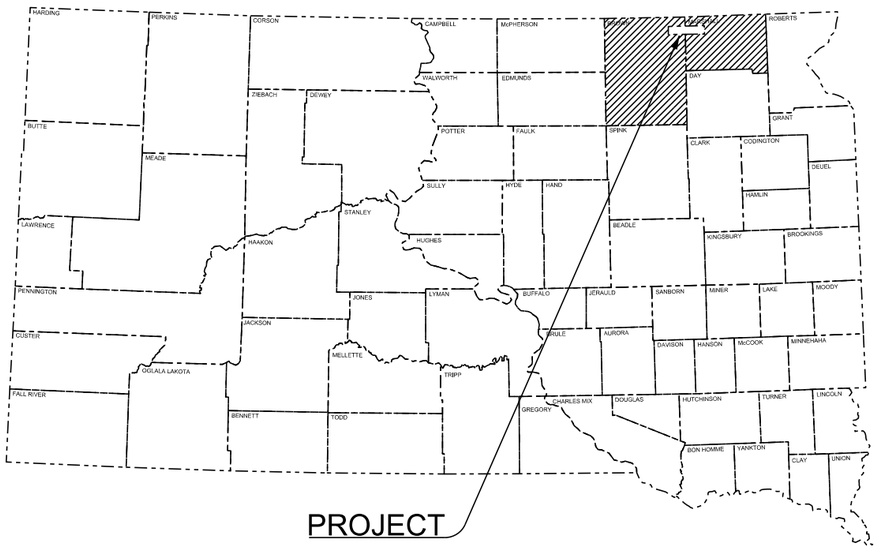


STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

PROJECT P 0010(158)296
SD HIGHWAY 10
BROWN & MARSHALL COUNTIES

COLD MILLING & ASPHALT CONCRETE RESURFACING

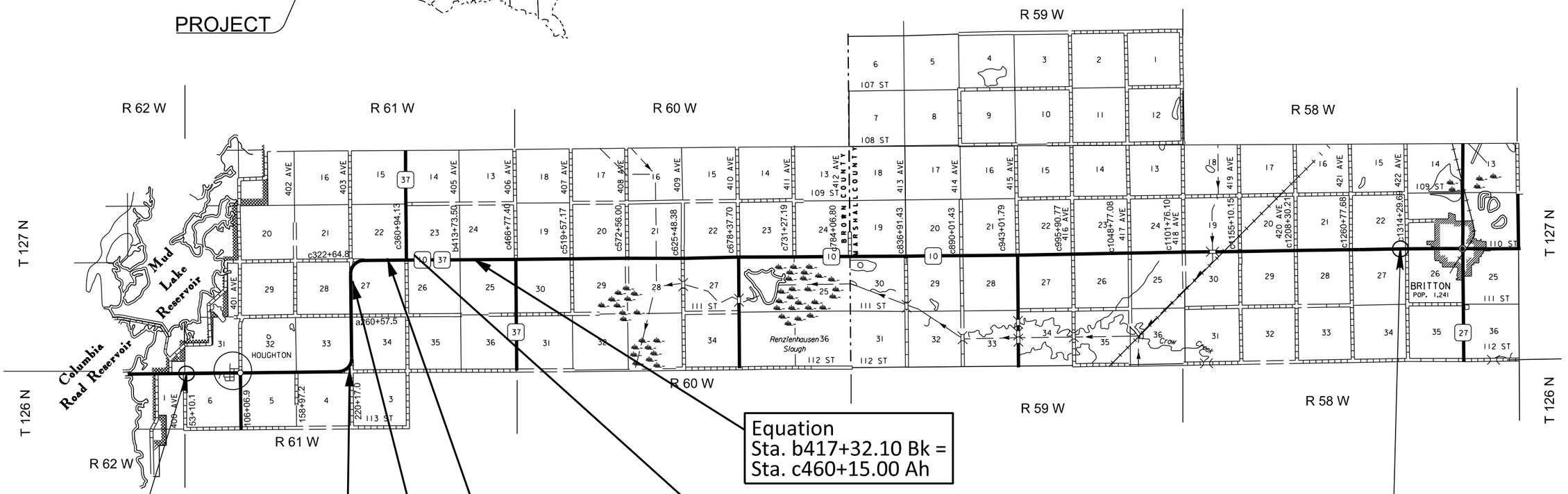
PCN 06Q9

Revised
05/21/2025 8:24:54 AM

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0010(158)296	1	39

Plotting Date: 05/21/2025

INDEX OF SHEETS



Equation
Sta. 222+06.00 Bk =
Sta. a221+28.00 Ah

Equation
Sta. b307+68.77 Bk =
Sta. c350+55.00 Ah

Equation
Sta. a337+07.90 Bk. =
Sta. b294+99.50 Ah

Equation
Sta. b417+32.10 Bk =
Sta. c460+15.00 Ah

Equation
Sta. c367+50.00 Bk =
Sta. b324+63.77 Ah

BEGIN P 0010(158)296
Station 53+55.30 = Station 53+80.00
on Project F 142(4)
MRM 296.00+0.268

END P 0010(158)296
Station 1313+83.00 = Station 11+04.63
on Project P 0010(32)320
MRM 320.00 + 0.051

DESIGN DESIGNATION

AADT (2023)	673
AADT (2048)	904
DHV	100
D	50%
DHV T%	9.9%
AADT T%	21.8%
V	65 mph

STORM WATER PERMIT
None Required

Gross Length	126,031.20 Feet	23.870 Miles
Length of Exceptions	0.00 Feet	0.00 Miles
Net Length	126,031.20 Feet	23.870 Miles

5

October 1, 2025

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

Revised
09/02/2025 11:04:00 AM

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0010(158)296	2	39

GENERAL QUANTITIES – 06Q9

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E4200	Construction Schedule, Category II	Lump Sum	LS
110E1010	Remove Asphalt Concrete Pavement	1,790.2	SqYd
120E0100	Unclassified Excavation, Digouts	1,194	CuYd
260E1010	Base Course	4,502.0	Ton
320E0005	PG 58-34 Asphalt Binder	3,331.8	Ton
320E1200	Asphalt Concrete Composite	596.7	Ton
320E1202	CLASS Q2R HOT MIXED ASPHALT CONCRETE	65,962.5	Ton
320E1800	Asphalt Concrete Blade Laid	3,580.5	Ton
320E4000	Hydrated Lime	684.3	Ton
320E7008	Grind 8" Rumble Strip or Stripe in Asphalt Concrete	40.4	Mile
320E7010	Grind 8" Sinusoidal Rumble Strip or Stripe in Asphalt Concrete	6.1	Mile
320E7028	Grind Centerline Rumble Stripe in Asphalt Concrete	20.2	Mile
320E7030	Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete	3.1	Mile
330E0100	SS-1h or CSS-1h Asphalt for Tack	290.2	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	119.7	Ton
330E2000	Sand for Flush Seal	1,270.5	Ton
332E0010	Cold Milling Asphalt Concrete	432,093	SqYd
600E0300	Type III Field Laboratory	1	Each
633E0030	Cold Applied Plastic Pavement Marking, 24"	428	Ft
633E0040	Cold Applied Plastic Pavement Marking, Arrow	8	Each
633E0055	Cold Applied Plastic Pavement Marking, Railroad Crossing	2	Each
633E1200	High Build Waterborne Pavement Marking Paint, White	1,069	Gal
633E1205	High Build Waterborne Pavement Marking Paint, Yellow	257	Gal
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	428	Ft
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	8	Each
633E5040	Grooving for Cold Applied Plastic Pavement Marking, Railroad Crossing	2	Each
633E5100	Grooving for Durable Pavement Marking, 4"	289,995	Ft
634E0010	Flagging	950.0	Hour
634E0020	Pilot Car	425.0	Hour
634E0110	Traffic Control Signs	1,087.1	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0630	Temporary Pavement Marking	119.4	Mile
900E1980	Storage Unit	1	Each
998E0100	Railroad Protective Insurance	Lump Sum	LS

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 10-1-25 Version, Required Provisions, and Special Provisions as included in the Proposal. The Standard Specifications for Roads and Bridges is available for download and viewing at https://dot.sd.gov/doing-business/contractors/standard-specifications.

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 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 C: WATER SOURCE

The Contractor will not withdraw water with equipment previously used outside the State of South Dakota or previously used in aquatic invasive species (AIS) positive waters within South Dakota without prior approval from the SDDOT Environmental Office. To prevent and control the introduction and spread of invasive species into the project vicinity, all equipment will be power washed with hot water (≥140 °F) and completely dried for a minimum of 7 days prior to subsequent use. South Dakota administrative rule 41:10:04:02 forbids the possession and transport of AIS; therefore, all attached dirt, mud, debris and vegetation must be removed and all compartments and tanks capable of holding standing water must be drained. This includes, but is not limited to, all equipment, pumps, lines, hoses and holding tanks.

The Contractor will not withdraw water directly from streams of the James, Big Sioux, and Vermillion watersheds without prior approval from the SDDOT Environmental Office.

Action Taken/Required:

The Contractor will obtain the necessary permits from the regulatory agencies such as the South Dakota Department of Agriculture and Natural Resources (DANR) and the United States Army Corps of Engineers (USACE) prior to water extraction activities.

Additional information and mapping of water sources impacted by Aquatic Invasive Species in South Dakota can be accessed at:
< https://sdleastwanted.sd.gov/maps/default.aspx>

< South Dakota Administrative Rule 41:10:04 Aquatic Invasive Species:
https://sdlegislature.gov/rules/DisplayRule.aspx?Rule=41:10:04 >

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.

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:

1. 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”.

2. 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.

COMMITMENT I: HISTORIC PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historic Preservation Office (SHPO or THPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas, and waste sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require a cultural resource review prior to scheduling the pre-construction meeting. This work includes but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor will arrange and pay for a record search and when necessary, a cultural resource survey. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor will provide ARC with the following: a topographical map or aerial view in which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been

previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities within 100 feet of the inadvertent discovery will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office, who will contact the appropriate SHPO/THPO within 48 hours of the discovery to determine an appropriate course of action.

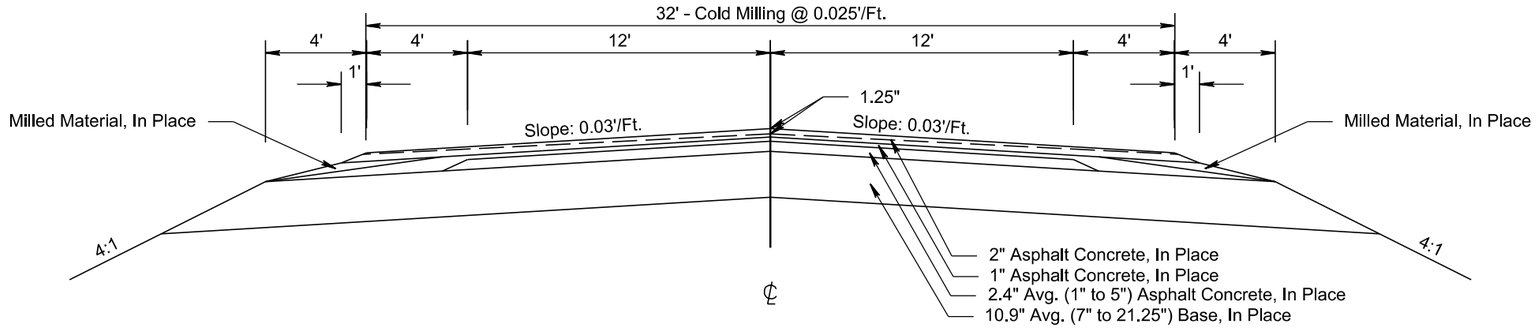
SHPO/THPO review does not relieve the Contractor of the responsibility obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0010(158)296	4	39

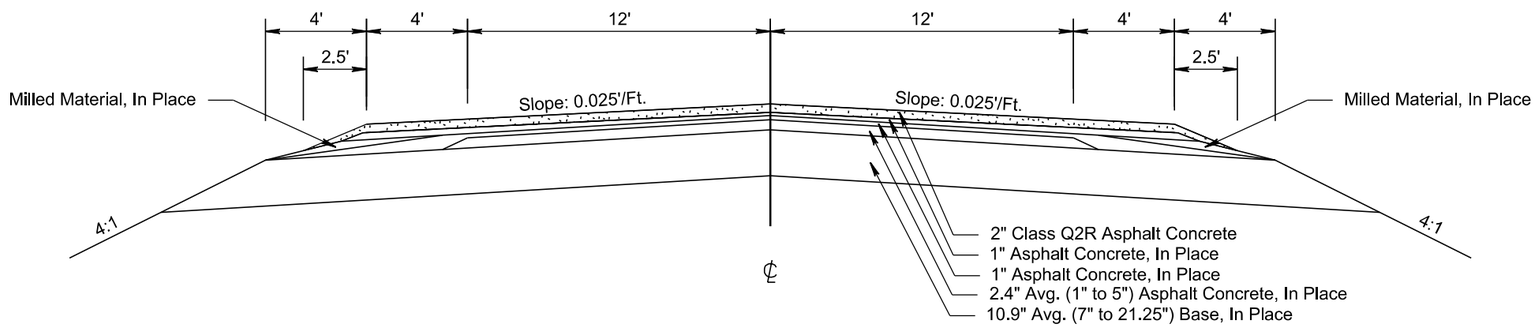
Plotting Date: 09/05/2024

Section 1
Sta. 53+55.3 to Sta. 83+56.0 Lt.
Sta. 53+55.3 to Sta. 83+62.0 Rt.
Sta. 105+73 to Sta. 222+06
Sta. a 221+28 to Sta. a 337+07.9
Sta. b 294+99.5 to Sta. b 307+68.77
Sta. b 324+63.77 to Sta. b 417+32.1
In Place & Cold Milling Section



Equation:
Sta. 222+06 Bk. = Sta. a 221+28 Ah.
Sta. a 337+07.9 Bk. = Sta. b 294+99.5 Ah.
Sta. b 307+68.77 Bk. = Sta. c 350+55 Ah.
Sta. c 367+50 Bk. = Sta. b 324+63.77 Ah.
Sta. b 417+32.10 Bk. = Sta. c 460+15 Ah.

Section 1
Sta. 53+55.3 to Sta. 83+56.0 Lt.
Sta. 53+55.3 to Sta. 83+62.0 Rt.
Sta. 105+73 to Sta. 222+06
Sta. a 221+28 to Sta. a 337+07.9
Sta. b 294+99.5 to Sta. b 307+68.77
Sta. b 324+63.77 to Sta. b 417+32.1
Resurfacing Section

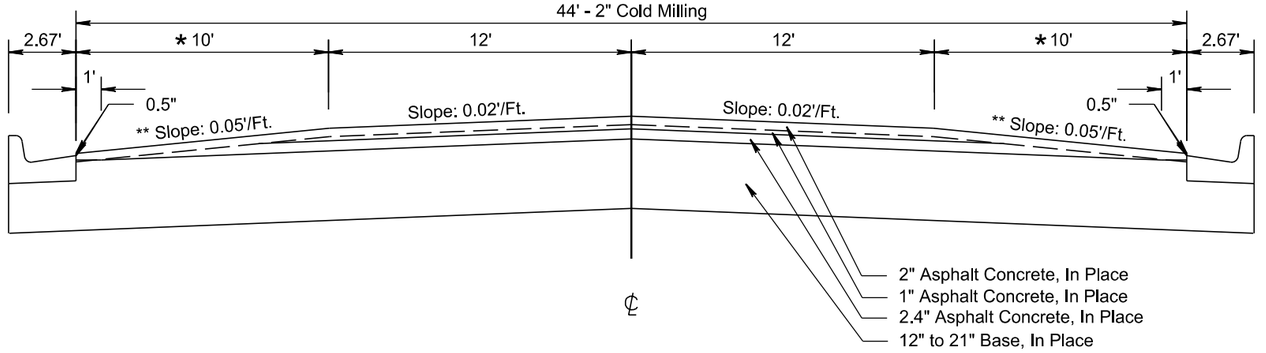


TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0010(158)296	5	39

Plotting Date: 09/05/2024

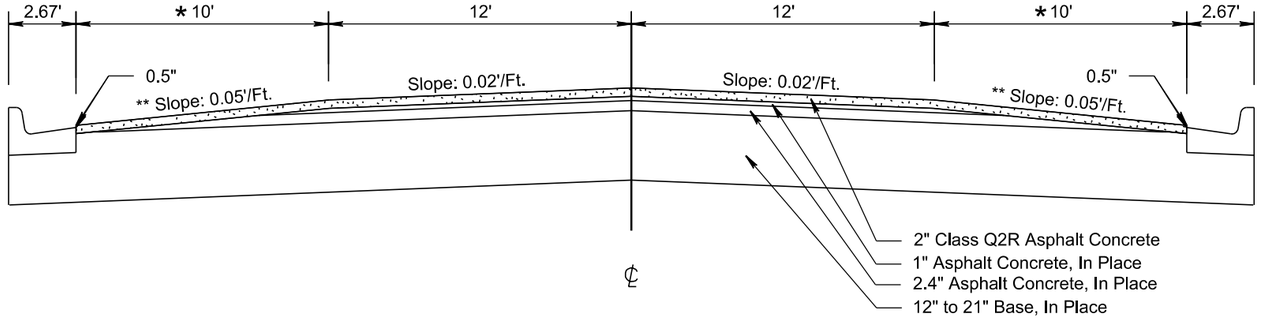
Section 2
Sta. 83+56 to Sta. 88+50 Lt.
Sta. 83+62 to Sta. 88+50 Rt.
Sta. 93+50 to Sta. 105+73
In Place & Cold Milling Section



Transitions:

Sta. 93+50 to Sta. 95+83.2 Lt. Only
* 20'
** 0.04'/Ft.

Section 2
Sta. 83+56 to Sta. 88+50 Lt.
Sta. 83+62 to Sta. 88+50 Rt.
Sta. 93+50 to Sta. 105+73
Resurfacing Section



Transitions:

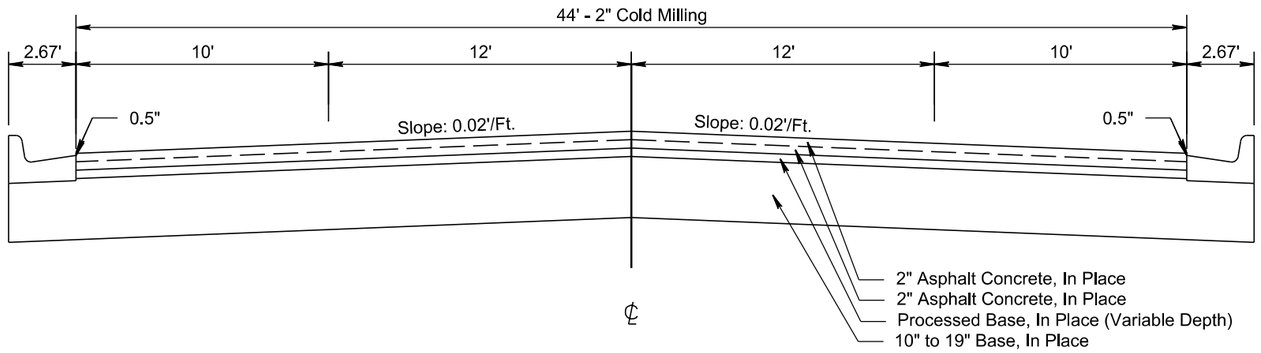
Sta. 93+50 to Sta. 95+83.2 Lt. Only
* 20'
** 0.04'/Ft.

TYPICAL SURFACING SECTIONS

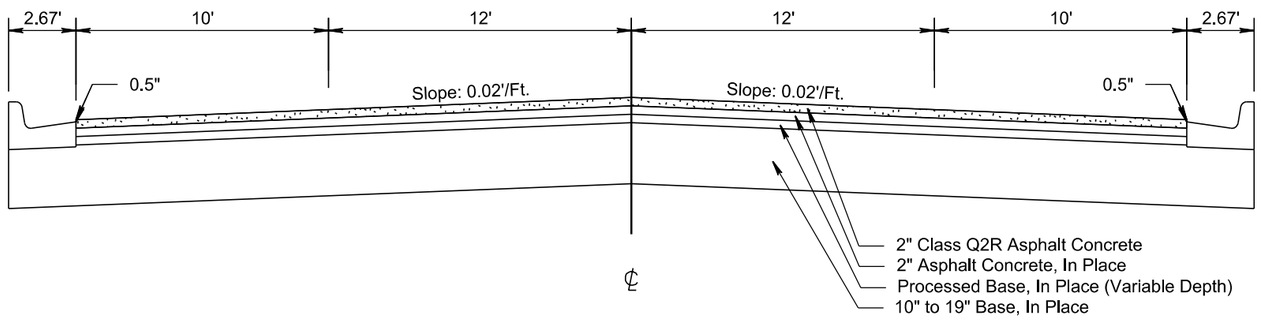
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0010(158)296	6	39

Plotting Date: 09/05/2024

Section 3
Sta. 88+50 to Sta. 93+50
In Place & Cold Milling Section



Section 3
Sta. 88+50 to Sta. 93+50
Resurfacing Section



PLOT SCALE - 1:6.00001

PLOTTED FROM - TRPR12283

PLOT NAME - 3

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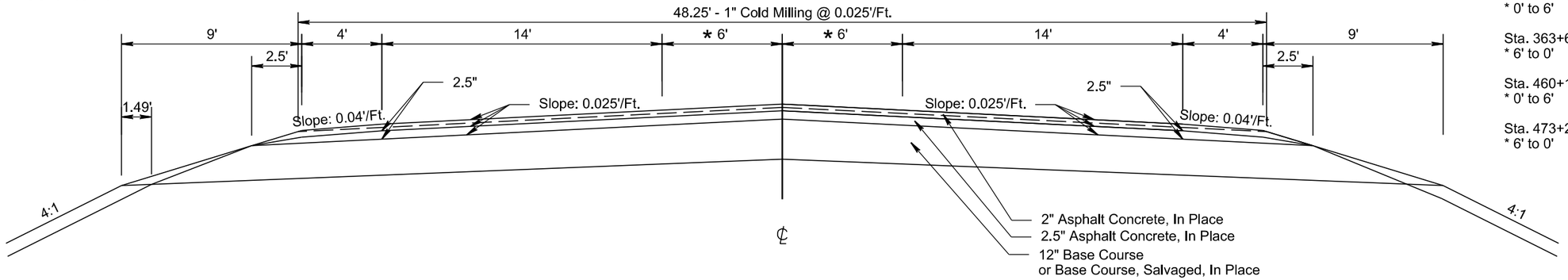
TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0010(158)296	7	39

Plotting Date: 09/05/2024

Equation:
Sta. b 307+68.77 Bk. = Sta. c 350+55.0 Ah.
Sta. c 367+50 Bk. = Sta. b 324+63.77 Ah.
Sta. b 417+32.10 Bk. = Sta. c 460+15 Ah.

