

# LOCATION MAP

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		STATE OF	PROJECT	SHEET	TOTAL SHEETS
DSES ONLY DAKOTA		DAKOTA	BRO 8052(75)	1	49
		REVISED 0	5/03/2024		
	11		OF SHEETS		
	SHEET NO	0. 1	COVER SHEET		
Т	SHEET NO	. 2	ESTIMATED QUANTITI	ES	
	SHEET NO	. 3-5	ENVIRONMENTAL COI	ммітм	ENTS
	SHEET NO	0.6-7	GENERAL NOTES		
	SHEET NO	. 8-14	EROSION CONTROL/S	WPP N	<b>IOTES</b>
	SHEET NO	). 15	ROADWAY TYPICALS		
	SHEET NO	0. 16	TRAFFIC CONTROL		
	SHEET NO	0. 17-18	EROSION CONTROL		
	SHEET NO	0. 19	GEOMETRIC CONTRO	L	
	SHEET NO	0. 20	PLAN AND PROFILE		
	SHEET NO	0. 21	PAVING DETAILS		
	SHEET NO	0. 22	ROW		
	SHEET NO	. 23-31	STANDARD PLATES		
	SHEET NO	. 32-47	STRUCTURE SHEETS		
	SHEET NO	. 48-49	CROSS SECTIONS		





# ESTIMATE OF QUANTITIES

#### PCN 0862 Grading

BID ITEM	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3200	Construction Staking	Lump Sum	LS
009E3301	Engineer Directed Surveying/Staking	20.0	Hour
100E0020	Clear and Grub Tree	4	Each
100E0100	Clearing	Lump Sum	LS
110E1010	Remove Asphalt Concrete Pavement	332.5	SqYd
110E1100	Remove Concrete Pavement	332.5	SqYd
110E1130	Remove Concrete Driveway Pavement	12.5	SqYd
110E1140	Remove Concrete Sidewalk	108.8	SqYd
110E1690	Remove Sediment	0.2	CuYd
110E1700	Remove Silt Fence	49	Ft
* 110E7800	Remove Chain Link Fence for Reset	40	Ft
120E0010	Unclassified Excavation	357	CuYd
120E6300	Water for Vegetation	6.4	MGal
210E3510	Heavy Roadway Shaping	398.0	SqYd
230E0010	Placing Topsoil	100	CuYd
260E2010	Gravel Cushion	129.8	Ton
* 380E0070	9" Nonreinforced PCC Pavement	256.2	SqYd
* 380E3020	6" PCC Driveway Pavement	12.5	SqYd
380E6000	Dowel Bar	90	Each
600E0100	Type I Field Laboratory	1	Each
* 621E0520	Reset Chain Link Fence	40	Ft
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	12	Each
634E1002	Detour and Restriction Signing	207.0	SqFt
650E0390	Type BL69 Concrete Curb and Gutter	151	Ft
* 651E0040	4" Concrete Sidewalk	717	SqFt
• 651E0060	6" Concrete Sidewalk	151	SqFt
730E0206	Type D Permanent Seed Mixture	8	Lb
731E0100	Fertilizing	40	Lb
732E0100	Mulching	0.4	Ton
733E0100	Sodding	352	SqYd
734E0102	Type 2 Erosion Control Blanket	126	SqYd
734E0154	12" Diameter Erosion Control Wattle	75	Ft
734E0165	Remove and Reset Erosion Control Wattle	19	Ft
734E0325	Surface Roughening	0.1	Acre
734E0510	Shaping for Erosion Control Blanket	75	Ft
734E0602	Low Flow Silt Fence	197	Ft
734E0610	Mucking Silt Fence	14	CuYd
734E0620	Repair Silt Fence	49	Ft
734E5010	Sweeping	8	Hour
. 900E1080	Orange Plastic Safety Fence	600	Ft

#### Str. No. 52-375-296

BID ITEM	ITEM	QUANTITY	UNIT
009E5000	Concrete Penetrating Sealer	288.0	SqYd
250E0030	Incidental Work, Structure	Lump Sum	LS
420E0200	Structure Excavation, Box Culvert	122	CuYd
421E0200	Box Culvert Undercut	173	CuYd
430E0300	Granular Bridge End Backfill	157.5	CuYd
460E0120	Class A45 Concrete, Box Culvert	230.7	CuYd
460E0150	Concrete Approach Slab for Bridge	75.8	SqYd
460E0160	Concrete Approach Sleeper Slab for Bridge	33.9	SqYd
470E0040	Steel Pedestrian Railing	123.0	Ft
480E0100	Reinforcing Steel	4,668	Lb
480E0200	Epoxy Coated Reinforcing Steel	28,875	Lb
651E0180	8" Reinforced Concrete Sidewalk	204	SqFt
680E0040	4" Underdrain Pipe	184	Ft
680E2500	Porous Backfill	18.7	Ton
734E0135	Turf Reinforcement Mat	151	SqYd
900E0900	Curb Stop	8	Each

\* - Denotes Non-Participating

# **SPECIFICATIONS**

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



#### **ENVIRONMENTAL COMMITMENTS**

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

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

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

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

#### COMMITMENT 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.

#### 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: < http://sdleastwanted.sd.gov/maps/default.aspx >

< https://sdlegislature.gov/rules/DisplayRule.aspx?Rule=41:10:04 >

#### COMMITMENT D: WATER QUALITY STANDARDS

#### COMMITMENT D1: SURFACE WATER QUALITY

This project may be in the vicinity of multiple streams and wetlands. These waters are considered waters of the state and are protected under Administrative Rules of South Dakota (ARSD) Chapter 74:51. Special construction measures may have to be taken to ensure that this water body is not impacted.

#### Action Taken/Required:

The Contractor is advised that the South Dakota Surface Water Quality Standards, administered by the South Dakota Department of Agriculture and Natural Resources (DANR), apply to this project. Special construction measures will be taken to ensure the above standard(s) of the surface waters are maintained and protected.

#### COMMITMENT D2: SURFACE WATER DISCHARGE

The DANR General Permit for Temporary Discharge is required for temporary dewatering and discharges to waters of the state. The effluent limit for total suspended solids will be 90 mg/L 30-day average. The effluent limit applies to discharges to all waters of the state except discharges to waters classified as cold water permanent fish life propagation waters according to the ARSD 74:51:01:45. For discharges to waters of the state classified as cold water permanent fish life propagation waters, the effluent limit for total suspended solids will be 53 mg/L daily maximum.

The permittee has the option of completing effluent testing or implementing a pollution prevention plan for compliance with this permit. If the permittee develops a pollution prevention plan instead of total suspended solids sampling, the plan must be developed and implemented prior to discontinuing total suspended solids sampling. Refer to Section 4.0 of the permit. If any pollutants are suspected of being discharged, a sample must be taken for those parameters listed in Section 3.4 of the permit.

Refer to Commitment D1: Surface Water Quality for stream classification.

#### Action Taken/Required:

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If construction dewatering is required and this project is currently covered under a General Permit for Stormwater Discharges Associated with Construction Activities, the contractor will need to submit the dewatering information to the SDDANR using the following form:

<https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/docs/DANR AddTe mpInfoFillable.pdf >

The Contractor will provide a copy of the approved permit or the submitted dewatering information to the Project Engineer prior to proceeding with any dewatering activities. The approved permit or submitted dewatering information must be kept on-site and as part of the project records.

Effluent monitoring, as a result of dewatering activities, will be summarized for each month and recorded on a separate Discharge Monitoring Report (DMR) and submitted to DANR monthly. Additional information can be found at:

https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/swdpermitting/Erepo rting.aspx >

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# COMMITMENT E: STORM WATER

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

# Action Taken/Required:

The DANR General Permit for Stormwater 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 DANR 15 days prior to project start in order to obtain coverage under the General Permit. Work can begin once the DANR letter of approval is received.

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

signed and submitted to DANR. The form can be found at: ppendixCCA2018Fillable.pdf >

of the Contractor.

## **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 DOT 298 Form 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 the site.



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The Contractor will complete the DANR 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

<https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/docs/DANR CGPA

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



# FOR BIDDING PURPO

#### Storm Water Pollution Prevention Plan, continued

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

SDDOT: < https://dot.sd.gov/doing-business/environmental/stormwater >

DANR:<

https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/stormwater/default.a spx > Storm Water Pollution Prevention Plan (cont.)

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 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 150 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 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 K: RAPID CITY AREA AIR QUALITY CONTROL ZONE

Administrative Rule of South Dakota (ARSD) 74:36:18:03 states that "no state facility or state contractor may engage in any construction activity or continuous operation activity within the Rapid City air quality control zone which may cause fugitive emissions of particulate to be released into the ambient air without first obtaining a permit issued by the board or the secretary."

