

STATE OF SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

## PROJECT 016W-452 US HIGHWAY 16 PENNINGTON COUNTY

**ASPHALT CONCRETE REPAIR PCN I71U** 

STATE OF	PROJECT	SHEET	TOTAL SHEETS	
SOUTH			SHEETS	
DAKOTA	016W-452	1	6	

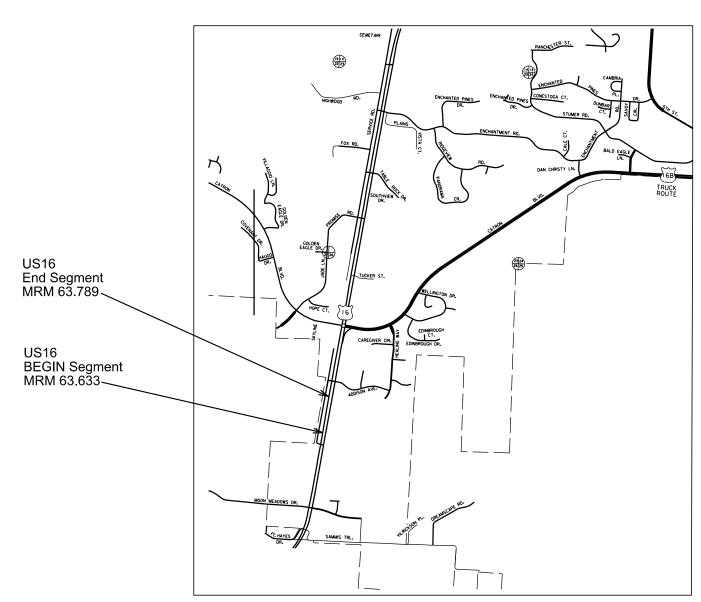
Plotting Date:

03/15/2023

#### **INDEX OF SHEETS**

- General Layout with Index Estimate of Quantities and Plan Notes MARLA Map
- Detail Sheet
- 5 6 Standard Plates





**DESIGN DESIGNATION (016 W)** 

Ĭ RHY

STORM WATER PERMIT

No Permit Required

#### **ESTIMATE OF QUANTITIES**

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E1200	Asphalt Concrete Composite	320.9	Ton
332E0010	Cold Milling Asphalt Concrete	1,878	SqYd
633E1220	High Build Waterborne Pavement Marking Paint, 4" White	850	Ft
633E1222	High Build Waterborne Pavement Marking Paint, 4" Yellow	690	Ft
634E0010	Flagging	40.0	Hour
634E0110	Traffic Control Signs	144.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0310	Temporary Flexible Vertical Markers (Tabs)	2,370	Ft
634E0420	Type C Advance Warning Arrow Board	1	Each

#### **SPECIFICATIONS**

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

#### **SURFACING THICKNESS DIMENSIONS**

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

#### COLD MILLING ASPHALT CONCRETE

Cold milling asphalt will be done according to the plans. The milled asphalt concrete material will become the property of the Contractor.

#### **ASPHALT CONCRETE COMPOSITE**

Mineral aggregate will be produced from a ledge rock source.

Mineral aggregate for the Asphalt Concrete Composite will conform to the requirements for Class E, Type 1.

Asphalt for Prime and Flush Seal will not be required.

The asphalt repairs will be in the southbound 12' driving lane and the southbound 12' passing lane plus 1' for each lane for a total of 26' in width. Since the elevation is being raised 1", a 1' sluff will also be used along the edge of each lane.

All other requirements in the Standard Specifications for Asphalt Concrete Composite will apply.

#### **TABLE OF ASPHALT REPAIRS**

MRM START	MRM END	LONGITUDE	LATITUDE	LENGTH Ft	WIDTH	Cold Milling Asphalt Concrete SqYd	Asphalt Concrete Composite Ton
63.789	63.694	-103.2512172	44.01301752	500	26	1444	246.9
63.633	63.605	-103.2515841	44.01077538	150	26	433	74.1
	TOTAL			650		1878	320.9

#### **SEQUENCE OF OPERATIONS**

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

#### **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.

All construction operations will be conducted in the general direction of traffic movement

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

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

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

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

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

#### **TEMPORARY PAVEMENT MARKING**

Temporary Flexible Vertical Markers (Tabs) will be used on the top lift of asphalt surfacing for all pavement marking lines and as directed by the Engineer. Tabs will be spaced at 5' the entire length of the repairs. Tabs will also be used in the lane closure tapers. Tabs will be required before nightfall.

#### **PERMANENT PAVEMENT MARKING**

The Contractor will be required to repaint all disturbed pavement markings. The Contractor will be required to document and be able to relocate for replacement of the existing markings before the markings are obliterated. Application of permanent pavement marking will be completed within 14 calendar days following completion of the final surfacing.

The cost to duplicate the existing marking locations will be incidental to the contract unit prices for the various contract items.

