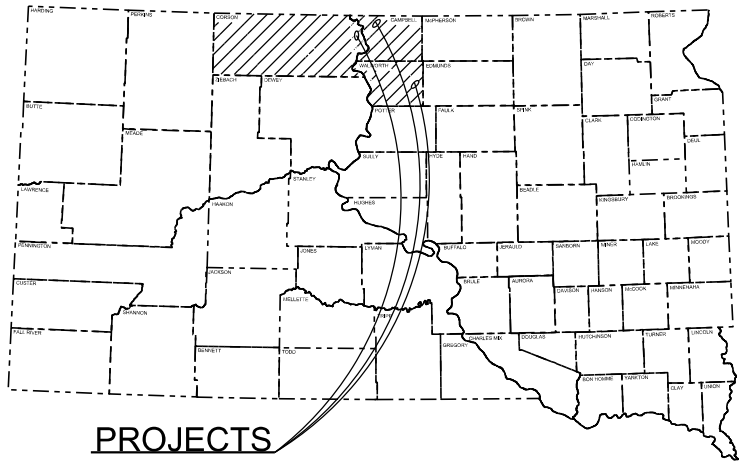


Plot Scale - 1:200

Plotted From - tmo1n04



STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

PROJECTS 010-371, 1806-371, 012-371
SD HIGHWAY 10, SD HIGHWAY 1806, US HIGHWAY 12
CAMPBELL, CORSON AND WALWORTH COUNTIES

INSLOPE EROSION REPAIR
PCN I3F1, I3F2, I3F3

INDEX OF SHEETS

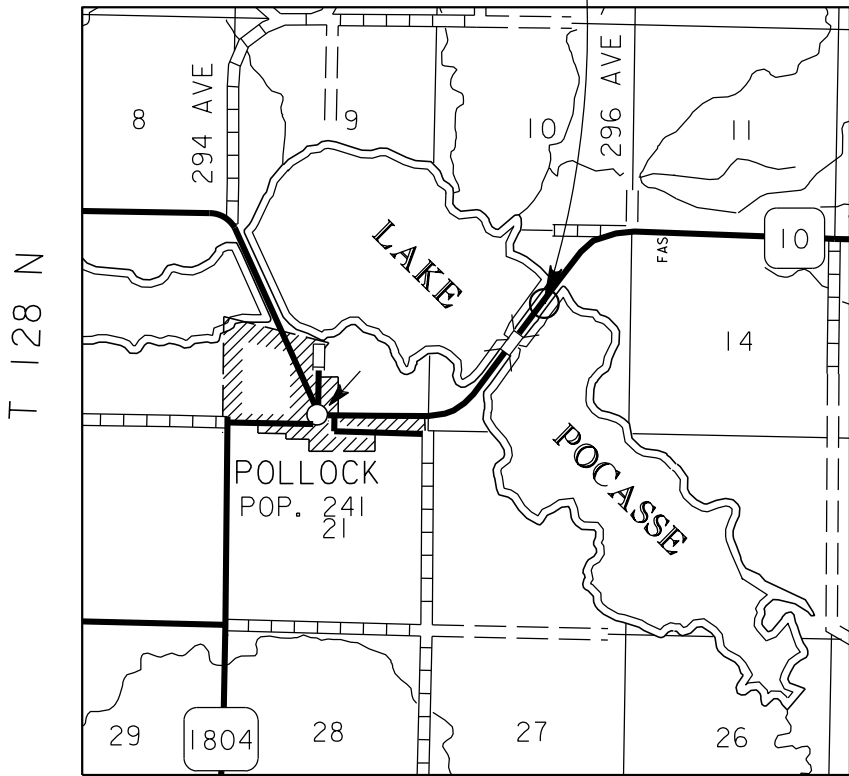
- 1 Title with Index
- 2-3 Estimate of Quantities and Environmental Commitments
- 4-5 General Notes
- 6 010-371 Plan
- 7 1806-371 Plan
- 8 012-371 Plan
- 9-10 Standard Plates

STORM WATER PERMIT DATA

Major Receiving
Body of Water: Lake Pocasse
Area Disturbed: 0.6 ac.
Total Project Area: 0.9 ac.
Approx. Begin Lat/Long 45.90694/-100.26528

010-371 PCN I3F1
MRM 183.5 TO 183.6

R 78 W

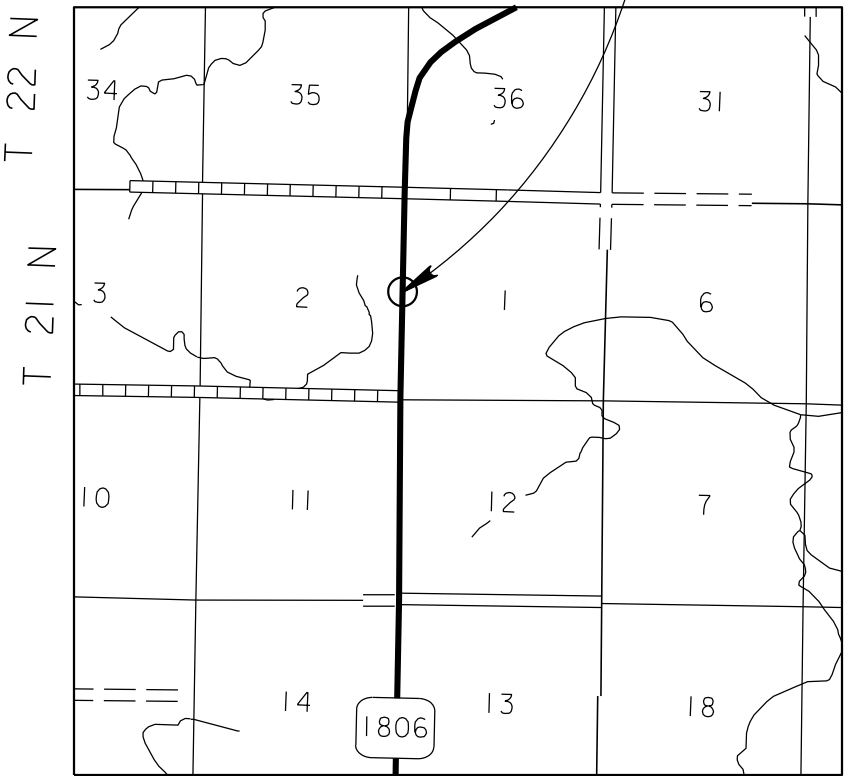


STORM WATER PERMIT DATA

Major Receiving
Body of Water: Lake Oahe
Area Disturbed: 0.1 ac.
Total Project Area: 0.9 ac.
Approx. Begin Lat/Long 45.81183/-100.47976

