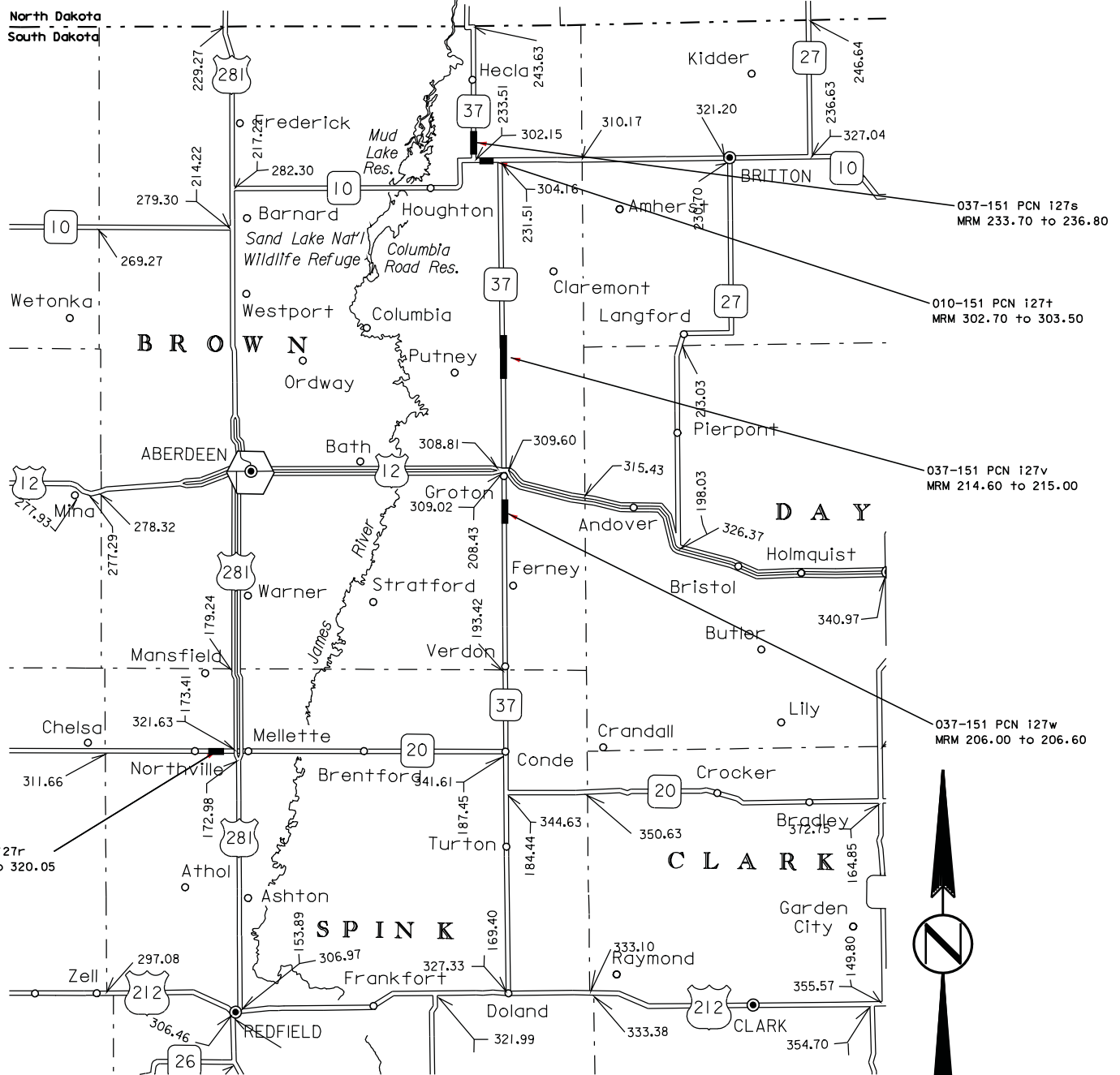


# Aberdeen Area Inslope Repair

D I C K E Y



Storm Water Permit  
(None Required)



