

WKE

APRIL 2025

PROJECT ID:

2703-05-71, 2703-05-72

WITH: N/A

COUNTY:

RACINE

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 = 104

10

DESIGN DESIGNATION

6TH STREET

A.A.D.T.	2025	=	5,000
A.A.D.T.	2045	=	5,500
D.H.V.		=	525 (2045)
D.D.		=	50/50
T.		=	5.4
DESIGN SPEED		=	30 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

PLAN

CORPORATE LIMITS

PROPERTY LINE

LOT LINE

LIMITED HIGHWAY EASEMENT

EXISTING RIGHT OF WAY

PROPOSED OR NEW R/W LINE

SLOPE INTERCEPT

REFERENCE LINE

EXISTING CULVERT

PROPOSED CULVERT (Box or Pipe)

COMBUSTIBLE FLUIDS

MARSH AREA

WOODED OR SHRUB AREA

PROFILE

GRADE LINE

ORIGINAL GROUND

MARSH OR ROCK PROFILE (To be noted as such)

SPECIAL DITCH

GRADE ELEVATION

CULVERT (Profile View)

UTILITIES

ELECTRIC

FIBER OPTIC

GAS

SANITARY SEWER

STORM SEWER

TELEPHONE

WATER

UTILITY PEDESTAL

POWER POLE

TELEPHONE POLE

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

C RACINE, 6TH ST

ROOT RIVER BRIDGE B-51-0064

LOCAL STREET

RACINE COUNTY

C RACINE, 6TH ST

HOWE ST BRIDGE B-51-0067

LOCAL STREET

RACINE COUNTY

STATE PROJECT NUMBER

2703-05-71

STATE PROJECT NUMBER

2703-05-72

END PROJECT 2703-05-71

STA 30+97.93

Y=185614.60

X=636889.62

STRUCTURE B-51-0064

BEGIN PROJECT 2703-05-71

STA 25+90.06

Y=185626.26

X=636381.92

BEGIN PROJECT 2703-05-72

STA 130+90.90

Y=185612.83

X=637573.19

END PROJECT 2703-05-72

STA 132+36.90

Y=185613.76

X=637719.19

STRUCTURE B-51-0067

10

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), RACINE 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 G18.

ACCEPTED FOR

CITY of RACINE

John C. Rooney

10/9/2024

Commissioner of Public Works

(Date) (Signature & Title of Official)

PREPARED BY

GRAEF

275 W. Wisconsin Avenue, Suite 300 Milwaukee, WI 53203

WISCONSIN

JULIE A. CHAPMAN

45055 GREENFIELD, WI

PROFESSIONAL ENGINEER

Julie A. Chapman

10/9/2024

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor

Designer

Project Manager

Regional Examiner

Regional Supervisor

GRAEF

GRAEF

MICHAEL BAIRD, P.E.

AMY TAETSCH

APPROVED FOR THE DEPARTMENT

DATE: 10/10/2024

Michael J. Baird

(Signature)

E

FILE NAME : X:\ML\2023\20230666\DESIGN\TRANSPORTATION\SHEETS\PLAN\010101-TI.DWG

PLOT DATE : 2/21/2025 10:49 AM

PLOT BY : CHAPMAN, JULIE

PLOT NAME :

GENERAL NOTES

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS INDICATED FOR REMOVAL BY THE ENGINEER.

THE LOCATION OF KNOWN EXISTING UTILITIES IN THE VICINITY OF THE PROJECT ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITIES IN THE AREA THAT ARE NOT SHOWN.

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

CONTACT THE PROJECT ENGINEER AND THE SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION (SEWRPC), AT LEAST TWO WEEKS PRIOR TO WORK NEAR ANY PUBLIC SURVEY MONUMENT.

HMA PAVEMENT WHERE INDICATED ON THE PLANS SHALL CONSIST OF LAYERS AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE ENGINEER:

5" DEPTH

2" OF HMA PAVEMENT 4 LT 58-28 S AS THE UPPER LAYER
3" OF HMA PAVEMENT 3 LT 58-28 S AS THE LOWER LAYER

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

CONCRETE JOINTS SHALL MATCH ABUTTING PAVEMENT AND CURB & GUTTER JOINTS UNLESS OTHERWISE DESIGNATED BY THE ENGINEER.

STANDARD ABBREVIATIONS

AEW	APRON END WALL
AGG	AGGREGATE
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C&G	CURB AND GUTTER
C/L	CENTER OR CONSTRUCTION LINE
CONC	CONCRETE
CP	CULVERT PIPE
CPCM	CULVERT PIPE CORRUGATED METAL
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
CSCP	CORRUGATED STEEL CULVERT PIPE
CSPA	CORRUGATED STEEL PIPE ARCH
CSD	CONCRETE SURFACE DRAIN
CY	CUBIC-YARD
D	DEGREE OF CURVE
Δ	DELTA
DISCH	DISCHARGE
FE	FIELD ENTRANCE
HERCP	HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE
HMA	HOT MIX ASPHALT
INV	INVERT
L	LENGTH OF CURVE
LHF	LEFT HAND FORWARD
LT	LEFT
MIN	MINIMUM
M/L	MATCHLINE
NB	NORTHBOUND
NC	NORMAL CROWN
NTS	NOT TO SCALE
PAVT	PAVEMENT
PB	PULL BOX
PC	POINT-OF-CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PLE	PERMANENT LIMITED EASEMENT
PT	POINT OF TANGENT
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RAD	RADIUS
RC	REVERSE CROWN
RCAEW	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
RCHES	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL STORM SEWER
RCPSS	REINFORCED CONCRETE PIPE - STORM SEWER
REQD	REQUIRED
RHF	RIGHT HAND FORWARD
RO	RUN OFF LENGTH
RT	RIGHT
SALV	SALVAGED
SB	SIGNAL BASE
SDD	STANDARD DETAIL DRAWING
SE	SUPER ELEVATION
SF	SQUARE FOOT
STA	STATION
SY	SQUARE YARD
T	TANGENT LENGTH
TC	TOP OF CURB
TLE	TEMPORARY LIMITED EASEMENT

AGENCIES

CITY OF RACINE
COMMISSIONER OF PUBLIC WORKS/CITY ENGINEER
MR. JOHN ROONEY, P.E.
730 WASHINGTON AVENUE
RACINE, WI 53403
(262) 636 9460
JOHN.ROONEY@CITYOFRACINE.ORG

DEPT. OF NATURAL RESOURCES

WISCONSIN DEPT. OF NATURAL RESOURCES
MR. BENTON STELZEL
2300 NORTH DR. MARTIN LUTHER KING JR. DRIVE
MILWAUKEE, WI 53212
(262) 623-0194
BENTON.STELZEL@WISCONSIN.GOV

DESIGN CONTACT

GRAEF - STRUCTURAL
MR. WYATT ROZMENOSKI, P.E.
275 W. WISCONSIN AVENUE, SUITE 300
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(414) 266-9066
WYATT.ROZMENOSKI@GRAEF-USA.COM

GRAEF - ROADWAY
MS. JULIE CHAPMAN, P.E.
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PUBLIC TRANSPORTATION

MR. WILLIE MCDONALD
THE BELLE URBAN SYSTEM
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(262) 619-2443
WILLIE.MCDONALD@CITYOFRACINE.ORG

SEWRPC

MR. ROB MERRY
SEWRPC
W239 N1812 ROCKWOOD DRIVE
PO BOX 1607
WAUKESHA, WI 53187-1607
O: (262) 953-4289
C: (920) 912-1036
RMERRY@SEWRPC.ORG

MR. ANDY TRAEGER
SEWRPC
W239 N1812 ROCKWOOD DRIVE
PO BOX 1607
WAUKESHA, WI 53187-1607
O: (262) 953-4296
P: (262) 853-8463
ATRAEGER@SEWRPC.ORG

UTILITIES

AT&T WISCONSIN
MR. MICHAEL VANBOVEN
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(414) 636-0514
MV3658@ATT.COM

CITY OF RACINE - FIBER OPTIC
MR. ARA MOLITOR
730 WASHINGTON AVENUE
RACINE, WI 53403
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ARA.MOLITOR@CITYOFRACINE.ORG

CITY OF RACINE - SANITARY SEWER
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RICHARD.FRAZIER@CITYOFRACINE.ORG

RACINE WATER UTILITY
MR. CHAD REGALIA
CITY HALL ANNEX ROOM 227
800 CENTER STREET
RACINE, WI 53403
(262) 636-9542
CHAD.REGALIA@CITYOFRACINE.ORG

RACINE WASTEWATER UTILITY
MS. AMANDA KAMINSKI
2310 CENTER STREET
RACINE, WI 53403
(262) 636-9528
AMANDA.KAMINSKI@CITYOFRACINE.ORG

WE ENERGIES (ELECTRIC)
CONSTRUCTION CONTACT
MR. JAMES NELSON
7815 NORTHWESTERN AVENUE
RACINE, WI 53406
(262) 894-6734
JAMES.NELSON@WE-ENERGIES.COM

WE ENERGIES (GAS OPERATIONS)
CONSTRUCTION CONTACT
MR. CHRIS DEGRAVE
7815 NORTHWESTERN AVENUE
RACINE, WI 53406
(262) 886-7018
CHRIS.DEGRAVE@WE-ENERGIES.COM

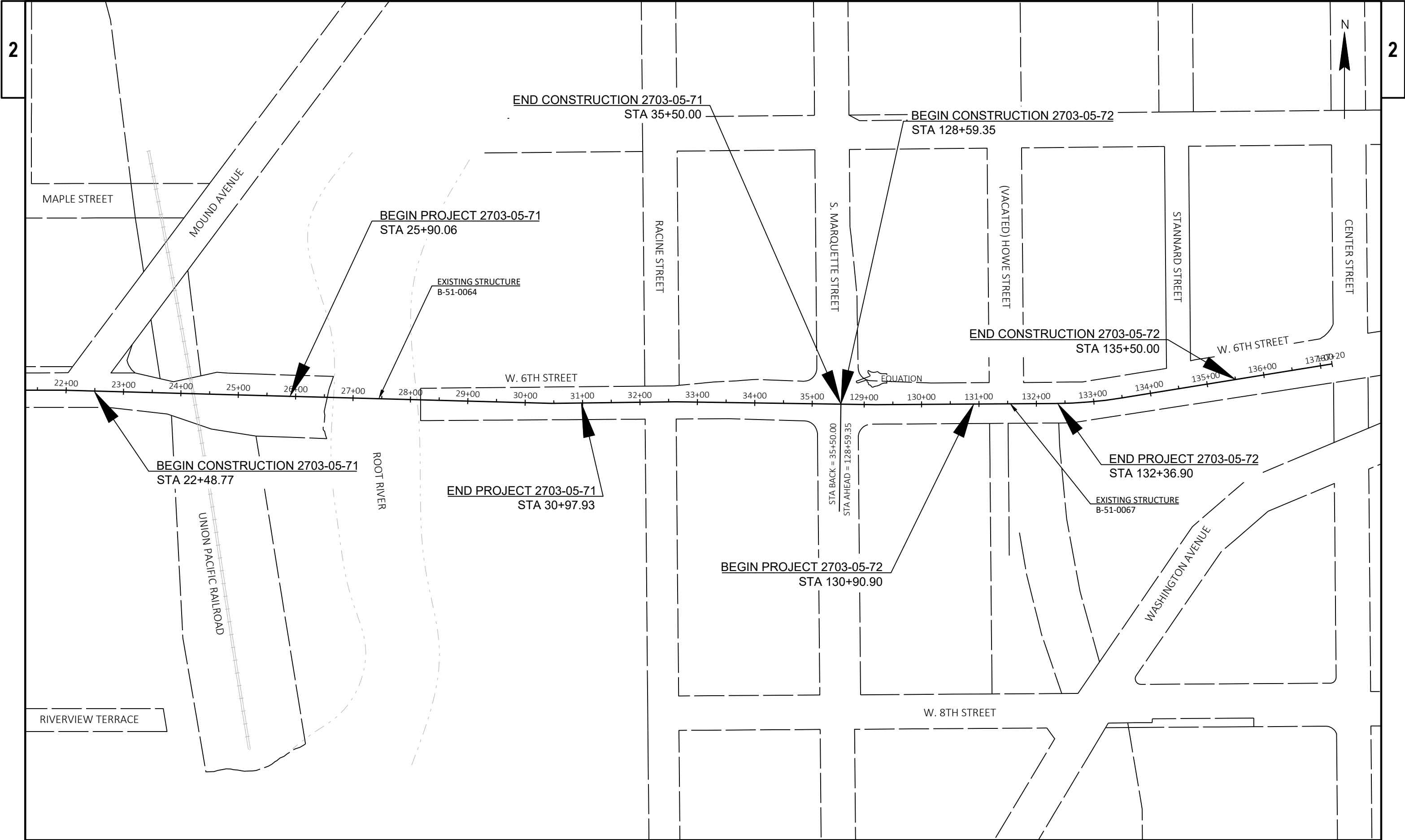
INDEX OF TYPICAL SECTION AND DETAIL SHEETS

- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- PLAN DETAILS
- DRAINAGE, PAVEMENT GRADES AND EROSION CONTROL
- PAVEMENT MARKING AND SIGNING
- TRAFFIC CONTROL
- DETOUR PLAN
- ALIGNMENT PLAN
- ALIGNMENT LAYOUT AND SURVEY CONTROL



Dial 811 or (800)242-8511

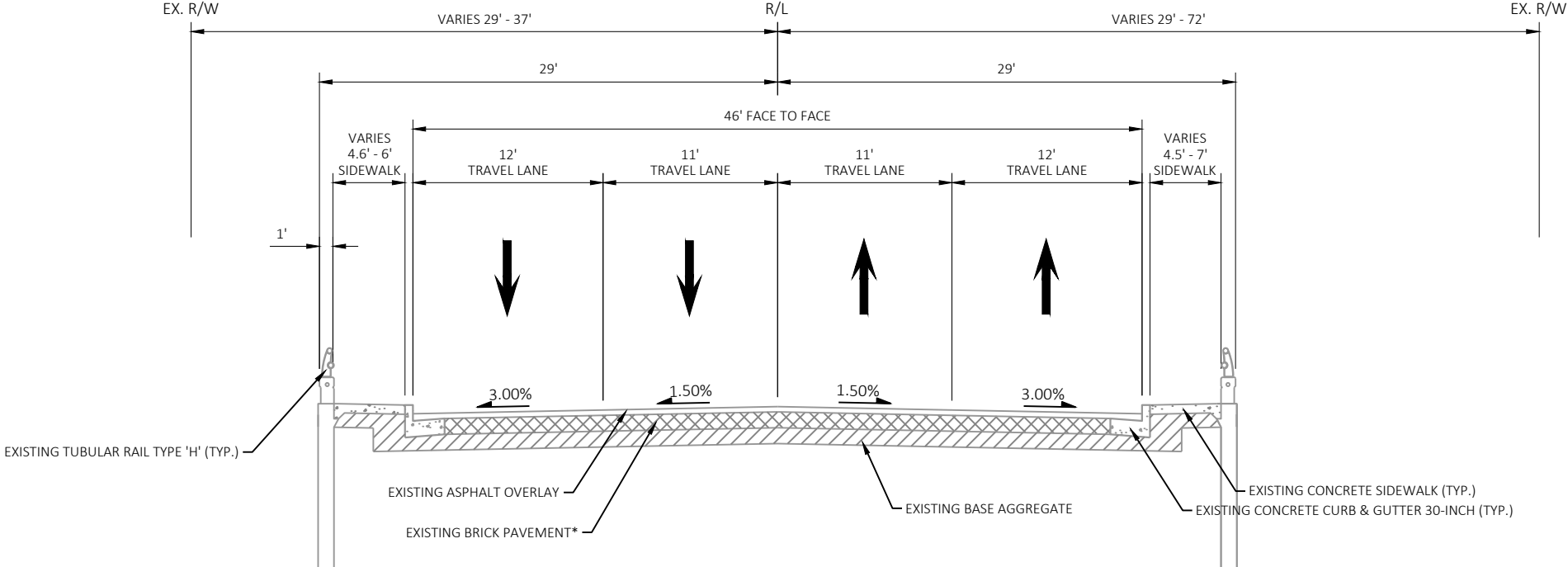
www.DiggersHotline.com



PROJECT NO: 2703-05-71 & 2703-05-72	HWY: 6TH STREET	COUNTY: RACINE	PROJECT OVERVIEW	SHEET 3	E
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2

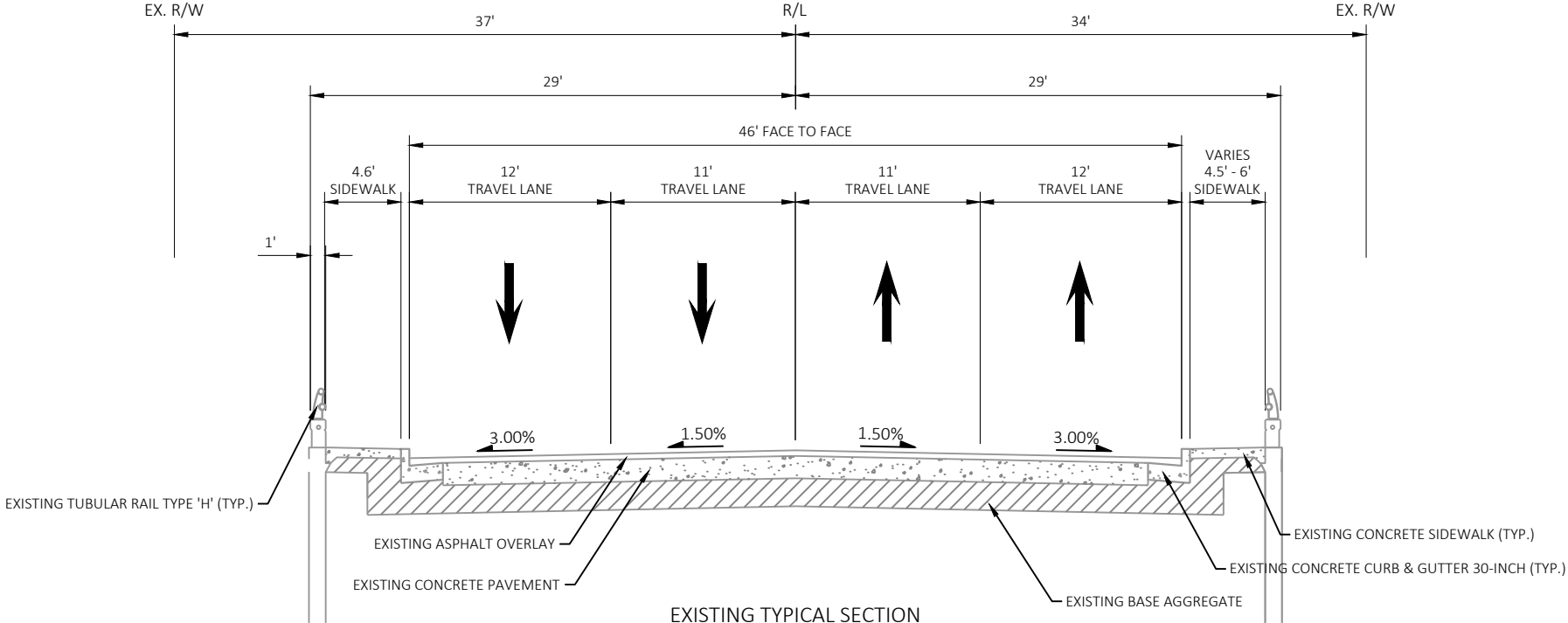
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EXISTING TYPICAL SECTION

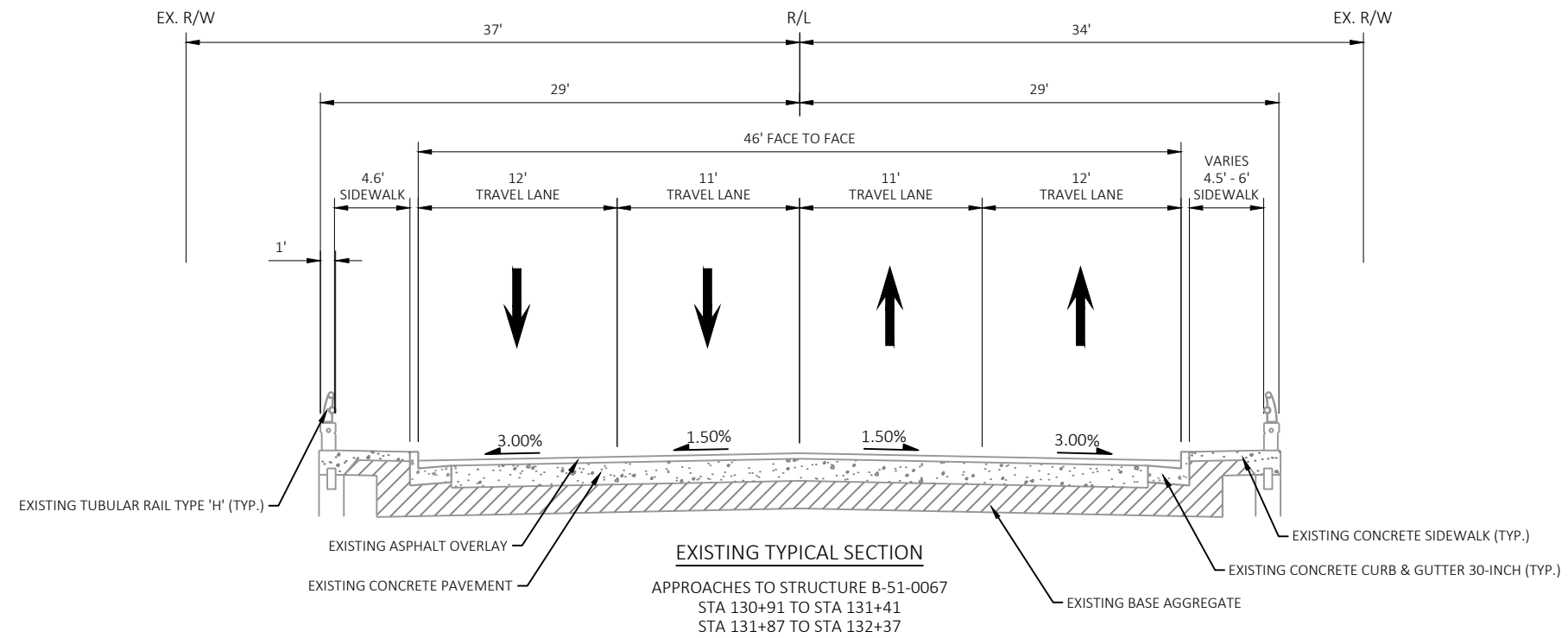
APPROACHES TO STRUCTURE B-51-006
STA 25+90 TO STA 26+40

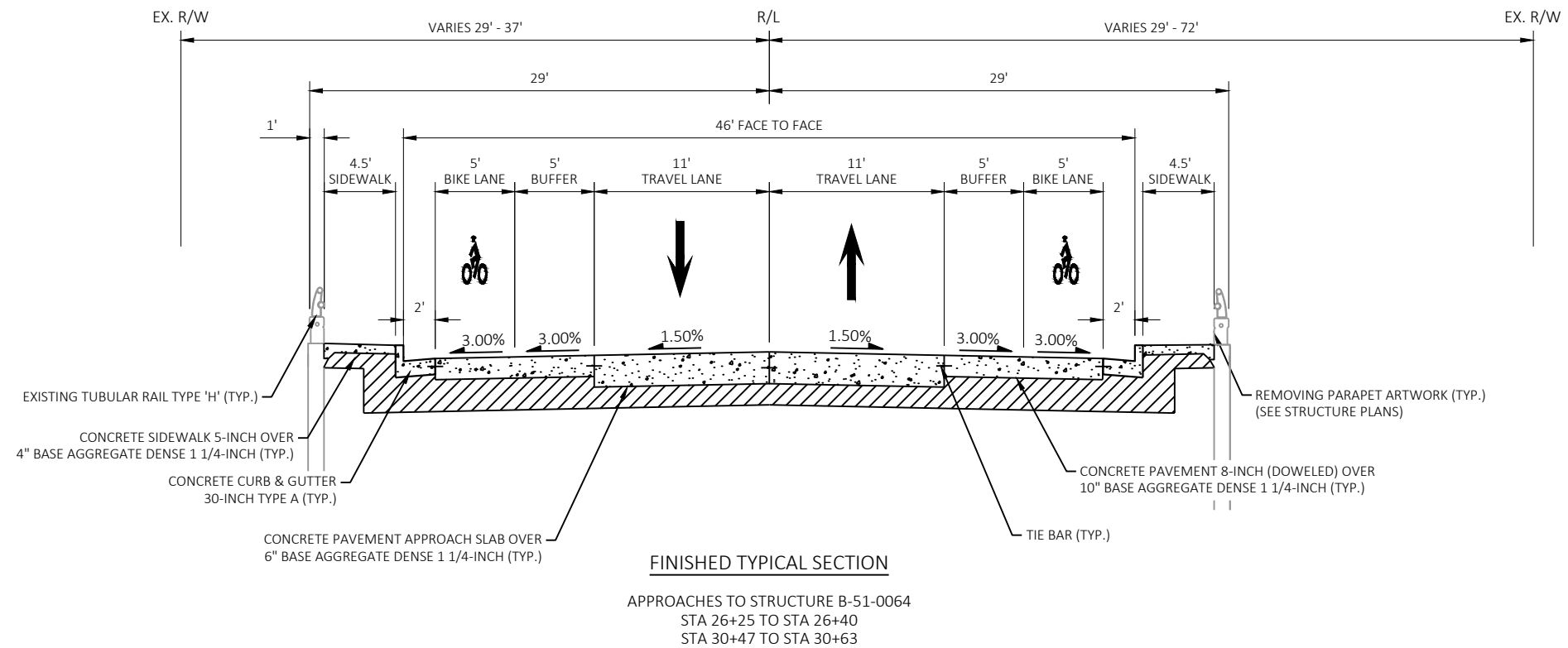
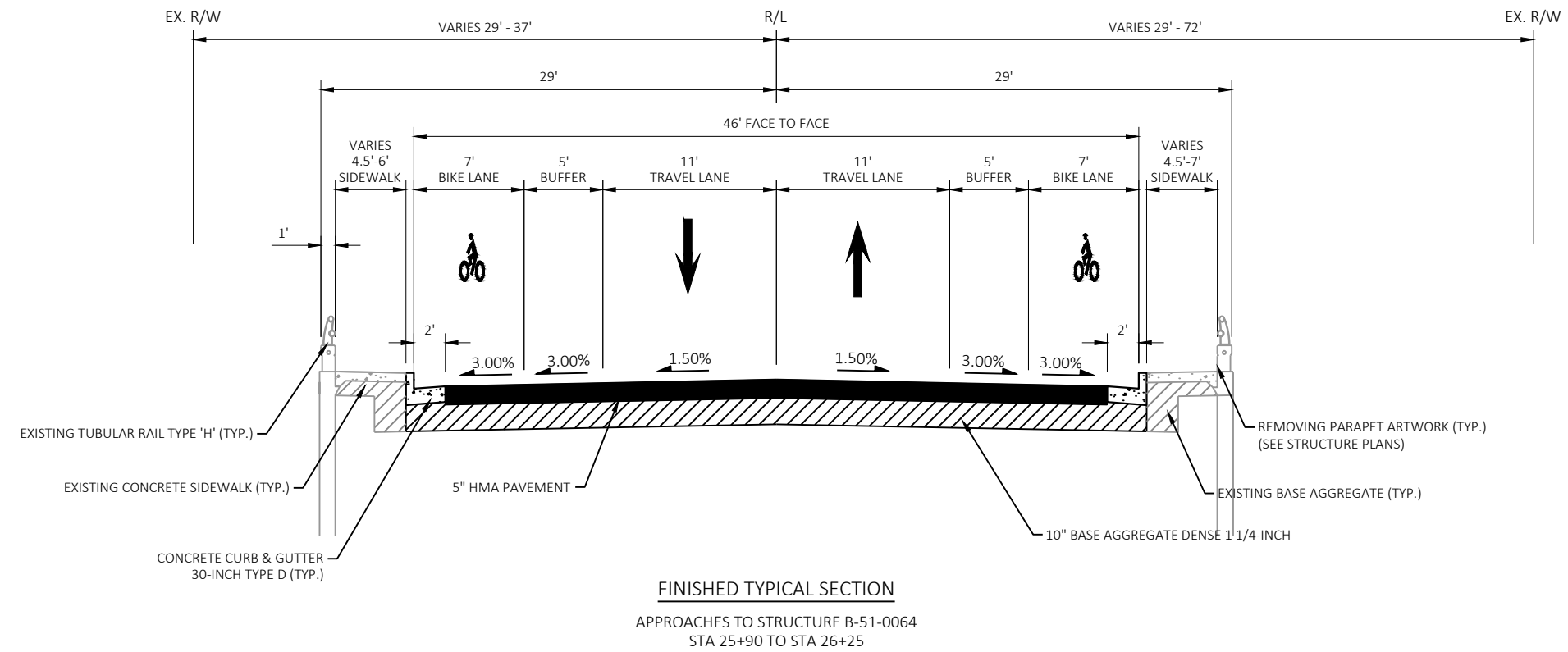
* REMOVAL OF EXISTING BRICK PAVEMENT WHERE
REQUIRED SHALL BE PAID FOR AS EXCAVATION COMMON.

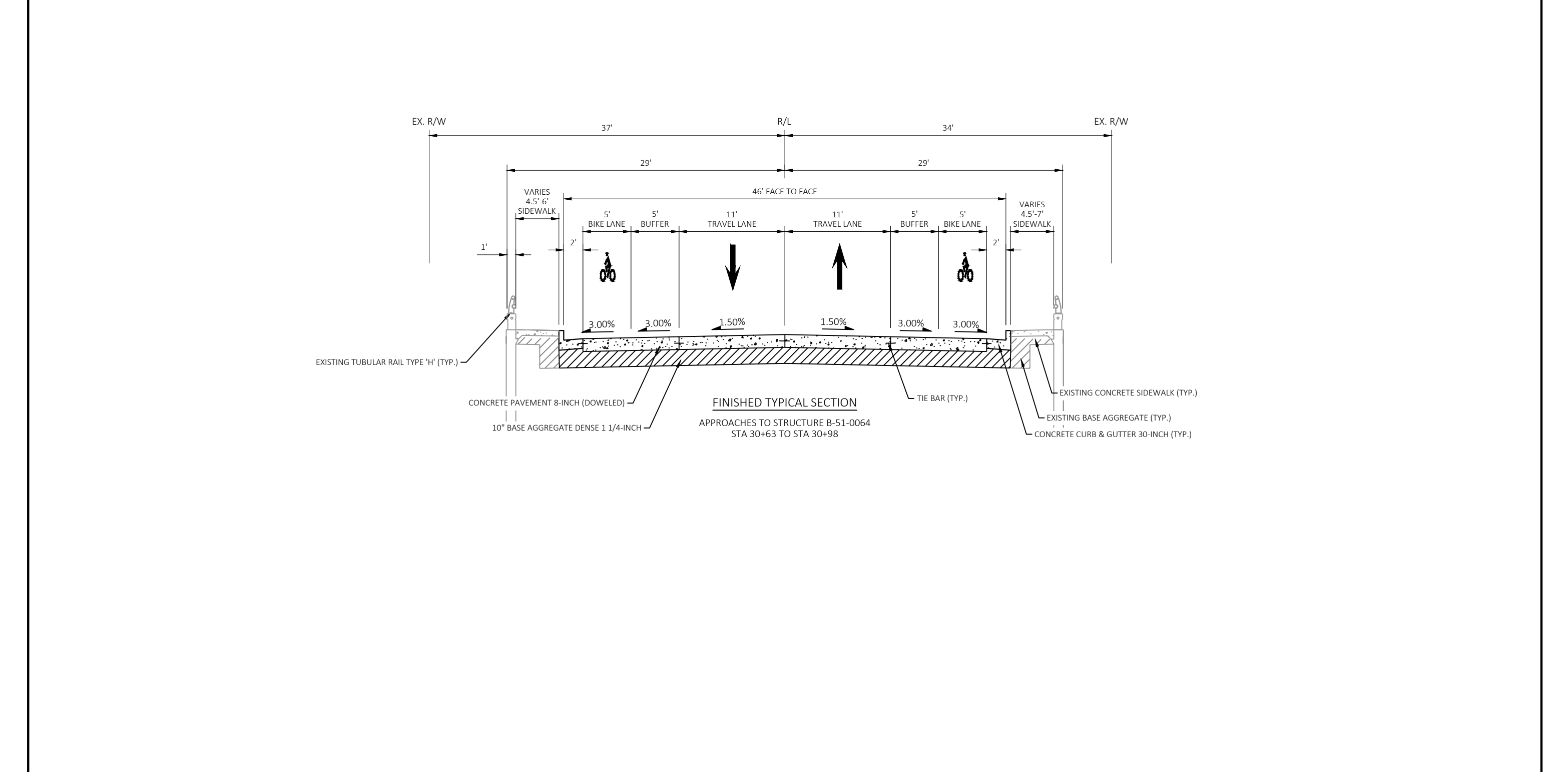


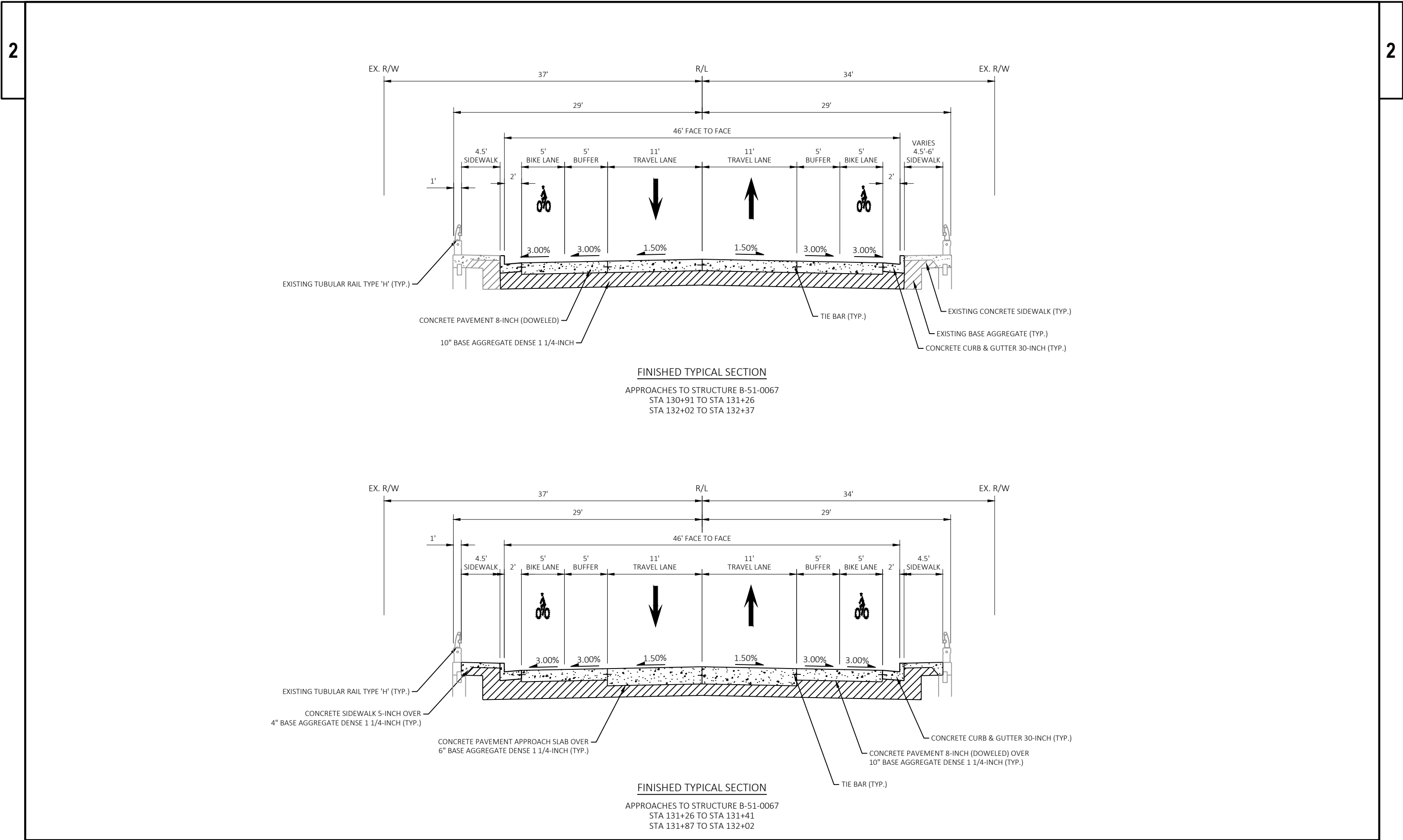
EXISTING TYPICAL SECTION

APPROACHES TO STRUCTURE B-51-006
STA 30+47 TO STA 30+98

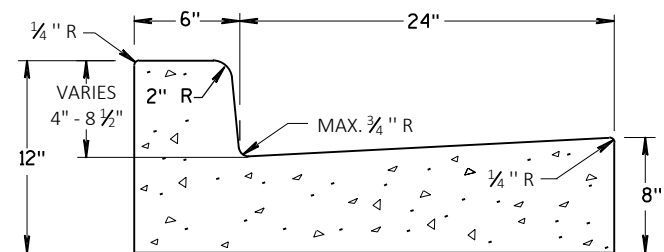






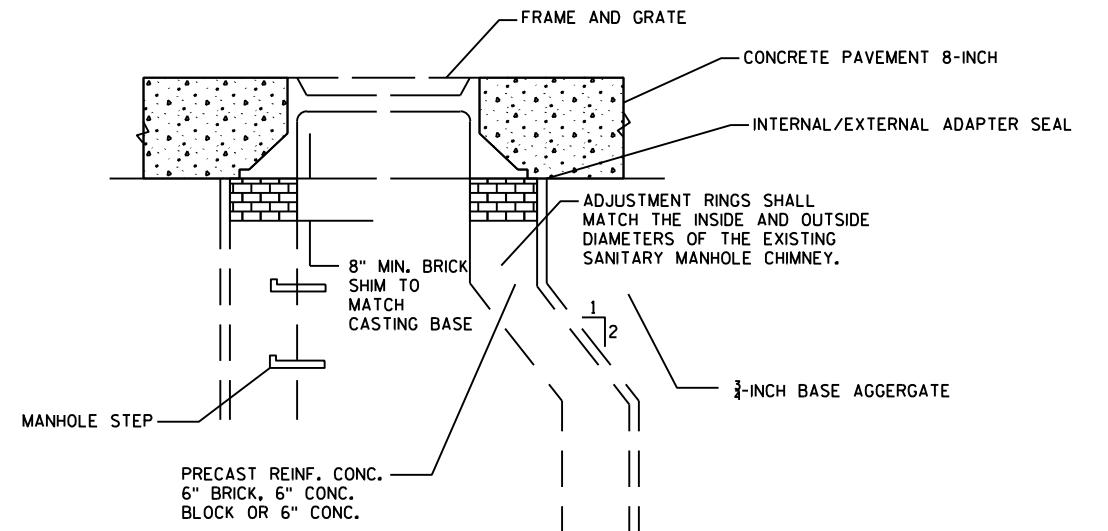


2



30-INCH CONCRETE CURB AND GUTTER MODIFIED

(VARIABLE CURB HEAD HEIGHT)
PAID FOR AS CONCRETE CURB & GUTTER 30-INCH TYPE A AND D

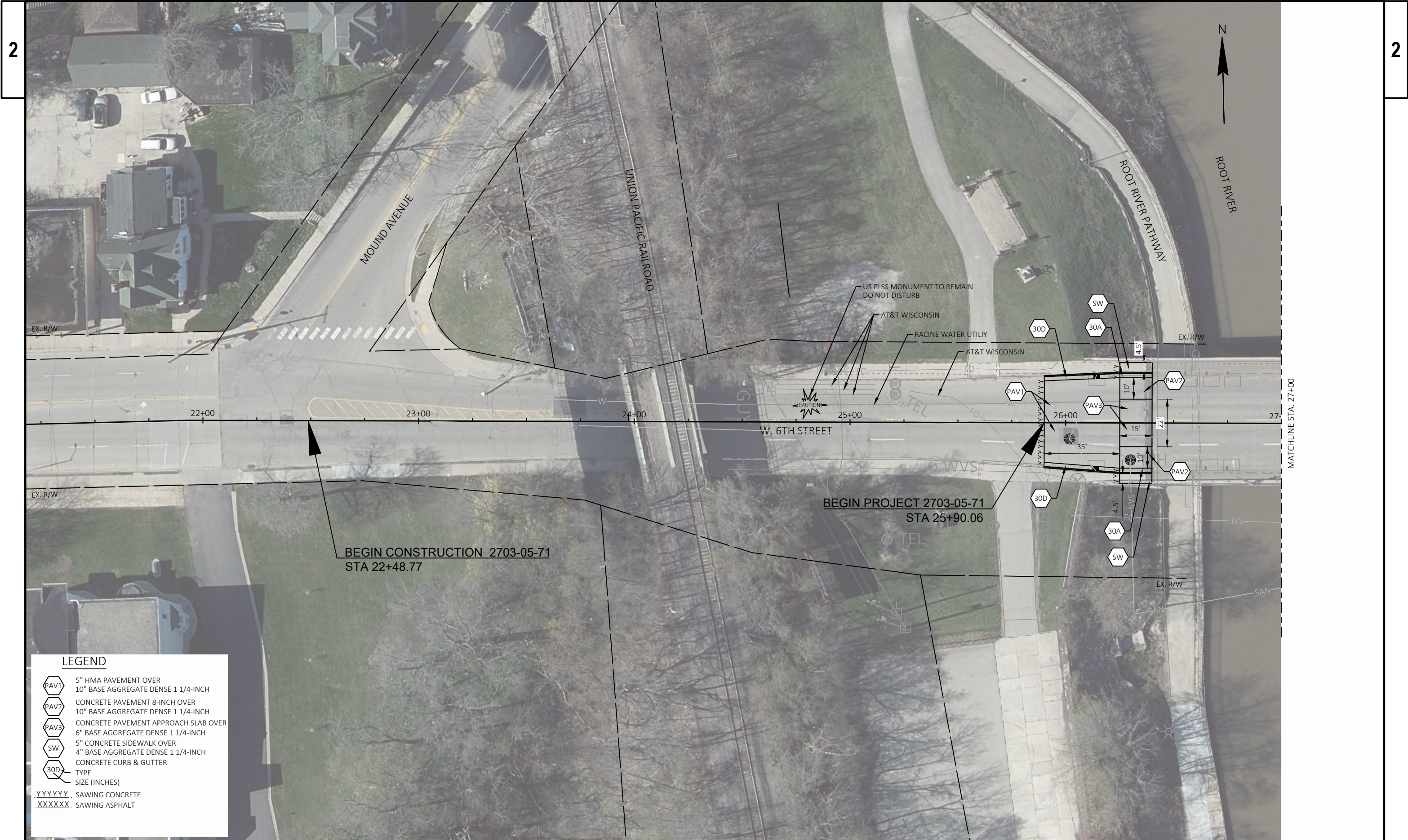


THE WORK INCLUDES REPAIRING AND ADJUSTING
SANITARY MANHOLE CHIMNEY, THE INSTALLATION
OF MANHOLE SEAL AND THE INSTALLATION OF
NEW FRAME AND GRATE.

ADJUSTING/RECONSTRUCTING SANITARY MANHOLE

NOT TO SCALE

2 |



LEGEND

PAV1	5" HMA PAVEMENT OVER 10" BASE AGGREGATE DENSE 1 1/4-INCH
PAV2	CONCRETE PAVEMENT 8-INCH OVER 10" BASE AGGREGATE DENSE 1 1/4-INCH
PAV3	CONCRETE PAVEMENT APPROACH SLAB OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH
SW	5" CONCRETE SIDEWALK OVER 4" BASE AGGREGATE DENSE 1 1/4-INCH
30D	CONCRETE CURB & GUTTER
TYPE	SIZE (INCHES)
YYYYYY	SAWING CONCRETE
XXXXXX	SAWING ASPHALT

LEGEND

- PAV1 5" HMA PAVEMENT OVER
10" BASE AGGREGATE DENSE 1 1/4-INCH
- PAV2 CONCRETE PAVEMENT 8-INCH OVER
10" BASE AGGREGATE DENSE 1 1/4-INCH
- PAV3 CONCRETE PAVEMENT APPROACH SLAB OVER
6" BASE AGGREGATE DENSE 1 1/4-INCH
- SW 5" CONCRETE SIDEWALK OVER
4" BASE AGGREGATE DENSE 1 1/4-INCH
- 30D CONCRETE CURB & GUTTER
TYPE
SIZE (INCHES)
- .YYYYYY. SAWING CONCRETE
- XXXXXX. SAWING ASPHALT



LEGEND

- PAV1 5" HMA PAVEMENT OVER
10" BASE AGGREGATE DENSE 1 1/4-INCH
- PAV2 CONCRETE PAVEMENT 8-INCH OVER
10" BASE AGGREGATE DENSE 1 1/4-INCH
- PAV3 CONCRETE PAVEMENT APPROACH SLAB OVER
6" BASE AGGREGATE DENSE 1 1/4-INCH
- SW 5" CONCRETE SIDEWALK OVER
4" BASE AGGREGATE DENSE 1 1/4-INCH
- 30D CONCRETE CURB & GUTTER
TYPE
SIZE (INCHES)
- .YYYYY. SAWING CONCRETE
- XXXXXX SAWING ASPHALT



PROJECT NO: 2703-05-71 & 2703-05-72

HWY: 6TH STREET

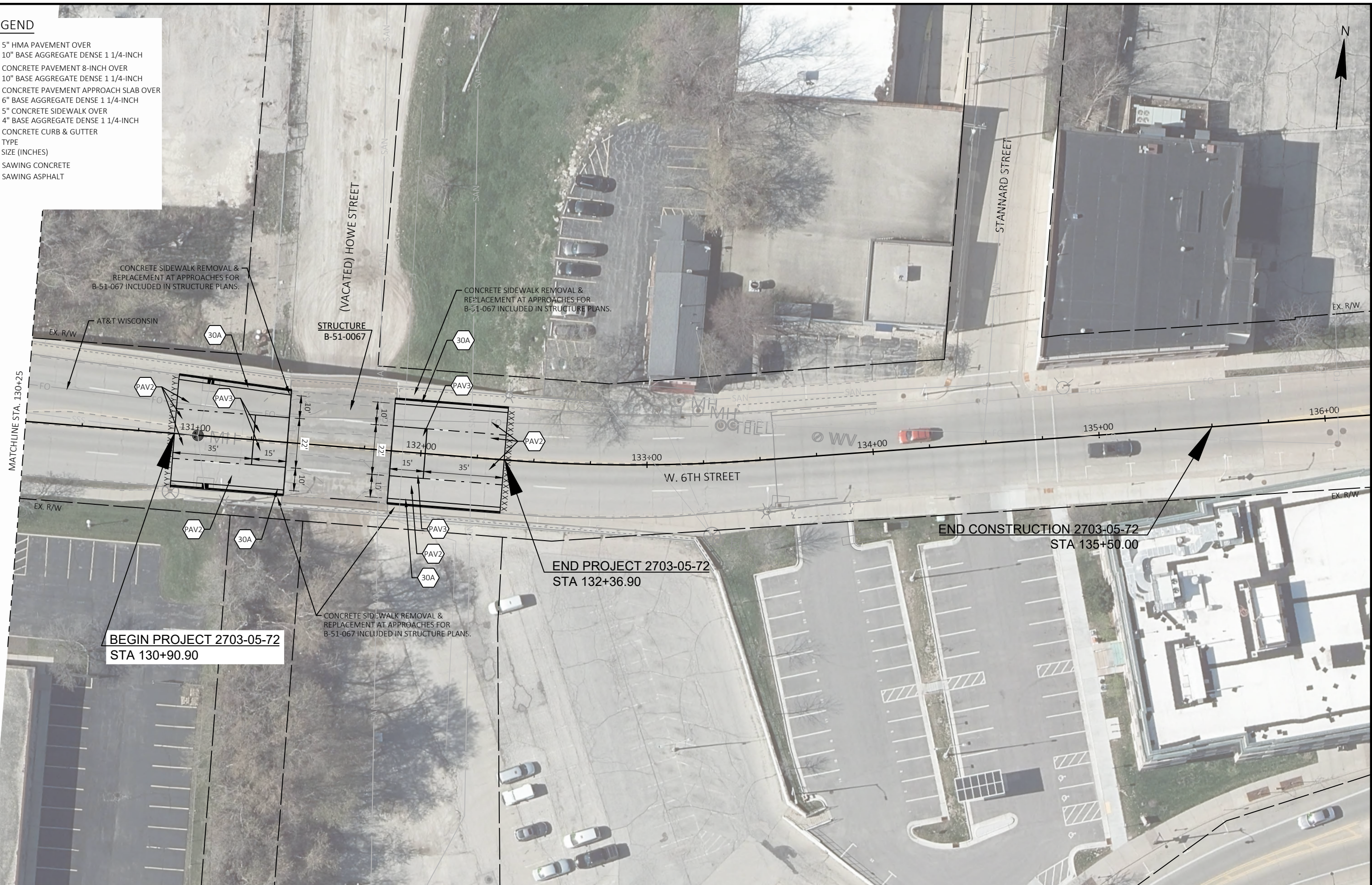
COUNTY: RACINE

PLAN DETAILS

SHEET

LEGEND

- PAV1 5" HMA PAVEMENT OVER
10" BASE AGGREGATE DENSE 1 1/4-INCH
- PAV2 CONCRETE PAVEMENT 8-INCH OVER
10" BASE AGGREGATE DENSE 1 1/4-INCH
- PAV3 CONCRETE PAVEMENT APPROACH SLAB OVER
6" BASE AGGREGATE DENSE 1 1/4-INCH
- SW 5" CONCRETE SIDEWALK OVER
4" BASE AGGREGATE DENSE 1 1/4-INCH
- 30D CONCRETE CURB & GUTTER
TYPE
SIZE (INCHES)
- .YYYYYY. SAWING CONCRETE
- XXXXXX. SAWING ASPHALT



2

2



PROJECT NO:	2703-05-71
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HWY: 6TH STREET

COUNTY: RACINE

DRAINAGE, PAVEMENT GRADES & EROSION CONTROL

SHEET 14

E |

FILE NAME : X:\ML\2023\20230666\DESIGN\TRANSPORTATION\SHEETSP\022001-EC.DWG
LAYOUT NAME - 022001-ec

PLOT DATE : 10/22/2024 9:46 AM

PLOT BY : CHAPMAN, JULIE

PLOT NAME :

PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

LEGEND

- XXXX ADJUSTING INLET COVERS
- AXXX ADJUSTING MANHOLE COVERS
- RXXX RECONSTRUCTING MANHOLES
- XXX ADJUST SANITARY MANHOLE WITH INTERNAL/EXTERNAL SEAL
- - - SLOPE INTERCEPT
- X INLET PROTECTION
- ~ SURFACE WATER FLOW



LEGEND

XXXX

ADJUSTING INLET COVERS

AXXX

ADJUSTING MANHOLE COVERS

RXXX

RECONSTRUCTING MANHOLES

XXX

ADJUST SANITARY MANHOLE WITH INTERNAL/EXTERNAL SEAL

- - -

SLOPE INTERCEPT

⊗

INLET PROTECTION

⚡

SURFACE WATER FLOW



LEGEND

- XXXX ADJUSTING INLET COVERS
Axxx ADJUSTING MANHOLE COVERS
Rxxx RECONSTRUCTING MANHOLES
xxx ADJUST SANITARY MANHOLE WITH INTERNAL/EXTERNAL SEAL
- - - SLOPE INTERCEPT
X INLET PROTECTION
~ SURFACE WATER FLOW



PROJECT NO: 2703-05-72

HWY: 6TH STREET

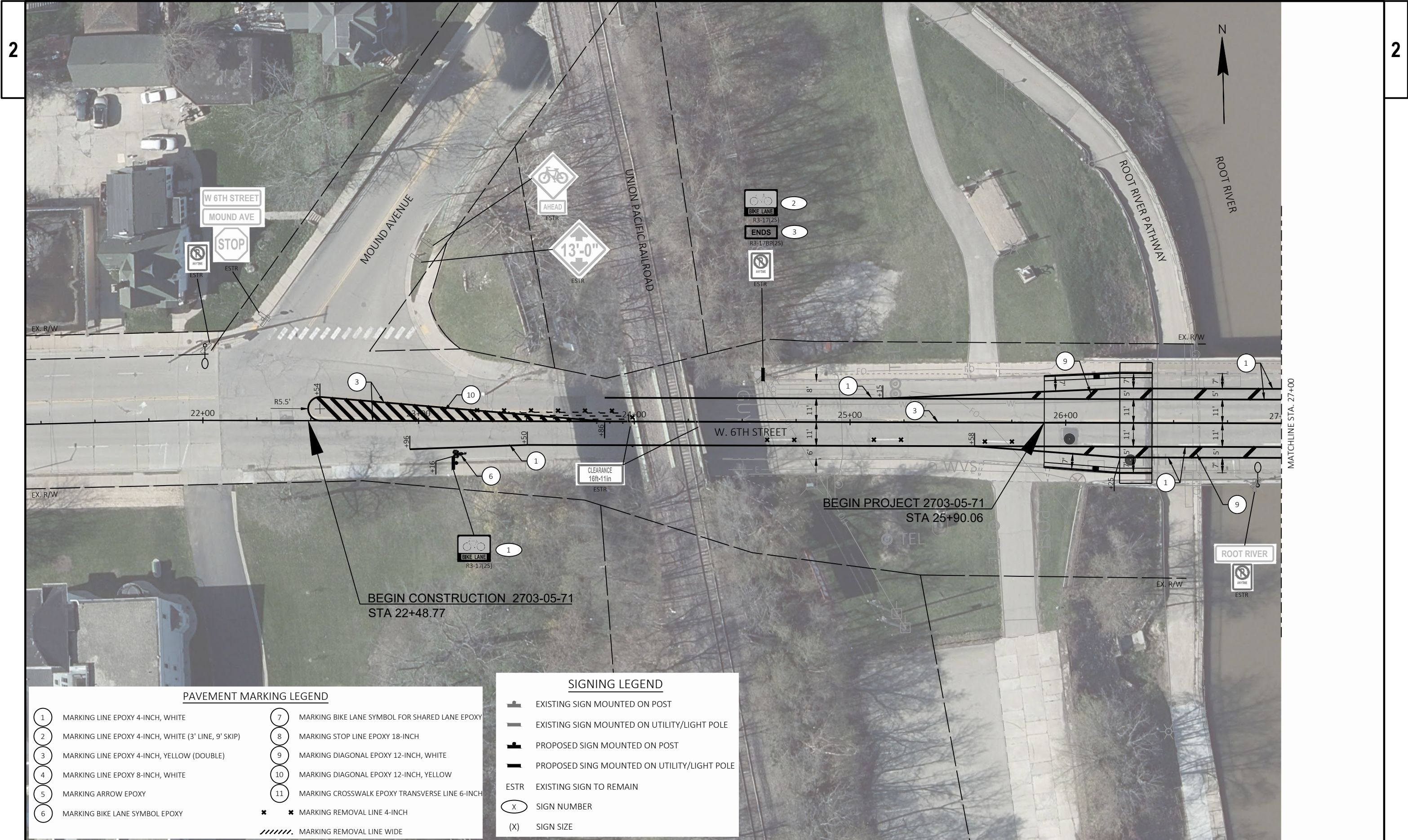
COUNTY: RACINE

DRAINAGE, PAVEMENT GRADES & EROSION CONTROL

SHEET

17

E

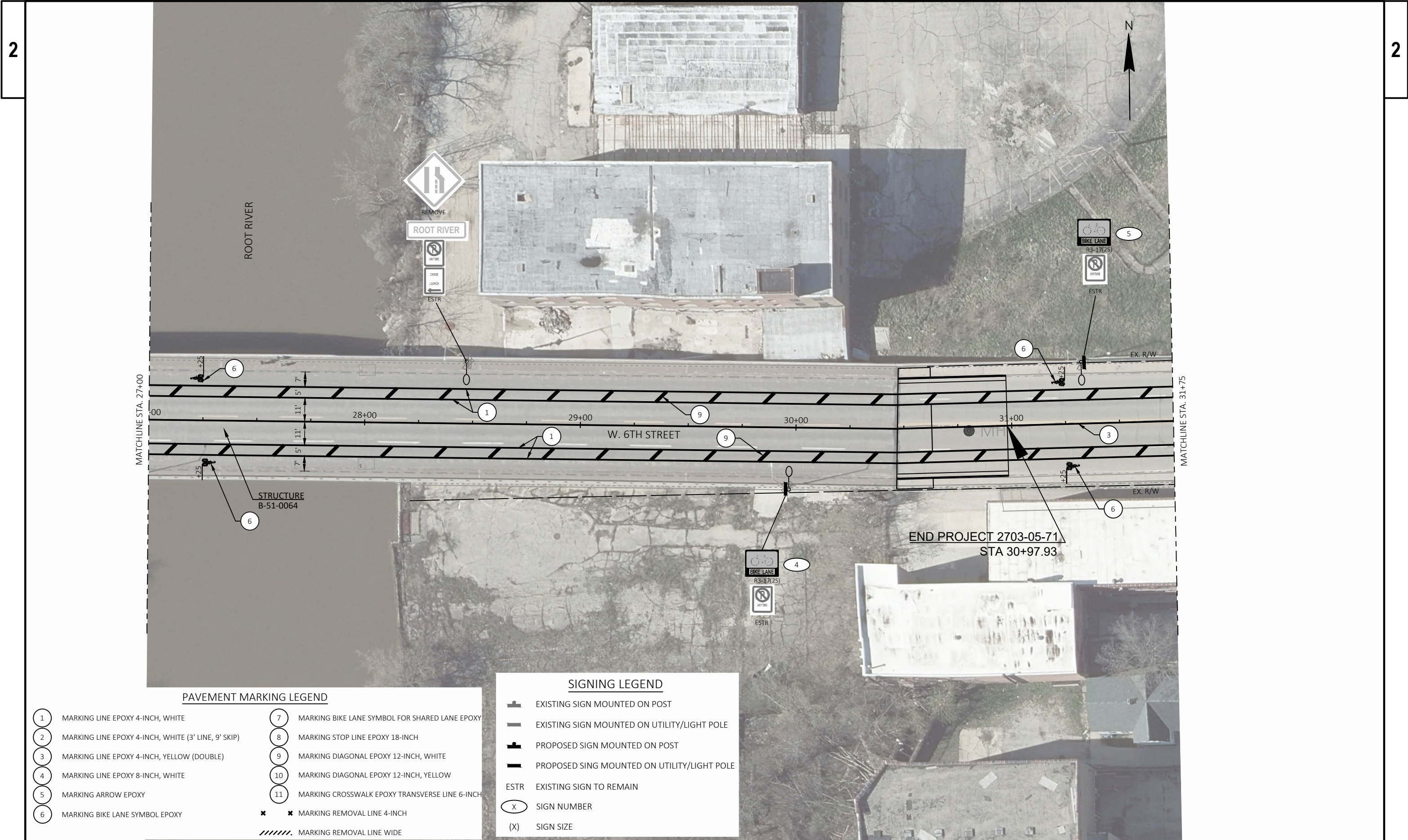


PAVEMENT MARKING LEGEND

- | | |
|---|---|
| 1 MARKING LINE EPOXY 4-INCH, WHITE | 7 MARKING BIKE LANE SYMBOL FOR SHARED LANE EPOXY |
| 2 MARKING LINE EPOXY 4-INCH, WHITE (3' LINE, 9' SKIP) | 8 MARKING STOP LINE EPOXY 18-INCH |
| 3 MARKING LINE EPOXY 4-INCH, YELLOW (DOUBLE) | 9 MARKING DIAGONAL EPOXY 12-INCH, WHITE |
| 4 MARKING LINE EPOXY 8-INCH, WHITE | 10 MARKING DIAGONAL EPOXY 12-INCH, YELLOW |
| 5 MARKING ARROW EPOXY | 11 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH |
| 6 MARKING BIKE LANE SYMBOL EPOXY | * * MARKING REMOVAL LINE 4-INCH |
| | //// MARKING REMOVAL LINE WIDE |

SIGNING LEGEND

- | | |
|------|---|
| | EXISTING SIGN MOUNTED ON POST |
| | EXISTING SIGN MOUNTED ON UTILITY/LIGHT POLE |
| | PROPOSED SIGN MOUNTED ON POST |
| | PROPOSED SIGN MOUNTED ON UTILITY/LIGHT POLE |
| ESTR | EXISTING SIGN TO REMAIN |
| (X) | SIGN NUMBER |
| (X) | SIGN SIZE |



PAVEMENT MARKING LEGEND

- | | | | |
|---|---|------|--|
| 1 | MARKING LINE EPOXY 4-INCH, WHITE | 7 | MARKING BIKE LANE SYMBOL FOR SHARED LANE EPOXY |
| 2 | MARKING LINE EPOXY 4-INCH, WHITE (3' LINE, 9' SKIP) | 8 | MARKING STOP LINE EPOXY 18-INCH |
| 3 | MARKING LINE EPOXY 4-INCH, YELLOW (DOUBLE) | 9 | MARKING DIAGONAL EPOXY 12-INCH, WHITE |
| 4 | MARKING LINE EPOXY 8-INCH, WHITE | 10 | MARKING DIAGONAL EPOXY 12-INCH, YELLOW |
| 5 | MARKING ARROW EPOXY | 11 | MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH |
| 6 | MARKING BIKE LANE SYMBOL EPOXY | | |
| | | x | MARKING REMOVAL LINE 4-INCH |
| | | //// | MARKING REMOVAL LINE WIDE |

