

GRE

FEBRUARY 2025

PROJECT ID:

4110-33-71

WITH:

NA

COUNTY:

WINNEBAGO

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.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans

TOTAL SHEETS = 148

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

MAIN STREET, CITY OF OSHKOSH

FOX RIVER BRIDGE B-70-0056

USH 45

WINNEBAGO COUNTY

STATE PROJECT NUMBER

4110-33-71

END PROJECT 4110-33-71

STA. 47+90.33

BEGIN PROJECT 4110-33-71

STA. 43+14.58

Y = 471437.403

X = 792999.223

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

SCALE

01000 FT

TOTAL NET LENGTH OF CENTERLINE = 0.000 MILES

PLAN

CONVENTIONAL SYMBOLS

PROFILE

DESIGN DESIGNATION

A.A.D.T. (2026) = 10,540

A.A.D.T. (2046) = 10,540

D.H.V. =

D.D. = 50/50

T. = 7.10%

DESIGN SPEED = 25 MPH

ESALS = 1,590,000

STATE PROJECT

4110-33-71

FEDERAL PROJECT

PROJECT

CONTRACT

ORIGINAL PLANS PREPARED BY

H&H

WISCONSIN PROFESSIONAL ENGINEER

DANIEL E. MACHAMER

E-36738

LAKE ZURICH, IL

10/17/2024

DATE: 10/17/2024

(Professional Engineer Signature)

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor MEAD & HUNT

Designer HARDESTY & HANOVER

Project Manager WILLIAM BERTRAND, PE

Regional Examiner REGIONAL EXAMINER

Regional Supervisor TAMMY RABE, PE

APPROVED FOR THE DEPARTMENT

DATE: 10/28/2024

Bill Bertrand, P.E.

(Signature)

E

FILE NAME : Z:\3230500\201482.02\TECH\CAD\41103371\SHEETS\PLAN\010101_TI.DWG

PLOT DATE : 10/24/2024 11:32 AM

PLOT BY : VERONIKA BYRA

PLOT NAME :

UTILITIES CONTACTS

ATC MANAGEMENT, INC.
ELECTRICITY-TRANSMISSION
CHRIS DAILEY
W234 N2000 RIDGEVIEW PARKWAY COURT PO BOX 47
WAUKESHA, WI 53187-0047
PHONE: (262) 506-6884
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CITY OF OSHKOSH
WATER
JUSTIN GIERACH
215 CHURCH AVE. PO BOX 1130
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PHONE: (920) 236-5065
EMAIL: JGIERACH@OSHKOSHWI.GOV

WISCONSIN PUBLIC SERVICE CORPORATION
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3300 N MAIN ST
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WISCONSIN PUBLIC SERVICE CORPORATION
GAS/PETROLEUM
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WISCONSIN DNR LIAISON

JAY SCHIEFELBEIN
WDNR - NORTHEAST REGION
2984 SHAWANO AVE
GREEN BAY, WI 54313
PHONE: (920) 360-3784
EMAIL: JEREMIAH.SCHIEFELBEIN@WI.GOV

REGION SURVEY COORDINATOR

MICHAEL ANDRASCHKO, P.L.S.
WISDOT - NORTHEAST REGION
944 VANDERPERREN WAY
GREEN BAY, WI 54304
PHONE: (920) 492-4166
EMAIL: MICHAEL.ANDRASCHKO@DOT.WI.GOV

CITY CONTACT

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OSHKOSH DIRECTOR OF PUBLIC WORKS
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EMAIL: JRABE@CI.OSHKOSH.WI.US

DESIGN PROJECT MANAGER

BILL BERTRAND, PE
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COUNTY HIGHWAY COMMISSIONER

ROBERT DOEMEL
WINNEBAGO COUNTY
901 W COUNTY ROAD Y PO BOX 2764
OSHKOSH, WI 54903-2764
PHONE: (920) 232-1750
EMAIL: RDOEMEL@CO.WINNEBAGO.WI.US

CITY CONTACT

DAN KUSSMAN
ELECTRIC TRAFFIC MANAGER
926 DEMPSEY RD
OSHKOSH, WI 54902
PHONE: (920) 232-5350
EMAIL: DKUSSMANN@OSHKOSHWI.GOV

ORDER OF SECTION 2 DETAIL SHEETS

- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- PAVEMENT MARKING
- TRAFFIC CONTROL
- DETOUR
- PEDESTRIAN DETOUR

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS:	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIPTURF:	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPETURF:			.25			.27			.28			.30
			.32			.34			.36			.38
PAVEMENT:												
ASPHALT:	.70 - .95											
CONCRETE:	.80 - .95											
BRICK:	.70 - .80											
DRIVES, WALKS:	.75 - .85											
ROOFS:	.75 - .95											
GRAVEL ROADS, SHOULDERS:	.40 - .60											

TOTAL PROJECT AREA = 0.71 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.66 ACRES

DIGGERSHOTLINE

Dial 811 or (800)242-8511

www.DiggersHotline.com

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.

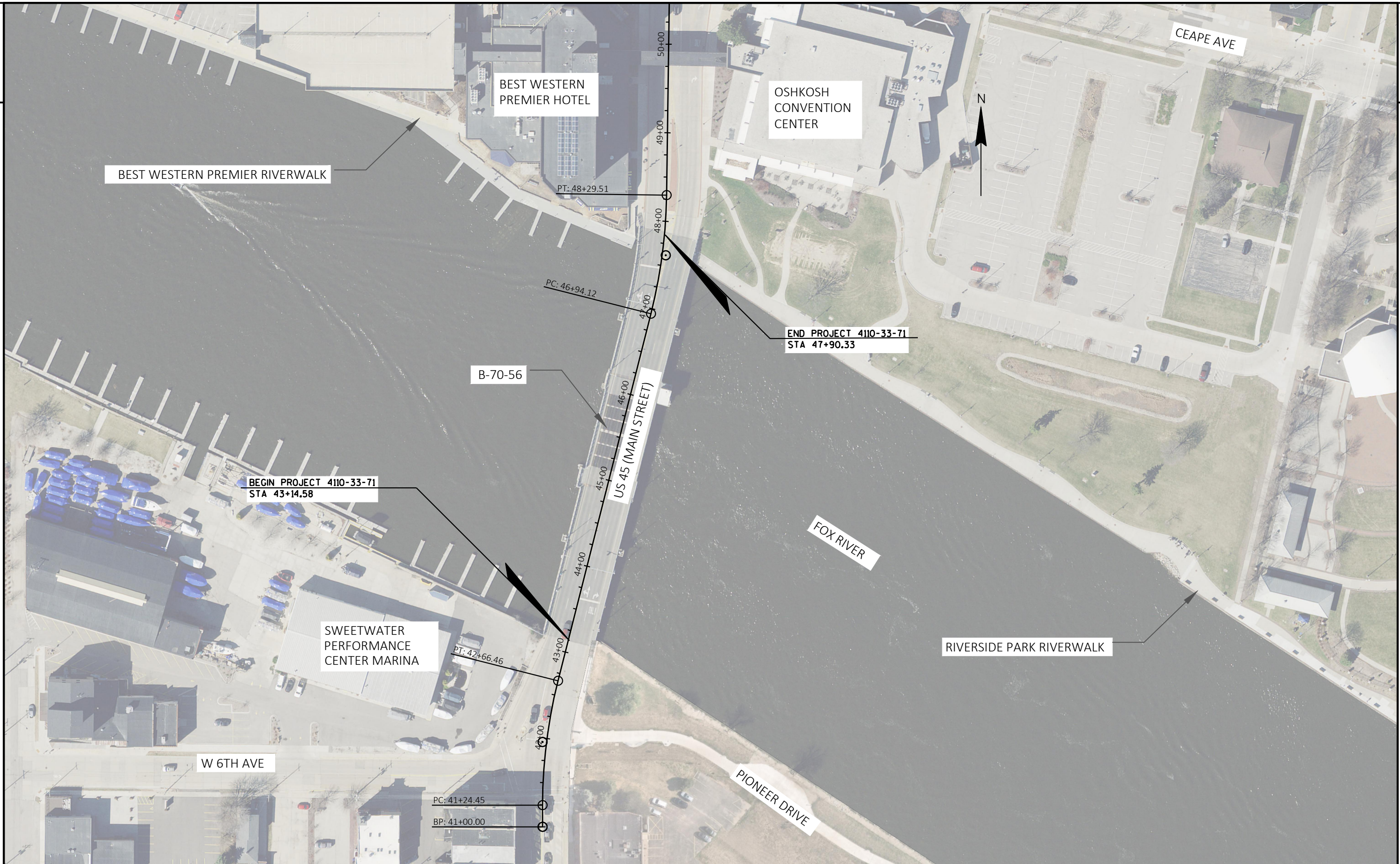
CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY OPERATIONS, OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

RIGHT OF WAY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE.

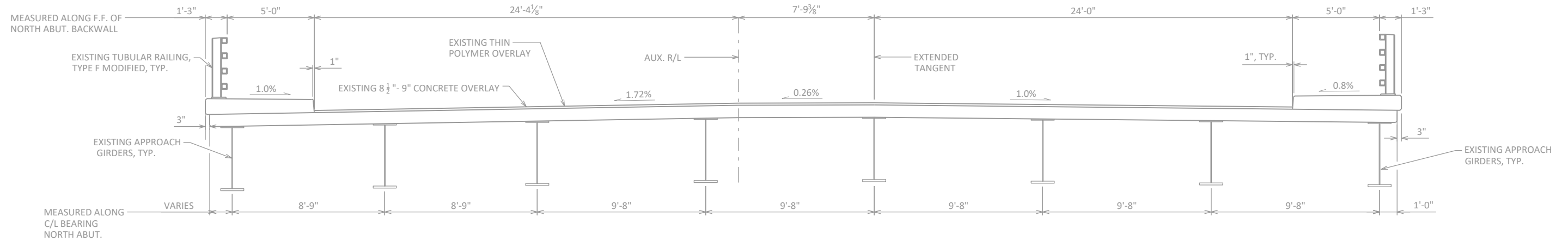
EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT APPROXIMATE LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER. MAINTAIN EROSION CONTROL MEASURES UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

CURVE DATA IS BASED ON THE ARC DEFINITION.

BEARINGS SHOWN ON THE PLAN ARE TRUE BEARINGS.

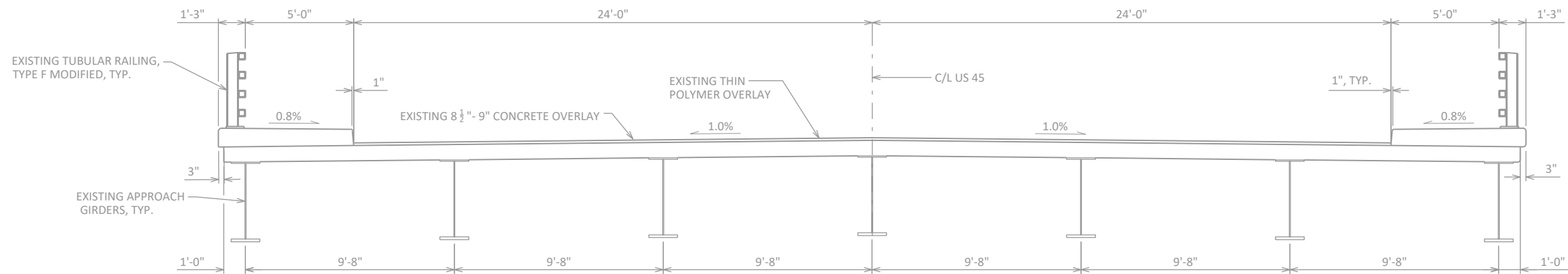


PROJECT NO: 4110-33-71	HWY: US 45	COUNTY: WINNEBAGO	PROJECT OVERVIEW	SHEET	E
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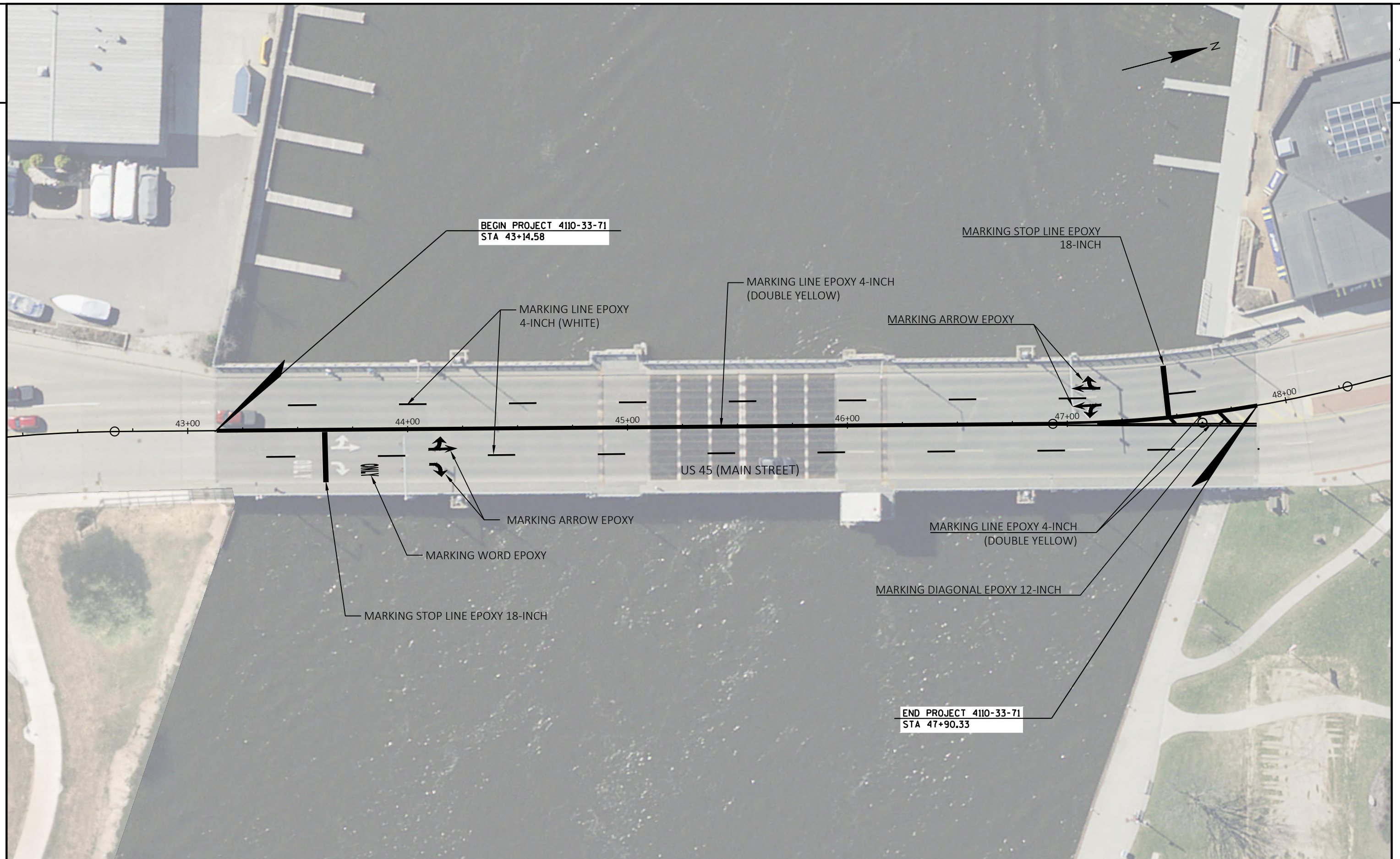
EXISTING TYPICAL SECTION THRU APPROACH SPAN

SPAN 4 FROM STA. 46+94.12 AND SPAN 5
(AT NORTH ABUTMENT - LOOKING NORTH)



EXISTING TYPICAL SECTION THRU APPROACH SPAN

SPANS 1, 2 AND 4 UP TO STA. 46+94.12



PROJECT NO: 4110-33-71

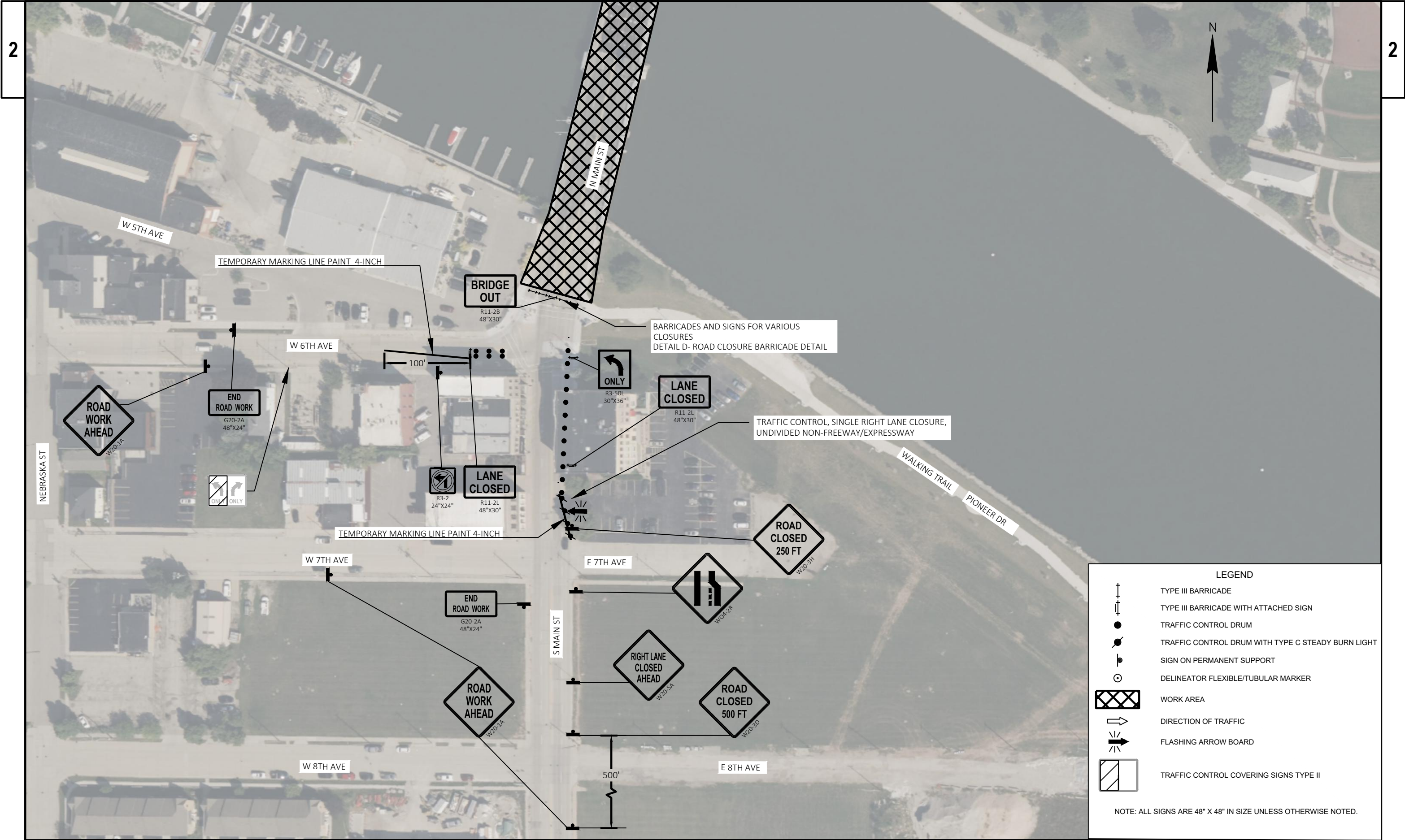
HWY: US 45

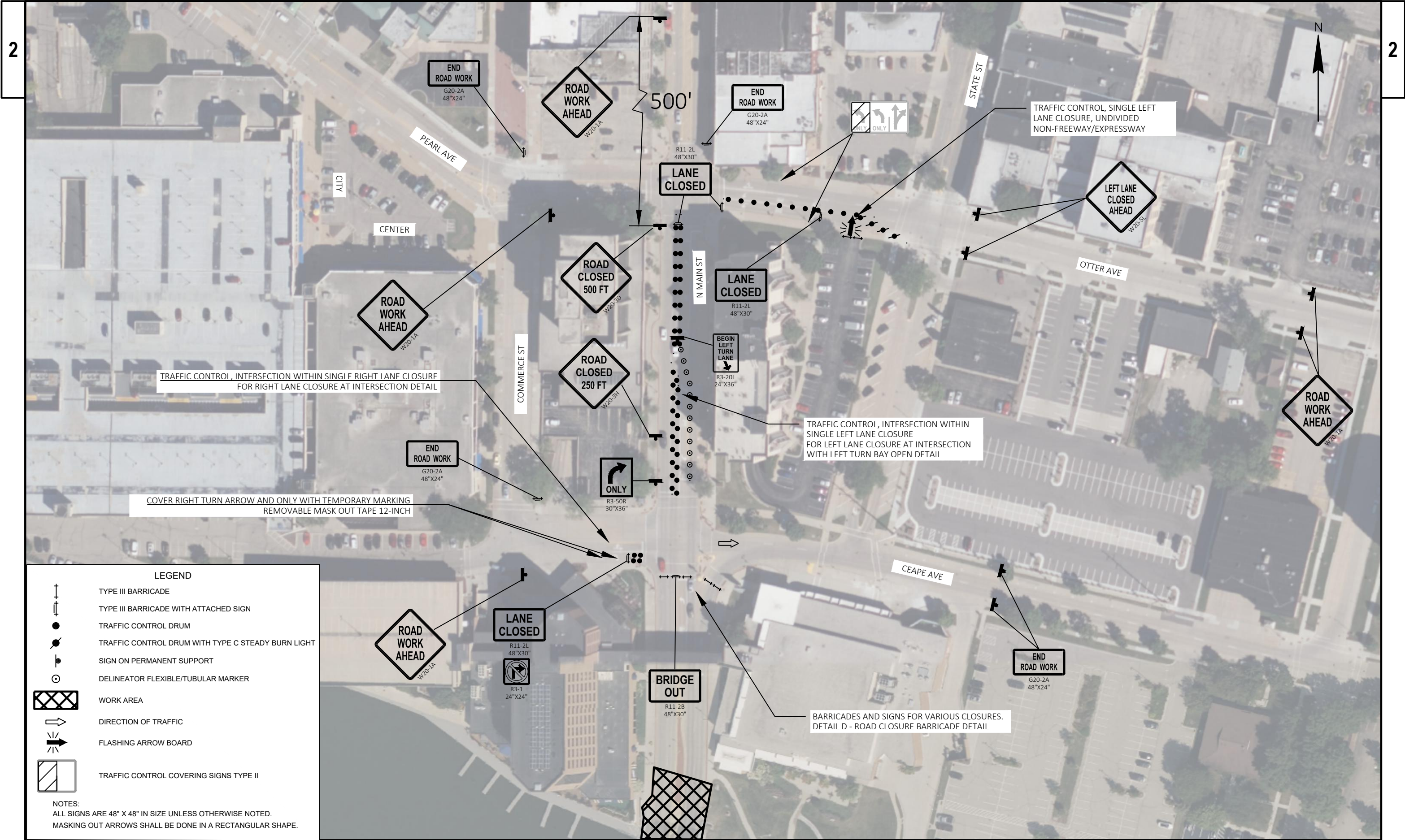
COUNTY: WINNEBAGO

PAVEMENT MARKING

SHEET

E

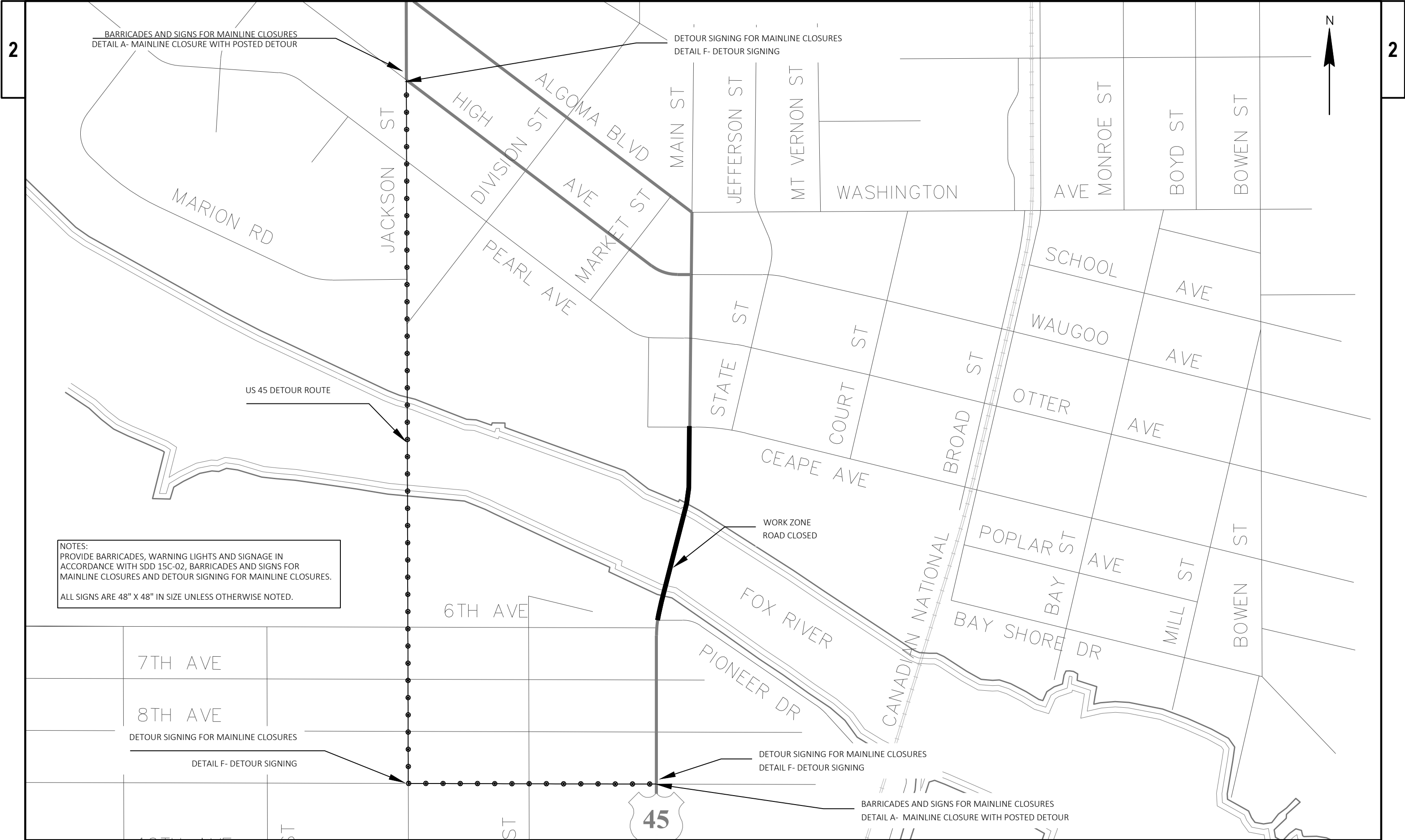


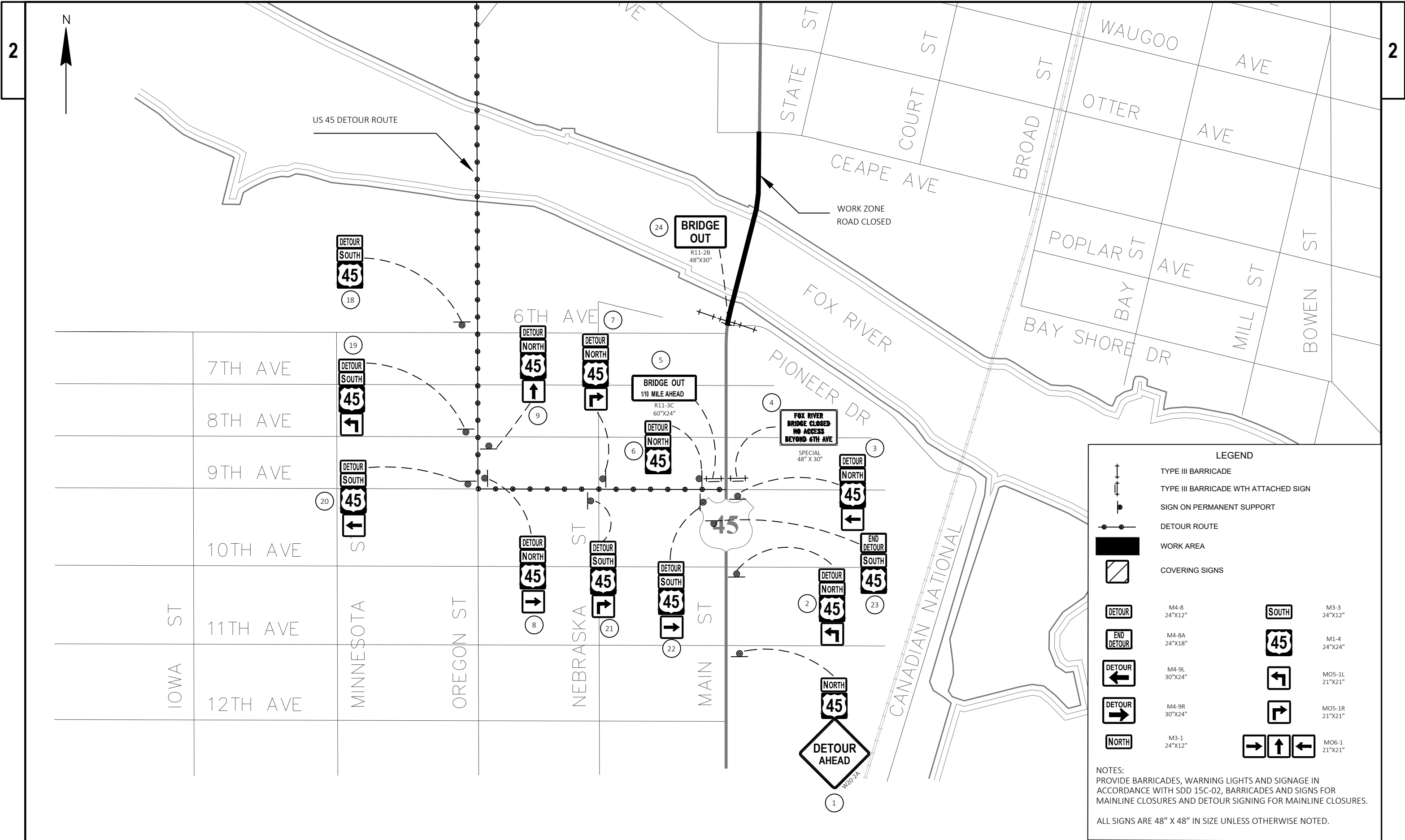


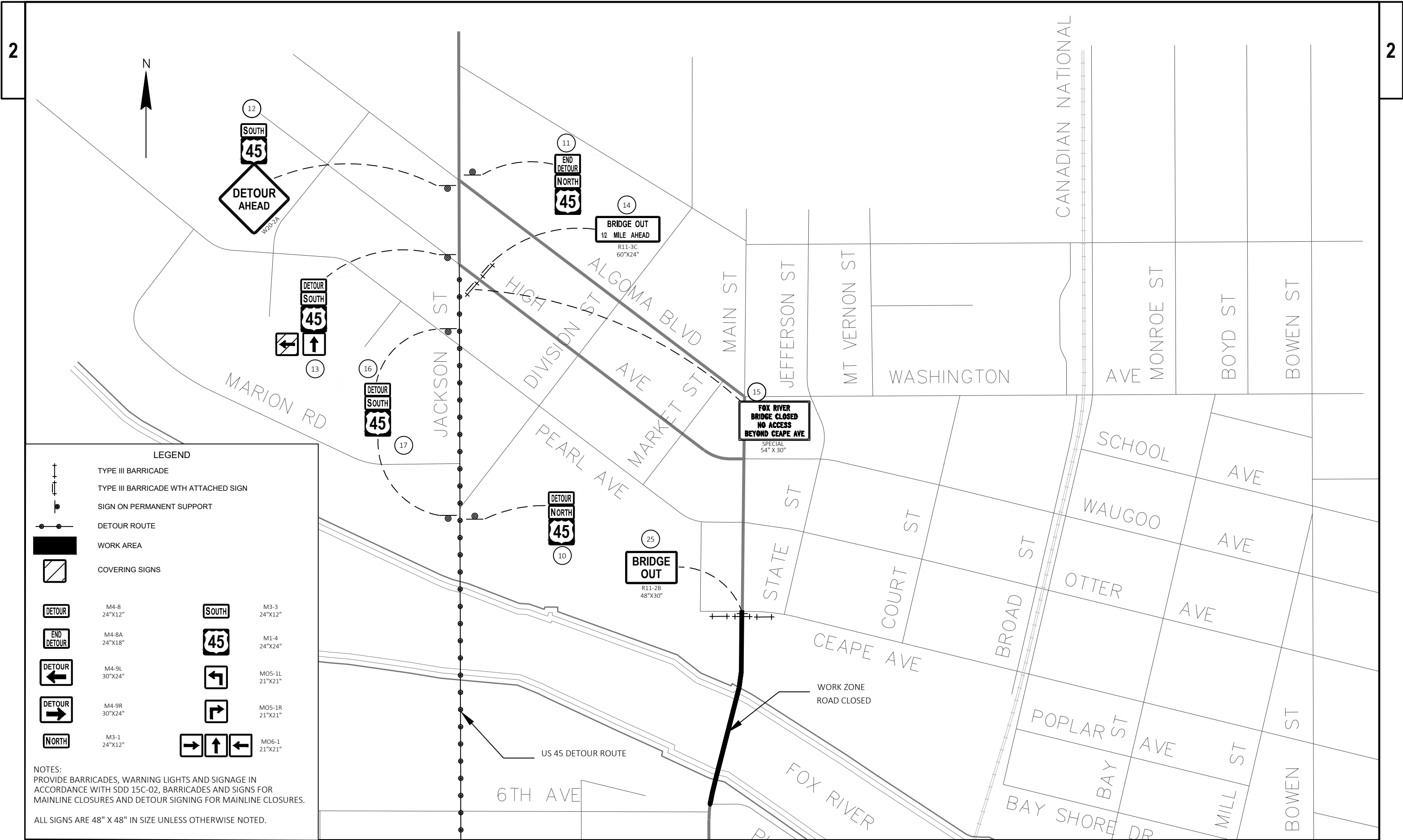
LEGEND

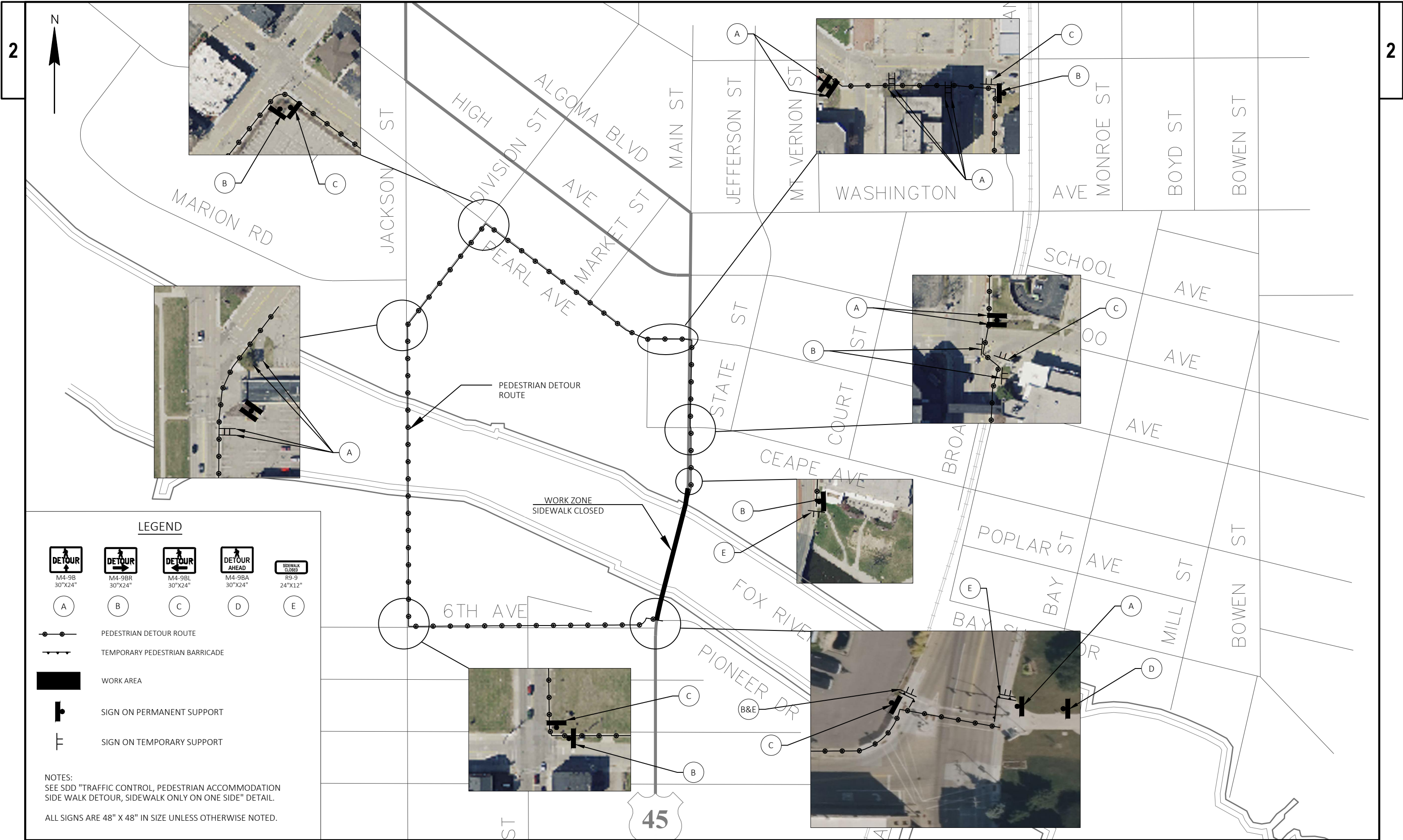
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- TRAFFIC CONTROL COVERING SIGNS TYPE II

NOTES:
ALL SIGNS ARE 48" X 48" IN SIZE UNLESS OTHERWISE NOTED.
MASKING OUT ARROWS SHALL BE DONE IN A RECTANGULAR SHAPE.














LEGEND


- 


M4-9B
30"x24"
- 


M4-9BR
30"x24"
- 


M4-9BL
30"x24"
- 


M4-9BA
30"x24"
- 


R9-9
24"x12"
- 


A
- 

B
- 


C
- 


D
- 

E
- 

PEDESTRIAN DETOUR ROUTE
- 

TEMPORARY PEDESTRIAN BARRICADE
- 

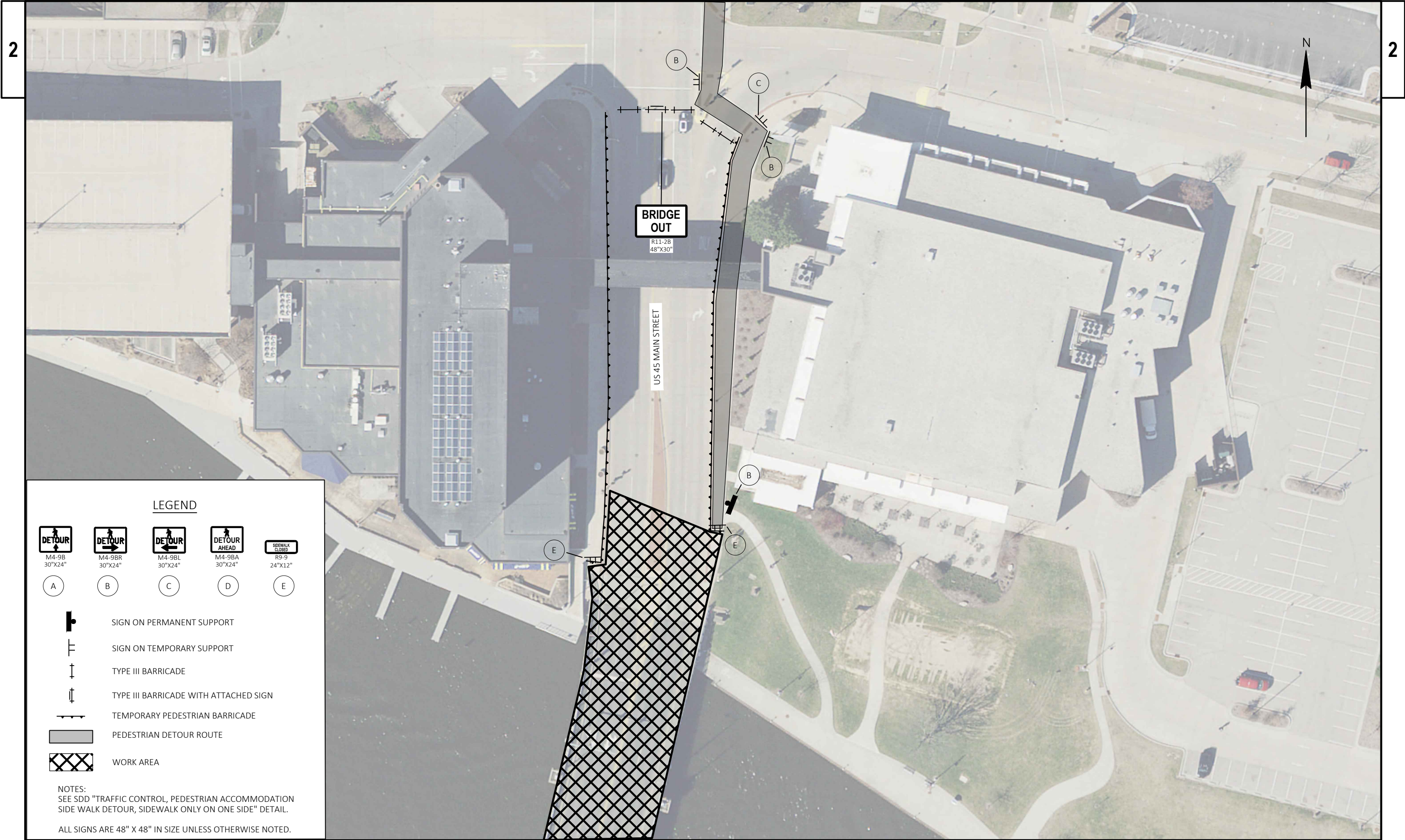
WORK AREA
- 

SIGN ON PERMANENT SUPPORT
- 


SIGN ON TEMPORARY SUPPORT


NOTES:
SEE SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
SIDE WALK DETOUR, SIDEWALK ONLY ON ONE SIDE" DETAIL.


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





LEGEND


- 


M4-9B
30"x24"
- 


M4-9BR
30"x24"
- 


M4-9BL
30"x24"
- 


M4-9BA
30"x24"
- 

R9-9
24"x12"
- 


A
- 


B
- 


C
- 


D
- 


E


- 


SIGN ON PERMANENT SUPPORT
- 

SIGN ON TEMPORARY SUPPORT
- 

TYPE III BARRICADE
- 

TYPE III BARRICADE WITH ATTACHED SIGN
- 

TEMPORARY PEDESTRIAN BARRICADE
- 

PEDESTRIAN DETOUR ROUTE
- 

WORK AREA

NOTES:
SEE SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
SIDE WALK DETOUR, SIDEWALK ONLY ON ONE SIDE" DETAIL.

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

Estimate Of Quantities

4110-33-71

Line	Item	Item Description	Unit	Total	Qty
0002	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-70-0056	EACH	1.000	1.000
0004	213.0100	Finishing Roadway (project) 01. 4110-33-71	EACH	1.000	1.000
0006	502.0100	Concrete Masonry Bridges	CY	2.000	2.000
0008	502.3101	Expansion Device	LF	124.000	124.000
0010	502.3200	Protective Surface Treatment	SY	2,103.000	2,103.000
0012	502.4105	Adhesive Anchors 5/8-inch	EACH	8.000	8.000
0014	502.4204	Adhesive Anchors No. 4 Bar	EACH	112.000	112.000
0016	502.4205	Adhesive Anchors No. 5 Bar	EACH	124.000	124.000
0018	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	3,490.000	3,490.000
0020	509.0301	Preparation Decks Type 1	SY	652.000	652.000
0022	509.0302	Preparation Decks Type 2	SY	522.000	522.000
0024	509.0505.S	Cleaning Decks to Reapply Concrete Masonry Overlay	SY	2,096.000	2,096.000
0026	509.1000	Joint Repair	SY	40.000	40.000
0028	509.1200	Curb Repair	LF	400.000	400.000
0030	509.1500	Concrete Surface Repair	SF	2.000	2.000
0032	509.2500	Concrete Masonry Overlay Decks	CY	194.000	194.000
0034	509.5100.S	Polymer Overlay	SY	509.000	509.000
0036	509.9005.S	Removing Concrete Masonry Deck Overlay (structure) 01. B-70-0056	SY	2,096.000	2,096.000
0038	509.9015.S	Removing Polymer Overlay (structure) 01. B-70-0056	SY	509.000	509.000
0040	517.0601	Painting Epoxy System (structure) 01. B-70-0056	EACH	1.000	1.000
0042	517.0901.S	Preparation and Coating of Top Flanges (structure) 01. B-70-0056	EACH	1.000	1.000
0044	517.1801.S	Structure Repainting Recycled Abrasive (structure) 01. B-70-0056	EACH	1.000	1.000
0046	517.3001.S	Structure Overcoating Cleaning and Priming (structure) 01. B-70-0056	EACH	1.000	1.000
0048	517.4501.S	Negative Pressure Containment and Collection of Waste Materials (structure) 01. B-70-0056	EACH	1.000	1.000
0050	517.6001.S	Portable Decontamination Facility	EACH	1.000	1.000
0052	618.0100	Maintenance and Repair of Haul Roads (project) 01. 4110-33-71	EACH	1.000	1.000
0054	619.1000	Mobilization	EACH	1.000	1.000
0056	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0058	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0060	628.7015	Inlet Protection Type C	EACH	8.000	8.000
0062	642.5401	Field Office Type D	EACH	1.000	1.000
0064	643.0300	Traffic Control Drums	DAY	18,500.000	18,500.000
0066	643.0420	Traffic Control Barricades Type III	DAY	6,792.000	6,792.000
0068	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	12.000	12.000
0070	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	12.000	12.000
0072	643.0705	Traffic Control Warning Lights Type A	DAY	21,504.000	21,504.000
0074	643.0715	Traffic Control Warning Lights Type C	DAY	2,000.000	2,000.000
0076	643.0800	Traffic Control Arrow Boards	DAY	500.000	500.000
0078	643.0900	Traffic Control Signs	DAY	34,588.000	34,588.000
0080	643.0920	Traffic Control Covering Signs Type II	EACH	4.000	4.000
0082	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0084	643.3105	Temporary Marking Line Paint 4-Inch	LF	156.000	156.000
0086	643.3990	Temporary Marking Removable Mask Out Tape 12-Inch	LF	25.000	25.000
0088	643.5000	Traffic Control	EACH	1.000	1.000
0090	644.1810	Temporary Pedestrian Barricade	LF	510.000	510.000
0092	646.1020	Marking Line Epoxy 4-Inch	LF	1,350.000	1,350.000
0094	646.5020	Marking Arrow Epoxy	EACH	4.000	4.000
0096	646.5120	Marking Word Epoxy	EACH	1.000	1.000

Estimate Of Quantities

4110-33-71

Line	Item	Item Description	Unit	Total	Qty
0098	646.6120	Marking Stop Line Epoxy 18-Inch	LF	48.000	48.000
0100	646.7120	Marking Diagonal Epoxy 12-Inch	LF	10.000	10.000
0102	SPV.0060	Special 01. Bridge Electrical Work	EACH	1.000	1.000
0104	SPV.0060	Special 02. Mechanical Work	EACH	1.000	1.000
0106	SPV.0060	Special 03. Replace HPU Enclosures	EACH	2.000	2.000
0108	SPV.0060	Special 04. Balance Bascule Bridge Leaves	EACH	1.000	1.000
0110	SPV.0060	Special 05. Replace Operator House Windows And Door	EACH	1.000	1.000
0112	SPV.0060	Special 06. Remove And Replace Membrane Roof	EACH	1.000	1.000
0114	SPV.0060	Special 07. Replace Cylinder Access Platforms	EACH	4.000	4.000
0116	SPV.0060	Special 08. Pipe Railing Base Repairs	EACH	2.000	2.000
0118	SPV.0060	Special 09. Bumper Block	EACH	1.000	1.000
0120	SPV.0075	Special 01. Street Sweeping	HRS	10.000	10.000
0122	SPV.0085	Special 01. Bridge Structural Steel	LB	38,944.000	38,944.000
0124	SPV.0165	Special 01. Steel Grid Floor 5-Inch	SF	3,606.000	3,606.000
0126	SPV.0165	Special 02. Sidewalk Slip Resistant Coating Repair	SF	20.000	20.000

LOCATION	628.1905	628.1910
	MOBILIZATIONS	MOBILIZATIONS
	EROSION	EROSION
	CONTROL	CONTROL
	EACH	EACH
4110-33-71	2	4
TOTAL 0010	2	4

INLET PROTECTION TYPE C

STATION	LOCATION	628.7015 EACH
42+00, 49' LT	W 6TH AVE INTERSECTION	1
42+52, 26' RT	PIONEER DR INTERSECTION	1
49+10, 3' RT	MEDIAN	1
49+10, 8' RT	MEDIAN	1
49+89, 22' LT	USH 45	1
49+89, 39' RT	USH 45	1
49+96, 21' LT	USH 45	1
49+96, 40' RT	USH 45	1
TOTAL 0010		8

TRAFFIC CONTROL

PROJECT	643.0300		643.0420		643.0705		643.0715		643.0800		643.1050	
	DRUMS	DRUMS	BARRICADES TYPE III	BARRICADES TYPE III	WARNING LIGHTS TYPE A	WARNING LIGHTS TYPE A	WARNING LIGHTS TYPE C	WARNING LIGHTS TYPE C	TRAFFIC CONTROL ARROW BOARDS	TRAFFIC CONTROL ARROW BOARDS	SIGNS PCMS	SIGNS PCMS
	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY
4110-33-71	81	18,500	14	3,600	26	6,000	8	2,000	2	500	2	14
SUBTOTAL 0010				3,600*		6,000*				500		14
TOTAL 0010		18,500		*		*		2,000		500		14

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER

LOCATION	643.0500	643.0600	REMARKS
	POSTS	BASES	
	EACH	EACH	
100 BLOCK N MAIN STREET	12	12	CENTERLINE ALONG SOUTHBOUND LEFT TURN LANE
TOTAL 0010	12	12	

TRAFFIC CONTROL SIGNS

PROJECT	EACH	* 643.0900 DAY	REMARKS
4110-33-71	34	9,800	WORK ZONE TRAFFIC CONTROL
4110-33-71	30	8,600	PEDESTRIAN DETOUR
SUBTOTAL 0010		18,400*	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	APPROX. LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD DAYS	* 643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	* 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	* 643.0900 TRAFFIC CONTROL SIGNS DAY	REMARKS
1	SE QUAD 11TH AVE INTERSECTION ON USH 45	M3-1	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
	"	W20-2A	36" X 36"	1	228			228	
2	SE QUAD 10TH AVE INTERSECTION ON USH 45	M4-8	24"X12"	1	228			228	
	"	M3-1	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
	"	MO5-1L	21"X21"	1	228			228	
3	SE QUAD 9TH AVE INTERSECTION ON USH 45	M4-8	24"X12"	1	228			228	
	"	M3-1	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
	"	MO6-1	21"X21"	1	228			228	LEFT
4	NE QUAD 9TH AVE INTERSECTION ON USH 45	SPECIAL	48"X30"	1	228	228	456	228	FOX RIVER BRIDGE CLOSED NO ACCESS BEYOND 6TH AVE
5	NW QUAD 9TH AVE INTERSECTION ON USH 45	R11-3C	60"X24"	1	228	228	456	228	BRIDGE OUT 1/10 MILE AHEAD
6	200' W USH 45 INTERSECTION ON 9TH AVE	M4-8	24"X12"	1	228			228	
	"	M3-1	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
7	NE QUAD NEBRASKA ST INTERSECTION ON 9TH AVE	M4-8	24"X12"	1	228			228	
	"	M3-1	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
	"	MO5-1R	21"X21"	1	228			228	
8	NE QUAD OREGON ST INTERSECTION ON 9TH AVE	M4-8	24"X12"	1	228			228	
	"	M3-1	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
	"	MO6-1	21"X21"	1	228			228	RIGHT
9	SE QUAD 8TH AVE INTERSECTION ON OREGON ST	M4-8	24"X12"	1	228			228	
	"	M3-1	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
	"	MO6-1	21"X21"	1	228			228	AHEAD
10	SE QUAD DIVISION ST INTERSECTION ON JACKSON ST	M4-8	24"X12"	1	228			228	
	"	M3-1	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
11	NE QUAD ALGOMA BLVD INTERSECTION ON JACKSON ST	M4-8A	24"X18"	1	228			228	
	"	M3-1	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
12	SW QUAD ALGOMA BLVD INTERSECTION ON JACKSON ST	M3-3	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
	"	W20-2A	36" X 36"	1	228			228	
13	NW QUAD HIGH AVE INTERSECTION ON JACKSON ST	M4-8	24"X12"	1	228			228	
	"	M3-3	24"X12"						USE EXISTING SIGNS
	"	M1-4	24"X24"						"
	"	MO6-1	21"X21"	1	228			228	AHEAD
14	200' E JACKSON ST INTERSECTION ON HIGH AVE	R11-3C	60"X24"	1	228	228	456	228	INSTALL ON BARRICADE
15	200' E JACKSON ST INTERSECTION ON HIGH AVE	SPECIAL	54"X30"	1	228	228	456	228	FOX RIVER BRIDGE CLOSED NO ACCESS BEYOND CEAP E AVE

PAGE SUBTOTAL 0010

912

1,824

9,348

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

PROJECT NO: 4110-33-71

HWY: US 45

COUNTY: WINNEBAGO

MISCELLANEOUS QUANTITIES

SHEET

E

TRAFFIC CONTROL DETOUR SIGN SUMMARY CONTINUED

SIGN NO.	APPROX. LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD DAYS	* 643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	* 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	* 643.0900 TRAFFIC CONTROL SIGNS DAY	REMARKS
16	NW QUAD PEARL AVE INTERSECTION ON JACKSON ST	M4-8	24"X12"	1	228			228	
	"	M3-3	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
17	SW QUAD DIVISION ST INTERSECTION ON JACKSON ST	M4-8	24"X12"	1	228			228	
	"	M3-3	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
18	NW QUAD 6TH AVE INTERSECTION ON OREGON ST	M4-8	24"X12"	1	228			228	
	"	M3-3	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
19	NW QUAD 8TH AVE INTERSECTION ON OREGON ST	M4-8	24"X12"	1	228			228	
	"	M3-3	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
	"	MO5-1L	21"X21"	1	228			228	
20	NW QUAD 9TH AVE INTERSECTION ON OREGON ST	M4-8	24"X12"	1	228			228	
	"	M3-3	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
	"	MO6-1	21"X21"	1	228			228	LEFT
21	SW QUAD NEBRASKA ST INTERSECTION ON 9TH AVE	M4-8	24"X12"	1	228			228	
	"	M3-3	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
	"	MO5-1R	21"X21"	1	228			228	
22	200' W USH 45 INTERSECTION ON 9TH AVE	M4-8	24"X12"	1	228			228	
	"	M3-3	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
	"	MO6-1	21"X21"	1	228			228	RIGHT
23	200' S 9TH AVE INTERSECTION ON USH 45	M4-8A	24"X18"	1	228			228	
	"	M3-3	24"X12"	1	228			228	
	"	M1-4	24"X24"	1	228			228	
24	N QUAD 6TH AVE INTERSECTION ON USH 45	R11-2B	48"X30"	1	228	1140	6840	228	INSTALL ON CENTER BARRICADE
25	S QUAD CEAPE AVE INTERSECTION ON USH 45	R11-2B	48"X30"	1	228	1140	6840	228	"

PAGE SUBTOTAL 0010 2,280 13,680 6,840

DETOUR SUMMARY SUBTOTAL 0010 3,192* 15,504* 16,188*

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLAN

TRAFFIC CONTROL COVERING SIGNS

TEMPORARY PEDESTRIAN BARRICADE

LOCATION	643.0920 TYPE II EACH	REMARKS
JACKSON ST.	1	LEFT ARROW
W. 6TH AVE.	1	"LEFT TURN ONLY" PORTION OF THE SIGN
OTTER AVE (SOUTH SIDE)	1	LEFT MOST "LEFT TURN ONLY" PORTION OF THE SIGN
OTTER AVE (NORTH SIDE)	1	LEFT MOST "LEFT TURN ONLY" PORTION OF THE SIGN
TOTAL 0010	4	

STATION	TO	STATION	LOCATION	644.1810 LF
42+01	-	42+10	US 45, LT	12
42+03	-	42+30	US 45, RT	34
48+15	-	50+77	US 45, LT	270
48+37	-	50+77	US 45, RT	240
TOTAL 0010				510

TEMPORARY MARKING

LOCATION	643.3105	643.3990	REMARKS
	LINE PAINT 4-	REMOVABLE	
	INCH	MASK OUT TAPE	
	LF	12-INCH	
	LF	LF	
6TH AVE.	100		COVER RIGHT TURN ARROW
S. MAIN ST.	56		
CEAPE AVE.		25	
TOTAL 0010	156	25	

MARKING ARROW EPOXY

STATION	LOCATION	646.5020		REMARKS
		WHITE	WHITE	
		TYPE 2	TYPE 3	
		EACH	EACH	
44+10	9' RT		1	TYPE 3
44+10	16' RT	1		TYPE 2
47+16	7' LT		1	TYPE 3
47+16	15' LT		1	TYPE 3
		1	3	
TOTAL 0010			4	

MARKING STOP LINE EPOXY 18-INCH

STATION	LOCATION	646.6120
		LF
43+62	NB	24
47+46	SB	24
TOTAL 0010		48

MARKING LINE EPOXY 4-INCH

			646.1020		REMARKS
			SKIPS (12.5')	SOLID	
			WHITE	YELLOW	
STATION	TO	STATION	LOCATION	LF	LF
43+13	-	47+88	SB	125	
43+13	-	47+88	NB	125	
43+13	-	47+13	CENTERLINE		800
47+13	-	47+88	NB		150
47+13	-	47+88	SB		150
				250	1,100
TOTAL 0010					1,350

MARKING WORD EPOXY

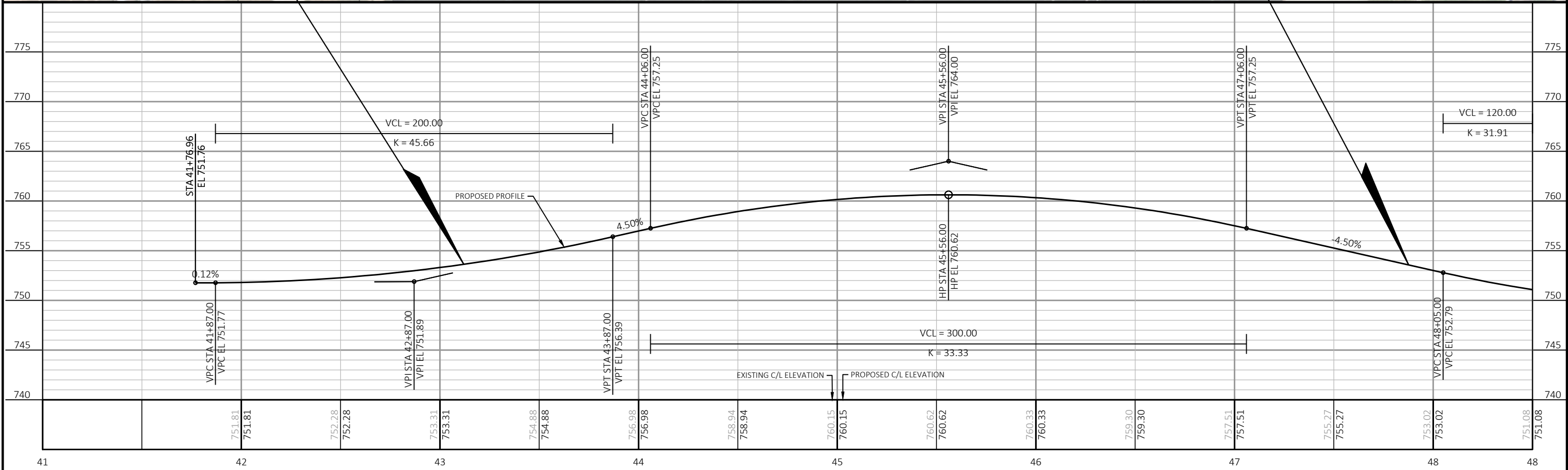
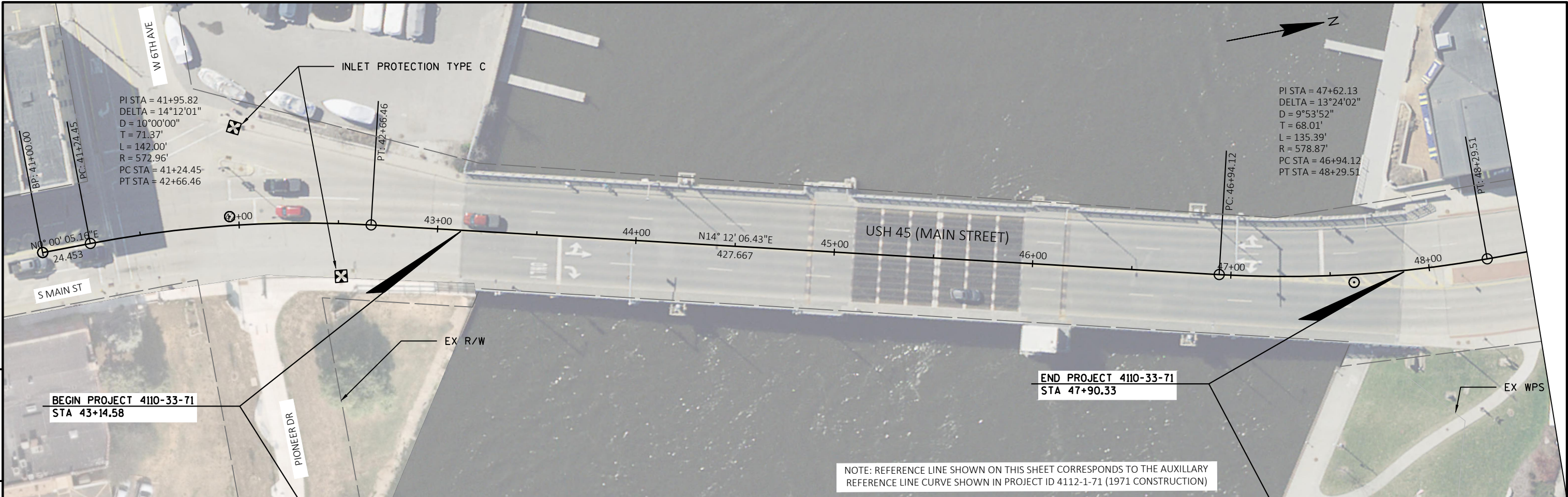
STATION	LOCATION	646.5120
		"ONLY"
		EACH
43+83	19' RT	1
TOTAL 0010		1

MARKING DIAGONAL EPOXY 12-INCH

			646.7120		REMARKS
			STATION	TO	
			STATION	LOCATION	
					LF
47+14	-	47+87	CENTERLINE		10
TOTAL 0010					10

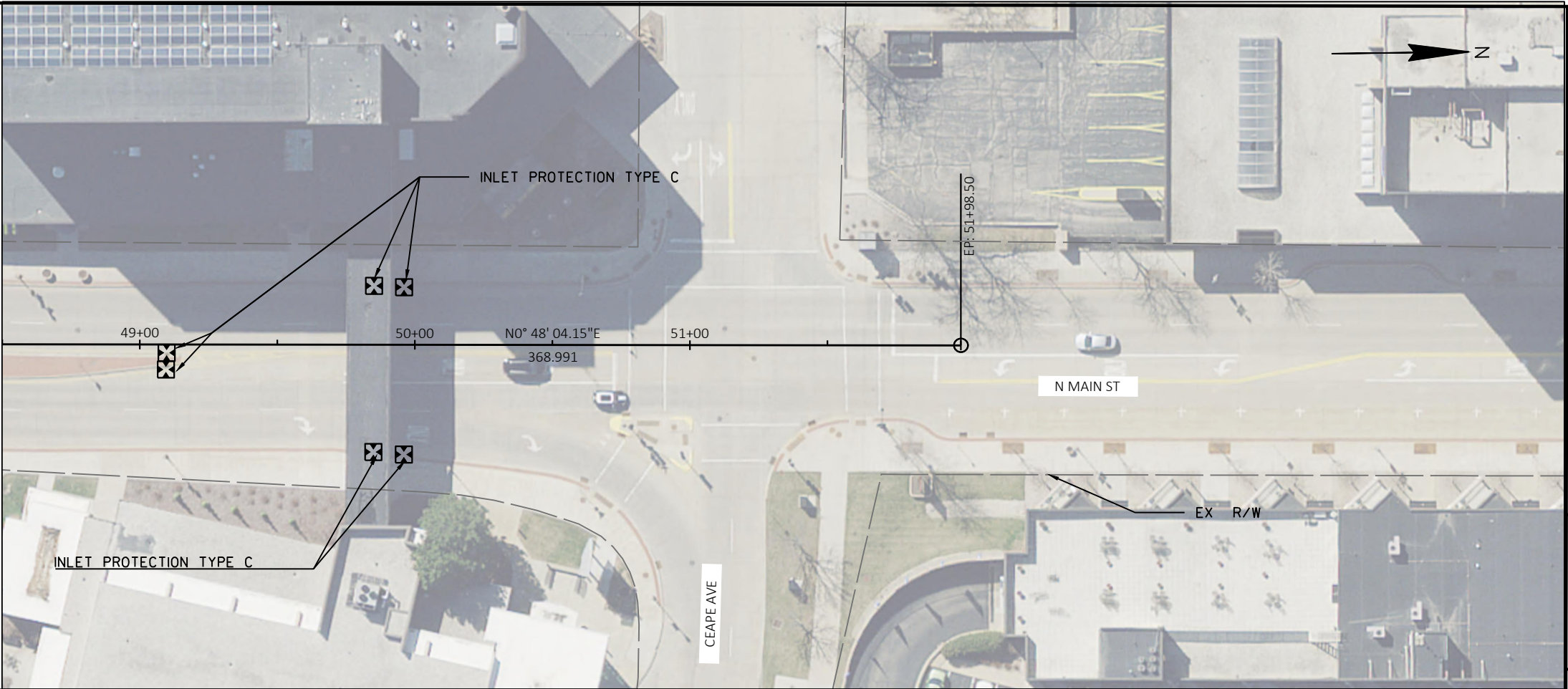
STREET SWEEPING

PROJECT	LOCATION	SPV.0075.01
		HRS
4110-33-71	PROJECT	10
TOTAL 0010		10

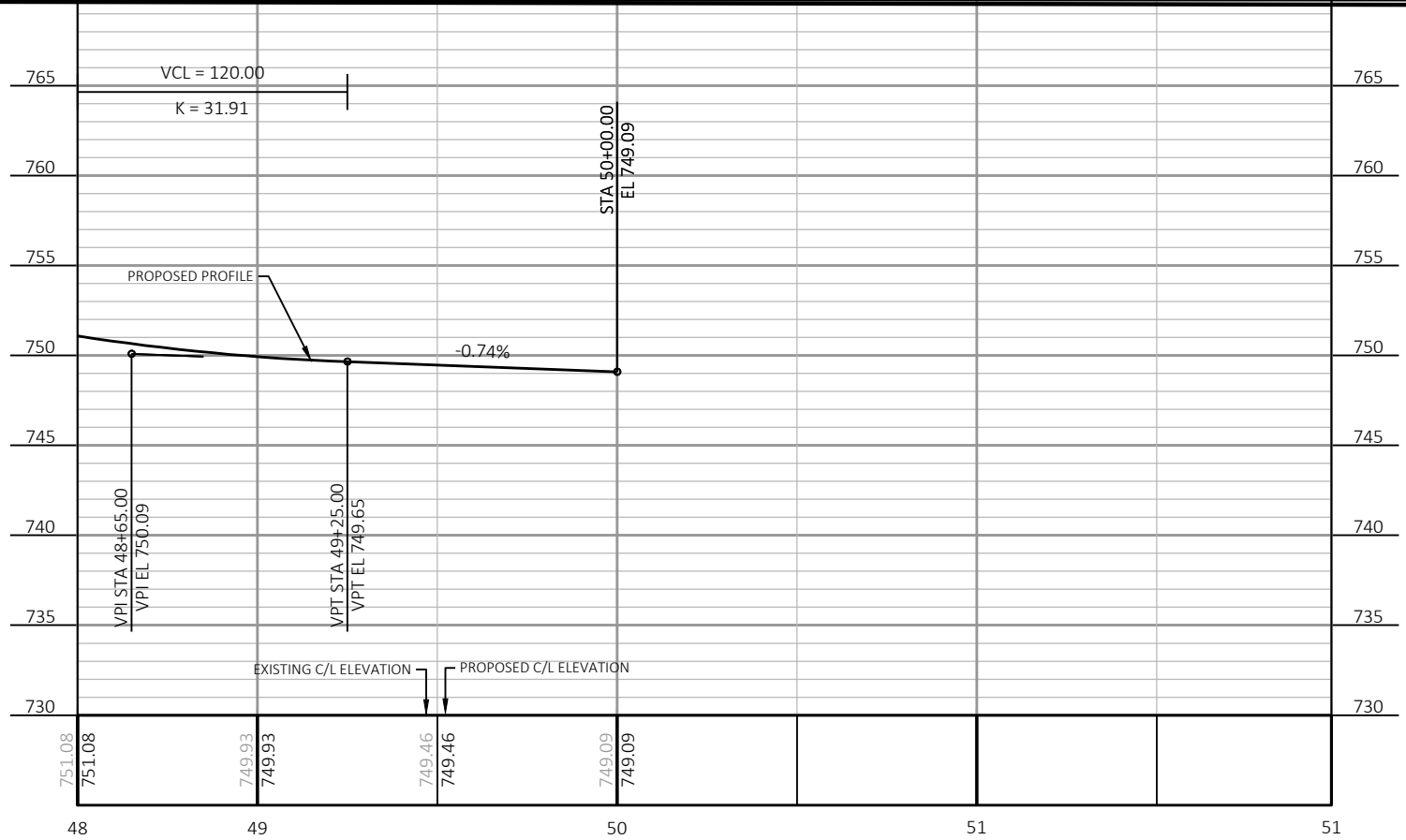


PROJECT NO:	4110-33-71	HWY:	US 45	COUNTY:	WINNEBAGO	PLAN AND PROFILE:	US 45	SHEET	E
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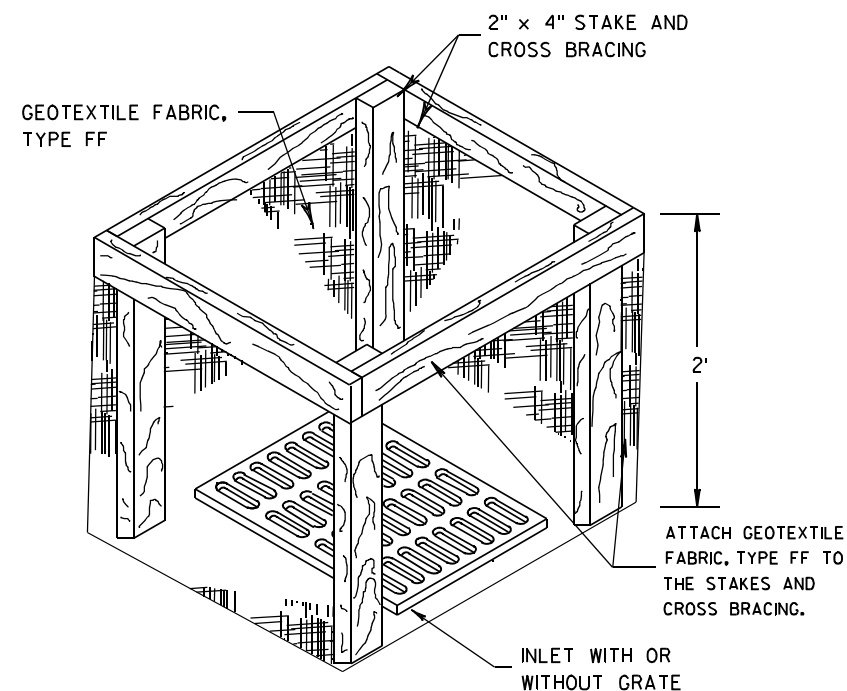
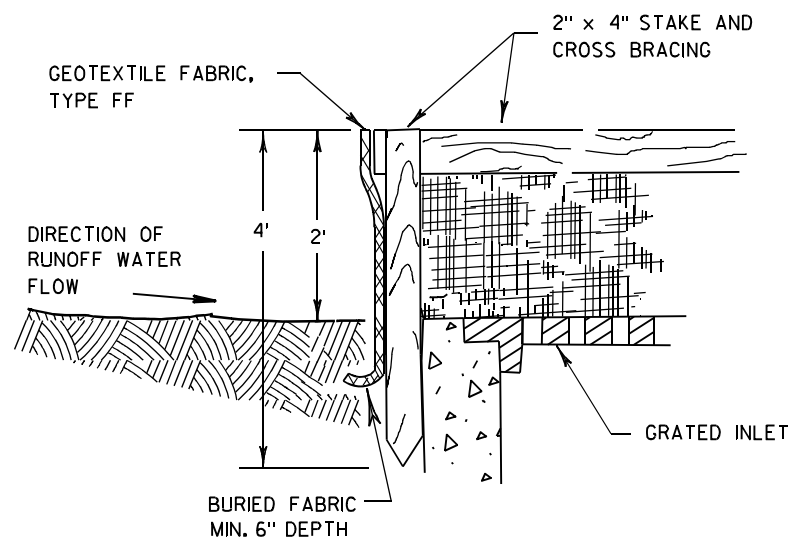


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Standard Detail Drawing List

08E10-02	INLET PROTECTION TYPE A, B, C AND D
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C02-09H	MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-15B	PAVEMENT MARKING WORDS
15C07-15C	PAVEMENT MARKING ARROWS
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C08-23D	PAVEMENT MARKING (TURN LANES)
15C11-10A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C18-08A	MEDIAN ISLAND MARKING PAVEMENT MARKINGS
15C18-08B	MEDIAN ISLAND MARKING MEDIAN ISLAND NOSE
15C18-08C	MEDIAN PAVEMENT MARKINGS DOUBLE ARROW WARNING SIGN PLACEMENT
15C33-05	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D12-13A	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D20-08C	TRAFFIC CONTROL, SINGLE LEFT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY
15D21-07A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D21-07B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D30-09A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09B	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09F	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION



INLET PROTECTION, TYPE A

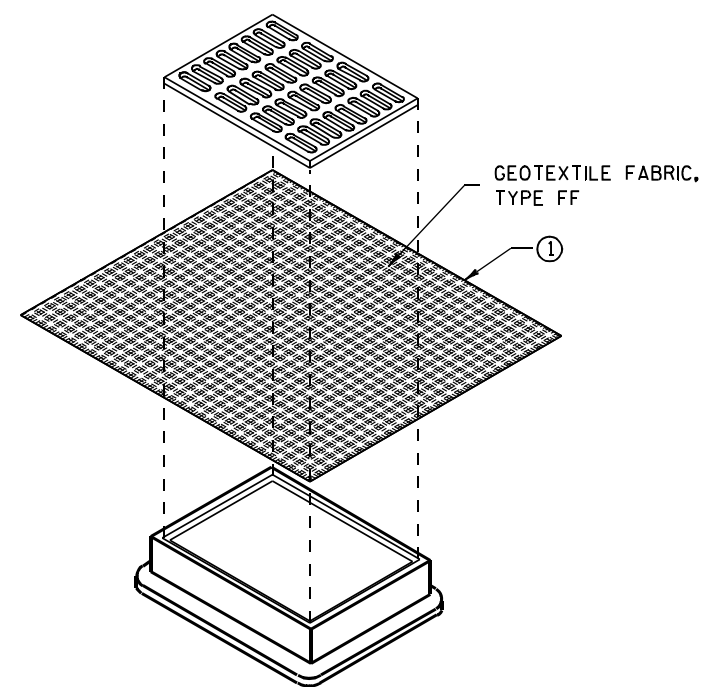
GENERAL NOTES

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.

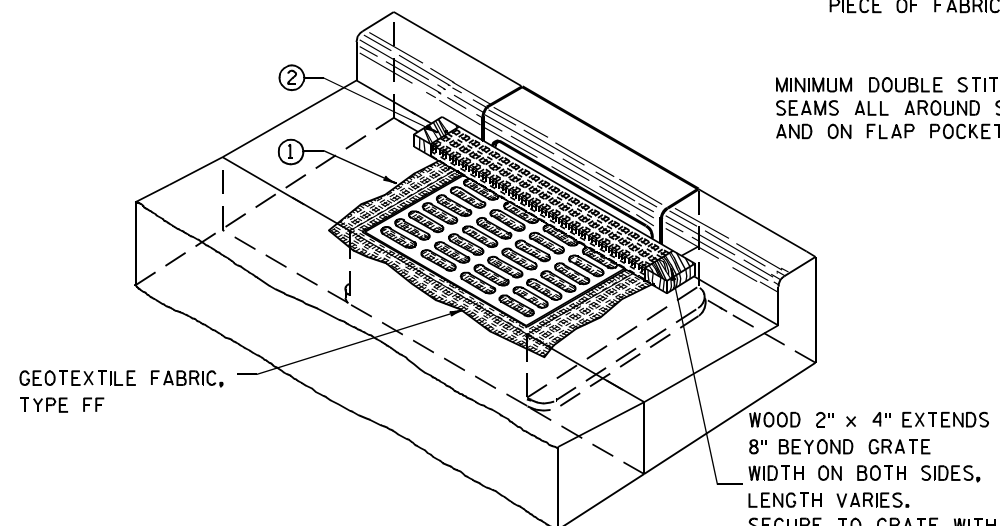
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

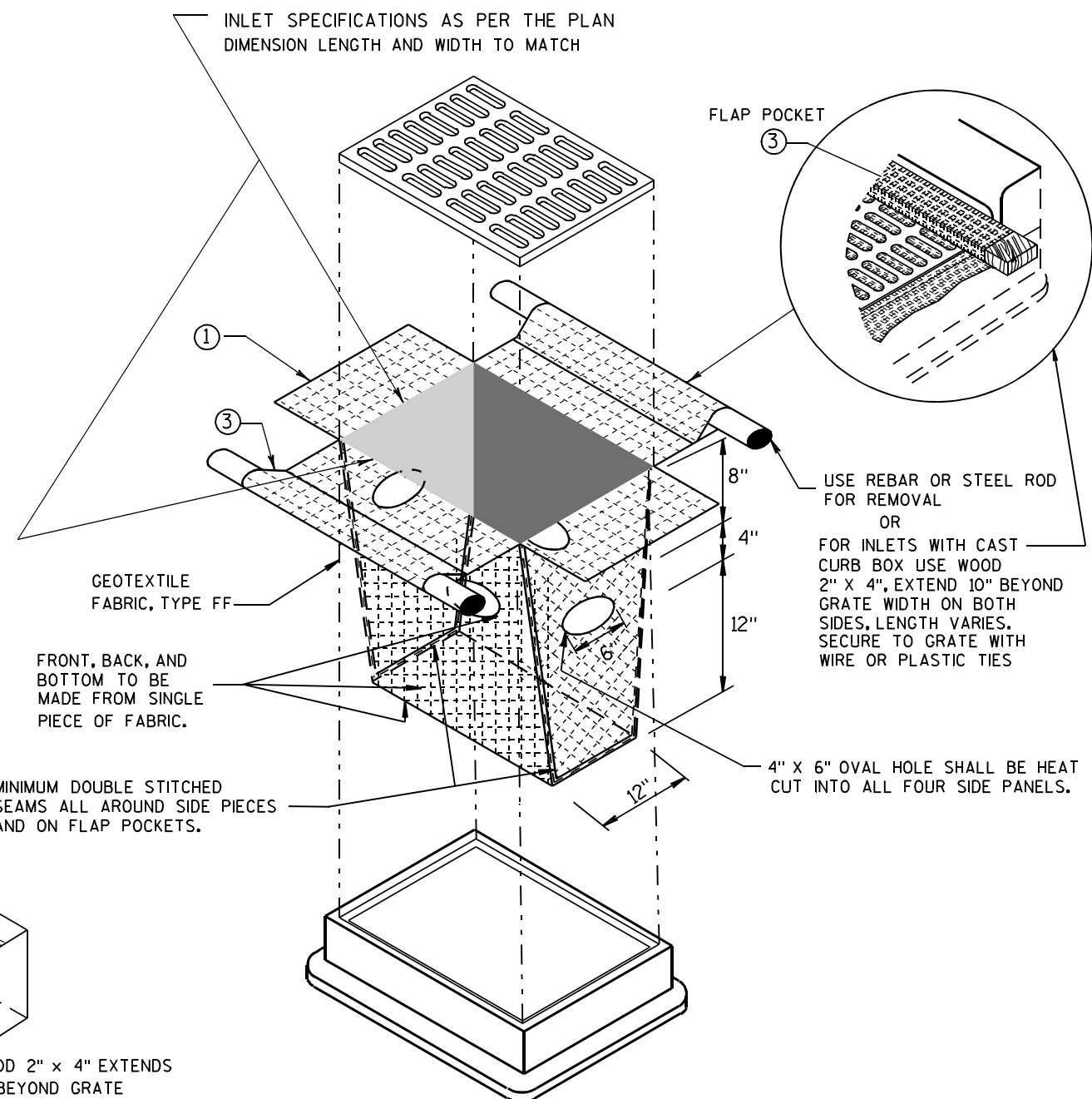
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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.



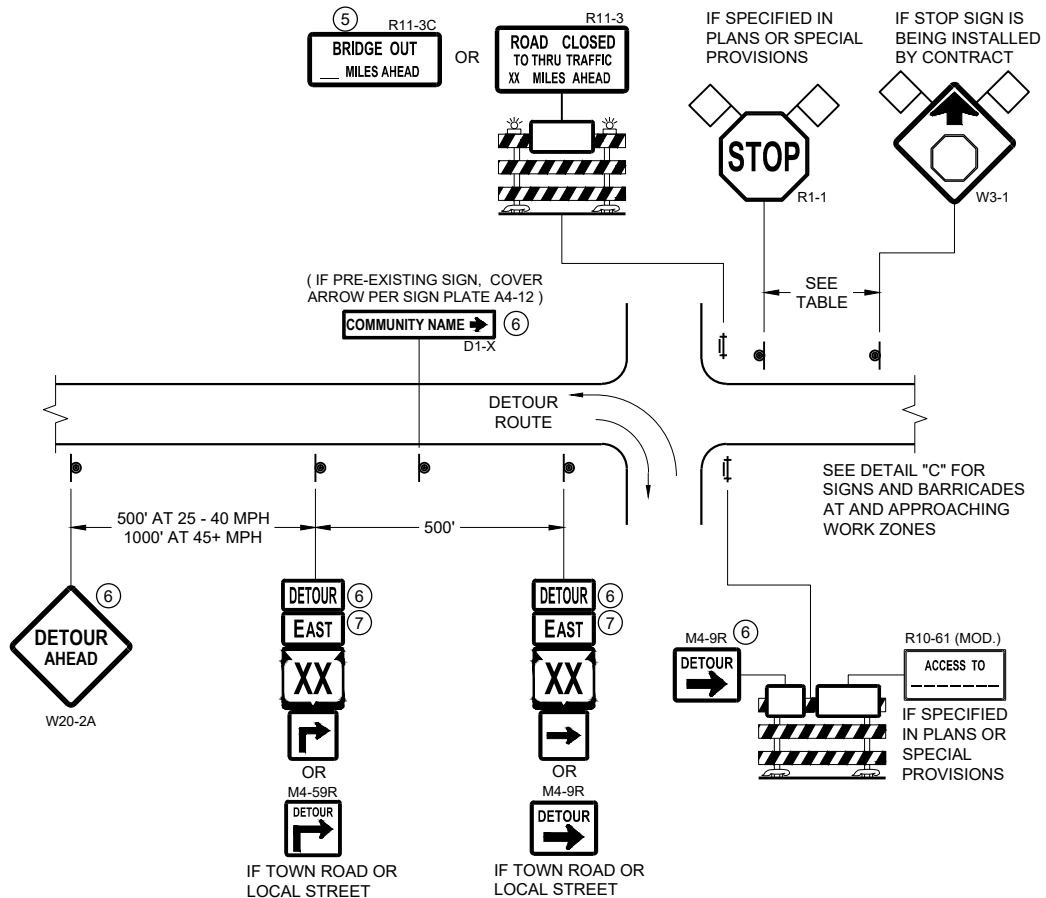
INLET PROTECTION, TYPE D

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

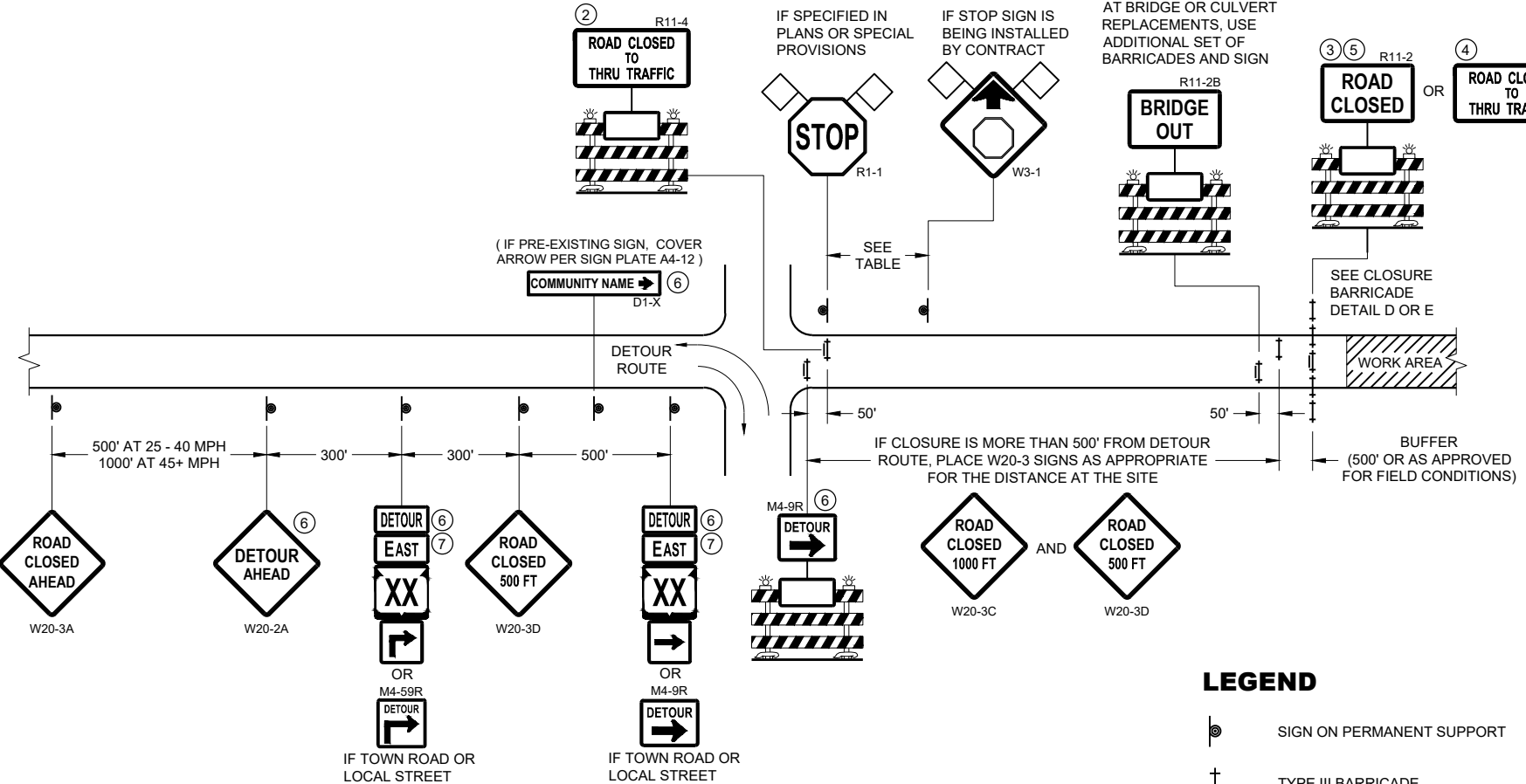
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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



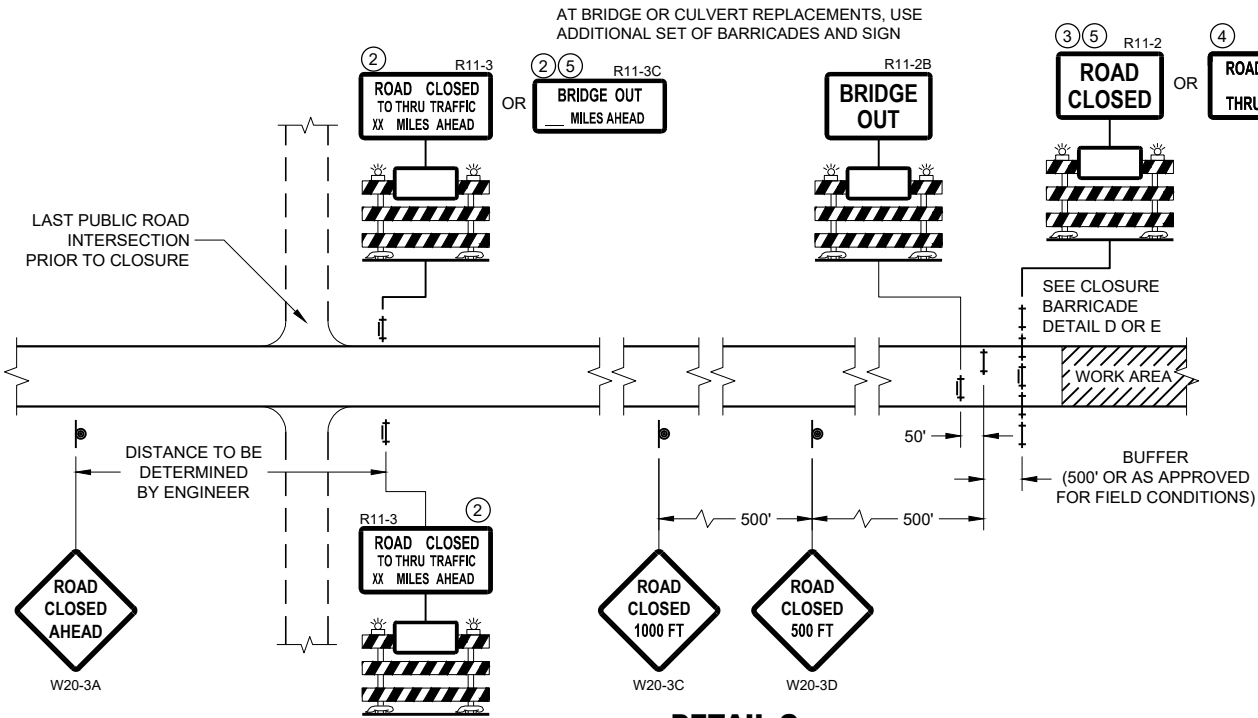
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

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

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

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

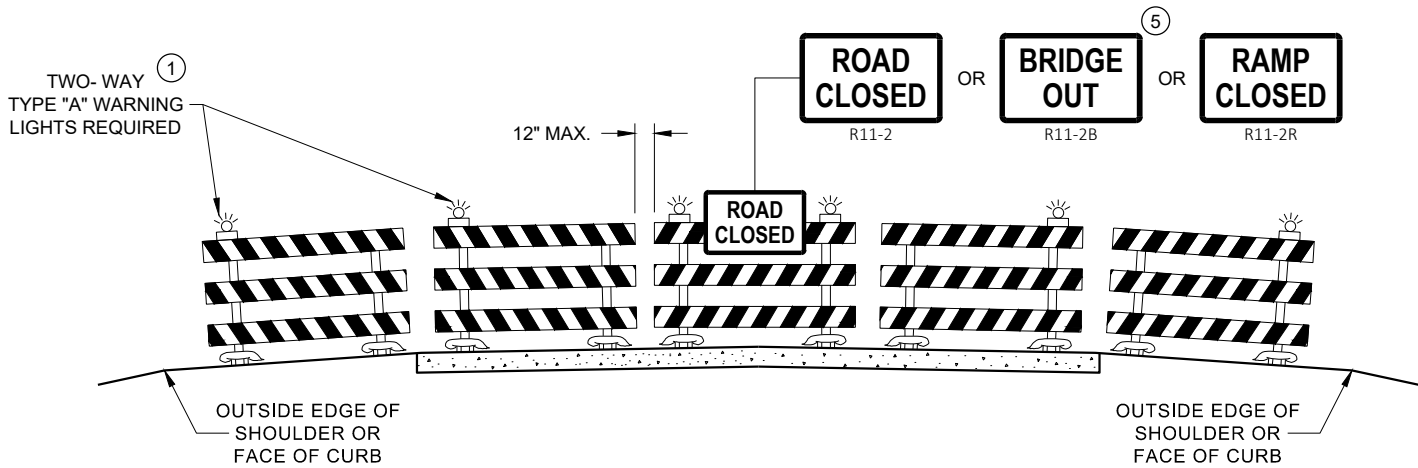


DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

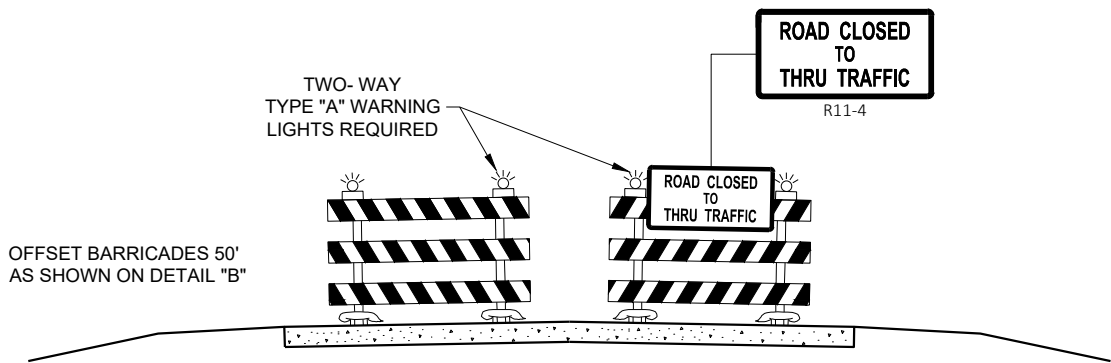
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /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 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

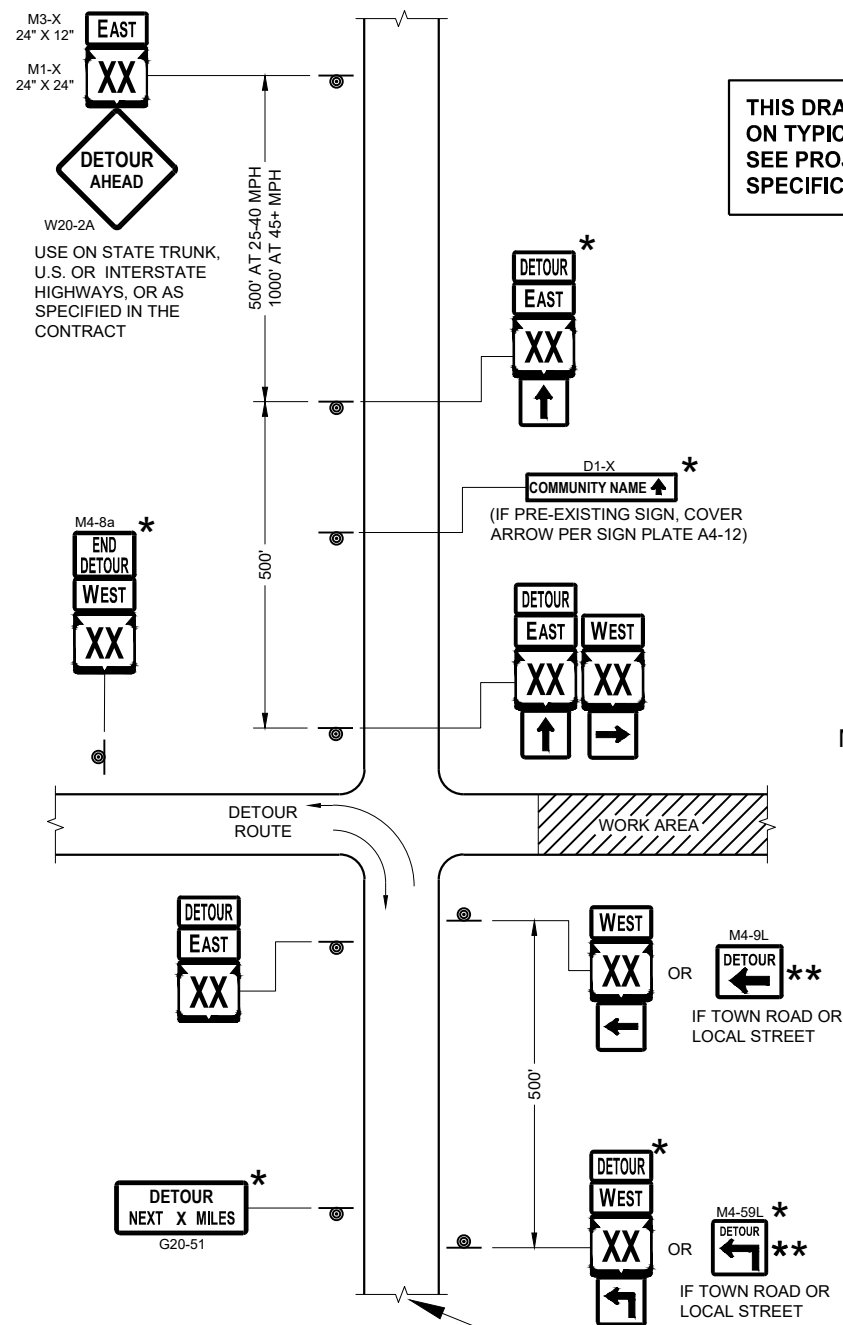
- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS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

BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES

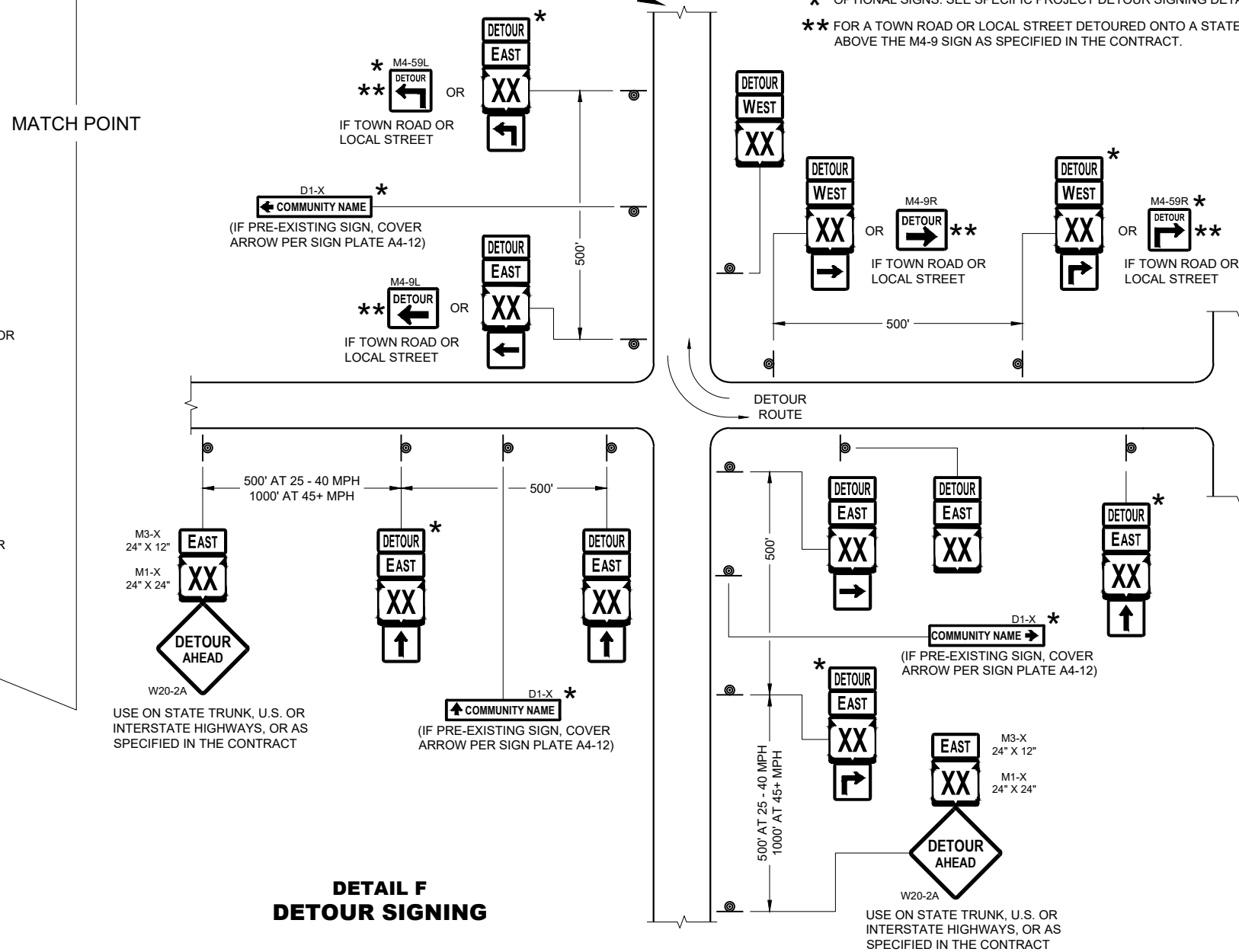
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

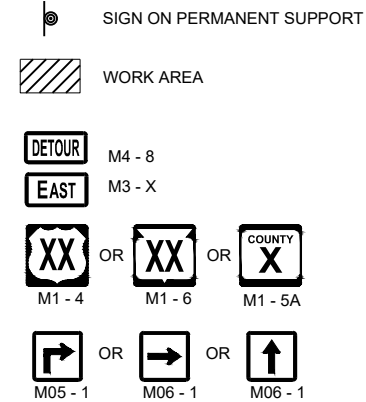
FHWA



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



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.

