

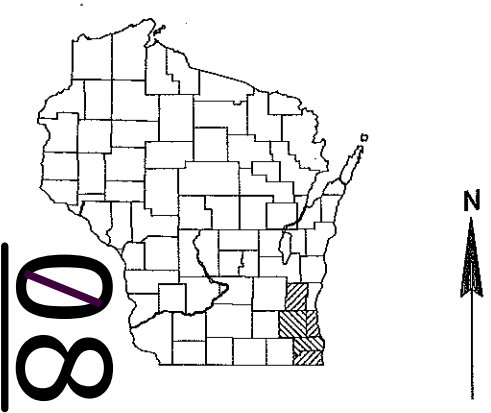
WKE
PROJECT ID: 1000-20-60
WITH:
COUNTY: SOUTHEAST REGION WIDE

APR 2014

ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section No. 9	Computer Earthwork Data
Section No. 9	Gross Sections

TOTAL SHEETS = 34



DESIGN DESIGNATION

A.D.T.	= N/A
A.D.T.	= N/A
D.H.V.	= N/A
D.	= N/A
T.	= N/A
DESIGN SPEED	= N/A
ESALS	= N/A

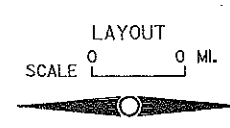
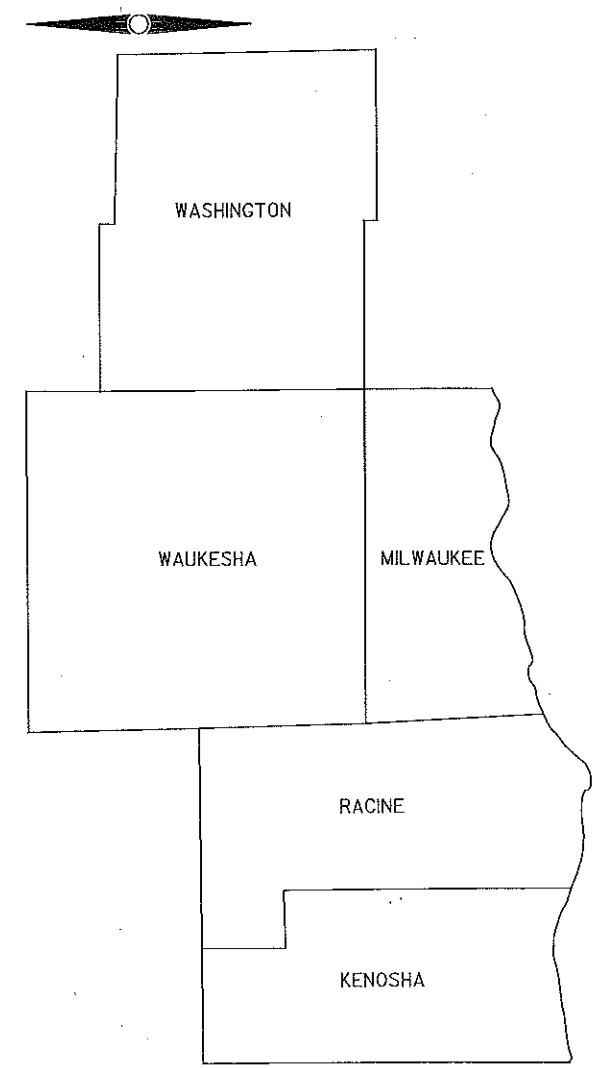
CONVENTIONAL SYMBOLS

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

PROFILE	
GRADE LINE	----
ORIGINAL GROUND	----
MARSH OR ROCK PROFILE (To be noted as such)	----
SPECIAL DITCH	----
GRADE ELEVATION	95.38
CULVERT (Profile View)	----
UTILITIES	
ELECTRIC	----
FIBER OPTIC	----
GAS	----
SANITARY SEWER	----
STORM SEWER	----
TELEPHONE	----
WATER	----
UTILITY PEDESTAL	----
POWER POLE	----
TELEPHONE POLE	----

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
SIGN BRIDGE REPAIRS 2014
VARIOUS HIGHWAYS
SOUTHEAST REGION WIDE

STATE PROJECT NUMBER
1000-20-60



TOTAL NET LENGTH OF CENTERLINE = 0.00 MI.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1000-20-60		

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor _____

Designer COLLINS ENGINEERS, INC.

Project Manager TOM HEYDEL

District Examiner _____

District Supervisor JAMES FORSETH

C.O. Examiner _____

APPROVED FOR DISTRICT OFFICE

DATE: 11/25/13 *Thomas Heydel* (Signature)

E

UTILITIES CONTACT LIST

MILWAUKEE COUNTY HIGHWAY DIVISION ELECTRICAL SHOP MR. STANLEY JACKSON 10320 W. WATERTOWN PLANK RD. WAUWATOSA, WI. 53226 (414) 257-6593	WISCONSIN DEPARTMENT OF TRANSPORTATION SE REGION LIGHTING ENGINEER MR. MATT PFEIFER 262-548-8778 MATTHEW.PFEIFER@DOT.GOV
WE ENERGIES (GAS) MR. TOM MINESAL 5400 GREEN BAY AVE. MILWAUKEE, WI 53209 414-944-5755	WISCONSIN DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS CENTER MR. JEFF MADISON 433 W ST PAUL AVE, STE 300 MILWAUKEE, WI 53203 414-255-3723 JEFFERY.MADISON@DOT.WI.GOV
WE ENERGIES-ELECTRIC MR. DAN SANDE 333 W EVERETT ST.-A279 MILWAUKEE WI 53203 414-221-4578 DAN.SANDE@WE-ENERGIES.COM	

DNR CONTACT LIST

MILWAUKEE AND RACINE COUNTY MS. KRISTINA BETZOLD 2300 N. MARTIN LUTHER KING DR. MILWAUKEE, WI 53212 (414) 263-8517	KENOSHA AND WAUKESHA COUNTY MR. CRAIG WEBSTER 141 N W BARSTOW ST., RM. 180 WAUKESHA, WI 53187 (262) 574-2141
WASHINGTON COUNTY MR. MIKE THOMPSON 2300 N. MARTIN LUTHER KING DR. MILWAUKEE, WI 53212 (414) 263-8648	

DESIGN CONTACT

COLLINS ENGINEERS, INC.
2033 W. HOWARD AVE
MILWAUKEE, WI 53221
ATTN: VERONICA CHAVEZ DE FERNANDEZ
(414) 282-6905

GENERAL NOTES

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.



SIGN BRIDGE LOCATIONS - KENOSHA COUNTY

STRUCTURE NUMBER	HIGHWAY	DIRECTION OF TRAVEL	LOCATION
S-30-212	STH 31	NB	RIGHT TURN LANE TO CTH M
S-30-213	STH 31	NB	AT CTH S
S-30-214	STH 31	SB	AT CTH S

SIGN BRIDGE LOCATIONS - MILWAUKEE COUNTY

STRUCTURE NUMBER	HIGHWAY	DIRECTION OF TRAVEL	LOCATION
S-40-002	IH-94	WB	AT EXIT RAMP TO HAWLEY ROAD
S-40-006	USH 41	NB	1/4 MILE SOUTH OF LLOYD STREET
S-40-048	IH-94	WB	AT EXIT TO STH 100 NB
S-40-099	IH-894/USH 45	SB	AT EXIT TO GREENFIELD AVENUE
S-40-100	IH-894/USH 45	SB	1/4 MILE NORTH OF GREENFIELD AVENUE
S-40-101	IH-43	SB	AT SILVER SPRING DRIVE EXIT
S-40-107	USH 41	SB	AT GORE TO USH 18
S-40-108	FREDERICK MILLER WAY	EB/WB	300 FEET EAST OF STH 341
S-40-127	IH-94	WB	AT THE GORE TO USH 41 N/S
S-40-128	IH-894/USH 45	NB	1/2 MILE SOUTH OF IH-94 WB/EB RAMP
S-40-133	IH-894/USH 45	NB	AT EXIT TO IH-94 EB
S-40-155	USH 45	SB	1/8 MILE NORTH OF IH-94 WB RAMP
S-40-156	IH-894/USH 45	NB	1/8 MILE SOUTH OF GREENFIELD AVENUE
S-40-164	IH-94	WB	AT GORE TO 84TH STREET EXIT RAMP
S-40-231	USH 45	NB	1/4 MILE SOUTH OF WATERTOWN PLANK
S-40-232	USH 45	SB	1/4 MILE NORTH OF WISCONSIN AVENUE
S-40-233	USH 45	SB/NB	1/4 MILE SOUTH OF MAYFAIR ROAD
S-40-234	USH 45	NB	1/4 MILE SOUTH OF NORTH AVENUE WB EXIT
S-40-236	USH 45	SB	1/2 MILE NORTH OF NORTH AVE
S-40-237	USH 45	SB/NB	1/4 MILE NORTH OF BURLEIGH STREET
S-40-240	USH 45	SB/NB	1/4 MILE NORTH OF SILVER SPRING DRIVE
S-40-242	USH 41	NB	1/4 MILE SOUTH OF WASHINGTON
S-40-250	STH 341	SB	250 FEET NORTH OF NATIONAL AVENUE
S-40-251	IH-43	SB	1/8 MILE SOUTH OF KEEFE AVENUE
S-40-252	USH 45	SB	CAPITOL DRIVE ON RAMP
S-40-254	STH 145	SB/NB	1/2 MILE SOUTH OF 91ST STREET
S-40-256	STH 24	EB	JUST WEST OF STH 100
S-40-257	IH-43	NB	AT SILVER SPRING DRIVE EXIT
S-40-276	USH 45	NB	CAPITOL DRIVE ON RAMP
S-40-277	USH 45	NB	AT SILVER SPRING OFF RAMP
S-40-278	USH 45	NB	AT SILVER SPRING ON RAMP
S-40-279	USH 45	NB	AT WISCONSIVE AVENUE ON RAMP
S-40-280	USH 45	NB	AT WATERTOWN PLAN ROAD ON RAMP
S-40-282	USH 45	NB	AT BURLEIGHT STREET ON RAMP
S-40-302	GOOD HOPE ROAD	WB	EAST OF USH 45 ON RAMP
S-40-303	USH 41/45	SB	1/2 MILE NORTH OF GOOD HOPE ROAD
S-40-304	USH 45	SB	AT EXIT TO APPLETON AVENUE
S-40-305	USH 41/45	SB	1/2 MILE NORTH OF APPLETON AVENUE

SIGN BRIDGE LOCATIONS - MILWAUKEE COUNTY, CONTINUED

STRUCTURE NUMBER	HIGHWAY	DIRECTION OF TRAVEL	LOCATION
S-40-308	IH-94	EB	AT GORE TO IH-894 EB
S-40-309	IH-94	EB	AT SYSTEM RAMP TO USH 45 NB
S-40-312	IH-94	EB	AT EXIT RAMP TO STH 100
S-40-315	STH 341	NB	JUST SOUTH OF CAN STREET EXIT
S-40-316	USH 41	NB	1/4 MILE SOUTH OF STADIUM INTERCHANGE
S-40-317	USH 41	NB	AT GORE TO IH-94 EB/WB RAMPS
S-40-320	STH 341	SB	AT NATIONAL AVENUE
S-40-323	FREDERICK MILLER WAY	EB	300 FT WEST OF USH 341
S-40-324	FREDERICK MILLER WAY	WB	300 FT WEST OF STH 341
S-40-358	USH 41/45	NB	AT EXIT TO STH 145
S-40-370	USH 45	NB	1/2 MILE SOUTH OF HAMPTON AVENUE
S-40-374	USH 45	NB	1/2 MILE SOUTH OF APPLETON AVENUE
S-40-375	USH 45	NB	AT APPLETON AVENUE EXIT RAMP
S-40-376	USH 45	NB	AT EXIT TO GOOD HOPE ROAD
S-40-378	USH 45	NB	AT NORTH AVENUE WB EXIT LANE
S-40-430	IH-94	EB	1/8 MILE WEST OF 27TH STREET
S-40-431	IH-94	WB	1/10 MILL EAST OF 25TH STREET EXIT
S-40-509	IH-43	SB	1/4 MILE NORTH OF HIGHLAND
S-40-510	IH-43	SB	AT EXIT TO HIGHLAND AVE
S-40-511	IH-43	SB	1/2 MILE NORTH OF IH-94 WB RAMP
S-40-516	IH-94	WB	1/2 MILE EAST OF CLYBOURN STREET
S-40-517	IH-94	WB	AT 16TH STREET
S-40-601	CTH Y	WB	300 FEET EAST OF PENNSYLVANIA AVENUE
S-40-713	IH-94/IH-43	NB/SB	1/2 MILE SOUTH OF THE MARQUETTE INTR.
S-40-737	IH-94	SB	AT COLLEGE AVE EXIT RAMP
S-40-749	CTH Y	EB	WEST OF STH 241
S-40-750	CTH Y	WB	EAST OF STH 241
S-40-753	STH 241	NB	200 FEET SOUTH OF CTH Y
S-40-757	IH-894	EB	EXIT RAMP TO STH 36
S-40-761	IH-94	NB	ON RAMP FROM COLLEGE AVENUE
S-40-781	IH-94	SB	ON DREXEL AVENUE EXIT RAMP
S-40-808	IH-94	EB	1/2 MILE WEST OF IH-894
S-40-811	IH-43	SB	1/4 MILE NORTH OF STH 100
S-40-813	IH-43	NB	SOUTH OF IH-894
S-40-816	IH-43	NB	C-D TO LAPHAM BOULEVARD
S-40-817	IH-43	SB	AT EXIT TO NATIONAL AVENUE/6TH STREET
S-40-818	IH-43	NB	AT RAMP TO KEEFE AVENUE
S-40-922	STH 24	WB	1/8 MILE EAST OF STH 100

SIGN BRIDGE LOCATIONS - RACINE COUNTY

STRUCTURE NUMBER	HIGHWAY	DIRECTION OF TRAVEL	LOCATION
S-51-200	IH-94	EB	1/2 MILE SOUTH OF STH 11
S-51-203	IH-94	WB	1/2 MILE SOUTH OF CTH G
S-51-204	IH-94	NB	1/4 MILE SOUTH OF 7 MILE ROAD
S-51-601	STH 11	WB	WEST OF STH 142

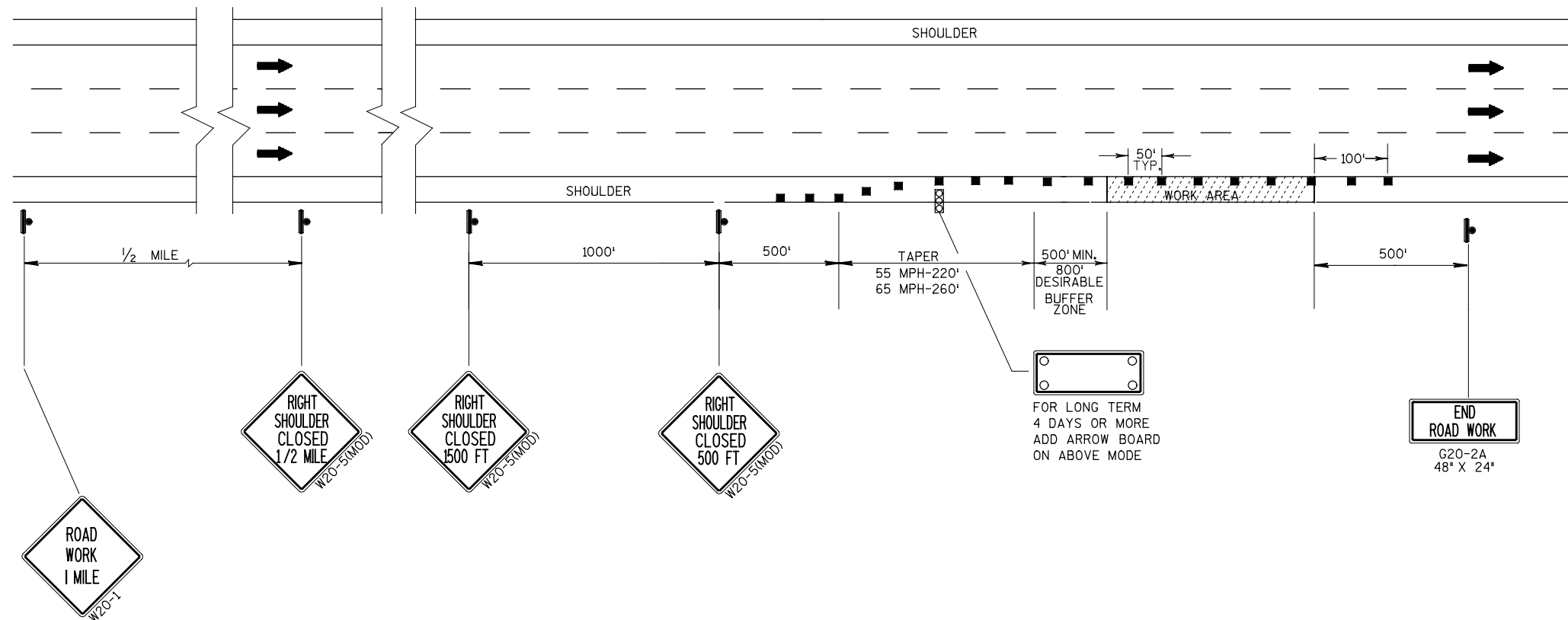
SIGN BRIDGE LOCATIONS - WASHINGTON COUNTY

STRUCTURE NUMBER	HIGHWAY	DIRECTION OF TRAVEL	LOCATION
S-66-207	STH 145	EB	WEST OF CABELA WAY
S-66-210	STH 145	WB	EAST OF USH 41 NB ON RAMP
S-66-211	STH 145	WB	EAST OF USH 41
S-66-218	CTH Q	WB	EAST OF STH 164

SIGN BRIDGE LOCATIONS - WAUKESHA COUNTY

STRUCTURE NUMBER	HIGHWAY	DIRECTION OF TRAVEL	LOCATION
S-67-019	IH 94	WB	AT GORE TO STH 16 NB
S-67-037	SWENSON	WB	AT ON RAMP TO IH-94 EB
S-67-038	BARKER RD	NB	1/10 MILE SOUTH OF IH-94
S-67-042	IH-94	WB	1/8 MILE EAST OF CTH SS
S-67-044	USH 41/45	SB	1/2 MILE NORTH OF STH 145
S-67-045	USH 41/45	SB	1/2 MILE NORTH OF STH 145
S-67-206	USH 41/45	SB	1 MILE NORTH OF STH 145
S-67-208	USH 41/45	NB/SB	1/4 MILE SOUTH OF CTH Q
S-67-220	STH 59	EB	WEST OF CTH X
S-67-224	CTH Y	SB	SOUTH OF IH-94
S-67-226	CTH Y	SB	RAMP TO IH-94 EASTBOUND
S-67-241	USH 41	NB	MAIN STREET ENTRANCE RAMP
S-67-246	CTH SS	NB	SOTUH OF CTH DR
S-67-254	CTH Q	EB	WEST OF STH 164
S-67-262	STH 57	WB	1/10 MILE EAST OF STH 164
S-67-263	STH 164	NB	1/10 MILE SOUTH OF STH 59
S-67-272	CTH Q	SB	1/10 MILE SOUTH OF IH-43
S-67-279	STH 74	NB	SOUTH OF MCLAUGHLIN ROAD
S-67-311	IH-94	WB	ON EXIT RAMP TO BARKER ROAD
S-67-312	IH -94	WB	AT BARKER ROAD EXIT
S-67-313	IH-94	EB	ON EXIT RAMP TO BLUEMOUND ROAD
S-67-314	IH-94	WB	AT EXIT RAMP TO MOORLAND ROAD
S-67-316	IH-94	EB	AT EXIT RAMP TO CTH J/STH 164
S-67-402	IH-94	EB	100' WEST OF ELM GROVE ROAD
S-67-405	USH 18	NB	1/4 MILE SOUTH OF IH-94
S-67-906	CTH F	NB	IH-94
S-67-907	CTH F	NB	AT ON RAMP FROM CTH F
S-67-908	CTH F	SB	AT IH-94
S-67-911	USH 18	EB	1/8 MILE WEST OF STH 83
S-67-912	CTH Y	NB	SOUTH OF IH-43 NB ON RAMP
S-67-913	CTH Y	NB	SOUTH OF IH-43 BRIDGE
S-67-914	CTH Y	SB	JUST NORTH OF IH-43
S-67-916	IH-43	WB	ON EXIT RAMP TO CTH Y
S-67-917	IH-43	EB	ON EXIT RAMP TO CTH Y
S-67-918	CTH F	SB	1/8 MILE NORTH OF IH-94

TYPICAL SHOULDER CLOSURE (SHORT TERM-3 DAYS OR LESS OR 4 DAYS OR MORE)



LEGEND

- TRAFFIC CONTROL DEVICE
- ├ SIGN ON TEMPORARY SUPPORT (FOR 3 DAYS OR LESS SHORT TERM)
- └ SIGN ON FIXED SUPPORT FOR 4 DAYS OR MORE (LONG TERM)
- ⊞ ARROW BOARD

TRAFFIC CONTROL NOTES

RIGHT LANE CLOSURE SHOWN, LEFT LANE CLOSURE SIMILAR.