Construction activity is defined as any temporary activity which involves the removal or alteration of the natural or pre-existing cover of one acre or more of land. One acre of surface area is based on a cumulative area of disturbance to be completed for the entire project. Construction activity will include, but not be limited to, stripping of topsoil, drilling, blasting, excavation, dredging, ditching, grading, street maintenance and repair, or earth moving. It also includes stockpiles, access roads, and disposal areas. An off-site disposal area of excess material will require an additional permit.

#### Action Taken/Required:

To be considered eligible for authorization to conduct a construction activity under the terms and conditions of this permit, the owner operator must submit a Notice of Intent (NOI) form. The form must be submitted to the address below at least seven business days prior to the anticipated date of beginning the construction activity.

South Dakota Department of Agriculture and Natural Resources Air Quality Program, 523 East Capitol, Joe Foss Building, Pierre, SD 57501-3181, Phone: 605-773-3151.

The permit requires the Contractor to use reasonably available technology to control fugitive dust emissions. The Contractor is required to use control measures for track out, paved areas, unpaved roads, unpaved parking lots, disturbed areas, and for material handling and storage. The control measures that the Contractor is required to use are listed in the permit.

The Rapid City Air Quality Permit will need to be renewed annually by the Contractor until construction activities are completed.

The online form can be found at:< <u>https://danr.sd.gov/Environment/AirQuality/PermitForms/Forms/NOIConstruction%2021.docx</u> >

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# FOR BIDDING PURPO

#### **SHRINKAGE FACTOR:** Embankment +35%

#### CITY RESPONSIBILITIES

Rapid City will be responsible for the following at no cost to the Contractor:

- Right of way and temporary and permanent easements -
- Coordination of any utility adjustments
- Furnish and install temporary and/or permanent fencing. -
- Remove and reinstall permanent fencing -
- Removal and Reinstallation of permanent signing
- Remove silt fence in permanently seeded areas

#### **GRADING OPERATIONS**

Water for Embankment is estimated at the rate of 10 gallons of water per cubic yard of Embankment minus Waste.

Special ditch grades and other sections of the roadway different than the typical section will be constructed to the limits shown on the cross sections. If significant changes to the cross sections are necessary during construction, the Engineer will contact the Designer for the proposed change.

#### UTILITIES

The Contractor will be aware that the existing utilities shown in the plans were surveyed prior to the design of this project and might have been relocated or replaced by a new utility facility prior to construction of this project, might be relocated or replaced by a new utility facility during the construction of this project, or might not require adjustment and may remain in its current location. The Contractor will contact each utility owner and confirm the status of all existing and new utility facilities. The utility contact information is provided elsewhere in the plans or bidding documents.

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.

ML Excavation	0	CY	ML Embankment +35%	0	CY
RCB Excavation	257	CY	RCB Embankment +35%	0	CY
Topsoil Strip	100	CY	Topsoil Fill	100	CY
Contractor Borrow	0	CY	Contractor Waste	257	CY
Total	357	CY	Total	357	CY

EARTHWORK BALANCE and TABLE OF UNCLASSIFIED EXCAVATION

#### TABLE OF UNCLASSIFIED EXCAVATION

	(CuYd)
Excavation	Ó
Undercut	0
Undercutting Select Topping	0
Select Subgrade Topping Excavation	0
Topsoil	100
Exc. For RCBC Installation	257
Exc. For Deep Pipe & RCBC Removal	0
Exc. To Place Traffic Diversion	0
Exc. To Remove Traffic Diversion	0
Diversion Pipe Excavation	0
Exc. For Granular Bridge End Backfill	0
and/or Bridge End Embankment	
Exc. For Bridge Berm(s) between	0
bridge abutments and channel shaping	
Total	357

#### PROCEDURES FOR DETERMINING UNCLASSIFIED EXCAVATION QUANTITY

When plan quantities are used for payment, the Unclassified Excavation quantity will be used for final payment and the plans quantity of Topsoil and salvaged surfacing items listed in the Table of Unclassified Excavation will not be adjusted according to field measurements.

The Contractor will be responsible for finding a suitable waste site outside of the project right-of-way for excavated material not incorporated into the project. Payment for disposal of waste material will be considered incidental to Unclassified Excavation.

# INSTALLATION

Included in the quantity of "Unclassified Excavation" are 257 cubic yards of excavation for installation of reinforced concrete box culverts.

All work necessary to excavate a trench for installation of reinforced concrete box culverts including labor, equipment, and incidentals will be incidental to the contract unit price per cubic yard for "Unclassified Excavation". Payment for excavation of reinforced concrete box culverts will be based only on plans quantity and measurement of these excavation quantities during construction will not be performed.

The excavation quantities for installation of reinforced concrete box culverts are not included with the earthwork balance quantities on the plans profile sheets. The quantities computed for excavation of the reinforced concrete box culverts are based on the limits shown in the drawing below.



# INSTALLATION

	(
Station	(
6+60	2

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# EXCAVATION FOR REINFORCED CONCRETE BOX CULVERT

TABLE OF EXCAVATION FOR REINFORCED CONCRETE BOX CULVERT

Quantity (CuYd) 257



#### TRAFFIC CONTROL NOTES

#### **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.

#### **DETOUR SIGNING**

The Contractor will furnish and install the detour signs as shown in these plans. Prior to installing the signs, the Contractor will mark the sign locations and review them with the Engineer. Detour signs will be installed on fixed location, ground mounted, breakaway supports. It will be the responsibility of the Contractor to maintain and reinstall these signs during the project as required by the construction progress. Upon completion of the project, the Contractor will remove the detour signs.

All costs for furnishing the signs, posts, and mounting hardware, and for installing, maintaining, covering, and removing the detour signs will be incidental to the contract unit price per square foot for "Detour and Restriction Signing".

#### TRAFFIC CONTROL SIGNAGE

Traffic control shall be in accordance with Standard Plate 634.29

#### ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

			CONVENTIO	NAL ROAD	
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R9-9	SIDEWALK CLOSED	4	24" x 12"	2.0	8.0
R11-2	ROAD CLOSED	2	48" x 30"	10.0	20.0
R11-3a	ROAD CLOSED FEET AHEAD LOCAL TRAFFIC ONLY	2	60" x 30"	12.5	25.0
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-2	DETOUR AHEAD	2	48" x 48"	16.0	32.0
M4-8a	END DETOUR	2	24" x 18"	3.0	6.0
M4-10	DETOUR ARROW (L or R)	8	48" x 18"	6.0	48.0
SPECIAL	SAN MARCO BLVD	6	48" x 18"	6.0	36.0
		CON TRAFFIC	VENTIONAL CONTROL SI	ROAD IGNS SQFT	207.0

#### **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 plate **F**, **@R BIDDING PURPOSES ONL** 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 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.



#### TRANSVERSE CONTRACTION JOINTS

Unless specified otherwise in the PCC Pavement Joint Layout Sheets or elsewhere in the plans, the typical joint spacing for the 9" Nonreinforced PCC Pavement will be 15'.

See Standard Plate 380.01 for placement of Dowel Bars. The transverse construction joints will be handled in accordance with Standard Plate 380.08.

The transverse contraction joints will be perpendicular to the centerline. In multilane areas the transverse contraction joints will be perpendicular to the centerline and be in a straight line across the entire width of pavement. In special situations the Engineer may pre-approve transverse contraction joints that do not meet these requirements. All nonconforming transverse contraction joints will be removed at the Contractor's expense. Any method of placement that cannot produce these requirements will not be allowed.

#### **9" NONREINFORCED PCC PAVEMENT**

The aggregate may require screening as determined by the Engineer.

The concrete used in the Portland Cement Concrete Pavement will conform to Section 380, contain a minimum of 600 lbs of cement, and 20% fly ash. The concrete will contain at least 55% coarse aggregate. The use of a water reducer at manufacturers recommendations will be required. The concrete will obtain a minimum 4,000 psi at 28 days. The contractor is responsible for the mix design used. The contractor will submit a mix design for approval at least 2 weeks prior to use.

There will be no direct payment for trimming of the gravel cushion for PCC pavement. The trimming will be considered incidental to the related items required for PCC Pavement.

A construction joint will be sawed whenever new concrete pavement is placed adjacent to existing concrete pavement.

The surface of the mainline paving will be a heavy carpet drag. All other areas will be textured as directed by the Engineer. The surface of the mainline paving will receive a heavy carpet drag to within 2 or 3 feet of the face of the curb.

Unless specified otherwise in the PCC Pavement Joint Layout Sheets or elsewhere in the plans, the typical joint spacing for 9" Nonreinforced PCC Pavement will be 15' Joint spacing in the PCC Shoulder Pavement will match adjacent mainline pavement.

See Standard Plate 380.01 for placement of Dowel Bars. The transverse construction joints will be handled in accordance with Standard Plate 380.15.

The transverse contraction joints will be perpendicular to the centerline. In multilane areas the transverse contraction joints will be perpendicular to the centerline and be in a straight line across the entire width of the pavement. In special situations the Engineer may pre-approve transverse contraction joints that do not meet these requirements. All nonconforming transverse contraction joints will be removed at the Contractor's expense. Any method of placement that cannot produce these requirements will not be allowed.