1806-371 PCN I3F2
MRM 383.1 TO 383.2

R 29 E R 30 E

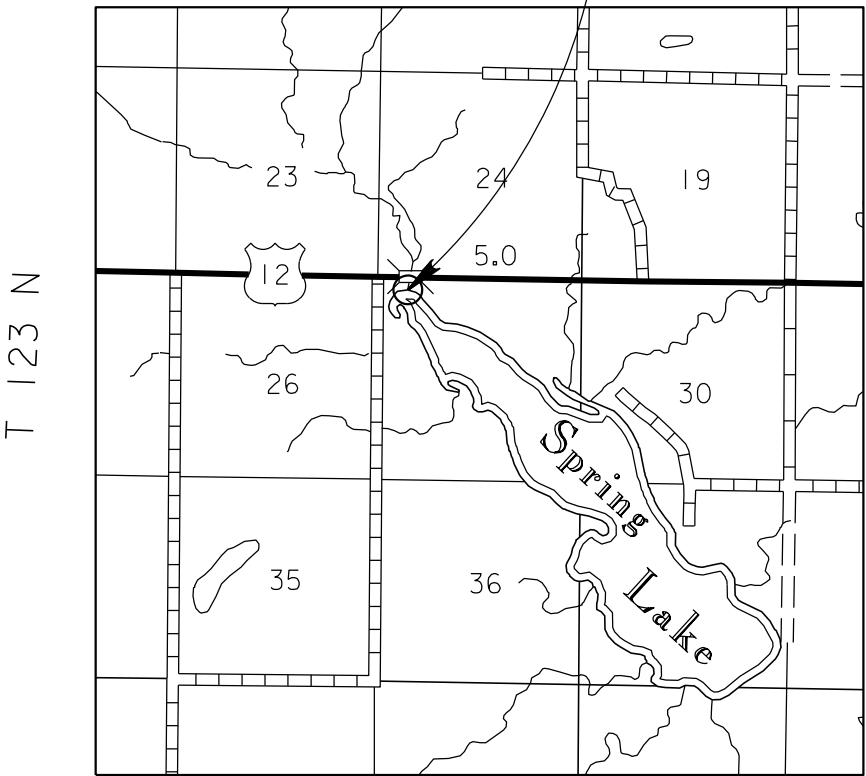


STORM WATER PERMIT DATA

Major Receiving
Body of Water: Spring Lake
Area Disturbed: 0.2 ac.
Total Project Area: 0.9 ac.
Approx. Begin Lat/Long 45.44932/-99.84974

012-371 PCN I3F3
MRM 223.0 TO 223.2

R 75 W R 74 W



Estimate of Quantities

010-371 PCN I3F1			
Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
230E0100	Remove and Replace Topsoil	Lump Sum	LS
634E0010	Flagging	16	Hour
634E0100	Traffic Control	306	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
700E0110	Class A Riprap	1369	Ton
734E0010	Erosion Control	Lump Sum	LS
734E0630	Floating Silt Curtain	1100	Ft
831E0110	Type B Drainage Fabric	2200	SqYd

1806-371 PCN I3F2			
Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
120E0600	Contractor Furnished Borrow	65	CuYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
634E0010	Flagging	8	Hour
634E0100	Traffic Control	306	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
734E0010	Erosion Control	Lump Sum	LS
734E0131	Type 1 Turf Reinforcement Mat	445	SqYd

012-371 PCN I3F3			
Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
120E0600	Contractor Furnished Borrow	200	CuYd
634E0010	Flagging	8	Hour
634E0100	Traffic Control	306	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
700E0110	Class A Riprap	25	Ton
734E0010	Erosion Control	Lump Sum	LS
734E0131	Type 1 Turf Reinforcement Mat	850	SqYd
734E0630	Floating Silt Curtain	585	Ft
831E0110	Type B Drainage Fabric	50	SqYd

SPECIFICATIONS

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

ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. The environmental commitments associated with this project are as follows:

COMMITMENT A: WETLANDS

Approximately 0.35 acres of wetlands will be temporarily impacted by the project. Refer to plan sheets for location and boundaries of the impacted wetlands.

Table of Impacted Wetlands

Wetland No.	Type	Station	Impact Left (Acres)	Impact Right (Acres)	Temporary Impact (Acres)	Total Impact (Acres)
10-371	L1UBGh	66+00 to 69+50	0.0	0.0	0.2	0.2
12-371	PEMA	483+26 to 485+75	0.0	0.0	0.1	0.1
1806-37	PEMC	174+50 to 177+00	0.0	0.0	0.05	0.05

Action Taken/Required:

The 0.35 acres of temporary wetland impacts are determined to be self-mitigating. These temporary impacts will not be mitigated as their original grades will be re-established with each project action.

The Contractor shall notify the Project Engineer if additional easement is needed to complete the work adjacent to any wetlands listed in the table. The Project Engineer shall obtain an appropriate course of action from the Environmental Office before proceeding with construction activities that affect additional wetlands.

The contact person is the Environmental Project Scientist of the SDDOT Environmental Office at 605-773-3268.

Wetland Topsoil

Wetland topsoil shall be stripped from all wetland areas which will be temporarily impacted by the projects. The wetland topsoil shall be stripped to a depth that sufficiently allows 6 inches of the wetland topsoil to be re-utilized as the upper stratum of grade(s) to be re-established to original elevation.

The wetland topsoil shall be stockpiled separately from other topsoil in a location approved by the Project Engineer. Locate wetland stockpile a minimum of 50 feet away from concentrated flows of storm water, drainage courses, and inlets. All wetland topsoil that is stripped shall be spread back into the original grade so that it is evenly distributed to a minimum depth of 6 inches.