## Estimate of Quantities

BID ITEM NUMBER	ITEM	SD20 PCN i27r	SD37 PCN i27s	SD10 PCN i27t	SD37 PCN i27v	SD37 PCN i27w	Total	UNIT
009E0010	Mobilization	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	LS
634E0010	Flagging	120	150	70	70	150	560	HRS
634E0100	Traffic Control	238	238	238	238	238	1190	UNITS
634E0120	Traffic Control, Misc	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	LS	LS
700E1010	Special Riprap	3300	--	--	--	--	3300	TON
700E1010	Special Riprap	--	3322	--	--	--	3322	TON
700E1010	Special Riprap	--	--	2630	--	--	2630	TON
700E1010	Special Riprap	--	--	--	1815	--	1815	TON
700E1010	Special Riprap	--	--	--	--	3322	3322	TON
831E0110	Type B Drainage Fabric	9200	15177	9575	7040	15177	56169	SQYD

### Index of Sheets

Sheet 1 Project Map

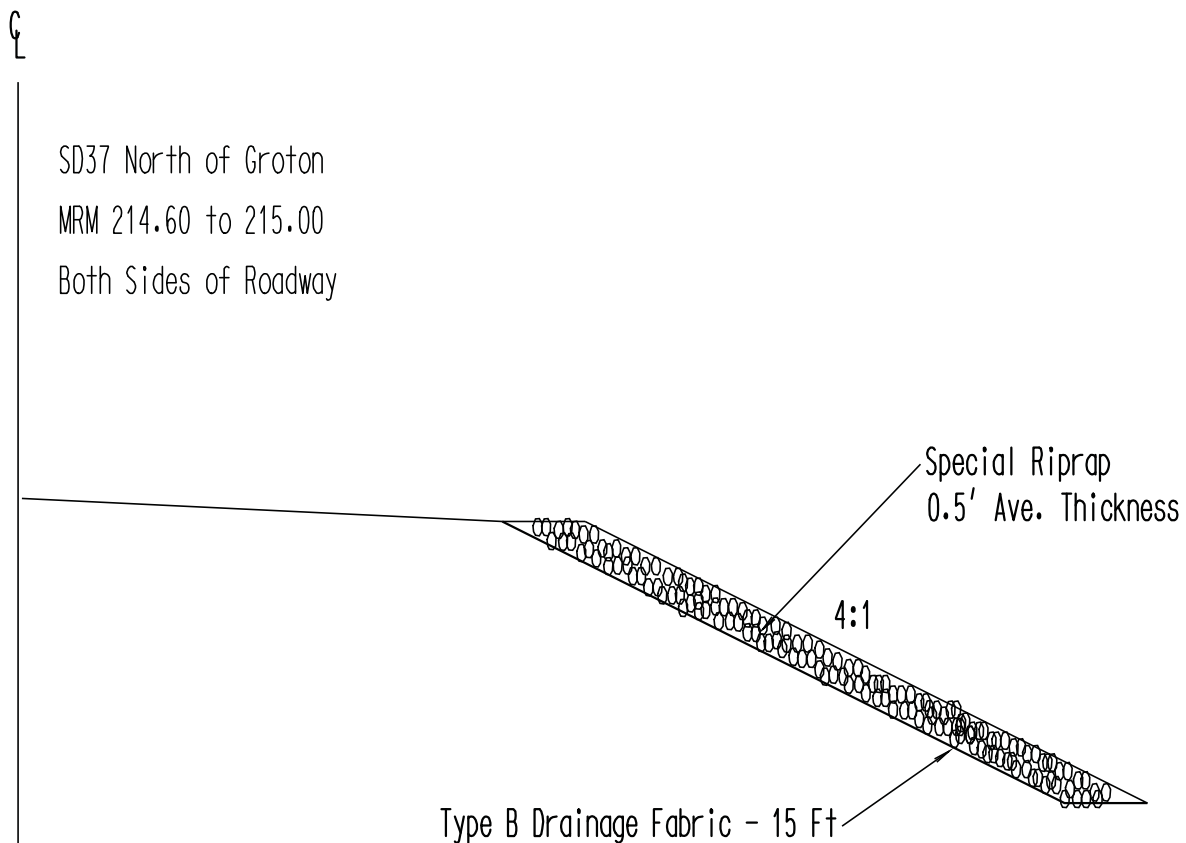
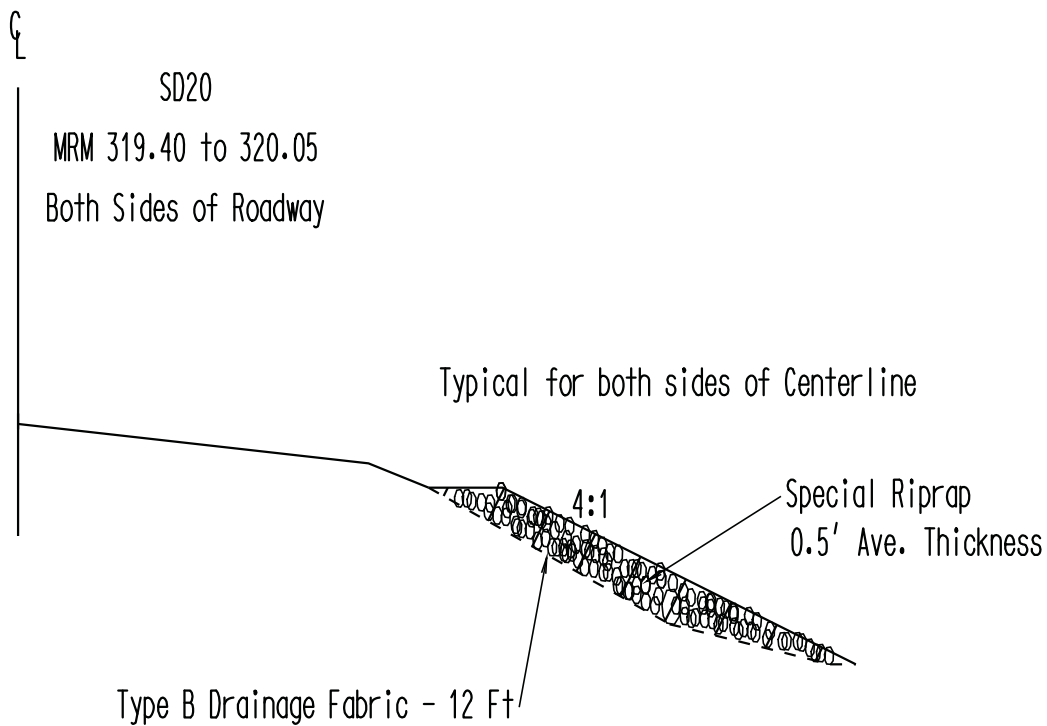
Sheet 2 Estimate of Quantities

