

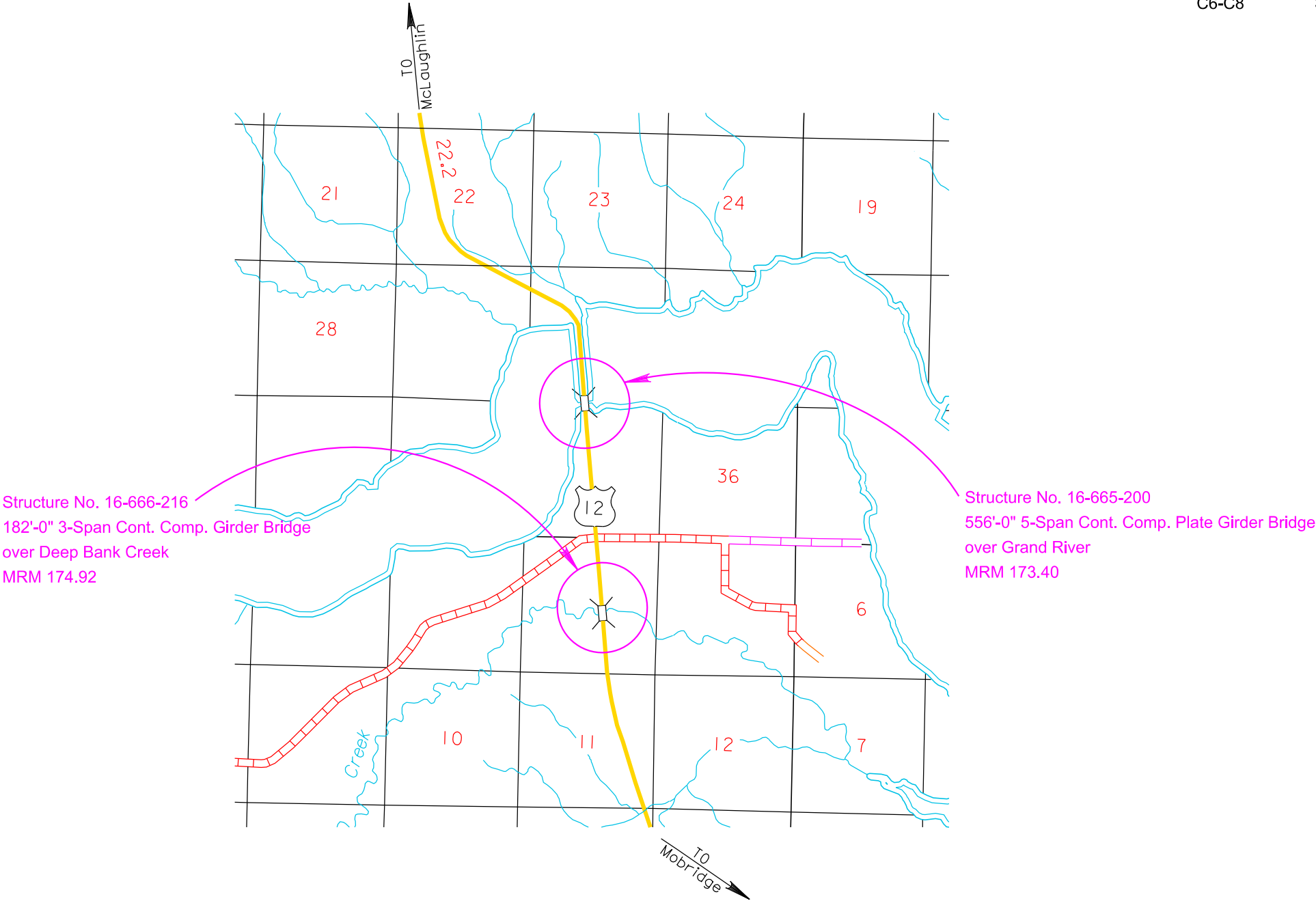
# SECTION C: TRAFFIC CONTROL PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0012(312)173	C1	C8

Plotting Date: 11/07/2024

## INDEX OF SHEETS

C1	General Layout with Index
C2-C3	Estimate with General Notes & Tables
C4-C5	US12 Overwidth Signing Layout
C6-C8	Standard Plates



SECTION C ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E4100	Construction Schedule, Category I	Lump Sum	LS
633E1220	High Build Waterborne Pavement Marking Paint, 4" White	1,476	Ft
633E1222	High Build Waterborne Pavement Marking Paint, 4" Yellow	185	Ft
634E0010	Flagging	40.0	Hour
634E0110	Traffic Control Signs	363.6	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	2	Each
634E0310	Temporary Flexible Vertical Markers (Tabs)	6,360	Ft
634E0560	Remove Pavement Marking, 4" or Equivalent	200	Ft
634E0600	4" Temporary Pavement Marking Tape Type I	288	Ft
634E0900	Portable Temporary Traffic Control Signal	2	Unit
634E1002	Detour and Restriction Signing	464.0	SqFt

SEQUENCE OF OPERATIONS

The Contractor will submit a sequence of operations for approval two weeks prior to the preconstruction meeting. The Contractor is permitted to work on both structures at the same time. If changes to the sequence of operations are proposed during the project, these must be submitted for review a minimum of one week prior to potential implementation. Approval for changes to the sequence of operations will only be allowed when the proposed changes meet with the Department’s intent for traffic control and sequencing of the work.

COORDINATION BETWEEN CONTRACTORS

A separate contract for Project NH 0012(230)171 – PCN 05TY will be awarded to another Contractor for Full Depth Reclamation and Asphalt Concrete Surfacing on US 12 adjacent to this project (PCN 090X). The Full Depth Reclamation for PCN 05TY will begin at MRM 171.00+0.895 and end at MRM 186.00+0.185.

The Contractor will schedule work so as not to interfere with or hinder the progress of the work performed by the other Contractor on PCN 05TY. Conflicting traffic control devices may need to be temporarily adjusted or removed as directed by the Engineer and at no additional cost to the contract.

GENERAL TRAFFIC CONTROL

Existing guide, route, informational logo, regulatory, and warning signs will be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor. Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.

If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD, whichever is more stringent will be used, as determined by the Engineer.

Unless otherwise stated in these plans, work will not be allowed during hours of darkness.

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following pavement marking.

All haul trucks will be equipped with an additional flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights will be incidental to the various related contract items.

