

WKE

JUNE 2019

PROJECT ID:
WITH: N/A

2015-02-70

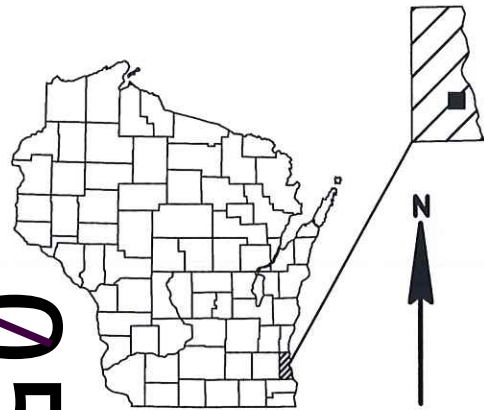
COUNTY:

MILWAUKEE

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 = 210



DESIGN DESIGNATION

A.A.D.T.	2016	=	26100
A.A.D.T.	2040	=	29200
D.H.V.		=	2720
D.D.		=	58-42
T.		=	7.1
DESIGN SPEED		=	45-60 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	CAUTION
MARSH AREA	----
WOODED OR SHRUB AREA	----

PROFILE	
GRADE LINE	----
ORIGINAL GROUND	----
MARSH OR ROCK PROFILE (To be noted as such)	----
SPECIAL DITCH	----
GRADE ELEVATION	95.36
CULVERT (Profile View)	----
UTILITIES	----
ELECTRIC	----
OVERHEAD UTILITY	----
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

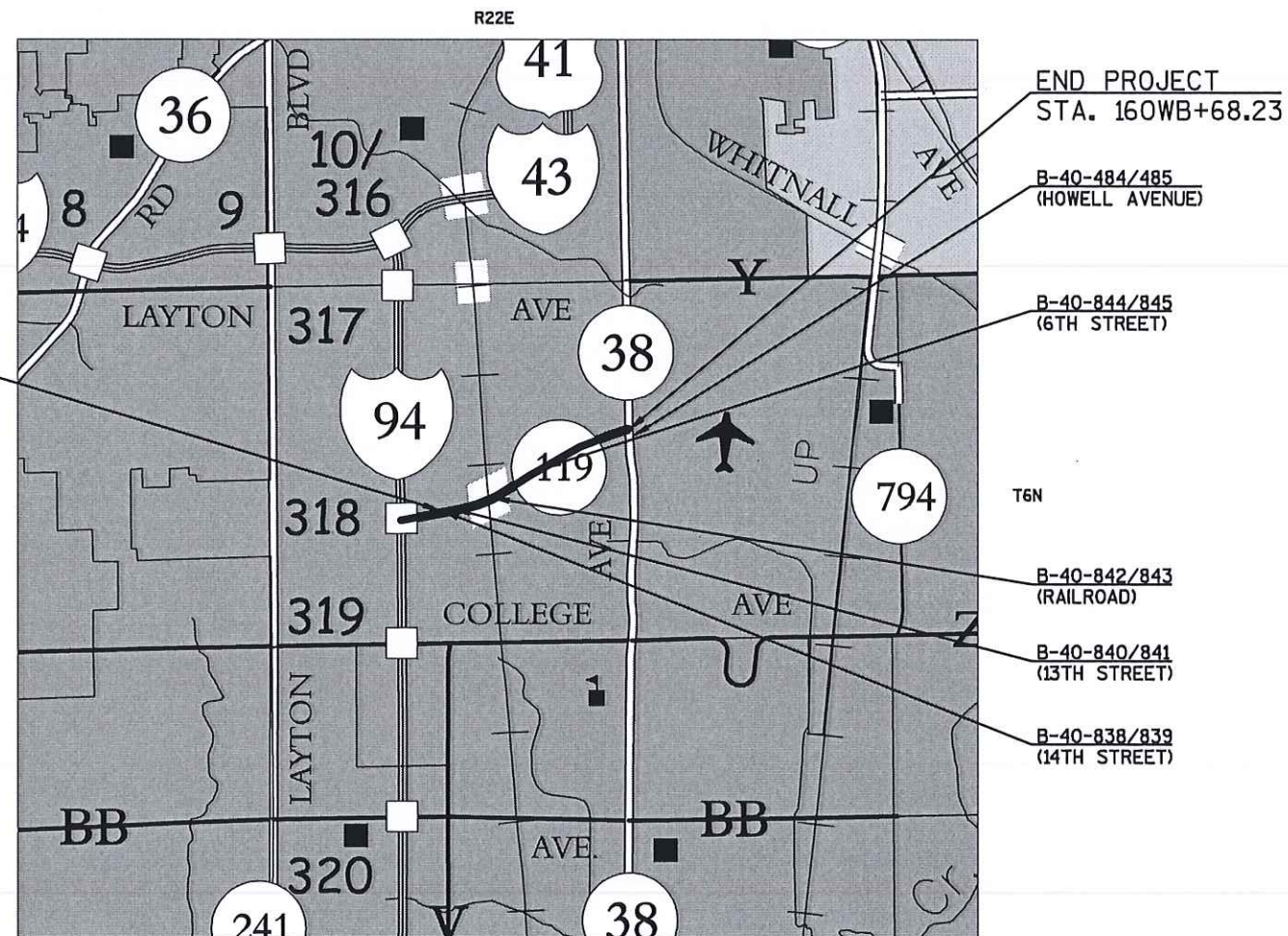
STH 119

14TH ST TO STH 38

STH 119

MILWAUKEE COUNTY

STATE PROJECT NUMBER
2015-02-70



LAYOUT
SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI (BRIDGE REHAB PROJECT)

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, MILWAUKEE COUNTY ZONE, NAD 83 (1997), IN U.S. SURVEY FEET.

ELEVATIONS ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988 (1991).

STATE PROJECT

2015-02-70

FEDERAL PROJECT

PROJECT

WISC 2019495

CONTRACT

1

ORIGINAL PLANS PREPARED BY

BLOOM
COMPANIES, LLC



02/01/2019 *Yakov N. Nenaydykh*
(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	BLOOM COMPANIES LLC
Designer	BLOOM COMPANIES LLC
Project Manager	DEAN FLTZ, P.E.
Regional Examiner	
Regional Supervisor	WAFA ELQAD, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 4/17/19 *Dean Fltz*
(Signature)

GENERAL NOTES

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

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.

PAVEMENT REMOVAL SHALL BE TO THE NEAREST JOINT, OR AS DIRECTED BY THE ENGINEER.

NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES SHALL BE FILLED WITH GRANULAR BACKFILL, WHICH SHALL BE INCLUDED IN THE COST OF THE RESPECTIVE ABANDONMENT OR REMOVAL ITEM.

INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES SHOWN ON THE PLAN MAY BE ADJUSTED BY THE ENGINEER TO FIT FIELD CONDITIONS.

THE EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

INLET PROTECTION SHALL BE PLACED AT ALL INLET LOCATIONS ACCEPTING STORM WATER FROM THE PROJECT AREA OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

STATIONING, DISTANCES AND OFFSETS FOR SIGNS SHOWN ON THE PLANS ARE APPROXIMATE AND THE LOCATIONS OF SIGNS ARE TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

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

DISTURBED AREAS EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE SALVAGED TOPSOILED, MULCHED AND SEEDED, WHICH ARE INCIDENTAL TO THE PROJECT AND AS DIRECTED BY THE ENGINEER IN THE FIELD.

OTHER AGENCIES

WISDOT SE REGION

DEAN FILTZ
141 NW BARSTOW ST
WAUKESHA, WI 53188
(414) 750-2014
dean.filtz@dot.wi.gov

GENERAL MITCHELL INTERNATIONAL AIRPORT

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MILWAUKEE COUNTY TRANSIT SYSTEM

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WISCONSIN DEPARTMENT OF NATURAL RESOURCES

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DESIGNER CONTACTS

BLOOM COMPANIES, LLC.

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UTILITY CONTACTS

AT&T LEGACY

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AT&T LOCAL NETWORK

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AT&T WISCONSIN

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ATC MANAGEMENT, INC

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CITY OF MILWAUKEE - COMMUNICATIONS CABLING

DPW INFRASTRUCTURE-COMMUNICATIONS
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CITY OF MILWAUKEE - SEWER

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CITY OF MILWAUKEE - WATER

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LEVEL 3

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MCI METRO ACCESS TRANSMISSION SERVICES CORP

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RICHARDSON, TX 75081
(469) 886-4450

MIDWEST FIBER NETWORKS, LLC.

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MMSD

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TDS METROCOM

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USD

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OLNEY, IL 62450
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mweiler@usdi.us

WE ENERGIES - ELECTRICITY

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WE ENERGIES - GAS

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BURLINGTON, WI 53105
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CELL: (414) 940-2440
spenser.dooner@we-energies.com

WISDOT - COMMUNICATION LINE

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(414) 225-3723
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WISDOT - STREET LIGHTING

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WAUKESHA, WI 53187-0798
(262) 574-5422
eric.perea@dot.wi.gov

WISDOT - TRAFFIC SIGNALS

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(414) 750-1748
mathew.cowap@dot.wi.gov

STANDARD ABBREVIATIONS

BM	BENCH MARK
CMCP	CORRUGATED METAL CULVERT PIPE
CP	CONTROL POINT
EAT	ENERGY ABSORBING TERMINAL
EB	EASTBOUND
EBS	EXCAVATION BELOW SUBGRADE
EL	ELEVATION
Δ	DELTA
FT	FOOT
HMA	HOT MIX ASPHALT
LF	LINEAR FEET
LT	LEFT
MAX	MAXIMUM
MIN	MINIMUM
MGS	MIDWEST GUARDRAIL SYSTEM
NB	NORTHBOUND
NO	NUMBER
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PGL	PROFILE GRADE LINE
RC	REVERSE CROWN
RCHEP	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE
R/W	RIGHT OF WAY
RT	RIGHT
SB	SOUTHBOUND
STA	STATION
TYP	TYPICAL
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
WB	WESTBOUND

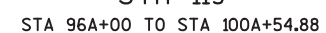
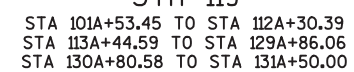


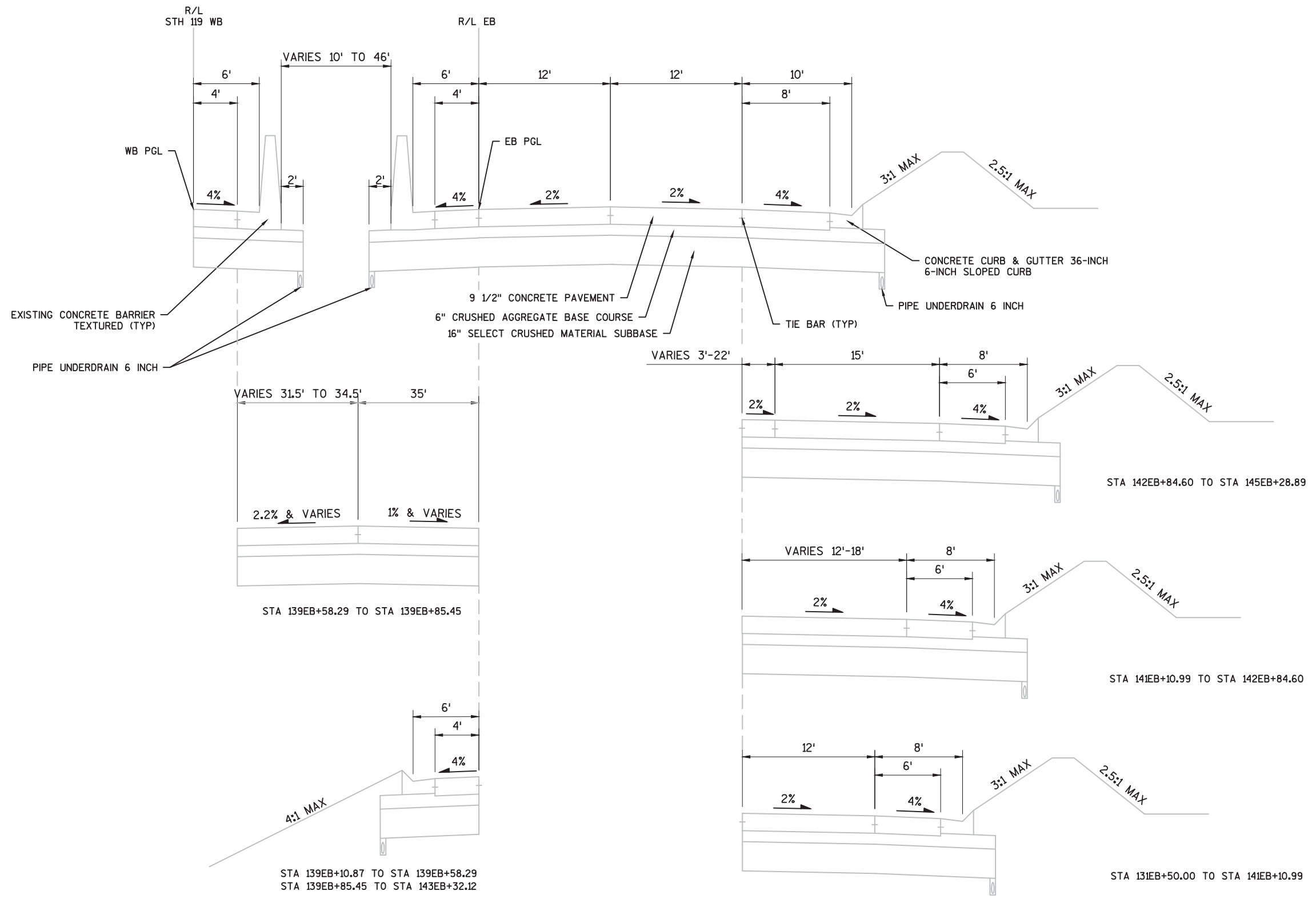
Dial 811 or (800)242-8511
www.DiggersHotline.com



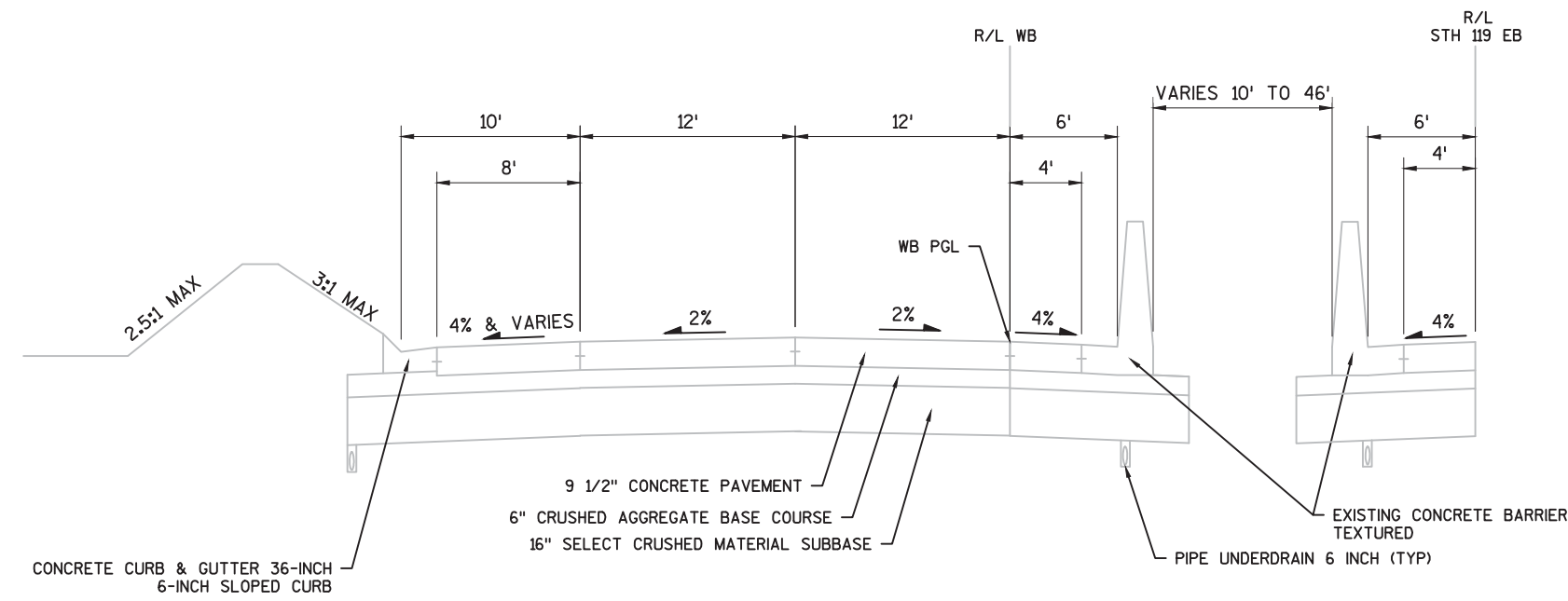
PROJECT NO:2015-02-70	HWY:STH 119	COUNTY:MILWAUKEE	PROJECT OVERVIEW	SHEET	E
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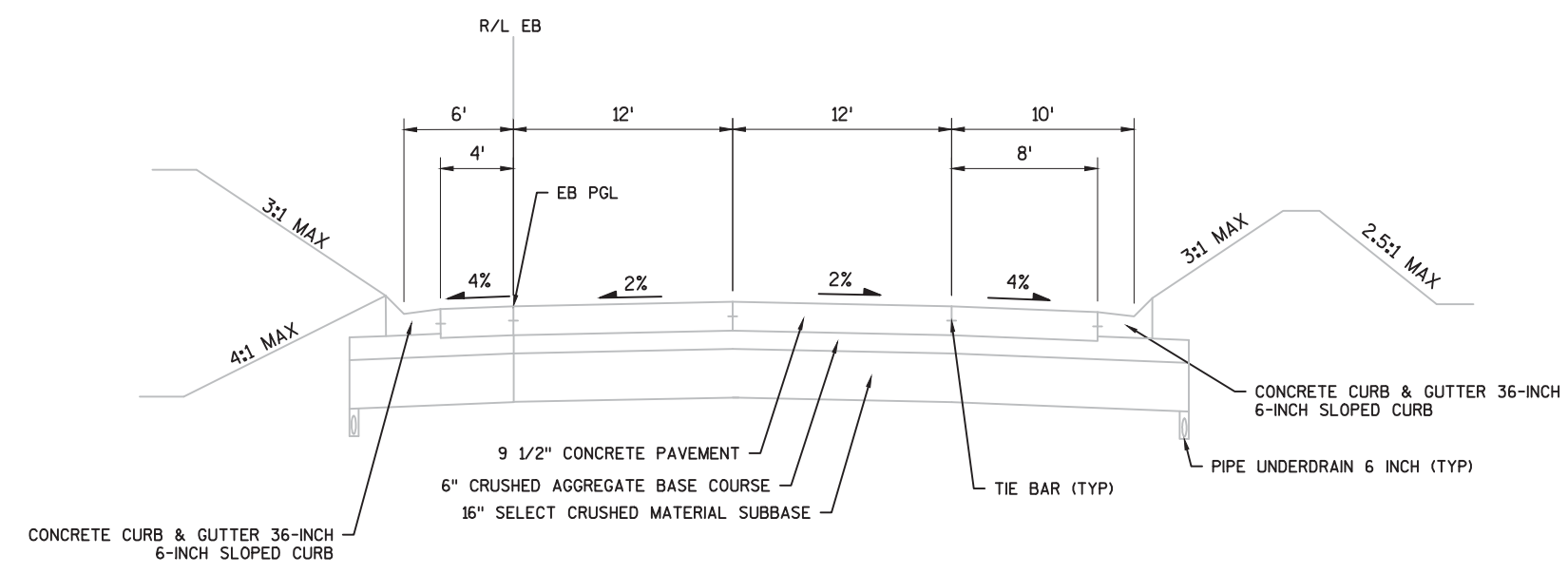




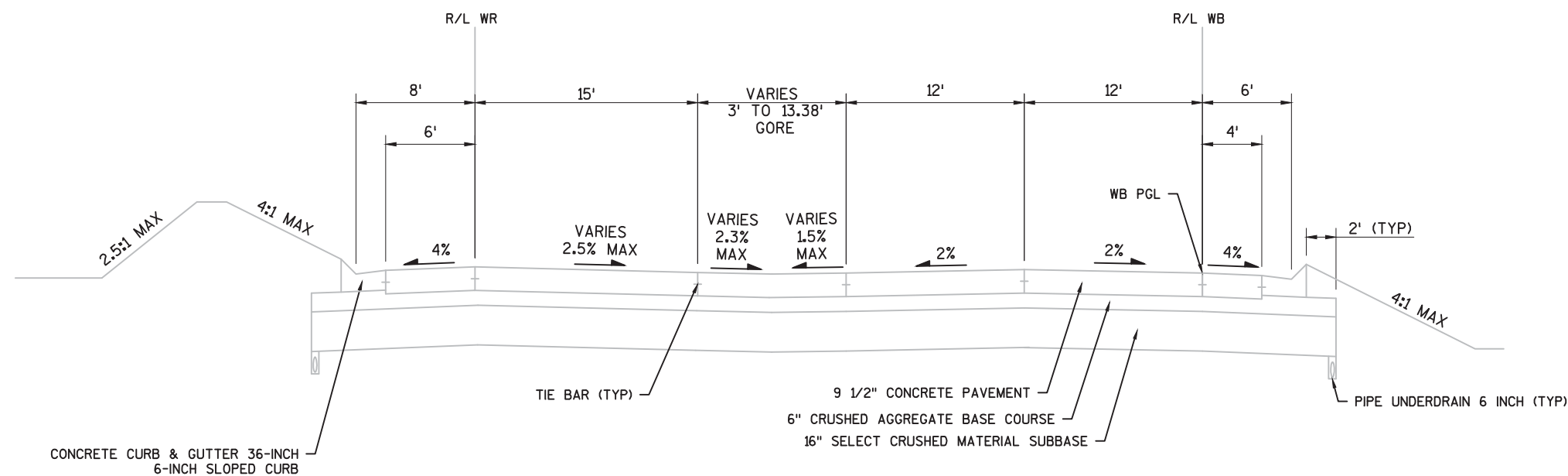
TYPICAL EXISTING SECTION
STH 119
STA 131EB+50.00 TO STA 145EB+28.89



TYPICAL EXISTING SECTION
STH 119 WB
STA 131WB+50.00 TO STA 133WB+25.00

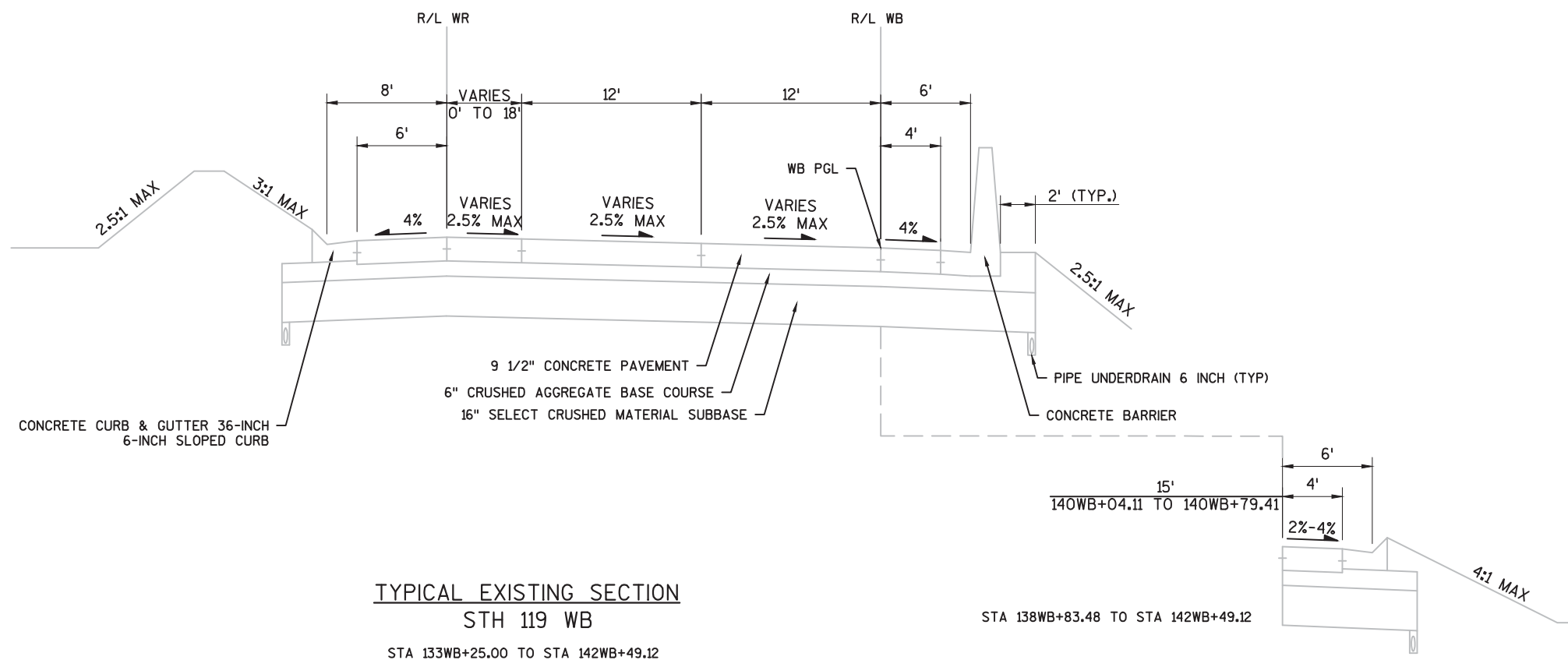


TYPICAL EXISTING SECTION
STH 119 EB
STA 145EB+28.89 TO STA 160EB+00.00



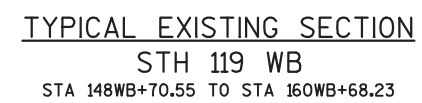
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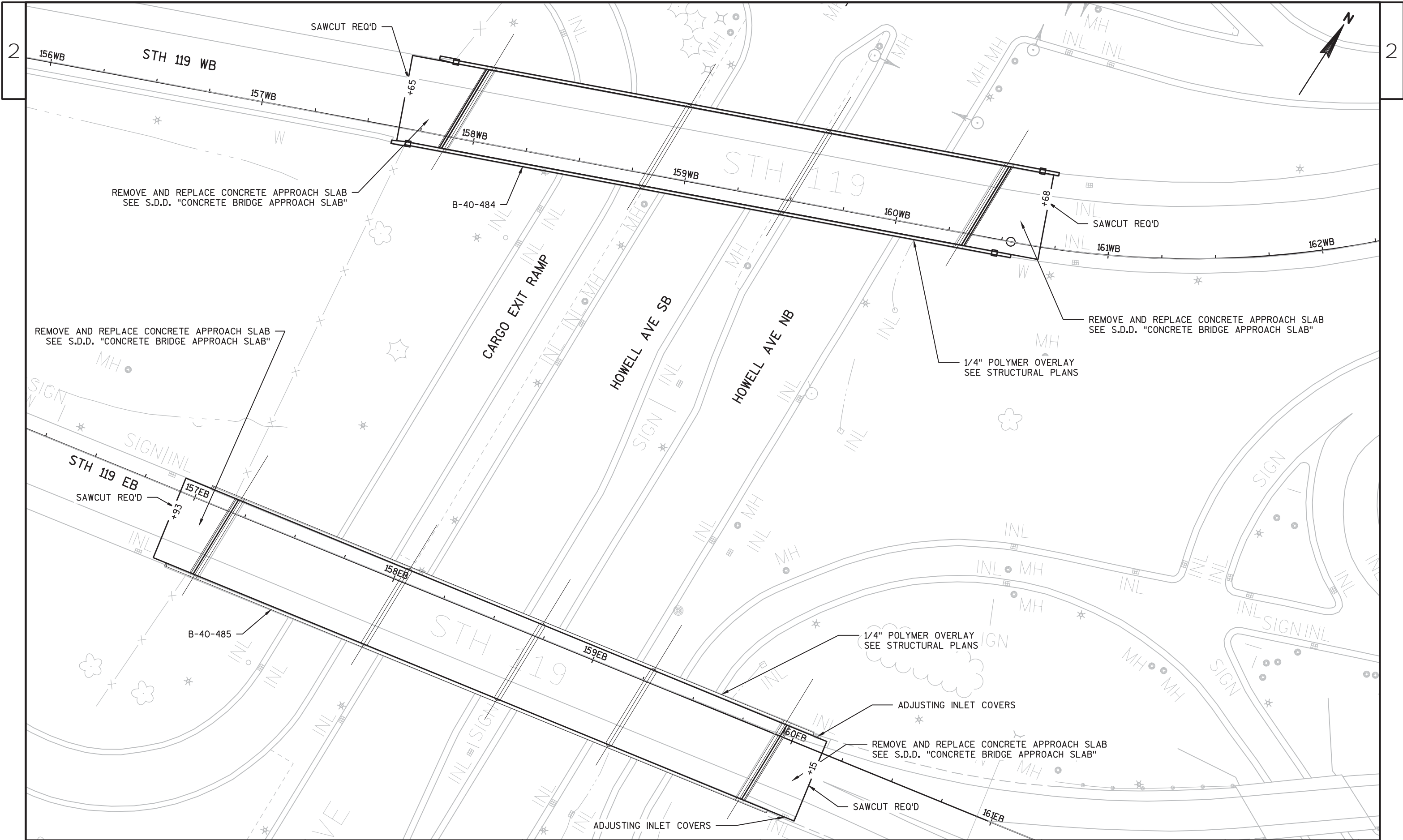
STA 142WB+49.12 TO STA 148WB+70.55



TYPICAL EXISTING SECTION
STH 119 WB

STA 133WB+25.00 TO STA 142WB+49.12





PROJECT NO:2015-02-70

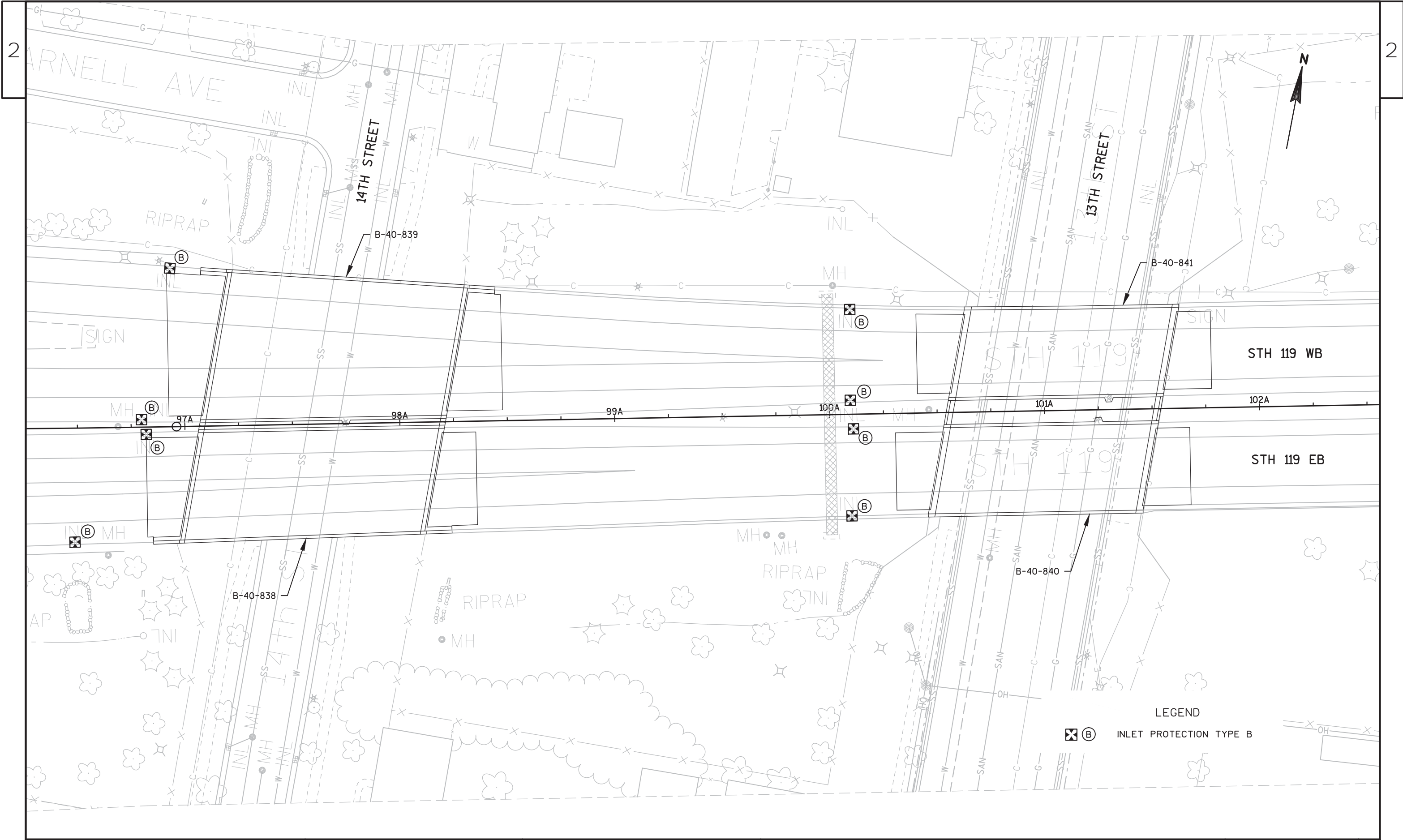
HWY:STH 119

COUNTY:MILWAUKEE

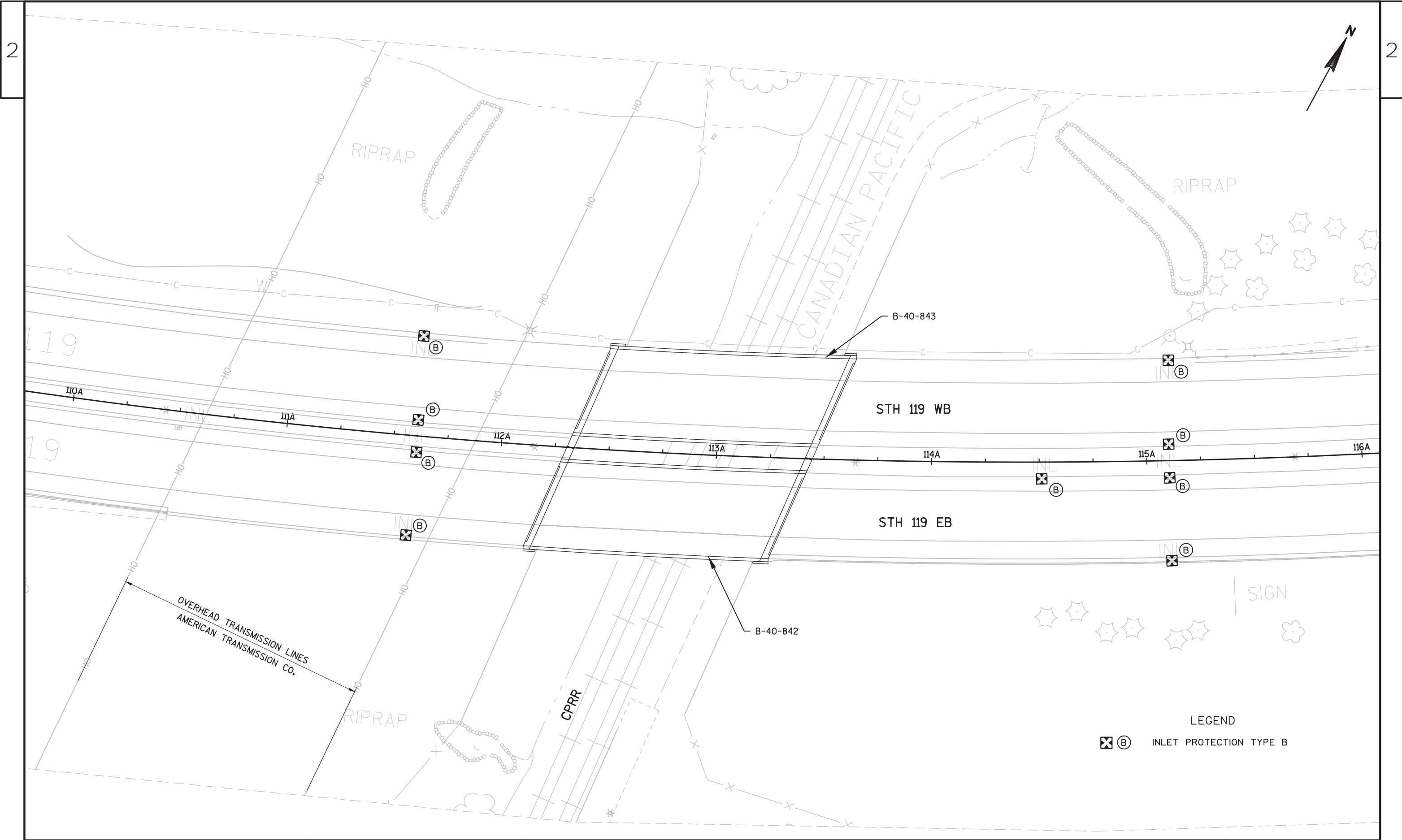
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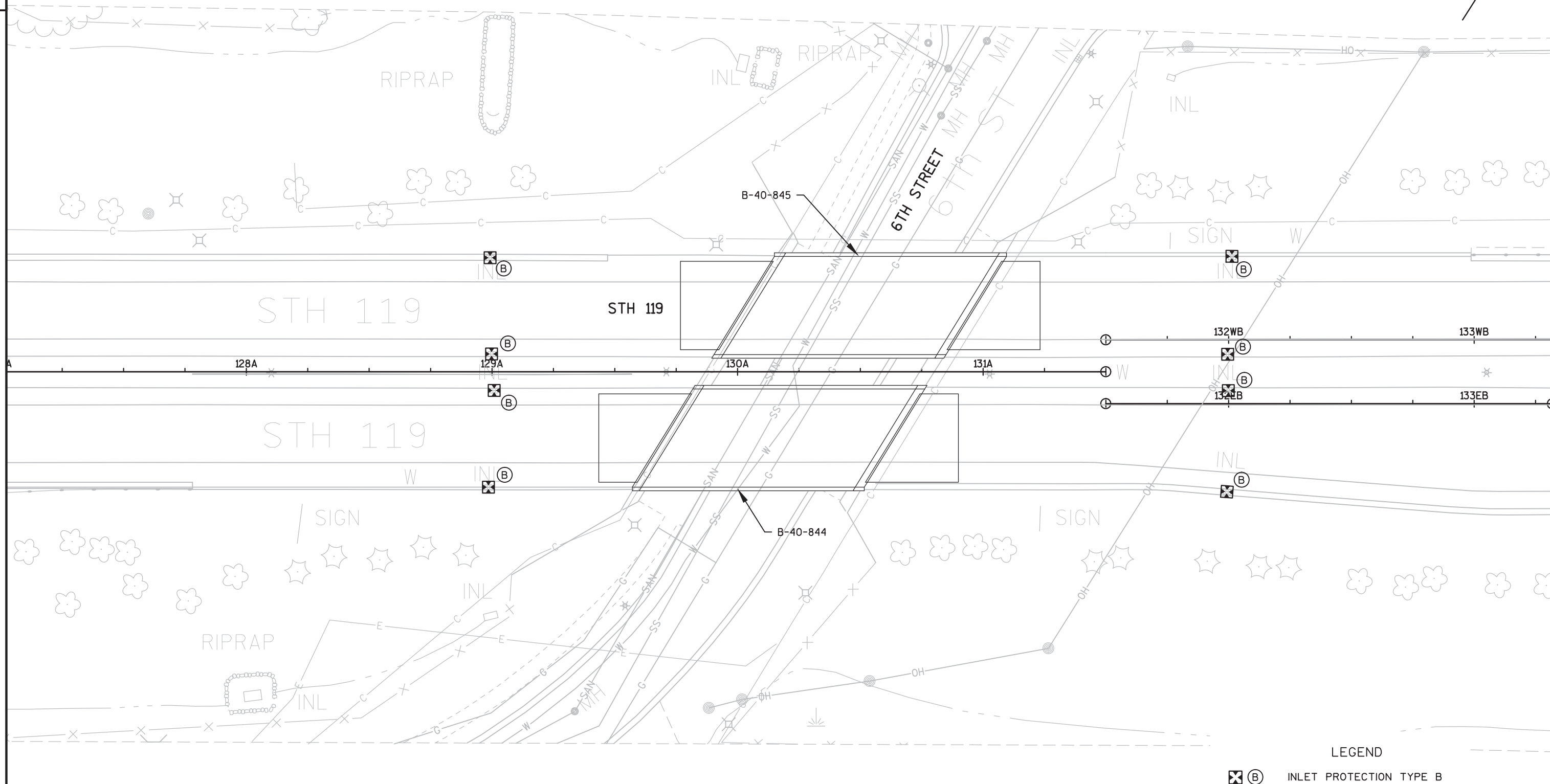
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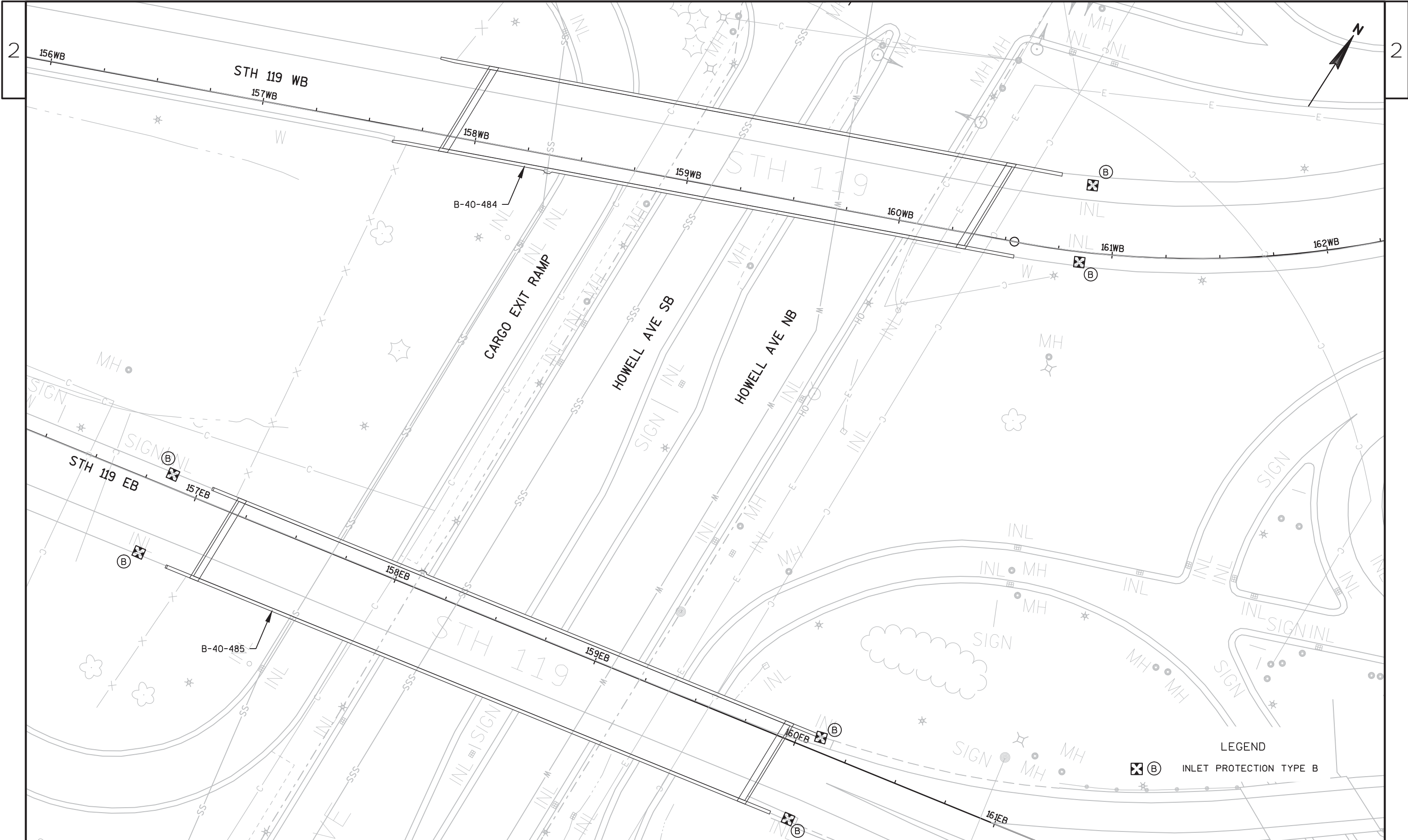
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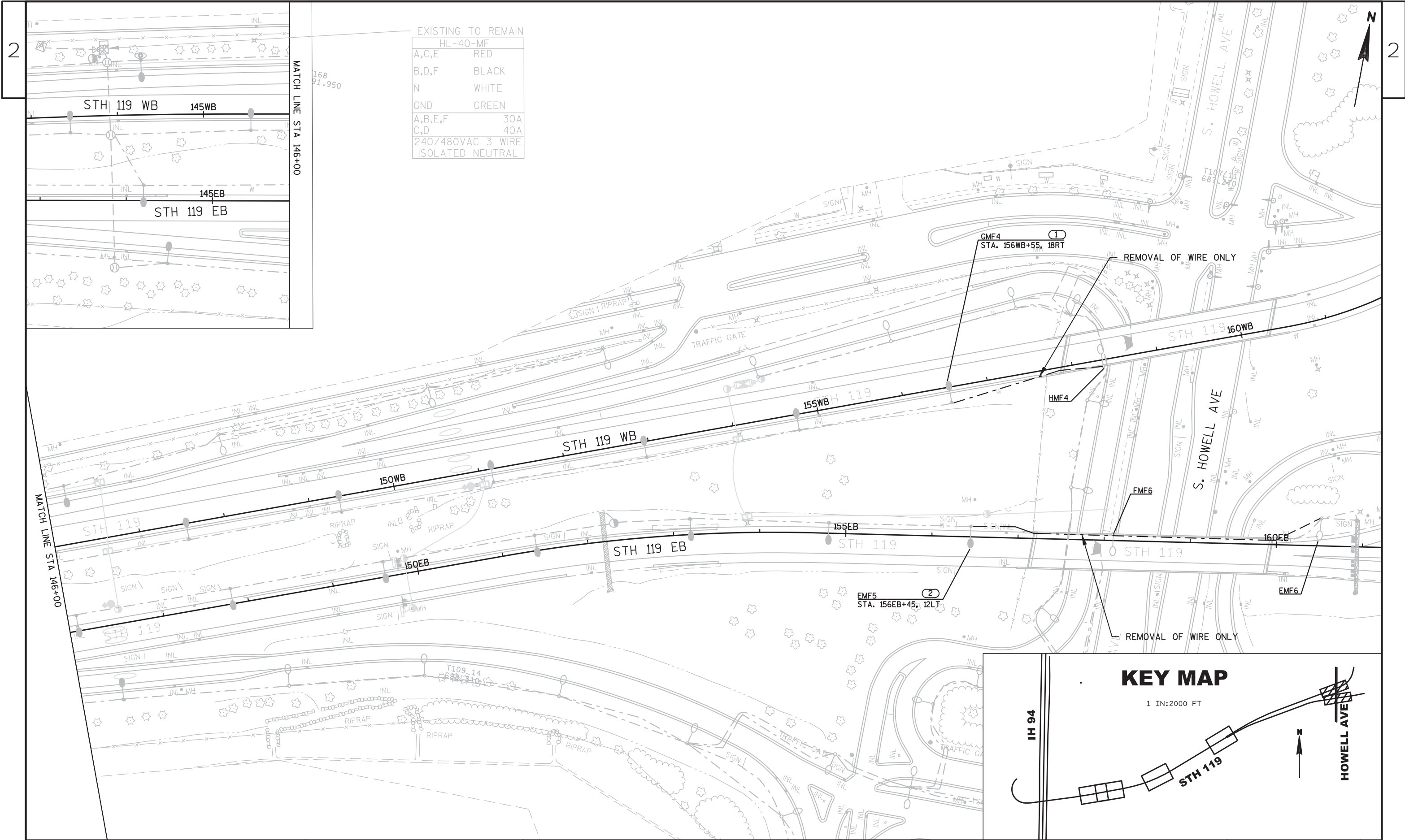


PROJECT NO:2015-02-70	HWY:STH 119	COUNTY:MILWAUKEE	EROSION CONTROL	SHEET	E
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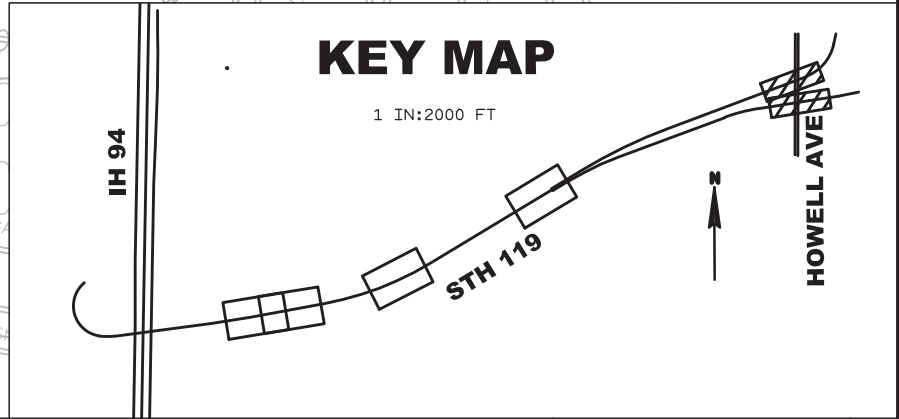


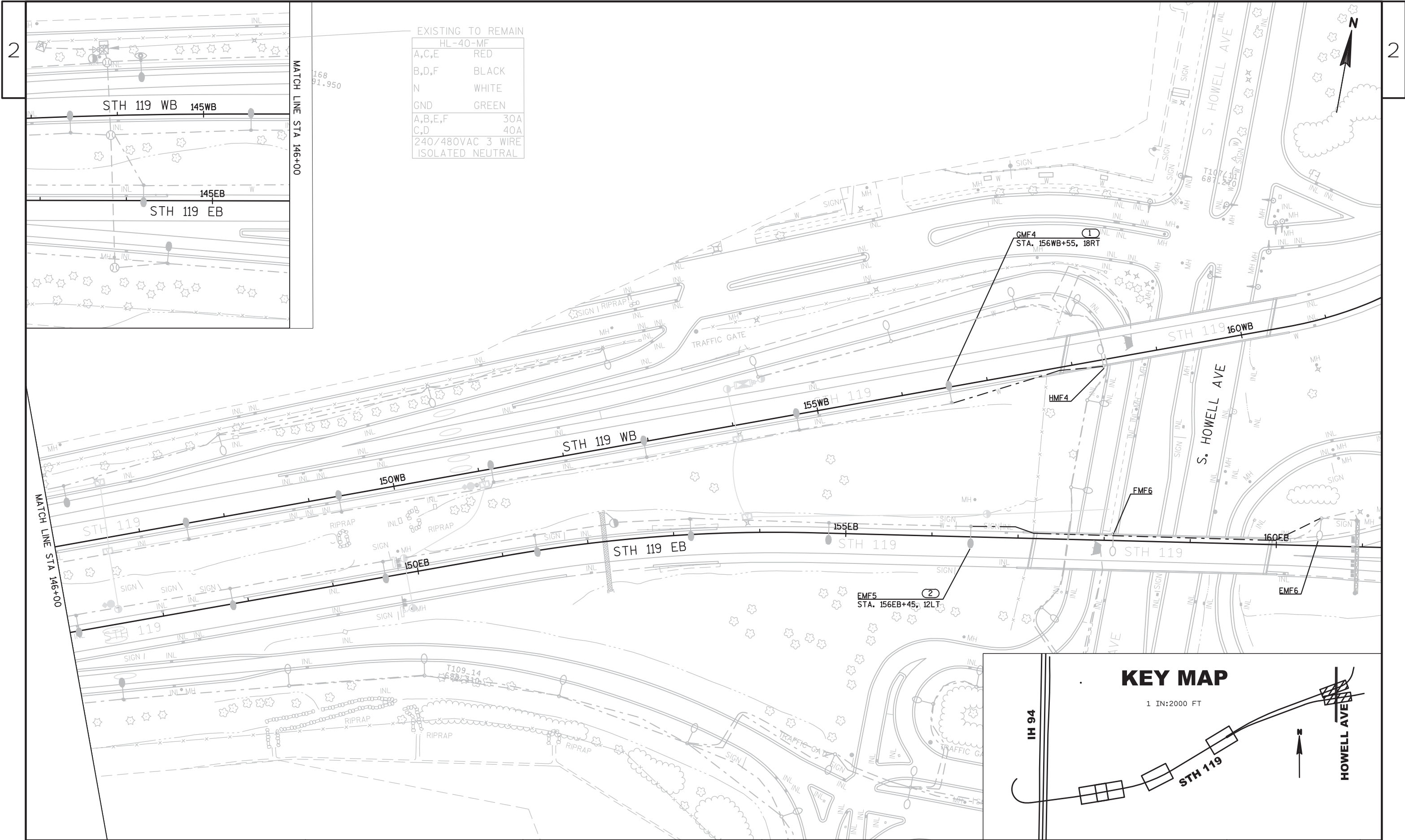






EXISTING TO REMAIN	
HL-40-MF	
A,C,E	RED
B,D,F	BLACK
N	WHITE
GND	GREEN
A,B,E,F	30A
C,D	40A
240/480VAC 3 WIRE	
ISOLATED NEUTRAL	

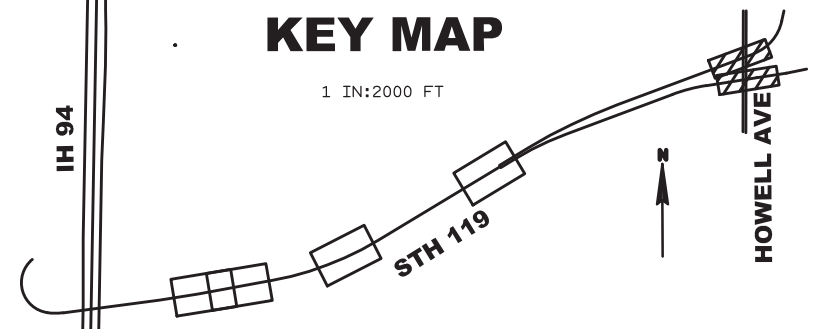


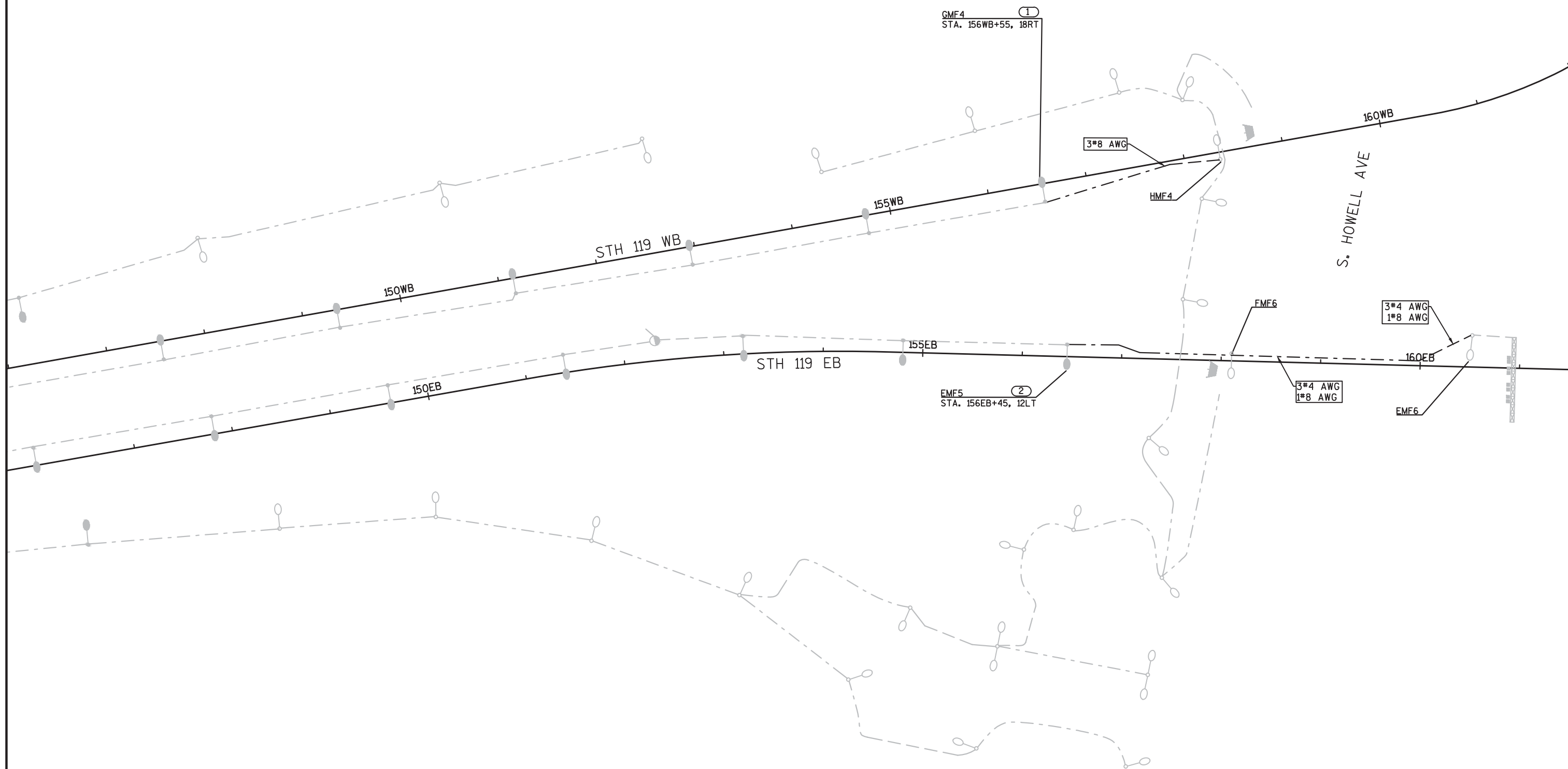


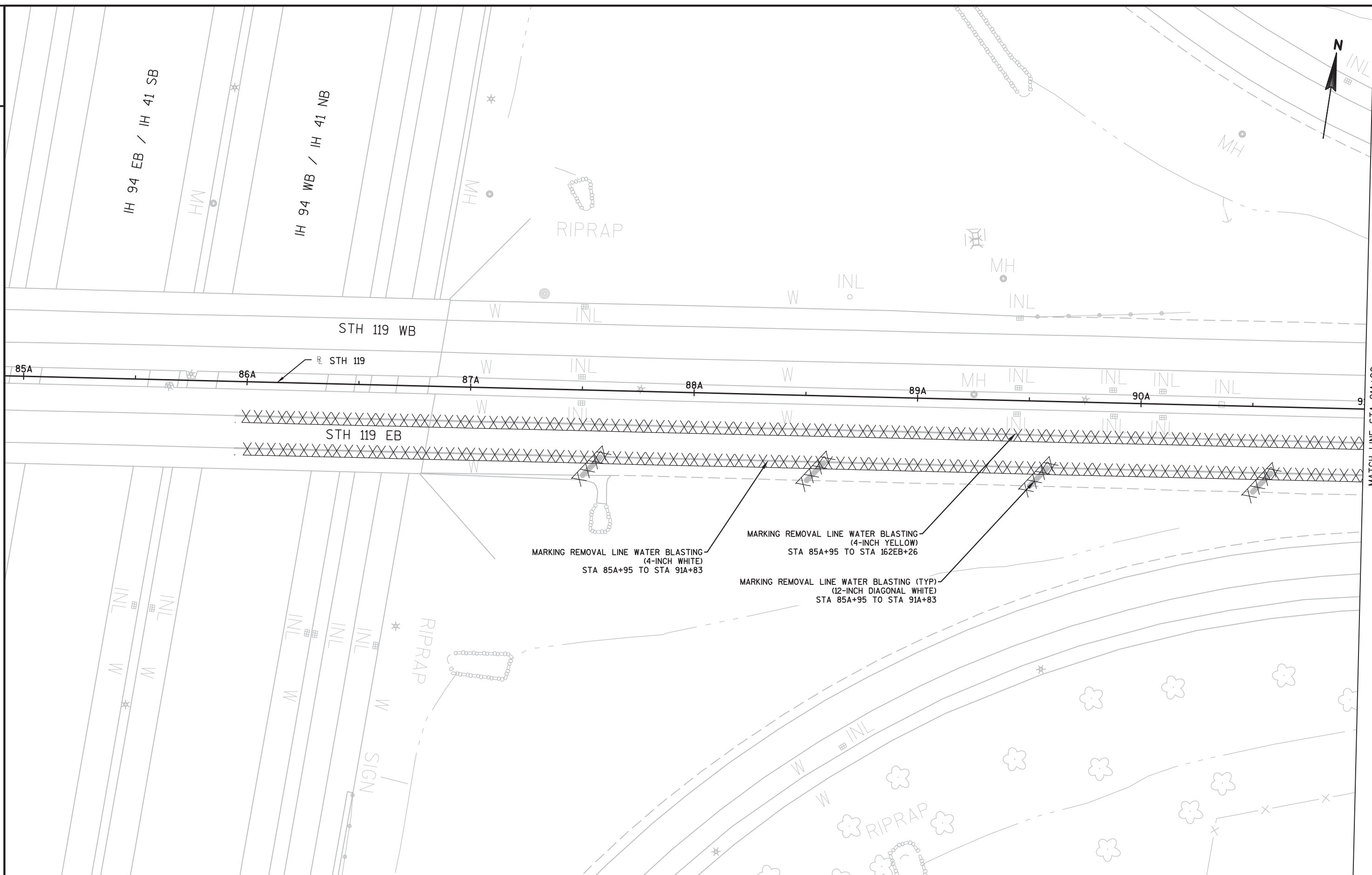
EXISTING TO REMAIN	
HL-40-MF	
A,C,E	RED
B,D,F	BLACK
N	WHITE
GND	GREEN
A,B,E,F	30A
C,D	40A
240/480VAC 3 WIRE	
ISOLATED NEUTRAL	

KEY MAP

1 IN:2000 FT







PROJECT NO: 2015-02-70

HWY: STH 119

COUNTY: MILWAUKEE

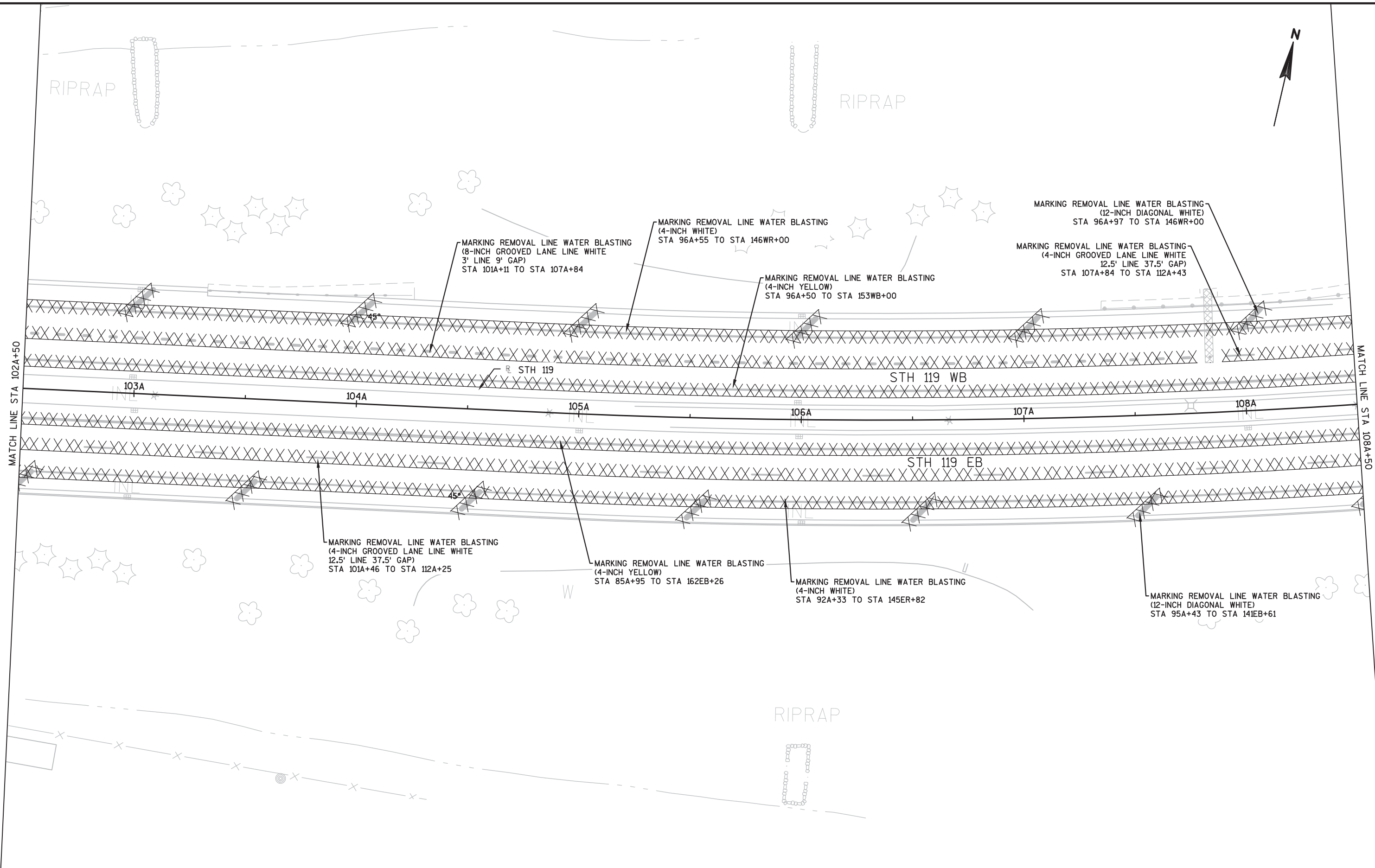
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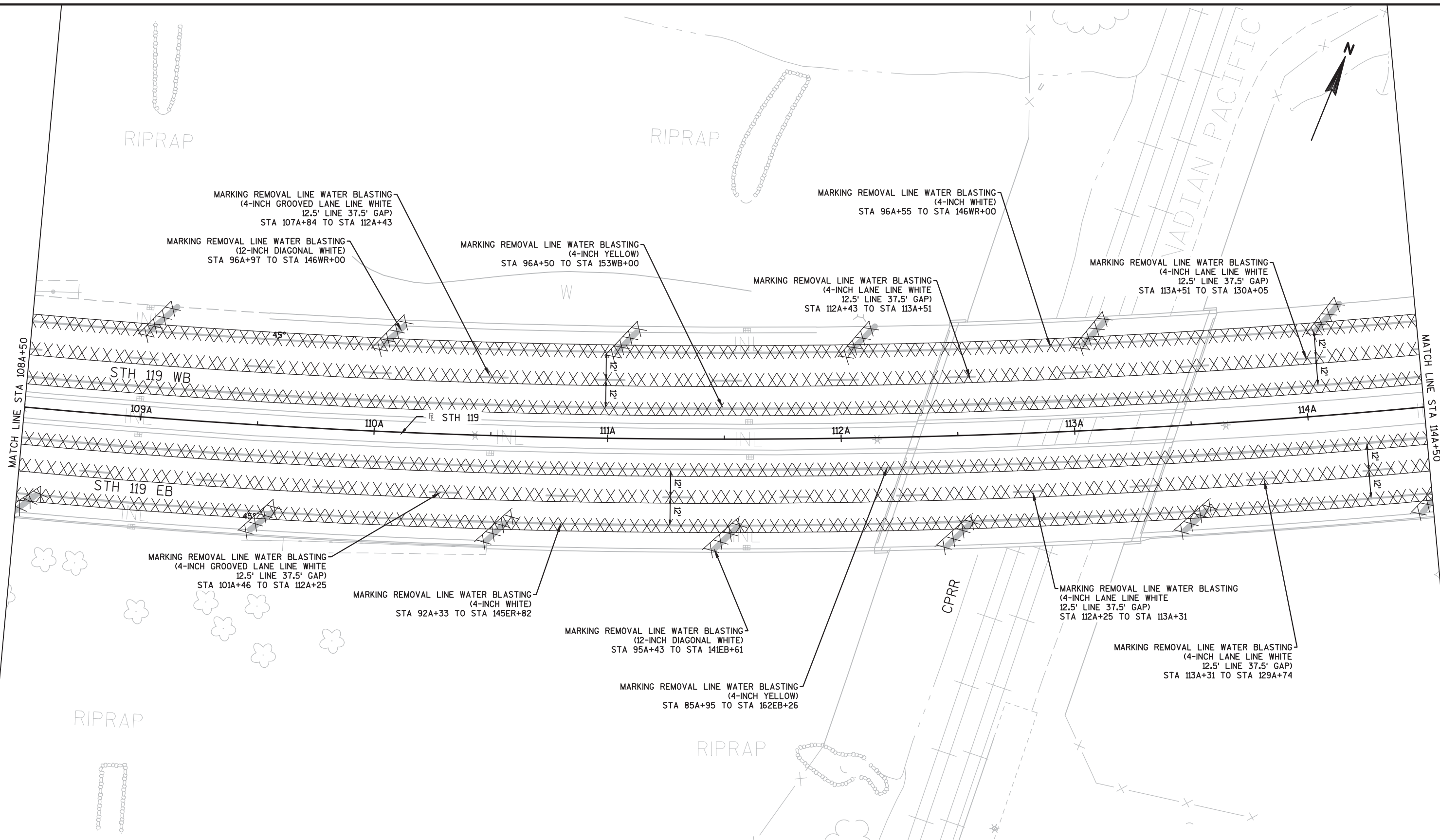
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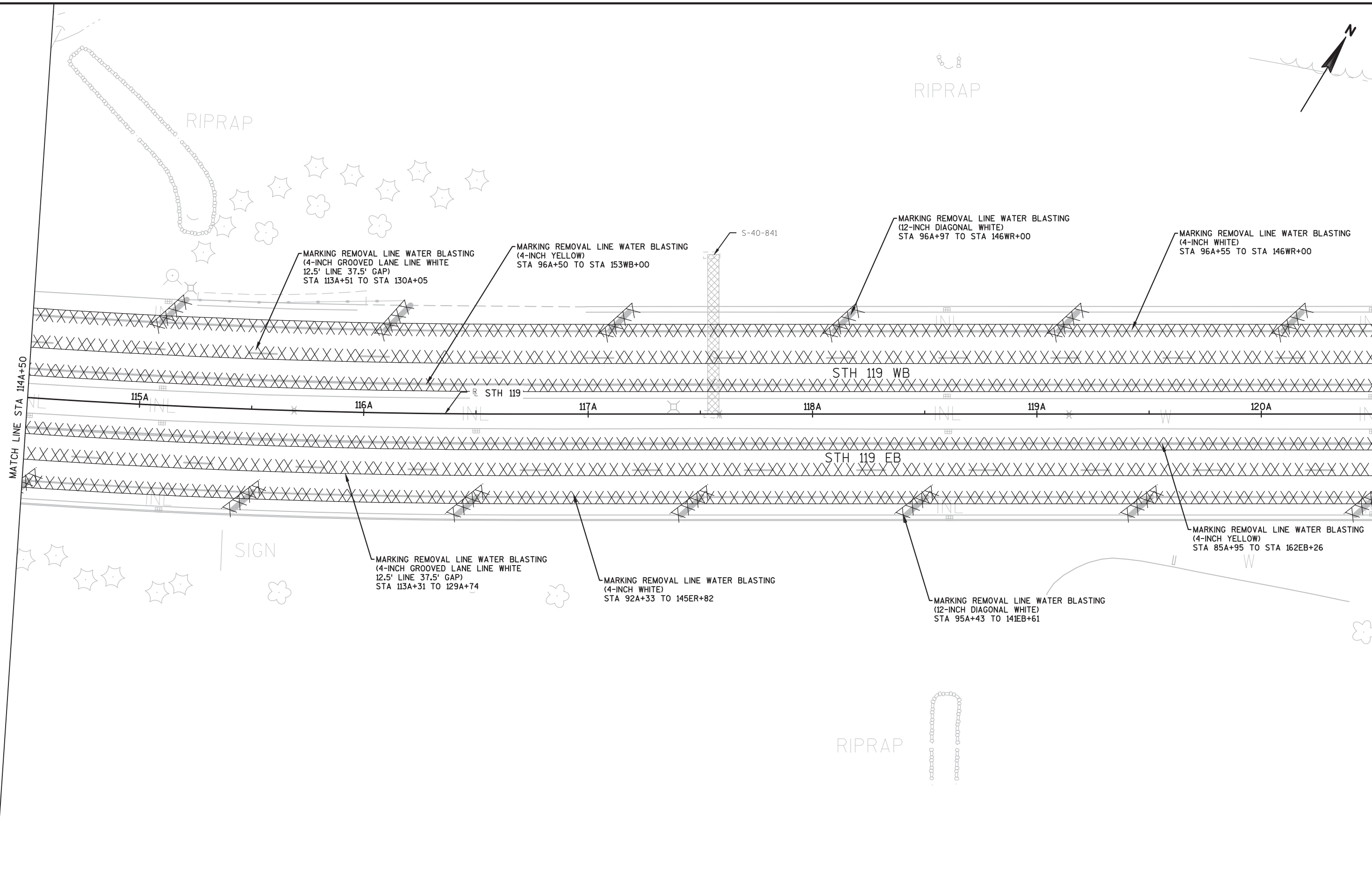






MATCH LINE STA 114A+50

MATCH LINE STA 120A+50



PROJECT NO: 2015-02-70

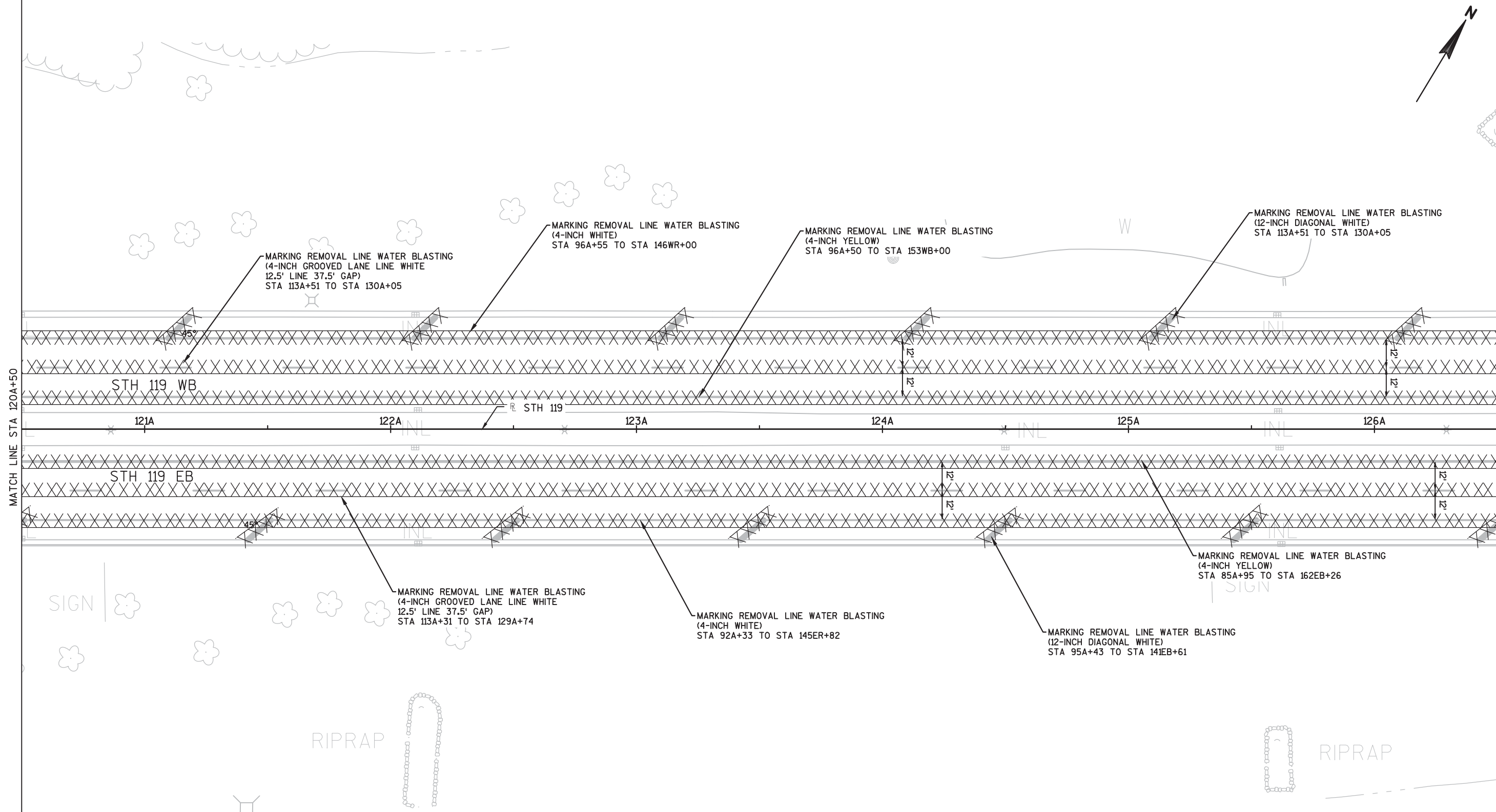
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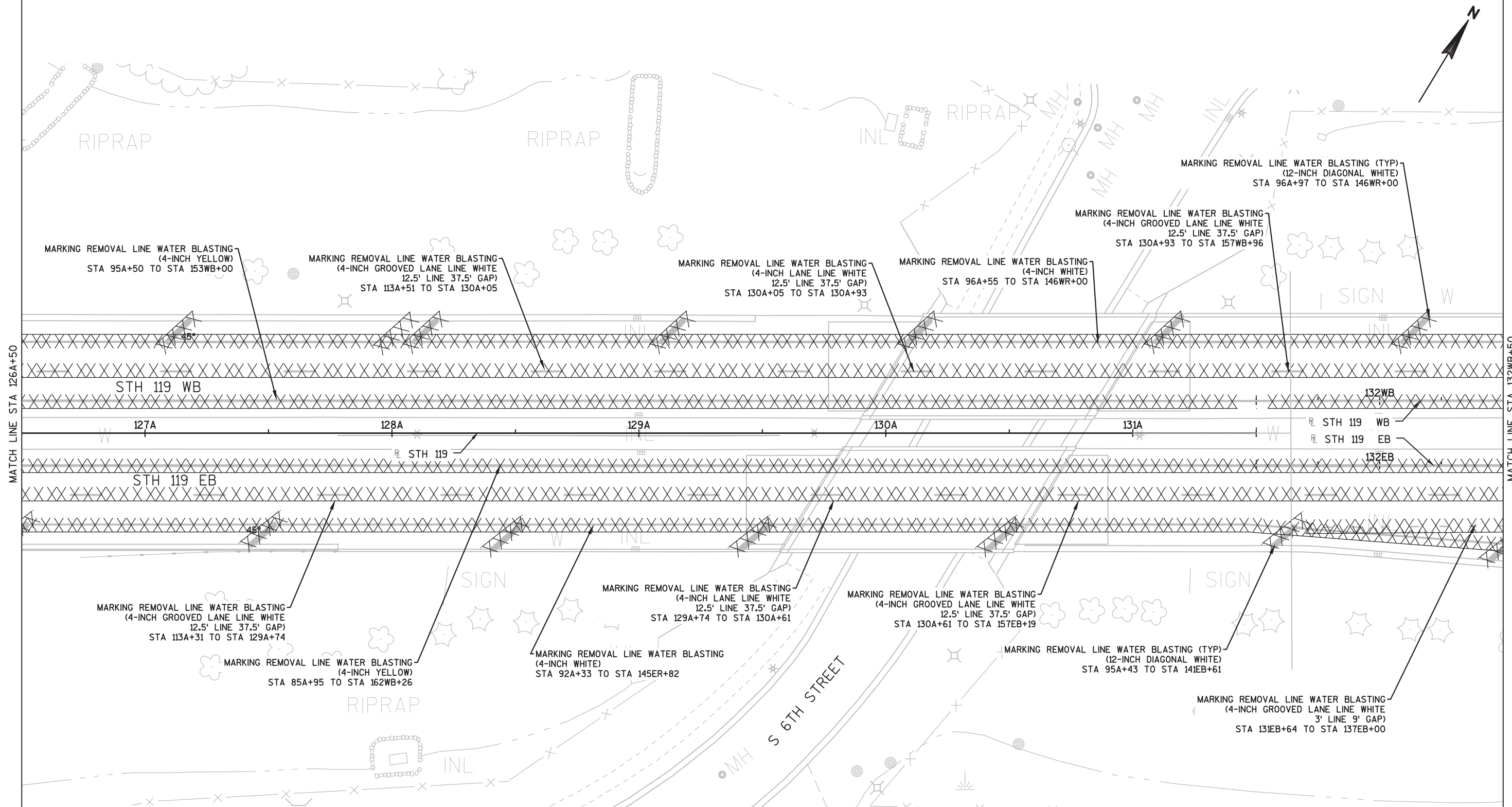
COUNTY: MILWAUKEE

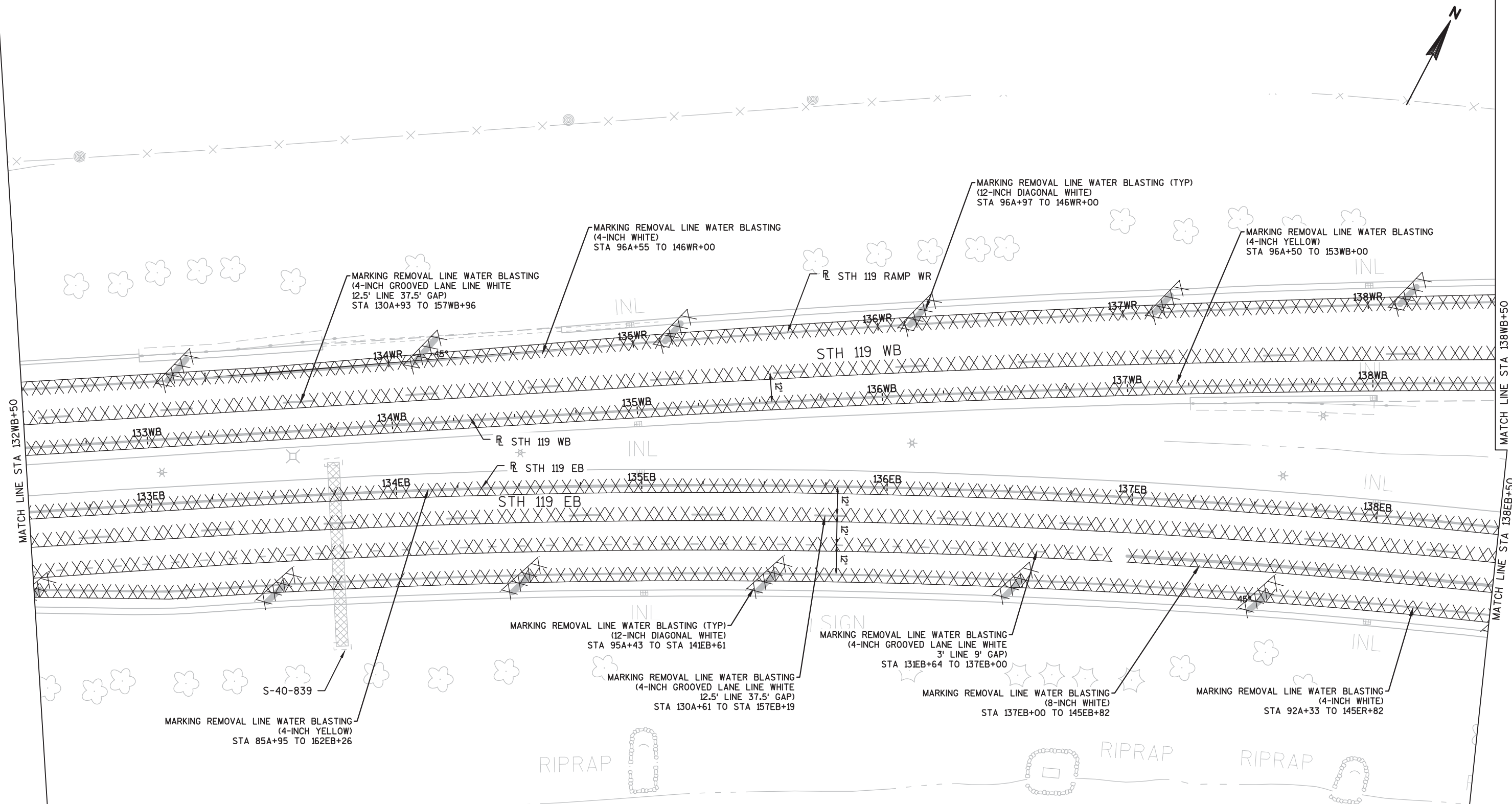
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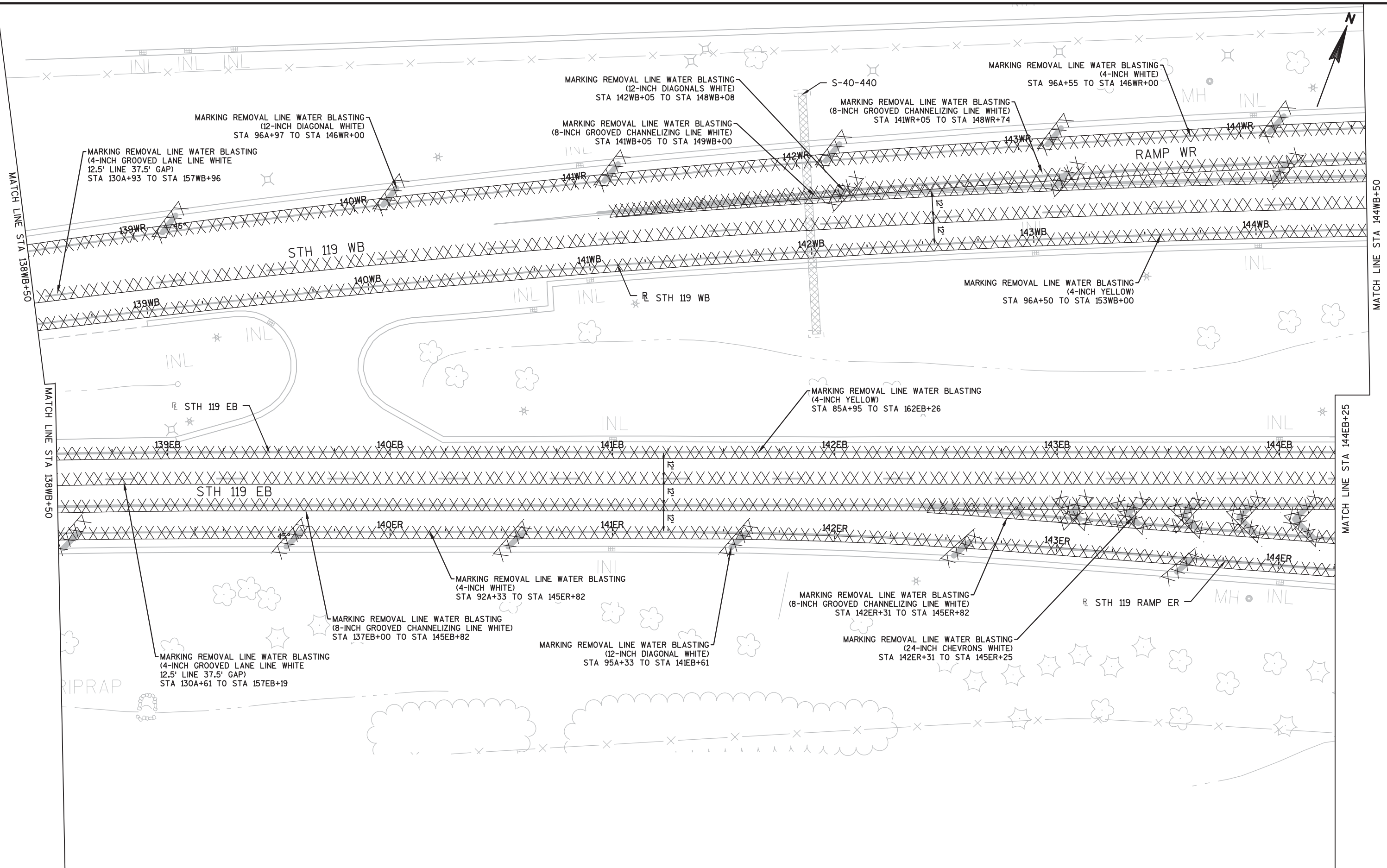
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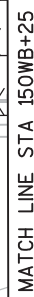
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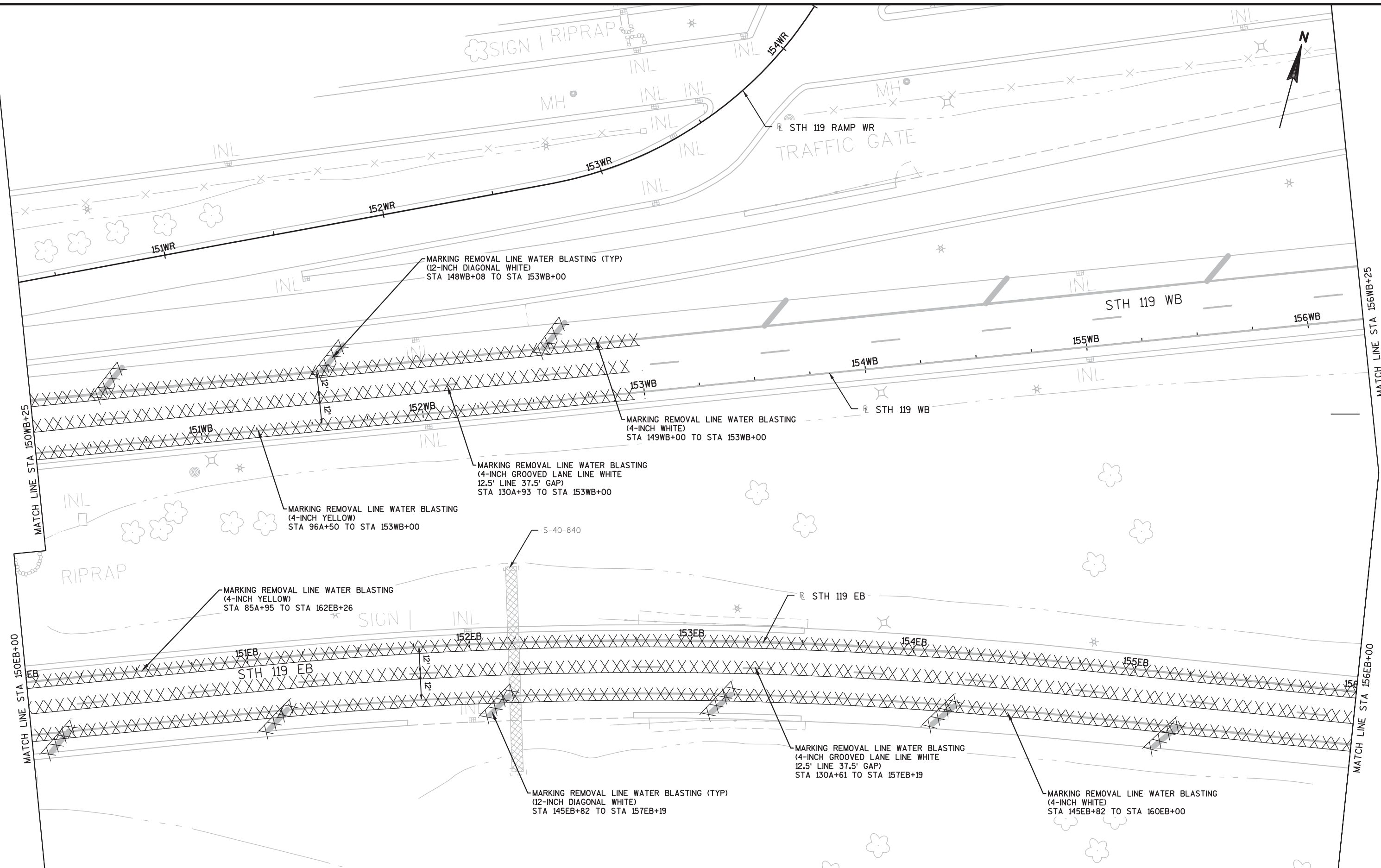


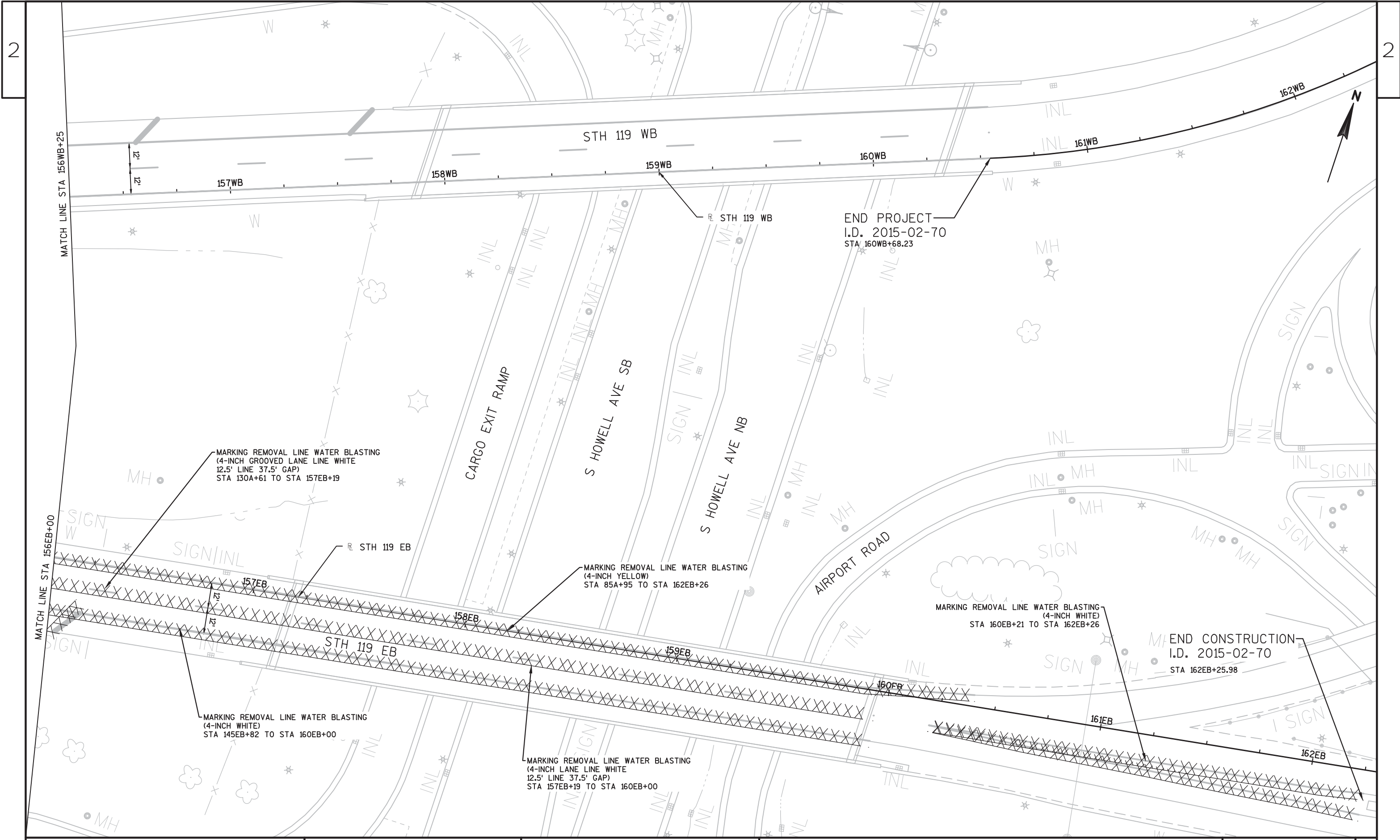




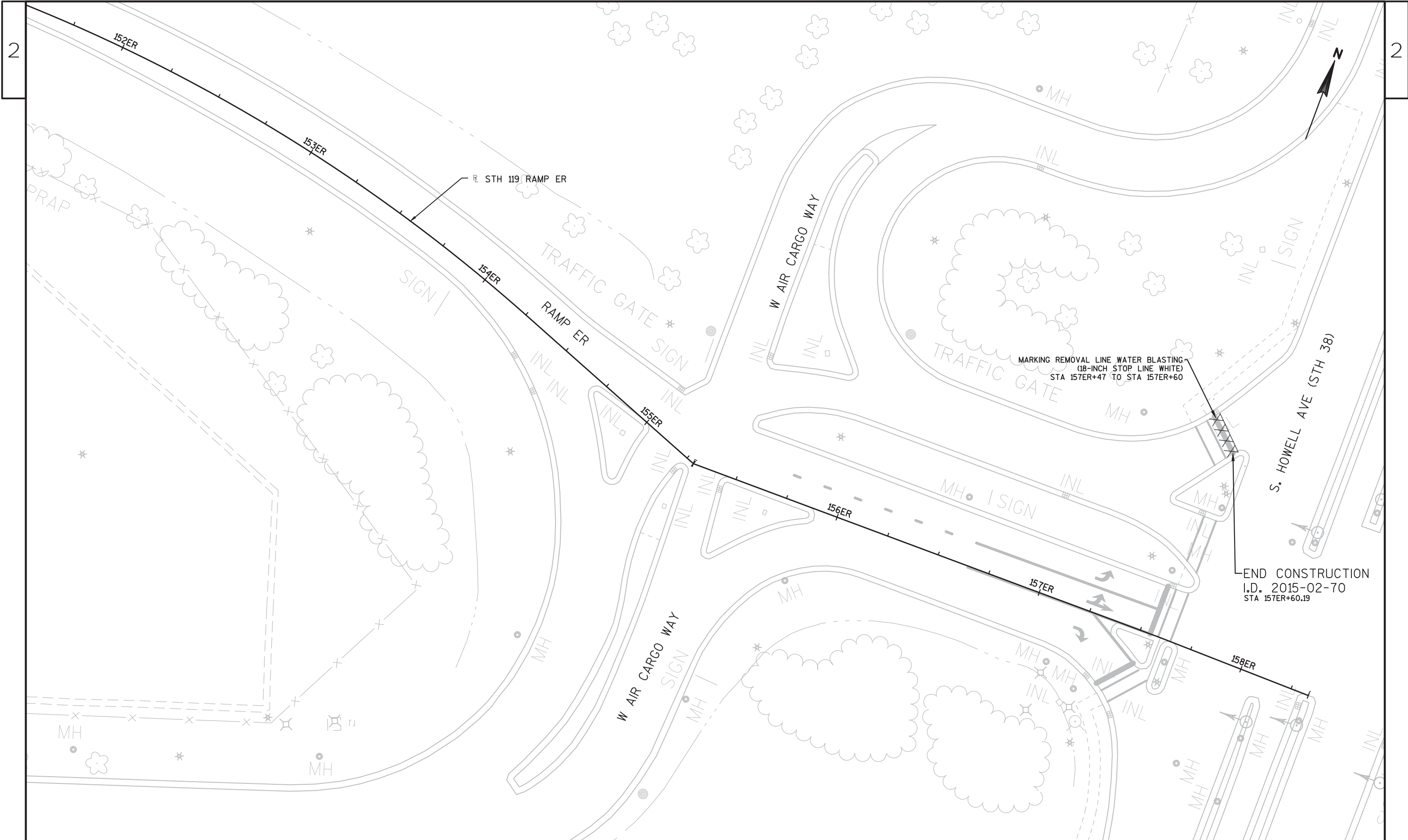




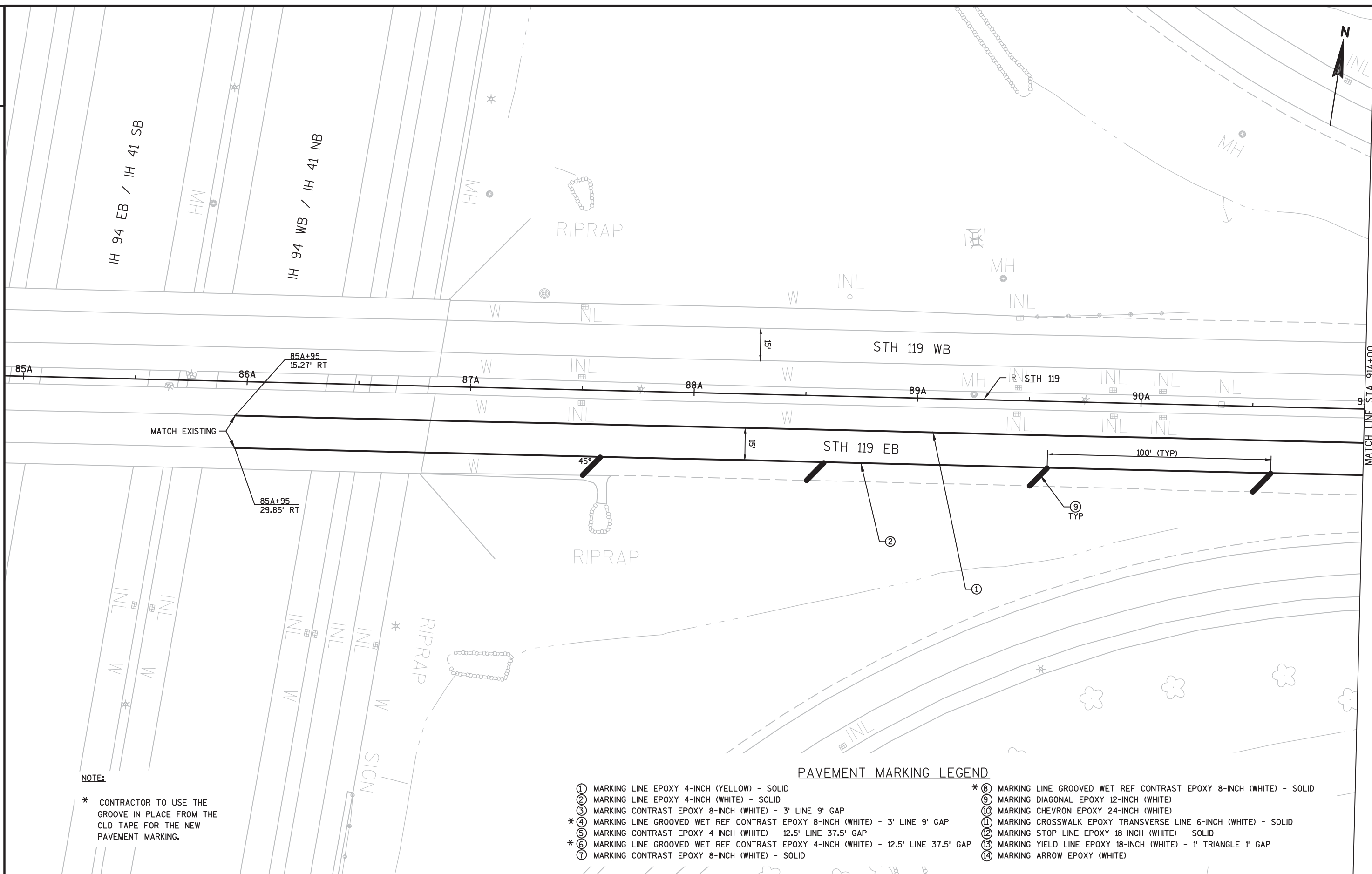




PROJECT NO:2015-02-70	HWY:STH 119	COUNTY:MILWAUKEE	REMOVING PAVMENT MARKING	SHEET	E
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PROJECT NO:2015-02-70	HWY:STH 119	COUNTY:MILWAUKEE	REMOVING PAVEMENT MARKING	SHEET	E
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PROJECT NO:2015-02-70

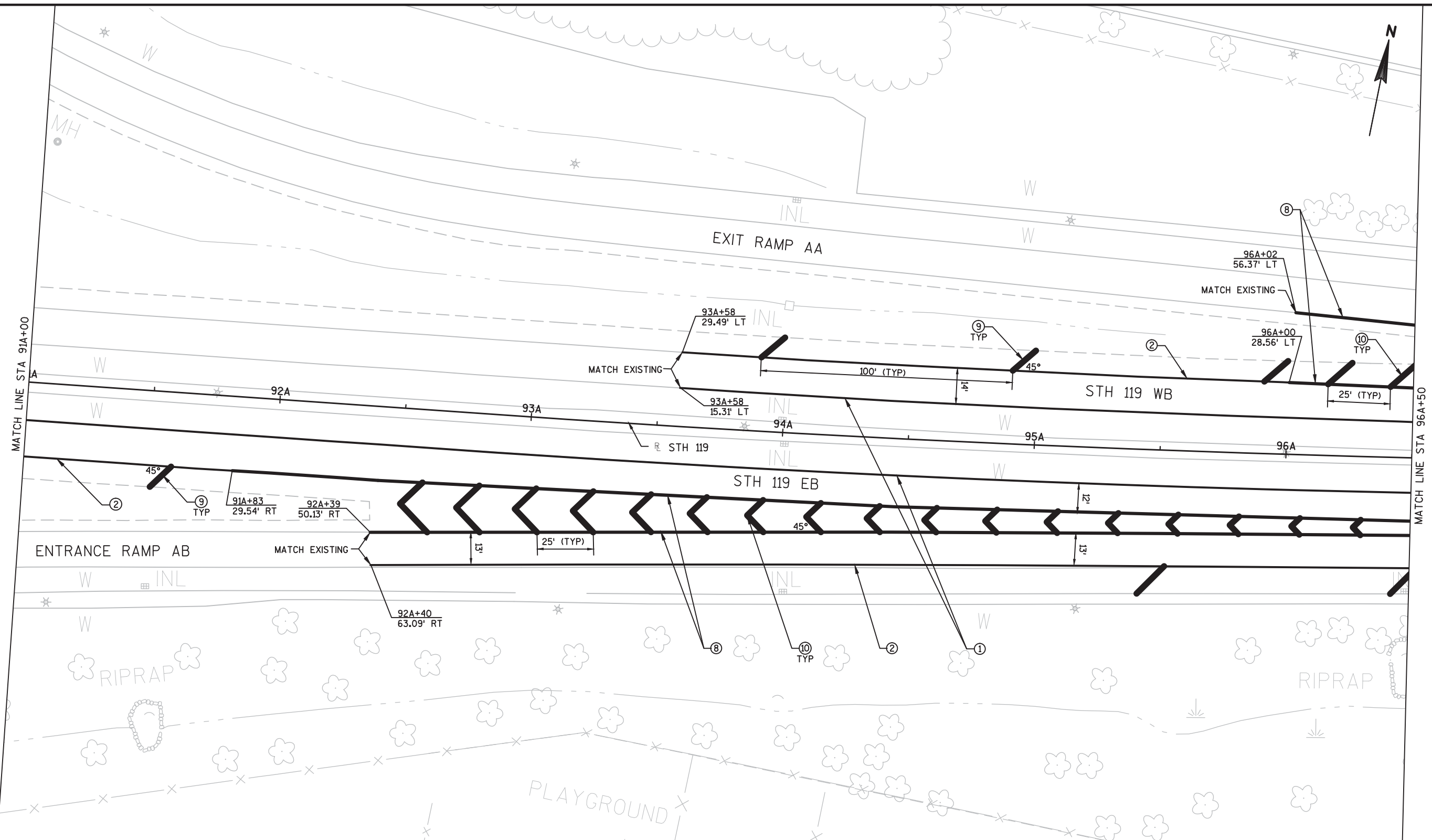
HWY:STH 119

COUNTY:MILWAUKEE

PAVEMENT MARKING

SHEET

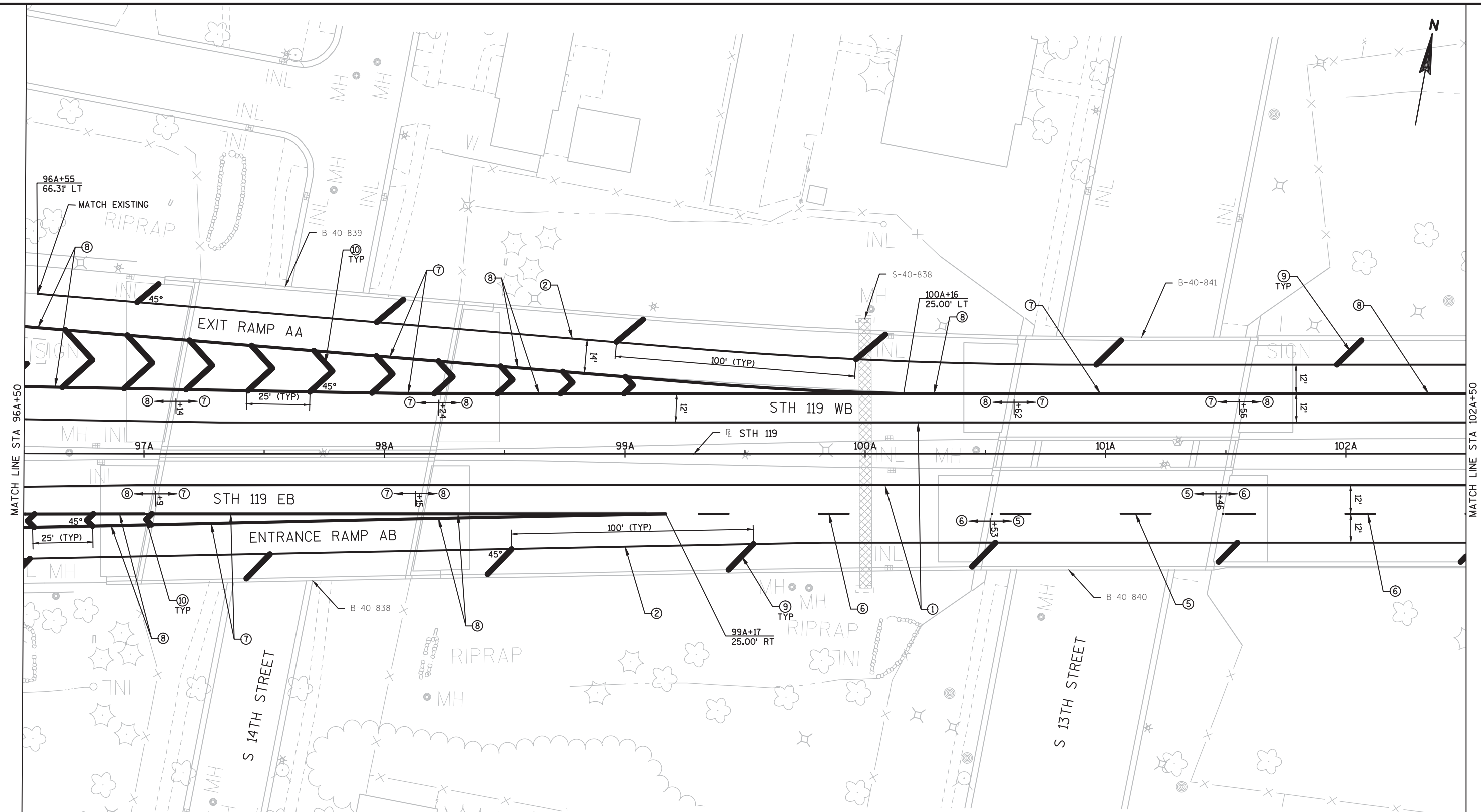
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**NOTE:**

- * CONTRACTOR TO USE THE GROOVE IN PLACE FROM THE OLD TAPE FOR THE NEW PAVEMENT MARKING.

PAVEMENT MARKING LEGEND

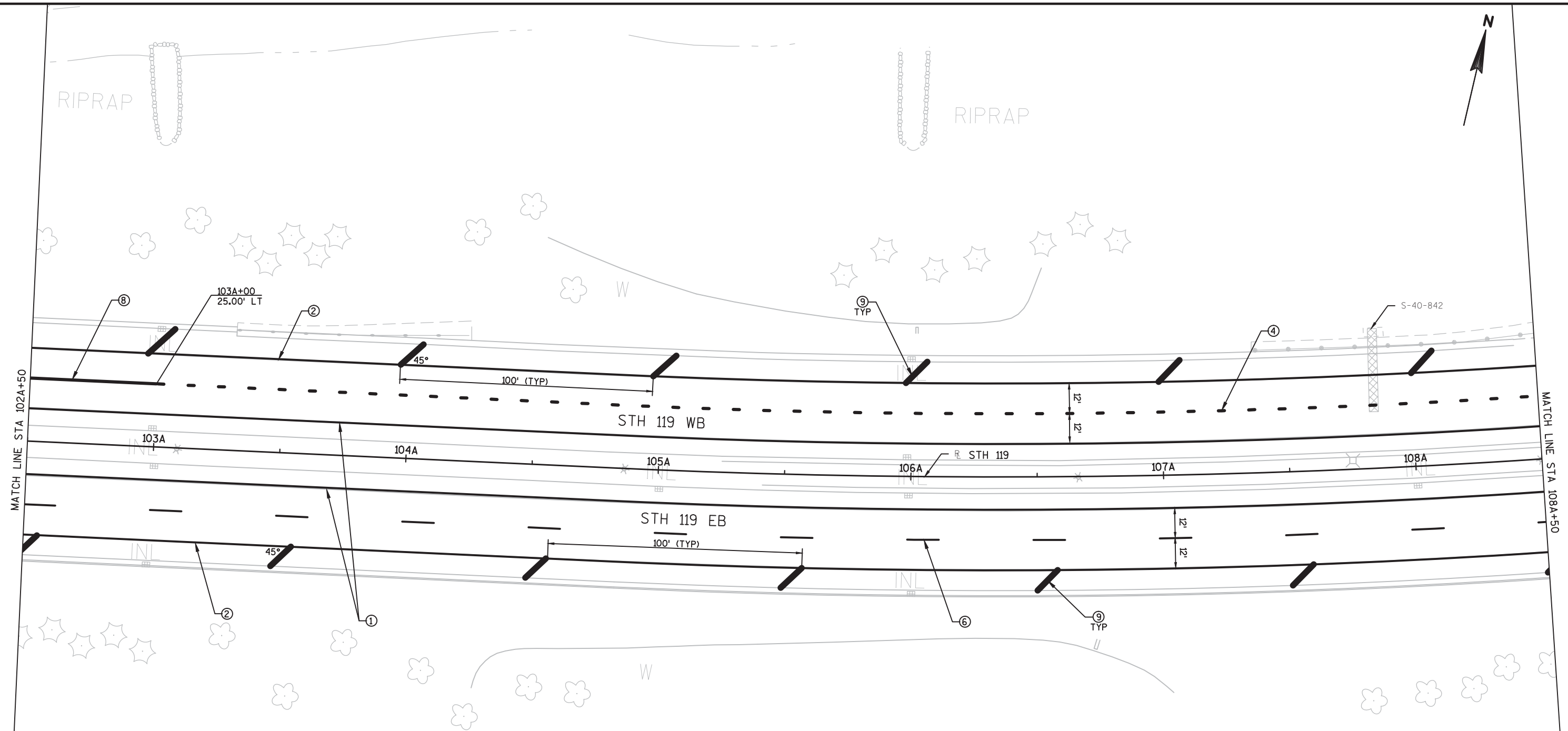
- | | |
|---|--|
| ① MARKING LINE EPOXY 4-INCH (YELLOW) - SOLID | * ⑧ MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE) - SOLID |
| ② MARKING LINE EPOXY 4-INCH (WHITE) - SOLID | ⑨ MARKING DIAGONAL EPOXY 12-INCH (WHITE) |
| ③ MARKING CONTRAST EPOXY 8-INCH (WHITE) - 3' LINE 9' GAP | ⑩ MARKING CHEVRON EPOXY 24-INCH (WHITE) |
| * ④ MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE) - 3' LINE 9' GAP | ⑪ MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE) - SOLID |
| ⑤ MARKING CONTRAST EPOXY 4-INCH (WHITE) - 12.5' LINE 37.5' GAP | ⑫ MARKING STOP LINE EPOXY 18-INCH (WHITE) - SOLID |
| * ⑥ MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE) - 12.5' LINE 37.5' GAP | ⑬ MARKING YIELD LINE EPOXY 18-INCH (WHITE) - 1' TRIANGLE 1' GAP |
| ⑦ MARKING CONTRAST EPOXY 8-INCH (WHITE) - SOLID | ⑭ MARKING ARROW EPOXY (WHITE) |

**NOTE:**

- * CONTRACTOR TO USE THE GROOVE IN PLACE FROM THE OLD TAPE FOR THE NEW PAVEMENT MARKING.

PAVEMENT MARKING LEGEND

- | | |
|---|--|
| ① MARKING LINE EPOXY 4-INCH (YELLOW) - SOLID | * ⑧ MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE) - SOLID |
| ② MARKING LINE EPOXY 4-INCH (WHITE) - SOLID | ⑨ MARKING DIAGONAL EPOXY 12-INCH (WHITE) |
| ③ MARKING CONTRAST EPOXY 8-INCH (WHITE) - 3' LINE 9' GAP | ⑩ MARKING CHEVRON EPOXY 24-INCH (WHITE) |
| * ④ MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE) - 3' LINE 9' GAP | ⑪ MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE) - SOLID |
| ⑤ MARKING CONTRAST EPOXY 4-INCH (WHITE) - 12.5' LINE 37.5' GAP | ⑫ MARKING STOP LINE EPOXY 18-INCH (WHITE) - SOLID |
| * ⑥ MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE) - 12.5' LINE 37.5' GAP | ⑬ MARKING YIELD LINE EPOXY 18-INCH (WHITE) - 1' TRIANGLE 1' GAP |
| ⑦ MARKING CONTRAST EPOXY 8-INCH (WHITE) - SOLID | ⑭ MARKING ARROW EPOXY (WHITE) |

**NOTE:**

* CONTRACTOR TO USE THE GROOVE IN PLACE FROM THE OLD TAPE FOR THE NEW PAVEMENT MARKING.