COMMITMENT C: WATER SOURCE

The Contractor shall not withdraw water with equipment previously used outside the State of South Dakota without prior approval from the SDDOT Environmental Office. Thoroughly wash all construction equipment before entering South Dakota to reduce the risk of invasive species introduction into the project vicinity.

Action Taken/Required:

The Contractor shall obtain the necessary permits from the regulatory agencies such as the Department of Environment and Natural Resources (DENR) and the United States Army Corps of Engineers (COE) prior to executing water extraction activities.

COMMITMENT D: WATER QUALITY STANDARDS

COMMITMENT D1: SURFACE WATER QUALITY

The Lake Pocasse is classified as a warm water permanent fishery with a total suspended solids standard of 90 milligrams/liter

The Spring Lake is classified as a warm water permanent fishery with a total suspended solids standard of 90 milligrams/liter.

Action Taken/Required:

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

COMMITMENT D2: SURFACE WATER DISCHARGE

The Lake Pocasse is classified as a warm water permanent fishery with a Surface Water Discharge standard of 90 milligrams/liter total suspended solids.

The Spring Lake is classified as a warm water permanent fishery with a Surface Water Discharge standard of 90 milligrams/liter total suspended solids.

Action Taken/Required:

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

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

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

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor shall 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 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 Project 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 and/or 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 and/or 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.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all designated option borrow sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require review of cultural resources impacts. This work includes, but is not limited to: staging areas, borrow sites, waste disposal sites, and all material processing sites.

The Contractor shall arrange and pay for a cultural resource survey and/or records search. 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; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor shall provide ARC 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 artifacts have not been found on the site.

The Contractor shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). 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.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order 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 staging areas, borrow sites, waste disposal sites, or material processing sites that affect wetlands, threatened and endangered species, or waterways. The Contractor shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

COMMITMENT N: SECTION 404 PERMIT

The SDDOT has obtained a Section 404 Permit from the US Army Corps of Engineers for the permanent actions associated with this project.

Action Taken/Required:

The Contractor shall comply with all requirements contained in the Section 404 permit.

The Contractor shall also be responsible for obtaining a Section 404 permit for any dredge, excavation, or fill activities associated with staging areas, borrow sites, waste disposal sites, or material processing sites that affect wetlands or waters of the United States.

SCOPE OF WORK

Work on this project involves repairing eroded inslopes areas that exist along SD Highway 10 across Lake Pocasse, US Highway 12 across Spring Lake and SD Highway 1806 near MRM 383.

SEQUENCE OF OPERATIONS

The following Sequence of Operations shall be used for this project. The Contractor may submit an alternate Sequence of Operations for consideration by the Area Engineer. An alternate Sequence of Operations shall be submitted to the Area Engineer a minimum of 2 weeks prior to the preconstruction meeting.

1. Install construction signing.
2. Remove topsoil from inslopes.
3. Shape area to receive fabric and riprap.
4. Install drainage fabric and riprap.
5. Repair shoulder/inslope above riprap.
6. Replace topsoil
6. Install erosion control (seeding, turf mat).
7. Project cleanup and removal of construction signing.

UTILITIES

The Contractor shall 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 shall contact each utility owner and confirm the status of all existing and new utility facilities.

GENERAL MAINTENANCE OF TRAFFIC

Storage of vehicles and equipment shall be outside the clear zone and as near as possible to the right-of-way line. Contractor’s employees should mobilize at a location off the right-of-way and arrive at the work sites in a minimum number of vehicles necessary to perform the work.

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.

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 location, ground mounted, breakaway 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.

ITEMIZED LIST FOR TRAFFIC CONTROL

010-371 PCN I3F1

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
W20-7	48" x 48"	FLAGGER	2	34	68
W21-5	48" x 48"	SHOULDER WORK	2	34	68
TOTAL UNITS					306

1806-371 PCN I3F2

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
W20-7	48" x 48"	FLAGGER	2	34	68
W21-5	48" x 48"	SHOULDER WORK	2	34	68
TOTAL UNITS					306

012-371 PCN I3F3

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
W20-7	48" x 48"	FLAGGER	2	34	68
W21-5	48" x 48"	SHOULDER WORK	2	34	68
TOTAL UNITS					306

INCIDENTAL WORK, GRADING

The existing riprap where the new riprap and drainage fabric will be installed at Highway 12 location shall be salvaged and placed along the shoreline at locations as directed by the Engineer.

All costs associated with salvage and relocation of the existing riprap shall be incidental to the contract lump sum price for Incidental Work, Grading. The Contractor shall be responsible for visiting the project site and determining the amount of work required for this contract item.

CONTRACTOR FURNISHED BORROW

The Contractor shall provide a suitable site for Contractor Furnished Borrow material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site.

The borrow material shall be approved by the Engineer.

Waste material produced from other sections of the project may used as Contractor Furnished Borrow material.

Compaction of the placed borrow material shall be to the satisfaction of the Engineer.

The plans quantity for “Contractor Furnished Borrow” as shown in the Estimate of Quantities will be the basis of payment for this item.

Restoration of the Contractor furnished borrow site shall be the responsibility of the Contractor.

RIPRAP AND DRAINAGE FABRIC

The Contractor shall be required to excavate the necessary soil to obtain 4:1 or flatter inslope and match the adjacent inslopes with a riprap thickness of 1.5 ft. .

An estimated quantity of 400 cy of waste material maybe generated by the excavation and reshaping for the riprap on SD 10.

Any excess material excavated that cannot be used to fill eroded areas will become property of the Contractor for his/her disposal.

Riprap for use on this project shall be Class A conforming to Section 830 of the Standard Specifications.

The drainage fabric and riprap shall be placed as per the Typical Section on the inslopes. The limits of riprap placement may be adjusted in the field by the Engineer. Vehicles and equipment shall not be operated directly on the drainage fabric.

Type B Drainage Fabric will be measured and paid for by the square yard of surface area, including vertical surfaces covered by the fabric. Payment shall be full compensation for furnishing and placing the fabric and for all labor, equipment, materials and incidentals necessary to prepare the area for satisfactory placement of the drainage fabric.

