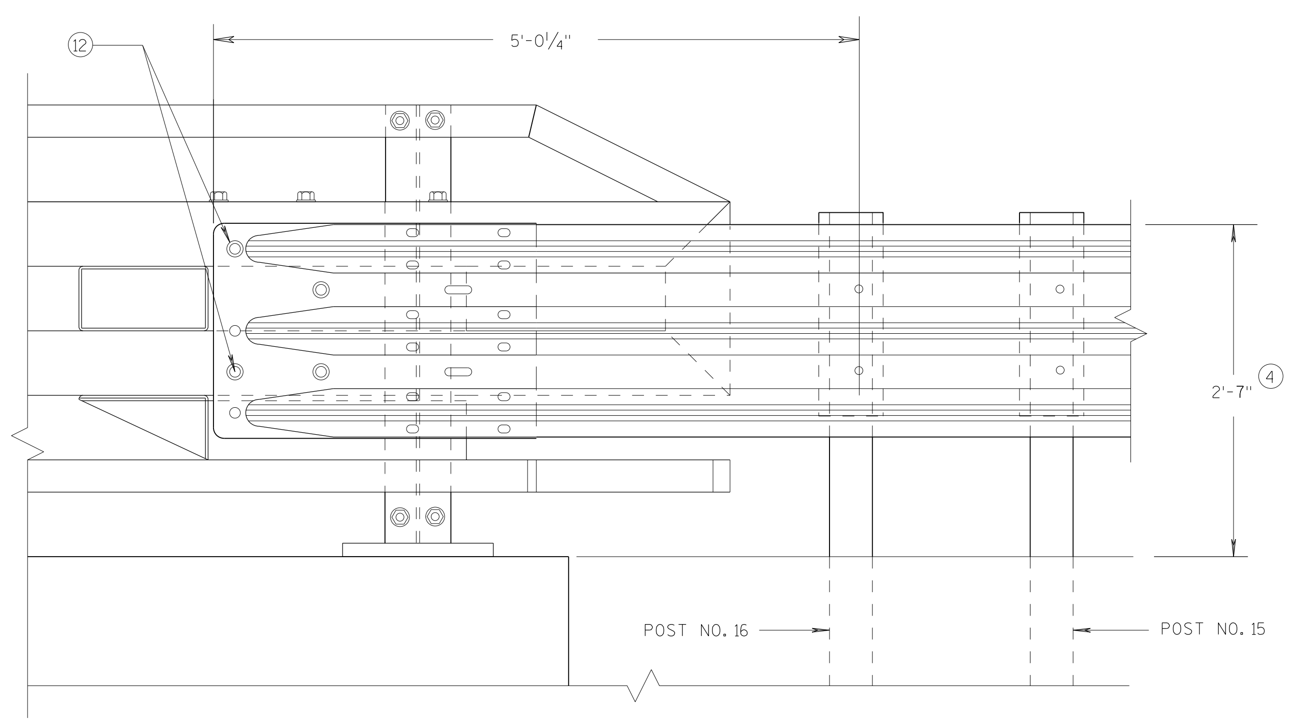


ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

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MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

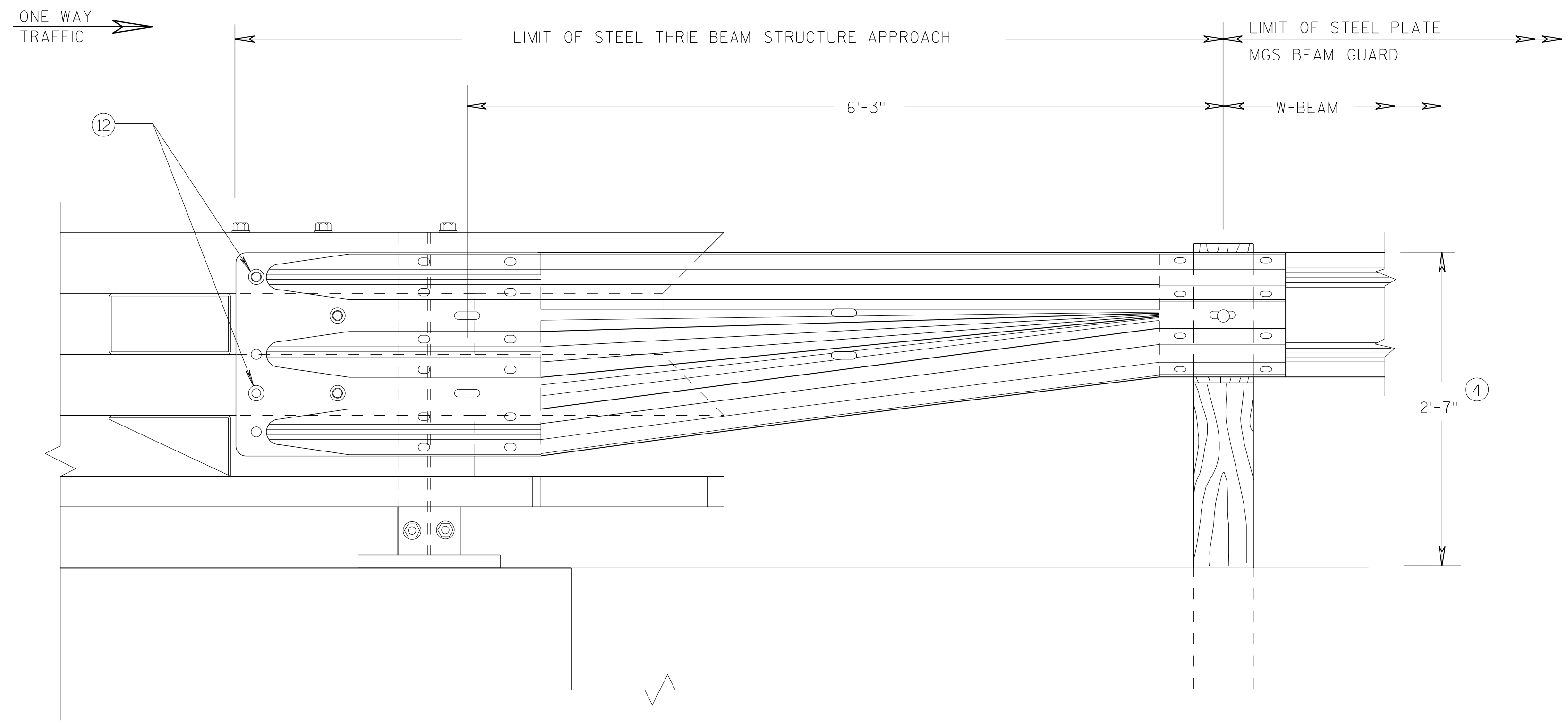
7/2018
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS D NT
UNIT SUPERVIS

FHWA

S.D.D. 14 B 45-5k

S.D.D. 14 B 45-5k



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

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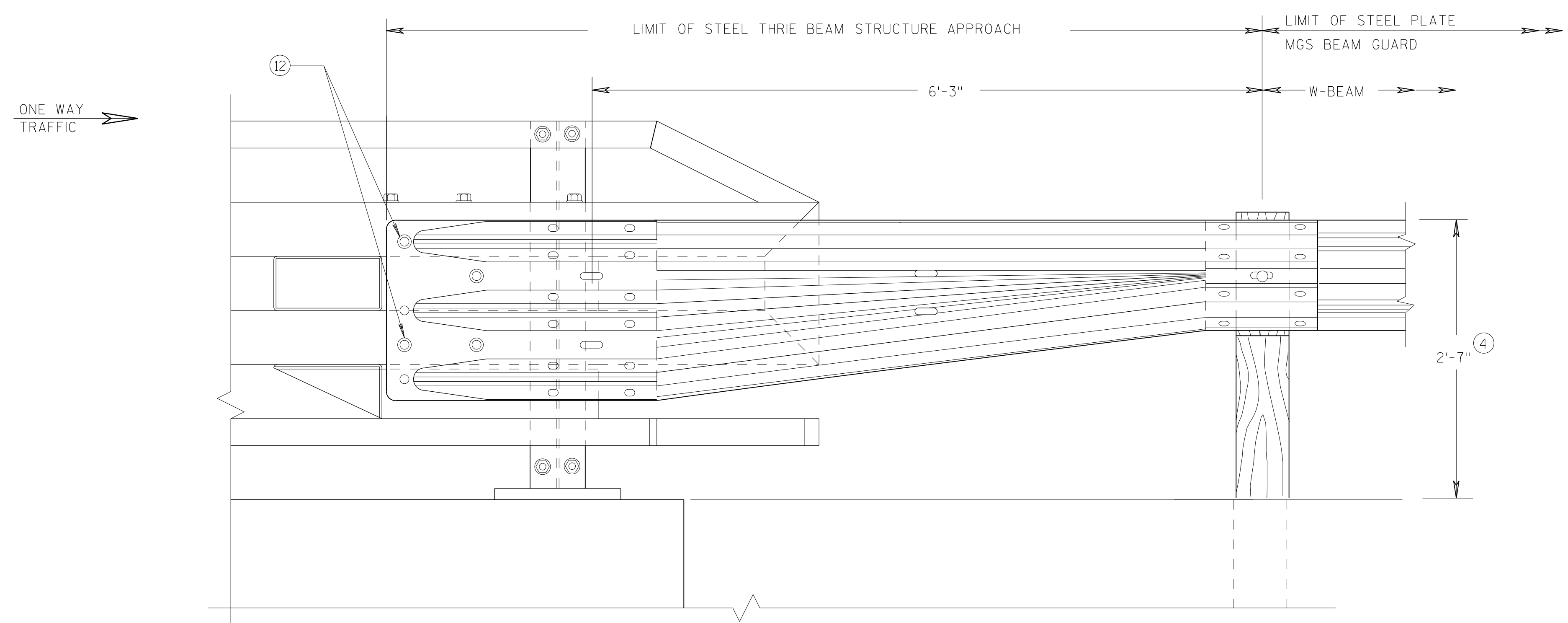


FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

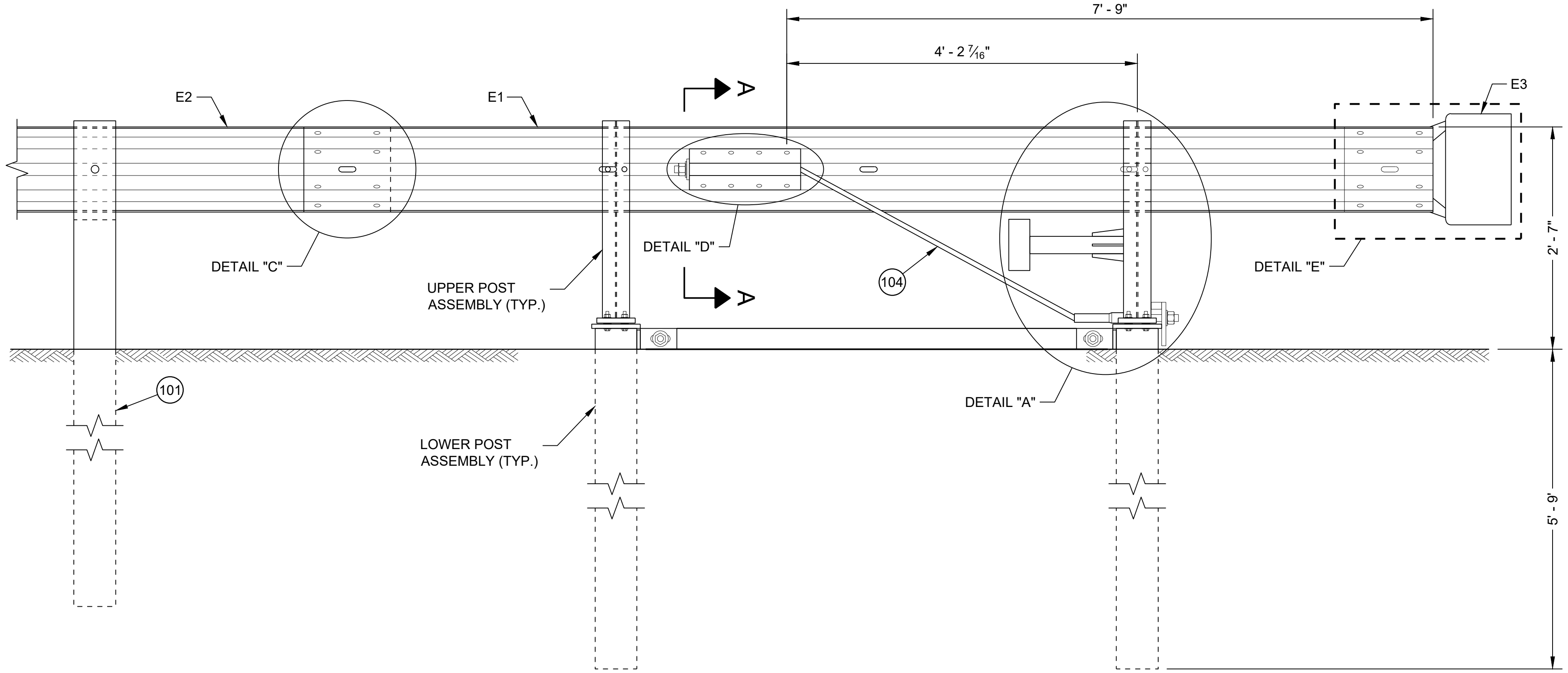
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

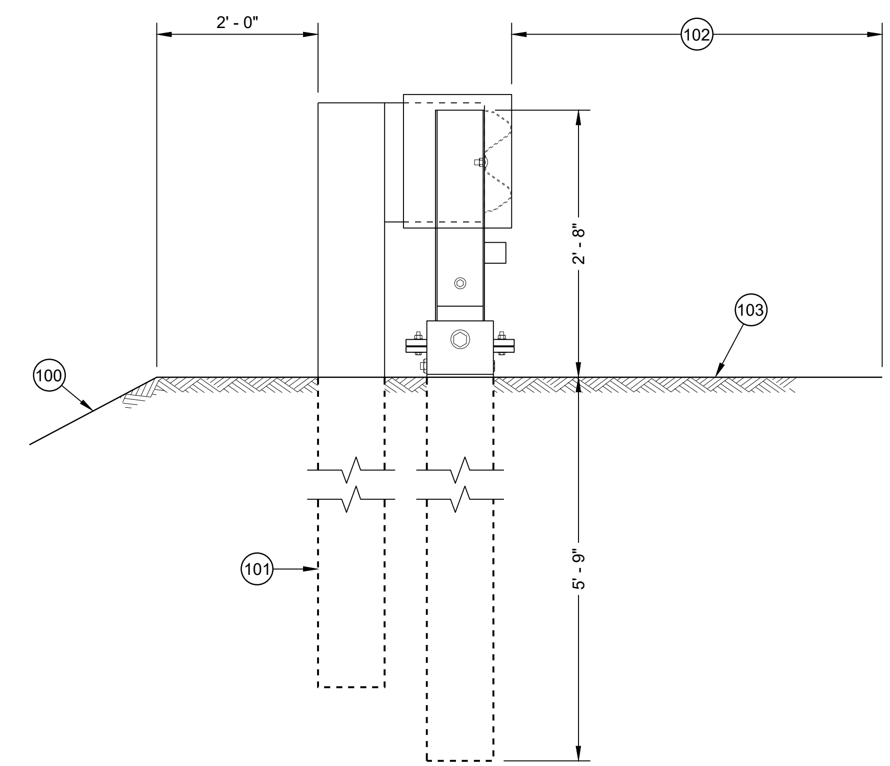
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE
/S/ Rodney Taylor
ROADWAY STANDARDS C... NT
UNIT SUPERVIS...
FHWA

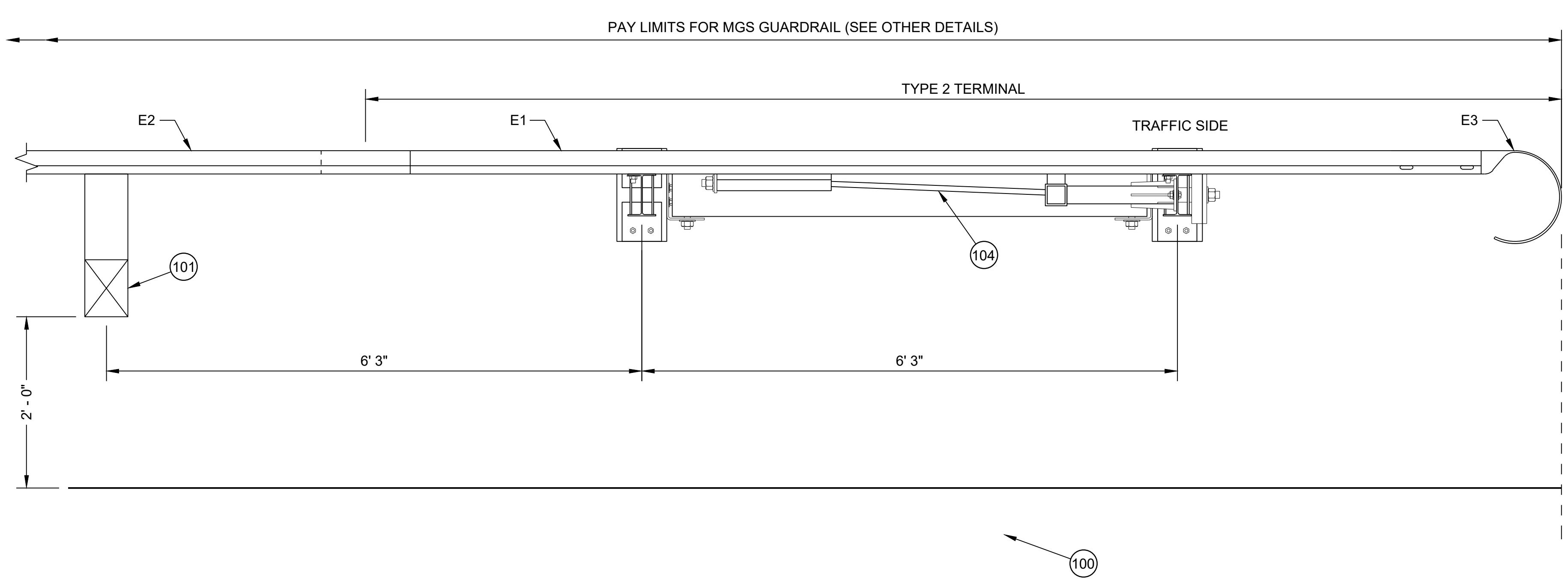
S.D.D. 14 B 45-5L



BACK VIEW
TYPE 2 TERMINAL



SIDE VIEW
TYPE 2 TERMINAL



TOP VIEW
TYPE 2 TERMINAL

GENERAL NOTES

100 MAXIMUM SLOPE IS 2.5:1.

101 SEE SDD 14B42 FOR MORE INFORMATION.

102 SHOULDER

103 MAXIMUM SLOPE IS 10:1.

104 AFTER ASSEMBLY, CABLE IS TO BE TIGHTENED WITHOUT TWISTING THE CABLE.

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT

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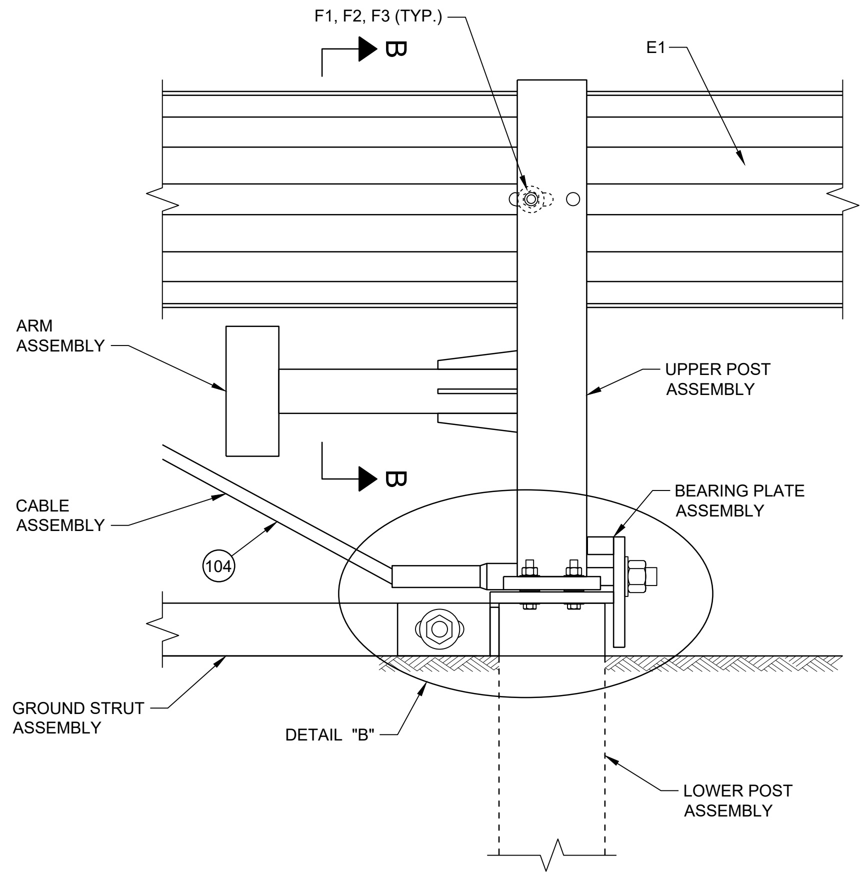
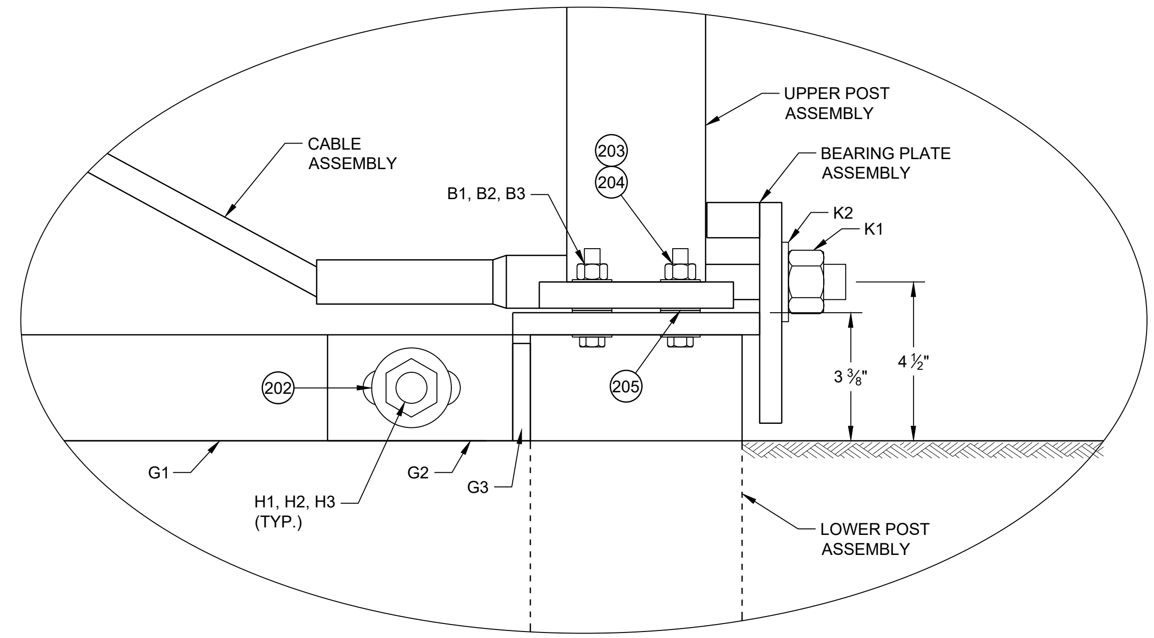
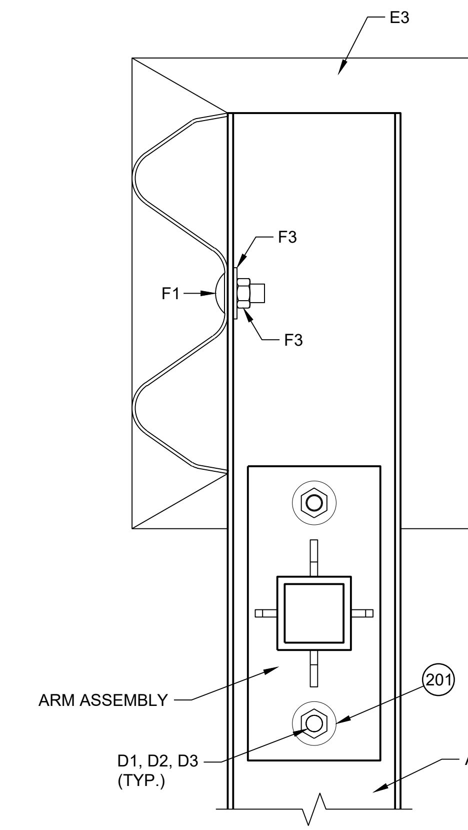
SDD 14B47 - 05a



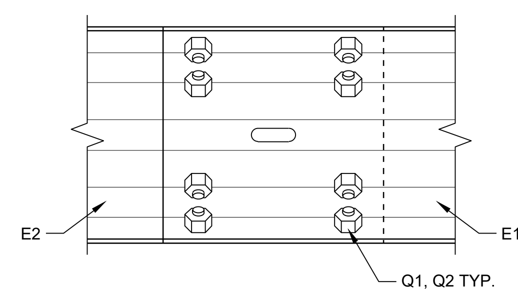
DETAIL "A"



DETAIL "B"



SECTION B - B



DETAIL "C"

GENERAL NOTES

200 INSTALL ONE WASHER UNDER BOLT HEAD AND RAIL AND ON WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

201 INSTALL ONE WASHER UNDER BOLT HEAD AND UPPER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND ARM PLATE.

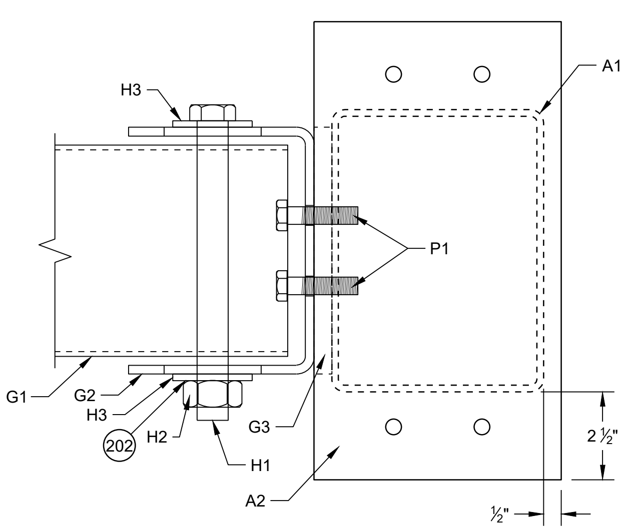
202 INSTALL ONE WASHER UNDER BOLT HEAD AND GROUND STRUT CONNECTOR AND ONE WASHER BETWEEN NUT AND GROUND STRUT CONNECTOR.

203 INSTALL ONE WASHER UNDER BOLT HEAD AND LOWER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND UPPER POST ASSEMBLY.

204 TORQUE VALUE IS BETWEEN 60 - 75 FT-LB.

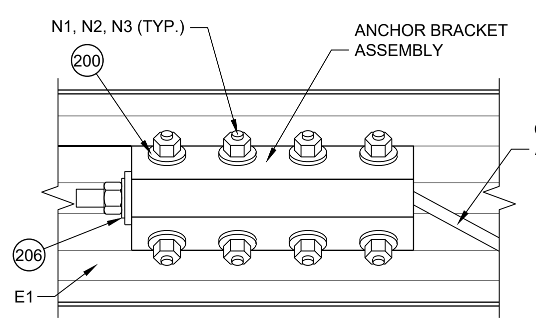
205 TWO WASHERS BETWEEN UPPER AND LOWER POST ASSEMBLY.

206 INSTALL ONE WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

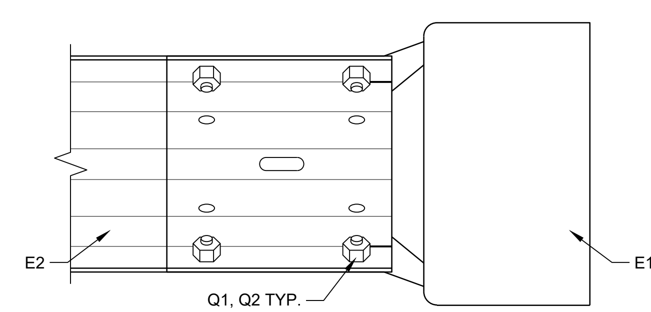


TOP VIEW

GROUND STRUT CONNECTION DETAIL



DETAIL "D"



DETAIL "E"

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI

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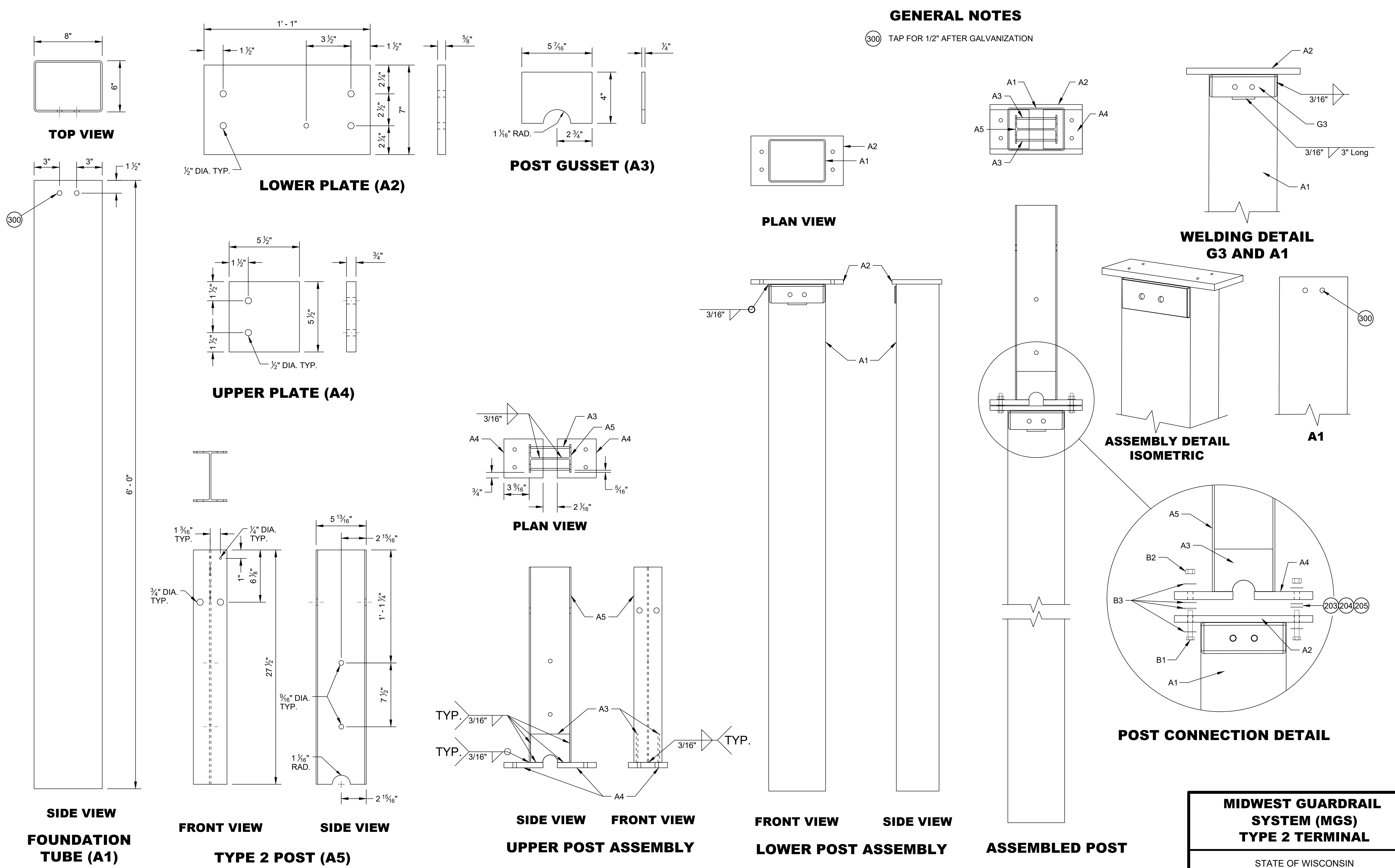
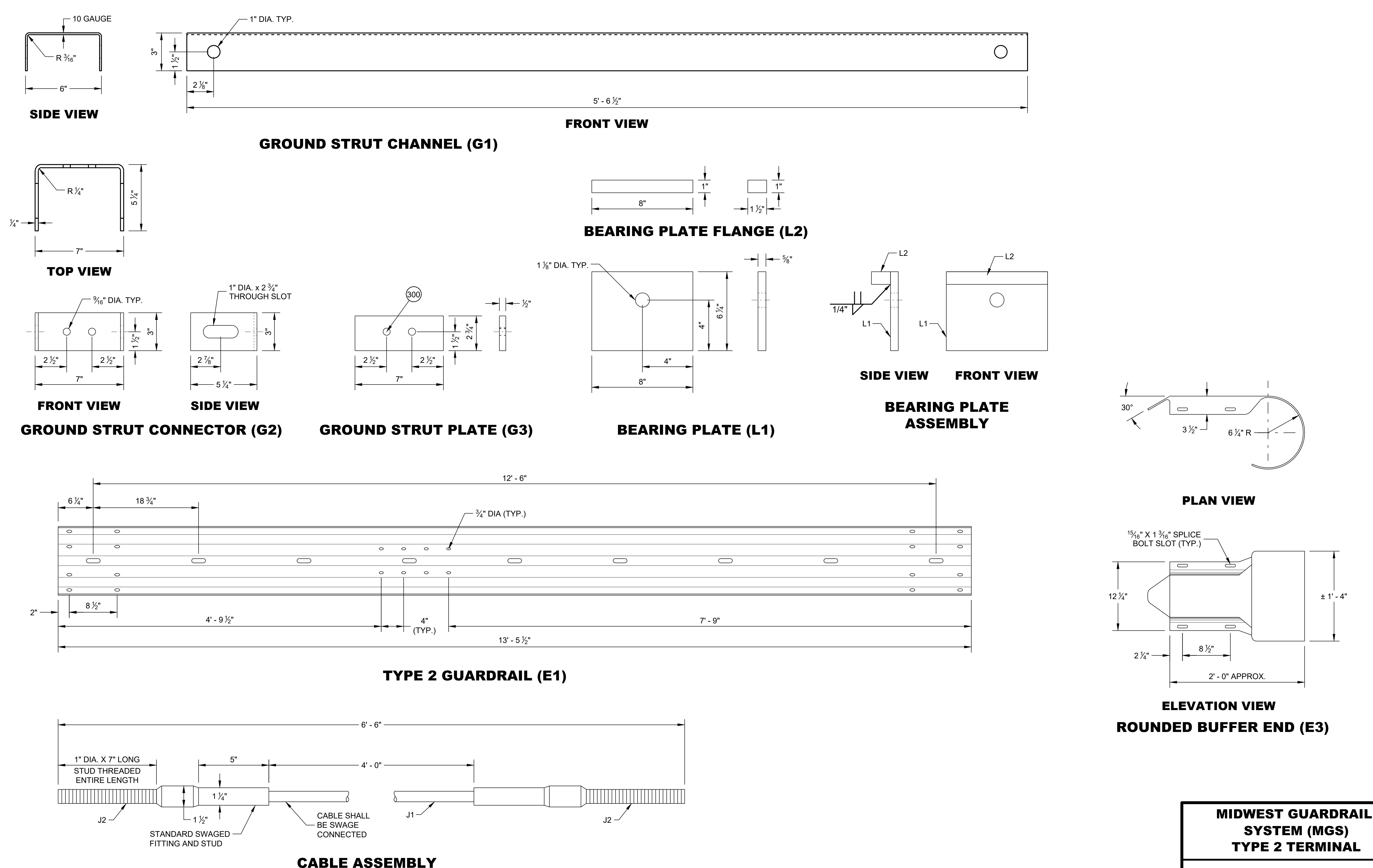
SDD 14B47 - 05b



MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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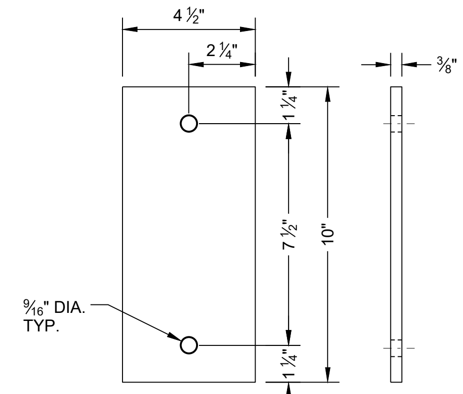
SDD 14B47 - 05d

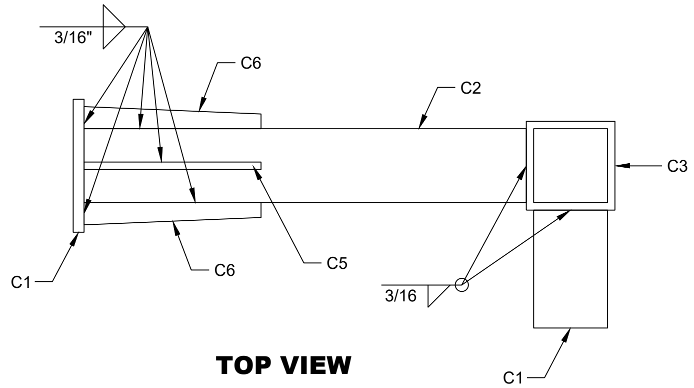
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

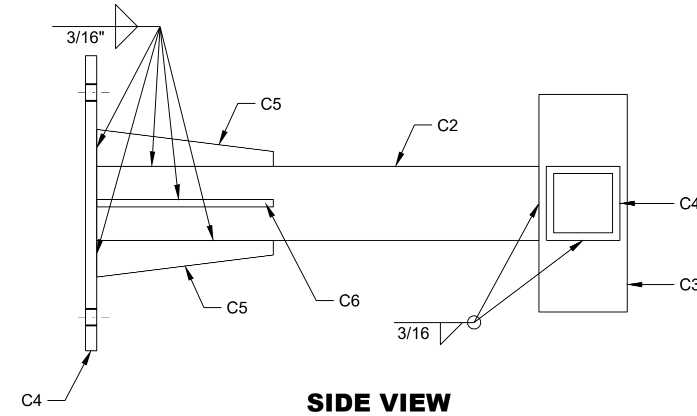
SDD 14B47 - 05d



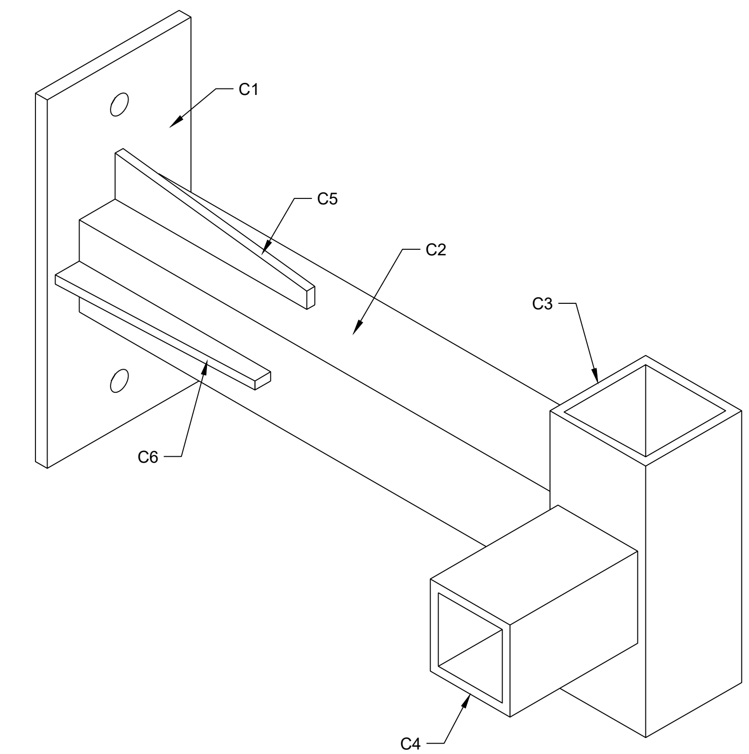
ARM PLATE (C1)



