

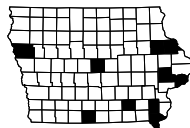
STATEWIDE COUNTY

Traffic Signs

LETTING DATE

Oct 20, 2026

NHSN-000-T(474)--2R-00



INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.2	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 11	Typical Drawings and Sign Panel Details
C Sheets	Quantities and General Information
C.1 - 2	Estimated Project Quantities
C.3 - 5	Tabulations
C.6 - 7	Signing Notes
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
J.2 - 8	Allowable Lane Closure Maps
N Sheets	Traffic Signing Sheets
N.1 - 3	Truss Mounted Sign Details
V Sheets	Bridge and Culvert Situation Plans
V.1	Sign Support Details - For Information Only



PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

STATEWIDE COUNTY

Traffic Signs

Various Locations Statewide,
Type B Signing
(FY 2027)

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.



INDEX OF SEALS			
SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	Neal Fobian	Primary Signature Block	C.1 - C.2

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Neal Fobian

Signature _____ Date _____

Printed or Typed Name _____

My license renewal date is December 31, 20 _____

Pages or sheets covered by this seal: A.1-2, B.1-11, C.1-7, J.1, N.1-3

REVISIONS

TOTAL
32

PROJECT IDENTIFICATION NUMBER

26-00-000-220

PROJECT NUMBER

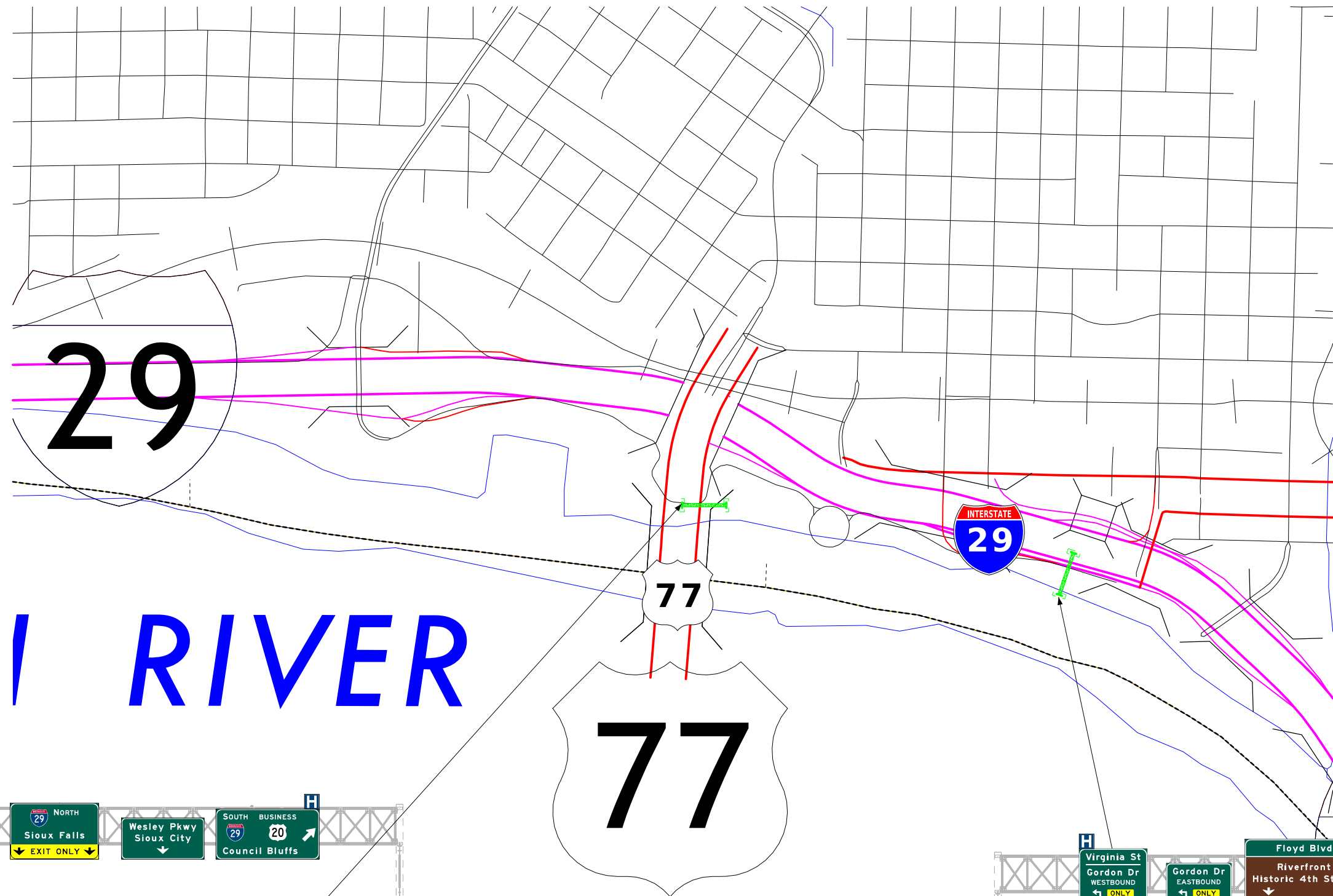
NHSN-000-T(474)--2R-00

R.O.W. PROJECT NUMBER

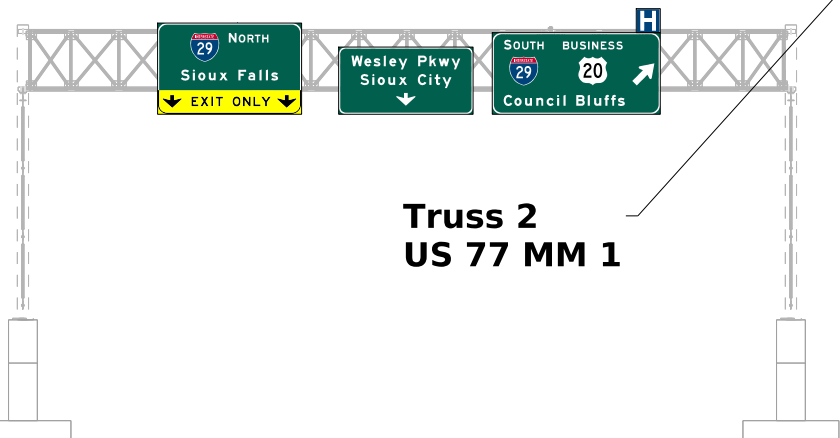
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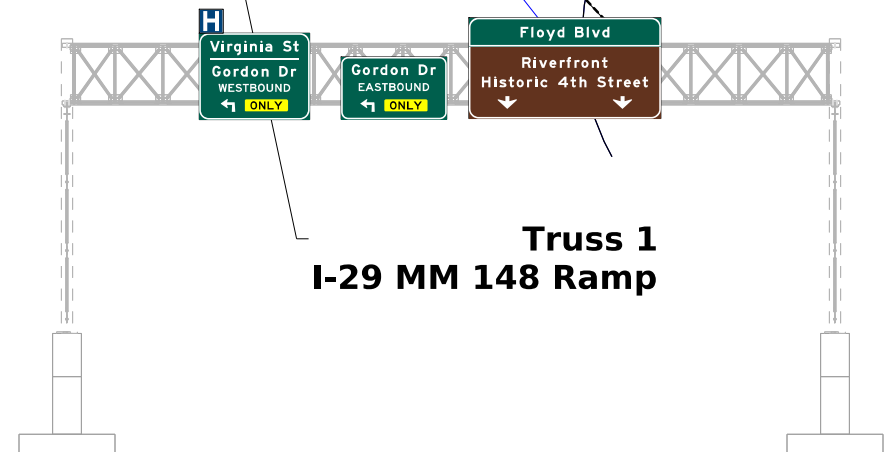
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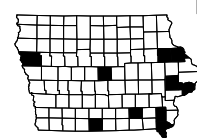
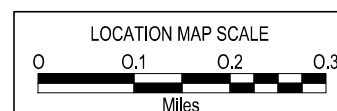
I RIVER



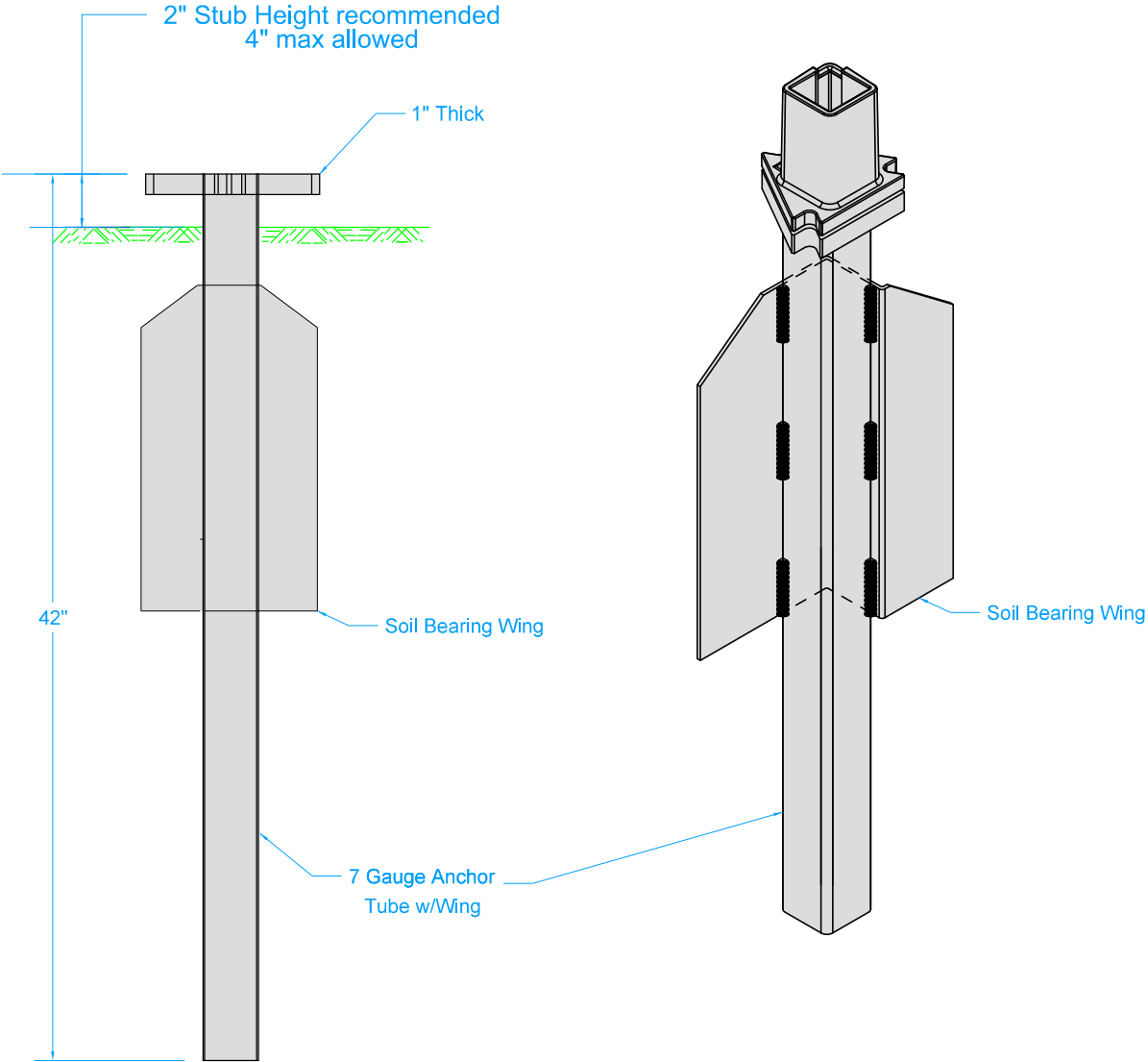
**Truss 2
US 77 MM 1**



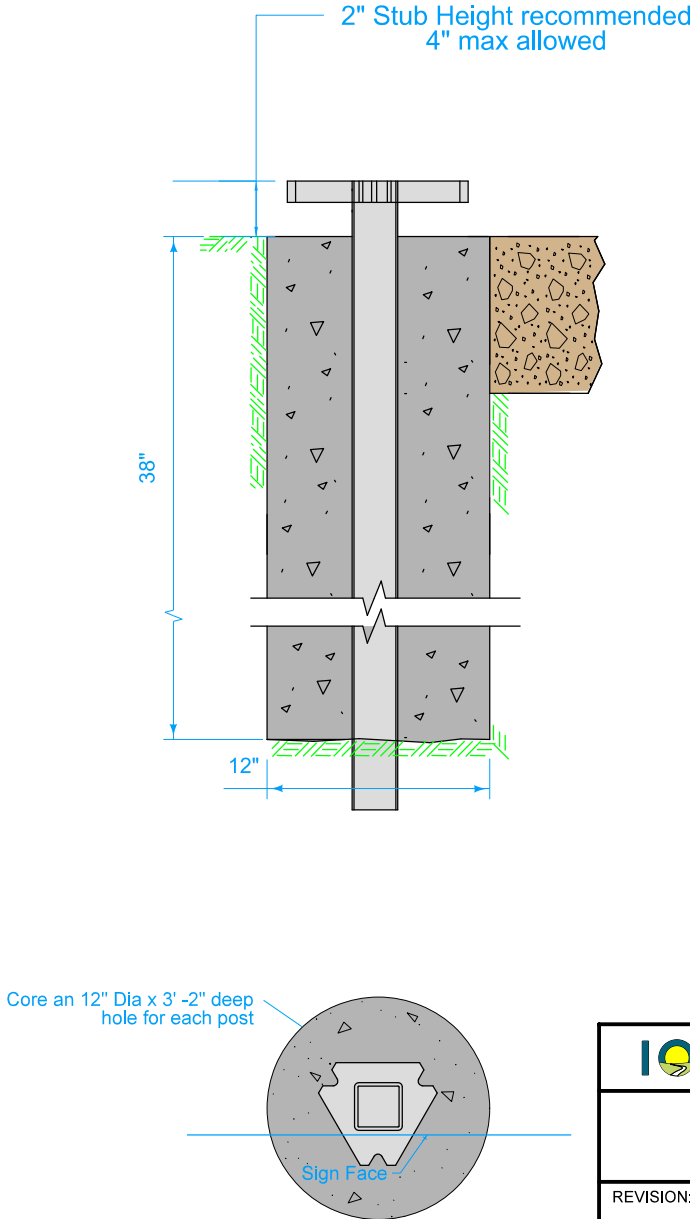
**Truss 1
I-29 MM 148 Ramp**



TYPE 3 INSTALLATION
(TRIANGULAR SLIP BASE SOIL)

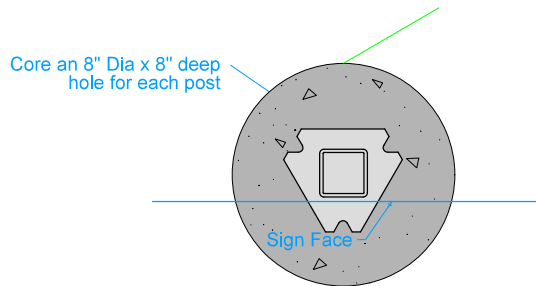
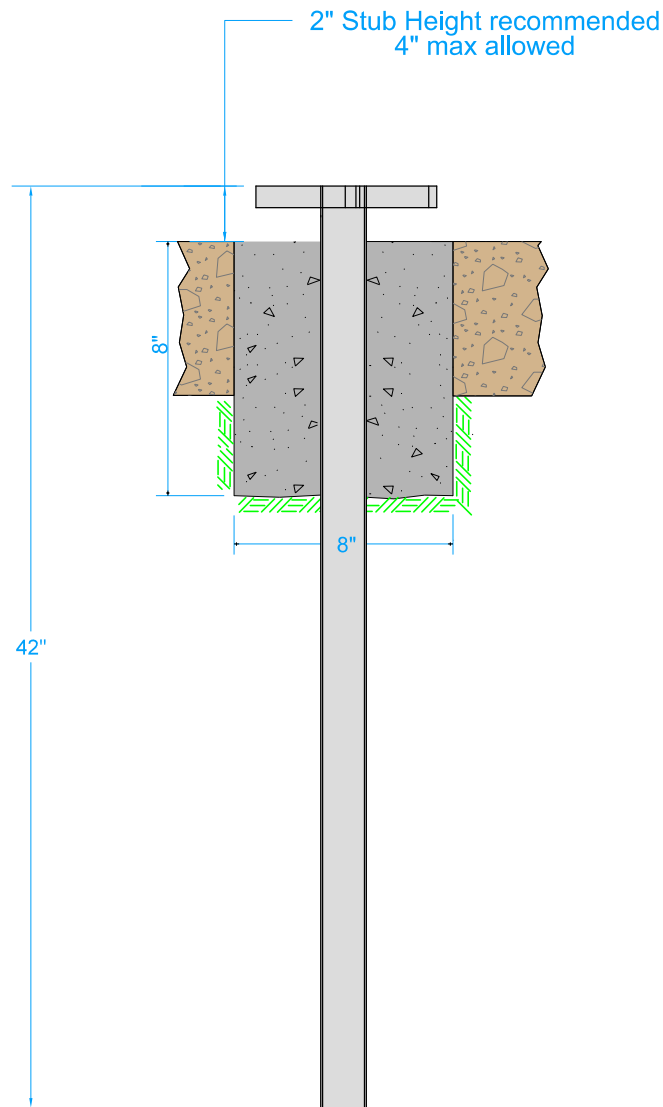