SIGNING LEGEND

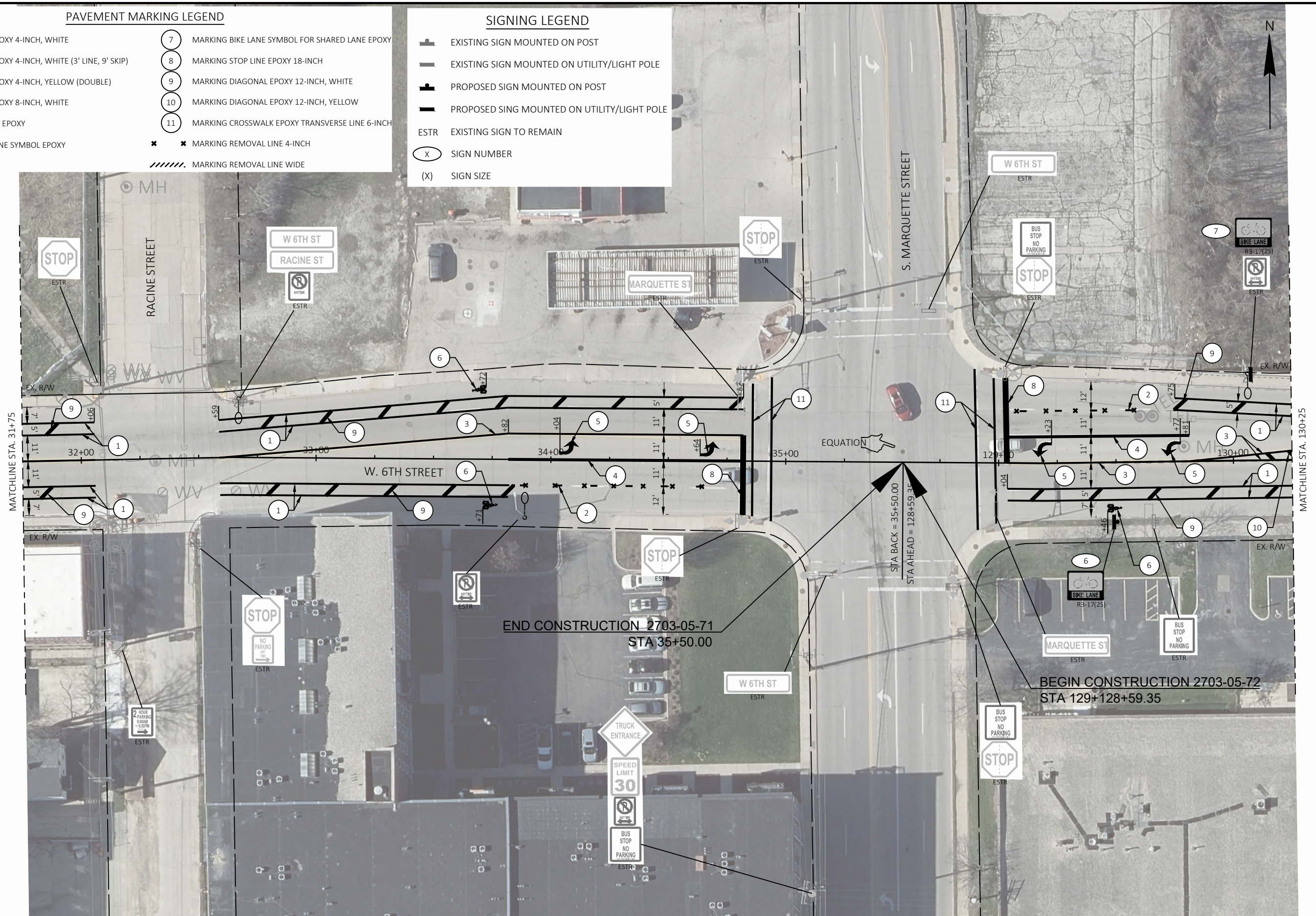
- | | |
|------|---|
| | EXISTING SIGN MOUNTED ON POST |
| | EXISTING SIGN MOUNTED ON UTILITY/LIGHT POLE |
| | PROPOSED SIGN MOUNTED ON POST |
| | PROPOSED SING MOUNTED ON UTILITY/LIGHT POLE |
| ESTR | EXISTING SIGN TO REMAIN |
| (X) | SIGN NUMBER |
| (X) | SIGN SIZE |

PAVEMENT MARKING LEGEND

- | | |
|---|---|
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| 5 MARKING ARROW EPOXY | 11 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH |
| 6 MARKING BIKE LANE SYMBOL EPOXY | * * MARKING REMOVAL LINE 4-INCH |
| | ////. MARKING REMOVAL LINE WIDE |

SIGNING LEGEND

- | | |
|---|---|
|  | EXISTING SIGN MOUNTED ON POST |
|  | EXISTING SIGN MOUNTED ON UTILITY/LIGHT POLE |
|  | PROPOSED SIGN MOUNTED ON POST |
|  | PROPOSED SIGN MOUNTED ON UTILITY/LIGHT POLE |
| ESTR | EXISTING SIGN TO REMAIN |
| (X) | SIGN NUMBER |
| (X) | SIGN SIZE |



PROJECT NO: 2703-05-71 & 2703-05-72

HWY: 6TH STREET

COUNTY: RACINE

PAVEMENT MARKING & SIGNING PLAN

SHEET

20

E

PAVEMENT MARKING LEGEND

- | | |
|---|---|
| 1 MARKING LINE EPOXY 4-INCH, WHITE | 7 MARKING BIKE LANE SYMBOL FOR SHARED LANE EPOXY |
| 2 MARKING LINE EPOXY 4-INCH, WHITE (3' LINE, 9' SKIP) | 8 MARKING STOP LINE EPOXY 18-INCH |
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| | ////. MARKING REMOVAL LINE WIDE |

SIGNING LEGEND

- | | |
|------|---|
| | EXISTING SIGN MOUNTED ON POST |
| | EXISTING SIGN MOUNTED ON UTILITY/LIGHT POLE |
| | PROPOSED SIGN MOUNTED ON POST |
| | PROPOSED SIGN MOUNTED ON UTILITY/LIGHT POLE |
| ESTR | EXISTING SIGN TO REMAIN |
| (X) | SIGN NUMBER |
| (X) | SIGN SIZE |

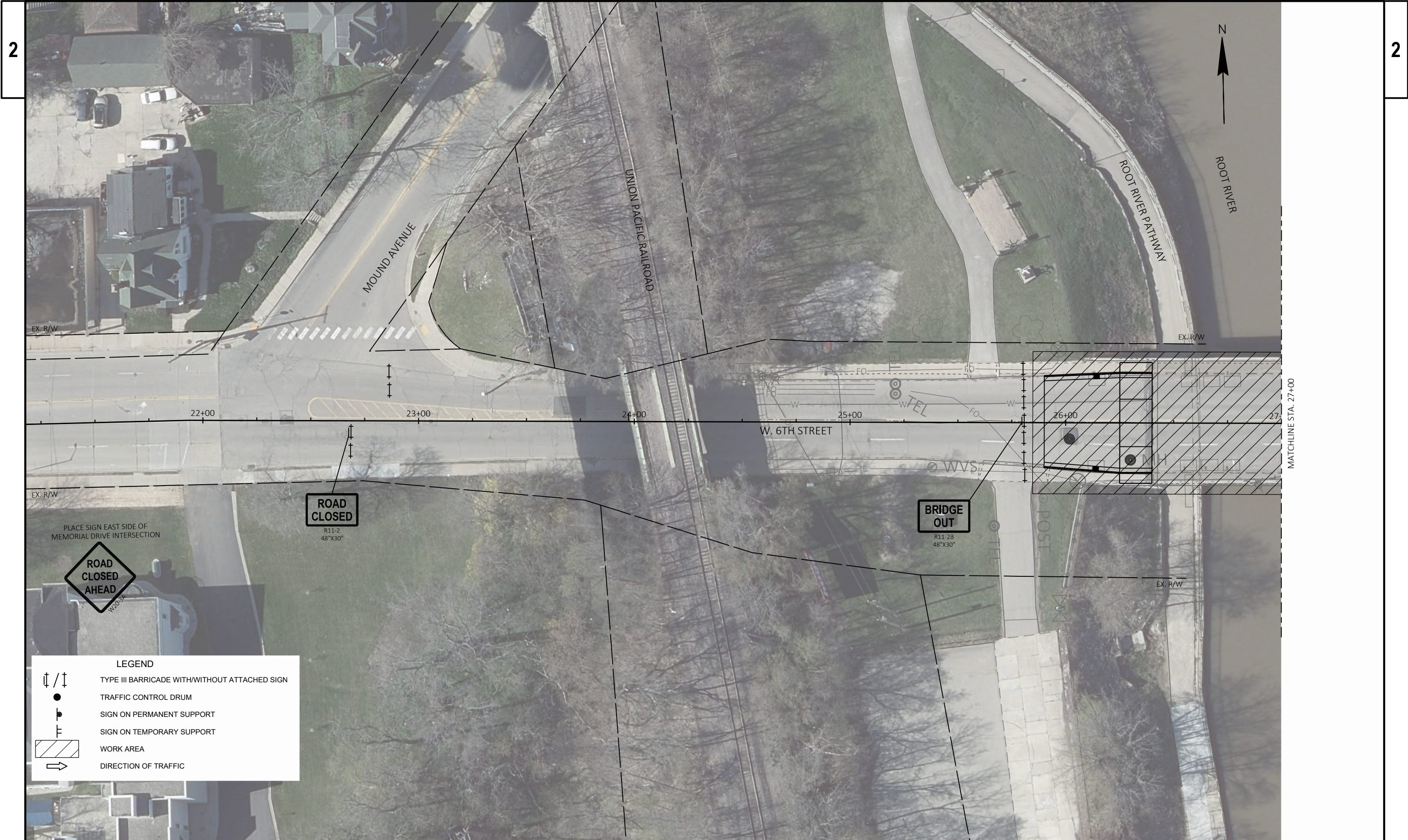
MATCHLINE STA. 130+25

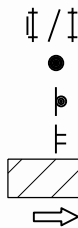
EX. R/W

(VACATED) HOWE STREET

EX. R/W

BEGIN PROJECT 2703-05-72
STA 130+90.90STRUCTURE
B-51-0067END PROJECT 2703-05-72
STA 132+36.90END CONSTRUCTION 2703-05-72
STA 135+50.00





- LEGEND
- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
 - TRAFFIC CONTROL DRUM
 - SIGN ON PERMANENT SUPPORT
 - SIGN ON TEMPORARY SUPPORT
 - WORK AREA
 - DIRECTION OF TRAFFIC



LEGEND

TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN

TRAFFIC CONTROL DRUM

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

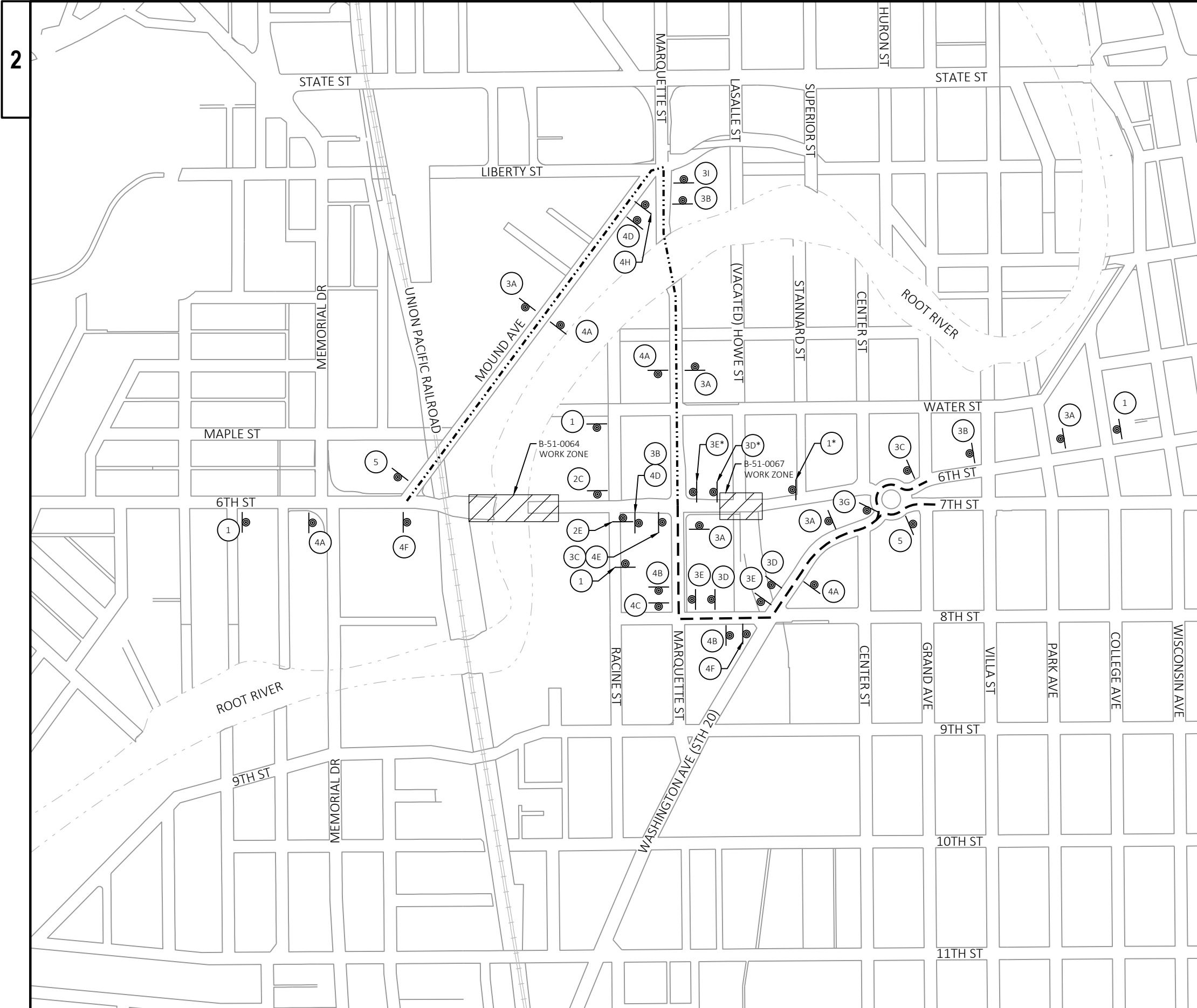
WORK AREA

DIRECTION OF TRAFFIC









LEGEND

- DETOUR ROUTE FOR B-51-064 CLOSURE
- DETOUR ROUTE FOR B-51-067 CLOSURE
- WORK ZONE
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE WITH ATTACHED SIGN AND TWO TYPE A LIGHTS

1 **W. 6TH ST** M1-94 VARIESX15"

2 **DETOUR** M4-8 24"x12" **W. 6TH ST** M1-94 VARIESX15"

3 **DETOUR WEST** M4-8 24"x12" M3-4 24"x12" **W. 6TH ST** M1-94 VARIESX15"

4 **DETOUR EAST** M4-8 24"x12" M3-2 24"x12" **W. 6TH ST** M1-94 VARIESX15"

5 **END DETOUR** M4-8A 24"x18" **W. 6TH ST** M1-94 VARIESX15"

A **↑** MO6-1 21"x21"

B **↶** MO5-1L 21"x21"

C **←** MO6-1 21"x21"

D **↷** MO5-1R 21"x21"

E **→** MO6-1 21"x21"

F **↷** MO5-2L 21"x21"

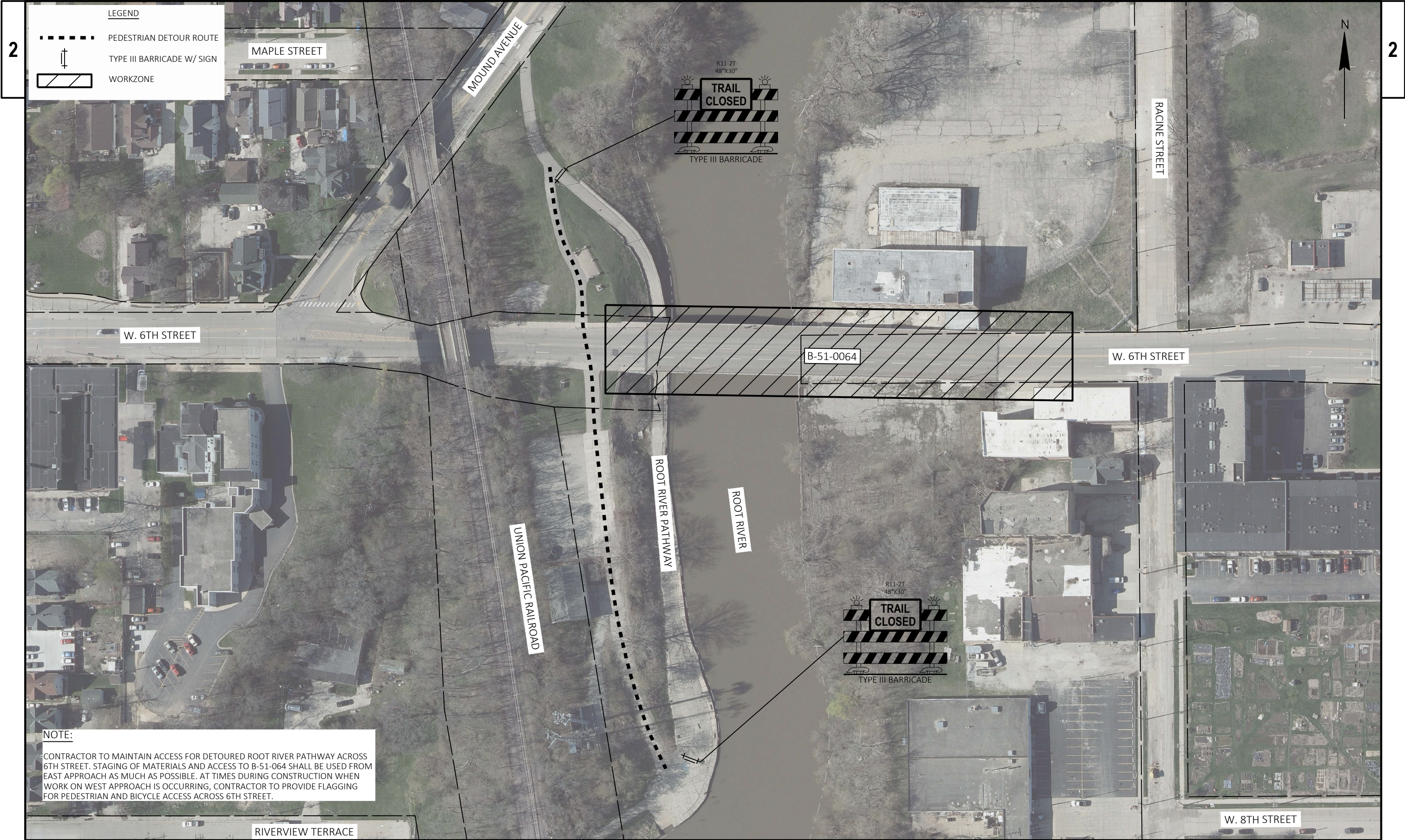
G **↗** MO6-2 21"x21"

H **↘** MO5-1R (MOD) 21"x21"

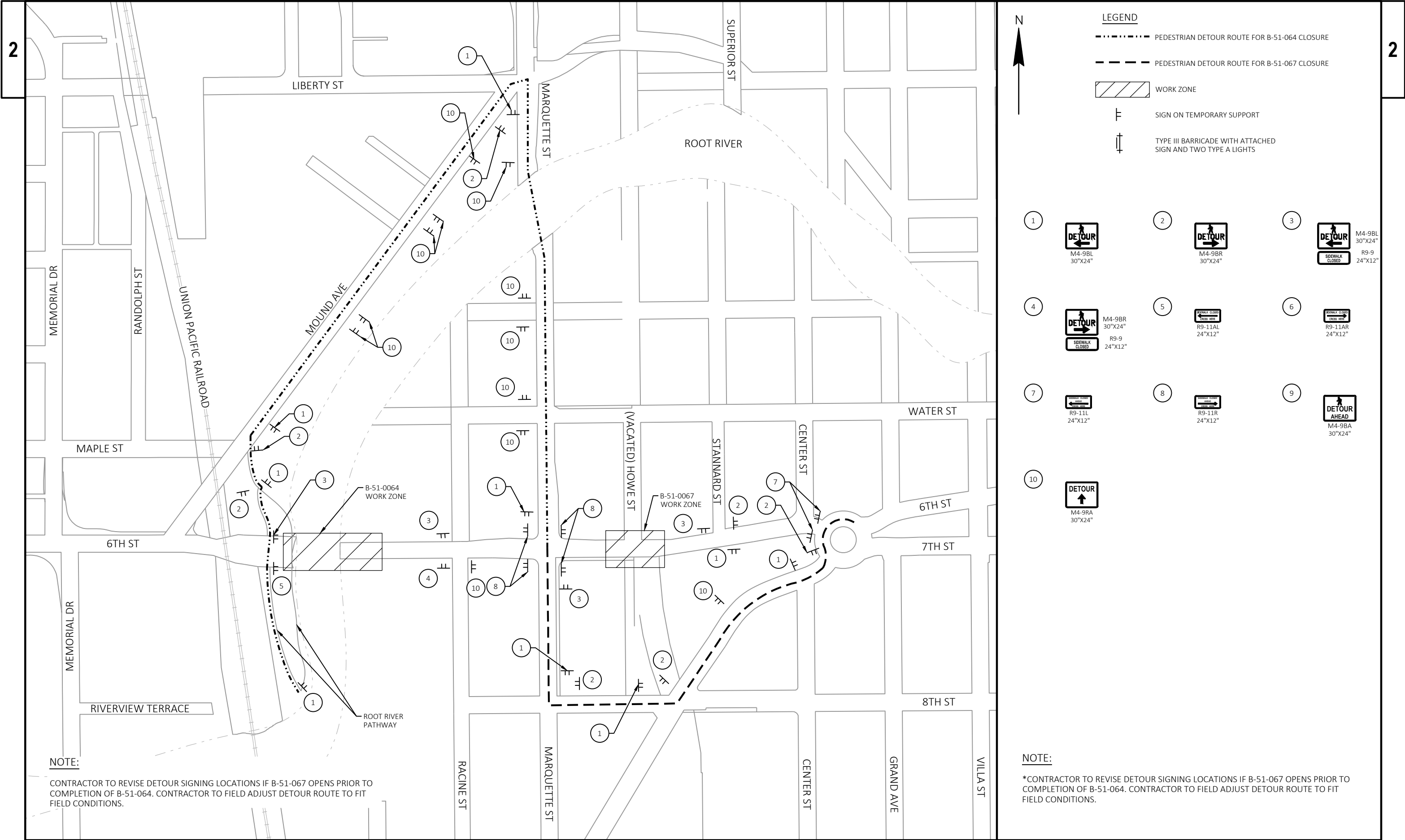
I **↙** MO5-1L (MOD) 21"x21"

NOTE:

*CONTRACTOR TO REVISE DETOUR SIGNING LOCATIONS IF B-51-067 OPENS PRIOR TO COMPLETION OF B-51-064. CONTRACTOR TO FIELD ADJUST DETOUR ROUTE TO FIT FIELD CONDITIONS.



NOTE:
CONTRACTOR TO MAINTAIN ACCESS FOR DETOURED ROOT RIVER PATHWAY ACROSS 6TH STREET. STAGING OF MATERIALS AND ACCESS TO B-51-064 SHALL BE USED FROM EAST APPROACH AS MUCH AS POSSIBLE. AT TIMES DURING CONSTRUCTION WHEN WORK ON WEST APPROACH IS OCCURRING, CONTRACTOR TO PROVIDE FLAGGING FOR PEDESTRIAN AND BICYCLE ACCESS ACROSS 6TH STREET.



LEGEND

- PEDESTRIAN DETOUR ROUTE FOR B-51-064 CLOSURE
- PEDESTRIAN DETOUR ROUTE FOR B-51-067 CLOSURE
- WORK ZONE
- SIGN ON TEMPORARY SUPPORT
- TYPE III BARRICADE WITH ATTACHED SIGN AND TWO TYPE A LIGHTS

1
M4-9BL
30"x24"

2
M4-9BR
30"x24"

3
M4-9BL
30"x24"
R9-9
24"x12"

4
M4-9BR
30"x24"
R9-9
24"x12"

5
R9-11AL
24"x12"

6
R9-11AR
24"x12"

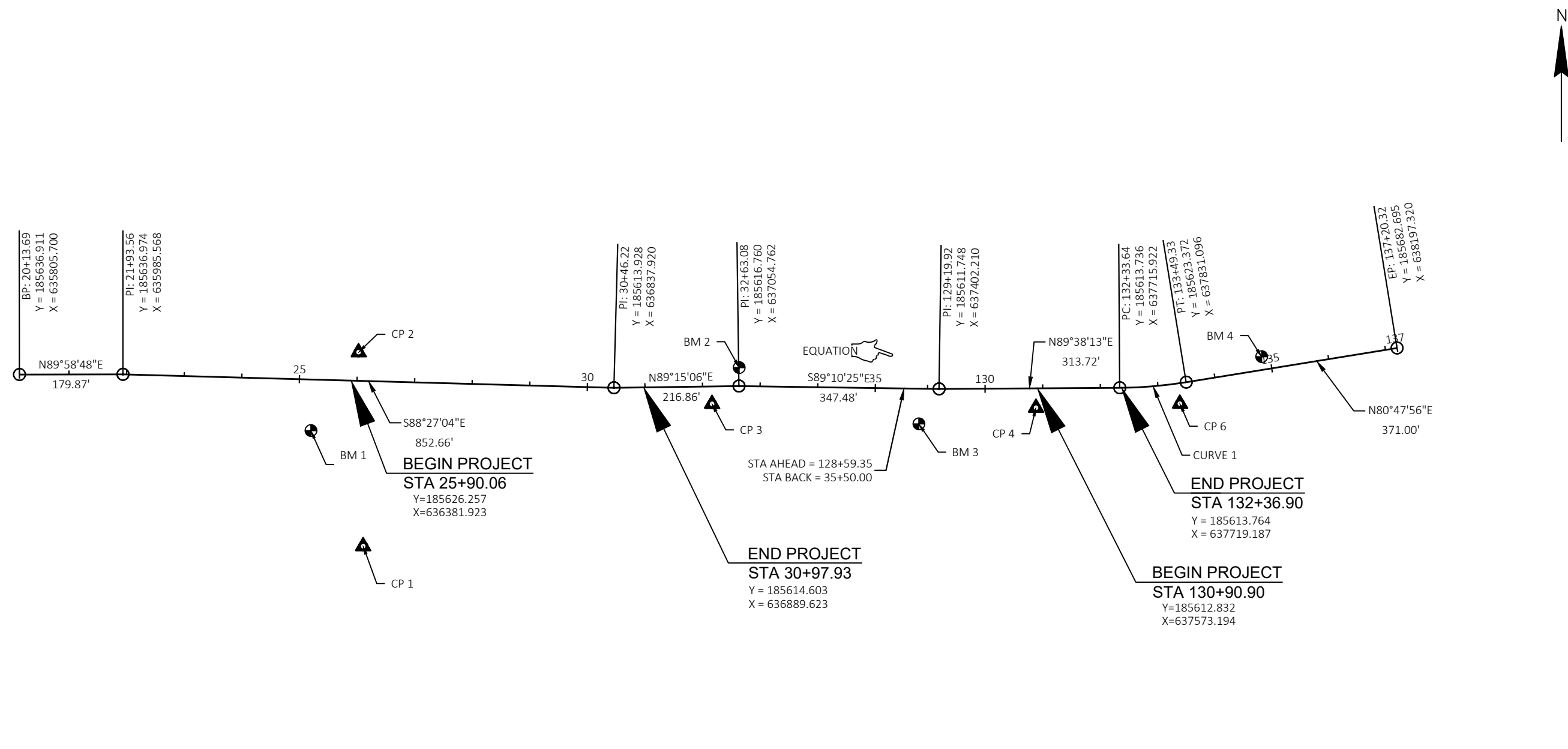
7
R9-11L
24"x12"

8
R9-11R
24"x12"

9
M4-9BA
30"x24"

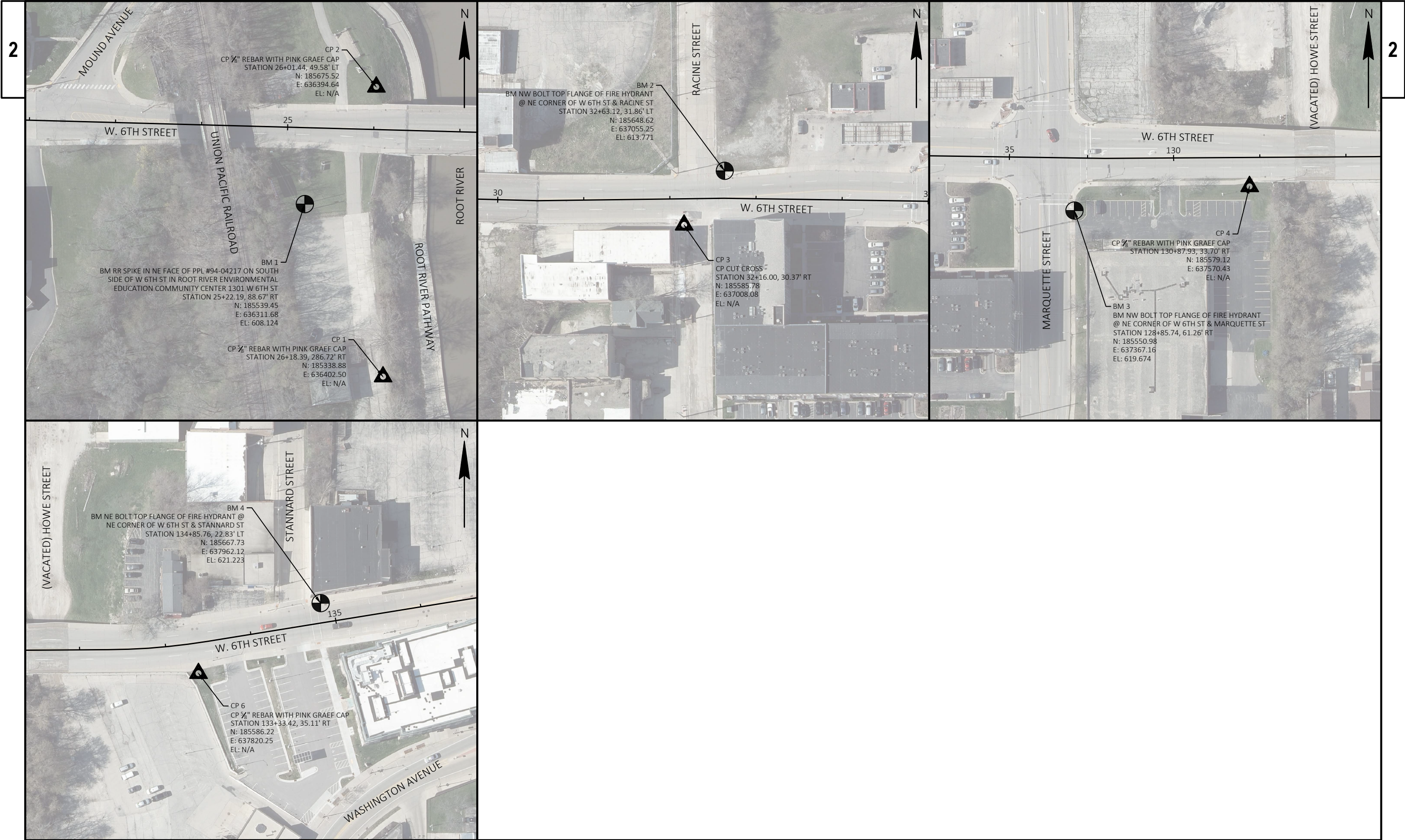
10
M4-9RA
30"x24"

NOTE:
*CONTRACTOR TO REVISE DETOUR SIGNING LOCATIONS IF B-51-067 OPENS PRIOR TO COMPLETION OF B-51-064. CONTRACTOR TO FIELD ADJUST DETOUR ROUTE TO FIT FIELD CONDITIONS.



CURVE 1						
PI STA = 132+91.60						
Y = 185614.104						
X = 637773.881						
DELTA = 8°50'17" LT						
D = 7°38'22"						
T = 57.96'						
L = 115.69'						
R = 750.00'						
PC STA = 132+33.64						
Y = 185613.736						
X = 637715.922						
PT STA = 133+49.33						
Y = 185623.372						
X = 637831.096						
DB = N89°38'13"E						
DA = N80°47'56"E						

CONTROL POINTS						
POINT NUMBER	DESCRIPTION	STATION	OFFSET	ELEVATION	NORTHING	EASTING
BM 1	BM RR SPIKE IN NE FACE OF PPOL #94-04217 ON SOUTH SIDE OF W 6TH ST IN ROOT RIVER ENVIRONMENTAL EDUCATION COMMUNITY CENTER 1301 W 6TH ST	25+22.19	88.67' RT	608.12	185539.45	636311.68
BM 2	BM NW BOLT TOP FLANGE OF FIRE HYDRANT @ NE CORNER OF W 6TH ST & RACINE ST	32+63.12	31.86' LT	613.77	185648.62	637055.25
BM 3	BM NW BOLT TOP FLANGE OF FIRE HYDRANT @ NE CORNER OF W 6TH ST AND MARQUETTE ST	128+85.74	61.26' RT	619.67	185550.98	637367.16
BM 4	BM NE BOLT TOP FLANGE OF FIRE HYDRANT @ NE CORNER OF W 6TH ST AND STANNARD ST	134+85.76	22.83' LT	621.22	185667.73	637962.12
CP 1	CP 5/8" REBAR WITH PINK GRAEF CAP	26+18.39	286.72' RT	--	185338.88	636402.50
CP 2	CP 5/8" REBAR WITH PINK GRAEF CAP	26+01.44	49.58' LT	--	185675.52	636394.64
CP 3	CP CUT CROSS	32+16.00	30.37' RT	--	185585.78	637008.08
CP 4	CP 5/8" REBAR WITH PINK GRAEF CAP	130+87.93	33.70' RT	--	185579.12	637570.43
CP 5	INTENTIONALLY OMITTED	--	--	--	--	--
CP 6	CP 5/8" REBAR WITH PINK GRAEF CAP	133+33.42	35.11' RT	--	185586.22	637820.25



Estimate Of Quantities

					2703-05-71	2703-05-72
Line	Item	Item Description	Unit	Total	Qty	Qty
0002	203.0220	Removing Structure (structure) 02. B-51-0067	EACH	1.000		1.000
0004	203.0335	Debris Containment Over Waterway (structure) 01. B-51-0064	EACH	1.000	1.000	
0006	204.0100	Removing Concrete Pavement	SY	874.000	344.000	530.000
0008	204.0150	Removing Curb & Gutter	LF	70.000	70.000	
0010	204.0155	Removing Concrete Sidewalk	SY	31.000	31.000	
0012	205.0100	Excavation Common	CY	521.000	256.000	265.000
0014	206.1001	Excavation for Structures Bridges (structure) 02. B-51-0067	EACH	1.000		1.000
0016	209.0200.S	Backfill Controlled Low Strength	CY	8.000		8.000
0018	213.0100	Finishing Roadway (project) 01. 2703-02-72	EACH	1.000		1.000
0020	213.0100	Finishing Roadway (project) 01. 2703-05-71	EACH	1.000	1.000	
0022	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	589.000	286.000	303.000
0024	415.0080	Concrete Pavement 8-Inch	SY	633.000	232.000	401.000
0026	415.0410	Concrete Pavement Approach Slab	SY	149.000	76.000	73.000
0028	415.4100	Concrete Pavement Joint Filling	SY	874.000	344.000	530.000
0030	416.0620	Drilled Dowel Bars	EACH	143.000	67.000	76.000
0032	455.0605	Tack Coat	GAL	9.000	9.000	
0034	460.2000	Incentive Density HMA Pavement	DOL	30.000	30.000	
0036	460.5223	HMA Pavement 3 LT 58-28 S	TON	27.000	27.000	
0038	460.5224	HMA Pavement 4 LT 58-28 S	TON	18.000	18.000	
0040	502.0100	Concrete Masonry Bridges	CY	6.000		6.000
0042	502.3101	Expansion Device	LF	112.000	112.000	
0044	502.3200	Protective Surface Treatment	SY	2,337.000	2,102.000	235.000
0046	502.3205	Pigmented Surface Sealer Reseal	SY	281.000	281.000	
0048	502.3215	Protective Surface Treatment Reseal	SY	588.000	514.000	74.000
0050	502.4110	Adhesive Anchors 1 1/4-inch	EACH	28.000	28.000	
0052	502.4204	Adhesive Anchors No. 4 Bar	EACH	32.000		32.000
0054	502.4205	Adhesive Anchors No. 5 Bar	EACH	118.000	118.000	
0056	505.0400	Bar Steel Reinforcement HS Structures	LB	2,480.000	1,620.000	860.000
0058	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	2,210.000	2,210.000	
0060	506.6000	Bearing Assemblies Expansion (structure) 01. B-51-0064	EACH	14.000	14.000	
0062	506.7050.S	Removing Bearings (structure) 01. B-51-0064	EACH	14.000	14.000	
0064	509.0301	Preparation Decks Type 1	SY	53.000	43.000	10.000
0066	509.0302	Preparation Decks Type 2	SY	34.000	29.000	5.000
0068	509.0500	Cleaning Decks	SY	2,287.000	2,052.000	235.000
0070	509.1000	Joint Repair	SY	49.000	49.000	
0072	509.1200	Curb Repair	LF	12.000	8.000	4.000
0074	509.1500	Concrete Surface Repair	SF	23.000	11.000	12.000
0076	509.2000	Full-Depth Deck Repair	SY	19.000	1.000	18.000
0078	509.2500	Concrete Masonry Overlay Decks	CY	167.000	142.000	25.000
0080	517.0901.S	Preparation and Coating of Top Flanges (structure) 01. B-51-0064	EACH	1.000	1.000	
0082	517.1801.S	Structure Repainting Recycled Abrasive (structure) 01. B-51-0064	EACH	1.000	1.000	
0084	517.4501.S	Negative Pressure Containment and Collection of Waste Materials (structure) 01. B-51-0064	EACH	1.000	1.000	
0086	517.6001.S	Portable Decontamination Facility	EACH	1.000	1.000	
0088	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	332.000	132.000	200.000
0090	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	70.000	70.000	
0092	602.0410	Concrete Sidewalk 5-Inch	SF	279.000	279.000	
0094	611.0420	Reconstructing Manholes	EACH	1.000	1.000	
0096	611.0530	Manhole Covers Type J	EACH	1.000	1.000	

Estimate Of Quantities

		2703-05-71		2703-05-72	
Line	Item	Item Description	Unit	Total	Qty
0098	611.8110	Adjusting Manhole Covers	EACH	1.000	1.000
0100	611.8115	Adjusting Inlet Covers	EACH	4.000	2.000
0102	611.8120.S	Cover Plates Temporary	EACH	4.000	3.000
0104	619.1000	Mobilization	EACH	1.000	0.750
0106	624.0100	Water	MGAL	6.000	3.000
0108	628.7010	Inlet Protection Type B	EACH	6.000	6.000
0110	628.7020	Inlet Protection Type D	EACH	5.000	3.000
0112	634.0814	Posts Tubular Steel 2x2-Inch X 14-FT	EACH	2.000	1.000
0114	637.2210	Signs Type II Reflective H	SF	45.000	22.500
0116	642.5001	Field Office Type B	EACH	1.000	1.000
0118	643.0300	Traffic Control Drums	DAY	238.000	238.000
0120	643.0420	Traffic Control Barricades Type III	DAY	2,132.000	1,248.000
0122	643.0705	Traffic Control Warning Lights Type A	DAY	4,264.000	2,496.000
0124	643.0900	Traffic Control Signs	DAY	9,258.000	5,892.000
0126	643.5000	Traffic Control	EACH	1.000	0.750
0128	646.1020	Marking Line Epoxy 4-Inch	LF	9,375.000	4,367.000
0130	646.3020	Marking Line Epoxy 8-Inch	LF	178.000	100.000
0132	646.5020	Marking Arrow Epoxy	EACH	4.000	2.000
0134	646.5220	Marking Symbol Epoxy	EACH	11.000	7.000
0136	646.6120	Marking Stop Line Epoxy 18-Inch	LF	71.000	34.000
0138	646.7120	Marking Diagonal Epoxy 12-Inch	LF	900.000	609.000
0140	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	327.000	118.000
0142	646.9000	Marking Removal Line 4-Inch	LF	174.000	148.000
0144	646.9200	Marking Removal Line Wide	LF	49.000	49.000
0146	650.4500	Construction Staking Subgrade	LF	201.000	101.000
0148	650.5000	Construction Staking Base	LF	50.000	50.000
0150	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	70.000	70.000
0152	650.6501	Construction Staking Structure Layout (structure) 01. B-51-0064	EACH	1.000	1.000
0154	650.6501	Construction Staking Structure Layout (structure) 02. B-51-0067	EACH	1.000	1.000
0156	650.7000	Construction Staking Concrete Pavement	LF	151.000	51.000
0158	650.9500	Construction Staking Sidewalk (project) 01. 2703-05-71	EACH	1.000	1.000
0160	650.9911	Construction Staking Supplemental Control (project) 01. 2703-05-71	EACH	1.000	1.000
0162	650.9911	Construction Staking Supplemental Control (project) 01. 2703-05-72	EACH	1.000	1.000
0164	690.0250	Sawing Concrete	LF	202.000	106.000
0166	715.0502	Incentive Strength Concrete Structures	DOL	500.000	500.000
0168	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	1,000.000	500.000
0170	999.2005.S	Maintaining Bird Deterrent System (station) 01. 26+43	EACH	1.000	1.000
0172	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	900.000	900.000
0174	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	400.000	400.000
0176	SPV.0060	Special 01. Floor Drain Type GC Grate Casting	EACH	1.000	1.000
0178	SPV.0060	Special 02. Adjust Sanitary Manhole with Internal/External Seal	EACH	2.000	2.000
0180	SPV.0165	Special 01. Removing Parapet Artwork	SF	1,936.000	1,936.000
0182	SPV.0180	Special 01. Abutment Seat Cleaning and Sealing	SY	42.000	42.000

3

3

REMOVING CONCRETE PAVEMENT

204.0100
REMOVING
CONCRETE
PAVEMENT

STATION TO STATION	SY
6TH STREET	
2703-05-71	344
2703-05-72	530
TOTALS	874

REMOVING CURB & GUTTER

204.0150
REMOVING CURB &
GUTTER

STATION TO STATION	LF
6TH STREET	
2703-05-71	70
2703-05-72	-
TOTALS	70

REMOVING CONCRETE SIDEWALK

204.0155
REMOVING
CONCRETE

STATION TO STATION	SY
6TH STREET	
2703-05-71	31
2703-05-72	-
TOTALS	31

EXCAVATION COMMON

CUT

PROJECT	STATION TO STATION	PAVEMENT REMOVAL AREA (SF)	DEPTH OF PAVEMENT (FT)	DEPTH OF AGGREGATE (FT)	TOTAL DEPTH (FT)	EXCAVATION COMMON 205.0100		APPROXIMATE LOCATION	COMMENT
						VOLUME (CY)	SALVAGED UNUSABLE (CY)		
2703-05-71	25+90 - 26+25	1572	0.42	0.83	1.25	73	24	23.5' LT TO 23.5' RT	WEST APPROACH TO B-51-064
	26+25 - BRIDGE DECK	765	1.00	0.50	1.5	43	28	23.5' LT TO 23.5' RT	WEST APPROACH TO B-51-064
	26+25 - BRIDGE DECK	75	0.42	0.33	0.75	2	1	28' LT TO 23.5' LT & 23.5' RT TO 28' RT	SIDEWALK REPLACEMENT
	BRIDGE DECK - 30+63	813	1.00	0.50	1.5	45	30	23.5' LT TO 23.5' RT	EAST APPROACH TO B-51-064
	BRIDGE DECK - 30+63	80	0.42	0.33	0.75	2	1	28' LT TO 23.5' LT & 23.5' RT TO 28' RT	SIDEWALK REPLACEMENT
	30+63 - 30+98	1645	0.67	0.83	1.5	91	41	23.5' LT TO 23.5' RT	EAST APPROACH TO B-51-064
2703-05-72	130+91 - 131+26	1712	0.67	0.83	1.5	95	42	23.5' LT TO 23.5' RT	WEST APPROACH TO B-51-067
	131+26 - BRIDGE DECK	713	1.00	0.50	1.5	40	26	23.5' LT TO 23.5' RT	WEST APPROACH TO B-51-067
	BRIDGE DECK - 132+02	705	1.00	0.50	1.5	39	26	23.5' LT TO 23.5' RT	EAST APPROACH TO B-51-067
	132+02 - 132+37	1645	0.67	0.83	1.5	91	41	23.5' LT TO 23.5' RT	EAST APPROACH TO B-51-067

2703-05-71 SUBTOTAL: 256 126
2703-05-72 SUBTOTAL: 265 135
TOTAL: 521 261

FINISHING ROADWAY

213.0100
FINISHING ROADWAY

STATION	EACH
ID 2703-05-71	1
ID 2703-05-72	1
GRAND TOTAL	2

BASE AGGREGATE DENSE 1 1/4-INCH

305.0120
BASE AGGREGATE
DENSE 1 1/4-INCH

STATION TO STATION	TON
6TH STREET	
2703-05-71	286
2703-05-72	303
TOTALS	589

CONCRETE PAVEMENT

415.0080 415.4100 416.0620
8-INCH JOINT FILLING DRILLED DOWEL BARS

STATION TO STATION	SY	SY	EACH
6TH STREET			
2703-05-71	232	344	67
2703-05-72	401	530	76
TOTALS	633	874	143

CONCRETE PAVEMENT APPROACH SLAB

415.0410
CONCRETE
PAVEMENT
APPROACH SLAB

STATION TO STATION	SY
6TH STREET	
2703-05-71	76
2703-05-72	73
TOTALS	149

ALL ITEMS ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

3

HMA PAVEMENT

460.5223 3 LT 58-28 S			
460.5224 4 LT 58-28 S			
455.0605 TACK COAT			
STATION TO STATION	TON	TON	GAL
6TH STREET			
2703-05-71	27	18	9
2703-05-72	-	-	-
TOTALS	27	18	9

CONCRETE CURB & GUTTER

601.0409 30-INCH TYPE A		
601.0411 30-INCH TYPE D		
STATION TO STATION	LF	LF
6TH STREET		
2703-05-71	132	70
2303-05-72	200	-
TOTALS	332	70

3

CONCRETE SIDEWALK

602.0410 5-INCH	
STATION TO STATION	SF
6TH STREET	
2703-05-71	279
2703-05-72	-
TOTALS	279

				611.0420 RECONSTRUCTING MANHOLES EACH	611.0530 MANHOLE COVERS TYPE J EACH	611.8110 ADJUSTING MANHOLE COVERS EACH	611.8120.S* COVER PLATES TEMPORARY EACH
2703-05-71							
R103	26+01.70	7.52' RT	6TH STREET	1	1	--	1
2703-05-72							
A203	131+01.24	0.02' RT	6TH STREET	--	--	1	1
TOTALS				1	1	1	2

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ADJUSTING INLET COVERS

				611.8115 ADJUSTING INLET COVERS EACH
2703-05-71				
I101	26+13.81	21.33' RT	6TH STREET	1
I102	26+14.32	21.22' LT	6TH STREET	1
SUBTOTALS				2
2703-05-72				
I201	131+06.20	22.07' RT	6TH STREET	1
I202	131+05.12	24.05' LT	6TH STREET	1
SUBTOTALS				2
TOTALS				4

MOBILIZATION

619.1000 MOBILIZATION	
PROJECT	EACH
2703-05-71	0.75
2703-05-72	0.25
TOTALS	1

WATER

624.0100 WATER	
STATION TO STATION	MGAL
6TH STREET	
2703-05-71	3
2703-05-72	3
TOTALS	6

ALL ITEMS ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

3

INLET PROTECTION		
	628.7010	628.7020
	INLET PROTECTION	INLET PROTECTION
	TYPE B	TYPE D
STATION TO STATION	EACH	EACH
6TH STREET		
2703-05-71	6	3
2703-05-72	-	2
TOTALS	6	5

TRAFFIC CONTROL									
		643.0300		643.0420		643.0705		643.0900	
		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL	
		DRUMS		BARRICADES TYPE III		WARNING LIGHTS		SIGNS	
						TYPE A			
STAGE	DURATION DAYS	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY
2703-05-71									
B-51-064 TRAFFIC CONTROL	54	-	-	22	1,188	44	2,376	10	540
B-51-064 DETOUR	54	-	-	-	-	-	-	70	3,780
B-51-064 PEDESTRIAN DETOUR	54	-	-	-	-	-	-	28	1,512
ROOT RIVER PATHWAY DETOUR	30	-	-	2	60	4	120	2	60
SUBTOTALS		-	-	24	1,248	48	2,496	110	5,892
2703-05-72									
B-51-067 TRAFFIC CONTROL	34	7	238	26	884	52	1,768	8	272
B-51-067 DETOUR	34	-	-	-	-	-	-	74	2,516
B-51-067 PEDESTRIAN DETOUR	34	-	-	-	-	-	-	17	578
SUBTOTALS		7	238	26	884	52	1,768	99	3,366
TOTALS		7	238	50	2,132	100	4,264	209	9,258

3

TYPE II PERMANENT SIGNING

SIGN NO.	PROJECT	SIGN CODE & SIZE		SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE			POSTS TUBULAR STEEL 2X2-INCH X 14-FT. [EA]	SIGNS TYPE II REFLC H [SF]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
						W [IN.]	x	H [IN.]				
1	2703-05-71	R3-17	(2S)	II	--	30	x	24	1	5.00	--	--
2		R3-17	(2S)	II	--	30	x	24	--	5.00	--	MOUNT ON EXISTING POLE
3		R3-17BP	(2S)	II	--	30	x	12	--	2.50	2	MOUNT ON EXISTING POLE
4		R3-17	(2S)	II	--	30	x	24	--	5.00	--	MOUNT ON EXISTING POLE
5		R3-17	(2S)	II	--	30	x	24	--	5.00	--	MOUNT ON EXISTING POLE
6	2703-05-72	R3-17	(2S)	II	--	30	x	24	1	5.00	--	--
7		R3-17	(2S)	II	--	30	x	24	--	5.00	--	MOUNT ON EXISTING POLE
8		R3-17	(2S)	II	--	30	x	24	--	5.00	--	MOUNT ON EXISTING POLE
9		R3-17	(2S)	II	--	30	x	24	--	5.00	--	MOUNT ON EXISTING POLE
10		R3-17BP	(2S)	II	--	30	x	12	--	2.50	9	MOUNT ON EXISTING POLE
	2703-05-71 SUBTOTALS								1	22.50		
	2703-05-72 SUBTOTALS								1	22.50		
	TOTALS								2	45.00		

ALL ITEMS ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

Standard Detail Drawing List

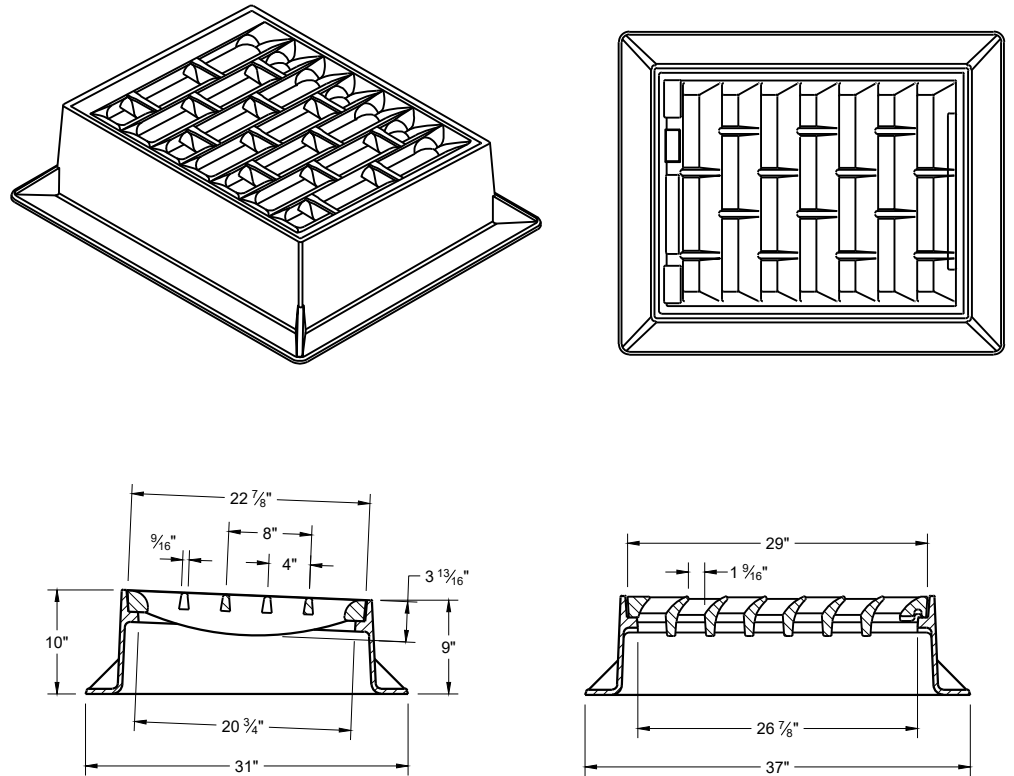
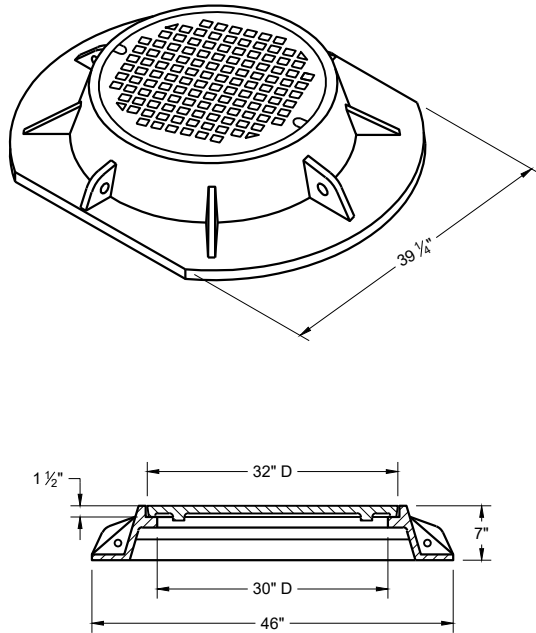
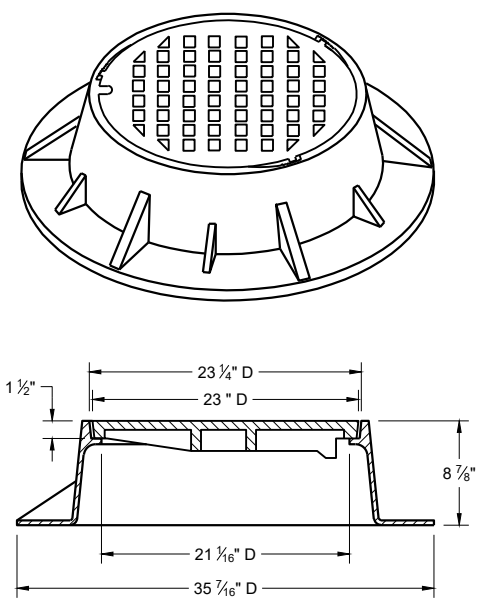
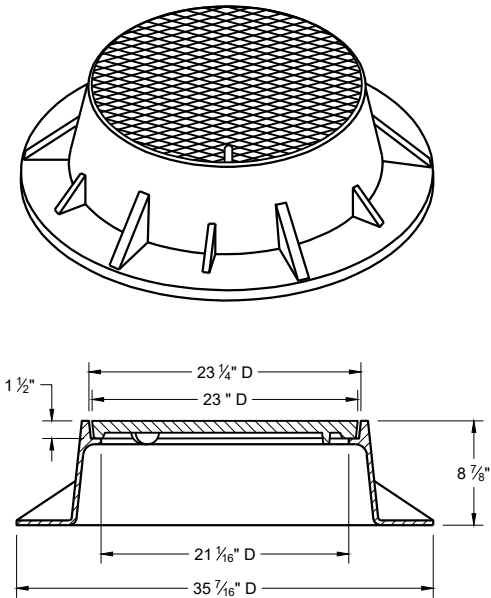
08A05-21E	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08E10-02	INLET PROTECTION TYPE A, B, C AND D
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
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
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C07-15A	PAVEMENT MARKING SYMBOLS
15C07-15C	PAVEMENT MARKING ARROWS
15C07-15E	PAVEMENT MARKING FOR BIKE LANES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23C	PAVEMENT MARKING (TURN LANES)
15C08-23D	PAVEMENT MARKING (TURN LANES)
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C29-08A	BICYCLE LANE MARKING
15C29-08B	PAVEMENT MARKING FOR SHARED LANE 35 MPH OR LESS
15C33-05	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15D30-09A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09B	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09K	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

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.

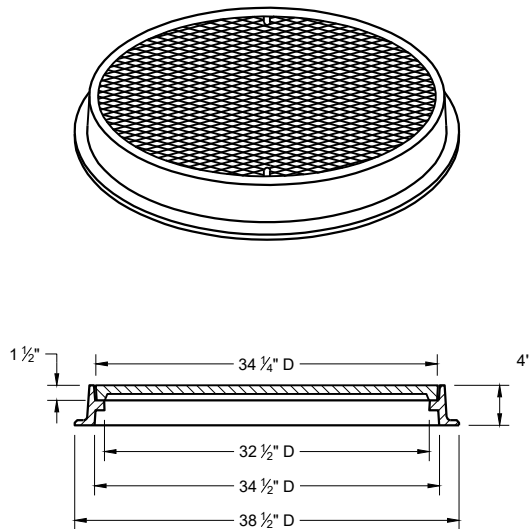
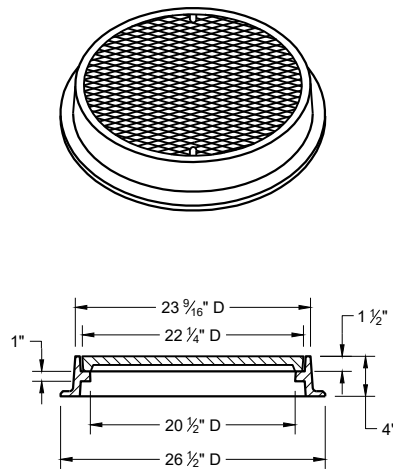
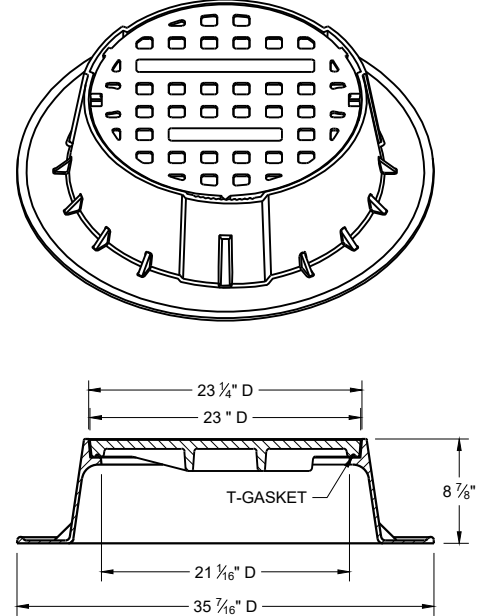
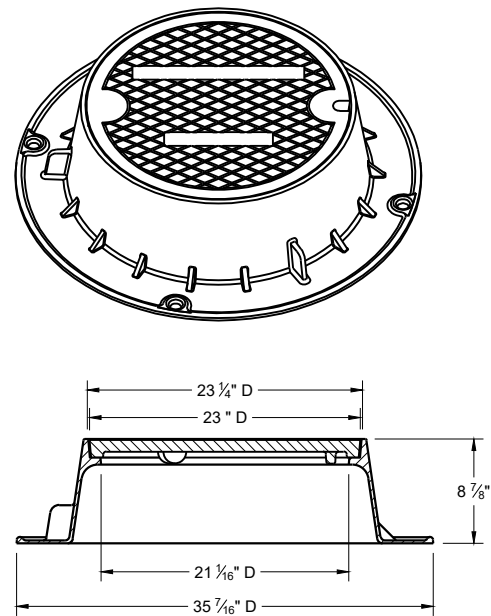
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



TYPE "K"

INLET COVER TYPE "BW"



TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

TYPE "J" SPECIAL

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

NOTE: EITHER CASTING IS ACCEPTABLE

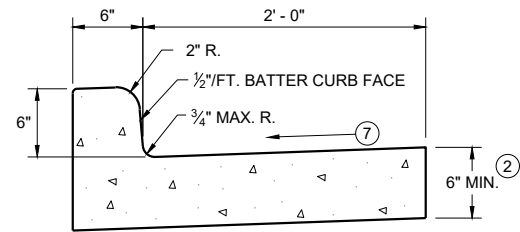
TYPE "L"

TYPE "M"

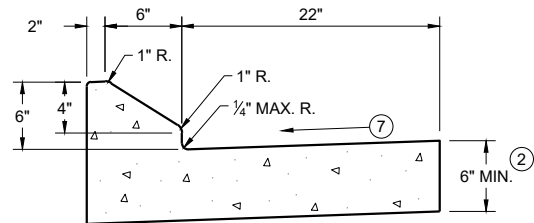
INLET COVERS TYPES BW
MANHOLE COVERS TYPES K,
J, J-S, L, AND M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

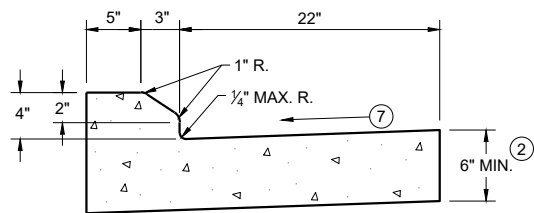
APPROVED
December 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



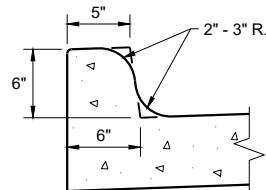
TYPES A^① & D



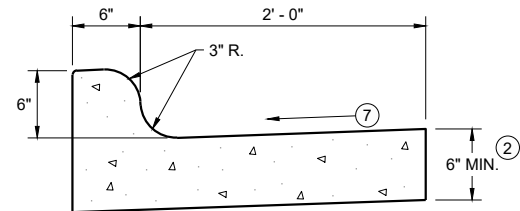
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

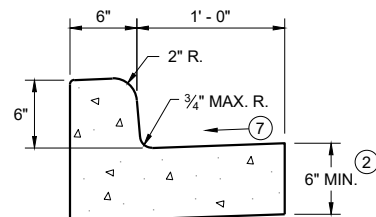


TYPES K^① & L
(OPTIONAL CURB SHAPE)



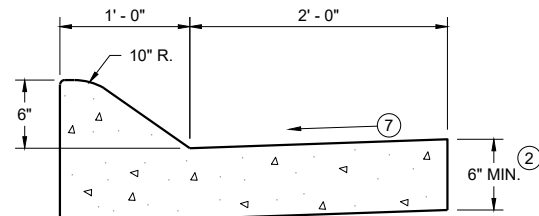
TYPES K^① & L

CONCRETE CURB AND GUTTER 30"

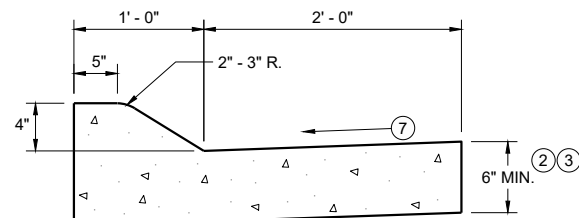


TYPES A^① & D

CONCRETE CURB AND GUTTER 18"

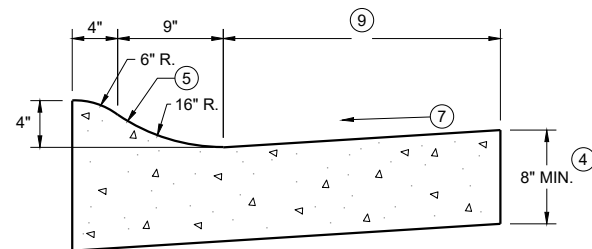


6" SLOPED CURB TYPES A^① & D



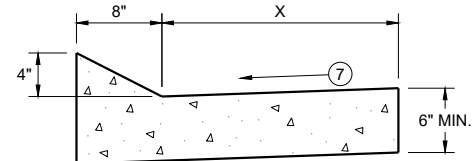
4" SLOPED CURB TYPES A^① & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T

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

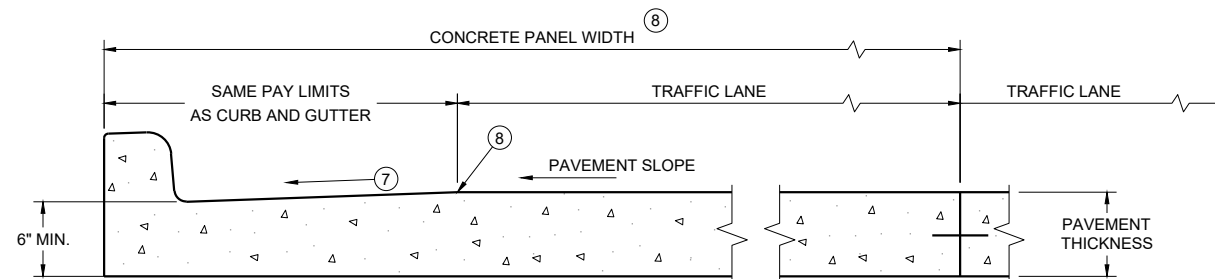


TYPES TBT & TBTT^①

CONCRETE CURB AND GUTTER

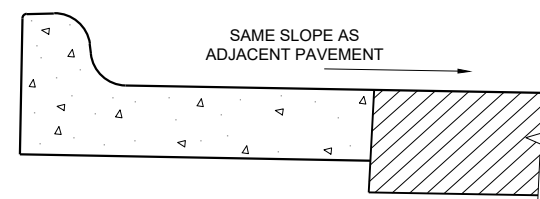
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

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

GENERAL NOTES

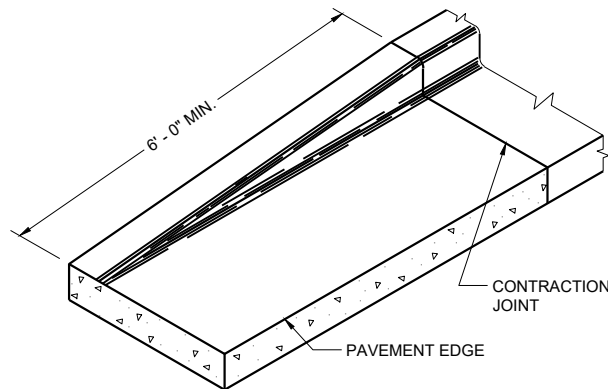
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

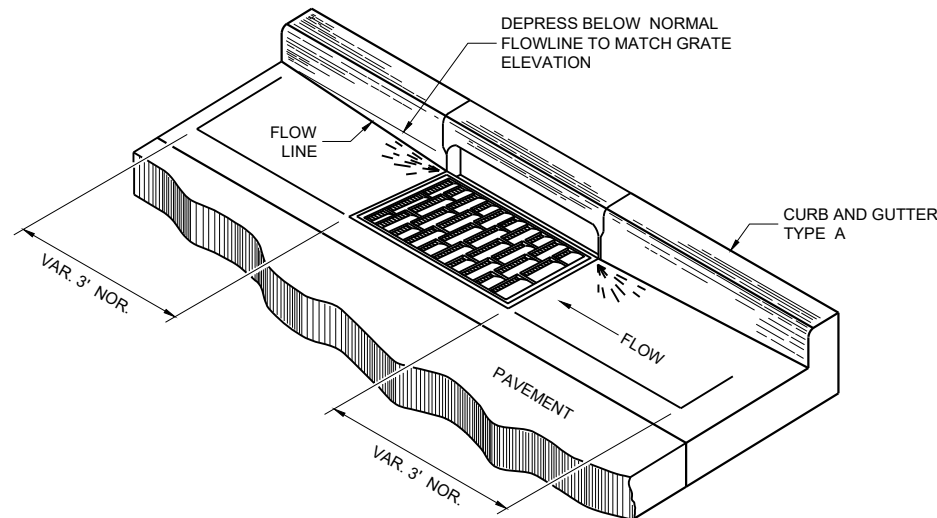
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

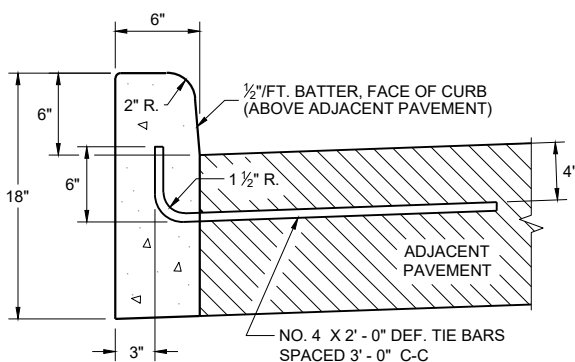


END SECTION CURB AND GUTTER

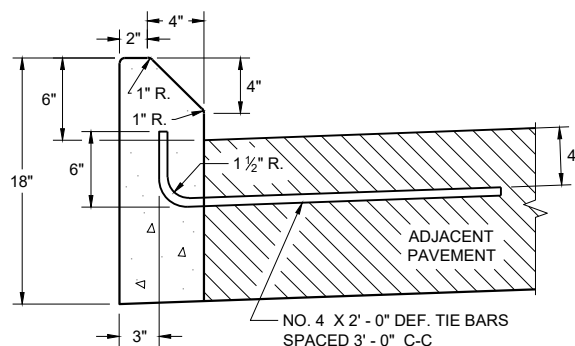


DETAIL OF CURB AND GUTTER AT INLETS

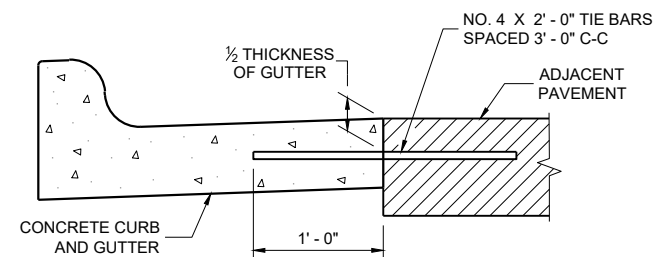
(TYPICAL H INLET COVER SHOWN)



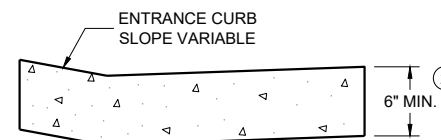
TYPES A^① & D



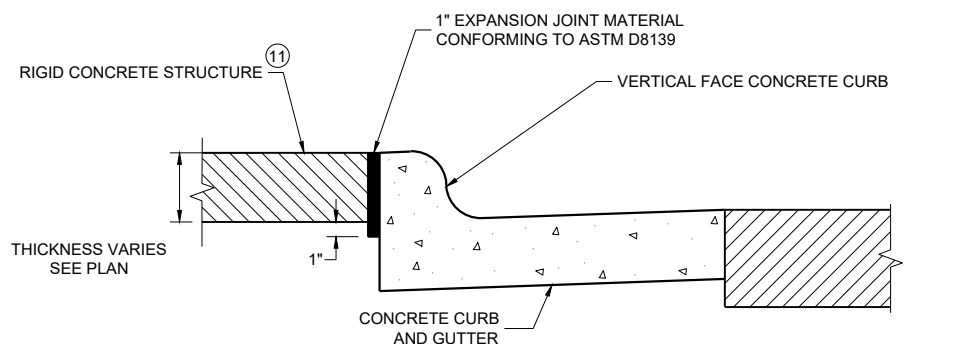
**TYPES G^① & J
CONCRETE CURB**



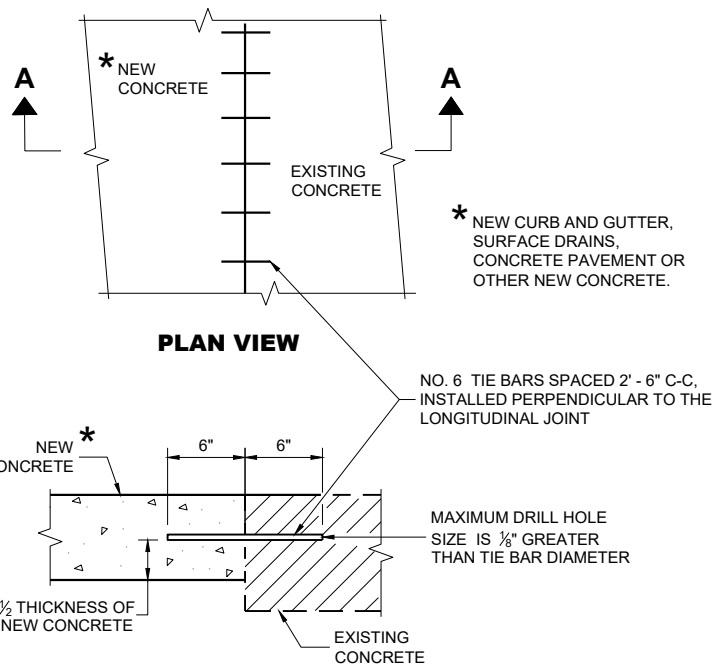
TYPICAL TIE BAR LOCATION^①



**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**

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.