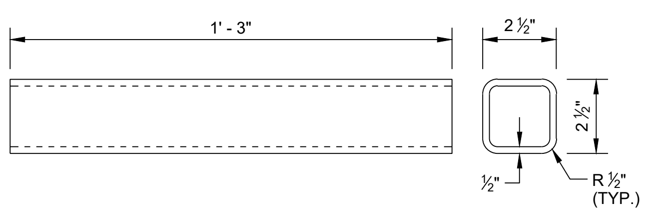
TOP VIEW
ARM ASSEMBLY



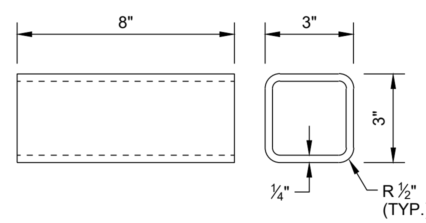
SIDE VIEW
ARM ASSEMBLY



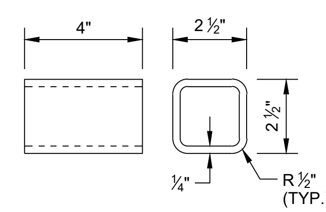
ISOMETRIC VIEW
ARM ASSEMBLY



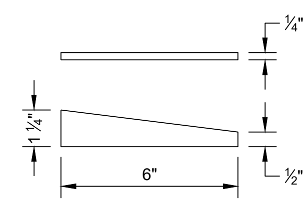
ARM TUBE 1 (C2)



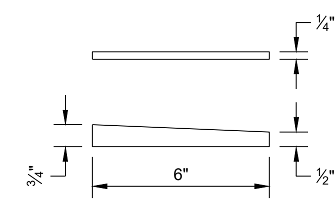
ARM TUBE 2 (C3)



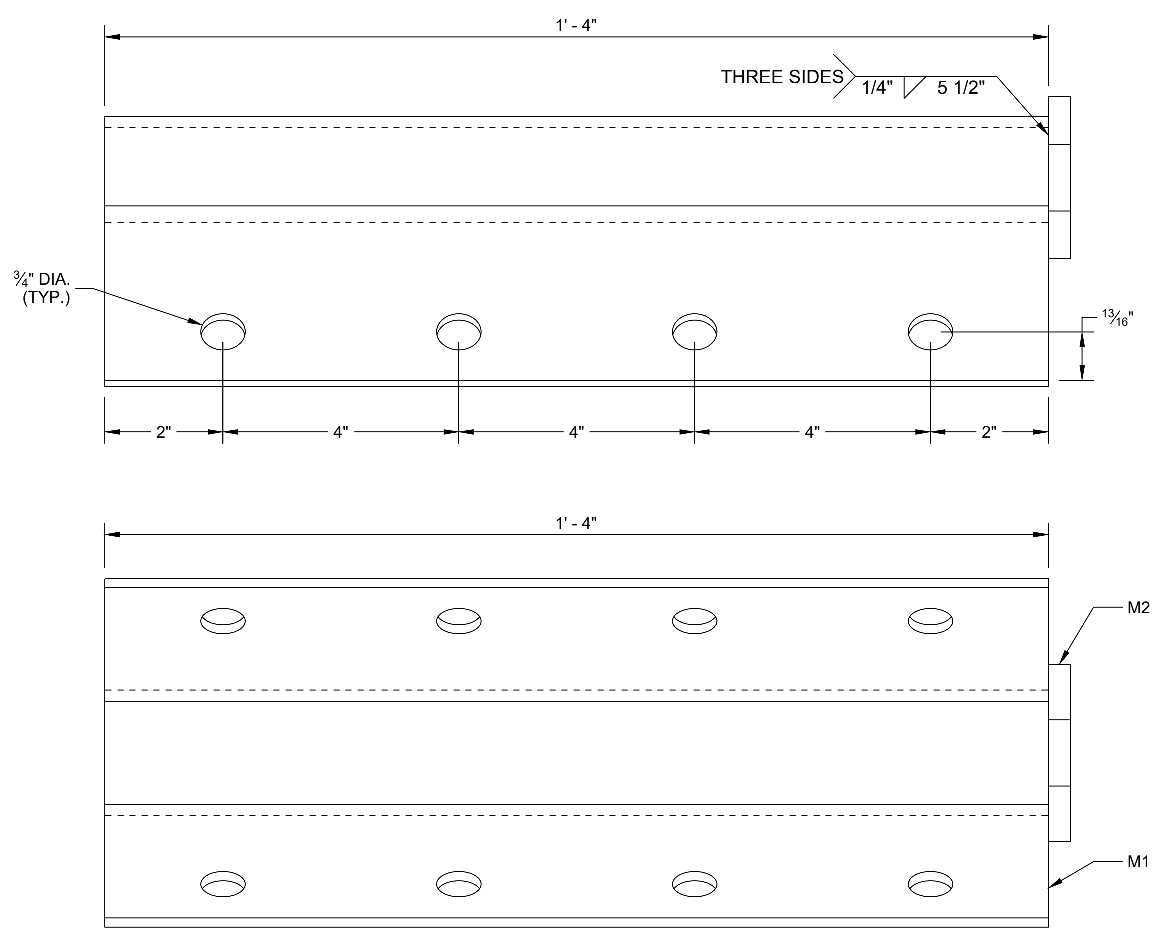
ARM TUBE 3 (C4)

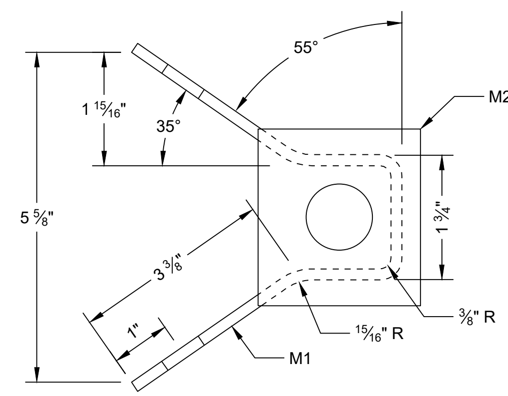


ARM GUSSET PLATE 1 (C5)

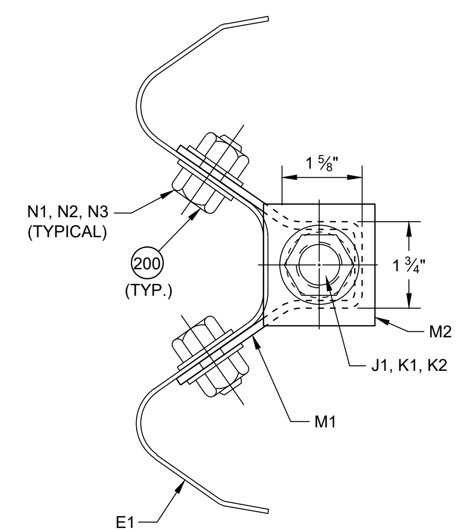


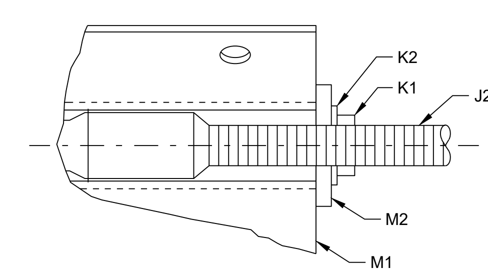
ARM GUSSET PLATE 2 (C6)



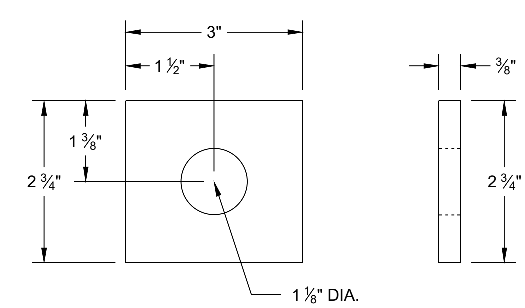


ANCHOR BRACKET (M1, M2)





SECTION A - A



ANCHOR BRACKET BEARING PLATE (M2)

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SDD 14B47 - 05e

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MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI

BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	TYPE 2 FOUNDATION TUBE	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 8" x 6" x $\frac{3}{16}$"
A2	LOWER PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	$\frac{5}{8}$" THICKNESS
A3	POST GUSSET	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	$\frac{1}{4}$" THICKNESS
A4	UPPER PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	$\frac{3}{4}$" THICKNESS
A5	TYPE 2 POST	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI, w6x9 or w6x8.5	
B1	BREAKAWAY BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED . PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT.	$\frac{7}{16}$" DIA.
B2	BREAKAWAY BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	$\frac{7}{16}$" DIA.
B3	BREAKAWAY BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
C1	ARM ASSEMBLY PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	$\frac{3}{8}$" THICKNESS
C2	ARM ASSEMBLY TUBE 1	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 8" x 6" x $\frac{3}{16}$"
C3	ARM ASSEMBLY TUBE 2	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 3" x 3" x $\frac{1}{4}$"
C4	ARM ASSEMBLY TUBE 3	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 2 $\frac{1}{2}$" x 2 $\frac{1}{2}$" X $\frac{1}{4}$"
C5	ARM ASSEMBLY GUSSET PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	$\frac{1}{4}$" THICKNESS
C6	ARM ASSEMBLY GUSSET PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	$\frac{1}{4}$" THICKNESS
D1	ARM ASSEMBLY BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	$\frac{1}{2}$" DIA.
D2	ARM ASSEMBLY WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	$\frac{1}{2}$" DIA.
D3	ARM ASSEMBLY NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	$\frac{1}{2}$" DIA.
E1	TYPE 2 GUARD RAIL	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
E2	BEAM GUARD RAIL	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
E3	BEAM GUARD ROUNDED BUFFER END	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
F1	POST BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	$\frac{5}{8}$" DIA.
F2	POST BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	$\frac{5}{8}$" DIA.
F3	POST BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
G1	GROUND STRUT CHANNEL	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	$\frac{1}{2}$" x 11 $\frac{3}{4}$" x 10 GAUGE
G2	GROUND STRUT CONNECTOR	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	$\frac{1}{4}$" THICKNESS
G3	GROUND STRUT PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	$\frac{1}{2}$" THICKNESS

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SDD 14B47 - 05f

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MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI

BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
H1	GROUND STRUT BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	$\frac{7}{8}$" DIA.
H2	GROUND STRUT BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	$\frac{7}{8}$" DIA.
H3	GROUND STRUT BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD $\frac{5}{8}$" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	
J1	BCT CABLE	AASHTO M30 / ASTM A741 6 x 19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS), 6 x 19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS) TYPE II OR IIC, CLASS C ZINC COATED MIN. BREAKING STRENGTH OF 42.7 KIPS	$\frac{3}{4}$" DIA.
J2	BCT CABLE	UNC 1" ASTM A576 GRADE 1035 SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. MIN BREAKING STRENGTH OF 42.7 KIPS ASME B30.26 "FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING IN TO CONNECTION: NAME OF MANUFACTURE OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE FOR ALLOY EYEBOLTS."	
K1	CABLE ASSEMBLY NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	1" DIA.
K2	CABLE ASSEMBLY WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1	1" DIA.
L1	BEARING PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	$\frac{5}{8}$" THICKNESS
L2	BEARING PLATE FLANGE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1" THICKNESS
M1	BEAM GUARD ANCHOR BRACKET	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	
M2	BEAM GUARD ANCHOR END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	$\frac{3}{8}$" THICKNESS
N1	ANCHOR BRACKET BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	$\frac{5}{8}$" DIA.
N2	ANCHOR BRACKET BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	$\frac{5}{8}$" DIA.
N3	ANCHOR BRACKET BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 /ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
P1	FOUNDATION TUBE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	$\frac{1}{2}$" DIA.
Q1	SPLICE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	
Q2	SPLICE NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	$\frac{5}{8}$" DIA.

6

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

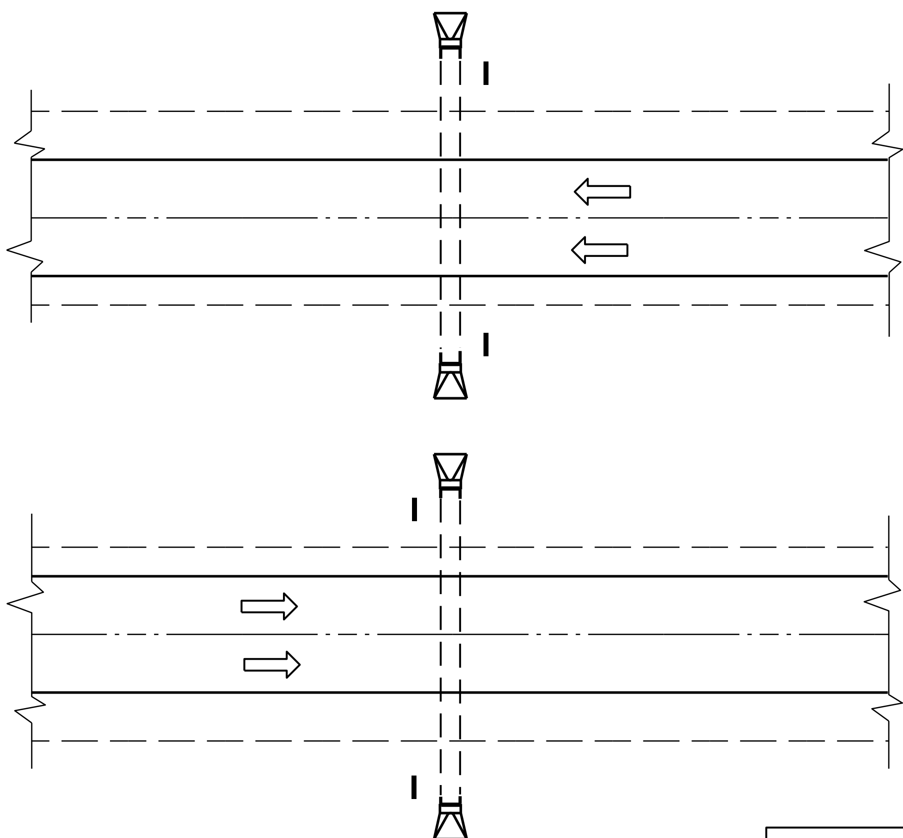
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

SDD 14B47 - 05g

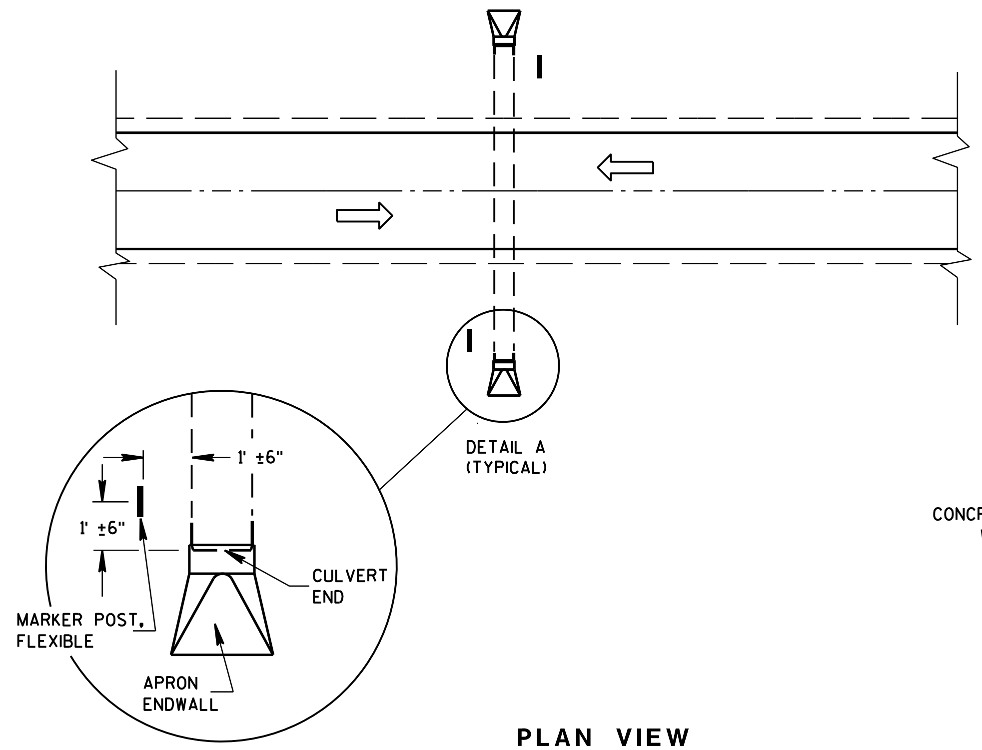
GENERAL NOTES

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.



PLAN VIEW

DIVIDED HIGHWAY

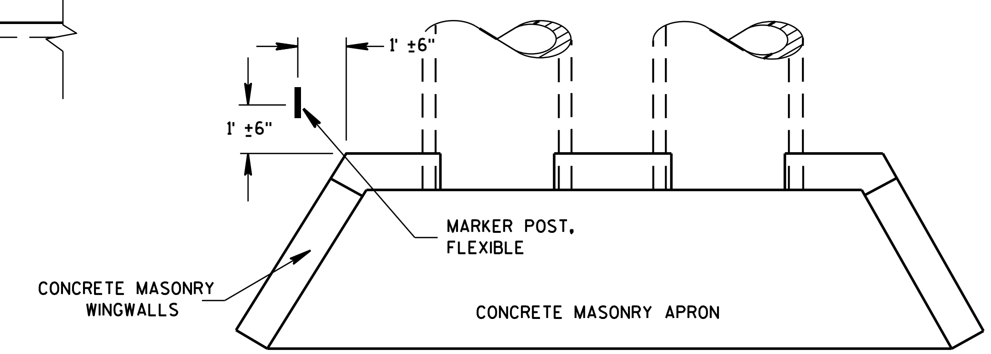


DETAIL A
(TYPICAL)

PLAN VIEW

UNDIVIDED HIGHWAY

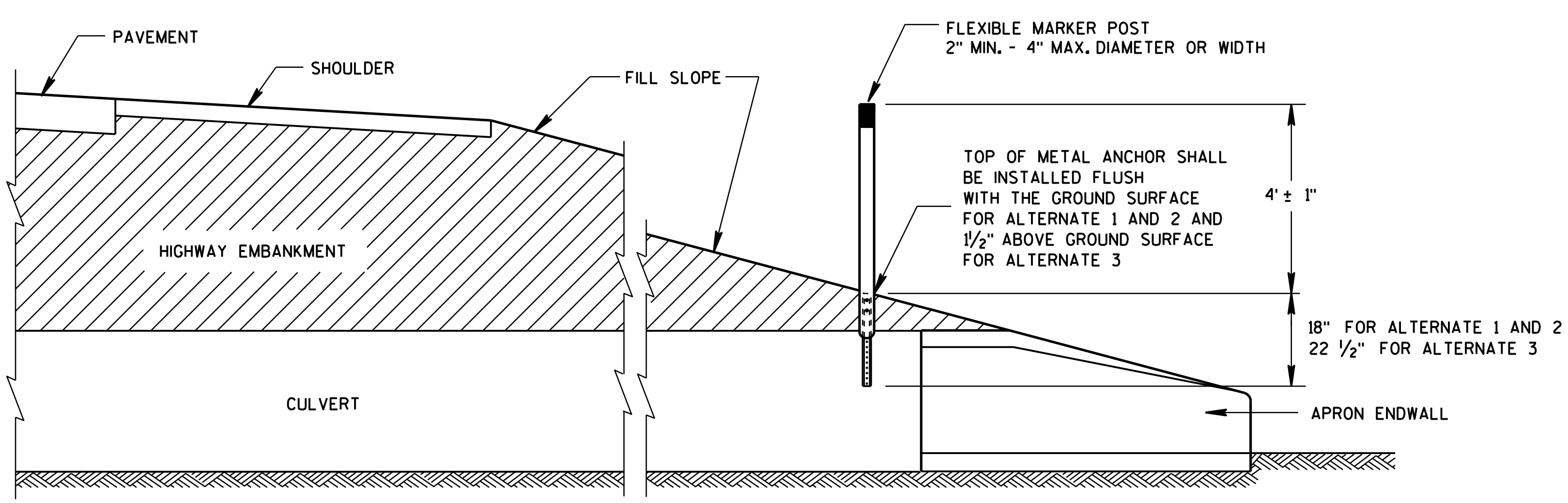
I	MARKER POST, FLEXIBLE
⇨	DIRECTION OF TRAFFIC FLOW



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

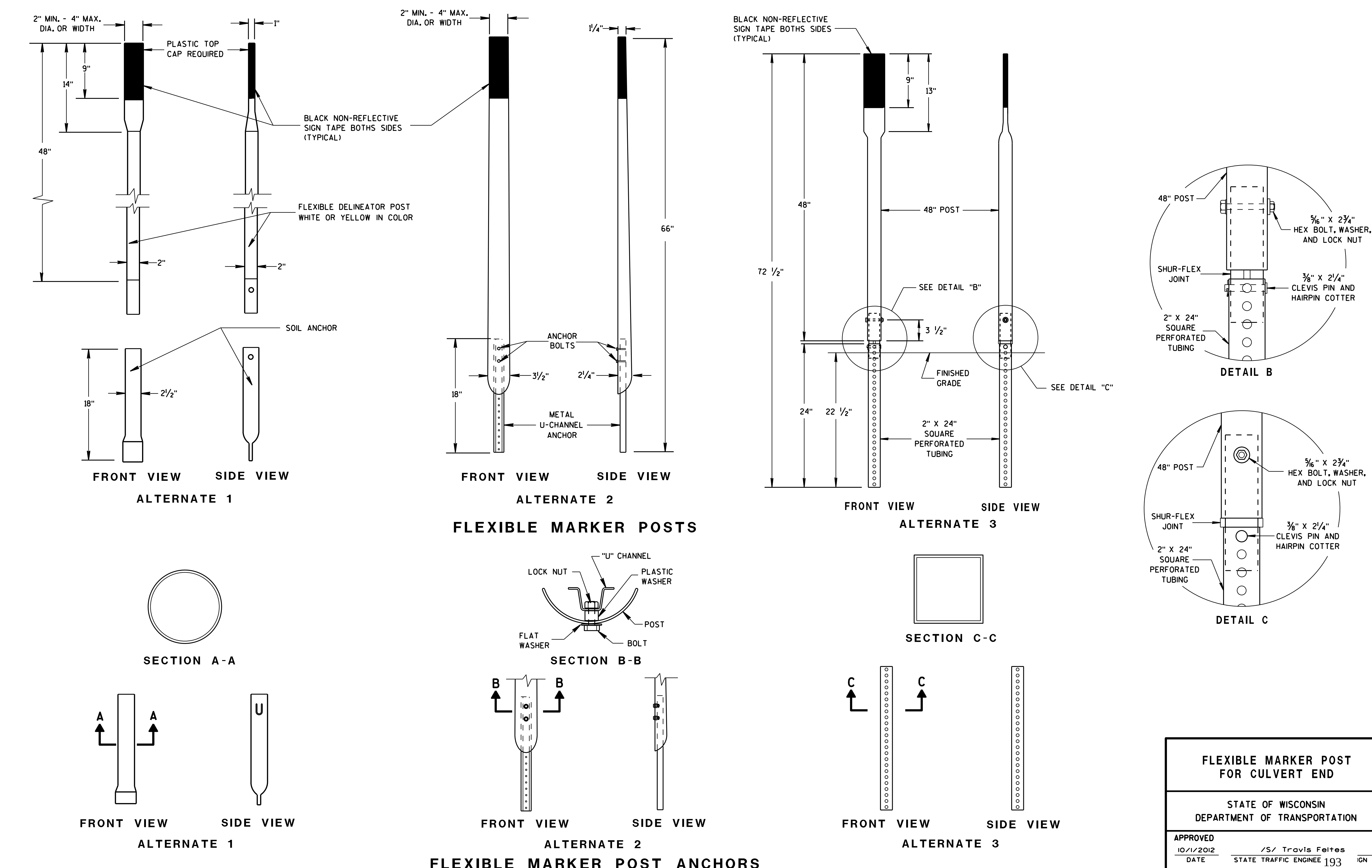
FLEXIBLE MARKER POST

6

6

FLEXIBLE MARKER POST FOR CULVERT END
STATE OF WISCONSIN DEPARTMENT OF TRANSPOI

S.D.D. 15 A 3-2a



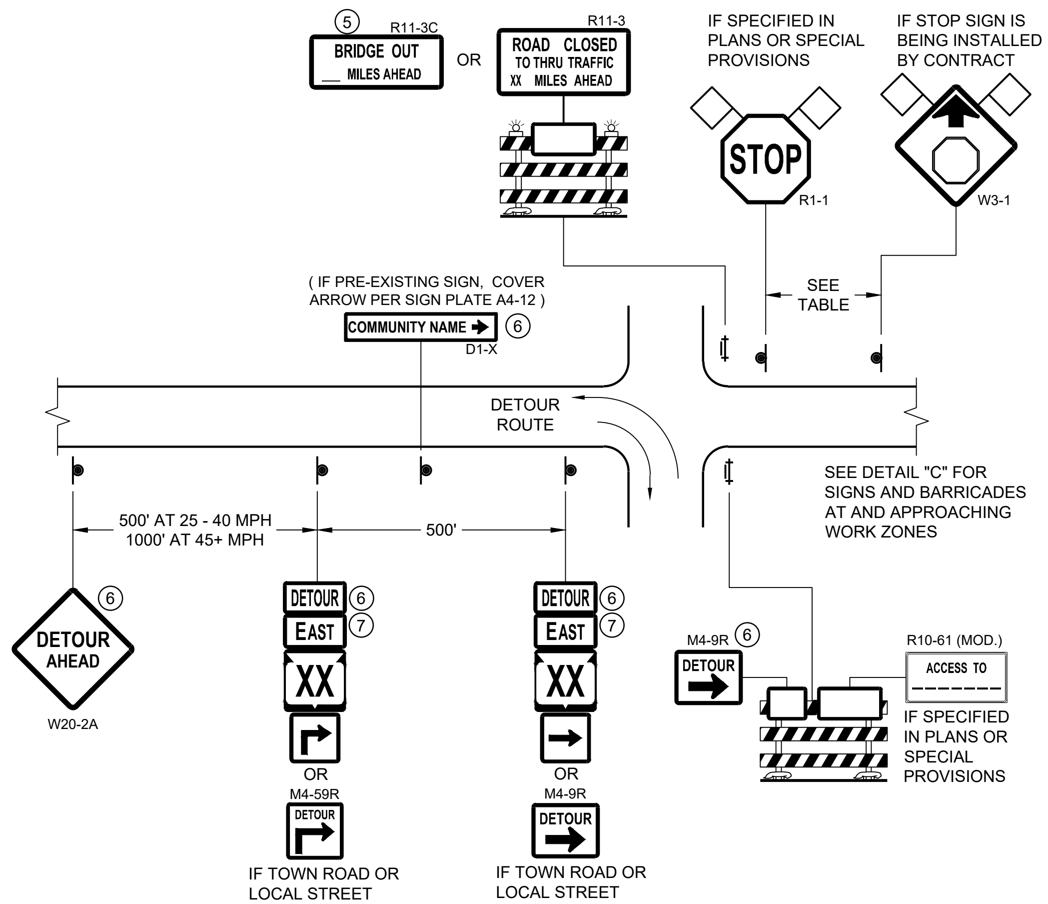
6

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

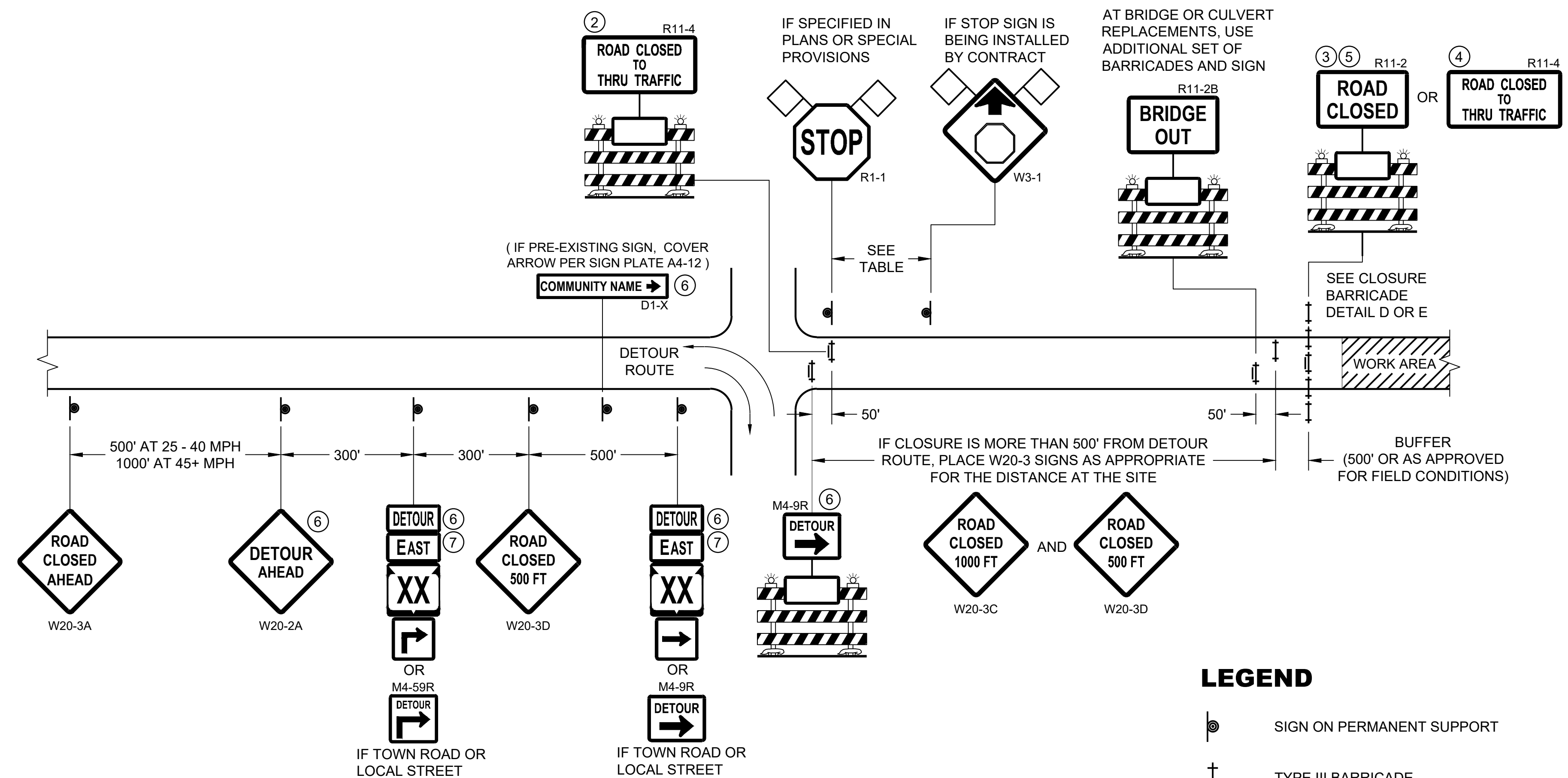
APPROVED
10/1/2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER DESIGN
FHWA

S.D.D. 15 A 3-2b



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

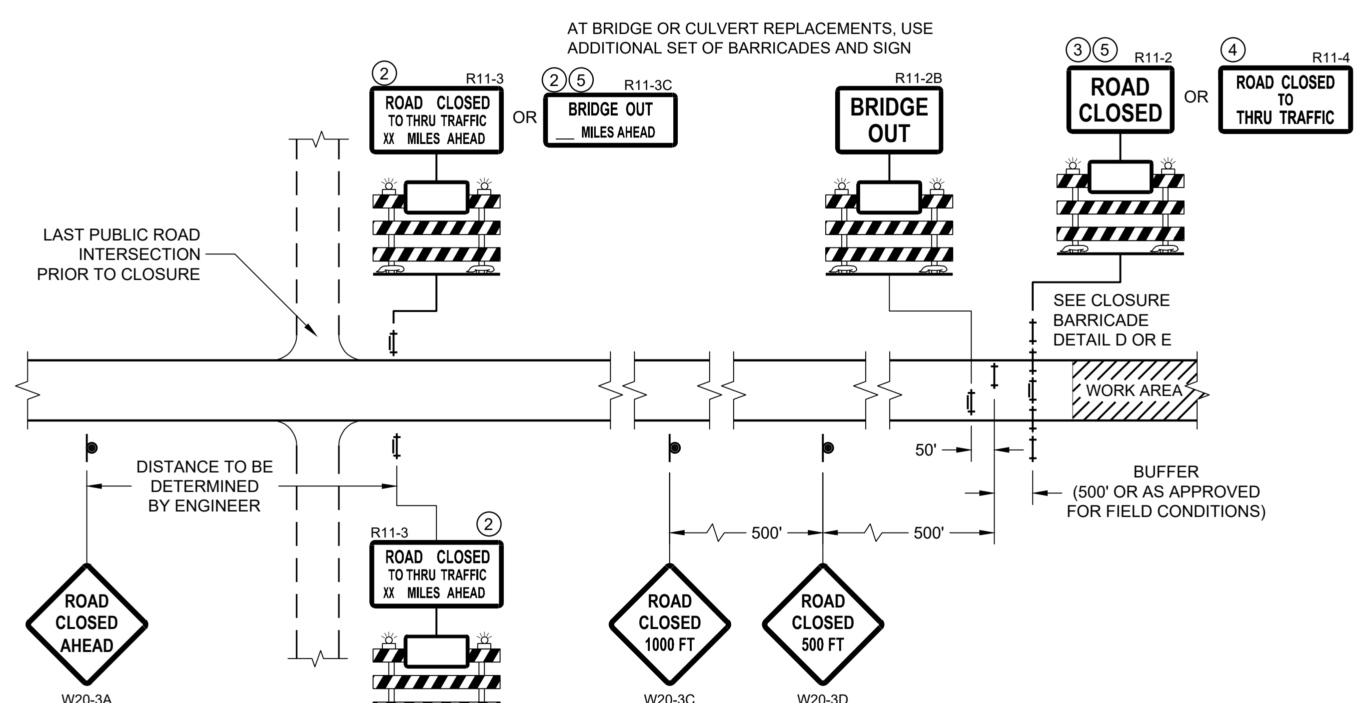


DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

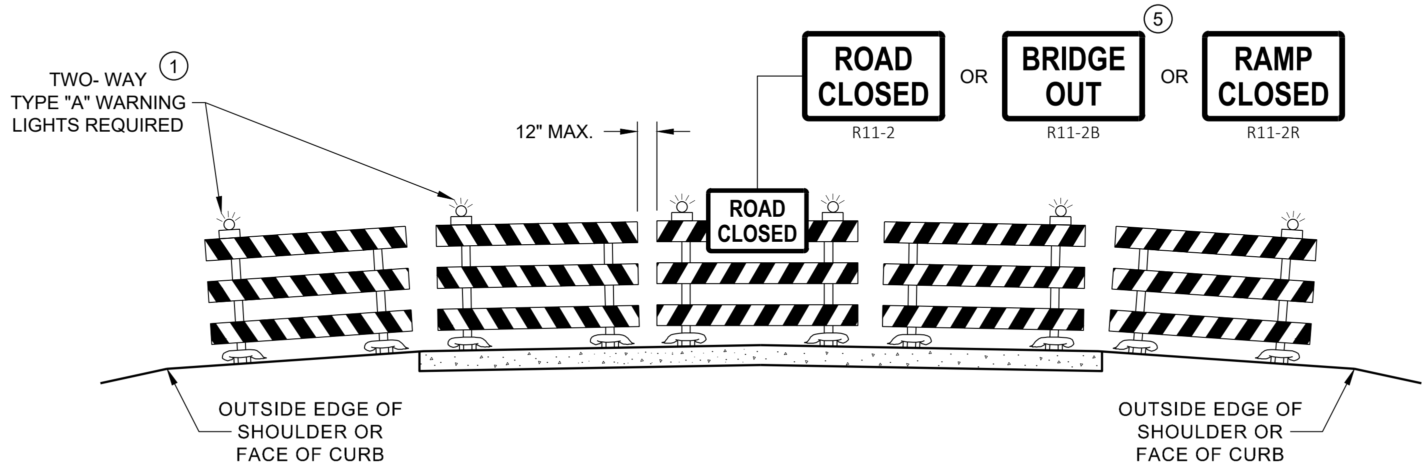
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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

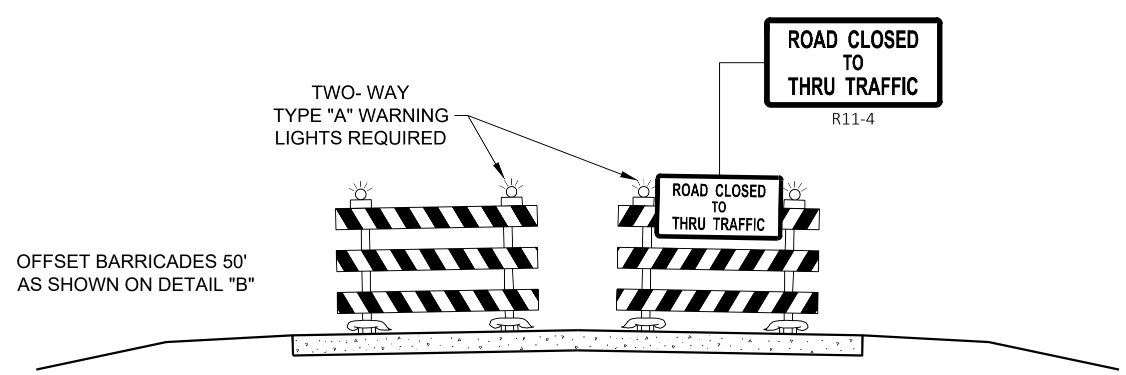
APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA



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 THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL 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 SHALL, 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" (36" X 18" 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)
- MO5 - 1 AND MO6 - 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 AN 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 ROAD 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 VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA

6
SDD 15C02 - 09b

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR M4 - 8
- EAST M3 - X
- M1 - 4 OR M1 - 6 OR M1 - 5A
- M05 - 1 OR M06 - 1 OR M06 - 1

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.

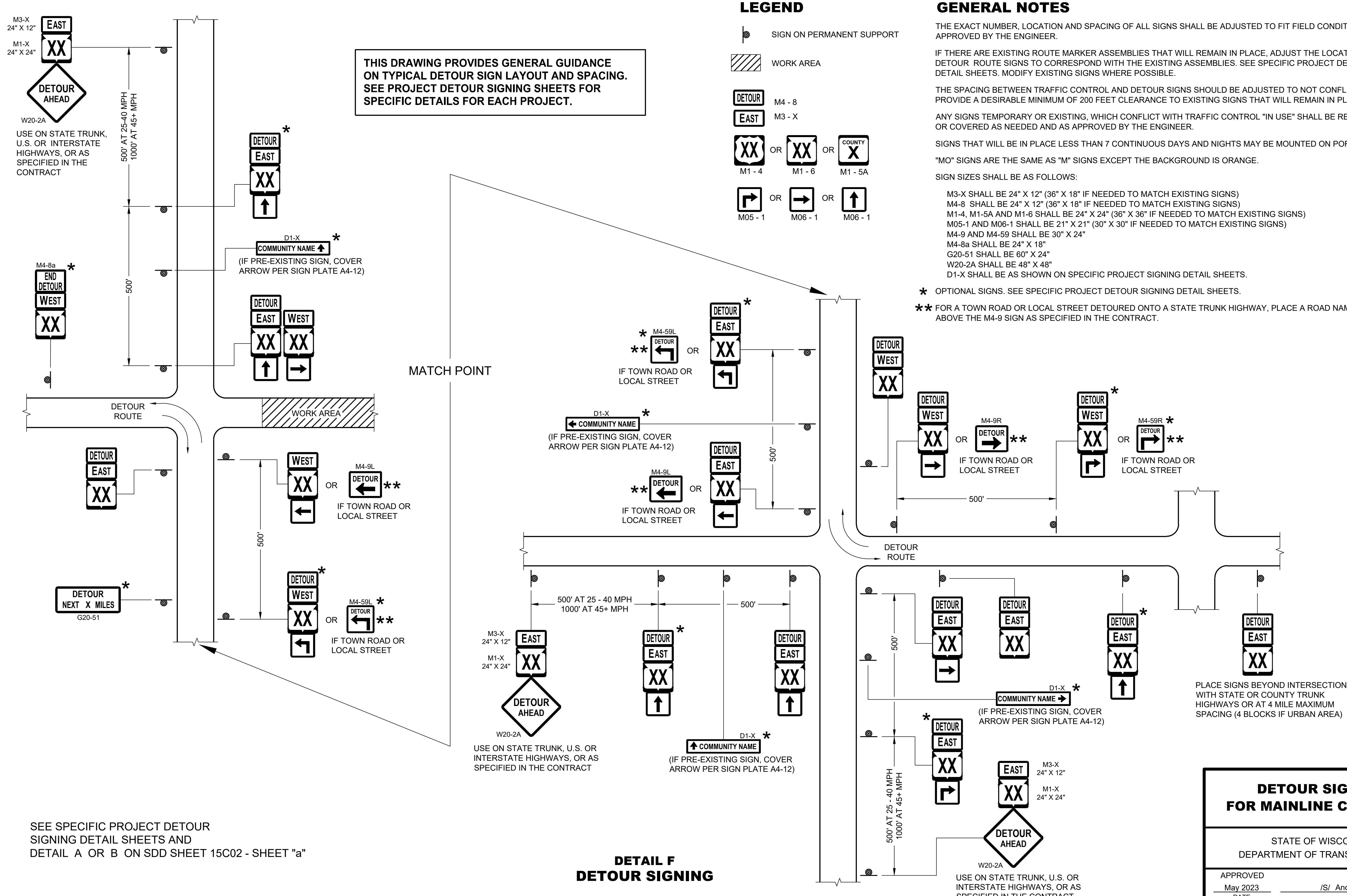
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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" (36" X 18" 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 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A 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.



SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

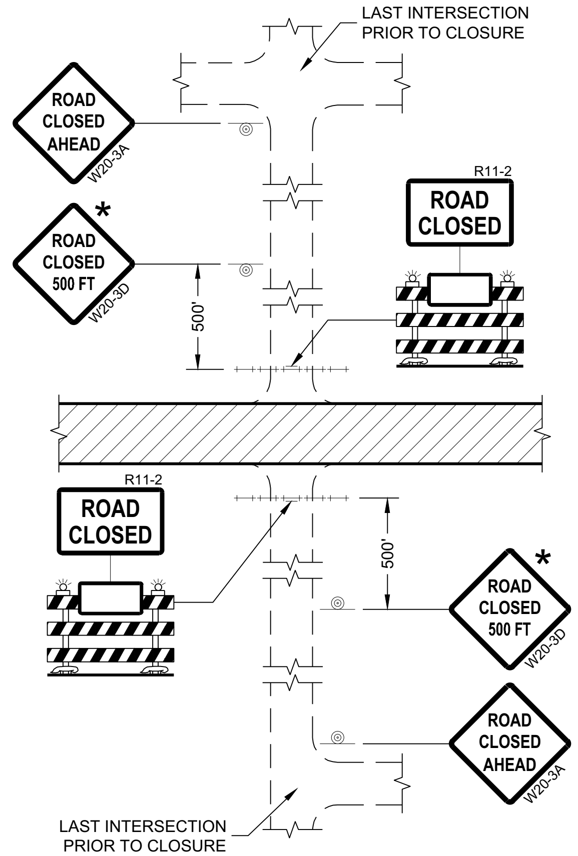
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

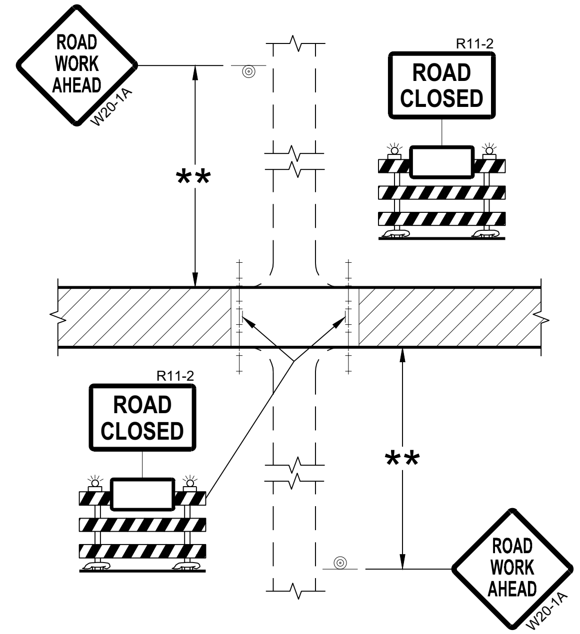
6

SDD 15C02 - 09c

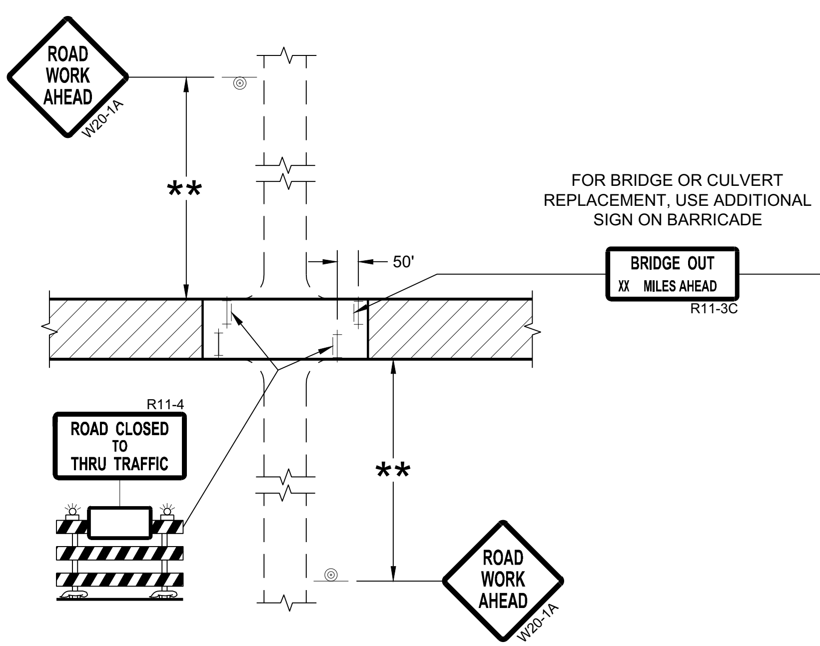
6



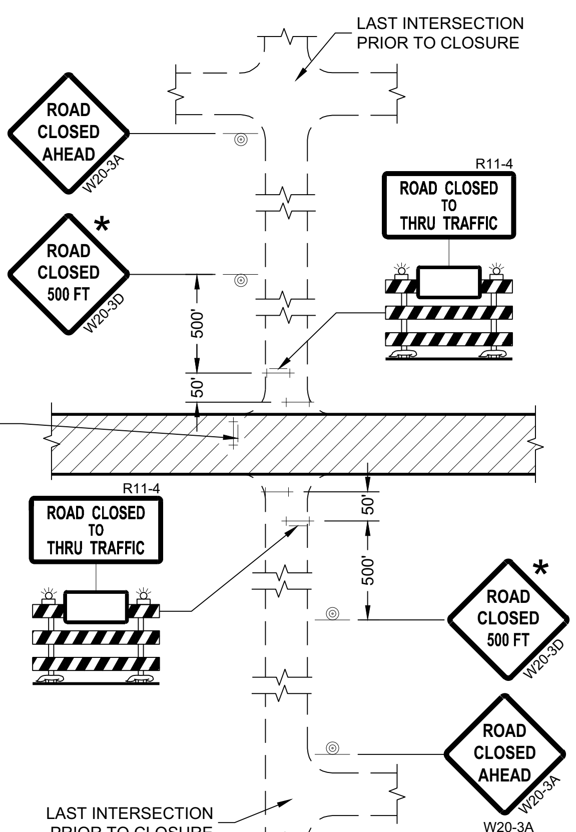
DETAIL 1
(NO ACCESS TO PROJECT)



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



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT 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 (500 FEET DESIRABLE) 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 REESTABLISHED.

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

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN 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 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

LEGEND

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

6

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

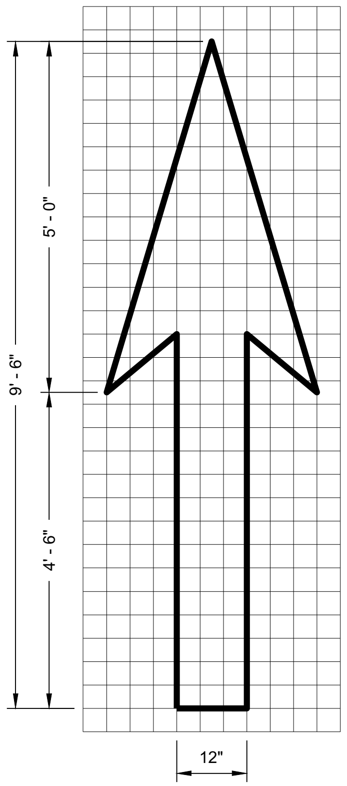
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

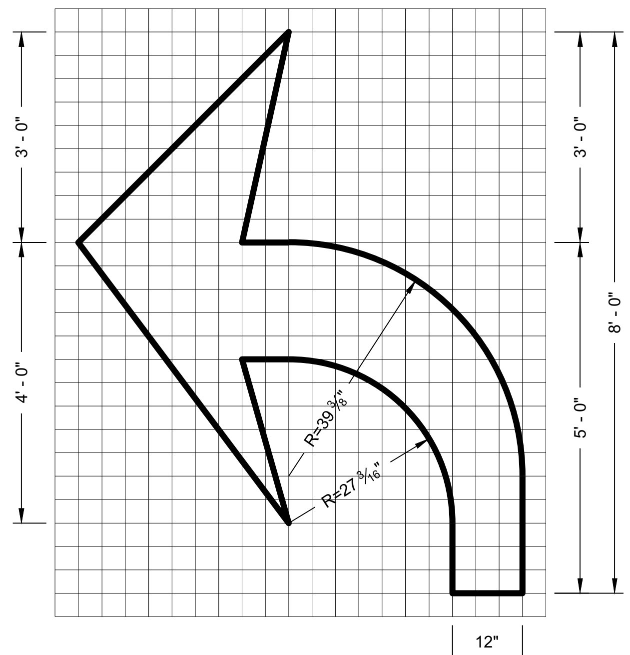
SDD 15C03 - 05

GENERAL NOTES

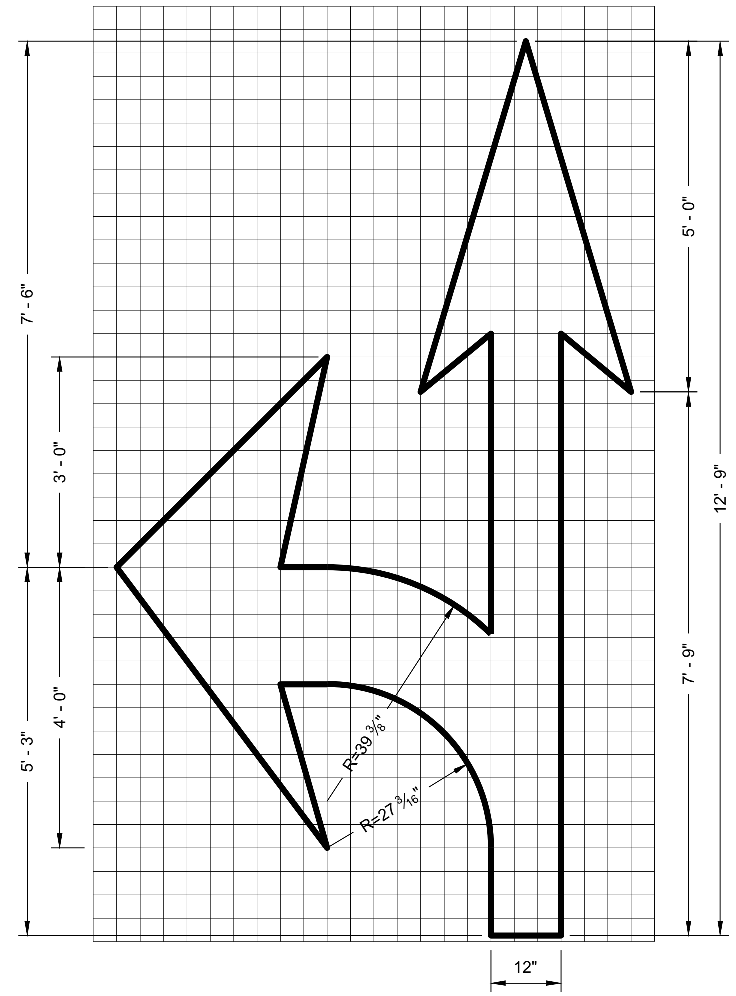
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



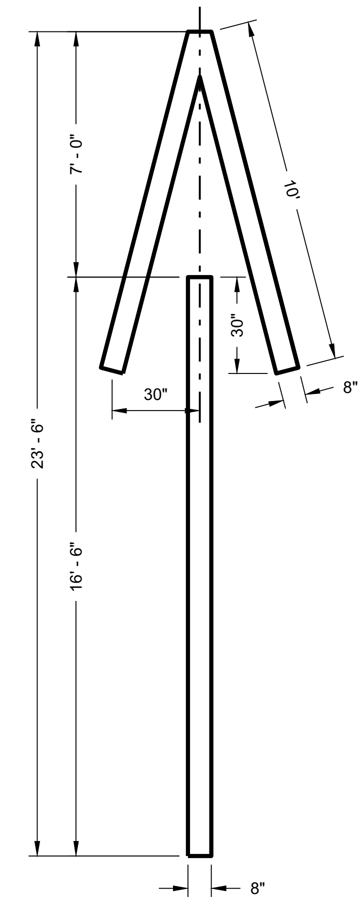
TYPE 1



TYPE 2



TYPE 3



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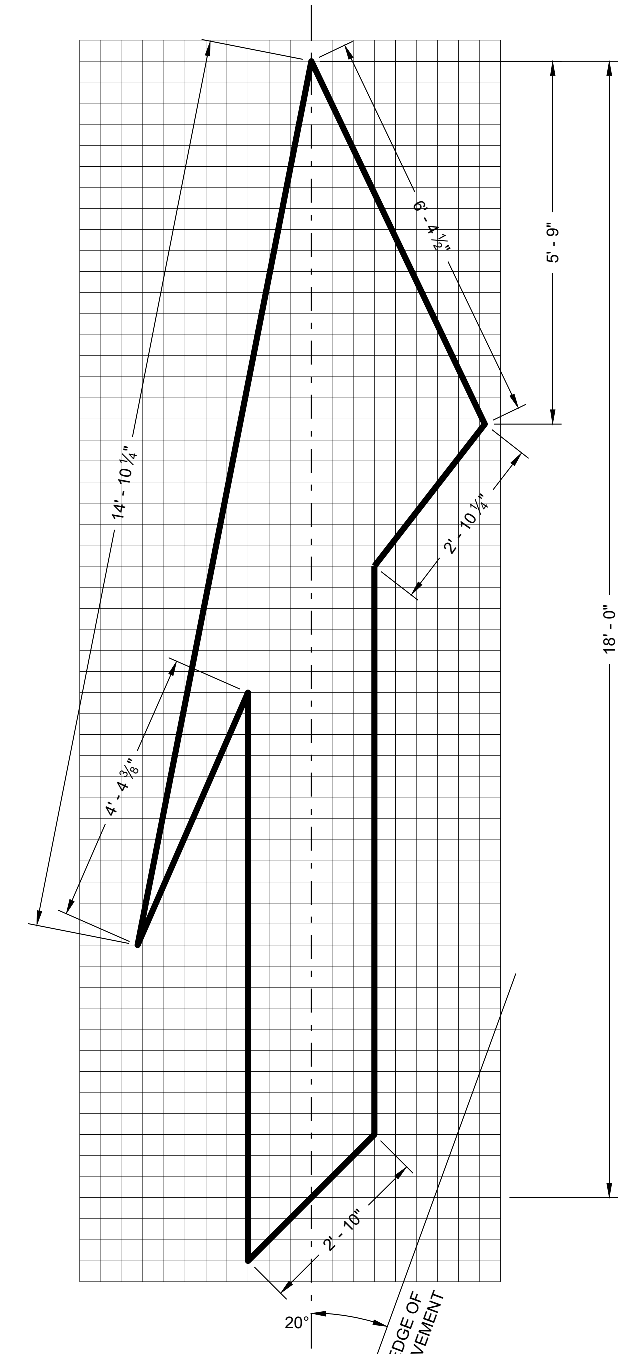
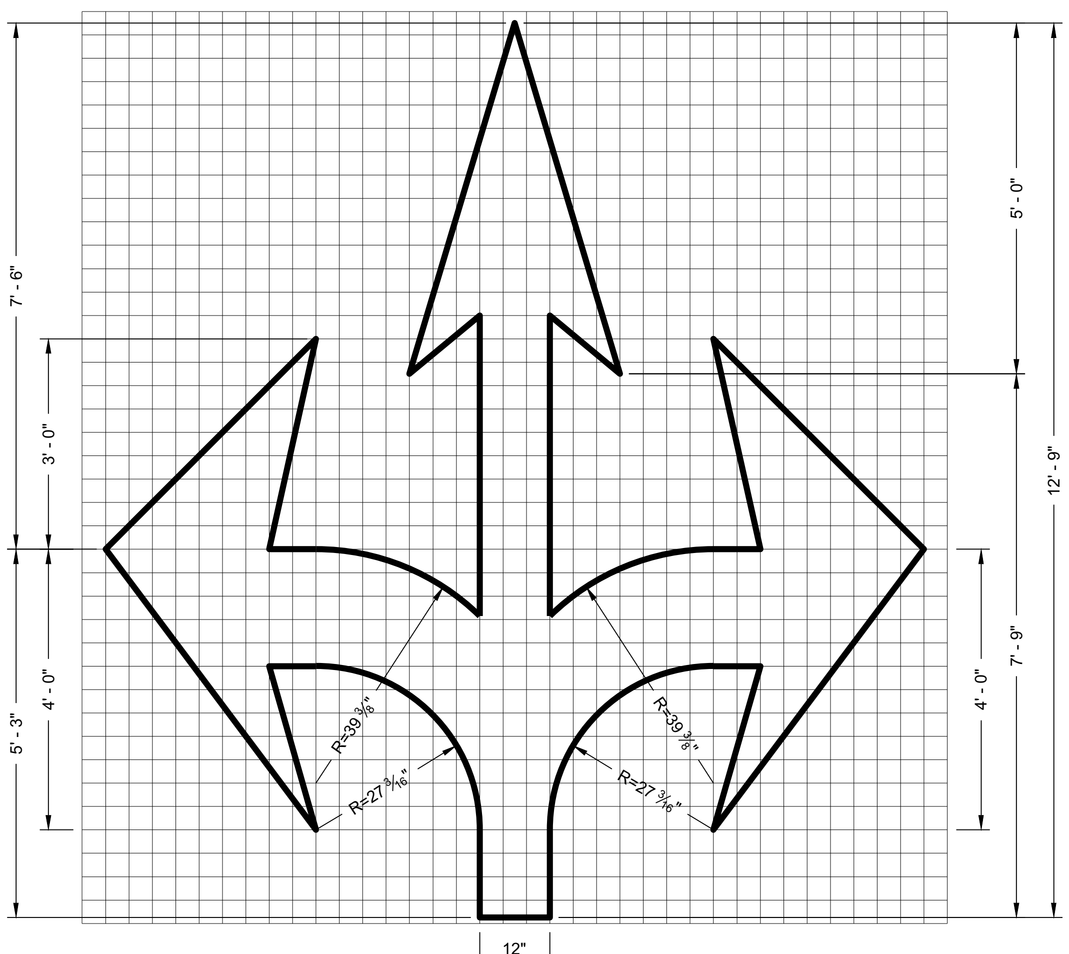
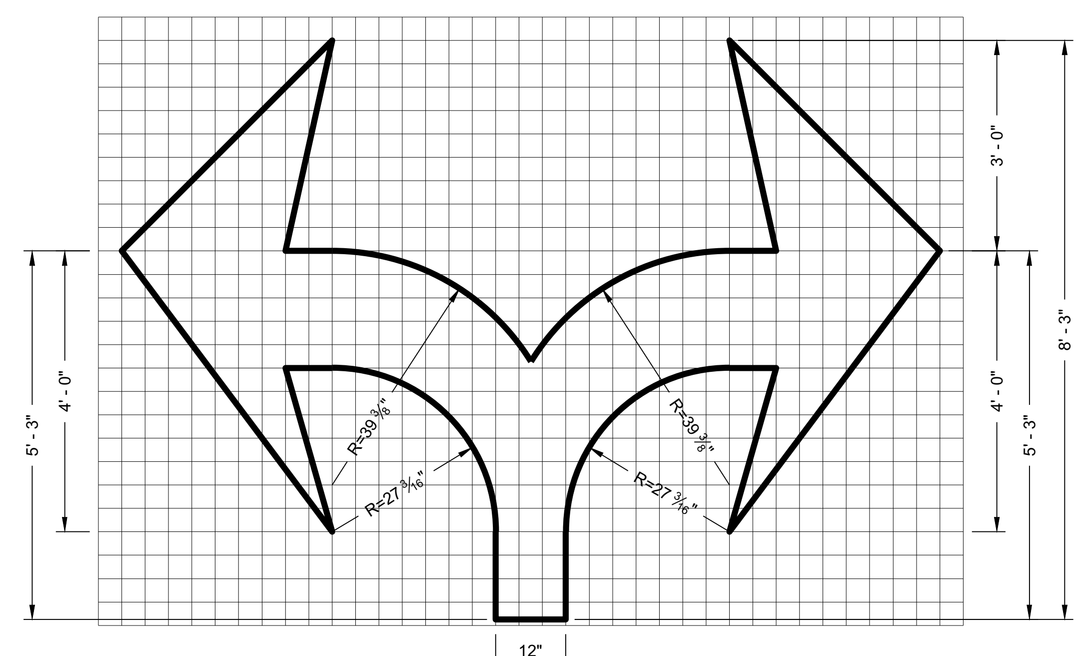


TYPE 5 LANE DROP ARROW



TYPE 6



TYPE 7

6

6

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

SDD 15C07 - 15c

SDD 15C07 - 15c

GENERAL NOTES

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

1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

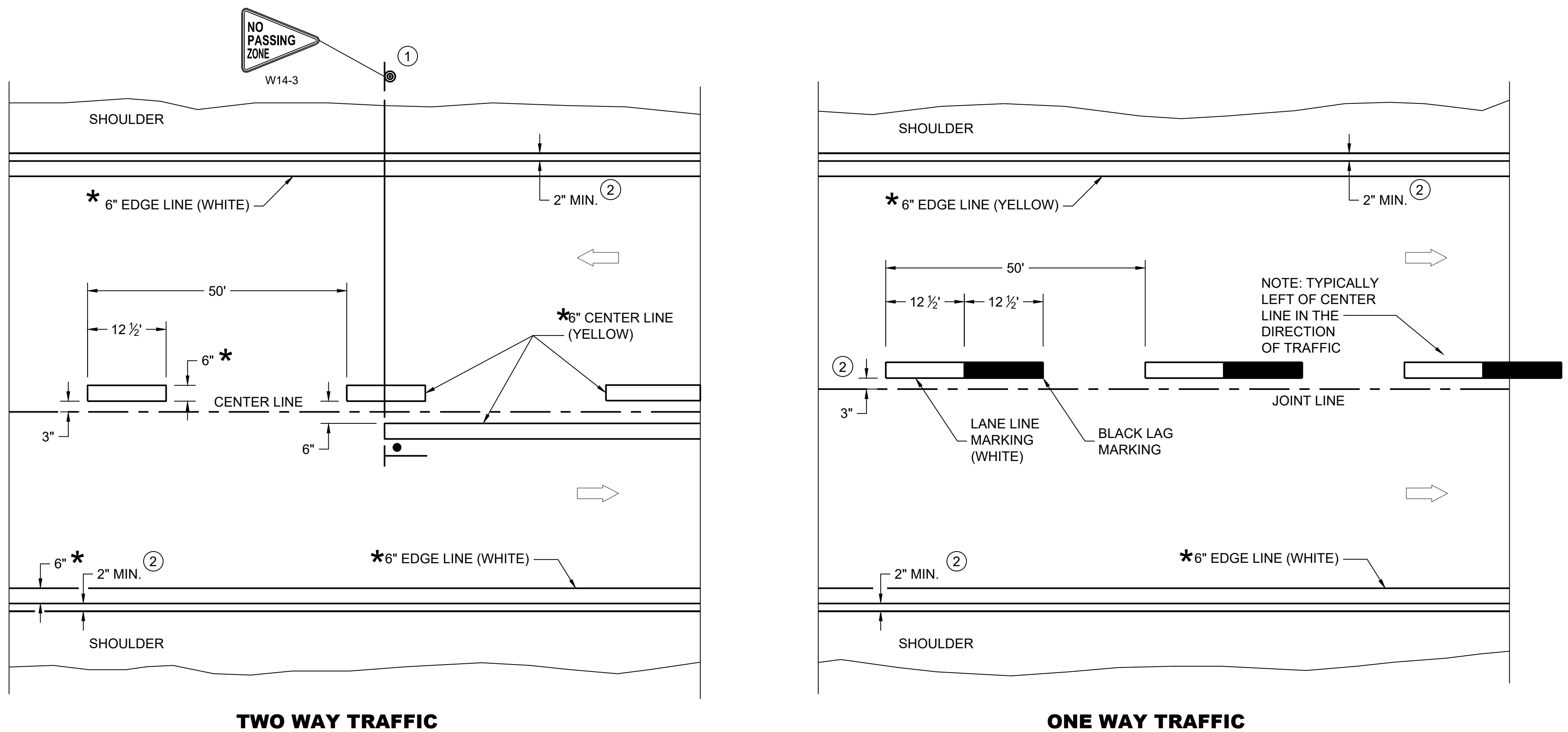
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



PERMANENT PAVEMENT MARKING

6

SDD 15C08-23a

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

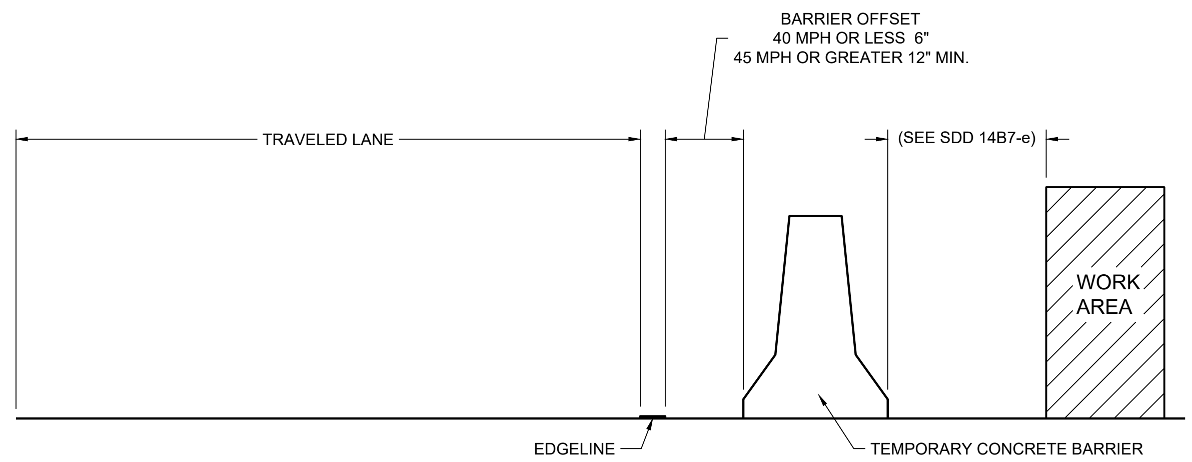
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023 — DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA



TEMPORARY BARRIER OFFSET FROM EDGELINE

GENERAL NOTES

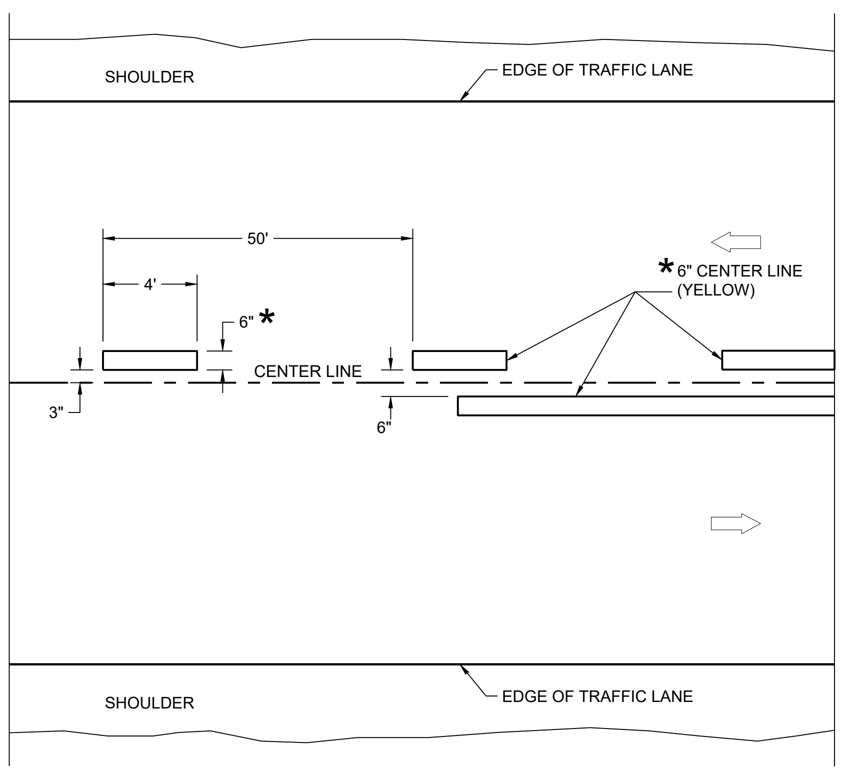
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

LEGEND

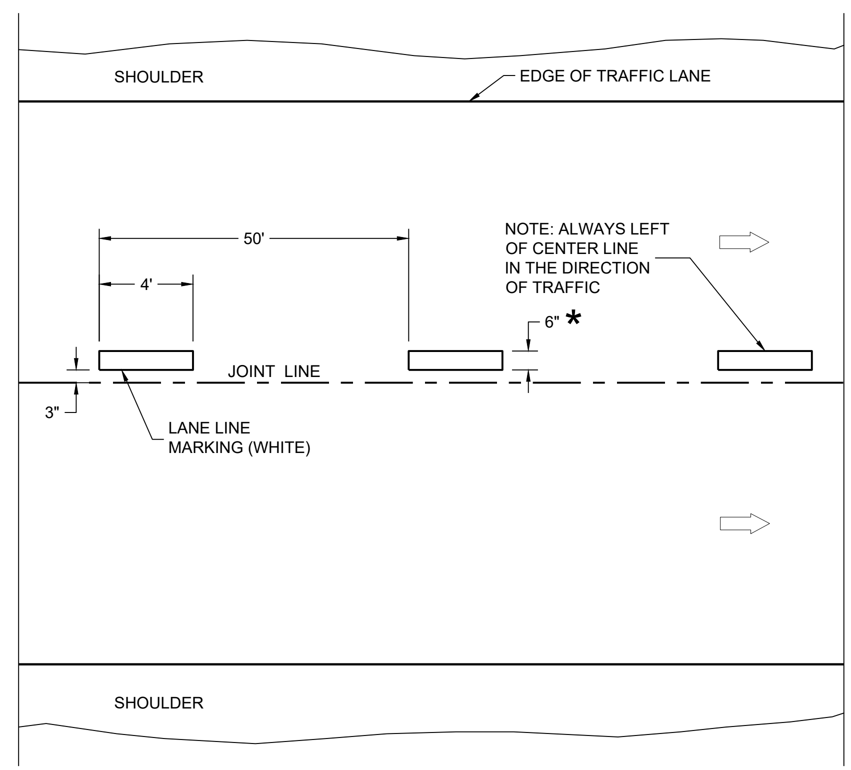
DIRECTION OF TRAFFIC

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

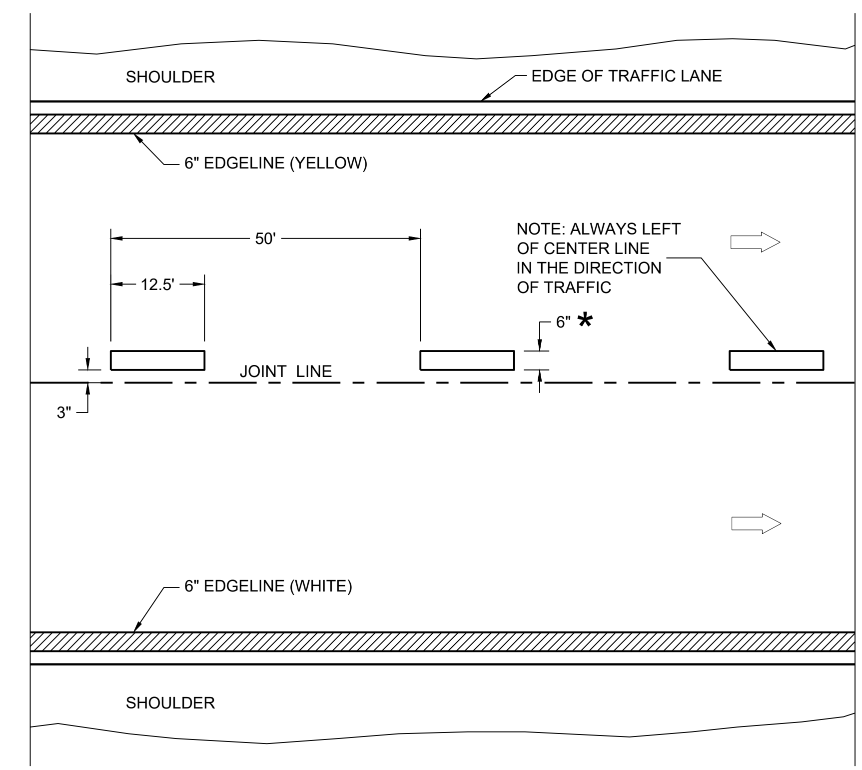
6



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

6

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Jeannie Silver
DATE Statewide Pavement Marking Engineer
FHWA

SDD 15C08-23b

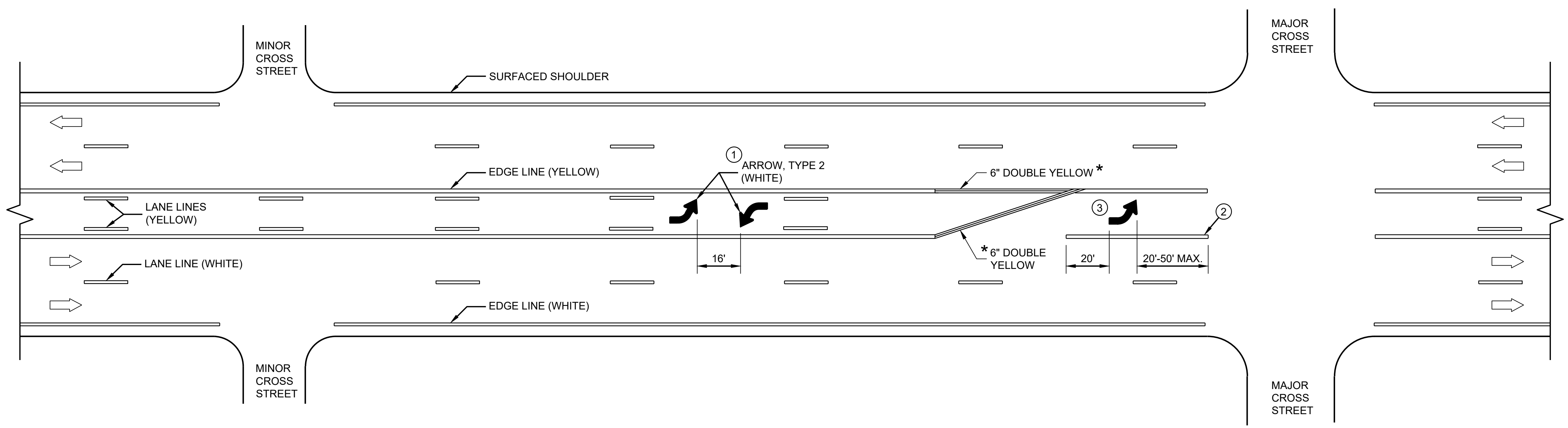
SDD 15C08-23b

GENERAL NOTES

1. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
2. 10" WHITE
3. TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

⇨ DIRECTION OF TRAFFIC

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY LEFT TURN LANE

6

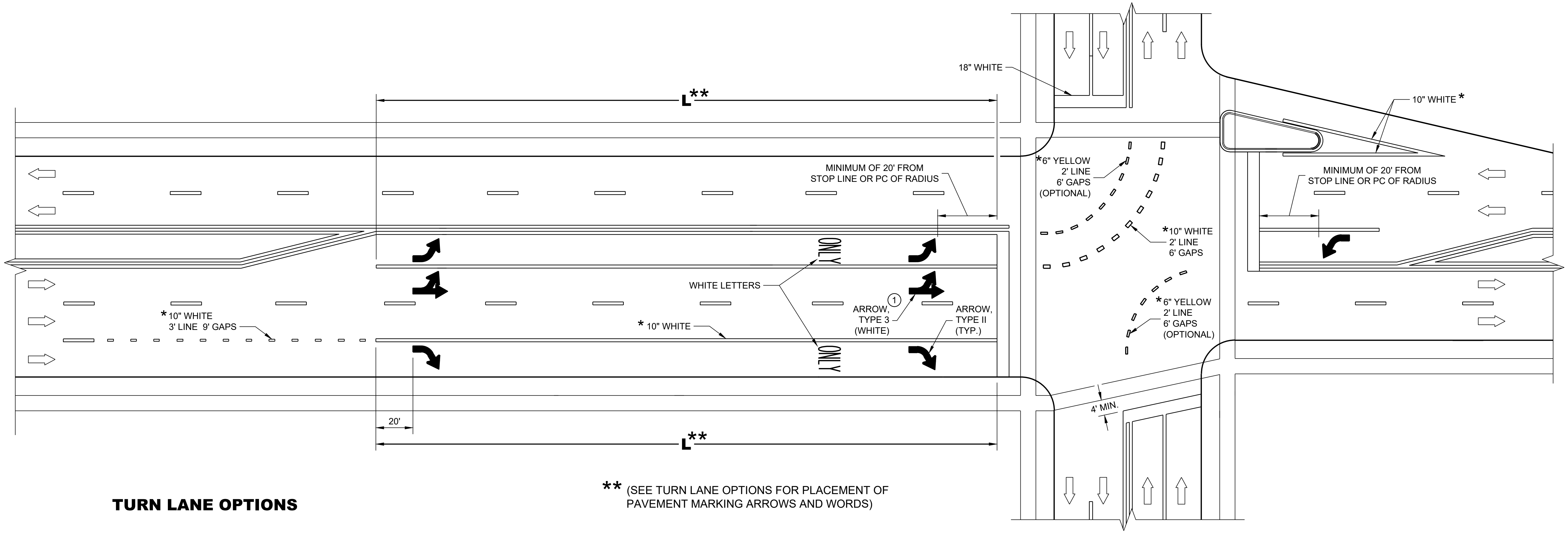
6

SDD 15C08-23c

SDD 15C08-23c

PAVEMENT MARKING (TURN LANES)

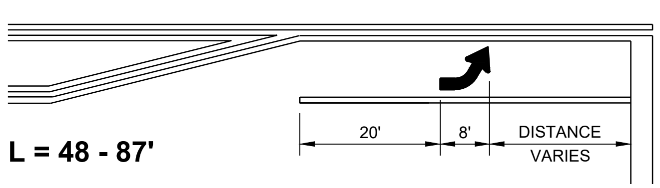
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA



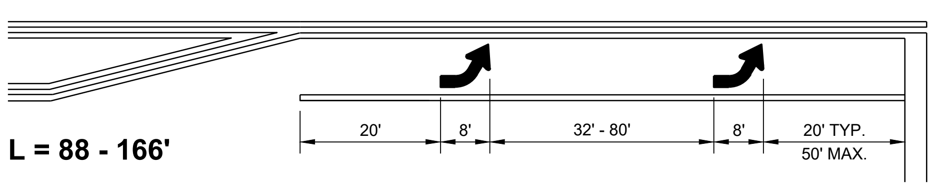
** (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

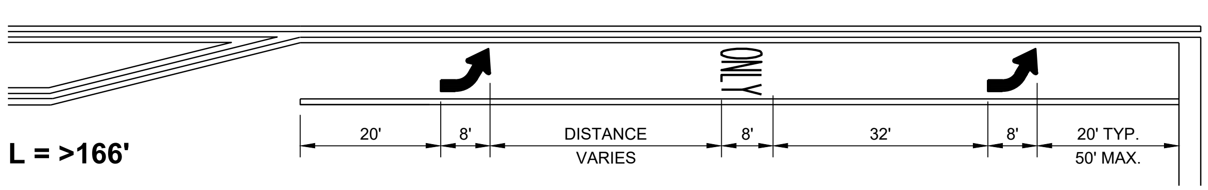
LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48 - 87'



L = 88 - 166'



L = >166'

GENERAL NOTES

(1) QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

⇨ DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

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SDD 15C08-23d

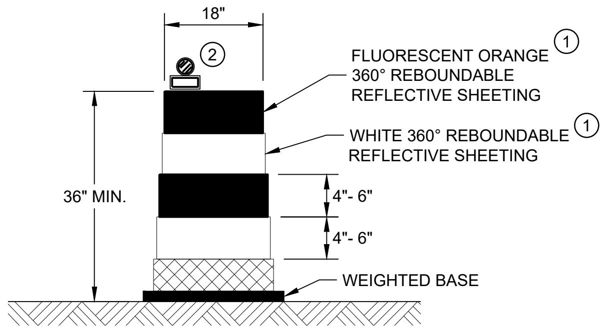
SDD 15C08-23d

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT

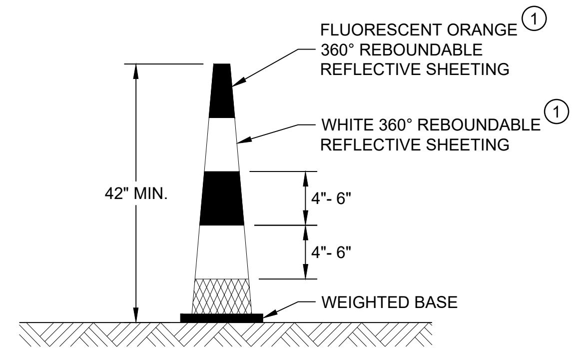
GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



DRUM

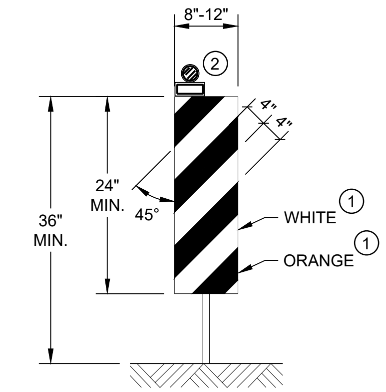
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.