Traffic will be maintained on the driving lanes. Use of the shoulder as a driving lane will not be permitted. Any damage to the shoulder due to rerouted traffic or Contractor’s equipment will be repaired at no expense to the Department.

If inappropriate or conflicting pavement markings exist, the markings will be removed and replaced with applicable temporary pavement markings when the work duration is more than 3 days. When the work duration is less than 3 days, the channelizing devices in the area where the pavement markings conflict will be placed at one-half of the normal channelizing device spacing. Pavement marking removals will be incidental to the contract unit price per foot for “Remove Pavement Marking, 4” or equivalent”. Temporary pavement marking will be paid for at the contract unit price per mile/foot for “Temporary Pavement Marking”. The additional channelizing devices will be incidental to the contract lump sum price for “Traffic Control, Miscellaneous”.

A Type 3 Barricade will be installed at the end of a lane closure taper as detailed in these plans.

TRAFFIC CONTROL SIGNS

Traffic control signs have been included in a table for each site. Payment will only be for those signs used on each site.

OVERWIDTH RESTRICTION SIGNING

The Contractor will furnish and install the overwidth restriction signs as shown in these plans. Prior to installing the signs, the Contractor will mark the sign locations and review them with the Engineer. Overwidth restriction signs will be installed on fixed location, ground mounted, breakaway supports. It will be the responsibility of the Contractor to maintain and reinstall these signs during the project as required by the construction progress. Upon completion of the project, the Contractor will remove the overwidth restriction signs.

All costs for furnishing the signs, posts, and mounting hardware, and for installing, maintaining, covering, and removing the overwidth restriction signs will be incidental to the contract unit price per square foot for “Detour and Restriction Signing”.

ITEMIZED LIST FOR DETOUR AND RESTRICTION SIGNING					
SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
C	OVERWIDTH VEHICLES	4	24" x 96"	16.0	64.0
A	USE ALTERNATE ROUTE	2	48" x 96"	32.0	64.0
E	WIDTH RESTRICTION __ FT WIDE __ MILES AHEAD	3	84" x 96"	56.0	168.0
W	WIDTH RESTRICTION __ FT WIDE __ MILES AHEAD	3	84" x 96"	56.0	168.0
		CONVENTIONAL ROAD DETOUR AND RESTRICTION SIGNING SQFT			
		464.0			

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Revised 9/16/25 SML

FLAGGING

Operations will be conducted so that the traveling public will not have to wait longer than 15 minutes at the flagger station.

TEMPORARY PAVEMENT MARKING

Upon completion of structure site work, temporary flexible vertical markers (tabs) will be used to mark centerline of all new surfaces as per the Specifications. Temporary pavement marking paint will not be allowed.

Full reflectivity of all temporary flexible vertical markers (tabs) is required at all times. The Contractor will be required to replace any missing or non-reflective tabs after each installation as detailed below at no additional cost to the State.

Quantities of Temporary Pavement Markings consist of:

One pass after the polymer chip seal

In the absence of a signed lane closure or pilot car operation, FLAGGER (W20-7) symbol signs and flaggers, or a shadow vehicle with rotating yellow lights or strobe lights will be positioned on the shoulder in advance of workers for both directions of traffic during the installation and removal of the temporary flexible vertical markers (tabs). The traffic control device used will be moved intermittently to provide proper warning of the work operation. A ROAD WORK AHEAD (W20-1) sign, a WORKER (W21-1) symbol sign or a BE PREPARED TO STOP (W3-4) sign will be mounted on the rear of the shadow vehicle. The method of traffic control used by the Contractor for this work must be approved by the Engineer.

Prior to nightfall, tabs will be required to mark centerline on segments of roadway where existing centerline markings have been removed and new markings have not been installed.

Contractor will remove and properly dispose of the tabs after permanent pavement marking is applied. Method of removal will be nondestructive to the road surface and will be accomplished within one week of completion of the permanent pavement marking.

TEMPORARY PAVEMENT MARKING TAPE, TYPE I

Temporary pavement marking for stop lines will consist of 4” Temporary Pavement Marking Tape Type I. Placement of each 24” white stop line will be accomplished by placing six pieces of 4” x 12’ tape adjacent to one another. Each workspace requires two stop lines which is an equivalent of approximately 144’ of 4” tape (2 workspaces at 144’ = 288’).

Temporary pavement marking on centerline will consist of temporary flexible vertical markers (tabs) or temporary raised pavement markers and will be used as depicted on standard plate 634.25 and 634.26 when the stop condition must remain in place during nighttime hours, 9:00 pm to 6:00 am (Estimate 2 workspaces remaining during nighttime hours x 2,200’ per workspace = 4,400’+ 980’ taper and centerline x 2 phases=1,960’) = 6,360’.

Temporary tape will be removed upon completion of the project.

**PORTABLE TEMPORARY TRAFFIC CONTROL SIGNAL**

The Contractor will furnish, install, operate, and maintain a portable temporary traffic control signal during construction phases as determined by the Engineer. There will be one controller and one slave unit per location.

The portable temporary traffic control signal will be set up to dwell in red. Detection will be video, microwave, or radar. The green time may be adjusted as needed. The initial timings for the construction sites are given below:

US 12 Bridge over Grand River (Structure No. 16-665-200):

Red = 30 sec.                      Yellow = 4 sec.                      Green = 17 sec.

The timings above are based on 1,116 feet between opposing stop lines.

All vehicle signal heads will have backplates with retroreflective border. The vehicle signal head backplates will have a factory applied 3-inch wide yellow retroreflective border. Sheeting for the border will be Type IX or Type XI in conformance with ASTM D4956.

Signal backplates will be polycarbonate, aluminum, or aluminum-composite. Minimum material thicknesses are:

- Polycarbonate, 0.10-inch
- Aluminum, 0.06-inch
- Aluminum-Composite, 0.08-inch

Signal backplates will extend not less than 5 inches from the edge of the signal head at the top, bottom, and sides.

All traffic signal equipment and materials will meet the requirements of Sections 635 and 985 of the Specifications except the controller requirements.

All costs involved with constructing the portable temporary traffic control signal as specified above and on the plans, will be included in the contract unit price per unit for “Portable Temporary Traffic Control Signal”.

**PRESS RELEASE ANNOUNCEMENTS**

The SDDOT will prepare a press release to be released 5 days prior to any phase change or any other major change that affects traffic flow. The SDDOT will be responsible to keep law enforcement, emergency services, and the traveling public notified of changes in project access. The Contractor will provide the Engineer with pertinent information 7 days prior to any phase change or any other major change that affects traffic flow.

**HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT**

All materials will be applied as per manufacturer’s recommendations. High build waterborne pavement marking paint will conform to the supplemental specifications for Section 980.1 B.

Reflective media will consist of glass beads. Reflective media will require a Certificate of Compliance for Certification for each source and lot. Acceptance sampling will not be required.

**RATES OF MATERIALS FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT**

Solid 4” line = 27.8 Gals/Mile  
Dashed 4” line = 7.6 Gal/Mile  
Glass Beads = 8 Lbs/Gal

All cost for materials, labor, and equipment necessary to furnish and install the pavement markings will be incidental to the contract unit price for the respective High Build Waterborne Pavement Marking Paint items.

**RETROREFLECTIVITY FOR PAVEMENT MARKING PAINT**

The Department may take retroreflectivity readings on the pavement marking lines after 2 days and within 30 days of the line application using either a portable or mobile retroreflectometer that conforms to 30-meter geometry. If the Department chooses to take retroreflectivity readings, three retroreflectivity readings will be taken on each line at each test location. The three readings will be averaged and become the reading for that test location.

If the Department chooses to take retroreflectivity readings, three readings will be taken on the edge lines and lane lines in the direction of application. For combination solid yellow and skip yellow lines for turn lanes and for centerline markings on two-way roadways, three readings will be taken in one direction, the reflectometer will be turned 180 degrees and three more readings will be taken. The six readings for the centerline markings will be averaged and become the test reading for that test location.

If the Department chooses to take readings, the minimum retroreflectivity values will be 275 mc/m<sup>2</sup>/lux for white and 170 mc/m<sup>2</sup>/lux for yellow.

**ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS**

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
K1-1	STOP	2	30"	5.2	10.4
R10-6	STOP HERE ON RED	2	24" x 36"	6.0	12.0
W1-4	REVERSE CURVE (L or R)	2	48" x 48"	16.0	32.0
W3-1	STOP AHEAD (symbol)	2	48" x 48"	16.0	32.0
W3-3	SIGNAL AHEAD (symbol)	2	48" x 48"	16.0	32.0
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6.3	25.2
W16-2P	FEET (supplemental distance plaque)	2	30" x 24"	5.0	10.0
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-4	ONE LANE ROAD AHEAD	4	48" x 48"	16.0	64.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
G20-2	END ROAD WORK	4	36" x 18"	4.5	18.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		363.6			

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The Contractor will furnish, install, operate, and maintain a portable temporary traffic control signal during construction phases as determined by the Engineer. There will be one controller and one slave unit per location.

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US 12 Bridge over Grand River (Structure No. 16-665-200):

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All vehicle signal heads will have backplates with retroreflective border. The vehicle signal head backplates will have a factory applied 3-inch wide yellow retroreflective border. Sheeting for the border will be Type IX or Type XI in conformance with ASTM D4956.

Signal backplates will be polycarbonate, aluminum, or aluminum-composite. Minimum material thicknesses are:

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HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

All materials will be applied as per manufacturer’s recommendations. High build waterborne pavement marking paint will conform to the supplemental specifications for Section 980.1 B.

Reflective media will consist of glass beads. Reflective media will require a Certificate of Compliance for Certification for each source and lot. Acceptance sampling will not be required.

RATES OF MATERIALS FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

Solid 4” line = 27.8 Gals/Mile  
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If the Department chooses to take retroreflectivity readings, three readings will be taken on the edge lines and lane lines in the direction of application. For combination solid yellow and skip yellow lines for turn lanes and for centerline markings on two-way roadways, three readings will be taken in one direction, the reflectometer will be turned 180 degrees and three more readings will be taken. The six readings for the centerline markings will be averaged and become the test reading for that test location.

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		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
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R10-6	STOP HERE ON RED	2	24" x 36"	6.0	12.0
W1-4	REVERSE CURVE (L or R)	2	48" x 48"	16.0	32.0
W3-1	STOP AHEAD (symbol)	2	48" x 48"	16.0	32.0
W3-3	SIGNAL AHEAD (symbol)	2	48" x 48"	16.0	32.0
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6.3	25.2
W16-2P	FEET (supplemental distance plaque)	2	30" x 24"	5.0	10.0
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-4	ONE LANE ROAD AHEAD	4	48" x 48"	16.0	64.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
G20-2	END ROAD WORK	4	36" x 18"	4.5	18.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		363.6			