Section 4
Sta. c 350+55 to Sta. c 367+50
Sta. c 460+15 to Sta. c 477+10
In Place & Cold Milling Section



Transitions:

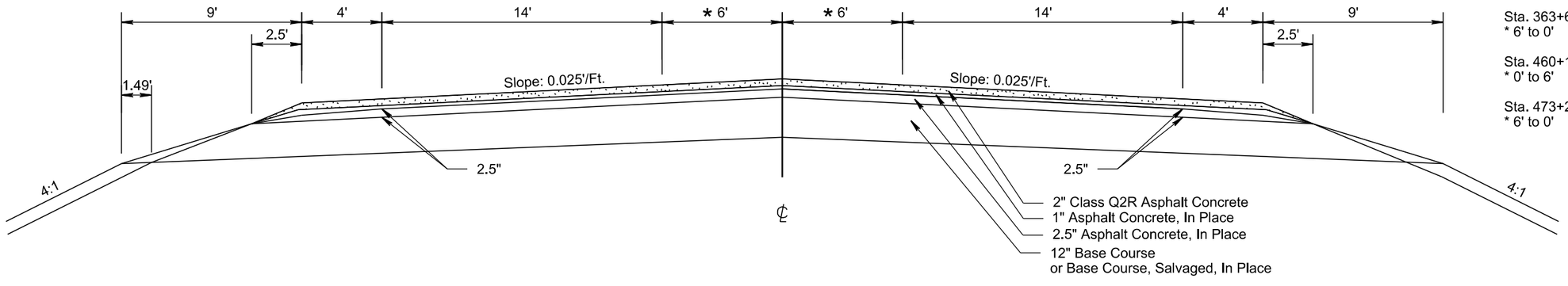
Sta. 350+55 to Sta. 354+45
* 0' to 6'

Sta. 363+60 to Sta. 367+50
* 6' to 0'

Sta. 460+15 to Sta. 464+05
* 0' to 6'

Sta. 473+20 to Sta. 477+10
* 6' to 0'

Section 4
Sta. c 350+55 to Sta. c 367+50
Sta. c 460+15 to Sta. c 477+10
Resurfacing Section



Transitions:

Sta. 350+55 to Sta. 354+45
* 0' to 6'

Sta. 363+60 to Sta. 367+50
* 6' to 0'

Sta. 460+15 to Sta. 464+05
* 0' to 6'

Sta. 473+20 to Sta. 477+10
* 6' to 0'

PLOT SCALE - 1:6.00001

PLOT NAME - 4

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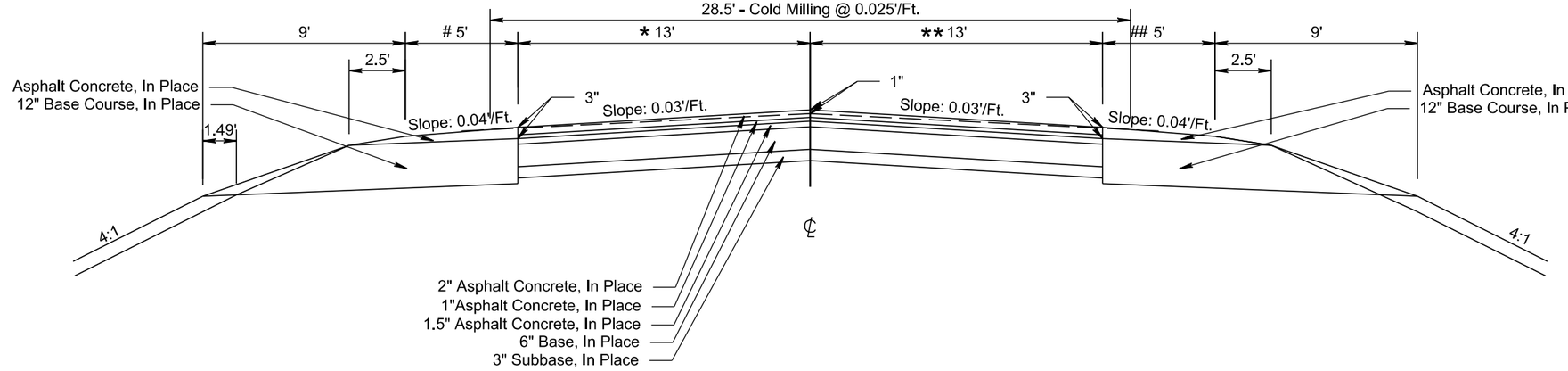
TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0010(158)296	8	39

Plotting Date: 09/05/2024

Section 5
Sta. c 477+10 to Sta. c 1124+35
Sta. c 1132+40 to Sta. c 1207+00
Sta. c 1252+00 to Sta. c 1313+83.00
In Place & Cold Milling Section



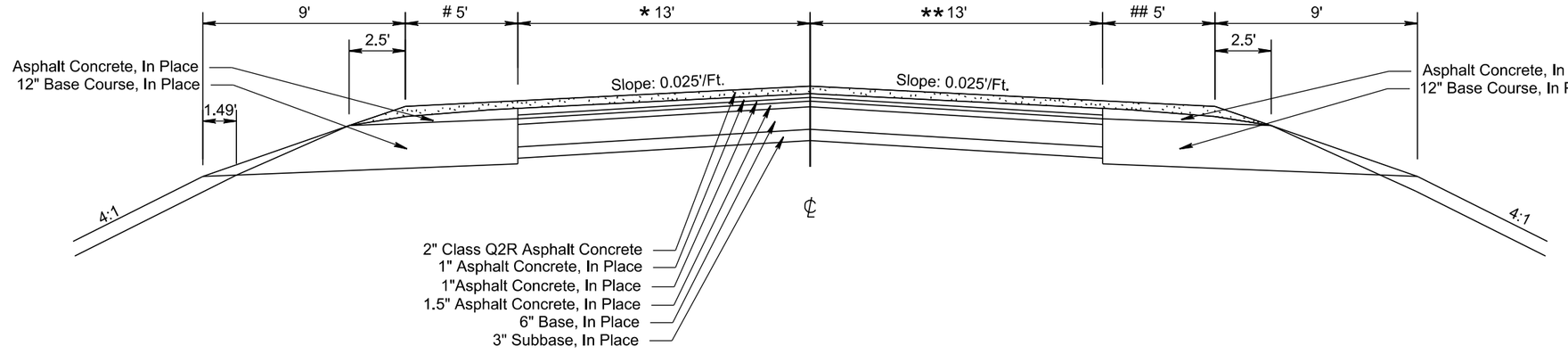
Transitions:

Sta. 477+10 to Sta. 696+00
* 14'
# 4'

Sta. 477+10 to Sta. 681+00
** 14'
4'

Sta.1310+34.00 to
Sta.1313+83.00
** 18'
4'

Section 5
Sta. c 477+10 to Sta. c 1124+35
Sta. c 1132+40 to Sta. c 1207+00
Sta. c 1252+00 to Sta. c 1313+83.00
Resurfacing Section



Transitions:

Sta. 477+10 to Sta. 696+00
* 14'
# 4'

Sta. 477+10 to Sta. 681+00
** 14'
4'

Sta.1310+34.00 to
Sta.1313+83.00
** 18'
4'

PLOT SCALE - 1:6.00001

PLOTTED FROM - TRPR12283

PLOT NAME - 5

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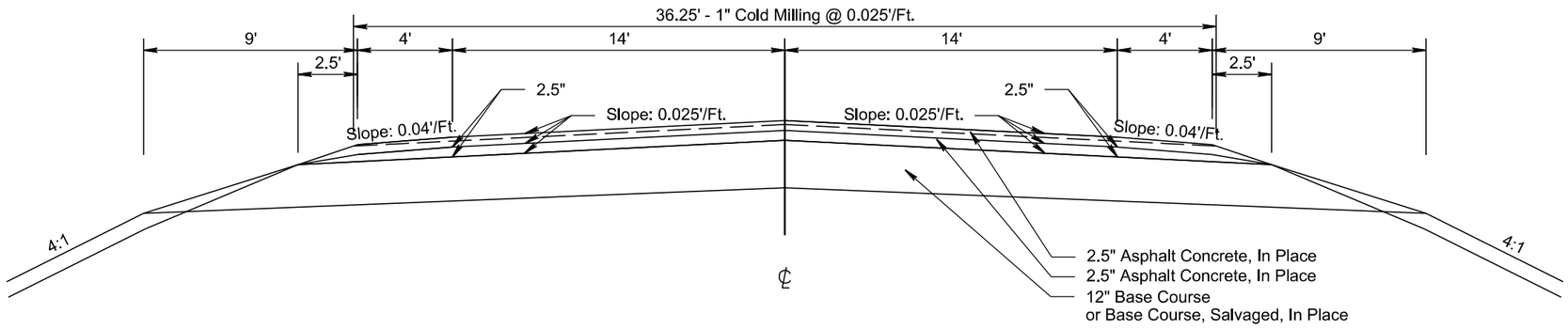
TYPICAL SURFACING SECTIONS

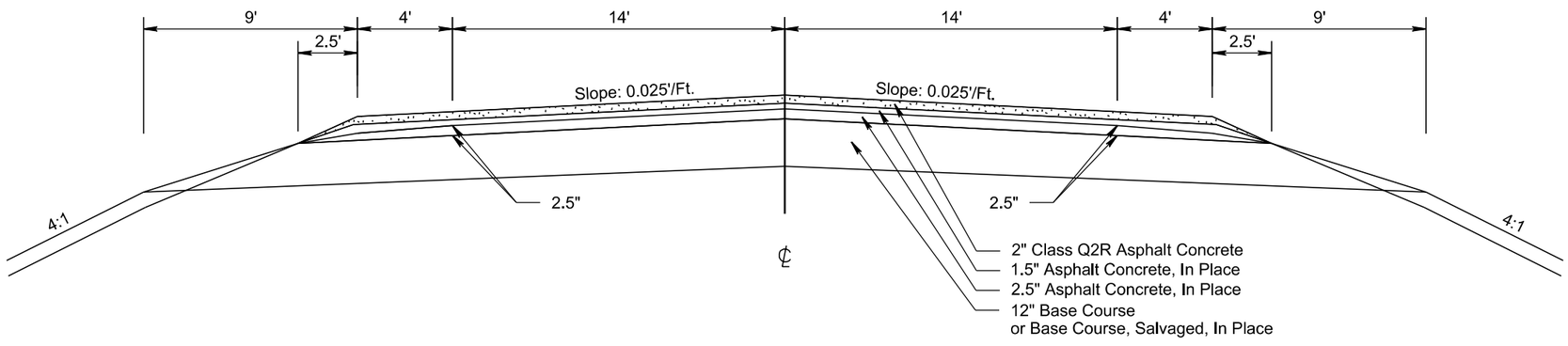
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0010(158)296	9	39

Plotting Date: 09/05/2024

Section 6
Sta. c 1124+35 to Sta. c 1132+40
In Place & Cold Milling Section



Section 6
Sta. c 1124+35 to Sta. c 1132+40
Resurfacing Section



PLOT SCALE - 1:6.00001

PLOTTED FROM - TRPR12283

PLOT NAME - 6

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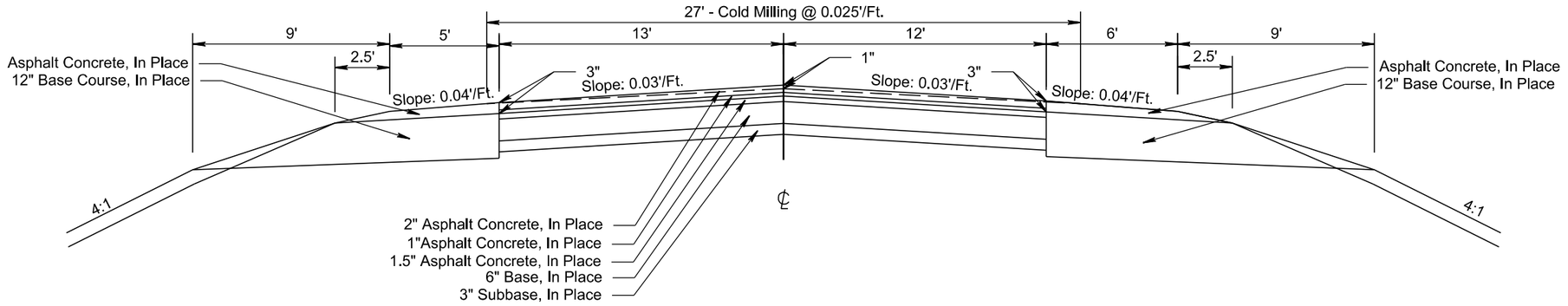
TYPICAL SURFACING SECTIONS

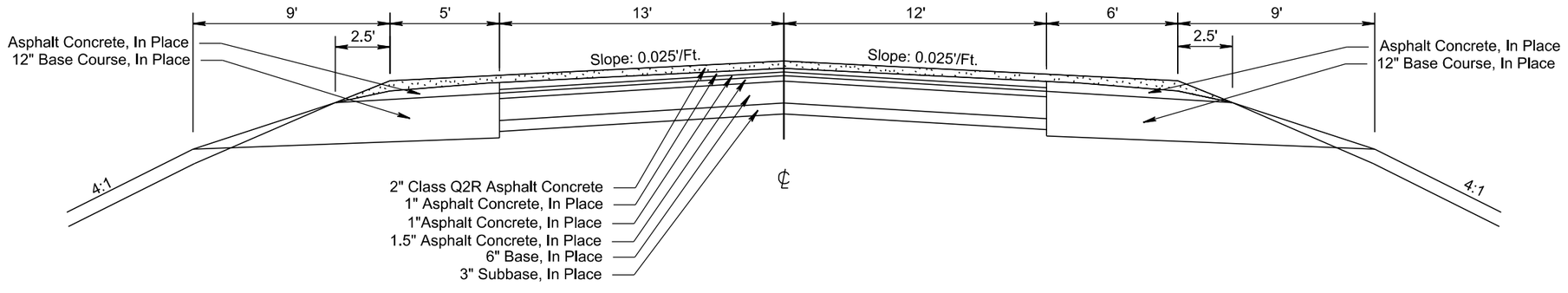
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0010(158)296	10	39

Plotting Date: 09/05/2024

Section 7
Sta. c 1207+00 to Sta. c 1252+00
In Place & Cold Milling Section



Section 7
Sta. c 1207+00 to Sta. c 1252+00
Resurfacing Section



PLOT SCALE - 1:6.00001

PLOTTED FROM - TRPR12283

PLOT NAME - 7

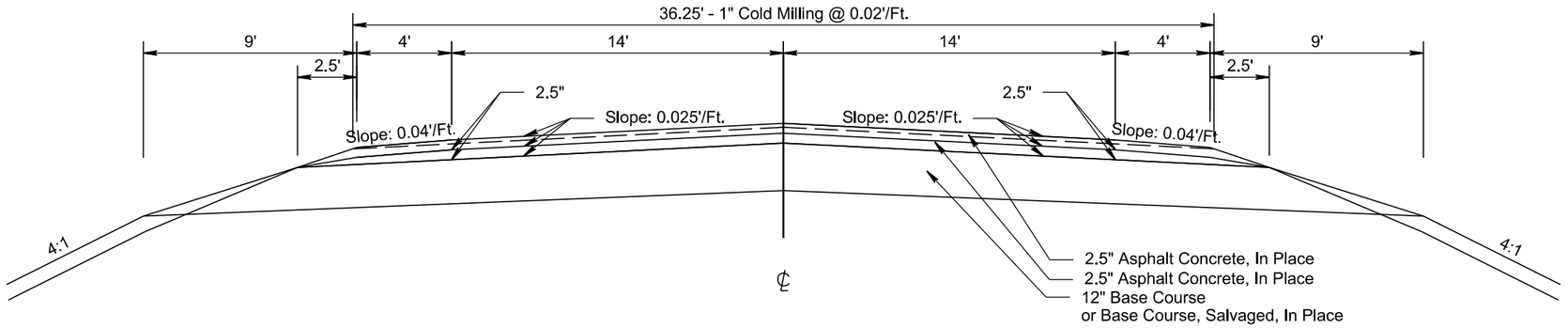
FILE - ...\0609_TYPSECT_TJ01.DGN

TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0010(158)296	11	39

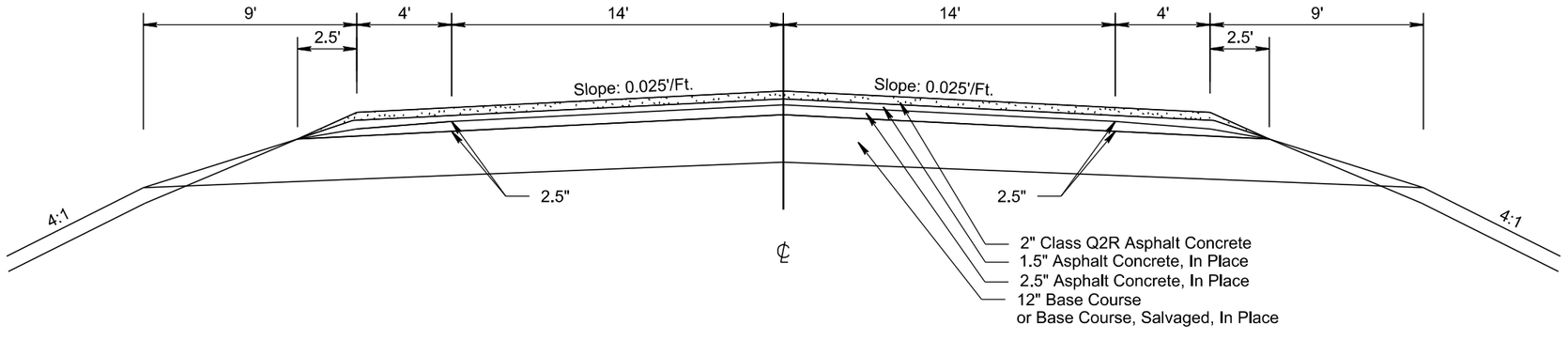
Plotting Date: 09/05/2024

Section 8
* Pipe and Structure Replacements
In Place & Cold Milling Section



*The cross slope for all other pipe and structure replacements will match the cross slope of the adjacent surfacing section.

Section 8
* Pipe and Structure Replacements
Resurfacing Section



*The cross slope for all other pipe and structure replacements will match the cross slope of the adjacent surfacing section.

PLOT SCALE - 1:6.00001

PLOTTED FROM - TRPR12283

PLOT NAME - 8

FILE - ...\0609_TYPSECT_TJ01.DGN

RATES OF MATERIALS

The Estimate of Quantities is based on the following quantities of materials per mile.

Section 1: Mainline Lift

Sta. 53+55.3 to Sta. 83+56.0 Lt.
Sta. 53+55.3 to Sta. 83+62.0 Rt.
Sta. 105+73 to Sta. 222+06
Sta. a221+28 to Sta. a337+07.9
Sta. b294+99.5 to Sta. b307+68.77
Sta. b324+63.77 to Sta. b417+32.1

CLASS Q2R HOT MIXED ASPHALT CONCRETE

Crushed Aggregate: 80%.....	1730 Tons
Salvaged Asphalt Concrete: 20%.....	433 Tons
PG 58-34 Asphalt Binder.....	107 Tons
Total Mix (148 lb/ft^3).....	2270 Tons
Hydrated Lime: 1.0%.....	23 Tons
Total	2293 Tons

Laid 2 inches compacted depth: 37’ bottom, 32’ top.

The exact proportion of these materials will be determined on construction.

SS-1h or CCS-1h Emulsified Asphalt for Tack will at the rate of **39.6** tons applied **38** feet wide.
(Rate = 0.06 gal./sq.yd.)

Blade Laid

SS-1h or CCS-1h Emulsified Asphalt for Tack will at the rate of **39.1** tons applied **25.0** feet wide.
(Rate = 0.09 gal./sq.yd.)

Flush Seal

SS-1h or CCS-1h Emulsified Asphalt for Flush Seal will be at the rate of **32.1** tons applied **37.0** feet wide.
(Rate = 0.05 gal./sq.yd.)

Sand for Flush Seal will be at the rate of **359.4** tons applied **22.0** feet wide.
(Rate = 8 lb./sq.yd.).

