

	STATE OF	PROJECT	SHEET	TOTAL
SOUTH DAKOTA	SOUTH DAKOTA	PH 0020(162)	1	35
	Plotting [	)ate: 01/11/2021		

### INDEX OF SHEETS

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Sheet	2 thru 4	Estimate of Quantities and Notes
Sheet	5	Pavement Marking Details
Sheet	6 thru 29	SD 37 Pavement Marking Layouts
Sheet	30 thru 35	Standard Plates

PLOT NAME - 1

#### SD 37 (MRM 73.08 - 76.25)

GROSS LENGTH	16,737.6	FEET
NET LENGTH	16,737.6	FEET



March 17, 2021

#### **ESTIMATE OF QUANTITIES**

BID ITEM	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
633E0040	Cold Applied Plastic Pavement Marking, Arrow	77	Each
633E0050	Cold Applied Plastic Pavement Marking, Message	2	Word
633E0055	Cold Applied Plastic Pavement Marking, Railroad Crossing	4	Each
633E3000	Durable Pavement Marking, 4" White	24,560	Ft
633E3005	Durable Pavement Marking, 4" Yellow	39,332	Ft
633E3010	Durable Pavement Marking, 8" White	920	Ft
633E3020	Durable Pavement Marking, 12" White	1,410	Ft
633E3030	Durable Pavement Marking, 24" White	1,490	Ft
633E3035	Durable Pavement Marking, 24" Yellow	1,019	Ft
633E3040	Durable Pavement Marking, Area	468	SqFt
633E5035	Grooving for Cold Applied Plastic Pavement Marking, Message	2	Word
633E5050	Surface Preparation for Pavement Marking	85,016	Ft
633E5051	Surface Preparation for Pavement Marking	468	SqFt
633E5052	Surface Preparation for Pavement Marking	81	Each
634E0010	Flagging	80.0	Hour
634E0110	Traffic Control Signs	500.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	2	Each
634E0420	Type C Advance Warning Arrow Board	2	Each

#### **SPECIFICATIONS**

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

#### **ENVIRONMENTAL COMMITMENTS**

The SDDOT is committed to protecting the environment and uses Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. 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:

<a href="https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf">https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf</a>

For guestions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Office 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 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 shall 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 Environment and Natural Resources (DENR) 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: http://sdleastwanted.com/maps/default.aspx

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

#### COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

#### Action Taken/Required:

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

#### Action Taken/Required:

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 Environment 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 completely 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 of time 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.

1.31.

contract items.

STATE OF	PROJECT	SHEET	TOTAL SHEETS
SOUTH DAKOTA	PH 0020(162)	2	35

#### COMMITMENT H: WASTE DISPOSAL SITE

REVISED 2/01/21 GDB

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

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

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-

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

#### COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical 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 of 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 will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for 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.

#### WORK DESCRIPTION

SD 37 - Work will include surface prep and applying durable pavement marking on edgelines, center lines, crosswalks, stop lines, turn arrows & railroad markings.

#### **GENERAL MAINTENANCE OF TRAFFIC**

The work will be done by mobile work operations for the long lines and lane closures for the hand work. Both operations will be done during daylight hours.

Sufficient quantities for Traffic Control signs have been included to sign for two lane closures for multi-lane highway. If the Contractor elects to use additional traffic control, the cost for additional traffic control devices or equipment will be incidental to the contract unit price per square foot for Traffic Control Signs.

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.

Traffic Control Signs, as shown in the Estimate of Quantities, are estimates. Contractor's operation may require adjustments in quantities, either more or less. Payment will be for those signs actually ordered by the Engineer and used.

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.

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.

#### 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.

If the surface prepped area is open to traffic or left overnight before the cold applied plastic pavement marking is applied, the surface will need to be lightly prepped or sandblasted prior to applying the cold applied plastic pavement marking.

STATE OF	PROJECT	SHEET	SHEETS
DAKOTA	PH 0020(162)	3	35

## ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		Ð	<b>KPRESSWAY</b>	/ INTERSTA	TE
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R2-1	SPEED LIMIT 45	4	36" x 48"	12.0	48.
R2-1	SPEED LIMIT 50	2	36" x 48"	12.0	24.
R2-6aP	FINES DOUBLE (plaque)	2	36" x 24"	6.0	12.
W3-5	SPEED REDUCTION A HEAD (45 MPH)	4	48" x 48"	16.0	64.
W4-2	LEFT or RIGHT LANE ENDS (symbol)	4	48" x 48"	16.0	64.
W4-3	ADDED LANE (symbol)	1	48" x 48"	16.0	16.
W9-3	CENTER LANE CLOSED AHEAD	2	48" x 48"	16.0	32.
W20-1	ROAD WORK AHEAD	6	48" x 48"	16.0	96.
W20-5	LEFT or RIGHT LANE CLOSED A HEAD	4	48" x 48"	16.0	64.
W20-7	FLAGGER (symbol)	4	48" x 48"	16.0	64.
G20-2	END ROAD WORK	2	48" x 24"	8.0	16.
	1	EXPRES TRAFFIC	SSWAY / INTE CONTROL SI	RSTATE IGNS SQFT	500.