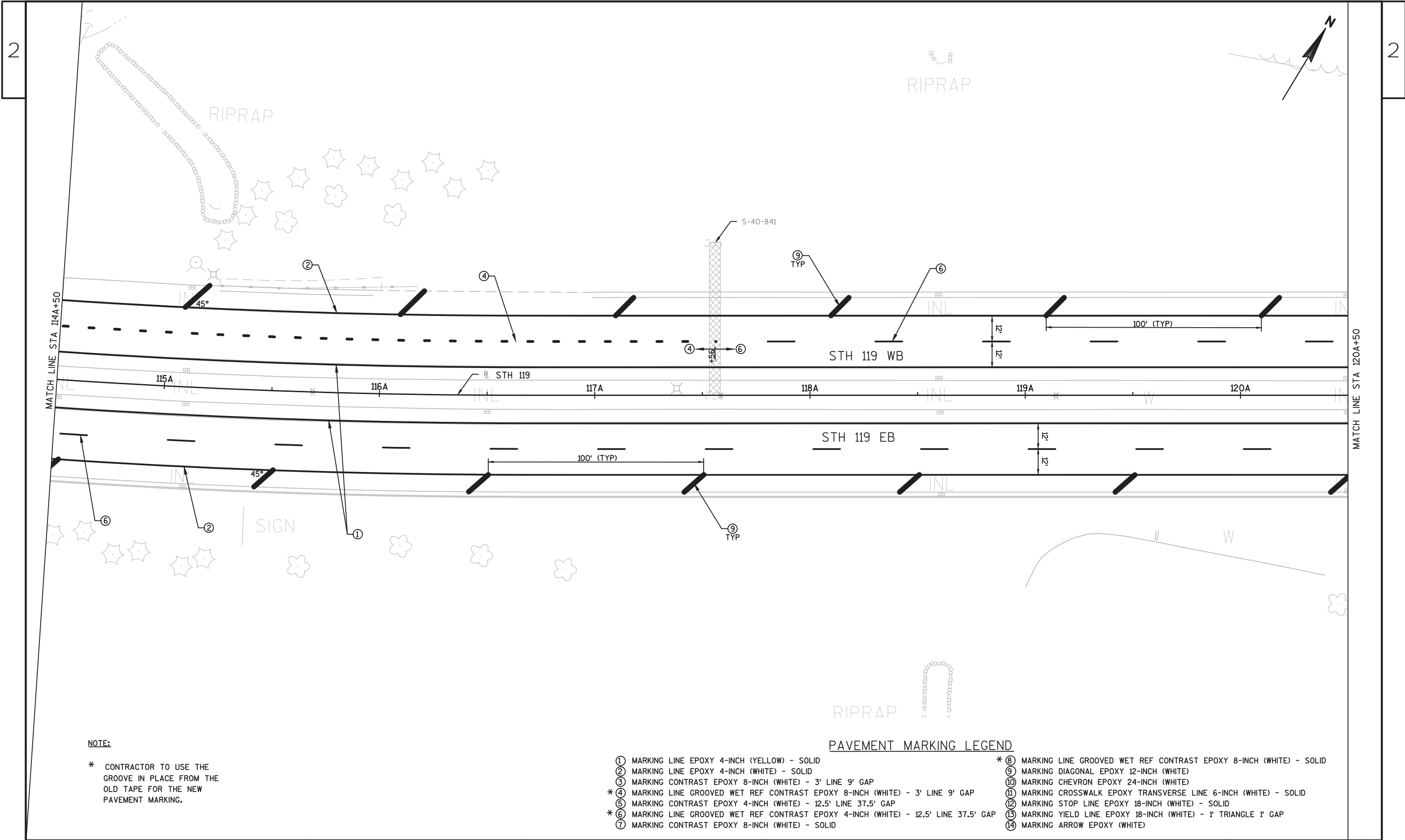
PAVEMENT MARKING LEGEND

- | | |
|---|--|
| ① MARKING LINE EPOXY 4-INCH (YELLOW) - SOLID | * ⑧ MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE) - SOLID |
| ② MARKING LINE EPOXY 4-INCH (WHITE) - SOLID | ⑨ MARKING DIAGONAL EPOXY 12-INCH (WHITE) |
| ③ MARKING CONTRAST EPOXY 8-INCH (WHITE) - 3' LINE 9' GAP | ⑩ MARKING CHEVRON EPOXY 24-INCH (WHITE) |
| * ④ MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE) - 3' LINE 9' GAP | ⑪ MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE) - SOLID |
| ⑤ MARKING CONTRAST EPOXY 4-INCH (WHITE) - 12.5' LINE 37.5' GAP | ⑫ MARKING STOP LINE EPOXY 18-INCH (WHITE) - SOLID |
| * ⑥ MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE) - 12.5' LINE 37.5' GAP | ⑬ MARKING YIELD LINE EPOXY 18-INCH (WHITE) - 1' TRIANGLE 1' GAP |
| ⑦ MARKING CONTRAST EPOXY 8-INCH (WHITE) - SOLID | ⑭ MARKING ARROW EPOXY (WHITE) |

2



WISDOT/CADDS SHEET 42



NOTE:

* CONTRACTOR TO USE THE GROOVE IN PLACE FROM THE OLD TAPE FOR THE NEW PAVEMENT MARKING.

PAVEMENT MARKING LEGEND

- | | |
|---|--|
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| ⑦ MARKING CONTRAST EPOXY 8-INCH (WHITE) - SOLID | ⑭ MARKING ARROW EPOXY (WHITE) |

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COUNTY: MILWAUKEE

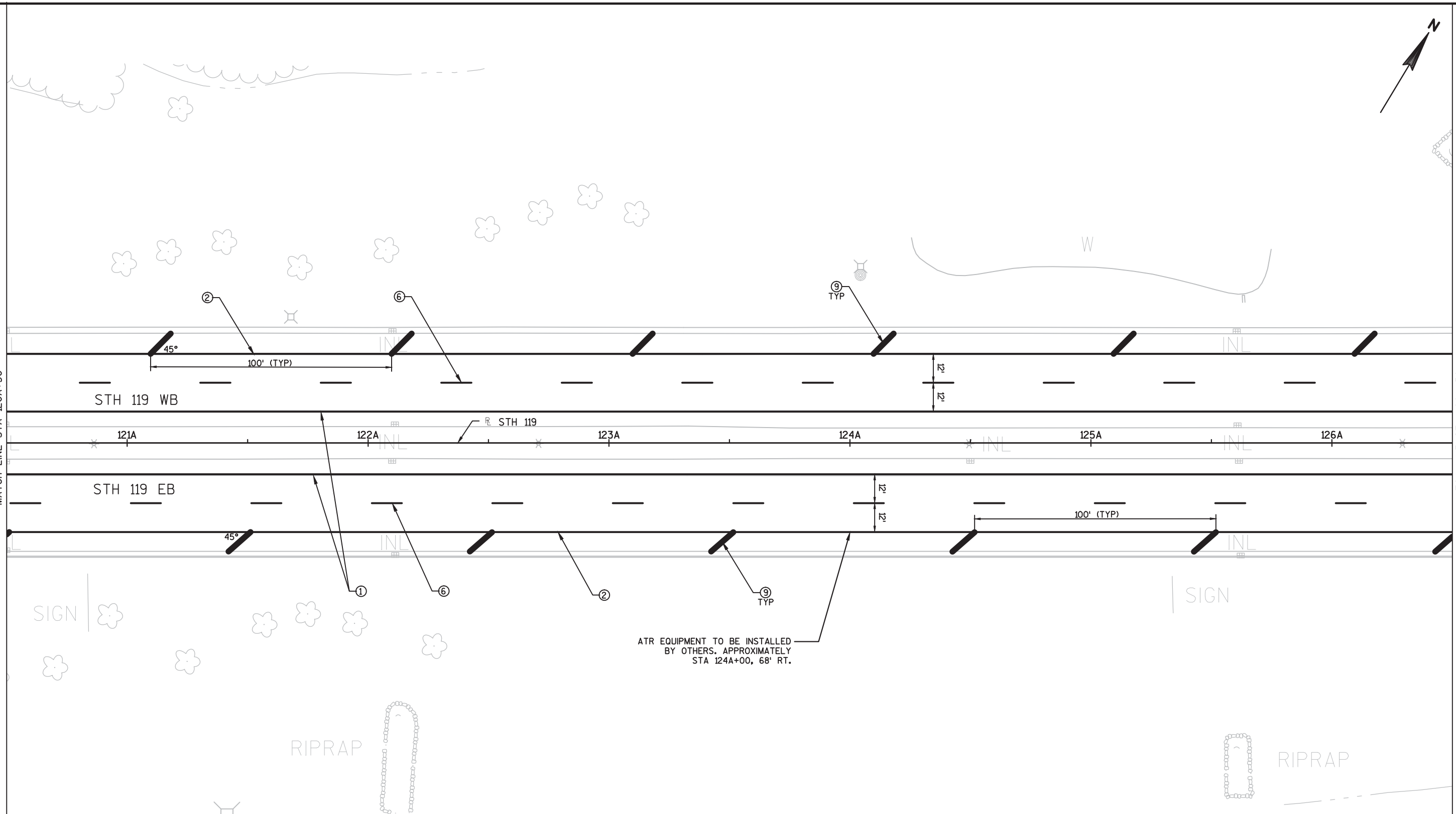
PAVEMENT MARKING

SHEET

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MATCH LINE STA 120A+50

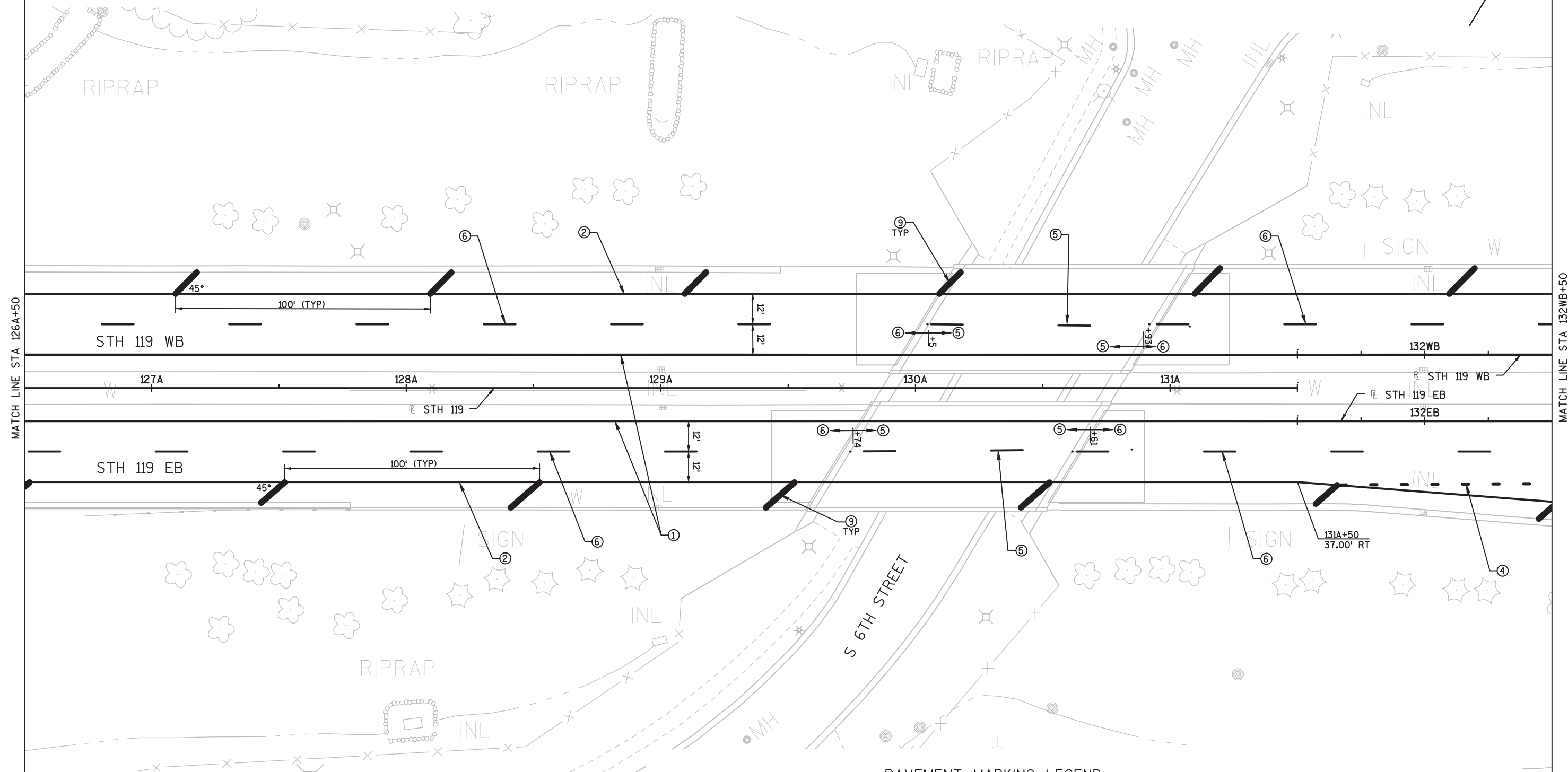
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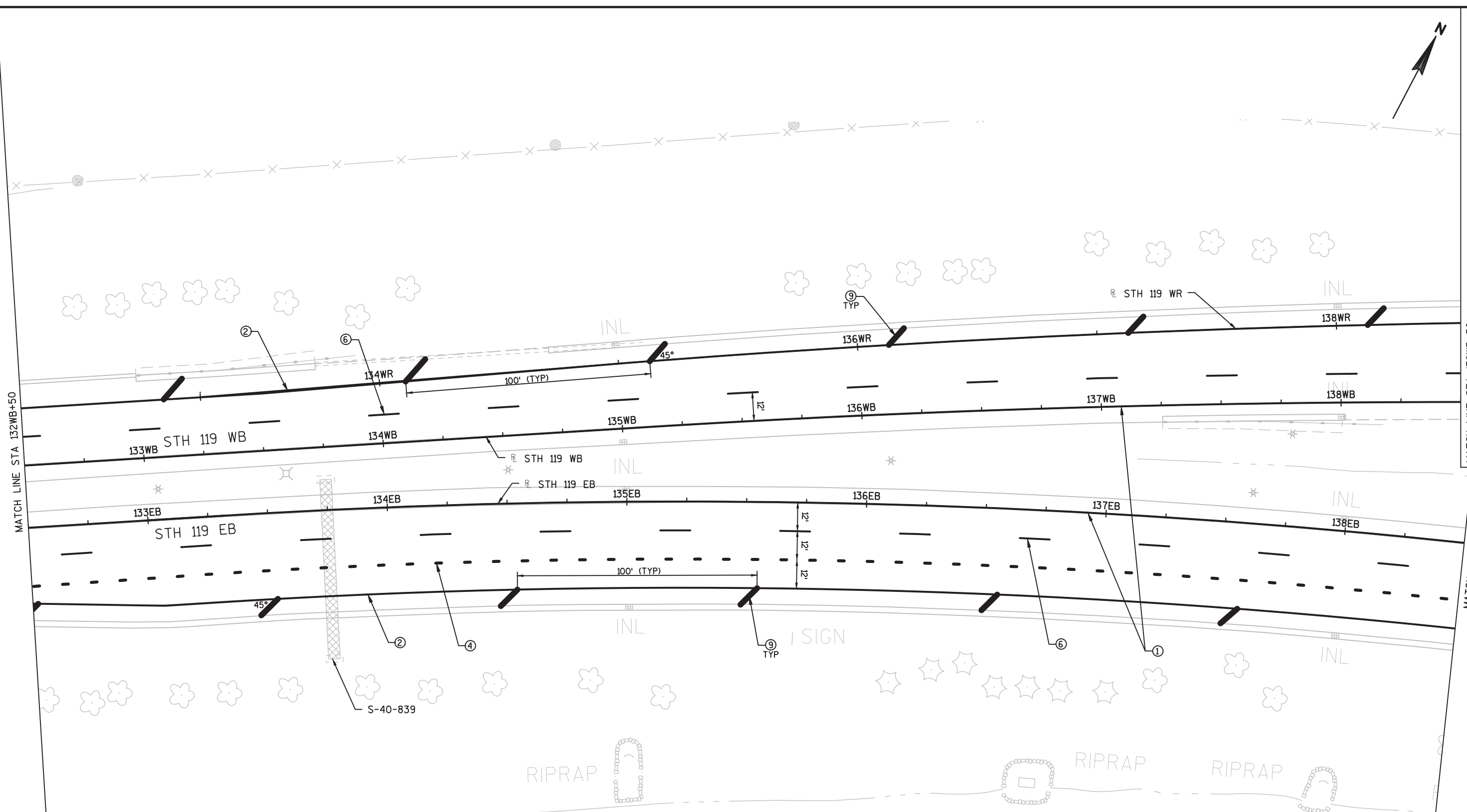
**NOTE:**

- * CONTRACTOR TO USE THE GROOVE IN PLACE FROM THE OLD TAPE FOR THE NEW PAVEMENT MARKING.

PAVEMENT MARKING LEGEND

- | | |
|---|--|
| ① MARKING LINE EPOXY 4-INCH (YELLOW) - SOLID | * ⑧ MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE) - SOLID |
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| ⑦ MARKING CONTRAST EPOXY 8-INCH (WHITE) - SOLID | ⑭ MARKING ARROW EPOXY (WHITE) |



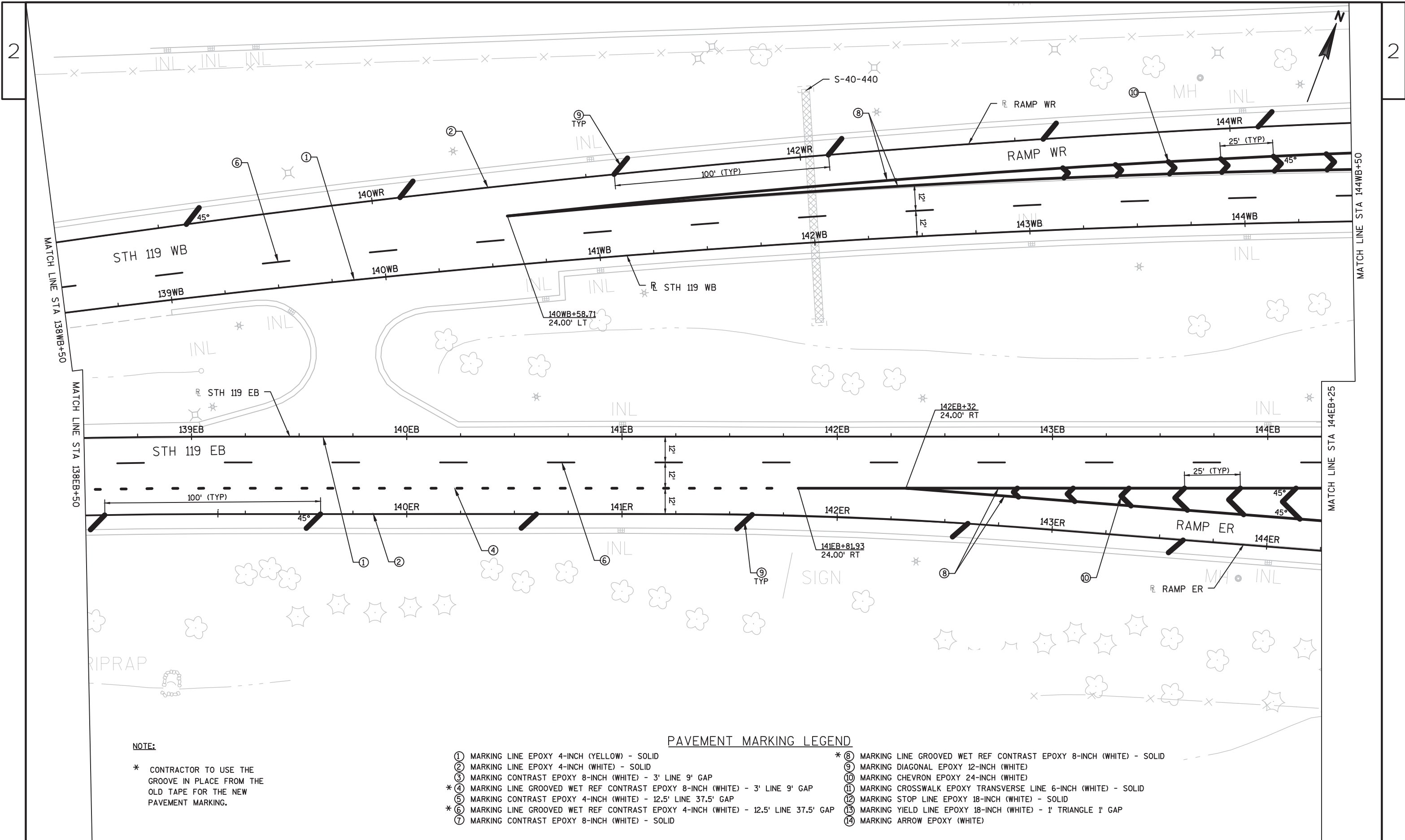


NOTE:

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PAVEMENT MARKING LEGEND

- | | |
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| ⑦ MARKING CONTRAST EPOXY 8-INCH (WHITE) - SOLID | ⑭ MARKING ARROW EPOXY (WHITE) |



NOTE:

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PAVEMENT MARKING LEGEND

- | | |
|---|--|
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PAVEMENT MARKING LEGEND

- ① MARKING LINE EPOXY 4-INCH (YELLOW) - SOLID

② MARKING LINE EPOXY 4-INCH (WHITE) - SOLID

③ MARKING CONTRAST EPOXY 8-INCH (WHITE) - 3' LINE 9' GAP

* ④ MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE) - 3' LINE 9' GAP

⑤ MARKING CONTRAST EPOXY 4-INCH (WHITE) - 12.5' LINE 37.5' GAP

* ⑥ MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (WHITE) - 12.5' LINE 37.5' GAP

⑦ MARKING CONTRAST EPOXY 8-INCH (WHITE) - SOLID
- * ⑧ MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE) - SOLID

⑨ MARKING DIAGONAL EPOXY 12-INCH (WHITE)

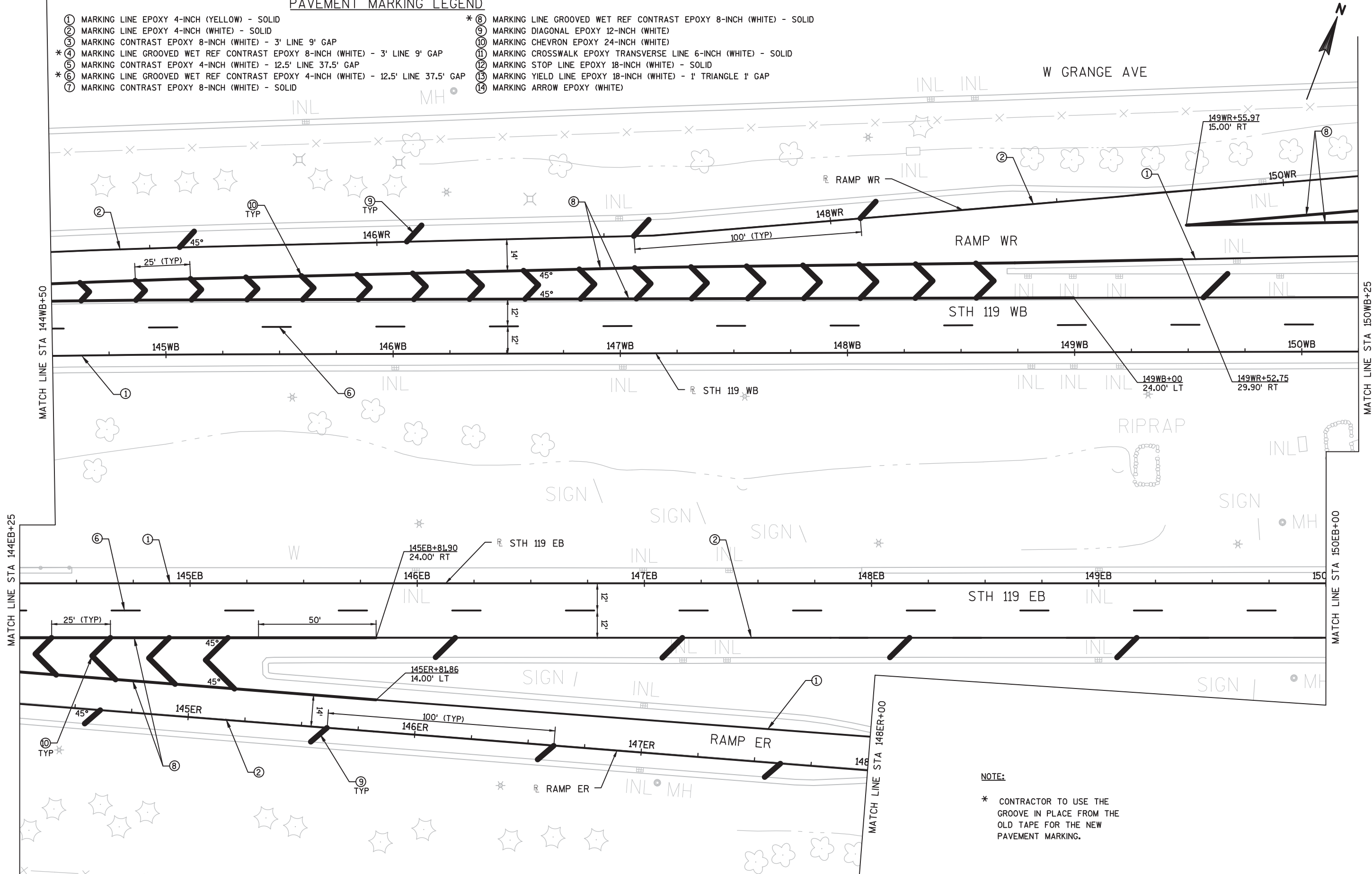
⑩ MARKING CHEVRON EPOXY 24-INCH (WHITE)

⑪ MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE) - SOLID

⑫ MARKING STOP LINE EPOXY 18-INCH (WHITE) - SOLID

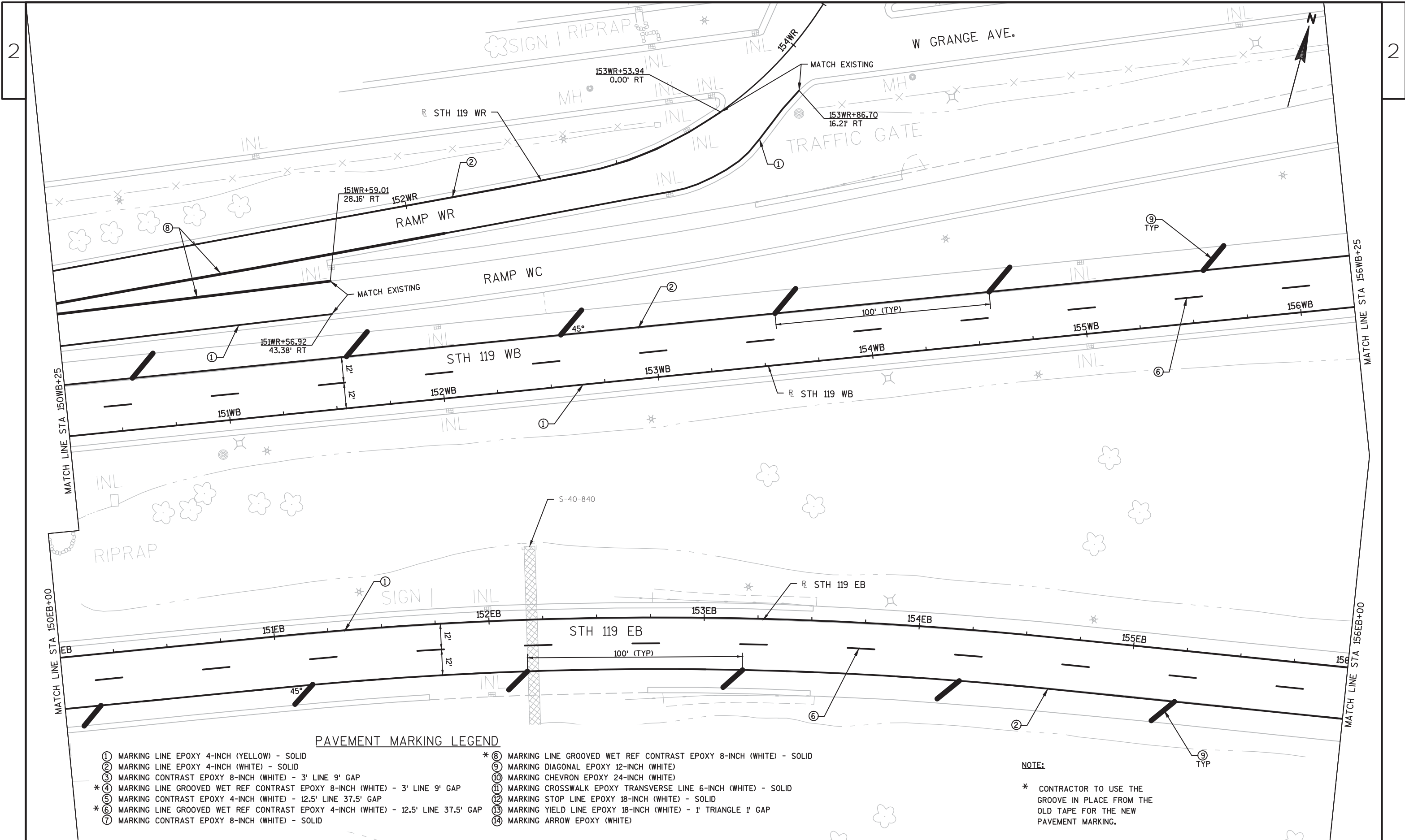
⑬ MARKING YIELD LINE EPOXY 18-INCH (WHITE) - 1' TRIANGLE 1' GAP

⑭ MARKING ARROW EPOXY (WHITE)



NOTE:

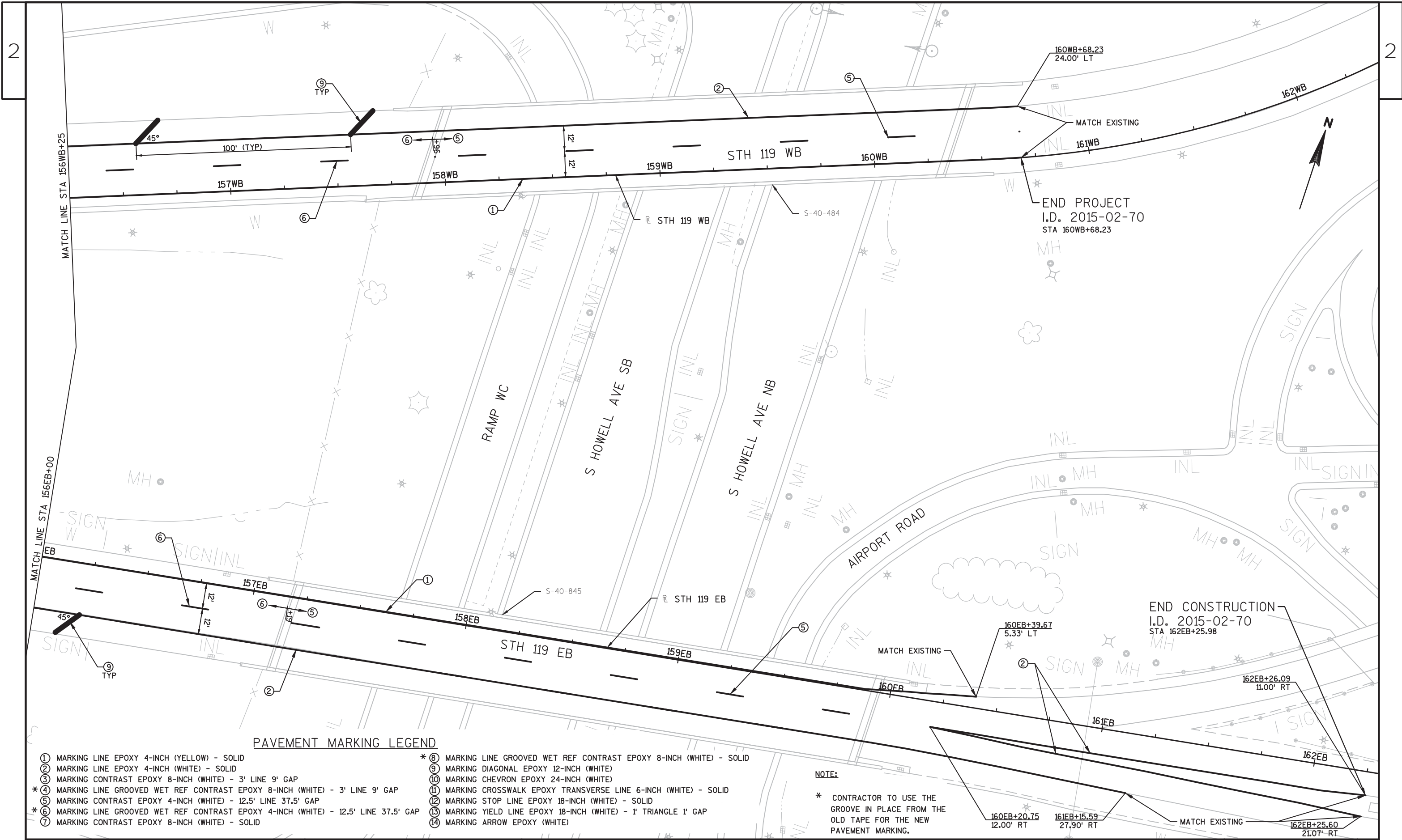
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PAVEMENT MARKING LEGEND

- | | |
|---|--|
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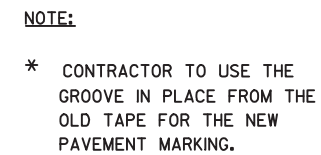


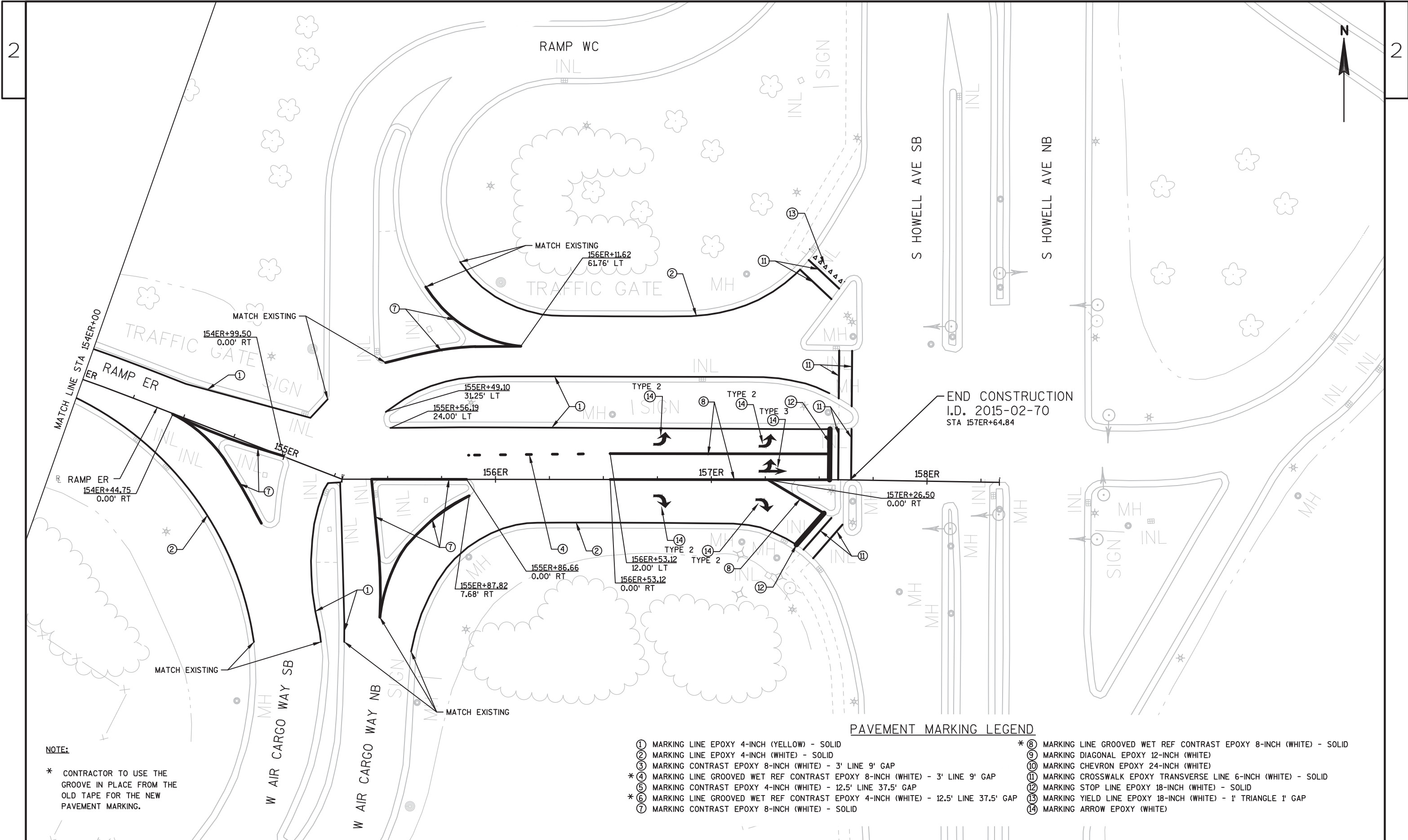
PAVEMENT MARKING LEGEND

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NOTE:

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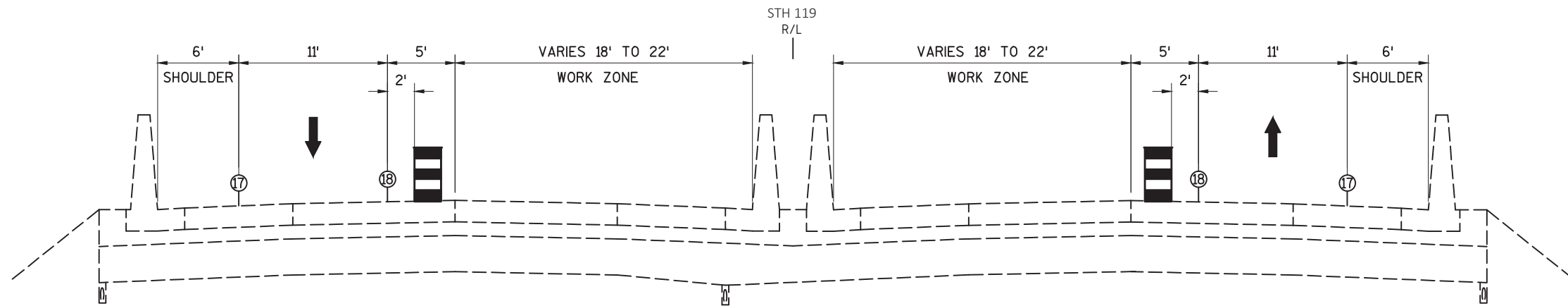




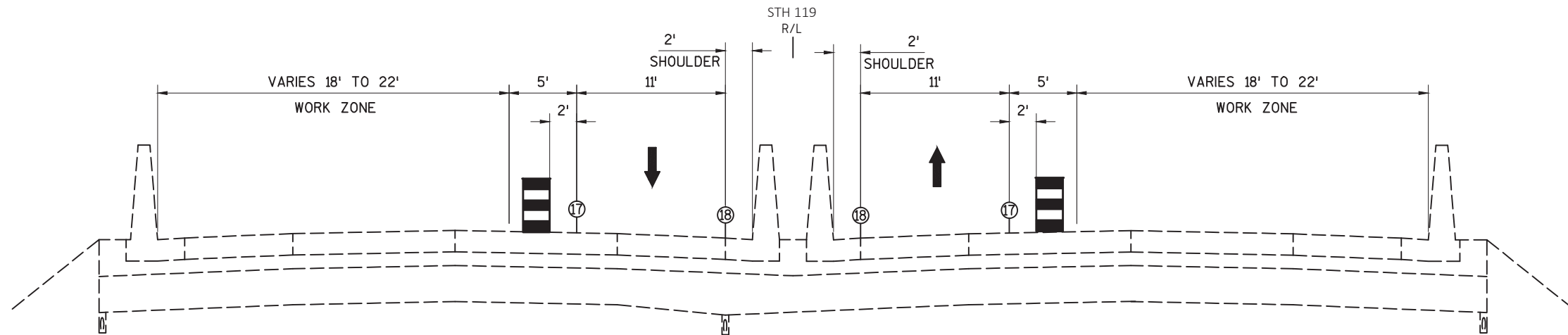
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- | | |
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| ⑦ MARKING CONTRAST EPOXY 8-INCH (WHITE) - SOLID | ⑭ MARKING ARROW EPOXY (WHITE) |

PAVEMENT MARKING LEGEND



TYPICAL SECTION
STAGE 1
STH 119



TYPICAL SECTION
STAGE 2
STH 119

LEGEND

- ⑰ TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) - SOLID
⑱ TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW) - SOLID

2

GENERAL NOTES:

ALL TRAFFIC CONTROL SIGNS SHALL BE 48"X48" UNLESS OTHERWISE NOTED IN THE PLANS.

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

TRAFFIC CONTROL DRUMS SHALL BE SPACED AT 25-FT C-C IN TAPERS AND 100-FT C-C ON TANGENTS OR AS OTHERWISE SHOWN.

SIGN LOCATIONS ARE APPROXIMATE. THE ACTUAL LOCATION SPACING MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER TO MEET FIELD CONDITIONS.

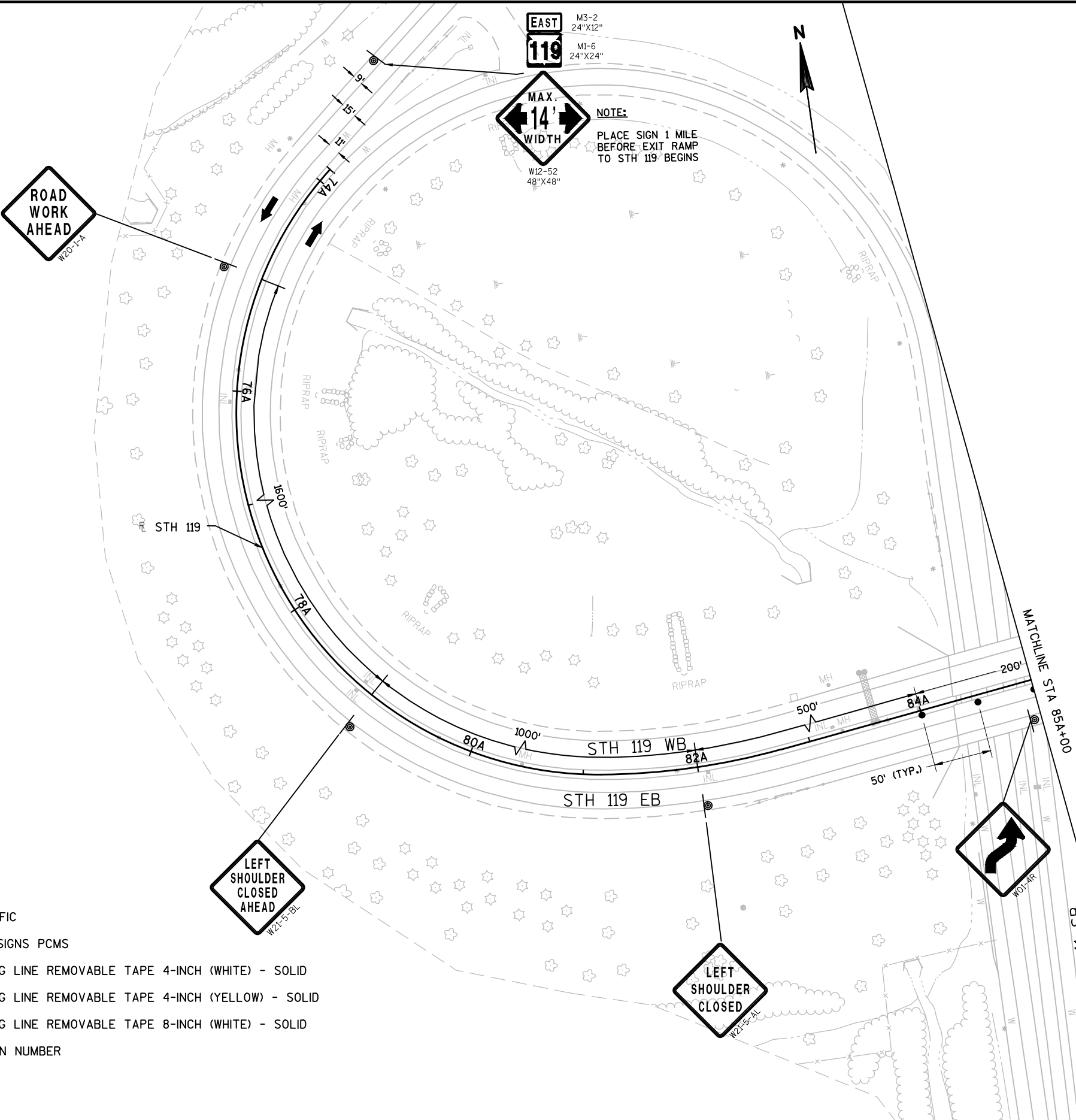
ALL SIGNS, TEMPORARY OR EXISTING (INCLUDING SPEED LIMIT SIGNS), WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE COVERED OR REMOVED AS NEEDED AND/OR DIRECTED BY THE ENGINEER. IN LIEU OF COVERING WOOD POST MOUNT SIGNS, THE CONTRACTOR MAY CHOOSE TO REMOVE AND REINSTALL THEM.

ALL EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH THE TRAFFIC CONTROL
PLANS SHALL BE REMOVED.















BARRICADE STRIPES ARE TO BE SLOPED DOWNWARD IN THE DIRECTION OF TRAFFIC FLOW.

THE CONTRACTOR MAY NOT STORE EQUIPMENT IN A CLOSED LANE OR SHOULDER ADJACENT TO LIVE TRAFFIC. EQUIPMENT CAN BE UTILIZED ONLY DURING ACTIVE WORK.

ANCHORING CONCRETE BARRIER TEMPORARY PRECAST IS INCIDENTAL TO THE
CONCRETE BARRIER TEMPORARY PRECAST BID ITEMS.

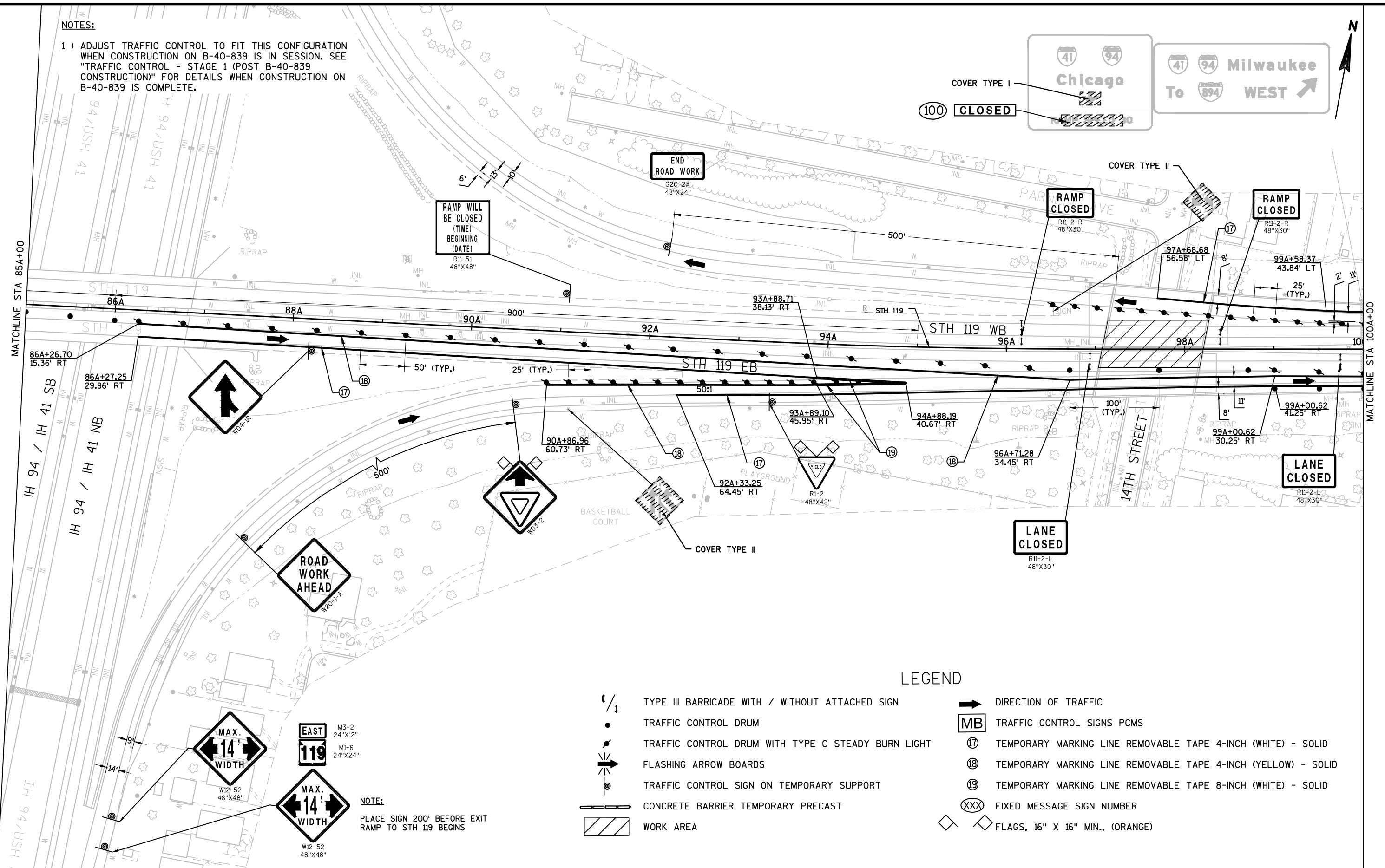


LEGEND

- | | | | | |
|---|--|--|---|---|
|  | TYPE III BARRICADE WITH / WITHOUT ATTACHED SIGN |  | DIRECTION OF TRAFFIC |  |
|  | TRAFFIC CONTROL DRUM |  | TRAFFIC CONTROL SIGNS PCMS | |
|  | TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT |  | TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) - SOLID | |
|  | FLASHING ARROW BOARD |  | TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW) - SOLID | |
|  | TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT |  | TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE) - SOLID | |
|  | CONCRETE BARRIER TEMPORARY PRECAST |  | FIXED MESSAGE SIGN NUMBER | |
|  | WORK AREA | | | |

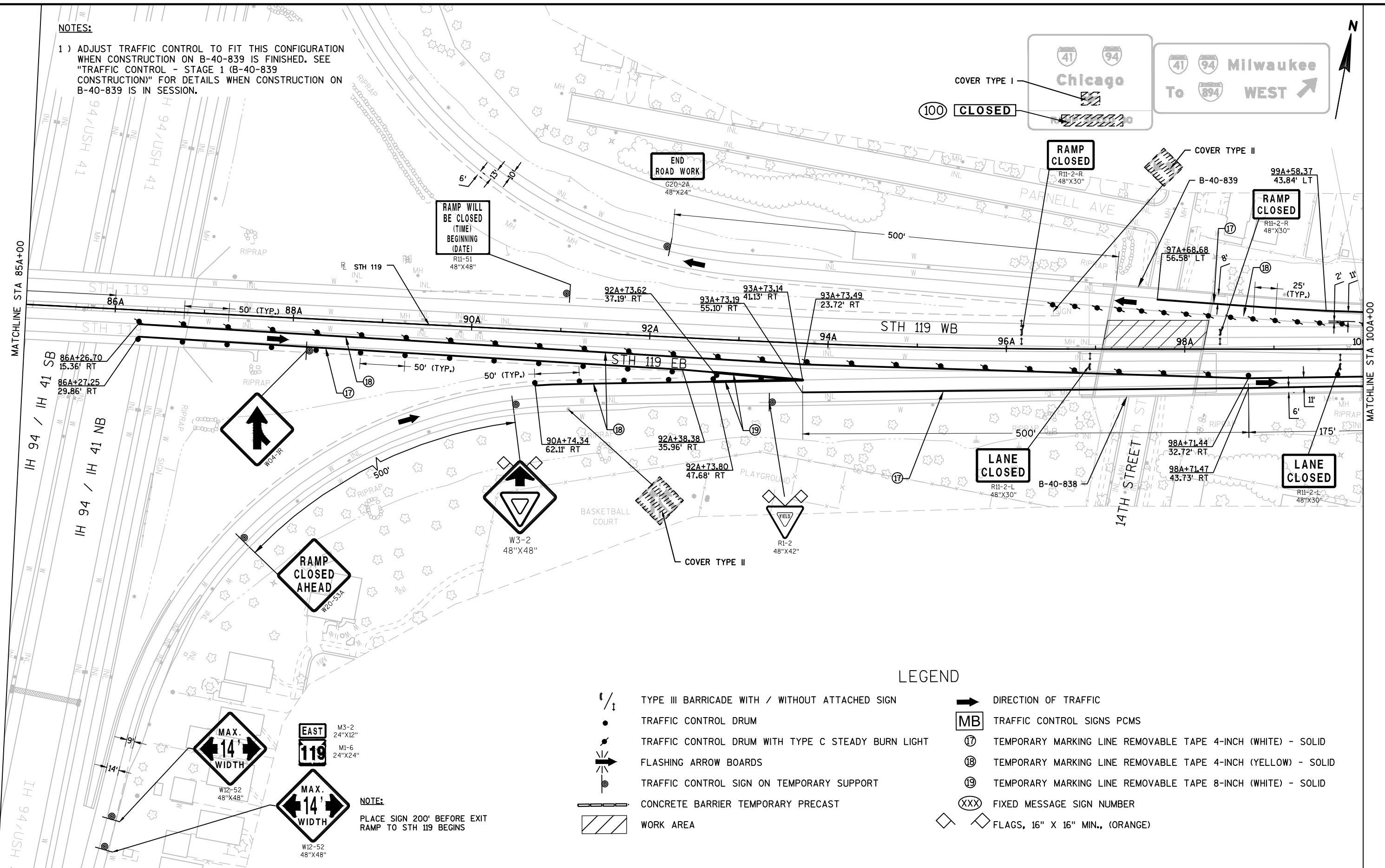
NOTES:

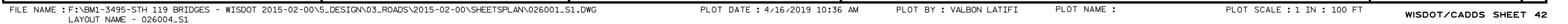
- 1) ADJUST TRAFFIC CONTROL TO FIT THIS CONFIGURATION WHEN CONSTRUCTION ON B-40-839 IS IN SESSION. SEE "TRAFFIC CONTROL - STAGE 1 (POST B-40-839 CONSTRUCTION)" FOR DETAILS WHEN CONSTRUCTION ON B-40-839 IS COMPLETE.

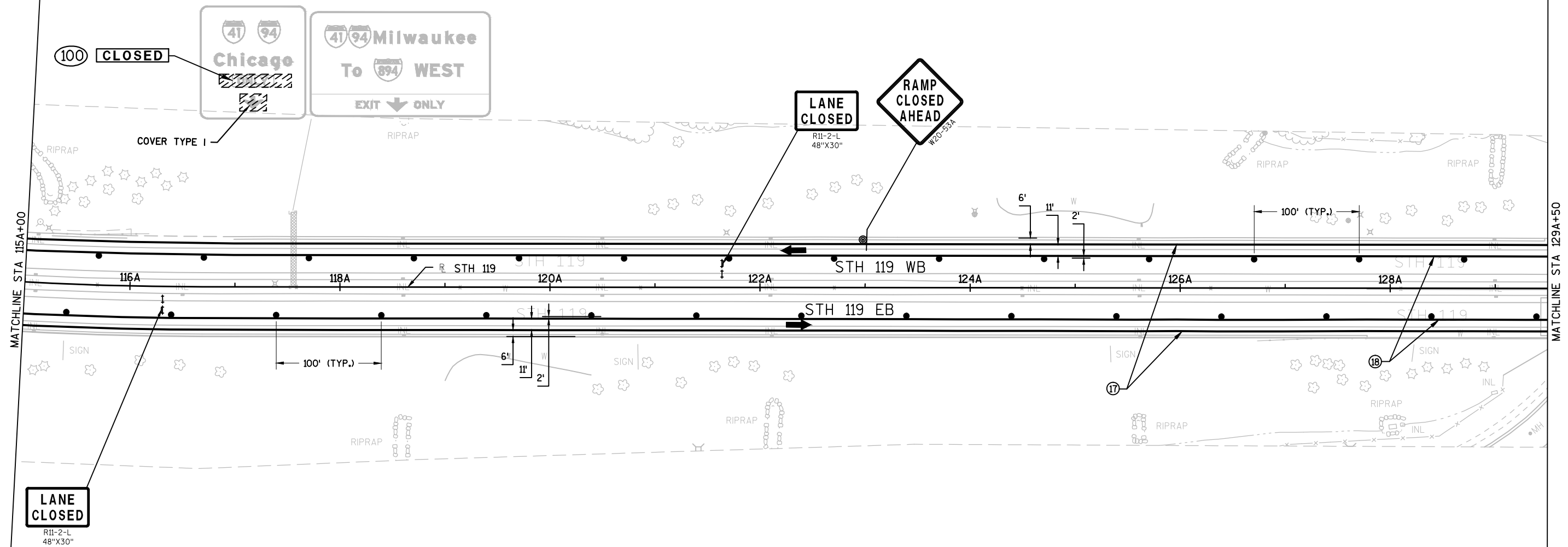


NOTES:

- 1) ADJUST TRAFFIC CONTROL TO FIT THIS CONFIGURATION WHEN CONSTRUCTION ON B-40-839 IS FINISHED. SEE "TRAFFIC CONTROL - STAGE 1 (B-40-839 CONSTRUCTION)" FOR DETAILS WHEN CONSTRUCTION ON B-40-839 IS IN SESSION.

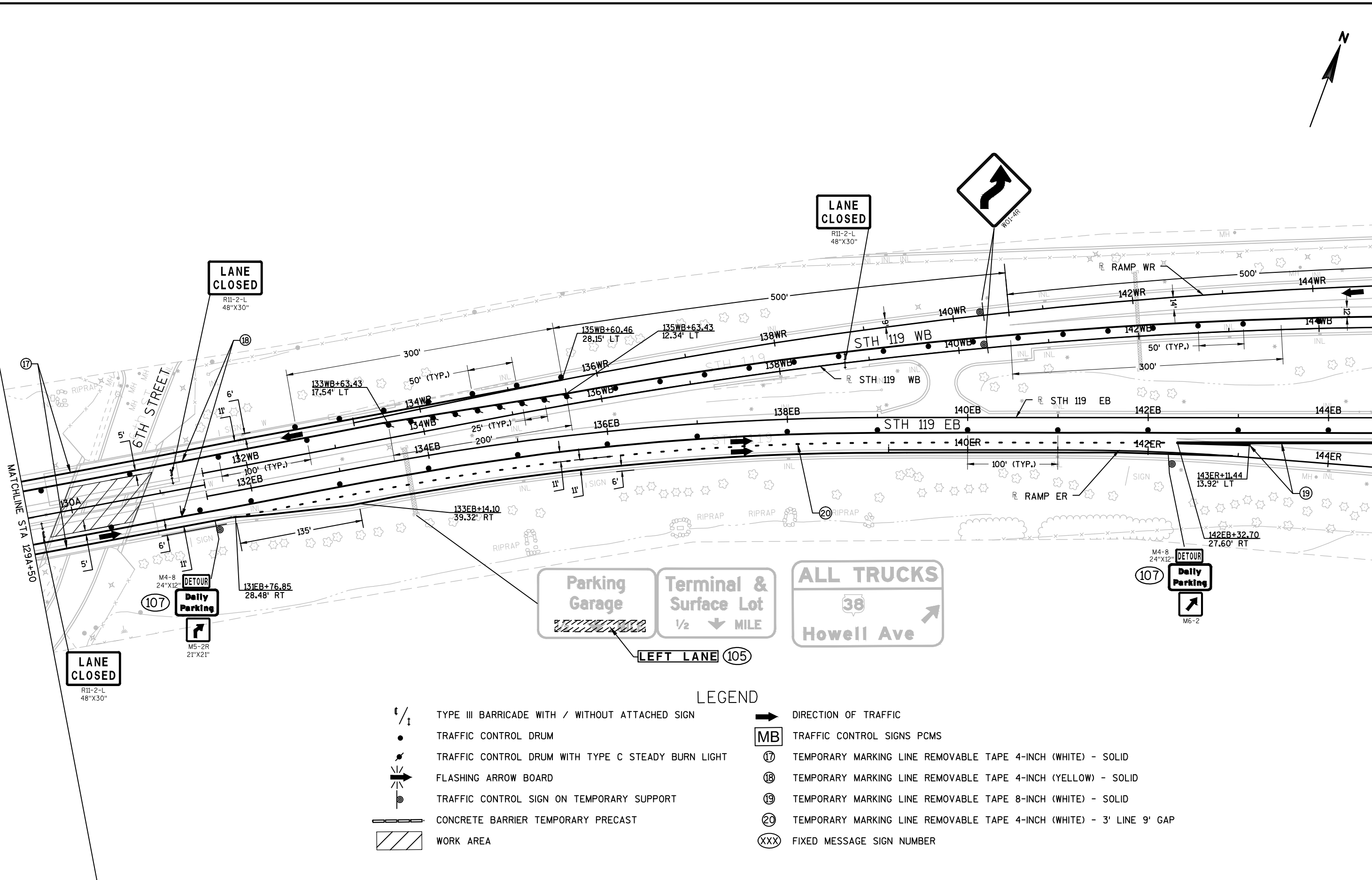


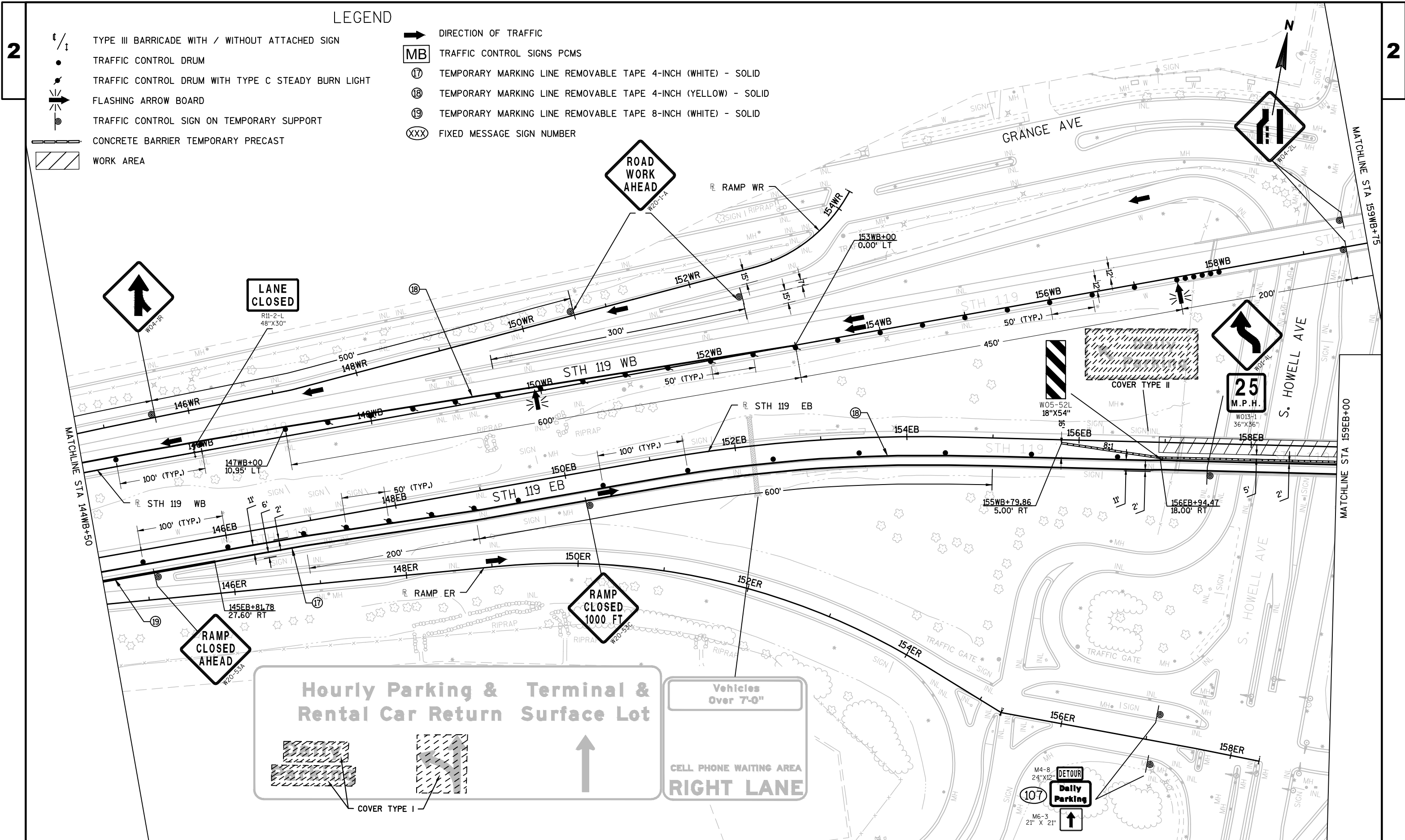


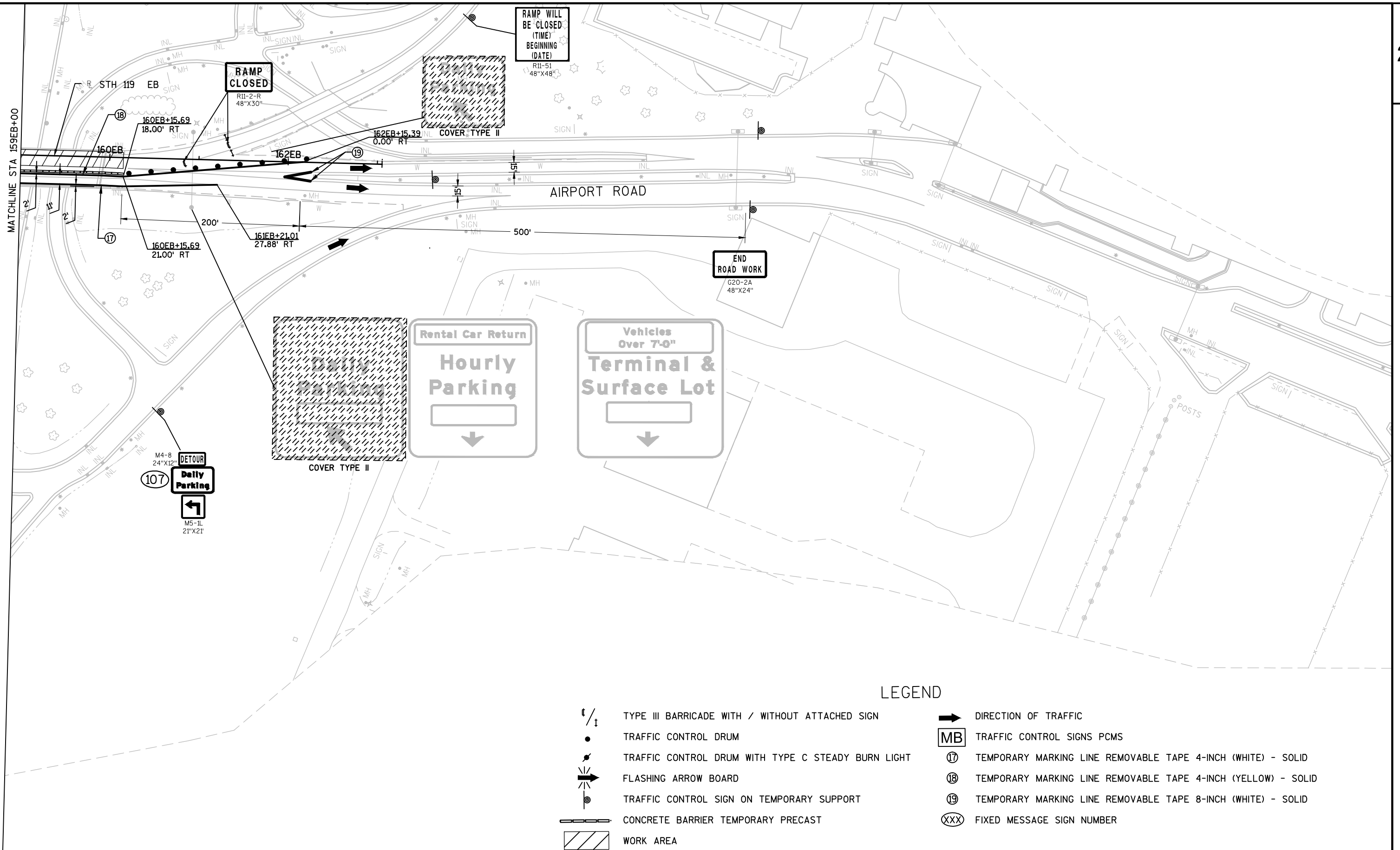


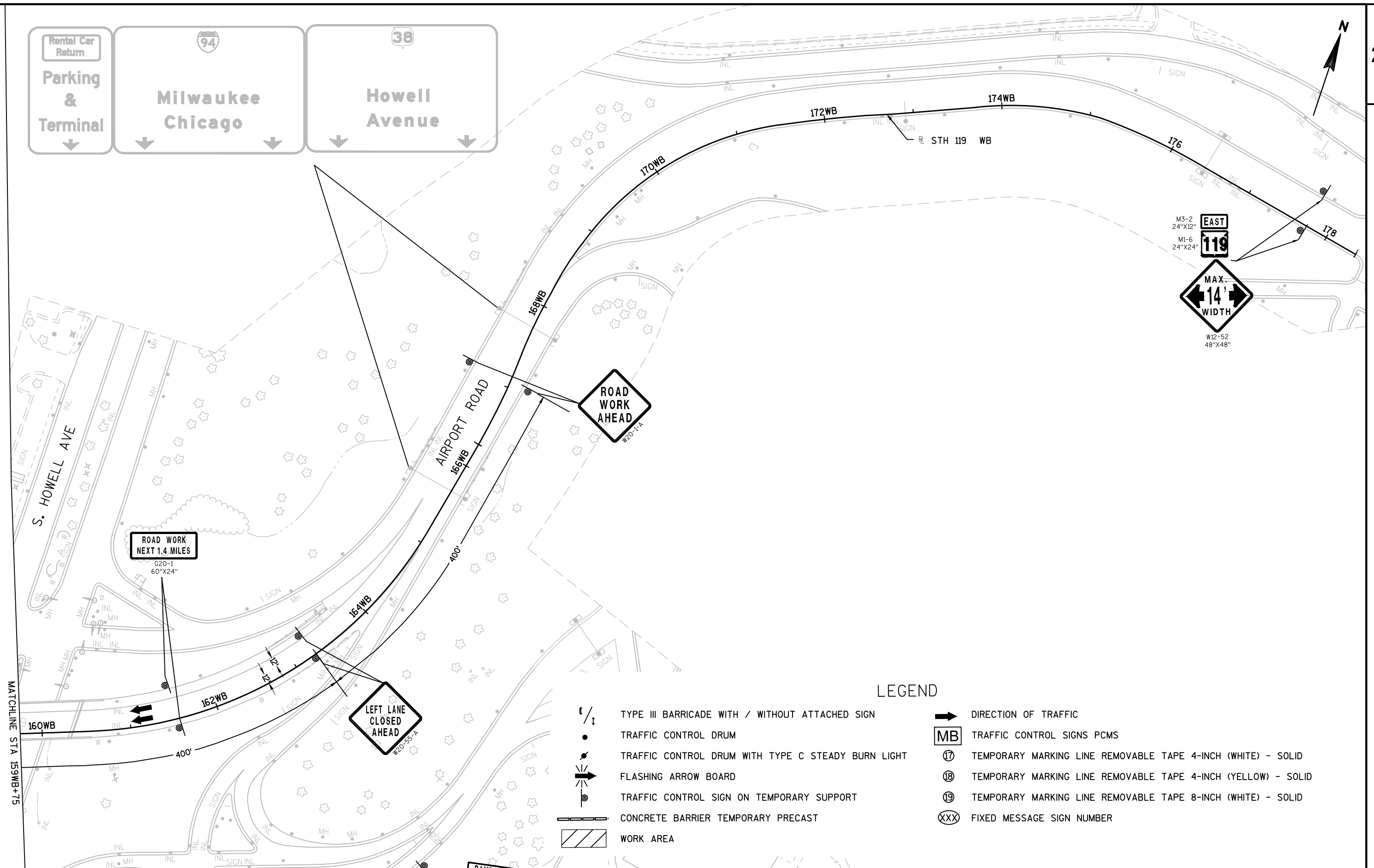
LEGEND

- | | | | |
|--|--|--|---|
| | TYPE III BARRICADE WITH / WITHOUT ATTACHED SIGN | | DIRECTION OF TRAFFIC |
| | TRAFFIC CONTROL DRUM | | TRAFFIC CONTROL SIGNS PCMS |
| | TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT | | TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) - SOLID |
| | FLASHING ARROW BOARD | | TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW) - SOLID |
| | TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT | | TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE) - SOLID |
| | CONCRETE BARRIER TEMPORARY PRECAST | | FIXED MESSAGE SIGN NUMBER |
| | WORK AREA | | |









PROJECT NO: 2015-02-70

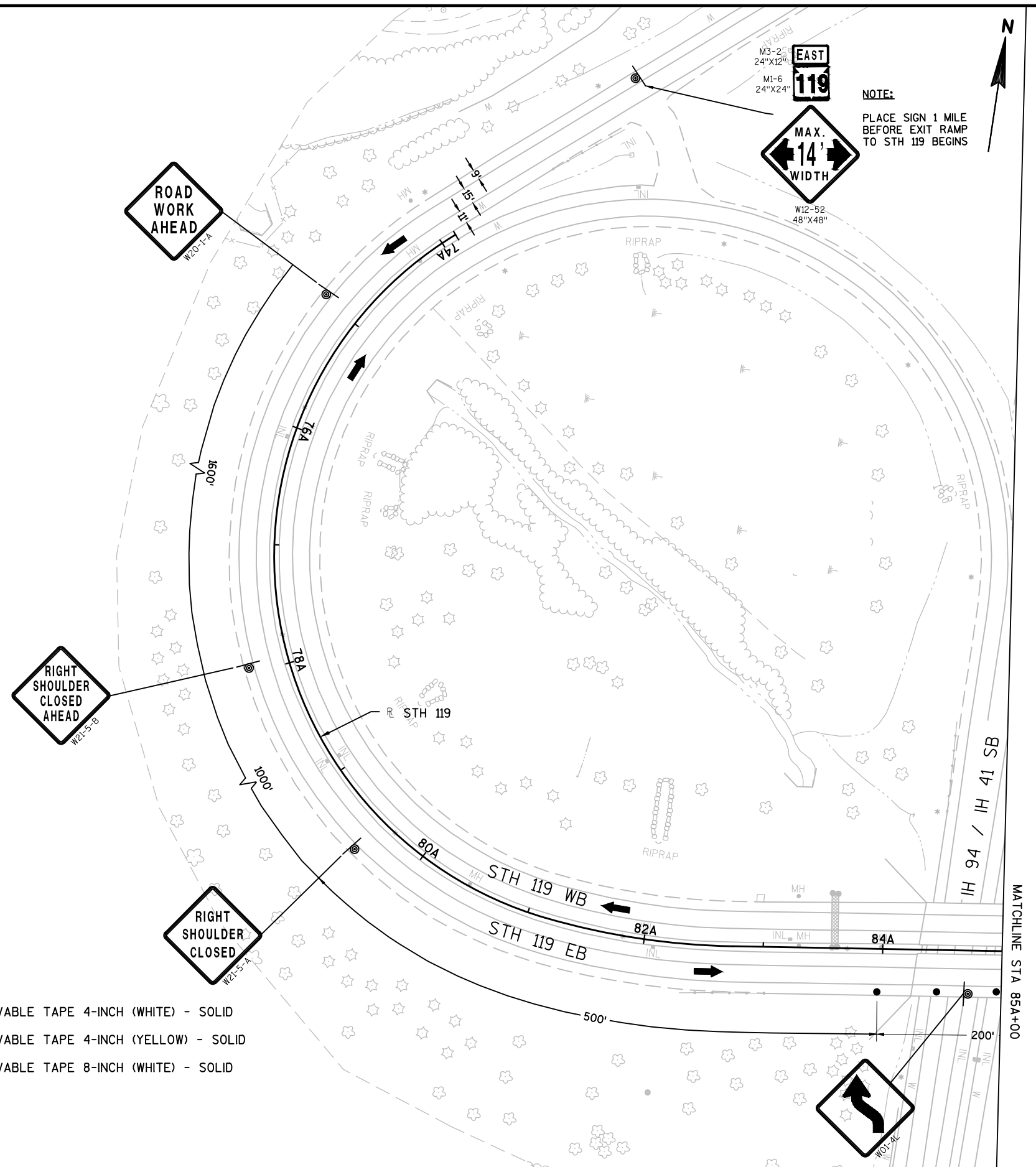
HWY: STH 119

COUNTY: MILWAUKEE

TRAFFIC CONTROL - STAGE 1

SHEET

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LEGEND

	TYPE III BARRICADE WITH / WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA

	DIRECTION OF TRAFFIC
	TRAFFIC CONTROL SIGNS PCMS
	TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) - SOLID
	TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW) - SOLID
	TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE) - SOLID
	FIXED MESSAGE SIGN NUMBER

PROJECT NO:2012-02-70

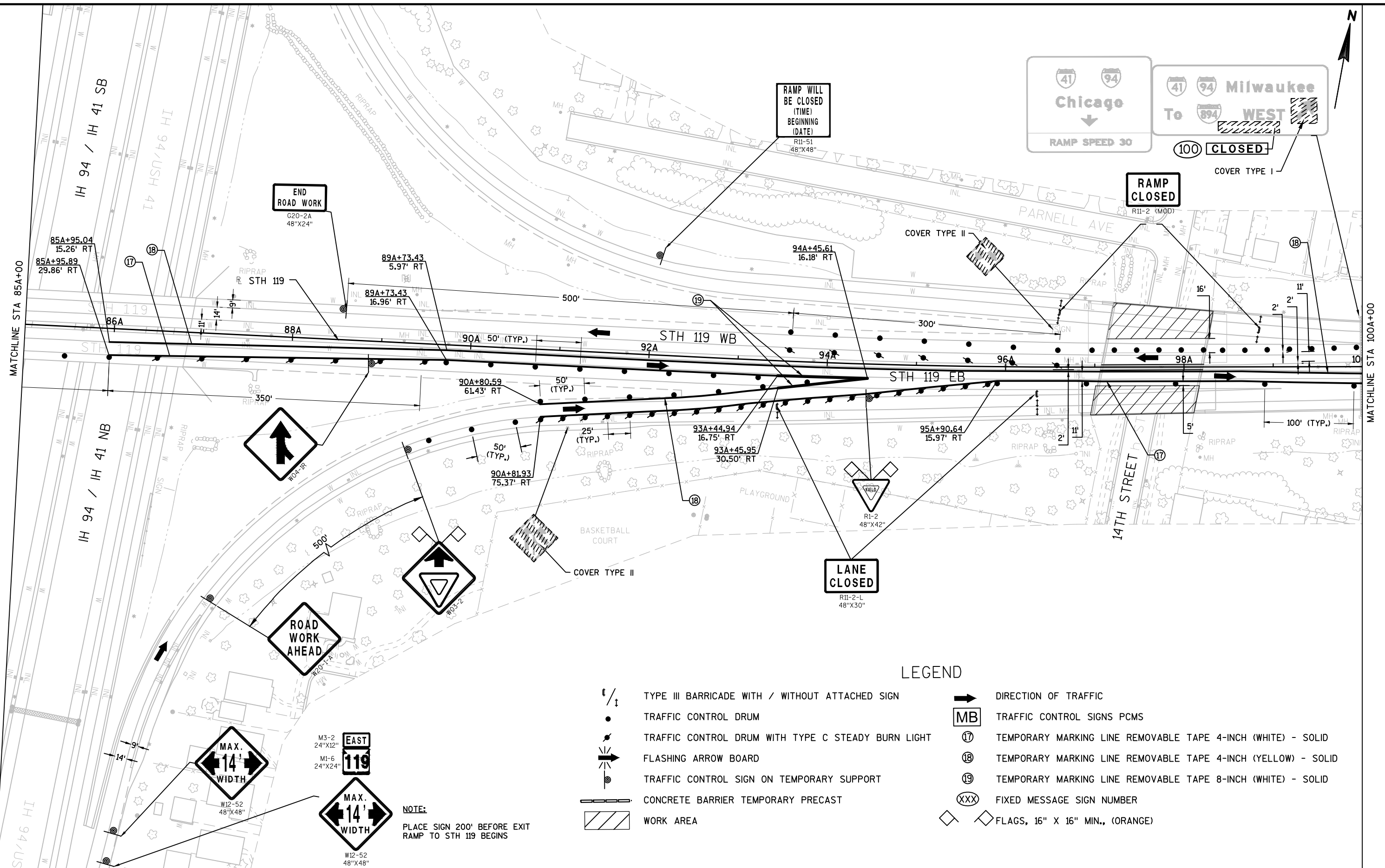
HWY:STH 119

COUNTY:MILWAUKEE

TRAFFIC CONTROL - STAGE 2

SHEET

E



PROJECT NO: 2015-02-70

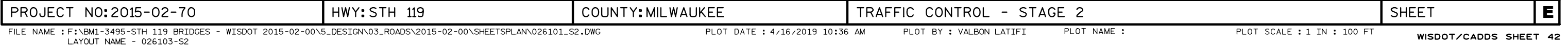
HWY: STH 119

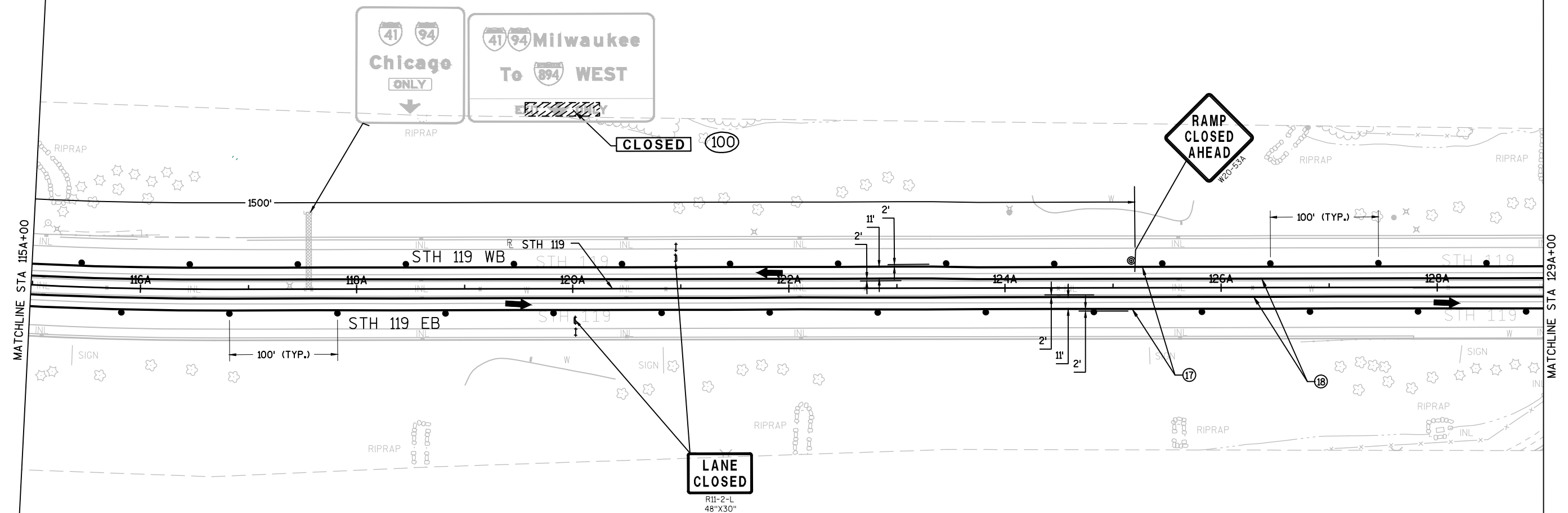
COUNTY: MILWAUKEE

TRAFFIC CONTROL - STAGE 2

SHEET

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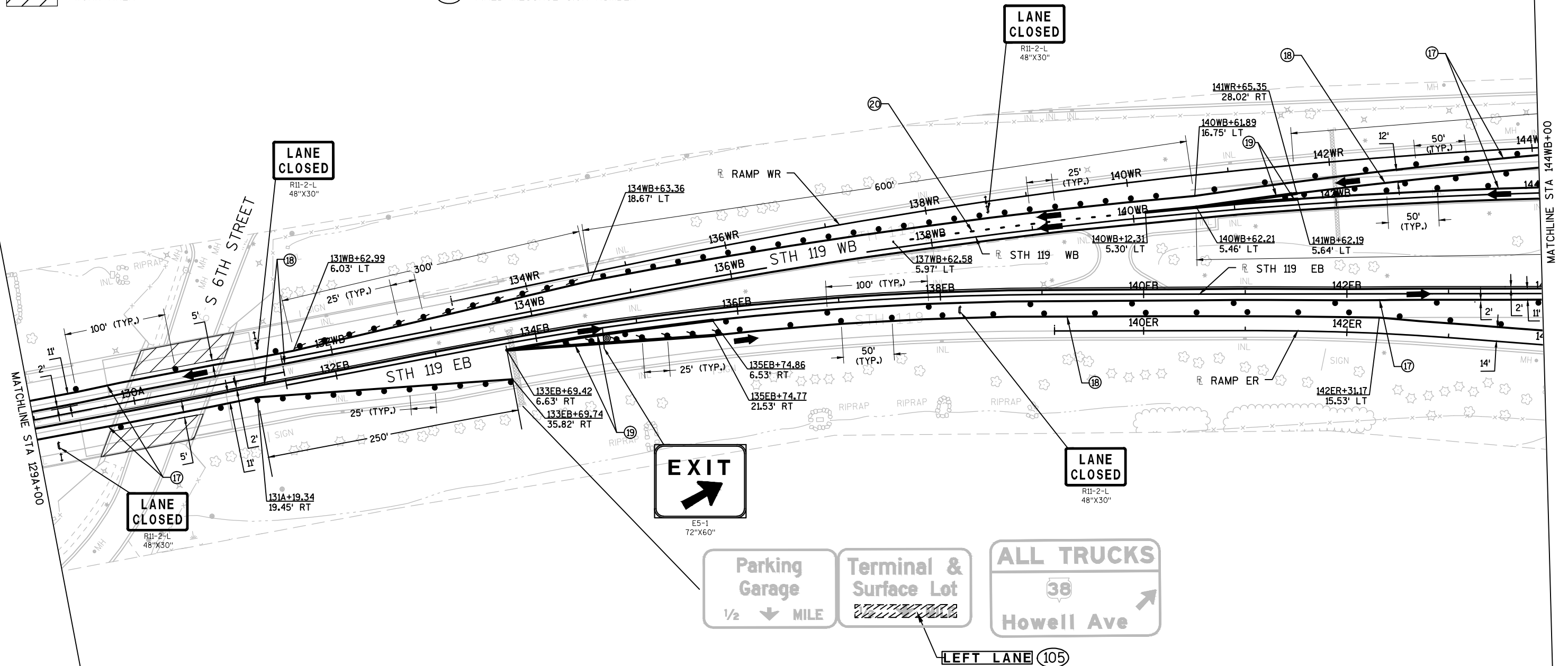


LEGEND

	TYPE III BARRICADE WITH / WITHOUT ATTACHED SIGN		DIRECTION OF TRAFFIC
	TRAFFIC CONTROL DRUM		TRAFFIC CONTROL SIGNS PCMS
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT		TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) - SOLID
	FLASHING ARROW BOARD		TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW) - SOLID
	TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT		TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE) - SOLID
	CONCRETE BARRIER TEMPORARY PRECAST		FIXED MESSAGE SIGN NUMBER
	WORK AREA		

LEGEND

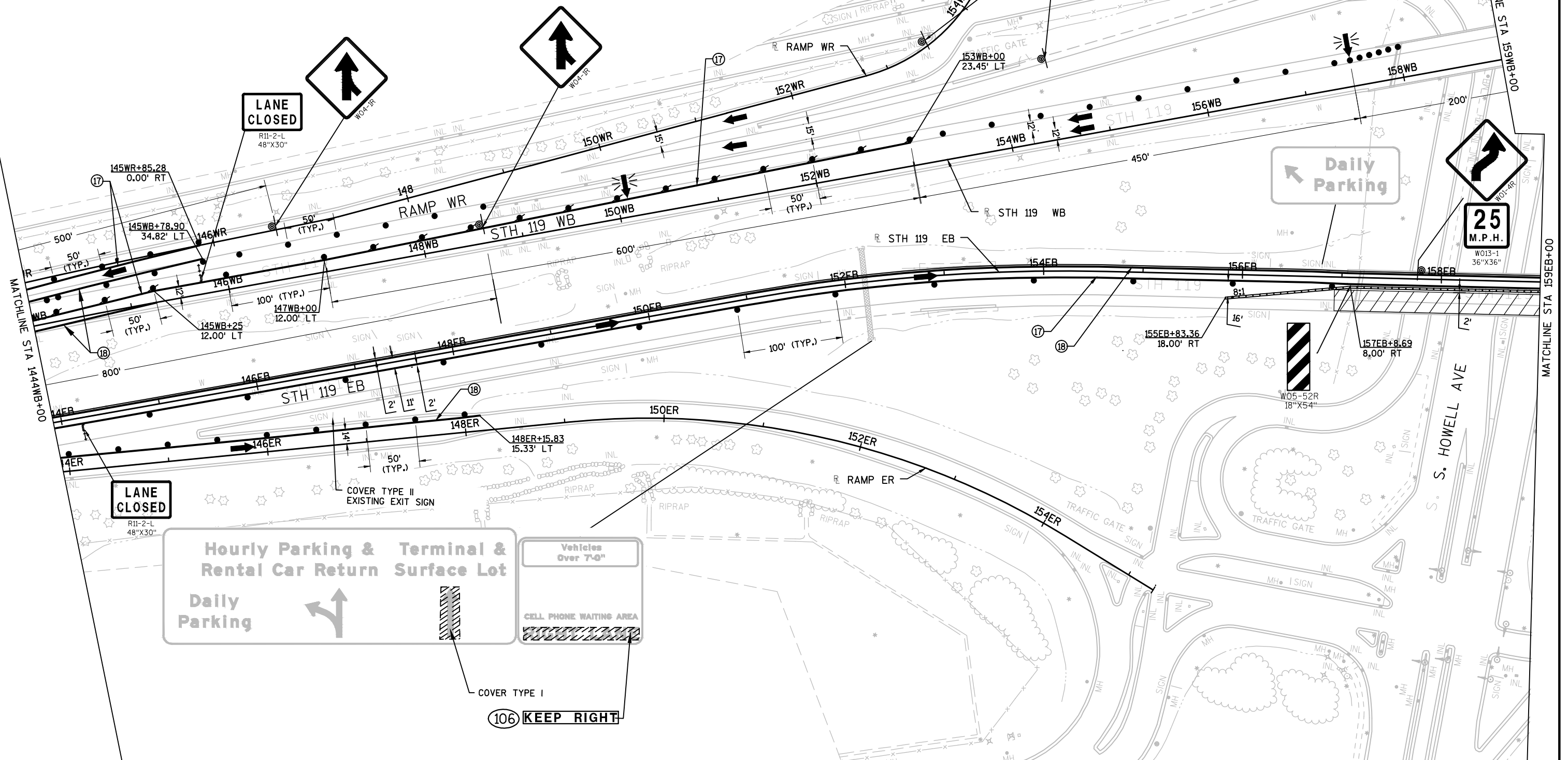
	TYPE III BARRICADE WITH / WITHOUT ATTACHED SIGN		DIRECTION OF TRAFFIC
	TRAFFIC CONTROL DRUM		TRAFFIC CONTROL SIGNS PCMS
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT		TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) - SOLID
	FLASHING ARROW BOARD		TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW) - SOLID
	TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT		TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE) - SOLID
	CONCRETE BARRIER TEMPORARY PRECAST		TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) - 3' LINE 9' GAP
	WORK AREA		FIXED MESSAGE SIGN NUMBER

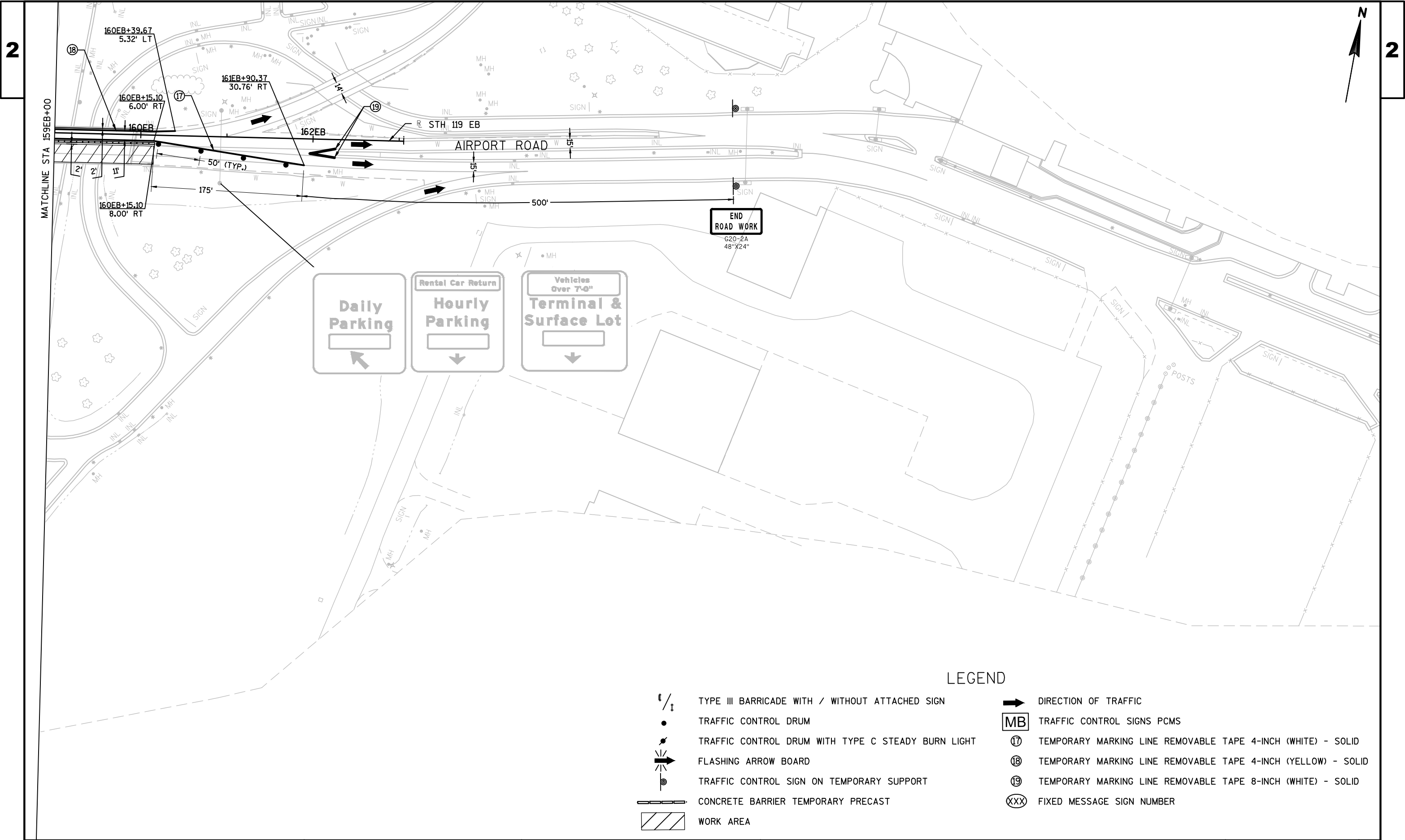


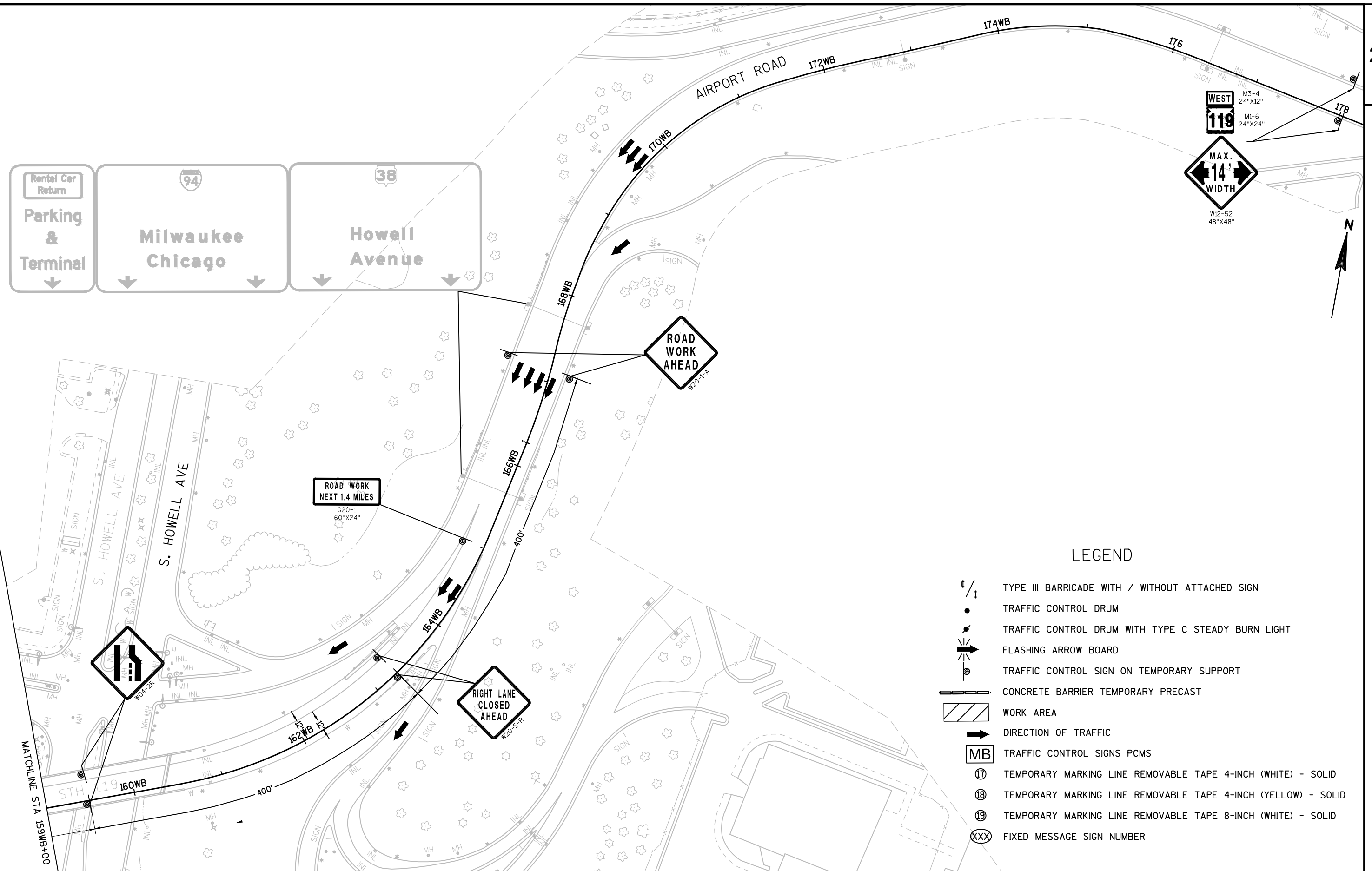
LEGEND

- TYPE III BARRICADE WITH / WITHOUT ATTACHED SIGN
TRAFFIC CONTROL DRUM
TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
FLASHING ARROW BOARD
TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
CONCRETE BARRIER TEMPORARY PRECAST
WORK AREA

- DIRECTION OF TRAFFIC
TRAFFIC CONTROL SIGNS PCMS
TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) - SOLID
TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW) - SOLID
TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE) - SOLID
FIXED MESSAGE SIGN NUMBER







LEGEND

- TYPE III BARRICADE WITH / WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL SIGNS PCMS
- TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) - SOLID
- TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW) - SOLID
- TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE) - SOLID
- FIXED MESSAGE SIGN NUMBER

PROJECT NO: 2015-02-70

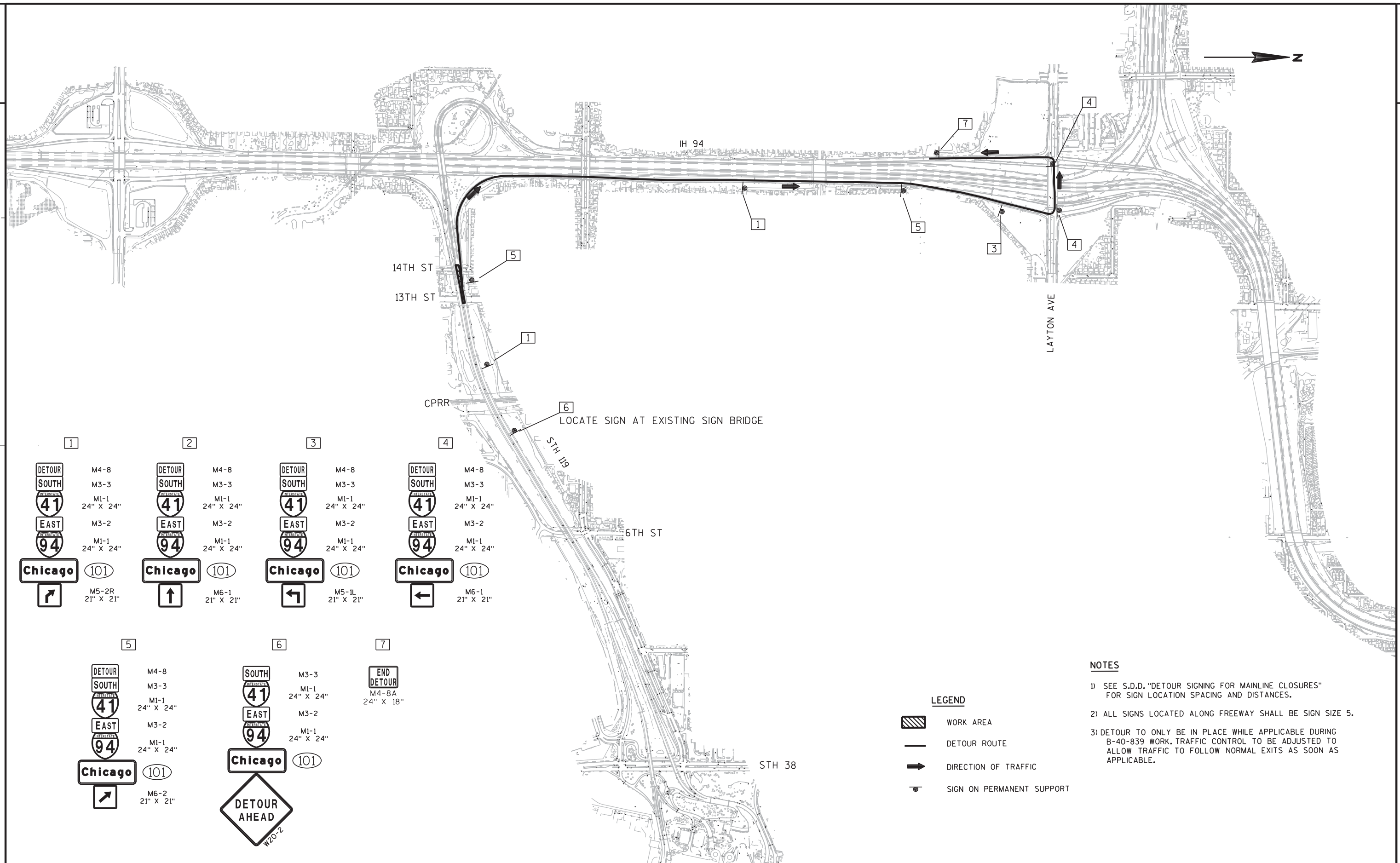
HWY: STH 119

COUNTY: MILWAUKEE

TRAFFIC CONTROL - STAGE 2

SHEET

E

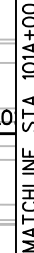


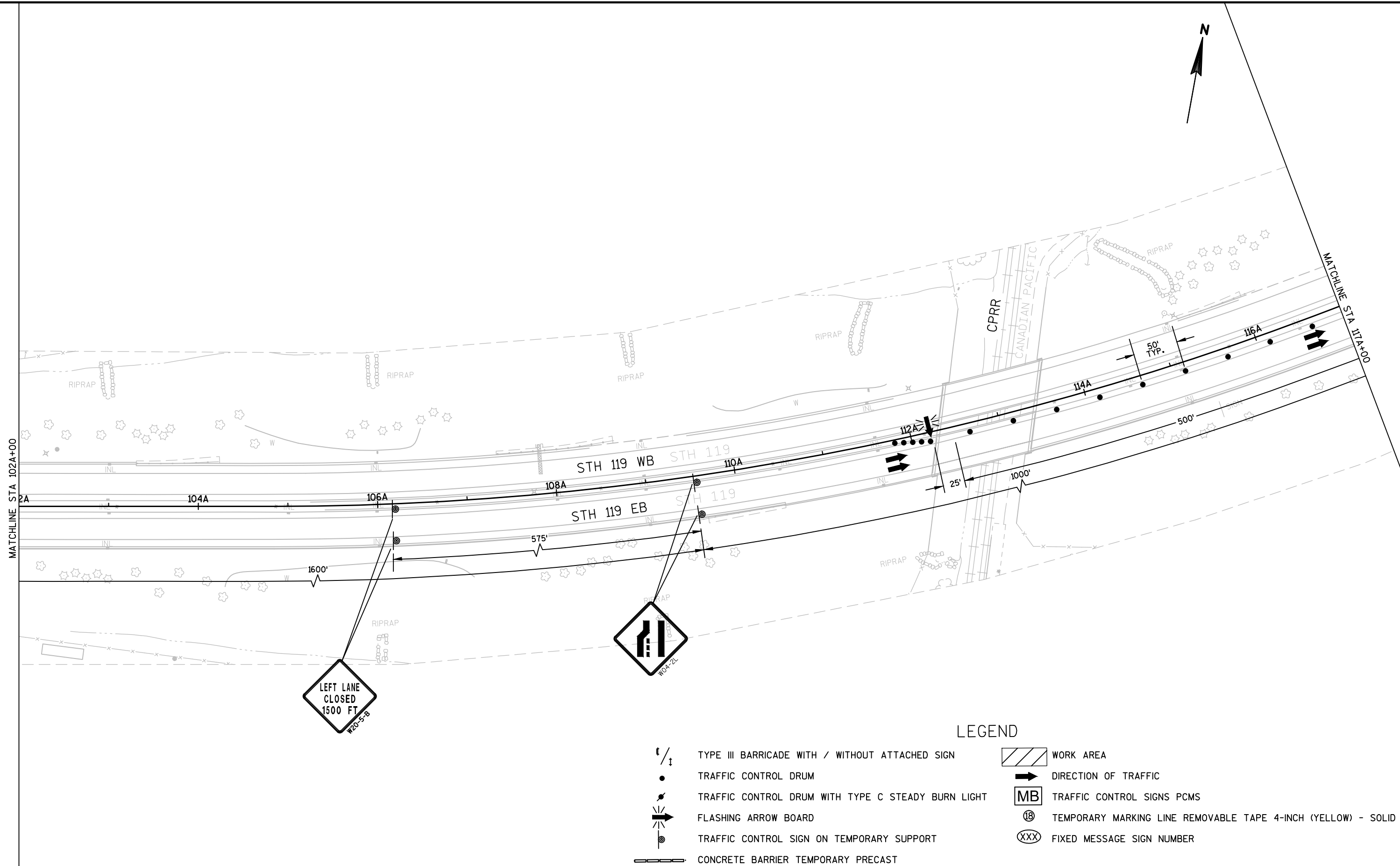
<div>1</div> <div><div>DETOUR</div><div>SOUTH</div><div>41</div><div>EAST</div><div>94</div><div>Chicago</div><div>101</div><div>M5-2R</div><div>21" X 21"</div></div>	<div>2</div> <div><div>DETOUR</div><div>SOUTH</div><div>41</div><div>EAST</div><div>94</div><div>Chicago</div><div>101</div><div>M6-1</div><div>21" X 21"</div></div>	<div>3</div> <div><div>DETOUR</div><div>SOUTH</div><div>41</div><div>EAST</div><div>94</div><div>Chicago</div><div>101</div><div>M5-1L</div><div>21" X 21"</div></div>	<div>4</div> <div><div>DETOUR</div><div>SOUTH</div><div>41</div><div>EAST</div><div>94</div><div>Chicago</div><div>101</div><div>M6-1</div><div>21" X 21"</div></div>
<div>5</div> <div><div>DETOUR</div><div>SOUTH</div><div>41</div><div>EAST</div><div>94</div><div>Chicago</div><div>101</div><div>M6-2</div><div>21" X 21"</div></div>	<div>6</div> <div><div>SOUTH</div><div>41</div><div>EAST</div><div>94</div><div>Chicago</div><div>101</div><div>DETOUR AHEAD</div><div>W20-2</div></div>	<div>7</div> <div><div>END</div><div>DETOUR</div><div>M4-8A</div><div>24" X 18"</div></div>	

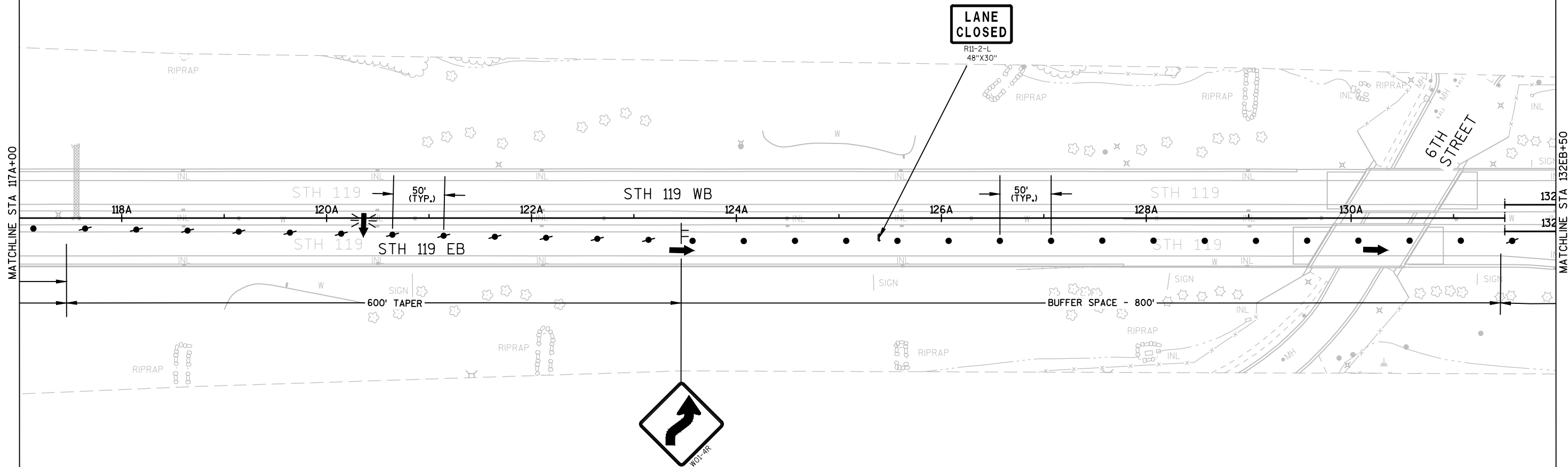
- NOTES**
- 1) SEE S.D.D. "DETOUR SIGNING FOR MAINLINE CLOSURES" FOR SIGN LOCATION SPACING AND DISTANCES.
 - 2) ALL SIGNS LOCATED ALONG FREEWAY SHALL BE SIGN SIZE 5.
 - 3) DETOUR TO ONLY BE IN PLACE WHILE APPLICABLE DURING B-40-839 WORK. TRAFFIC CONTROL TO BE ADJUSTED TO ALLOW TRAFFIC TO FOLLOW NORMAL EXITS AS SOON AS APPLICABLE.

LEGEND

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







LEGEND

TYPE III BARRICADE WITH / WITHOUT ATTACHED SIGN

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT

FLASHING ARROW BOARD

TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT

CONCRETE BARRIER TEMPORARY PRECAST

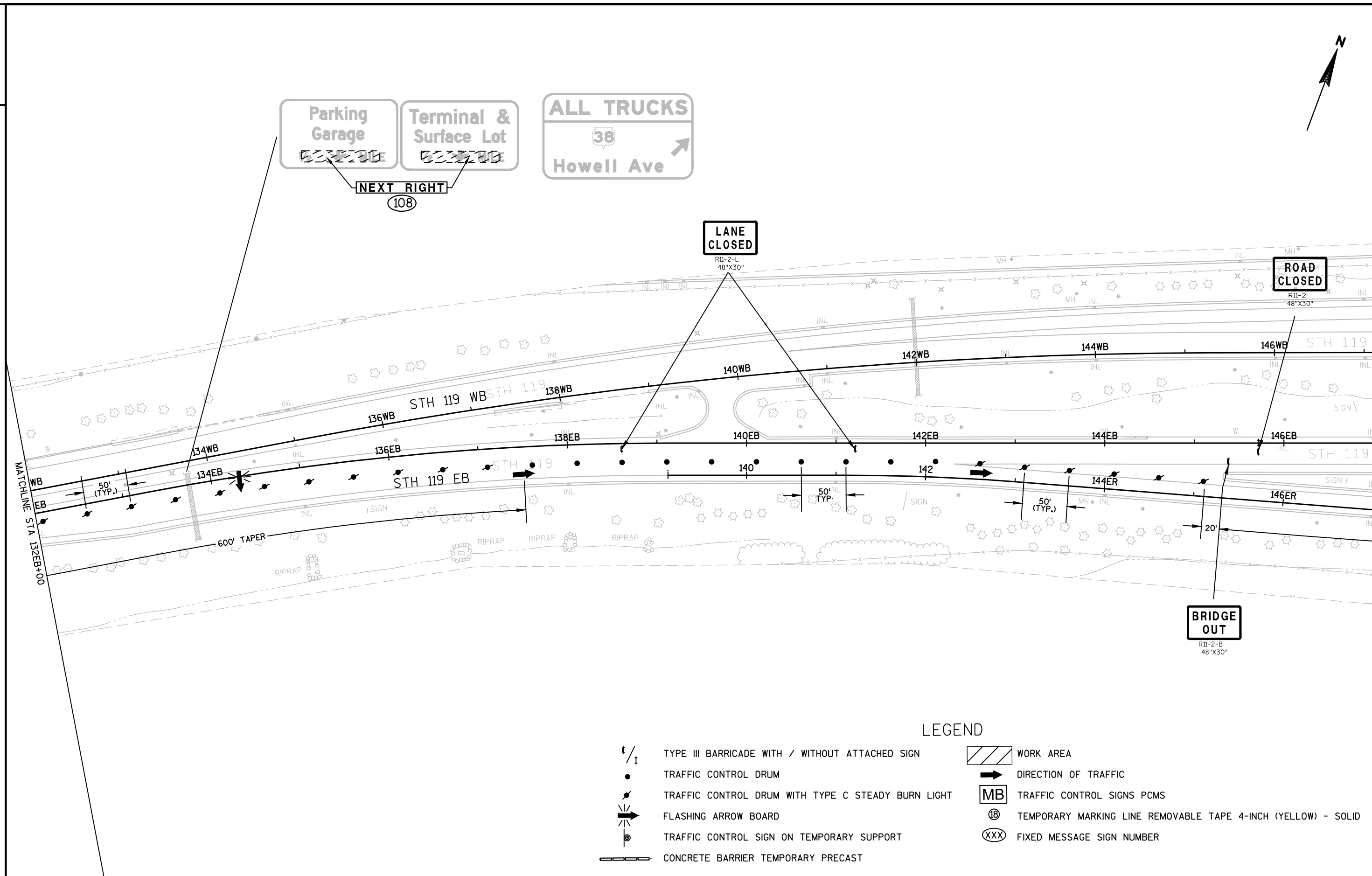
WORK AREA

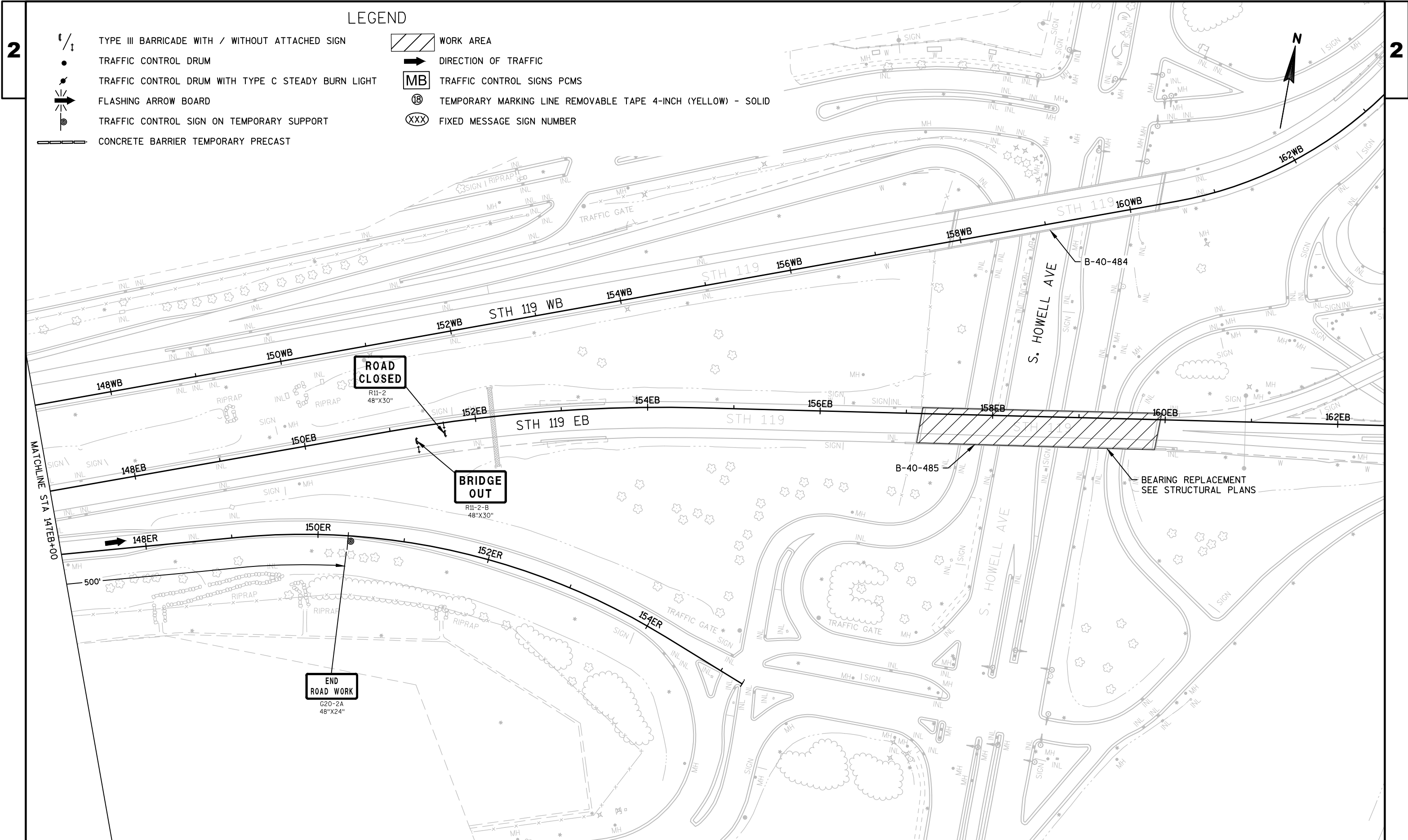
DIRECTION OF TRAFFIC

TRAFFIC CONTROL SIGNS PCMS

TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW) - SOLID

FIXED MESSAGE SIGN NUMBER





LEGEND

- TYPE III BARRICADE WITH / WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL SIGNS PCMS
- TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW) - SOLID
- FIXED MESSAGE SIGN NUMBER

GENERAL NOTES FOR DETOURS:

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

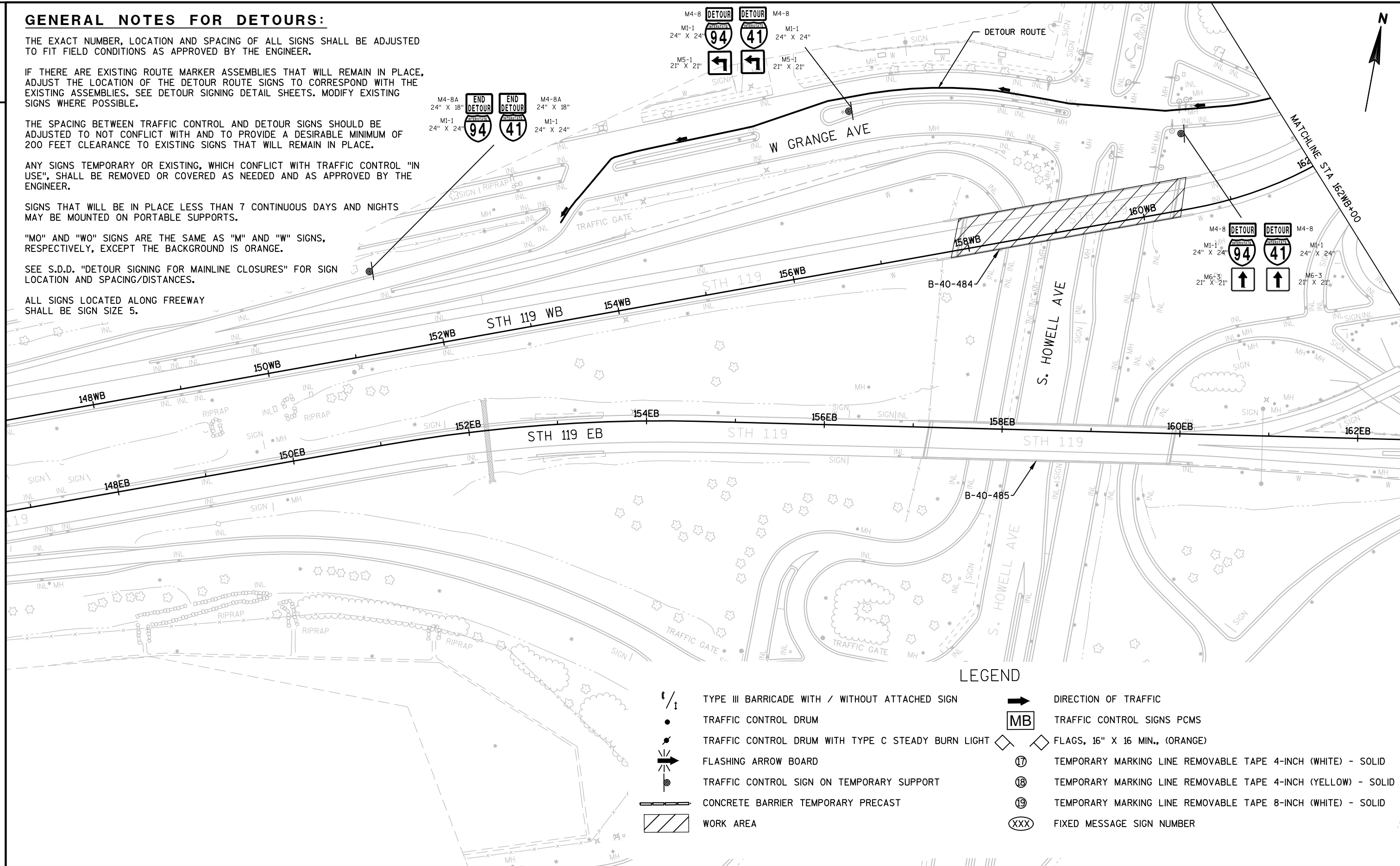
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

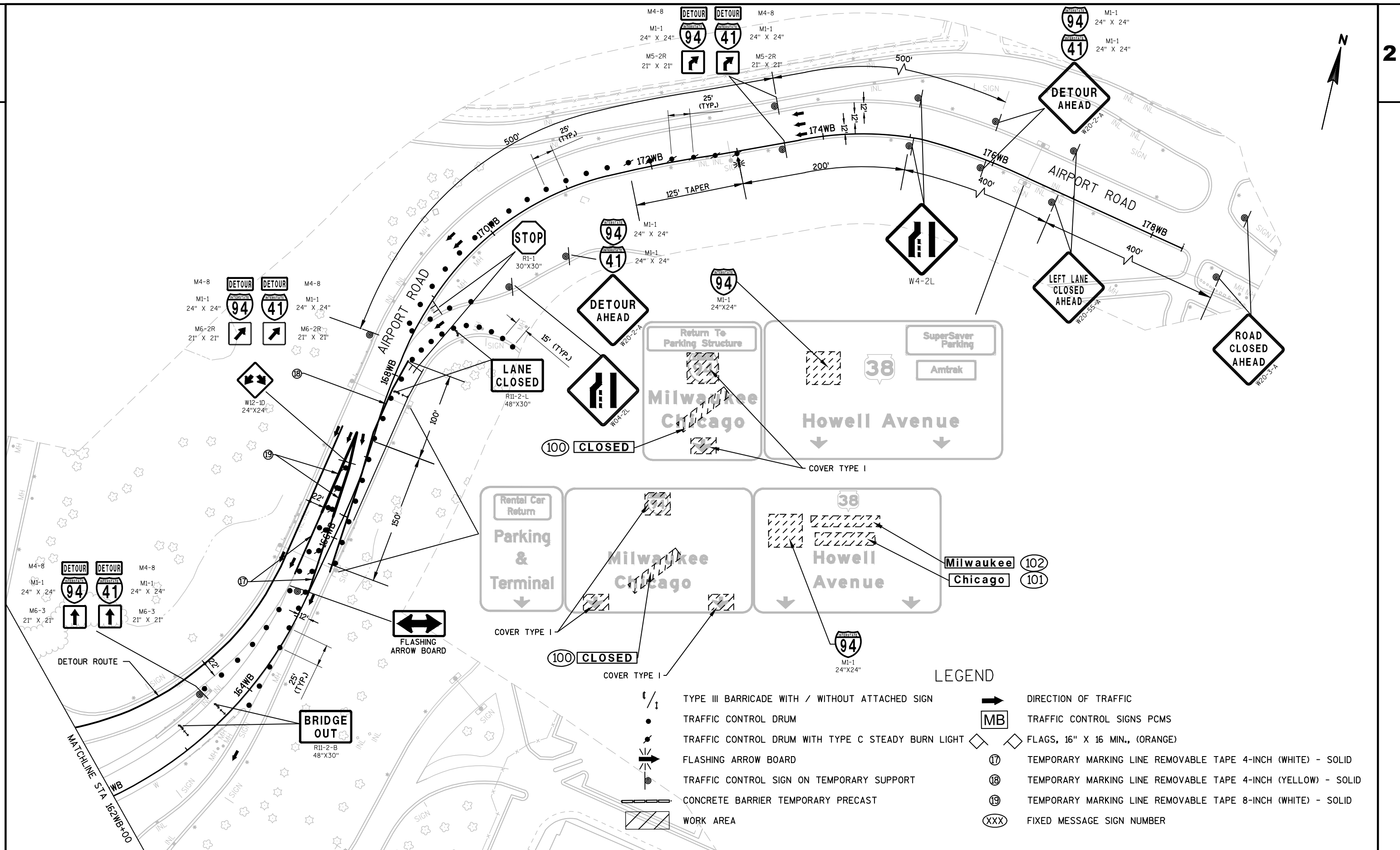
SEE S.D.D. "DETOUR SIGNING FOR MAINLINE CLOSURES" FOR SIGN LOCATION AND SPACING/DISTANCES.