Sheet 3-5 Typical Sections

Sheet 6-10 Plan Notes

Sheet 11-12 Traffic Control

# Typical Sections



# Typical Sections

☞ SD37 North of SD10

MRM 233.74 to 234.02 - Both Sides

MRM 234.3 to 234.52 - Left

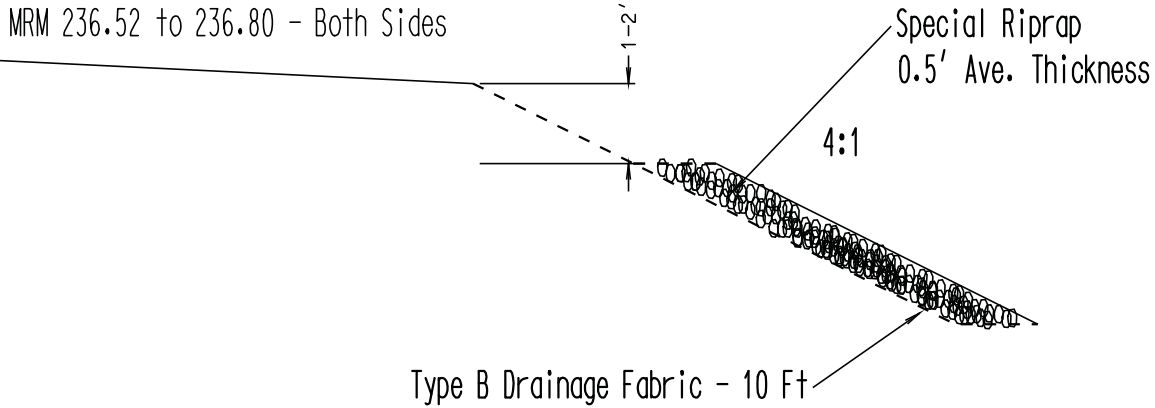
MRM 235.62 to 236.10 - Left

MRM 235.71 to 236.15 - Right

MRM 236.35 to 236.52 - Both Sides

MRM 236.52 to 236.80 - Both Sides

1'-2' depending on location



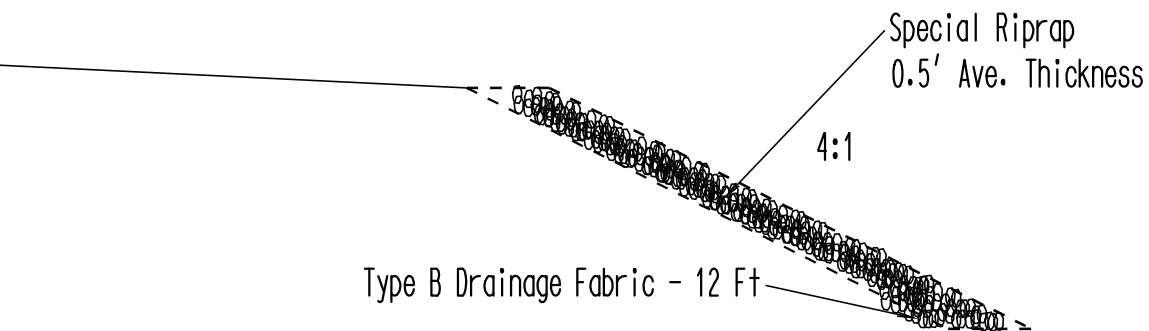
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SD37 South of Groton