The location of joints, as shown and designated on the PCC Pavement Joint Layout(s) are only approximate locations to be used as a guide and to afford bidders a basis for estimating the construction cost of the joints. The final locations of the joints are to be designated by the Engineer during construction.

#### CURB AND GUTTER

The curb and gutter cannot be placed monolithically and must be placed with a separate operation according to Standard Plate 380.21.

#### **CURING OF CONCRETE**

Portland Cement Concrete Pavement, Concrete Curb & Gutter, Concrete Gutter, and Concrete Fillet will be cured with Linseed Oil Base Emulsion Compound. All costs for Curing of Concrete will be incidental to the contract unit price per various Portland Cement Concrete bid items.

#### **ALKALI SILICA REACTIVITY**

Fine aggregate will conform to Section 800.2 D Alkali Silica Reactivity (ASR) Requirements.

Below is a list of known fine aggregate sources and the average corresponding 14-day expansion values (as of 8/23/2022):

Source	<u>Location</u>	Expansion Value
Bachman	Winner, SD	0.335*
Bitterman	Delmont, SD	0.316*
Concrete Materials	Corson, SD	0.146
Concrete Materials - Vellek Pit	Yankton, SD	0.411**
Croell	Hot Springs, SD	0.089
Croell	Wasta, SD	0.212
Emme Sand & Gravel	Oneil, NE	0.217
Fisher S&G - Mickelson Pit	E of Nisland, SD	0.129
Fisher S&G - Vallery Pit	Nisland, SD	0.110
Fisher S&G	Rapid City, SD	0.092
Fisher S&G	Spearfish, SD	0.053
Fisher S&G	Wasta, SD	0.159
Fuchs	Pickstown, SD	0.275*
Higman	Hudson, SD	0.187
Jensen	Herried, SD	0.276*
L.G. Everist	Akron, IA	0.257*
L.G. Everist	Brookings, SD	0.297*
L.G. Everist – Ode Pit	E Sioux Falls, SD	0.215
L.G. Everist – Nelson Pit	NE Sioux Falls, SD	0.156
L.G. Everist	Hawarden, IA	0.176
L.G. Everist	Summit, SD	0.179
Mark's S&G – Moerke Pit	Underwood, MN	0.165
Morris – Birdsall	Blunt, SD	0.229
Morris - Leesman	Blunt, SD	0.231
Morris - Richards Pit	Onida, SD	0.188
Morris - Shawn's Pit	E of Sturgis, SD	0.186
Northern Concrete Agg.	Rauville, SD	0.113
Northern Concrete Agg.	Luverne, MN	0.133
Opperman - Gunvordahl Pit	Burke, SD	0.363*
Opperman - Cahoy Pit	Herrick, SD	0.307*
Opperman - Jones Pit	Burke, SD	0.321*
Opperman - Randall Pit	Pickstown, SD	0.230
Pete Lien & Sons	Creston, SD	0.158
Pete Lien & Sons	Oral, SD	0.157
Pete Lien & Sons	Wasta, SD	0.226
Simon Materials - Beltline Pit	Scottsbluff, NE	0.277*
Thorpe Pit	Britton, SD	0.098
Wagner Building Supplies	Pickstown (Wagner), SD	0.251*
Winter Brothers- Whitehead Pit	Brookings, SD	0.197

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\*\* These sources will not be used.

The Department will use the running average of the last three known expansion test results or less for determining acceptability of the source and the required Type of cement. These expansion results are reported in the preceding table. Additional testing, when requested by the Contractor, will be performed by the Department at the Contractor's expense.

The values listed in the table are intended for use in bidding. If a previously tested pit by SDDOT with a test value less than 0.250 is discovered after letting to be 0.250 or greater, then the Department will accept financial responsibility if higher costs are incurred due to higher percent of fly ash requirement.

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## **REVISED 4/11/24**

\* These sources will require Type II cement with a fly ash content of 25% in the concrete mix.



#### **PREPARATION FOR PARKING LOT & DRIVEWAY PAVEMENTS**

The foundation will be excavated, shaped, and compacted to a firm, uniform bearing surface. Unsuitable foundation material will be removed and replaced as directed by the Engineer. The foundation will be thoroughly moistened immediately prior to placing the PCC Pavement. Moisture will be applied without forming pools of water.

Granular material will be placed to the depth specified and satisfactorily compacted.

Payment for any excavation will be incidental to the contract unit price of the surfacing material.

#### <u>6" PCC DRIVEWAY PAVEMENT</u>

The concrete for the 6" PCC Driveway Pavement will comply with the requirements of the specifications for Class M6 Concrete, unless otherwise specified in the Plans. The mix design can meet either Class M6 Concrete specifications or conform to the Contractor Furnished Mix Design for the 9" Nonreinforced PCC Pavement.

The surface of the 6" PCC Driveway Pavement will have a maximum 10% slope and the tie-ins will match the existing and/or new adjoining PCC Approach Pavement.

Contraction joints in the 6" PCC Driveway Pavement will be  $1\frac{1}{2}$  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 will be at least  $\frac{1}{4}$  the thickness of the approach pavement.

All costs for furnishing and placing the 6" PCC Driveway Pavement and constructing the expansion and contraction joints including labor, equipment, and materials (including the earthen backfill) will be incidental to the contract unit price per square yard for 6" PCC Driveway Pavement.

Payment for any excavation required for placing the 6" PCC Driveway Pavement and granular material will be incidental to the contract unit price of the surfacing material.

All costs for furnishing and placing the granular material will be incidental to the contract unit price per ton for Gravel Cushion.

		PCC Pavement	Concr Sidew	ete alk	PCC Drivew ay	Curb and Gutter
		9"	4"	6"	6"	
Statio	on to Station	SqYd	SqFt	SqFt	SqYd	Ft
San Marco	9 Blvd (PCN 0862)					
6+00, C	6+31.14, C	105.5				
6+00	6+47.03, L		199.3			
6+00	6+39.87, R		132.1			
6+00	6+31.14, L					31
6+00	6+31.14, R					31
6+31.14, C	6+43.76, C					
6+75.63, C	6+85.51, C					
6+74.40, R	7+30.00, R		148.1	58.8		
6+76.27, L	7+30.00, L		237.9			
6+85.51, C	7+30.00, C	150.7				
6+85.51	7+30.00, L					44.5
6+85.51	7+30.00, R					44.5
6+95.64, R	7+10.44, R				12.5	
		256.2	717.4	58.8	12.5	151.0

	PAVEMEN	T REMOV	al quan	TITIES	
		Concrete Pavement	Asphalt Pavement	Concrete Sidew alk	Concrete Drivew ay
Station	n to Station	SqYd	SqYd	SqYd	SqYd
San Marco Blvd (PCN 0862)					
6+00, C	6+43.64, C	147.9	147.9		
6+00, L	6+47.03, L			27.9	
6+00, R	6+40.59, R			20.3	
6+75.49, C	7+30.00, C	184.6	184.6		
6+76.42, L	7+30.00, L			32.1	
6+74.60, R	7+30.00, R			28.5	
6+95.88, R	7+07.78, R				12.5
	-	332.5	332.5	108.8	12.5

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	STATE OF	PROJECT	SHEET	TOTAL SHEETS
SES ONL		BRO 8052(75)	8	49
	REVISED	08/07/2023		



#### **EROSION CONTROL NOTES**

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1690	Remove Sediment	0.2	CuYd
110E1700	Remove Silt Fence	49	Ft
120E6300	Water for Vegetation	6.4	MGal
230E0010	Placing Topsoil	100	CuYd
730E0206	Type D Permanent Seed Mixture	8	Lb
731E0100	Fertilizing	40	Lb
732E0100	Mulching	0.4	Ton
733E0100	Sodding	352	SqYd
734E0102	Type 2 Erosion Control Blanket	126	SqYd
734E0154	12" Diameter Erosion Control Wattle	75	Ft
734E0165	Remove and Reset Erosion Control Wattle	19	Ft
734E0325	Surface Roughening	0.1	Acre
734E0510	Shaping for Erosion Control Blanket	75	Ft
734E0602	Low Flow Silt Fence	197	Ft
734E0610	Mucking Silt Fence	14	CuYd
734E0620	Repair Silt Fence	49	Ft
734E5010	Sweeping	8	Hour

#### PLACING TOPSOIL

The thickness will be approximately 6 inches within the right-of-way and 6 inches on disturbed areas outside of the right-of-way.

The estimated amount of topsoil to be placed is as follows:

			Topsoil
Station	to	Station	(CY)
6+00		7+30	100

The estimated amount of topsoil to be removed and replaced is 100 CuYd.

Contractor to notify Engineer if available topsoil is less than required. Engineer to direct Contractor to either reduce depth of topsoil, or coverage area to match available topsoil.