The quantity of Type B Drainage Fabric shown in the Estimate of Quantities is based upon a width of 18 ft. on SD 10.

Class A Riprap shall be measured and paid for by the ton in place as shown on the weigh ticket which shall accompany each load.

Location	L/R	Class A Riprap (Ton)	Type B Drainage Fabric (SqYd)
SD 10	L	933	1500
SD 10	R	436	700
US 12	R	25	50
Totals:		1394	2250

REMOVE AND REPLACE TOPSOIL

Prior to beginning drainage fabric and riprap placement, any available topsoil where the riprap is to be installed and around proposed riprap line approximately 3 ft wide shall be salvaged and stockpiled.

Any available topsoil shall also be salvaged and stockpiled from the areas to be filled before any borrow material is placed.

Following completion of construction, topsoil shall be spread evenly over the disturbed areas and placed back on the inslopes on those area above the riprap.

REMOVE AND REPLACE TOPSOIL (continued)

The estimated amount of topsoil to be removed and replaced is 300 CuYd.

All cost associated with removing and replacing the topsoil along areas to be repaired shall be incidental to the lump sum price for “Remove and Replace Topsoil”.

EROSION CONTROL

The areas to be seeded shall consist of areas disturbed by the construction within the project limits.

It is estimated approximately 0.5 acre will be disturbed and require seeding.

All costs to seed shall be incidental to the contract lump sum price for “Erosion Control”.

Permanent Seeding

All permanent seed shall be planted in the topsoil at a depth of ¼” to ½”.

All seed broadcast must be raked or dragged in (incorporated) within the top ¼” to ½” of topsoil when possible. This requirement may be waived by the Engineer during construction when raking or dragging is deemed not feasible by conventional methods.

The varieties listed for seed mixtures are preferred varieties.

Type G Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Flintlock, Rodan, Rosana	7
Switchgrass	Dacotah, Forestburg, Nebraska 28, Pathfinder, Summer, Sunburst, Trailblazer	3
Indiangrass	Holt, Tomahawk	3
Big Bluestem	Bison, Bonilla, Champ, Pawnee, Sunnyview	3
Oats or Spring Wheat: April through May; Winter Wheat: August through November		10
Total:		26

Mycorrhizal Inoculum

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

The inoculum shall include the following fungal species:

<i>Glomus intraradices</i>	25%
<i>Glomus aggregatu</i>	25%
<i>Glomus mosseae</i>	25%
<i>Glomus etunicatum</i>	25%

All seed shall be inoculated by the seed supplier with a minimum of 100,000 live propagules of mycorrhizal fungi per acre.

The mycorrhizal inoculum shall be from the list below or an approved equal:

Product	Manufacturer
MycoApply	Mycorrhizal Applications, Inc. Grants Pass, OR Phone: 1-866-476-7800 http://www.mycorrhizae.com/

FLOATING SILT CURTAIN

Floating silt curtains shall be installed at locations noted in the table and at locations determined by the Engineer during construction.

The Contractor shall determine the water depth and other waterway characteristics such as stream flow velocity and seek technical advice from the manufacturer before ordering the floating silt curtain so that the floating silt curtain installed is the correct type for the individual sites.

The Contractor shall install the floating silt curtain according to the manufacturer’s installation instructions or as directed by the Engineer.

The Contractor shall maintain the floating silt curtains for the duration of the project to ensure continuous protection of the waterway.

A list of known manufacturers of floating silt curtain is shown below for informational purpose. Contractors may also use Engineer approved floating silt curtain from manufacturers that are not included in the list.

ABASCO, LLC Houston, TX Phone: 1-800-242-7745 www.abasco.net	Aer-Flo, Inc. Bradenton, FL Phone: 1-800-823-7356 www.aerflo.com
American Boom and Barrier Corp. Cape Canaveral, FL Phone: 1-800-843-2110 www.abbcoboom.com	ENVIRO-USA, LLC Cocoa, FL Phone: 1-321-222-9551 www.enviro-usa.com
Elastec/American Marine, Inc. Carmi, IL Phone: 1-618-382-2525 www.turbiditycurtains.com	Geo-Synthetics, LLC (GSI) Waukesha, WI Phone: 1-800-444-5523 www.geosynthetics.com

TABLE OF FLOATING SILT CURTAIN

Location	Station to	Station	L/R	Quantity (Ft)
SD 10	62+00	69+50	L	750
SD 10	66+00	69+50	R	350
US 12	483+20	483+80	R	60
US 12	485+00	485+75	R	75
US 12	479+00	483+50	R	450
Total:				1685

TURF REINFORCEMENT MAT

Turf Reinforcement Mat shall be installed at locations shown in the table at the widths specified, and at locations determined by the Engineer during construction. The Contractor shall use a turf reinforcement mat from the approved products list. The approved product list for turf reinforcement mat may be viewed at the following internet site:

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

Installation of the Turf Reinforcement Mat shall be according to the manufacturer’s installation instructions.

TABLE OF TURF REINFORCEMENT MAT

Station to	Station	Location	L/R	Width (Ft)	Type	Quantity (SqYd)
479+00	482+60	US 12	R	15	1	600
485+00	485+75	US 12	R	30	1	250
174+50	177+00	SD 1806	R	16	1	445
Total Type 1 Turf Reinforcement Mat:						1295

All costs for shaping the inslope for Type 1 Turf Reinforcement Mat including labor and equipment shall be incidental to the contract unit price per square yard “Type 1 Turf Reinforcement Mat”.