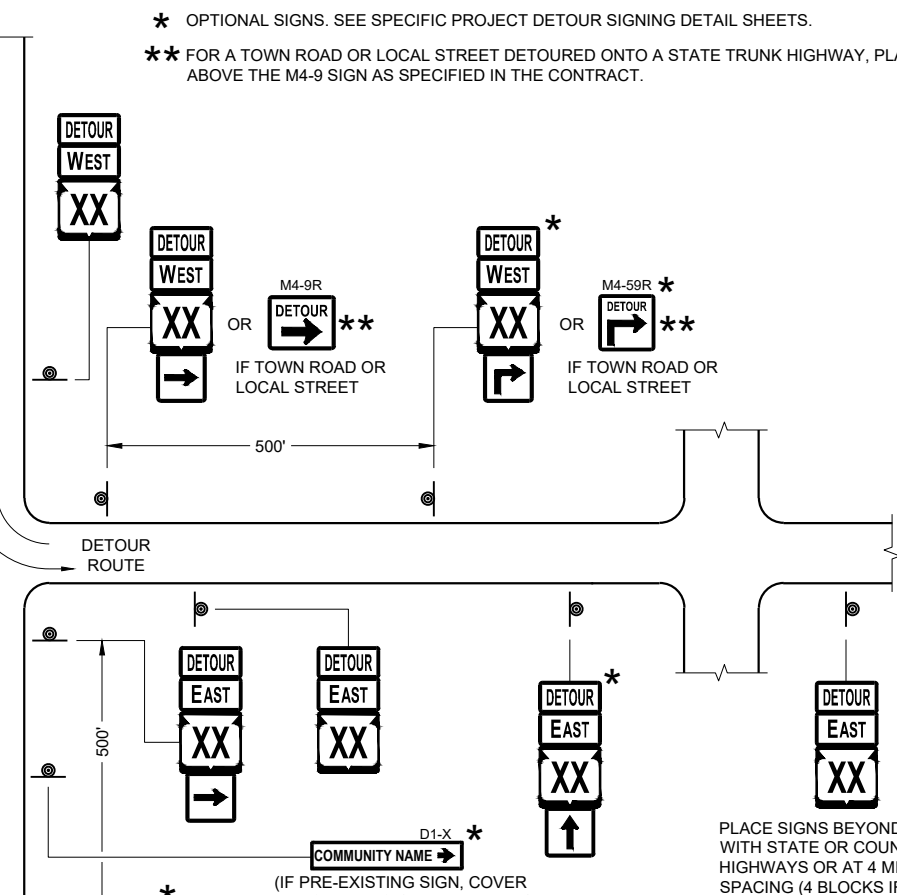
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
M4-9 AND M4-59 SHALL BE 30" X 24"
M4-8a SHALL BE 24" X 18"
G20-51 SHALL BE 60" X 24"
W20-2A SHALL BE 48" X 48"
D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

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

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



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

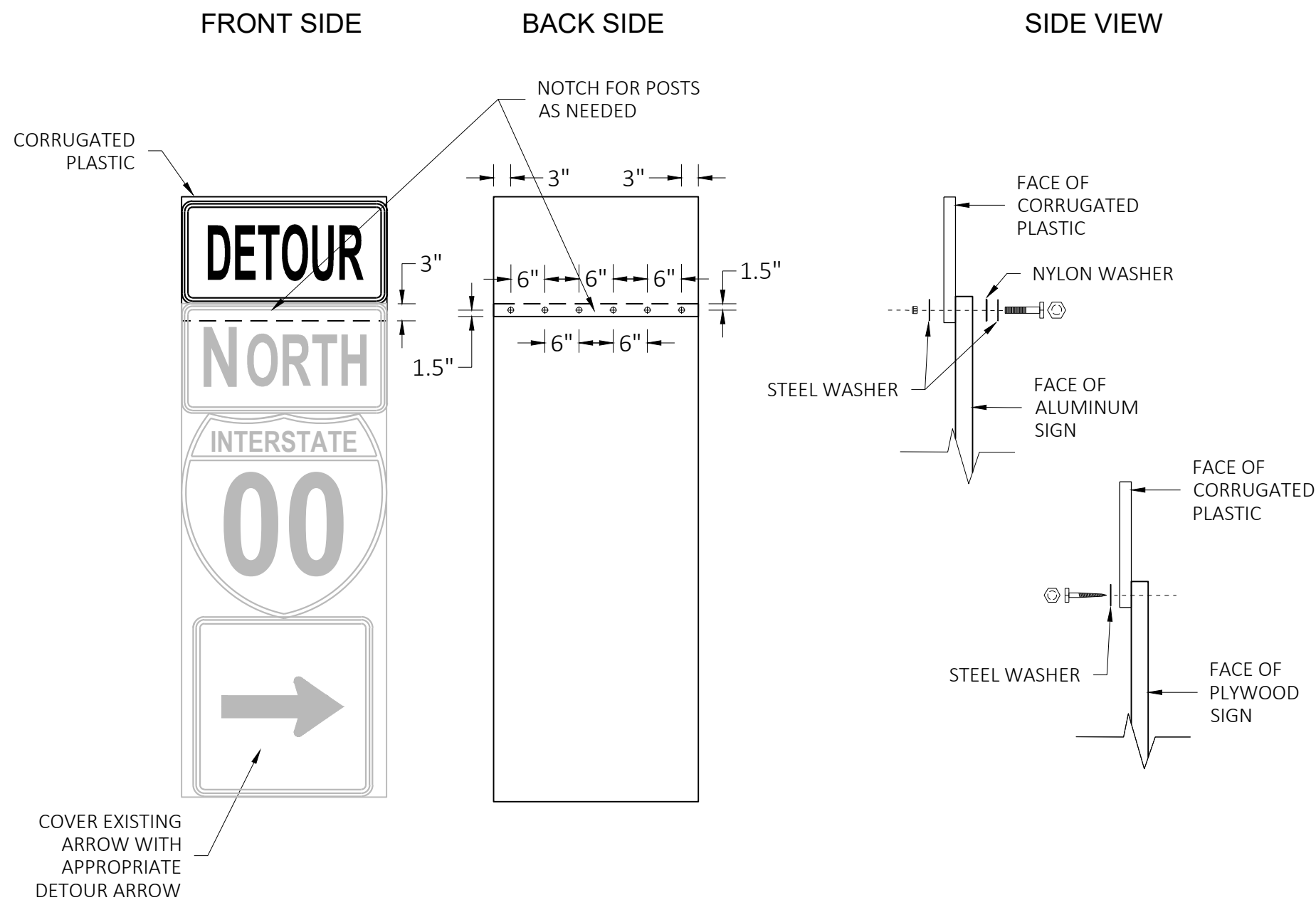
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

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

DETAIL F DETOUR SIGNING



GENERAL NOTES

CELLS OF CORRUGATED PLASTIC SHALL BE VERTICALLY ORIENTED.

PROVIDE A 0.4-INCH THICK BASE CORRUGATED PLASTIC WITH A 0.035-INCH WALL THICKNESS AND 0.4-INCH CELL SIZE.

FOR 36" WIDE SIGNS: USE 6 FASTENERS AS SHOWN.

FOR 24" WIDE SIGNS: USE 4 FASTENERS WITH EDGE SPACING AS SHOWN AND 6" SPACING BETWEEN FASTENERS.

METAL WASHERS, NUTS, BOLTS AND LAGS 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, SC3

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.

PLYWOOD SIGNS:

LAG SCREWS - 5/16" x 1"

ALUMINUM SIGNS:

MACHINE BOLTS - 5/16" x 1-1/4" LENGTH W/NUTS

WASHERS:

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

MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

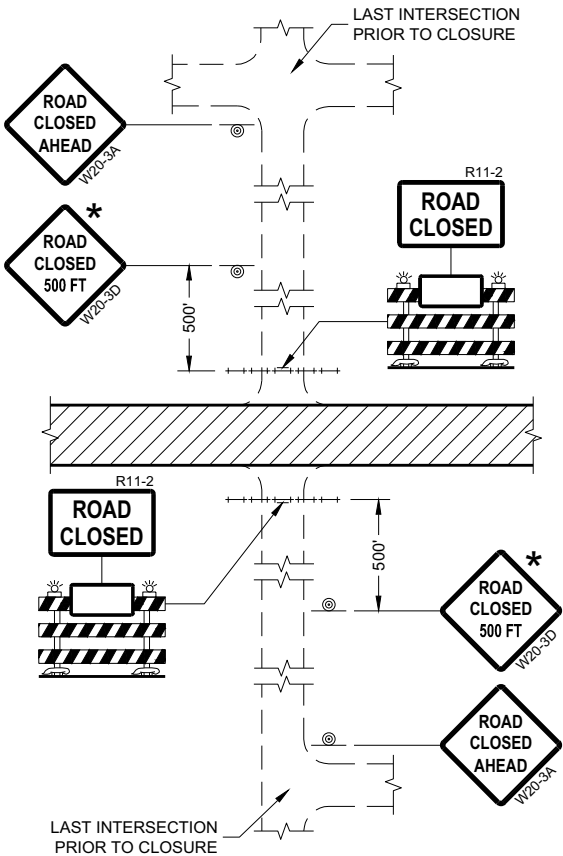
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

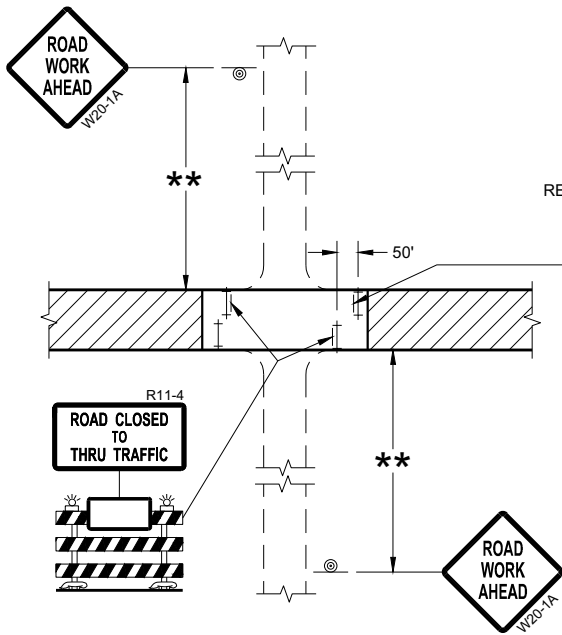
May 2023
DATE

FHWA

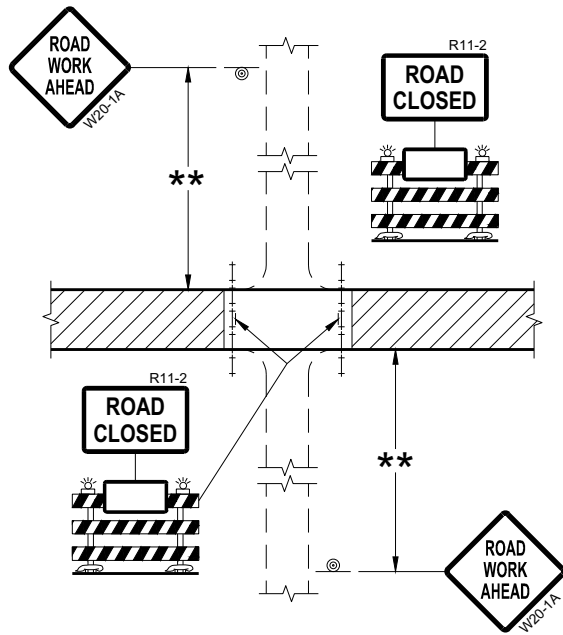
/S/ Andrew Heidtke
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



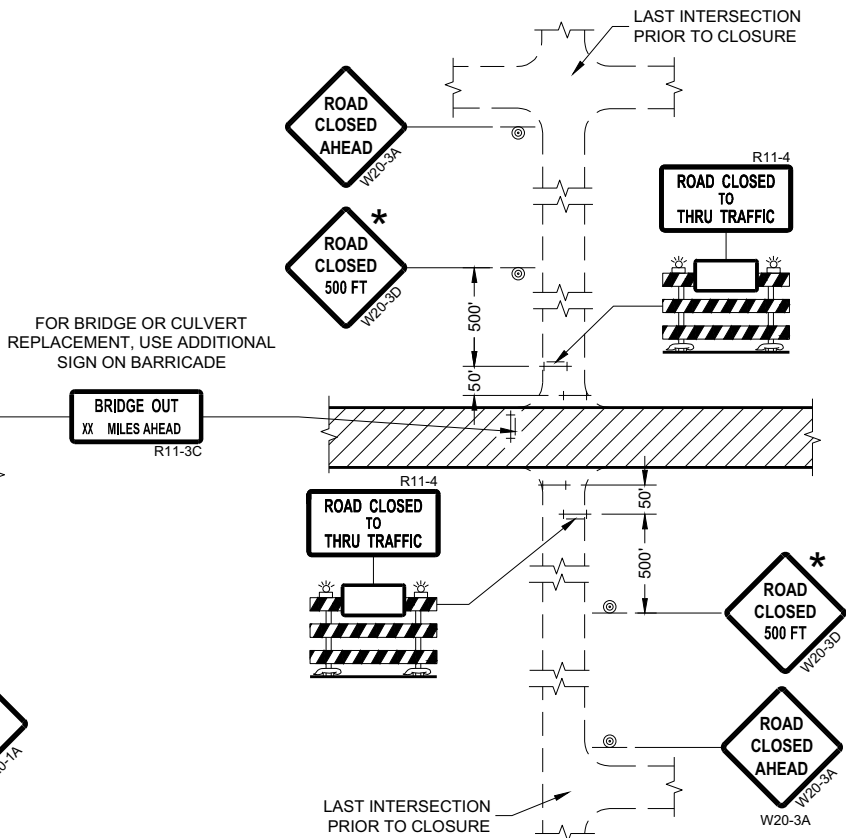
DETAIL 1
(NO ACCESS TO PROJECT)



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



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 (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

- * OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.
- ** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

LEGEND

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

**BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 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.

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. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

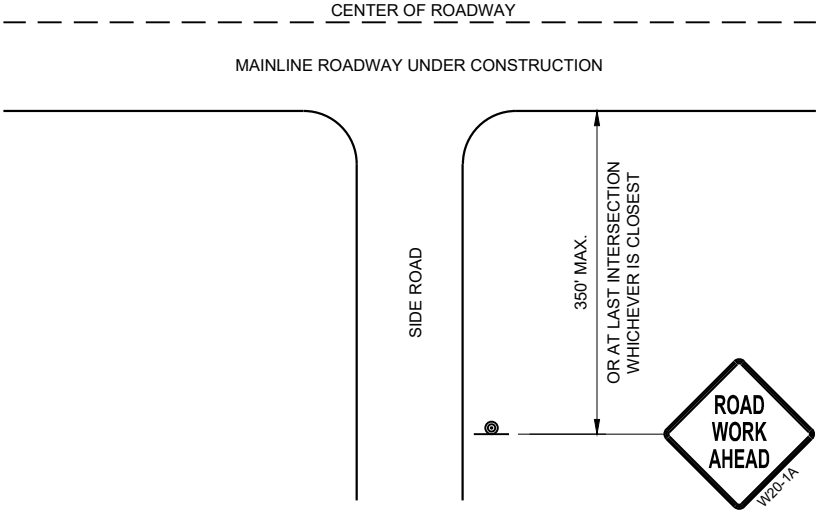
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

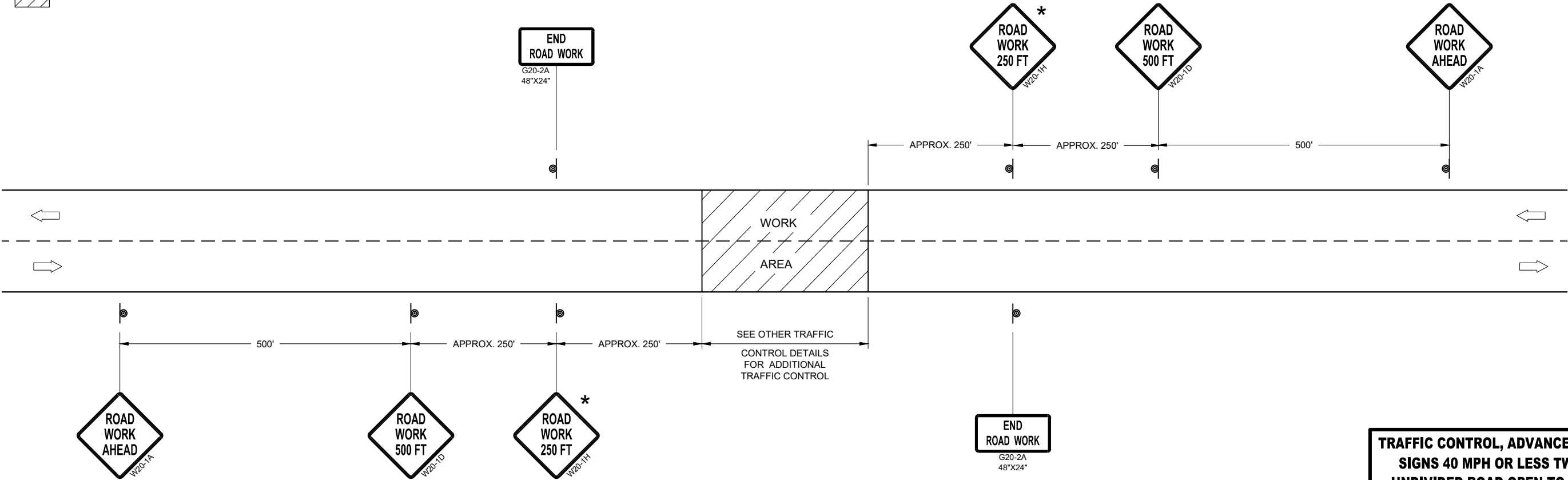
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

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



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL



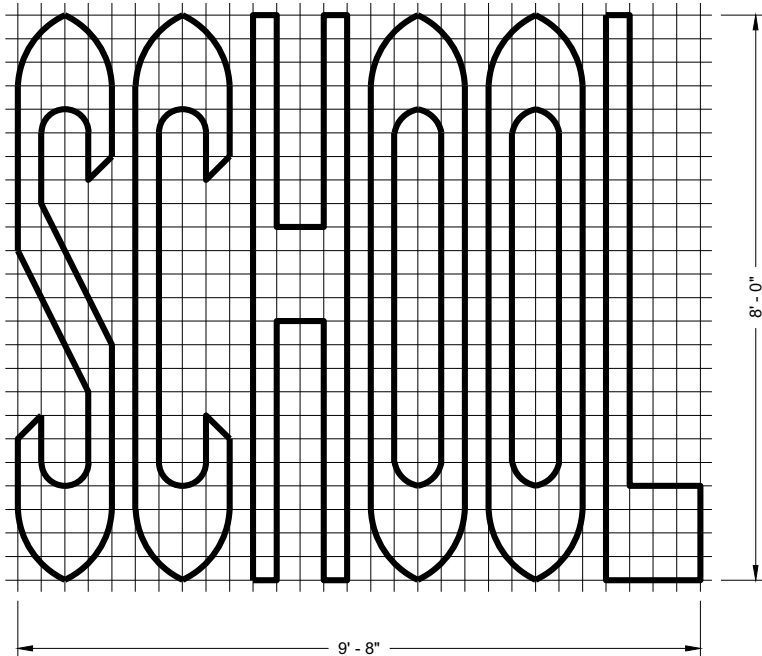
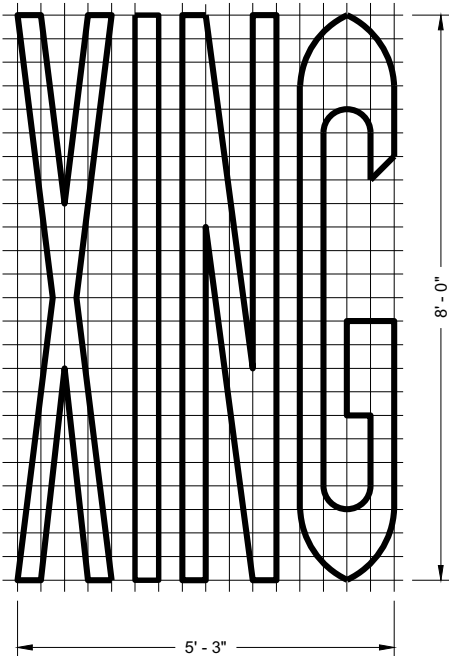
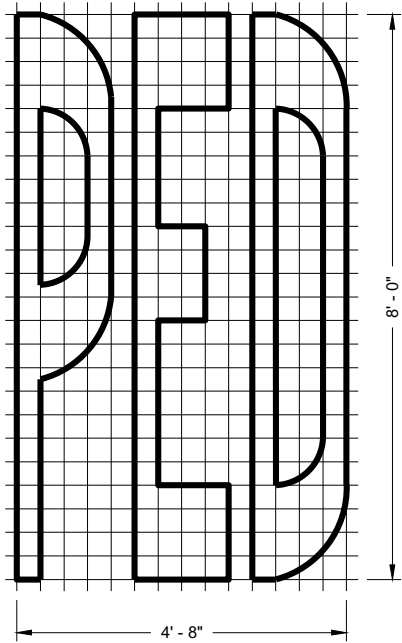
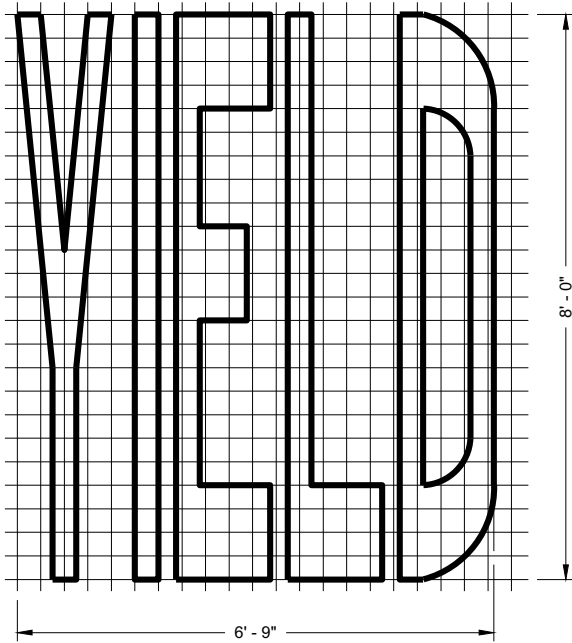
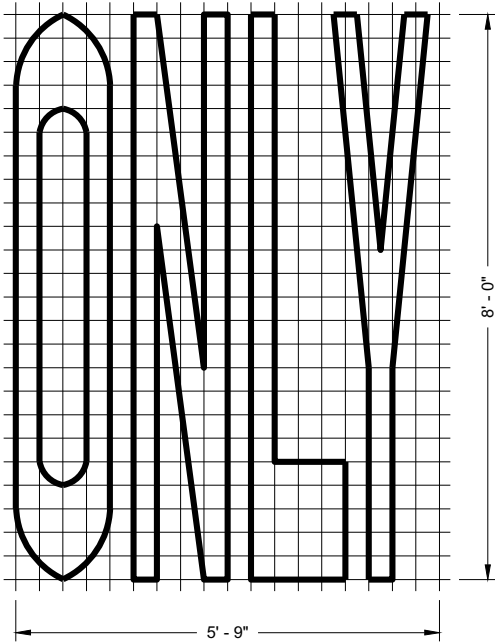
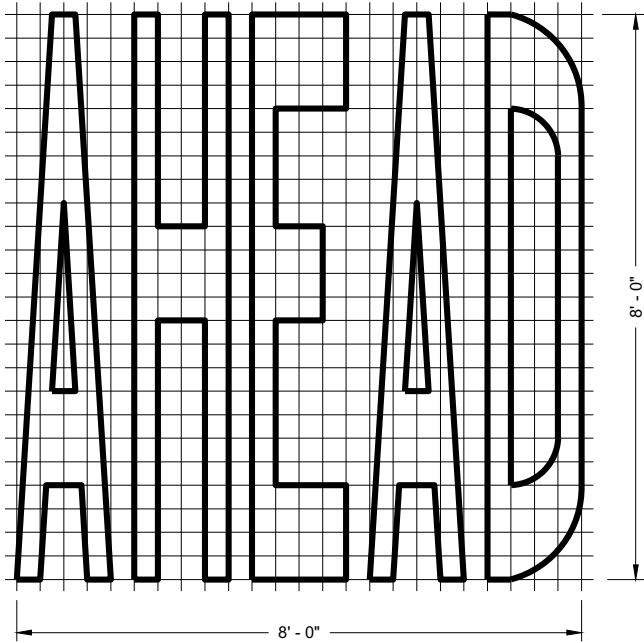
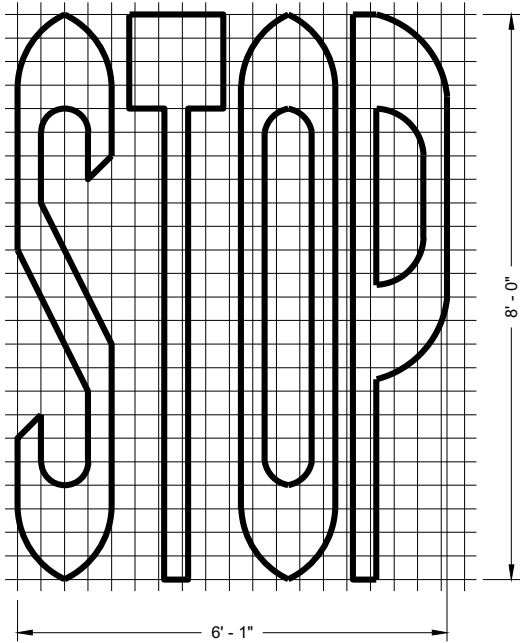
TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 40 MPH OR LESS TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

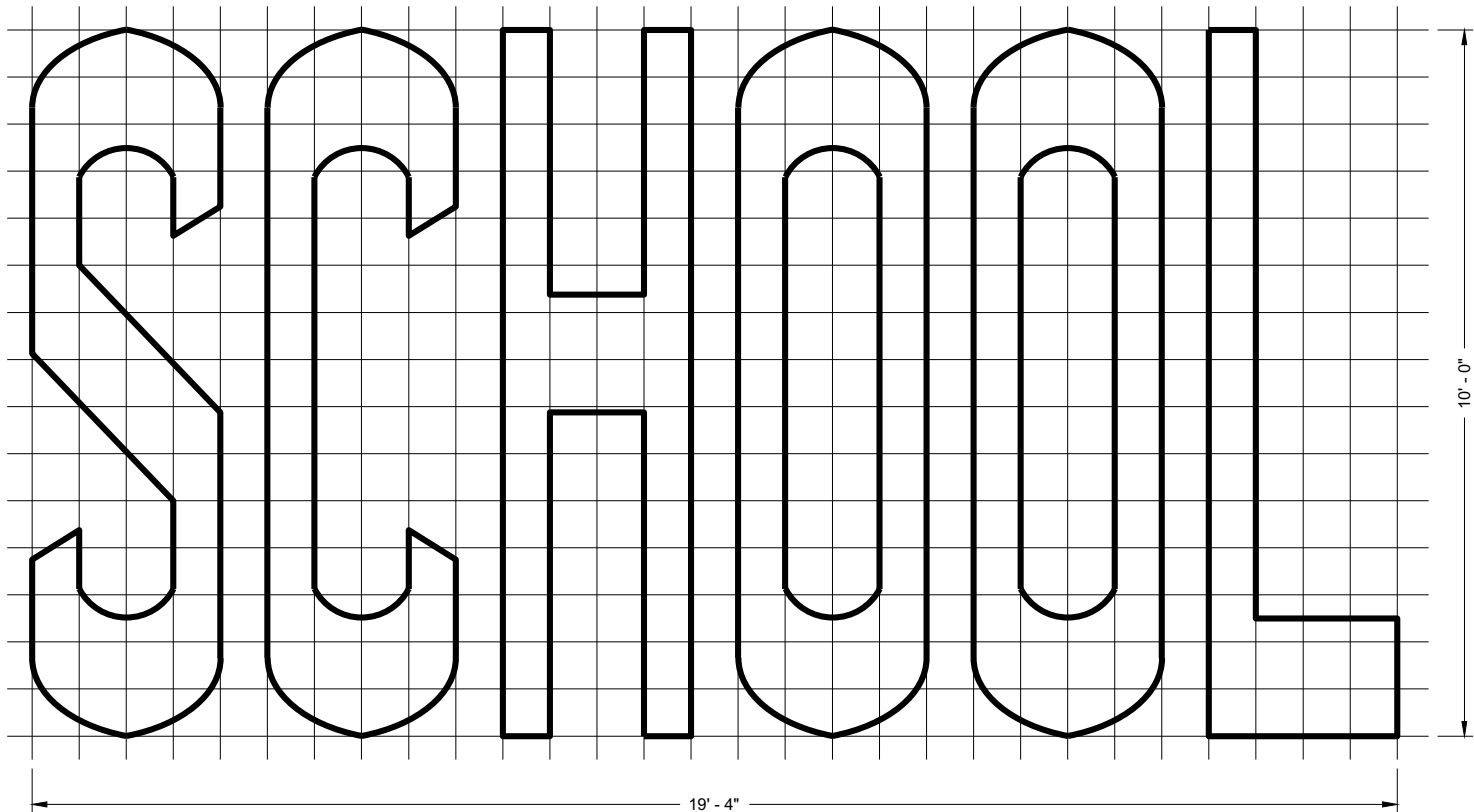
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



SINGLE LANE



TWO - LANE

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.

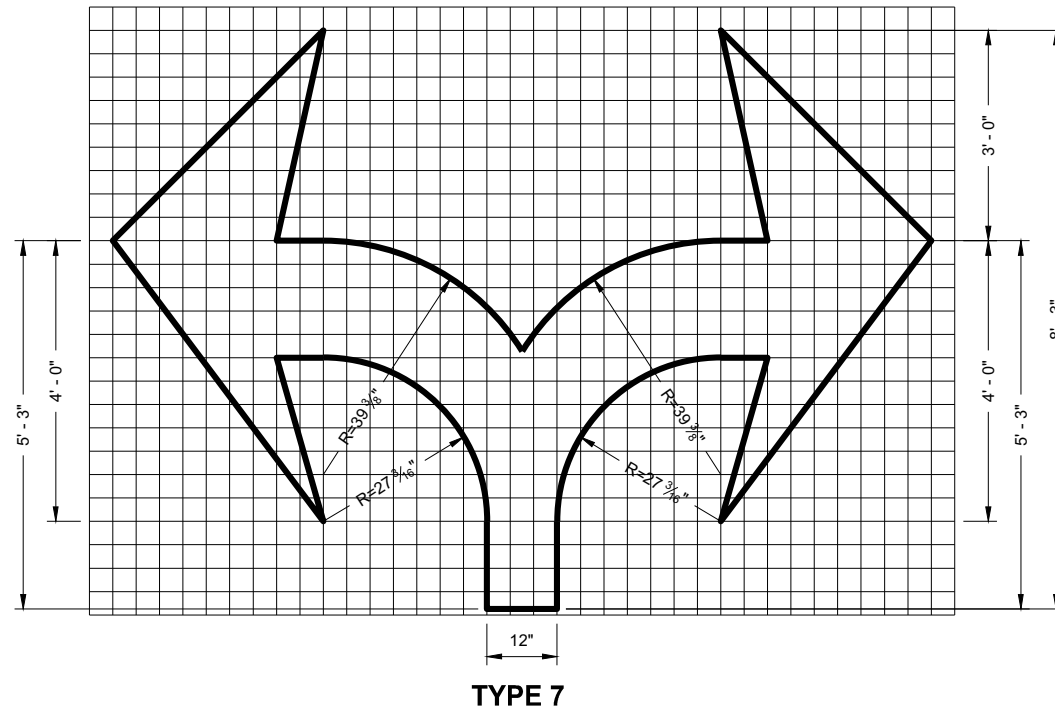
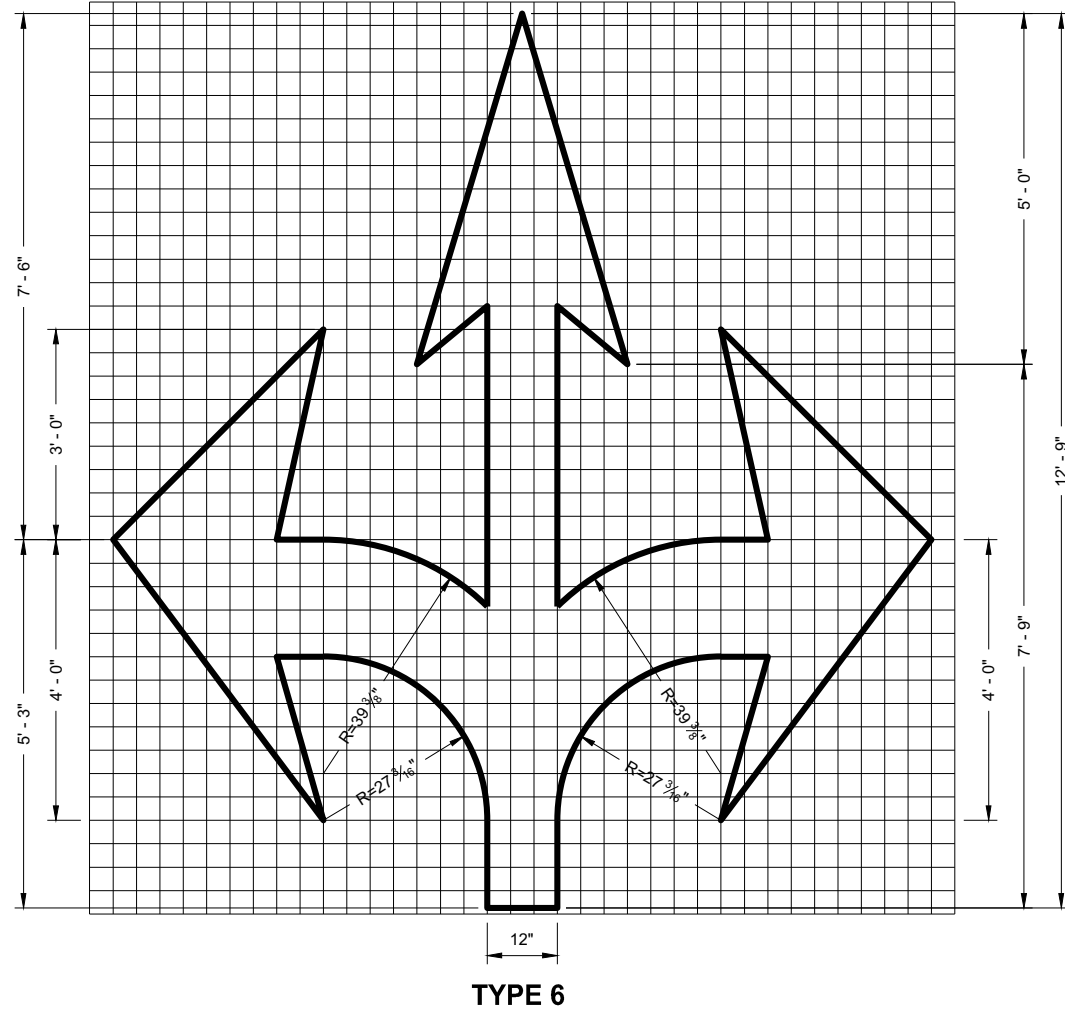
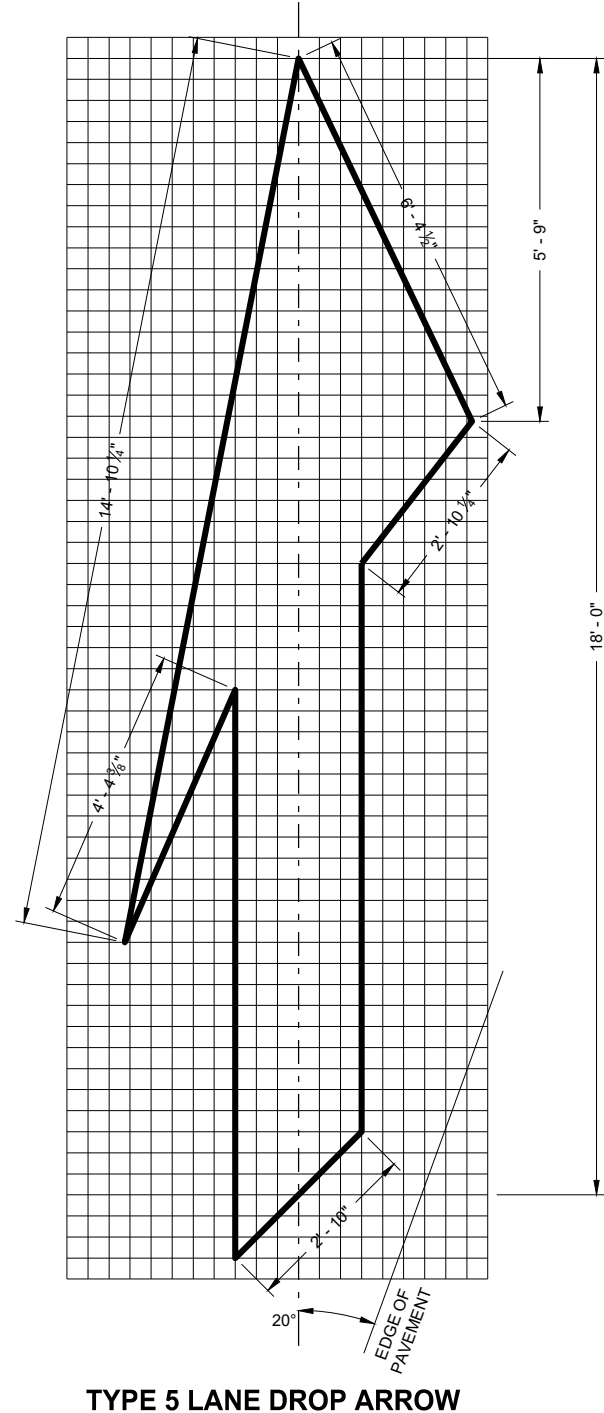
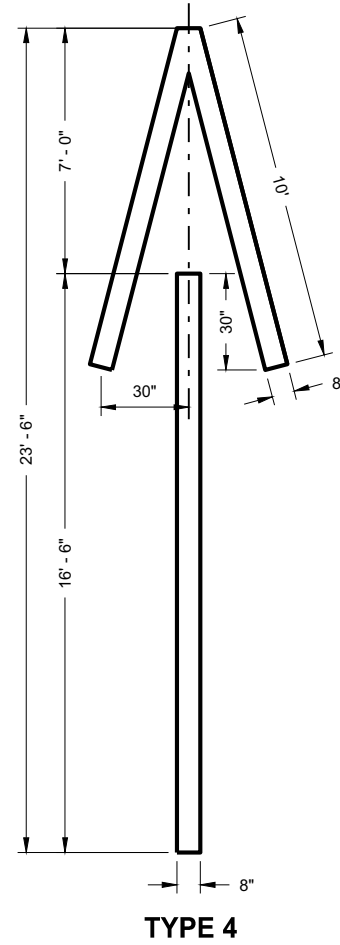
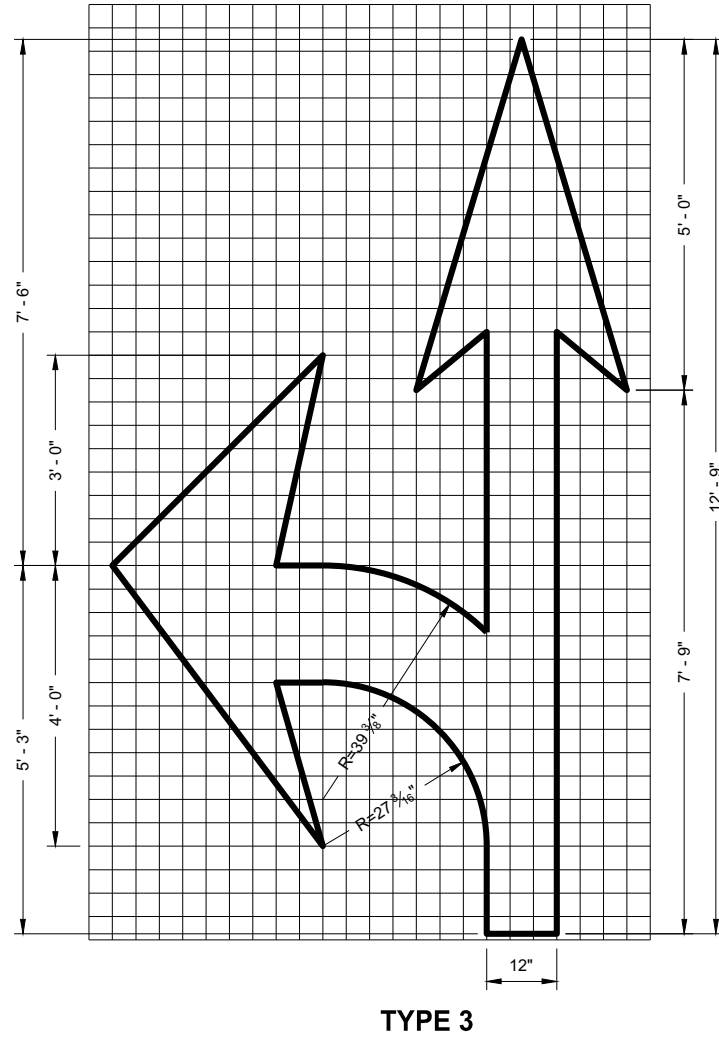
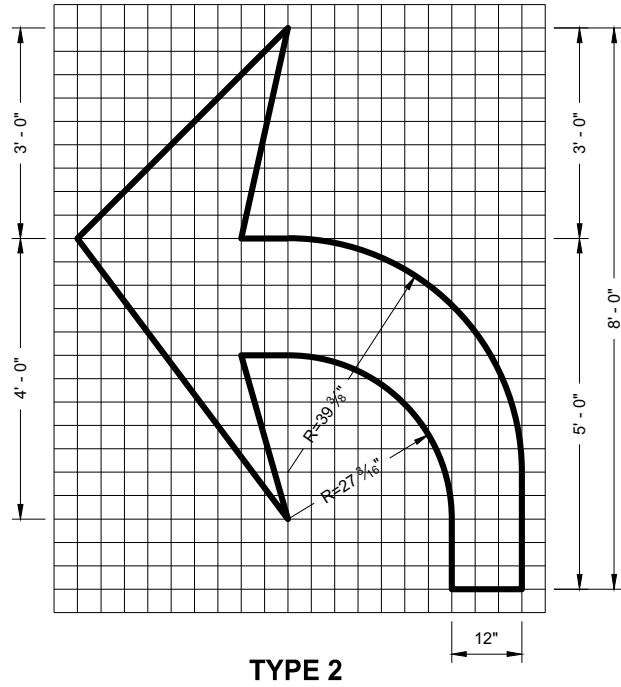
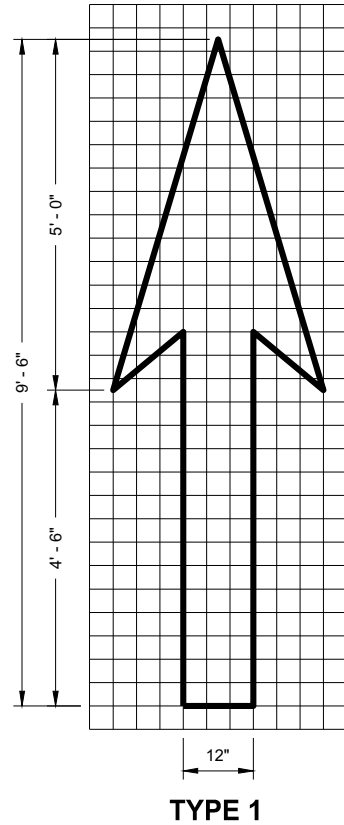
PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MARKING
ENGINEER

FHWA



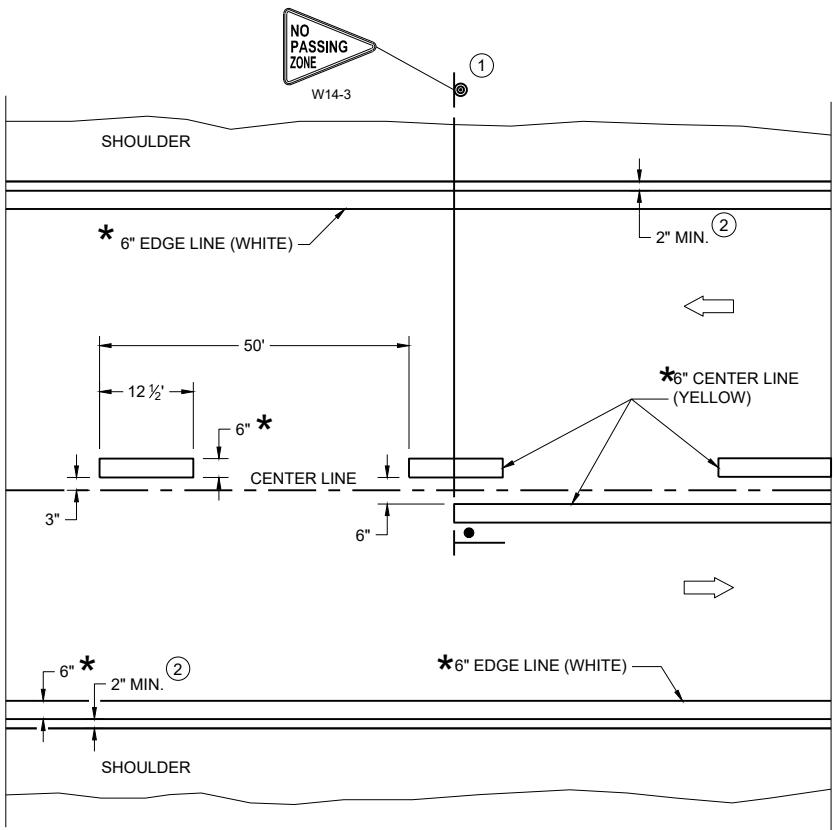
GENERAL NOTES

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.

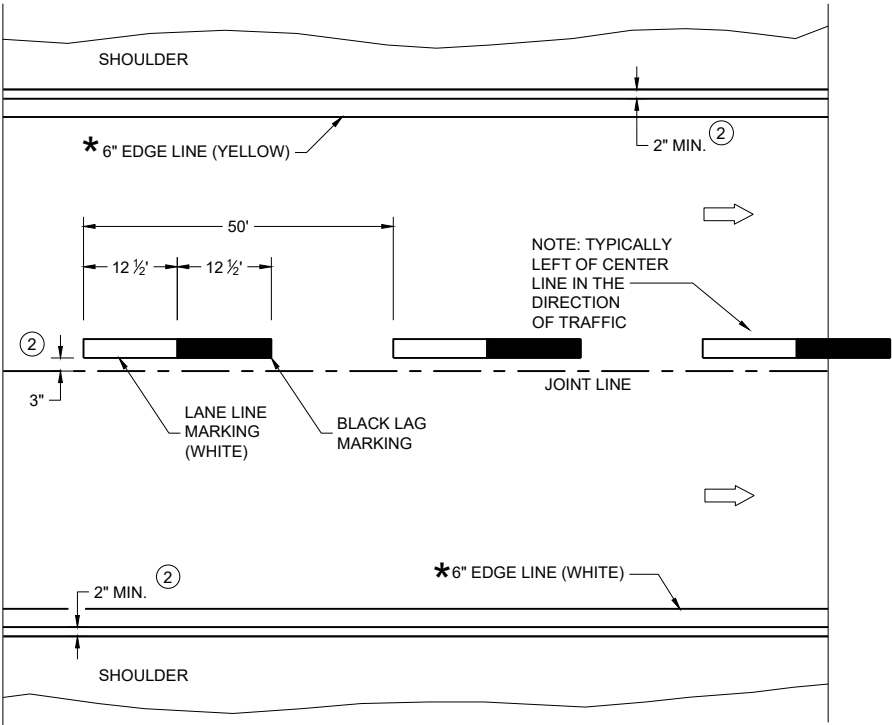
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

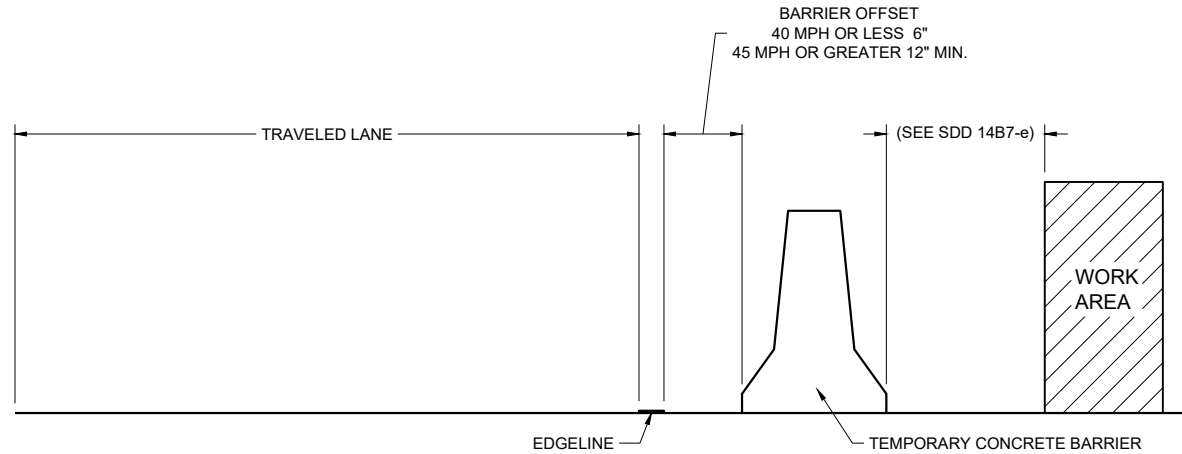
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

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

LEGEND

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

PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA	



TEMPORARY BARRIER OFFSET FROM EDGE LINE

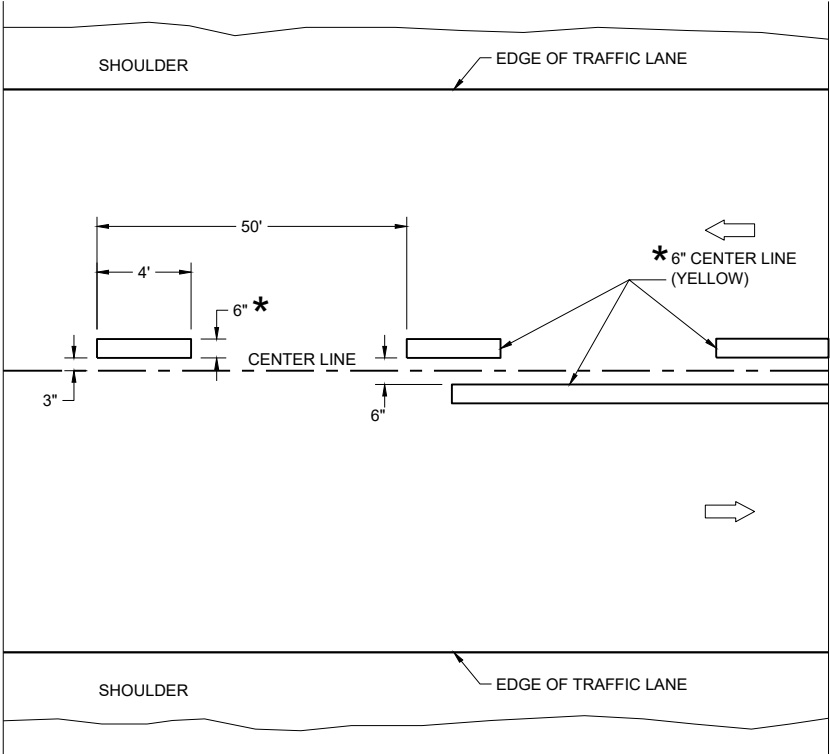
GENERAL NOTES

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

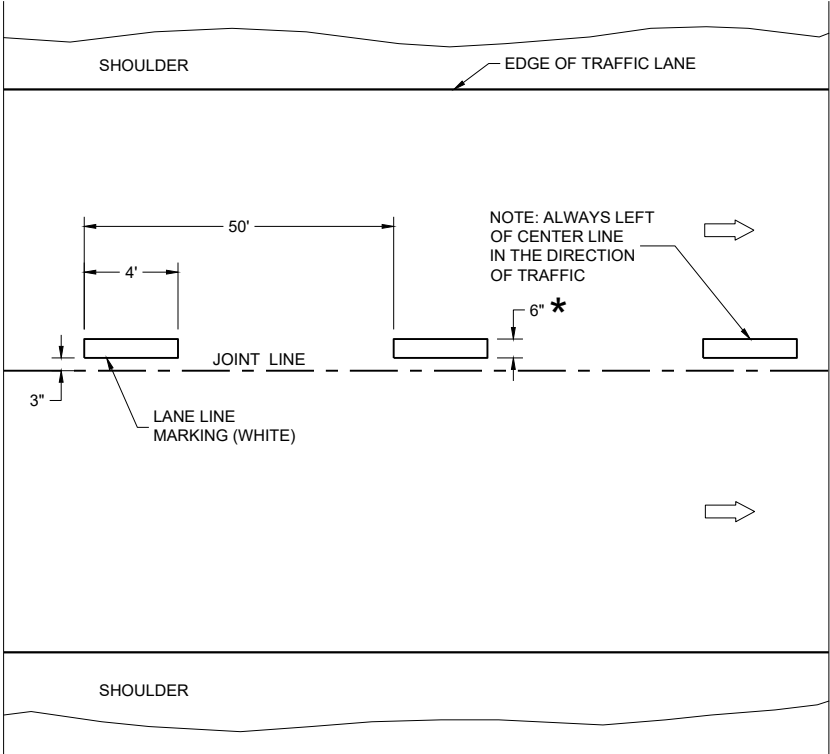
LEGEND

DIRECTION OF TRAFFIC

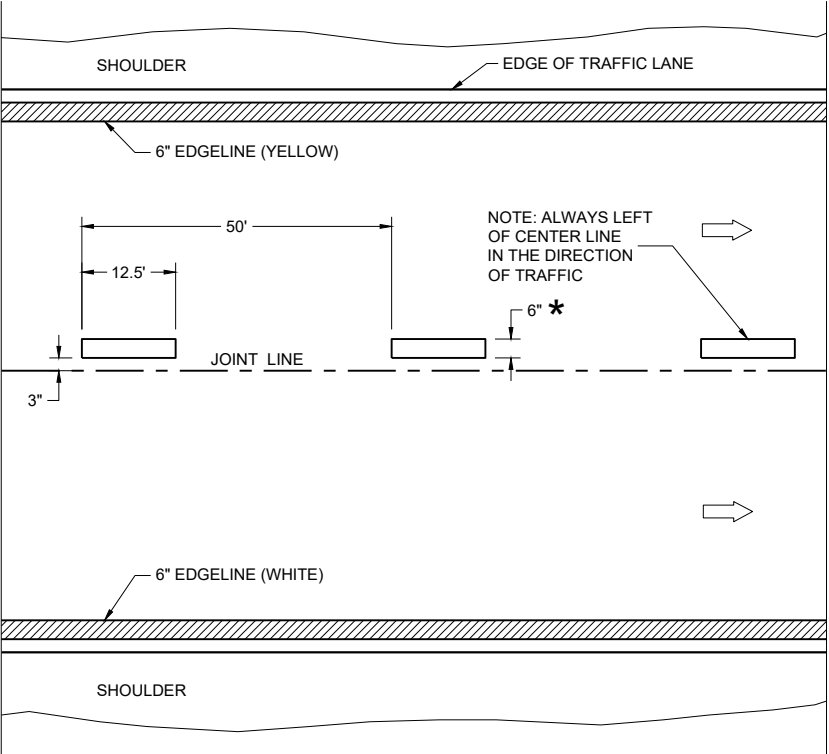
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



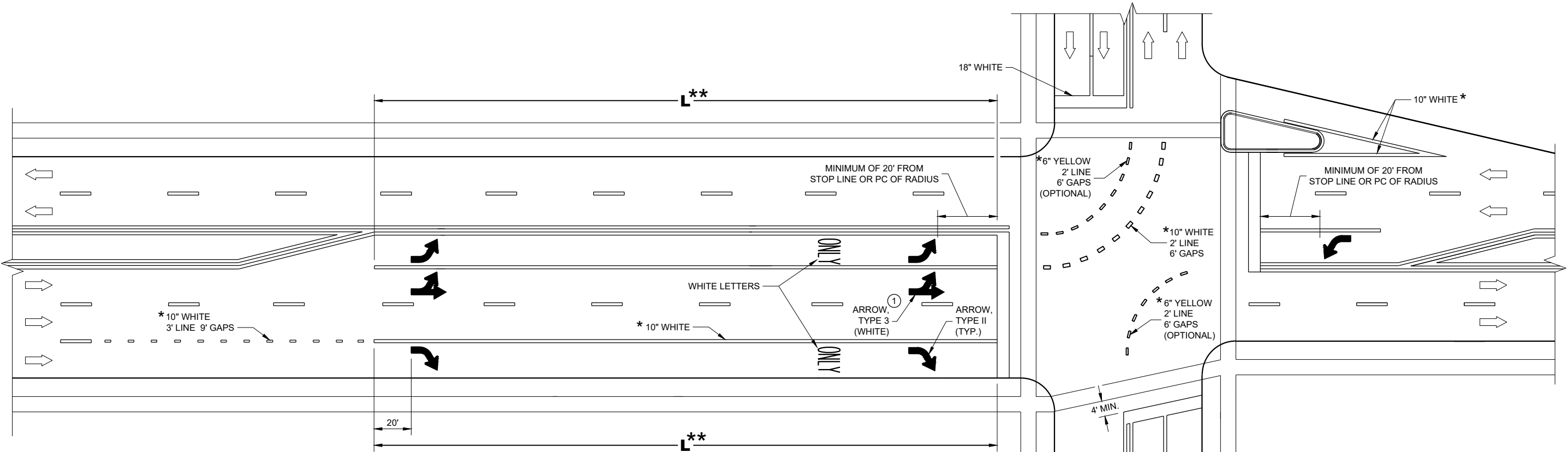
ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

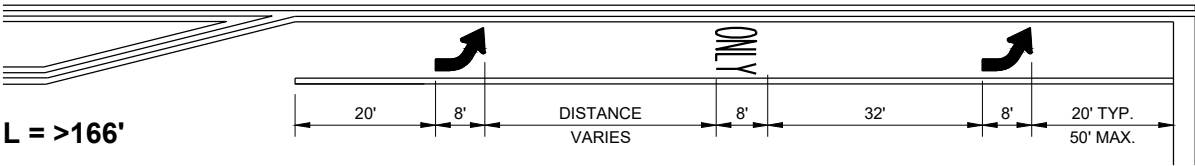
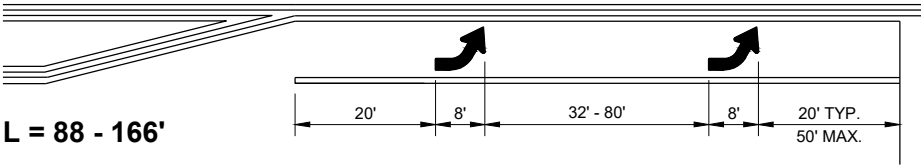
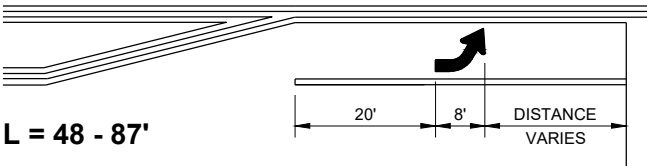
TEMPORARY LONGITUDINAL PAVEMENT MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA	



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

TURN LANE OPTIONS

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



GENERAL NOTES

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

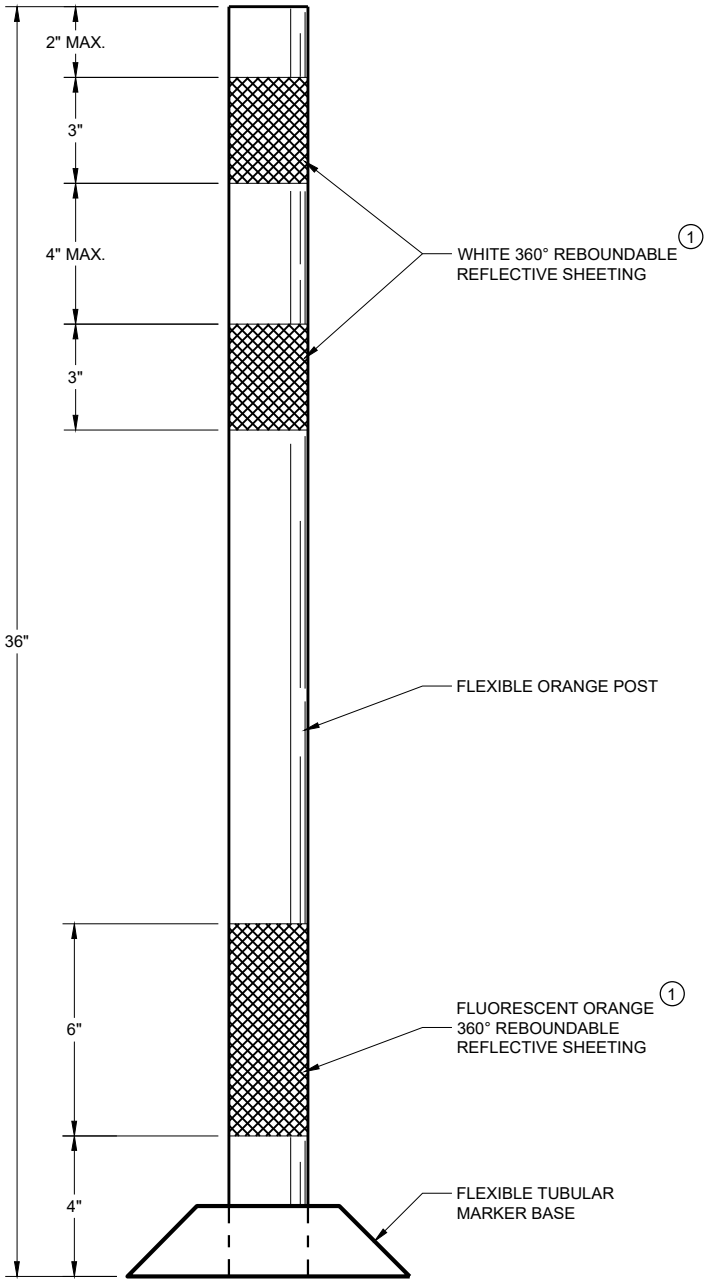
→ DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

PAVEMENT MARKING
(TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FLEXIBLE TUBULAR
MARKER POST
WORK ZONE

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

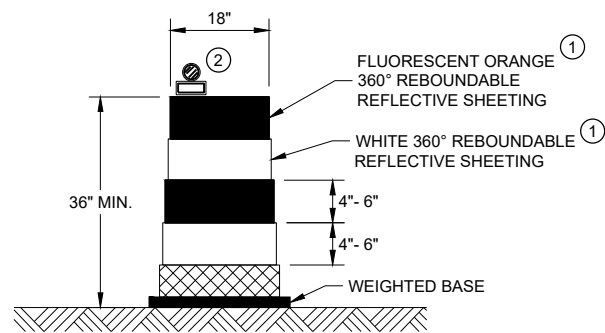
① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

CHANNELIZING DEVICES
FLEXIBLE TUBULAR
MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

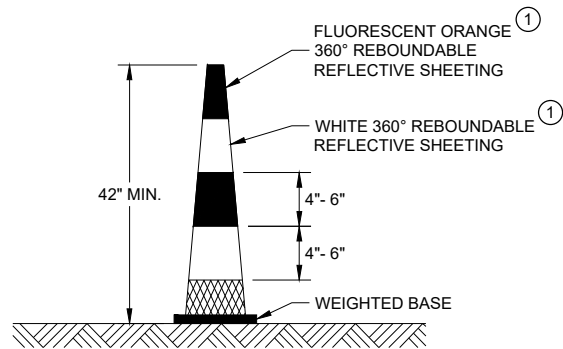
APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



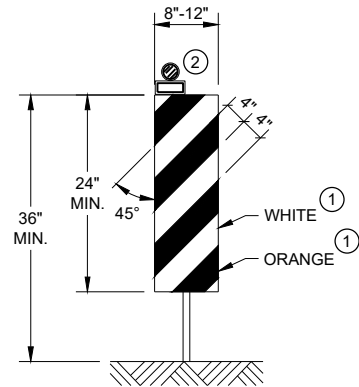
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



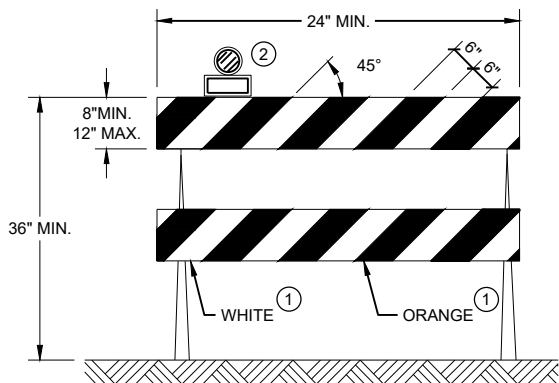
42" CONE

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



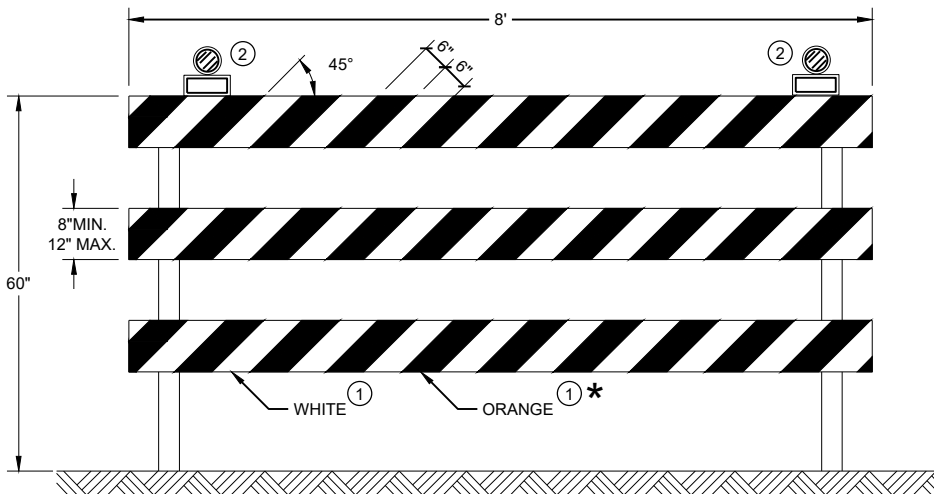
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES

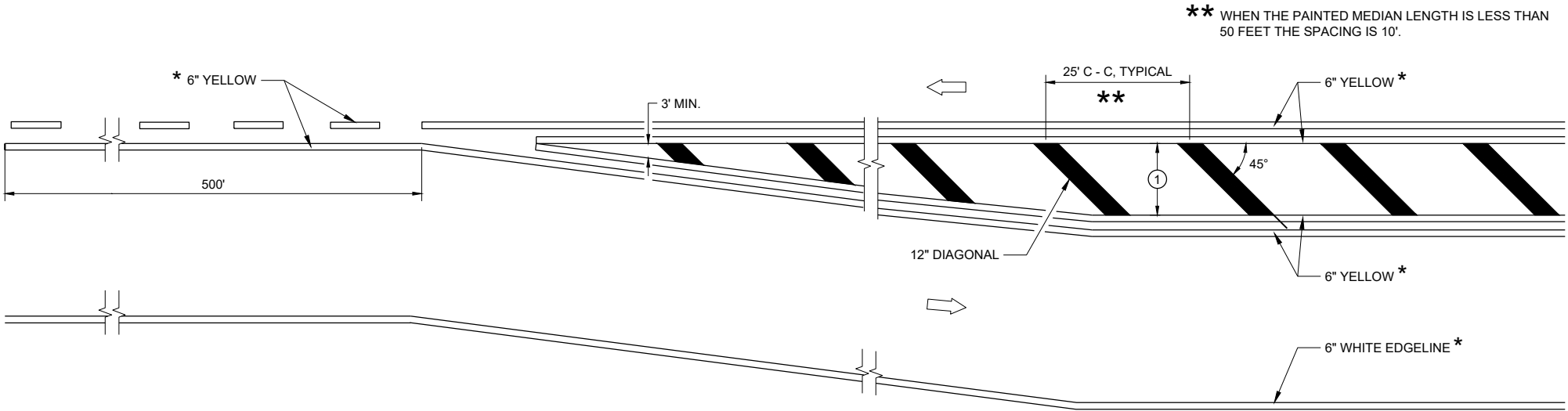
- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

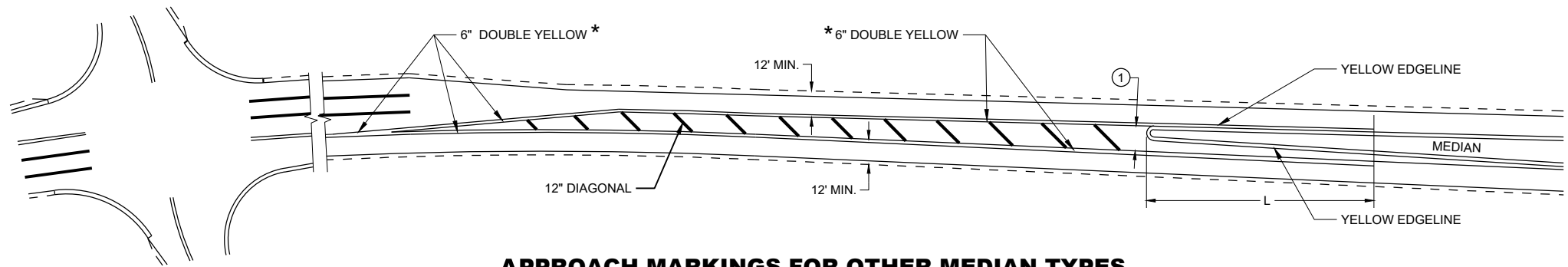
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

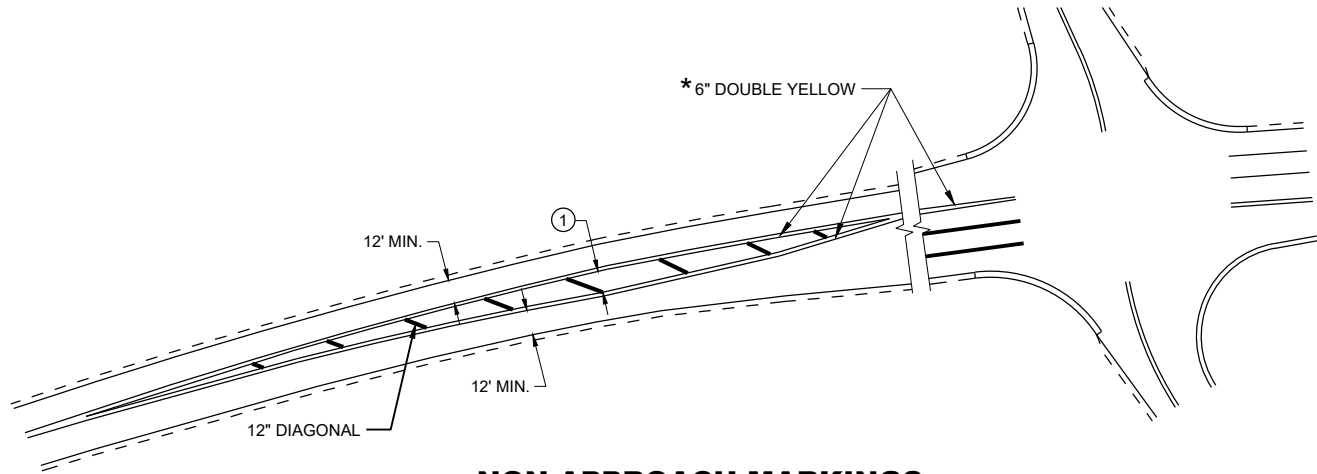
FHWA



MEDIAN ISLAND DETAIL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON-APPROACH MARKINGS

GENERAL NOTES

- ① DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT THE WIDEST POINT. OMIT DIAGONALS IF WIDTH IS LESS THAN 4 FEET.

➡ DIRECTION OF TRAVEL

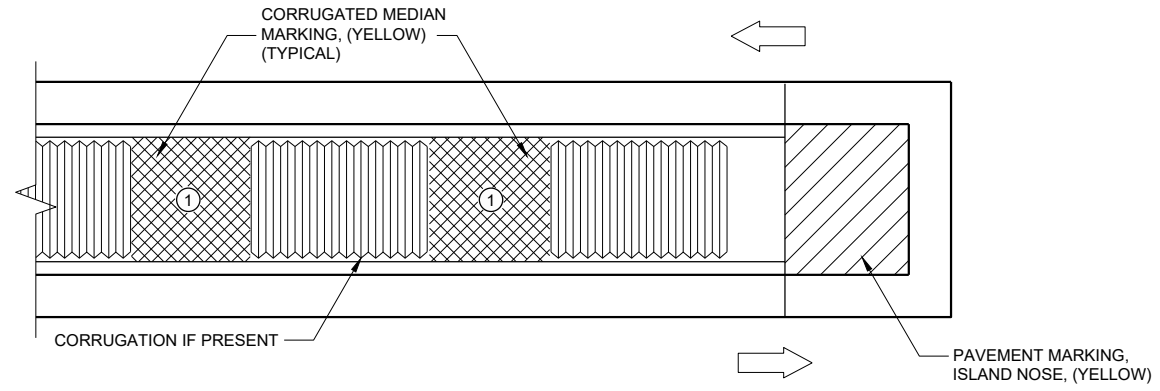
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

SPEED LIMIT	L
<35 MPH	5'
35> MPH	50'

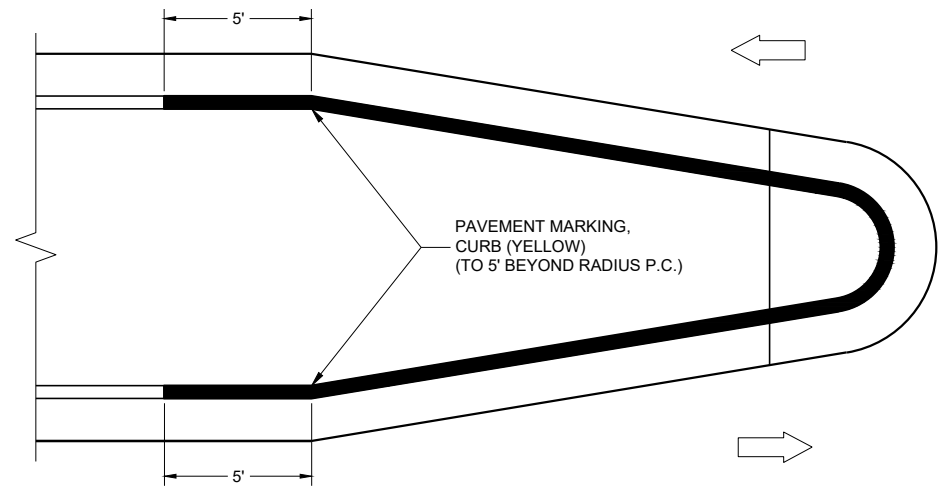
MEDIAN ISLAND
PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

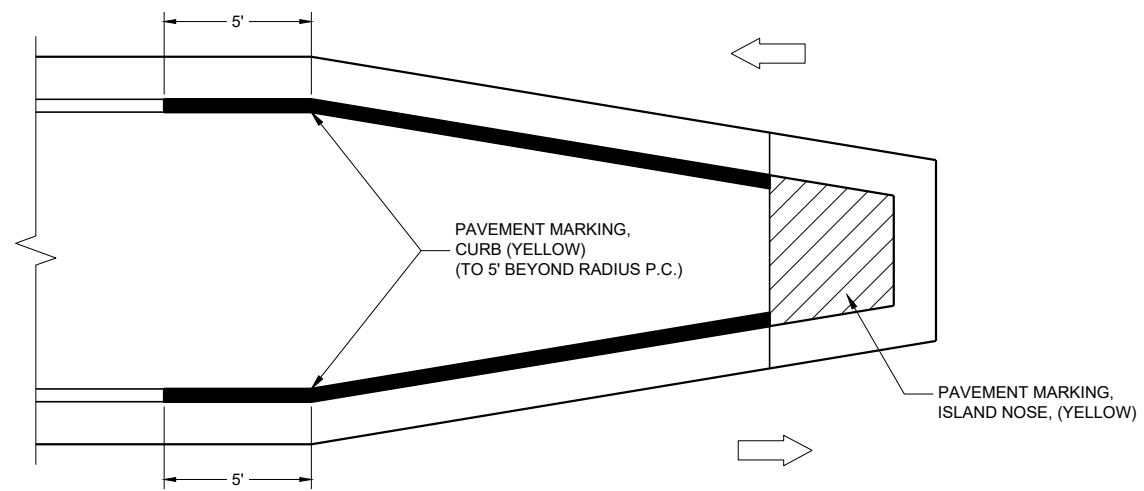
APPROVED
May 2023 /S/ Jeannie Silver
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF
PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

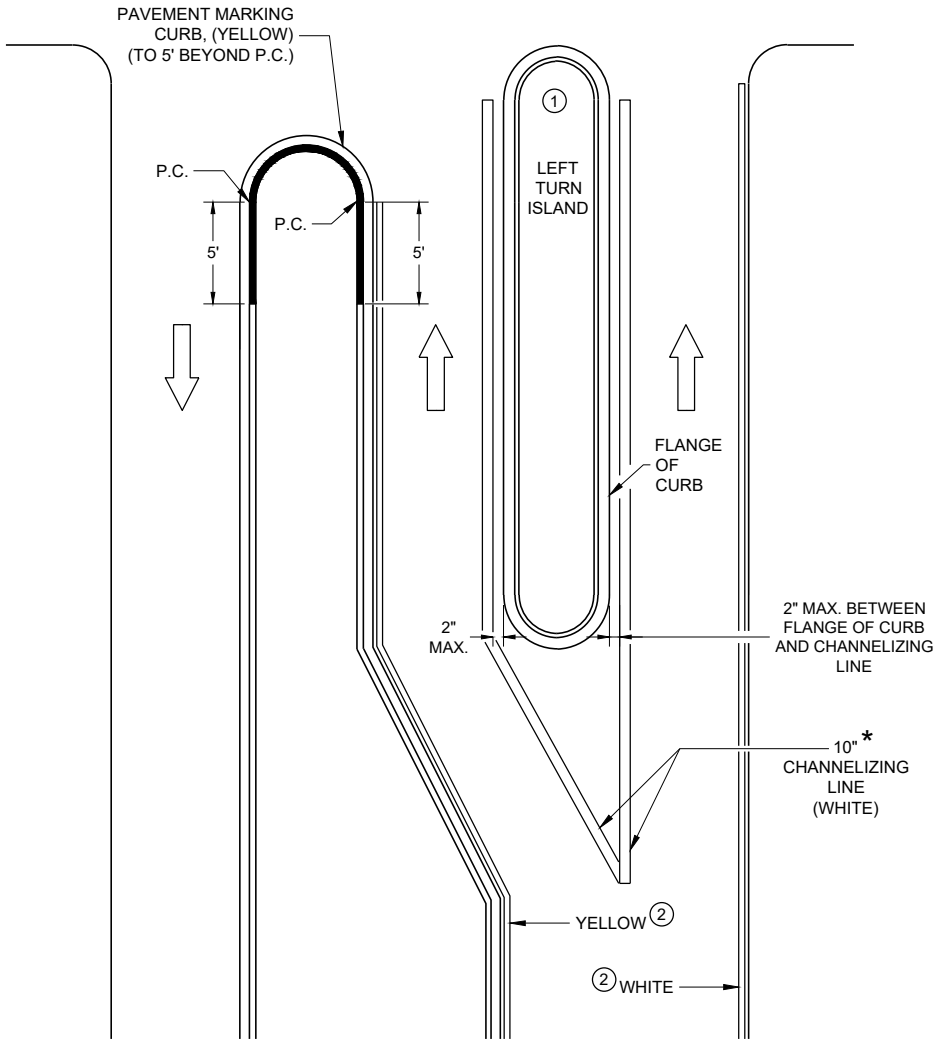
WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

- ① APPLY PAVEMENT MARKING TO THE FLAT PORTION OF CORRUGATED MEDIAN.

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKINGS, MEDIAN ISLAND NOSE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

REQUIREMENTS FOR EDGE LINES		
POSTED SPEED	IS THERE CONTINUOUS LIGHTING?	
	YES	NO
≤ 30 MPH	NO	OPTIONAL
35 OR 40 MPH	OPTIONAL	RECOMMENDED
≥ 45 MPH	RECOMMENDED	REQUIRED



* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

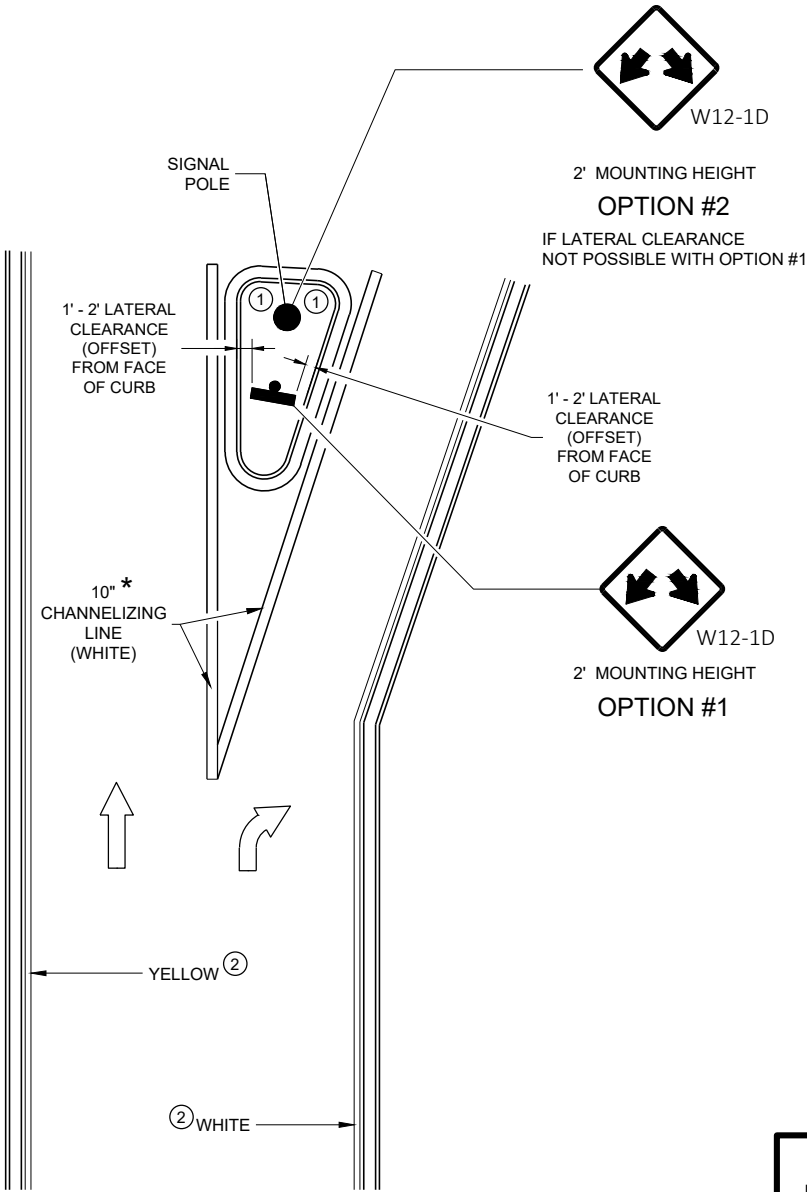
LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

- ① MARK CURB NOSES YELLOW.
- ② MARK ACCORDING TO TABLE.

➡ DIRECTION OF TRAVEL



RIGHT TURN ISLAND

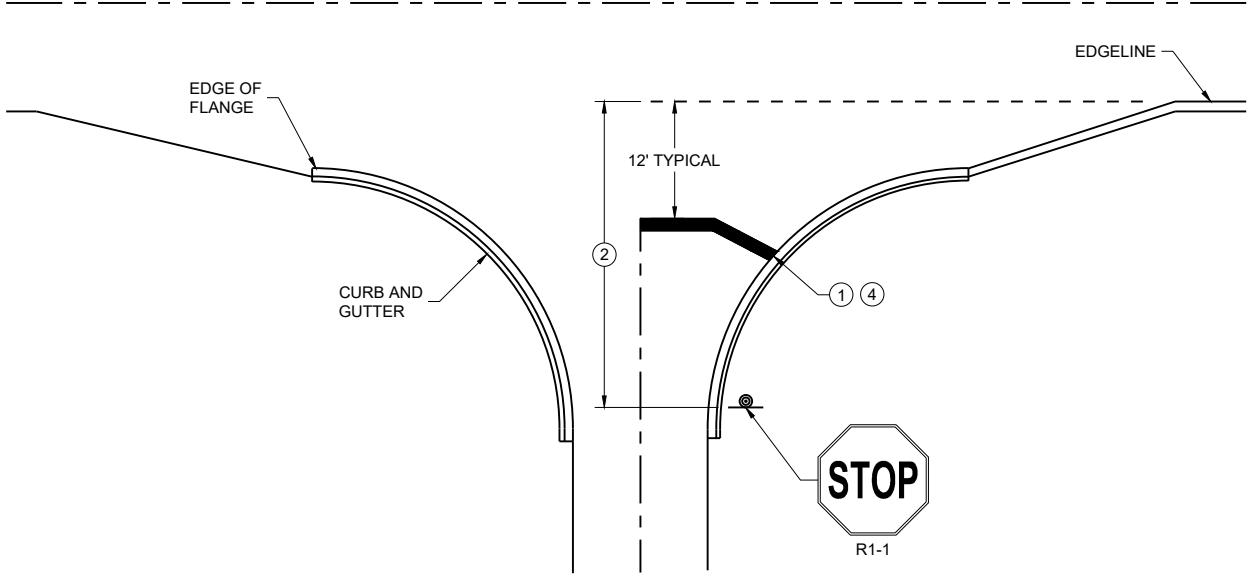
MEDIAN PAVEMENT MARKINGS, DOUBLE ARROW WARNING SIGN PLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

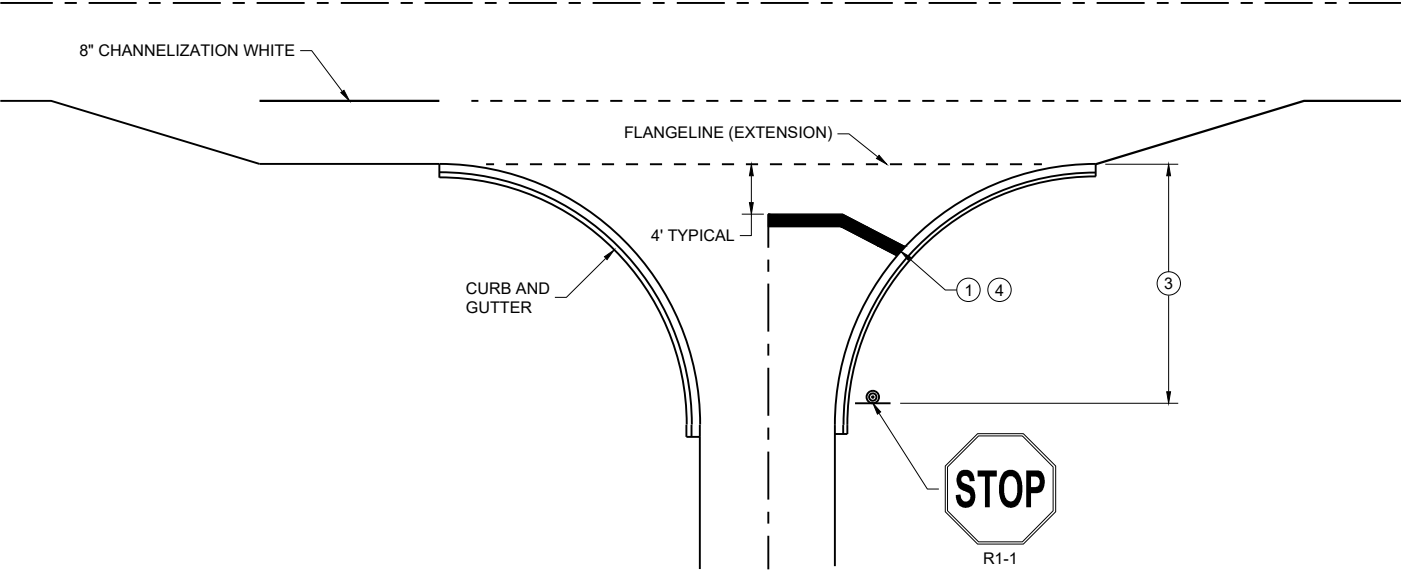
APPROVED
May 2023
DATE

/S/ Jeannie Silver
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

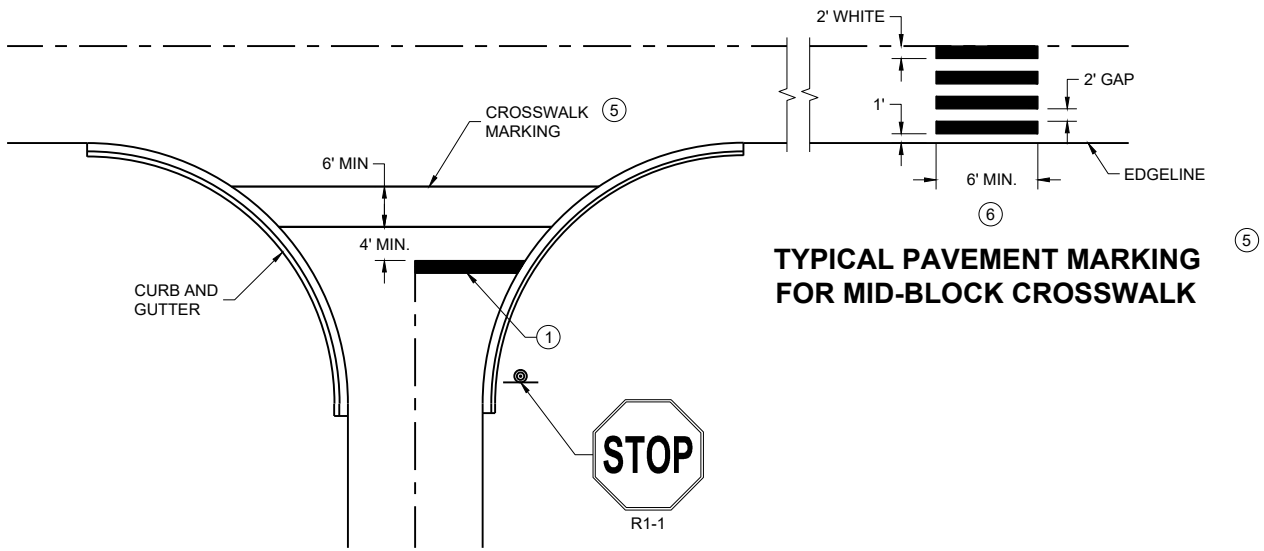
FHWA



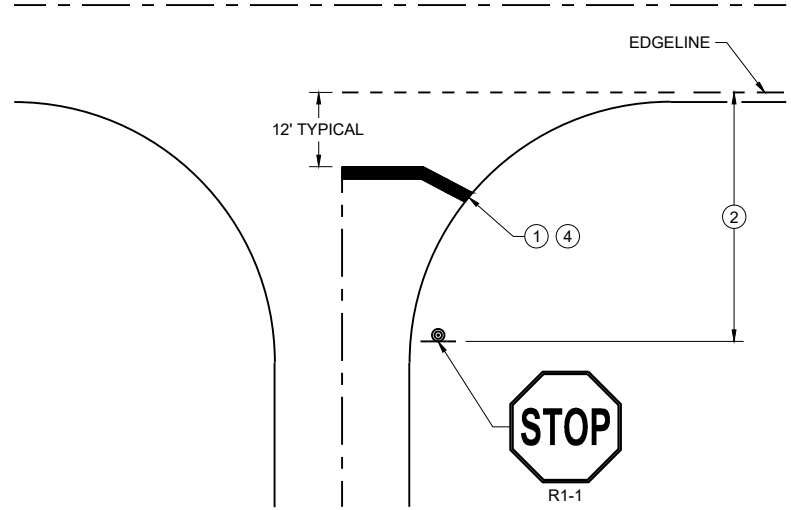
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



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



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

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

- 1 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- 2 NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
- 3 NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE EXTENSION.
- 4 MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
- 5 LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES.
- 6 POSTED SPEED LIMITS OF 40 MPH OR GREATER USE A MINIMUM WIDTH OF 8' FOR MIDBLOCK CROSSWALKS

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING
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 AND PLACE TEMPORARY PAVEMENT MARKING LINE 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.