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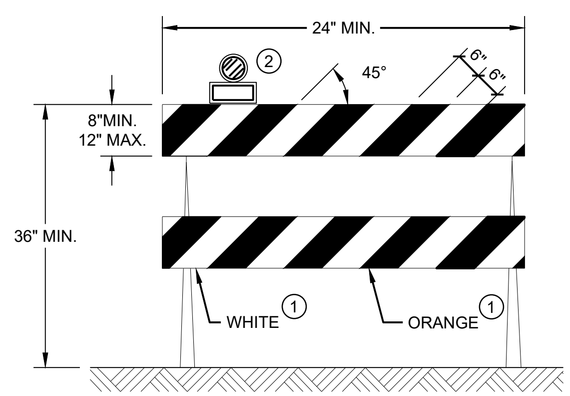
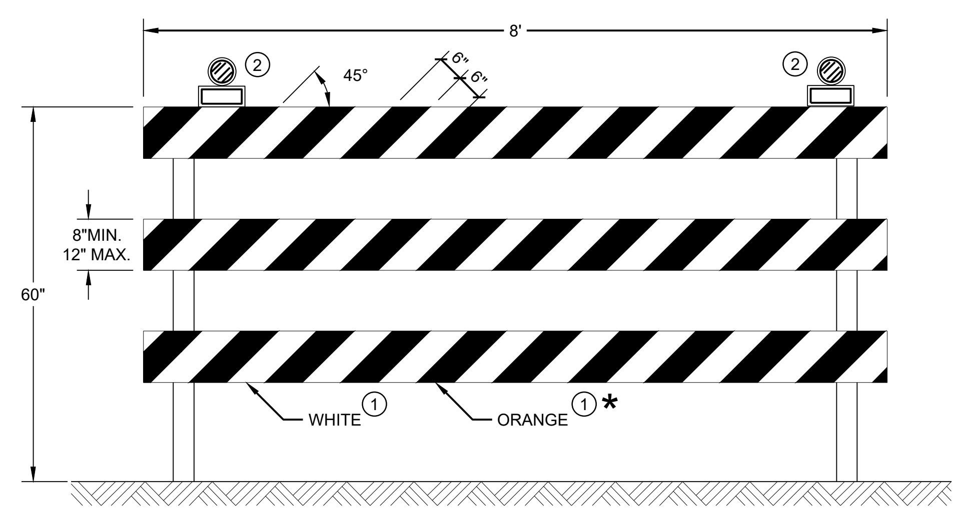


TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

SDD 15C11 - 10b

LEGEND

- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TEMPORARY PORTABLE RUMBLE STRIP ARRAY
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

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.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

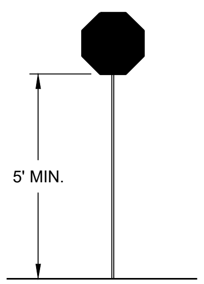
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

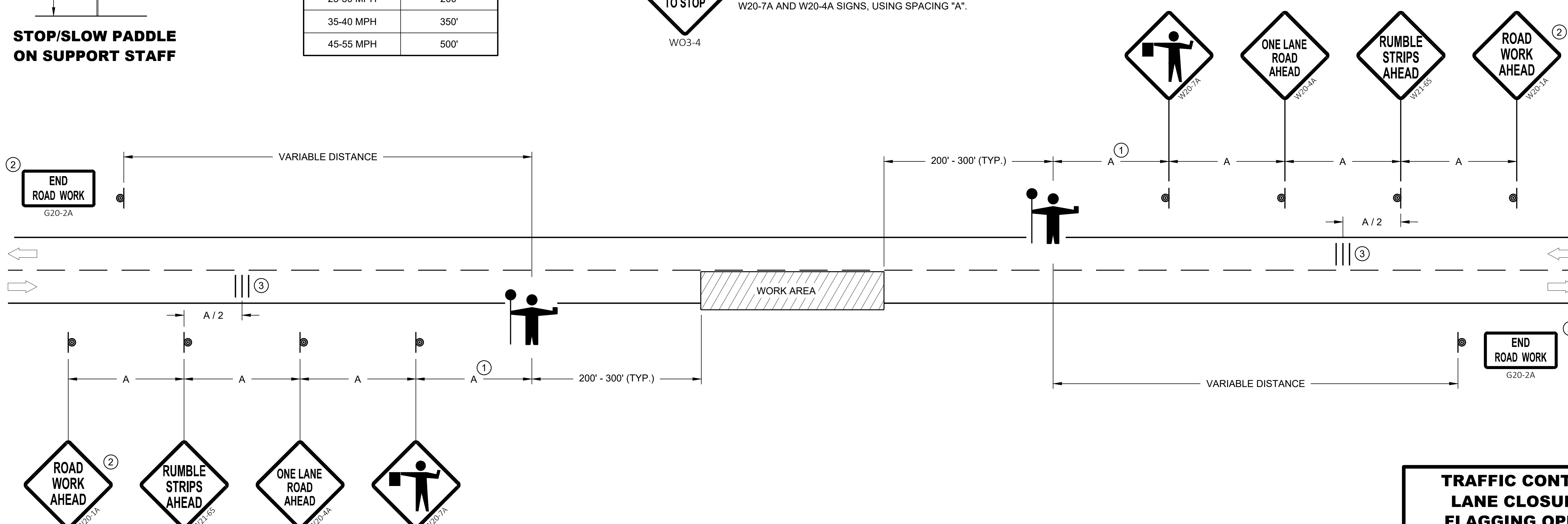


STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

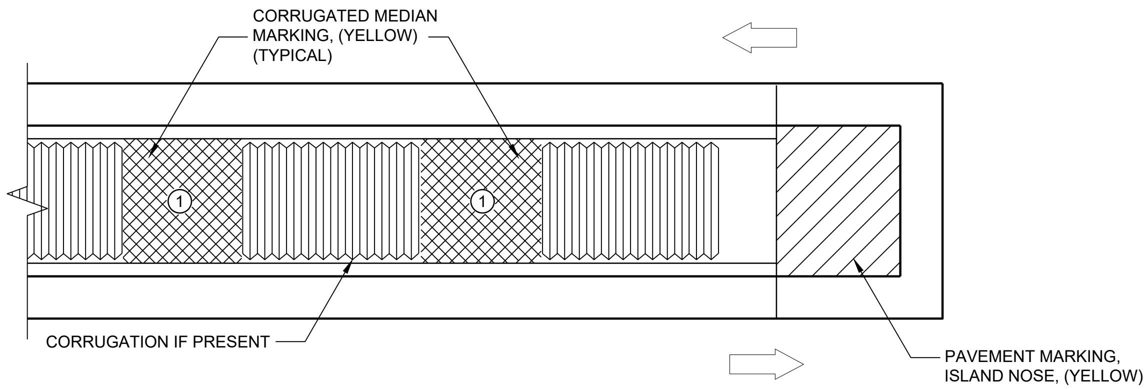
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

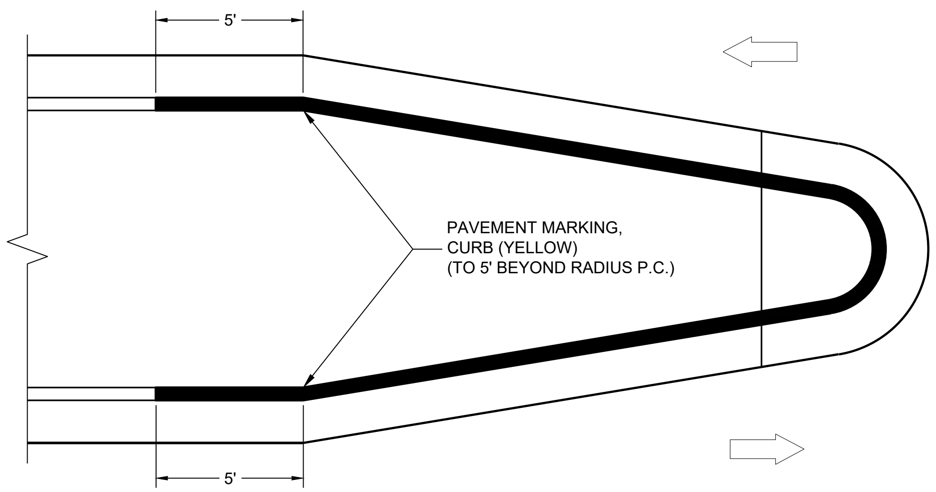
May 2022 — DATE

/S/ Andrew Heidtke — WORK ZONE ENGINEER

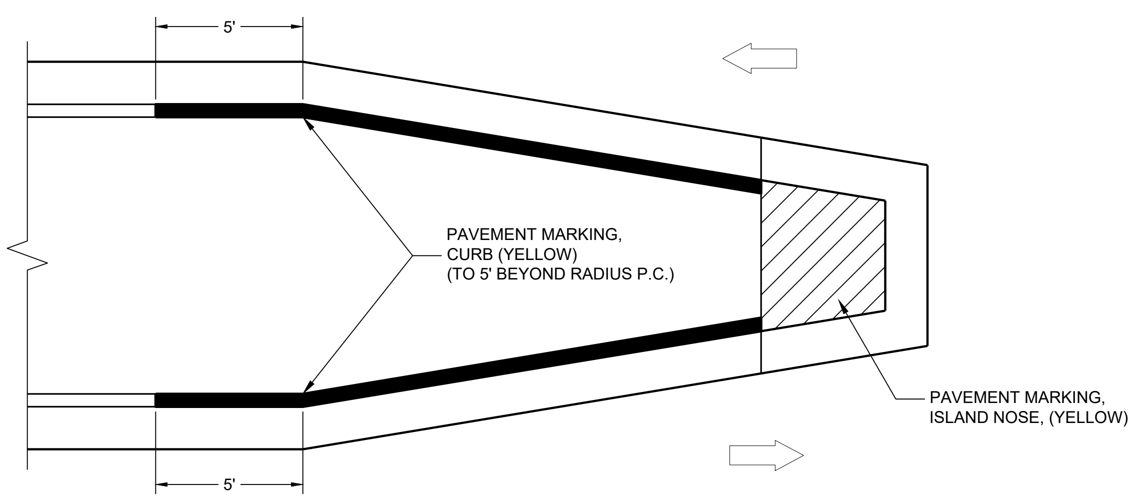
FHWA



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



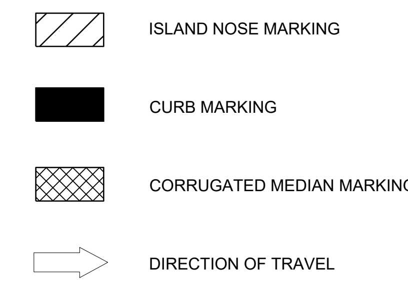
MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

(1) APPLY PAVEMENT MARKING TO THE FLAT PORTION OF CORRUGATED MEDIAN.



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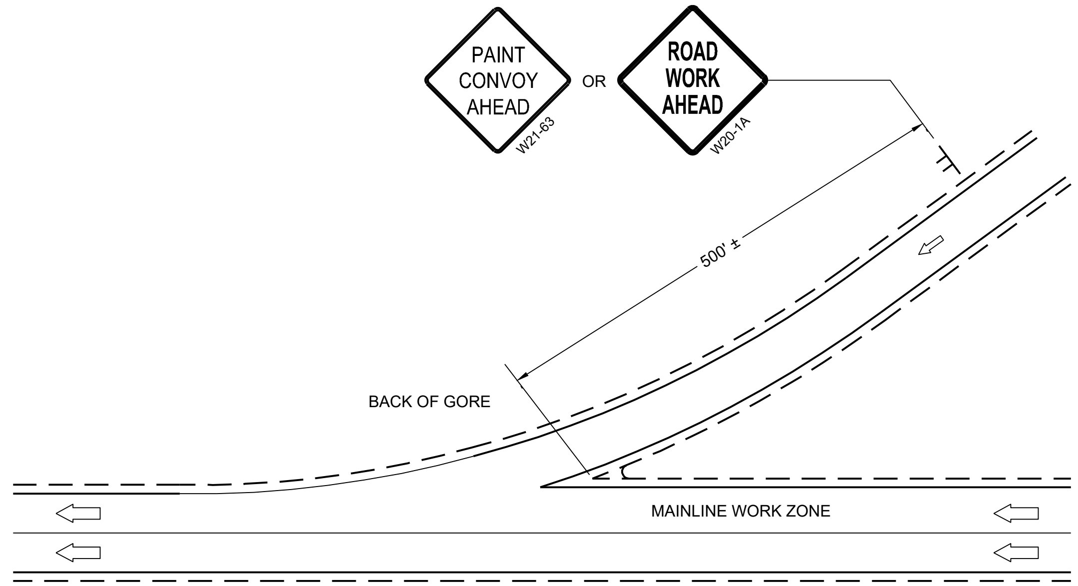
PAVEMENT MARKINGS, MEDIAN ISLAND NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Jeannie Silver — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

LEGEND

- **V1** MARKING VEHICLE
- **V2** SHADOW VEHICLE
- **V3** TRAIL VEHICLE
- TRUCK MOUNTED ATTENUATOR (TMA)
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW PANEL (MERGE)



GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

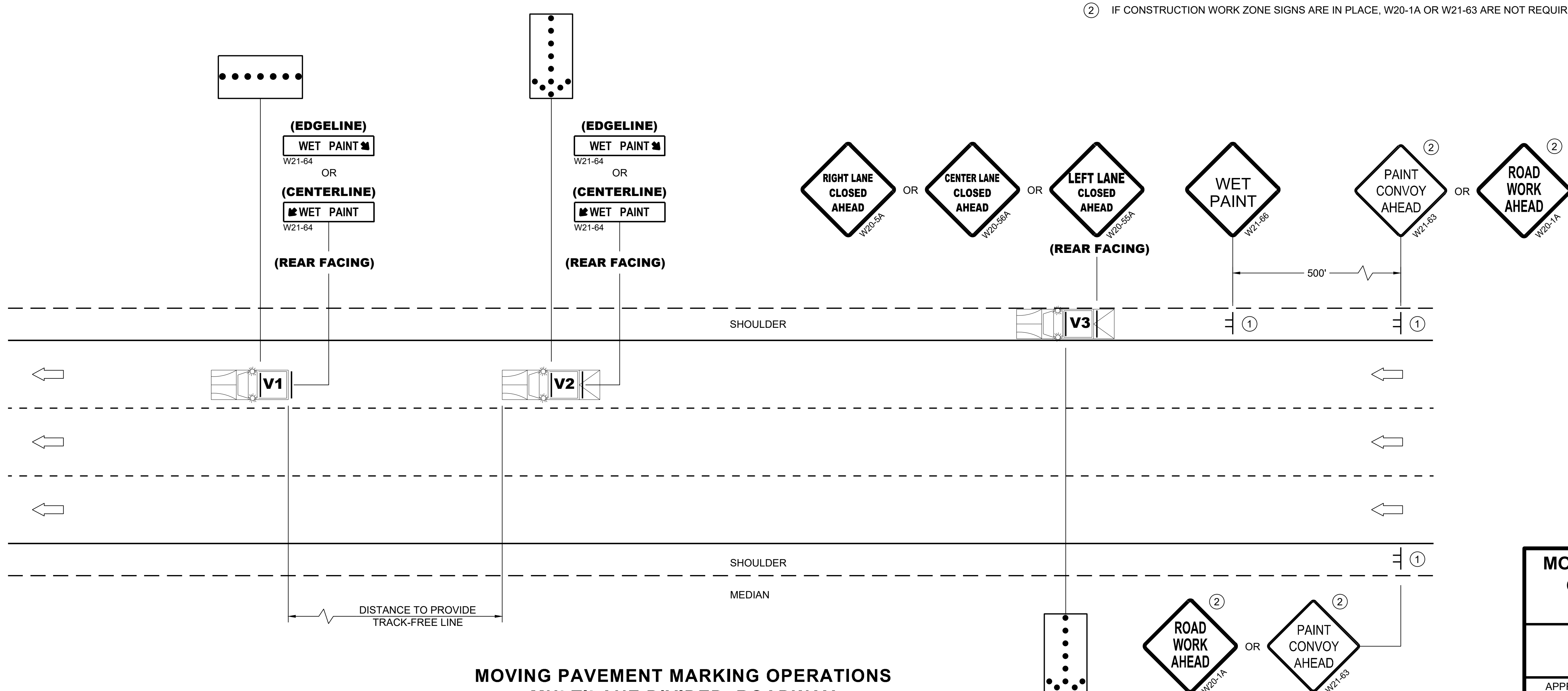
IF THE SHOULDER IS TOO NARROW TO ACCOMMODATE THE LAST TRAILING VEHICLE, THE VEHICLE SHOULD STRADDLE THE EDGE LINE.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC

CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM HEIGHT OF 28" FOR WET PAVEMENT MARKINGS

1. SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES AND AFTER EVERY ON RAMP.
2. IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.



MOVING PAVEMENT MARKING OPERATIONS MULTILANE DIVIDED ROADWAY

MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024
DATE

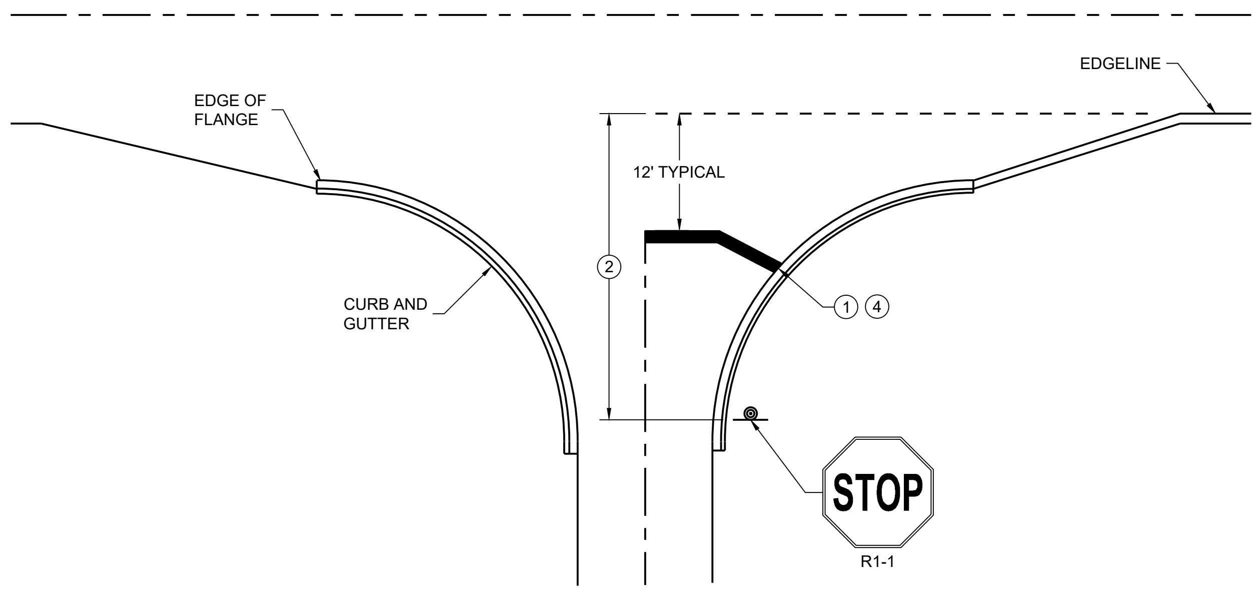
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

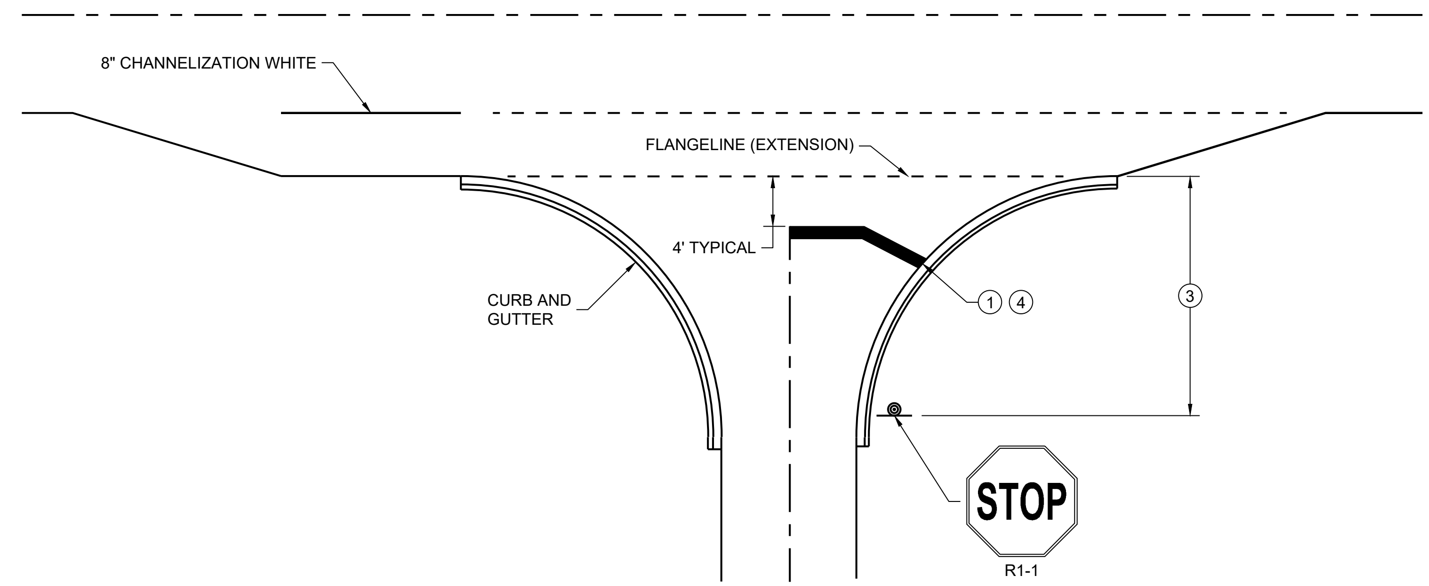
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES.
6. POSTED SPEED LIMITS OF 40 MPH OR GREATER USE A MINIMUM WIDTH OF 8' FOR MIDBLOCK CROSSWALKS



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH RIGHT TURN LANE

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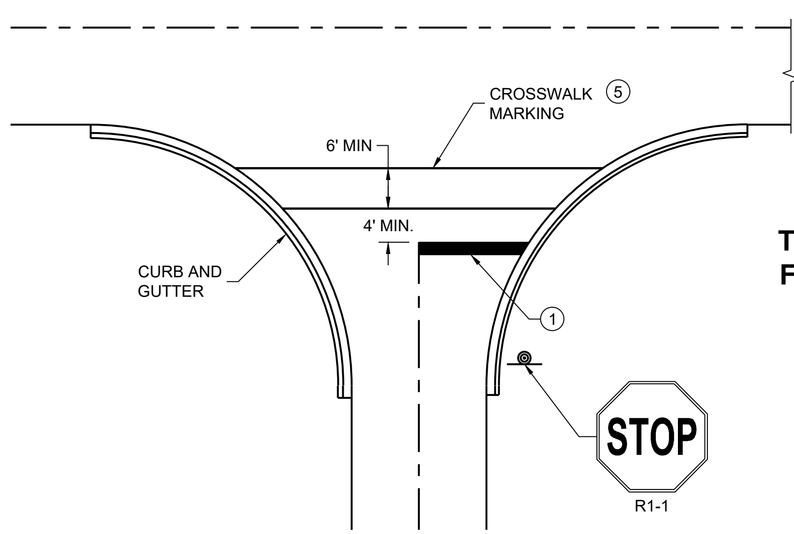
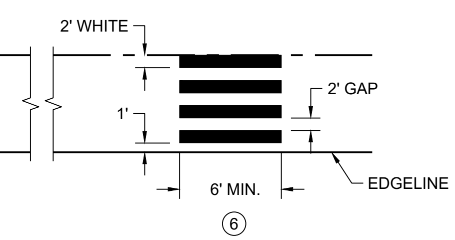
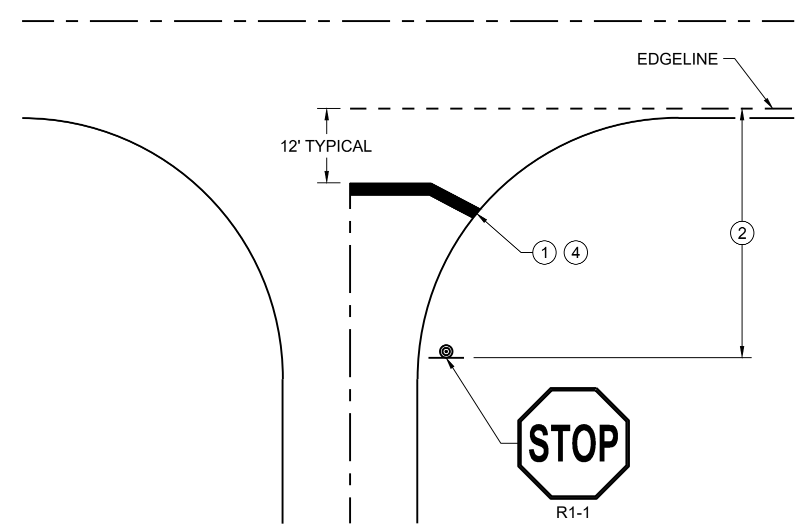




TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK 5

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March 2024 DATE	/S/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	

SDD 15C33-05

GENERAL NOTES

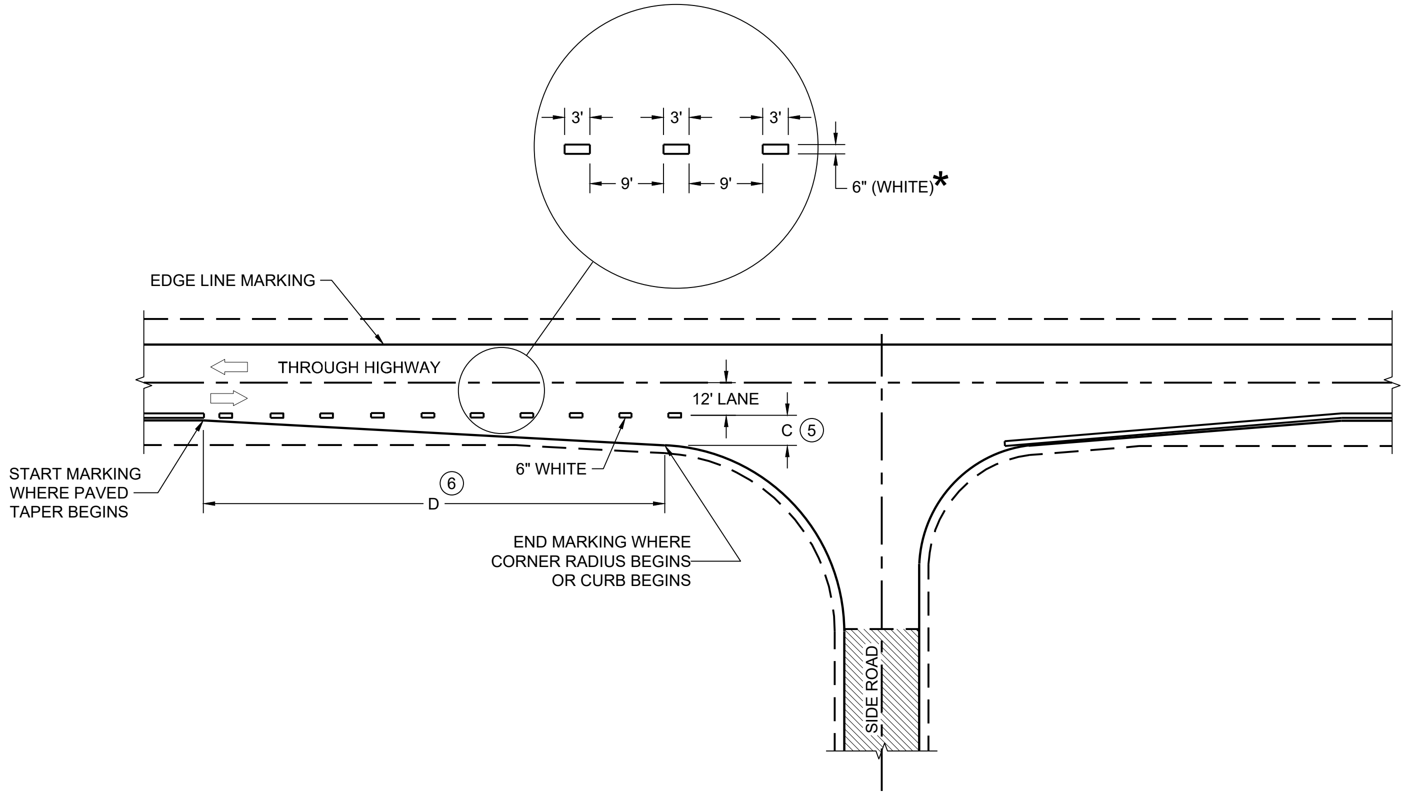
OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

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. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
5. WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
6. WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

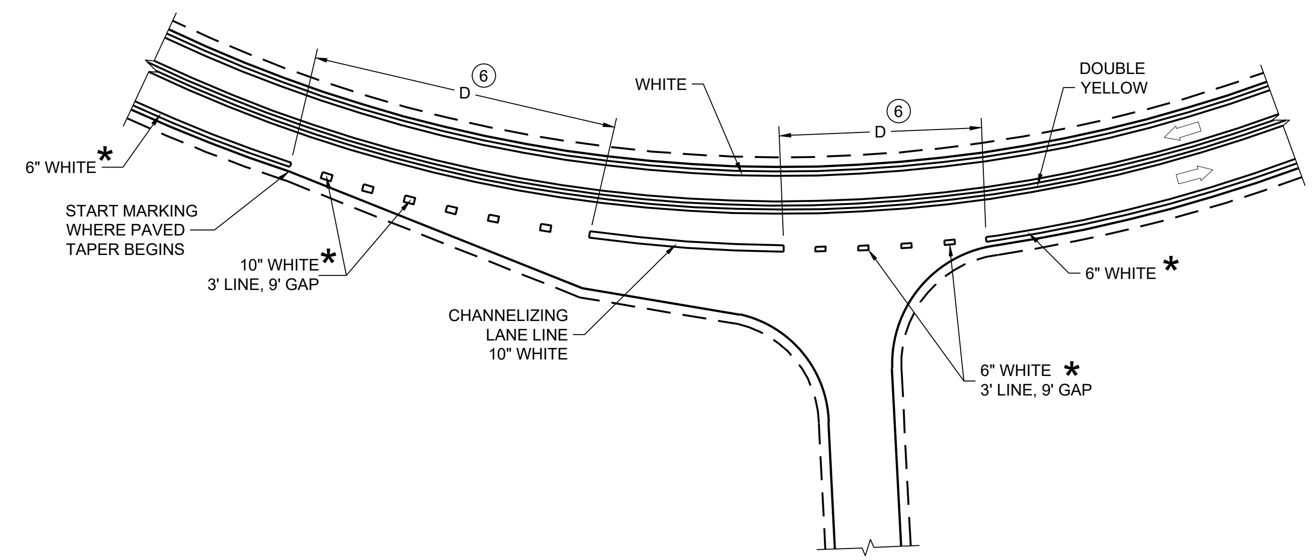
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

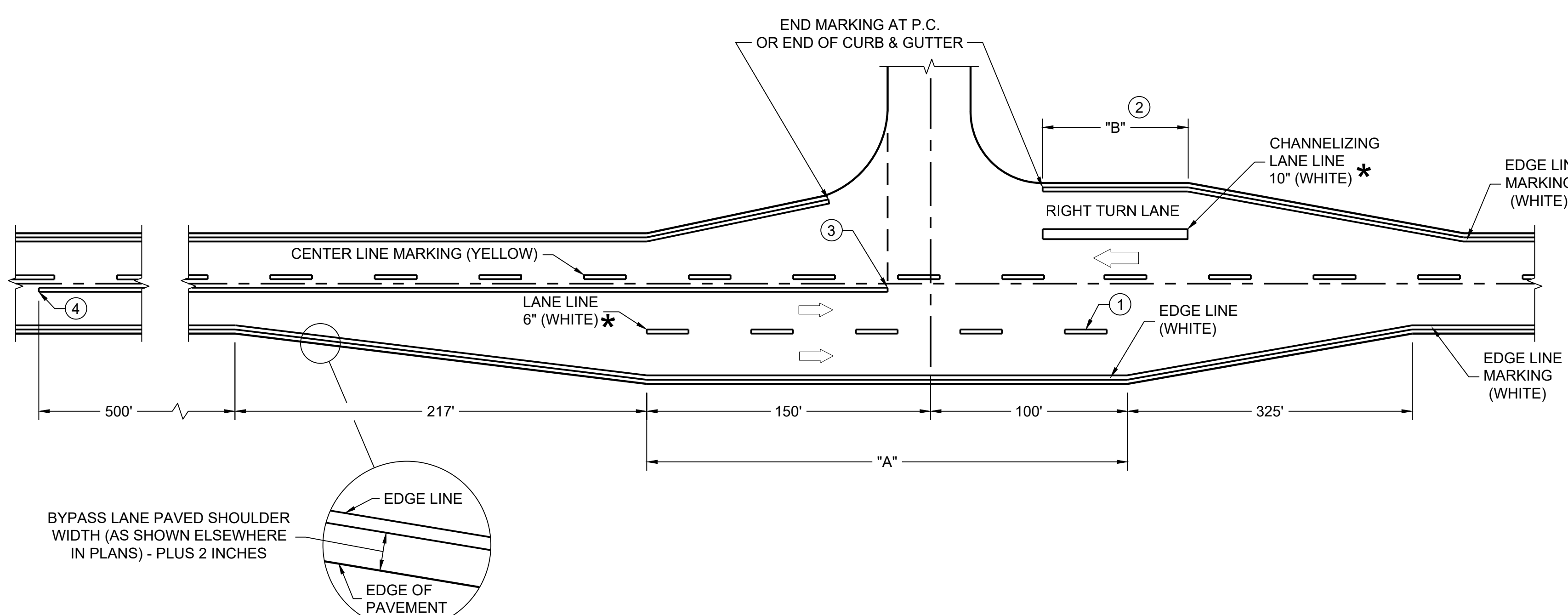
DIRECTION OF TRAVEL



MINOR INTERSECTION



INTERSECTION ON OUTSIDE OF CURVE



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

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SDD 15C35-06a

PAVEMENT MARKING (INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 15C35-06a

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

FOR WORK ON ROADWAYS WITH SPEEDS GREATER THAN 45MPH, USE SDD 15D12.