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

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).

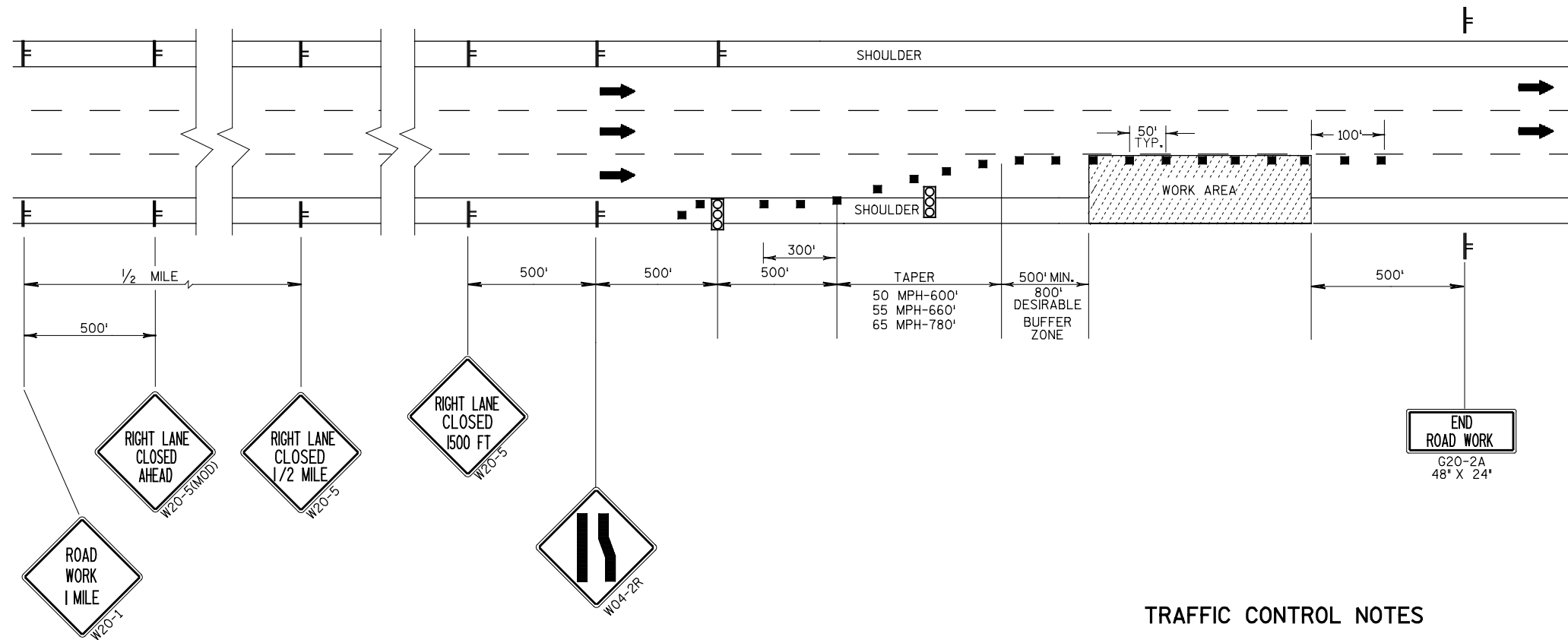
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

TYPICAL ONE-LANE CLOSURE (SHORT TERM-3 DAYS OR LESS)



LEGEND

- TRAFFIC CONTROL DEVICE
- ⌋ SIGN ON FIXED SUPPORT
- ⌋ SIGN ON TEMPORARY SUPPORT
- ⌋ ARROW BOARD

TRAFFIC CONTROL NOTES

RIGHT LANE CLOSURE SHOWN, LEFT LANE CLOSURE SIMILAR.

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

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).

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

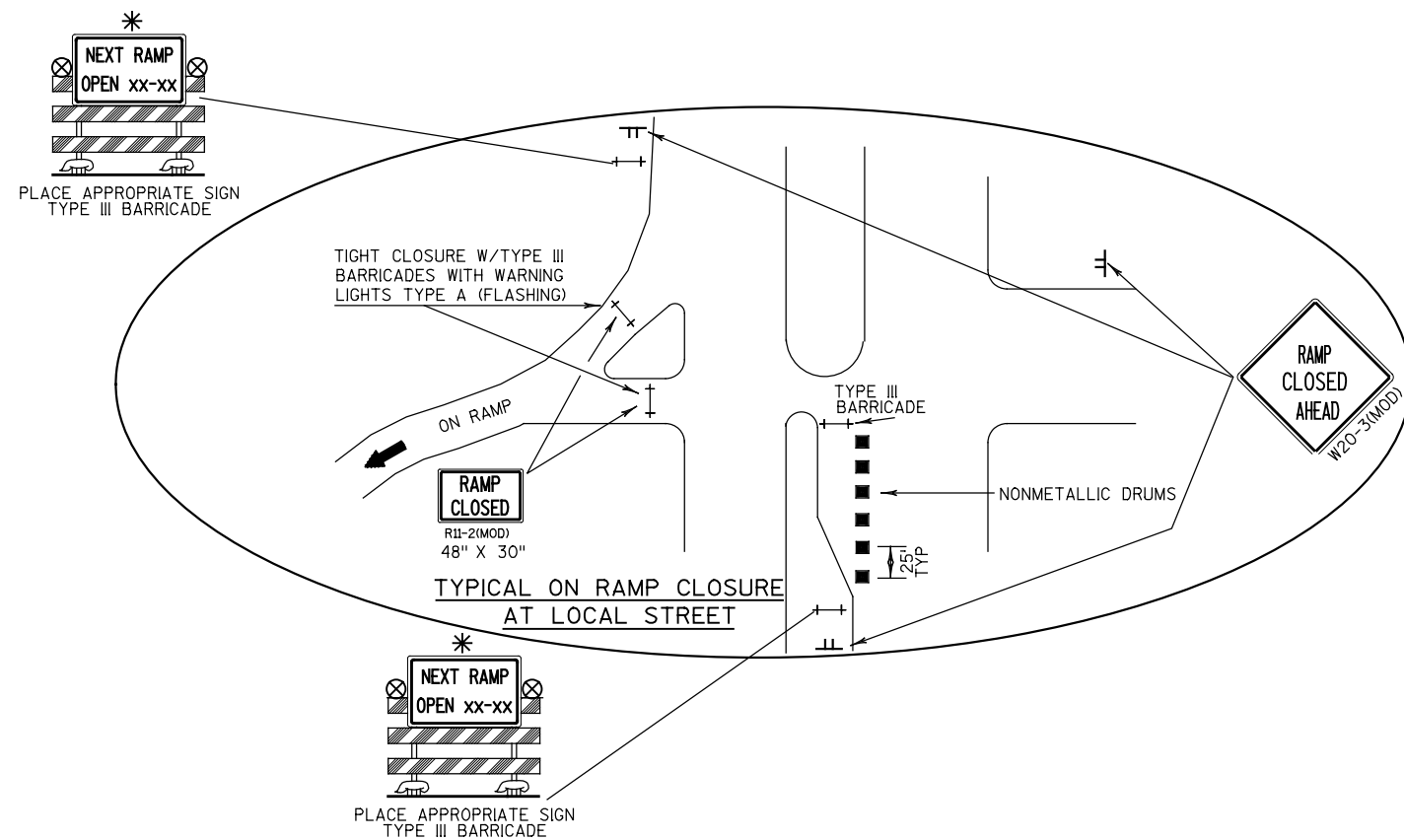
"W0" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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

ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROWBOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' IN FRONT OF DRUMS.



TRAFFIC CONTROL NOTES

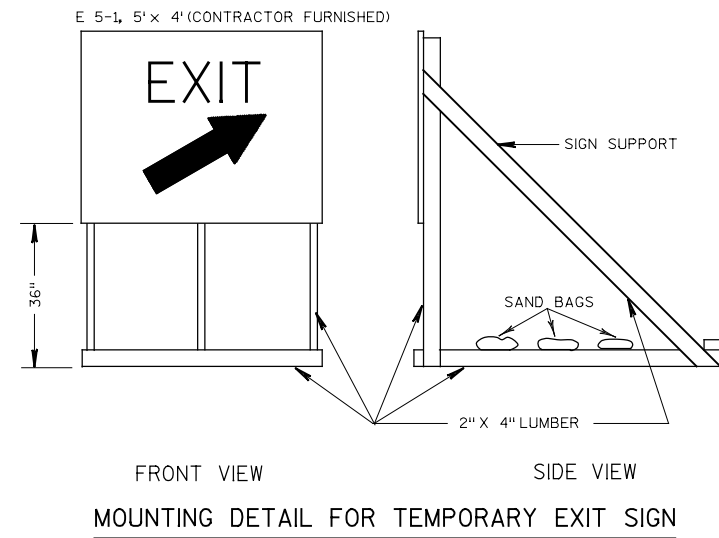
THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

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

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

LEGEND

- TRAFFIC CONTROL DEVICE
- ⌵ SIGN ON TEMPORARY SUPPORT FOR SHORT TERM 3 DAYS OR LESS
- † TYPE III BARRICADE
- ⊗ WARNING LIGHT, TYPE A (FLASHING)

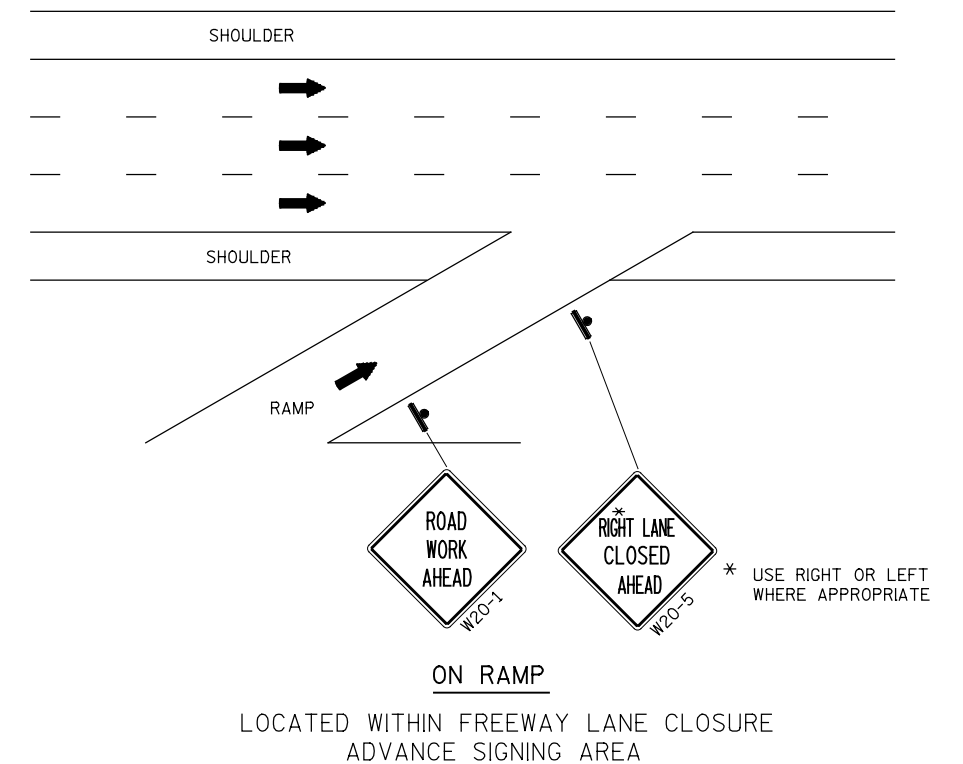
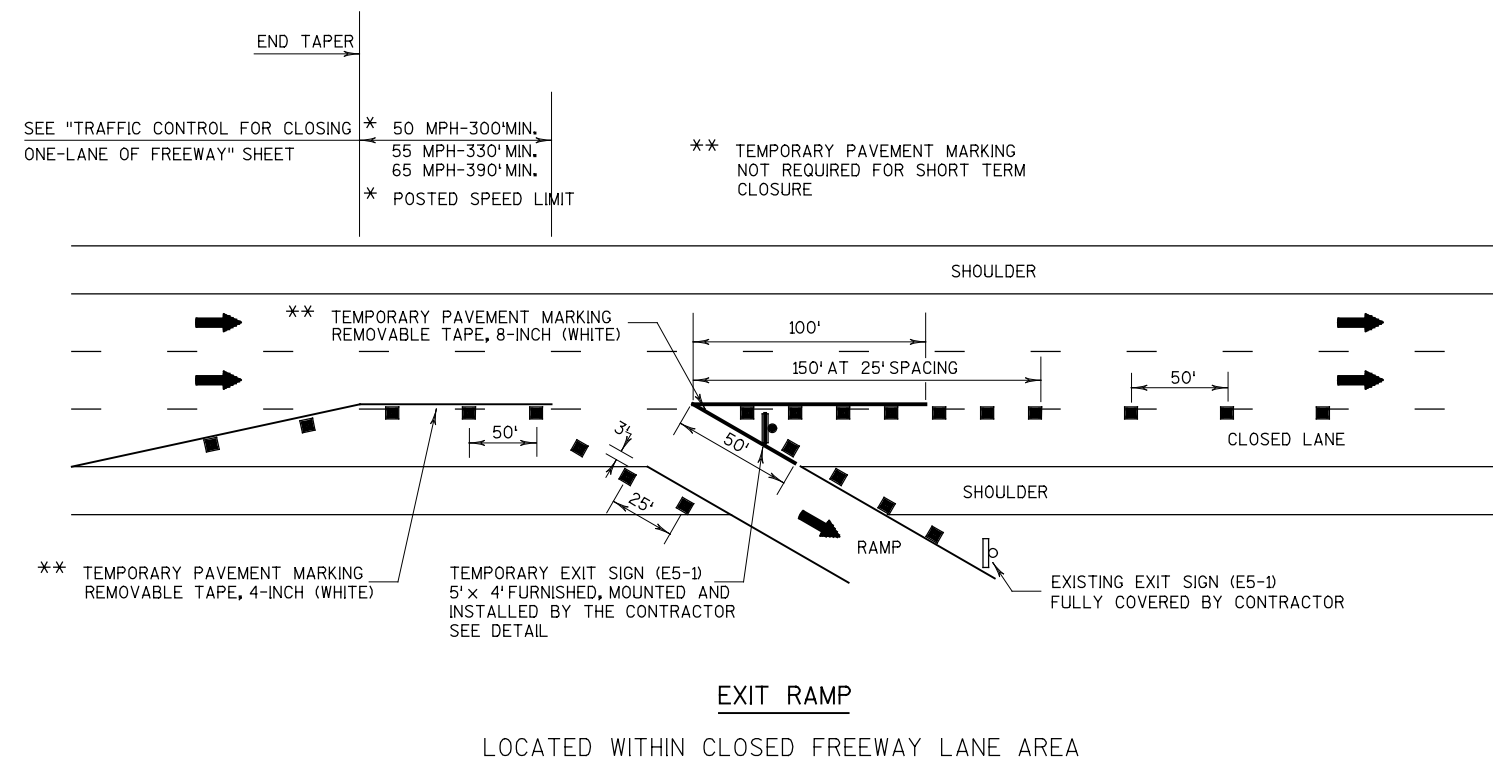


GENERAL NOTES

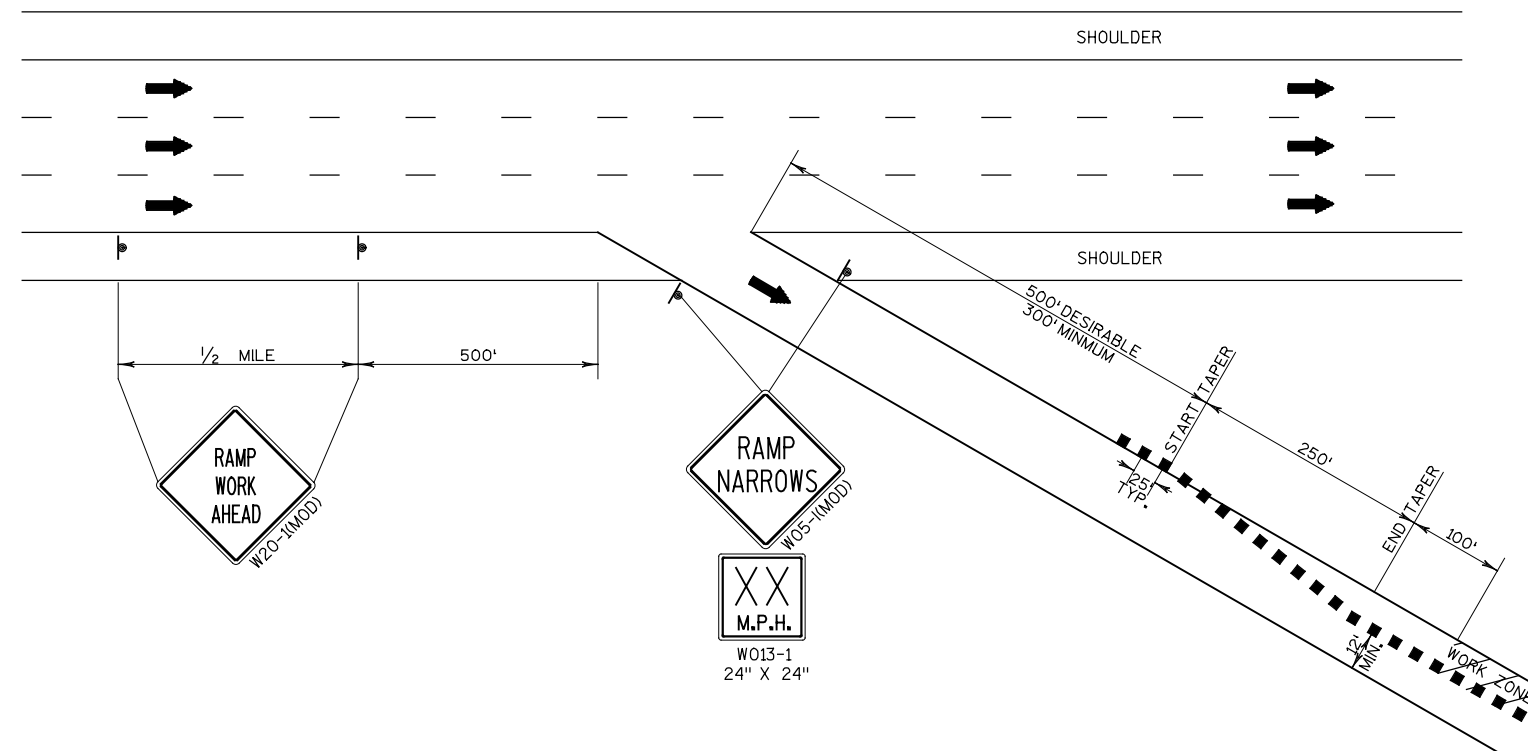
1. ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED.
2. FOR NIGHTTIME OPERATION ALL DRUMS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).
3. FOR SHORT TERM (3 DAYS OR LESS) FREEWAY LANE CLOSURES TEMPORARY SIGN SUPPORTS MAY BE USED. REMOVE OR COVER SIGNS WHEN NOT IN USE.

