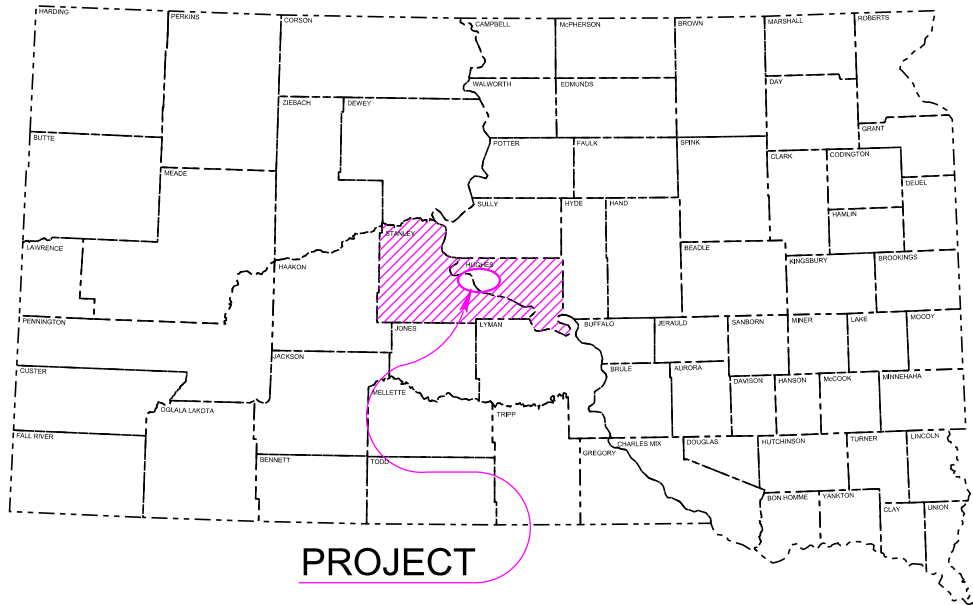


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Plotted From - TRPR25584



PROJECT

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
PROJECT PH 0030(38)
U.S. HIGHWAY 14, US14BYP, &
U.S. HIGHWAY 83
HUGHES & STANLEY COUNTIES
DURABLE PAVEMENT MARKINGS
PCN 06AR

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0030(38)	1	19

Plotting Date: 03/07/2025

INDEX OF SHEETS

1	Project Layout with Index
2-8	Estimates, General Notes & Tables
9-14	Fixed Sign Layouts
15-19	Standard Plates



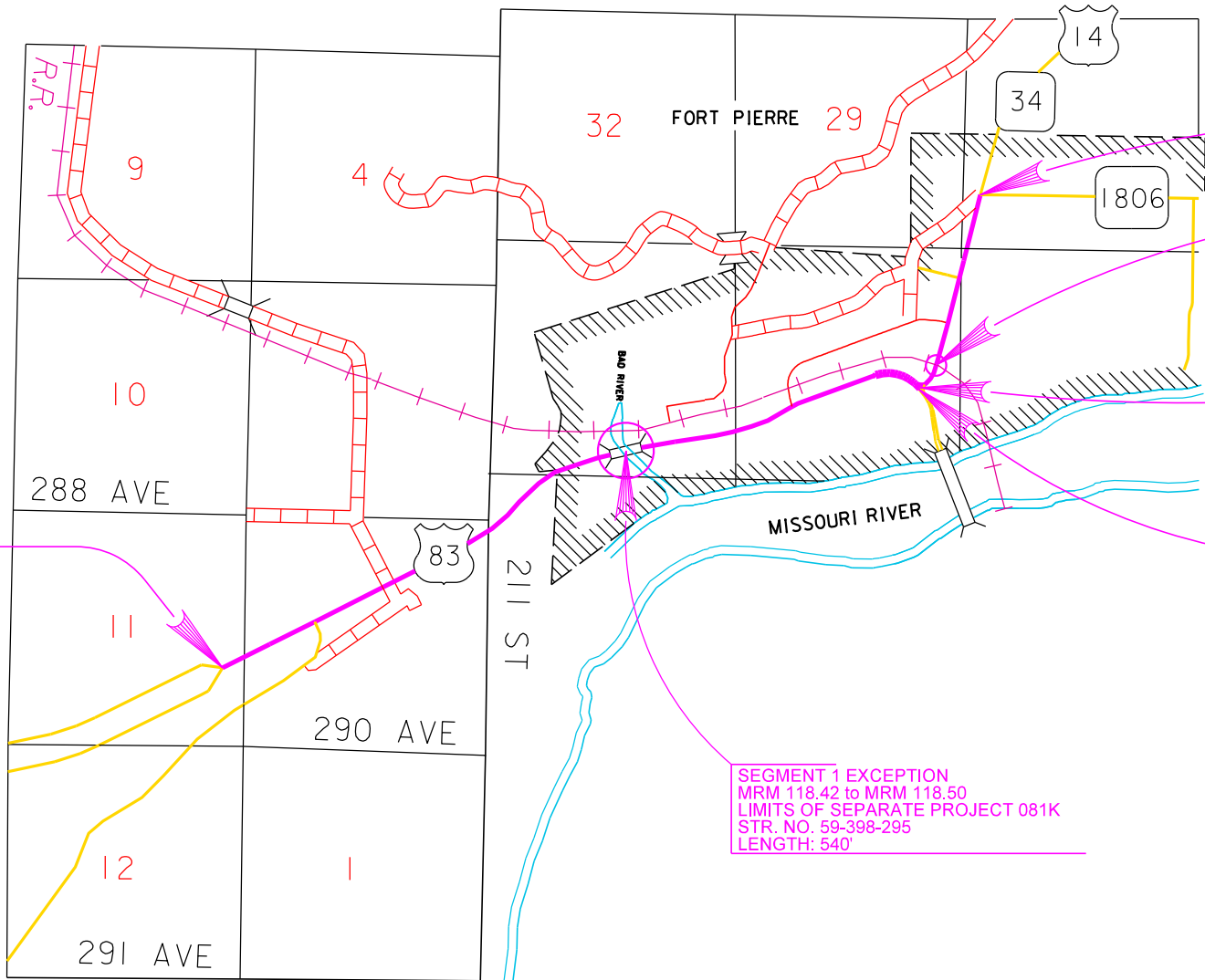
DESIGN DESIGNATION (SEGMENT 1)

AADT (2024)	5859
AADT (2044)	8472
DHV	1350
D	50%
DHV T%	6.3%
AADT T%	13.9%
V	35 mph - 65 mph

DESIGN DESIGNATION (SEGMENT 2)

AADT (2024)	7081
AADT (2044)	10190
DHV	1623
D	50%
DHV T%	2.2%
AADT T%	4.9%
V	35 mph

BEGIN SEGMENT 1
US83
MRM 116.46 + 0.000



BEGIN SEGMENT 2
US14
MRM 226.85 + 0.000

SEGMENT 2 EXCEPTION
MRM 227.64
RAILROAD CROSSING
SEPARATE PROJECT 08H1

END SEGMENT 2
US14
MRM 227.74 + 0.000

END SEGMENT 1
US83
MRM 119.79 + 0.000

SEGMENT 1 EXCEPTION
MRM 118.42 to MRM 118.50
LIMITS OF SEPARATE PROJECT 081K
STR. NO. 59-398-295
LENGTH: 540'

Segment 1 Gross Length	17,476.80 Feet	3.310 Miles
Segment 1 Length of Exceptions	540.00 Feet	0.102 Miles
Segment 1 Net Length	16,936.80 Feet	3.208 Miles

Segment 2 Gross Length	4,736.16 Feet	0.897 Miles
Segment 2 Length of Exceptions	0.00 Feet	0.000 Miles
Segment 2 Net Length	4,736.16 Feet	0.897 Miles

STORM WATER PERMIT

NONE REQUIRED

8

May 7, 2025

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DESIGN DESIGNATION (SEGMENT 3)

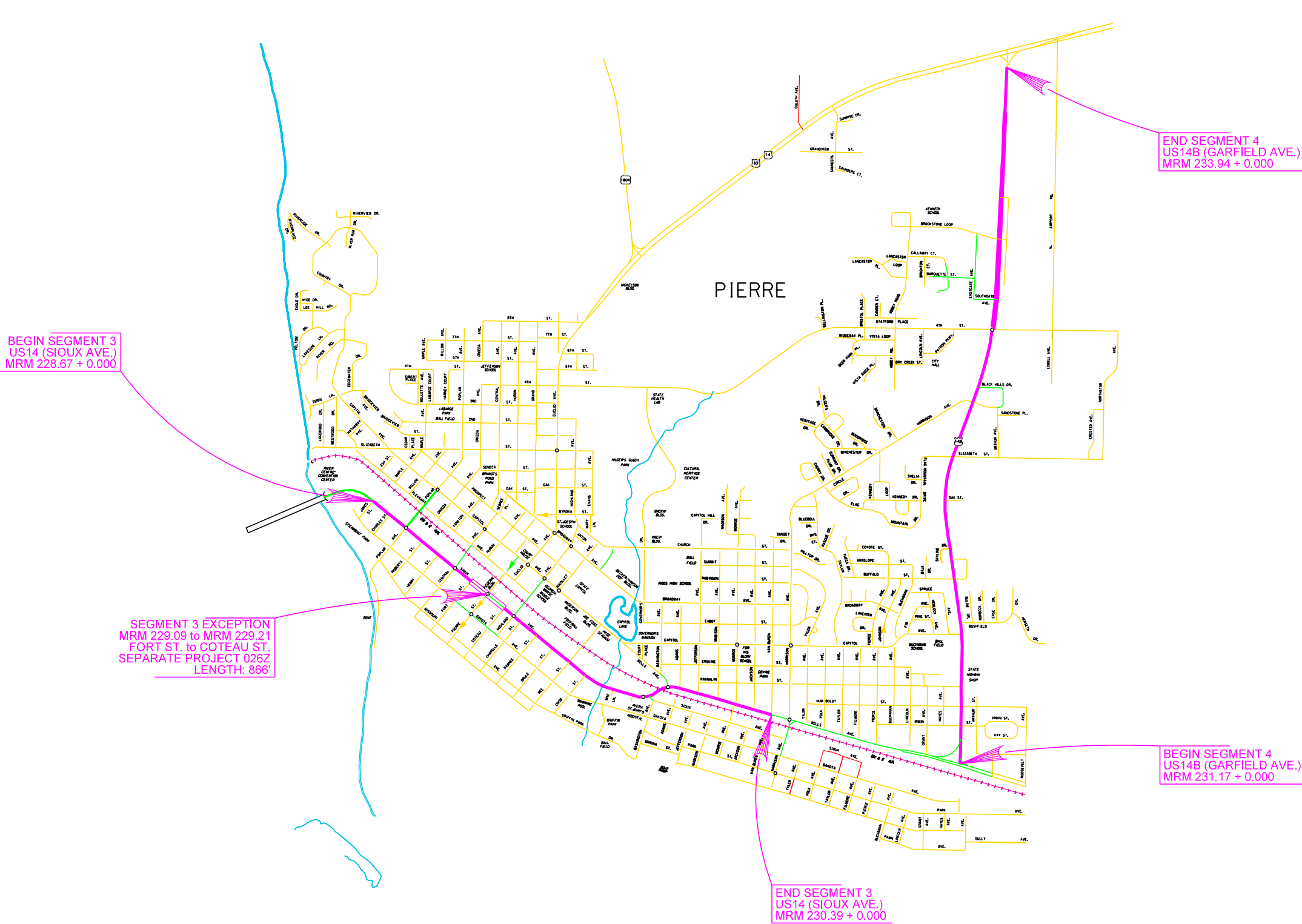
AADT (2024) 9451
AADT (2044) 13601
DHV 2167
D 50%
DHV T% 1.2%
AADT T% 2.7%
V 35 mph