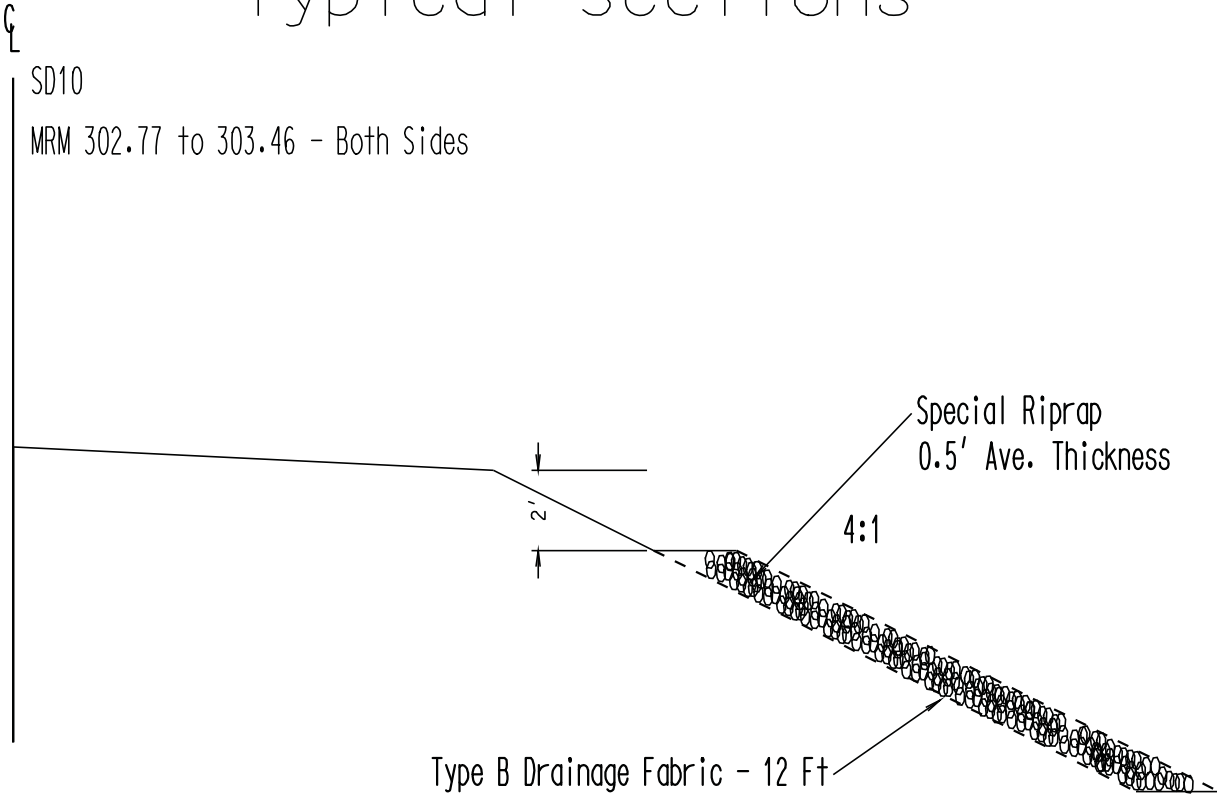
MRM 206.00 to 206.10 - Both Sides

MRM 206.08 to 206.15 - Left

MRM 206.08 to 206.55 - Right



# Typical Sections



## **SPECIFICATIONS**

Standard Specifications for Roads and Bridges, 2004 Edition and Required Provisions, Supplemental Specifications and/or Special Provisions as included in the Proposal.

## **GENERAL NOTES AND SEQUENCE OF OPERATIONS**

Once work starts on the project it shall be pursued actively until completed. \$500/day liquidated damages shall be charged for unauthorized delays once construction begins.

All of the Type B Drainage fabric shall be installed and held down by approved means prior to riprap installation beginning.

The Special Riprap shall be shaped to the satisfaction of the engineer so that it shall allow for future placement of topsoil on top of the Special Riprap and not create a hazard adjacent to the roadway.

Equipment for placing the riprap shall not be allowed off the roadway. All equipment working on the roadway shall be rubber tired or have rubber mats placed so no damage is done to the roadway. Any damage to the roadway, including the shoulder shall be repaired by the Contractor at no expense to the State of South Dakota.

Special Riprap will not be unloaded or dumped on the roadway. The contractor shall be capable of dumping the material off of the paved surface, picking up the material without driving off of the paved surface and placing the material while keeping all equipment on the paved surface of the road.

Special Riprap shall be shaped to conform to the ends of any existing pipe and care shall be taken to not disturb the pipe ends or place rock within the pipe.

SD 37 from MRM 233.70 to 236.80 is scheduled for resurfacing during the 2011 construction season.

## **SPECIAL RIPRAP**

The Riprap shall meet the following gradation:

<b>Rock Size in Feet</b>	<b>Percent of Riprap Smaller Than</b>
0.75	100
0.50	90
0.33	20

The Contractor shall match the existing rock (natural or ledge) at each location. If there is no existing rock at the location, the rock shall match the rock along that route.

## **TRAFFIC CONTROL**

Work on this project shall be accomplished while maintaining traffic with flaggers. All equipment and traffic control shall be removed nightly from the roadway and shall not be stored where it is a hazard to traffic.

Removing, relocating, covering, salvaging and resetting of existing traffic control devices, including delineation, shall be the responsibility of the Contractor. Cost of this work shall be incidental to the various contract bid items unless otherwise specified in the plans. Delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State.

Storage of vehicles and equipment shall be off of the project and not allowed in the ROW

Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage to the vegetation, surfacing, embankment, delineators and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the State, and to the satisfaction of the Engineer.

Work activities during non-daylight hours are subject to prior approval.

Traffic approaching the project from intersecting roadways, streets, and approaches must be adequately accommodated. Major intersections or large commercial entrances may require additional signing, flaggers, and channelizing devices on a temporary basis until work activities pass these areas.

The bottom of signs on portable or temporary supports shall not be less than seven feet above the pavement in urban areas and one foot above the pavement in rural areas. Portable sign supports may be used as long as the duration is less than 3 days. If the duration is more than 3 days the signs shall be on fixed supports.