TYPE 4 INSTALLATION
(TRIANGULAR SLIP BASE CONCRETE)



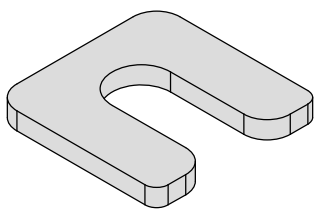
	REVISION	
	-	00-00-00
...	...	
	TAS STANDARD	
REVISION: __		
Support Structures - Perforated Square Steel Tube Anchor and Post		

TYPE 5 INSTALLATION
(TRIANGULAR SLIP BASE CONCRETE)

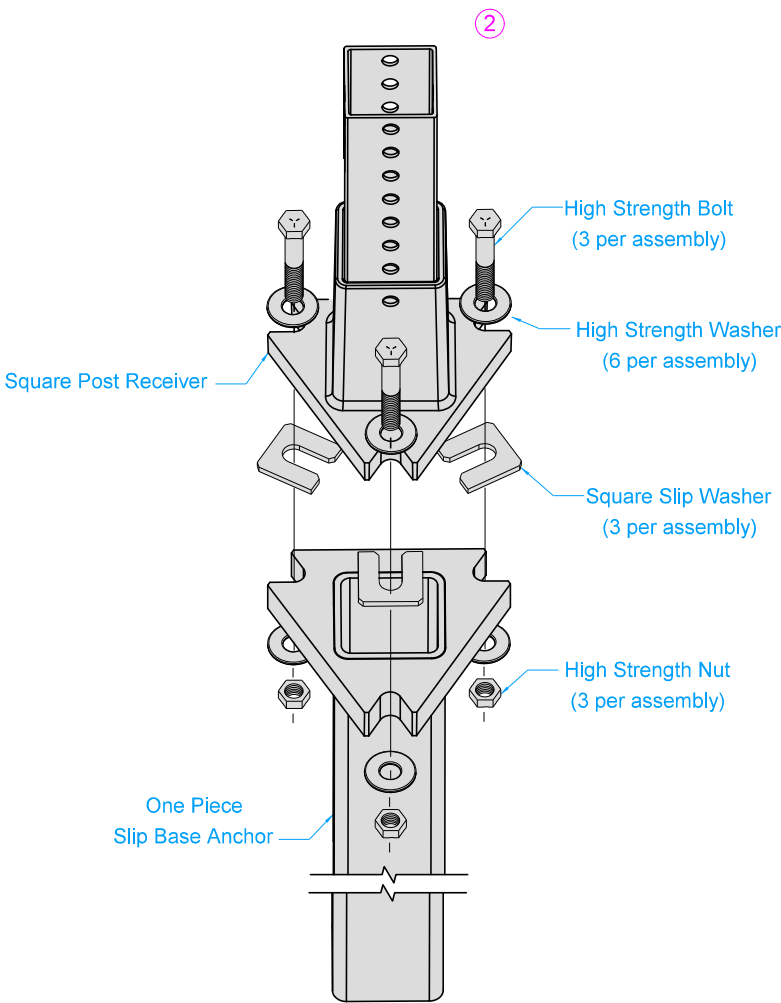


① Used in concrete islands.

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	■■■ TAS STANDARD			
■■■				
TAS STANDARD				
REVISION: __				
Support Structures - Perforated Square Steel Tube Anchor and Post				

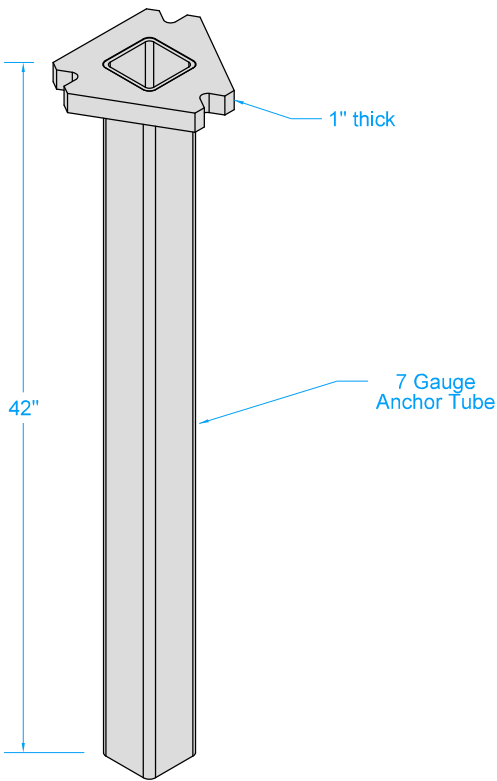


1 $\frac{3}{4}$ " SQUARE X $\frac{3}{16}$ "
SQUARE SLIP WASHER

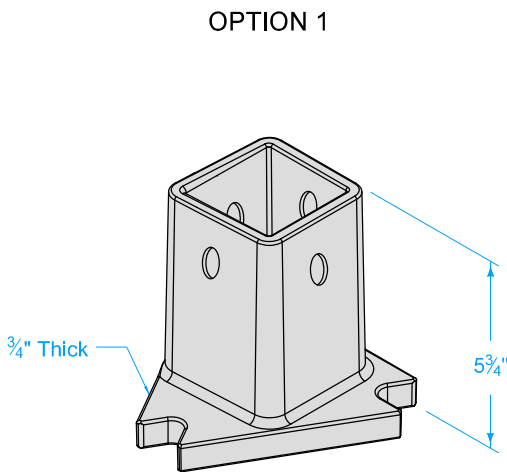


EXPLODED VIEW
SLIP BASE, RECEIVER AND
CONNECTION HARDWARE

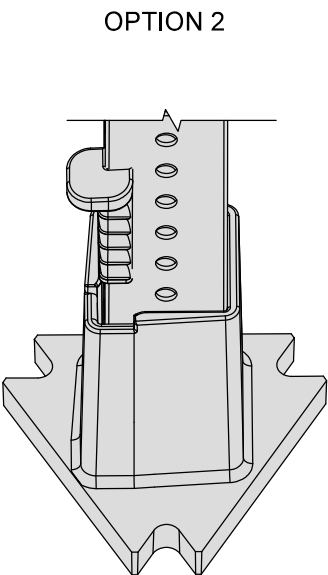
ONE PIECE
SLIP BASE ANCHOR



- ① Type III/IV installation
② Fastener size and installation procedure shall be according to manufacturer's recommendation.

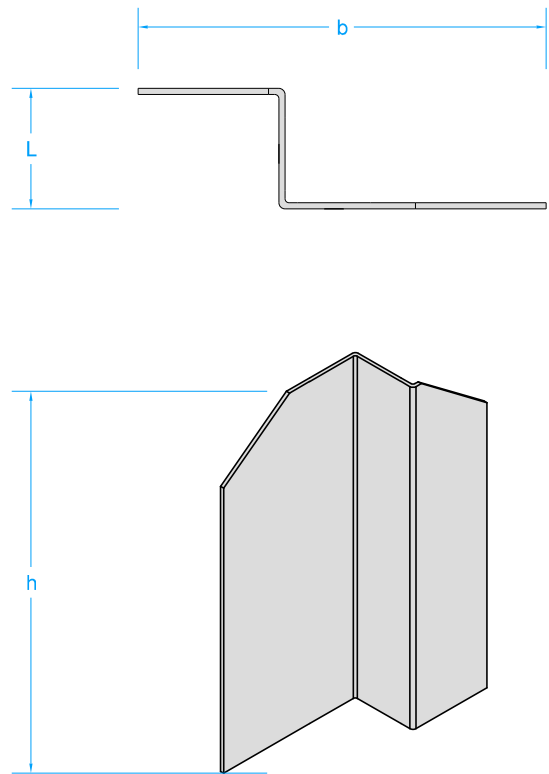
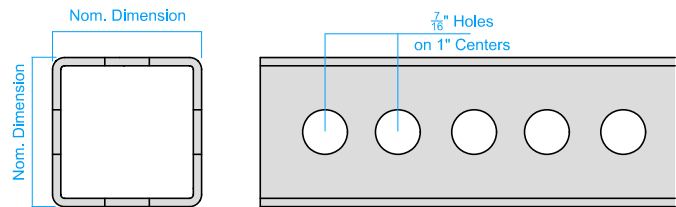


2 $\frac{1}{2}$ " SQUARE POST RECEIVER



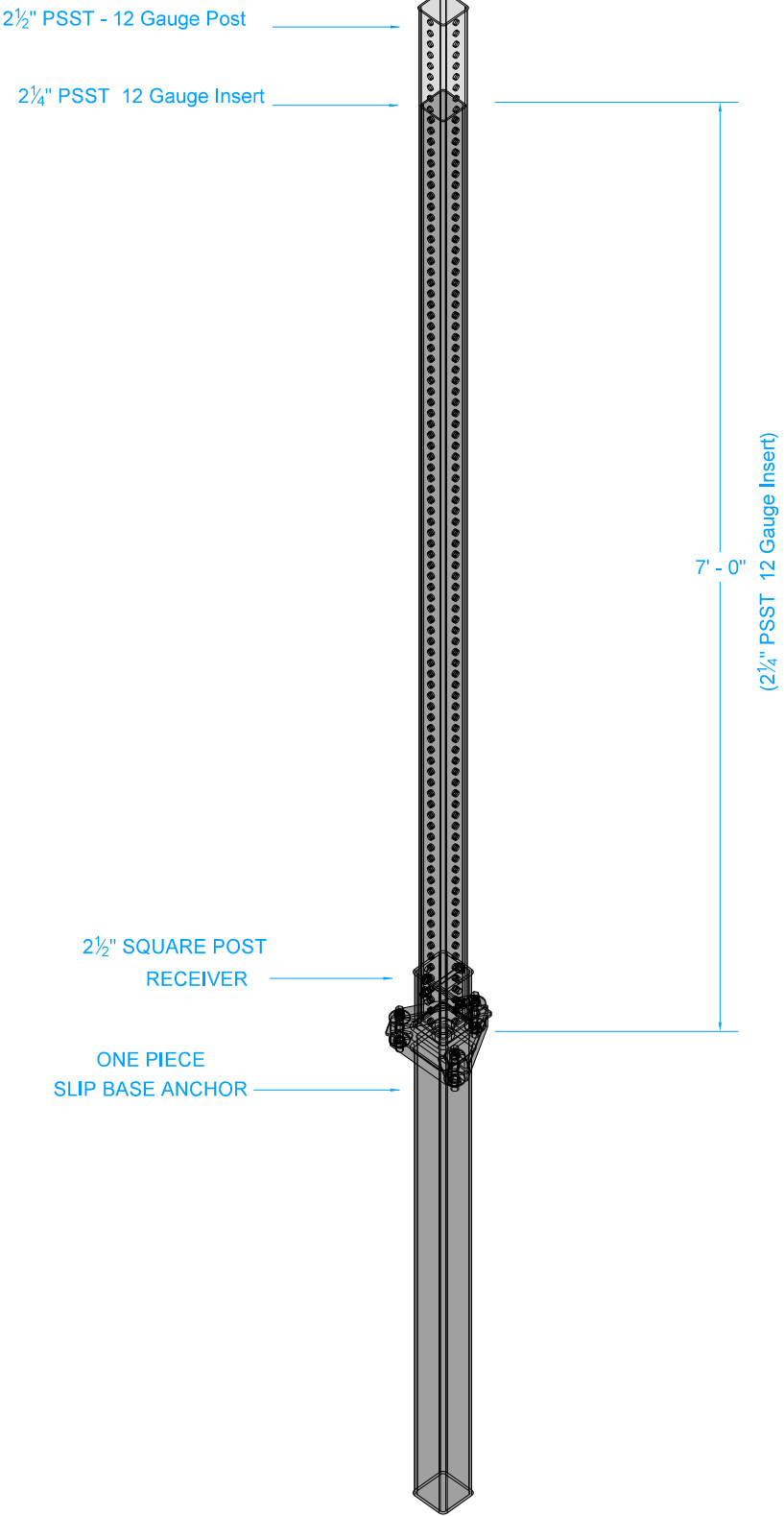
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	TAS STANDARD	
REVISION: __		
Support Structures - Perforated Square Steel Tube Anchor and Post		

PERFORATED STEEL SQUARE TUBE POST DETAILS

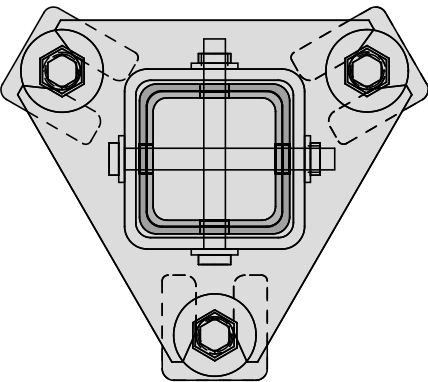
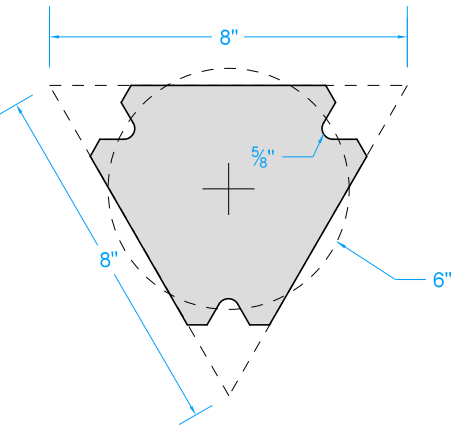


SOIL BEARING WING

SLIP BASE WITH NESTED PERFORATED SQUARE STEEL TUBE POST ^①



SLIP PLATE DIMENSIONS ^①

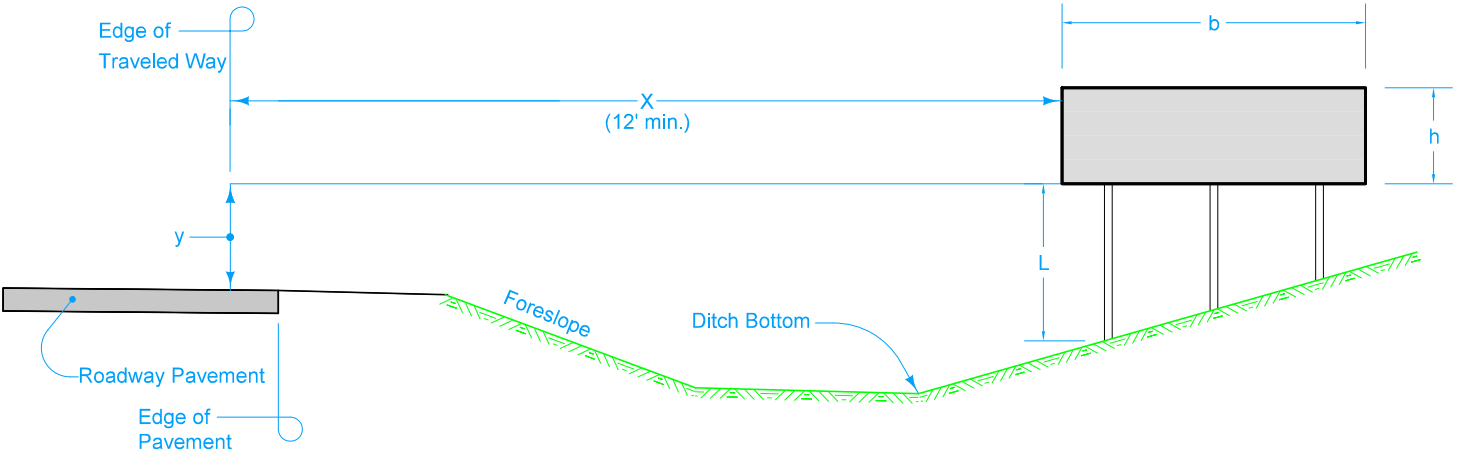


^① Type III/IV installation only

	REVISION			
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	TAS STANDARD			
REVISION: __				
Support Structures - Perforated Square Steel Tube Anchor and Post				