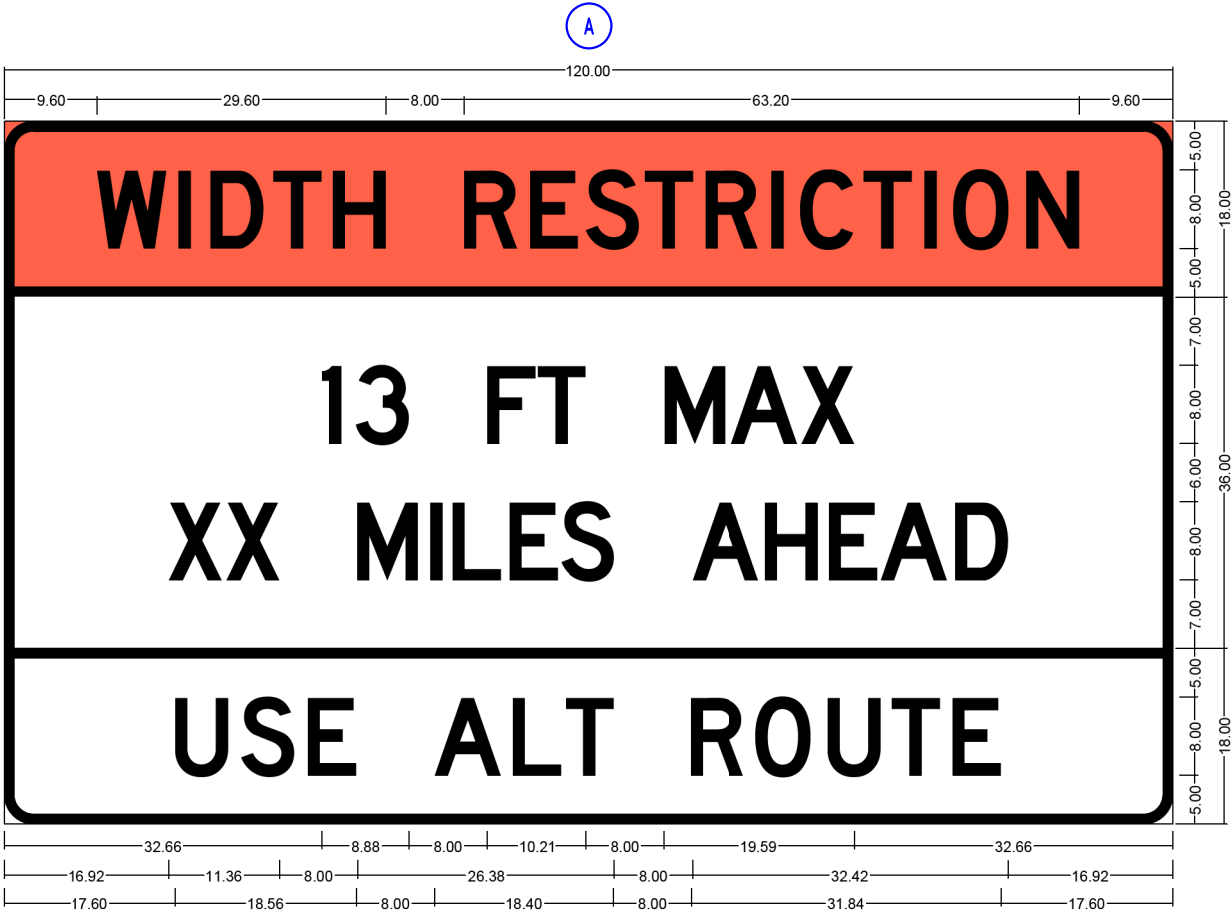
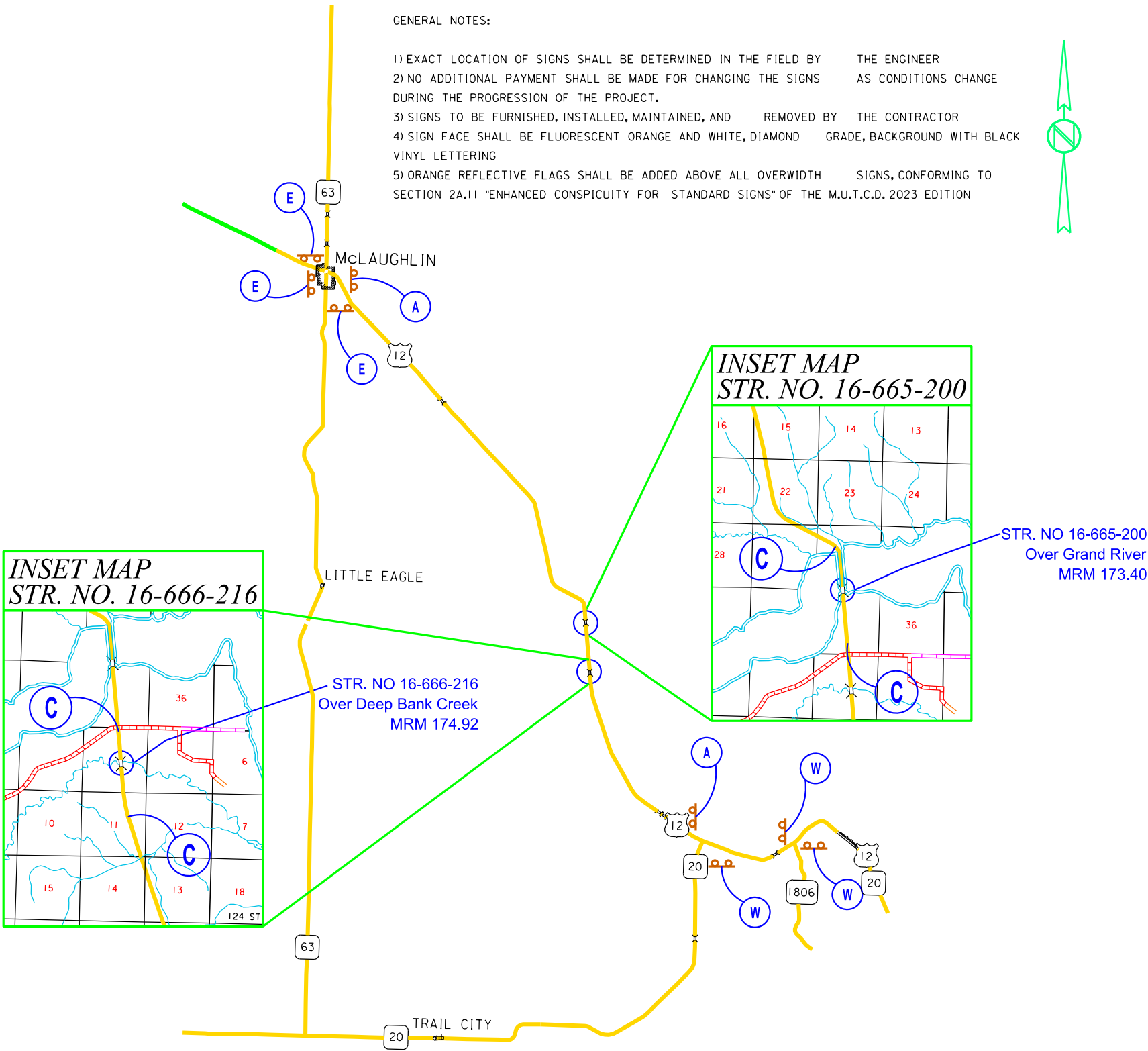
# OVERWIDTH DETOUR LAYOUT US12 & WIDTH RESTRICTION SIGN DETAILS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0012(312)173	C4	C8