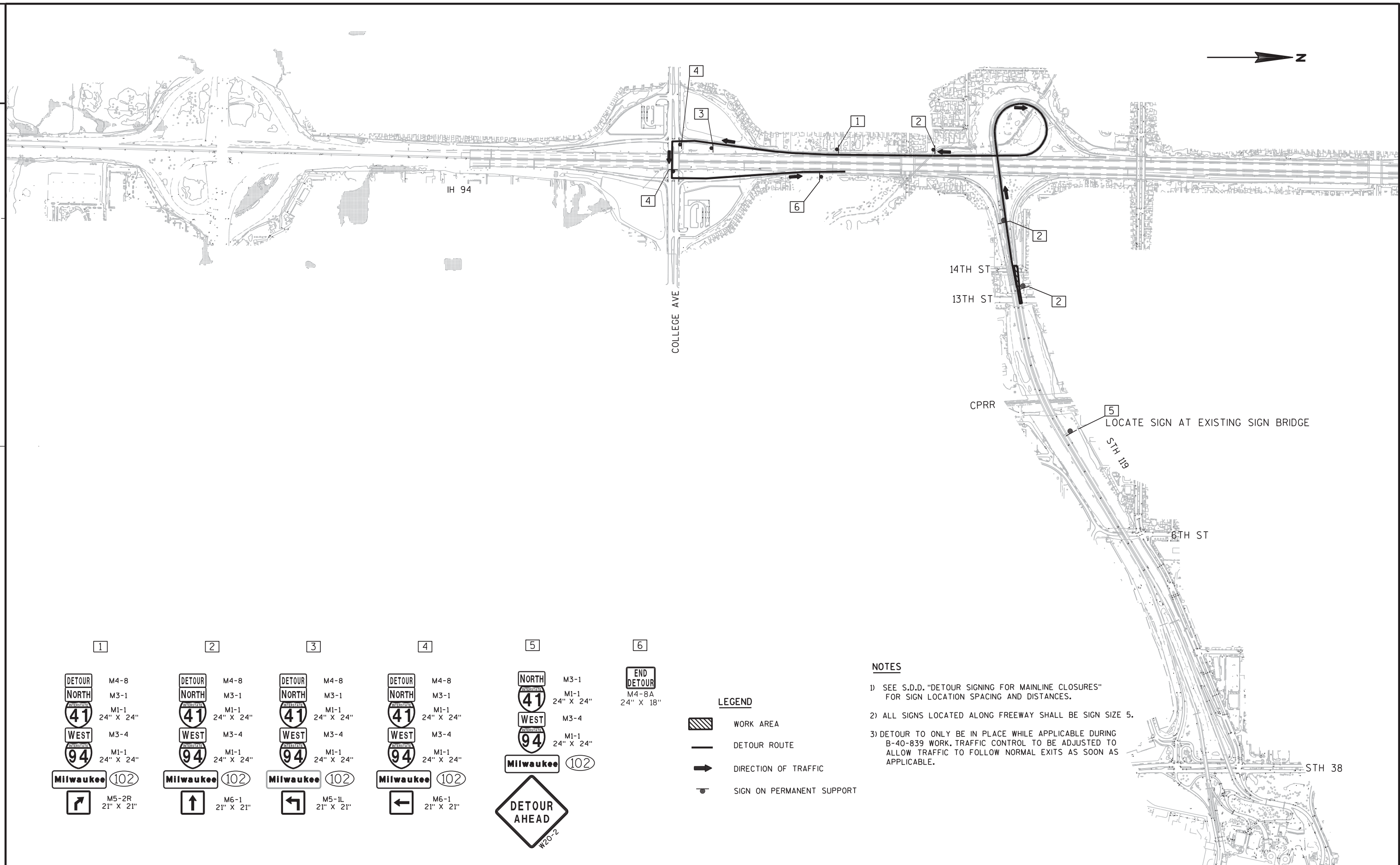
ALL SIGNS LOCATED ALONG FREEWAY SHALL BE SIGN SIZE 5.



LEGEND

- | | | | |
|--|--|--|---|
| | TYPE III BARRICADE WITH / WITHOUT ATTACHED SIGN | | DIRECTION OF TRAFFIC |
| | TRAFFIC CONTROL DRUM | | TRAFFIC CONTROL SIGNS PCMS |
| | TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT | | FLAGS, 16" X 16 MIN., (ORANGE) |
| | FLASHING ARROW BOARD | | TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) - SOLID |
| | TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT | | TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW) - SOLID |
| | CONCRETE BARRIER TEMPORARY PRECAST | | TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE) - SOLID |
| | WORK AREA | | FIXED MESSAGE SIGN NUMBER |





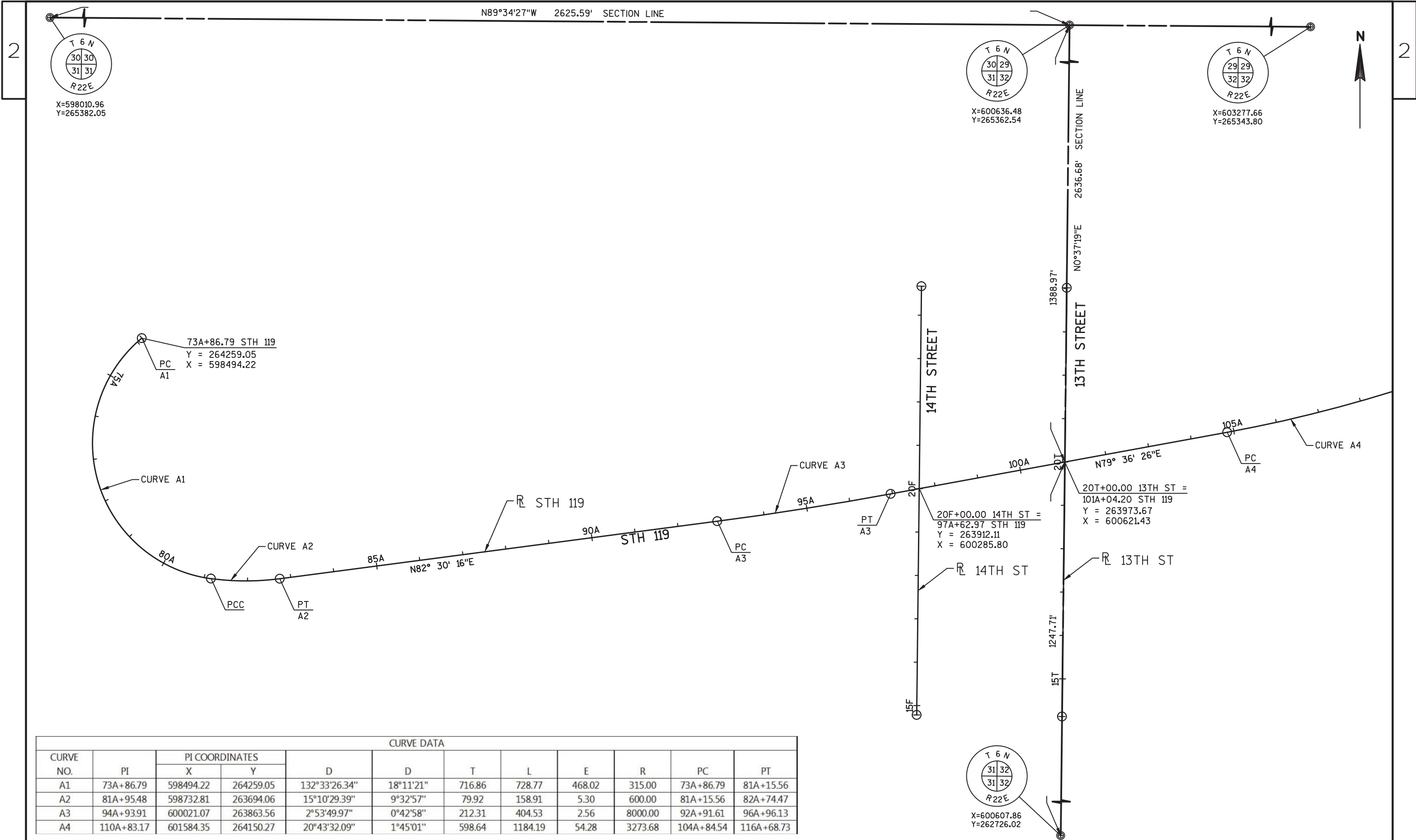
1	2	3	4	5	6
<div style="display: flex; flex-direction: column; align-items: center;"><div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">DETOUR</div><div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">NORTH</div><div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">41</div><div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">WEST</div><div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">94</div><div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Milwaukee</div><div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">102</div><div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">M5-2R</div></div> <div style="display: flex; flex-direction: column; align-items: center;"><div>M4-8</div><div>M3-1</div><div>M1-1</div><div>M3-4</div><div>M1-1</div><div>M5-1L</div></div> <div style="display: flex; flex-direction: column; align-items: center;"><div>24" X 24"</div><div>24" X 24"</div><div>24" X 24"</div><div>24" X 24"</div><div>24" X 24"</div><div>21" X 21"</div></div>	<div style="display: flex; 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padding: 2px; margin-bottom: 2px;">END</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">DETOUR</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">M4-8A</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">24" X 18"</div>

LEGEND

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

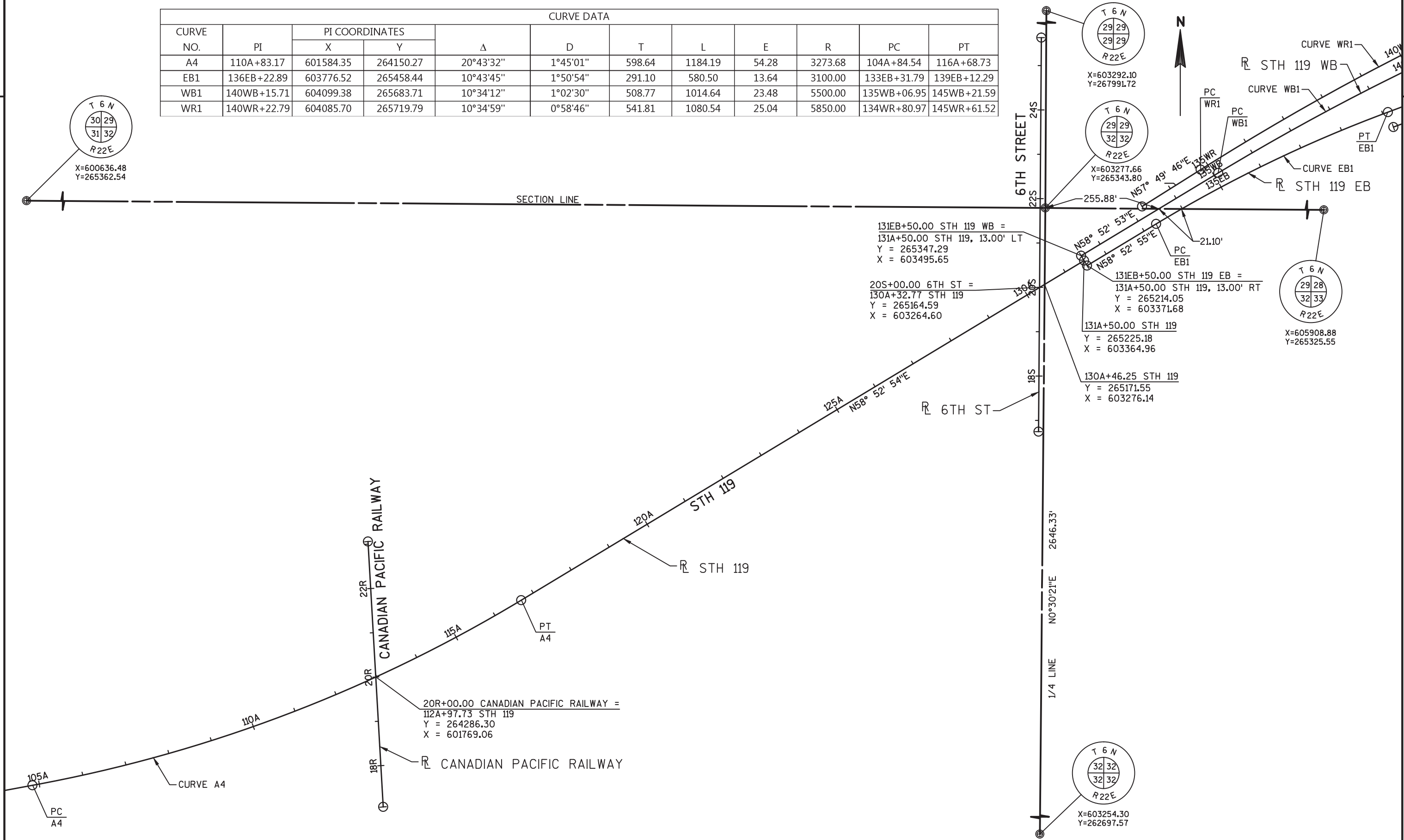
NOTES

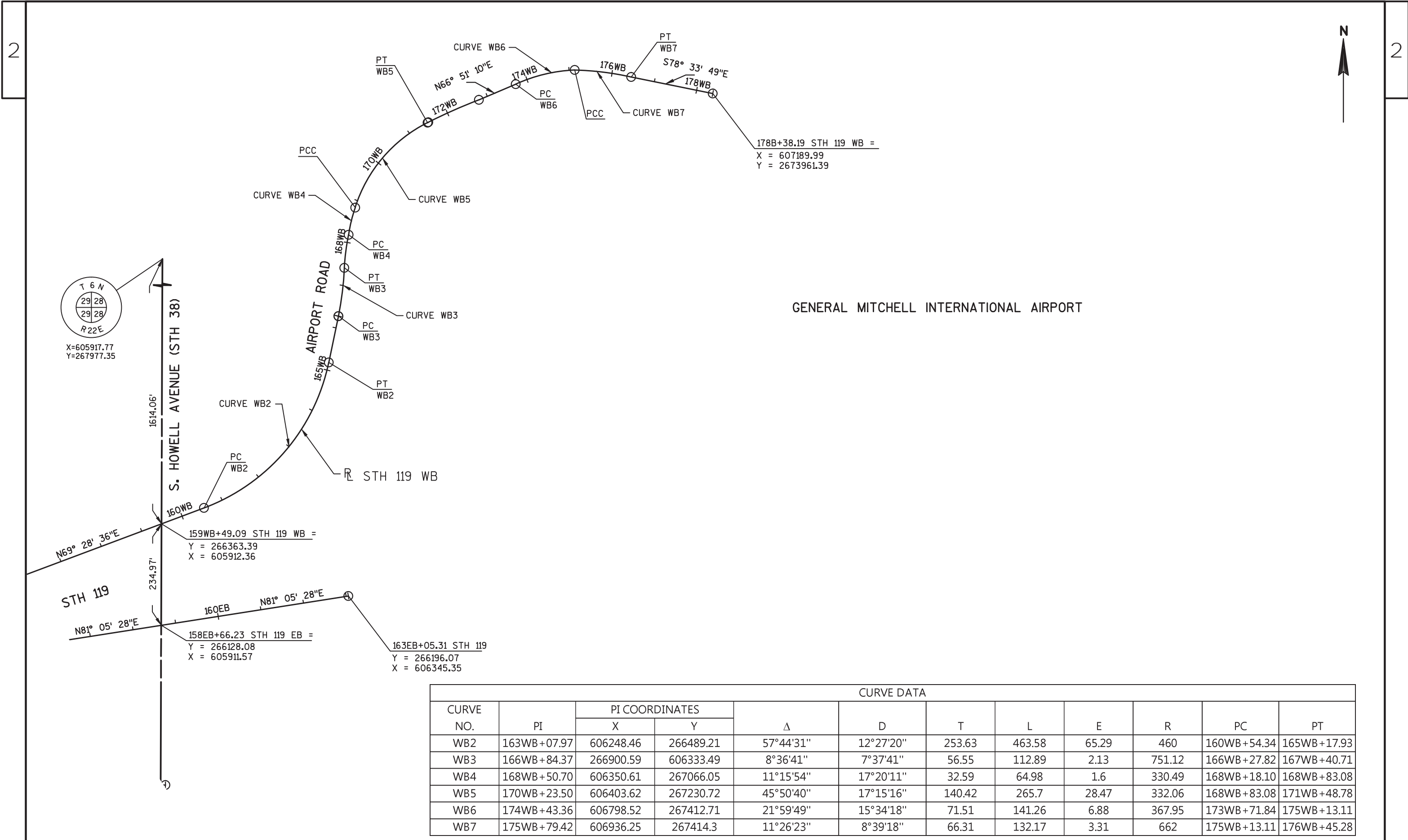
- 1) SEE S.D.D. "DETOUR SIGNING FOR MAINLINE CLOSURES" FOR SIGN LOCATION SPACING AND DISTANCES.
- 2) ALL SIGNS LOCATED ALONG FREEWAY SHALL BE SIGN SIZE 5.
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CURVE DATA											
CURVE NO.	PI	PI COORDINATES		D	D	T	L	E	R	PC	PT
		X	Y								
A1	73A+86.79	598494.22	264259.05	132°33'26.34"	18°11'21"	716.86	728.77	468.02	315.00	73A+86.79	81A+15.56
A2	81A+95.48	598732.81	263694.06	15°10'29.39"	9°32'57"	79.92	158.91	5.30	600.00	81A+15.56	82A+74.47
A3	94A+93.91	600021.07	263863.56	2°53'49.97"	0°42'58"	212.31	404.53	2.56	8000.00	92A+91.61	96A+96.13
A4	110A+83.17	601584.35	264150.27	20°43'32.09"	1°45'01"	598.64	1184.19	54.28	3273.68	104A+84.54	116A+68.73

CURVE NO.	PI	PI COORDINATES		Δ	D	T	L	E	R	PC	PT
		X	Y								
A4	110A+83.17	601584.35	264150.27	20°43'32"	1°45'01"	598.64	1184.19	54.28	3273.68	104A+84.54	116A+68.73
EB1	136EB+22.89	603776.52	265458.44	10°43'45"	1°50'54"	291.10	580.50	13.64	3100.00	133EB+31.79	139EB+12.29
WB1	140WB+15.71	604099.38	265683.71	10°34'12"	1°02'30"	508.77	1014.64	23.48	5500.00	135WB+06.95	145WB+21.59
WR1	140WR+22.79	604085.70	265719.79	10°34'59"	0°58'46"	541.81	1080.54	25.04	5850.00	134WR+80.97	145WR+61.52





GENERAL MITCHELL INTERNATIONAL AIRPORT

CURVE DATA											
CURVE NO.	PI	PI COORDINATES		Δ	D	T	L	E	R	PC	PT
		X	Y								
WB2	163WB+07.97	606248.46	266489.21	57°44'31"	12°27'20"	253.63	463.58	65.29	460	160WB+54.34	165WB+17.93
WB3	166WB+84.37	266900.59	606333.49	8°36'41"	7°37'41"	56.55	112.89	2.13	751.12	166WB+27.82	167WB+40.71
WB4	168WB+50.70	606350.61	267066.05	11°15'54"	17°20'11"	32.59	64.98	1.6	330.49	168WB+18.10	168WB+83.08
WB5	170WB+23.50	606403.62	267230.72	45°50'40"	17°15'16"	140.42	265.7	28.47	332.06	168WB+83.08	171WB+48.78
WB6	174WB+43.36	606798.52	267412.71	21°59'49"	15°34'18"	71.51	141.26	6.88	367.95	173WB+71.84	175WB+13.11
WB7	175WB+79.42	606936.25	267414.3	11°26'23"	8°39'18"	66.31	132.17	3.31	662	175WB+13.11	176WB+45.28

Estimate Of Quantities

2015-02-70

Line	Item	Item Description	Unit	Total	Qty
0002	204.0100	Removing Pavement	SY	431.000	431.000
0004	204.9090.S	Removing (item description) 01. Electrical Wire	LF	596.000	596.000
0006	213.0100	Finishing Roadway (project) 01. 2015-02-70	EACH	1.000	1.000
0008	415.0410	Concrete Pavement Approach Slab	SY	431.000	431.000
0010	502.3100	Expansion Device (structure) 01. B-40-484	LS	1.000	1.000
0012	502.3100	Expansion Device (structure) 02. B-40-485	LS	1.000	1.000
0014	502.3200	Protective Surface Treatment	SY	2,370.000	2,370.000
0016	502.3210	Pigmented Surface Sealer	SY	15.000	15.000
0018	502.4205	Adhesive Anchors No. 5 Bar	EACH	168.000	168.000
0020	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	7,010.000	7,010.000
0022	505.0905	Bar Couplers No. 5	EACH	18.000	18.000
0024	505.0906	Bar Couplers No. 6	EACH	10.000	10.000
0026	506.6000	Bearing Assemblies Expansion (structure) 01. B-40-484	EACH	10.000	10.000
0028	506.6000	Bearing Assemblies Expansion (structure) 02. B-40-485	EACH	12.000	12.000
0030	506.7050.S	Removing Bearings (structure) 01. B-40-484	EACH	10.000	10.000
0032	506.7050.S	Removing Bearings (structure) 02. B-40-485	EACH	12.000	12.000
0034	509.0301	Preparation Decks Type 1	SY	86.000	86.000
0036	509.0302	Preparation Decks Type 2	SY	34.000	34.000
0038	509.0310.S	Sawing Pavement Deck Preparation Areas	LF	246.000	246.000
0040	509.0500	Cleaning Decks	SY	2,323.000	2,323.000
0042	509.1000	Joint Repair	SY	82.000	82.000
0044	509.1500	Concrete Surface Repair	SF	280.000	280.000
0046	509.2000	Full-Depth Deck Repair	SY	21.000	21.000
0048	509.2100.S	Concrete Masonry Deck Repair	CY	8.000	8.000
0050	509.2500	Concrete Masonry Overlay Decks	CY	159.000	159.000
0052	509.5100.S	Polymer Overlay	SY	4,124.000	4,124.000
0054	603.8000	Concrete Barrier Temporary Precast Delivered	LF	870.000	870.000
0056	603.8125	Concrete Barrier Temporary Precast Installed	LF	870.000	870.000
0058	611.8115	Adjusting Inlet Covers	EACH	2.000	2.000
0060	618.0100	Maintenance And Repair of Haul Roads (project) 01. 2015-02-70	EACH	1.000	1.000
0062	619.1000	Mobilization	EACH	1.000	1.000
0064	628.7010	Inlet Protection Type B	EACH	41.000	41.000
0066	642.5201	Field Office Type C	EACH	1.000	1.000
0068	643.0300	Traffic Control Drums	DAY	18,925.000	18,925.000
0070	643.0420	Traffic Control Barricades Type III	DAY	1,875.000	1,875.000
0072	643.0705	Traffic Control Warning Lights Type A	DAY	3,450.000	3,450.000
0074	643.0715	Traffic Control Warning Lights Type C	DAY	5,120.000	5,120.000
0076	643.0800	Traffic Control Arrow Boards	DAY	245.000	245.000
0078	643.0900	Traffic Control Signs	DAY	5,330.000	5,330.000

Estimate Of Quantities

2015-02-70

Line	Item	Item Description	Unit	Total	Qty
0080	643.0910	Traffic Control Covering Signs Type I	EACH	19.000	19.000
0082	643.0920	Traffic Control Covering Signs Type II	EACH	7.000	7.000
0084	643.1000	Traffic Control Signs Fixed Message	SF	320.500	320.500
0086	643.1051	Traffic Control Signs PCMS with Cellular Communications	DAY	200.000	200.000
0088	643.5000	Traffic Control	EACH	1.000	1.000
0090	646.1020	Marking Line Epoxy 4-Inch	LF	32,115.000	32,115.000
0092	646.1545	Marking Line Grooved Wet Ref Contrast Epoxy 4-Inch	LF	2,375.000	2,375.000
0094	646.3545	Marking Line Grooved Wet Ref Contrast Epoxy 8-Inch	LF	5,775.000	5,775.000
0096	646.5020	Marking Arrow Epoxy	EACH	5.000	5.000
0098	646.6120	Marking Stop Line Epoxy 18-Inch	LF	45.000	45.000
0100	646.6220	Marking Yield Line Epoxy 18-Inch	EACH	11.000	11.000
0102	646.7120	Marking Diagonal Epoxy 12-Inch	LF	1,925.000	1,925.000
0104	646.7220	Marking Chevron Epoxy 24-Inch	LF	1,050.000	1,050.000
0106	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	200.000	200.000
0108	646.9010	Marking Removal Line Water Blasting 4-Inch	LF	30,100.000	30,100.000
0110	646.9110	Marking Removal Line Water Blasting 8-Inch	LF	5,350.000	5,350.000
0112	646.9210	Marking Removal Line Water Blasting Wide	LF	2,500.000	2,500.000
0114	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	50,230.000	50,230.000
0116	649.0250	Temporary Marking Line Removable Tape 8-Inch	LF	1,810.000	1,810.000
0118	650.9910	Construction Staking Supplemental Control (project) 01. 2015-02-70	LS	1.000	1.000
0120	652.0125	Conduit Rigid Metallic 2-Inch	LF	40.000	40.000
0122	655.0620	Electrical Wire Lighting 8 AWG	LF	966.000	966.000
0124	655.0630	Electrical Wire Lighting 4 AWG	LF	1,233.000	1,233.000
0126	690.0250	Sawing Concrete	LF	160.000	160.000
0128	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0130	715.0502	Incentive Strength Concrete Structures	DOL	954.000	954.000
0132	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	600.000	600.000
0134	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	650.000	650.000
0136	SPV.0090	Special 01. Marking Contrast Epoxy 4-Inch	LF	230.000	230.000
0138	SPV.0090	Special 02. Marking Contrast Epoxy 8-Inch	LF	965.000	965.000

3

3

REMOVING PAVEMENT

CATEGORY	ROADWAY	STA	TO	STA	SY	204.0100
0010	<u>STH 119 EB</u>					
	WEST OF B-40-485	156EB+93	-	157EB+16	96	
	EAST OF B-40-485	157EB+96	-	160EB+15	94	
	<u>STH 119 WB</u>					
	WEST OF B-40-484	157WB+65	-	157WB+86	119	
	EAST OF B-40-484	160WB+36	-	160WB+68	122	
TOTAL					431	

REMOVING PAVEMENT MARKING ITEMS

				646.9010	646.9110	646.9210		
				MARKING REMOVAL LINE				
				WATER BLASTING				
CATEGORY	ROADWAY	STATION		4-INCH LF	8-INCH LF	WIDE LF	REMARKS	
0010	<u>STH 119 EB</u>	85A+95	- 99A+09	2,835	1,460	440		
		99A+09	- 131EB+64	7,325	--	465		
		131EB+64	- 142EB+31	2,535	530	140		
		142EB+31	- 162EB+16	4,505	350	335		
	<u>STH 119 WB</u>							
		93A+58	- 101A+11	1,340	920	280		
		101A+11	- 107A+84	1,345	170	85		
		107A+84	- 140WB+59	7,370	--	465		
		140WB+59	- 149WB+00	1,095	800	145		
		149WB+00	- 153WB+00	900	--	55		
	<u>RAMP ER</u>							
		142ER+31	- 145ER+82	350	350	--		
		157ER+48	- 157ER+60	--	--	20	REMOVE EXISTING STOP LINE	
	<u>RAMP WR</u>							
		141ER+05	- 148ER+74	500	770	70		
TOTALS				30,100	5,350	2,500		

FINISHING ROADWAY

CATEGORY STAGE		213.0100.01 EACH	
1000	ALL	PROJECT 2015-02-70	1
TOTAL		1	

INLET PROTECTION TYPE B

CATEGORY	STAGE	ROADWAY	628.7010 EACH
0010	<u>STAGE 1</u>	STH 119 EB	9
		STH 119 WB	7
		UNDISTRIBUTED	5
		STAGE 1 SUBTOTAL	21
	<u>STAGE 2</u>	STH 119 EB	8
		STH 119 WB	7
		UNDISTRIBUTED	5
		STAGE 2 SUBTOTAL	20
	<u>TOTAL</u>		41

FIELD OFFICE TYPE C

CATEGORY STAGE		642.5201 EACH	
1000	ALL	PROJECT 2015-02-70	1
TOTAL		1	

CONCRETE PAVEMENT APPROACH SLAB

CATEGORY		ROADWAY	STA	TO	STA	415.0410 SY
0010	<u>STH 119 EB</u>					
	WEST OF B-40-484		156EB+93	-	157EB+16	96
	EAST OF B-40-484		157EB+96	-	160EB+15	94
	<u>STH 119 WB</u>					
	WEST OF B-40-485		157WB+65	-	157WB+86	119
	EAST OF B-40-485		160WB+36	-	160WB+68	122
TOTAL						431

ADJUSTING INLET COVERS

CATEGORY		ROADWAY		STATION	OFFSET	611.8115 EACH
0010	STH 119 EB	160EB+10		LT / RT		2
TOTAL						2

TRAFFIC CONTROL SIGNS FIXED MESSAGE

* 643.1000 TRAFFIC CONTROL FMS SIGN SIGNS FIXED MESSAGE NO. SF					
CATEGORY	STAGE	LOCATION	NO.	SF	COMMENT
0010	1	100A+00	100	18.00	COVER RAMP SPEED WHEN CHICAGO RAMP IS CLOSED
		117A+56	100	18.00	COVER ONLY WHEN CHICGO RAMP IS CLOSED
		133EB+75	105	11.25	MOUNT ON EXISTING SIGN
	2	100A+00	100	18.00	MOUNT ON EXISTING SIGN
		107A+84	100	18.00	COVER EXIT ONLY WHEN WB RAMP IS CLOSED
		117A+56	100	18.00	COVER EXIT ONLY WHEN WB RAMP IS CLOSED
		133EB+75	105	11.25	MOUNT ON EXISTING SIGN
		152EB+20	106	12.00	MOUNT ON EXISTING SIGN
	2 (484)	165WB+67	100	18.00	COVER MILWAUKEE CHICAGO WHEN BRIDGE IS CLOSED
		165WB+67	101	9.00	MOUNT ON EXISTING SIGN
		165WB+67	102	12.00	MOUNT ON EXISTING SIGN
		167WB+73	100	18.00	COVER MILWAUKEE CHICAGO WHEN BRIDGE IS CLOSED
		167WB+73	101	9.00	MOUNT ON EXISTING SIGN
		167WB+73	102	12.00	MOUNT ON EXISTING SIGN
		176WB+43	100	18.00	COVER MILWAUKEE CHICAGO WHEN BRIDGE IS CLOSED
TOTALS				220.50	

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

MAINTENANCE AND REPAIR OF HAUL ROADS

CATEGORY		ROADWAY		618.0100.01 EACH
1000	STH 119	1		
TOTAL				1

MOBILIZATION

CATEGORY		STAGE		619.1000 EACH
0010	ALL	PROJECT 2015-02-70		1
TOTAL				1

3

TEMPORARY PAVEMENT MARKING ITEMS

CATEGORY	STAGE	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH			649.0250 TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH	
		DOT PATTERN WHITE				
		3- FOOT LINE				
		WHITE LF	YELLOW LF	9- FOOT SKIP LF	WHITE LF	
0010	1	11,465	12,135	265	690	
	2	12,810	13,055	65	920	
	2 (484)	175	260	--	200	
TOTALS		24,450	25,450	330	1,810	
		50,230				

3

TRAFFIC CONTROL

CATEGORY	PROJECT	643.5000 EACH
0010	2015-02-70	1
TOTAL		1

TRAFFIC CONTROL ITEMS

* 643.1051 TRAFFIC CONTROL SIGNS PCMS WITH CELLULAR COMMUNICATIONS																
* 643.0900 TRAFFIC CONTROL SIGNS																
* 643.0800 TRAFFIC CONTROL ARROW BOARDS																
* 643.0715 TRAFFIC CONTROL WARNING LIGHTS																
* 643.0705 TRAFFIC CONTROL BARRICADES TYPE III																
* 643.0300 TRAFFIC CONTROL DRUMS																
CATEGORY	STAGE	STAGE DURATION														
		DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY
0010	1	24	297	7,128	30	720	58	1,392	98	2,352	3	72	52	1,248	3	72
	2	23	316	7,268	34	782	65	1,495	71	1,633	3	69	62	1,426	3	69
	2 (484)	28	67	1,876	6	168	12	336	13	364	2	56	65	1,820	--	--
	UNDISTRIBUTED			2,478		180		177		701		43		226		54
TOTALS			18,750		1,850		3,400		5,050		240		4,720		195	

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

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CONCRETE BARRIER TEMPORARY

CATEGORY	STAGE	STA TO STA	603.8000	603.8125
			CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF
0010	1	155EB+80 - 160EB+17	435	435
	2	155EB+83 - 160EB+17	435	435
TOTALS			870	870

TRAFFIC CONTROL DETOUR ITEMS

CATEGORY	DETOUR	STAGE DURATION DAY	* 643.0300 TRAFFIC CONTROL DRUMS		* 643.0420 TRAFFIC CONTROL BARRICADES TYPE III		* 643.0705 TRAFFIC CONTROL WARNING LIGHTS		* 643.0715		* 643.0800 TRAFFIC CONTROL ARROW BOARDS		* 643.0900 TRAFFIC CONTROL SIGNS		* 643.1051 TRAFFIC CONTROL SIGNS PCMS WITH CELLULAR COMMUNICATIONS	
			EACH DAY		EACH DAY		TYPE A EACH DAY		TYPE C EACH DAY		EACH DAY		EACH DAY		EACH DAY	
			EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY
0010	STAGE 1	5	--	--	--	--	--	--	--	--	--	--	48	240	--	--
	STAGE 1 (484)	1	75	75	10	10	20	20	30	30	1	1	17	17	2	2
	STAGE 2	5	--	--	--	--	--	--	--	--	--	--	48	240	--	--
	STAGE 2 (484)	1	80	80	10	10	20	20	30	30	1	1	56	56	2	2
	UNDISTRIBUTED			20		5		10		10		3		57		1
TOTALS			175		25		50		70		5		610		5	

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

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TRAFFIC CONTROL COVERING SIGN ITEMS

CATEGORY	STAGE	* STAGE DURATION DAYS	643.0910 TRAFFIC CONTROL COVERING SIGN TYPE I			643.0920 TRAFFIC CONTROL COVERING SIGN TYPE II		
			# SIGNS	# CYCLES	EACH	# SIGNS	# CYCLES	EACH
1000	1	24	8	1	8	5	1	5
	2	23	6	1	6	2	1	2
	2 (484)	28	5	1	5	--	--	--
TOTALS					19			7

* FOR INFORMATION ONLY

TRAFFIC CONTROL DETOUR ITEMS

			* 643.1000 TRAFFIC CONTROL		
			FMS SIGN NO.	SIGNS FIXED MESSAGE SF	
CATEGORY	STAGE	LOCATION			COMMENT
0010	1	130EB+50	107	6.00	DAILY PARKING
		142EB+30	107	6.00	DAILY PARKING
		157ER+00	107	6.00	DAILY PARKING
		RAMP E OF S HOWELL AVE, S OF STH 119 EB	107	6.00	DAILY PARKING
<u>1 OVERNIGHT (485)</u>					
		133EB+25	108	12.00	NEXT RIGHT
<u>1 - IH 41 SB / IH 94 WB DETOUR</u>					
		WB STH 119, S OF CPRR	104	3.00	CHICAGO
		WB STH 119, N OF CPRR	104	3.00	CHICAGO
		WB STH 119, S OF 14TH ST	104	3.00	CHICAGO
		IH 41 NB / IH 94 EB, N OF W GRANGE AVE	104	3.00	CHICAGO
		IH 41 NB / IH 94 EB, S OF NB EXIT RAMP TO W LAYTON AVE	104	3.00	CHICAGO
		NB EXIT RAMP TO W LAYTON AVE	104	3.00	CHICAGO
		NB EXIT RAMP TO W LAYTON AVE, S OF W LAYTON AVE	104	3.00	CHICAGO
		W LAYTON AVE WB, E OF ENT. RAMP TO IH 41 SB, IH 94 WB	104	3.00	CHICAGO
<u>2 OVERNIGHT (485)</u>					
		133EB+25	108	12.00	NEXT RIGHT
<u>2 - IH 41 NB / IH 94 EB DETOUR</u>					
		WB STH 119, S OF CPRR	103	3.50	MILWAUKEE
		WB STH 119, S OF 14TH ST	103	3.50	MILWAUKEE
		WB STH 119, N OF 14TH ST	103	3.50	MILWAUKEE
		IH 41 SB / IH 94 WB, N OF W RAMSEY AVE	103	3.50	MILWAUKEE
		IH 41 SB / IH 94 WB, S OF W RAMSEY AVE	103	3.50	MILWAUKEE
		SB EXIT RAMP TO W COLLEGE AVE	103	3.50	MILWAUKEE
		SB RAMP W COLLEGE AVE, N OF COLLEGE AVE	103	3.50	MILWAUKEE
		W COLLEGE AVE EB, S OF ENT. RAMP TO IH 41 NB / IH 94 EB	103	3.50	MILWAUKEE
TOTALS				100.00	

* ADDITIONAL QUANTTTES SHOWN ELSEWHERE

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PAVEMENT MARKING ITEMS

CATEGORY	ROADWAY	STATION	646.1020		646.1545		646.3545		646.5020	646.6120	646.6220	646.7120	646.7220	646.7420	SPV.0090.01	SPV.0090.02		
			MARKING		MARKING LINE GROOVED		MARKING LINE GROOVED		MARKING	MARKING	MARKING	MARKING	MARKING	MARKING	MARKING	MARKING	MARKING	
			LINE		WET REF CONTRAST EPOXY		WET REF CONTRAST EPOXY		ARROW	STOP LINE	YIELD LINE	DIAGONAL	CHEVRON	CROSSWALK	CONTRAST EPOXY	CONTRAST EPOXY	CONTRAST EPOXY	
			4-INCH		4-INCH		8-INCH		EPOXY	EPOXY	EPOXY	EPOXY	EPOXY	EPOXY	4-INCH	8-INCH	8-INCH	
			EPOXY		DASHED WHITE		DOT PATTERN WHITE		EPOXY	EPOXY	EPOXY	EPOXY	EPOXY	EPOXY	DASHED WHITE	DOT PATTERN WHITE	DOT PATTERN WHITE	
			4-INCH		12.5-FOOT LINE		3-FOOT LINE		EPOXY	EPOXY	EPOXY	EPOXY	EPOXY	EPOXY	12.5-FOOT LINE	3-FOOT LINE	3-FOOT LINE	
YELLOW		WHITE		37.5-FOOT SKIP		WHITE	9-FOOT SKIP		18-INCH	18-INCH	12-INCH	24-INCH	6-INCH	37.5-FOOT SKIP	WHITE	9-FOOT SKIP		
LF		LF		LF		LF	LF	EACH	LF	EACH	LF	LF	LF	LF	LF	LF		
0010	<u>STH 119 EB</u>	85A+95 - 162EB+26	7,450	7,530	1,385	1,585	255	--	--	--	905	525	--	145	210	--		
	<u>STH 119 WB</u>	96A+00 - 160WB+50	6,690	4,840	990	1,645	335	--	--	--	750	525	--	85	310	25		
	<u>RAMP ER</u>	142ER+31 - 157ER+65	1,515	1,695	--	585	15	5	45	11	85	--	200	--	420	--		
	<u>RAMP WR</u>	142ER+31 - 157ER+65	390	2,005	--	1,355	--	--	--	--	185	--	--	--	--	--		
TOTALS			16,045	16,070	2,375	5,170	605	5	45	11	1,925	1,050	200	230	940	25		
			32,115			5,775											965	

LIGHTING ITEMS

			204.9090.S	655.0620	655.0630
			REMOVING	ELECTRICAL	
			ELECTRICAL	WIRE	
				LIGHTING	
CATEGORY	ROADWAY	FROM - TO	WIRE	8 AWG	4 AWG
			LF	LF	LF
0010	<u>STH 119 EB</u>	EMF5 - FMF6	166	166	498
		FMF6 - EMF6	245	245	735
	<u>STH 119 WB</u>				
		GMF4 - HMF4	185	555	--
	<u>TOTALS</u>			596	966

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL

CATEGORY	STAGE		650.9910
			LS
1000	ALL	PROJECT 2015-02-70	1
TOTAL			1

SAW CUTTING ITEMS

				690.0250
				SAWING
				CONCRETE
CATEGORY	ROADWAY	STATION	OFFSET	LF
0010	<u>STH 119 EB</u>	156EB+93	LT / RT	40
		160EB+15	LT / RT	40
	<u>STH 119 WB</u>	157WB+65	LT / RT	40
		160WB+68	LT / RT	40
	<u>TOTALS</u>			

CONCRETE INCENTIVE ITEMS

CATEGORY	ROADWAY	STA	TO	STA	715.0415	715.0502
					INCENTIVE STRENGTH CONCRETE	
					PAVEMENT	STRUCTURES
					DOL	DOL
0010	<u>STH 119 EB</u>					
	B-40-484	156EB+93	-	160EB+15	250	456
	<u>STH 119 WB</u>					
	B-40-485	157WB+65	-	160WB+68	250	498
TOTAL					500	954

Standard Detail Drawing List

08E10-02	INLET PROTECTION TYPE A, B, C AND D
09B02-10	CONDUIT
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-07C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C07-14B	PAVEMENT MARKING WORDS
15C07-14C	PAVEMENT MARKING ARROWS
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C08-19B	PAVEMENT MARKING (TURN LANES)
15C08-19C	PAVEMENT MARKING (TURN LANES)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C20-02	YIELD MARKING
15C31-03A	PAVEMENT MARKING (RAMPS AND GORES)
15C31-03C	PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP
15C33-03	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D03-05	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D12-07A	TRAFFIC CONTROL, LANE CLOSURE
15D15-04A	TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-04C	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-04D	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-04E	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D16-04	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



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.

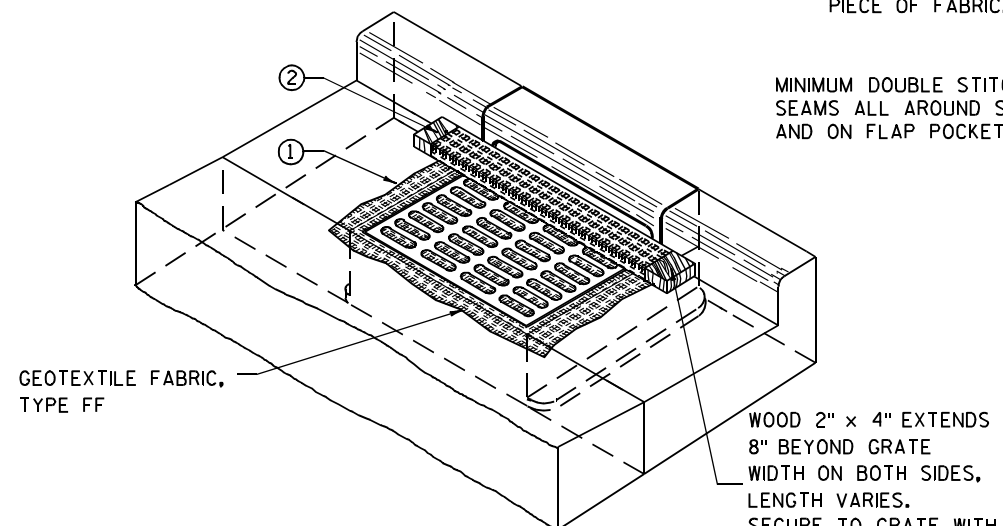
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.



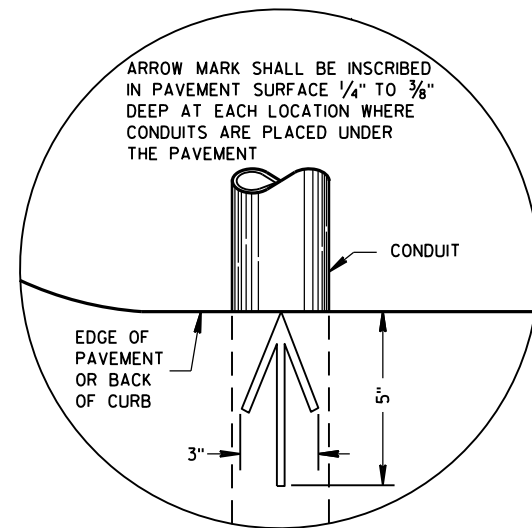
INLET PROTECTION, TYPE D

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

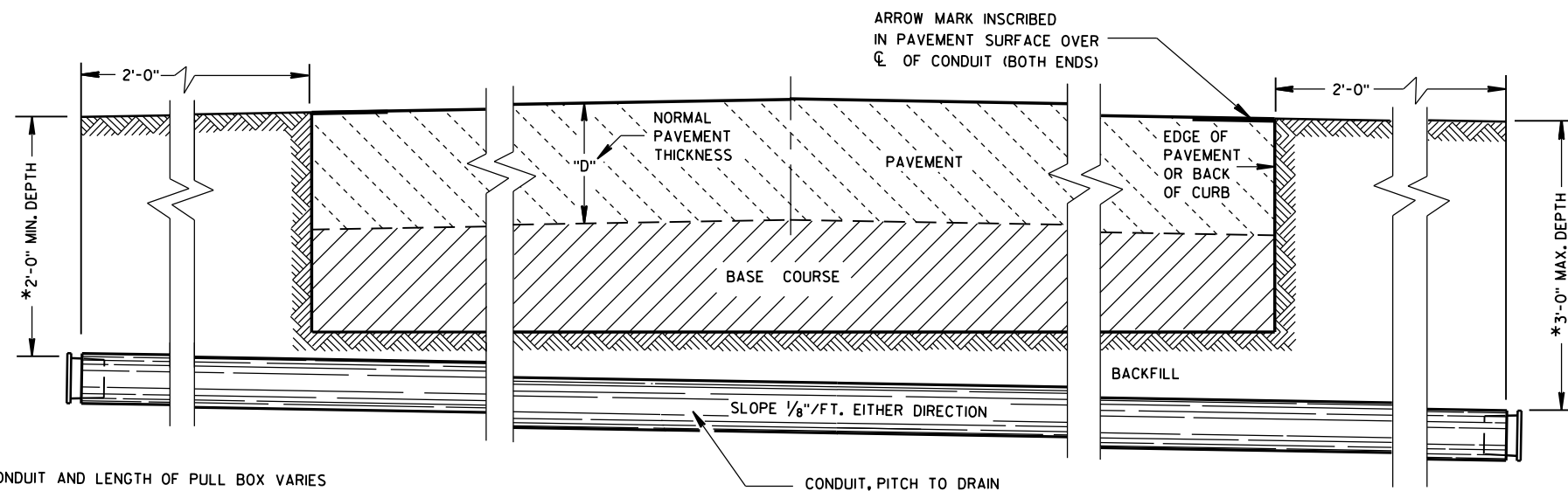
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW
ARROW MARK



SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES
WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

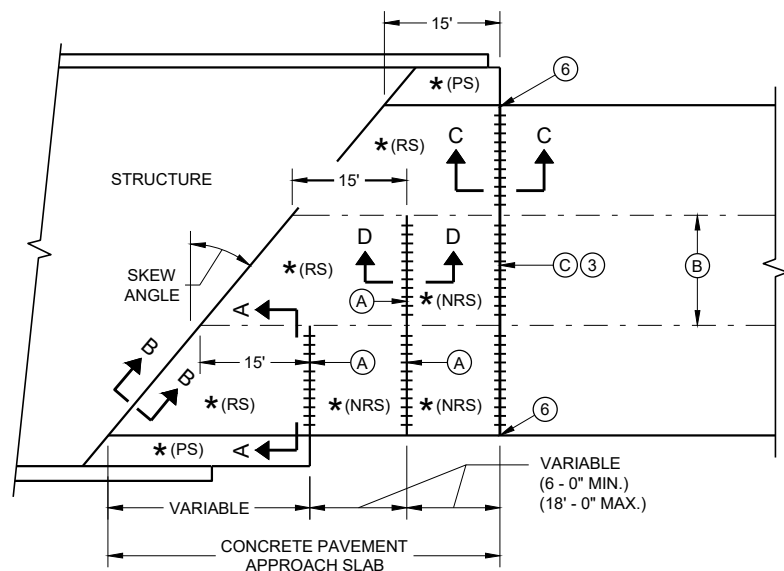
TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

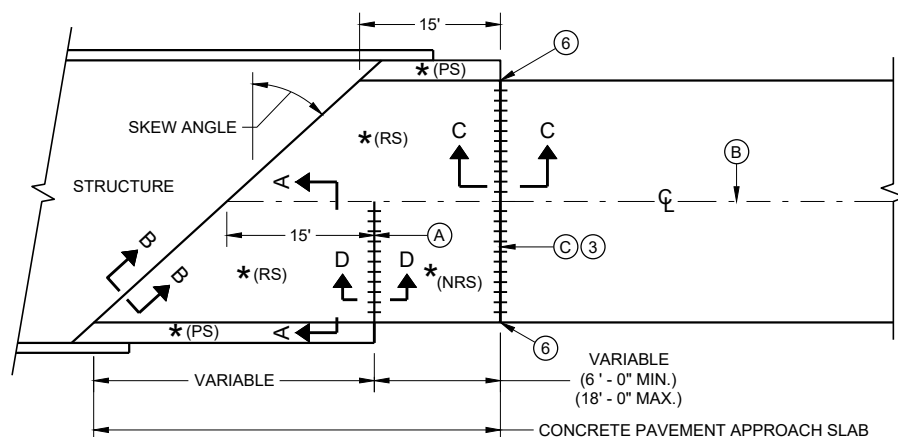
CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

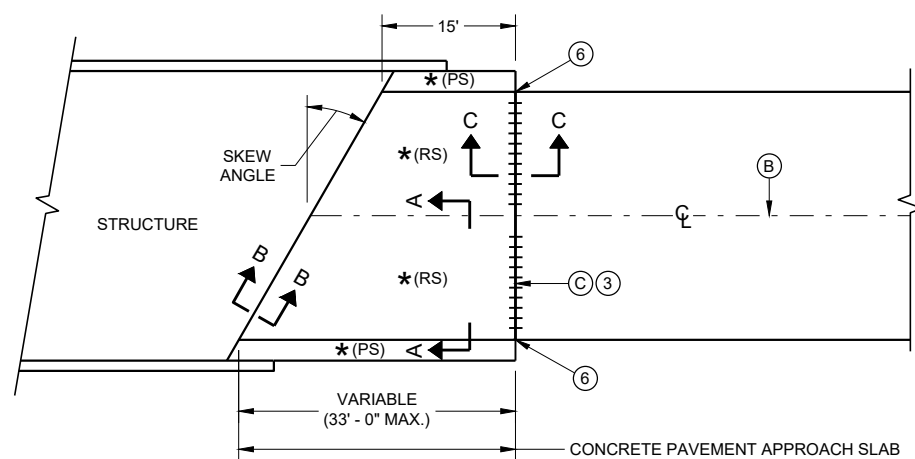
APPROVED
March, 2017 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA



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



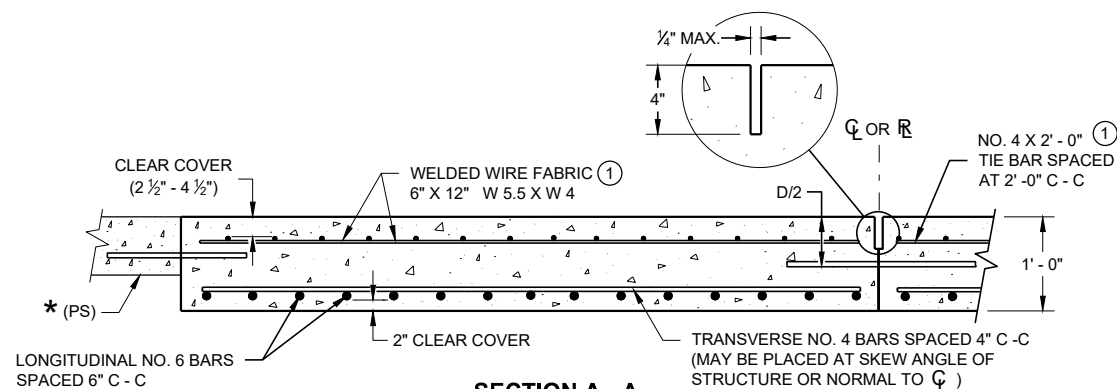
**SKews > 20°
(PAVEMENT WIDTH ≤ 30')**



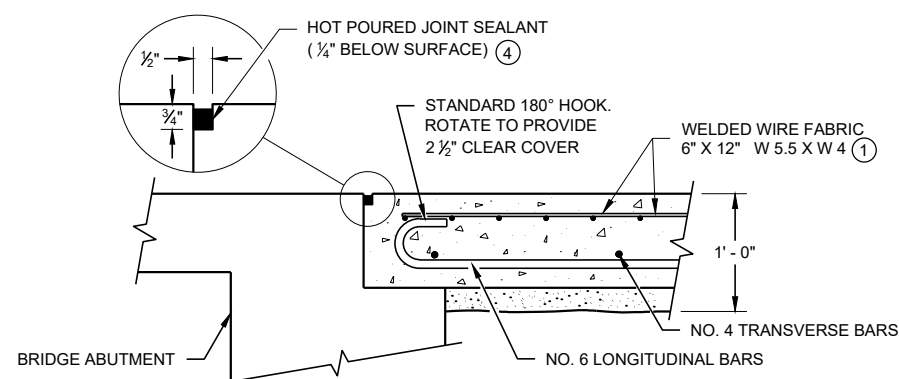
**SKews ≤ 20°
(PAVEMENT WIDTH ≤ 30')**

APPROACH SLAB AND ADJACENT PAVEMENT

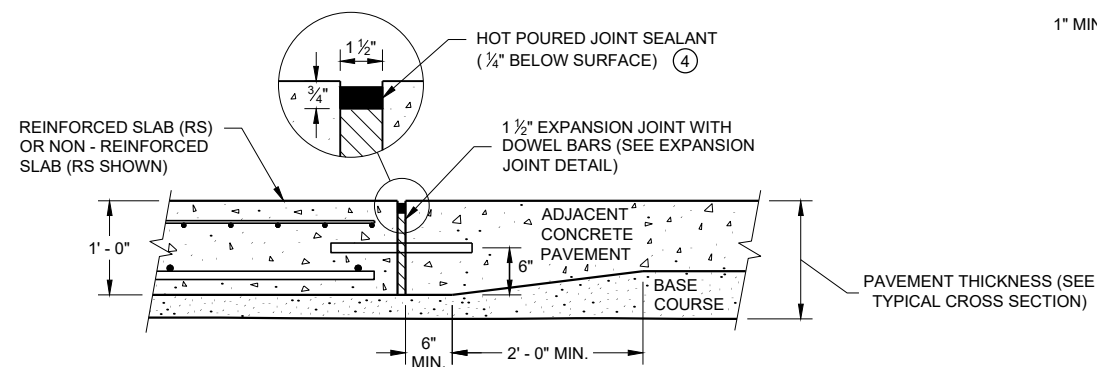
- * (RS) = REINFORCED CONCRETE SLAB
- * (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- * (NRS) = NON - REINFORCED CONCRETE SLAB
- *** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A
REINFORCEMENT POSITIONING DETAIL**



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



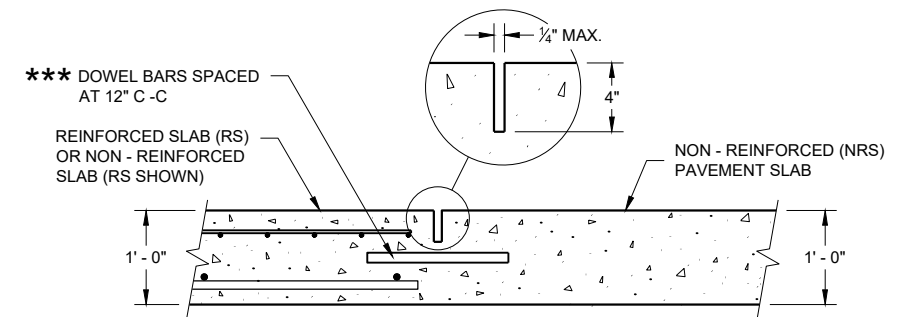
**SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**

GENERAL NOTES

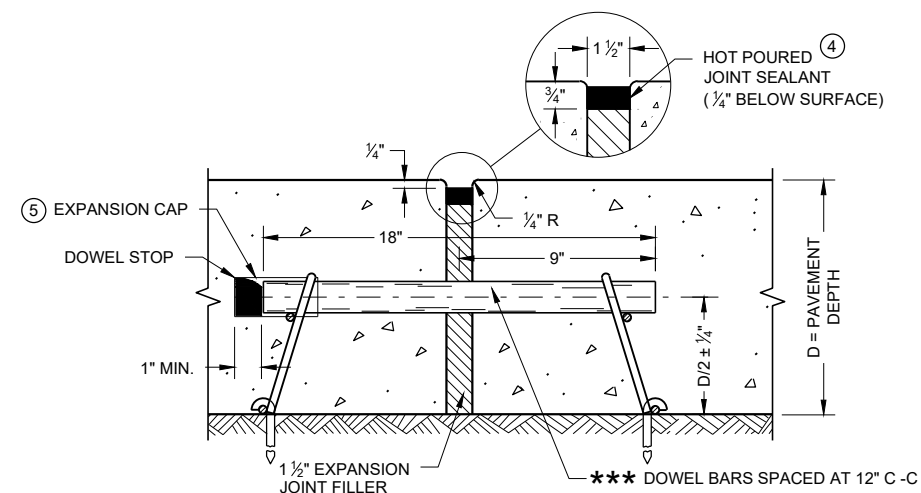
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

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 MEETING THE REQUIREMENTS OF ASTM D6690.
- 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**



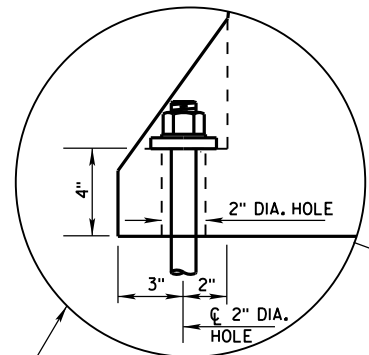
EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

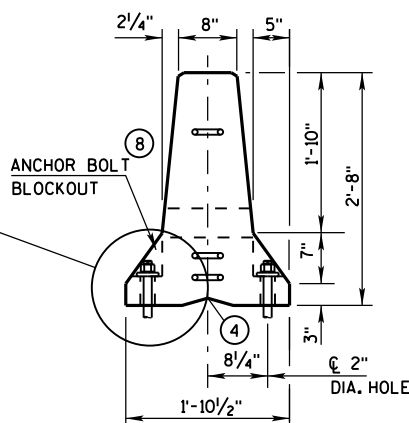
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

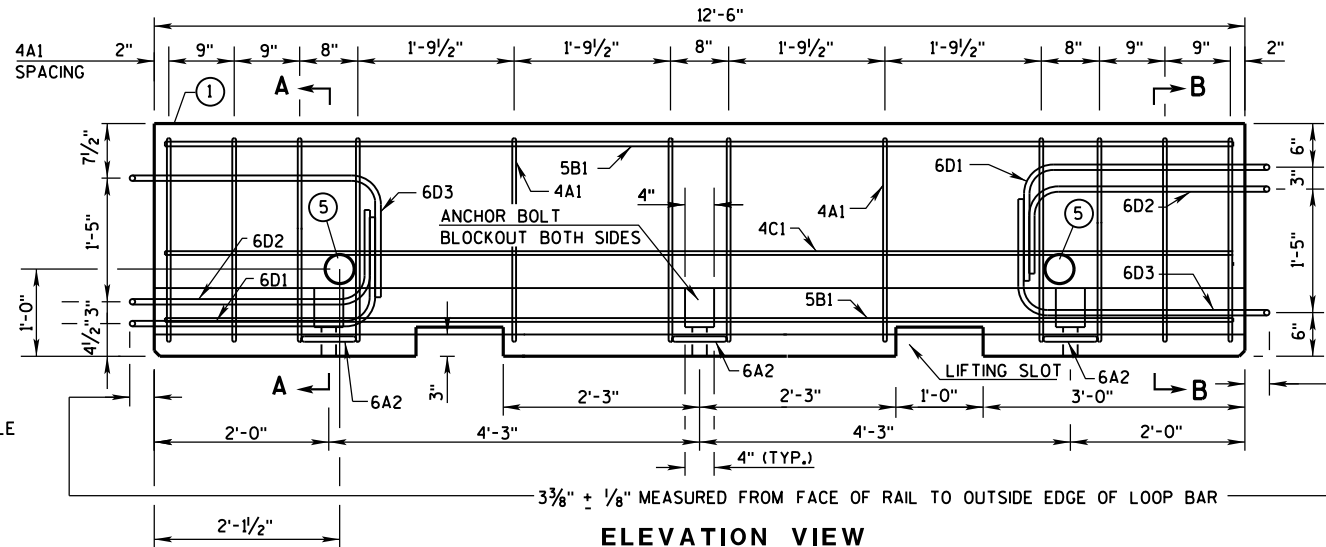
FHWA



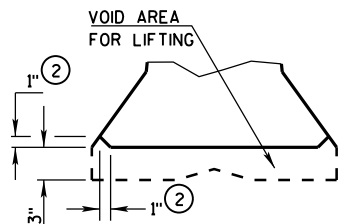
ANCHOR ON TRAFFIC SIDE
ONLY WHEN REQUIRED
(SEE SHEET D FOR ADDITIONAL
ANCHOR DETAIL)



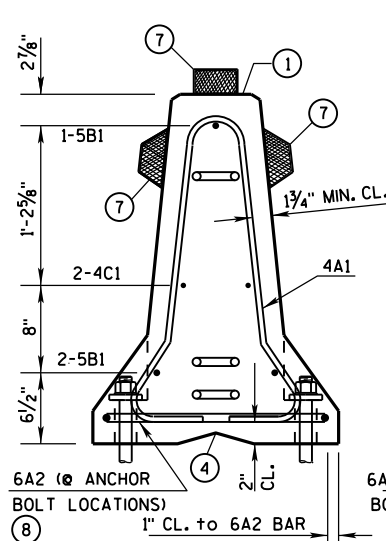
END VIEW



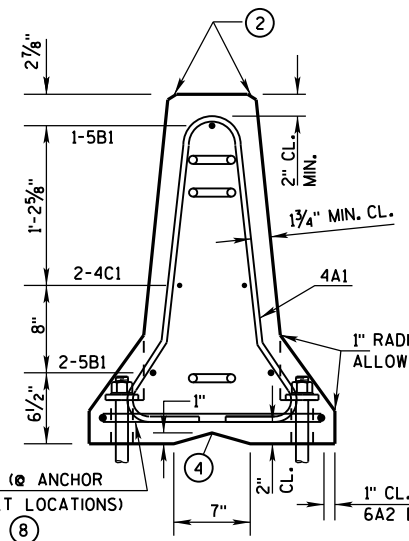
ELEVATION VIEW



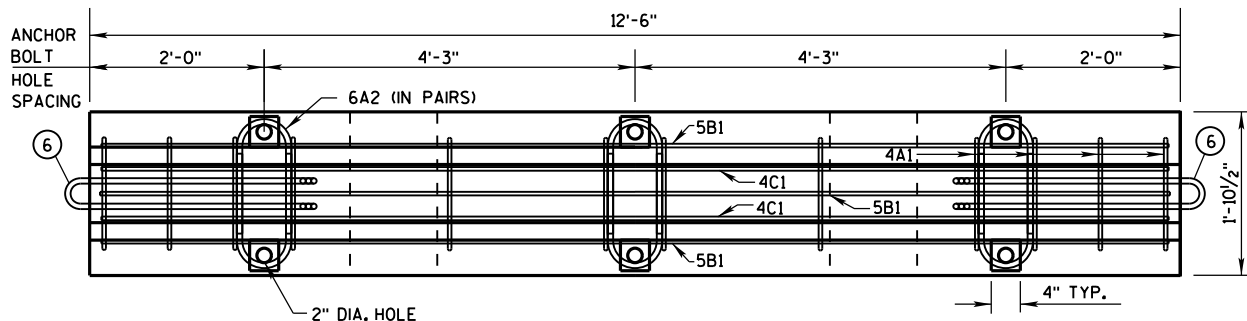
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

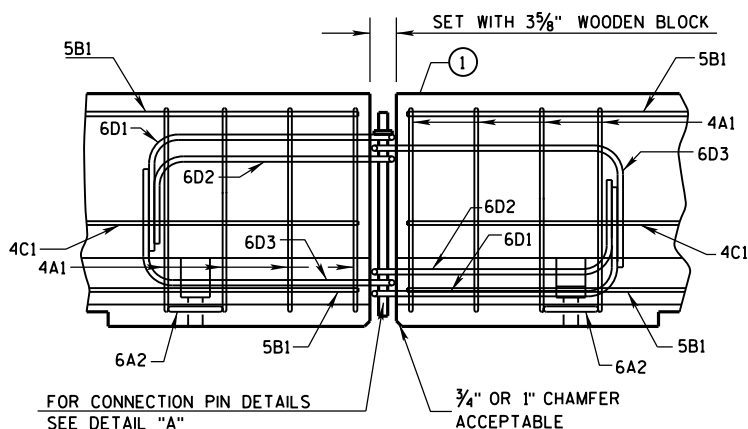


SECTION B-B
(STIRRUP PLACEMENT)

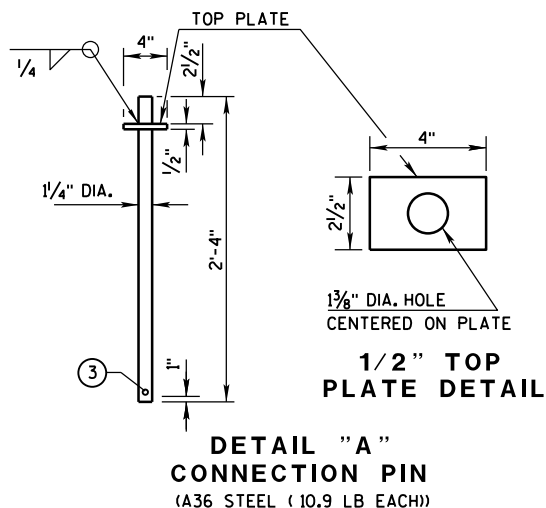


PLAN VIEW

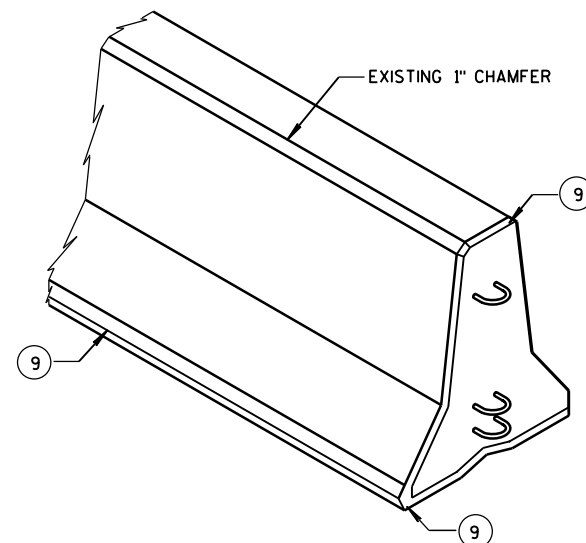
DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-15(a) THRU 14B7-15(i).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE 3/4" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-1/2" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN 1/8" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

- MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - TYPE: WICBTP
 - MANUFACTURER
 - DATE MANUFACTURED (MONTH AND YEAR)
- 1" CHAMFER TO PREVENT SPALLING.
- A 3/8" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- "V" NOTCH IS OPTIONAL.
- THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
- NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
- USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
- SEE SHEET D FOR HOW TO ANCHOR BARRIER. SEE SHEET E FOR WHEN TO ANCHOR BARRIER.
- 1" CHAMFER OPTIONAL.

f'c = 4,000 psi

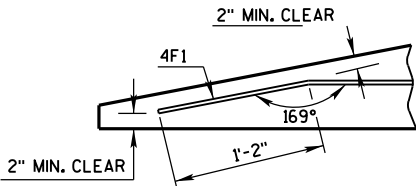
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

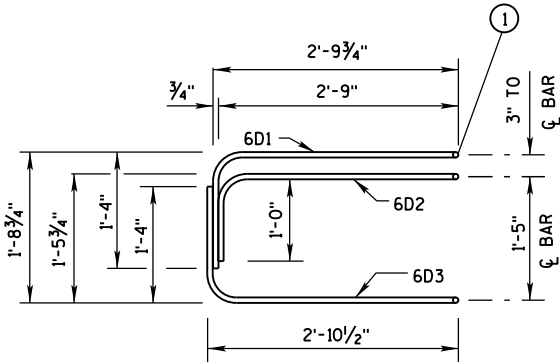
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

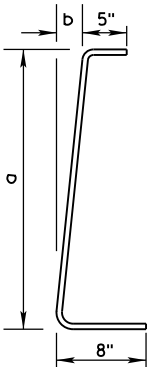
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

BAR	a	b
V1	10"	1"
V2	1'-1"	1 1/4"
V3	1'-5"	1 5/8"
V4	1'-8"	1 7/8"
V5	2'-0 1/2"	2 3/8"
V6	2'-3"	2 3/4"

TAPER BARRIER SECTION

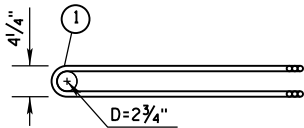
GENERAL NOTES

① NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

BARRIER SECTION
BILL OF MATERIALS

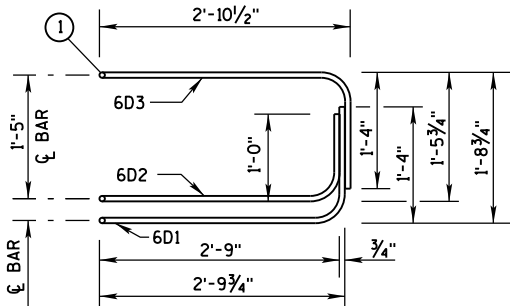
(PER 12'-6" BARRIER SECTION)

BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"

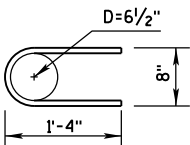


PLAN VIEW
LOOP BAR ASSEMBLY

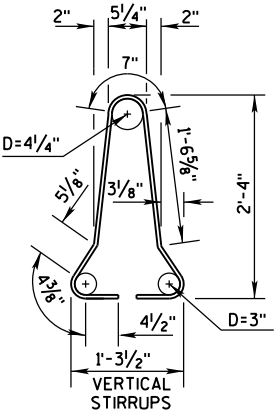
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

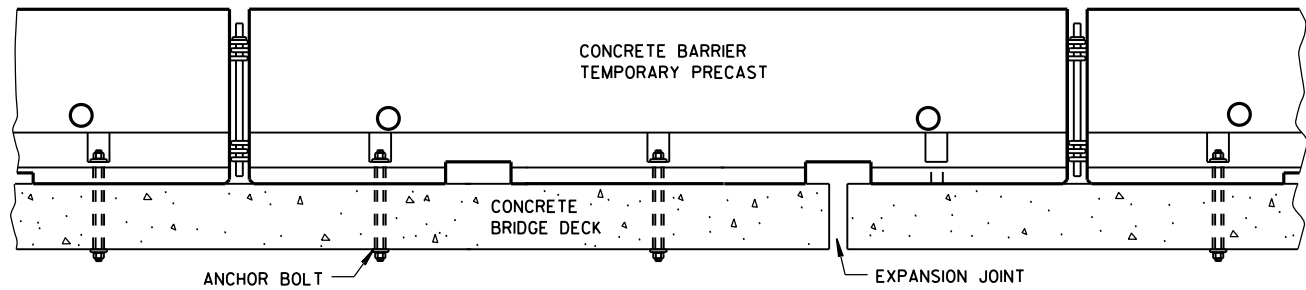
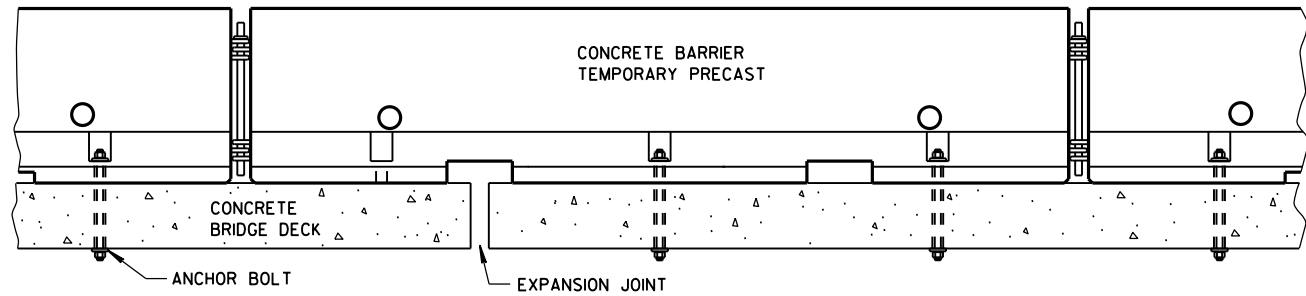


4A1

BARRIER SECTION

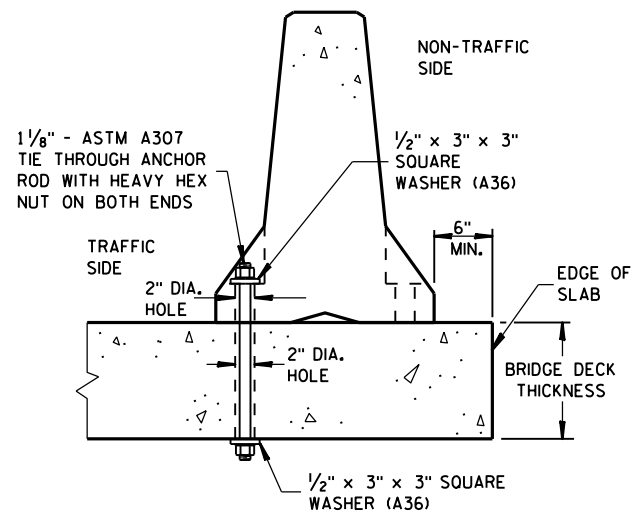
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



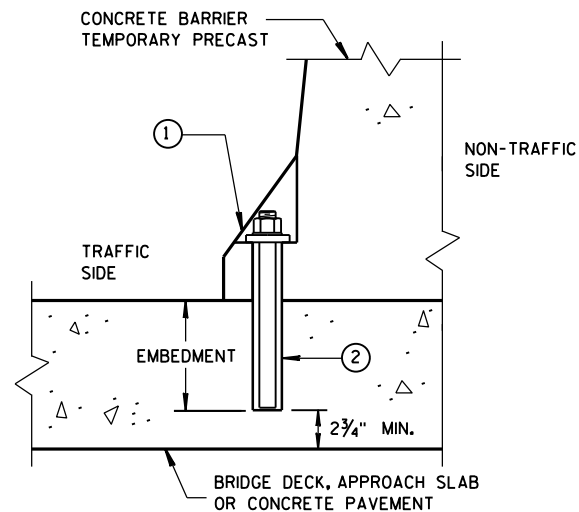
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



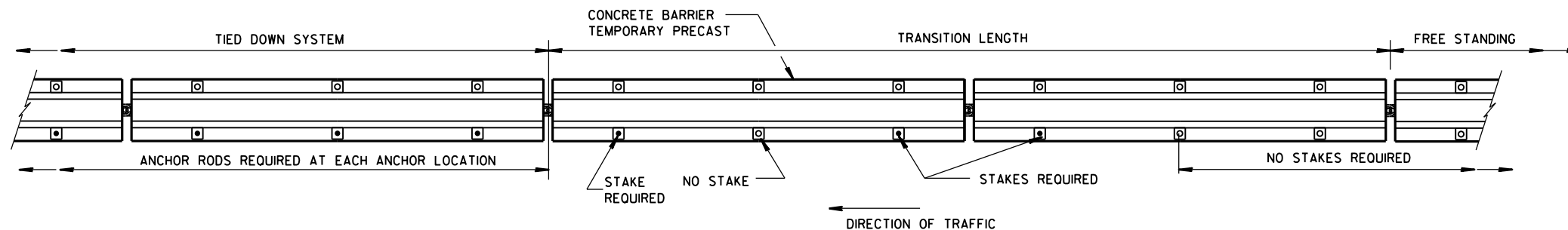
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

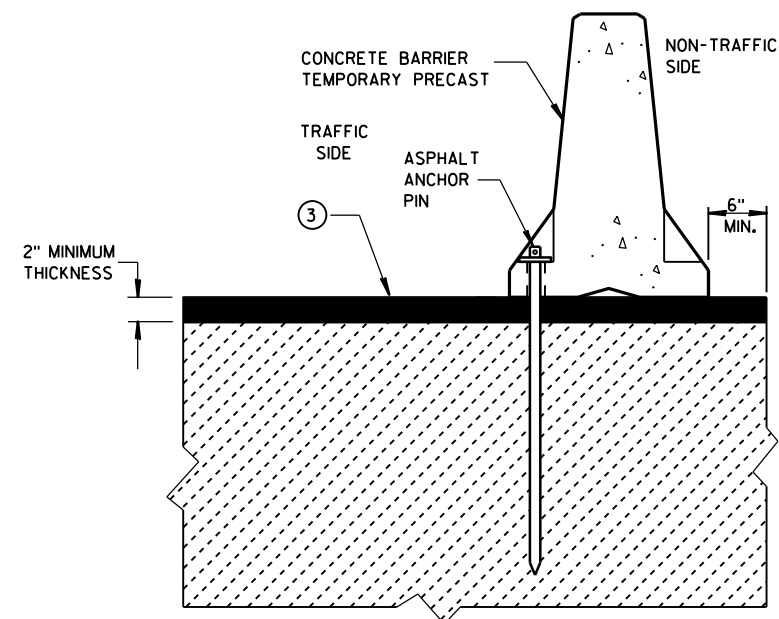
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

GENERAL NOTES

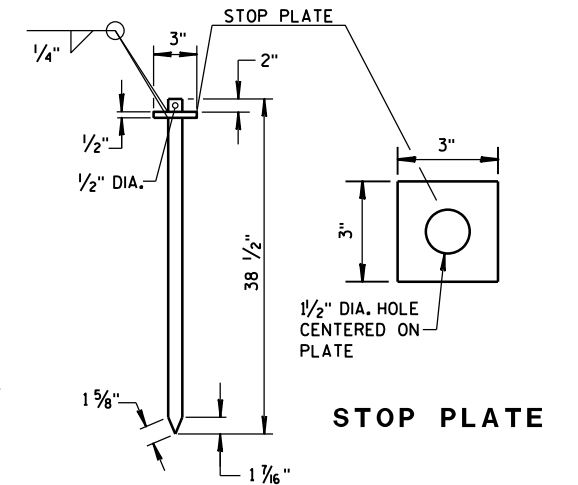
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERCIAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

- ① 1/8" DIAMETER A307 THREADED ROD, 1/2" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.
- ② ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5/4" EMBEDMENT. SEE 603.2 AND 603.3.12 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.
- ③ ASPHALT SURFACE SHOWN. CONTRACTOR MAY DRILL THROUGH CONCRETE PAVEMENT AND THEN DRIVE ASPHALT ANCHOR PIN.



STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE

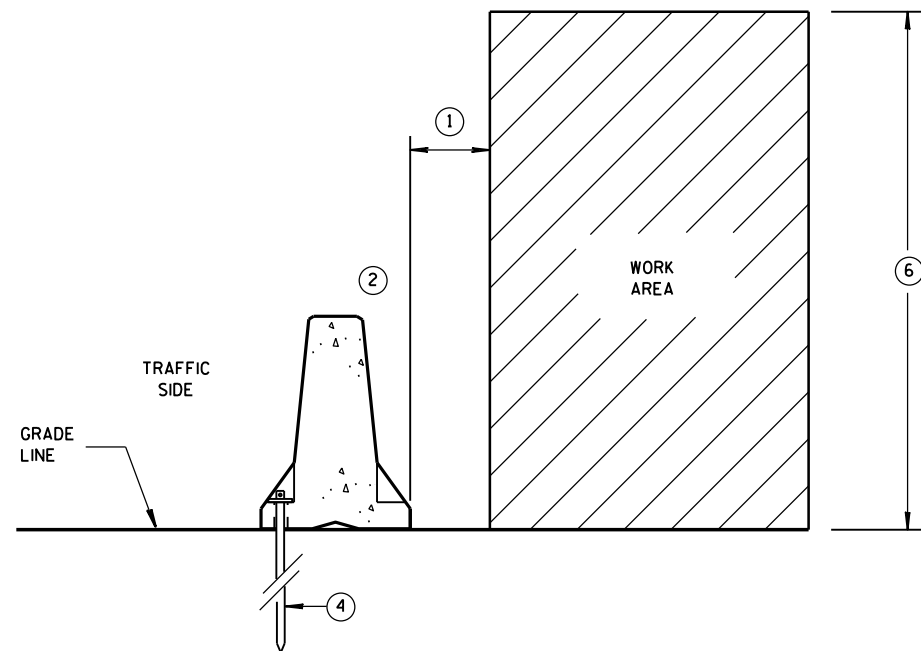


ASPHALT ANCHOR PIN

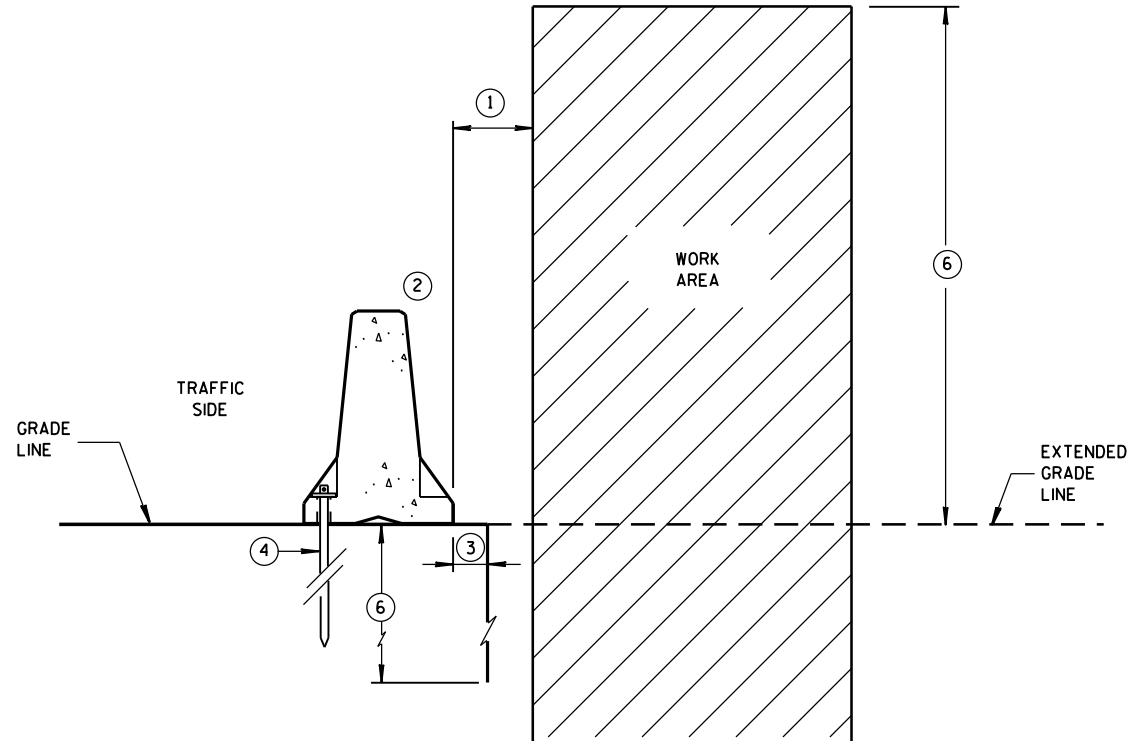
(ASTM A36 STEEL)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**ANCHORED BARRIER SPACE REQUIREMENTS
FOR HAZARDS EXTENDED
ABOVE THE GRADE LINE**

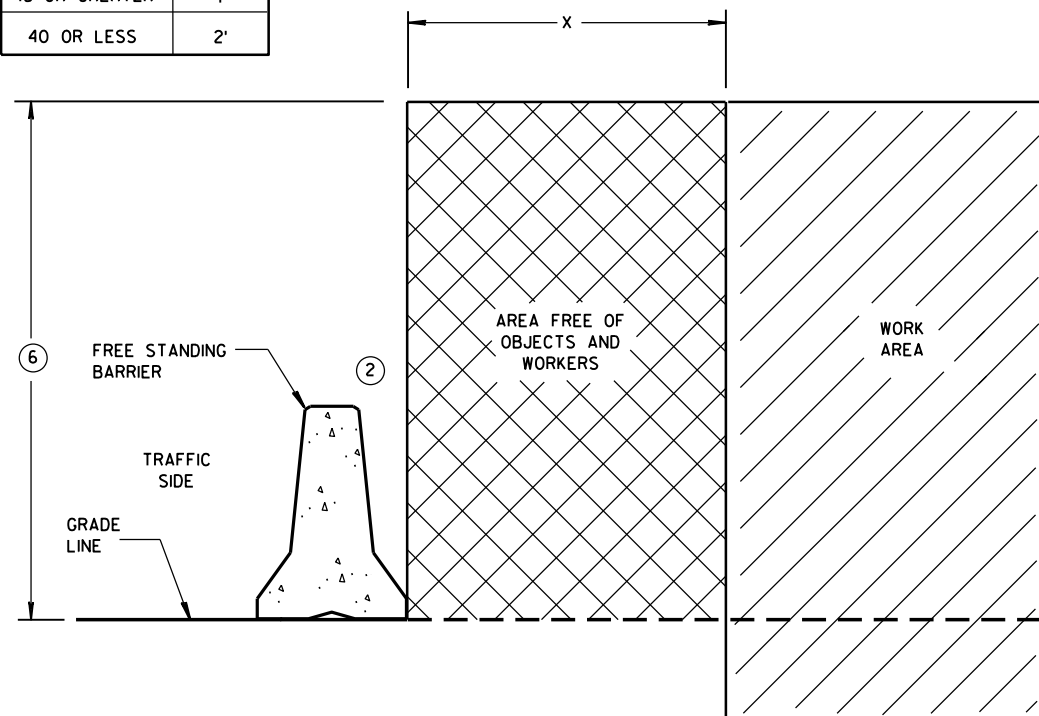


**ANCHORED BARRIER SPACE REQUIREMENTS
ON VERTICAL DROP OFFS**

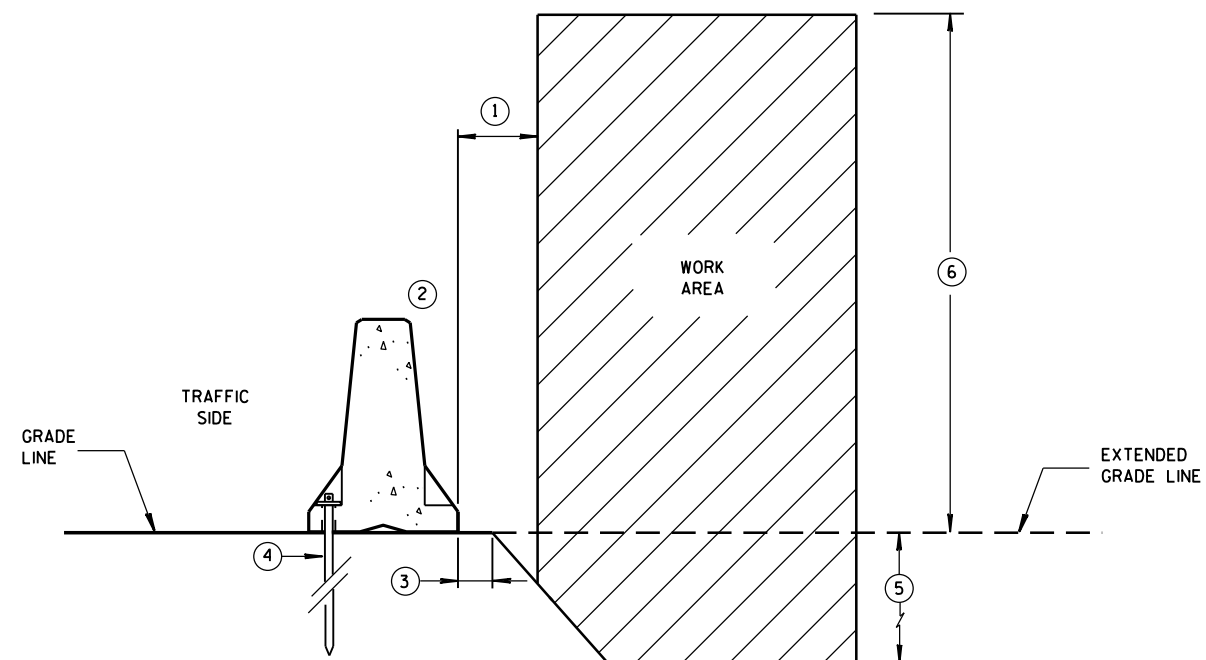
GENERAL NOTES

- ① WHEN OBJECTS EXTEND ABOVE THE GRADE, A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT. SEE OTHER DETAILS FOR FOR THE MINIMUM OFFSET FROM BACK OF BARRIER TO SLOPES OR VERTICAL DROPS.
- ② OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR LEANED AGAINST THE BARRIER WITHOUT PERMISSION OF THE PROJECT ENGINEER.
- ③ SEE OTHER DETAIL ON SHEET "D" FOR SPACE REQUIREMENTS.
- ④ SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR A STAKE DOWN FOR ASPHALTIC SURFACE TREATMENT DETAILS. ASPHALTIC ANCHOR SHOWN.
- ⑤ DEPTH OF 3 FEET OR MORE.
- ⑥ Y = 6'-6".

POSTED SPEED MPH	X
45 OR GREATER	4'
40 OR LESS	2'



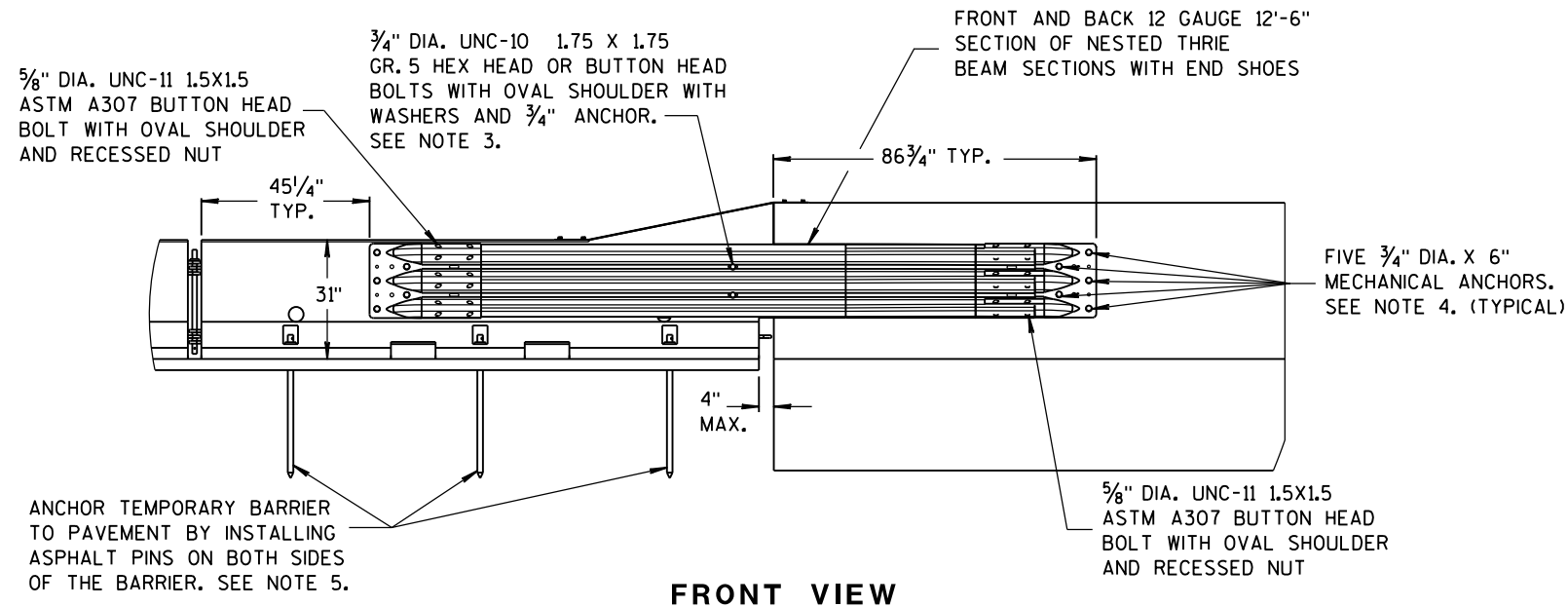
FREE STANDING BARRIER SPACE REQUIREMENTS



**ANCHORED BARRIER SPACE REQUIREMENTS
ON SLOPES**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FRONT VIEW

NOTES

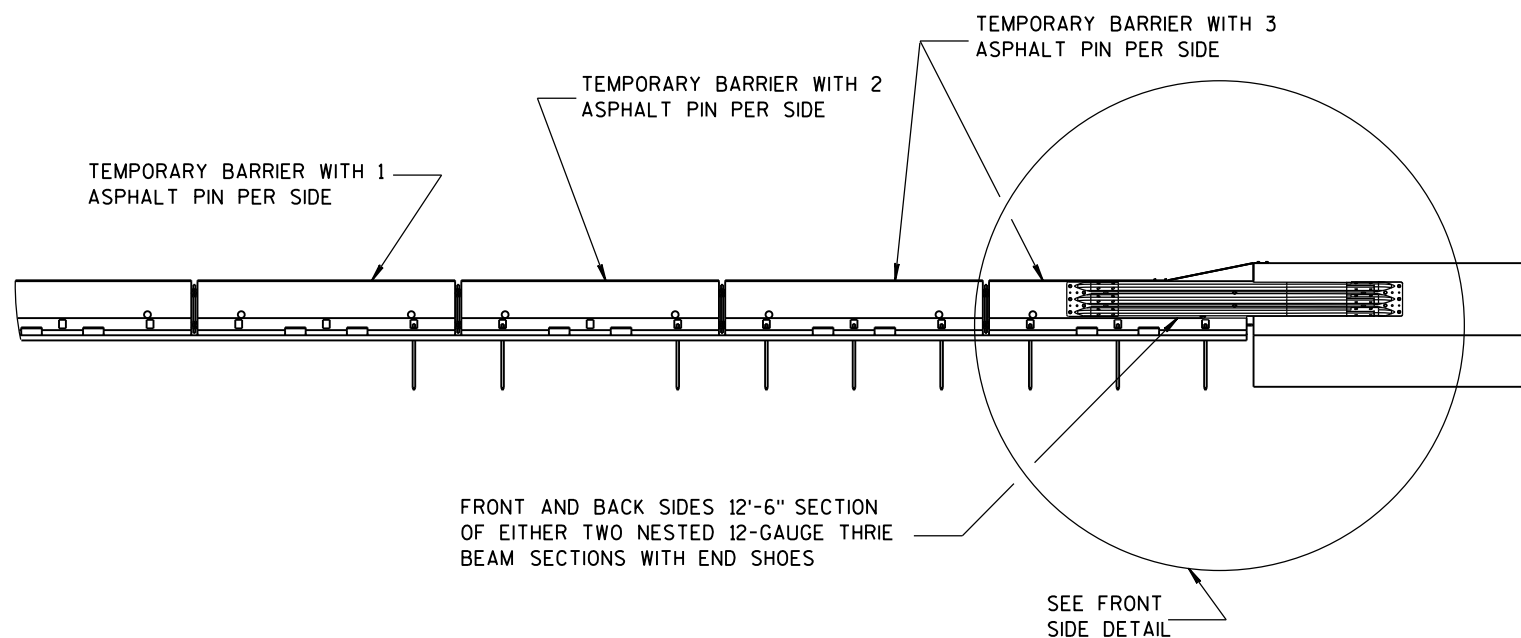
NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS REGARDLESS OF TRAFFIC.

1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.

4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.

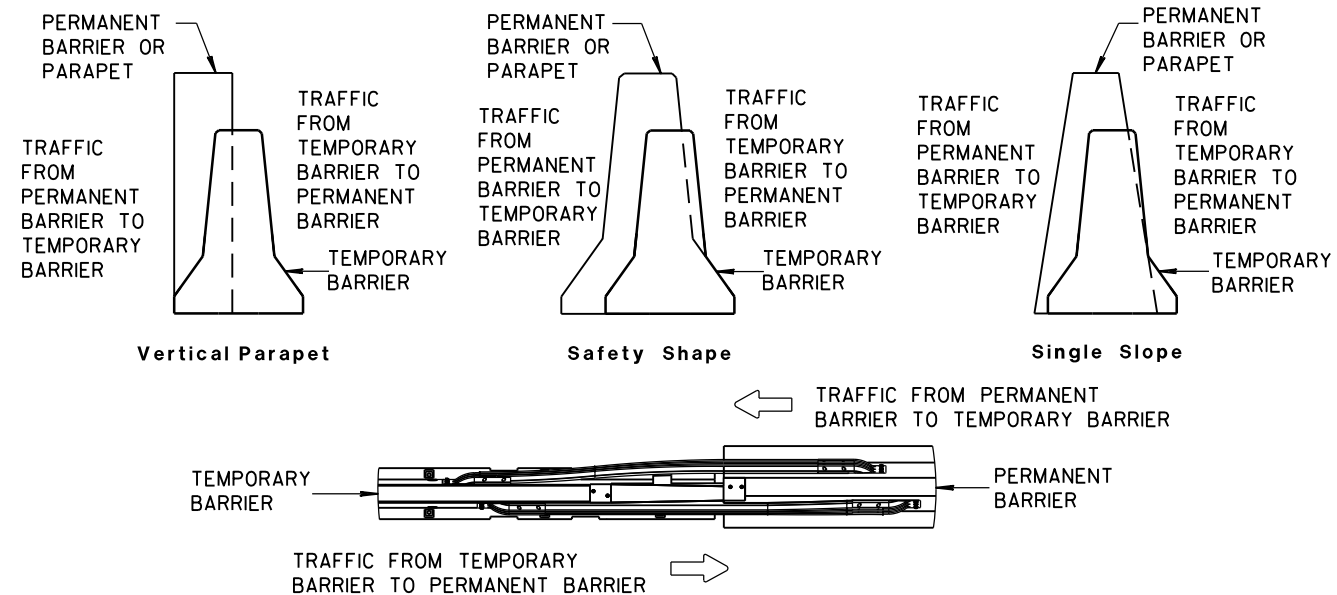
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.

6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

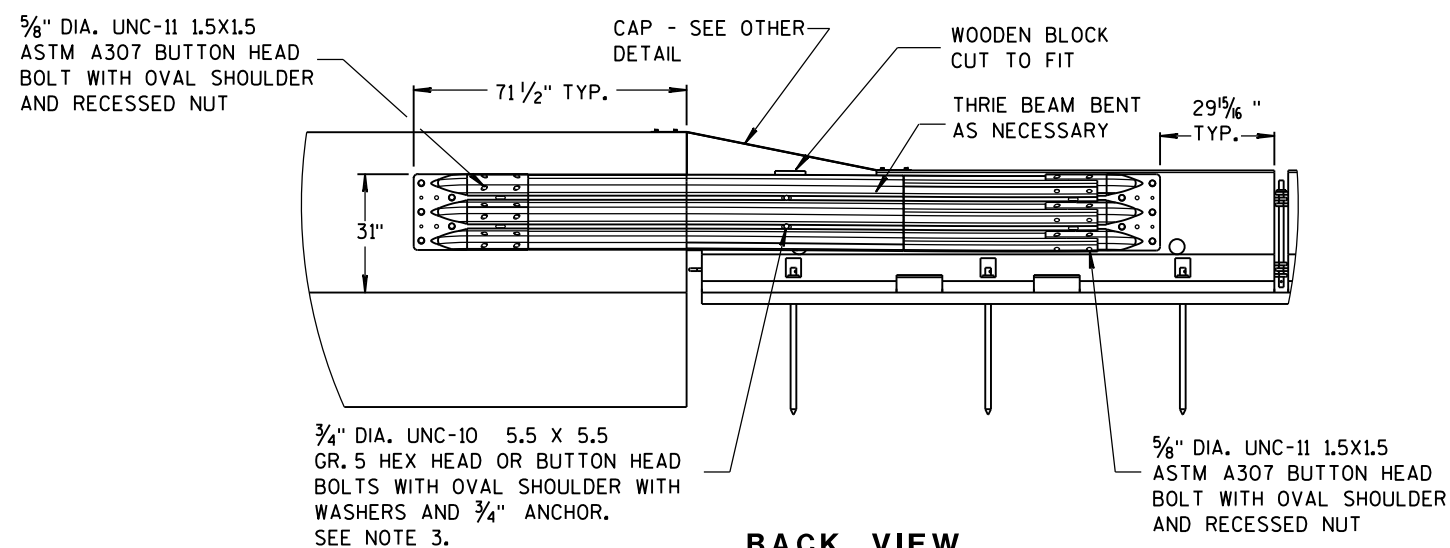


FRONT VIEW

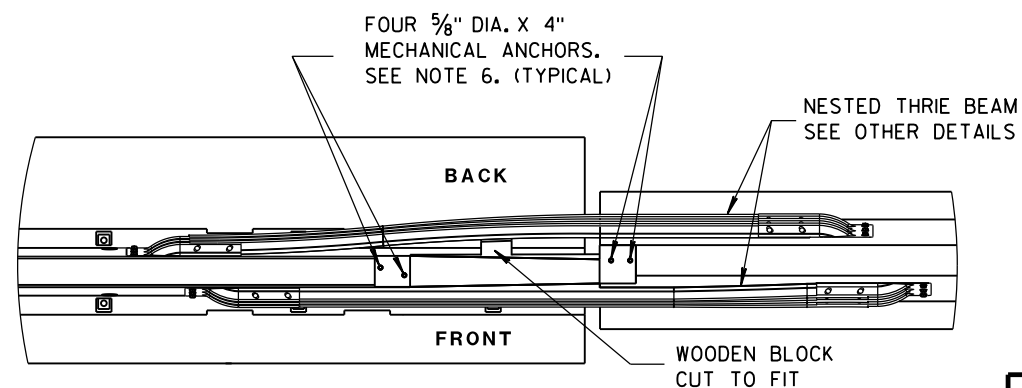
BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



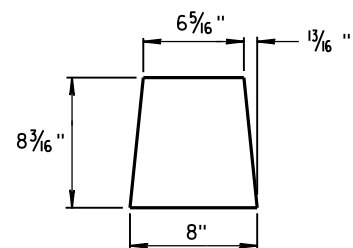
BACK VIEW



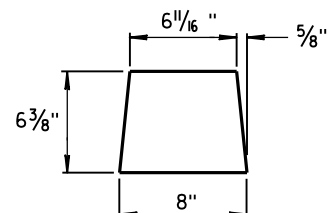
PLAN VIEW

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

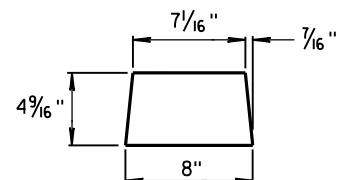
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



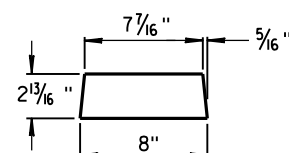
GUSSET 1



GUSSET 2

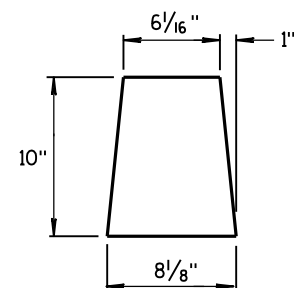


GUSSET 3

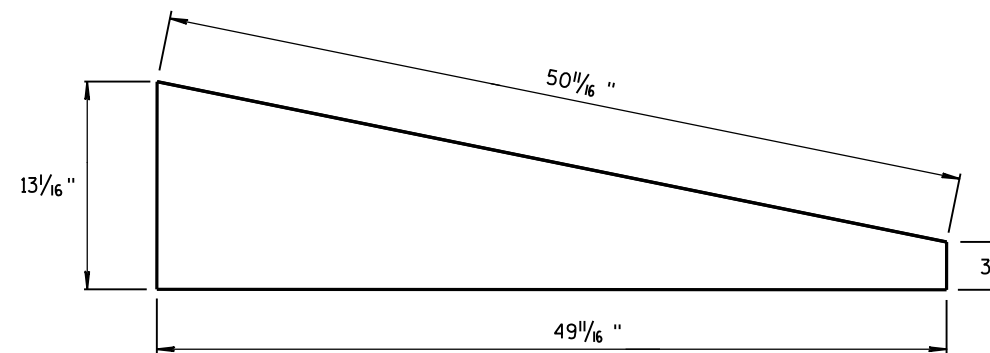


GUSSET 4

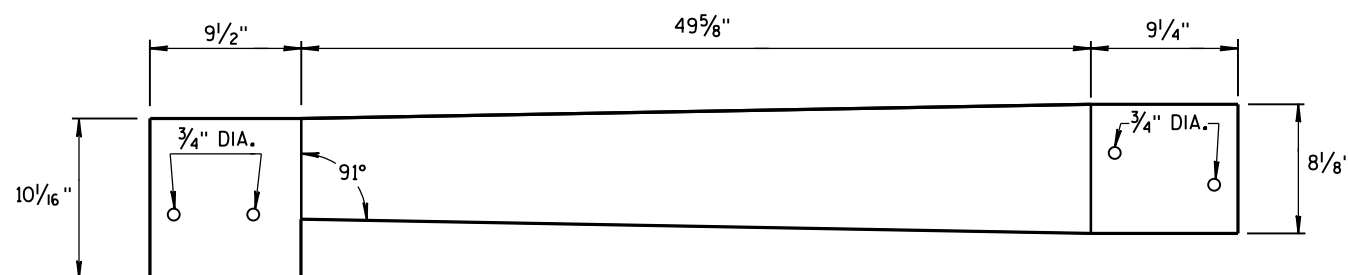
GUSSETS



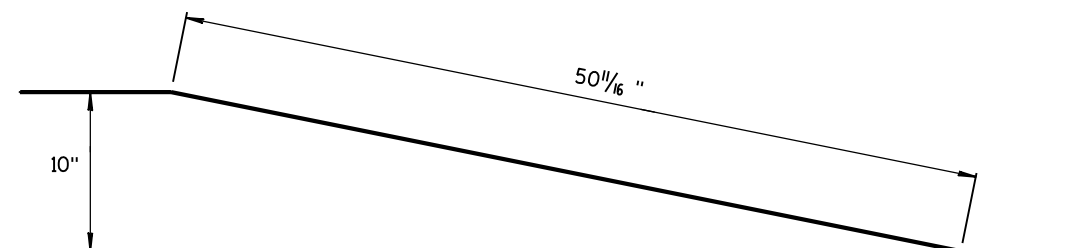
END PLATE



SIDE PLATE

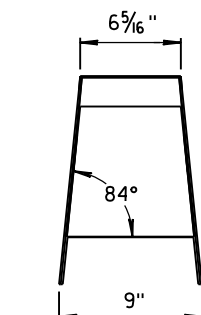
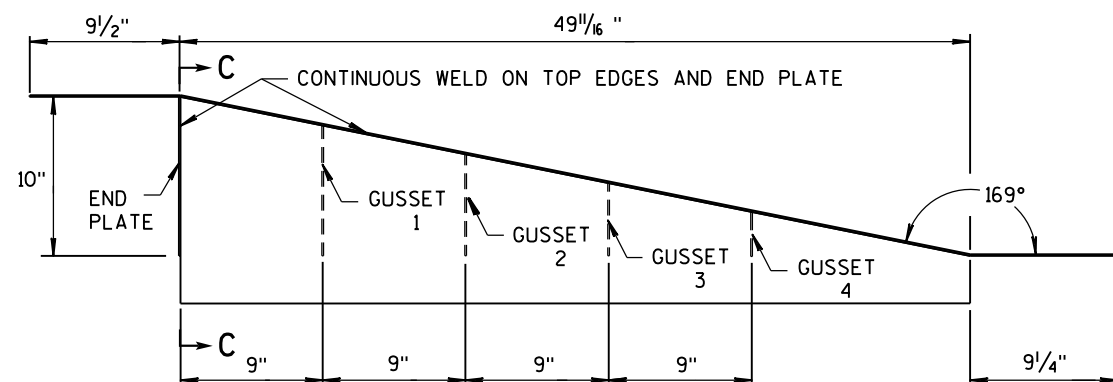
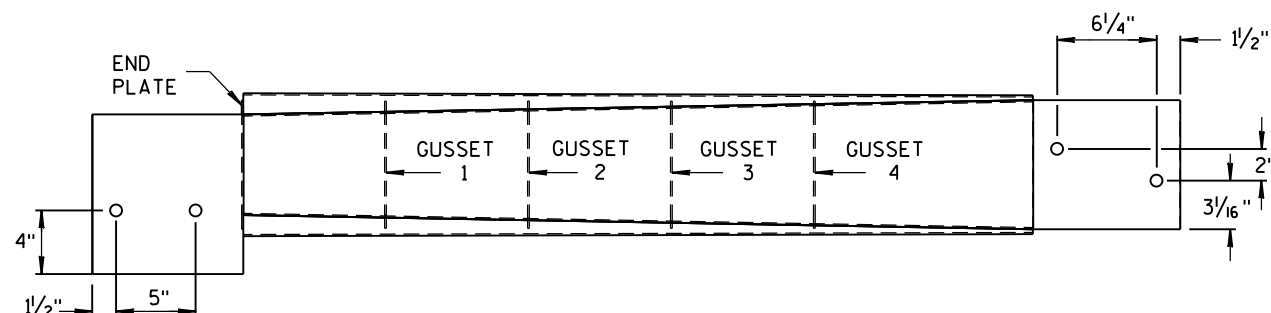


TOP PLATE



**SIDE, TOP AND END PLATES FOR CAP
FROM TEMPORARY CONCRETE BARRIER
TO 42" PERMANENT CONCRETE BARRIER**

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.