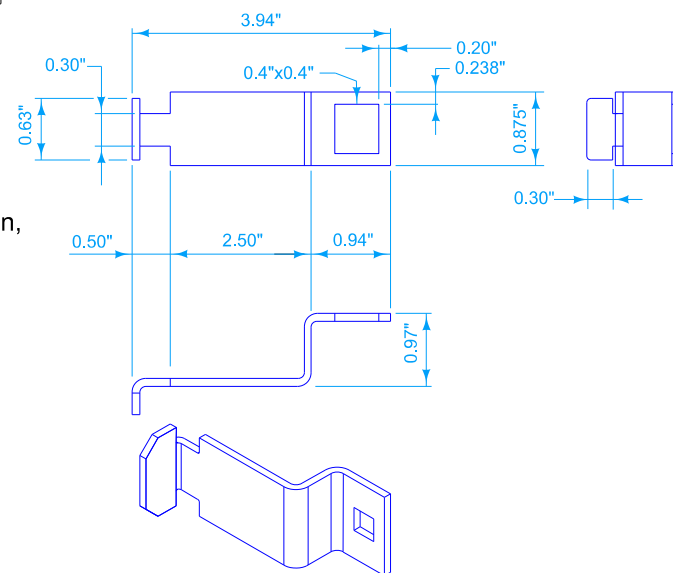
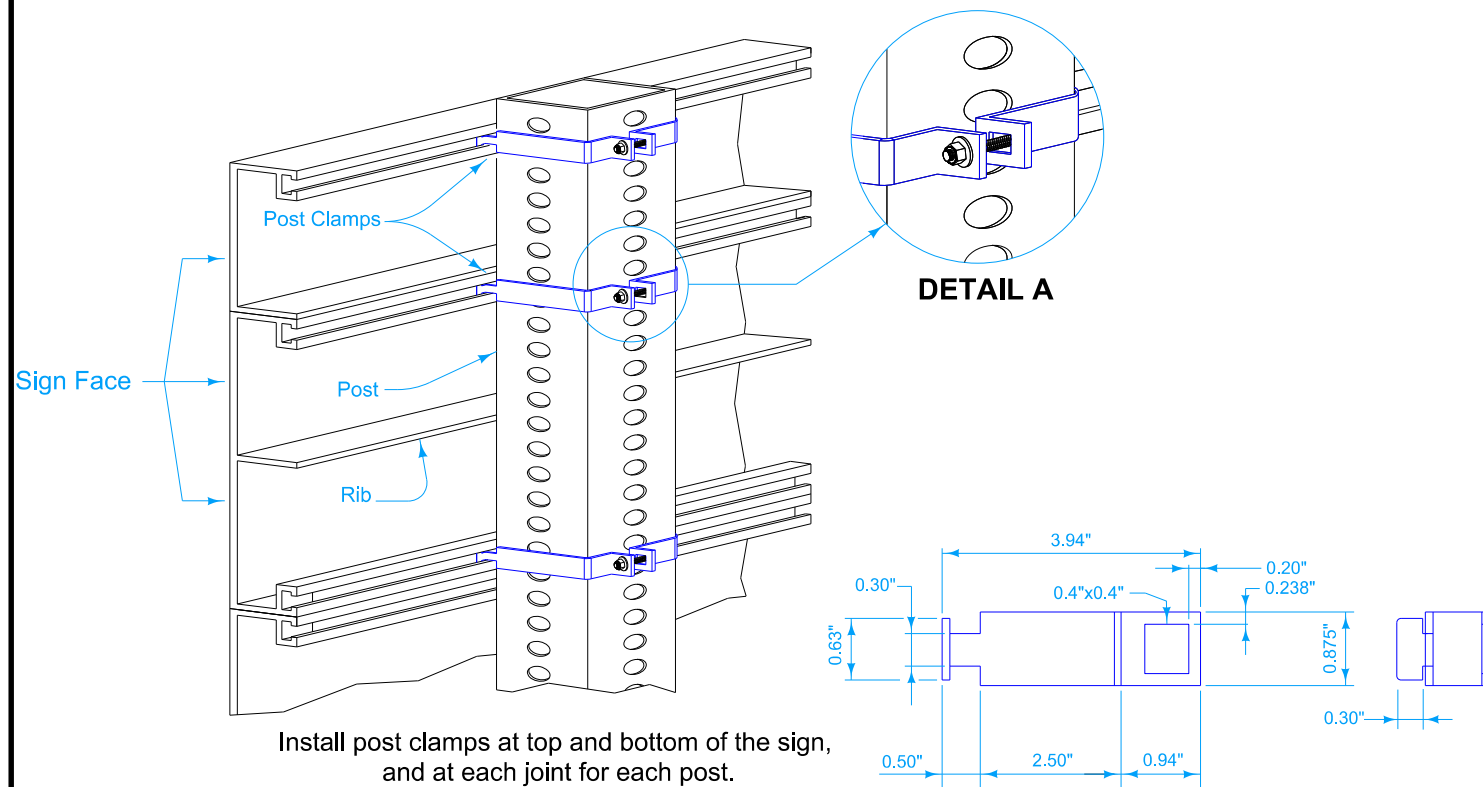
Note: The sign centroid is equivalent to $L + h/2$, (length of the longest post from the ground to the bottom of the sign plus the half the height of the sign.) and the Sign Area Yielding Design is the maximum area that the corresponding sign can have without failure. Sign Area is equivalent to $b \times h$.

POST LOADING FOR PERFORATED SQUARE STEEL TUBE POSTS ^{① ②}						
SIGN CENTROID (FT)	SIGN AREA (SQ-FT) YIELDING DESIGN					
	TYPE 1 TYPE 2	TYPE 3/TYPER 4 (SLIP BASE REQUIRED)				
		2 1/2" x 12ga		2 1/4" x 12ga inserted into a 2 1/2" x 12 ga		
	1 Post	2 Post	3 Post	1 Post	2 Post	3 Post
16.5	10.44	20.88	31.32	18.78	37.56	56.34
16	10.76	21.52	32.28	19.36	38.72	58.08
15.5	11.11	22.22	33.33	19.99	39.98	59.97
15	11.48	22.96	34.44	20.65	41.3	61.95
14.5	11.87	23.74	35.61	21.36	42.72	64.08
14	12.3	24.6	36.9	22.13	44.26	66.39
13.5	12.75	25.5	38.25	22.95	45.9	68.85
13	13.24	26.48	39.72	23.83	47.66	71.49
12.5	13.77	27.54	41.71	24.78	49.56	74.34
12	14.35	28.7	43.05	25.82	51.64	77.46
11.5	14.97	29.94	44.91	26.94	53.88	80.82
11	15.65	31.3	46.95	28.16	56.32	84.48
10.5	16.4	32.8	49.2	29.5	59	88.5
10	17.22	34.44	51.66	30.98	61.96	92.94
9.5	18.12	36.24	54.36	32.61	65.22	97.83
9	19.13	38.26	57.39	34.42	68.84	103.26
8.5	20.26	40.52	60.78	36.45	72.9	109.35
8	21.52	43.04	64.56	38.72	77.44	116.16



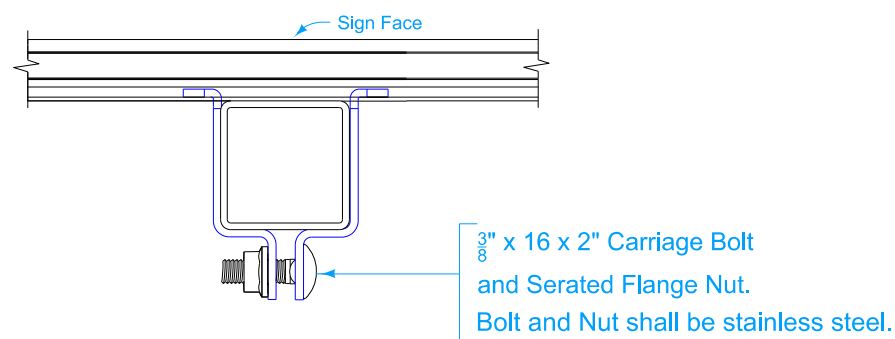
- ① Adapted from AASHTO Standard Specifications for - Highway Signs, Luminaires, and Traffic Signals. 6th Edition 2013. <Rev B 4/7/14>
- ② 90 MPH Wind Load

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	TAS STANDARD	
REVISION: __		
Support Structures - Perforated Square Steel Tube Anchor and Post		



POST CLAMP DETAIL

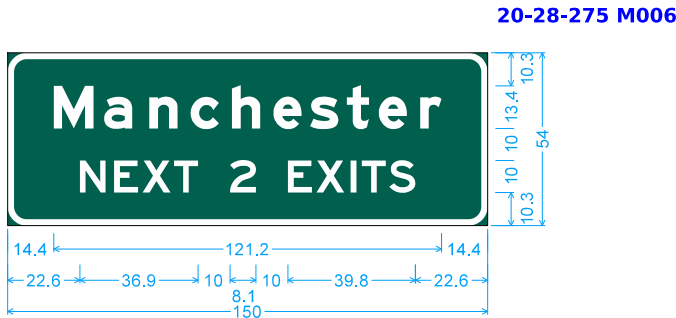
Post clamp shall be stainless.



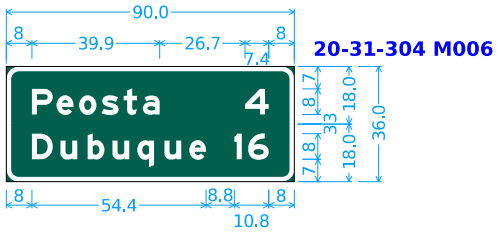
PLAN VIEW

DETAILS OF PERFORATED SQUARE STEEL TUBE POST TYPE "B" SIGN ATTACHMENT

PSST POST - TYPE B
SIGN ATTACHMENT



20-28-275 M006;
Item : Supplemental Guide - 1 Dest Template;
6.0" Radius, 2.0" Border, White on Green;
"Manchester", E Mod 2K; "NEXT 2 EXITS", E 2K;



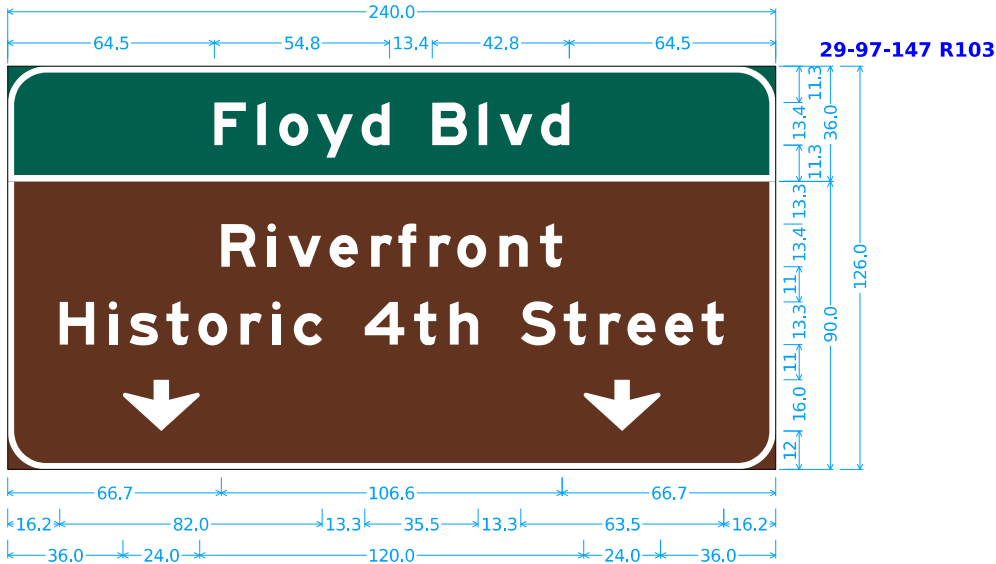
20-31-304 M106;
4.0" Radius, 1.5" Border, White on Green;
"Peosta", E Mod 2K;
"4", E Mod 2K;
4.0" Radius, 1.5" Border, White on Green;
"Dubuque", E Mod 2K;
"16", E Mod 2K;



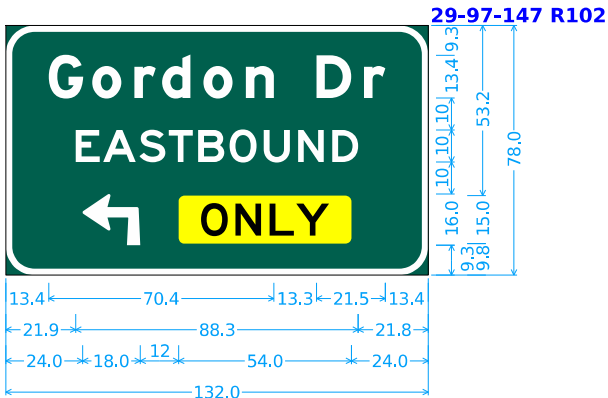
Hospital Plaque;
2.0" Radius, 0.8" Border, White on Blue;
Symbol RM085;
29-97-147 R101;
12.0" Radius, 2.0" Border, White on Green;
"Virginia St", E Mod 2K 80% spacing;
"Gordon Dr", E Mod 2K; "WESTBOUND", E 2K;
90 Deg Advance Turn Arrow 18.0" X 16.0";
E11-1b;
1.9" Radius, No border, Yellow;
"ONLY" Black, E 2K specified length;



E11-1b;
1.9" Radius, No border, Yellow;
"ONLY" Black, E 2K specified length;



29-97-147 R102;
Supplemental Guide - 2 Dest 2 Color Template;
12.0" Radius, 2.0" Border, White on Green;
"Floyd Blvd", E Mod 2K;
12.0" Radius, 2.0" Border, White on Brown;
"Riverfront", E Mod 2K; "Historic 4th Street", E Mod 2K; Down Arrow II-B - 16.0" 270°;
Down Arrow II-B - 16.0" 270°;

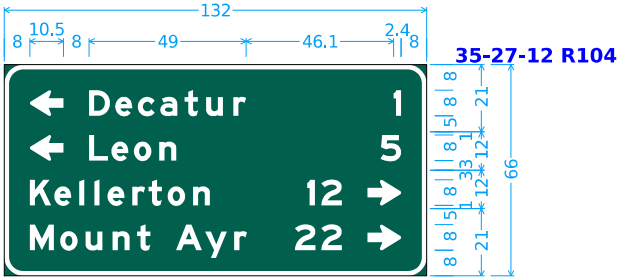


29-97-147 R103;
9.0" Radius, 2.0" Border, White on Green;
"Gordon Dr", E Mod 2K; "EASTBOUND", E 2K;
90 Deg Advance Turn Arrow 18.0" X 16.0";
E11-1b;
1.9" Radius, No border, Yellow;
"ONLY" Black, E 2K specified length;



E11-1b;
1.9" Radius, No border, Yellow;
"ONLY" Black, E 2K specified length;