DESIGN DESIGNATION (SEGMENT 4)

AADT (2024) 10161
AADT (2044) 14621
DHV 1665
D 50%
DHV T% 2.5%
AADT T% 5.5%
V 35 - 45 mph

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0030(38)	2	19

Plotting Date: 03/07/2025



Segment 3 Gross Length	9,799.68 Feet	1.856 Miles
Segment 3 Length of Exceptions	866.00 Feet	0.164 Miles
Segment 3 Net Length	8,933.68 Feet	1.692 Miles

Segment 4 Gross Length	10,206.24 Feet	1.933 Miles
Segment 4 Length of Exceptions	0.00 Feet	0.000 Miles
Segment 4 Net Length	10,206.24 Feet	1.933 Miles

1:200
Plot Scale -
Plotted From - TRPR25584

DESIGN DESIGNATION (SEGMENT 5)

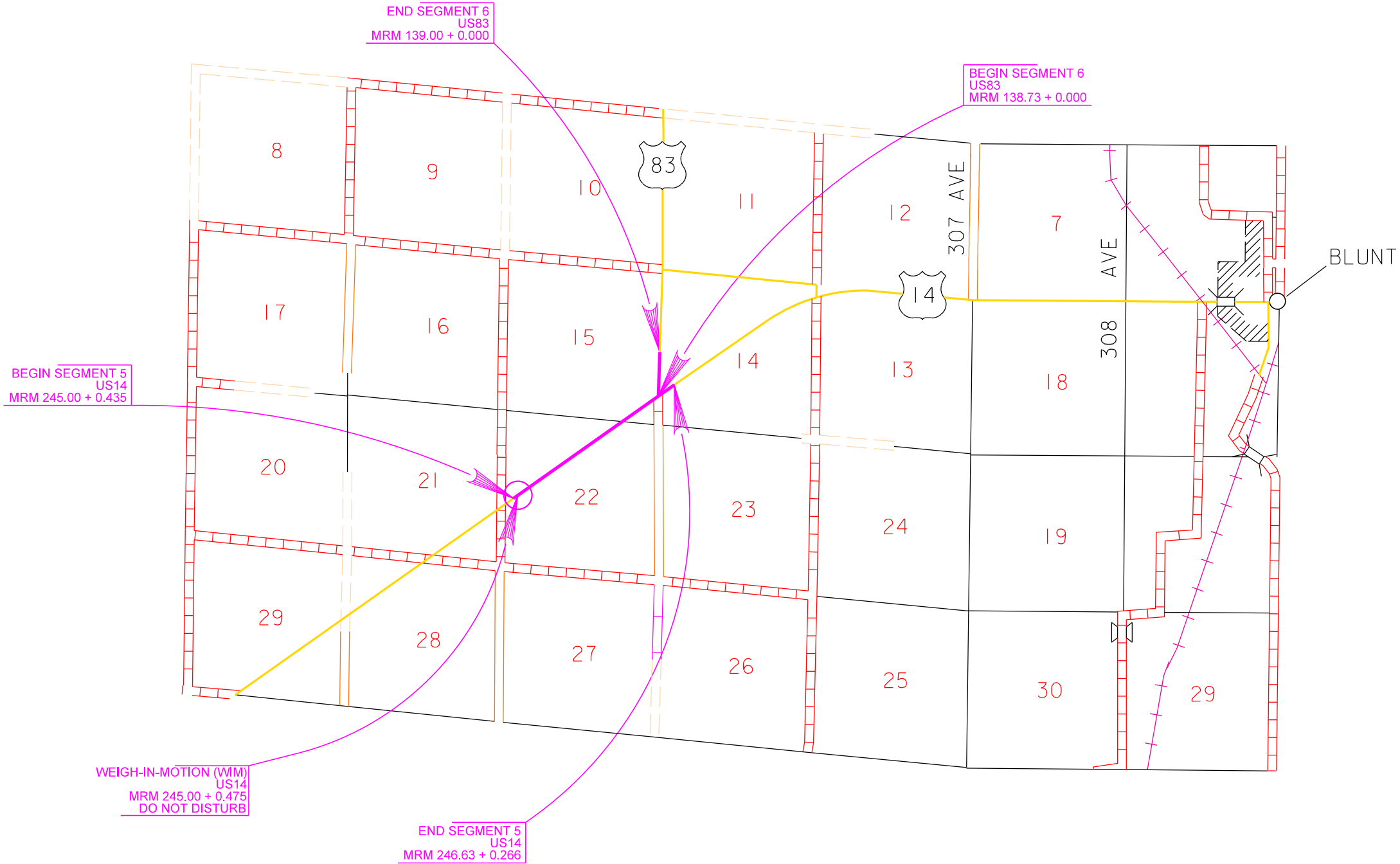
AADT (2024)	2793
AADT (2044)	4343
DHV	561
D	50%
DHV T%	6.6%
AADT T%	14.5%
V	65 mph

DESIGN DESIGNATION (SEGMENT 6)

AADT (2024)	1566
AADT (2044)	2435
DHV	315
D	50%
DHV T%	10.6%
AADT T%	23.4%
V	65 mph

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0030(38)	3	19

Plotting Date: 03/07/2025



Segment 5 Gross Length	7,851.36 Feet	1.487 Miles
Segment 5 Length of Exceptions	0.00 Feet	0.000 Miles
Segment 5 Net Length	7,851.36 Feet	1.487 Miles

Segment 6 Gross Length	1,441.44 Feet	0.273 Miles
Segment 6 Length of Exceptions	0.00 Feet	0.000 Miles
Segment 6 Net Length	1,441.44 Feet	0.273 Miles

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
633E0010	Cold Applied Plastic Pavement Marking, 4"	148,418	Ft
633E0019	Cold Applied Plastic Pavement Marking, 4" with Contrast Border	18,951	Ft
633E0020	Cold Applied Plastic Pavement Marking, 8"	1,725	Ft
633E0030	Cold Applied Plastic Pavement Marking, 24"	7,530	Ft
633E0035	Cold Applied Plastic Pavement Marking, Area	356	SqFt
633E0040	Cold Applied Plastic Pavement Marking, Arrow	220	Each
633E1201	High Build Waterborne Pavement Marking Paint with Reflective Elements, White	55	Gal
633E1206	High Build Waterborne Pavement Marking Paint with Reflective Elements, Yellow	4	Gal
633E5050	Surface Preparation for Pavement Marking	176,624	Ft
633E5051	Surface Preparation for Pavement Marking	356	SqFt
633E5052	Surface Preparation for Pavement Marking	220	Each
633E5100	Grooving for Durable Pavement Marking, 4"	10,643	Ft
634E0010	Flagging	160.0	Hour
634E0110	Traffic Control Signs	1,700.9	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	6	Each
634E0420	Type C Advance Warning Arrow Board	2	Each

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor’s primary contact regarding matters associated with these commitments will be the Project Engineer. During construction, the Project Engineer will verify that the Contractor has met Environmental Commitment requirements. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office.

Additional guidance on SDDOT’s Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <<https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf> >

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Engineer at 605-773-3180 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

Once construction is complete, the Project Engineer will review all environmental commitments for the project and document their completion.

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

The Whooping Crane is a spring and fall migratory bird in South Dakota that is about 5 feet tall and typically stops on wetlands, rivers, and agricultural lands along their migration route. An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight.

Action Taken/Required:

Harassment or other measures to cause the Whooping Crane to leave the site is a violation of the Endangered Species Act. If a Whooping Crane is sighted roosting in the vicinity of the project, borrow pits, or staging areas associated with the project, cease construction activities in the affected area until the Whooping Crane departs and immediately contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

COMMITMENT B4: BALD EAGLE

Bald eagles are known to occur in this area.

Action Taken/Required:

If a nest is observed within one mile of the project site, notify the Project Engineer immediately so that he/she can consult with the Environmental Office for an appropriate course of action.

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor will furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) will be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Agriculture and Natural Resources.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0030(38)	4	19

Revised 4/10/25 SML

The waste disposal site(s) will not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Environmental Office and the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements will apply:

- Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with fences, gates, and placement of a sign or signs at the entrance to the site stating, “No Dumping Allowed”.
- Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period not to exceed the duration of the project. Prior to project completion, the waste will be removed from view of the ROW or buried, and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06. Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) will be incidental to the various contract items.

COORDINATION BETWEEN CONTRACTS

No work will be completed on this project prior to August 8th, 2025, unless otherwise specified by the Pierre Area Engineer.

Several projects are being undertaken by the Department that may interfere with this contract:

- Project NH 0014(243)131, PCN 081K is a polymer chip seal and approach slab replacement project on US83 Str. No. 59-398-295 within Segment 1. The 081K work zone is the exception within Segment 1.

The Contractor will schedule the work so that work on Segment 1 is not being completed at the same time as Project NH 0014(243)131. The Contractor will coordinate with the Department and the 081K Contractor to establish the best course of action. Contact information for the 081K Contractor is as follows:

Corr Construction Services, Inc.
(605) 255-5456

COORDINATION BETWEEN CONTRACTS (CONT.)

2. Project NH-EM 0014(194)227, PCN 03WN is a bridge replacement project over the Missouri River that will likely have interfering traffic control with Segments 1 & 2.

The Contractor will schedule the work so that work on Segments 1 & 2 does not interfere with work on Project NH-EM 0014(194)227. The Contractor will coordinate with the Department and the 03WN Contractor to establish the best course of action. Contact information for the 03WN Contractor is as follows:

Jensen Construction Company, Attn: Landon Streit
(515) 290-0591

3. Project PS 0014(247)227, PCN 08H1 is a railroad crossing upgrade project on US14 within Segment 2.

The Contractor will schedule the work so that work on Segment 2 is not being completed at the same time as Project PS 0014(247)227. The Contractor will coordinate with the Department and the 08H1 Contractor to establish the best course of action.