SECTION C-C

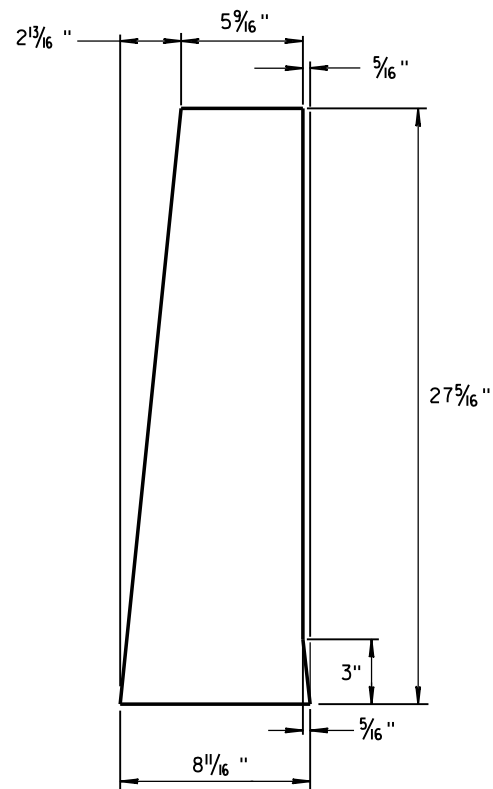
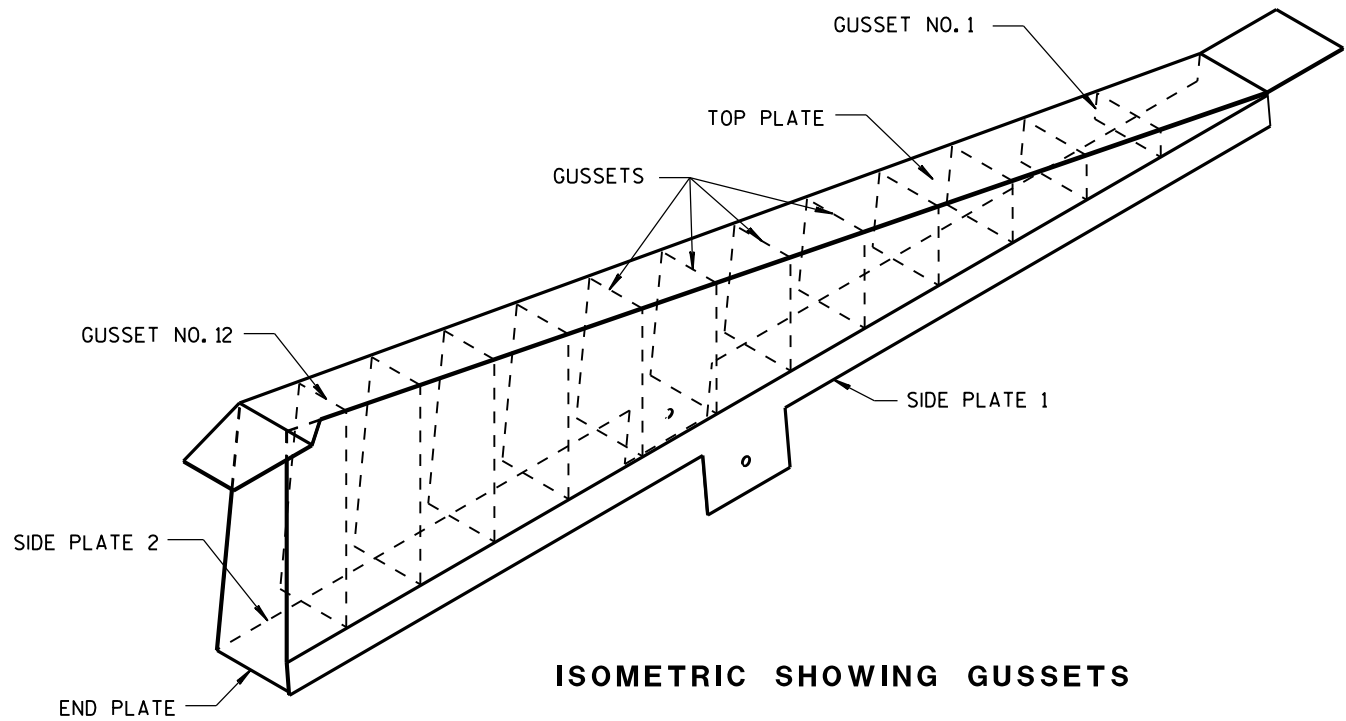
NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

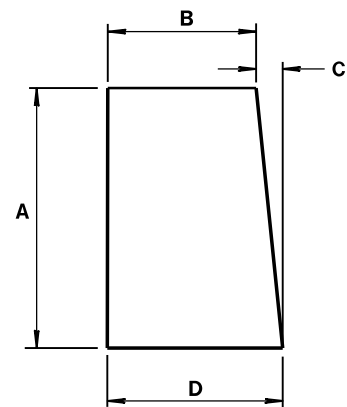
**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 42" PERMANENT CONCRETE BARRIER**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



1/8" STEEL PLATE

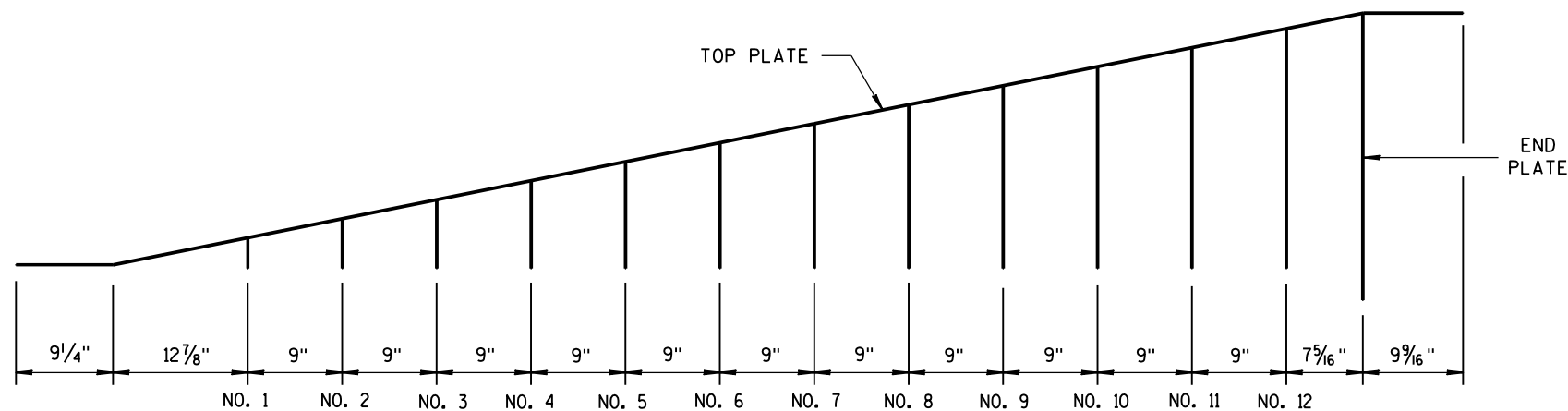


ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 1/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8 "	1 1/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8 "	7"	1 1/16 "	8 1/16 "
6	11 5/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8 "	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8 "	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

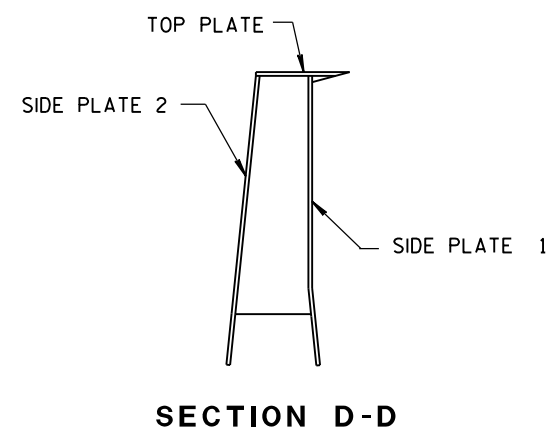
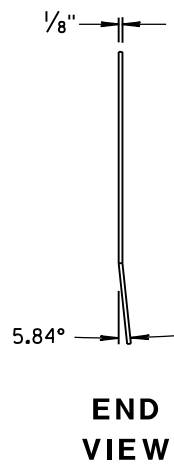
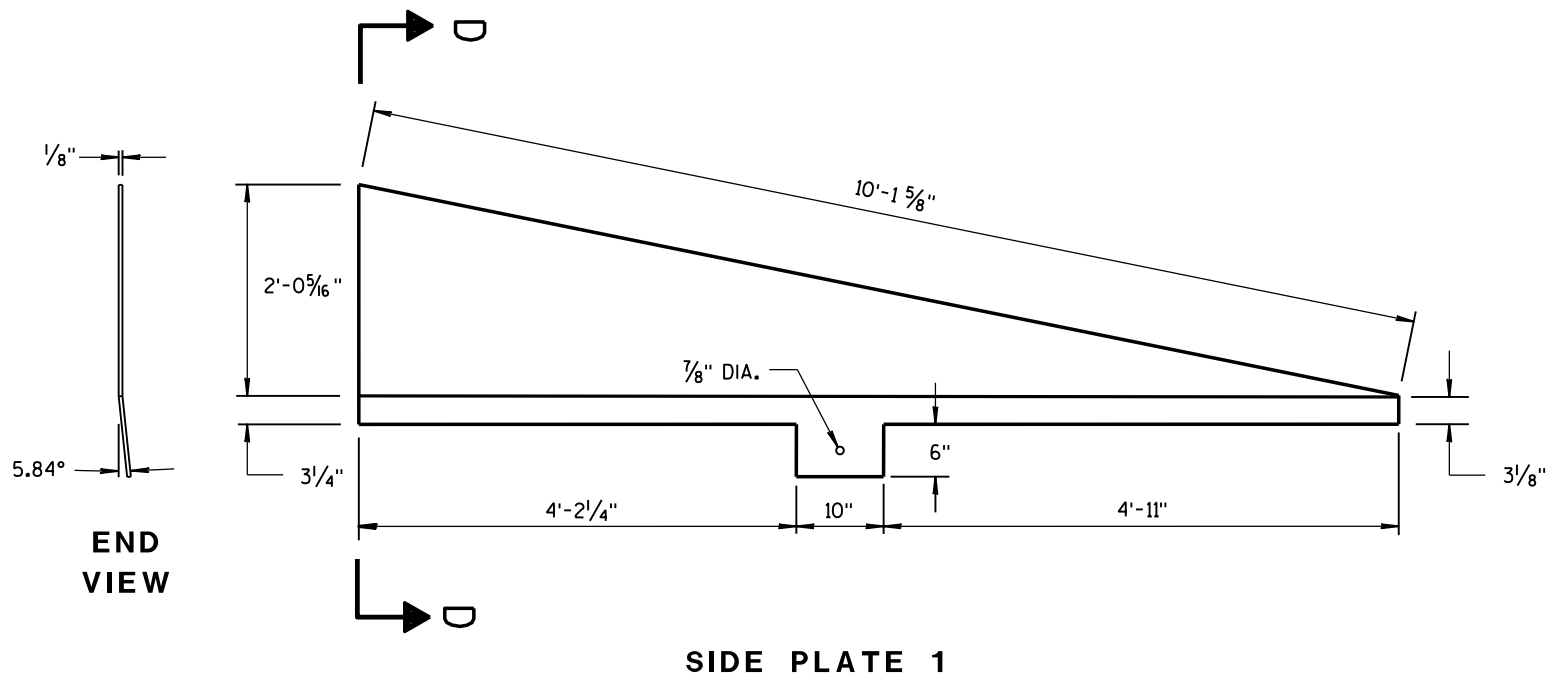
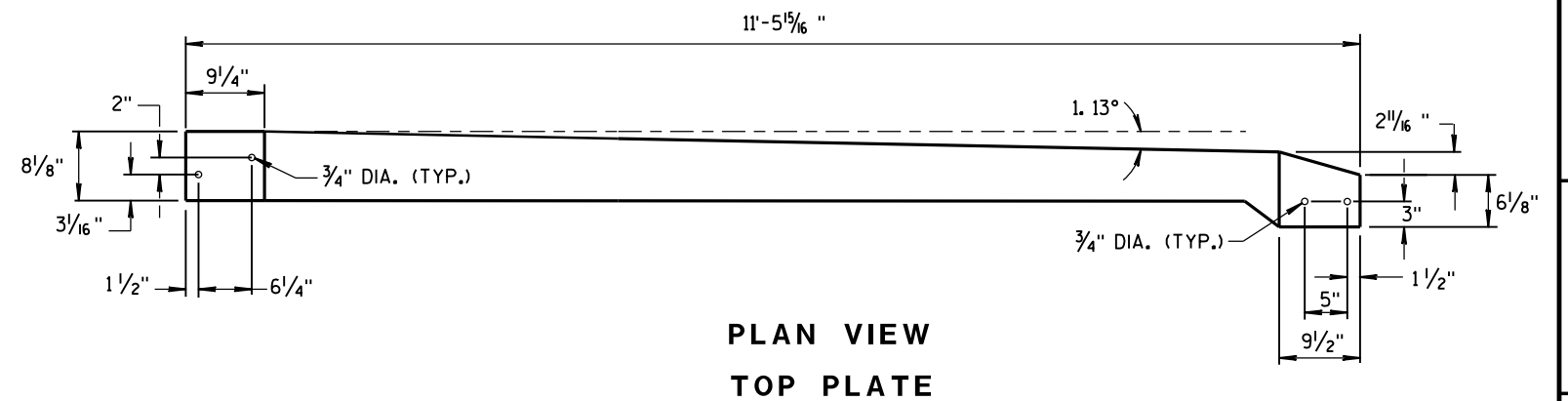
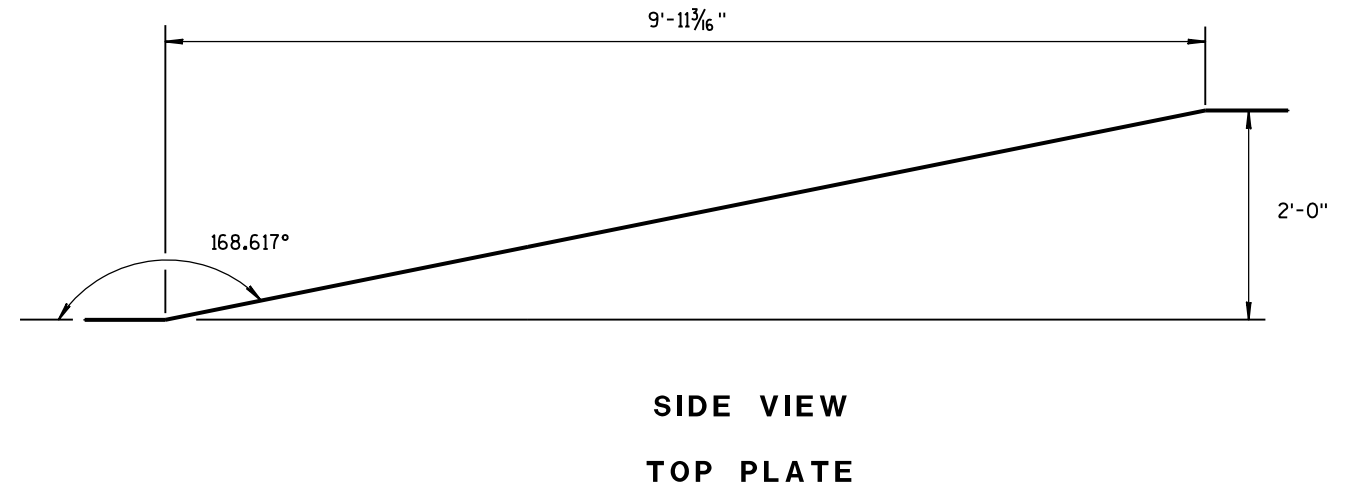
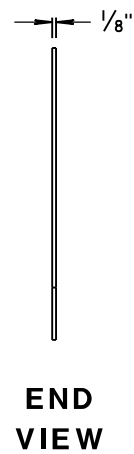
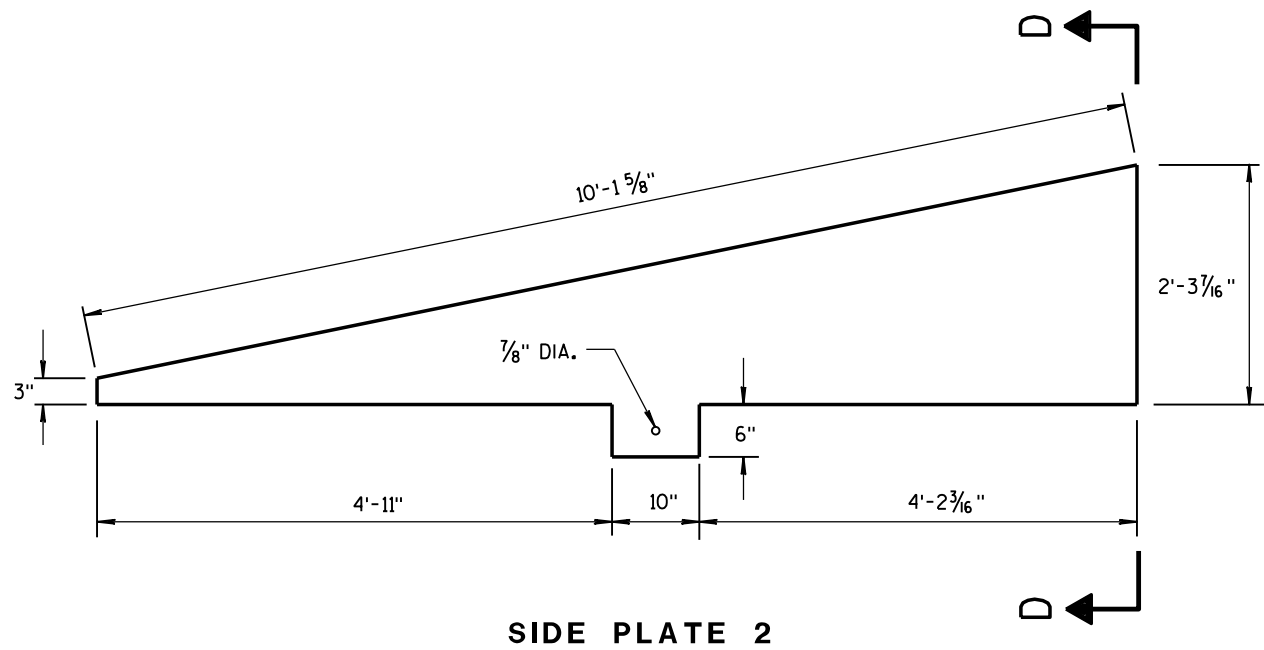
GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

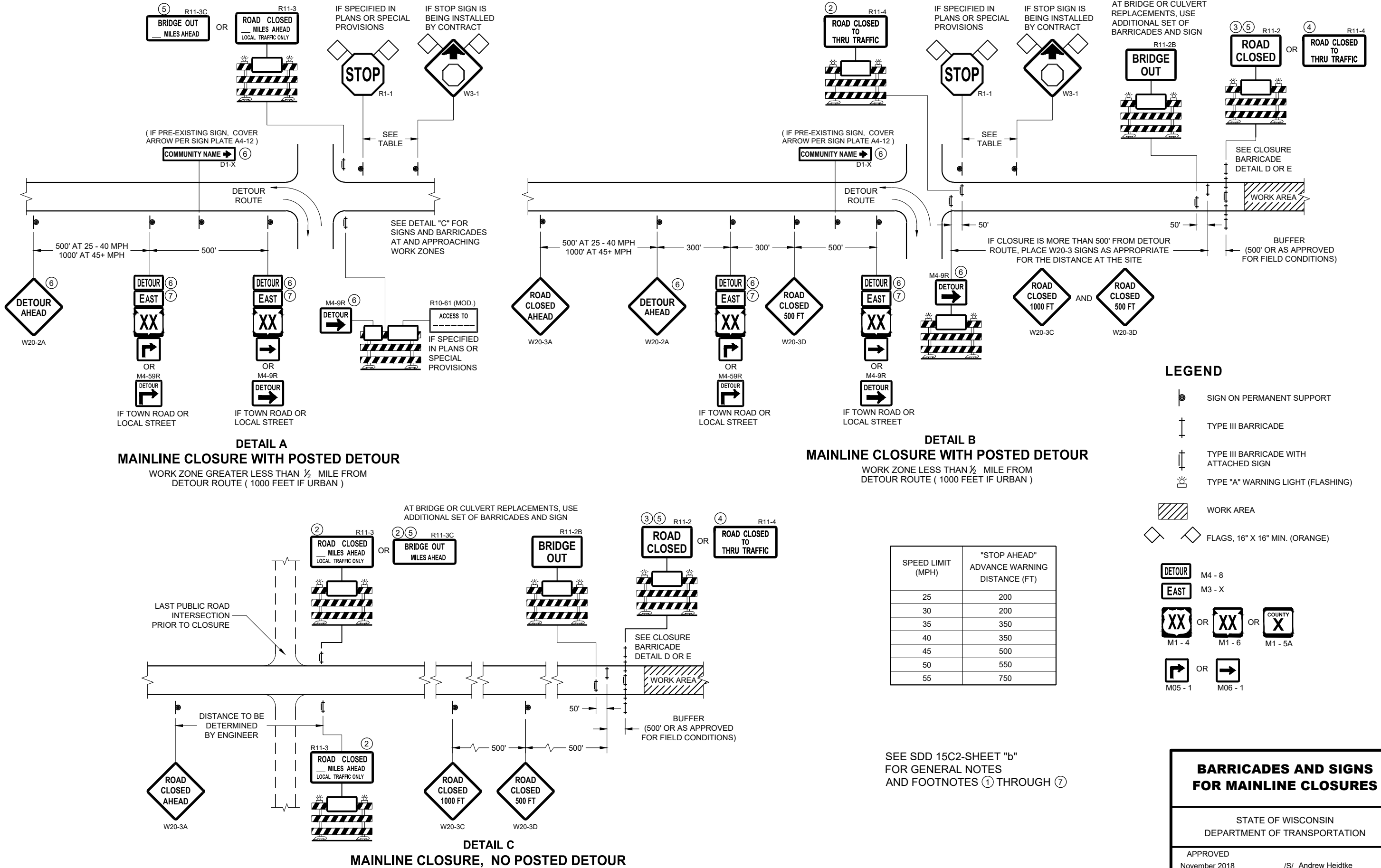
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 56" PERMANENT CONCRETE BARRIER**

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Rodney Taylor ROADWAY STANDARD DEVELOPMENT UNIT SUPERVISOR
FHWA	



LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX OR **XX** OR **COUNTY X**
M1 - 4 M1 - 6 M1 - 5A
→ OR **→**
M05 - 1 M06 - 1

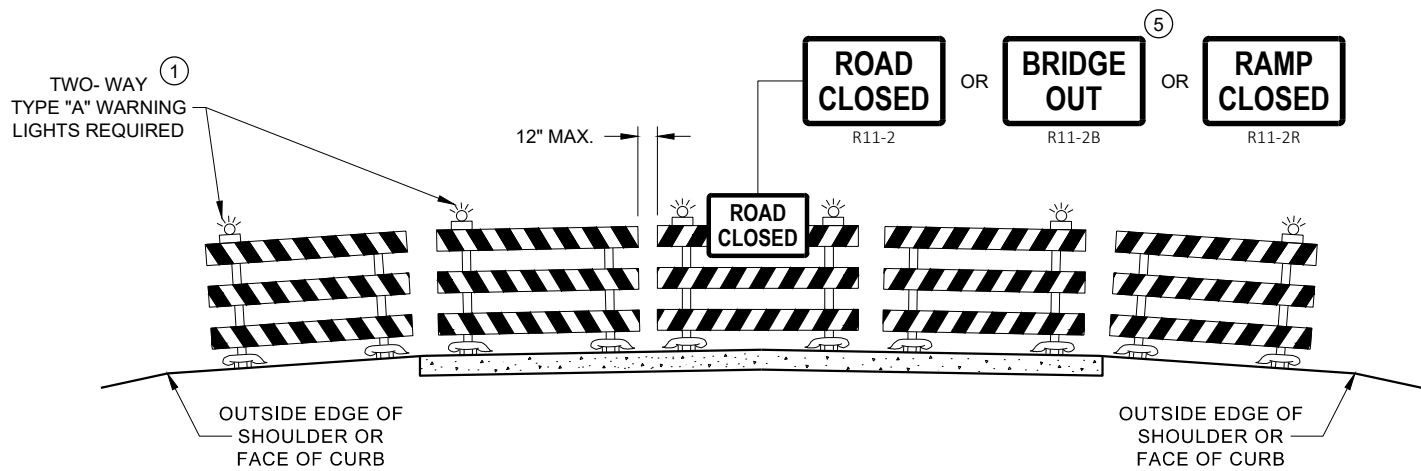
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

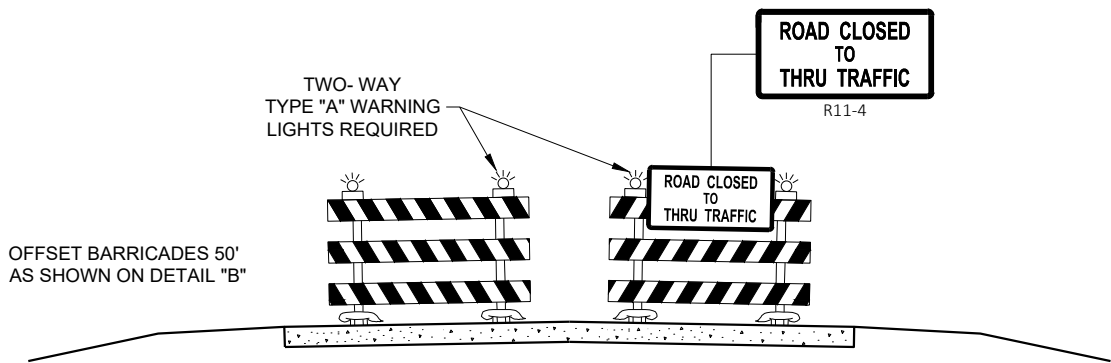
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 15" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

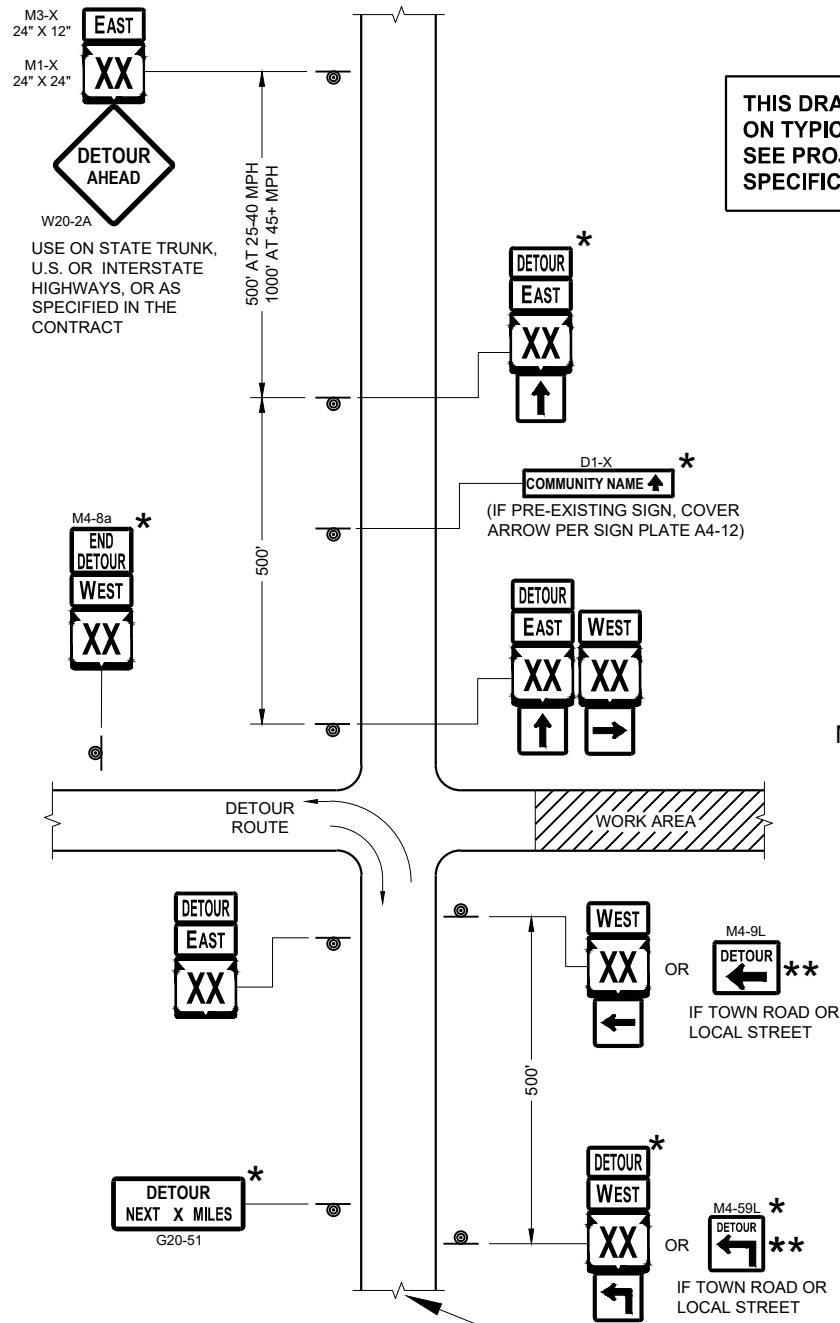
- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS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

BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

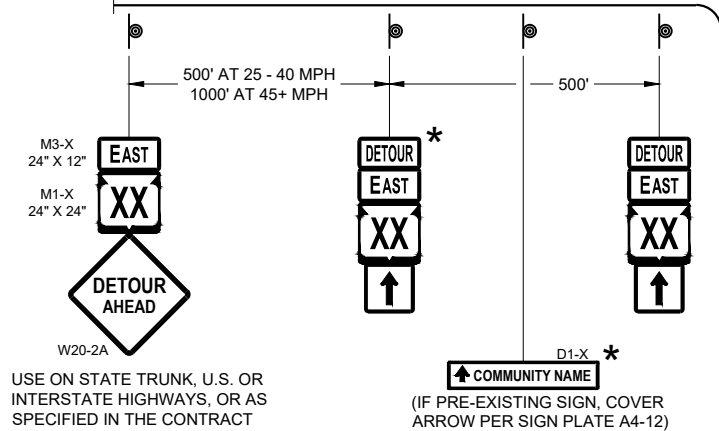
FHWA



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

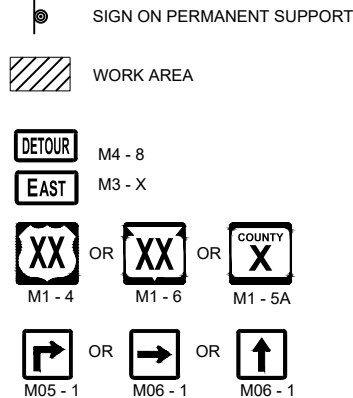
THIS DRAWING PROVIDES GENERAL GUIDANCE
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.
SEE PROJECT DETOUR SIGNING SHEETS FOR
SPECIFIC DETAILS FOR EACH PROJECT.

MATCH POINT



DETAIL F
DETOUR SIGNING

LEGEND



GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

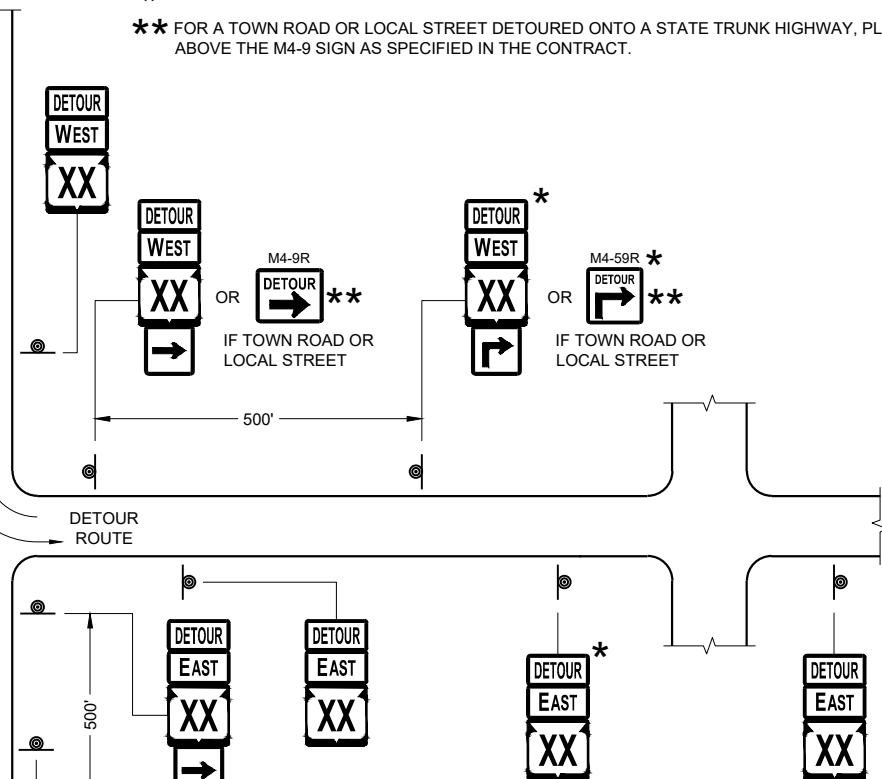
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-9L SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2 SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

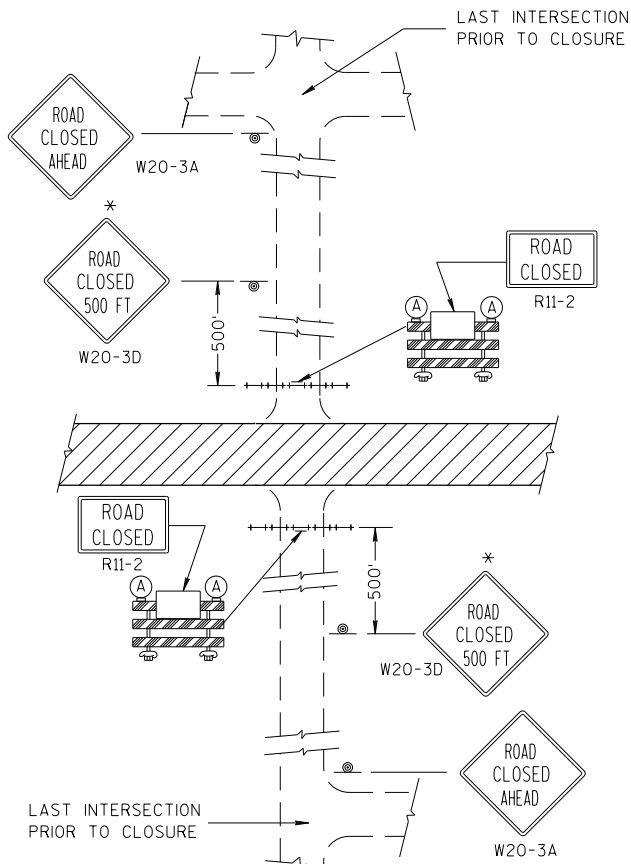


PLACE SIGNS BEYOND INTERSECTIONS
WITH STATE OR COUNTY TRUNK
HIGHWAYS OR AT 4 MILE MAXIMUM
SPACING (4 BLOCKS IF URBAN AREA)

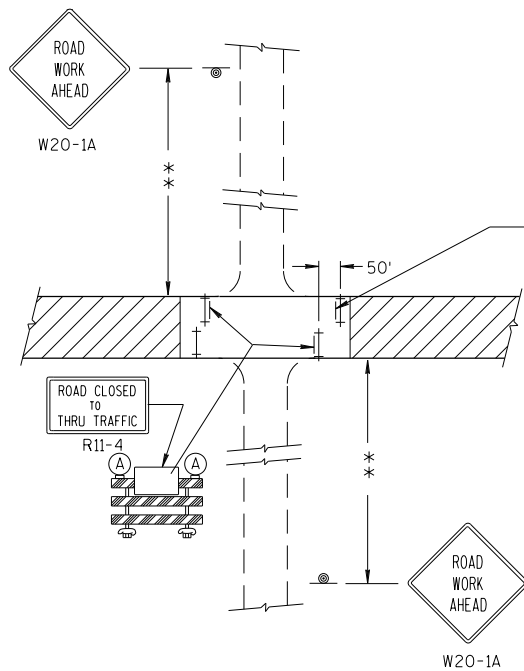
DETOUR SIGNING
FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

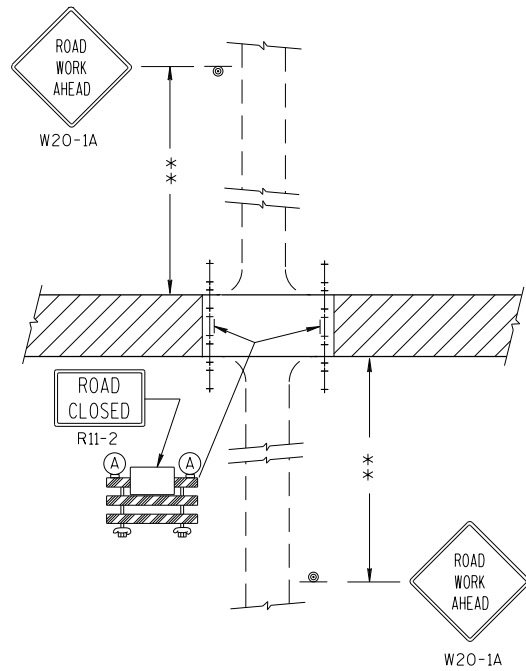
APPROVED
November 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



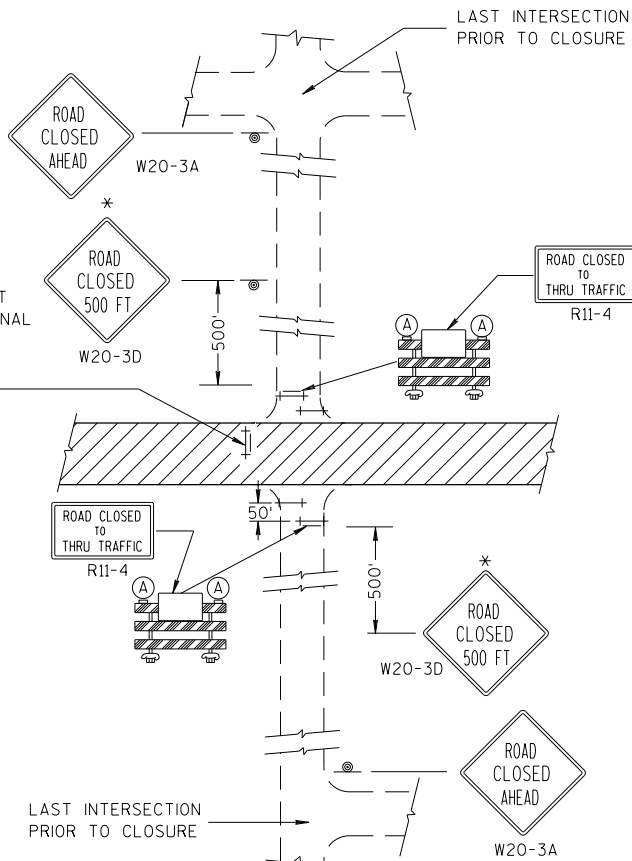
DETAIL 1
(NO ACCESS TO PROJECT)



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



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



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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

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

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

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

LEGEND

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

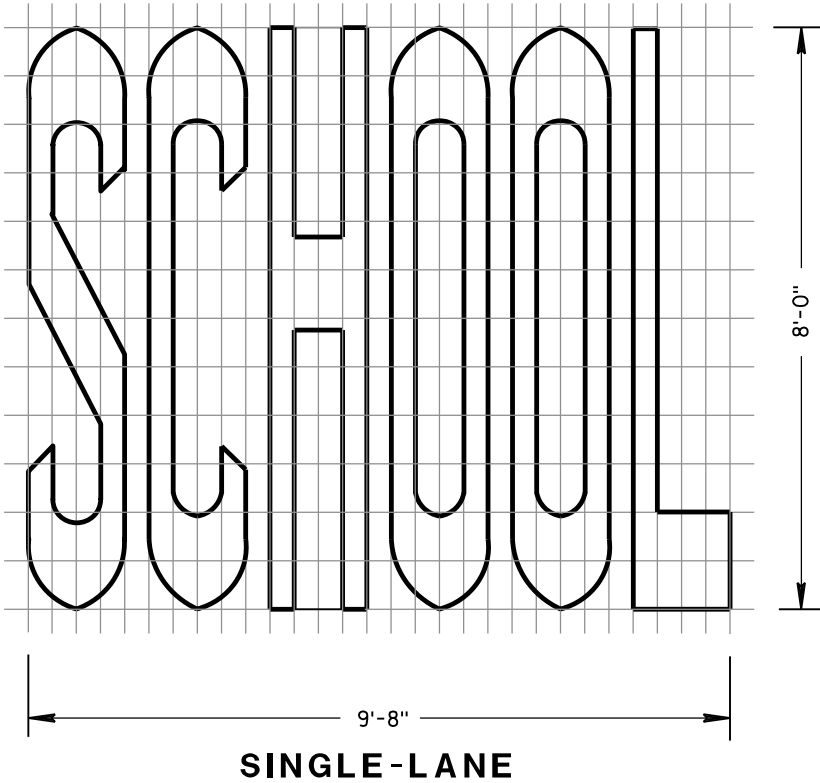
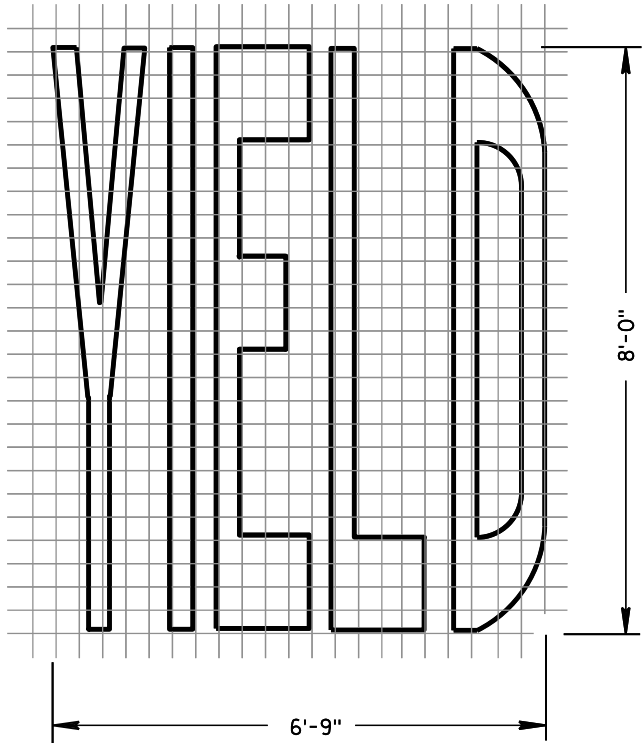
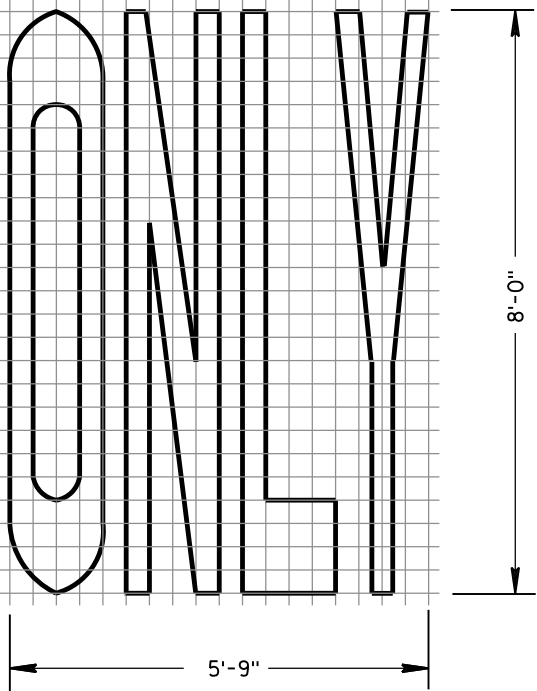
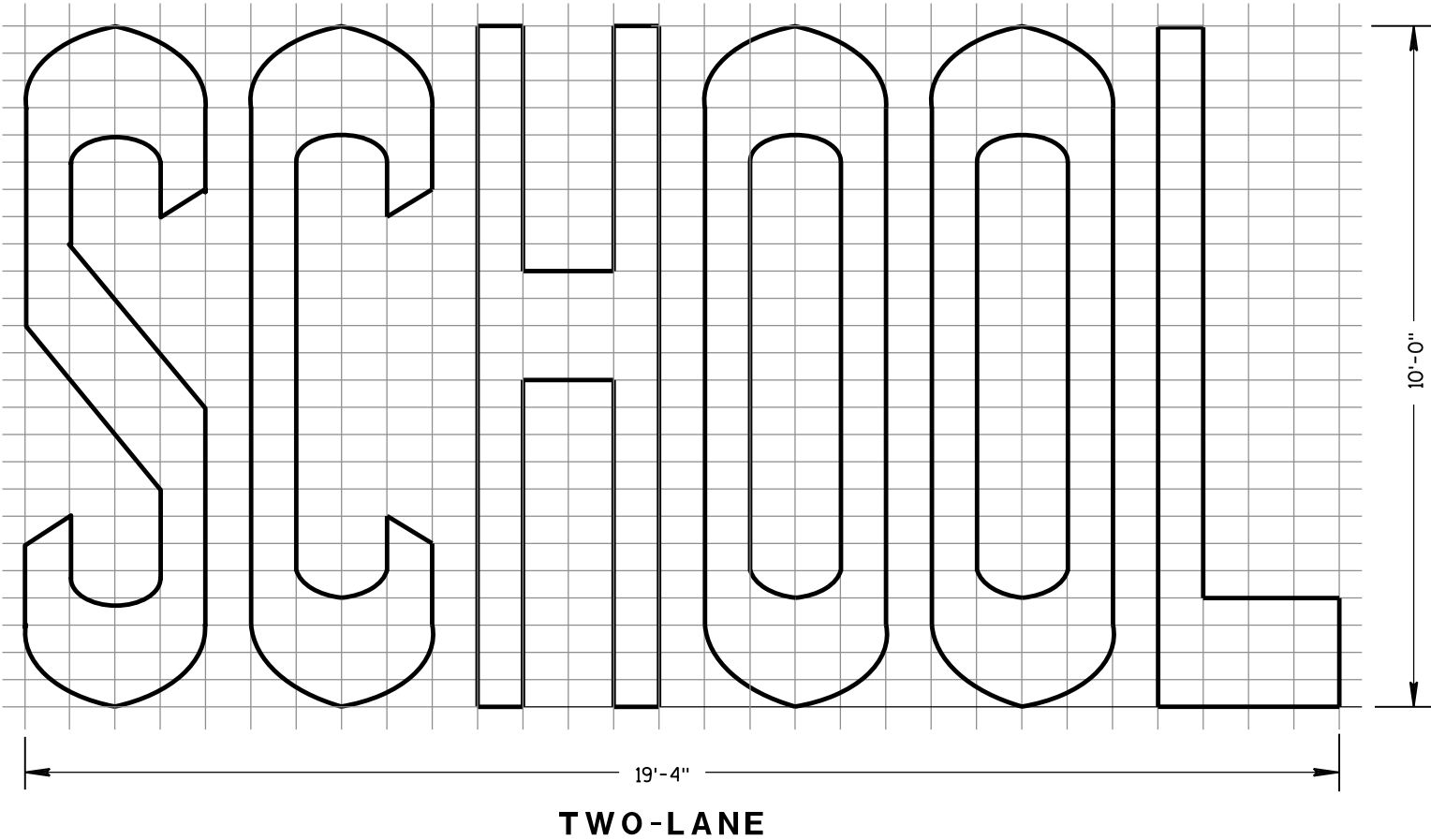
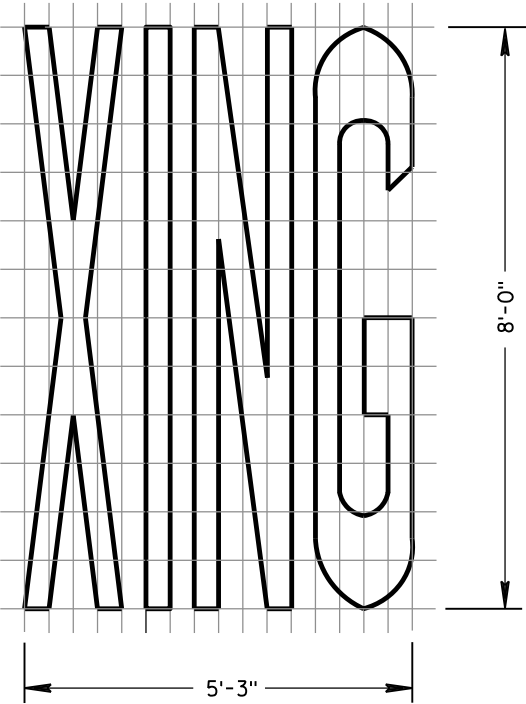
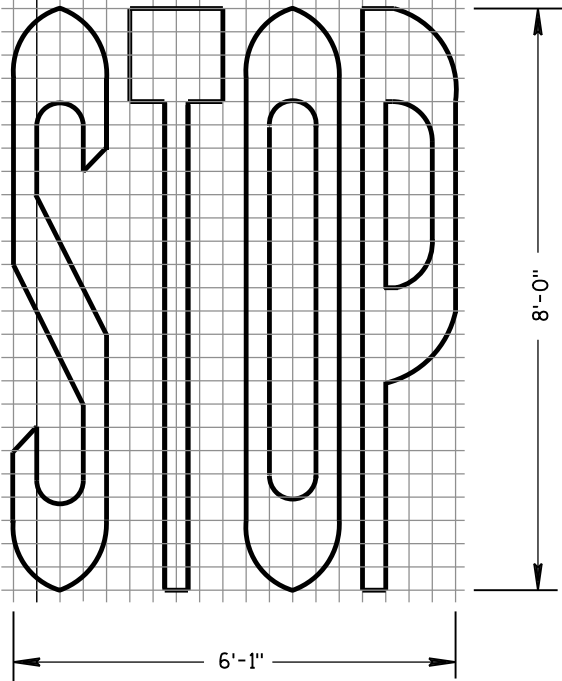
**BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

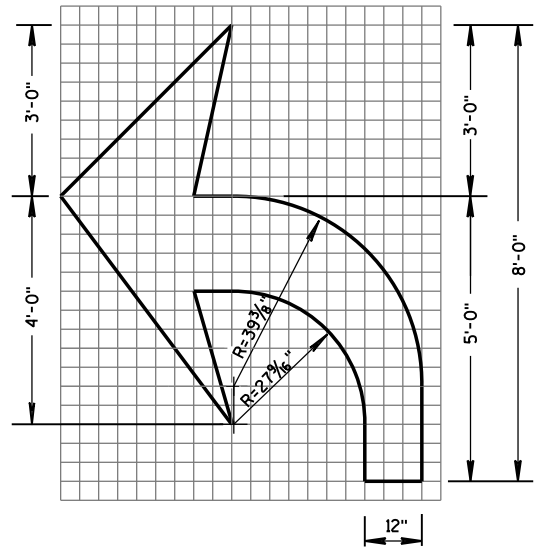
APPROVED
7/2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA

GENERAL NOTES

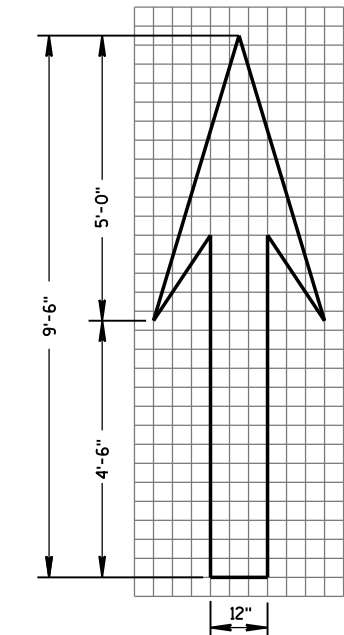
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



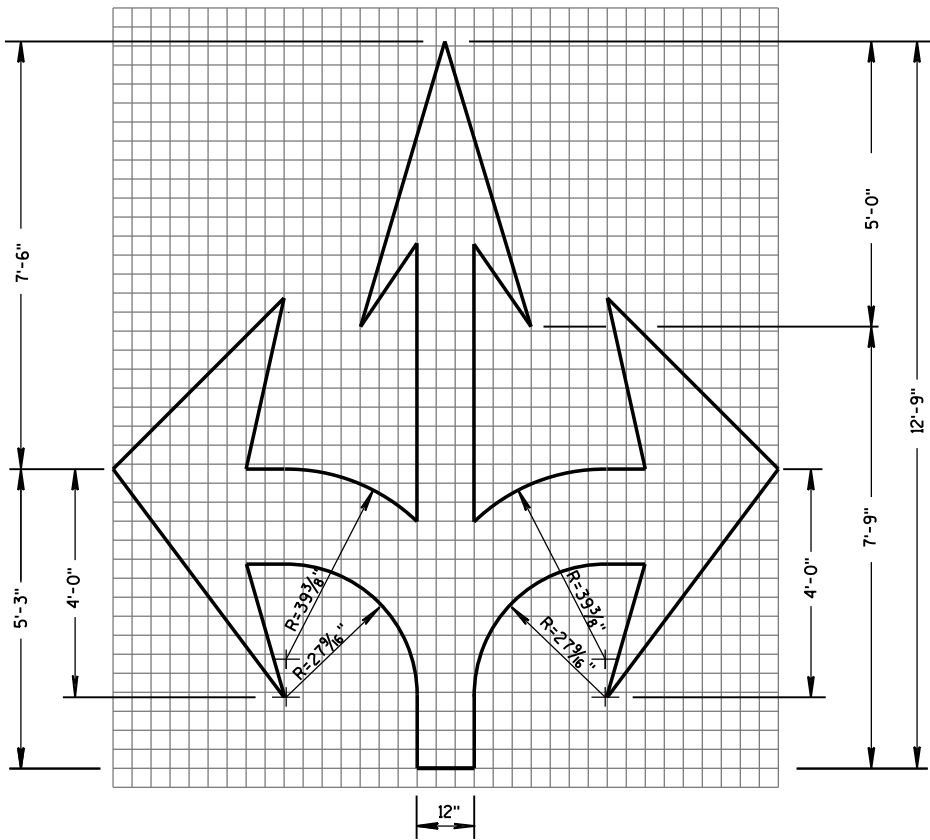
PAVEMENT MARKING WORDS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Matthew R. Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	



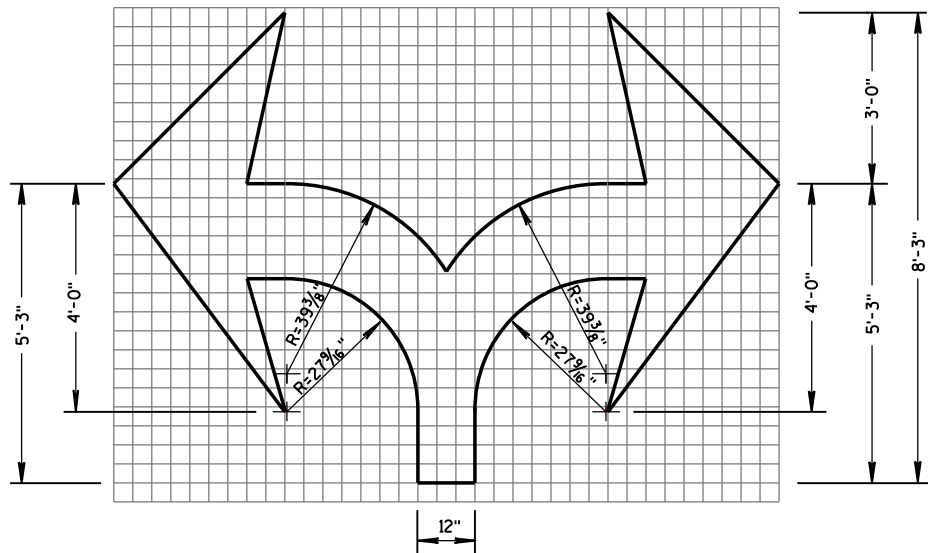
TYPE 2



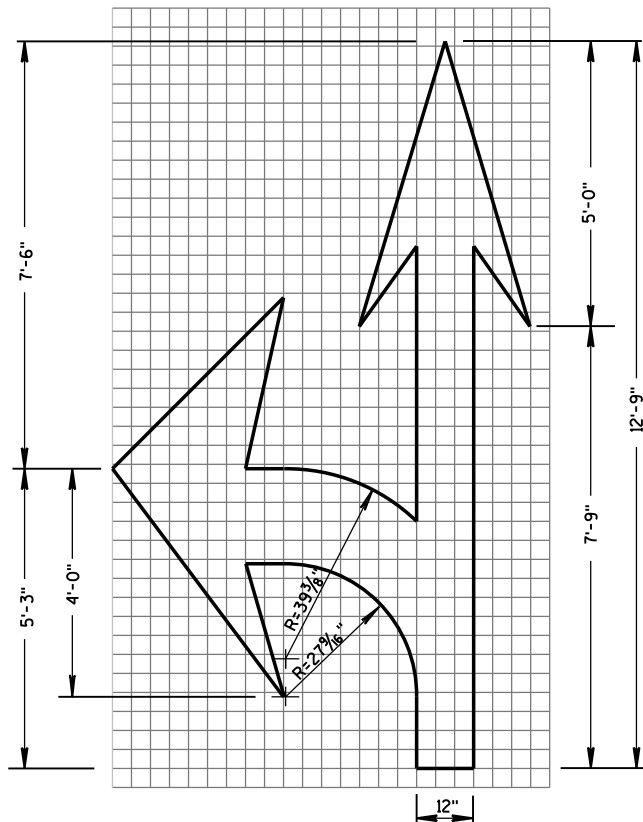
TYPE 1



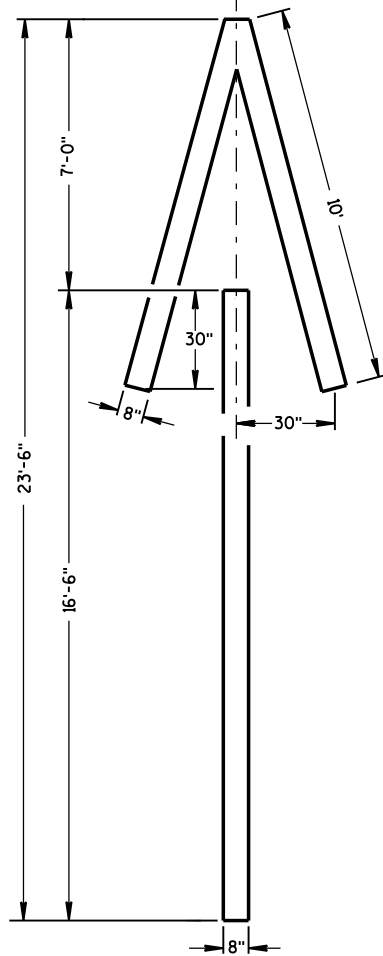
TYPE 6



TYPE 7



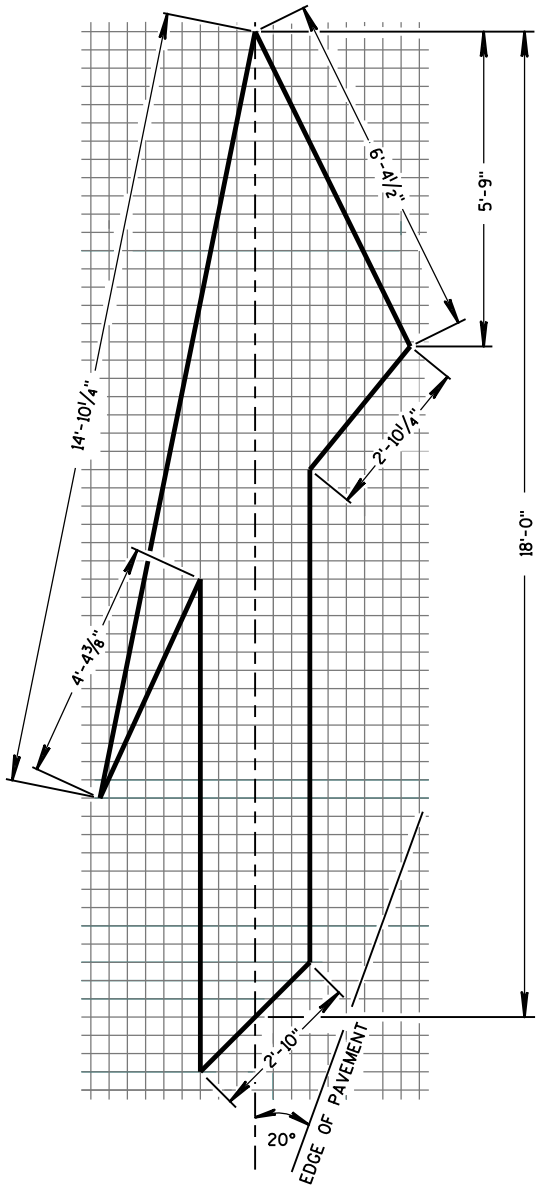
TYPE 3



TYPE 4

GENERAL NOTES

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

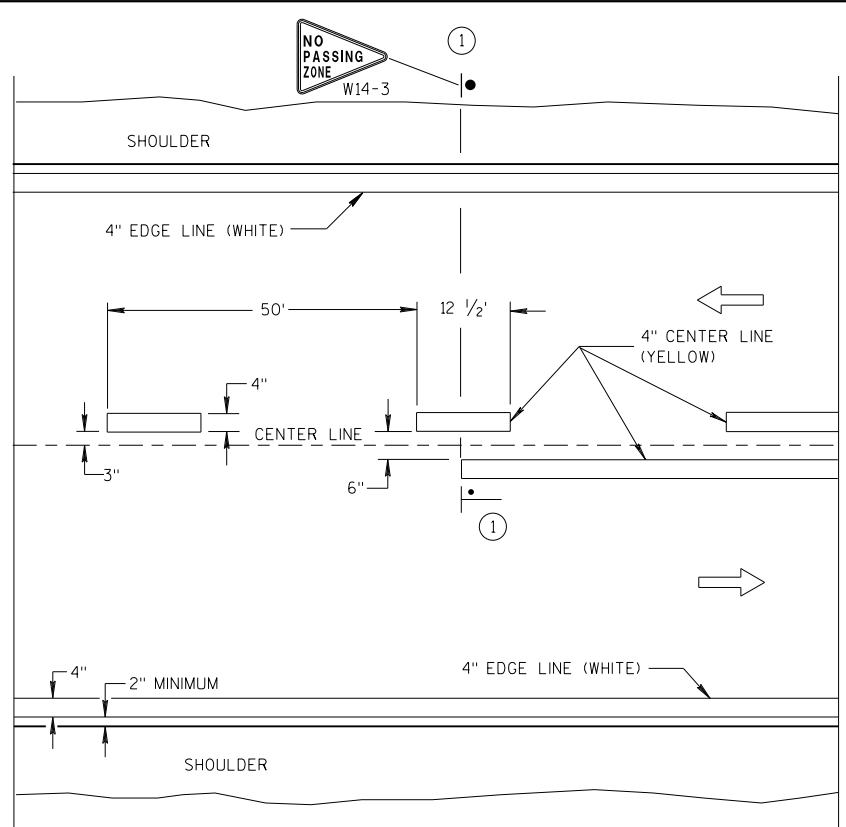


TYPE 5 LANE DROP ARROW

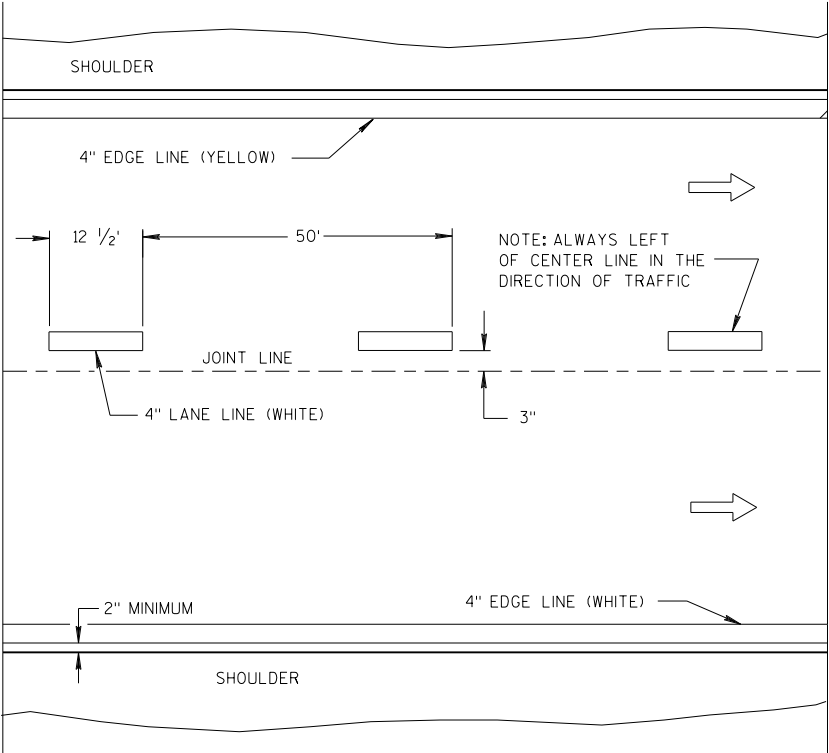
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

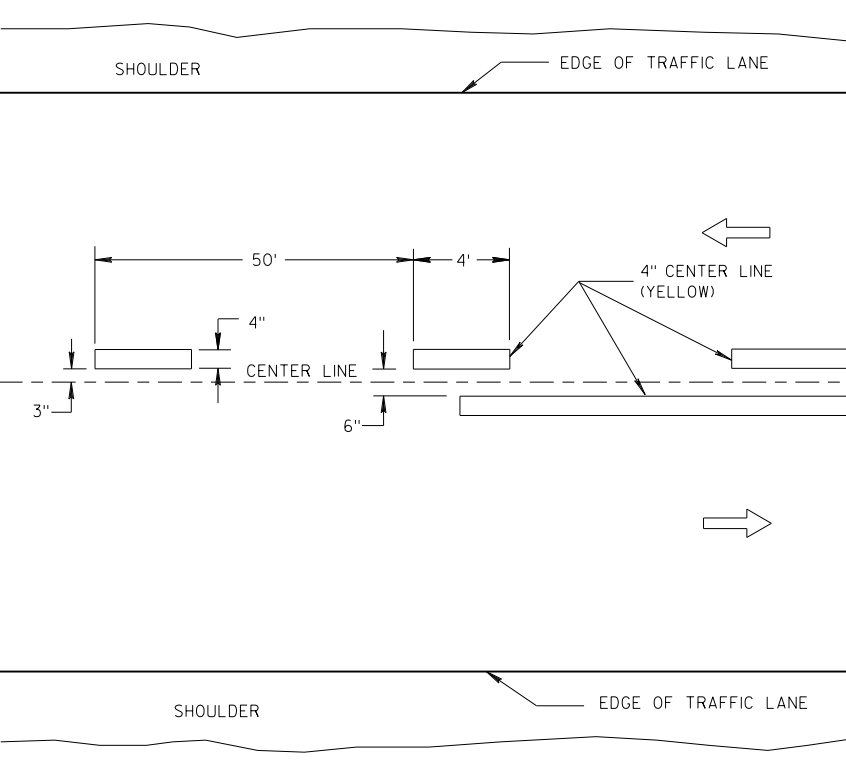


TWO WAY TRAFFIC

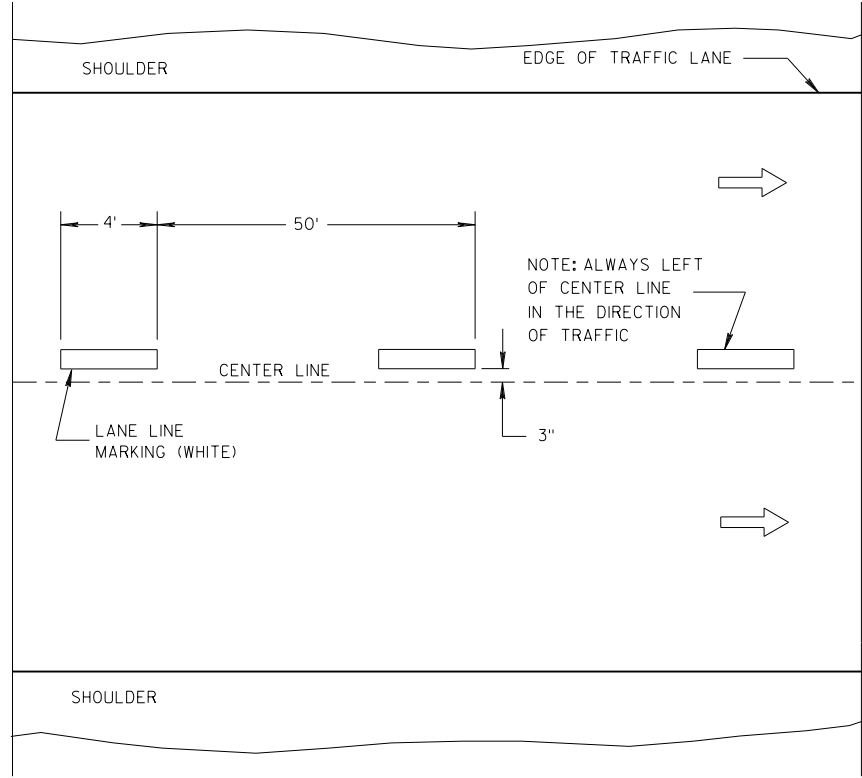


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

LONGITUDINAL MARKING (MAINLINE)

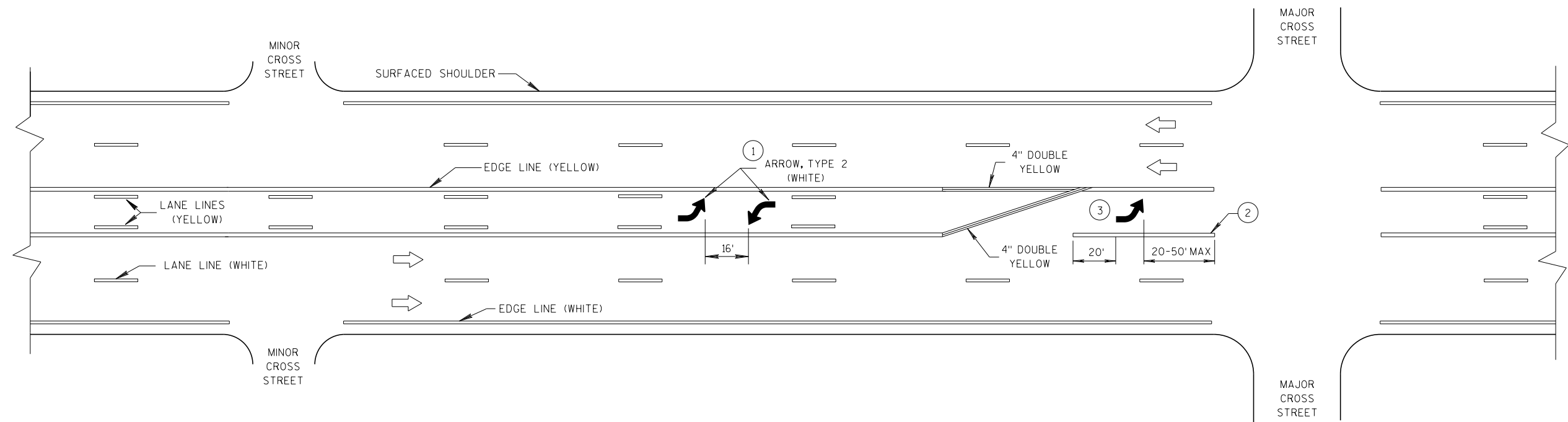
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

GENERAL NOTES

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

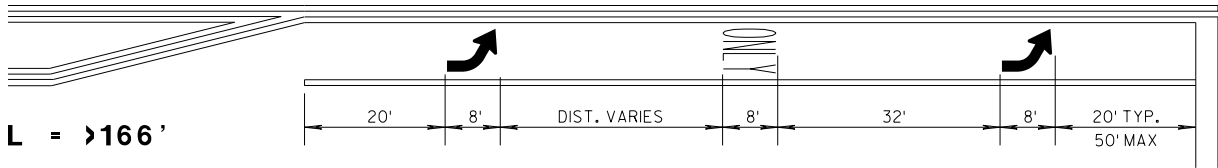
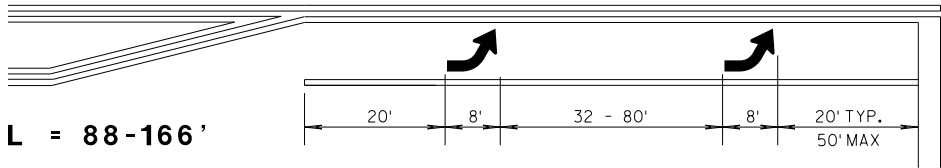
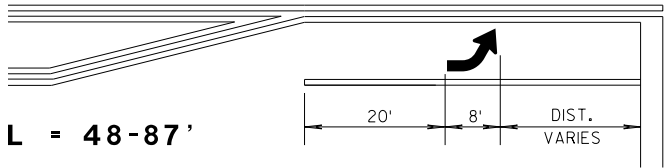
➔ DIRECTION OF TRAFFIC



TWO WAY LEFT TURN LANE

TURN LANE OPTIONS

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



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

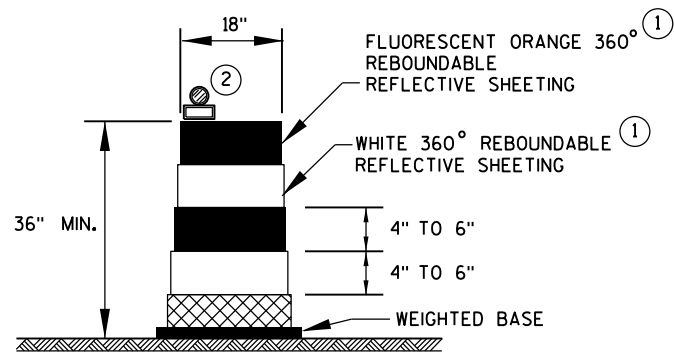
GENERAL NOTES

- ① 8" WHITE
- ② QUANTITY AND LOCATION OF TYPE 3 ARROW ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION, THE ARROWS AND ONLY MARKING ARE ELIMINATED.

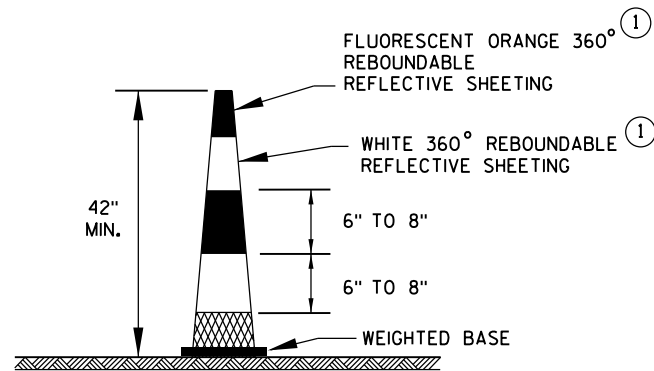
➡ DIRECTION OF TRAFFIC
L = LENGTH OF TURN BAY

PAVEMENT MARKING
(TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DRUM

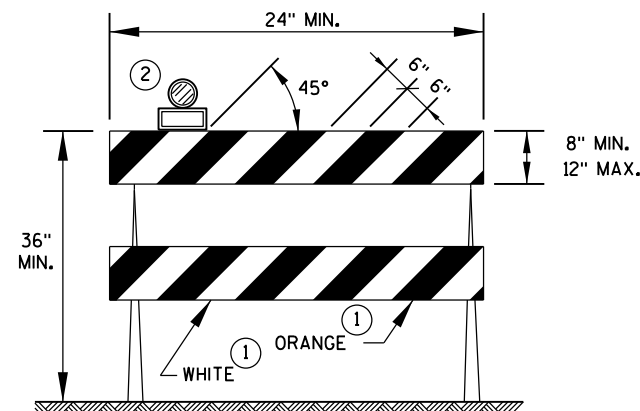


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

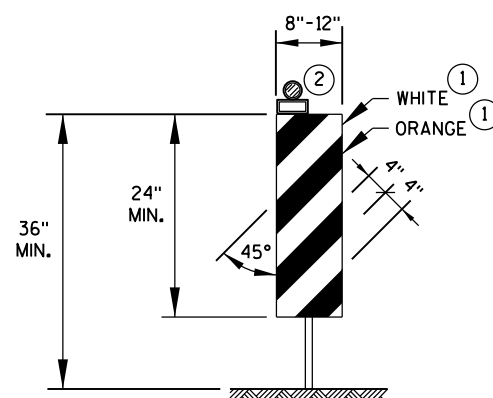
GENERAL NOTES

- 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.



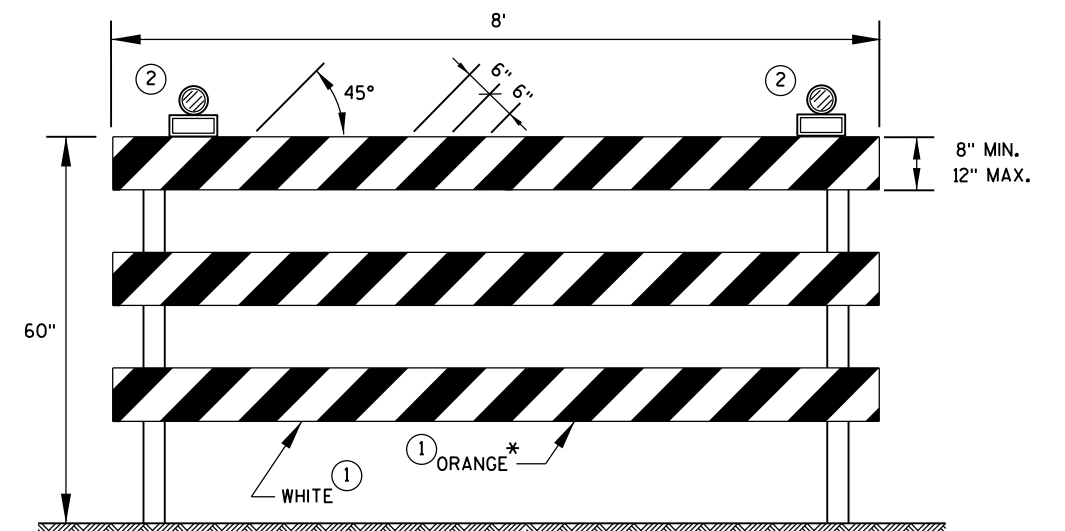
TYPE 2 BARRICADE

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



VERTICAL PANEL

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



TYPE 3 BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION, USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

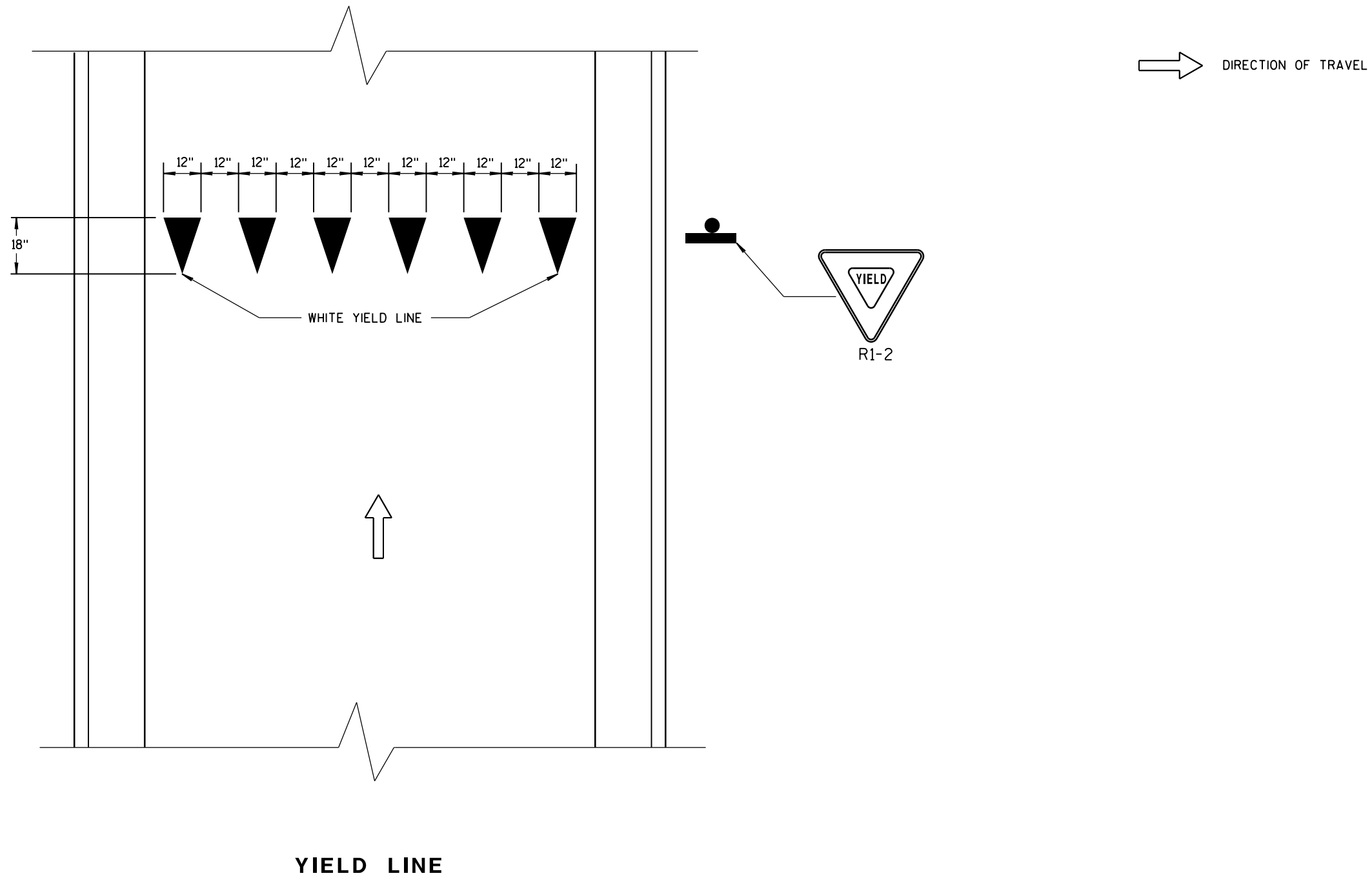
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

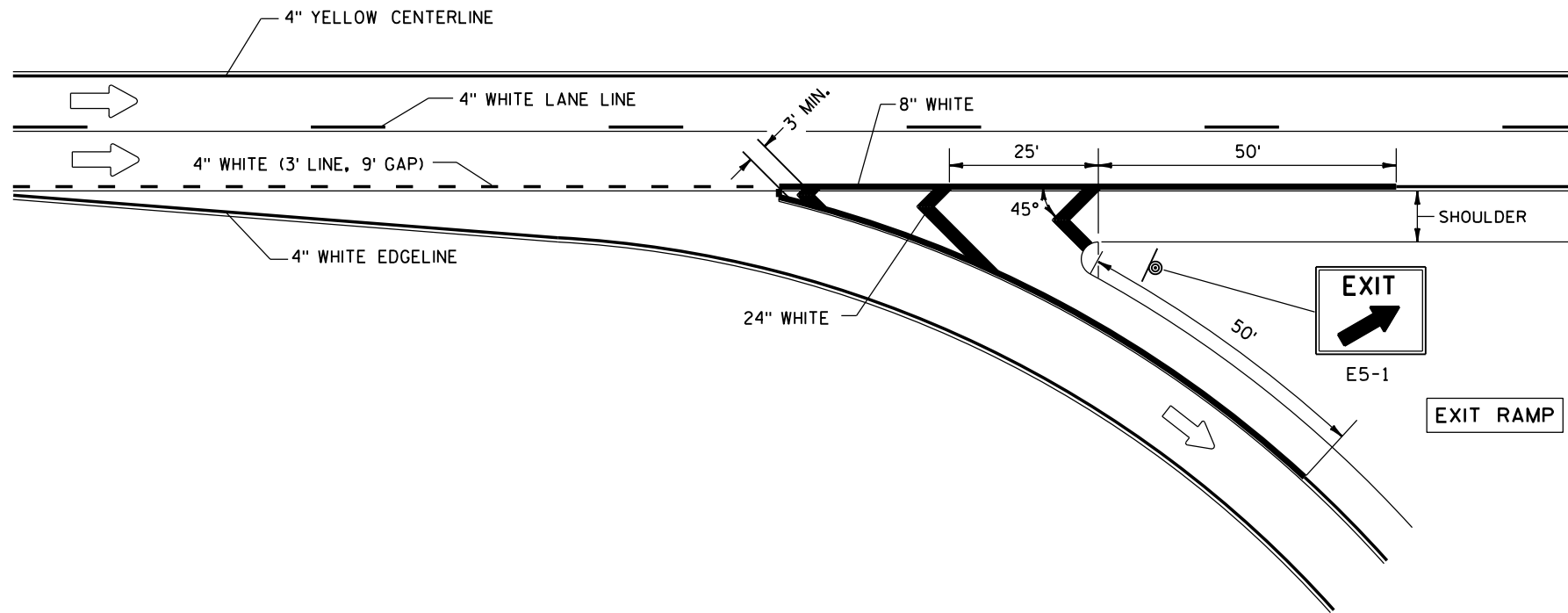
June 2017
DATE

FHWA

/S/ Andrew Heidtke
WORK ZONE ENGINEER



<p>YIELD MARKINGS</p>	
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>	
<p>APPROVED</p>	
<p><u>4-18-2016</u></p>	<p><u>/S/ Matthew R. Rauch</u></p>
<p><u>DATE</u></p>	<p><u>STATE SIGNING AND MARKING ENGINEER</u></p>
<p>FWHA</p>	



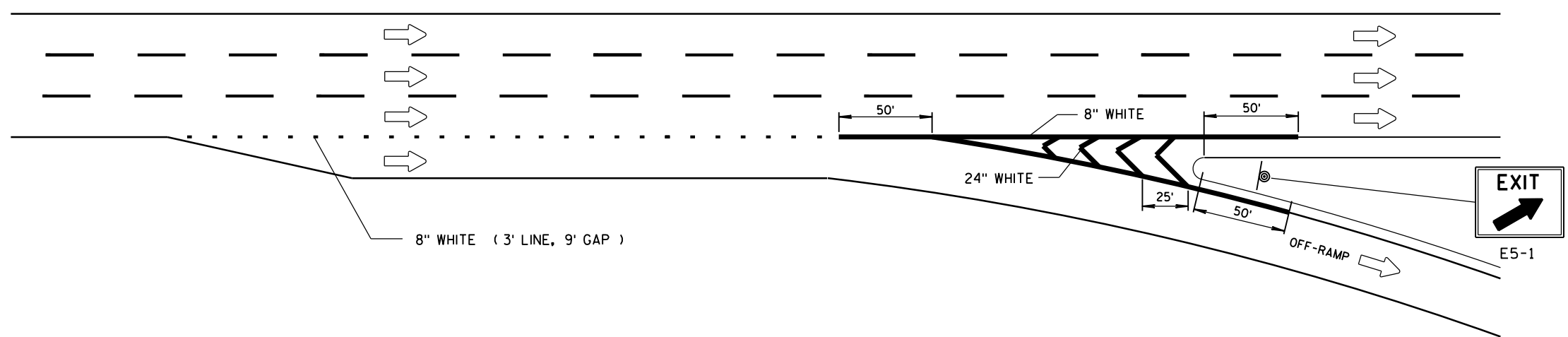
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

- DIRECTION OF TRAVEL
- SIGN ON PERMANENT SUPPORT

PAVEMENT MARKING FOR EXIT RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT-RAMP

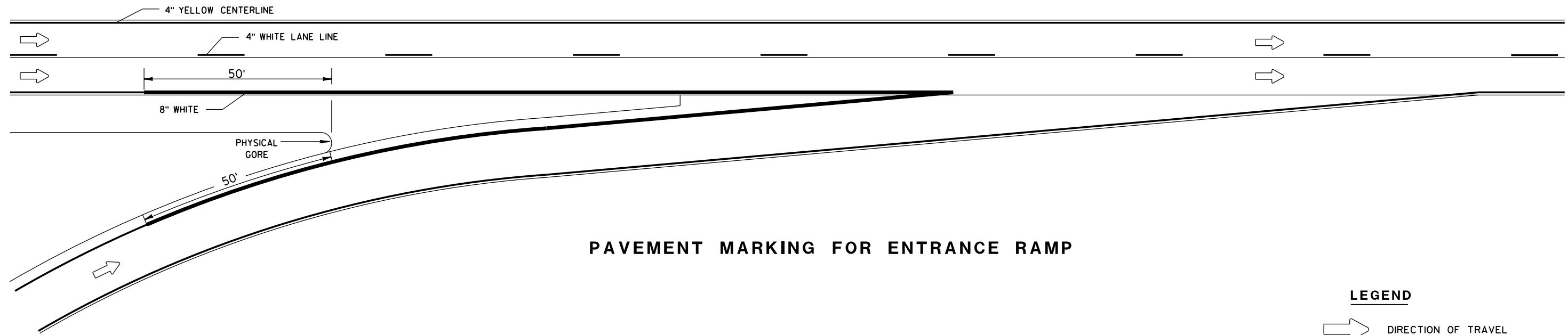
PAVEMENT MARKING
(RAMPS AND GOES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

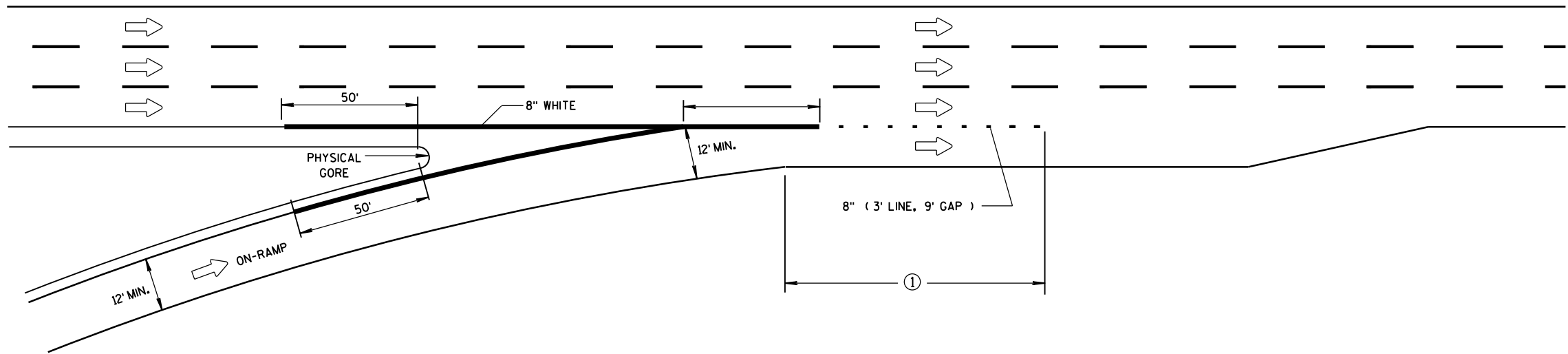
① 1/2 LENGTH OF FULL WIDTH ACCELERATION LANE.



PAVEMENT MARKING FOR ENTRANCE RAMP

LEGEND

➡ DIRECTION OF TRAVEL

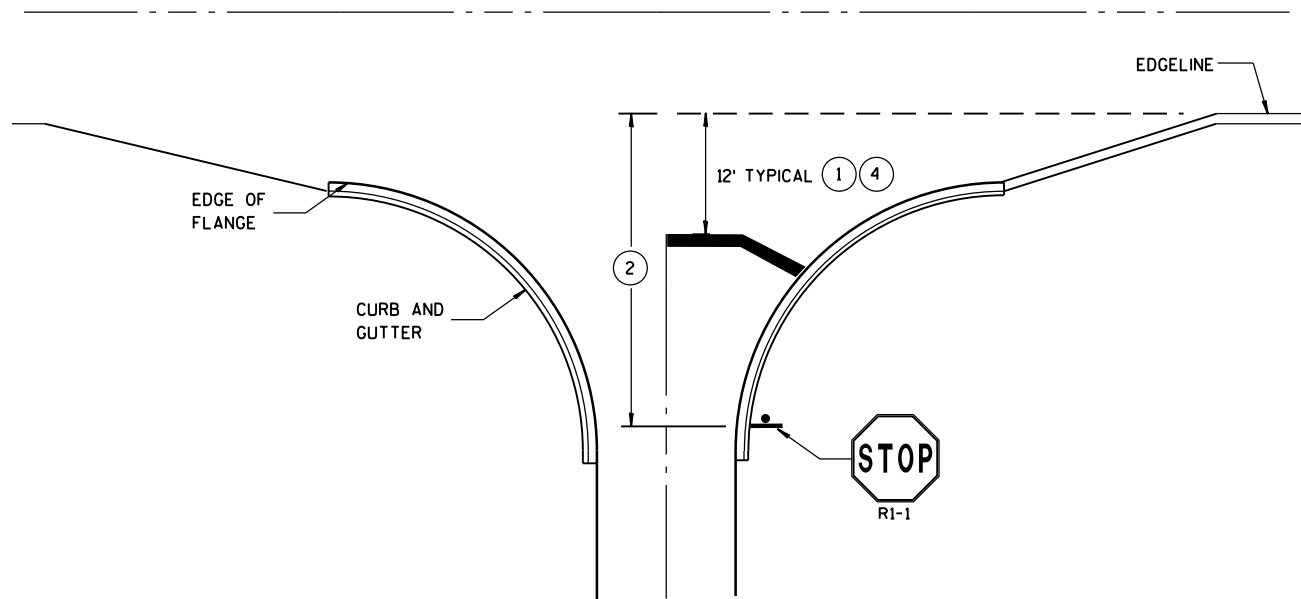


SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE-RAMP

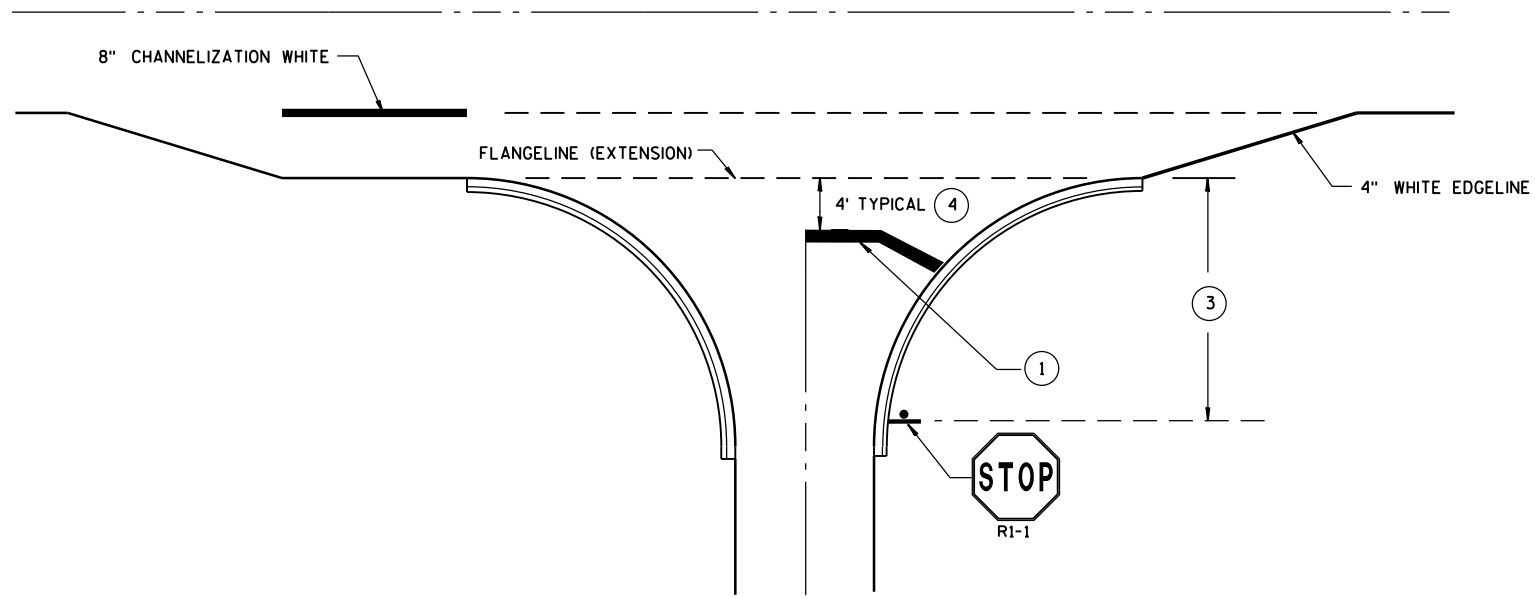
**PAVEMENT MARKING FOR
PARALLEL ON-RAMP AND
PARALLEL OFF-RAMP**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA



TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER

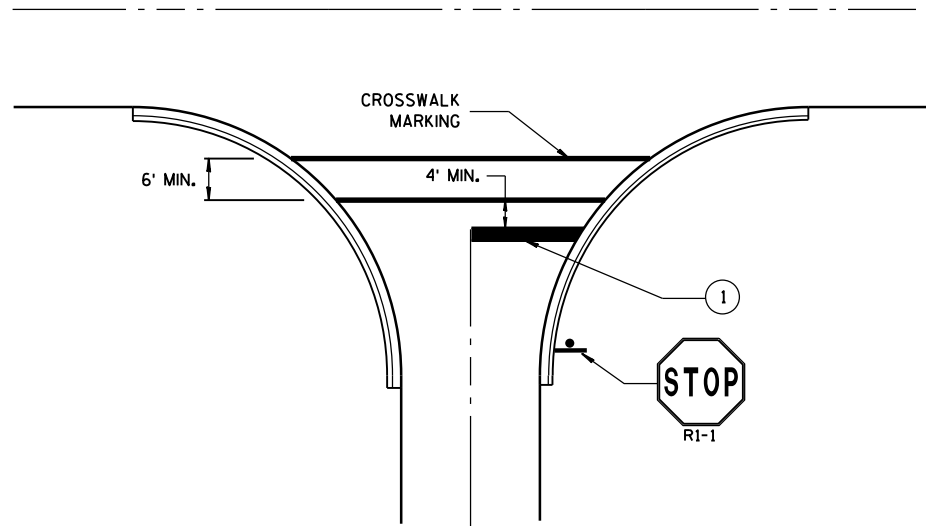


TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE

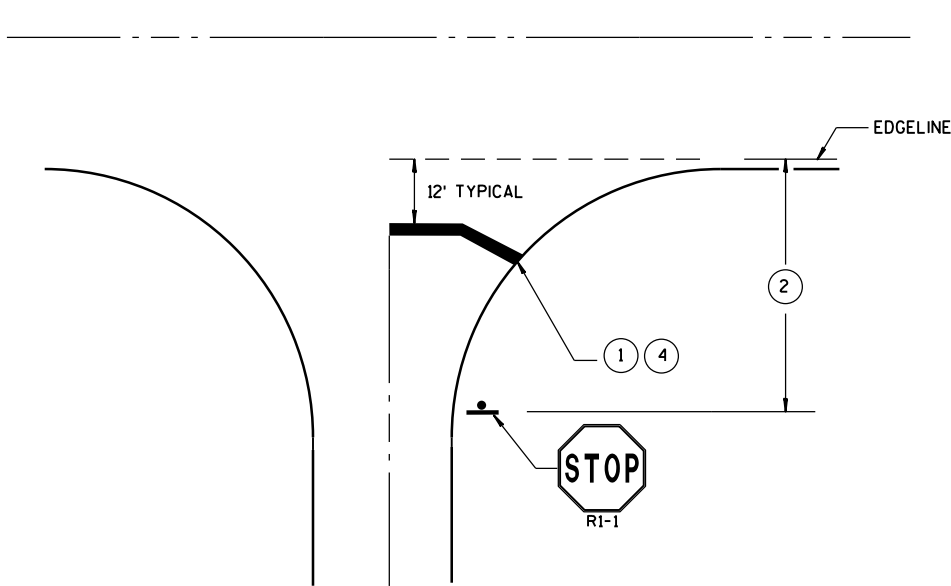
GENERAL NOTES

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

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



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE Sept., 2017	/S/ Matthew R. Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	

GENERAL NOTES

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

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

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

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.









REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

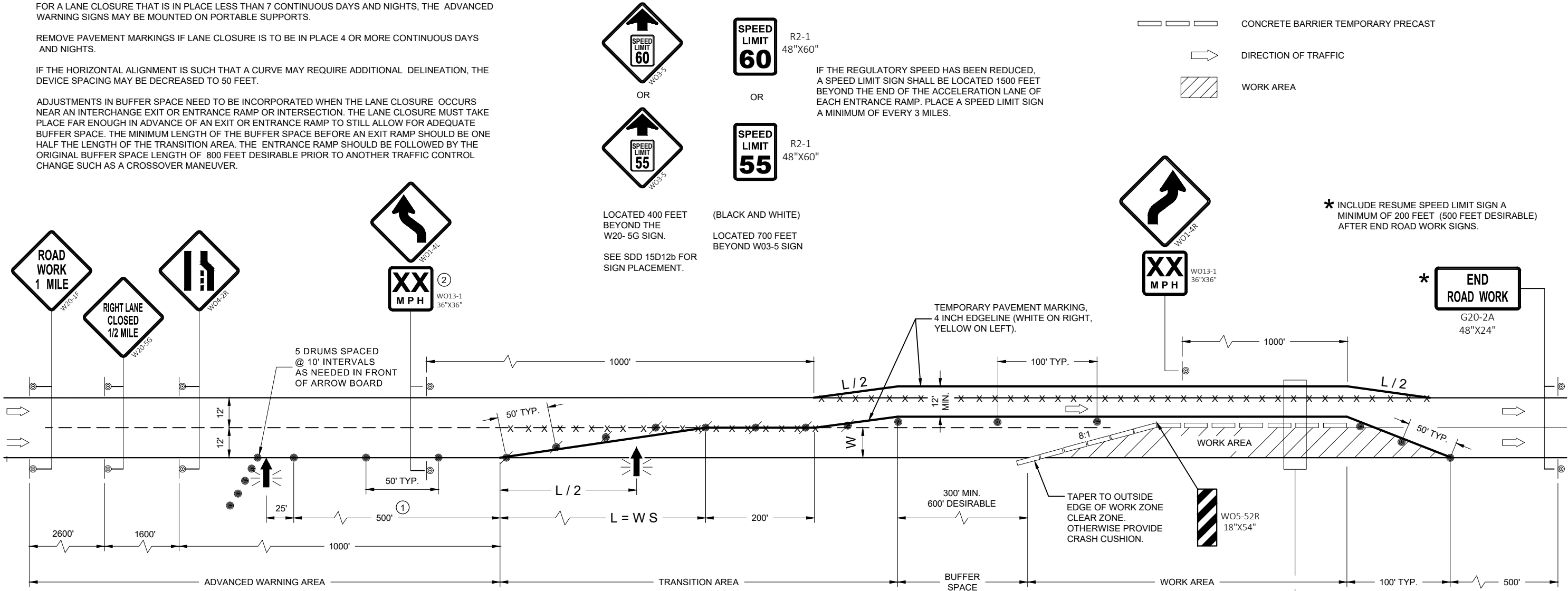
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

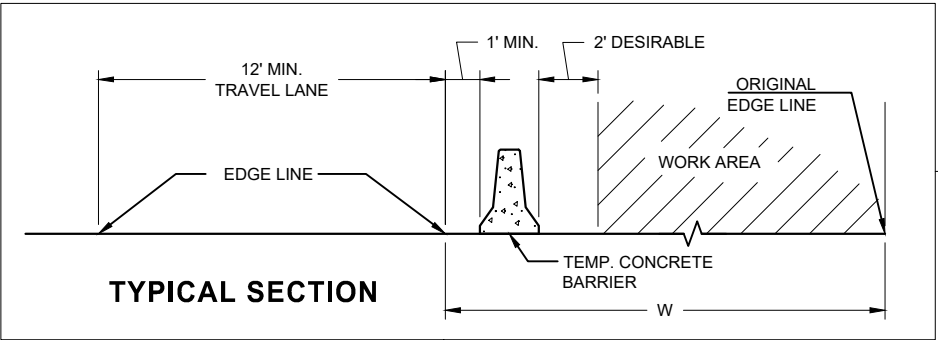
- ①
- CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.
- ②
- IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH LESS THAN POSTED SPEED.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA



SPEED (MPH)	L, TAPER LENGTH (MPH)											
	W, LATERAL OFFSET (FT)											
	1	2	3	4	5	6	7	8	9	10	11	12
45	45	90	135	180	225	270	315	360	405	450	495	540
50	50	100	150	200	250	300	350	400	450	500	550	600
55	55	110	165	220	275	330	385	440	495	550	605	660
60	60	120	180	240	300	360	420	480	540	600	660	720
65	65	130	195	260	325	390	455	520	585	650	715	780
70	70	140	210	280	350	420	490	560	630	700	770	840



TRAFFIC CONTROL
LANE CLOSURE, SPEEDS
GREATER THAN 40 MPH
WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

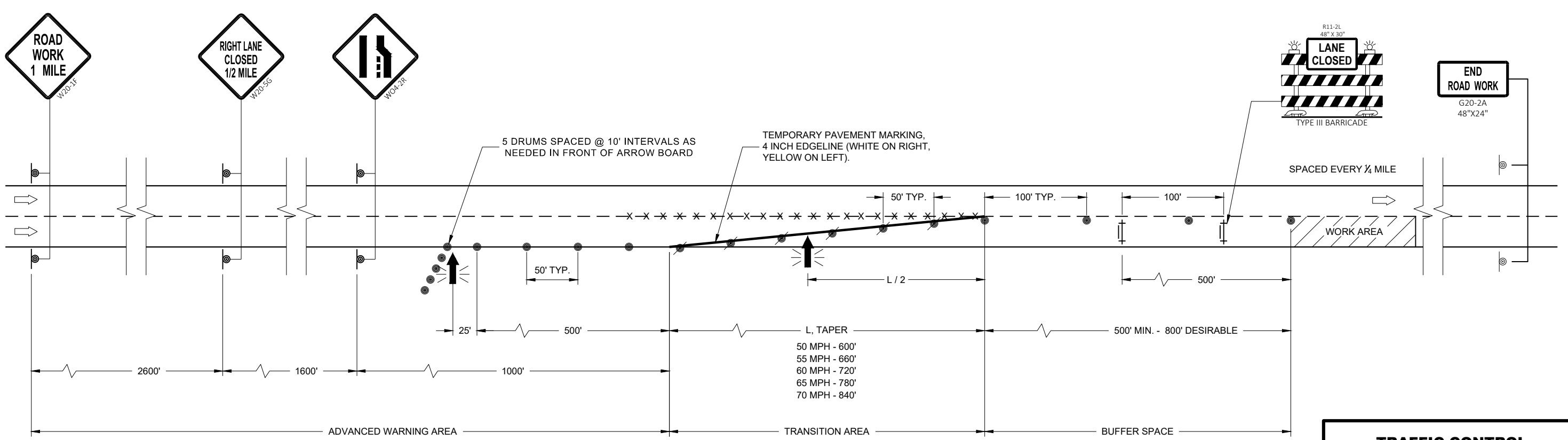
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS

NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

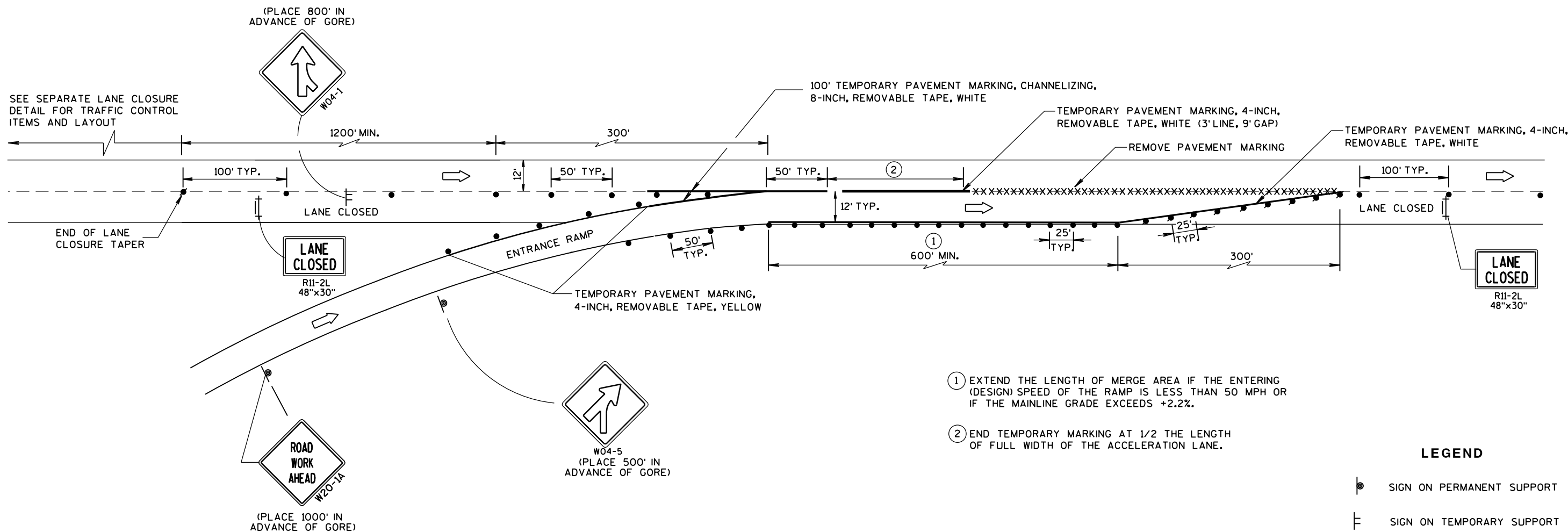
LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD



TRAFFIC CONTROL LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2018 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE



PARALLEL ENTRANCE RAMP

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

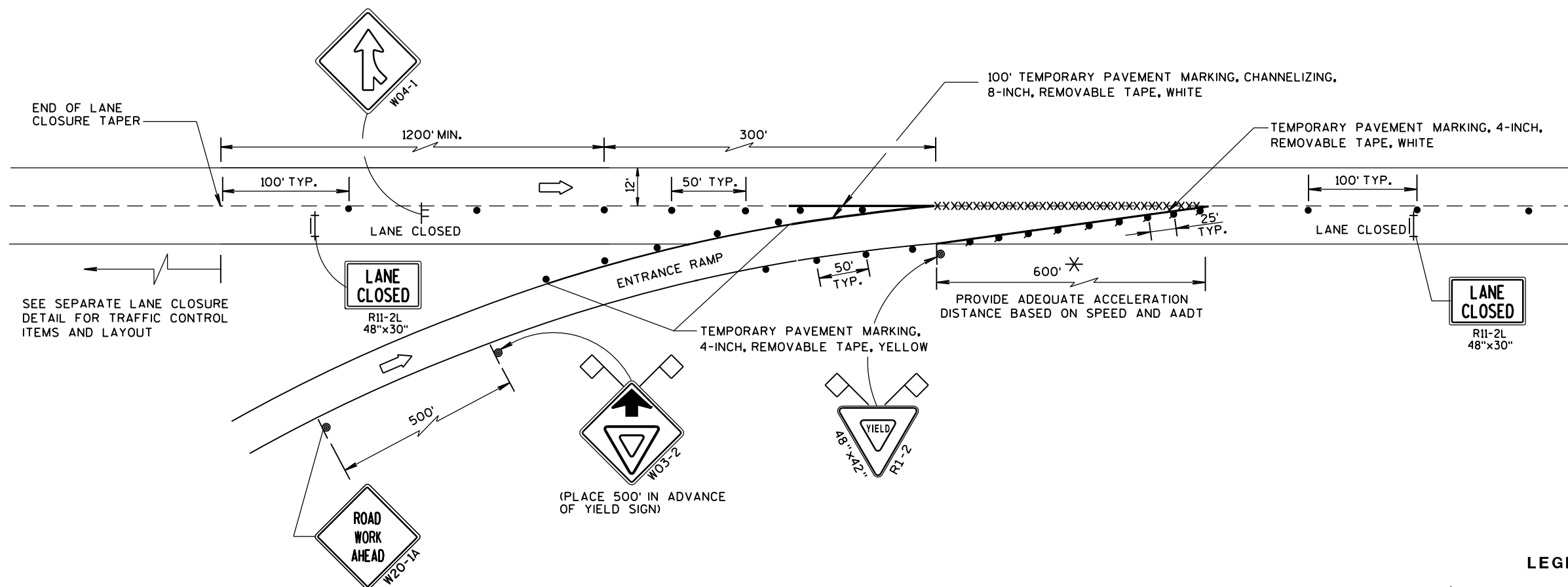
REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

LEGEND

- SIGN ON PERMANENT SUPPORT
- ├ SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ├ TYPE III BARRICADE WITH ATTACHED SIGN
- XXXXX REMOVING PAVEMENT MARKING
- ➡ DIRECTION OF TRAFFIC

TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept., 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



TAPERED ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

✱ CONSULT WITH REGIONAL WORK ZONE ENGINEER IF NEED TO REDUCE LENGTH EXISTS.

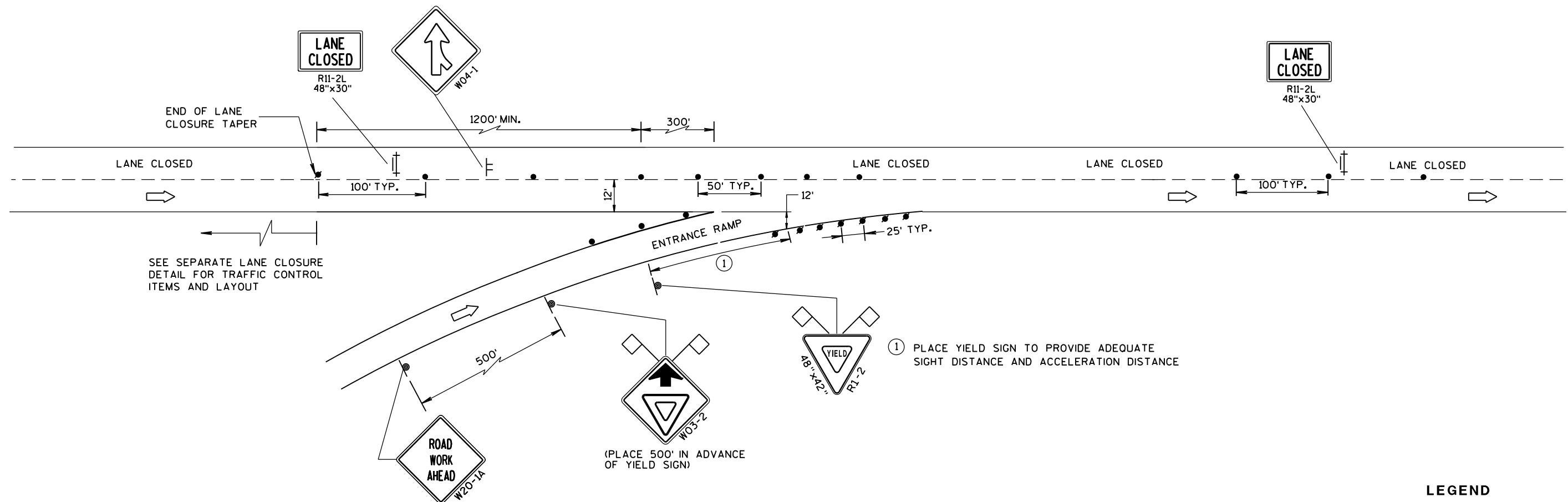
LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL,
TAPERED ENTRANCE RAMP
WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



TAPERED ENTRANCE RAMP WITHIN LEFT LANE CLOSURE

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

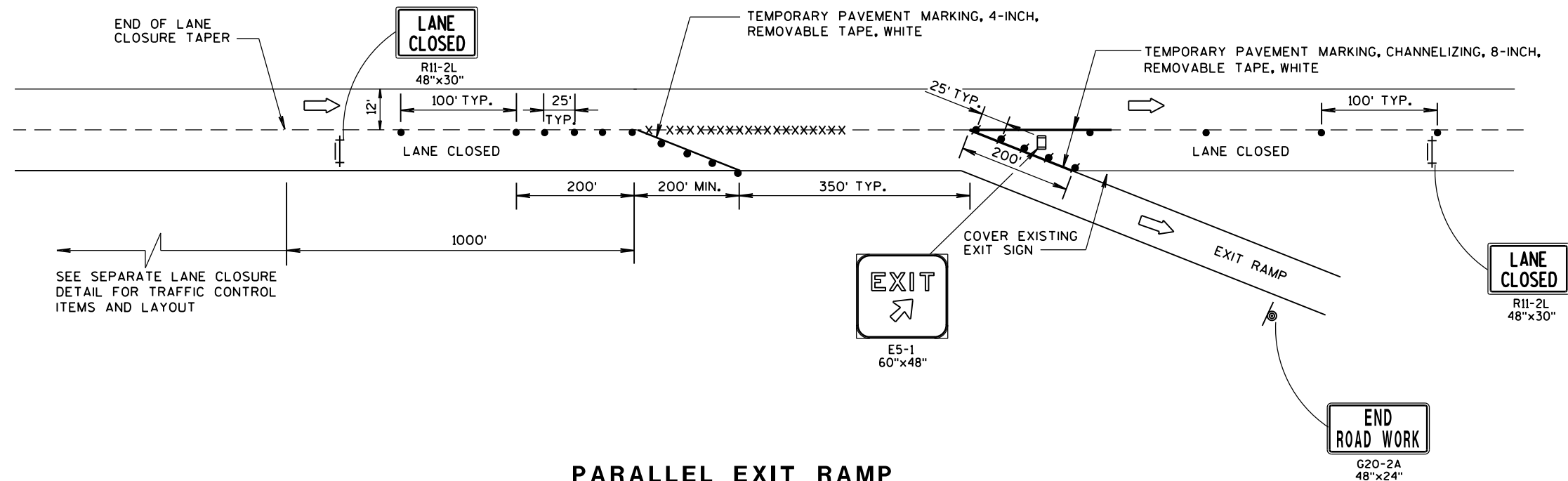
Sept., 2017

DATE

FHWA

/S/ Andrew Heidtke

WORK ZONE ENGINEER



PARALLEL EXIT RAMP

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP, AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"W0" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

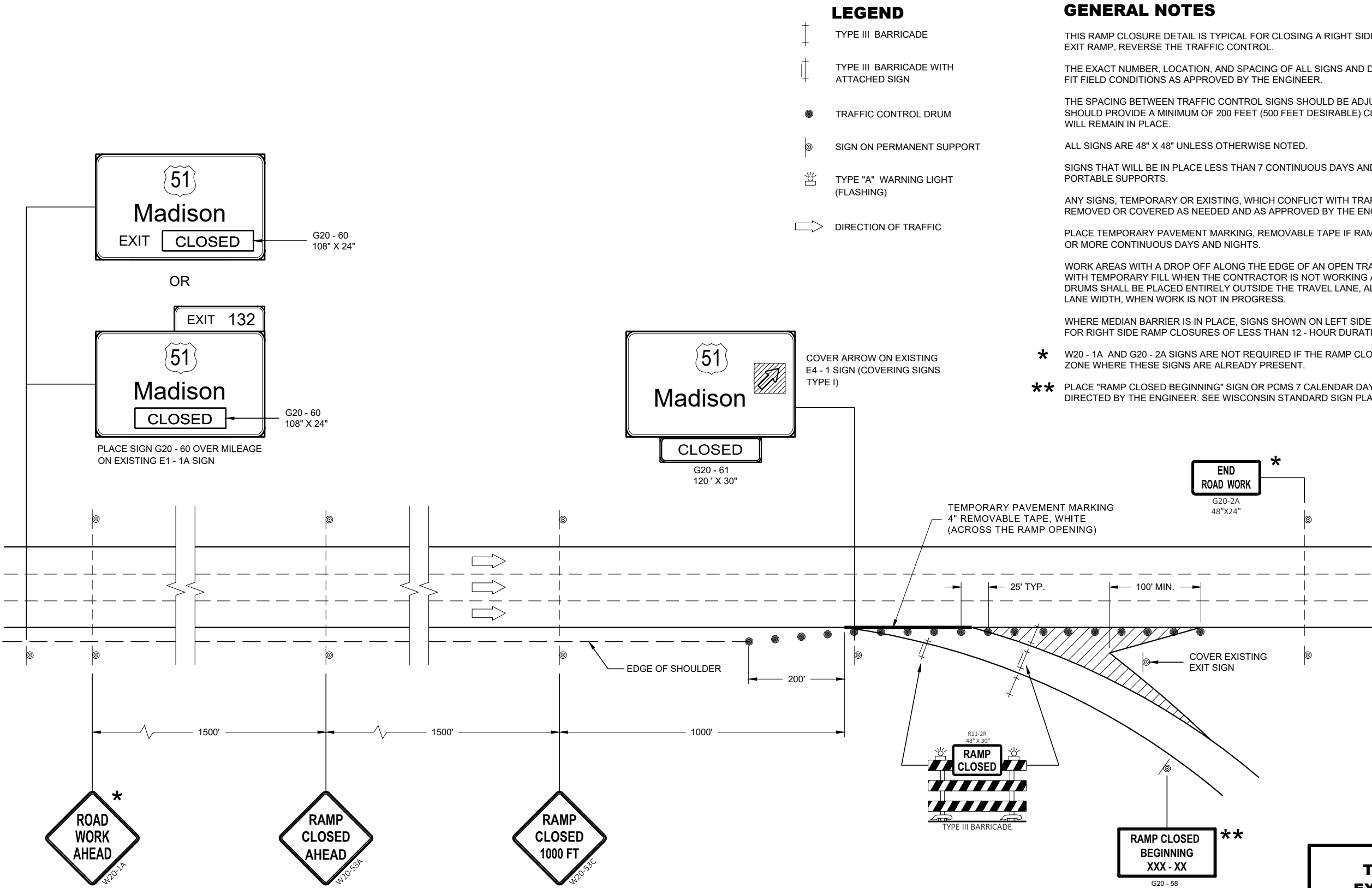
LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- ⊢ SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- ⦿ TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- XXXXX REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- ⊢ TYPE III BARRICADE WITH ATTACHED SIGN
- ⚠️ FLAGS, 16" x 16" MIN., (ORANGE)
- ➡️ DIRECTION OF TRAFFIC

TRAFFIC CONTROL,
PARALLEL EXIT RAMP
WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE: Sept., 2017 /S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROP OFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12 - HOUR DURATION.