6

SDD 08D01-23b

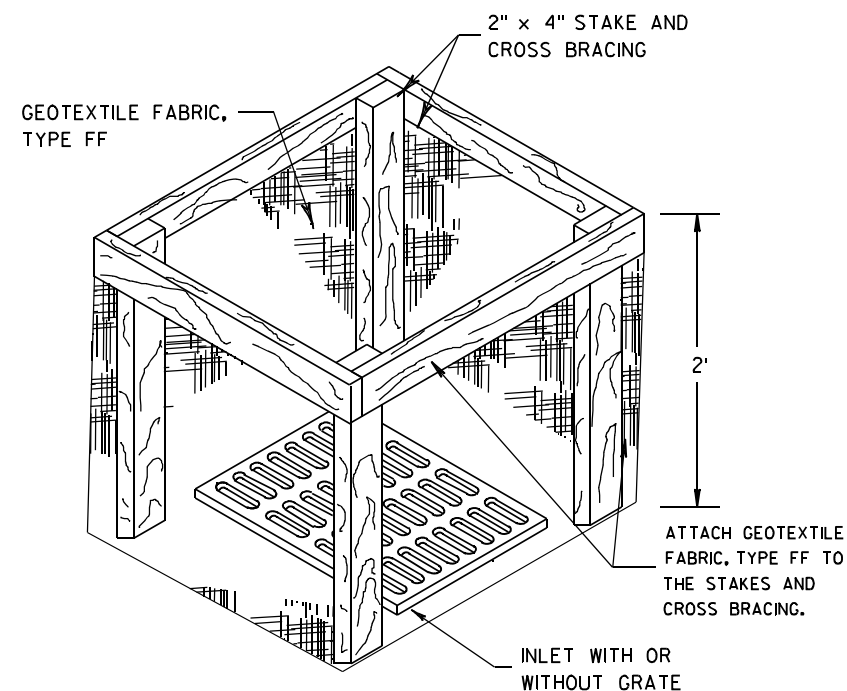
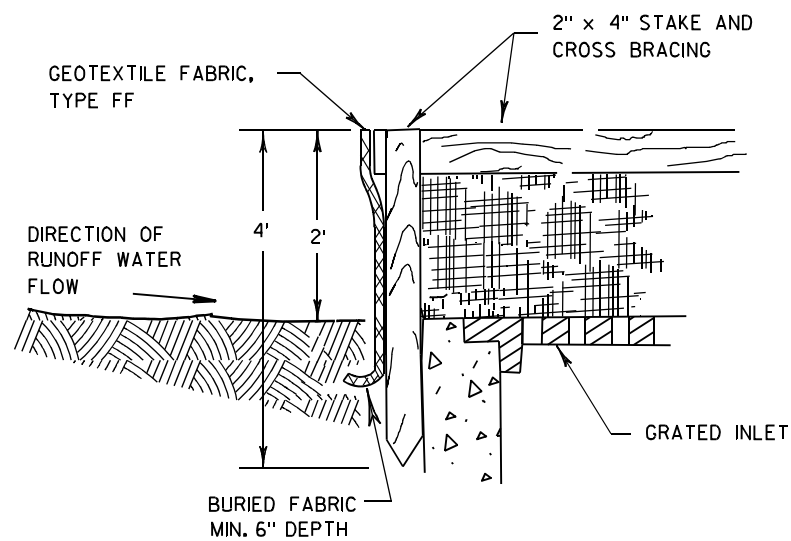
6

SDD 08D01-23b

**CONCRETE CURB, TIES
AND CURB AND GUTTER
APPLICATIONS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



INLET PROTECTION, TYPE A

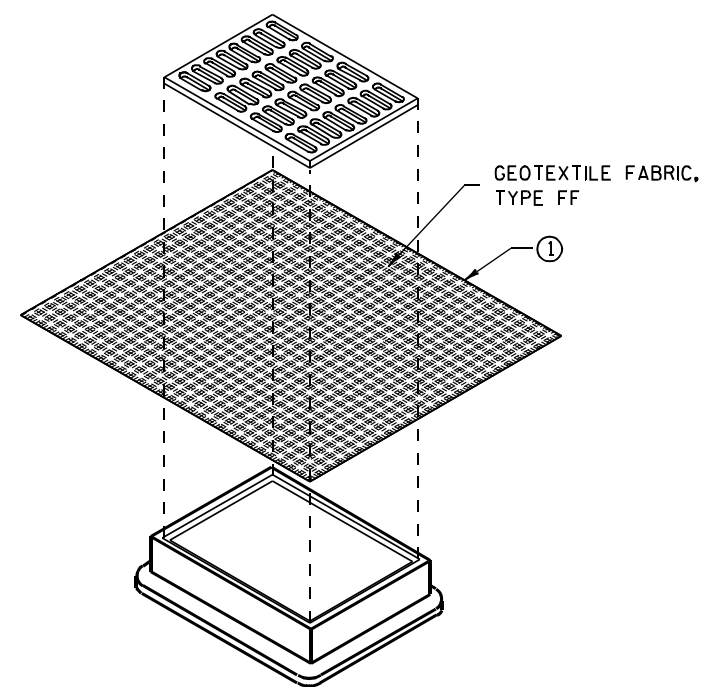
GENERAL NOTES

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

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

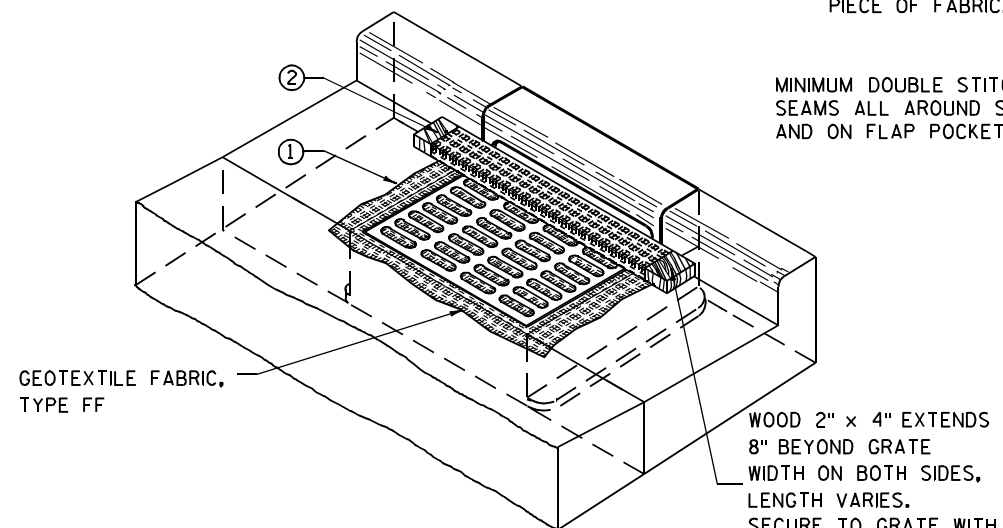
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

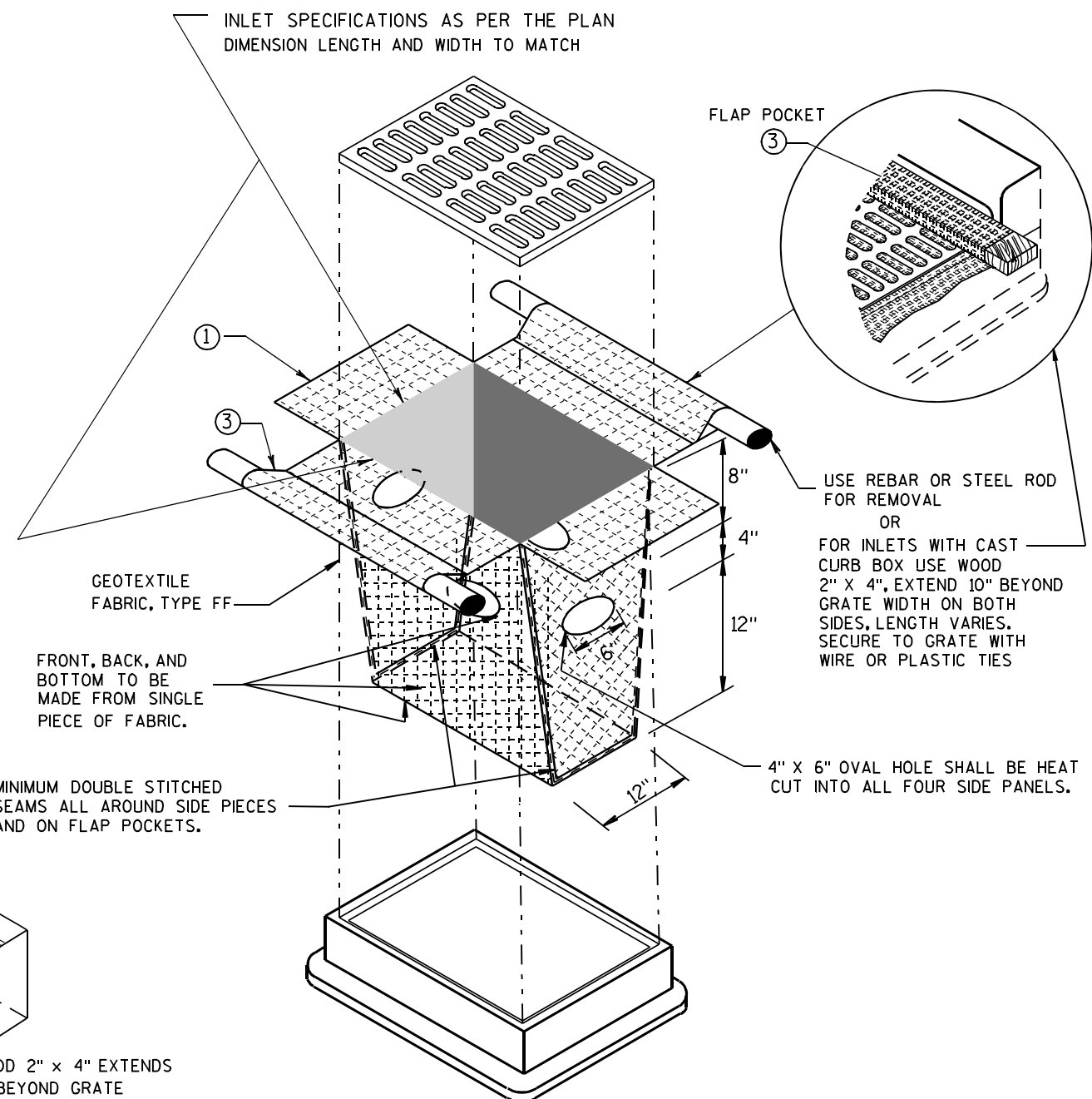
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

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



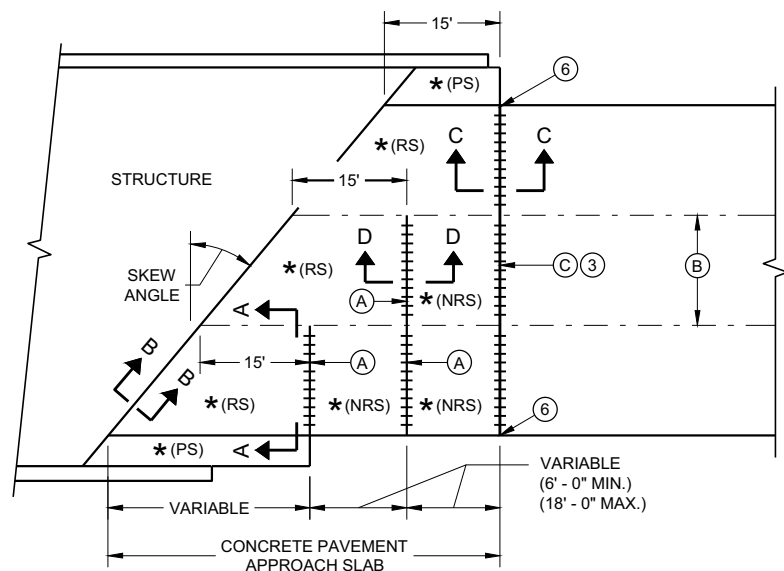
INLET PROTECTION, TYPE D

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

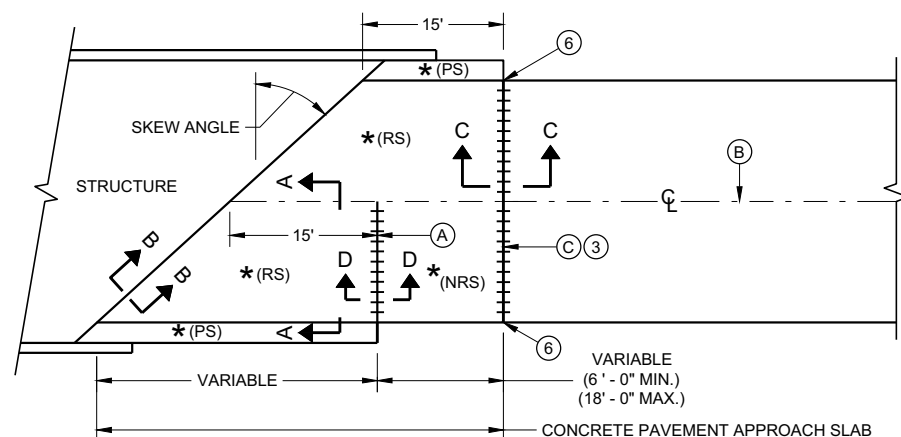
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

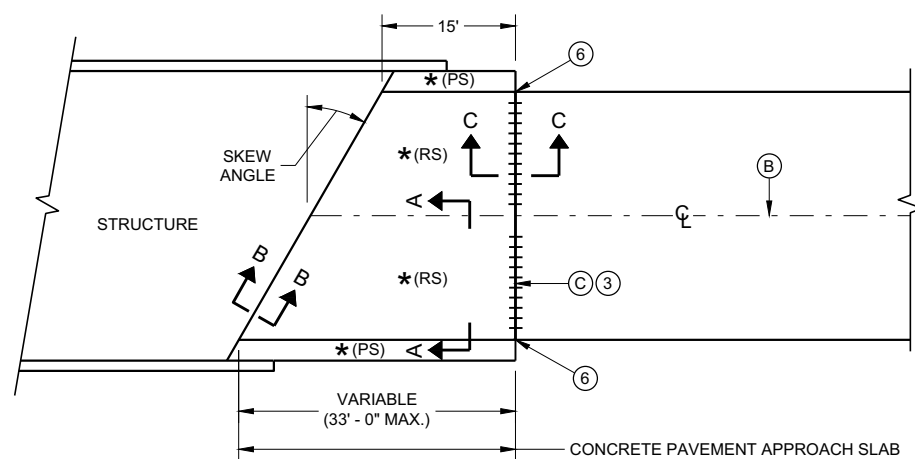
APPROVED
10/16/02 /S/ Beth Connolly
DATE 41
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER



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



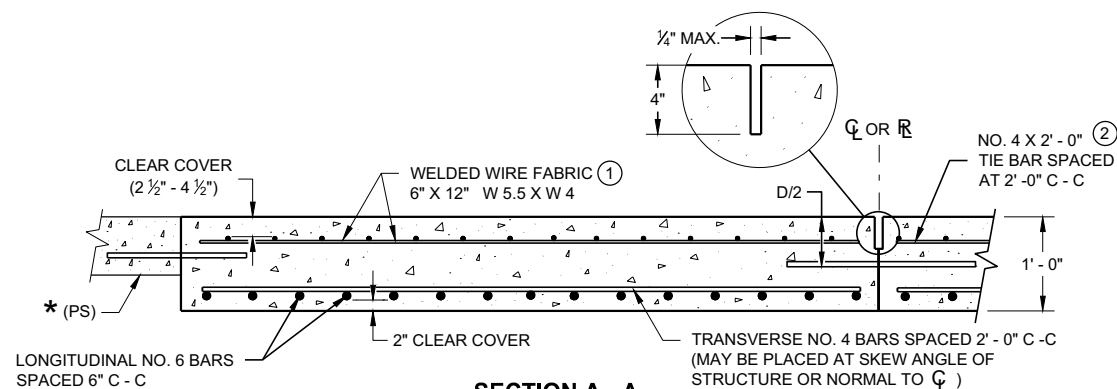
**SKews > 20°
(PAVEMENT WIDTH ≤ 30')**



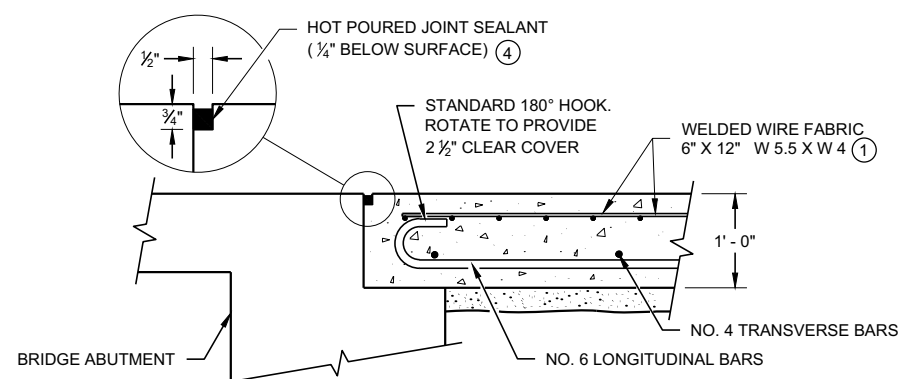
**SKews ≤ 20°
(PAVEMENT WIDTH ≤ 30')**

APPROACH SLAB AND ADJACENT PAVEMENT

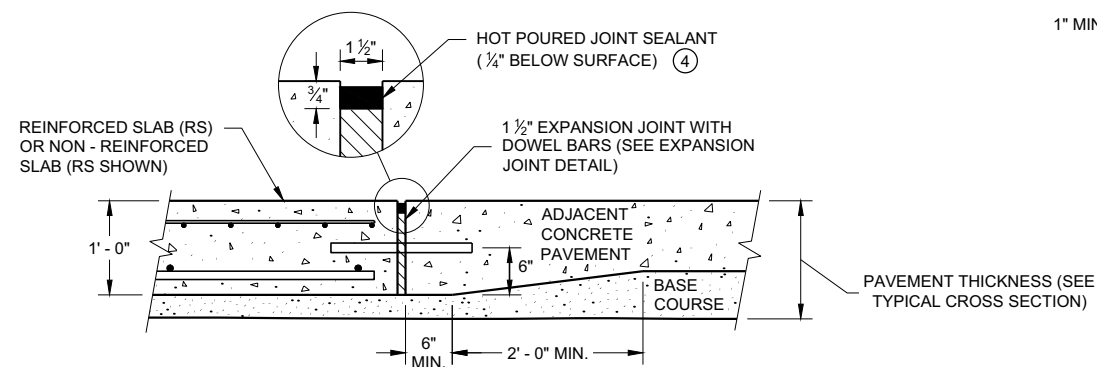
- * (RS) = REINFORCED CONCRETE SLAB
- * (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- * (NRS) = NON - REINFORCED CONCRETE SLAB
- *** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A
REINFORCEMENT POSITIONING DETAIL**



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



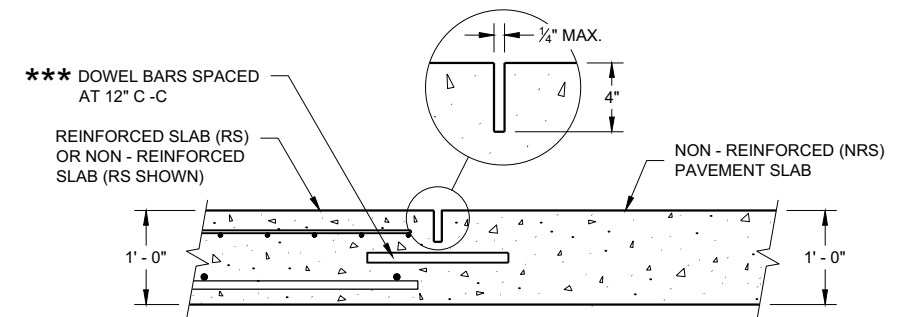
**SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**

GENERAL NOTES

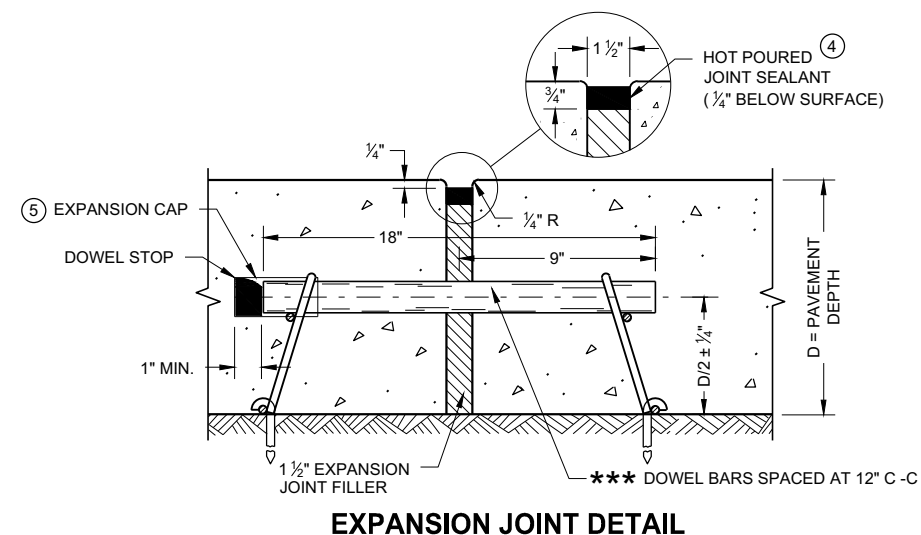
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- ① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0" C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- ② THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- ④ USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.
- ⑥ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
- A STANDARD CONTRACTION JOINT NORMAL TO $\mathcal{C}$ OR $\mathcal{R}$.
- B STANDARD LONGITUDINAL JOINT WITH TIE BARS.
- C 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO $\mathcal{C}$ OR $\mathcal{R}$.



**SECTION D - D
CONTRACTION JOINT**

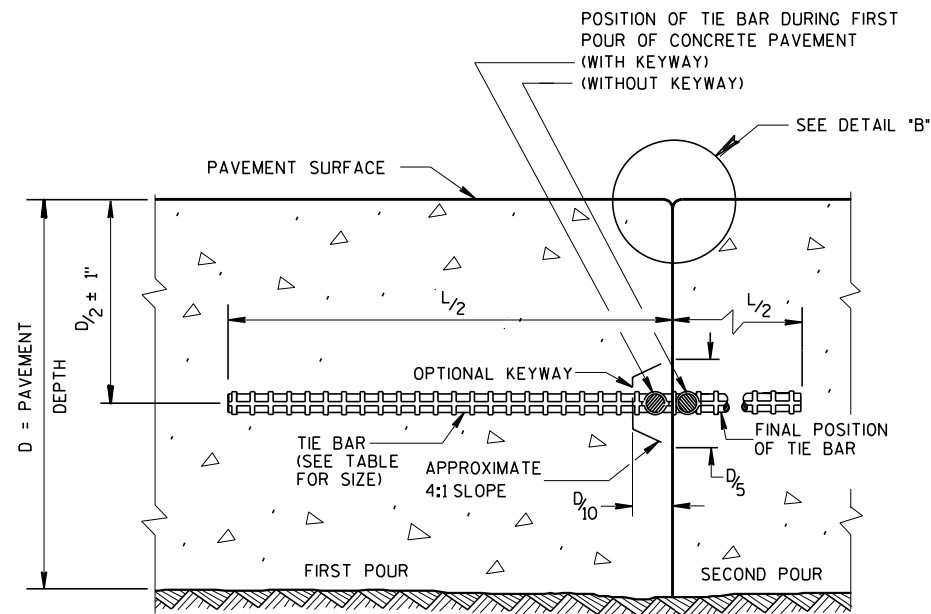


EXPANSION JOINT DETAIL

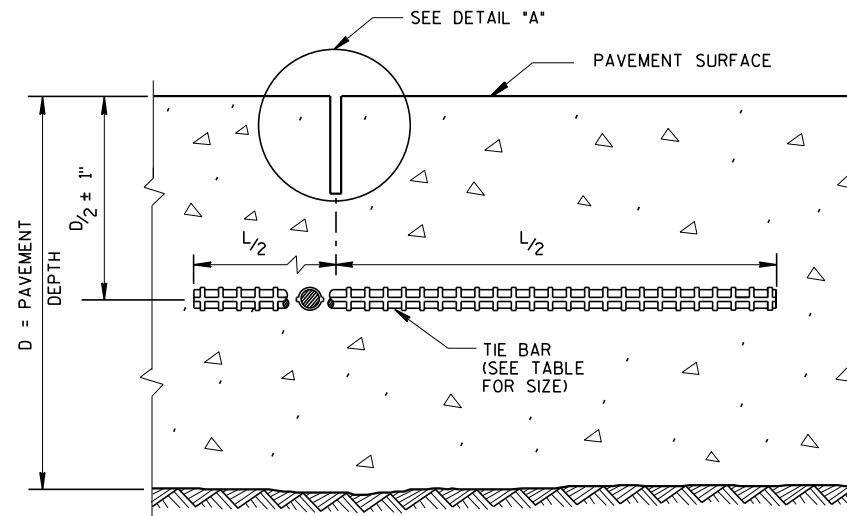
CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR 42
FHWA



CONSTRUCTION JOINT



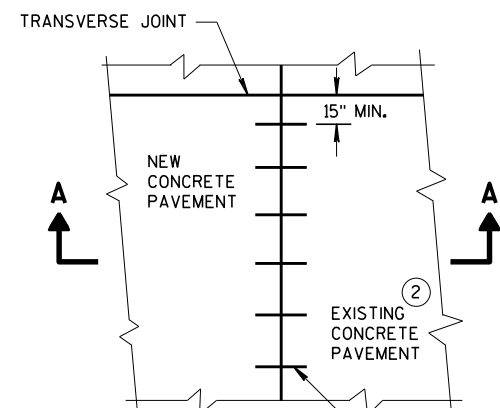
SAWED JOINT

GENERAL NOTES

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

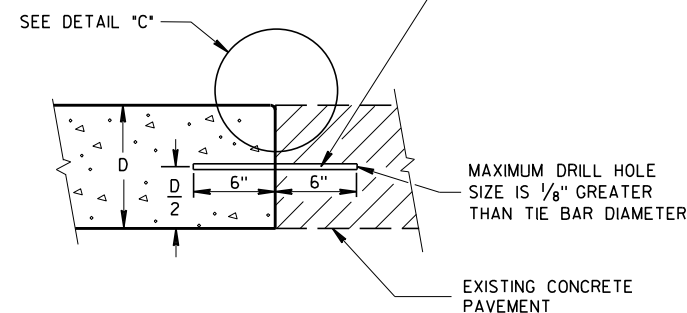
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

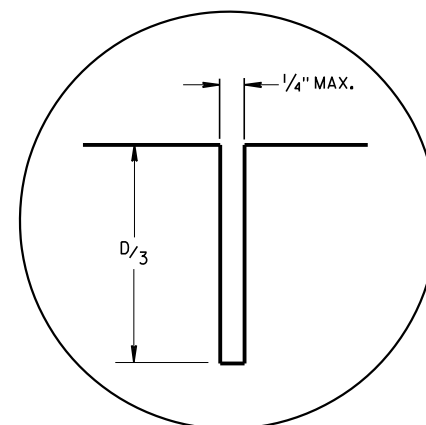


PLAN VIEW

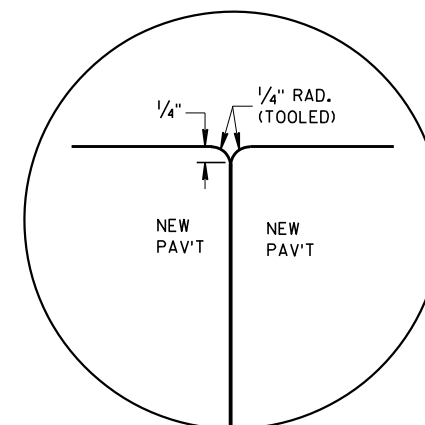
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



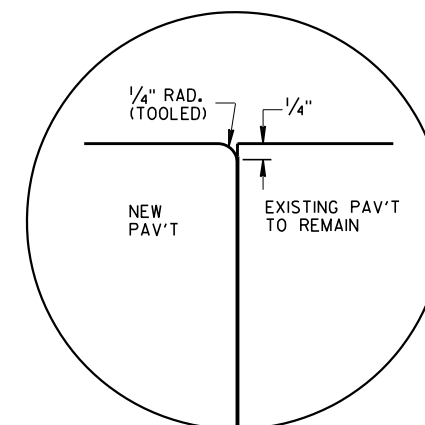
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



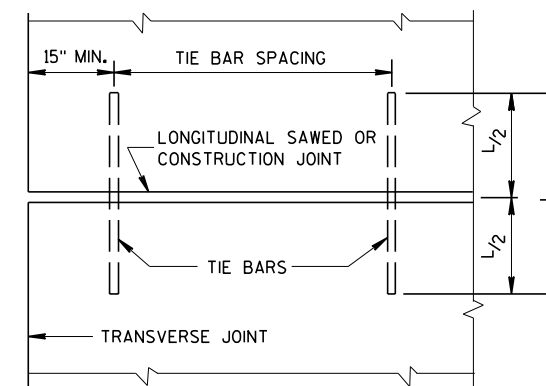
DETAIL "C"

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" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

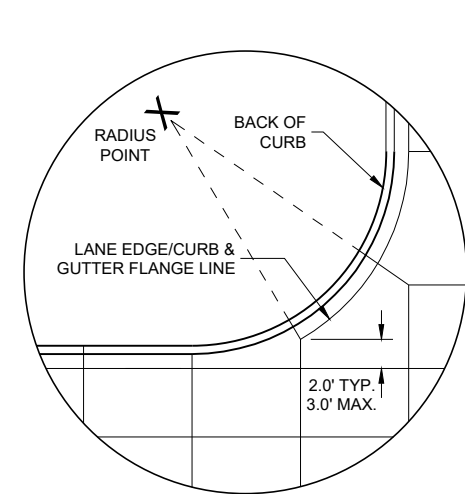


PLAN VIEW
SHOWING LOCATION OF TIE BARS

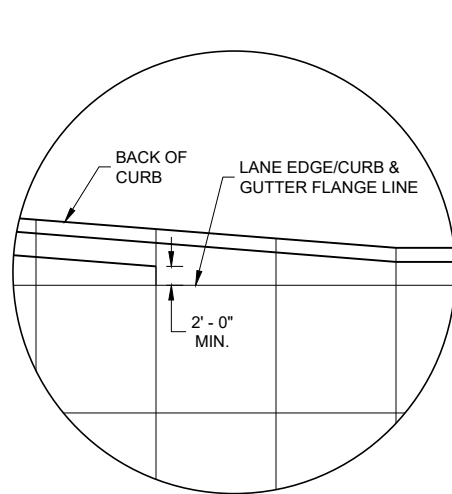
CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

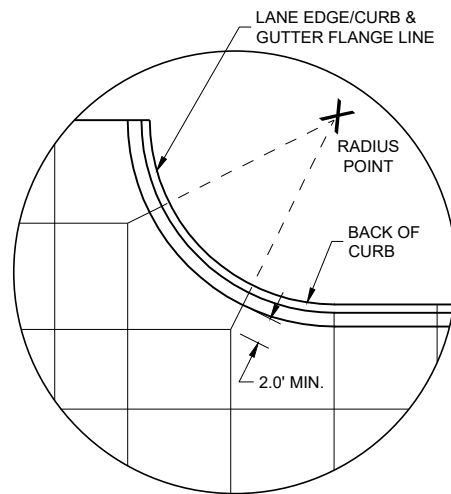
APPROVED
March 2018 /S/ Peter Kern
DATE PAVEMENT SUPE 43
FHWA



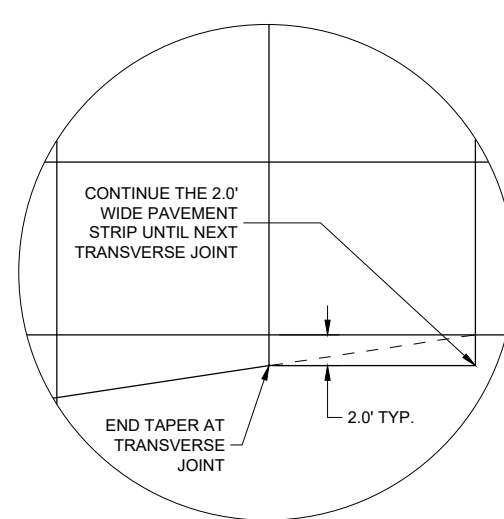
DETAIL "A"



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.

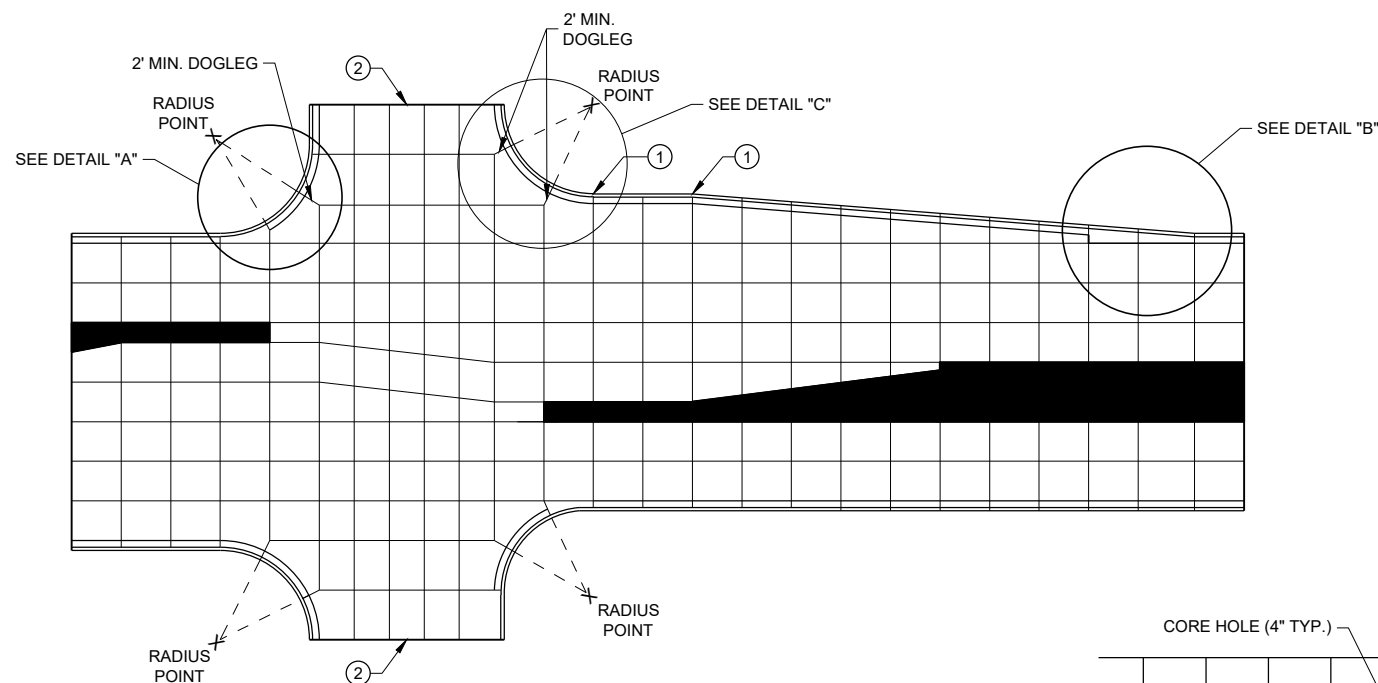
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

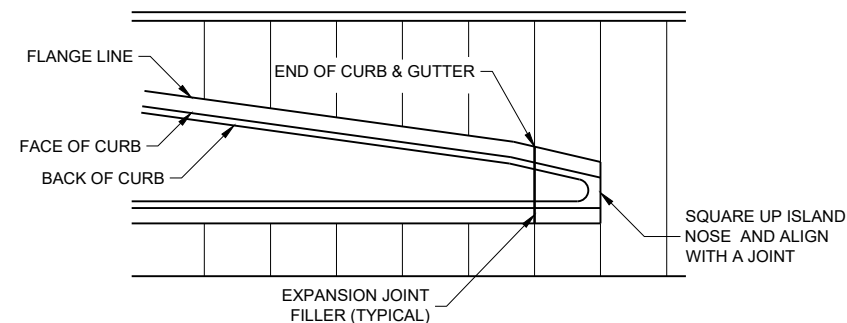
- 1 PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
- 2 CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
- 3 THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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

PAVEMENT DEPTH AND JOINT SPACING TABLE

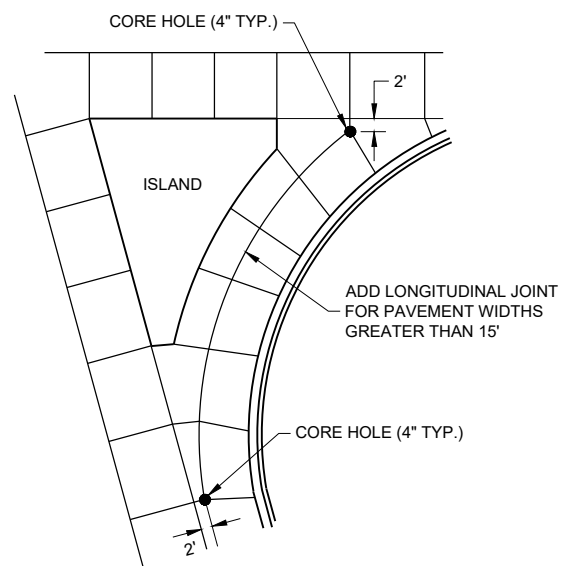
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 ½"	12'
7", 7 ½"	14'
8" & ABOVE	15'



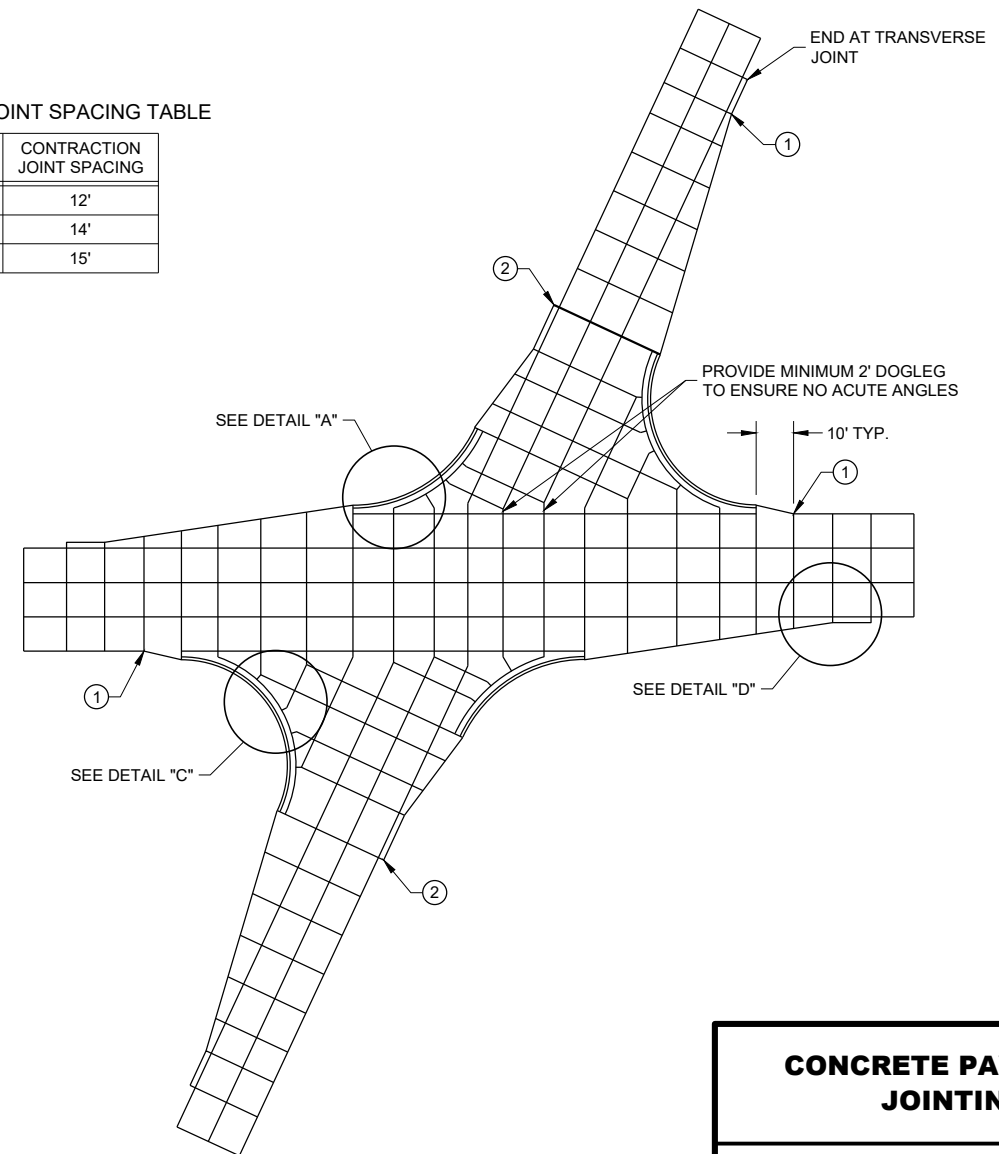
STANDARD INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN



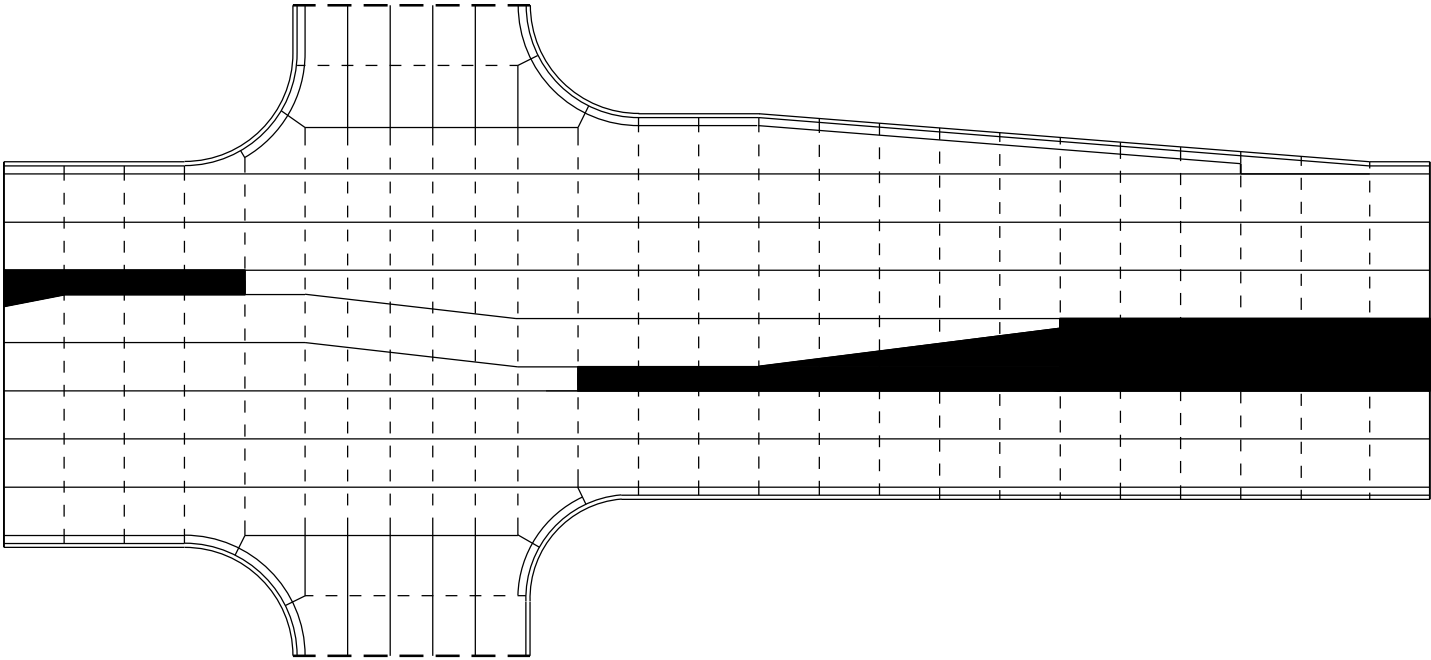
SKEWED INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

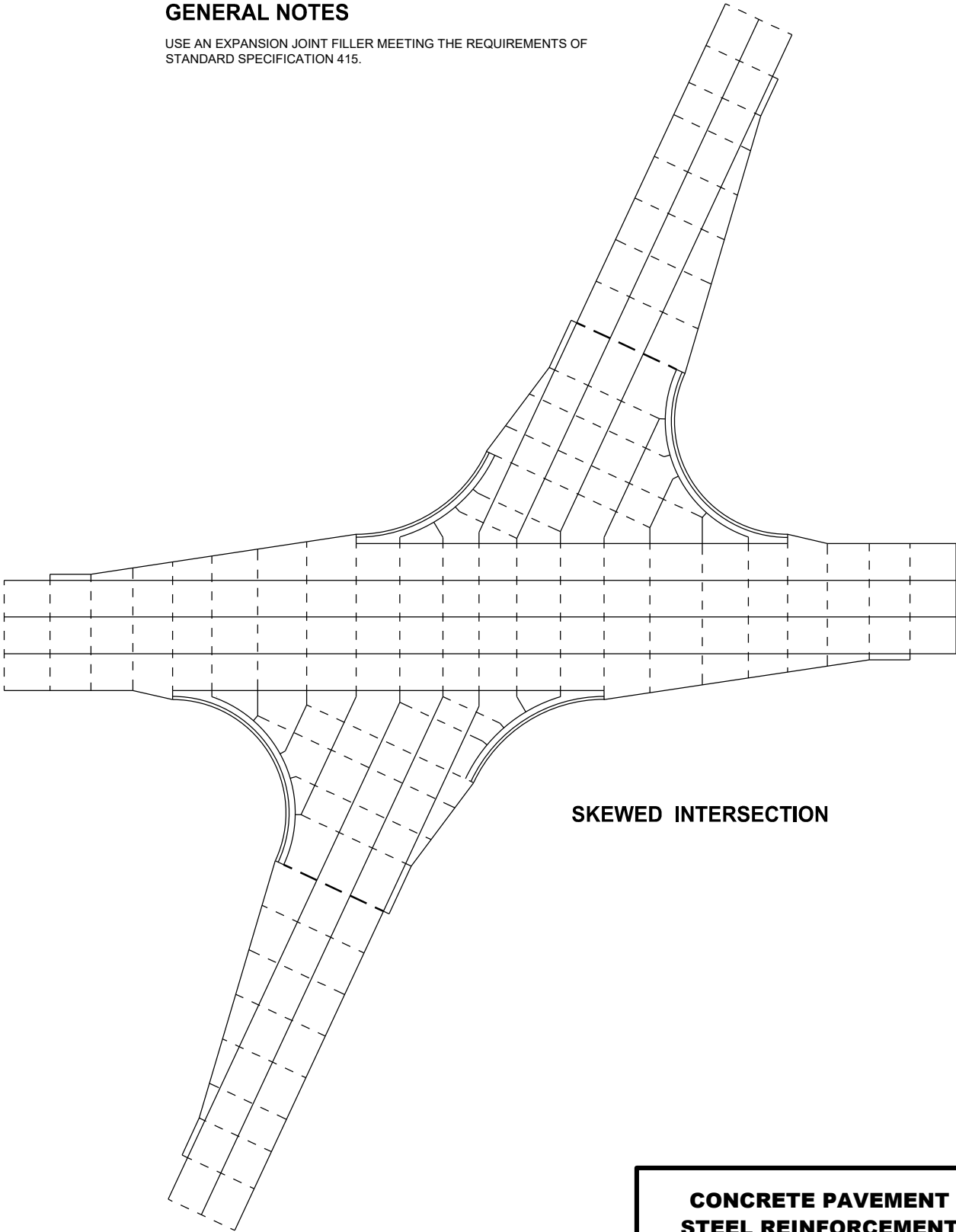
- POTENTIAL DOWELED EXPANSION JOINT
- DOWELED JOINT
- TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

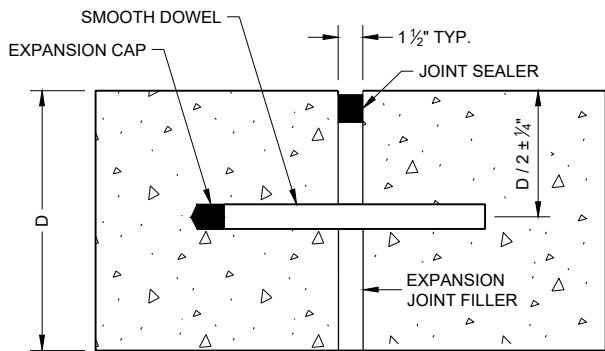
USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



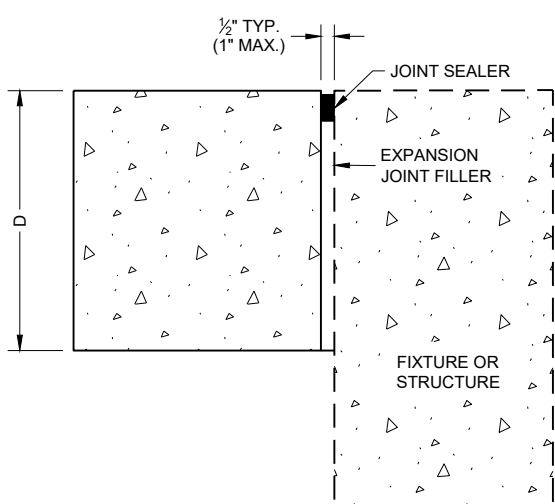
SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

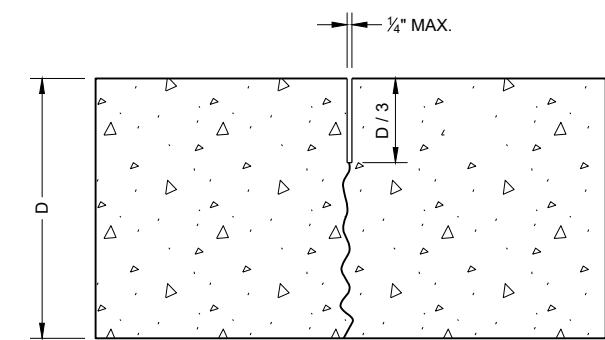


DOWELED TRANSVERSE ①

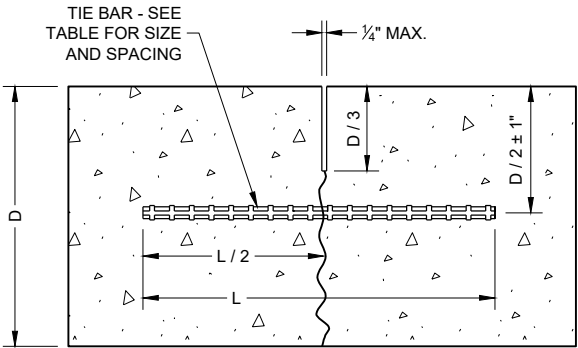


UNTIED - LONGITUDINAL

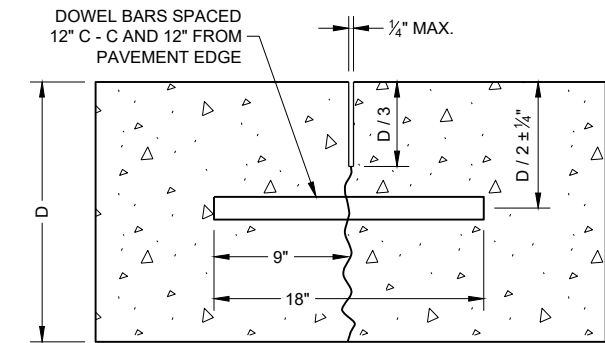
EXPANSION JOINTS



UNDOWELED TRANSVERSE



TIED LONGITUDINAL



DOWELED TRANSVERSE

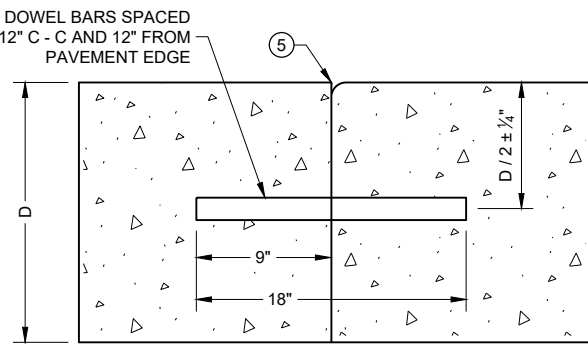
CONTRACTION JOINTS ②

TIE BAR TABLE

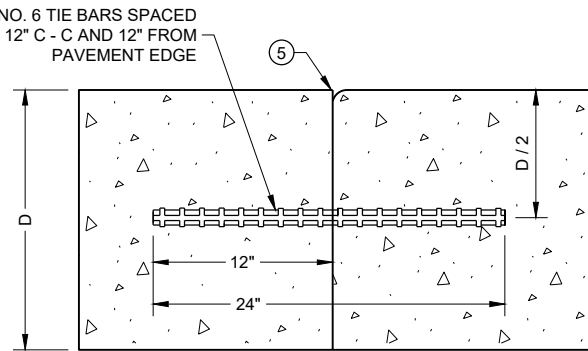
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

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

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



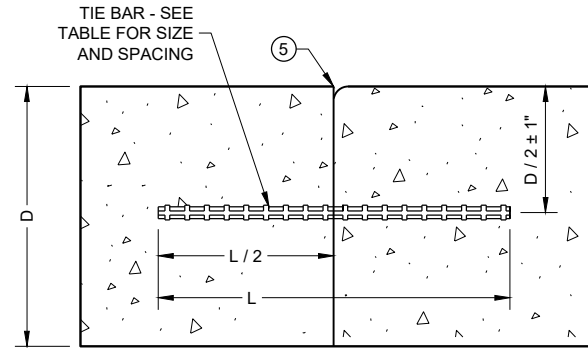
DOWELED TRANSVERSE ③



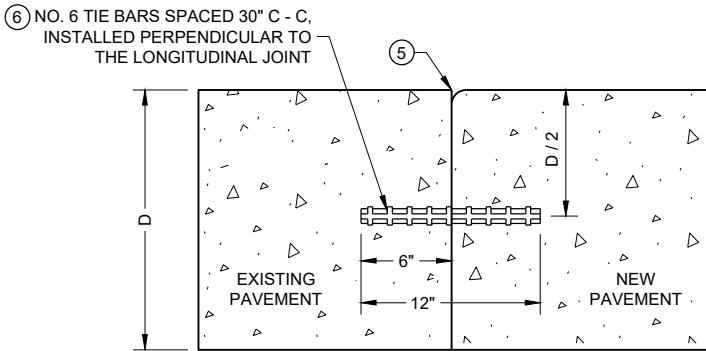
TIED TRANSVERSE ③
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)

GENERAL NOTES

- ① USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
- ② SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 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 1/4" RADIUS.
- ⑥ ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



