

GROSS LENGTH 5.33 MILES

	STATE OF	PROJECT	SHEET	TOTAL
	SOUTH DAKOTA	014A-451	1	26
	Plotting Date:	06/07/2018		
IN 2 - 9 10 11 - 18 19 20 - 26	IDEX O Gen Estin Typi Plar Curt Star	F SHEETS eral Layout W/Index mate With General Notes cal Section Sheets Opening Detail ndard Plates	& Table	es ,
MRM BSONNEds JI MRM 48 JI BUTTE EDOY Sec 23 T005N R04E	Sec 14 TOO5N RO4E CREEK IN	END PROJEC MRM 48.35	I	1944 A

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

Estimate of Quantities

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E7150	Remove Sign for Reset	6	Each
110E7152	Remove Delineator for Reset	83	Each
120E0010	Unclassified Excavation	597	CuYd
230E0020	Contractor Furnished Topsoil	1,653	CuYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
380E1000	6" Miscellaneous PCC Pavement	169.0	SqYd
632E2100	Reset Delineator	83	Each
632E3500	Reset Sign	6	Each
634E0010	Flagging	320.0	Hour
634E0110	Traffic Control Signs	359.8	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0285	Type 3 Barricade, 8' Double Sided	3	Each
634E0420	Type C Advance Warning Arrow Board	2	Each
650E4390	Type D49 Concrete Curb and Gutter	8,538	Ft
650E4689	Modified Type P9 Concrete Gutter	456	Ft
730E0210	Type F Permanent Seed Mixture	93	Lb
731E0200	Fertilizing	2.69	Ton
732E0100	Mulching	7.2	Ton
734E0133	Type 3 Turf Reinforcement Mat	166.6	SqYd
734E0154	12" Diameter Erosion Control Wattle	730	Ft

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 Section A 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: http://www.sddot.com/resources/Manuals/EnvironProcManual.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 Office at 605-773-3098 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

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

Action Taken/Required:

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

COMMITMENT E: STORM WATER

Construction activities constitute 1 acre or more of earth disturbance and/or work in a waterway.

Action Taken/Required:

The DENR General Permit for Storm Water Discharges Associated with Construction Activities is required for construction activity disturbing one or more acres of earth and work in a waterway. The SDDOT is the owner of this permit and will submit the NOI to DENR 15 days prior to project start in order to obtain coverage under the General Permit. Work can begin once the DENR letter of approval is received.

The Contractor must adhere to the "Special Provision Regarding Storm Water Discharges to Waters of the State."

The Contractor will complete the DENR Contractor Certification Form prior to the pre-construction meeting. The form certifies under penalty of law that the Contractor understands and will comply with the terms and conditions of the permit for this project. Work may not begin on this project until this form is signed and submitted to DENR.

The form can be found at: http://denr.sd.gov/des/sw/eforms/E2110LDV1-ContractorCertification.pdf

The Contractor is advised that permit coverage may also be required for offsite activities, such as borrow and staging areas, which are the responsibility of the Contractor.

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ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

Storm Water Pollution Prevention Plan

The Storm Water Pollution Prevention Plan (SWPPP) will be developed prior to the submittal of the NOI and will be implemented for all construction activities for compliance with the permit. The SWPPP must be kept on-site and updated as site conditions change. Erosion control measures and best management practices will be implemented in accordance with the SWPPP.

The Storm Water, Erosion, and Sediment Control Inspection Report Form DOT 298, will be used for site inspections and to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents and retained for a minimum of three years.

The inspection will include disturbed areas of the construction site that have not been finally stabilized, areas used for storage materials, structural control measures, and locations where vehicles enter or exit the site. These areas will be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the SWPPP will be observed to ensure that they are operating correctly and sediment is not tracked off of the site.

Information on storm water permits and SWPPPs are available on the following websites:

SDDOT: <u>http://www.sddot.com/busi</u>ness/environmental/stormwater/Default.aspx

DENR: http://denr.sd.gov/des/sw/stormwater.aspx

EPA: https://www.epa.gov/npdes

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 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 shall 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: HISTORICAL PRESERVATION OFFICE CLEARANCES

State Historical Preservation Office (SHPO or THPO) concurrence has not been obtained for this project.