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"X 36" SIGNS MAY BE USED IF APPROVED BY REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON TEMPORARY SUPPORTS.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

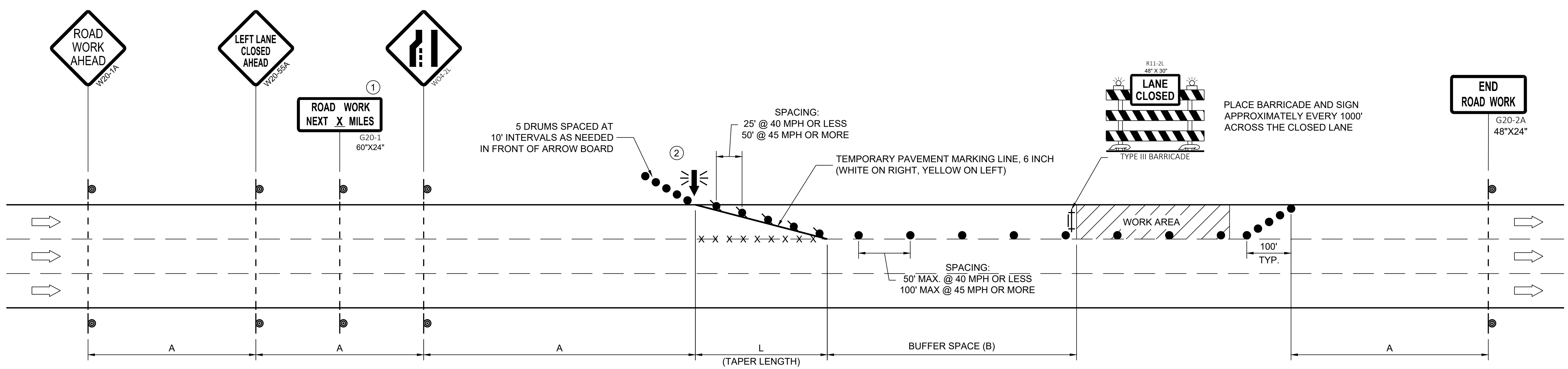
CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

1. OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
2. WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO PLACE THE ARROW BOARD AS SHOWN, PLACE THE ARROW BOARD AT THE END OF THE TAPER.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	55'
30	200'	180'	85'
35	350'	245'	120'
40	350'	320'	170'
45	500'	540'	220'

TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

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SDD 15D20-08a

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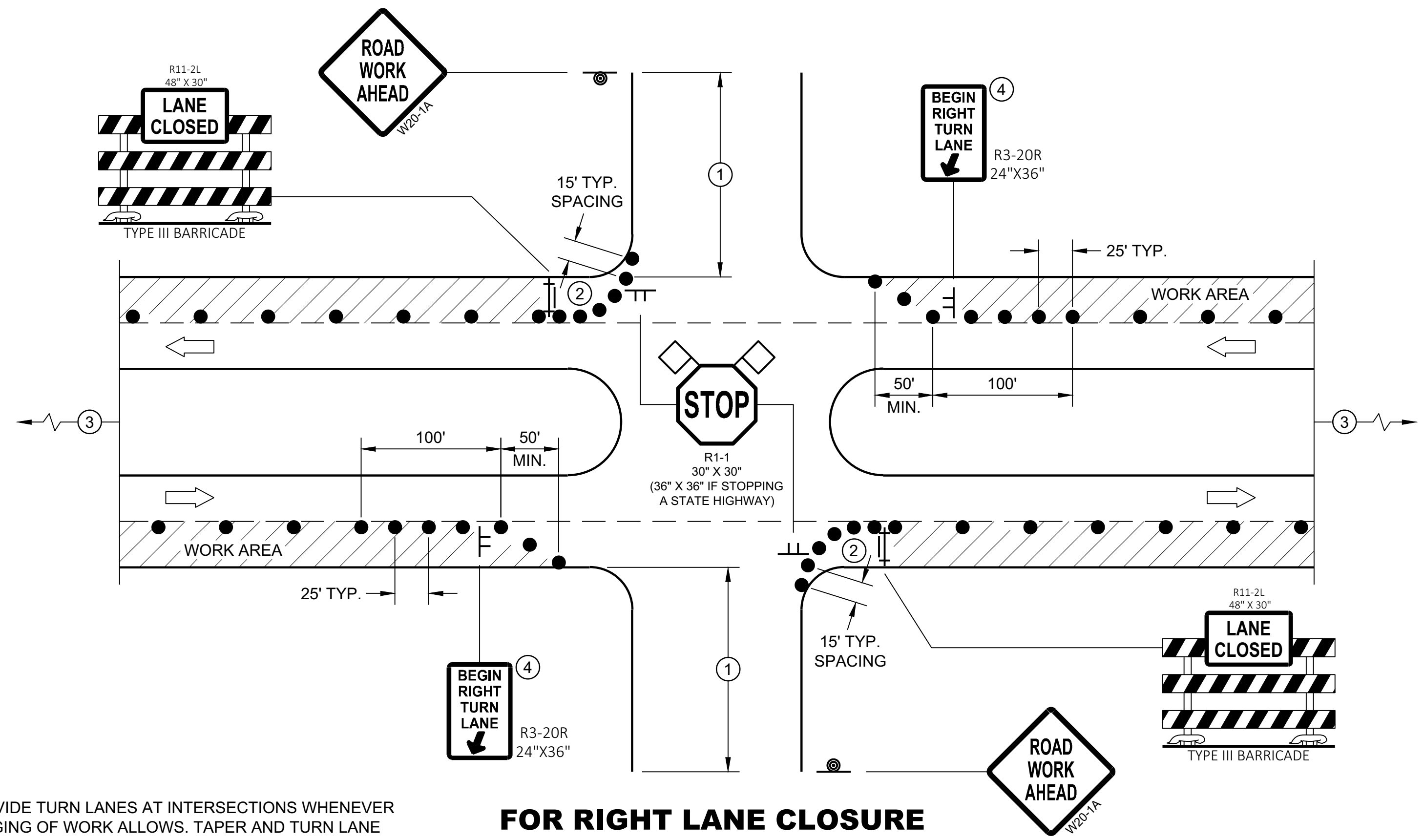
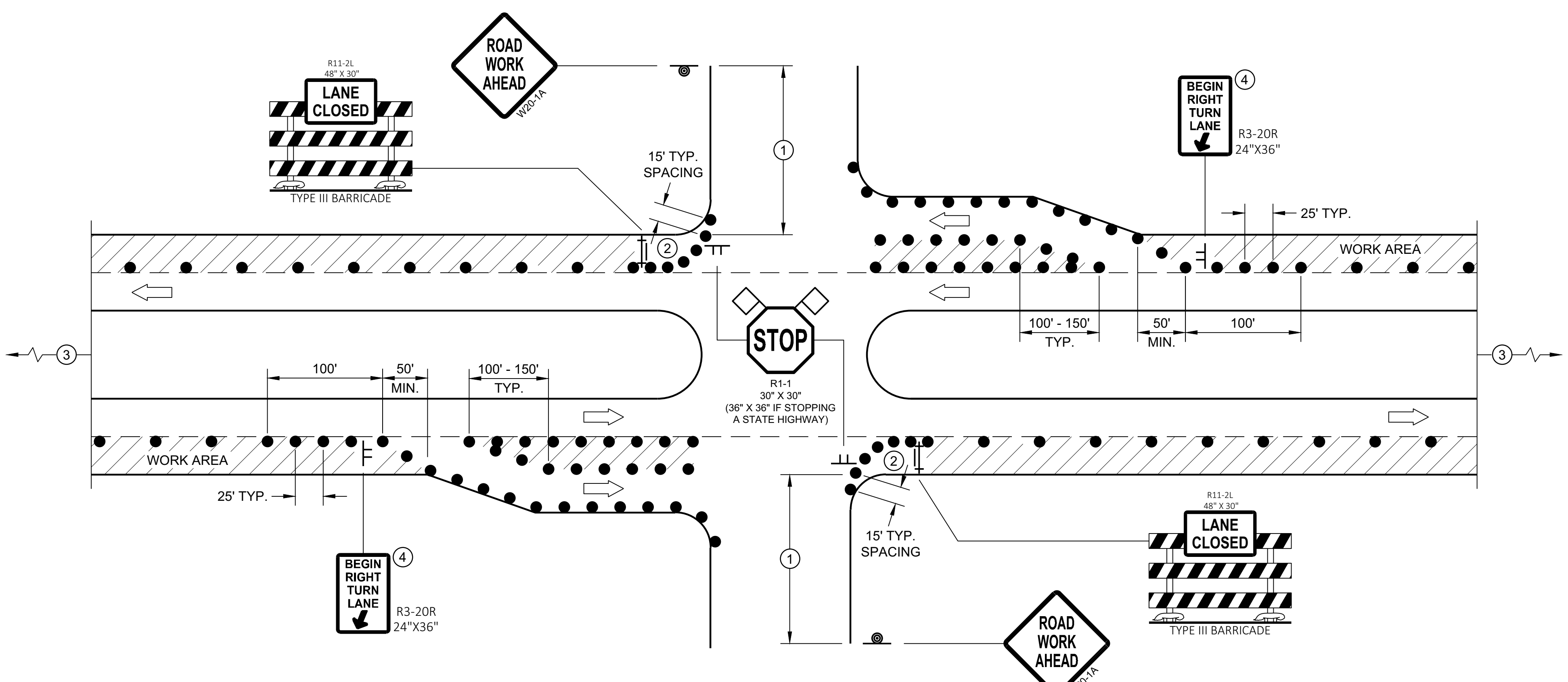
SDD 15D20-08a



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

FOR RIGHT LANE CLOSURE AT INTERSECTION



FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

1. 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
   350' IF 35 - 40 MPH.
   200' IF 25 - 30 MPH.
2. ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS
3. SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.
4. MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.

LEGEND

SIGN ON TEMPORARY SUPPORT

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

TYPE III BARRICADE WITH ATTACHED SIGN

DIRECTION OF TRAFFIC

FLAGS, 16" X 16" MIN., ORANGE

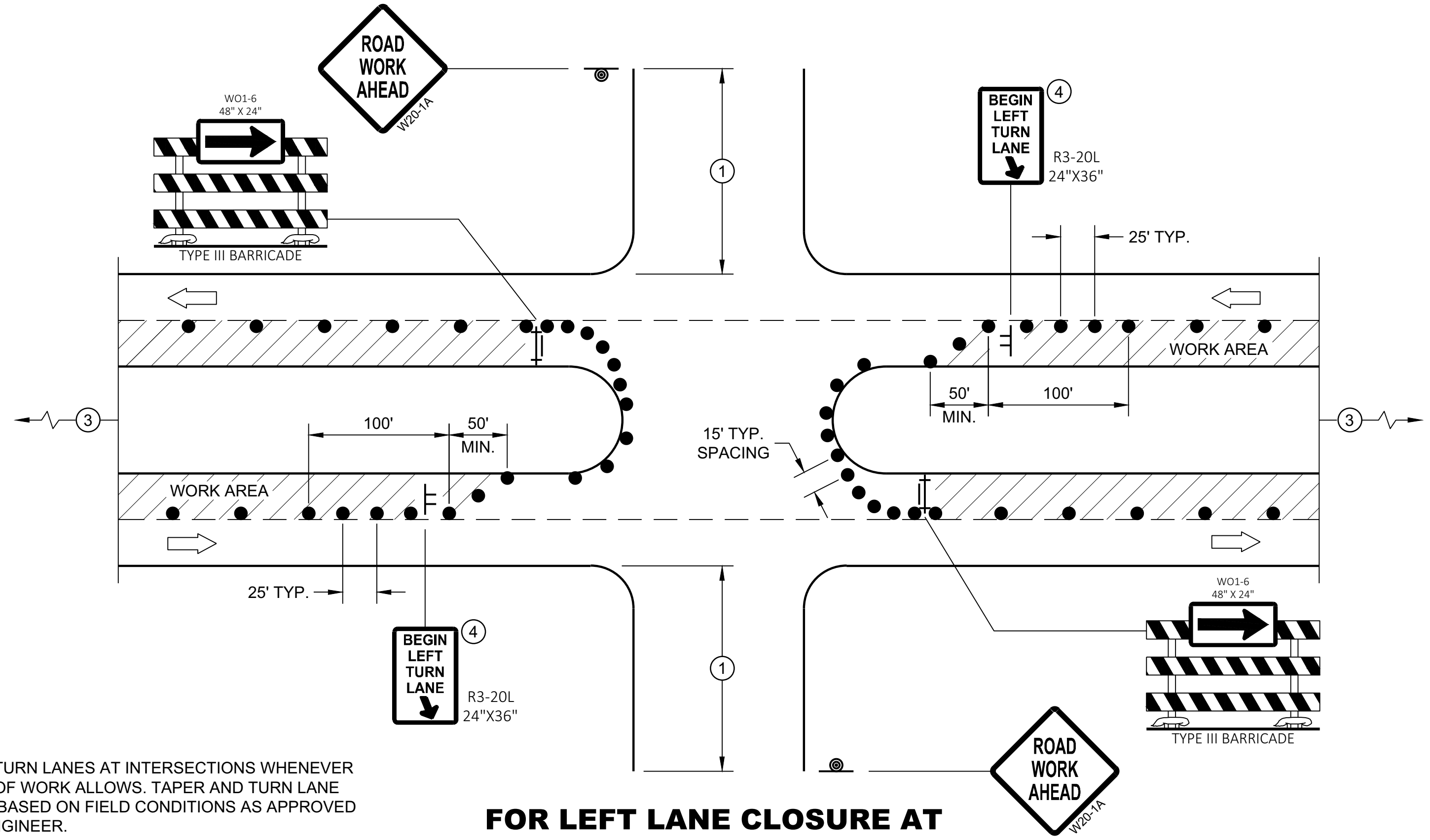
WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

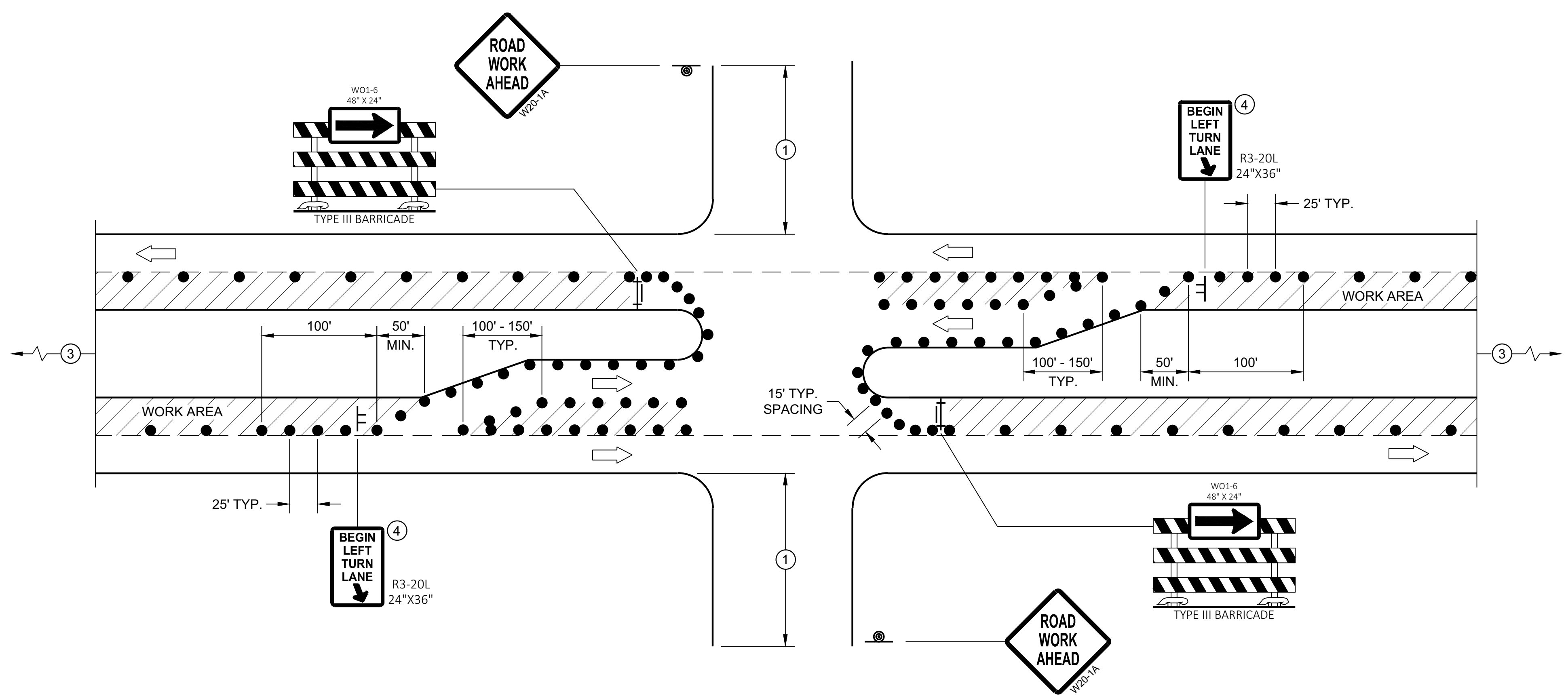
6

SDD 15D21 - 07a



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING



FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

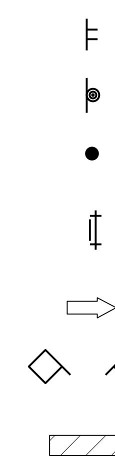
(1) 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.

(2) ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS

(3) SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

(4) MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.

LEGEND



SIGN ON TEMPORARY SUPPORT

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

TYPE III BARRICADE WITH ATTACHED SIGN

DIRECTION OF TRAFFIC

FLAGS, 16" X 16" MIN., ORANGE

WORK AREA

6

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LEFT LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

SDD 15D21 - 07b

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

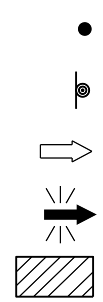
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

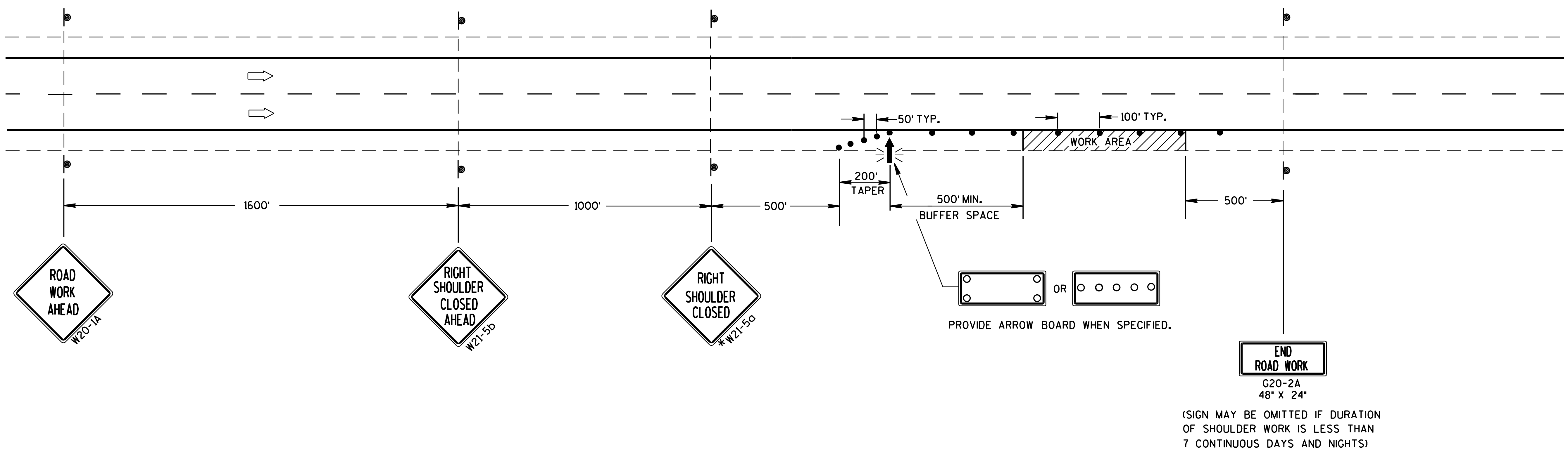
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.

LEGEND





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6

TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

FHWA

S.D.D. 15 D 27-3

S.D.D. 15 D 27-3

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC

GENERAL NOTES

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

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

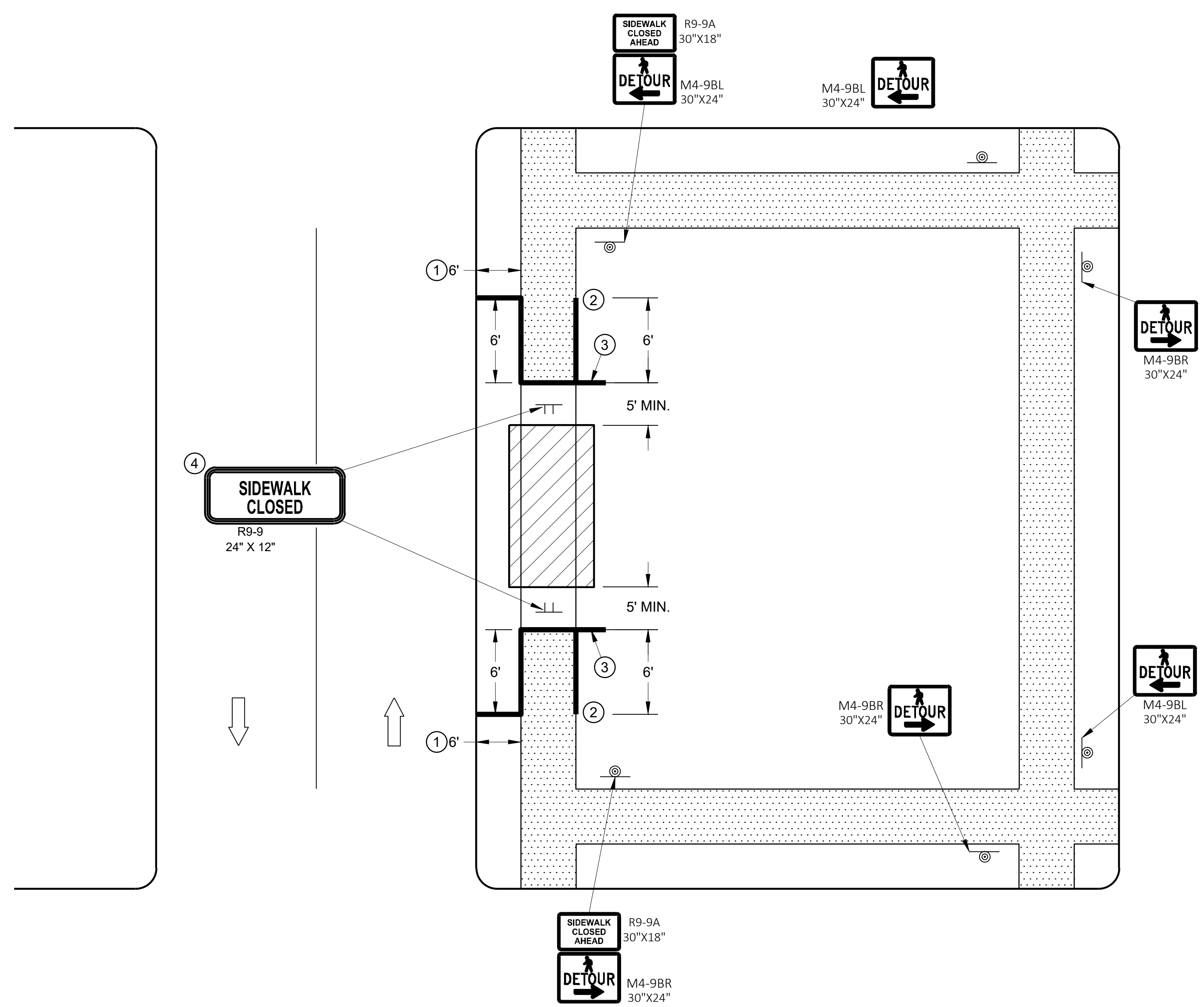
PLACE TEMPORARY PEDESTRIAN BARRICADE TO FIT FIELD CONDITIONS, AVOIDING CONFLICTS WITH DRIVEWAYS AND OTHER EXISTING FEATURES.

(1) IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.

(2) PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.

(3) IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.

(4) MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.



SIDEWALK DETOUR, SIDEWALK ONLY ON ONE SIDE

6

6

SDD 15D30 - 09f

SDD 15D30 - 09f

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

UNDER PEDESTRIAN TRAFFIC

WORK AREA

TEMPORARY PEDESTRIAN BARRICADE

DIRECTION OF TRAFFIC

GENERAL NOTES

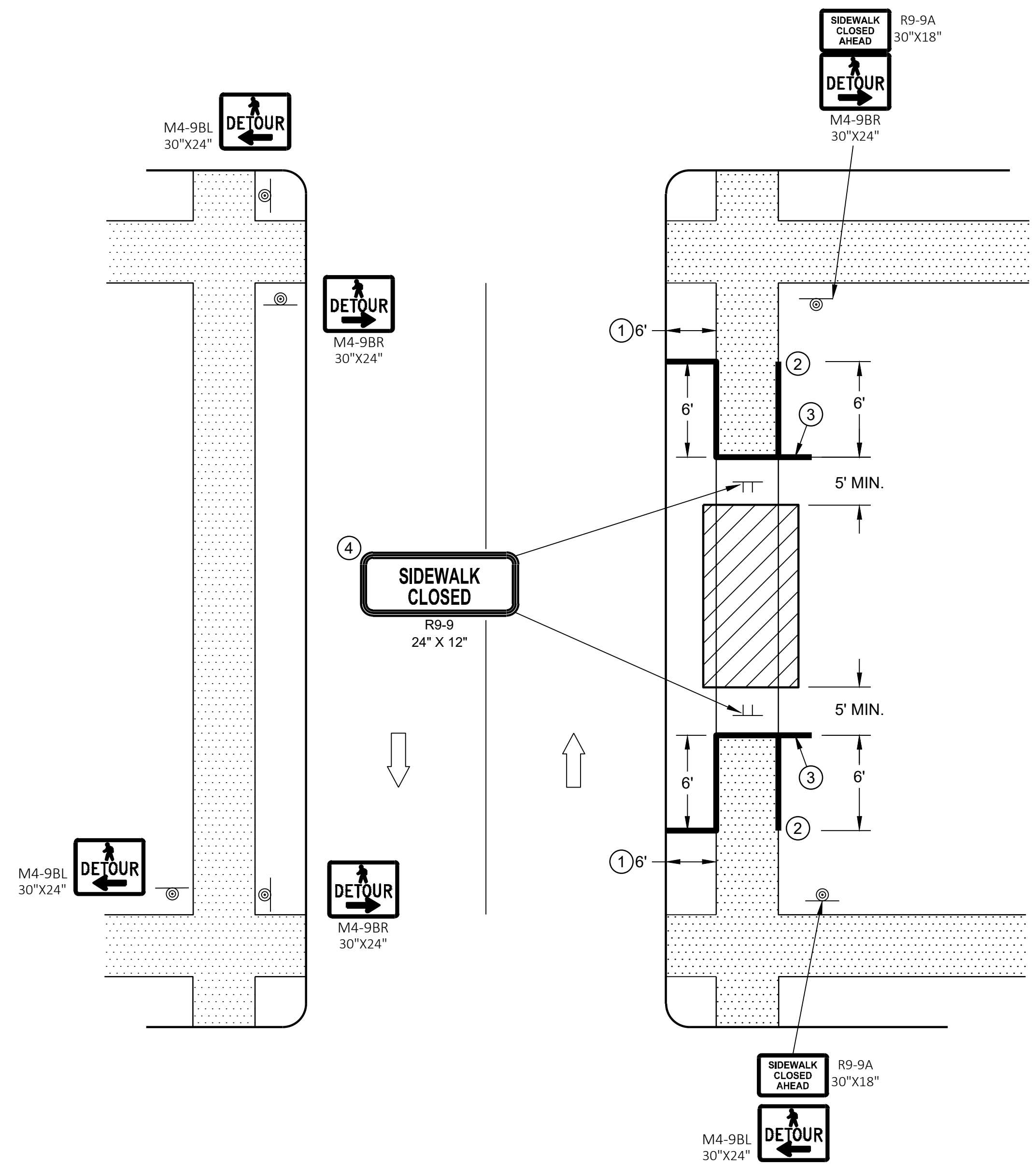
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

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

PLACE TEMPORARY PEDESTRIAN BARRICADE TO FIT FIELD CONDITIONS, AVOIDING CONFLICT WITH DRIVEWAYS AND OTHER EXISTING FEATURES.

1. IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
2. PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
3. IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
4. MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.



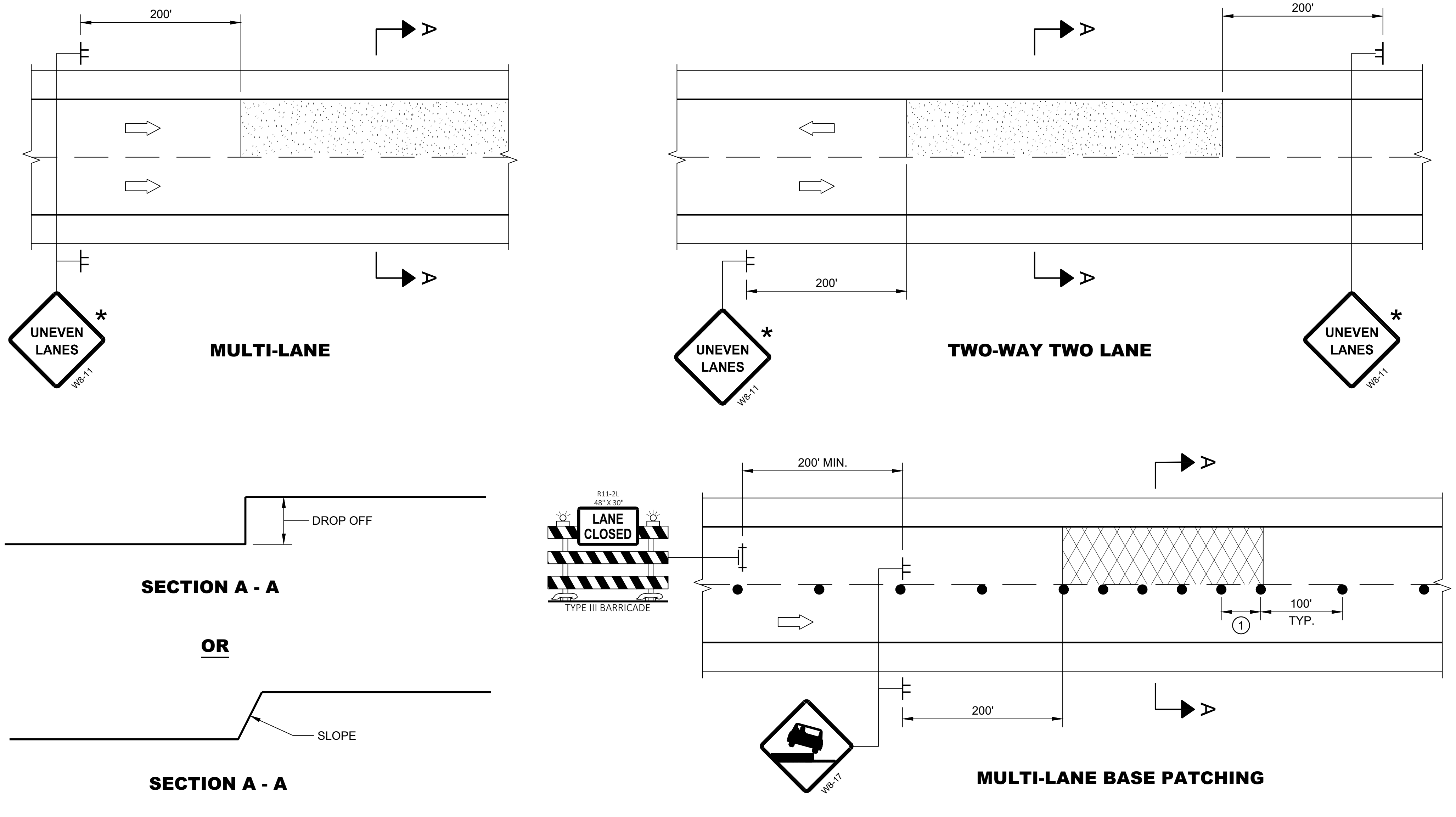
SIDEWALK DETOUR, SIDEWALK ON BOTH SIDES

6

SDD 15D30 - 09k

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



ADJACENT LANE DROP-OFFS

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

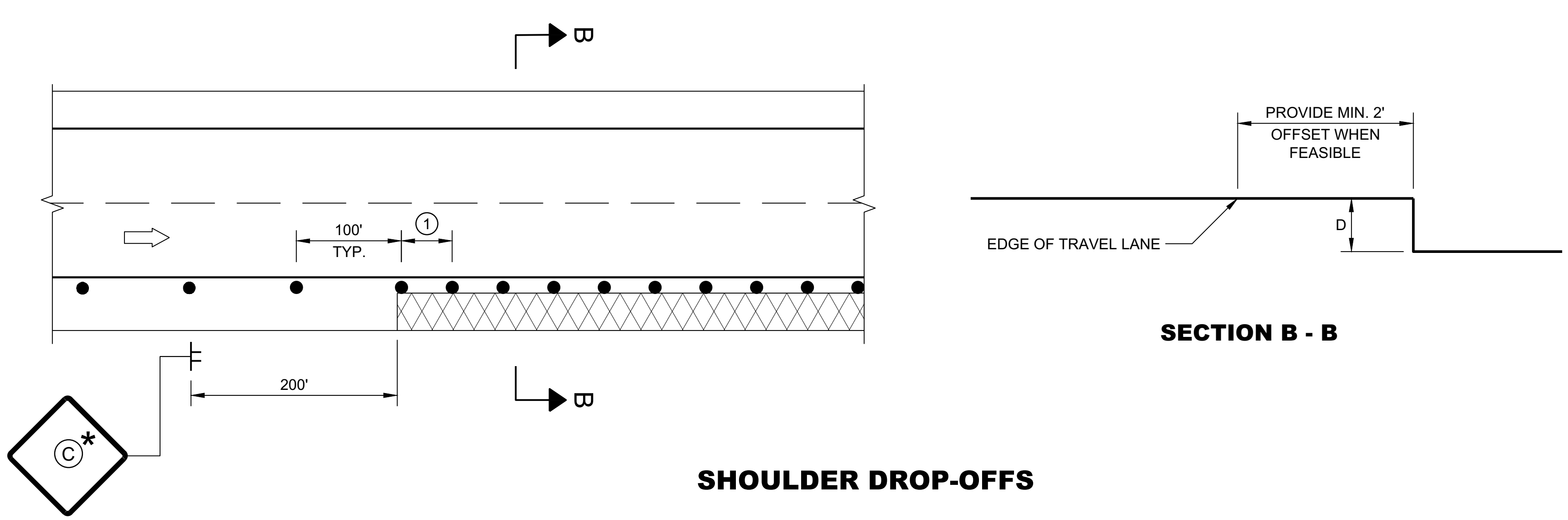
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

1 USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE



SHOULDER DROP-OFFS

D	SIGN C
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

6

SDD 15D39 - 02

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- CONCRETE BARRIER TEMPORARY PRECAST

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT RIGHT - REVERSE FOR SHIFTING LEFT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

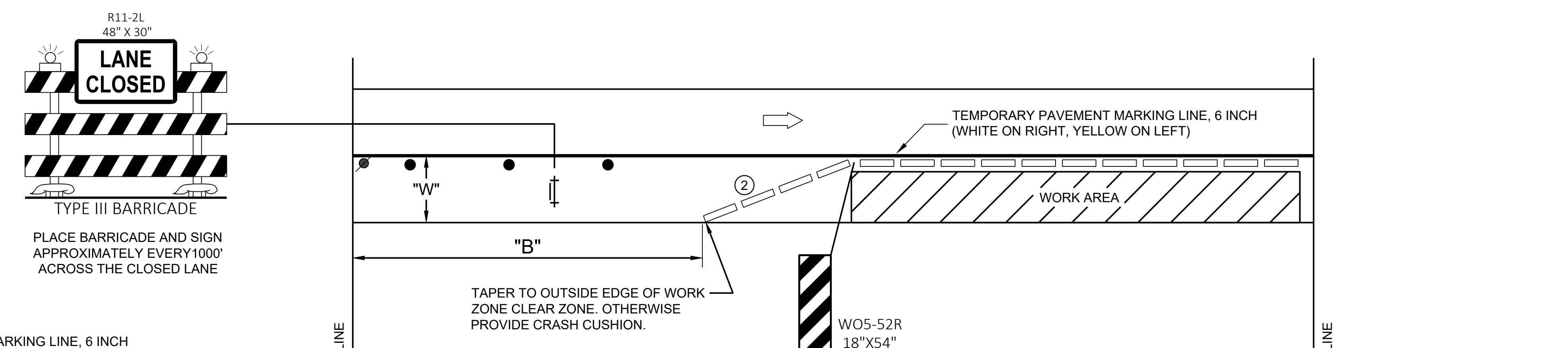
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

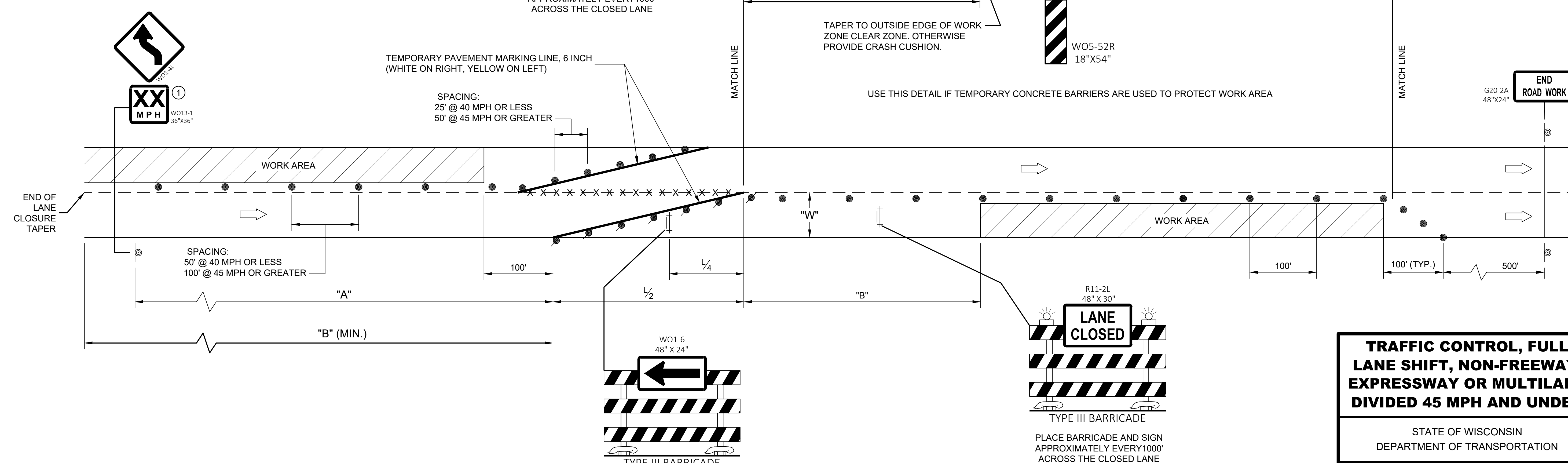
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER
SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL
CHANGE SUCH AS A CROSSOVER MANEUVER.

1. USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.
2. BARRIER FLARE RATE: 6:1 @ 40 MPH OR LESS
   8:1 @ 45 MPH OR GREATER

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER L/2 W, LATERAL OFFSET (FT)					BUFFER SPACE (B) FEET
		10	11	12	13	14	
25	200	52	57	63	68	73	55
30	200	75	83	90	98	105	85
35	350	102	112	123	133	143	120
40	350	133	147	160	173	187	170
45	500	225	248	270	293	315	220





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6

TRAFFIC CONTROL, FULL LANE SHIFT, NON-FREEWAY/ EXPRESSWAY OR MULTILANE DIVIDED 45 MPH AND UNDER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

SDD 15D40-05a

SDD 15D40-05a

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

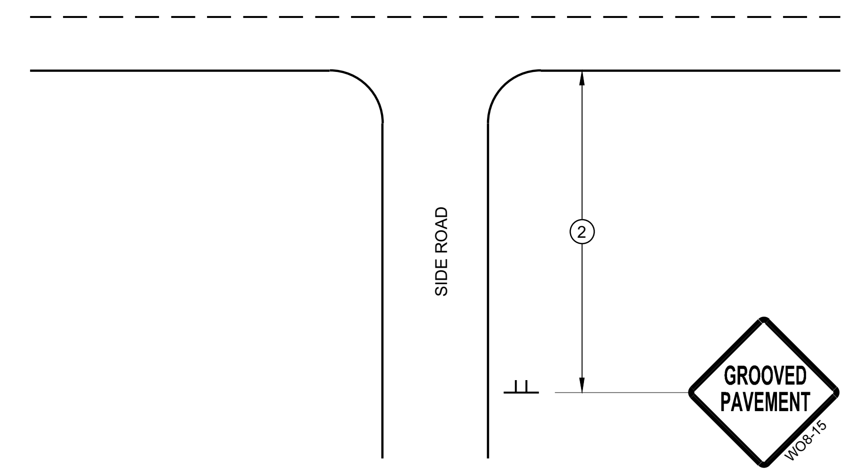
SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

1. PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
2. PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

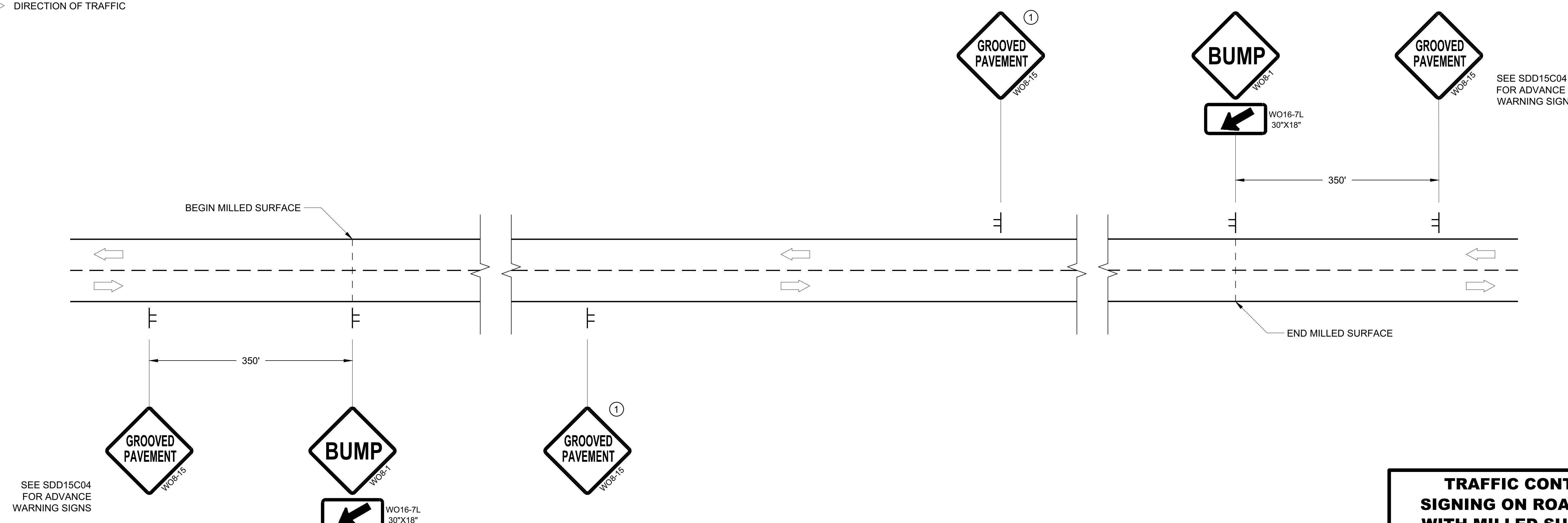
LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON MILLED SURFACES

6

6

TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

February 2020 — DATE

/S/ Andrew Heidtke — WORK ZONE ENGINEER

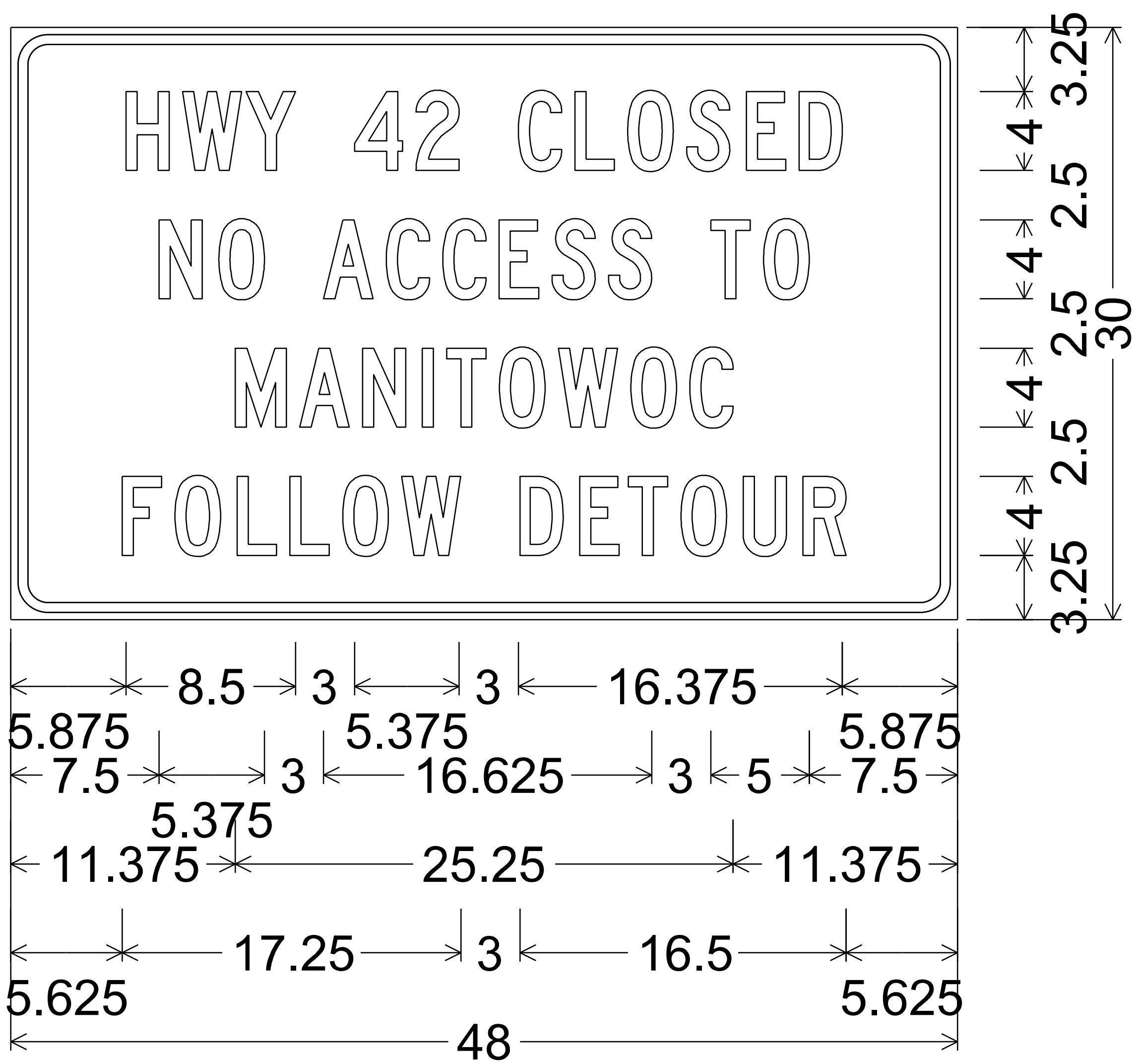
FHWA

SDD 15D44 - 02

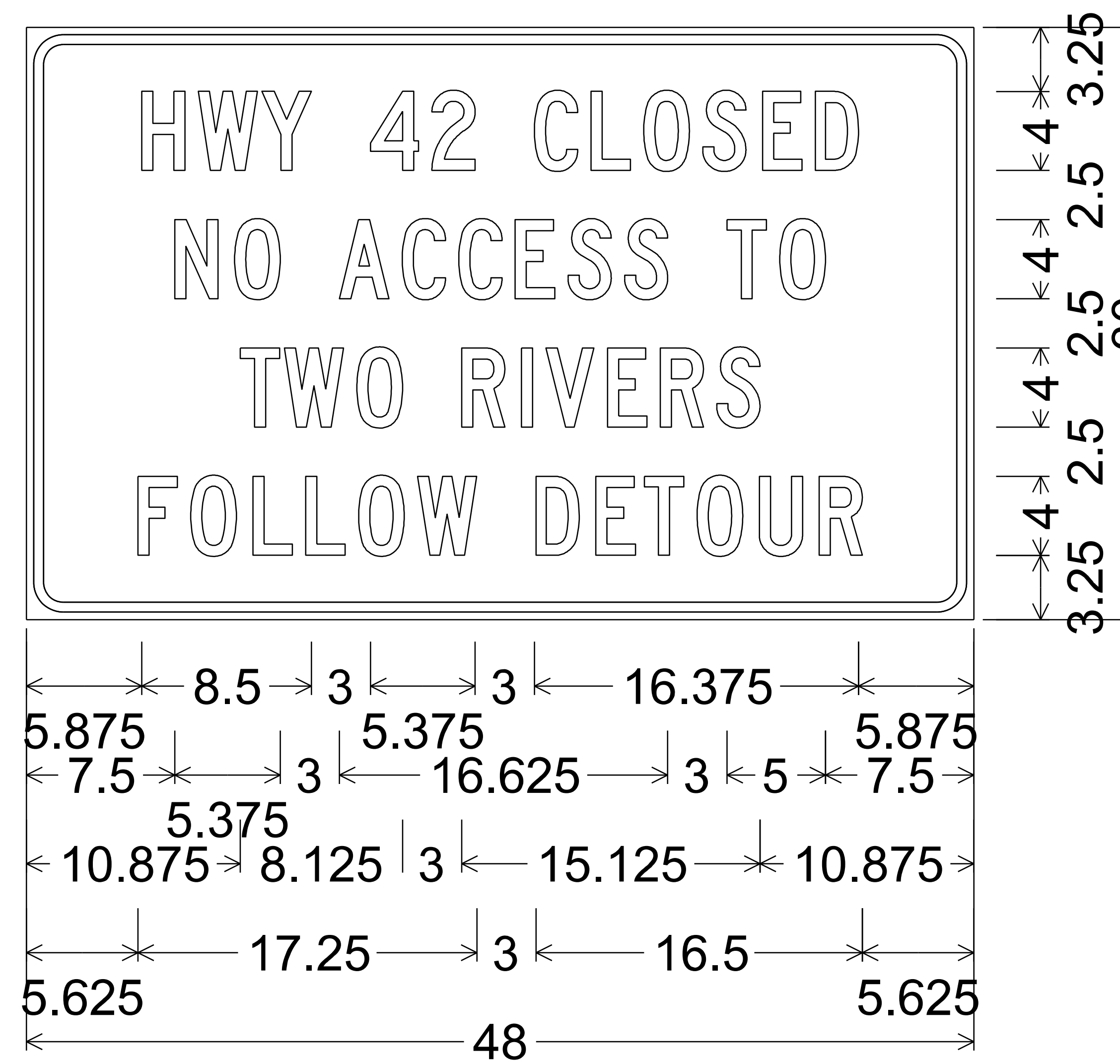
SDD 15D44 - 02

NOTES

1. Fixed Message Signs Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C



1.875" Radius, 0.500" Border, 0.375" Indent



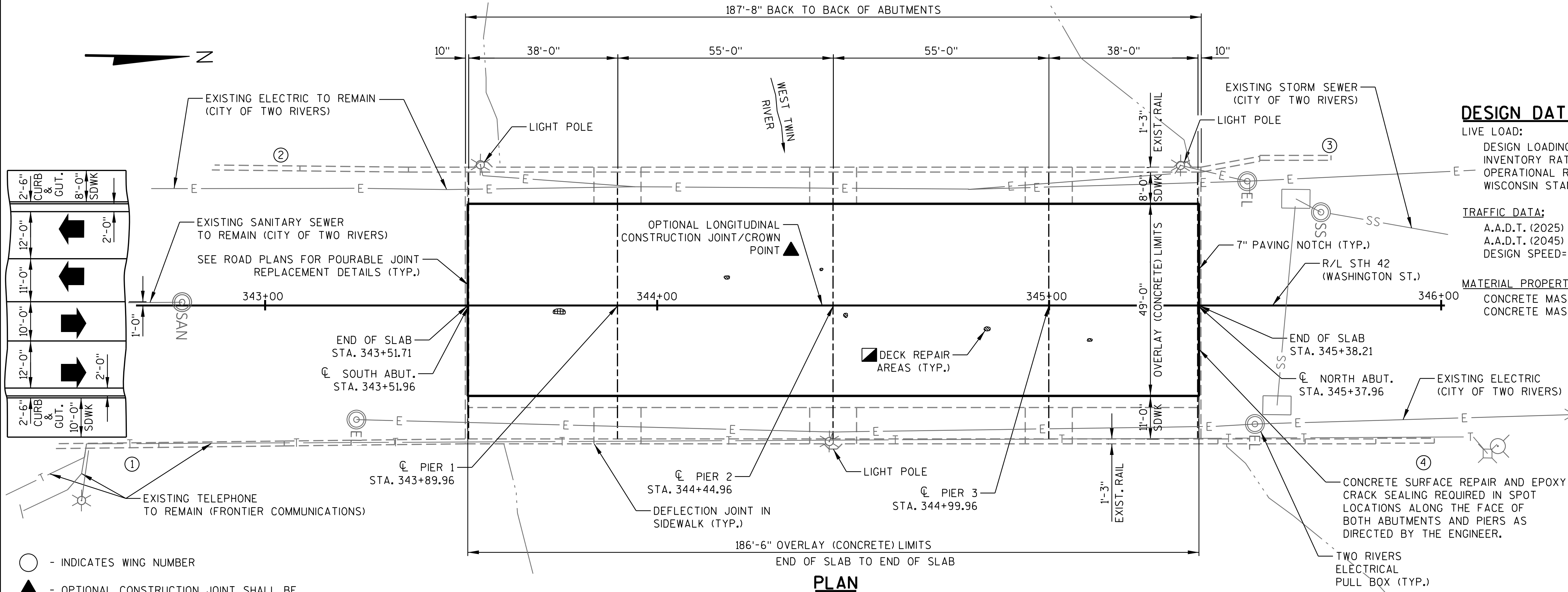
1.875" Radius, 0.500" Border, 0.375" Indent

7

7

STATE PROJECT NUMBER

1470-33-71



PLAN

(REHAB - CONCRETE OVERLAY ON EXISTING FOUR SPAN HAUNCHED REINFORCED CONCRETE SLAB BRIDGE)

○ - INDICATES WING NUMBER

▲ - OPTIONAL CONSTRUCTION JOINT SHALL BE LOCATED AT THE EXISTING CROWN POINT.

◩ - DECK REPAIR AREAS APPROXIMATE. COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL DECK REPAIR LOCATIONS WITH THE ENGINEER.

DESIGN DATA

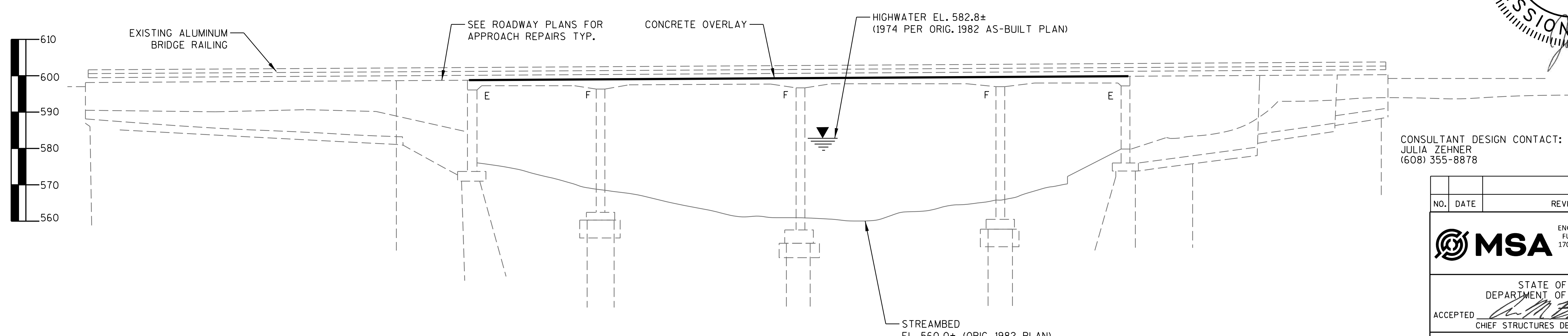
LIVE LOAD:
- DESIGN LOADING — HS20
- INVENTORY RATING (LFR) — HS23
- OPERATIONAL RATING (LFR) — HS39
- WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) — 220 KIPS

TRAFFIC DATA:
- A.A.D.T. (2025) = 13,370
- A.A.D.T. (2045) = 13,370
- DESIGN SPEED = 30 MPH

MATERIAL PROPERTIES:
- CONCRETE MASONRY, OVERLAY DECKS — f'c = 4,000 P.S.I.
- CONCRETE MASONRY, ALL OTHER — f'c = 3,500 P.S.I.

WISCONSIN PROFESSIONAL ENGINEER
JULIA I. ZEHNER
E-50015
PRAIRIE DU SAC
WI

8.28.24



ELEVATION

(LOOKING WEST)

CONSULTANT DESIGN CONTACT:
JULIA ZEHNER
(608) 355-8878

BRIDGE OFFICE CONTACT:
AARON BONK
(608) 261-0261

LIST OF DRAWINGS

1. REHAB GENERAL PLAN
2. CROSS SECTION, QUANTITIES & NOTES

NO.	DATE	REVISION	BY

MSA
ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
1702 PANKRATZ STREET, MADISON WI 53704
(608) 242-7779 www.msa-ps.com
© MSA Professional Services, Inc.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED SDR 11/26/24
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-36-117

STH 42/WASHINGTON ST. OVER WEST TWIN RIVER

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
MANITOWOC	TWO RIVERS

DESIGN SPEC.
REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
DS	NRT	EKK	JZ

REHAB GENERAL PLAN

SHEET 1 OF 2

8

8

FILE= 93676_B-36-117_01.DGN

93676_B-36-117_01.dgn 8/28/2024 8:32:14 AM ekazadi

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	TOTAL
203.0335.01	DEBRIS CONTAIMENT OVER WATERWAY (B-36-117)	EA	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1016
502.3215	PROTECTIVE SURFACE TREATMENT RESEAL	SY	210
509.0301	PREPARATION DECKS TYPE 1	SY	2
509.0302	PREPARATION DECKS TYPE 2	SY	1
509.0500	CLEANING DECKS	SY	1016
* 509.1500	CONCRETE SURFACE REPAIR	SF	22
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	78
* 509.9020.S	EPOXY CRACK SEALING	LF	65
	NON-BID ITEMS		

* CONCRETE SURFACE REPAIR AND EPOXY CRACK SEALING SHALL BE USED FOR NEEDED REPAIRS. LOCATIONS AND LIMITS OF REPAIRS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

SEE ROAD PLANS FOR TRAFFIC CONTROL.

ALL DIMENSIONS SHOWN ARE BASED ON EXISTING AS-BUILT PLANS. ORIGINAL 1982 PLANS AND 2024 SIDEWALK WIDENING REHAB PLANS ARE AVAILABLE FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION HSI DATABASE.

SEE THE ROAD PLANS FOR THE APPROXIMATE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS. THERE MAY BE UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

IMPROVEMENTS INCLUDE A CONCRETE DECK OVERLAY OF THE BRIDGE SLAB, CONCRETE SURFACE REPAIRS ON THE WINGWALLS AND ABUTMENTS, EPOXY CRACK SEALING ON BOTH ABUTMENTS AND WINGWALLS, PREPARATION DECKS TYPE 1 & 2, AND FULL DEPTH DECK REPAIR.

THIS PROJECT WILL REHABILITATE THE EXISTING STRUCTURE B-36-117, A FOUR SPAN 187'-8" HAUNCHED REINFORCED CONCRETE SLAB SET ON FULL RETAINING CONCRETE ABUTMENTS AND PIERS.

CONSTRUCTION OF EAST SIDE SIDEWALK WIDENING IS SCHEDULED TO BE COMPLETED IN 2024 UNDER A LOCAL CONTRACT PRIOR TO THIS PROJECT.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY UNDER BID ITEM "PROTECTIVE SURFACE TREATMENT.

PROTECTIVE SURFACE TREATMENT RESEAL SHALL BE APPLIED TO TOP SURFACE AND CURB FACE OF THE WEST SIDEWALK ONLY. PROTECTIVE SURFACE TREATMENT WAS APPLIED TO ENTIRE 11'-0" EAST SIDEWALK AS PART OF THE 2024 LOCAL SIDEWALK WIDENING PROJECT.

A MINIMUM OF 1" OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE SLAB UNDER THE BID ITEM "CLEANING DECKS". A 1" MIN. OF EXISTING CONCRETE COVER OVER EXISTING REINFORCEMENT TO BE MAINTAINED AND CONSIDERED WHEN DETERMINING CONCRETE REMOVALS.

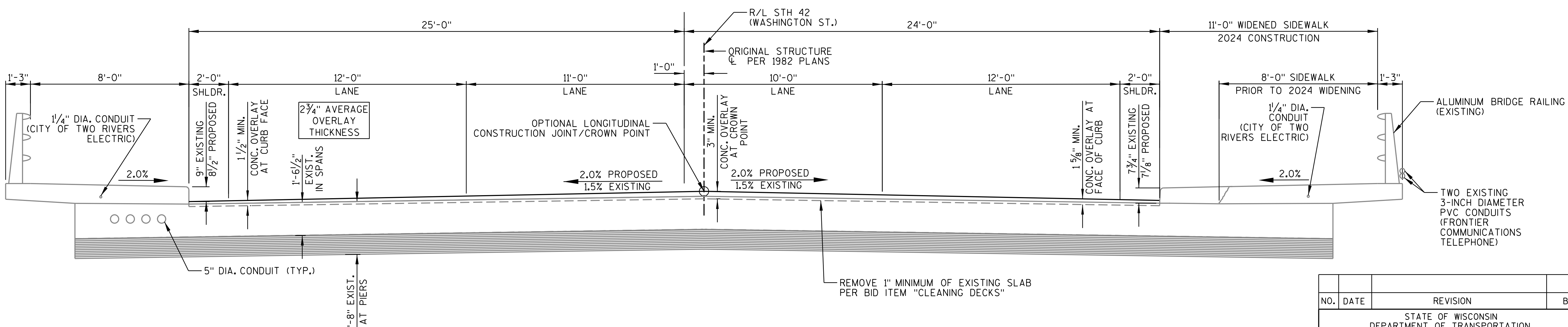
QUANTITY LISTED FOR PREPARATION DECKS TYPE 1 AND TYPE 2 AND FULL DEPTH DECK REPAIR IS TENTATIVE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL DECK REPAIR LOCATIONS WITH THE ENGINEER. DECK PREPARATION REPAIRS AND FULL DEPTH DECK REPAIR SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS"

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" AT THE WEST OVERLAY EDGE, A MINIMUM OVERLAY THICKNESS OF 1⅝" AT THE EAST OVERLAY EDGE, AND MINIMUM OVERLAY THICKNESS OF 3" AT THE CROWN POINT PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. THE MINIMUM OVERLAY THICKNESS ACCOUNTS FOR THE CROSS SLOPE CORRECTION FROM THE EXISTING CROSS SLOPE OF 1.5% TO THE PROPOSED CROSS SLOPE OF 2.0%. EXPECTED AVERAGE OVERLAY THICKNESS IS 2¾". THE AVERAGE OVERLAY INCLUDES AN ADDITIONAL ½-INCH TO ACCOUNT FOR VARIATIONS ON THE DECK SURFACE.

DEBRIS CONTAINMENT BID ITEM IS TO BE USED FOR FULL-DEPTH DECK REPAIRS AND CONCRETE SURFACE REPAIR OVER THE WATERWAY.

SEAL OVERLAY CONSTRUCTION JOINTS, INCLUDING JOINTS NEAR EACH FACE OF CURB OR PARAPET ACCORDING TO SECTION 502.3.13.1 OF THE STANDARD SPECIFICATIONS. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

ALL CONCRETE REMOVAL TO BE DEFINED BY A 1/2" DEEP SAWCUT.



CROSS SECTION THRU BRIDGE
(LOOKING NORTH)

STATE PROJECT NUMBER
1470-33-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-117

DRAWN BY EKK PLANS CK'D. JZ

CROSS SECTION, QUANTITIES & NOTES

SHEET 2 OF 2

FILE: 93676_B-36-117_02.DGN

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DESIGN DATA

LIVE LOAD (EXISTING BARREL PORTION):

- DESIGN LOAD : HS-20
- INVENTORY RATING FACTOR : HS-20 ✦
- OPERATIONAL RATING FACTOR : HS-30 ✦

✦ TAKEN FROM HSI, 5/9/2024

LIVE LOAD (NEW BARREL PORTION):

- DESIGN LOAD : HL-93
- INVENTORY RATING FACTOR : 1.09
- OPERATIONAL RATING FACTOR : 1.41
- WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) : 255 KIPS

EARTH LOAD:

- DESIGNED FOR 0 TO 1 FOOT OF FILL

MATERIAL PROPERTIES:

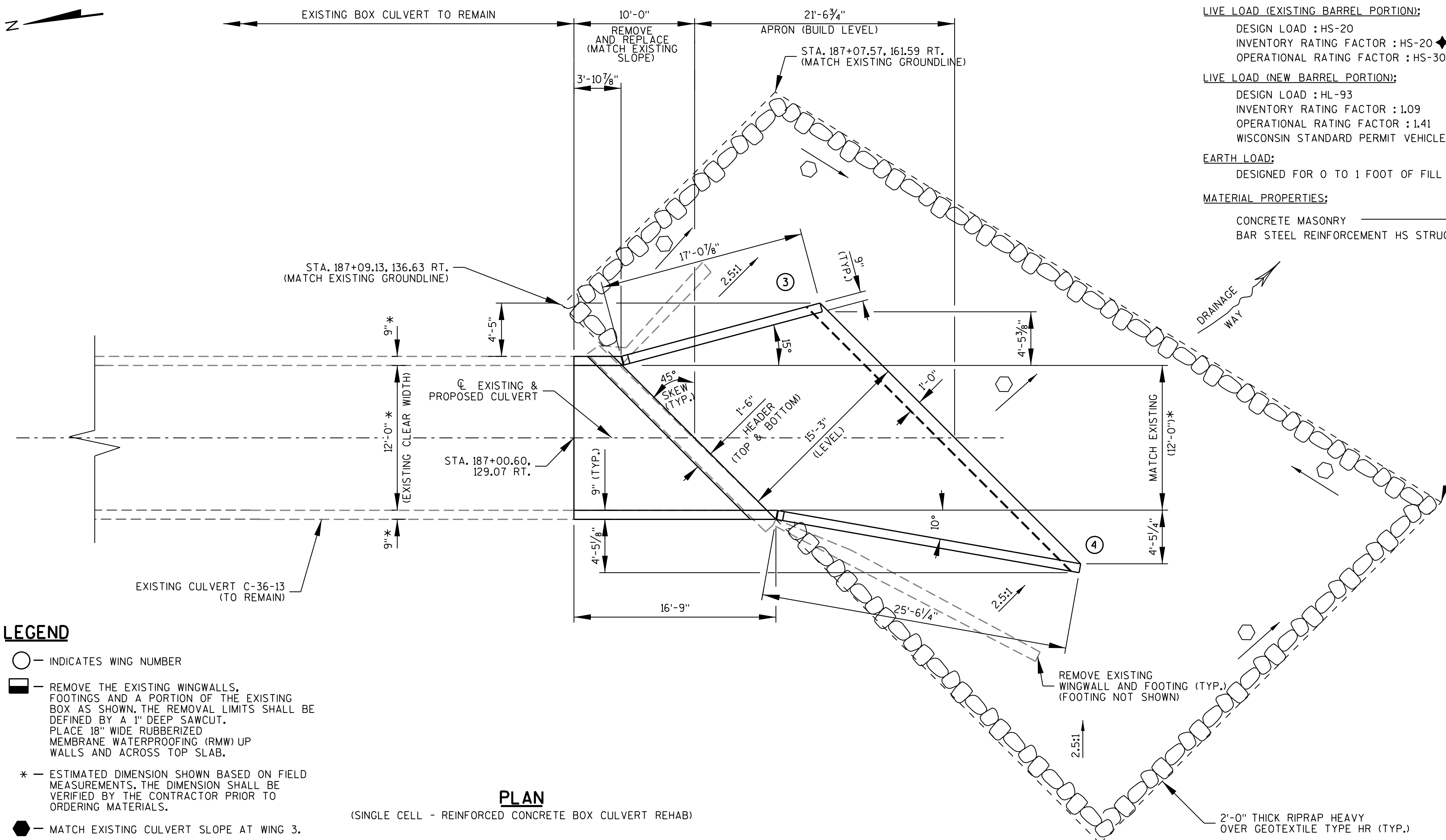
- CONCRETE MASONRY — f'c = 3,500 P.S.I.
- BAR STEEL REINFORCEMENT HS STRUCTURES — fy = 60,000 P.S.I.

TRAFFIC DATA:

- A.A.D.T. (2025) = 13,370
- A.A.D.T. (2045) = 13,370
- R.D.S. = 50 MPH

STATE PROJECT NUMBER

1470-27-71

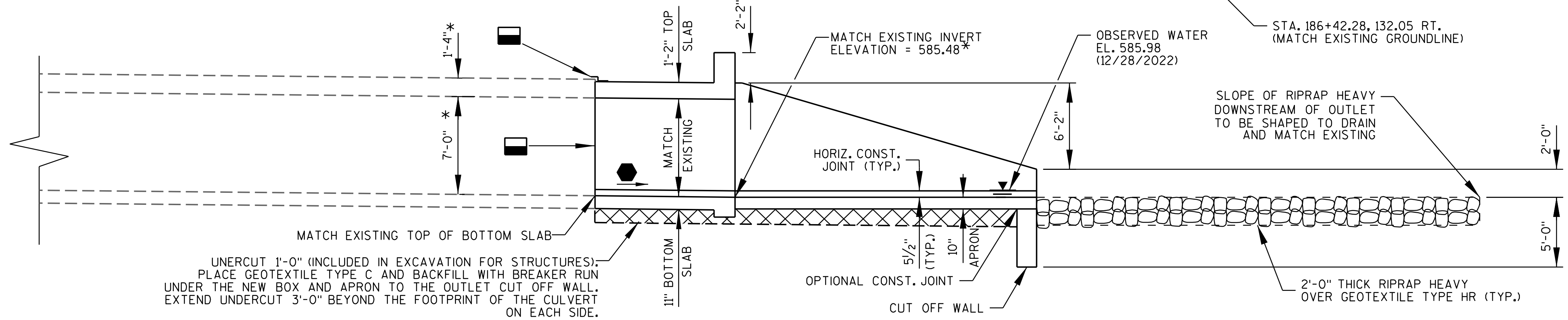


PLAN

(SINGLE CELL - REINFORCED CONCRETE BOX CULVERT REHAB)

LEGEND

- ◯ — INDICATES WING NUMBER
- ▬ — REMOVE THE EXISTING WINGWALLS, FOOTINGS AND A PORTION OF THE EXISTING BOX AS SHOWN. THE REMOVAL LIMITS SHALL BE DEFINED BY A 1" DEEP SAWCUT. PLACE 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING (RMW) UP WALLS AND ACROSS TOP SLAB.
- * — ESTIMATED DIMENSION SHOWN BASED ON FIELD MEASUREMENTS. THE DIMENSION SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS.
- ⬢ — MATCH EXISTING CULVERT SLOPE AT WING 3.
- ⬡ — MATCH EXISTING GROUND SLOPE.



ELEVATION

(LOOKING EAST)

OUTLET

WISCONSIN PROFESSIONAL ENGINEER
NATHAN J KINDT
E-48663
SUAMICO
WIS.

Nathan J. Kindt

8-29-2024

LIST OF DRAWINGS

CONSULTANT DESIGN CONTACT:
NATHAN KINDT
(920) 392-5155

BRIDGE OFFICE CONTACT:
AARON BONK
(608) 261-0261

NO.	DATE	REVISION	BY

MSA
ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
1702 PANKRATZ STREET, MADISON WI 53704
(608) 242-7779 www.msa-ps.com
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 11/05/24
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE C-36-13

STH 42 OVER DRAINAGE WAY

COUNTY	TOWN/CITY/VILLAGE
MANITOWOC	~~TOWN/~~CITY~~/VILLAGE~~ TWO RIVERS

DESIGN SPEC.
REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JDH	NJK	EKK	NJK

GENERAL PLAN

SHEET 1 OF 5

FILE= 93676 C-36-13_01.DGN

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STATE PROJECT NUMBER
1470-27-71

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-36-13" SHALL BE THE EXISTING GROUND LINE.

THE CONCRETE IN THE CUT OFF WALL MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

THE "ALTERNATE CUT OFF WALL" SHOWN ON WISDOT STD. 36.02 MAY BE PLACED IN LIEU OF THE CAST-IN-PLACE CUT OFF WALLS. PAYMENT WILL BE BASED ON CONCRETE CUT OFF WALLS.

THIS STRUCTURE WILL REHABILITATE THE EXISTING STRUCTURE, C-36-13, A 260 FT. LONG, SINGLE CELL 12' WIDE x 7' HIGH CONCRETE BOX CULVERT.

BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES, LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE B" REQUIRED ON THE BOX CULVERT SIDES AND TOP AND BEHIND APRON WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

A TEMPORARY WATER DIVERSION SHALL BE PROVIDED DURING CONSTRUCTION OF THE NEW CULVERT EXTENSION. THE TEMPORARY WATER DIVERSION BID ITEM IS DETAILED IN THE SPECIAL PROVISIONS AND PROVIDED IN THE ROADWAY QUANTITIES.

APRON AND BOTTOM SLAB MAY BE POURED CONTINUOUSLY, IF 2" DEEP JOINTS ARE CUT WITHIN 12 HOURS AFTER POURING.

* DIMENSIONS ARE BASED ON EXISTING SITE MEASUREMENTS. ALL DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS.

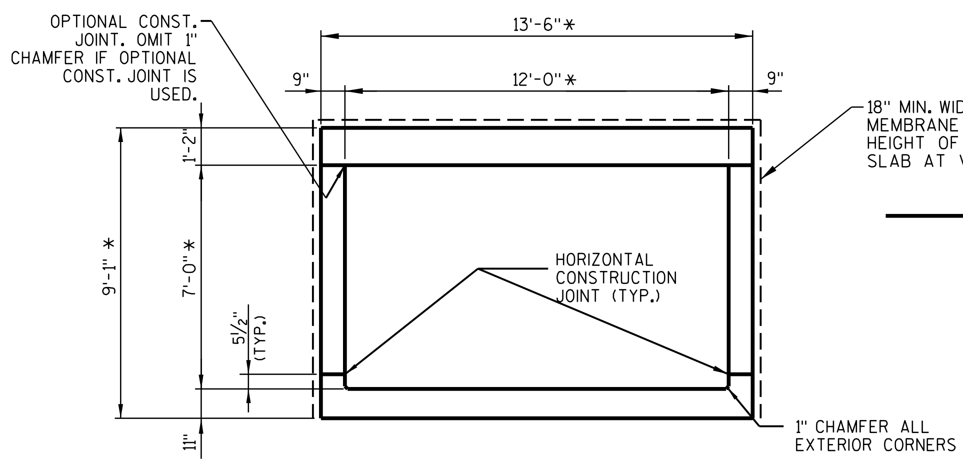
ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT, UNLESS SPECIFIED OTHERWISE.

UTILIZE EXISTING BAR STEEL REINFORCEMENT AT VERTICAL CONSTRUCTION JOINT BETWEEN NEW AND EXISTING BOX CULVERT. EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING REMOVAL. SALVAGE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH NEW NO. 5 BAR ADHESIVE ANCHORS.

SALVAGE AND REUSE EXISTING RIPRAP AT OUTLET OF EXISTING BOX CULVERT IF APPROVED BY THE ENGINEER. SEE ROAD PLANS FOR QUANTITIES AND DETAILS.

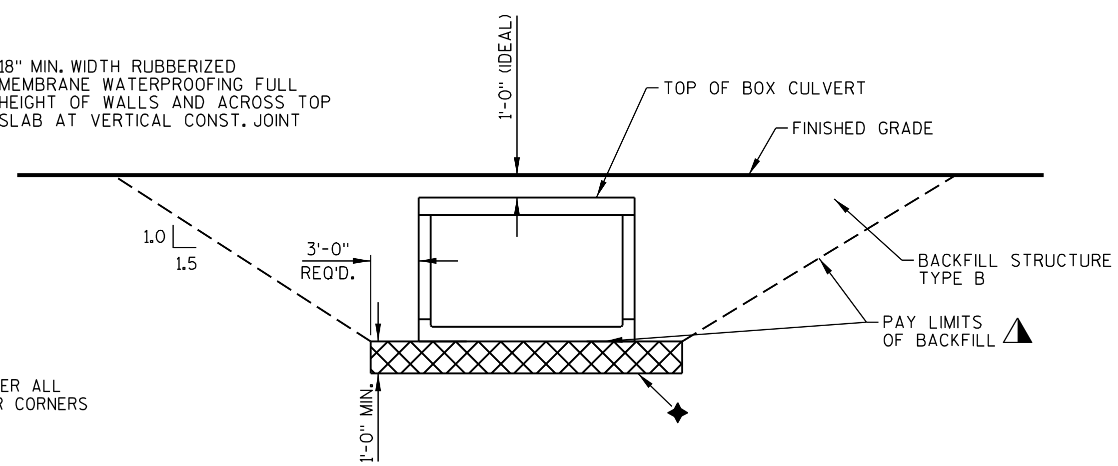
ESTIMATED STRUCTURE QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	TOTAL
203.0220	REMOVING STRUCTURE C-36-13	EACH	1
206.2001	EXCAVATION FOR STRUCTURES CULVERTS C-36-13	EACH	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	215
311.0110	BREAKER RUN	TON	55
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	44
504.0100	CONCRETE MASONRY CULVERTS	CY	40.0
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	4,665
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,190
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	15
606.0300	RIPRAP HEAVY	CY	135
645.0105	GEOTEXTILE TYPE C	SY	105
645.0120	GEOTEXTILE TYPE HR	SY	255
	NON-BID ITEMS		
	PREFORMED FILLER	SIZE	¾"



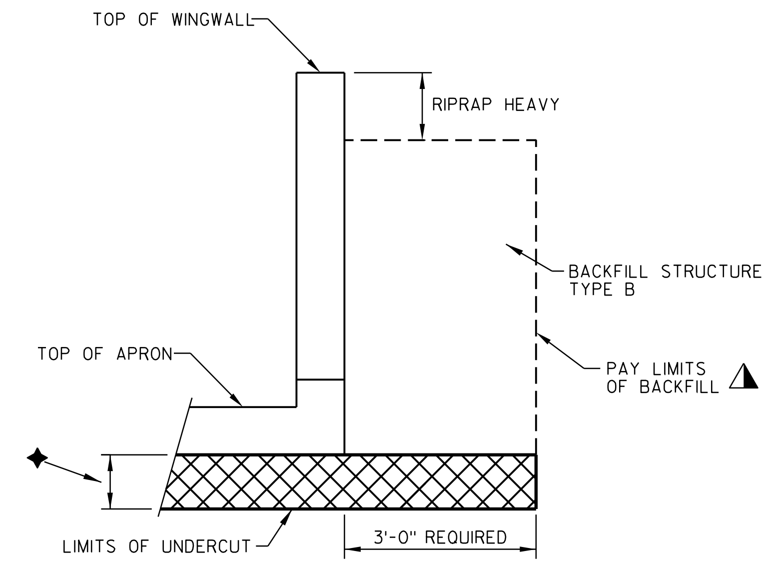
TYPICAL SECTION THRU NEW BOX

(LOOKING SOUTH)

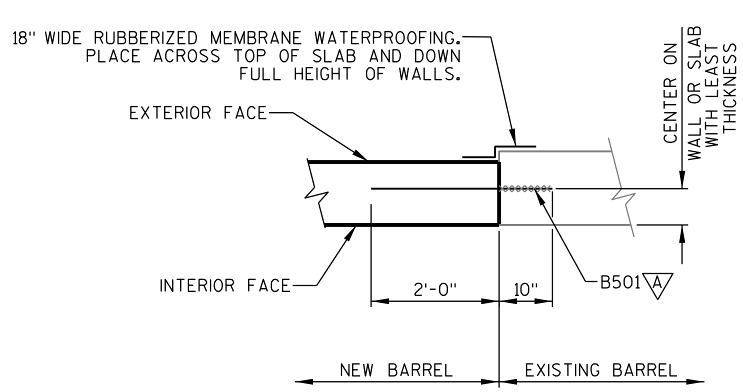


CULVERT BACKFILL STRUCTURE DETAIL

✦ UNDERCUT 1'-0" (INCLUDED IN EXCAVATION FOR STRUCTURES), PLACE GEOTEXTILE TYPE C AND BACKFILL WITH BREAKER RUN UNDER THE NEW BOX AND APRON TO THE OUTLET CUT OFF WALL. EXTEND 3'-0" BEYOND THE FOOTPRINT OF THE CULVERT ON EACH SIDE.