#### **MYCORRHIZAL INOCULUM**

Mycorrhizal inoculum will 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 will provide certification of the fungal species claimed and the live propagule count. The inoculum will include the following fungal species:

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

All seed will 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 will be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

#### FERTILIZING

The Contractor will apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer will 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 will 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 will 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 will 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 will 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 will be as shown below or an approved equal:

<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 <u>www.perfect-blend.com</u>
Nature Safe	Nature Safe Fertilizers Irving, TX Phone: 1-605-759-5622

#### PERMANENT SEEDING

The areas to be seeded consist of all newly graded areas within the project limits except for the top of roadways, temporary easements under cultivation, and areas designated to be sod.

Lawn and turf seed, such as the Type D Permanent Seed Mixture, will be tested within 12 months prior to planting, exclusive of the calendar month in which the test was completed.

Type D Permanent Seed Mixture will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/1000 SqFt)
Kentucky Bluegrass	Avalanche, Appalachian, Wildhorse, Blue Bonnet, Action	1.4
Perennial Ryegrass	Turf Type Varieties	1.4
Creeping Red Fescue	Epic, Boreal, Chantilly	1.4
Chewings Fescue	Ambrose, K2, Zodiac, Shadow III	1.4
Alkali Grass	Fults, Fults II, Quill, Salty	1.4
	Total:	7

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#### SODDING

Sod will be placed behind curb and gutter sections in residential areas at locations specified in the plans and at locations determined by the Engineer during construction.

An estimated 18 Gallons of water per square yard of sod was used to compute the quantity for the bid item "Water for Vegetation". All costs involved for watering the sod will be incidental to the contract unit price per MGal for "Water for Vegetation".

## WATER FOR VEGETATION

Immediately after seeding:

- germinated.
- uncovering buried seeds.

#### After emergence:

- •
- •

An estimated 1.6 Gallons of water per square yard of seeding area was used to compute the quantity for the bid item "Water for Vegetation".

All costs for furnishing and applying the water including hauling, materials, equipment, labor, and incidentals necessary will be paid for at the contract unit price per MGal for "Water for Vegetation".

## SURFACE ROUGHENING

Surface roughening will be done after topsoil placement and before permanent seeding, fertilizing, and mulching applications. Refer to Standard Plate 734.25 for details.

## **TABLE OF SURFACE ROUGHENING**

Station	to	Station	L/R	Area (Acre)	WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW
6+00		7+30	LT	0.046	REG. NO.
6+00		7+30	RT	0.031	15511
					DANIEL D. () A
			Total:	0.077	Jan KINBALLU JO
					UTH DAKON SP
					"IIIII 08-01 UIIIIII
					""DIRECOMBINE

STATE OF	PROJECT	SHEET	TOTAL SHEETS
	BRO 8052(75)	9	49

#### **REVISED 08/07/23**

Water for vegetation consists of applying water to seeded areas to enhance germination and/or root growth. When watering, use the following guidelines:

- Keep the topsoil moist but not excessively wet until the seed has
- Water a minimum of 3 days a week for 2 weeks preferably watering 2 or 3 times a day in small quantities.
- Use fine spray and low pressure to avoid topsoil wash and to prevent
- Topsoil will be kept thoroughly moistened by sprinkling, as necessary, for 6 weeks. After the 6-week period, an inspection will be made to determine if grass is established enough to suspend watering.
- Continue watering until grass has been thoroughly established.
- Never apply water at a rate faster than the topsoil can absorb.
- Water during early morning hours or early evening hours.
- Do not water when rain is forecasted for the area.
- If rainfall occurs, suspend watering according to rainfall amount.

#### MULCHING (GRASS HAY OR STRAW)

An additional 0.25 tons of Grass Hay or Straw Mulch has been added to the Estimate of Quantities for temporary erosion control on areas determined by the Engineer during construction.

If the Contractor uses a no-till drill, mulch may be applied prior to seeding and the mulch can then be punched into the soil by the no-till drill. If the Contractor uses this process, the no-till drill seeding will be completed immediately following the mulch application and the mulch will be punched into the soil at a 3-inch depth.

## TABLE OF MULCHING (GRASS HAY OR STRAW)

			Quantity
Station		Location	(Ton)
6+00 to 7+30	L	Inslope/Backslope/Ditch	0.09
6+00 to 7+30	R	Inslope/Backslope/Ditch	0.06
		Additional Quantity:	0.25
	Tatal C	wantity for Torona ran ( Otabilization)	0.05
	Total	tuantity for Temporary Stabilization.	0.25
	Total Q	uantity for Permanent Stabilization:	0.15

# **EROSION CONTROL WATTLE**

Erosion control wattles for restraining the flow of runoff and sediment will 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 will provide certification that the erosion control wattles do not contain noxious weed seeds.

Erosion control wattles will remain on the project to decompose.

An additional quantity of 12" Diameter Erosion Control Wattles has been added to the Estimate of Quantities for temporary erosion and sediment control in highway ditch channels and as an alternative to low flow or high flow silt fence at wetland areas adjacent to the highway.

The erosion control wattle provided will 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 EROSION CONTROL WATTLE

		Diameter		Quantity
Station	L/R	(Inch)	Location	(Ft)
6+00	L	12	DITCH	15
6+00	R	12	DITCH	15
7+30	L	12	DITCH	15
7+30	R	12	DITCH	15
			Additional Quantity:	15

75 Total:

#### LOW FLOW SILT FENCE

The low flow silt fence fabric provided will be from the approved product list. The approved product list for low flow silt fence may be viewed at the following internet site:

#### <http://sddot.com/business/certification/products/Default.aspx>

Low flow silt fence will be placed at the locations noted in the table and at locations that will minimize siltation of adjacent streams, lakes, dams, or drainage areas as determined by the Engineer during construction. Refer to Standard Plate 734.04 for details.

An additional quantity of Low Flow Silt Fence has been added to the Estimate of Quantities for temporary sediment control.

#### TABLE OF LOW FLOW SILT FENCE

Station	L/R	Location	Quantity (Ft)
6+00 to 6+50	L	EASEMENT LINE	51
6+00 to 6+32	R	EASEMENT LINE	32
6+75 to 7+30	L	EASEMENT LINE	59
6+80 to 7+30	R	EASEMENT LINE	37
		Additional Quantity:	18
		Total:	197

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#### STREET SWEEPING

Vehicle tracking of sediment from the construction site will be minimized. Street sweeping will be used if erosion and sediment control best management practices are not adequate to prevent sediment from being tracked onto the street.

The Contractor will use a pickup broom having integral self-contained storage to clean the roadway. The pickup broom used will be a minimum of 6 feet wide and have working gutter brooms.

roadway to traffic.

All costs for cleaning the roadway with a pickup broom will be incidental to the contract unit price per hour for "Sweeping".

# **CONCRETE WASHOUT AREA**

A concrete washout area will be installed on the project site at a location approved by the Engineer if concrete trucks deliver concrete to the site. No washout area is necessary if all concrete trucks will wash out at approved site constructed by the concrete supplier.

### **EROSION CONTROL BLANKET**

Erosion control blanket will be installed 16 feet wide at the locations noted in the table and at locations determined by the Engineer during construction.

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

#### <http://sddot.com/business/certification/products/Default.aspx>

An additional quantity of Type 2 Erosion Control Blanket has been added to the Estimate of Quantities for temporary erosion control.

#### TABLE OF EROSION CONTROL BLANKET

					Quantity
Station to	Station	L/R	Location	Туре	(SqYd)
6+47	6+80	L	INSLOPE	2	63
6+28	8+73	R	INSLOPE	2	51
			Additional Quantity:	2	12

Total Type 2 Erosion Control Blanket: 126

#### SHAPING FOR EROSION CONTROL BLANKET

The ditches will be shaped for the erosion control blanket as specified on Standard Plate 734.01.

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		BRO 8052(75)	10	49
	REVISED	08/07/23		

At a minimum, sweeping will be required prior to opening any segment or



#### STORMWATER POLLUTION PREVENTION PLAN CHECKLIST

(The numbers left of the title headings are **reference numbers** to the GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES (Stormwater Permit))

### 5.3 (2): STAFF TRAINING/SWPPP IMPLEMENTATION

To promote stormwater management awareness specific for this project, the Contractor's Erosion Control Supervisor should provide correspondence of how the SWPPP will be implemented. The Contractor's Erosion Control Supervisor is responsible for providing this information at the preconstruction meeting, and subsequently completing an attendance log, which should identify site-specific implementation of the SWPPP and the names of the personnel who attended the preconstruction meeting. Documentation of the preconstruction meeting will be filed with the SWPPP documents.