Section 5: Mainline Lift

Sta. c477+10 to Sta. c1124+35
Sta. c1132+40 to Sta. c1207+00
Sta. c1252+00 to Sta. c1310+34

CLASS Q2R HOT MIXED ASPHALT CONCRETE

Crushed Aggregate: 80%.....	2019 Tons
Salvaged Asphalt Concrete: 20%.....	505 Tons
PG 58-34 Asphalt Binder 4.7%.....	124 Tons
Total Mix (148 lb/ft^3).....	2648 Tons
Hydrated Lime: 1.0%.....	26 Tons
Total	2674 Tons

Laid 2 inches compacted depth: 41’ bottom, 36’ top

The exact proportion of these materials will be determined on construction

SS-1h or CCS-1h Emulsified Asphalt for Tack will at the rate of **92.8** tons applied **42.0** feet wide.
(Rate = 0.06 gal./sq.yd.)

Blade Laid

SS-1h or CCS-1h Emulsified Asphalt for Tack will at the rate of **82.9** tons applied **25.0** feet wide.
(Rate = 0.09 gal./sq.yd.)

Flush Seal

SS-1h or CCS-1h Emulsified Asphalt for Flush Seal will be at the rate of **75.5** tons applied **41.0** feet wide.
(Rate = 0.05 gal./sq.yd.)

Sand for Flush Seal will be at the rate of **762.9** tons applied **22.0** feet wide.
(Rate = 8 lb./sq.yd.).

The Estimate of Quantities is based on the following quantities of materials per station.

Section 2: Mainline Lift

Sta. 83+56 to Sta. 88+50 Lt.
Sta. 83+62 to Sta. 88+50 Rt.
Sta. 93+50 to Sta. 105+73

CLASS Q2R HOT MIXED ASPHALT CONCRETE

Crushed Aggregate: 80%.....	41.27 Tons
Salvaged Asphalt Concrete: 20%.....	10.32 Tons
PG 58-34 Asphalt Binder 4.7%.....	2.54 Tons
Total Mix (148 lb/ft^3).....	54.13 Tons
Hydrated Lime: 1.0%.....	0.54 Tons
Total	54.67 Tons

Laid 2 inches compacted depth: 44’ bottom, 44’ top.

The exact proportion of these materials will be determined on construction.

SS-1h or CCS-1h Emulsified Asphalt for Tack will at the rate of **2.1** tons applied **44.0** feet wide.
(Rate = 0.06 gal./sq.yd.)

Blade Laid

SS-1h or CCS-1h Emulsified Asphalt for Tack will at the rate of **1.8** tons applied **25.0** feet wide.
(Rate = 0.09 gal./sq.yd.)

Flush Seal

SS-1h or CCS-1h Emulsified Asphalt for Flush Seal will be at the rate of **1.8** tons applied **44.0** feet wide.
(Rate = 0.05 gal./sq.yd.)

Sand for Flush Seal will be at the rate of **33.5** tons applied **44.0** feet wide.
(Rate = 8 lb./sq.yd.).

RATES OF MATERIALS (CONTINUED)

Section 3: Mainline Lift
Sta. 88+50 to Sta. 93+50

CLASS Q2R HOT MIXED ASPHALT CONCRETE

Crushed Aggregate: 80%.....	41.38 Tons
Salvaged Asphalt Concrete: 20%.....	10.35 Tons
PG 58-34 Asphalt Binder 4.7%.....	2.55 Tons
Total Mix (148 lb/ft^3).....	54.28 Tons
Hydrated Lime: 1.0%.....	0.54 Tons
Total	54.82 Tons

Laid 2 inches compacted depth: 44' bottom, 44' top.

The exact proportion of these materials will be determined on construction.

SS-1h or CCS-1h Emulsified Asphalt for Tack will at the rate of **0.6** tons applied **44.0** feet wide.
(Rate = 0.06 gal./sq.yd.)

Blade Laid

SS-1h or CCS-1h Emulsified Asphalt for Tack will at the rate of **0.5** tons applied **25.0** feet wide.
(Rate = 0.09 gal./sq.yd.)

Flush Seal

SS-1h or CCS-1h Emulsified Asphalt for Flush Seal will be at the rate of **0.5** tons applied **44.0** feet wide.
(Rate = 0.05 gal./sq.yd.)

Sand for Flush Seal will be at the rate of **9.8** tons applied **44.0** feet wide.
(Rate = 8 lb./sq.yd.).

Section 4: Mainline Lift
Sta. c350+55 to Sta. c367+50
Sta. c460+15 to Sta. c477+10

CLASS Q2R HOT MIXED ASPHALT CONCRETE

Crushed Aggregate: 80%.....	47.24 Tons
Salvaged Asphalt Concrete: 20%.....	11.81 Tons
PG 58-34 Asphalt Binder 4.7%.....	2.91 Tons
Total Mix (148 lb/ft^3).....	61.96 Tons
Hydrated Lime: 1.0%.....	0.62 Tons
Total	62.58 Tons

Laid 2 inches compacted depth: 53' bottom, 48' top.

The exact proportion of these materials will be determined on construction.

SS-1h or CCS-1h Emulsified Asphalt for Tack will at the rate of **5.2** tons applied **54.0** feet wide.
(Rate = 0.06 gal./sq.yd.)

Blade Laid

SS-1h or CCS-1h Emulsified Asphalt for Tack will at the rate of **5.3** tons applied **37.0** feet wide.
(Rate = 0.09 gal./sq.yd.)

Flush Seal

SS-1h or CCS-1h Emulsified Asphalt for Flush Seal will be at the rate of **4.2** tons applied **53.0** feet wide.
(Rate = 0.05 gal./sq.yd.)

Sand for Flush Seal will be at the rate of **49.7** tons applied **33.0** feet wide.
(Rate = 8 lb./sq.yd.).

Section 6: Mainline Lift
Sta. c1124+35 to Sta. c1132+40

CLASS Q2R HOT MIXED ASPHALT CONCRETE

Crushed Aggregate: 80%.....	35.94 Tons
Salvaged Asphalt Concrete: 20%.....	8.98 Tons
PG 58-34 Asphalt Binder 4.7%.....	2.22 Tons
Total Mix (148 lb/ft^3).....	47.14 Tons
Hydrated Lime: 1.0%.....	0.47 Tons
Total	47.61 Tons

Laid 2 inches compacted depth: 41' bottom, 36' top.

The exact proportion of these materials will be determined on construction.

SS-1h or CCS-1h Emulsified Asphalt for Tack will at the rate of **1.0** tons applied **42.0** feet wide.
(Rate = 0.06 gal./sq.yd.)

Blade Laid

SS-1h or CCS-1h Emulsified Asphalt for Tack will at the rate of **0.9** tons applied **25.0** feet wide.
(Rate = 0.09 gal./sq.yd.)

Flush Seal

SS-1h or CCS-1h Emulsified Asphalt for Flush Seal will be at the rate of **0.8** tons applied **41.0** feet wide.
(Rate = 0.05 gal./sq.yd.)

Sand for Flush Seal will be at the rate of **7.9** tons applied **22.0** feet wide.
(Rate = 8 lb./sq.yd.).

Section 7: Mainline Lift
Sta. c1207+00 to Sta. c1252+00

CLASS Q2R HOT MIXED ASPHALT CONCRETE

Crushed Aggregate: 80%.....	38.85 Tons
Salvaged Asphalt Concrete: 20%.....	9.71 Tons
PG 58-34 Asphalt Binder 4.7%.....	2.39 Tons
Total Mix (148 lb/ft^3).....	50.95 Tons
Hydrated Lime: 1.0%.....	0.51 Tons
Total	51.46 Tons

Laid 2 inches compacted depth: 41' bottom, 36' top.

The exact proportion of these materials will be determined on construction.

SS-1h or CCS-1h Emulsified Asphalt for Tack will at the rate of **5.4** tons applied **42.0** feet wide.
(Rate = 0.06 gal./sq.yd.)

Blade Laid

SS-1h or CCS-1h Emulsified Asphalt for Tack will at the rate of **4.8** tons applied **25.0** feet wide.
(Rate = 0.09 gal./sq.yd.)

Flush Seal

SS-1h or CCS-1h Emulsified Asphalt for Flush Seal will be at the rate of **4.4** tons applied **41.0** feet wide.
(Rate = 0.05 gal./sq.yd.)

Sand for Flush Seal will be at the rate of **44.0** tons applied **22.0** feet wide.
(Rate = 8 lb./sq.yd.).

TABLE OF ENTRANCES, DRIVEWAYS, AND INTERSECTING ROADS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0010(158)296	14	39

Plotting Date: 04/25/2025

MRM	DISP	Rt/Lt	DESCRIPTION	PAD TYPE	COMMENTS	BASE COURSE (TON)	CLASS Q2R HOT MIXED ASPHALT CONCRETE (Ton)	COLD MILLING ASPHALT CONCRETE (SqYd)
296.000	0.268	Rt	400th Ave	Asphalt to ROW	Asphalt to gravel		20.0	182
296.000	0.268	Lt	400th Ave	Asphalt	Asphalt to gravel	15	2.8	
297.000	0.247	Rt	401st Ave	Asphalt to ROW	Asphalt to Asphalt		13.9	126
297.000	0.247	Lt	401st Ave	Asphalt to ROW	Asphalt to gravel		12.9	117
297.000	0.267	Rt	Farm Ent	Asphalt	Asphalt to gravel	15	2.8	
297.000	0.267	Lt	Field Ent	Asphalt	Asphalt to gravel	15	2.8	
297.000	0.745	Lt	Field Ent	Asphalt	Asphalt to gravel	15	2.8	
297.000	0.752	Rt	Field Ent	Asphalt	Asphalt to gravel	15	2.8	
297.000	0.772	Rt	Field Ent	Asphalt	Asphalt to gravel	15	2.8	
297.000	0.820	Lt	Field Ent	Asphalt	Asphalt to gravel	15	12.9	
297.000	0.911	Lt	Farm/House	Asphalt	Asphalt to gravel	15	18.4	
297.000	0.955	Lt	Farm/House	Asphalt	Asphalt to gravel	15	3.1	
297.000	0.955	Rt	Farm/House	Asphalt	Asphalt to gravel	15	2.8	
298.000	0.147	Rt	House	Asphalt	Asphalt to gravel	15	2.8	
298.000	0.267	Rt	402nd Ave	Asphalt	Asphalt to gravel	15	2.8	
298.000	0.267	Lt	402nd Ave	Asphalt	Asphalt to gravel	15	3.4	
298.000	0.763	Lt	Field Ent	Asphalt	Asphalt to grass	15	3.7	
298.000	0.763	Rt	Field Ent	Asphalt	Asphalt to grass	15	2.8	
299.000	0.016	Rt	Field Ent	Asphalt	Asphalt to gravel	15	2.8	
299.000	0.101	Rt	112th St	Asphalt to ROW	Asphalt to gravel		60.4	549
299.000	0.346	Rt	403rd Ave	Ashpalt to ROW	Asphalt to gravel		75.4	685
299.000	0.471	Rt	Field Ent	Asphalt	Asphalt to gravel	15	2.8	
299.000	0.857	Rt	Field Ent	Asphalt	Asphalt to grass	15	2.8	
300.000	0.177	Lt	111th St	Asphalt	Asphalt to gravel	15	2.8	
300.000	0.177	Rt	111th St	Asphalt	Asphalt to gravel	15	2.8	
300.000	0.377	Rt	Field Ent	Asphalt	Asphalt to grass	15	2.8	
300.000	0.677	Lt	Field Ent	Asphalt	Asphalt to grass	15	21.6	
300.000	0.677	Rt	Field Ent	Asphalt	Asphalt to gravel	15	17.2	
300.000	0.987	Lt	403rd Ave	Asphalt to ROW	Asphalt to gravel		54.6	496
301.000	0.256	Lt	110th St	Asphalt to ROW	Asphalt to gravel		71.6	651
301.000	0.476	Lt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
301.000	0.573	Rt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
301.000	0.611	Lt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
301.000	0.705	Lt	Field Ent	Asphalt	Asphalt to grass	15	20.2	
301.000	0.705	Rt	Field Ent	Asphalt	Asphalt to grass	15	18.6	
302.150	0.006	Lt	SD 37	Asphalt to ROW	Asphalt to Asphalt		65.7	597
302.150	0.006	Rt	404th Ave	Asphalt to ROW	Asphalt to gravel		12.3	112
302.150	0.466	Lt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
302.150	0.466	Rt	Elevator Ent	Asphalt	Asphalt to gravel	15	4.0	
302.150	0.866	Lt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
303.000	0.018	Lt	Field Ent	Asphalt	Asphalt to grass	15	17.2	
303.000	0.069	Rt	405th Ave	Asphalt	Asphalt to grass	15	19.6	
303.000	0.069	Lt	405th Ave	Asphalt	Asphalt to grass	15	4.0	
303.000	0.268	Rt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
303.000	0.268	Lt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
303.000	0.469	Rt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
303.000	0.819	Lt	Field Ent	Asphalt	Asphalt to grass	15	17.8	
303.000	0.897	Rt	Field Ent	Asphalt	Asphalt to gravel	15	19.5	
304.000	0.042	Lt	Sub Station	Asphalt	Asphalt to gravel	15	14.7	
304.000	0.082	Lt	406th Ave	Asphalt to ROW	Asphalt to gravel		20.8	189
304.000	0.082	Rt	SD 37	Asphalt to ROW	Asphalt to Asphalt		51.4	467
304.000	0.422	Rt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
304.000	0.890	Rt	Farm/House	Asphalt	Asphalt to gravel	15	15.2	
304.000	0.890	Lt	Field Ent	Asphalt	Asphalt to gravel	15	4.6	
304.000	0.925	Rt	Farm/House	Asphalt	Asphalt to gravel	15	10.7	
305.000	0.068	Lt	407th Ave	Asphalt to ROW	Asphalt to gravel		14.1	128
305.000	0.068	Rt	407th Ave	Asphalt	Asphalt to gravel	15	4.0	
305.000	0.571	Lt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
305.000	0.571	Rt	Field Ent	Asphalt	Asphalt to gravel	15	4.3	
305.000	0.968	Rt	Field Ent	Asphalt	Asphalt to gravel	15	18.8	
306.000	0.063	Lt	408th Ave	Asphalt to ROW	Asphalt to gravel		55.2	502

MRM	DISP	Rt/Lt	DESCRIPTION	PAD TYPE	COMMENTS	BASE COURSE (TON)	CLASS Q2R HOT MIXED ASPHALT CONCRETE (Ton)	COLD MILLING ASPHALT CONCRETE (SqYd)
306.000	0.063	Rt	408th Ave	Asphalt	Asphalt to gravel	15	15.2	
306.000	0.158	Lt	Field Ent	Asphalt	Asphalt to grass	15	6.7	
306.000	0.158	Rt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
306.000	0.288	Rt	Field Ent	Asphalt	Asphalt to grass	15	20.5	
306.000	0.570	Rt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
306.000	0.588	Rt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
306.000	0.728	Lt	Farm/House	Asphalt	Asphalt to gravel	15	17.4	
306.000	0.939	Rt	Farm/House	Asphalt	Asphalt to gravel	15	10.4	
306.000	0.939	Lt	Farm/House	Asphalt	Asphalt to gravel	15	22.8	
307.000	0.015	Lt	Farm/House	Asphalt	Asphalt to gravel	15	4.0	
307.000	0.015	Rt	Farm/House	Asphalt	Asphalt to gravel	15	4.0	
307.000	0.052	Rt	Farm	Asphalt	Asphalt to gravel	15	19.4	
307.000	0.067	Lt	409th Ave	Asphalt	Asphalt to gravel	15	4.3	
307.000	0.067	Rt	409th Ave	Asphalt	Asphalt to gravel	15	4.6	
307.000	0.085	Rt	Farm	Asphalt	Asphalt to gravel	15	59.2	
307.000	0.541	Lt	Cemetary	Asphalt	Asphalt to gravel	15	49.5	
307.000	0.571	Rt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
307.000	0.571	Lt	Field Ent	Asphalt	Asphalt to gravel	15	32.8	
308.000	0.066	Lt	410th Ave	Asphalt to ROW	Asphalt to gravel		27.7	252
308.000	0.066	Rt	Brwn County 20	Asphalt to ROW	Asphalt to Asphalt		28.8	262
308.000	0.436	Lt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
308.000	0.626	Lt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
308.000	0.837	Rt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
309.000	0.065	Lt	411th ave	Asphalt to ROW	Asphalt to gravel		18.0	164
309.000	0.065	Rt	411th ave	Asphalt	Asphalt to grass	15	11.3	
309.000	0.566	Lt	Field Ent	Asphalt	Asphalt to gravel	15	15.1	
309.000	0.566	Rt	Field Ent	Asphalt	Asphalt to grass	15	16.1	
310.000	0.057	Rt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
310.000	0.057	Lt	412th Ave	Asphalt to ROW	Asphalt to gravel		14.1	128
310.000	0.557	Rt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
310.000	0.557	Lt	Field Ent	Asphalt	Asphalt to gravel	15	14.9	
310.000	0.702	Rt	Farm/House	Asphalt	Asphalt to gravel	15	16.0	
310.000	0.744	Rt	Farm/House	Asphalt	Asphalt to gravel	15	4.0	
310.000	0.744	Lt	Field Ent	Asphalt	Asphalt to gravel	15	21.7	
311.000	0.052	Rt	413th Ave	Asphalt	Asphalt to gravel	15	17.9	
311.000	0.052	Lt	413th Ave	Asphalt	Asphalt to gravel	15	4.0	
311.000	0.148	Lt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
311.000	0.555	Rt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
311.000	0.820	Rt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
311.000	0.890	Lt	Mailbox	Asphalt	Asphalt to grass	15	15.3	
311.000	0.890	Rt	Farm/House	Asphalt	Asphalt to gravel	15	16.9	
312.000	0.055	Lt	414th Ave	Asphalt	Asphalt to gravel	15	4.0	
312.000	0.055	Rt	414th Ave	Asphalt	Asphalt to gravel	15	4.0	
312.000	0.436	Lt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
312.000	0.553	Rt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
312.000	0.726	Rt	Farm	Asphalt	Asphalt to gravel	15	15.8	
312.000	0.910	Lt	Farm/House	Asphalt	Asphalt to gravel	15	21.5	
312.000	0.938	Rt	Field Ent	Asphalt	Asphalt to grass	15	29.4	
313.000	0.054	Lt	415th Ave	Asphalt	Asphalt to gravel	15	21.2	
313.000	0.054	Rt	415th Ave	Asphalt to ROW	Asphalt to grass		23.5	214
313.000	0.170	Rt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
313.000	0.329	Lt	Farm/House	Asphalt	Asphalt to gravel	15	4.0	
313.000	0.475	Rt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
313.000	0.663	Lt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
314.000	0.053	Lt	416th Ave	Asphalt to ROW	Asphalt to gravel		22.3	203
314.000	0.053	Rt	416th Ave	Asphalt to ROW	Asphalt to gravel		14.4	131
314.000	0.518	Lt	Farm/House	Asphalt	Asphalt to gravel	15	4.0	
314.000	0.558	Rt	Farm/House	Asphalt	Asphalt to gravel	15	4.0	
314.000	0.588	Lt	Farm/House	Asphalt	Asphalt to gravel	15	4.0	
314.000	0.918	Rt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
314.000	0.933	Rt	Farm	Asphalt	Asphalt to gravel	15	4.0	

TABLE OF ENTRANCES, DRIVEWAYS, AND INTERSECTING ROADS (CONTINUED)

MRM	DISP	Rt/Lt	DESCRIPTION	PAD TYPE	COMMENTS	BASE COURSE (TON)	CLASS Q2R HOT MIXED ASPHALT CONCRETE (Ton)	COLD MILLING ASPHALT CONCRETE (SqYd)
314.000	1.010	Rt	Farm/House	Asphalt	Asphalt to gravel	15	4.0	
315.000	0.002	Lt	Farm/House	Asphalt	Asphalt to gravel	15	4.0	
315.000	0.037	Rt	417th Ave	Asphalt	Asphalt to gravel	15	4.0	
315.000	0.037	Lt	417th Ave	Asphalt	Asphalt to gravel		10.5	95
315.000	0.342	Rt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
315.000	0.342	Lt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
315.000	0.492	Rt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
315.000	0.492	Lt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
315.000	0.543	Rt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
315.000	0.815	Lt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
315.000	0.865	Lt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
316.000	0.044	Rt	418th Ave	Asphalt	Asphalt to gravel	15	4.0	
316.000	0.044	Lt	418th Ave	Asphalt to ROW	Asphalt to gravel		9.9	90
316.000	0.410	Rt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
316.000	0.438	Lt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
316.000	0.517	Rt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
316.000	0.745	Rt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
316.000	0.754	Lt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
316.000	0.785	Rt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
317.000	0.051	Rt	419th Ave	Asphalt to ROW	Asphalt to gravel		10.8	98
317.000	0.051	Lt	419th Ave	Asphalt to ROW	Asphalt to gravel		9.7	88
317.000	0.329	Rt	Farm/House	Asphalt	Asphalt to gravel	15	4.0	
317.000	0.329	Lt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
317.000	0.559	Rt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
317.000	0.559	Lt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
317.000	0.936	Rt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
317.000	0.936	Lt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
318.000	0.055	Rt	420th Ave	Asphalt	Asphalt to gravel		17.7	161
318.000	0.055	Lt	420th Ave	Asphalt	Asphalt to gravel		10.9	99
318.000	0.082	Lt	Farm/House	Asphalt	Asphalt to gravel	15	4.0	
318.000	0.157	Lt	Farm/House	Asphalt	Asphalt to gravel	15	4.0	
318.000	0.325	Lt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
318.000	0.467	Rt	Farm/House	Asphalt	Asphalt to gravel	15	4.0	
318.000	0.507	Rt	Farm/House	Asphalt	Asphalt to gravel	15	4.0	
318.000	0.556	Rt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
318.000	0.556	Lt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
318.000	0.950	Rt	Cemetary	Asphalt	Asphalt to grass	15	4.0	
318.000	0.986	Rt	Cemetary	Asphalt	Asphalt to gravel	15	4.0	
319.000	0.046	Rt	421st Ave	Asphalt to ROW	Asphalt to gravel		11.8	107
319.000	0.046	Lt	421st ave	Asphalt to ROW	Asphalt to gravel		6.6	60
319.000	0.109	Rt	Cemetary	Asphalt	Asphalt to gravel	15	4.0	
319.000	0.109	Lt	Field Ent	Asphalt	Asphalt to grass	15	4.0	
319.000	0.269	Rt	Farm/House	Asphalt	Asphalt to gravel	15	4.0	
319.000	0.558	Rt	Field Ent	Asphalt	Asphalt to gravel	15	4.0	
319.000	0.558	Lt	Farm/House	Asphalt to ROW	Asphalt to gravel		6.4	58
319.000	0.802	Lt	Business	Asphalt	Asphalt to gravel	15	4.0	
319.000	0.912	Lt	Business	Asphalt	Asphalt to gravel	15	4.0	
319.000	0.998	Lt	Business	Asphalt	Asphalt to gravel	15	4.0	
					Totals:	2115	1893.7	7011