WINGWALL BACKFILL DETAIL



VERTICAL CONSTRUCTION JOINT

TOP SLAB SHOWN, BOTTOM SLAB & WALLS SIMILAR (TYP. WALLS AND SLABS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-36-13

DRAWN BY EKK | PLANS CK'D. NJK

NOTES, QUANTITIES & DETAILS

SHEET 2

8

8

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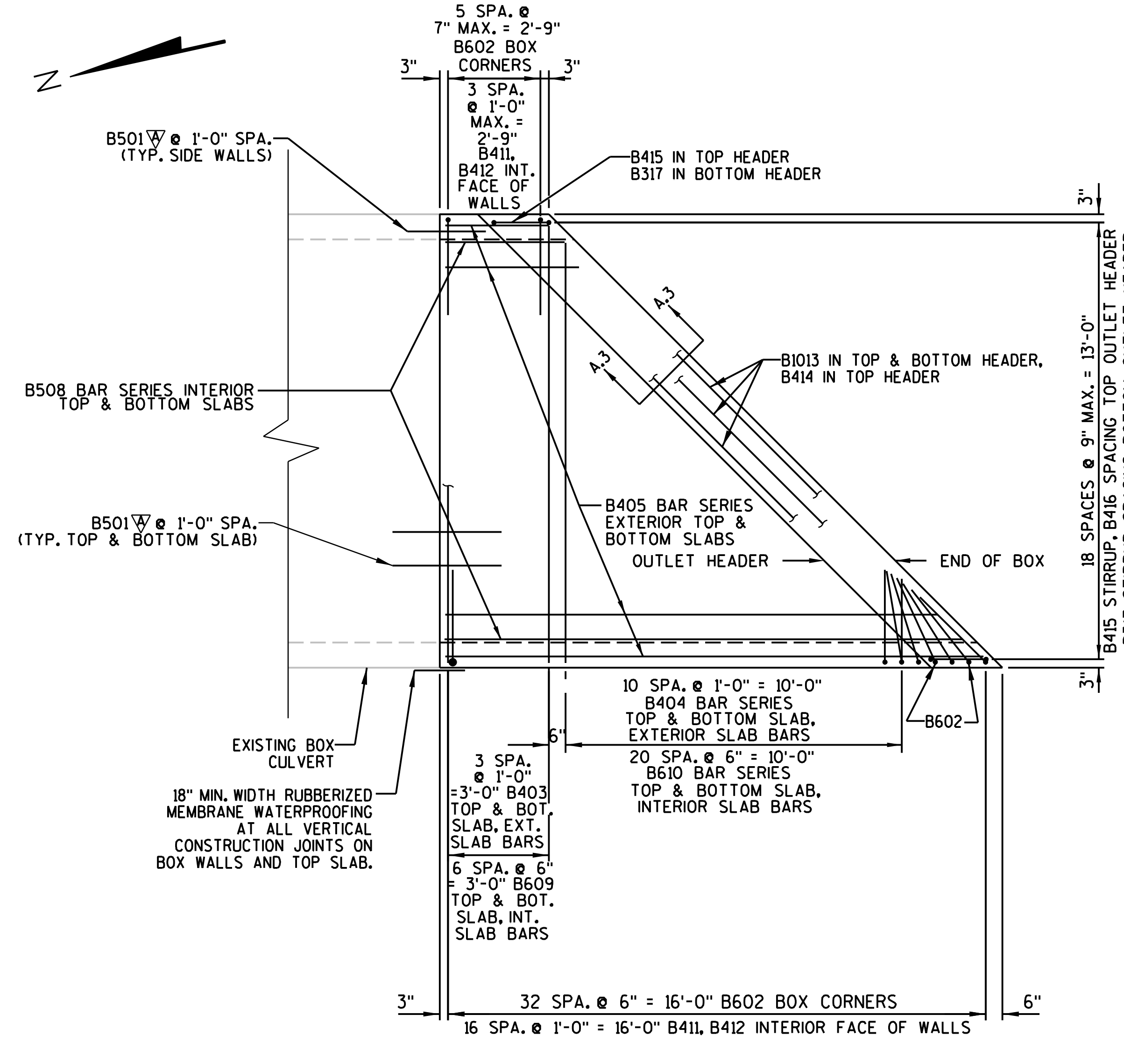
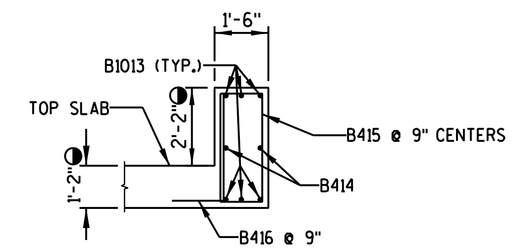


BOX OUTLET REHABILITATION PLAN
(TOP SLAB REINFORCEMENT SHOWN)



SECTION A.3 - OUTLET HEADER
(LOOKING EAST)

BILL OF BARS

	MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A	B501	44	2'-10"			BOX - JOINT BETWEEN NEW & EXIST. LONGIT.
	B602	78	8'-4"	X		BOX CORNERS - TOP & BOTTOM - TRANS.
	B403	8	13'-2"			BOX EXTERIOR SLABS - TRANS.
	B404	22	7'-7"		*	BOX EXTERIOR SLABS - END - TRANS.
	B405	16	9'-7"		*	BOX EXTERIOR SLABS - LONGIT.
	B406	5	3'-1"			BOX EXTERIOR SHORT WALL - LONGIT.
	B407	5	3'-5"			BOX INTERIOR SHORT WALL - LONGIT.
	B508	34	9'-7"		*	BOX INTERIOR SLABS - LONGIT.
	B609	14	13'-2"			BOX INTERIOR SLABS - TRANS.
	B610	42	7'-7"		*	BOX INTERIOR SLABS - END - TRANS.
	B411	21	2'-8"			BOX INTERIOR WALL DOWELS - VERT.
	B412	21	7'-6"			BOX INTERIOR WALLS - VERT.
	B1013	12	18'-7"			TOP & BOTTOM HEADER - TRANS.
	B414	2	18'-7"			TOP HEADER - TRANS.
	B415	19	8'-2"	X		TOP OUTLET HEADER STIRRUPS - VERT.
	B416	19	4'-4"	X		TOP OUTLET HEADER - VERT.
	B317	19	4'-5"	X		BOTTOM OUTLET HEADER STIRRUPS - VERT.
	B418	5	15'-9"			BOX INTERIOR LONG WALL - LONGIT.
	B419	5	16'-1"			BOX EXTERIOR LONG WALL - LONGIT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

* LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS. BENT BARS IF USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.

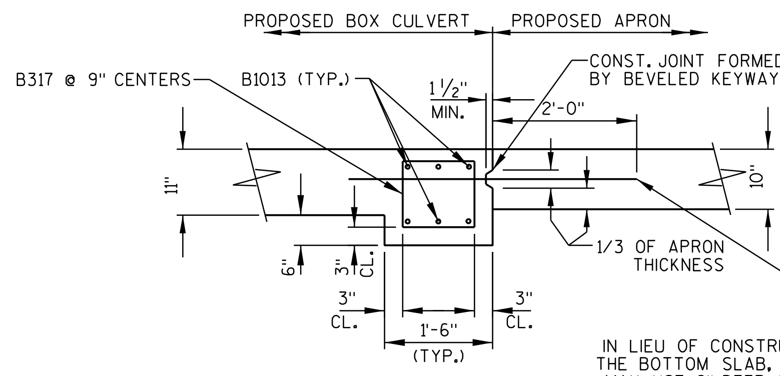
A ADHESIVE ANCHOR NO. 5 BARS

◒ DIMENSIONS ARE BASED ON EXISTING SITE MEASUREMENTS. ALL DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS.

BAR SERIES TABLE

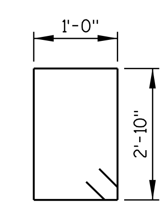
MARK	NO. REQUIRED	LENGTH
B404	2 SERIES OF 11	2'-7" TO 12'-7"
B405	2 SERIES OF 8	3'-1" TO 16'-1"
B508	2 SERIES OF 17	3'-7" TO 15'-7"
B610	2 SERIES OF 21	2'-7" TO 12'-7"

BUNDLE AND TAG EACH SERIES SEPARATELY

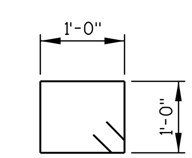


IN LIEU OF CONSTRUCTION JOINTS IN- ⊛ THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" (C504) AT 1'-0" CENTERS REQUIRED.

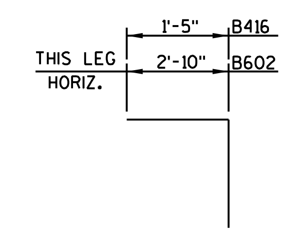
APRON CONNECTION & HEADER DETAIL
(LOOKING EAST)



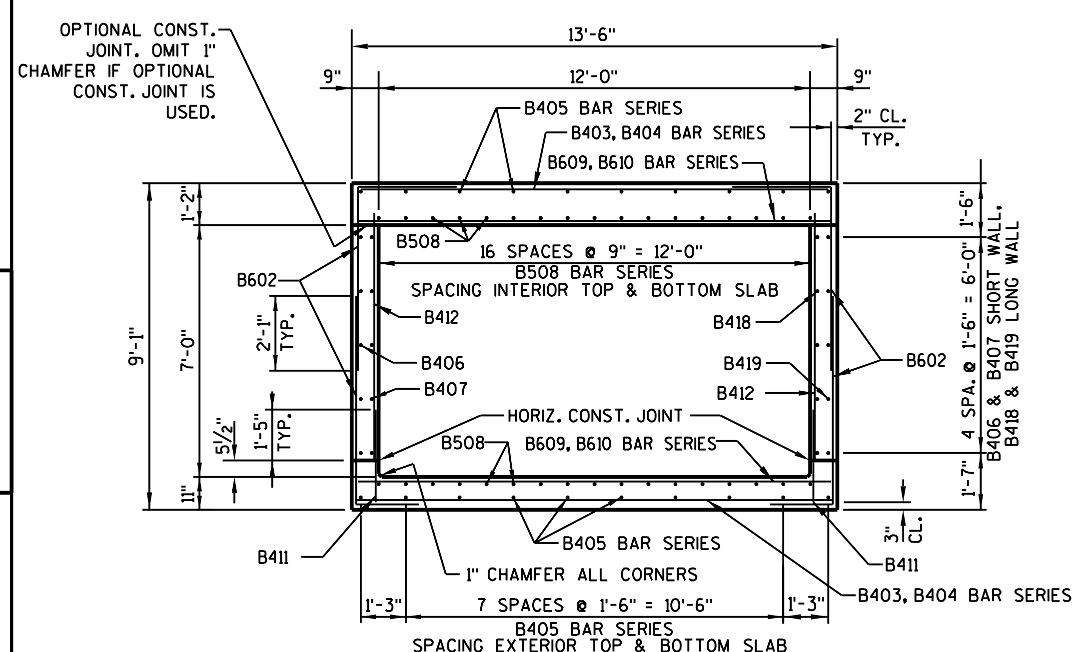
B415



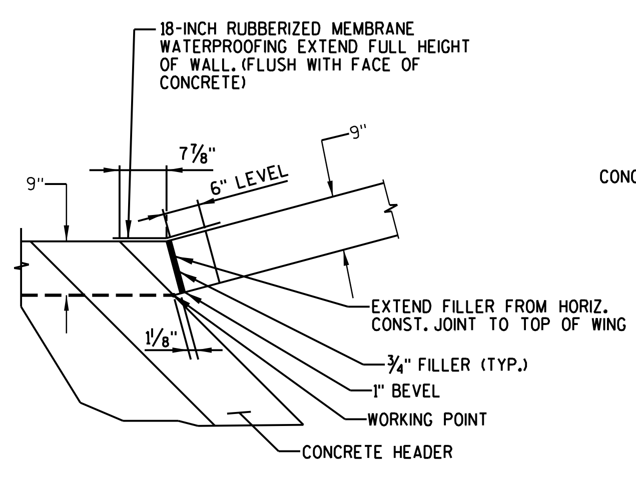
B317



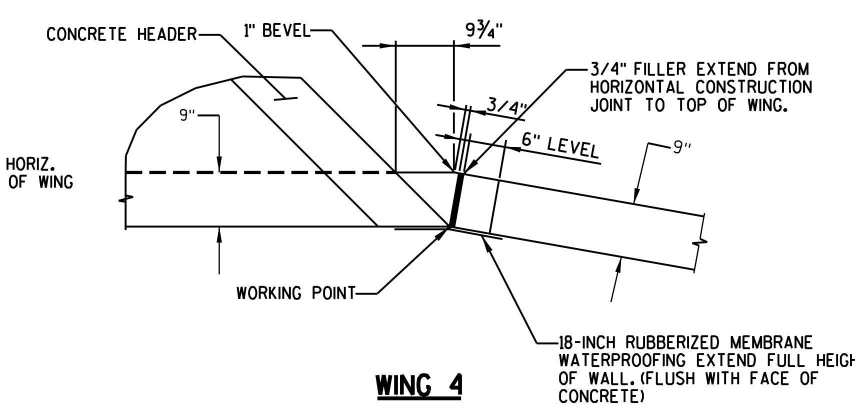
B602, B416



TYPICAL SECTION THRU BOX
(LOOKING DOWNSTREAM)



WING 3



WING 4

CORNER DETAILS

NO.	DATE	REVISION	BY

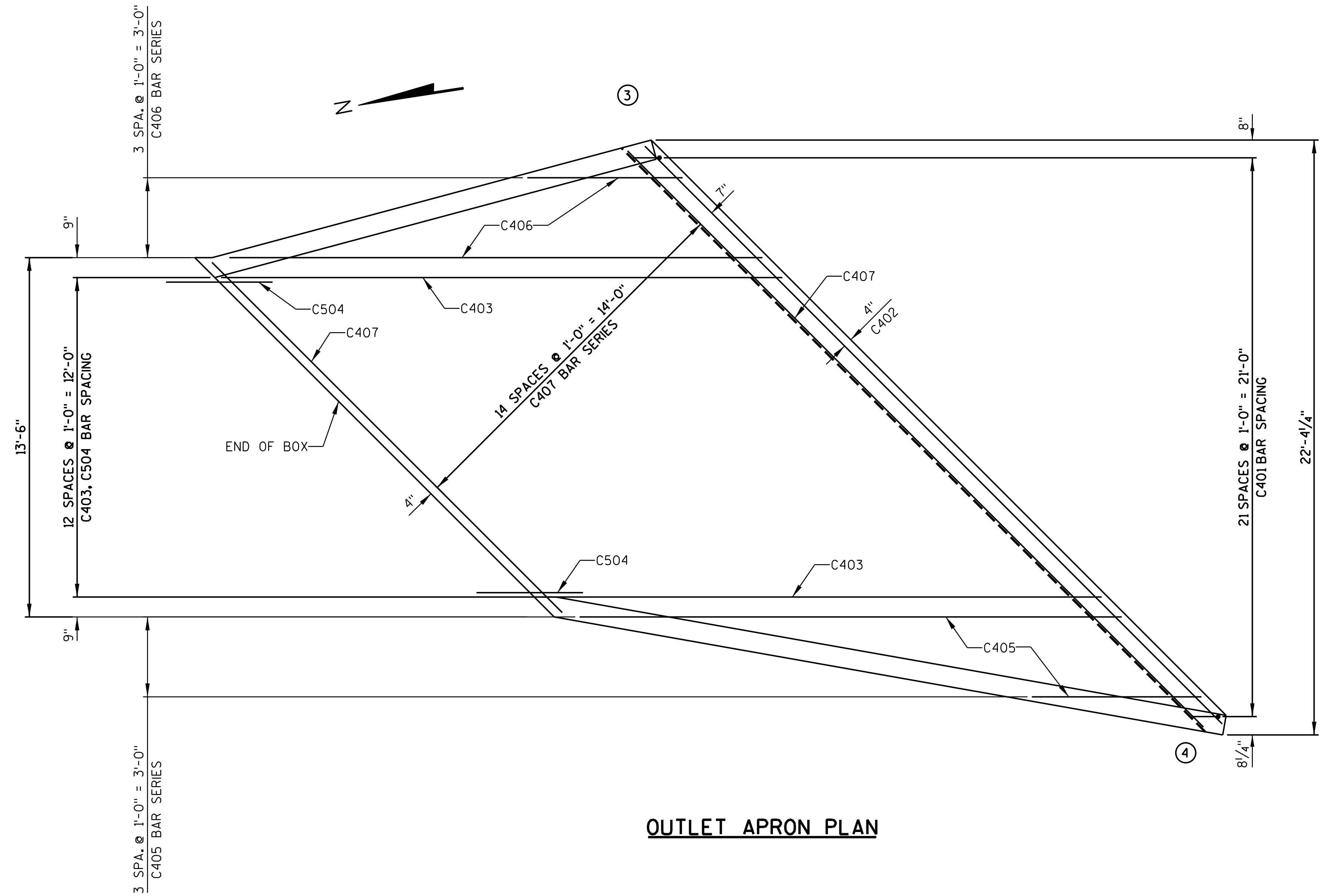
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-36-13

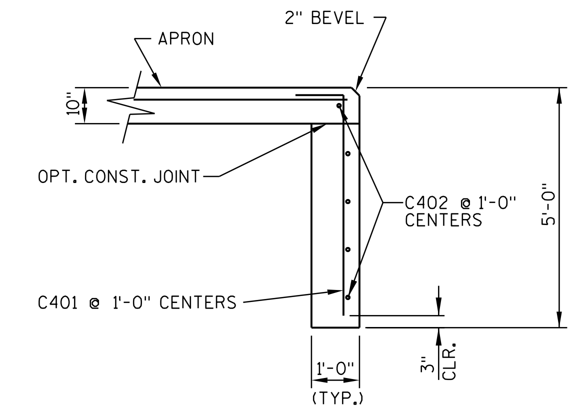
DRAWN BY EKK | PLANS CK'D. NJK

BOX CULVERT

SHEET 3



OUTLET APRON PLAN



SECTION THRU OUTLET CUT OFF WALL

LEGEND

○ – INDICATES WING NUMBER

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-36-13

DRAWN BY EKK | PLANS CK'D. NJK

OUTLET APRON

SHEET 4
224

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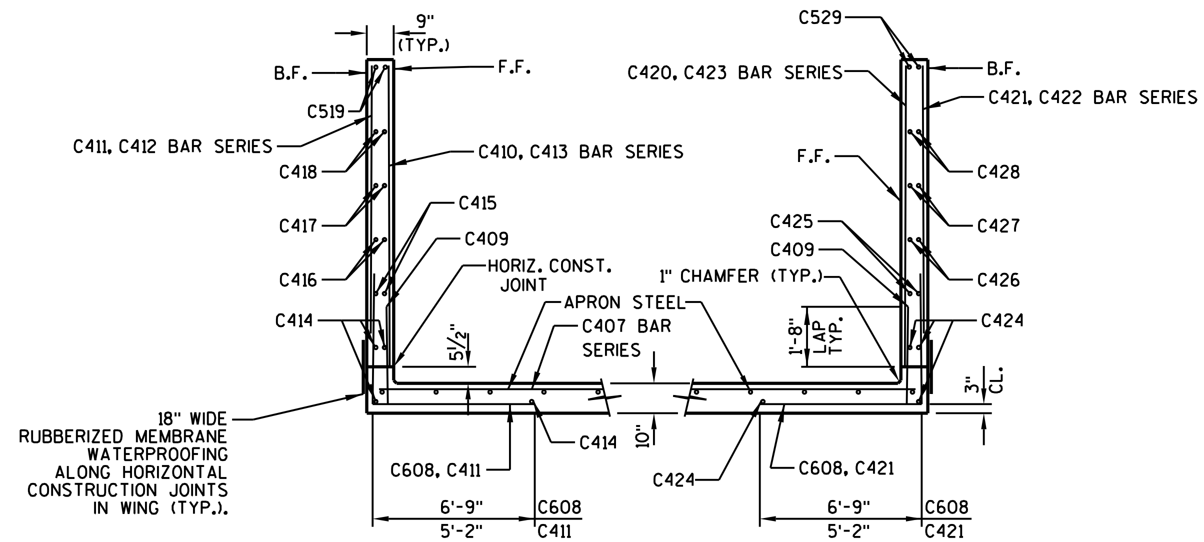
STATE PROJECT NUMBER
1470-27-71



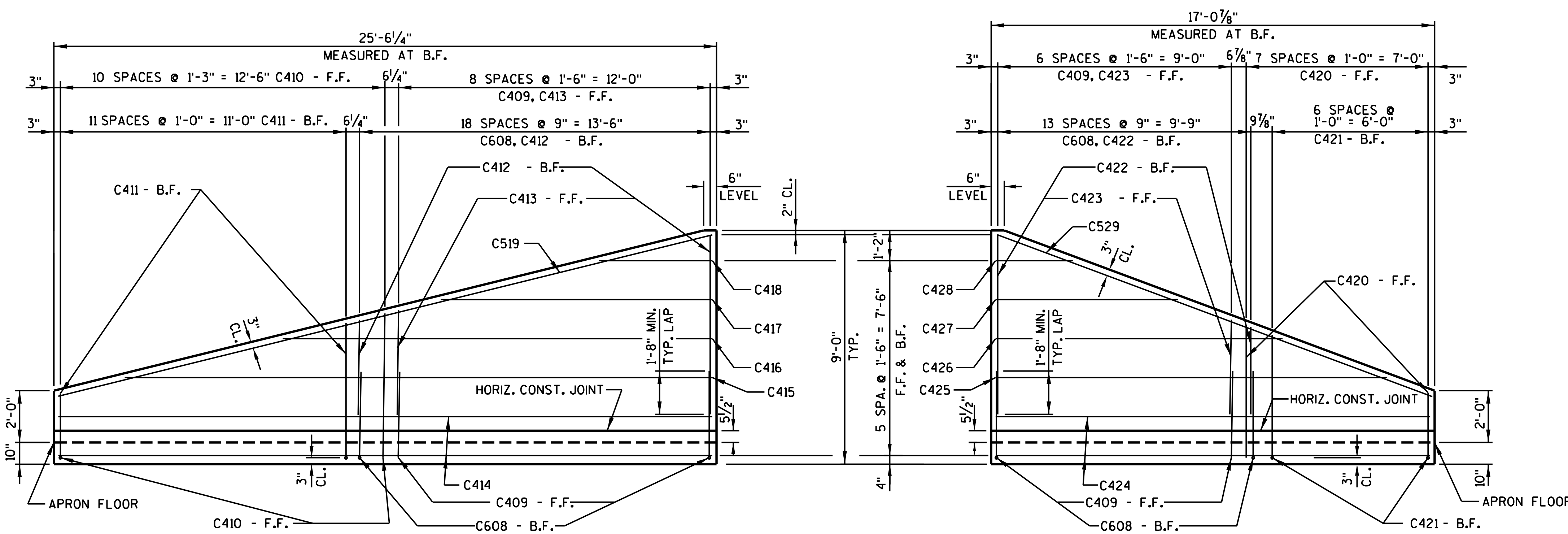
SECTION THRU WINGS
(NORMAL TO WINGWALLS LOOKING UPSTREAM)

BILL OF BARS

MARK	NO. REQUIRED COATED	NO. REQUIRED UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION
C401		22	5'-6"	X		OUTLET APRON CUT-OFF WALL - VERT.
C402		5	30'-7"			OUTLET APRON CUT-OFF WALL - TRANS.
C403		13	21'-1"			OUTLET APRON - LONGIT.
C504		13	4'-0"			OUTLET CONNECTION DOWELS
C405		4	13'-4"		*	OUTLET APRON @ WING 4 - LONGIT.
C406		4	12'-11"		*	OUTLET APRON @ WING 3 - LONGIT.
C407		15	24'-7"		*	OUTLET APRON - TRANS.
C608	33		10'-1"	X		WING 3 & 4 - B.F. DOWELS - VERT.
C409	16		3'-3"			WING 3 & 4 - F.F. DOWELS - VERT.
C410	11		3'-11"		*	WING 4 - F.F. - END - VERT.
C411	12		8'-10"	X	*	WING 4 - B.F. - END - VERT.
C412	19		5'-2"		*	WING 4 - B.F. - VERT.
C413	9		5'-7"		*	WING 4 - F.F. - VERT.
C414	4		25'-5"			WING 4 & OUTLET APRON - LONGIT
C415	2		22'-3"			WING 4 - F.F. & B.F. - LONGIT
C416	2		16'-3"			WING 4 - F.F. & B.F. - LONGIT
C417	2		10'-3"			WING 4 - F.F. & B.F. - LONGIT
C418	2		4'-3"			WING 4 - F.F. & B.F. - LONGIT
C519	2		25'-9"			WING 4 - F.F. & B.F. - TOP - LONGIT.
C420	8		3'-9"		*	WING 3 - F.F. - END - VERT.
C421	7		8'-8"	X	*	WING 3 - B.F. - END - VERT.
C422	14		5'-0"		*	WING 3 - B.F. - VERT.
C423	7		5'-5"		*	WING 3 - F.F. - VERT.
C424	4		16'-11			WING 3 & OUTLET APRON - LONGIT.
C425	2		14'-10"			WING 3 - F.F. & B.F. - LONGIT.
C426	2		10'-10"			WING 3 - F.F. & B.F. - LONGIT.
C427	2		6'-11"			WING 3 - F.F. & B.F. - LONGIT.
C428	2		2'-11"			WING 3 - F.F. & B.F. - LONGIT.
C529	2		17'-7"			WING 3 - F.F. & B.F. - TOP - LONGIT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

* - LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS. BENT BARS IF USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.

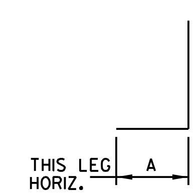


OUTLET WING ELEVATIONS
(LOOKING UPSTREAM)

BAR SERIES TABLE

MARK	NO. REQUIRED	LENGTH
C405	1 SERIES OF 4	6'-4" TO 20'-4"
C406	1 SERIES OF 4	5'-10" TO 20'-0"
C407	1 SERIES OF 15	18'-8" TO 30'-7"
C410	1 SERIES OF 11	2'-4" TO 5'-6"
C411	1 SERIES OF 12	7'-5" TO 10'-2"
C412	1 SERIES OF 19	3'-5" TO 6'-10"
C413	1 SERIES OF 9	4'-1" TO 7'-1"
C420	1 SERIES OF 8	2'-5" TO 5'-0"
C421	1 SERIES OF 7	7'-6" TO 9'-9"
C422	1 SERIES OF 14	3'-2" TO 6'-10"
C423	1 SERIES OF 7	3'-8" TO 7'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY



MARK	A
C401	1'-0"
C608	6'-9"
C411	5'-2"
C421	5'-2"

LEGEND

F.F.— FRONT FACE

B.F.— BACK FACE

CL. — CLEAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-36-13

DRAWN BY EKK | PLANS CK'D. NJK

WING DETAILS

SHEET 5

8

8

FILE= 93676_04.dgn

93676_C-36-13_05.dgn 8/19/2024 10:14:28 PM ekazadi

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
8 - MASS ORDINATE	IF MARSH AND EBS TO BE BACKFILLED WITH GRANULAR: [CUT - SALVAGED PAVT - ((FILL - EXPANDED ROCK) * FILL FACTOR)]

DIVISION 1 - STH 42 - STA 178+25 TO 180+25

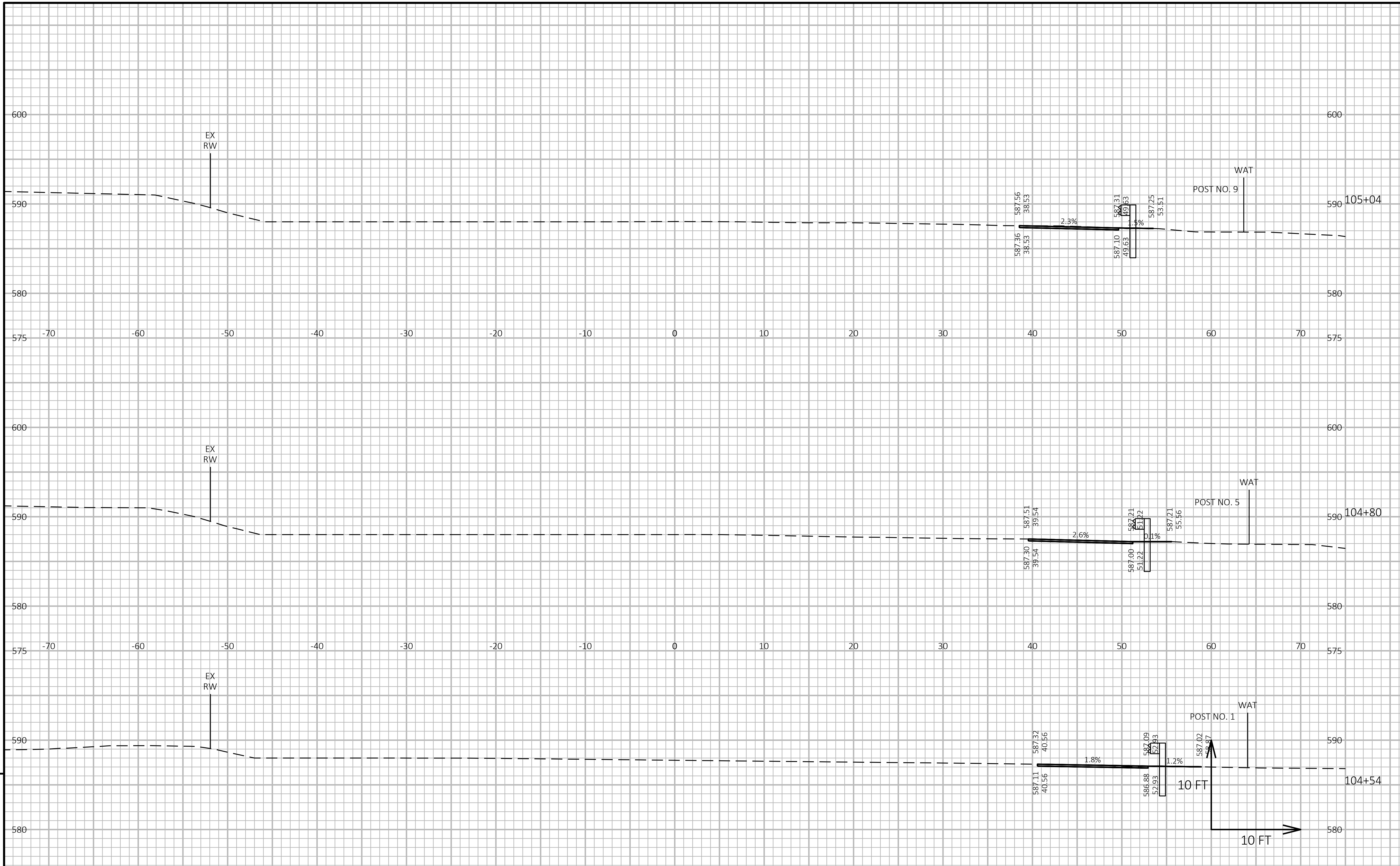
STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.30	MASS ORDINATE
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
178+25.00	17825.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0
178+50.00	17850.00	25.00	1.95	0.00	1.52	1	0	1	1	1	0
178+67.00	17867.00	17.00	6.22	0.00	3.08	3	0	1	4	3	1
179+00.00	17900.00	33.00	40.83	0.00	0.00	29	0	2	33	5	28
179+50.00	17950.00	50.00	14.82	0.00	0.03	52	0	0	85	5	80
179+65.00	17965.00	15.00	18.46	0.00	0.00	9	0	0	94	5	89
179+91.00	17991.00	26.00	15.77	0.00	5.65	16	0	3	110	9	101
180+00.00	18000.00	9.00	19.40	0.00	1.42	6	0	1	116	10	106
180+25.00	18025.00	25.00	41.76	0.00	0.11	28	0	1	144	12	132

DIVISION 1 - STH 42 - STA 187+36 TO 191+92 LT

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.30	MASS ORDINATE
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
187+35.86	18735.86	0.00	0.00	0.00	0.00	0	0	0	0	0	0
187+57.39	18757.39	21.53	0.55	0.00	0.45	0	0	0	0	0	0
187+95.00	18795.00	37.61	0.11	0.00	5.71	0	0	4	0	5	-5
188+00.00	18800.00	5.00	0.14	0.00	5.48	0	0	1	0	7	-7
188+50.00	18850.00	50.00	0.07	0.00	3.89	0	0	9	0	18	-18
188+75.00	18875.00	25.00	0.01	0.00	2.28	0	0	3	0	22	-22
189+00.00	18900.00	25.00	1.05	0.00	0.27	0	0	1	0	23	-23
189+50.00	18950.00	50.00	0.35	0.00	0.49	1	0	1	1	25	-24
190+00.00	19000.00	50.00	0.07	0.00	0.30	0	0	1	1	26	-25
190+16.00	19016.00	16.00	0.00	0.00	1.03	0	0	0	1	26	-25
190+41.00	19041.00	25.00	0.00	0.00	3.81	0	0	2	1	29	-28
190+50.00	19050.00	9.00	0.00	0.00	5.22	0	0	2	1	31	-30
190+66.00	19066.00	16.00	0.00	0.00	7.44	0	0	4	1	36	-35
191+00.00	19100.00	34.00	0.00	0.00	6.71	0	0	9	1	48	-47
191+05.00	19105.00	5.00	0.00	0.00	6.49	0	0	1	1	49	-48
191+25.00	19125.00	20.00	0.01	0.00	7.92	0	0	5	1	56	-55
191+50.00	19150.00	25.00	0.01	0.00	3.47	0	0	5	1	62	-61
191+75.00	19175.00	25.00	0.02	0.00	0.53	0	0	2	1	65	-64
191+92.49	19192.49	17.49	0.00	0.00	0.00	0	0	0	1	65	-64

DIVISION 1 - MIRRO DR

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.30	MASS ORDINATE
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
1+16.00	116.00	0.00	71.06	45.29	0.11	0	0	0	0	0	0
1+25.00	125.00	9.00	72.68	45.31	0.12	24	15	0	24	0	9
1+50.00	150.00	25.00	93.57	53.08	0.00	77	46	0	101	0	40
1+59.00	159.00	9.00	99.55	53.32	0.00	32	18	0	133	0	54
1+75.00	175.00	16.00	102.11	51.12	6.27	60	31	2	193	3	80
1+81.00	181.00	6.00	103.32	51.30	7.95	23	11	2	216	5	90
2+00.00	200.00	19.00	98.97	49.49	15.15	71	35	8	287	16	115
2+25.00	225.00	25.00	95.71	54.09	27.58	90	48	20	377	42	131
2+37.50	237.50	12.50	91.63	60.77	57.93	43	27	20	420	68	121
2+50.00	250.00	12.50	116.20	74.33	52.76	48	31	26	468	101	105
2+63.92	263.92	13.92	181.41	123.46	23.82	77	51	20	545	127	105
2+68.07	268.07	4.15	138.46	75.42	0.00	25	15	2	570	130	112
2+71.48	271.48	3.41	20.42	13.03	0.00	10	6	0	580	130	116



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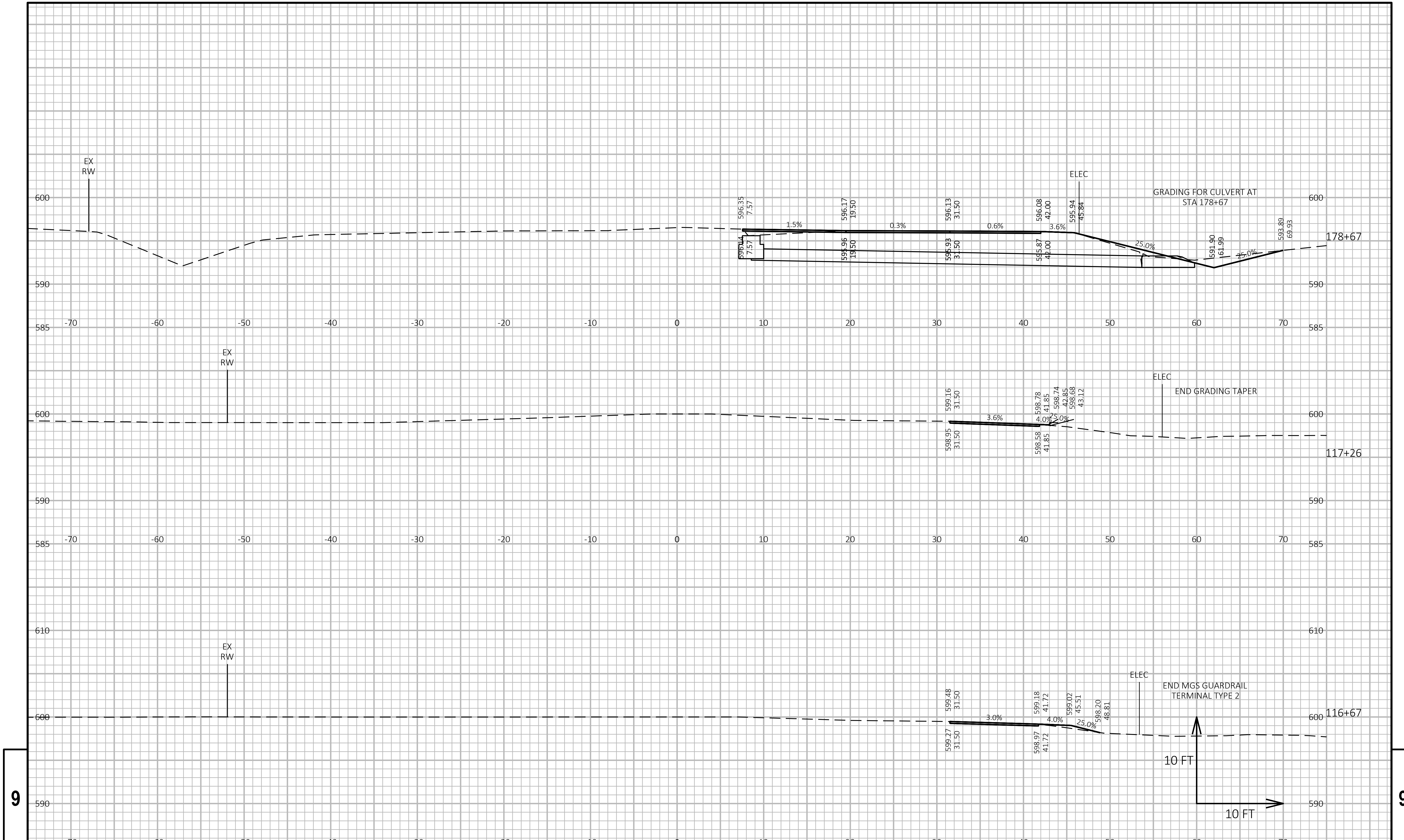
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	CROSS SECTIONS: CROSS SECTIONS - STH 42	SHEET 227	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201-xs

PLOT DATE : 10/28/2024 4:50 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	CROSS SECTIONS: CROSS SECTIONS - STH 42	SHEET 228	E