TIED LONGITUDINAL

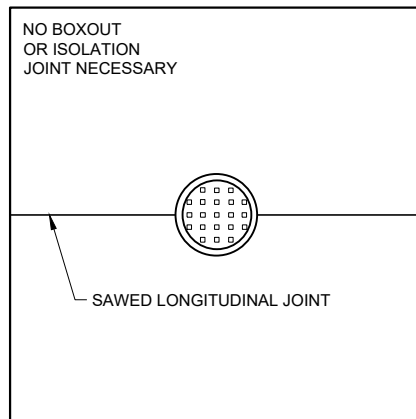


TIED LONGITUDINAL TO EXISTING

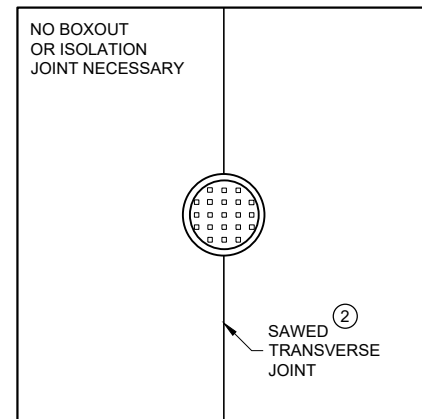
CONSTRUCTION JOINTS ④

**CONCRETE PAVEMENT
JOINT TYPES**

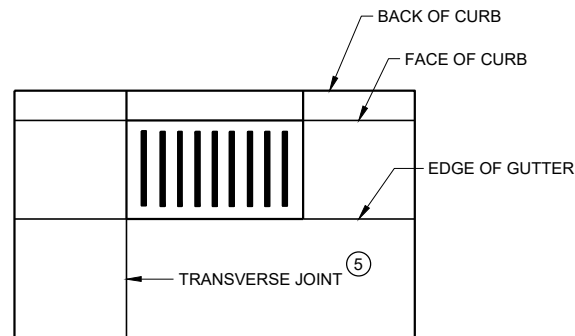
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**MANHOLE WITH
LONGITUDINAL JOINT**



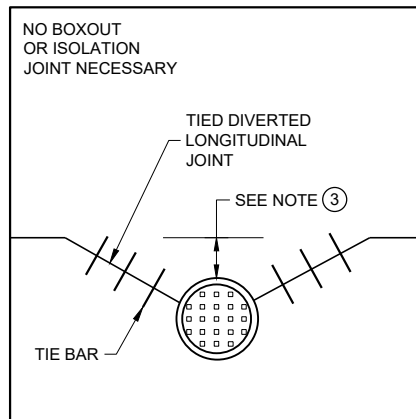
**MANHOLE WITH
TRANSVERSE JOINT**



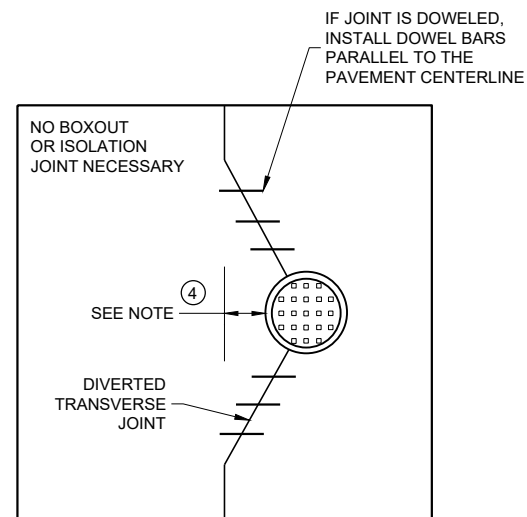
**INLET WITH
TRANSVERSE JOINT**

GENERAL NOTES

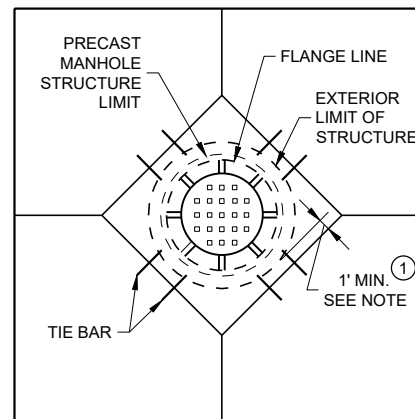
- ① USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
- ② ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
- ③ IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE 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 DIVERTED
LONGITUDINAL CONTRACTION JOINT**



**MANHOLE WITH DIVERTED
TRANSVERSE CONTRACTION JOINT**



**DIAGONAL MANHOLE BOXOUT
FOR CONSTRUCTION JOINTS**

**CONCRETE PAVEMENT
JOINTING AT UTILITY
FIXTURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023

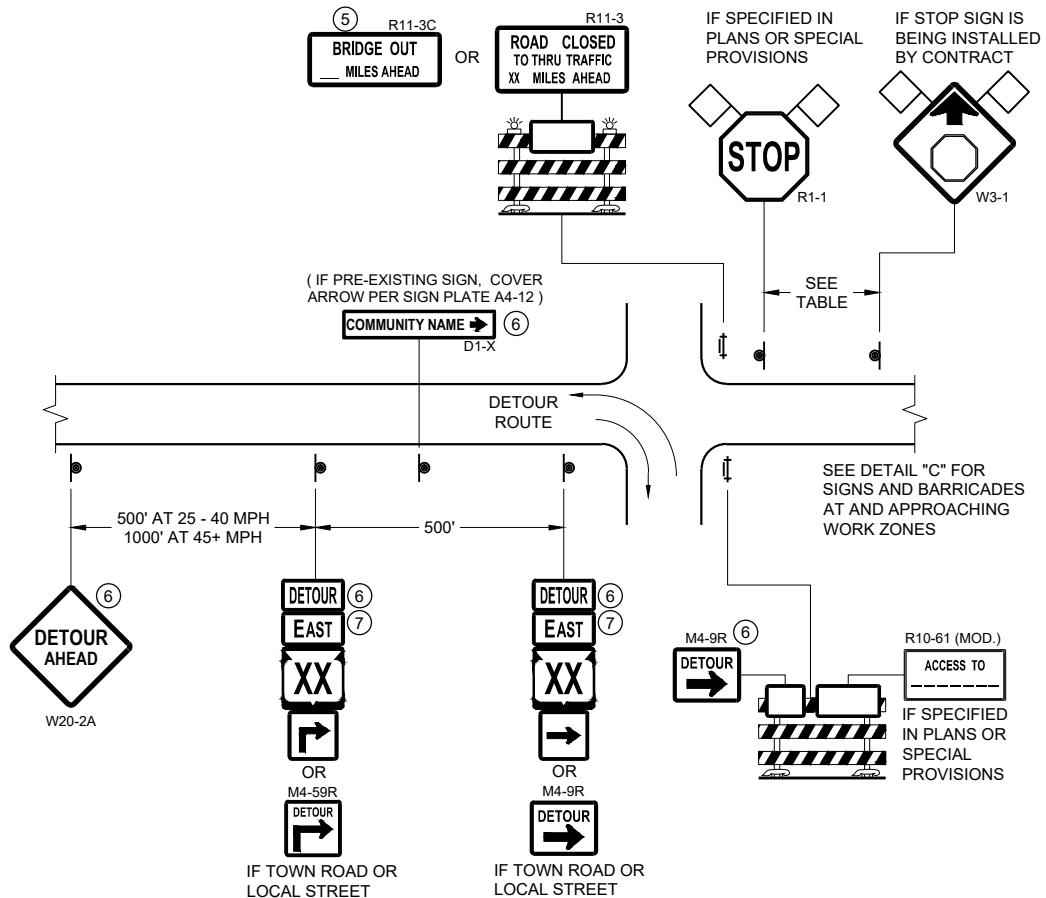
DATE

FHWA

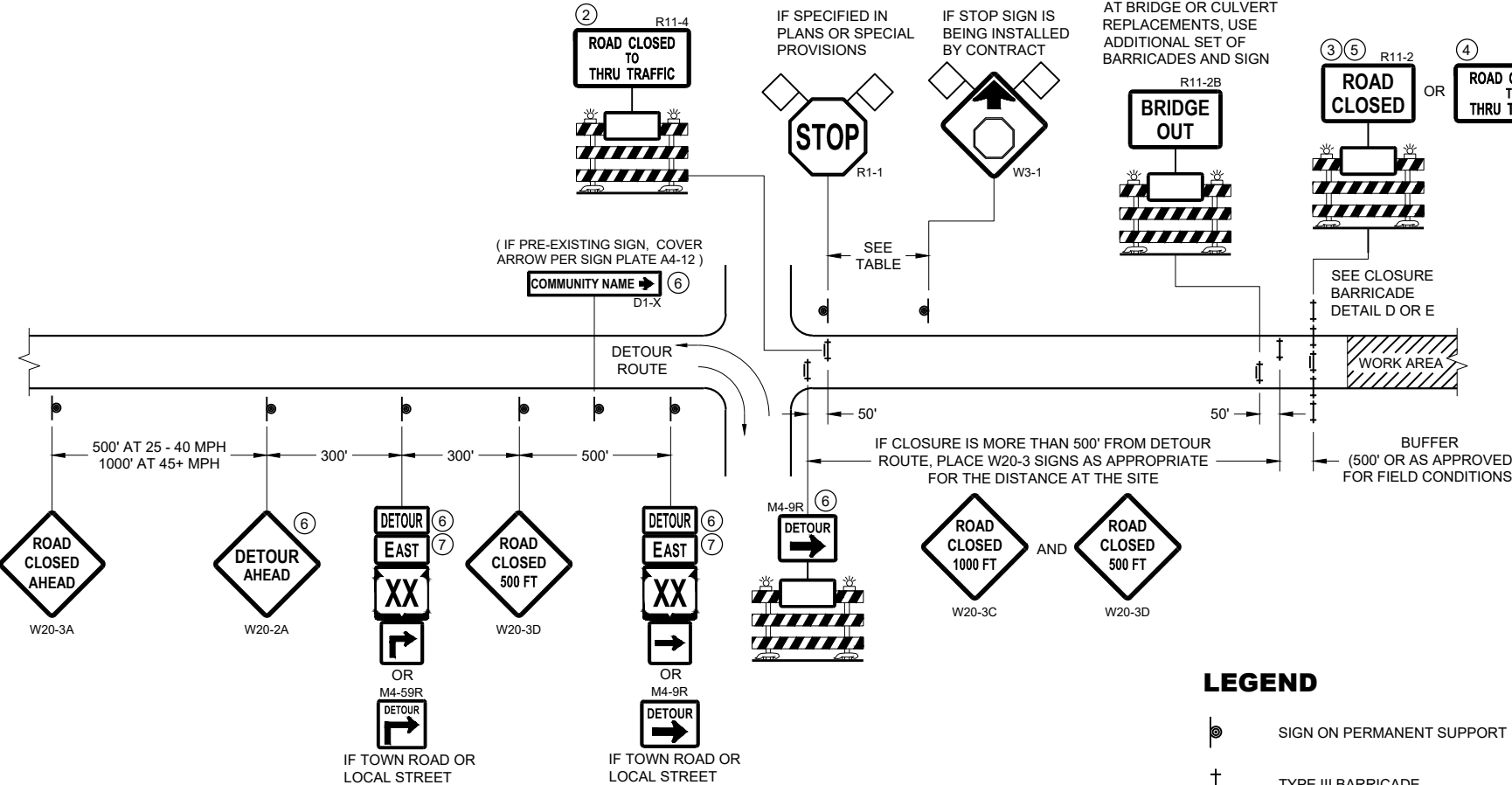
/S/ Peter Kemp P.E.

PAVEMENT SUPERVISOR

47



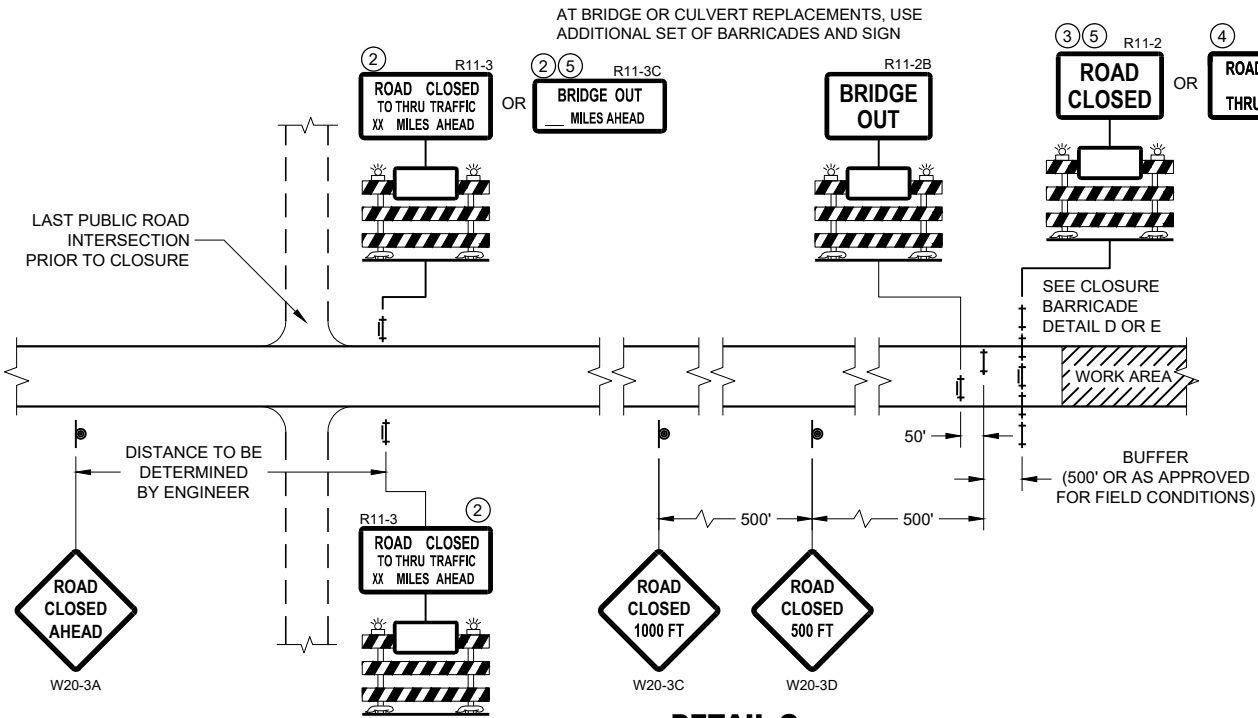
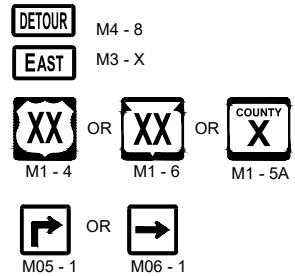
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



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)

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

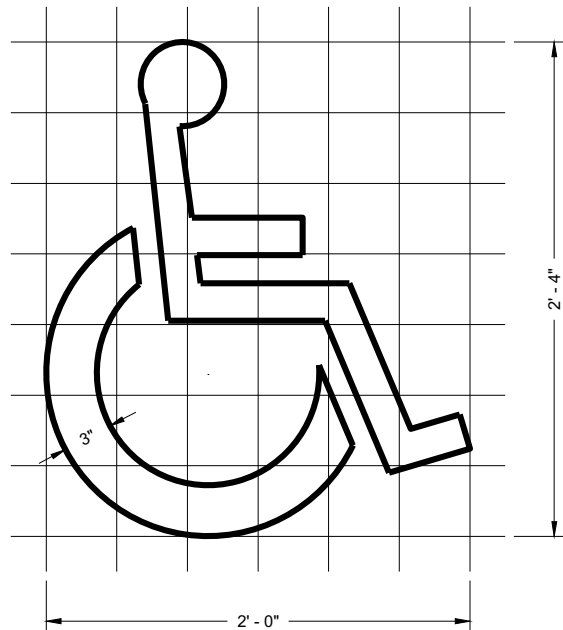
SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

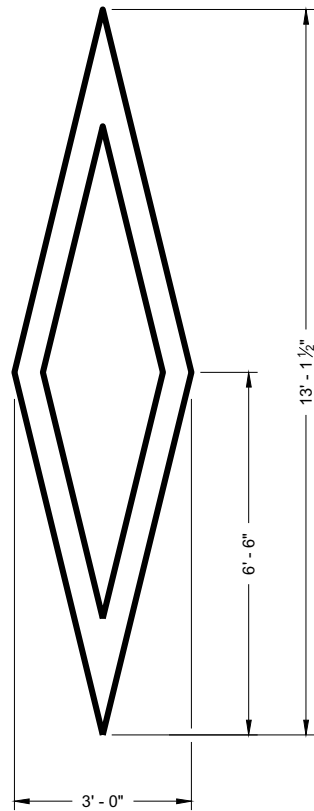
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 48

FHWA



HANDICAP SYMBOL



PREFERENTIAL
LANE SYMBOL

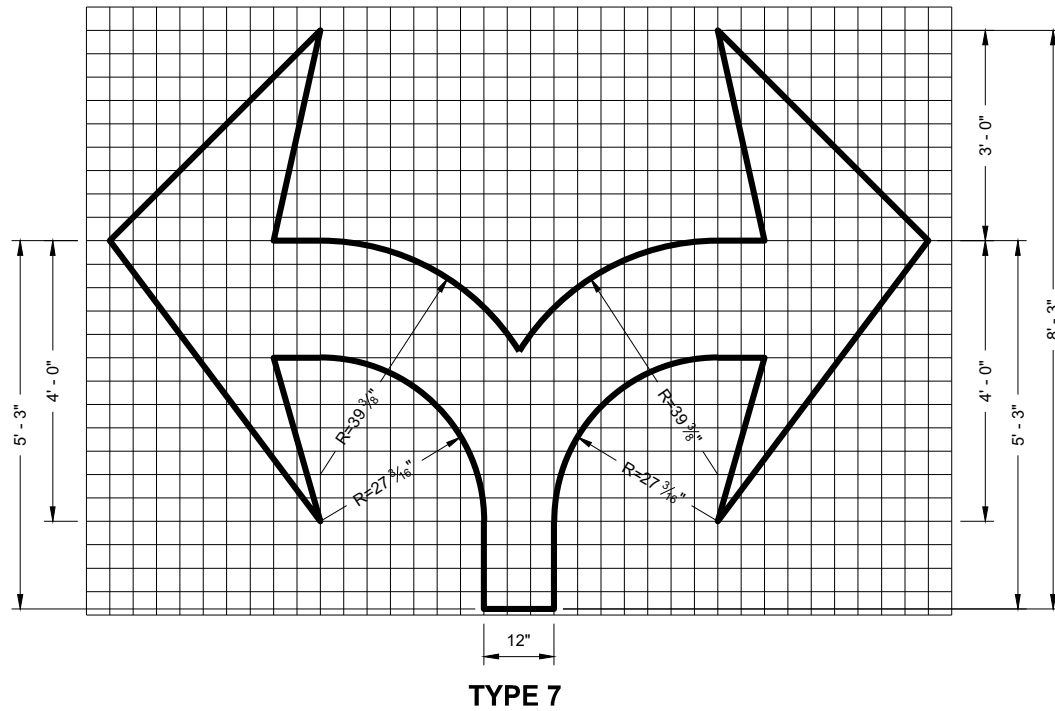
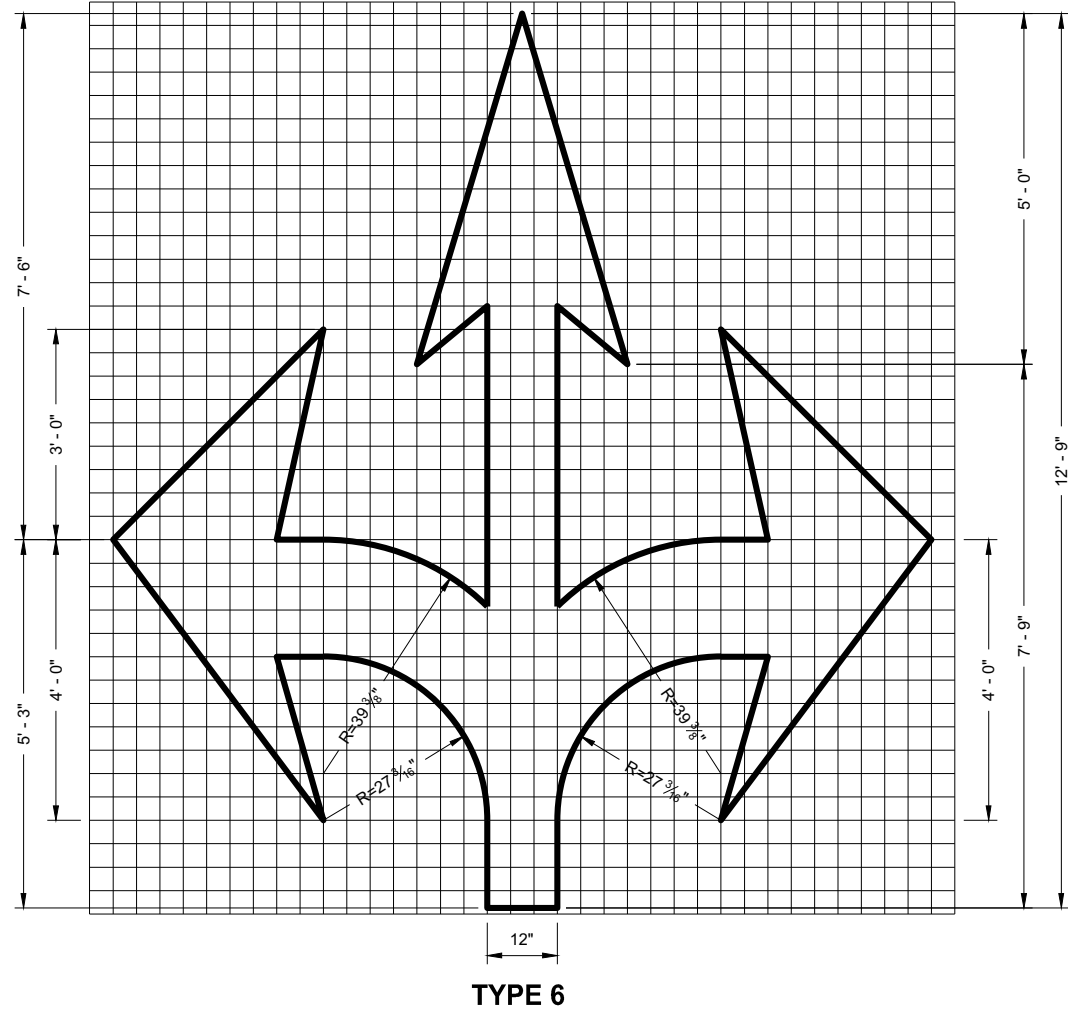
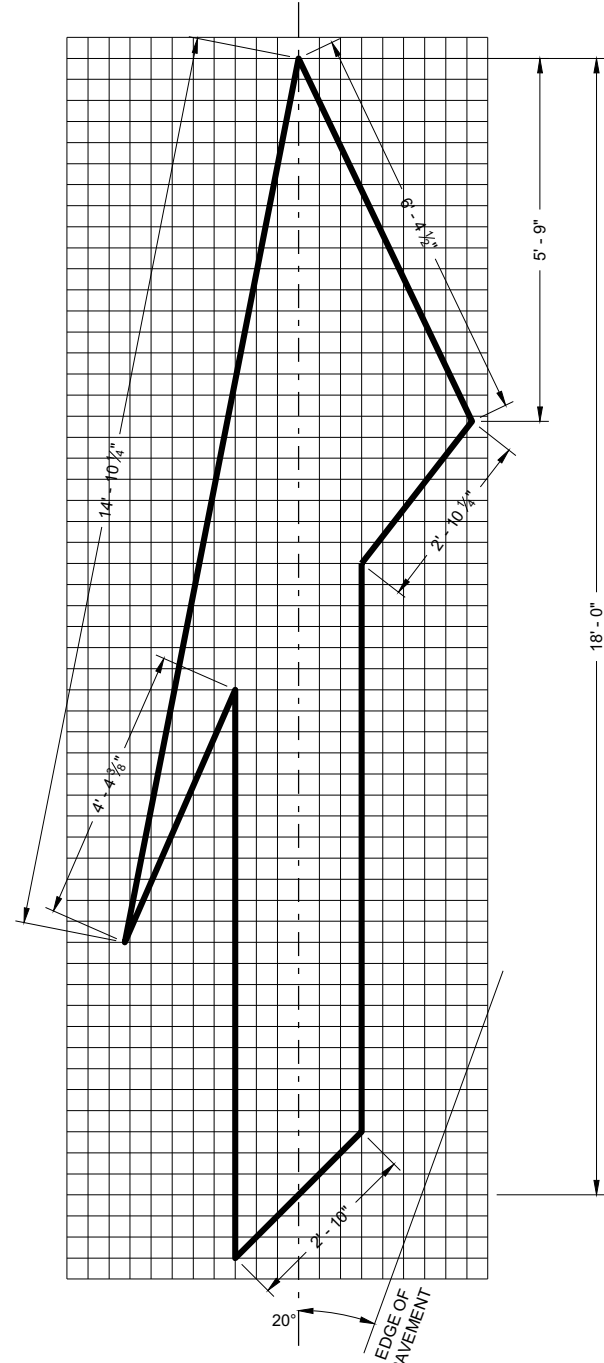
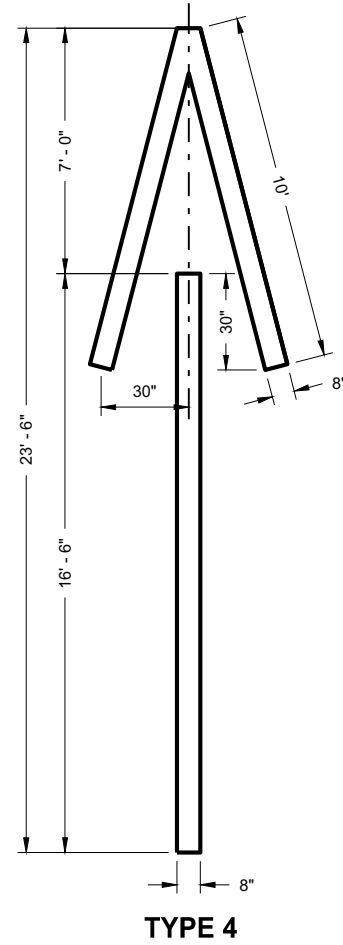
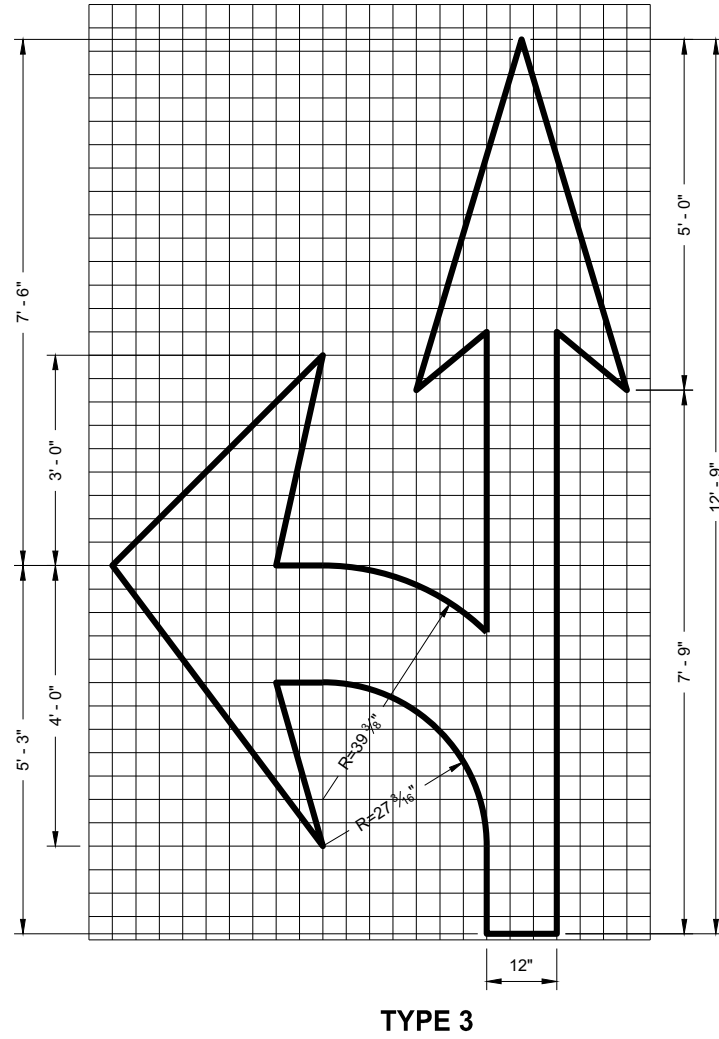
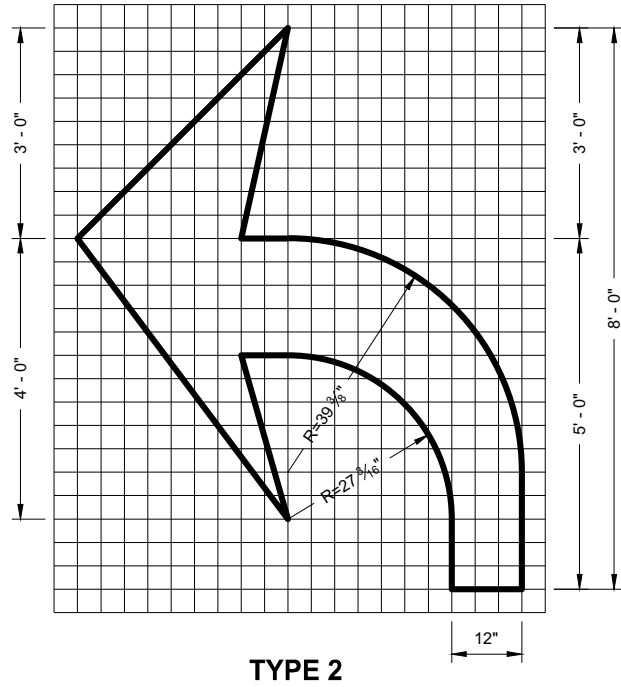
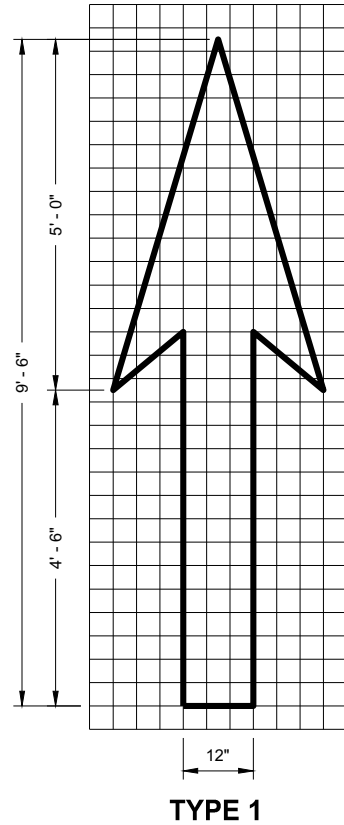
GENERAL NOTES

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

PAVEMENT MARKING SYMBOLS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MAP ENGINEER 49
FHWA



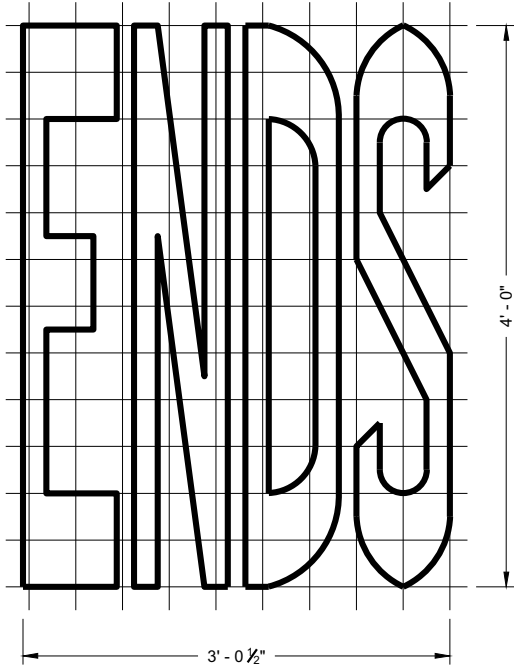
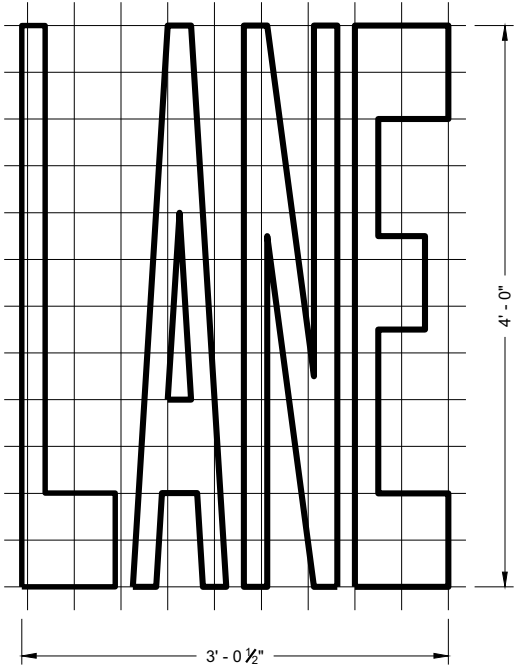
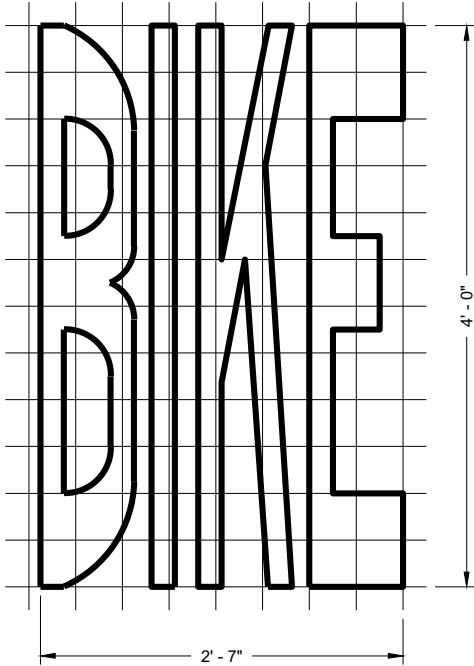
GENERAL NOTES

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

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

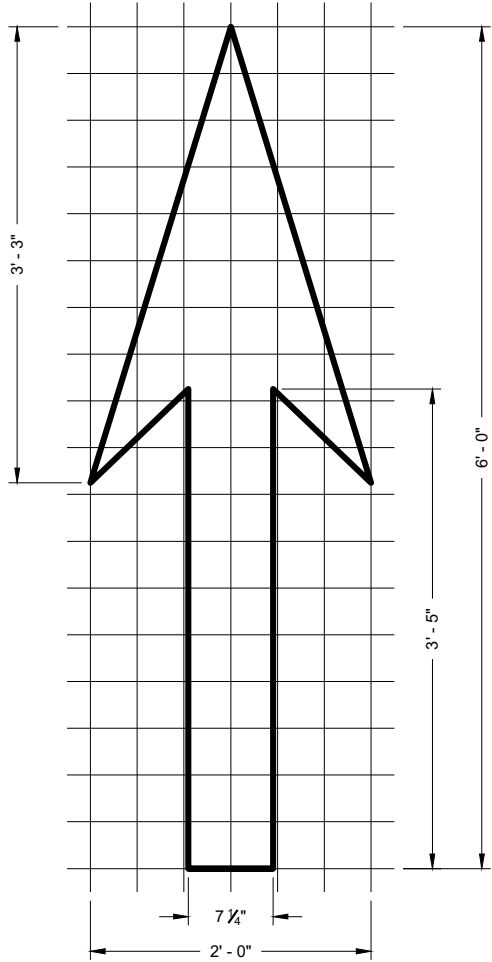
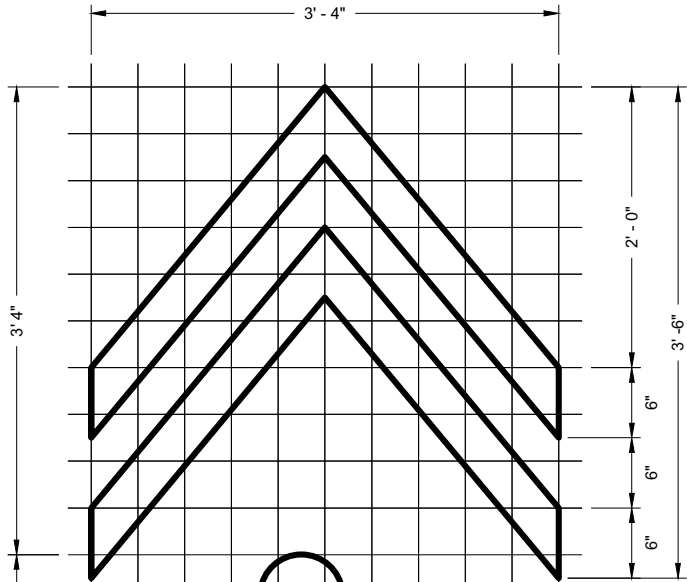
APPROVED
November 2019
DATE
/S/ Matthew Rauch
STATE SIGNING AND MAP ENGINEER 50
FHWA



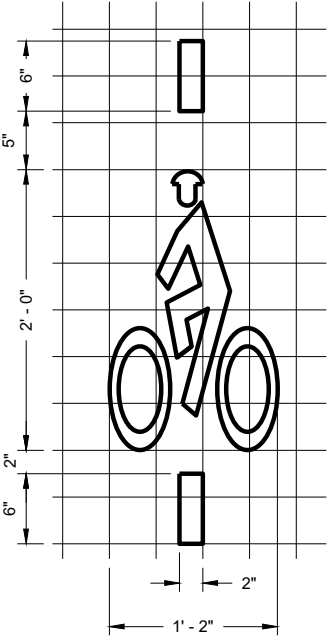
BIKE LANE WORDS

GENERAL NOTES

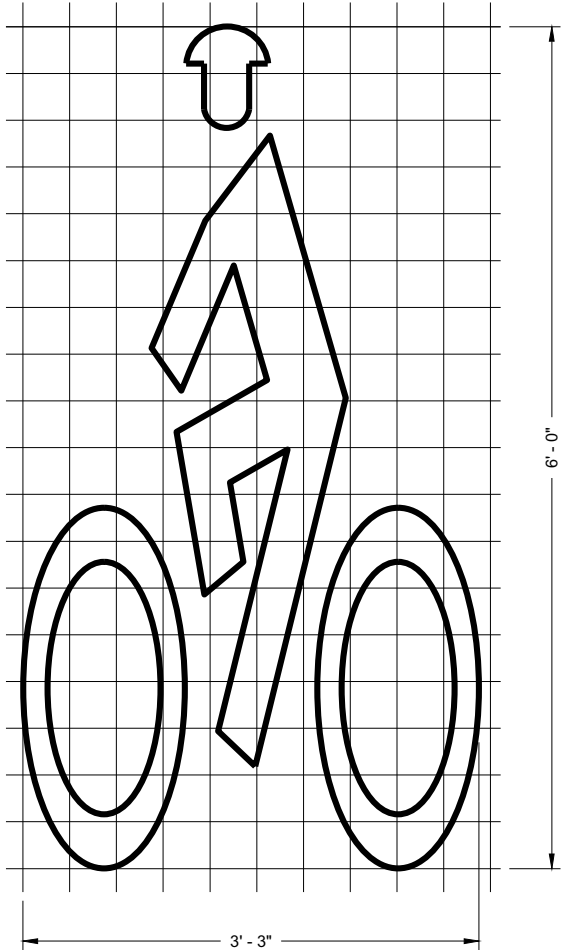
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



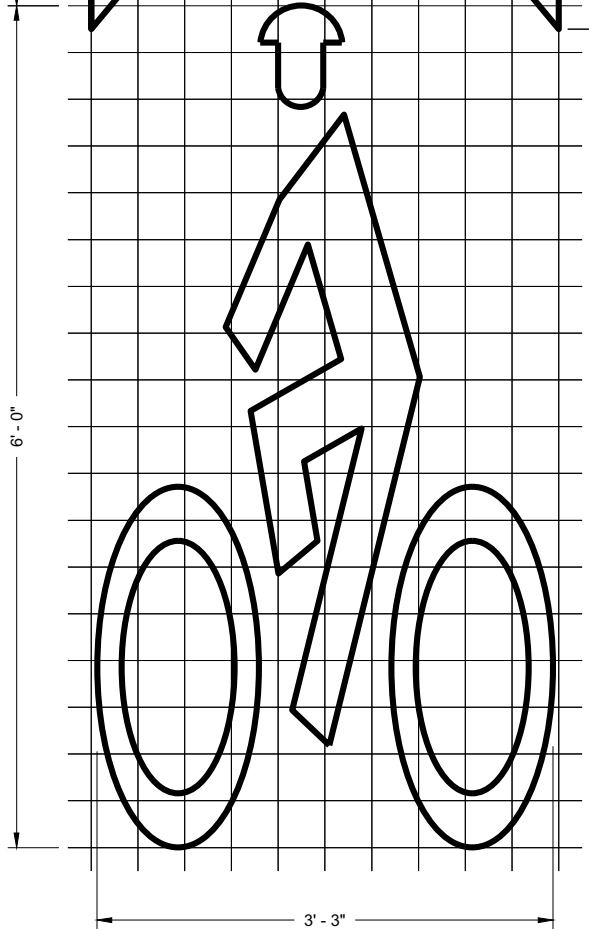
BIKE LANE ARROW



BICYCLE DETECTOR PAVEMENT MARKING



BIKE LANE SYMBOL



BIKE LANE SYMBOL FOR SHARED LANE

PAVEMENT MARKING FOR BIKE LANES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MAP ENGINEER 51
FHWA

SDD 15C08-23a



PERMANENT PAVEMENT MARKING

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.

LEGEND

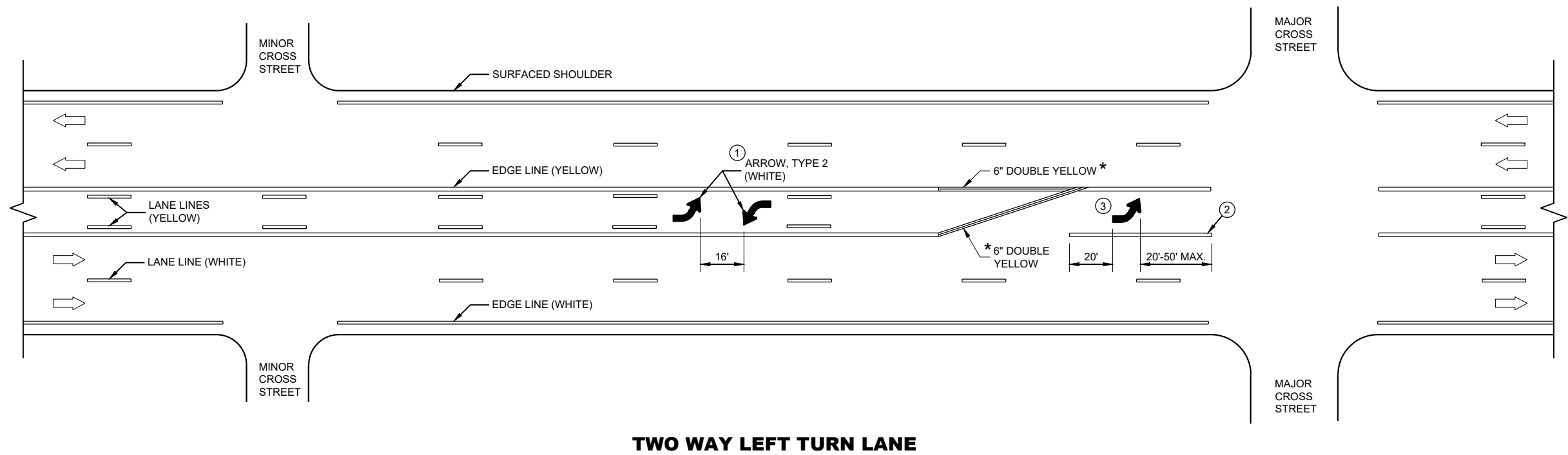
-  "T" MARKING
 SIGN ON PERMANENT SUPPORT
 DIRECTION OF TRAFFIC

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

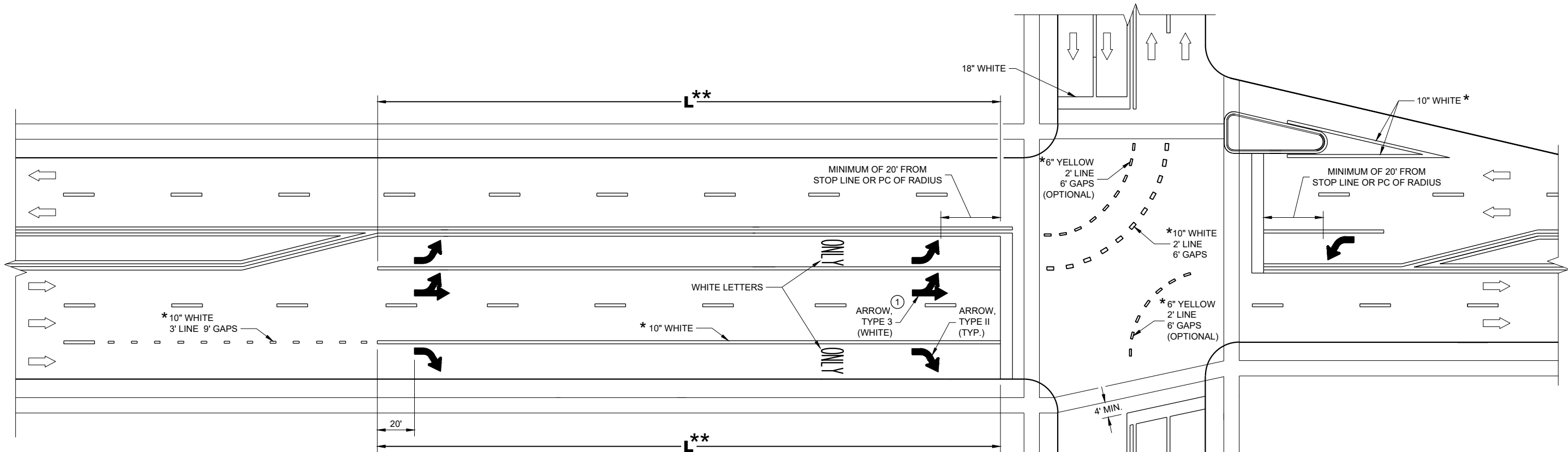


GENERAL NOTES

- 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

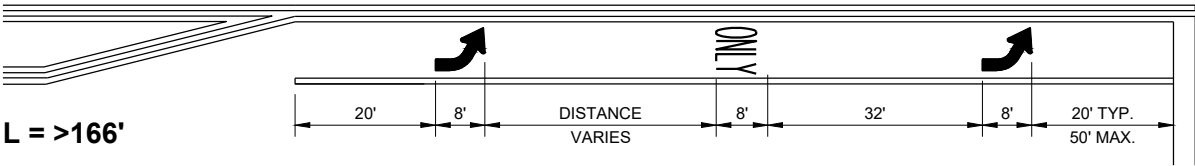
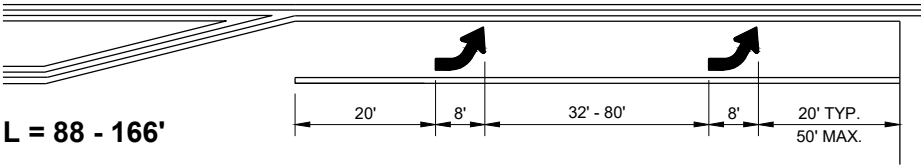
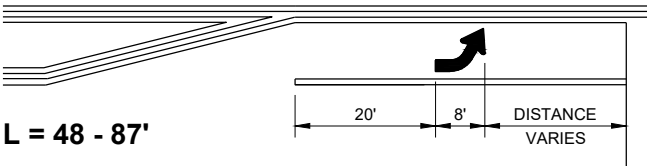
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



** (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



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.

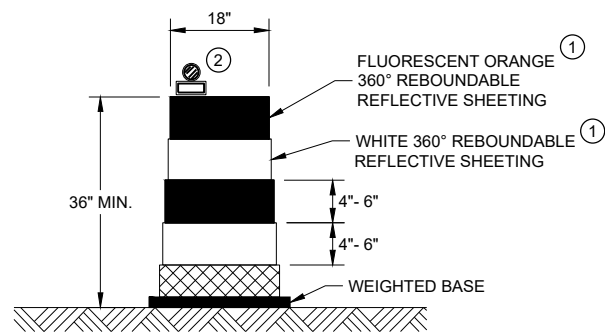
→ DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

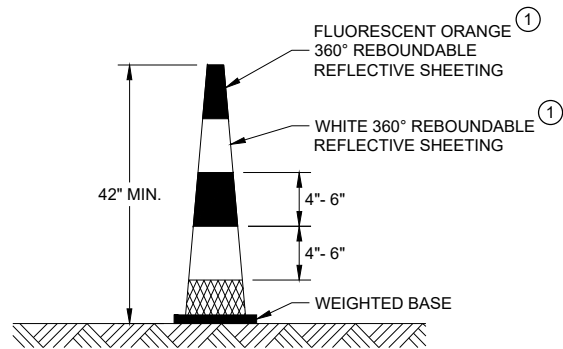
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

PAVEMENT MARKING (TURN LANES)

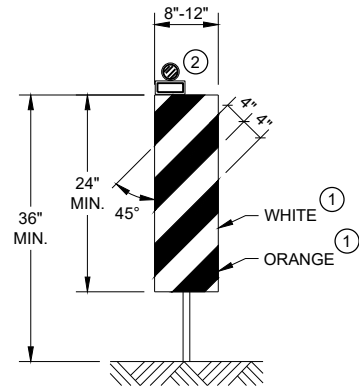
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION 54



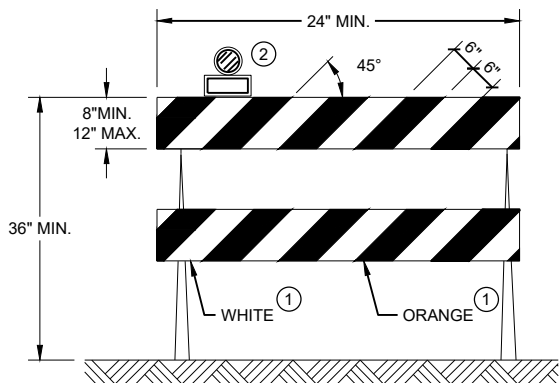
DRUM
BALLAST WIDTHS
RANGE FROM 24"-36"



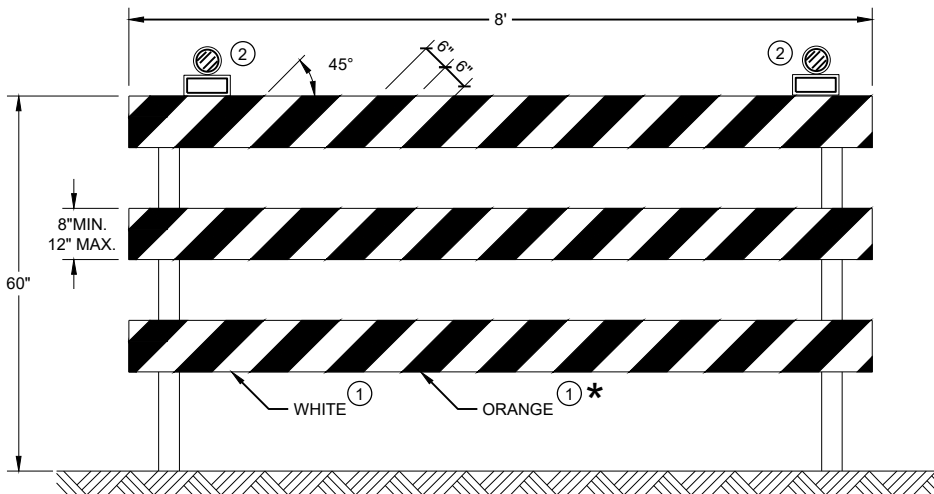
42" CONE
DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"



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



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.

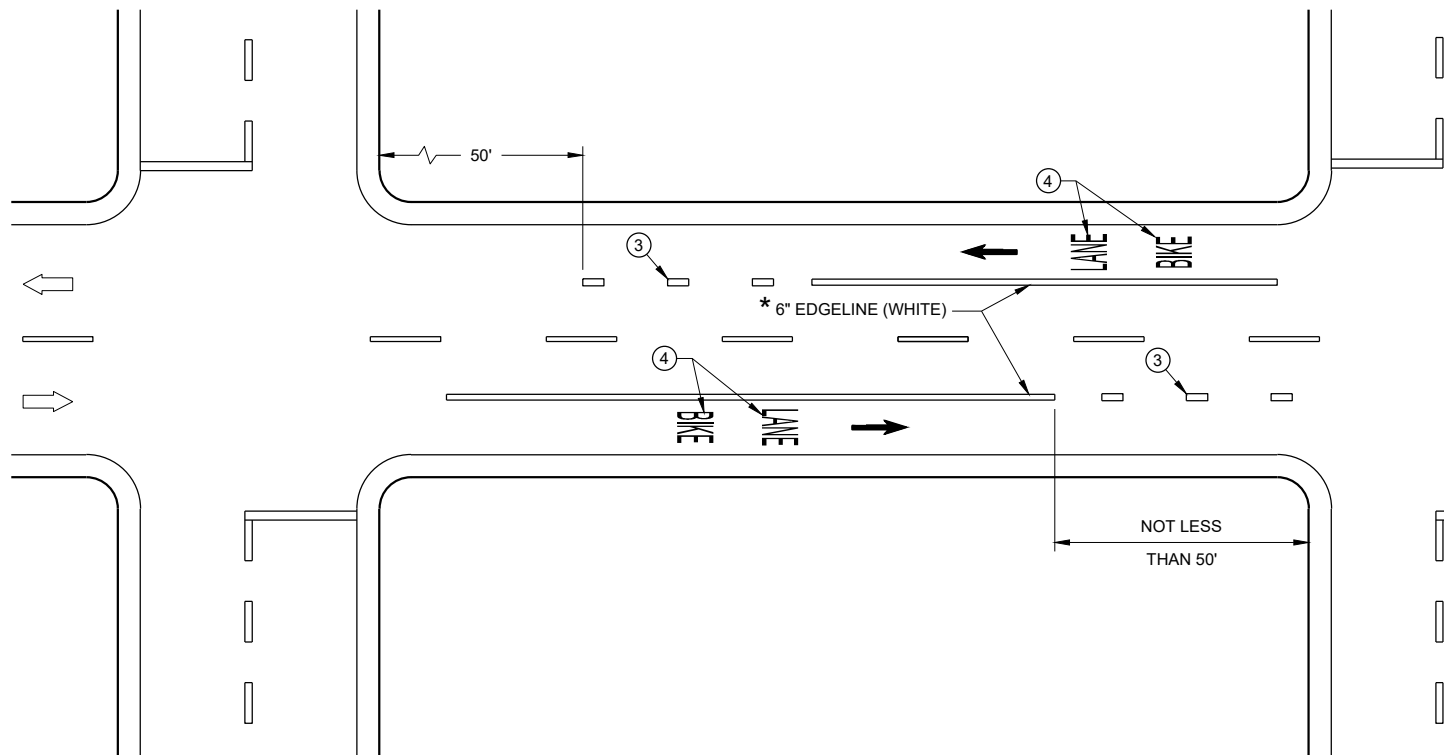


TYPE III BARRICADE
IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.
* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

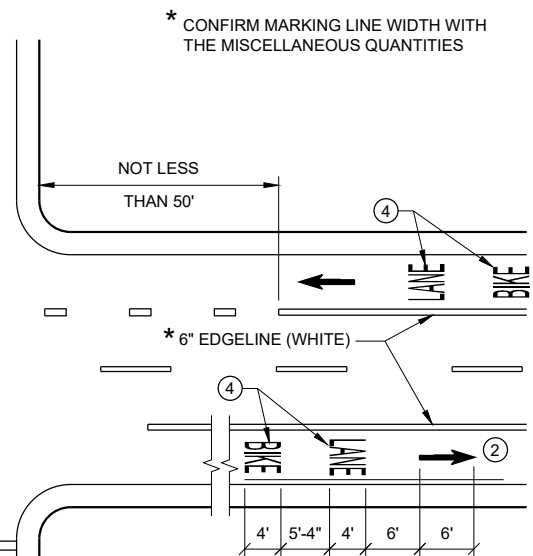
GENERAL NOTES

- 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.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER 55
FHWA	



DESIGNATED BIKE LANE - NO PARKING

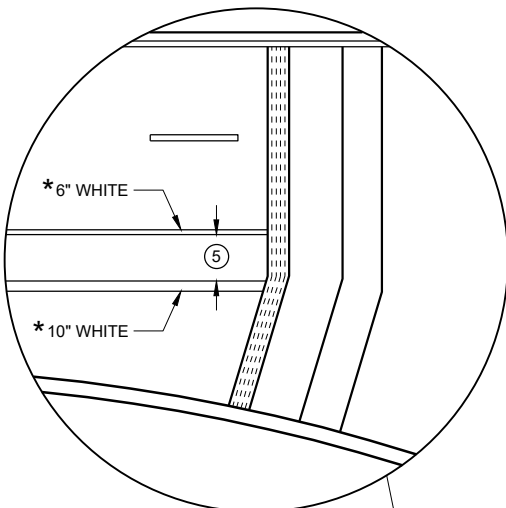


* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

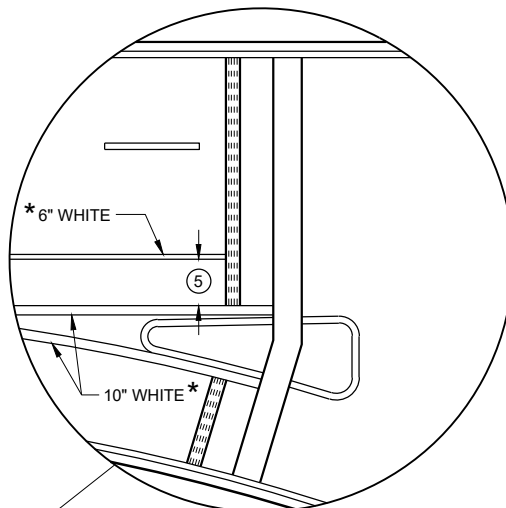
GENERAL NOTES

- 1 DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
- 2 MINIMUM OF ONE PER BLOCK. MAXIMUM OF 250 FEET.
- 3 DOTTED LINES (3' LINE, 9' GAP) SHOULD BE USED 50 FEET TO 200 FEET IN ADVANCE OF AN INTERSECTION WHERE THERE IS NO RIGHT TURN ONLY LANE AND THERE IS HEAVY RIGHT TURN TRAFFIC OR THERE IS A NEAR-SIDE BUS STOP. AT OTHER INTERSECTIONS WHERE RIGHT TURN TRAFFIC IS LIGHT TO MODERATE, A SOLID LINE CAN BE USED UP TO THE INTERSECTION.
- 4 BIKE SYMBOLS OR WORDS MAY BE USED.
- 5 BIKE ACCOMMODATION IS TYPICAL 5 FEET WIDE AND MINIMUM OF 4 FEET FROM A LONGITUDINAL JOINT. USE 5 FEET AT ≥ 45 MPH.
- 6 OMIT THESE MARKINGS FOR WIDER TURN LANE APPLICATIONS (MINIMUM OF 15 FOOT WIDE TURN LANE).
- 7 REFER TO CONTRACT PLANS FOR LANE WIDTH.