STATE OF SOUTH		PROJECT	SHEET	TOTAL SHEETS
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**NOTE:** All pavement marking

dimensions are based on 12'

Pavement marking at On Ramps and at Off Ramps will be applied as detailed in these plans.

driving lanes.

DIVIDED ROADWAY (ONE DIRECTION SHOWN) Typical pavement marking as shown on this sheet will be applied throughout the entire length of divided roadway.

Traffic Control for mobile work operations wil be incidental to the cost of application. The striper and advance or trailing warning vehicle will be equipped with flashing amber lights and advance warning arrow board.

4" YELLOW - 2" from CL 4" YELLOW - 2" from CL 4" WHITE - 2" from joint 4" WHITE - 2" from joint 30' CURB & GUTTER & GUTTER 10' CURB 12' 11' 11' 12' 4" WHITE 4" WHITE SHOULDER SHOULDER £ 11'-8" 11'-8" 12' 12' 12' 12'

UNDIVIDED ROADWAY



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



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SD 37

	ESTIMATE OF QUANTIT	IES		
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$\begin{pmatrix} 4\\ W \end{pmatrix}$		FT	24560	
$(\frac{8}{W})$	DURABLE PAVEMENT MARKING	FT	920	
(12) W	DURABLE PAVEMENT MARKING	FT	1410	
$\begin{pmatrix} 4 \\ Y \end{pmatrix}$	DURABLE PAVEMENT MARKING	FT	39332	
(SW)	DURABLE PAVEMENT MARKING, AREA	SqFt	338	
(SY) A	DURABLE PAVEMENT MARKING, AREA	SqFt	130	
(24) W	DURABLE PAVEMENT MARKING 24" WHITE	FT	1490	
(24) Y	DURABLE PAVEMENT MARKING 24" YELLOW	FT	1019	
RXR	COLD APPLIED PLASTIC PVMT MKG RAILROAD CROSSING	EACH	4	
ONLY	COLD APPLIED PLASTIC PVMT MKG MESSAGE	WORD	2	
1	COLD APPLIED PLASTIC PVMT MKG ARROW (LEFT - 68 RIGHT - 9)	EACH	77	
		(9	-24	20+61-06' LT. 20+61-06' LT. 20+60 21+00
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SD 37



STATE OF	PROJECT	SHEET	TOTAL SHEETS
DAKOTA	PH 0020(162)	13	35
Plotting [	Date: 01/08/2021		
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	STATE OF	PROJECT	SHEET	TOTAL SHEETS	
	SOUTH DAKOTA	PH 0020(162)	14	35	
	Plotting D	ate: 01/08/2021			
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STATE OF	PROJECT	SHEET	TOTAL	
SOUTH DAKOTA	PH 0020(162)	16	35	
Plotting [	)ate: 01/08/2021			
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STATE OF	PROJECT	SHEET	TOTAL SHEETS	
DAKOTA	PH 0020(162)	17	35	
STATE OF SOUTH DAKOTA Plotting [ SC  "	PROJECT PH 0020(162) Date: 01/08/2021 ALE =40'	SHEET 17	SHEETS 35	PLOT NAME - 13
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	STATE OF	PROJECT		SHEET	TOTAL SHEETS
	SOUTH DAKOTA	PH 0020(16	52)	18	35
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STATE OF	PROJECT	SHEET	TOTAL	l
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SD 37

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SD 37				
  25+00	  26+00	 I 27+00	   28+00	I 29+00















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STATE OF	PROJECT	SHEET	TOTAL SHEETS
SOUTH DAKOTA	PH 0020(162)	29	35
Plotting	Date: 01/08/2021		



SCALE:

1 " = 40'

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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 bars, 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.

May 9, 2020 S PLATE NUMBER DDOT 633.10 PAVEMENT MARKINGS AT RAILROAD CROSSING Published Date: 4th Qtr. 2020 Sheet I of 2

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. 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".	Published Date: 4th Qtr. 2020	S D D O T	N	GUIDES Iobile	S F 0	r P
manner such that they	<ul> <li>are not obscured by equipment or supplies.</li> <li>Sign legends on vehicle- mounted signs will be covered or turned from view when work is not in progress.</li> <li>Shadow and Work vehicles will display high-intensity rotating, flashing,oscillating, or strobe lights, flags, signs, or arrow boards.</li> <li>Vehicle hazard warning signals will not be used instead of the vehicle's high-intensity rotating, flashing,oscillating, or strobe lights.</li> <li>Arrow boards will, as a minimum, be Type B, with a size of 60" x 30".</li> <li>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".</li> </ul>	50				







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PLOT NAME -