LEGEND

- — TRAFFIC CONTROL DEVICE
● — SIGN ON TEMPORARY SUPPORT



TYPICAL PARTIAL EXIT RAMP CLOSURE (SHORT TERM-3 DAYS OR LESS)



LEGEND

- TRAFFIC CONTROL DEVICE
- ⦿ SIGN ON TEMPORARY SUPPORT
- ⊗ WARNING LIGHT, TYPE A (FLASHING)

TRAFFIC CONTROL NOTES

LEFT SIDE CLOSURE SHOWN, RIGHT SIDE CLOSURE SIMILAR.

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

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE "C" (STEADY BURN).

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

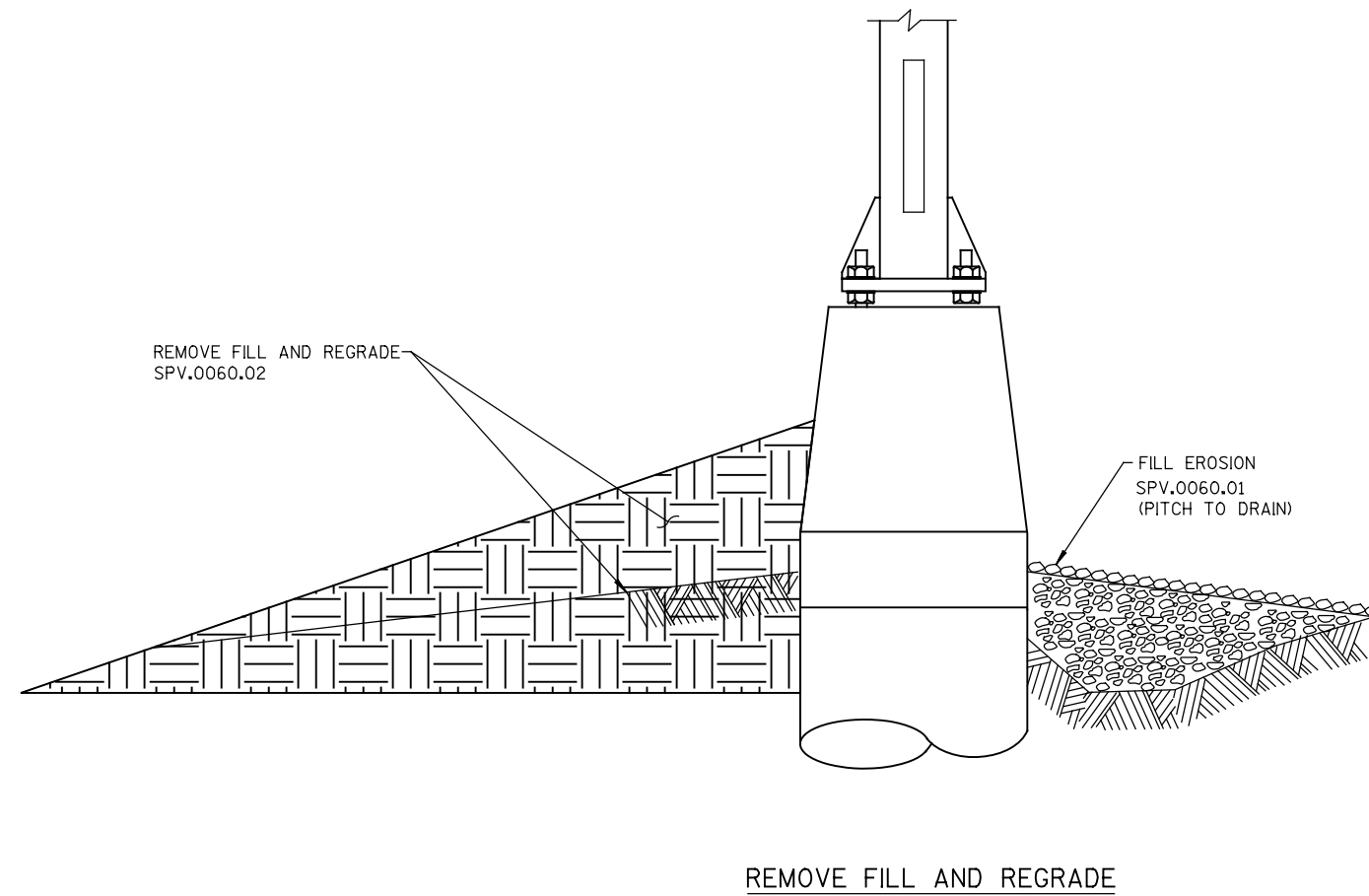
"W0" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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

ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE ROADWAY IS RESTORED TO A SAFE OPERATING CONDITION.

SPEED RECOMMENDED BY W05-1(MOD) SIGN SHALL BE 5 M.P.H. BELOW ADVISORY EXIT RAMP SPEED OR AS DIRECTED BY THE ENGINEER.

SIGNING ON FREEWAY IN ADVANCE OF EXIT RAMP GORE SHALL BE LOCATED ON THE SAME SIDE OF THE FREEWAY AS THE EXIT RAMP.



DATE 31JAN14		E S T I M A T E O F Q U A N T I T I E S			
LINE					1000-20-60
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	619. 1000	MOBILIZATION	EACH	1. 000	1. 000
0020	637. 1220	SIGNS TYPE I REFLECTIVE SH	SF	39. 000	39. 000
0030	637. 2210	SIGNS TYPE II REFLECTIVE H	SF	48. 750	48. 750
0040	638. 2101	MOVING SIGNS TYPE I	EACH	1. 000	1. 000
0050	643. 0100	TRAFFIC CONTROL (PROJECT) 01. 1000-20-60	EACH	1. 000	1. 000
0060	SPV. 0025	SPECIAL 01. REPAIR FOUNDATION	CF	3. 000	3. 000
0070	SPV. 0060	SPECIAL 01. FILL EROSION	EACH	4. 000	4. 000
0080	SPV. 0060	SPECIAL 02. REMOVE FILL AND REGRADE	EACH	2. 000	2. 000
0090	SPV. 0060	SPECIAL 03. REMOVE GROUT PAD	EACH	2. 000	2. 000
0100	SPV. 0060	SPECIAL 04. TIGHTEN LEVELING NUT	EACH	2. 000	2. 000
0110	SPV. 0060	SPECIAL 05. TENSION ANCHOR ROD	EACH	32. 000	32. 000
0120	SPV. 0060	SPECIAL 06. REPLACE BREAKAWAY BOX COVER	EACH	1. 000	1. 000
0130	SPV. 0060	SPECIAL 07. TENSION BREAKAWAY PLATE	EACH	4. 000	4. 000
		CONNECTION BOLT			
0140	SPV. 0060	SPECIAL 08. TIGHTEN HANDHOLE COVER BOLT	EACH	4. 000	4. 000
0150	SPV. 0060	SPECIAL 09. REPLACE HANDHOLE COVER	EACH	4. 000	4. 000
0160	SPV. 0060	SPECIAL 10. REPLACE SIGN BRIDE ID PLAQUE	EACH	11. 000	11. 000
0170	SPV. 0060	SPECIAL 11. REPLACE CONDUIT PLUG	EACH	5. 000	5. 000
0180	SPV. 0060	SPECIAL 12. REPLACE POST CAP	EACH	4. 000	4. 000
0190	SPV. 0060	SPECIAL 13. REPLACE END CAP	EACH	2. 000	2. 000
0200	SPV. 0060	SPECIAL 14. TENSION POST TO TRUSS	EACH	8. 000	8. 000
		CONNECTION BOLT			
0210	SPV. 0060	SPECIAL 15. REPLACE POST TO TRUSS	EACH	3. 000	3. 000
		CONNECTION BOLT			
0220	SPV. 0060	SPECIAL 16. TIGHTEN U-BOLT	EACH	5. 000	5. 000
0230	SPV. 0060	SPECIAL 17. TENSION SPLICE BOLT	EACH	26. 000	26. 000
0240	SPV. 0060	SPECIAL 18. SPLICE CONNECTION BOLT	EACH	55. 000	55. 000
		REPLACEMENT			
0250	SPV. 0060	SPECIAL 19. TYPE I SIGN I-BEAM	EACH	18. 000	18. 000
		REPLACEMENT			
0260	SPV. 0060	SPECIAL 20. INSTALL/REPLACE U-BOLT	EACH	28. 000	28. 000
0270	SPV. 0060	SPECIAL 21. SECURE U-BOLT SPACER	EACH	1. 000	1. 000
0280	SPV. 0060	SPECIAL 22. REPLACE SIGN PANEL CONNECTOR	EACH	628. 000	628. 000
0290	SPV. 0060	SPECIAL 23. REPLACE VMS CONNECTION BOLT	EACH	5. 000	5. 000
0300	SPV. 0060	SPECIAL 24. INSTALL FLANGE CHANNEL	EACH	1. 000	1. 000
		SUPPORT			
0310	SPV. 0060	SPECIAL 25. REPLACE SIGNAL MOUNT SOCKET	EACH	1. 000	1. 000
		CONNECTION			
0320	SPV. 0060	SPECIAL 26. TIGHTEN SIGNAL MOUNT	EACH	1. 000	1. 000
		CONNECTION			
0330	SPV. 0060	SPECIAL 27. REPLACE DISHED WASHER	EACH	3. 000	3. 000
0340	SPV. 0060	SPECIAL 28. REPLACE SIGN MOUNT	EACH	1. 000	1. 000
		CONNECTION BOLT			
0350	SPV. 0060	SPECIAL 29. REPLACE SIGN CONNECTION	EACH	3. 000	3. 000
		CLAMP			
0360	SPV. 0060	SPECIAL 30. INSTALL OVERHEAD SIGN	EACH	19. 000	19. 000
		MOUNTING SYSTEM			
0370	SPV. 0060	SPECIAL 31. REPLACE LUMINAIRE LENS	EACH	1. 000	1. 000
0380	SPV. 0060	SPECIAL 32. SECURE LUMINAIRE COVER	EACH	21. 000	21. 000
0390	SPV. 0060	SPECIAL 33. REPLACE CONDUIT CLAMP	EACH	2. 000	2. 000
0400	SPV. 0060	SPECIAL 34. REMOVE LUMINAIRE AND	EACH	1. 000	1. 000
		L-BRACKET			
0410	SPV. 0060	SPECIAL 35. REPLACE LUMINAIRE SUPPORT	EACH	1. 000	1. 000
		CHANNEL BOLT			
0420	SPV. 0060	SPECIAL 36. SECURE ELECTRICAL WIRING	EACH	1. 000	1. 000
0430	SPV. 0060	SPECIAL 37. REPLACE SAFETY CHAIN	EACH	5. 000	5. 000

DATE 31JAN14					E S T I M A T E O F Q U A N T I T I E S		
LINE						1000-20-60	
NUMBER	ITEM	ITEM DESCRIPTION			UNIT	TOTAL	QUANTITY
0440	SPV. 0060	SPECIAL 38.	REPLACE	HANDRAIL HINGE PIN	EACH	1.000	1.000
0450	SPV. 0060	SPECIAL 39.	REPLACE	WALKWAY CONNECTION CLIP	EACH	2.000	2.000
0460	SPV. 0090	SPECIAL 01.	REPLACE	CATWALK TOEBOARD	LF	10.000	10.000
0470	SPV. 0090	SPECIAL 02.	REPLACE	CATWALK GRATING	LF	10.000	10.000
0480	SPV. 0105	SPECIAL 01.	REMOVE	CATWALK AND L-BRACKETS	LS	1.000	1.000
0490	SPV. 0165	SPECIAL 01.	REPAIR	GALVANIZATION	SF	2.000	2.000

ROADWAY QUANTITIES*

STRUCTURE NUMBER	ELEVATION VIEW SHEET NUMBER	HIGHWAY	SIGNS TYPE I REFLECTIVE SH	SIGNS TYPE II REFLECTIVE H	MOVING SIGNS TYPE I	FILL EROSION	REMOVE FILL AND REGRADE
			637.122	637.221	638.2101	SPV.0060.01	SPV.0060.02
			SF	SF	EACH	EACH	EACH
S-40-256	39 OF 131	STH 24					1
S-40-713	74 OF 131	IH-94/IH-43	39		1		
S-40-781	81 OF 131	IH-94				1	
S-40-818	87 OF 131	IH-43				1	
S-51-601	92 OF 131	STH 11		48.75			
S-67-272	113 OF 131	CTH Q					1
S-67-911	125 OF 131	USH 18				1	
S-67-918	131 OF 131	CTH F				1	
		TOTAL	39	48.75	1	4	2

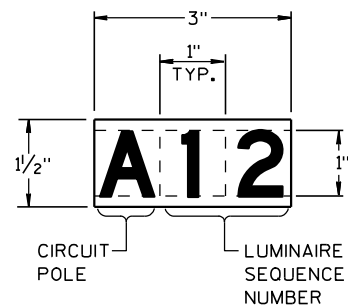
* ESTIMATE OF QUANTITIES FOR ROADWAY ITEMS ONLY.
ADDITIONAL CONSTRUCTION DETAILS ARE SHOWN IN STRUCTURE ELEVATION VIEW
OF THE STRUCTURE PLANS.

NOTES:
NEW I-BEAMS AND MOUNTING HARDWARE REQUIRED FOR SIGN PANEL
1A SHALL BE INCIDENTAL TO "SIGNS TYPE I REFLECTIVE SH"

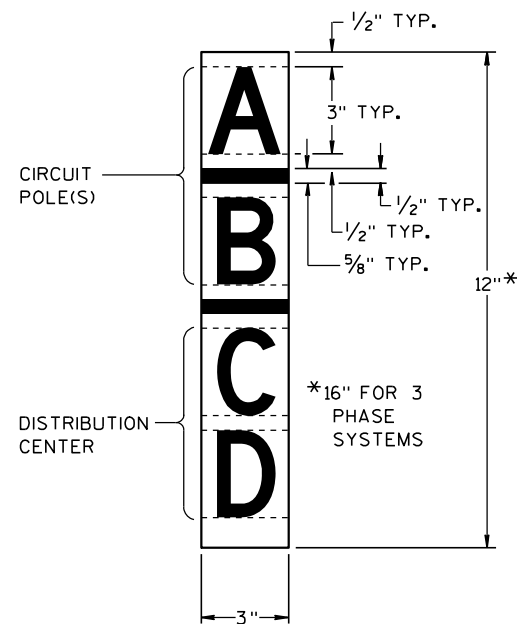
NEW BRACKETS AND MOUNTING HARDWARE REQUIRED FOR SIGN
PANELS 2 AND 3 SHALL BE INCIDENTAL TO "SIGNS TYPE II
REFLECTIVE H". BRACKETS AND MOUNTING HARDWARE SHALL BE
SELECTED FROM THE APPROVED PRODUCTS LIST.

Standard Detail Drawing List

10A03-03	CIRCUIT IDENTIFICATION PLAQUES SIGN BRIDGES
12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
15D12-03	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.
15D14-02	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D16-02	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D20-02	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-02	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D22-02	TRAFFIC CONTROL, TWO LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D28-02	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE

**SEQUENCE DECAL**

(MOUNT ON LUMINAIRE)

**SIGN BRIDGE CIRCUIT PLAQUE****GENERAL NOTES**

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

WHERE SHOWN IN THE PLANS, REPLACEMENT PLAQUES WILL BE MEASURED AND PAID SEPARATELY.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS;
FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

LINES - BLACK, 1/2" WIDE, SELF-ADHESIVE

CHARACTERS - BLACK, SELF-ADHESIVE, SERIES "D", SIZE AS SHOWN

WITH THE APPROVAL OF THE ENGINEER, THE BASE MATERIAL MAY BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE SURFACE, IN CASES SUCH AS SMOOTH, CLEAN ALUMINUM STRUCTURES.

ALTERNATIVE COMPUTER-GENERATED SIGN LETTERING MAY BE ACCEPTED IF THE ENGINEER FINDS IT TO BE EQUIVALENT.

ALL SIGN BRIDGE STRUCTURES MUST ALSO HAVE STRUCTURE ID PLAQUES AS SHOWN IN THE STRUCTURE DETAILS.

CIRCUIT PLAQUES SHALL BE MOUNTED IN THE STEM WHICH HAS THE ELECTRICAL CIRCUIT, FACING TRAFFIC.

**CIRCUIT IDENTIFICATION PLAQUES
SIGN BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

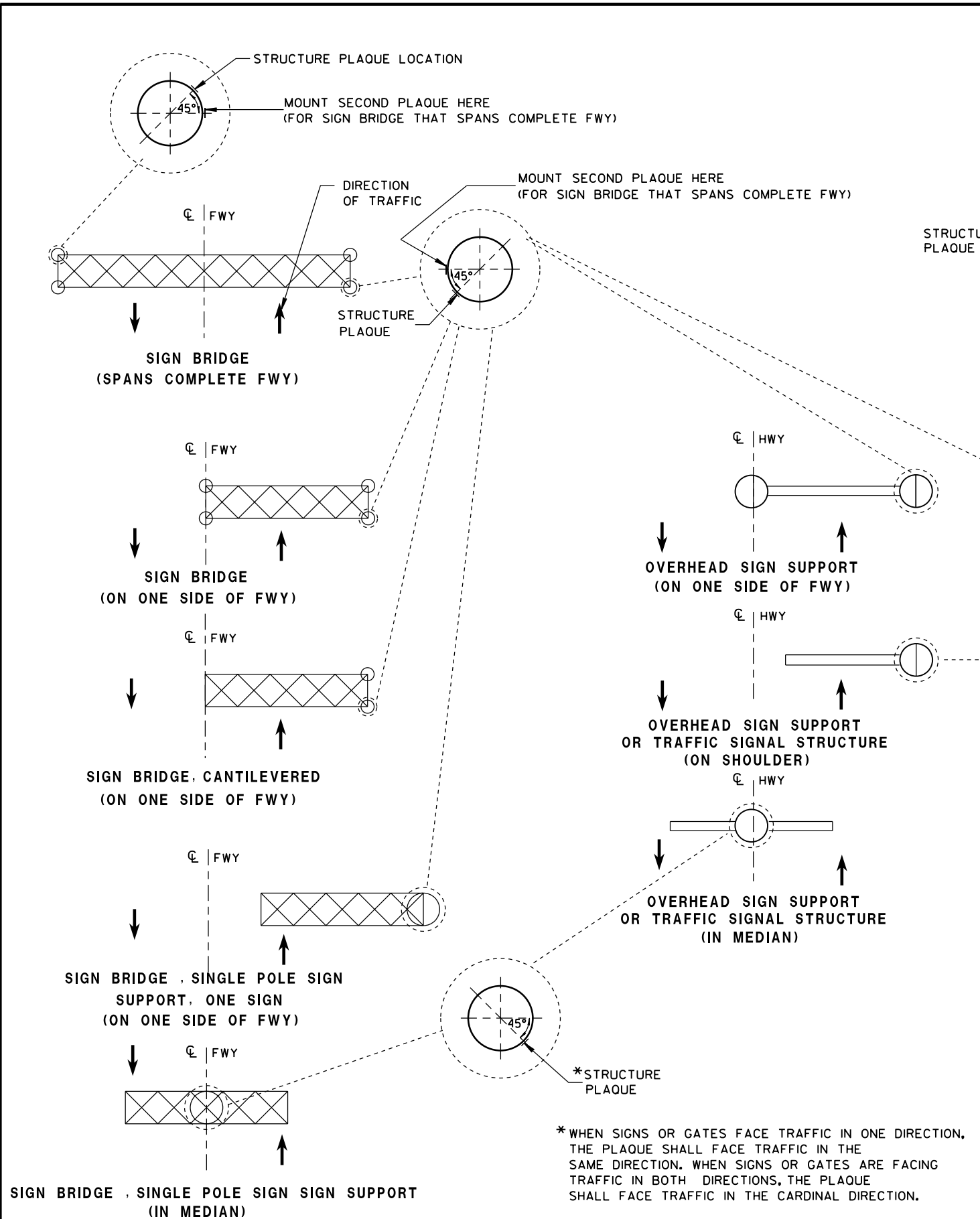
10/25/2010

DATE

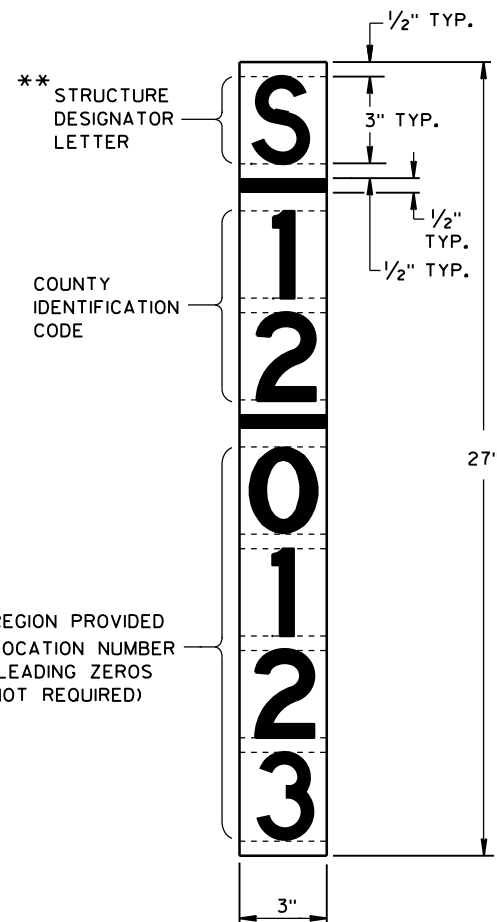
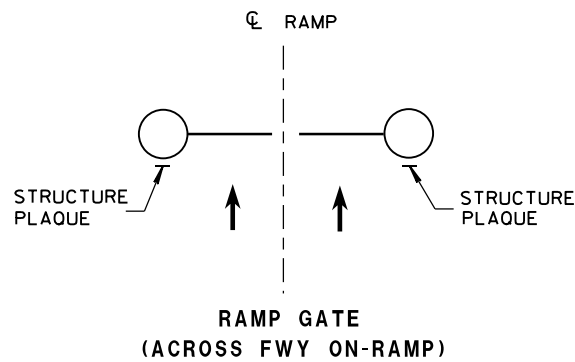
FHWA