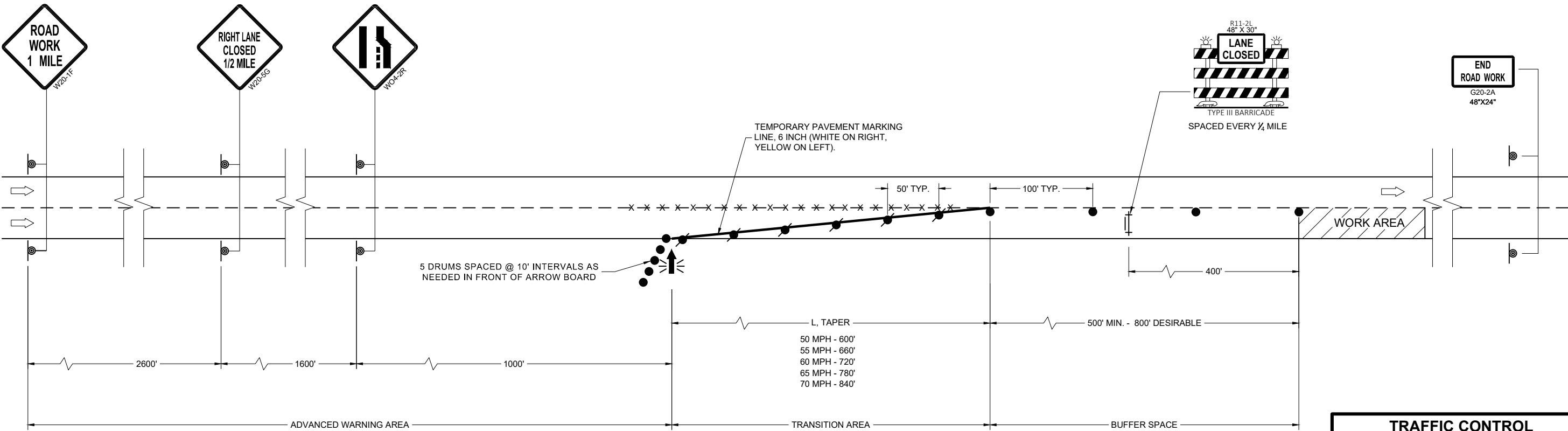
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE 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

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

6



SDD 15D12-13a

TRAFFIC CONTROL LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March 2024 DATE	/S/ Andrew Heidtke Work Zone Engineer

FHWA

6

SDD 15D12-13a

LEGEND

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

GENERAL NOTES

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"X 36" SIGNS MAY BE USED IF APPROVED BY REGIONAL TRAFFIC UNIT.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

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

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

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

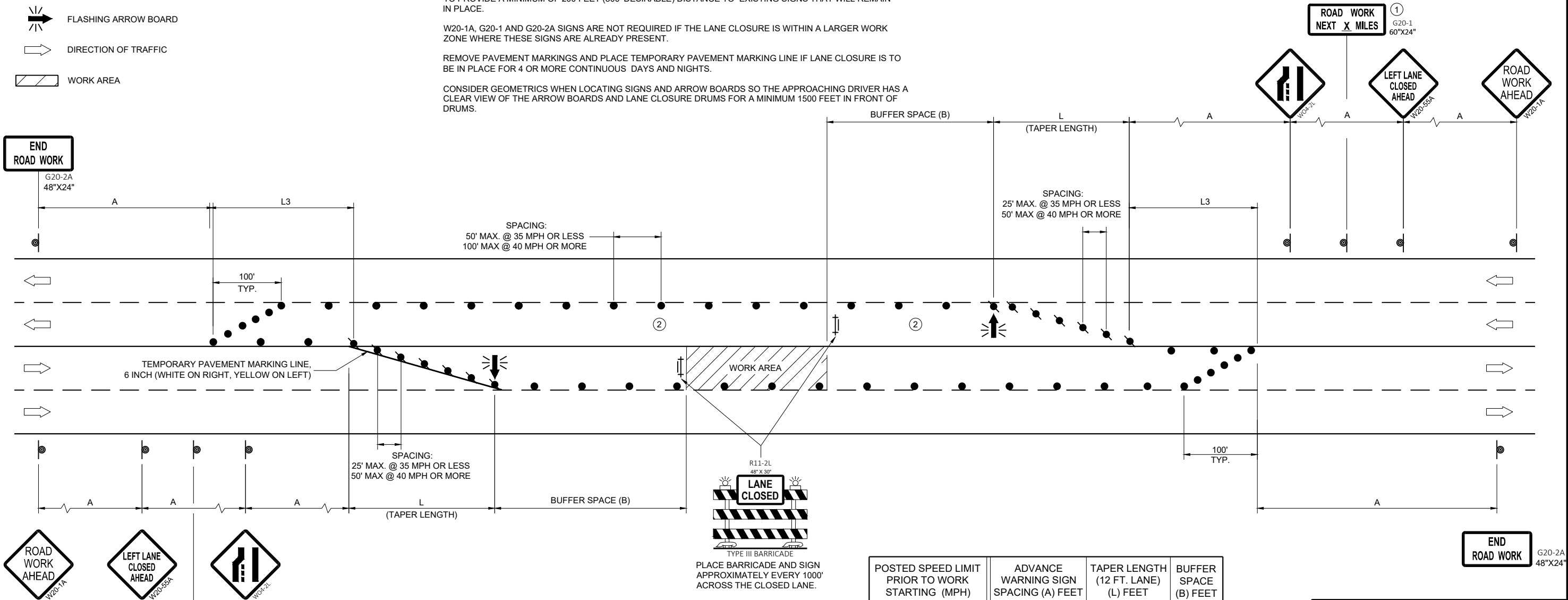
DUE TO LACK OF SHOULDER/MEDIAN, ARROW BOARD IS PLACED AT THE THE END OF THE TAPER.

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

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

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

- ① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- ② LANE MAY BE OPENED WHEN WORKERS ARE NOT PRESENT IN THE WORK AREA.



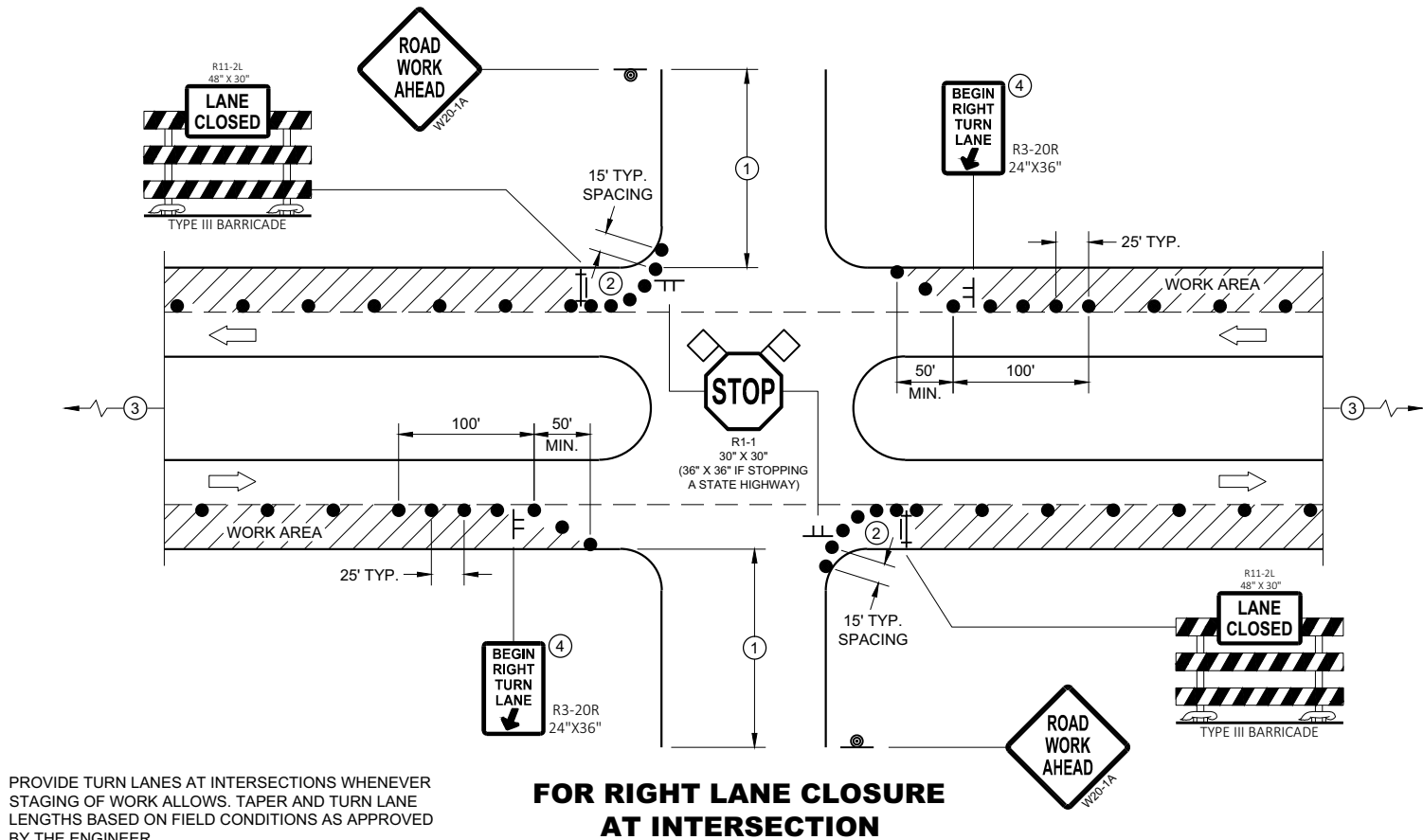
POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	55'
30	200'	180'	85'
35	350'	245'	120'
40	350'	320'	170'
45	500'	540'	220'
50	500'	600'	280'
55	500'	660'	335'

**TRAFFIC CONTROL,
SINGLE LEFT LANE
CLOSURE, UNDIVIDED
NON-FREEWAY/EXPRESSWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

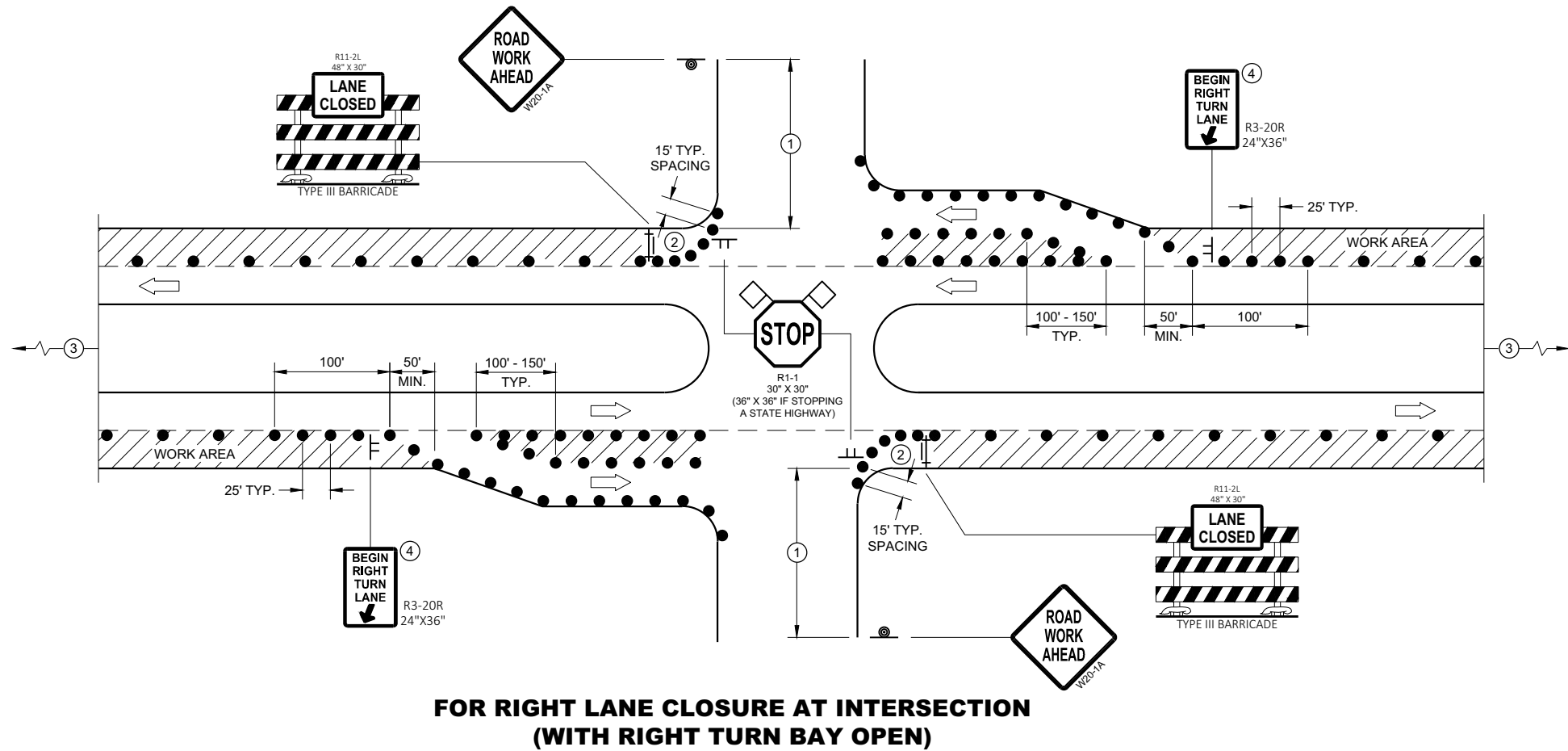
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

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

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

- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.
- ② ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.
- ④ MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.

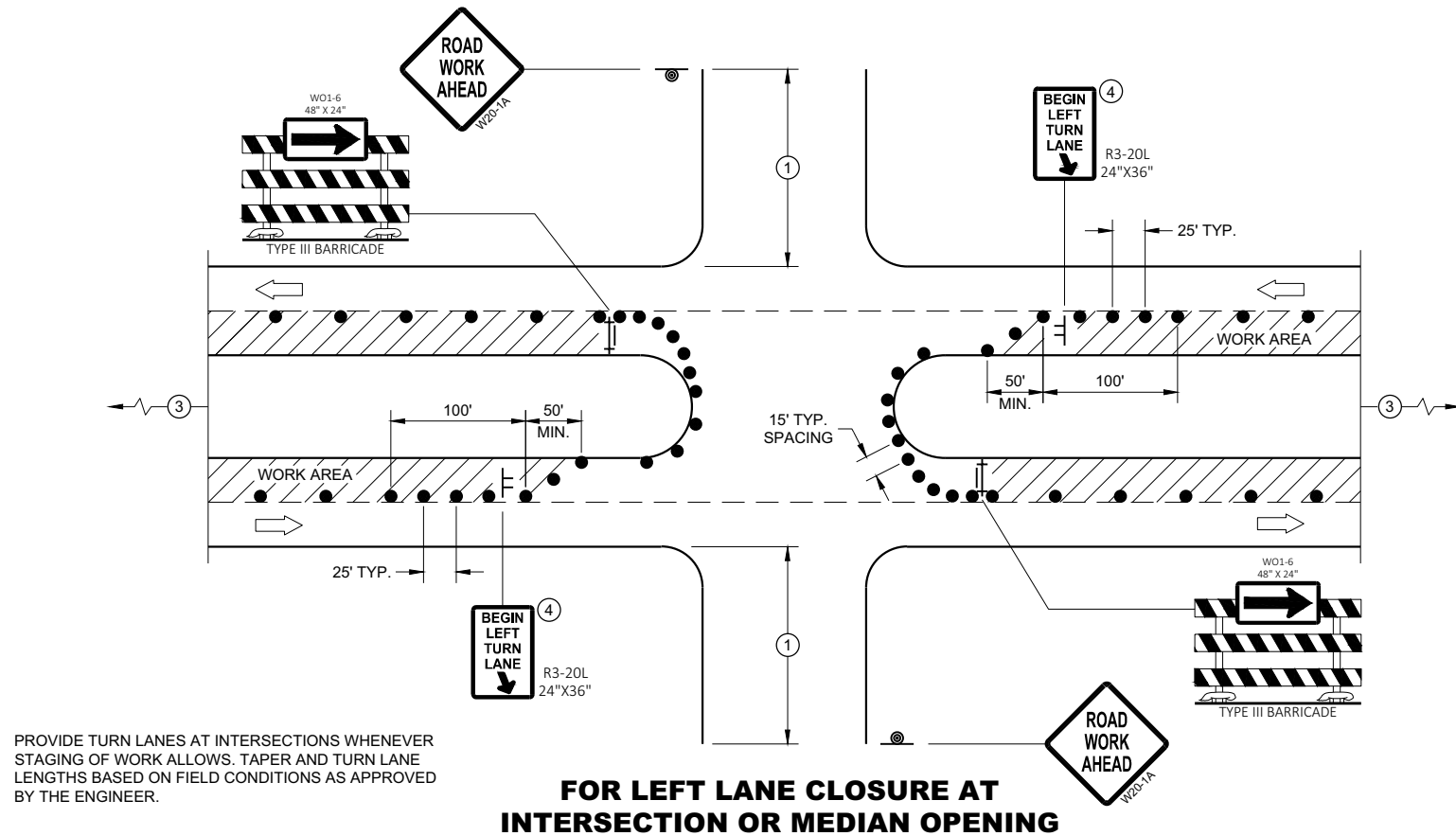


LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- ◇ ◇ FLAGS, 16" X 16" MIN., ORANGE
- ▨ WORK AREA

**TRAFFIC CONTROL,
INTERSECTION WITHIN SINGLE
RIGHT LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

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

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

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

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

- 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.
- ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS
- SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.
- MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

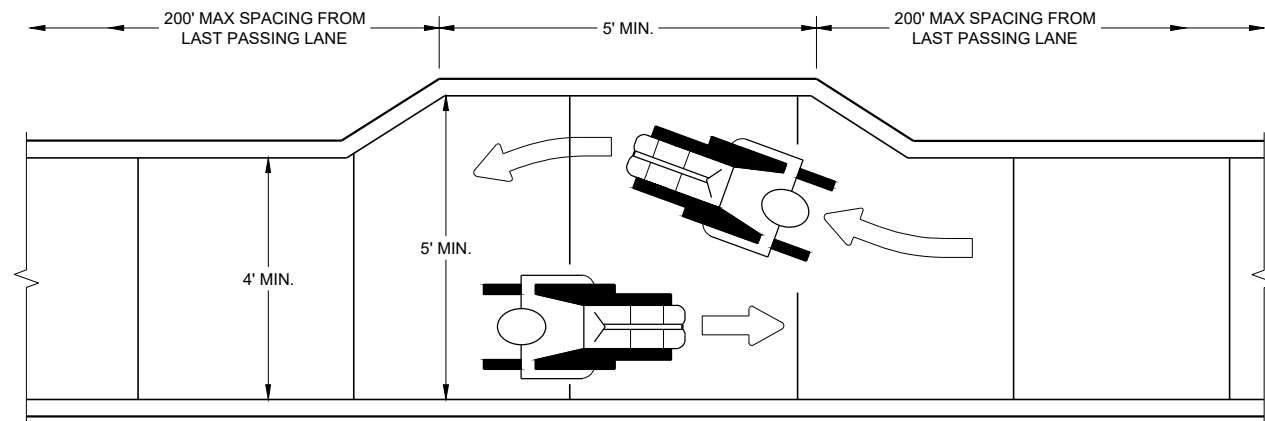
**FOR LEFT LANE CLOSURE AT INTERSECTION
OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)****TRAFFIC CONTROL,
INTERSECTION WITHIN SINGLE
LEFT LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

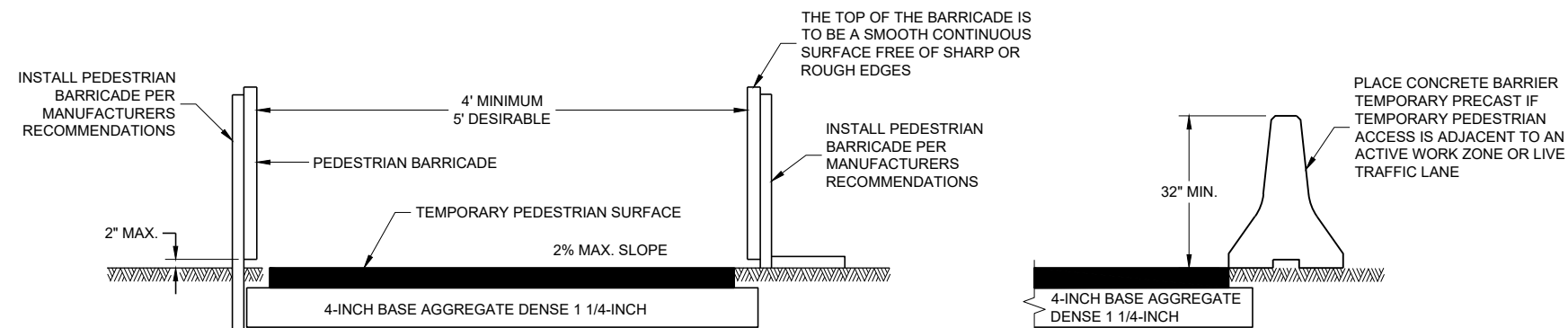
APPROVED
August 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA



NARROW SIDEWALK PASSING DETAIL



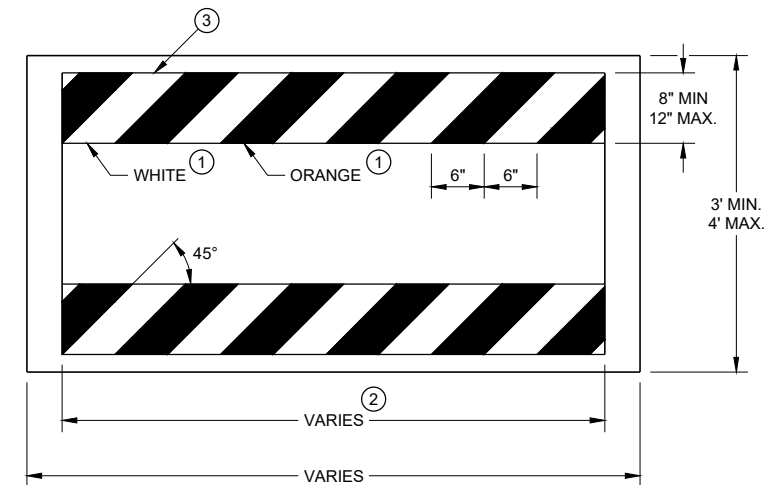
TEMPORARY PEDESTRIAN ACCESS

GENERAL NOTES

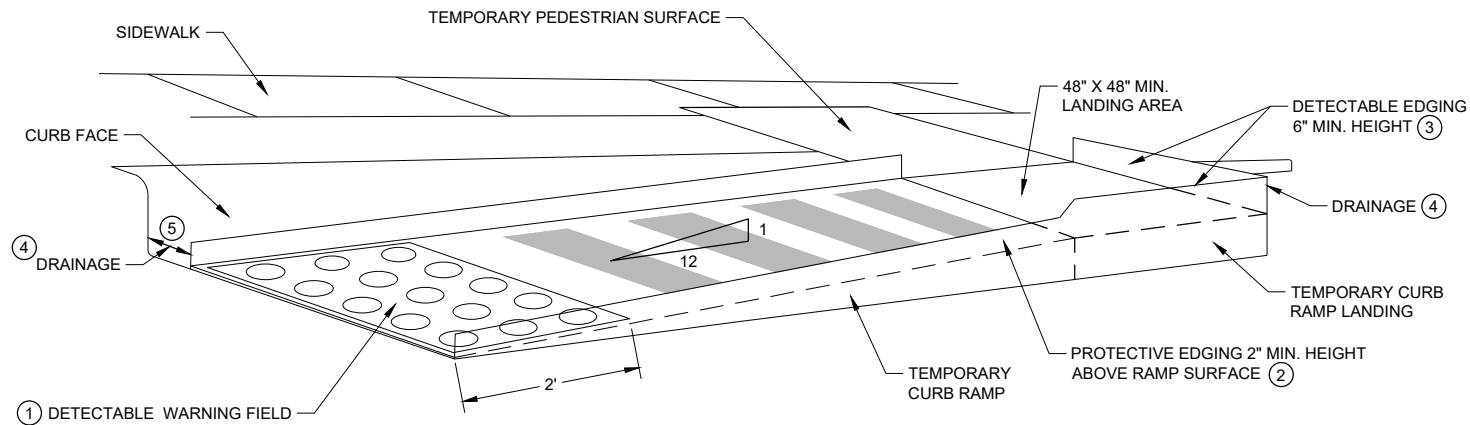
BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.
- ③ PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.

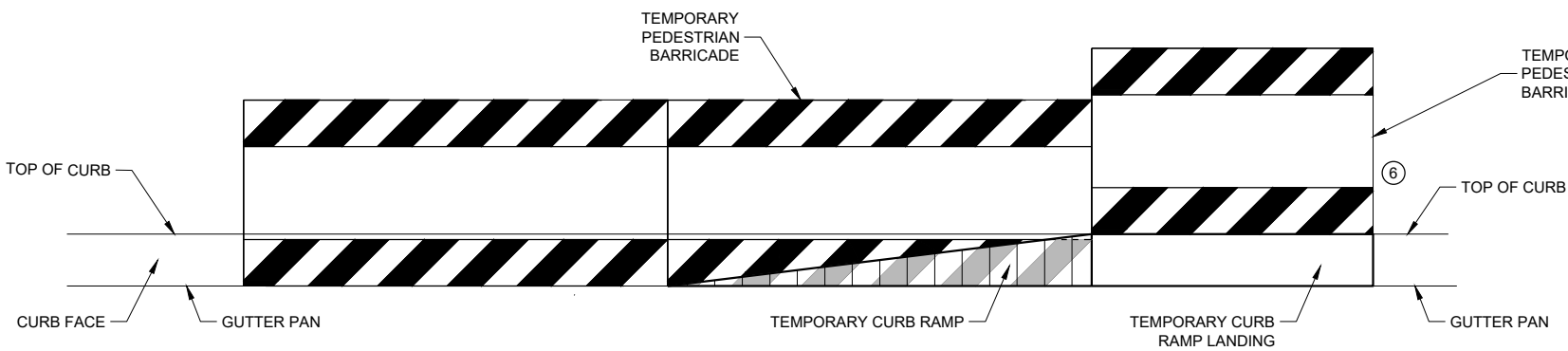
★ USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.



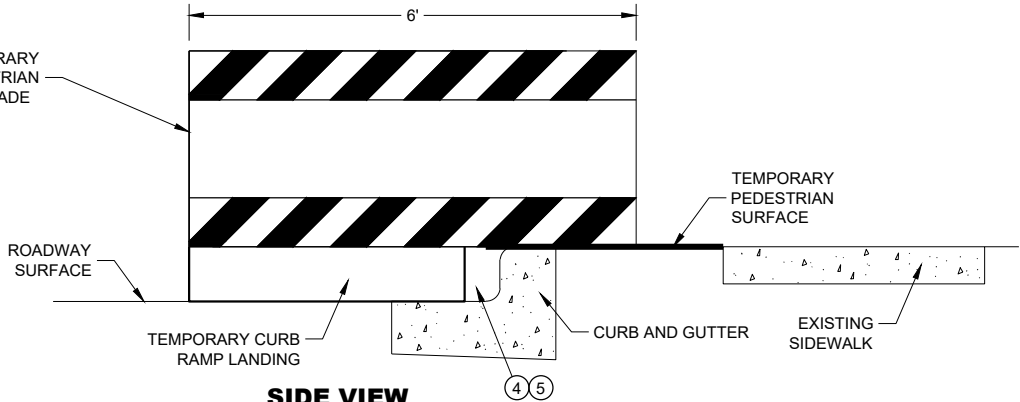
TEMPORARY PEDESTRIAN BARRICADE*



PERSPECTIVE VIEW



FRONT VIEW



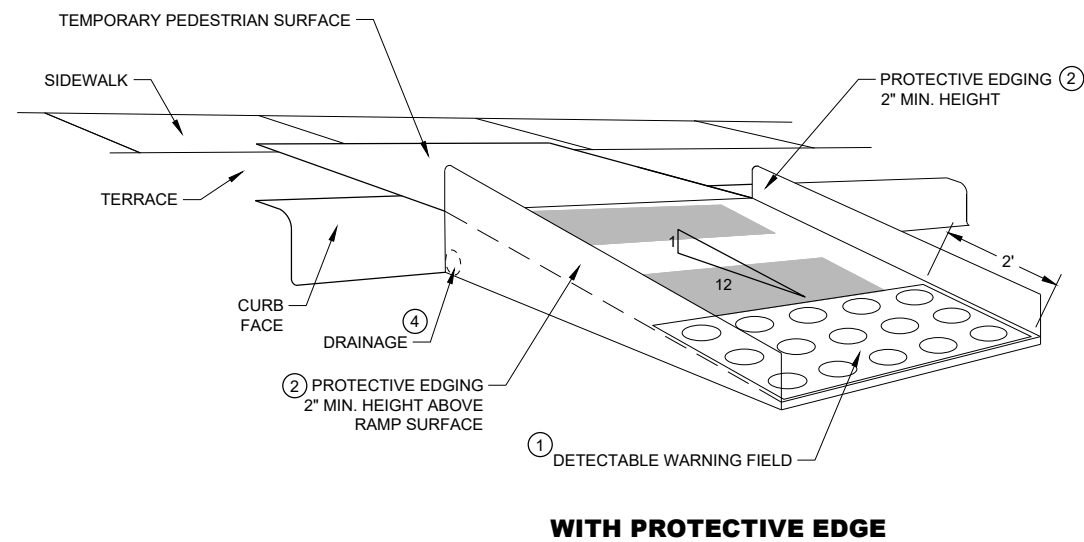
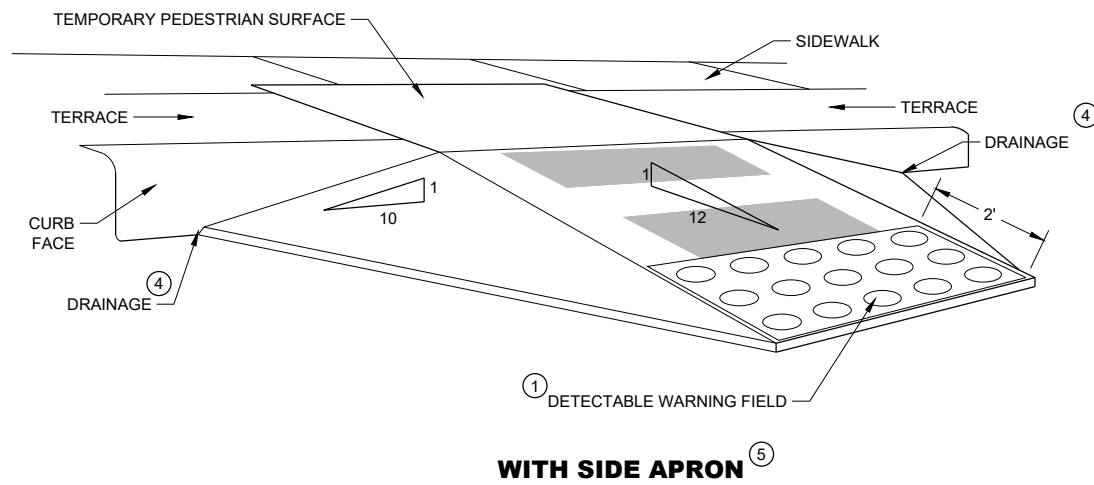
SIDE VIEW

TEMPORARY CURB RAMP PARALLEL TO CURB

GENERAL NOTES

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

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



TEMPORARY CURB RAMP PERPENDICULAR TO CURB

GENERAL NOTES

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

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

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

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

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

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

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

**TRAFFIC CONTROL,
PEDESTRIAN ACCOMMODATION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC

GENERAL NOTES

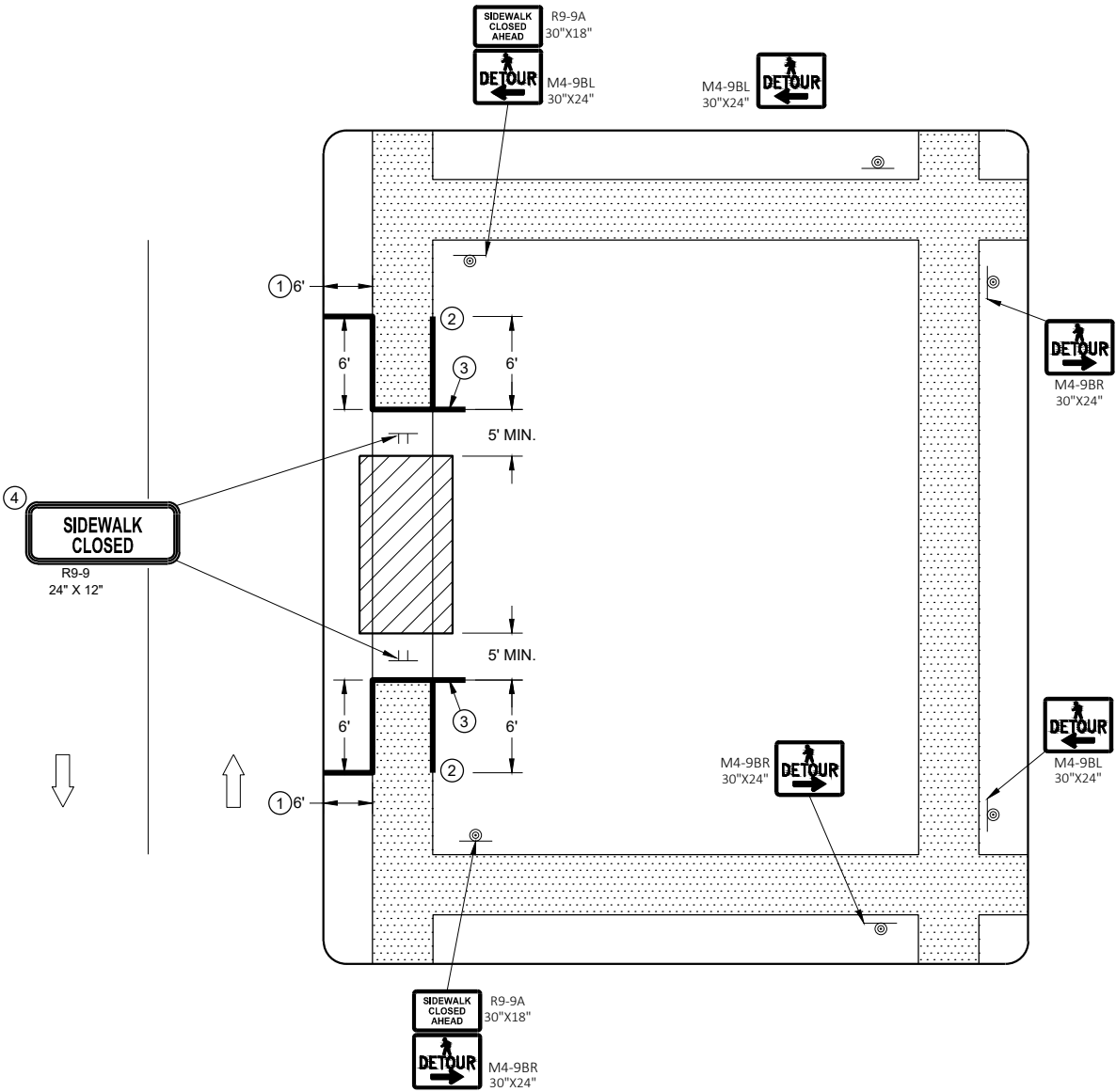
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

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

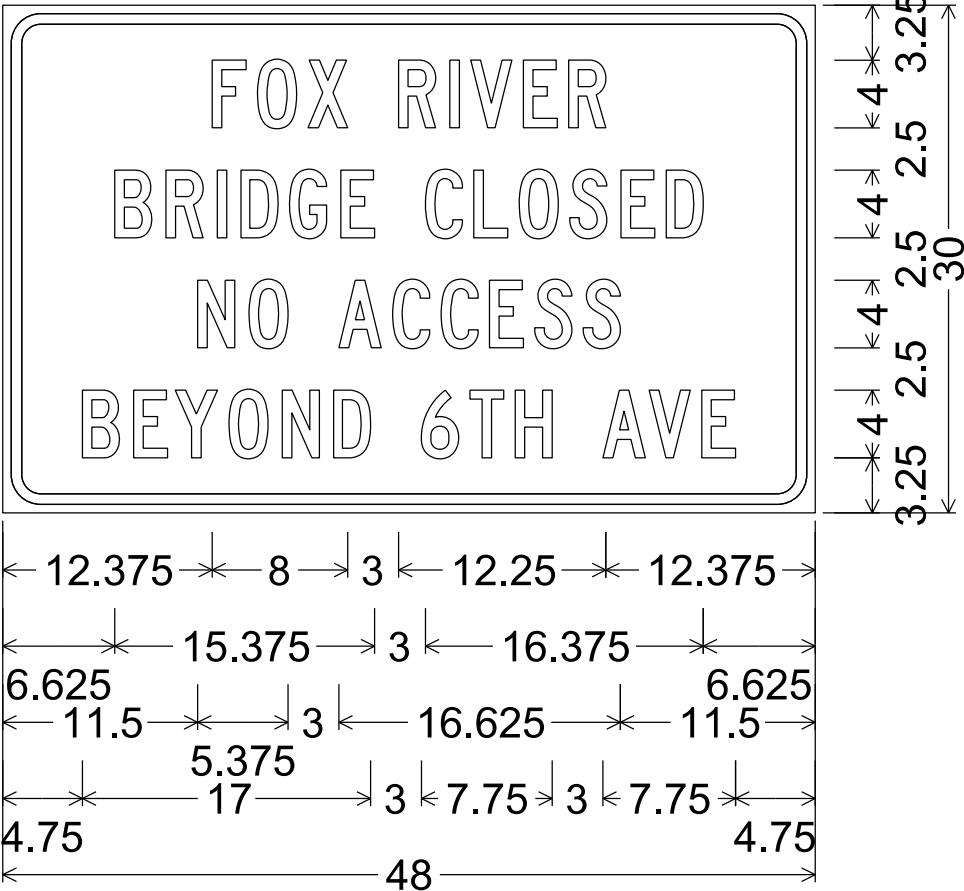
PLACE TEMPORARY PEDESTRIAN BARRICADE TO FIT FIELD CONDITIONS, AVOIDING CONFLICTS WITH DRIVEWAYS AND OTHER EXISTING FEATURES.

- 1 IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
- 2 PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
- 3 IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
- 4 MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.



SIDEWALK DETOUR, SIDEWALK ONLY ON ONE SIDE

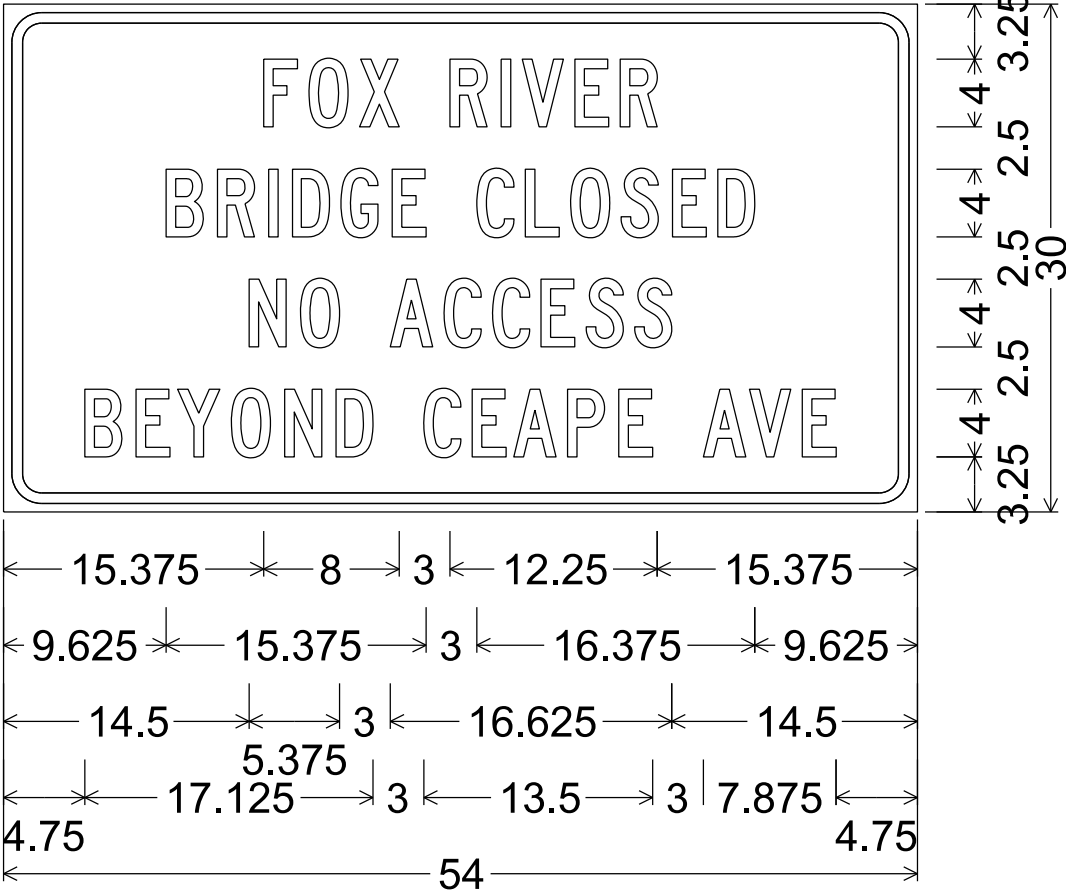
7



2.250" Radius, 0.625" Border, 0.500" Indent

NOTES

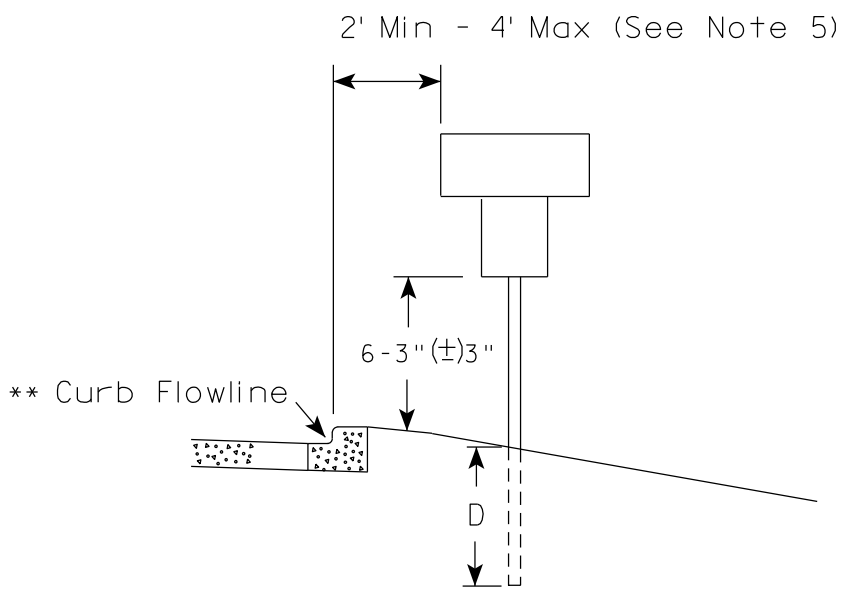
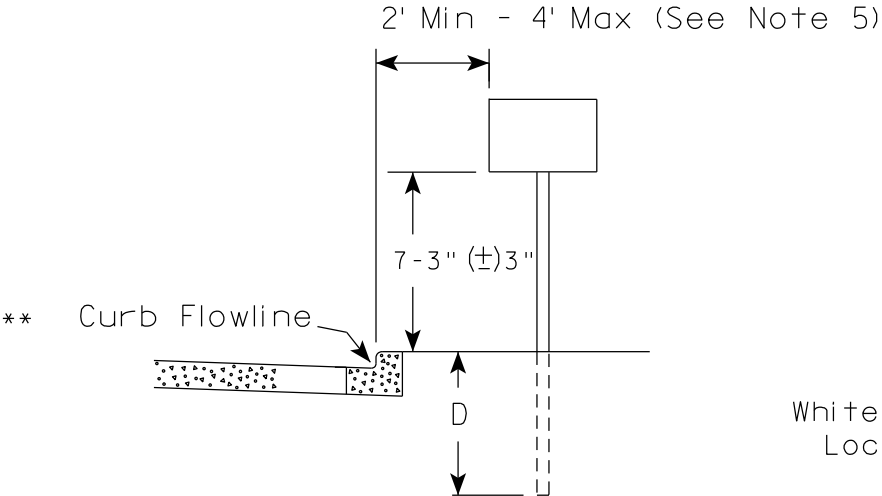
- 1. Fixed Message Signs Type II - Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - C



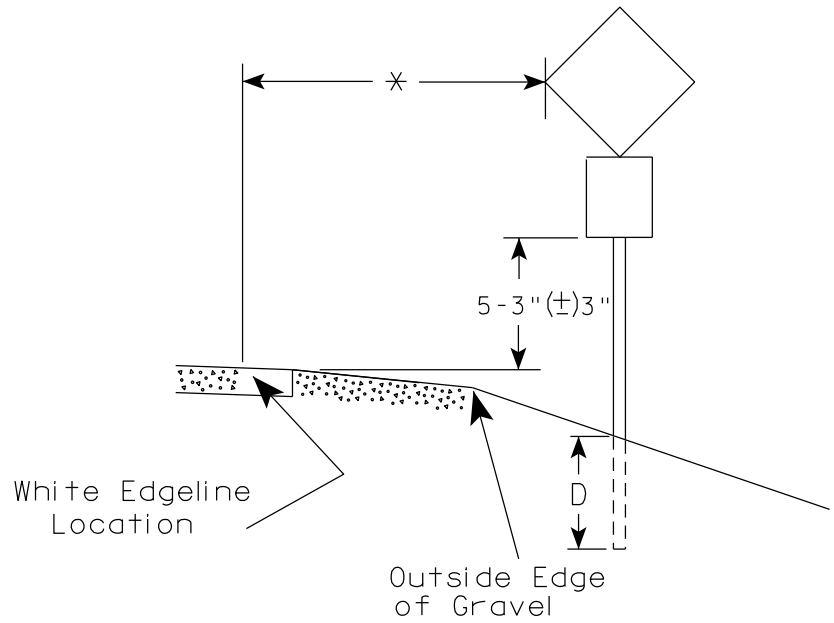
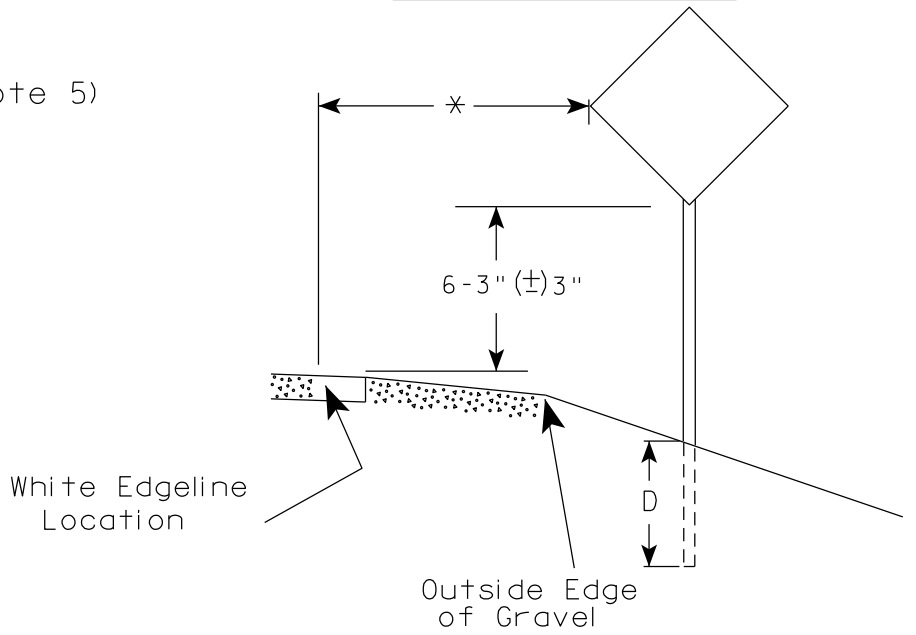
2.250" Radius, 0.625" Border, 0.500" Indent

7

URBAN AREA



RURAL AREA (See Note 2)



POST EMBEDMENT DEPTH

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

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

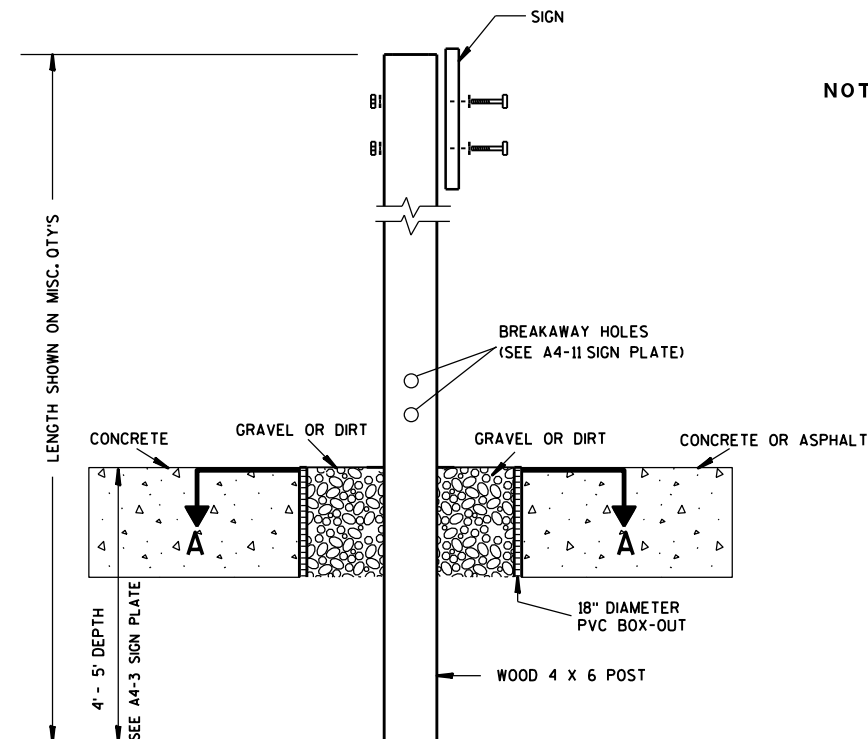
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

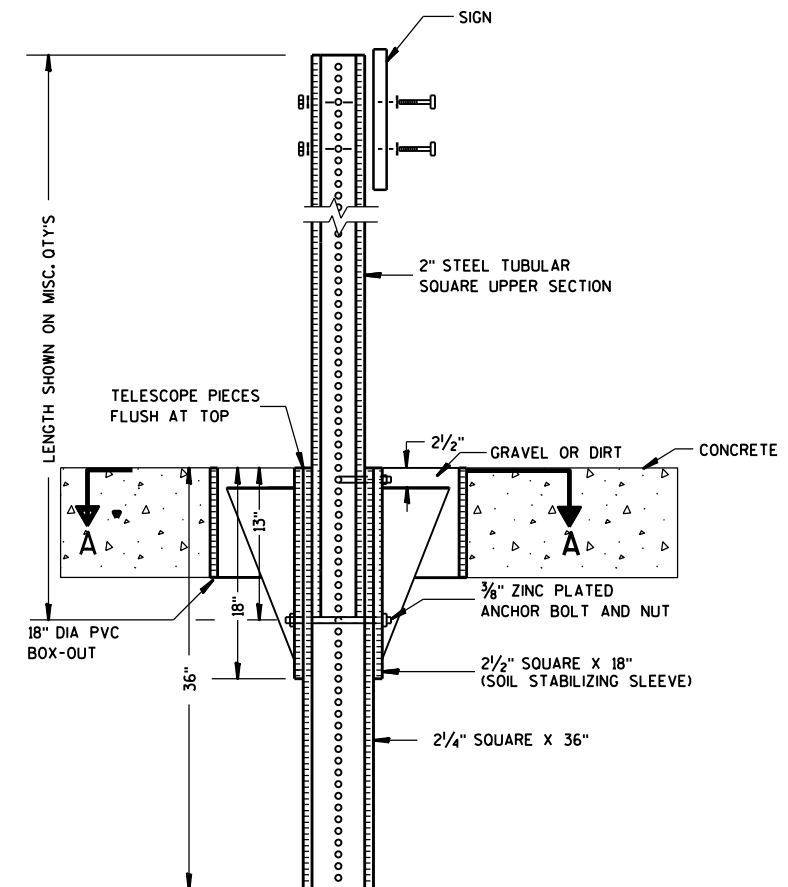
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

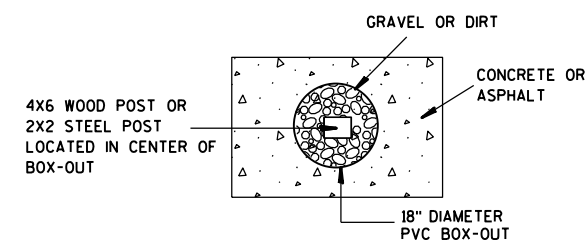
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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:

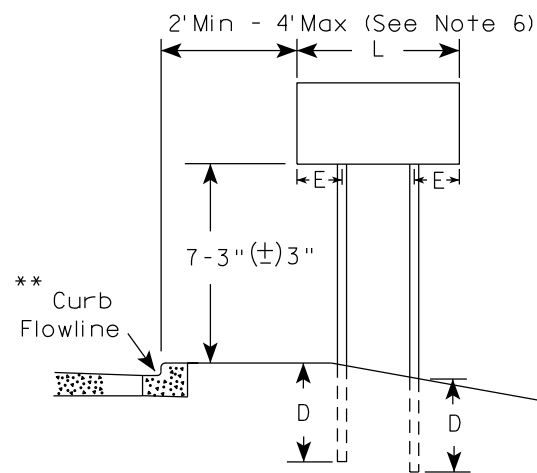
HWY:

COUNTY:

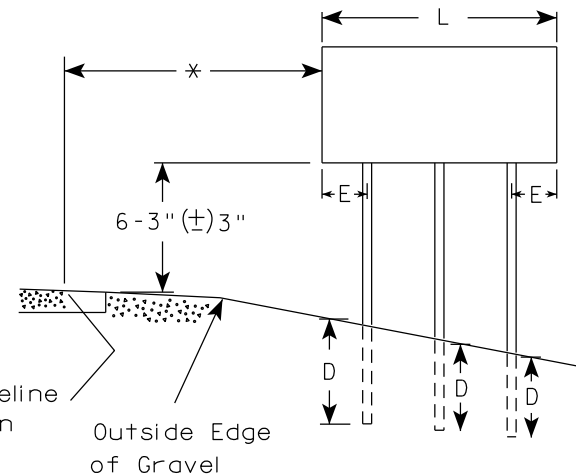
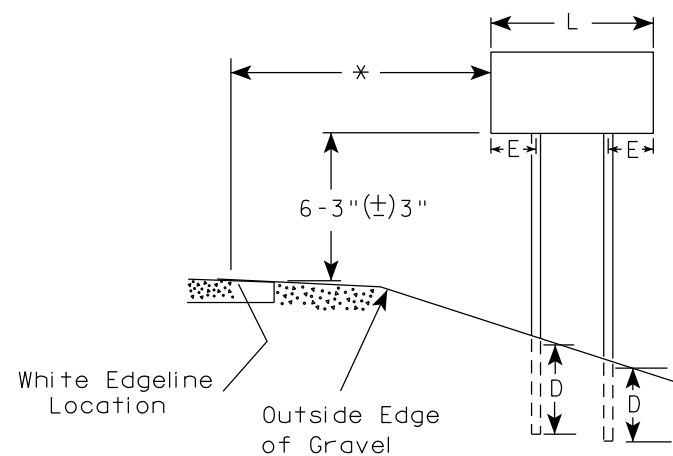
SHEET NO:

E

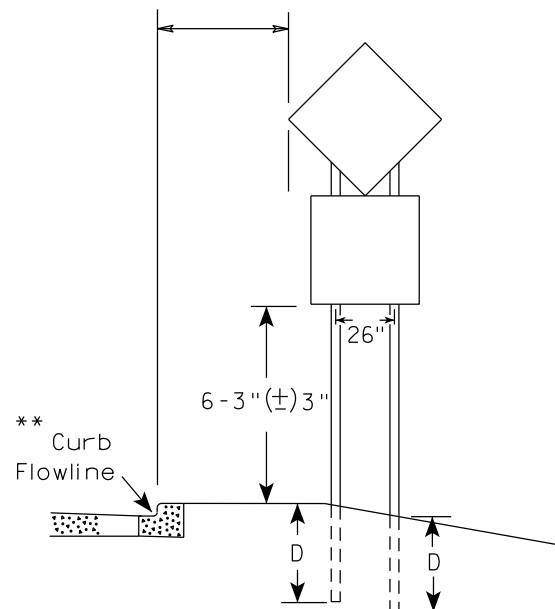
URBAN AREA



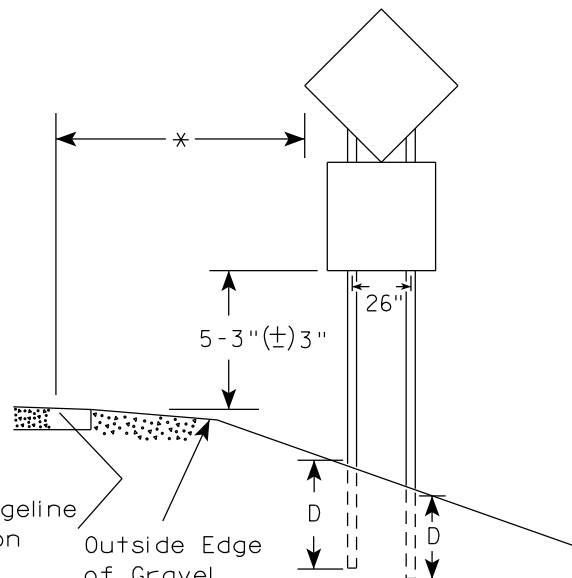
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

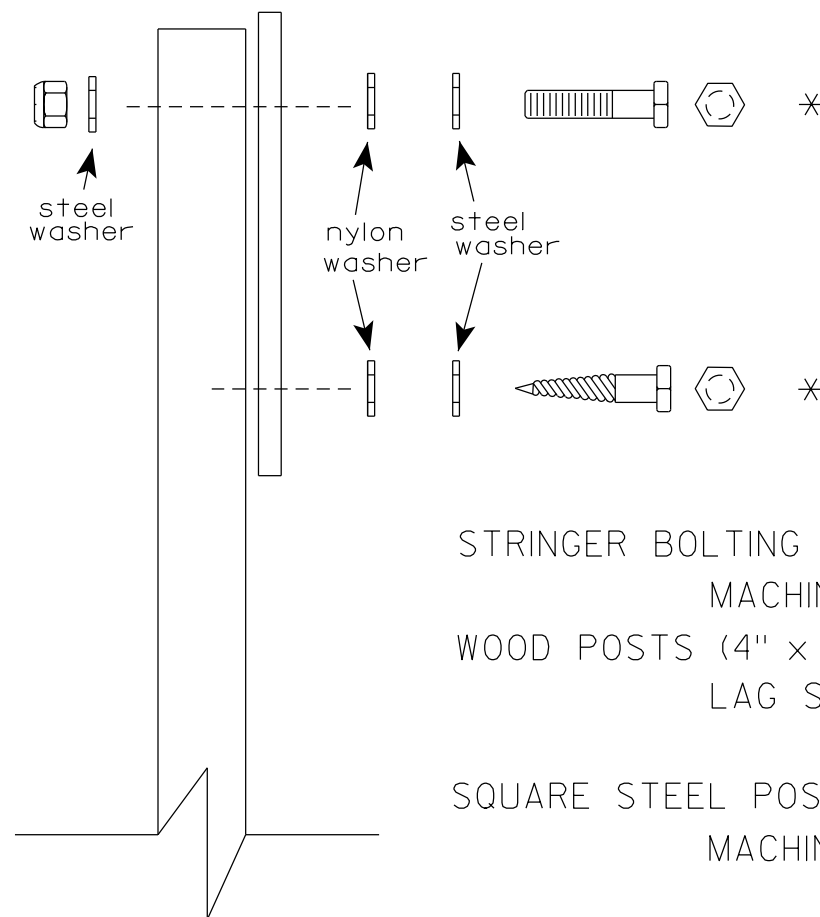
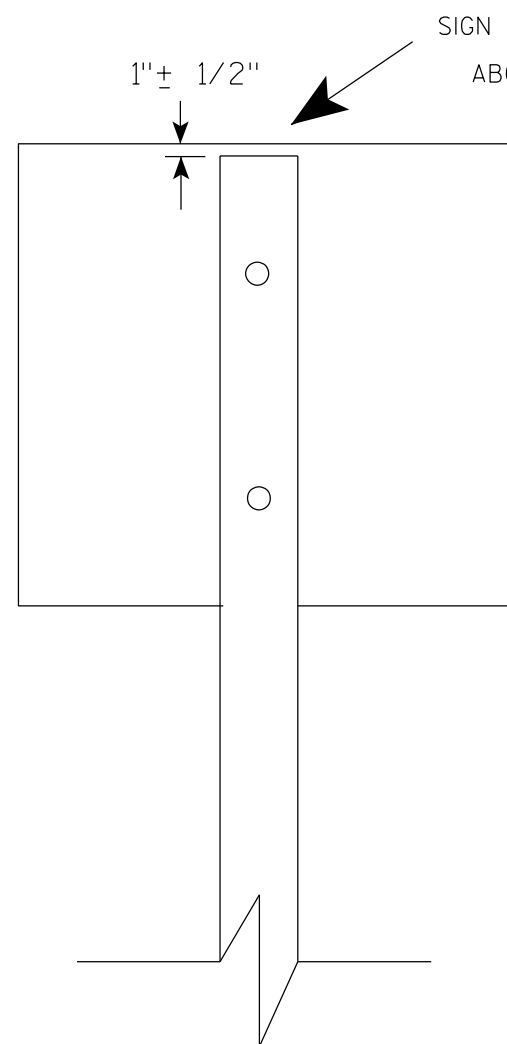
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 12/6/23

PLATE NO. A4-4.16



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

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

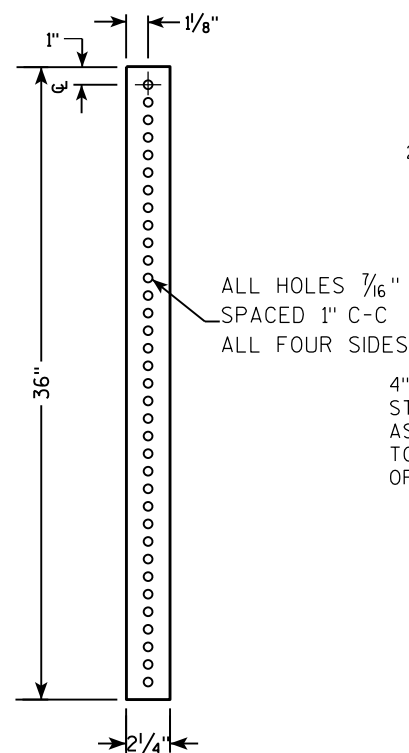
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

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

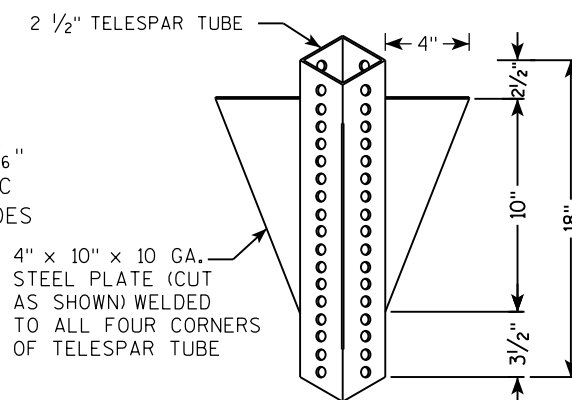
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

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

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

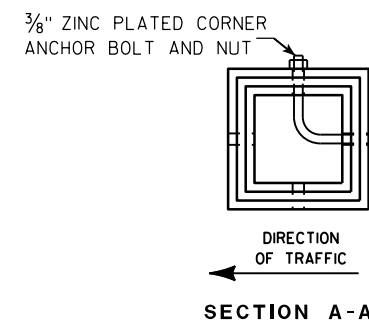


**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**

[illegible]

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY:

- Dimensions:**
 - Overall height: LENGTH SHOWN ON MISC. Q'TYS
 - 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
 - $\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT
 - 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
 - 2 1/4" SQUARE X 36"
 - TELESCOPE PIECES FLUSH AT TOP



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:

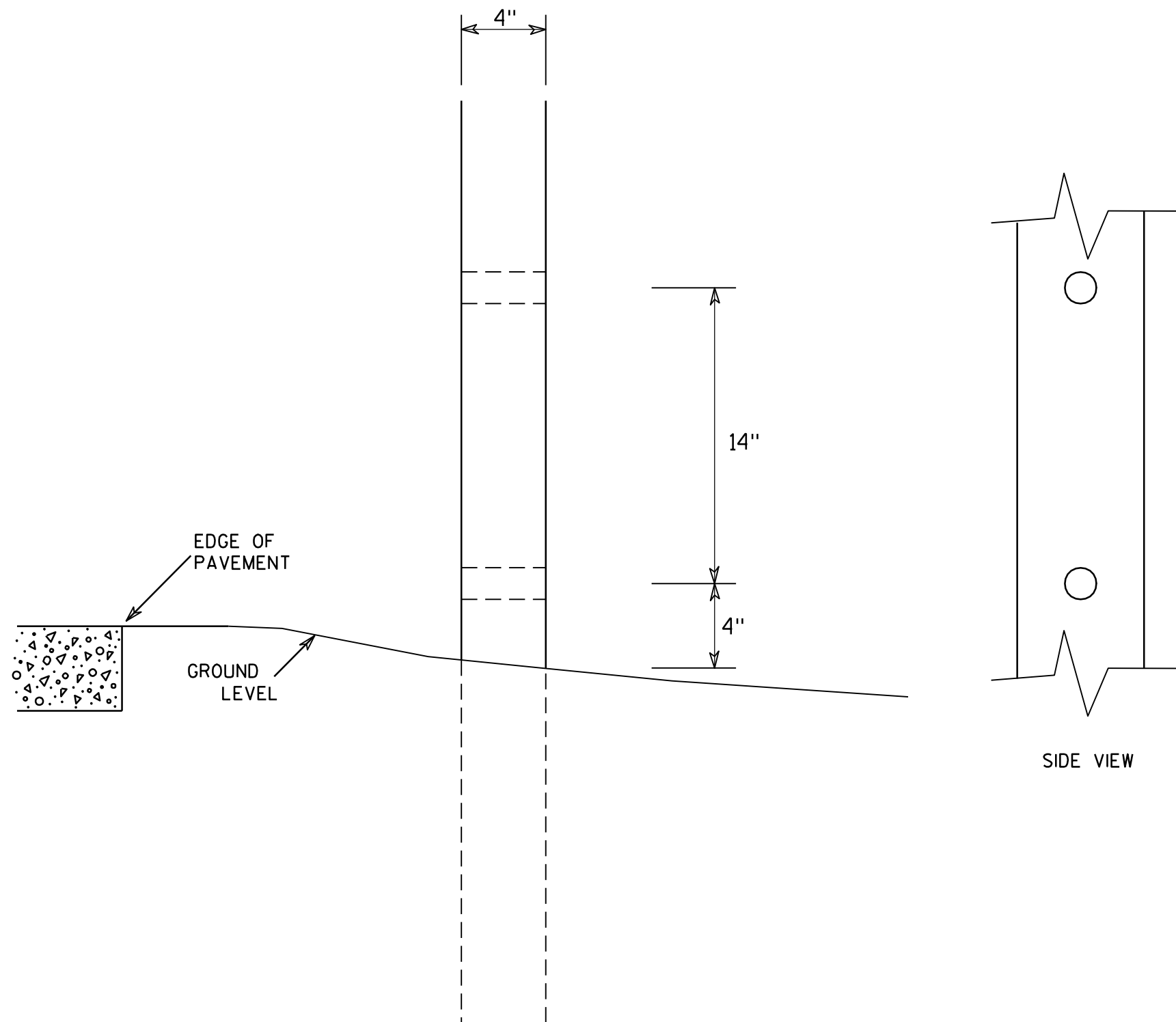
HWY:

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:

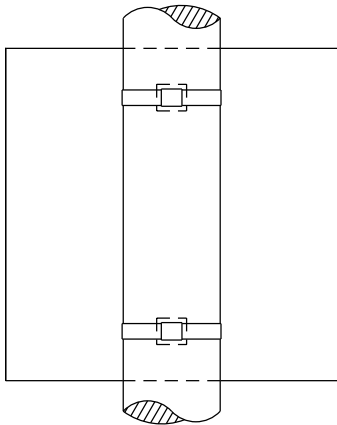
COUNTY:

SHEET NO:

E

BANDING

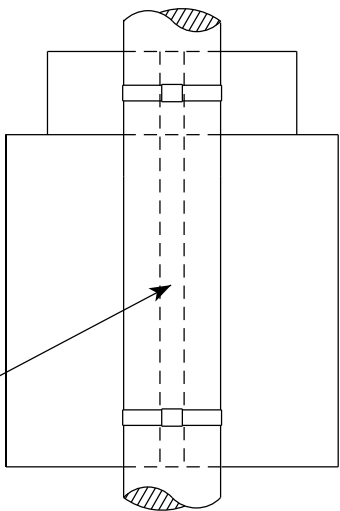
SINGLE SIGN



GENERAL NOTES

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

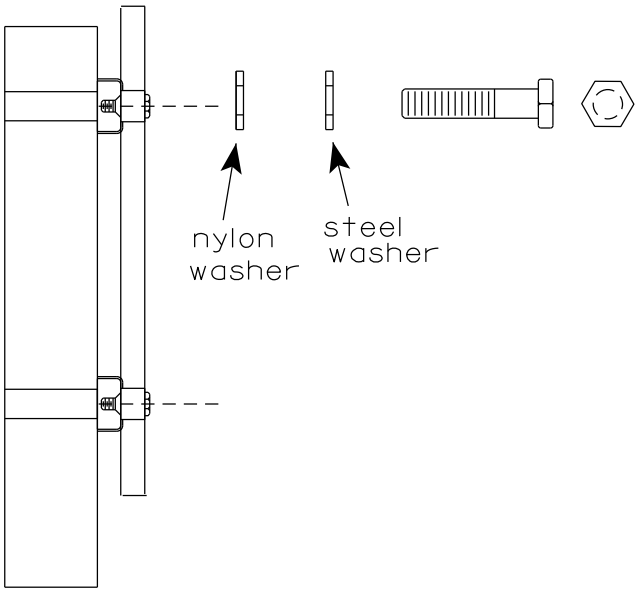
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET

SEE DETAIL B

WASHER PLACEMENT



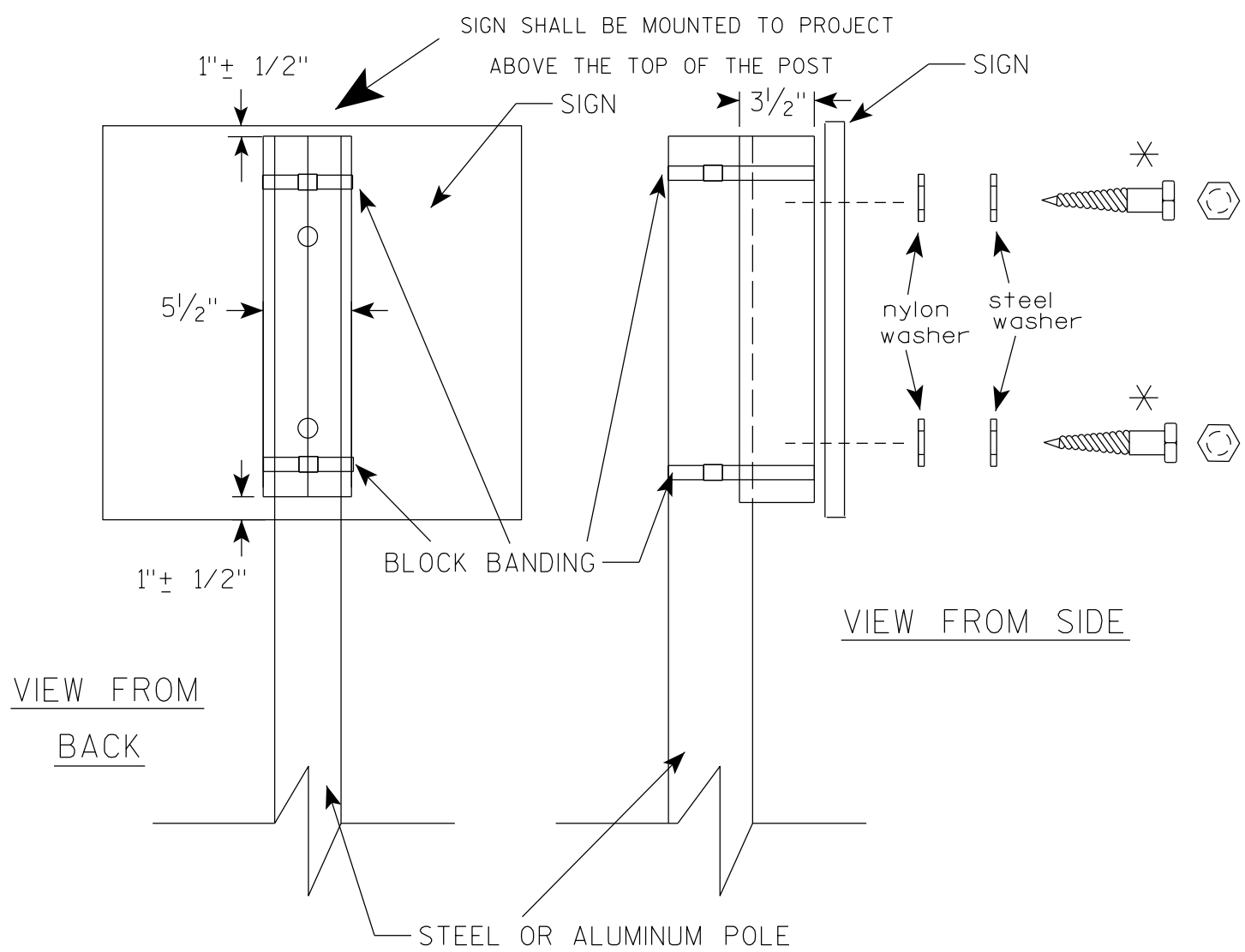
WASHERS (ALL POSTS) -
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

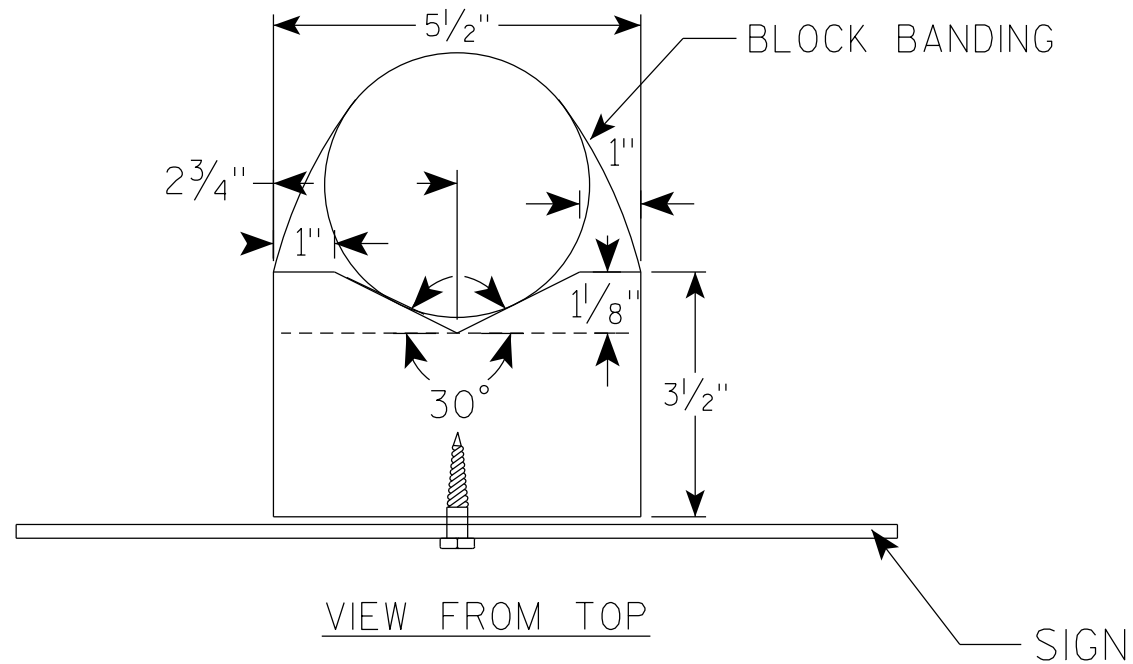
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

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

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

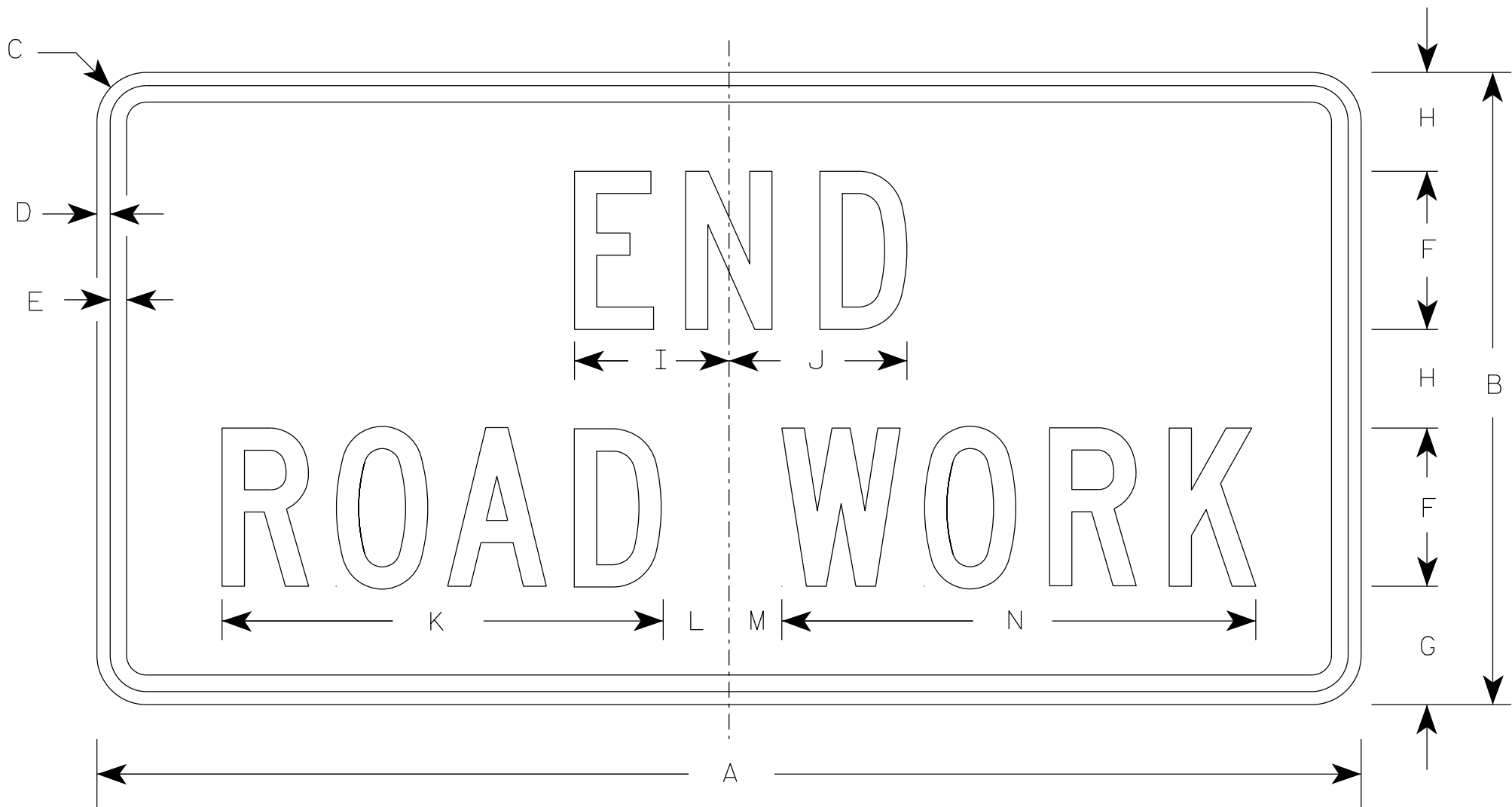
PROJECT NO:

SHEET NO:

E

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.



G20-2A

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

STANDARD SIGN

G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/26/2023 PLATE NO. G20-2A.10

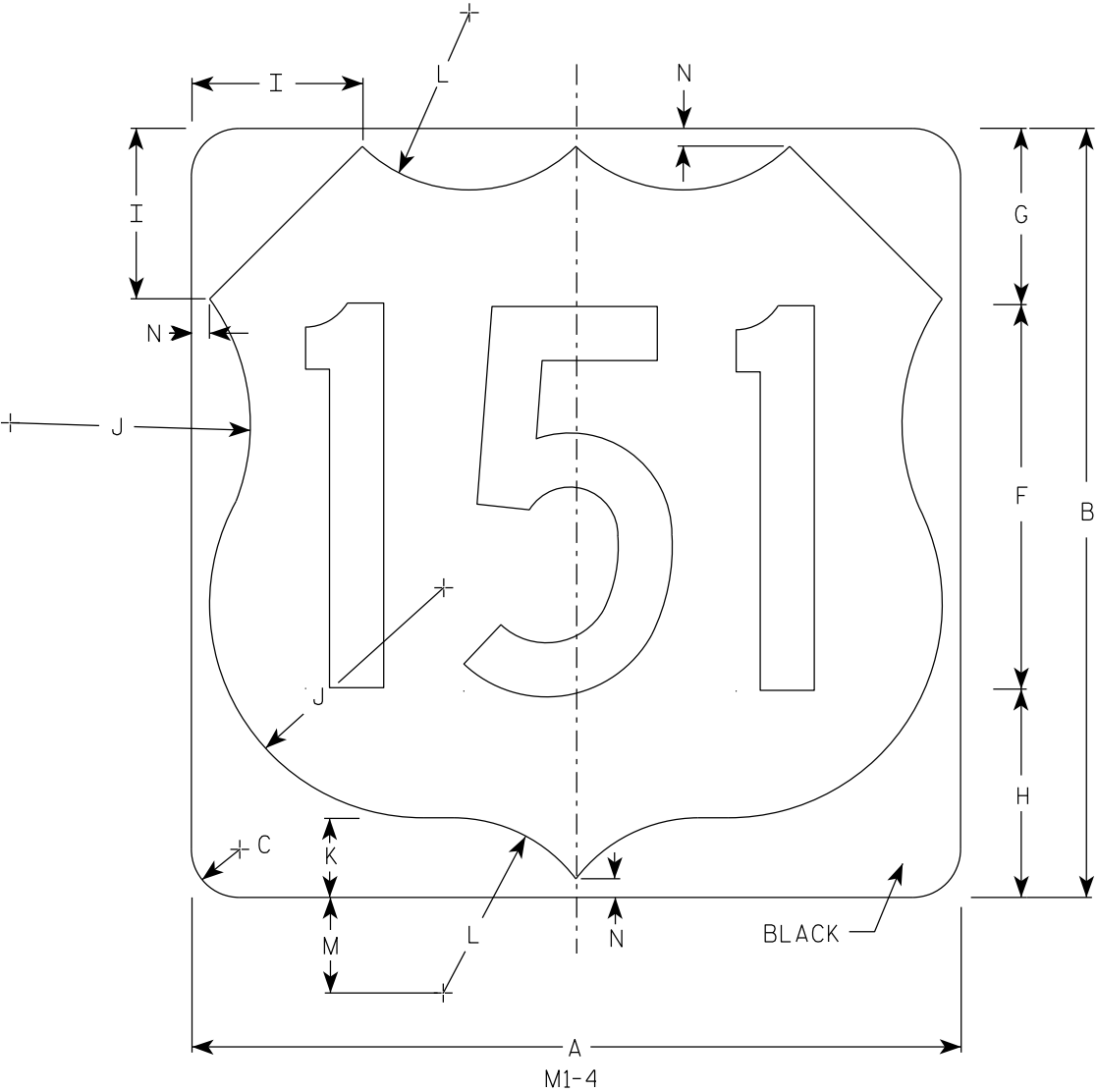
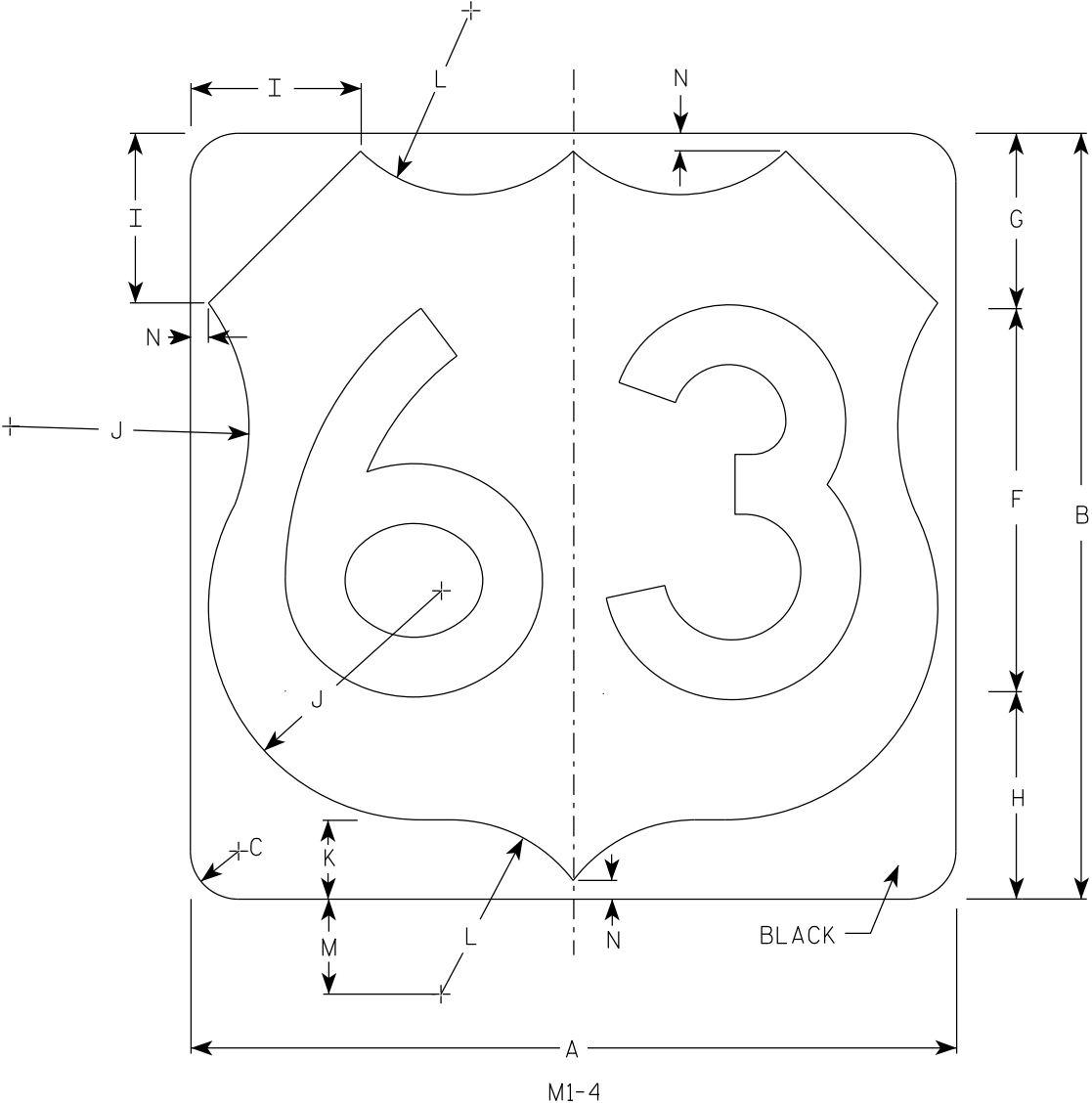
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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

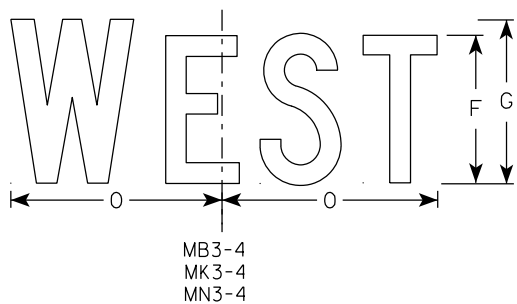
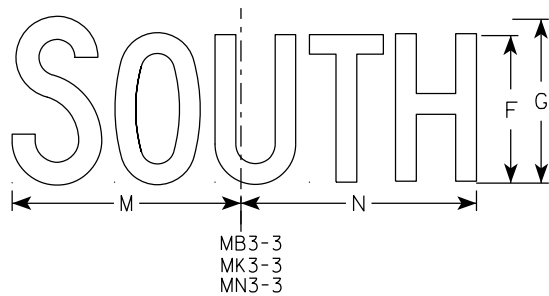
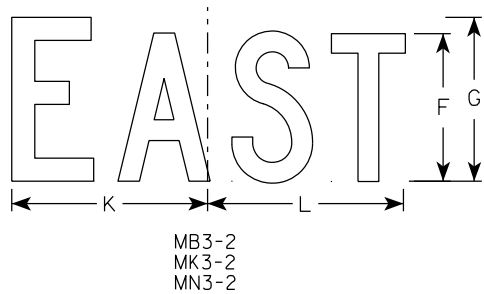
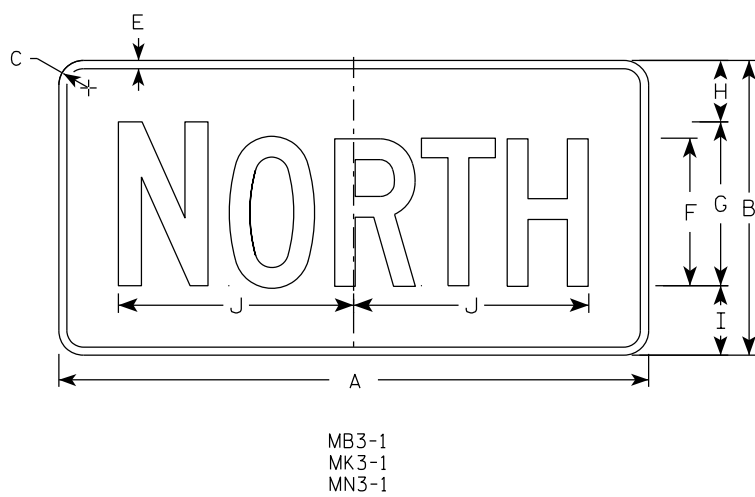
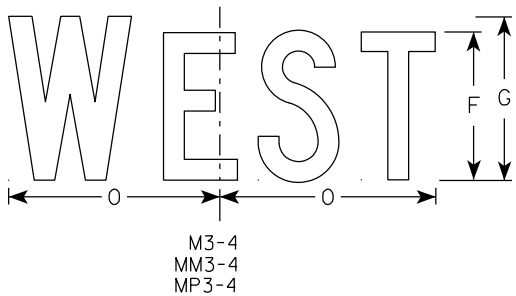
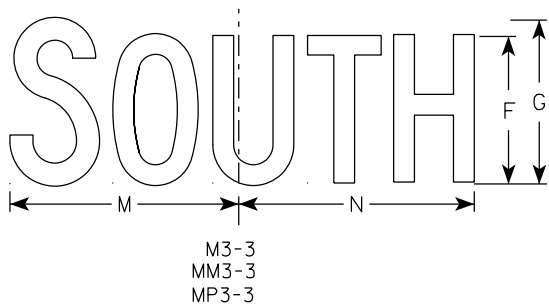
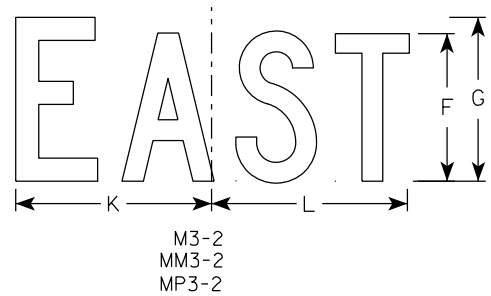
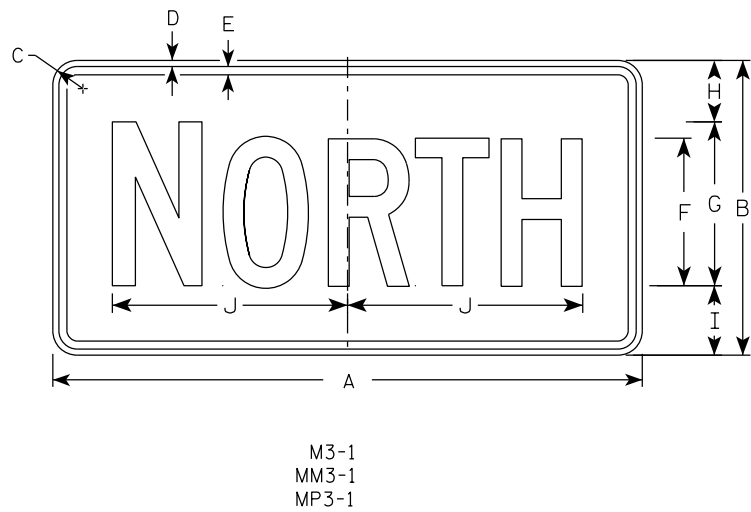
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0
2M	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4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

USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 12/20/22 PLATE NO. M1-4.11



NOTES

1. All Signs Type II - Type H Reflective
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																											
2S	24	12	1 1/2	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												2.00
2M	24	12	1 1/2	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												2.00
3	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
4	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
5	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGNS
M3-1 THRU M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

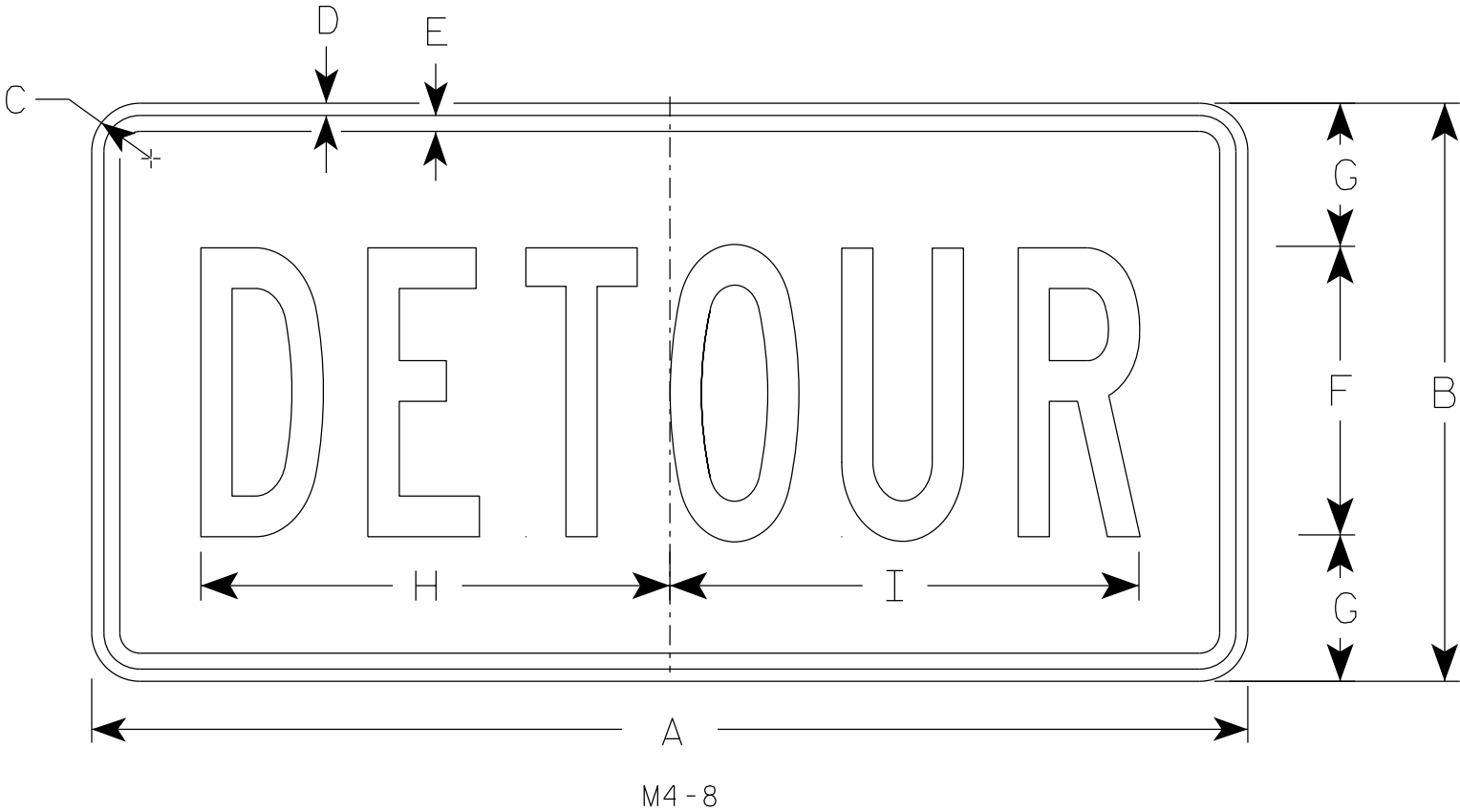
DATE 2/8/2023 PLATE NO. M3-1.15

7

7

NOTES

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



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

STANDARD SIGN

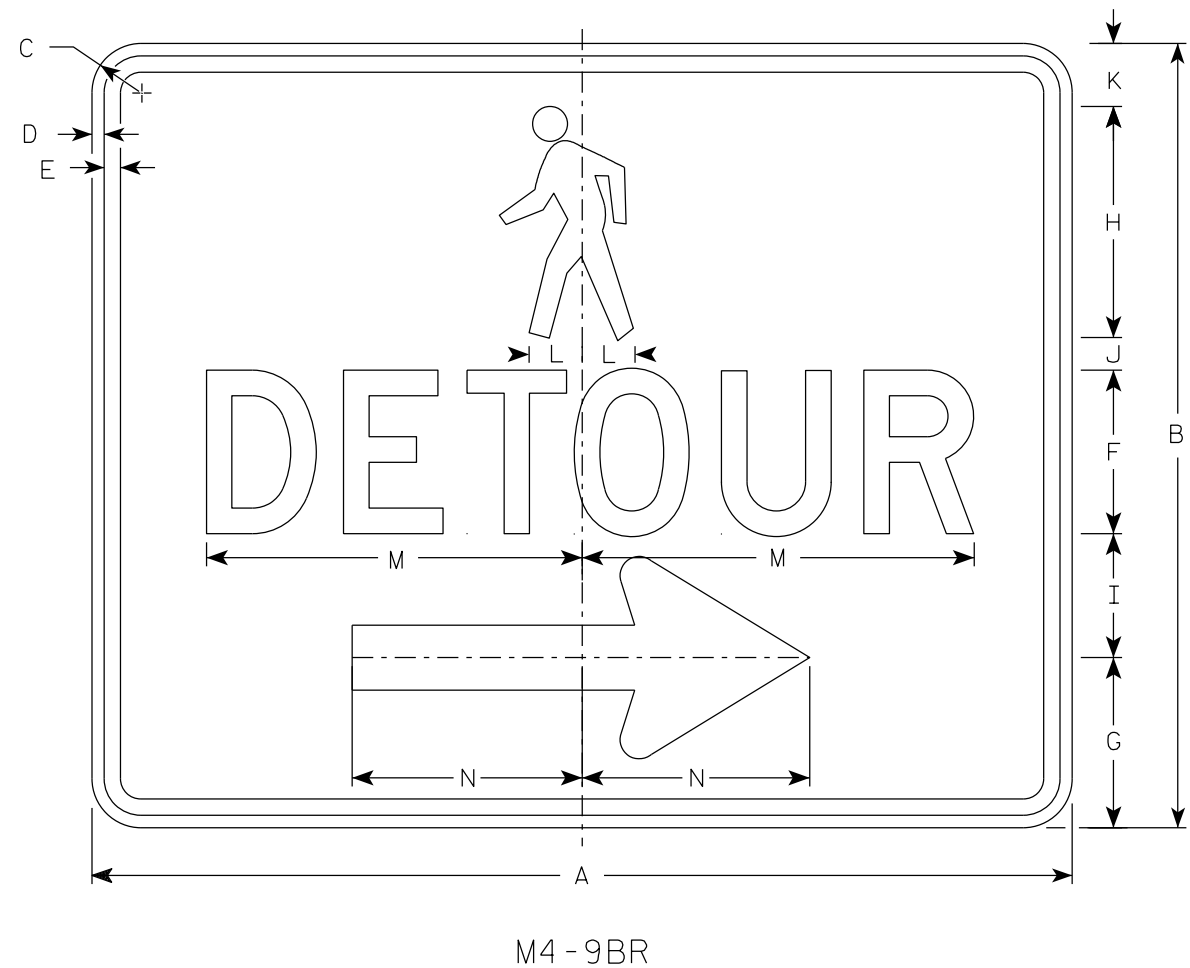
M4 - 8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