STATEWIDE TYPE B
SIGN DETAILS



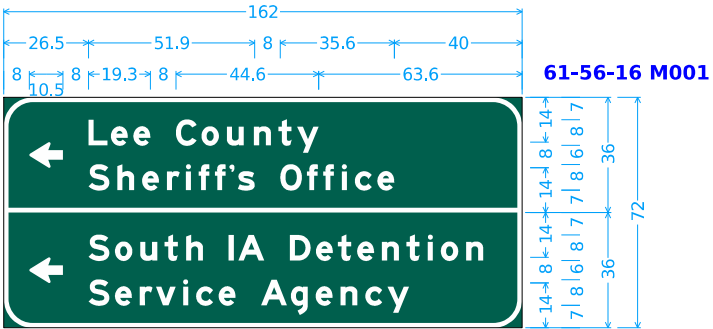
35-27-012 R104;

6.0" Radius, 1.5" Border, White on Green;
Arrow III-8S - 10.5" 180°; "Decatur", E Mod 2K;
"1", E Mod 2K;

6.0" Radius, 1.5" Border, White on Green;
Arrow III-8S - 10.5" 180°; "Leon", E Mod 2K;
"5", E Mod 2K;

6.0" Radius, 1.5" Border, White on Green;
"Kellerton", E Mod 2K; "12", E Mod 2K;
Arrow III-8S - 10.5" 0°;

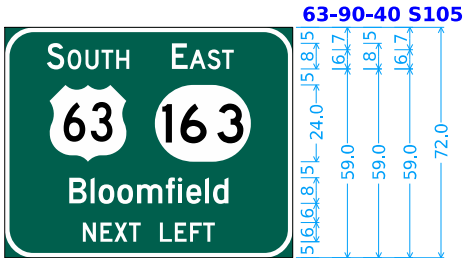
6.0" Radius, 1.5" Border, White on Green;
"Mount Ayr ", E Mod 2K; "22", E Mod 2K;
Arrow III-8S - 10.5" 0°;



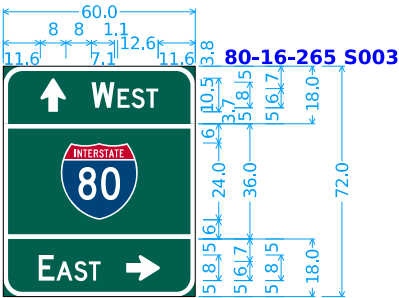
61-56-016 M001;

9.0" Radius, 1.5" Border, White on Green;
Arrow III-8S - 10.5" 180°; "Lee County", E Mod 2K;
"Sheriff's Office", E Mod 2K;

9.0" Radius, 1.5" Border, White on Green;
Arrow III-8S - 10.5" 180°; "South IA Detention", E Mod 2K;
"Service Agency", E Mod 2K;

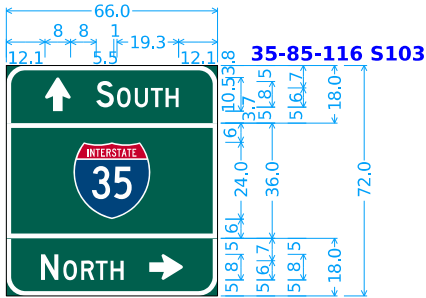


63-90-40 S105;
9.0" Radius, 1.5" Border, White on Green;
"SOUTH", D 2K; "EAST", D 2K;
State Highway 163 M1-5;
"Bloomfield", D 2K;
"NEXT LEFT", D 2K;



SR Single Lane - 3 Right Turn Alt;
6.0" Radius, 1.5" Border, White on Green;
Arrow III-8S - 10.5" 90°;
"WEST", D 2K;

6.0" Radius, 1.5" Border, White on Green;
"EAST", D 2K;
Arrow III-8S - 10.5" 0°;

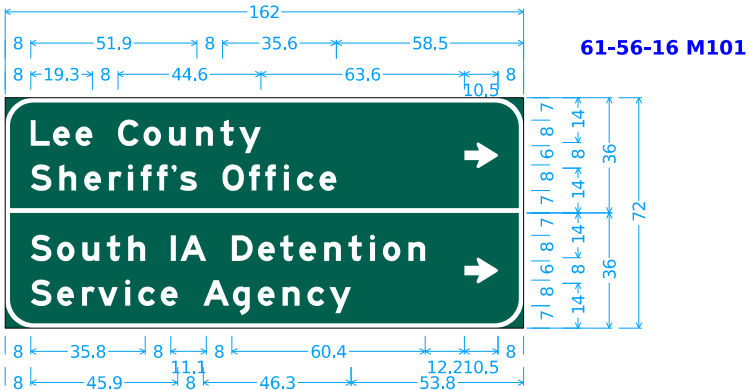


35-85-116 S103;

SR Single Lane - 3 Right Turn Alt;
6.0" Radius, 1.5" Border, White on Green;
Arrow III-8S - 10.5" 90°;
"SOUTH", D 2K;

6.0" Radius, 1.5" Border, White on Green;

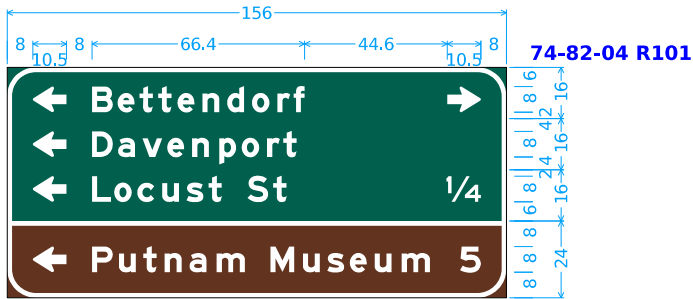
6.0" Radius, 1.5" Border, White on Green;
"NORTH", D 2K;
Arrow III-8S - 10.5" 0°;



61-56-016 M101;

9.0" Radius, 1.5" Border, White on Green;
"Lee County", E Mod 2K; "Sheriff's Office", E Mod 2K;
Arrow III-8S - 10.5" 0°;

9.0" Radius, 1.5" Border, White on Green;
"South IA Detention", E Mod 2K; "Service Agency", E Mod 2K;
Arrow III-8S - 10.5" 0°;



74-82-004 R003;

9.0" Radius, 1.5" Border, White on Green;
Arrow III-8S - 10.5" 180°; "Bettendorf", E Mod 2K;
Arrow III-8S - 10.5" 0°;

9.0" Radius, 1.5" Border, White on Green;
Arrow III-8S - 10.5" 180°; "Davenport", E Mod 2K;

9.0" Radius, 1.5" Border, White on Green;
Arrow III-8S - 10.5" 180°; "Locust St", E Mod 2K;
"1/4", E Mod 2K;

9.0" Radius, 1.5" Border, White on Brown;
Arrow III-8S - 10.5" 180°; "Putnam Museum", E Mod 2K;
"5", E Mod 2K;

STATEWIDE TYPE B
SIGN DETAILS



E1-5P;
2.0" Border, White on Green;
"EXIT", E 2K 120% spacing; "231", E 2K;

Adv Guide - 2 Dest 1 Route Template;
12.0" Radius, 2.0" Border, White on Green;
Pentagonal County W55 M1-6; "Mt Pleasant", E Mod 2K;
"Westwood", E Mod 2K; "1", E 2K; "MILE", E 2K;

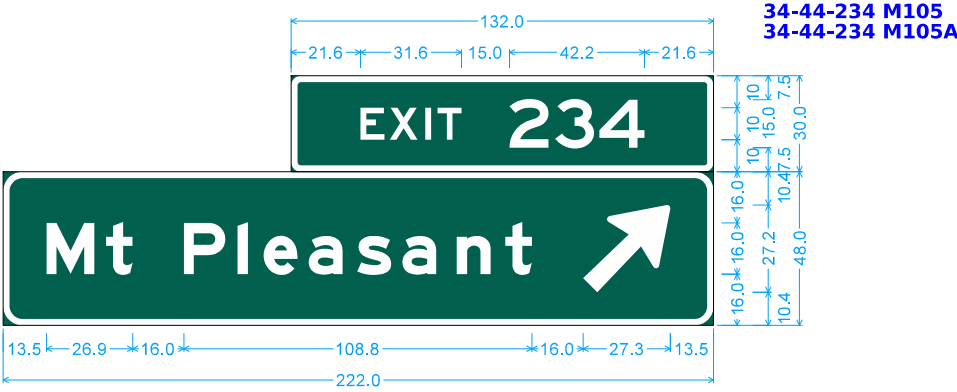


E1-5P;
2.0" Border, White on Green;
"EXIT", E 2K 120% spacing; "231", E 2K;

12.0" Radius, 2.0" Border, White on Green;
Pentagonal County W55 M1-6; "Mt Pleasant", E Mod 2K;
"Westwood", E Mod 2K; Arrow I-F - 35.0" 45°;



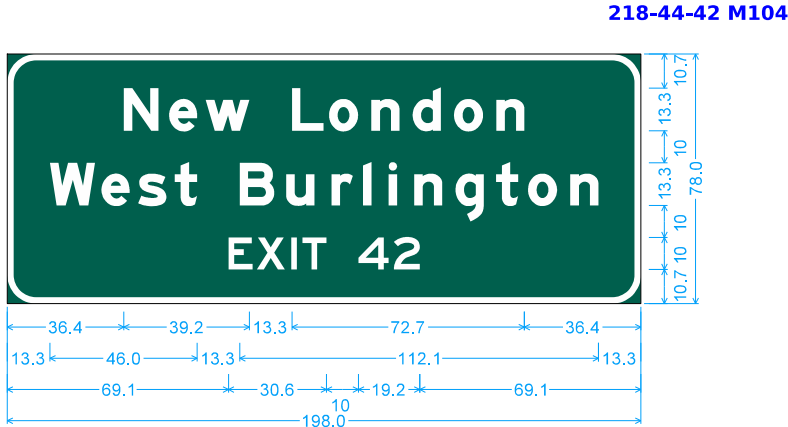
Supplemental Guide - 2 Dest Template;
9.0" Radius, 2.0" Border, White on Green;
"Trenton", E Mod 2K;
"Salem", E Mod 2K;
"EXIT 231", E 2K;



E1-5P;
2.0" Border, White on Green;
"EXIT", E 2K 120% spacing; "234", E 2K;

6.0" Radius, 2.0" Border, White on Green;
"Mt Pleasant", E Mod 2K; Arrow I-F - 35.0" 45°;

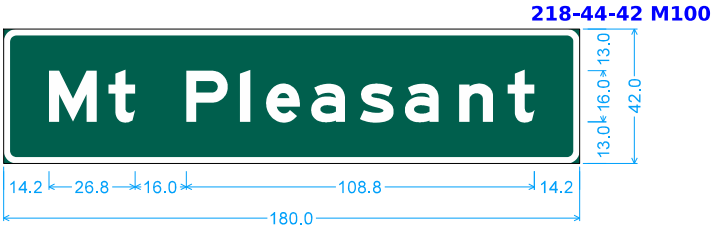
STATEWIDE TYPE B
SIGN DETAILS



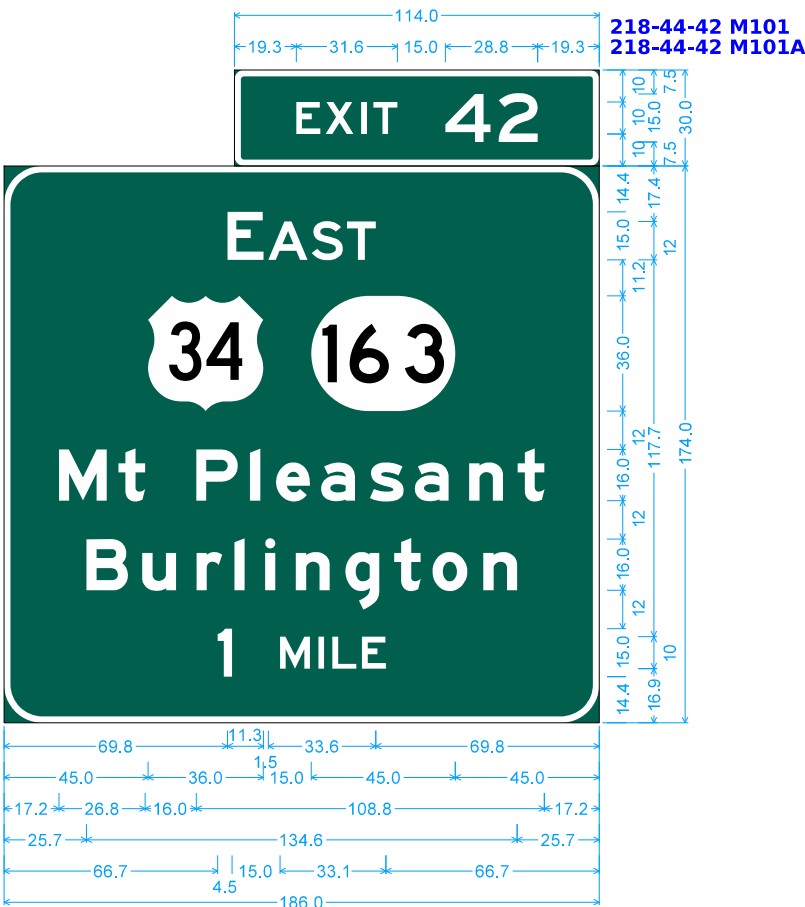
Supplemental Guide - 2 Dest Template;
9.0" Radius, 2.0" Border, White on Green;
"New London", E Mod 2K; "West Burlington", E Mod 2K;
"EXIT 42", E 2K;



Supplemental Guide - 2 Dest 2 Color Template;
12.0" Radius, 2.0" Border, White on Green;
"Mt Pleasant", E Mod 2K; "Municipal Airport", E Mod 2K;
12.0" Radius, 2.0" Border, White on Brown;
"Old Threshers", E Mod 2K; "Grounds", E Mod 2K; "EXIT 40", E 2K;



4.0" Radius, 2.0" Border, White on Green;
"Mt Pleasant", E Mod 2K;



E1-5P;
2.0" Border, White on Green;
"EXIT", E 2K 120% spacing; "42", E 2K;
Fin Guide - 2 Dest 2 Route Template;
12.0" Radius, 2.0" Border, White on Green;
"EAST", E 2K; State Highway 163 M1-5; "Mt Pleasant", E Mod 2K;
"Burlington", E Mod 2K; "1", E 2K; "MILE", E 2K;

STATEWIDE TYPE B
SIGN DETAILS

Diagram of a green rectangular highway sign for Wesley Pkwy, Sioux City. The sign features the text "Wesley Pkwy" and "Sioux City" in white, with a white downward-pointing arrow below. Dimensions are provided in inches for the sign's overall size and the placement of the text and arrow.

Measurement	Value (inches)
Overall Width	168
Overall Height	107
Text "Wesley Pkwy" Width	133
Text "Sioux City" Width	133
Arrow Width	24
Left Margin (Top)	15.9
Left Margin (Bottom)	27
Right Margin (Top)	15.9
Right Margin (Bottom)	27
Text "Wesley Pkwy" Height	70.1
Text "Sioux City" Height	58.5
Arrow Height	42.1
Text "Wesley Pkwy" Spacing	27
Text "Sioux City" Spacing	27
Arrow Spacing	24

Diagram of a green directional sign for Interstate 29 North, Sioux Falls, Exit Only. The sign is rectangular with a green background and a yellow bottom section. It features the Interstate 29 shield, the word "NORTH", "Sioux Falls", and "EXIT ONLY" with two downward arrows. Dimensions are provided in inches and millimeters.

Overall dimensions: 180 inches (4572 mm) wide by 84 inches (2134 mm) high.

Text and graphics on the sign:

- Interstate 29 shield (29)
- NORTH
- Sioux Falls
- EXIT ONLY
- Two downward arrows

Dimensions (inches and millimeters):

- Top section (green): 180 inches (4572 mm) wide, 12.3 inches (312 mm) high.
- Bottom section (yellow): 180 inches (4572 mm) wide, 16 inches (406 mm) high.
- Text "NORTH": 13.4 inches (340 mm) wide, 49.7 inches (1261 mm) high.
- Text "Sioux Falls": 13.4 inches (340 mm) wide, 59.7 inches (1516 mm) high.
- Text "EXIT ONLY": 13.4 inches (340 mm) wide, 59.7 inches (1516 mm) high.
- Two downward arrows: 13.4 inches (340 mm) wide, 59.7 inches (1516 mm) high.