4. Project P 1806(23)186, PCN 06QP is a mill and overlay project on SD1806 adjacent to Segment 2.

The Contractor will schedule the work so that work on Segment 2 does not interfere with work on Project P 1806(23)186. The Contractor will coordinate with the Department and the 06QP Contractor to establish the best course of action. Contact information for the 06QP Contractor is as follows:

Border States Paving, Inc.
(701) 237-4860

5. Project NH-CR 0014(185)229, PCN 026Z is an urban grading project on Euclid Ave./S Pierre St. The 026Z work zone is the exception within Segment 3.

Per 026Z contract provisions, work in this area will be completed by July 3rd, 2025 at the latest. The Contractor will coordinate with the Department and the 026Z Contractor to ensure there is no conflict between work on Segment 3 and work on 026Z. Contact information for the 026Z Contractor is as follows:

Morris Inc.
(605) 223-2585

6. Project NH 0083(92)138, PCN 08YD is a shoulder surfacing and guardrail replacement project on US83. The work zone is partially within Segment 6.

The Contractor will schedule the work so that work on Segment 6 is not being completed at the same time as Project NH 0083(92)138. The Contractor will coordinate with the Department and the 08YD Contractor to establish the best course of action. Contact information for the 08YD Contractor is as follows:

Border States Paving, Inc.
(701) 237-4860

WEIGH IN MOTION (WIM) SYSTEM

The SDDOT Office of Inventory Management and Research has a permanent Weigh in Motion (WIM) system located on US14 within Segment 5, MRM 245.00 + 0.475.

The Contractor will not damage the existing loops, plates, scales, pull boxes, conduit, or electronics cabinet. Any pull boxes, conduit, plates, scales, cabinet, or loops damaged during the construction project will be replaced by the Contractor at the Contractor's expense. The WIM array is visible on the roadway. If necessary, SDDOT Office of Inventory Management and Research will aide in locating the WIM. Contact (605) 773-6644 or (605) 773-3278 to notify the office and request assistance to locate the WIM.

PROJECT SCOPE AND GENERAL NOTES

This project consists of replacing existing pavement markings at locations on US Hwy 14, the US Hwy 14 Bypass, and US Hwy 83. New markings will consist of Cold Applied Plastic Pavement Markings (tape) and/or High Build Waterborne Pavement Marking Paint w/Reflective Elements (paint). Contrast tape as specified below will only be used for 4" markings. Grooving will be required at some locations. The breakdown of work required at each location is as follows:

Segment 1:

- Cold Applied Plastic Pavement Markings only.
- Centerline, edgeline, lane lines, lane skips, gore areas, center turn lane + arrows, stop bars, and crosswalk markings will be replaced.
 - o Crosswalk markings on side streets will be replaced in addition to mainline markings.
- Contrast tape will be used for white lane lines and white lane skips on the concrete section only (MRM 118.22 to MRM 119.79).

Segment 2:

- Cold Applied Plastic Pavement Markings only.
- Centerline, lane lines, lane skips, gore areas, and arrows will be replaced.
- Contrast tape will be used for all white lane lines and white lane skips on this segment.
- Railroad crossing markings on Segment 2 are being replaced under a separate project 08H1 (see Coordination Between Contracts note). If the Contractor is completing work on Segment 2 after 08H1 has been completed, care will be taken to not damage the new railroad crossing markings. All damages will be repaired at the Contractor's expense.

Segment 3:

- Cold Applied Plastic Pavement Markings only.
- Lane lines, lane skips, gore areas, center turn lane + arrows, stop bars, and crosswalk markings will be replaced.
 - o Crosswalk markings on side streets will be replaced in addition to mainline markings.
- Contrast tape will be used for all white lane lines and white lane skips on this segment.

Segment 4:

- Cold Applied Plastic Pavement Markings only.
- Centerline, edgeline, lane lines, lane skips, gore areas, center turn lane + arrows, stop bars, and crosswalk markings will be replaced.
 - o Crosswalk markings on side streets will be replaced in addition to mainline markings.
- Contrast tape will be used for white lane lines on the concrete section only (MRM 231.17 to MRM 231.26).

Segment 5:

- Cold Applied Plastic Pavement Markings and High Build Waterborne Pavement Marking Paint w/Reflective Elements.
- Centerline, edgeline, lane lines, lane skips, gore areas, arrows, and stop bars will be replaced.
- White contrast tape will be used *only* for WB transition lane skip markings at the US14/US83 intersection.
- Regular white tape will be used for all other white markings within the following boundary:
 - o US14 MRM 246.00 + 0.221 (end of WB transition lane) to MRM 246.63 + 0.266 (end of Segment 5)
- Paint will be used for all white markings on Segment 5 outside of the areas described above.
- Yellow contrast tape will be used for all centerline markings west of the US14/US83 intersection.
- Regular yellow tape will be used for all centerline markings east of the US14/US83 intersection.

Segment 6:

- High Build Waterborne Pavement Marking Paint w/Reflective Elements and Cold Applied Plastic Pavement Markings.
- Centerline, edgeline, gore areas, and stop bars will be replaced.
- Tape will be used on the concrete section only (MRM 138.73 to ~ MRM 138.78 + 0.022). All other markings will be paint.
- Grooves will not be installed on existing centerline rumble strips.

All work on this project will be sequenced so that all pavement markings that are removed will be replaced with new pavement markings on the same day.

The Contractor will advise the Engineer a minimum of 3 weeks prior to the application of the permanent pavement marking to allow the State to check and mark the location of no passing zones.

SEQUENCE OF OPERATIONS

The Contractor will submit a sequence of operations for approval two weeks prior to the preconstruction meeting. If changes to the sequence of operations are proposed during the project, these must be submitted for review at least a 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.

GENERAL TRAFFIC CONTROL

All construction operations will be conducted in the general direction of traffic movement. Grooving operations will utilize lane closures, and painting operations will utilize a mobile operation. Lane closures will not be allowed to remain overnight.

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

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

GENERAL TRAFFIC CONTROL (CONT.)

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, signposts, and breakaway bases will be removed within 7 calendar days following pavement marking.

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.

Drivable lane widths through lane closures will be a minimum of 12’ in width.

The Contractor will structure the work on each segment to minimize impact to the traveling public. Closure of left turn and thru movements onto side streets will be coordinated with the Engineer and kept to a minimum. Closure of access to private business and residences will be coordinated with the property owner and the Engineer and kept to a minimum.

TRAFFIC CONTROL SIGNS

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

ITEMIZED LISTS FOR TRAFFIC CONTROL

Segment 1

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP	4	30"	5.2	20.8
W4-2	LEFT or RIGHT LANE ENDS (symbol) (two each)	4	48" x 48"	16.0	64.0
W20-1	ROAD WORK AHEAD	11	48" x 48"	16.0	176.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD (two each)	4	48" x 48"	16.0	64.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-1	ROAD WORK NEXT 3 MILES	2	36" x 18"	4.5	9.0
G20-1	ROAD WORK NEXT 2 MILES	2	36" x 18"	4.5	9.0
G20-1	ROAD WORK NEXT 1 MILE	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	3	36" x 18"	4.5	13.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		429.3			

Segment 2

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W4-2	LEFT or RIGHT LANE ENDS (symbol) (two each)	4	48" x 48"	16.0	64.0
W20-1	ROAD WORK AHEAD	6	48" x 48"	16.0	96.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD (two each)	4	48" x 48"	16.0	64.0
G20-1	ROAD WORK NEXT 1 MILE	2	36" x 18"	4.5	9.0
G20-1	ROAD WORK NEXT 1/2 MILE	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	3	36" x 18"	4.5	13.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		255.5			

Segment 3

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP	4	30"	5.2	20.8
W4-2	LEFT or RIGHT LANE ENDS (symbol) (two each)	4	48" x 48"	16.0	64.0
W20-1	ROAD WORK AHEAD	11	48" x 48"	16.0	176.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD (two each)	4	48" x 48"	16.0	64.0
G20-1	ROAD WORK NEXT 2 MILES	2	36" x 18"	4.5	9.0
G20-1	ROAD WORK NEXT 1 MILE	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		351.8			

Segment 4

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP	4	30"	5.2	20.8
W4-2	LEFT or RIGHT LANE ENDS (symbol) (two each)	4	48" x 48"	16.0	64.0
W20-1	ROAD WORK AHEAD	8	48" x 48"	16.0	128.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD (two each)	4	48" x 48"	16.0	64.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-1	ROAD WORK NEXT 2 MILES	2	36" x 18"	4.5	9.0
G20-1	ROAD WORK NEXT 1 MILE	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		367.8			

Segment 5

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	5	48" x 48"	16.0	80.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-1	ROAD WORK NEXT 1 MILE	3	36" x 18"	4.5	13.5
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		166.5			

Segment 6

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-1	ROAD WORK NEXT 1/4 MILE	2	36" x 18"	4.5	9.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		130.0			

FLAGGING

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

It is required that the flaggers be able to communicate with one another. If an emergency vehicle needs to pass through the project, the Contractor will be required to expedite traffic movement. All costs associated with this will be incidental to the contract unit price per hour for “Flagging”.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0030(38)	6	19

COLD APPLIED PLASTIC PAVEMENT MARKING

All materials will be applied as per the manufacturer’s recommendations.

Cold Applied Plastic Pavement Markings will be 3M Series 380 AW or an approved equal.

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 consisting of glass beads as well as wet-reflective optics will be adhered to the paint.

The wet-reflective optics will contain either clear, white, amber, or yellow tinted beads composed of glass or a composite consisting of a core made from ceramic or glass with an outer layer of microcrystalline ceramic or glass beads. The wet-reflective optics will provide a 50/50 blend of dry to wet ratio of optics. All beads bonded to wet-reflective optics will have a minimum index of refraction of 1.8 for dry retroreflectivity and 2.4 for wet retroreflectivity when tested using the liquid oil immersion method.

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

The Department will take retroreflectivity readings on the pavement marking lines no sooner than 3 days and no later than 30 days after the completion of all line applications required for an individual highway route using a portable retroreflectometer conforming to 30-meter geometry. Retroreflectivity readings will be taken on a test location with cleaning being limited to light hand brooming.

Pavement markings not conforming to the retroreflectivity requirements will be removed and replaced. If replacement of markings cannot be applied within the same year, the Contractor will schedule subject work to be completed no later than June 15th in the following year. Upon replacement, the retroreflectivity testing process will be done again requiring new readings.

The Department will randomly select one test location per mile of each edge line including ramps and one test location per mile of centerline (solid and/or skip line will be considered as one centerline). Three retroreflectivity readings will be taken at each test location. The three readings will be averaged and become the reading for that test location.

Initial readings:

Pavement Marking Color	Minimum Value
White	350 mc/m²/lux
Yellow	275 mc/m²/lux

HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT (CONT.)

All pavement markings not conforming to the requirements provided in these plans will be considered deficient and will be removed and replaced. Additional retroreflectivity readings will be taken by the Department to determine the limits of removal. The removal will be accomplished using suitable sand blasting or grinding equipment unless the Engineer authorizes other means. The removal process will remove at least 90% of the deficient line, with no excessive scarring of the existing pavement. The removal width will be one inch wider all around the nominal width of the pavement marking to be removed. Removal and replacement of the pavement markings will be at the Contractor's expense, with no cost incurred by the State.