* W20 - 1A AND G20 - 2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

** PLACE "RAMP CLOSED BEGINNING" SIGN OR PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.

TRAFFIC CONTROL EXIT RAMP CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2018 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER

LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡➡ FLASHING ARROW BOARD
- ▨ WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

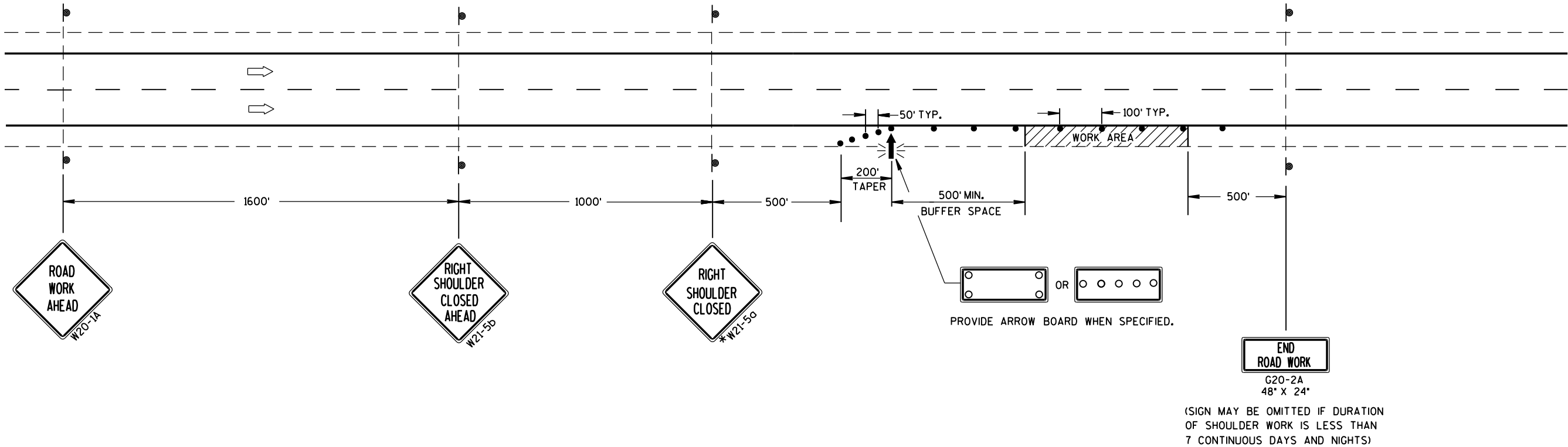
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL
SHOULDER CLOSURE ON DIVIDED
ROADWAY, SPEEDS GREATER
THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 /S/ Peter Amakobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER

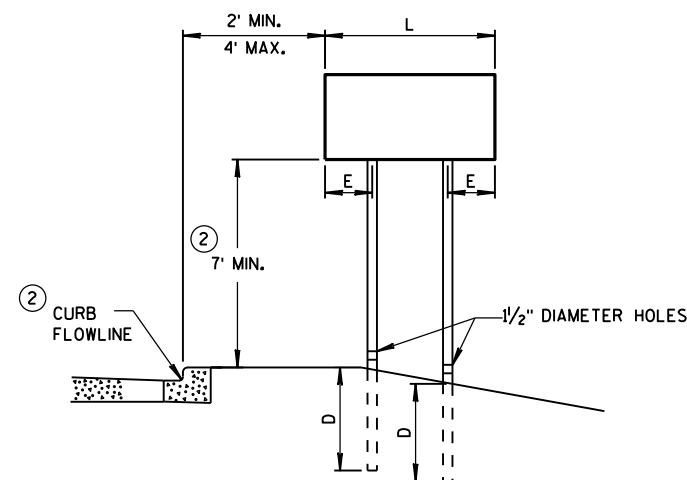
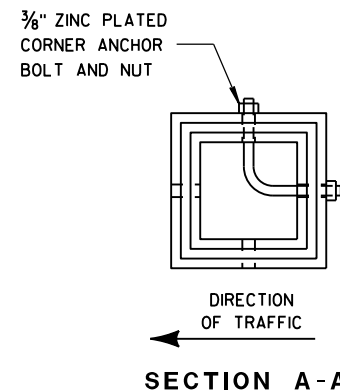


DETAIL OF TUBULAR
STEEL SIGN POST

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL 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

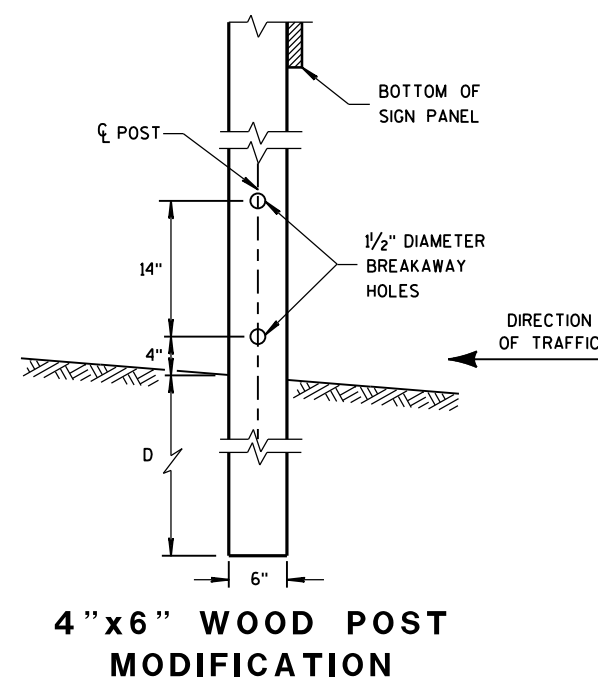
SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL
BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED
ON TUBULAR STEEL POSTS.



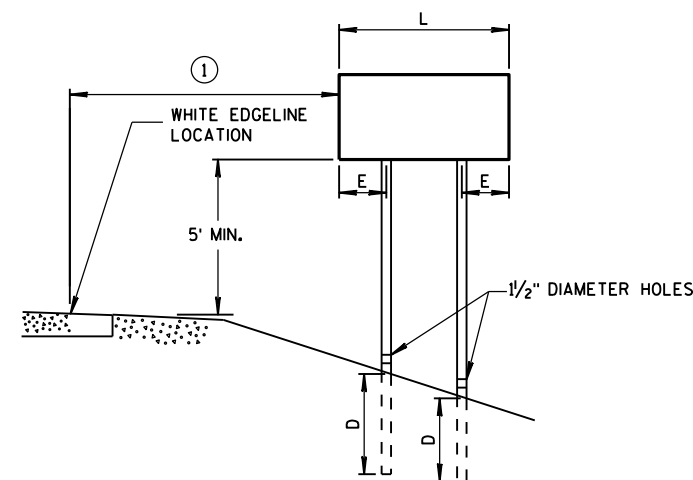
URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST EMBEDMENT DEPTH	
AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



4 "x6 " WOOD POST
MODIFICATION



RURAL AREA

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

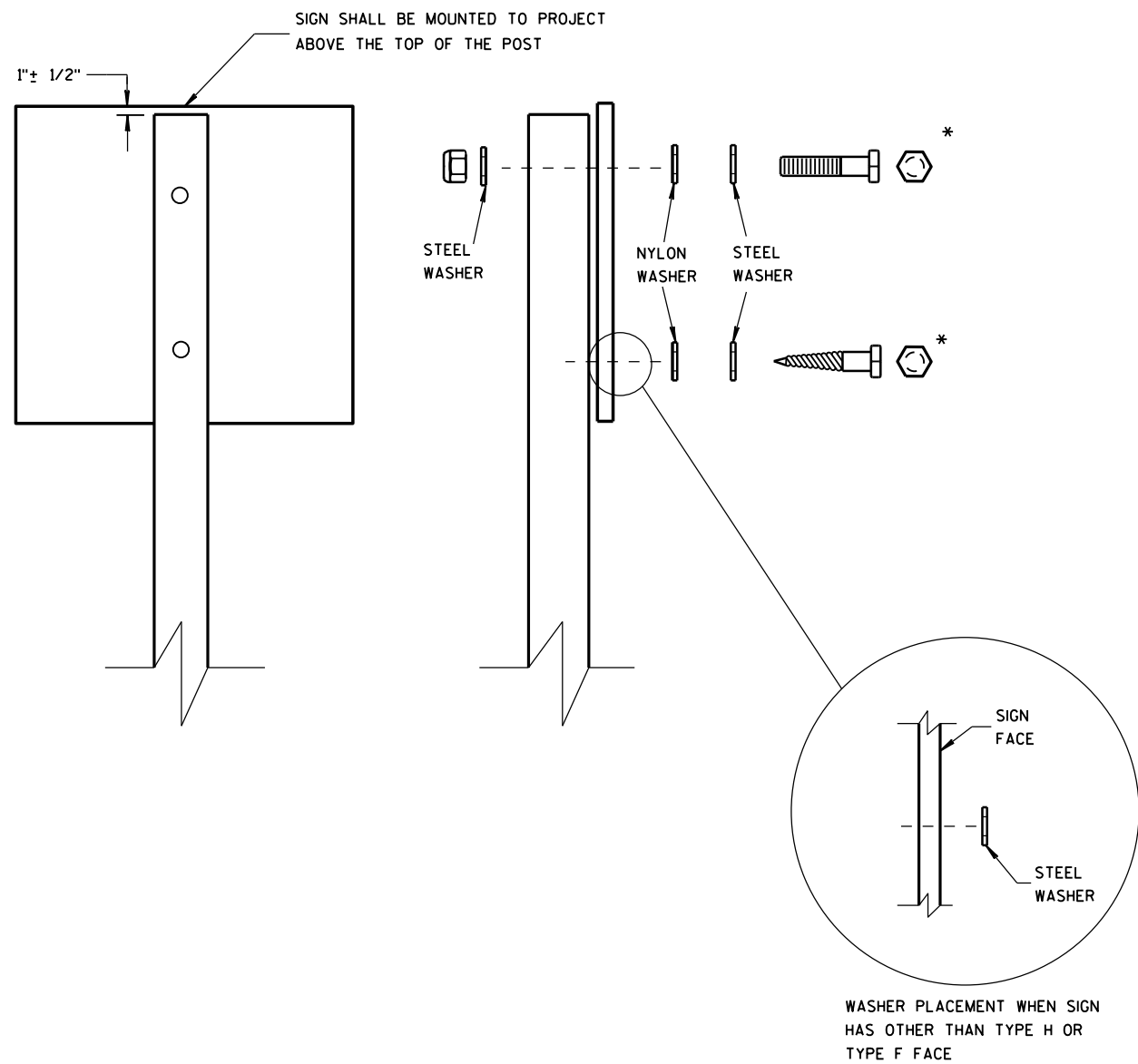
SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② 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. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL
SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" x 3"
 - MACHINE BOLTS - 5/16" x 6-1/2" OR 7" LENGTH W/ NUTS

- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" x 3-1/4" LENGTH W/ NUTS
 - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

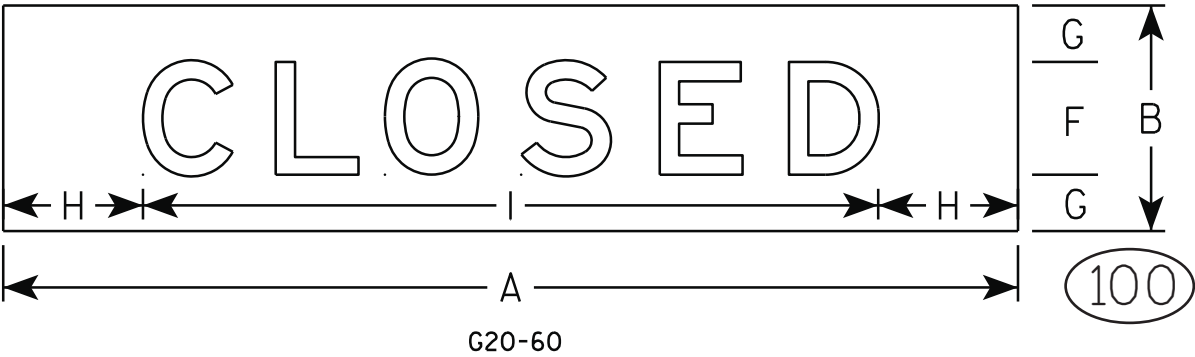
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL
 - 1-1/4" O.D. x 3/8" I.D. x .080 NYLON FOR ALL TYPE H SIGNS

* 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heldtke WORK ZONE ENGINEER
FHWA	

NOTES

- 1. Sign is Type II- Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - E
- 4. Material shall be .040 aluminmum



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3																											
4	108	24				12	6	14 7/8	78 1/4																		18.0
5																											

STANDARD SIGN

G20-60

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch

for State Traffic Engineer

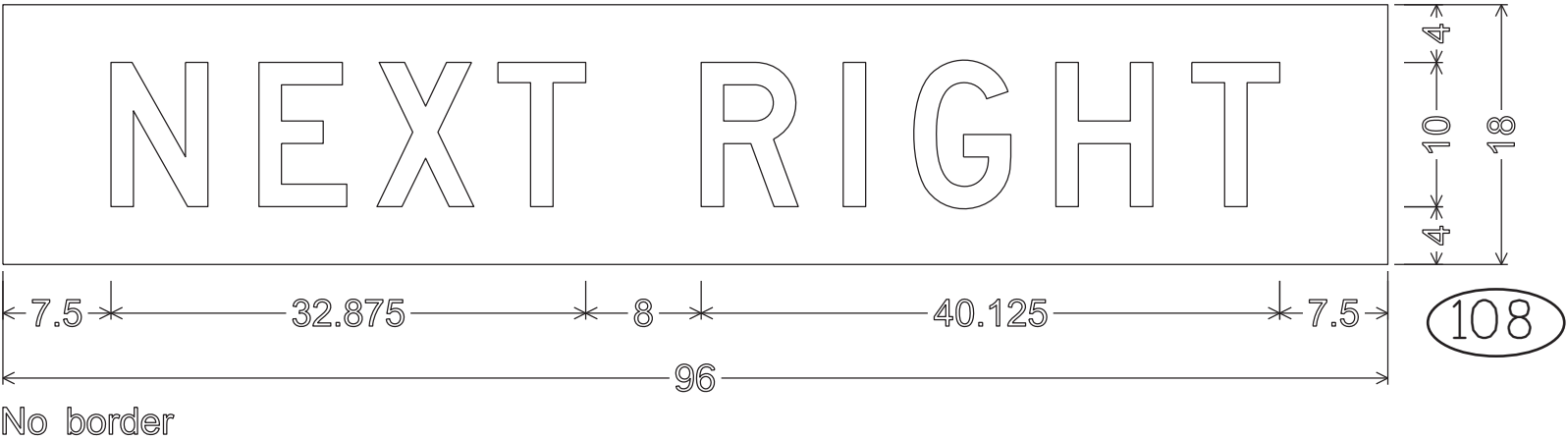
DATE 5/13/15

PLATE NO. G20-60.1

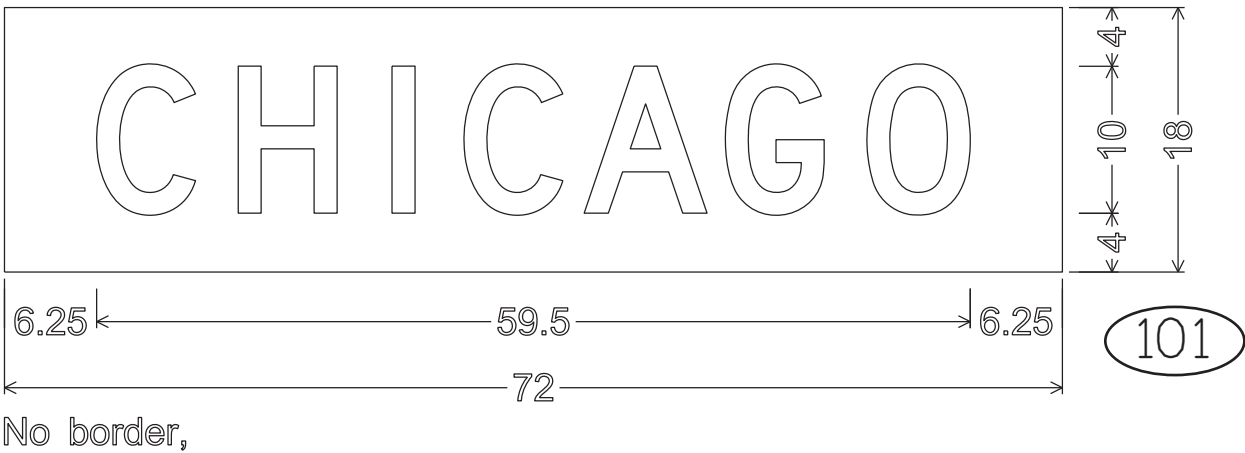
NOTES

- 1. All Signs Type II - Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - D

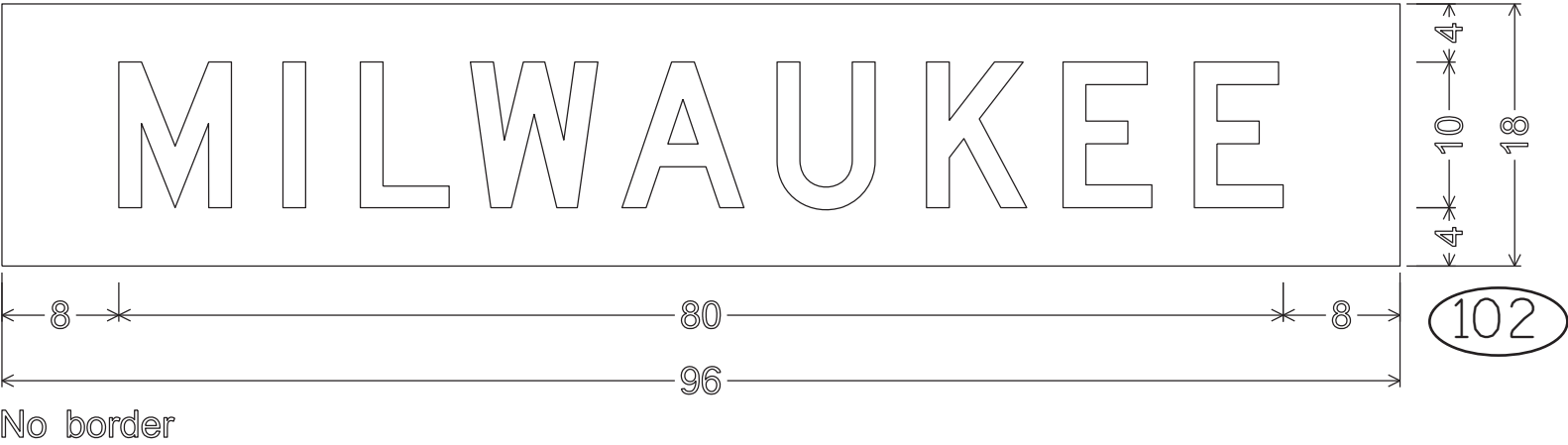
Base Material .040" aluminum



Base Material .040" aluminum



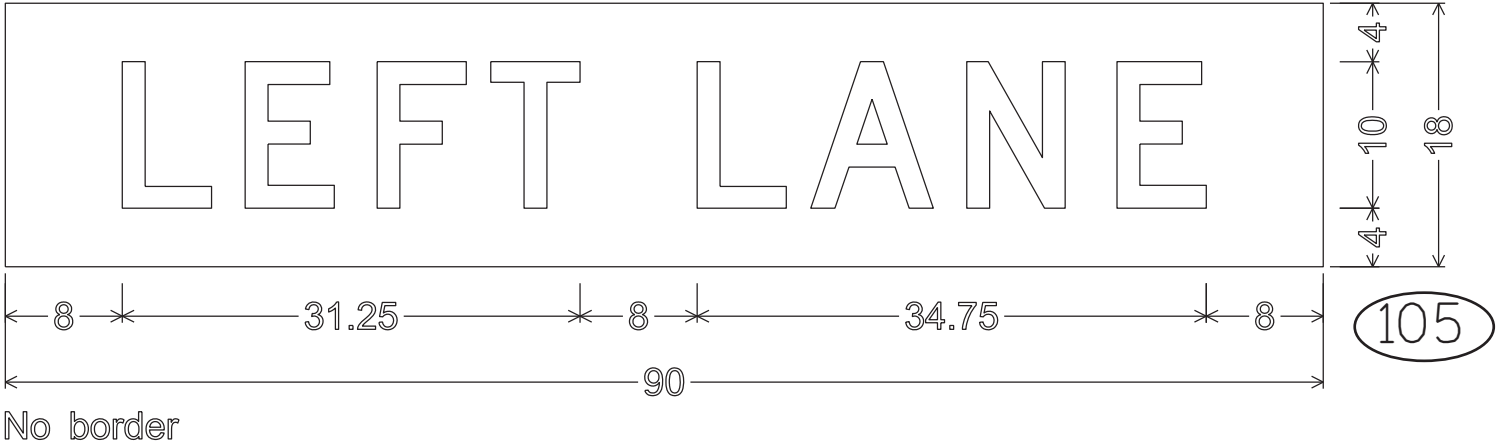
Base Material .040" aluminum



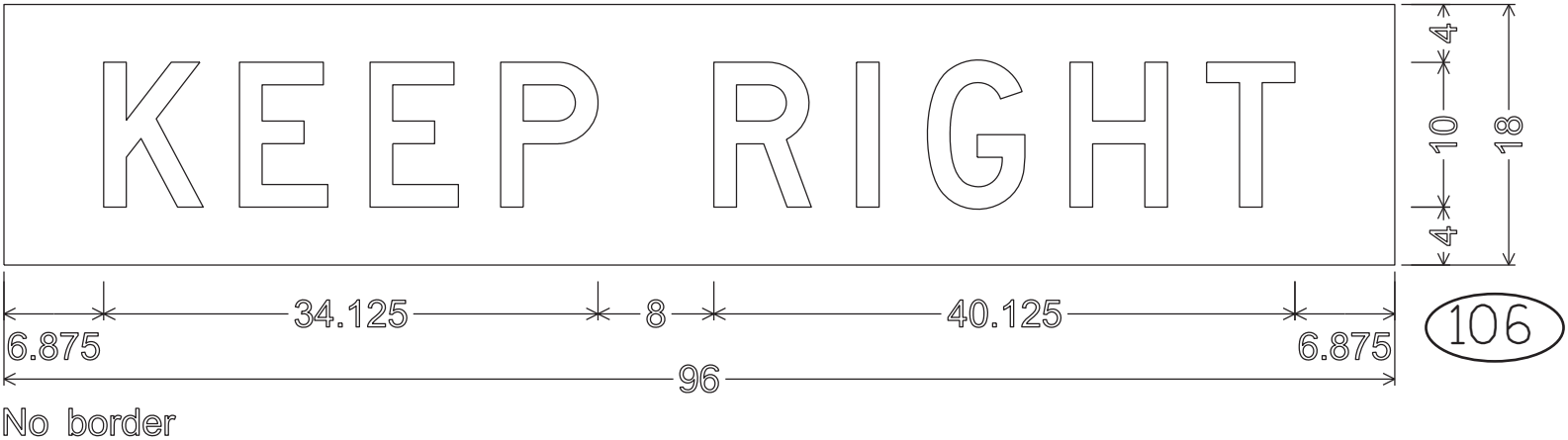
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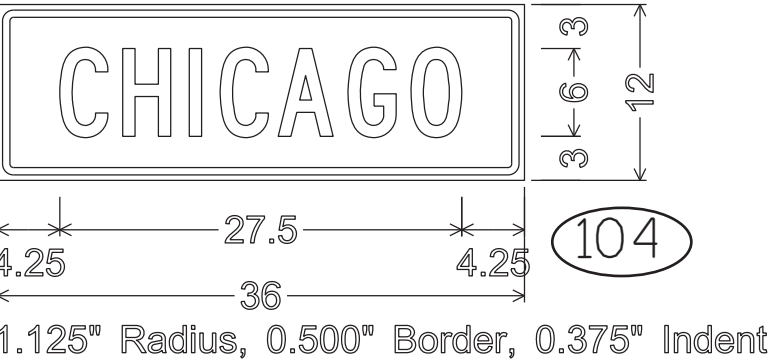
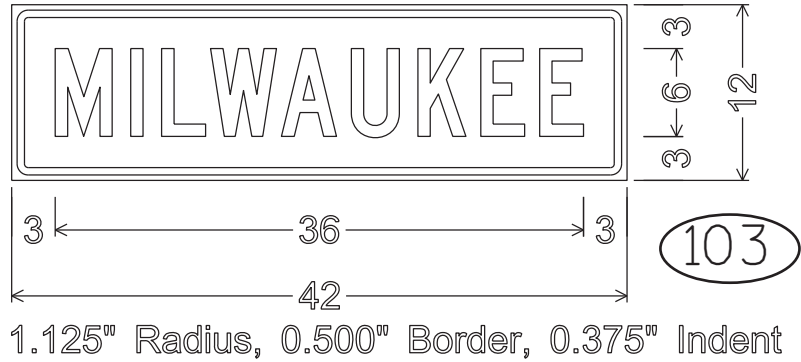
- 1. All Signs Type II - Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - D

Base Material .040" aluminum



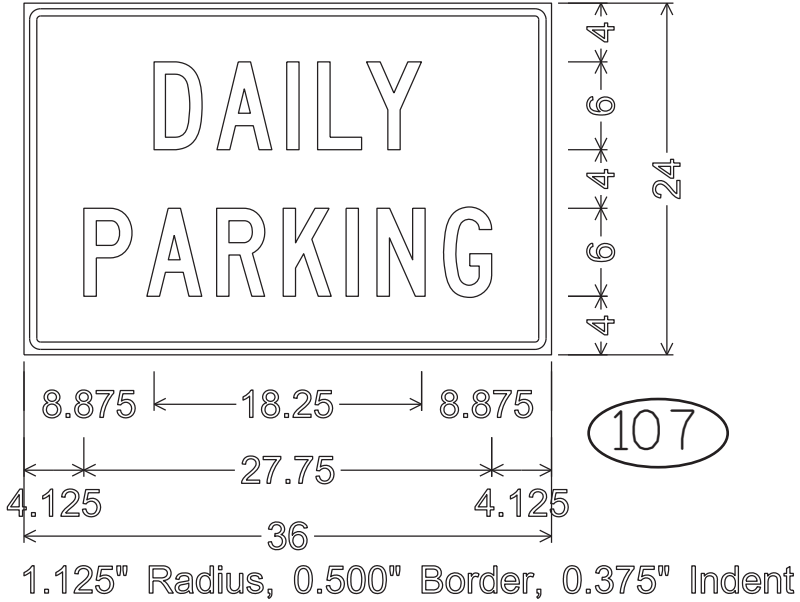
Base Material .040" aluminum



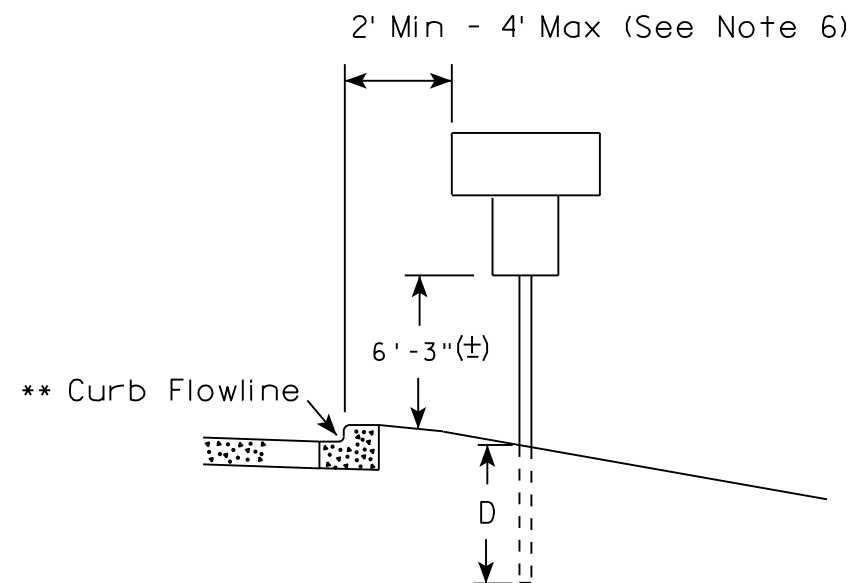
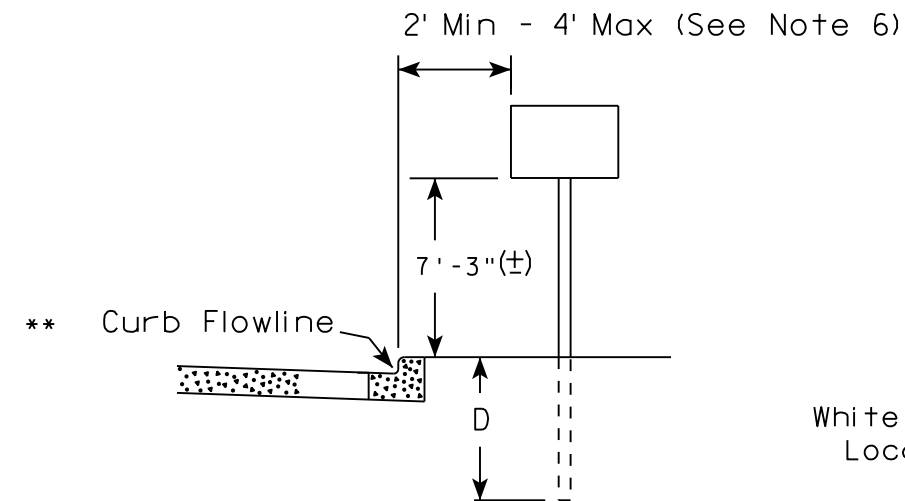


NOTES

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

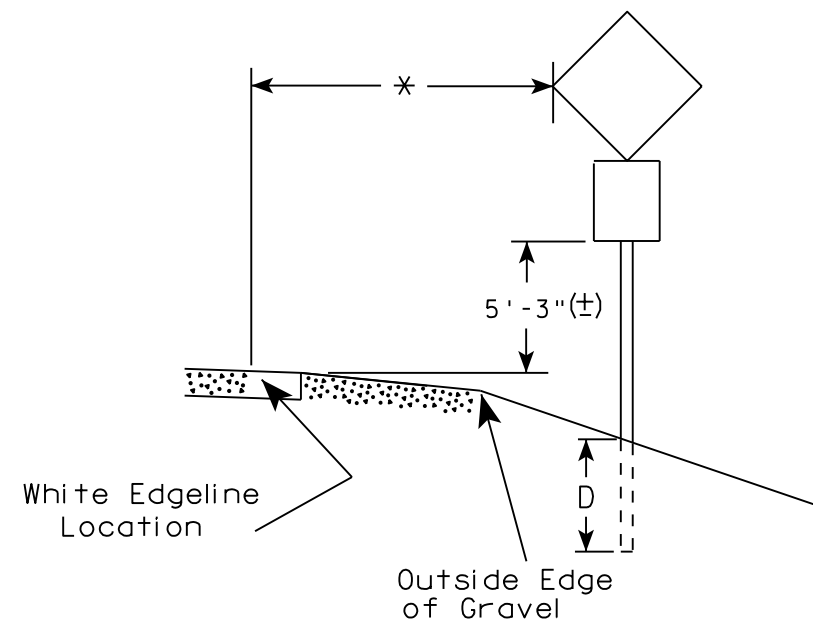
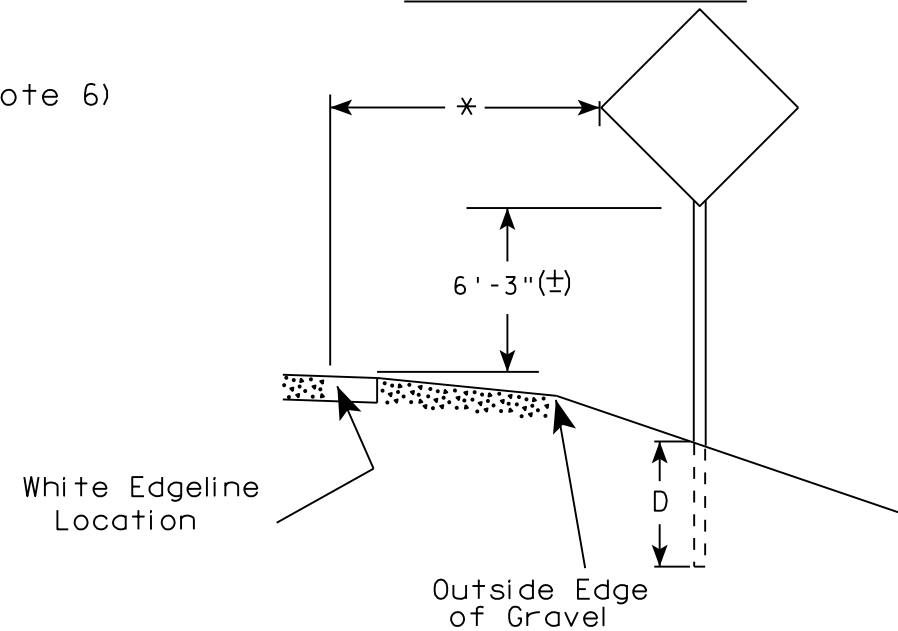


URBAN AREA



✱✱ 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.

RURAL AREA (See Note 2)



* 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.

POST EMBEDMENT DEPTH

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

GENERAL NOTES

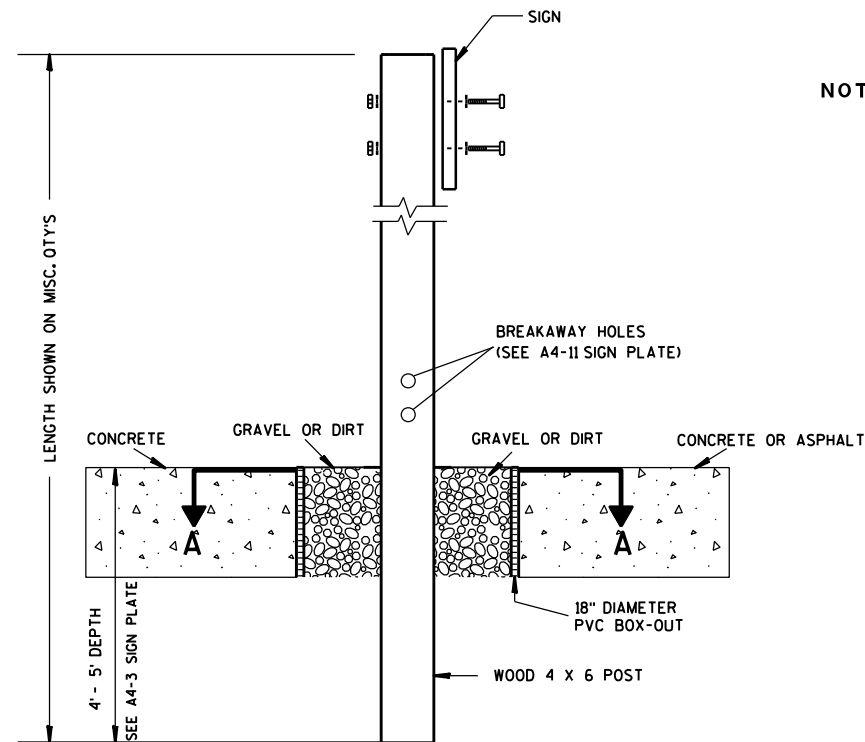
1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies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

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

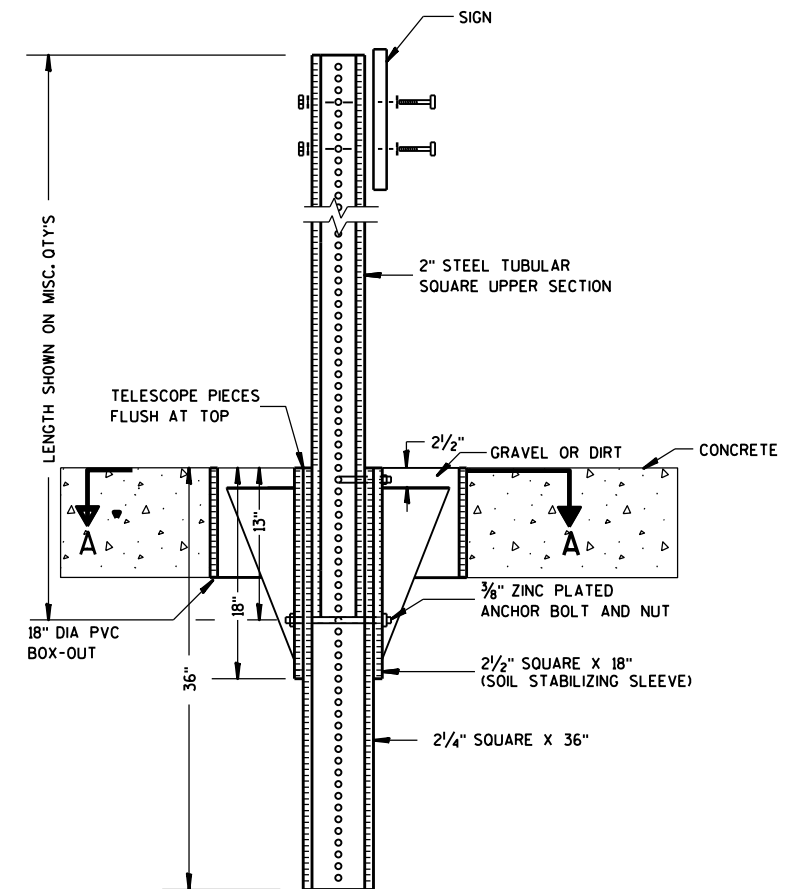
DATE 8/21/17 PLATE NO. A4-3.21



ELEVATION VIEW

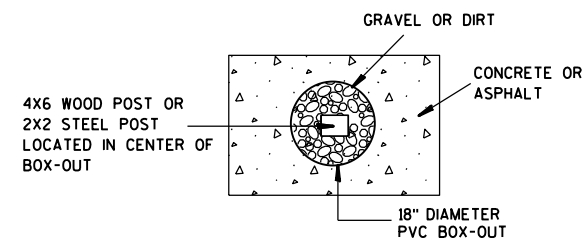
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 PLATE NO. A4-3B.1

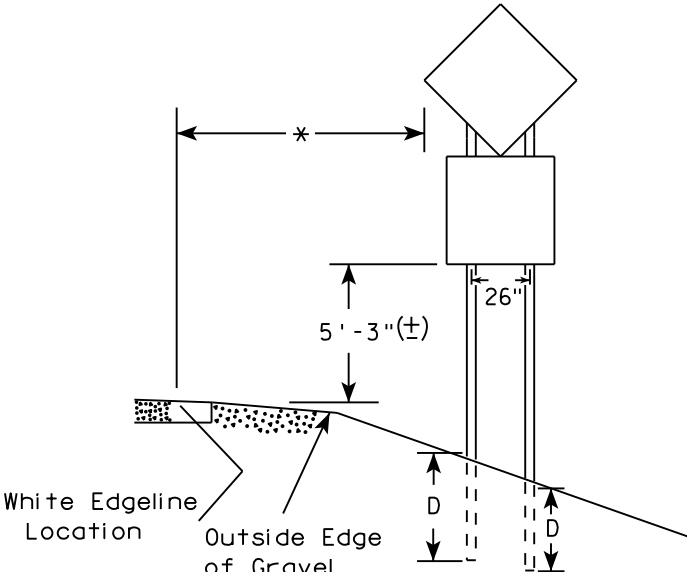
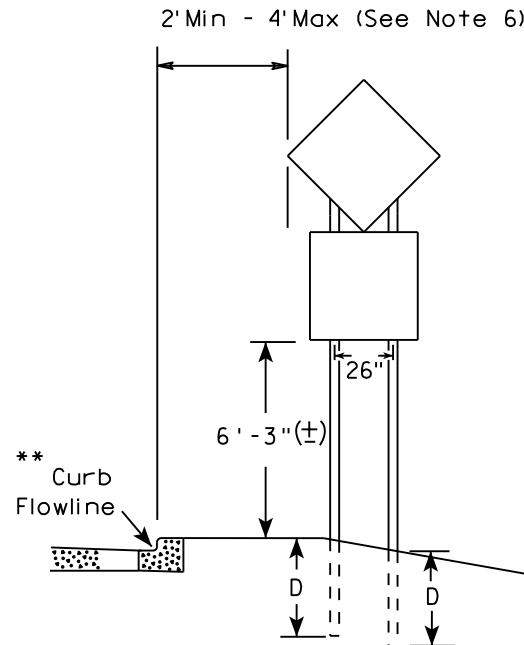
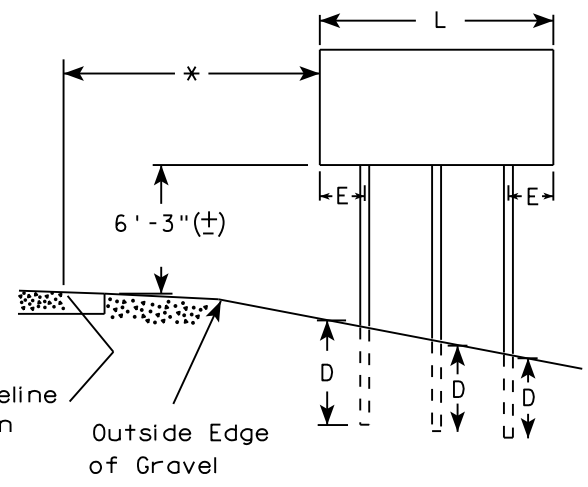
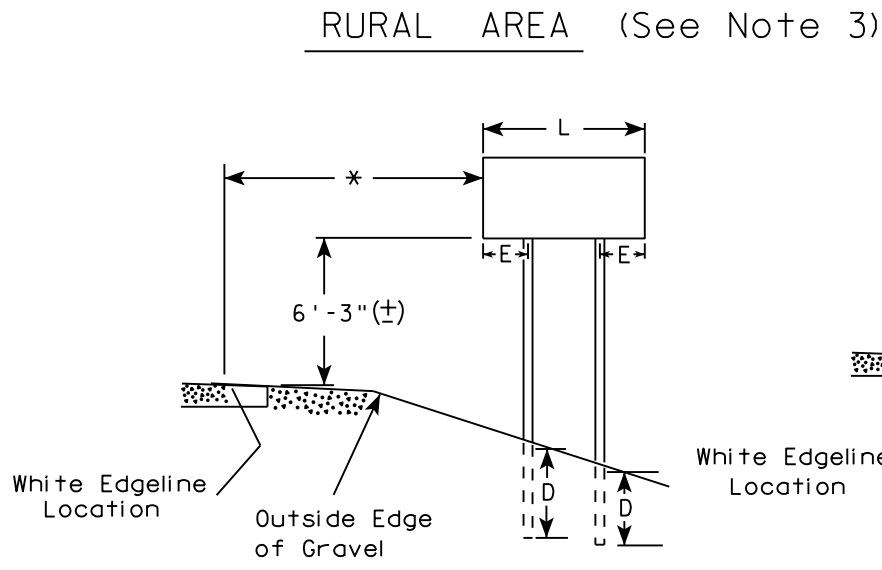
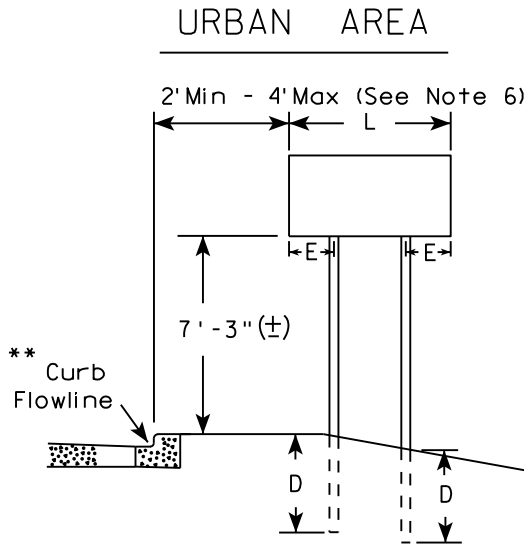
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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

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

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

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

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

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

POST EMBEDMENT DEPTH

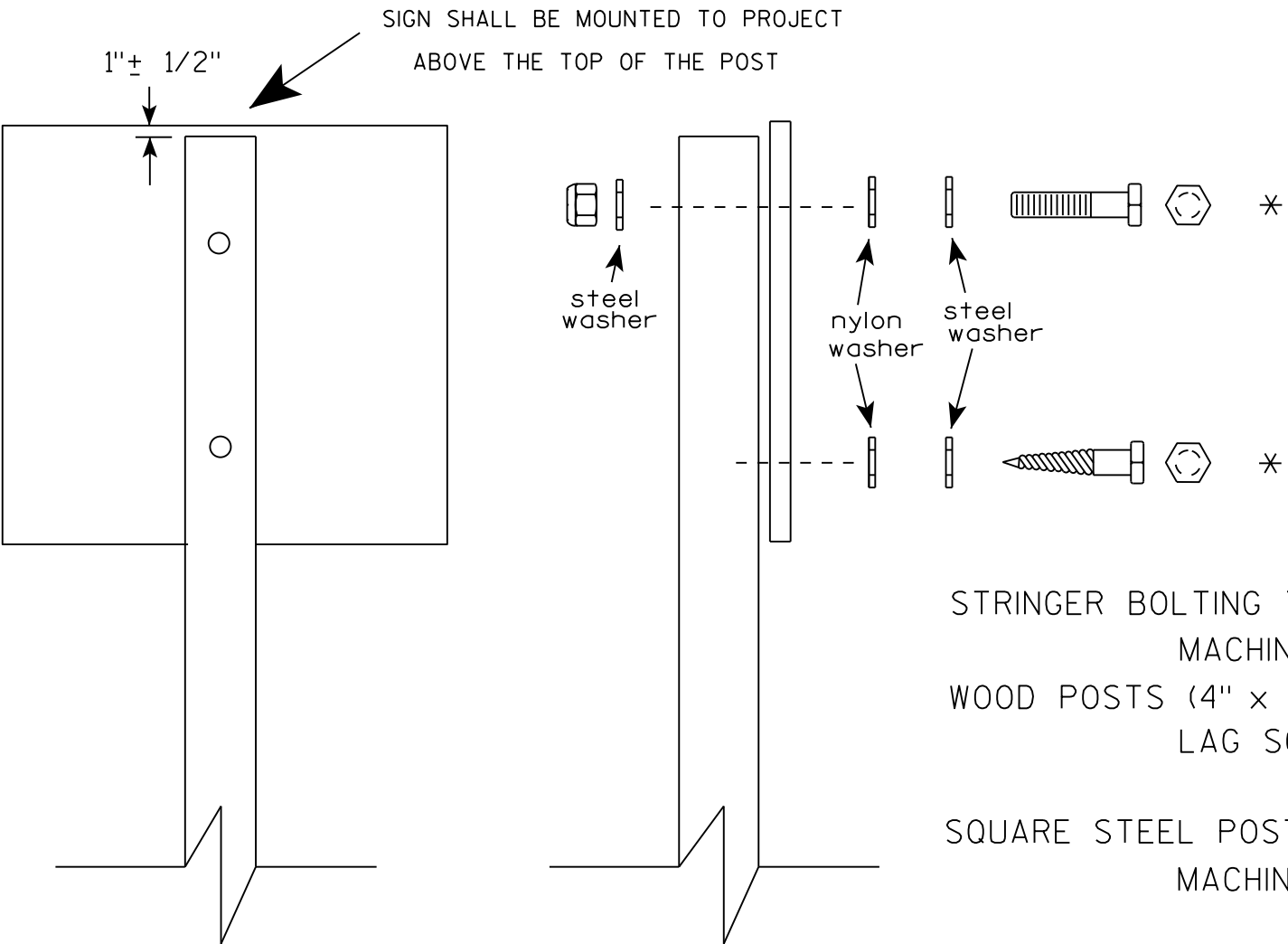
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15



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 - 5/16" X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
 - 3/8" X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 - 3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - 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 3/8" I.D. X 1/16" STEEL
 - 1-1/4" O.D. X 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 *Matthew R. Rauch*
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8

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

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

**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**

2 1/2" TELES PAR TUBE

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

4"

2 1/2"

10"

3 1/2"

16"

LENGTH SHOWN ON MISC. QTY'S

TELESCOPE PIECES FLUSH AT TOP

18" DIA SCHEDULE 40 PVC BOX-OUT

36"

18"

13"

2 1/2"

2 1/4" SQUARE X 36"

2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)

3/8" ZINC PLATED ANCHOR BOLT AND NUT

2 1/2" GRAVEL OR DIRT

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES

3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT

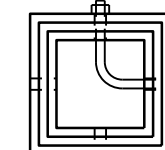
SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

SIGN

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY:

- Dimensions:**
 - Overall height: LENGTH SHOWN ON MISC. QTY'S
 - Section A-A: 36" (total), 18" (upper), 12" (lower)
 - Section B-B: 1"
- Components:**
 - SIGN
 - SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
 - 2" STEEL TUBULAR SQUARE UPPER SECTION
 - ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES
 - $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT
 - TELESCOPE PIECES FLUSH AT TOP
 - $\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT
 - 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
 - 2 1/4" SQUARE X 36"

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT



DIRECTION
OF TRAFFIC

SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch

for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

PROJECT NO:

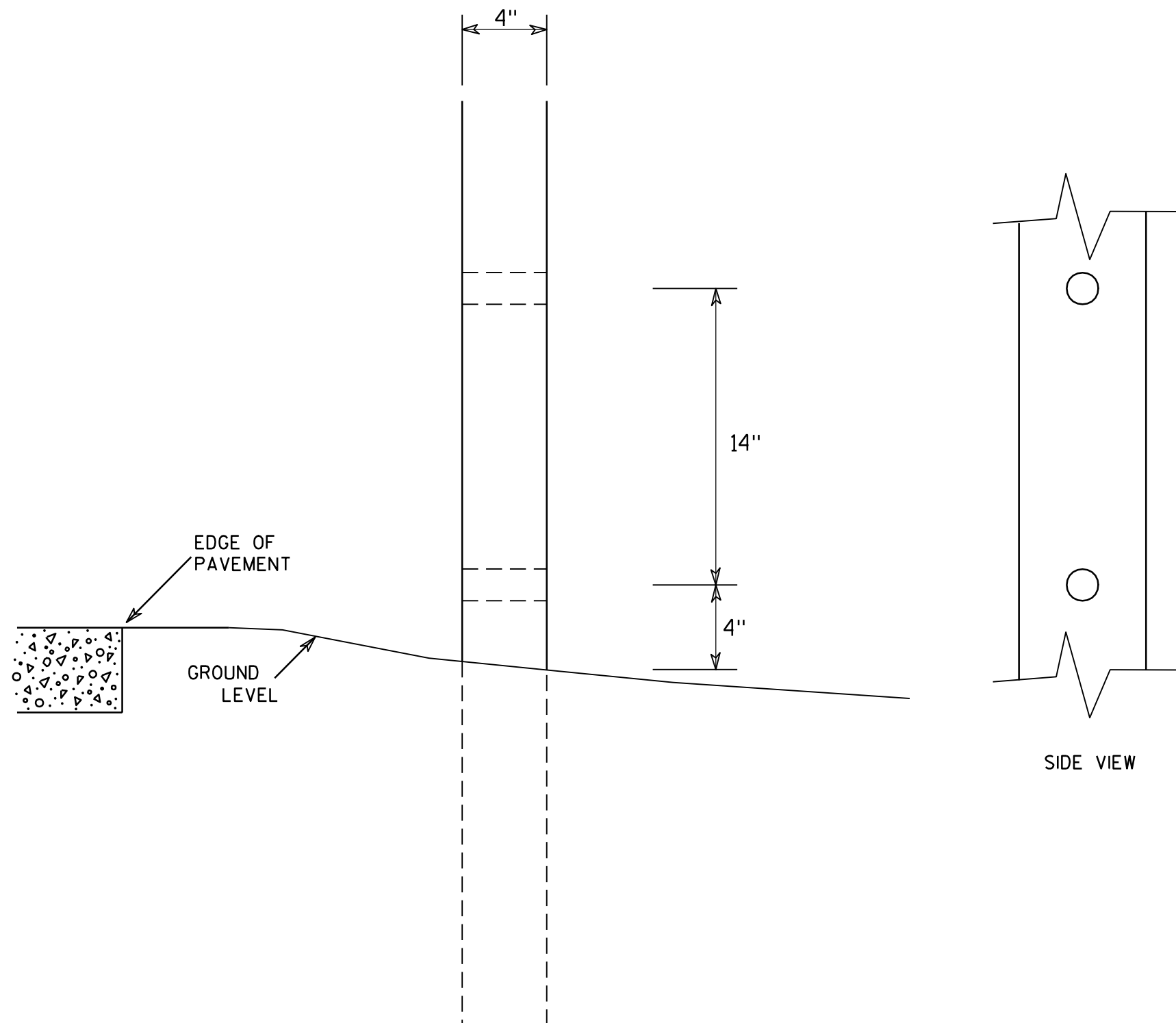
HWY:

COUNTY:

SHEET NO:

T

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:

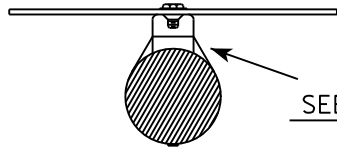
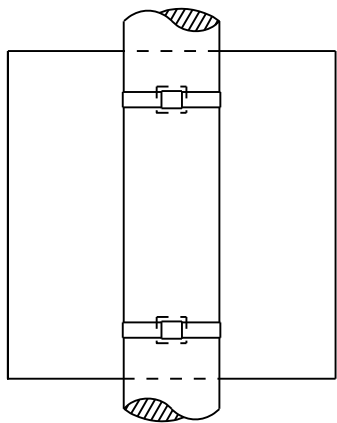
COUNTY:

SHEET NO:

E

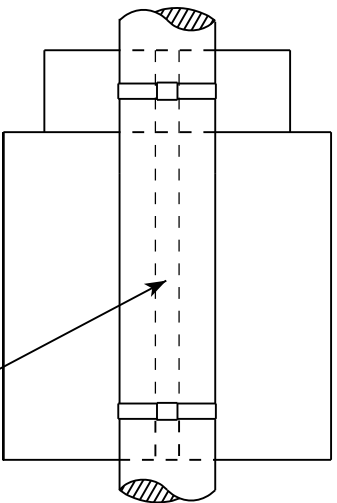
BANDING

SINGLE SIGN

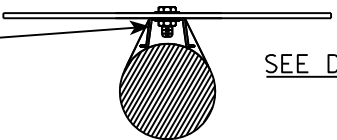


SEE DETAIL A

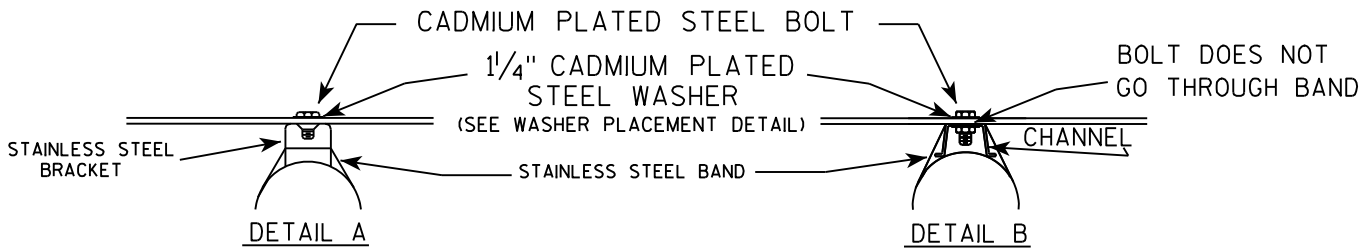
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



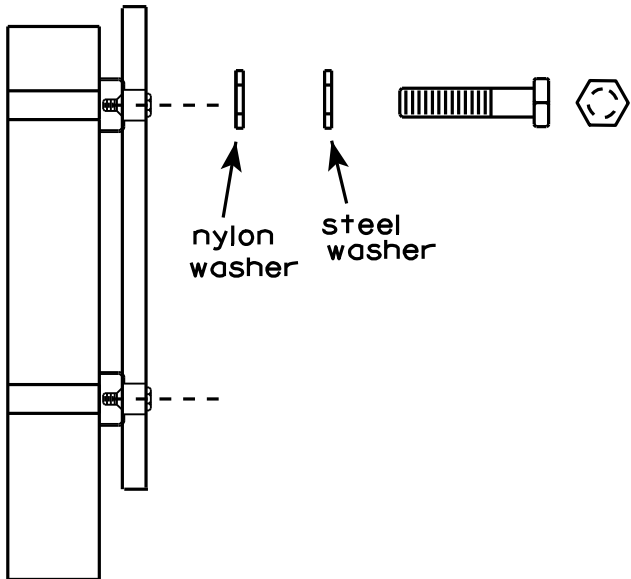
SEE DETAIL B



GENERAL NOTES

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

WASHER PLACEMENT



nylon washer

steel washer

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

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 8/16/13

PLATE NO. A5-9.3

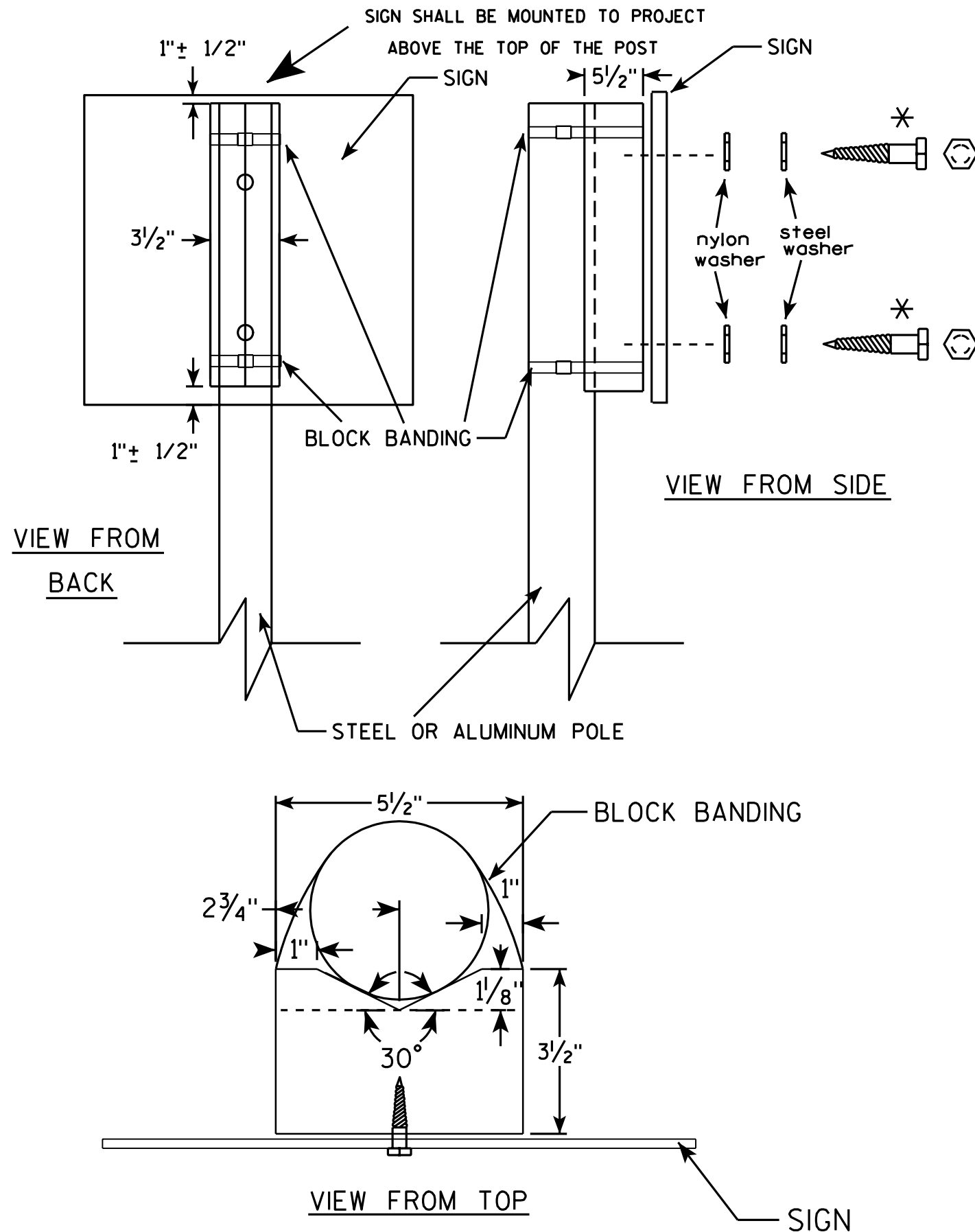
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



GENERAL NOTES

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

✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

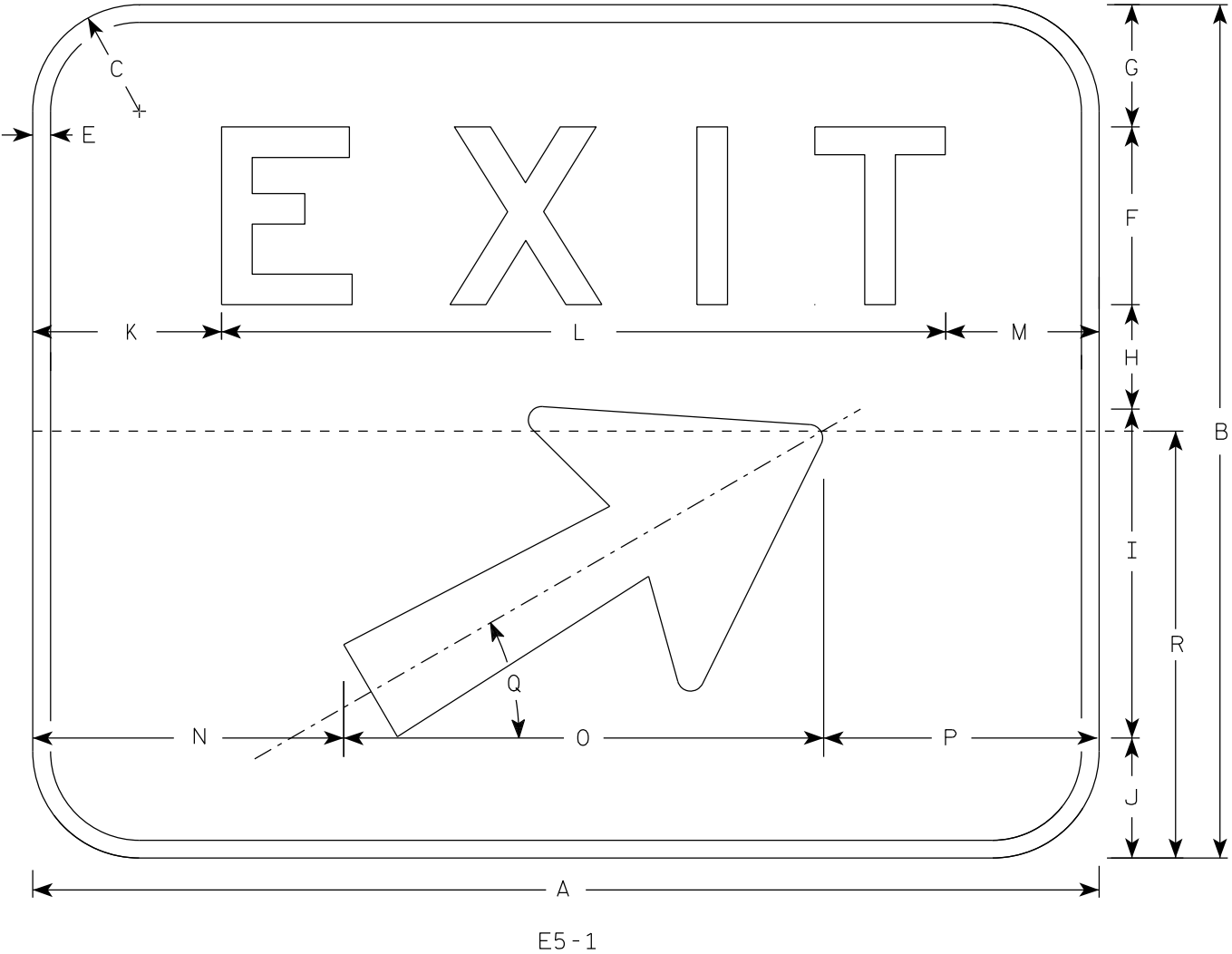
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO:

SHEET NO:

E



NOTES

- 1. Sign is Type II - Type H reflective
- 2. Color:
Background - Green
Message - White
- 3. Message Series - E
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. When Base material for this sign is plywood sign shall be split into two separate pieces for the 72 x 60 size as shown on the detail by the dashed line (-----).
- 6. Arrow is Type "A" from sign plate A1-1.
- 7. As per the Standard Spec's, this sign shall not have a vertical joint.
- 8. Size 3 E5-1 shall only be used in a Work Zone application with a Temporary Sign Support

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																											
3	48	48	6		1	10	6 7/8	5 7/8	18 1/2	6 3/4	8 1/2	31 1/8	8 3/8	11 1/2	27	9 1/2	30°	30									16.0
4	60	48	6		1	10	6 7/8	5 7/8	18 1/2	6 3/4	10 5/8	40 3/4	8 5/8	17 1/2	27	15 1/2	30°	30									20.0
5	72	60	6		1	12	9 3/4	10	18 1/2	9 3/4	13 1/4	48 1/2	10 1/4	23 1/2	27	21 1/2	30°	30									30.0

STANDARD SIGN

E5-1

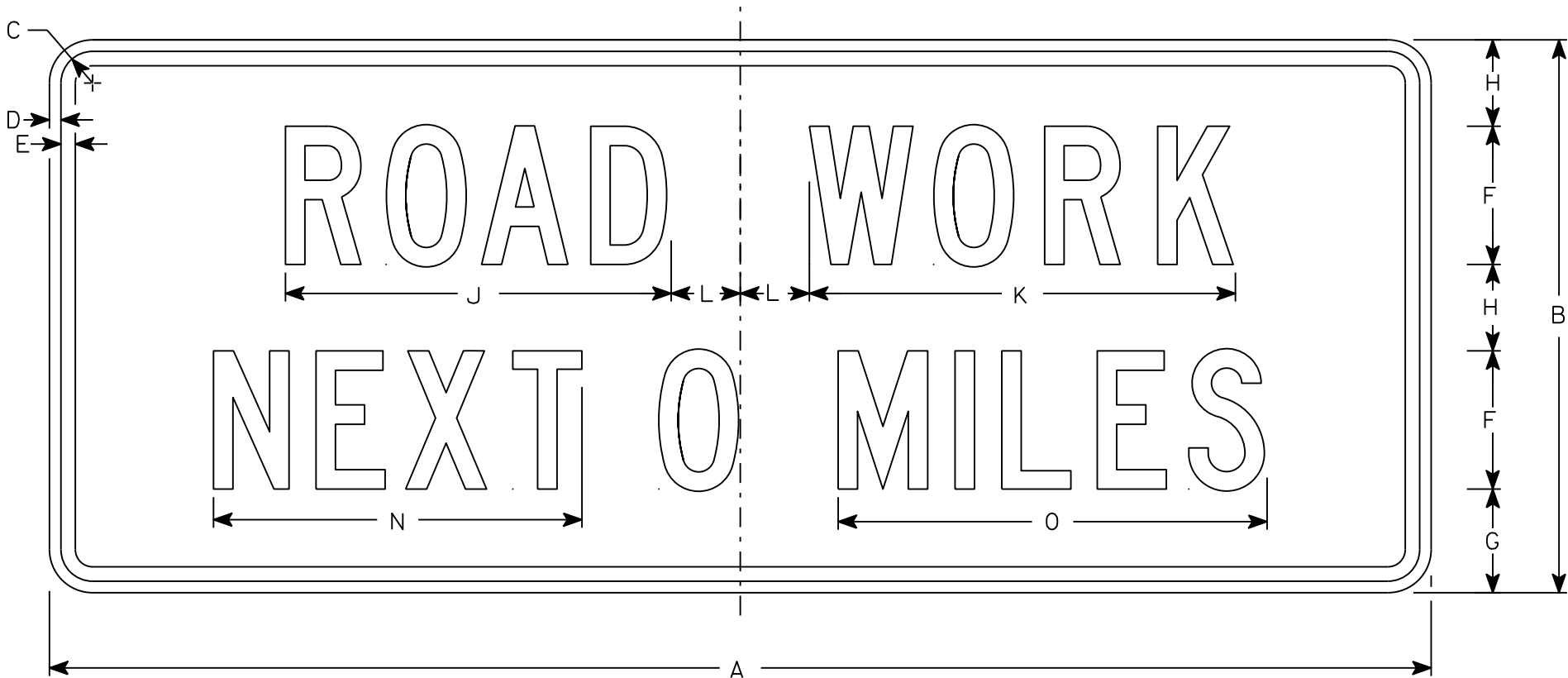
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
For State Traffic Engineer

DATE 7/26/18

PLATE NO. E5-1.10



G20-1

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance

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	60	24	1 3⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10
3																											
4	60	24	1 3⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10
5																											

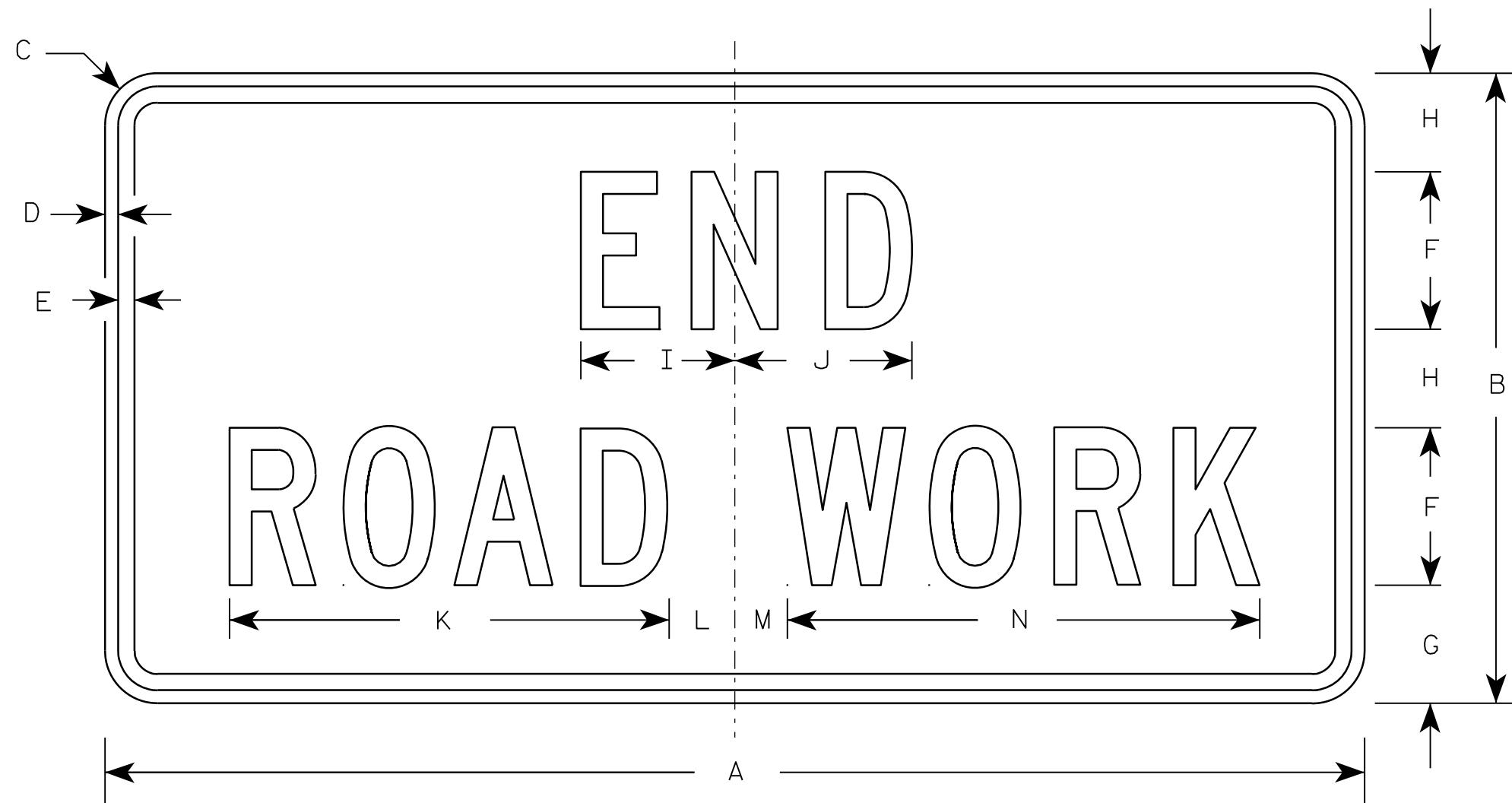
STANDARD SIGN
G20-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/14/17 PLATE NO. G20-1.8

7



G20-2A

Metric equivalent
for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area sq. m.
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
Message - Black
- Message Series - C
- 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

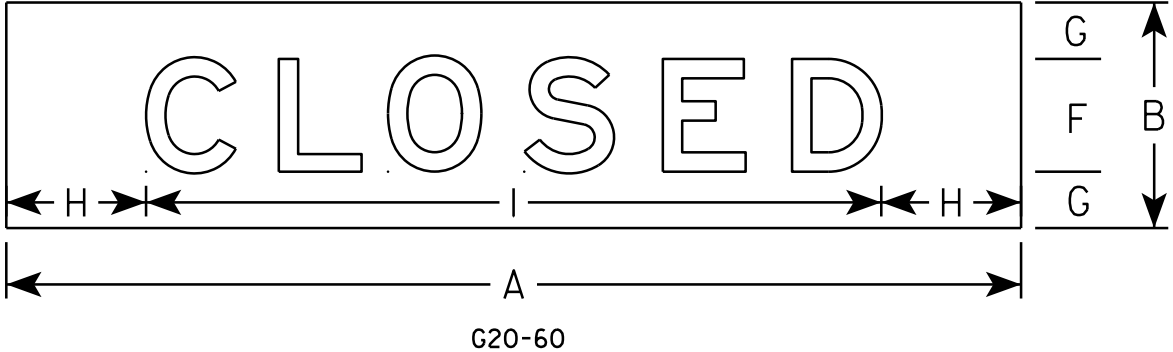
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



NOTES

- 1. Sign is Type II- Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - E
- 4. Material shall be .040 aluminum

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3																											
4	108	24				12	6	14 7/8	78 1/4																		18.0
5																											

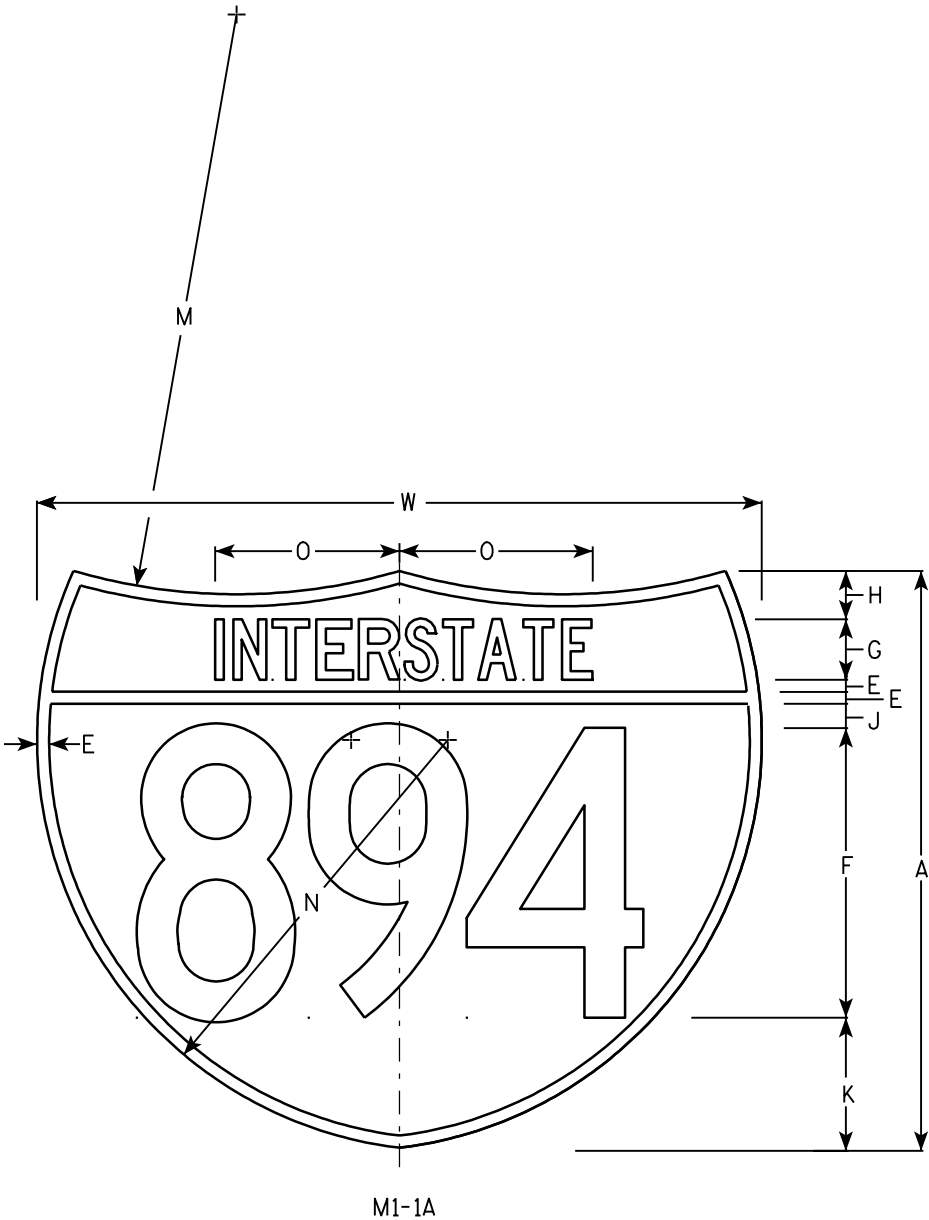
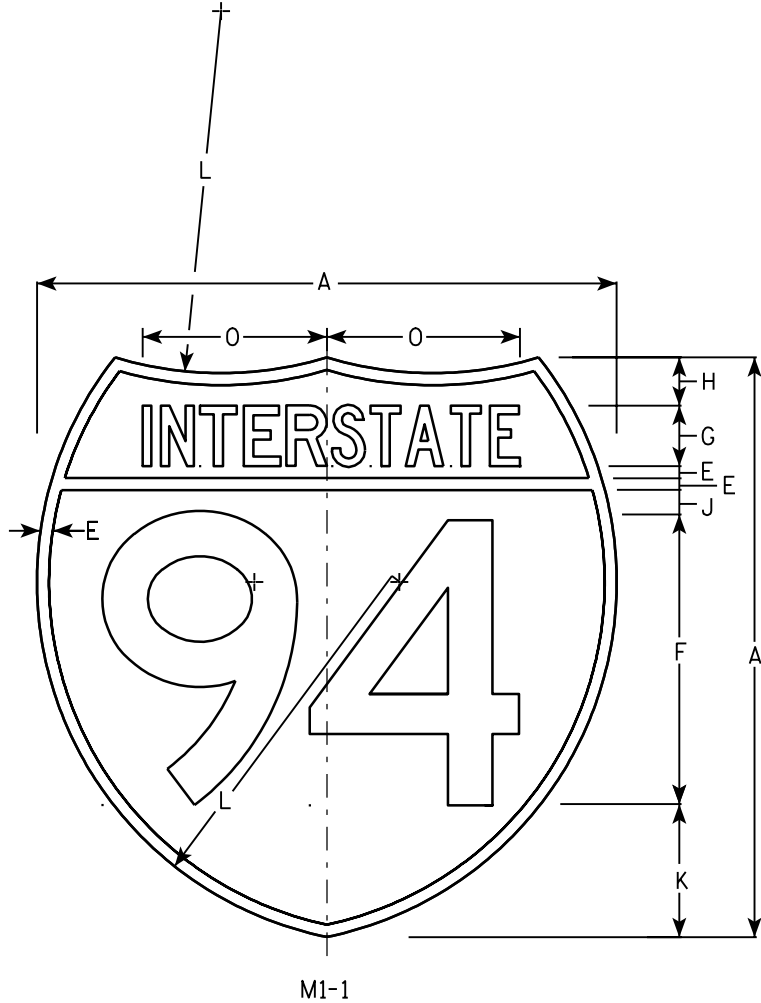
STANDARD SIGN

G20-60

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/13/15 PLATE NO. G20-60.1



NOTES

- 1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Top Red - Bottom Blue (See Note 6)
Message - White - See Note 6
- 3. Message Series - See note 5
- 4. Substitute appropriate numerals & adjust spacing as per plate A10-1.
- 5. M1-1 - Numerals - D
Interstate - C
M1-1A - All copy - C
- 6. Permanent Signs
Message - Type H Reflective
Detour or other temporary signs
Background - Reflective
Message - Reflective

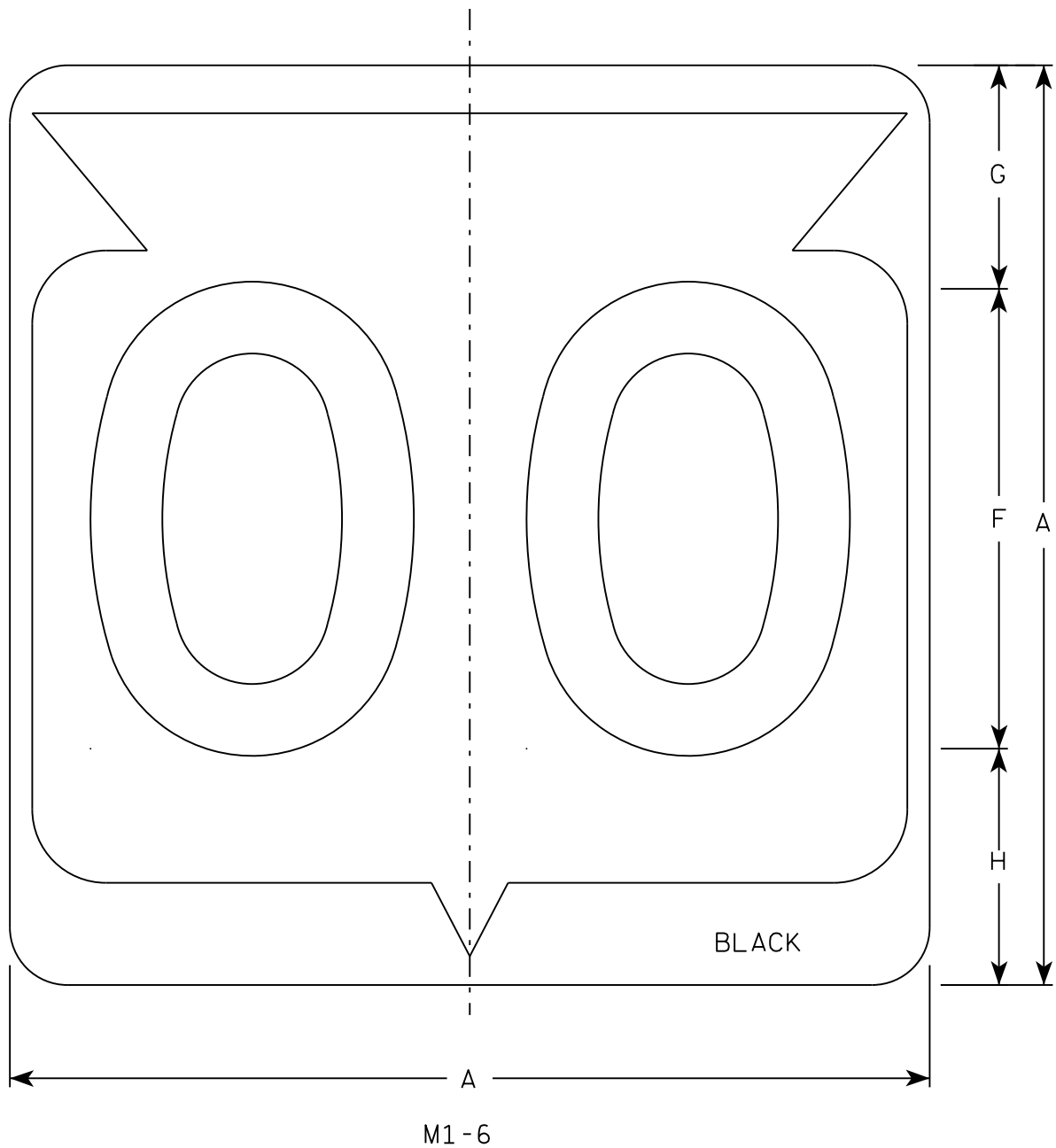
Metric equivalent for these signs are:

SIZE	M1 - 1	SIZE	M1 - 1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Area sq. ft.	Area sq. ft.	Area m ²	Area m ²
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

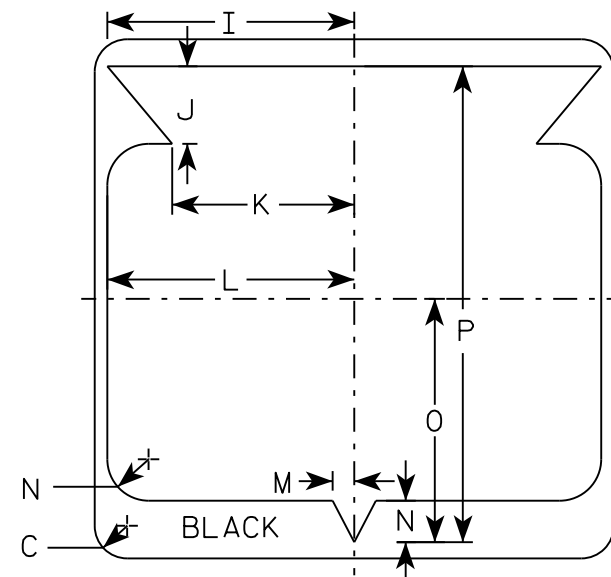
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 08/23/05 PLATE NO. M1-1.8



NOTES

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



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

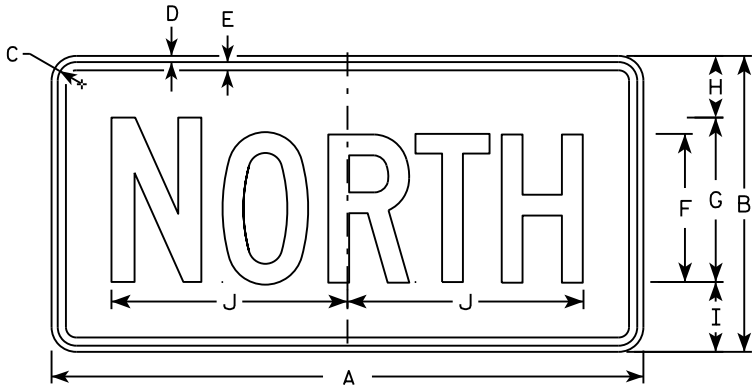
STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 3/16/18 PLATE NO. M1-6.10

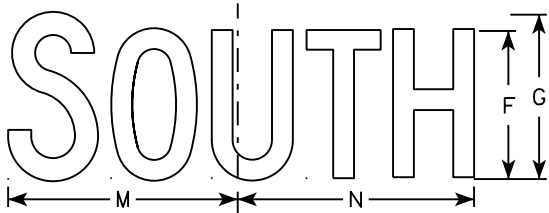
PROJECT NO: HWY: COUNTY: SHEET NO: E



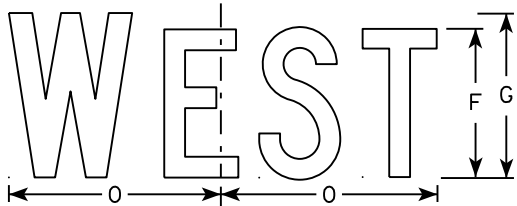
M3-1
MM3-1
MP3-1



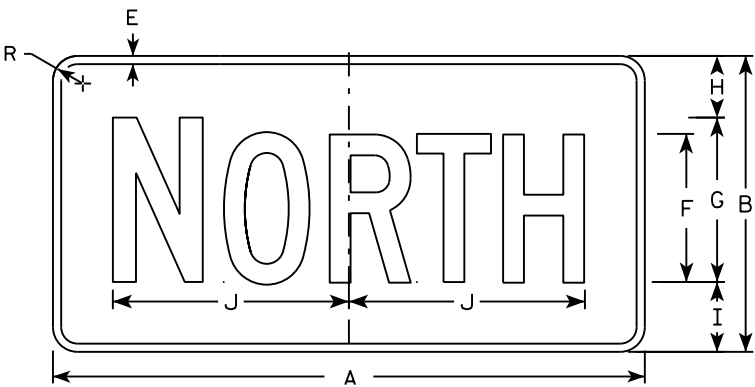
M3-2
MM3-2
MP3-2



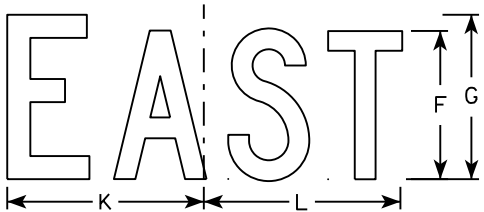
M3-3
MM3-3
MP3-3



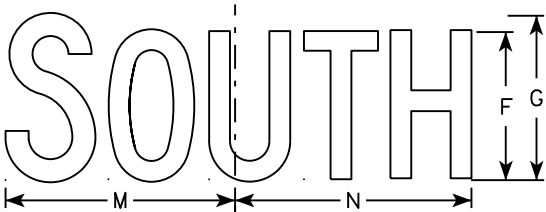
M3-4
MM3-4
MP3-4



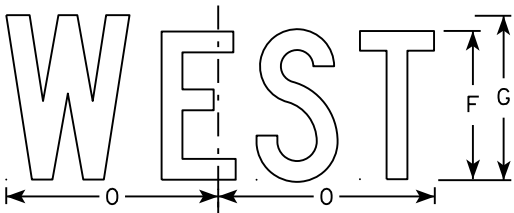
MB3-1
MK3-1
MN3-1



MB3-2
MK3-2
MN3-2



MB3-3
MK3-3
MN3-3



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White
MK3-1 thru MK3-4 Background - Green
Message - White
MM3-1 thru MM3-4 Background - White
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White
MP3-1 thru MP3-4 Background - White
Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

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

STANDARD SIGNS
M3-1 thru M3-4
SERIES

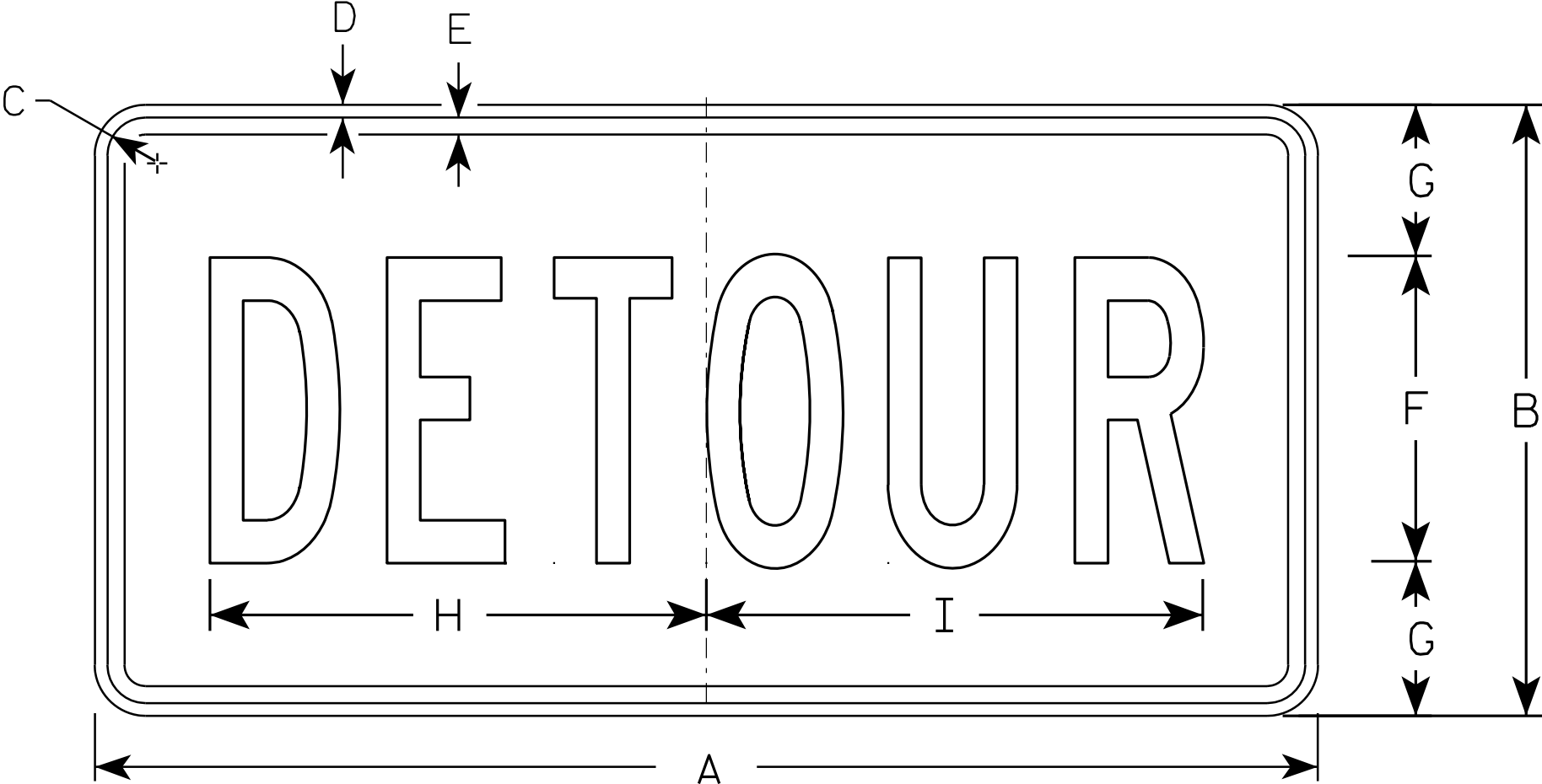
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M3-1.14

NOTES

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



M4 - 8

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

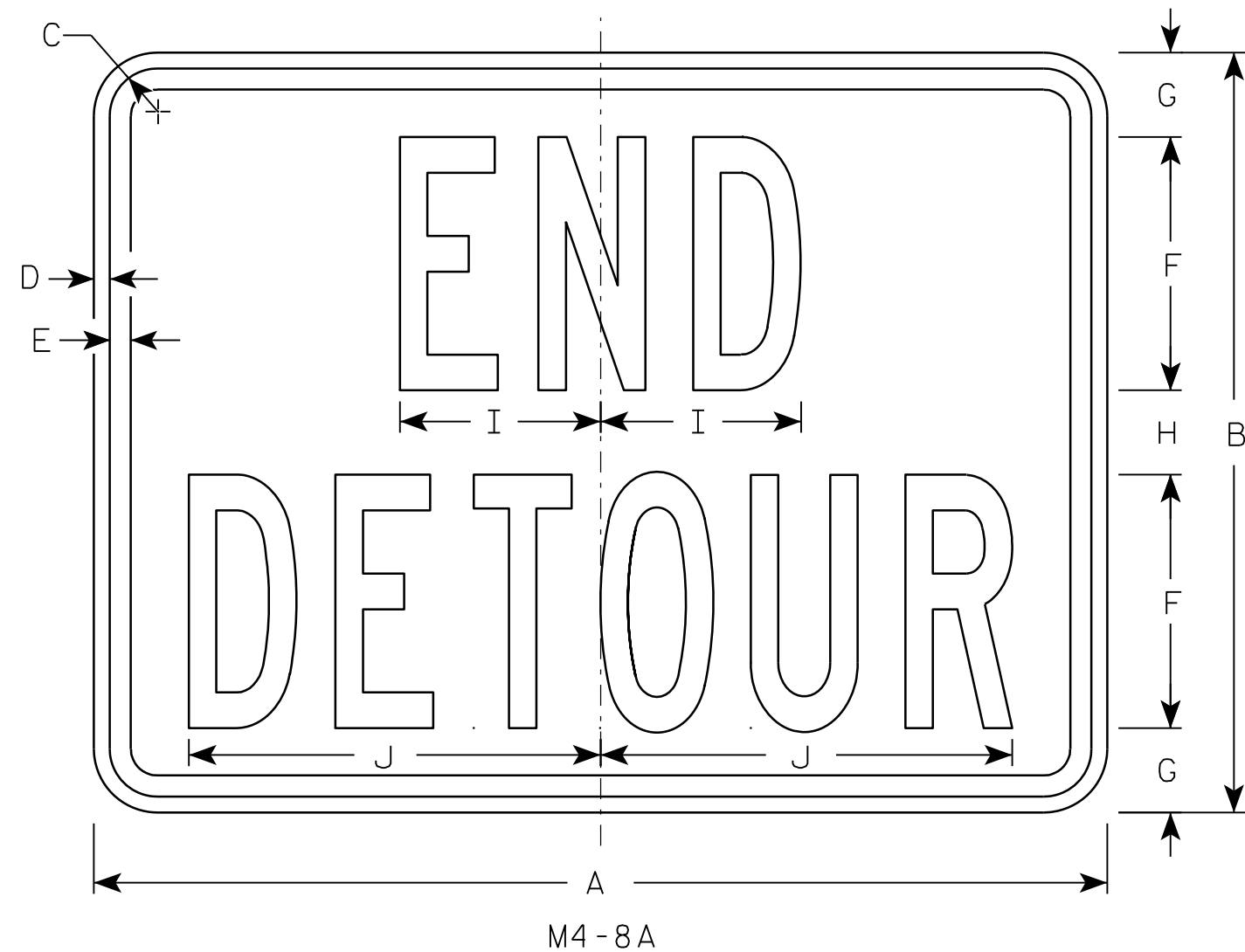
STANDARD SIGN
M4 - 8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

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

7



NOTES

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

7

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

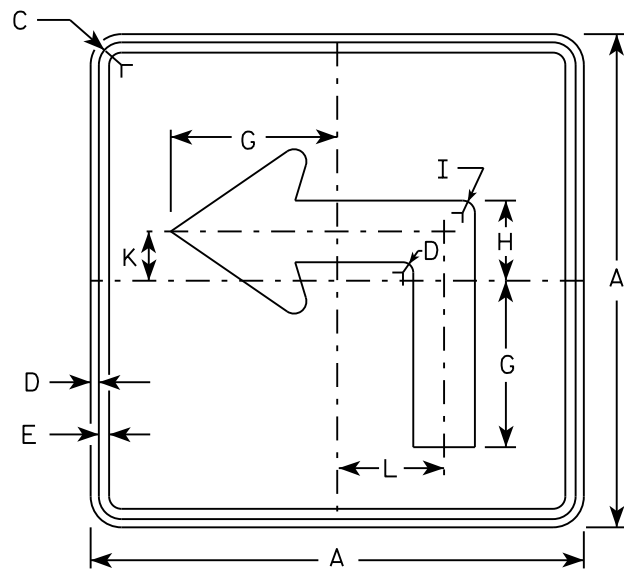
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E
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STANDARD SIGN
M4-8A

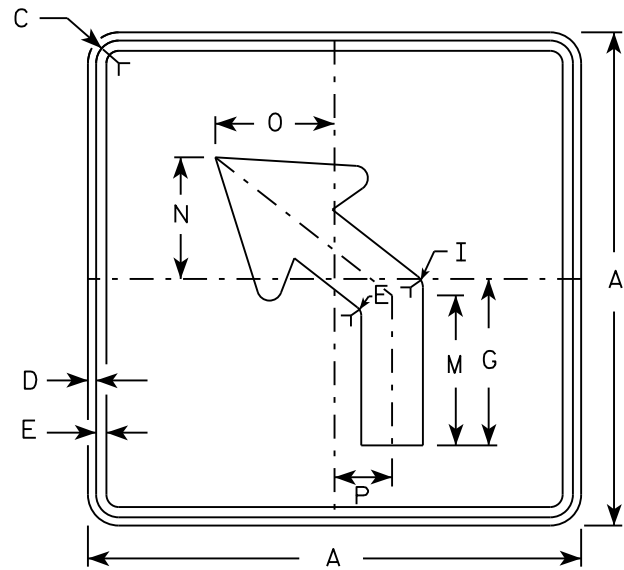
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

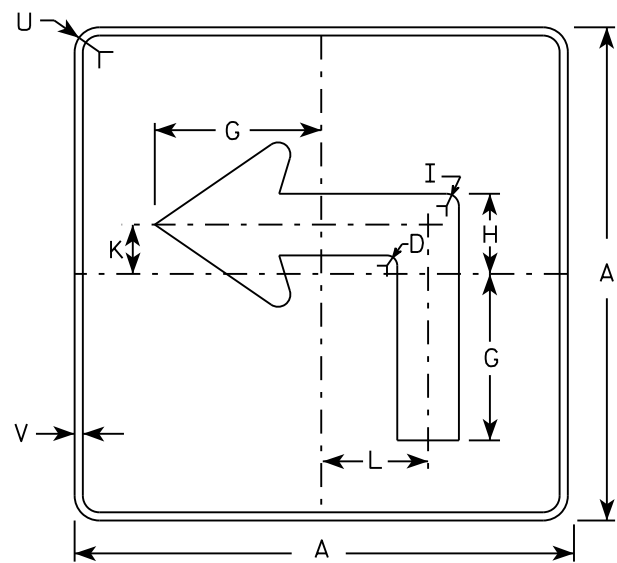
DATE 3/9/11 PLATE NO. M4-8A.2



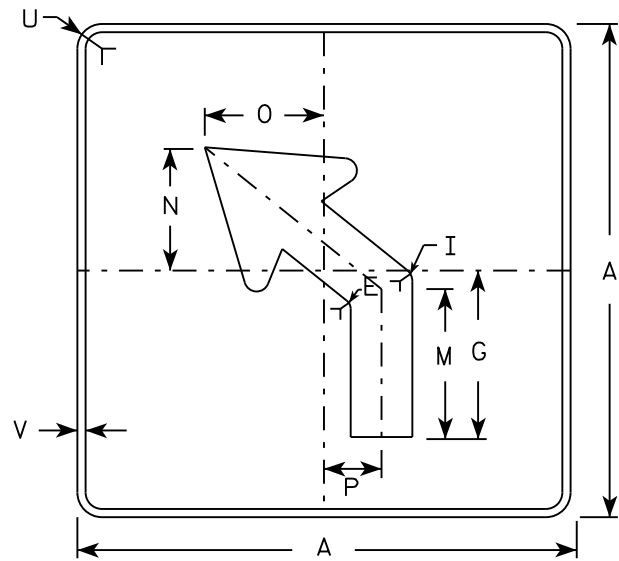
M5-1L
MM5-1L
M05-1L
MP5-1L



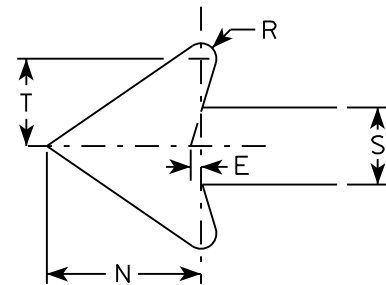
M5-2L
MM5-2L
M05-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



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 - Type H Reflective |
| | 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.

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

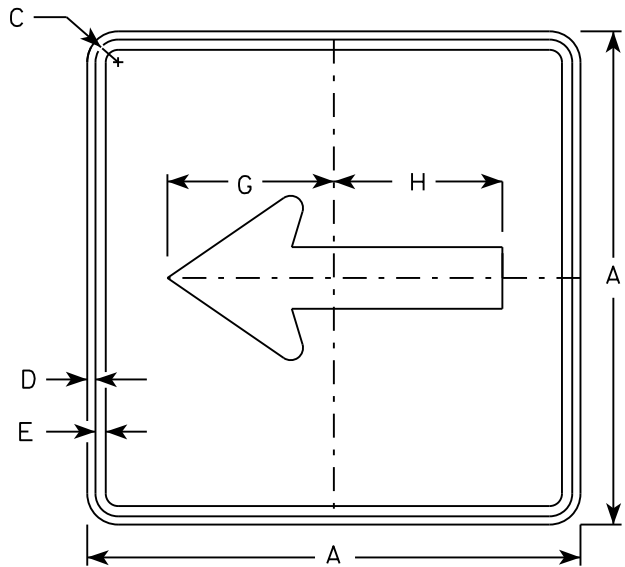
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN
M5-1 & M5-2

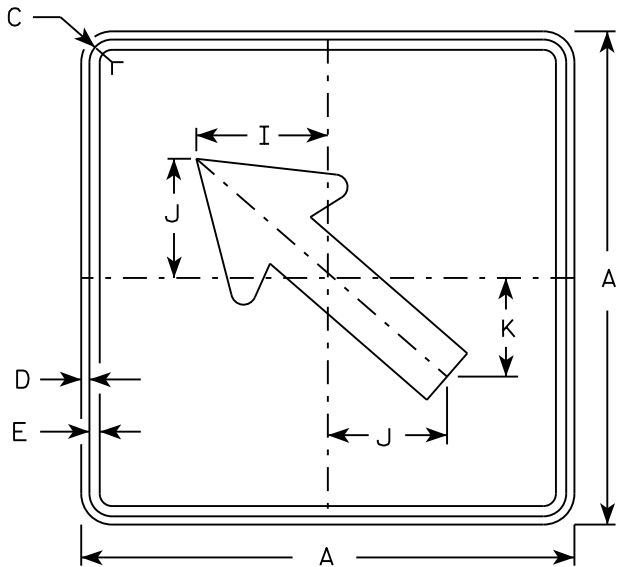
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

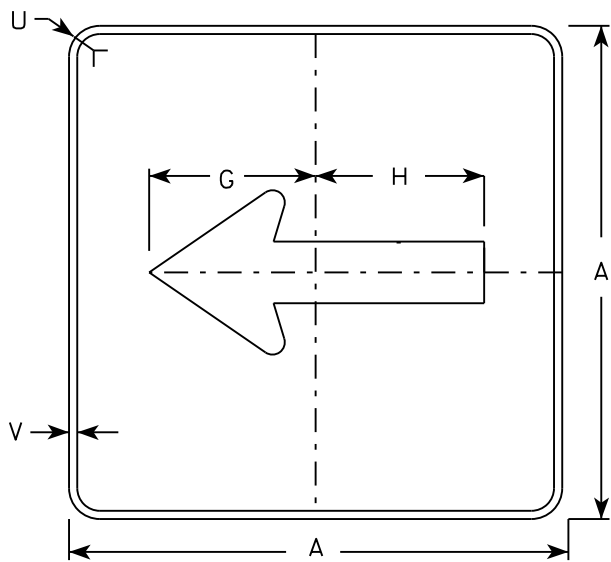
DATE 10/15/15 PLATE NO. M5-1.13



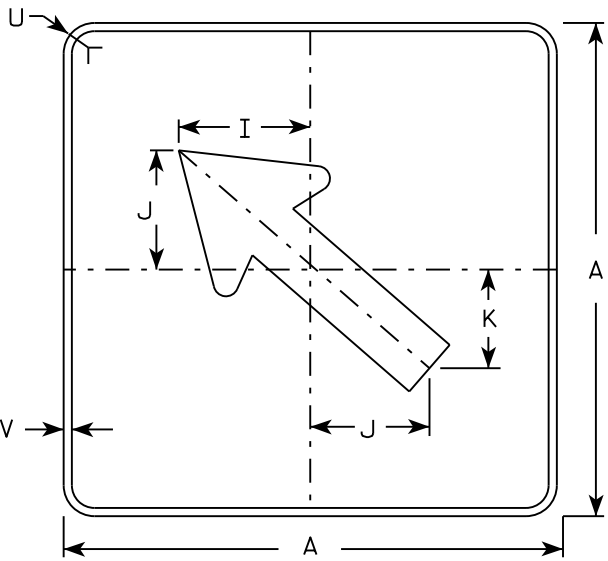
M6 - 1
MM6 - 1
M06 - 1
MP6 - 1



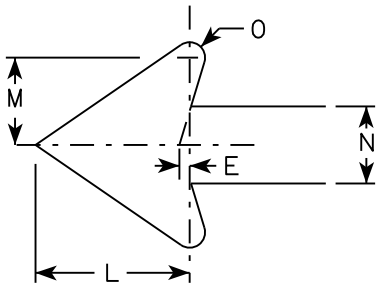
M6 - 2
MM6 - 2
M06 - 2
MP6 - 2



MB6 - 1
MK6 - 1
MN6 - 1
MR6 - 1



MB6 - 2
MK6 - 2
MN6 - 2
MR6 - 2



NOTES

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

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

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

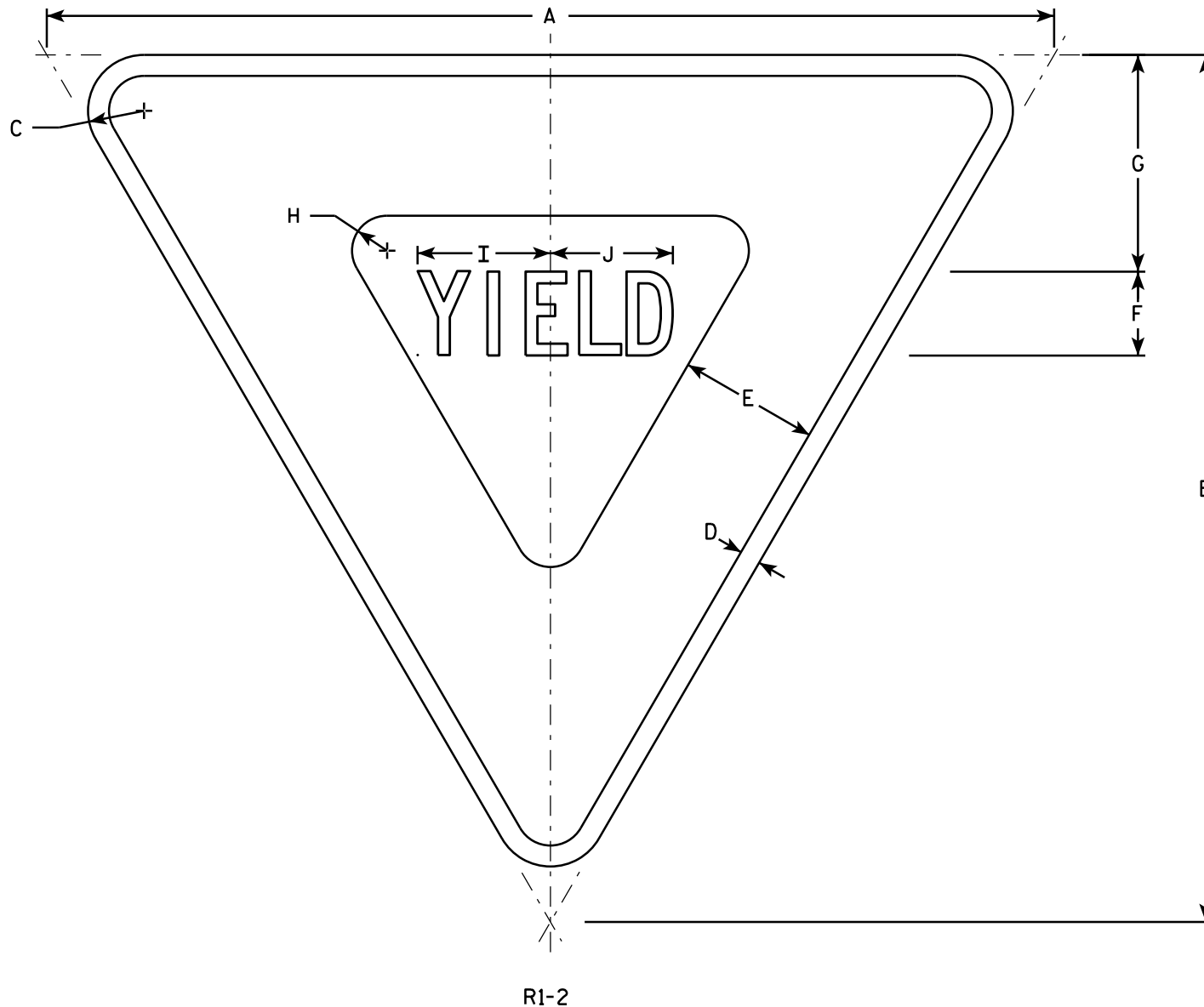
E

STANDARD SIGN
M6 - 1 & M6 - 2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-1.15



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The border strip and word message are reflectorized red.

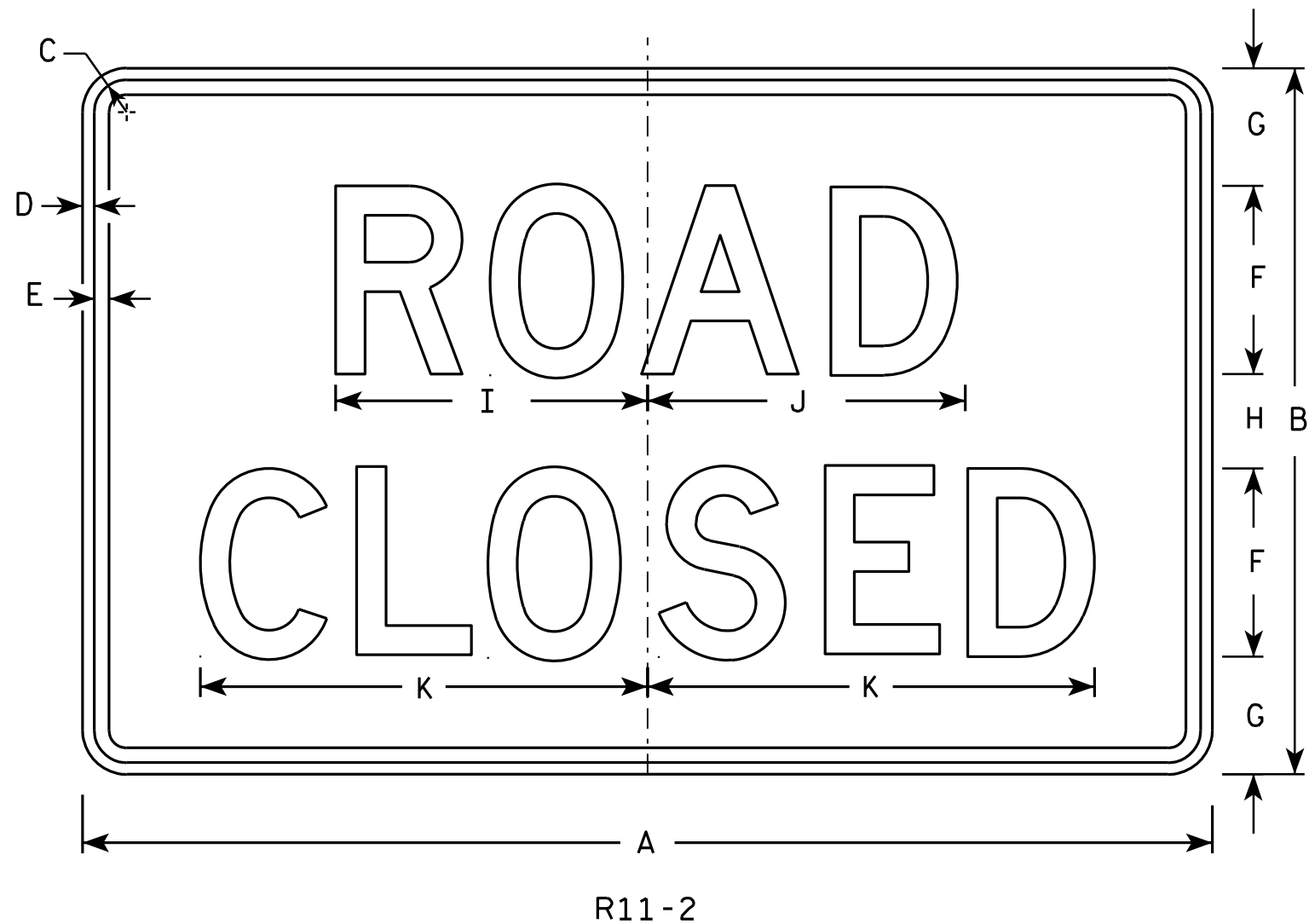
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

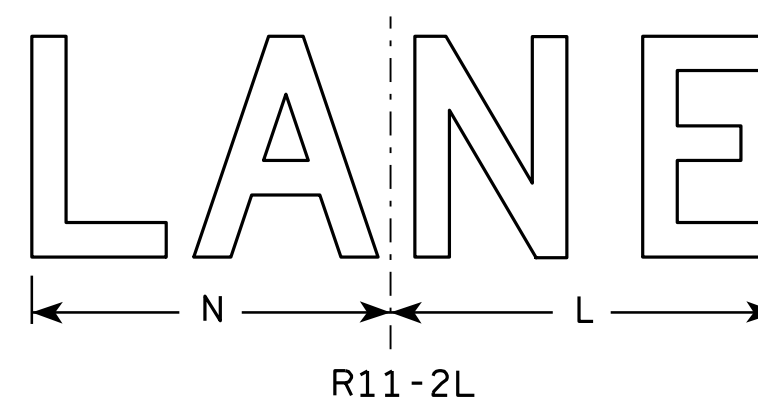
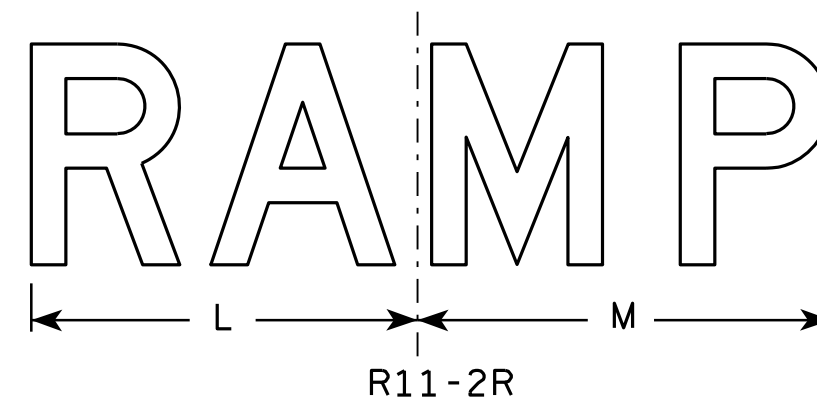
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/13/14 PLATE NO. R1-2.12



NOTES

- Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - White
Message - Black
- Message Series - D
- 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.
- Modify the message as required.