Action Taken/Required:

All earth disturbing activities 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.

The Contractor is responsible 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.

COMMITMENT S: FIRE PREVENTION IN THE BLACK HILLS AREA

This project is located within the Black Hills Forest Fire Protection Boundary.

Action Taken/Required:

The Contractor shall adhere to the "Special Provision for Fire Plan".

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UTILITIES

The Contractor shall contact the involved utility companies through South Dakota One Call (1-800-781-7474) prior to starting work. It shall be the responsibility of the Contractor to coordinate work with the utility owners to avoid damage to existing facilities.

Utilities are not planned to be affected on this project. 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 shall contact the Project Engineer to determine modifications that will be necessary to avoid utility impacts.

UNCLASSIFIED EXCAVATION

The quantity of Unclassified Excavation provided in these plans is for the necessary removal of asphalt surfacing and granular base materials required to install the new Curb and Gutter. The excavated material will be used to back fill the curb and gutter.

6" MISCELLANEOUS PCC PAVEMENT

The Contractor shall place steel bars in the joints between the 6" Miscellaneous PCC Pavement and the back of the Modified Type P9 Concrete Gutter. The bars shall be installed in accordance with Standard Plate 380.11. All costs to furnish and place the steel bars shall be incidental to the contract unit price per square yard for 6" Miscellaneous PCC Pavement. The purpose of placing the steel bars is to prevent any settlement that may occur at the joint.

CONTRACTOR FURNISHED TOPSOIL

The Contractor will be required to furnish and place 4 inches of topsoil 8' wide on erosion repair areas where curb and gutter is not being installed, additional topsoil is included in the estimate of quantities for areas with curb and gutter and areas as determined by the Engineer during construction.

Contractor furnished topsoil shall be free from clay lumps, stones, coarse gravel, or similar objects larger than 1/2 inch in diameter. Brush, stumps, roots, wood, objectionable weeds, litter, or any other material which may be harmful to plant growth will not be allowed. Organic material shall be decomposed.

All costs to furnish and place the Contractor furnished topsoil shall be incidental to the contract unit price per cubic yard for "Contractor Furnished Topsoil". The topsoil quantity for "Contractor Furnished Topsoil" as shown in the Estimate of Quantities will be measured in the hauling vehicle.

REMOVE AND REPLACE TOPSOIL

Prior to beginning curb and gutter installation, a 4" depth of topsoil shall be removed or bladed down the respective inslope and left in a windrow a maximum of 10' from the edge of the existing shoulder. Following completion of construction, topsoil shall be spread evenly over the disturbed areas.

The estimated amount of topsoil to be removed and replaced is 1110 CuYd.

All costs associated with removing and replacing the topsoil along areas to be resurfaced shall be incidental to the contract lump sum price for "Remove and Replace Topsoil".

MYCORRHIZAL INOCULUM

Mycorrhizal inoculum shall consist of mycorrhizal fungi spores and mycorrhizal fungi-infected root fragments in a solid carrier. The carrier may include organic materials, calcinated clay, or other materials consistent with application and good plant growth. The supplier shall provide certification of the fungal species claimed and the live propagule count. The inoculum shall include the following fungal species:

- 25% Glomus intraradices
- 25% Glomus aggregatum or deserticola
- 25% Glomus mosseae
- 25% Glomus etunicatum

All seed shall be inoculated by the seed supplier with a minimum of 100,000 live propagules of mycorrhizal fungi per acre. All costs of inoculating the seed shall be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

The mycorrhizal inoculum shall be as shown below or an approved equal:

<u>Product</u> MycoApply

Mycorrhizal Applications, Inc. Grants Pass, OR Phone: 1-866-476-7800

Manufacturer

AM 120 Multi Species Blend

Phone: 1-866-476-7800 www.mycorrhizae.com Reforestation Technologies Int. Gilroy, CA

Phone: 1-800-784-4769 www.reforest.com

PERMANENT SEEDING

FERTILIZING

equal:

The areas to be seeded consist of areas with minimal vegetation at various location within the project area. The Engineer will mark out the locations with minimal vegetation needing topsoil and seed.