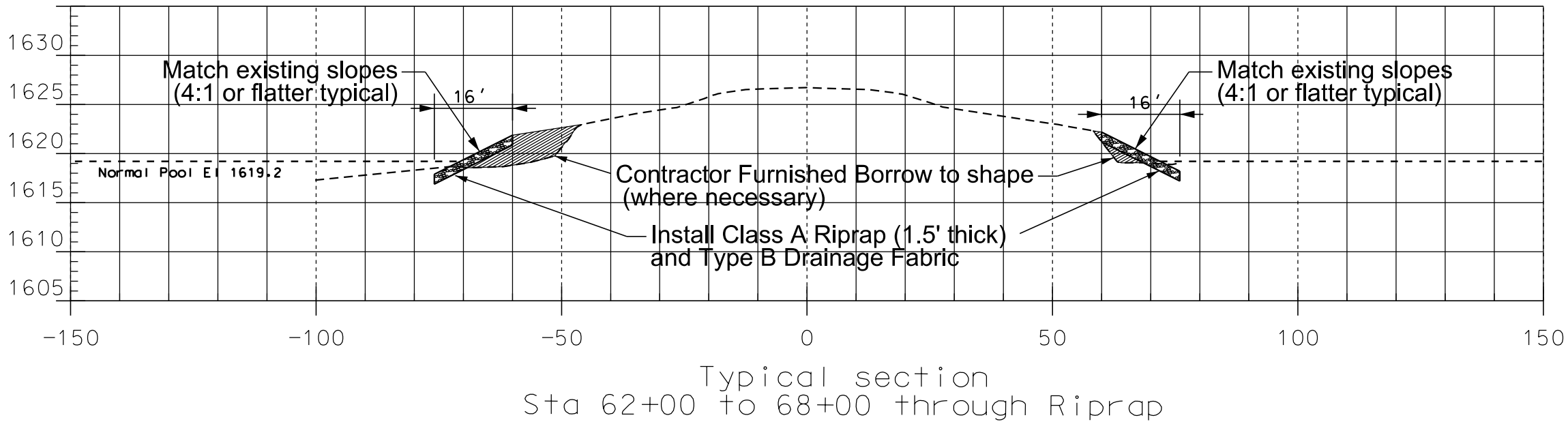
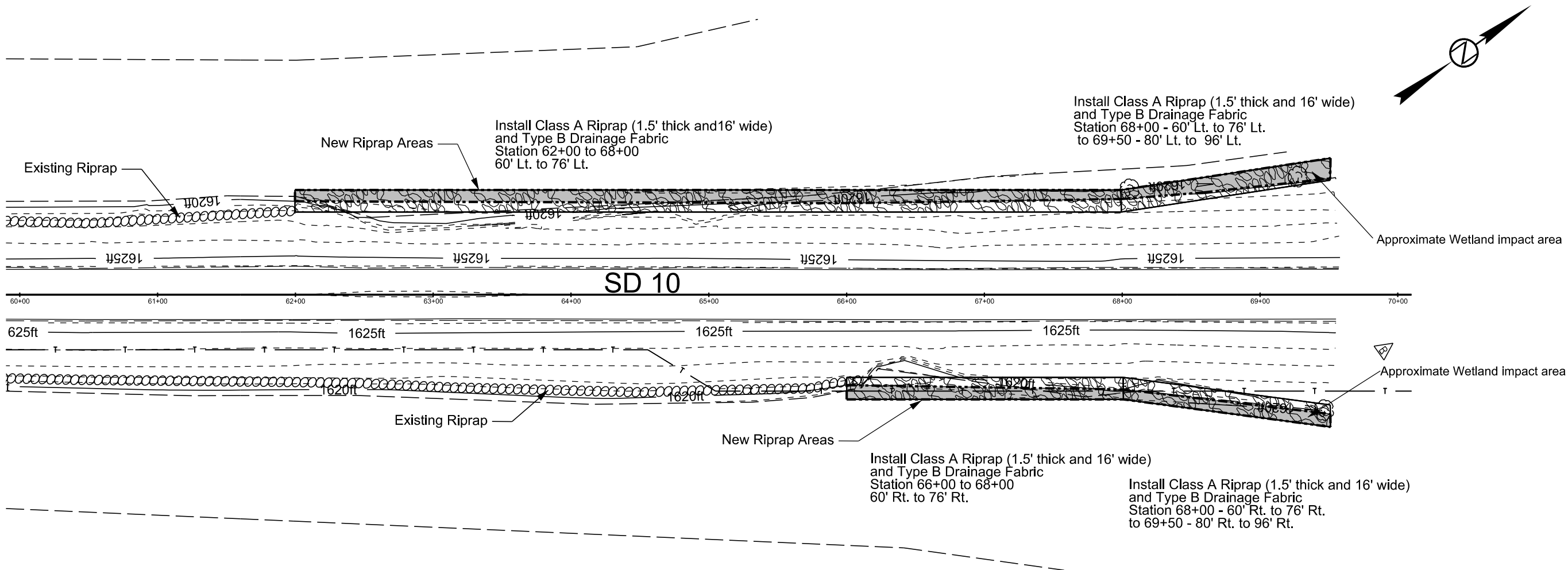
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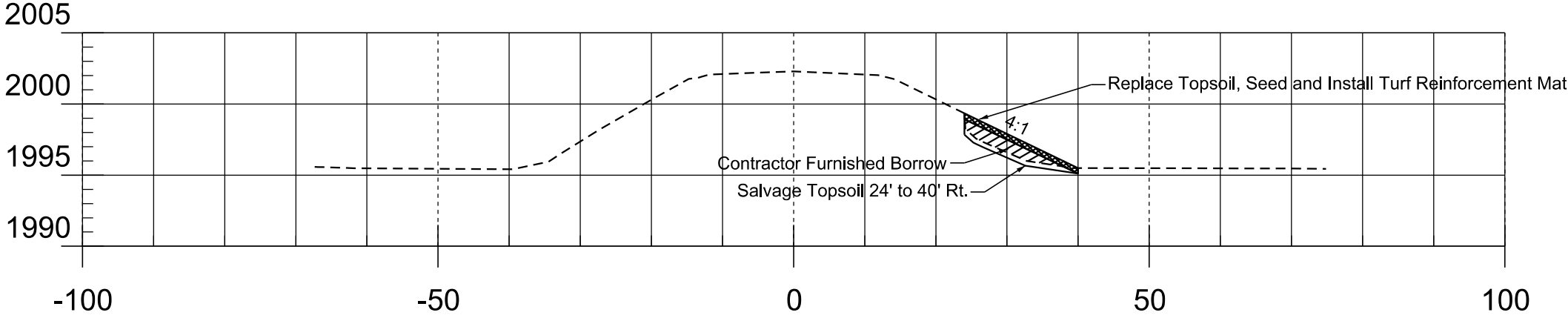
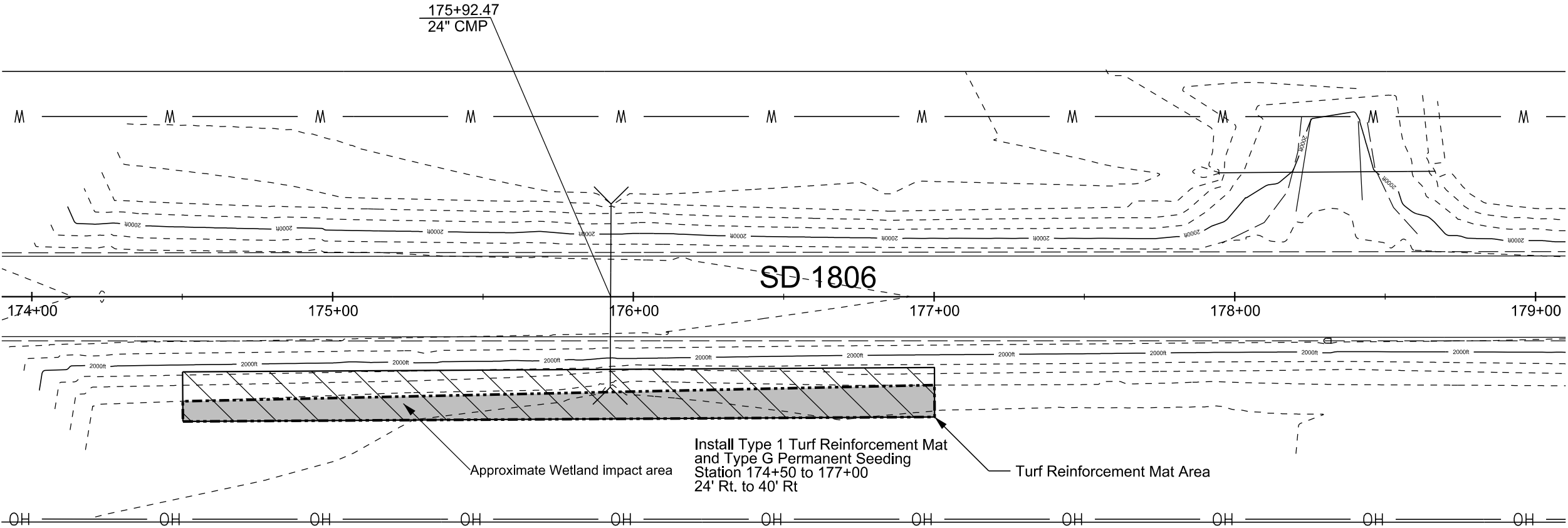
010-371 PCN I3F1
MRM 183.5 to 183.6