The Contractor shall provide documentation that all breakaway sign supports comply with FHWA NCHRP Report 350 or MASH crash-worthy requirements. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

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

## **WATER SOURCE**

The Contractor shall not withdraw water with equipment previously used outside the State of South Dakota without prior approval from the DOT Environmental Office.

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

The DOT Environmental Office contact is the Environmental Project Scientist, 605-773-3268. The WATER SOURCE plan note does not relieve the Contractor of his/her responsibility to obtain the necessary permits from other agencies such as the Department of Environment and Natural Resources (DENR) and the United States Army Corps of Engineers (COE).

## **WORK AFFECTING WATERWAYS**

### **A. WATER QUALITY**

#### **Surface Water Discharge**

If construction dewatering is required, the Contractor is required to obtain a Surface Water Discharge Permit from the DENR. Contact the DENR Surface Water Program at 605-773-3351 to apply for a permit.

The unnamed tributary to Snake Creek and Mud Creek are classified as a warm water, semi permanent fishery with a Surface Water Discharge standard of 150 milligrams/liter total suspended solids.

#### **Storm Water**

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



## **HISTORICAL PRESERVATION OFFICE CLEARANCES**

To obtain State Historical Preservation Office (SHPO) clearance, a cultural resources survey may need to be conducted by a qualified archaeologist. In lieu of a cultural resources survey, the Contractor could request a records search from Jim Donohue, State Archaeological Research Center (SARC). Provide SARC with the following: a topographical map or aerial view on 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 no artifacts have been found on the site. The Contractor shall arrange and pay for the cultural resource survey and/or records search.

If any earth disturbing activities occur within the current geographical or historic boundaries of any South Dakota reservation, the Contractor shall obtain Tribal Historical Preservation Office (THPO) clearance. If no THPO exists, the required SHPO clearance shall suffice, with documentation of Tribal contact efforts provided to SHPO.

To facilitate SHPO or THPO responses, the Contractor should submit a records search or cultural resources survey report to the DOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3268). Allow 30 days from the date this information is submitted to the Environmental Engineer for SHPO/THPO approval. The Contractor is responsible for obtaining all required permits and clearances for staging areas, borrow sites, waste disposal sites, and all material processing sites. The Contractor shall provide the required permits and clearances to the Engineer at the preconstruction meeting.

## **WASTE DISPOSAL SITE**

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

Construction/demolition debris may not be disposed of within the State ROW.

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Highway, Road, and Railway 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) shall 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 Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements shall apply:



1. Construction/demolition debris consisting of concrete, asphalt concrete, or other similar materials shall be buried in a trench completely separate from wood debris. The final cover over the construction/demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the State ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the State ROW through the use of 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) shall be incidental to the various contract items.

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	25
35 - 40	350	25
45 - 50	500	50
55	750	50
60 - 65	1000	50

-  Flagger
-  Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

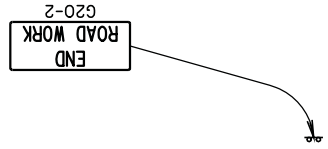
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) shall be displayed in advance of the liquid asphalt areas.

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

The channelizing devices shall be drums or 42" cones.