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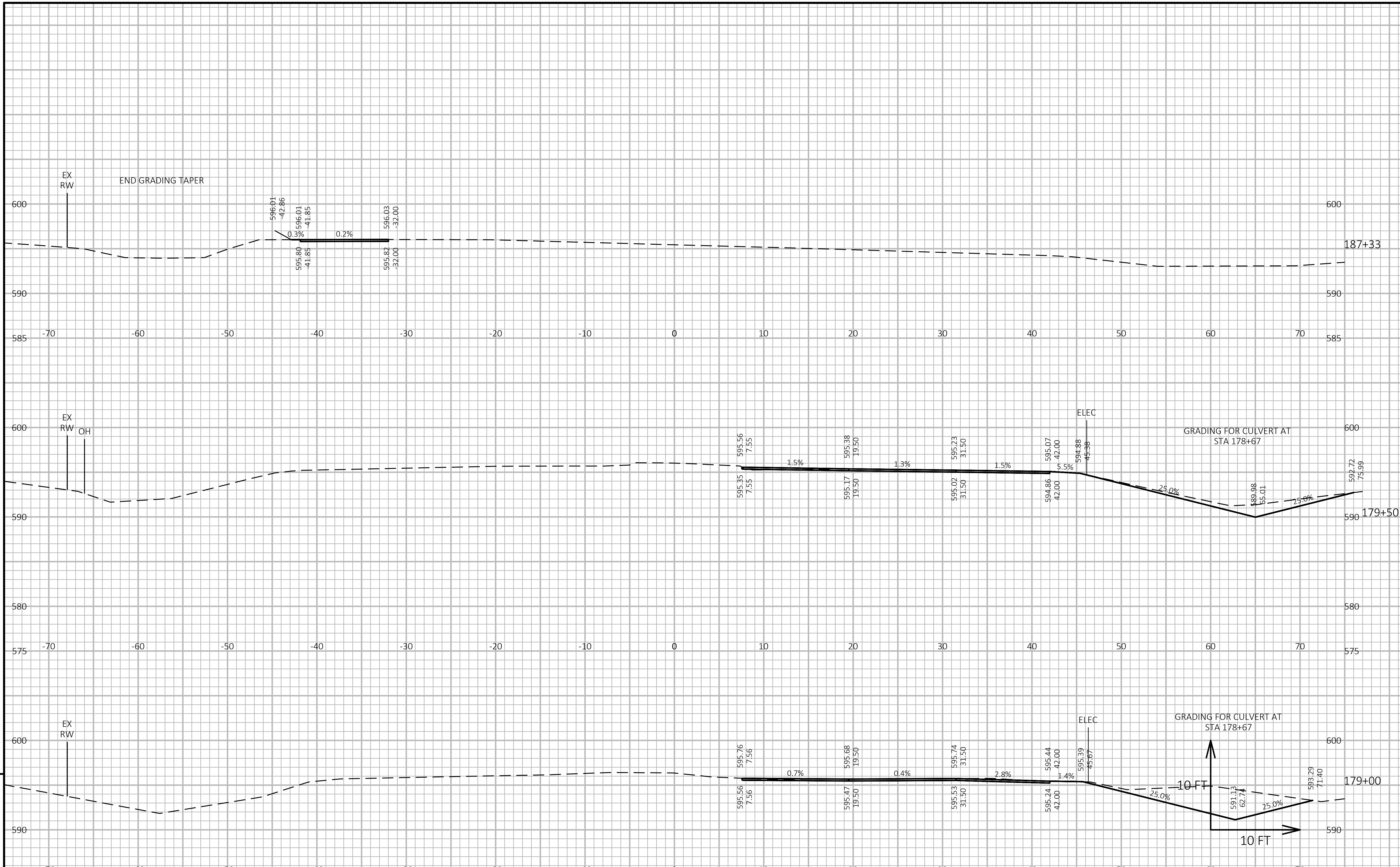
LAYOUT NAME - 090202-xs
PLOT DATE : 10/28/2024 4:51 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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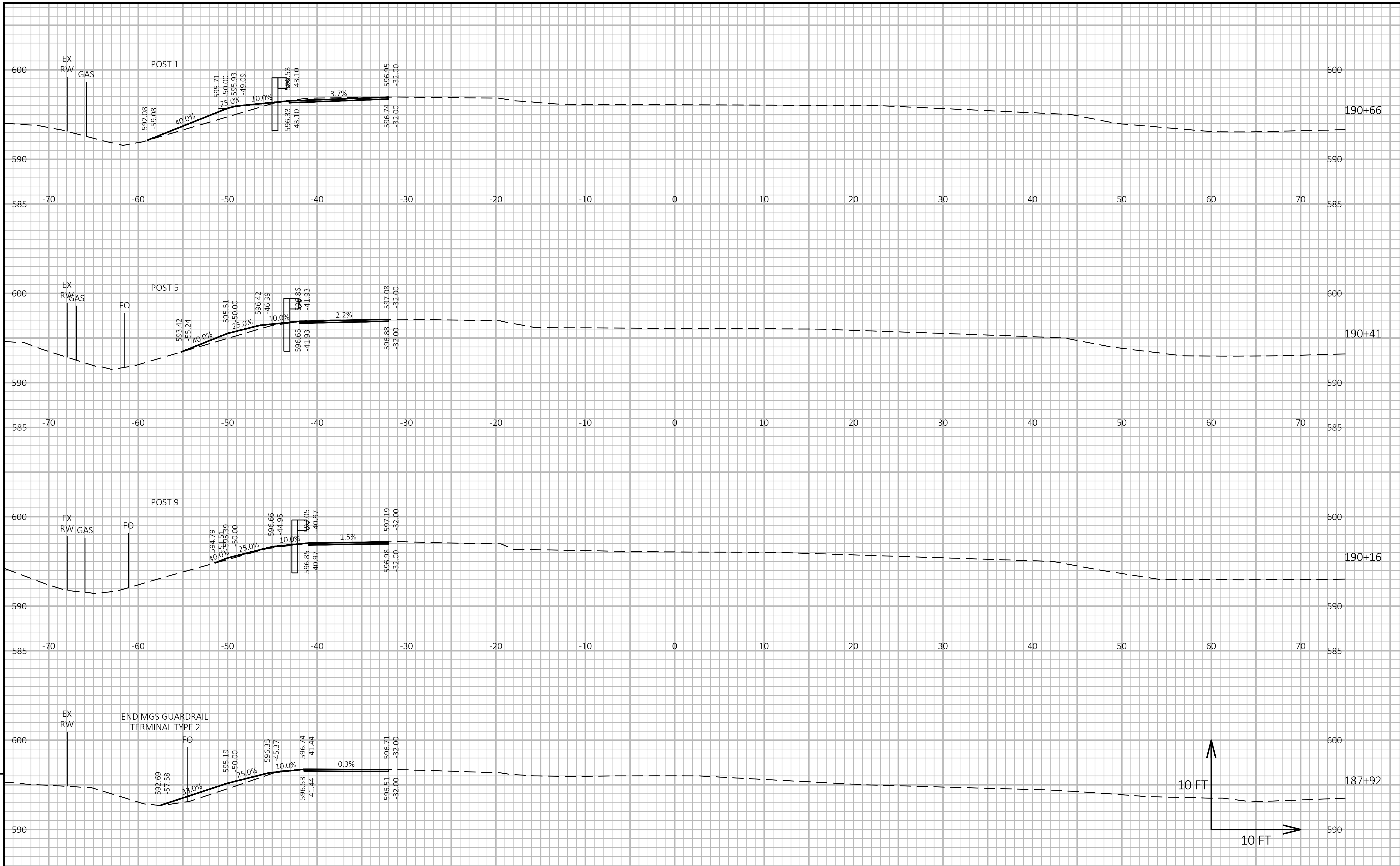
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	CROSS SECTIONS: CROSS SECTIONS - STH 42	SHEET 229	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090203-xs
PLOT DATE : 10/28/2024 4:51 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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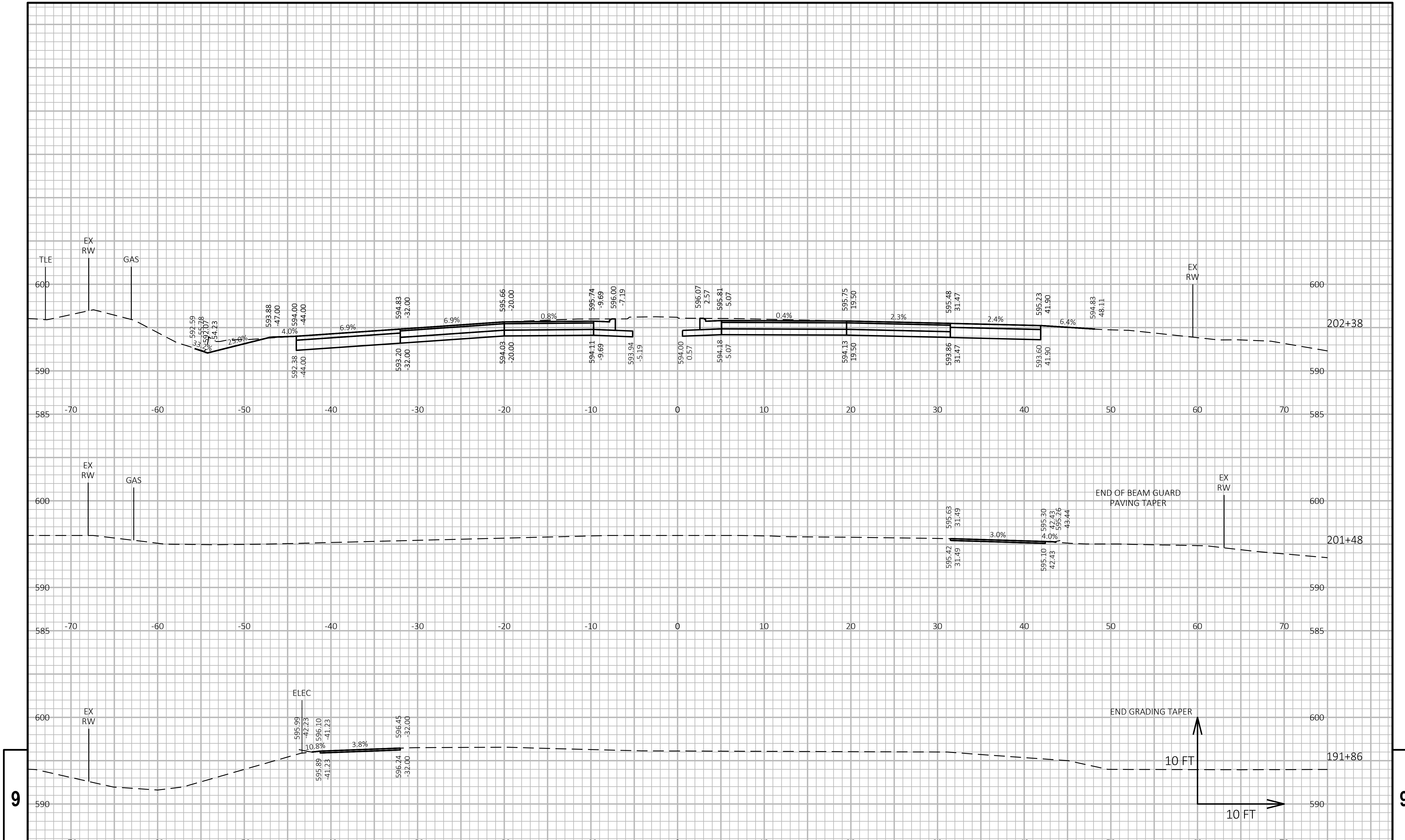
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	CROSS SECTIONS: CROSS SECTIONS - STH 42	SHEET 230	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090204-xs

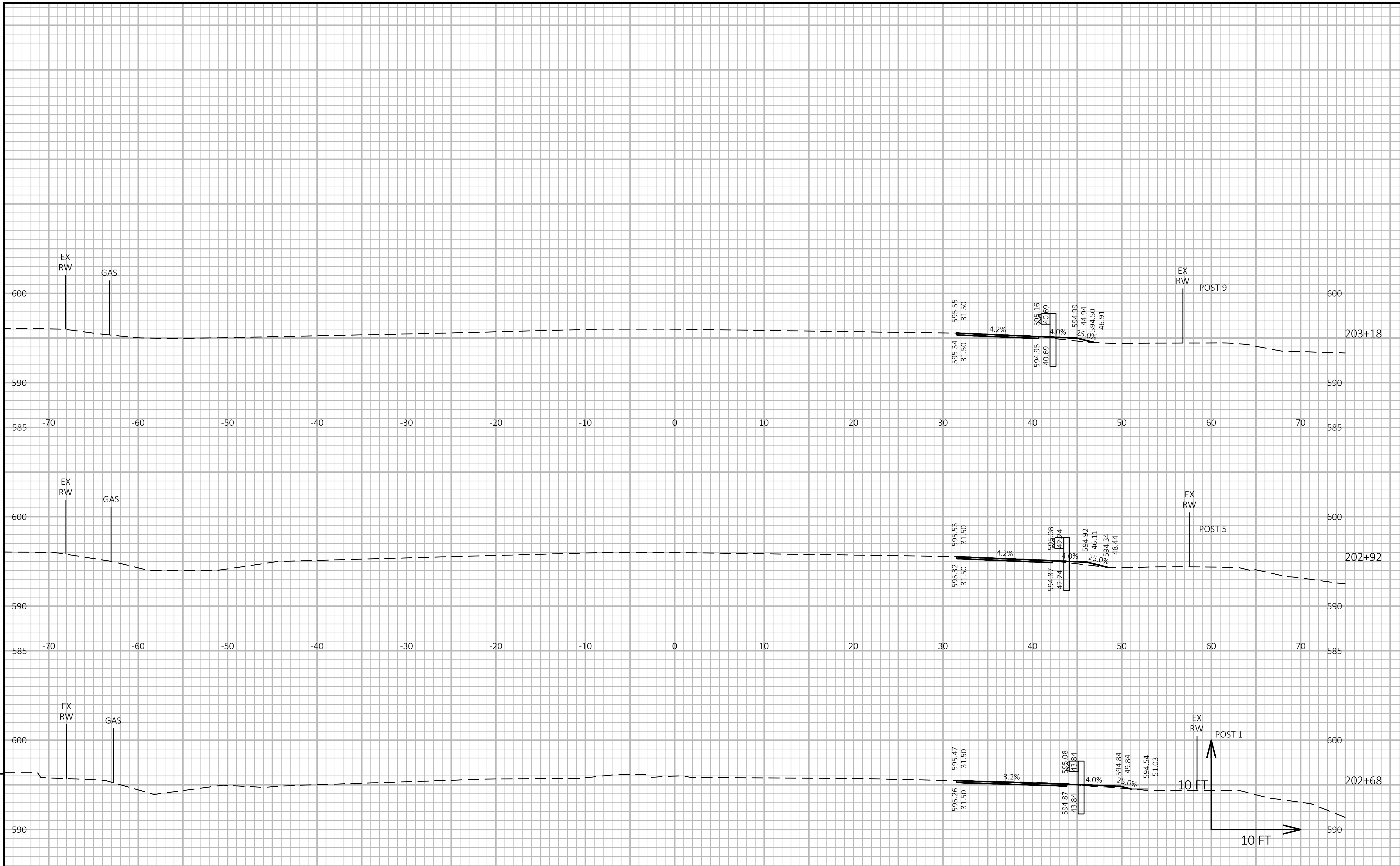
PLOT DATE : 10/28/2024 4:51 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1470-27-71 | HWY: STH 42 | COUNTY: MANITOWOC | CROSS SECTIONS: CROSS SECTIONS - STH 42 | SHEET 231 | E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090205-xs
PLOT DATE : 10/28/2024 4:51 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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PROJECT NO: 1470-27-71 | HWY: STH 42 | COUNTY: MANITOWOC | CROSS SECTIONS: CROSS SECTIONS - STH 42 | SHEET 232 | E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090206-xs
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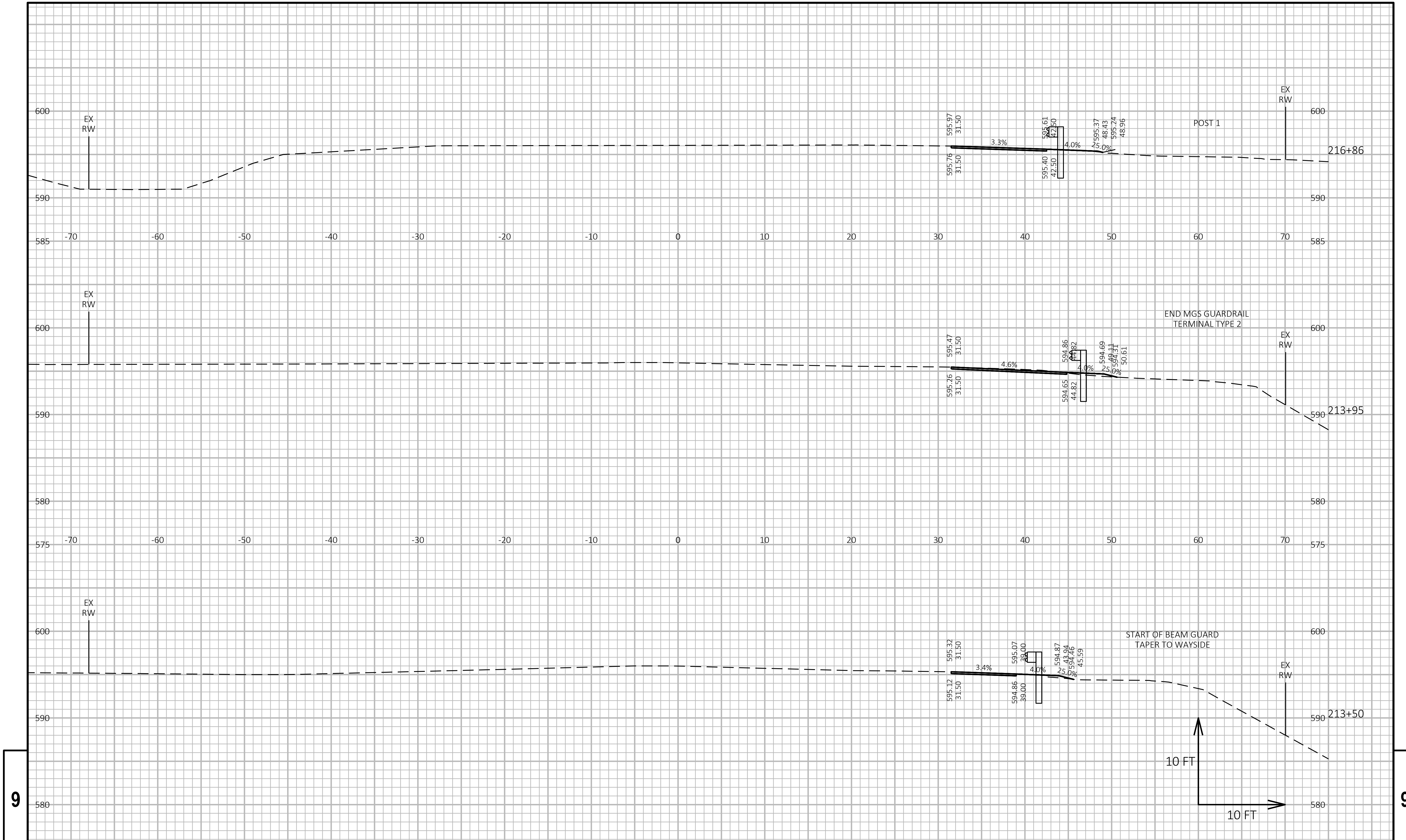
WISDOT/CADDS SHEET 49



PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	CROSS SECTIONS: CROSS SECTIONS - STH 42	SHEET 233	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090207-xs
PLOT DATE : 10/28/2024 4:51 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

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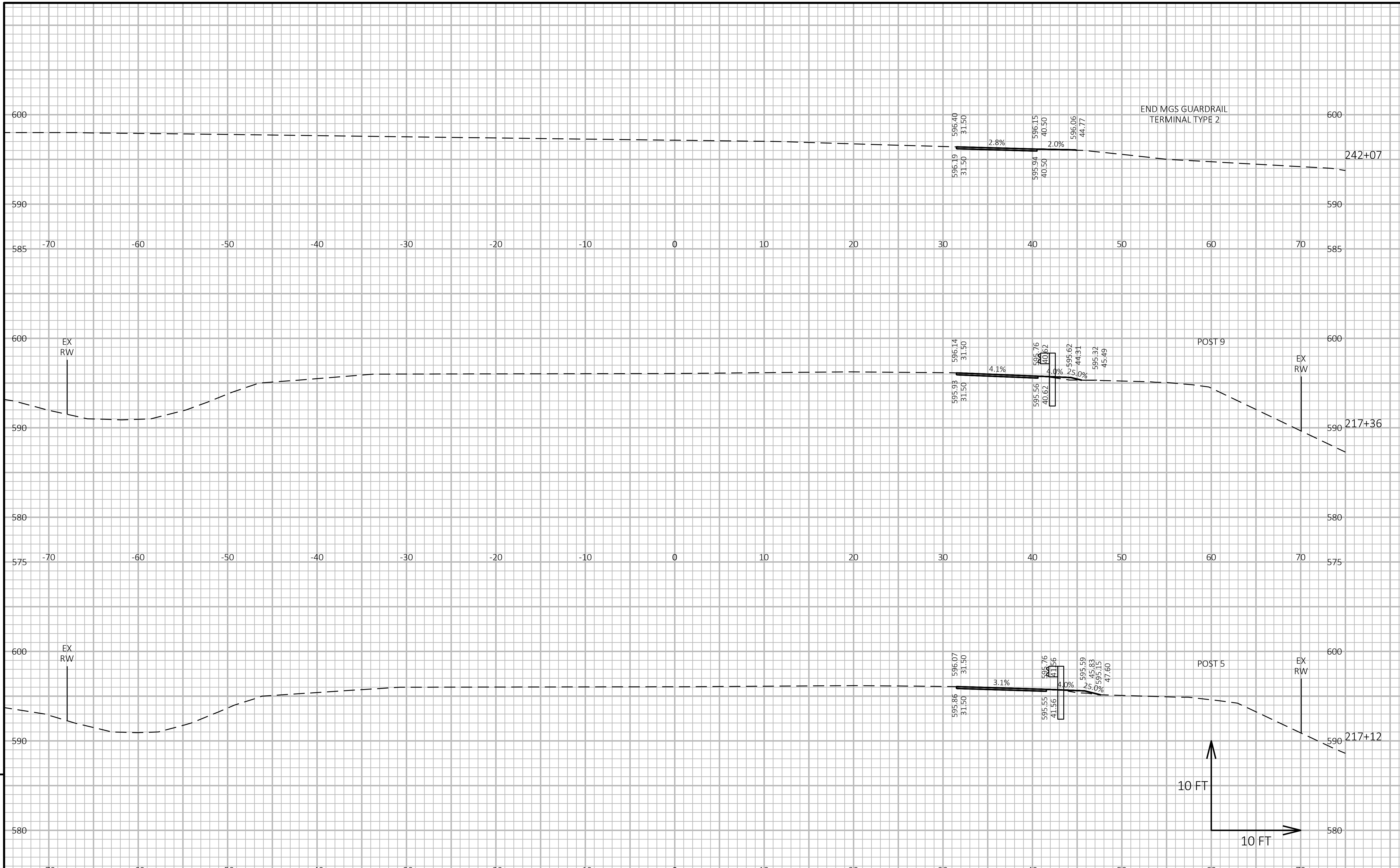

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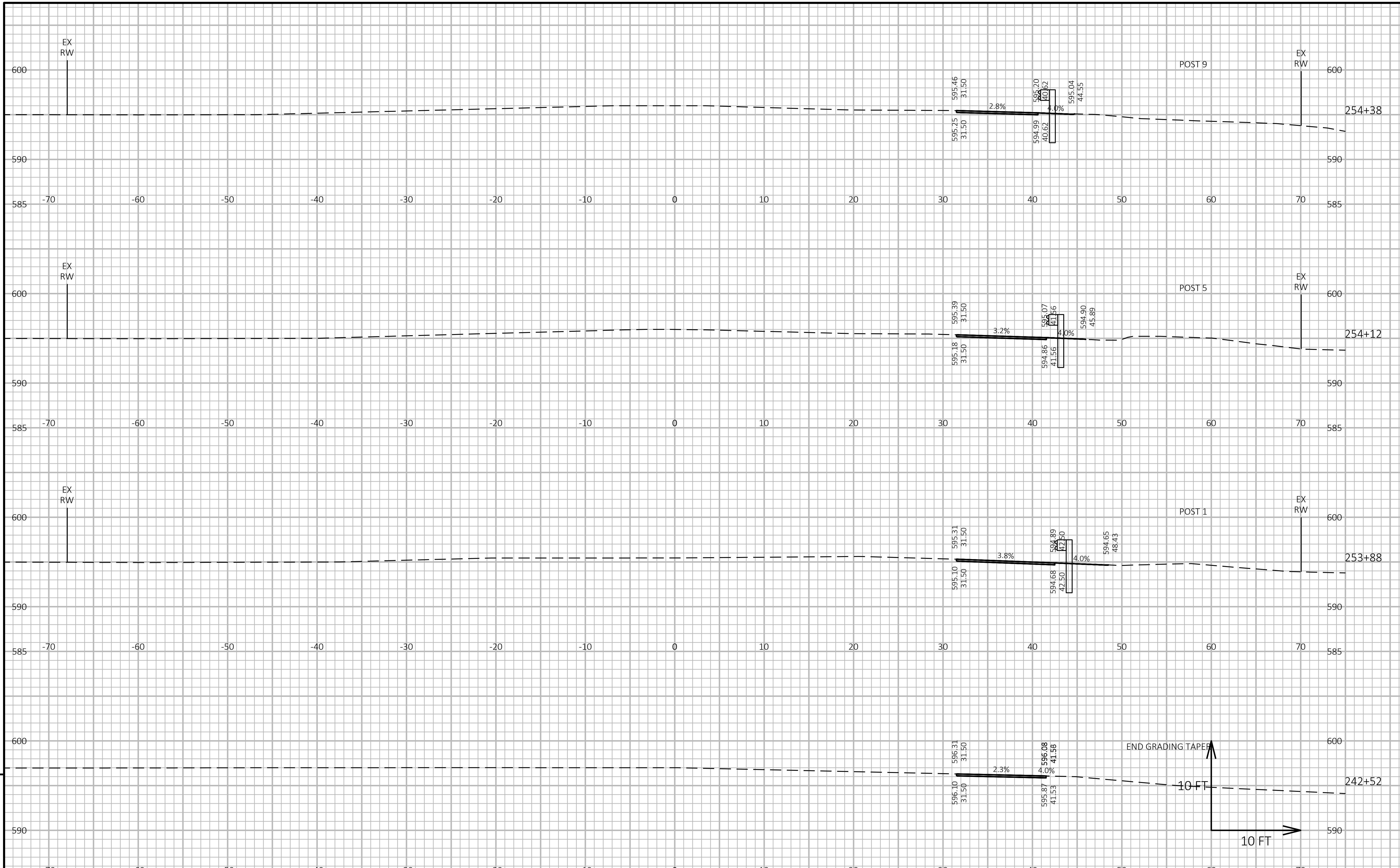
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	CROSS SECTIONS: CROSS SECTIONS - STH 42	SHEET 234	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090208-xs
PLOT DATE : 10/28/2024 4:52 PM
PLOT BY : CHAD WAGNER
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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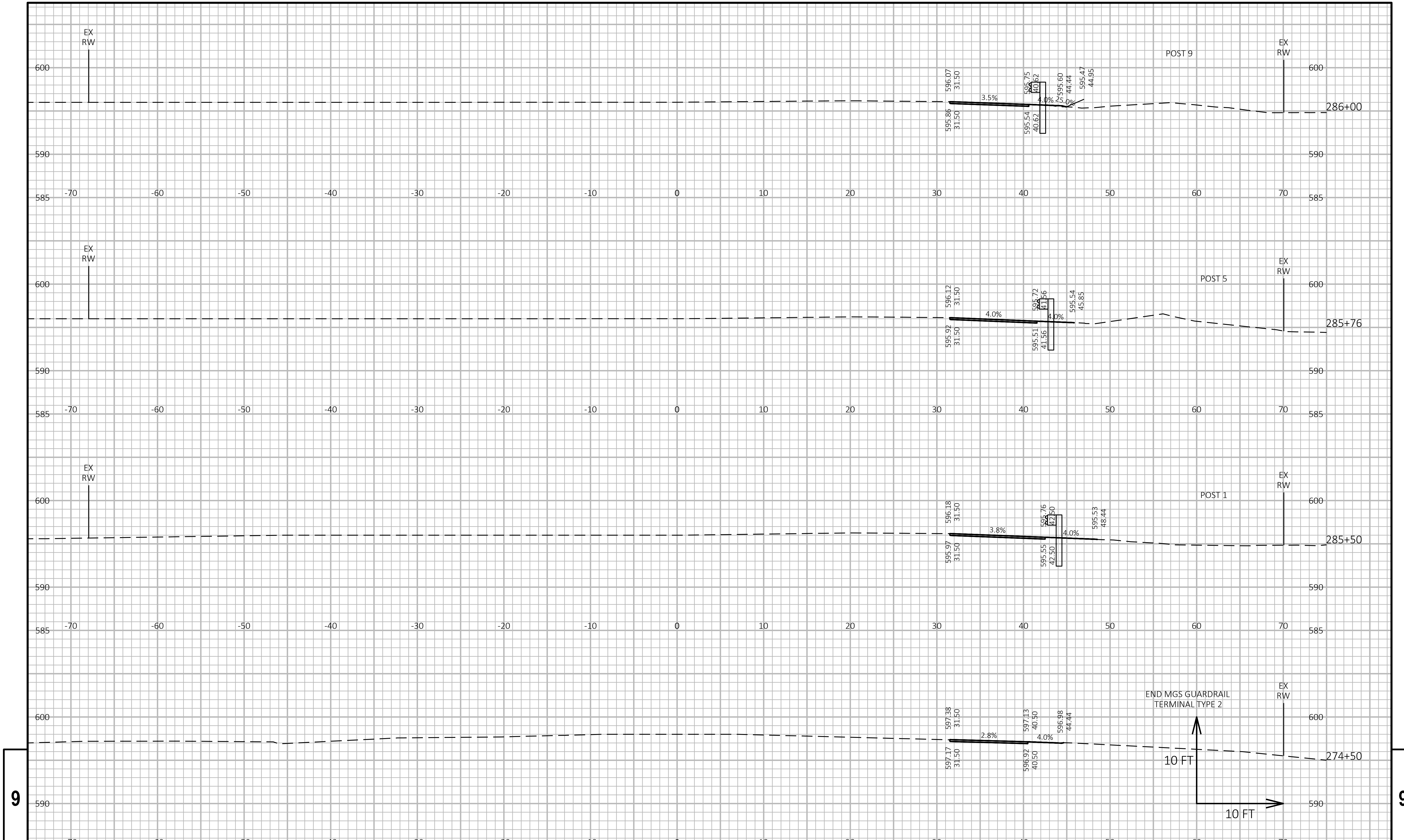
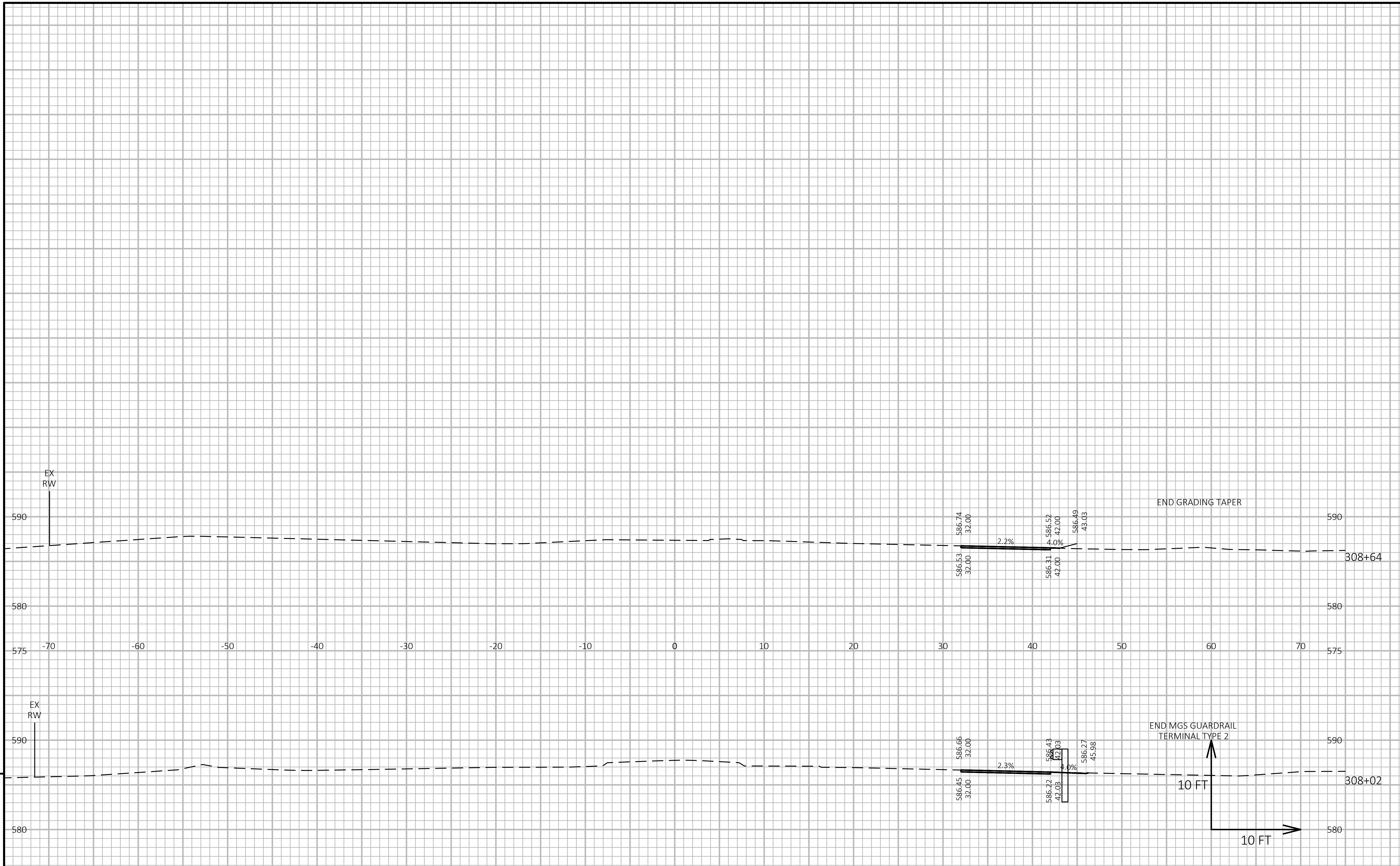
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	CROSS SECTIONS: CROSS SECTIONS - STH 42	SHEET 235	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090209-xs
PLOT DATE : 10/28/2024 4:52 PM
PLOT BY : CHAD WAGNER
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	CROSS SECTIONS: CROSS SECTIONS - STH 42	SHEET 236	E



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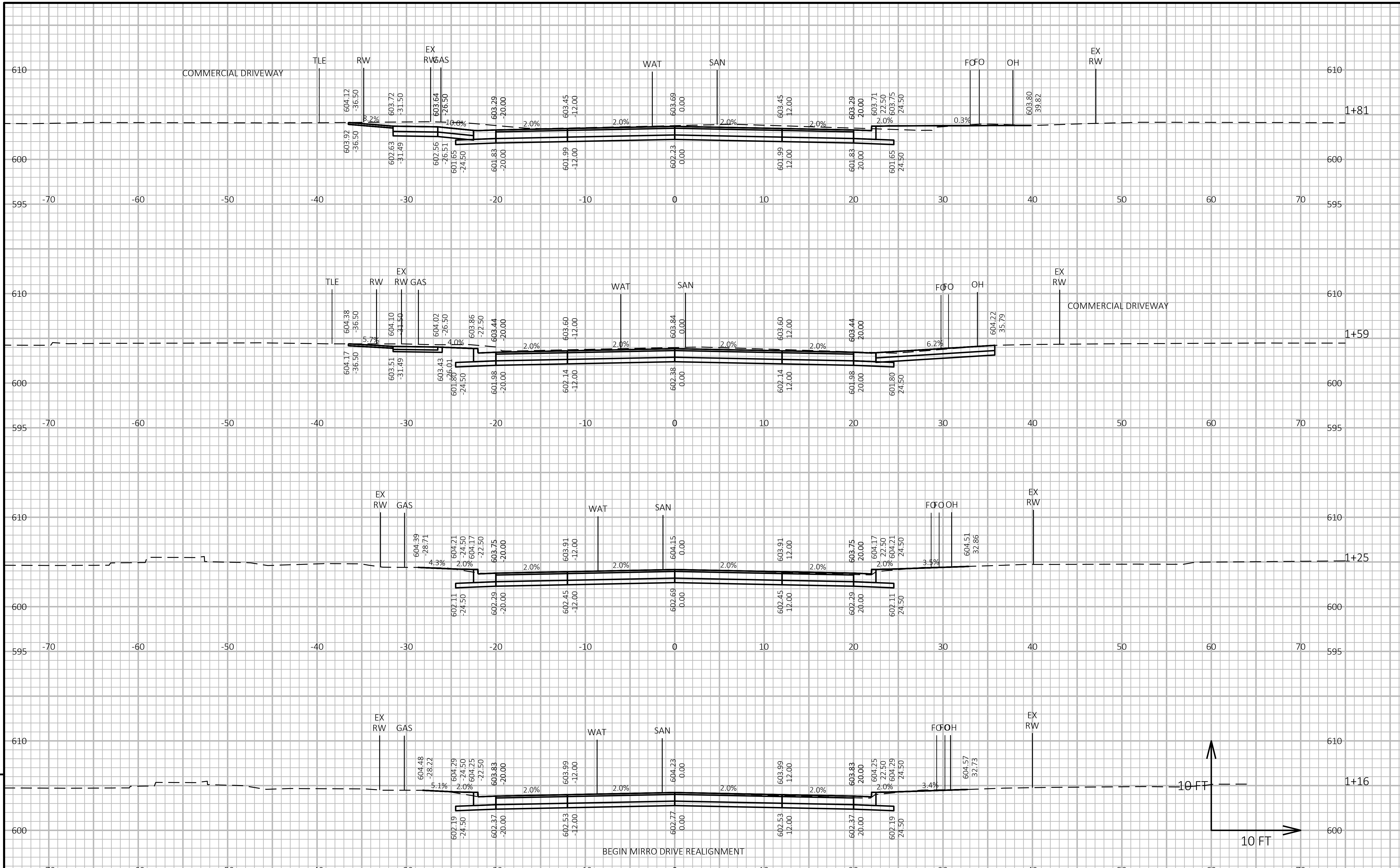
PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	CROSS SECTIONS: CROSS SECTIONS - STH 42	SHEET 237	E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 0902011-xs

PLOT DATE : 10/28/2024 4:52 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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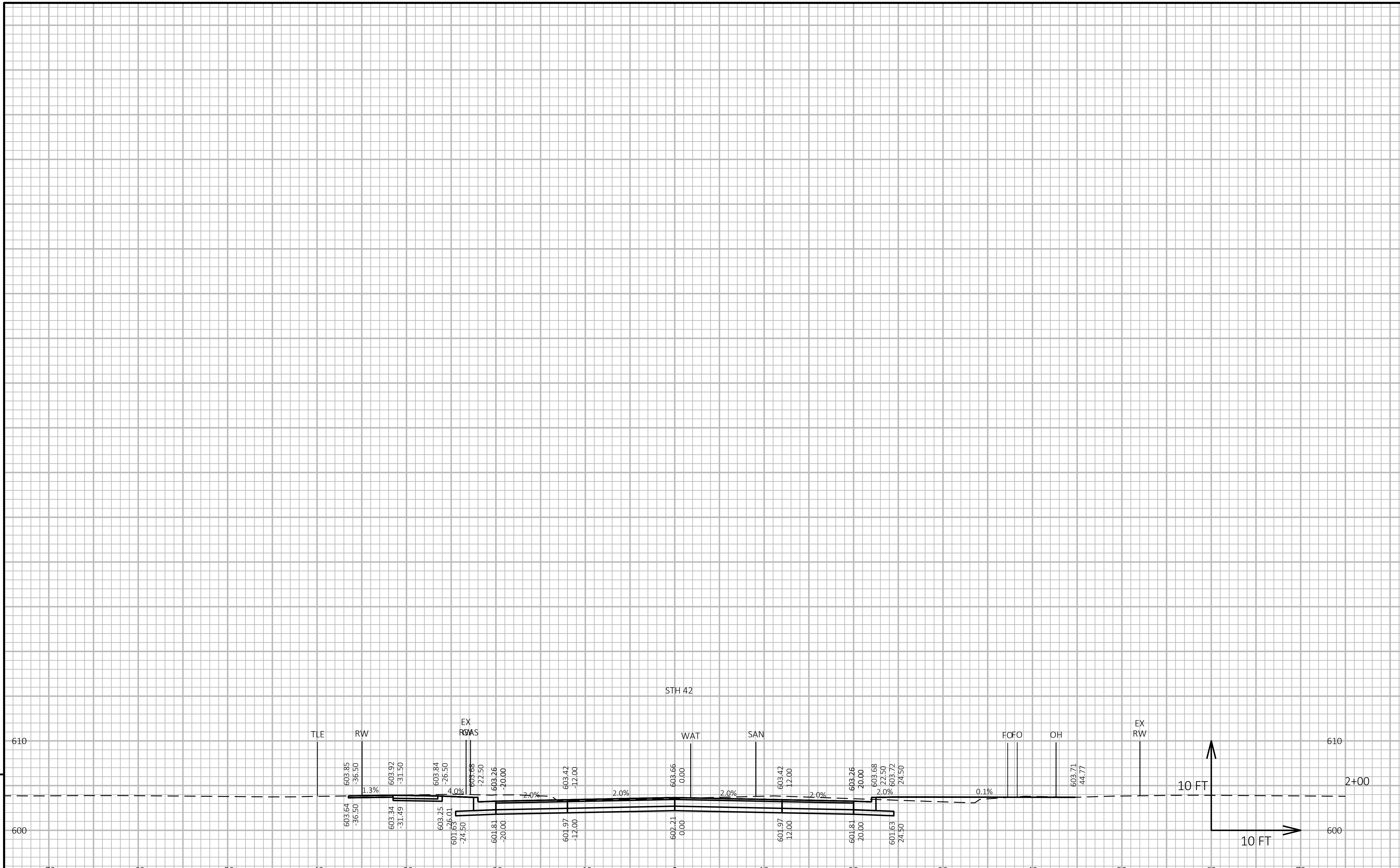
PROJECT NO: 1470-27-71 | HWY: STH 42 | COUNTY: MANITOWOC | CROSS SECTIONS: CROSS SECTIONS - MIRRO DRIVE | SHEET 238 | E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 0902012-xs

PLOT DATE : 10/28/2024 4:52 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1470-27-71	HWY: STH 42	COUNTY: MANITOWOC	CROSS SECTIONS: CROSS SECTIONS - MIRRO DRIVE	SHEET 239 E

FILE NAME : G:\00\00093\00093676\CADD\C3D\14702700\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 0902013-xs

PLOT DATE : 10/28/2024 4:52 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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