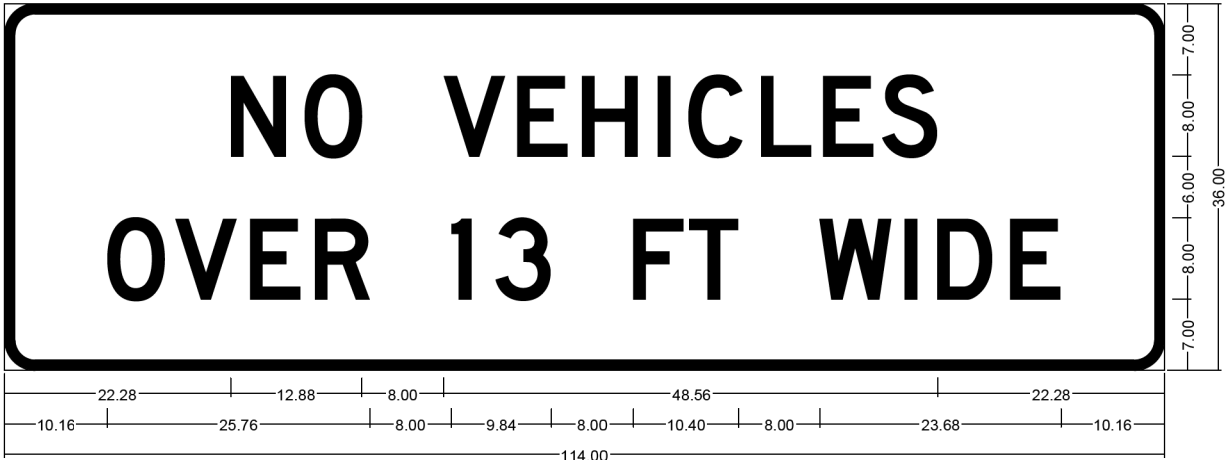
Plotting Date: 11/07/2024

GENERAL NOTES:

- 1) EXACT LOCATION OF SIGNS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER
- 2) NO ADDITIONAL PAYMENT SHALL BE MADE FOR CHANGING THE SIGNS AS CONDITIONS CHANGE DURING THE PROGRESSION OF THE PROJECT.
- 3) SIGNS TO BE FURNISHED, INSTALLED, MAINTAINED, AND REMOVED BY THE CONTRACTOR
- 4) SIGN FACE SHALL BE FLUORESCENT ORANGE AND WHITE, DIAMOND GRADE, BACKGROUND WITH BLACK VINYL LETTERING
- 5) ORANGE REFLECTIVE FLAGS SHALL BE ADDED ABOVE ALL OVERWIDTH SIGNS, CONFORMING TO SECTION 2A.11 "ENHANCED CONSPICUITY FOR STANDARD SIGNS" OF THE M.U.T.C.D. 2023 EDITION



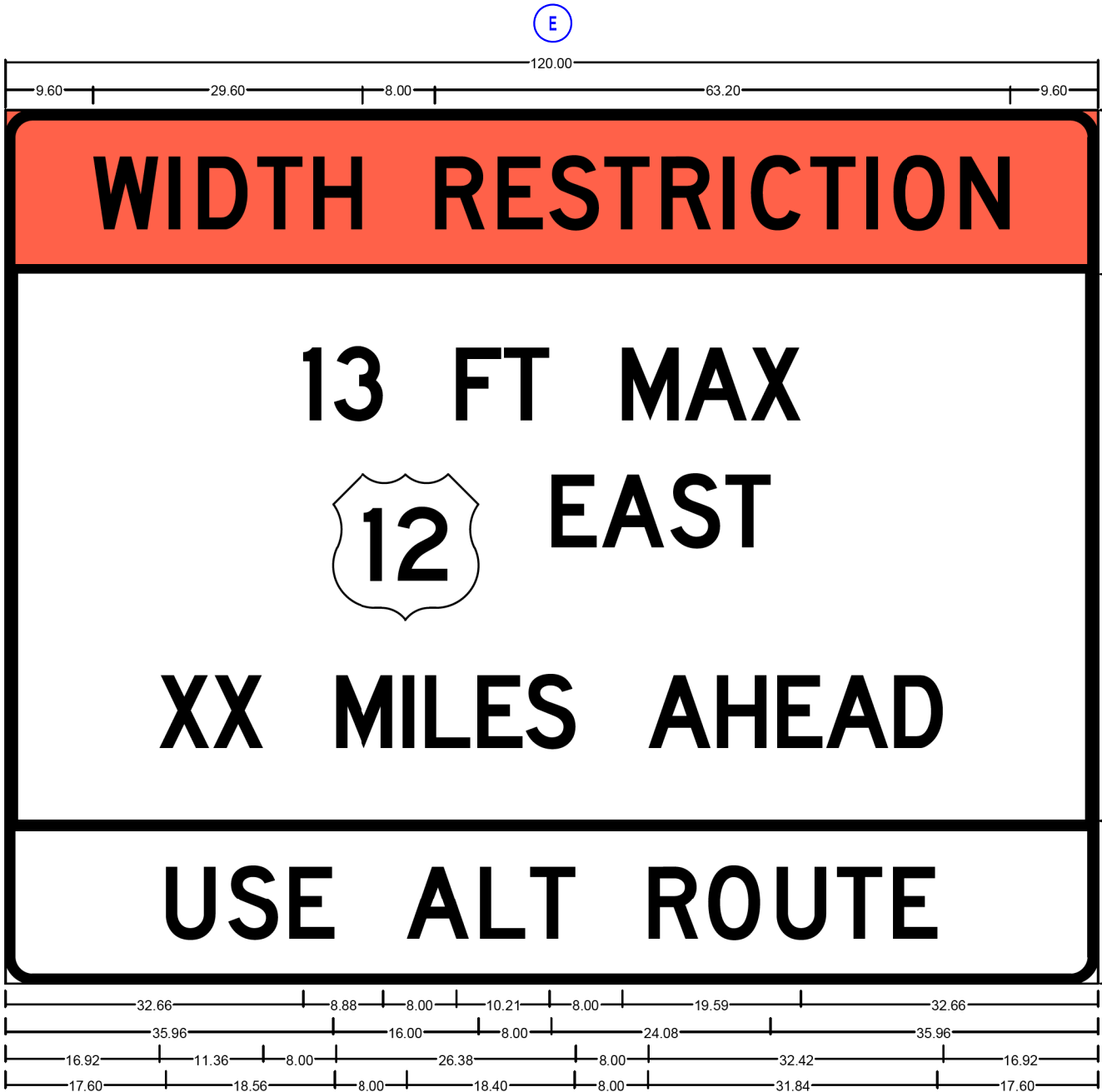
3.00" Radius, 1.00" Border, Black on Fluorescent Orange;  
"WIDTH RESTRICTION", D 2K;  
3.00" Radius, 1.00" Border, Black on White;  
"13 FT MAX", D 2K 60% spacing; "XX MILES AHEAD", D 2K 60% spacing;  
3.00" Radius, 1.00" Border, Black on White;  
"USE ALT ROUTE", D 2K;