TABLE OF ADDITIONAL QUANTITIES

LOCATIONS:	BASE COURSE Ton	COLD MILLING ASPHALT CONCRETE SqYd	ESTIMATED COLD MILLED MATERIAL PRODUCED Ton	CLASS Q2R HOT MIXED ASPHALT CONCRETE Ton	PG 58-34 ASPHALT BINDER Ton	HYDRATED LIME Ton	SALVAGED ASPHALT CONCRETE (RAP) (NABI.) Ton	VIRG. AGGR. (NABI.) Ton	SS-1h/ CSS-1h ASPH. FOR TACK Ton
Begin Project		213	5.6						
Entrances, Driveways, and Intersecting Roads refer to TABLE OF ENTRANCES, DRIVEWAYS, AND INTERSECTING ROADS	2,115.0	7,011	771.2	1,893.7	89.0	18.9	357.2	1428.6	1.8
End Project		240	6.3						
Totals	2,115.0	7,464	783.1	1,893.7	89.0	18.9	357.2	1,428.6	1.8

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0010(158)296	17	39
Plotting Date: 05/19/2025			

PLOT SCALE - 1:200

PLOT NAME - 1

FILE - ...\REGION DESIGN\PLAN TABLE.DGN

PLOTTED FROM - TRAB10200

TABLE OF PROJECT STATIONING

SECTION	STATION	TO	STATION	LENGTH (Ft)	SECTION LENGTH (Ft)	SECTION LENGTH (Miles)
1 Lt./Rt. Avg	53+55.30	to	83+59.00	3003.7	3003.70	0.569
	105+73.00	to	222+06.00	11633.0	11633.00	2.203
a	221+28.00	to	337+07.90	11579.9	11579.90	2.193
b	294+99.50	to	307+68.77	1269.3	1269.27	0.240
b	324+63.77	to	417+32.10	9268.3	9268.33	1.755
2 Lt./Rt. Avg	83+59.00	to	88+50.00	491.0	491.00	0.093
	93+50.00	to	105+73.00	1223.0	1223.00	0.232
3	88+50.00	to	93+50.00	500.0	500.00	0.095
4 c	350+55.00	to	367+50.00	1695.0	1695.00	0.321
c	460+15.00	to	477+10.00	1695.0	1695.00	0.321
5 c	477+10.00	to	1124+35.00	64725.0	64725.00	12.259
c	1132+40.00	to	1207+00.00	7460.0	7460.00	1.413
c	1252+00.00	to	1313+83.00	6183.0	6183.00	1.171
6 c	1124+35.00	to	1132+40.00	805.0	805.00	0.152
7 c	1207+00.00	to	1252+00.00	4500.0	4500.00	0.852
				TOTAL:	126031.20	23.870

TABLE OF MATERIAL QUANTITIES

	UNCLASSIFIED EXCAVATION, DIGOUTS	BASE COURSE	COLD MILLING ASPHALT CONCRETE	ESTIMATED COLD MILLED MATERIAL PRODUCED	REMOVE ASPHALT CONCRETE PAVEMENT	ASPHALT CONCRETE COMPOSITE	ASPHALT CONCRETE BLADE LAID	PG 58-34 ASPHALT BINDER	HYDRATED LIME	VIRG. AGGR. (NABI.)	CLASS Q2R HOT MIXED ASPHALT CONCRETE	PG 58-34 ASPHALT BINDER	HYDRATED LIME	SALVAGED ASPHALT CONCRETE (RAP) (NABI.)	VIRG. AGGR. (NABI.)	CLASS Q2R HOT MIXED ASPHALT CONCRETE	PG 58-34 ASPHALT BINDER	HYDRATED LIME	SALVAGED ASPHALT CONCRETE (RAP) (NABI.)	VIRG. AGGR. (NABI.)	SS-1h/ CSS-1h ASPH. FOR TACK	SS-1h/ CSS-1h ASPH. FOR FLUSH SEAL	SAND FOR FLUSH SEAL
	50.0	100.0			75.0	25.0	<----------Blade Laid---------->				<----------Spot Leveling---------->					<----------Main Line---------->							
SECTION	CuYd	Ton	SqYd	Ton	SqYd	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton
1	348	696.1	130,682	5,145.6	522.1	174.0	1,044.2	77.3	10.4	956.4	696.1	32.7	7.0	131.3	525.1	15,961.6	744.8	160.1	3,014.1	12,042.6	39.6	32.1	359.4
2	16	32.5	8,411	883.2	24.3	8.1	48.7	3.6	0.5	44.6	32.5	1.5	0.3	6.1	24.5	937.0	43.5	9.3	176.9	707.4	2.1	1.8	33.5
3	5	9.5	2,454	257.7	7.1	2.4	14.2	1.1	0.1	13.0	9.5	0.4	0.1	1.8	7.1	274.1	12.8	2.7	51.8	206.9	0.6	0.5	9.8
4	32	64.2	18,174	954.1	48.2	16.1	96.3	7.1	1.0	88.2	64.2	3.0	0.6	12.1	48.4	2,121.5	98.6	21.0	400.4	1,601.4	5.2	4.2	49.7
5	742	1,484.2	248,166	6,514.4	1,113.2	371.1	2,226.4	164.8	22.3	2,039.3	1,484.2	69.8	14.8	279.9	1,119.7	39,688.6	1,840.5	385.9	7,495.4	29,966.9	93.3	75.9	766.3
6	8	15.2	3,242	85.1	11.4	3.8	22.9	1.7	0.2	20.9	15.2	0.7	0.2	2.9	11.5	383.3	17.9	3.8	72.3	289.3	1.0	0.8	7.9
7	43	85.2	13,500	354.4	63.9	21.3	127.8	9.5	1.3	117.1	85.2	4.0	0.9	16.1	64.3	2,315.7	107.6	23.0	437.0	1,748.3	5.4	4.4	44.0
Sub totals	1,194	2,387.0	424,629	14,194.4	1,790.2	596.7	3,580.5	265.0	35.8	3,279.7	2,387.0	112.2	23.9	450.2	1,800.7	61,681.8	2,865.6	605.7	11,647.8	46,562.7	147.1	119.7	1,270.5
Table of Additional Quantities		2,115.0	7,464	783.1												1,893.7	89.0	18.9	357.2	1,428.6	1.8		
Blade Laid																					135.3		
Spot Leveling																					6.0		
Totals	1,194	4,502.0	432,093	14,977.5	1,790.2	596.7	3,580.5	265.0	35.8	3,279.7	2,387.0	112.2	23.9	450.2	1,800.7	63,575.5	2,954.6	624.6	12,005.0	47,991.3	290.2	119.7	1,270.5

SUMMARY OF ASPHALT CONCRETE

LOCATIONS:	Class Q2R Hot Mixed Asphalt Concrete with Specified Density Compaction TONS	Class Q2R Hot Mixed Asphalt Concrete without Specified Density Compaction TONS	Asphalt Concrete Blade Laid Project Wide TONS
Section 1	11,103.7	4,857.9	1,044.2
Section 2	511.9	425.1	48.7
Section 3	149.5	124.6	14.2
Section 4	1,668.8	452.7	96.3
Section 5	28,585.5	11,103.1	2,226.4
Section 6	278.7	104.6	22.9
Section 7	1,503.8	811.9	127.8
Spot leveling, strengthening, and repair of existing surface	-	2,387.0	-
Table of Additional Quantities	-	1,893.7	-
TOTAL	**43,801.9**	**22,160.6**	**3,580.5**

Total Class Q2R Hot Mixed Asphalt Concrete:	65,962.5	*Tons*
Total Asphalt Concrete Blade Laid:	3,580.5	*Tons*

SCOPE OF WORK

Work on this project involves cold milling and resurfacing of asphalt concrete and installing pavement markings on SD 10.

SEQUENCE OF OPERATIONS

Contractor requests to deviate from the sequence of operations will be submitted in writing to the Engineer for review. Approval of an alternate 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. An alternate sequence will be submitted for review a minimum of one week prior to potential implementation.

The Contractor shall perform the work as follows:

1. Install Temporary Traffic Control Signs
2. Mill Asphalt Concrete
3. Pave Asphalt Concrete
4. Apply Permanent Pavement Markings
5. Remove Temporary Traffic Control Signs

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, signposts, 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.

At no time will a vertical drop-off of greater than 3 inches be left overnight adjacent to the traveled way. The Contractor will utilize embankment material to ensure a 3-inch vertical drop-off is not exceeded. The slope of the embankment material will not be steeper than a 4:1 within 30 feet of the traveled way.

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.

The Contractor will furnish, install, maintain, and remove TRUCK CROSSING (W8-6) signs daily. The TRUCK CROSSING signs will be displayed always when haul vehicles are hauling material. When hauling conditions no longer exist, the signs will be covered or removed from view. The exact number and location will be determined during construction. Payment for additional signs will be based on the contract unit price per square foot for "Traffic Control Signs".

GROOVED PAVEMENT (W8-15) signs with MOTORCYCLE (W8-15P) plaques are required in advance of areas that have been cold milled and are not resurfaced the same day. The GROOVED PAVEMENT sign assemblies will be installed a minimum of 1000 feet in advance of cold milled sections and remain in place until the sections have been resurfaced.

The Contractor will notify businesses/homeowners a minimum of two weeks prior to construction to inform them of upcoming construction and again a minimum of 48 hours prior to any blocked access to make appropriate arrangements.

A mobile work operation will be allowed provided the rumble strip or rumble stripe grooving, flush sealing, and pavement marking can be completed satisfactorily by a continuously moving work operation. A mobile work operation will require approval by the Engineer.

FLAGGING

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

Additional flagger warning signs and flagger hours have been included in the Estimate of Quantities for use on intersecting roads. These flaggers will be used as directed by the Engineer and will be used primarily during daytime hours. Also included in the Estimate of Quantities are WAIT FOLLOW PILOT CAR signs for use on low volume intersecting roads as determined by the Engineer. WAIT FOLLOW PILOT CAR signs will not block the view of the stop sign.

It is required that the flaggers and pilot car operators 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".

TEMPORARY PAVEMENT MARKING

The total length of no passing zone on this project is estimated to be 1.6 miles.

It is estimated that 19 DO NOT PASS (R4-1) and 18 PASS WITH CARE (R4-2) signs will be required to mark the no passing zones, should the Contractor elect to use these signs.

Temporary flexible vertical markers (tabs) will be required on the top lift of asphalt concrete surfacing.

Temporary pavement marking paint will not be allowed on the final lift of asphalt surfacing. Temporary pavement marking paint will not be allowed on the chip seal, fog seal, or flush seal. Temporary flexible vertical markers (tabs) must be used on the final lift of asphalt surfacing. The Contractor may use tabs with covers, uncovering them for the chip seal, fog seal, or flush seal. As an alternative, the Contractor may install new tabs for the fog seal or flush seal.

Covers on the tabs will be sufficiently secured to prevent traffic from dislodging the cover and when removed, the covers will be properly disposed of. The 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.

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 on top of the milled surface
One pass on top of blade laid asphalt concrete
One pass on top of the final lift of asphalt concrete
One pass after centerline rumble strips
One pass after the flush seal

If the Engineer determines that an additional pass prior to the flush seal is not required, this application of the temporary pavement marking will be eliminated. If the flush seal is eliminated for the project, the application of the temporary pavement marking on top of the flush seal as well as the additional pass prior to the flush seal will be eliminated.

No adjustment in the contract unit price for "Temporary Pavement Marking" will be made because of a variation in quantities.

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.

TEMPORARY PAVEMENT MARKING (CONTINUED)

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.

TRAFFIC CONTROL FOR ASPHALT CONCRETE RESURFACING

The Contractor will need to install LOOSE GRAVEL (W8-7) signs with advisory speed plaques (W13-1P) in areas where loose sand is present during the flush seal operation. LOOSE GRAVEL signs have been included in these plans for this.

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.

UTILITIES

The Contractor will contact the involved utility companies through South Dakota One Call (1-800-781-7474) prior to starting work. It will be the

responsibility of the Contractor to coordinate work with the utility owners to avoid damage to existing facilities.

If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule Article 20:25, the Contractor will contact the Engineer to determine modifications that will be necessary to avoid utility impacts.

TYPE III FIELD LABORATORY

The Contractor will provide high-speed broadband internet connection to the field lab. The multiport internet connection may be hardwired, through a cellular method, or other approved service that allows Wi-Fi connection. Prior to obtaining the internet connection, the Contractor will submit the internet connection's technical data to the Area Office to check for compatibility with the state's computer equipment. The Contractor's personnel are prohibited from using the internet connection unless pre-approved by the Project Engineer. The internet service will be incidental to the contract unit price per each for "Type III Field Laboratory".

STORAGE UNIT

The Contractor will provide a storage unit such as a portable storage container or a semi-trailer meeting the minimum size requirements from the table below:

Project Total Asphalt Concrete Tonnage	Minimum Internal Size (Cu Ft)	Minimum External Size (L x W x H)
Less than 50,000 ton	1,166	20' x 8' x 8.6' std
More than 50,000 ton	2,360	40' x 8' x 8.6' std
All Gyratory Controlled QC/QA Projects	2,360	40' x 8' x 8.6' std

The storage unit is intended for use only by the Engineer for the duration of the project. The QC lab personnel or the Contractor will not be allowed to use the storage container while it is on the project, without permission of the Engineer.

The storage unit will be on site and operational prior to asphalt concrete production. Upon completion of asphalt concrete production, the Engineer will notify the Contractor when the storage unit can be removed from the project. The storage unit use will not exceed 30 calendar days from the completion of asphalt concrete production. The storage unit will remain the property of the Contractor.

The storage unit will be weather proof and will be set in a level position. The storage unit will be able to be locked with a padlock.

The storage unit will be placed adjacent to the QA lab, as approved by the Engineer.

The following will apply when the storage unit provided on the project is a portable storage container:

1. The portable storage container will be constructed of steel.

2. The portable storage container will be set such that it is raised above the surrounding ground level to keep water from ponding under or around the storage container.

The following will apply when the storage unit provided on the project is a semi-trailer:

1. A set of steps and hand railings will be provided at the exterior door.
2. If the floor of the semi-trailer is 18 inches or more above the ground, a landing will be constructed at the exterior door. The minimum dimensions for the landing will be 4 feet by 5 feet. The top of the landing will be level with the threshold or opening of the doorway.
3. The semi-trailer may be connected to the QA lab by a stable elevated walkway. The walkway will be a minimum of 48 inches wide and contain handrails installed at 32 inches above the deck of the walkway. The walkway will be constructed such that it is stable and the deck does not deform during use and allows for proper door operation. Walkway construction will be approved by the Engineer.

All cost for furnishing, maintaining, and removing the storage unit including labor, equipment, and materials including any necessary walkways, landings, stairways, and handrails will be included in the contract unit price per each for "Storage Unit".

INTERSECTING ROADS AND ENTRANCES

In areas where granular material has been placed adjacent to the existing asphalt concrete, the Contractor will be required to remove the granular material to a depth below the existing asphalt concrete to allow for the placement of the new asphalt concrete. New asphalt concrete will be placed flush with the existing asphalt concrete. The existing granular material removed will be placed on the entrances, intersecting roads or other locations as directed by the Engineer.

All costs to remove and place the granular material including labor, equipment and incidentals will be incidental to the various related contract items.

UNCLASSIFIED EXCAVATION, DIGOUTS

The locations and extent of digout areas will be determined in the field by the Engineer. The backfilling material for the digouts will be Asphalt Concrete Composite and Base Course. The depth of asphalt will match the in-place thickness.

Included in the Estimate of Quantities are 50 cubic yards of Unclassified Excavation, Digouts and 75 square yards of Remove Asphalt Concrete Pavement per mile for the removal of asphalt and unstable material throughout the project.

Included in the Estimate of Quantities are 100 tons of Base Course and 25 tons of Asphalt Concrete Composite per mile for backfill of Unclassified Excavation, Digouts.

The digouts will be extended through the shoulder and backfilled with granular material that will daylight to the inslope to allow water to escape the subsurface.

COLD MILLING ASPHALT CONCRETE

The Los Angeles Abrasion Loss value on the aggregate used for the in-place asphalt concrete was 22. This value was obtained from testing during construction of the in-place asphalt concrete.

Cold milling asphalt concrete will be done according to the typical section(s). In areas where maintenance patches have raised and/or widened the road, additional asphalt concrete will be milled to provide a uniform typical section from centerline to the edge of the finished shoulder. These areas also include farm, residential, field entrances and intersecting roads. Milling will be daylighted to the outside edge of the roadway. Any additional costs associated with this additional cold milling will be incidental to the contract unit price per square yard for “Cold Milling Asphalt Concrete”.

Cold milling asphalt is estimated to produce 14,948.5 tons of cold milled asphalt concrete material. An estimated 12,420.5 tons of cold milled asphalt concrete material will be used on this project as RAP in the Class Q2R Hot Mixed Asphalt Concrete mixture. The Contractor is responsible to assure enough asphalt concrete salvage is available for the Class Q2R Hot Mixed Asphalt Concrete.

The remainder of the salvaged asphalt concrete material will become the property of the Contractor for disposal.

RAP achieved for project use and/or other uses is based on the dimensions given in the typical section(s). Field conditions will vary from that given in the typical section(s). Therefore, the Contractor may be required to adjust the mill depth, as necessary, to provide the quantity of RAP specified by the plans, if approved by the Engineer.

CLASS Q2R HOT MIXED ASPHALT CONCRETE

Mineral Aggregate:

Asphalt concrete aggregates will consist of reclaimed asphalt pavement (RAP) and virgin aggregate.

Virgin mineral aggregate for Class Q2R Hot Mixed Asphalt Concrete will conform to the requirements of Class Q2.

The Class Q2R Hot Mixed Asphalt Concrete will include 20 percent RAP in the mixture. RAP will be obtained from the material produced by cold milling on this project.

Mix Design Criteria:

Gyratory Controlled QC/QA Mix Design requirements for the Class Q2R Hot Mixed Asphalt Concrete will conform to the requirements of Class Q2.

All remaining requirements for Class Q2 will apply.

ASPHALT CONCRETE COMPOSITE

Section 324 will apply except that Class Q2R Hot Mixed Asphalt Concrete as specified elsewhere in the plans may be used as Asphalt Concrete Composite.

Plans specified locations for Asphalt Concrete Composite will be paid for at the contract unit price per ton for “Asphalt Concrete Composite” regardless of the class of asphalt concrete used at such locations.

ASPHALT CONCRETE BLADE LAID

Included in the Estimate of Surfacing Quantities are 150 tons of Asphalt Concrete Blade Laid, 1.5 tons of Hydrated Lime, and 11.1 tons of PG 58-34 Asphalt Binder per mile and will be tight bladed on the existing surface 24 feet wide prior to the overlay. Gaps at centerline will not be permitted.

Mineral Aggregate for tight bladed material will use only the fine aggregate components combined in the same proportions as the Class Q2R Hot Mixed Asphalt Concrete mix. Mineral Aggregate for tight bladed material will meet the gradation requirements of the Job Mix Formula. Fine Aggregate Angularity and Sand Equivalent requirements will be the same as the Class Q2R Hot Mixed Asphalt Concrete mix. Quality testing is not required on the coarse aggregate (+No. 4 sieve) in this mixture.

The Asphalt Concrete Blade Laid Lift will be designed using an N_{design} Gyratory Compactive Effort of 65. The asphalt binder content will be determined so that the air voids of Asphalt Concrete Blade Laid Lift are between 3.0% and 5.0%.

Included in the Estimate of Surfacing Quantities are 135.3 tons of SS-1h or CSS-1h Asphalt for Tack for use prior to the application of the Blade Laid lift. (Rate = 0.09 Gal./SqYd)

SURFACING THICKNESS DIMENSIONS

The plans shown spread rates will be applied even though the thickness may vary from that shown in the plans.

At those locations where material must be placed to achieve a required elevation, the depth/quantity may be varied to achieve the required elevation.

FLEXIBLE PAVEMENT SMOOTHNESS PROVISION

All sections, not excluded by the Special Provision for Flexible Pavement Smoothness will be evaluated as two opportunities.

FLUSH SEAL

Application of flush seal will be completed within 10 working days following completion of the asphalt concrete surfacing.

Application of flush seal may be eliminated by the Engineer. If the paved surface remains tight, the Engineer will notify the Contractor as soon as possible that the flush seal is unnecessary.

SAND FOR FLUSH SEAL

The sand application will be placed at widths shown in the RATES OF MATERIALS section.

GRIND RUMBLE STRIPS IN ASPHALT CONCRETE

Asphalt concrete rumble strips will be constructed on the shoulders. Rumble strips will be paid for at the contract unit price per mile for Grind 8” Rumble Strip or Stripe in Asphalt Concrete. It is estimated that 40.4 miles of asphalt concrete rumble strips will be required.