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 = 5.3 Lbs/Gal.
- Composite Reflective Elements = 2.1 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.

SURFACE PREPARATION FOR PAVEMENT MARKING

Surface preparation for all 4", 8", and 24" markings will be measured as 4" equivalent and fall under the contract unit price per foot. Surface preparation for all median warning markings will fall under the contract unit price per square foot. Surface preparation for all arrows will fall under the contract unit price per each.

GROOVING FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

The Contractor will establish a positive means for the removal of the grinding and/or grooving residue. Residue from dry grooving will be vacuumed. Solid residue will be removed from the pavement surfaces before being blown by traffic action or wind. The Contractor will conduct this work to control and minimize airborne dust and similar debris that may become a hazard to motor vehicle operation or nuisance to property owners. Residue from wet grooving will not be permitted to flow across lanes being used by public traffic or into gutter or drainage facilities. Residue, whether in solid or slurry form, will be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state. All costs for removal of grinding and/or grooving residue will be included in the contract unit price per foot for "Grooving for Durable Pavement Marking" contract item.

Unless otherwise specified in the plans, the Contractor will groove the surface for High Build Waterborne Pavement Marking Paint as specified in these plans and as per the manufacturer's instructions.

The grooving will be completed within the following tolerances:

Description	Specification	Tolerance
Depth of Groove	Marking Thickness ¹ + 15 mils	+ 5 mils
Width of Groove	5 to 6 inches	
Length of Skip Lines ²	10 foot 6 inches	± 3 inch
Tapers at ends of lines	6 to 9 inches	
Between Double Lines	4 inches	± 1/2 inch

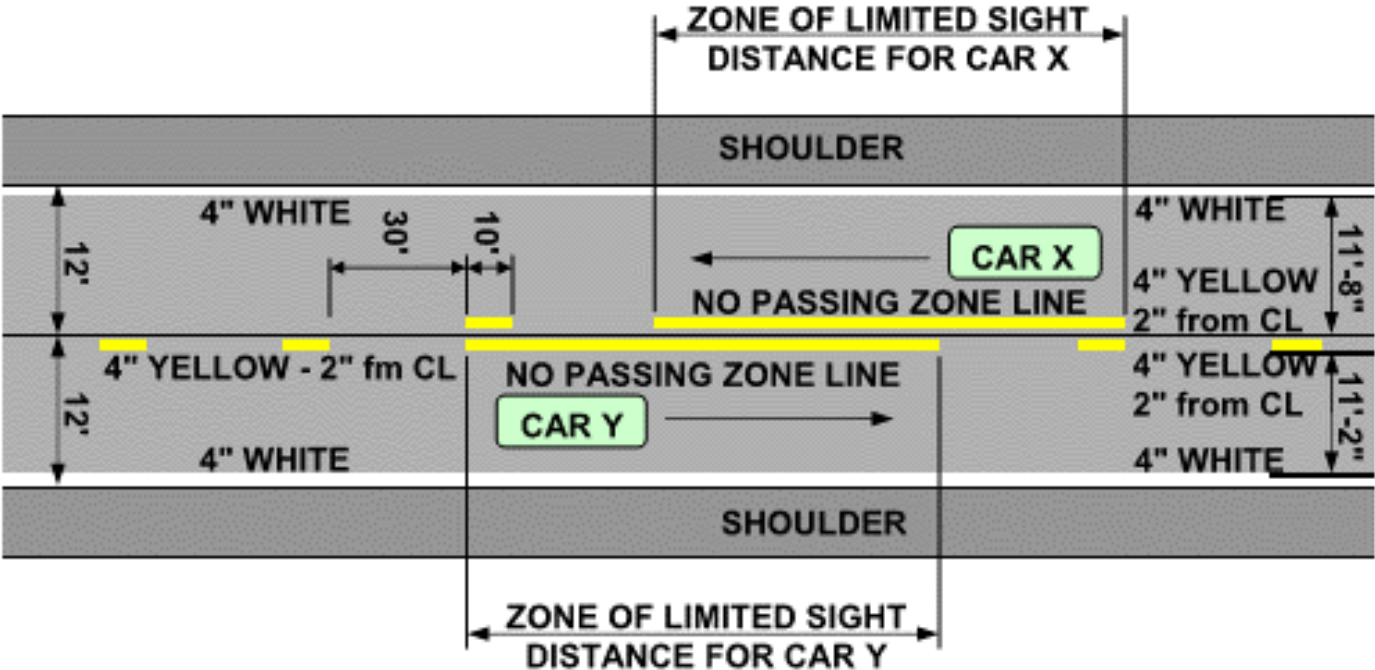
- ¹ Marking thickness will include the thickness of marking material and reflective media.
- ² Additional length may be required as specified in the plans.

The equipment will be capable of the following:

- Grooving the total width of the groove in one pass or uniform depths with multiple passes.
- Grooving without causing damage to the pavement joints or joint sealant material.
- Provide uniform alignment and depth.
- Moving continuously to permit a mobile traffic work operation.

If damage occurs, including, but not limited to, joints, joint sealant material, and backer rod, the grooving operation will be stopped and modifications will be made to the grooving operation to prevent further damage. The Contractor will be required to use specially prepared circular diamond blade cutting heads to prevent damage at the joints. Damage caused will be repaired or replaced by the Contractor, as directed by the Engineer. No additional payment will be made for the repair work or any reapplication of the pavement marking in the area of the repair. The Contractor will not install new grooves in areas where there are existing centerline rumble strips (Segment 6).

PAVEMENT MARKING DETAIL*

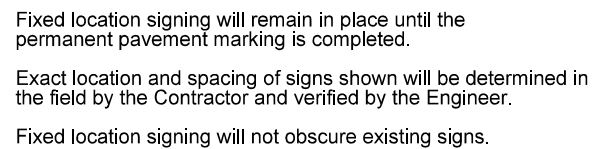


4" Yellow Skip Centerline, when not adjacent to a 4" Yellow No Passing Zone, will be placed to the south or east side of centerline.

ESTIMATE OF QUANTITIES BREAKDOWN BY SEGMENT								STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
									PH 0030(38)	8	19
BID ITEM NUMBER	ITEM	SEGMENT 1 - US83	SEGMENT 2 - US14	SEGMENT 3 - US14 (SIOUX AVE.)	SEGMENT 4 - US14BYP	SEGMENT 5 - US14	SEGMENT 6 - US83	QUANTITY	UNIT		
009E0010	Mobilization	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	1	LS		
633E0010	Cold Applied Plastic Pavement Marking, 4" (WHITE)	25540	-	-	18115	8377	530	52562	Ft		
633E0010	Cold Applied Plastic Pavement Marking, 4" (YELLOW)	39908	10046	18307	23637	3264	694	95856	Ft		
633E0019	Cold Applied Plastic Pavement Marking with Contrast Border, 4" (WHITE)	5394	2762	4933	326	424	-	13839	Ft		
633E0019	Cold Applied Plastic Pavement Marking with Contrast Border, 4" (YELLOW)	-	-	-	-	5112	-	5112	Ft		
633E0020	Cold Applied Plastic Pavement Marking, 8" (WHITE)	-	466	-	144	1115	-	1725	Ft		
633E0030	Cold Applied Plastic Pavement Marking, 24" (WHITE)	315	216	3739	2296	102	12	6680	Ft		
633E0030	Cold Applied Plastic Pavement Marking, 24" (YELLOW)	404	100	96	186	64	-	850	Ft		
633E0035	Cold Applied Plastic Pavement Marking, Area (YELLOW)	-	-	59.3	296.5	-	-	356	SqFt		
633E0040	Cold Applied Plastic Pavement Marking, Arrow	52	6	70	85	7	-	220	Each		
633E1201	High Build Waterborne Pavement Marking Paint with Reflective Elements, White	-	-	-	-	44	11	55	Gal		
633E1206	High Build Waterborne Pavement Marking Paint with Reflective Elements, Yellow	-	-	-	-	-	4	4	Gal		
633E5050	Surface Preparation for Pavement Marking (4" Equivalent)	71561	13590	27075	44704	18458	1236	176624	Ft		
633E5051	Surface Preparation for Pavement Marking, Area	-	-	59.3	296.5	-	-	356	SqFt		
633E5052	Surface Preparation for Pavement Marking, Each (Arrows)	52	6	70	85	7	-	220	Each		
633E5100	Grooving for Durable Pavement Marking, 4"	-	-	-	-	8304	2339	10643	Ft		
634E0010	Flagging	20	-	-	20	100	20	160	Hr		
634E0110	Traffic Control Signs	429.3	255.5	351.8	367.8	166.5	130.0	1700.9	SqFt		
634E0120	Traffic Control, Miscellaneous	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	1	LS		
634E0275	Type 3 Barricade	6	-	6	6	-	-	6	Each		
634E0420	Type C Advance Warning Arrow Board	2	2	2	2	-	-	2	Each		
998E0100	Railroad Protective Insurance	-	Lump Sum	-	-	-	-	1	LS		