/S/ John Corbin

STATE ELECTRICAL ENGINEER FOR HWYS



LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD
SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES



RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL
STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN
SUPPORT WHICH ARE NOT STRUCTURE MOUNTED

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

IF THE PROPOSED SIGN BRIDGE OR OVERHEAD SIGN SUPPORT IS REPLACING AN EXISTING SIGN BRIDGE OR OVERHEAD SIGN SUPPORT, A NEW IDENTIFICATION PLAQUE WILL BE REQUIRED.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS;
FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

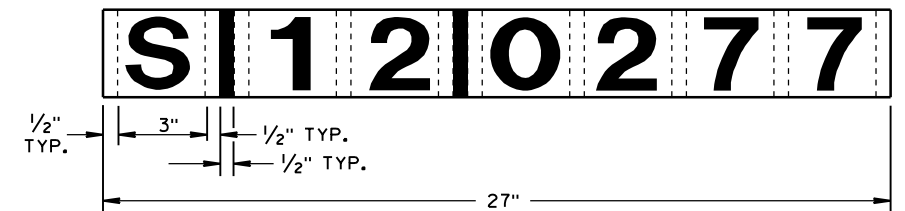
FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

LINES - BLACK, 1/2" WIDE, SELF-ADHESIVE

CHARACTERS:- BLACK, SELF ADHESIVE, SERIES "D", SIZE AS SHOWN.

FOR SIGN BRIDGES, STRUCTURE MOUNTED, THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY AS SHOWN ON THE DRAWING. THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY TO THE BACK OF THE SIGN, BETWEEN THE ALUMINUM EXTRUSIONS, NEAR THE TOP LEFT HAND CORNER OF THE SIGN. THE BASE MATERIAL SHALL BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE ALUMINUM SURFACE. PRIOR TO ADHERING THE MATERIAL, THE ALUMINUM SURFACE SHALL BE SMOOTH, CLEAN AND DRY.

WHERE SIGN BRIDGE ILLUMINATION IS PROVIDED, THE STRUCTURE MUST ALSO HAVE A SIGN BRIDGE CIRCUIT PLAQUE AS SHOWN IN THE ELECTRICAL DETAILS.



IDENTIFICATION PLAQUE FOR SIGN BRIDGE,
STRUCTURE MOUNTED

** LETTER "G" UTILIZED FOR RAMP GATES.
LETTER "S" UTILIZED FOR SIGN BRIDGES,
OVERHEAD SIGN SUPPORTS, AND TRAFFIC
SIGNALS.

STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, & TRAFFIC SIGNALS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 12/4/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

LEGEND

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

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 DESIREABLE) DISTANCE TO EXISTING SIGNS.

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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

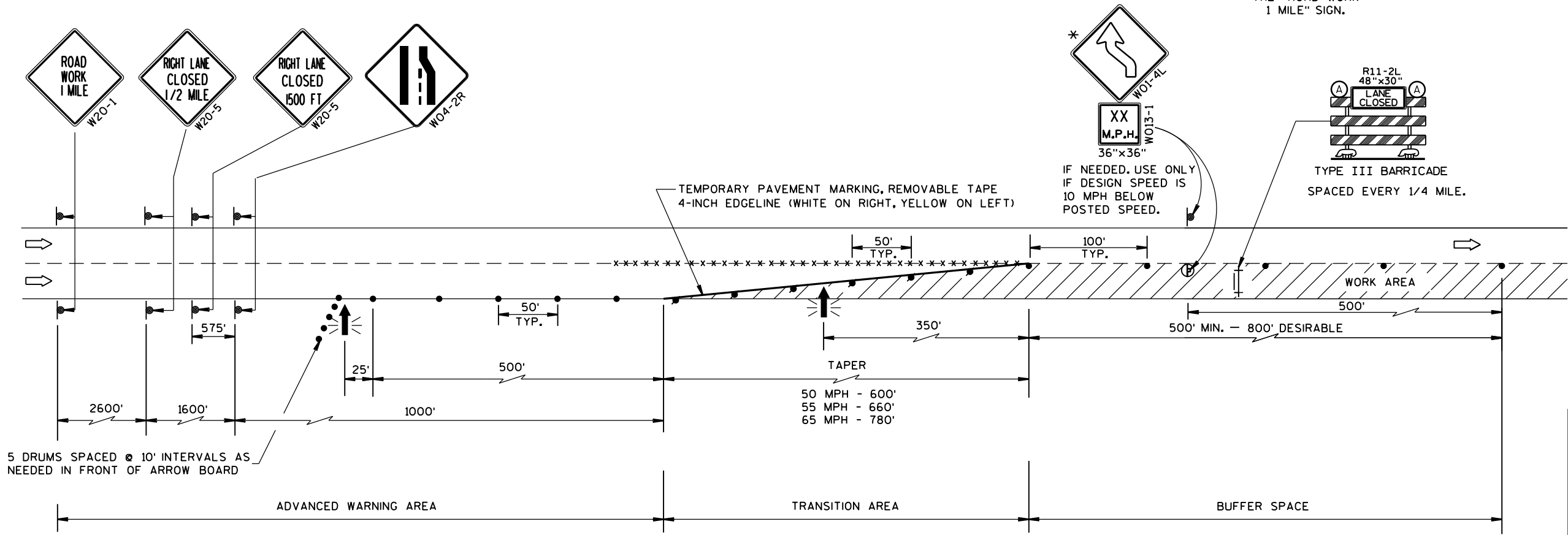
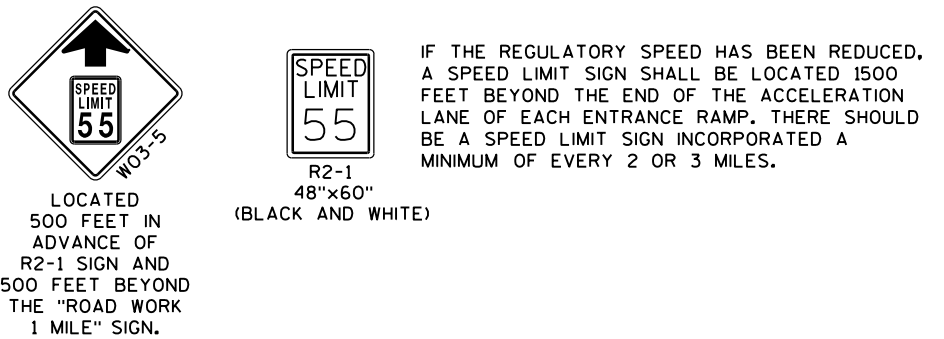
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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

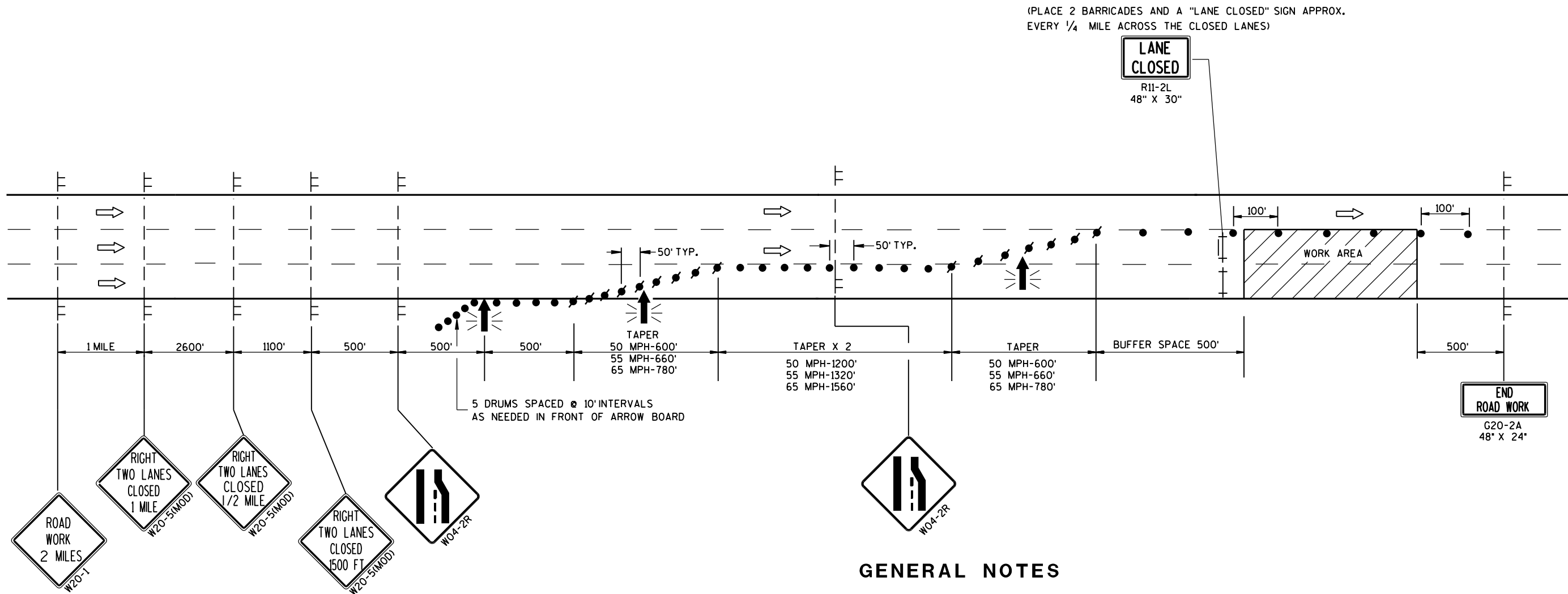
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

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

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

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

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

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

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

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

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

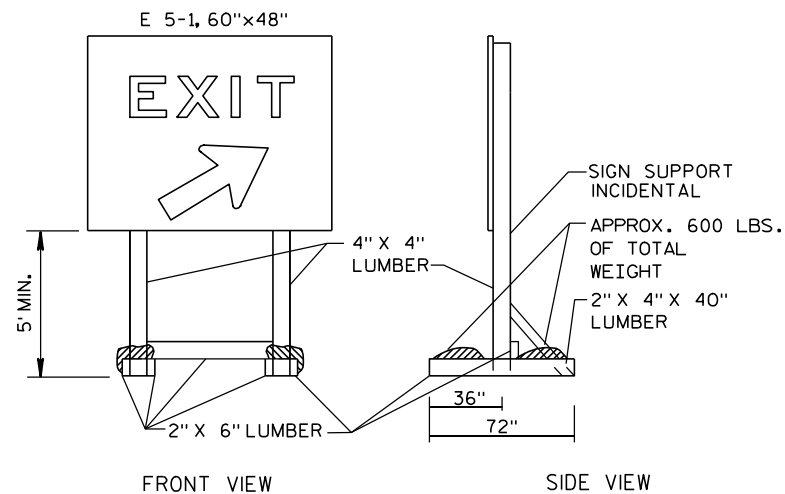
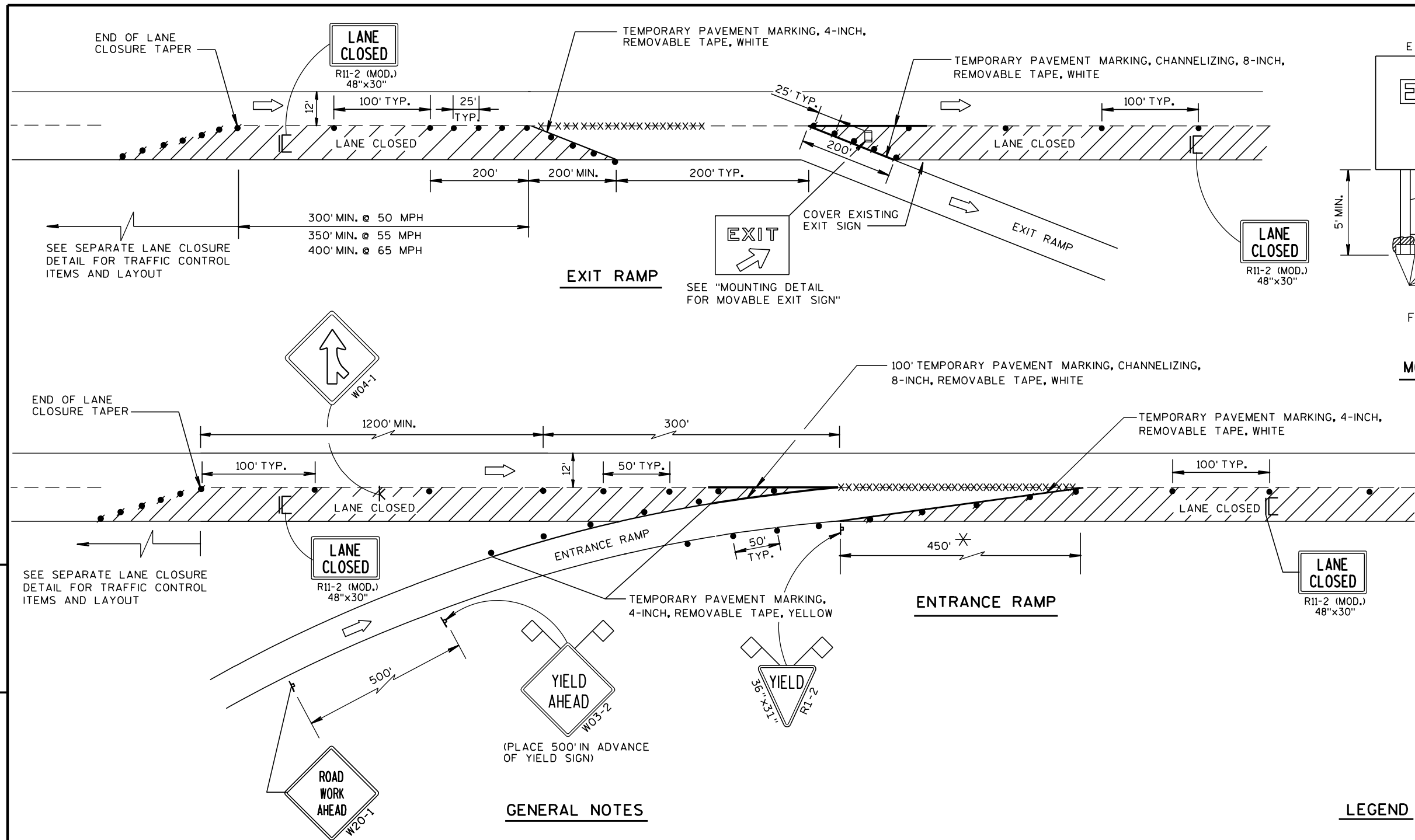
WHEN A RAMP OR SIDE ROAD INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

BARRICADES IN A CLOSED LANE 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.

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.

TRAFFIC CONTROL. TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY. SHORT TERM (LESS THAN 24 HOURS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



NOTE: ALL LUMBER DIMENSIONS ARE NOMINAL

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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

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

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









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

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

✕ LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING
OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

GENERAL NOTES

LEGEND







- | | |
|---|--|
|  | POST MOUNTED SIGN |
|  | SIGN ON PORTABLE SUPPORT |
|  | TRAFFIC CONTROL, DRUM |
|  | TRAFFIC CONTROL, DRUM WITH
WARNING LIGHT, TYPE C
(STEADY-BURN) |
|  | REMOVING PAVEMENT MARKING
(SEE GENERAL NOTES) |
|  | TYPE III BARRICADE (8' EQUIVALENT)
WITH SIGN |
|  | FLAGS, 16"x16" MIN., ORANGE |
|  | DIRECTION OF TRAFFIC FLOW |

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/24/2000 /S/ Chester J. Spang
DATE CHIEF SIGNS AND MARKING ENGINEER
FHWA

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

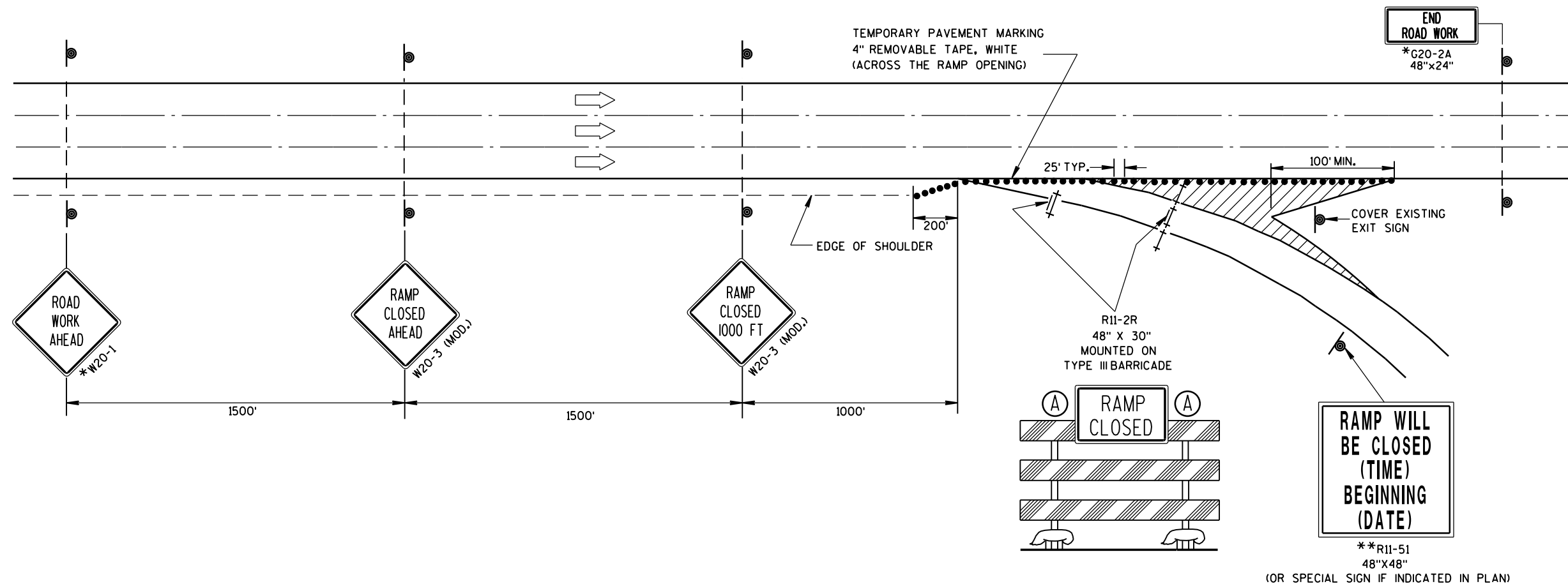
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