WIDTH RESTRICTION SIGN DETAILS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0012(312)173	C5	C8

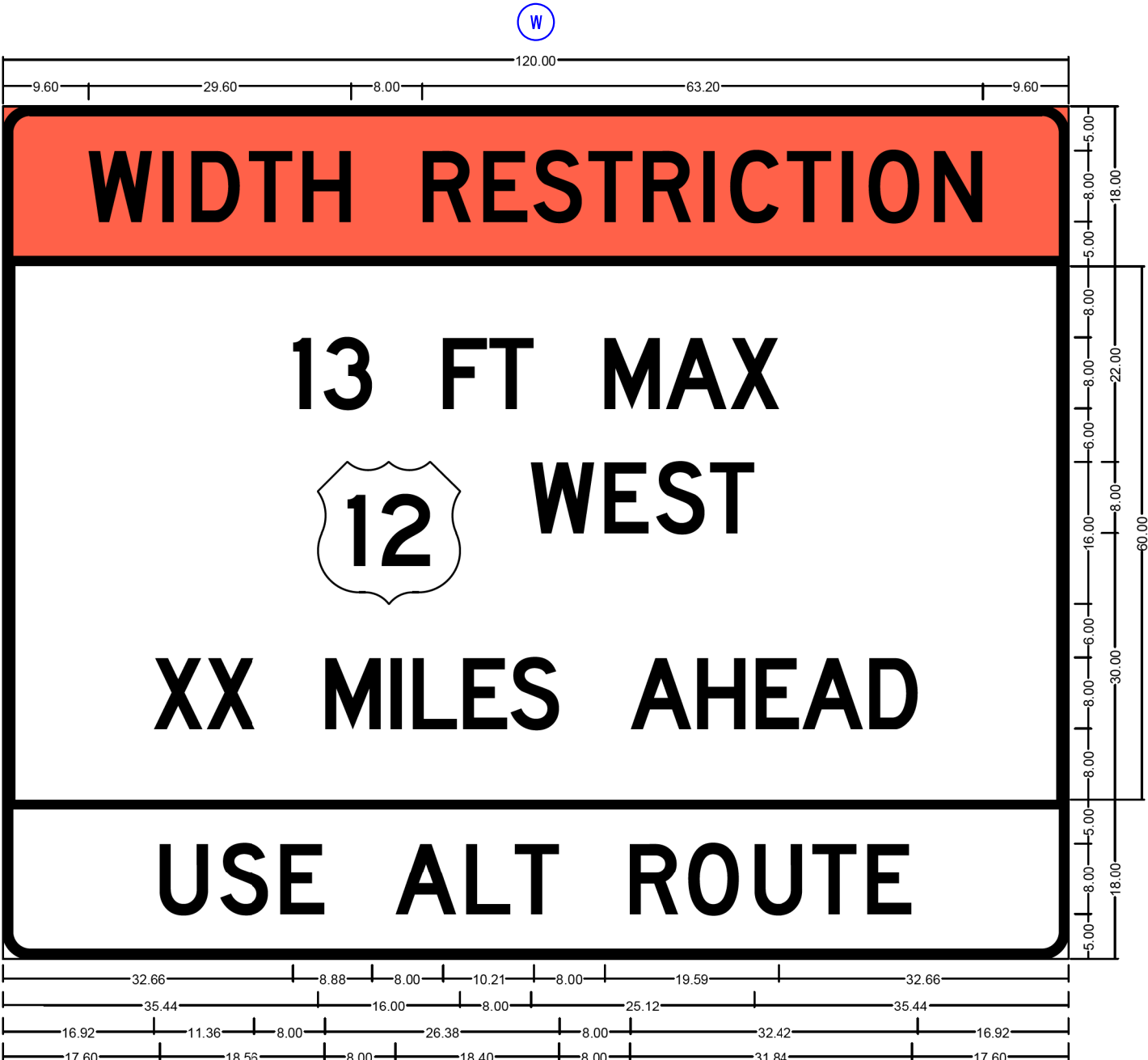
Plotting Date: 11/07/2024



3.00" Radius, 1.00" Border, Black on Fluorescent Orange;  
"WIDTH RESTRICTION", D 2K;

6.00" Radius, 1.25" Border, Black on White;  
"13 FT MAX", D 2K 60% spacing; "EAST", D 2K; "XX MILES AHEAD", D 2K 60% spacing;

3.00" Radius, 1.00" Border, Black on White;  
"USE ALT ROUTE", D 2K;



3.00" Radius, 1.00" Border, Black on Fluorescent Orange;  
"WIDTH RESTRICTION", D 2K;

6.00" Radius, 1.25" Border, Black on White;  
"13 FT MAX", D 2K 60% spacing; "WEST", D 2K; "XX MILES AHEAD", D 2K 60% spacing;

3.00" Radius, 1.00" Border, Black on White;  
"USE ALT ROUTE", D 2K;

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	25
35 - 40	350	25
45	500	25
50	500	50
55	750	50
60 - 65	1000	50

- Flagger
- Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) will be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