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 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
2M	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
3	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
4	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
5	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0

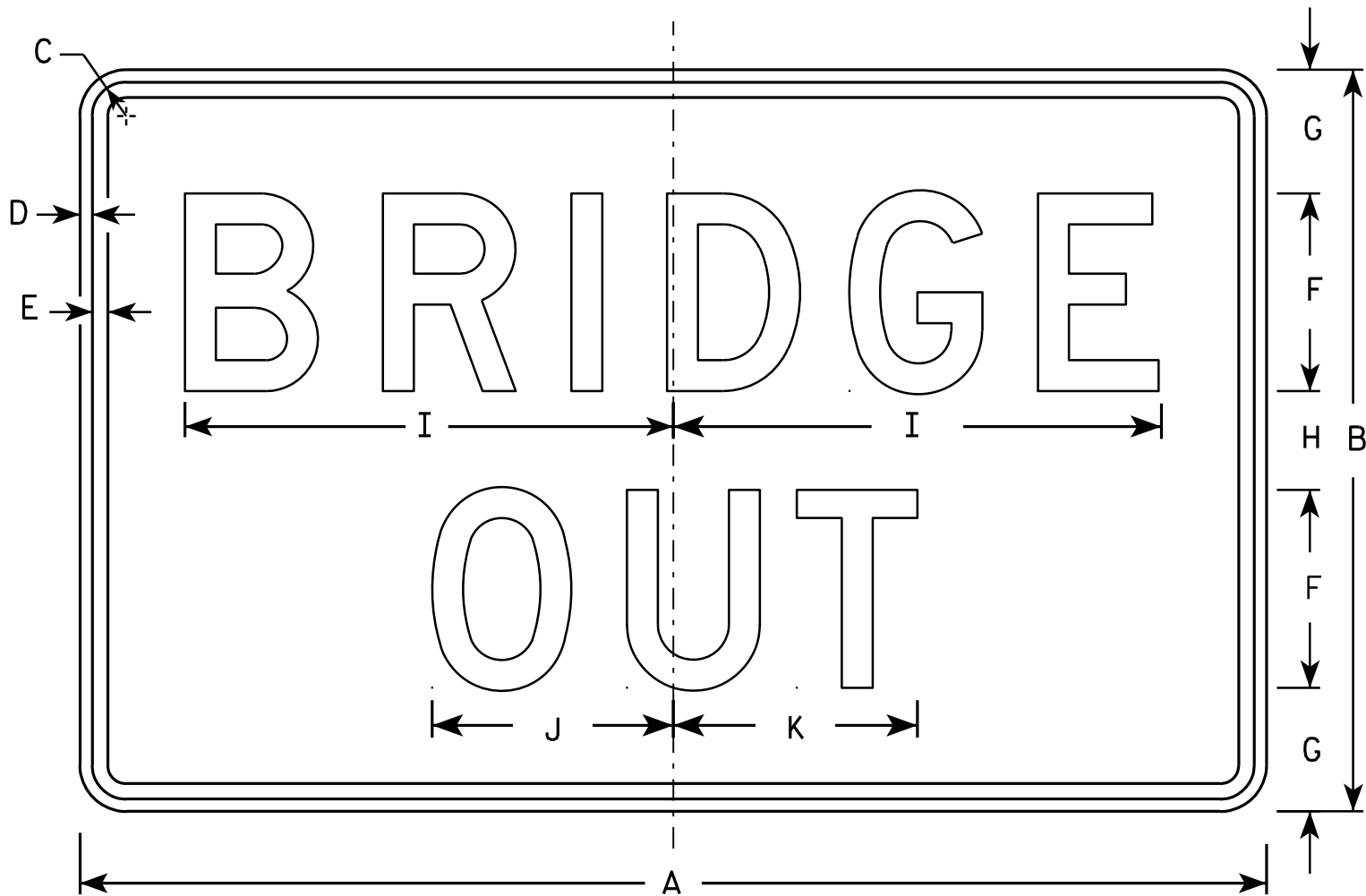
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO: HWY: COUNTY: SHEET NO: E

NOTES

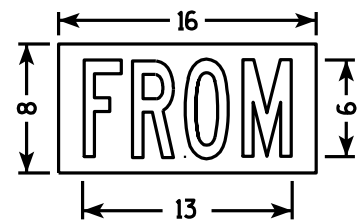
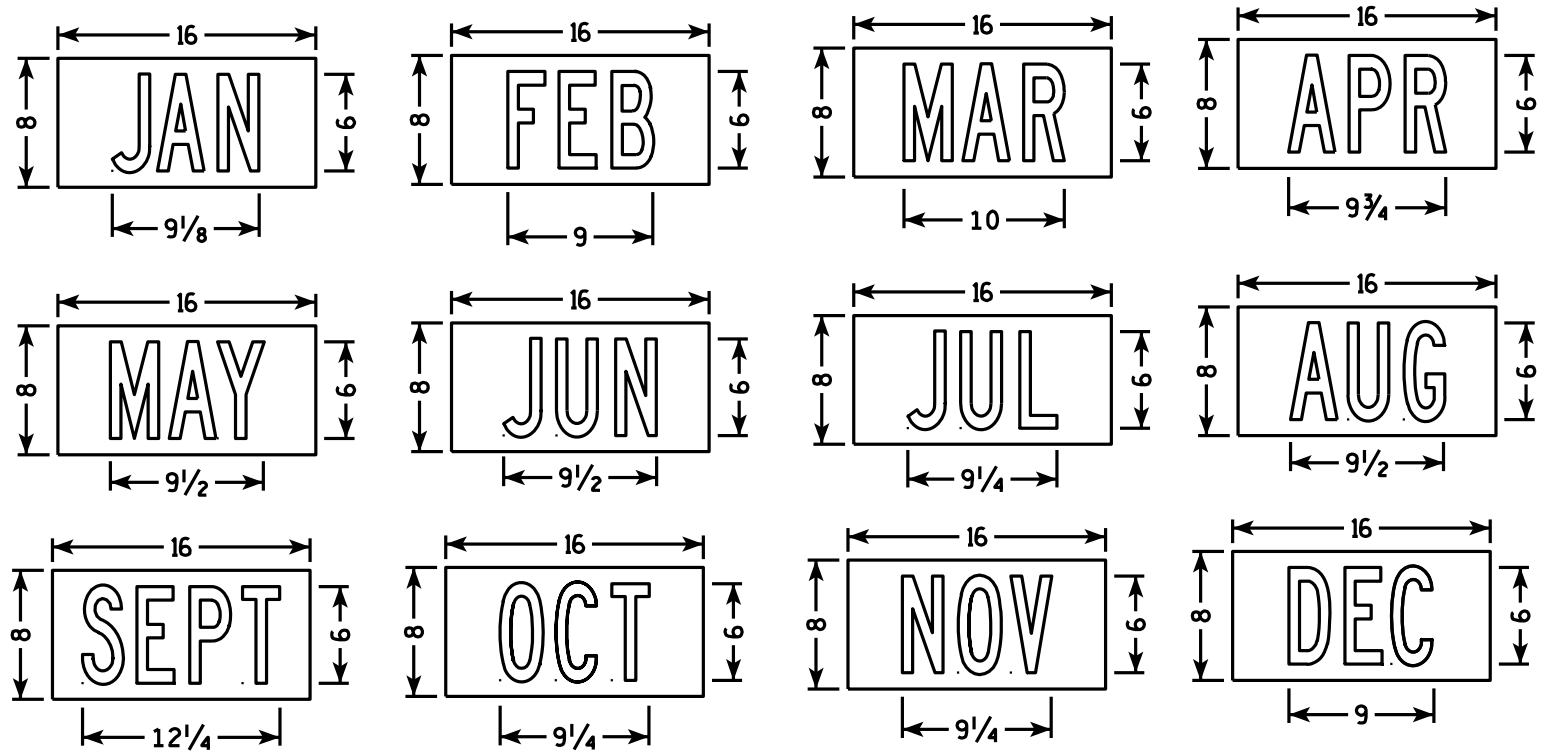
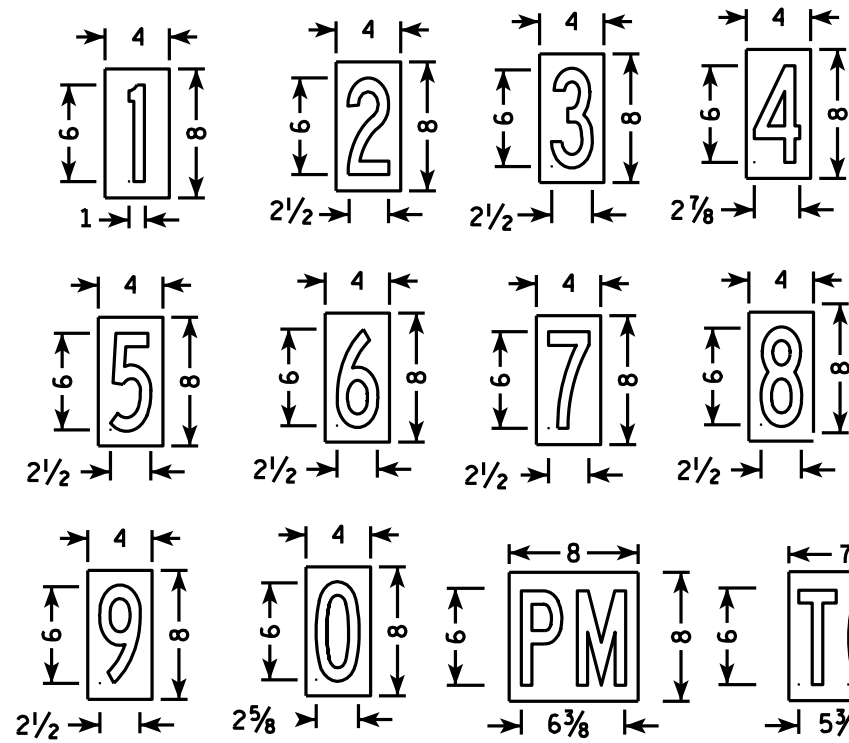
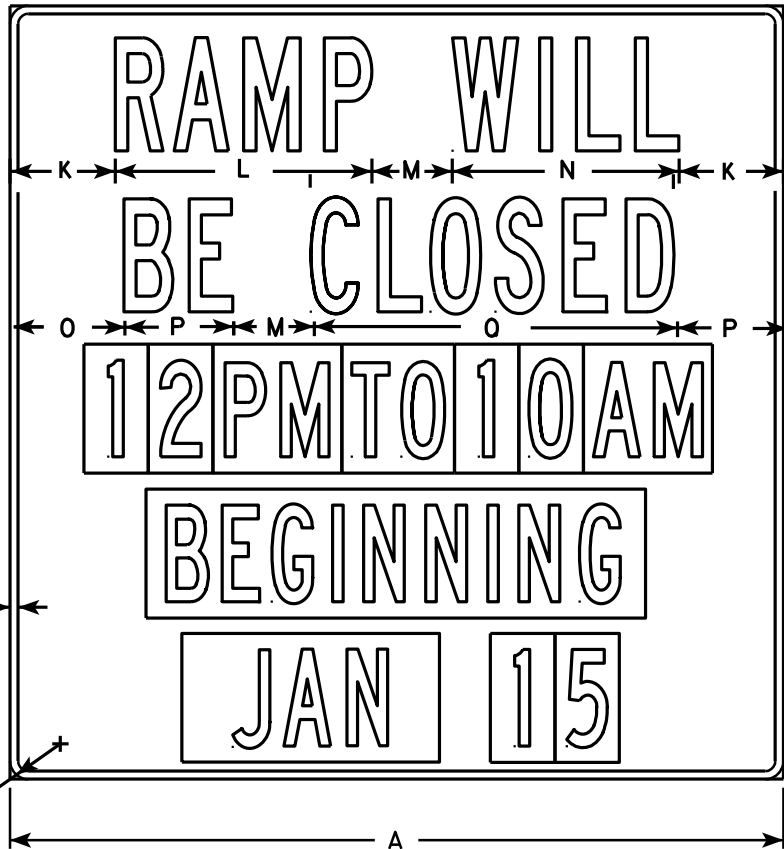
- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but borders shall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



R11-2B

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 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN	
R11-2B	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/11	PLATE NO. R11-2B.2



NOTES

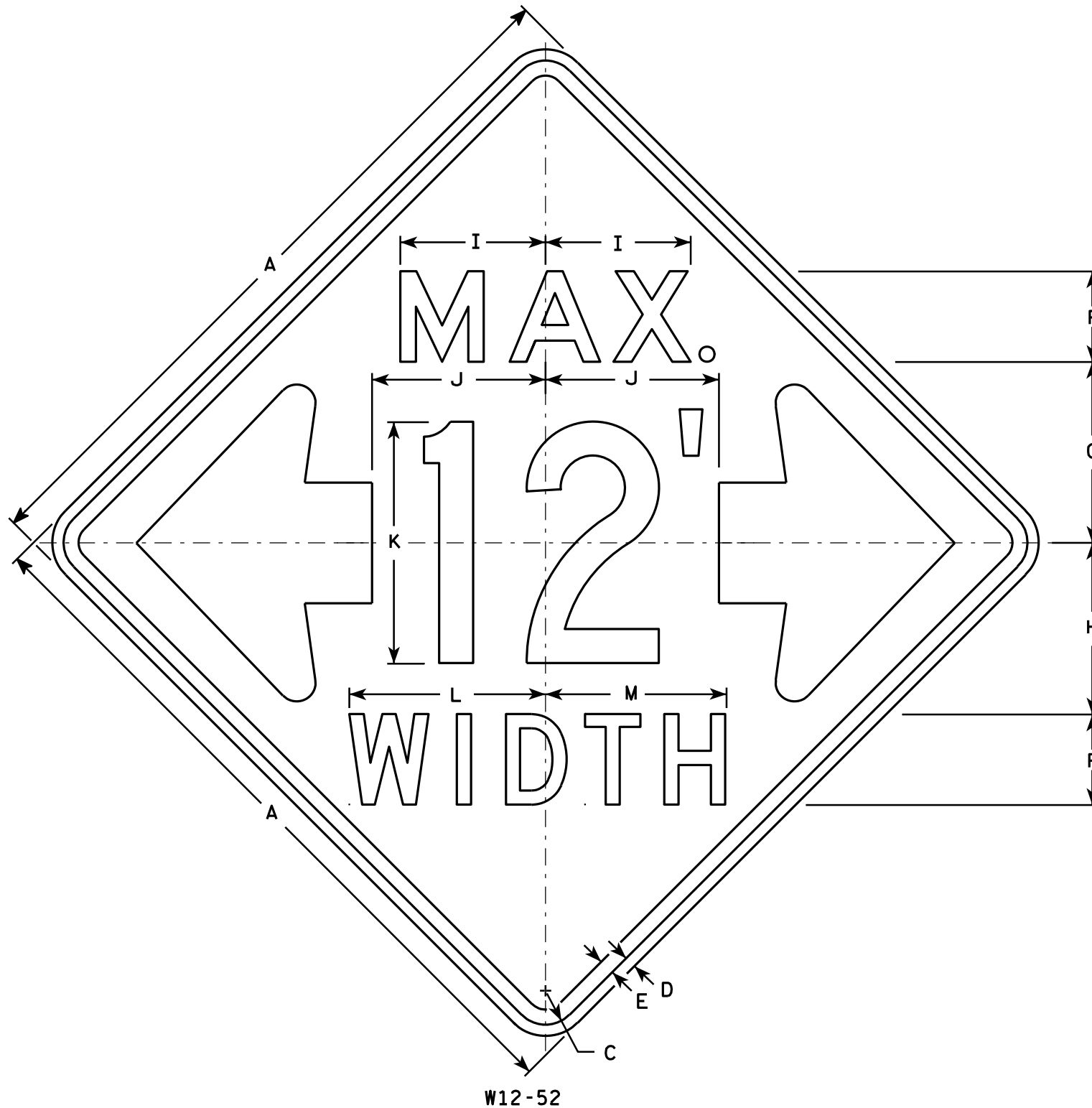
- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - White
Message - Black
- 3. Message Series - B
- 4. Message plaques consist of Type H Reflective sheeting with the appropriate non-reflective black message applied to .040 aluminum and screwed to the base sign.

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		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
2M	48		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
3																											
4																											
5																											

STANDARD SIGN
R11-51

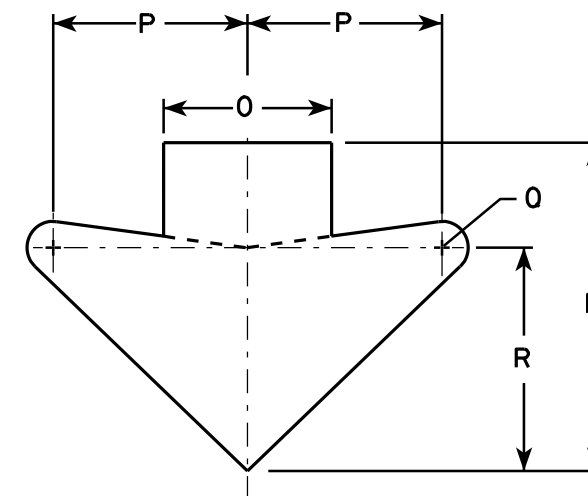
WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 4/1/11 PLATE NO. R11-51.4

PROJECT NO: HWY: COUNTY: SHEET NO: E



NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 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.
- The top line is series E, the numerals are series C, and the bottom line is series D.
- Substitute appropriate numerals and adjust spacing as required.



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	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
2M	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
3																											
4																											
5																											

STANDARD SIGN W12-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
For State Traffic Engineer

DATE 3/16/11 PLATE NO. W12-52.7

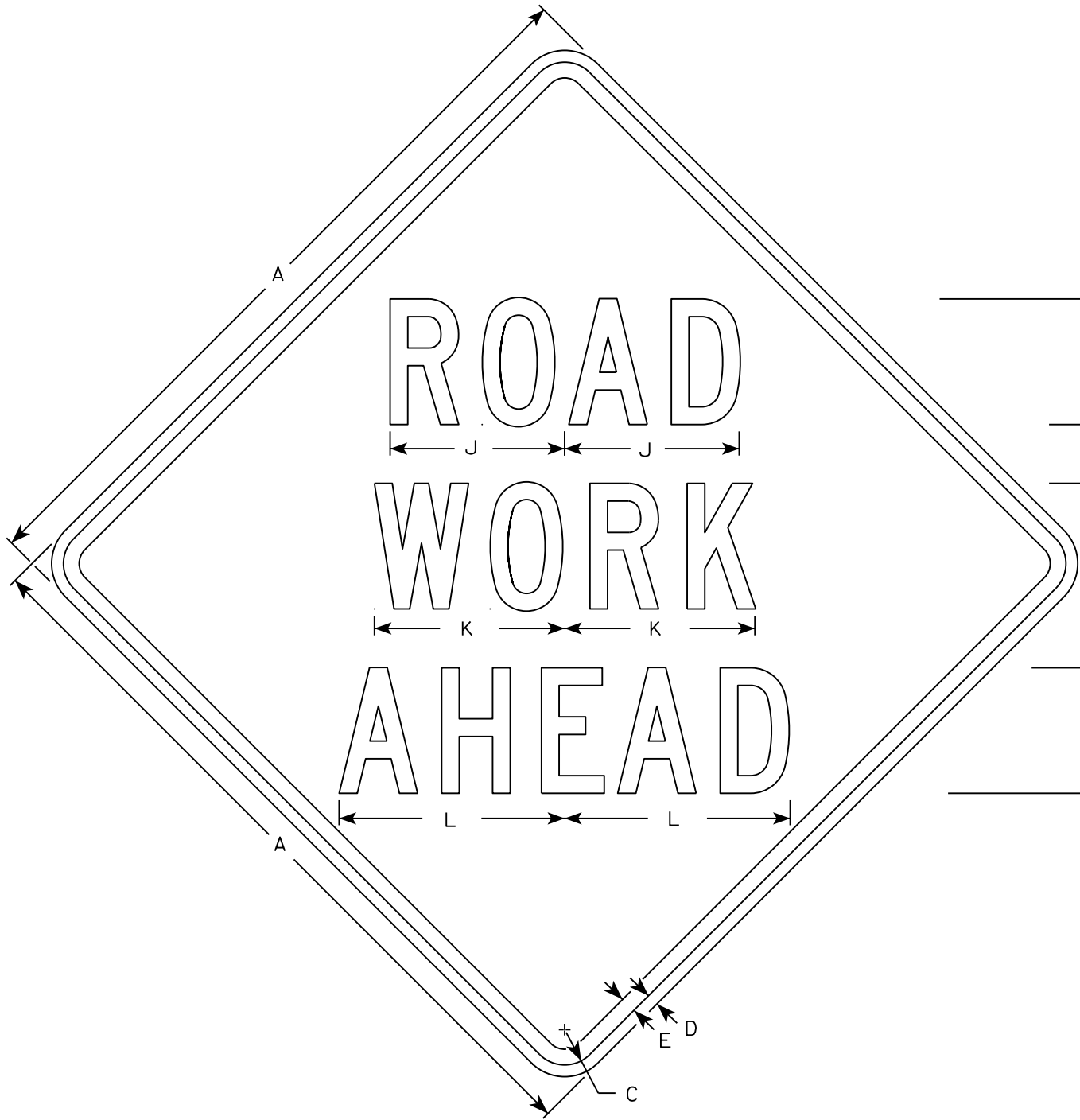
PROJECT NO:

HWY:

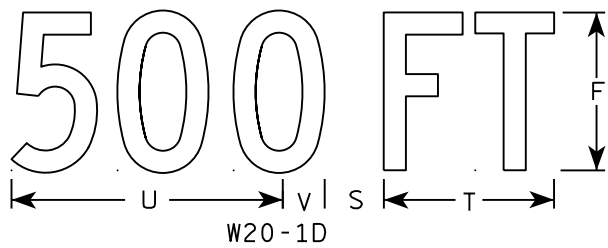
COUNTY:

SHEET NO:

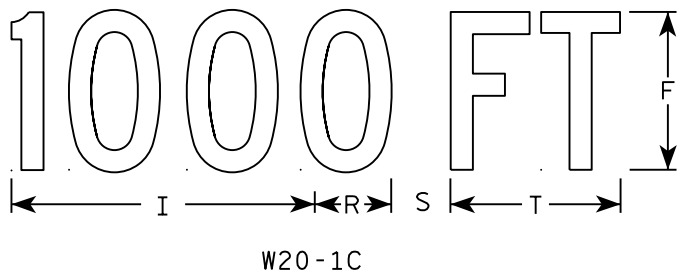
E



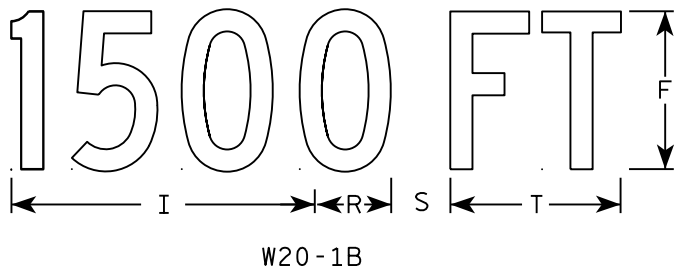
W20-1A



W20-1D



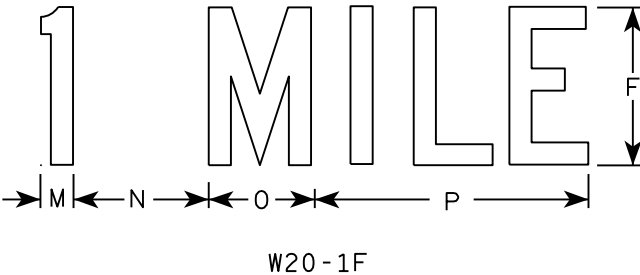
W20-1C



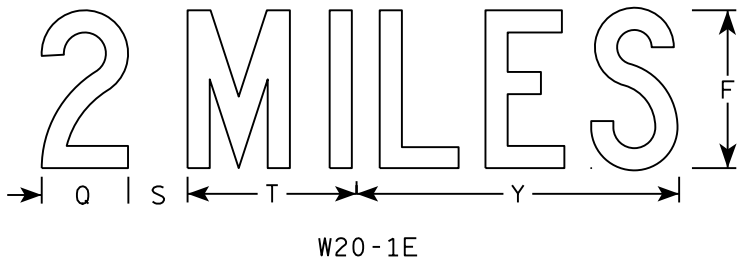
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

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

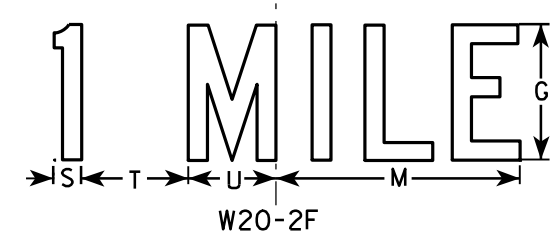
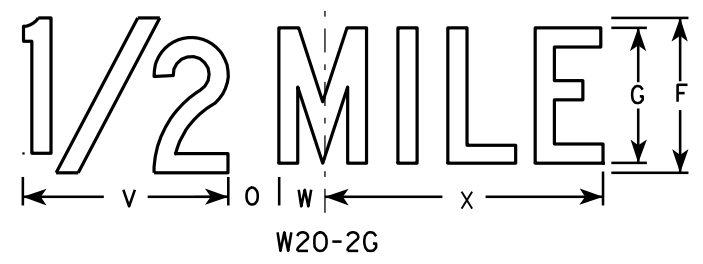
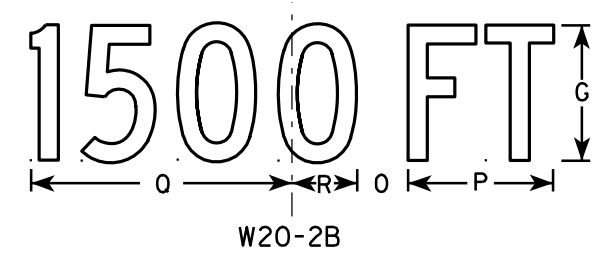
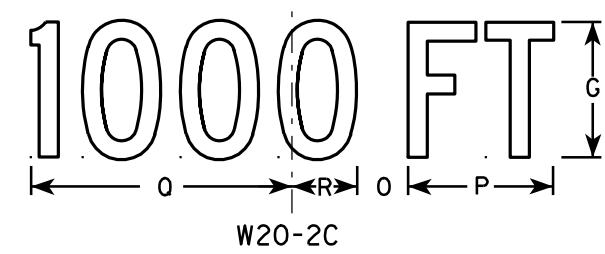
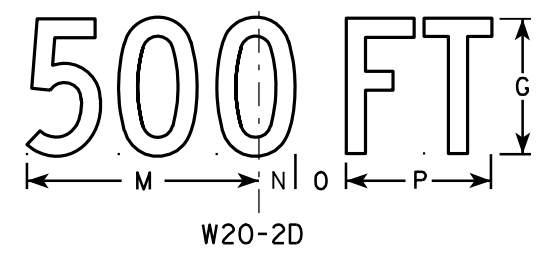
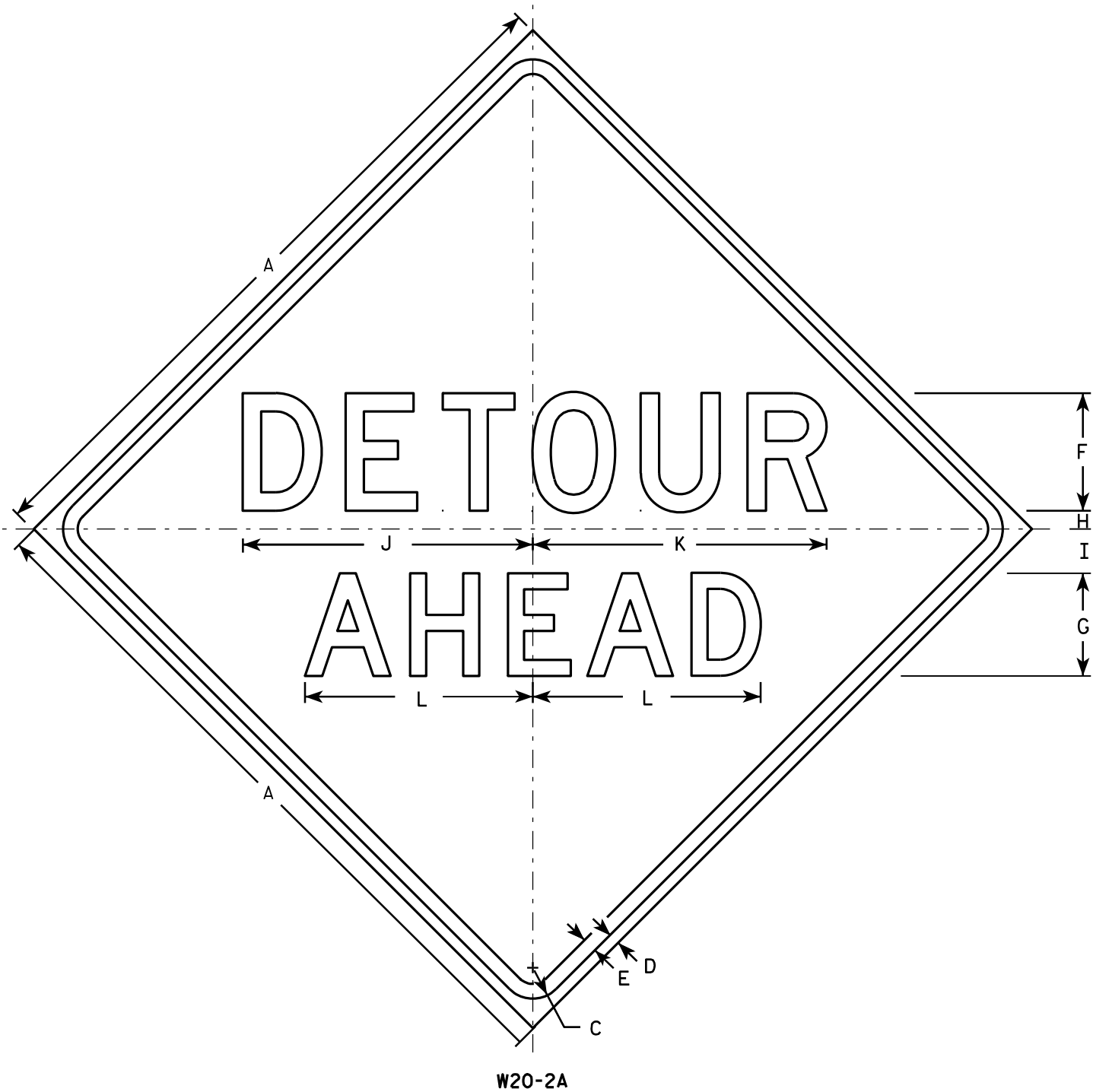
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10



NOTES

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

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

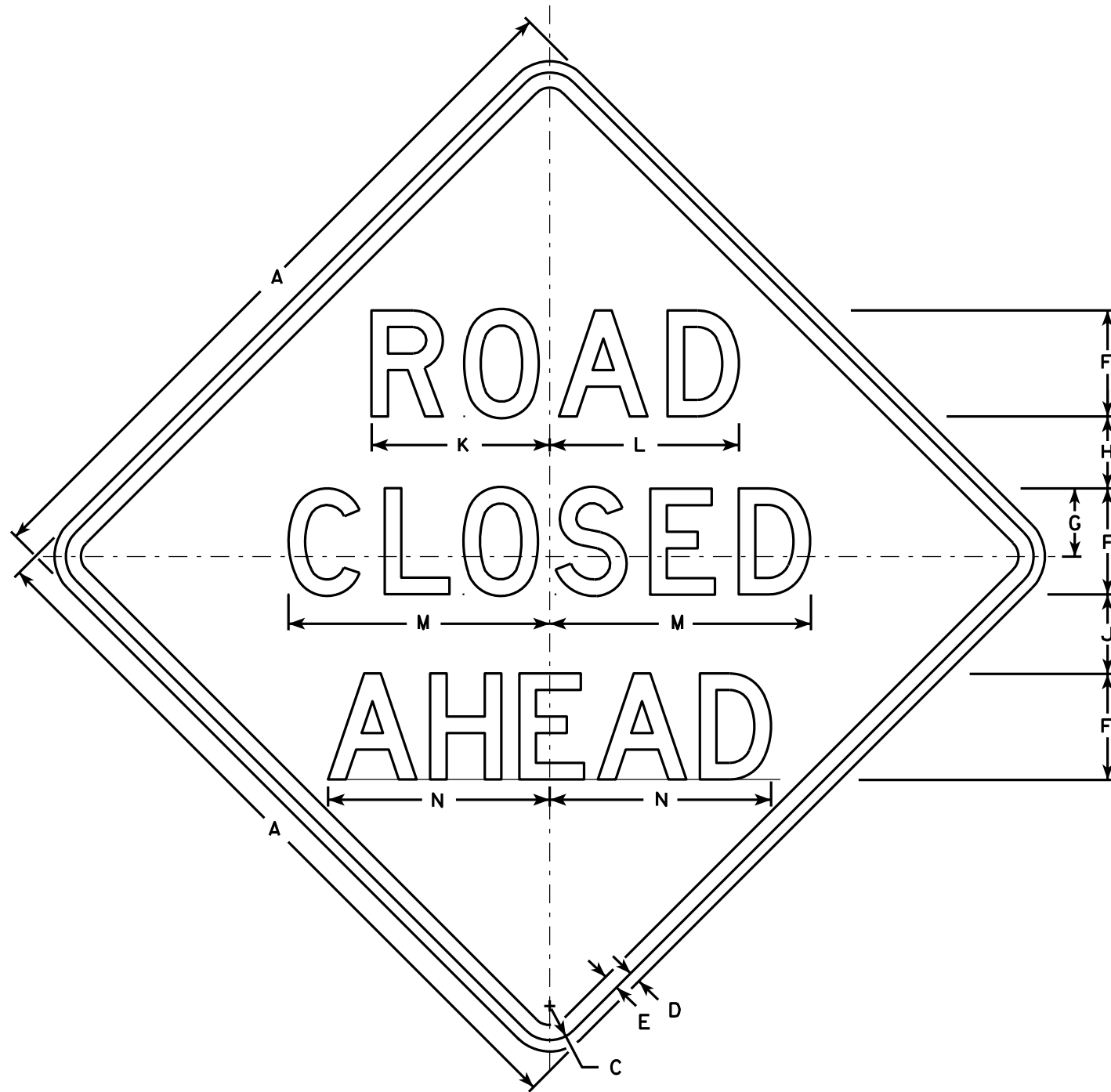
STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

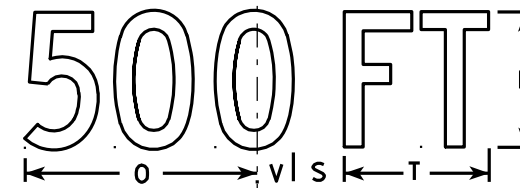
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

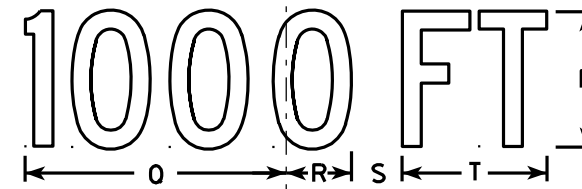
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



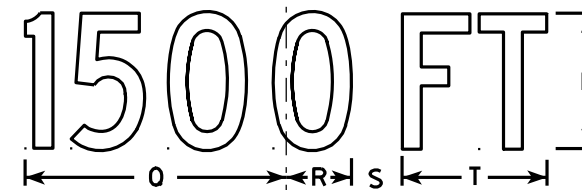
W20-3A



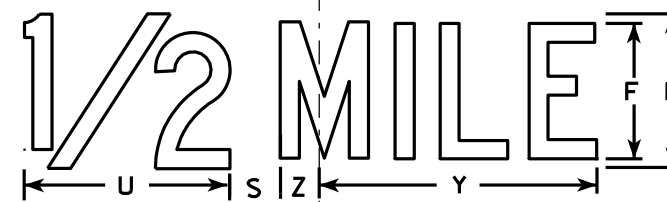
W20-3D



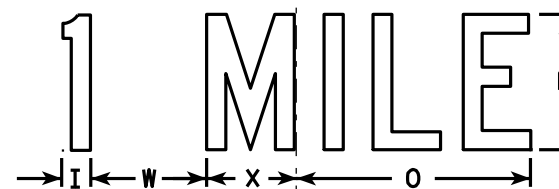
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. 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		1 5/8	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		2 1/4	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		2 1/4	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		2 1/4	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		2 1/4	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		2 1/4	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 3/18/11 PLATE NO. W20-3.7

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

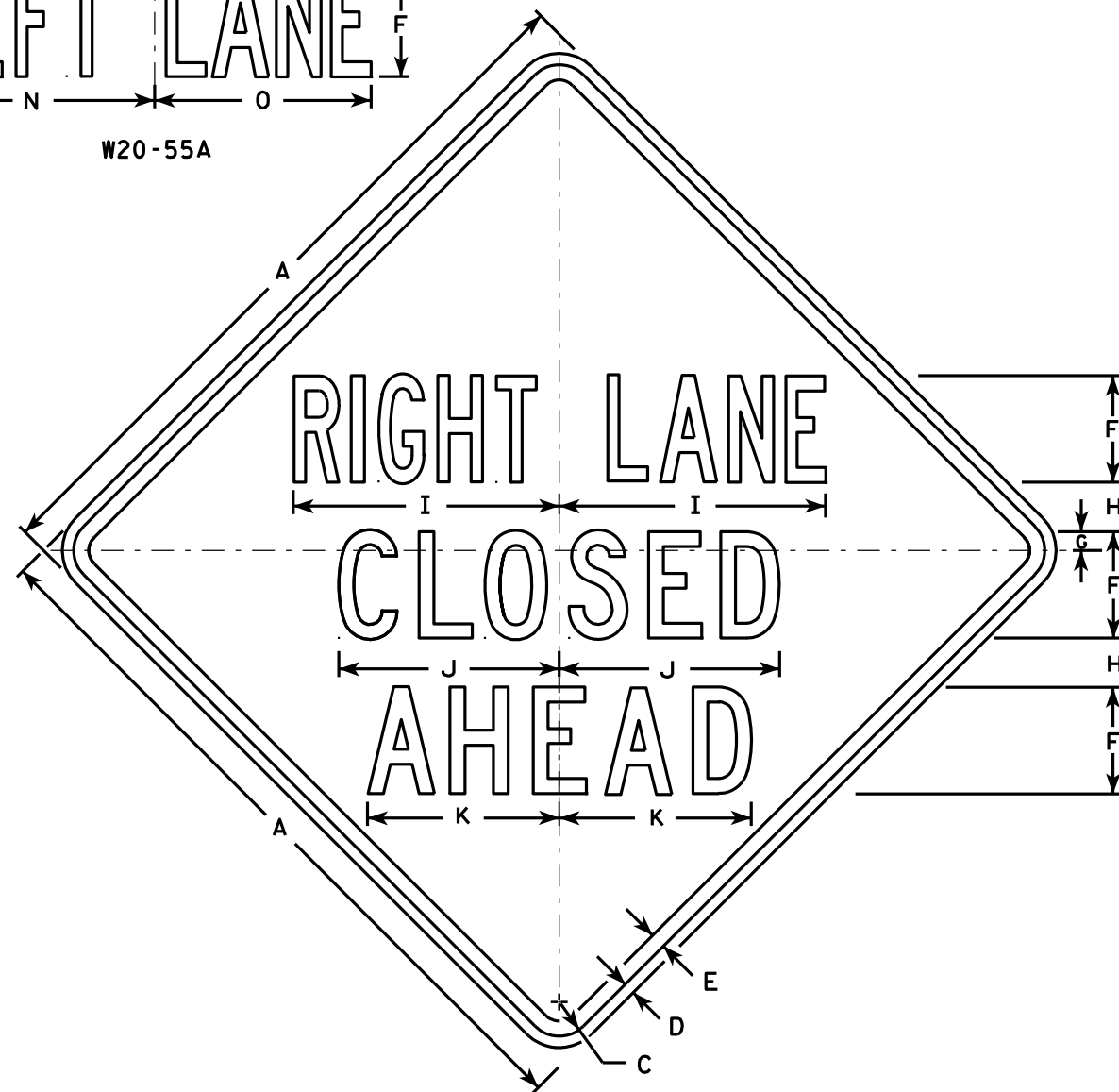
E

CENTER LANE

W20-56A

LEFT LANE

W20-55A



W20-5A

500 FT

W20-5D

1000 FT

W20-5C

1500 FT

W20-5B

1/2 MILE

W20-5G

1 MILE

W20-5F

NOTES

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

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	6	1 5/8	5/8	3/4	5	7/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 7/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

PROJECT NO:

HWY:

COUNTY:

STANDARD SIGN
W20-5A, B, C, D, F & G

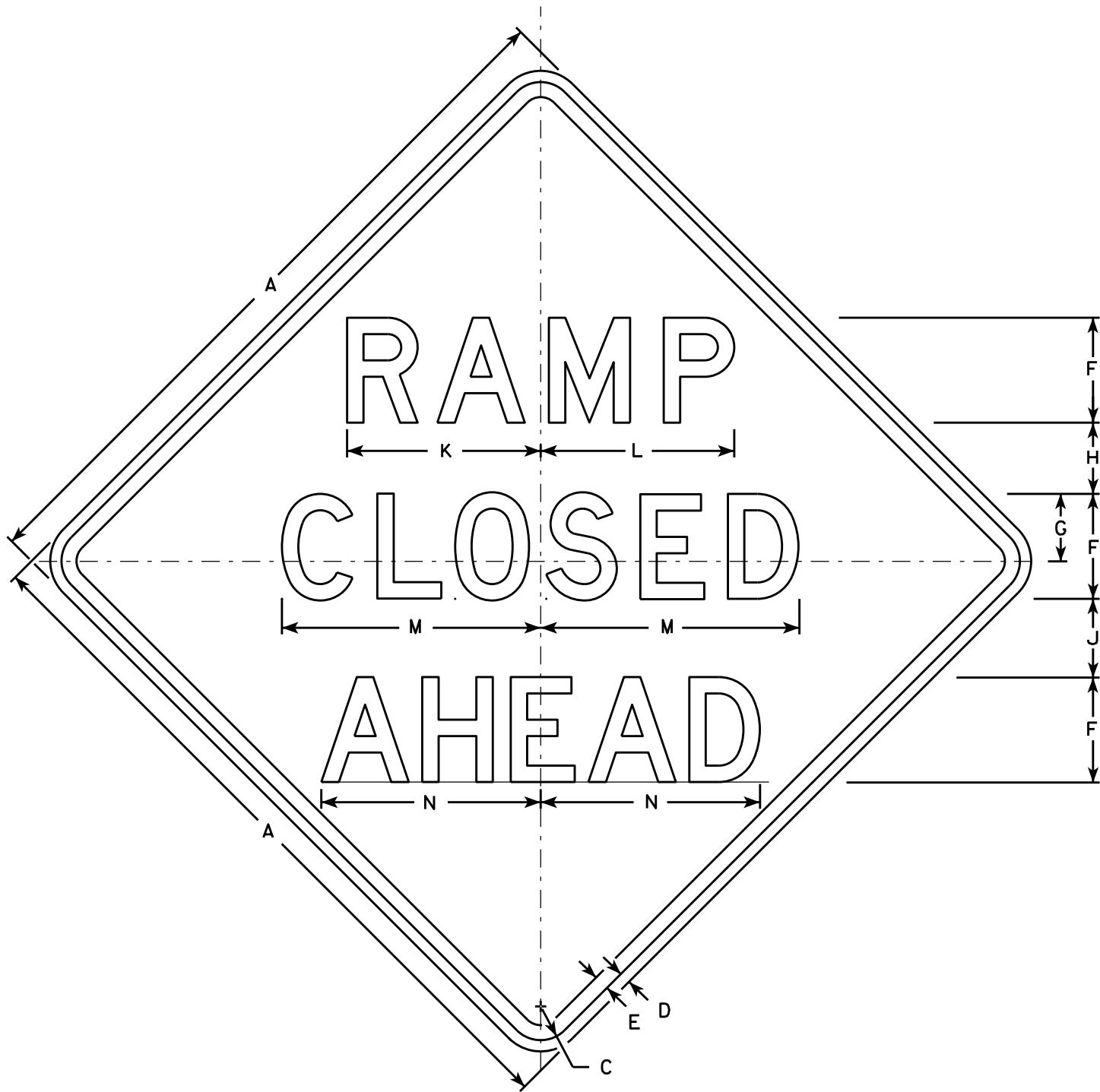
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

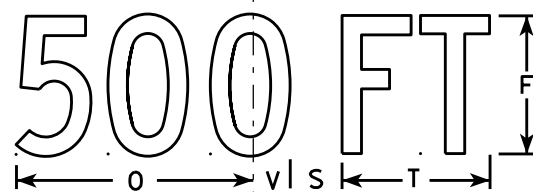
DATE 3/18/11 PLATE NO. W20-5.11

SHEET NO:

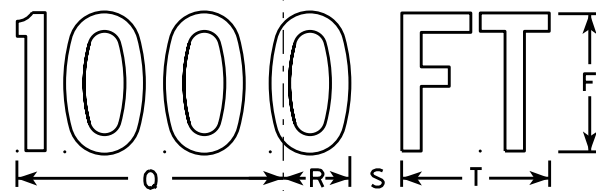
E



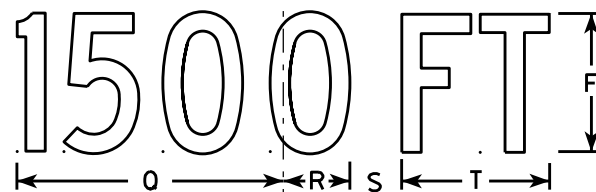
W20-53A



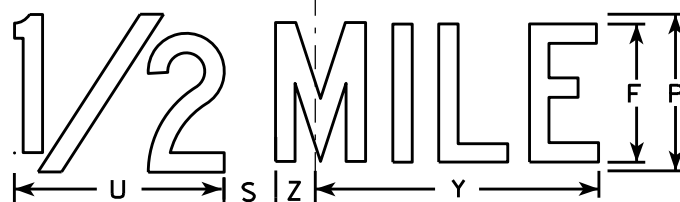
W20-53D



W20-53C



W20-53B



W20-53G



W20-53F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. 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		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	9 1/4	9 1/4	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		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	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		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	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		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	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		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	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		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	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
W20-53A,B,C,D,F,G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*

for State Traffic Engineer
DATE 5/27/15 PLATE NO. W20-53.1

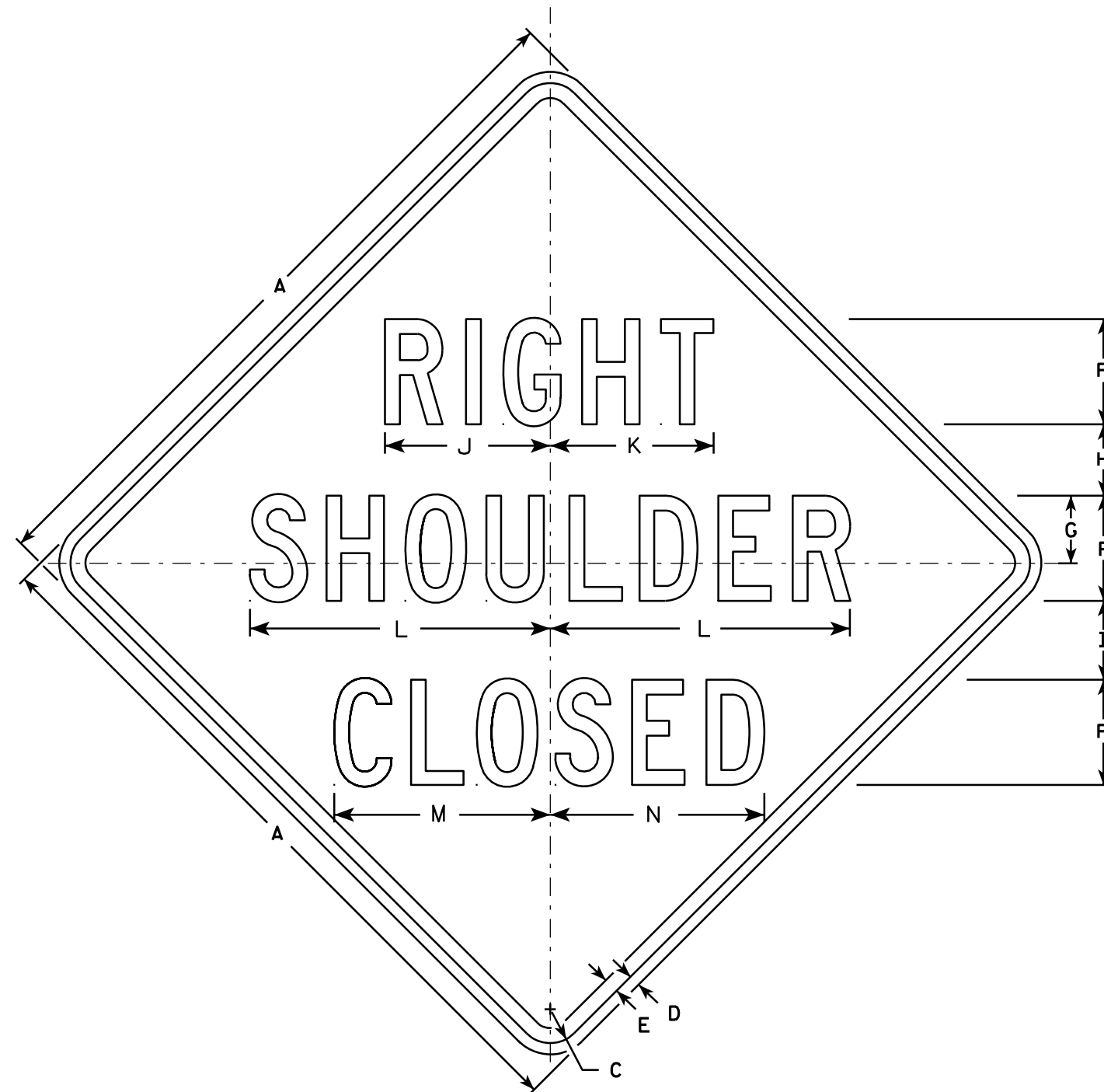
PROJECT NO:

HWY:

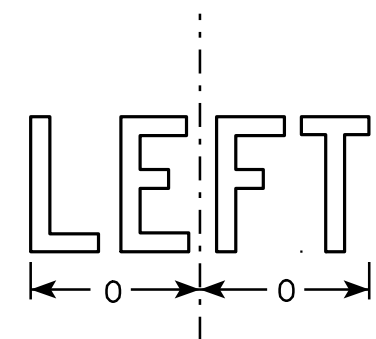
COUNTY:

SHEET NO:

E



W21-5A



W21-5AL

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - 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	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	4	7 7/8	7 3/4	14 1/4	10 1/4	10 1/8	6 1/4												9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0

STANDARD SIGN
W21-5A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5A.3

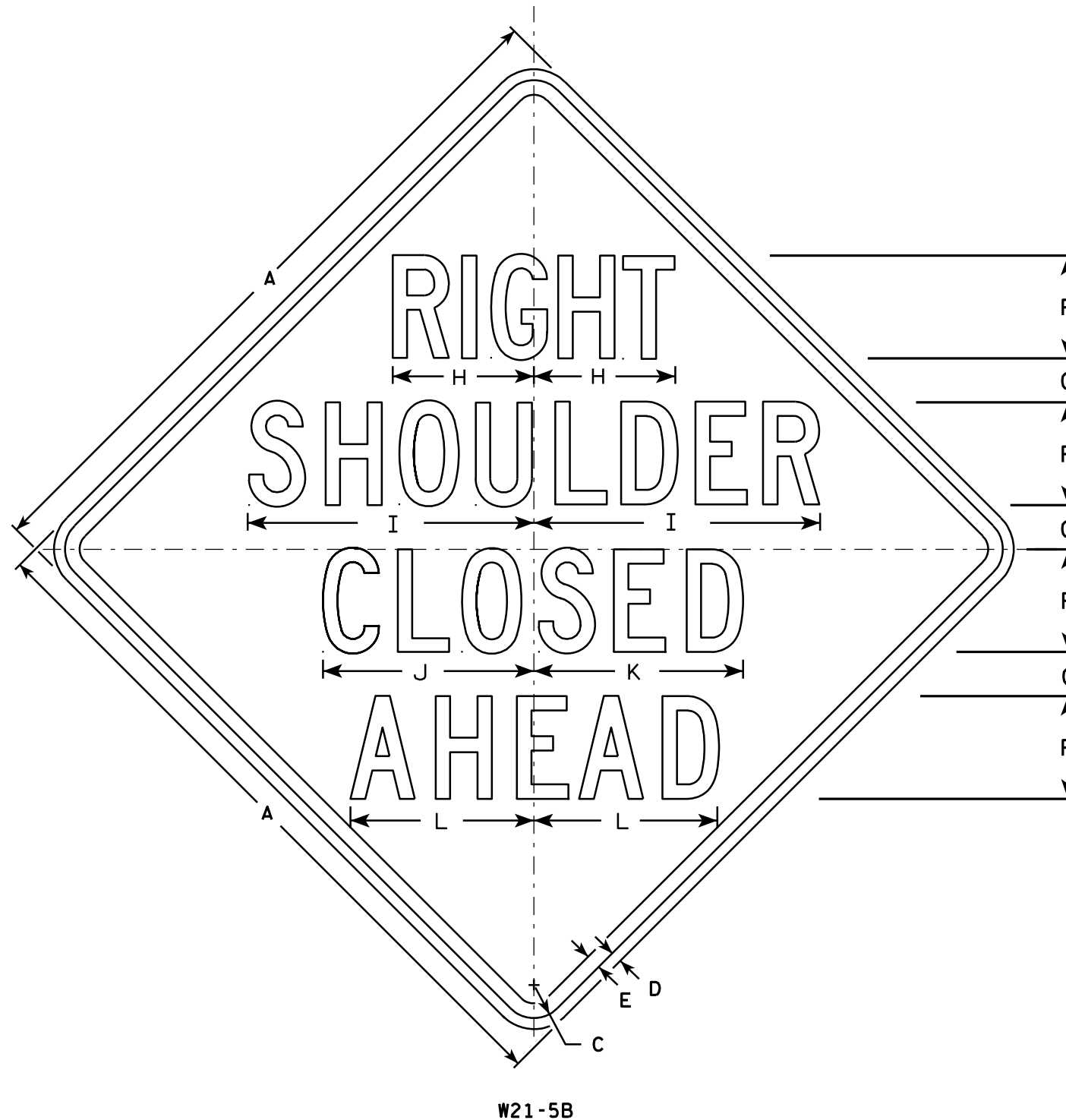
PROJECT NO:

HWY:

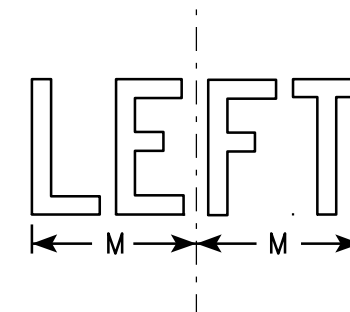
COUNTY:

SHEET NO:

E



W21-5B



W21-5BL

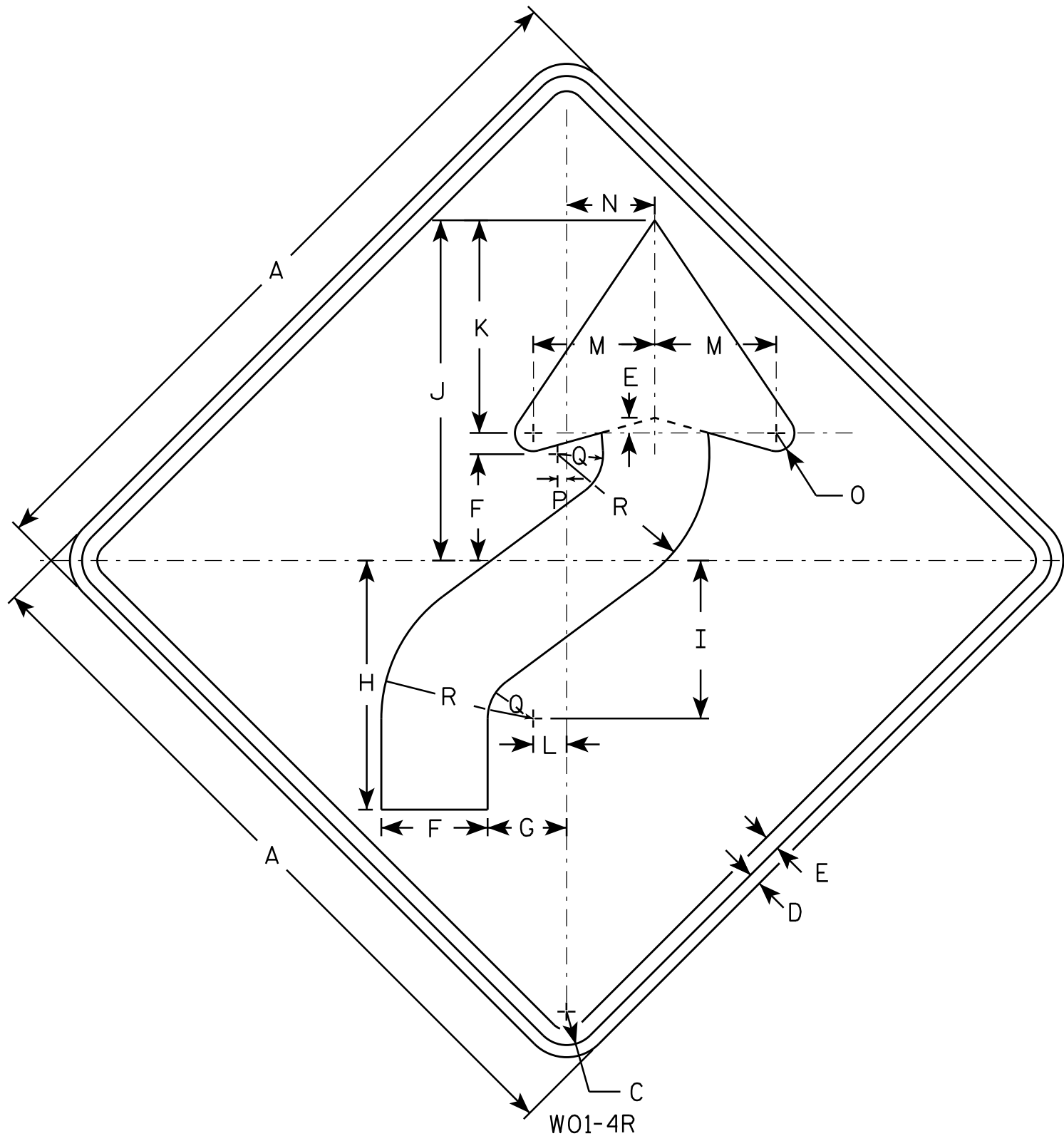
NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
Message - Black
- Message Series - C
- 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	36		1 5/8	5/8	3/4	5	2 1/4	7 3/8	14 1/4	10 1/4	10 1/8	8 7/8	6 1/4														9.0
2S	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
2M	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
3	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
4	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
5	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN W21-5B	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 3/21/11	PLATE NO. W21-5B.3



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

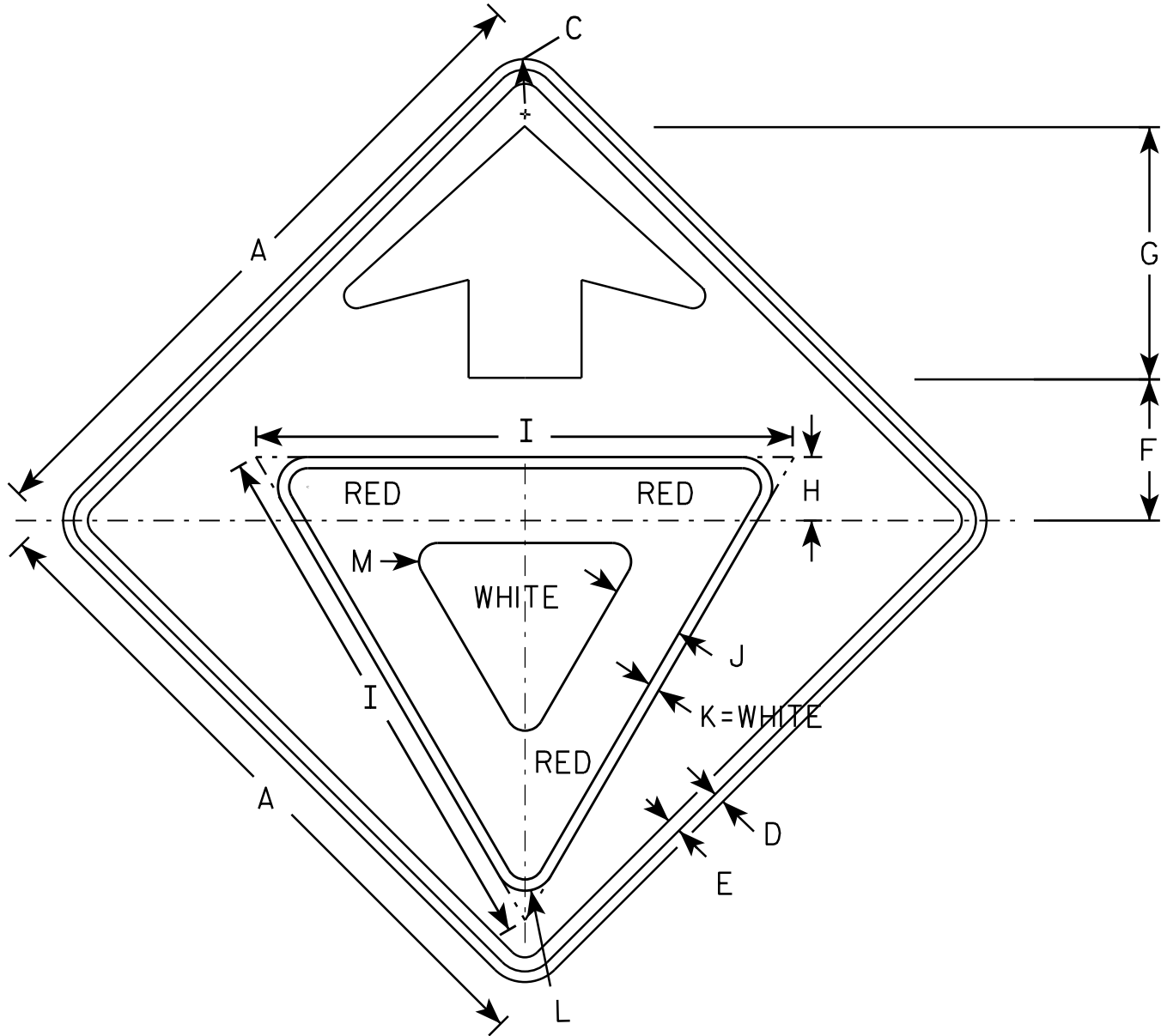
STANDARD SIGN W01-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-4.1

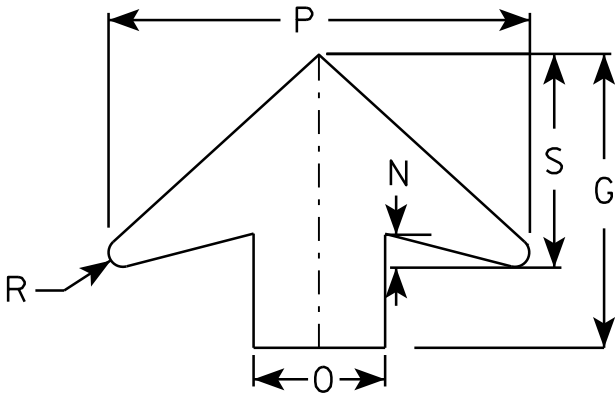
PROJECT NO: HWY: COUNTY: SHEET NO: E



W03-2

NOTES

- 1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - ORANGE
 - Arrow & Border - BLACK
 - Yield Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

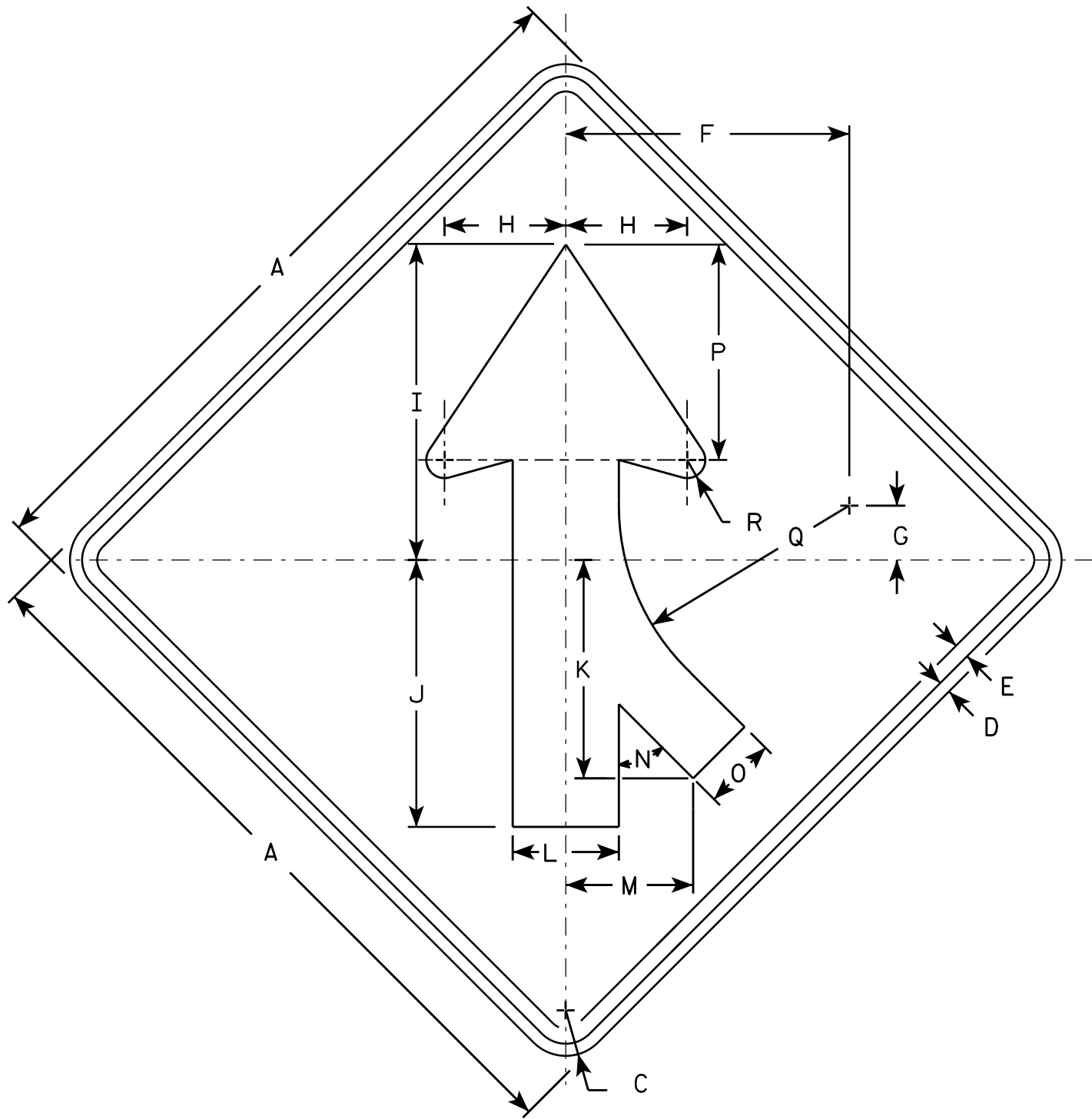
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2S	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
2M	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
3	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

STANDARD SIGN
W03-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W03-2.1



W04-1R

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Orange
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. W4-1L is the same as W4-1R except the arrow is reversed along the vertical centerline.

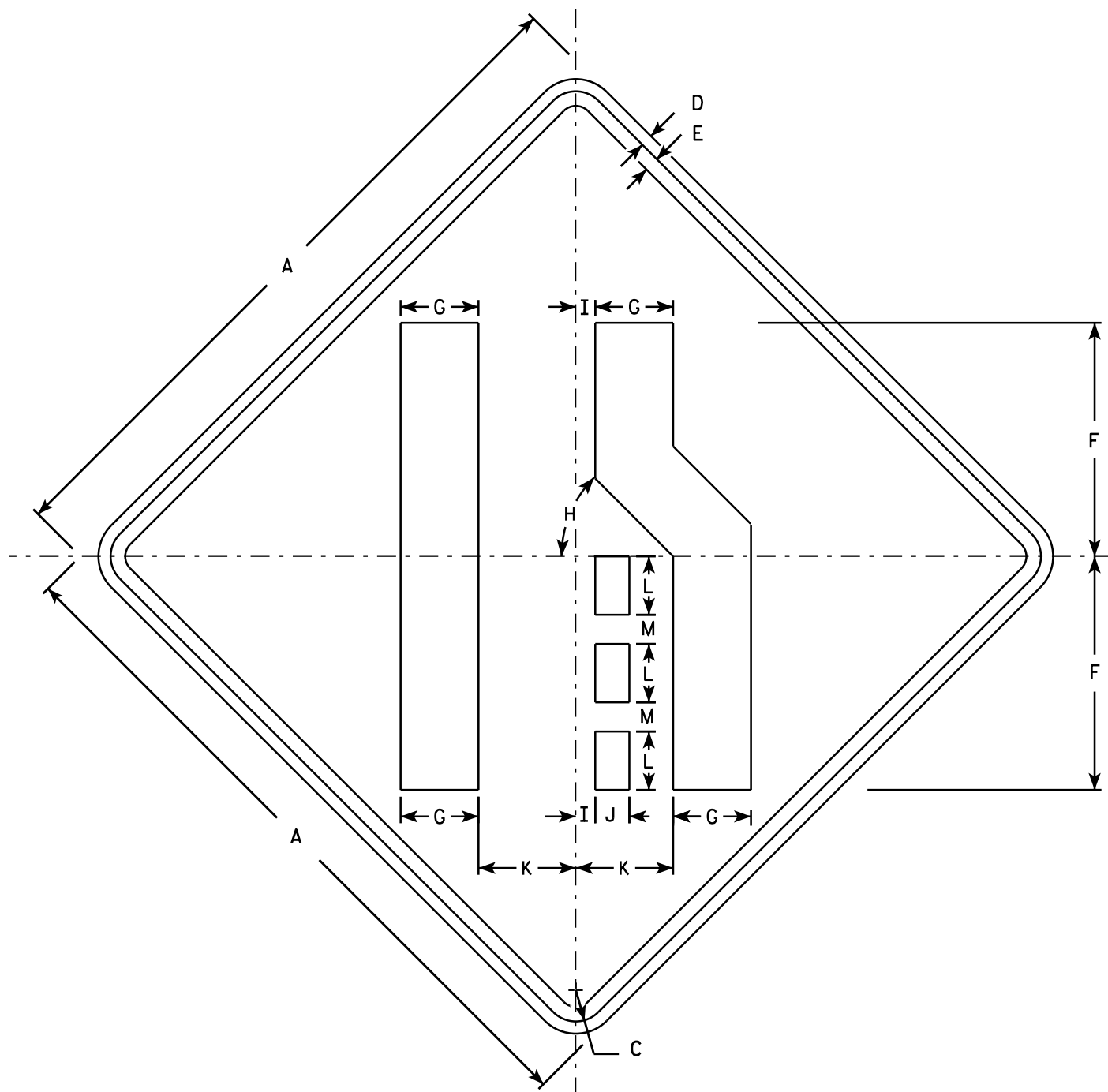
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2S	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
2M	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
3	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

STANDARD SIGN
W04-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W04-1.1



W04-2R

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Orange
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN

W04-2

WISCONSIN DEPT OF TRANSPORTATION

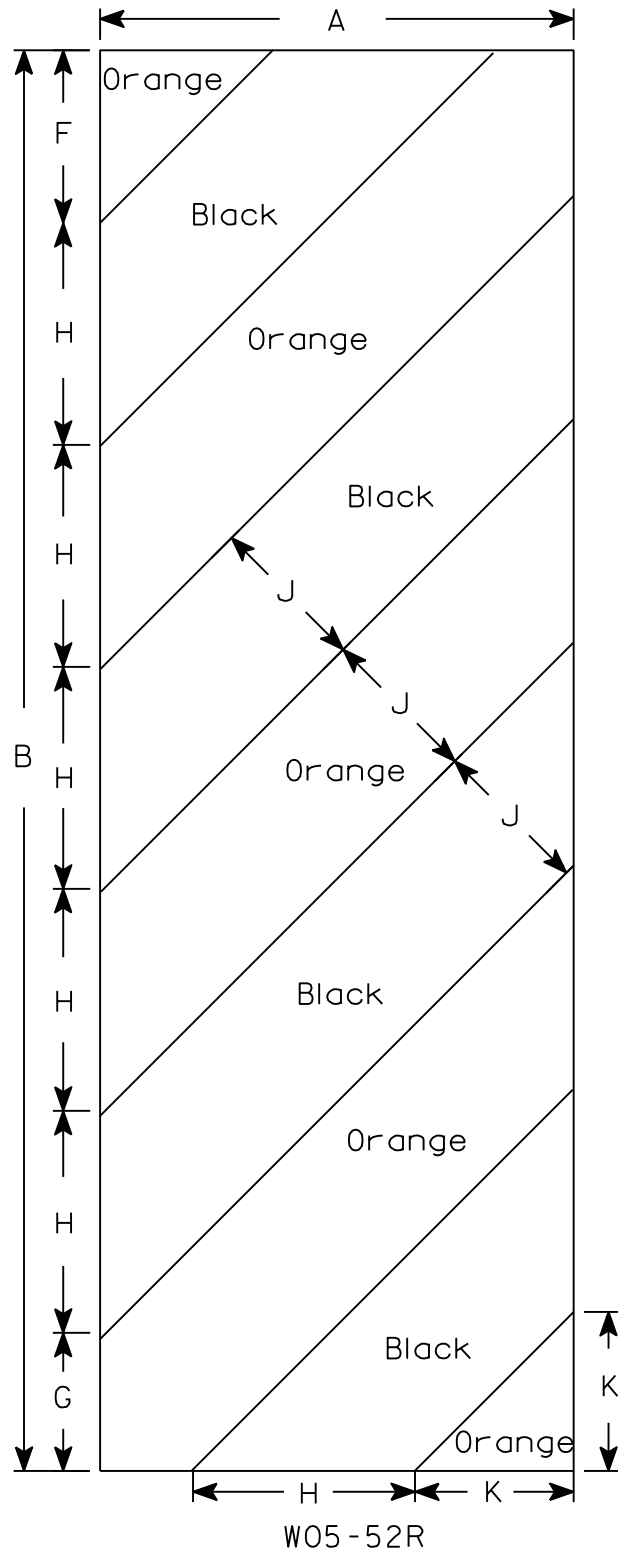
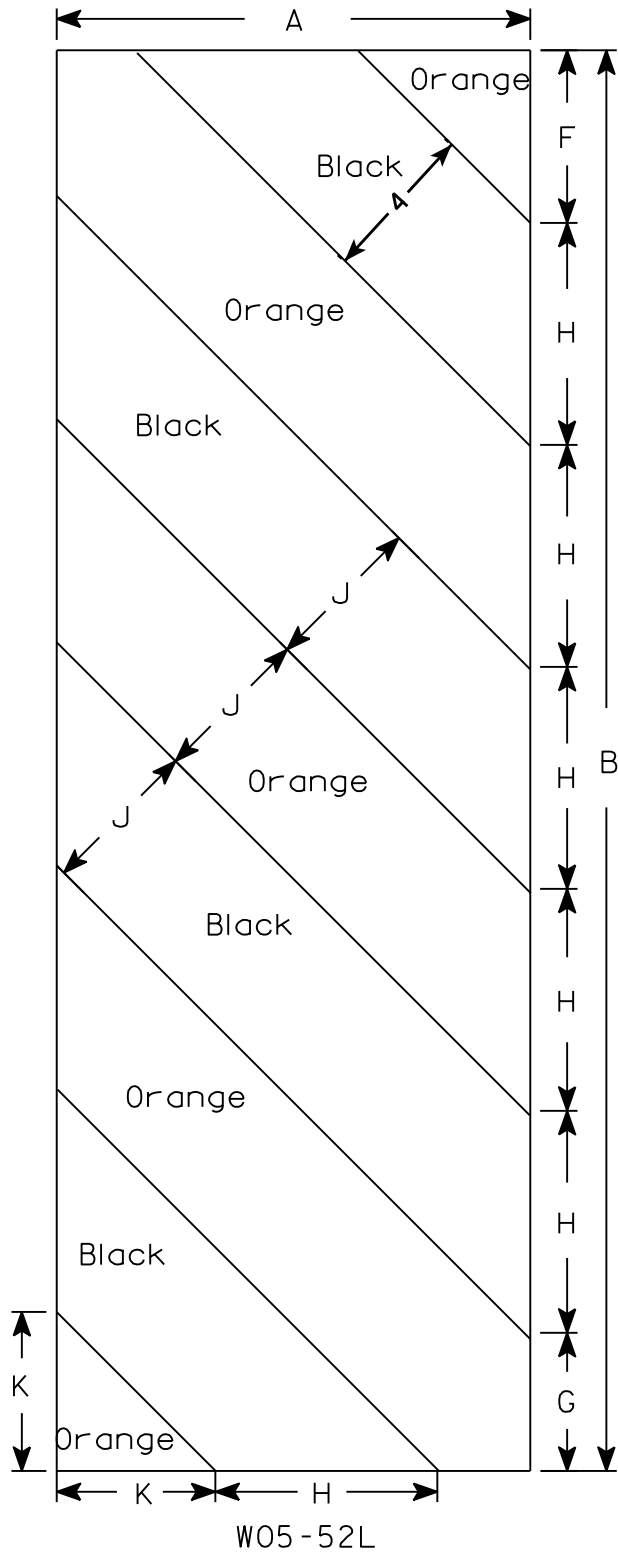
APPROVED

Matthew R. Rauch

For State Traffic Engineer

DATE 11/20/13

PLATE NO. W04-2.1



NOTES

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

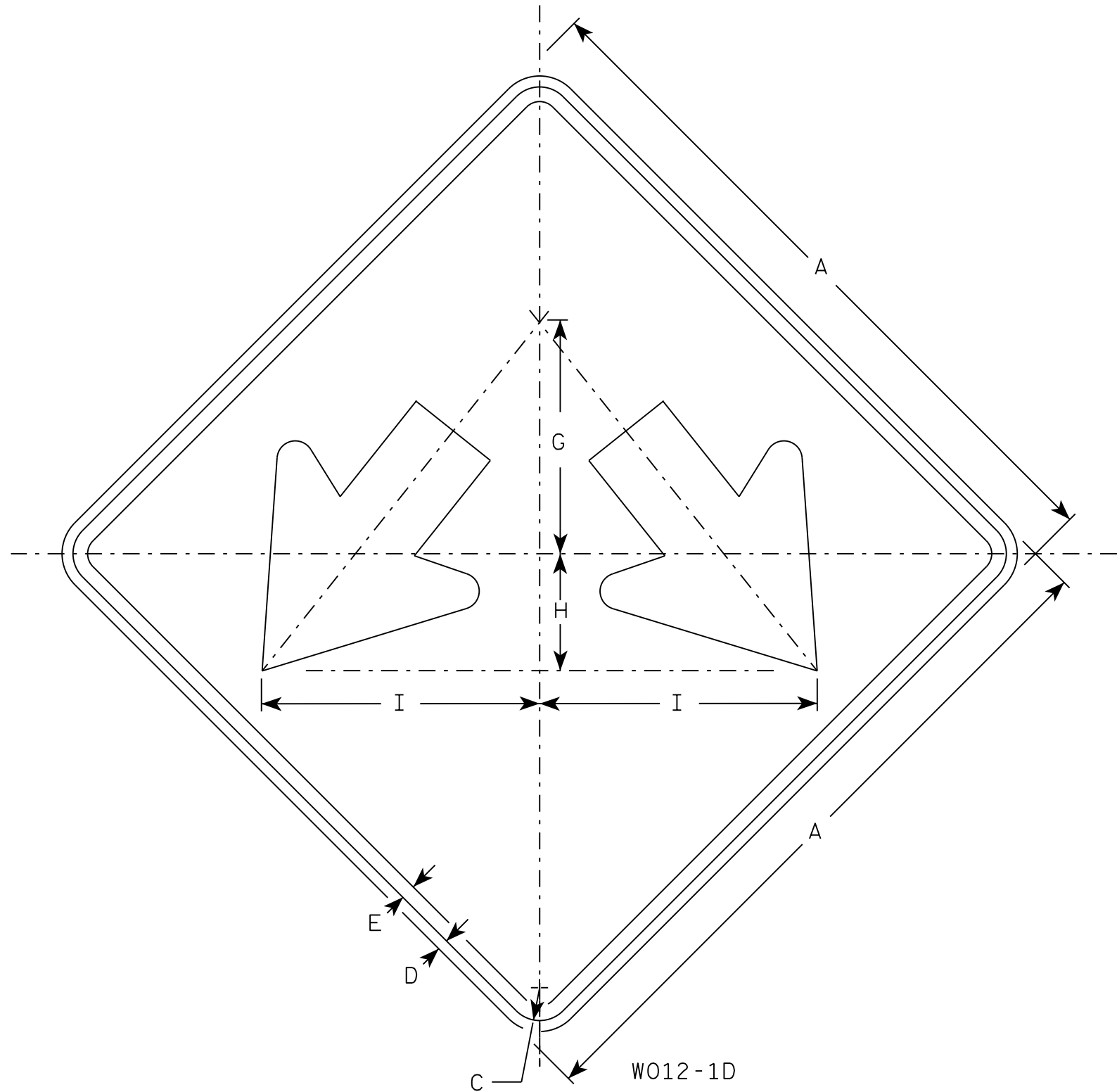
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
2M	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
3	18	54				6	5 1⁄2	8 1⁄2	45°	6	6 9⁄16																6.75
4																											
5																											

STANDARD SIGN
W05-52L & W05-52R

WISCONSIN DEPT OF TRANSPORTATION

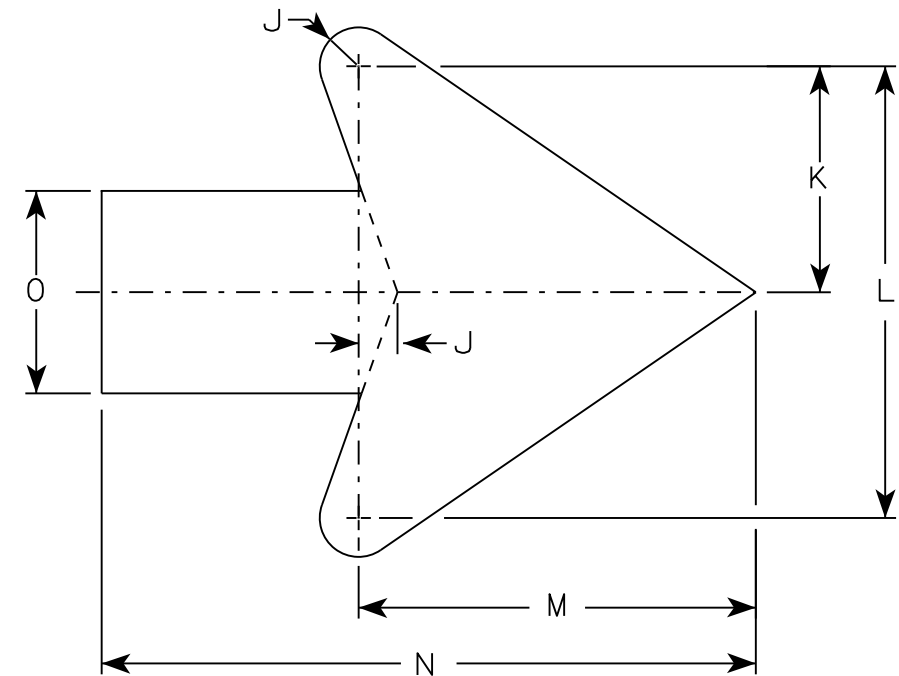
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W05-52.1



NOTES

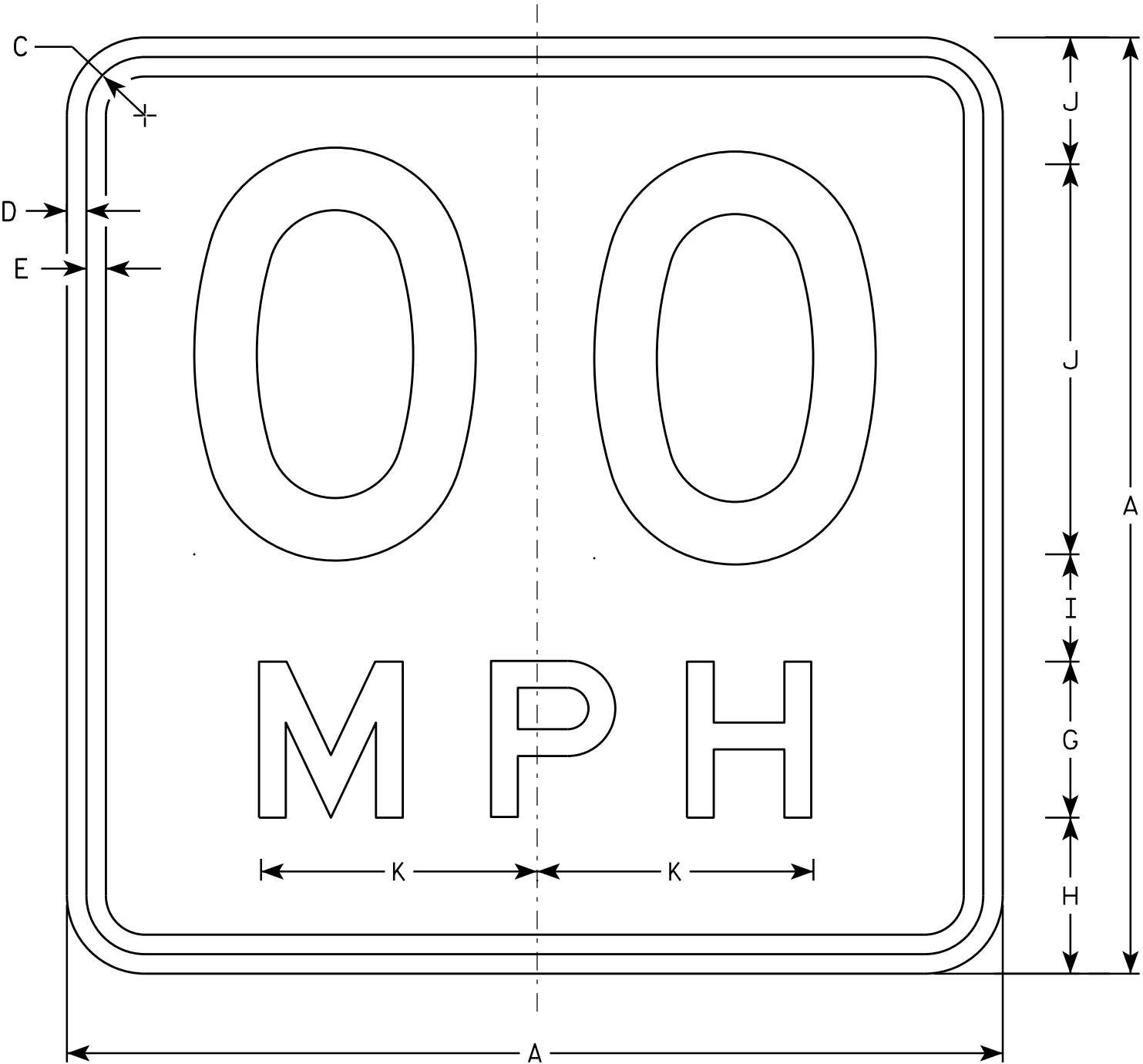
1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



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 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0

STANDARD SIGN W012-1D	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 7/28/16	PLATE NO. W012-1D.2



W013-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
Line 2 is Series E

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 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	7 1/8																4.00
2S	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
2M	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
3	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN
W013-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
For State Traffic Engineer

DATE 11/21/13 PLATE NO. W013-1.1

PROJECT NO:


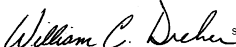
HWY:

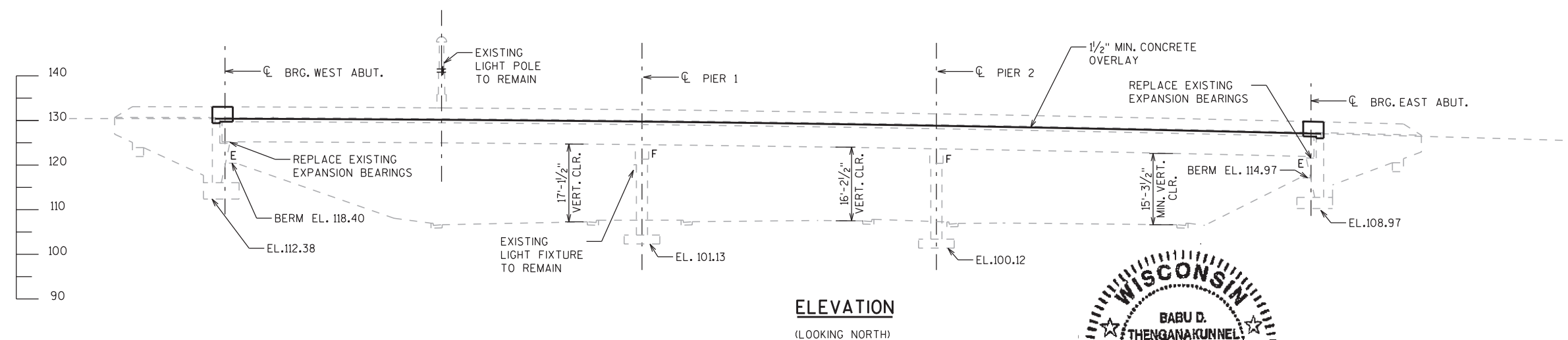
COUNTY:

SHEET NO:

E

(X) WINGWALL NUMBER

NO.		DATE		REVISION		BY	
				BLOOM COMPANIES, LLC <i>Infrastructure Innovation and Ingenuity</i>			
10501 W. Research Drive				Milwaukee, WI 53226			
Phone: (414) 771-3390				Fax: (414) 771-4490			
STATE OF WISCONSIN							
DEPARTMENT OF TRANSPORTATION							
ACCEPTED						SDR	
		CHIEF STRUCTURES DESIGN ENGINEER				DATE	
						01/17/19	
STRUCTURE B-40-484							
STH 119 WB AIRPORT SPUR OVER S HOWELL AVE							
COUNTY				CITY			
MILWAUKEE				MILWAUKEE			
DESIGN SPEC.				REHABILITATION N/A			
DESIGNED BY		DMC		DESIGN CK'D.		YNN	
DRAWN BY		TAL		PLANS CK'D.		BDT	
CONCRETE OVERLAY						SHEET 1 OF 10	

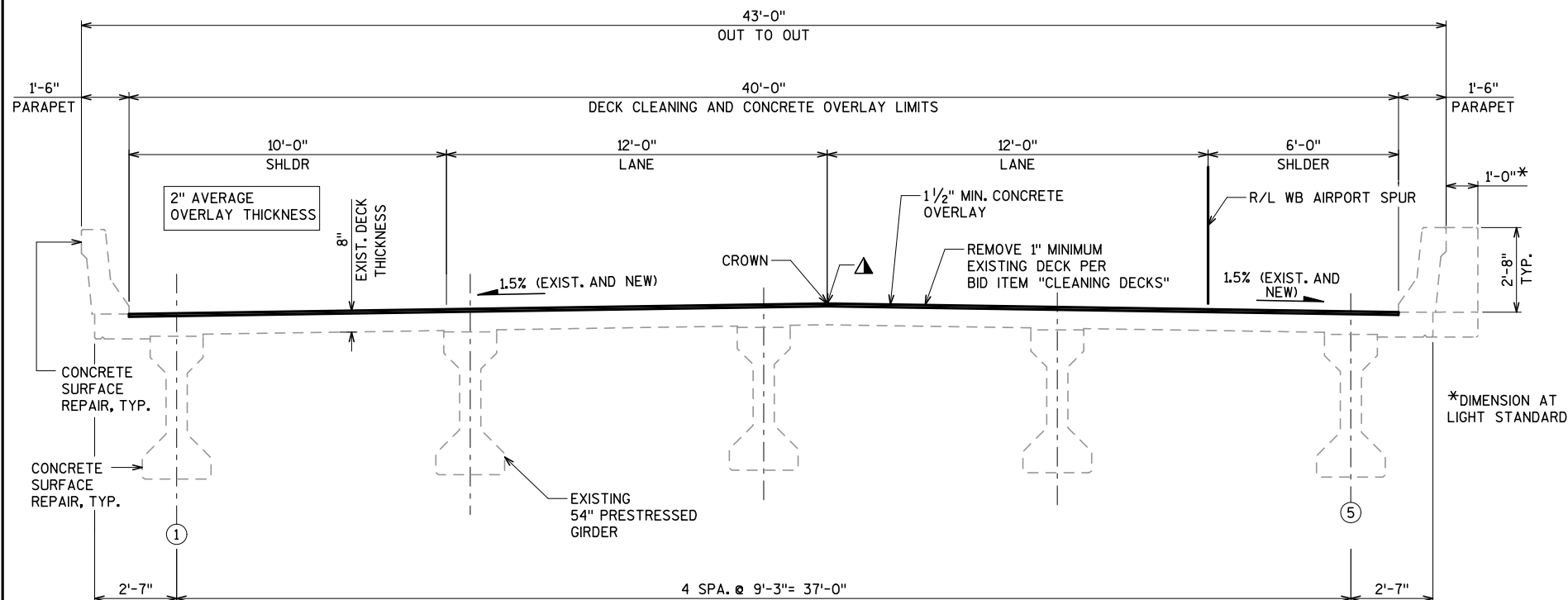


(LOOKING NORTH)



CONSULTANT CONTACT:
BABU THENGANAKUNNEL
(414) 292-4506

APPLY BRIDGE SEAT PROTECTION, PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF BOTH ABUTMENTS BELOW EXPANSION DEVICES. POWERWASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION. WORK INCIDENTAL TO BID ITEM "JOINT REPAIR".

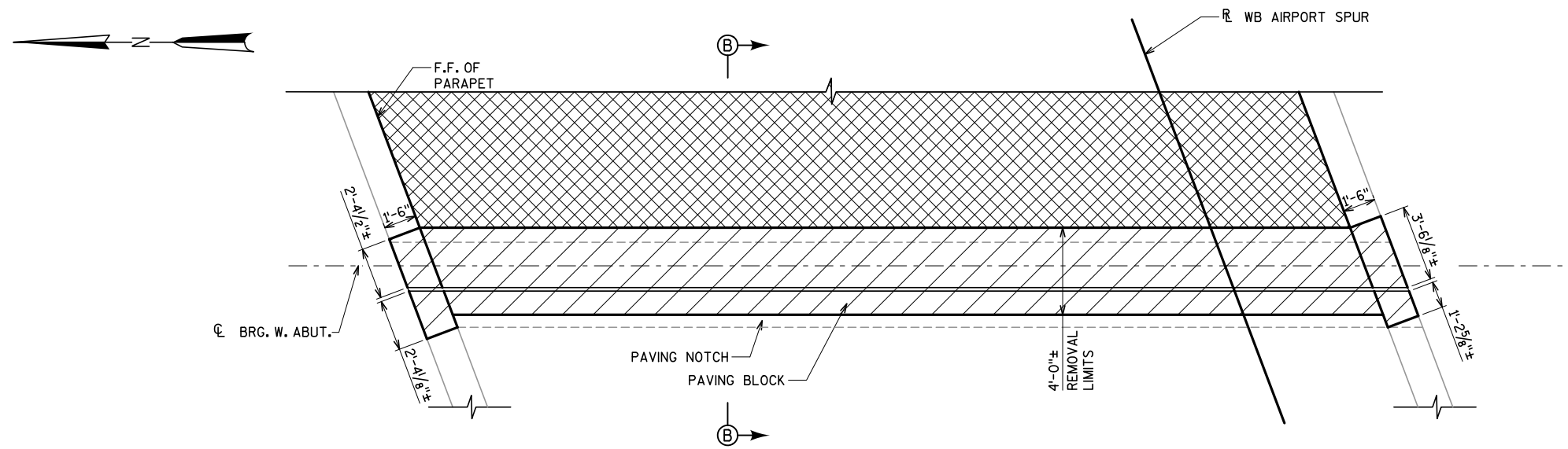


(LOOKING EAST)

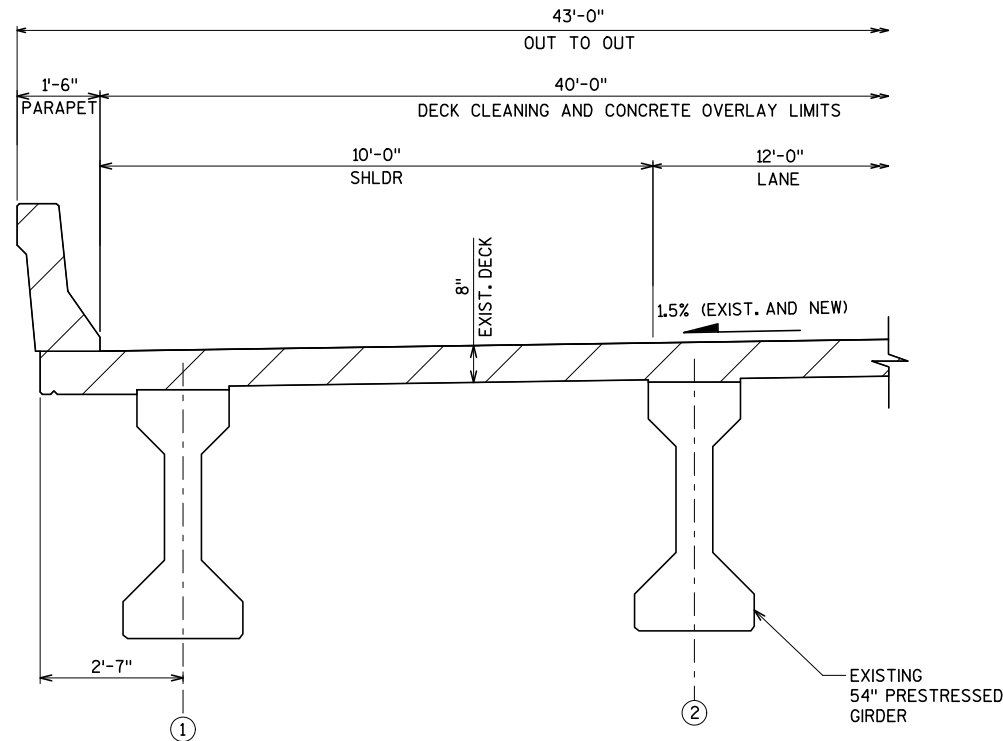
ITEM NUMBER	BID ITEMS	UNIT	TOTAL
502.3100.01	EXPANSION DEVICE B-40-484	LS	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1116
502.3210	PIGMENTED SURFACE SEALER	SY	8
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	86
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	3620
506.6000.01	BEARING ASSEMBLIES EXPANSION B-40-484	EACH	10
506.7050.S.01	REMOVING BEARINGS B-40-484	EACH	10
509.0301	PREPARATION DECKS TYPE 1	SY	21
509.0302	PREPARATION DECKS TYPE 2	SY	8
509.0500	CLEANING DECKS	SY	1093
509.1000	JOINT REPAIR	SY	42
509.1500	CONCRETE SURFACE REPAIR	SF	72
509.2000	FULL-DEPTH DECK REPAIR	SY	7
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	76
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	20

ALL BID ITEMS ARE CATEGORY 0020

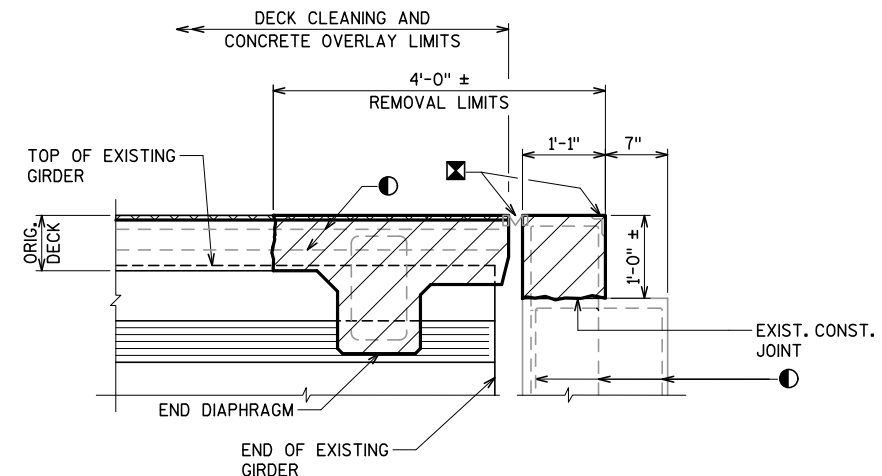
FILE NAME: F:\BM\3495-STH 119 Bridges - WISDOT 2015-02-0045.Designs\04.Structures.Bridges\cds\Current plans 2018\B-40-484\03. demo plan.dgn
DATE: 1/6/2019 2:45:27 PM Plotted by: bthengon PEN TABLE: V8-STRUCTURAL.REV.TEL



PLAN AT JOINT REPAIR
SHOWING REMOVAL
(WEST JOINT SHOWN, EAST JOINT SIMILAR)



SECTION THROUGH JOINT REPAIR

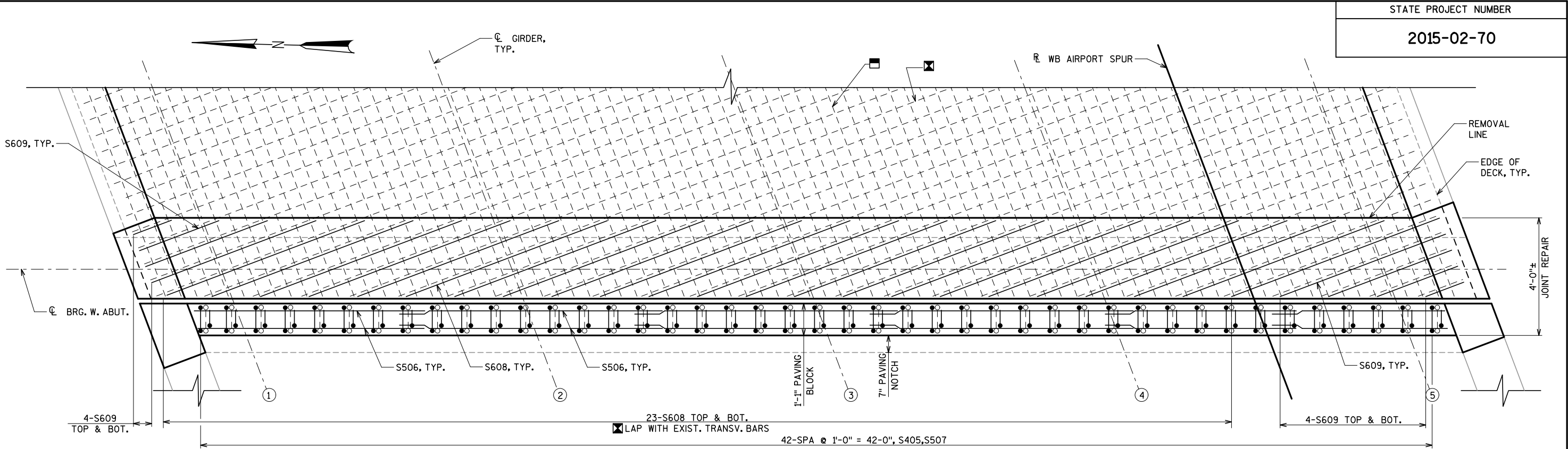


SECTION B-B
(SHOWING REMOVAL)

- LEGEND**
- REMOVAL LIMITS FOR CLEANING DECK
 - REMOVAL LIMITS FOR JOINT REPAIR
 - SALVAGE AND CLEAN EXISTING REINFORCEMENT AND EXTEND FULL LENGTH INTO NEW WORK
 - REMOVE EXISTING EXPANSION JOINT AND PAVING BLOCK ARMOR ANGLES. COST INCIDENTAL TO BID ITEM "JOINT REPAIR".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-484			
DRAWN BY		PLANS CK'D.	
REMOVAL DETAILS			SHEET 3 OF 10

FILE NAME: F:\BM-3495-5TH 119 Bridges - Wisconsin 2015-02-0045.Designs\04.Structures.Bridges\Current plans 2018\B-40-484\04. Joint repair.dgn
DATE: 10/11/2018 14:43:32 PM
Plotted by: bthengon
PEN TABLE: V8.STRUCTURAL.REV.TEL

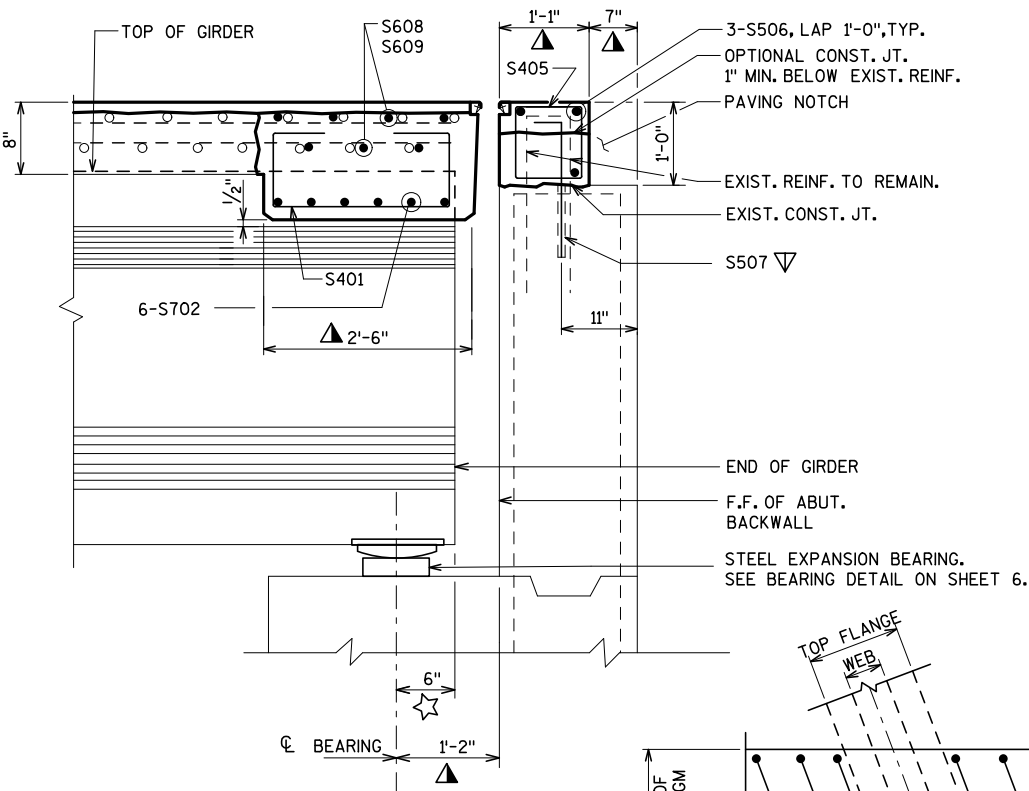


PLAN

(WEST ABUTMENT SHOWN, EAST ABUTMENT SIMILAR)
(DIAPHRAGM REINFORCEMENT NOT SHOWN FOR CLARITY)

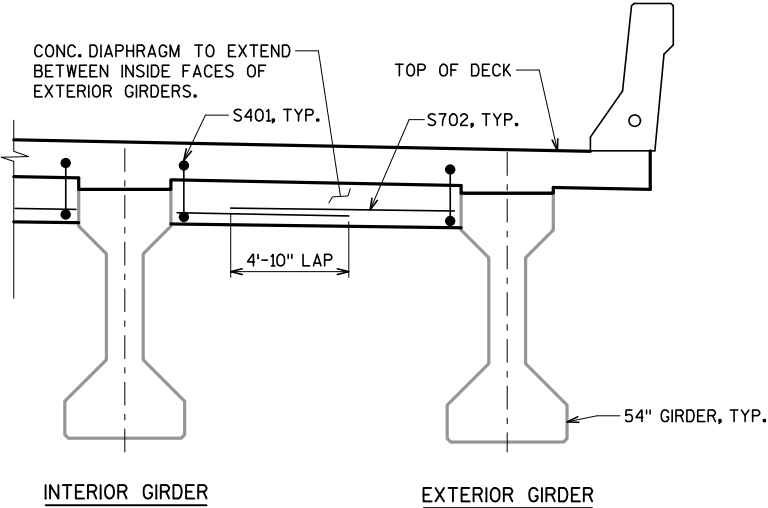
LEGEND

- EXTEND EXISTING TOP AND BOTTOM TRANSVERSE BARS A MINIMUM OF 1'-6" INTO NEW WORK. LAP WITH NEW TRANSVERSE BARS.
- EXTEND EXISTING TOP AND BOT. LONGIT. BARS FULL LENGTH INTO NEW WORK.
- DIMENSION IS TAKEN NORMAL TO CL SUBSTRUCTURE UNIT.
- DIMENSION IS TAKEN PARALLEL TO CL GIRDER.
- ADHESIVE ANCHOR NO.5 BAR, EMBED 1'-6" IN CONCRETE. SPACE AT 1'-0", TURN 10" LEG AS NECESSARY TO FIT.
- BAR PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO CL GIRDERS.

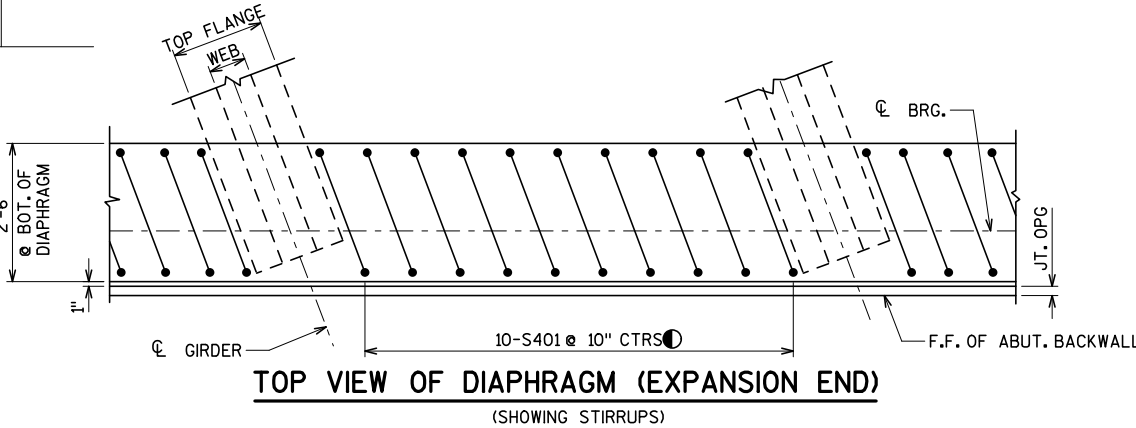


DIAPHRAGM AT ABUTMENT

(NORMAL TO CL BEARING)



DIAPHRAGM AT ABUTMENT



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-484			
DRAWN BY		TAL	PLANS CK'D. BDT
JOINT REPAIR		SHEET 4 OF 10	

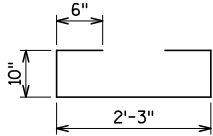
FILE NAME: F:\BM\1495-5TH 119 Bridges - WisDOT 2015-02-0045_Design\04_Structures\Bridges\cds\Current\ plans 2018\B-40-484\05_bill of bars.dgn
DATE: 10/11/2018 14:459 PM
Plotted by: bthengon
PEN TABLE: V8-STRUCTURAL.REV.TBL

BILL OF BARS

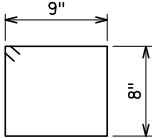
BAR MARK	COAT	NO.	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	80	4'-7"	X	-	DIAPHRAGM STIRRUPS
S702	X	96	6'-4"	-	-	DIAPHRAGM HORIZ., BOT.
S404	X	16	8'-0"	-	-	AT EXP. JT. ANCHOR
S405	X	86	3'-4"	X	-	PAVING BLOCK, STIRRUPS
S506	X	36	8'-0"	-	-	PAVING BLCOK, HORIZ.
S507	X	86	3'-0"	X	-	PAVING BLOCK, ADHESIVE ANCHOR
S608	X	92	7'-2"	-	-	DECK, TRANSV., TOP & BOT.
S609	X	32	3'-8"	-	X	DECK, TRANSV., TOP & BOT.

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

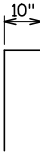
▽ ADHESIVE ANCHOR. SEE "JOINT REPAIR" SHEET.



S401



S405



S507

BENDING DIAGRAMS

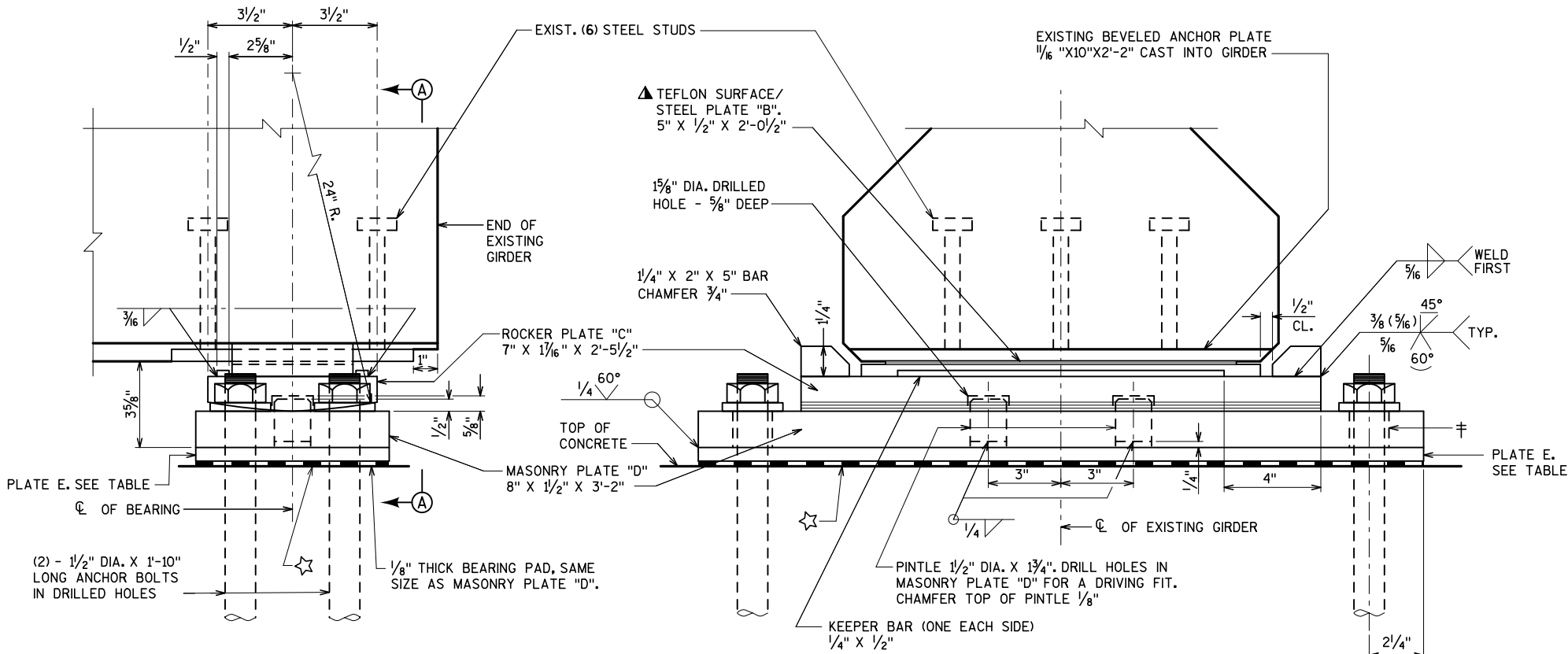
BAR SERIES TABLE

BAR MARK	NUMBER REQUIRED	LENGTH
S609	8 SERIES OF 4	1'-4" TO 6'-0"

BUNDLE AND TAG EACH SERIES SEPARATELY

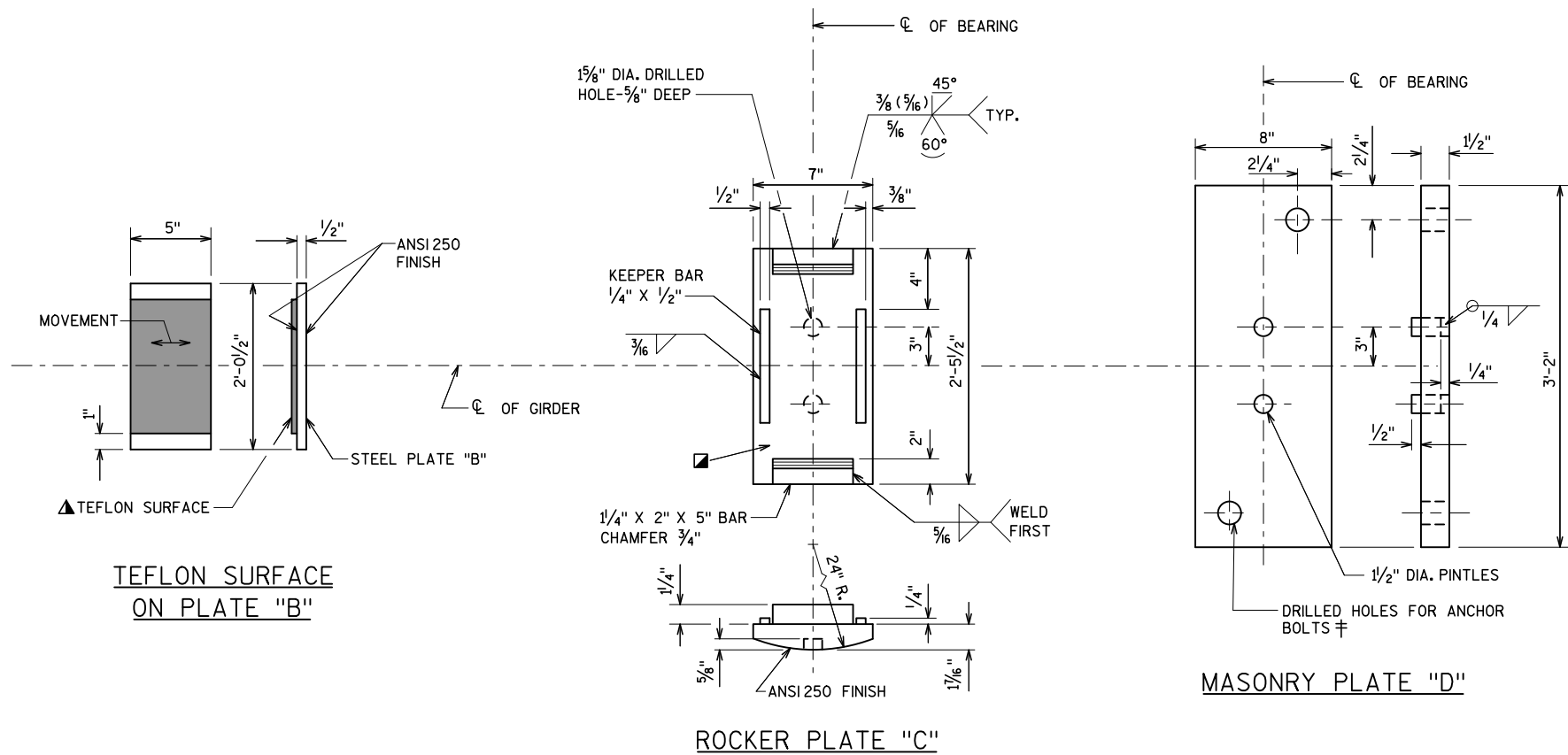
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-484			
DRAWN BY		PLANS CK'D.	
BILL OF BARS		SHEET 5 OF 10	

FILE NAME: F:\BIM\3495-5TH 119 Bridges - WISDOT 2015-02-0045.Designs\04.Structures.Bridges\Current plans 2018\B-40-484\06-steel.brg.dgn
DATE: 10/11/2018 10:52:0 PM
Plotted by: bthengon
PEN TABLE: V8-STRUCTURAL-REV.TEL



EXPANSION BEARING ASSEMBLY

SECTION A-A



TEFLON SURFACE
ON PLATE "B"

ROCKER PLATE "C"

EXPANSION BEARING

MASONRY PLATE "D"

BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT CL OF GIRDER AND CL OF BEARING.