Technical drawing of a green rectangular highway sign for South Business Route 20 in Council Bluffs. The sign features the text "SOUTH BUSINESS" at the top, a shield with "INTERSTATE 29" on the left, a shield with "20" in the center, and "Council Bluffs" at the bottom. A white arrow points up and to the right. A small blue square with a white "H" is in the top right corner. Dimensions are provided in feet and inches.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Traffic Sign Items	
1	2401-6745355	REMOVAL OF CONCRETE FOOTINGS OF HIGHWAY SIGNS	EACH	18	Refer to Tabulation of Materials for Type 'B' Signs for locations and details. This item shall consist of removal of concrete footings for steel breakaway sign support posts. Concrete footings or parts of concrete footings removed shall become the property of the Contractor, and shall be removed in accordance with Article 1104.08. Unless otherwise provided or ordered, concrete footings for steel breakaway sign support posts shall be removed 1 foot below natural ground surface. Where portions of the existing concrete footings lie wholly or in part within limits for a new structure (culvert, concrete footing, or other), they shall be removed as necessary to accommodate construction of the proposed structure. Holes remaining from the removal of concrete footings for steel breakaway sign support posts shall be backfilled with suitable earth to the original level or to the natural ground surface in accordance with Article 2402.09. Measurement: The Engineer will count each concrete footing for steel breakaway sign support post removed. Payment: For each concrete footing for steel breakaway sign support post removed, the Contractor shall be paid the contract unit price. This payment shall be full compensation for furnishing all material, equipment, and labor and for the performance of all work necessary for removal of the concrete footings from the project and for any backfilling made necessary by these operations.
2	2524-6765010	REMOVE AND REINSTALL SIGN AS PER PLAN	EACH	1	Refer to Tabulation of Materials for Type 'B' Signs for locations and details. The Contractor shall remove each sign and the hardware used to secure the sign to another sign, posts, or sign support structure. For signs mounted directly to posts, removal of the sign shall include removal of the posts. Posts may be either wood posts or steel breakaway sign posts. The removal of concrete footings for steel breakaway sign posts will be measured and paid for separately. Holes remaining from the removal of wood posts shall be backfilled with suitable earth to the original level or to the natural ground surface in accordance with Article 2402.09 of the Standard Specifications. All steel posts removed shall become the property of the Contractor. Unless otherwise noted, wood posts removed shall remain the property of DOT. The Contractor shall deliver the wood posts to a DOT storage area within 50 miles, as designated by the Engineer. **The existing sign shall be removed and stored. The Contractor shall remove the sign and transport it to a DOT storage area within 50 miles, as designated by the Engineer. The Contractor shall transport the sign back to the job site when ready for reinstallation. The Contractor shall furnish all necessary hardware to install the signs. When the new installation is similar to the original installation, unless otherwise noted, the existing hardware may be used to reinstall the sign. Signs damaged by the Contractor's activities shall be replaced at the Contractor's expense. Replacement materials shall be new. The DOT will furnish all details necessary for fabrication of the replacement materials. MEASUREMENT: The Engineer will count each sign removed and reinstalled. PAYMENT: For each sign removed and reinstalled, the Contractor shall be paid the contract unit price.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Traffic Sign Items	
3	2524-6765120	REMOVAL OF TYPE B SIGN	EACH	13	Refer to Tabulation of Materials for Type 'B' Signs for location and details. Item is for the removal of extruded aluminum structural panel from its support structure ie: wood/steel posts, overhead truss or other sign. Sign panels shall become property of the contractor. Measurement: Each. The Engineer will count the number of Type B sign panels removed. Payment: The Contractor will be paid the contract unit price for each Type B sign panel removed.
4	2524-6765210	REMOVAL OF TYPE A SIGN ASSEMBLY	EACH	2	Refer to Tabulation of Materials for Type 'B' Signs for location and details. This item for the removal of Type A Sign Assemblies, including the sign panels, sign brackets, supporting structures and hardware. Contractor shall carefully dismantle each sign assembly. Sign posts, brackets and hardware shall become property of the Contractor. Sign panels shall become property of the DOT and shall be delivered to the nearest DOT maintenance facility. All holes resulting from removal of post shall be filled level with the adjacent grade with backfill material conforming to the Standard Specifications. Measurement: The Engineer will count the number of sign assemblies removed. Payment: The Contractor will be paid the contract unit price for each sign assembly removed.
5	2524-6765220	REMOVAL OF TYPE B SIGN ASSEMBLY	EACH	13	Refer to Tabulation of Materials for Type 'B' Signs for location and details. This item for the removal of Type B Sign Assemblies, including the sign panels, sign brackets, supporting structures and hardware. Contractor shall carefully dismantle each sign assembly. Sign panels, posts, brackets and hardware shall become property of the Contractor. All holes resulting from removal of posts shall be filled level with the adjacent grade with backfill material conforming to the Standard Specifications. Measurement: The Engineer will count the number of sign assemblies removed. Payment: The Contractor will be paid the contract unit price for each sign assembly removed.
6	2524-9081275	CONCRETE FOOTING FOR BREAKAWAY SIGN POST, 2'-8" DIA. X 7'-6"	EACH	12	Refer to Tabulation of Materials for Type 'B' Signs for locations and details.
7	2524-9081290	CONCRETE FOOTING FOR BREAKAWAY SIGN POST, 2'-8" DIA. X 9'-0"	EACH	6	
8	2524-9276010	PERFORATED SQUARE STEEL TUBE POSTS	LF	125	
9	2524-9276027	PERFORATED SQUARE STEEL TUBE POST ANCHOR, TRIANGULAR SLIP BASE ASSEMBLY	EACH	10	
10	2524-9281210	STEEL BREAKAWAY SIGN POSTS FOR TYPE A OR B SIGNS, W 8 X 21	LF	197	
11	2524-9281426	STEEL BREAKAWAY SIGN POSTS FOR TYPE A OR B SIGNS, W 12 X 26	LF	123	
12	2524-9380001	TYPE B SIGNS, EXTRUDED ALUMINUM STRUCTURAL PANEL	SF	2,483.25	
13	2528-8445110	TRAFFIC CONTROL	LS	1	Refer to Traffic Control Plan on Sheets J.1-J.8.
14	2533-4980005	MOBILIZATION	LS	1	--

105_04 10/20/26 STANDARDS The following Standards apply to construction work on this project.		
Number	Date	Title
SI-102	04-19-16	Locations - Type 'B' Signs
SI-112	04-19-16	Footings For Steel Breakaway Posts
SI-113	10-15-19	Support Structures - Steel Breakaway Posts
SI-121	10-16-18	Fabrication - Sign Legend Components
SI-123	10-20-20	Fabrication - Type 'B' Signs
SI-132	04-17-18	Installation - Type 'B' Signs
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-18-23	Work Within 15 ft of Traveled Way
TC-211	10-15-19	Lane Closure on Low Volume Roadway
TC-402	04-18-23	Work Within 15 ft of Traveled Way
TC-416	10-15-19	Partial Lane Closure on Ramps
TC-418	04-18-23	Lane Closure on Divided Highway
TC-420	10-16-18	Lane Closure at Ramps

Tabulation of Materials for Type 'B' Signs

Line No.	SIGN NUMBER					DIR OF TRAVEL	SIGN LOCATION				SIGN SIZE					Existing		New		POST INFORMATION																	NEW FOOTINGS					INSTALLATION			Remove Type A Sign (EA)	Remove Type B Sign (EA)	Remove Type B Assembly (EA)	Remove Reinstall Sign (EA)	Remove Footing (EA)	SEE SIGNING NOTES	Sign Text																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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							EXISTING		NEW		WIDTH		HEIGHT		AREA		No.Post		Sig Mat		2.5" 12 ga PSST			MAASH			W6x12			W6x12			W8x21			W8x21			W12x26			W12x26										W12x26																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
							M.P.		STATION		M.P.(1)		STATION		WIDTH (FT)		HEIGHT (FT)		WIDTH (FT)		HEIGHT (FT)		AREA (SQ FT)		No.Post		Met(M) PSST (T)		Ply (P) Alum(A)		No.Post		Met(M) PSST(T)		Ply (P) Alum(A)		Post 1			Post 2			Post 3									Post 1			Post 1			Post 2			Post 1			Post 2			Post 3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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Tabulation of Materials for Type 'B' Signs

[illegible]

(1) Mile post information is given for general location only. Use station numbers or stakes for exact location.

(2) Post lengths are estimates. Actual post length to be determined by field measurement.

(3) Remove and reinstall white and yellow panels under sign. See sheet B4 for details.

259_01 10/15/25 SIGNING NOTES The following tolerances will be allowed on all signs: Accumulation error of not greater than +/-0.50" per line of copy, not greater than +/-0.50" for spacing between lines of copy, and the margin between lines of copy and the inside edge of the sign border. The following tolerances will be allowed on each letter or numeral: nominal height variation in height variation in width 4" thru 12" -1/8" to +3/8" -1/4" to +1/4" over 12" -1/8" to +3/8" -3/8" to +3/8" ----- Type B signs can be separated into two categories: - Major Guide Signs. - Minor Guide Signs. Major Guide Signs include the advance and exit direction guide signs for an interchange or intersection. Minor Guide Signs include all other guide signs such as NEXT EXIT signs, supplemental guide signs, logo signs, exit gore signs, post-interchange mileage signs, ramp destination signs, and ramp logo signs for an interchange, as well as destination signs along sideroads. Type A signs are not separated into categories, but special consideration should be given to regulatory signs. Do not remove Type B signs until replacement signs have been installed. If construction activities require the removal of a sign, the existing sign may be relocated to temporary posts, or a temporary plywood sign may be installed to replace the existing sign. Existing non-regulatory Type A signs are NOT required to remain in place until installation of replacement signs. Existing regulatory Type A signs, particularly Stop signs, should not be removed until replacement signs are installed. Where a staged traffic control plan is contrary to this guidance, follow the direction of the traffic control plan. Apply the following during the replacement or modification of signs: - No more than one of the major guide signs for each direction of travel at an interchange out of service at any one time. - No major guide sign out of service for more than 8 hours. - No minor guide out of service for more than 24 hours. Remove existing signs and posts within 24 hours following the installation of a new replacement sign. In any case where the plans call for a new sign and			259_01 10/15/25 SIGNING NOTES posts to be installed at the same station location and offset as an existing sign, install the new posts at a minimum of either 5 ft ahead or behind the existing sign installation. Signs shall not be installed more than 25 ft ahead or behind the existing sign installation. Whenever posts for a replacement sign are erected directly in front of an existing sign, install the new replacement sign and remove the existing sign installation within 24 hours of the time that the new posts are erected. Where signs are located behind guardrail, locate the near edge of the sign a minimum of 3 ft behind the guardrail posts. Unless noted otherwise, leave auxiliary panels, such as exit number panels, in place or reattach to the sign using the existing mounting hardware. Also, when replacing an existing logo sign with a new logo sign, remove the business logo panel(s) from the existing sign and attach to the new sign as directed by the Engineer. Do not damage the auxiliary or logo panels when removing and reattaching them. This work is incidental to other work and no separate payment will be made. The following notes apply to the corresponding sign installations shown on the plan sheets and listed in the tabulations. IB INSTALL NEW TYPE B SIGN IA INSTALL NEW TYPE A SIGN Install new signs at the location identified in the plans. For installation of new signs on an existing sign support structure, refer to note (L). For installation of new signs on existing posts: - if the new sign is taller than the existing sign, furnish the necessary hardware to extend the sign above the posts. Refer to Standard Road Plan SI-132. - if the new sign is shorter than the existing sign: - for wood posts and perforated square tube posts, install the sign at the proper height and cut off the excess post length. - for MASSH-400 and steel breakaway posts, install the sign at the top of the posts. For plywood signs, no vertical splices are allowed in signs less than or equal to 10 ft wide. No horizontal splices are allowed in signs less than or equal to 4 ft tall. Each new sign installed shall have a sticker applied to the back of the sign that shows the date the sign was installed. The Contractor shall supply the sticker for all contractor supplied signs. The DOT will supply date			259_01 10/15/25 SIGNING NOTES stickers on any signs supplied by the department. Payment for installing Type A signs or Type B signs includes furnishing hardware for mounting, extending signs above existing posts, and cutting posts to length. MS MODIFICATION OF EXISTING SIGNS For removal and/or installation of logo panels, and other sign modifications. Refer to the project plans and typical details for additional information. SC SIGN COVER For the installation or removal of temporary sign covers for the purposes of temporary traffic control. Sign covers shall completely cover the existing Sign. Care should be taken so that covers, fasteners, and installation practices do not damage the existing sign. Tape of any type shall not be applied to the sheeted face of the existing sign under any circumstances. Repair of damage to the existing sign caused by sign covers will be the responsibility of the Contractor. SO OVERLAY TYPE B GUIDE SIGNS MB INSTALL SPECIAL MOUNTING BRACKET Install special mounting brackets at the locations identified in the plans. Refer to Tabulations 190-51 and/or 190-65. PB INSTALL NEW BREAKAWAY STEEL POSTS AND FOOTING PP INSTALL NEW PERFORATED SQUARE TUBE POSTS AND ANCHORS PM INSTALL NEW MASSH-400 POSTS AND ANCHORS Install new breakaway steel posts and footings, perforated square tube posts and anchors, or MASSH-400 posts and anchors at the locations identified in the plans. Refer to the Standard Road Plans, Typicals, and Tabulations 190-51 and 190-50 for post size and footing information. New posts shall be installed in undisturbed soil. The new posts shall not be placed in the hole of removed posts. Remove excess soil from footing hole. Do not spread soil on adjacent seeded or vegetated areas. If note (RR) accompanies (PB), (PP), or (PM), install an existing sign on the new posts. RR REMOVE AND REINSTALL SIGN AS PER PLAN Do not remove existing major Type B guide signs on posts until the new posts are installed. Promptly remove sign and install at the new location. Existing major Type B guide signs on overhead support			259_01 10/15/25 SIGNING NOTES structures, minor Type B guide signs, plywood signs, and Type A signs may be removed and stored. Transport the signs to a DOT storage area as designated by the Engineer. Transport the signs back to the job site when ready for installation at the new location. Signs to be reinstalled shall not be stored for any length of time with the sheeted face in contact with the ground. Replace signs damaged by the Contractor's activities at no additional cost to the Contracting Authority. Payment for Remove and Reinstall Sign includes sign removal, delivery to and from the DOT storage area (if applicable), and reinstallation, including any hardware required for reinstallation. When noted in the plans, payment for delivery and stockpile of existing signs will be separate from the payment for Remove and Reinstall Sign. RA REMOVAL OF TYPE A SIGN ASSEMBLY RB REMOVAL OF TYPE B SIGN ASSEMBLY Type A Sign Assembly consists of one or more signs installed on one or more posts, either directly mounted to the post or mounted to the post with special sign mounting brackets. Type B Sign Assembly consists of the main sign, all auxiliary signs and brackets, and posts. Unless stated otherwise in the plans, remove all posts with the signs and brackets. Remove each sign assembly identified in the plans. Sign posts removed become the property of the Contractor. All other materials removed remain the property of the DOT. For each sign assembly removed, disassemble each assembly before delivering to the DOT. * For Type A sign assemblies, unbolt all signs, special mounting brackets, and posts from each other. * For Type B assemblies, unbolt all extruded aluminum panels, brackets, and posts from each other. Do not damage the disassembled materials. When the plans call for the removal of posts, the entire existing post shall be removed. The post shall not be broken off or cut off at the ground line. Place backfill in holes remaining from the removal of posts and restore to the surrounding conditions. Deliver the removed signs, special sign mounting brackets, and extruded aluminum panels to a DOT storage area, as designated by the Engineer.		
FILE NO.	ENGLISH	DESIGN TEAM	Fobian\Hecker	STATEWIDE	COUNTY	PROJECT NUMBER	NHSN-000-T(474)- -2R-00	SHEET NUMBER	C.6		