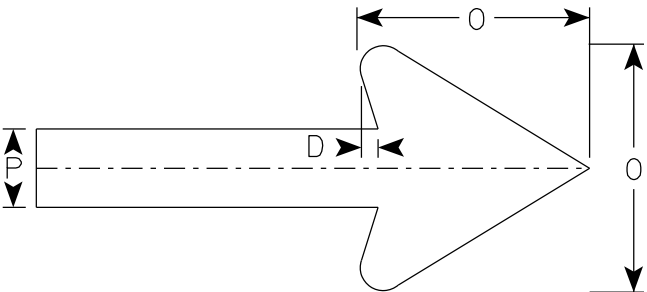
DATE 2/9/2023 PLATE NO. M4-8.4

7



M4-9BR

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



Arrow Detail

7

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

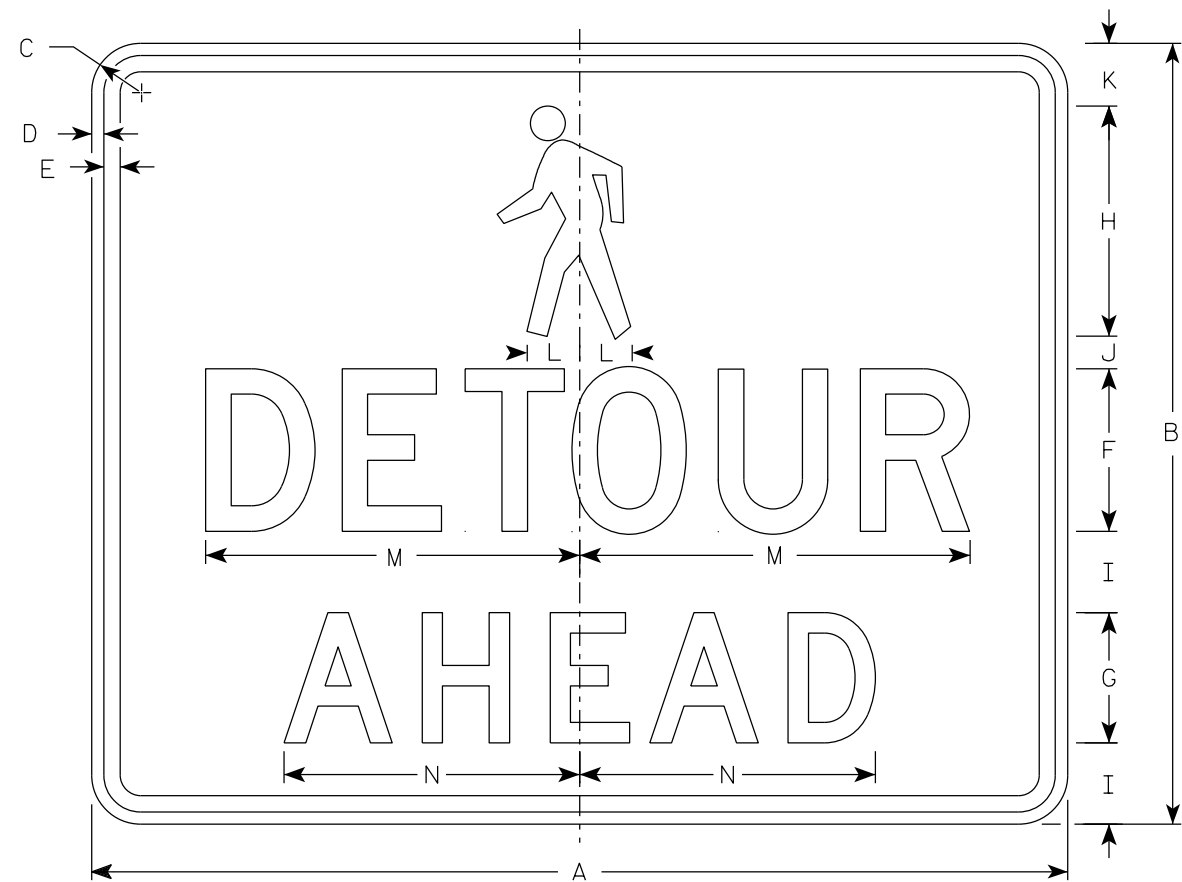
STANDARD SIGN
M4-9B L&R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9B.4

7



M4 - 9BA

NOTES

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

7

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

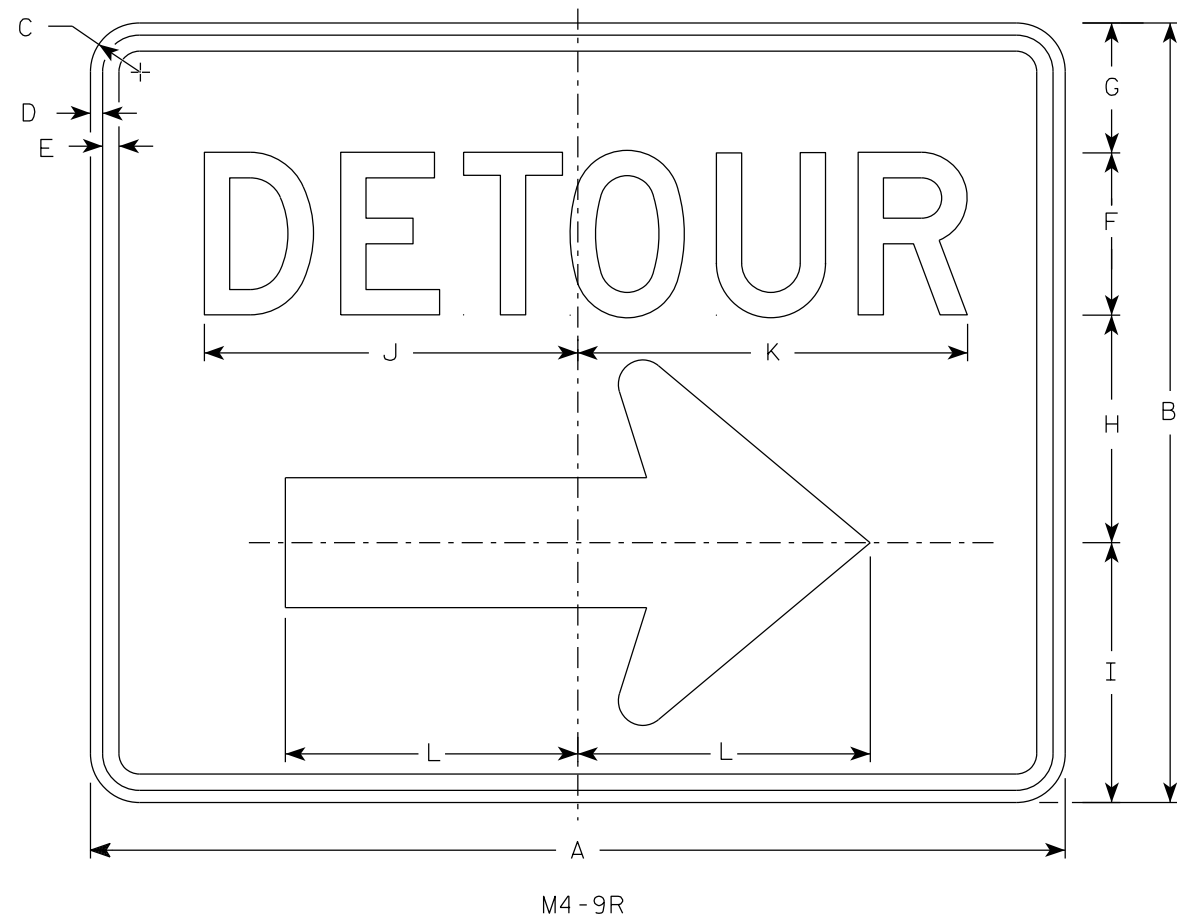
STANDARD SIGN

M4 - 9BA

WISCONSIN DEPT OF TRANSPORTATION

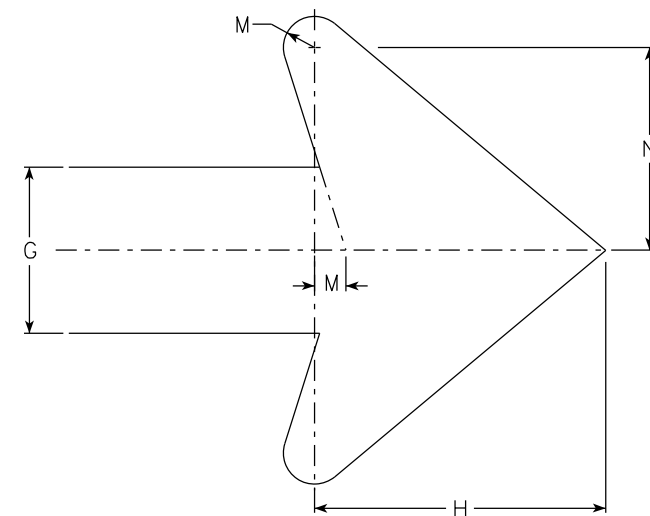
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9BA.3



NOTES

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



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																											
2	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
2M	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

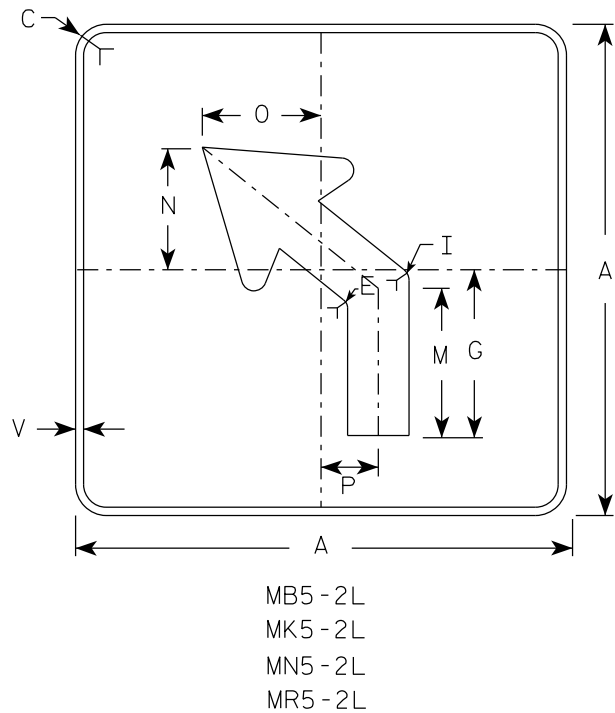
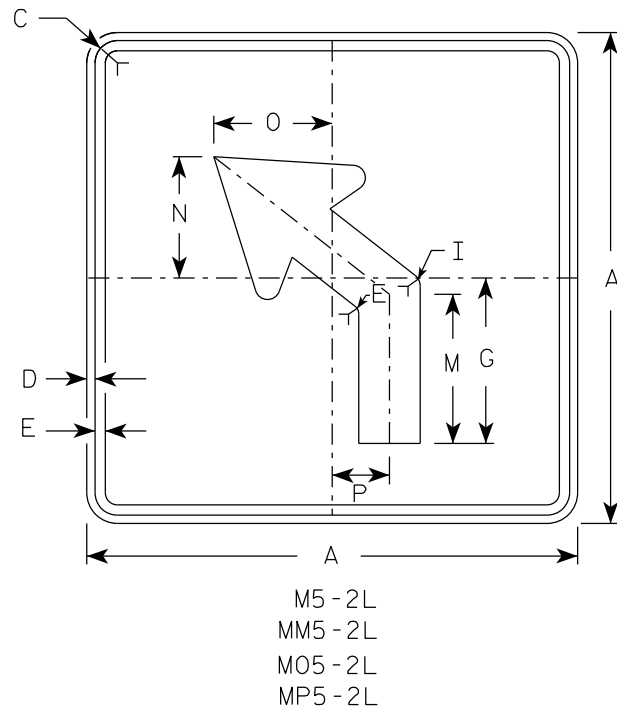
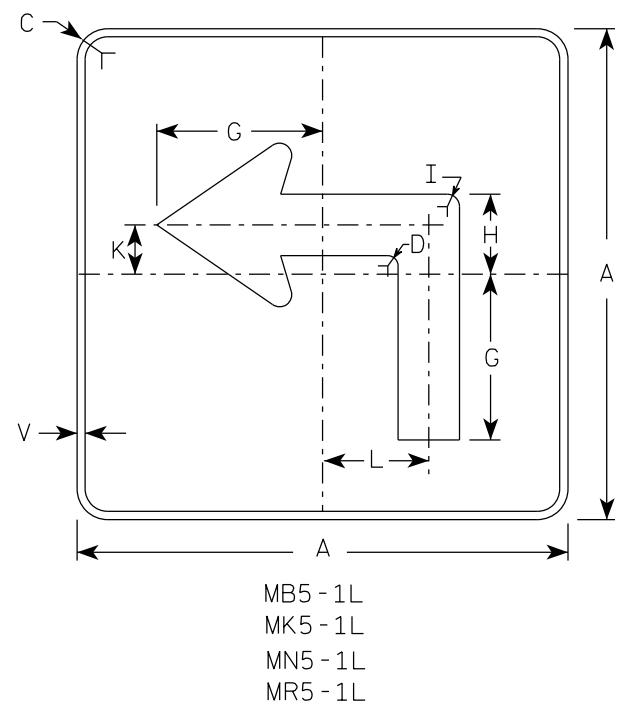
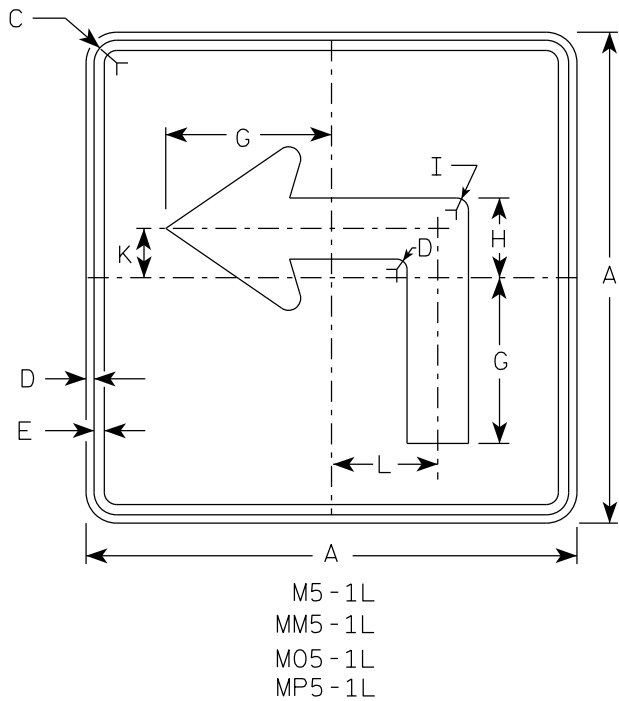
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9R.6

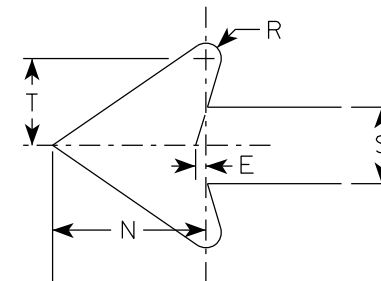
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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NOTES

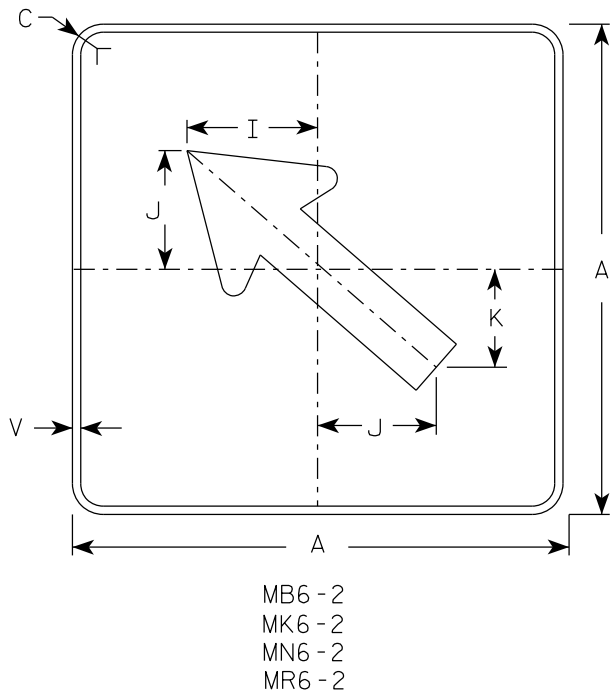
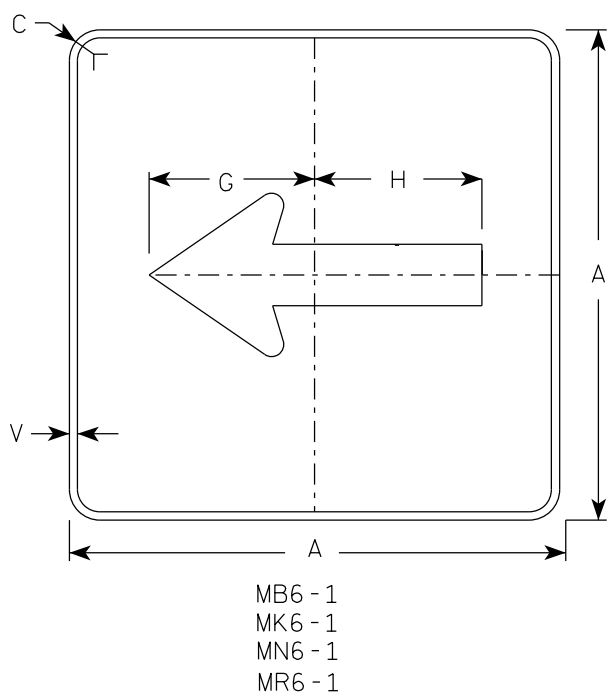
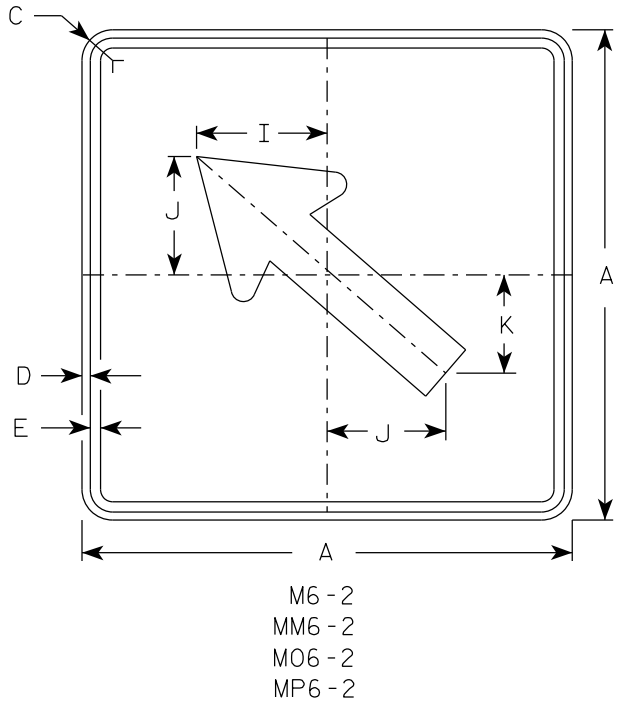
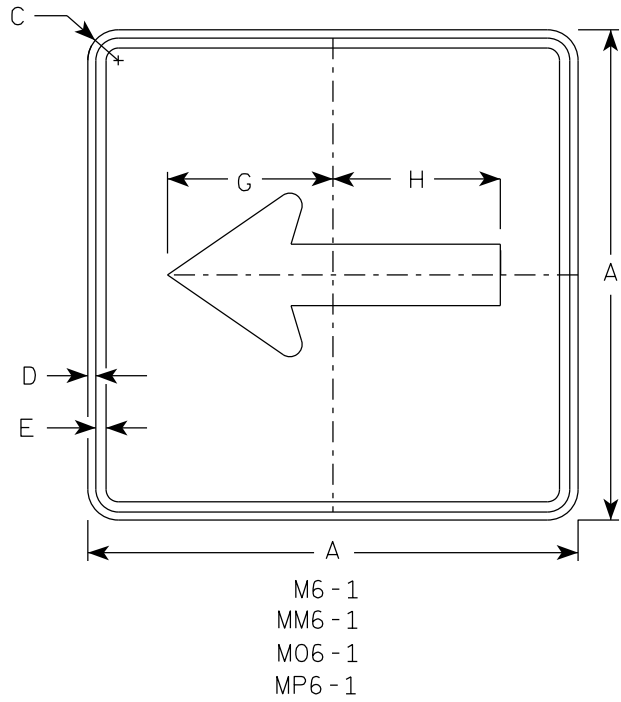
- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- | | | |
|-----------|-------|---|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

ARROW DETAIL

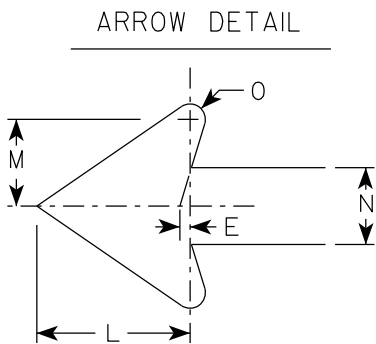


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2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

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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- NOTES**
- Signs are Type II - Type H Reflective except as Shown
 - Color:
Background - See note 4
Message - See note 4
 - Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 - M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow



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

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

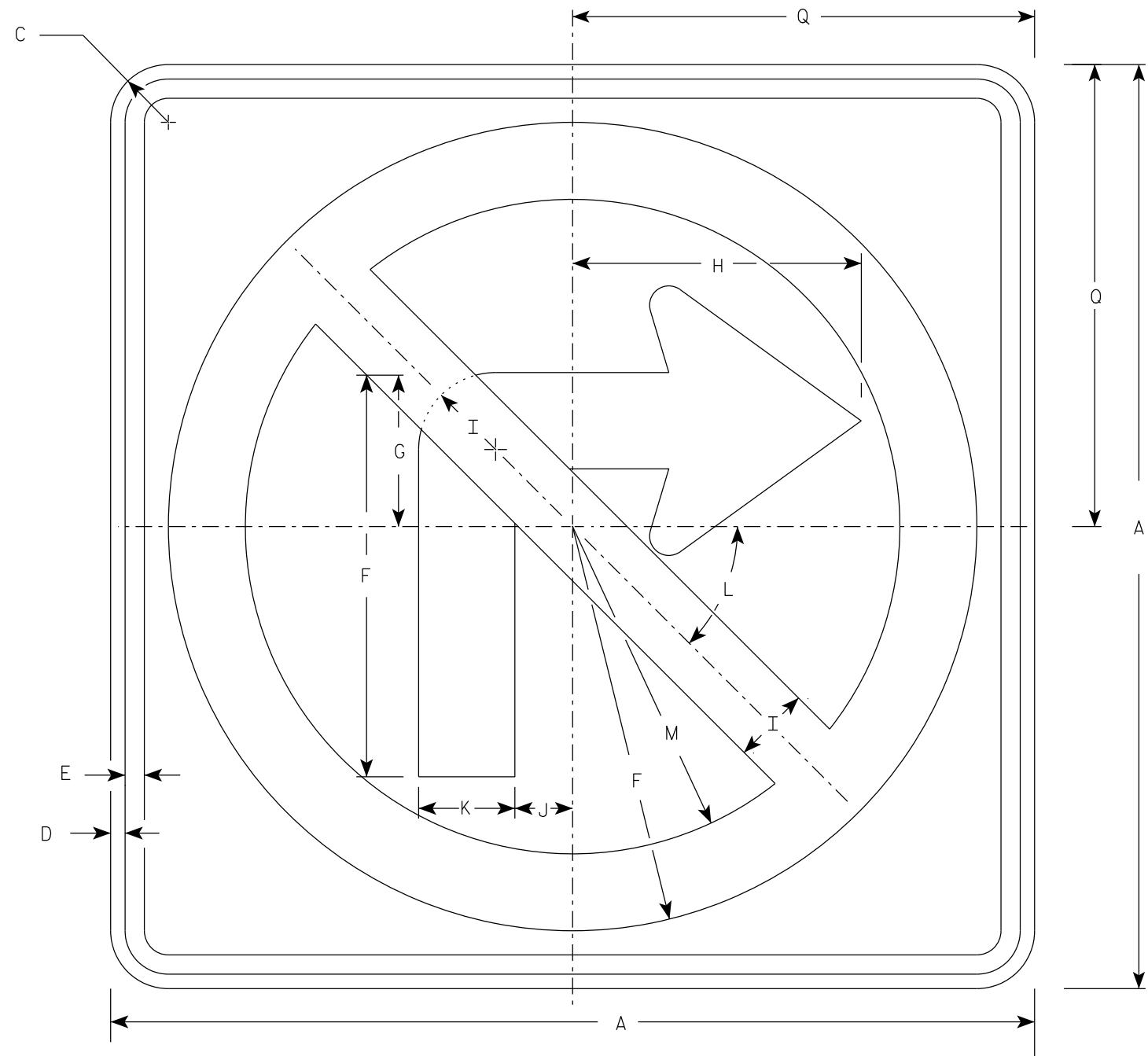
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

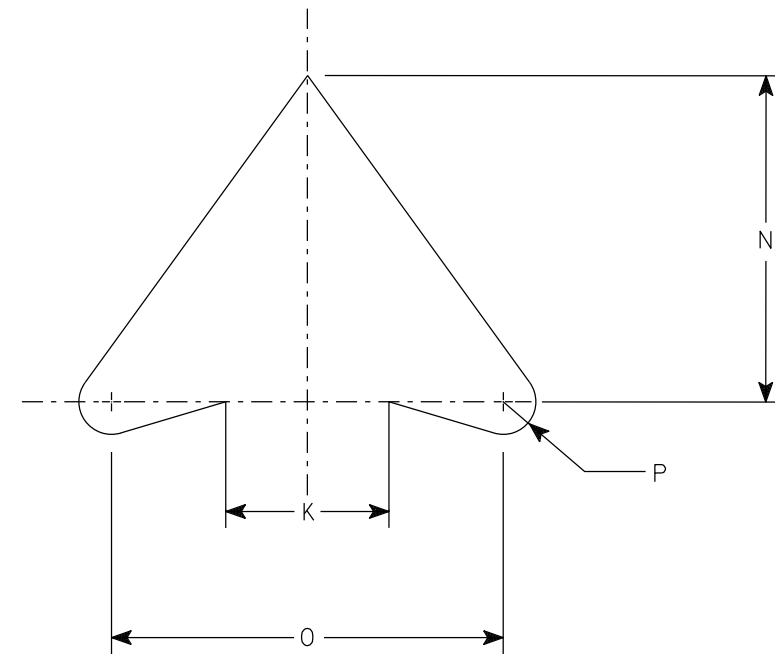
7



R3-1

NOTES

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

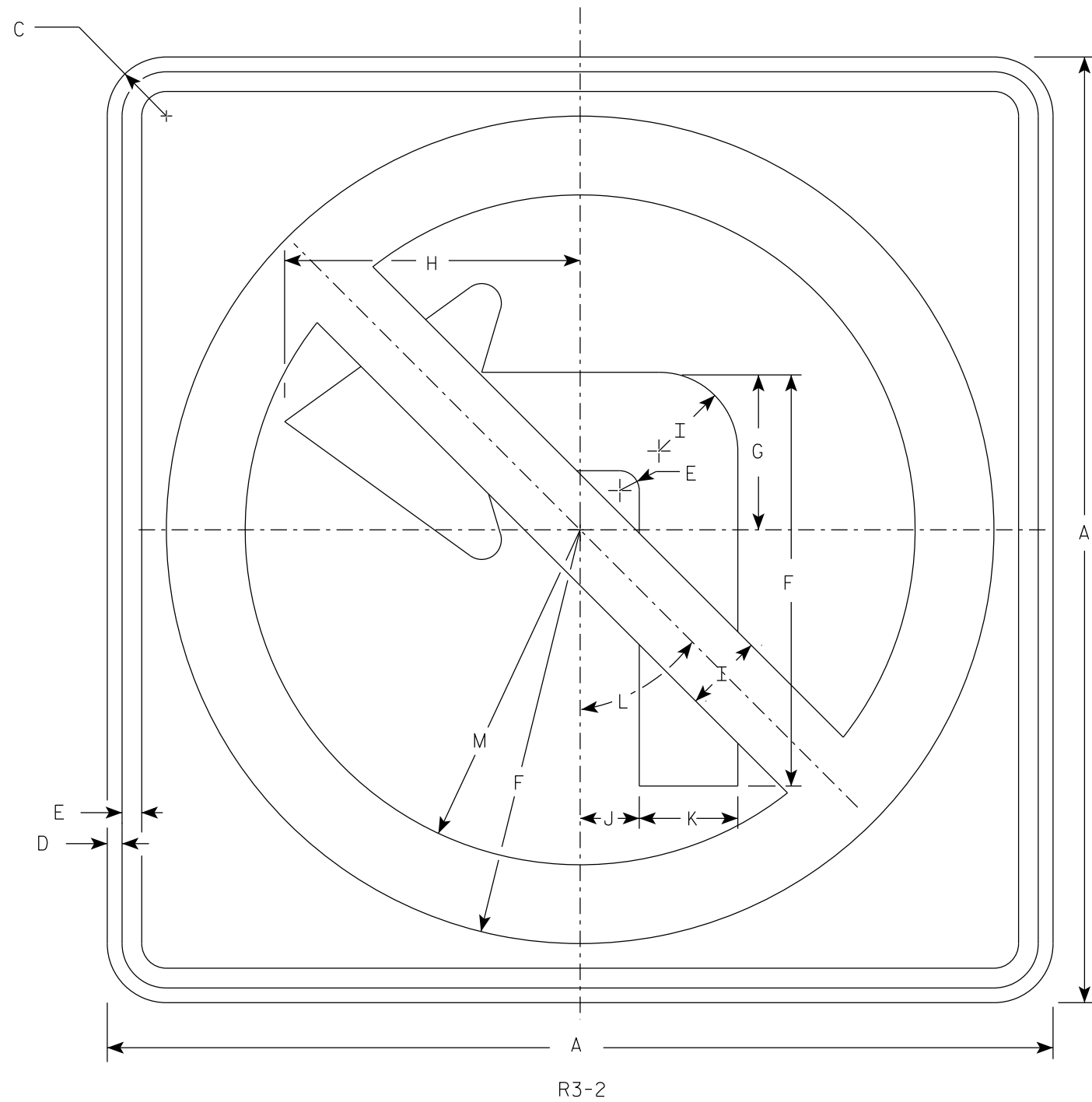


ARROW DETAIL

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

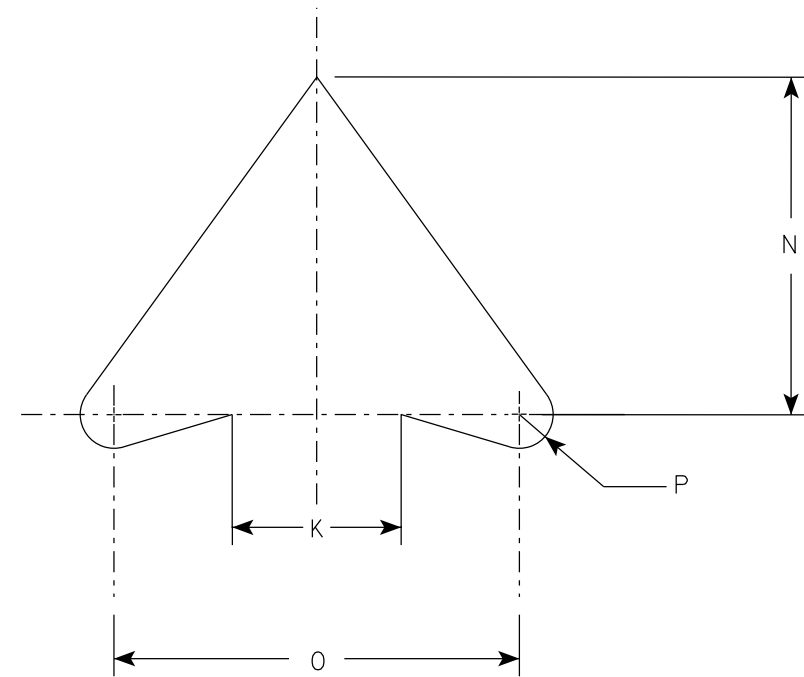
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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7



NOTES

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

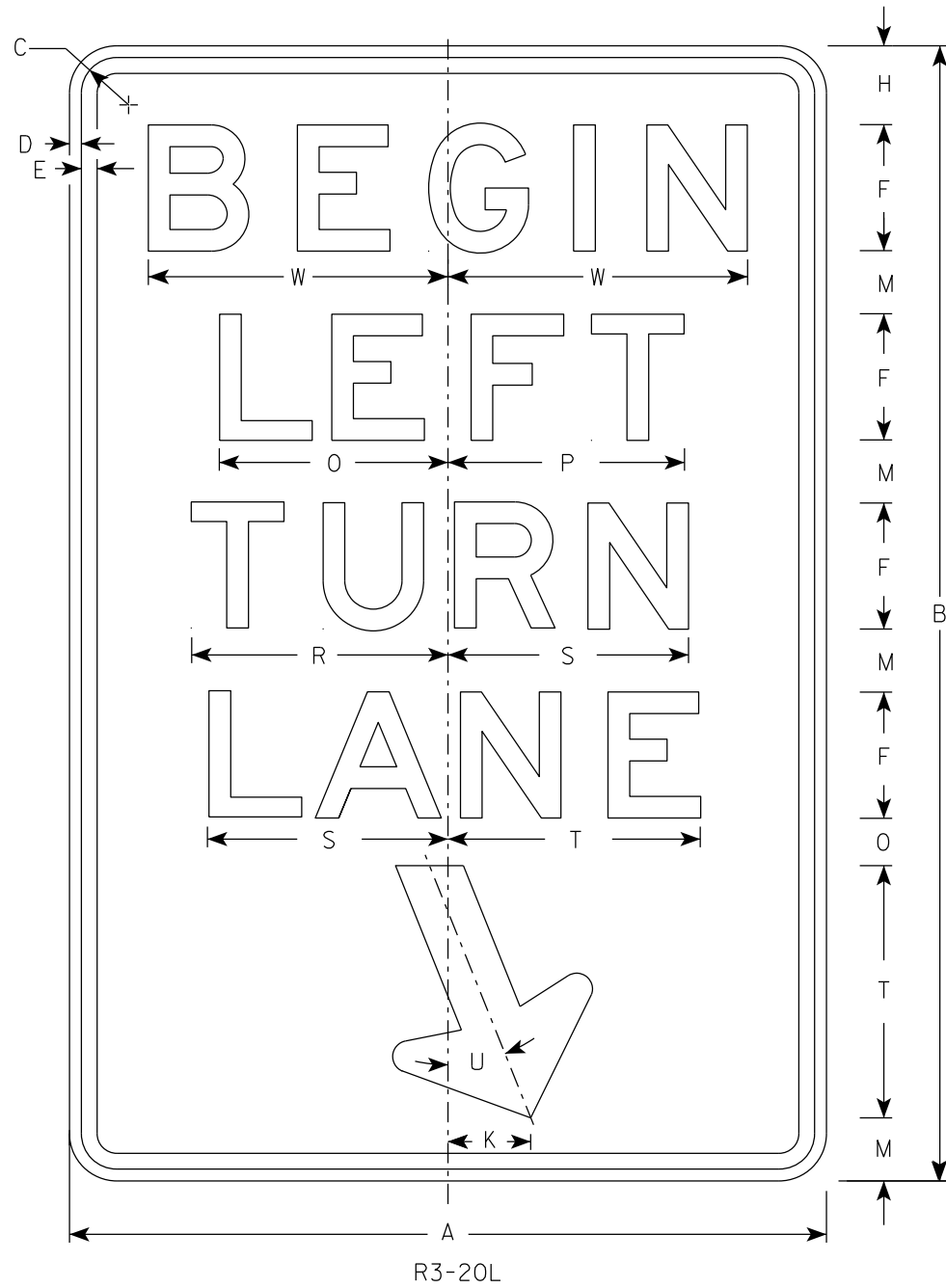


ARROW DETAIL

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

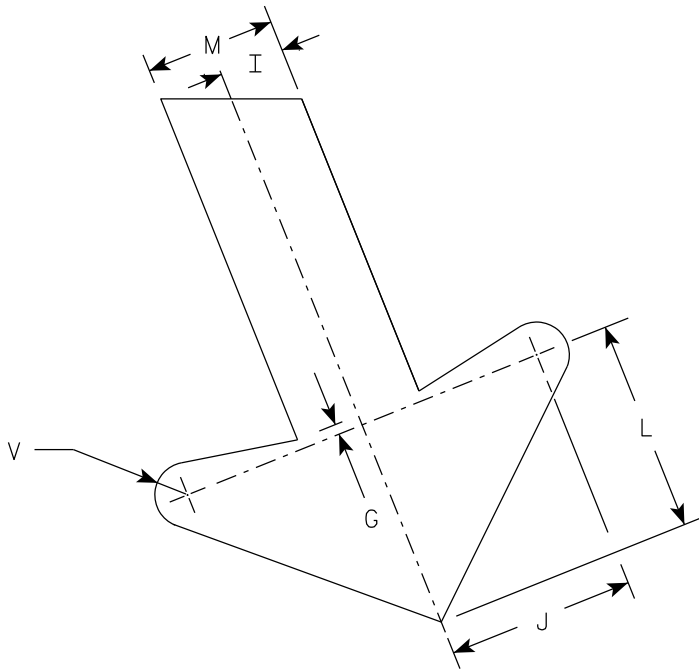
PROJECT NO:		HWY:		COUNTY:		SHEET NO:		E
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7



NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - E



ARROW DETAIL

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/2	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/2	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 7/8	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

PROJECT NO:

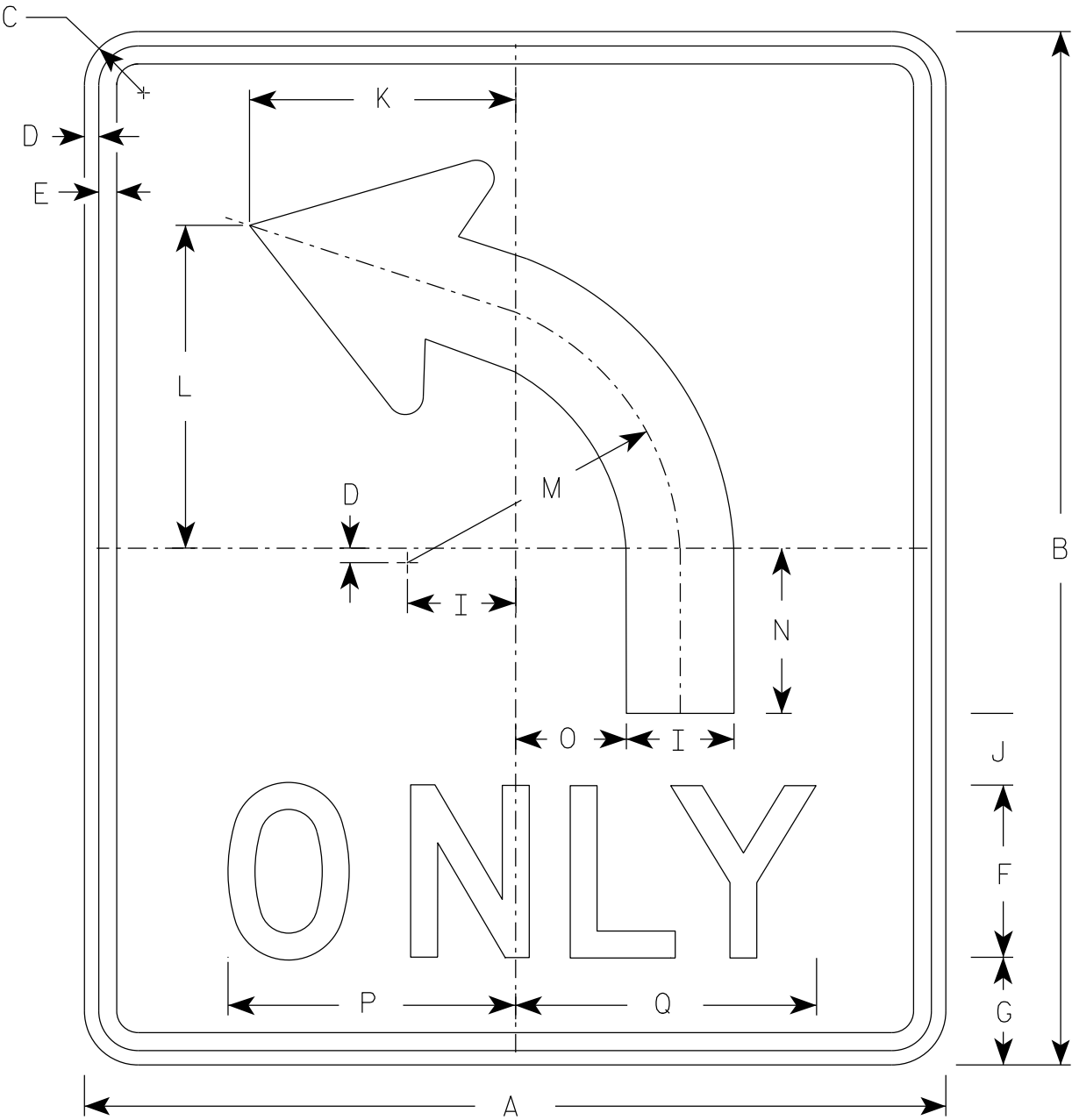
HWY:

COUNTY:

SHEET NO:

E

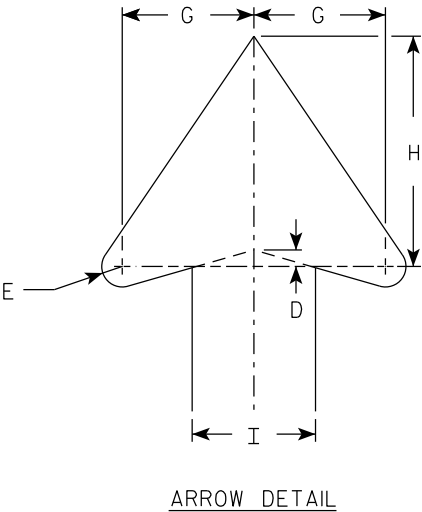
7



R3-50L

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - D
- 4. R3-50R is the same as R3-50L except curved portion of arrow points right.



7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 7⁄8	1⁄2	5⁄8	6	4	7	3 3⁄4	2 1⁄2	9 1⁄4	11 1⁄4	9 1⁄2	5 3⁄4	3 7⁄8	10	10 1⁄2										7.5
2M	30	36	1 7⁄8	1⁄2	5⁄8	6	4	7	3 3⁄4	2 1⁄2	9 1⁄4	11 1⁄4	9 1⁄2	5 3⁄4	3 7⁄8	10	10 1⁄2										7.5
3																											
4																											
5																											

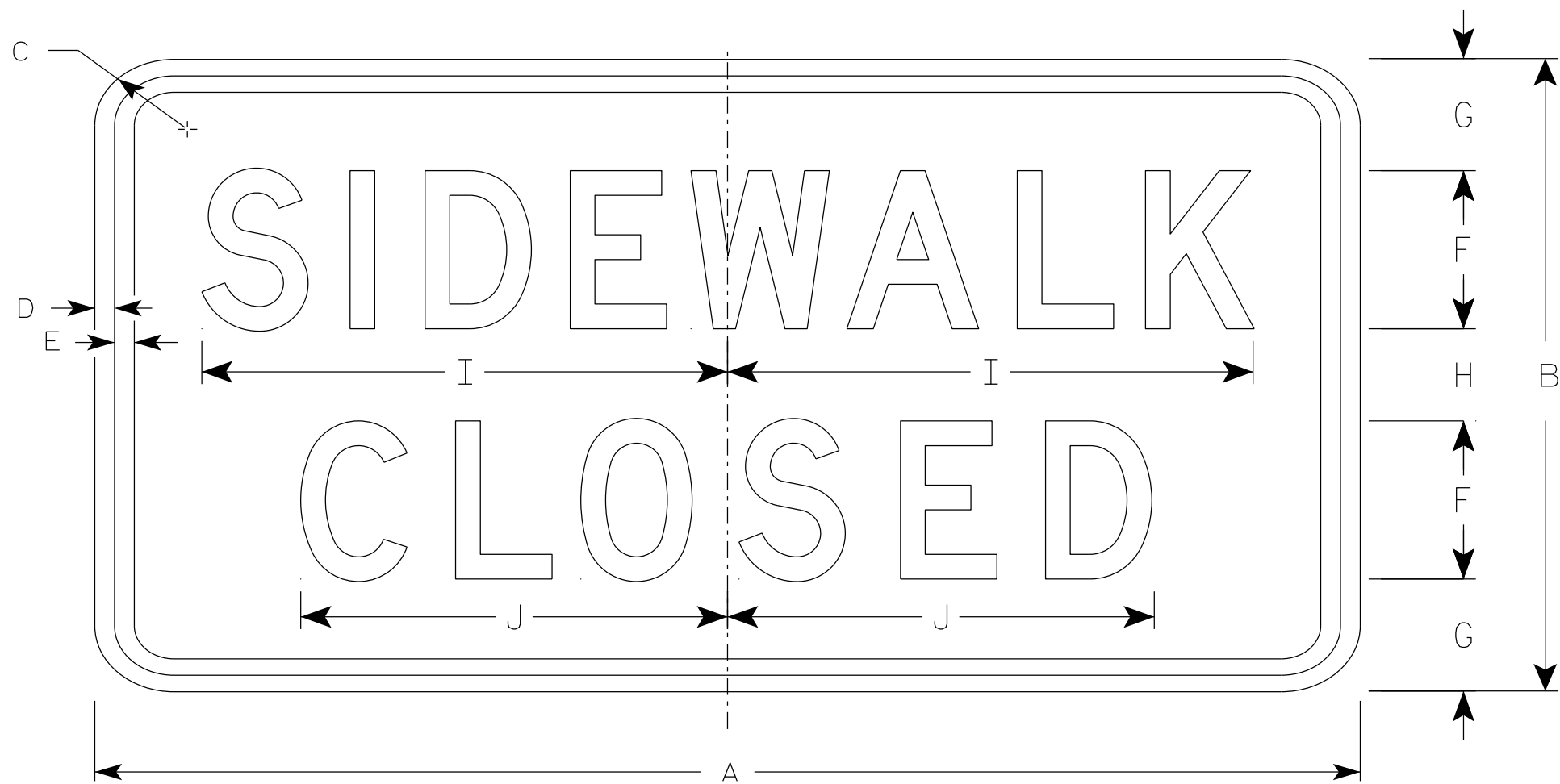
STANDARD SIGN
R3-50

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/23/23 PLATE NO. R3-50.3

7



R9-9

NOTES

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

7

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

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

STANDARD SIGN

R9-9

WISCONSIN DEPT OF TRANSPORTATION

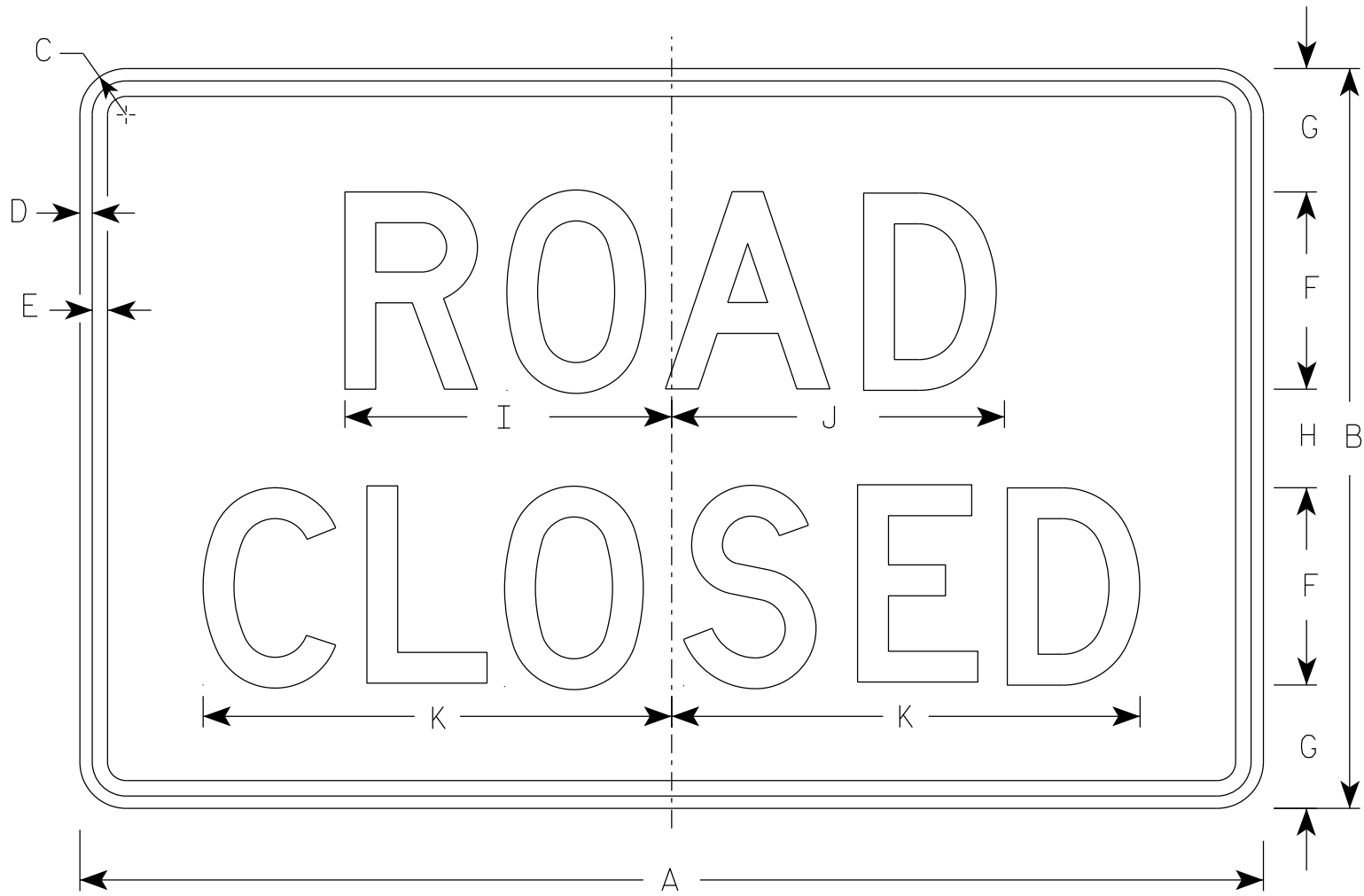
APPROVED

Matthew R. Rauch

For State Traffic Engineer

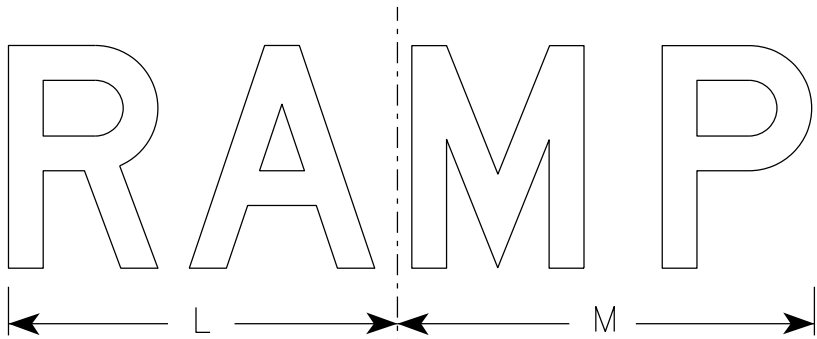
DATE 1/24/24

PLATE NO. R9-9.7

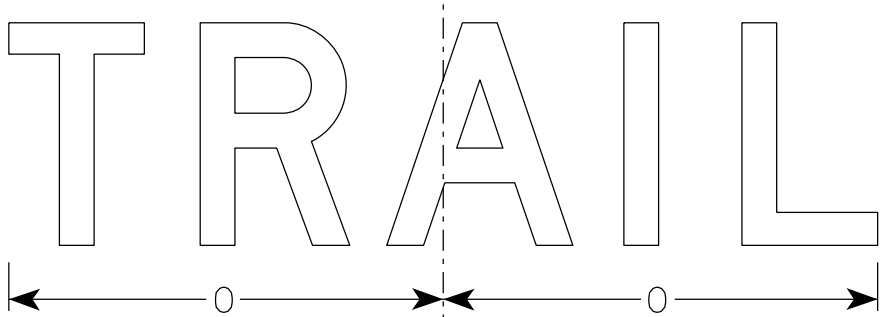


R11-2

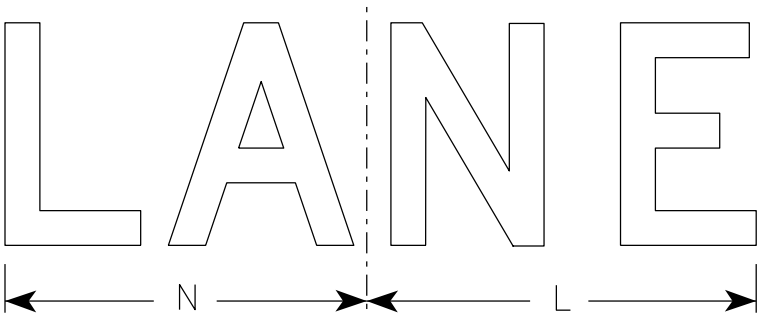
- NOTES
1. Sign is Type II - Type H Reflective
 2. Color:
Background - White
Message - Black
 3. Message Series - D
 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 5. Modify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



R11-2R



R11-2T

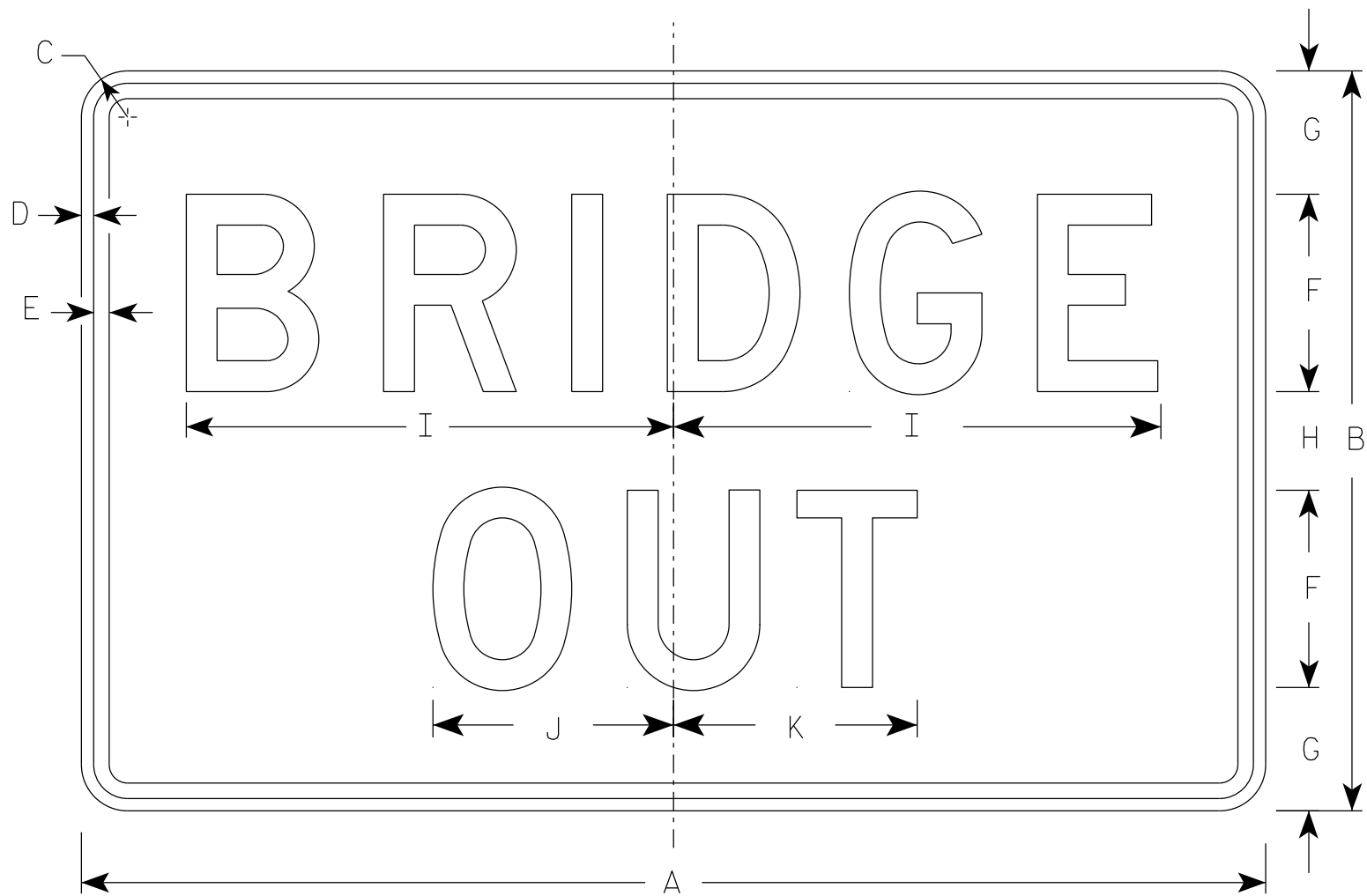


R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

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

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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R11-2B

NOTES

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

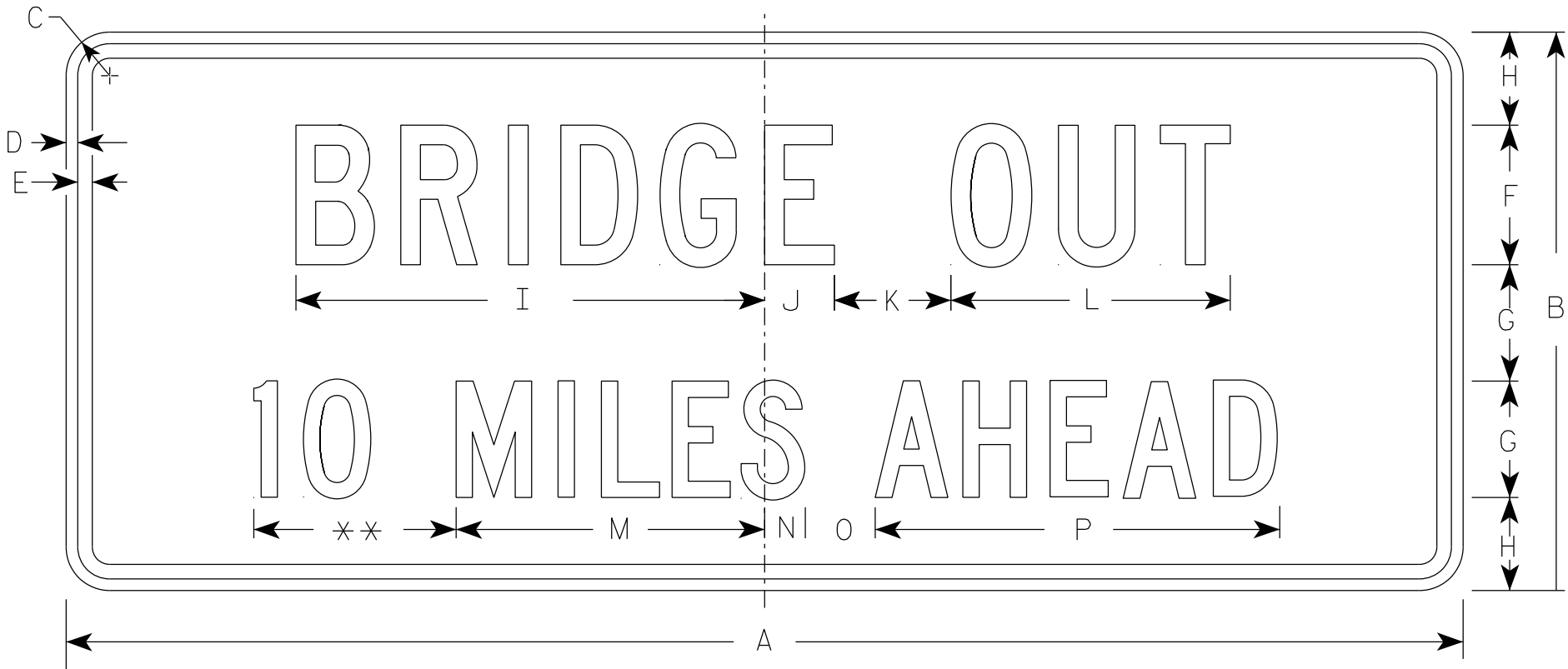
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0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

NOTES

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

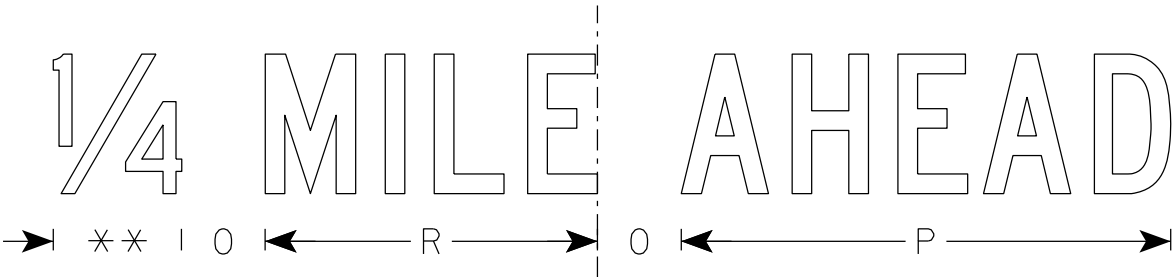
Background - White

Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3C

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 1/2	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

WISCONSIN DEPT OF TRANSPORTATION

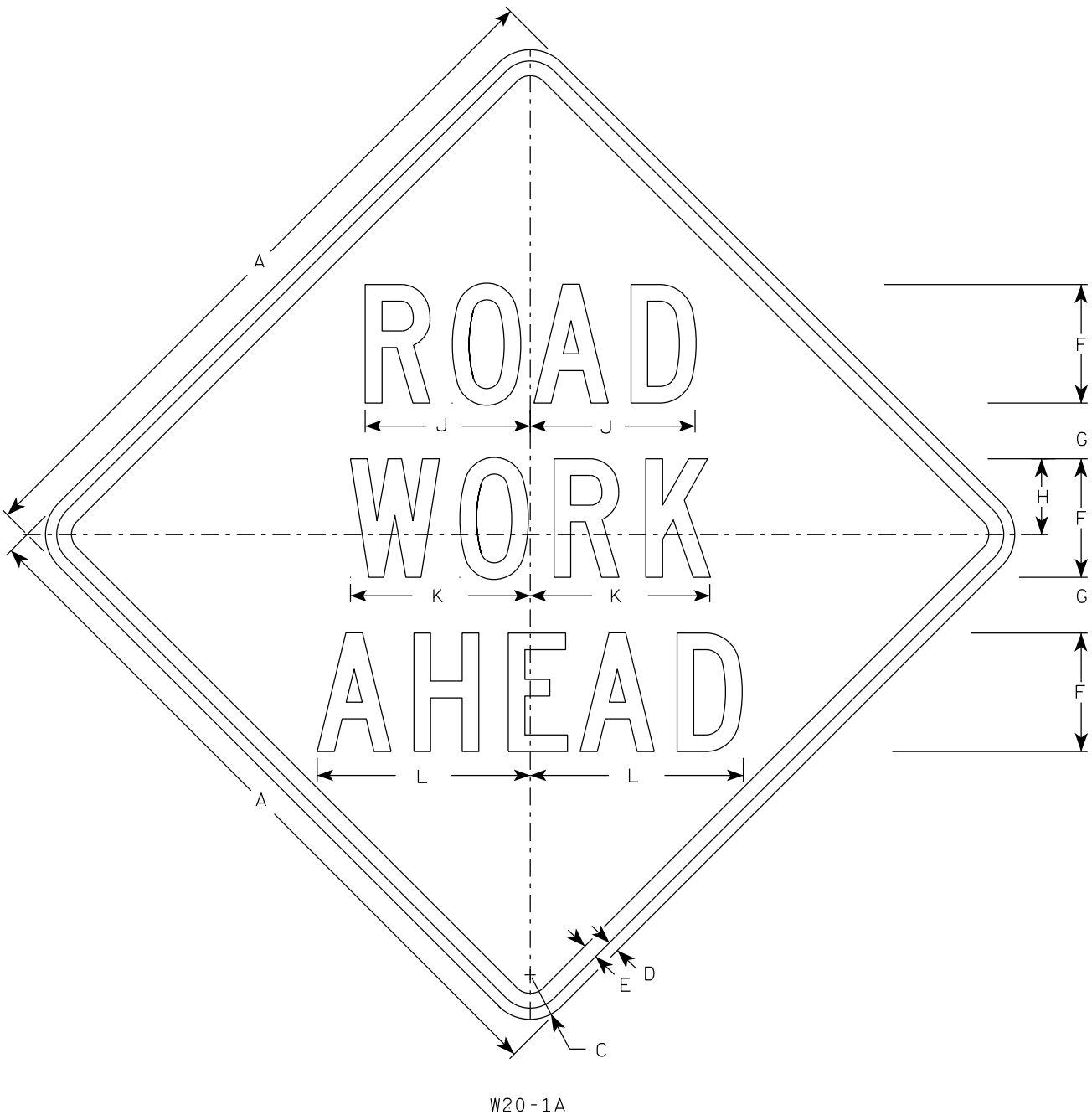
APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-3C.4

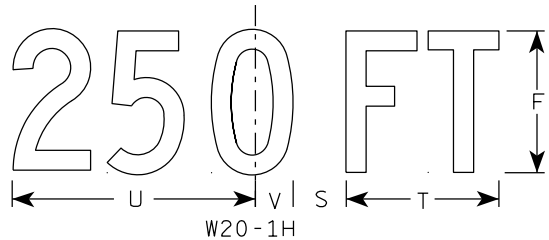
PROJECT NO:

SHEET NO:

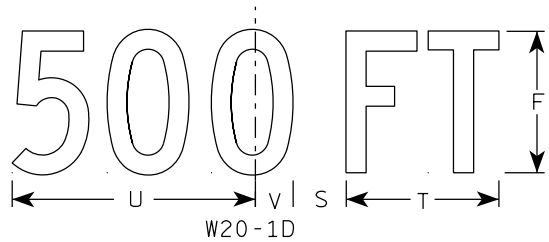
E



W20-1A



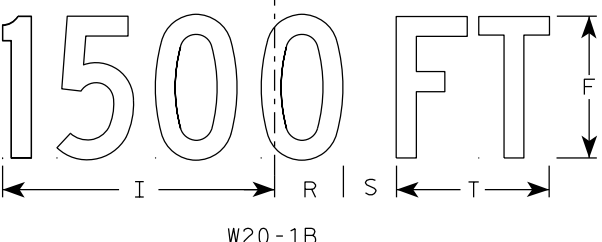
W20-1H



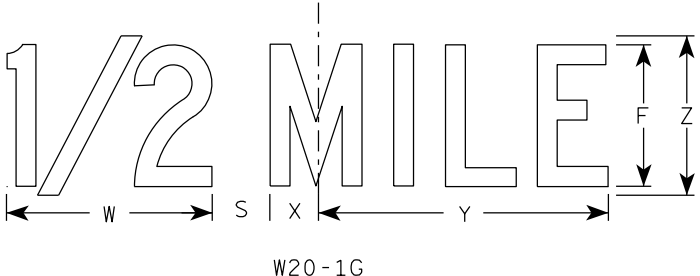
W20-1D



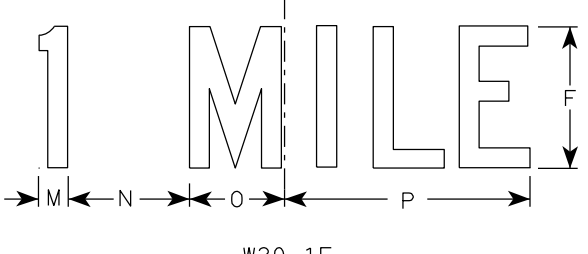
W20-1C



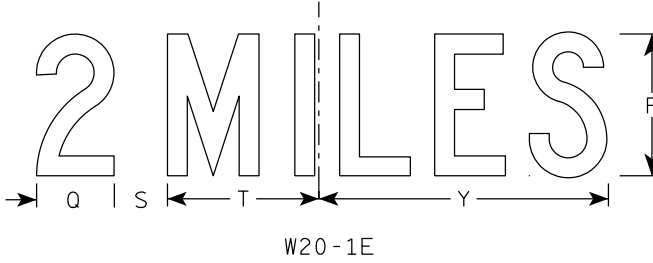
W20-1B



W20-1G



W20-1F

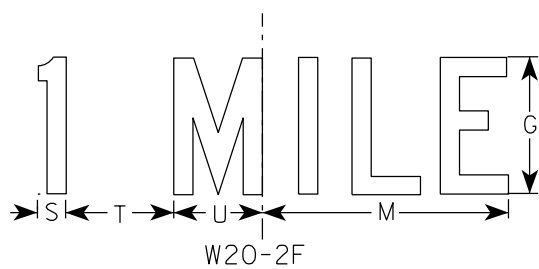
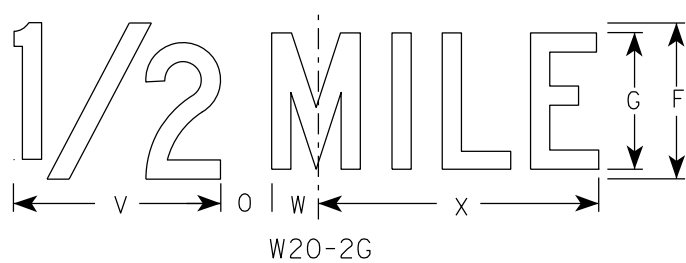
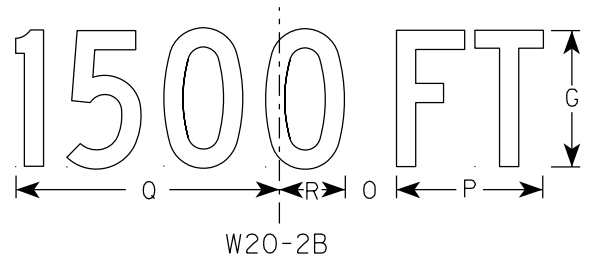
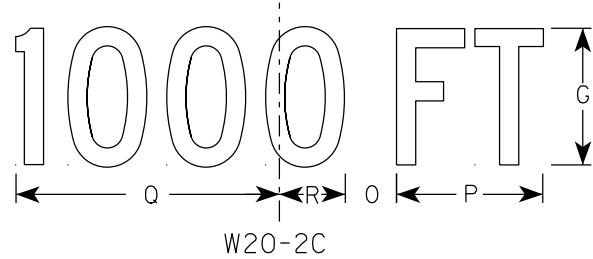
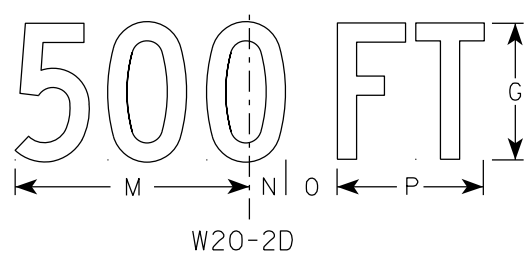
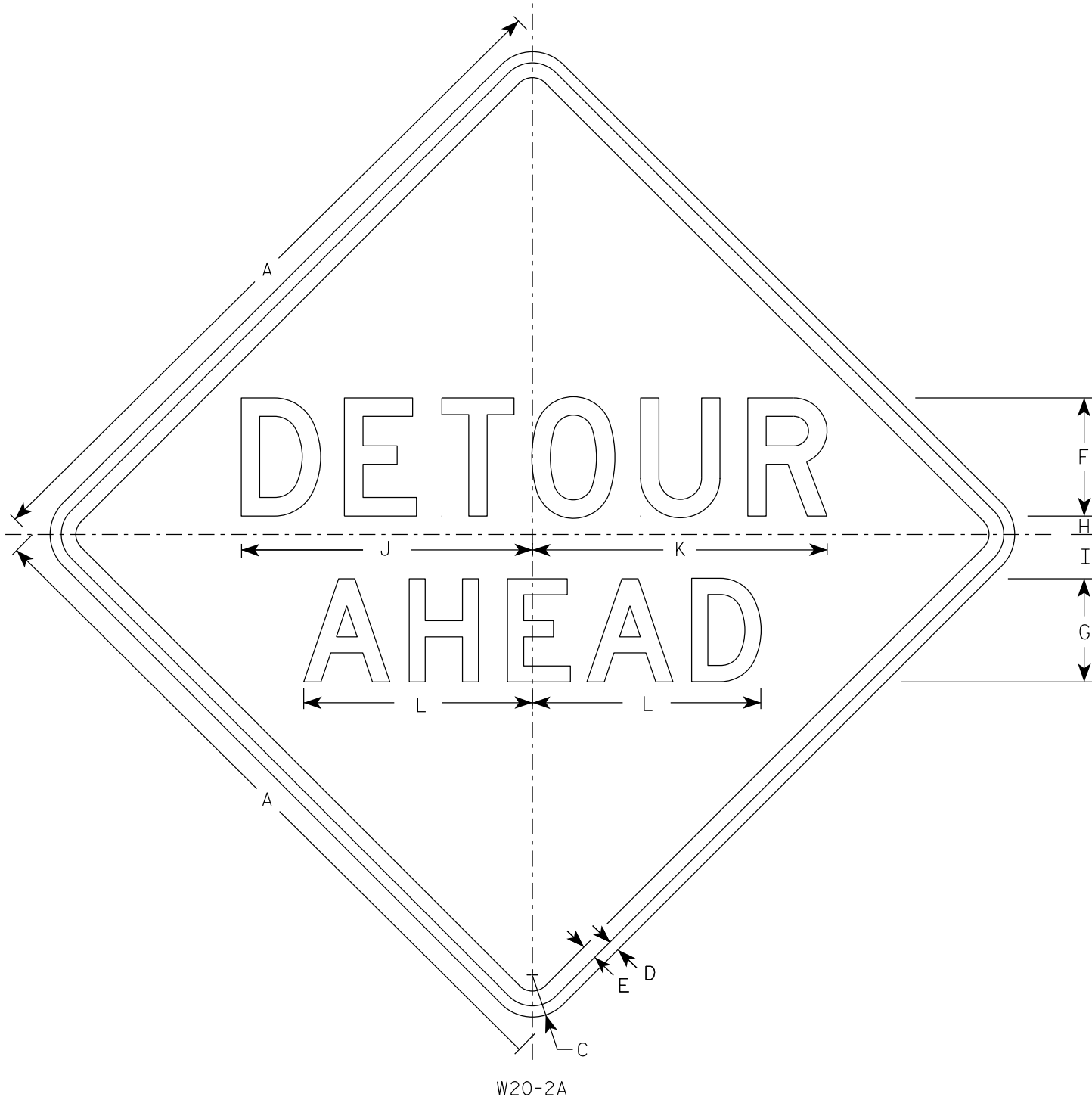


W20-1E

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		2 1/4	5/8	3/4	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	3 1/4	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		3	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		3	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		3	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		3	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		3	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



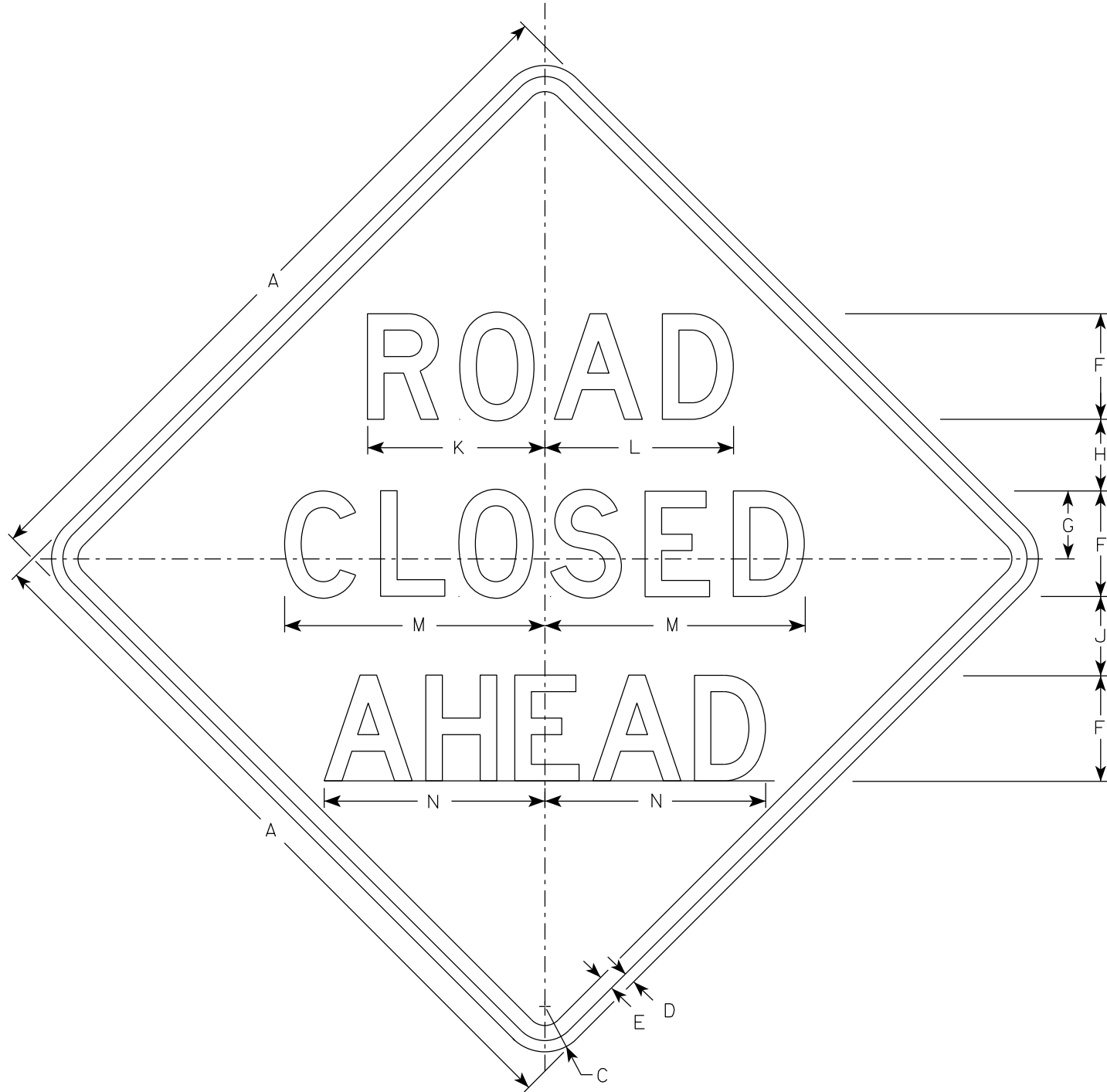
NOTES

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

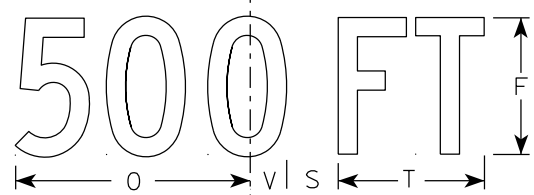
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	w	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8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

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

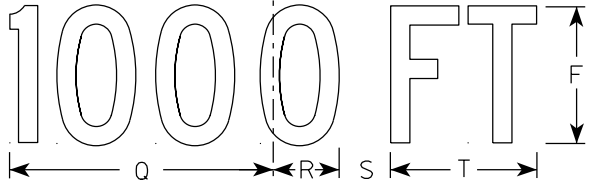
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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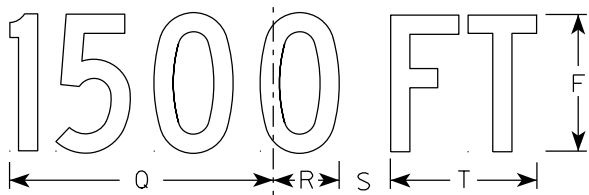
W20-3A



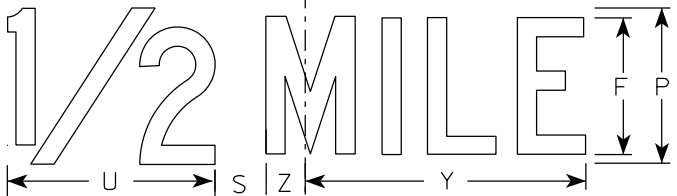
W20-3D



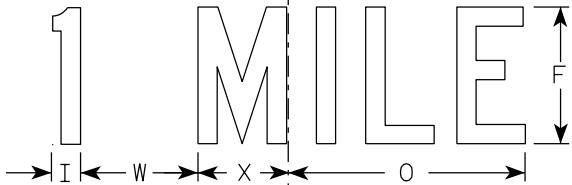
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

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

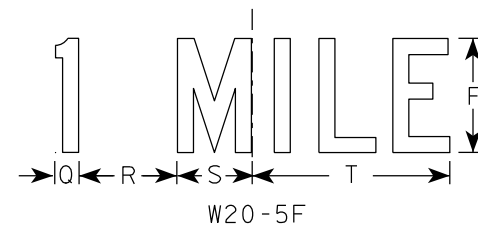
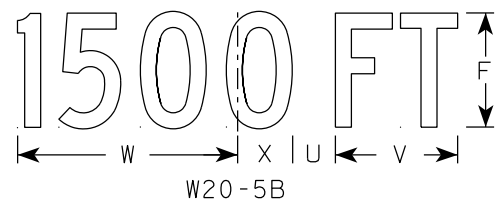
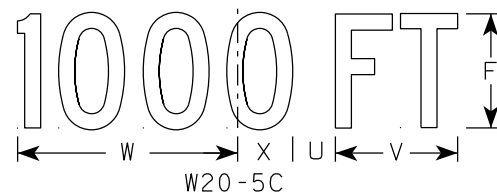
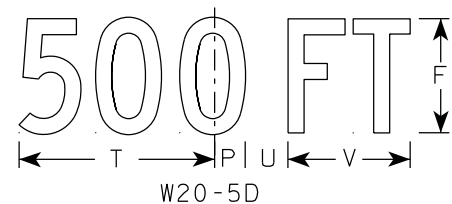
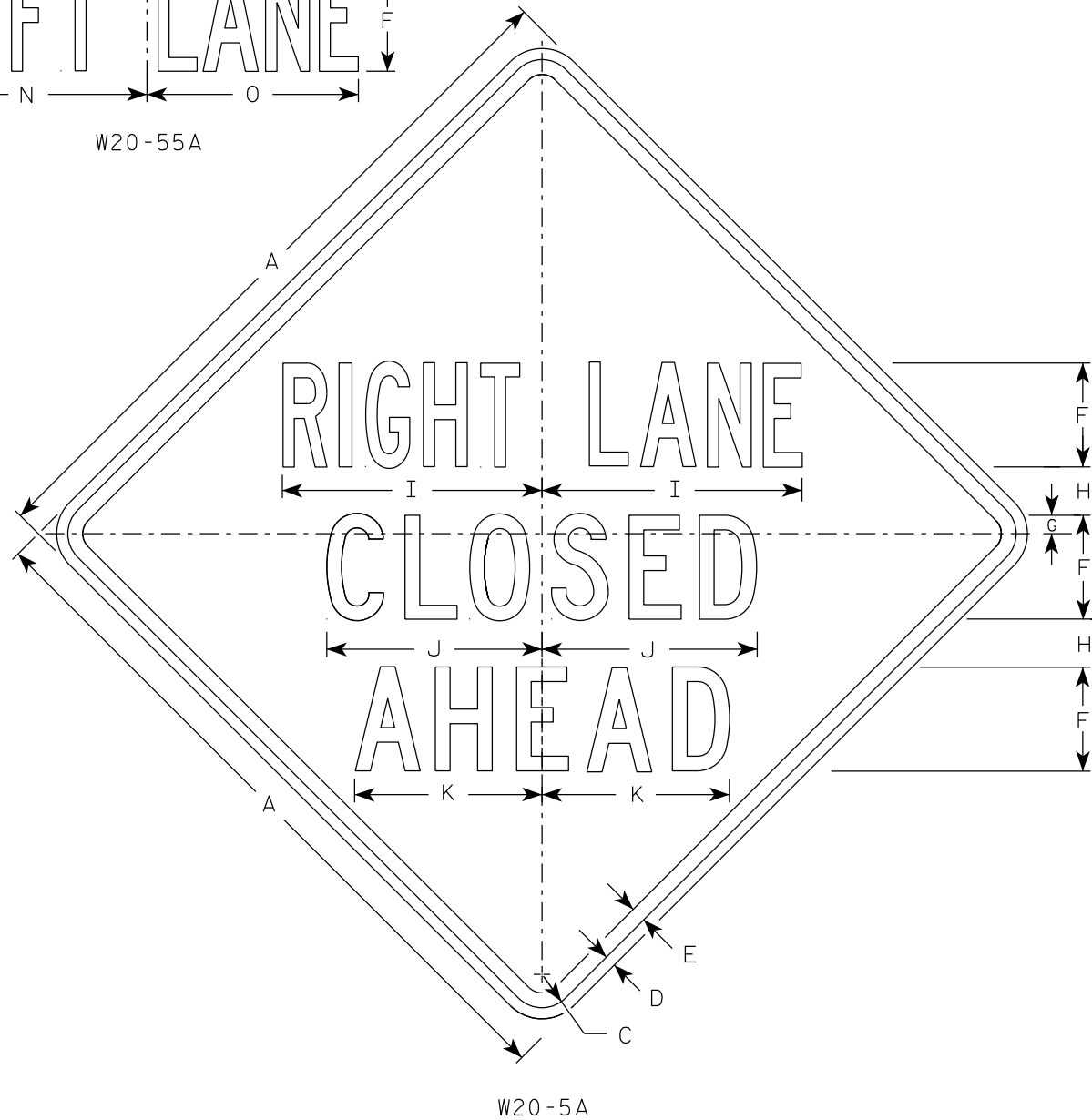
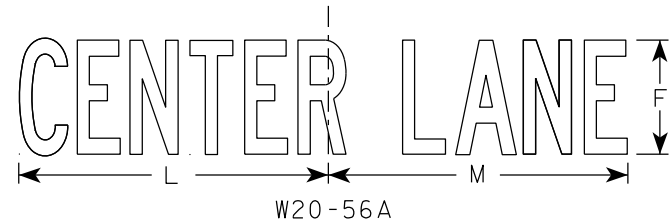
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10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

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



NOTES

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

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	36	6	2 1/4	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	3	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	3	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	3	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	3	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	3	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

STANDARD SIGN

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/27/24 PLATE NO. W20-5.12

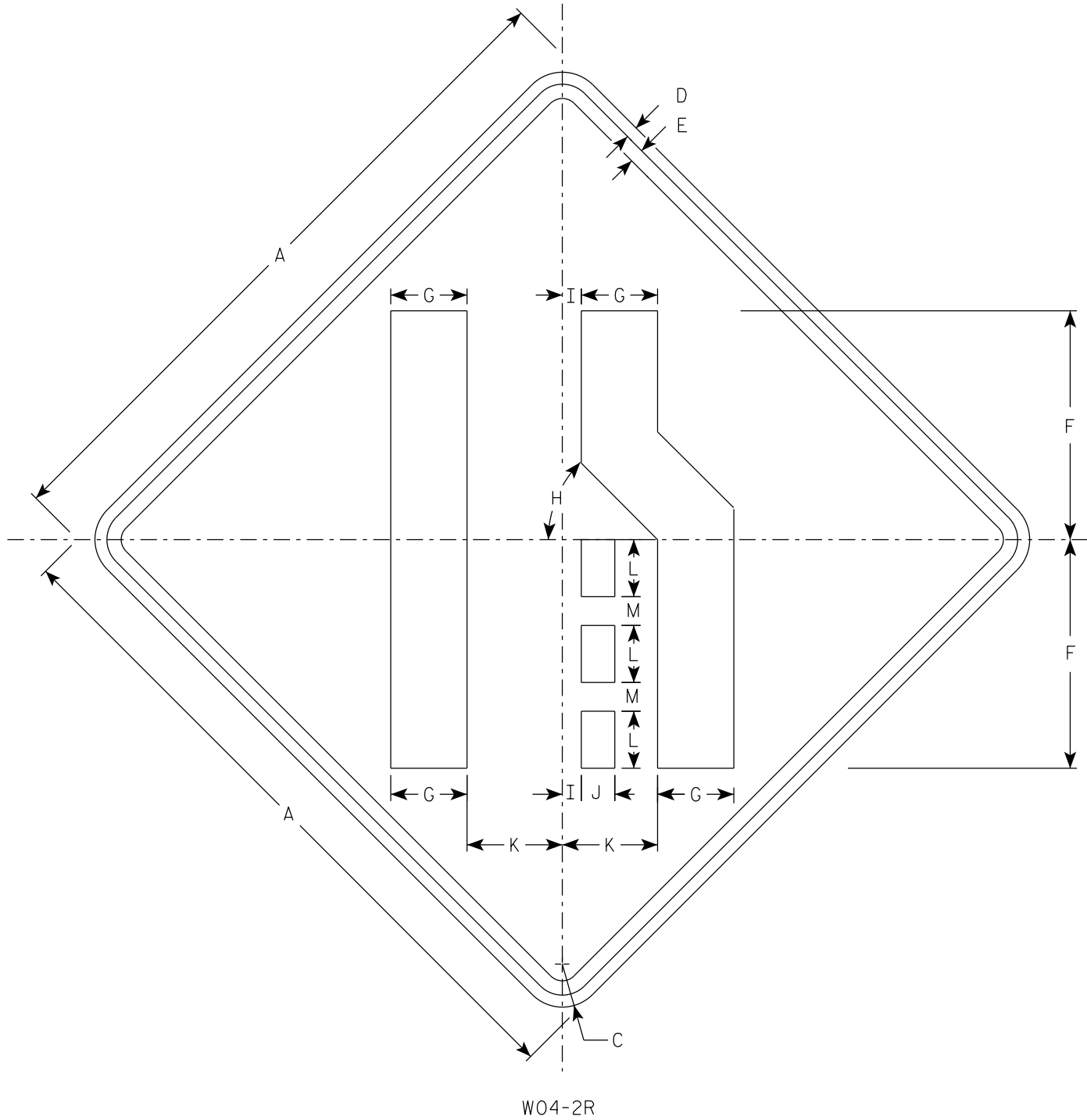
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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.
- 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		2 1/4	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

- REMOVAL OF EXISTING CONCRETE OVERLAY AND PLACEMENT OF A NEW OVERLAY ON APPROACH SPANS
- REPLACEMENT OF BASCULE SPAN STRINGERS
- REPLACEMENT OF BASCULE SPAN OPEN GRID DECK
- BLAST CLEAN AND PAINTING ALL BASCULE SPAN SUPERSTRUCTURE STEEL
- SPOT PAINTING OF APPROACH SPAN STRUCTURAL STEEL
- REPLACEMENT OF EXISTING HPU ENCLOSURES AT BASCULE SPAN
- REPLACEMENT OF OPERATOR HOUSE WINDOWS AND DOOR
- REPLACEMENT OF OPERATOR HOUSE ROOF MEMBRANE
- BALANCING BASCULE SPAN BRIDGE LEAVES
- REPLACEMENT OF CYLINDER ACCESS PLATFORMS
- PIPE RAILING BASE REPAIRS
- REPLACEMENT OF BROKEN BUMPER BLOCK
- BASCULE SPAN SIDEWALK SLIP RESISTANT COATING REPAIR
- REPLACEMENT OF APPROACH SPAN SIDEWALK POLYMER OVERLAY
- BASCULE SPAN MECHANICAL WORK
- BASCULE SPAN ELECTRICAL WORK

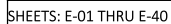
DRAWING	NO.		NO.
GENERAL PLAN & ELEVATION	S-01	AS-BUILT NEAR SIDE RELAY SCHEMATIC	E-06
GENERAL NOTES & ESTIMATED QUANTITIES	S-02	AS-BUILT FAR SIDE RELAY SCHEMATIC	E-07
APPROACH SPANS EXISTING TYPICAL SECTIONS	S-03	AS-BUILT I/O SECTION RACK 01 & 02 SLOT 06	E-08
APPROACH SPANS PROPOSED TYPICAL SECTIONS	S-04	AS-BUILT I/O SECTION RACK 00 SLOT 05	E-09
APPROACH SPANS OVERLAY DETAILS	S-05	AS-BUILT I/O SECTION RACK 00 SLOT 04	E-10
APPROACH SPANS STEEL PAINTING DETAILS	S-06	THREE LINE DIAGRAM	E-11
STRIP SEAL EXPANSION JOINT DETAILS	S-07	SCHEM. DIAG. RELAY SECTION	E-12
STRIP SEAL EXPANSION JOINT DETAILS CONTINUED	S-08	SCHEM. DIAG. RELAY STATION 1	E-13
COVER PLATE DETAILS	S-09	SCHEM. DIAG. RELAY STATION 2	E-14
UNIT 1, 2, & 3 DECK SCAN	S-10	SCHEM. DIAG. RELAY STATION 3	E-15
BASCULE SPAN PROPOSED TYPICAL SECTIONS	S-11	SCHEM. DIAG. RELAY STATION 4	E-16
BASCULE SPAN PROPOSED FRAMING PLAN	S-12	SCHEM. DIAG. RELAY STATION 5	E-17
BASCULE SPAN DECK PLAN	S-13	SCHEM. DIAG. RELAY STATION 6	E-18
BASCULE SPAN FRAMING DETAILS 1 OF 2	S-14	SCHEM. DIAG. RELAY STATION 7	E-19
BASCULE SPAN FRAMING DETAILS 2 OF 2	S-15	SCHEM. DIAG. RELAY STATION 8	E-20
HPU ENCLOSURE DETAILS 1 OF 2	S-16	SCHEM. DIAG. RELAY STATION 9	E-21
HPU ENCLOSURE DETAILS 2 OF 2	S-17	SCHEM. DIAG. RELAY STATION 10	E-22
COUNTERWEIGHT BALANCE DETAILS	S-18	SCHEM. DIAG. RELAY STATION 11	E-23
OPERATOR HOUSE ROOF REPAIR DETAILS	S-19	SCHEM. DIAG. RELAY STATION 12	E-24
OPERATOR HOUSE WINDOW AND DOOR DETAILS	S-20	SCHEM. DIAG. RELAY STATION 13	E-25
CYLINDER ACCESS PLATFORM DETAILS	S-21	SCHEM. DIAG. RELAY STATION 14	E-26
FENDER PIPE RAILING & BUMPER BLOCK REPAIR DETAILS	S-22	SCHEM. DIAG. RELAY STATION 15	E-27
		SCHEM. DIAG. RELAY STATION 16	E-28
MECHANICAL GENERAL PLAN AND NOTES	M-01	SCHEM. DIAG. RELAY STATION 17	E-29
SPAN DRIVE CYLINDER LAYOUT	M-02	SCHEM. DIAG. RELAY STATION 18	E-30
REAR LOCK ELEVATION	M-03	SCHEM. DIAG. RELAY STATION 19	E-31
HYDRAULIC SCHEMATIC	M-04	SCHEM. DIAG. RELAY STATION 20	E-32
HYDRAULIC CYLINDER DETAILS	M-05	I/O SECTION RACK 00 SLOT 07	E-33
HYDRAULIC ROUTING	M-06	I/O SECTION RACK 00 SLOT 08	E-34
INSTRUMENTATION MACHINERY	M-07	I/O SECTION RACK 00 SLOT 09	E-35
		I/O SECTION RACK 00 SLOT 02	E-36
ELECTRICAL NOTES AND SCOPE	E-01	I/O SECTION RACK 00 SLOT 12	E-37
ELECTRICAL PLAN AND ELEVATION	E-02	I/O SECTION RACK 00 SLOT 13	E-38
ONE LINE DIAGRAM	E-03	CONTROL CONSOLE	E-39
HPU ENCLOSURE ELECTRICAL WORK	E-04	MAIN CONSOLE CABINET	E-40
SCHEM. DIAG. COMMUNICATIONS	E-05		



CURVE DATA:

P.I. = STA. 47+62.13
 $\Delta = 13^{\circ}-32'-19''$
 $T = 68.01$
 $L = 135.39$
 $R = 572.96$
 P.C. = STA. 46+94.12

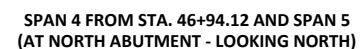
CONSULTANT: DAN MACHAMER 312-282-6421
BUREAU OF STRUCTURES: AARON BONK 608-261-0261



SHEETS: S-01, S-02, S-11 THRU S-22 & M-01 THRU M-07

SHEETS: S-03 THRU S-10

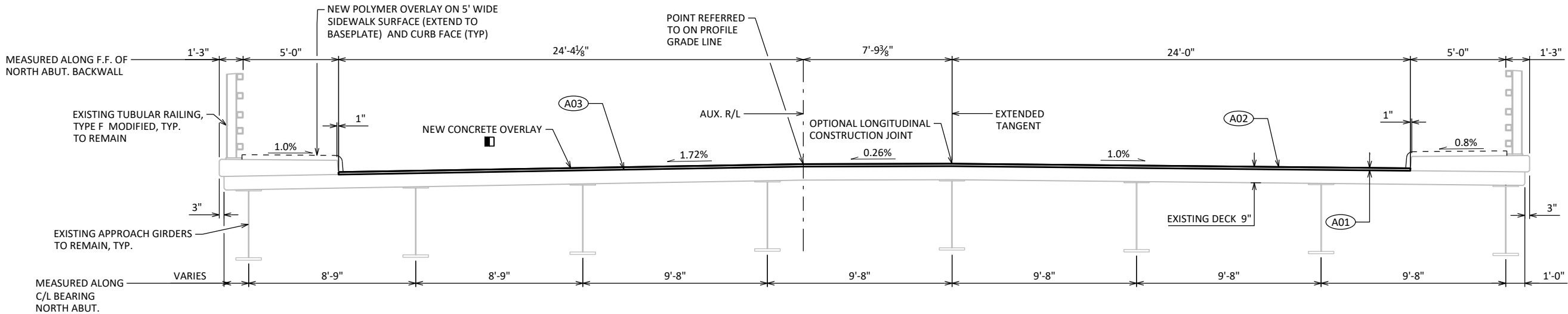
NO.		DATE		REVISION				BY	
<div></div>									
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION									
ACCEPTED		 CHIEF STRUCTURES DESIGN ENGINEER				SDR 12/18/24		DATE	
STRUCTURE B-70-056									
STH 45 (MAIN STREET) OVER THE FOX RIVER									
COUNTY		WINNEBAGO				CITY		OSHKOSH	
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS									
DESIGN BY		DESIGN CK'D.		DRAWN BY		PLANS CK'D.		DEM	
GENERAL PLAN AND ELEVATION						S-01			



FROM PREVIOUS OVERLAY REHABILITATION PLANS THE ORIGINAL DECK MATCHES THE OVERLAY CROSS SLOPE AT ALL LOCATIONS.