Rumble strip installation will be completed prior to application of the flush seal and permanent pavement markings. In the event the flush seal is eliminated from the contract, the Contractor will still be required to apply a flush seal to the newly installed 8” rumble strips at a width of 14” and at the same rate as specified in this plan set. No adjustment in payment will be made and SS-1h or CSS-1h Asphalt for Flush Seal will be paid at the contract unit price per ton.

GRIND SINUSOIDAL RUMBLE STRIPES IN ASPHALT CONCRETE

Sinusoidal rumble strips will be constructed on the shoulders, as detailed in the plan set. Sinusoidal rumble strips will be paid for at the contract unit price per mile for Grind 8” Sinusoidal Rumble Stripes in Asphalt Concrete. It is estimated that 6.1 miles of sinusoidal rumble stripes will be required.

Sinusoidal rumble strip installation will be completed prior to application of the flush seal and permanent pavement markings. In the event the flush seal is eliminated from the contract, the Contractor will still be required to apply a flush seal to the newly installed 8” sinusoidal rumble stripes at a width of 14” and at the same rate as specified in this plan set. No adjustment in payment will be made and SS-1h or CSS-1h Asphalt for Flush Seal will be paid at the contract unit price per ton.

GRIND CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE

Rumble stripes will be constructed on the centerline, as detailed in the plans. Centerline rumble stripe installation will be completed prior to application of the flush seal and permanent pavement markings. Rumble stripes will be paid for at the contract unit price per mile for “Grind Centerline Rumble Stripe in Asphalt Concrete”. It is estimated that 20.2 miles of centerline rumble stripes will be required.

Centerline rumble stripes will be constructed according to the details of Standard Plate 320.18 outside the limits shown in the Table of Sinusoidal Centerline Rumble Stripes.

GRIND SINUSOIDAL CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE

Sinusoidal rumble stripes will be constructed on the centerline, as detailed in the plans. Sinusoidal centerline rumble stripe installation will be completed prior to application of the flush seal and permanent pavement markings. Sinusoidal centerline rumble stripes will be paid for at the contract unit price per mile for “Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete”. It is estimated that 3.1 miles of sinusoidal centerline rumble stripes will be required.

This sinusoidal centerline rumble stripes will be constructed according to the details of Standard Plate 320.40

TABLE OF SINUSOIDAL CENTERLINE RUMBLE STRIPES

Location of Sinusoidal Rumble Stripes	Length (feet)	Length (miles)
Sta. 81+30 to Sta. 85+30	400	0.076
Sta. 133+60 to Sta. 160+20	2660	0.504
Sta. 617+75 to Sta 630+30	1255	0.238
Sta. 813+30 to Sta 826+30	1300	0.246
Sta. 876+30 to Sta. 888+25	1195	0.226
Sta. 931+10 to Sta 943+95	1285	0.243
Sta. 950+50 to Sta 963+75	1325	0.251
Sta. 969+75 to Sta 982+50	1275	0.241
Sta. 1025+60 to Sta. 1034+10	850	0.161
Sta. 1040+95 to Sta. 1052+80	1185	0.224
Sta. 1165+60 to Sta. 1177+80	1220	0.231
Sta. 1203+65 to Sta. 1216+10	1245	0.236
Sta. 1225+85 to Sta. 1236+70	1085	0.205
TOTAL	16,280	3.082

CENTERLINE RUMBLE STRIPES – ASPHALT FOR FLUSH SEAL

Asphalt for Flush Seal will be applied after the centerline rumble stripes have been installed and prior to the application of permanent pavement markings. The application width will extend 1 ft beyond the centerline of the roadway in each direction to create a total application rate of 0.10 Gal/SqYd on the centerline rumble stripes.

In the event the flush seal is eliminated from the contract, the Contractor will still be required to apply asphalt for flush seal to the newly installed centerline rumble stripes at a width of 24” and a rate of 0.10 Gal/SqYd. No adjustment in payment will be made and SS-1h or CSS-1h Asphalt for Flush Seal will be paid at the contract unit price per ton.

PAVEMENT MARKING PAINT

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.

Cold weather waterborne paint will not be required after October 15th per Supplemental Specification Section 633.3 B.

The application of permanent pavement marking will begin no sooner than 7 calendar days following completion of the fog or flush seal. Application of permanent pavement marking will be completed within 14 calendar days following completion of the final surfacing.

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 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 = 22.5 Gals/Mile
Dashed 4” line = 6.2 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.

MARKINGS WITHIN SINUSOIDAL CENTERLINE RUMBLE STRIPES

Sinusoidal rumble stripes exist on SD 10.

The sinusoidal centerline rumble stripes are recessed below the pavement surface, so pavement marking grooving will not be required at these locations.

Sinusoidal rumble stripes will receive an asphalt surface treatment to seal the centerline joint and minimize the depth of water held on centerline. The asphalt surface treatment will be subsidiary to “Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete”.

Retroreflectivity readings will not be taken for pavement markings within the sinusoidal rumble stripe. Restriping of pavement markings to meet the specified application rate requirements and to provide a quality retroreflective line will be at the expense of the Contractor with no additional cost to the Department. Sections to be restriped will be determined by the Engineer.

GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING

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. The cleaning of the residue for grooving will be to the satisfaction of the Engineer and may require more than one pass to adequately remove material. All costs for removal of grinding and/or grooving residue will be included in the contract unit price per foot and each, for “Grooving for Cold Applied Plastic Pavement Marking” contract items.

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 items.

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.

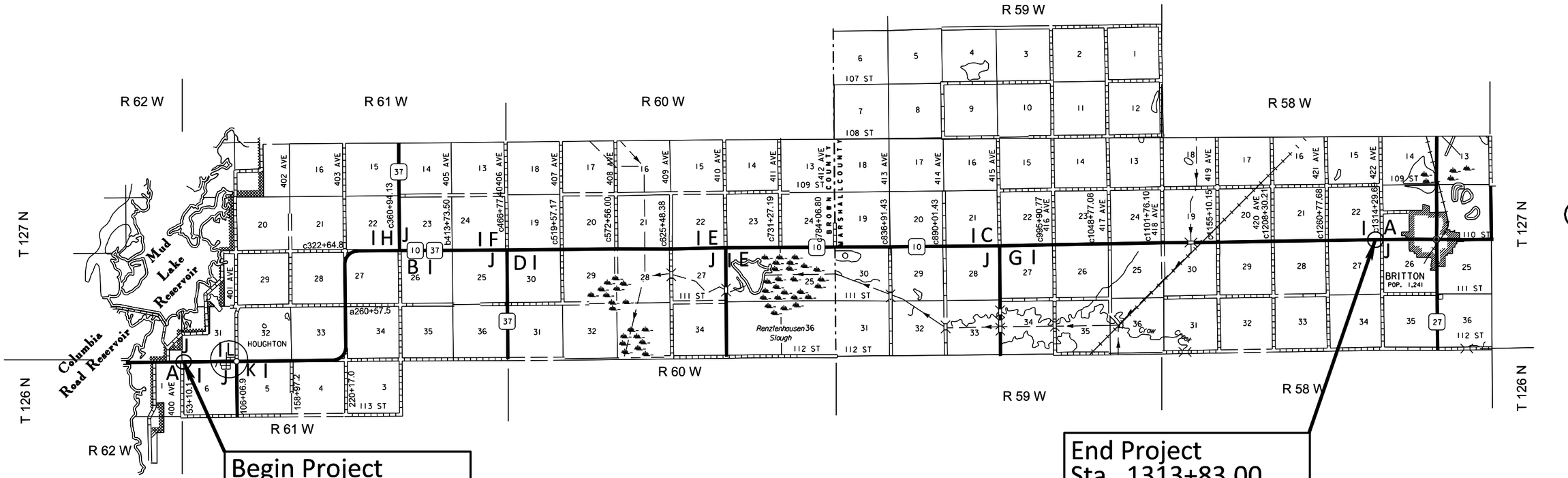
The equipment will be capable of the following:

- 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.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0010(158)296	23	39
Plotting Date: 05/19/2025			

FIXED LOCATION GROUND MOUNTED BREAKAWAY SUPPORT SIGNS



A
ROAD WORK NEXT 24 MILES
G20-1

B
ROAD WORK NEXT 18 MILES
G20-1

C
ROAD WORK NEXT 17 MILES
G20-1

D
ROAD WORK NEXT 16 MILES
G20-1

E
ROAD WORK NEXT 12 MILES
G20-1

F
ROAD WORK NEXT 8 MILES
G20-1

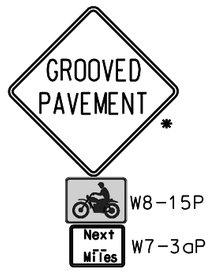
G
ROAD WORK NEXT 7 MILES
G20-1

H
ROAD WORK NEXT 6 MILES
G20-1

K
ROAD WORK NEXT 23 MILES
G20-1

L
ROAD WORK NEXT 1 MILES
G20-1

I



GROOVED PAVEMENT signs must only be visible when the condition exists. Signs will be covered or removed when the grooved road condition is not present.

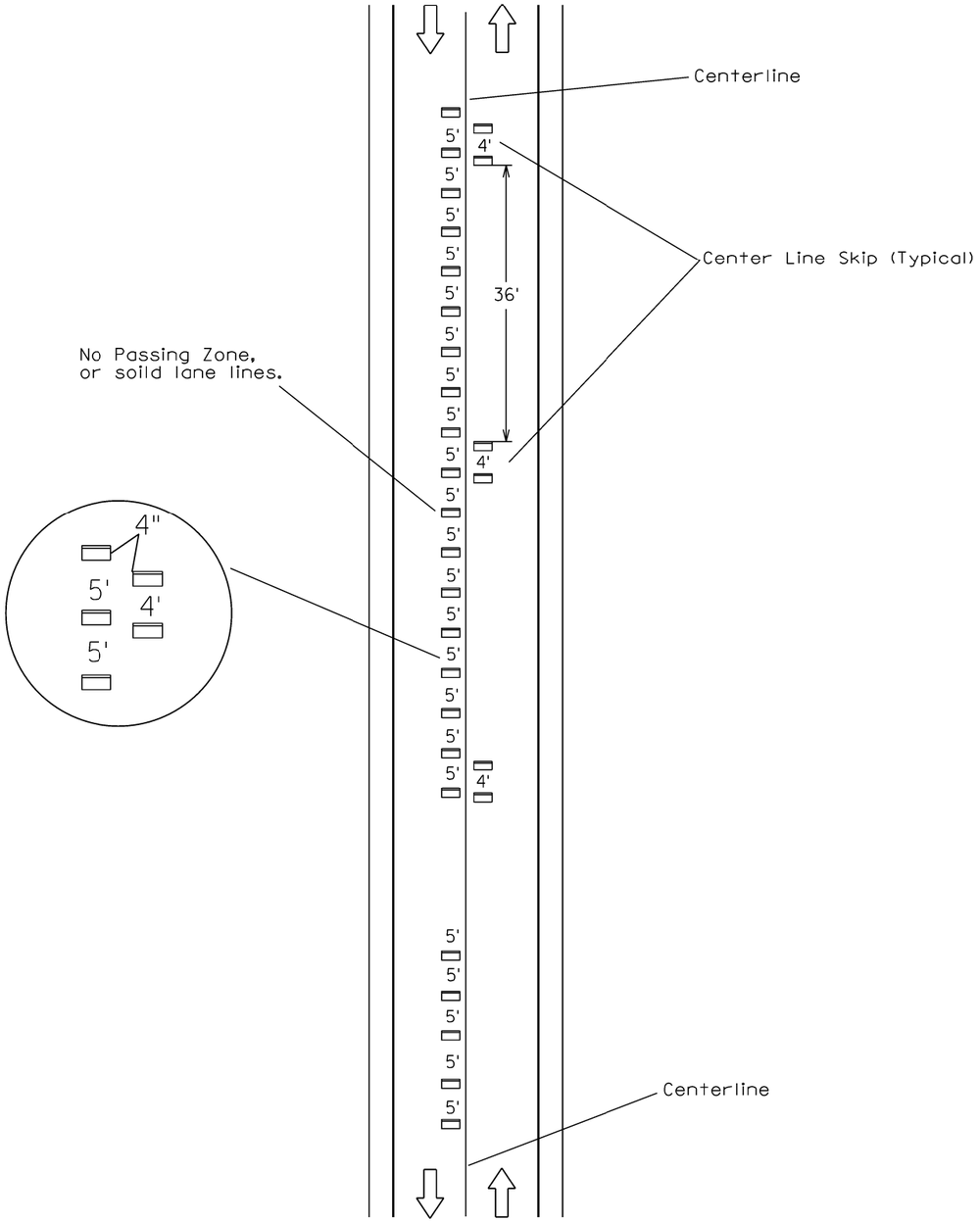
EXACT LOCATION OF SIGNS TO BE DETERMINED IN THE FIELD BY THE ENGINEER

J
END ROAD WORK
G20-2

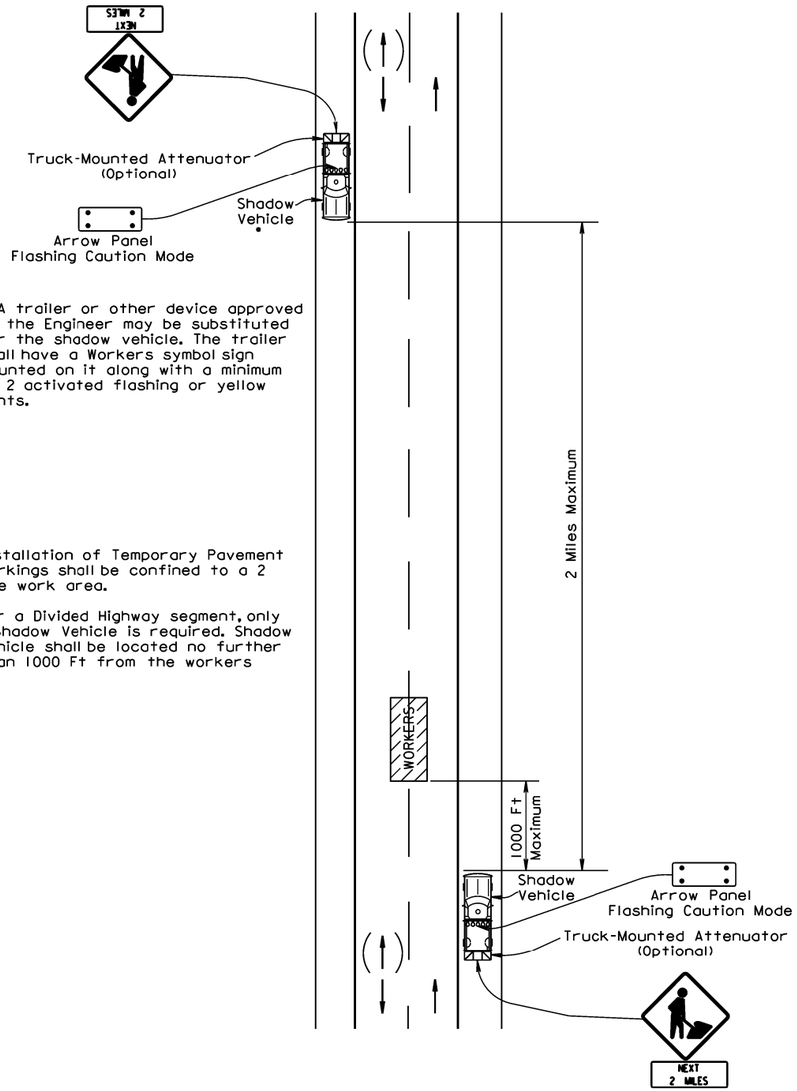
W20-1 ROAD WORK AHEAD signs will be mounted on portable supports and will be placed on intersecting roadways as directed by the Engineer. ROAD WORK AHEAD signs will be moved as necessary to keep current with the work activites.

PLOT SCALE - 1:200
PLOT NAME - 1
PLOTTED FROM - TRAB10200
FILE - ...\FIXED_LOCATION_SIGNS.DGN

GUIDES FOR TRAFFIC CONTROL DEVICES TEMPORARY ROAD MARKER INSTALLATION



GUIDES FOR TRAFFIC CONTROL DEVICES APPLICATION OF TEMPORARY PAVEMENT MARKING TABS



* A trailer or other device approved by the Engineer may be substituted for the shadow vehicle. The trailer shall have a Workers symbol sign mounted on it along with a minimum of 2 activated flashing or yellow lights.

Installation of Temporary Pavement Markings shall be confined to a 2 Mile work area.

For a Divided Highway segment, only 1 Shadow Vehicle is required. Shadow Vehicle shall be located no further than 1000 Ft from the workers

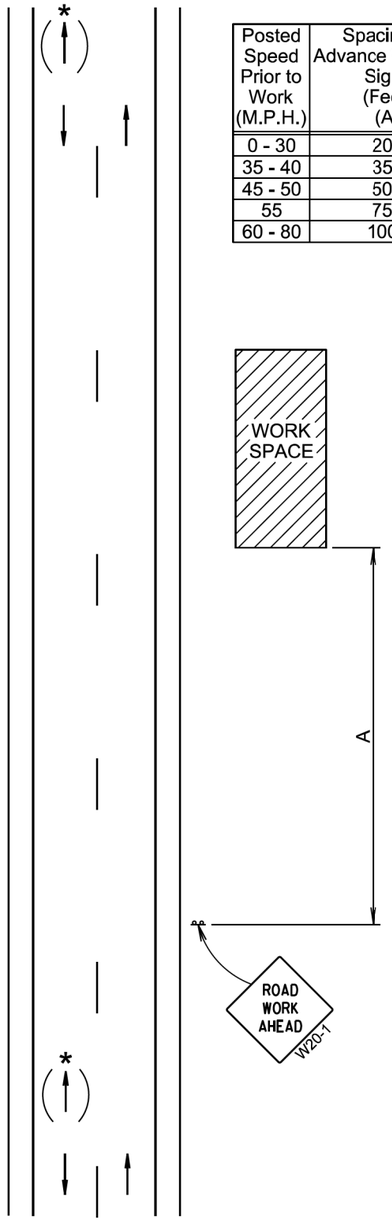
The signs illustrated are not required if the work space is behind a barrier, more than 2 feet behind the curb, or 15 feet or more from the edge of any roadway.

The signs illustrated will be used where there are distracting situations; such as: vehicles parked on shoulder, vehicles accessing the work site via the highway, and equipment traveling on or crossing the roadway to perform work operations.

The ROAD WORK AHEAD sign may be replaced with other appropriate signs, such as the SHOULDER WORK sign. The SHOULDER WORK sign may be used for work adjacent to the shoulder.

* If the work space is on a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

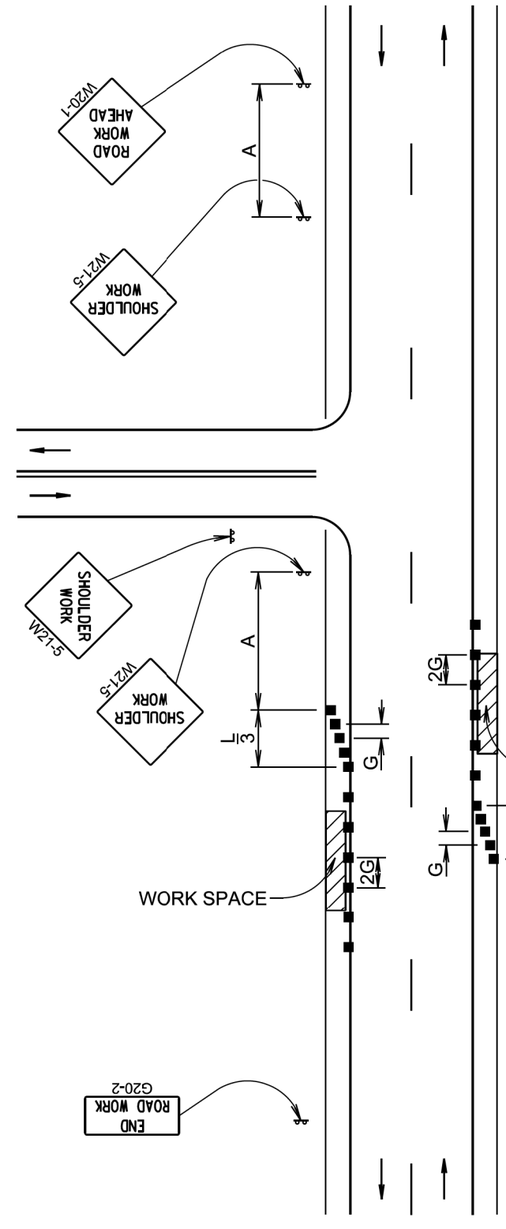
For short term, short duration, or mobile operations, all signs and channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

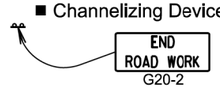
January 22, 2021

Published Date: 2026	SDDOT	WORK BEYOND THE SHOULDER	PLATE NUMBER 634.01
			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

■ Channelizing Device



The channelizing devices will be drums or 42" cones if traffic control must remain overnight.

For short duration operations (1 hour or less) all channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

Worker signs (W21-1 or W21-1a) may be used instead of SHOULDER WORK signs.

A SHOULDER WORK sign should be placed on the left side of a divided or one-way roadway only if the left shoulder is affected.

The SHOULDER WORK sign on an intersecting roadway is not required if drivers emerging from that roadway will encounter another advance warning sign before they reach a work activity area.

January 22, 2021

Published Date: 2026	SDDOT	WORK ON SHOULDERS	PLATE NUMBER 634.03
			Sheet 1 of 1

* Messages on signs will vary depending on the operation being conducted.