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	010-371, 1806-371, 012-371	6	10

Plotting Date: 06/24/2014



1806-371 PCN I3F2
MRM 383.2



Typical section
Sta 174+50 to 177+00 through eroded area

Plot Scale - 1:40

Plotted From - tmo1n04

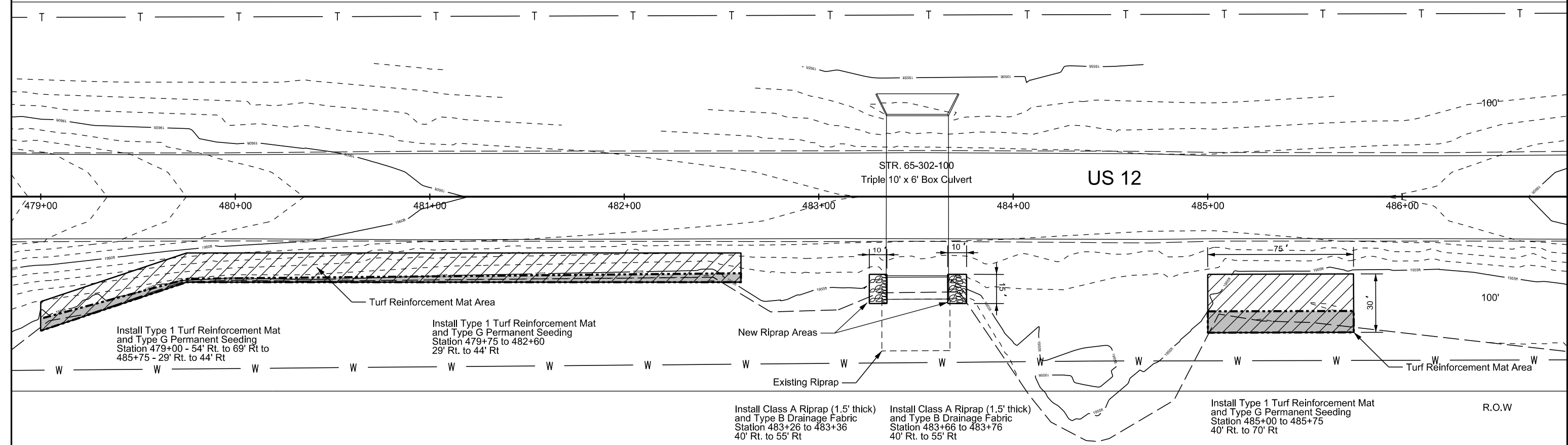
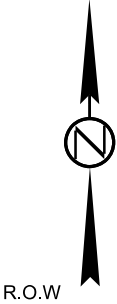
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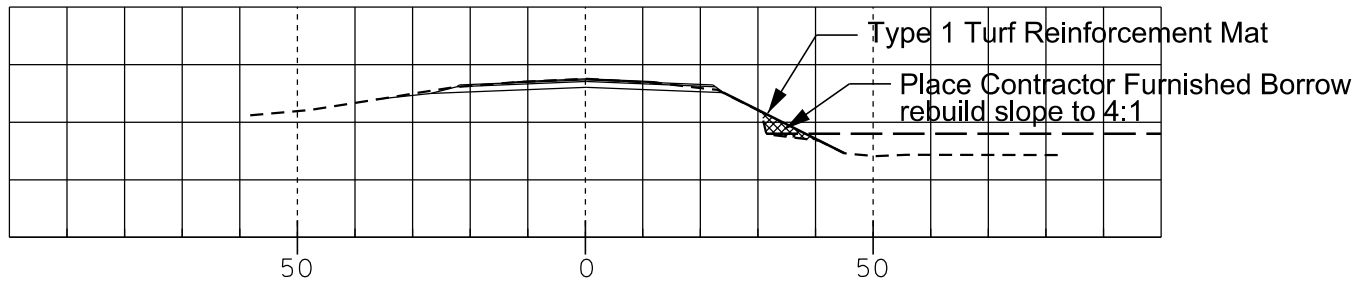
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	010-371, 1806-371, 012-371	8	10