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0030(38)	9	19

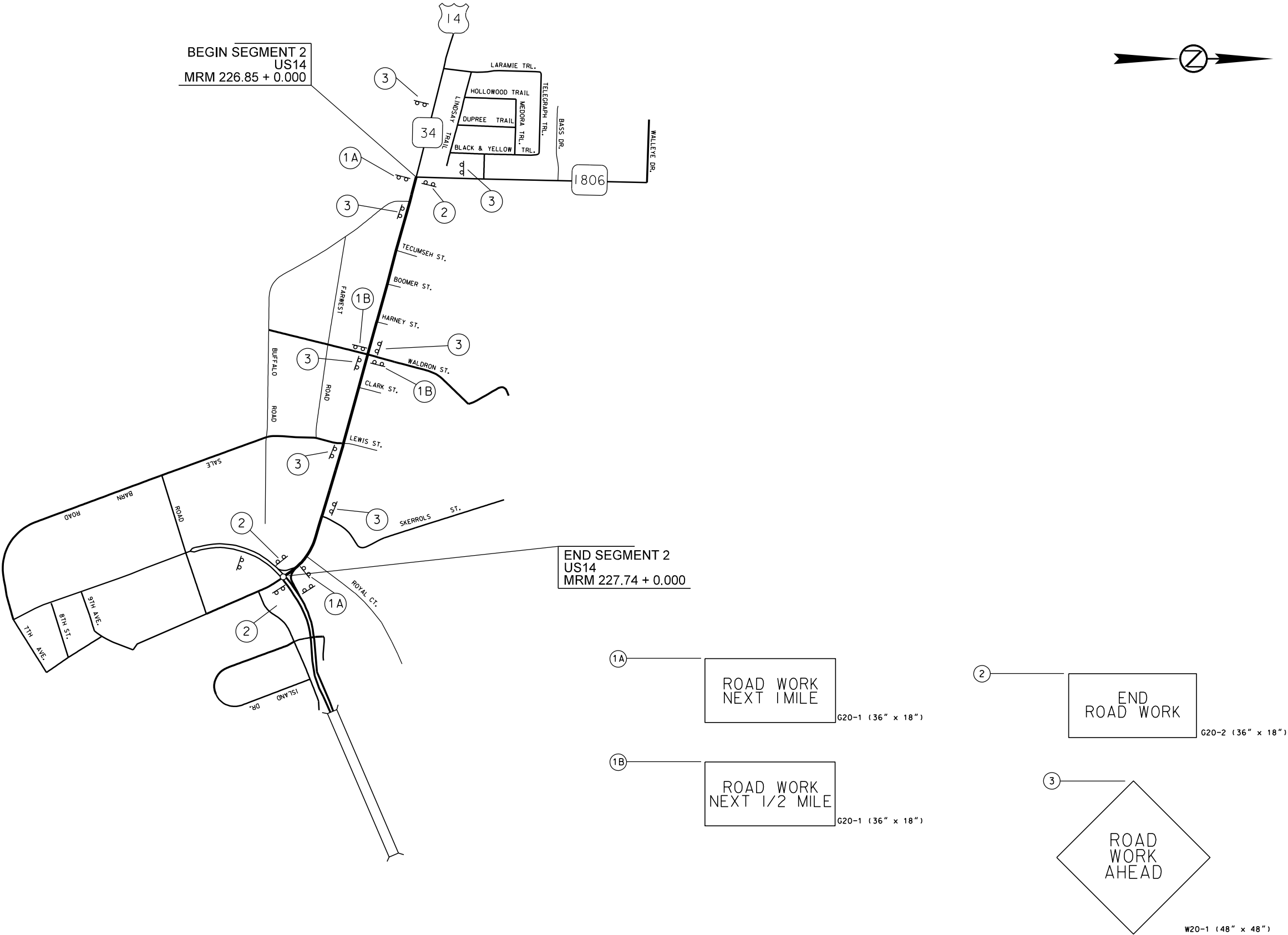
Plotting Date: 03/07/2025 Revised 03/12/2025 JDC



FIXED LOCATION SIGN LAYOUT

SEGMENT 2 – US14, FORT PIERRE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0030(38)	10	19
Plotting Date: 03/07/2025		Revised 03/12/2025 JDC	



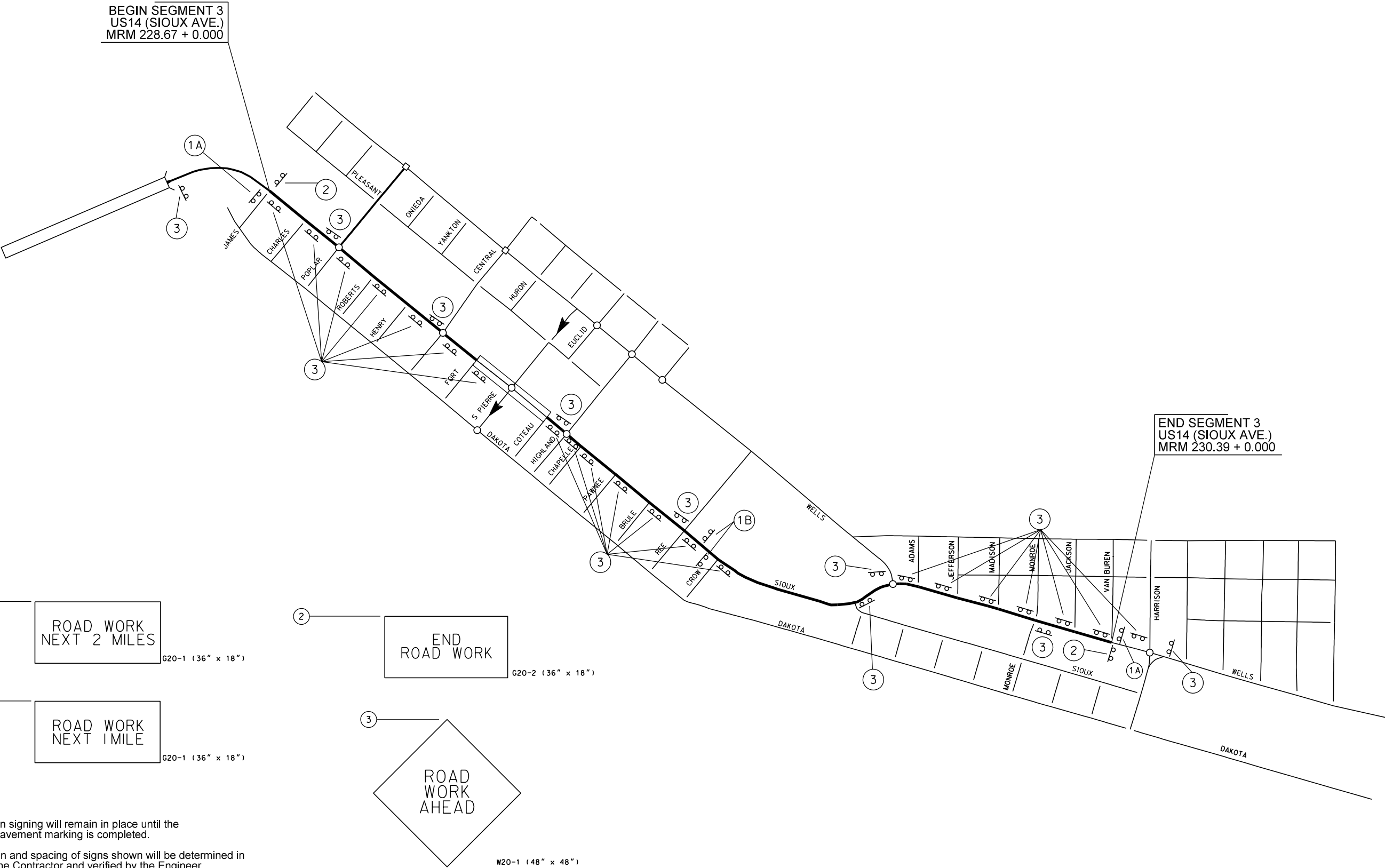
Fixed location signing will remain in place until the permanent pavement marking is completed.

Exact location and spacing of signs shown will be determined in the field by the Contractor and verified by the Engineer.

Fixed location signing will not obscure existing signs.

FIXED LOCATION SIGN LAYOUT
SEGMENT 3 – US14 (SIOUX AVE.), PIERRE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0030(38)	11	19
Plotting Date: 03/07/2025		Revised 03/12/2025 JDC	



Fixed location signing will remain in place until the permanent pavement marking is completed.

Exact location and spacing of signs shown will be determined in the field by the Contractor and verified by the Engineer.

Fixed location signing will not obscure existing signs.

Plot Scale - 1:200

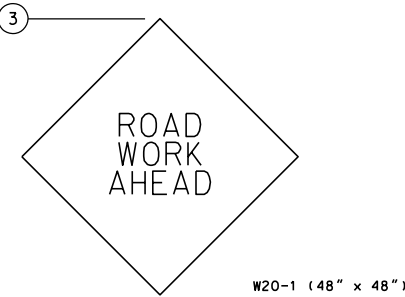
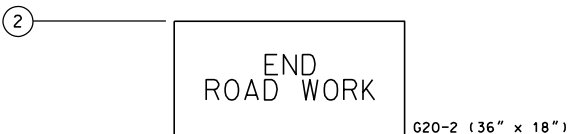
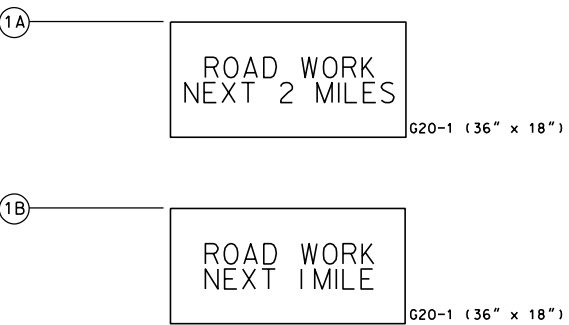
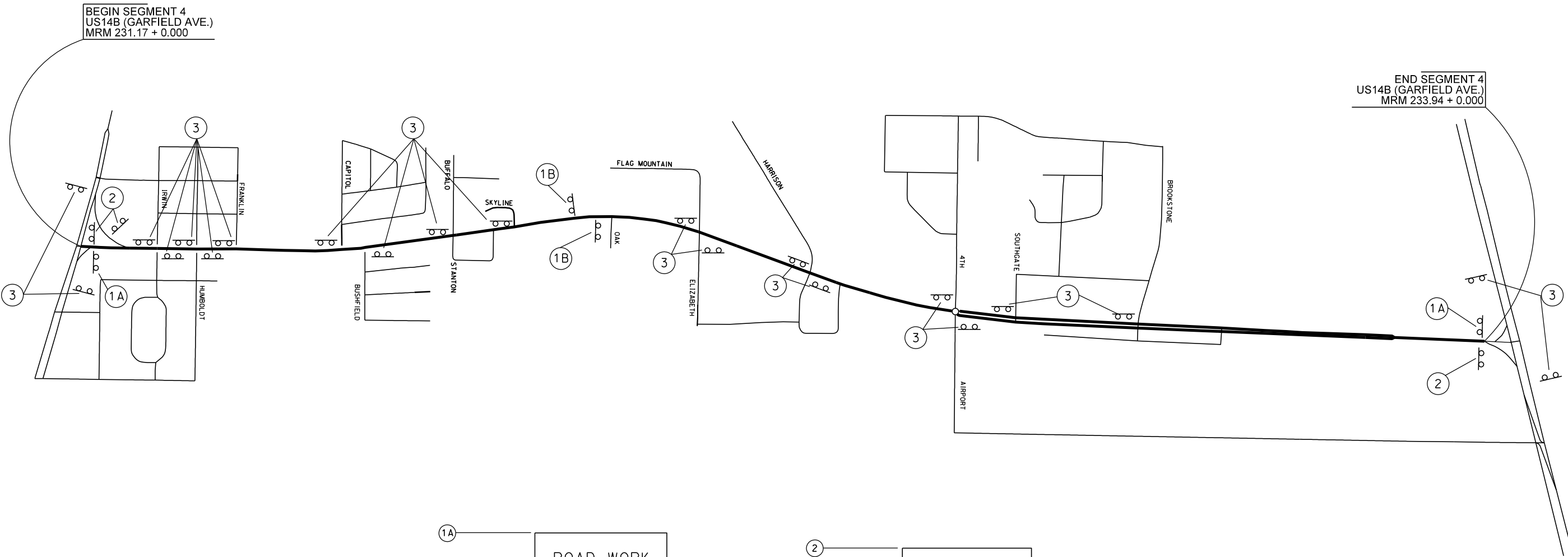
Plotted From - TRPR25584

FIXED LOCATION SIGN LAYOUT

SEGMENT 4 – US14B (GARFIELD AVE.), PIERRE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0030(38)	12	19

Plotting Date: 03/07/2025 Revised 03/12/2025 JDC



Fixed location signing will remain in place until the permanent pavement marking is completed.