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

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

** PLACE "RAMP WILL BE CLOSED" SIGN 10 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



TRAFFIC CONTROL,
EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

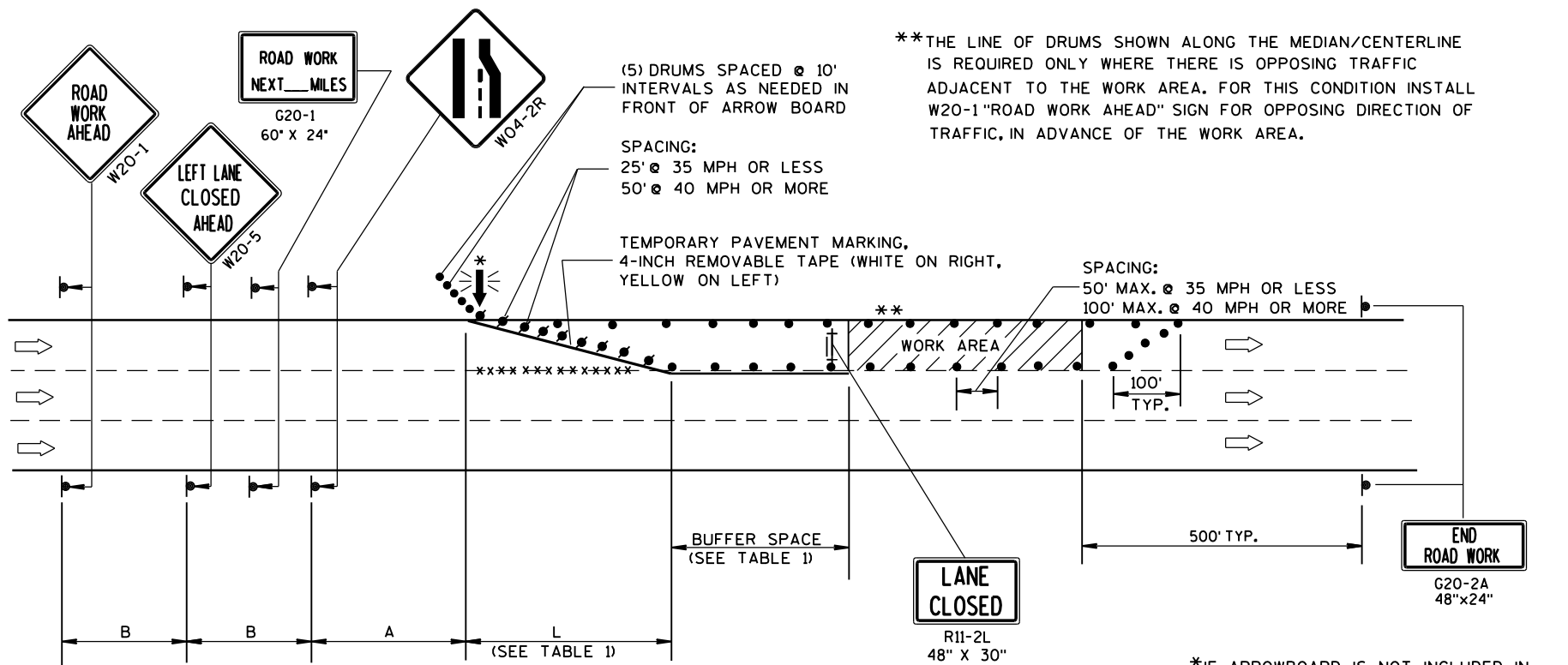
8/2013

DATE

FHWA

/S/ Travis Feltes

STATE TRAFFIC ENGINEER OF DESIGN



GENERAL NOTES

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

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

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

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

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1, 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.

OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

BARRICADES IN A CLOSED LANE 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.

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

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

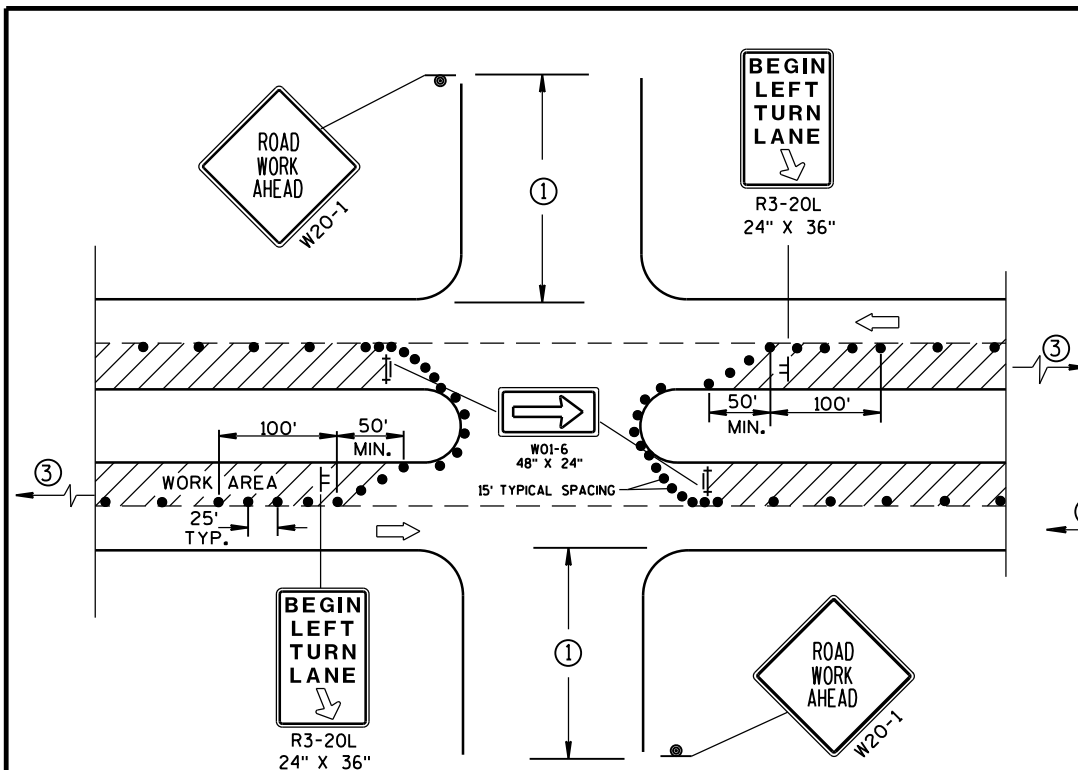
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

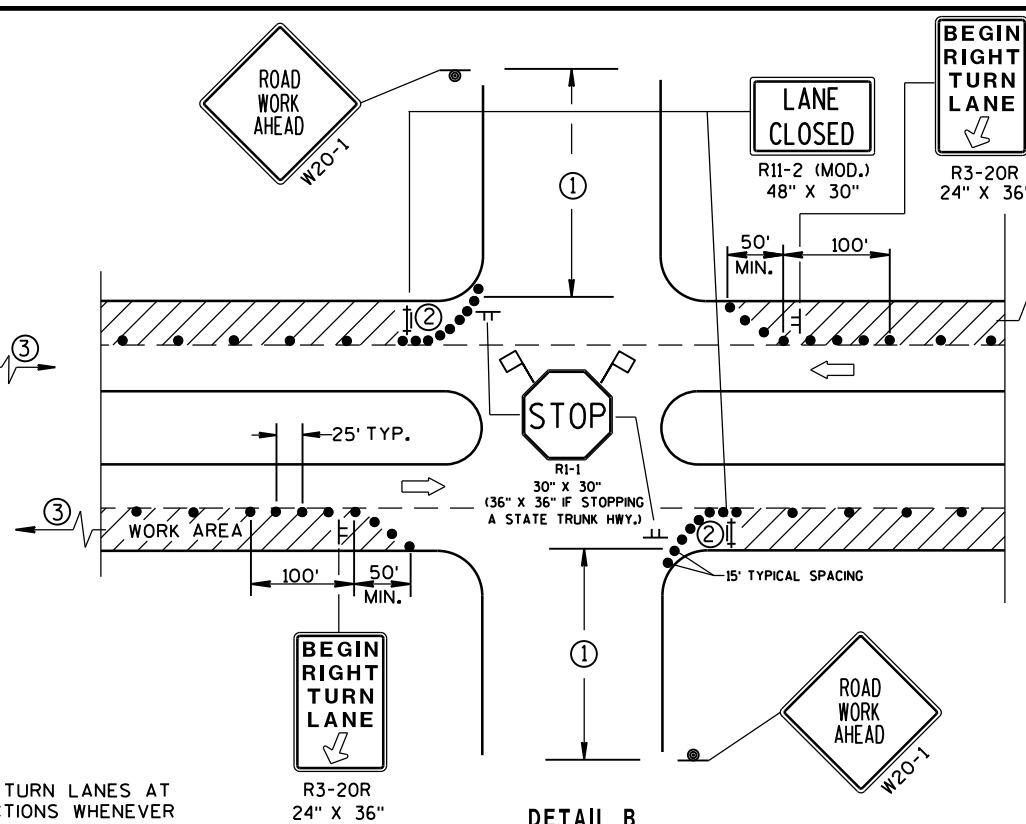
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



DETAIL A
FOR LEFT LANE CLOSURE AT
INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



DETAIL B
FOR RIGHT LANE CLOSURE
AT INTERSECTION

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 SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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

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

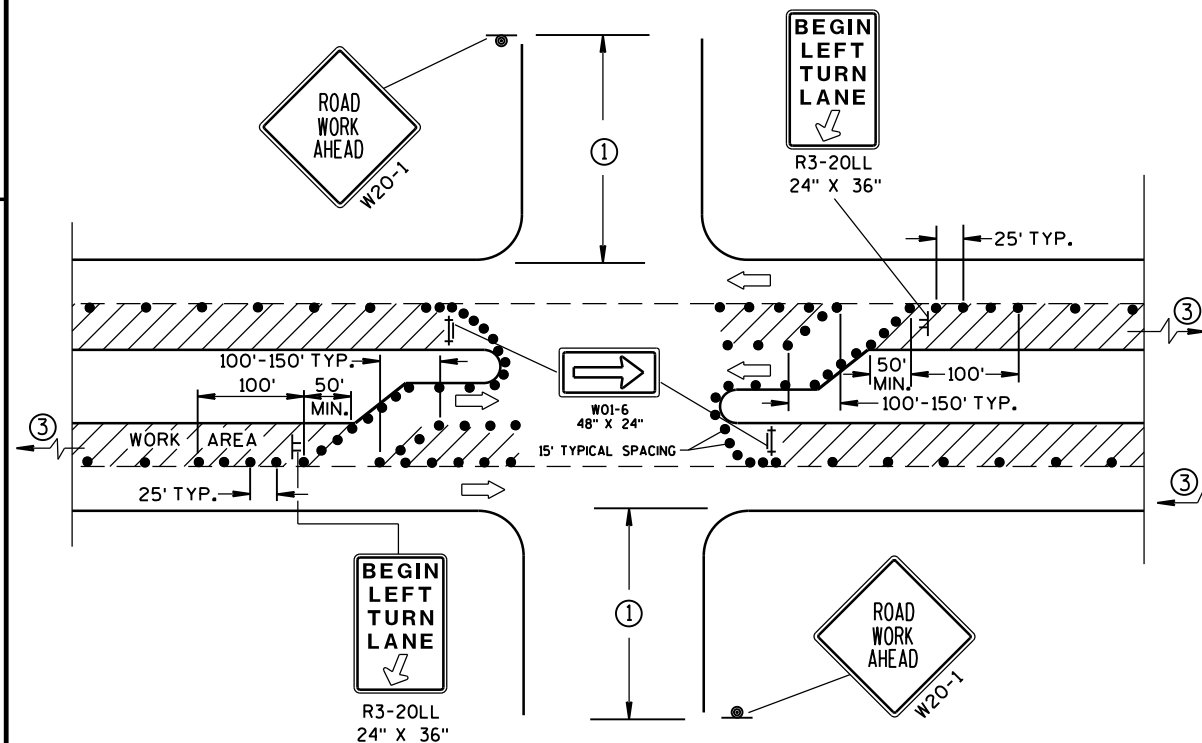
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE 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.

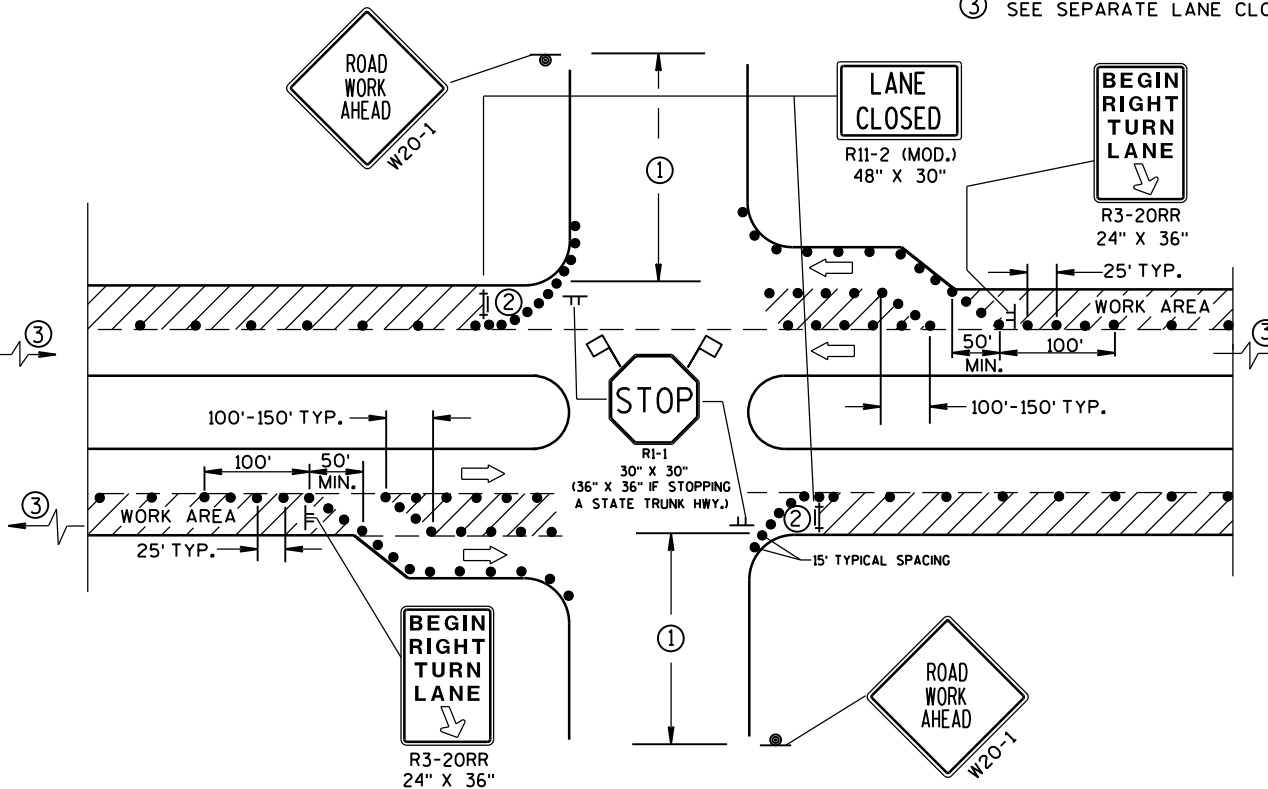
- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.
- ② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

LEGEND

- TRAFFIC CONTROL DRUM
- ⊙ SIGN ON PERMANENT SUPPORT
- ⊢ SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- ⊢ TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- ➡ DIRECTION OF TRAFFIC
- ⚑ FLAGS, 16" X 16" MIN., (ORANGE)
- ▨ WORK AREA



DETAIL C
FOR LEFT LANE CLOSURE AT INTERSECTION OR
MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D
FOR RIGHT LANE CLOSURE AT INTERSECTION
(WITH RIGHT TURN BAY OPEN)

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

s	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

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

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

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

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

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

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

W20-1, 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.

OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

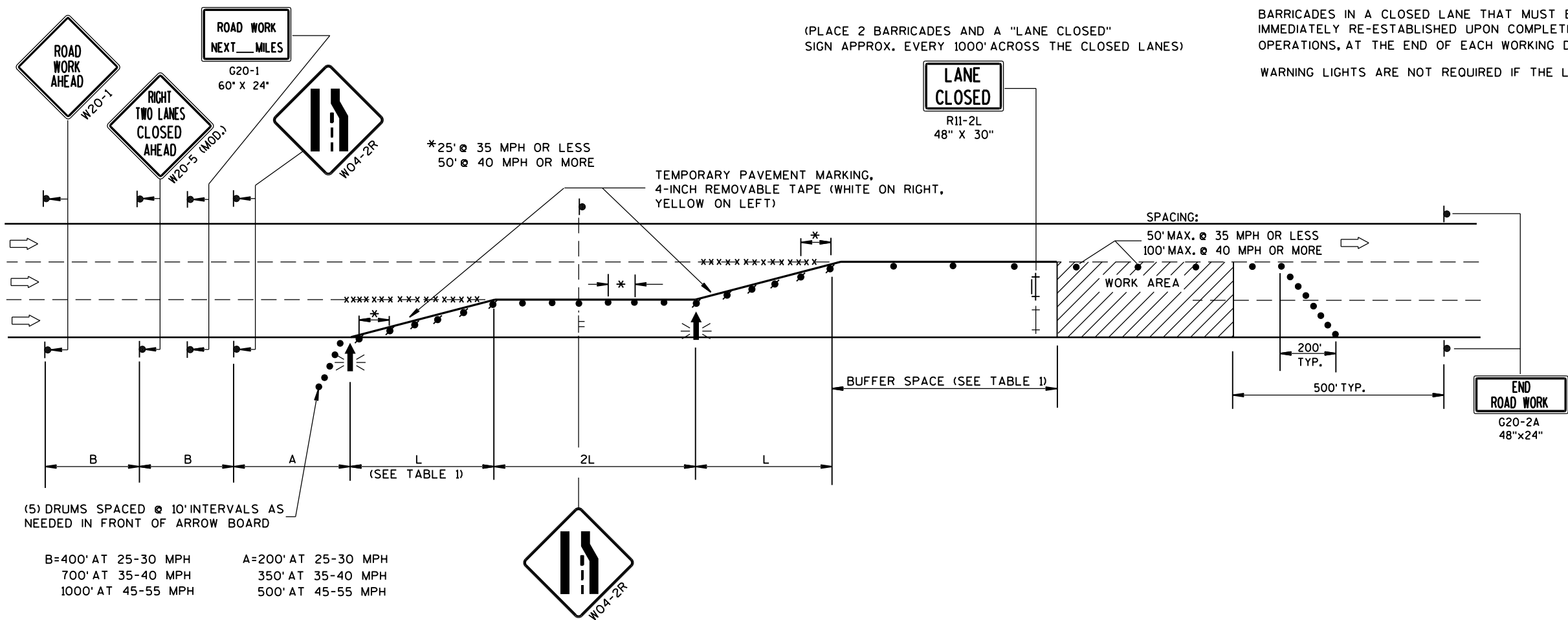
CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO LOCATE THE ARROWBOARD AS SHOWN, PLACE THE ARROWBOARD IN THE LANE CLOSURE TAPER AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE TAPER.

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

BARRICADES IN A CLOSED LANE 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.