Type F Permanent Seed Mixture shall consist of the following:

Grass Spec

Western Wheato

Green Needlegr

Sideoats Grama Blue Grama

Oats or Spring V April through Ma

Winter Wheat: A through Novemb

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The Contractor shall apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer shall have a minimum guaranteed analysis of 4-4-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 2.07%, a minimum of 4% (P2O5) available phosphate, a minimum of 4% (K2O) soluble potash, and a maximum carbon to nitrogen ratio (C:N ratio) of 5:1. The all-natural fertilizer shall be free of weed-seed and pathogens accomplished through thermophilic composting, and not mechanical or chemical sterilization, to assure presence of beneficial soil microbiology. The fertilizer shall have a near neutral pH, a low salt index, a low biological oxygen demand, contain organic humic and fulvic acids, and have high aerobic organism counts. The fertilizer shall also be stable, free of bad odors, and be unattractive as a food source for animals. It should also be in a granular form that is easily spread.

The fertilizer shall be applied at a rate of 1,500 pounds per acre in accordance with the manufacturer's recommended method of application.

The all-natural slow release fertilizer shall be as shown below or an approved

<u>Product</u>	<u>Manufacturer</u>
Sustane	Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 <u>www.sustane.com</u>
Perfect Blend	Perfect Blend, LLC Bellevue, WA Phone: 1-866-456-8890 www.perfect-blend.com

cies	Variety	Pure Live Seed (PLS) (Pounds/Acre)
grass	Arriba, Flintlock, Rodan, Rosana, Walsh	7
ass	Lodorm, AC Mallard Ecovar	4
l	Butte, Pierre	3
	Bad River	2
Vheat: ay; august per		10
	Total:	26

EROSION CONTROL WATTLE

Erosion control wattles for restraining the flow of runoff and sediment shall be installed at locations noted in the table and at locations determined by the Engineer during construction. Refer to Standard Plate 734.06 for details.

The Contractor shall provide certification that the erosion control wattles do not contain noxious weed seeds.

Erosion control wattles shall remain on the project to decompose.

The erosion control wattle provided shall be from the approved product list. The approved product list for erosion control wattle may be viewed at the following internet site:

http://sddot.com/business/certification/products/Default.aspx

TABLE OF QUANTITIES

																12"
							Type D49	Modified				Type F				Diameter
					Remove &	Contractor	Concrete	Type P9	6"	Remove &	Remove	Permanent			Type 3 Turf	Erosion
				Unclassified	Replace	Furnished	Curb &	Concrete	Miscellaneous	Reset	& Reset	Seed			Reinforcement	Control
Location to	Location	Length	Width	Excavation	Topsoil	Topsoil	Gutter	Gutter	PCC Pavement	Delineator	Sign	Mixture	Fertilizer	Mulching	Mat	Wattle
MRM	MRM	Ft	Ft	CuYd	CuYd	CuYd	ft	Ft	SqYd	Each	Each	Lb	Ton	Ton	SqYd	Ft
Westbound																
48.35	48.3	264	8			26				2		1.3	0.04	0.1		
47.06	46.85			82	140	107	1079	57	21.1	9	1	5.4	0.16	0.42	20.8	90
46.65	46.07	3062	8			302				7		14.6	0.42	1.12		
44.66	44.38	1478	8			146				6		7.1	0.2	0.54		
44.38	43.93			160	300	229	2314	114	42.3	5		11.6	0.33	0.89	41.7	180
43.93	43.71	1162	8			115						5.5	0.16	0.43		
43.55	43.18			95	178	67	1366	76	28.2	14	2	6.9	0.2	0.53	27.8	120
Eastbound																
43.02	43.17			54	101	39	784	38	14.1	3		3.9	0.11	0.3	13.9	60
43.65	43.85			59	113	42	860	57	21.1	7		4.4	0.13	0.34	20.8	90
44.36	44.59	1214	8			120				6		5.8	0.17	0.45		
44.68	44.9	1162	8			115				3		5.5	0.16	0.43		
45.03	45.07	211	8			21					1	1.0	0.03	0.08		
47.1	47.33			81	153	58	1183	57	21.1	7		5.9	0.17	0.46	20.8	90
47.54	47.92	2006	8			198						9.6	0.28	0.74		
47.94	48.05			40	76	28	574	38	14.1	9	2	2.9	0.08	0.22	13.9	60
48.13	48.26			26	49	19	378	19	7.0	5		1.9	0.05	0.15	6.9	40
48.27	48.31	211	8			21						1.0	0.03	0.08		
			Totals:	597	1110	1653	8538	456	169.0	83	6	93.3	2.69	7.2	166.6	730