Vehicle-mounted signs will be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs will be covered or turned from view when work is not in progress.

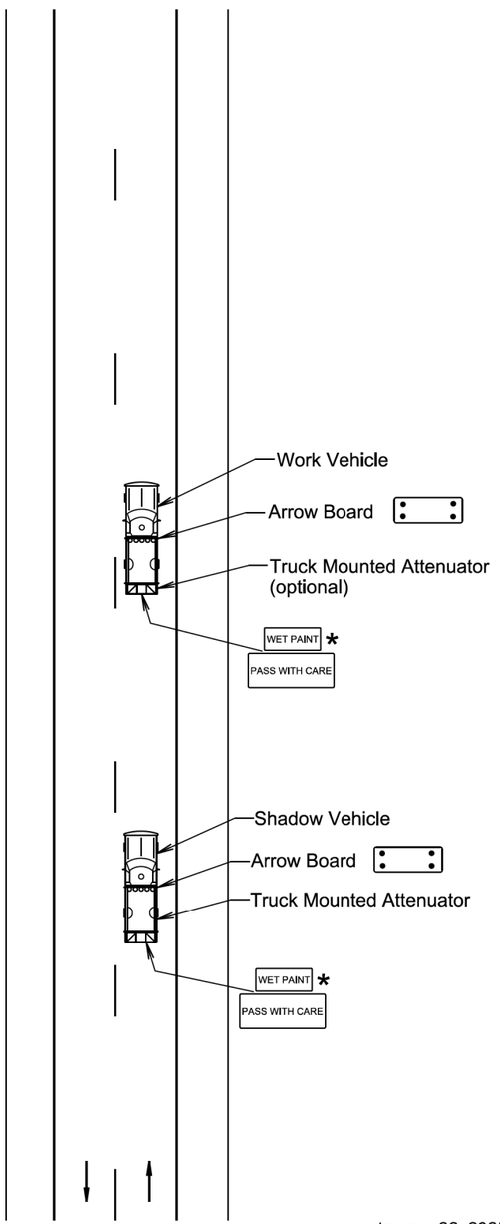
Shadow and Work vehicles will display high-intensity rotating, flashing, oscillating, or strobe lights, flags, signs, or arrow boards.

Vehicle hazard warning signals will not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.

When an arrow board is used, it will be used in the caution mode. Marching Diamonds are acceptable.

Arrow boards will, as a minimum, be Type B, with a size of 60" x 30".

All costs associated with the traffic control for mobile operation including signs, arrow boards and equipment will be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

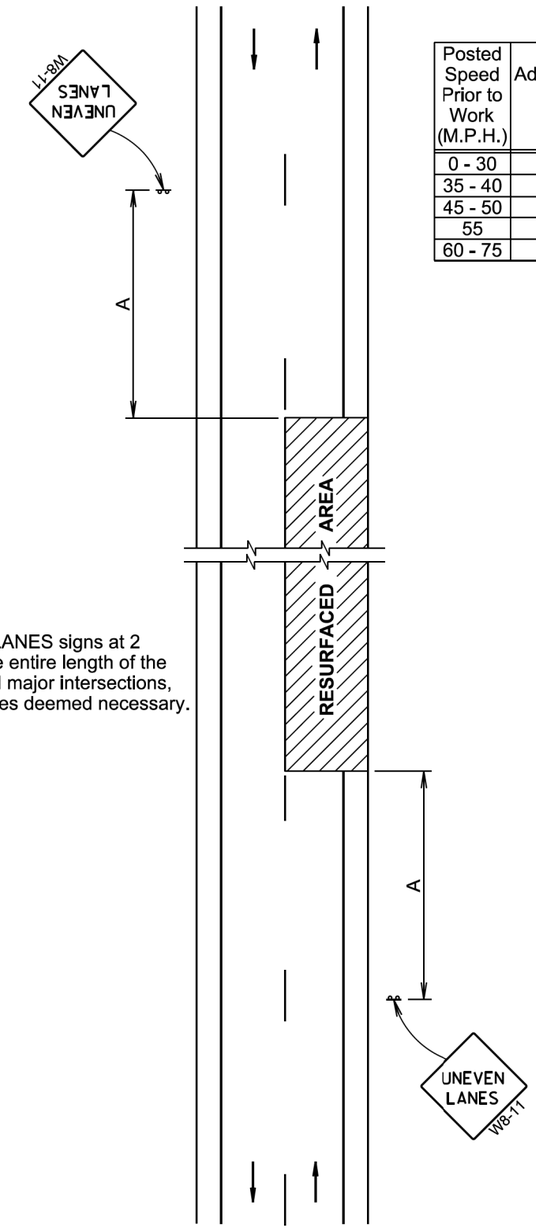


January 22, 2021

Published Date: 2026	SDDOT	MOBILE OPERATIONS ON 2-LANE ROAD	PLATE NUMBER 634.06
			Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 75	1000

Install additional UNEVEN LANES signs at 2 mile intervals throughout the entire length of the uneven area and at affected major intersections, edge of towns, and other sites deemed necessary.



January 22, 2021

Published Date: 2026	SDDOT	UNEVEN ROAD SURFACE	PLATE NUMBER 634.22
			Sheet 1 of 1

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.

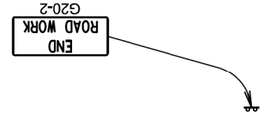
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

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.

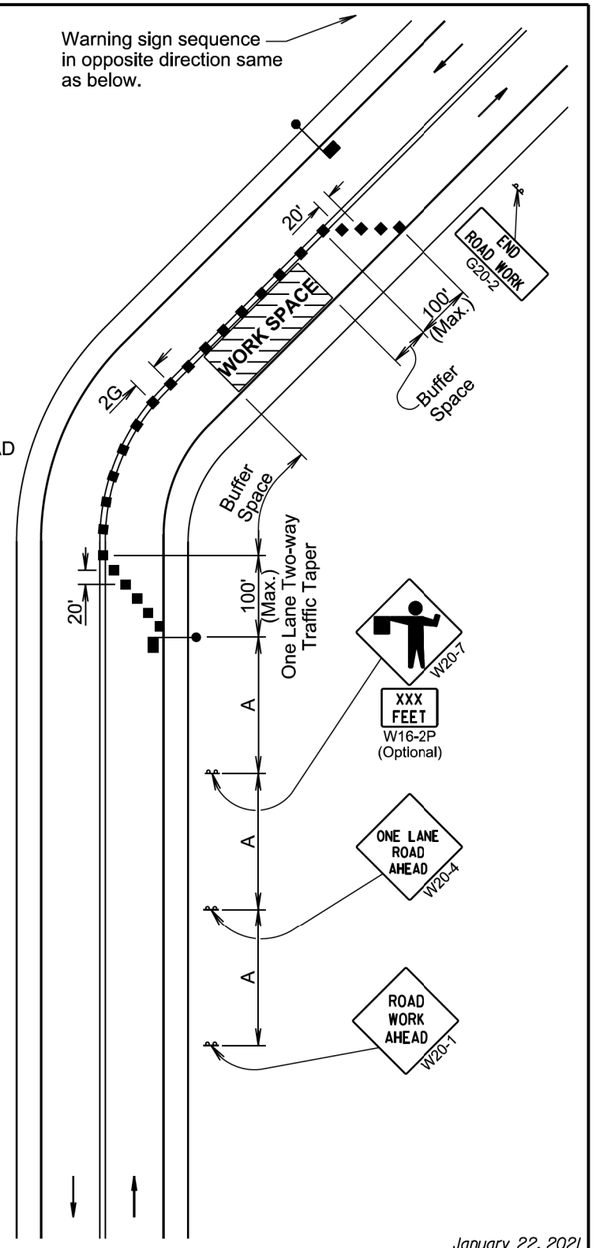
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



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

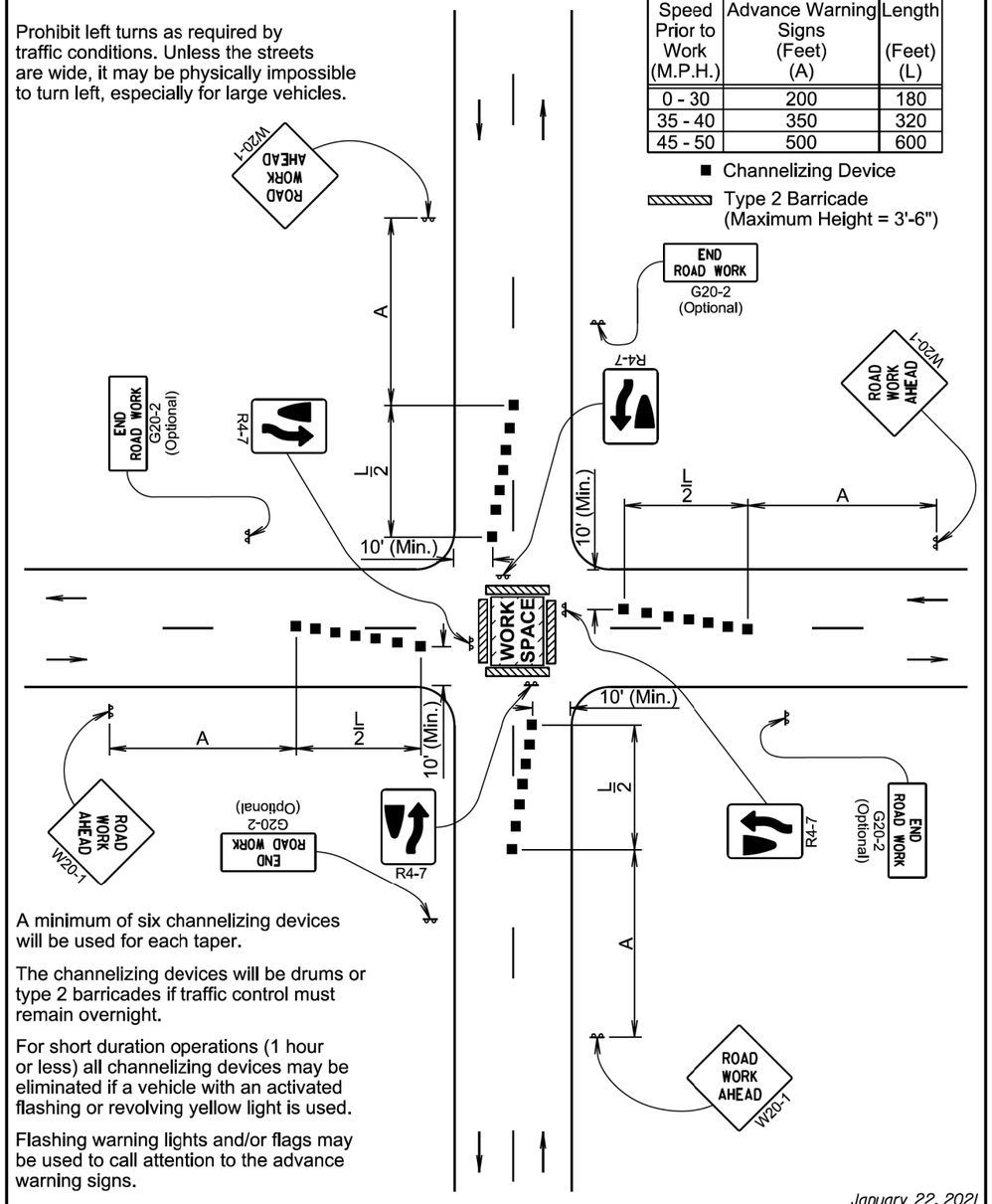
Published Date: 2026	SDDOT	LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
			Sheet 1 of 1

Prohibit left turns as required by traffic conditions. Unless the streets are wide, it may be physically impossible to turn left, especially for large vehicles.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Taper Length (Feet) (L)
0 - 30	200	180
35 - 40	350	320
45 - 50	500	600

■ Channelizing Device

Type 2 Barricade (Maximum Height = 3'-6")



A minimum of six channelizing devices will be used for each taper.

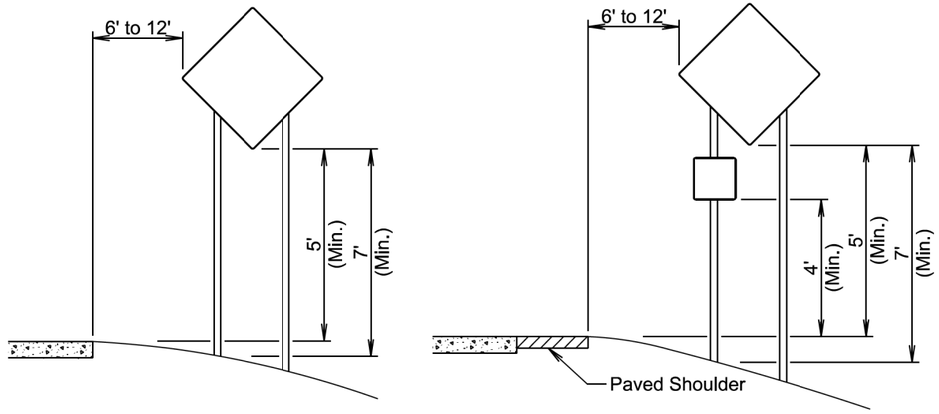
The channelizing devices will be drums or type 2 barricades if traffic control must remain overnight.

For short duration operations (1 hour or less) all channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

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

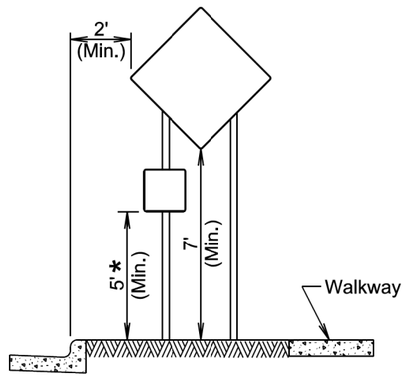
January 22, 2021

Published Date: 2026	SDDOT	CLOSURE IN CENTER OF INTERSECTION	PLATE NUMBER 634.35
			Sheet 1 of 1

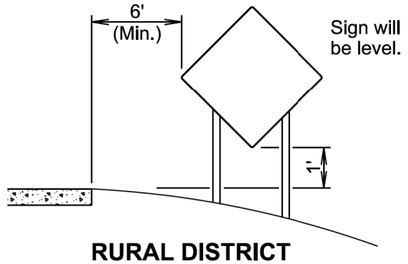


RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

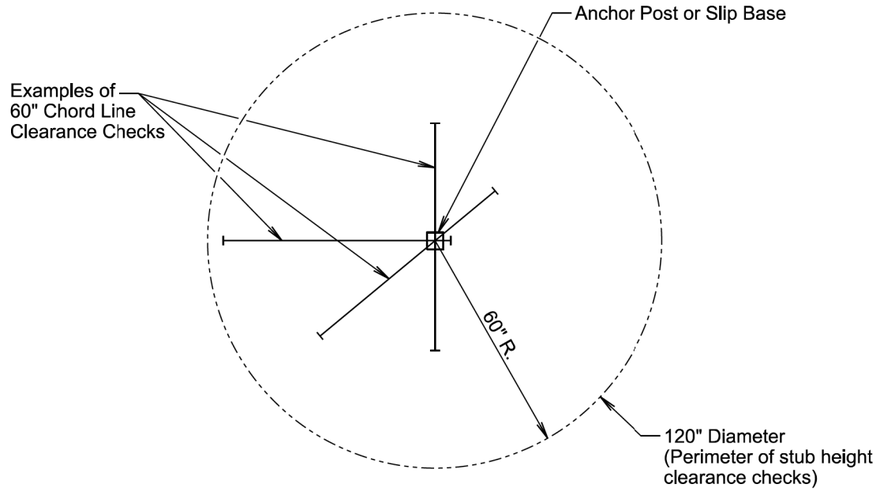


RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

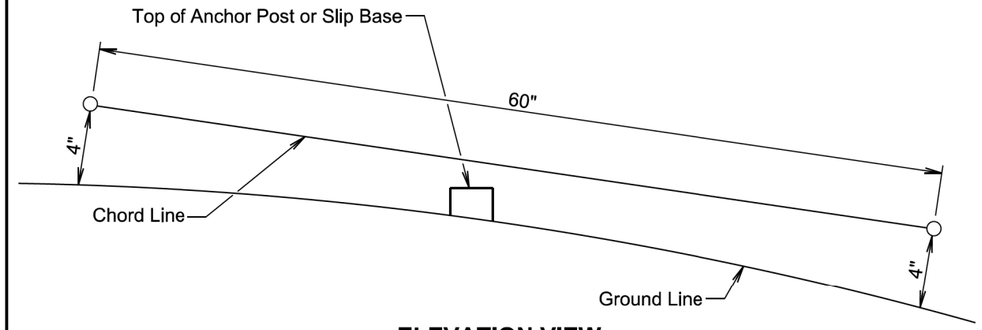
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

January 22, 2021

Published Date: 2026	SDDOT	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1



PLAN VIEW
(Examples of stub height clearance checks)



ELEVATION VIEW

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

Published Date: 2026	SDDOT	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1

ITEMIZED LIST FOR 06Q9 TRAFFIC CONTROL SIGNS

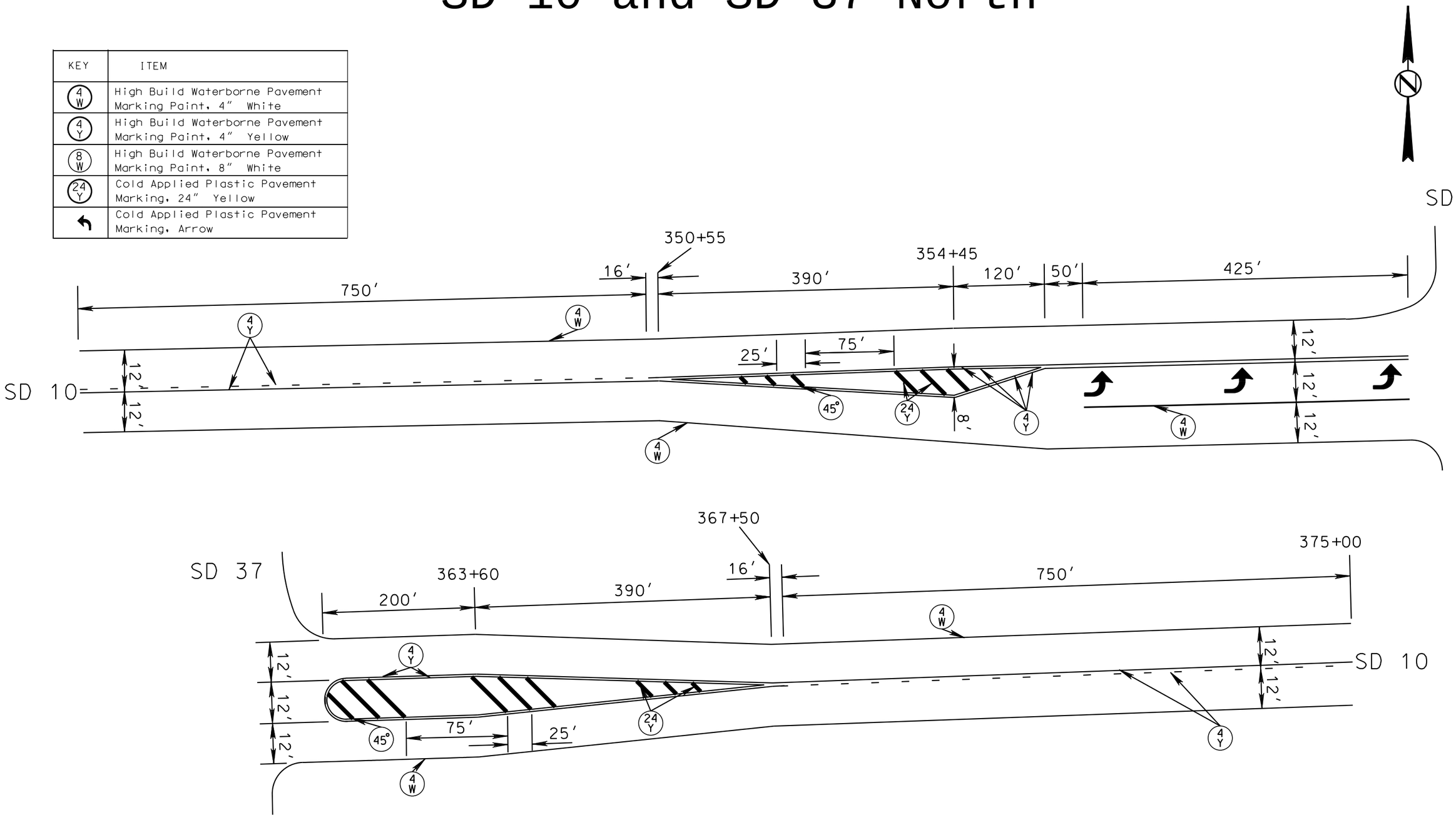
SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R4-7	KEEP RIGHT (symbol)	4	24" x 30"	5.0	20.0
W7-3aP	NEXT -- MILES (plaque)	12	36" x 30"	7.5	90.0
W8-6	TRUCK CROSSING	4	48" x 48"	16.0	64.0
W8-7	LOOSE GRAVEL	4	48" x 48"	16.0	64.0
W8-11	UNEVEN LANES	4	48" x 48"	16.0	64.0
W8-15	GROOVED PAVEMENT	12	48" x 48"	16.0	192.0
W8-15P	MOTORCYCLE (plaque)	12	24" x 18"	3.0	36.0
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6.3	25.2
W20-1	ROAD WORK AHEAD	12	48" x 48"	16.0	192.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.0
W21-1	WORKERS (symbol)	2	48" x 48"	16.0	32.0
W21-2	FRESH OIL	2	48" x 48"	16.0	32.0
W21-5	SHOULDER WORK	2	48" x 48"	16.0	32.0
W21-5a	LEFT or RIGHT SHOULDER CLOSED	2	48" x 48"	16.0	32.0
SPECIAL	WAIT FOLLOW PILOT CAR	8	30" x 18"	3.8	30.4
G20-1	ROAD WORK NEXT 24 MILES	2	36" x 18"	4.5	9.0
G20-1	ROAD WORK NEXT 23 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 18 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 17 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 16 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 12 MILES	2	36" x 18"	4.5	9.0
G20-1	ROAD WORK NEXT 8 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 7 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 6 MILES	1	36" x 18"	4.5	4.5
G20-1	ROAD WORK NEXT 1 MILES	1	36" x 18"	4.5	4.5
G20-2	END ROAD WORK	7	36" x 18"	4.5	31.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			**1087.1**