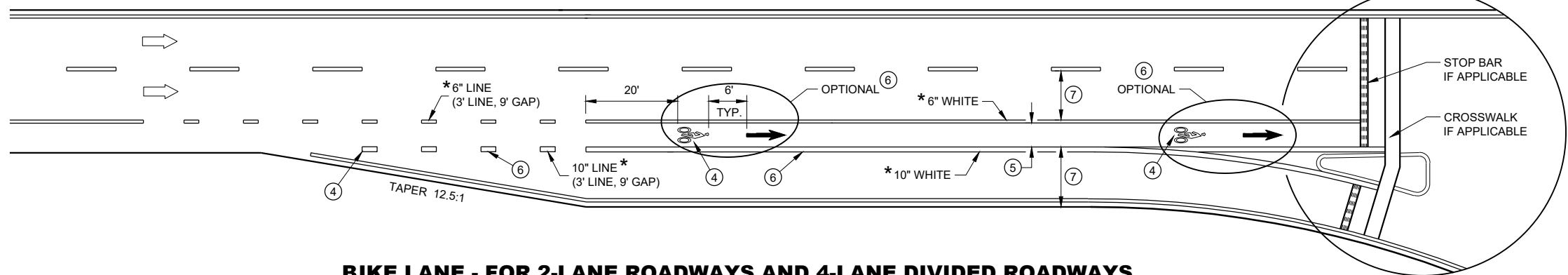
DIRECTION OF TRAVEL



4 LANE DIVIDED WITHOUT ISLAND



4 LANE DIVIDED WITH ISLAND



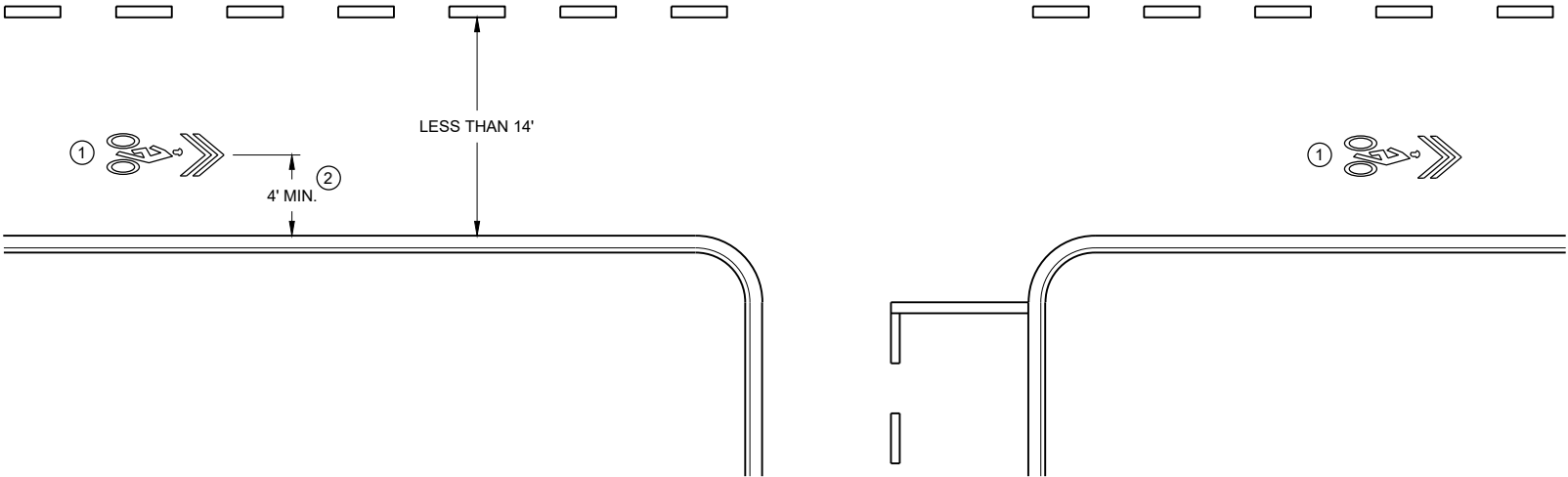
BIKE LANE - FOR 2-LANE ROADWAYS AND 4-LANE DIVIDED ROADWAYS (4-LANE DIVIDED WITH RIGHT TURN LANE SHOWN)

BIKE LANE MARKING

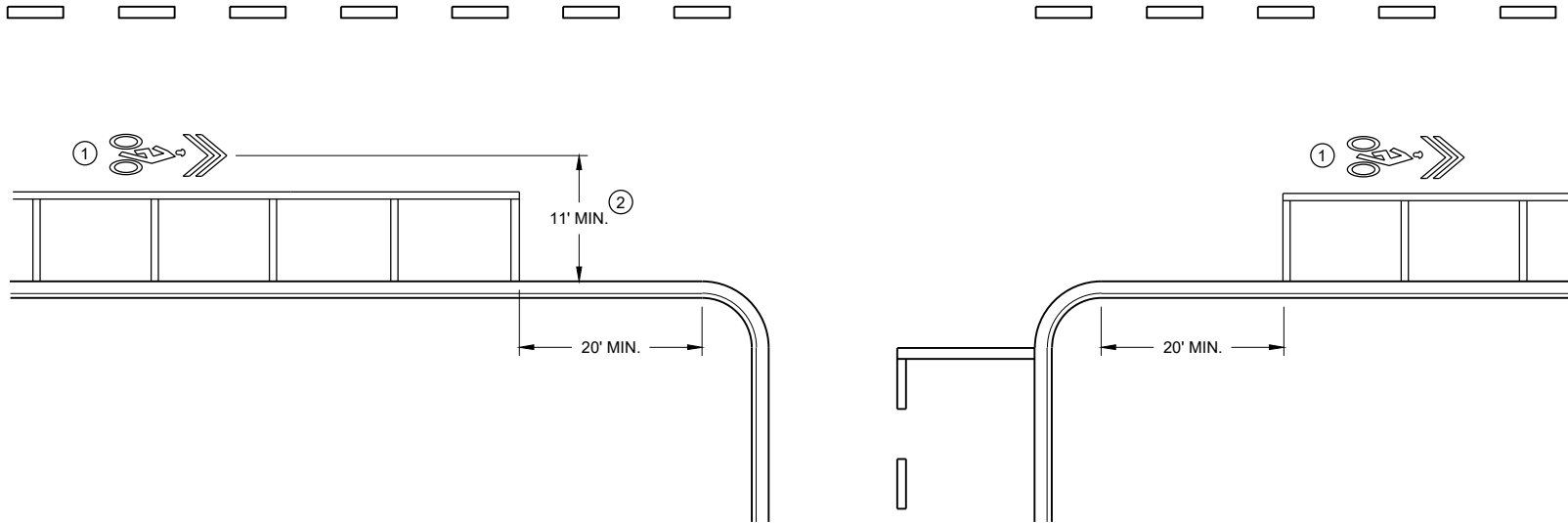
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Matthew Rauch
DATE STATE SIGNING AND MAP ENGINEER 56

FHWA



WITHOUT PARKING

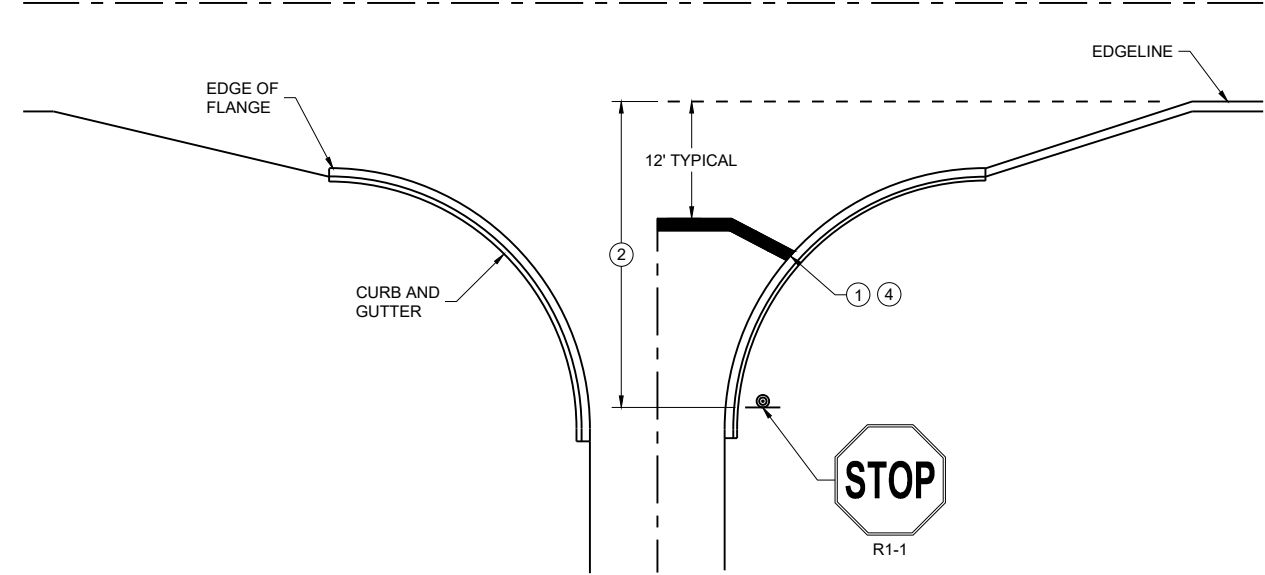


WITH PARKING

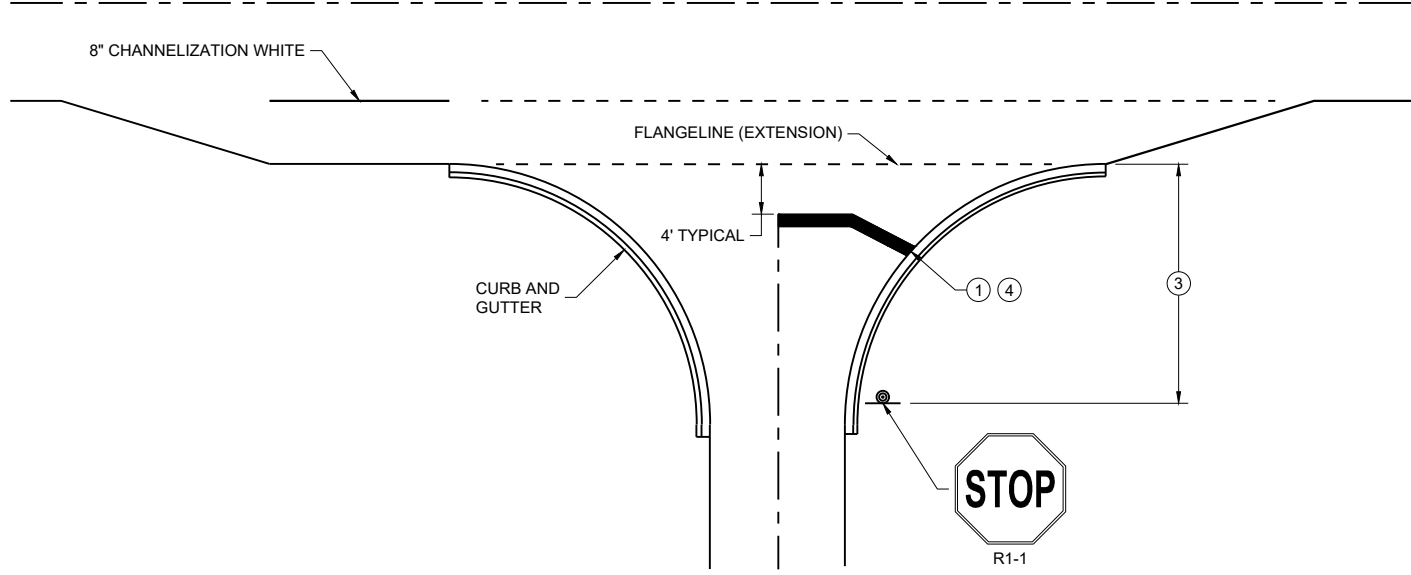
GENERAL NOTES

- ① MINIMUM OF ONE PER BLOCK, MAXIMUM OF 250 FEET.
- ② OR TO EDGE OF PAVEMENT WITHOUT CURB.

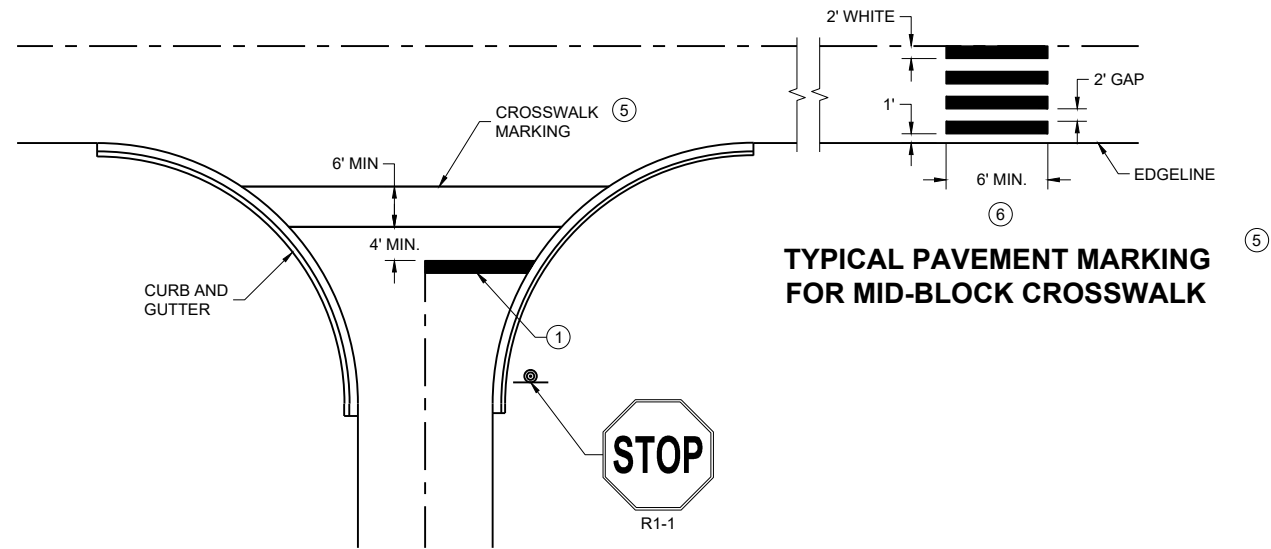
PAVEMENT MARKING FOR SHARED LANE 35 MPH OR LESS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Matthew Rauch STATE SIGNING AND MAP ENGINEER 57
FHWA	



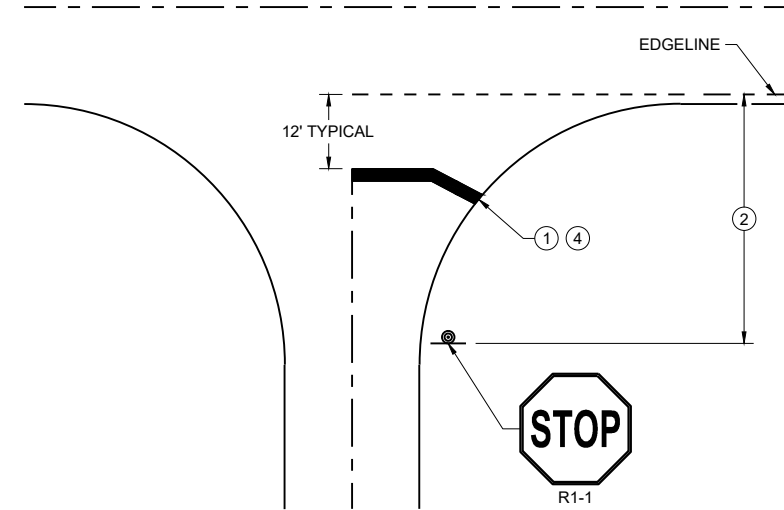
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDE ROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDE ROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

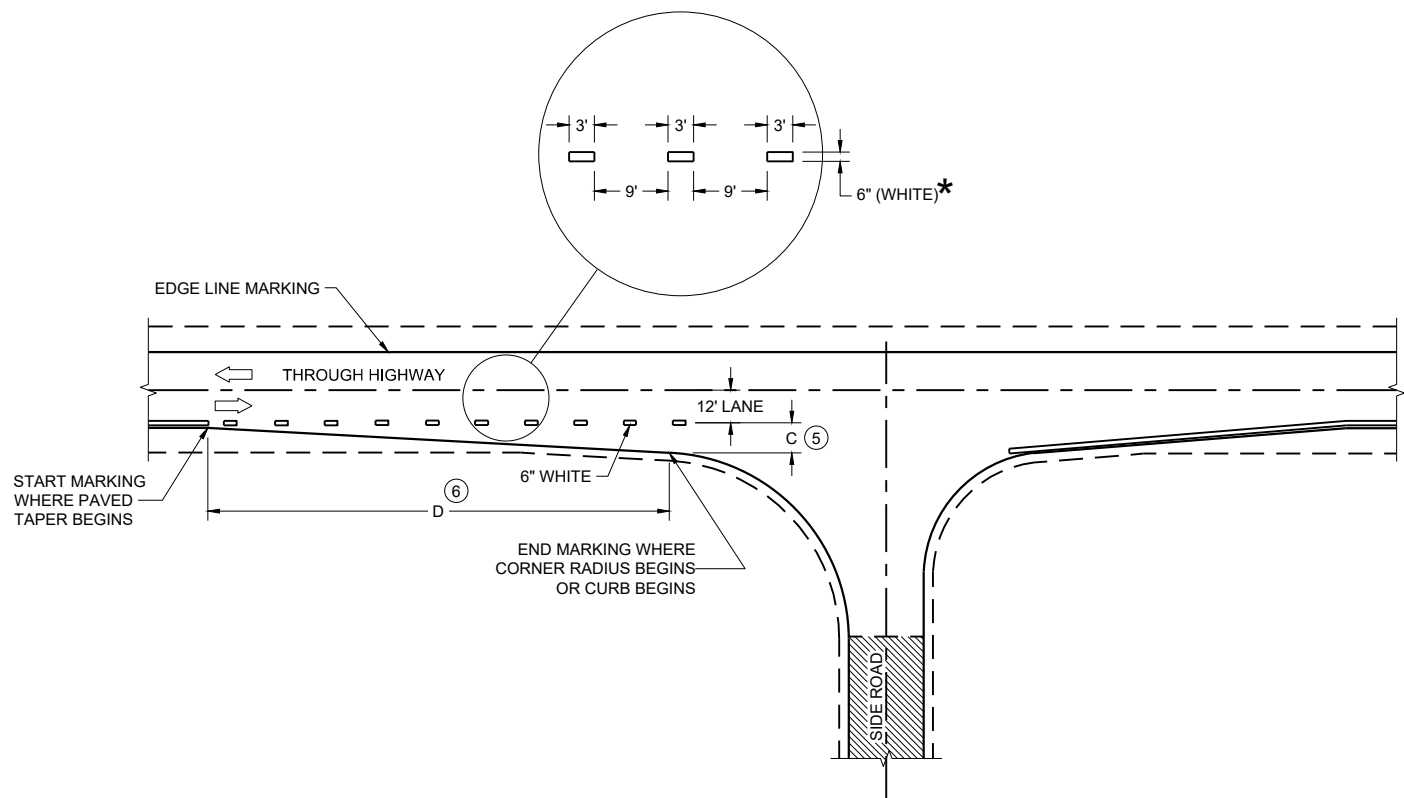
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

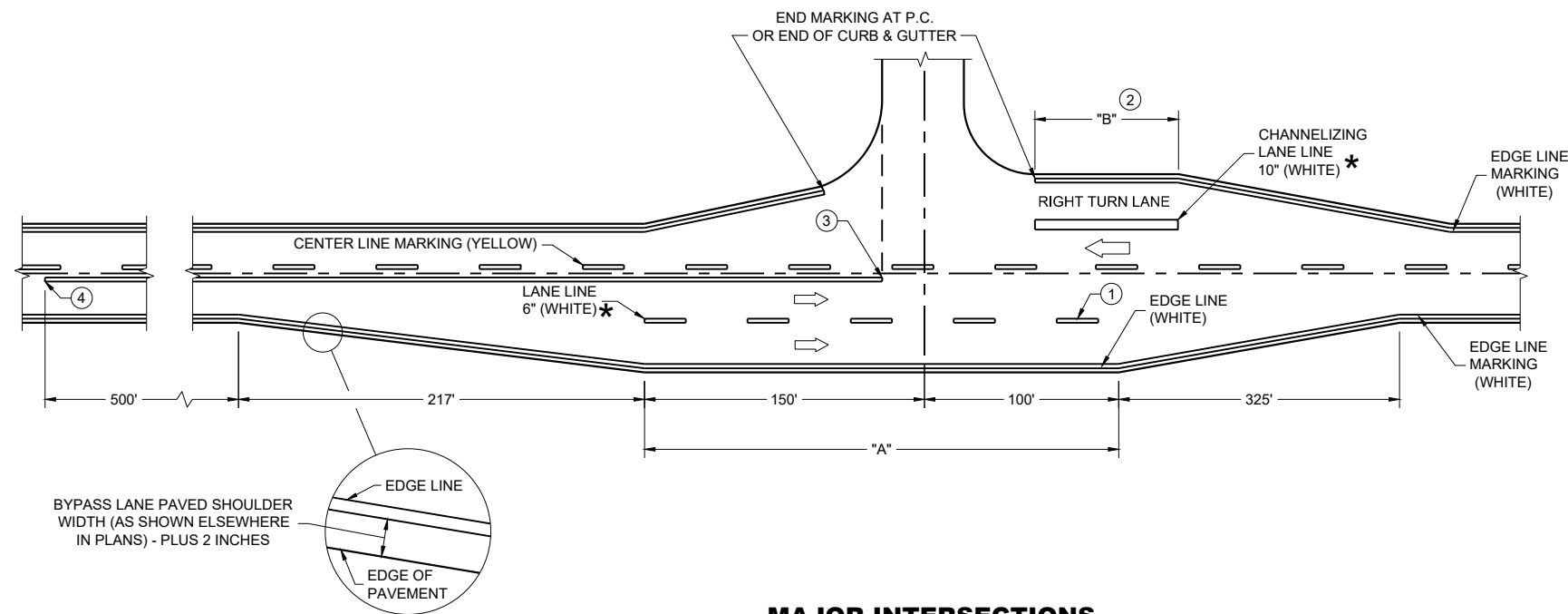
- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
- ③ NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE 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

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



MINOR INTERSECTION



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

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

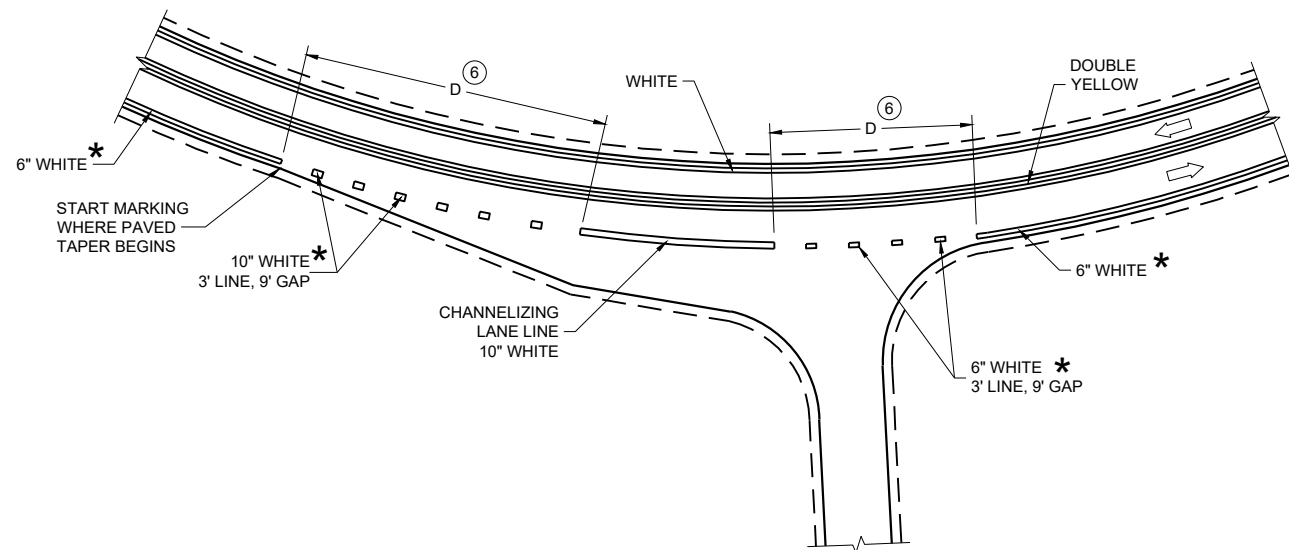
GENERAL NOTES

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.

LEGEND

➡ DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING
(INTERSECTIONS)

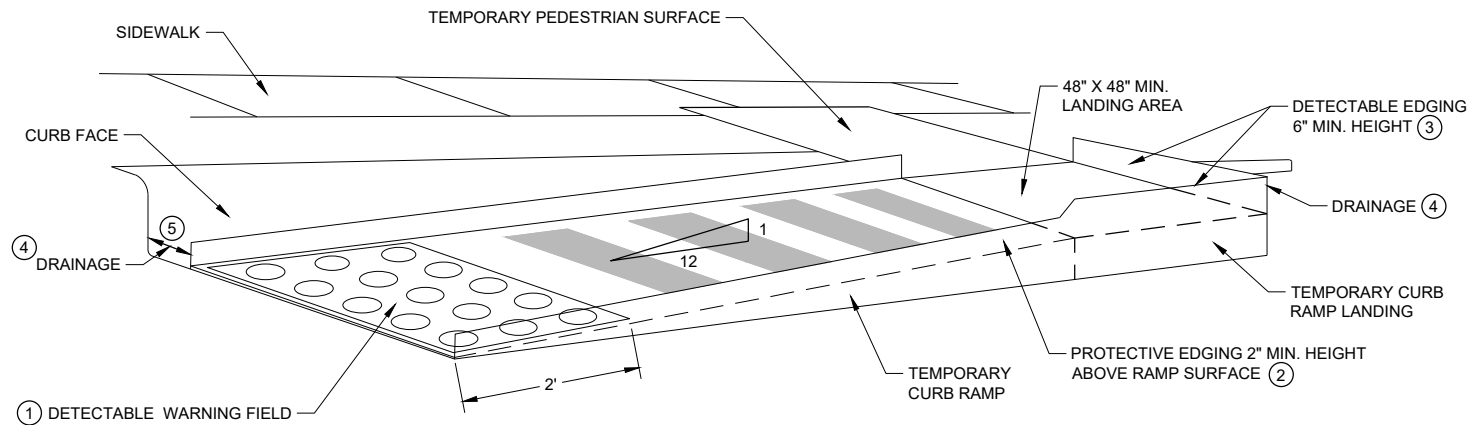
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



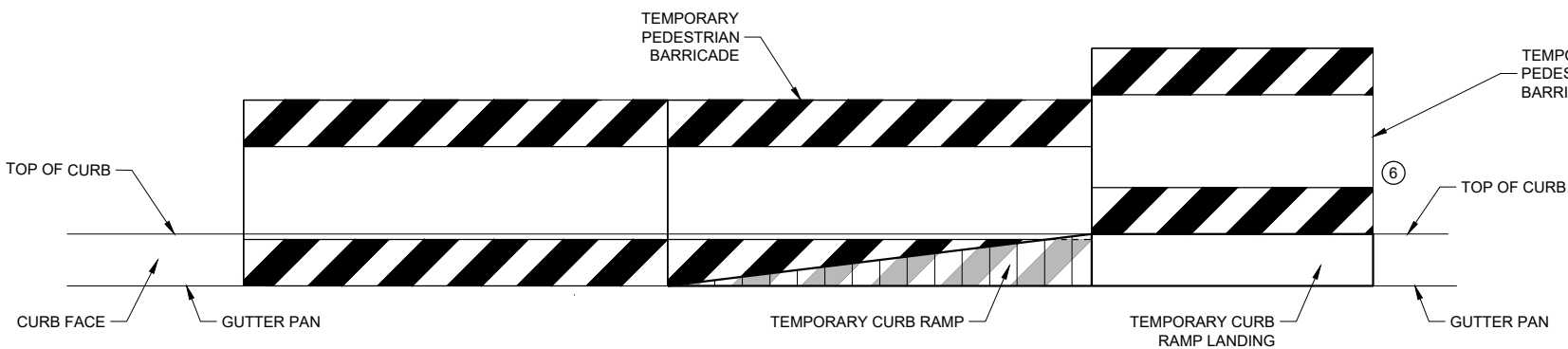
BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

- * USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.

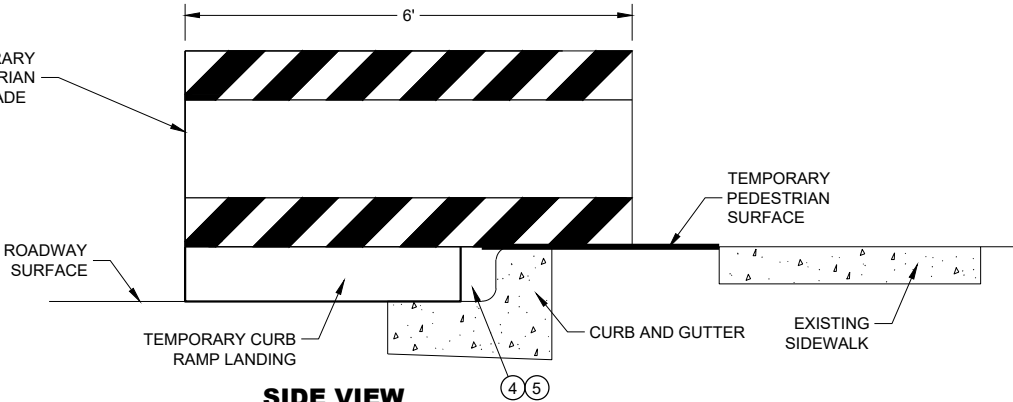




PERSPECTIVE VIEW



FRONT VIEW



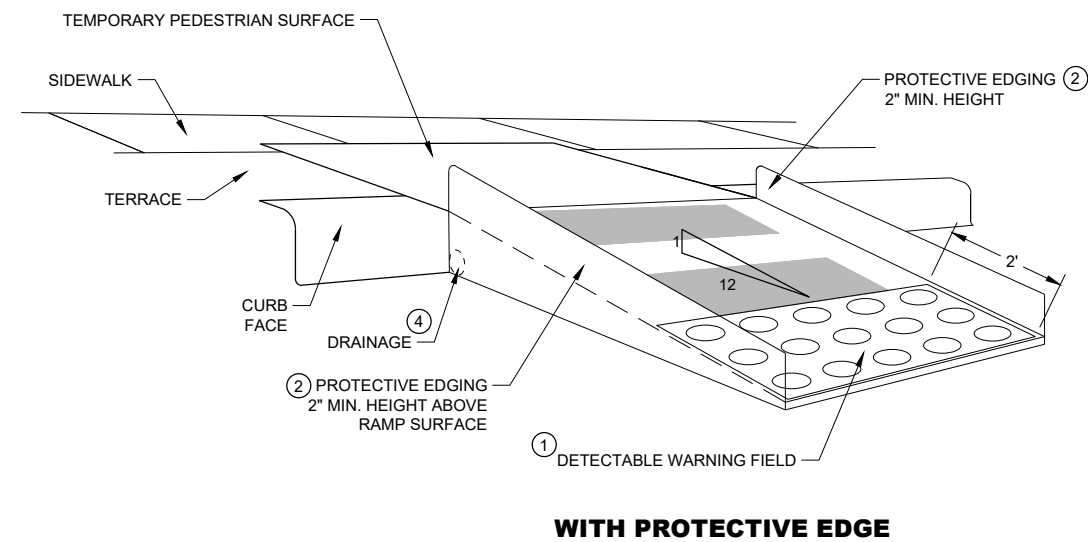
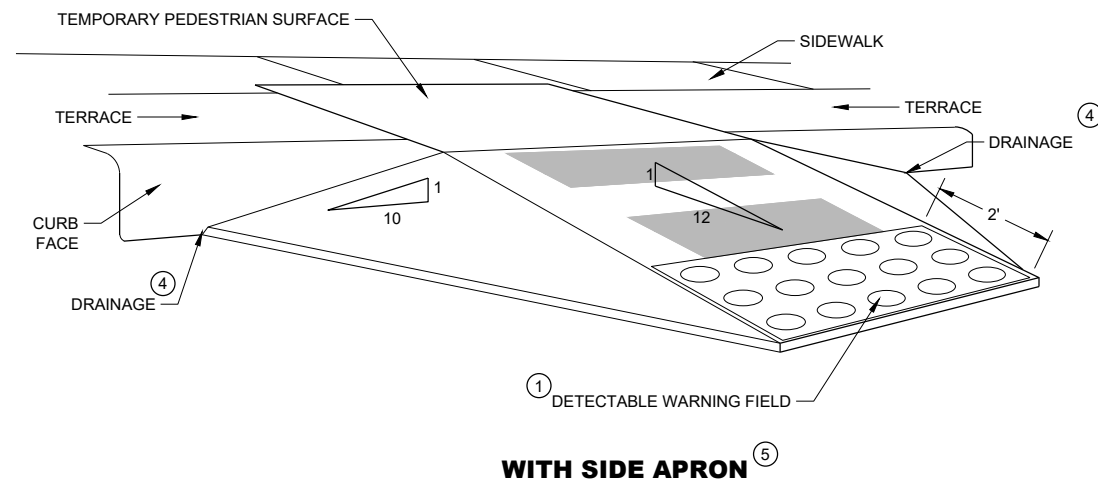
SIDE VIEW

TEMPORARY CURB RAMP PARALLEL TO CURB

GENERAL NOTES

- CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.
- CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.
- CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.
- CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES MAY BE VERTICAL UP TO 1/4" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

- ① INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS.
- ② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- ③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- ④ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- ⑤ ENSURE CURB RAMP IS OUT OF THE GUTTER PAN.
- ⑥ IF ONLY PART OF THE END PANEL OF TEMPORARY PEDESTRIAN BARRICADE PANEL IS NEEDED, EXTEND EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL HERE.



TEMPORARY CURB RAMP PERPENDICULAR TO CURB

GENERAL NOTES

CURB RAMPS SHALL BE 48" MINIMUM WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

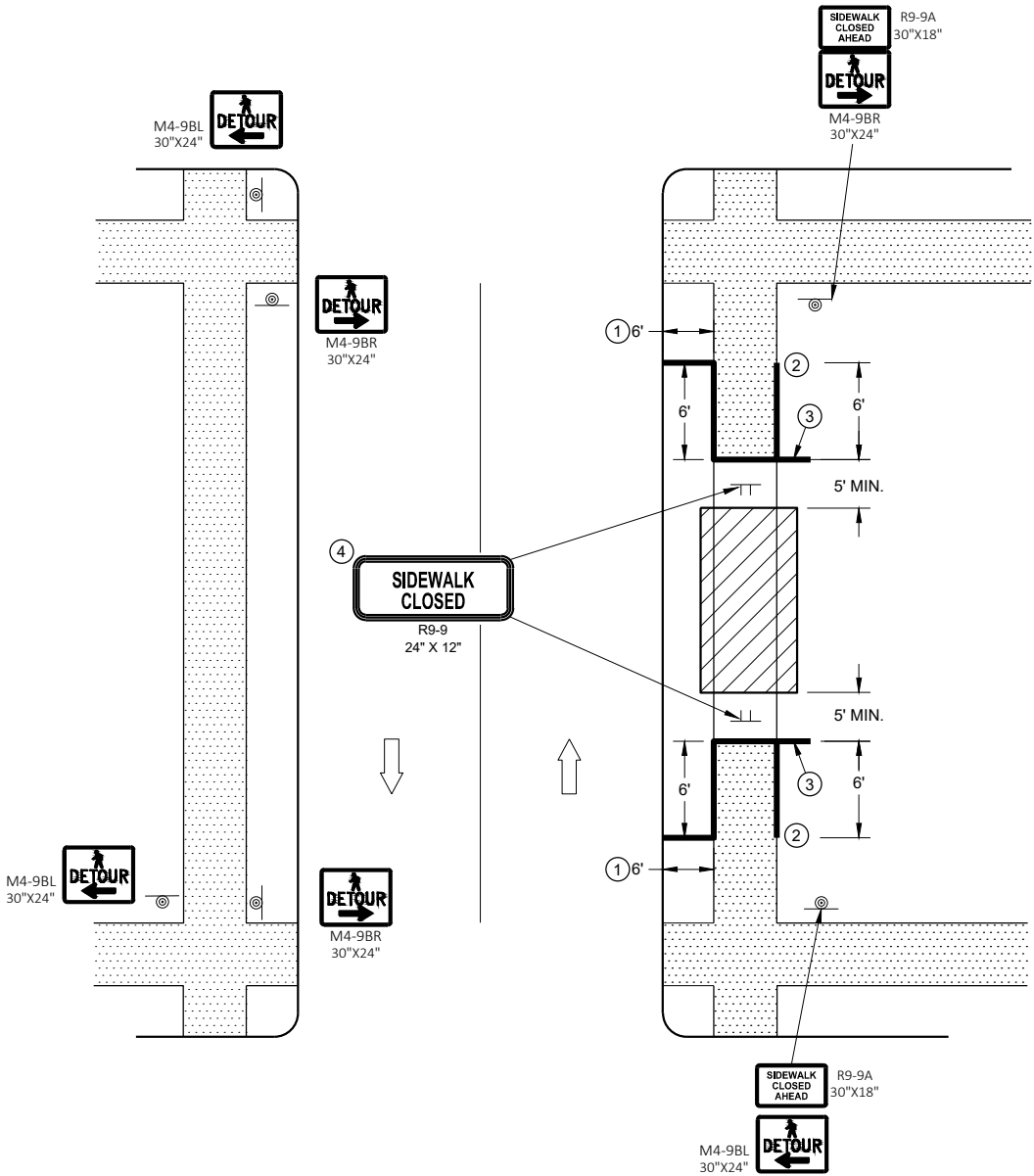
- ① INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS
- ② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- ③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- ④ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- ⑤ CAN ONLY BE USED FOR RAMPS WITH 6" OR LESS OF VERTICAL CHANGE.

**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



SIDEWALK DETOUR, SIDEWALK ON BOTH SIDES

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.

3

TRAFFIC CONTROL	
643.5000 TRAFFIC CONTROL	
STAGE	EACH
6TH STREET	
2703-05-71	0.75
2703-05-72	0.25
TOTALS	1

MARKING LINE			
		646.1020 EPOXY 4-INCH	646.1020 EPOXY 4-INCH
		646.3020 EPOXY 8-INCH (WHITE)	
		(WHITE)	(YELLOW)
STATION TO STATION	LF	LF	LF
6TH STREET			
2703-05-71	1,719	2,648	100
2703-05-72	3,782	1,226	78
TOTALS	5,501	3,874	178

3

MARKING OTHER						
		646.5020	646.5220	646.6120	646.7120	646.7420
		ARROW EPOXY	SYMBOL EPOXY	STOP LINE EPOXY 18-INCH	DIAGONAL EPOXY 12-INCH	CROSSWALK EPOXY TRAVERSE LINE 6-INCH
					(WHITE)	(YELLOW)
STATION TO STATION	EACH	EACH	LF	LF	LF	LF
6TH STREET						
2703-05-71	2	7	34	441	168	118
2703-05-72	2	4	37	240	51	209
TOTALS	4	11	71	681	219	327

MARKING REMOVAL		
		646.9000 LINE 4-INCH
		646.9200 LINE WIDE
STATION TO STATION	LF	LF
6TH STREET		
2703-05-71	148	49
2703-05-72	26	-
TOTALS	174	49

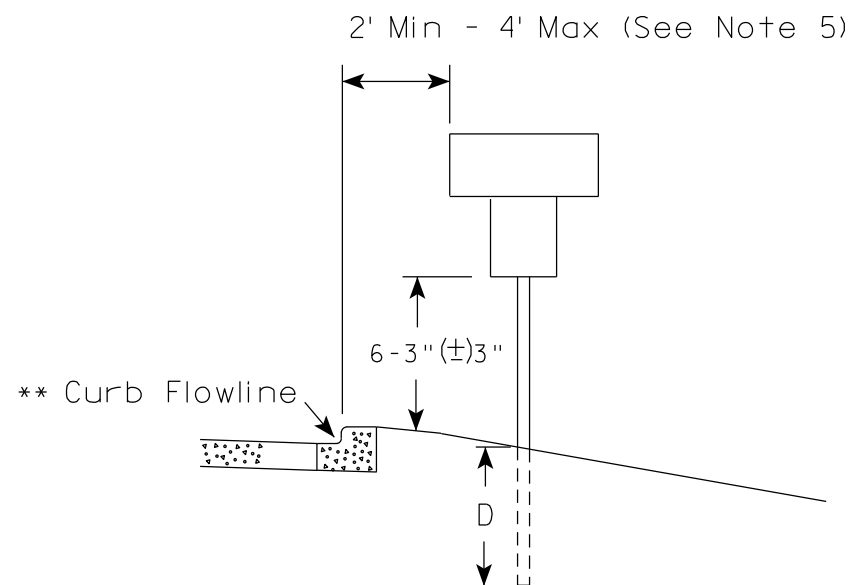
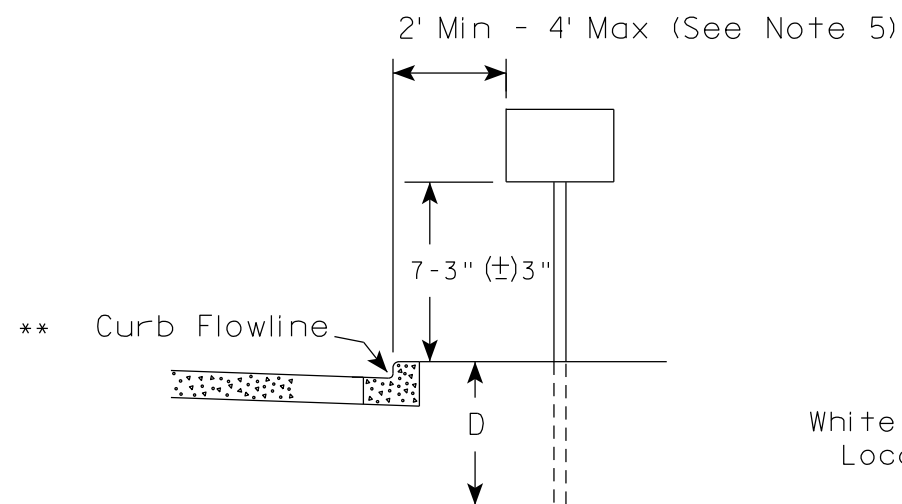
2703-05-71 CONSTRUCTION STAKING			
ITEM	QUANTITY	UNIT	DESCRIPTION
650.4500	101	LF	CONSTRUCTION STAKING SUBGRADE
650.5000	50	LF	CONSTRUCTION STAKING BASE
650.5500	70	LF	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER
650.6501	1	EACH	CONSTRUCTION STAKING STRUCTURE LAYOUT (B-51-064)
650.7000	51	LF	CONSTRUCTION STAKING CONCRETE PAVEMENT
650.9500	1	EACH	CONSTRUCTION STAKING SIDEWALK (ID 2703-05-71)
650.9911	1	EACH	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (ID 2703-05-71)

2703-05-72 CONSTRUCTION STAKING			
ITEM	QUANTITY	UNIT	DESCRIPTION
650.4500	100	LF	CONSTRUCTION STAKING SUBGRADE
650.6501	1	EACH	CONSTRUCTION STAKING STRUCTURE LAYOUT (B-51-067)
650.7000	100	LF	CONSTRUCTION STAKING CONCRETE PAVEMENT
650.9911	1	EACH	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (ID 2703-05-72)

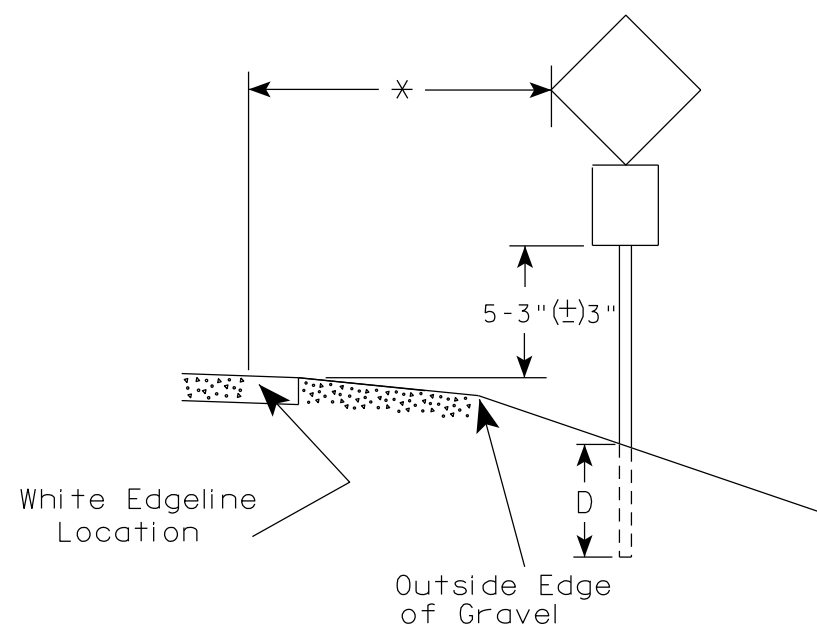
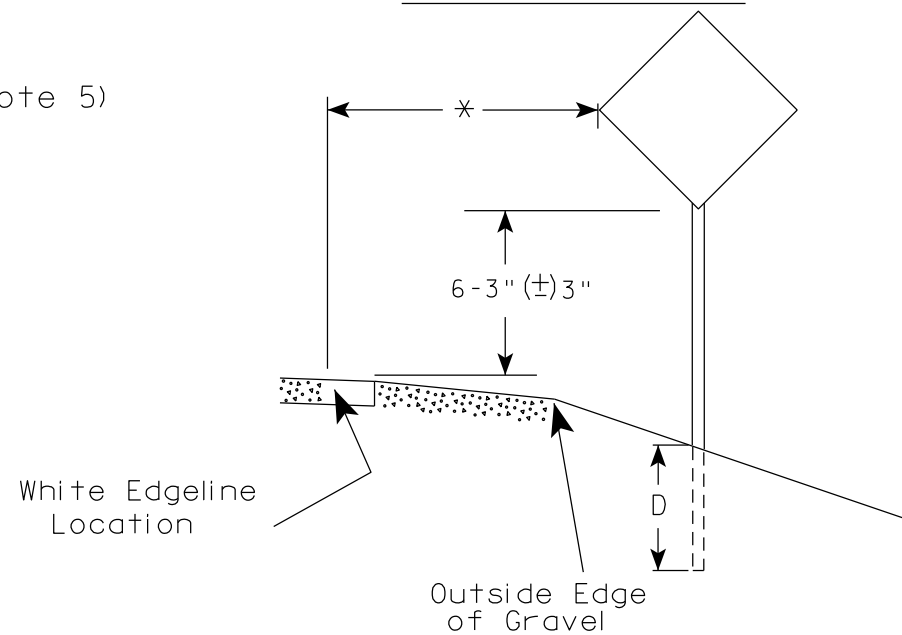
SAWING	
690.0250 CONCRETE	
STATION TO STATION	LF
6TH STREET	
2703-05-71	106
2703-05-72	96
TOTALS	202

ADJUSTING SANITARY SEWER						
			CATEGORY 0030	CATEGORY 0030		
			611.8120.S *	SPV.0060.02		
			COVER PLATES	ADJUST SANITARY MANHOLE		
			TEMPORARY	WITH INTERNAL/EXTERNAL SEAL		
STRUCTURE	STATION	OFFSET	LOCATION	EACH	EACH	
2703-05-71						
301	26+30.00	17.20' RT	6TH STREET	1	1	
302	30+80.16	1.90' RT	6TH STREET	1	1	
TOTALS				2	2	
* ADDITIONAL QUANTITIES SHOWN ELSEWHERE						
ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED						

URBAN AREA



RURAL AREA (See Note 2)



POST EMBEDMENT DEPTH

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

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

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

GENERAL NOTES

- Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".
- For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
- Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the Engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 12/6/23

PLATE NO. A4-3.23

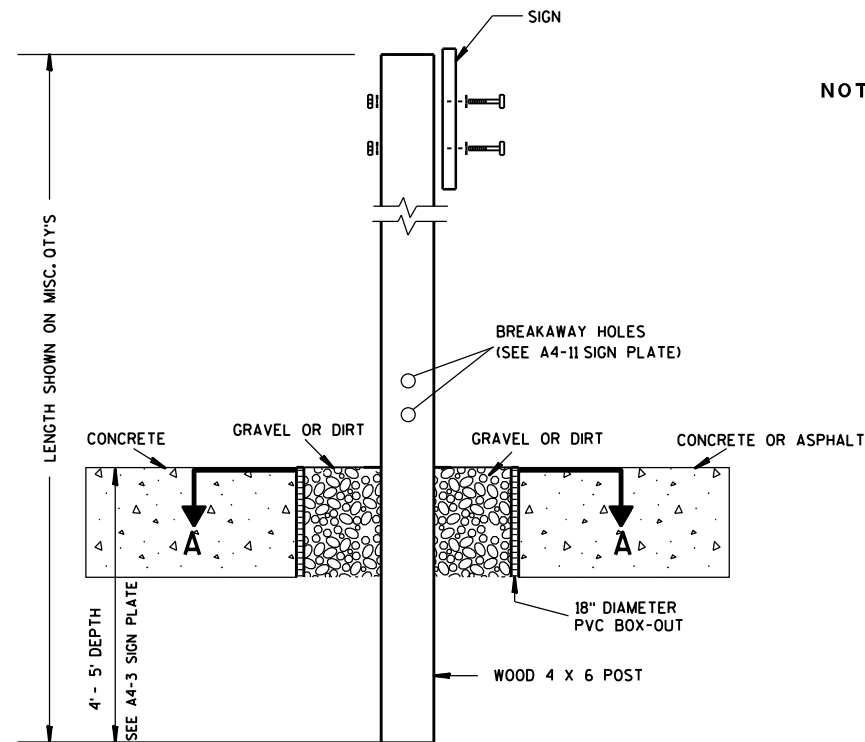
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 65

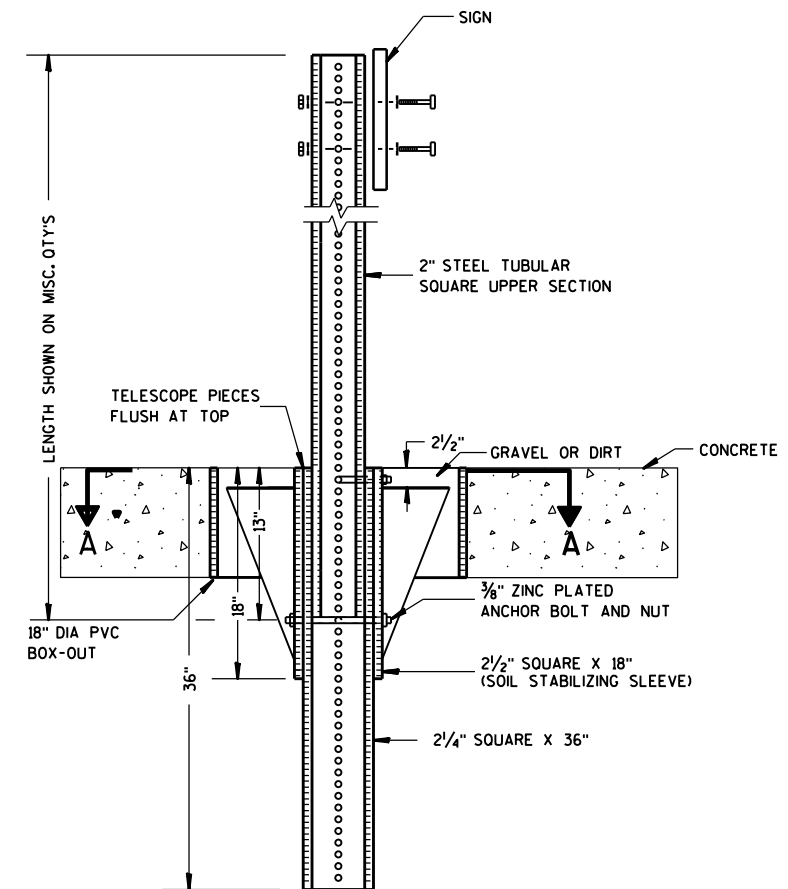
E



ELEVATION VIEW

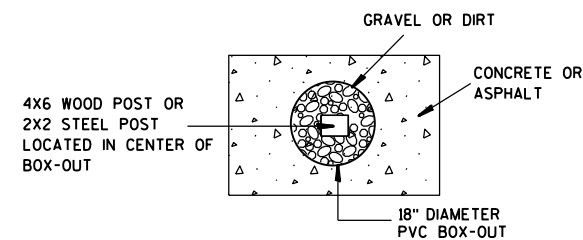
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLAT 66 A4-3B.1

PROJECT NO:

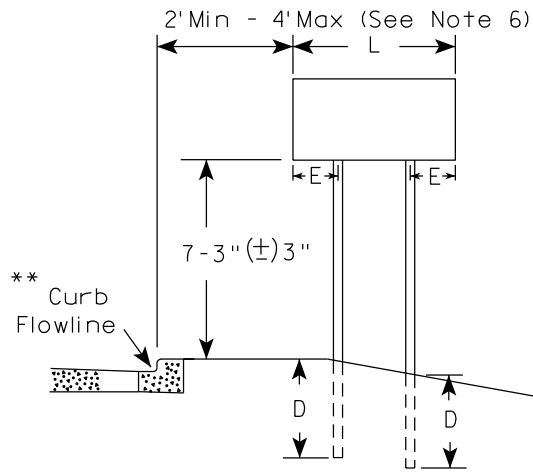
HWY:

COUNTY:

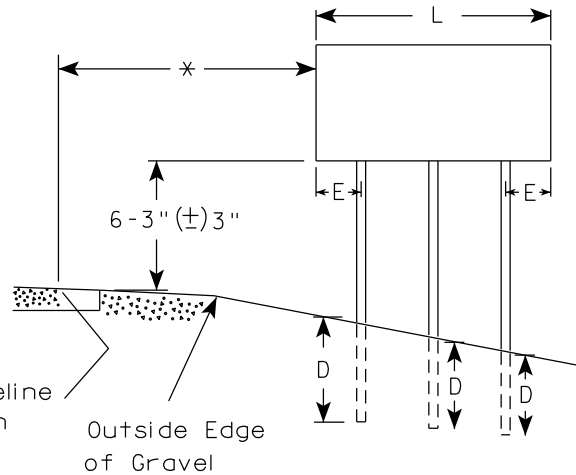
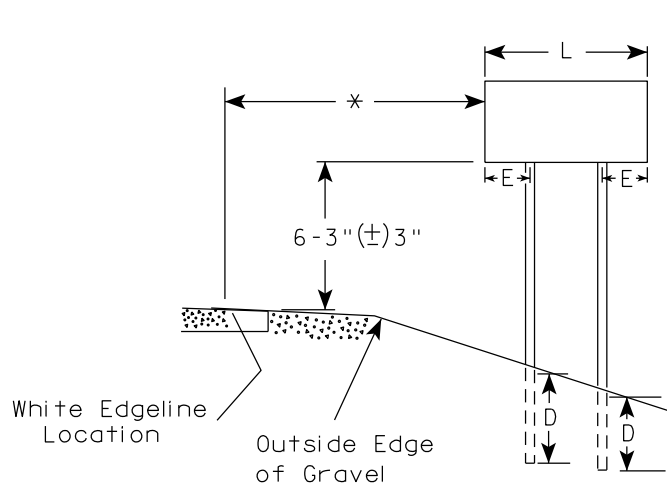
SHEET NO:

E

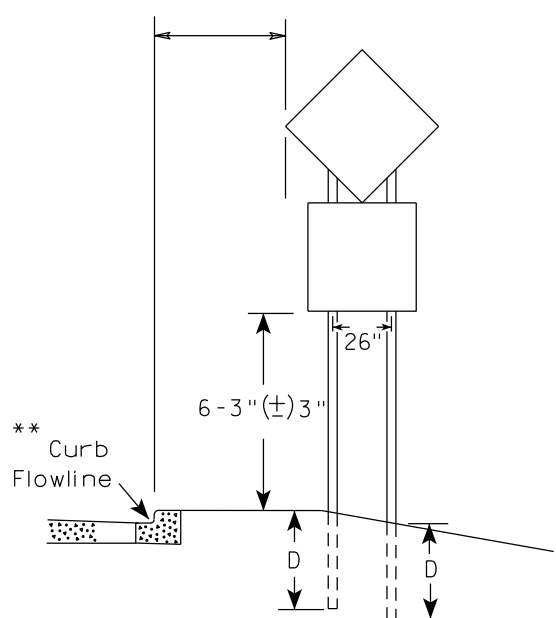
URBAN AREA



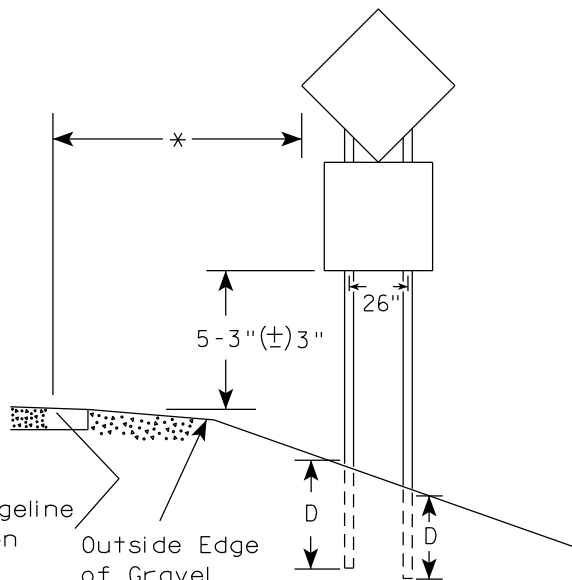
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

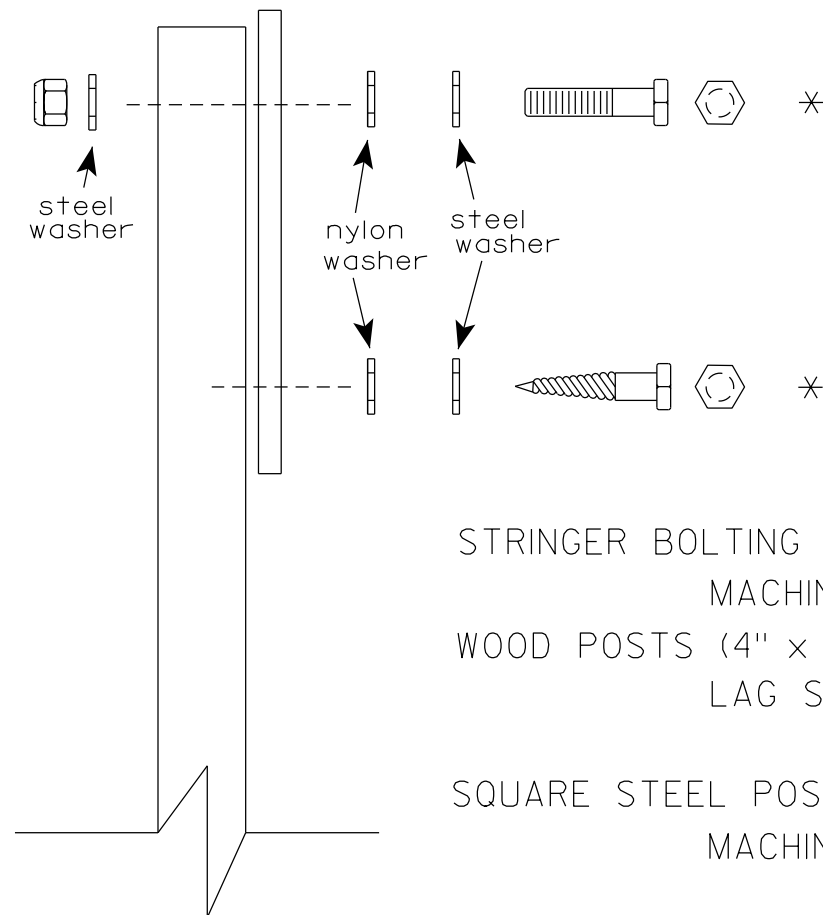
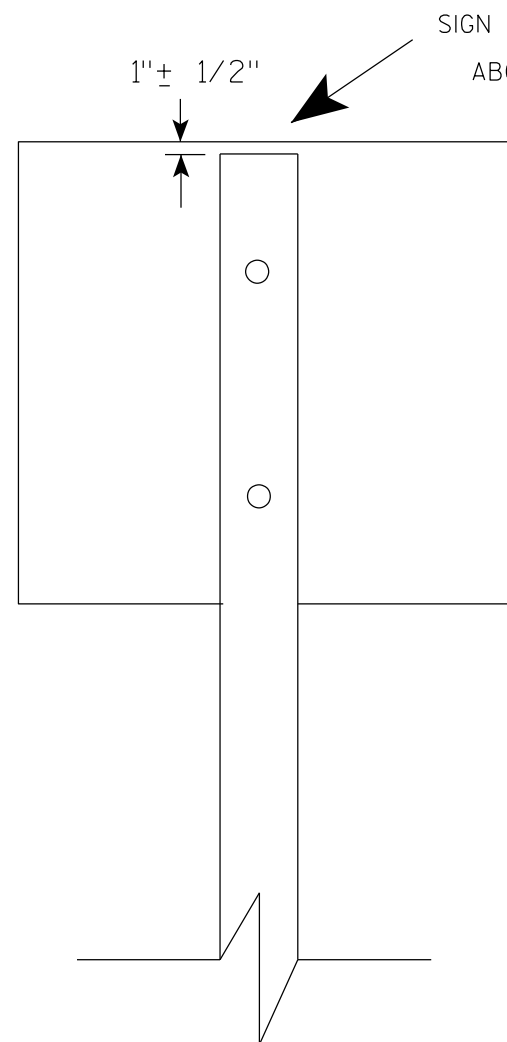
GENERAL NOTES

- For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.
- J-Assemblies are considered to be one sign for mounting height.
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
- The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".