#### 5.3 (3): DESCRIPTION OF CONSTRUCTION ACTIVITIES

- > 5.3 (3a): Project Limits (See Title Sheet)
- > 5.3 (3a): Project Description (See Title Sheet)
- 5.3 (4): Site Map(s) (See Title Sheet and Plans)  $\triangleright$
- Major Soil Disturbing Activities (check all that apply)  $\geq$ 
  - Clearing and grubbing
  - Excavation/borrow
  - Grading and shaping •
  - ⊠Filling .
  - Other (describe):
- 5.3 (3b): Total Project Area 0.8 Acres  $\geq$
- 5.3 (3b): Total Area to be Disturbed
- 5.3 (3c): Maximum Area Disturbed at One Time 0.5 Acres  $\geq$
- 5.3 (3d): Existing Vegetative Cover (%) 95%  $\triangleright$
- 5.3 (3d): Description of Vegetative Cover  $\triangleright$
- 5.3 (3e): Soil Properties: AASHTO Soil A-2, A-4., A-6 A-7  $\geq$
- 5.3 (3f): Name of Receiving Water Body/Bodies Mud Creek  $\geq$
- 5.3 (3g): Location of Construction Support Activity Areas  $\geq$

## 5.3 (3h): ORDER OF CONSTRUCTION ACTIVITIES

The Contractor will enter the Estimated Start Date.

Description	Estimated Start Date
Install perimeter protection where runoff may exit site.	
Install channel and ditch bottom protection.	
Clearing and grubbing.	
Remove and stockpile topsoil.	
Grade Detour	
Construct Bridge	
Grade and surface roadway	
Remove Detour	
Stabilize disturbed areas.	
Final grading.	
Removal of protection devices.	
Reseed areas disturbed by removal activities.	

#### 5.3 (5): DESCRIPTION AND MAINTENANCE OF CONTROL MEASURES

All controls will be maintained in good working order. Necessary repairs will

be initiated within 24 hours of the site inspection report. Include the tech ROR BIDDING PURPC reasoning for selecting each control. (check all that apply)

#### Perimeter Controls (See Detail Plan Sheets)

Description	Estimated Start Date
Natural Buffers (within 50 ft of Waters of State)	
Silt Fence	
⊠ Erosion Control Wattles	
Temporary Berm / Windrow	
Eloating Silt Curtain	
Stabilized Construction Entrances	
Entrance/Exit Equipment Tire Wash	
Other:	

☐ Tarps & Wind
U Watering
Stockpile loca
Dust Control
Other

🗌 Sediment Ba
Dewatering b
🗌 Weir tanks
Temporary D
Other:

	]Vegetation Bu
$\triangleright$	Temporary Se
$\triangleright$	Permanent S
	Sodding
	] Planting (Woo
$\triangleright$	Mulching (Gra
	Fiber Mulchin
	Soil Stabilizer
Ľ	Bonded Fiber
	Fiber Reinford
Ľ	Erosion Cont
$\triangleright$	Surface Roug
	Other:
latio	nd Avoidonoo

### Wetland Avoidance

Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes D No X 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.

Description	Estimated Start Date
Silt Fence	
Temporary Berm/Windrow	
Erosion Control Wattles	
Temporary Sediment Barriers	
Erosion Bales	
Temporary Slope Drain	
Turf Reinforcement Mat	
🛛 Riprap	
Gabions	
Rock Check Dams	
Sediment Traps/Basins	
Culvert Inlet Protection	
Transition Mats	
Median/Area Drain Inlet Protection	
Curb Inlet Protection	
Interceptor Ditch	
Concrete Washout Facility	
Work Platform	
Temporary Water Barrier	
Temporary Water Crossing	
Permanent Stormwater Ponds	
Permanent Open Vegetated Swales	
□ Natural Depressions to allow for Infiltration	
Sequential Systems that combine several practices	
Other:	

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SES ONL		BRO 8052(75)		11	49
Dust Controls		Is REVISED	4/11/24		
Description			Estimate Start Dat	d te	
impervious fabrics					
ation/orientation					
Chlorides					

## **Dewatering BMPs**

Description	Estimated Start Date
sins	
ags	
version Channel	

### **Stabilization Practices (See Detail Plan Sheets)**

(Stabilization measures will begin the following work day whenever earth disturbing activity on any portion of the site has temporarily or permanently ceased. Temporary stabilization will be completed as soon as practicable but no later than 14 days after initiating soil stabilization activities (3.18))

Description	Estimated Start Date
ffer Strips	
eeding (Cover Crop Seeding)	
eeding	
ody Vegetation for Soil Stabilization)	
ass Hay or Straw)	
g (Wood Fiber Mulch)	
Matrix	
ced Matrix	
ol Blankets	
hening (e.g. tracking)	

### 5.3 (6): PROCEDURES FOR INSPECTIONS

- Inspections will be conducted at least once every 7 days.
- All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report.
- Silt fence will be inspected for depth of sediment and for tears 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 and 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 DOT 298.

### 5.3 (7): POST CONSTRUCTION STORMWATER MANAGEMENT

Stormwater management will be handled by temporary controls outlined in "DESCRIPTION AND MAINTENANCE OF CONTROL MEASURES" above, and any permanent controls needed to meet permanent stormwater management needs in the post construction period will be shown in the plans and noted as permanent.

### 5.3 (8): POLLUTION PREVENTION PROCEDURES

### 5.3 (8a): Spill Prevention and Response Procedures

- > 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/or 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.
  - Hazardous Materials
    - Products will be kept in original containers unless the container is not resealable and provide secondary containment as applicable.
    - 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 labelor BIDDING PURPO directions for disposal will be followed.
- Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing 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 stormwater system or stormwater 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 stormwater runoff.

### > Spill Control Practices

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.

### Spill Response

The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into stormwater runoff and conveyance systems. If the release has impacted on-site stormwater, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens stormwater 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.

- site.
- •
- response materials.

# 5.3 (8b): WASTE MANAGEMENT PROCEDURES

> Waste Disposal

### > Hazardous Waste

## > Sanitary Waste

regulations.

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 Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the Contractor at the

 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 SDDANR.

Personnel with primary responsibility for spill response and cleanup 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

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

• All liquid waste materials will be collected and stored in approved sealed containers. 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. The Contractor is responsible for ensuring waste disposal procedures are followed.

• 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 Contractor will be responsible for seeing that these practices are followed.

 Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units which must be secured to prevent tipping and serviced in a timely manner by a licensed waste management Contractor or as required by any local

### 5.3 (9): CONSTRUCTION SITE POLLUTANTS

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 heading "POLLUTION PREVENTION PROCEDURES" (check all that apply).

- Concrete and Portland Cement  $\triangleright$
- $\triangleright$
- Paints  $\triangleright$
- Metals  $\geq$
- Bituminous Materials  $\triangleright$
- Petroleum Based Products  $\geq$
- Diesel Exhaust Fluid  $\triangleright$
- $\geq$ Cleaning Solvents
- 🛛 Wood ⊳
- ≻ Cure
- Texture  $\geq$
- Chemical Fertilizers  $\geq$
- $\geq$

### **Product Specific Practices**

#### 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 stormwater. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.

### Paints

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 stormwater outlet of the site. Upon completion of construction, the area at the washout facility will be properly stabilized.

## 5.3 (10): NON-STORMWATER DISCHARGES

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

- Discharges from water line flushing.  $\geq$
- Pavement wash-water, where no spills or leaks of toxic or hazardous  $\geq$ materials have occurred.
- Uncontaminated ground water associated with dewatering activities.  $\geq$

### 5.3 (11): INFEASIBILITY DOCUMENTATION

If it is determined to be infeasible to comply with any of the requirements of the Stormwater Permit, the infeasibility determination must be thoroughly documented in the SWPPP.

### 7.0: SPILL NOTIFICATION

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

- A release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to SDDANR immediately if any one of the following conditions exists:
  - The release or spill threatens or is able to threaten waters of the state (surface water or ground water)
  - The release or spill causes an immediate danger to human • health or safety
  - The release or spill exceeds 25 gallons
  - The release or spill causes a sheen on surface water •
  - The release or spill of any substance that exceeds the ground water quality standards of ARSD Chapter 74:54:01
  - The release or spill of any substance that exceeds the surface water quality standards of ARSD Chapter 74:51:01
  - The release or spill of any substance that harms or threatens to harm wildlife or aquatic life
  - The release or spill is required to be reported according to Superfund Amendments and Reauthorization Act (SARA) Title III List of Lists, Consolidated List of Chemicals Subject to Reporting Under the Emergency Planning and Community Right to Know Act, US Environmental Protection Agency.
- To report a release or spill, call SDDANR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central Standard Time). To report the release after hours, on weekends or holidays, call South Dakota Emergency Management at 605-773-3231. Reporting the release to SDDANR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, you must also contact local authorities to determine the local reporting requirements for releases. A written report of the unauthorized release of any regulated substance, including quantity discharged, and the location of the discharge will be sent to SDDANR within 14 days of the discharge.

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#### 5.4: SWPPP CERTIFICATIONS

#### Certification of Compliance with Federal. State, and Local $\geq$ 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.