259_01 10/15/25 SIGNING NOTES				259_01 10/15/25 SIGNING NOTES					
The concrete footings for steel posts are not considered part of the sign assembly. Refer to note RF for concrete footing removal. Payment for Removal of Type A Sign Assembly or Removal of Type B Sign Assembly includes sign assembly removal and disassembly, post removal (if applicable), delivery to the DOT storage area, placing backfill in holes, and restoration of the surrounding conditions. RF REMOVE EXISTING CONCRETE FOOTING FOR STEEL POST Remove existing concrete footings to a depth of at least 1 ft below the natural groundline. Place backfill in holes remaining from removal and restore to the normal surrounding conditions. This work is incidental to other work and no separate payment will be made. RS REMOVE EXISTING TYPE B SIGN SUPPORT STRUCTURE The following are considered Type B Sign Support Structures: - Overhead sign trusses and foundations - Cantilever sign trusses and foundations - Bridge-mounted brackets Unless stated otherwise in the plans, existing overhead trusses, cantilever trusses, and bridge brackets which are removed become the property of the Contractor. If stated in the plans, deliver overhead trusses, cantilever trusses, and bridge brackets to a DOT storage area, as designated by the Engineer. Payment for Removal of Sign Support Structure and Foundation includes sign support structure removal, delivery to the DOT storage area (if applicable), and restoration of the surrounding conditions. Removal of the foundation includes removal of the stem to a minimum of 1 ft below the natural groundline. L MODIFY SIGN SUPPORT ANGLES NEEDED TO INSTALL SIGNS ON EXISTING SIGN SUPPORT STRUCTURES Refer to the sign support structure details for information on the required angle brackets. Provided all specifications are met, the existing sign support angles may be reused. Install existing sign support angles to be reused only on the sign support structure from which they were removed. Sign support angles removed and not reused become the property of the Contractor. When reusing the existing sign support angles with a shorter replacement sign, the sign support angles may				need to be trimmed. Refer to the sign support details to determine if and where to trim the sign support angles. Do not use existing fasteners. Use new U-Bolts, stainless steel bolts and nuts to install the existing or new sign support angles to the sign support structure. Removal of existing sign support angles is incidental to removal of the sign. Reinstalling and/or modifying existing sign support angles; furnishing and installing new sign support angles (if required); and furnishing and installing new fasteners is incidental to work associated with Type B signs. SIGN INSTALLATION QUALITY CONTROL NOTES Post lengths have been derived from the proposed grading cross sections. Verify post lengths in the field prior to ordering or fabrication. Slight differences between the design template and the actual conditions should be expected. These variations should be resolved by doing some localized shaping and grading. Obtain material needed to meet the site requirements of SI-112 from the excavation and/or the area immediately adjacent to the work. Ensure reshaping work does not substantially change foreslopes or the drainage in the vicinity of the sign. Significant differences between the plan design and the actual field conditions shall be resolved in this manner: Survey the location and draw the actual template on the cross section. Recalculate each post length and compare to the maximum allowable leg length. If all of the maximum leg lengths are less than or equal to the maximum allowable leg length, then the proposed post design will be sufficient. If any leg is greater than the maximum allowable leg length, then submit the cross section with the actual template drawn (including offsets and elevation from the survey shown) to the Engineer. The Engineer may forward this information to the Engineer of Record in order to complete a new post design. Install the footings, stub posts, and posts according to the tolerances shown on the applicable SI Series Standard Road Plans. Footing construction is the controlling activity that substantially affects the quality of the site installation. Verify the elevation difference between the stubs is exactly the same as the elevation difference between the post lengths. If the Engineer requests, submit documentation detailing the site cross section in order to verify site installation.					
FILE NO.	ENGLISH	DESIGN TEAM	Fobian\Hecker	STATEWIDE	COUNTY	PROJECT NUMBER	NHSN-000-T(474)--2R-00	SHEET NUMBER	C.7

108_23A
8/15/22

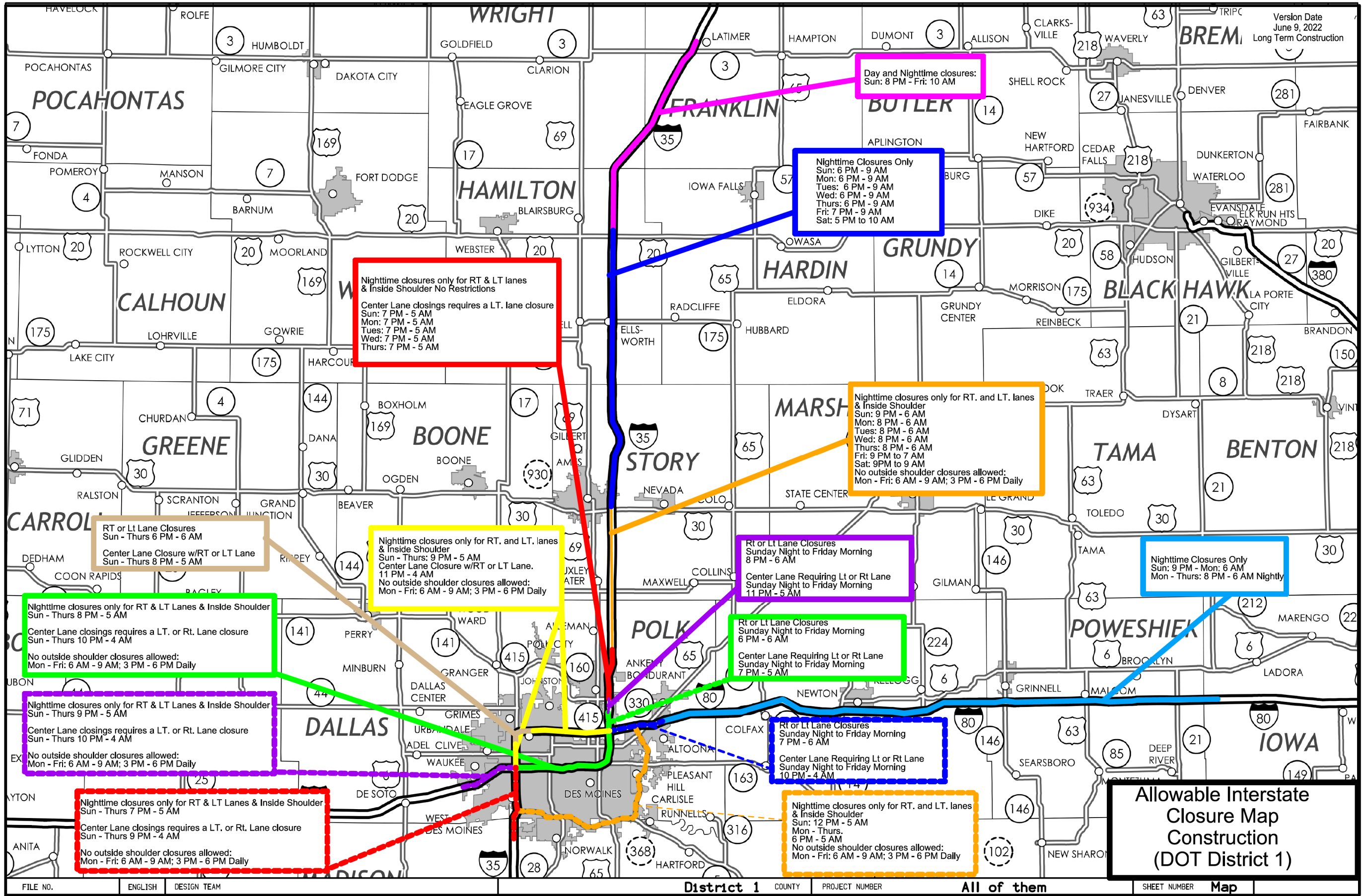
TRAFFIC CONTROL PLAN

Traffic Shall be maintained at all times except as noted.

Traffic control on this project shall be in accordance with the Standard Road Plans included in Tabulation 105-4. For additional information, refer to Part 6 of the Manual on Uniform Traffic Control Devices and the Standard Specifications. The contractor shall coordinate traffic control with other projects in the area as needed.

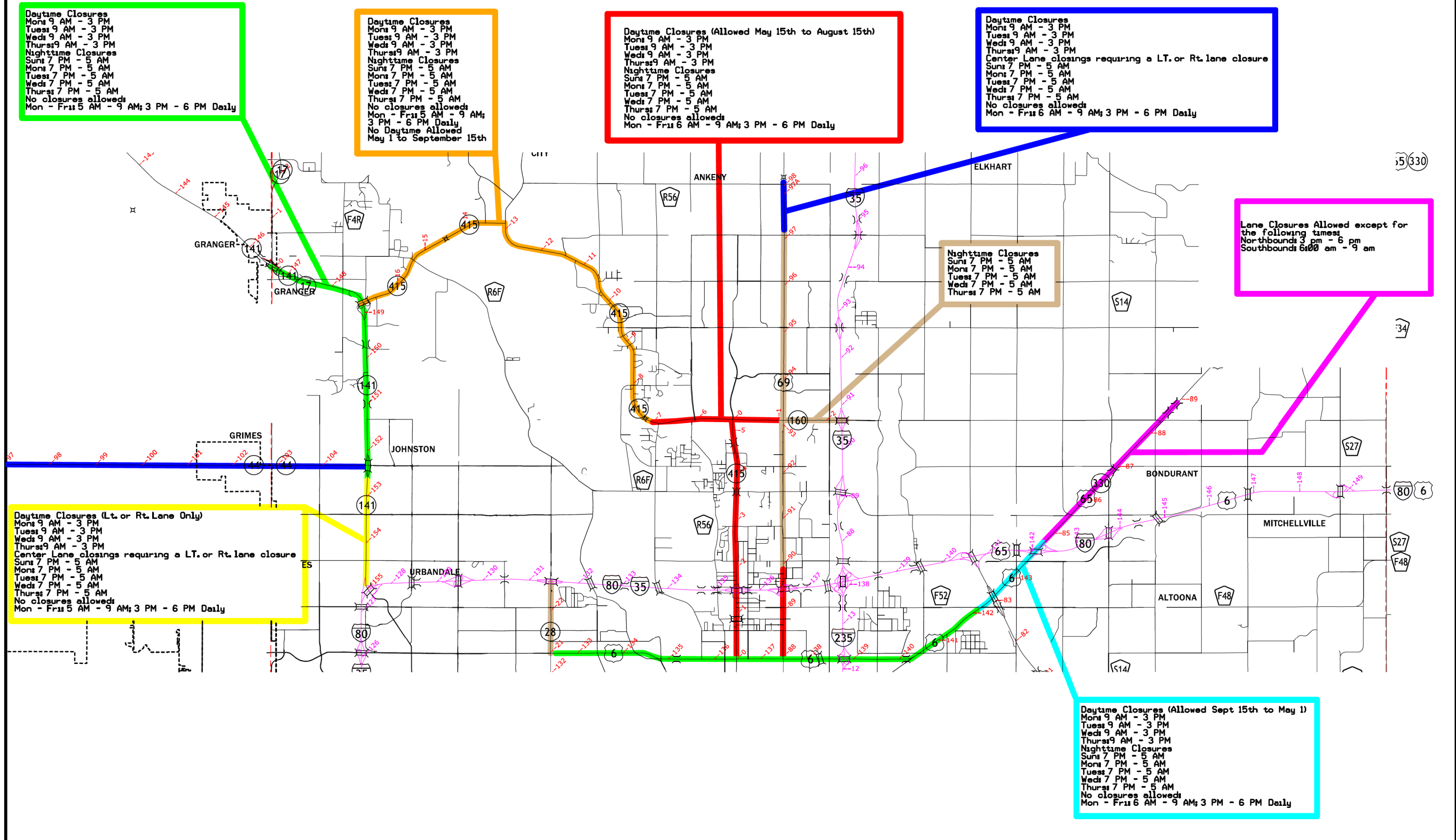
No traffic control devices shall be placed before any of the time restrictions.

All lane and/or shoulder closures shall be coordinated with District Staff or as approved by the Engineer. For lane closure information refer to the Allowable Multi-lane Lane Closure Maps on Sheets J.2 - J.8.



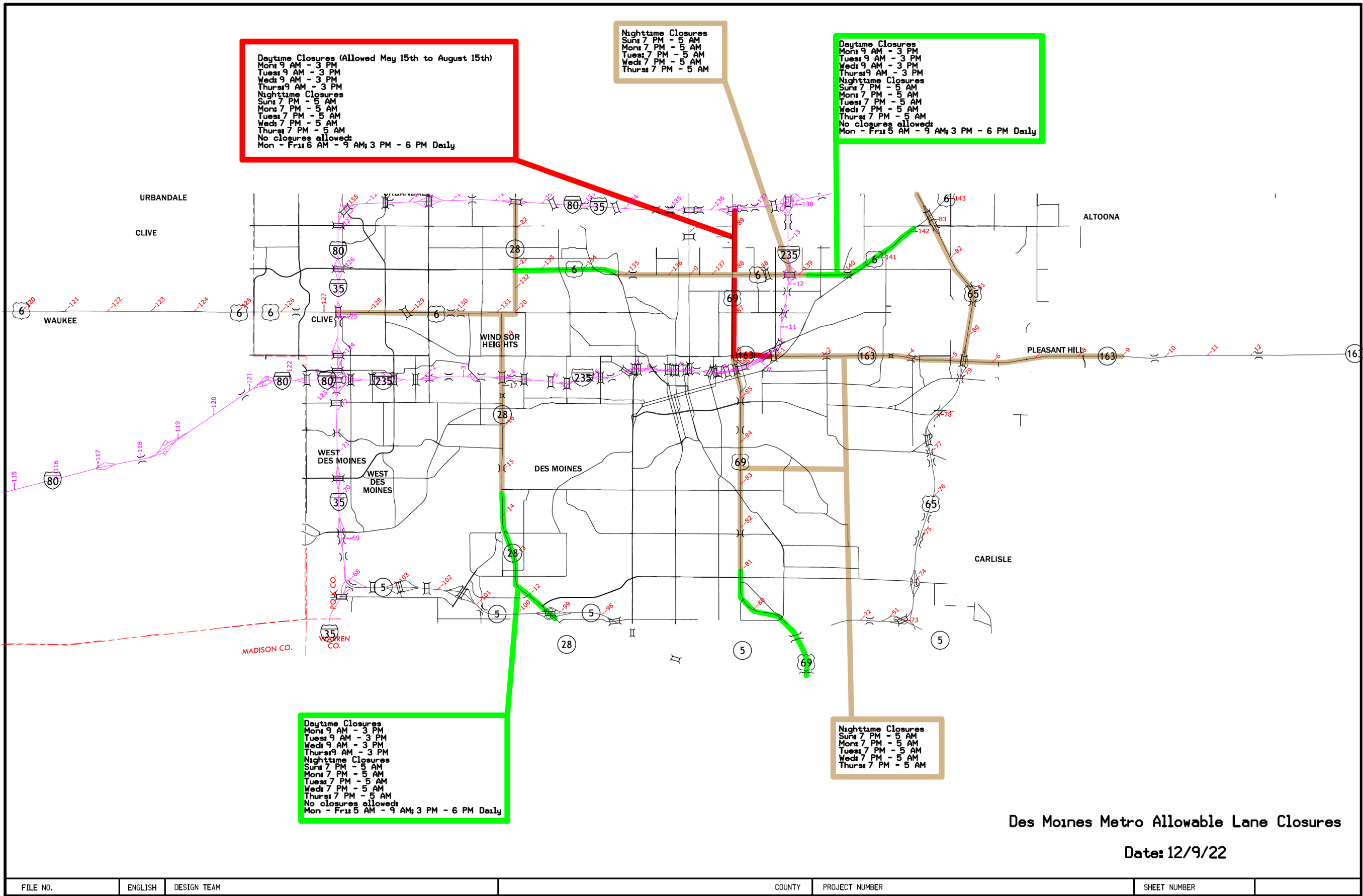
Version Date
June 9, 2022
Long Term Construction