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

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

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



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

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

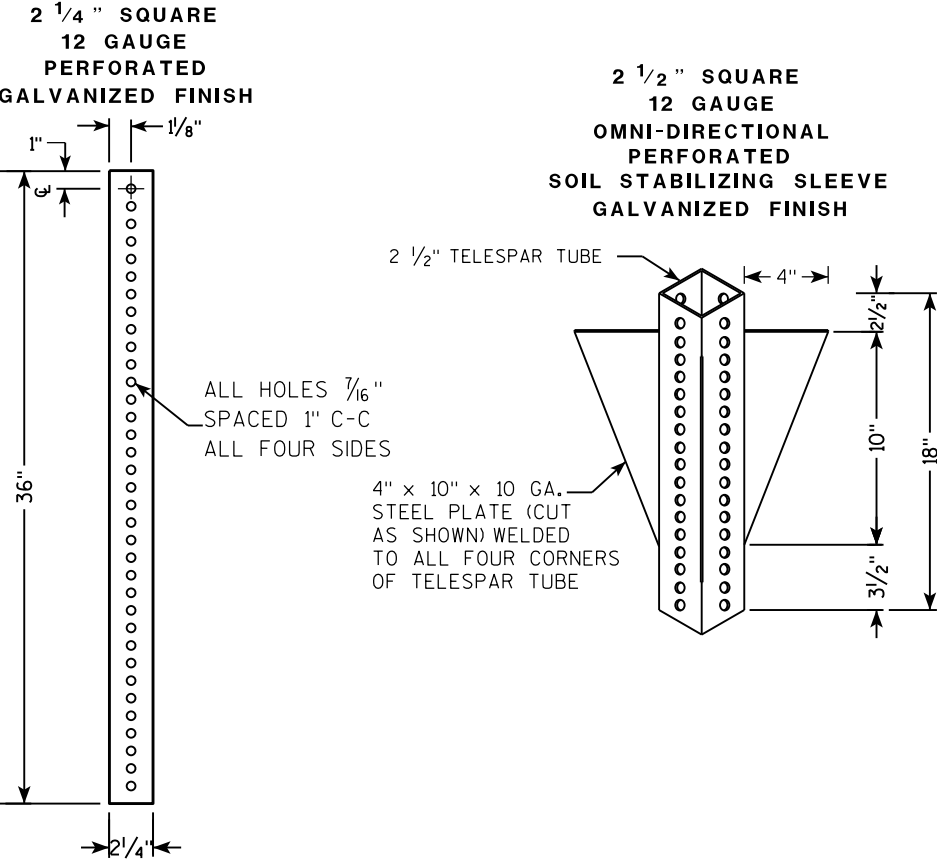
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

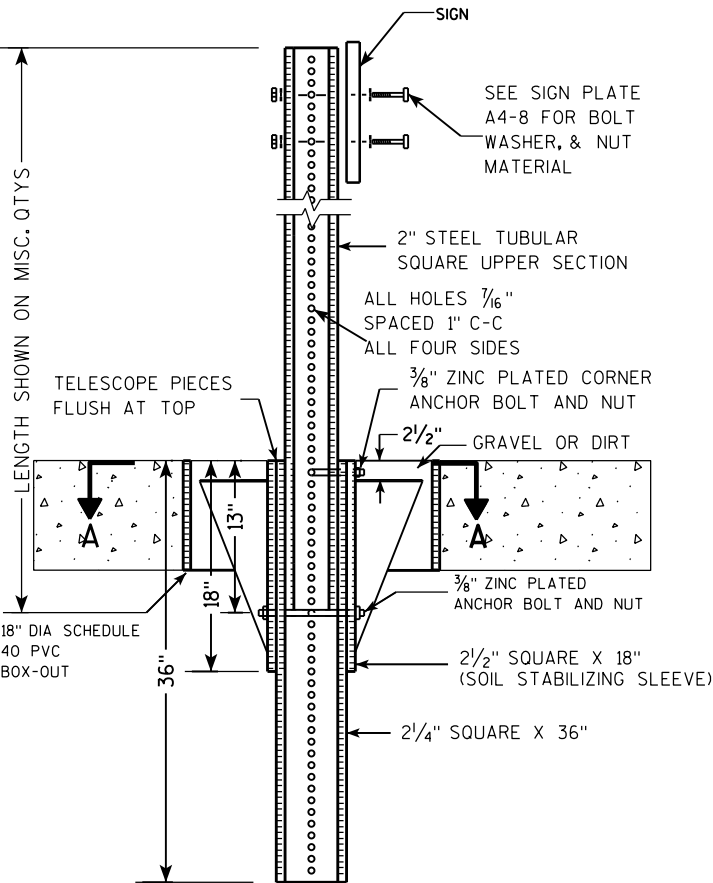
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

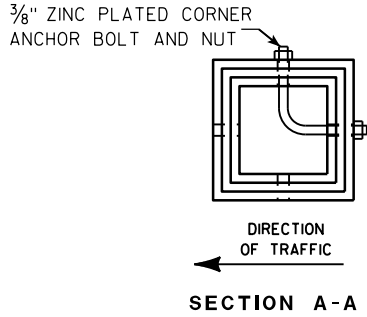
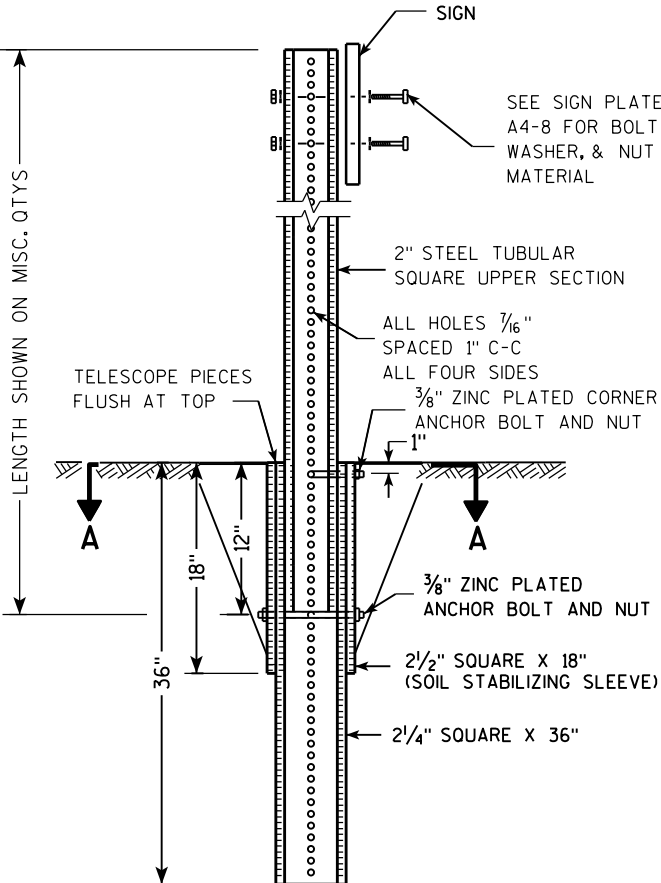
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)



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

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

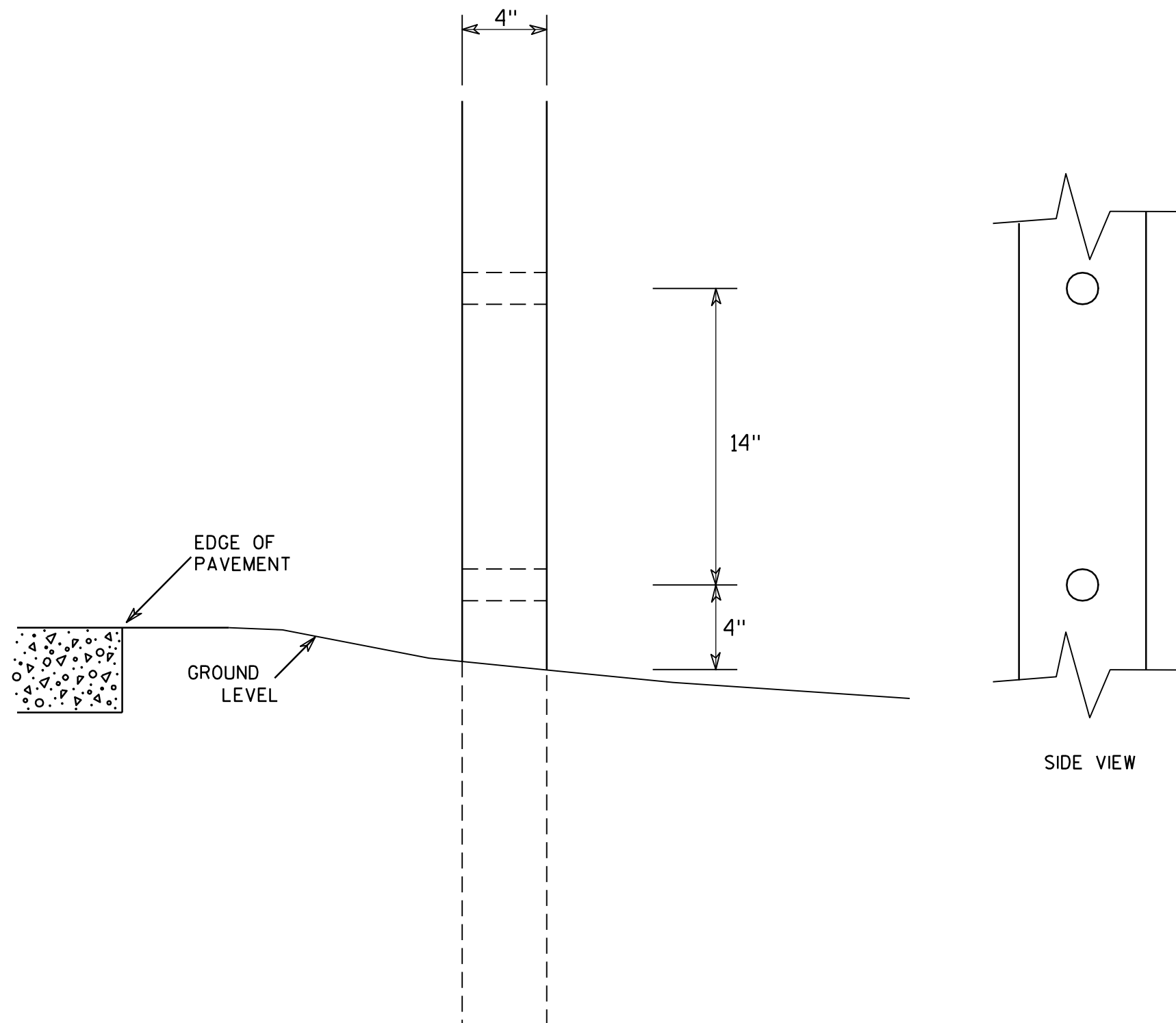
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLAT 69 14-9.9

7



GENERAL NOTES

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

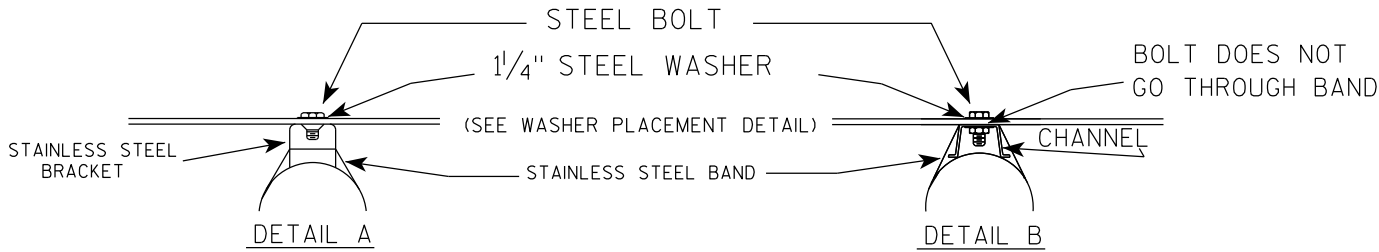
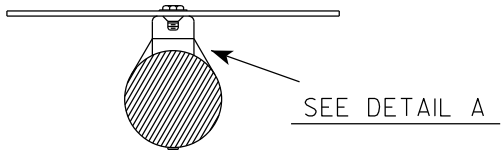
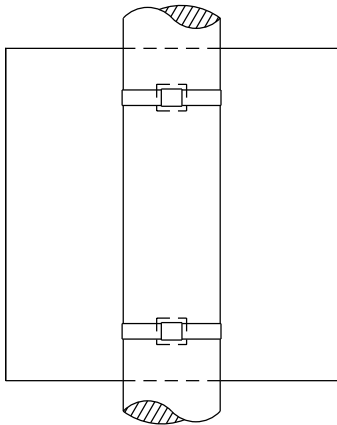
COUNTY:

SHEET NO: 70

E

BANDING

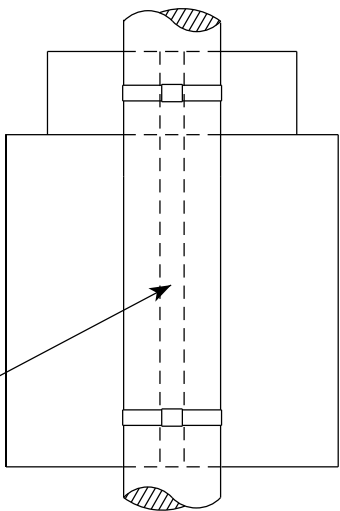
SINGLE SIGN



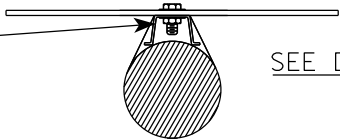
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be $\frac{3}{4}$ " in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

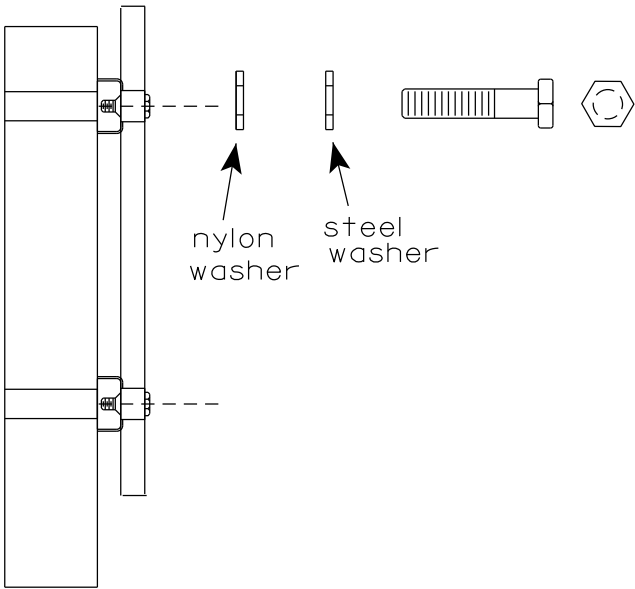
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



WASHER PLACEMENT



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

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

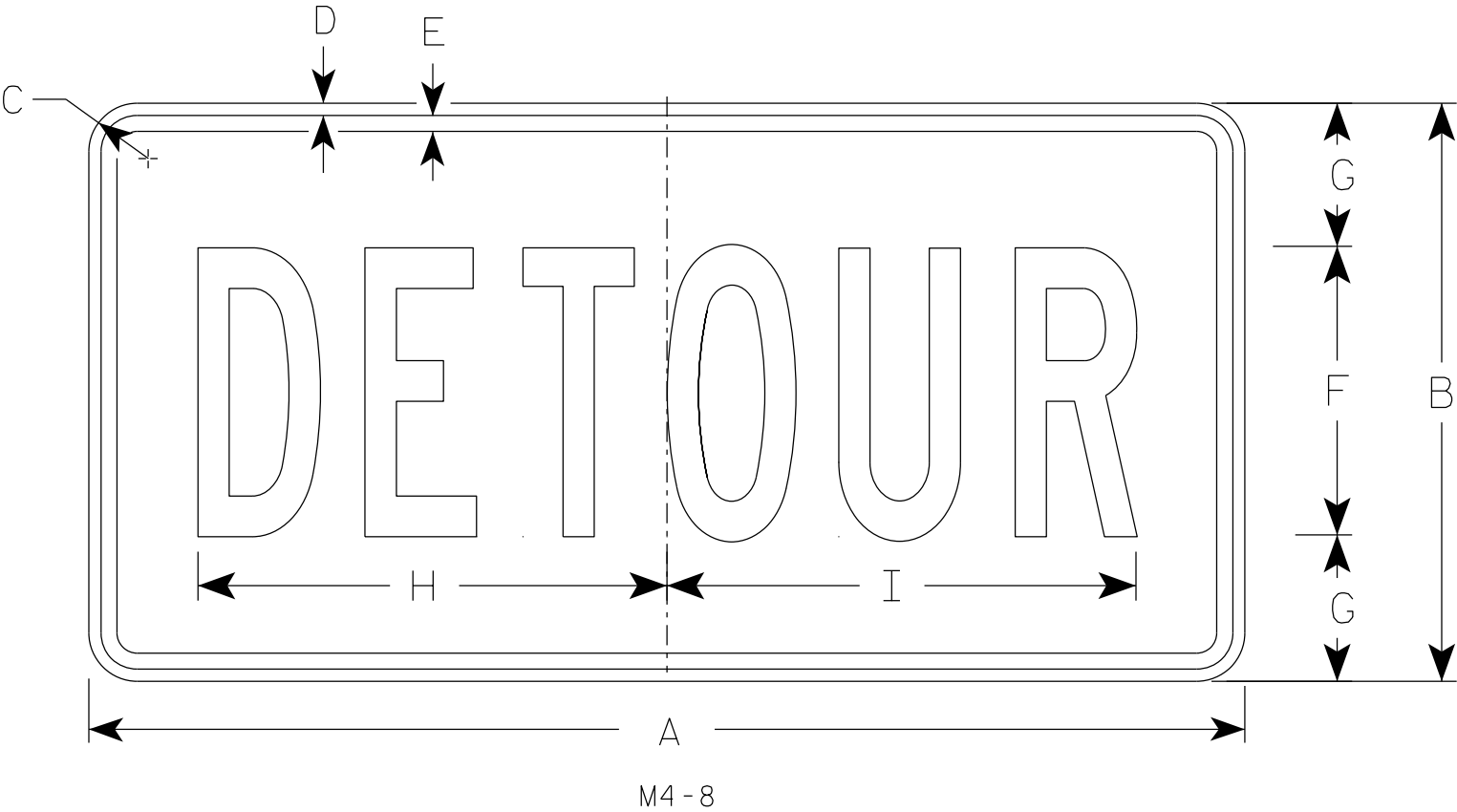
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4

7

7

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - B
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



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

STANDARD SIGN

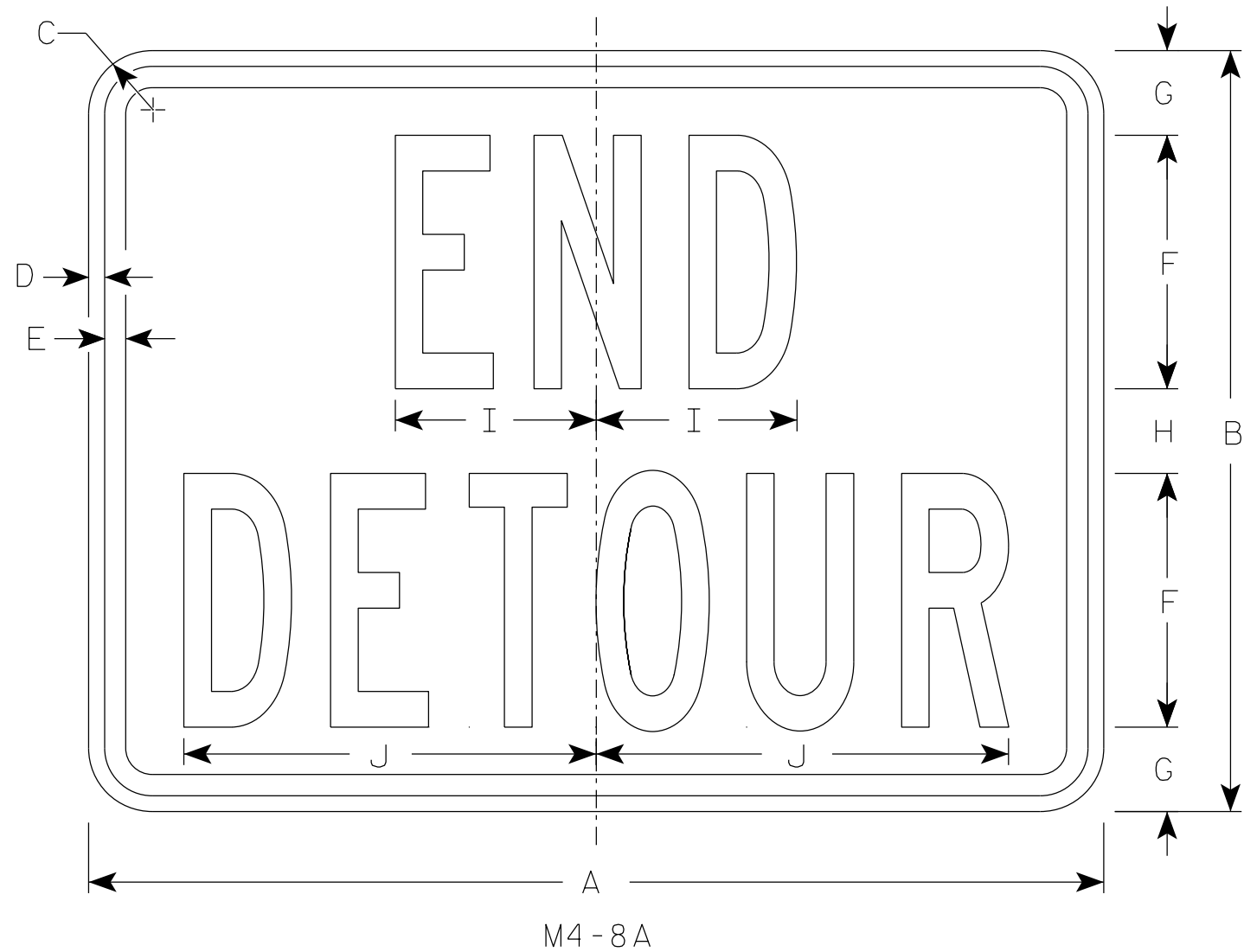
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

7



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - B
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

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

STANDARD SIGN

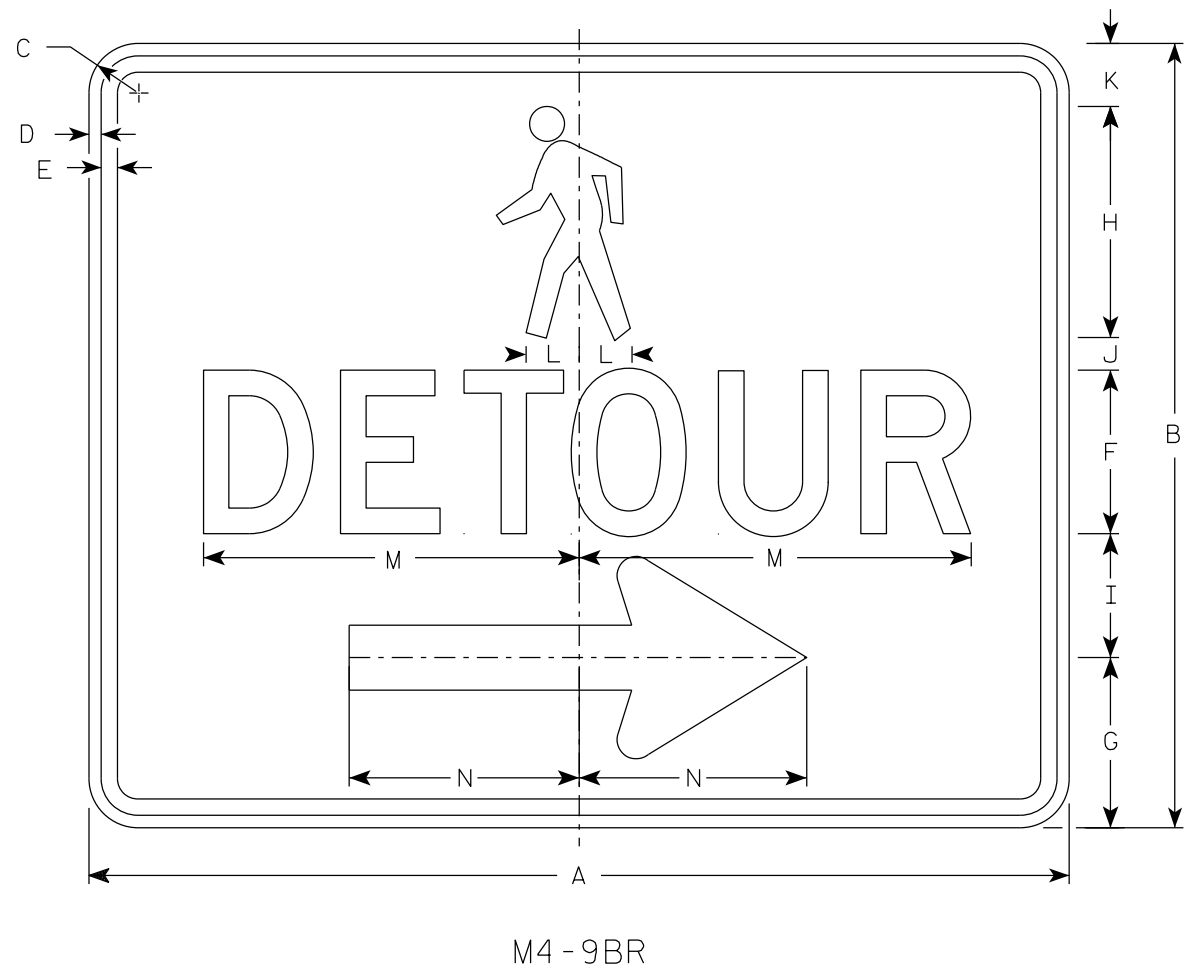
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

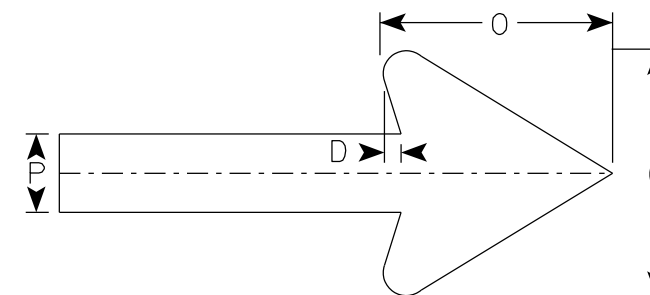
DATE 2/9/2023 PLATE NO. M4-8A.4

7



NOTES

1. Sign is Type II-Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-9BL is the same as M4-9BR except the arrow is reversed.



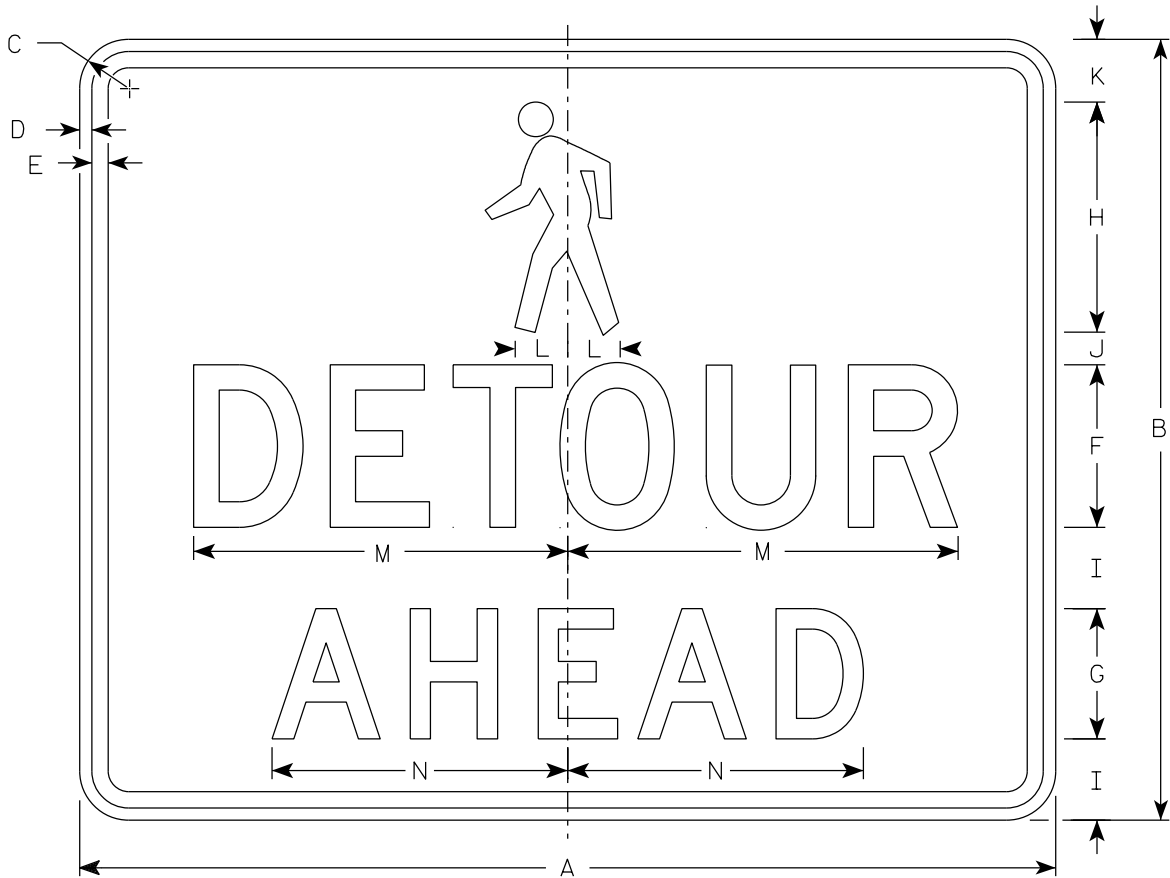
Arrow Detail

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 1/2	3/8	1/2	5	5 1/4	7 1/8	3 3/4	1	1 1/8	1 5/8	11 3/4	7	6	2											5.0
2M	30	24	1 1/2	3/8	1/2	5	5 1/4	7 1/8	3 3/4	1	1 1/8	1 5/8	11 3/4	7	6	2											5.0
3																											
4																											
5																											

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 75												E
-------------	------	---------	--------------	--	--	--	--	--	--	--	--	--	--	--	---

7



M4 - 9BA

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 1/2	3/8	1/2	5	4	7 1/8	2 1/2	1	1 7/8	1 5/8	11 3/4	9 1/8													5.0
2M	30	24	1 1/2	3/8	1/2	5	4	7 1/8	2 1/2	1	1 7/8	1 5/8	11 3/4	9 1/8													5.0
3																											
4																											
5																											

7

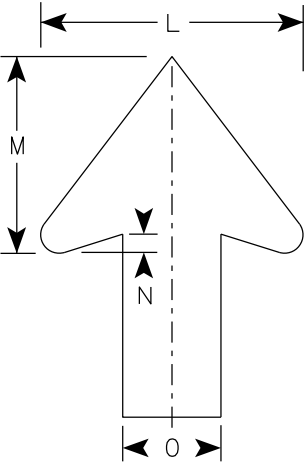
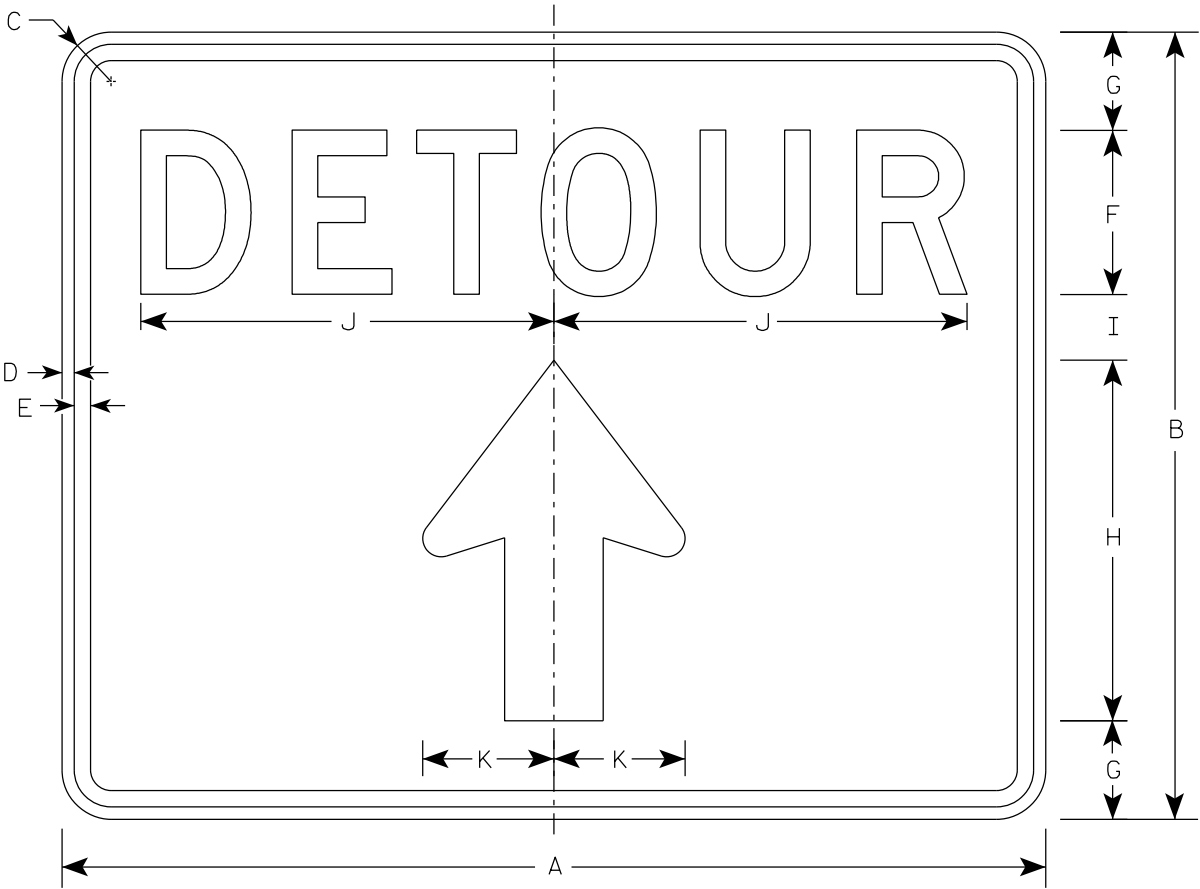
7

NOTES

1. Sign is Type II-Type F Reflective
2. Color:

Background - Orange

Message - Black
3. Message Series - D



Arrow Detail

M4 - 9RA

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 1/2	3/8	1/2	5	3	11	2	12 5/8	4	8	6	1/2	3												5.00
2M	30	24	1 1/2	3/8	1/2	5	3	11	2	12 5/8	4	8	6	1/2	3												5.00
3																											
4																											
5																											

STANDARD SIGN

M4-9RA

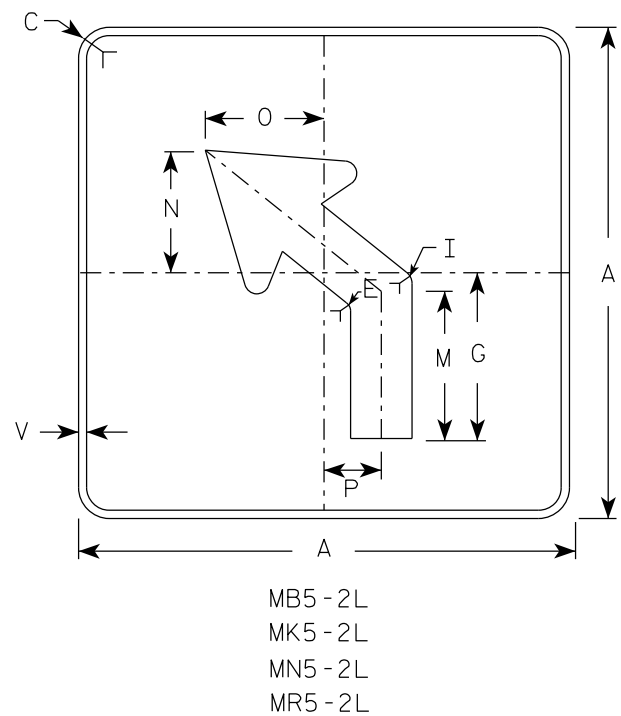
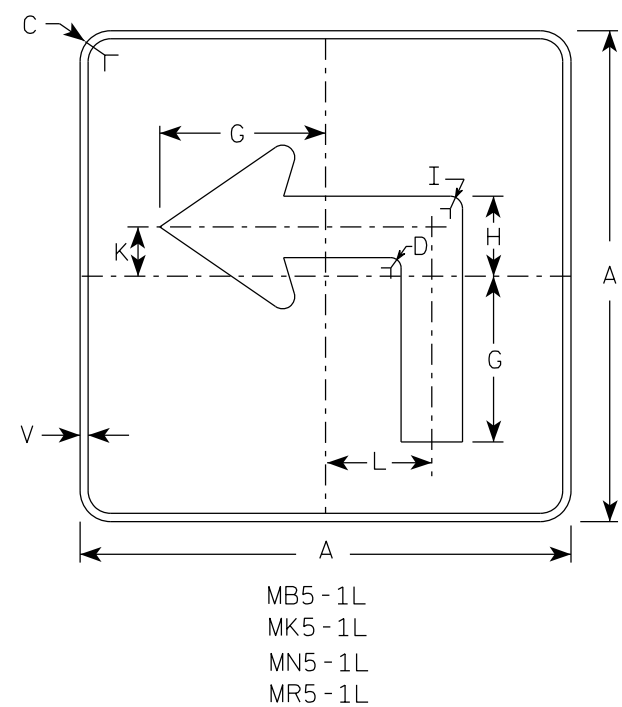
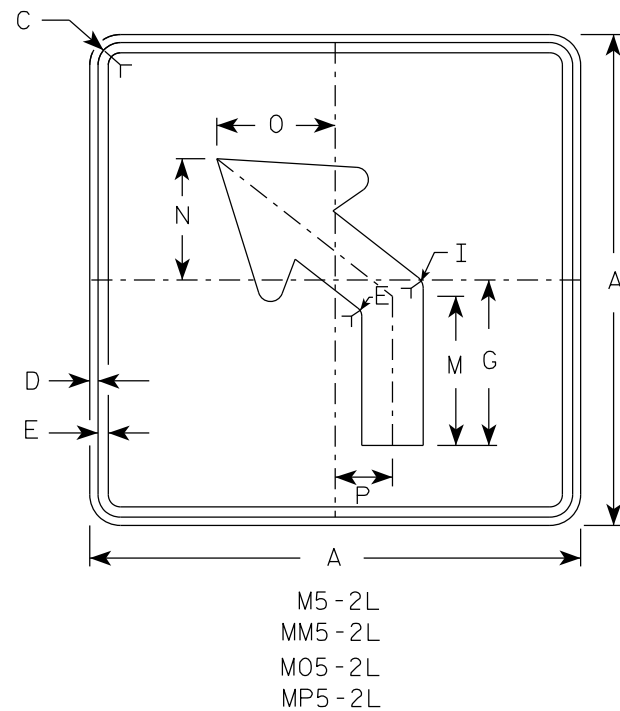
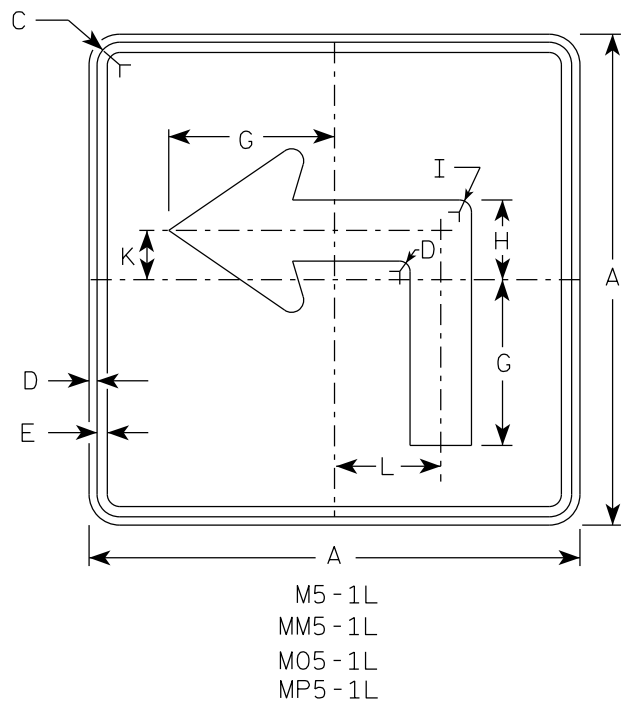
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*

for State Traffic Engineer

DATE 2/9/2023

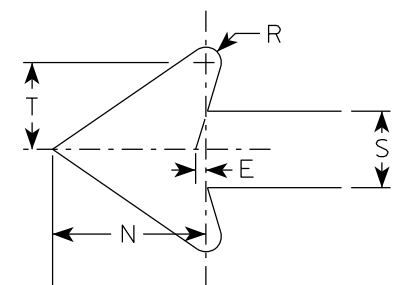
PLATE NO. M4-9RA.3



NOTES

- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- | | | |
|-----------|-------|---|
| M5-1 and | M5-2 | Background - White |
| | | Message - Black |
| MB5-1 and | MB5-2 | Background - Blue |
| | | Message - White |
| MK5-1 and | MK5-2 | Background - Green |
| | | Message - White |
| MM5-1 and | MM5-2 | Background - White |
| | | Message - Green |
| MN5-1 and | MN5-2 | Background - Brown |
| | | Message - White |
| M05-1 and | M05-2 | Background - Orange - Type F Reflective |
| | | Message - Black |
| MP5-1 and | MP5-2 | Background - White |
| | | Message - Blue |
| MR5-1 and | MR5-2 | Background - Brown |
| | | Message - Yellow |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

ARROW DETAIL



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
4	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
5	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25

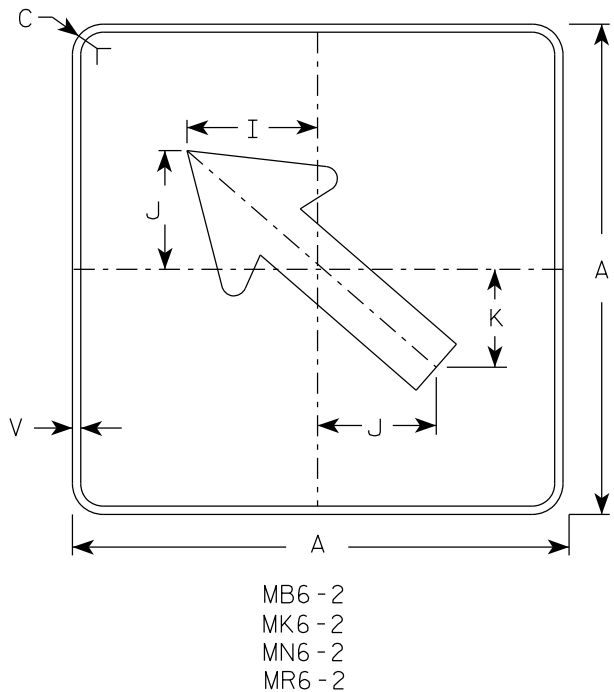
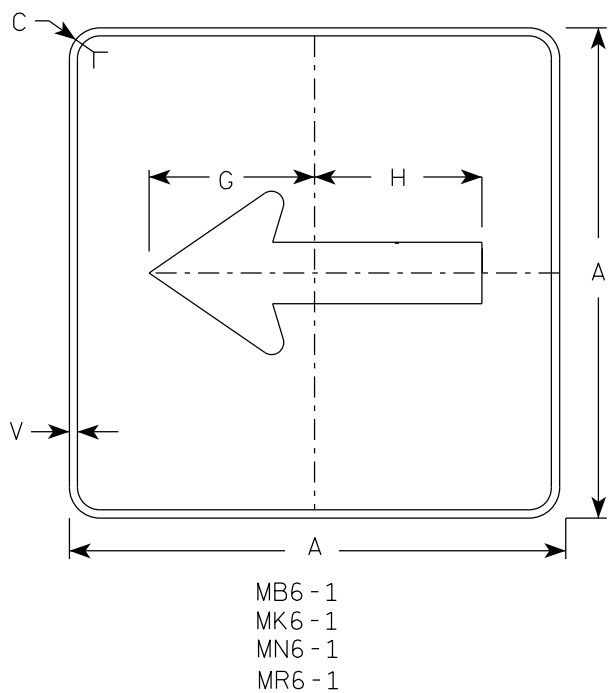
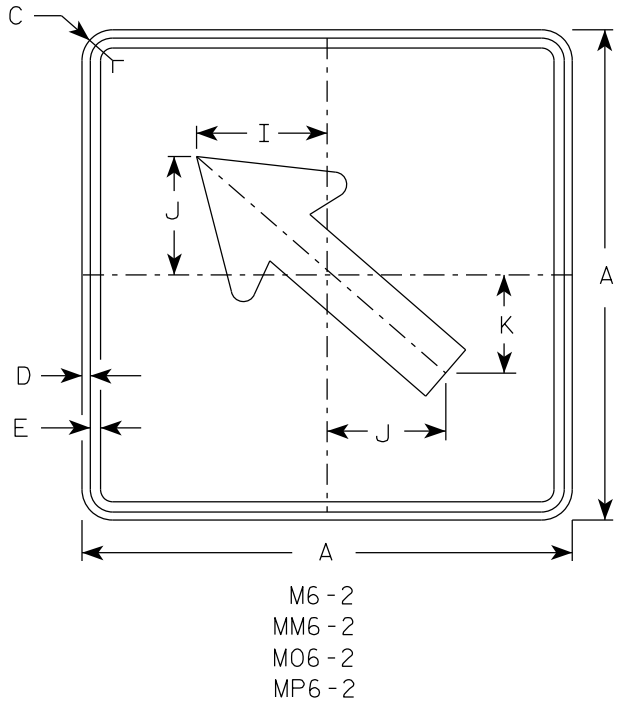
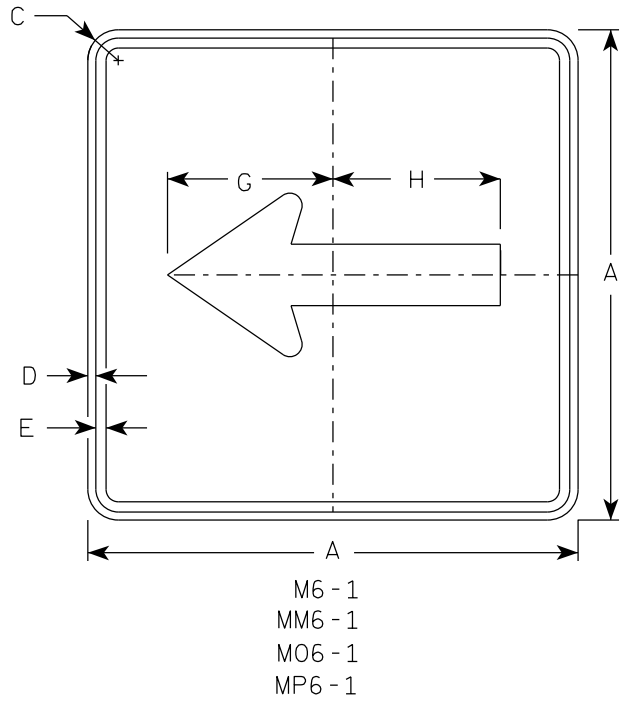
STANDARD SIGN

M5-1 & M5-2

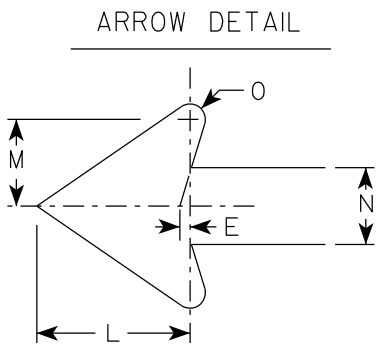
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/13/2023 PLATE NO. M5-1.15



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



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

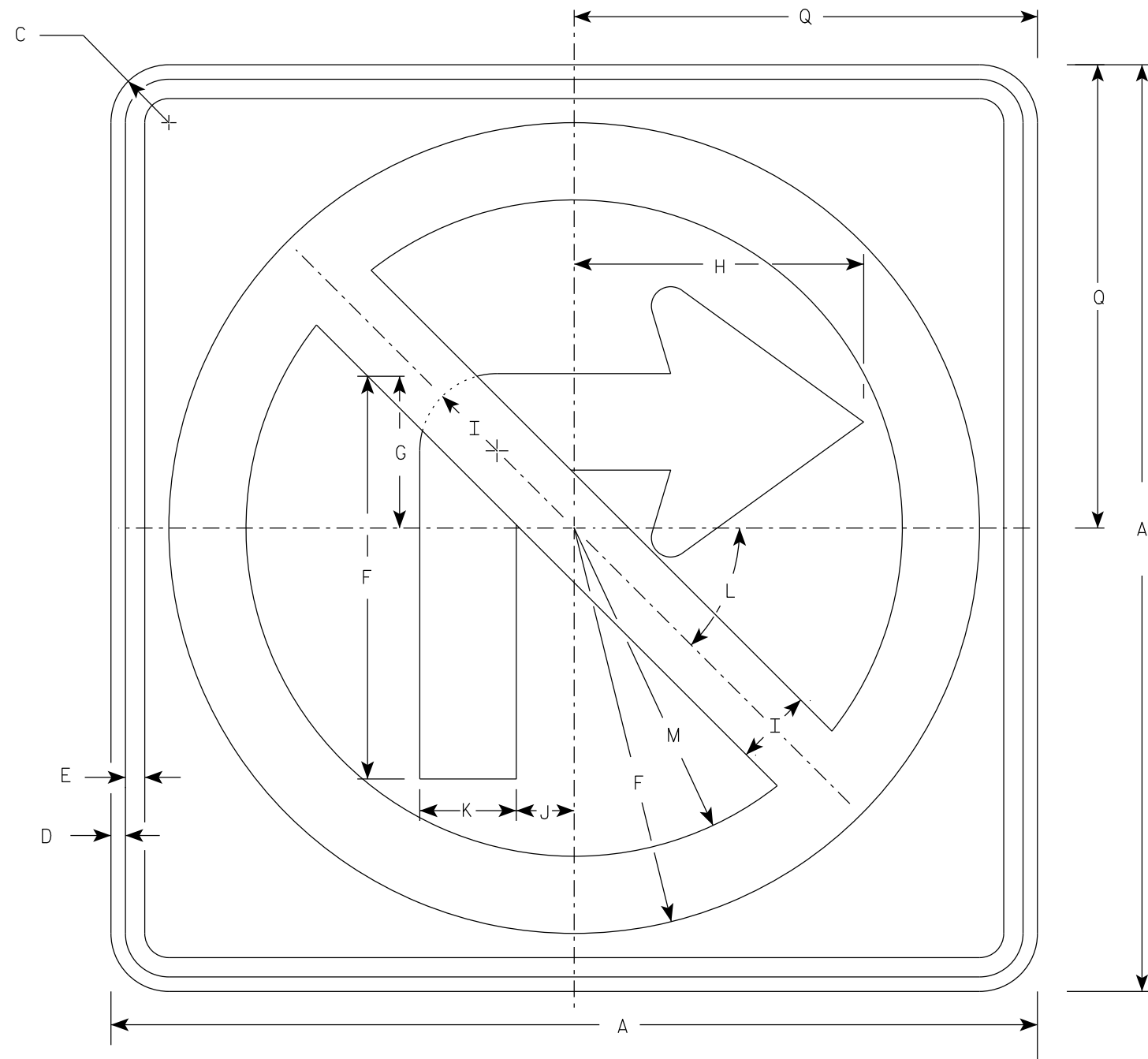
STANDARD SIGN
M6 - 1 & M6 - 2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-1.16

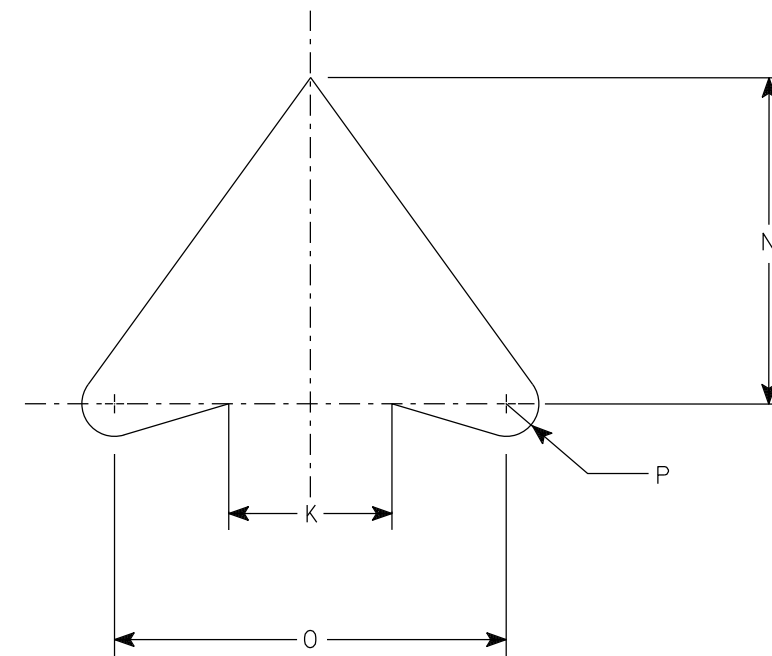
7



R3-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - See note 3
3. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.

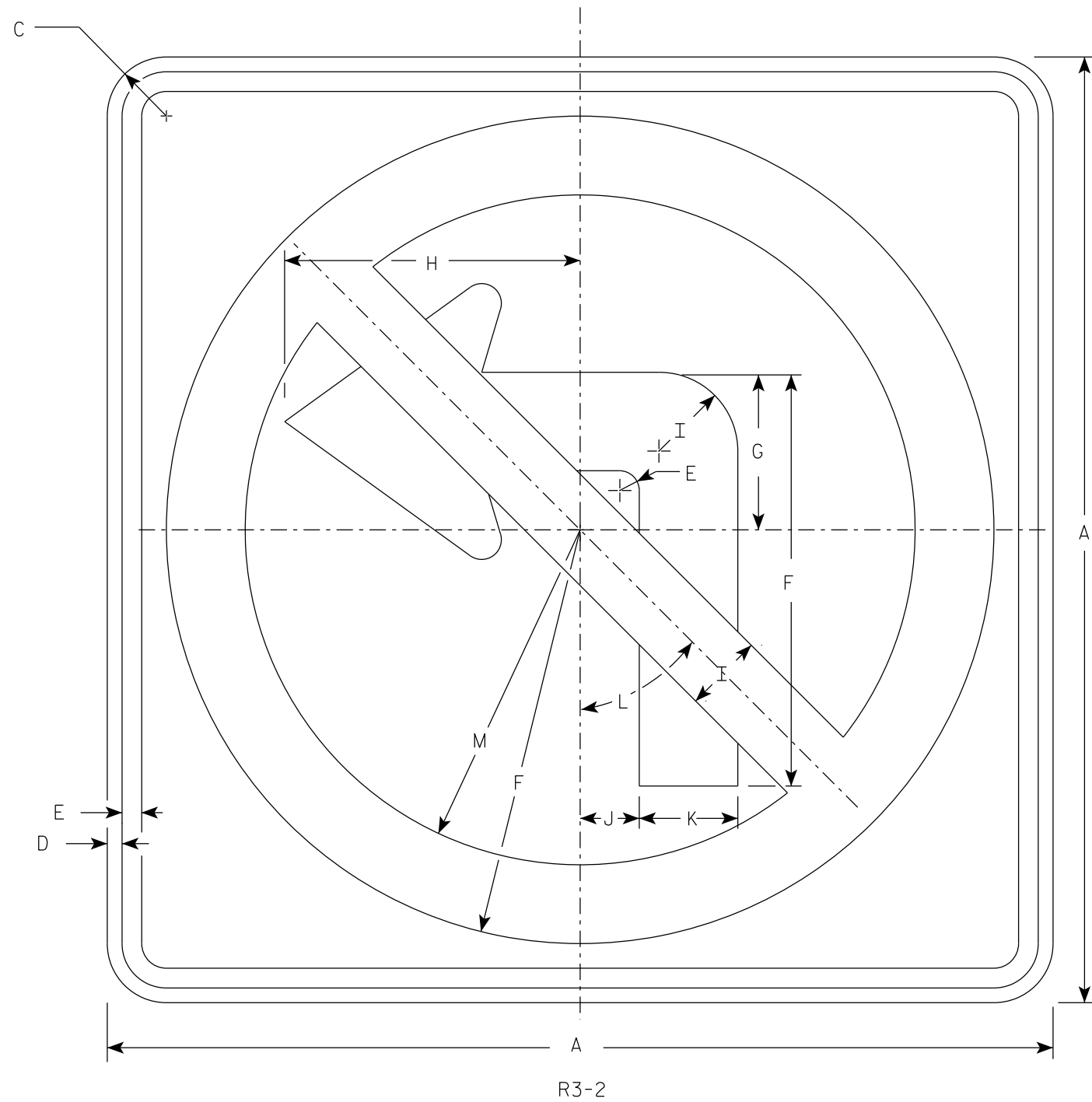


ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/2	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45	8 1/2	5	6	1/2	12										4.0
2S	24		1 1/2	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2	12										4.0
2M	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
3	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
4	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

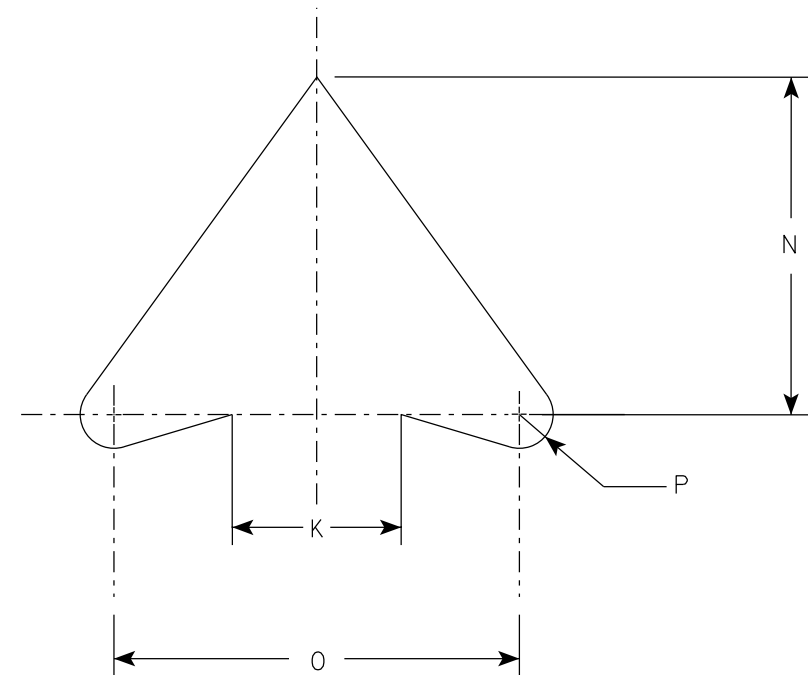
PROJECT NO:	HWY:	COUNTY:	SHEET NO: 80												E
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7



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - See note 3
3. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/2	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/2	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 81

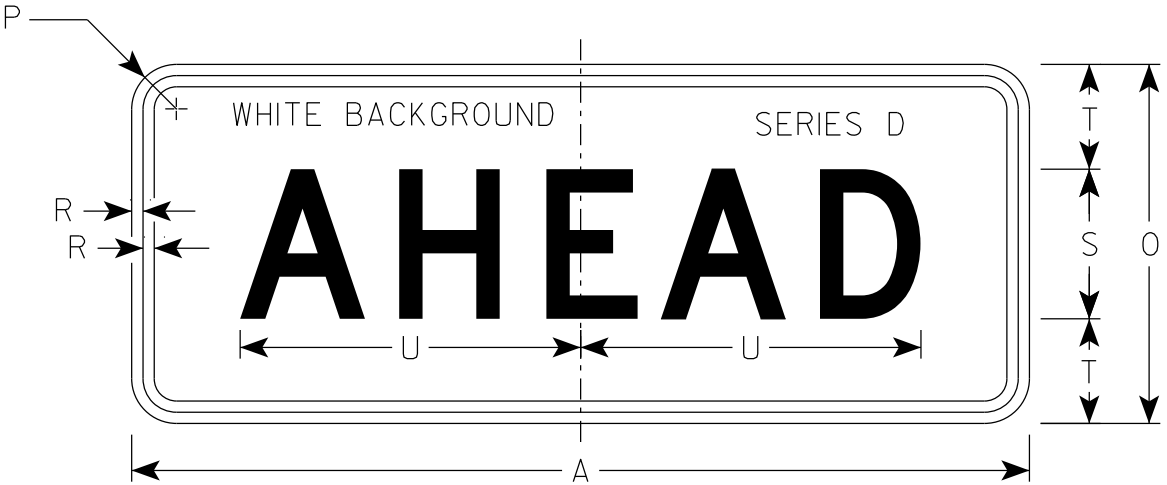
E



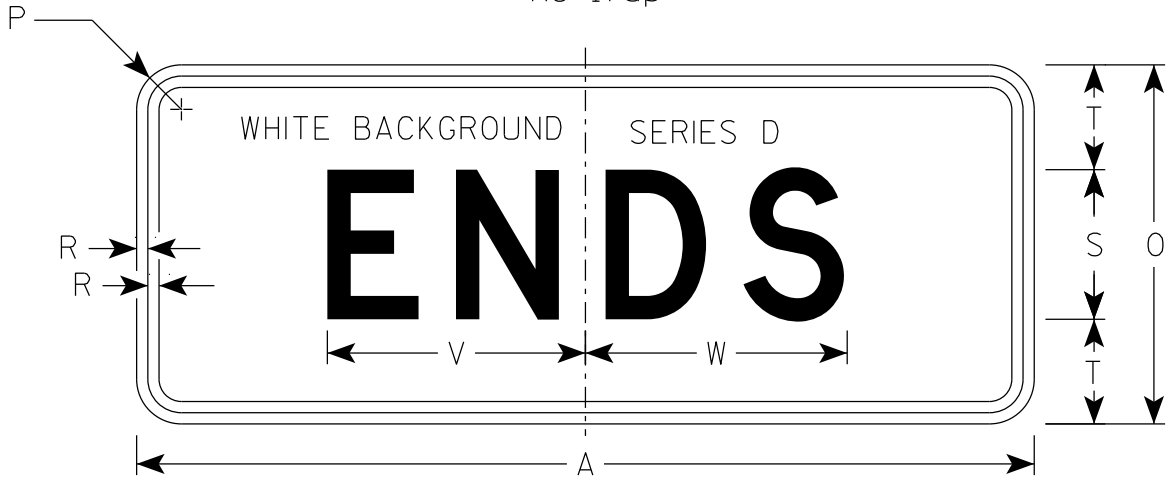
R3-17

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - AS SHOWN
Message - BLACK
- 3. Message Series - C or as noted



R3-17ap



R3-17bp

																												R3-17	R3-17ap	R3-17bp
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.	Area sq. ft.	Area sq. ft.	
1																														
2S	30	24	1 1/2	3/8	1/2	2	4	4 1/8	7 7/8	6 3/8	9 1/2	2 5/8	7/8	13	12	1 1/2	3 3/8	3/8	5	3 1/2	11 3/8	8 5/8	8 3/4	2 3/8	15 5/8	8	5.0	2.5	2.5	
2M	30	24	1 1/2	3/8	1/2	2	4	4 1/8	7 7/8	6 3/8	9 1/2	2 5/8	7/8	13	12	1 1/2	3 3/8	3/8	5	3 1/2	11 3/8	8 5/8	8 3/4	2 3/8	15 5/8	8	5.0	2.5	2.5	
3																														
4																														
5																														

STANDARD SIGN

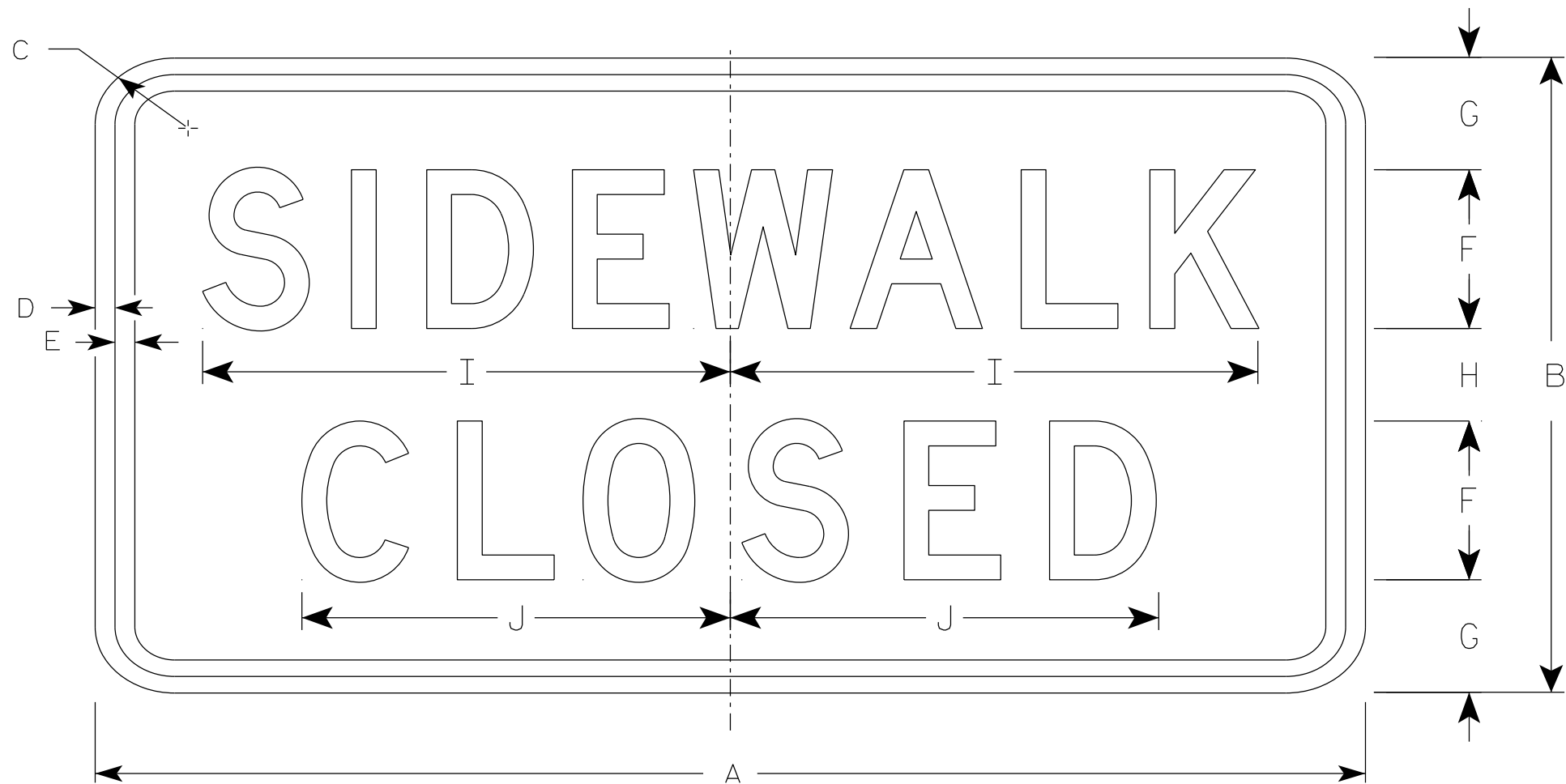
R3-17 & R3-17a&bp

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/23/23 PLATE NO. R3-17.3

7



R9-9

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - C
- 4. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

7

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

PROJECT NO:

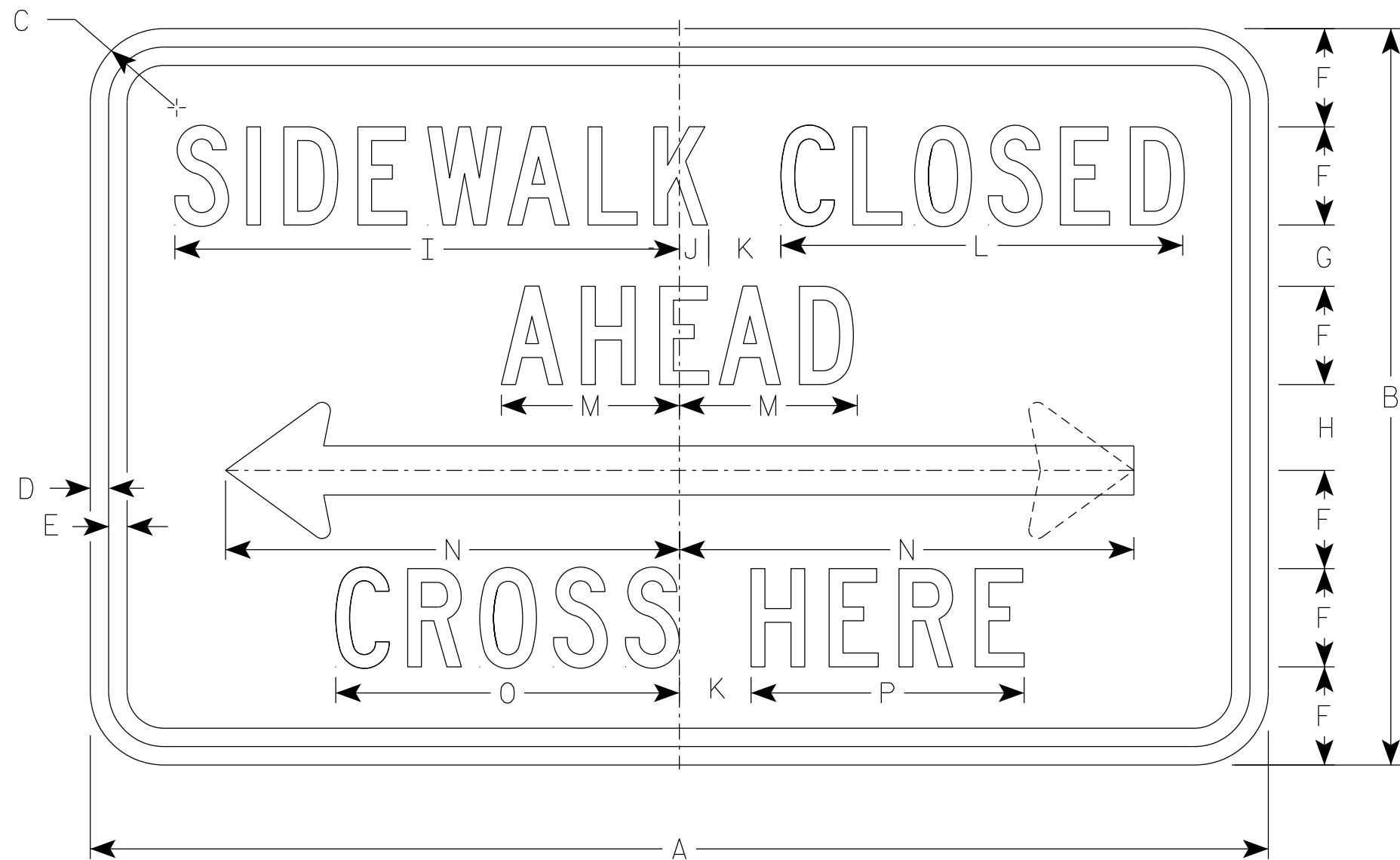
HWY:

COUNTY:

SHEET NO: 83

E

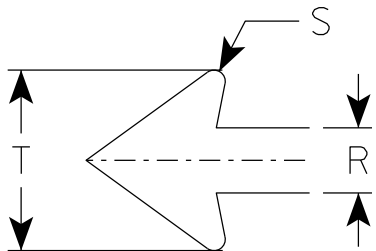
7



R9-11

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - C except Size 1 is Series D
- 4. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.
- 5. R9-11 D (double arrow)
R9-11 L (left arrow)
R9-11 R (right arrow)



7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/2	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
2M	24	12	1 1/2	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
3	30	15	1 1/2	3/8	1/2	2	1 1/2	1 1/2	13	3/4	2	10 1/4	4 5/8	12 3/8	8 7/8	6 7/8		1 1/4	1/4	3 5/8							3.125
4																											
5																											

PROJECT NO:

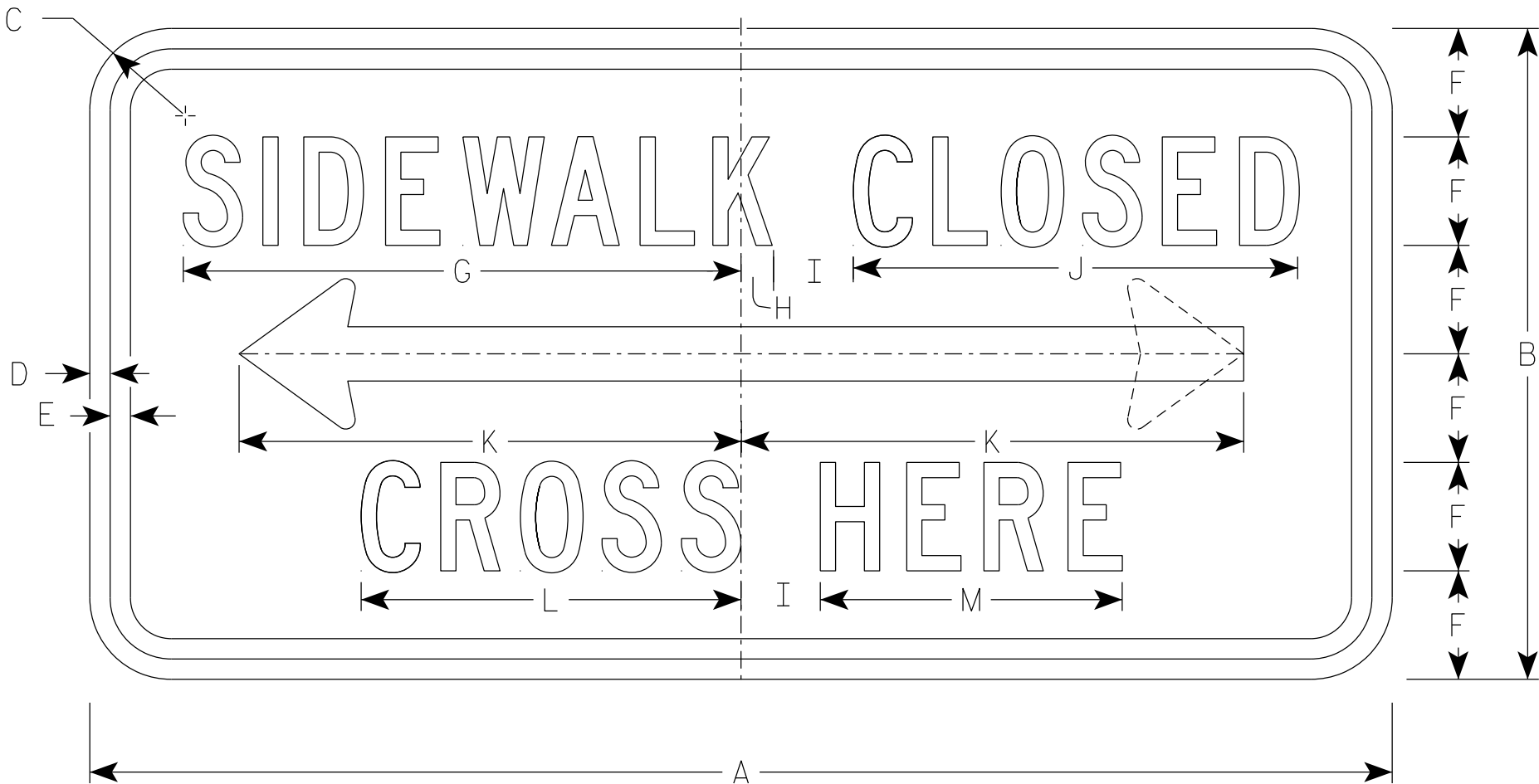
HWY:

COUNTY:

SHEET NO: 84

E

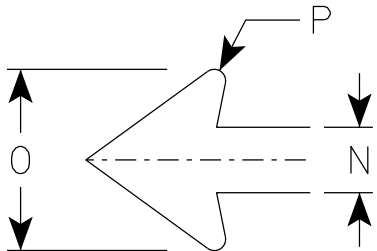
7



R9-11A

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - C
- 4. Use Size 2 for Sidewalks. Use Size 3 for paths and Trails.
- 5. R9-11AD (double arrow)
R9-11AL (left arrow)
R9-11AR (right arrow)



ARROW DETAIL

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/2	3/8	3/8	2	10 1/4	5/8	1 1/2	8 1/4	9 1/4	7	5 5/8	1	2 3/4	1/8											2.0
2M	24	12	1 1/2	3/8	3/8	2	10 1/4	5/8	1 1/2	8 1/4	9 1/4	7	5 5/8	1	2 3/4	1/8											2.0
3	30	15	1 1/2	3/8	1/2	2 1/2	12 3/4	1/2	2	10 1/4	12 3/8	8 5/8	6 3/4	1 1/4	3 5/8	1/4											3.125
4																											
5																											

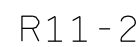
PROJECT NO:

HWY:

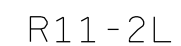
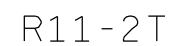
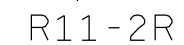
COUNTY:

SHEET NO: 85

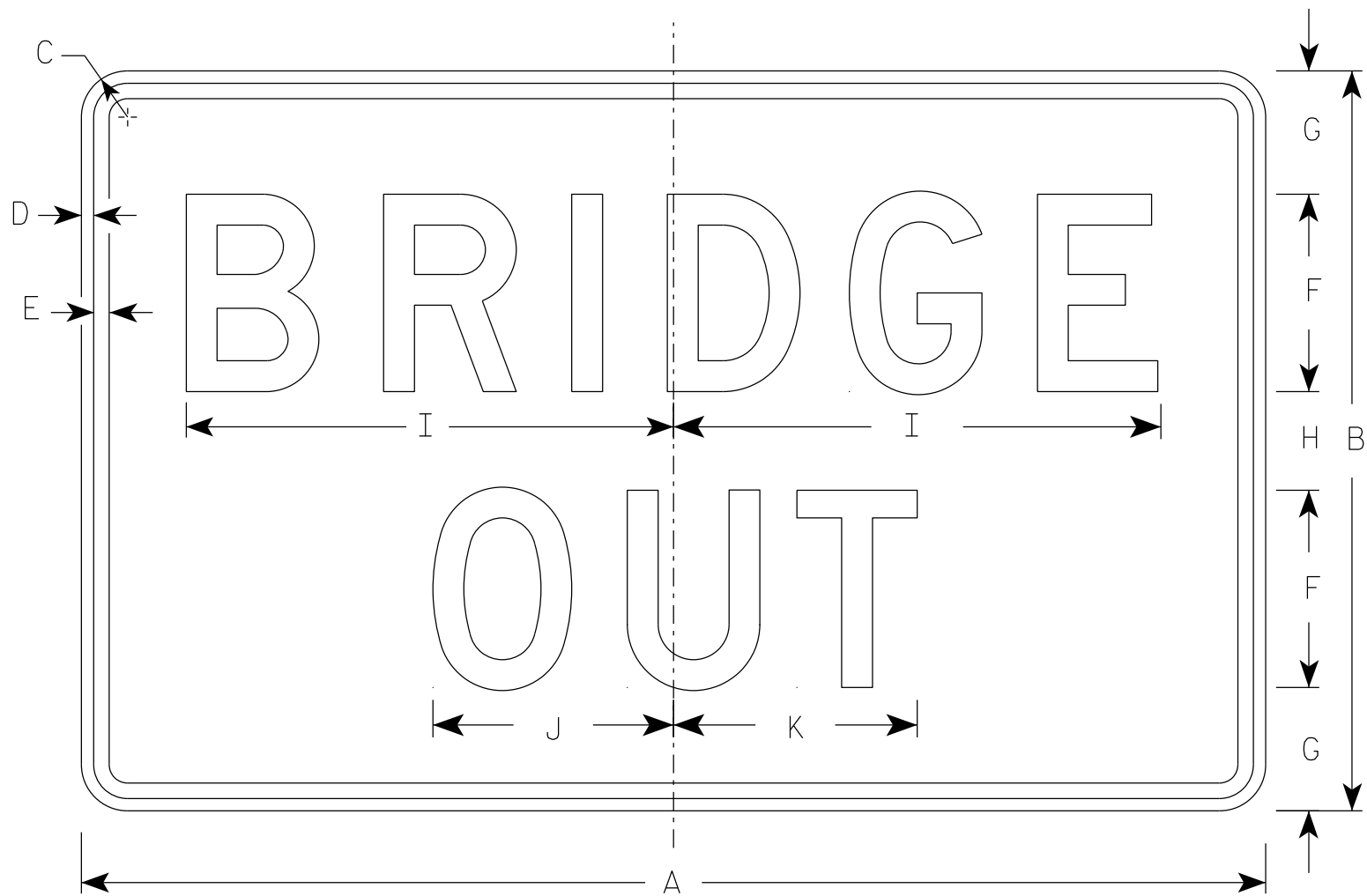
E



1. Sign is Type II - Type H Reflective
2. Color:
 - Background - White
 - Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



STANDARD SIGN	
R11-2	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<u>Matthew R. Rauch</u> for State Traffic Engineer
DATE <u>2/5/24</u>	PLATE NO. <u>R11-2.12</u>



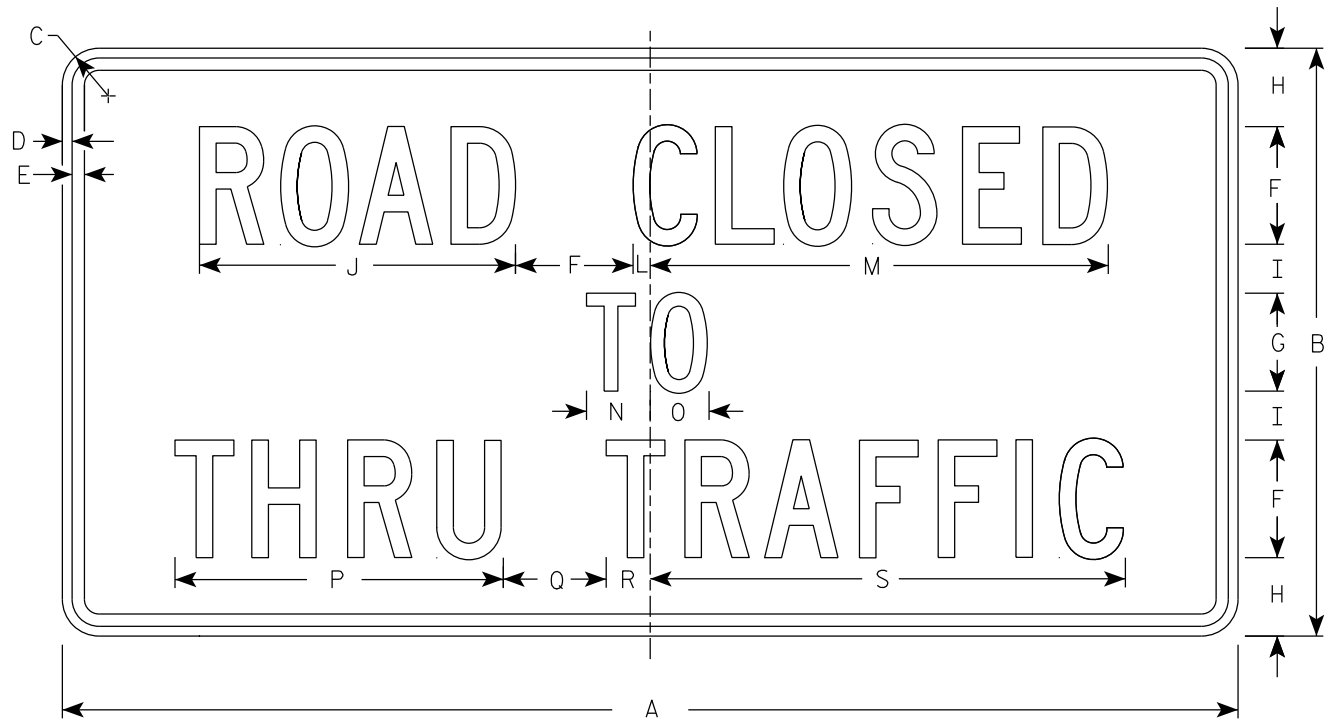
R11-2B

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

7



R11-4

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

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

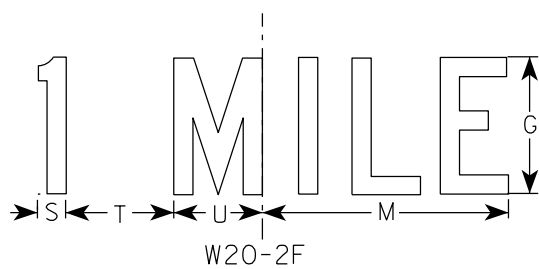
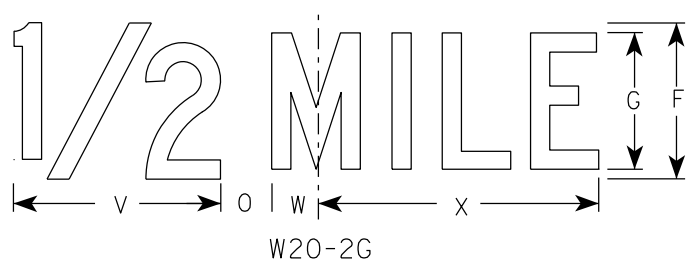
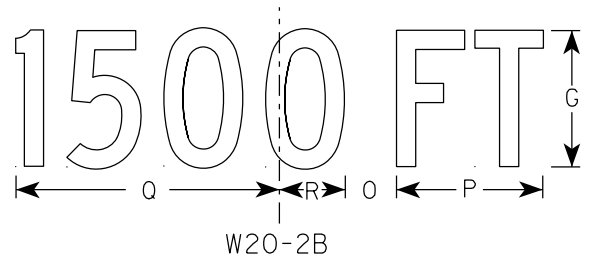
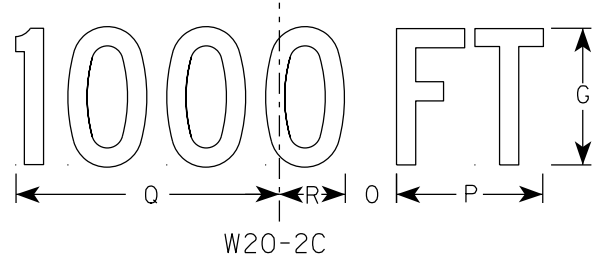
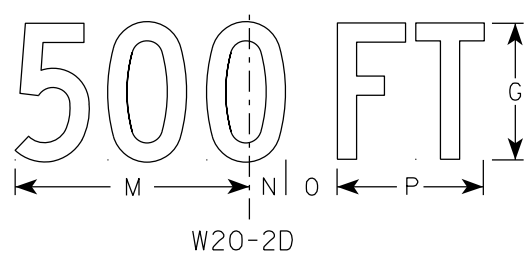
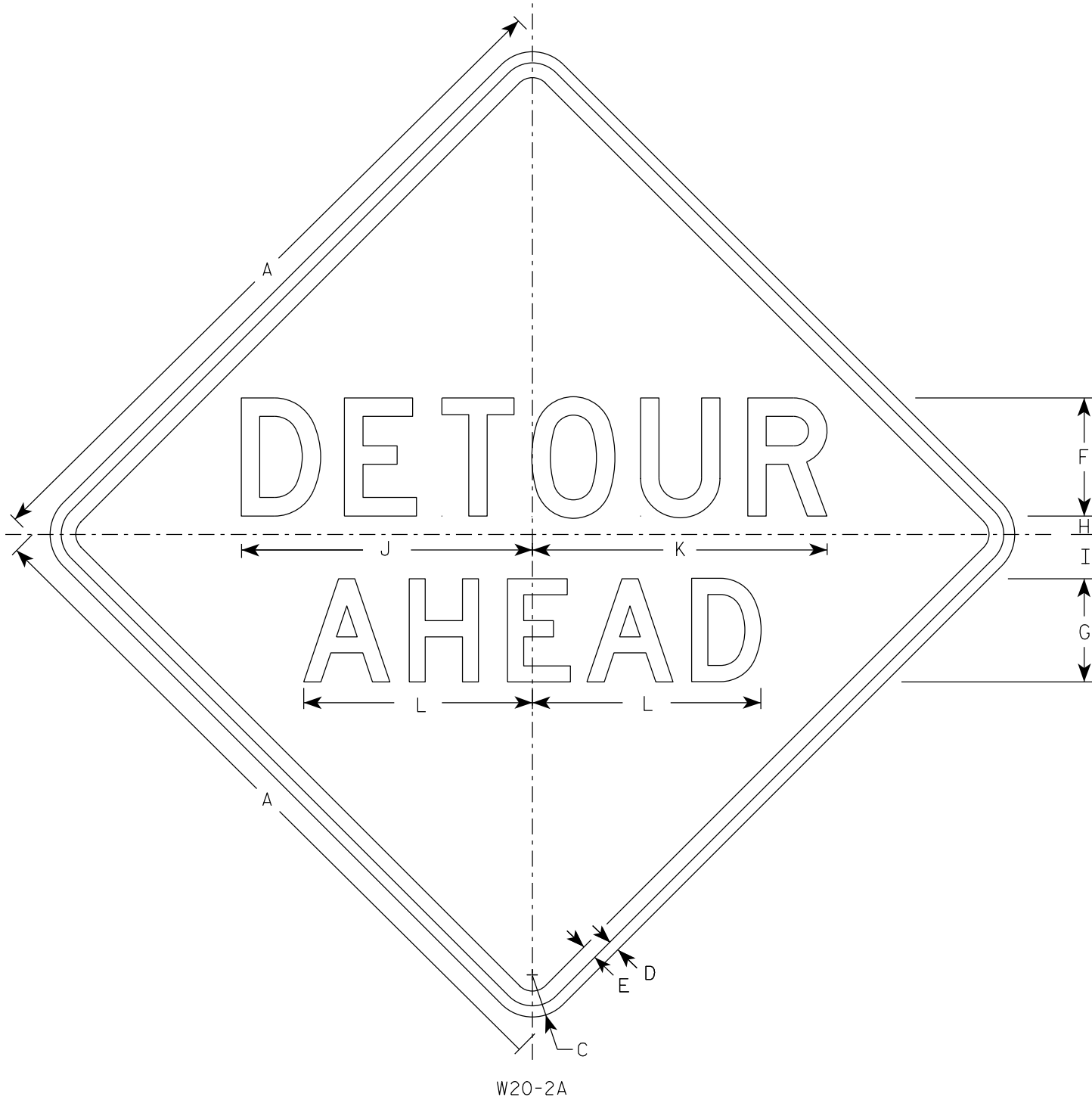
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 88

E



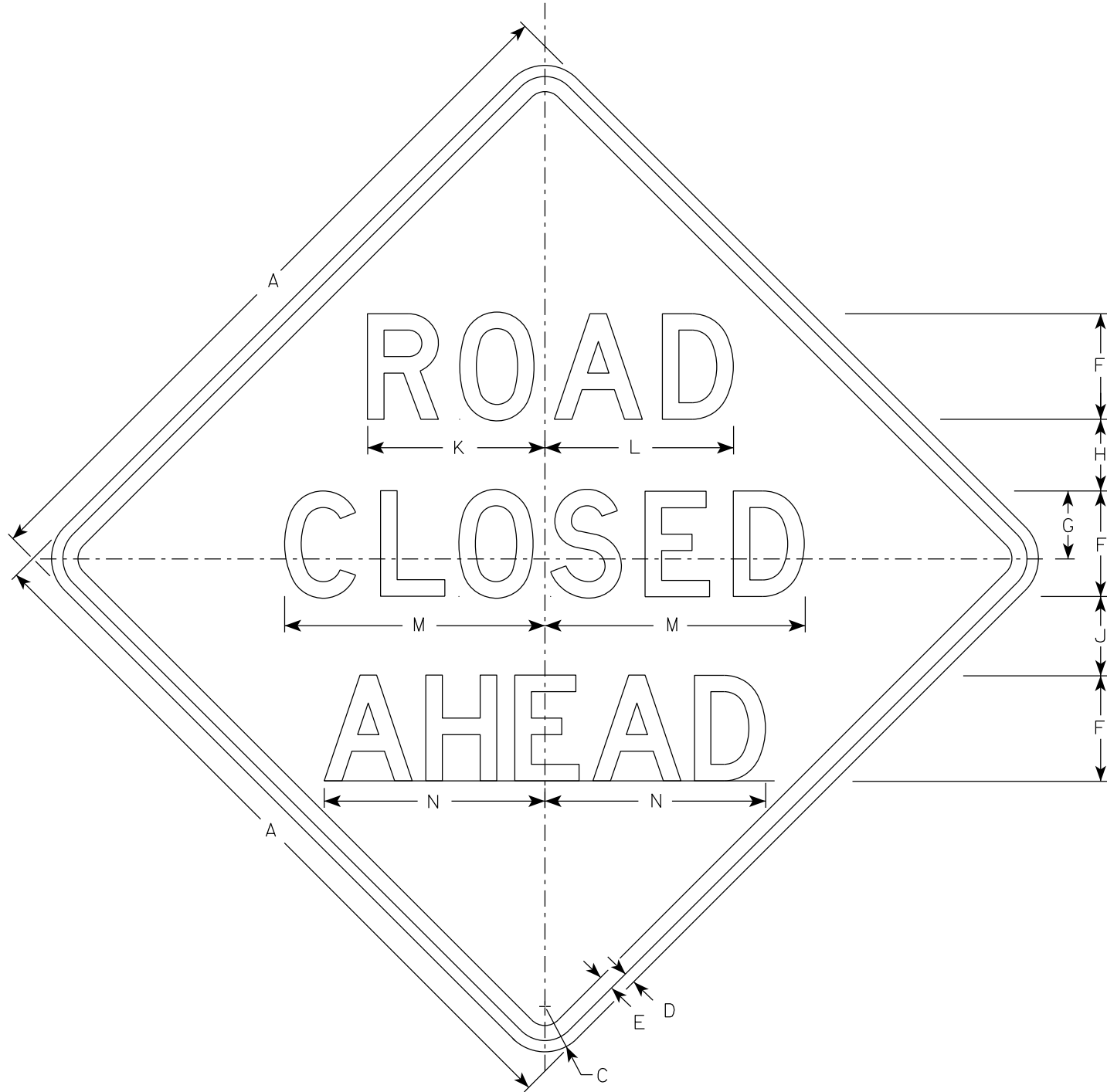
NOTES

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

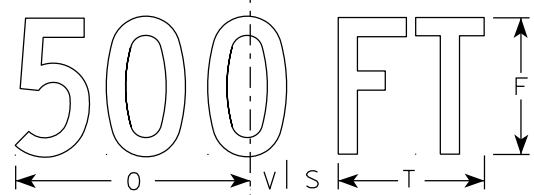
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	w	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8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

STANDARD SIGN	
W20-2A,B,C,D,F & G	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 1/10/2024	PLATE NO. W20-2.7

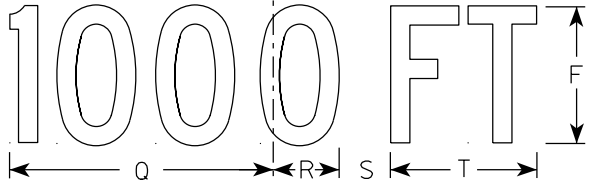
7



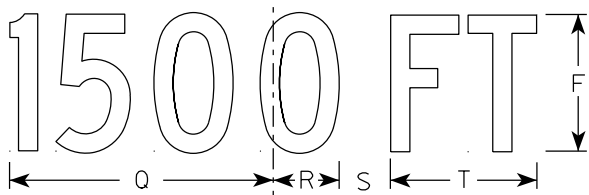
W20-3A



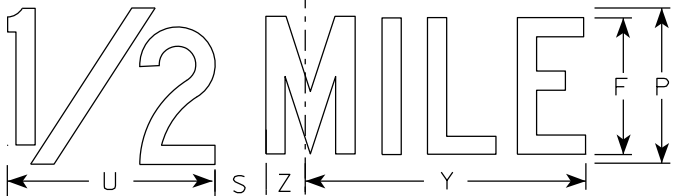
W20-3D



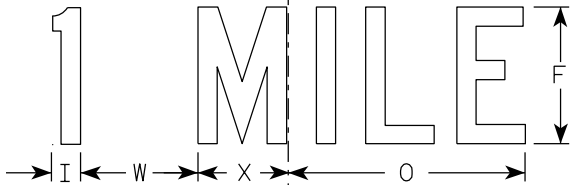
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

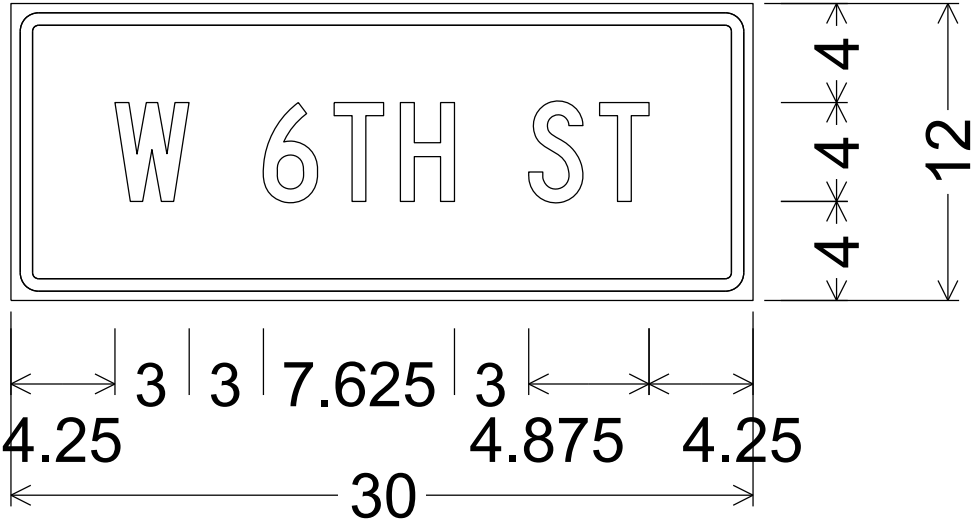
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-3.8

NOTES

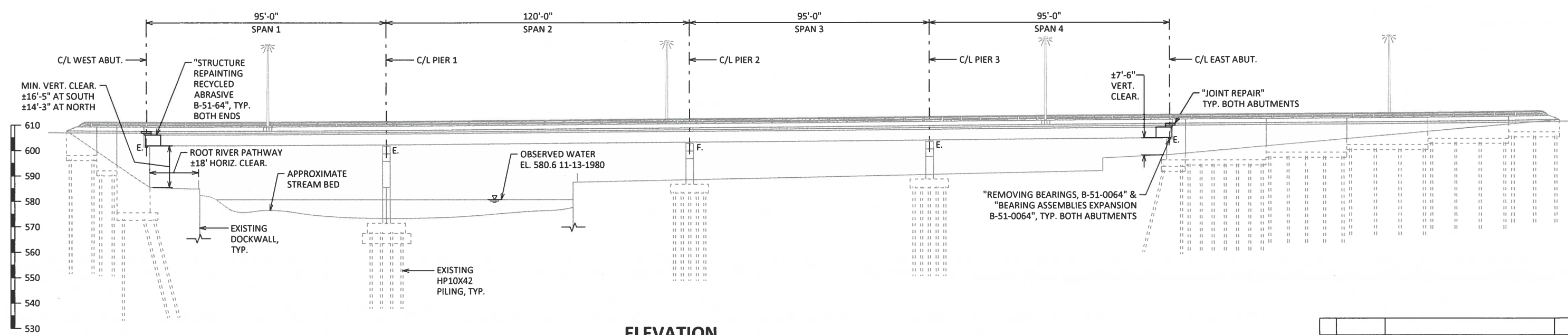
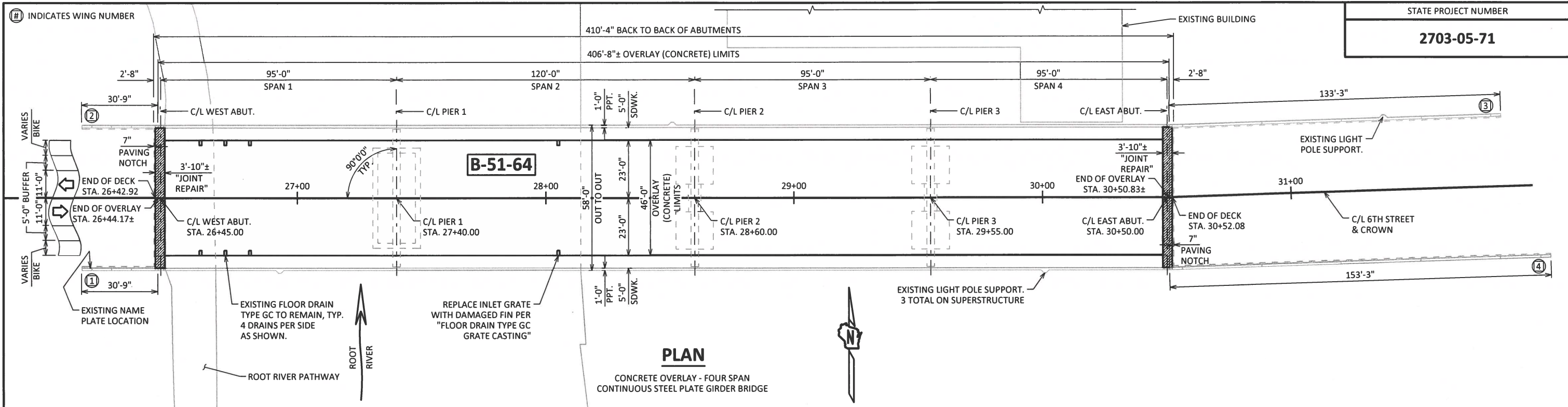
- 1. Fixed Message Sign Type II - Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - C



1.125" Radius, 0.500" Border, 0.375" Indent

7

7



ELEVATION

LOOKING NORTH

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS= 20
INVENTORY RATING: HS = 22
OPERATING RATING: HS = 36
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 240 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY: $f_c = 4,000$ PSI
OVERLAY DECKS: $f_c = 3,500$ PSI
ALL OTHER: $f_c = 3,500$ PSI

BAR STEEL REINFORCEMENT GRADE 60: $f_y = 60,000$ PSI

SCOPE OF WORK: B-51-64

1. JOINT REPAIR
2. CONCRETE OVERLAY
3. REPLACE ABUTMENT BEARINGS
4. PAINT GIRDER ENDS
5. CONCRETE SURFACE REPAIR

TRAFFIC DATA

FEATURE ON: 6TH STREET

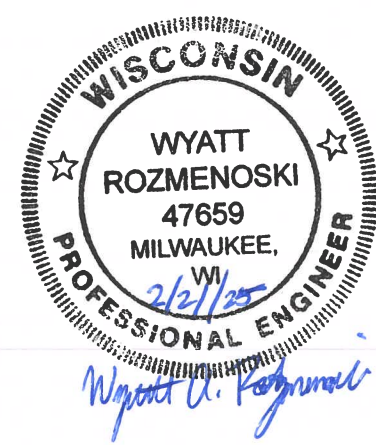
ADT = 5,000 (2025)
5,500 (2045)
R.D.S. = 30 MPH

LIST OF DRAWINGS:

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION & QUANTITIES
3. BEARING DETAILS
4. JOINT DETAILS
5. STRIP SEAL EXPANSION JOINT DETAILS
6. STRIP SEAL COVER PLATE & DRAIN GRATE
7. INFRARED DECK SCAN

STRUCTURE DESIGN CONTACTS:

CONSULTANT CONTACT: WYATT ROZMENOSKI (414) 266-9066
BOS CONTACT: AARON BONK (608) 261-0261



NO.	DATE	REVISION	BY
GRÄEF 275 W. Wisconsin Avenue Suite 300 Milwaukee, WI 53203 414/259-1500 414/259-0037 fax www.graef-usa.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	SDR 02/24/25		DATE
STRUCTURE B-51-64			
6TH STREET OVER ROOT RIVER			
COUNTY	RACINE	CITY	RACINE
DESIGN SPEC. N/A REHABILITATION			
DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
CWG	CK'D	WAR	WAR
GENERAL PLAN & ELEVATION			SHEET 92

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

STRUCTURE STATION BASED ON ORIGINAL STRUCTURE PLANS. STRUCTURE PLAN STATIONING MAY VARY FROM ROADWAY PLAN STATIONING.

DURING CONSTRUCTION, BRIDGE WILL BE CLOSED TO TRAFFIC AND PEDESTRIANS.

THE EXISTING STRUCTURE, B-51-64, IS A 4-SPAN STEEL DECK GIRDER BRIDGE WITH AN OVERALL WIDTH OF 58'-0" AND AN OVERALL LENGTH OF 410'-4" (BACK-TO-BACK OF ABUTMENTS). THE ENTIRE DECK SURFACE IS TO BE PREPARED FOR A NEW CONCRETE OVERLAY.

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

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾-INCH UNLESS OTHERWISE NOTED.

SEAL OVERLAY CONSTRUCTION JOINTS ACCORDING TO SECTION 502.3.13.1 OF THE STANDARD SPECIFICATIONS. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

CLEAN AND FILL EXISTING LONGITUDINAL AND TRANSVERSE CRACKS WITH PENETRATING EPOXY AS DIRECTED BY THE FIELD ENGINEER.

THE AVERAGE OVERLAY THICKNESS IS BASED ON THE MINIMUM OVERLAY THICKNESS PLUS ½ -INCH TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT, UNLESS SPECIFIED OTHERWISE.

CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON PLANS ARE APPROXIMATE.

AT "CURB REPAIR" REMOVE CONCRETE TO SOUND CONCRETE OR AT LEAST 1-INCH BEHIND EXISTING REINFORCING STEEL.

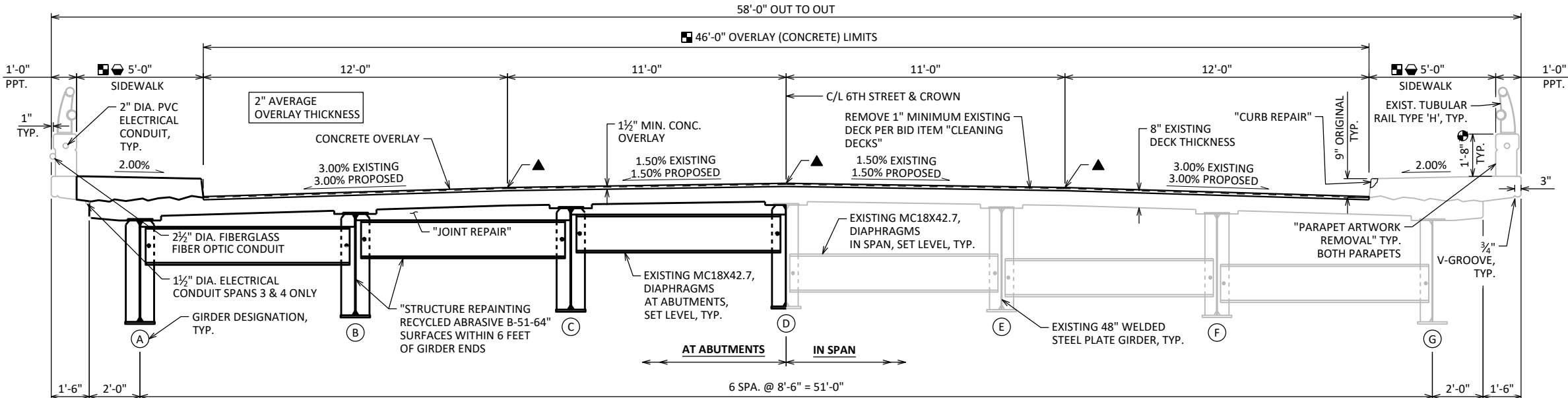
ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIRS AT THE ABUTMENTS IS TO BE INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½ -INCH PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2 -INCH. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½-INCH, CONTACT THE STRUCTURES DESIGN SECTION.

VARY OVERLAY THICKNESS AROUND EXISTING DECK DRAINS TO MAINTAIN POSITIVE DRAINAGE. SLOPE OF OVERLAY AROUND DECK DRAINS NOT TO EXCEED 7%.

MATERIAL WASTE RESULTING FROM DRILLING, CHIPPING, GRINDING, CONCRETE REMOVAL AND OTHER OPERATIONS SHALL BE COLLECTED. WASTE SHALL NOT BE ALLOWED TO FALL, DRIP OR BLOW INTO THE WATERWAY, WETLANDS, OR STREAMBANK. METHODS OF WASTE COLLECTION SHALL BE INCLUDED IN THE EROSION CONTROL IMPLEMENTATION PLAN SUBMITTED TO THE ENGINEER.

ALL STRUCTURAL STEEL WITHIN 6 FEET OF THE GIRDER ENDS ARE TO BE CLEANED AND PAINTED PER BID ITEM "STRUCTURE REPAINTING RECYCLED ABRASIVE B-51-0064". THE SURFACES INCLUDE DIAPHRAGMS, STIFFENERS, AND CONNECTIONS. THE COLOR OF THE FINISH EPOXY TOP COAT SHALL BE BROWN (AMS STANDARD COLOR NO. 20059) OR SIMILAR COLOR APPROVED BY THE ENGINEER. APPROXIMATELY 1,620 SF OF STRUCTURAL STEEL PAINTING.



CROSS SECTION

LOOKING EAST

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER	WEST ABUT.	PIER 1	PIER 2	PIER 3	EAST ABUT.	TOTALS
203.0335	DEBRIS CONTAINMENT OVER WATERWAY B-51-0064	EACH	--	--	--	--	--	--	1
502.3101	EXPANSION DEVICE	LF	112	--	--	--	--	--	112
502.3200	PROTECTIVE SURFACE TREATMENT	SY	2,096	3	--	--	--	3	2,102
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	151	23	--	--	--	107	281
502.3215	PROTECTIVE SURFACE TREATMENT RESEAL	SY	514	--	--	--	--	--	514
502.4110	ADHESIVE ANCHORS 1 1/4-INCH	EACH	--	14	--	--	--	14	28
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	--	59	--	--	--	59	118
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	700	460	--	--	--	460	1,620
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,210	--	--	--	--	--	2,210
506.6000	BEARING ASSEMBLIES EXPANSION B-51-0064	EACH	14	--	--	--	--	--	14
506.7050.S.01	REMOVING BEARINGS, B-51-0064	EACH	14	--	--	--	--	--	14
509.0301	PREPARATION DECKS TYPE 1	SY	43	--	--	--	--	--	43
509.0302	PREPARATION DECKS TYPE 2	SY	29	--	--	--	--	--	29
509.0500	CLEANING DECKS	SY	2,052	--	--	--	--	--	2,052
509.1000	JOINT REPAIR	SY	35	7	--	--	--	7	49
509.1200	CURB REPAIR	LF	8	--	--	--	--	--	8
509.1500	CONCRETE SURFACE REPAIR	SF	--	2	5	--	--	4	11
509.2000	FULL-DEPTH DECK REPAIR	SY	1	--	--	--	--	--	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	136	3	--	--	--	3	142
517.0901.S.01	PREPARATION AND COATING OF TOP FLANGES B-51-0064	EACH	1	--	--	--	--	--	1
517.1801.S.01	STRUCTURE REPAINTING RECYCLED ABRASIVE B-51-0064	EACH	--	--	--	--	--	--	1
517.4501.S.01	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-51-0064	EACH	--	--	--	--	--	--	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	--	--	--	--	--	--	1
SPV.0060.01	FLOOR DRAIN TYPE GC GRATE CASTING	EACH	1	--	--	--	--	--	1
SPV.0165.01	REMOVING PARAPET ARTWORK	SF	1,356	103	--	--	--	478	1,936
SPV.0180.01	ABUTMENT SEAT CLEANING AND SEALING	SY	--	21	--	--	--	21	42
	NON-BID ITEMS								

BENCH MARKS

NO.	DESCRIPTION	ELEV.
BM01	RR SPIKE IN NE FACE OF PPOL# 94-04217 ON SOUTH SIDE OF W. 6TH ST. IN ROOT RIVER ENVIRONMENTAL EDUCATION COMMUNITY CENTER 1301 W. 6TH ST.	608.12
BM02	NW BOLT TOP FLANGE (TAG BOLT) OF FIRE HYD. @ NE CORNER W. 6TH ST. AND RACINE ST.	613.77

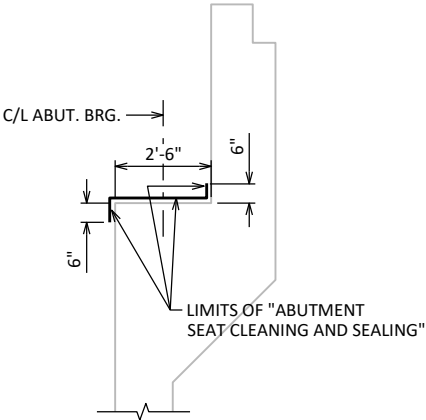
LEGEND

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO: THE ENTIRE TOP OF THE NEW CONCRETE OVERLAY, THE VERTICAL & HORIZONTAL FACES OF SIDEWALK WITHIN JOINT REPAIR AND TO THE VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES WITHIN JOINT REPAIR.

PROTECTIVE SURFACE TREATMENT RESEAL TOP BE APPLIED TO VERTICAL AND HORIZONTAL FACE OF SIDEWALK. SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "PROTECTIVE SURFACE TREATMENT RESEAL".

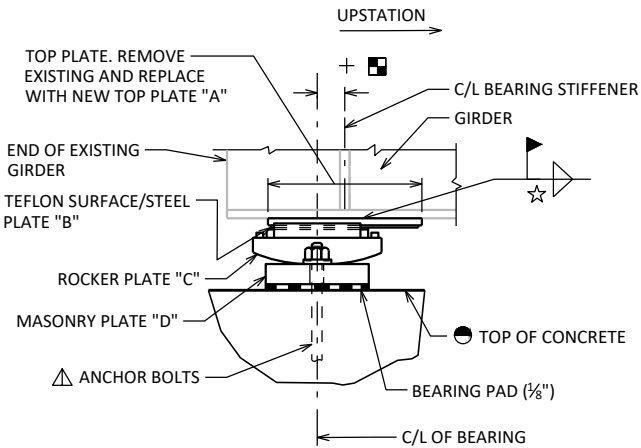
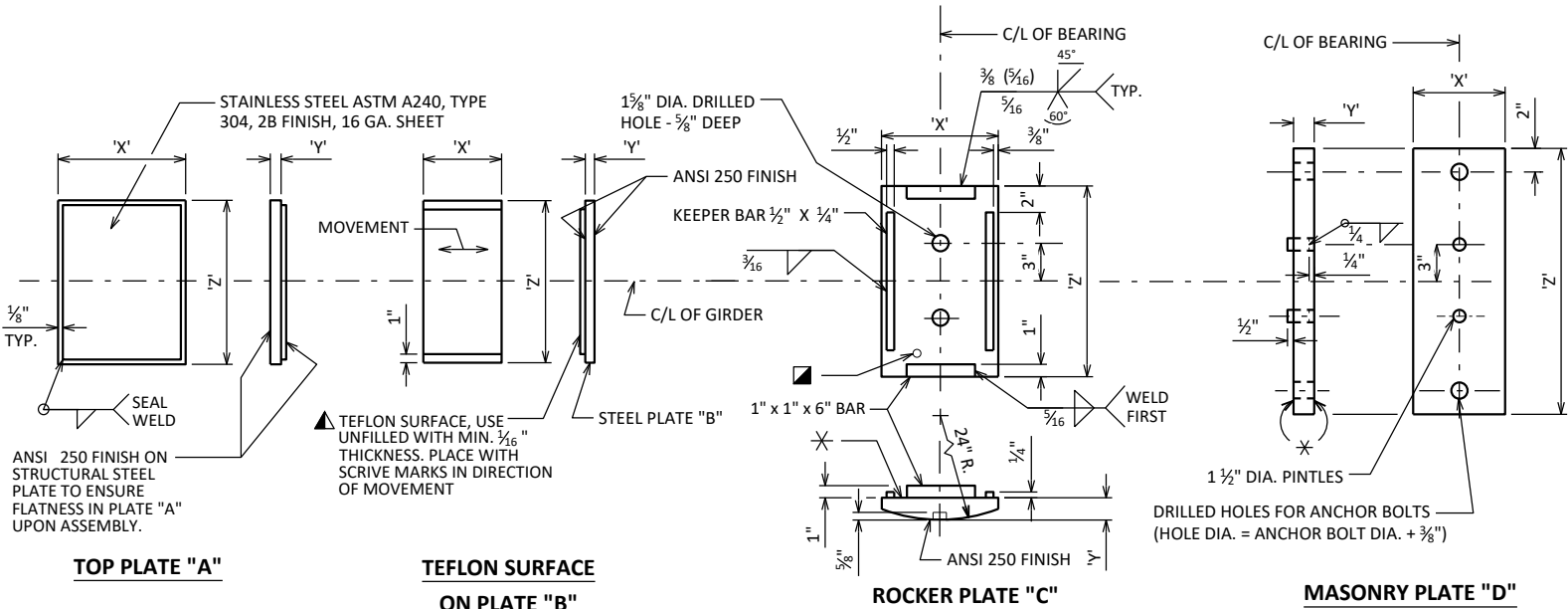
PIGMENTED SURFACE SEALER RESEAL TO BE APPLIED TO THE FRONT FACE OF PARAPETS, INCLUDING PARAPETS ON ABUTMENTS WINGS. SURFACES SHALL BE RESEALED AFTER COMPLETION OF "REMOVING PARAPET ARTWORK". SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "PIGMENTED SURFACE SEALER RESEAL".

OPTIONAL LONGITUDINAL CONSTRUCTION JOINT IN CONCRETE OVERLAY



ABUTMENT SEAT
CLEANING AND SEALING

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-51-64	
	DRAWN BY	WAR	PLANS CK'D KGW
CROSS SECTION & QUANTITIES		SHEET 2 OF 7	
		93	



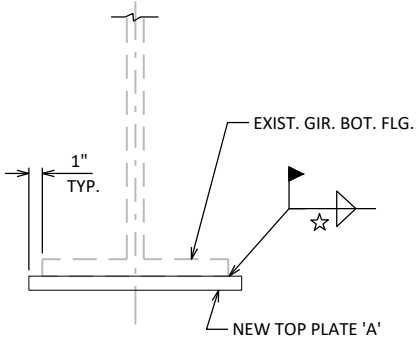
EXPANSION BEARING ASSEMBLY

WEST ABUTMENT SHOWN
EAST ABUTMENT SIMILAR

BEARING NOTES

- ALL BEARINGS ARE SYMMETRICAL ABOUT C/L OF GIRDER AND C/L OF BEARING.
- ALL MATERIAL IN TYPE "A-T" BEARINGS, INCLUDING SHIM PLATES AND BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION B-51-0064", EACH.
- ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.
- ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.
- ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.
- PROVIDE 1/8" THICK BEARING PAD THE SAME SIZE AS MASONRY PLATE "D" FOR EACH BEARING.
- CHAMFER TOP OF PINTLES 3/8". DRILL HOLES FOR ALL PINTLES IN MASONRY PLATE "D" FOR A DRIVING FIT.
- STEEL PINTLES SHALL CONFORM TO ASTM A449 OR ASTM A572 GRADE 50.
- PLACE SHIM PLATES BETWEEN BEARING PAD AND MASONRY PLATE "D". PLATES SHALL HAVE 'X' AND 'Z' DIMENSIONS THAT MATCH MASONRY PLATE "D". IN LIEU OF USING SHIM PLATES, FABRICATOR MAY INCREASE THICKNESS OF TOP PLATE "A" OR MASONRY PLATE "D" BY THE SHIM PLATE THICKNESS.
- ROCKER PLATE "C" AND MASONRY PLATE "D" SHALL BE GALVANIZED. TOP PLATE "A" AND STEEL PLATE "B" SHALL BE SHOP PAINTED. USE A WELDABLE PRIMER ON TOP PLATE "A". DO NOT PAINT STAINLESS STEEL OR TEFLON SURFACES.
- AT INSTALLATION, ENSURE STAINLESS STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TFE SLIDING FACE OF THE LOWER ELEMENT HAVE THE SURFACE FINISH SPECIFIED AND ARE CLEAN AND FREE OF ALL DUST, MOISTURE, AND OTHER FOREIGN MATTER.
- USE TEMPERATURE SETTING TABLE, RATHER THAN CENTERING BEARINGS BENEATH BEARING STIFFENERS FOR ALL TEMPERATURES.
- ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS + SHIM PLATE THICKNESS + 2 1/4", ABOVE TOP OF CONCRETE.
- ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM F1554 GRADE 55, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.
- ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS C.
- ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES, BUT EXCLUDING STAINLESS STEEL SHEET, TEFLON SURFACE, PINTLES, ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.
- CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

	PLATE "A"			PLATE "B"			PLATE "C"			PLATE "D"			ANCHOR BOLT SIZE	NO. OF BRG'S REQ'D.	LOCATION	HEIGHT FEET
	'X'	'Y'	'Z'	'X'	'Y'	'Z'	'X'	'Y'	'Z'	'X'	'Y'	'Z'				
EXPANSION BEARING	1'-1"	5/8"	1'-4"	7"	1/2"	1'-4"	9"	1 7/16"	1'-6 1/4"	8"	1 1/2"	2'-6"	1 3/4"	14	ABUTMENTS	0.360



BEARING REPLACEMENT DETAILS

BEARING OFFSET TABLE

ALL DIMENSIONS IN INCHES
AMBIENT TEMPERATURE DURING
BEARING INSTALLATION.

°F	WEST ABUT.	EAST ABUT.
30	0.3	-0.2
45	0	0
60	-0.3	0.2
75	-0.5	0.4
90	-0.8	0.7

TABLE OF FILLET WELD SIZES

MATERIAL THICKNESS OF THICKER PART JOINED.	MIN. SIZE OF FILLET WELD
TO 1/2" INCLUSIVE	3/16"
OVER 1/2" TO 3/4"	1/4"
OVER 3/4" TO 1 1/2"	5/16"
OVER 1 1/2"	3/8"

EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

MIN. PASS SIZE IS 5/16"

BEARING SHIM PLATE TABLE

GIRDER DESIGNATION	WEST ABUTMENT SHIM PLATE THICKNESS	EAST ABUTMENT SHIM PLATE THICKNESS
A	5/16"	5/16"
B	3/8"	5/8"
C	1/4"	7/16"
D	3/16"	5/16"
E	1/2"	3/8"
F	1/2"	1/2"
G	3/8"	3/8"

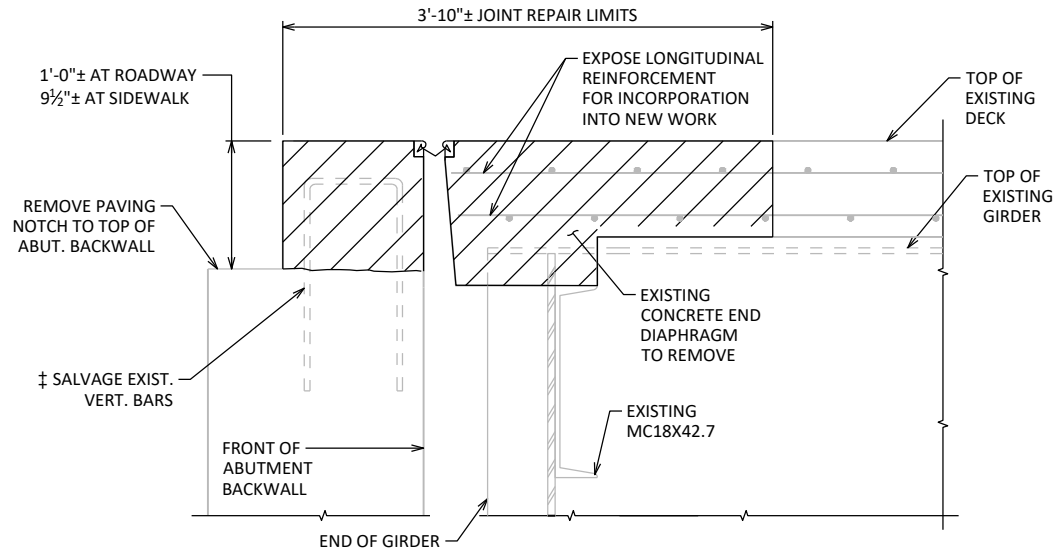
SHIM PLATE THICKNESS BASED ON AVERAGE BEARING HEIGHT FIELD MEASUREMENTS TAKEN AT EACH SIDE OF GIRDER.

LEGEND

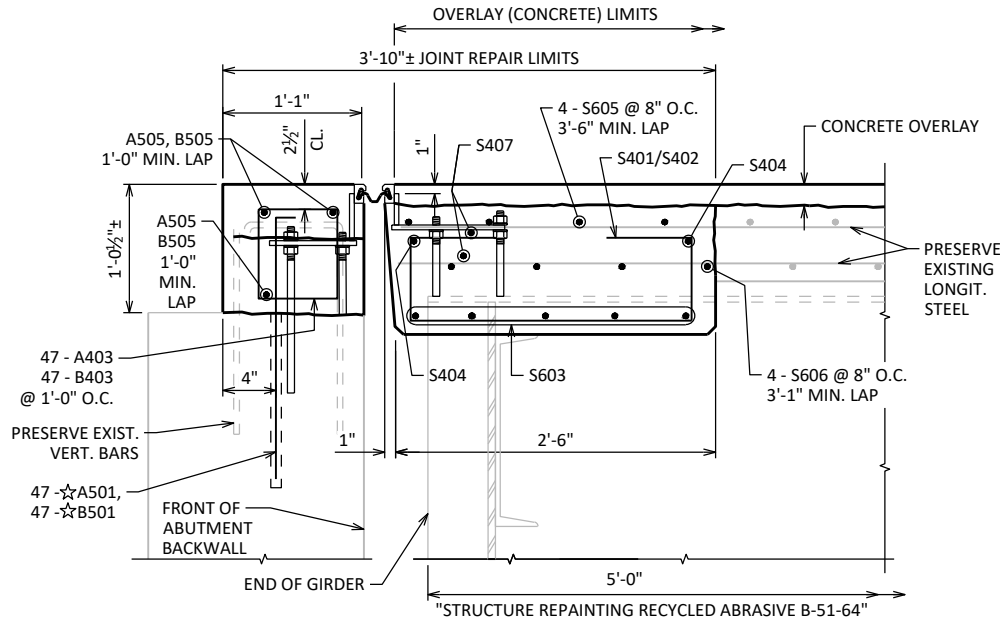
- PROVIDE A METHOD FOR HANDLING ROCKER PLATE "C" DURING GALVANIZING.
- BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING REQUIREMENTS FOUND IN THE STANDARD SPECIFICATION.
- FINISH THESE SURFACES TO ANSI 250 IF 'Y' DIMENSION IS GREATER THAN 2".
- REMOVE EXISTING EXPANSION BEARINGS & EXISTING ANCHOR BOLTS FLUSH WITH CONCRETE BEARING SURFACE & GRIND SMOOTH.
- ANCHOR BOLTS SHALL BE 1 1/4" DIAMETER X 1'-5" LONG ADHESIVE ANCHORS. ANCHOR BOLTS SHALL BE PAID FOR AS "ADHESIVE ANCHORS 1 1/4-INCH".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-51-64			
DRAWN BY		WAR	PLANS CK'D JSR
SHEET 3 OF 7		94	
BEARING DETAILS			

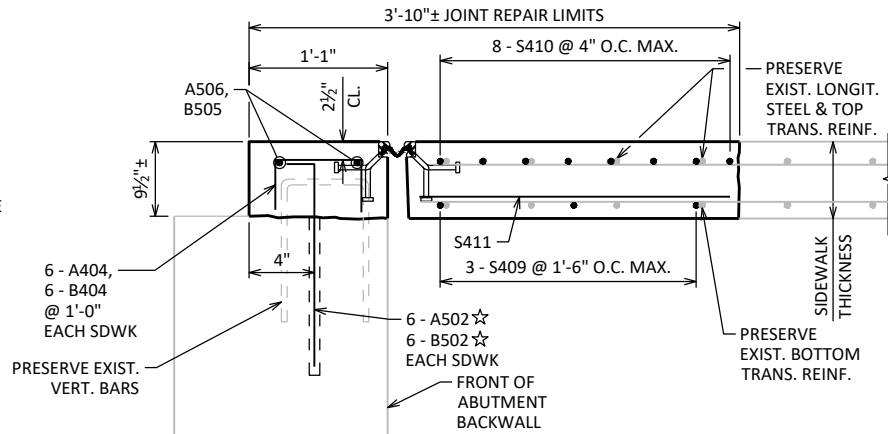
SCALE =



**JOINT REPAIR - TYPICAL REMOVAL
BETWEEN GIRDERS**

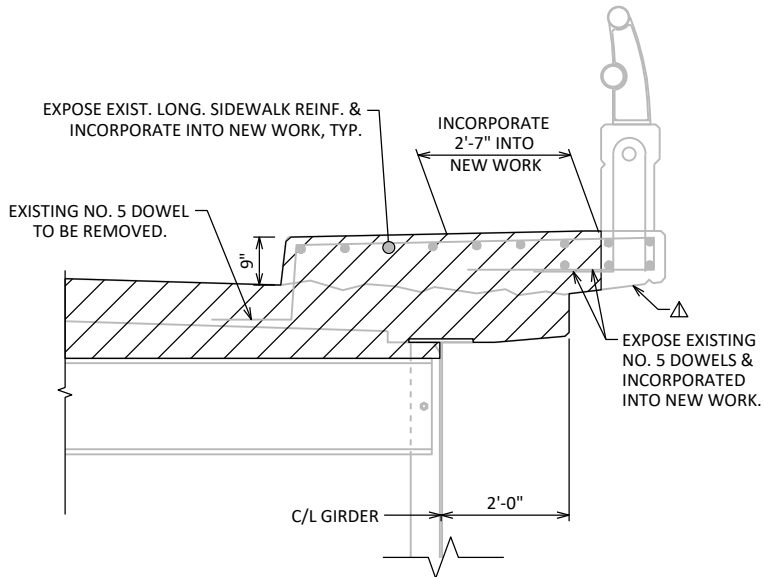


SECTION A-A



SECTION B-B

JOINT REPAIR RECONSTRUCTION AT SIDEWALK



JOINT REPAIR - SIDEWALK REMOVAL
TYPICAL DECK REINFORCEMENT NOT SHOWN FOR CLARITY

SUPERSTRUCTURE BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	60	4'-4"	X		DECK END DIAPHRAGM STIRRUP
S402	X	72	4'-9"	X		DECK END DIAPHRAGM STIRRUP
S603	X	60	7'-4"			DECK END DIAPH. BOTTOM
S404	X	24	7'-5"	X		DECK END DIAPH. TOP
S605	X	16	29'-3"			TRANS. TOP
S606		16	29'-0"			TRANS. BOTTOM
S407	X	24	8'-2"			EXP. JT TRANS.
S408	X	40	2'-10'	X		SIDEWALK DOWEL
S409	X	12	1'-6"			SIDEWALK BOTTOM TRANS.
S410	X	32	4'-8"			SIDEWALK TOP TRANS.
S411	X	8	2'-2"			SIDEWALK LONG. BOTTOM

WEST ABUTMENT BILL OF BARS

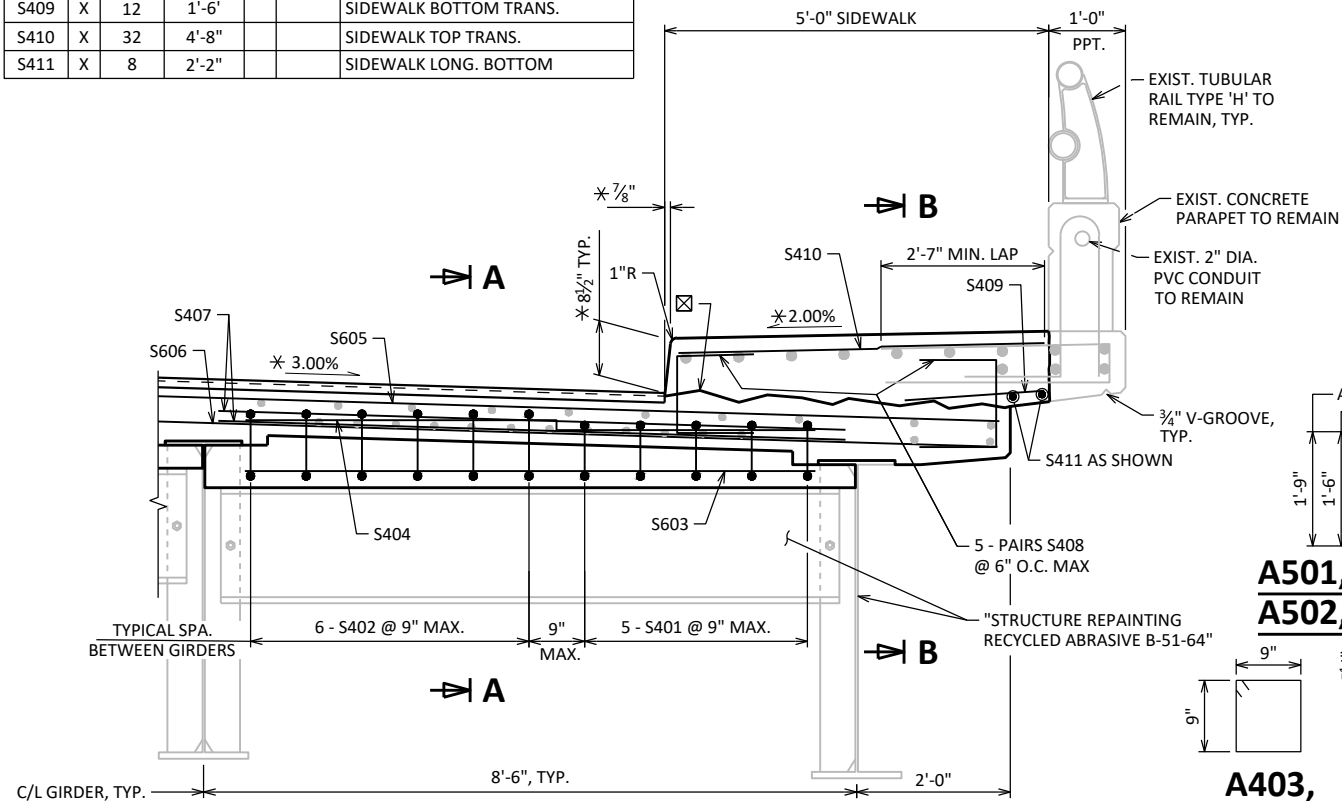
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501		47	2'-6"	X		PAVING BLOCK DOWEL - RDWY.
A502		12	2'-3"	X		PAVING BLOCK DOWEL - SDWK.
A403		47	3'-6"	X		PAVING BLOCK VERT. - RDWY.
A404		12	1'-6"	X		PAVING BLOCK VERT. - SDWK.
A505		21	7'-6"			PAVING BLOCK LONG. - RDWY.
A506		4	4'-8"			PAVING BLOCK LONG. - SDWK.