Plotting Date: 06/24/2014

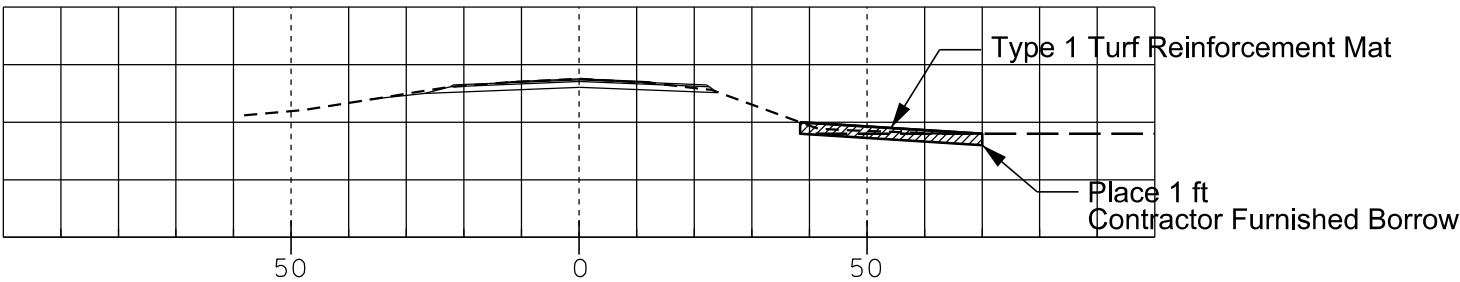
012-371 PCN I3F3
MRM 223.0 to 223.2



Note: Salvage existing riprap in locations of new riprap and place along the shoreline as directed by the Engineer



Typical section
Sta 479+00 to 482+60 through turf mat area



Typical section
Sta 485+00 to 486+00 through turf mat area

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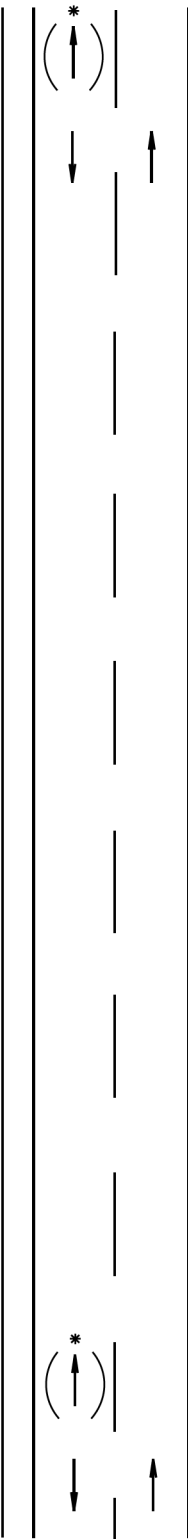
The signs illustrated are not required if the work space is behind a barrier, more than 2 feet behind the curb, or 15 feet or more from the edge of any roadway.

The signs illustrated shall be used where there are distracting situations; such as: vehicles parked on shoulder, vehicles accessing the work site via the highway, and equipment traveling on or crossing the roadway to perform work operations.

The ROAD WORK AHEAD sign may be replaced with other appropriate signs, such as the SHOULDER WORK sign. The SHOULDER WORK sign may be used for work adjacent to the shoulder.

* If the work space is on a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

For short term, short duration, or mobile operations, all signs and channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