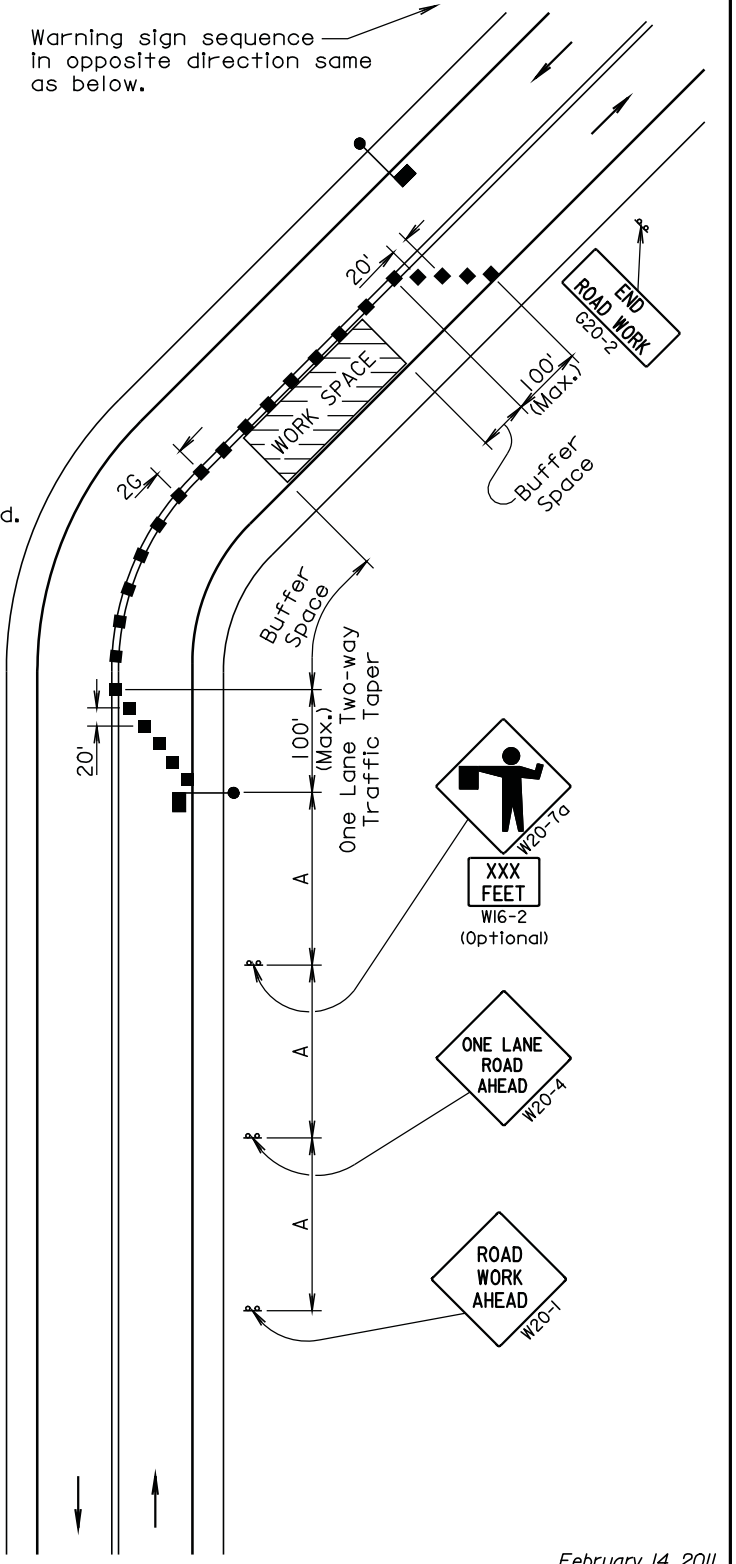
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



Channelizing devices and flaggers shall be used at intersecting roads to control intersecting road traffic as required.

The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

Warning sign sequence in opposite direction same as below.



February 14, 2011

Published Date: 2nd Qtr. 2011

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**GUIDES FOR TRAFFIC CONTROL DEVICES  
LANE CLOSURE WITH FLAGGER PROVIDED**

PLATE NUMBER  
**634.23**

Sheet 1 of 1

## ITEMIZED LIST FOR TRAFFIC CONTROL

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2	36" x 18"	END ROAD WORK	2	17	34
W20-1	48" x 48"	ROAD WORK ##### FT. OR AHEAD	2	34	68
W20-4	48" x 48"	ONE LANE ROAD ##### FT. OR AHEAD	2	34	68
W20-7a	48" x 48"	FLAGGER	2	34	68
<b>TOTAL UNITS</b>					<b>238</b>

If a sign is required on a project and not listed in the above inventory, the units per sign will be determined as follows:

Signs 36" x 36" will be measured at 27 units each and signs 48" x 48" will be measured at 34 units each, otherwise:

If a sign measures less than 25" high and 25" wide the units per sign will be computed as sign size (sq ft) x 3.

If a sign measures between 23H" and 37H" the units per sign will be computed as sign size (sq ft) x 1.2 +15.