ALL MATERIAL IN BEARINGS, BUT EXCLUDING TEFLON SURFACE, PINTLES, ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

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.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS + $2\frac{1}{4}$ ", ABOVE TOP OF CONCRETE.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

MASONRY PLATE "D", ROCKER PLATE "C", PLATE "E", ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS "C". STEEL PLATE "B" SHALL BE SHOP PAINTED. DO NOT PAINT TEFLON SURFACE.

ALL MATERIAL IN "EXPANSION BEARING", INCLUDING BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION B-40-484", EACH.

† DRILLED HOLES FOR ANCHOR BOLTS IN MASONRY PLATE "D" AND PLATE "E" SHALL HAVE A DIAMETER $\frac{3}{8}$ " LARGER THAN ANCHOR BOLT.

▲ TEFLON SURFACE, USE UNFILLED WITH MINIMUM $\frac{1}{16}$ " THICKNESS. PLACE WITH SCRIBE MARKS IN DIRECTION OF MOVEMENT. BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING THE REQUIREMENTS FOUND IN THE STANDARD SPECIFICATION.

■ PROVIDE A METHOD FOR HANDLING ROCKER PLATE "C" DURING GALVANIZING.

☆ REMOVE EXISTING EXPANSION BEARINGS. BURN OFF EXISTING ANCHOR BOLTS FLUSH WITH CONCRETE BEARING SURFACE & GRIND SMOOTH.

AT INSTALLATION, ENSURE STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TFE SLIDING FACE OF THE LOWER ELEMENT ARE CLEAN AND FREE OF ALL DUST, MOISTURE, AND OTHER FOREIGN MATTER.

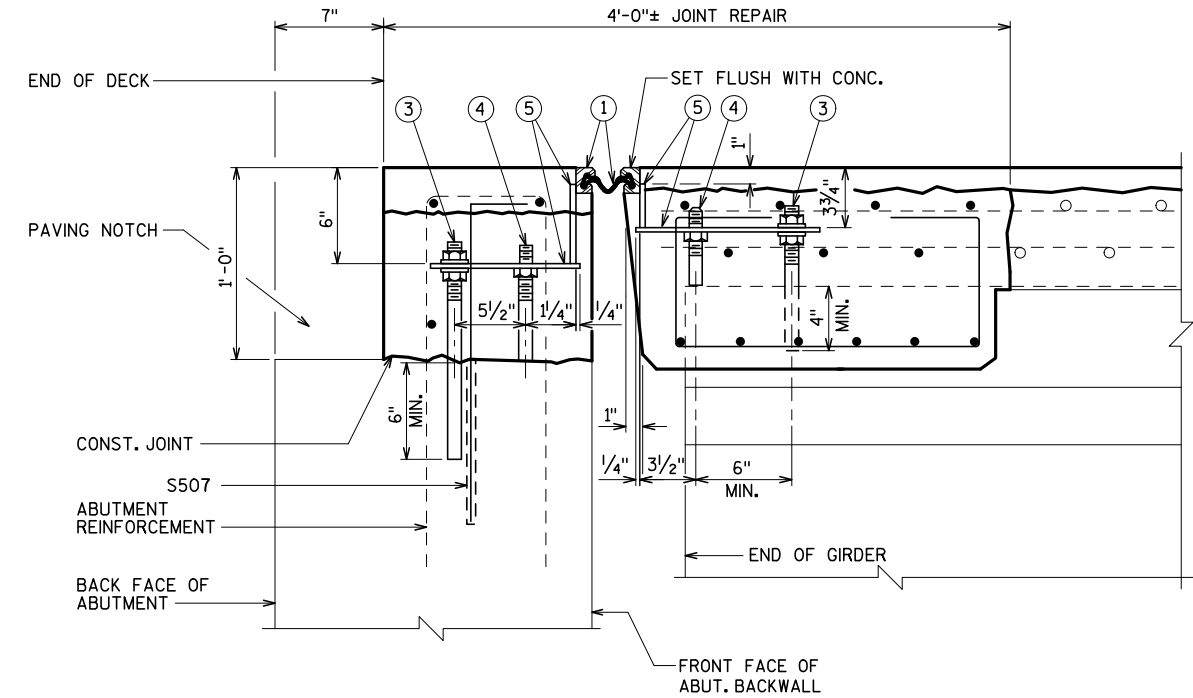
PLATE 'E' THICKNESS TABLE

PLATE MARK	LOCATION	GIRDER	PLATE SIZE
'E'	W. ABUT.	1	3'-2" X 8" X $\frac{1}{4}$ "
	W. ABUT.	2,3,4,5	-
	E. ABUT.	1,5	3'-2" X 8" X $\frac{1}{4}$ "
	E. ABUT.	2,3,4	-

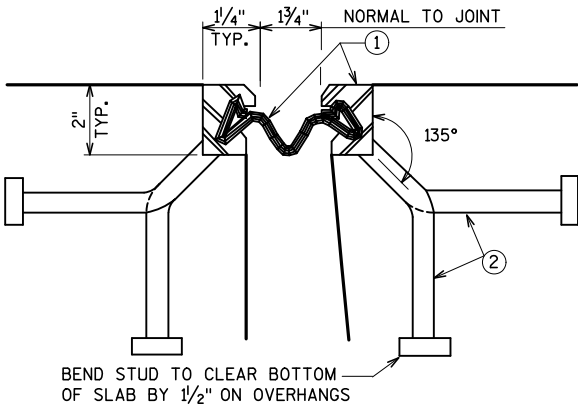
NOTE: PROVIDE HOLES IN PLATE "E" FOR ANCHOR BOLTS. MATCH HOLE SIZE AND LAYOUT TO THOSE OF MASONRY PLATE "D".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-484			
DRAWN BY		TAL	PLANS CK'D. BDT
EXPANSION BEARING		SHEET 6 OF 10	

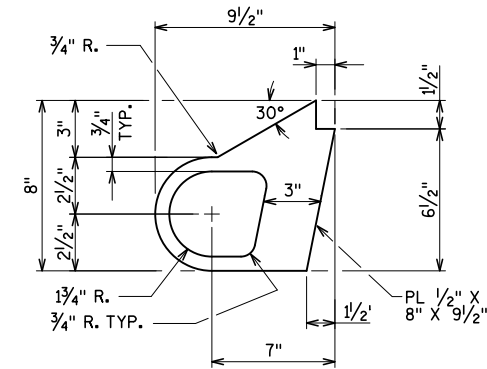
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DATE: 10/11/2018 10:54:48 PM
Plotted by: bthengon
PEN TABLE: V8-STRUCTURAL-REV.TEL



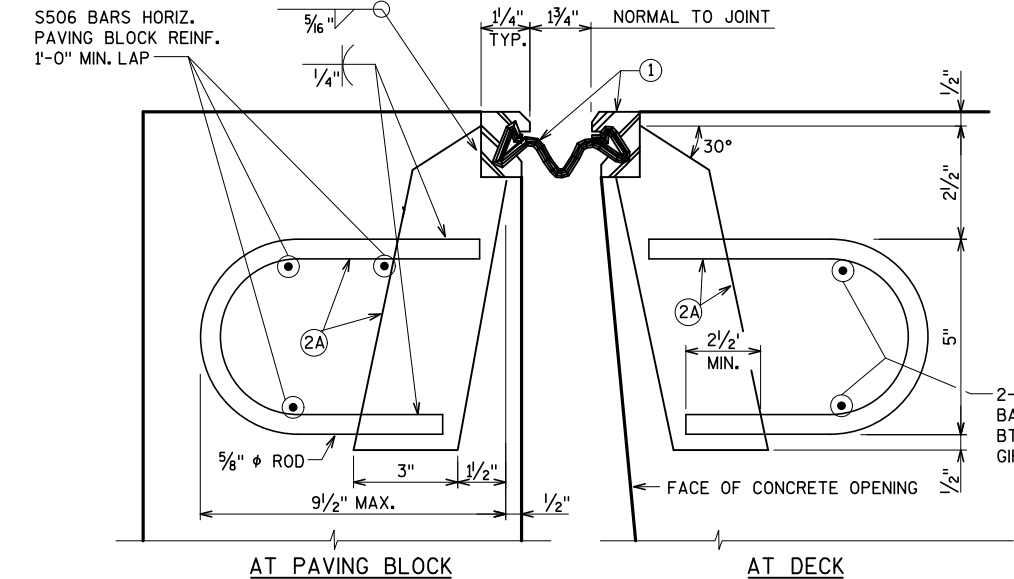
SECTION THRU JOINT AT ABUTMENT
NORMAL TO CL SUBSTRUCTURE



SECTION THRU JOINT
EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS

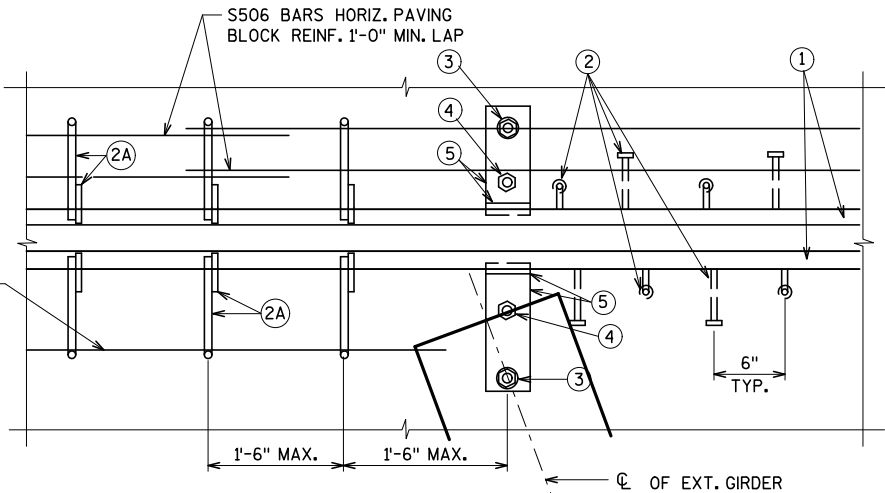


ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS
SYM. ABOUT CL JOINT UNLESS OTHERWISE SHOWN OR NOTED.



PART PLAN

GENERAL NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING, OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 & NO. 9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-40-484".

LEGEND

1. NEOPRENE STRIP SEAL (4 INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1 3/4". JOINT OPENING GIVEN NORMAL TO JOINT
2. STUDS 5/8" φ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.
- 2A. 1/2" THICK ANCHOR PLATE WITH 5/8" φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CTRS. BETWEEN GIRDERS. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
3. 3/4" φ THREADED ROD WITH 2 NUTS AND WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON CL OF GIRDER.
4. 3/4" φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" X 1 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY- COATING MATERIAL. PROVIDE 1 1/2" φ HOLE FOR NO. 3 & 1" φ HOLE FOR NO. 4.
6. GALVANIZED PLATE 3/8" X 10 1/2" X 2'-2" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN. (SEE SHEET 8)
7. 3/4" φ X 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. 3/4" φ X 4" GALV. HEX HEAD BOLT. BEND 45°.
9. 3/4" φ X 2 1/4" GALV. THREADED COUPLING.
10. NOT USED.
11. 1" X 5" SLOTTED CSK. HOLE FOR NO. 7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.

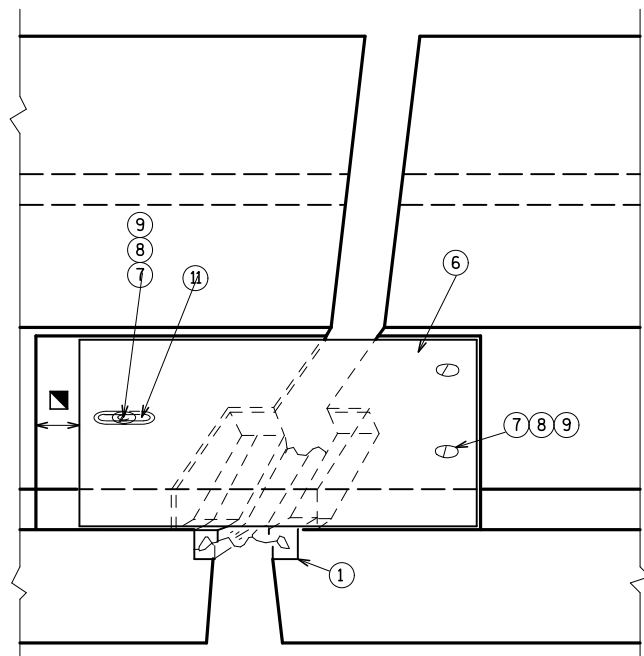
NOTE:

SEE "JOINT REPAIR" SHEET FOR REINFORCEMENT DETAILS.
WORK THIS SHEET WITH SHEET 8.

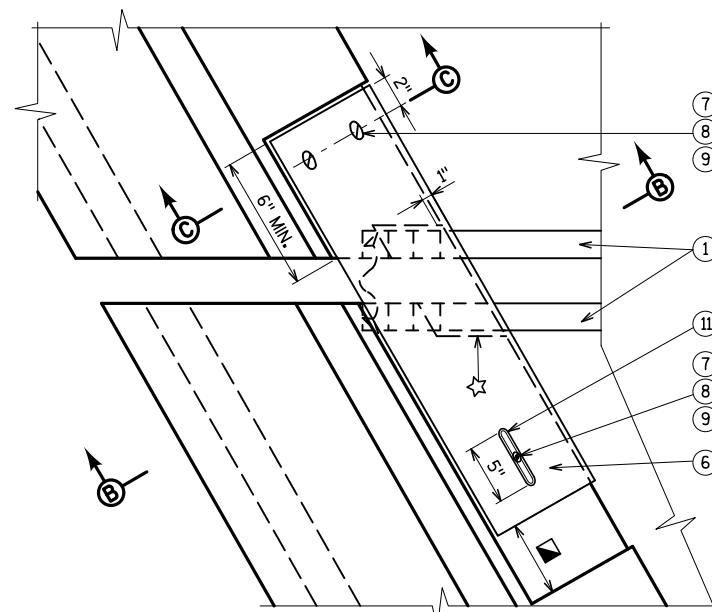
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-484			
DRAWN BY		PLANS CK'D.	
EXPANSION JOINT (1 OF 2)			SHEET 7 OF 10

FILE NAME: F:\BIM-3495-STH 119 Bridges - Wisconsin-2015-02-0045_Design\04_Structures\Bridges\Current plans 2015-02-0045\08 Exp 11-dt-2.dgn
DATE: 10/11/2018 10:06 PM
Plotted by: bthengon
PEN TABLE: V8-STRUCTURAL-REV.TBL

8



VIEW OF PARAPET PLATES
FROM ROADWAY



PLAN OF PARAPET 'B'

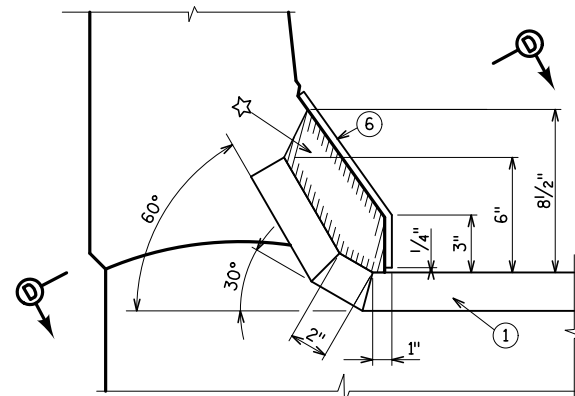
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WORK THIS SHEET WITH SHEET 7.

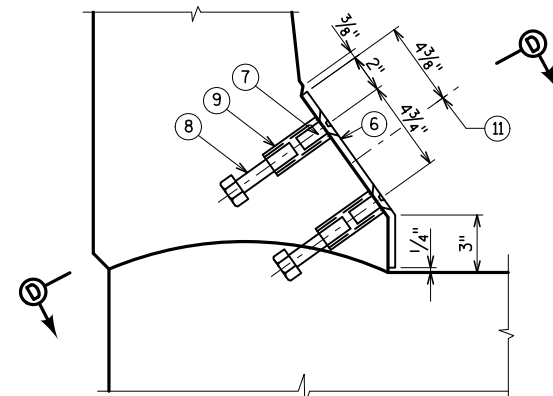
SEE SHEET 9 FOR PARAPET DETAILS.

STATE PROJECT NUMBER

2015-02-70

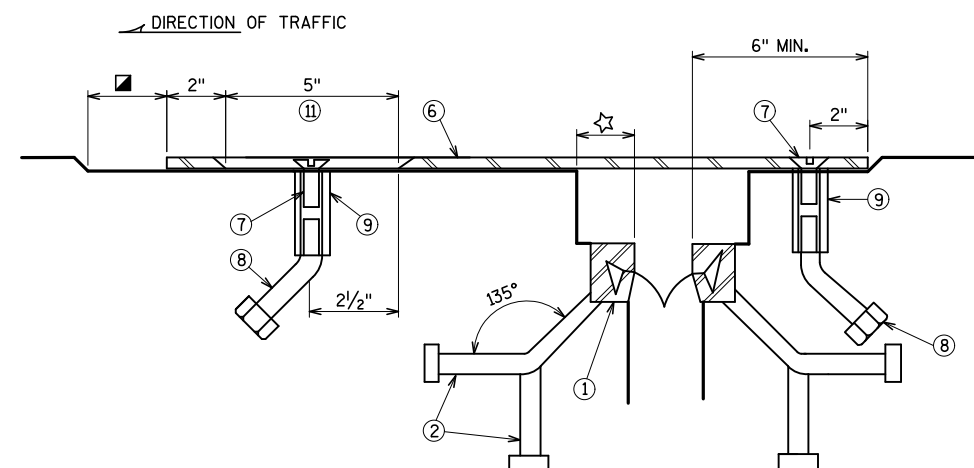


SECTION B-B



SECTION C-C

STRIP SEAL COVER PLATE DETAILS: PARAPET 'B'



SECTION D-D

LEGEND

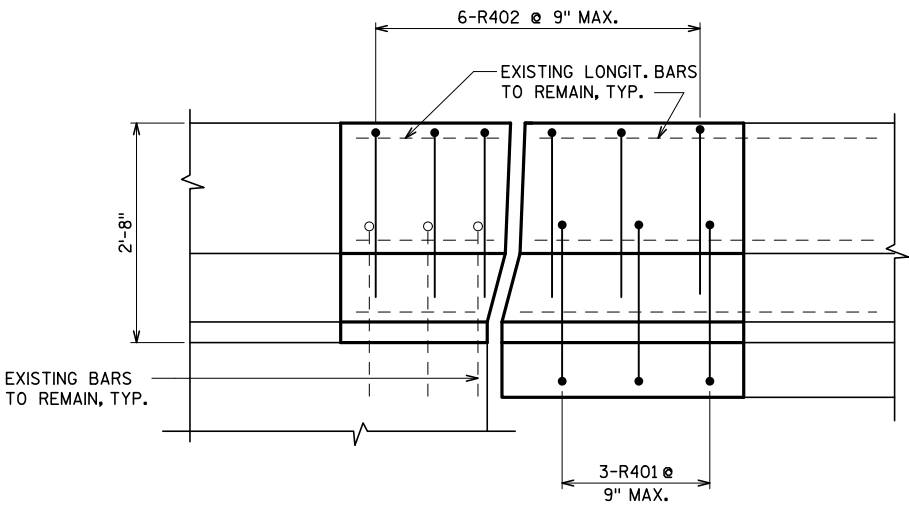
☆ BLOCK OUT CONCRETE 2" EACH
SIDE OF JOINT OPENING

■ JOINT OPENING DIM. ALONG SKEW + 1/2"

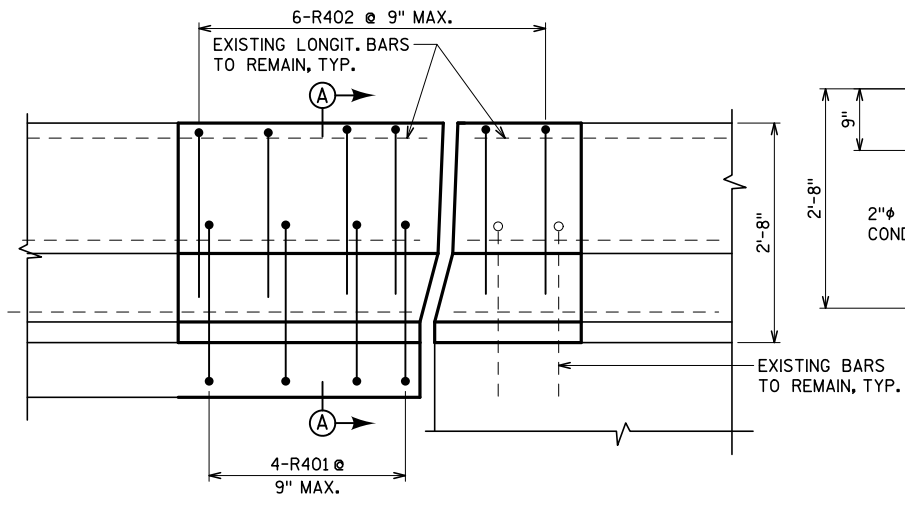
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-484			
DRAWN BY		TAL	PLANS CK'D. BDT
EXPANSION JOINT (2 OF 2)		SHEET 8 OF 10	

8

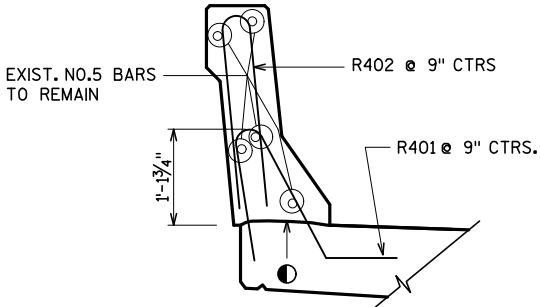
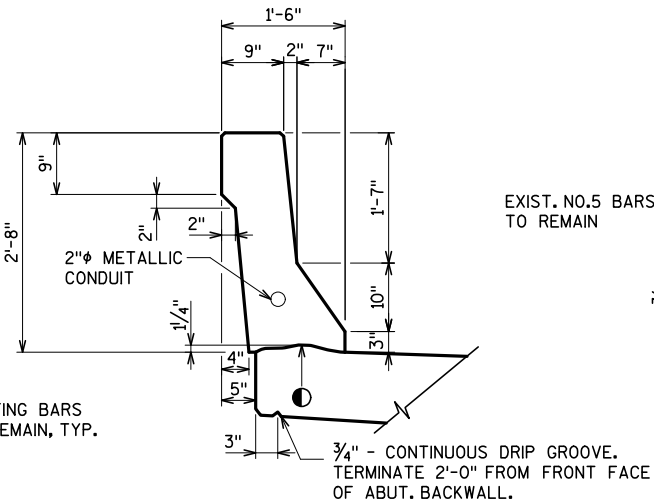
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PEN TABLE: V8_STRUCTUREL.REV.TEL



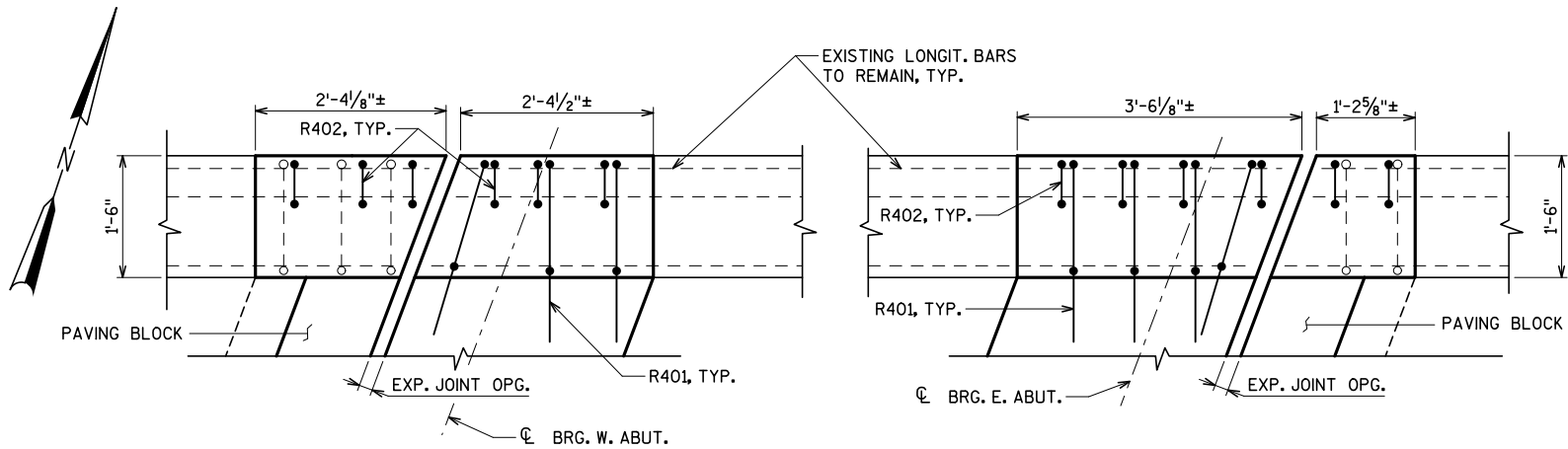
INSIDE ELEVATION



SECTION A-A
(SHOWING DIMENSIONS)



SECTION A-A
(SHOWING REINFORCEMENT)

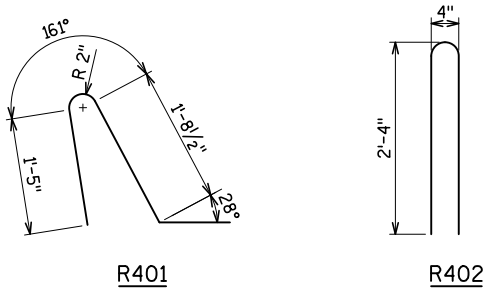


PLAN

(NORTH PARAPET SHOWN, SOUTH PARAPET SIMILAR)

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	LOCATION
R401	X	14	4'-3"	X	PARAPET, VERT.
R402	X	24	4'-10"	X	PARAPET, VERT.



BENDING DIAGRAMS

LEGEND

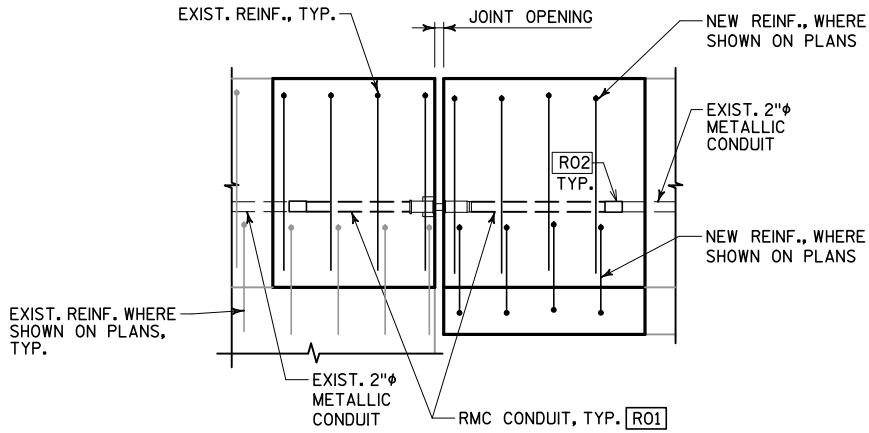
- CONST. JOINT - STRIKE OFF AS SHOWN AND FINISH WITH A WOODEN TROWEL.

NOTES

QUANTITY OF CONCRETE FOR THE PARAPET IS INCLUDED IN THE QUANTITY OF BID ITEM "CONCRETE MASONRY OVERLAY".

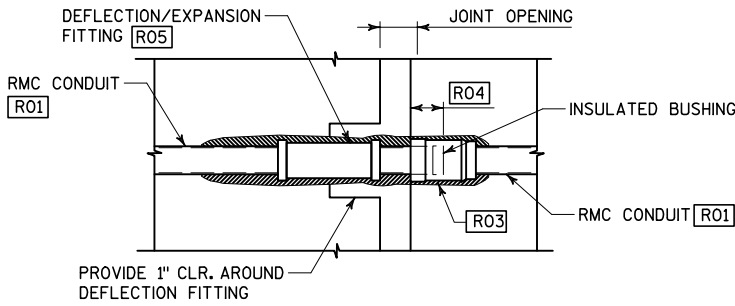
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-484			
DRAWN BY		PLANS CK'D.	
SLOPED FACE PARAPET 'B'			SHEET 9 OF 10

FILE NAME: F:\BIM-4495-5TH 119 Bridges - WISDOT 2015-02-0045.Design\04_Structures.Bridges\cds\Current plans 2018\B-40-0484\10_conduit_details.dgn
DATE: 10/11/2018 1:54:46 PM Plotted by: bthengon PEN TABLE: V8-STRUCTURAL.REV.TEL



CONDUIT DETAIL AT EXPANSION JOINT

(DECK STEEL AND PARAPET LONGITUDINAL STEEL
NOT SHOWN FOR CLARITY)



DEFLECTION/EXPANSION AND 4" EXPANSION FITTING

NOTES

CONDUIT SHALL BE EMBEDDED 2" CLEAR.

CONDUIT BENDS SHALL CONFORM TO NATIONAL ELECTRIC CODE.

CONDUIT FITTINGS, CONDUIT BENDS, AND ADAPTER FITTINGS ARE INCIDENTAL TO CONDUIT WORK.

LEGEND

- [R01] USE 2" DIA. RIGID METALLIC (RMC) CONDUIT AT FITTINGS. PROVIDE RMC ON EACH SIDE OF JOINT OPENING UNLESS NOTED OTHERWISE.
- [R02] ADAPTER FITTING.
- [R03] SPONGE RUBBER WRAP TO BE AASHTO M153 TYPE 1 OR EQUIVALENT. 1/4" MINIMUM THICKNESS. PROVIDE WRAP FOR ENTIRE LENGTH OF FITTING. SPONGE RUBBER WRAP TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".
- [R04] POSITION MOVABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT (EXPANSION/CONTRACTION) AS THE EXPANSION DEVICE SET IN PLACE IN THE DECK BELOW IT. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.
- [R05] DEFLECTION/EXPANSION FITTING AND 4" EXPANSION FITTING REQUIREMENTS :
MAXIMUM 4" TOTAL CONDUIT MOVEMENT WITH BONDING JUMPER
UP TO 30 DEGREES OF ANGULAR MISALIGNMENT IN ANY DIRECTION WITH BONDING JUMPER.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-484			
		DRAWN BY	PLANS CK'D.
CONDUIT DETAILS			SHEET 10 OF 10

DESIGN LOAD: HS20
INVENTORY RATING: HS18
OPERATIONAL RATING : HS33
WISCONSIN STANDARD PERMIT VEHICLE LOAD = 190 kips

CONCRETE MASONRY
OVERLAY DECKS f'c = 4,000 psi
SURFACE REPAIRS..... f'c = 4,000 psi

HIGH STRENGTH BAR STEEL
REINFORCEMENT, GRADE 60 $f_y = 60,000$ psi

A.D.T.(2014) = 7,200

A.D.T.(2023) = 10,157
B.D.C. = 60 M.D.U.

R.D.S. = 60 M.P.H.

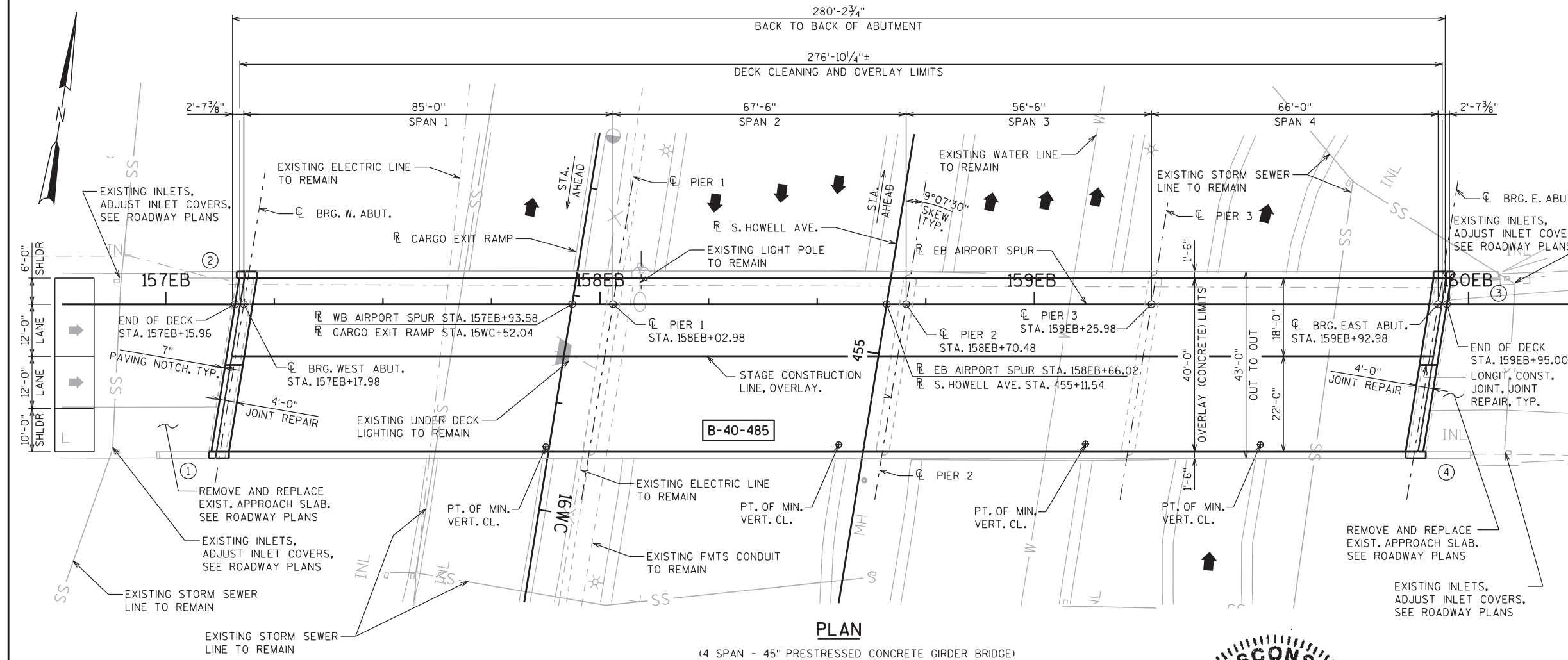
A.D.T.(2014) = 24,000

A.D.T.(2023) = 51,700

R.D.S. = 40 M.P.H.

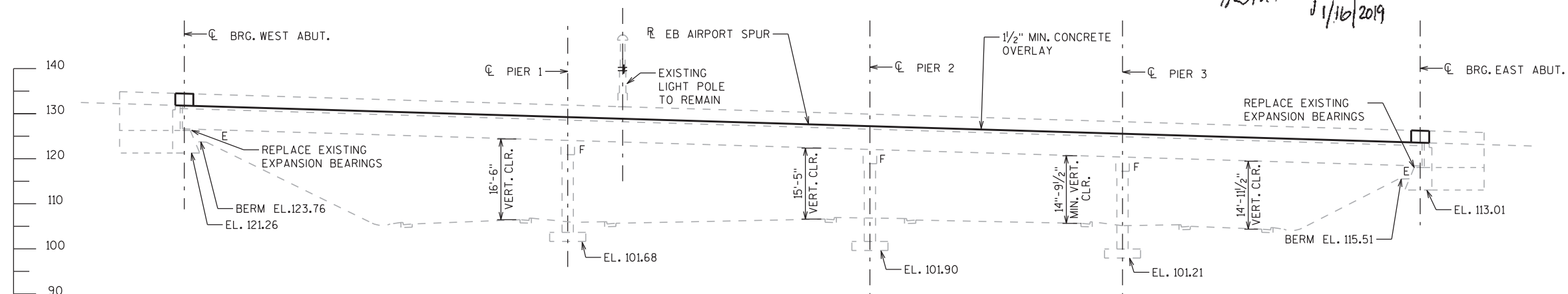
1. CONCRETE OVERLAY
2. TYPICAL SECTION AND ESTIMATE OF QUANTITIES
3. REMOVAL DETAILS
4. JOINT REPAIR (1 OF 2)
5. JOINT REPAIR (2 OF 2)
6. EXPANSION BEARING
7. EXPANSION JOINT (1 OF 2)
8. EXPANSION JOINT (2 OF 2)
9. SLOPE FACED PARAPET 'B'
10. CONDUIT DETAILS
11. BAR COUPLER DETAILS

(X) WINGWALL NUMBER




PLAN

(4 SPAN - 45" PRESTRESSED CONCRETE GIRDER BRIDGE)

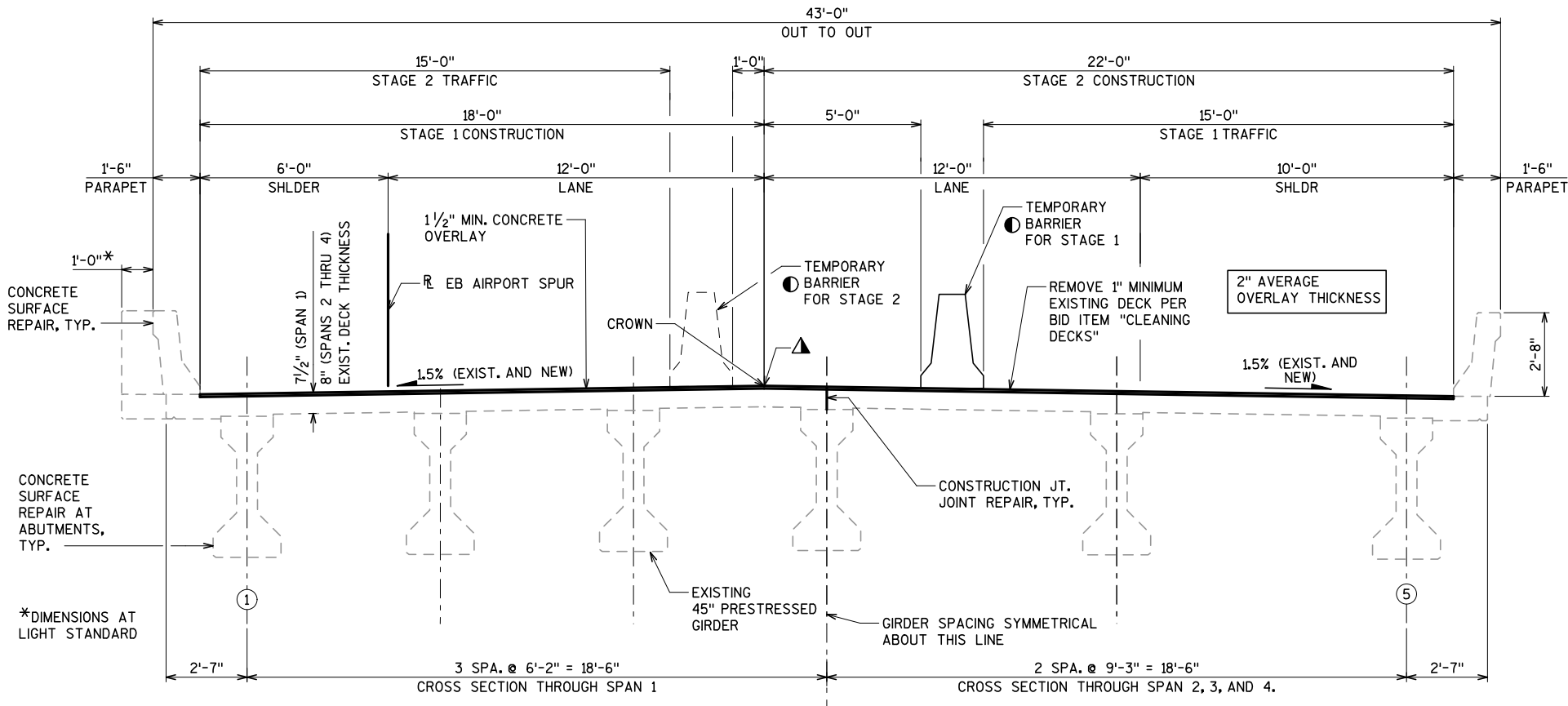
ELEVATION

WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT:
BABU THENGANAKUNNEL
(414) 292-4506

NO.	DATE	REVISION	BY
 <p>BLOOM COMPANIES, LLC <i>Infrastructure Innovation and Ingenuity</i></p> <p>10501 W. Research Drive • Milwaukee, WI 53226 Phone: (414) 771-3390 Fax: (414) 771-4490</p>			
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p> <p>ACCEPTED <u>William C. Diehn</u> ^{SDR} 01/17/19 CHIEF STRUCTURES DESIGN ENGINEER DATE</p>			
<p>STRUCTURE B-40-485</p>			
<p>STH 119 EB AIRPORT SPUR OVER S HOWELL AVE</p>			
COUNTY		CITY	
MILWAUKEE		MILWAUKEE	
<p>DESIGN SPEC. REHABILITATION N/A</p>			
DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
DMC	YNN	TAL	BDT
<p>CONCRETE OVERLAY</p>			<p>SHEET 1 OF 11</p>

FILE NAME: F:\BIM\3495-STH 119 Bridges - WisDOT 2015-02-0045_Design\04_Structures\Bridges\Current plans 2018\B-40-485\02-tyt sec.dgn
DATE: 1/11/2019 8:53:35 AM Plotted by: bthengon PEN TABLE: V8-STRUCTURAL-REV.TEL



TYPICAL SECTION THRU EB AIRPORT SPUR (STH 119)

(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	TOTAL
502.3100.02	EXPANSION DEVICE B-40-485	LS	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1254
502.3210	PIGMENTED SURFACE SEALER	SY	7
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	82
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	3390
505.0905	BAR COUPLERS NO.5	EACH	18
505.0906	BAR COUPLERS NO.6	EACH	10
506.6000.02	BEARING ASSEMBLIES EXPANSION B-40-485	EACH	12
506.7050.S.02	REMOVING BEARINGS B-40-485	EACH	12
509.0301	PREPARATION DECKS TYPE 1	SY	24
509.0302	PREPARATION DECKS TYPE 2	SY	10
509.0500	CLEANING DECKS	SY	1230
509.1000	JOINT REPAIR	SY	40
509.1500	CONCRETE SURFACE REPAIR	SF	169
509.2000	FULL-DEPTH DECK REPAIR	SY	8
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	83
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	20
	NON BID ITEM		
	BRIDGE SEAT PROTECTION		

ALL BID ITEMS ARE CATEGORY 0030

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

PLANS OF THE EXISTING BRIDGE ARE ON FILE AND ARE AVAILABLE FOR INSPECTION AT THE WISCONSIN DEPARTMENT OF TRANSPORTATION,SOUTHEAST REGION.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY AND TOP AND SIDES OF PAVING BLOCK.

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

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, FULL-DEPTH DECK REPAIR, AND CONCRETE SUREFACE 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".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1 1/2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN 1/2", CONTACT THE STRUCTURES DESIGN SECTION.

ALL NEW BAR STEEL REINFORCEMENT SHALL BE EPOXY COATED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE 3/4 INCH UNLESS OTHERWISE NOTED.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK. EXISTING BARS SHALL BE CLEANED AND STRAIGHTENED.

ALL CONCRETE REMOVALS NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1 INCH DEEP SAWCUT.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR PAVING BLOCK AT THE ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO TOP AND INSIDE FACES OF NEW PARAPETS.

PART OF EXISTING DECK AND PARAPETS AND WHOLE OF EXISTING EXPANSION DEVICES AND PAVING BLOCK ARE TO BE REMOVED AS PART OF JOINT REPAIR.

CRACKS IN THE NEW OVERLAY SHALL BE SEALED WITH A LOW VISCOSITY CRACK SEALER (PER STANDARD SPECIFICATIONS). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS."

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-40-485".

APPLY BRIDGE SEAT PROTECTION, PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF BOTH ABUTMENTS BELOW EXPANSION DEVICES. POWERWASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION. WORK INCIDENTAL TO BID ITEM "JOINT REPAIR".

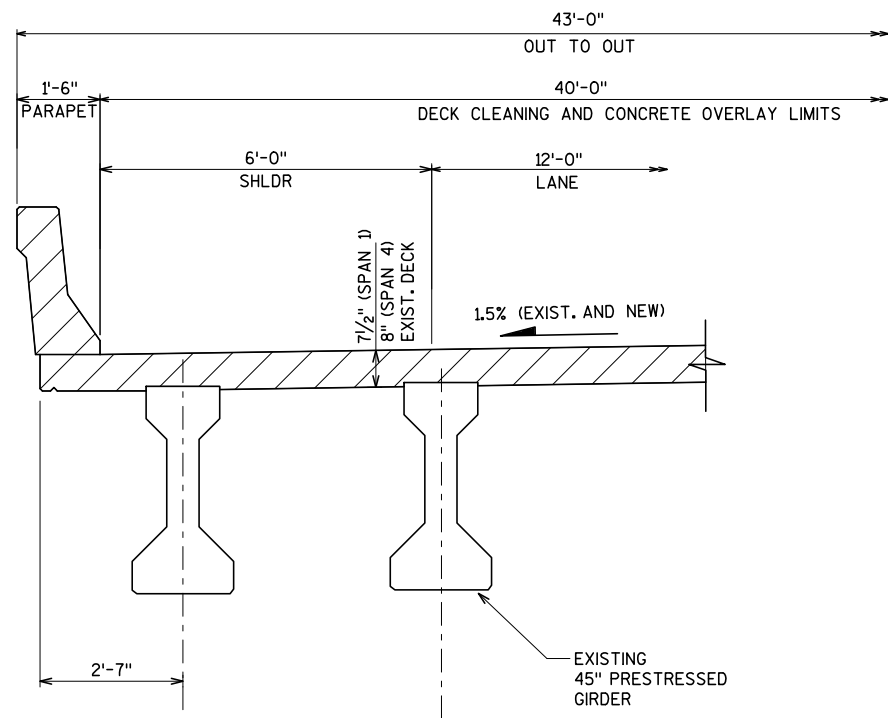
LEGEND

▲ STAGE CONSTRUCTION JOINT IN CONCRETE OVERLAY

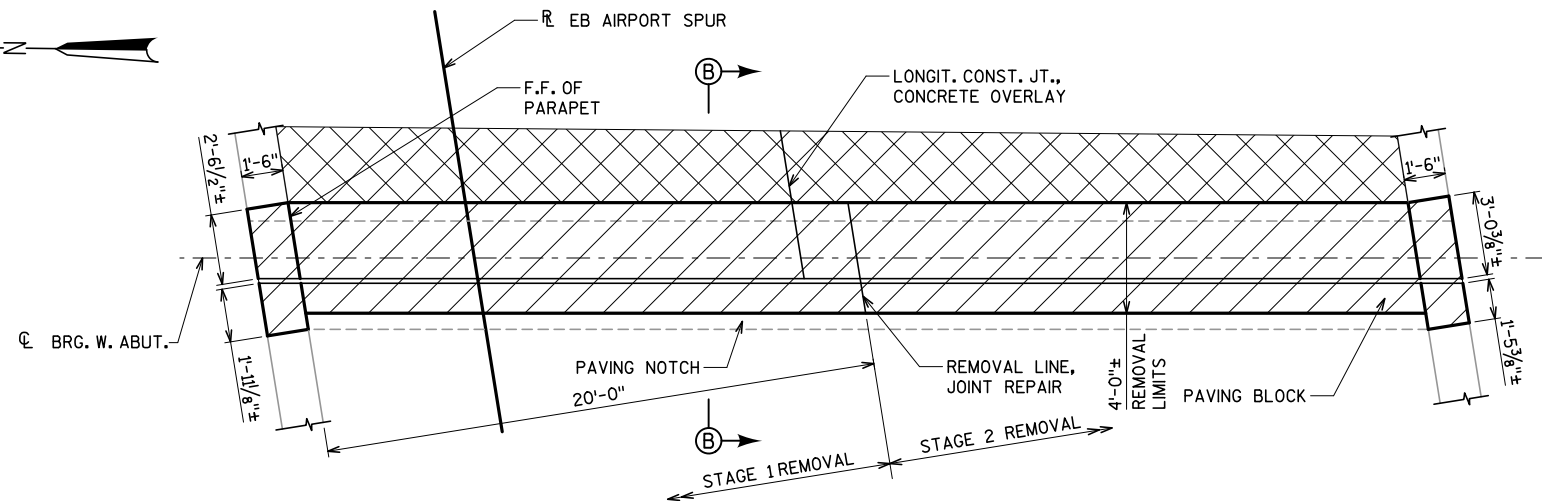
● TEMPORARY PRECAST CONCRETE BARRIER. QUANTITY INCLUDED IN ROADWAY PLANS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-485			
	DRAWN BY	TAL	PLANS CK'D. BDT
TYPICAL SECTION AND ESTIMATE OF QUANTITIES		SHEET 2 OF 11	

FILE NAME: F:\BM\1-4495-5TH 119 Bridges - WISDOT 2015-02-0045.Design\04.Structures.Bridges\cds\Current plans 2018\B-40-0485\03.demo plan.dgn
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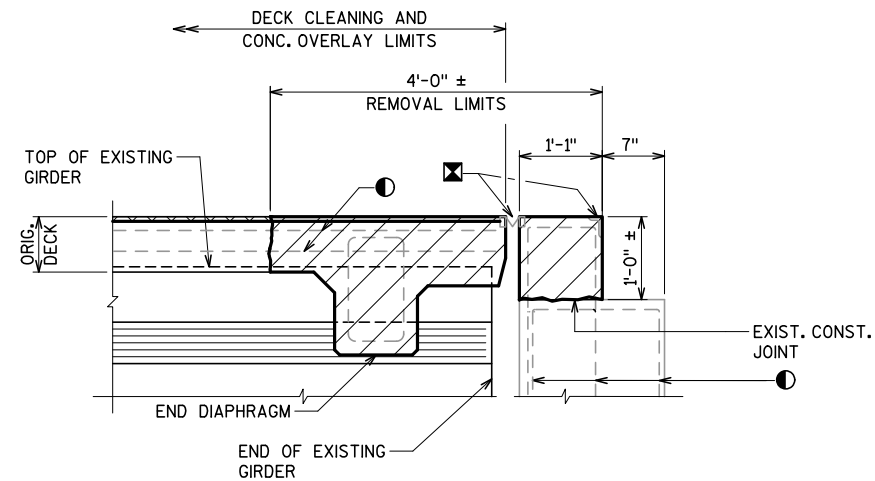


SECTION THROUGH JOINT REPAIR



PLAN AT JOINT REPAIR

SHOWING REMOVAL
(WEST JOINT SHOWN, EAST JOINT SIMILAR)



SECTION B-B

(SHOWING REMOVAL)

LEGEND

REMOVAL LIMITS FOR CLEANING DECK

REMOVAL LIMITS FOR JOINT REPAIR

● SALVAGE AND CLEAN EXISTING REINFORCEMENT AND EXTEND FULL LENGTH INTO NEW WORK

☒ REMOVE EXISTING EXPANSION JOINT AND PAVING BLOCK ARMOR ANGLES. COST INCIDENTAL TO BID ITEM "JOINT REPAIR".

NO.	DATE	REVISION	BY
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STRUCTURE B-40-485			
DRAWN BY		TAL	PLANS CK'D. BDT
REMOVAL DETAILS		SHEET 3 OF 11	

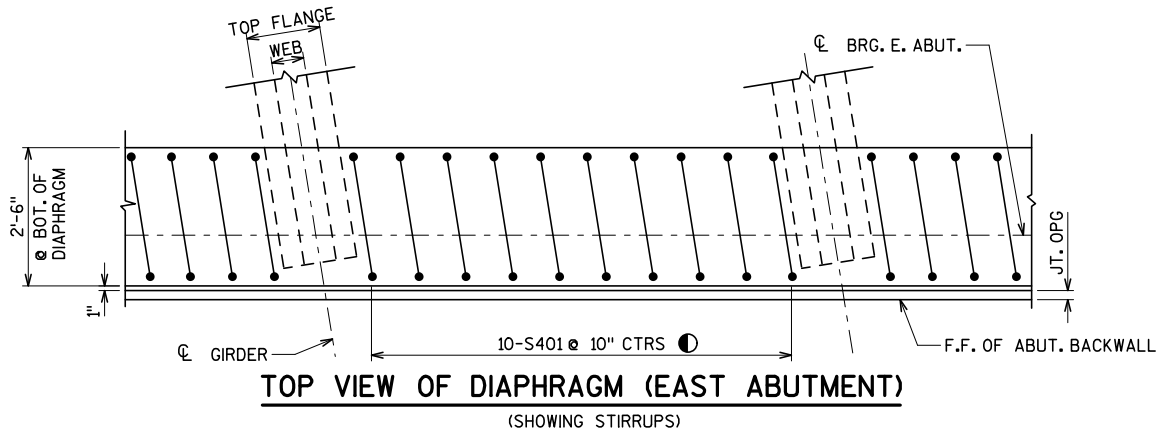
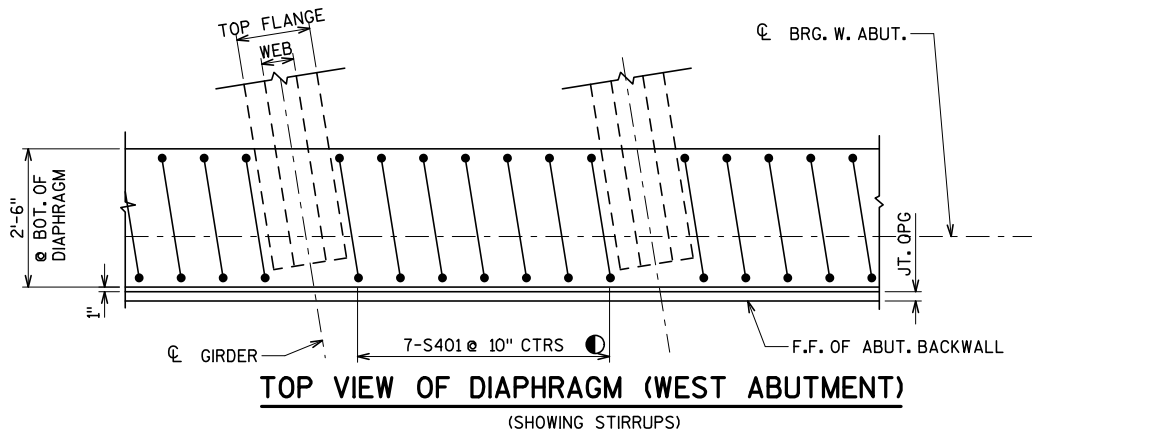
STATE PROJECT NUMBER
2015-02-70



LOCATION	QTY	
	NO.5	NO.6
DECK, WEST JOINT	12	
PAVING BLOCK, WEST JOINT	3	
DECK, EAST JOINT		10
PAVING BLOCK, EAST JOINT	3	

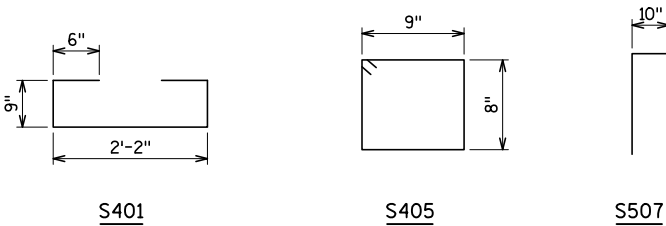
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-485			
DRAWN BY		TAL	PLANS CK'D. BDT
JOINT REPAIR (1 OF 2)		SHEET 4 OF 11	

FILE NAME: F:\BIM-3495-5TH 119 Bridges - Wisconsin-02-0045.Designs\04.Structures\Bridges\Current plans 2018\B-40-485\05_Joint Repair 2.dgn
DATE: 1/11/2019 9:48:00 AM Plotted by: bthengon PEN TABLE: V8-STRUCTURAL-REV.TEL



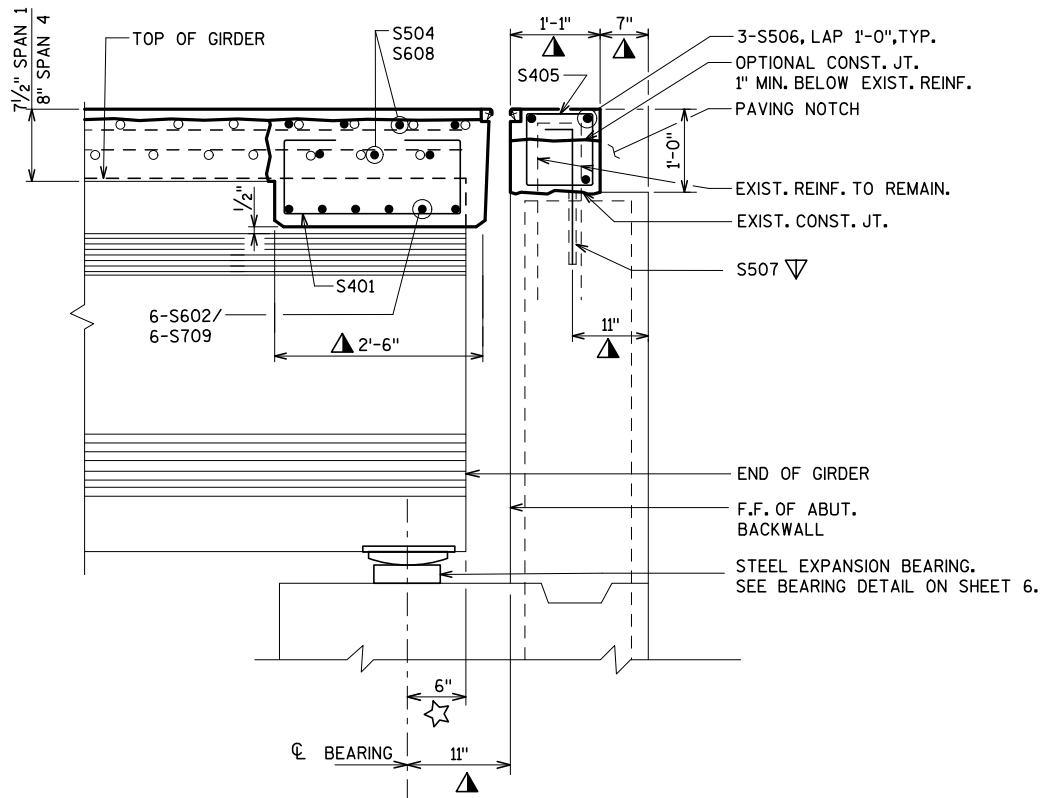
BILL OF BARS

BAR MARK	COAT	NO.			LENGTH	BENT	BAR SERIES	LOCATION
		W. ABUT.	E. ABUT.	TOTAL				
S401	X	42	40	82	4'-4"	X	-	DIAPHRAGM STIRRUPS
S602	X	72	-	72	4'-3"	-	-	DIAPHRAGM HORIZ., BOT. WEST
X S504	X	24	-	24	21'-0"	-	-	DECK, TRANSV., TOP & BOT. W. ABUT.
S405	X	41	41	82	3'-4"	X	-	PAVING BLOCK, STIRRUPS
X S506	X	18	18	36	7'-4"	-	-	PAVING BLCOK, HORIZ.
S507	X	41	41	82	3'-0"	X	-	PAVING BLOCK, ADHESIVE ANCHOR
X S608	X	-	20	20	21'-0"	-	-	DECK, TRANSV., TOP & BOT. E. ABUT.
S709	X	-	48	48	6'-3"	-	-	DIAPHRAGM HORIZ. BOT., EAST
S410	X	12	-	12	5'-4"	-	-	AT EXP. JT. ANCHOR WEST JT.
S411	X	-	8	8	8'-5"	-	-	AT EXP. JT. ANCHOR EAST JT.



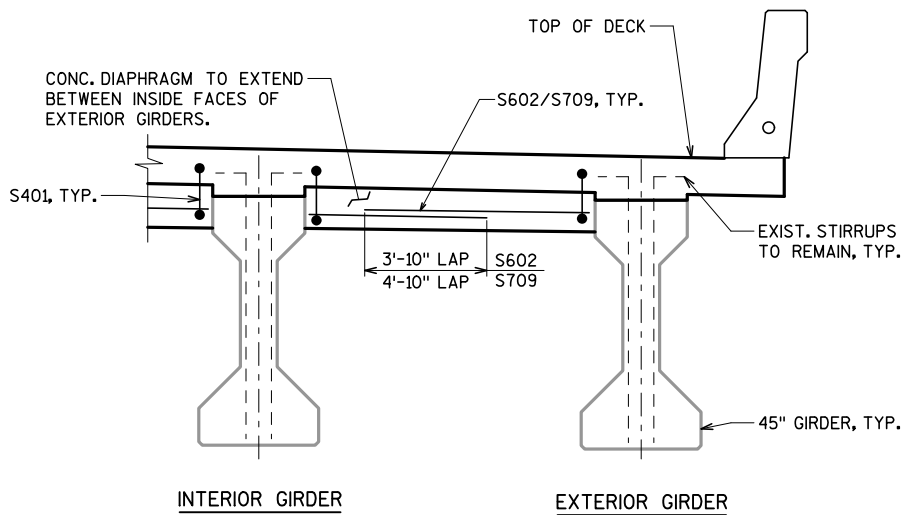
LEGEND

- ▲ DIMENSION IS TAKEN NORMAL TO ϕ SUBSTRUCTURE UNIT.
- ☆ DIMENSION IS TAKEN PARALLEL TO ϕ GIRDER.
- ▽ ADHESIVE ANCHOR NO.5 BAR. EMBED 1'-6" IN CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.
- BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO ϕ GIRDERS.
- ☒ BARS ADJACENT TO LONGIT. CONST. JOINT SHALL BE LAPPED WITH BAR SPLICER.



DIAPHRAGM AT ABUTMENT
(NORMAL TO ϕ BEARING)

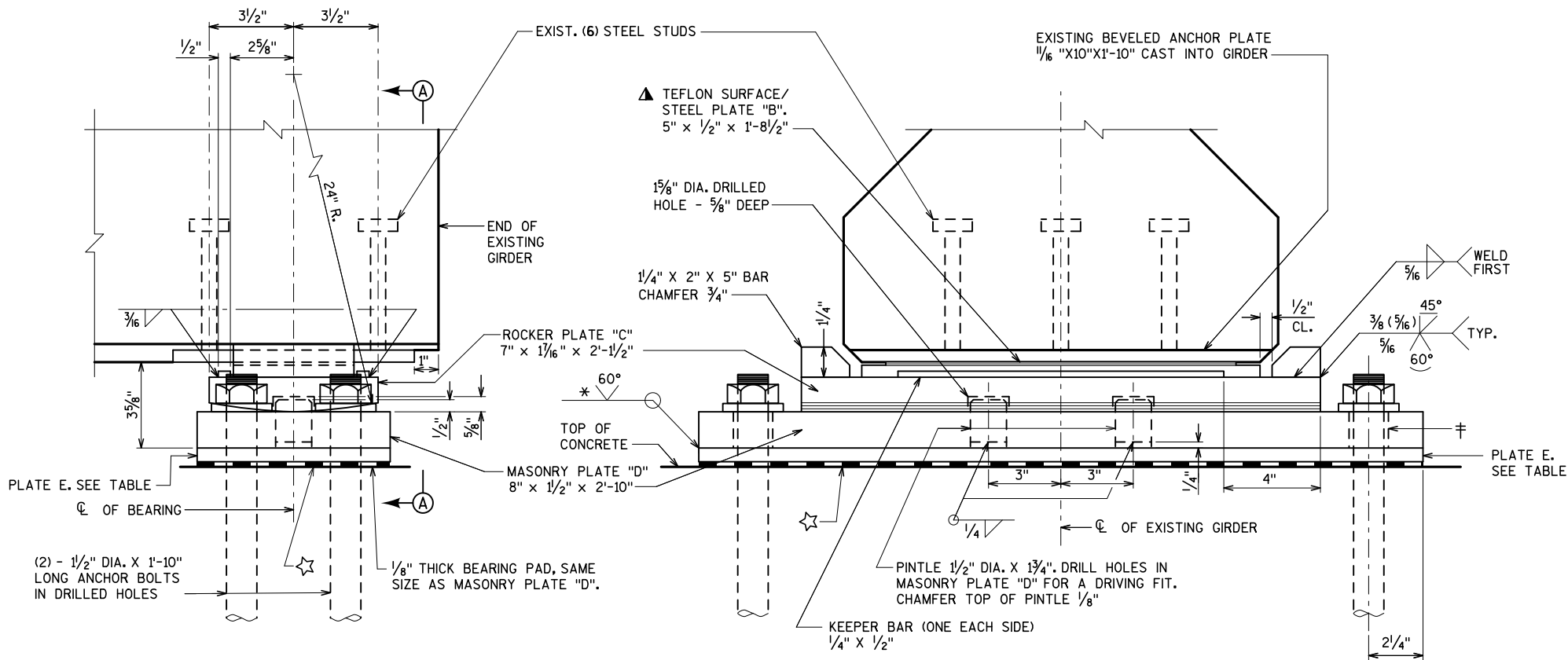
BENDING DIAGRAMS



DIAPHRAGM AT ABUTMENT
(NORMAL TO ϕ BEARING)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-485			
DRAWN BY		TAL	PLANS CK'D. BDT
JOINT REPAIR (2 OF 2)			SHEET 5 OF 11

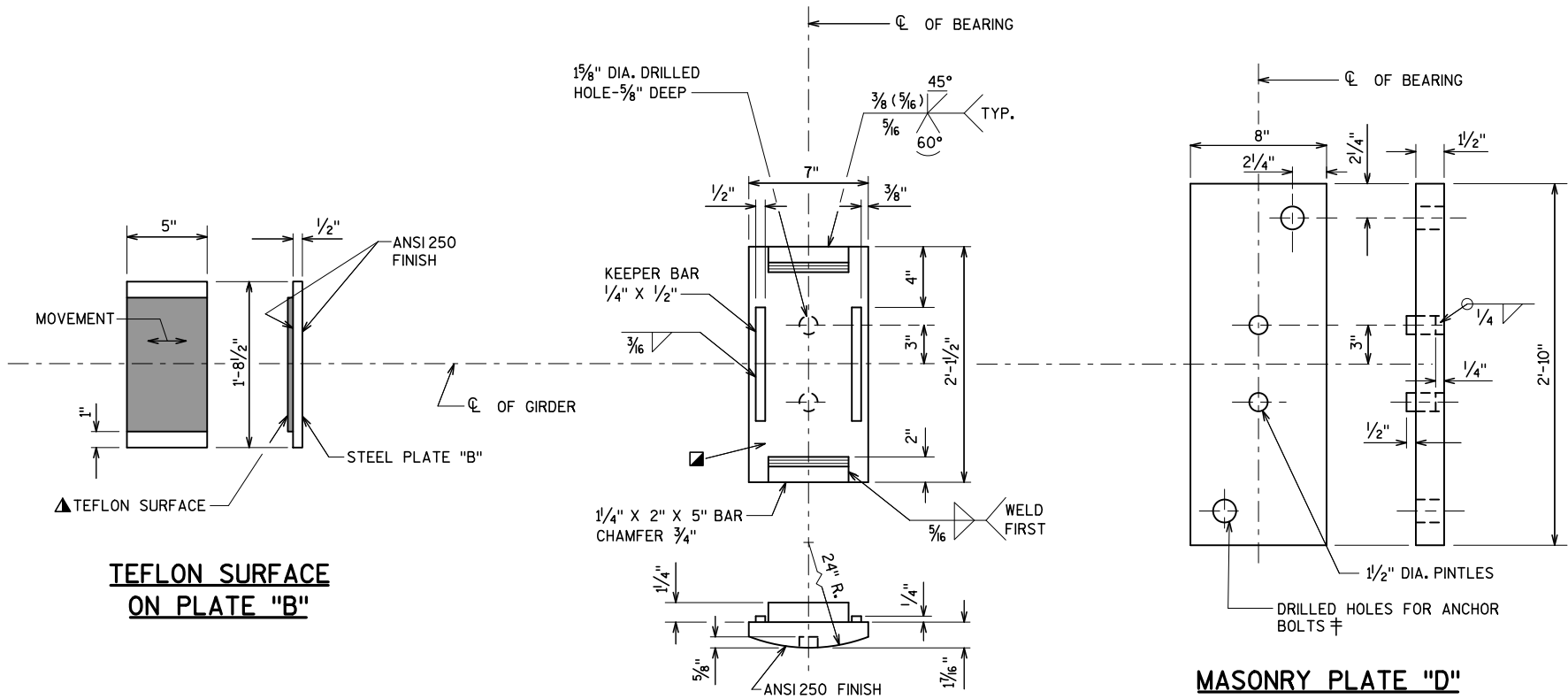
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DATE: 1/11/2019 8:55:43 AM Plotted by: bthengon PEN TABLE: V8_STRUCTURAL.REV.TEL



EXPANSION BEARING ASSEMBLY

SECTION A-A

* WELD SIZE: MINIMUM OF 1/4" OR THICKNESS OF PLATE "E".



TEFLON SURFACE
ON PLATE "B"

ROCKER PLATE "C"

EXPANSION BEARING

MASONRY PLATE "D"

BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT CL OF GIRDER AND CL OF BEARING.

ALL MATERIAL IN BEARINGS, BUT EXCLUDING TEFLON SURFACE, PINTLES, ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

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.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS + 2/4", ABOVE TOP OF CONCRETE.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

MASONRY PLATE "D", ROCKER PLATE "C", PLATE "E", ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS "C". STEEL PLATE "B" SHALL BE SHOP PAINTED. DO NOT PAINT TEFLON SURFACE.

ALL MATERIAL IN "EXPANSION BEARING", INCLUDING BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION B-40-485", EACH.

† DRILLED HOLES FOR ANCHOR BOLTS IN MASONRY PLATE "D" AND PLATE "E" SHALL HAVE A DIAMETER 3/8" LARGER THAN ANCHOR BOLT.

▲ TEFLON SURFACE, USE UNFILLED WITH MINIMUM 1/16" THICKNESS. PLACE WITH SCRIVE MARKS IN DIRECTION OF MOVEMENT. BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING THE REQUIREMENTS FOUND IN THE STANDARD SPECIFICATION.

■ PROVIDE A METHOD FOR HANDLING ROCKER PLATE "C" DURING GALVANIZING.

☆ REMOVE EXISTING EXPANSION BEARINGS. BURN OFF EXISTING ANCHOR BOLTS FLUSH WITH CONCRETE BEARING SURFACE & GRIND SMOOTH.

AT INSTALLATION, ENSURE STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TFE SLIDING FACE OF THE LOWER ELEMENT ARE CLEAN AND FREE OF ALL DUST, MOISTURE, AND OTHER FOREIGN MATTER.

PLATE 'E' THICKNESS TABLE

PLATE MARK	LOCATION	GIRDER	PLATE SIZE
'E'	W. ABUT.	1,2,3,4,5	-
	W. ABUT.	6,7	2'-10" X 8" X 1/16"
	E. ABUT.	1	2'-10" X 8" X 1/8"
	E. ABUT.	2,3,4	-
	E. ABUT.	5	2'-10" X 8" X 1/4"

NOTE: PROVIDE HOLES IN PLATE "E" FOR ANCHOR BOLTS. MATCH HOLE SIZE AND LAYOUT TO THOSE OF MASONRY PLATE "D".

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STRUCTURE B-40-485			
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EXPANSION BEARING		SHEET 6 OF 11	



PART PLAN

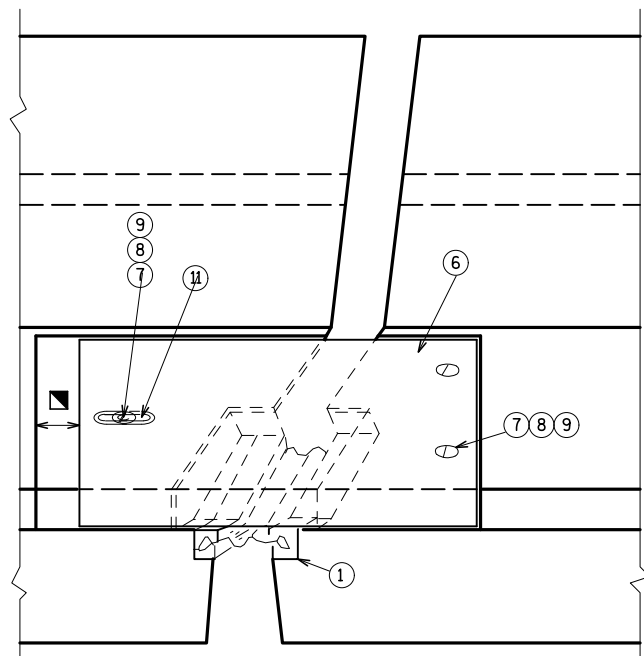
1. NEOPRENE STRIP SEAL (4 INCH) & STEEL EXTRUSIONS.
SET JOINT OPENING AT $1\frac{3}{4}$ ". JOINT OPENING GIVEN NORMAL TO JOINT
2. STUDS $\frac{5}{8}$ " ϕ X $6\frac{3}{4}$ " LONG AT 6" ALTERNATE CENTERS.
WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.
- 2A. $\frac{1}{2}$ " THICK ANCHOR PLATE WITH $\frac{5}{8}$ " ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO.1 AT 1'-6" CTRS. BETWEEN GIRDERS.
ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
3. $\frac{3}{4}$ " ϕ THREADED ROD WITH 2 NUTS AND WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON $\frac{C}{2}$ OF GIRDER.
4. $\frac{3}{4}$ " ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" X $\frac{1}{2}$ " BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE, FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY- COATING MATERIAL. PROVIDE $\frac{1}{2}$ " ϕ HOLE FOR NO. 3 & 1" ϕ HOLE FOR NO. 4.
6. GALVANIZED PLATE $\frac{3}{8}$ " x $10\frac{1}{2}$ " x 2'-2" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN. (SEE SHEET 8)
7. $\frac{3}{4}$ " ϕ x $1\frac{1}{2}$ " STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS $\frac{1}{16}$ " BELOW PLATE SURFACE.
8. $\frac{3}{4}$ " ϕ x 4" GALV. HEX HEAD BOLT. BEND 45°.
9. $\frac{3}{4}$ " ϕ x 2 $\frac{1}{4}$ " GALV. THREADED COUPLING.
10. NOT USED.
11. 1" x 5" SLOTTED CSK. HOLE FOR NO. 7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.

WORK THIS SHEET WITH SHEET 8.

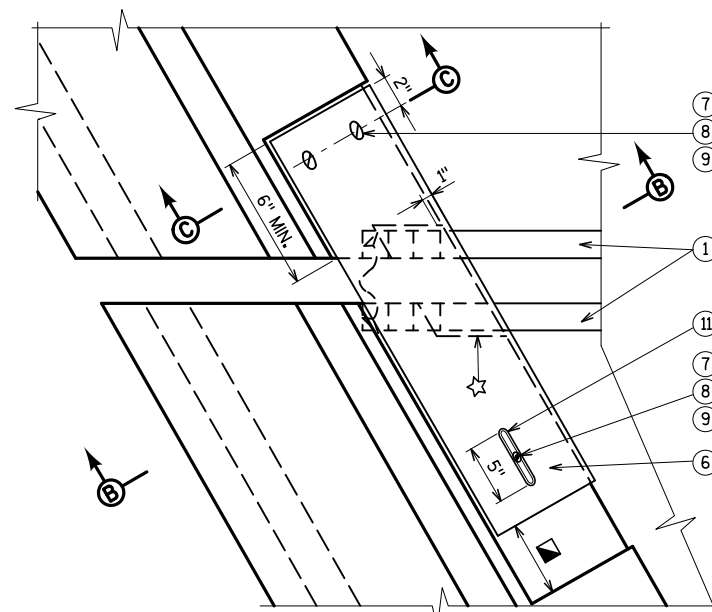
NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION					
STRUCTURE B-40-485					
		DRAWN BY	TAL	PLANS CK'D.	BOT
EXPANSION JOINT (1 OF 2)			SHEET 7 OF 11		

FILE NAME: F:\BIM-3495-STH 119 Bridges - WisDOT 2015-02-0045_Design\04_Structures\Bridges\Current plans 2018\B-40-485\08 Exp 1\1-dt-2.dgn
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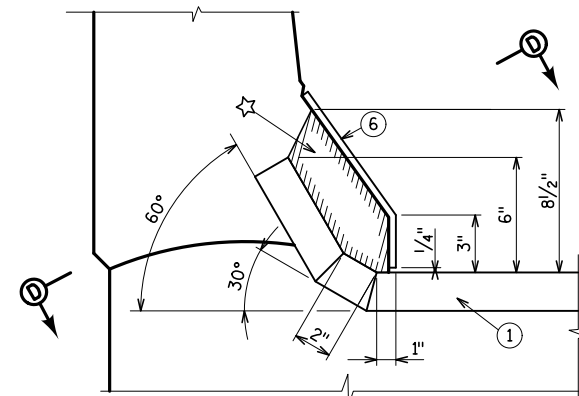
8



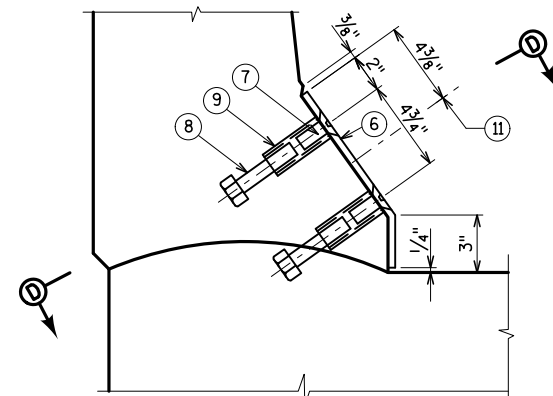
VIEW OF PARAPET PLATES
FROM ROADWAY



PLAN OF PARAPET 'B'

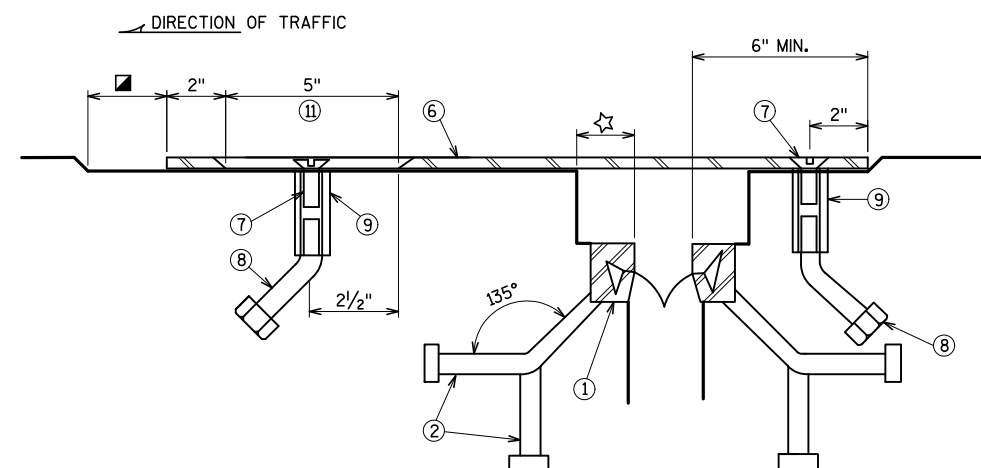


SECTION B-B



SECTION C-C

STRIP SEAL COVER PLATE DETAILS: PARAPET 'B'



SECTION D-D

NOTES

WORK THIS SHEET WITH SHEET 7.

SEE SHEET 9 FOR PARAPET DETAILS.

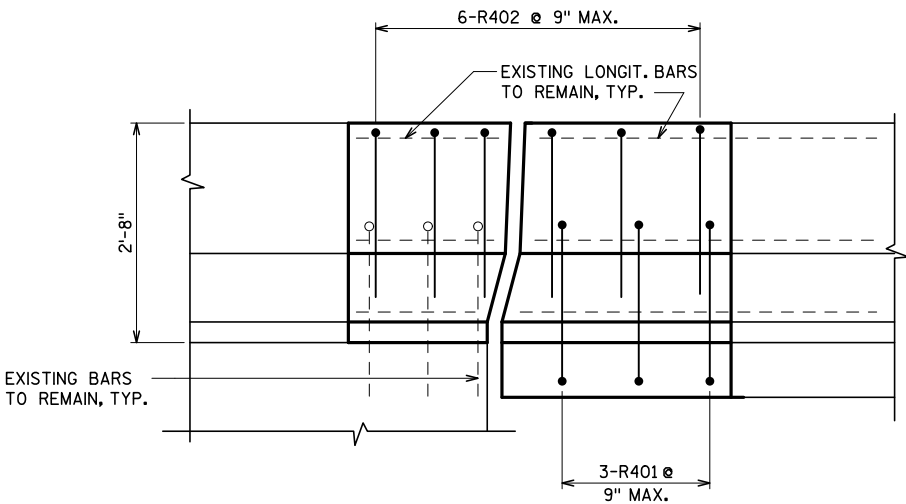
LEGEND

- ☆ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING
- JOINT OPENING DIM. ALONG SKEW + 1/2"

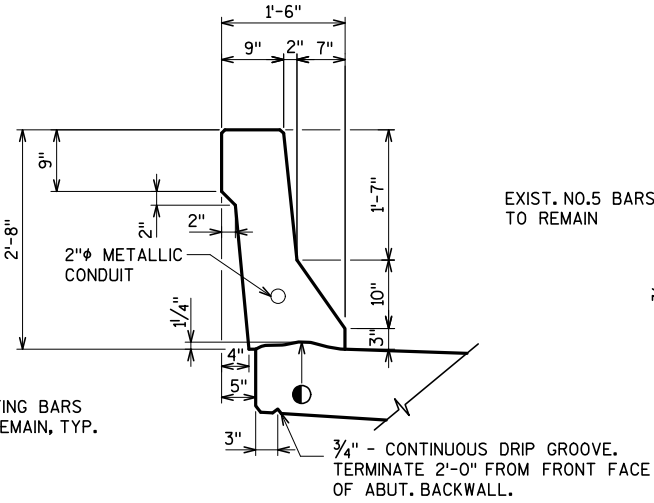
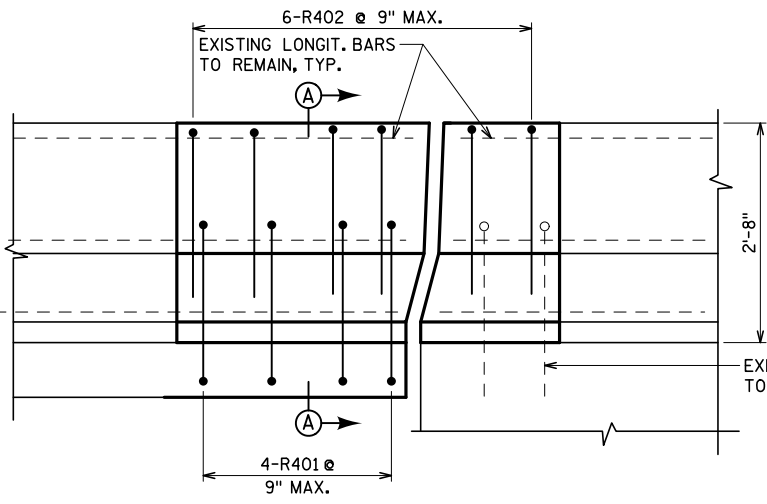
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-485			
DRAWN BY		TAL	PLANS CK'D. BDT
EXPANSION JOINT (2 OF 2)		SHEET 8 OF 11	

8

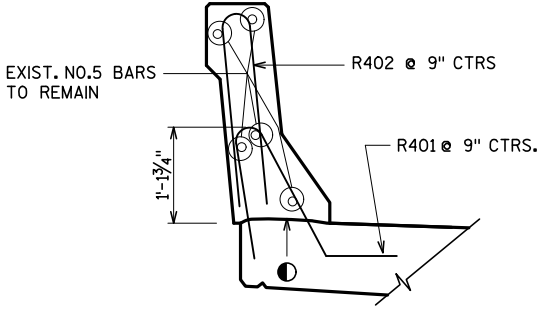
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DATE: 1/11/2019 8:57:05 AM Plotted by: bthengon PEN TABLE: V8-STRUCTURAL.REV.TEL



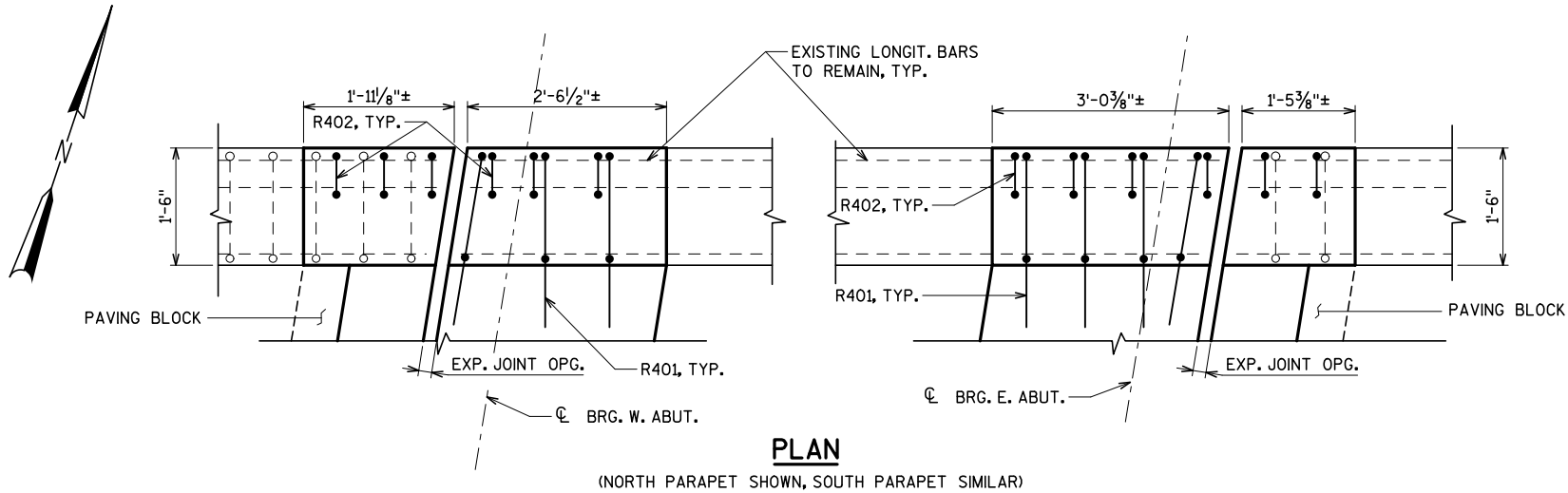
INSIDE ELEVATION



SECTION A-A
(SHOWING DIMENSIONS)



SECTION A-A
(SHOWING REINFORCEMENT)

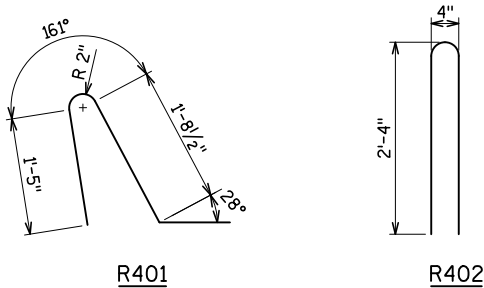


PLAN

(NORTH PARAPET SHOWN, SOUTH PARAPET SIMILAR)

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	LOCATION
R401	X	14	4'-3"	X	PARAPET, VERT.
R402	X	24	4'-10"	X	PARAPET, VERT.



BENDING DIAGRAMS

LEGEND

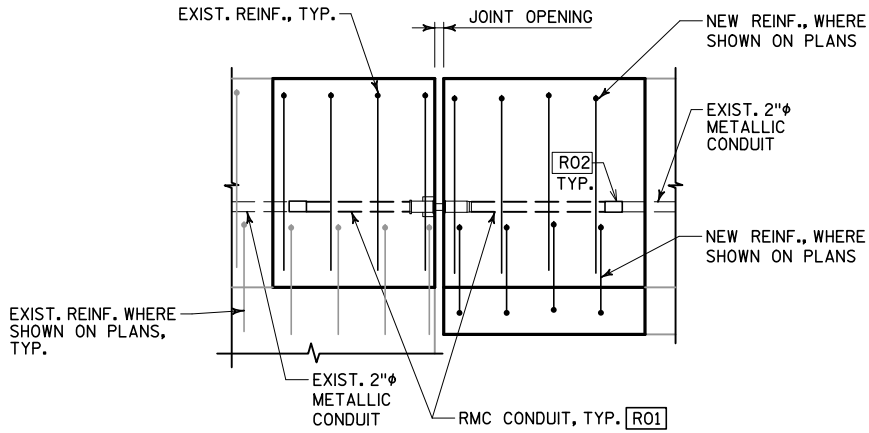
- CONST. JOINT - STRIKE OFF AS SHOWN AND FINISH WITH A WOODEN TROWEL.

NOTES

QUANTITY OF CONCRETE FOR THE PARAPET IS INCLUDED IN THE QUANTITY OF "CONCRETE MASONRY OVERLAY".

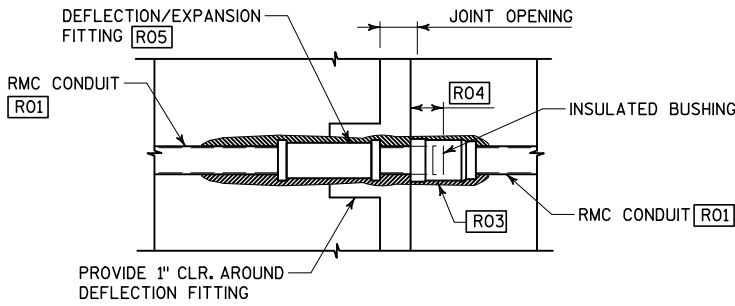
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-485			
DRAWN BY		TAL	PLANS CK'D. BDT
SLOPED FACE PARAPET 'B'		SHEET 9 OF 11	

FILE NAME: F:\BIM-4495-5TH 119 Bridges - WISDOT 2015-02-0045.Design\04_Structures.Bridges\cds\Current\ plans 2018\B-40-0485\10_conduit_details.dgn
DATE: 1/11/2019 9:20:02 AM Plotted by: bthengon PEN TABLE: V8-STRUCTURAL.REV.TEL



CONDUIT DETAIL AT EXPANSION JOINT

(DECK STEEL AND PARAPET LONGITUDINAL STEEL
NOT SHOWN FOR CLARITY)



DEFLECTION/EXPANSION AND 4" EXPANSION FITTING

STATE PROJECT NUMBER

2015-02-70

NOTES

- CONDUIT SHALL BE EMBEDDED 2" CLEAR.
- CONDUIT BENDS SHALL CONFORM TO NATIONAL ELECTRIC CODE.
- CONDUIT FITTINGS, CONDUIT BENDS, AND ADAPTER FITTINGS ARE INCIDENTAL TO CONDUIT WORK.

LEGEND

- [R01] USE 2" DIA. RIGID METALLIC (RMC) CONDUIT AT FITTINGS. PROVIDE RMC ON EACH SIDE OF JOINT OPENING UNLESS NOTED OTHERWISE.
- [R02] ADAPTER FITTING.
- [R03] SPONGE RUBBER WRAP TO BE AASHTO M153 TYPE 1 OR EQUIVALENT. 1/4" MINIMUM THICKNESS. PROVIDE WRAP FOR ENTIRE LENGTH OF FITTING. SPONGE RUBBER WRAP TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".
- [R04] POSITION MOVABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT (EXPANSION/CONTRACTION) AS THE EXPANSION DEVICE SET IN PLACE IN THE DECK BELOW IT. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.
- [R05] DEFLECTION/EXPANSION FITTING AND 4" EXPANSION FITTING REQUIREMENTS :
MAXIMUM 4" TOTAL CONDUIT MOVEMENT WITH BONDING JUMPER
UP TO 30 DEGREES OF ANGULAR MISALIGNMENT IN ANY DIRECTION WITH BONDING JUMPER.

NO.	DATE	REVISION	BY
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DRAWN BY		TAL	PLANS CK'D. BDT
CONDUIT DETAILS			SHEET 10 OF 11

NOTES

STEEL SPLICE (COUPLER) ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL BE OF MINIMUM 60 ksi YIELD STRENGTH, AND HAVE TENSILE STRENGTH AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL MEET THE DEFORMATION REQUIREMENTS FOR STANDARD ASTM DEFORMED REINFORCING BARS.

FOR DOWEL BAR SPLICERS, ALL REINFORCEMENT BARS SHALL BE LAPPED AND TIED TO THE SPLICE BARS.

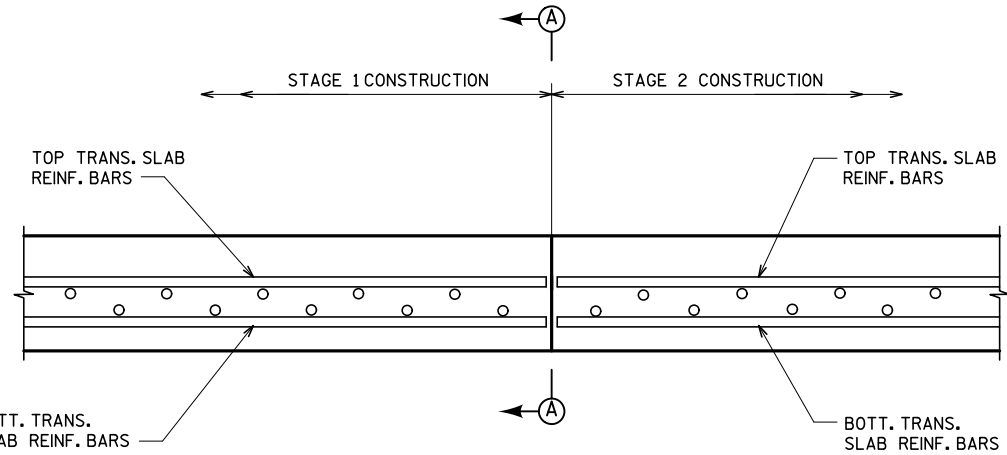
SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

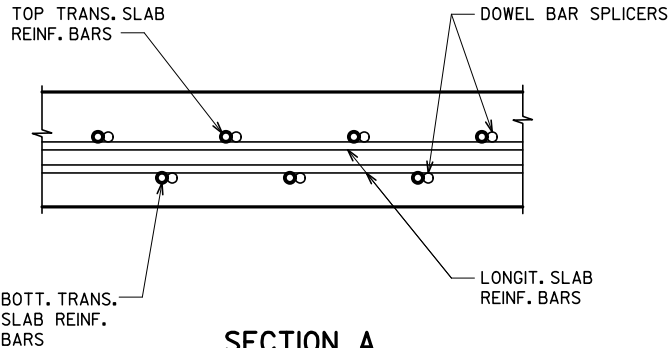
① MINIMUM CAPACITY = 1.25 X f_y X AREA OF SPLICED REINFORCEMENT BAR.

WHERE f_y = YIELD STRENGTH OF SPLICED REINFORCEMENT BARS

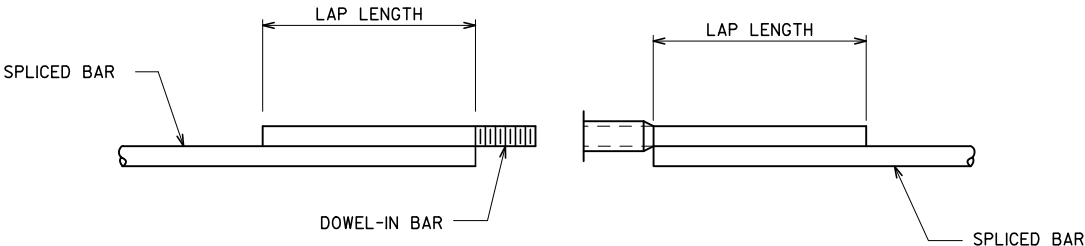
TWO DOWEL BARS ALONG WITH THE COUPLER JOINING THEM SHALL BE CONSIDERED AS ONE UNIT FOR PAYMENT.



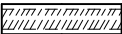
SECTION THRU SLAB



SECTION A

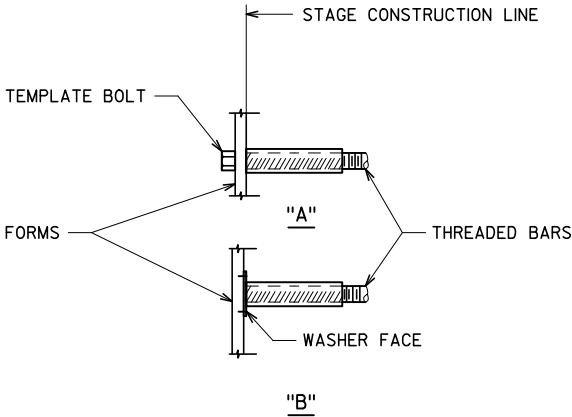


DOWEL BAR SPLICER



ONE PIECE THREADED SPLICER

SPLICER ALTERNATIVES



INSTALLATION AND SETTING METHODS

"A" SET SPLICER BY MEANS OF A TEMPLATE BOLT
"B" SET SPLICER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS.

DOWEL BAR SPLICER LAP LENGTHS *

CONCRETE UNDER BAR	BAR SIZE	4	5	6	7	8	9	10	11
12" OR LESS	f'c = 3500	1'-8"	2'-8"	3'-2"	4'-3"	5'-6"	7'-0"	8'-9"	10'-11"
	f'c = 4000	1'-8"	2'-8"	3'-2"	4'-0"	5'-2"	6'-6"	8'-3"	10'-2"
MORE THAN 12"	f'c = 3500	2'-3"	2'-11"	3'-6"	4'-8"	6'-1"	7'-10"	9'-10"	12'-1"
	f'c = 4000	2'-3"	2'-11"	3'-6"	4'-5"	5'-8"	7'-4"	9'-2"	11'-4"

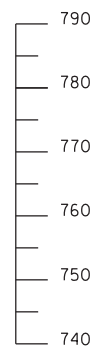
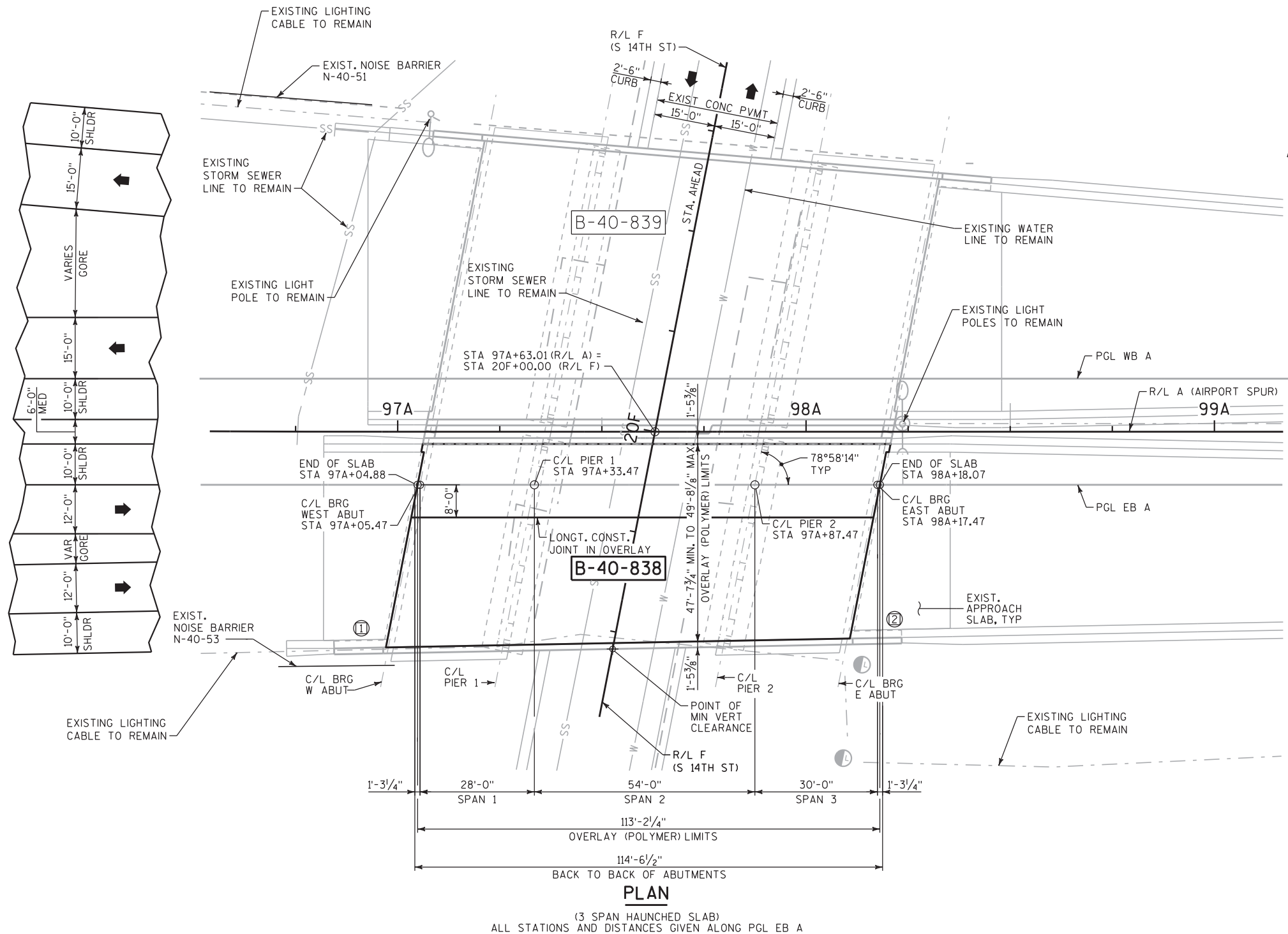
* NOT APPLICABLE FOR HOOKED DOWEL BAR SPLICERS.

BAR LENGTH COMPUTED TO C LONGIT. JOINT AND SHALL BE MODIFIED IF REQ'D. TO BAR COUPLER MANUFACTURER RECOMMENDATIONS. PAY BASED ON BARS AS DETAILED

NO.	DATE	REVISION	BY
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STRUCTURE B-40-485			
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BAR COUPLER DETAILS		SHEET 11 OF 11	

FILE NAME : F:\NMI-3495-STH 119 Bridges - WISDOT 2015-02-00\5.Design\04.Structures\Bridges\Current Plans 2018\B-40-838\B838.080101.dgn
PLOT NAME : B838.080101.gp
PLOT BY : bthengon
PLOT DATE : 31-JAN-2019 10:35

8



ELEVATION
(LOOKING NORTH)



STRUCTURE DESIGN CONTACTS
BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER
(608) 266-8489
CONSULTANT CONTACT:
BABU THENGANAKUNNEL
(414) 292-4506

STATE PROJECT NUMBER

2015-02-70

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.19
OPERATING RATING FACTOR: 1.54
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY - DECK REPAIR.....FCC = 4,000 psi

LIST OF DRAWING

1. POLYMER OVERLAY
2. TYPICAL SECTION AND GENERAL NOTES
3. CONSTRUCTION STAGING



TRAFFIC DATA

STH 119

A.D.T. = 12400 (2015)
A.D.T. = 53,515 (2035)
R.D.S. = 50 M.P.H.

LEGEND

(X) INDICATES WING NUMBER

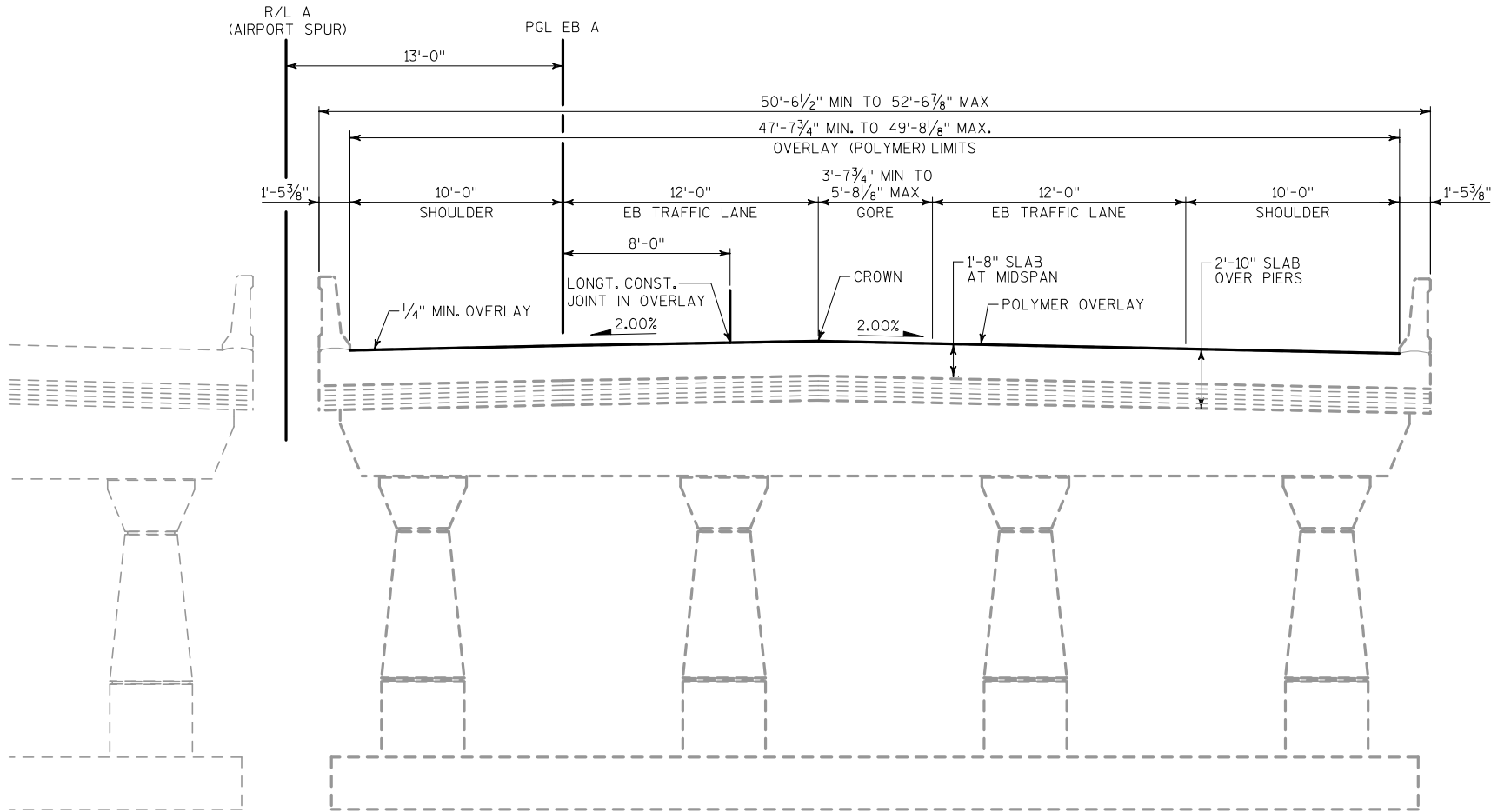
NO.	DATE	REVISION			BY
<div></div> <div>BLOOM COMPANIES, LLC <i>Infrastructure Innovation and Ingenuity</i></div> <div>10501 W. Research Drive • Milwaukee, WI 53226 Phone: (414) 771-3390 Fax: (414) 771-4490</div>					
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION					
ACCEPTED		 CHIEF STRUCTURES DESIGN ENGINEER		SDR	02/04/19
DATE					
STRUCTURE B-40-838					
STH 119 EB AIRPORT SPUR OVER S. 14TH ST.					
COUNTY		MILWAUKEE		CITY	
				MILWAUKEE	
DESIGN SPEC.					
REHABILITATION				N/A	
DESIGNED BY		DESIGN CK'D.		DRAWN BY	
DMC		YNN		TAL	
				PLANS CK'D.	
				BDT	
POLYMER OVERLAY				SHEET 1 OF 3	

2015-02-00

AUGUST 2018

8

FILE NAME: F:\BIM\3495-STH 119 Bridges - WisDOT 2015-02-0045.Design\04_Structures.Bridges\cds\Current\ plans 2018\B-40-838\B838_080102_1s.dgn
DATE: 8/31/2018 5:55:59 PM Plotted by: bthengon PEN TABLE: V8-STRUCTURAL.REV.TEL



TYPICAL SECTION THRU EB AIRPORT SPUR (STH 119)
(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	TOTAL
509.0301	PREPARATION DECKS TYPE 1	SY	6
509.0302	PREPARATION DECKS TYPE 2	SY	2
509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	36
509.1500	CONCRETE SURFACE REPAIR	SF	4
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	1
509.5100.S	POLYMER OVERLAY	SY	613

ALL BID ITEMS ARE CATEGORY 0040

GENERAL NOTES

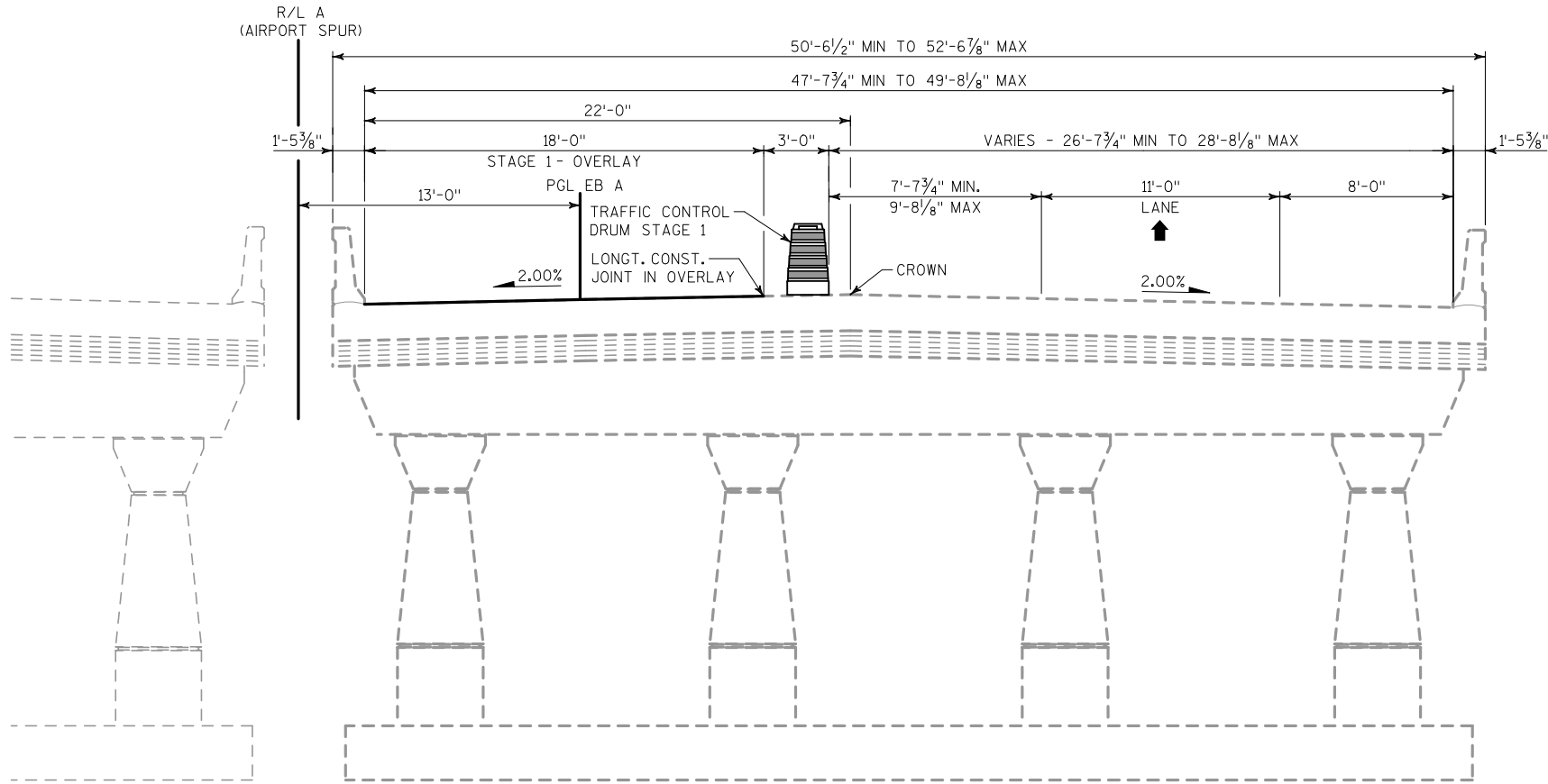
- DRAWINGS SHALL NOT BE SCALED.
- ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.
- DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.
- ALL CONCRETE REMOVALS SHALL BE DEFINED BY A 1" DEEP SAWCUT.
- SEE SPECIAL PROVISIONS FOR REQUIRED CONCRETE CURE TIME PRIOR TO APPLYING POLYMER OVERLAY.
- PLANS OF THE EXISTING BRIDGE ARE ON FILE AND ARE AVAILABLE FOR INSPECTION AT THE WISCONSIN DEPARTMENT OF TRANSPORTATION, SOUTHEAST REGION.
- DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".
- AREAS OF "PREPARATION TYPE 1, PREPARATION TYPE 2, AND CONCRETE SURFACE REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION SHALL BE FILLED WITH "CONCRETE MASONRY DECK REPAIR".