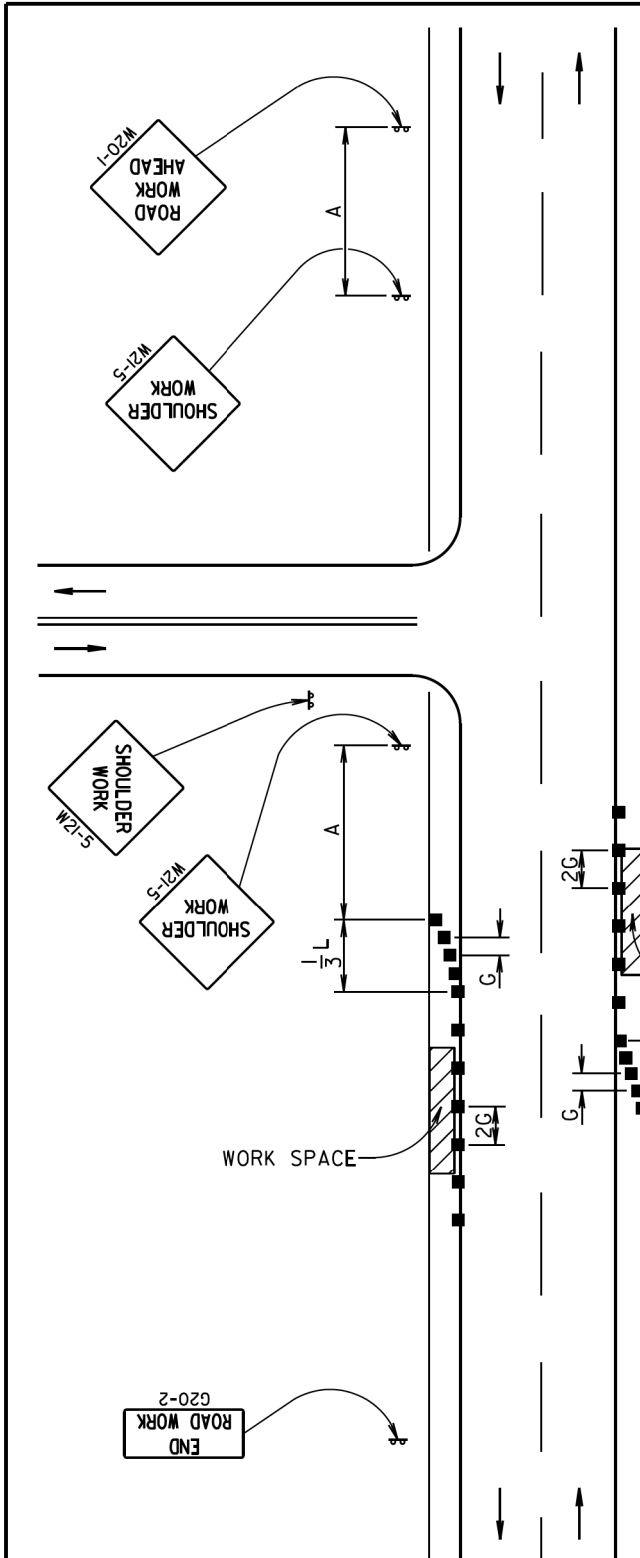


Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 75	1000



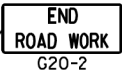
July 1, 2005

Published Date: 2nd Qtr. 2014	S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES WORK BEYOND THE SHOULDER	PLATE NUMBER 634.01
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Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	100 - 200	180	25
35 - 40	350	320	25
45 - 50	500	600	50
55	750	660	50
60 - 65	1000	780	50

Channelizing Device



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

For short duration operations (1 hour or less) all signs and channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

Worker signs (W21-1 or W21-1a) may be used instead of SHOULDER WORK signs.

A SHOULDER WORK sign should be placed on the left side of a divided or one-way roadway only if the left shoulder is affected.

The SHOULDER WORK sign on an intersecting roadway is not required if drivers emerging from that roadway will encounter another advance warning sign before they reach a work activity area.

WORK SPACE



February 14, 2011

Published Date: 2nd Qtr. 2014	S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES WORK ON SHOULDERS	PLATE NUMBER 634.03
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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	010-371, 1806-371, 012-371	10	10

Plotting Date: 06/24/2014

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.

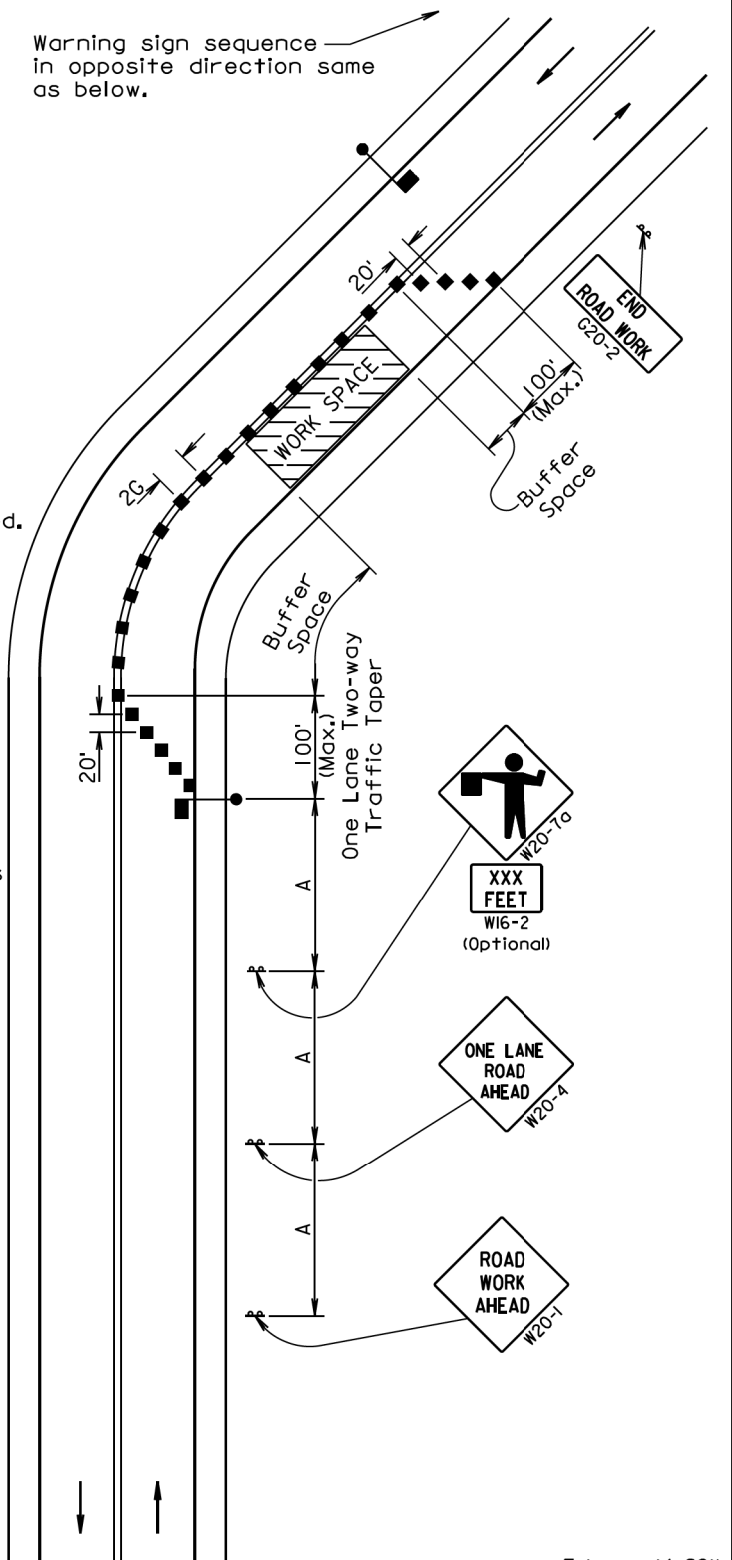
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.

END
ROAD WORK
G20-2

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

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