Authorized Signature (See the General Permit, Section 7.4 (1))

#### 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 gualified 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**

The following personnel are duly authorized representatives and have signatory authority for modifications made to the SWPPP:

- > Contractor Information:
  - Prime Contractor Name:
  - Contractor Contact Name:
  - Address: \_\_\_\_\_

  - City: \_\_\_\_\_State: \_\_\_\_Zip: \_\_\_\_\_
  - Office Phone: \_\_\_\_\_\_ Field: \_\_\_\_\_\_
  - Cell Phone: \_\_\_\_\_\_Fax: \_\_\_\_\_
- Erosion Control Supervisor

  - Address: \_\_\_\_\_
  - \_\_\_\_\_
  - City: \_\_\_\_\_ State: \_\_\_\_ Zip: \_\_\_\_\_
  - Office Phone: Field:
  - Cell Phone: Fax:

- > SDDOT Project Engineer
  - Business Address:
  - Job Office Location: \_\_\_\_\_
  - City: \_\_\_\_\_State: \_\_\_\_Zip: \_\_\_\_\_
  - Office Phone: \_\_\_\_\_\_Field: \_\_\_\_\_
  - Cell Phone: Fax:

#### SDDANR Contact Spill Reporting

- Business Hours Monday-Friday (605) 773-3296
- Nights and Weekends (605) 773-3231
- > SDDANR Contact for Hazardous Materials. (605) 773-3153
- > National Response Center Hotline (800) 424-8802.
- > SDDANR Stormwater Contact Information SDDANR Stormwater (800) 737-8676
  - Surface Water Quality Program (605) 773-3351

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#### 5.5: REQUIRED

- > 5.5 (1): Co The SWPP response to
  - When a the SWP
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  - To reflec been trai covered general
  - If inspect determin compliar
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- If approv water tre different methods
- > 5.5 (2): Dea Any require calendar da
- > 5.5 (3): Do All SWPPP showing the must includ a brief sumr
- > 5.5 (4): Cer All modifica as required
- DOT 298 Form.

		STATE OF	PROJECT	SHEET	TOTAL SHEETS
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5.5: R	EQUIRED SWPPP MOD	IFICATIO	NS REVISED 4/11/24		
<ul> <li>5.</li> <li>Tire</li> <li>.</li> <li>.</li> </ul>	<b>.5 (1): Conditions Requ</b> he SWPPP must be mod sponse to any of the follo When a new operator re the SWPPP begins wor When changes to the c control measures, or ar are no longer accuratel changes made in respo inspections. To reflect areas on the been transferred (includ covered under a new po general permit. If inspections by site sta determine that SWPPP compliance with the Sto To reflect any revisions requirements that affec site.	iring SWI ified, inclu owing con esponsible k on the s onstruction y best may y reflected onse to con site map v ding the da ermit since aff, local o modificat ormwater I to applicat t the contr	PPP Modification Iding the site map(s), in ditions: e for implementation of any site. n plans, sediment and ero anagement practices on sid in the SWPPP. This inclu rrective actions triggered b where operational control H ate of the transfer) or has h the initiating coverage under fficials, SDDANR, or U.S. ions are necessary for Permit. able federal, state, or local rol measures implemented eflect any changes in cher	y part sion te that ides yy nas been this EPA at the mical	
	water treatment system different water treatmer methods of application.	s or contr nt chemica	ols, including the use of a al, age rates, different area	is, or	
► 5. A Ca	<b>.5 (2): Deadlines for SW</b> ny required revisions to t alendar days following an	VPPP Mod he SWPP by of the ite	<b>dification</b> P must be completed with ems listed above.	in 7	
5. A sl m a	<b>.5 (3): Documentation of</b> Il SWPPP modification re howing the dates of whe sust include the name of brief summary of all char	of Modific ecords are n the mod the person nges.	eations to the Plan e required to be maintaine lification occurred. The rea n authorizing each change	ed cords e and	
5. 6.	<b>.5 (4): Certification Req</b> Il modifications made to t s required in Section 7.4.	l <b>uirement</b> he SWPP	<b>'s</b> IP must be signed and cer	tified	
> 5.	.5 (5): Required Notice	to Other	Operators		

If there are multiple operators at the site, the Contractor's Erosion Control Supervisor must notify each operator that may be impacted by the change to the SWPPP within 24 hours.

When modifications as described above occur, the SWPPP will be modified to provide appropriate protection to disturbed areas, all storm water structures, and adjacent waters. The SDDOT Project Engineer will modify the SWPPP using the DOT 298 form and drawings on the plan will be modified to reflect the needed changes. Copies of the DOT 298 forms and the SWPPP will be retained on site in a designated place for review throughout the course of the project. A copy of the DOT 298 form will be given to the Contractor Erosion Control Supervisor and a copy will be emailed to the SDDOT Environmental Section in accordance with the



	Superelevation Table								
		Slo	ре						
Station to	o Station	Left	Right	Remarks					
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6+00.00	6+31.05	-0.73% to -1.14%	-1.53% to -1.38%	Transition to Start					
6+31.05	6+43.64	-1.14% to -1.33%	-1.38% to -1.33%	Transition to Match					
6+43.64	6+75.49	-1.33%	-1.33%	RCBC					
6+75.49	6+85.49	-1.33% to -1.50%	-1.33%	Transition to End o					
6+85.49	7+30.00	-1.50% to -2.28%	-1.33% to -5.89%	Transition to Meet					
7+30.00		-2.28%	-5.89%	Meet Existing Pave					









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* The vertical placement tolerance for any part of the	etiel
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		6.5' to 10'         2           10.5' to 14'         3           14.5' to 18'         4	
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SENERAL NOTES: The mainline curb and gutter will be 1½ inches de a cut the transverse contraction join gutter or concrete curb and gutter. The term "In Place Gutter or Curb and concrete curb and gutter was placed SENERAL NOTES: The mainline curb and gutter may be a less than or equal to 12 feet. If this the curb and gutter and the PCC pave The gutter or curb and gutter will be a ansverse contraction joints in the gutter or curb ansverse contraction joints in the gutter or curb answerse contraction	ep if for ts, the nd Gutt on the PO Com oncrete PO Com oncrete e place s meth rement sawed utter of b and SD D O	t. The transverse continued in fresh concrete in the depth of the joint ter" in the above drawin a current project. URED MONOLITH crete Gutter or a Curb and Gutter	raction joints in the conc e using a suitable groovir will be at least ¼ the thic ng indicates that the in p <b>HCALLY</b> PCC Paveme T= Pavement PCC Paveme T= Pavement PCC Pavement if the r sed, the tie bars and the mainline transverse contr e sawed and sealed sam gutter or curb and gutte ed at the same slope as NGITUDINAL CONSTRUC CONCRETE GUTTER OR CURR AND CUTTER	ent ent ent ent ent ent ent ent	er or the concrete f a saw is used f the concrete crete gutter and ent Thickness		









# FOR BIDDING PURPOSES ONLY



SES ONLY DAKOTA	BRO 805	52(75)	29	49
i				
Mediar	` <b>`</b>	1		
	$\frac{)}{2}$ $+$ $\frac{15'}{2}$	-		
	<u>-</u> 6:1			
excavated 20.1	Eros	ion		
15'	<u>15'</u> Cont	rol		
The median will be shaped	to the limits she	ket own		
in this detail where the ero will be placed	sion control blar	ıket		
MEDIAN SE	CTION			
		4		
Use a 4" (Min.) overlap where	er two widths of	Ī		
erosion control blanket are app	lied side by side	).		
Use a 6" (Min.) overlap wherev control blanket ends and anoth	er one roll of er er begins.	osion		
OVERLAP DE	AIL			
Bury upsio	e end of erosio	n		
6" deep by	6" wide. The tre	nch		
to the appr	priate elevation	acted		
T-Pin	or Staple			
۵ <u>۲</u> ۲	entententententen			
6"				
PIPE END DET	AIL			
as will be properly prepared, sh	aped, seeded, a	and		
	• • •			
f the flow of water when placed	n ditches and o	n are will		
trol blanket ends and another be	gins, with the u	pslope		
erosion control blanket.				
according to the manufacturer's	installation			
ontractor will fine grade along a	edges of the b	lanket		
evel any low spots which might	prevent uniform	and		
ion control blanket. All costs for	oboning the dite	haa		
haping for Erosion Control Blan	shaping the ditt tet".	nes		
	Februar	y 14, 2020		
CION CONTROL DI ANVET	PLATE	NUMBER 4. Ol		
SION CONIKUL BLANKEI				
	Sneet			

PROJECT

BRO 8052(75)