STATE OF	PROJECT	SHEET	TOTAL SHEETS	
SOUTH DAKOTA	016W-452	2	6	

#### 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.

### 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.

#### **TRAFFIC CONTROL SIGNS**

			CONVENTIO	NAL ROAD	
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	1	48" x 48"	16.0	16.0
			IVENTIONAL I CONTROL SI		144.0

STATE OF SOUTH DAKOTA 016W-452

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02/13/2023

## Maintenance Repair Location Application (MARLA)





 Mileage Reference Markers Maintenance Locations

Asphalt

Curb & Gutter Repair/Replace PCC Foam Jacking

PCCP Repair

1:4,514 0.06 0.09 Route & Seal PCCP Cracks

Drop Inlet Repair

Esri Community Maps Contributors, South Dakota Game Fish and Parks, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph,

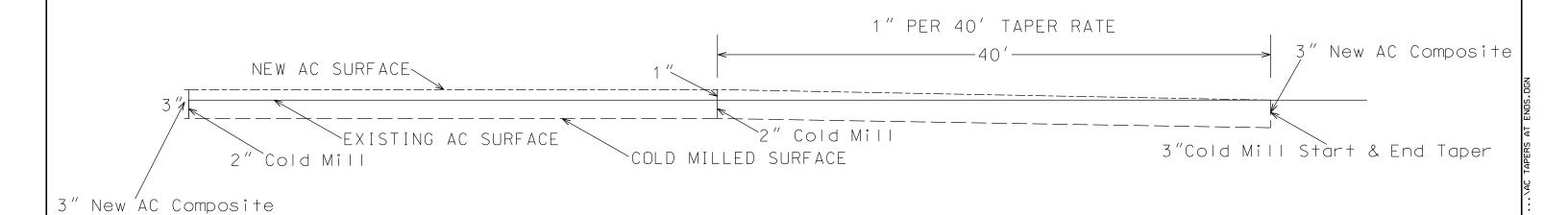
South Dakota Department of Transportation SDDOT-TIM

0.11 mi

STATE OF SOUTH DAKOTA 016W-452 4 6

Plotting Date: 02/10/2023

# ASPHALT CONCRETE PROFILE AT BEGIN AND END OF ASPHALT PATCH



( X	AOA Mor Aha		ļ	ļ			<b> </b>	<b>∤</b>		Work (M.P.H.)	(Feet) (A) (B) (	C)	(Feet
/0	Vua \	/	1	1			'	'		0 - 30	200		180
	<u> </u>	<b>≯</b> -			H		1 1			35 - 40	350		320
Posted	Length of				Ш	î l				45 - 50	500		600
Speed	Longitudinal				Ш				- II	55	750		660
Prior to	Buffer Space				Ш				- 11	60 - 65	1000		780
Work					Ш				- 11		(A) (B)	(C)	
(M.P.H.)	(Feet)				H					70 - 80	1000 1500	2640	960

115 20 25 155 30 200 35 250 40 305 45 360 50 55 425 495 60 570 65 645

730

820

910

Reflectorized Drum

70

75

80

■ Channelizing Device

must remain overnight.

4" White Temporary Pavement Marking Temporary pavement markings will be used if traffic control

This procedure also applies when work is being performed in the lane adjacent to the median on a divided highway. Under these conditions, LEFT LANE CLOSED signs and the corresponding LANE REDUCTION symbol signs will be used.

The channelizing devices will be 42" cones or drums.

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

> (IsnoitqO) ROAD WORK END

Published Date: 1st Qtr. 2023

S D D O T

LANE CLOSURE WITHOUT BARRIER

September 22, 2021 PLATE NUMBER 634.64

END

ROAD WORK

G20-2

(Optional)

Prior to

Work

(M.P.H.)

0 - 30

35 - 45

50

55

60 - 65

75 - 80

Posted | Spacing of

Speed | Channelizing

\*Spacing is 40' for 42" cones.

Arrow Board

Sequential Chevron

RIGHT LANE CLOSED

ROAD

WORK

Devices

(Feet)

(G)

25

25 50 \*

50 \*

50 \*

50 \*

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S D D O

CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)

PLATE NUMBER 634.85

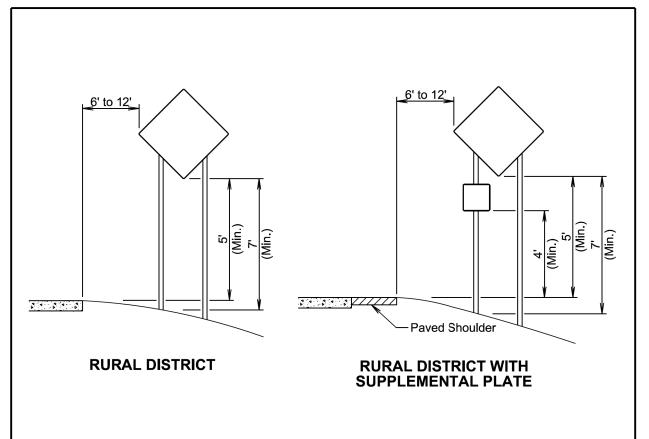
Sign will

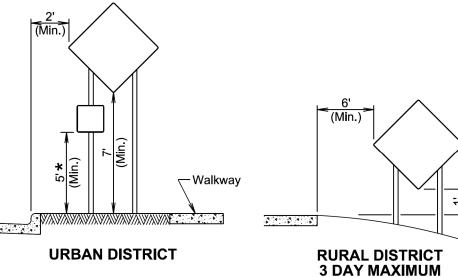
be level.

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January 22, 2021

PROJECT STATE OF SHEET TOTAL SHEETS 5 016W-452 DAKOTA 6 Plotting Date: 02/08/2023





\* 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.

(Not applicable to regulatory signs)

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Plotting Date:

02/08/2023

	Anchor Post or Slip Base
Examples of 60" Chord Line Clearance Checks	120" Diameter (Perimeter of stub height
	clearance checks)
-	PLAN VIEW
(Examples o	of stub height clearance checks)
Top of Anchor Post or Slip Base—  Chord Line	Ground Line
El	LEVATION VIEW
GENERAL NOTES:	
The top of anchor posts and slip bases WILL circle around the post with ends 4" above the	NOT extend above a 60" chord line within a 120" diameter e ground.
	djacent 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.

S D D O T

January 22, 2021

PLATE NUMBER 634.99 BREAKAWAY SUPPORT STUB CLEARANCE

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