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



TRAFFIC CONTROL,
TWO LANE CLOSURE,
NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

LEGEND

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

GENERAL NOTES

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

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

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

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

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

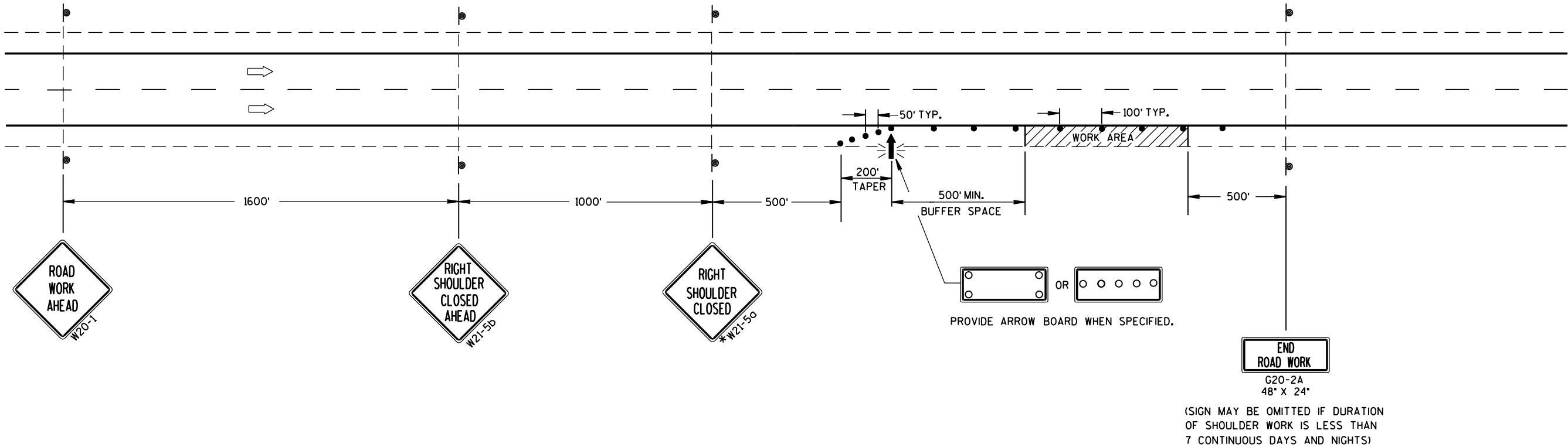
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

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



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltz
DATE STATE TRAFFIC ENGINEER OF DESIGN
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.

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

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

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

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

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

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

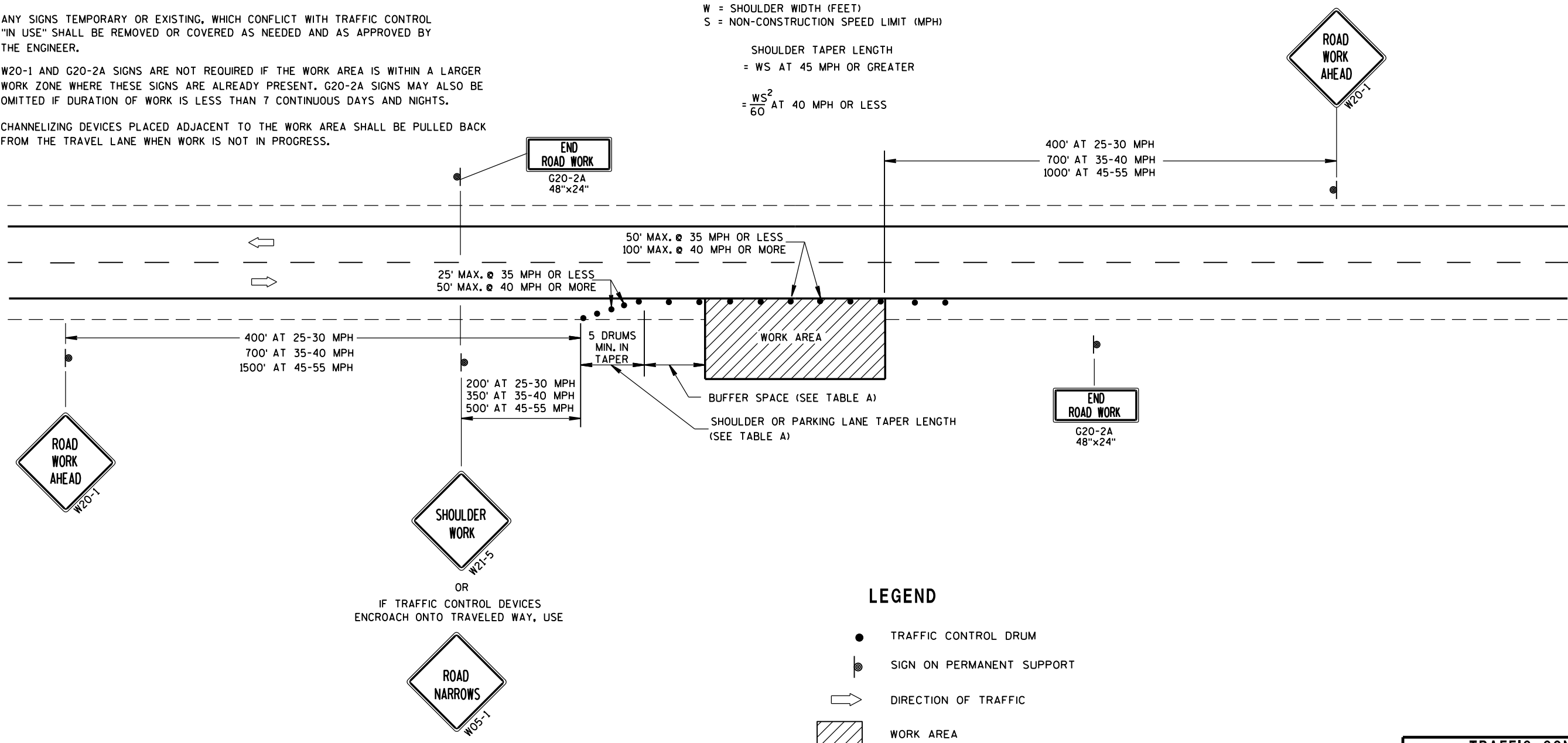
TABLE A

SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S \ W	4	6	8	10	
30	20	30	40	50	85
35	30	45	55	70	120
40	40	55	75	90	170
45	60	90	120	150	220
50	70	100	135	170	280
55	75	110	150	185	335

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

SHOULDER TAPER LENGTH
= WS AT 45 MPH OR GREATER

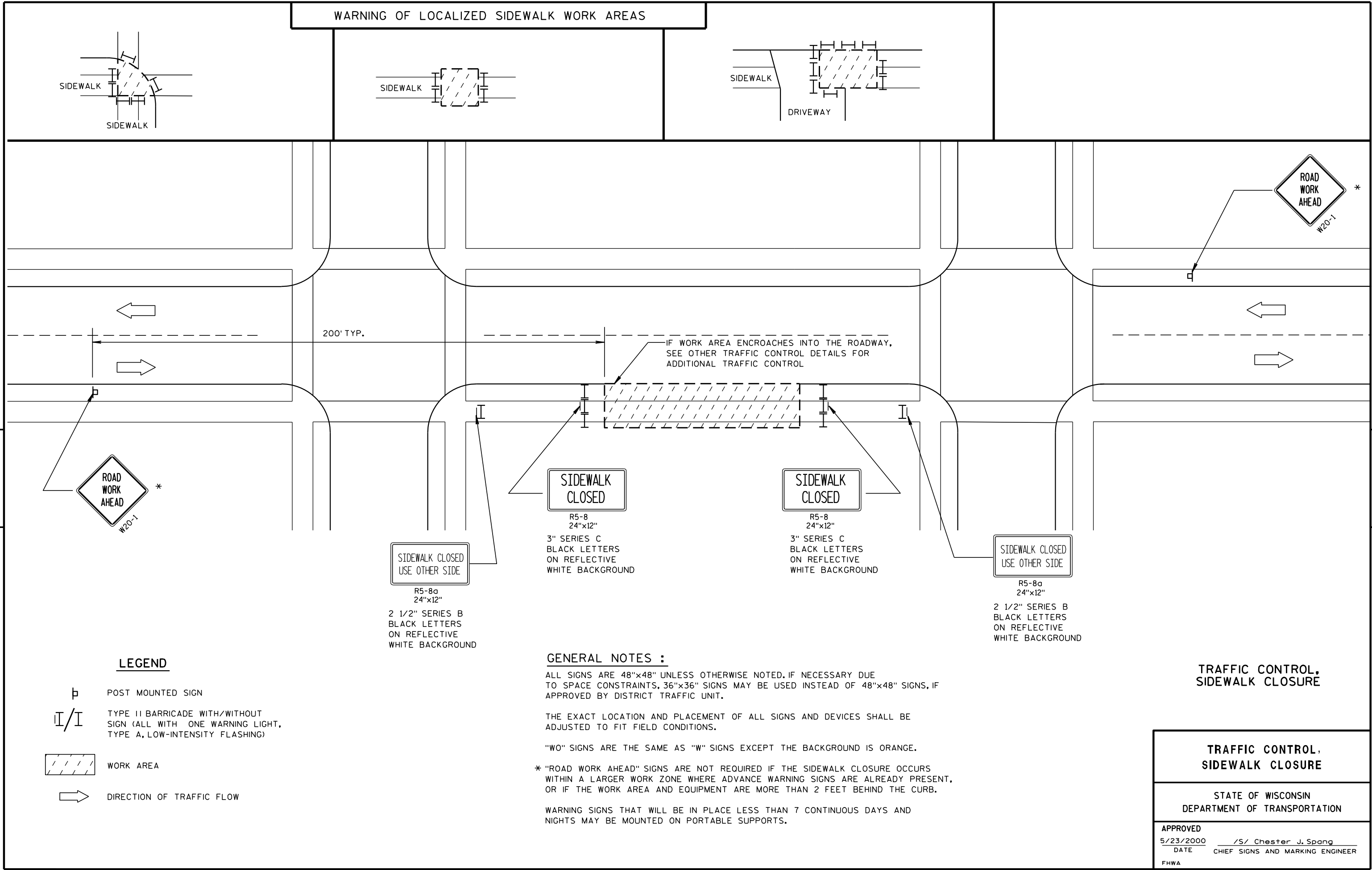
= $\frac{WS^2}{60}$ AT 40 MPH OR LESS



LEGEND

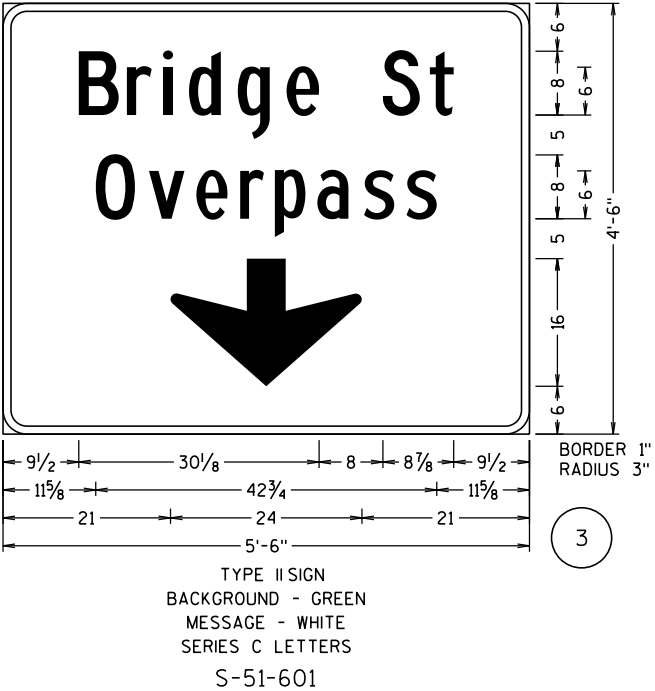
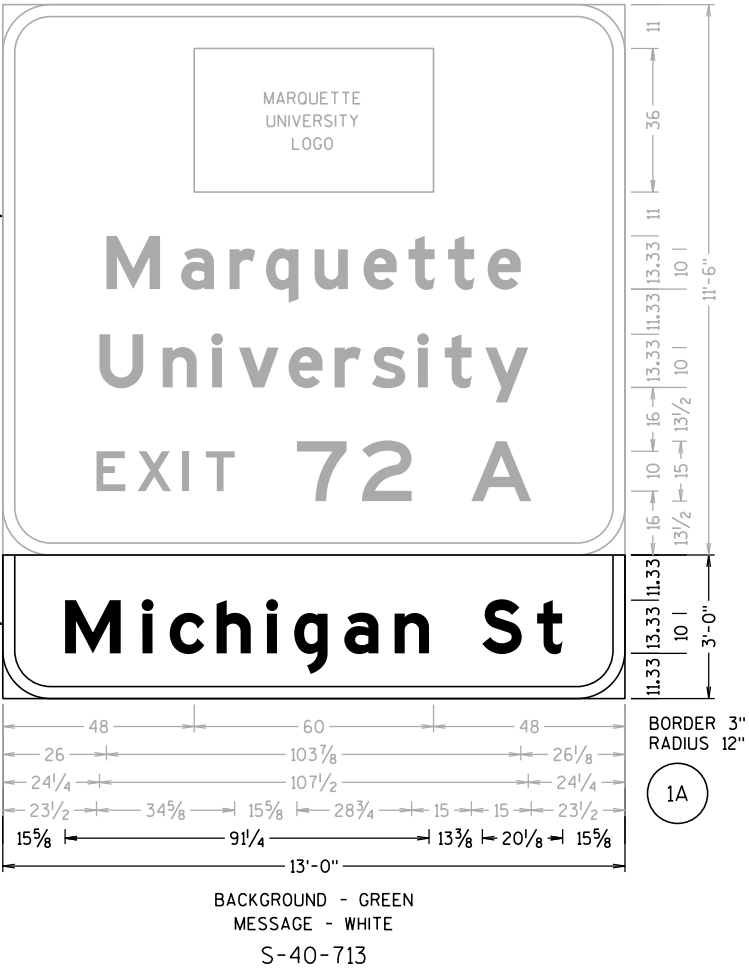
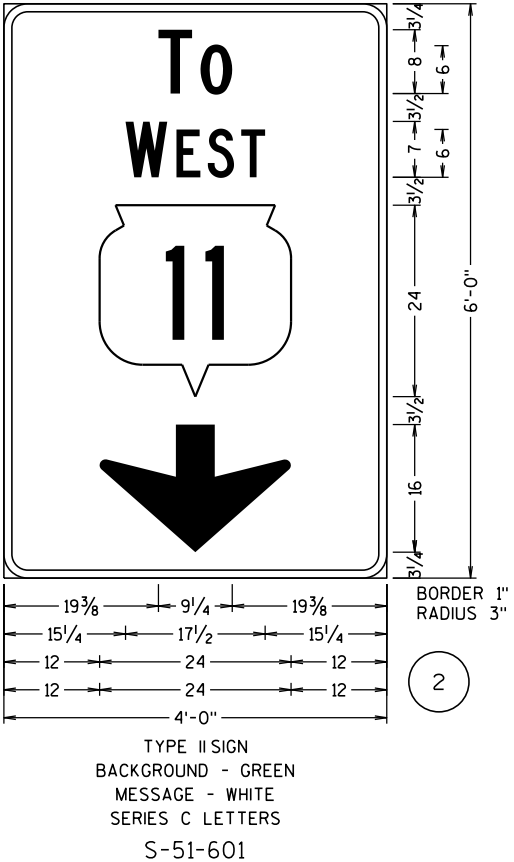
- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

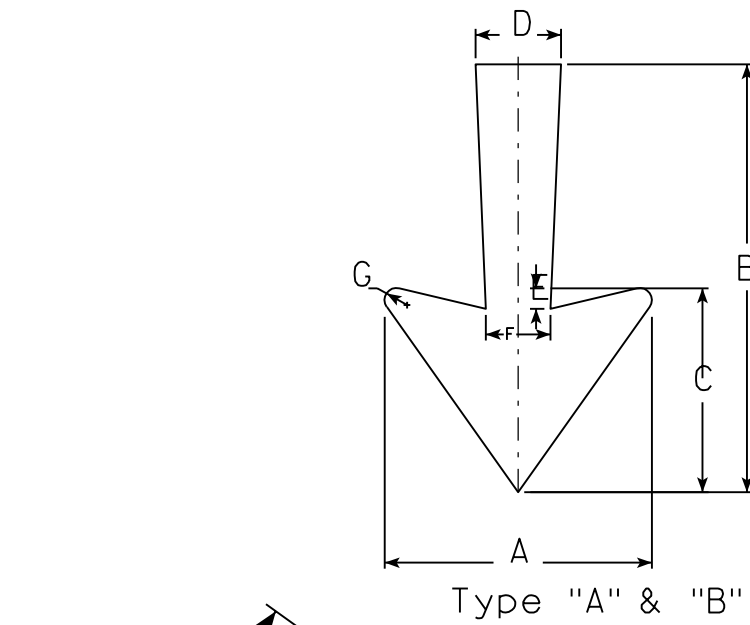
TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



GENERAL NOTES:

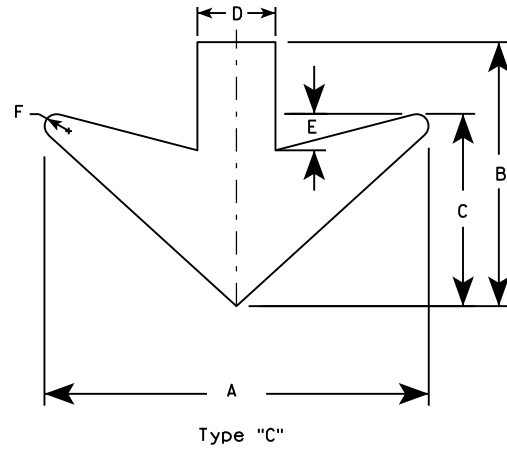
1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.
2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE 1".
3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE TYPE SH REFLECTIVE SHEETING.
4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.
5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E". ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E".
6. TYPE I SIGNS - ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE SERIES "E" MODIFIED. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE SERIES "E" MODIFIED. ALL CAP WORDS ARE "SERIES E".
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.
8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10
11. DO NOT SCALE.