Revised
05/21/2025 7:45:09 AM

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0010(158)296	30	39

Pavement Marking Layout
SD 10 and SD 37 North

KEY	ITEM
(4 W)	High Build Waterborne Pavement Marking Paint, 4" White
(4 Y)	High Build Waterborne Pavement Marking Paint, 4" Yellow
(8 W)	High Build Waterborne Pavement Marking Paint, 8" White
(24 Y)	Cold Applied Plastic Pavement Marking, 24" Yellow
↰	Cold Applied Plastic Pavement Marking, Arrow



Not To Scale

PLOT SCALE - 1:125.089

PLOTTED FROM - TRAB10200

PLOT NAME - 2

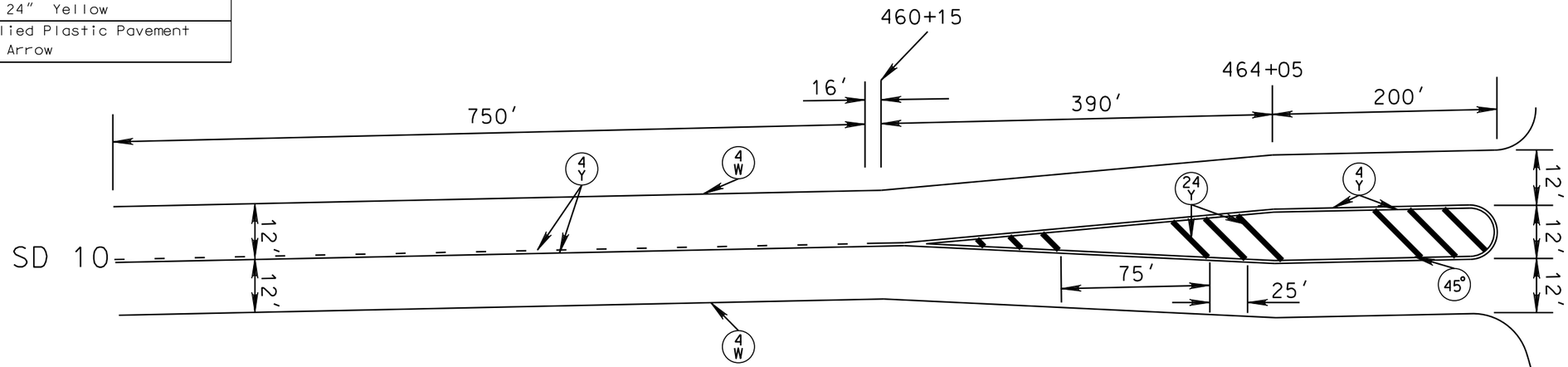
FILE - ...\05F4_PAVEMENT MARKINGS UNCORRUPT.DGN

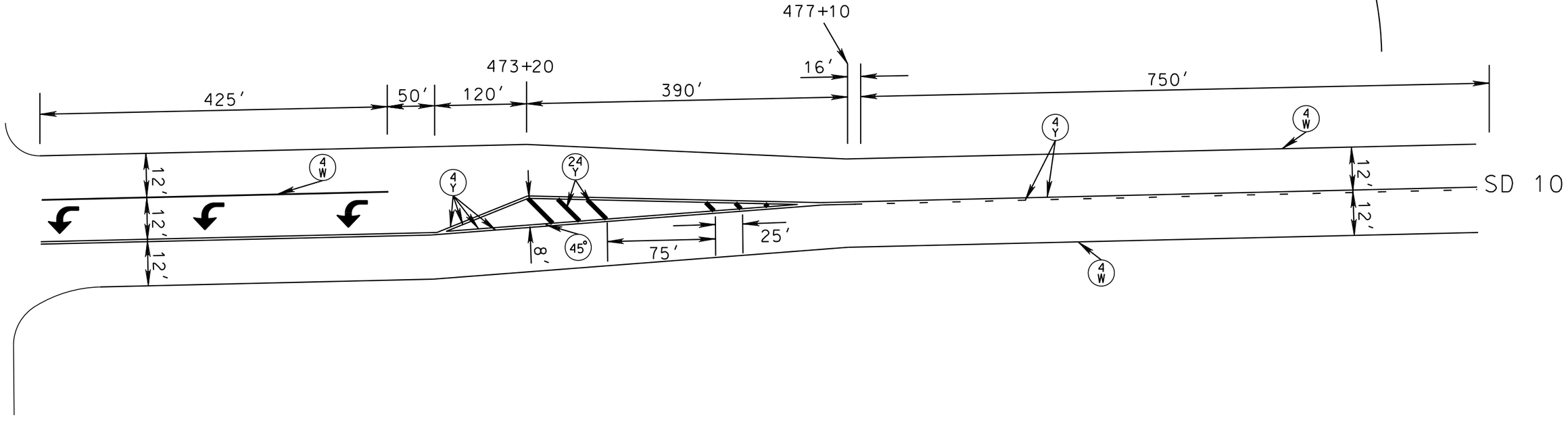
PLOT SCALE - 1:125.089

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0010(158)296	31	39

Pavement Marking Layout
SD 10 and SD 37 South

KEY	ITEM
(4 W)	High Build Waterborne Pavement Marking Paint, 4" White
(4 Y)	High Build Waterborne Pavement Marking Paint, 4" Yellow
(8 W)	High Build Waterborne Pavement Marking Paint, 8" White
(24 Y)	Cold Applied Plastic Pavement Marking, 24" Yellow
↰	Cold Applied Plastic Pavement Marking, Arrow





Not To Scale

PLOTTED FROM - TRAB10200

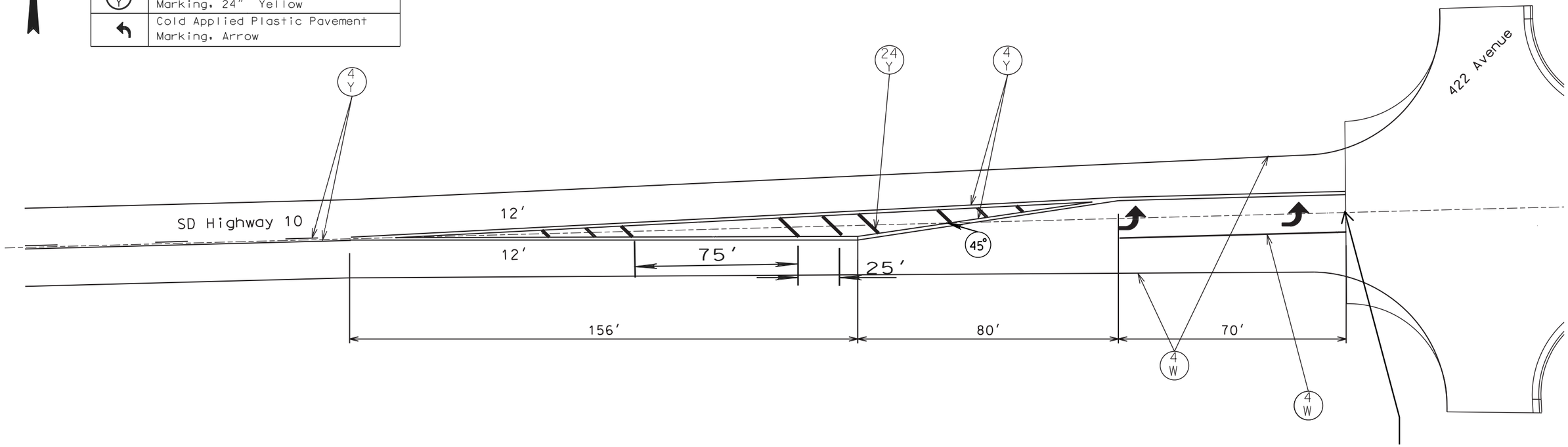
PLOT NAME - 3

FILE - ...\05F4_PAVEMENT MARKINGS UNCORRUPT.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0010(158)296	32	39

Pavement Marking Layout
SD 10 and 422nd Ave

KEY	ITEM
4 W	High Build Waterborne Pavement Marking Paint, 4" White
4 Y	High Build Waterborne Pavement Marking Paint, 4" Yellow
8 W	High Build Waterborne Pavement Marking Paint, 8" White
24 Y	Cold Applied Plastic Pavement Marking, 24" Yellow
↰	Cold Applied Plastic Pavement Marking, Arrow



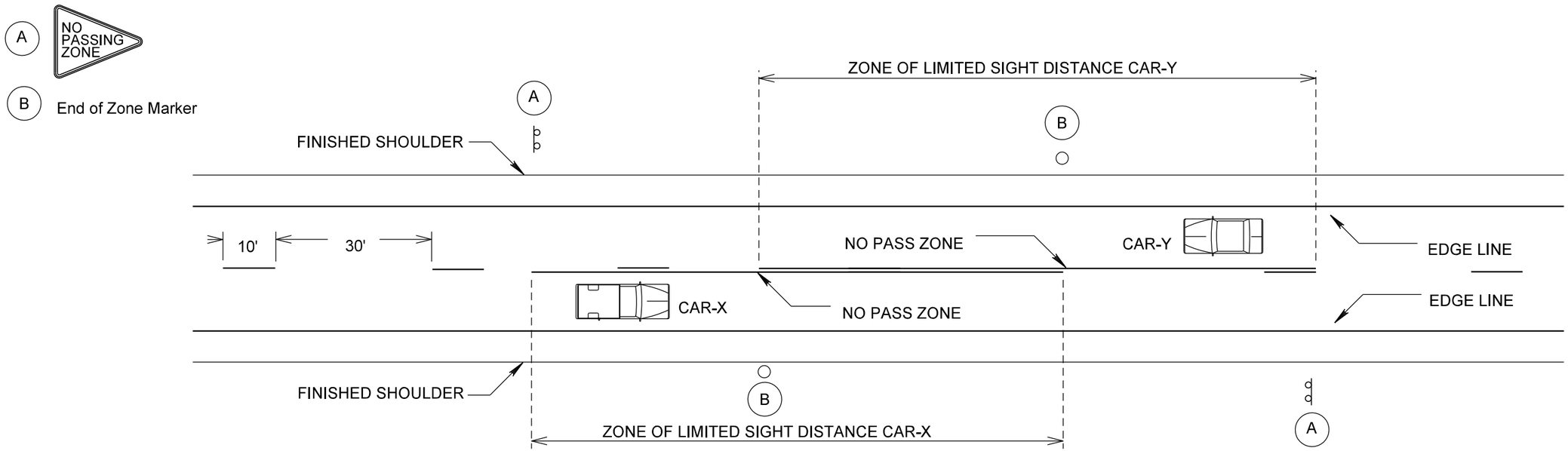
Not To Scale

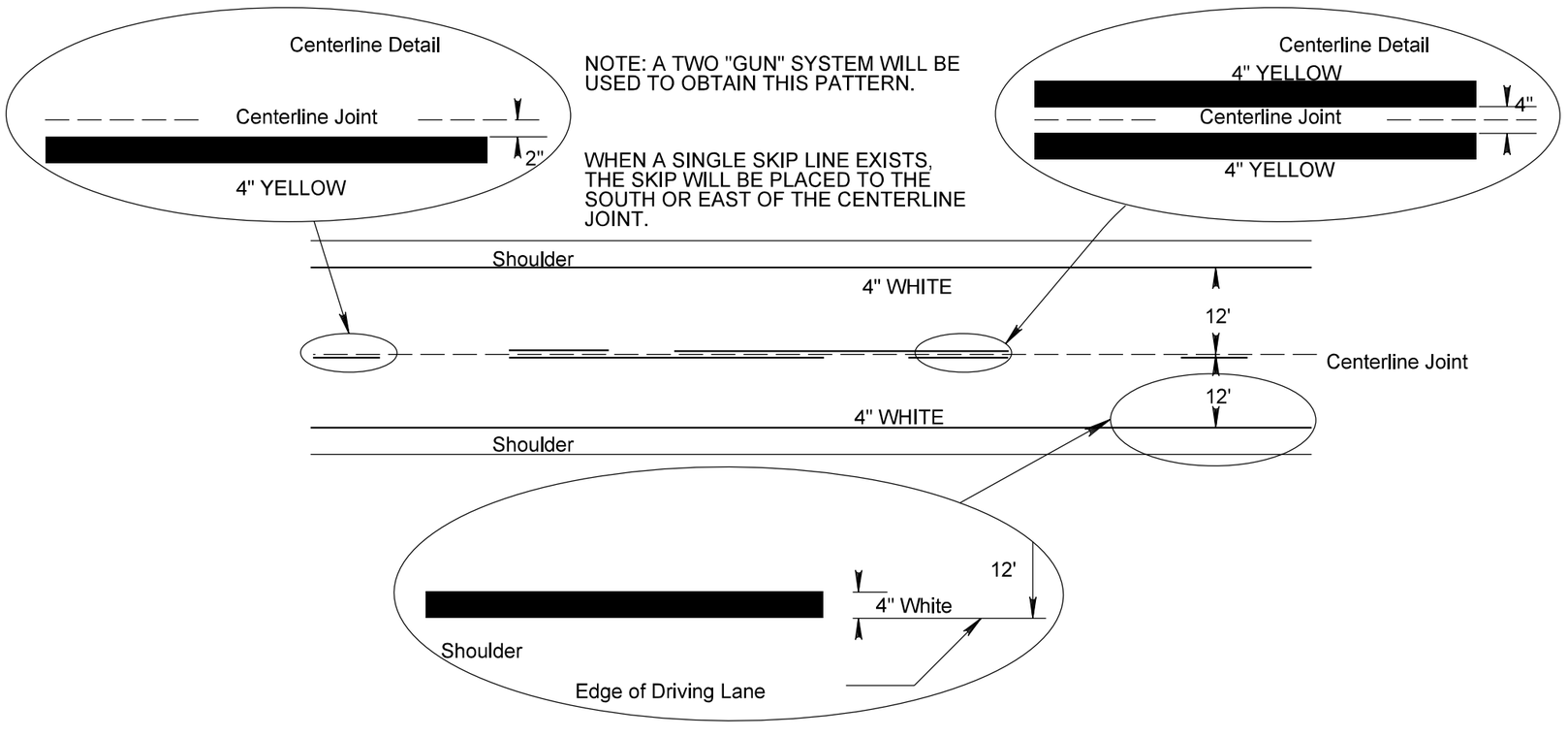
PLOTTED FROM - TRAB12222

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0010(158)296	33	39

Plotting Date: 12/11/2024

TYPICAL PAVEMENT MARKING LAYOUT





FURNISHING AND APPLYING HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

1. The typical pavement markings as shown on this sheet will be applied throughout the entire length of the project.

2. Exact location of the NO PASSING ZONE lines will be determined in the field by the Engineer. A dash of white paint will mark the beginning and end of all no passing zones. NO PASSING ZONE signs and the ending post in fence lines, if present, will not be used as the beginning and ending NO PASSING ZONE lines.

3. Traffic Control will be incidental to the cost of application. The striper and advance or trailing warning vehicle will be equipped with flashing amber lights or advance warning arrow panel.

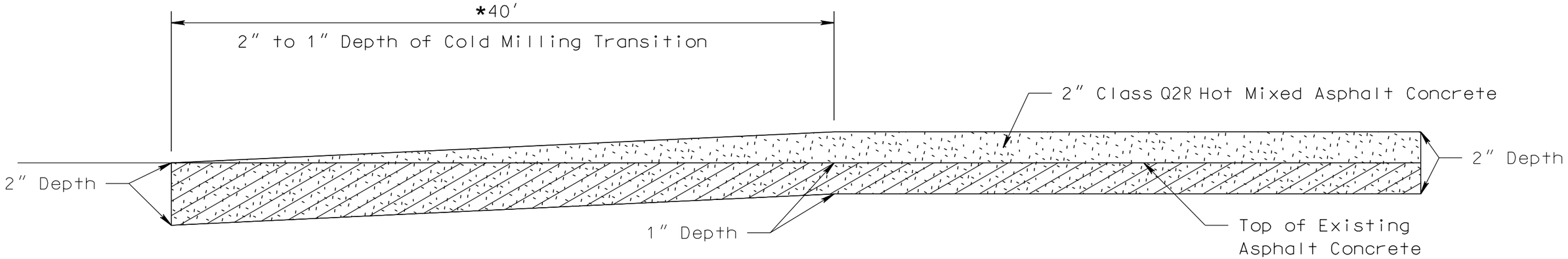
SURFACING TRANSITION LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0010(158)296	34	39

Plotting Date: 11/19/2024

2" Class Q2R Hot Mixed Asphalt Concrete

Cold Milling Asphalt Concrete



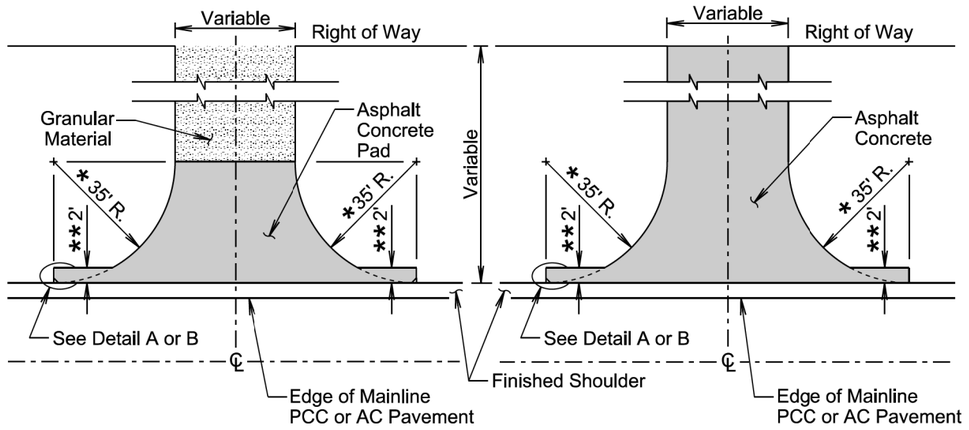
* ≤ 65 mph Transition length = 40' per inch of elevation change
> 65 mph Transition length = 60' per inch of elevation change

PLOT SCALE - 1:24

PLOT NAME - 1

FILE - ...\COLD MILLING TRANSITIONS.DGN

PLOTTED FROM - TRPR19388A



PLAN VIEW
(Intersecting Road)
(No Asphalt Concrete Surfacing Beyond Right of Way)

PLAN VIEW
(Intersecting Road)
(Asphalt Concrete Surfacing Beyond Right of Way)

GENERAL NOTES:

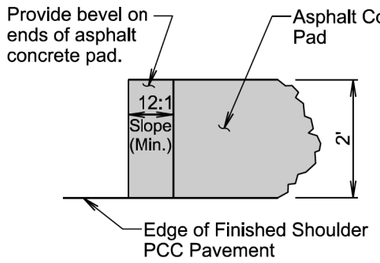
The precise construction limits for situations other than shown above will be determined by the Engineer during construction.

* For new construction, 35' radius typical or as specified in the plans. For resurfacing projects, radius is variable depending on existing conditions.

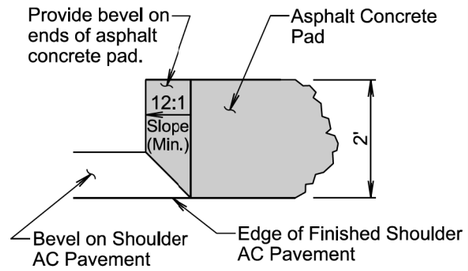
** The Contractor may adjust the screed of the paver during mainline paving operations to provide the 2-foot asphalt concrete pad or the Contractor may provide the 2-foot asphalt concrete pad during paving of the intersecting roads as shown above. The Engineer may eliminate the 2-foot asphalt concrete pads if the Engineer, in the Engineer's sole discretion, determines the pads are infeasible to construct due to site specific reasons including, but not limited to; existing inslope configuration, borrow and material availability, and right-of-way constraints.