Exact location and spacing of signs shown will be determined in the field by the Contractor and verified by the Engineer.

Fixed location signing will not obscure existing signs.

Plot Scale - 1:200

TRPR25584

Plotted From -

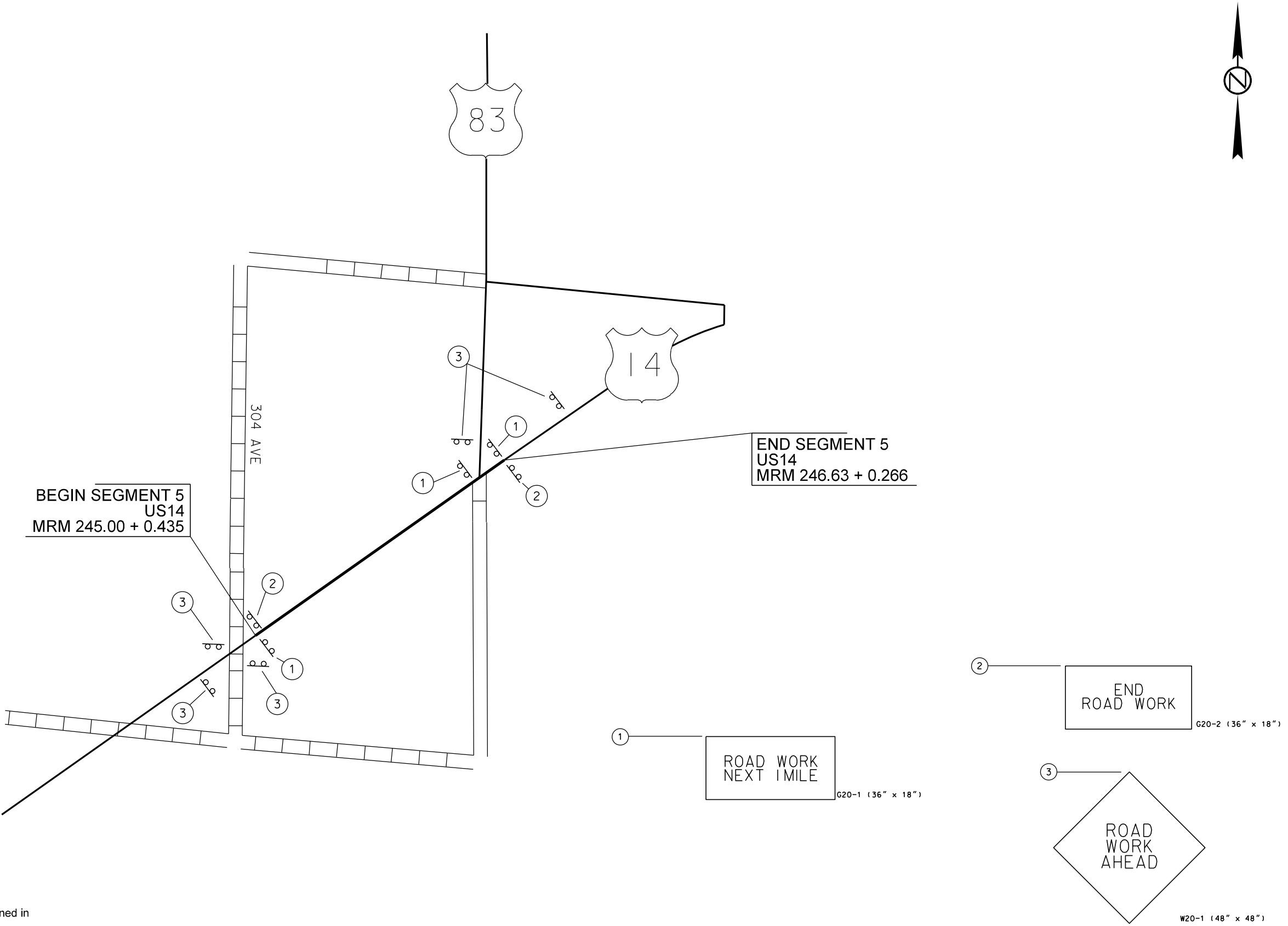
FIXED LOCATION SIGN LAYOUT

SEGMENT 5 – US14

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0030(38)	13	19
Plotting Date: 03/07/2025		Revised 03/12/2025 JDC	

Plot Scale - 1:200

Plotted From - TRPR25584



Fixed location signing will remain in place until the permanent pavement marking is completed.

Exact location and spacing of signs shown will be determined in the field by the Contractor and verified by the Engineer.

Fixed location signing will not obscure existing signs.

FIXED LOCATION SIGN LAYOUT

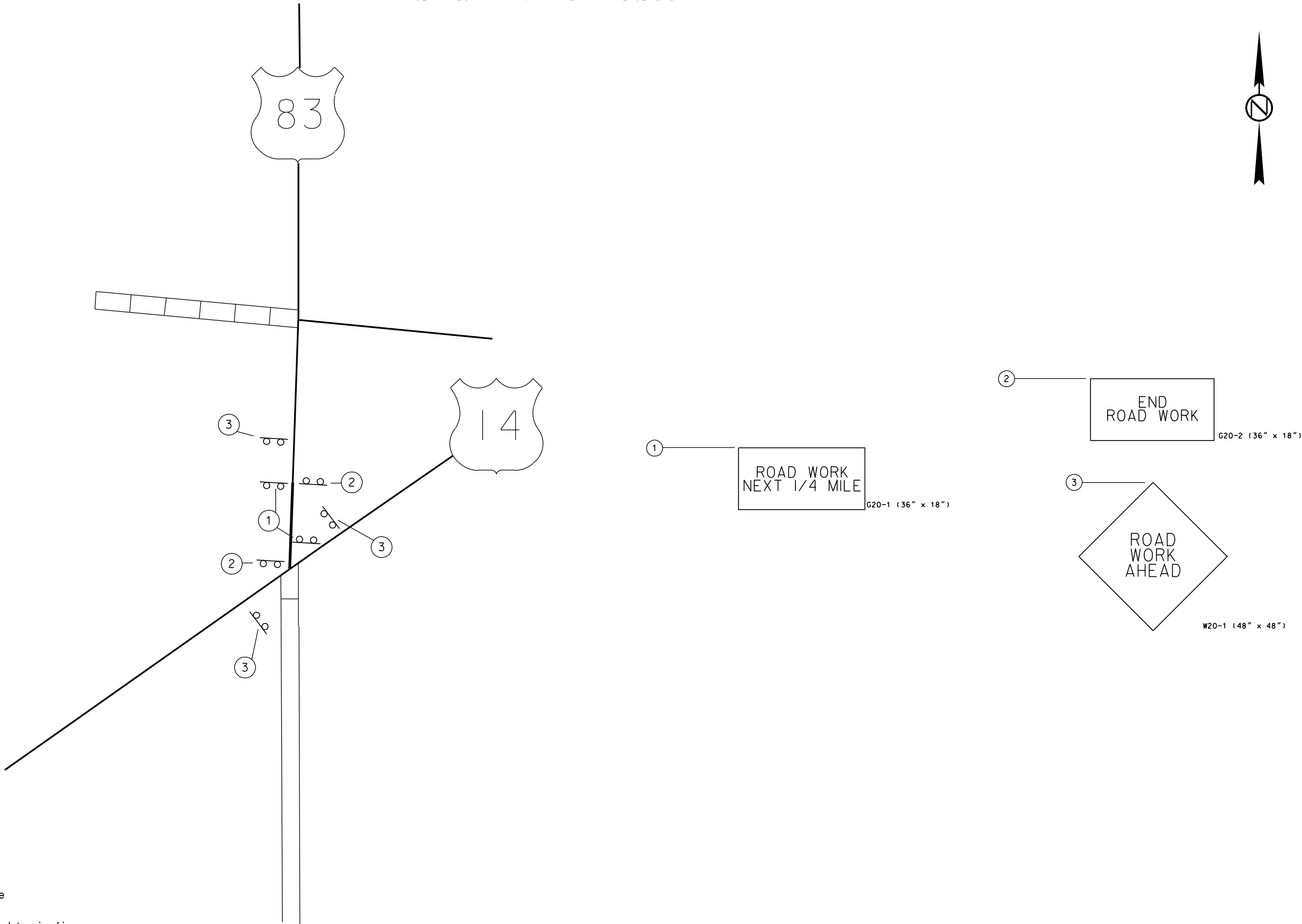
SEGMENT 6 – US83

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0030(38)	14	19

Plotting Date: 03/07/2025 Revised 03/12/2025 JDC

Plot Scale - 1:200

Plotted From - TRPR25584



Fixed location signing will remain in place until the permanent pavement marking is completed.

Exact location and spacing of signs shown will be determined in the field by the Contractor and verified by the Engineer.

Fixed location signing will not obscure existing signs.

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.