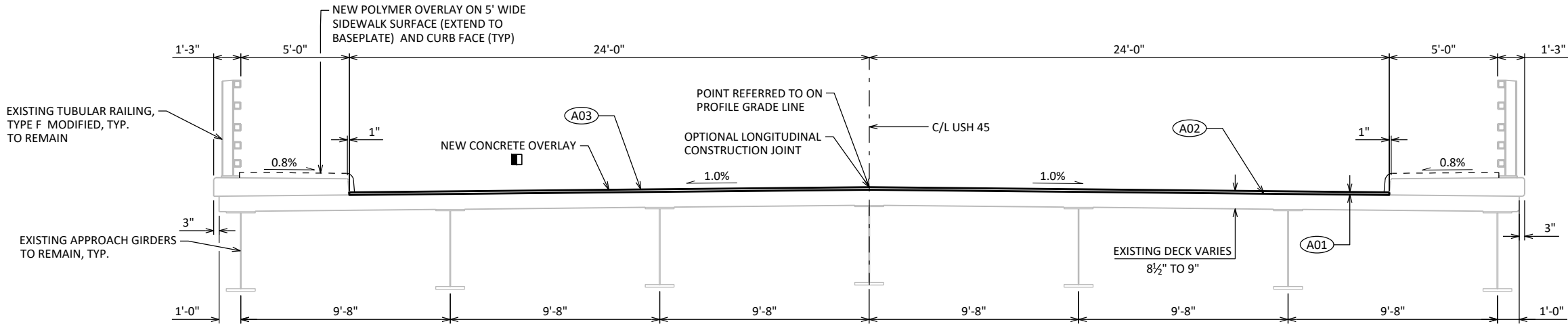
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-70-56	
DRAWN BY		JLA	PLANS CK'D MJB
APPROACH SPANS EXISTING TYPICAL SECTIONS		SHEET S-03	

SCALE -



PROPOSED TYPICAL SECTION THRU APPROACH SPAN

SPAN 4 FROM STA. 46+94.12 AND SPAN 5
(AT NORTH ABUTMENT - LOOKING NORTH)



PROPOSED TYPICAL SECTION THRU APPROACH SPAN

SPANS 1, 2 AND 4 UP TO STA. 46+94.12

NOTES:

THE INTENT IS FOR THE PROPOSED DECK SURFACE ELEVATIONS TO MATCH THE EXISTING DECK SURFACE ELEVATIONS.

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

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON THE EXISTING PROFILE GRADE LINE. REMOVAL THICKNESS WILL VARY BASED ON EXISTING OVERLAY THICKNESS, WHICH IS EXPECTED TO BE 1" TO 1½", PLUS AN ADDITIONAL ¼" OF ORIGINAL DECK.

THE MINIMUM THICKNESS OF THE NEW OVERLAY WILL BE 1¼" TO 1¾". TO ACCOUNT FOR VARIATION, THE OVERLAY THICKNESS USED FOR RATING IS 1¾" TO 2¼". IF EXPECTED OVERLAY THICKNESS THAT WAS USED FOR RATING IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

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

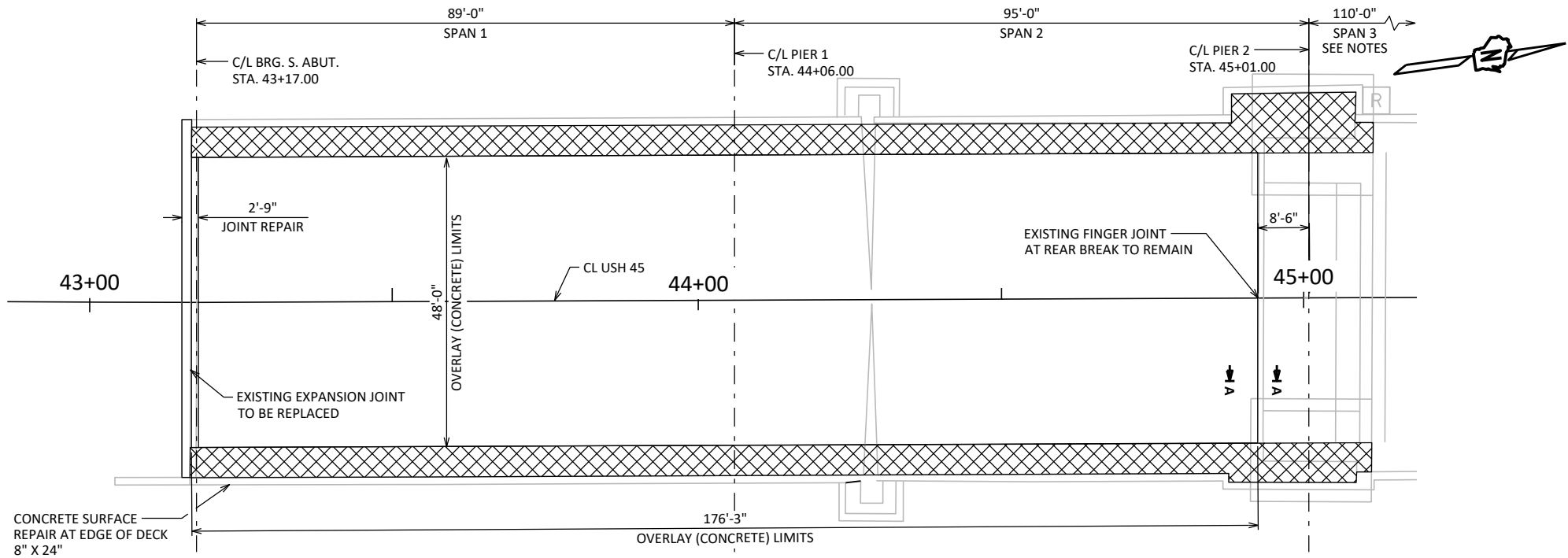
ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR JOINT REPLACEMENT AT THE ABUTMENTS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

NOTES:

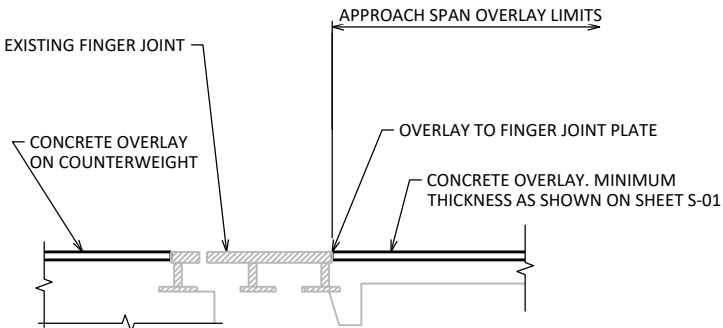
- NEW CONCRETE OVERLAY TO BE MINIMUM THICKNESS AS SHOWN ON SHEET S-01.
- A01 REMOVAL OF EXISTING THIN POLYMER OVERLAY AND CONCRETE OVERLAY ON ROADWAY PORTION OF BRIDGE DECK INCLUDED IN BID ITEM "REMOVING CONCRETE MASONRY DECK OVERLAY B-70-56".
- A02 AFTER REMOVAL OF OVERLAY MATERIALS COMPLETE PREPARATION DECKS TYPE 1 AND TYPE 2. QUANTITIES ARE ESTIMATED BASED ON THE DELAMINATION COMPONENT OF THE INFRARED DECK SCANS INCLUDED ON SHEET S-10.
- A03 PRIOR TO PLACING NEW OVERLAY PREP THE DECK UNDER BID ITEM "CLEANING DECKS TO REAPPLY CONCRETE MASONRY OVERLAY".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY JLA		PLANS CK'D MJB	
APPROACH SPANS PROPOSED TYPICAL SECTIONS		SHEET S-04	

SCALE =

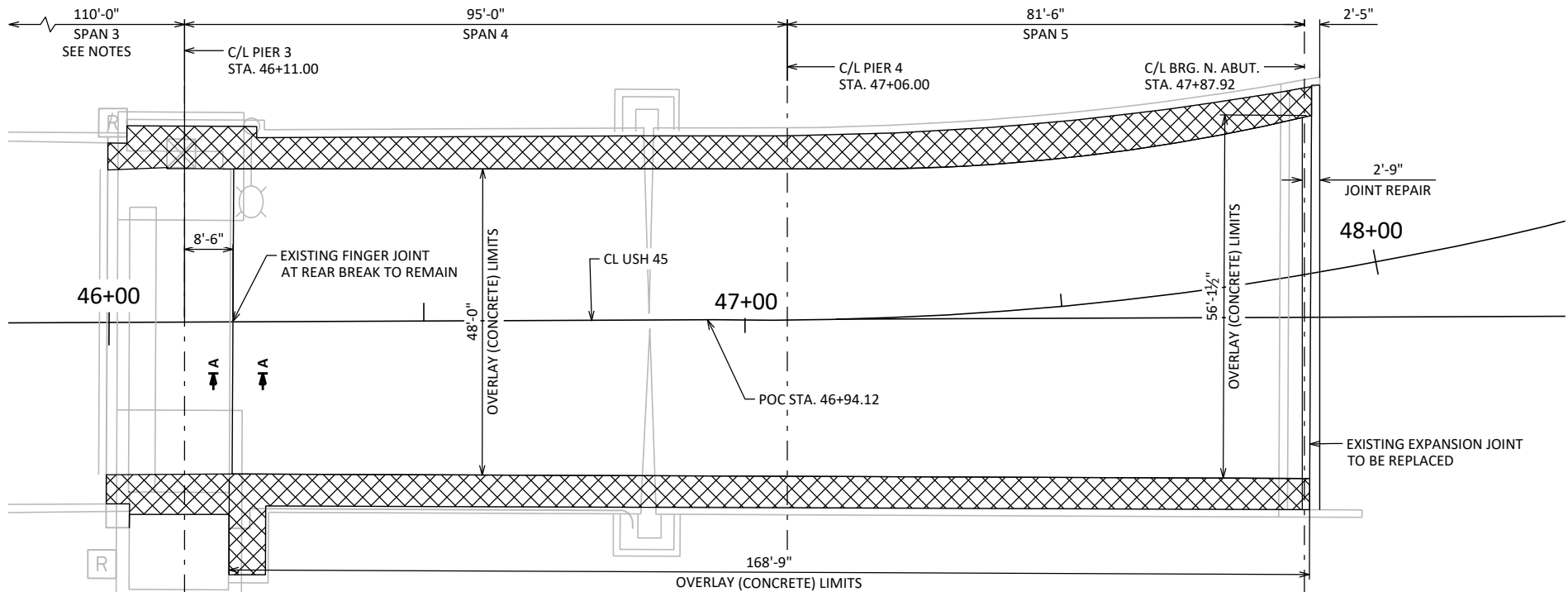


PLAN VIEW - UNIT 1



SECTION A-A

TYPICAL SECTION THROUGH JOINT AT REAR BREAK




PLAN VIEW - UNIT 3

NOTES:

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

FOR EXPANSION JOINT REPLACEMENT DETAILS SEE SHEETS S-07 THROUGH S-09.

LEGEND:

 SIDEWALK OVERLAY LIMITS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY JLA		PLANS CK'D MJB	
APPROACH SPANS OVERLAY DETAILS			SHEET S-05

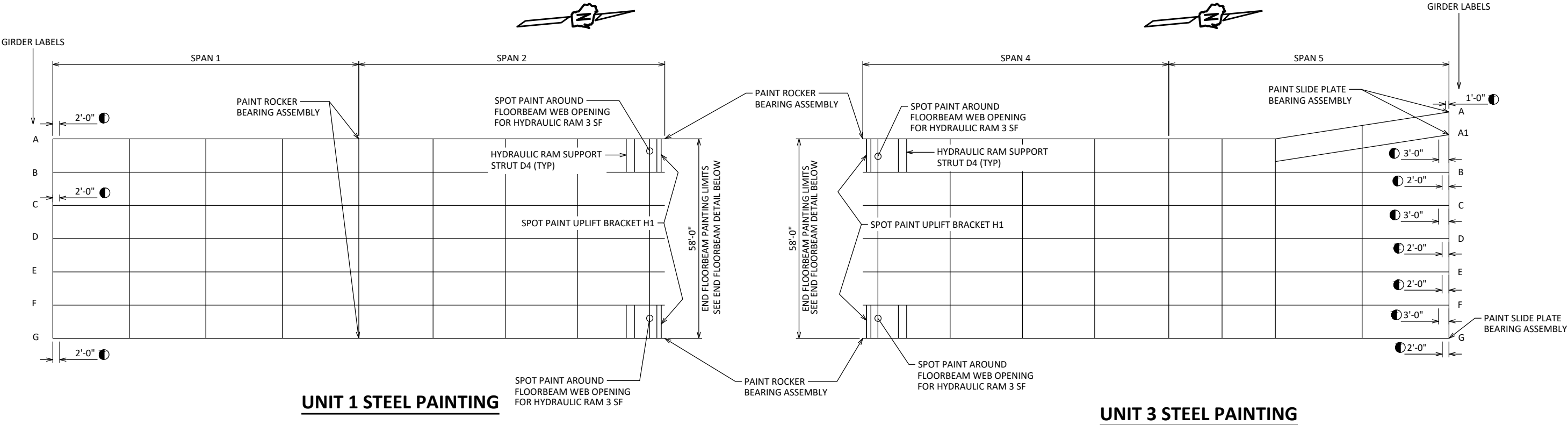
SCALE =

NOTES:

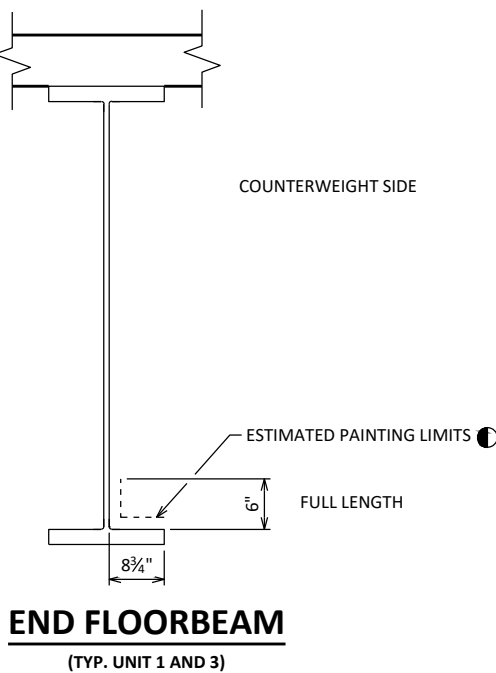
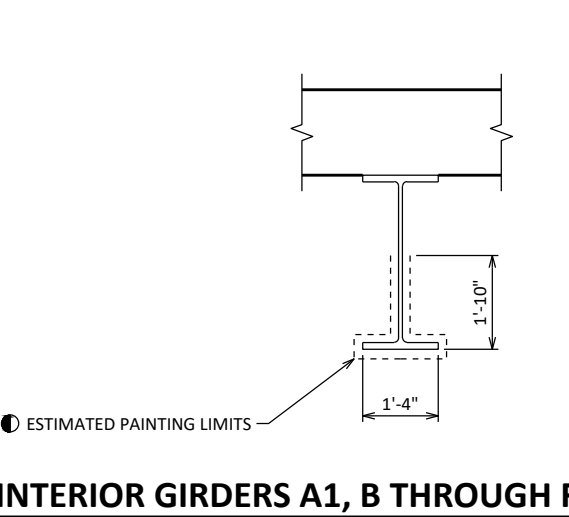
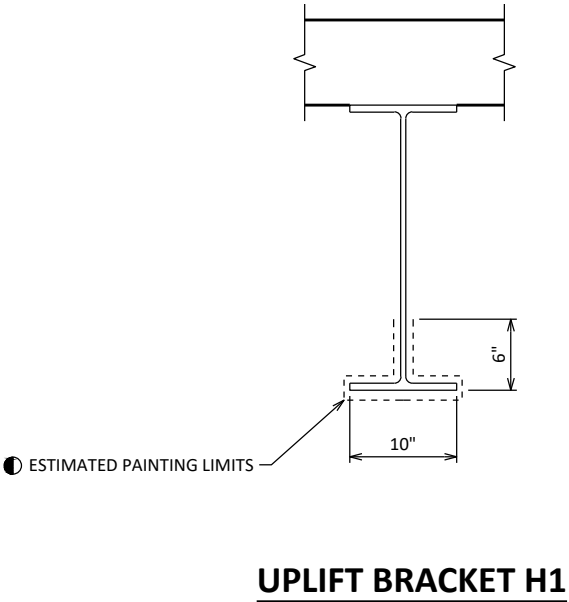
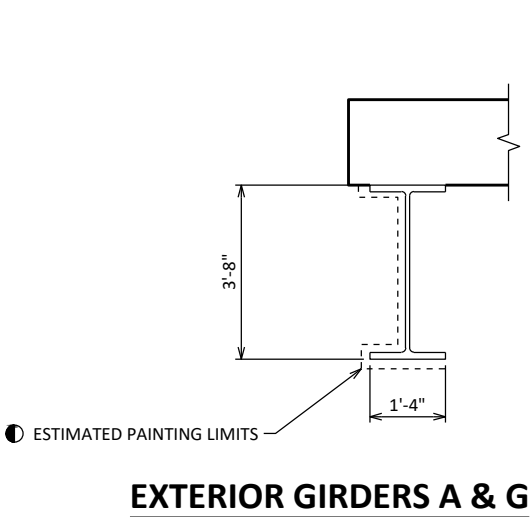
ALL WORK FOR SLIDE PLATE BEARING, ROCKER BEARING AND ROCKER BEARING PAINTING INCLUDED UNDER BID ITEM "STRUCTURE OVERCOATING CLEANING AND PRIMING B-70-56".

ALL WORK FOR SPOT PAINTING INCLUDED UNDER BID ITEM "STRUCTURE OVERCOATING CLEANING AND PRIMING B-70-56".

PAINTING LIMITS ESTIMATED OFF INSPECTION REPORTS. FINAL LIMITS TO BE DETERMINED BY ENGINEER.



8

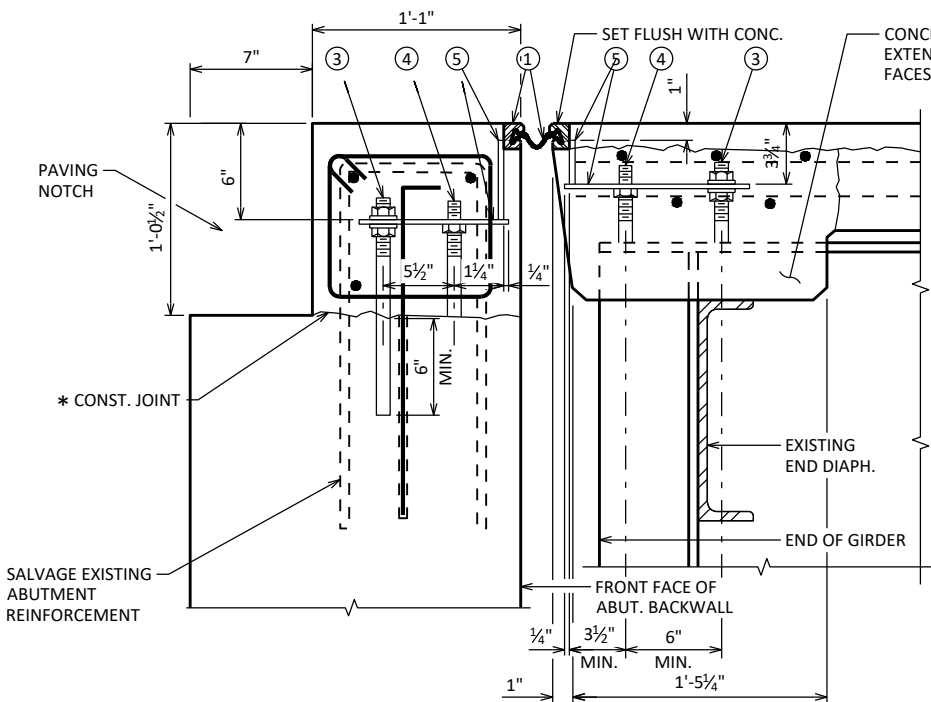


8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY JLA		PLANS CK'D MJB	
APPROACH SPANS STEEL PAINTING DETAILS		SHEET S-06	

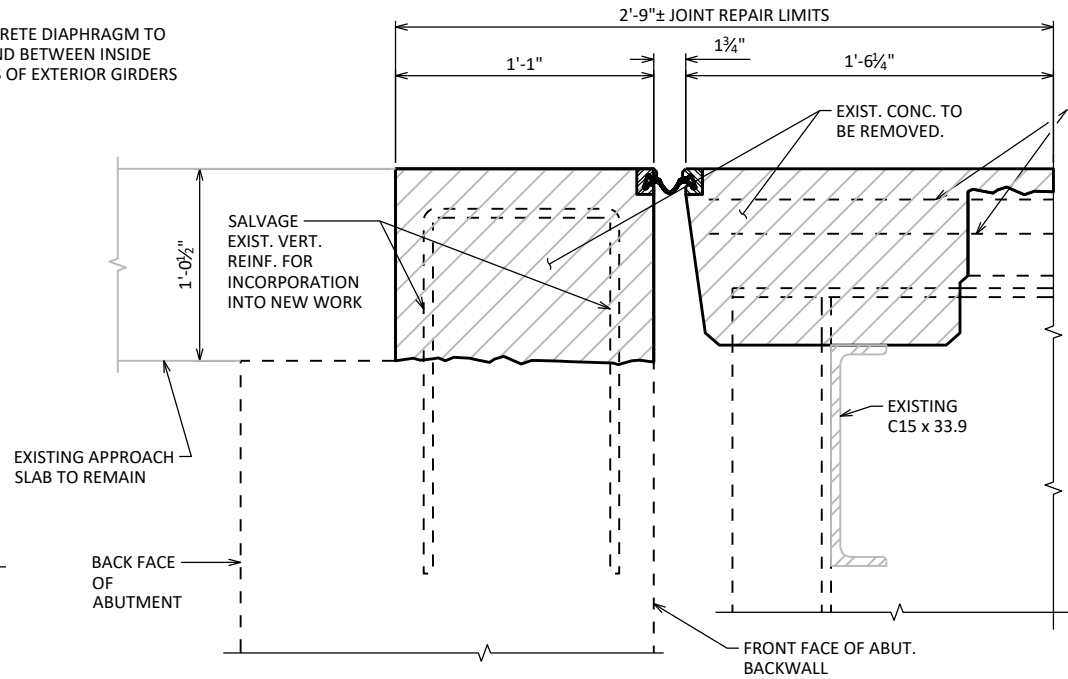
LEGEND

- ① NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
- ② STUDS 5/8" DIA. X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
- ②A 1/2" THICK ANCHOR PLATE WITH 5/8" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
- ③ 3/4" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
- ④ 3/4" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
- ⑤ FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.



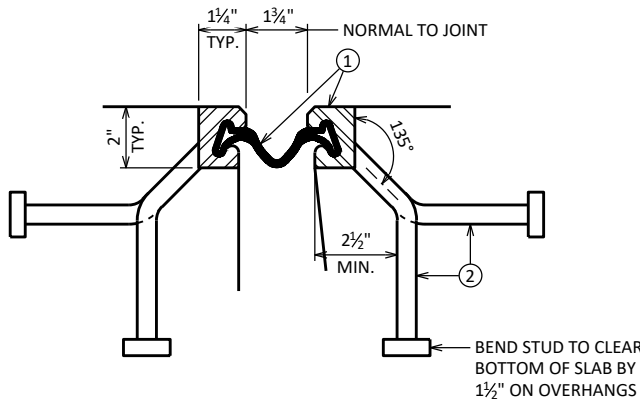
SECTION THRU JOINT AT ABUTMENT

NORMAL TO C/L SUBSTRUCTURE
(BTWN. SIDEWALKS)



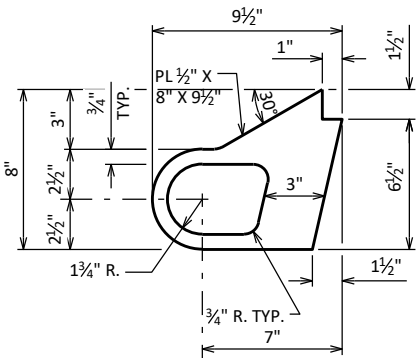
SECTION THRU JOINT AT ABUTMENT

NORMAL TO C/L SUBSTRUCTURE
(REMOVAL BTWN. SIDEWALKS)

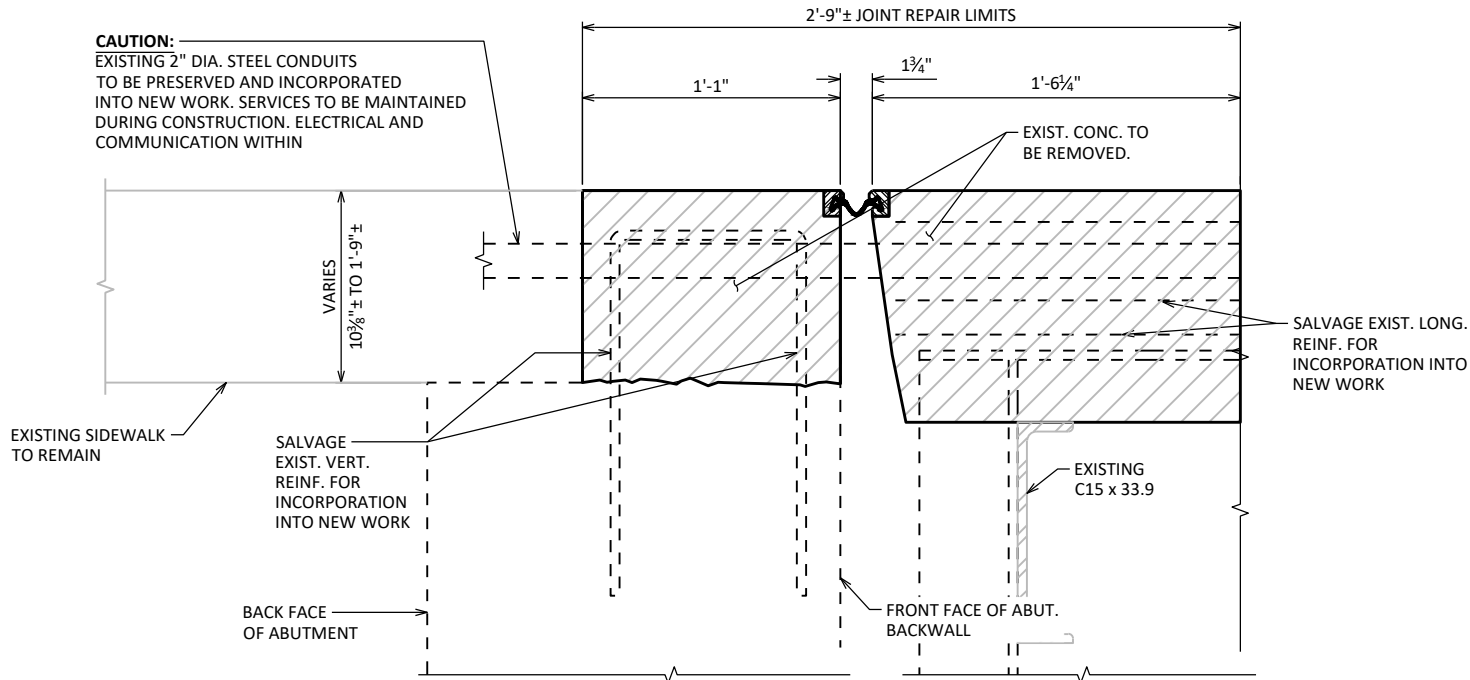


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS

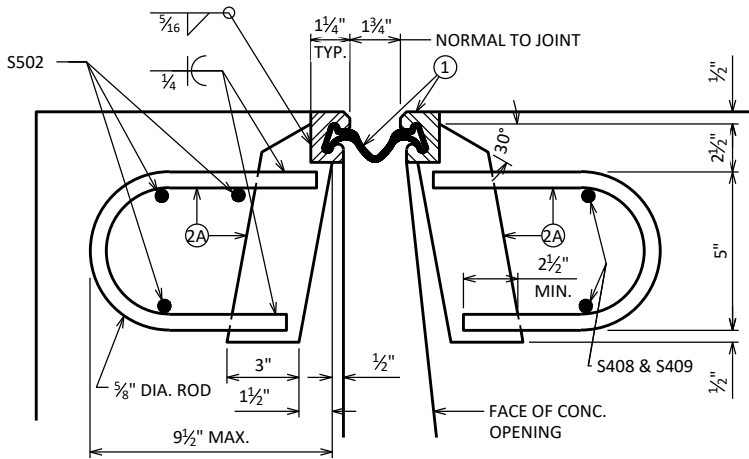


ALTERNATE STRIP SEAL ANCHOR



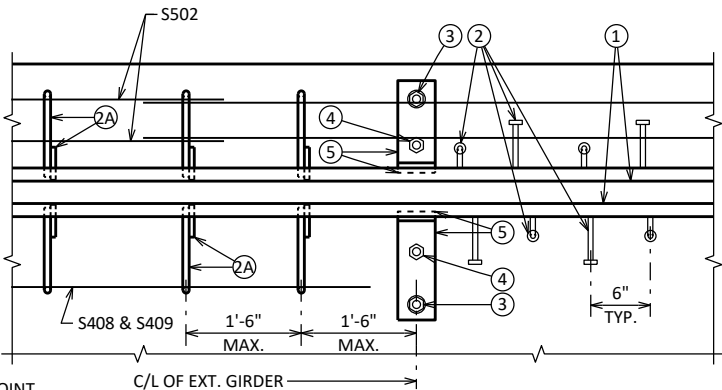
SECTION THRU JOINT AT ABUTMENT

NORMAL TO C/L SUBSTRUCTURE
(REMOVAL AT SIDEWALK)



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS



PART PLAN

NOTES

ONE FIELD SPlice PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, ANCHOR PLATES SHALL BE PROVIDED 3" FROM EACH SIDE OF THE FIELD SPlice. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPlicing PERMITTED IN NEOPRENE STRIP SEAL.

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

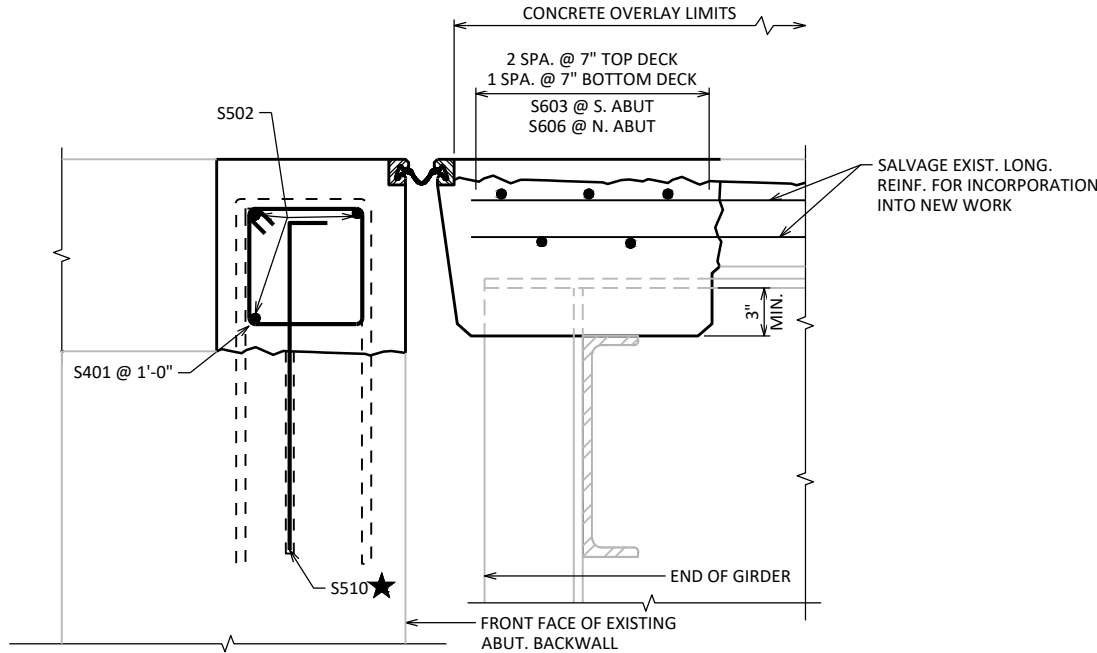
FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

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

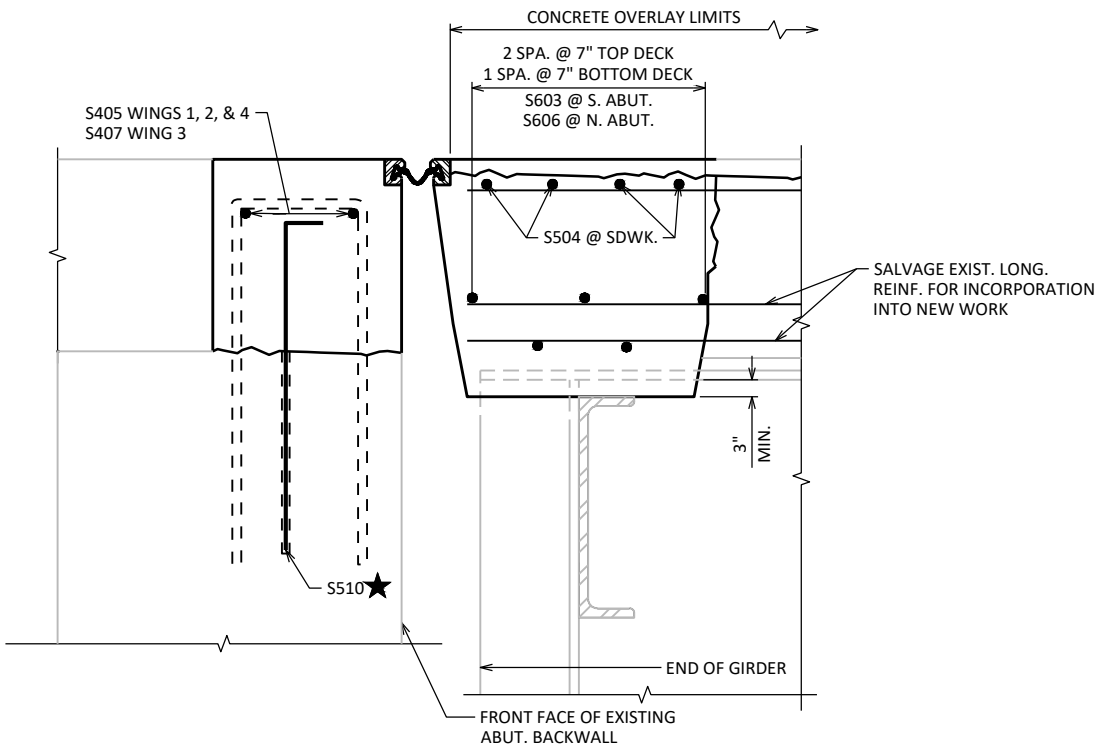
ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE B-70-56", LF.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY JLA		PLANS CK'D RCP	
STRIP SEAL EXPANSION JOINT DETAILS			SHEET S-07



EXPANSION JOINT REINF. DETAILS

NORMAL TO C/L SUBSTRUCTURE
(BTWN. SIDEWALKS)



EXPANSION JOINT REINF. DETAILS

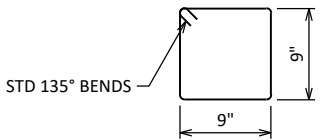
NORMAL TO C/L SUBSTRUCTURE
(AT SIDEWALK)

★ S510 ADHESIVE ANCHORS EMBED 1'-0" IN CONCRETE BACKWALL. SPACE AT 1'-0".
TURN 10" LEG AS NECESSARY TO FIT.

BILL OF BARS

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

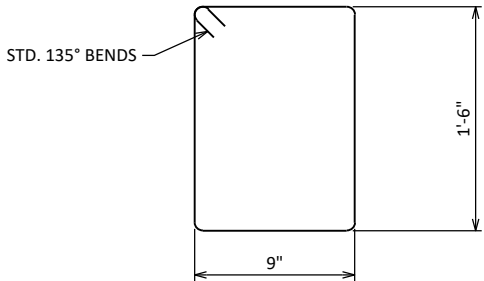
BAR MARK	COAT	NO. REQ'D.		LENGTH	BENT	BAR SERIES	LOCATION
		S. ABUT.	N. ABUT.				
S401	X	48	56	3'-6"	X		PAVING BLOCK VERT. STIRRUP
S502	X	21	24	7'-6"			PAVING BLOCK HORIZ.
S603	X	10	5	31'-2"			JOINT HORIZ.
S504	X	8	8	8'-5"	X		JOINT @ SIDEWALK - WINGS
S405	X	4	2	4'-6"			PAVING BLOCK @ SIDEWALK WINGS 1,2 & 4
S606	X	0	5	38'-11"			JOINT - HORIZ.
S407	X	0	2	4'-7"			JOINT @ SIDEWALK - WING 3 - HORIZ.
S408	X	12	10	8'-8"			JOINT HORIZ. BTWN GIRDERS
S409	X	0	4	7'-9"			JOINT HORIZ. BTWN GIRDERS
S510	X	58	66	2'-5"	X		PAVING BLOCK - VERT. ADHESIVE ANCHORS
S411	X	6	6	5'-0"	X		PAVING BLOCK VERT. STIRRUP



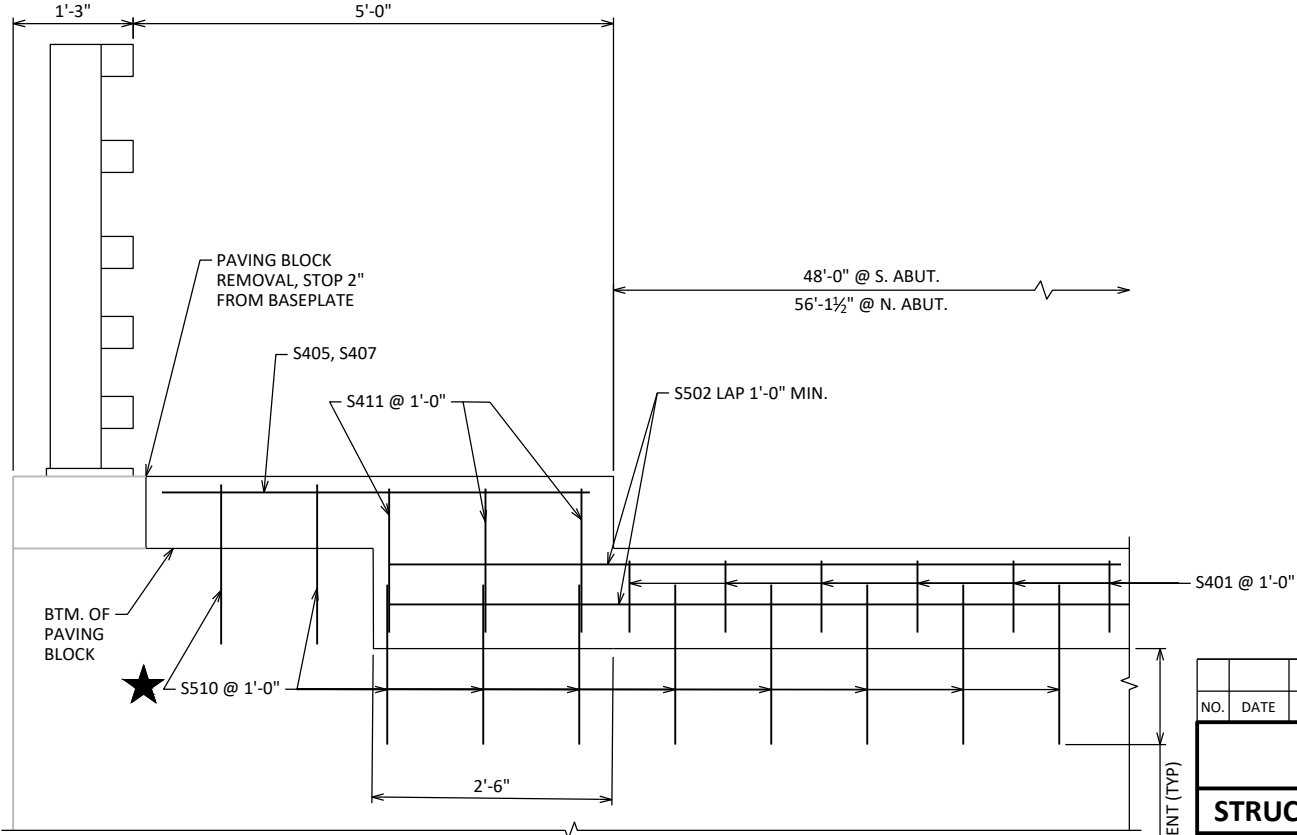
S401

S504

S510



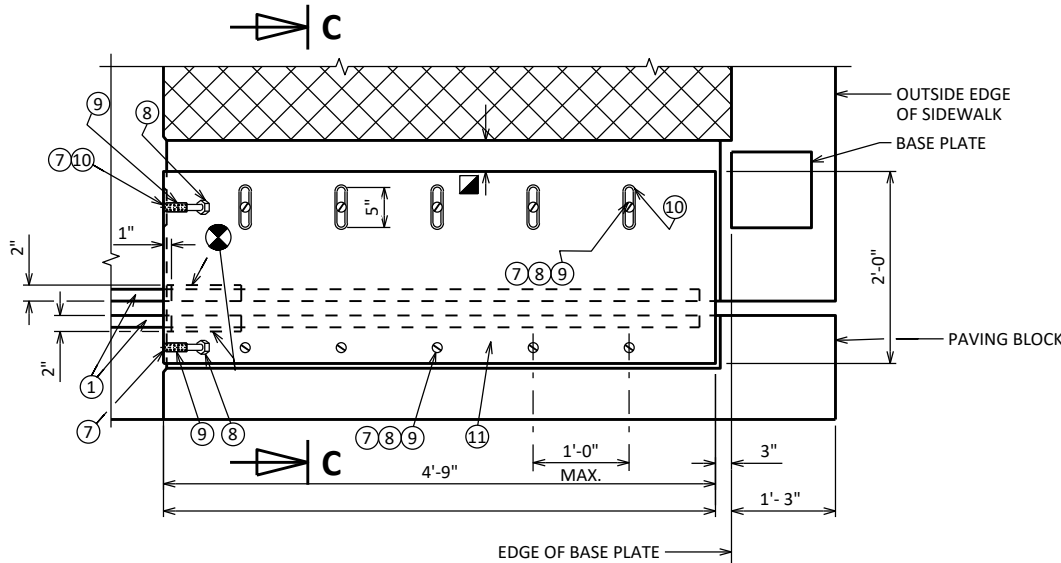
S411



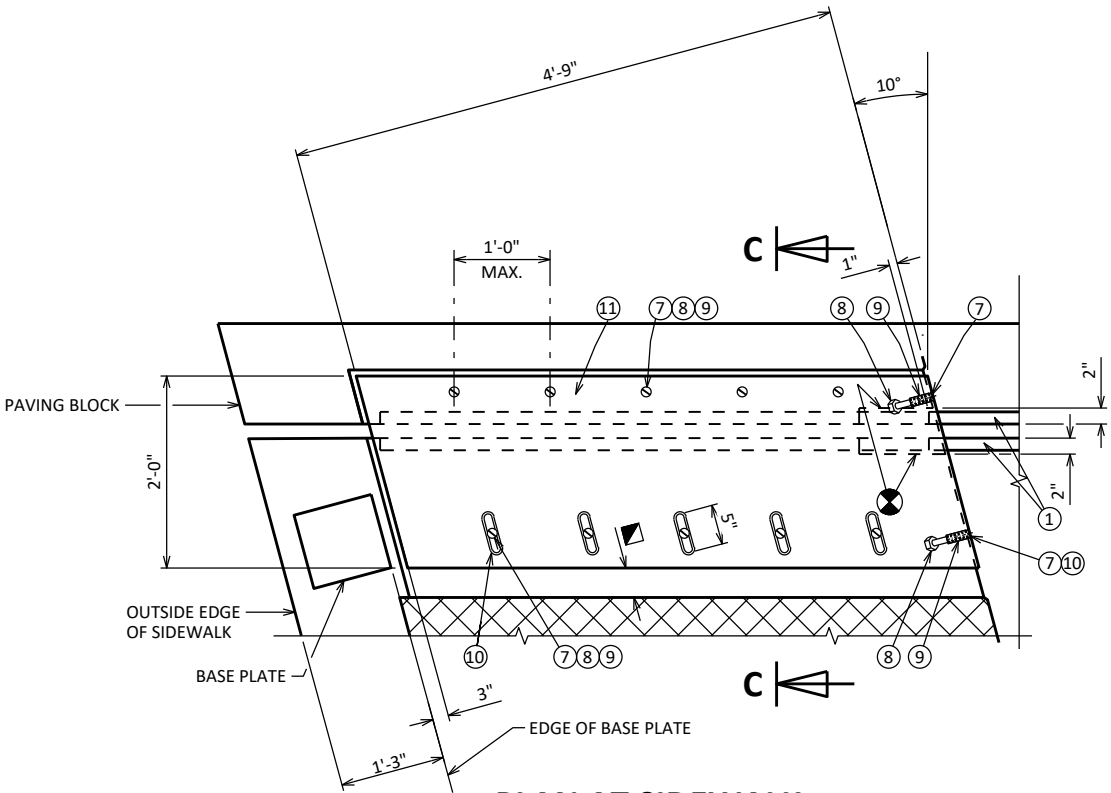
SECTION THRU PAVING BLOCK

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		JLA	PLANS CK'D RCP
STRIP SEAL EXPANSION JOINT DETAILS CONTINUED		SHEET S-08	

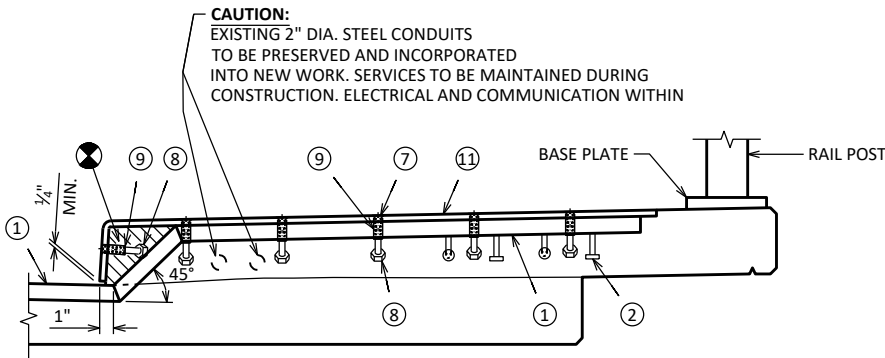
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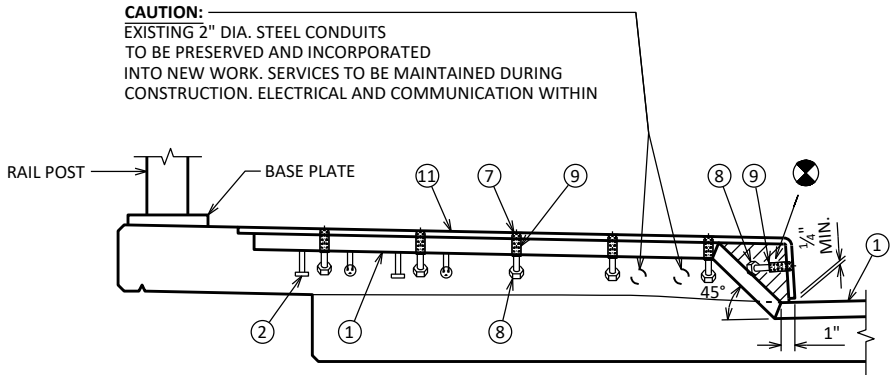
PLAN AT SIDEWALK
(WINGS 1,2 & 4)



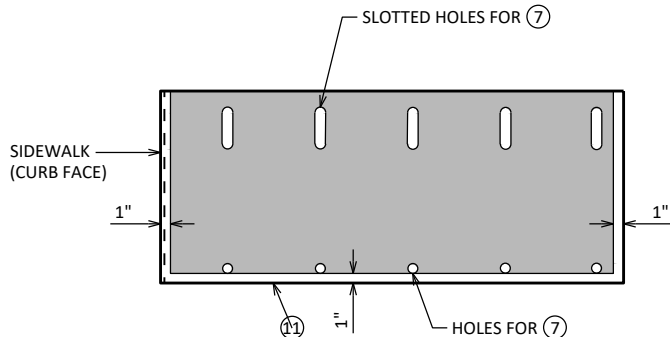
PLAN AT SIDEWALK
(WING 3)



SECTION AT SIDEWALK
(WINGS 1,2 & 4)



SECTION AT SIDEWALK
(WING 3)



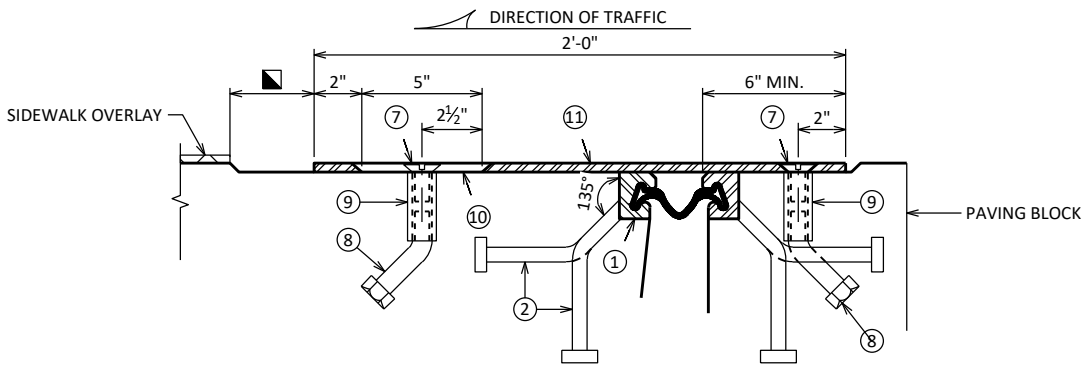
PLAN OF SIDEWALK COVER PLATE
WITH SLIP-RESISTANT SURFACE

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

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

LEGEND

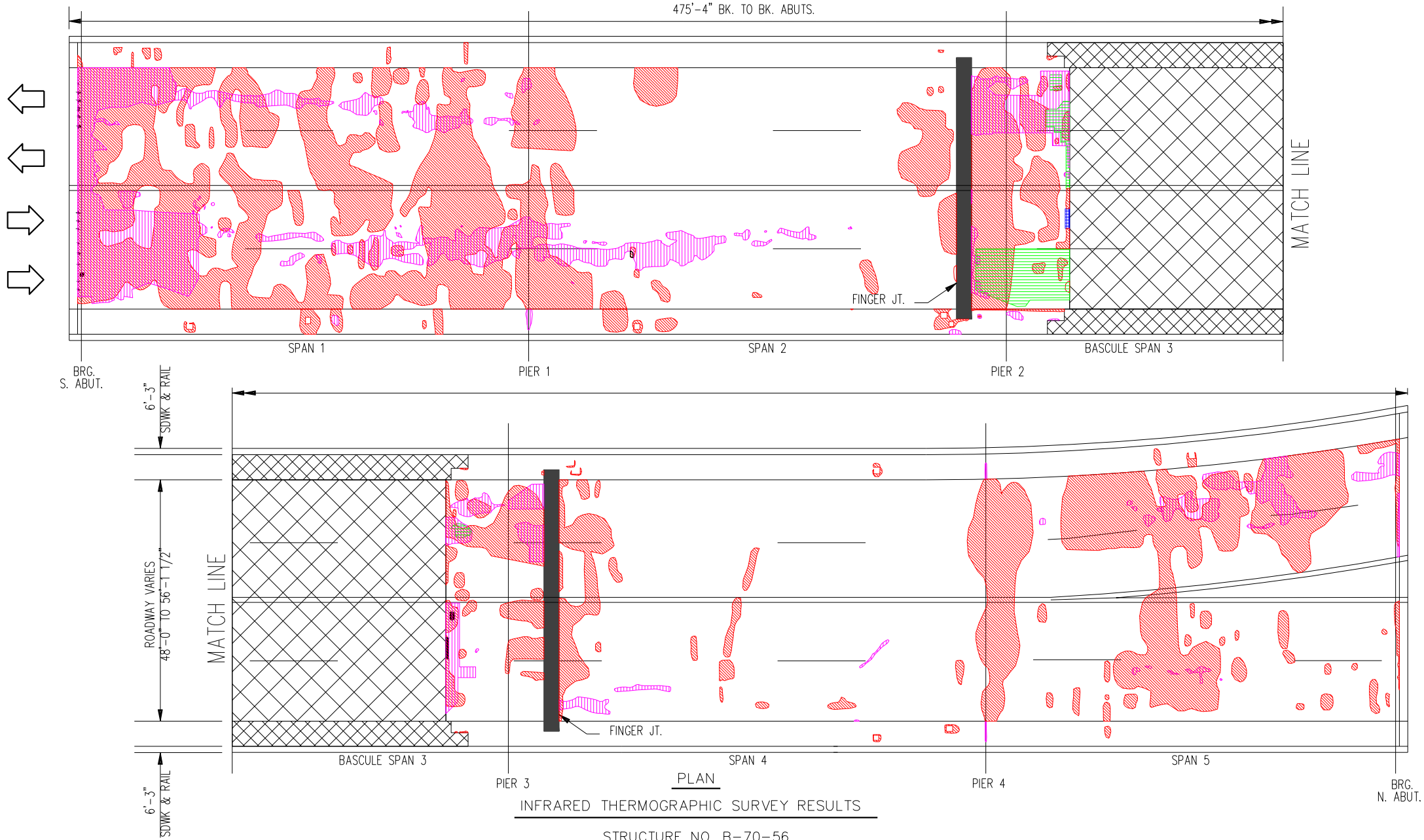
- 7 3/4" DIA. X 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
- 8 3/4" DIA. X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
- 9 3/4" DIA. X 2 1/4" GALVANIZED THREADED COUPLING.
- 10 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.
- 11 SIDEWALK COVER PLATE 3/4" X 2'-0" X LIMITS SHOWN. BEND DOWN FACE OF SIDEWALK WITH HOLES FOR NO. 7. GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.



SECTION C-C

- Block out concrete 2" each side of joint opening.
- Joint opening dimension along skew plus 1/2". (DO NOT APPLY POLYMER OVERLAY IN THIS AREA)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY JLA		PLANS CK'D RCP	
COVER PLATE DETAILS		SHEET S-09	



PLAN
INFRARED THERMOGRAPHIC SURVEY RESULTS

STRUCTURE NO. B-70-56

FIELD OBSERVATIONS SUMMARY		UNIT 0001 S. ABUT.-PIER 2		UNIT 0002 PIER 2-PIER 3		UNIT 0003 PIER 3-N. ABUT.		DECK TOTAL		SIDEWALK		LEGEND	
ITEM	UNIT	QUANT.	%	QUANT.	%	QUANT.	%	QUANT.	%	QUANT.	%		
TOTAL AREA	ft ²	8947		5280		8587		22814		5941		DELAMINATION	
SHADE/DEBRIS/STEEL DECK	ft ²	318		4080		318		4716		931		SPALL	
DELAMINATION	ft ²	3417	39.6	401	33.4	2042	24.7	5860	32.4	129	2.6	DEBOND/MISSING TPO	
SPALL	ft ²	2	<0.1	3	0.2	0	0	5	<0.1	0	0	ASPHALT PATCH	
DEBOND/MISSING TPO	ft ²	1234	14.3	246	20.5	275	3.3	1755	9.7	15	0.3	PCC PATCH	
ASPHALT PATCH	ft ²	0	0	3	0.2	0	0	3	<0.1	0	0	SHADE/DEBRIS/STEEL	
PCC PATCH	ft ²	57	0.7	179	14.9	0	0	236	1.3	0	0		



SURFACE TYPE: THIN POLYMER OVERLAY
INFRARED INSPECTION DATE: 8/21/24,
6:05 PM

DATA COL DO/AB

ANALYSIS DO

CADD DO/DS

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NO

REVISIONS

DRN CHK

DATE

INFRARED THERMOGRAPHIC INVESTIGATION OF
USH 45-S MAIN ST OVER FOX RIVER
STRUCTURE NO. B-70-56
PREPARED FOR
WISCONSIN DEPARTMENT OF TRANSPORTATION
BUREAU OF STRUCTURES

DATE 9/16/24

PROJECT NO 60732786

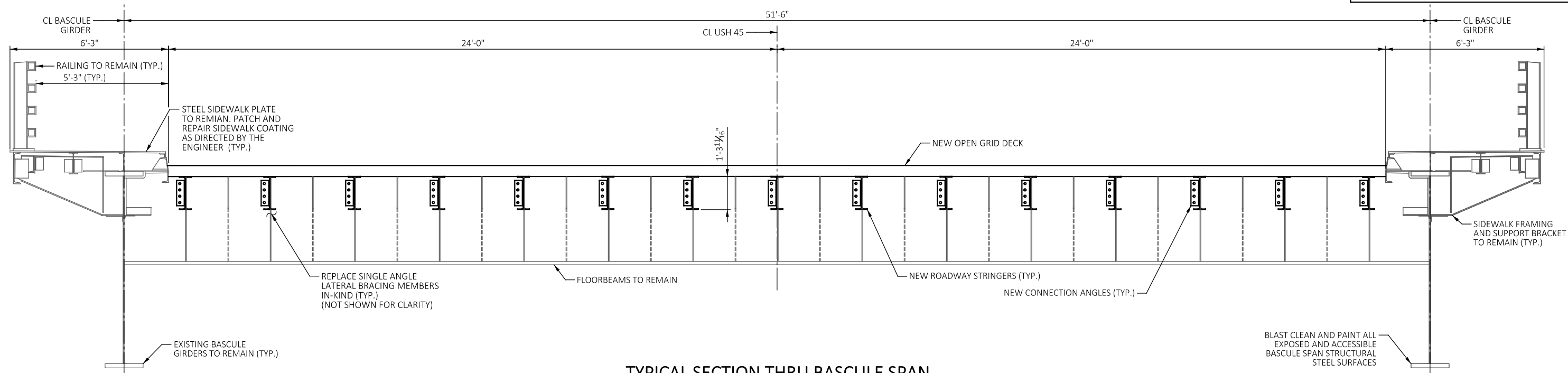
FILENAME B-70-56-IR.DGN

SHEET NO 1 OF 1

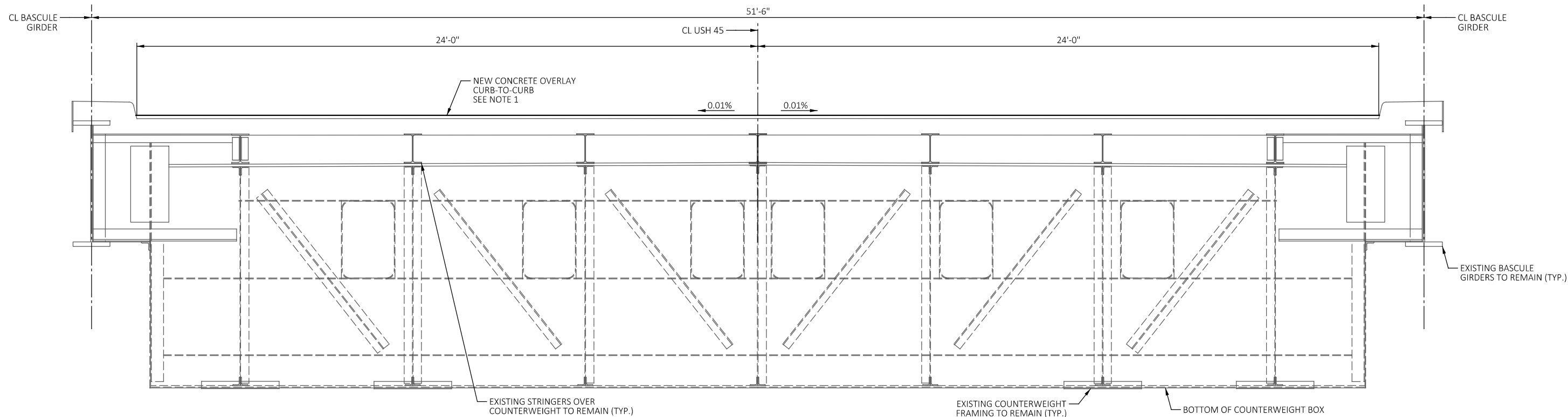
DRAWING NO

AECOM

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY JLA		PLANS CK'D MJB	
UNIT 1, 2, & 3 DECK SCAN		SHEET S-10	



TYPICAL SECTION THRU BASCULE SPAN

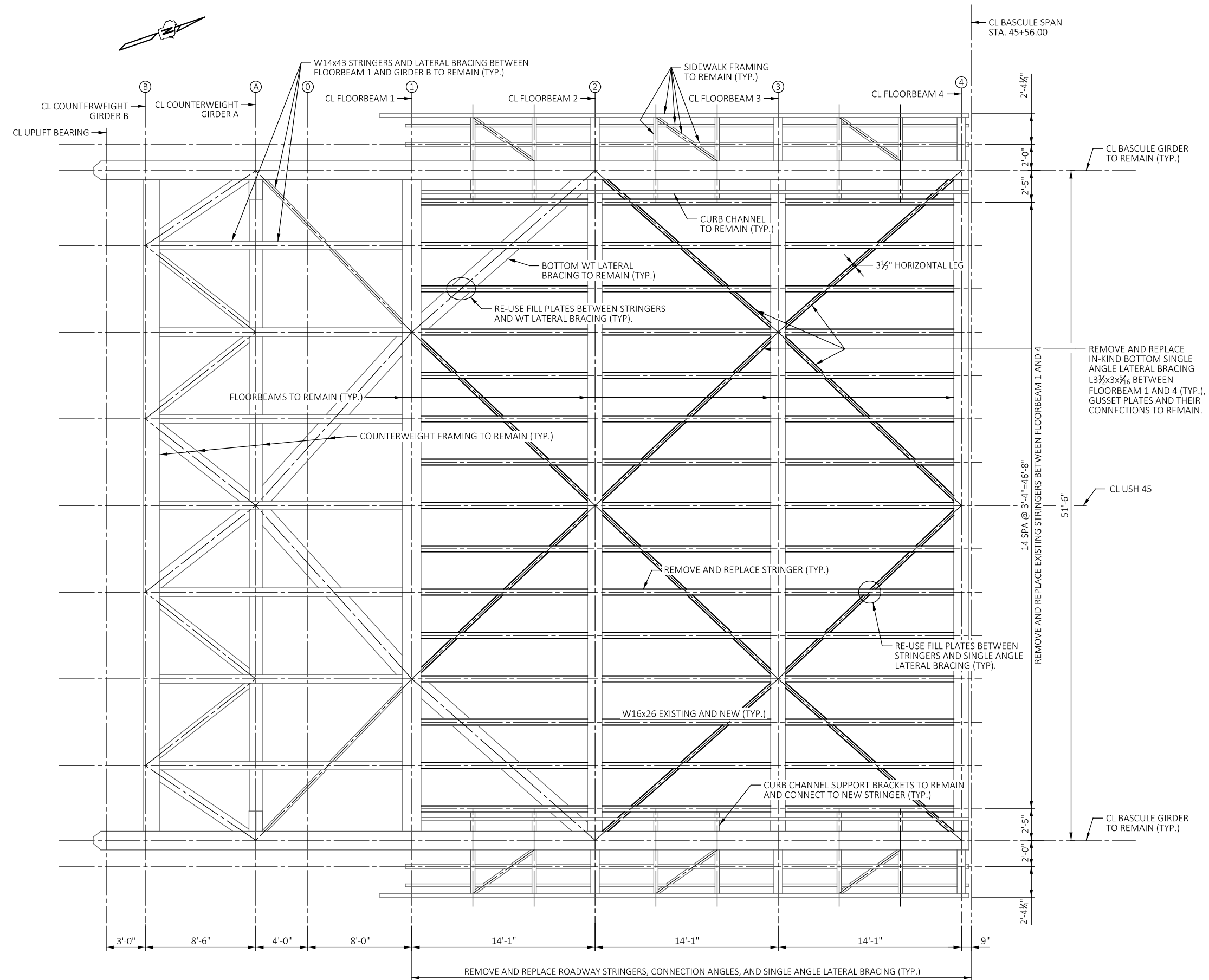


TYPICAL SECTION AT FRONT OF COUNTERWEIGHT

NOTES:

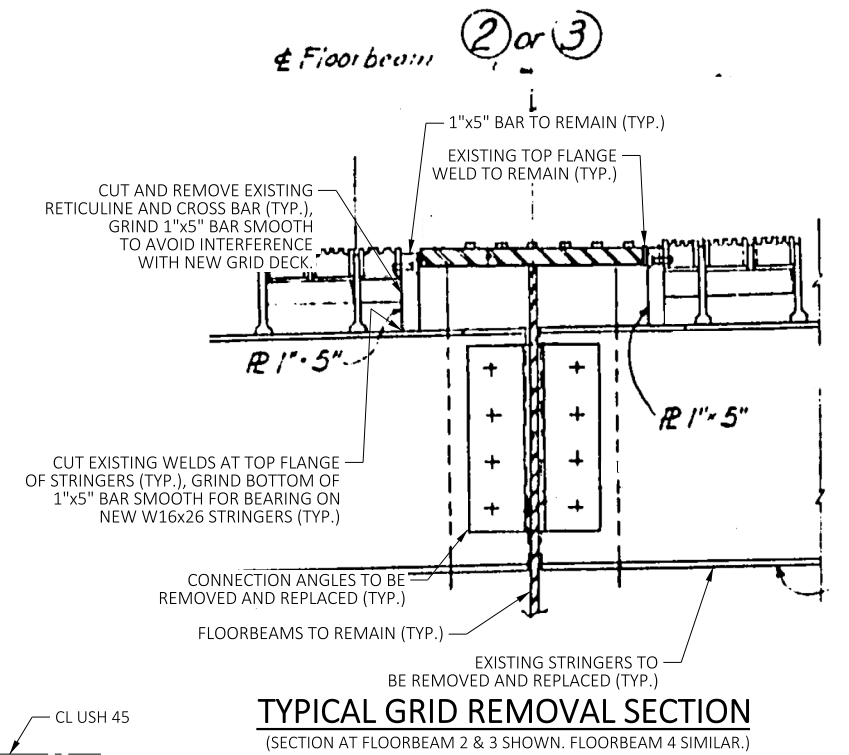
- MILL AND REMOVE 1" OF EXISTING CONCRETE OVERLAY PLUS 3/4" OF ORIGINAL DECK AND REPLACE WITH 1 3/4" OVERLAY. MAINTAIN EXISTING CROSS SLOPES AND SURFACE ELEVATIONS.
- THE AVERAGE OVERLAY THICKNESS ON THE BASCULE SPAN IS 1 3/4" BASED ON THE MINIMUM OVERLAY THICKNESS PLUS 1/2-INCH TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		JSH	PLANS CK'D. DEM
BASCULE SPAN PROPOSED TYPICAL SECTIONS		S-11	

**NOTES:**

- ALL NEW STRINGERS, CONNECTION ANGLES, LATERAL BRACING, AND ASSOCIATED CONNECTION BOLTS TO BE GALVANIZED AND PAINTED.
- NEW LATERAL BRACING ANGLES SHALL BE FIELD DRILLED TO MATCH GUSSET PLATE HOLES.
- FIELD DRILL HOLES IN NEW STRINGER CONNECTION ANGLES TO MATCH EXISTING HOLES IN FLOORBEAMS.

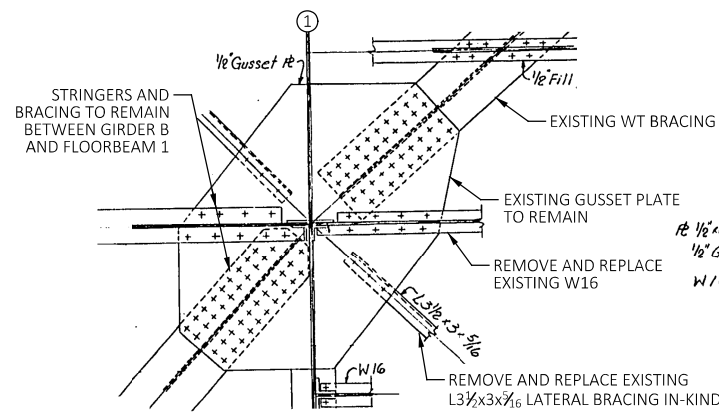
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		JSH	PLANS CK'D. DEM
BASCULE SPAN PROPOSED FRAMING PLAN		S-12	



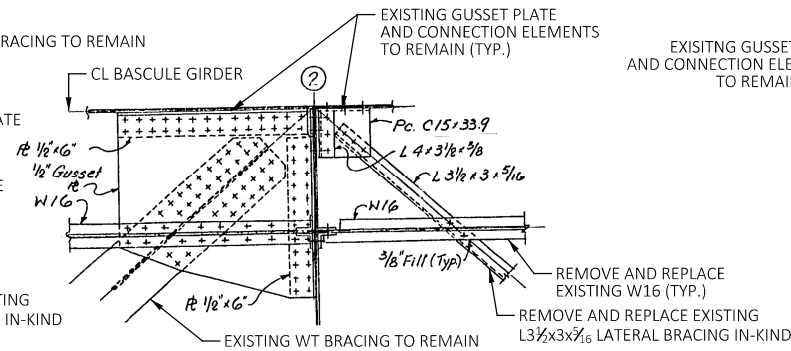
1. DETAILS OF THE ROADWAY GRID SHOWN ARE BASED ON A WELDED 5-INCH 4-WAY TYPE HAVING DIAGONAL ELEMENTS. PROVIDE A $5\frac{1}{8}$ " GRID THAT HAS A MINIMUM SECTION MODULUS OF 3.63 CUBIC INCHES PER FOOT TO THE TOP AND 4.21 CUBIC INCHES PER FOOT TO THE BOTTOM BASED ON 50% DIAGONAL BARS BEING ACTIVE. AN EQUIVALENT STRENGTH $5\frac{1}{8}$ " RIVETED GRID SYSTEM MAY BE SUBMITTED TO THE ENGINEER FOR REVIEW AND POSSIBLE APPROVAL. SUBMIT ALL REQUIRED CHANGES TO DETAILS THAT ARE NECESSARY. ANY RESULTING INCREASES IN COSTS OF OTHER ITEMS DUE TO THE ALTERNATE GRID WILL NOT BE COMPENSATED. THE COUNTERWEIGHT MATERIAL SHOWN ON THE PLANS TO BE ADDED (IF REQUIRED) TO EACH BASCULE LEAF AND PAID FOR IS BASED ON THE GRID HAVING A UNIT WEIGHT OF 21.3 POUNDS PER SQUARE FOOT INCLUDING BOLT DOWN ASSEMBLIES AND GALVANIZING. COMPENSATION FOR DESIGNING, FURNISHING, AND INSTALLING ALL ADDITIONAL COUNTERWEIGHT NECESSARY FOR AN ALTERNATE GRID SYSTEM, IF APPROVED AND USED, WILL NOT BE COMPENSATED.
2. GALVANIZE ALL PARTS OF STEEL FLOOR GRID (GRID TRIM BARS, JOINT BARS, BOLT DOWN ASSEMBLIES, AND FASTENERS).
3. FIELD DRILL HOLES IN NEW STRINGER FLANGES AFTER ACCURATE GRID LAYOUT HAS BEEN PERFORMED.
4. SEE SHEET S-14 FOR ALL SECTIONS SHOWN ON THIS SHEET.
5. THE COST OF THE GRID BOLT DOWN ASSEMBLY IS INCLUDED IN THE BID ITEM: STEEL GRID FLOOR 5-INCH.

(REPLACEMENT REQUIRED ON BOTH LEAVES, SOUTH LEAF SHOWN,
NEW REPLACEMENT ON NORTH LEAF OPPOSITE HAND.
SIDEWALKS AND CURBS NOT SHOWN FOR CLARITY.)

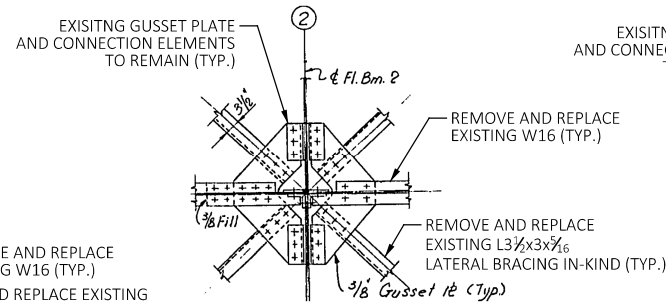
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
		DRAWN BY	PLANS CK'D. DEM
BASCULE SPAN DECK PLAN		S-13	



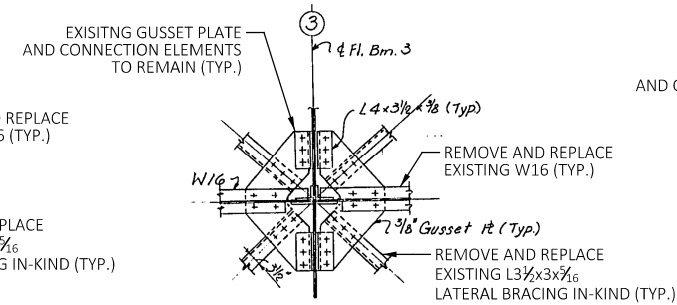
**LATERAL BRACING CONNECTION
AT FLOORBEAM 1**



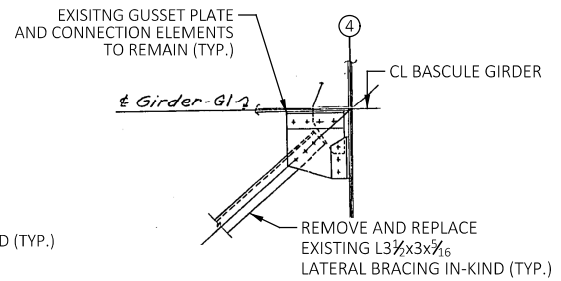
**LATERAL BRACING CONNECTION
AT BASCULE GIRDER AT FLOORBEAM 2**



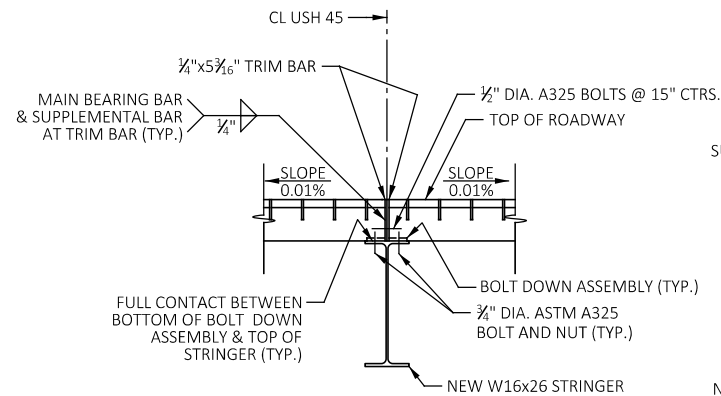
**LATERAL BRACING CONNECTION
AT CENTER OF FLOORBEAM 2**



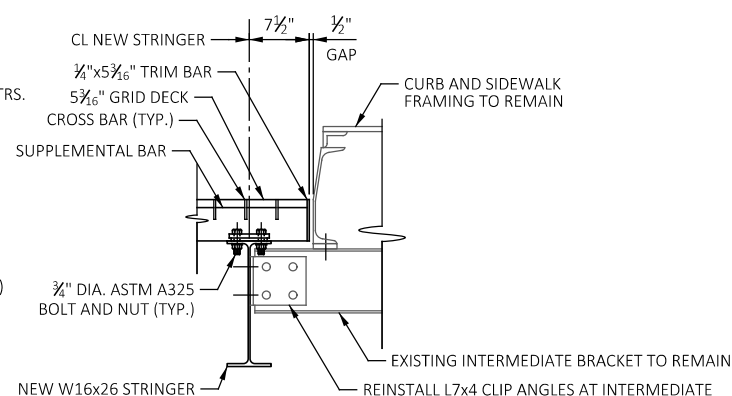
**LATERAL BRACING CONNECTION
AT FLOORBEAM 3**



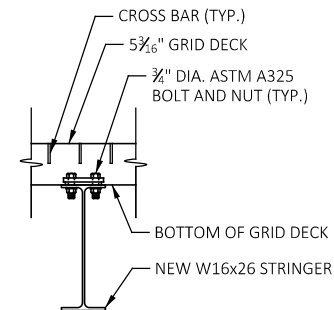
**LATERAL BRACING CONNECTION
AT BASCULE GIRDER AT FLOORBEAM 4**



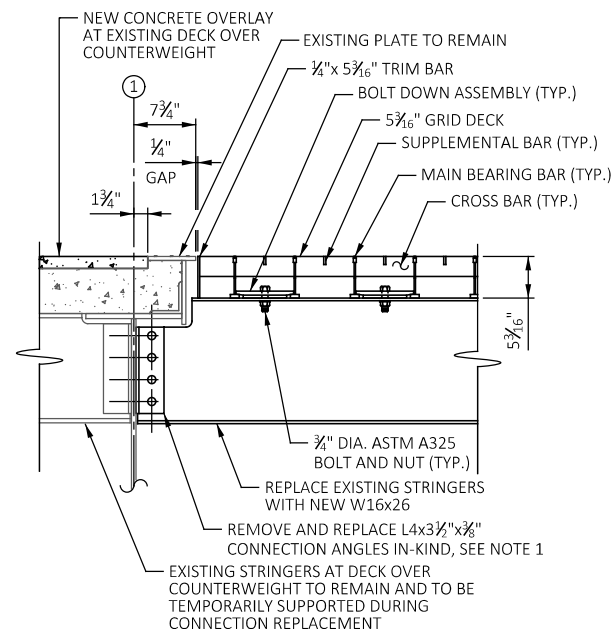
SECTION A-A



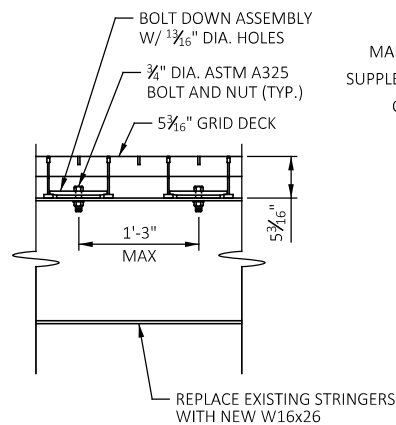
SECTION B-B



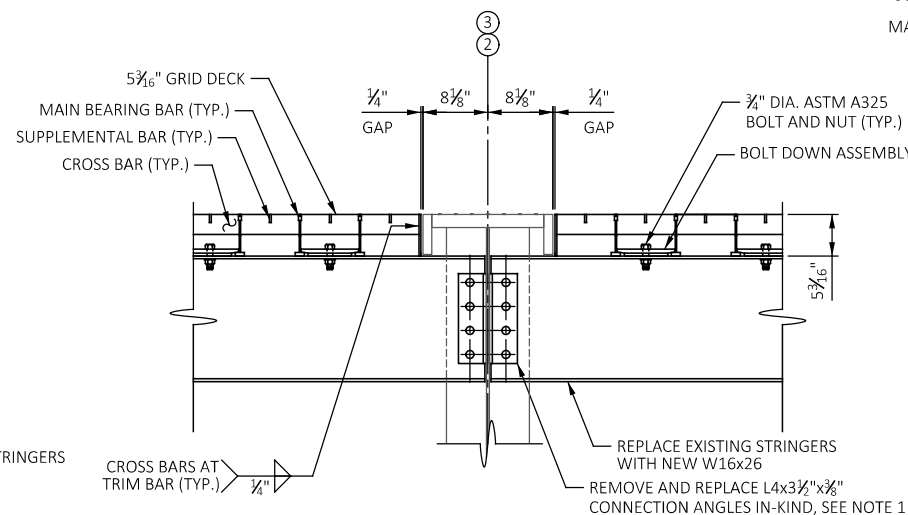
SECTION C-C



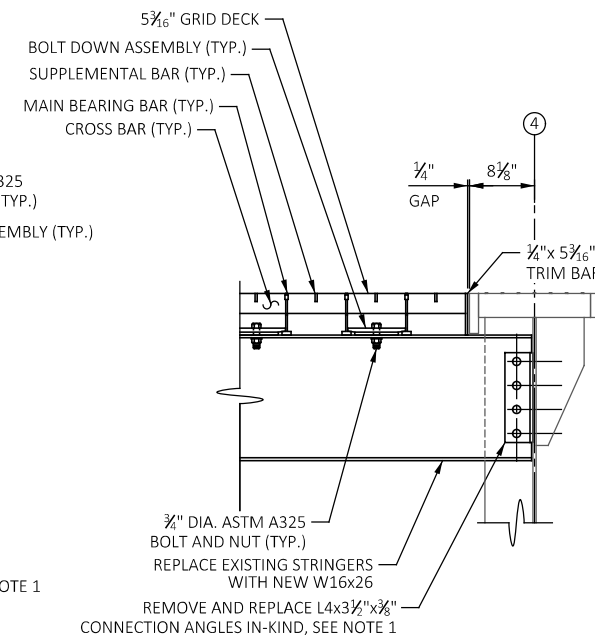
SECTION D-D



SECTION E-E



SECTION F-F

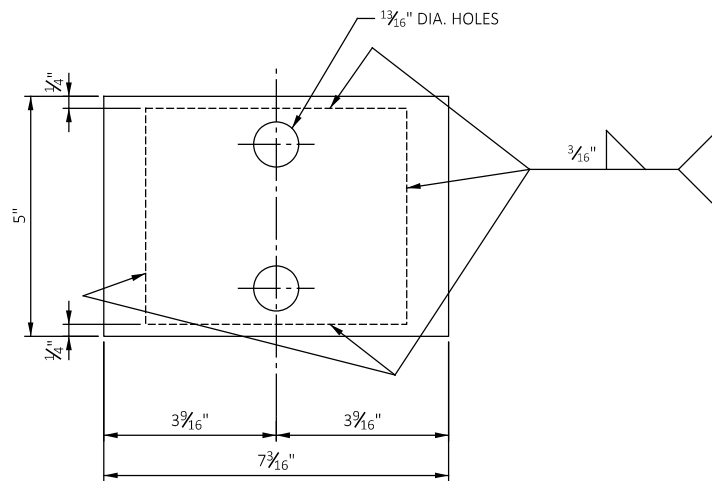


SECTION G-G

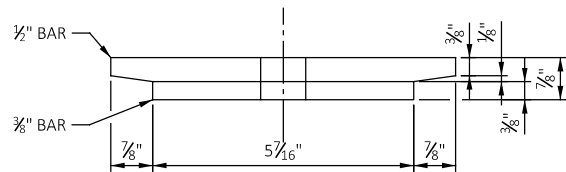
NOTES:

- REPLACE BOLTS WITH NEW H.S. BOLTS. FIELD DRILL HOLES IN NEW CONNECTION ANGLES USING EXISTING HOLES IN FLOORBEAM AS A TEMPLATE, TYP. BLAST CLEAN AND PAINT NEW AND RE-USED CONNECTION ELEMENTS.
- POSITION NEW STRINGERS VERTICALLY TO ENSURE TOP OF NEW GRID WILL BE FLUSH WITH TOP OF FLOORBEAM FLANGES BEFORE FIELD DRILLING HOLES.
- FOR BOLT DOWN ASSEMBLY DETAILS SEE SHEET S-15.
- RE-USE EXISTING FILL PLATES AT NEW STRINGERS AND LATERAL BRACING. RE-USE EXISTING FILL PLATES AT GUSSET CONNECTIONS.

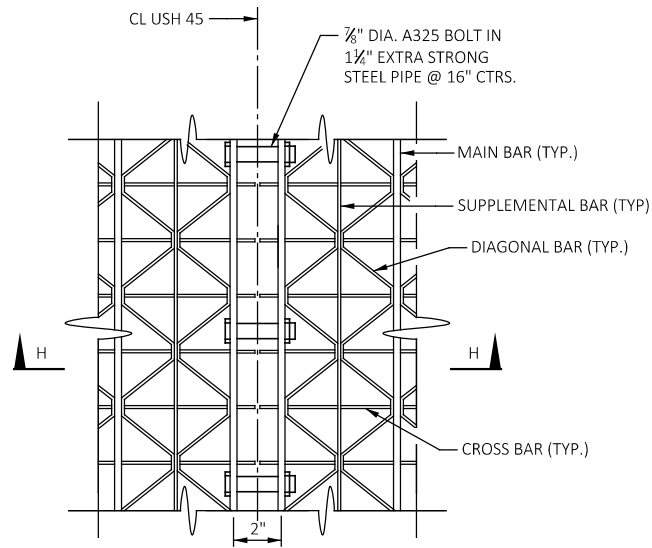
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CK'D.	DEM
BASCULE SPAN FRAMING DETAILS 1 OF 2		S-14	



BOLT DOWN ASSEMBLY PLAN VIEW

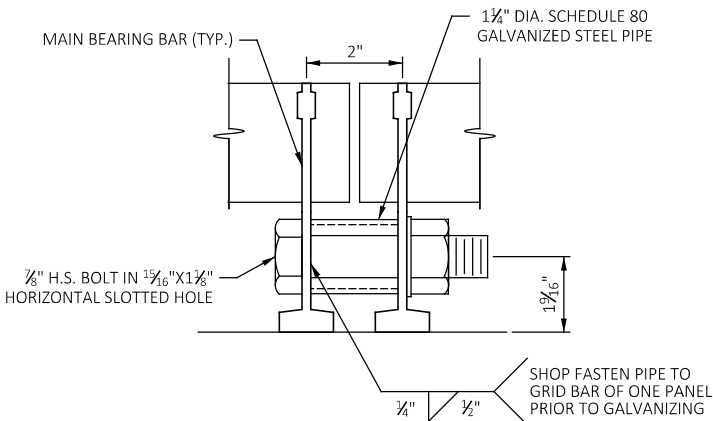


BOLT DOWN ASSEMBLY ELEVATION VIEW

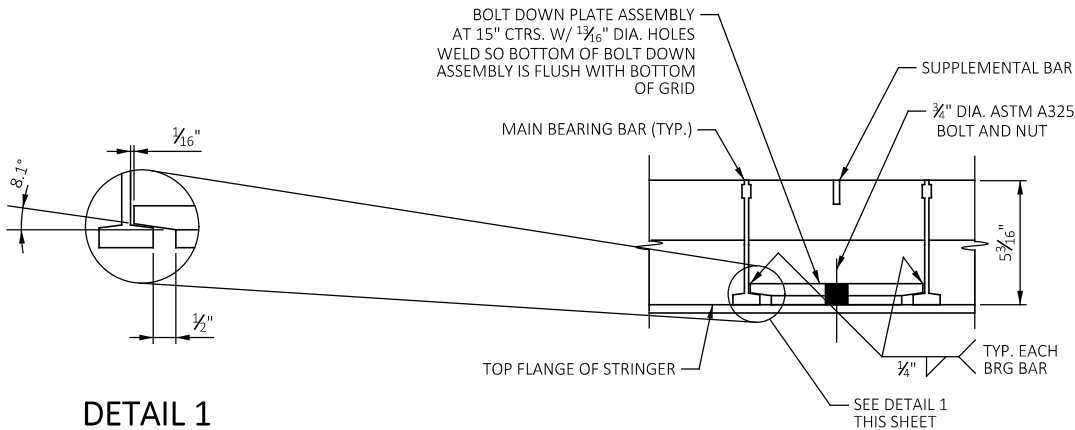


TRANSVERSE GRID SPLICE DETAIL

(TRANSVERSE JOINT BETWEEN GRID PANELS)



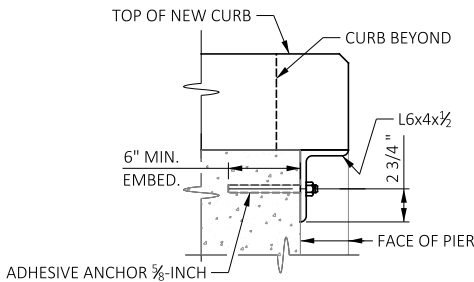
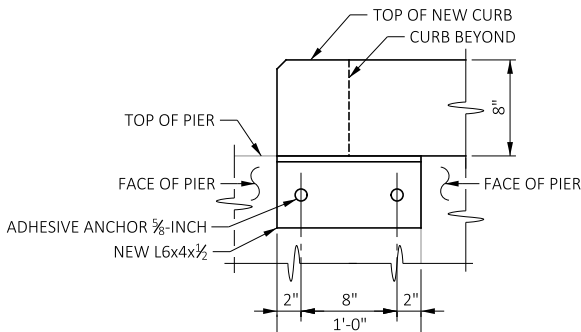
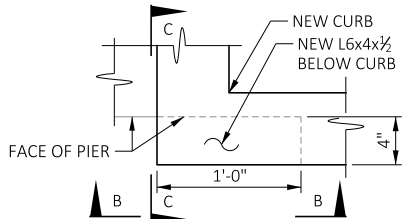
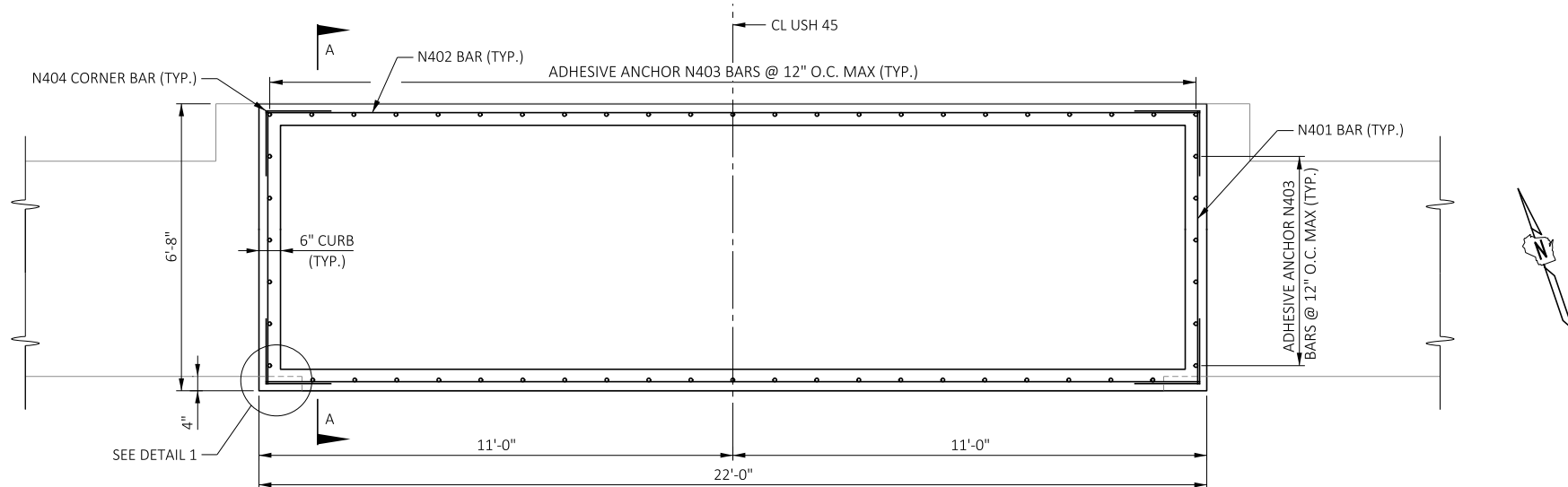
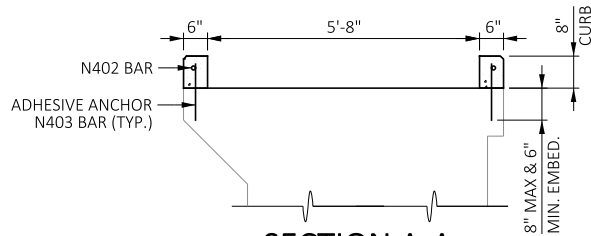
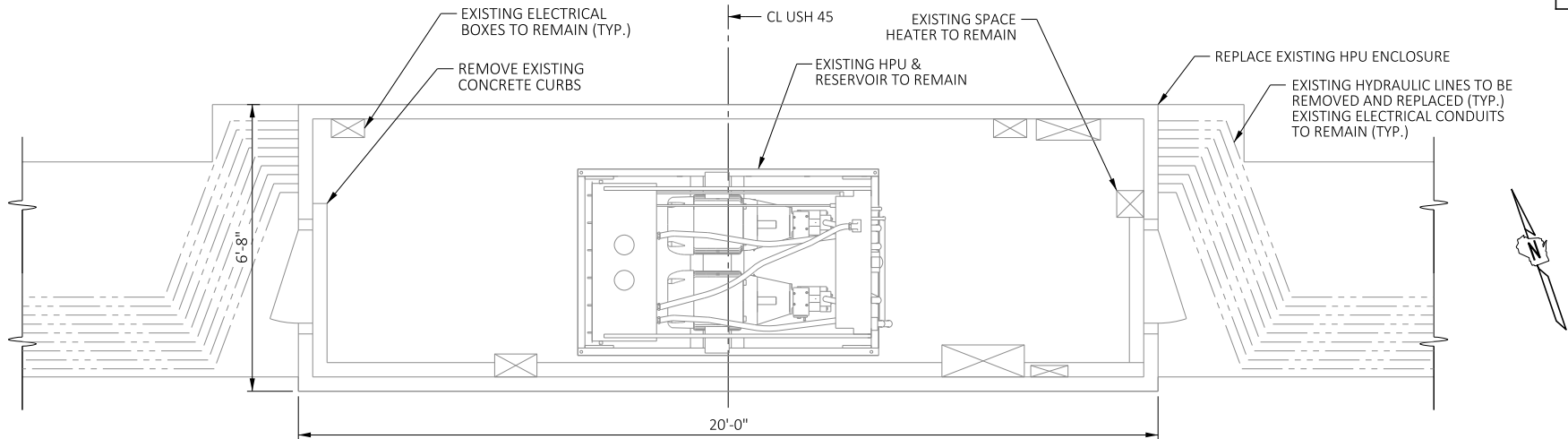
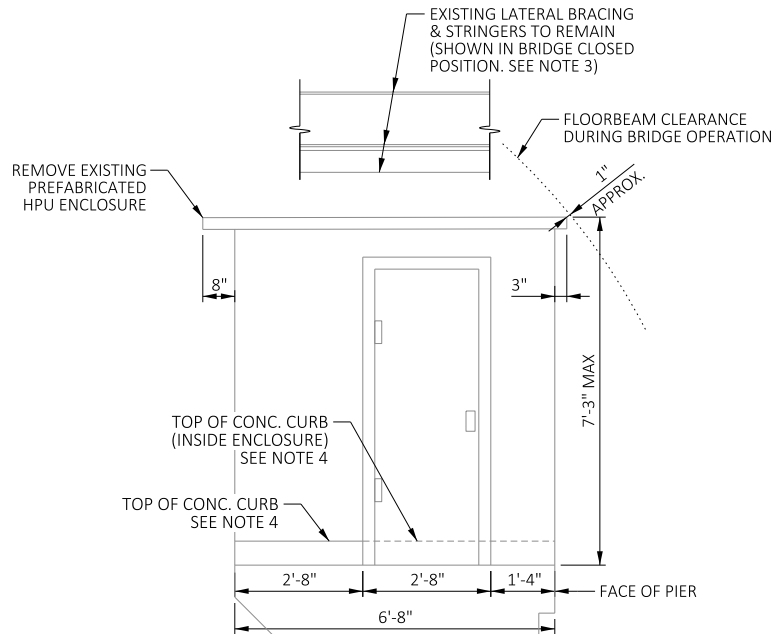
SECTION H-H



DETAIL 1

**TYPICAL BOLT DOWN ASSEMBLY
CONNECTION DETAIL**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CK'D.	DEM
BASCULE SPAN FRAMING DETAILS 2 OF 2		S-15	



BILL OF BARS NORTH PIER

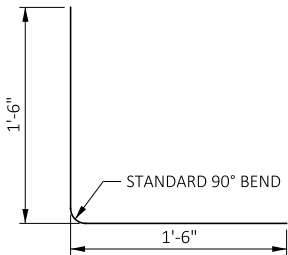
BAR MARK	COAT	NO REQ'D	LENGTH	BENT	SERIES	LOCATION
N401	X	2	6'-4"			HPU ENCLOSURE CURB
N402	X	2	21'-8"			HPU ENCLOSURE CURB
N403*	X	56	1'-2"			HPU ENCLOSURE CURB
N404	X	4	3'-0"	X		HPU ENCLOSURE CURB

(BARS MARKED WITH A * ARE ADHESIVE ANCHORS)

BILL OF BARS SOUTH PIER

BAR MARK	COAT	NO REQ'D	LENGTH	BENT	SERIES	LOCATION
P401	X	2	6'-4"			HPU ENCLOSURE CURB
P402	X	2	21'-8"			HPU ENCLOSURE CURB
P403*	X	56	1'-2"			HPU ENCLOSURE CURB
P404	X	4	3'-0"	X		HPU ENCLOSURE CURB

(BARS MARKED WITH A * ARE ADHESIVE ANCHORS)

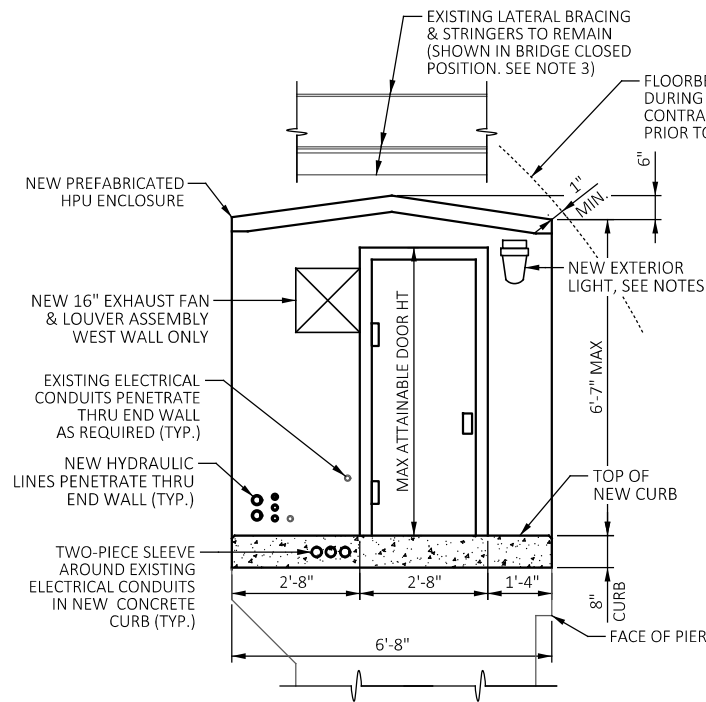


BARS N404 & P404

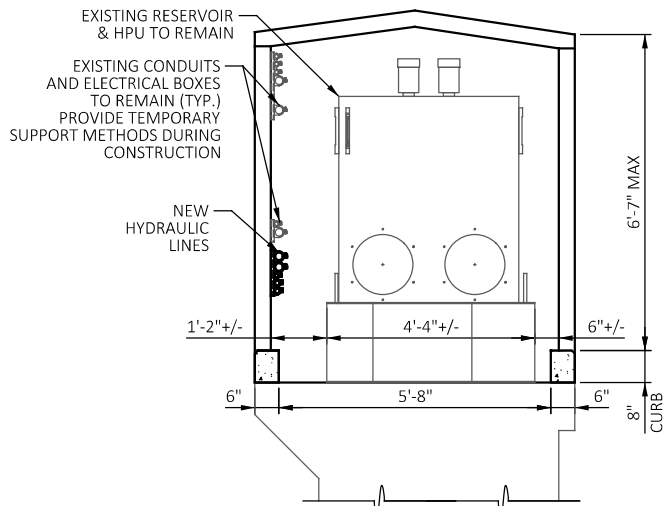
NOTES:

- COVER AND PROTECT MACHINERY AND ELECTRICAL COMPONENTS INSIDE EXISTING HPU ENCLOSURE DURING DEMOLITION AND REMOVAL EFFORTS.
- NEW CONCRETE CURB PAID AS "CONCRETE MASONRY BRIDGES".
- THE BASCULE BRIDGE WILL BE INOPERABLE AND IN THE CLOSED POSITION DURING INSTALLATION OF THE NEW HPU ENCLOSURE.
- REMOVE EXISTING CONCRETE CURBS DOWN TO THE ORIGINAL TOP OF PIER SURFACE.