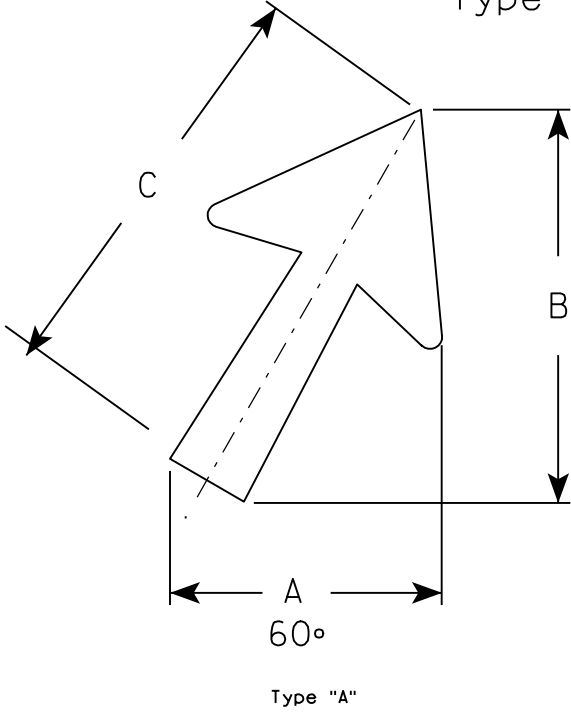


Type "A"							
Copy Size	A	B	C	D	E	F	G
13.33 u.c. 10", 12" Caps	18 1/4	29 1/4	14	6	1 1/2	4 1/2	3/4
16" U. C.	22 1/4	35 5/8	17	7 1/8	1 3/4	5 3/8	1

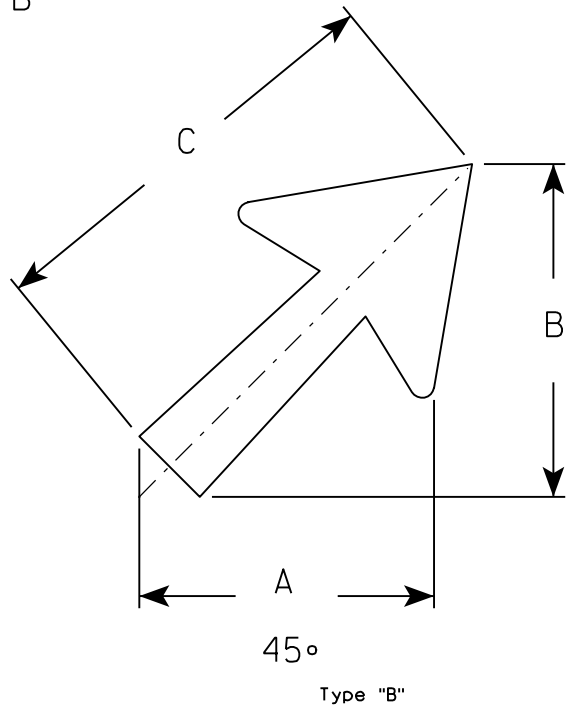
Type "B"							
Copy Size	A	B	C	D	E	F	G
10" Caps	14 1/4	17 1/4	9 7/8	4 1/2	1 3/8	3 3/8	3/4
13.33 u.c. 12" Caps	17 1/2	20 1/4	11 3/4	5 5/8	1 1/2	4 3/8	7/8
16" U. C.	21 7/8	25	14 1/4	6 3/4	1 3/4	5	1



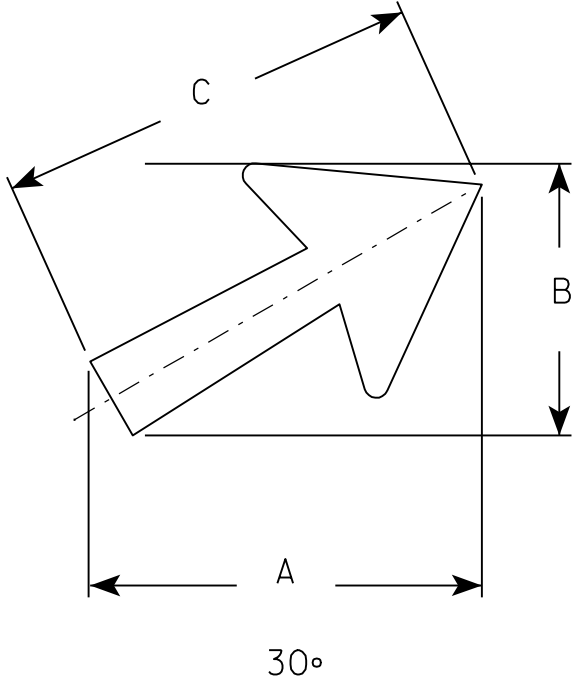
Type "C"						
Copy Size	A	B	C	D	E	F
Overhead	32	22	16	6 1/2	3	1
Minimum	24	16	12 1/4	5	1 5/8	3/4



Angle	Arrow Size	A	B	C
60°	10.67" - 13" U.C. 10"- 12" Caps	18 1/2	27	29 1/4
	15" Caps - 16" U.C.	22 5/8	32 3/4	35 5/8
45°	10.67" - 13" U.C. 10"- 12" Caps	23	23	29 1/4
	15" Caps - 16" U.C.	28	28	35 5/8
30°	10.67" - 13" U.C. 10"- 12" Caps	27	18 1/2	29 1/4
	15" Caps - 16" U.C.	32 3/4	22 5/8	35 5/8



Angle	Arrow Size	A	B	C
60°	8" - 10" Caps, 10.67 U.C.	12 1/2	16 1/8	17 1/4
	12" Caps - 13" U.C.	15 1/2	19	20 1/4
	15" Caps - 16" U.C.	19 1/8	23 1/2	25
45°	8" - 10" Caps, 10.67 U.C.	14	14	17 1/4
	12" Caps - 13" U.C.	16 5/8	16 5/8	20 1/4
	15" Caps - 16" U.C.	20 3/8	20 3/8	25
30°	8" - 10" Caps, 10.67 U.C.	16 1/8	12 1/2	17 1/4
	12" Caps - 13" U.C.	19	15 1/2	20 1/4
	15" Caps - 16" U.C.	23 1/2	19 1/8	25

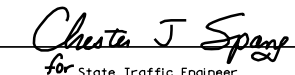


NOTES

- 1. Arrows to be of same material as other message units on each sign.
- 2. Taper should be held constant for longer or shorter shaft lengths on Type "A" & "B" arrows.

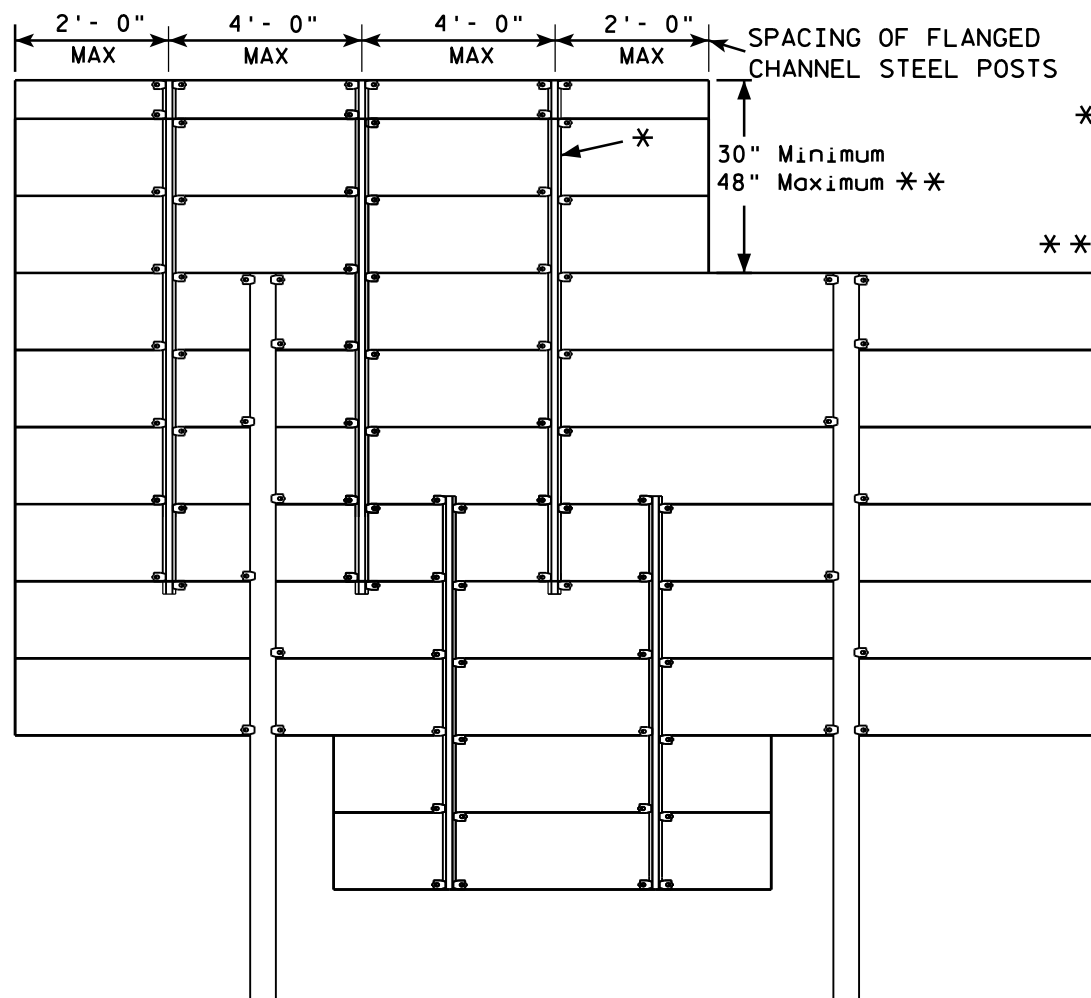
STANDARD ARROWS
FOR LARGE GUIDE SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED 
for State Traffic Engineer

DATE 10/8/82 PLATE NO. A1-1.4

GROUND MOUNTED SIGN

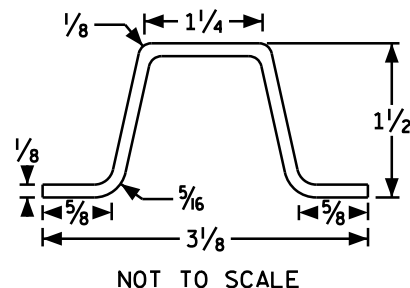


* = 2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

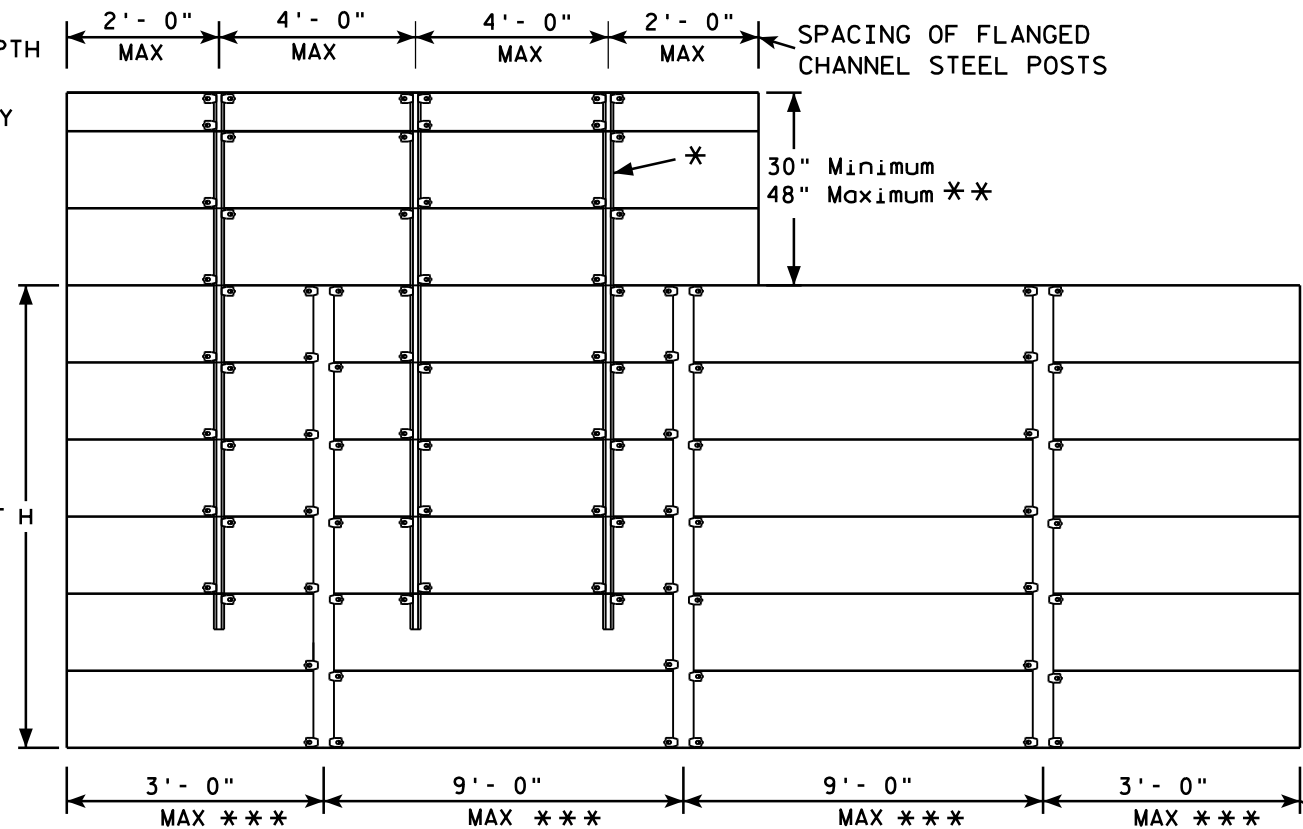
** = FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

*** THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 16 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 16 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAIL



SIGN BRIDGE MOUNTED SIGN



SPACING OF ALUMINUM SIGN SUPPORTS 5" X 3.5" X 3.7 LBS./ft.

GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:
PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
PANEL LENGTH 9'-0" - 12'-0" = 3 CHANNELS
PANEL LENGTH 13'-0" OR MORE = 4 CHANNELS
If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.

3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/05/13 PLATE NO. A4-6.12

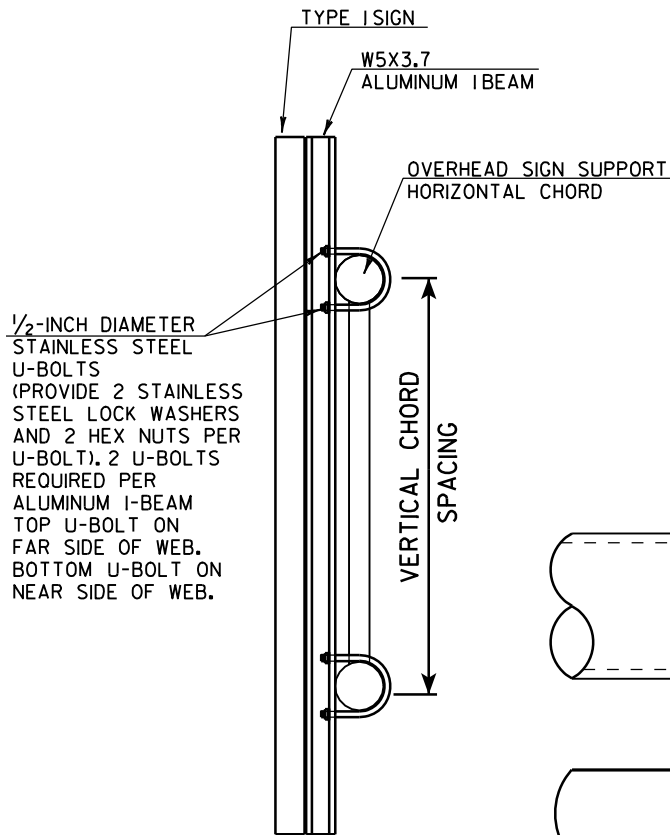
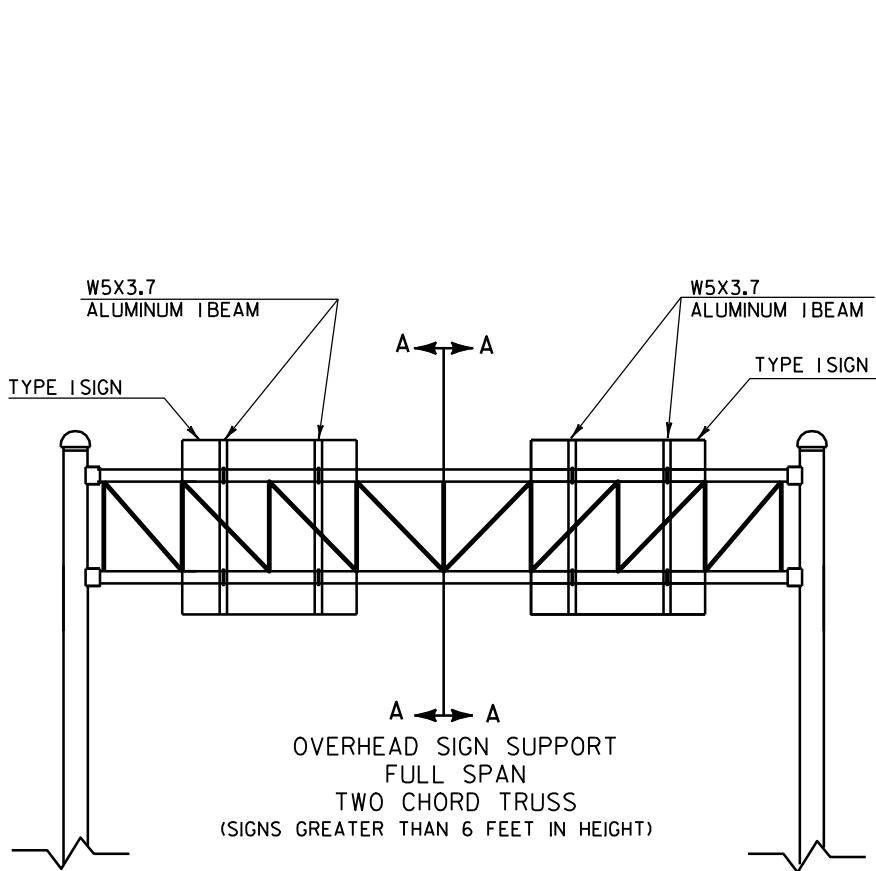
PROJECT NO:

SHEET NO:

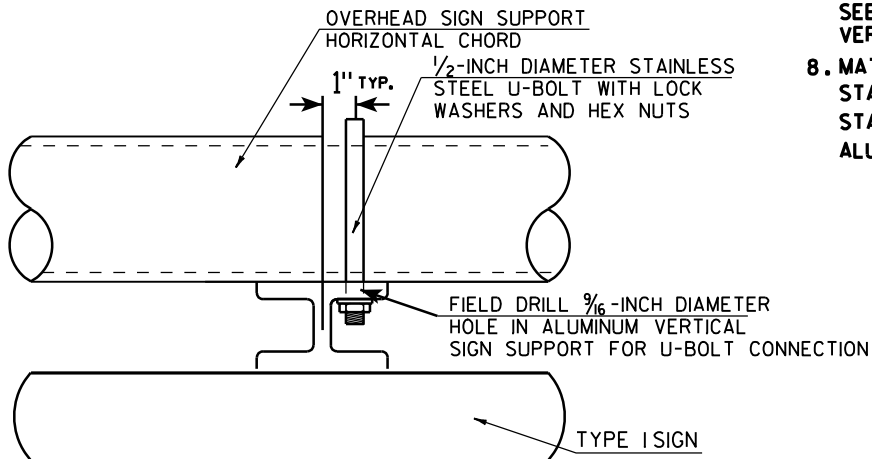
E

GENERAL NOTES

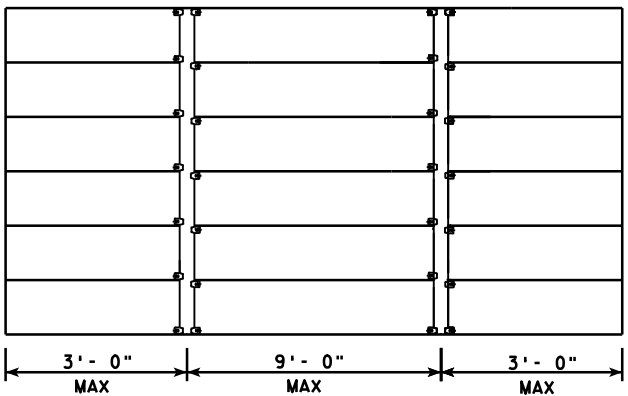
1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE CLIPS ON EVERY EXTRUDED PANEL JOINT PER SIGN PLATE A4-6.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
7. MINIMUM NUMBER OF BRACKETS PER SIGN IS TWO. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
8. MATERIAL NOTES:
STAINLESS STEEL U-BOLTS AND LOCKWASHERS ASTM 304.
STAINLESS STEEL HEX NUTS ASTM A276.
ALUMINUM I-BEAMS ARE 6061-T6.