STATE OF

TOTAL SHEETS

SHEET





# FOR BIDDING PURPO



	STATE OF		PROJECT	-		SHEET	TOTAL SHEETS
SES ONL	SOUTH DAKOTA		BRO 8052	2(75)		31	49
					•		
long the contour ar	nd perpend	icular to	the water f	low.			
B to ensure that wa	ter flows ov	ver the w	attle and n	ot			
e tightly in the trend rom the trench aga	ch so that d inst the wa	aylight c ttle on th	an not be s e uphill sid	seen e.			
, other types of stal	kes such as	s rebar m	ay be use	d			
ced 6" from the end	ds of the wa	attles and	the space	ng			
tor will butt the sec	ond wattle i	tightly ag	ainst the fi	rst			
		agnay ag					
ntrol wattles in acc	ordance wi	th the sto	orm water				
the accumulated s	ediment w	hen nece	essary as				
as directed by th	o Engineou		e for				
and necessary sha	aping will be	e inciden	tal to the				
t".							
wattles including la	abor, equipi on control w	ment, an attle con	d materials tract item.	will			
		mont or		o will			
ove Erosion Contro	ol Wattle".	ment, ai	iu materiai	5 WIII			
			February	14, 2020			
			PLATE N	UMBER			
DSION CONTROL V	VATTLE		734	.06			
			Sheet 2	of 2			





Discrete State of the second state of the seco

**TYPICAL SECTION** (For Limits of Undercut)

	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS	
RPOSES ONL'	SOUTH DAKOTA	BRO 8052 (75)	33	49	
PECIFICATIONS . Design Specifications: AASH <sup>*</sup>	TO LRFD Bridg	RE Design Specifications, 9th Edition.	VISED 08	07/2023	
. Construction Specifications: S and required Provisions, Supp Proposal.	South Dakota S Ilemental Spec	tandard Specifications for Roads and Br ifications, and Special Provisions as incl	idges, 201 uded in th	15 Edition e	
ENERAL NOTES					
Design Live Load: HL-93 and with gross axle weight (each a minimum of 4 feet of fill has be load must be submitted thru pr	construction lo xle) = 95,850 ll en placed over oper channels	ad consisting of two 7'-6" gage axles spa os. The construction load shall not be ap r the box culvert. Other construction load to the Office of Bridge Design for analys	aced 30-fo plied until Is in exces iis.	ot apart a ss of legal	
The design of the barrel section thick asphalt overlay.	n is based on a	a fill height of 0 feet (F0) and accommode	ates a futu	ıre 2 inch	
Design Material Strengths: C R	Concrete f'c = 4 Reinforcing Stee	,500 psi el fy = 60,000 psi			
All concrete will be Class A45 of Concrete, Box Culvert will have 605. Finished surface of box of Construction Specifications.	conforming to S e 20%- 25% fly ulvert will be te	Section 460 of the Construction Specifica ash substituted for the cement in accord sted with a 10 foot straight edge per Sec	ations. Cla dance with ction 380 c	ss A45 n Section of the	

5. All reinforcing steel will conform to ASTM A615 Grade 60. Epoxy reinforcement will be used for Barrel

6. All lap splices shown are contact lap splices unless noted otherwise.

7. All exposed concrete corners and edges will be chamfered 3/4-inch unless noted otherwise in the plans.

8. Use 1-inch clear cover on all reinforcing steel EXCEPT as shown.

9. The Contractor will imprint on the structure the date of construction as specified and detailed on Standard Plate 460.02.

10. Care will be taken to establish Working Points (W.P.) as shown on the wings.

Circled numbers in PLAN and ELEVATION views on the General Drawing are section I.D. Numbers (see SDDOT Materials Manual).

12. Cost of Preformed Expansion Joint Filler used in apron construction will be incidental to the other contract items.

13. Box Culvert Undercut excavation will be within Minnekahata Limestone. This formation consists of purple to gray, fine-grained, thin to medium-bedded limestone with varying amounts of red shale. Extra effort will be required to excavate to the undercut limits. Blasting will not be allowed.

14. Groundwater was not encountered in the borings during the subsurface investigation conducted in March

15. Compaction of earth embankment and box culvert backfill material will be governed by the Specified Density Method.

16. It is anticipated that shoring will be necessary. Shoring will be designed and constructed in accordance with Section 423 of the Specifications. Shoring will be incidental to other contract items.

#### INCIDENTAL WORK. STRUCTURE

1. Incidental Work, Structure consists of the removal of Str. 52-375-296. In place centerline Sta. 6+59.72 is a 32' two-span bridge.

2. Break down and remove the existing structure as required to construct the new structure in accordance with Section 110 of the Specifications. Signage and Delineators to be salvaged by City of Rapid City. All remaining items and portions of the existing structures not salvaged by the City of Rapid City will be removed and become the property of the Contractor.

3. The foregoing is a general description of the in-place structure and is not be construed to be complete in all details. Before preparing the bid, it is the responsibility of the Contractor to make a visual inspection of the structure to verify the extent of the work and materials involved.

#### **ESTIMATE OF QUANTITIES, NOTES, AND UNDERCUT DETAILS** FOR

2 - 15' X 3'-6" BOX CULVERT

OVER SOUTH CANYON CREEK STA. 6 + 59.60 STR. NO. 52-375-296

4°36'01" LHF SKEW SEC. 32-T2N-R7E BRO 8052 (75) HL-93

(2) OF(16)

#### PENNINGTON COUNTY

S. D. DEPT. OF TRANSPORTATION

#### JULY 2023

DESIGNED BY	CK. DES. BY	DRAFTED BY	
AB	BS/MSK	MM	
			BRIDGE ENGINEER



# FOR BIDDING PURPOS

3' - 0"\_\_\_\_





10' - 0"





SECTION A - A (At Top Slab)

6" Bevel

)ė



<b>SES ONL</b> BRO 8052 (75) 34 49 49 $1/2^{u} OL$ $1/2^{u} OL$ $1/2^{$							
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e u u u u u u u u u u u u u							
INLET DETAILS (A) FOR 2 - 15' X 3'-6" BOX CULVERT							
OVER SOUTH CANYON CREEK STA. 6 + 59.60 STR. NO. 52-375-296 PENNINGTON COUNTY S. D. DEPT. OF TRANSPORTATION JULY 2023 3 OF (16)							
DESIGNED BY     CK. DES. BY     DRAFTED BY      AB    BS/MSK    MM      BRIDGE ENGINEEF							

PROJECT

# FOR BIDDING PURPOSES ONLY





Inlet Inlet Apron



ITEM	Class A45 Concrete Box Culvert	Reinforcing Steel	Structure Excavation Box Culvert	Epoxy Reinforcement Steel	
UNIT	Cu. Yd.	Lb.	Cu. Yd.	Lb.	
	14.2	1477	9.3	323	
ז	10.4	933	10.4	0	

INLET DETAILS (B)									
	FOR								
	2 - 15' X 3	5'-6" BOX	CULVERT						
OVER SOUT STA. 6 + 59. STR. NO. 5	H CANYON 60 2-375-296	CREEK	4°36'01" LHF SKEW SEC. 32-T2N-R7E BRO 8052 (75) HL-93						
	PENN	INGTON C	OUNTY						
	S. D. DEPT. OF TRANSPORTATION								
		JULY 2023	<sup>3</sup> (4) OF (16)						
DESIGNED BY AB	CK. DES. BY BS/MSK	DRAFTED BY	BRIDGE ENGINEER						

NOTE: Apron shall NOT be built monolithic with the Box Culvert.