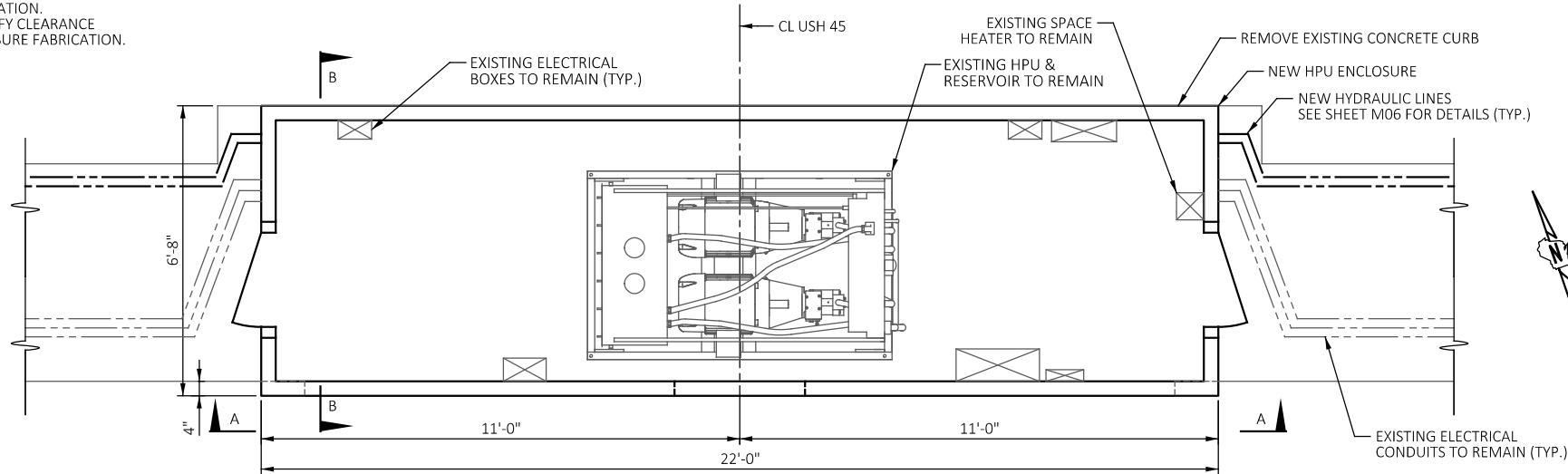
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		JSH	PLANS CK'D. DEM
HPU ENCLOSURE DETAILS		S-16	
1 OF 2			



NEW HPU ENCLOSURE END ELEVATION

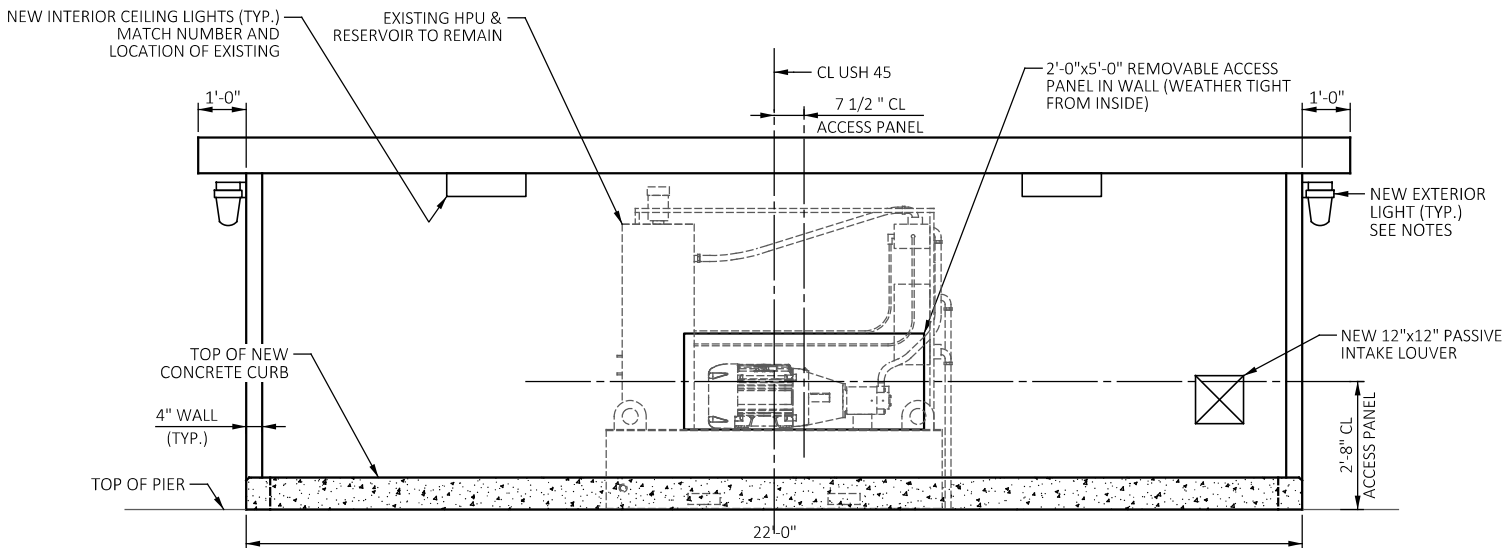


SECTION B-B



PROPOSED HPU ENCLOSURE PLAN

(NORTH PIER SHOWN, SOUTH PIER OPPOSITE HAND)



SECTION A-A

NOTES:

- COST OF TEMPORARY SUPPORT AND REATTACHING EXISTING CONDUITS AND ELECTRICAL BOXES IS INCLUDED IN PAY ITEM "BRIDGE ELECTRICAL WORK".
- COST OF INSTALLING NEW INTERIOR AND EXTERIOR LIGHTS FOR THE NEW HPU ENCLOSURE IS INCLUDED IN PAY ITEM "BRIDGE ELECTRICAL WORK".
- THE BASCULE BRIDGE WILL BE INOPERABLE AND IN THE CLOSED POSITION DURING INSTALLATION OF THE NEW HPU ENCLOSURE.
- HPU ENCLOSURE MUST BE FABRICATED SUCH THAT ALL JOINTS, SEAMS, AND REMOVABLE PANELS ARE WEATHER-TIGHT FROM THE INSIDE SO THAT ANY ACCIDENTAL LIQUID SPRAY INSIDE THE ENCLOSURE DOES NOT ESCAPE TO THE OUTSIDE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CK'D.	DEM
HPU ENCLOSURE DETAILS 2 OF 2		S-17	

COUNTERWEIGHT ADJUSTMENTS

NORTH LEAF			
POCKET	NO. OF EXISTING BLOCKS	NO. OF BLOCK TO REMOVE	NO. OF BLOCKS TO ADD
A	29	25	--
B	39	27	--
C	39	27	--
D	39	27	--
E	39	27	--
F	27	24	--
TOTAL BLOCKS	212	157 REMOVED	--
TOTAL WEIGHT	16282 LBS	--	--
SOUTH LEAF			
POCKET	NO. OF EXISTING BLOCKS	NO. OF BLOCK TO REMOVE	NO. OF BLOCKS TO ADD
A	32	23	--
B	47	38	--
C	47	38	--
D	47	38	--
E	47	38	--
F	31	23	--
TOTAL BLOCKS	251	198 REMOVED	--
TOTAL WEIGHT	19277 LBS	--	--
BOTH LEAVES			
TOTAL BLOCKS	463	355 REMOVED	--
TOTAL WEIGHT	35559 LBS	27265 LBS	--

COUNTERWEIGHT ELEVATION

SECTION A-A

NOTES:

1. PROVIDE ALL EQUIPMENT AND LABOR NECESSARY FOR MAKING ADJUSTMENTS TO THE COUNTERWEIGHT BALANCE BLOCK AND BALANCE PLATE CONFIGURATION TO THE SATISFACTION OF THE ENGINEER.
2. PLACE OR REMOVE BALANCE BLOCKS IN COUNTERWEIGHT POCKETS BASED ON COUNTERWEIGHT CALCULATIONS THAT ACCOUNT FOR ACTUAL WEIGHTS OF COMPONENTS TO BE REMOVED AND ADDED TO THE BASCULE LEAVES.
3. THE BALANCE BLOCK ARRANGEMENT SHOWN IN THE COUNTERWEIGHT ADJUSTMENT TABLE IS BASED ON THE FOLLOWING:

- CORRECTING EXISTING COUNTERWEIGHT-HEAVY BALANCE CONDITION TO A LEAF-HEAVY BALANCE CONDITION

- REMOVAL OF STEEL PLATES AND SPACER PLATES ON BACKS OF COUNTERWEIGHTS

- REMOVAL AND REPLACEMENT OF EXISTING STRINGERS WITH NEW STRINGERS THAT ARE GALVANIZED AND PAINTED

- REMOVAL AND REPLACEMENT OF SINGLE-ANGLE LATERAL BRACING THAT ARE GALVANIZED AND PAINTED

- REMOVAL OF EXISTING GRID DECK AND REPLACEMENT WITH NEW GALVANIZED GRID DECK

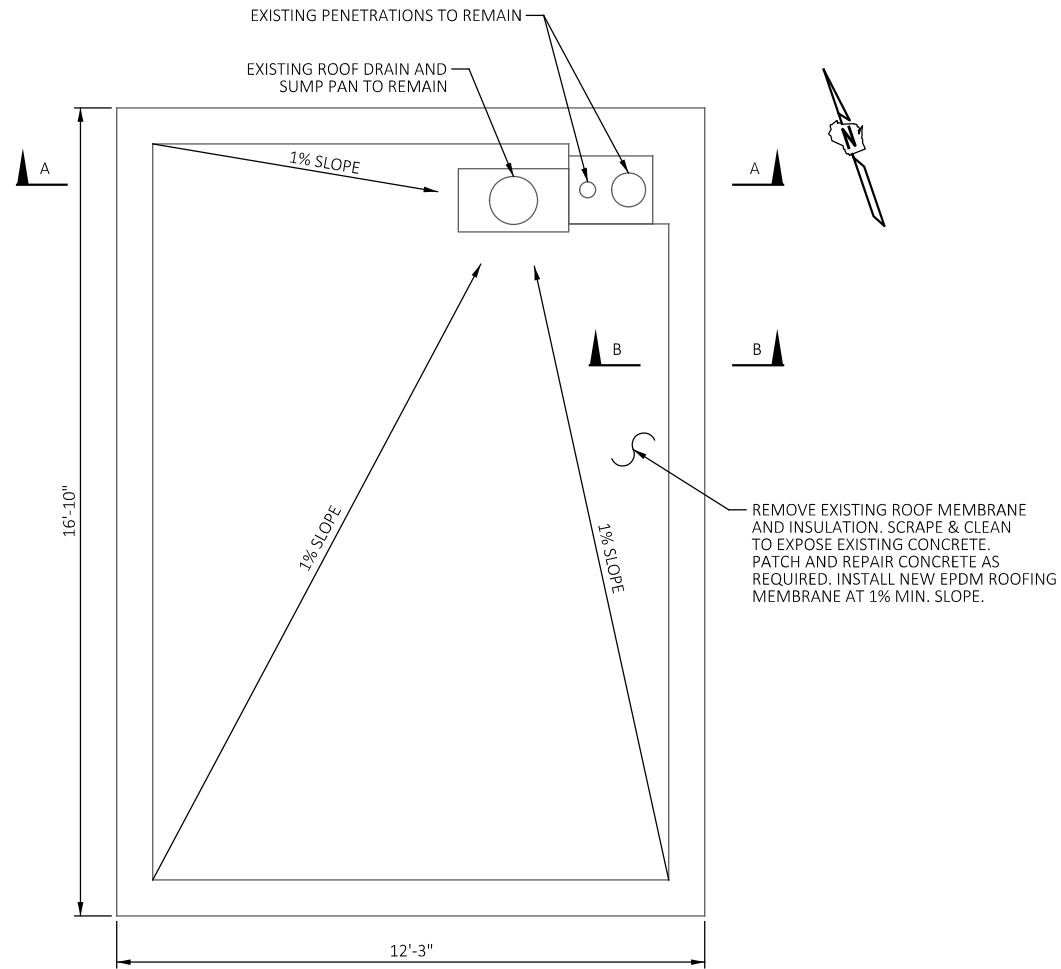
- ASSUMING CONCRETE OVERLAY TO SAME ELEVATION AS EXISTING ON BASCULE LEAF HAS NEGLIGIBLE EFFECT ON BRIDGE BALANCE
4. DETERMINE ACTUAL WEIGHTS OF COMPONENTS BEING REMOVED AND INSTALLED AND UTILIZE THEM IN AN INDEPENDENT MATHEMATICAL BALANCE CALCULATION TO BE SUBMITTED TO THE ENGINEER FOR REVIEW AS DESCRIBED IN THE SPECIAL PROVISIONS.
5. ADJUST NUMBER AND LOCATION OF BALANCE BLOCKS IN COUNTERWEIGHT POCKETS BASED ON INFORMATION OBTAINED DURING FINAL BALANCE TESTING.

SECTION C-C
(NORTH LEAF)

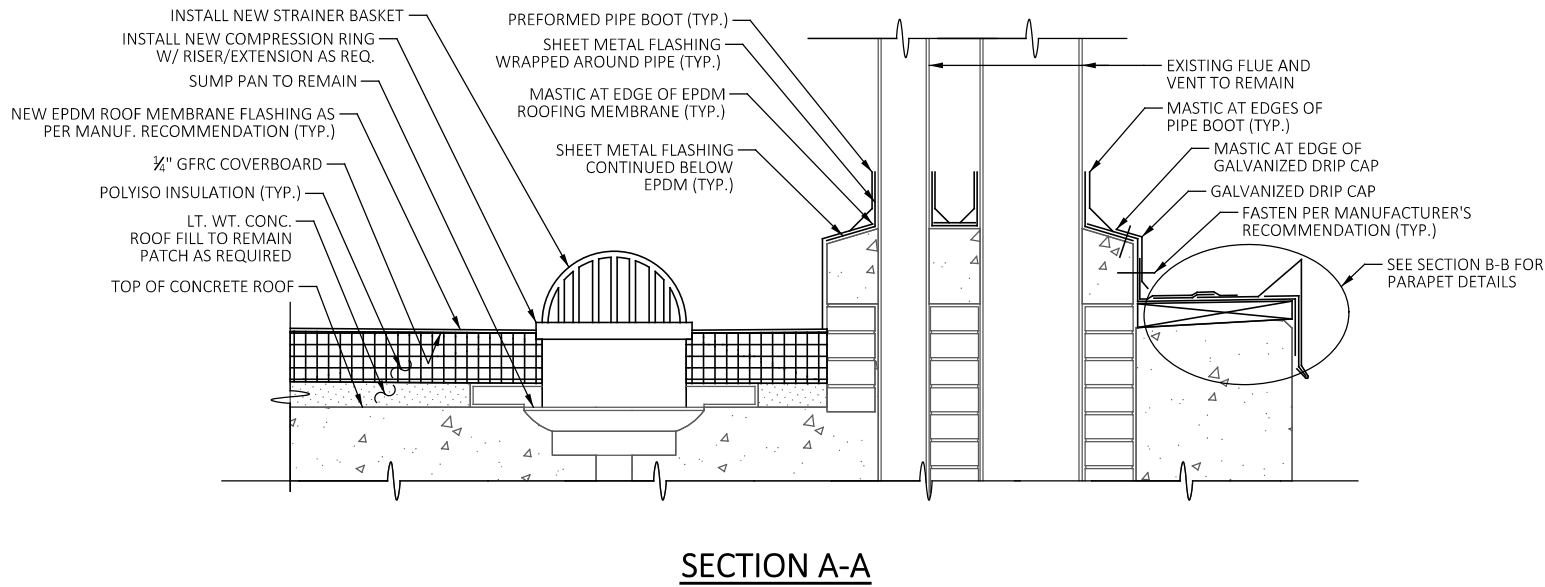
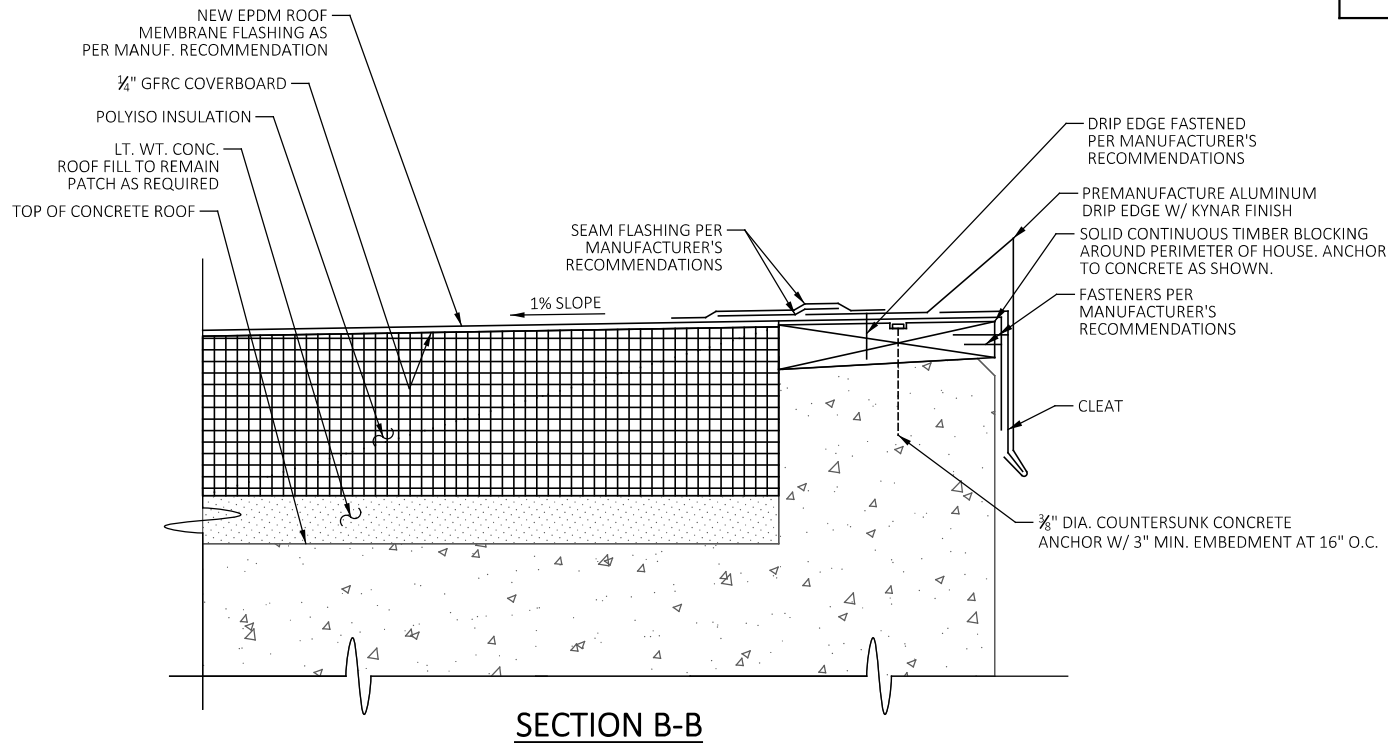
SECTION C-C
(SOUTH LEAF)

SECTION B-B

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CK'D.	DEM
COUNTERWEIGHT BALANCE DETAILS		S-18	

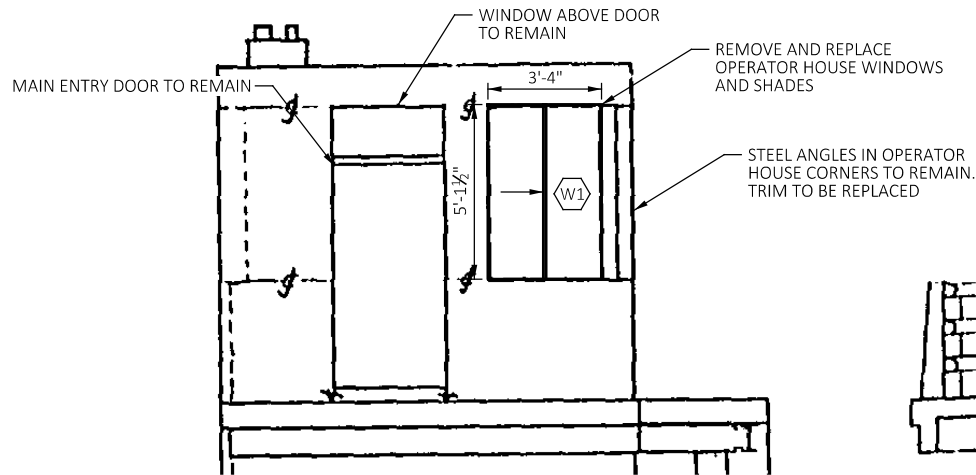


OPERATOR HOUSE ROOF PLAN

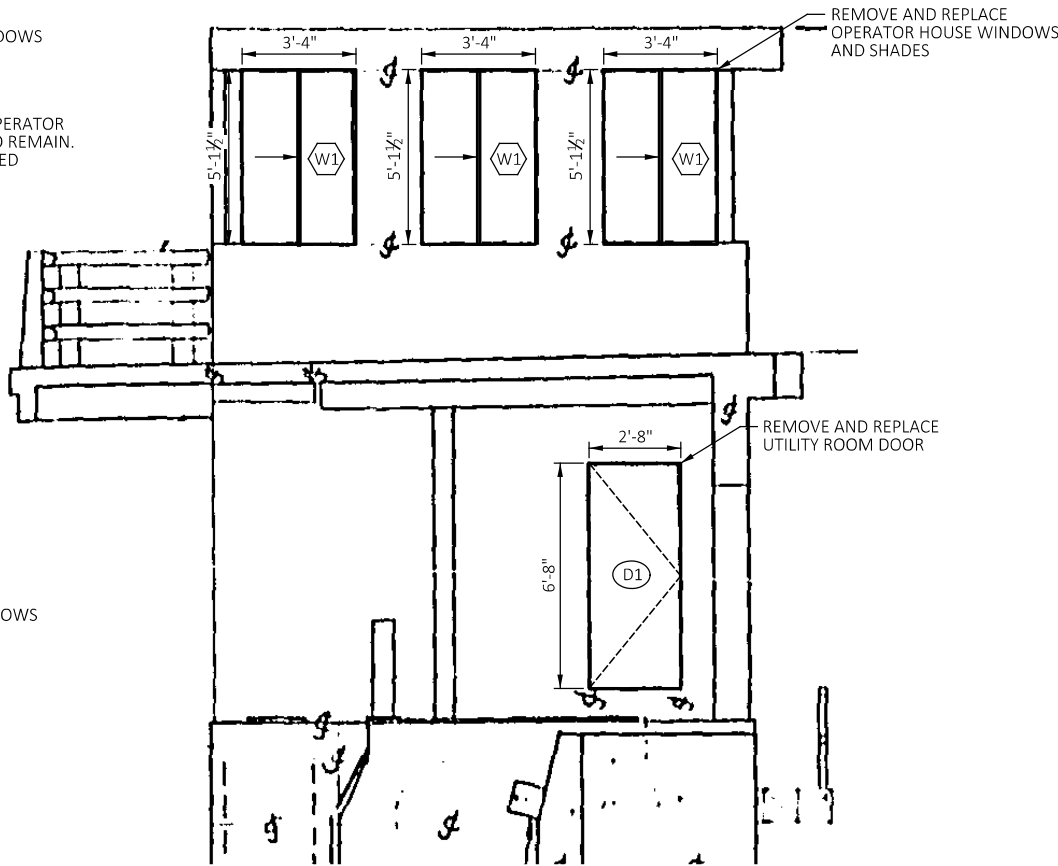


EXISTING ROOF AT PENETRATIONS IN NORTHEAST CORNER

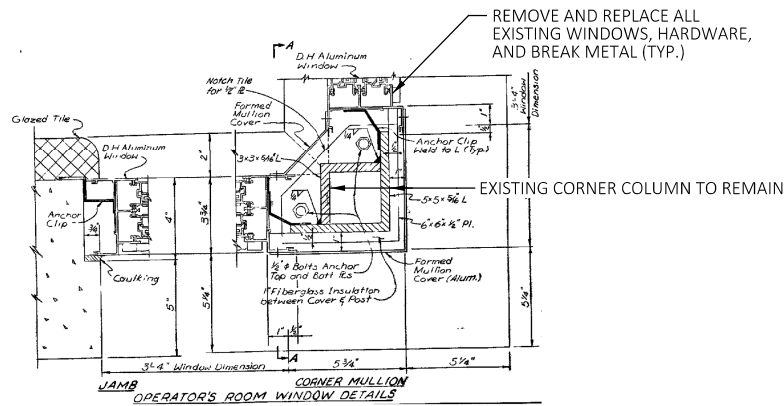
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
	DRAWN BY	JSH	PLANS CK'D. DEM
OPERATOR HOUSE ROOF REPAIR DETAILS		S-19	



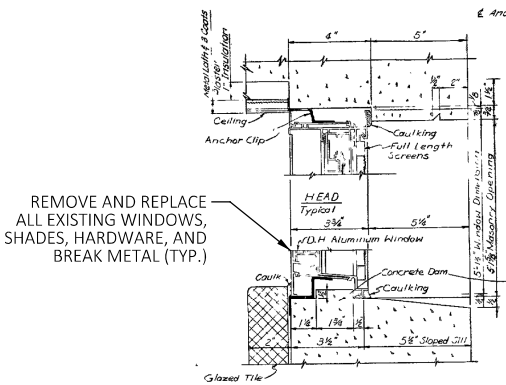
NORTH ELEVATION



WEST ELEVATION



EXISTING OPERATOR'S ROOM
WINDOW DETAILS



EXISTING SILL DETAILS

DOOR SCHEDULE

MARK	LOCATION	DOOR			FRAME			MATERIAL	HARDWARE SET	REMARKS
		WIDTH	HEIGHT	THICKNESS	HEAD	SILL	JAMB			
D1	UTILITY RM	2'-8"	6'-8"	VERIFY	EXISTING	X	EXISTING	STEEL	X	

WINDOW SCHEDULE

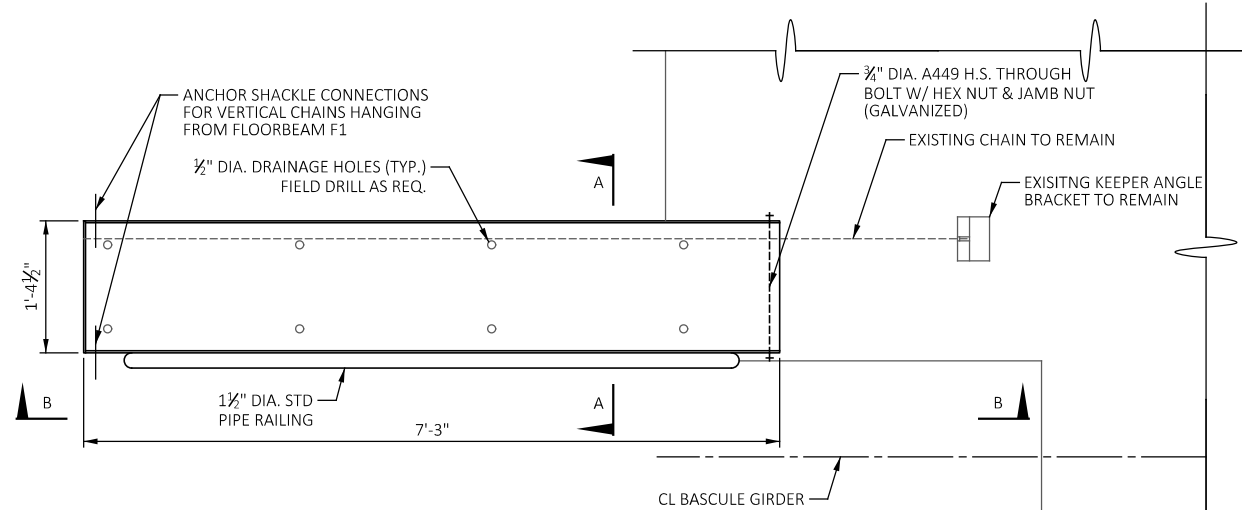
MARK	LOCATION	SIZE		FRAME			MATERIAL	REMARKS
		WIDTH	HEIGHT	HEAD	SILL	JAMB		
W1	OP HOUSE	3'-4"	5'-1½"	X	X	X	ALUMINUM	HORZ. SLIDING
W2	OP HOUSE	3'-4"	5'-1½"	X	X	X	ALUMINUM	FIXED
W3	OP HOUSE	3'-4"	5'-1½"	X	X	X	ALUMINUM	SINGLE HUNG
W4	UTILITY RM	2'-4"	3'-9½"	X	X	X	ALUMINUM	SINGLE HUNG
W5	UTILITY RM	2'-4"	3'-9½"	X	X	X	ALUMINUM	FIXED, METAL INSULATED PANEL

NOTES:

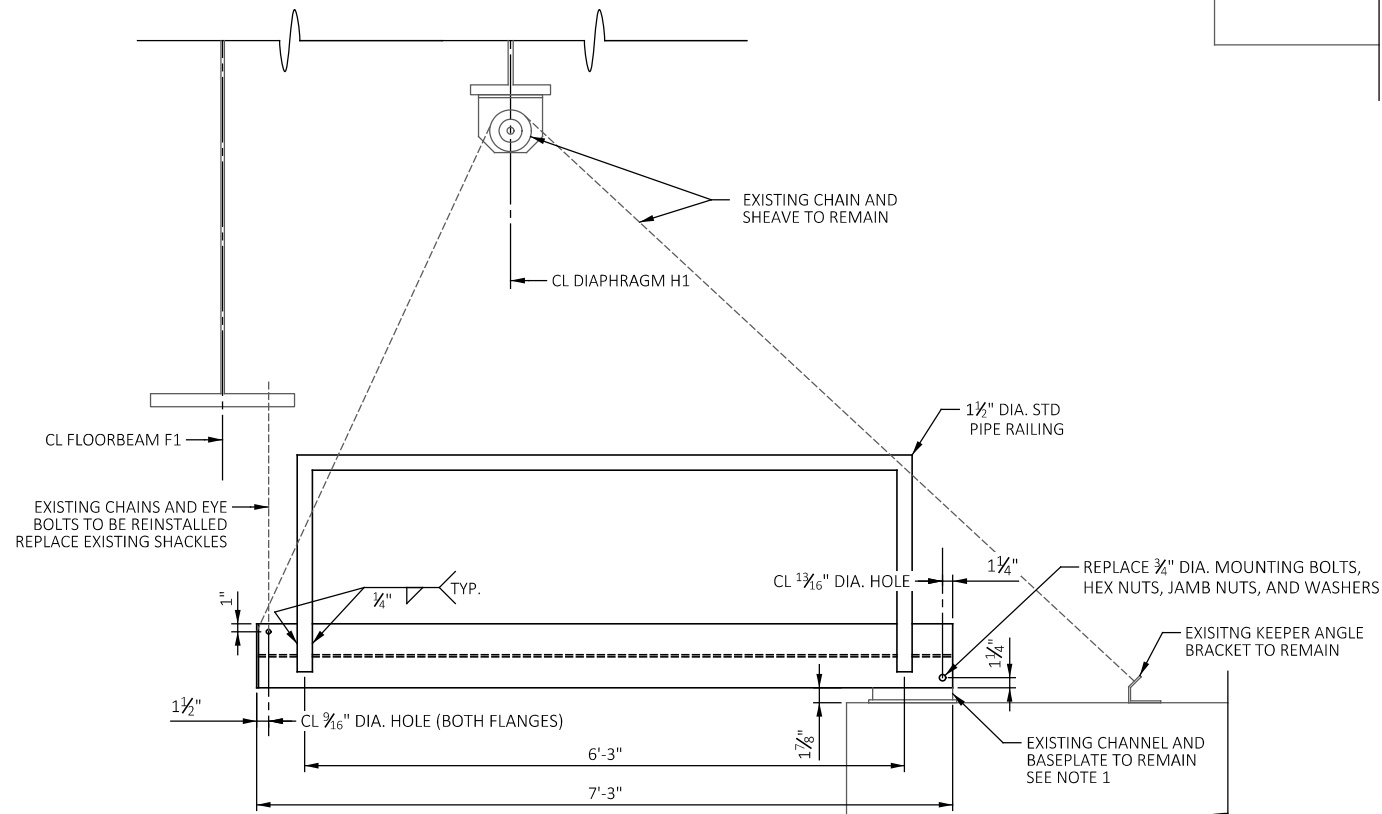
DIMENSIONS PROVIDED ARE ROUGH OPENINGS BASED UPON THE ORIGINAL PLANS. FIELD VERIFY ALL WINDOW DIMENSIONS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CK'D.	DEM
OPERATOR HOUSE WINDOW AND DOOR DETAILS			S-20

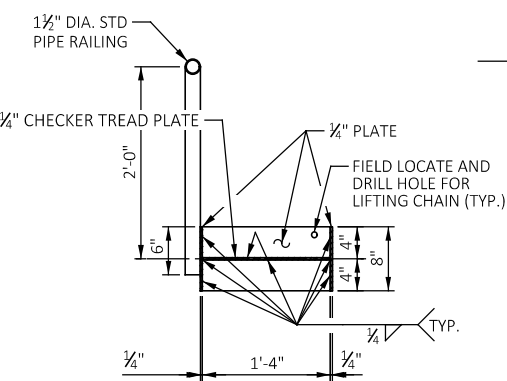
EAST ELEVATION



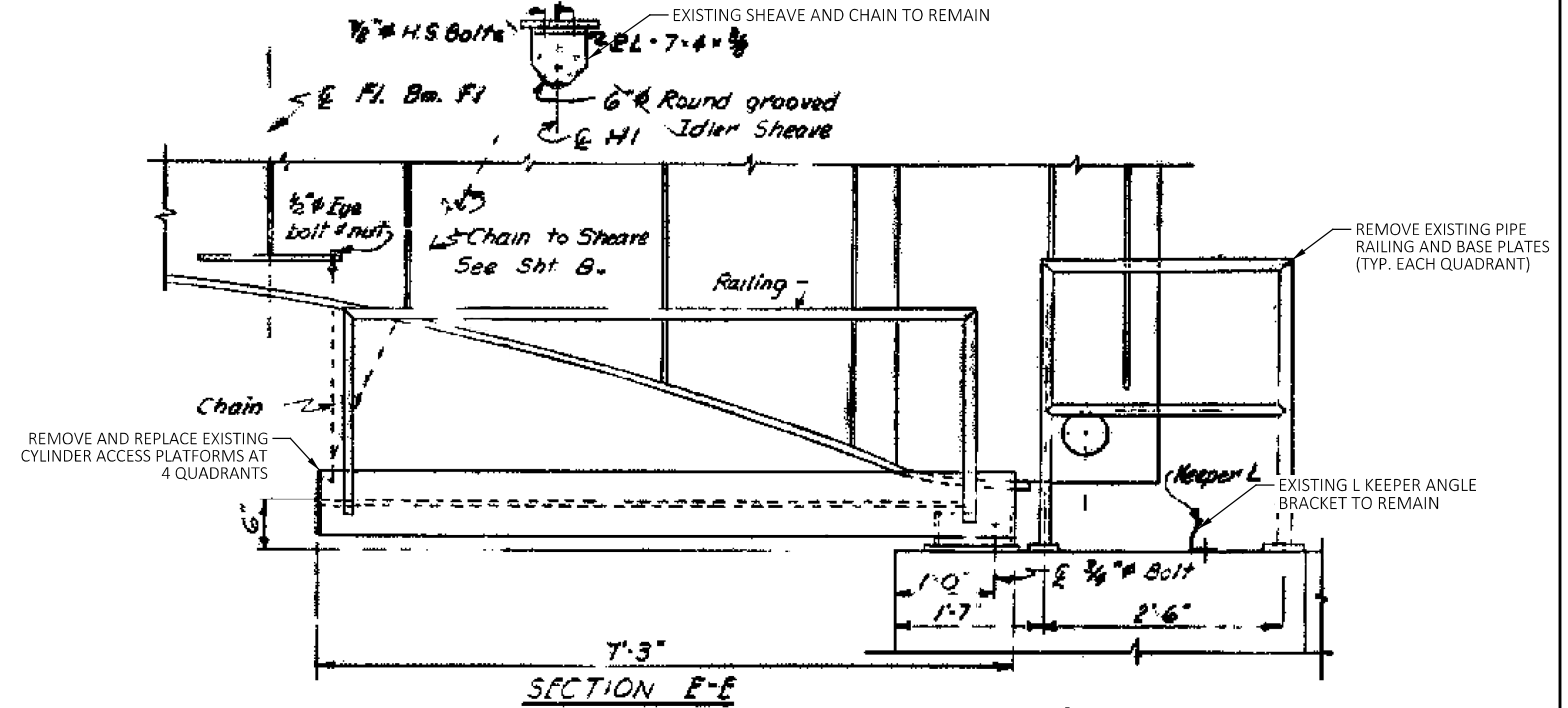
NEW CYLINDER PLATFORM PLAN
(NEQ SHOWN, OTHER QUADRANTS SIMILAR)



SECTION B-B FACE OF PIER



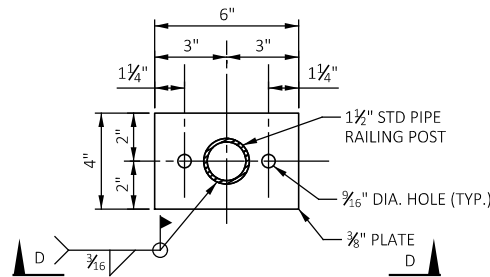
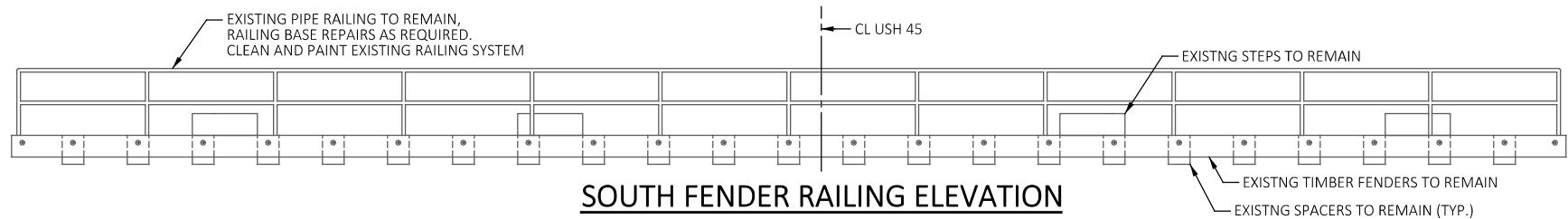
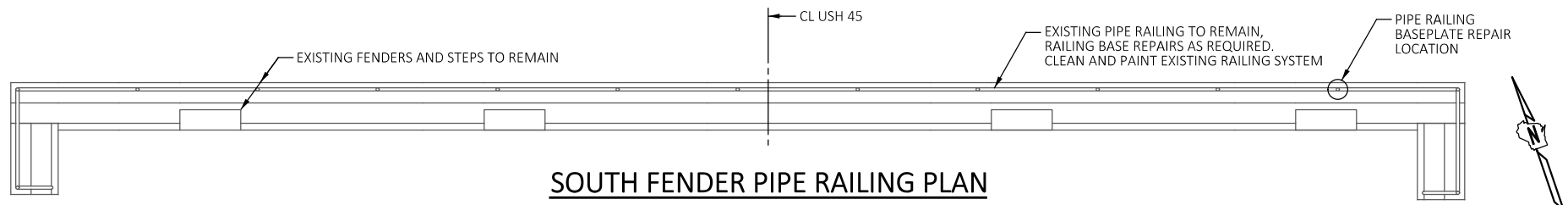
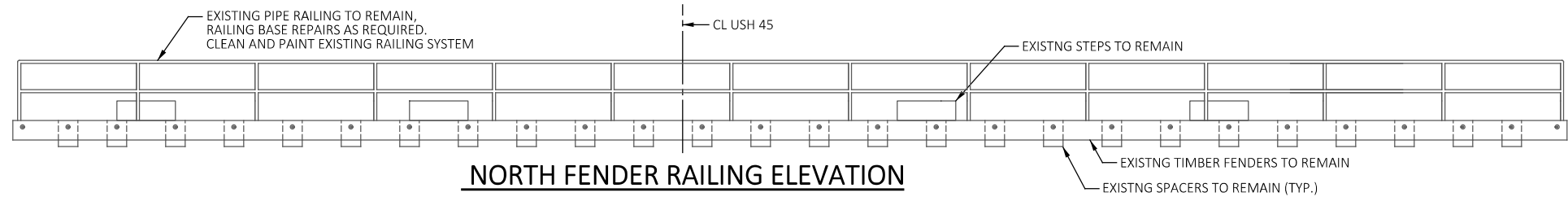
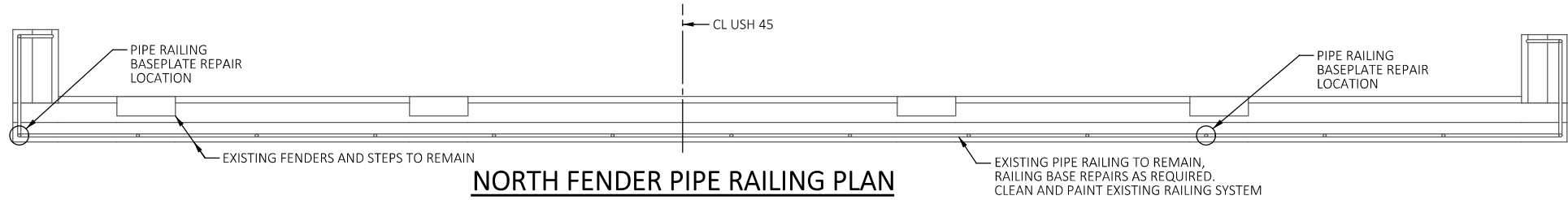
SECTION A-A



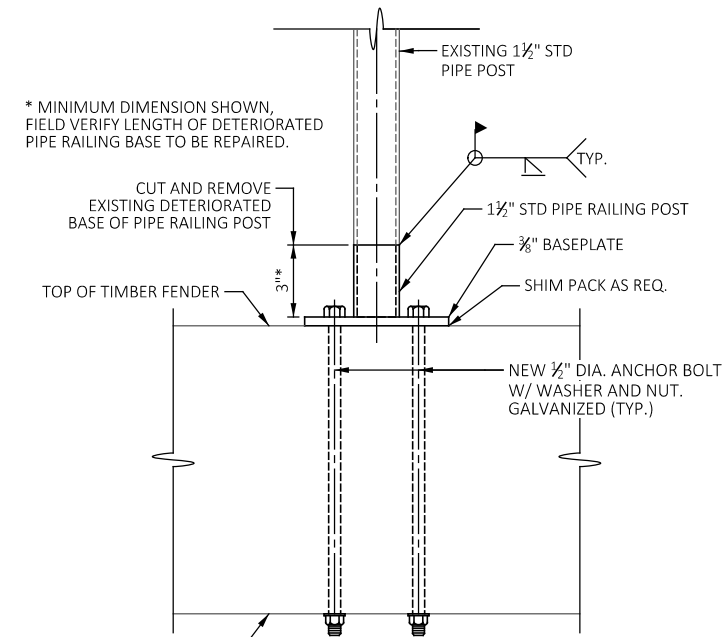
EXISTING CYLINDER PLATFORM PLAN
(NEQ SHOWN, OTHER QUADRANTS SIMILAR)

- NOTES:**
- CLEAN AND PAINT BASE CHANNEL WHILE UNIT IS DISASSEMBLED AND PRIOR TO INSTALLING NEW PLATFORM AND BOLTS.

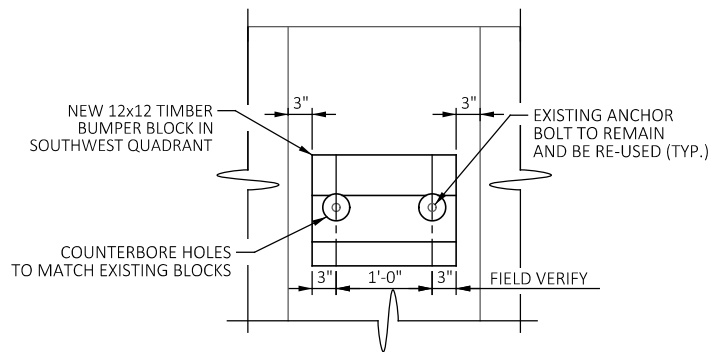
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CK'D.	DEM
CYLINDER ACCESS PLATFORM DETAILS		S-21	



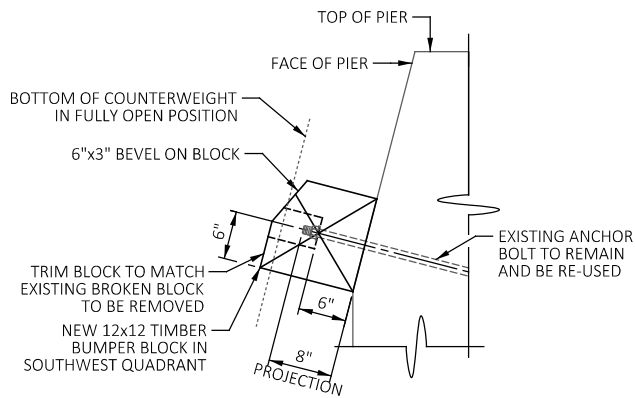
FENDER PIPE RAILING BASEPLATE REPAIR PLAN



SECTION D-D



BUMPER BLOCK FRONT ELEVATION

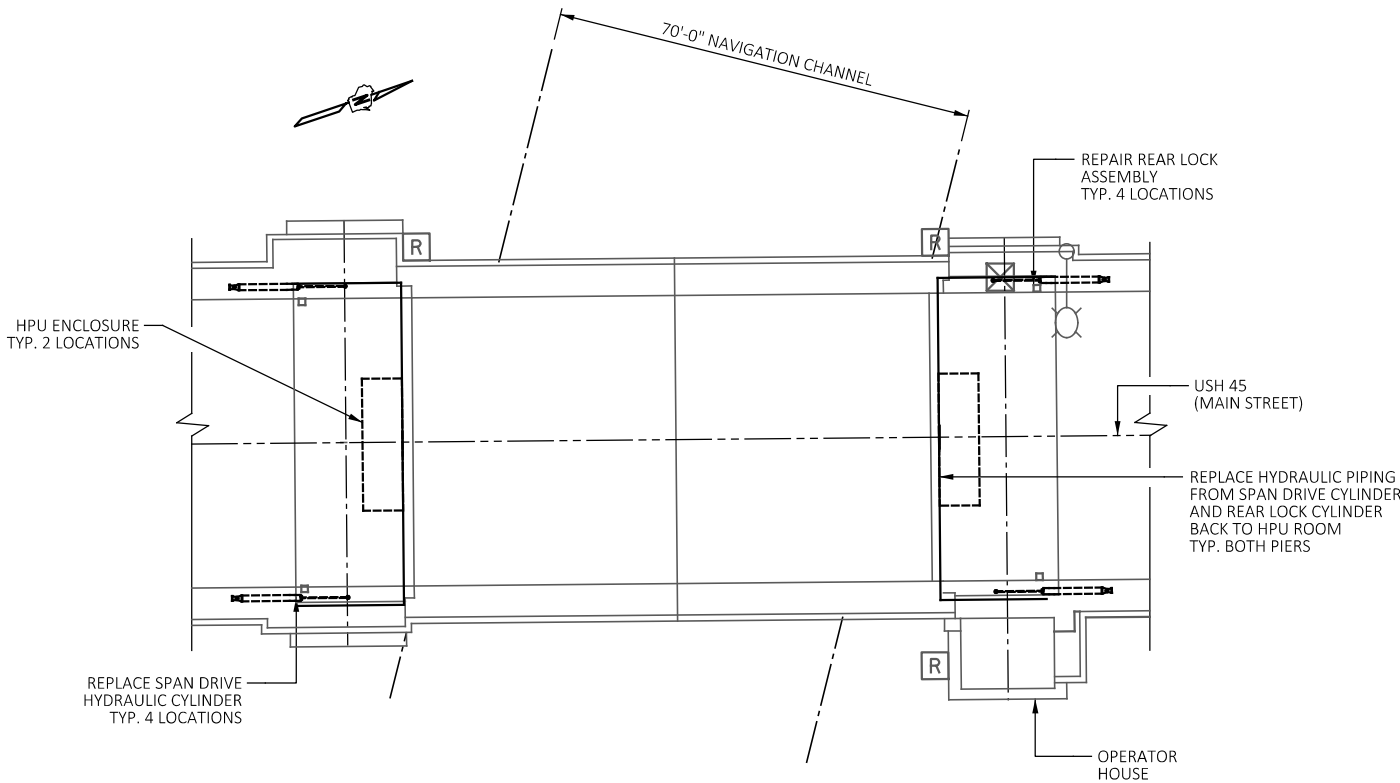


BUMPER BLOCK SIDE ELEVATION

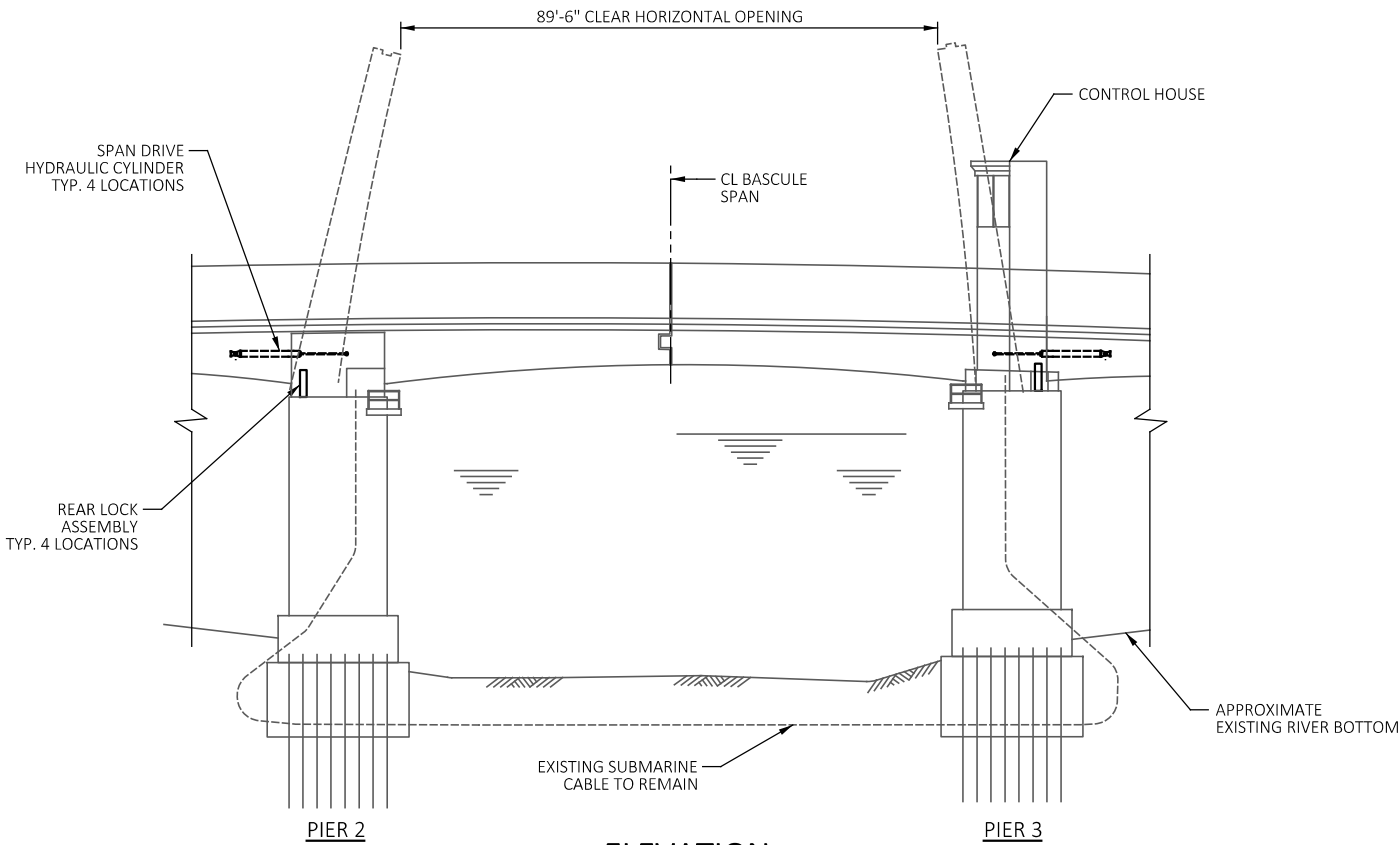
NOTES:

- FENDER RAILING SYSTEM TO BE CLEANED AND PAINTED AS PART OF ITEM "STRUCTURE REPAINTING RECYCLED ABRASIVE B-70-56"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CK'D.	DEM
FENDER PIPE RAILING AND BUMPER BLOCK REPAIR DETAILS			S-22



PLAN - MAIN STREET



ELEVATION

MECHANICAL SCOPE OF WORK

REPLACE THE EXISTING TIE-ROD TYPE BRIDGE LIFTING HYDRAULIC CYLINDERS WITH MILL DUTY CYLINDERS. PROVIDE GREASED PLAIN SPHERICAL BEARINGS FOR CYLINDERS IN LIEU OF MAINTENANCE FREE BEARINGS. INCLUDE LINEAR TRANSDUCERS WITH THE NEW CYLINDERS TO PROVIDE POSITION FEEDBACK FOR REMOTE OPERATION.

REPLACE THE EXISTING TAIL LOCK HYDRAULIC CYLINDERS.

REPLACE ALL EXTERIOR PIPING/HOSES FROM THE CYLINDERS ALL THE WAY UP TO THE HPU. ARRANGE NEW PIPES IN STACKED FASHION USING BLOCK CLAMPS TO IMPROVE ACCESSIBILITY.

REMOVE THE EXISTING IMMERSION HEATER AND INSTALL HYDRAULIC COMPONENTS OF A NEW FILTERING/HEATING (KIDNEY) LOOP

REPLACE THE MAIN PUMPS PER THE REQUIREMENTS IN THE SPECIFICATIONS.

ADD NEW PRESSURE FILTERS ADJACENT TO THE HPU AND EXTEND THE DRIP PAN TO ACCOMMODATE.

PROVIDE NEW SEAL KIT FOR EXISTING SPARE CYLINDER. PROVIDE ADDITIONAL MANIFOLD TO MATCH NEW PROPOSED MANIFOLD.

GENERAL MACHINERY NOTES

- DETAILS OF MACHINERY SHALL CONFORM TO THE 2007 LRFD MOVABLE HIGHWAY BRIDGE DESIGN SPECIFICATIONS, 2ND EDITION (AND ALL INTERIM REVISIONS) AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, UNLESS OTHERWISE SHOWN ON THE PLANS, OR PROVIDED FOR IN THE SPECIFICATIONS.
- ALL MATING SURFACES OF MACHINERY PARTS, SUPPORTS AND EXTERNAL EDGES SHALL BE MACHINED.
- PROVIDE ASTM A449 H.S. (FINISHED HIGH-STRENGTH) BOLTS AS REQUIRED TO CONNECT MACHINERY TO STRUCTURAL STEEL. ALL ASTM A449 H.S. BOLTS CONNECTING MACHINERY TO STRUCTURAL STEEL SHALL HAVE CLEARANCE OF NOT MORE THAN 0.010 INCH, BETWEEN THE BODY OF THE BOLT AND THE HOLE.
- ALL HIGH-STRENGTH (H.S.) FASTENERS SHALL HAVE A HARDENED PLAIN WASHER UNDER THE HEAD AND THE NUT. NEW ASTM A449 H.S. BOLTS THAT HAVE BEEN TORQUED SHALL NOT BE REUSED.
- PROVIDE STAINLESS STEEL OR BRASS SHIMS FOR LEVELING AND ALIGNING ALL MACHINERY COMPONENTS. SHIM PACKS SHALL BE 1/2 INCH NOMINAL THICKNESS, UNLESS OTHERWISE SPECIFIED, WITH ADJUSTMENT VARIATIONS AS DESCRIBED IN THE SPECIFICATIONS.
- MACHINERY DIMENSIONS SHOWN ON DRAWINGS ARE DIMENSIONS AFTER MACHINING.
- MODEL NUMBERS AND DETAILS OF HYDRAULIC CYLINDERS, BEARINGS AND OTHER STANDARD COMPONENTS ARE BASED ON MANUFACTURER'S CATALOG DATA CURRENT AT THE TIME THE PLANS WERE PREPARED. EQUIVALENT MODELS FROM OTHER MANUFACTURERS MAY BE SUBSTITUTED AT THE OPTION OF THE CONTRACTOR AND PENDING THE APPROVAL OF THE ENGINEER. ALL RELATED STRUCTURAL, MECHANICAL AND ELECTRICAL DETAILS SHALL BE REVISED BY THE CONTRACTOR TO SUIT THE CERTIFIED DIMENSIONS OF THE COMPONENTS ACTUALLY FURNISHED AT NO ADDITIONAL COST TO THE DEPARTMENT.
- MENTION OF A MANUFACTURER'S NAME OR MODEL NUMBER DOES NOT REPRESENT A PREFERENCE, BUT IS USED TO SET A STANDARD.
- DETAIL DRAWINGS, ASSEMBLY DRAWINGS AND ERECTION DRAWINGS SHALL BE SUBMITTED TOGETHER AS A COMPLETE PACKAGE. MACHINERY MATERIALS AND COMPONENTS SHALL NOT BE PURCHASED OR FABRICATED WITHOUT APPROVED SHOP DRAWINGS AND/OR CATALOG CUTS.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO SAFEGUARD AND PROTECT NEW AND EXISTING BRIDGE MACHINERY COMPONENTS PRIOR TO INSTALLATION AND THROUGHOUT THE WORK. ANY DAMAGE TO EXISTING COMPONENTS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST.

GENERAL MACHINERY FITS AND FINISHES

FITS AND FINISHES FOR MACHINERY SHALL BE AS FOLLOWS:

SURFACE	FIT	FINISH (MICRO-INCH)
MACHINERY BASE ON STEEL	-	250
MACHINERY BASE ON MASONRY	-	500
JOURNAL BUSHINGS	RC6	16
SLIDING BEARINGS	RC6	32
MACHINERY PARTS IN FIXED CONTACT	-	125

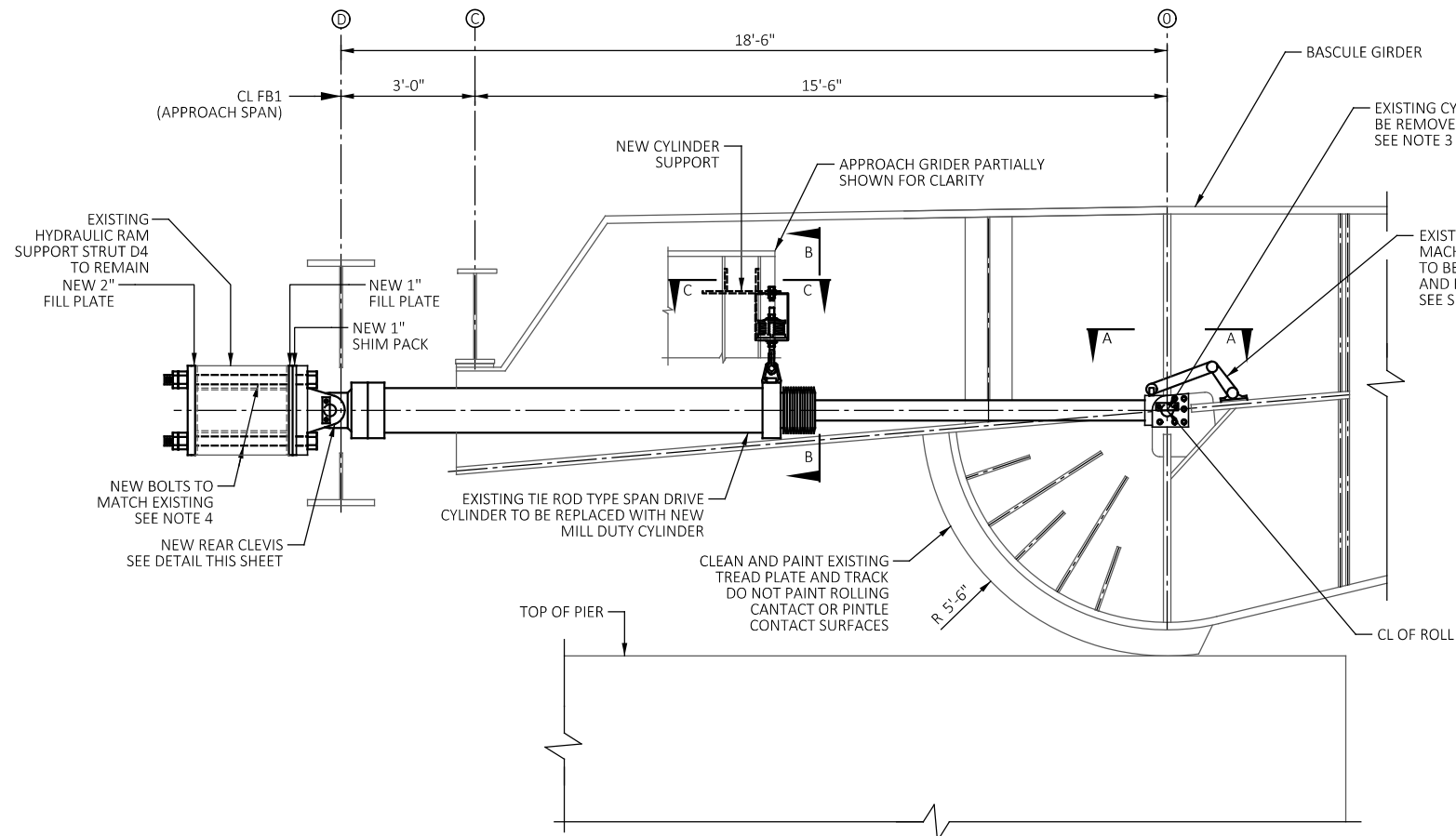
THE ABOVE FITS FOR CYLINDRICAL PARTS SHALL ALSO APPLY TO THE MAJOR DIMENSIONS OF NON-CYLINDRICAL PARTS. FOR COMMERCIAL PARTS SUCH AS THE CYLINDER CLEVIS PINS MATING WITH CYLINDER BEARINGS, THE FIT SHALL BE PER MANUFACTURERS RECOMMENDATIONS.

GENERAL MACHINERY DIMENSIONAL TOLERANCES

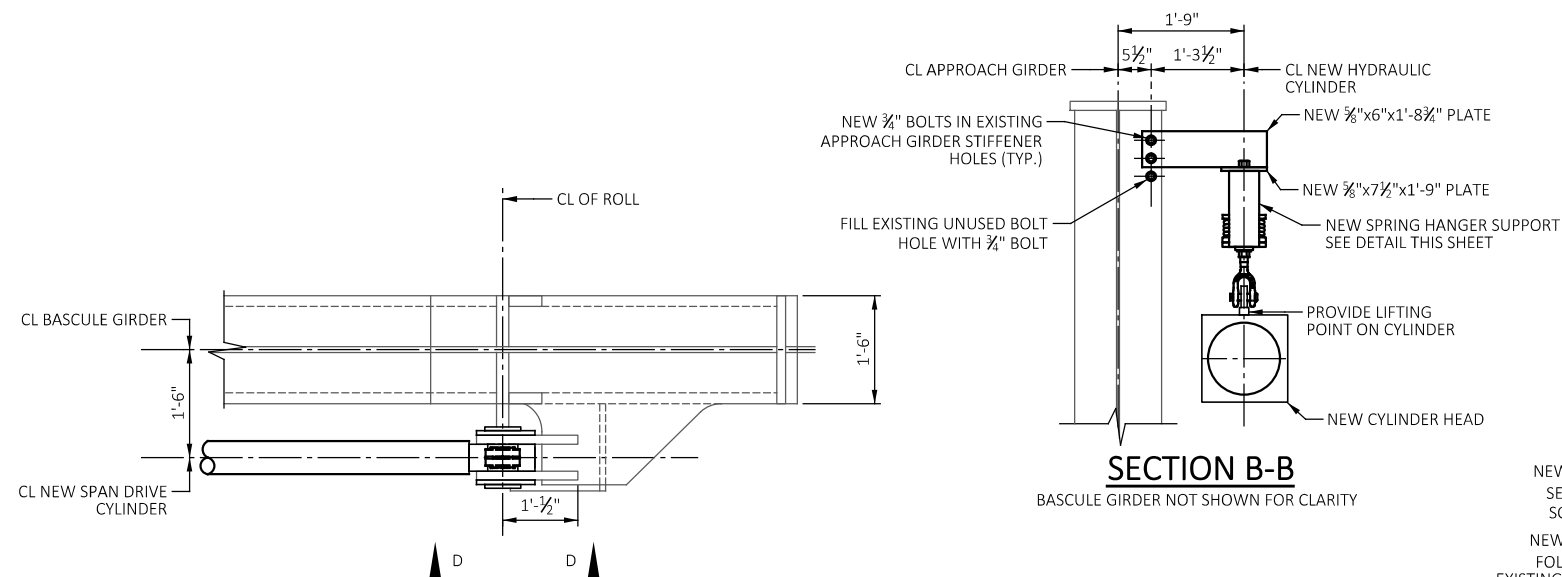
DIMENSIONAL TOLERANCES FOR MACHINERY SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED IN THE CONTRACT DRAWINGS:

SURFACE	TOLERANCES
MACHINED (TO 1 INCH)	+/- 0.015 INCH
MACHINED (OVER 1 INCH)	+/- 0.030 INCH
ROLLED	+/- 0.030 INCH
NON-MACHINED CAST (TO 1 INCH)	+/- 0.030 INCH
NON-MACHINED CAST (OVER 1 INCH)	+/- 0.060 INCH
COMPONENT LOCATIONS	+/- 0.030 INCH
BOLT HOLE LOCATIONS	+/- 0.030 INCH
ANGULAR	+/- 0.5 DEGREE

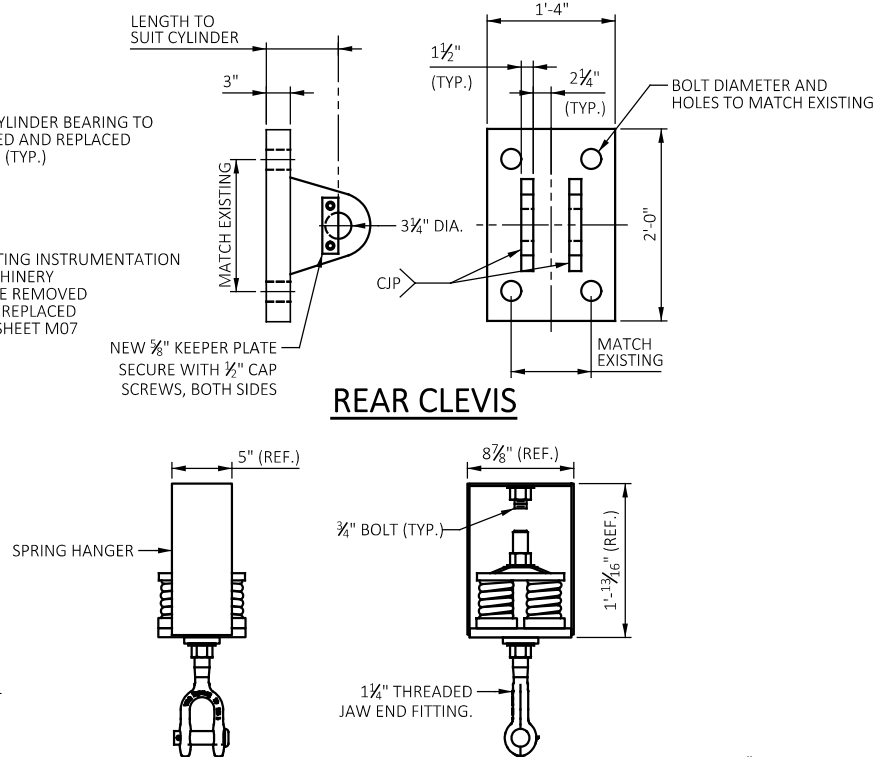
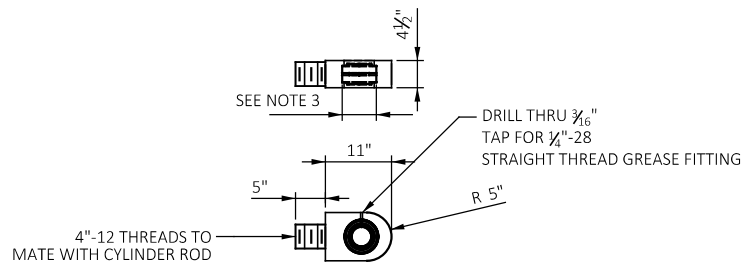
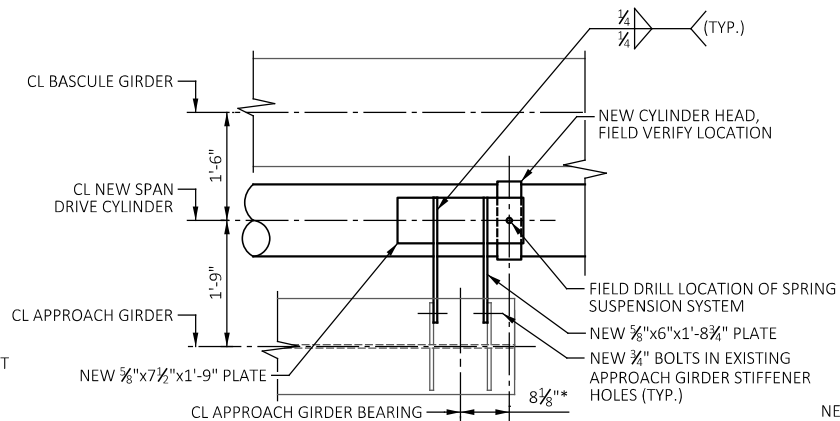
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
	DRAWN BY	PLANS CK'D.	TMK
MECHANICAL GENERAL PLAN AND NOTES			M-01

**SPAN DRIVE CYLINDER ELEVATION**

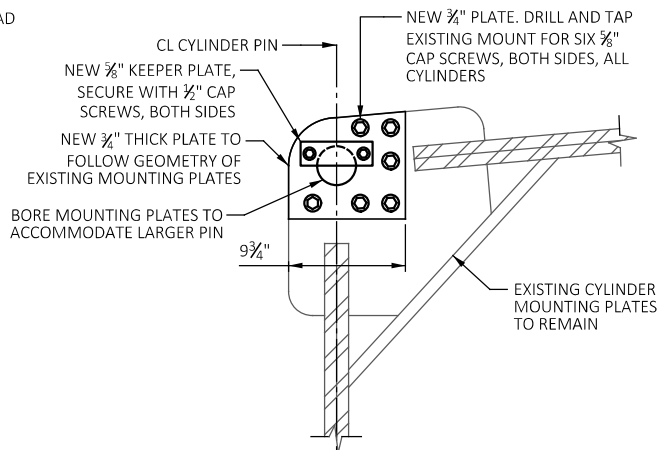
ROD BOOT NOT SHOWN IN FULLY EXTENDED POSITION FOR CLARITY

**SECTION B-B**

BASCULE GIRDER NOT SHOWN FOR CLARITY

**REAR CLEVIS****SPRING SUSPENSION SYSTEM****ROD END CLEVIS****SECTION C-C**

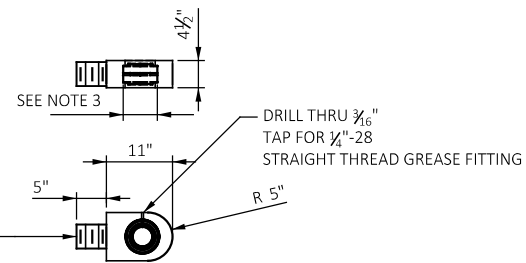
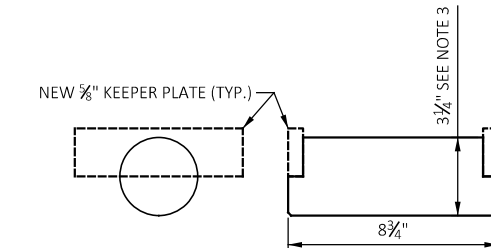
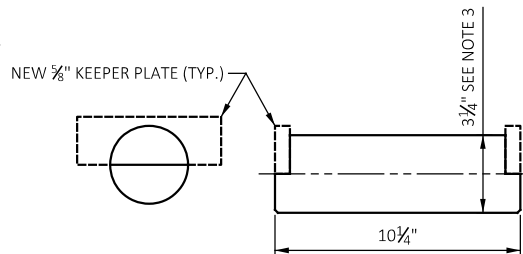
* VERIFY LOCATION OF NEW CYLINDER HEAD

**SECTION D-D**

SEE NOTE 5

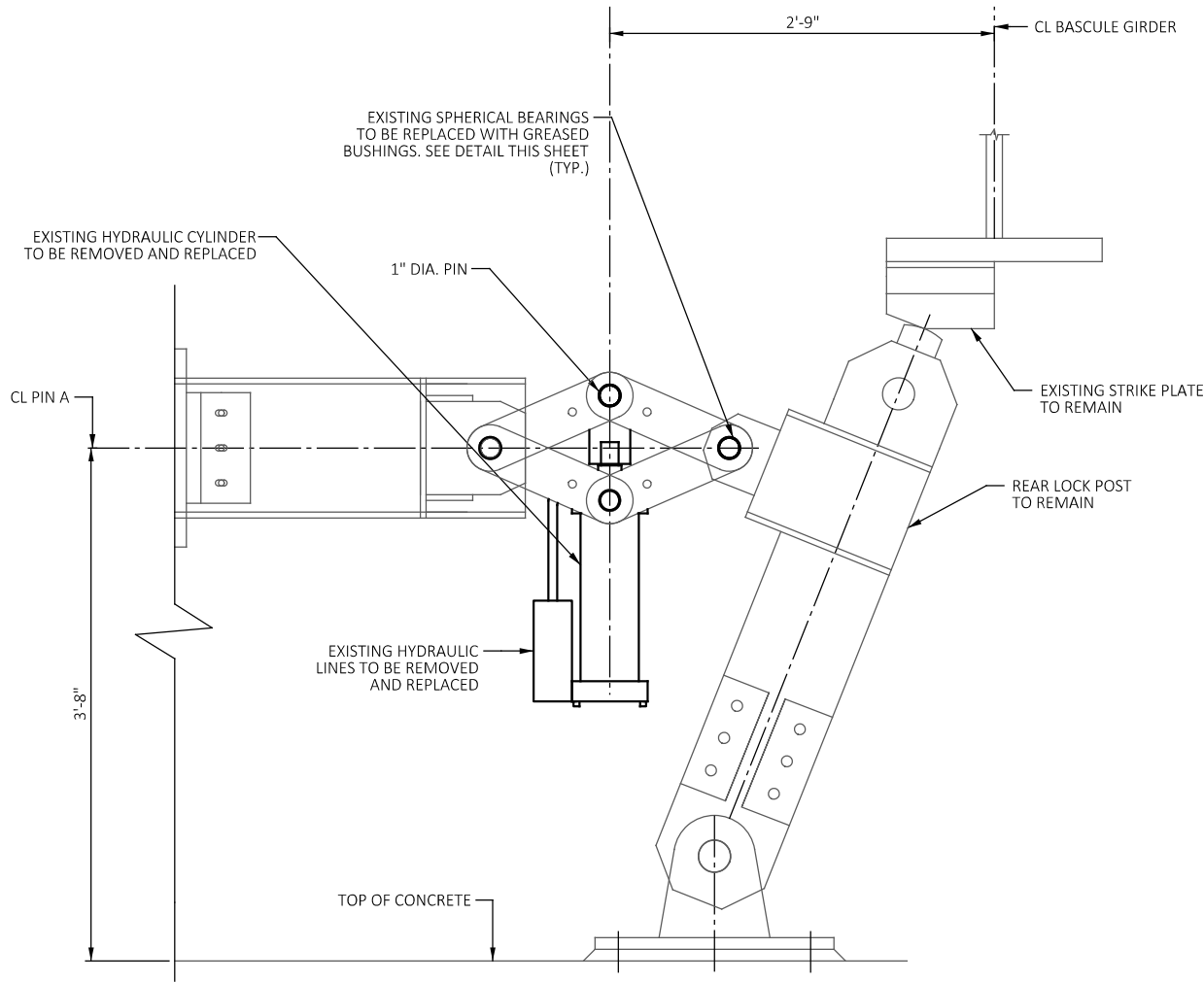
NOTES:

- DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL DESIGN PLANS AND THE 2000 REHABILITATION PLANS.
- NEW BEARING SHALL BE SKF GEZ 304 ESX-2LS OR APPROVED EQUAL. FIT WITH PIN AND CLEVIS SHALL BE PER BEARING MANUFACTURER'S RECOMMENDATION. BEARING SHALL HAVE A MINIMUM STATIC RATING OF 395664 LBS.
- PROVIDE (4) NEW H.S. BOLTS PER LOCATION, (16) BOLTS TOTAL. PROVIDE NEW NUT AND NEW JAM NUT WITH EACH NEW BOLT. DO NOT TORQUE BOLTS, SNUG TIGHTEN ONLY.
- CLEAN AND PRIME EXISTING MOUNTING PLATE FAYING SURFACE PRIOR TO INSTALLING NEW 3/8" PLATES. PLUG WELD ALL EXISTING KEEPER PLATE BOLT HOLES.
- NEW FILL PLATES AND SHIM PACK DIMENSIONS TO MATCH EXISTING DIMENSIONS.

**REAR CLEVIS PIN****ROD CLEVIS PIN**

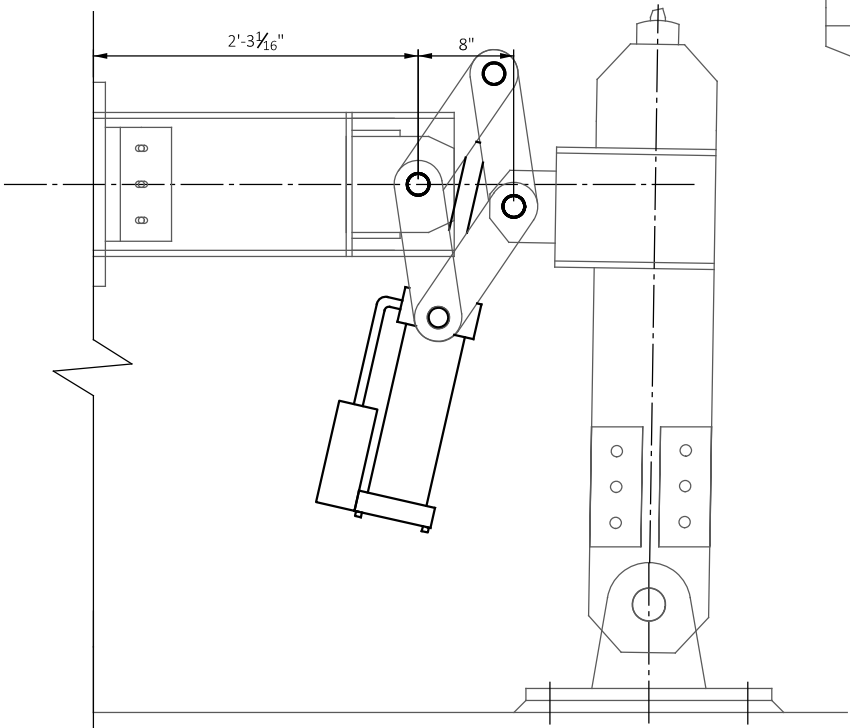
SPAN DRIVE CYLINDER MATERIAL TABLE			
MARK	MATERIAL	DESIGNATION	QUANTITY
REAR CLEVIS	STRUCTURAL STEEL	ASTM A709, GR. 50	4
REAR CLEVIS PIN	STAINLESS STEEL	ASTM A564 TYPE 630 COND. H1150	4
ROD END CLEVIS	STAINLESS STEEL	ASTM A564 TYPE 630 COND. H1150	4
ROD CLEVIS PIN	STAINLESS STEEL	ASTM A564 TYPE 630 COND. H1150	4
SPRING SUPPORT STEEL	STRUCTURAL STEEL	ASTM A709, GR. 50	AS SHOWN ON PLANS
KEEPER PLATE	FORGED STEEL	ASTM A668 CLASS K	8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CK'D. JRG	TMK
SPAN DRIVE CYLINDER LAYOUT		M-02	



REAR LOCK ELEVATION - DRIVEN

MACHINERY COVER NOT SHOWN FOR CLARITY

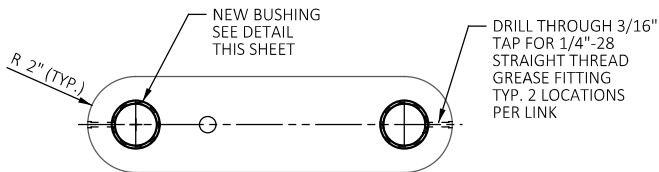


REAR LOCK ELEVATION - PULLED

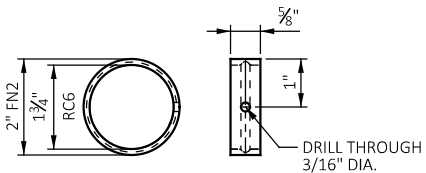
MACHINERY COVER NOT SHOWN FOR CLARITY

NOTES:

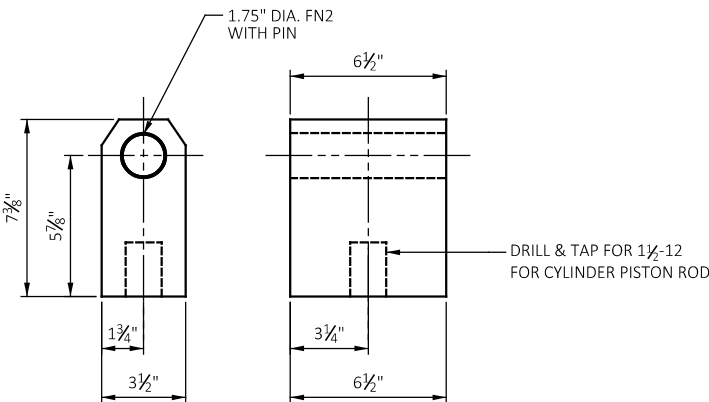
- DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL DESIGN PLANS AND THE 2000 REHABILITATION PLANS.
- THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
- REMAINING REAR LOCK COMPONENTS SHALL BE CLEANED AND PAINTED.



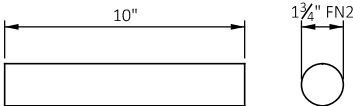
REAR LOCK LINK



BUSHING



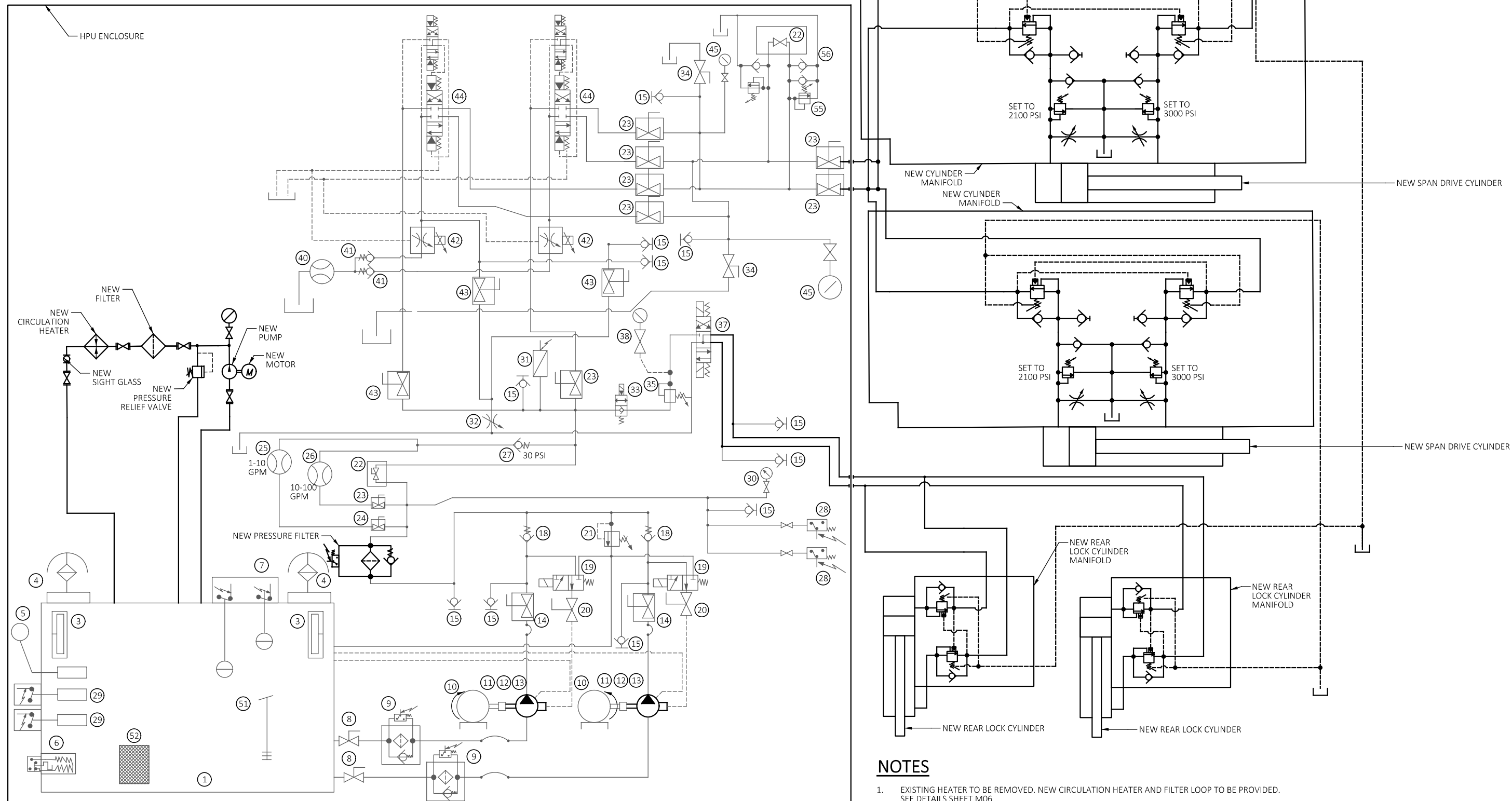
CYLINDER CLEVIS



CLEVIS PIN

REAR LOCK MATERIAL TABLE			
MARK	MATERIAL	DESIGNATION	QUANTITY
BUSHING	BRONZE CASTING	ASTM B22 C91100	64
CYLINDER CLEVIS	STAINLESS STEEL	ASTM A564 TYPE 630 COND. H1150	4
CLEVIS PIN	STAINLESS STEEL	ASTM A564 TYPE 630 COND. H1150	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CK'D.	TMK
REAR LOCK ELEVATION		M-03	



NEW HYDRAULIC SCHEMATIC

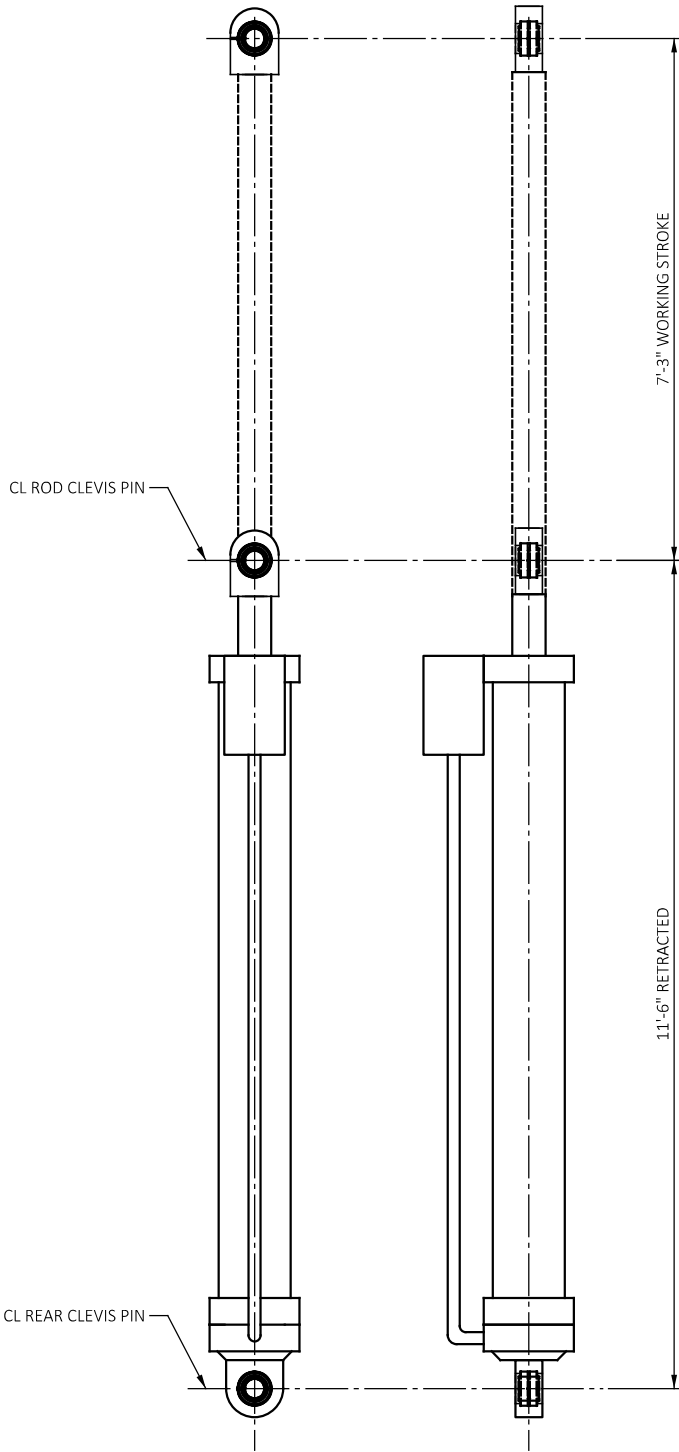
HYDRAULIC NOTES

- ALL HYDRAULIC LINES FROM HPU TO CYLINDERS MUST HAVE "PARKER O-RING FACE SEAL TUBE" FITTINGS WITH SAE STRAIGHT THREAD O-RING PORTS OR SAE CODE 61 FLANGE (W/ O-RING) CONNECTIONS.
- ALL THREADS IN THE HYDRAULIC SYSTEM FOR PRESSURE HIGHER THAN 100 PSI MUST BE STRAIGHT THREADS. TAPERED PIPE THREADS ARE NOT ACCEPTABLE.

NOTES

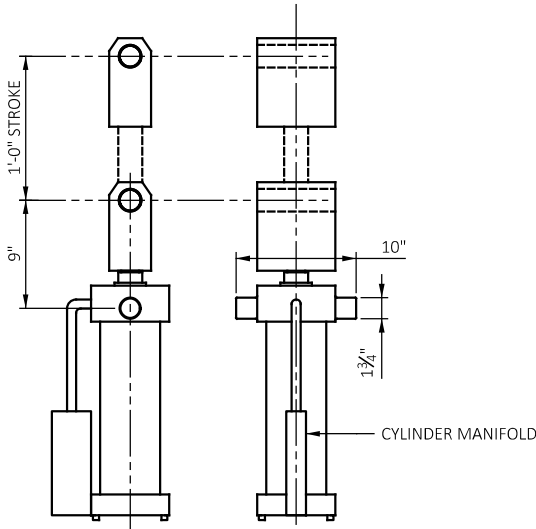
- EXISTING HEATER TO BE REMOVED. NEW CIRCULATION HEATER AND FILTER LOOP TO BE PROVIDED. SEE DETAILS SHEET M06.
- EXISTING TIE ROD TYPE SPAN DRIVE CYLINDER TO BE REMOVED AND REPLACED WITH NEW MILL DUTY CYLINDER. SEE DETAILS SHEET M05.
- EXISTING REAR LOCK CYLINDER TO BE REMOVED AND REPLACED. SEE DETAILS SHEET M05.
- REPLACE ALL EXTERIOR PIPES AND HOSES FROM THE CYLINDERS TO THE HPU AND ARRANGE NEW PIPES IN STACKED FASHION USING BLOCK CLAMPS TO IMPROVE ACCESS.
- REPLACE THE EXISTING PUMPS PER THE REQUIREMENTS IN THE SPECIFICATIONS.
- ADD NEW PRESSURE FILTERS ADJACENT TO THE HPU. EXTEND THE DRIP PAN TO ACCOMMODATE THE FILTERS.
- ITEM NUMBERS CORRESPOND TO BILL OF MATERIALS AND AS-BUILT HPU DRAWINGS PROVIDED BY PRICE ENGINEERING FOLLOWING THE 2000 REHABILITATION.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CK'D.	TMK
HYDRAULIC SCHEMATIC		M-04	



NEW OPERATING HYDRAULIC CYLINDER

ROD BOOT NOT SHOWN FOR CLARITY
(2) CYLINDERS PER LEAF REQUIRED
CYLINDER TO MEET THE FOLLOWING REQUIREMENTS:
12" BORE
5.5" ROD
87" WORKING STROKE
99" GROSS STROKE WITH 10" STOP TUBE
PRESSURE RATING: 3000 PSI
MILL DUTY CYLINDERS
CUSHIONS ON BOTH ENDS



NEW TAIL LOCK HYDRAULIC CYLINDER

(2) CYLINDERS PER LEAF REQUIRED
CYLINDER TO MEET THE FOLLOWING REQUIREMENTS:
5" BORE
2" ROD
12" WORKING STROKE
PRESSURE RATING: 3000 PSI
MILL DUTY CYLINDERS
CUSHIONS ON BOTH ENDS

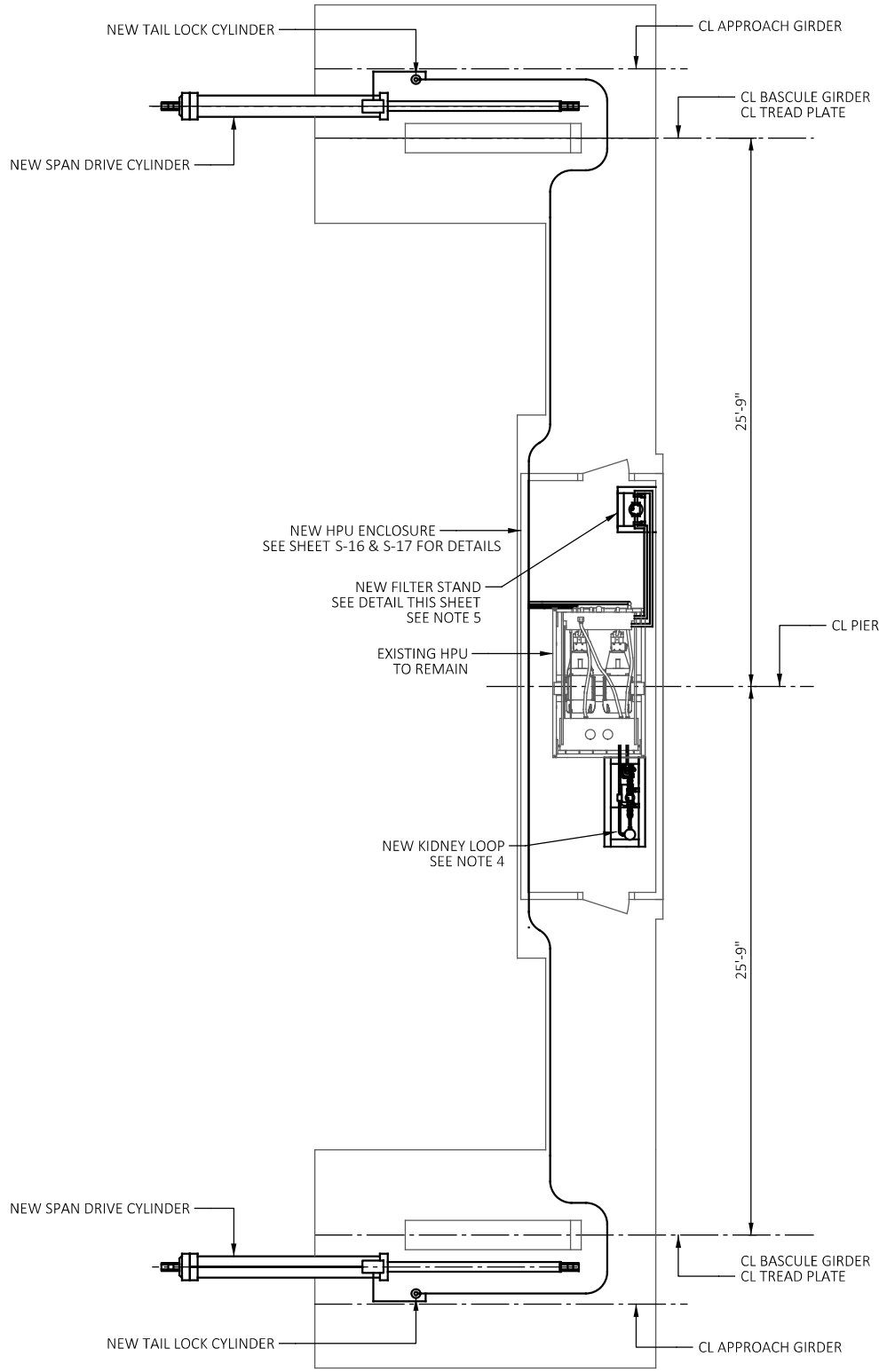
HYDRAULIC CYLINDER NOTES:

- SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- SEE HYDRAULIC SPECIFICATIONS FOR VALVES TO BE PROVIDED WITH THE CYLINDER MANIFOLD.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS DETAILING ALL DIMENSIONS FOR THE CYLINDER MANIFOLD AND MANIFOLD MOUNTING SYSTEM FOR APPROVAL. MANIFOLD SHALL BE MOUNTED AT A POSITION READILY ACCESSIBLE FOR MAINTENANCE FROM A PERMANANT WALKWAY.
- ALL PLATES, BRACKETS, ANGLES, AND FASTENING HARDWARE SHALL BE STAINLESS STEEL. NO WELDING SHALL BE PERFORMED OF CYLINDER TO TUBE AFTER FINAL INSIDE HONING OF THE TUBE HAS BEEN COMPLETED BY THE CYLINDER MANUFACTURER.
- CONFIGURE MANIFOLD TO AVOID INTERFERENCE THROUGHOUT FULL LENGTH OF TRAVEL.