ΓAL ETS
26

TRAFFIC CONTROL – GENERAL NOTES

Requests to deviate from the sequence of operations shall 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 shall be submitted for review a minimum of one week prior to potential implementation.

Unless otherwise stated in these plans, no work will be allowed during hours of darkness.

Existing guide, route, informational logo, regulatory, warning signs and delineation shall be temporarily reset and maintained during construction as directed by the Engineer. Removing, relocating, salvaging and resetting of the above items shall be the responsibility of the Contractor.

Non-applicable traffic control devices shall be completely covered or removed during periods of inactivity. Periods of inactivity shall be defined as no work taking place for a period of more than 2 calendar days.

All regulatory signs shall have a minimum mounting height of 5' in rural locations, even when mounted on portable supports.

All materials and equipment shall be stored a minimum distance of 30' from the traveled way during nonworking hours.

The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

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

All construction operations shall 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 shall be used, as determined by the Engineer.

Drums are required in all lane closure tapers.

Sufficient traffic control devices have been included in these plans to sign two lane closures. If the Contractor elects to work on additional sites simultaneously, the cost for additional traffic control devices shall be incidental to the contract unit price per square foot for "Traffic Control".

Reflectorized Drums shall be used for lane closure tapers or lane shift tapers.

TYPE C ADVANCE WARNING ARROW PANEL

The quantity of Type C Advance Warning Arrow Panels paid will be the most installations in place at any one time regardless of the number of setups on the project.

SHEETING FOR TRAFFIC CONTROL SIGNS

All fluorescent orange background material on traffic control signs, all temporary delineators, and all temporary STOP (R1-1), YIELD (R2-1), DO NOT ENTER (R5-1), and WRONG WAY (R5-1a) signs shall conform to the requirements of ASTM D4956 Type IX or XI. All other traffic control signs and background colors shall conform to the requirements of ASTM D4956 Type IV.

INVENTORY OF TRAFFIC CONTROL DEVICES

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		CONVENTIONAL ROAD)
Sign Code	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP	2	30"	5.2	10.4
R3-2	LEFT TURN PROHIBITION (symbol)	1	24" x 24"	4.0	4.0
R3-7R	RIGHT LANE MUST TURN RIGHT	1	30" x 30"	6.3	6.3
W1-3	REVERSE TURN (L or R)	2	48" x 48"	16.0	32.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W9-3	CENTER LANE CLOSED AHEAD	1	48" x 48"	16.0	16.0
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6.3	12.6
W20-1	ROAD WORK AHEAD	7	48" x 48"	16.0	112.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
W21-5	SHOULDER WORK	3	48" x 48"	16.0	48.0
G20-2	END ROAD WORK	5	36" x 18"	4.5	22.5
		CON TRAFF	Ventional IC Contro Sqft	Road L Signs	359.8

TYPE 3 BARRICADES

ITEM DESCRIPTION	QUANTITY
Type 3 Barricade, 8' Double Sided	3 Each

ARROW BOARDS

ITEM DESCRIPTION	QUANTITY
Type C Advance Warning Arrow Board	2 Each

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STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

(The numbers right of the title headings are reference numbers to the GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES

SITE DESCRIPTION (4.2 1)

- Project Limits: See Title Sheet (4.2 1.b)
- Project Description: See Title Sheet (4.2 1.a.)
- Site Map(s): See Title Sheet and Plans (4.2 1.f. (1)-(6)) \triangleright
- Major Soil Disturbing Activities (check all that apply) \triangleright
- Clearing and grubbing
- Excavation/borrow .
- Grading and shaping
- Filling
- Cutting and filling
- Other (describe):
- > Total Project Area 4.72 acre (4.2 1.b.)
- \geq Total Area To Be Disturbed 4.72 acre (4.2 1.b.)
- \geq Existing Vegetative Cover (%)
- \geq Soil Properties: AASHTO Soil or USDA-NRCS Soil Series (4.2 1. d.) assification
- Name of Receiving Water Body/Bodies none (4.2 1.e.)