STATE PROJECT NUMBER

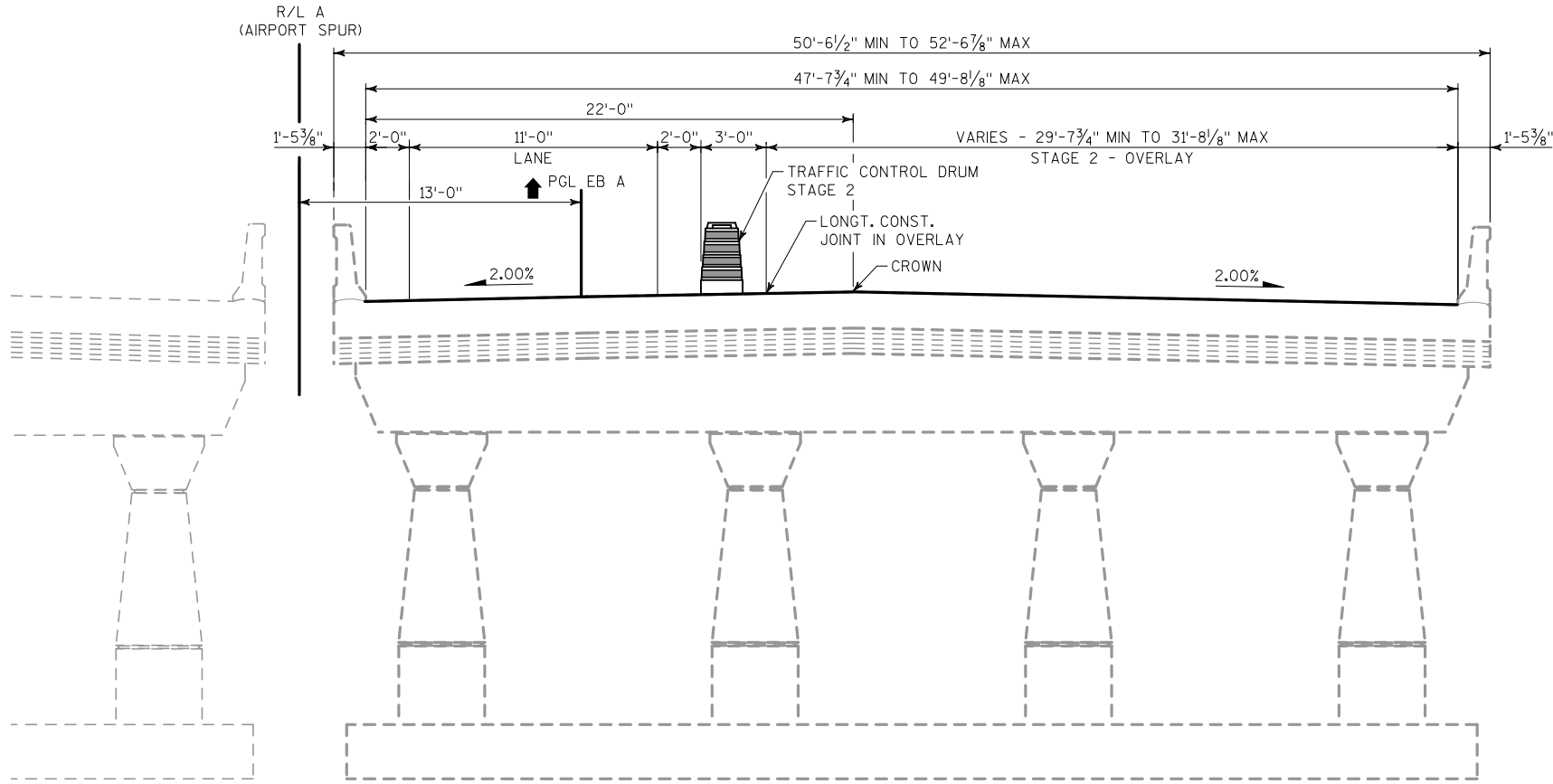
2015-02-70

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-838			
DRAWN BY		TAL	PLANS CK'D. BDT
TYPICAL SECTION AND GENERAL NOTES		SHEET 2 OF 3	

FILE NAME: F:\BIM\3495-5TH 119 Bridges - WisDOT 2015-02-0045.Design\04.Structures.Bridges\cds\Current plans 2018\B-40-838\B838_080103.stg\ng.dgn
DATE: 1/29/2019 10:07:05 AM Plotted by: bthengon PEN TABLE: V8-STRUCTURAL.REV.TEL



CONSTRUCTION STAGE 1
(LOOKING EAST)



CONSTRUCTION STAGE 2
(LOOKING EAST)

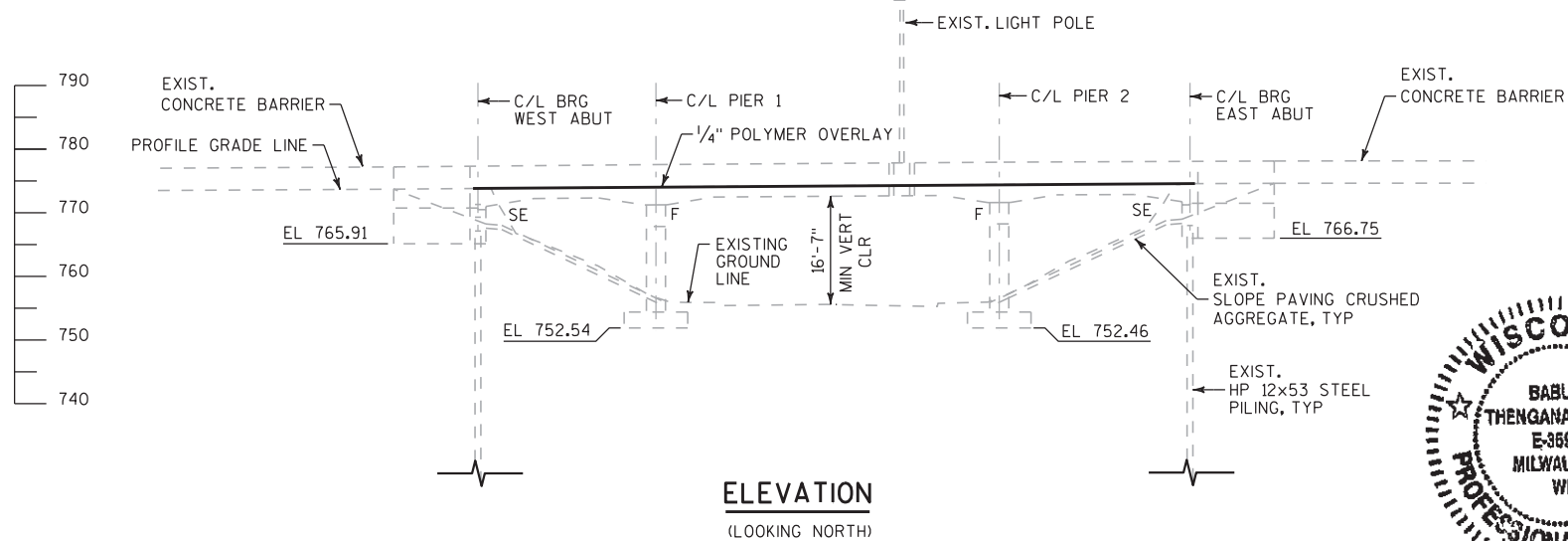
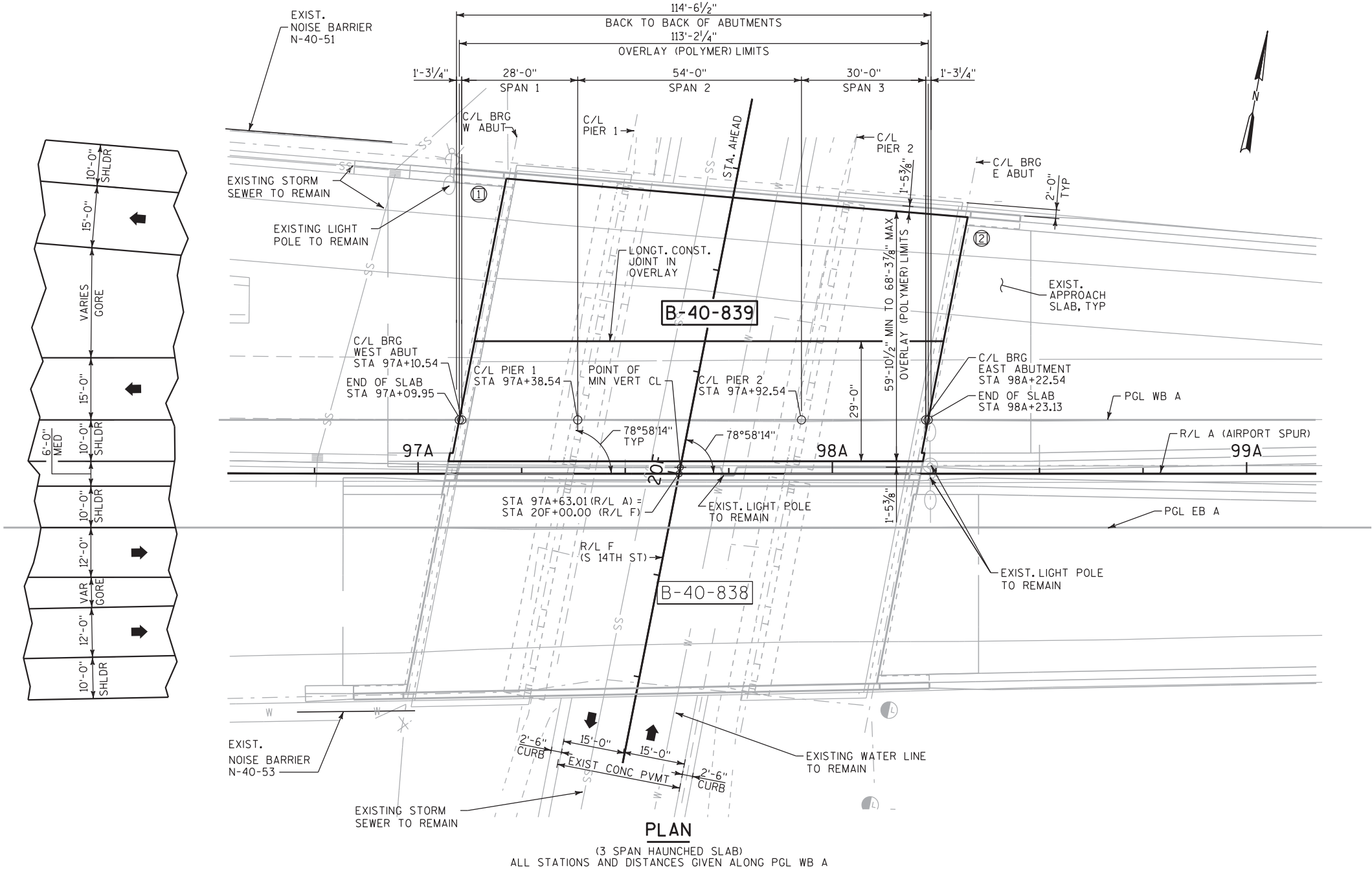
STATE PROJECT NUMBER
2015-02-70

NOTES
TRAFFIC CONTROL DRUM IS
PAID UNDER ROADWAY BID ITEMS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-838			
DRAWN BY		TAL	PLANS CK'D. BDT
CONSTRUCTION STAGING		SHEET 3 OF 3	

FILE NAME : F:\NMI-3495-STH 119 Bridges - WISDOT 2015-02-00\5.Design\04.Structures.Bridges\Current Plans 2018\B-40-839\B839.080101.dgn
PLOT NAME : B839.080101.gp
PLOT BY : bthengon
PLOT DATE : 31-JAN-2019 10:36

8



STRUCTURE DESIGN CONTACTS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT:
BABU THENGANAKUNNEL
(414) 292-4506

STATE PROJECT NUMBER

2015-02-70

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.19
OPERATING RATING FACTOR: 1.54
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY - DECK PATCHING.....FCC = 4,000 psi

LIST OF DRAWING

1. POLYMER OVERLAY
2. TYPICAL SECTION AND GENERAL NOTES
3. CONSTRUCTION STAGING


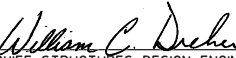
TRAFFIC DATA

STH 119

A.D.T. = 11,500 (2015)
A.D.T. = 53,515 (2035)
R.D.S. = 50 M.P.H.

LEGEND

(X) INDICATES WING NUMBER

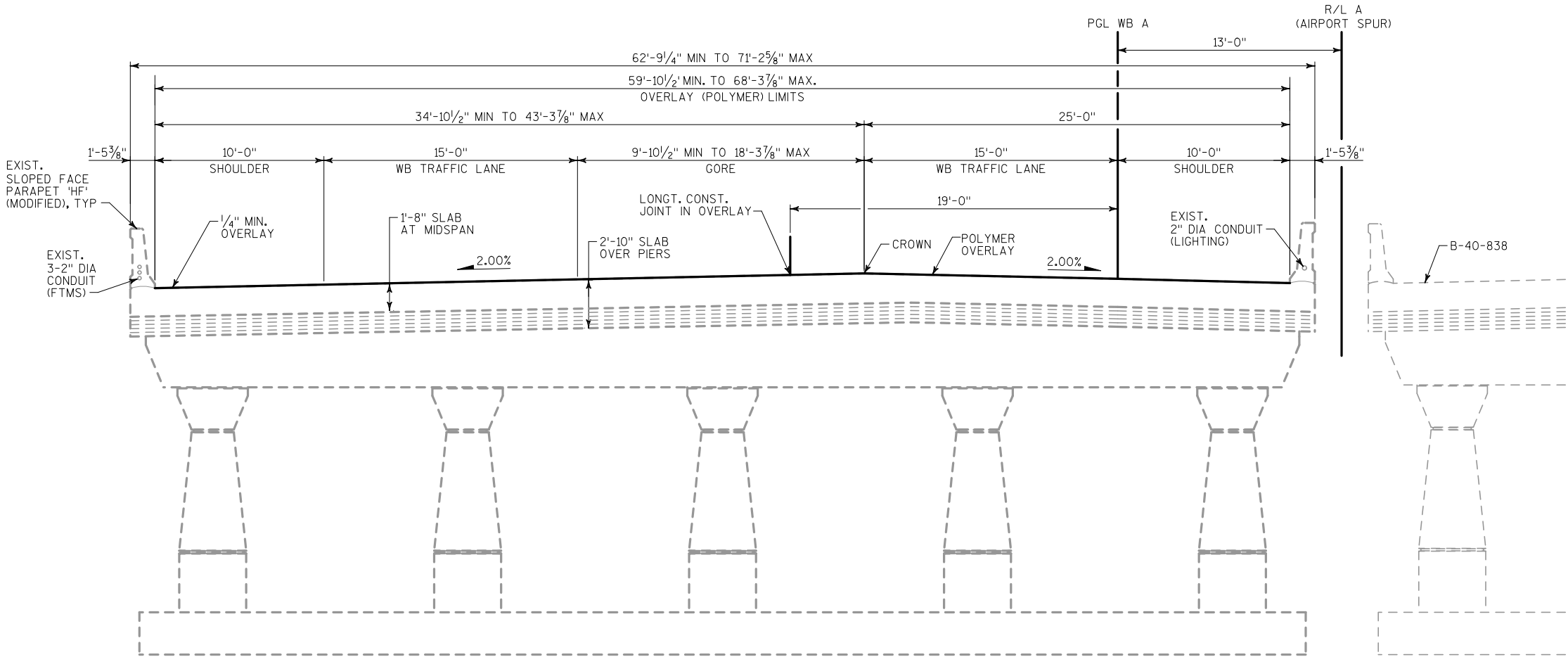
NO.	DATE	REVISION	BY
<div><div>BLOOM COMPANIES, LLC <i>Infrastructure Innovation and Ingenuity</i></div><div>10501 W. Research Drive • Milwaukee, WI 53226 Phone: (414) 771-3390 Fax: (414) 771-4490</div></div>			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	 CHIEF STRUCTURES DESIGN ENGINEER		SDR 02/04/19 DATE
STRUCTURE B-40-839			
STH 119 WB AIRPORT SPUR OVER S. 14TH ST.			
COUNTY	MILWAUKEE	CITY	MILWAUKEE
DESIGN SPEC.		REHABILITATION N/A	
DESIGNED BY	DMC	DESIGN CK'D.	YNN
DRAWN BY	TAL	PLANS CK'D.	BDT
POLYMER OVERLAY			SHEET 1 OF 3

2015-02-00

AUGUST 2018

8

FILE NAME: F:\BIM-3495-STH 119 Bridges - Wisconsin-2015-02-0045.Design\04_Structures.Bridges\cds\Current plans 2018\B-40-839\B839_080102_1s.dgn
DATE: 8/31/2018 5:55:03 PM Plotted by: bthengon PEN TABLE: V8-STRUCTURAL.REV.TEL



TYPICAL SECTION THRU WB AIRPORT SPUR (STH 119)
(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	TOTAL
509.0301	PREPARATION DECKS TYPE 1	SY	5
509.0302	PREPARATION DECKS TYPE 2	SY	2
509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	30
509.1500	CONCRETE SURFACE REPAIR	SF	5
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	1
509.5100.S	POLYMER OVERLAY	SY	799

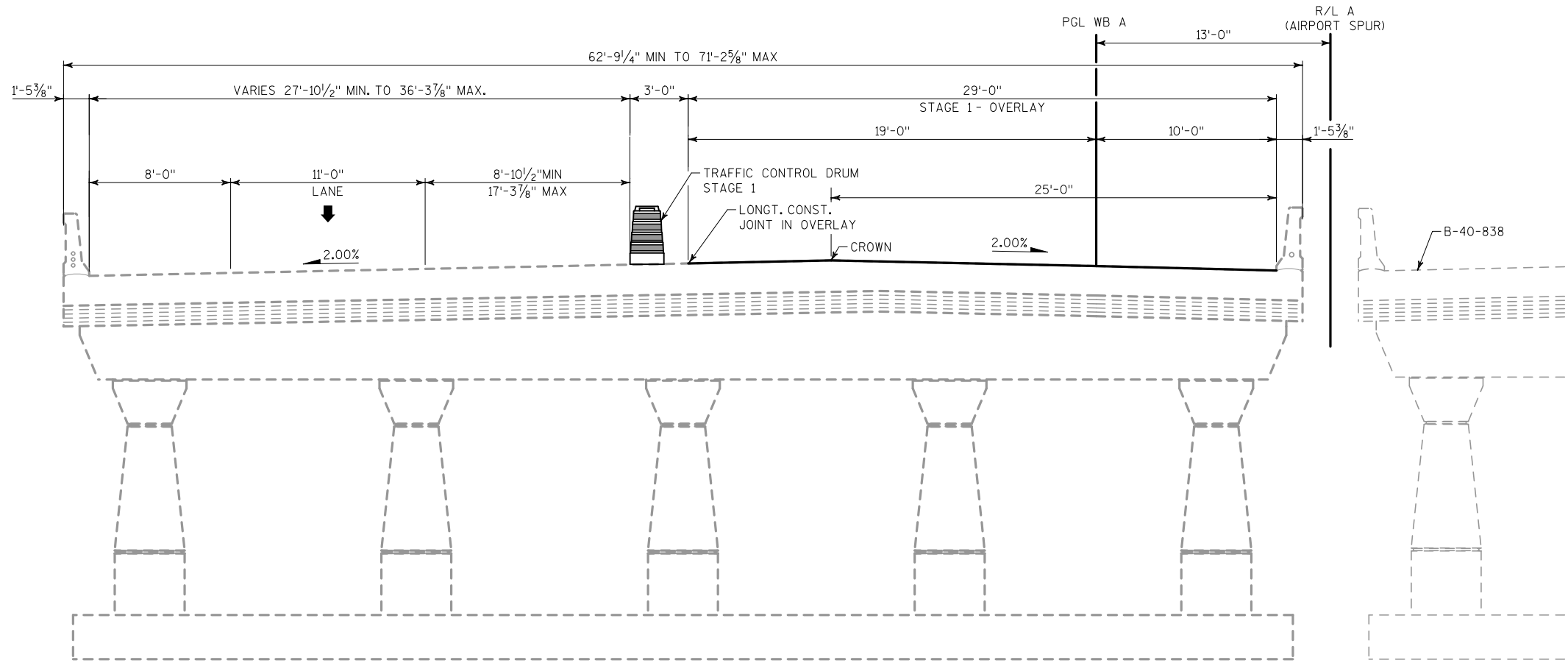
ALL BID ITEMS ARE CATEGORY 0050

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.
- ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.
- DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.
- ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAWCUT.
- SEE SPECIAL PROVISIONS FOR REQUIRED CONCRETE CURE TIME PRIOR TO APPLYING POLYMER OVERLAY.
- PLANS OF THE EXISTING BRIDGE ARE ON FILE AND ARE AVAILABLE FOR INSPECTION AT THE WISCONSIN DEPARTMENT OF TRANSPORTATION, SOUTHEAST REGION.
- DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".
- AREAS OF "PREPARATION TYPE 1, PREPARATION TYPE 2, AND CONCRETE SURFACE REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION SHALL BE FILLED WITH "CONCRETE MASONRY DECK REPAIR".

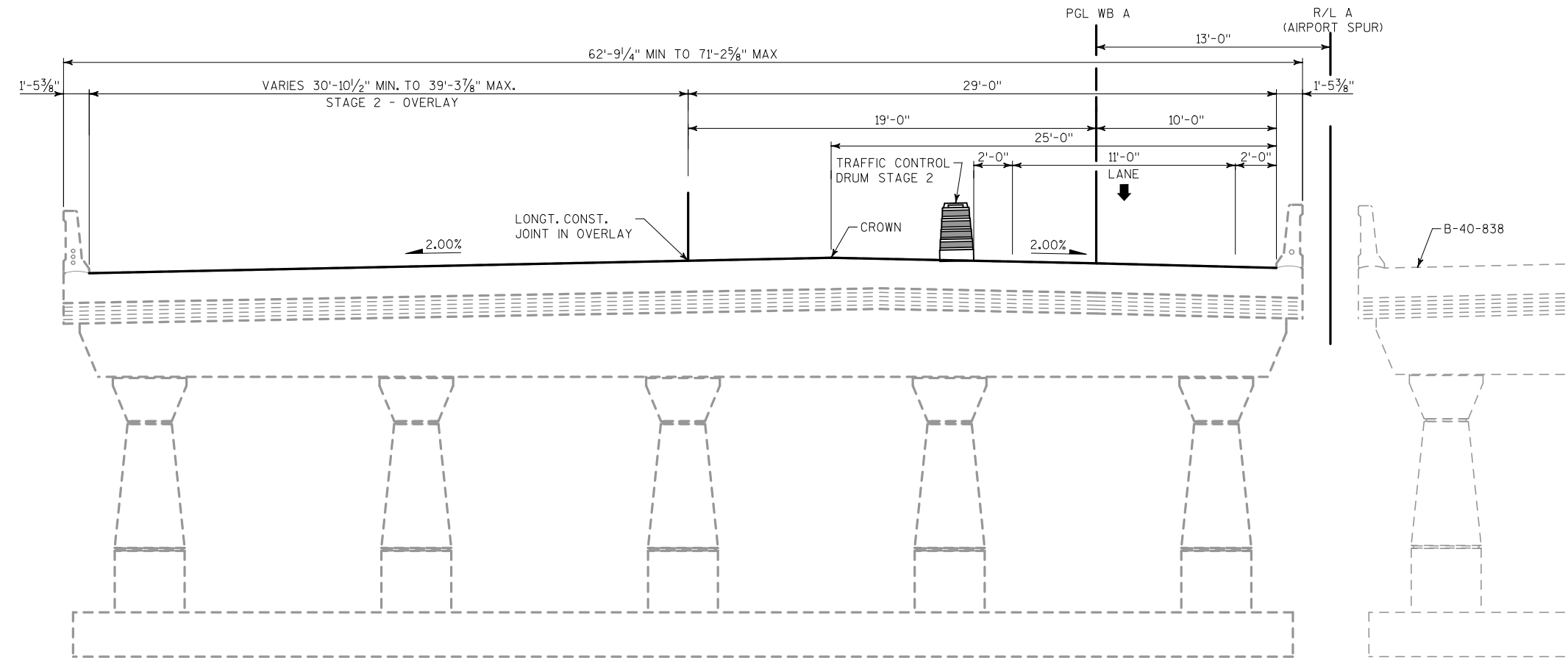
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-839			
DRAWN BY		TAL	PLANS CK'D. BDT
TYPICAL SECTION AND GENERAL NOTES		SHEET 2 OF 3	

FILE NAME: F:\BIM-3495-5TH 119 Bridges - WisDOT 2015-02-0045.Design\04.Structures.Bridges\cds\Current plans 2018\B-40-839\B839_080103.stg\cdg.dgn
DATE: 1/29/2019 10:04:04 AM Plotted by: bthengon PEN TABLE: V8-STRUCTURAL.REV.TEL



CONSTRUCTION STAGE 1

(LOOKING EAST)



CONSTRUCTION STAGE 2

(LOOKING EAST)

STATE PROJECT NUMBER

2015-02-70

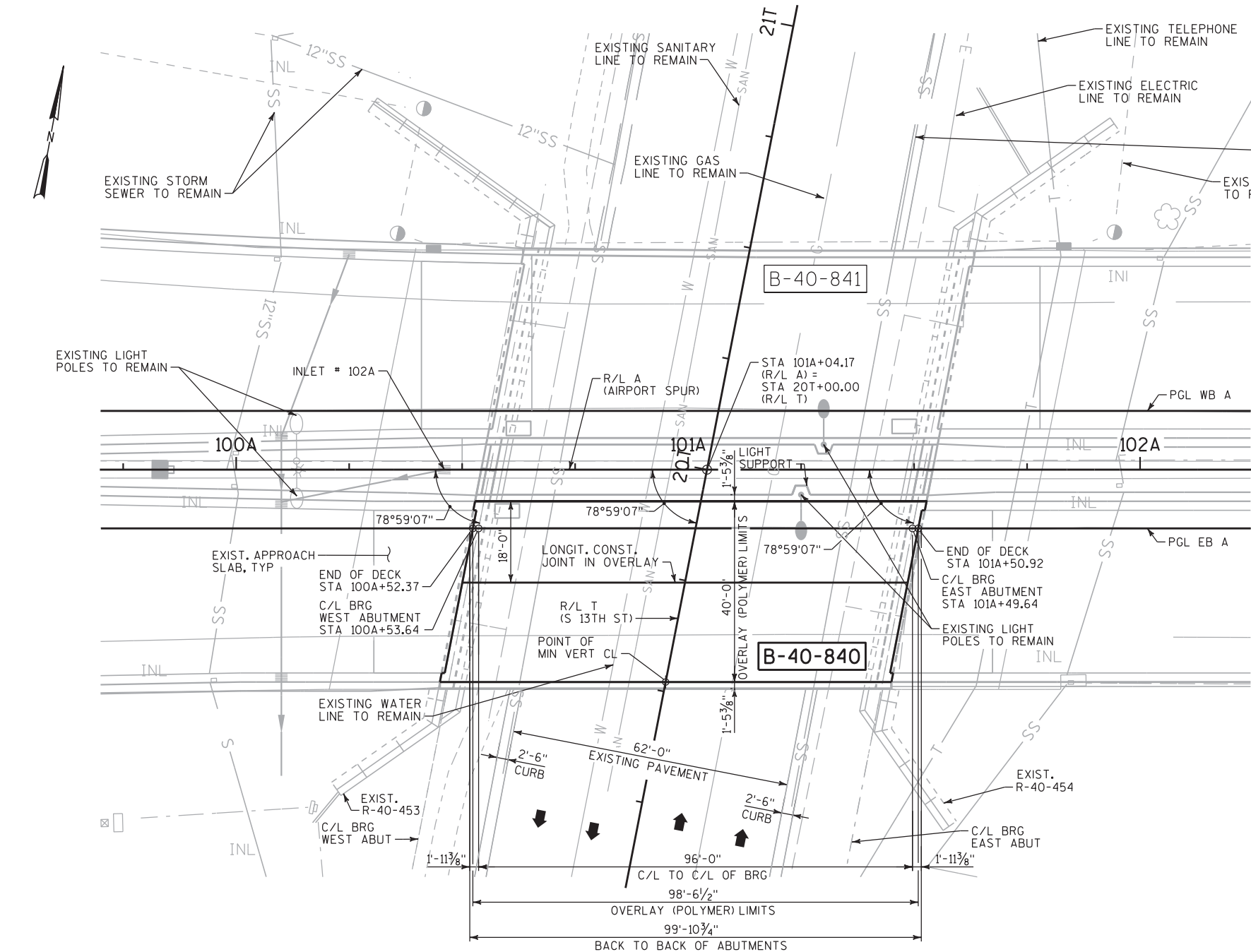
NOTES

TRAFFIC CONTROL DRUM IS PAID UNDER ROADWAY BID ITEMS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-839			
DRAWN BY		TAL	PLANS CK'D. BDT
CONSTRUCTION STAGING		SHEET 3 OF 3	

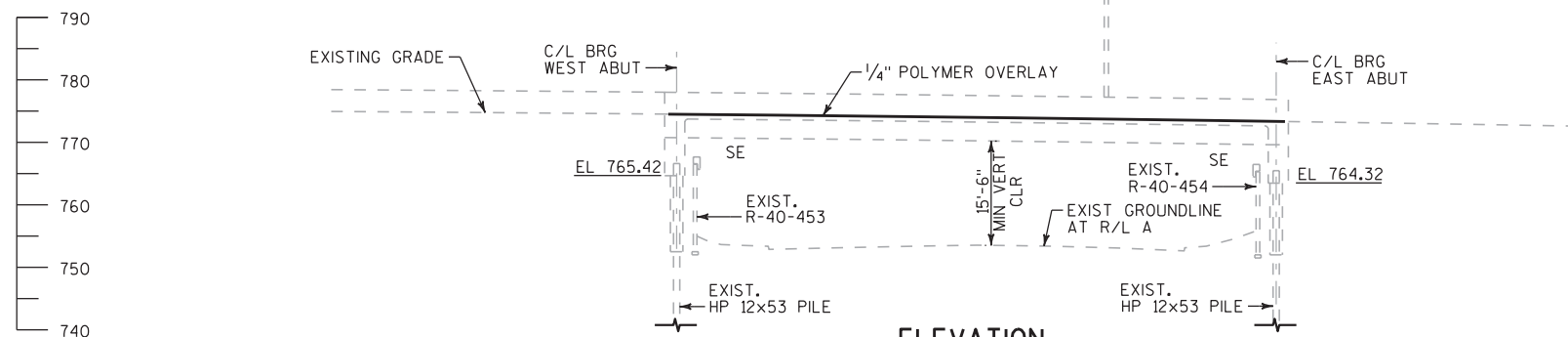
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PLOT NAME : B840_080101.gp
PLOT BY : bthengann
PLOT DATE : 31-AUG-2018 17:50

8



PLAN

(SINGLE SPAN 36W\"/>



ELEVATION

(LOOKING NORTH)

DESIGN DATA

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 0.99
OPERATING RATING FACTOR: RF = 1.92
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

CONCRETE MASONRY - DECK PATCHING.....f'c = 4,000 psi

LIST OF DRAWINGS

- POLYMER OVERLAY
- TYPICAL SECTION AND GENERAL NOTES
- CONSTRUCTION STAGING

TRAFFIC DATA

STH 119
A.D.T. = 12,400 (2015)
A.D.T. = 53,515 (2035)
R.D.S. = 50 M.P.H.


13TH ST
A.D.T. = 10,400 (2014)
A.D.T. = 16,055 (2035)



STRUCTURE DESIGN CONTACTS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER
(608) 266-8489

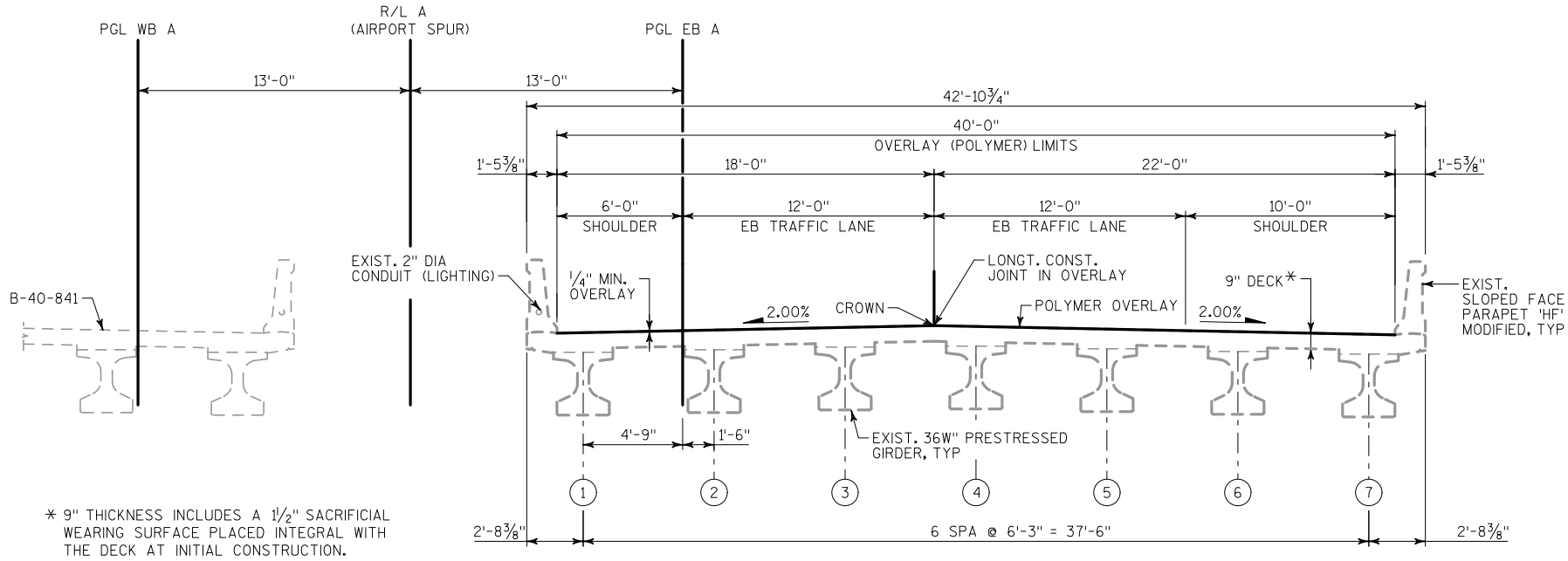
CONSULTANT CONTACT:
BABU THENGANAKUNNEL
(414) 292-4506

NO.	DATE	REVISION	BY
<div>BLOOM COMPANIES, LLC <i>Infrastructure Innovation and Ingenuity</i> 10501 W. Research Drive • Milwaukee, WI 53226 Phone: (414) 771-3390 Fax: (414) 771-4490</div>			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	<i>William C. Dreher</i> SDR		11/08/18
CHIEF STRUCTURES DESIGN ENGINEER			DATE
STRUCTURE B-40-840			
STH 119 EB AIRPORT SPUR OVER S. 13TH ST.			
COUNTY	MILWAUKEE		CITY MILWAUKEE
DESIGN SPEC.		REHABILITATION N/A	
DESIGNED BY	DMC	DESIGN CK'D. YNN	DRAWN BY TAL
			PLANS CK'D. BDT
POLYMER OVERLAY			SHEET 1 OF 3

2015-02-00

AUGUST 2018

FILE NAME: F:\BIM-3495-STH 119 Bridges - Wisconsin\045_Design\04_Structures\Bridges\cds\Current plans 2018\B-40-840\B40_080102.ts.dgn
DATE: 8/31/2018 5:55:43 PM Plotted by: bthengon PEN TABLE: V8-STRUCTURAL.REV.TEL



TYPICAL SECTION THRU EB AIRPORT SPUR (STH 119)
(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	TOTAL
509.0301	PREPARATION DECKS TYPE 1	SY	5
509.0302	PREPARATION DECKS TYPE 2	SY	2
509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	30
509.1500	CONCRETE SURFACE REPAIR	SF	5
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	1
509.5100.S	POLYMER OVERLAY	SY	439

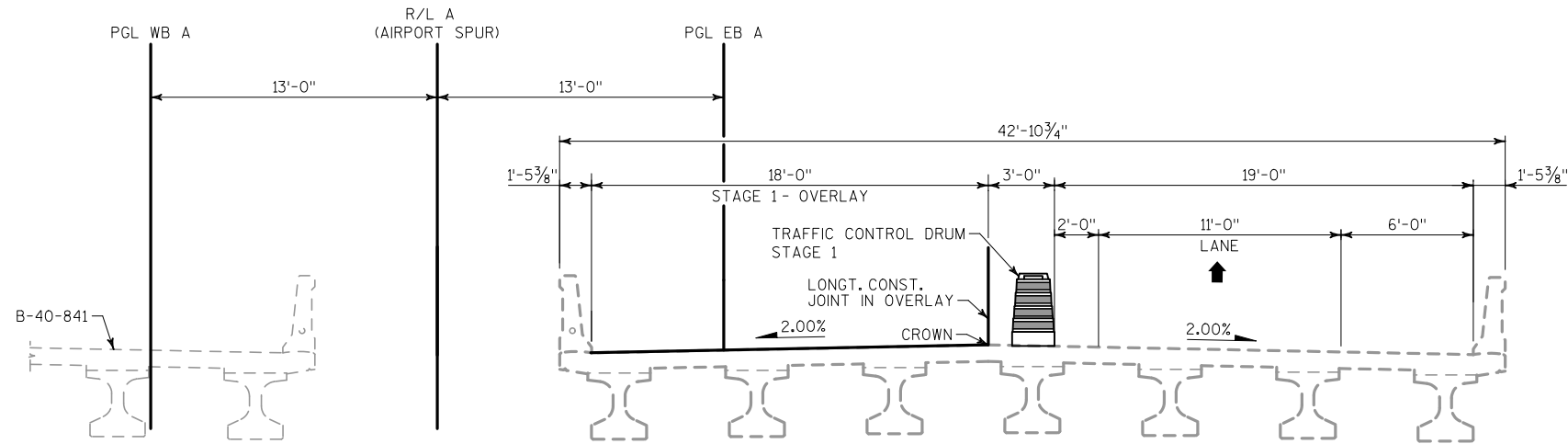
ALL BID ITEMS ARE CATEGORY 0060

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.
- ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.
- DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.
- ALL CONCRETE REMOVALS SHALL BE DEFINED BY A 1" DEEP SAWCUT.
- SEE SPECIAL PROVISIONS FOR REQUIRED CONCRETE CURE TIME PRIOR TO APPLYING POLYMER OVERLAY.
- PLANS OF THE EXISTING BRIDGE ARE ON FILE AND ARE AVAILABLE FOR INSPECTION AT THE WISCONSIN DEPARTMENT OF TRANSPORTATION, SOUTHEAST REGION.
- DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".
- AREAS OF "PREPARATION TYPE 1, PREPARATION TYPE 2, FULL-DEPTH DECK REPAIR, AND CONCRETE SURFACE 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 DECK REPAIR".

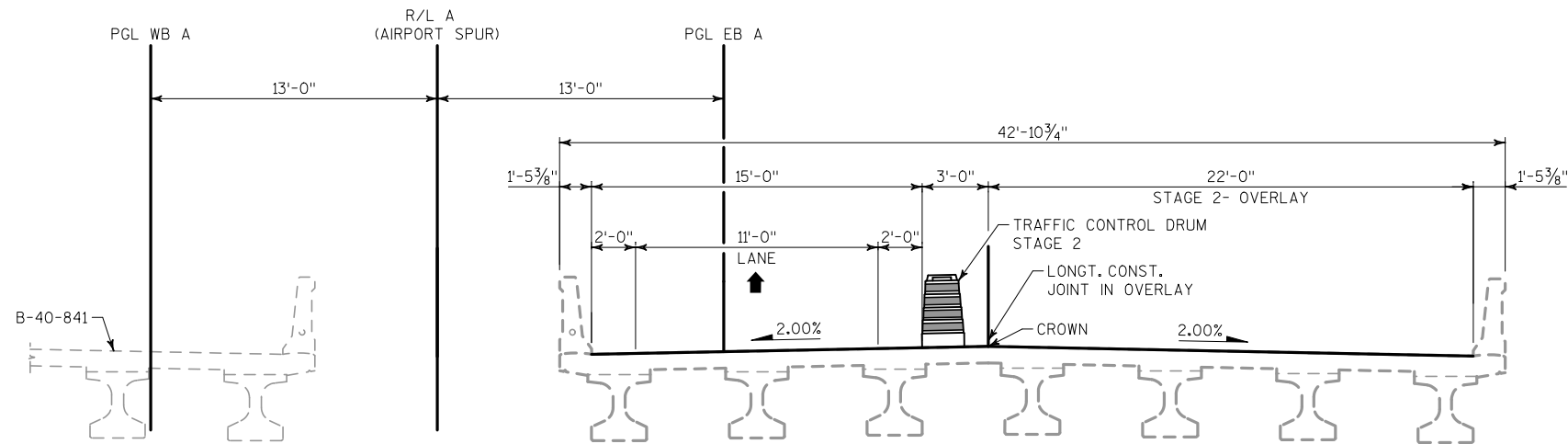
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-840			
DRAWN BY		TAL	PLANS CK'D. BDT
TYPICAL SECTION AND GENERAL NOTES		SHEET 2 OF 3	

FILE NAME: F:\BIM-3495-STH 119 Bridges - WisDOT 2015-02-0045.Design\04 Structures.Bridges\cds\Current plans 2018\B-40-840\B40_080103.stg\cdg.dgn
DATE: 8/31/2018 5:58:07 PM Plotted by: bthengon PEN TABLE: V8-STRUCTURAL.REV.TEL



CONSTRUCTION STAGE 1

(LOOKING EAST)



CONSTRUCTION STAGE 2

(LOOKING EAST)

NOTES

TRAFFIC CONTROL DRUM IS
PAID UNDER ROADWAY BID ITEMS.

A SINGLE LANE OF TRAFFIC IS OPEN
IN STAGE 1 AND 2.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-840			
DRAWN BY		TAL	PLANS CK'D. BDT
CONSTRUCTION STAGING		SHEET 3 OF 3	

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 0.99
OPERATING RATING FACTOR: RF = 1.92
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

MATERIAL PROPERTIES:

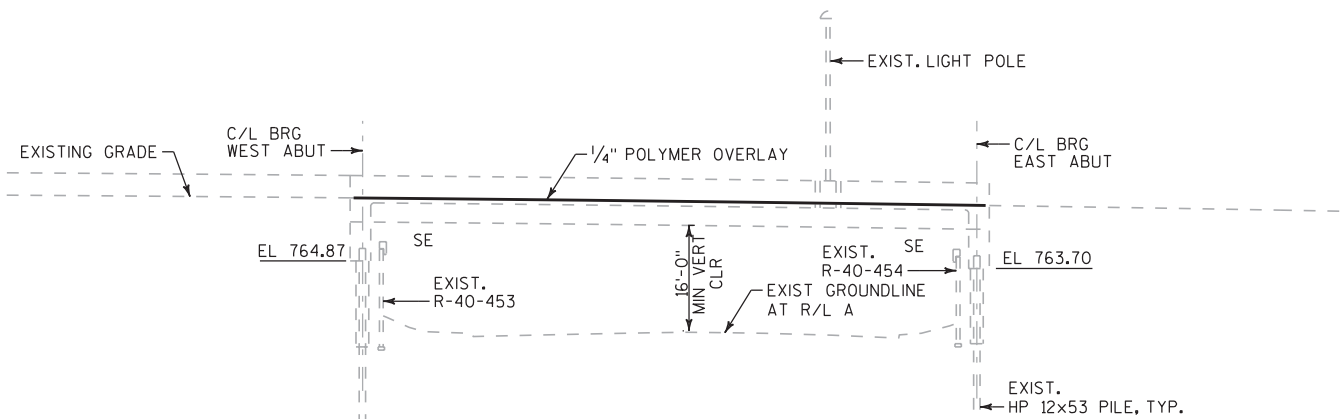
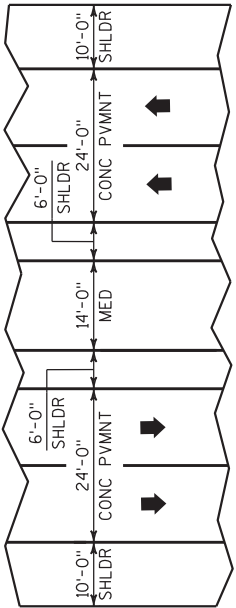
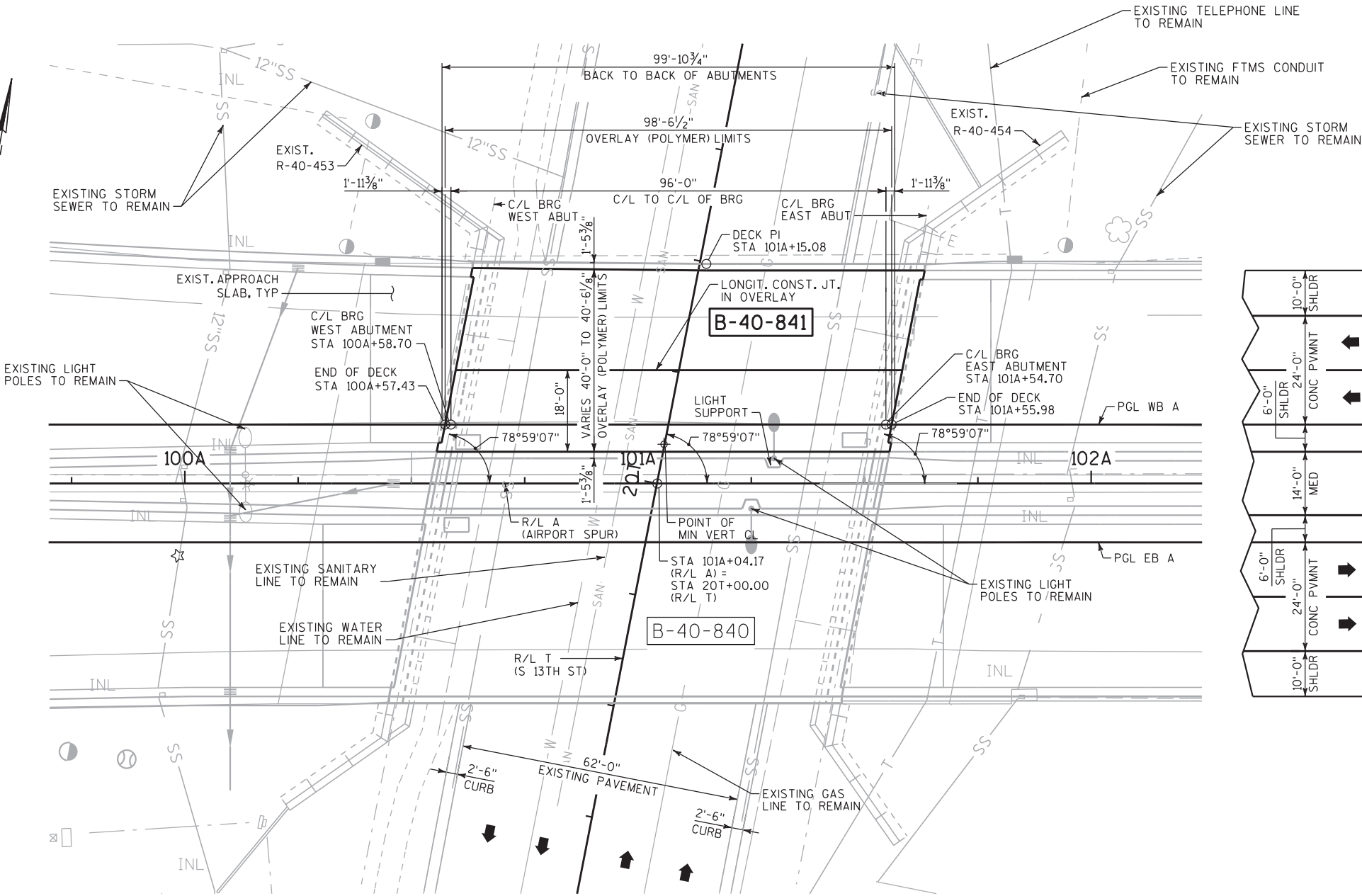
CONCRETE MASONRY - DECK PATCHING.....f'c = 4,000 psi

LIST OF DRAWINGS

1. POLYMER OVERLAY
2. TYPICAL SECTION AND GENERAL NOTES
3. CONSTRUCTION STAGING

TRAFFIC DATA


STH 119	13TH ST
A.D.T. = 11,500 (2015)	A.D.T. = 10,400 (2014)
A.D.T. = 53,515 (2035)	A.D.T. = 16,055 (2035)
R.D.S. = 50 M.P.H.	



STRUCTURE DESIGN CONTACTS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER
(608) 266-8489

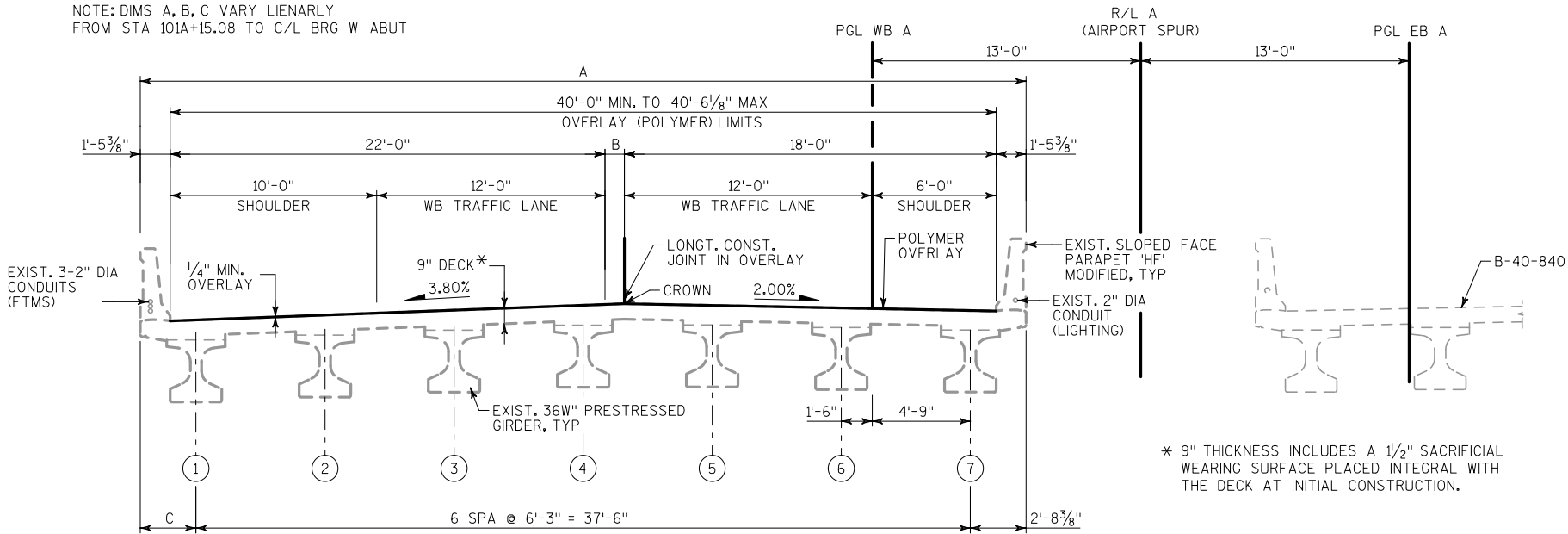
CONSULTANT CONTACT:
BABU THENGANAKUNNEL
(414) 292-4506

NO.		DATE		REVISION		BY	
<div></div> <div>BLOOM COMPANIES, LLC <i>Infrastructure Innovation and Ingenuity</i></div> <div>10501 W. Research Drive • Milwaukee, WI 53226 Phone: (414) 771-3390 Fax: (414) 771-4490</div>							
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION							
ACCEPTED		<i>William C. Dreher</i> SDR				11/08/18	
CHIEF STRUCTURES DESIGN ENGINEER						DATE	
STRUCTURE B-40-841							
STH 119 WB AIRPORT SPUR OVER S. 13TH ST.							
COUNTY		MILWAUKEE		CITY		MILWAUKEE	
DESIGN SPEC. REHABILITATION N/A							
DESIGNED BY		DMC		DESIGN CK'D. YNN		DRAWN BY TAL	
						PLANS CK'D. BDT	
POLYMER OVERLAY						SHEET 1 OF 3	

FILE NAME: F:\BIM\3495-STH 119 Bridges - WisDOT 2015-02-0045.Design\04_Structures\Bridges\cds\Current plans 2018\B-40-841\08002.rxdgn
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Plotted by: bthengon
PEN TABLE: V8-STRUCTURAL.REV.TEL

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C/L BRG W ABUT	43'-4 ⁷ / ₈ "	6 ¹ / ₈ "	3'-2 ¹ / ₂ "
STA 101A+15.08	42'-10 ³ / ₄ "	0"	2'-8 ³ / ₈ "
C/L BRG E ABUT	42'-10 ³ / ₄ "	0"	2'-8 ³ / ₈ "

NOTE: DIMS A, B, C VARY LIENARLY
FROM STA 101A+15.08 TO C/L BRG W ABUT



TYPICAL SECTION THRU WB AIRPORT SPUR (STH 119)
(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	TOTAL
509.0301	PREPARATION DECKS TYPE 1	SY	5
509.0302	PREPARATION DECKS TYPE 2	SY	2
509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	30
509.1500	CONCRETE SURFACE REPAIR	SF	5
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	1
509.5100.S	POLYMER OVERLAY	SY	442

ALL BID ITEMS ARE CATEGORY 0070

STATE PROJECT NUMBER

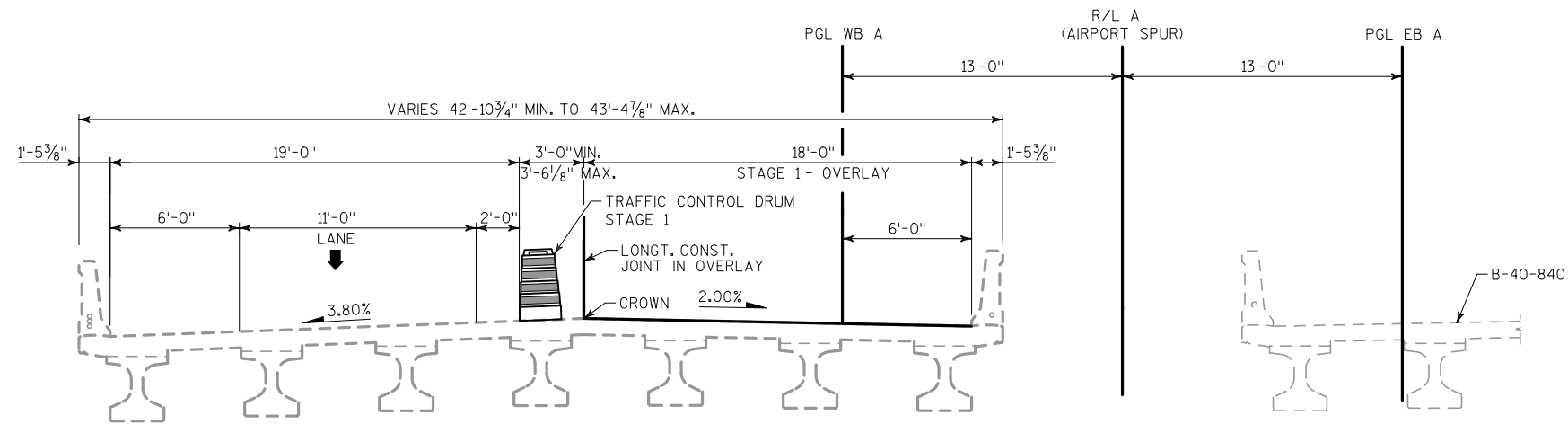
2015-02-70

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.
- ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.
- DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. ALL CONCRETE REMOVALS SHALL BE DEFINED BY A 1" DEEP SAWCUT.
- SEE SPECIAL PROVISIONS FOR REQUIRED CONCRETE CURE TIME PRIOR TO APPLYING POLYMER OVERLAY.
- PLANS OF THE EXISTING BRIDGE ARE ON FILE AND ARE AVAILABLE FOR INSPECTION AT THE WISCONSIN DEPARTMENT OF TRANSPORTATION, SOUTHEAST REGION.
- DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".
- AREAS OF "PREPARATION TYPE 1, PREPARATION TYPE 2, FULL-DEPTH DECK REPAIR, AND CONCRETE SURFACE 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 DECK REPAIR".

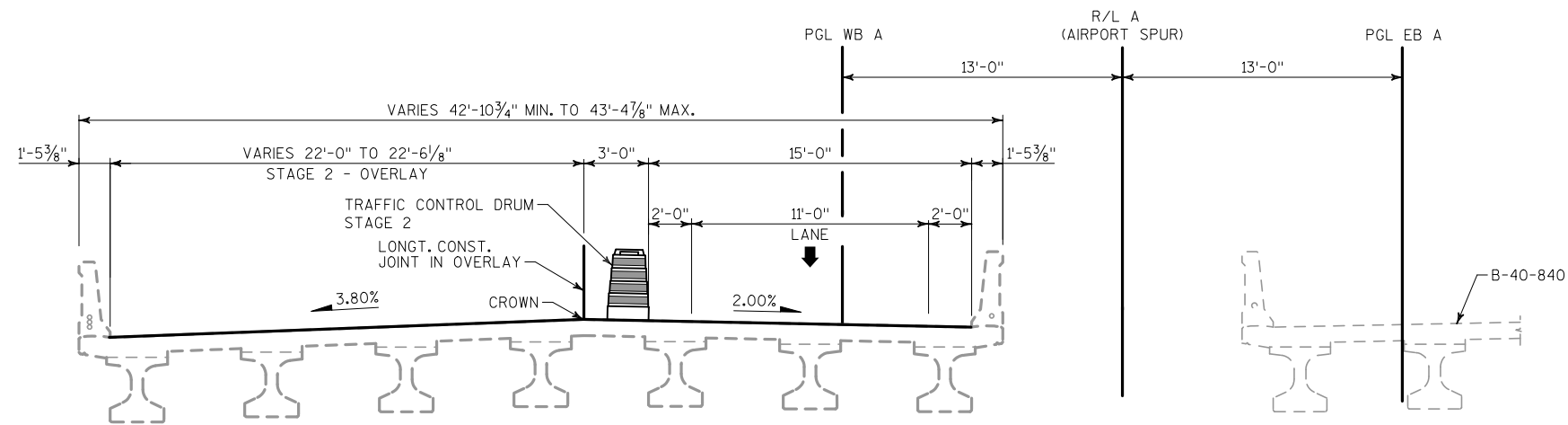
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-841			
DRAWN BY		TAL	PLANS CK'D. BDT
TYPICAL SECTION AND GENERAL NOTES		SHEET 2 OF 3	

FILE NAME: F:\BIM-3495-5TH 119 Bridges - Wisconsin-2015-02-0045.Design\04.Structures.Bridges\cds\Current plans 2018\B-40-841\B841_080003.stg\qtdgn
DATE: 8/31/2018 6:22:22 PM Plotted by: bthengon PEN TABLE: V8-STRUCTURAL.REV.TEL



CONSTRUCTION STAGE 1

(LOOKING EAST)



CONSTRUCTION STAGE 2

(LOOKING EAST)

NOTES

TRAFFIC CONTROL DRUM IS PAID UNDER ROADWAY BID ITEMS.

A SINGLE LANE OF TRAFFIC IS OPEN IN STAGE 1 AND 2.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-841			
DRAWN BY		TAL	PLANS CK'D. BDT
CONSTRUCTION STAGING		SHEET 3 OF 3	

DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 0.98
OPERATING RATING FACTOR: RF = 1.89
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

MATERIAL PROPERTIES:
CONCRETE MASONRY - DECK PATCHING.....f'c = 4,000 psi

LIST OF DRAWINGS

1. POLYMER OVERLAY
2. TYPICAL SECTION AND GENERAL NOTES
3. CONSTRUCTION STAGING

TRAFFIC DATA

STH 119
A.D.T. = 12,400 (2015)
A.D.T. = 53,515 (2035)
R.D.S. = 50 M.P.H.

HORIZONTAL CURVE DATA

R/L A CURVE A2
PI = 110A+83.18
N:264150.27
E:601584.35
DELTA = 20°43' 32"
D = 1°45' 1"
R = 3273.68
T = 598.63
L = 1184.19
PC = 104A+84.54
N:264042.28
E:600995.53
PT = 116A+68.73
N:264459.64
E:602096.84

PLAN

(SINGLE SPAN 45W" PRESTRESSED GIRDER BRIDGE)
STATIONS GIVEN ALONG PGL EB A.
DISTANCES ARE MEASURED ALONG A TANGENT LINE. POINT OF TANGENCY IS @ PGL EB A STA. 112+87.47, 13.00' RT.

ELEVATION

(LOOKING NORTH)



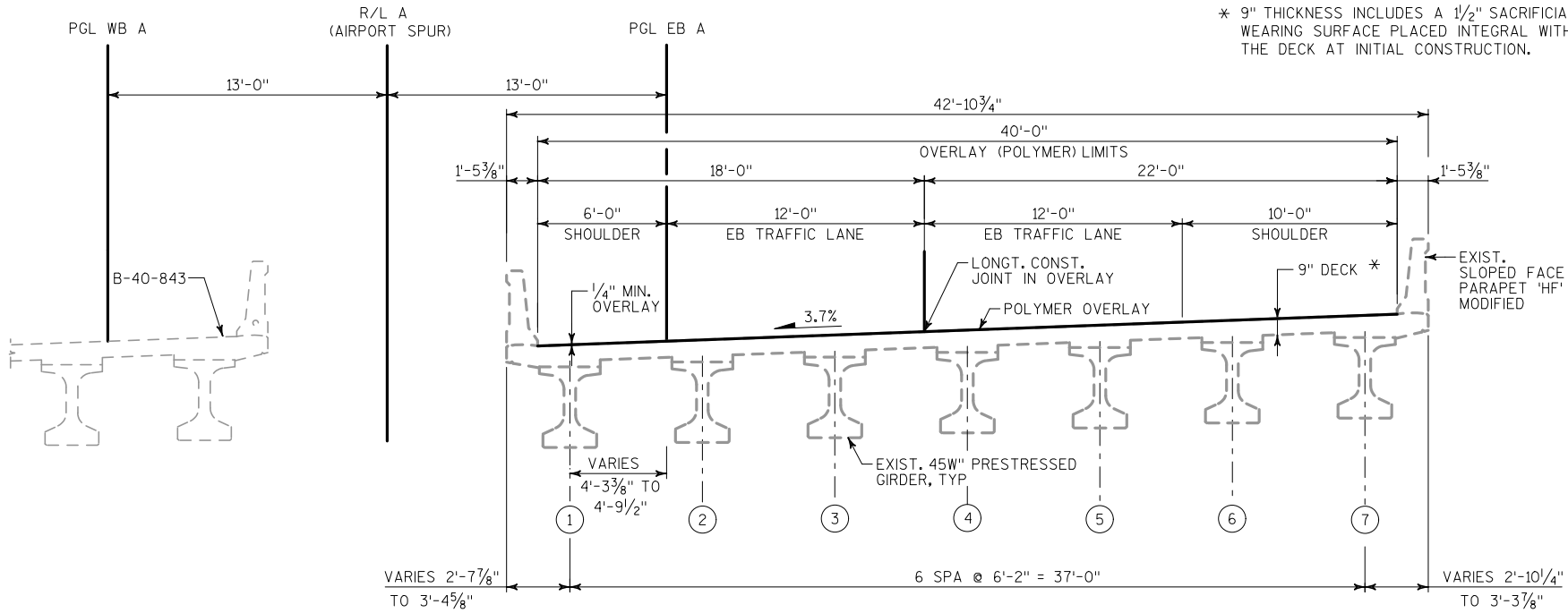
STRUCTURE DESIGN CONTACTS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT:
BABU THENGANAKUNNEL
(414) 292-4506

NO.	DATE	REVISION	BY
<div><div><div><div><div><div></div><div>BLOOM</div></div></div><div>COMPANIES, LLC</div><div>Infrastructure Innovation and Ingenuity</div><div>10501 W. Research Drive • Milwaukee, WI 53226</div><div>Phone: (414) 771-3390 Fax: (414) 771-4490</div></div></div><div>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</div><div>ACCEPTED <i>William C. Dreher</i> SDR 11/08/18 CHIEF STRUCTURES DESIGN ENGINEER DATE</div><div>STRUCTURE B-40-842</div><div>STH 119 EB AIRPORT SPUR OVER CMSTPP RR</div><div><div>COUNTY MILWAUKEE</div><div>CITY MILWAUKEE</div></div><div>DESIGN SPEC. REHABILITATION N/A</div><div><div>DESIGNED BY DMC</div><div>DESIGN CK'D. YNN</div><div>DRAWN BY TAL</div><div>PLANS CK'D. BDT</div></div><div>POLYMER OVERLAY</div><div>SHEET 1 OF 3</div></div>			

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Plotted by: bthengon
PEN TABLE: V8-STRUCTURAL.REV.TEL



TYPICAL SECTION THRU EB AIRPORT SPUR (STH 119)
(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	TOTAL
509.0301	PREPARATION DECKS TYPE 1	SY	5
509.0302	PREPARATION DECKS TYPE 2	SY	2
509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	30
509.1500	CONCRETE SURFACE REPAIR	SF	5
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	1
509.5100.S	POLYMER OVERLAY	SY	501

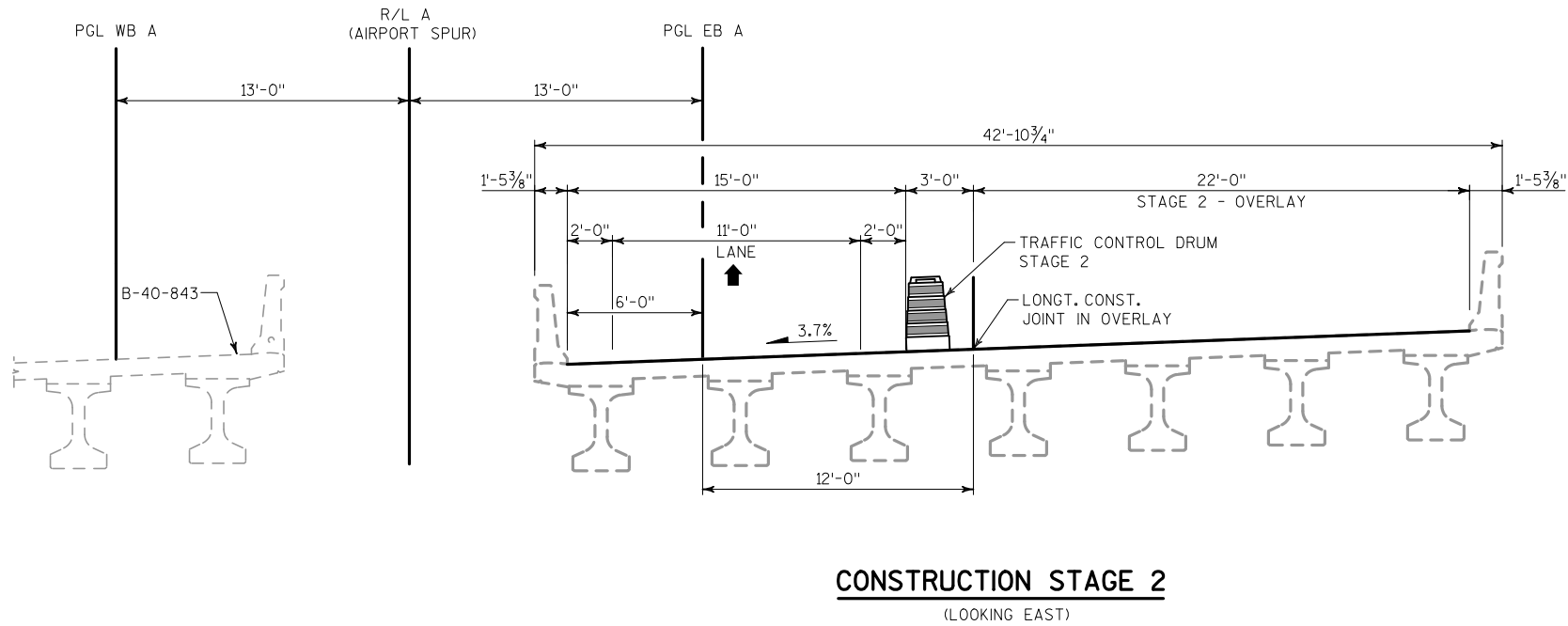
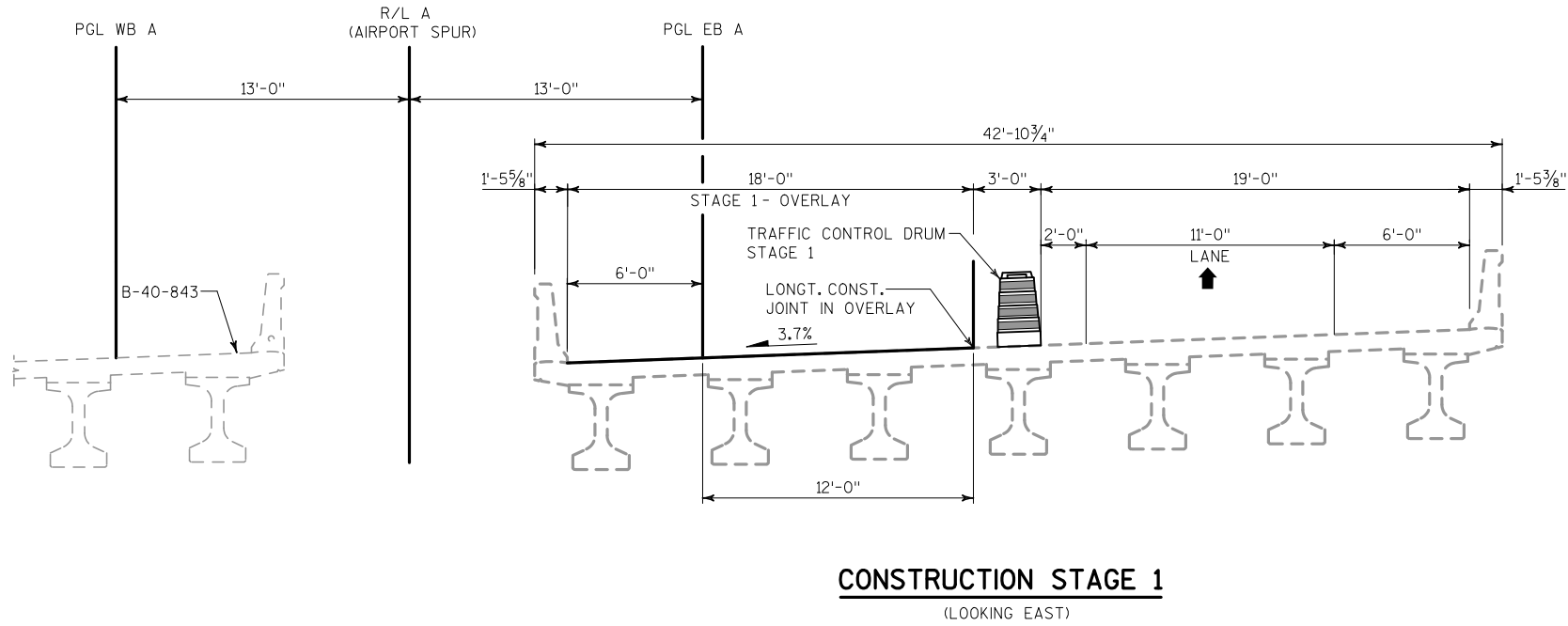
ALL BID ITEMS ARE CATEGORY 0080

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.
- ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.
- DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.
- ALL CONCRETE REMOVALS SHALL BE DEFINED BY A 1" DEEP SAWCUT.
- SEE SPECIAL PROVISIONS FOR REQUIRED CONCRETE CURE TIME PRIOR TO APPLYING POLYMER OVERLAY.
- PLANS OF THE EXISTING BRIDGE ARE ON FILE AND ARE AVAILABLE FOR INSPECTION AT THE WISCONSIN DEPARTMENT OF TRANSPORTATION, SOUTHEAST REGION.
- DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".
- AREAS OF "PREPARATION TYPE 1, PREPARATION TYPE 2, FULL-DEPTH DECK REPAIR, AND CONCRETE SURFACE 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 DECK REPAIR".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-842			
DRAWN BY		TAL	PLANS CK'D. BDT
TYPICAL SECTION AND GENERAL NOTES		SHEET 2 OF 3	

FILE NAME: F:\BIM-3495-5TH 119 Bridges - WisDOT 2015-02-0045.Design\04_Structures.Bridges\cds\Current plans 2018\B-40-442\B42_080103.stg\p.dgn
DATE: 8/31/2018 6:29:56 PM
Plotted by: bthengon
PEN TABLE: V8-STRUCTURAL.REV.TEL



NOTES

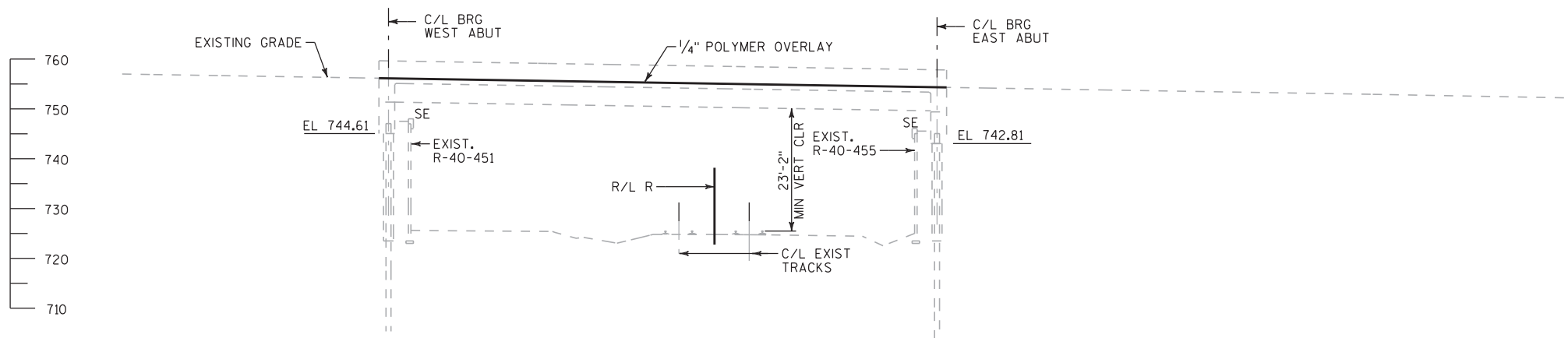
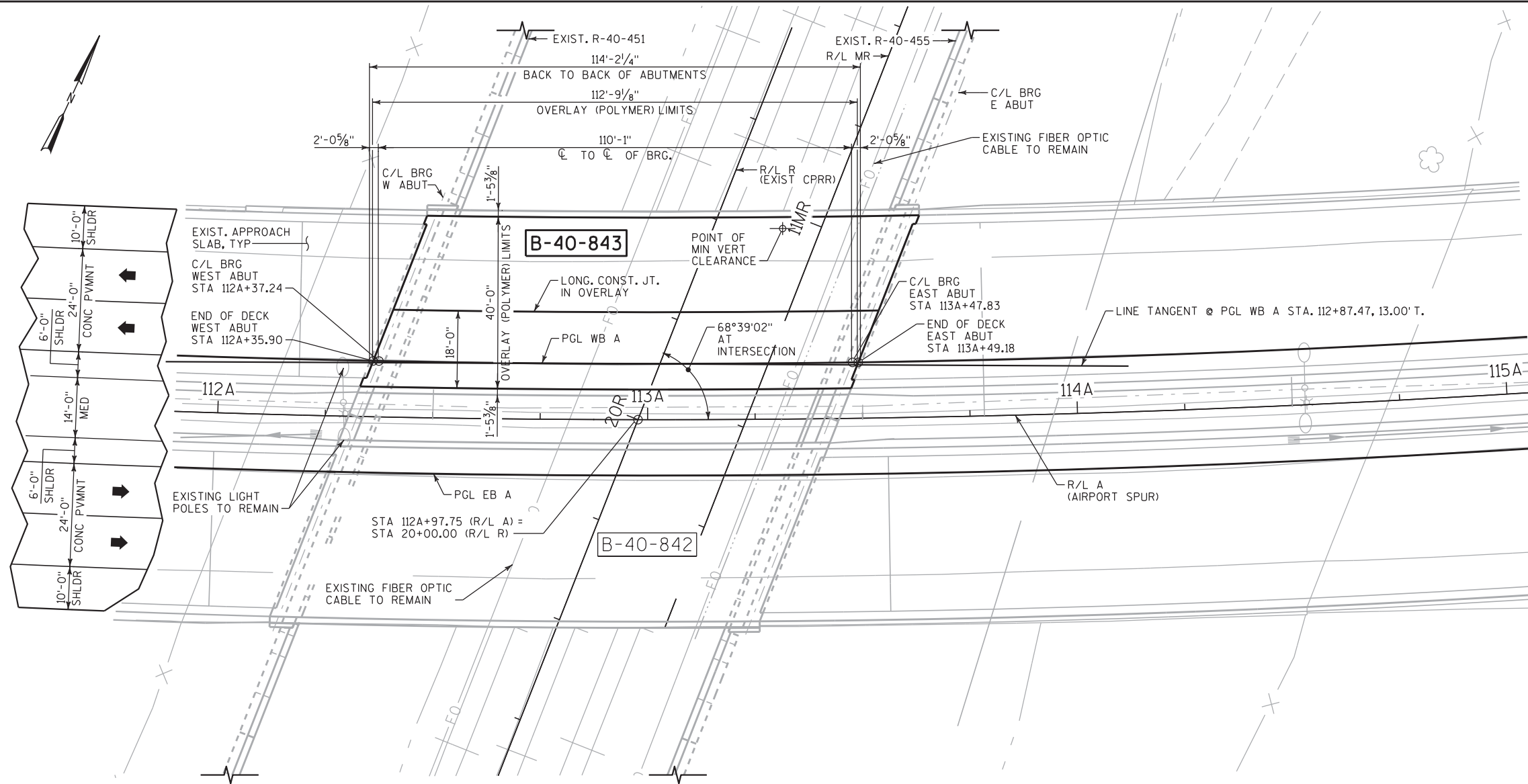
TRAFFIC CONTROL DRUM IS PAID UNDER ROADWAY BID ITEMS.

A SINGLE LANE OF TRAFFIC IS OPEN IN STAGE 1 AND 2.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-842			
DRAWN BY		TAL	PLANS CK'D. BDT
CONSTRUCTION STAGING		SHEET 3 OF 3	

FILE NAME : F:\NMI-3495-STH 119 Bridges - WisDOT 2015-02-00\5.Design\04.Structures.Bridges\Current Plans 2018\B-40-843\B843_080101.dgn
PLOT NAME : B843_080101.dgn
PLOT BY : bthengann
PLOT DATE : 31-AUG-2018 18:39

8



STRUCTURE DESIGN CONTACTS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT:
BABU THENGANAKUNNEL
(414) 292-4506

STATE PROJECT NUMBER

2015-02-70

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 0.98
OPERATING RATING FACTOR: RF = 1.89
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY - DECK PATCHING.....f'c = 4,000 psi

LIST OF DRAWINGS

1. POLYMER OVERLAY
2. TYPICAL SECTION AND GENERAL NOTES
3. CONSTRUCTION STAGING

TRAFFIC DATA

STH 119


A.D.T. = 11,000 (2015)

A.D.T. = 53,515 (2035)

R.D.S. = 50 M.P.H.

HORIZONTAL CURVE DATA

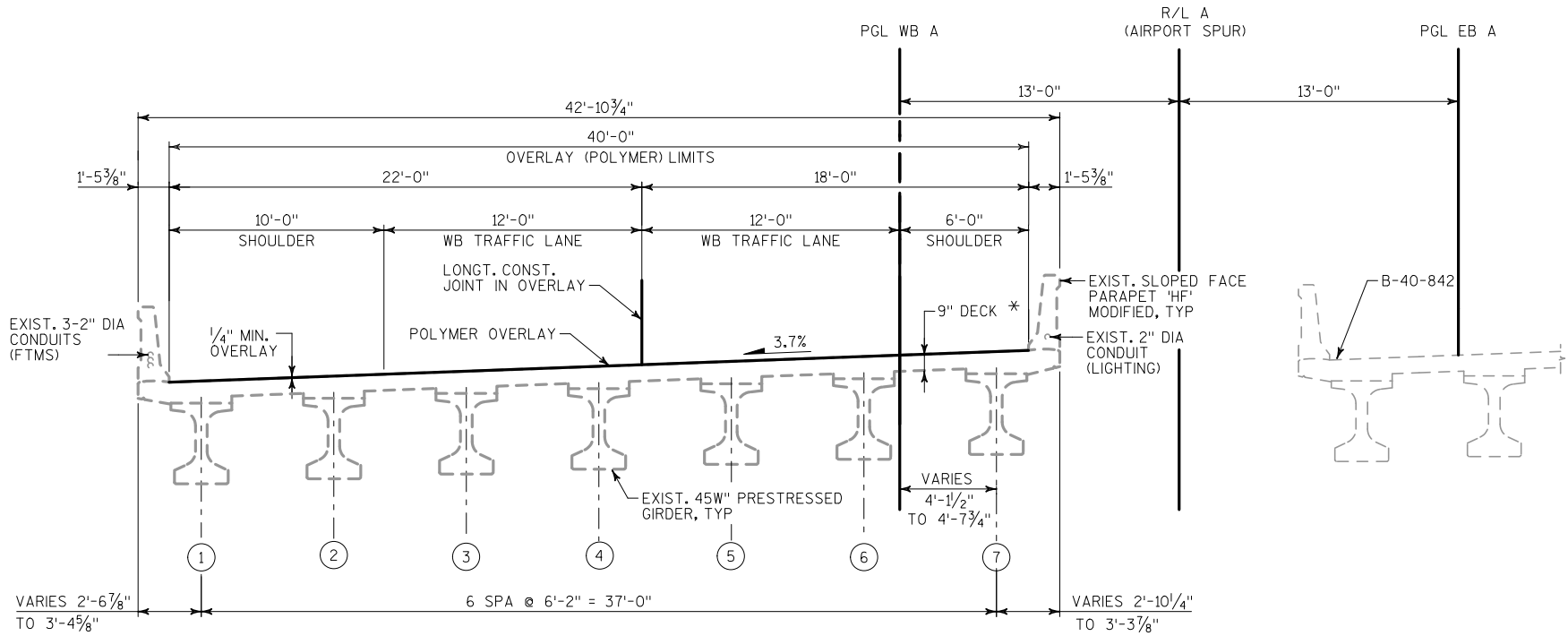
R/L A CURVE A2
PI = 110A+83.18
N:264150.27
E:601584.35
DELTA = 20°43' 32"
D = 1°45' 1"
R = 3273.68
T = 598.63
L = 1184.19
PC = 104A+84.54
N:264042.28
E:600995.53
PT = 116A+68.73
N:264459.64
E:602096.84

NO.	DATE	REVISION	BY
<div><div>BLOOM COMPANIES, LLC <i>Infrastructure Innovation and Ingenuity</i></div><div>10501 W. Research Drive • Milwaukee, WI 53226 Phone: (414) 771-3390 Fax: (414) 771-4490</div></div>			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	<i>William C. Dreher</i> SDR		11/08/18
CHIEF STRUCTURES DESIGN ENGINEER			DATE
STRUCTURE B-40-843			
STH 119 WB AIRPORT SPUR OVER CMSTPP R			
COUNTY	MILWAUKEE	CITY	MILWAUKEE
DESIGN SPEC.	REHABILITATION N/A		
DESIGNED BY	DMC	DESIGN CK'D.	YNN
DRAWN BY	TAL	PLANS CK'D.	BDT
POLYMER OVERLAY			SHEET 1 OF

2015-02-00

AUGUST 2018

FILE NAME: F:\BIM-4495-STH 119 Bridges - Wisconsin 2015-02-0045.Designs\04.Structures.Bridges\cds\Current plans 2018\B-40-443\B43_080102_1s.dgn
DATE: 8/31/2018 6:45:05 PM Plotted by: bthengon PEN TABLE: V8-STRUCTURAL.REV.TEL



TYPICAL SECTION THRU WB AIRPORT SPUR (STH 119)
(LOOKING EAST)

* 9" THICKNESS INCLUDES A 1/2" SACRIFICIAL WEARING SURFACE PLACED INTEGRAL WITH THE DECK AT INITIAL CONSTRUCTION.

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	TOTAL
509.0301	PREPARATION DECKS TYPE 1	SY	5
509.0302	PREPARATION DECKS TYPE 2	SY	2
509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	30
509.1500	CONCRETE SURFACE REPAIR	SF	5
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	1
509.5100.S	POLYMER OVERLAY	SY	502

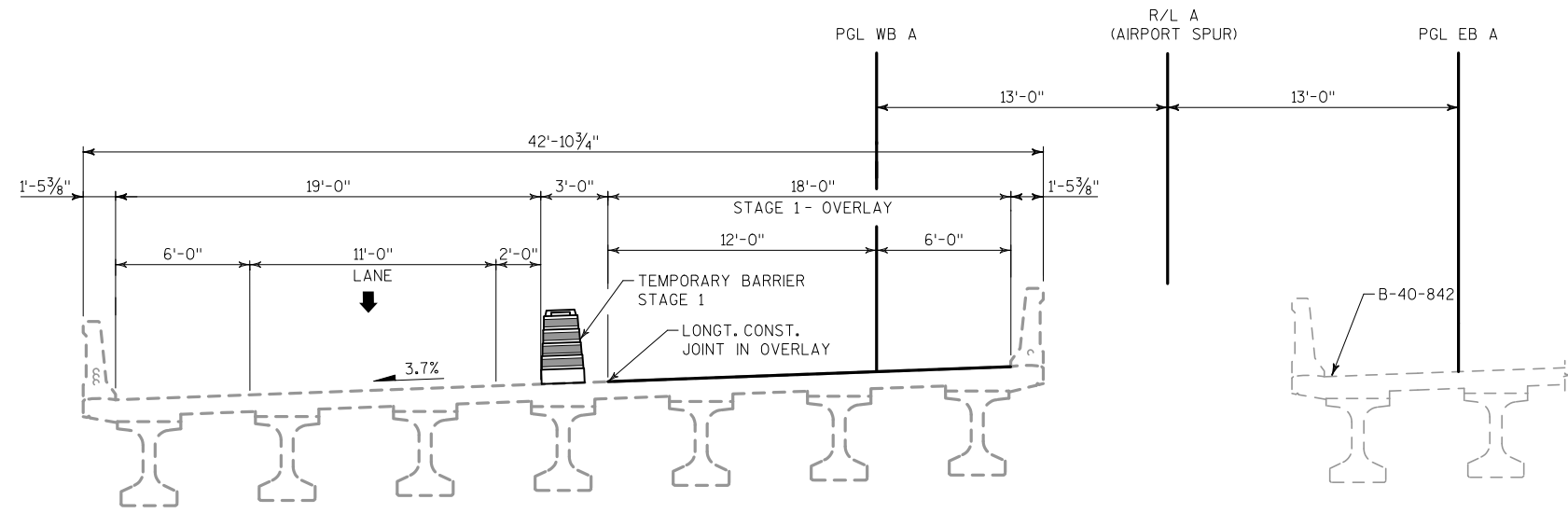
ALL BID ITEMS ARE CATEGORY 0090

GENERAL NOTES

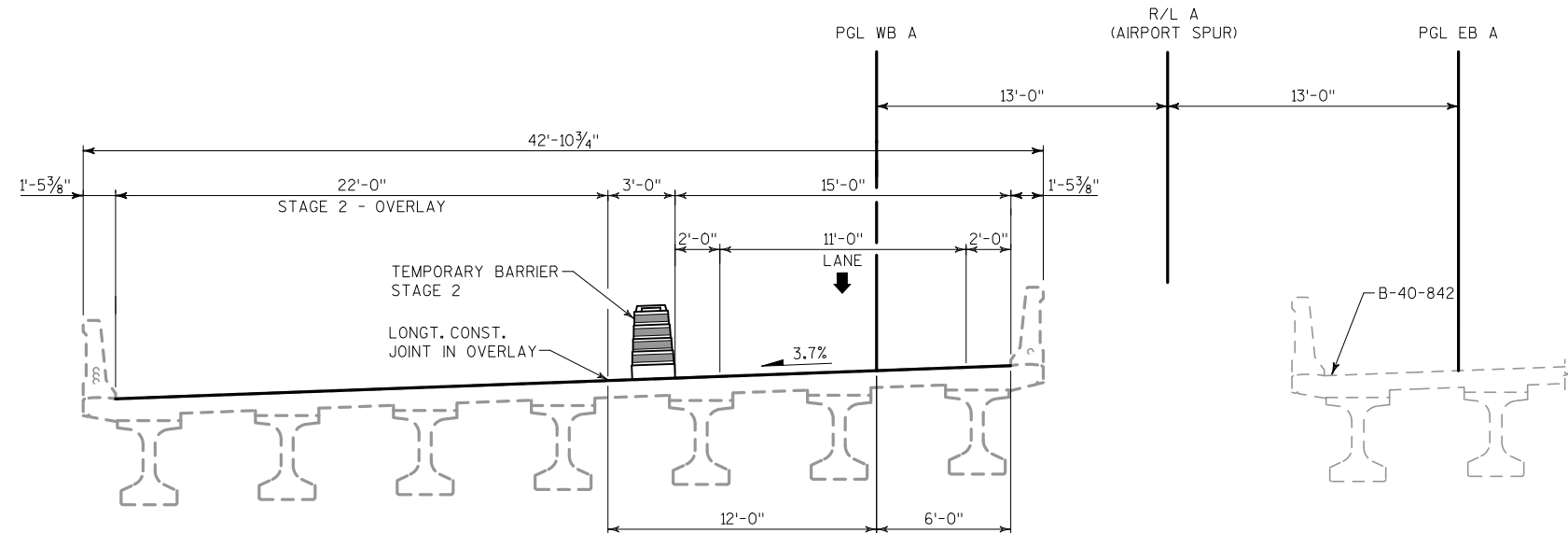
- DRAWINGS SHALL NOT BE SCALED.
- ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.
- DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.
- ALL CONCRETE REMOVALS SHALL BE DEFINED BY A 1" DEEP SAWCUT.
- SEE SPECIAL PROVISIONS FOR REQUIRED CONCRETE CURE TIME PRIOR TO APPLYING POLYMER OVERLAY.
- PLANS OF THE EXISTING BRIDGE ARE ON FILE AND ARE AVAILABLE FOR INSPECTION AT THE WISCONSIN DEPARTMENT OF TRANSPORTATION, SOUTHEAST REGION.
- DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".
- AREAS OF "PREPARATION TYPE 1, PREPARATION TYPE 2, FULL-DEPTH DECK REPAIR, AND CONCRETE SURFACE 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 DECK REPAIR".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-843			
DRAWN BY		TAL	PLANS CK'D. BDT
TYPICAL SECTION AND GENERAL NOTES		SHEET 2 OF 3	

FILE NAME: F:\BIM-3495-5TH 119 Bridges - Wisconsin-2015-02-0045.Design\04_Structures.Bridges\cds\Current plans 2018\B-40-843\B843_080103.stg\p.dgn
DATE: 8/31/2018 6:45:53 PM Plotted by: bthengon PEN TABLE: V8-STRUCTURAL.REV.TEL



CONSTRUCTION STAGE 1
(LOOKING EAST)



CONSTRUCTION STAGE 2
(LOOKING EAST)

NOTES

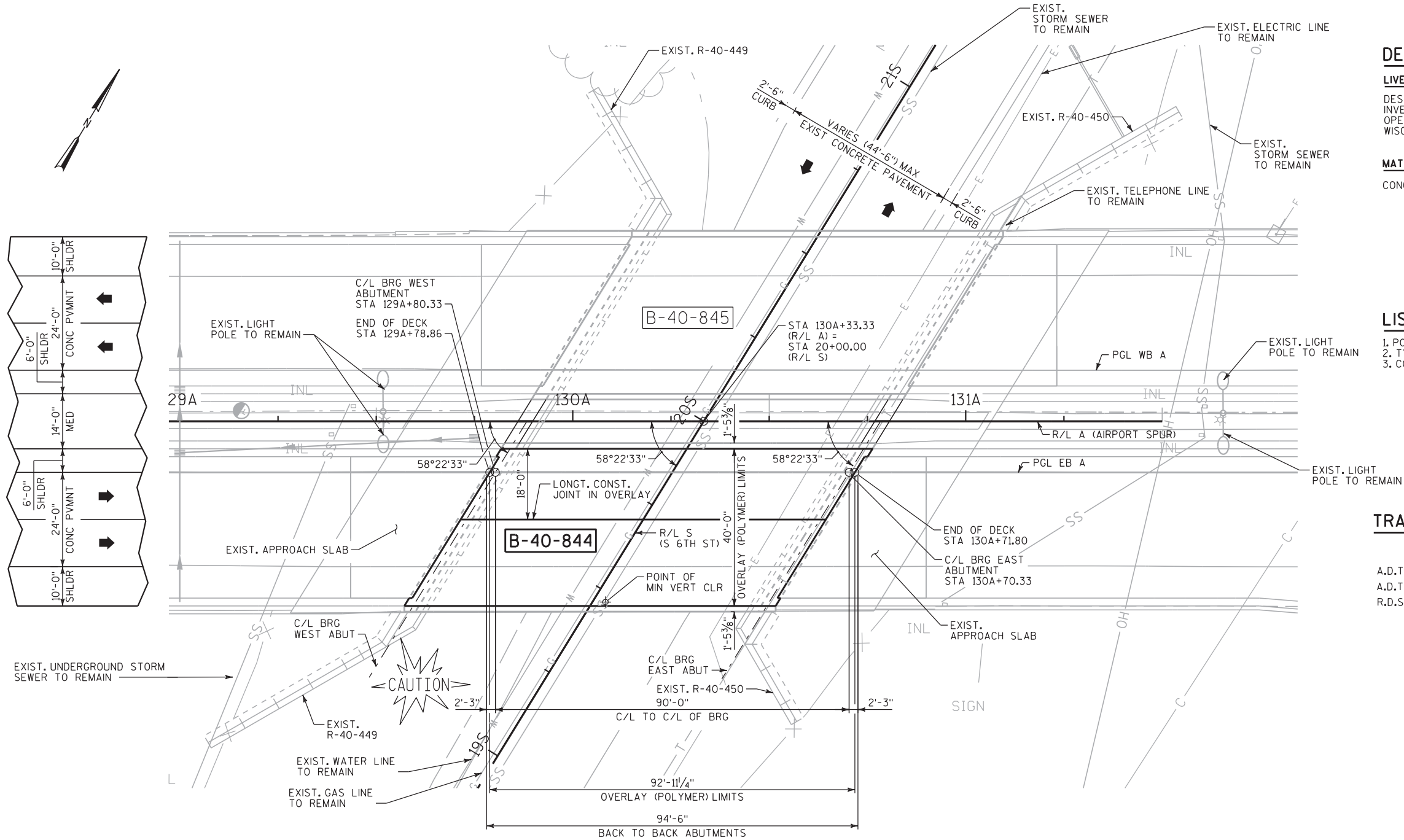
TRAFFIC CONTROL DRUM IS
PAID UNDER ROADWAY BID ITEMS.

A SINGLE LANE OF TRAFFIC IS OPEN
IN STAGE 1 AND 2.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-843			
DRAWN BY		TAL	PLANS CK'D. BDT
CONSTRUCTION STAGING		SHEET 3 OF 3	

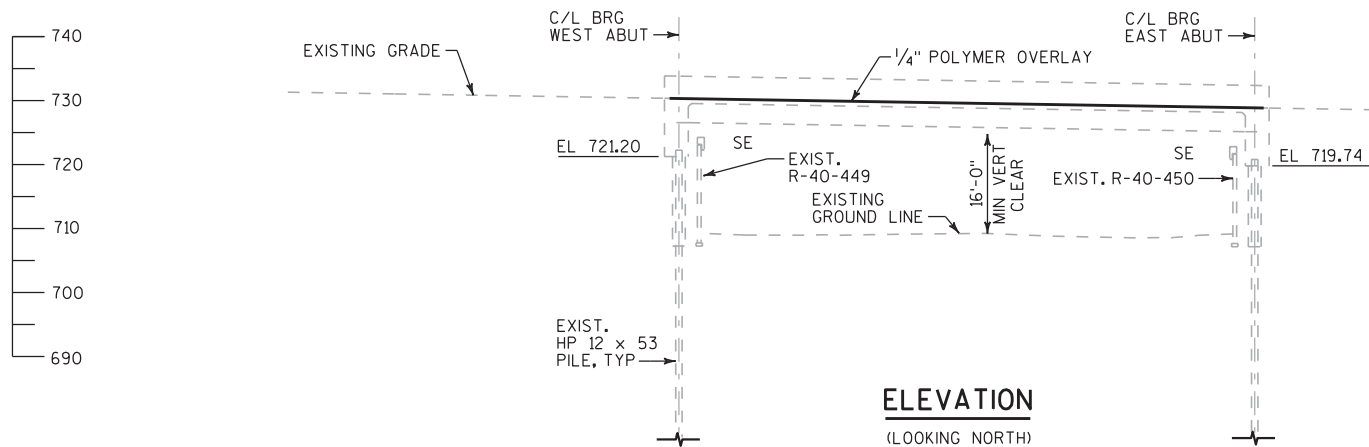
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PLOT NAME : B844_080101.dgn
PLOT DATE : 31-AUG-2018 16:32
PLOT BY : jleeger

8



PLAN

(SINGLE SPAN 36W" PRESTRESSED GIRDER BRIDGE)
ALL STATIONS AND DISTANCES GIVEN ALONG PGL EB A



ELEVATION

(LOOKING NORTH)

STATE PROJECT NUMBER

2015-02-70

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.12
OPERATING RATING FACTOR: RF = 1.94
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY - DECK PATCHING.....f'c = 4,000 psi

LIST OF DRAWINGS

1. POLYMER OVERLAY
2. TYPICAL SECTION AND GENERAL NOTES
3. CONSTRUCTION STAGING

TRAFFIC DATA

STH 119
A.D.T. = 12,400 (2015)
A.D.T. = 53,515 (2035)
R.D.S. = 50 M.P.H.


6TH ST
A.D.T. = 3,200 (2011)
A.D.T. = 6,811 (2035)



STRUCTURE DESIGN CONTACTS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT:
BABU THENGANAKUNNEL
(414) 292-4506

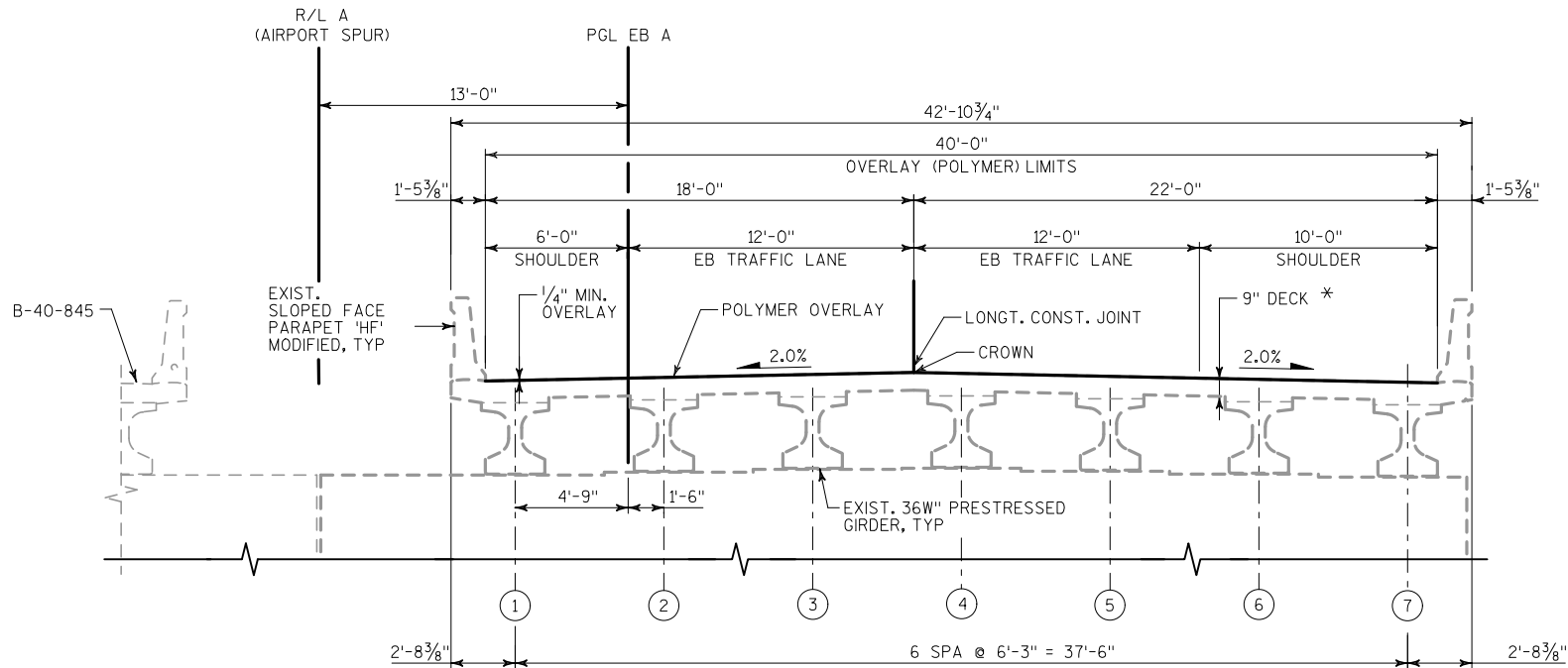
NO.	DATE	REVISION	BY
<div><div>BLOOM COMPANIES, LLC <i>Infrastructure Innovation and Ingenuity</i></div><div>10501 W. Research Drive • Milwaukee, WI 53226 Phone: (414) 771-3390 Fax: (414) 771-4490</div></div>			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED <i>William C. Dreher</i> SDR		11/08/18	
CHIEF STRUCTURES DESIGN ENGINEER		DATE	
STRUCTURE B-40-844			
STH 119 EB AIRPORT SPUR OVER S. 6TH ST.			
COUNTY	MILWAUKEE	CITY	MILWAUKEE
DESIGN SPEC.		REHABILITATION N/A	
DESIGNED BY	DMC	DESIGN CK'D.	YNN
DRAWN BY	TAL	PLANS CK'D.	BDT
POLYMER OVERLAY			SHEET 1 OF 3

2015-02-00

AUGUST 2018

8

FILE NAME: F:\BIM-3495-STH 119 Bridges - WisDOT 2015-02-0045.Design\04_Structures.Bridges\cds\Current\plans 2018\B-40-444\B44_L080102_1s.dgn
DATE: 8/31/2018 6:54:31PM Plotted by: bthengon PEN TABLE: V8-STRUCTURAL.REV.TEL



* 9" THICKNESS INCLUDES A 1/2" SACRIFICIAL WEARING SURFACE PLACED INTEGRAL WITH THE DECK AT INITIAL CONSTRUCTION.

TYPICAL SECTION THRU EB AIRPORT SPUR (STH 119)
(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	TOTAL
509.0301	PREPARATION DECKS TYPE 1	SY	5
509.0302	PREPARATION DECKS TYPE 2	SY	2
509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	30
509.1500	CONCRETE SURFACE REPAIR	SF	5
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	1
509.5100.S	POLYMER OVERLAY	SY	414

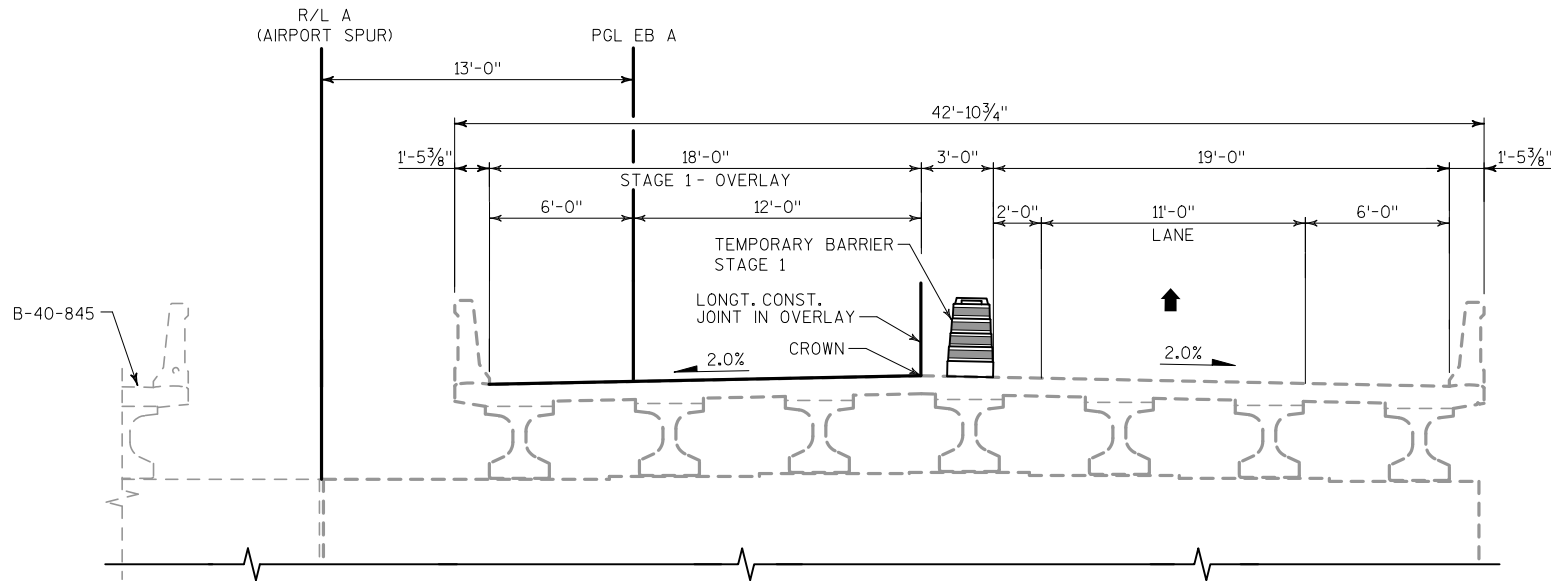
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GENERAL NOTES

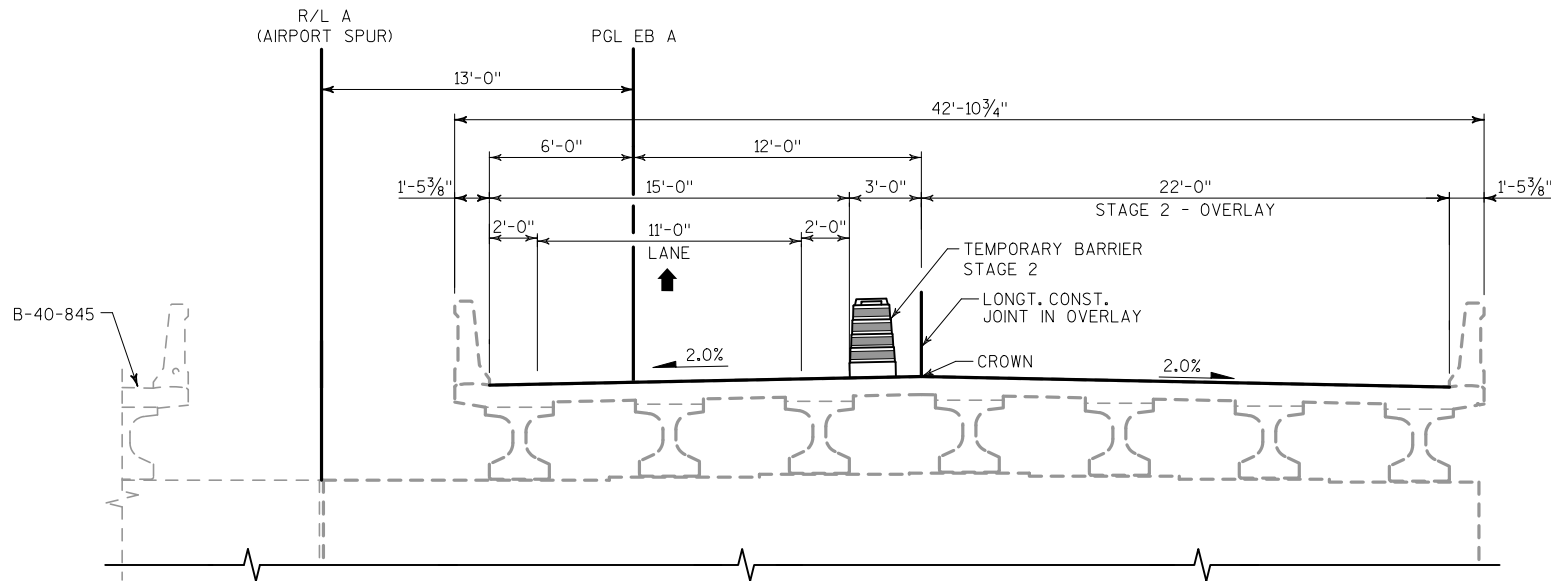
- DRAWINGS SHALL NOT BE SCALED.
- ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.
- DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.
- ALL CONCRETE REMOVALS SHALL BE DEFINED BY A 1" DEEP SAWCUT.
- SEE SPECIAL PROVISIONS FOR REQUIRED CONCRETE CURE TIME PRIOR TO APPLYING POLYMER OVERLAY.
- PLANS OF THE EXISTING BRIDGE ARE ON FILE AND ARE AVAILABLE FOR INSPECTION AT THE WISCONSIN DEPARTMENT OF TRANSPORTATION, SOUTHEAST REGION.
- DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".
- AREAS OF "PREPARATION TYPE 1, PREPARATION TYPE 2, FULL-DEPTH DECK REPAIR, AND CONCRETE SURFACE 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 DECK REPAIR".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-844			
DRAWN BY		TAL	PLANS CK'D. BDT
TYPICAL SECTION AND GENERAL NOTES		SHEET 2 OF 3	

FILE NAME: F:\BIM-3495-5TH 119 Bridges - WisDOT 2015-02-0045.Design\04.Structures.Bridges\cds\Current plans 2018\B-40-844\B44_L080103.stg\ng.dgn
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PEN TABLE: V8.STRUCTURAL.REV.TEL
Plotted by: bthengon



CONSTRUCTION STAGE 1
(LOOKING EAST)



CONSTRUCTION STAGE 2
(LOOKING EAST)

STATE PROJECT NUMBER

2015-02-70

NOTES

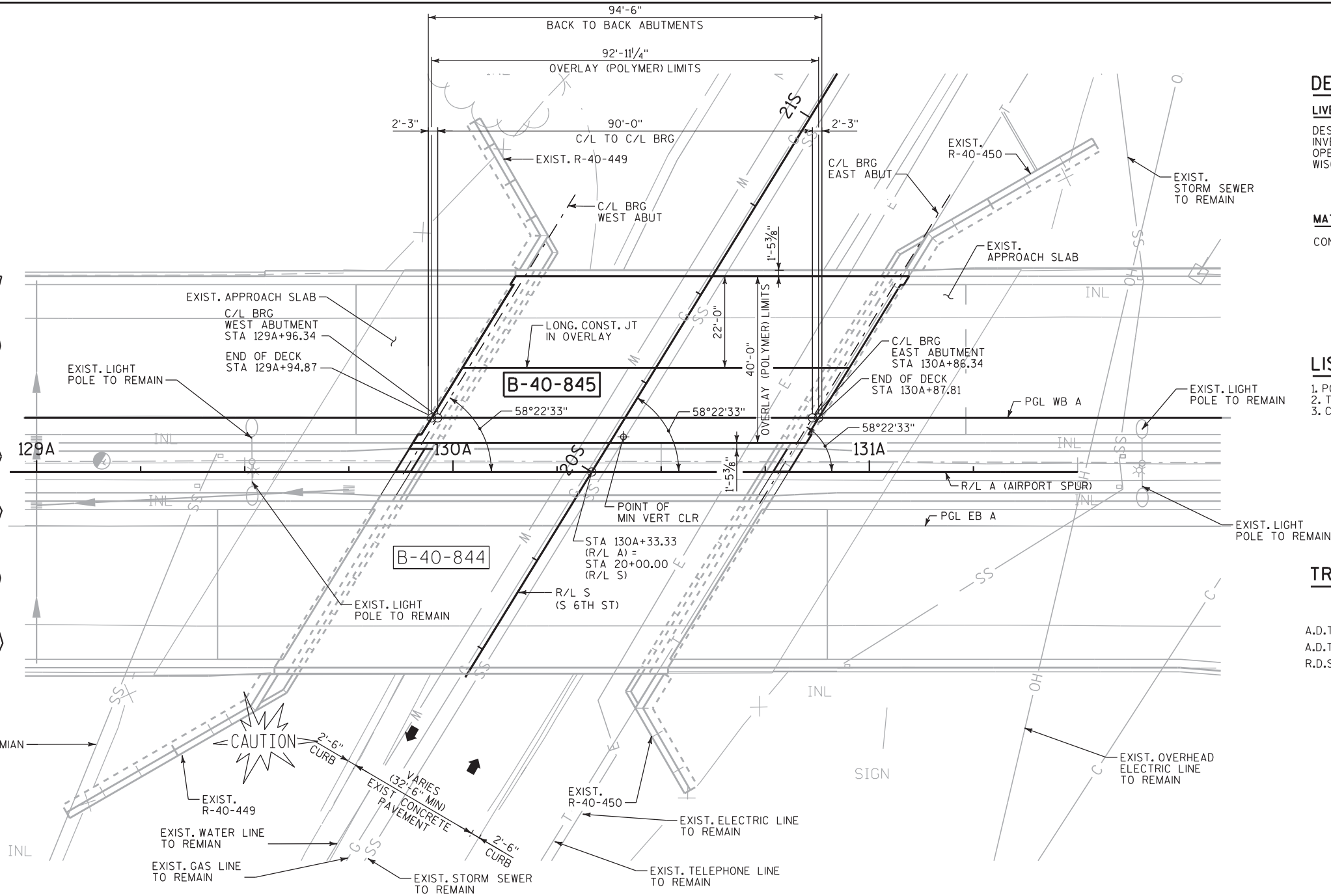
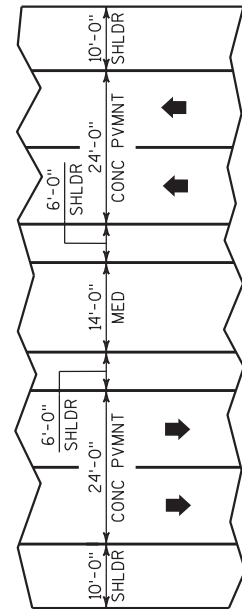
TRAFFIC CONTROL DRUM IS
PAID UNDER ROADWAY BID ITEMS.

A SINGLE LANE OF TRAFFIC IS OPEN
IN STAGE 1 AND 2.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-844			
DRAWN BY		TAL	PLANS CK'D. BDT
CONSTRUCTION STAGING		SHEET 3 OF 3	

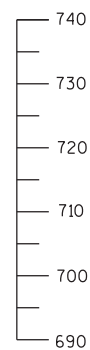
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PLOT NAME : B45_080101.gp
PLOT DATE : 31-AUG-2018 19:05
PLOT BY : bthengon

8



PLAN

(SINGLE SPAN 36W" PRESTRESSED GIRDER BRIDGE)
ALL STATIONS AND DISTANCES GIVEN ALONG PGL WB A



ELEVATION

(LOOKING NORTH)



STRUCTURE DESIGN CONTACTS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT:
BABU THENGANAKUNNEL
(414) 292-4506

STATE PROJECT NUMBER

2015-02-70

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.12
OPERATING RATING FACTOR: RF = 1.94
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY - DECK PATCHING.....f'c = 4,000 psi

LIST OF DRAWINGS

1. POLYMER OVERLAY
2. TYPICAL SECTION AND GENERAL NOTES
3. CONSTRUCTION STAGING


TRAFFIC DATA

STH 119

A.D.T. = 11,000 (2015)
A.D.T. = 53,515 (2035)
R.D.S. = 50 M.P.H.

6TH ST

A.D.T. = 3,200 (2011)
A.D.T. = 6,811 (2035)

NO.	DATE	REVISION	BY
<div></div> <div>BLOOM COMPANIES, LLC <i>Infrastructure Innovation and Ingenuity</i></div> <div>10501 W. Research Drive • Milwaukee, WI 53226 Phone: (414) 771-3390 Fax: (414) 771-4490</div>			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED <i>William C. Dreher</i> SDR		11/08/18	
CHIEF STRUCTURES DESIGN ENGINEER		DATE	
STRUCTURE B-40-845			
STH 119 WB AIRPORT SPUR OVER S. 6TH ST.			
COUNTY	MILWAUKEE	CITY	MILWAUKEE
DESIGN SPEC.		REHABILITATION N/A	
DESIGNED BY	DMC	DESIGN CK'D.	YNN
DRAWN BY	TAL	PLANS CK'D.	BDT
POLYMER OVERLAY			SHEET 1 OF 3

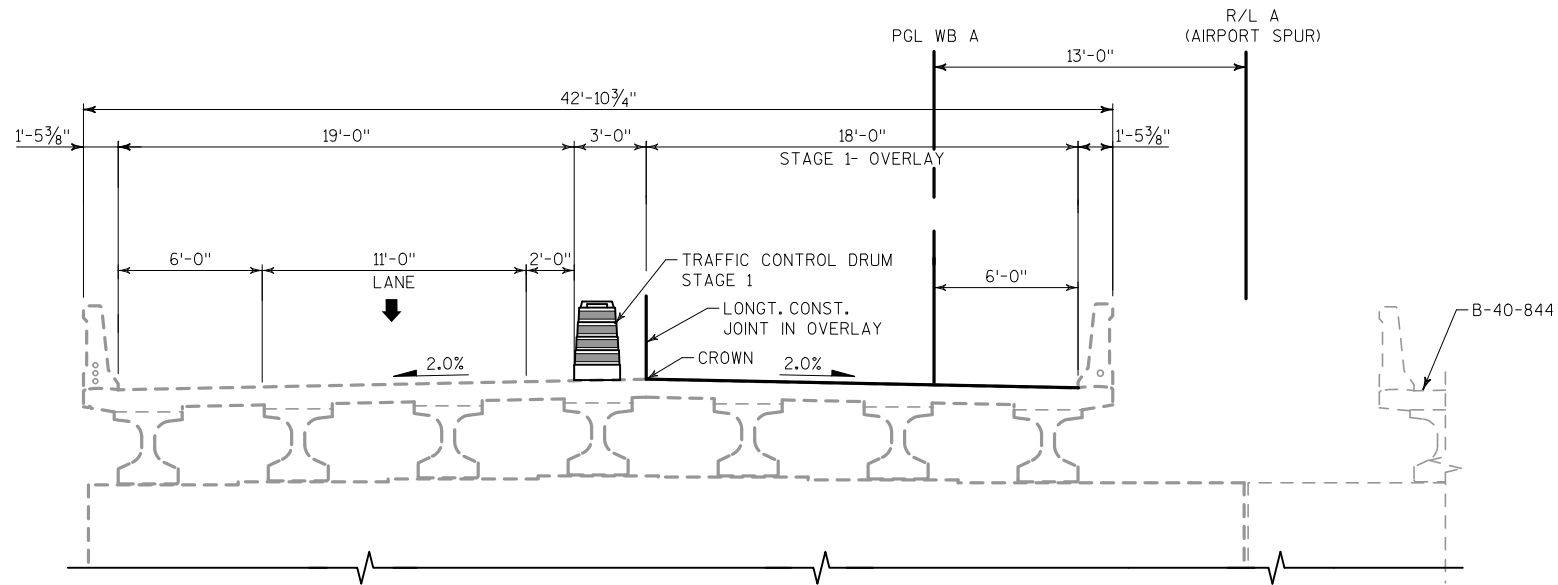
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AUGUST 2018

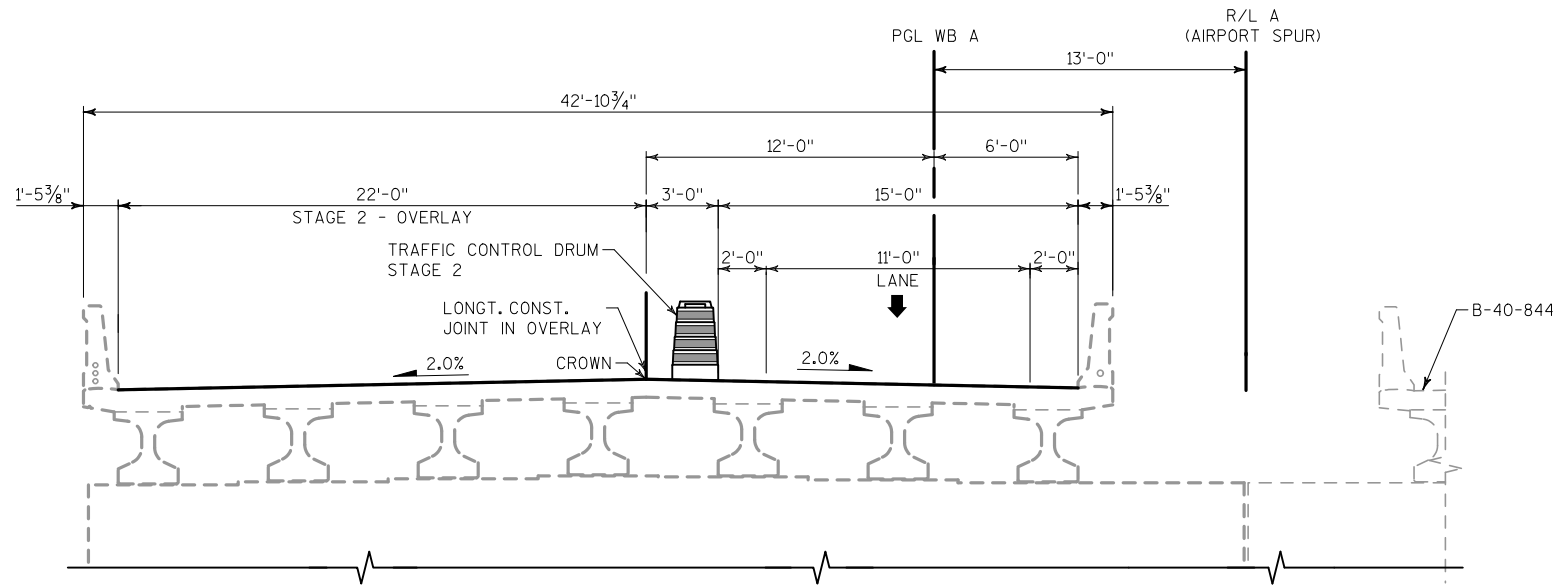


NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION					
STRUCTURE B-40-845					
		DRAWN BY	TAL	DRAWN CK'D.	BDT
TYPICAL SECTION AND GENERAL NOTES			SHEET 2 OF 3		

FILE NAME: F:\BIM-4495-5TH 119 Bridges - WisDOT 2015-02-0045.Design\04_Structures.Bridges\cds\Current plans 2018\B-40-845\B45_080103.stg\ng.dgn
DATE: 8/31/2018 7:09:43 PM Plotted by: bthengon PEN TABLE: V8-STRUCTURAL.REV.TEL



CONSTRUCTION STAGE 1
(LOOKING EAST)



CONSTRUCTION STAGE 2
(LOOKING EAST)

NOTES
TRAFFIC CONTROL DRUM IS PAID UNDER ROADWAY BID ITEMS.
A SINGLE LANE OF TRAFFIC IS OPEN IN STAGE 1 AND 2.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-845			
DRAWN BY		TAL	PLANS CK'D. BDT
CONSTRUCTION STAGING		SHEET 3 OF 3	



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

<http://www.dot.wisconsin.gov>