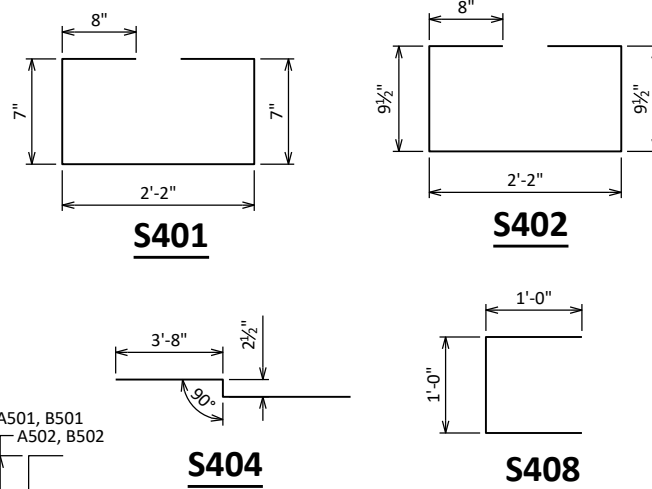
EAST ABUTMENT BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501		47	2'-6"	X		PAVING BLOCK DOWEL - RDWY.
B502		12	2'-3"	X		PAVING BLOCK DOWEL - SDWK.
B403		47	3'-6"	X		PAVING BLOCK VERT. - RDWY.
B404		12	1'-6"	X		PAVING BLOCK VERT. - SDWK.
B505		21	7'-6"			PAVING BLOCK LONG. - RDWY.
B506		4	4'-8"			PAVING BLOCK LONG. - SDWK.



PART TRANSVERSE SECTION THRU JOINT REPAIR



LEGEND

- ☒ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. FOR DECK POUR, MATCH BRIDGE X-SLOPE.
- ‡ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL.
- ⚠ SUPPORT OF SIDEWALK OVERHANG AND BRIDGE RAIL DURING CONSTRUCTION SHALL BE INCLUDED IN THE UNIT BID PRICE "JOINT REPAIR".
- ☆ ADHESIVE ANCHORS NO. 5 BARS. EMBED 1'-0" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.
- * MATCH EXISTING GEOMETRY OF CURB/SIDEWALK BEYOND JOINT REPAIR.
- ☐ DENOTES CONCRETE REMOVAL

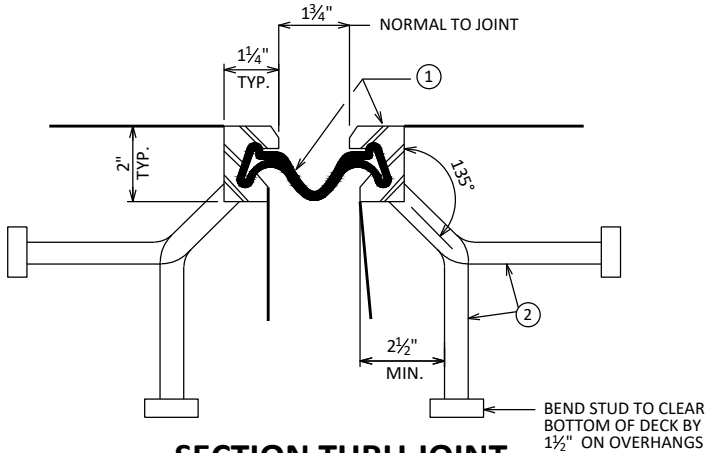
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-51-64			
DRAWN BY		WAR	PLANS CK'D CWG
JOINT DETAILS		SHEET 4 OF 7 95	

LEGEND

- ① NEOPRENE STRIP SEAL (4-INCH) AND STEEL EXTRUSIONS. JOINT OPENINGS GIVEN NORMAL TO JOINT.
- ② STUDS 5/8" DIA. X 6 3/8" LONG AT 6" ALTERNATE CENTERS, WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
- 2A 1/2" THICK ANCHOR PLATE WITH 5/8" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
- ③ 3/4" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
- ④ 3/4" DIA. THREADED ROD WITH NUT, TACK WELD NUT TO NO. 5.
- ⑤ FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE, SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.
- ⑥ NOT USED
- ⑦ 3/4" DIA. X 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 3/16" BELOW PLATE SURFACE.
- ⑧ 3/4" DIA. X 4" GALVANIZED HEX HEAD BOLT, BEND 45°.
- ⑨ 3/4" DIA. X 2 1/4" GALVANIZED THREADED COUPLING.
- ⑩ SIDEWALK COVER PLATE 3/8" X 2'-0" WIDE X LIMITS SHOWN. BEND DOWN FACE OF SIDEWALK WITH HOLES FOR NO. 7. GALVANIZED PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.
- ⑪ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.
- ☆ A501 B501 ADHESIVE ANCHORS. EMBED 1'-0" IN CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.
- ✱ POUR CONC. ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE.
- ‡ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE BARS INDICATED BY ☆.

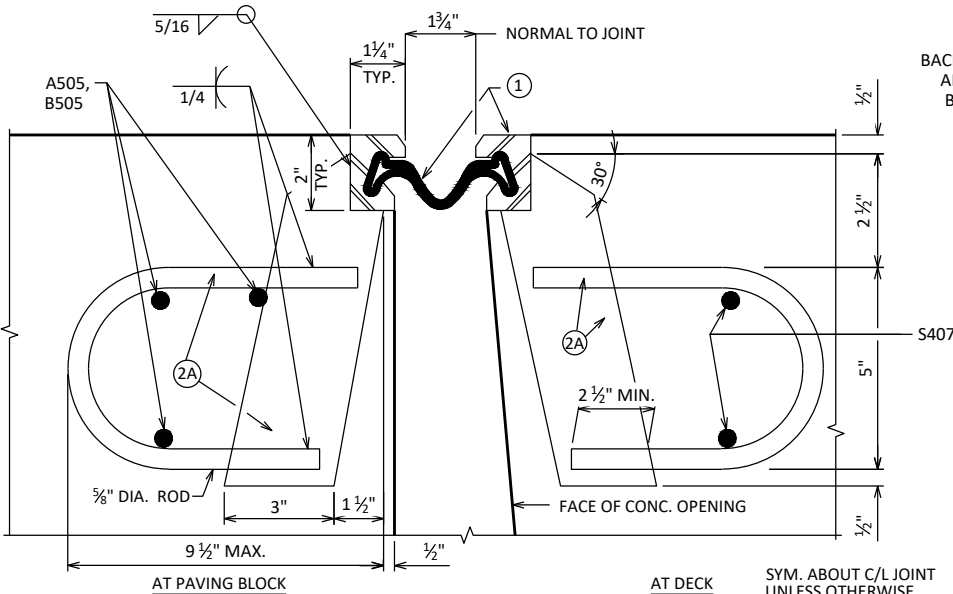
NOTES

1. ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING, OR GALVANIZING REQUIREMENTS. IF USED, ANCHOR PLATES SHALL BE PROVIDED 3" FROM EACH SIDE OF THE FIELD SPLICE. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.
2. AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.
3. FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.
4. SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.
5. ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM 153 CLASS C AND D.
6. ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE", LF.



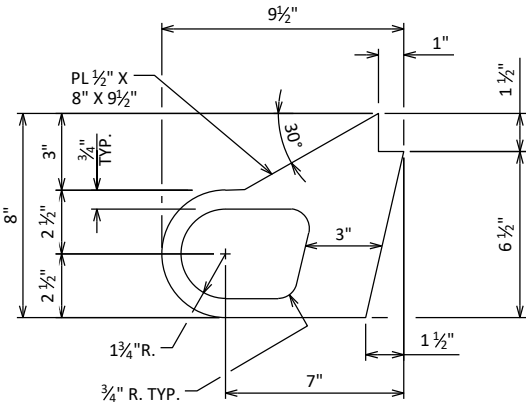
SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT SIDEWALKS.

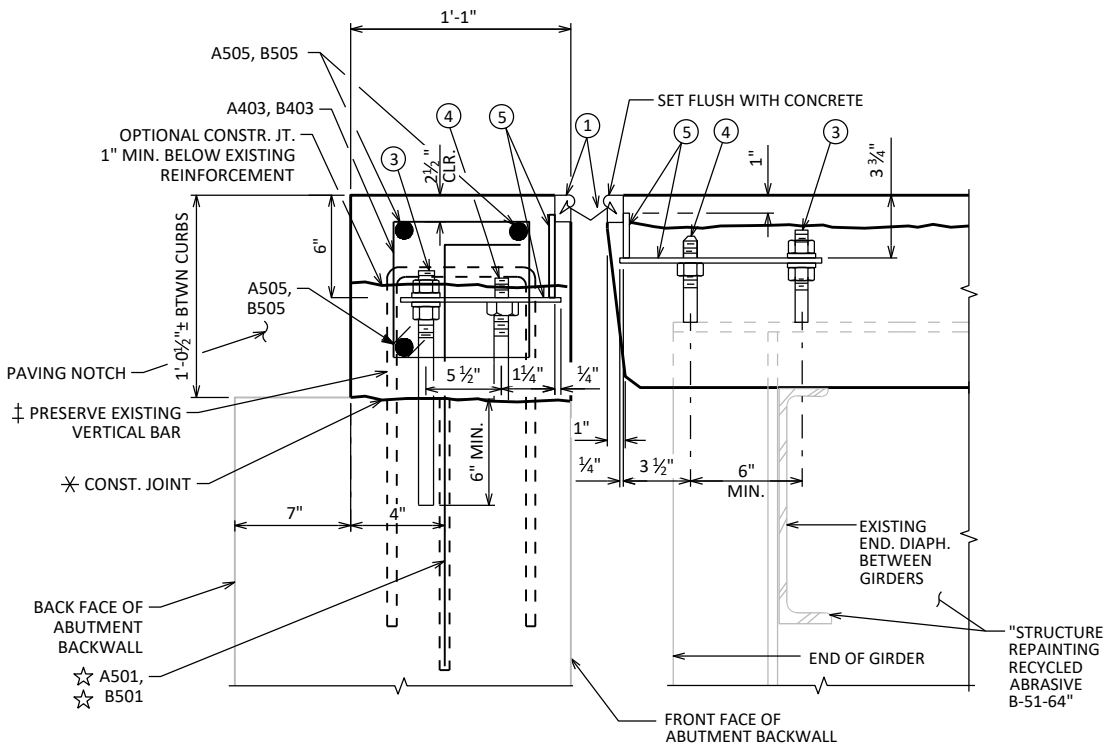


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS
OVERLAY THICKNESS NOT SHOWN FOR CLARITY

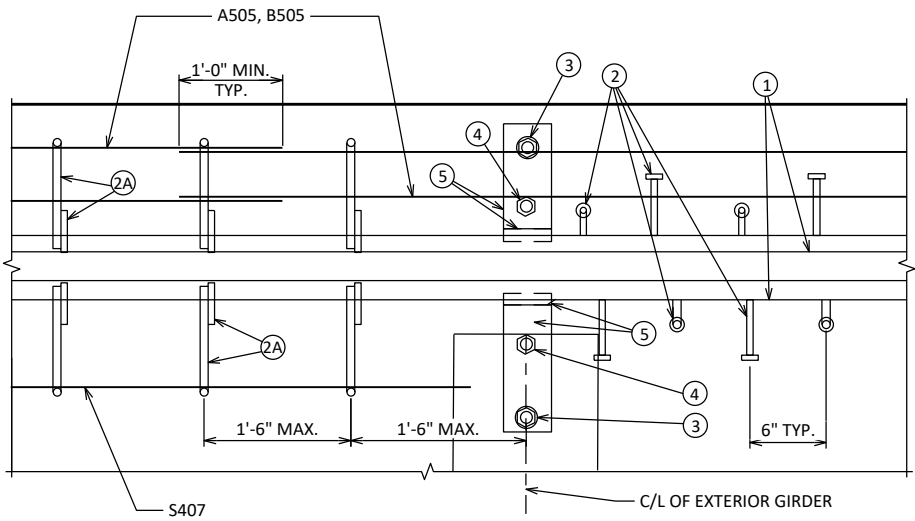


ALTERNATE STRIP SEAL ANCHOR



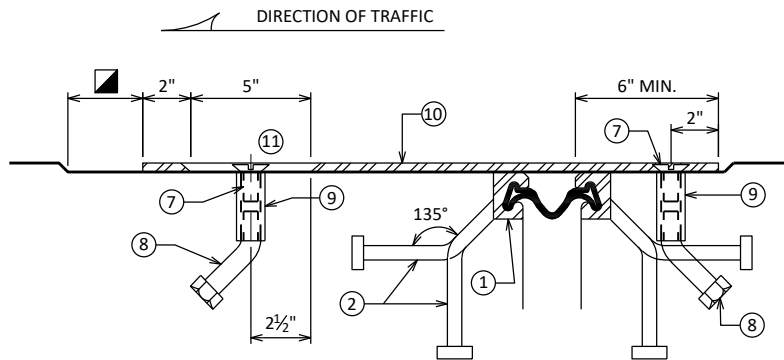
TYPICAL SECTION THRU JOINT

NORMAL TO C/L SUBSTRUCTURE AT ABUTMENT
SUPERSTRUCTURE REINFORCEMENT NOT SHOWN FOR CLARITY

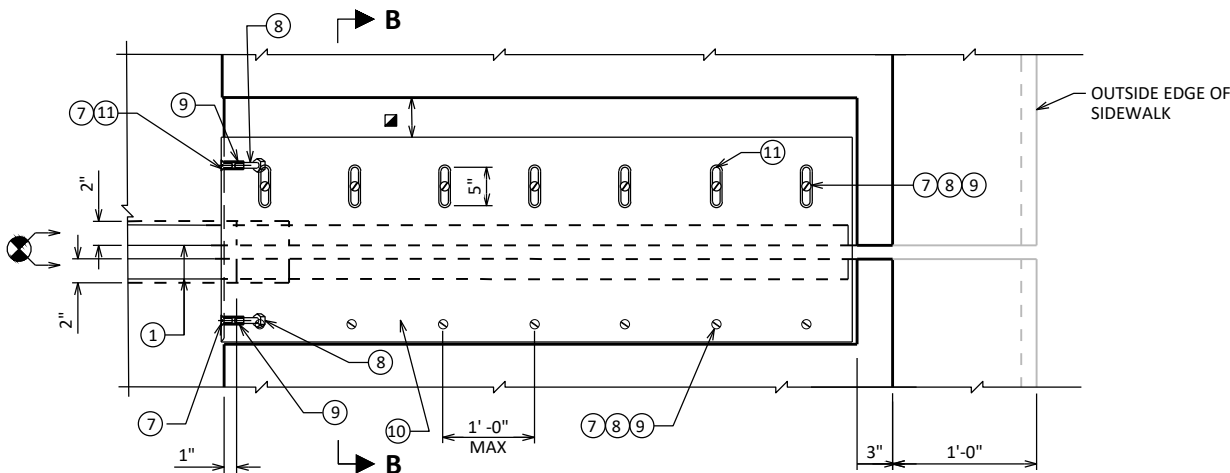


PART PLAN

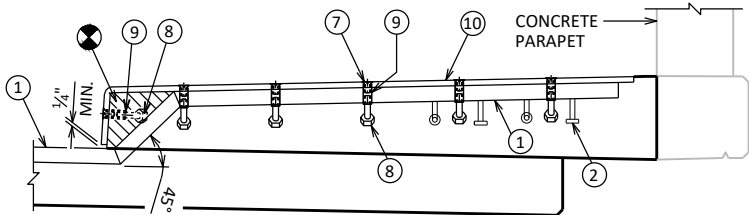
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-51-64			
DRAWN BY		WAR	PLANS CK'D JSR
STRIP SEAL EXPANSION JOINT DETAILS		SHEET 5 OF 7 96	



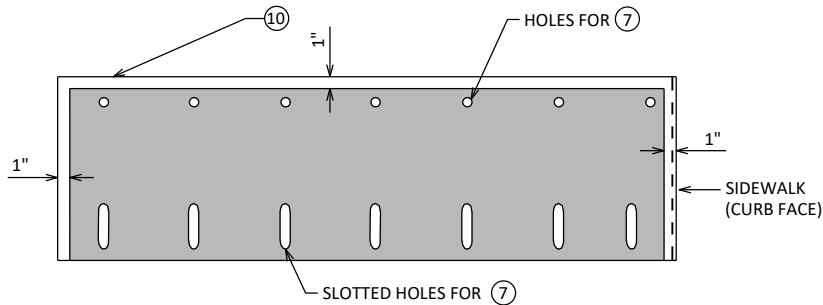
SECTION B-B



PLAN AT SIDEWALK



SECTION AT SIDEWALK



PLAN OF SIDEWALK COVER PLATE
WITH SLIP-RESISTANT SURFACE

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED
AREA ONLY (NOT ON CURB FACE)

APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W. S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170

NOTES

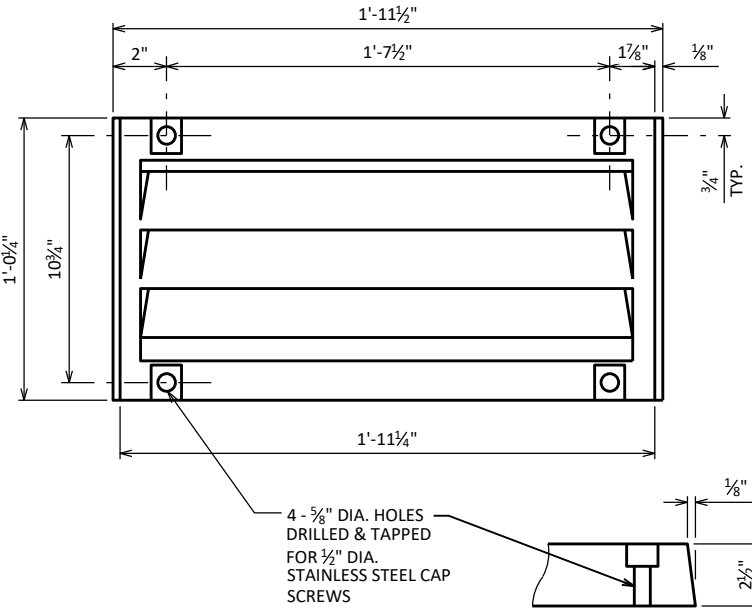
SEE SHEET 5 LEGEND FOR MATERIAL NOTES.

TYPE "GC" CASTING SHALL BE GRAY IRON CONFORMING
TO ASTM A48, CLASS 30.

GRATE MOUNTING HARDWARE TO BE INCLUDED IN THE
BID ITEM "FLOOR DRAIN TYPE GC GRATE CASTING".

LEGEND

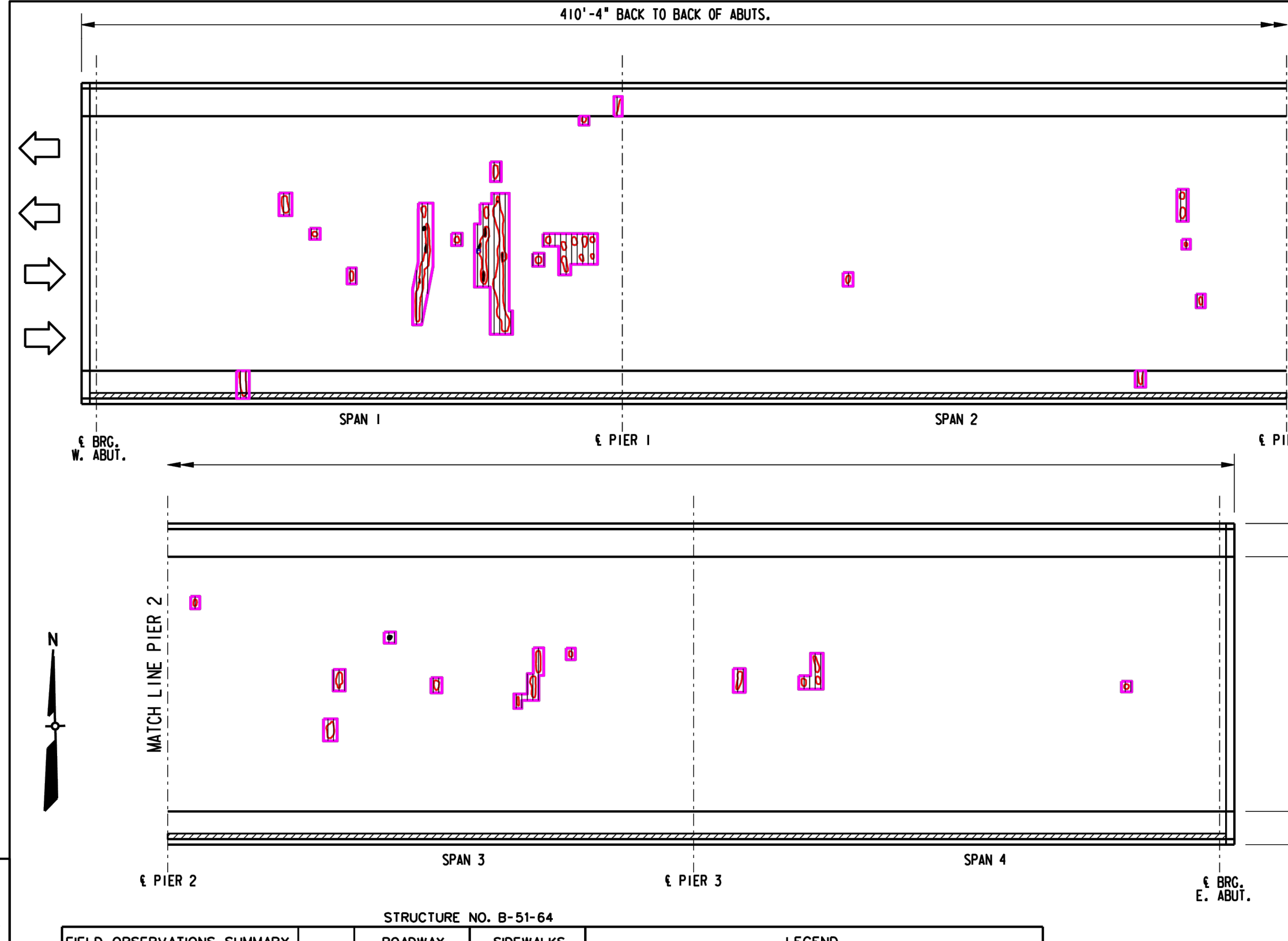
- ⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.
- ▣ JOINT OPENING DIM. ALONG SKEW PLUS 1/2"



FLOOR DRAIN GRATE CASTING DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-51-64			
DRAWN BY		WAR	PLANS CK'D JSR
STRIP SEAL COVER PLATE & DRAIN GRATE		SHEET 6 OF 7 97	

SCALE =



STATE PROJECT NUMBER

2703-05-71

NOTE

DECK SURVEY IS SHOWN FOR INFORMATION PURPOSES ONLY AND MAY NOT BE ALL INCLUSIVE. ADDITIONAL PATCHING/PREPARATION MAY BE REQUIRED AND SHALL BE PERFORMED AS DIRECTED BY ENGINEER.

FIELD OBSERVATIONS SUMMARY						STRUCTURE NO. B-51-64					
ITEM		UNIT	ROADWAY		SIDEWALKS		LEGEND				
TOTAL AREA		yd ²	QUANT.	%	QUANT.	%					
SHADE/DEBRIS		yd ²	0		45.2						
PREPARATION, DECKS, TYPE 1		yd ²	43.0	2.1	2.6	0.6					
PREPARATION, DECKS, TYPE 2		yd ²	28.4	1.4	---	---					
FULL DEPTH DECK REPAIR		yd ²	1.0	<0.1	---	---					

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

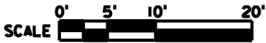
DEBOND

ASPHALT PATCH

PCC PATCH

PLAN

PROPOSED REHABILITATION AREAS



SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATE: 6/9/23, 1:15 PM
DECK SCAN PERFORMED BY AECOM

NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION					
STRUCTURE B-51-64					
		DRAWN BY	WAR	PLANS CK'D	JSR
INFRARED DECK SCAN			SHEET 7 OF 7 98		

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS20
INVENTORY RATING: HS = 21
OPERATING RATING: HS = 36
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY:
OVERLAY DECKS $f'_c = 4,000$ PSI
ALL OTHER $f'_c = 3,500$ PSI

BAR STEEL REINFORCEMENT
GRADE 60 $f_y = 60,000$ PSI

SCOPE OF WORK: B-51-67

1. FULL-DEPTH DECK REPAIR
2. CONCRETE OVERLAY
3. MASKWALL REPLACEMENT
4. CONCRETE SURFACE REPAIR

TRAFFIC DATA

FEATURE ON:

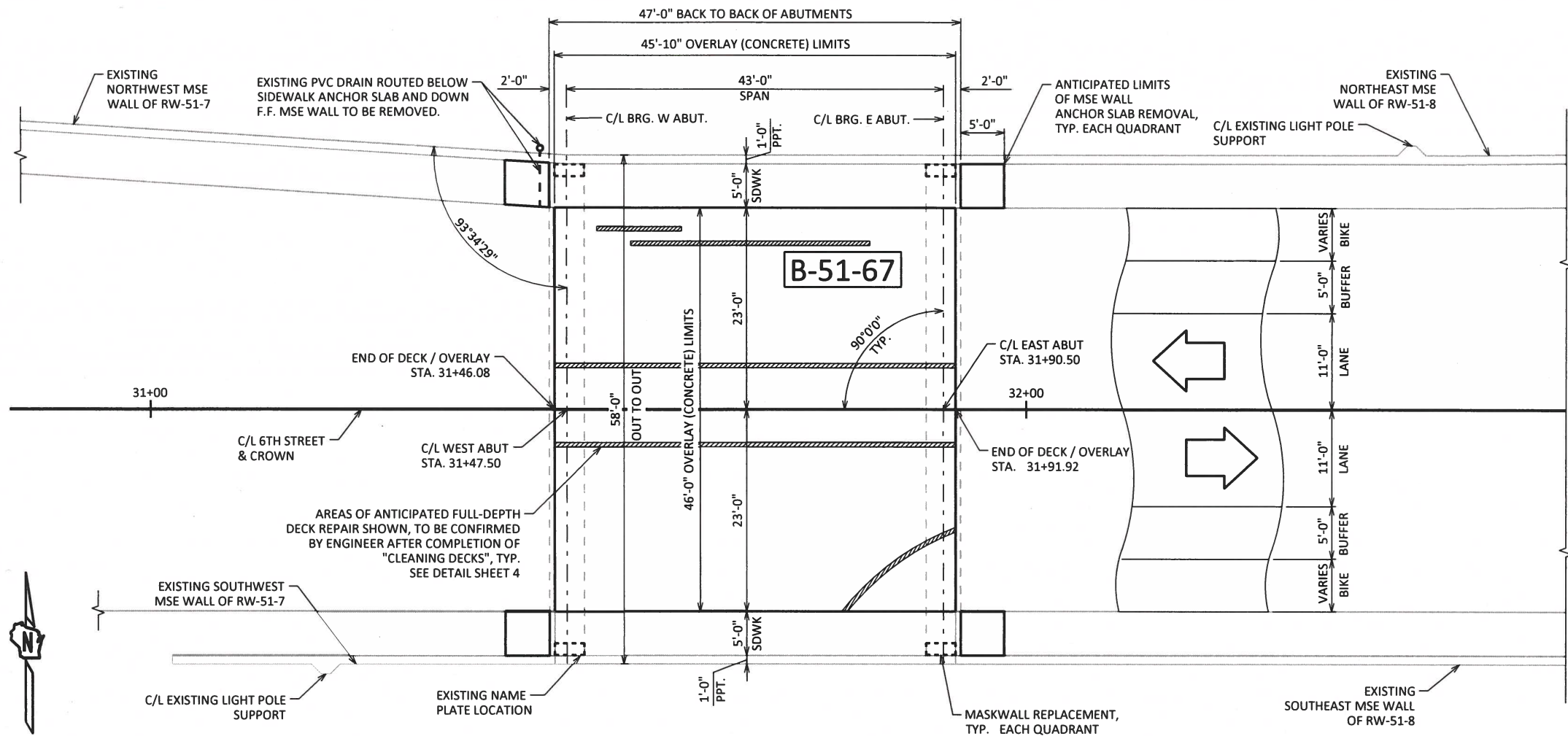
ADT = 5,000 (2025)
5,500 (2045)
R.D.S. = 30 MPH

LIST OF DRAWINGS:

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION & QUANTITIES
3. MASKWALL REPAIR DETAILS
4. SLAB REPAIR DETAILS
5. INFRARED DECK SCAN

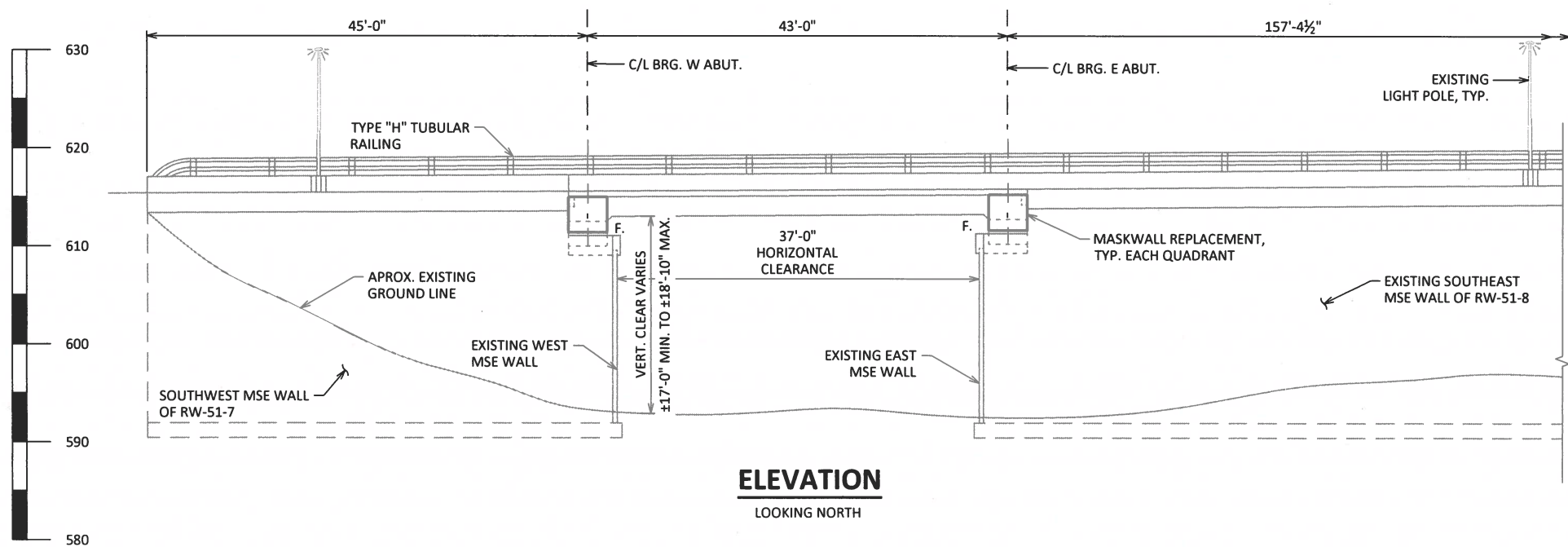
STRUCTURE DESIGN CONTACTS:

CONSULTANT CONTACT: WYATT ROZMENOSKI (414) 266-9066
BOS CONTACT: AARON BONK (608) 261-0261



PLAN

CONCRETE OVERLAY - SINGLE SPAN SLAB BRIDGE



ELEVATION

LOOKING NORTH



NO.	DATE	REVISION	BY
GRÄEF 275 W. Wisconsin Avenue Suite 300 Milwaukee, WI 53203 414 / 259 1500 414 / 259 0037 fax www.graef-usa.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	SDR 11/26/24		DATE
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE B-51-67			
6TH STREET OVER VACATED HOWE STREET			
COUNTY	RACINE	CITY	RACINE
DESIGN SPEC. N/A REHABILITATION			
DESIGNED BY	CWG	DESIGNED CK'D	WAR
DRAWN BY	PTOB	PLANS CK'D	KGW
GENERAL PLAN & ELEVATION			SHEET 99

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

UTILITZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

STRUCTURE STATION BASED ON ORIGINAL STRUCTURE PLANS. STRUCTURE PLAN STATIONING MAY VARY FROM ROADWAY PLAN STATIONING.

DURING CONSTRUCTION, BRIDGE WILL BE CLOSED TO TRAFFIC AND PEDESTRIANS.

THE EXISTING STRUCTURE, B-51-67, IS A SINGLE SPAN CONCRETE SLAB BRIDGE WITH AN OVERALL WIDTH OF 58'-0" AND AN OVERALL LENGTH OF 47'-0" (BACK-TO-BACK OF ABUTMENTS). THE ENTIRE SLAB SURFACE IS TO BE PREPARED FOR A NEW CONCRETE OVERLAY.

BEVEL EXPOSED EDGES OF CONCRETE ¾-INCH UNLESS OTHERWISE NOTED.

SEAL OVERLAY CONSTRUCTION JOINTS ACCORDING TO SECTION 502.3.13.1 OF THE STANDARD SPECIFICATIONS. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

CLEAN AND FILL EXISTING LONGITUDINAL AND TRANSVERSE CRACKS WITH PENETRATING EPOXY AS DIRECTED BY THE FIELD ENGINEER.

THE AVERAGE OVERLAY THICKNESS IS BASED ON THE MINIMUM OVERLAY THICKNESS PLUS ½ -INCH TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT, UNLESS SPECIFIED OTHERWISE.

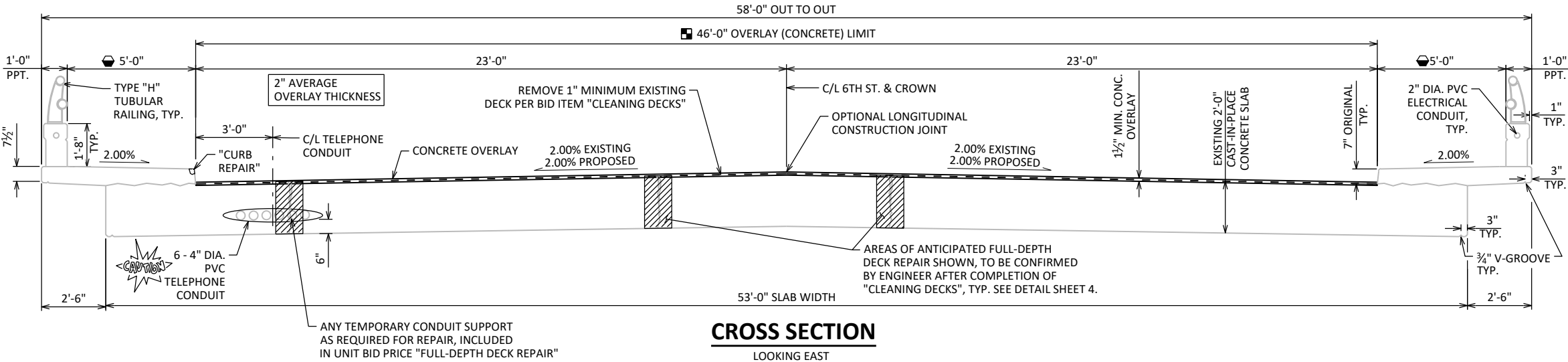
CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON PLANS ARE APPROXIMATE.

AT "CURB REPAIR" REMOVE CONCRETE TO SOUND CONCRETE OR AT LEAST 1-INCH BEHIND EXISTING REINFORCING STEEL.

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

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½ -INCH PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2 -INCH. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½-INCH, CONTACT THE STRUCTURES DESIGN SECTION.

"REMOVING STRUCTURE B-51-67" INCLUDES REMOVAL OF EXISTING CHEEK/MASK WALLS LOCATED AT EACH END OF EXISTING ABUTMENTS AND REMOVAL OF EXISTING PVC DRAIN LOCATED AT NORTHEAST CORNER OF STRUCTURE. ANY REMOVALS REQUIRED TO COMPLETE THIS WORK (IE PARTIAL REMOVAL OF ANCHOR SLABS OVER MSE WALLS) SHALL BE INCLUDED IN "REMOVING STRUCTURE B-51-67". CONCRETE PLACED TO RECONSTRUCT CHEEK/MASK WALLS AND MSE WALL ANCHOR SLABS TO BE PAID PER "CONCRETE MASONRY BRIDGES, CY".



BENCH MARKS

NO.	DESCRIPTION	ELEV.
BM03	NW BOLT TOP FLANGE (TAG BOLT) OF FIRE HYD. @ NE CORNER W. 6TH ST. AND MARQUETTE ST.	619.67
BM04	NE BOLT TOP FLANGE (TAG BOLT) OF FIRE HYD. @ NE CORNER W. 6TH ST. AND STANNARD ST.	621.22

TOTAL ESTIMATED QUANTITIES

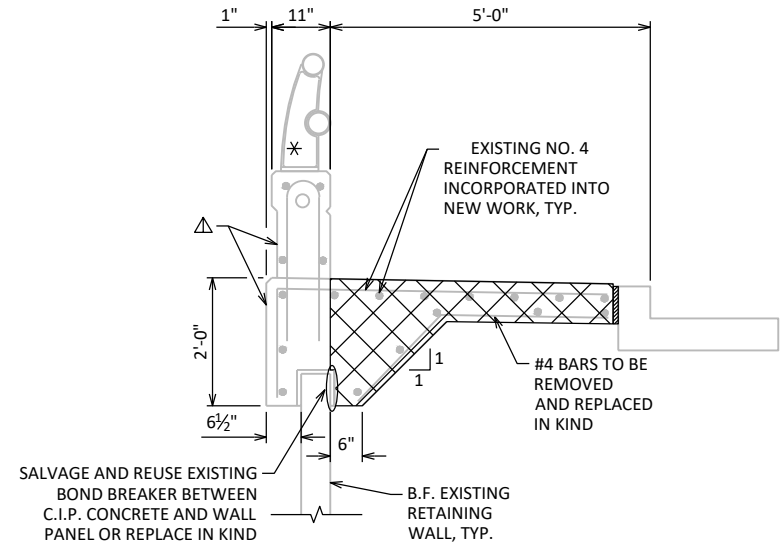
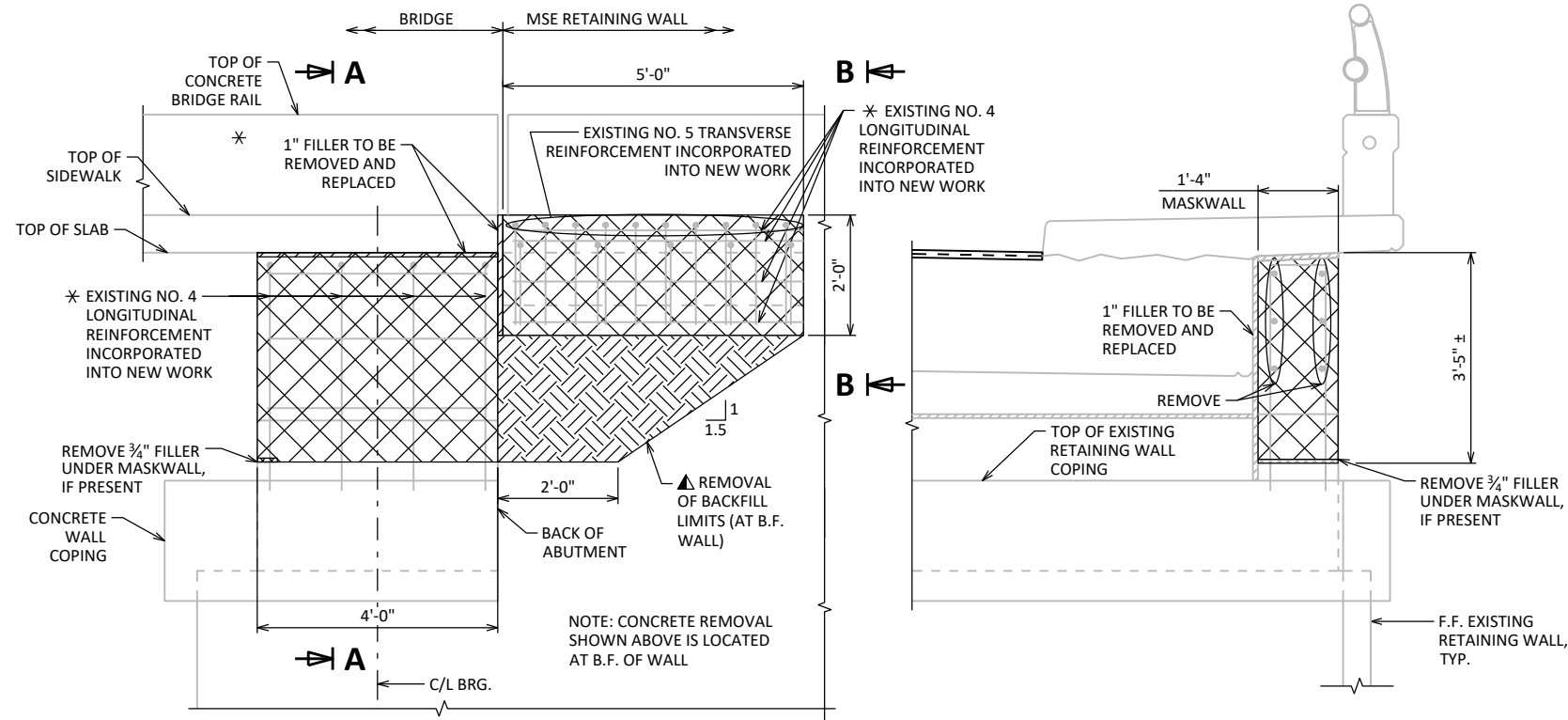
BID ITEM NUMBER	BID ITEMS	UNIT	SUPER	WEST ABUT.	EAST ABUT.	TOTALS
203.0220	REMOVING STRUCTURE B-51-67	EACH	--	--	--	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-51-67	EACH	--	--	--	1
209.0200.S	BACKFILL CONTROLLED LOW STRENGTH	CY	--	4	4	8
502.0100	CONCRETE MASONRY BRIDGES	CY	--	3.0	3.0	6
502.3200	PROTECTIVE SURFACE TREATMENT	SY	235	--	--	235
502.3215	PROTECTIVE SURFACE TREATMENT RESEAL	SY	74	--	--	74
502.4204	ADHESIVE ANCHORS NO. 4 BAR	EACH	--	16	16	32
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	580	140	140	860
509.0301	PREPARATION DECKS TYPE 1	SY	10	--	--	10
509.0302	PREPARATION DECKS TYPE 2	SY	5	--	--	5
509.0500	CLEANING DECKS	SY	235	--	--	235
509.1200	CURB REPAIR	LF	4	--	--	4
509.1500	CONCRETE SURFACE REPAIR	SF	4	3	5	12
509.2000	FULL-DEPTH DECK REPAIR	SY	18	--	--	18
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	25	--	--	25
	NON-BID ITEMS					
	FILLER	SIZE	---	---	---	1"

LEGEND

■ PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF THE NEW CONCRETE OVERLAY

☉ PROTECTIVE SURFACE TREATMENT RESEAL TOP BE APPLIED TO:
-VERTICAL AND HORIZONTAL FACE OF SIDEWALK
-VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES AT ABUTMENTS
SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "PROTECTIVE SURFACE TREATMENT RESEAL".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-51-67			
		DRAWN BY	PTOB PLANS CK'D KGW
CROSS SECTION & QUANTITIES		SHEET 2 OF 5	
		100	

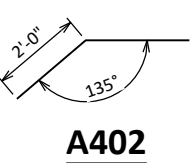
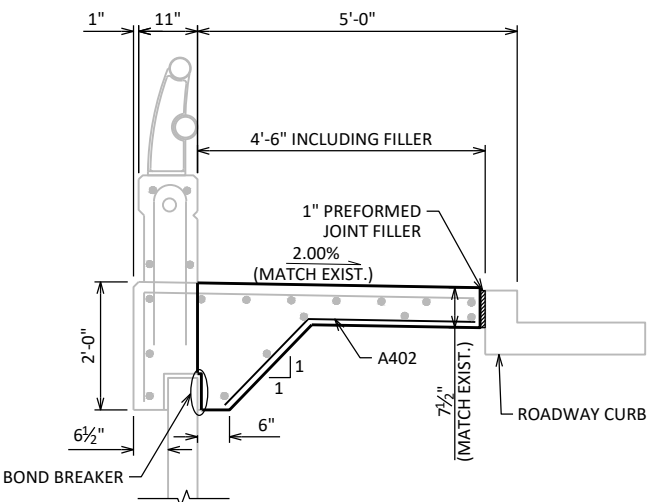
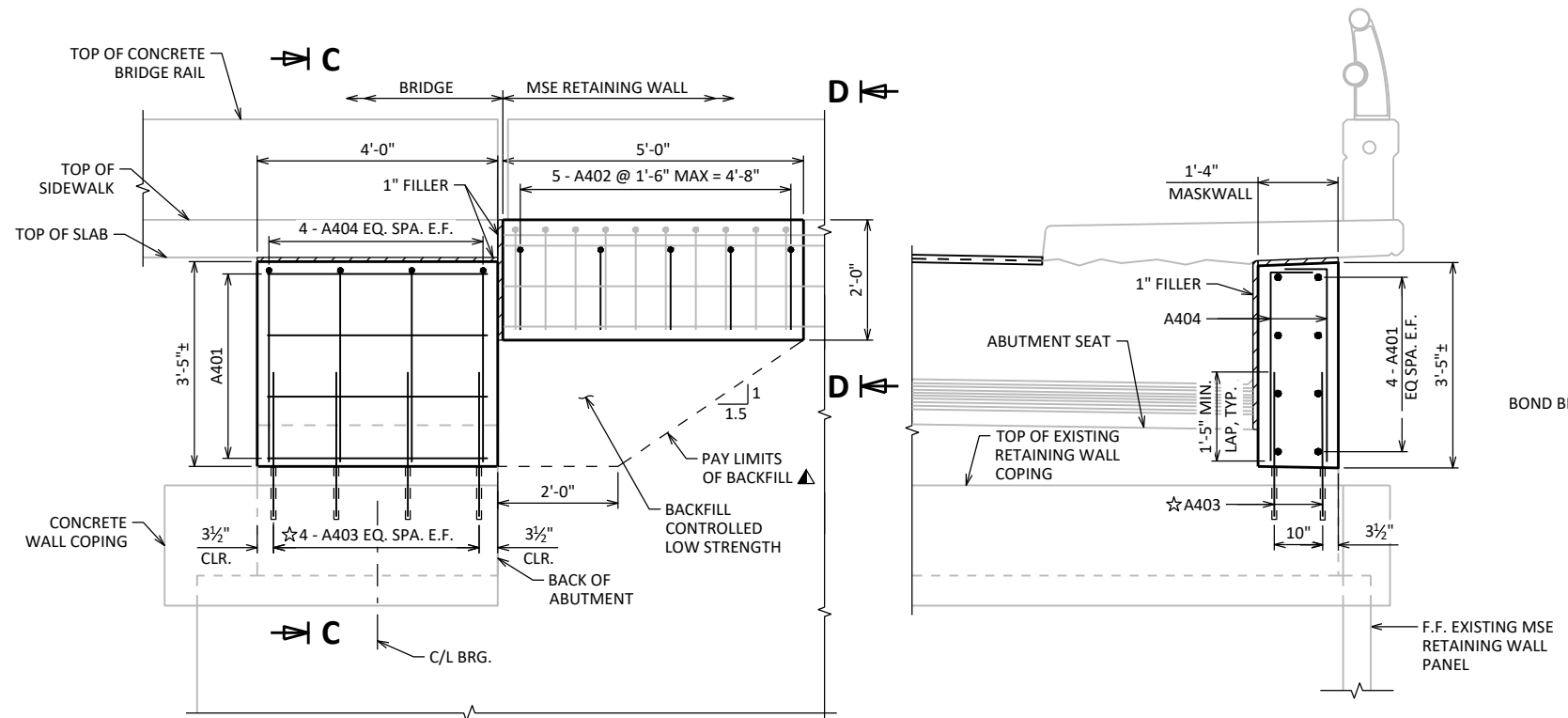


ABUTMENT BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401		32	3'-8"			MASKWALL HORIZONTAL
A402		20	5'-0"	X		ANCHOR SLAB LONG.
☆ A403		32	2'-6"			MASKWALL DOWEL
A404		32	3'-10"	X		MASKWALL VERTICAL

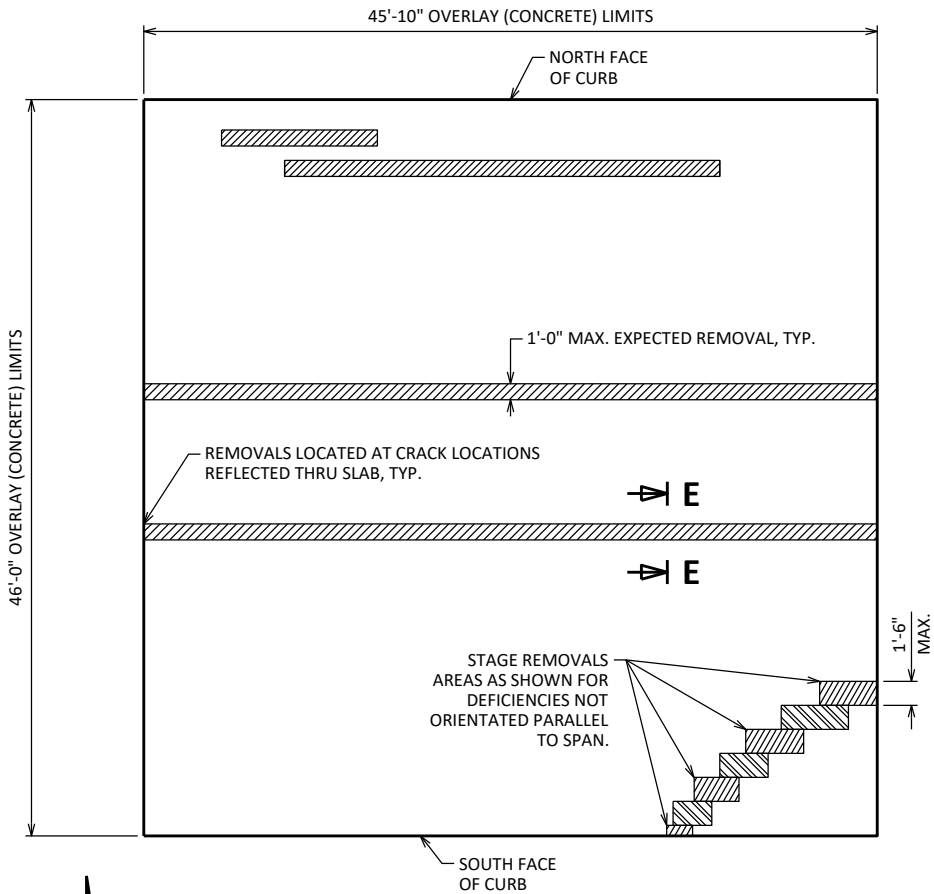
WEST ABUTMENT = 140 LBS
EAST ABUTMENT = 140 LBS



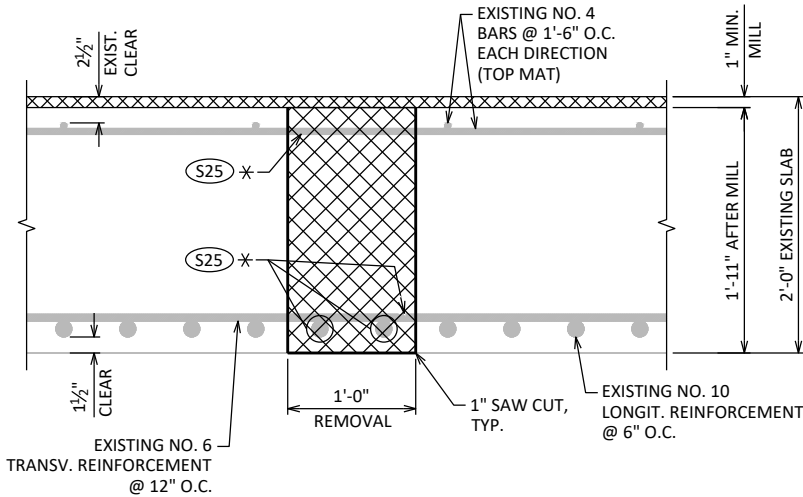
LEGEND

- CONCRETE REMOVAL LIMITS
- ANTICIPATED EARTHWORK REMOVAL LIMITS
- EXISTING REINFORCEMENT INCORPORATED INTO NEW WORK ARE TO BE BLAST CLEANED AS THE ENGINEER DEEMS NECESSARY. SUPPLEMENT BROKEN OR HEAVILY CORRODED REINFORCEMENT BARS PER THE DIRECTION OF THE ENGINEER.
- ANTICIPATED LIMITS OF REMOVALS AND BACKFILL CONTROLLED LOW STRENGTH. EXERCISE CAUTION OF WALL PANEL TIE BACKS. LIMITS SHOWN ARE ESTIMATED LIMITS OF REMOVAL TO PERFORM REQUIRED SCOPE OF WORK. BACKFILL PAY LIMITS TO BE MEASURED BY QUANTITY PLACED.
- SUPPORT OF ANCHOR SLAB OVERHANG AND RAILING DURING CONSTRUCTION SHALL BE INCLUDED IN THE BID PRICE "REMOVING STRUCTURE B-51-67".
- ADHESIVE ANCHOR NO. 4 BAR. EMBED 10" IN SOUND CONCRETE.

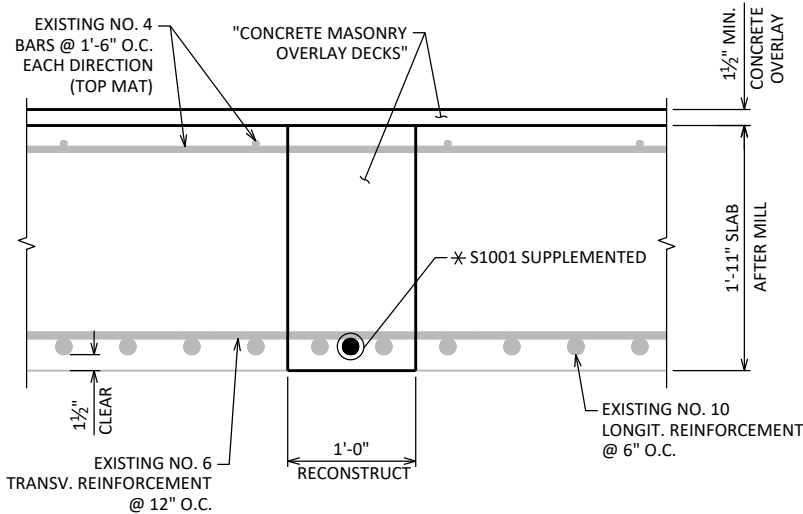
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-51-67			
DRAWN BY		CWG	PLANS CK'D JSR
MASKWALL REPAIR DETAILS		SHEET 3 OF 5 101	



SLAB FULL DEPTH REMOVAL PLAN



SECTION E-E SLAB REMOVAL



SECTION E-E SLAB RECONSTRUCTION

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S1001		3	45'-0"			SLAB LONGIT. BOTTOM

NOTE: BAR LENGTHS SHOWN ABOVE ARE PROVIDED FOR QUANTITY PURPOSES AND MAY NOT REFLECT ACTUAL BAR LENGTHS PLACED. MINIMUM ANTICIPATED PLACEMENT IS AT REMOVALS LOCATED AT FULL LENGTH LONGITUDINAL CRACKS NEAR CENTER OF BRIDGE.

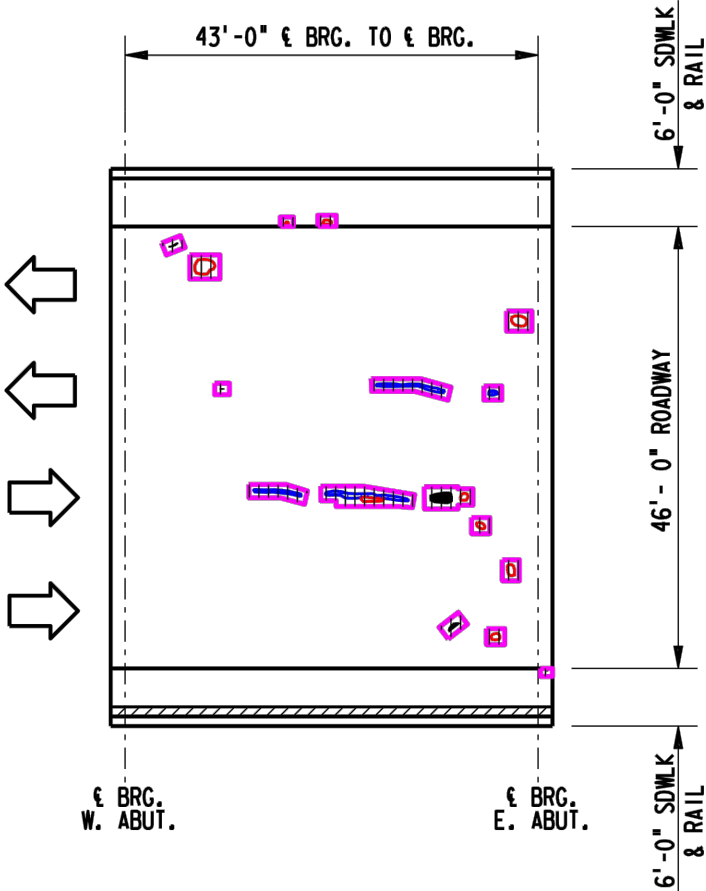
LEGEND

- (S25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.
- ☒ CONCRETE REMOVAL LIMITS
- * EXISTING REINFORCEMENT INCORPORATED INTO NEW WORK ARE TO BE BLAST CLEANED AS THE ENGINEER DEEMS NECESSARY. SUPPLEMENT BROKEN OR HEAVILY CORRODED REINFORCEMENT BARS PER THE DIRECTION OF THE ENGINEER.

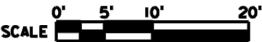
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-51-67			
DRAWN BY		WAR	PLANS CK'D JSR
SLAB REPAIR DETAILS		SHEET 4 OF 5 102	

NOTE

DECK SURVEY IS SHOWN FOR INFORMATION PURPOSES ONLY AND MAY NOT BE ALL INCLUSIVE. ADDITIONAL PATCHING/PREPARATION MAY BE REQUIRED AND SHALL BE PERFORMED AS DIRECTED BY ENGINEER.



PLAN
PROPOSED REHABILITATION AREAS



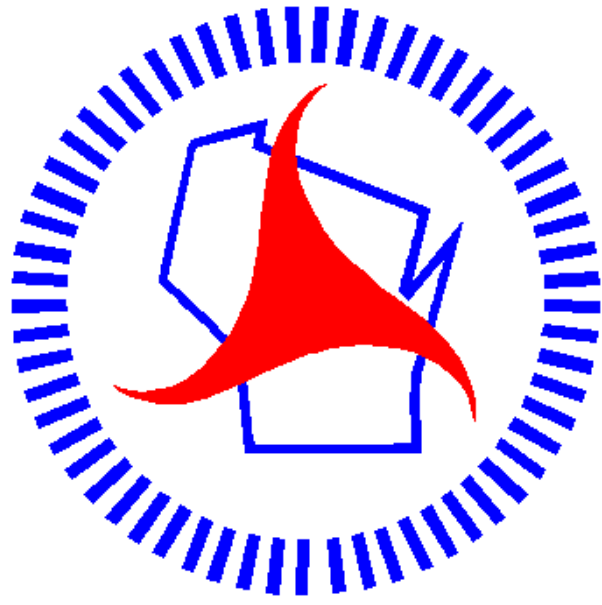
SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATE: 6/9/23, 2:00 PM
DECK SCAN PERFORMED BY AECOM



STRUCTURE NO. B-51-67

FIELD OBSERVATIONS SUMMARY		ROADWAY		SIDEWALKS		LEGEND	
ITEM	UNIT	QUANT.	%	QUANT.	%		
TOTAL AREA	yd²	234.1		50.9		DECK PREPARATION AREA	
SHADE/DEBRIS	yd²	0		5.1		SHADE/DEBRIS	
PREPARATION, DECKS, TYPE 1	yd²	9.2	3.9	0.6	1.3	DELAMINATION	
PREPARATION, DECKS, TYPE 2	yd²	4.6	2.0	---	---	SPALL	
FULL DEPTH DECK REPAIR	yd²	0	0	---	---	DEBOND	
						ASPHALT PATCH	
						PCC PATCH	

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-51-67			
DRAWN BY		WAR	PLANS CK'D JSR
INFRARED DECK SCAN		SHEET 5 OF 5 103	



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