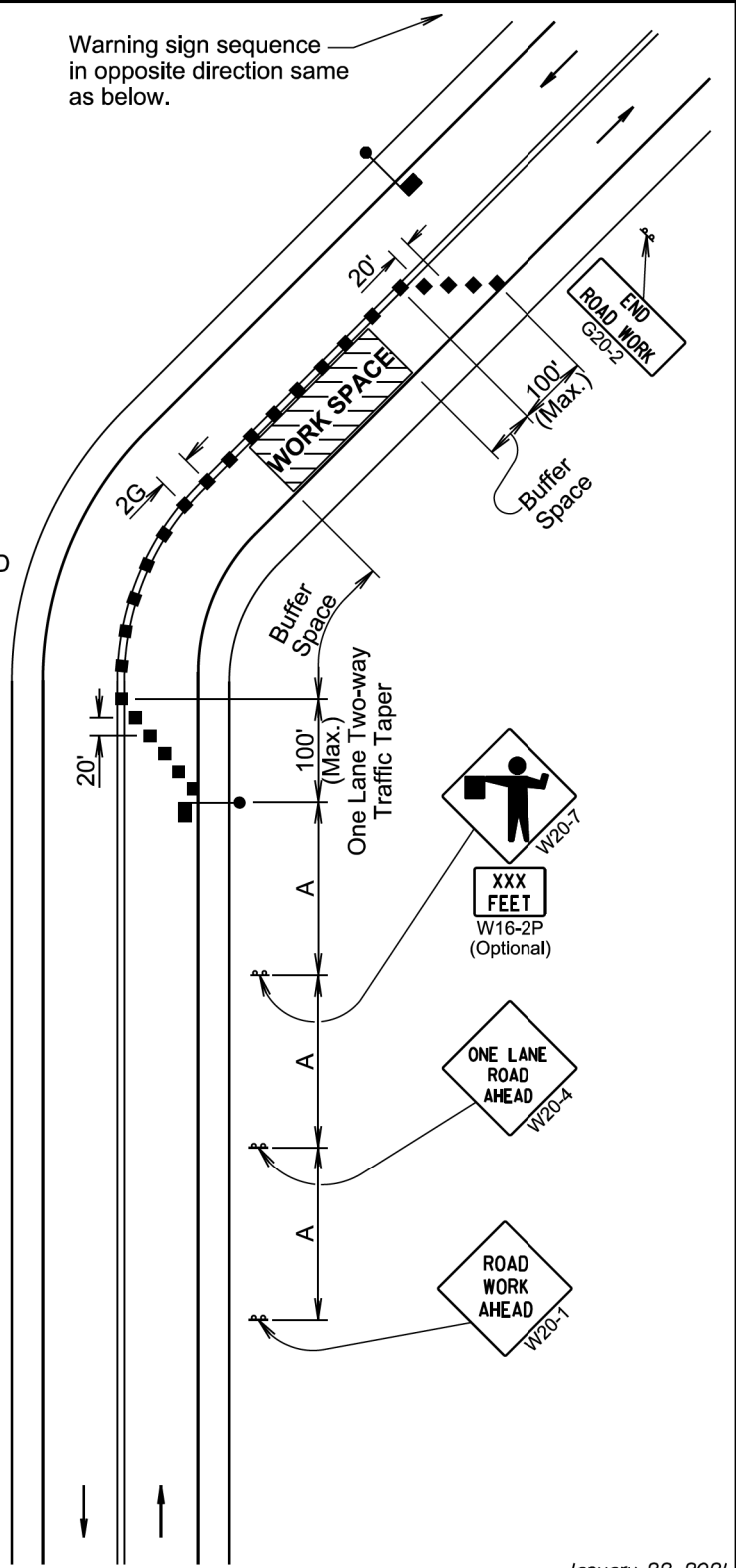
The channelizing devices will be drums or 42" cones.

Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.

Channelizing devices and flaggers will be used at intersecting roads to control intersecting road traffic as required.

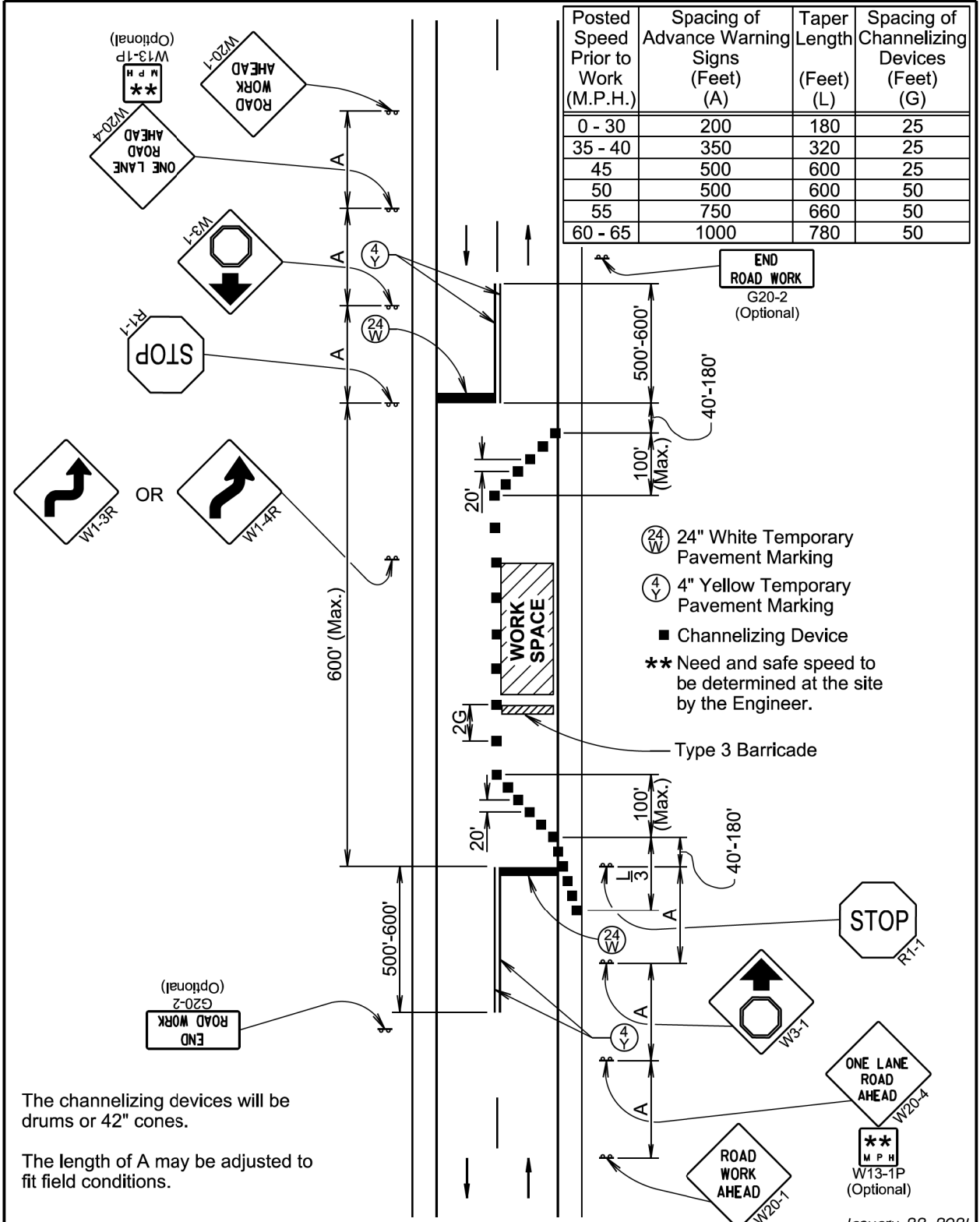
The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

The length of A may be adjusted to fit field conditions.