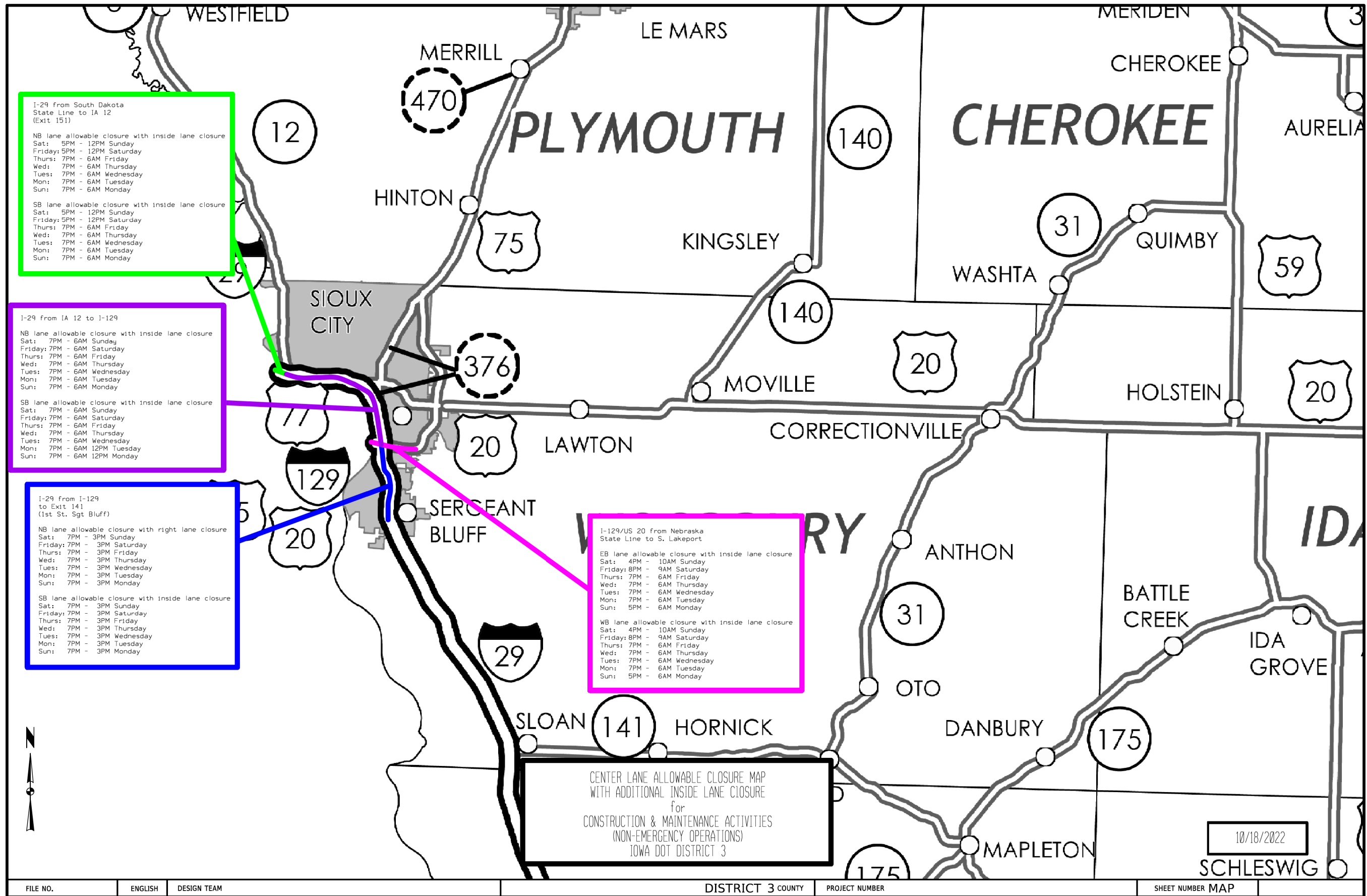
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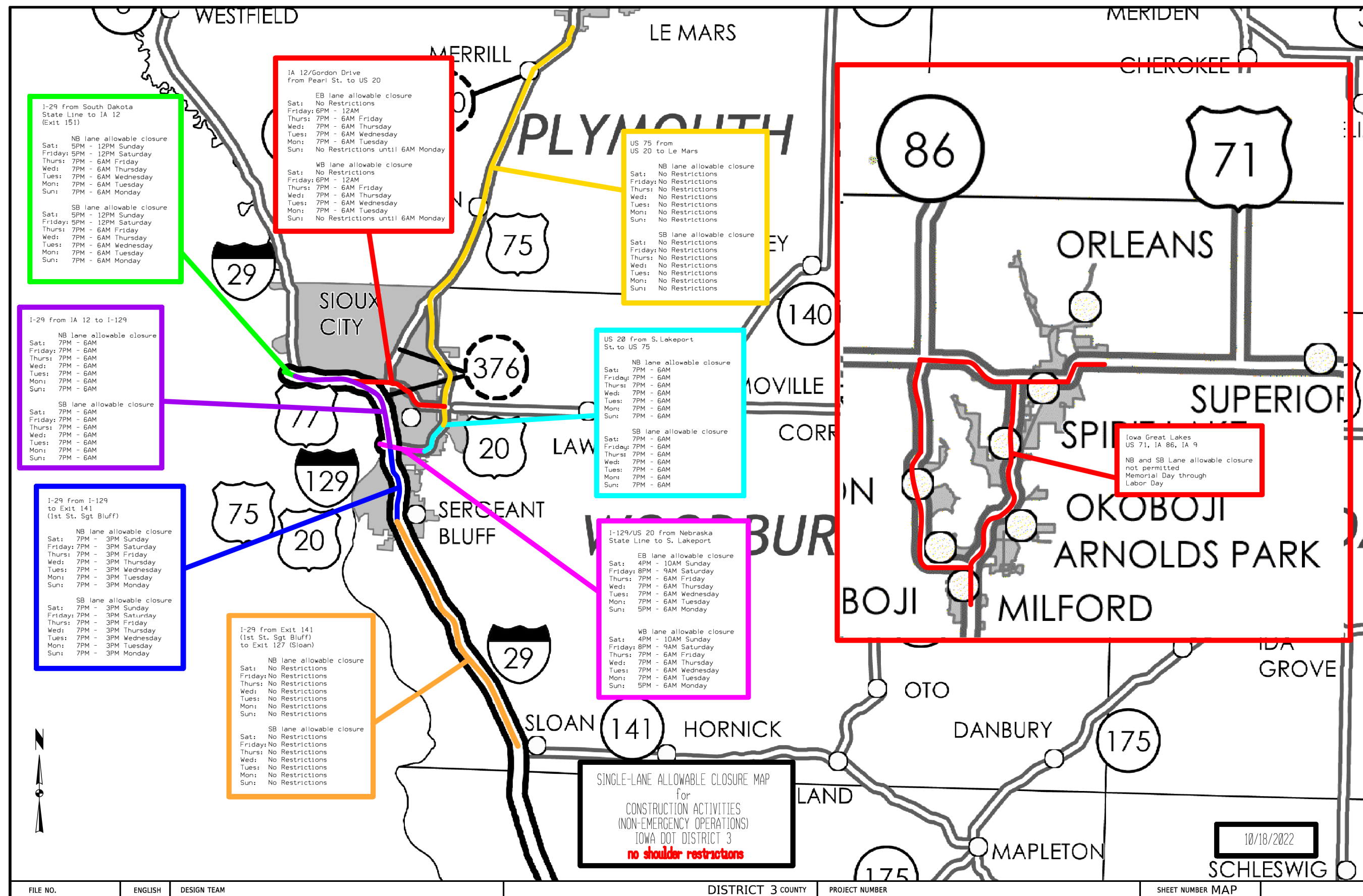
Des Moines Metro Allowable Lane Closures
Date: 12/9/22

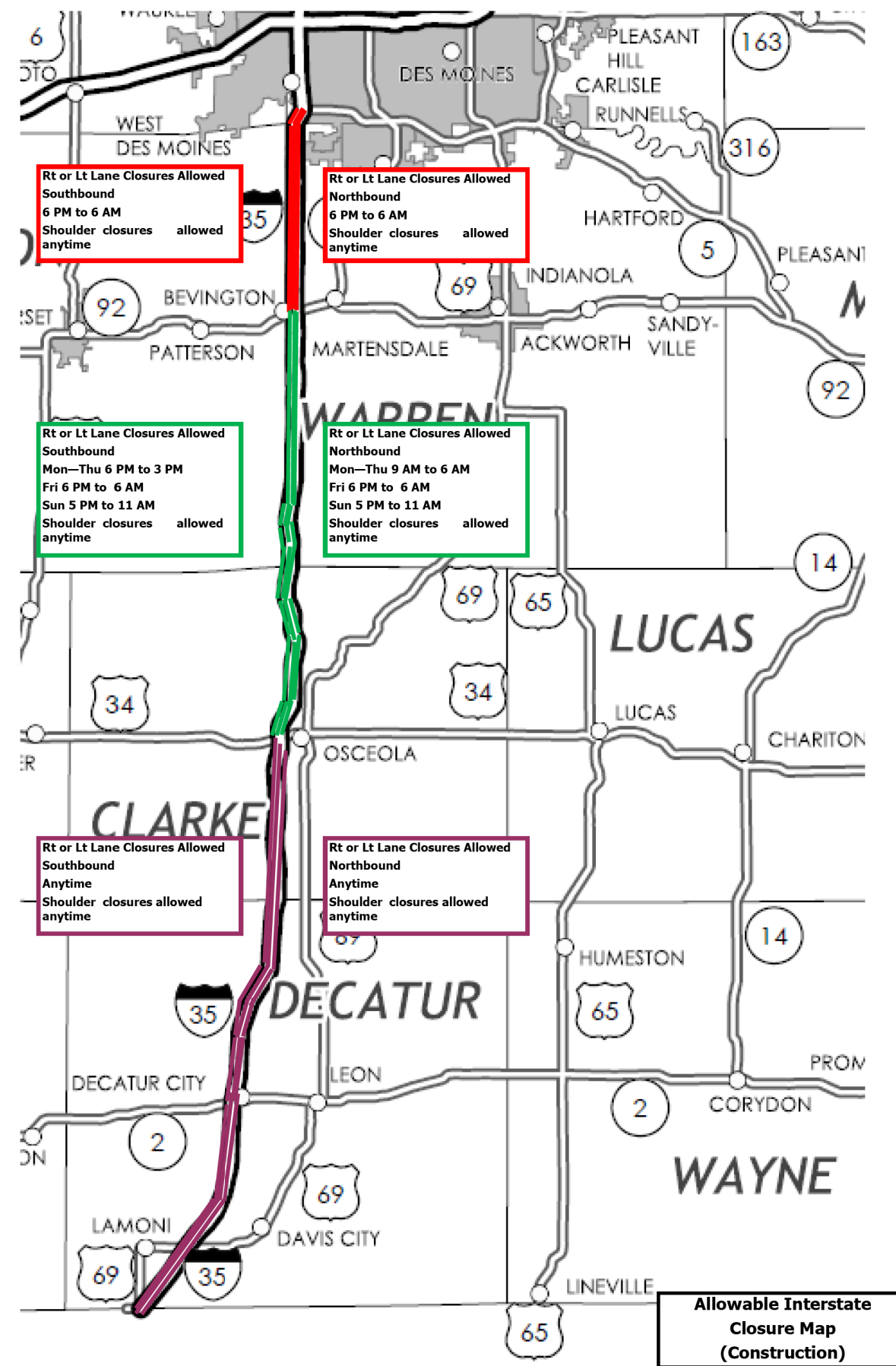
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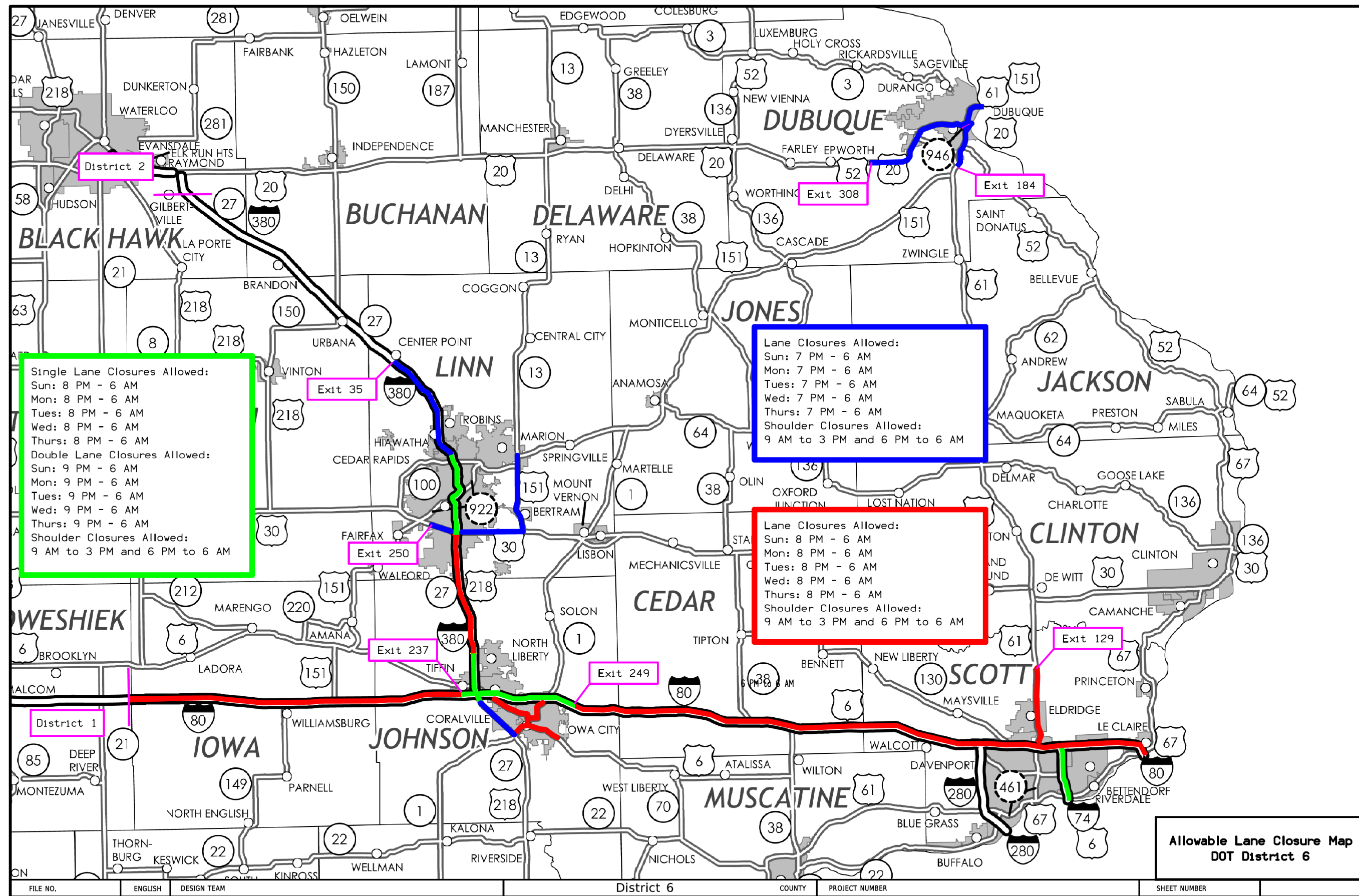




FILE NO.	ENGLISH	DESIGN TEAM	DISTRICT 3 COUNTY	PROJECT NUMBER	SHEET NUMBER MAP
12:03:27 AM 11/5/2022 jprofer c:\pw_work\pwmmain\jprofer\d1808381\ROAD CLOSURE MAPS.dgn					







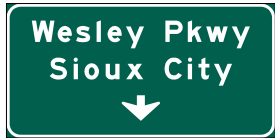
Steel Sign Support Angles¹

Structure No.	Truss Length	Chord Diameter	Sign	Sign Support						Support Bracket			U-Bolts	
				Support No.	Left or Right	A	B	Overall Length	Angle Size	Top or Bottom	Overall Length	D	S	R
Truss 1	80'	5 9/16"	29-97-147 R101	1	L	1' - 11 17/32"	5'-2 15/16"	11' - 8"	6" x 3 1/2" x 1/2"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
				2	R	1' - 11 17/32"	5'-2 15/16"	9' - 2"	5" x 3" x 3/8"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
				3	L	1' - 11 17/32"	5'-2 15/16"	9' - 2"	5" x 3" x 3/8"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
			29-97-147 R102	1	L	1' - 11 17/32"	5'-2 15/16"	8'	5" x 3" x 3/8"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
				2	R	1' - 11 17/32"	5'-2 15/16"	8'	5" x 3" x 3/8"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
				3	L	1' - 11 17/32"	5'-2 15/16"	8'	5" x 3" x 3/8"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
			29-97-147 R103	1	L	1' - 11 17/32"	5'-2 15/16"	10' - 8"	6" x 3 1/2" x 1/2"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
				2	R	1' - 11 17/32"	5'-2 15/16"	10' - 8"	6" x 3 1/2" x 1/2"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
				3	L	1' - 11 17/32"	5'-2 15/16"	10' - 8"	6" x 3 1/2" x 1/2"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
				4	R	1' - 11 17/32"	5'-2 15/16"	10' - 8"	6" x 3 1/2" x 1/2"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
Truss 2	80'	5 9/16"	77-97-1 M004	1	L	2' - 11 17/32"	5'-2 15/16"	9' - 8"	5" x 3" x 3/8"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
				2	R	2' - 11 17/32"	5'-2 15/16"	9' - 8"	5" x 3" x 3/8"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
				3	L	2' - 11 17/32"	5'-2 15/16"	9' - 8"	5" x 3" x 3/8"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
			77-97-1 M005	1	L	2' - 11 17/32"	5'-2 15/16"	9'	5" x 3" x 3/8"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
				2	R	2' - 11 17/32"	5'-2 15/16"	9'	5" x 3" x 3/8"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
				3	L	2' - 11 17/32"	5'-2 15/16"	9'	5" x 3" x 3/8"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
			77-97-1 M006	1	L	2' - 11 17/32"	5'-2 15/16"	9'	5" x 3" x 3/8"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
				2	R	2' - 11 17/32"	5'-2 15/16"	9'	5" x 3" x 3/8"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
				3	L	2' - 11 17/32"	5'-2 15/16"	9'	5" x 3" x 3/8"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"
				4	R	2' - 11 17/32"	5'-2 15/16"	11' - 2"	6" x 3 1/2" x 1/2"	T & B	1' - 6"	6 7/16"	5 1/2"	3 7/32"

1. Steel angles shall comply with ASTM A992, ASTM A572 Grade 50, or ASTM A36.
Steel angles shall be hot-dip galvanized after fabrication in accordance with ASTM A123.