ORDER OF CONSTRUCTION ACTIVITIES (4.2 1.c.)

(Stabilization measures shall be initiated as soon as possible, but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Initiation of final or temporary stabilization may exceed the 14-day limit if earth disturbing activities will be resumed within 21 days.)

- Remove and replace topsoil.
- Install curb and gutter.
- Reseed areas disturbed by removal activities. \geq

EROSION AND SEDIMENT CONTROLS (4.2 2.a.(1)(a)-(f))

(Check all that apply)

- > Stabilization Practices (See Detail Plan Sheets)
 - Temporary Seeding (Cover Crop Seeding)
 - Permanent Seeding •
 - Sodding
 - Planting (Woody Vegetation for Soil Stabilization) .
 - Mulching (Grass Hay or Straw)
 - Fiber Mulching (Wood Fiber Mulch)
 - Soil Stabilizer .
 - Bonded Fiber Matrix
 - Fiber Reinforced Matrix .
 - Erosion Control Blankets
 - Vegetation Buffer Strips
 - Surface Roughening (e.g. tracking)
 - Dust Control
 - Other:

> Structural Temporary Erosion and Sediment Controls

- Silt Fence
- Floating Silt Curtain
- Erosion Bales .
- Temporary Berm (Windrow)
- Temporary Slope Drain
- Erosion Control Wattles
- Temporary Sediment Barriers
- Turf Reinforcement Mat

- Riprap
- Gabions
- Rock Check Dams
- Sediment Traps/Basins .
- Culvert Inlet Protection
- Transition Mats
- Median/Area Drain Inlet Protection
- Curb Inlet Protection
- Stabilized Construction Entrances
- Entrance/Exit Equipment Tire Wash •
- Interceptor Ditch
- Concrete Washout Facility
- Temporary Diversion Channel
- Work Platform
- Temporary Water Barrier •
- Temporary Water Crossing
- Other:

> Wetland Avoidance

Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes No If yes, the structural and erosion and sediment controls have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.

Storm Water Management (4.2 2.b., (1) and (2)) \geq

Storm water management will be handled by temporary controls outlined in "EROSION AND SEDIMENT CONTROLS" above, and any permanent controls needed to meet permanent storm water management needs in the post construction period. Permanent controls will be shown on the plans and noted as permanent.

> Other Storm Water Controls (4.2 2.c., (1) and (2))

Waste Disposal

All liquid waste materials will be collected and stored in sealed metal containers approved by the project engineer. All trash and construction debris from the site will be deposited in the approved containers. Containers will be serviced as necessary, and the trash will be hauled to an approved disposal site or licensed landfill. All onsite personnel will be instructed in the proper procedures for waste disposal, and notices stating proper practices will be posted in the field office. The general Contractor's representative responsible for the conduct of work on the site will be responsible for seeing waste disposal procedures are followed.

Hazardous Waste

All hazardous waste materials will be disposed of in a manner specified by local or state regulations or by the manufacturer. Site personnel will be instructed in these practices, and the individual designated as the Contractor's on-site representative will be responsible for seeing that these practices are followed.

Sanitary Waste

Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units in a timely manner by a licensed waste management Contractor or as required by any local regulations.

MAINTENANCE AND INSPECTION (4.2 3. and 4.2 4.) > Maintenance and Inspection Practices

- - report.

- DOT 298.

NON-STORM WATER DISCHARGES (3.0)

- \geq
- activities.

 \geq

Paints

Wood

Texture

Cure

Other:

Metals

 \geq

 \geq

 \geq

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Inspections will be conducted at least one time per week and after a storm event of 0.50 inches or greater.

All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection

Silt fence will be inspected for depth of sediment and for tears in order to ensure the fabric is securely attached to the posts and that the posts are well anchored. Sediment buildup will be removed from the silt fence when it reaches $\frac{1}{3}$ of the height of the silt fence.

Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction. Check dams will be inspected for stability. Sediment will be removed when depth reaches $\frac{1}{2}$ the height of the dam.

All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.

Inspection and maintenance reports will be prepared on form DOT 298 for each site inspection, this form will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.

The SDDOT Project Engineer and Contractor's Erosion Control Supervisor are responsible for inspections. Maintenance, repair activities are the responsibility of the Contractor. The SDDOT Project Engineer will complete the inspection and maintenance reports and distribute copies per the distribution instructions on

The following non-storm water discharges are anticipated during the course of this project (check all that apply).

 \succ Discharges from water line flushing.

> Pavement wash-water, where no spills or leaks of toxic or hazardous materials have occurred.

Uncontaminated ground water associated with dewatering

MATERIALS INVENTORY (4.2. 2.c.(2))

The following materials or substances are expected to be present on the site during the construction period. These materials will be handled as noted under the headings "EROSION AND SEDIMENT CONTROLS" and "SPILL PREVENTION" (check all that apply). Concrete and Portland Cement Detergents

Bituminous Materials Petroleum Based Products Cleaning Solvents

Chemical Fertilizers

SPILL PREVENTION (4.2 2.c.(2))

- > Material Management
 - Housekeeping
 - Only needed products will be stored on-site by the Contractor.
 - Except for bulk materials the contractor will store all materials under cover and in appropriate containers.
 - Products must be stored in original containers and labeled.
 - Material mixing will be conducted in accordance with the manufacturer's recommendations.
 - When possible, all products will be completely used before properly disposing of the container off-site.
 - The manufacturer's directions for disposal of materials and containers will be followed.
 - The Contractor's site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
 - Dust generated will be controlled in an environmentally safe manner.
 - Vegetation areas not essential to the construction project will be preserved and maintained as noted on the plans.
 - Hazardous Materials
 - Products will be kept in original containers unless the container is not resealable.
 - Original labels and material safety data sheets will be retained in a safe place to relay important product information.
 - If surplus product must be disposed of, manufacturer's label directions for disposal will be followed.
 - Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, degreasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants will be conducted on an impervious surface and under cover during wet weather to prevent the release of contaminants onto the ground.
 - Wheel wash water will be collected and allowed to settle out suspended solids prior to discharge. Wheel wash water will not be discharged directly into any storm water system or storm water treatment system.
 - Potential pH-modifying materials such as: bulk cement, cement kiln dust, fly ash, new concrete washings, concrete pumping, residuals from concrete saw cutting (either wet or dry), and mixer washout waters will be collected on site and managed to prevent contamination of storm water runoff.

Product Specific Practices (6.8)

Petroleum Products •

> All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled.

Fertilizers

Fertilizers will be applied only in the amounts specified by the SDDOT. Once applied, fertilizers will be worked into the soil to limit the exposure to storm water. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.

All containers will be tightly sealed and stored when not required for use. The excess will be disposed of according to the manufacturer's instructions and any applicable state and local regulations.

Concrete Trucks

Contractors will provide designated truck washout facilities on the site. These areas must be self-contained and not connected to any storm water outlet of the site. Upon completion of construction, the area at the washout facility will be properly stabilized.

Spill Control Practices (4.2 2 c.(2)) \geq

In addition to the previous housekeeping and management practices, the following practices will be followed for spill prevention and cleanup if needed.

- For all hazardous materials stored on site, the manufacturer's recommended methods for spill cleanup will be clearly posted. Site personnel will be made aware of the procedures and the locations of the information and cleanup supplies.
- Appropriate cleanup materials and equipment will be maintained by the Contractor in the materials storage area on-site. As appropriate, equipment and materials may include items such as brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for cleanup purposes.
- All spills will be cleaned immediately after discovery and the materials disposed of properly.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- After a spill a report will be prepared describing the spill, what caused it, and the cleanup measures taken. The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, as well as clean up instructions in the event of reoccurrences.
- The Contractor's site superintendent, responsible for day-to-day operations, will be the spill prevention and cleanup coordinator. The Contractor is responsible for ensuring that the site superintendent has had appropriate training for hazardous materials handling, spill management, and cleanup.