January 22, 2021

Published Date: 2026	S D D O T	LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
			Sheet 1 of 1



The channelizing devices will be drums or 42" cones.

The length of A may be adjusted to fit field conditions.

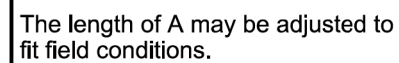
Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45	500	600	25
50	500	600	50
55	750	660	50
60 - 65	1000	780	50

- 24" White Temporary Pavement Marking
- 4" Yellow Temporary Pavement Marking
- Channelizing Device
- \*\* Need and safe speed to be determined at the site by the Engineer.

Type 3 Barricade

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Published Date: 2026	S D D O T	LANE CLOSURE USING STOP SIGNS	PLATE NUMBER 634.25
			Sheet 1 of 1



**END ROAD WORK**  
G20-2

24" W 24" White Temporary Pavement Marking

4" W 4" White Temporary Pavement Marking

4" Y 4" Yellow Temporary Pavement Marking

■ Channelizing Device

● Traffic Signal

★ Lighting (Optional)

\*\* Need and safe speed to be determined at the site by the Engineer.

100' (Max.)

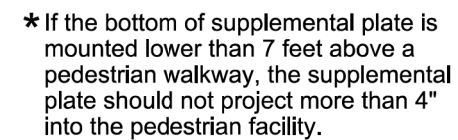
40'-180'

50'

January 22, 2021

**Published Date: 2026**

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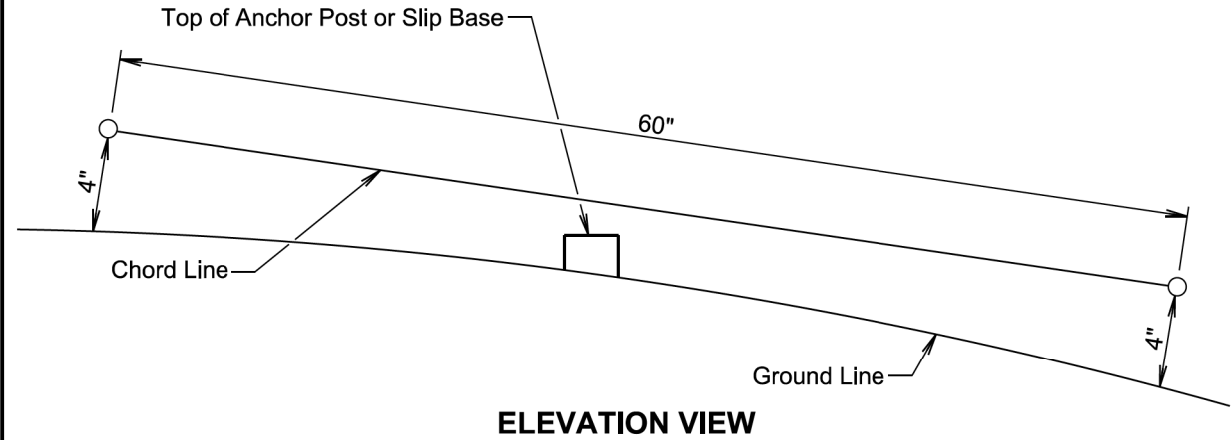
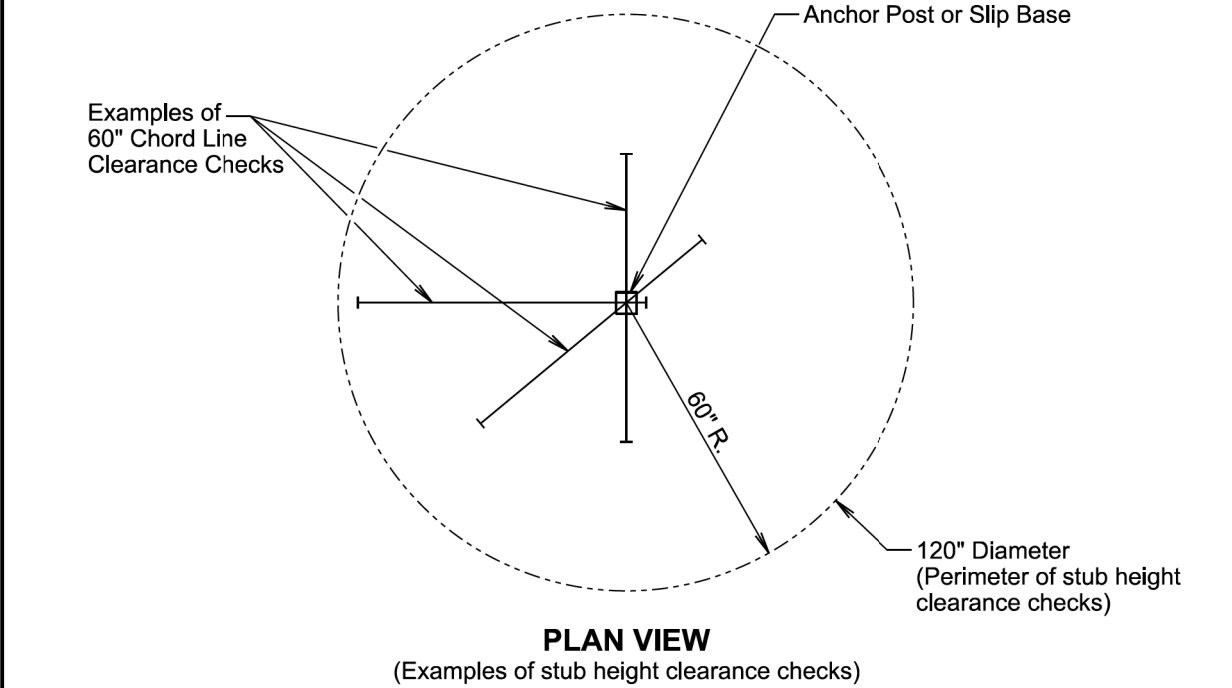
***Published Date: 2026***

Sheet 1 of 1



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Plotting Date: 06/13/2025



**GENERAL NOTES:**

The top of anchor posts and slip bases WILL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height will be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

January 22, 2021

<i>Published Date: 2026</i>	<b>S D D O T</b>	<b>BREAKAWAY SUPPORT STUB CLEARANCE</b>	<b>PLATE NUMBER</b> <b>634.99</b>
			Sheet 1 of 1