# FOR BIDDING PURPOS



	STAT	TE OF	PROJECT		SHEET	TOTAL			
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			3'-0"						
		W.P.							
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				u III I Ielu)į					
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	\\\								
	```		9"						
		e @ 12" →							
		(At Botto	<b>L "X"</b> m Slab)						
	1	e @ 12"	9"						
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<u> </u>									
			2 - b1 W.P.						
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F			3'-0"	====					
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		DFTΔI	I "Y"	,					
		(At Botto	m Slab)						
5		~							
		ΟL		LƏ (A)					
1111		2 - 15' X	3'-6" BOX		RT				
OVER SOUTH CANYON CREEK 4°36'01" LHF SKEW									
S	STA. 6 + 59.60 SEC. 32-T2N-R7E								
S	STR. NO. 52-375-296 BRO 8052 (75) HI -93								
		<b></b>							
		5. D. DEF		3					
F		014 555		-	$\overline{\mathbb{O}}$				
	DESIGNED BY AB	CK. DES. BY BS/MSK	DRAFTED BY						
		<u> </u>			BRIDGE	ENGINEER			

# FOR BIDDING PURPO



	STATE OF PROJECT SHEET TOTAL										
S	SES ONLY BAKOTA BRO 8052 (75) 37 49										
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				REI	NFO	RCING	SCHED	ULE			
Иk.	No.	Size	Leng	gth	Туре		Be	nding Details			
a1	5	6	31' -	5″	Str.		2	- 0"	~	E"	
b1	4	6	30' -	10"	Str.		<u> </u>	éli	< <del>3</del>	- 5" <u>e1</u>	
c4	4	5	19' -	10"	Str.	-	T-T-	' ``{			
c5	2	5	/'-	0"	<u>19B</u>	ž		τÌ	<u>/</u> 1		
со c7	4	5	9 - 7' -	0"	<u>317.</u> 198	, 5		14	<i>′</i> I		
d2	4	5	7' - 1	11"	17a						
d3	4	5	7' - 1	11"	17a	0					
е	30	4	7' -	6"	S12	C		<u>5½"</u>	5½"		
e1	27	4	9' -	7"	S12A			-	~		
73	32	4	4'- 5'-	0"	10B		Type S12	<u>2</u> Iy	be S12A		
,- 74	4	4	21' -	9"	19B						
g5	4	4	11' -	9"	19B			<u>h3 4' - 11"</u>	< <u>5' - 5"</u>	H	
h2	7	4	16' -	10"	17A			<u>k3 4' - 11</u>	< 5' - 5"	- I	
h3	3	4	17' -	0"	17A			h2 4' - 9"	<u> </u>	4	
n4 k2	1	4	8'-	<u>1"</u>	17A			k2 4' - 9"	<u> </u>	3. 24	
KZ k3	7	4	12'-	1"	17A					<del>~</del>	
k4	1	4	5'-	8"	17A		<u>5</u> <u>1</u>				
b1	10	6	7' -	0"	Str.		3 1 1 2 3		\	- আ আ	
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14	5	4	12'-	6"	Str.			h2 < 5' - 0½"	5' - 1 <sup>1</sup> /	2	
15	2	4	12' -	4"	Str.			k3 _ 5' - 1½"	_5' - 21/2	2"	
16	2	4	13' -	10"	Str.		-1/	h3 5' - 1½"	5' - 21	2"	
17	2	4		3"	Str.	f1	9½"	Tvpe	17A		
20	27	JILE	7 APRO	//N 5″	\$12			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
<del>σ∠</del> u5	1	4	5'-	6"	Str.	3/2"		<u> </u>	$\frac{D''}{D''} >  ^{h}$	<u>4</u>	
<u>u6</u>	13	4	29' -	5"	Str.	₹	<u>Ц</u>	<del>&lt;</del> 4' - 93	<sup>2</sup> - <u>k</u>	4	
u7	2	4	18' -	6"	Str.	 	6"				
u8	10	4	29' -	4"	Str.			Type 17A			
u9	4	4	33' -	8"	Str.	I y	0e 50A	.,,			
110	5	4	29'-	2"	Str.		H	5' - 0"	<u>c5,</u> c7	10	
	F	< 1	2' - 6"	>	g3		_	6' - 2"	<u>d2,</u> d3	$\frac{12}{c5}$ $\frac{7}{16}$	
	L	_ 1	9' - 9"	~	g4					12 7/	
		1	1' - 9"		<u>g5</u>			40D 7/1	c7	d2   <sup>7</sup> 16	
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# FOR BIDDING PURPOSES ONLY





# RAILING

ESTIMATED QUANTITIES					
UNIT	QUANTITY				
Ft.	123				
	NTITIES UNIT Ft.				



SEC. A - A







ESTIMATED QUANTITIES						
ITEM	UNIT	QUANTITY				
Granular Bridge End Backfill	Cu. Yd.	157.5				
Porous Backfill	Ton	18.7				
4" Underdrain Pipe	Ft.	184				

1. <u>184</u> ft. 4" dia. Corrugated Polyethylene Drainage Tubing. 2. <u>300</u> sq. ft. Vertical Composite Drain

Items 1 and 2 are approximate quantities contained in the 4" Underdrain Pipe and are for information only.

3. <u>1440</u> Sq. Ft. 6 mil Polystyrene sheeting, not including laps. 4. 1560 Sq. Ft. Type B Drainage Fabric

Items 3 and 4 are approximate quantities contained in the Granular Bridge End Backfill and are for information only.

X Drainage tubing outlet located beyond end of wingwall



#### SOUTH APPROACH LAYOUT

FOR

2 - 15' X 3'-6" BOX CULVERT

OVER SOUTH CANYON CREEK STA. 6 + 59.60 STR NO 52-375-296

4°36'01" LHF SKEW SEC. 32-T2N-R7E BRO 8052 (75) HL-93

PENNINGTON COUNTY S. D. DEPT. OF TRANSPORTATION (11) OF (16)

JULY 2023

DESIGNED BY	CK. DES. BY	DRAFTED BY	
AB	BS/MSK	MM	
			BRIDGE ENGINEER







 $\triangle$  For z1 bars, see Barrel Details sheet.

	STAT		PROJECT		SHEET NO.	TOTAL SHEETS
SES	ONLY DAK	OTH KOTA	BRO 8052 (7	75)	43	49
14' - 9"	sidewalk	$\begin{array}{c} g \\ @ 1 \\ @ 1 \\ \hline \\ & \\ \hline \\ @ 1 \\ \hline \\ & \\ \hline \\ @ 1 \\ \hline \\ & \\ \hline \\ & \\ \hline \\ @ 1 \\ \hline \\ & \\ \hline \\ \\ & \\ \hline \\ \\ \\ \hline \\ \\ \\ \\$	5' - 0" ~ 4 Spaces 3½" = 4'-6" — e8 — e8	$e^{\beta} \sim 10$ Spaces @ 12" = 10-0"	10'- 9 <sup>1</sup> 2"	
	2 OVER SOUT STA. 6 + 59. STR. NO. 5	<b>SOUTH</b> 2 - 15' X 3 TH CANYON 60 2-375-296	APPROACH FOR 3'-6" BOX CREEK	CULVE 4°36'01 SEC. B	RT " LHF S 32-T2N RO 805	SKEW N-R7E 12 (75) HL-93
		PENN S. D. DEPT	NINGTON CO . OF TRAN JULY 2023	OUNTY ISPORTATI 3	ON (12)	OF (16)
	DESIGNED BY	CK. DES. BY	DRAFTED BY		$\smile$	
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		STATE OF		PROJECT		SHEET	TOTAL SHEETS		
SES (	ONLY	SOUTH DAKOTA		BRO 8052 (7	75)	44	49		
Ě	_ 	Z Drainage t	ubing outle	et located beyond	d end of wingwa				
=		Rdwy	€ Box Culvert	_					
				THE DECENSE OF	реб. <i>№</i> 16047 ВІЛЦ SHRESTHAT 7-11-2023	ENGINEER III			
	NORTH APPROACH LAYOUT								
	FOR								
	OVER S( STA. 6 + STR. NC	2 - 1 DUTH CA ∙ 59.60 D. 52-375	5' X 3 NYON -296	стеек CREEK	4°36'01 SEC. B	RT " LHF 8 32-T21 RO 805	6KEW N-R7E 62 (75) HL-93		
PENNINGTON COUNTY									
		S. D.	. DEPT		ISPORTATI	ON			
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						DRIDGE	LAGINEEK		



**PLAN** (North Approach)

ESTIMATED QUANTITIES (For Two Approach Slabs, Two Sleeper Slabs, and Four Sidewalk Segments)						
ITEM	UNIT	QUANTITY				
Concrete Approach Slab for Bridge	Sq. Yd.	75.8				
Concrete Approach Sleeper Slab for Bridge	Sq. Yd.	33.9				
Concrete Sidewalk	Sq. Ft.	204				

1. <u>19.0</u> Cu. Yds. Concrete in Approach Slab.

2. 4605 Lbs. Epoxy Coated Re-Steel in Approach Slab.

3. 8.5 Cu. Yds. Concrete in Sleeper Slab.

4. <u>1769</u> Lbs. Epoxy Coated Re-Steel in Sleeper Slab.

5. <u>5.7</u> Cu. Yds. Concrete in Concrete Sidewalk

6. 946 Lbs. Epoxy Coated Re-Steel in Concrete Sidewalk.

Items 1 thru 6 are approximate quantities contained in the above bid items and are for information only.





DESIGNED BY	CK. DES. BY	DRAFTED BY	
AB	BS/MSK	MM	
			BRIDGE ENGINEER







#### FOR BIDDING PURPO <sub>3470</sub>75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 20 25 30 35 40 5 10 15 3465 \_ ----. . . . . . . - - - - - - -----PROPOSED STRUCTURE 3460 6+50.00 . . . . . . . . . ------\_ \_ \_ \_ \_ \_ \_ \_ \_ - - - - - - -3455 3475 3470 - ------ - - - - - ----->-3.6%-> 1.06% 3465 3.1% 1.41% - - - - - -3460 6+25.00 3455 3475 3470 ----. . . . . . . . 6.0%-> 0.73% -<-1.0% 1.53% 3465 ---+---+---+---------3460 ..6**+00.00**.. 3455 3475 3470 . \_ \_ \_ ----------\_ \_ \_ \_ 5+50.00 3465 70 65 40 35 30 75 60 55 50 45 25 20 15 10 5 5 10 15 20 25 30 35

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