Spill Response (4.2 2 c.(2))

The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens storm water or surface water at the site, the spill response procedures outlined below must be implemented in a timely manner to prevent the release of pollutants.

- The Contractor's site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
- If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
- Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the Contractor at the site.

- activities.

SPILL NOTIFICATION

In the event of a spill, the Contractor's site superintendent will make the appropriate notification(s), consistent with the following procedures:

- - safety.

- gallons).

To report a release or spill, call DENR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central time). To report the release after hours, on weekends or holidays, call State Radio Communications at 605-773-3231. Reporting the release to DENR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, the responsible person must also contact local authorities to determine the local reporting requirements for releases. DENR recommends that spills also be reported to the National Response Center at (800) 424-8802.

CONSTRUCTION CHANGES (4.4)

When changes are made to the construction project that will require alterations in the temporary erosion controls of the site, the Storm Water Pollution Prevention Plan (SWPPP) will be amended to provide appropriate protection to disturbed areas, all storm water structures, and adjacent waters. The SDDOT Project Engineer will modify the SWPPP plan (DOT 298) and drawings to reflect the needed changes. Copies of changes will be routed per DOT 298. Copies of forms and the SWPPP will be retained in a designated place for review over the course of the project.

Paints

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If oil sheen is observed on surface water (e.g. settling ponds, detention ponds, swales), action will be taken immediately to remove the material causing the sheen. The Contractor will use appropriate materials to contain and absorb the spill. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.

If a spill occurs the superintendent or the superintendent's designee will be responsible for completing the spill reporting form and for reporting the spill to SD DENR.

Personnel with primary responsibility for spill response and clean up will receive training by the Contractor's site superintendent or designee. The training must include

identifying the location of the spill kits and other spill response equipment and the use of spill response materials.

Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response

> A release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to DENR immediately if any one of the following conditions exists:

The discharge threatens or is in a position to threaten the waters of the state (surface water or ground water).

The discharge causes an immediate danger to human health or

The discharge exceeds 25 gallons.

The discharge causes a sheen on surface water.

The discharge of any substance that exceeds the ground water quality standards of ARSD (Administrative Rules of South Dakota) chapter 74:51:01.

The discharge of any substance that exceeds the surface water quality standards of ARSD chapter 74:51:01.

The discharge of any substance that harms or threatens to harm wildlife or aquatic life.

The discharge of crude oil in field activities under SDCL (South Dakota Codified Laws) chapter 45-9 is greater than 1 barrel (42

CERTIFICATIONS

Certification of Compliance with Federal, State, and Local Regulations

The Storm Water Pollution Prevention Plan (SWPPP) for this project reflects the requirements of all local municipal jurisdictions for storm water management and sediment and erosion control as established by ordinance, as well as other state and federal requirements for sediment and erosion control plans, permits, notices or documentation as appropriate.

> South Dakota Department of Transportation

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Ton hall

Authorized Signature (See the General Permit, Section 6.9.1.C.)

> Prime Contractor

This section is to be executed by the General Contractor after the award of the contract. This section may be executed any time there is a change in the Prime Contractor of the project.

I certify under penalty of law that this document and all attachments will be revised or maintained under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Signature

CONTACT INFORMATION

- > Contractor Information:
 - Prime Contractor Name: ______
 - Contractor Contact Name: ______
 - Address: ______
 - •
 - City: _____State: ____Zip: _____
 - Office Phone: _____ Field: _____
 - Cell Phone: _____Fax:
- Erosion Control Supervisor
 - Name:
 - Address:
 - •
 - City: _____State: ____Zip: _____
- Office Phone: ______Field: ______
- Cell Phone: _____Fax:
- > SDDOT Project Engineer
 - Name: ______
 - Business Address: ______
 - Job Office Location:
 - City: _____State: ____Zip: _____
 - Office Phone: Field:
 - Cell Phone: _____Fax:
- > SD DENR Contact Spill Reporting
 - Business Hours Monday-Friday (605) 773-3296
 - Nights and Weekends (605) 773-3231
- > SD DENR Contact for Hazardous Materials.
- (605) 773-3153
 National Response Center Hotline
 - (800) 424-8802.