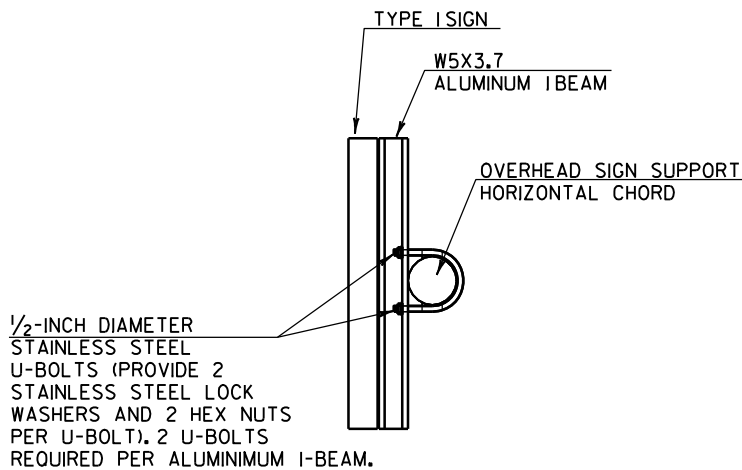
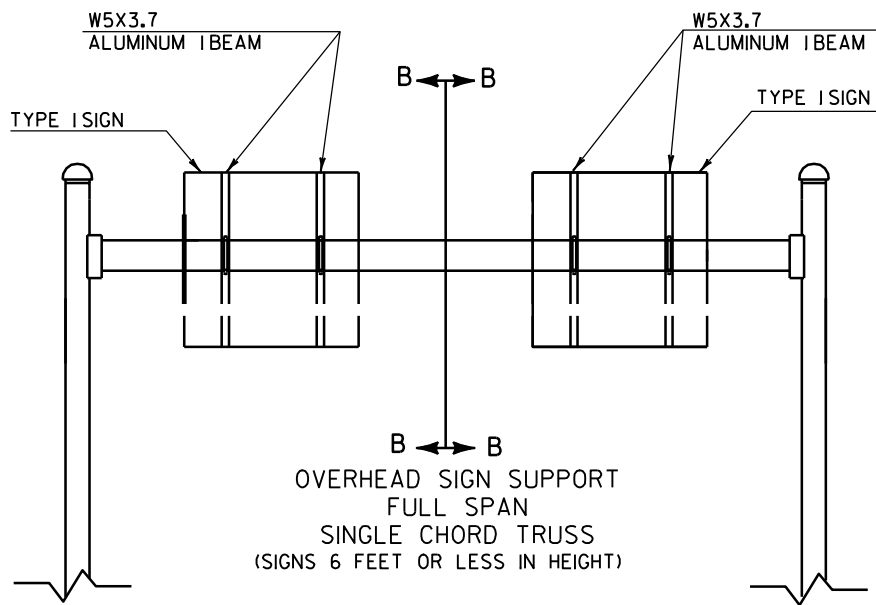
CUT SECTION A-A



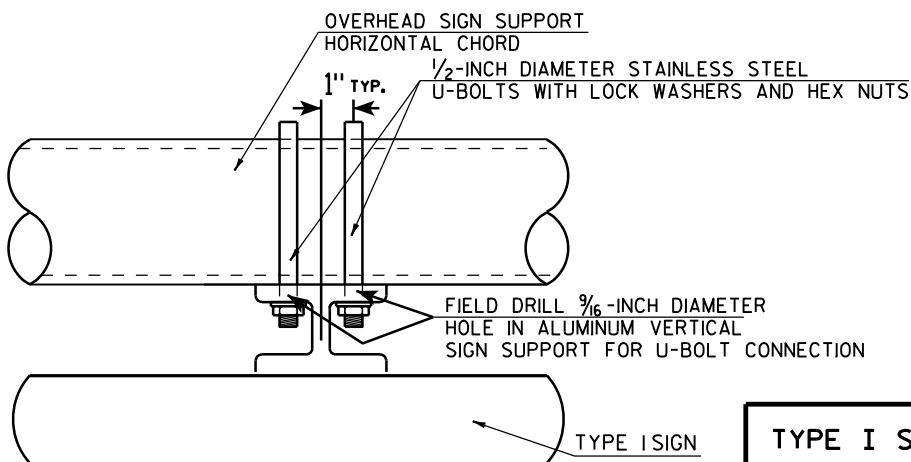
TYPICAL SIGN CONNECTION FOR TWO CHORD TRUSS
PLAN VIEW



SPACING OF W5X3.7 ALUMINUM
VERTICAL SIGN SUPPORT



CUT SECTION B-B



TYPICAL SIGN CONNECTION FOR SINGLE CHORD TRUSS
PLAN VIEW

TYPE I SIGN CONNECTION
TO OVERHEAD SIGN SUPPORT

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/12/12 PLATE NO. A4-7.3

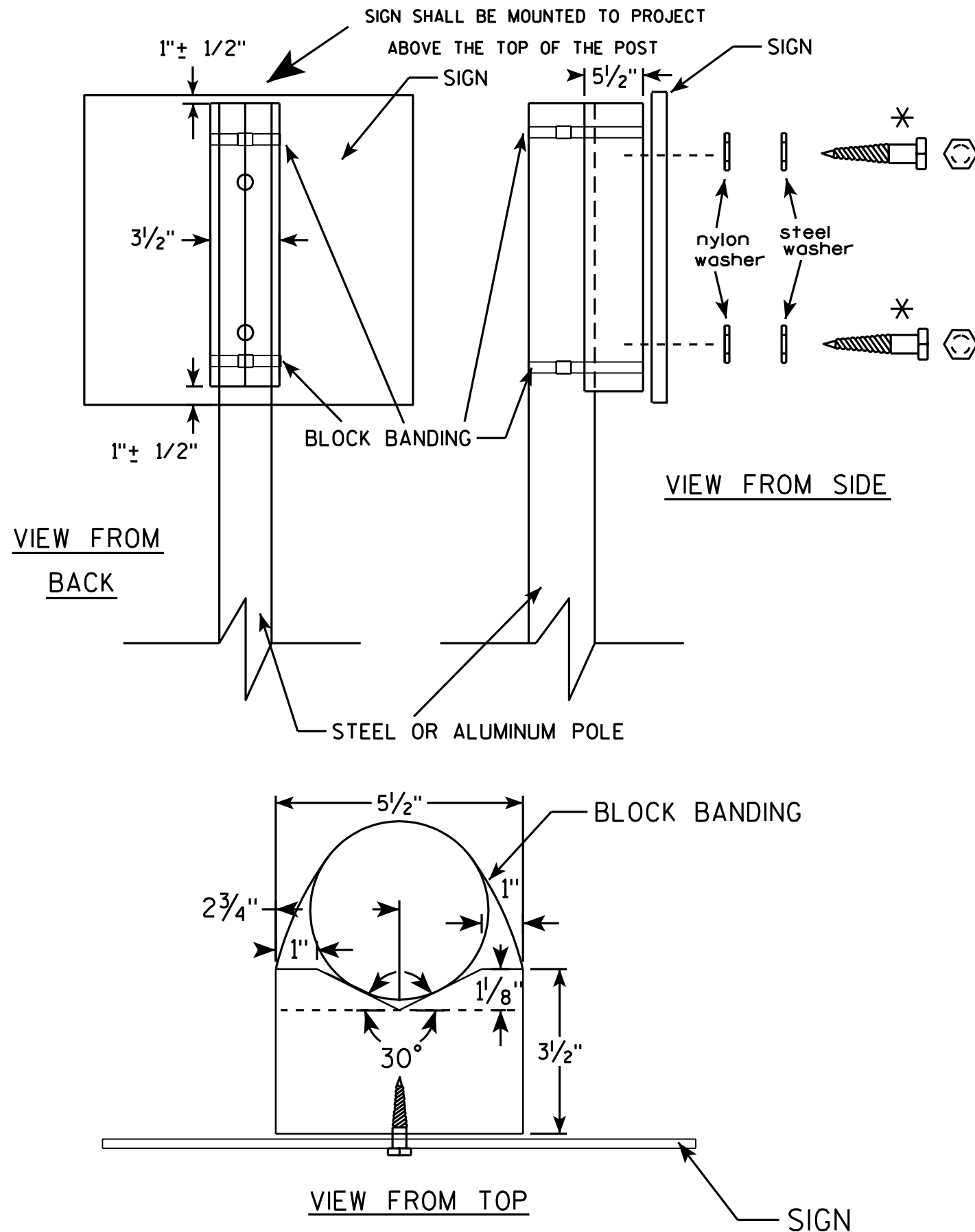
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



GENERAL NOTES

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

✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

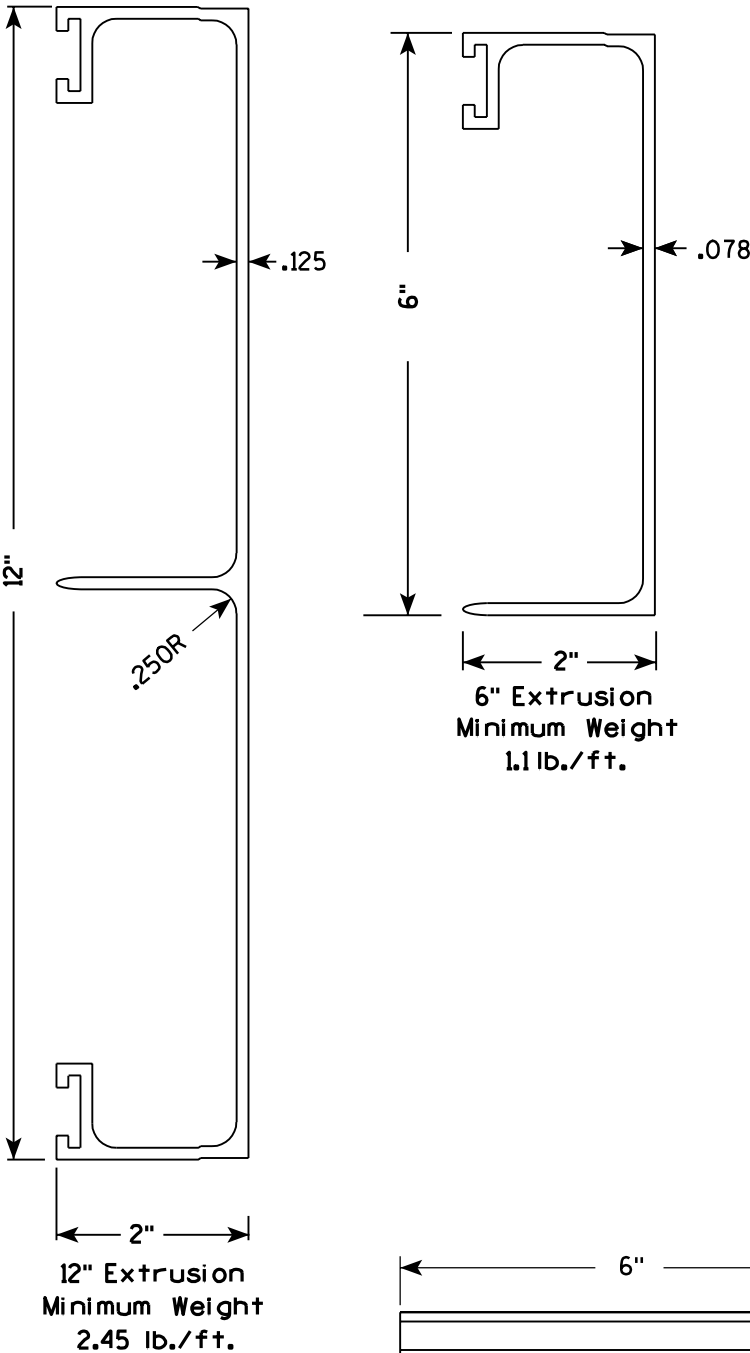
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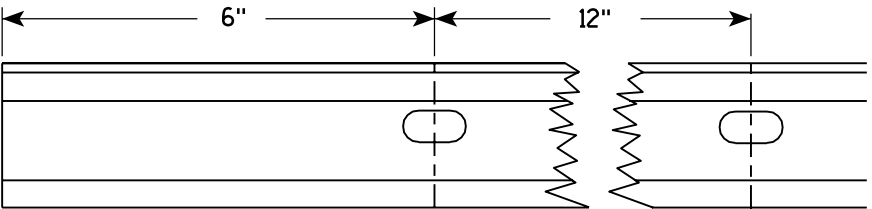
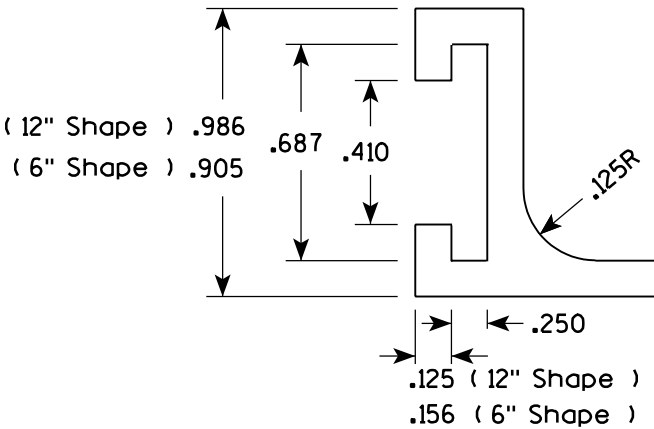
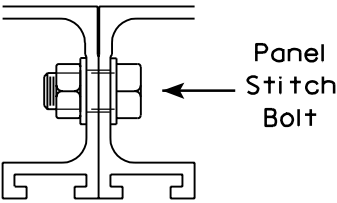
Extruded Shape

Hardware

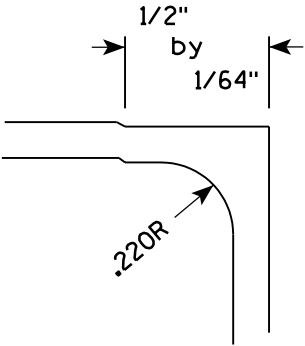


STITCH BOLT, WASHER & NUT

The hardware includes:
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy

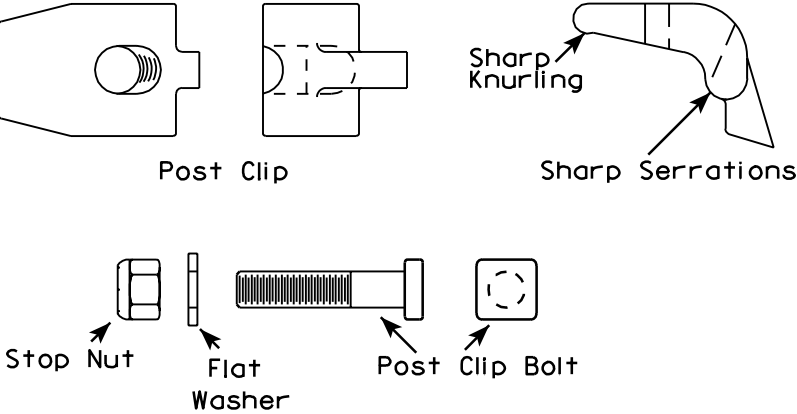


Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.



POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.



NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.

ALUMINUM EXTRUSIONS FOR
TYPE I SIGNS

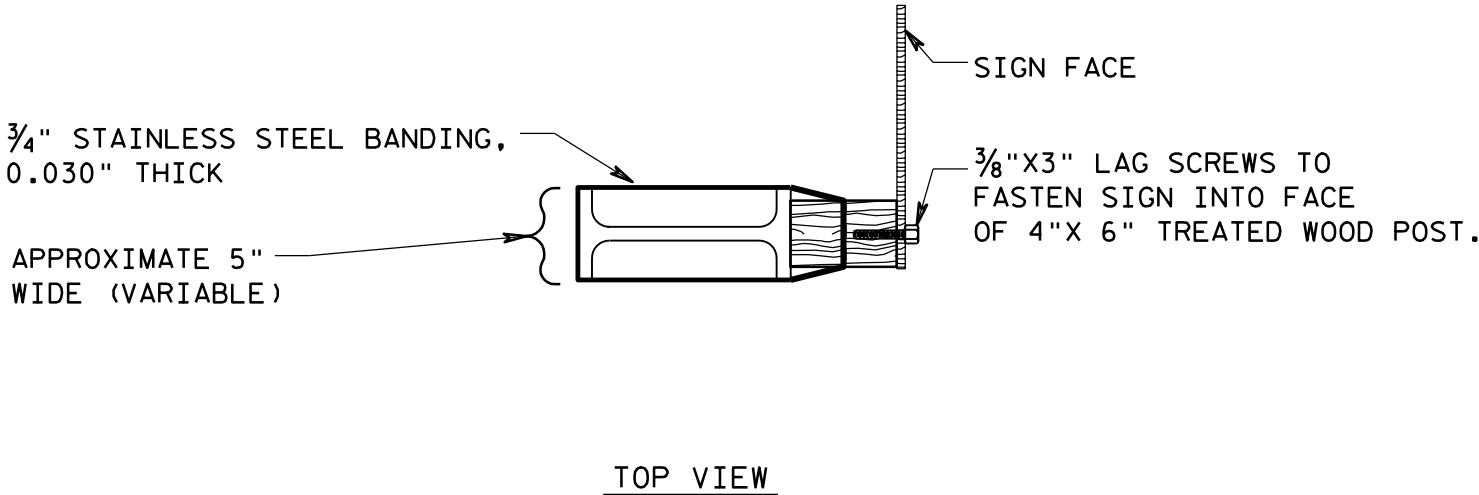
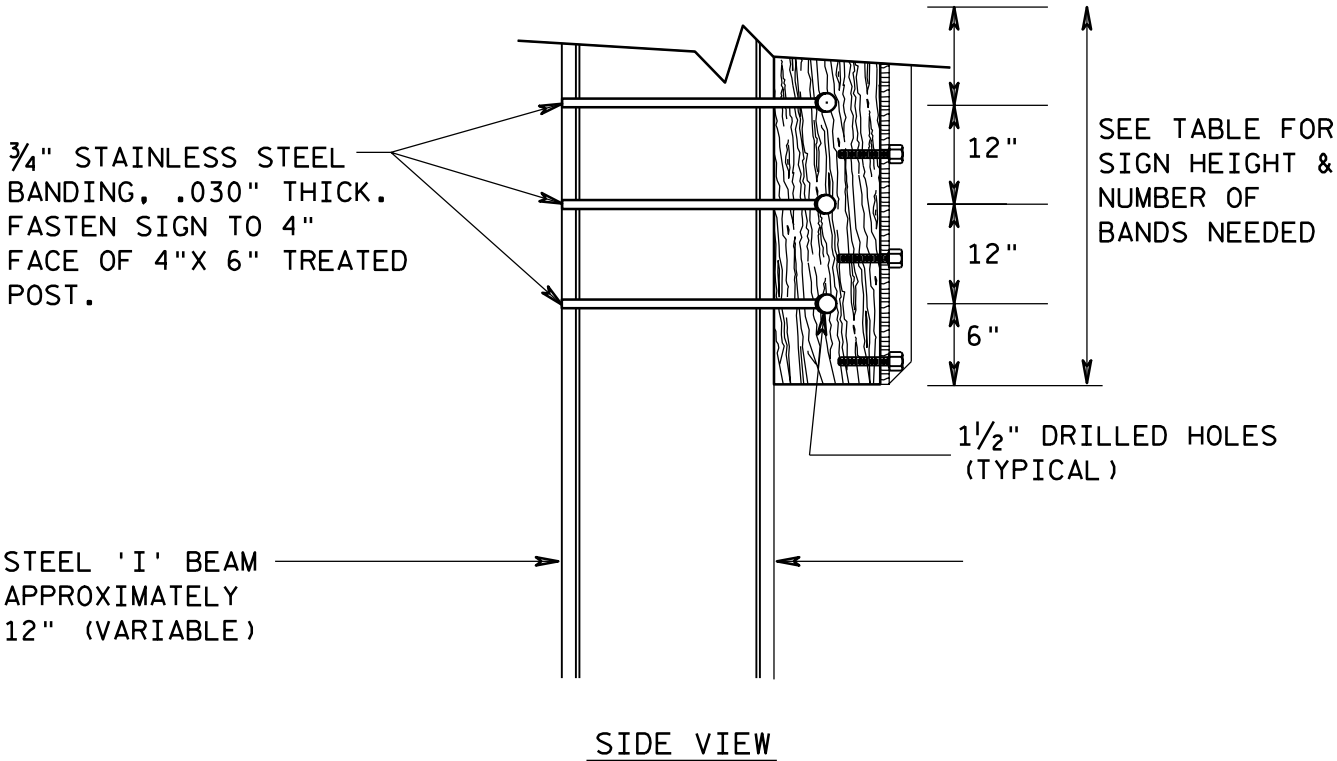
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Chester J. Spang*
for State Traffic Engineer
DATE 11/18/99 PLATE NO. A5-2.9

TYPE II SIGN MOUNTING ON STEEL I BEAMS

SIGN HEIGHT	NUMBER OF BANDS
24 "	2
30 "	2
36 "	3
42 "	3
48 "	4
54 "	4

SIGN HEIGHT	NUMBER OF BANDS
60 "	5
66 "	5
72 "	6
78 "	6
84 "	7
90 "	7



TYPE II SIGN MOUNTING	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 1/24/07	PLATE NO. A5-8.1



Wisconsin Department of Transportation

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