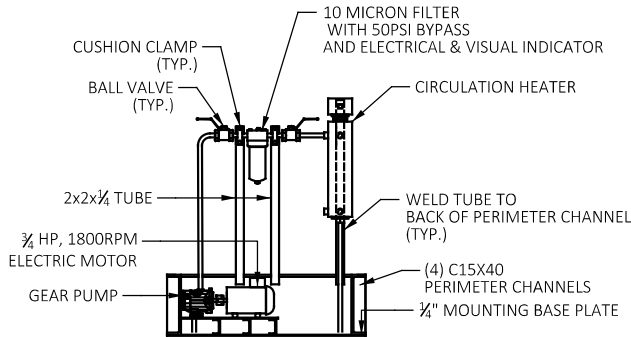
SPAN DRIVE HYDRAULIC CYLINDER NOTES:

- THE CYLINDER SHALL BE PROVIDED WITH A STOP TUBE SIZED PER THE MANUFACTURER'S RECOMMENDATIONS AND TO PROVIDE THE SPECIFIED STROKE. THE STOP TUBE SHALL BE SECURELY ATTACHED TO THE CYLINDER ROD.
- THE CYLINDER SHALL BE DESIGNED TO MEET A FACTOR OF SAFETY AGAINST BUCKLING OF AT LEAST 3.0 AT A PRESSURE OF 2100 PSI.
- THE CONTRACTOR SHALL FIELD VERIFY THE STROKE OF THE EXISTING CYLINDER.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		JRG	PLANS CK'D. TMK
HYDRAULIC CYLINDER DETAILS		M-05	

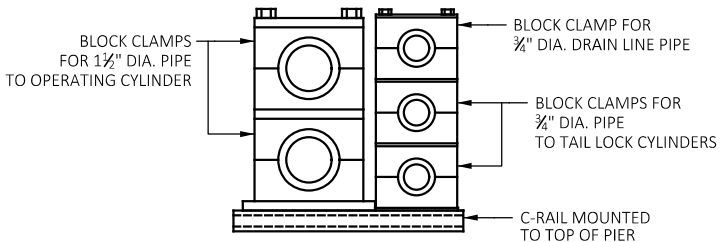


SCHEMATIC HYDRAULIC ROUTING ON PIER

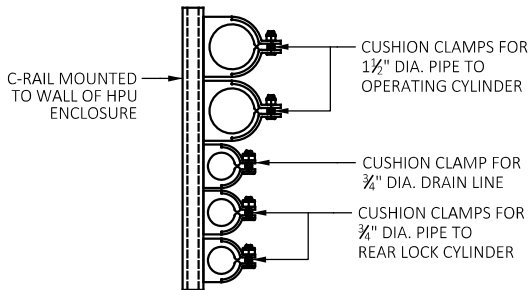


KIDNEY LOOP DETAIL

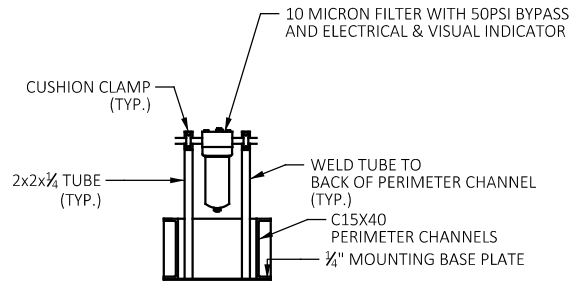
NOT ALL PIPING AND VALVES ARE SHOWN FOR CLARITY



TYPICAL HYDRAULIC SUPPORT ON PIER

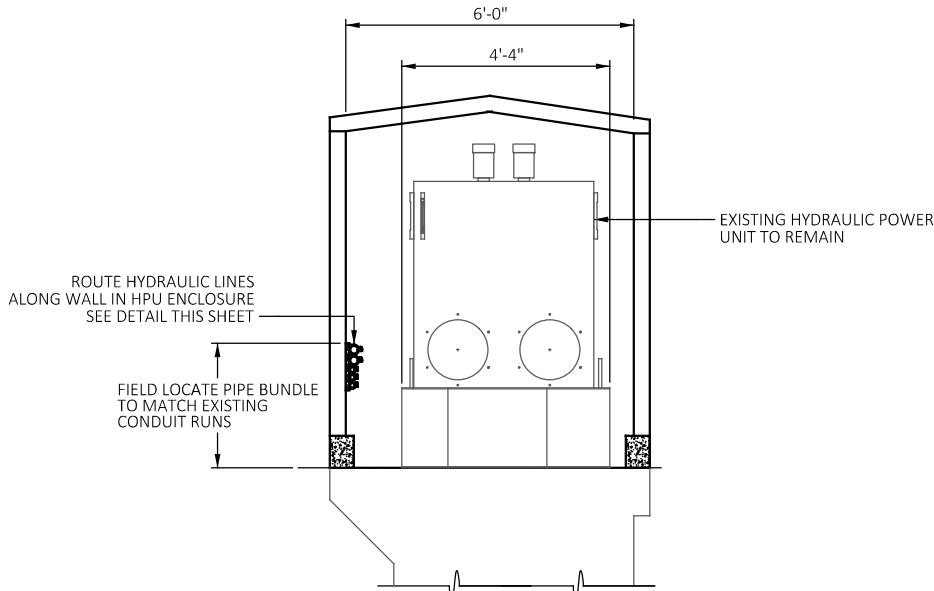


TYPICAL HYDRAULIC SUPPORT IN HPU ENCLOSURE



PRESSURE FILTER STAND DETAIL

NOT ALL PIPING AND VALVES ARE SHOWN FOR CLARITY



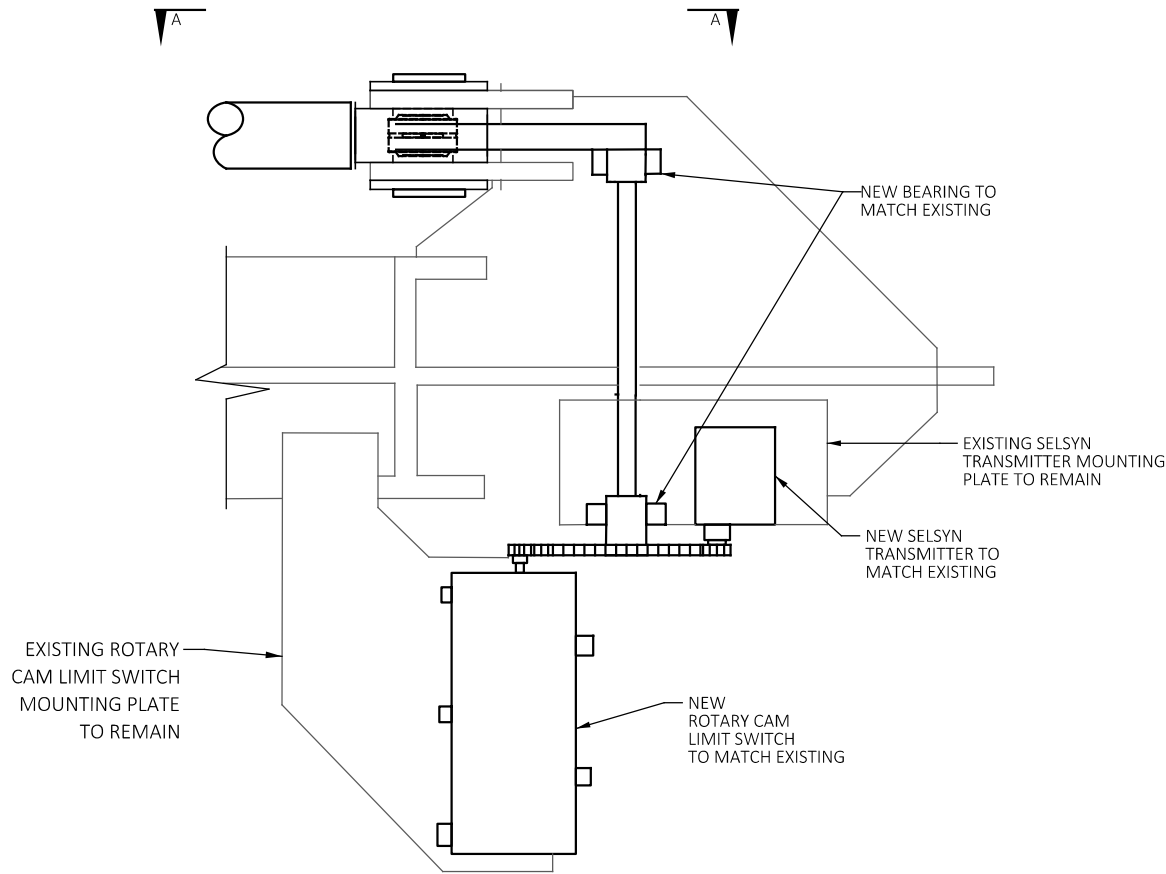
HPU ENCLOSURE

NEW FILTER STAND AND KIDNEY LOOP NOT SHOWN FOR CLARITY

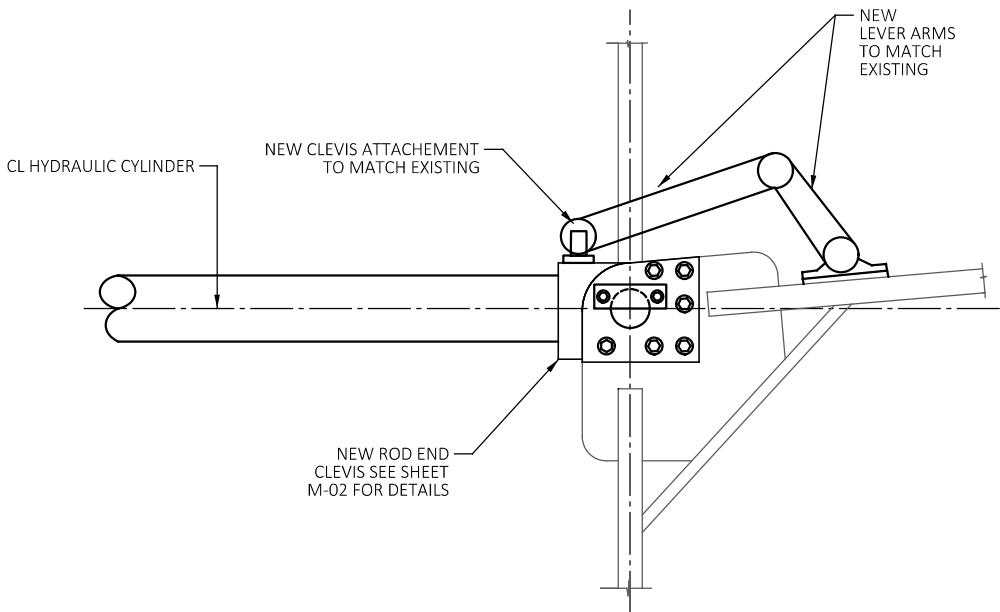
NOTES

- ANY PIPE RUNS LOCATED IN WALKWAYS SHALL BE PROTECTED WITH SHEET METAL COVERS OR TRENCHED TO PROTECT THE PIPES.
- PIPE SUPPORTS SHALL BE FROM STAUFF, HYDAC, HYDRAZORB OR OTHER APPROVED EQUAL.
- PIPE SUPPORTS MOUNTED ON THE PIER SHALL BE SPACED NO FURTHER THAN 4 FEET APART.
- KIDNEY LOOP SHALL TIE IN TO THE TOP OF EXISTING HPU RESERVOIR. IF THAT IS NOT FEASIBLE GIVEN EXISTING LAYOUT, PENETRATE THROUGH THE INSPECTION COVER PLATES USING BULKHEAD FITTINGS.
- COORDINATE FINAL LOCATION OF FILTER STAND WITH WISDOT FOR EASE OF ACCESS.

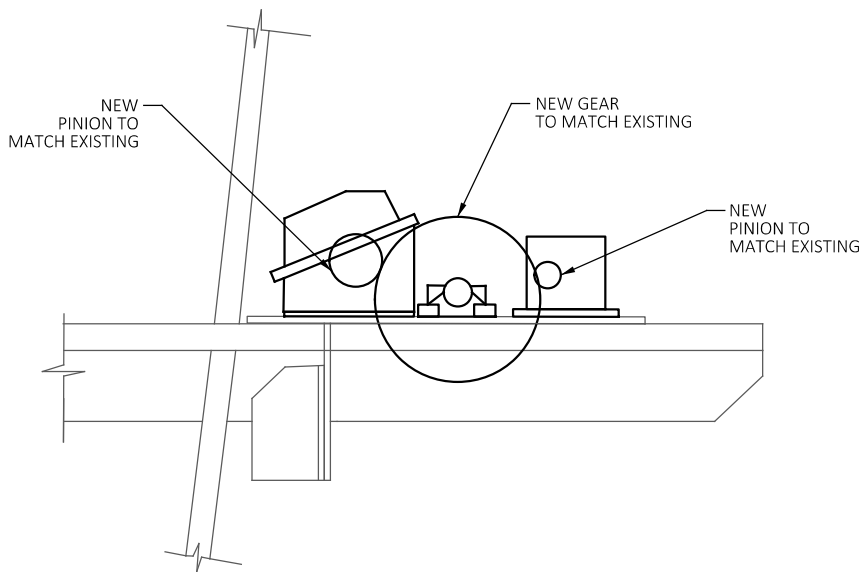
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		JRG	PLANS CK'D. TMK
HYDRAULIC ROUTING		M-06	



INSTRUMENTATION MACHINERY PLAN



SECTION A-A



INSTRUMENTATION MACHINERY ELEVATION

NOTES:

1. ALL NEW GEARING, BEARINGS, LEVER ARMS, SHAFTS, AND SHIMS SHALL MATCH EXISTING DETAILS. PRIOR TO REMOVING EXISTING EQUIPMENT, THE CONTRACTOR SHALL FIELD SURVEY ALL EXISTING INSTRUMENTATION MACHINERY AND SUBMIT RESULTS FOR REVIEW.
2. SEE ELECTRICAL SHEETS FOR INFORMATION REGARDING NEW AND EXISTING CONTROL EQUIPMENT.
3. DETAILS SHOWN ARE BASED OFF THE ORIGINAL DESIGN PLANS, SHEET 60 OF 60.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CK'D.	TMK
INSTRUMENTATION MACHINERY		M-07	

GENERAL ELECTRICAL NOTES:

- 8

1.

ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION (WISDOT) STANDARD SPECIFICATIONS, THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC), THE REGULATIONS OF UNDERWRITER'S LABORATORIES (UL), THE ELECTRICAL REQUIREMENTS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) STANDARD SPECIFICATIONS, AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL RULES, REGULATIONS, AND ORDINANCES. IN THE EVENT OF A CONFLICT BETWEEN THESE SPECIFICATIONS AND THE ABOVE MENTIONED CODES, STANDARDS, RULES, REGULATIONS, AND ORDINANCES, THE MOST STRINGENT REQUIREMENT SHALL APPLY.

2.

ALL ELECTRICAL WORK SHALL BE COORDINATED WITH THE WORK OF OTHER TRADES AND SHALL BE SCHEDULED CONSISTENT WITH THE OVERALL CONSTRUCTION STAGING SEQUENCE.

3.

ALL REPLACEMENT ELECTRICAL COMPONENTS AND MATERIAL SHOWN ON THE CONTRACT DRAWINGS ARE NEW AND SHALL BE FURNISHED BY THE CONTRACTOR, UNLESS OTHERWISE NOTED (UON).

4.

ALL NEW CONDUIT AND FITTINGS SHALL BE 3/4" MINIMUM PVC COATED HOT DIPPED GALVANIZED RIGID STEEL(PVC-RGS), UON, AND SHALL MEET ALL THE ADDITIONAL REQUIREMENTS FOR MATERIAL, CONSTRUCTION, AND INSTALLATION CONTAINED IN THE SPECIFICATIONS.

5.

ALL CONDUITS AND FITTINGS USED IN ONE CONTINUOUS RUN SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER. ALL ABOVE GROUND OUTDOOR CONDUITS SHALL BE PVC-RGS, UON. ALL UNDERGROUND OR EMBEDDED CONDUITS SHALL BE PVC-SCHEDULE 80, UON.

6.

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED BOXES, CONDUIT FITTINGS, ELBOWS, AND HARDWARE FOR A COMPLETE INSTALLATION, WHETHER OR NOT THEY ARE EXPLICITLY SHOWN OR INDICATED ON THE CONTRACT DRAWINGS.

7.

NEW ELECTRICAL CONDUCTORS SHALL BE MINIMUM SIZE NO. 12 AWG STRANDED TYPE XHHW-2, EXCEPT FOR INTERNAL WIRING IN CONTROL CABINETS AND CONTROL DESK IN WHICH NO. 12 AWG MAY NOT FIT. IN THE CASE OF CONTROL CABINETS AND CONTROL DESK WIRING, THE MINIMUM SIZE SHALL BE NO. 14 AWG SWITCHBOARD WIRE (TYPE SIS). ALL WIRES AND CABLES SHALL MEET ALL THE ADDITIONAL REQUIREMENTS FOR MATERIAL, CONSTRUCTION AND INSTALLATION CONTAINED IN THE RELEVANT SPECIFICATIONS.

8.

ALL NEW CONDUCTORS INSTALLED IN CONDUIT SHALL BE INSTALLED WITH GROUND CONDUCTORS. GROUND CONDUCTORS SHALL BE PROVIDED IN ALL NEW FLEXIBLE CABLES. MINIMUM SIZE GROUND CONDUCTOR SHALL BE NO. 12 AWG. ALL CABINETS, TERMINAL AND JUNCTION BOXES SHALL BE GROUNDED IN ACCORDANCE WITH THE NEC.

9.

ALL CONDUCTORS SHALL BE CONNECTED TO TERMINAL BLOCKS OR DEVICES. SPLICES SHALL NOT BE PERMITTED WITHIN EQUIPMENT ENCLOSURES, BOXES, OR CONDUIT FITTINGS.

10.

THE ELECTRICAL EQUIPMENT AND RACEWAY LAYOUTS SHOWN IN THE CONTRACT DOCUMENTS ARE DIAGRAMMATIC IN NATURE AND INTENDED TO SHOW A CONCEPTUAL LAYOUT. SCALES ARE APPROXIMATE. ACTUAL CONDITIONS SHALL BE VERIFIED IN THE FIELD. WHILE MAJOR EQUIPMENT IS SHOWN, NOT EVERY DETAIL OR EXACT LOCATION OF ALL EQUIPMENT AND/OR CONDUIT MAY BE SHOWN. SIZES OF EQUIPMENT MAY VARY, DEPENDING ON THE MANUFACTURER SELECTED. THE CONTRACTOR SHALL FOLLOW THESE LAYOUTS AS CLOSELY AS POSSIBLE, REALIZING THAT ACTUAL INSTALLATIONS MAY VARY SLIGHTLY DUE TO FIELD CONDITIONS AND STRUCTURAL/MECHANICAL COORDINATION. THE CONTRACTOR SHALL VERIFY ALL THE DIMENSIONS RELATED TO ELECTRICAL EQUIPMENT INSTALLATION PRIOR TO PERFORMING THE ACTUAL INSTALLATION. ANY DEVIATIONS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL ANY DEVIATIONS IN PROPOSED CABLE AND CONDUIT ROUTINGS.

11.

THESE PLANS AND SPECIFICATIONS DO NOT NECESSARILY SHOW ALL ASPECTS OF THE REQUIRED INSTALLATION. PERFORM ALL WORK NECESSARY, TO PROVIDE FULLY OPERATIONAL SYSTEMS THAT ARE IN COMPLIANCE WITH ALL STATED CONTRACT REQUIREMENTS, WHETHER SHOWN ON THE PLANS OR NOT. PRESENTATION OF INCOMPLETE INFORMATION OR OMISSIONS OF DETAILS FOR ITEMS WHICH ARE NECESSARY TO CARRY OUT THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, OR WHICH ARE CUSTOMARILY PERFORMED, SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH OMISSIONS AND DETAILS OF WORK, AT NO EXTRA COST.

12.

ANY APPARATUS, DEVICE, CIRCUIT, APPLIANCE, MATERIAL, OR LABOR NOT HEREIN SPECIFICALLY MENTIONED OR INCLUDED, BUT THAT MAY BE FOUND NECESSARY TO COMPLETE OR PERFECT THE INSTALLATION AND EQUIPMENT IN A MANNER ACCEPTABLE TO THE ENGINEER, SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS IF SPECIFICALLY INCLUDED IN THESE DRAWINGS.

13.

CONDUIT TOP ENTRY IS NOT PERMITTED FOR OUTDOOR CABINETS THAT CONTAIN ELECTRICAL EQUIPMENT. ALL WET AND OUTDOOR LOCATION CONDUIT FITTINGS AND HUBS SHALL BE WATERTIGHT TYPE.

14.

CONDUIT PENETRATIONS THROUGH WALLS AND FLOORS OF BUILDINGS SHALL BE SEALED WITH AN APPROVED FIRE-STOP SEALANT.

15.

ALL STRUCTURAL, MECHANICAL AND ARCHITECTURAL BACKGROUND INFORMATION SHOWN IN THE ELECTRICAL PLANS IS FOR REFERENCE ONLY.

16.

ENCLOSURES WHERE SHOWN IN THE PLANS SHALL BE NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION (NEMA) 4X STAINLESS STEEL WITH CONTINUOUS HINGES AND LATCHES, UON.

17.

THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS RELATING TO ELECTRICAL EQUIPMENT INSTALLATIONS PRIOR TO PERFORMING ACTUAL INSTALLATIONS. ANY DEVIATIONS NOTED AS PART OF THE FIELD VERIFICATION OR CONSTRUCTION DEVIATIONS REGARDING THE STRUCTURE, SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.

18.

CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL CONSTRUCTION DEBRIS IN THE VICINITY OF THE WORK, THE CONTRACTOR SHALL CONTROL CLEANING TO PREVENT DIRT OR DUST FROM LEAVING THE JOB SITE AND INFILTRATING AREAS NOT INVOLVED IN THE PROJECT. AT THE COMPLETION OF THE WORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LEAVING THE SITE IN A CLEAN, ORDERLY STATE.

19.

THE CONTRACTOR SHALL REMOVE AND RE-EXECUTE ALL UNSATISFACTORY WORK AT NO ADDITIONAL COST TO WISDOT.

20.

THE CONTRACTOR SHALL FURNISH AND INSTALL ENGRAVED BRASS TAGS AT BOTH ENDS OF ALL RACEWAY RUNS IDENTIFYING THEM WITH FINAL CONDUIT DESIGNATIONS WHICH SHALL COINCIDE WITH THOSE IN THE CONTRACTORS FINAL AS-BUILT DRAWINGS.

21.

ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN LOCATIONS SHOWN ON THE PLANS. DEVIATIONS IN LOCATION SHALL BE PERMITTED ONLY BY APPROVAL OF THE ENGINEER.

GENERAL ELECTRICAL NOTES (CONT.):

22.

IN ANY CASE OF DISCREPANCIES IN NOTED DETAILS, CATALOG NUMBERS, AND DESCRIPTIONS, OR WHERE MULTIPLE INTERPRETATIONS OF THE PLANS MAY BE REASONABLY MADE, SUBMIT A WRITTEN INQUIRY TO THE ENGINEER, WHO WILL PROMPTLY MAKE DETERMINATION IN WRITING. ANY DEVIATION FROM THE PLANS AND SPECIFICATIONS OR INTERPRETATIONS MADE BY THE CONTRACTOR WITHOUT WRITTEN APPROVAL BY THE ENGINEER SHALL BE AT THE CONTRACTOR'S OWN RISK AND EXPENSE. IN THE CASE OF DISCREPANCY BETWEEN SPECIFICATIONS AND PLANS, THE MORE STRINGENT SHALL GOVERN.
23.

ALL CIRCUIT BREAKERS (CB) (EXCEPT FOR BRANCH CB IN LIGHTING PANELS) , MOTOR CIRCUIT PROTECTORS, CONTACTORS, AND OVERLOADS SHALL BE PROVIDED WITH A MINIMUM OF 2 NORMALLY OPEN (N.O.) AND 2 NORMALLY CLOSED (N.C.) AUXILIARY CONTACTS, UON.
24.

COVERS FOR ALL EQUIPMENT SHALL BE EASILY REMOVABLE AND REPLACEABLE WITHOUT DISASSEMBLY OF ANY COMPONENT EXCEPT THE ONE REQUIRING ACCESS. CLEARANCES BETWEEN EQUIPMENT SHALL BE INCREASED TO MEET THIS REQUIREMENT.
25.

SUPPORT CONDUIT EVERY FIVE (5) FEET. MAXIMUM SPACING FOR CONDUIT SUPPORTS DUE TO FIELD CONDITIONS MAY BE EXTENDED UP TO SIX (6) FEET UPON ENGINEER'S APPROVAL. DEVIATION FROM THIS REQUIREMENT SHALL BE AT THE SOLE DISCRETION OF THE ENGINEER. DO NOT SUPPORT BOXES OR CABINETS FROM CONDUIT. INSTALL ALL CONDUIT PER THE NEC AND AASHTO STANDARDS. LIMIT TOTAL ANGULAR CONDUIT BENDS BETWEEN PULL BOXES TO 270° OR 360° WITH APPROVAL OF ENGINEER. RADIUS OF CONDUIT BEND SHALL BE PER THE NEC.
26.

WHERE MULTIPLE CIRCUIT CONDUCTORS ARE INSTALLED WITHIN THE SAME CONDUIT, VERIFY THAT ALL CONDUCTORS ARE SIZED IN ACCORDANCE WITH NEC DERATING REQUIREMENTS. INSTALL UPSIZED CABLES/LARGER CONDUIT AT NO ADDITIONAL COST TO ACCOMMODATE THE INCREASED WIRING SIZE IF NECESSARY TO COMPLY WITH THIS PROVISION.
27.

ALL CONDUIT PROVIDED SHALL BE SUNLIGHT AND ULTRAVIOLET (UV) RESISTANT, AND SHALL BE RATED FOR SUCH INSTALLATION, WHETHER INSTALLED IN EXTERIOR LOCATIONS OR NOT.
28.

PROVIDE A PROPOSED SEQUENCE OF CONSTRUCTION STAGING, COORDINATED WITH THE STRUCTURAL AND MECHANICAL WORK, ALONG WITH THE SHOP DRAWINGS OF THE ELECTRICAL WORK AS INDICATED IN THESE PLANS AND SPECIFICATIONS TO THE ENGINEER FOR REVIEW AND APPROVAL.

SCOPE OF WORK:

1.

DEMOLITION AND REMOVAL:
REMOVE AND DISPOSE OF THE FOLLOWING EXISTING EQUIPMENT:
1. FOUR (4) 40HP ELECTRIC MOTORS, TWO (2) IN EACH BASCULE PIER HYDRAULIC POWER UNIT (HPU) ROOM.
2. TWO (2) SPAN ROTARY CAM LIMIT SWITCHES, ONE (1) EACH ON THE NEAR AND FAR BASCULE LEAF.
3. ELECTRICAL COMPONENTS FOR TWO (2) IMMERSION HEATERS, ONE (1) EACH IN NEAR AND FAR HPU.
4. ONE (1) CONTROL CONSOLE TOP.
5. FOUR (4) HYDRAULIC AMPLIFIER CARDS.
6. EXISTING METERING EQUIPMENT.
2.

ELECTRICAL SERVICE - POWER DISTRIBUTION:
INSTALL NEW POWER QUALITY METER AND ALL ASSOCIATED COMPONENTS, PROGRAMMING, CONDUITS AND CABLES NECESSARY TO PROVIDE REAL TIME BRIDGE ELECTRICAL POWER DATA INPUT TO EXISTING PLC AND NEW HMI EQUIPMENT.
3.

ELECTRICAL SERVICE - ELECTRICAL CONDUIT, CABLES AND MACHINERY:
ALL NEW CABLING SHALL BE EITHER TRAY CABLE IN TRAYS OR CONDUCTORS PULLED THROUGH PVC COATED RIGID GALVANIZED CONDUIT. EXISTING HPU-BASED BRIDGE OPERATION SYSTEM SHALL BE REUSED. PROVIDE AND INSTALL TWO (2), NEW 40HP SQUIRREL CAGE INDUCTION HPU MOTORS AND DISCONNECTS FOR EACH HPU ROOM.PROVIDE AND INSTALL TWO (2), 1HP PUMPS, DISCONNECT SWITCH AND 500W IN-LINE HEATER FOR EACH HPU.
4.

ELECTRICAL CONTROLS - CONTROL EQUIPMENT:
EXISTING PLC-BASED BRIDGE CONTROL SYSTEM SHALL BE REUSED. PROVIDE AND INSTALL NEW LINEAR TRANSDUCERS CONDUIT SYSTEM WITH CONDUCTORS AND PLC/HMI INTEGRATION PROGRAMMING. PROVIDE AND INSTALL NEW PROPORTIONAL VALVE CONTROLLERS AND A NEW CURRENT TO VOLTAGE SIGNAL CONVERTER IN THE NEAR AND FAR CONTROL CABINETS AS SHOWN IN THE PLANS. PROVIDE AND INSTALL ROTARY CAM LIMIT SWITCHES WITH INTERNAL RESOLVERS AS SHOWN ON MECHANICAL PLANS.
5.

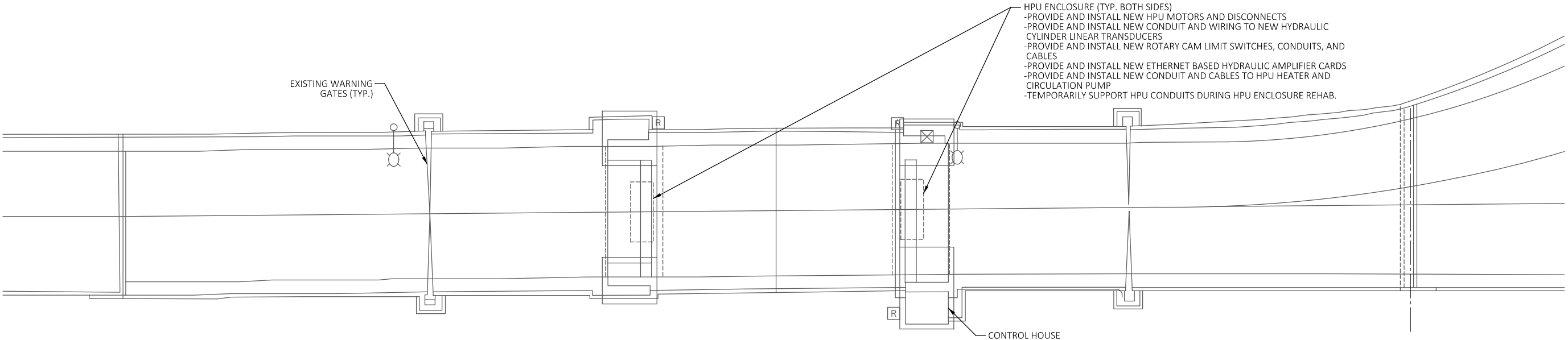
CONTROL CONSOLE:
EXISTING CONTROL CONSOLE BODY TO REMAIN. NEW CONTROL CONSOLE TOP AND HMI DISPLAY ENCLOSURE TO BE PROVIDED AS SHOWN ON PLANS. CONSOLE TOP SHALL CONSIST OF NEW SELECTOR SWITCHES AND PILOT LIGHTS AS SHOWN ON PLANS. NEW INDUSTRIAL PANEL COMPUTERS SHALL BE PROVIDED FOR CONTROL, INDICATION AND DATA-LOGGING.
6.

ALL ELECTRICAL CONDUITS, CABLES, BOXES AND EQUIPMENT INSIDE EACH HPU ROOM THAT ARE ATTACHED, SUPPORTED OR PENETRATED BY THE HPU ROOM WALLS, CEILING OR FLOOR, SHALL BE SAFELY AND OPERATIONALLY MAINTAINED THROUGHOUT THE STRUCTURAL AND MECHANICAL DEMOLITION AND NEW INSTALLATION.

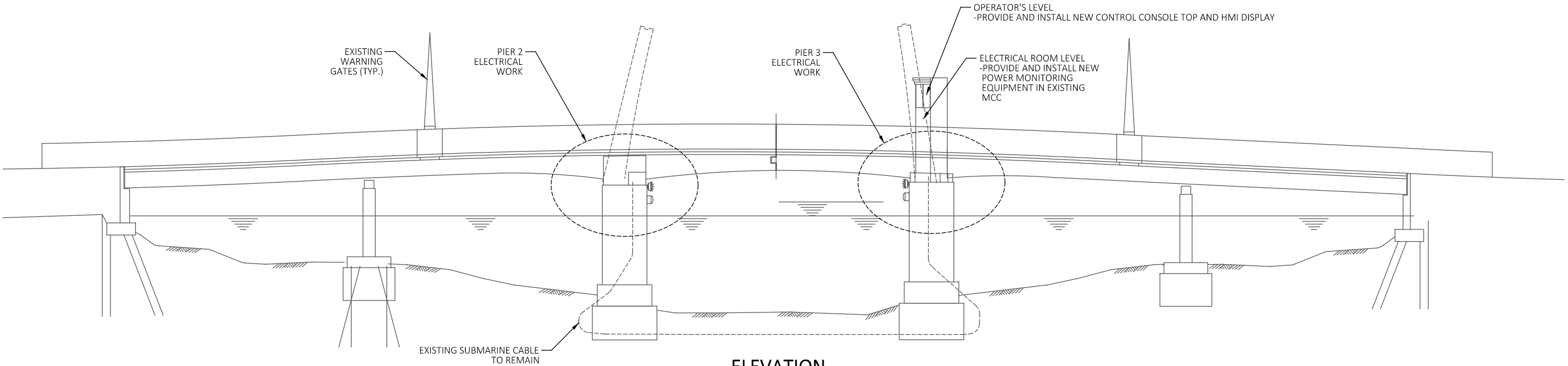
STATE PROJECT NUMBER

4110-33-71

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
		DRAWN BY	PLANS CK'D. RL
ELECTRICAL NOTES AND SCOPE		E-01	



PLAN

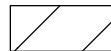


ELEVATION

NOTES:

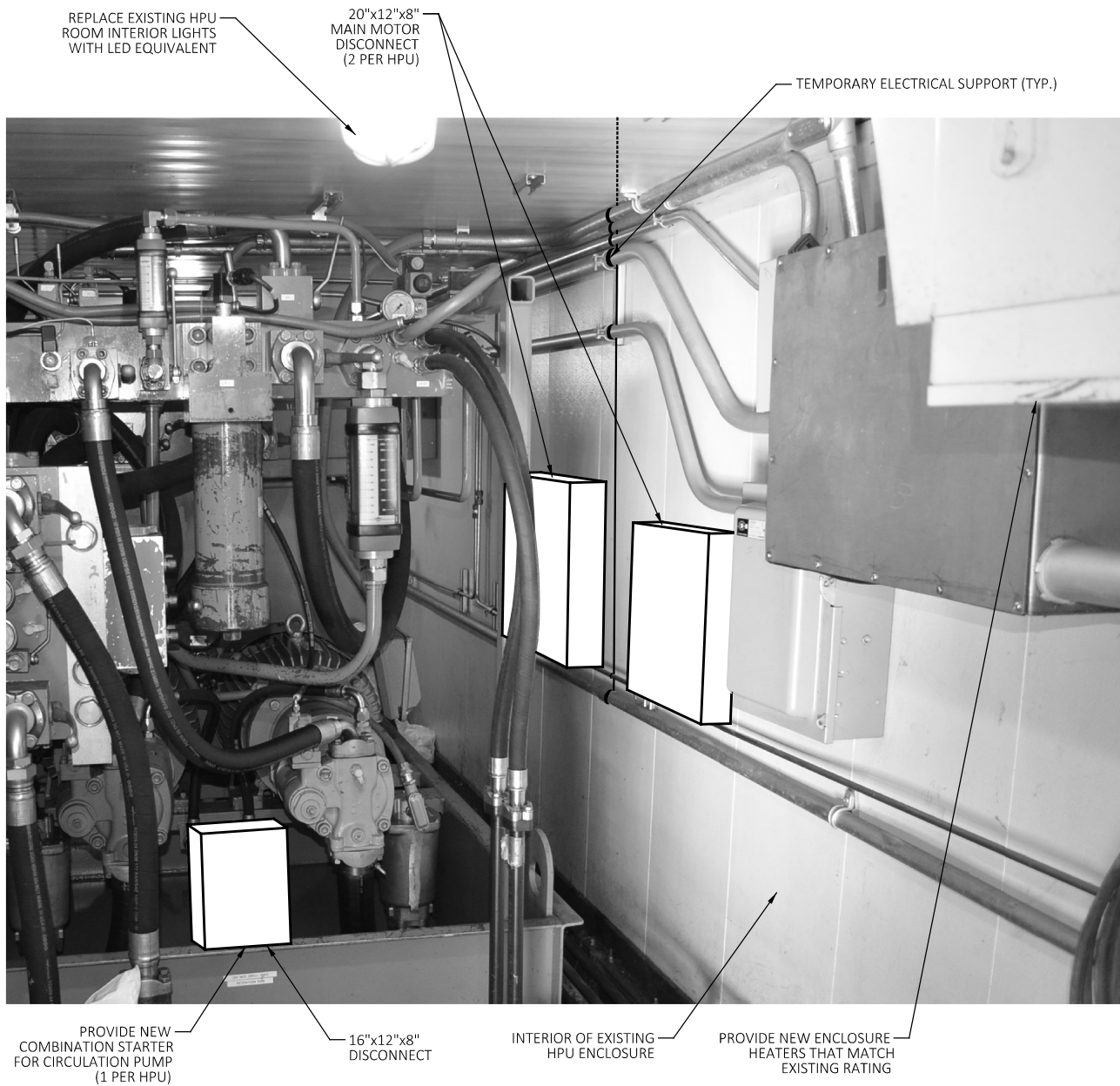
1. SEE ELECTRICAL NOTES & SCOPE SHEET FOR EQUIPMENT THAT SHALL BE REMOVED AND FOR EQUIPMENT THAT SHALL BE FURNISHED AND INSTALLED.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO PERFORMING ANY WORK.
3. INFORMATION, SCHEMATICS, AND LAYOUTS SHOWN ON THIS DRAWING WERE OBTAINED, IN WHOLE OR IN PART, FROM 2009 EXISTING PLANS TITLED "CITY OF OSHKOSH LIFT STRUCTURES MAIN STREET, OREGON/JACKSON STREET & CONGRESS AVENUE BRIDGES B-70-56 USH 45 WINNEBAGO COUNTY." THE INFORMATION SHOWN IS APPROXIMATE. EQUIPMENT, CONDUIT, CONTROL SYSTEM MODIFICATIONS, AND WIRING REPLACEMENT WORK SHOWN IS INTENDED TO BE USED AS AN INDICATION OF LEVEL OF EFFORT FOR ELECTRICAL WORK, AND FOR CONTRACTOR'S USE IN DETERMINING MEANS AND METHODS TO PERFORM THE WORK.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		JJK	PLANS CK'D. RL
ELECTRICAL PLAN AND ELEVATION		E-02	



1. THE CONTRACTOR SHALL INSTALL HPU ROOM MOTOR DISCONNECTS WITHIN SIGHT OF ITS MOTOR AND MEET NEC WORKING SPACE REQUIREMENTS.
2. PROVIDE NEW CONDUIT AND CABLES TO CIRCULATING PUMPS AS SHOWN ON PLANS.
3. THE CONTRACTOR SHALL MAINTAIN ALL ELECTRICAL CONDUITS, CABLES, JUNCTION BOXES AND SAFE OPERATION DURING THE DEMOLITION AND CONSTRUCTION OF THE HPU ENCLOSURE. EXISTING ELECTRICAL EQUIPMENT TO BE PRESERVED IN ACCORDANCE WITH THE SCOPE OF WORK.
4. INFORMATION, SCHEMATICS, AND LAYOUTS SHOWN ON THIS DRAWING WERE OBTAINED, IN WHOLE OR IN PART, FROM 2009 EXISTING PLANS TITLED "CITY OF OSHKOSH LIFT STRUCTURES MAIN STREET, OREGON/JACKSON STREET & CONGRESS AVENUE BRIDGES B-70-56 USH 45 WINNEBAGO COUNTY." THE INFORMATION SHOWN IS APPROXIMATE. EQUIPMENT, CONDUIT, CONTROL SYSTEM MODIFICATIONS, AND WIRING REPLACEMENT WORK SHOWN IS INTENDED TO SHOW LEVEL OF EFFORT FOR ELECTRICAL WORK, AND FOR CONTRACTOR'S USE IN DETERMINING MEANS AND METHODS TO PERFORM THE WORK.
5. THE CONTRACTOR SHALL PROVIDE COMMUNICATION CABLE FROM THE NEW POWER QUALITY METER AND SUBMIT PROPOSED ELECTRICAL DRAWINGS WITH ALL ASSOCIATED COMPONENTS THAT INCLUDE PLC PROGRAMMING AND HMI DISPLAY CHANGES PER THE SPECIFICATIONS.
6. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		JIK	PLANS CK'D. RL
ONE LINE DIAGRAM		E-03	



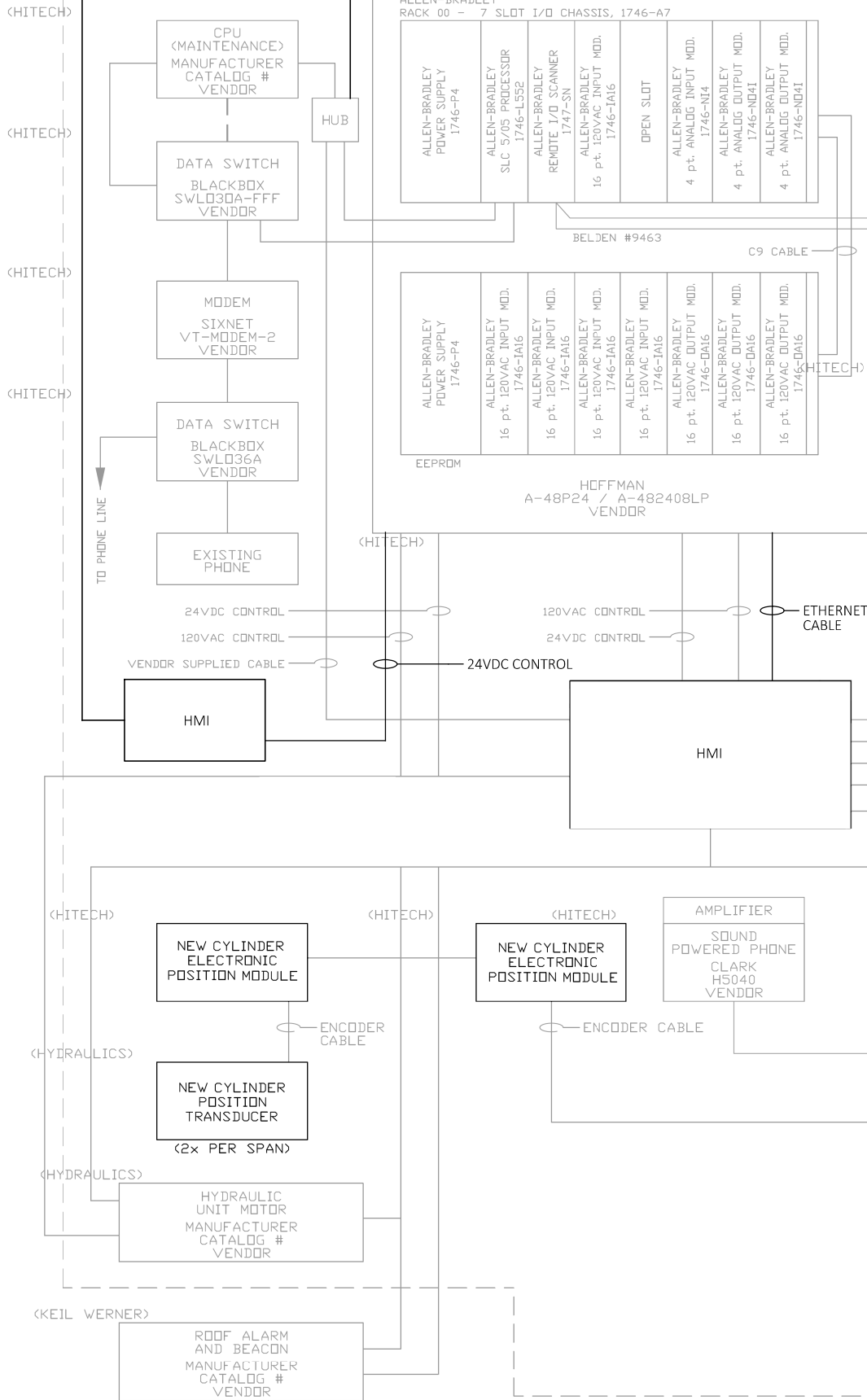
TEMPORARY SUPPORT DETAILS

NOTES:

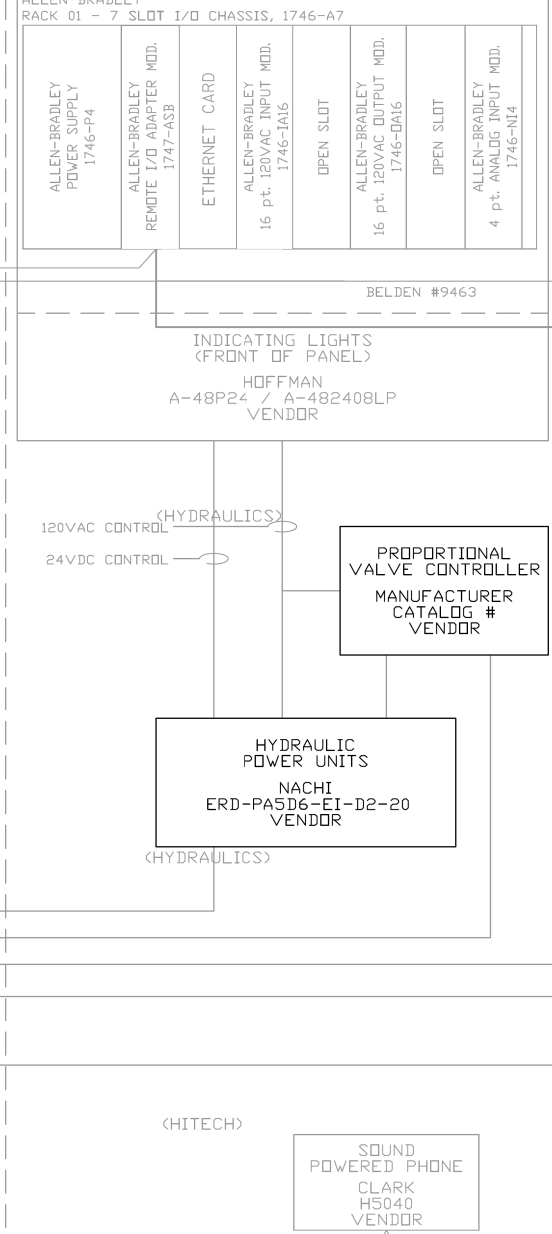
- EXISTING CONDUITS AND CONDUCTORS IN HYDRAULIC ENCLOSURE TO REMAIN.
- CONTRACTOR IS TO TEMPORARILY SUPPORT ALL CONDUITS PRIOR TO DEMOLITION OF ENCLOSURE WALLS. PROPOSED PLAN SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL.
- TEMPORARY SUPPORTS MAY BE ATTACHED TO THE STRUCTURE ABOVE THE HPU ENCLOSURE WHILE THE BRIDGE IS INOPERABLE.
- CONDUITS AND CABLES TO REMAIN THAT ARE ENTERING THROUGH EXISTING WALL PENETRATIONS ARE TO BE CUT AND TERMINATED IN NEW SPLICE BOXES PROVIDED IN HPU ENCLOSURE INTERIOR.
- TEMPORARY SUPPORTS DEPICTED CONSIST OF BEAM CLAMPS AND STEEL WIRE ROPE. ALTERNATIVE MEANS CAN BE PROVIDED FOR ENGINEER APPROVAL.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		JJK	PLANS CK'D. RL
HPU ENCLOSURE ELECTRICAL WORK			E-04

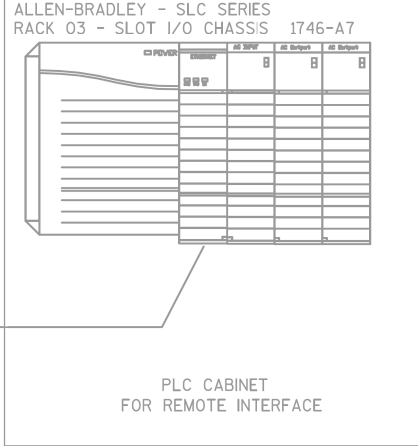
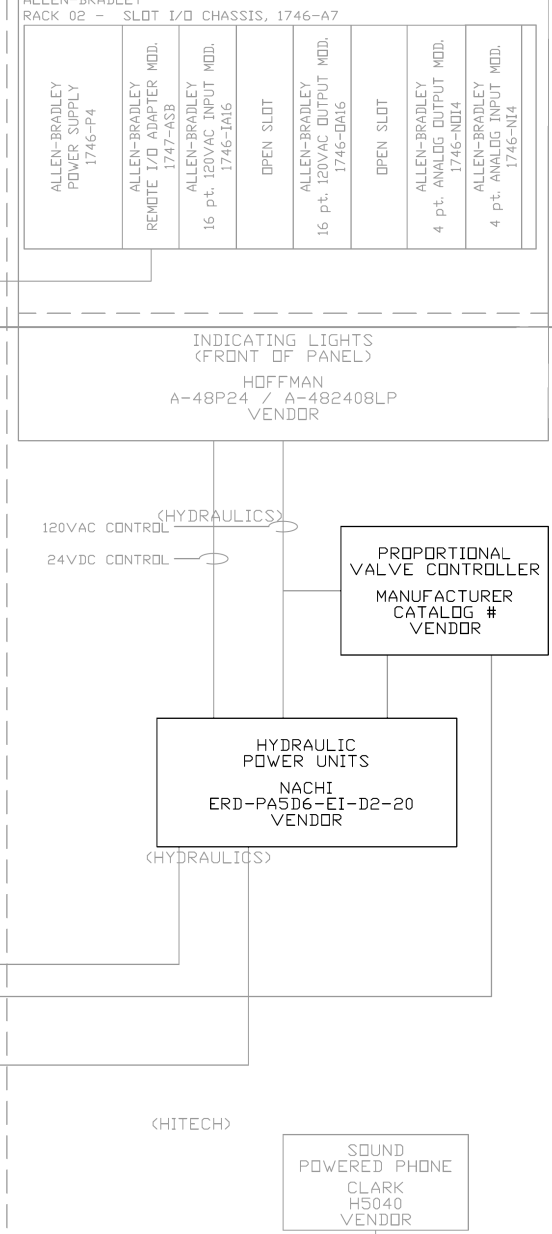
OPERATOR'S HOUSE PREMISES



NEAR PIER HOUSE



FAR PIER HOUSE



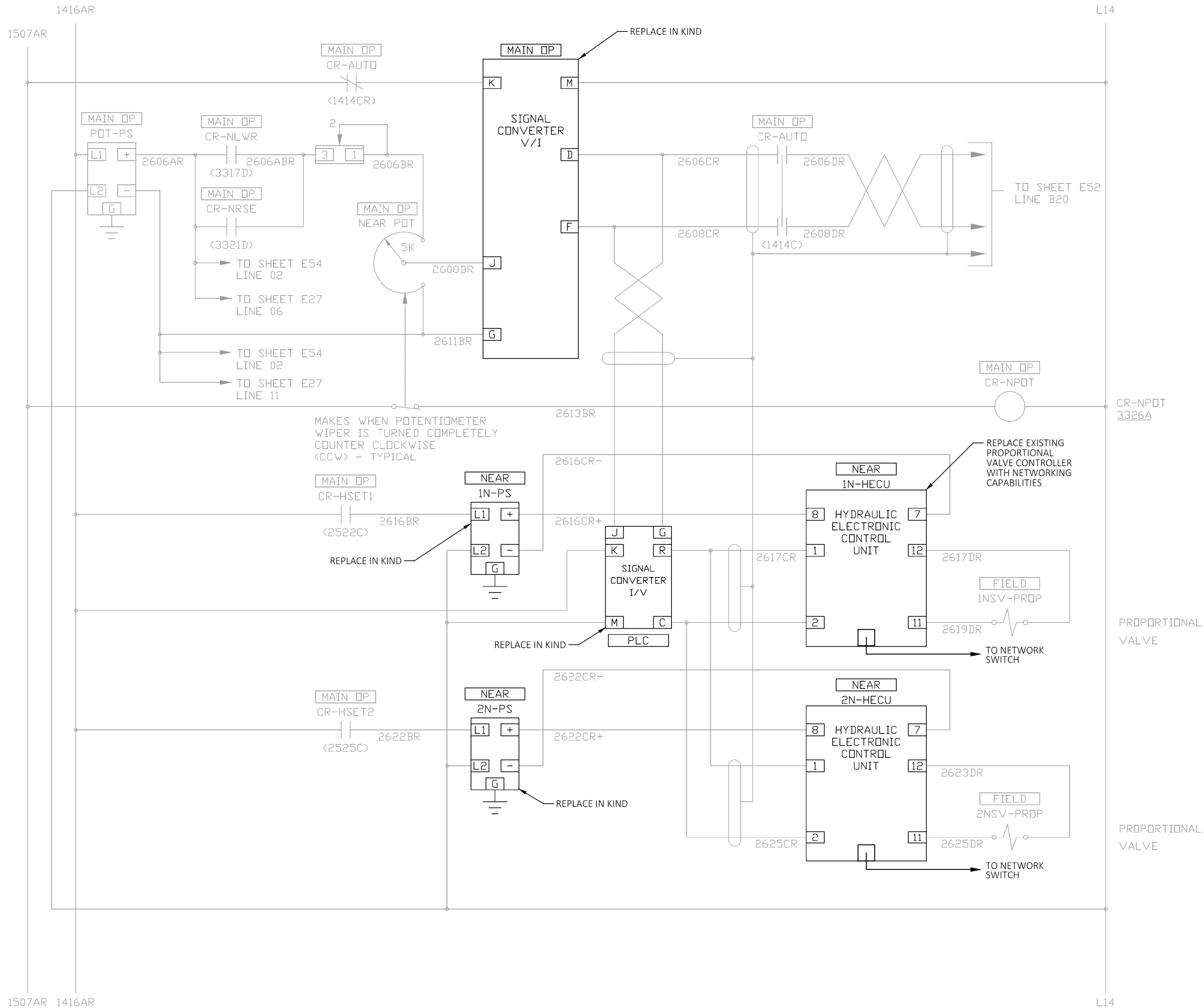
PLC CABINET FOR REMOTE INTERFACE

NOTES:

- LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
- PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		JIK	PLANS CK'D. RL
SCHEM. DIAG. COMMUNICATIONS		E-05	

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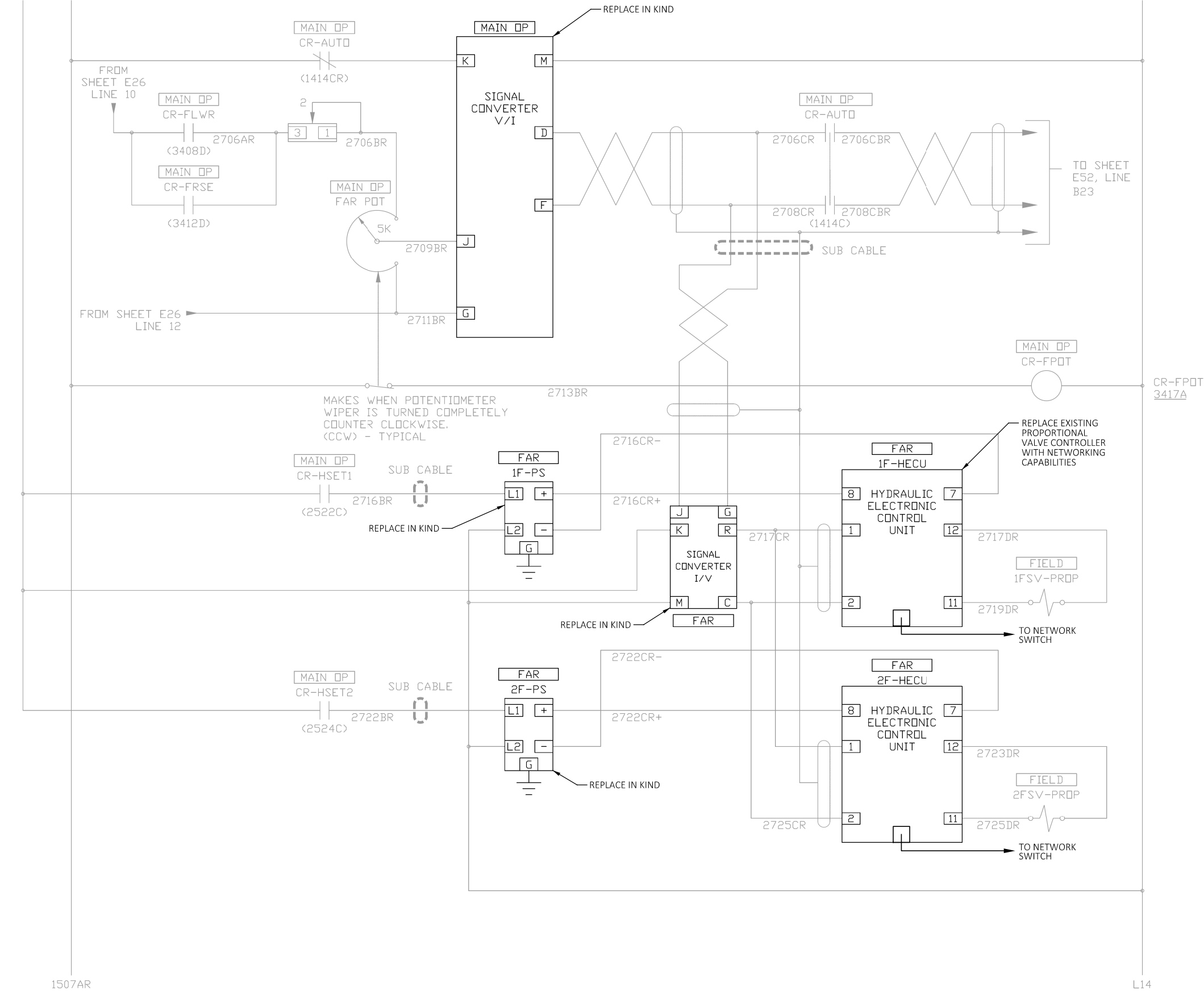
NOTES:

1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CHK'D.	RL
AS-BUILT NEAR SIDE RELAY SCHEMATIC		E-06	

1416AR 1507AR

L14

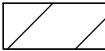
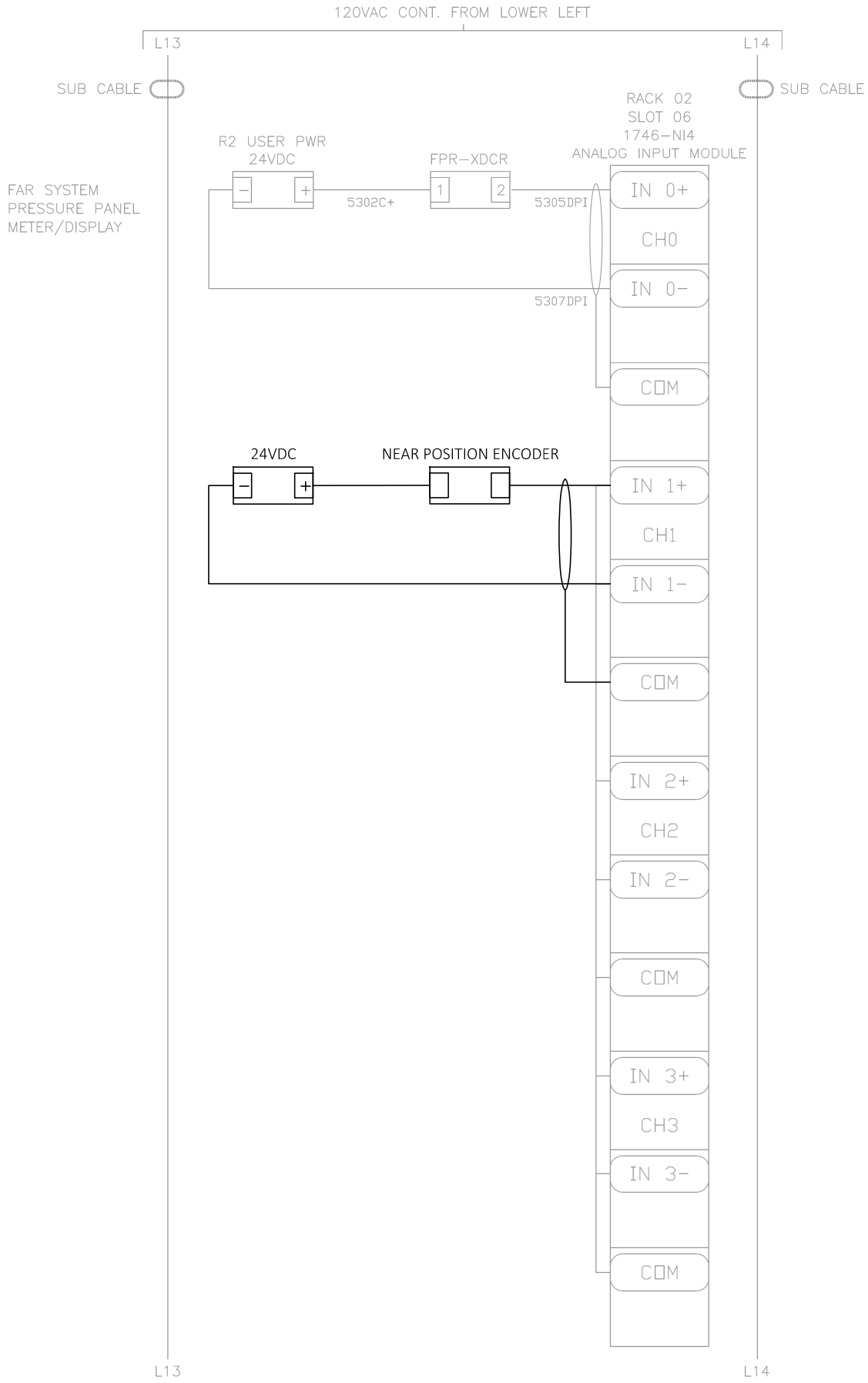
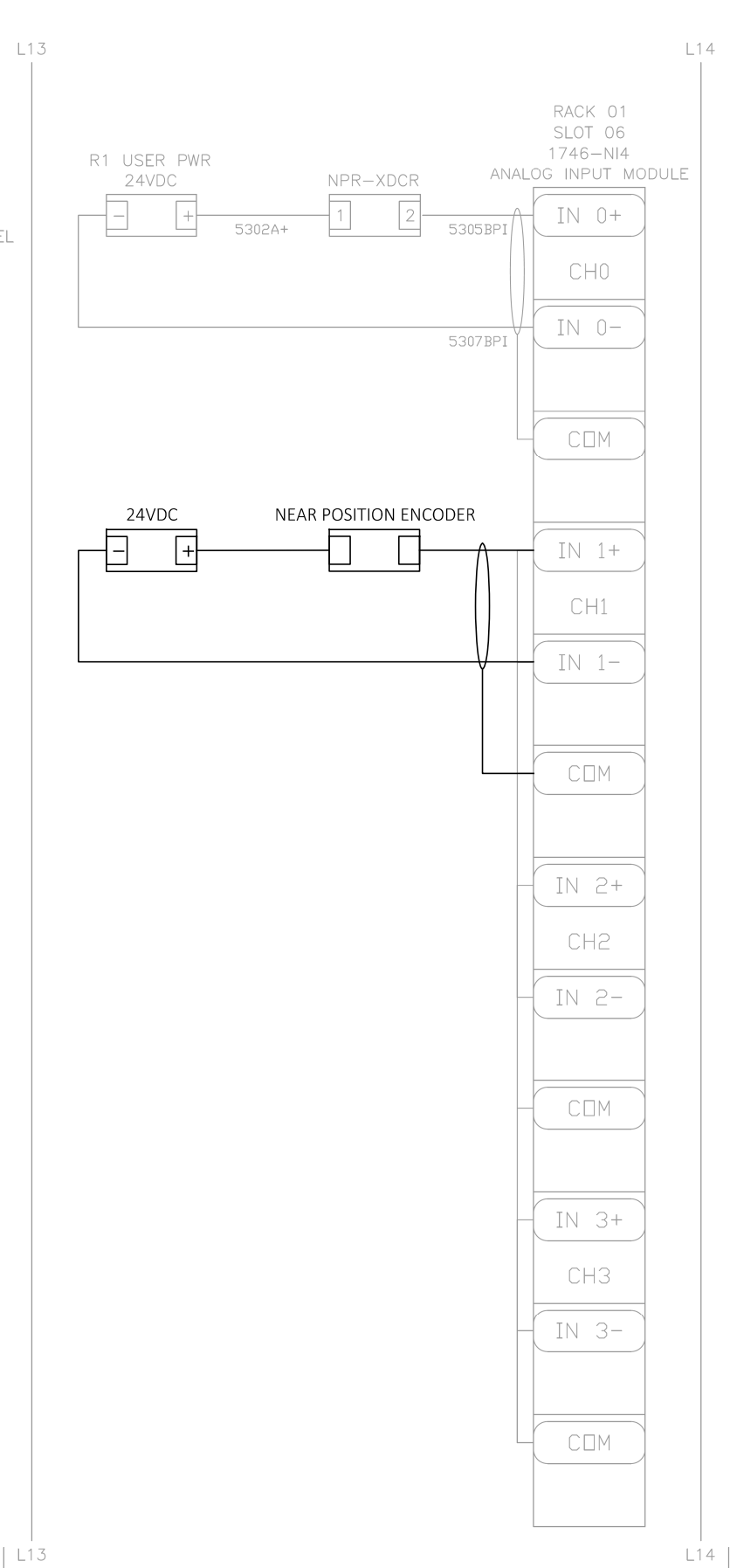


NOTES:

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- PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CHK'D.	RL
AS-BUILT FAR SIDE RELAY SCHEMATIC		E-07	

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EXISTING TO BE REMOVED

NOTES:

1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.

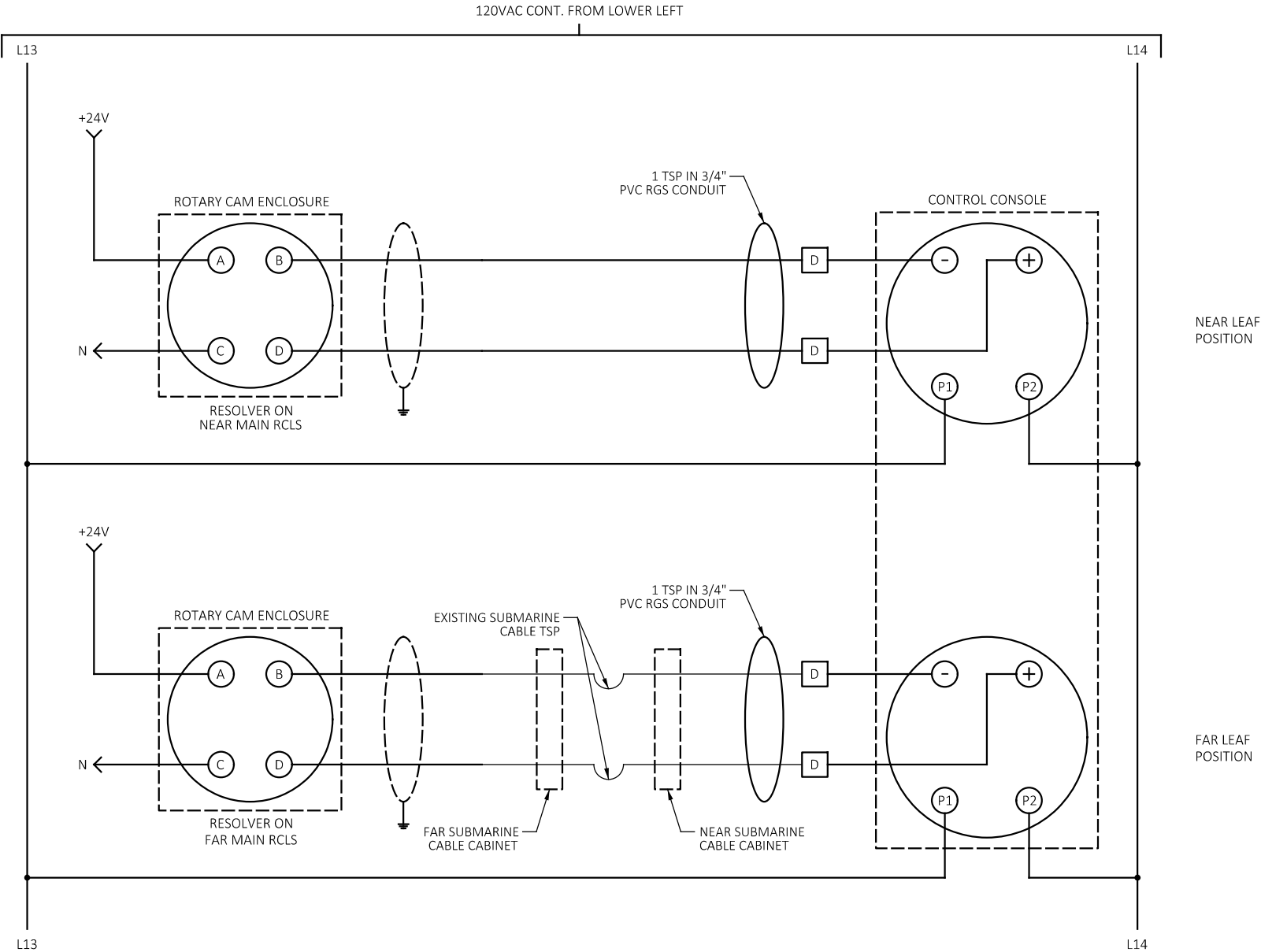
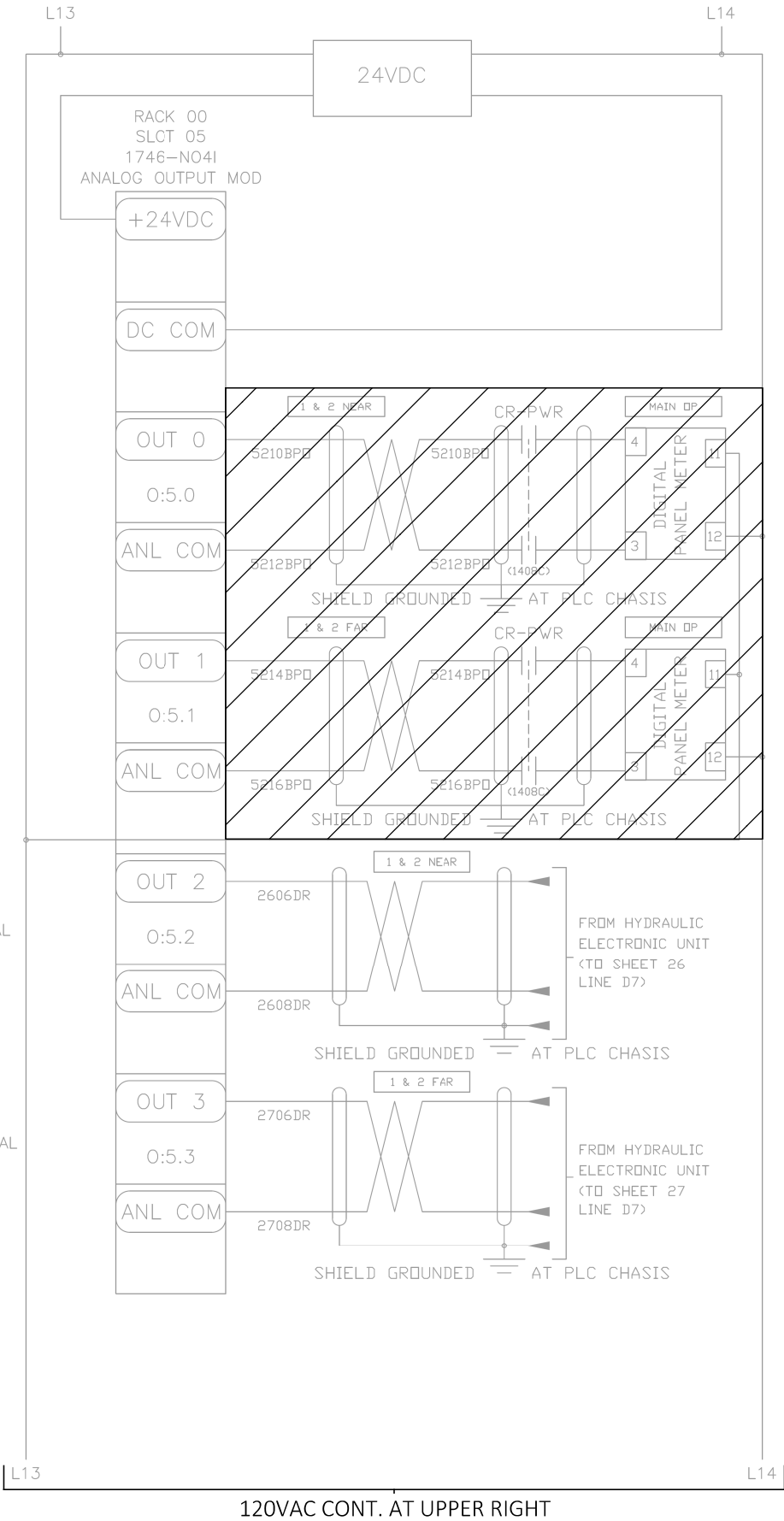
NO.	DATE	REVISION		BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION				
STRUCTURE B-70-56				
		DRAWN BY	PLANS CK'D.	RL
AS-BUILT I/O SECTION RACK 01 & 02 SLOT 06			E-08	

NEAR
PRESSURE
DISPLAY

FAR
PRESSURE
DISPLAY

NEAR
VARIABLE
SPEED SIGNAL

FAR
VARIABLE
SPEED SIGNAL

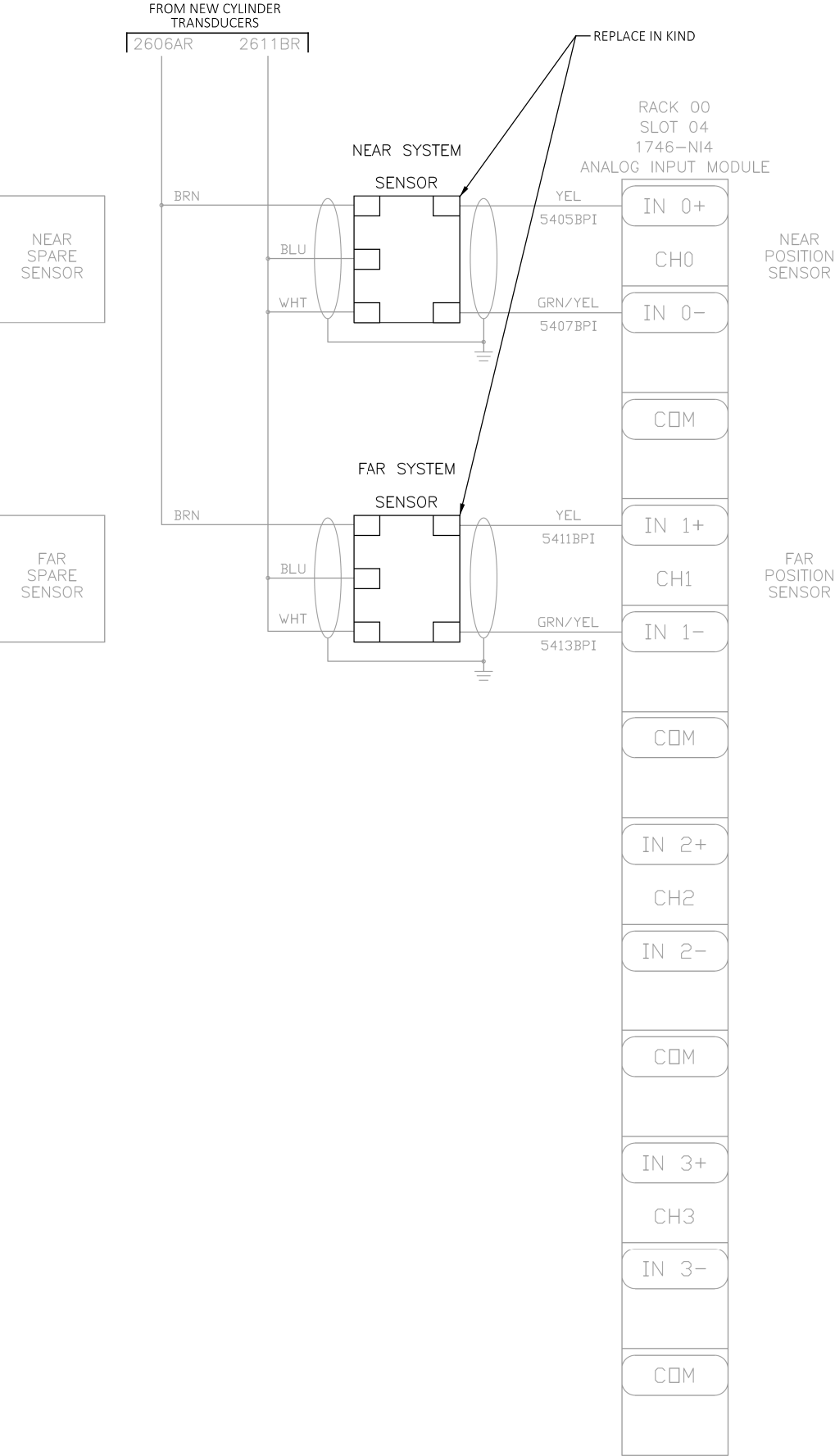


EXISTING TO BE REMOVED

NOTES:

- LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
- PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CHK'D.	RL
AS-BUILT I/O SECTION RACK 00 SLOT 05			E-09



- NOTES:**
1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
 2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
 3. NEW POSITION TRANSDUCERS SHOWN ARE PROVIDED WITH NEW MAIN CYLINDERS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		JJK CK'D.	RL PLANS
AS-BUILT I/O SECTION RACK 00 SLOT 04			E-10

480VAC CONT. FROM
SHEET E9, A30

L10 L11 L12

MCC

FU-1

3A

FU-2

3A

FU-3

3A

(NOS)

UTILITY

NEW
POWER
MONITOR

5

6

7

MCC

L1

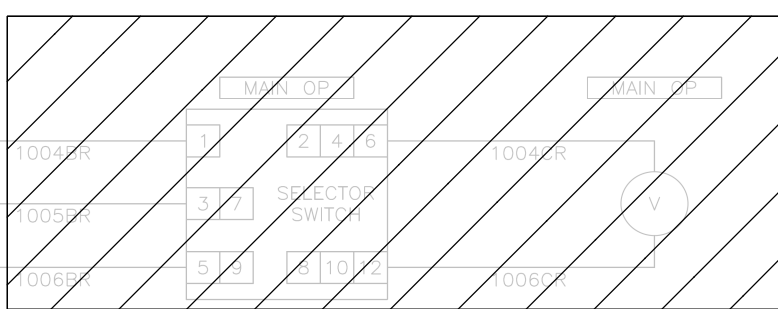
PHASE
RELAY

L2

L3

(1408A)

TO PLC
NETWORK



1010BR

120VAC CONT. ON
SHEET E14, A8

UTILITY

FU-2

4A

FU-1

4A

T2

UTILITY

POWER
TRANSFORMER
1.5 KVA

1016BR

120VAC CONT. ON
SHEET E36, LINE B2
PLC & ENCODERS

UTILITY

FU-1

13A

1018CR

UTILITY

FU-2

X

FU-1

X

T1

UTILITY

POWER
TRANSFORMER

L1022

120VAC CONT. ON
SHEET E11, A2

UTILITY

CR-13

CR-15

L13

120VAC CONT. ON
SHEET E15, A2
120VAC CONT. ON
SHEET E13, A13

L15

120VAC CONT. ON
SHEET E12, A26
120VAC CONT. ON
SHEET E13, A18
120VAC CONT. ON
SHEET E14, A2

CR-50

L50

SPARE

L14

120VAC CONT. ON
SHEET E11, D2

AIR HORN

1028

(HR)

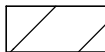
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COMPRESSOR

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1030A

120VAC CONT. ON
SHEET E11, A2



EXISTING TO BE REMOVED

NOTES:

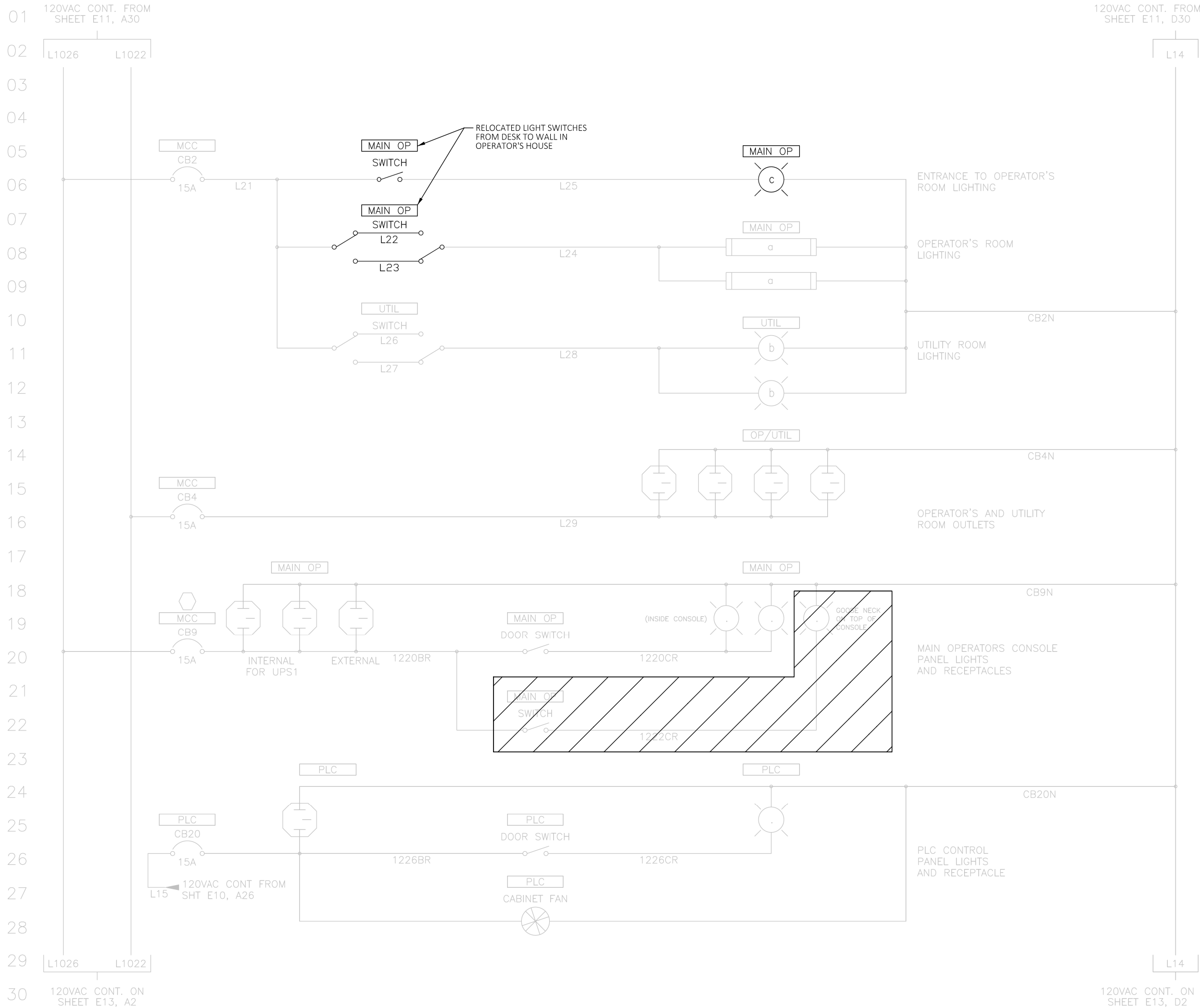
- LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
- PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CHK'D.	RL
THREE LINE DIAGRAM		E-11	



1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
		DRAWN BY	PLANS CK'D. RL
SCHEM. DIAG. RELAY SECTION		E-12	



EXISTING TO BE REMOVED

NOTES:

1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. RELOCATED LIGHT SWITCHES FROM CONTROL DESK TO OPERATOR HOUSE WALL.
4. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CK'D.	RL
SCHEM. DIAG. RELAY STATION 1		E-13	

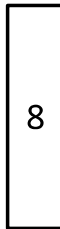


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| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-70-56 | | | |
| | | DRAWN
BY | PLANS
CK'D. |
| | | JJK | RL |
| SCHEM. DIAG.
RELAY STATION 2 | | E-14 | |
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1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE.

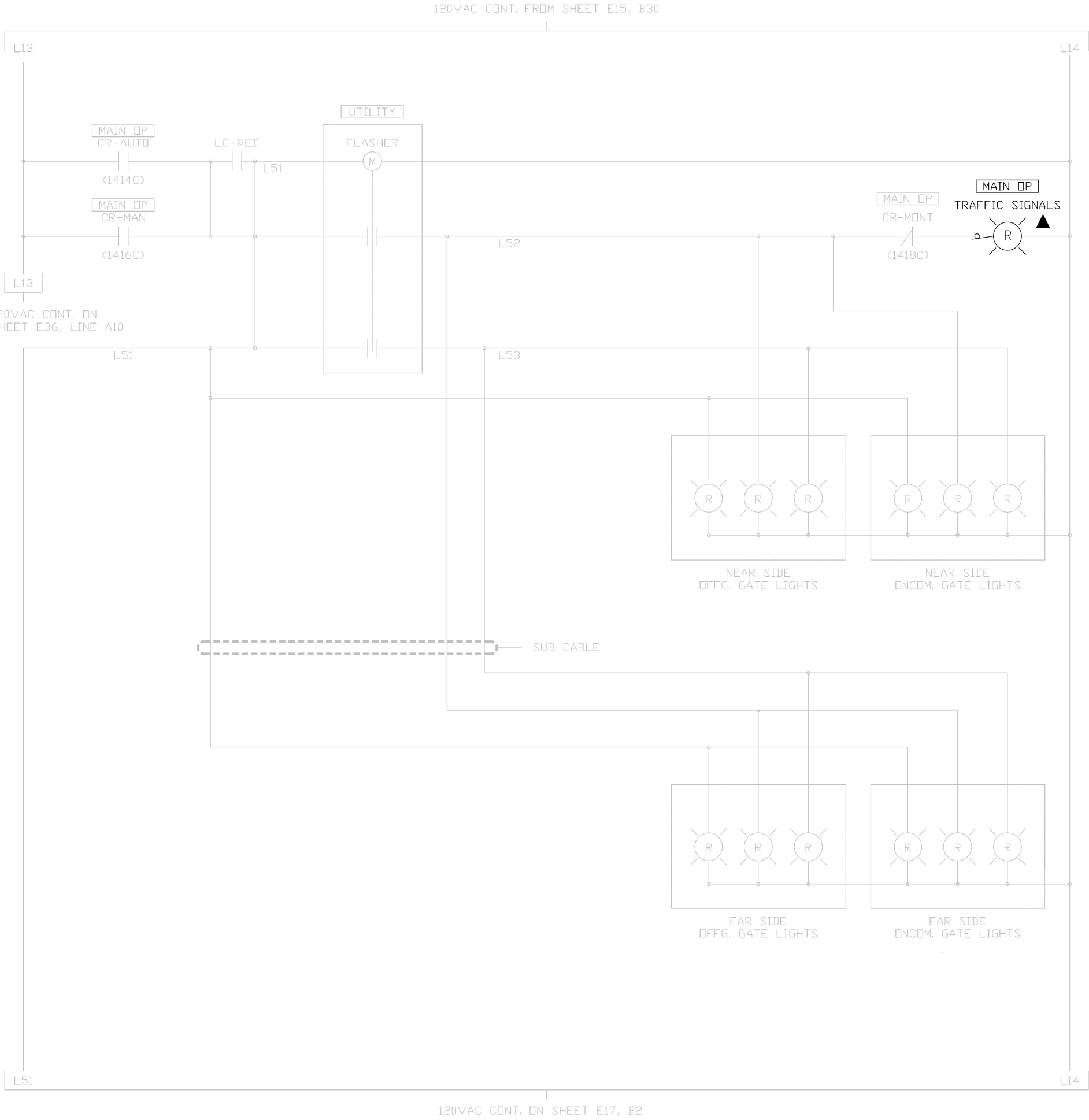
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		JJK	PLANS CK'D. RL
SCHEM. DIAG. RELAY STATION 3		E-15	



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|--|------|----------|-------------------|
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-70-56 | | | |
| DRAWN
BY | | JK | PLANS
CK'D. RL |
| SCHEM. DIAG.
RELAY STATION 4 | | E-16 | |
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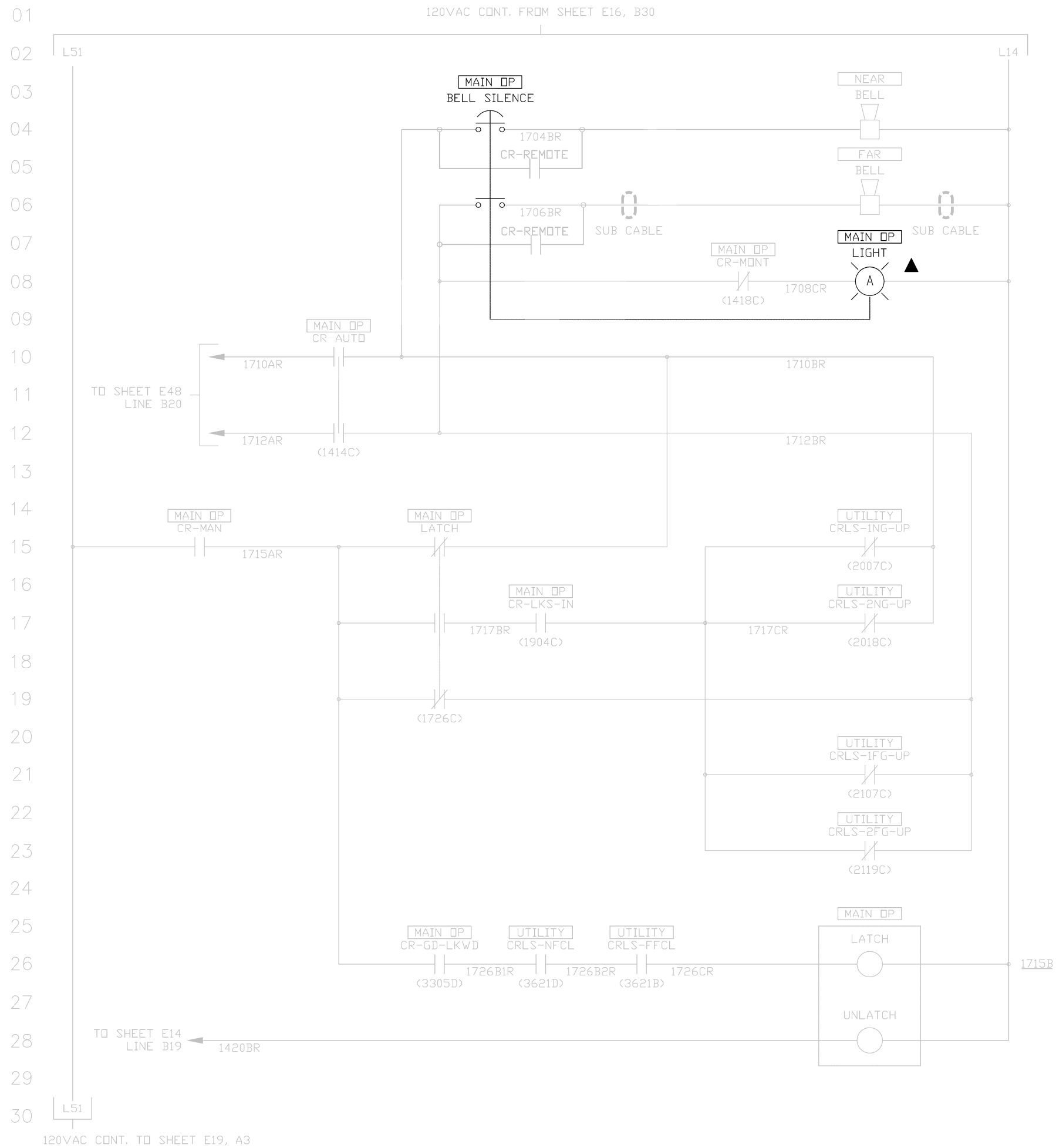
STATE PROJECT NUMBER

4110-33-71

NOTES:

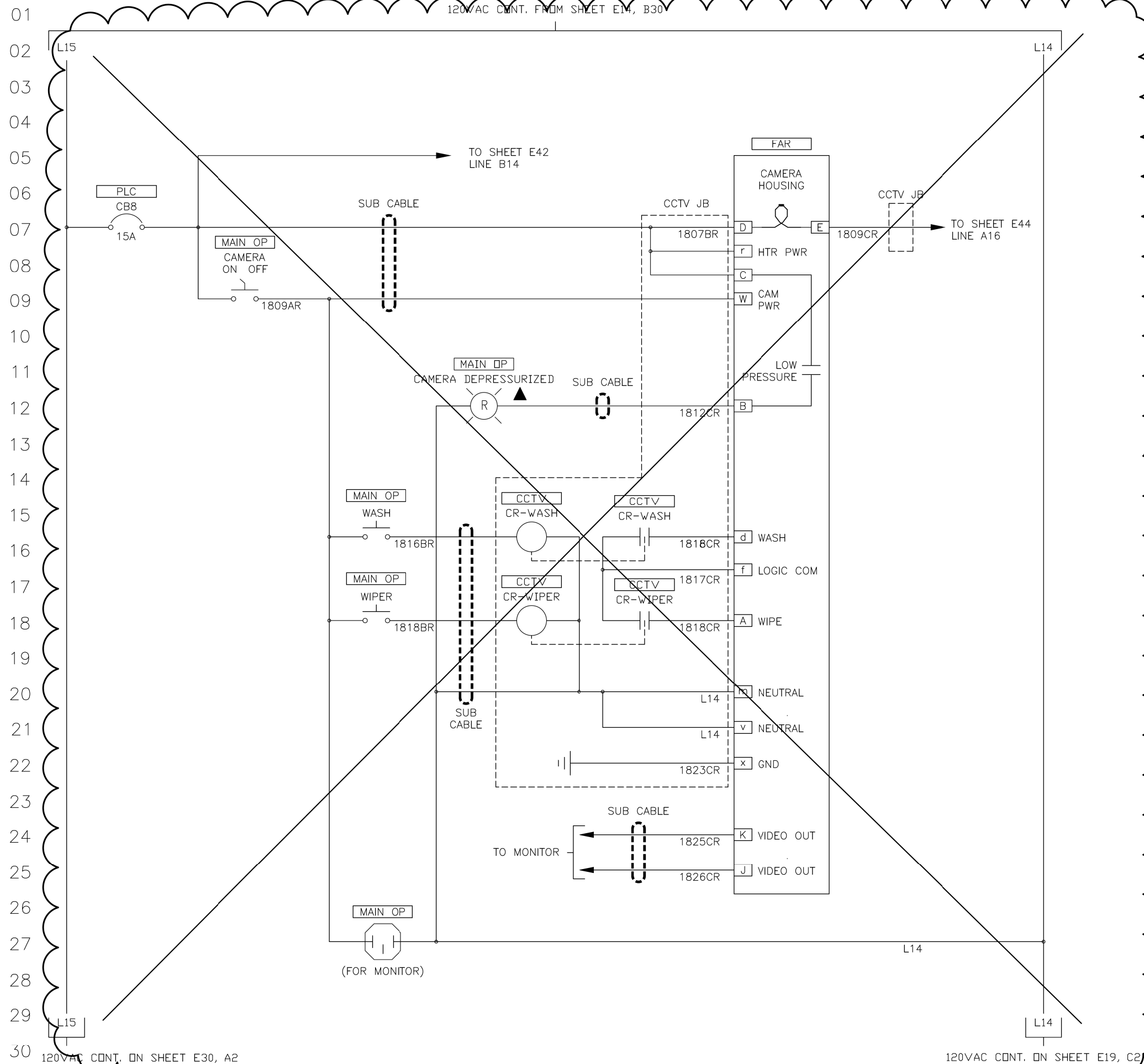
1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		JJK CK'D.	RL
SCHEM. DIAG. RELAY STATION 5		E-17	

**NOTES:**

1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CHK'D.	RL
SCHEM. DIAG. RELAY STATION 6		E-18	



— THIS SYMBOL INDICATES
A PERMANENT JUMPER (TYPICAL).