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TYPICAL SECTION



Proposed Section 10' 28' to 34' - Shoulder 2.7' 4' 24' to 30' Backfill Type D49 Curb & Gutter င္ Edge of Shoulder Saw Cut Asphalt at this Line and Install Curb and Type D49 Curb & Gutter Gutter against Existing Asphalt

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Eastbound MRM 43.02 to MRM 43.17 Curb Opening (See Curb Opening Detail) Install 12" Diameter Erosion Control Wattles at the following locations: 99+00 ± R 30 FT 103+00 ± R 30 FT egends Ln - Curb Opening (See Curb Opening Detail) 100+00 105+00 Two Bit Rd 28 ' 6 ′ 385 ′ 392 ' Type D49 Curb & Gutter Type D49 Curb & Gutter - Type D49 Curb & Gutter

12" Erosion Control Wattle

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MODIFIED TYPE P9 CONCRETE GUTTER



TRANSVERSE SECTION

The stated radii on the plans and cross sections refer to this line and it shall also be the basis for horizontal linear foot measurement and payment.



GENERAL NOTES:

The concrete for the Modified Type P9 Concrete Gutter shall comply with the requirements of the Standard Specifications for Class M6 Concrete.

When concrete gutter longitudinally adjoins new concrete pavement, the method of attachment shall be by one of the methods shown on Standard Plate 380.11.

Transverse contraction joints shall be constructed at 10' intervals in the concrete gutter except when concrete gutter is constructed adjacent to mainline PCC pavement. When concrete gutter is constructed adjacent to mainline PCC pavement, a transverse contraction joint shall be constructed in the concrete gutter at each mainline PCC pavement transverse contraction joint location.

When concrete gutter is placed monolithically with mainline PCC pavement, the transverse contraction joints in the concrete gutter shall be sawed and sealed the same as the transverse contraction joints in the mainline PCC pavement.

When concrete gutter is not placed monolithically with the mainline PCC pavement and when the adjacent mainline surfacing is not PCC concrete, the transverse contraction joints in the concrete gutter shall be 1 1/2 inches deep if formed in the fresh concrete using a suitable grooving tool. If a saw is used to cut the contraction joints, then the depth of the joint shall be at least 1/4 the thickness of the concrete.





CURB OPENING DETAILS



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The channelizing devices shall be drums or 42" cones if traffic control must remain

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

Worker signs (W2I-I or W2I-Ia) 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

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.

June 3. 2016

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GENERAL	NOTES:
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At cut or fill slope installations, wattles shall be installed along the contour and perpendicular to the water flow.

At ditch installations, point A must be higher than point B to ensure that water flows over the wattle and not around the ends.

The Contractor shall dig a 3" to 5" trench, install the wattle tightly in the trench so that daylight can not be seen under the wattle, and then compact the soil excavated from the trench against the wattle on the uphill side. See Detail B.

The stakes shall be 1"x2" or 2"x2" wood stakes, however, other types of stakes such as rebar may be used only if approved by the Engineer. The stakes shall be placed 6" from the ends of the wattles and the spacing of the stakes along the wattles shall be 3' to 4'.

Where installing running lengths of wattles, the Contractor shall butt the second wattle tightly against the first and shall not overlap the ends. See Detail C.

The Contractor and Engineer shall inspect the erosion control wattles once every week and within 24 hours after every rainfall event greater than $\frac{1}{2}$. The Contractor shall remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

Sediment removal, disposal, or necessary shaping shall be as directed by the Engineer. All costs for removing accumulated sediment, disposal of sediment, and necessary shaping shall be incidental to the contract unit price per cubic yard for "Remove Sediment".

All costs for furnishing and installing the erosion control wattles including labor, equipment, and materials shall be incidental to the contract unit price per foot for the corresponding erosion control wattle bid item.

All costs for removing the erosion control wattle from the project including labor, equipment, and materials shall be incidental to the contract unit price per foot for "Remove Erosion Control Wattle".

Published Date: 2nd Qtr. 2018	0 T		Sheet 2 of 2
	S D D	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			December 23, 2004

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