August 27, 2020

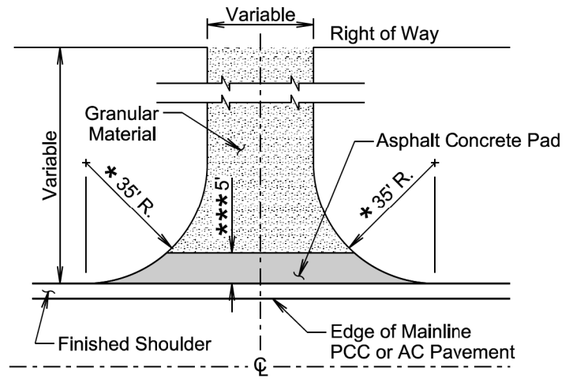
Published Date: 2026	SDDOT	SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (MAINLINE AND SHOULDERS: PCC OR AC PAVEMENT)	PLATE NUMBER 320.04 Sheet 1 of 2



DETAIL A
(Typ. for Projects with PCC Pavement on Shoulder)



DETAIL B
(Typ. for Projects with AC Pavement on Shoulder)

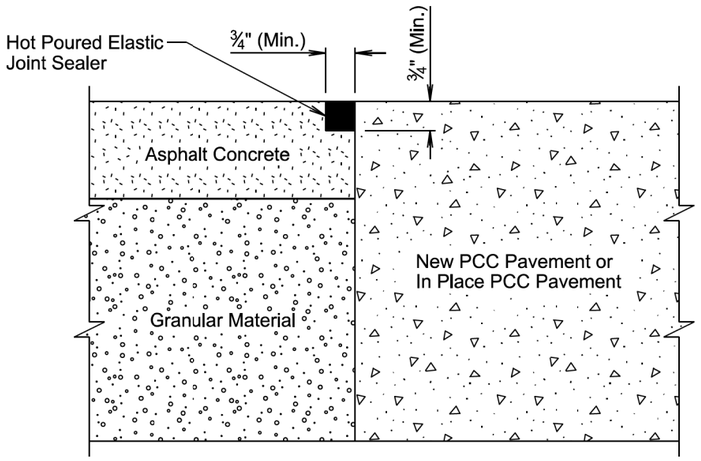


PLAN VIEW
(Entrance)

*** Not required if finished shoulder width is 4' or greater.

August 27, 2020

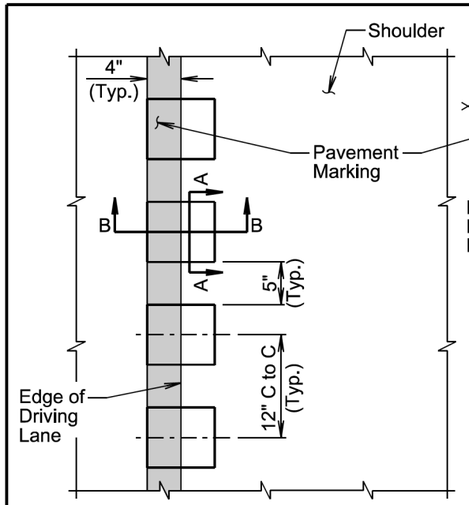
Published Date: 2026	SDDOT	SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (MAINLINE AND SHOULDERS: PCC OR AC PAVEMENT)	PLATE NUMBER 320.04 Sheet 2 of 2



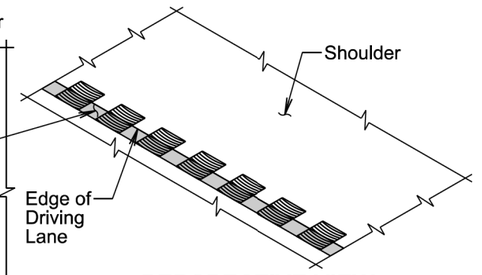
TRANSVERSE SECTION
(Asphalt Concrete Shoulder Joint)

September 14, 2019

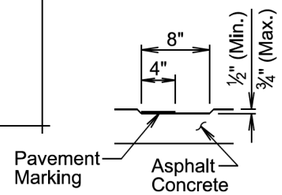
Published Date: 2026	SDDOT	ASPHALT CONCRETE SHOULDER JOINT ADJACENT TO PCC PAVEMENT	PLATE NUMBER 320.15
			Sheet 1 of 1



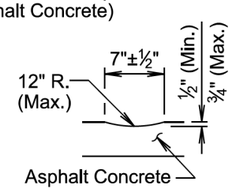
PLAN VIEW
(Typical Rumble Stripe in Asphalt Concrete)



PERSPECTIVE VIEW
(Typical Rumble Stripe in Asphalt Concrete)



SECTION B-B



SECTION A-A

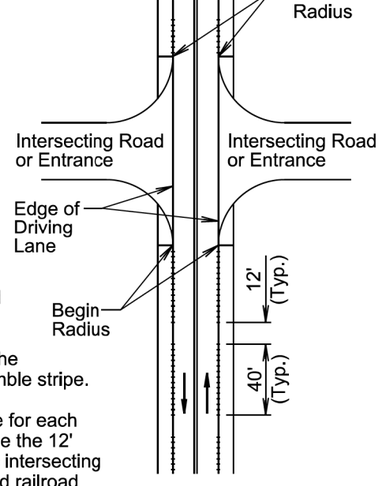
GENERAL NOTES:

A rumble stripe will be constructed on all of the asphalt concrete shoulders by grinding alternating patterns of 40' continuous indentations in the asphalt concrete. The rumble stripe will receive a flush seal or asphalt surface treatment as specified in the plans.

A rumble stripe will not be constructed through intersecting roads, entrances, turnouts, bridge decks, bridge approach slabs, and railroad crossings. The lengths of the 40' segments with continuous indentations and the 12' segments without a rumble stripe adjacent to the intersecting roads, entrances, turnouts, bridge decks, bridge approach slabs, and railroad crossings will be adjusted as approved by the Engineer.

Prior to constructing the rumble stripe the Contractor will submit to the Engineer, for approval, the proposed method of constructing the rumble stripe.

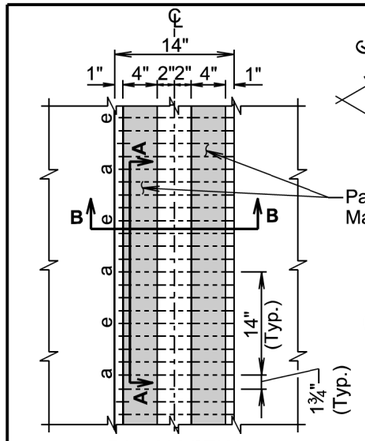
Measurement of the rumble stripe will be to the nearest 0.1 of a mile for each shoulder. Measurement and payment of the rumble stripe will include the 12' long segments without rumble stripes and the segments adjacent to intersecting roads, entrances, turnouts, bridge decks, bridge approach slabs, and railroad crossings without rumble stripes. Payment for constructing the rumble stripe will be at the contract unit price per mile for "Grind 8" Rumble Strip or Stripe in Asphalt Concrete".



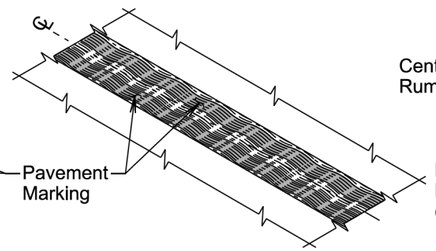
PLAN VIEW

September 14, 2019

Published Date: 2026	SDDOT	8" RUMBLE STRIPE IN ASPHALT CONCRETE ON NONDIVIDED HIGHWAY SHOULDERS	PLATE NUMBER 320.20
			Sheet 1 of 1

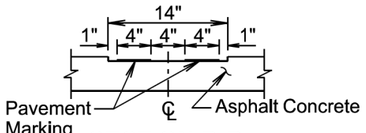


PLAN VIEW
(Typical Rumble Strip in Asphalt Concrete)

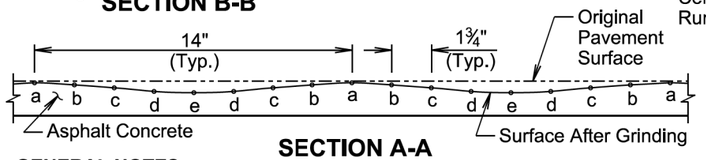


PERSPECTIVE VIEW
(Typical Rumble Strip in Asphalt Concrete)

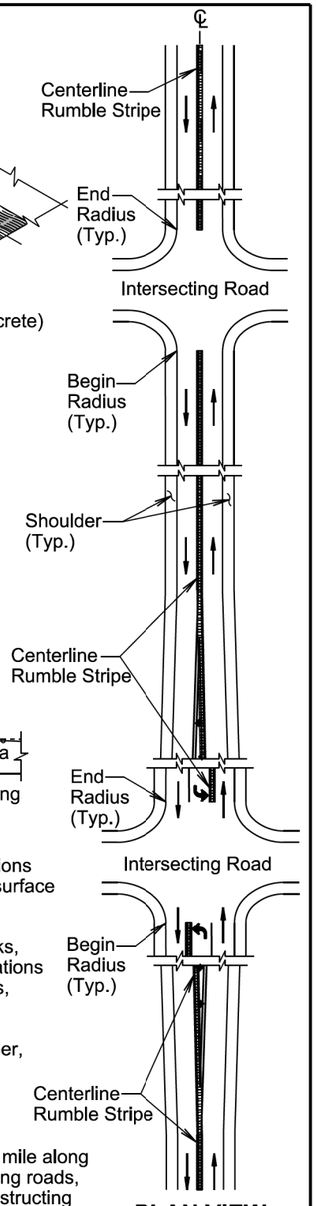
SINUSOIDAL GRINDING	
Location	* Depth (In.)
a	1/16
b	5/32
c	9/32
d	7/16
e	1/2



SECTION B-B



SECTION A-A



PLAN VIEW

GENERAL NOTES:

A rumble stripe will be constructed by grinding continuous sinusoidal indentations in the asphalt concrete. The rumble stripe will receive a flush seal or asphalt surface treatment as specified in the plans.

A rumble stripe will not be constructed through intersecting roads, bridge decks, bridge approach slabs, and railroad crossings. The beginning and ending locations of the rumble stripe at intersecting roads, bridge decks, bridge approach slabs, and railroad crossings will be adjusted as approved by the Engineer.

Prior to constructing the rumble stripe the Contractor will submit to the Engineer, for approval, the proposed method of constructing the rumble stripe.

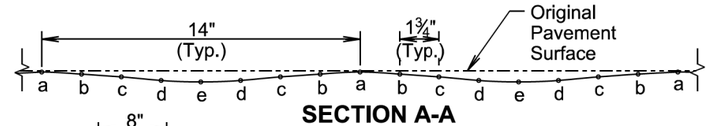
* The sinusoidal rumble stripe construction grinding tolerance will be ± 1/16 inch.

Measurement and payment of the rumble stripe will be to the nearest 0.1 of a mile along the centerline and will include segments without the rumble stripe at intersecting roads, bridge decks, bridge approach slabs, and railroad crossings. Payment for constructing the rumble stripe will be at the contract unit price per mile for "Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete".

September 14, 2019

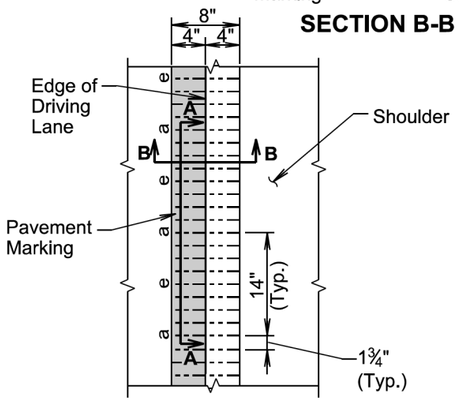
Published Date: 2026	SDDOT	SINUSOIDAL CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE	PLATE NUMBER 320.40
			Sheet 1 of 1

SINUSOIDAL GRINDING	
Location	* Depth (In.)
a	1/16
b	5/32
c	9/32
d	7/16
e	1/2

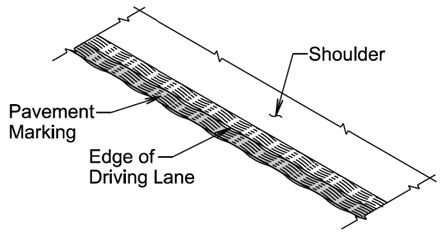


SECTION A-A

SECTION B-B



PLAN VIEW
(Typical Rumble Stripe in Asphalt Concrete)



PERSPECTIVE OF TYPICAL
(Rumble Stripe in Asphalt Concrete)

GENERAL NOTES:

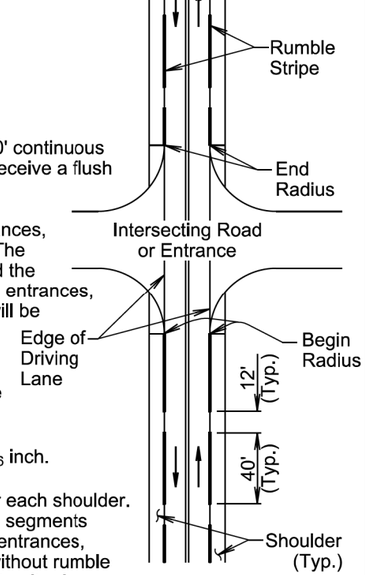
A rumble stripe will be constructed by grinding alternating patterns of 40' continuous sinusoidal indentations in the asphalt concrete. The rumble stripe will receive a flush seal or asphalt surface treatment as specified in the plans.

A rumble stripe will not be constructed through intersecting roads, entrances, turnouts, bridge decks, bridge approach slabs, and railroad crossings. The lengths of the 40' segments with continuous sinusoidal indentations and the 12' segments without a rumble stripe adjacent to the intersecting roads, entrances, turnouts, bridge decks, bridge approach slabs, and railroad crossings will be adjusted as approved by the Engineer.

Prior to constructing the rumble stripe the Contractor will submit to the Engineer, for approval, the proposed method of constructing the rumble stripe.

* The sinusoidal rumble stripe construction grinding tolerance will be ± 1/16 inch.

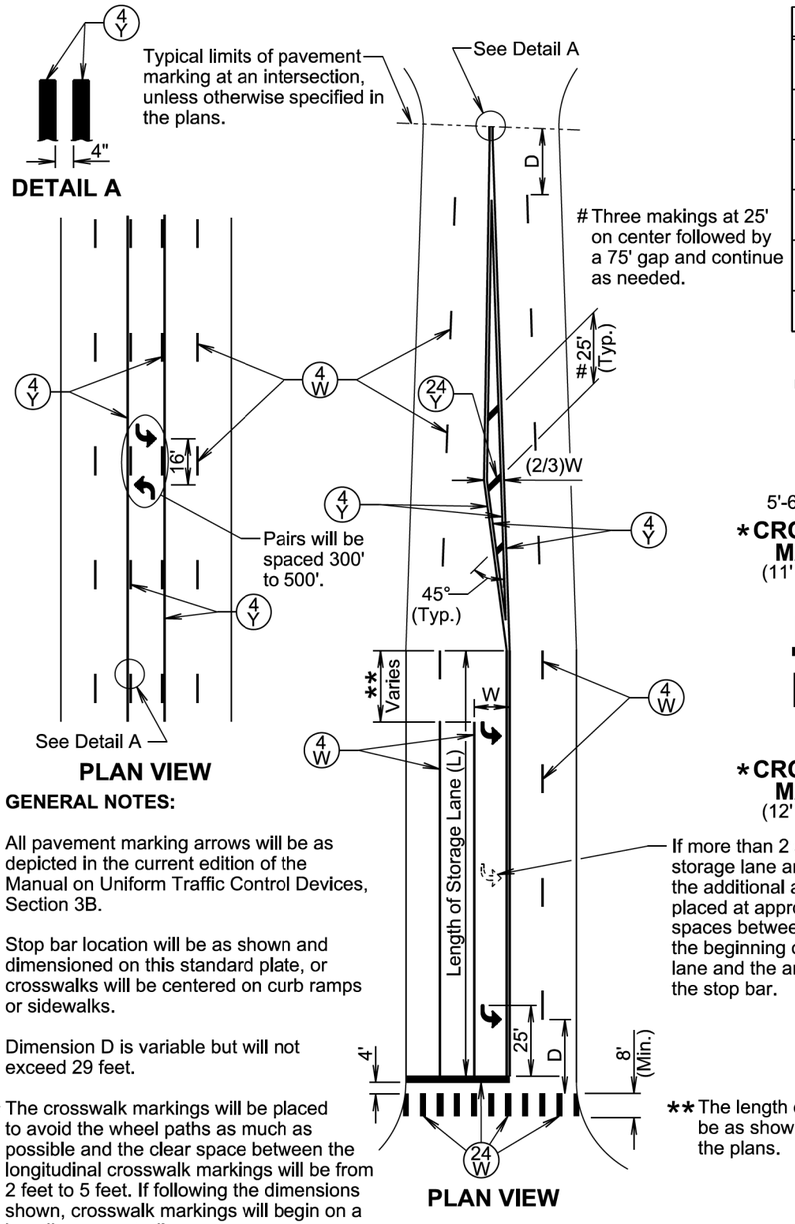
Measurement of the rumble stripe will be to the nearest 0.1 of a mile for each shoulder. Measurement and payment of the rumble stripe will include the 12' long segments without rumble stripe and the segments adjacent to intersecting roads, entrances, turnouts, bridge decks, bridge approach slabs, and railroad crossings without rumble stripe. Payment for constructing the rumble stripe will be at the contract unit price per mile for "Grind 8" Sinusoidal Rumble Strip or Stripe in Asphalt Concrete".



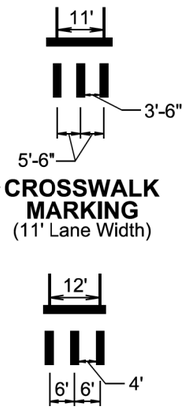
PLAN VIEW

August 27, 2020

Published Date: 2026	SDDOT	8" SINUSOIDAL RUMBLE STRIPE IN ASPHALT CONCRETE ON NONDIVIDED HIGHWAY SHOULDERS	PLATE NUMBER 320.50
			Sheet 1 of 1



KEY	ITEM
4 W	4" White
4 Y	4" Yellow
12 W	12" White
24 W	24" White
24 Y	24" Yellow
	Arrow



***CROSSWALK MARKING**
(11' Lane Width)

***CROSSWALK MARKING**
(12' Lane Width)

GENERAL NOTES:

All pavement marking arrows will be as depicted in the current edition of the Manual on Uniform Traffic Control Devices, Section 3B.

Stop bar location will be as shown and dimensioned on this standard plate, or crosswalks will be centered on curb ramps or sidewalks.

Dimension D is variable but will not exceed 29 feet.

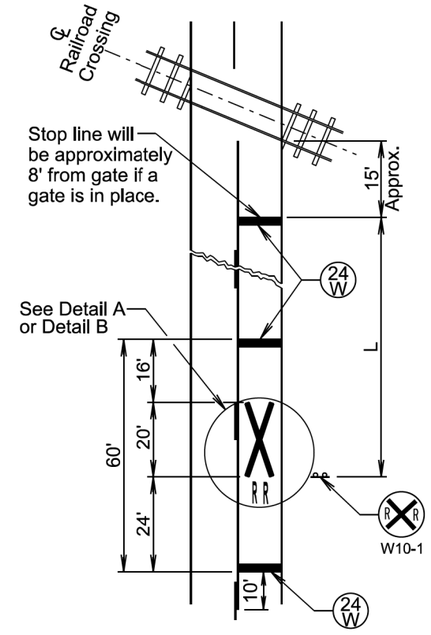
* The crosswalk markings will be placed to avoid the wheel paths as much as possible and the clear space between the longitudinal crosswalk markings will be from 2 feet to 5 feet. If following the dimensions shown, crosswalk markings will begin on a lane line or centerline.

If more than 2 arrows per storage lane are shown, then the additional arrows will be placed at approximately equal spaces between the arrow at the beginning of the storage lane and the arrow nearest the stop bar.

** The length of the gap will be as shown elsewhere in the plans.

March 31, 2024

Published Date: 2026	SDDOT	PAVEMENT MARKINGS FOR ADJACENT INTERSECTIONS AND CENTER TURN LANE	PLATE NUMBER 633.01
			Sheet 1 of 1



PLAN VIEW

KEY	ITEM
24 W	24" White
RR	White

Posted Speed Limit (M.P.H.)	L (Ft.)
≤ 30	100
35	100
40	125
45	175
50	250
55	325
60	400
65	475
70	550

GENERAL NOTES:

The railroad crossing pavement markings will be placed symmetrically about the centerline of the railroad crossing. DETAIL A should be used unless the railroad crossing pavement markings are installed in existing grooves that match DETAIL B.

When pavement markings are used, a portion of the RXR symbol will be placed directly opposite of the advance warning sign W10-1.

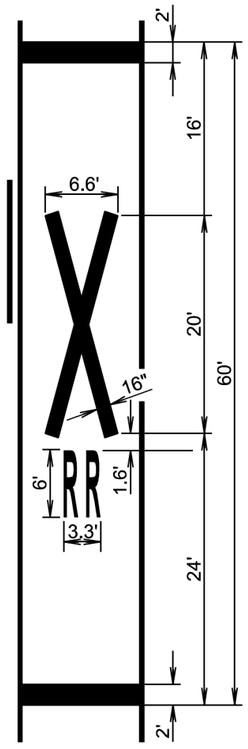
On multi-lane roads the transverse bands will extend across all approach lanes and individual RXR symbols will be placed in each approach lane.

The railroad crossing pavement markings will consist of all the transverse bands, stop lines, and RXR symbols.

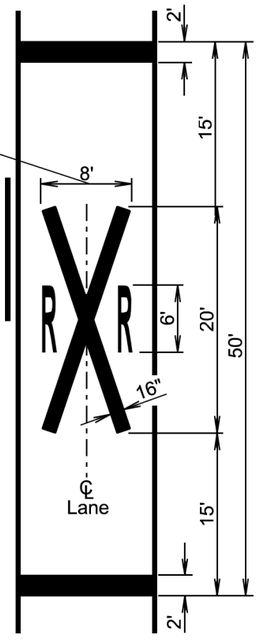
All costs for furnishing and installing the markings, materials, labor, and necessary equipment for the railroad crossing makings will be paid for at the contract unit price per gallon or per each for the type of marking material specified in the plans.

November 19, 2020

Published Date: 2026	SDDOT	PAVEMENT MARKINGS AT RAILROAD CROSSING	PLATE NUMBER 633.10
			Sheet 1 of 2



DETAIL A



DETAIL B

November 19, 2020

Published Date: 2026	SDDOT	PAVEMENT MARKINGS AT RAILROAD CROSSING	PLATE NUMBER 633.10
			Sheet 2 of 2