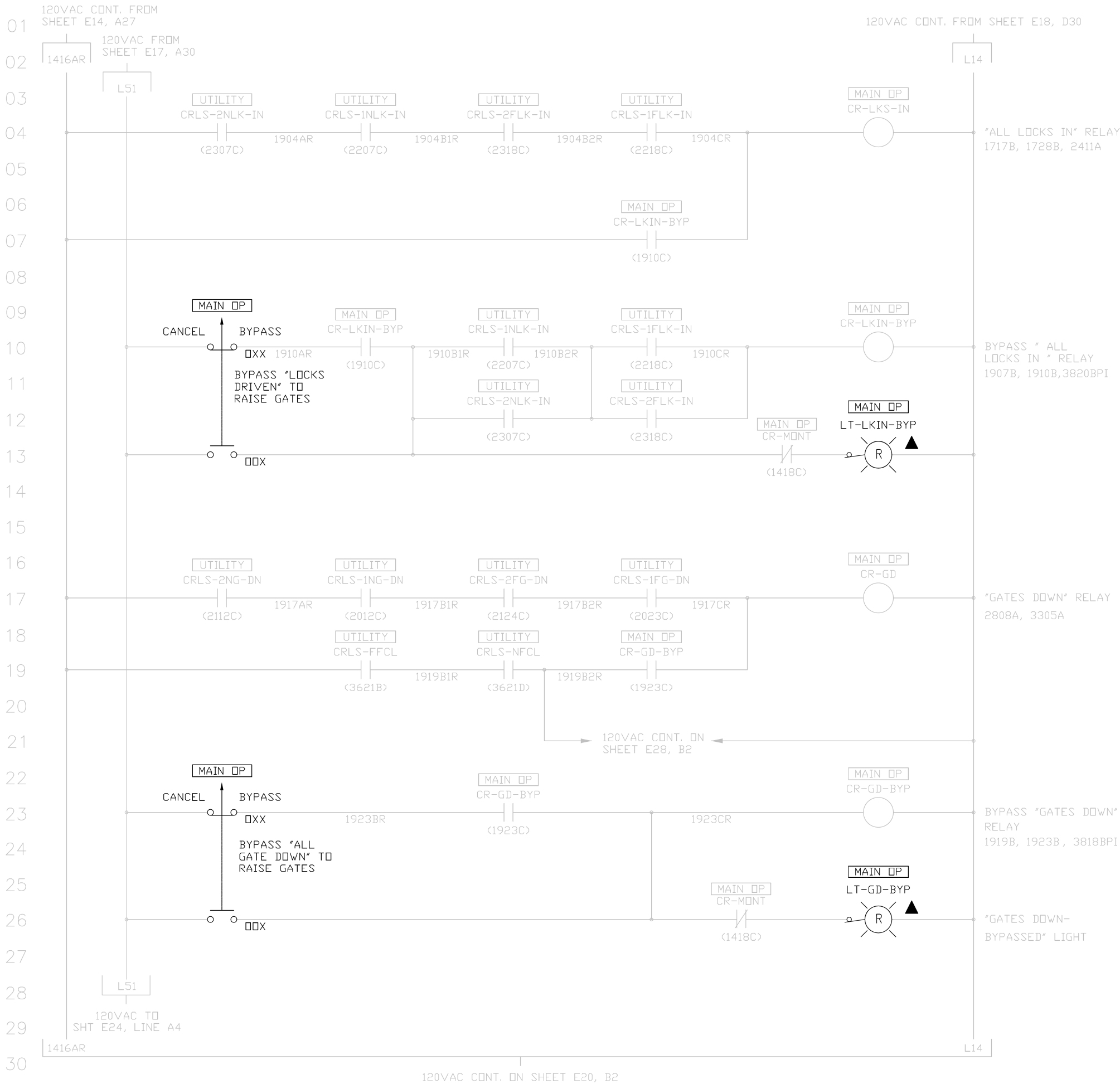
CIRCUIT NO LONGER
EXISTS

EXISTING TO BE REMOVED

NOTES:

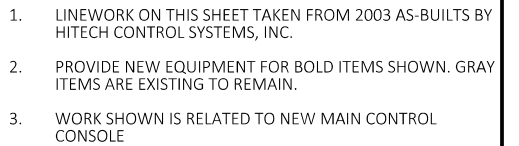
1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE

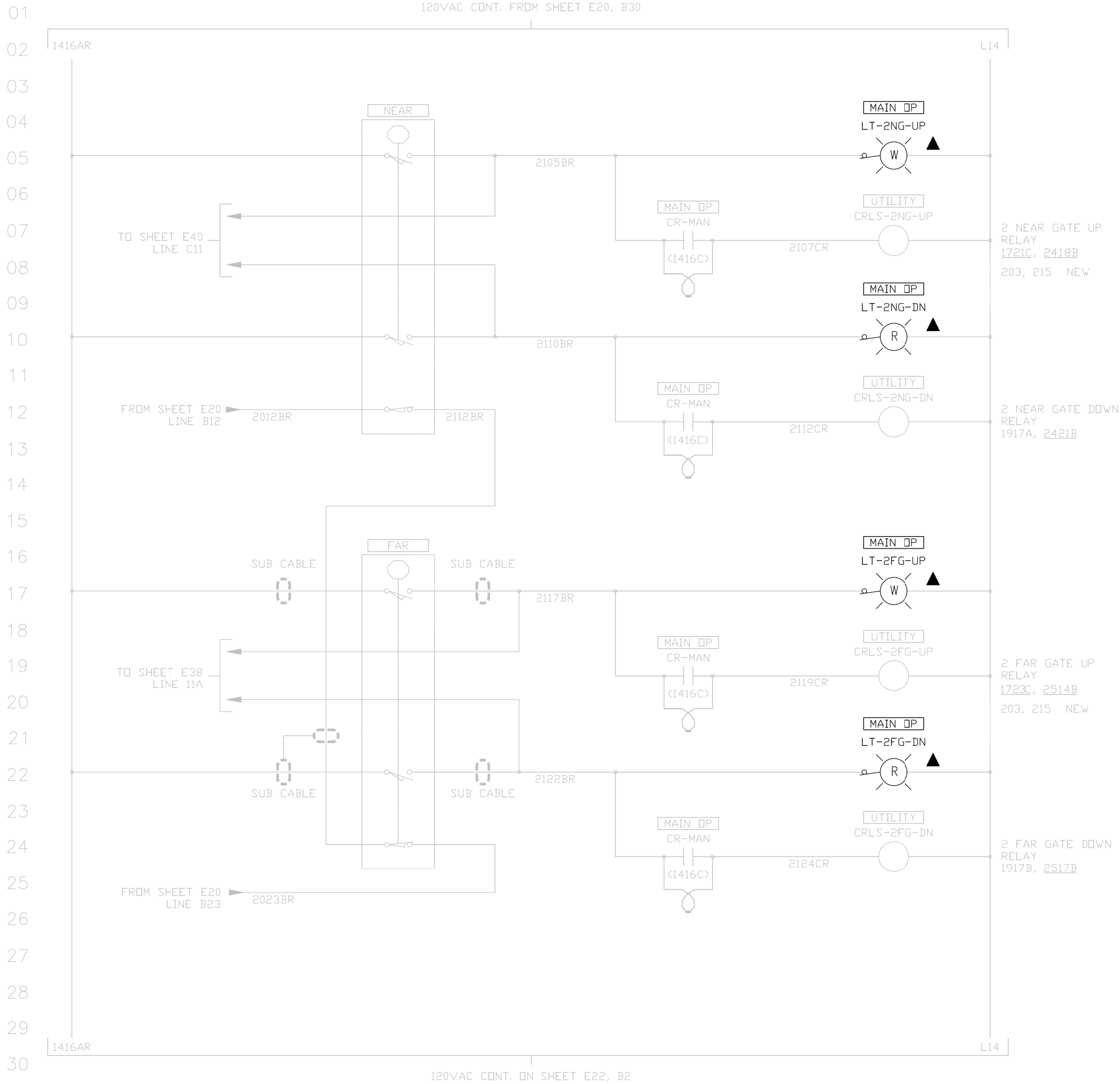
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CHK'D.	RL
SCHEM. DIAG. RELAY STATION 7			E-19



- NOTES:
- LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
 - PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
 - WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
		DRAWN BY	PLANS CK'D. RL
SCHEM. DIAG. RELAY STATION 8		E-20	

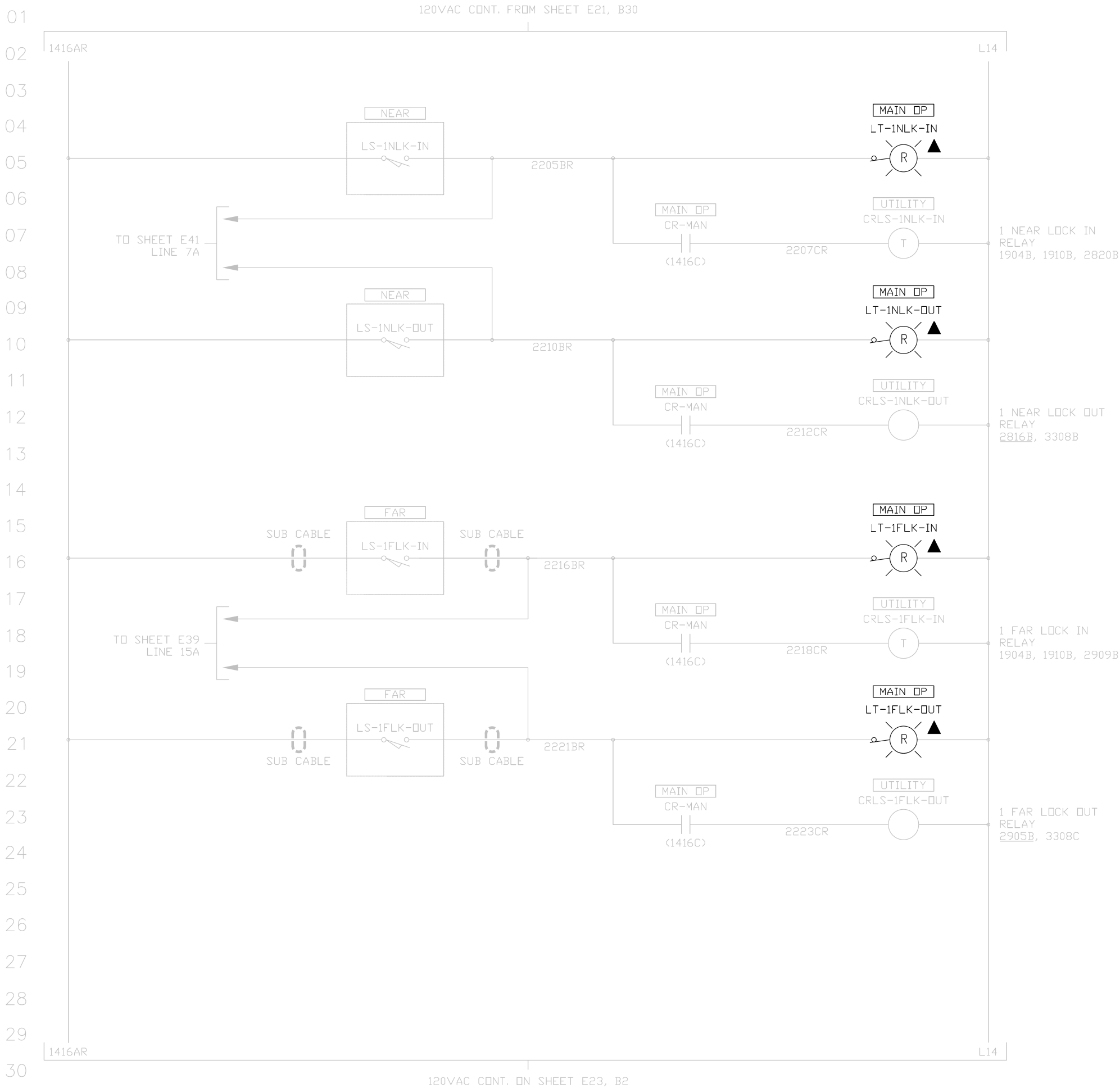
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NOTES:

1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE

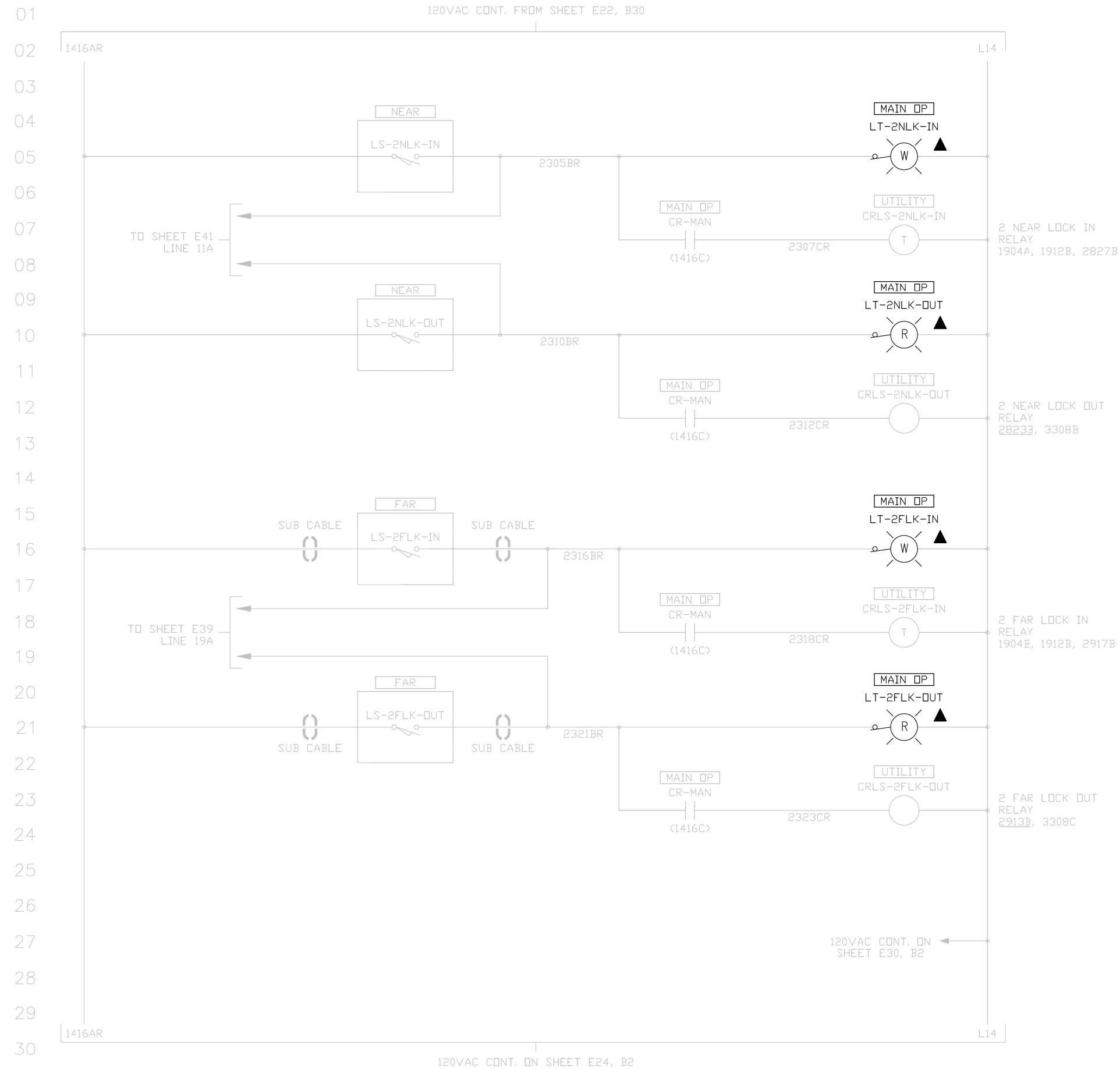
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
		DRAWN BY	PLANS CK'D. RL
SCHEM. DIAG. RELAY STATION 10		E-22	



NOTES:

1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE

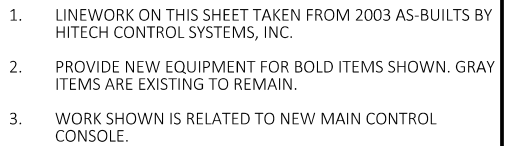
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
		DRAWN BY	PLANS CHK'D. RL
SCHEM. DIAG. RELAY STATION 11		E-23	

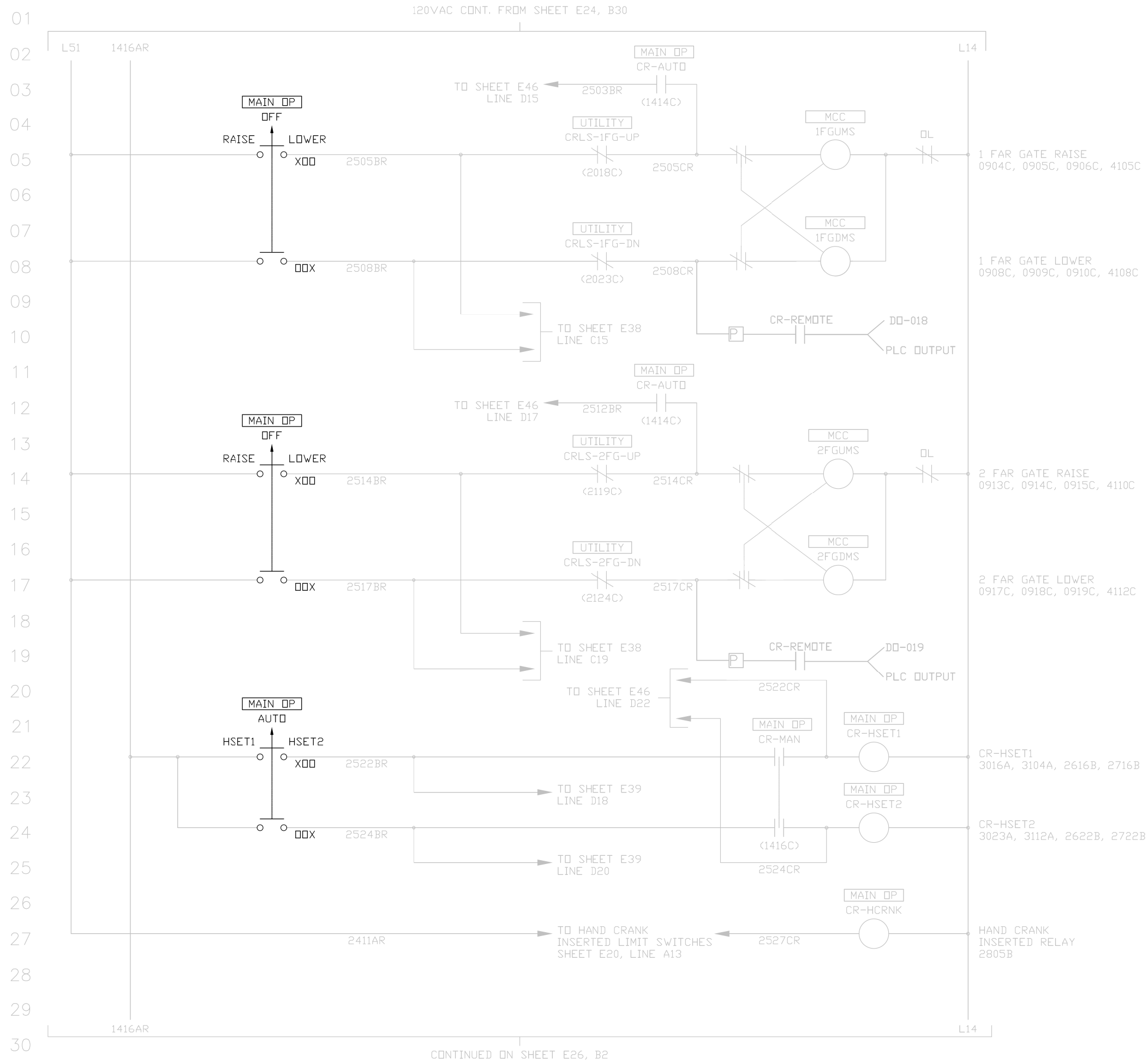


NOTES:

1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE

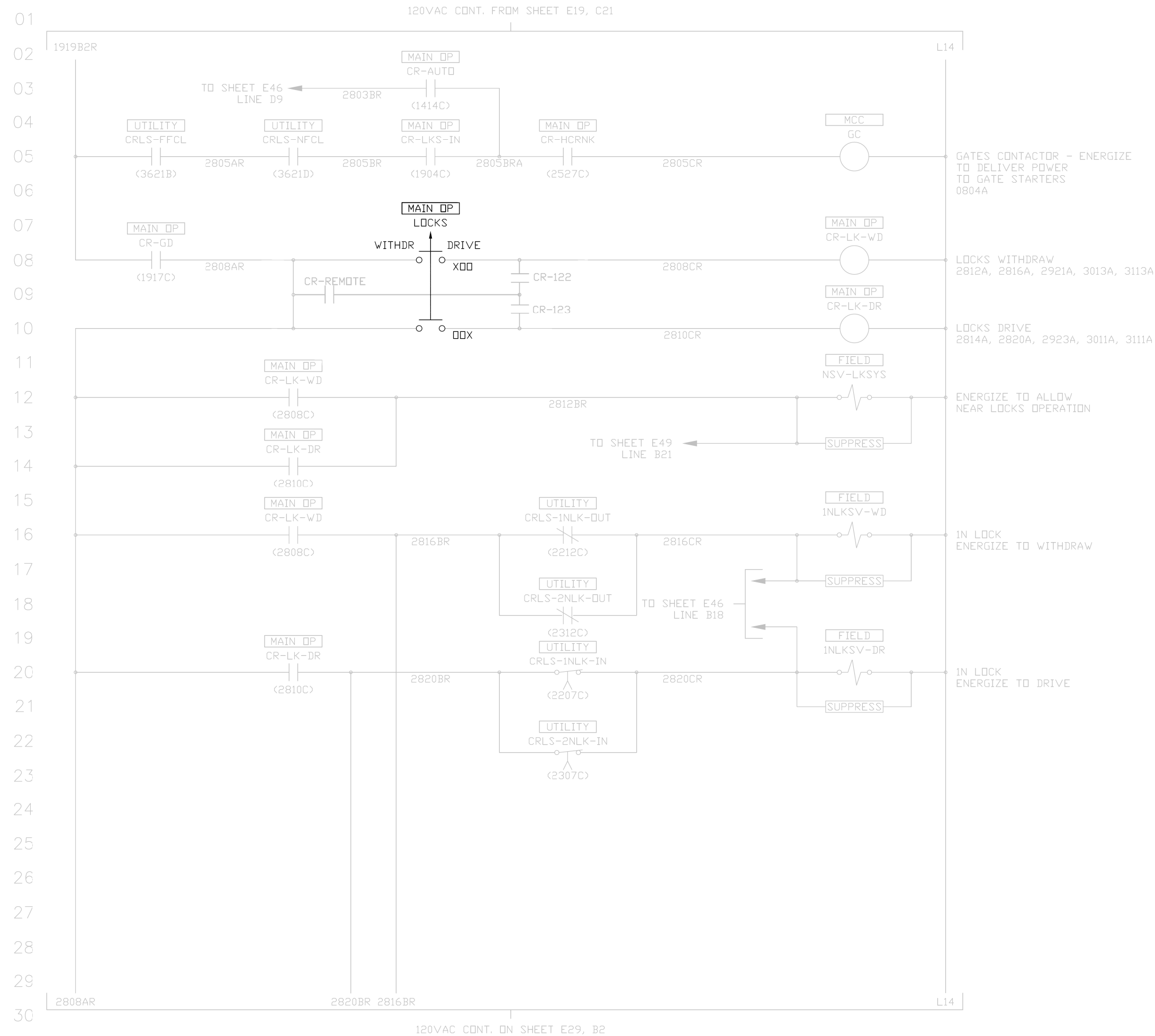
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
		DRAWN BY	PLANS CK'D. RL
SCHEM. DIAG. RELAY STATION 12		E-24	

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**NOTES:**

1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CHK'D.	RL
SCHEM. DIAG. RELAY STATION 14			E-26

**NOTES:**

1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		JJK	PLANS CK'D. RL
SCHEM. DIAG. RELAY STATION 15		E-27	

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CONT. FROM
SHT. E24, LINE A30

L51

MAIN OP
CR-MAN
(1416C)

MAIN OP
CANCEL LOCKS
WITHDRAWN BYPASS
(3206C) X
MOMENTARY

NEAR
1 NEAR SIDE LOCKS
WITHDRAWN BYPASS
(KEY OPERATED)

3206BR

OX

3206CR

R

(PUSH TO TEST)
(INSTALLED ON THE PIER)

NEAR
2 NEAR SIDE LOCKS
WITHDRAWN BYPASS
(KEY OPERATED)

OX

R

(PUSH TO TEST)
(INSTALLED ON THE PIER)

MAIN OP
CR-BYP-LKWD
(3206C)

MAIN OP
CR-LT1
(3609C)

MAIN OP
LT-BYP-LKWD
(3206C)

CR-BYP-LKWD
3215C, 3305B, 3816B

NEAR SIDE
LOCKS WITHDRAWN BYPASSED

LOCKS WITHDRAWN BYPASSED

(PUSH TO TEST)
(INSTALLED ON THE PIER)

FAR

1 FAR SIDE LOCKS
WITHDRAWN BYPASS
(KEY OPERATED)

SUB CABLE

SUB CABLE

OX

R

FAR SIDE
LOCKS WITHDRAWN BYPASSED

FAR
2 FAR SIDE LOCKS
WITHDRAWN BYPASS
(KEY OPERATED)

OX

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(PUSH TO TEST)
(INSTALLED ON THE PIER)

SUB CABLE

L14

CONT. FROM SHEET E31, D30

L14

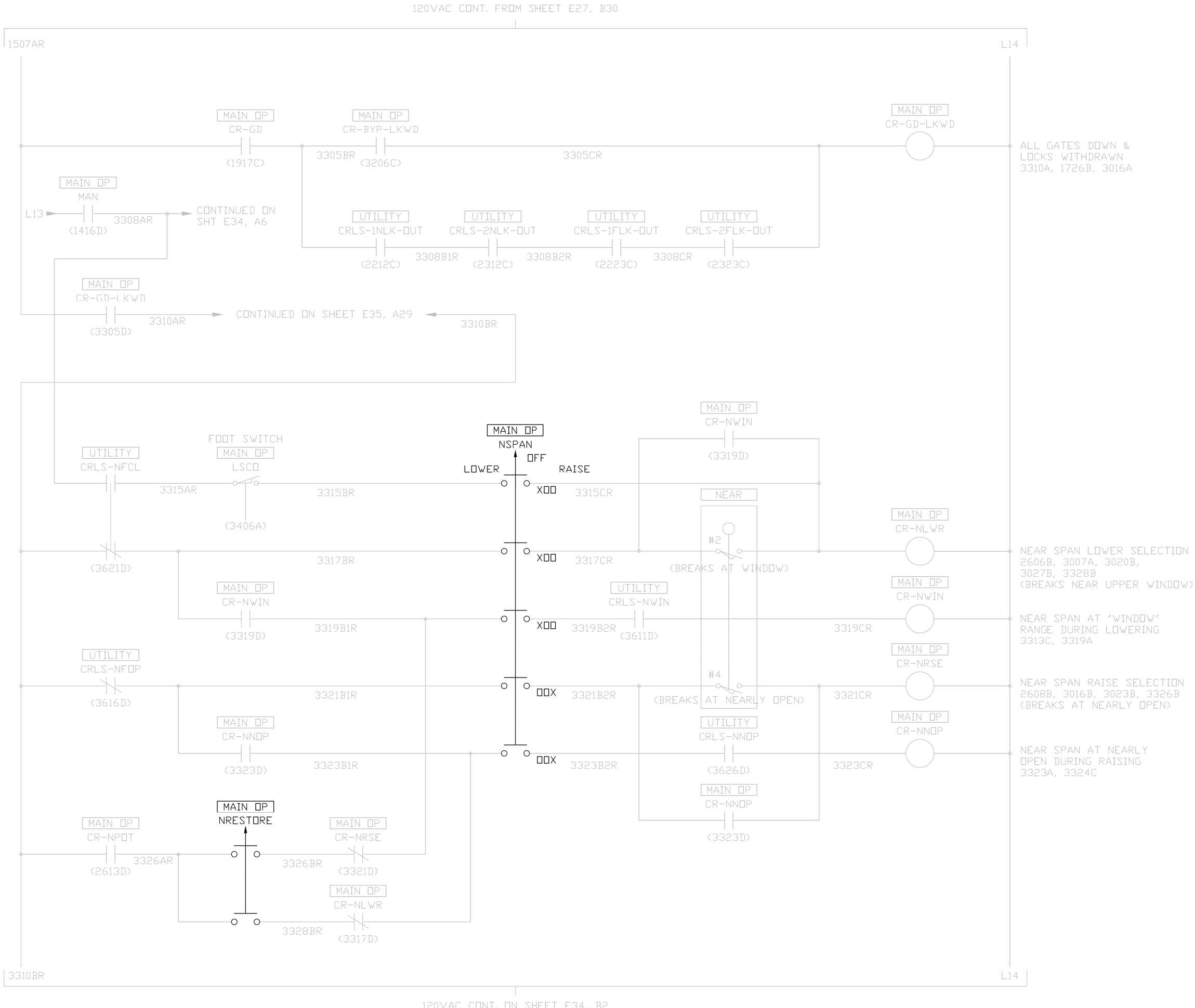
120VAC CONT. TO SHEET E36, LINE B10

NOTES:

1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		JJK	PLANS CK'D. RL
SCHEM. DIAG. RELAY STATION 16		E-28	

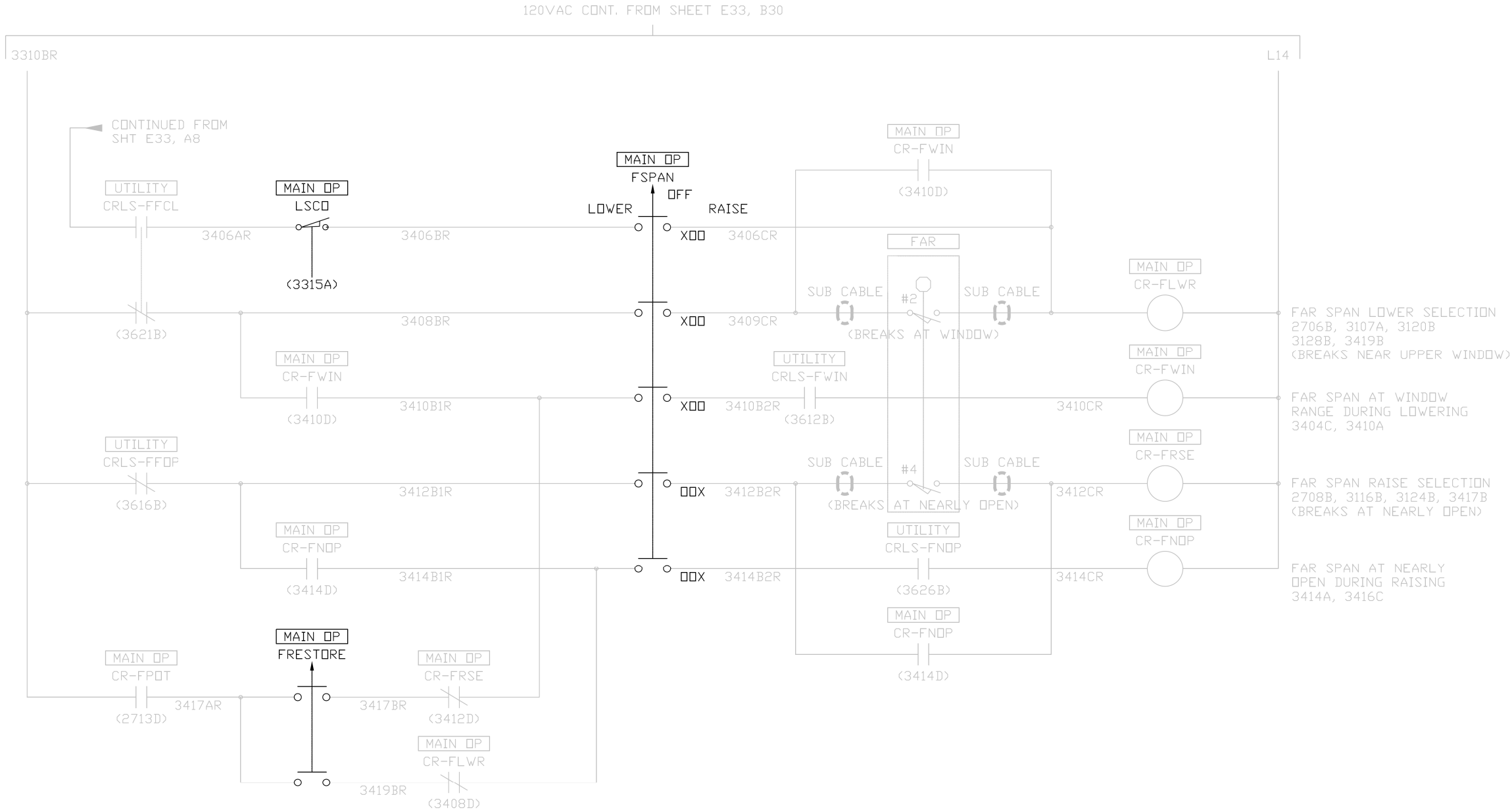
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NOTES:

1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CHK'D.	RL
SCHEM. DIAG. RELAY STATION 17		E-29	



NOTES:

1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE.

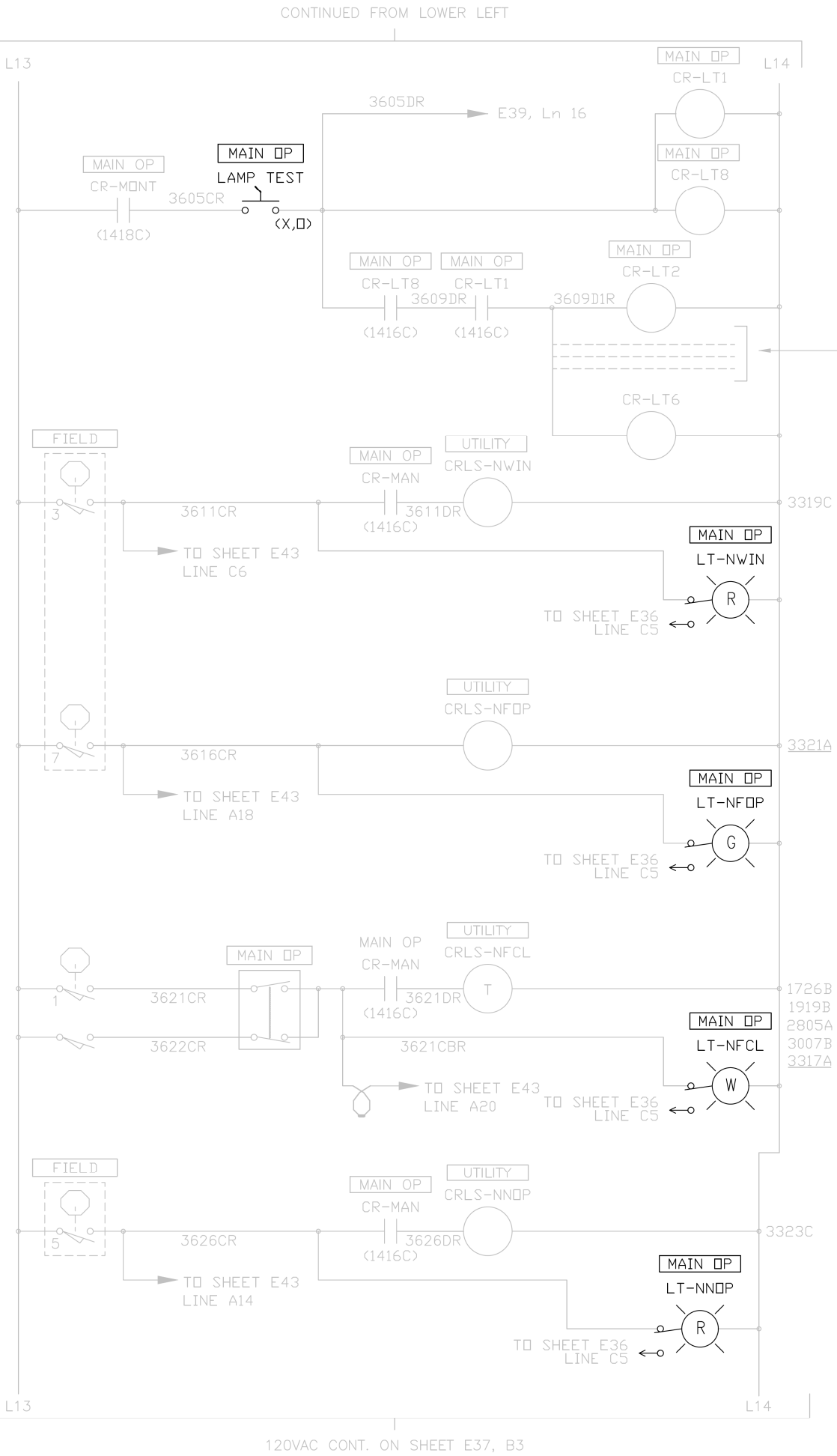
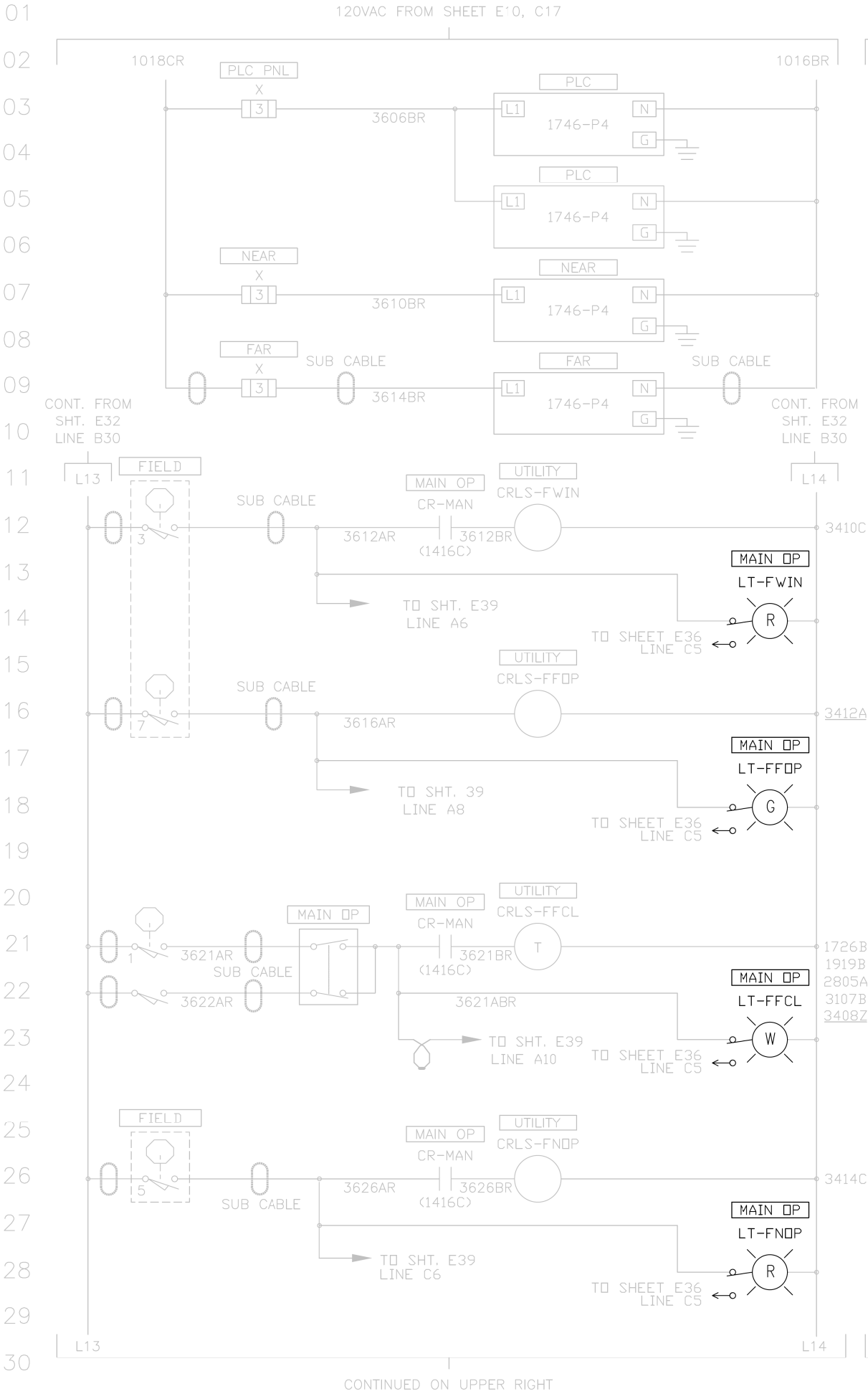
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		JJK	PLANS CK'D. RL
SCHEM. DIAG. RELAY STATION 18		E-30	

RELAYS CR-LT3, -LT4, -LT5, -LT7 ARE PARALLELED WITH CR-LT2, -LT6 (NOT SHOWN HERE)

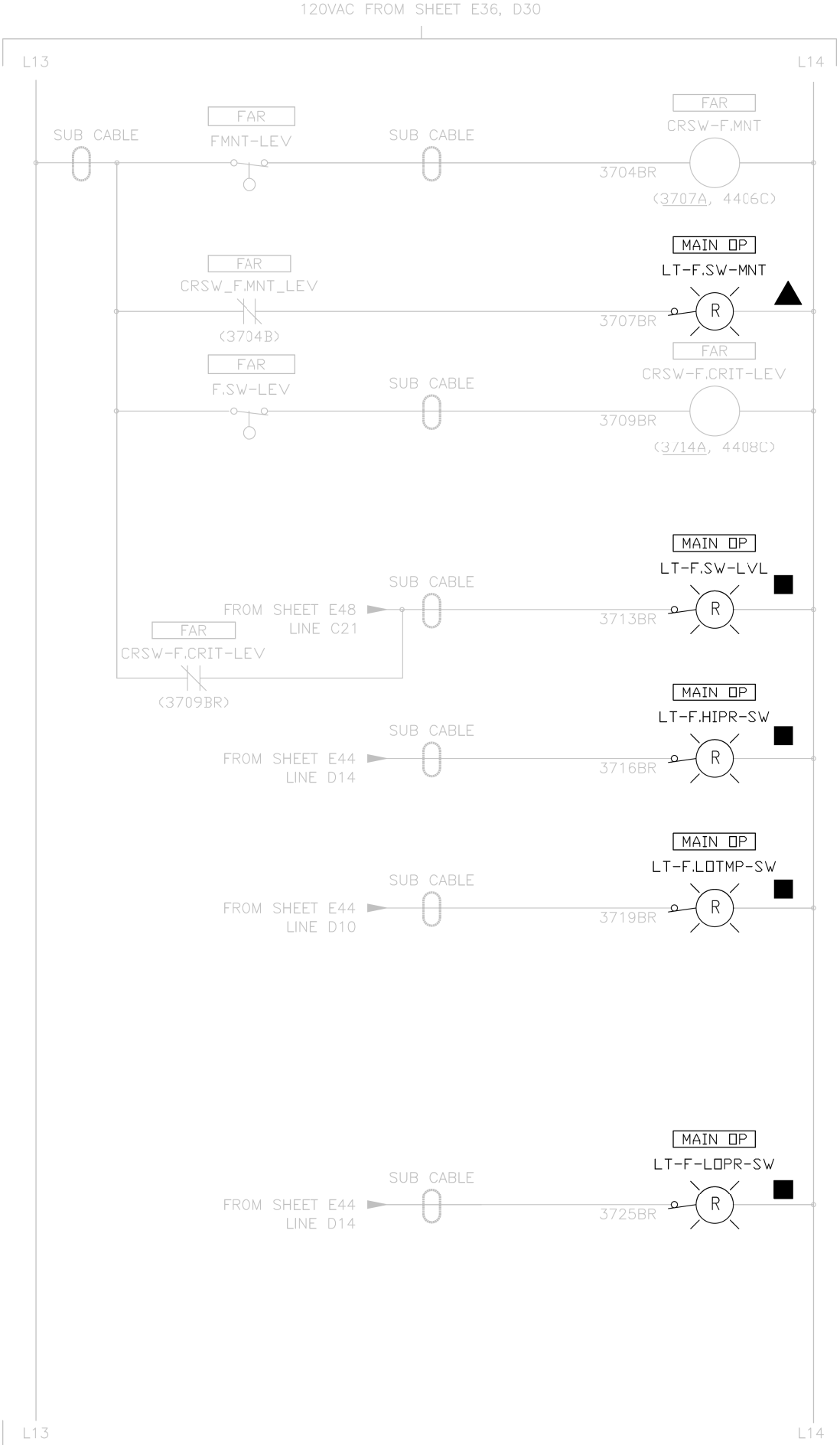
NOTES:

1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE.

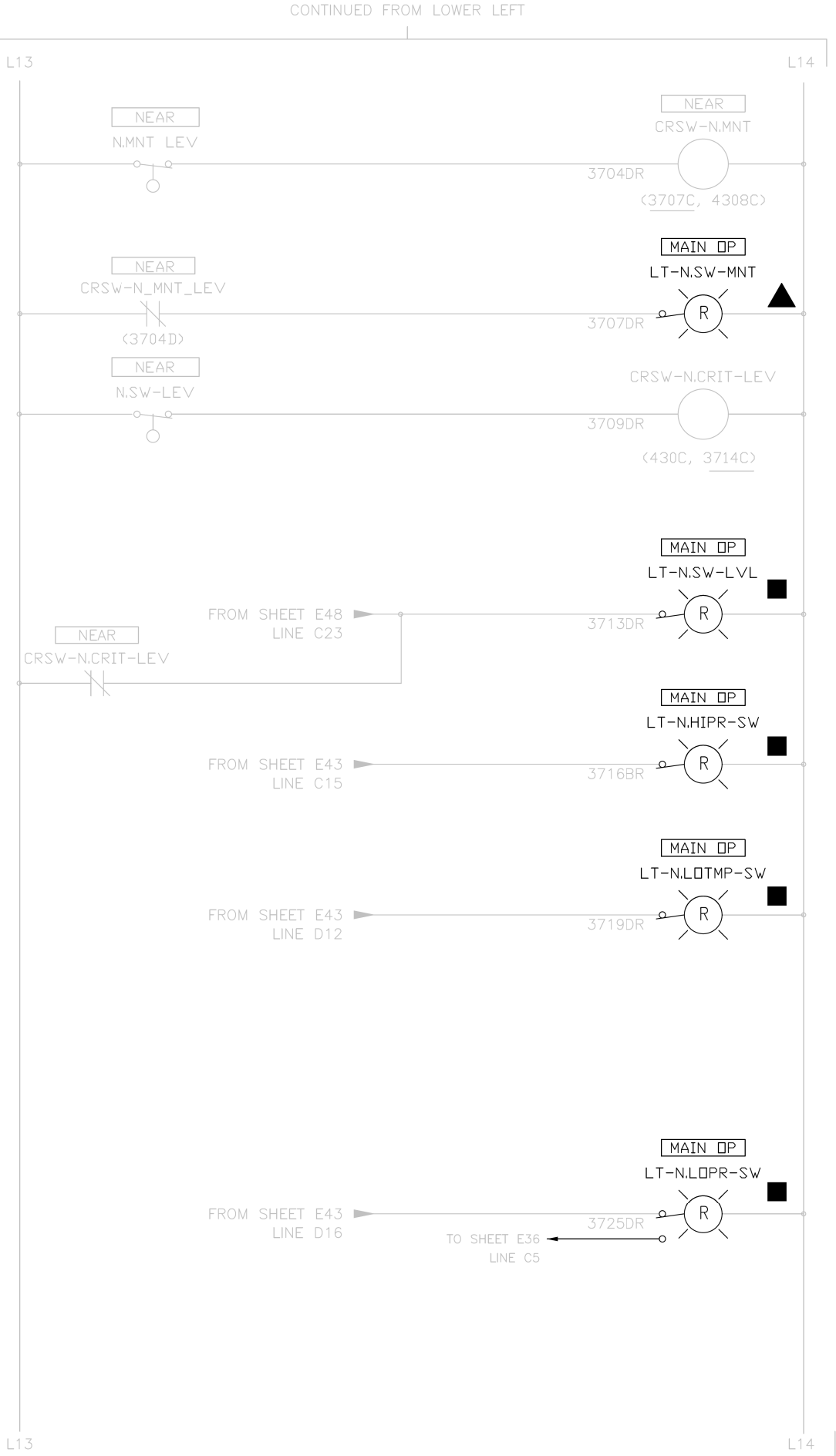
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CK'D.	RL
SCHEM. DIAG. RELAY STATION 19		E-31	



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CONTINUED ON UPPER RIGHT



120VAC CONT. ON SHEET E38, B2

STATE PROJECT NUMBER

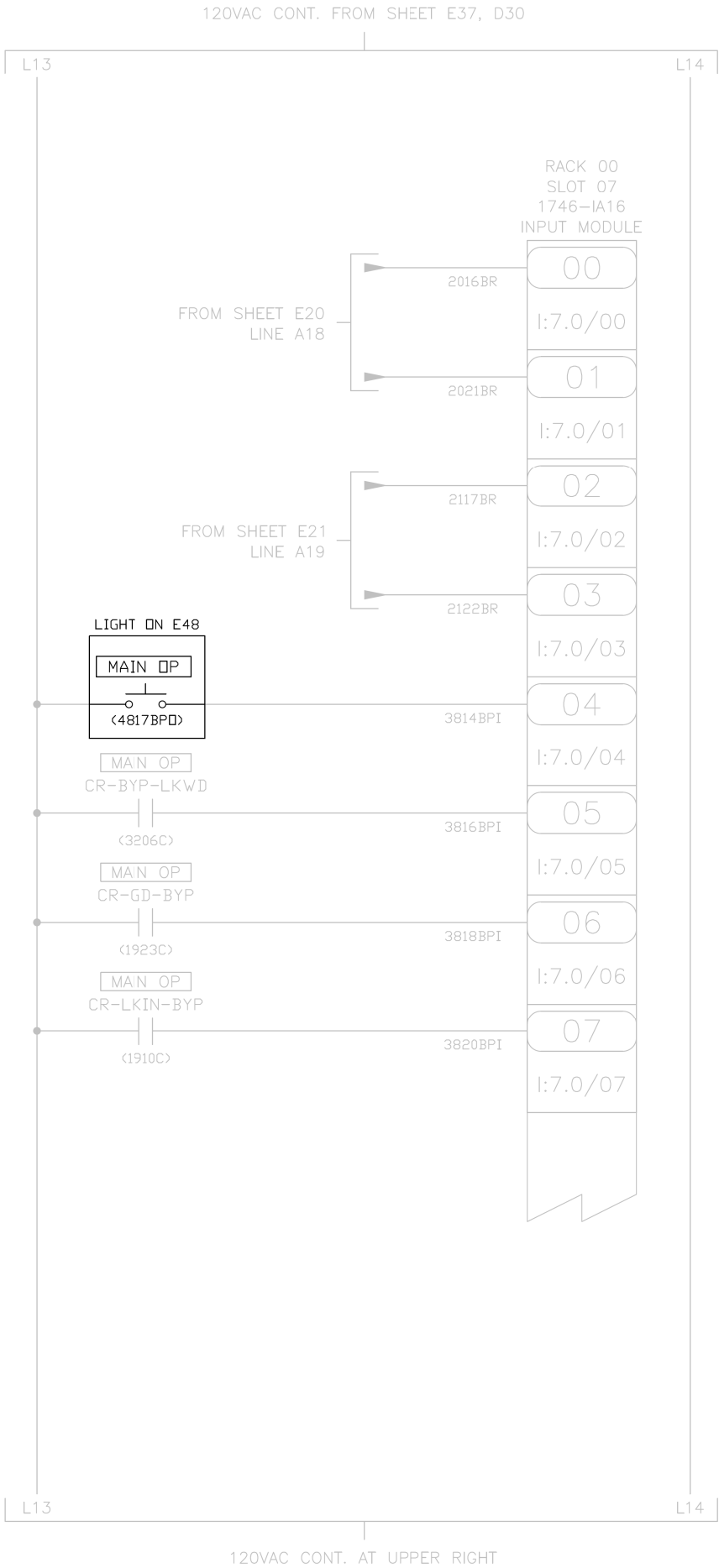
4110-33-71

NOTES:

1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		JJK	PLANS CK'D. RL
SCHEM. DIAG. RELAY STATION 20		E-32	

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1 NEAR
GATE RAISE SS

1 NEAR
GATE LOWER SS

2 NEAR
GATE RAISE SS

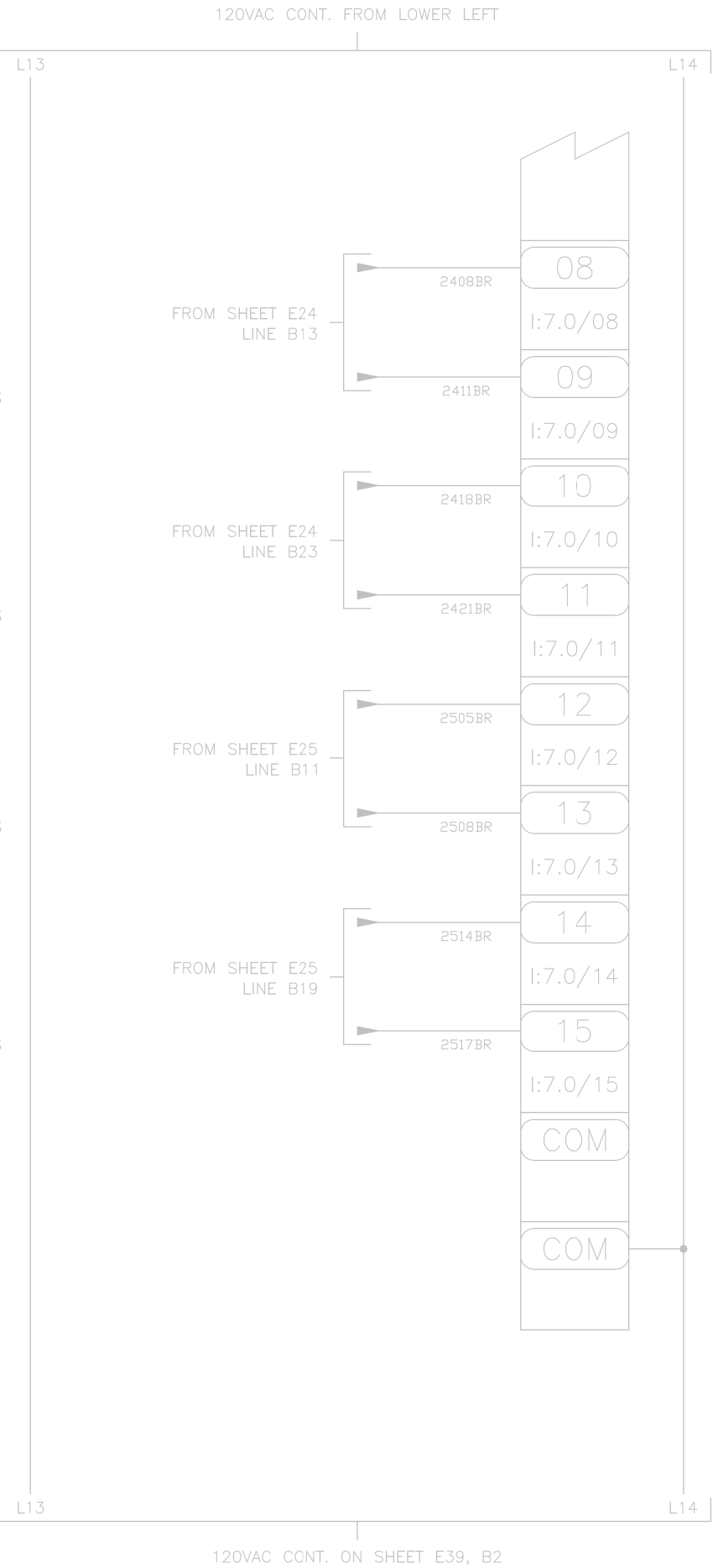
2 NEAR
GATE LOWER SS

1 FAR
GATE RAISE SS

1 FAR
GATE LOWER SS

2 FAR
GATE RAISE SS

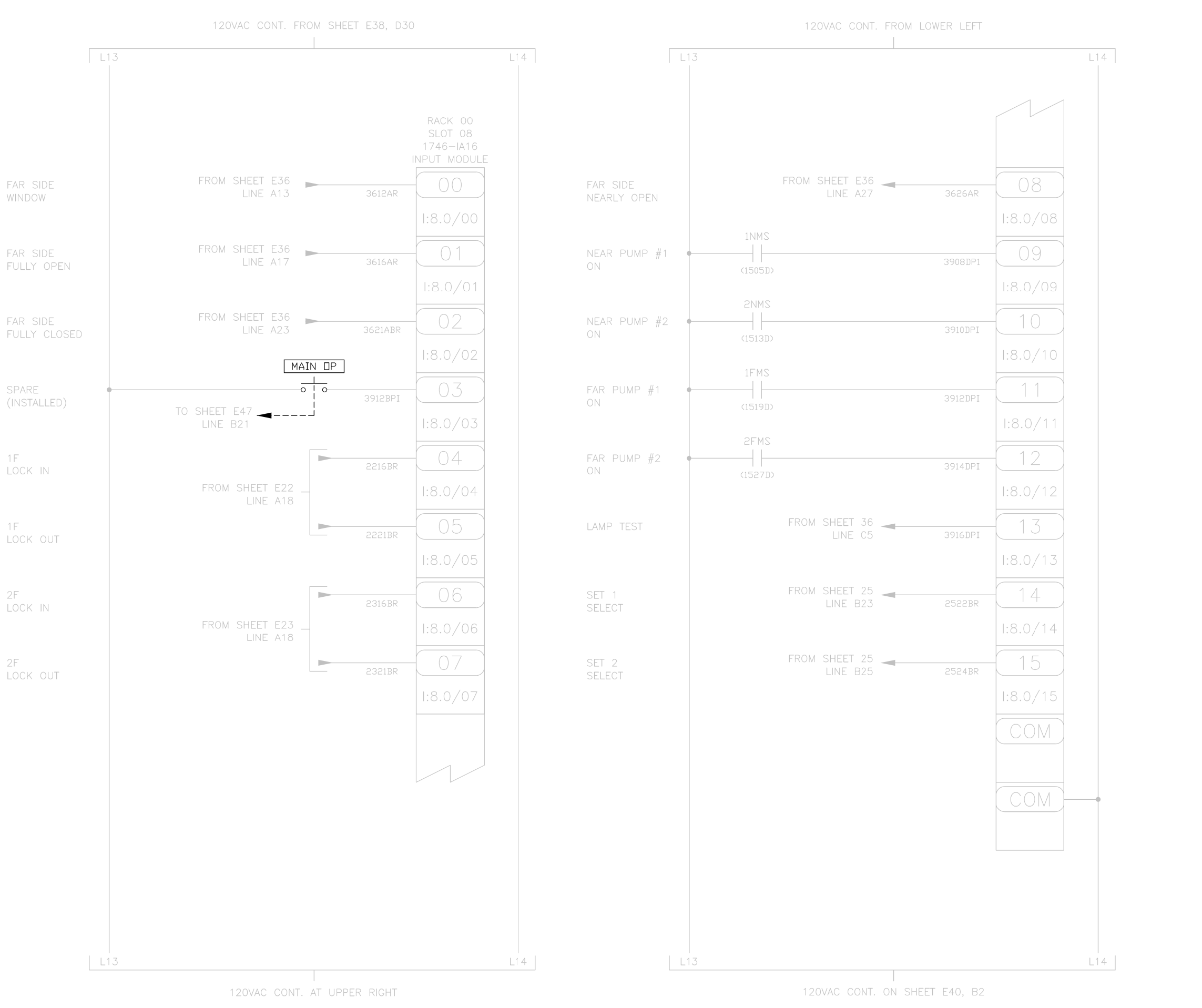
2 FAR
GATE LOWER SS



NOTES:

- LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
- PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
- WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
		DRAWN BY	PLANS CHK'D. RL
I/O SECTION RACK 00 SLOT 07		E-33	

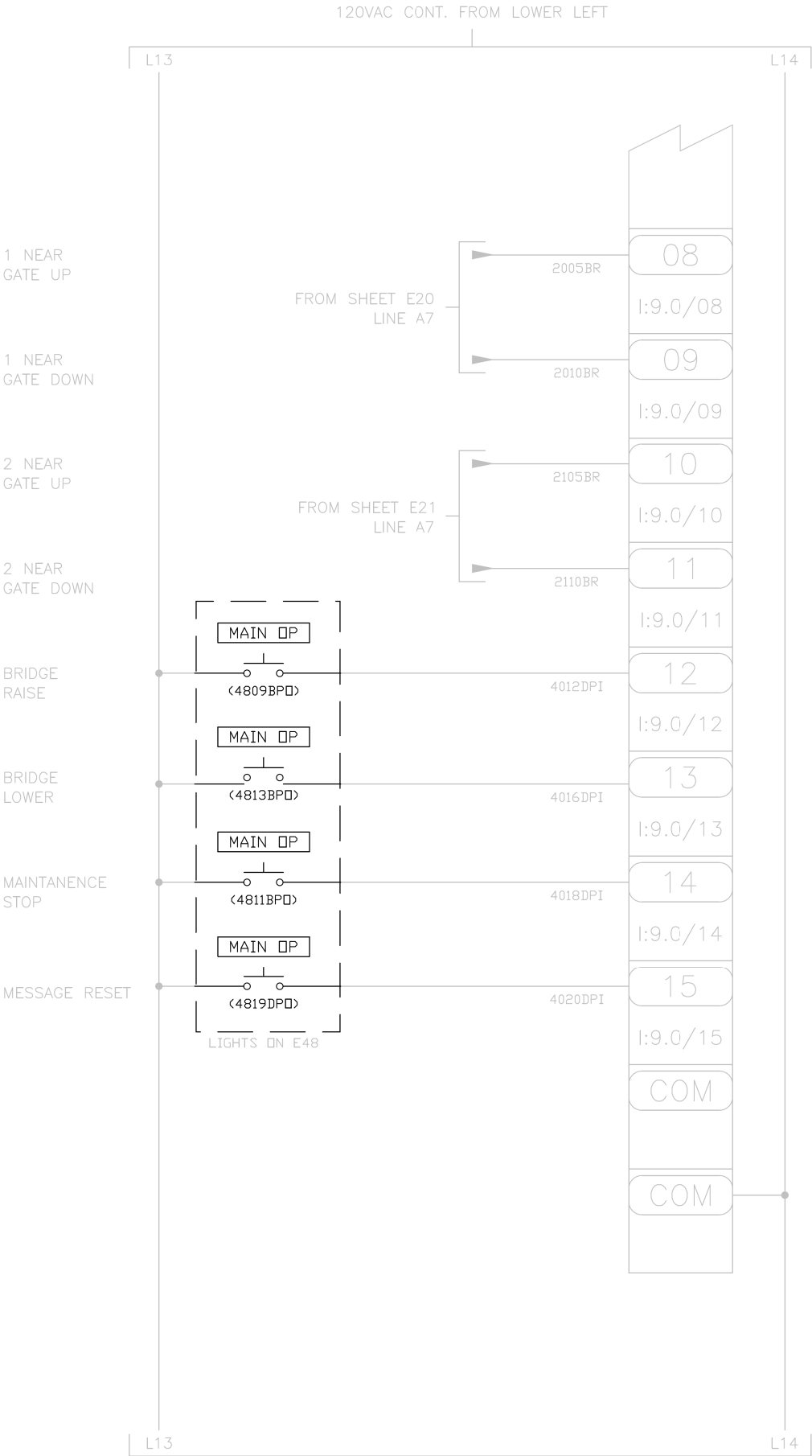
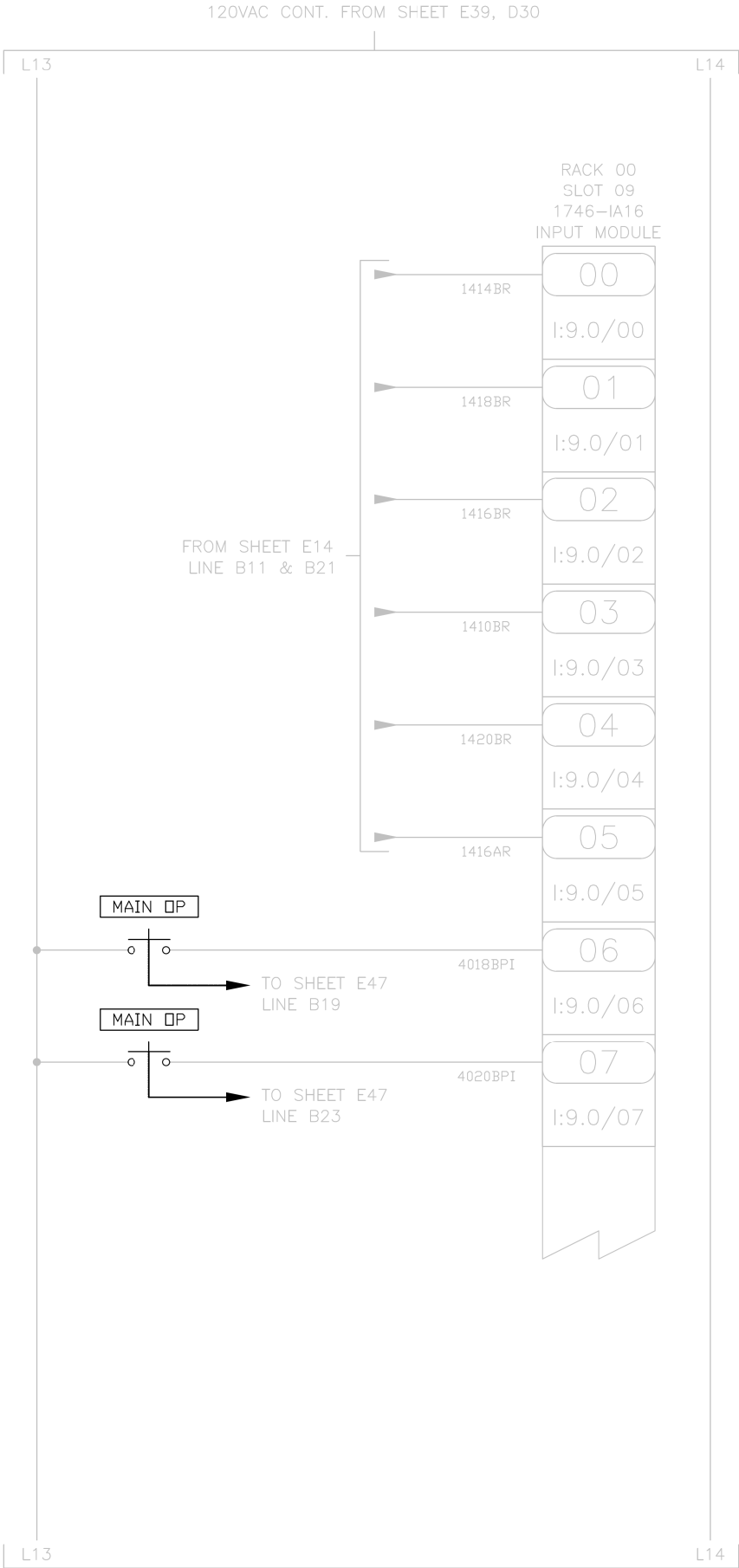


NOTES:

1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
		DRAWN BY	PLANS CHK'D. RL
I/O SECTION RACK 00 SLOT 08		E-34	

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STATE PROJECT NUMBER

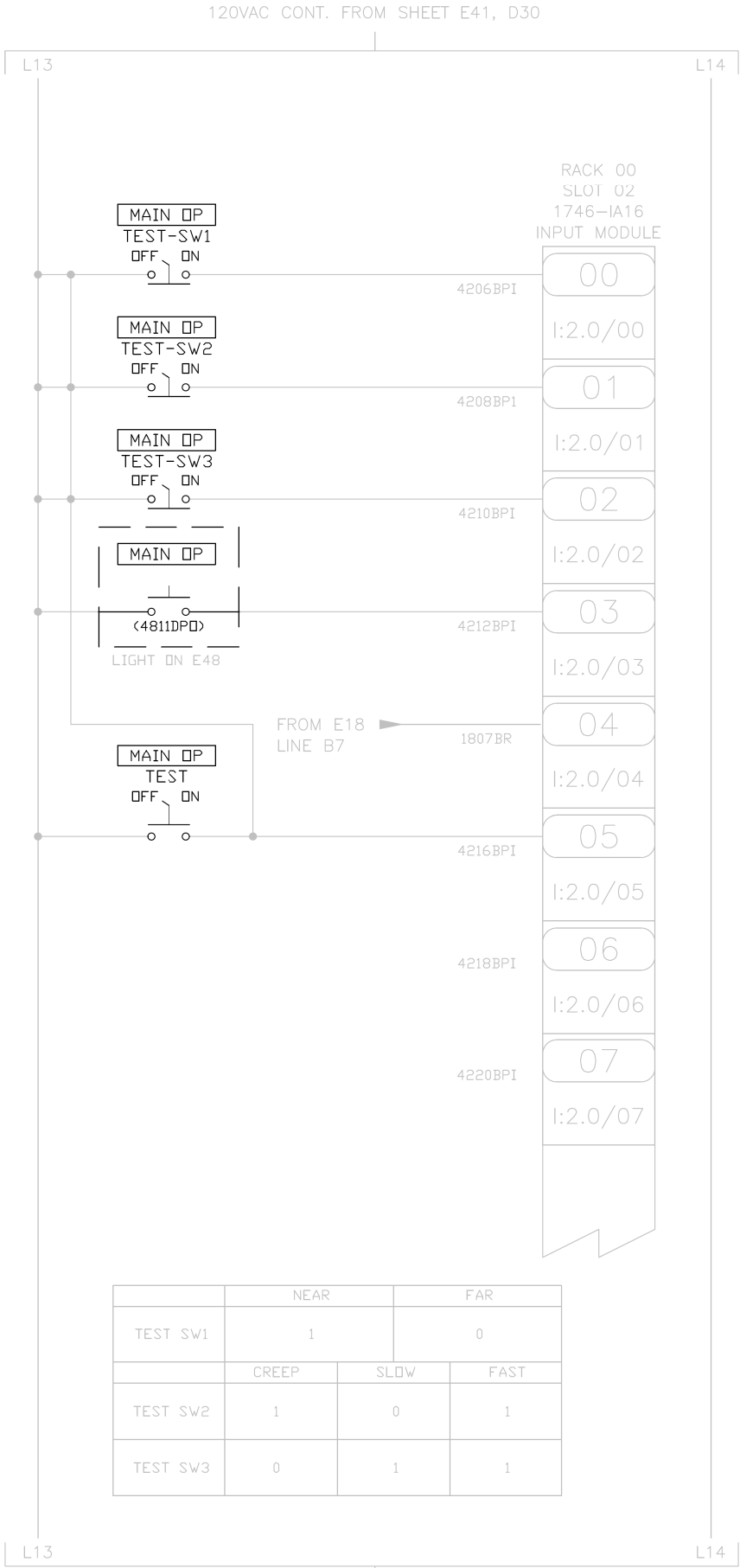
4110-33-71

NOTES:

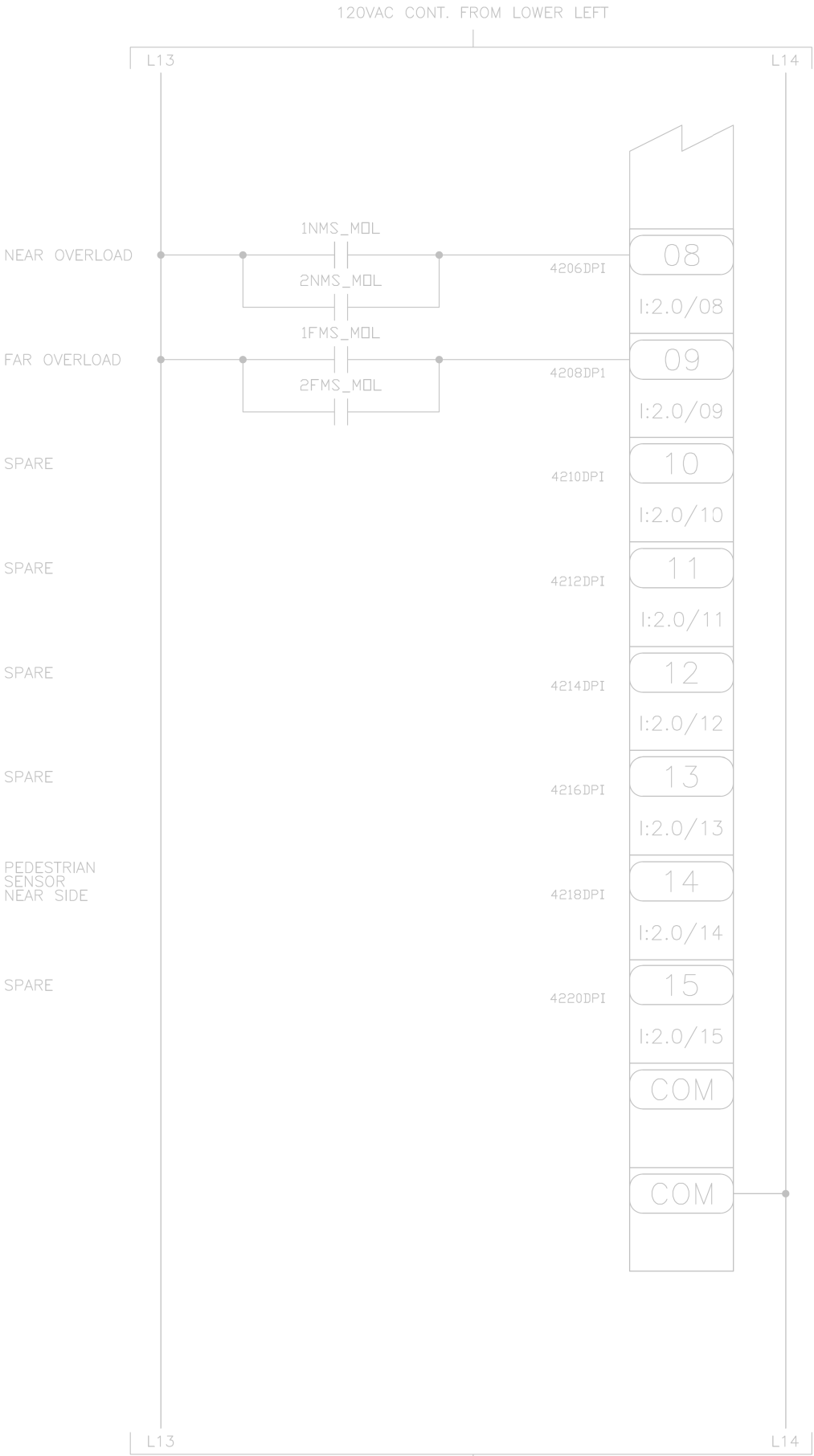
1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
		DRAWN BY	PLANS CHK'D. RL
I/O SECTION RACK 00 SLOT 09		E-35	

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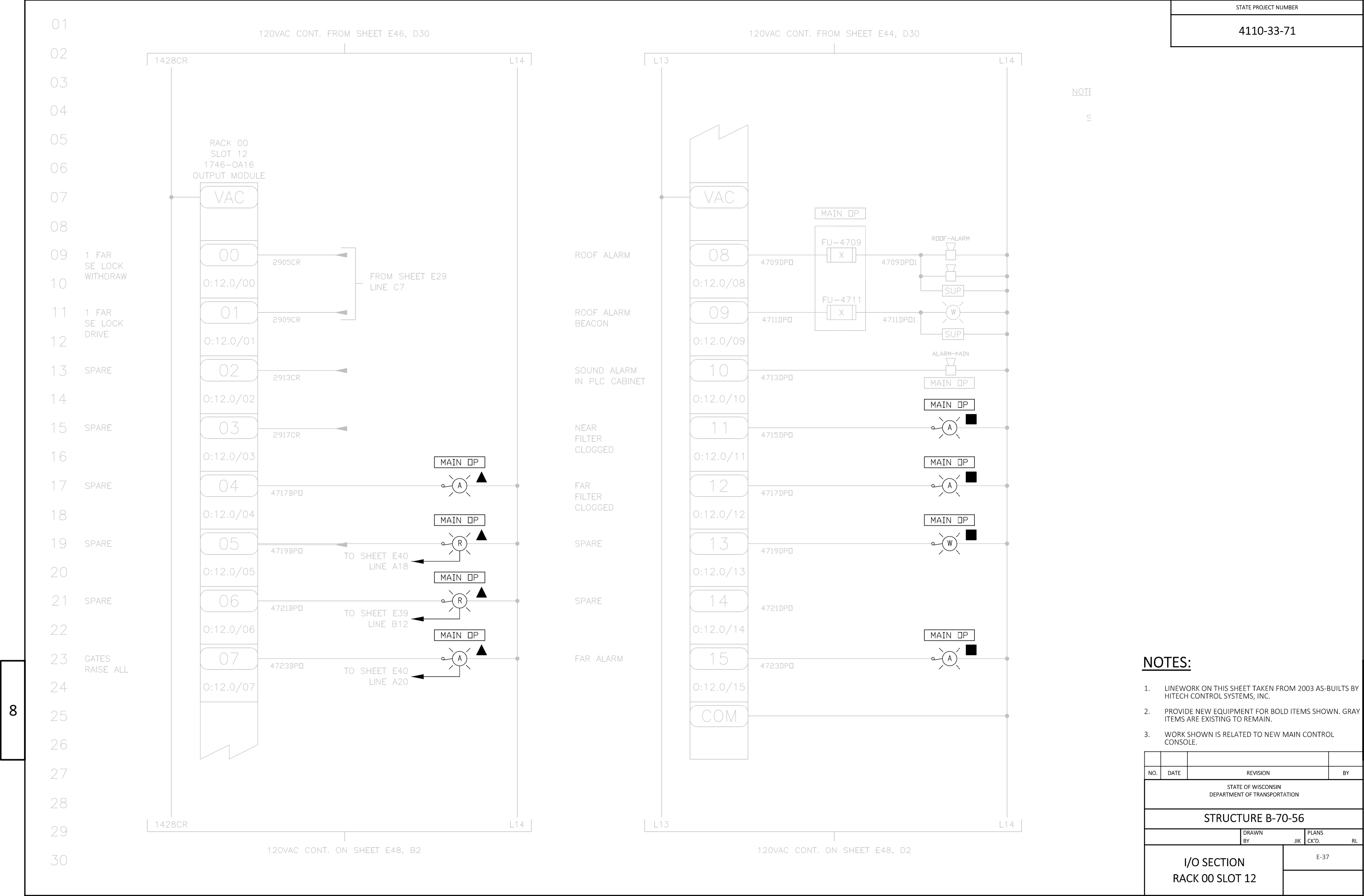
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TEST SW1	1		0
	CREEP	SLOW	FAST
TEST SW2	1	0	1
TEST SW3	0	1	1

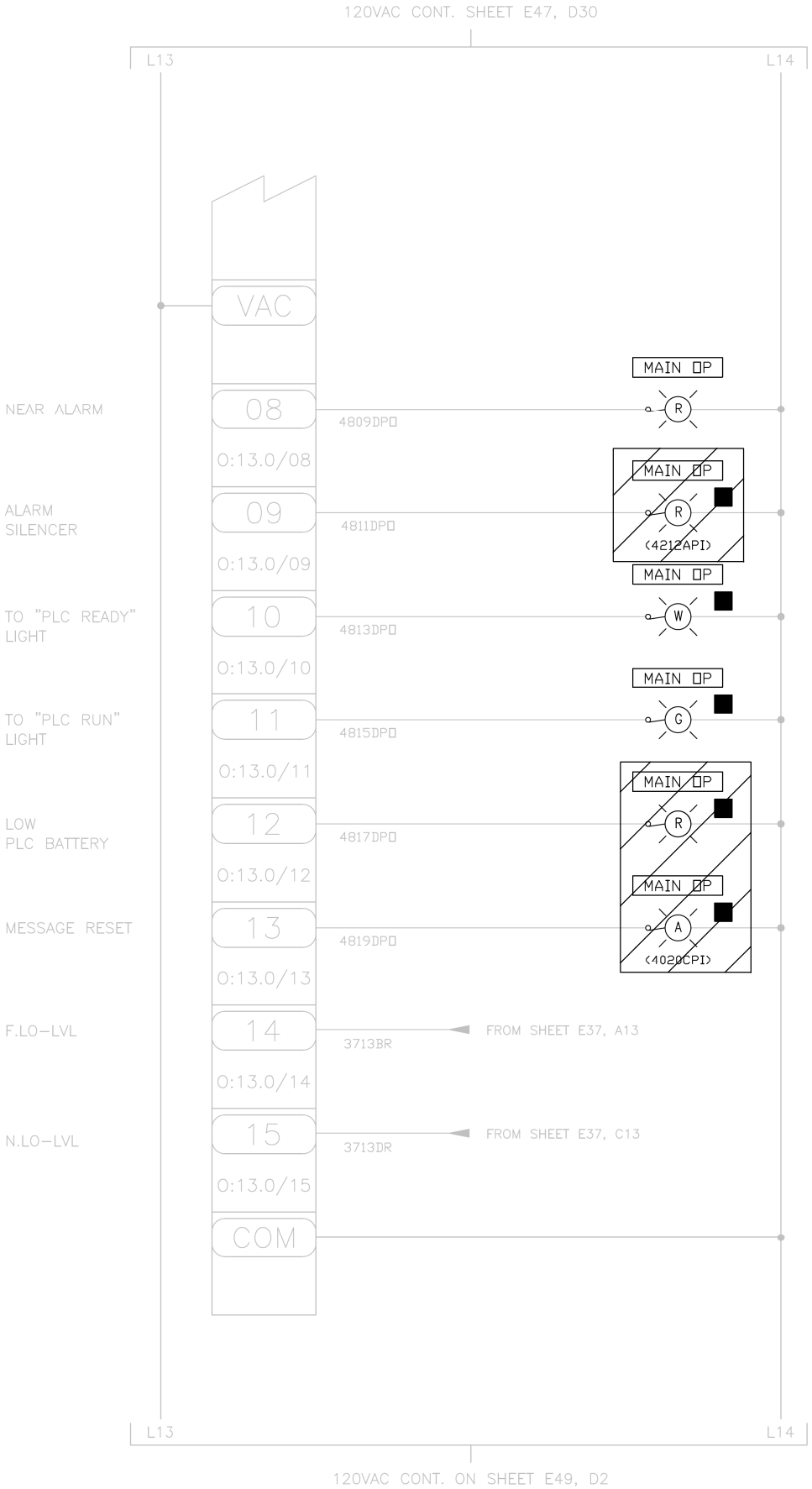
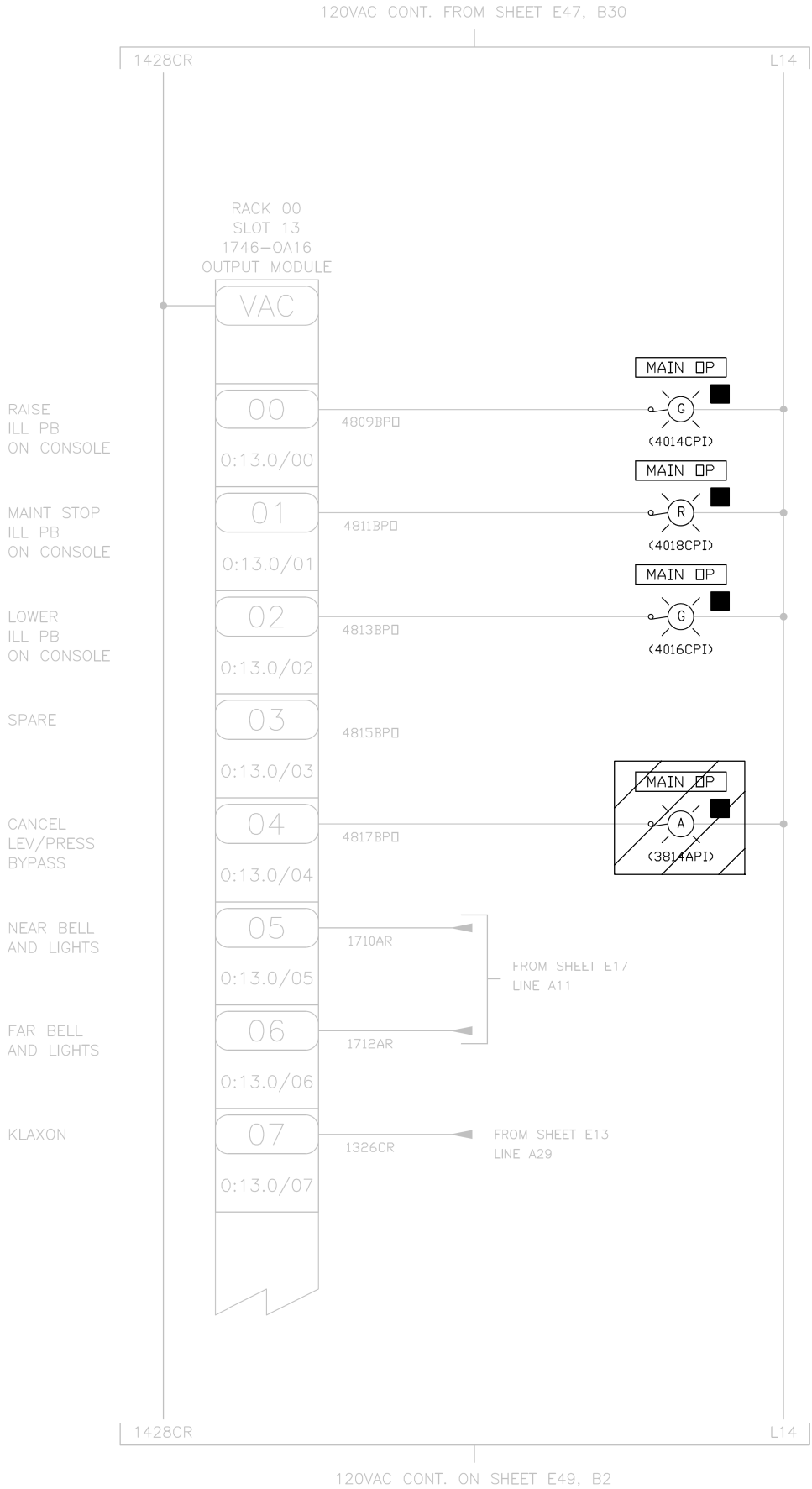


NOTES:

1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE.

NO.	DATE	REVISION		BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION				
STRUCTURE B-70-56				
		DRAWN BY	JJK	PLANS CK'D. RL
I/O SECTION RACK 00 SLOT 02			E-36	



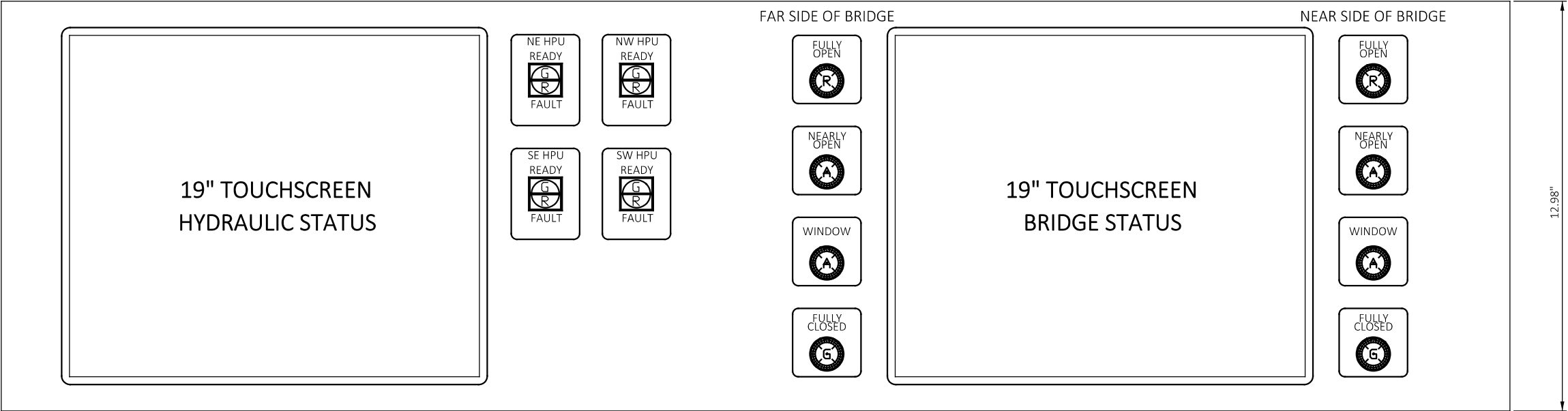


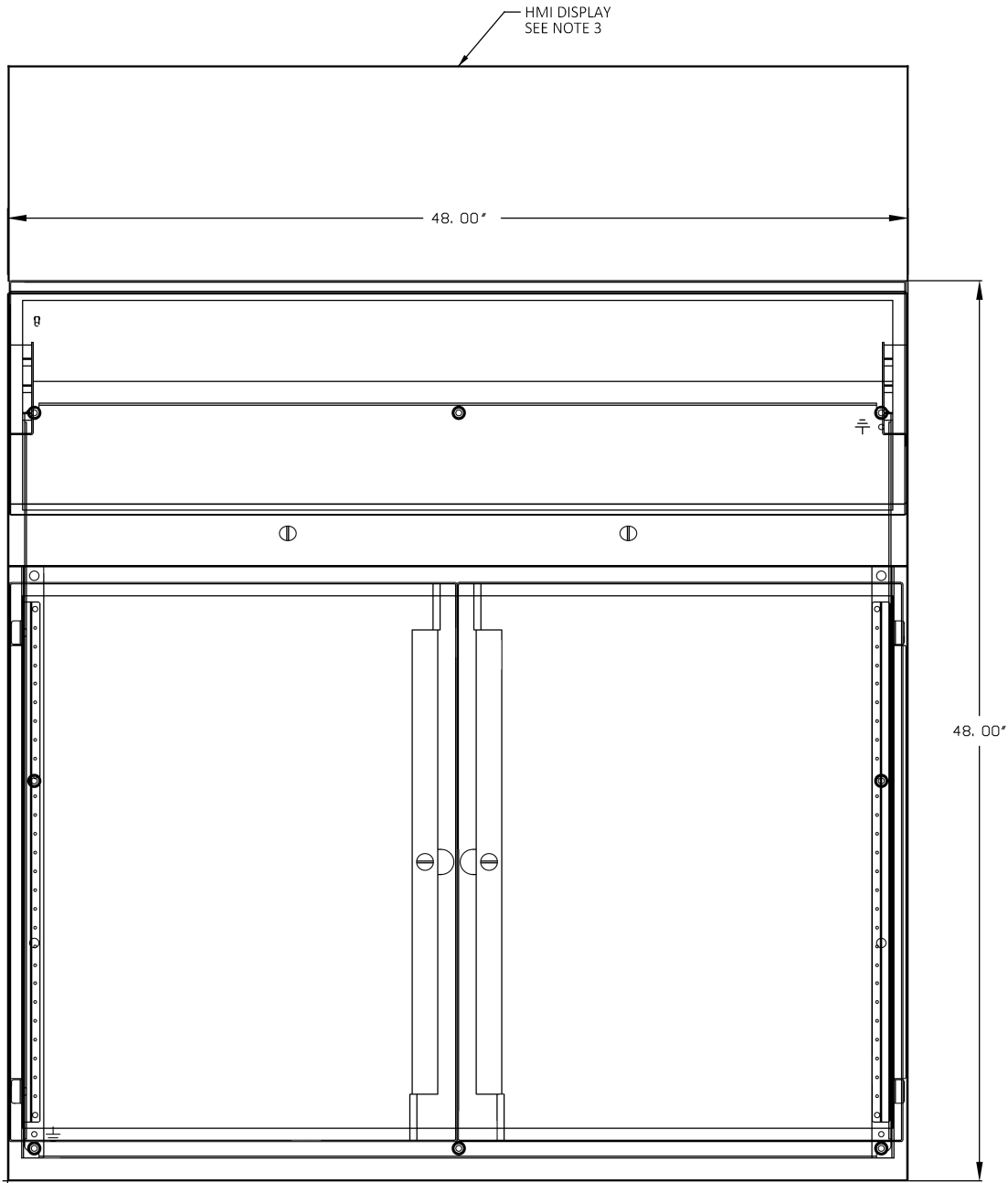
EXISTING TO BE REMOVED

NOTES:

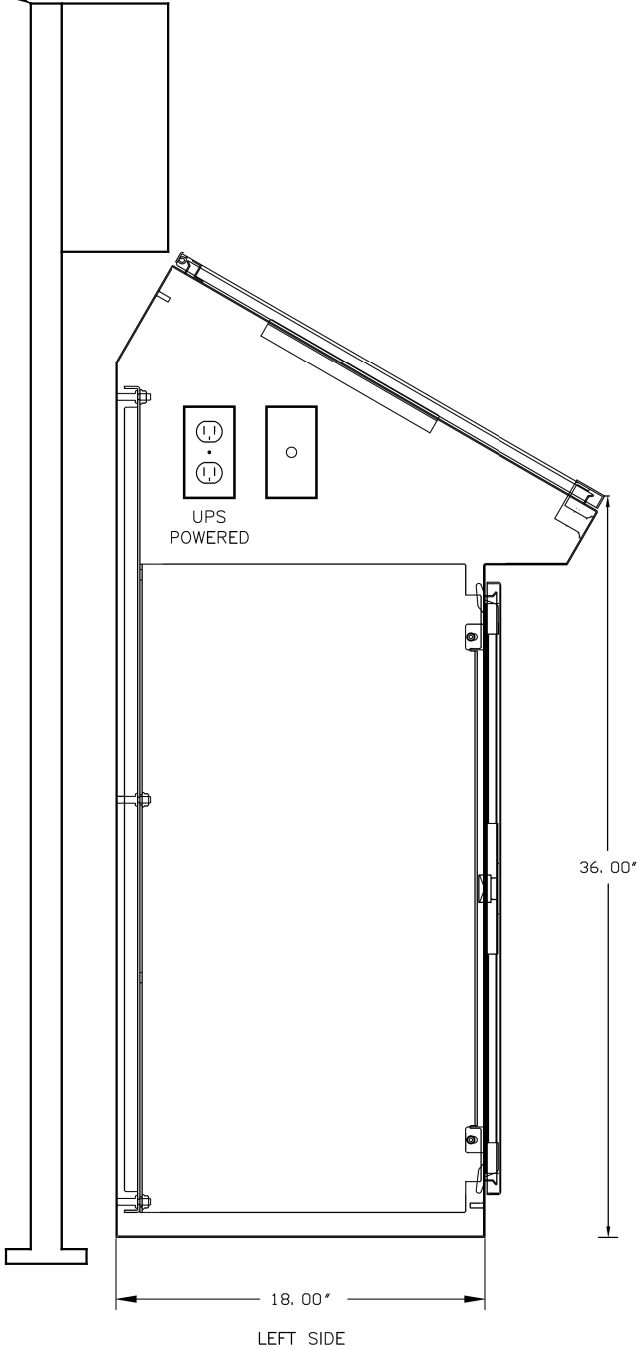
1. LINEWORK ON THIS SHEET TAKEN FROM 2003 AS-BUILTS BY HITECH CONTROL SYSTEMS, INC.
2. PROVIDE NEW EQUIPMENT FOR BOLD ITEMS SHOWN. GRAY ITEMS ARE EXISTING TO REMAIN.
3. WORK SHOWN IS RELATED TO NEW MAIN CONTROL CONSOLE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CHK'D.	RL
I/O SECTION RACK 00 SLOT 13		E-38	





HMI DISPLAY
SEE NOTE 3



NOTES:

1. NEW MAIN CONTROL CONSOLE TOP TO BE PROVIDED.
2. CONTRACTOR TO SURVEY EXISTING CONSOLE TOP AND PROVIDE A LIST OF ITEMS TO BE RELOCATED TO PLC HMI DISPLAY.
3. NEW ENCLOSURE ABOVE CONTROL CONSOLE TO BE MOUNTED ON 304 STAINLESS STEEL CHANNELS ATTACHED TO EXISTING CONTROL ROOM FLOOR.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-56			
DRAWN BY		PLANS CHK'D.	RL
MAIN CONSOLE CABINET		E-40	



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