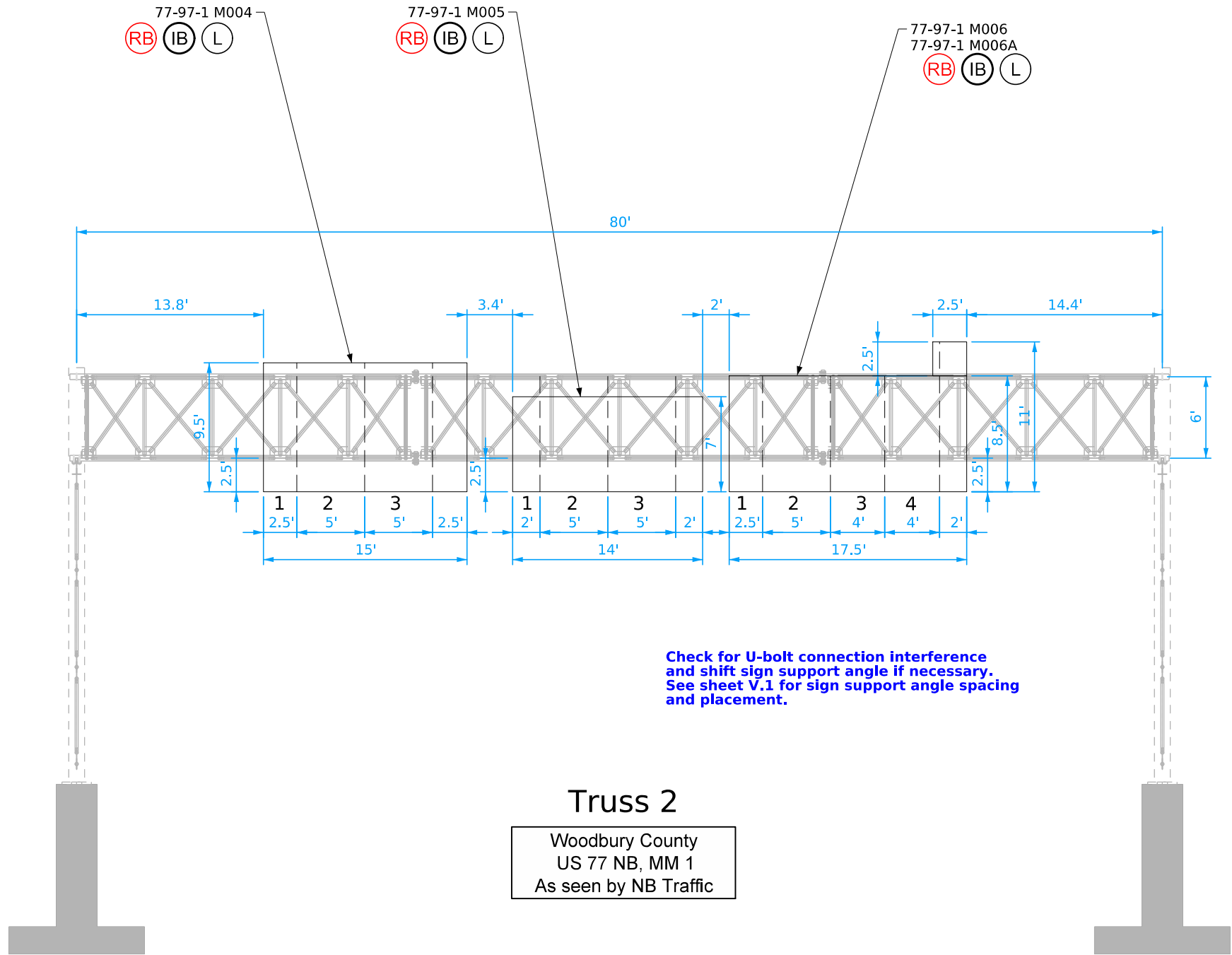
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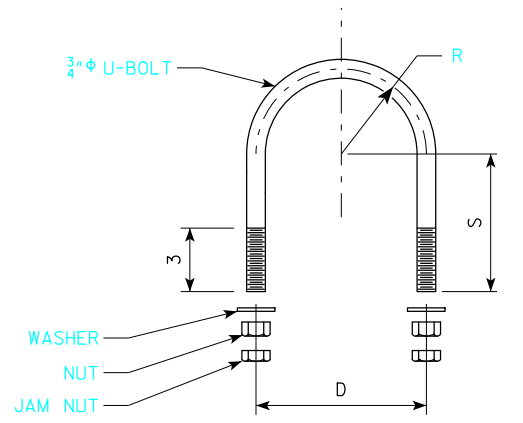
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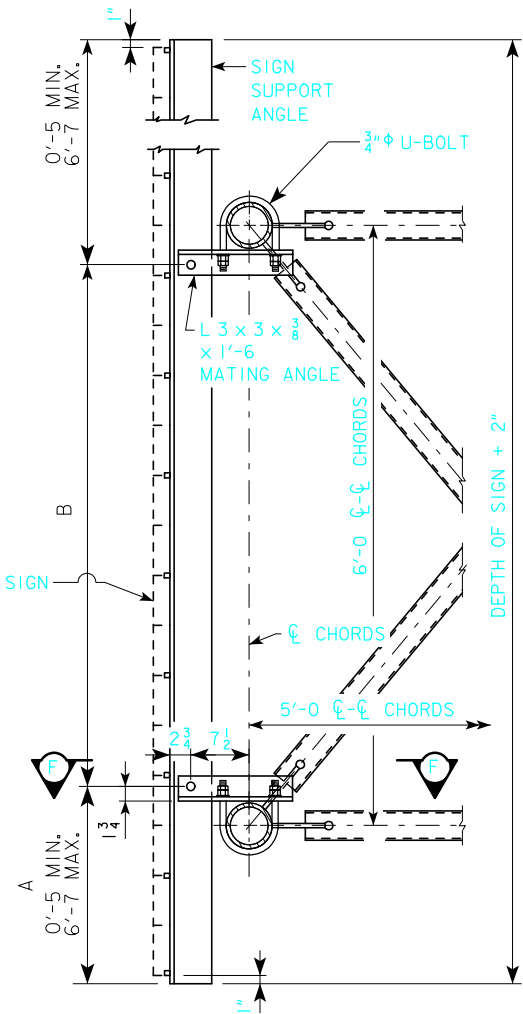
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77-97-1 M006A



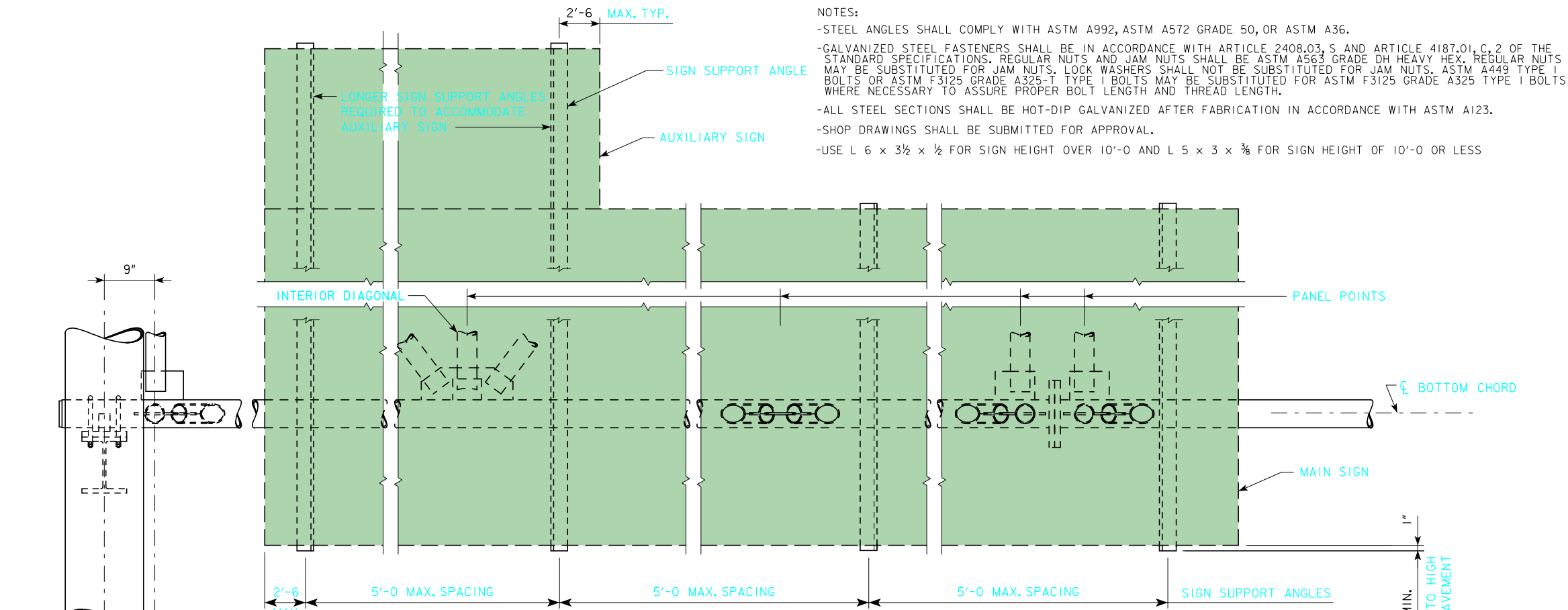
SIGN AND TRUSS
DETAILS



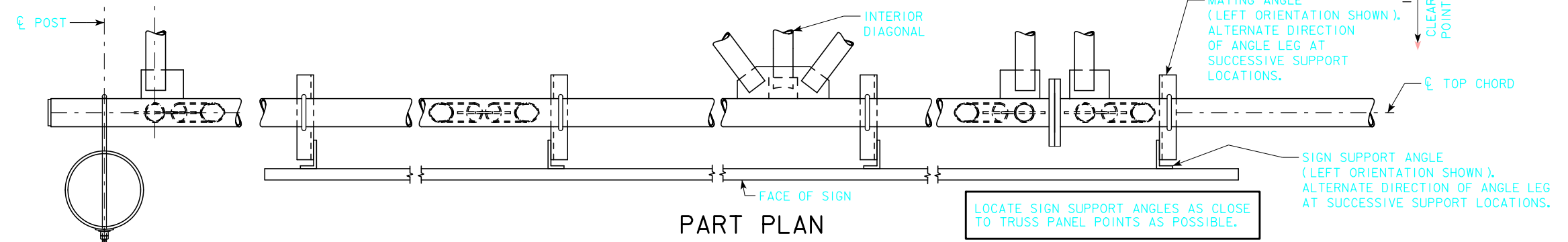
U-BOLT DETAIL



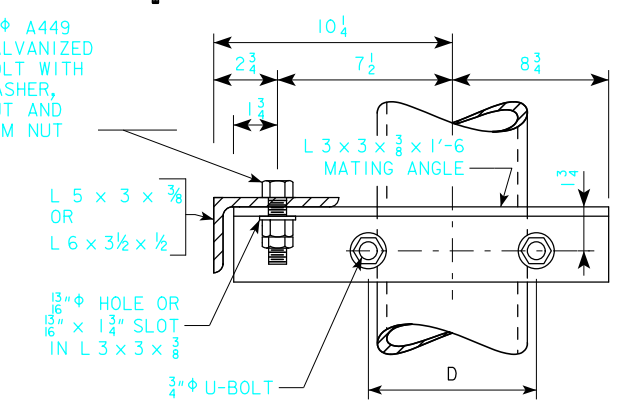
TYPICAL SIGN SECTION



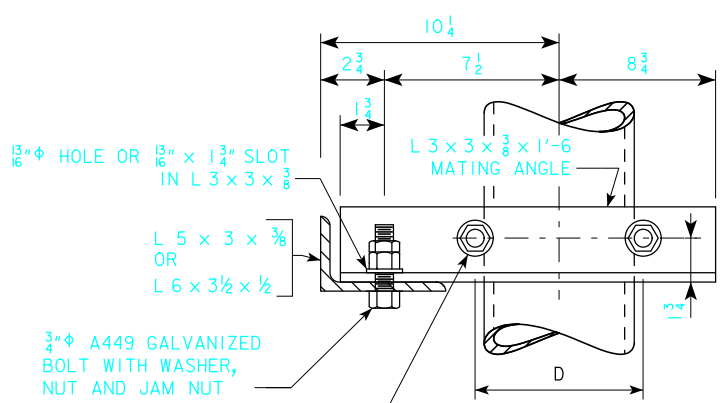
PART ELEVATION



PART PLAN



(LEFT ORIENTATION) SECTION F-F



(RIGHT ORIENTATION)

NOTES:
-STEEL ANGLES SHALL COMPLY WITH ASTM A992, ASTM A572 GRADE 50, OR ASTM A36.
-GALVANIZED STEEL FASTENERS SHALL BE IN ACCORDANCE WITH ARTICLE 2408.03, S AND ARTICLE 4187.01, C, 2 OF THE STANDARD SPECIFICATIONS. REGULAR NUTS AND JAM NUTS SHALL BE ASTM A563 GRADE DH HEAVY HEX. REGULAR NUTS MAY BE SUBSTITUTED FOR JAM NUTS. LOCK WASHERS SHALL NOT BE SUBSTITUTED FOR JAM NUTS. ASTM A449 TYPE I BOLTS OR ASTM F3125 GRADE A325-T TYPE I BOLTS MAY BE SUBSTITUTED FOR ASTM F3125 GRADE A325 TYPE I BOLTS WHERE NECESSARY TO ASSURE PROPER BOLT LENGTH AND THREAD LENGTH.
-ALL STEEL SECTIONS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123.
-SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL.
-USE L 6 x 3 1/2 x 1/2 FOR SIGN HEIGHT OVER 10'-0 AND L 5 x 3 x 3/8 FOR SIGN HEIGHT OF 10'-0 OR LESS

FOR INFORMATION ONLY

OVERHEAD SIGN TRUSS
FOR TRUSSES 1 AND 2

SIGN SUPPORT DETAILS

ALTERNATE DIRECTION OF SIGN SUPPORT
ANGLE LEG AND MATING ANGLE LEG AT
SUCCESSIVE SUPPORTS AS SHOWN IN
PART PLAN.