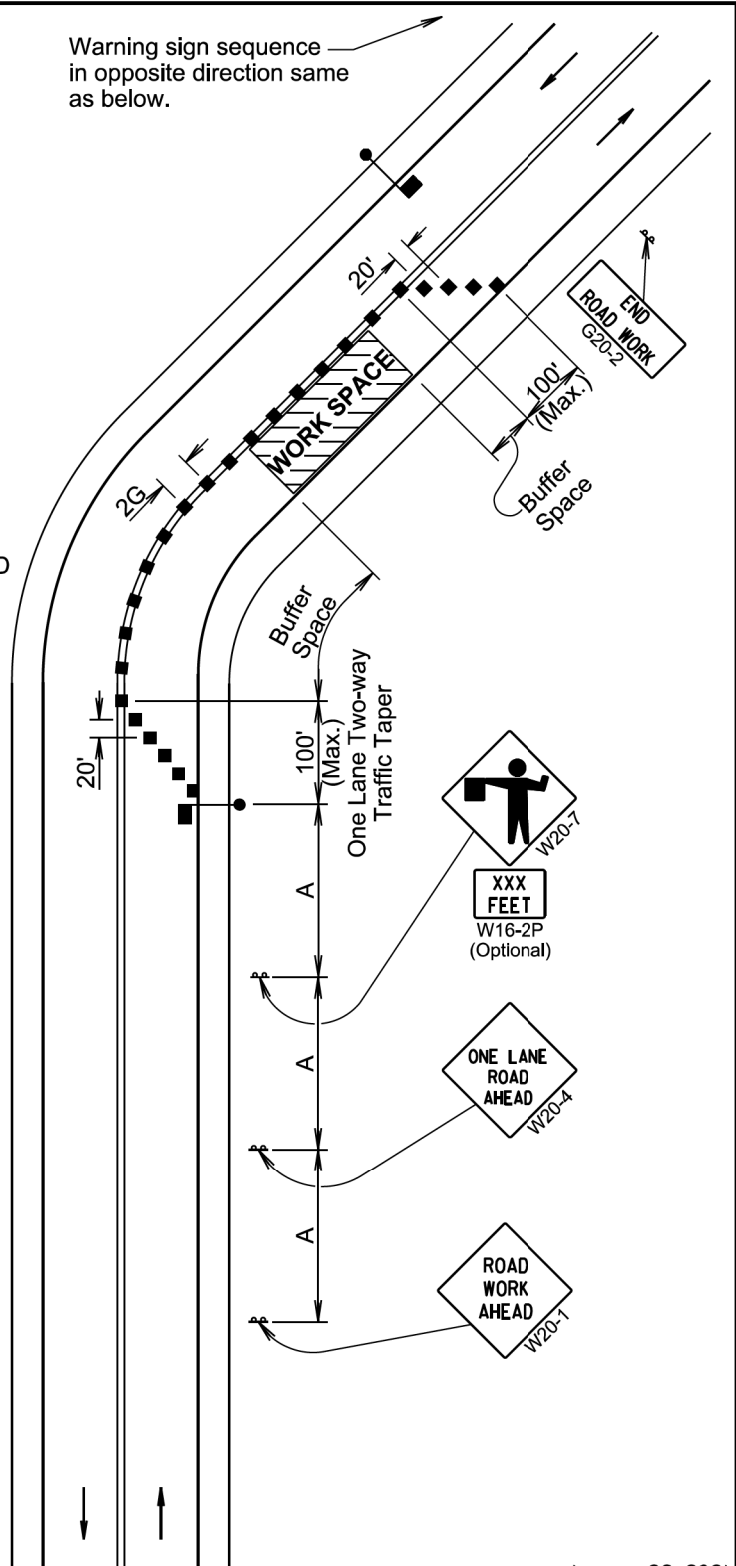
END ROAD WORK
G20-2

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.

Warning sign sequence in opposite direction same as below.



January 22, 2021

Published Date: 2025	S D D O T	LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
			Sheet 1 of 1

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 *

* Spacing is 40' for 42" cones.

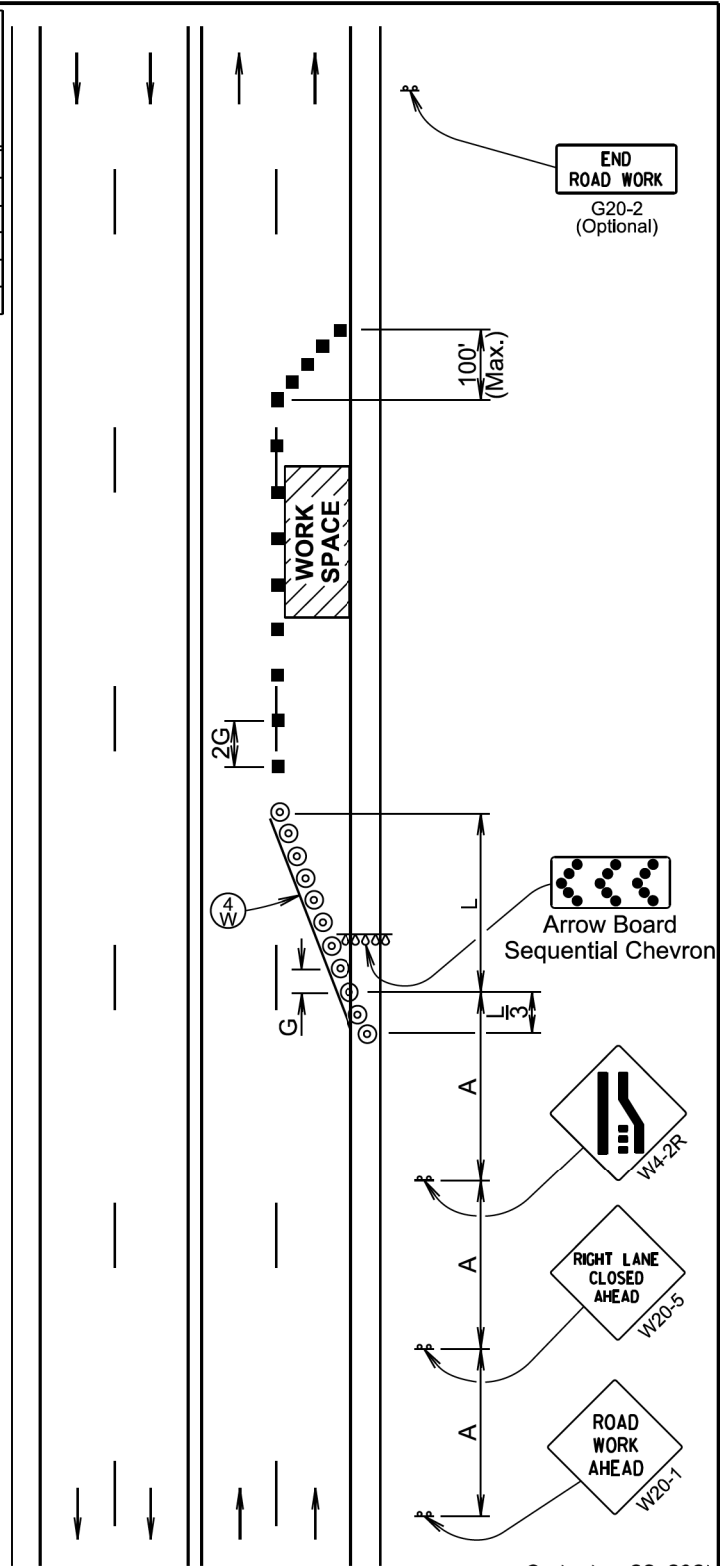
- ReflectORIZED Drum
- Channelizing Device
- 4" White Temporary Pavement Marking

The channelizing devices will be 42" cones or drums.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

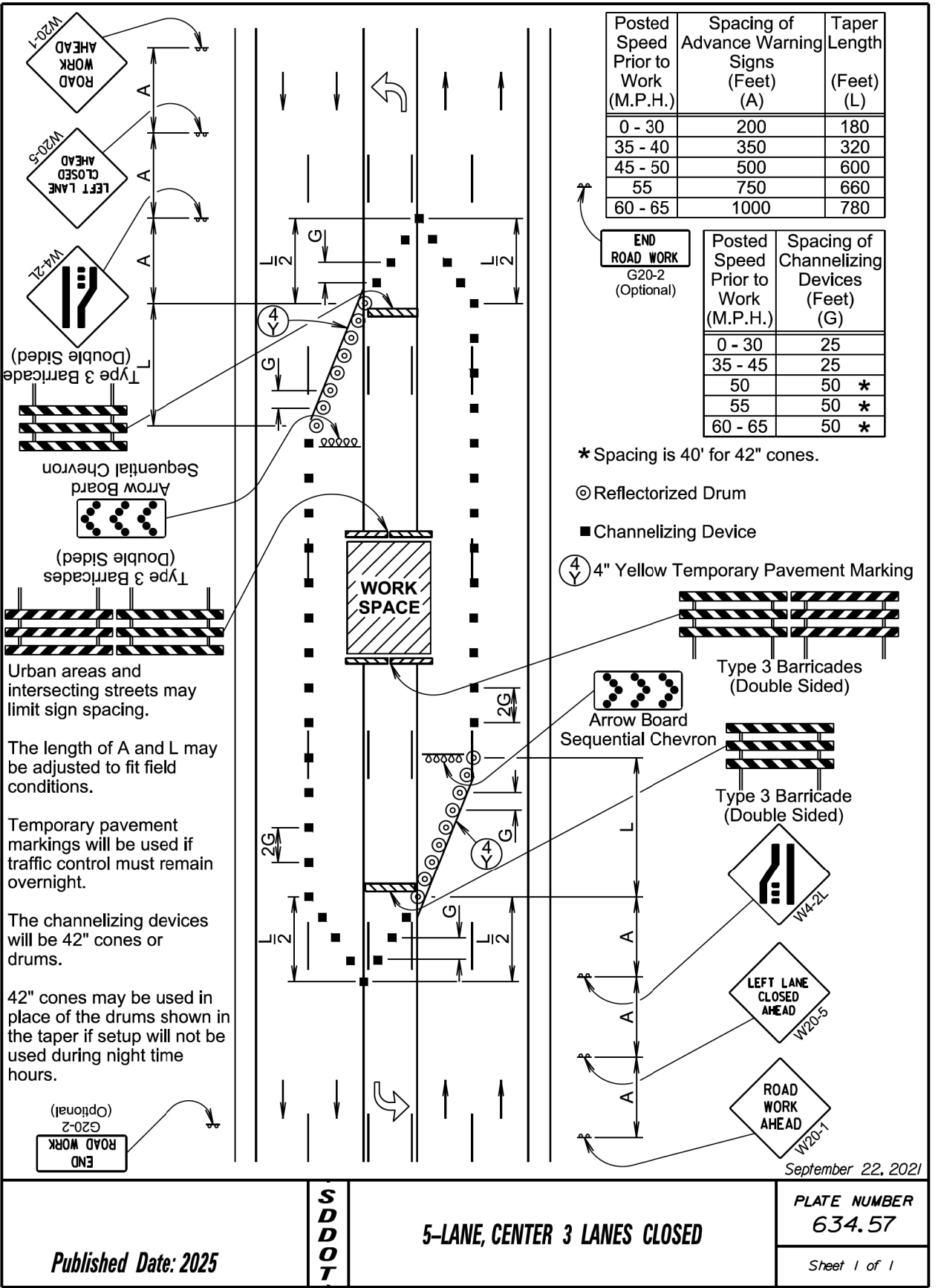
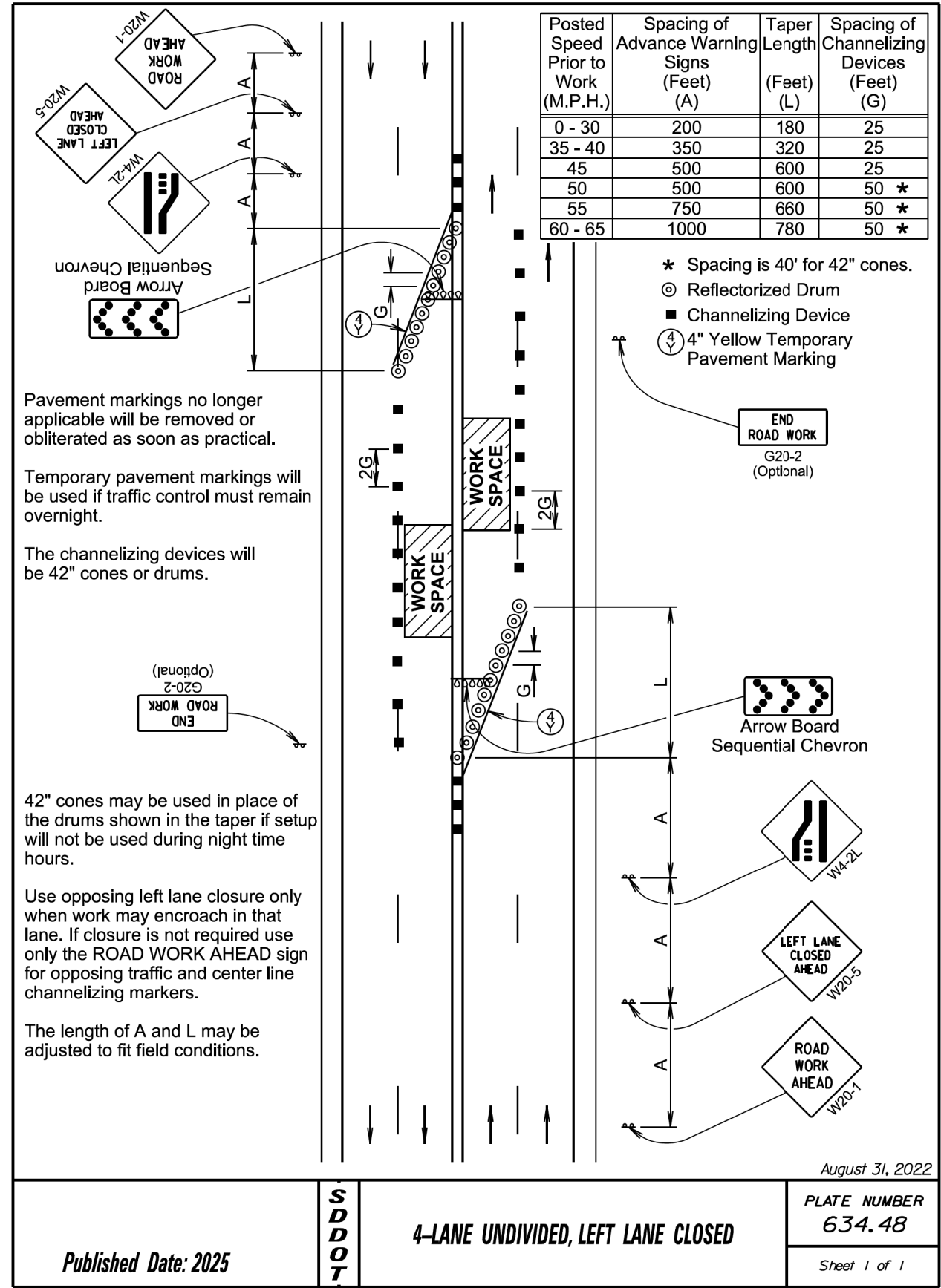
Temporary pavement markings will be used if traffic control must remain overnight.

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



September 22, 2021

Published Date: 2025	S D D O T	4-LANE UNDIVIDED, RIGHT LANE CLOSED	PLATE NUMBER 634.47
			Sheet 1 of 1





W20-1
ROAD WORK
AHEAD

⊙ Reflectorized Drum

■ Channelizing Device

④ W 4" White Temporary Pavement Marking

Urban areas and intersecting streets may limit sign spacing.

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

Temporary pavement markings will be used if traffic control must remain overnight.

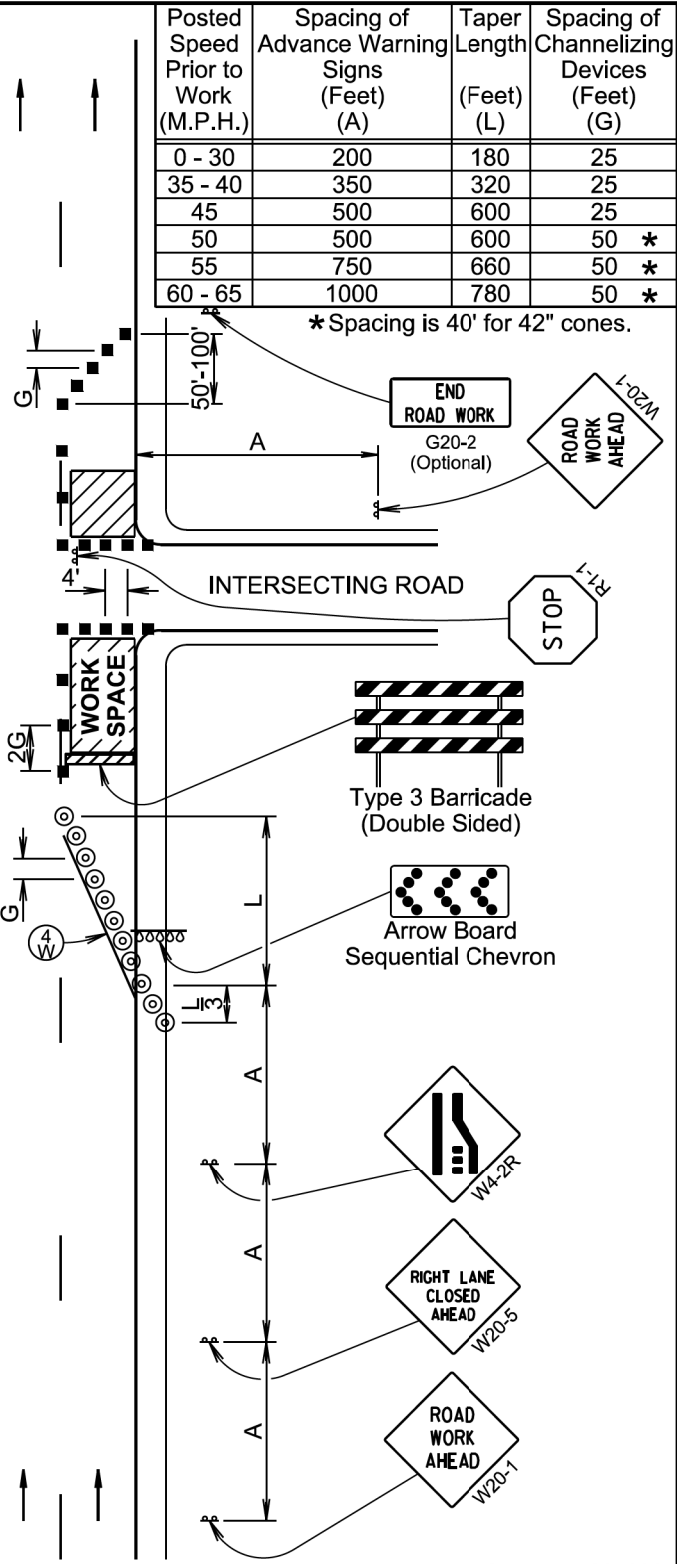
The channelizing devices will be 42" cones or drums.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

Additional channelizing devices at 4' spacing may be needed to control traffic entering and leaving intersections.

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 *

* Spacing is 40' for 42" cones.



September 22, 2021

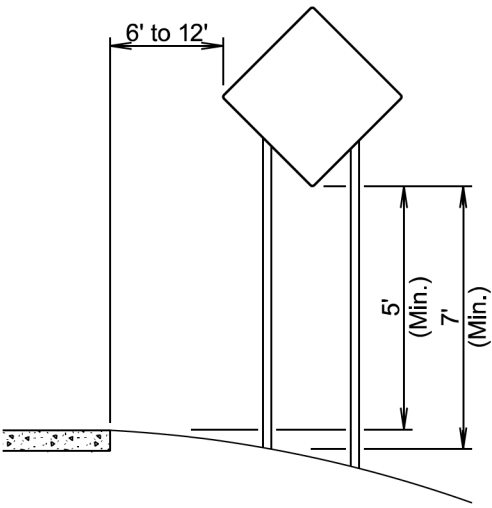
Published Date: 2025

SDOT

5-LANE, OUTSIDE LANE CLOSED

PLATE NUMBER
634.60

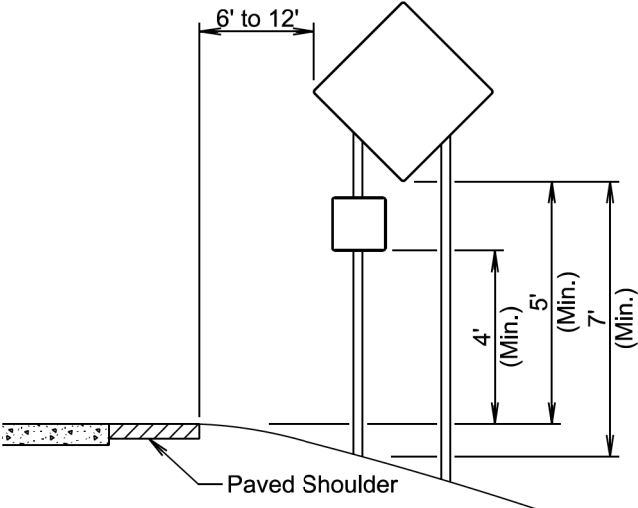
Sheet 1 of 1



6' to 12'

5' (Min.)

7' (Min.)



6' to 12'

4' (Min.)

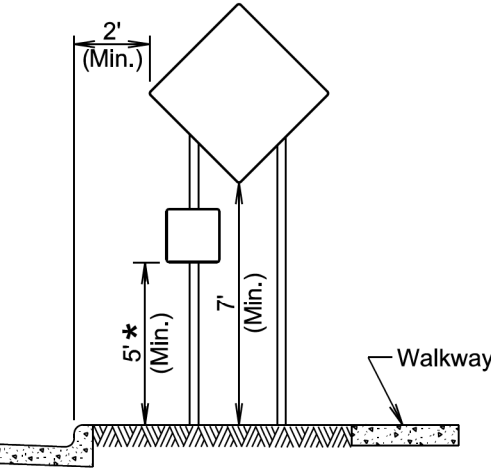
5' (Min.)

7' (Min.)

Paved Shoulder

RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE

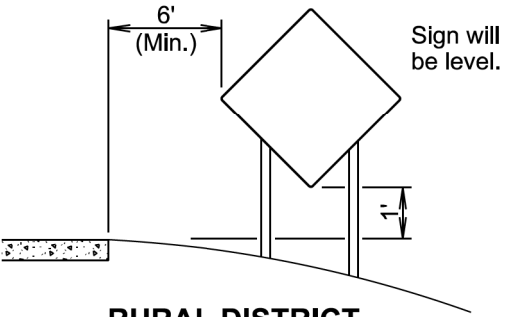


2' (Min.)

5' * (Min.)

7' (Min.)

Walkway



6' (Min.)

Sign will be level.

URBAN DISTRICT

RURAL DISTRICT 3 DAY MAXIMUM
(Not applicable to regulatory signs)

* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

Published Date: 2025

SDOT

CRASHWORTHY SIGN SUPPORTS
(Typical Construction Signing)

PLATE NUMBER
634.85

Sheet 1 of 1

January 22, 2021

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0030(37)	19	19

Plotting Date: 03/07/2025

