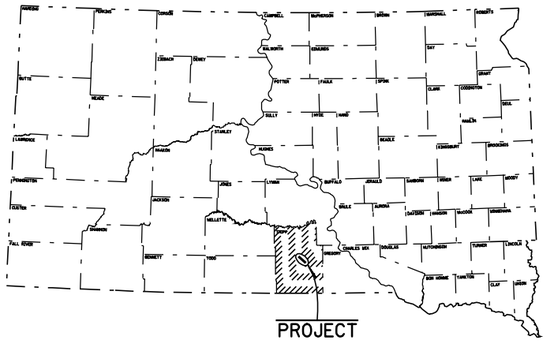
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	018-392	1	13



STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

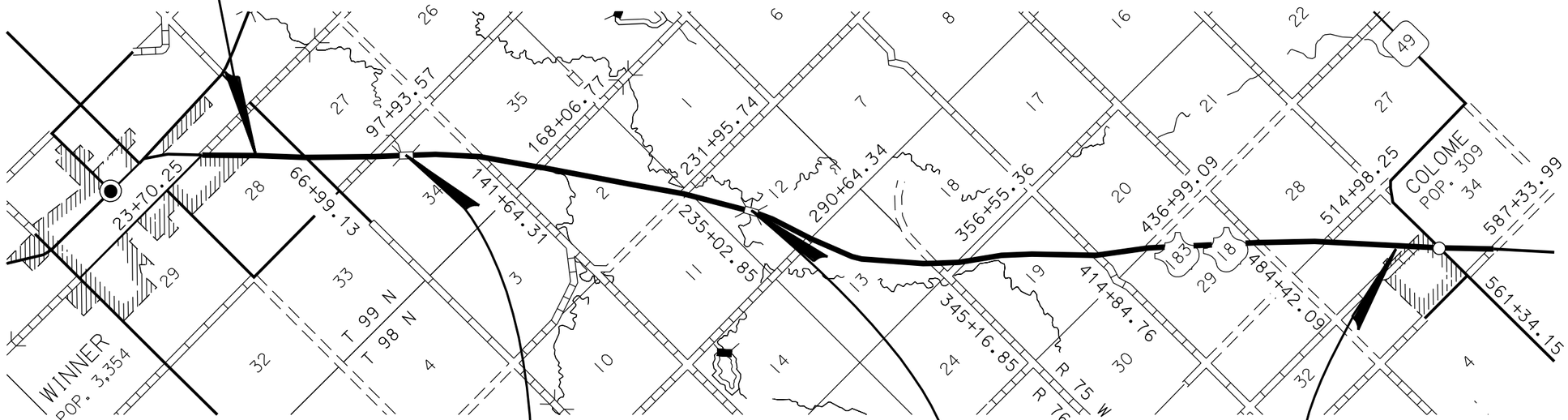
PROJECT 018-392
US HIGHWAY NOS. 18 & 183
TRIPP COUNTY

SHOULDER REHABILITATION

PCN IINS

INDEX OF SHEETS

BEGIN PROJECT
MRM 254.73 - 0.923
Mileage 246.775
Station 58+35



Sta. 105+88.75 to Sta. 107+01.25
Continuous Concrete Bridge
112.5 Feet = 0.021 Mile

Sta. 260+42.00 to Sta. 261+48.00
Continuous Concrete Bridge
106.0 Feet = 0.020 Mile

END PROJECT
MRM 263.00 - 0.065
Mileage 255.900
Station 540+15

DESIGN DESIGNATION

ADT (1999)	1795
ADT (2019)	2280
DHV	345
D	50 %
T DHV	3.7 %
T ADT	8.2 %

STORM WATER PERMIT

Major Stream: Thunder Creek
Area Disturbed: 6.6 Acre
Project Area: 19.8 Acre
Project Start Point - (43-21-54 N 99-49-58 W)

GROSS LENGTH	48,180.0 FEET	9.125 MILES
LENGTH OF EXCEPTIONS	218.5 FEET	0.041 MILES
NET LENGTH	47,961.5 FEET	9.084 MILES

ESTIMATE OF QUANTITIES

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
120E6200	Water for Granular Material	240.0	MGal
210E1000	Shoulder Preparation	18.168	Mile
260E1080	Base Course, Salvaged, State Furnished	2,545.0	Ton
632E2022	4"x4" White Delineator Back to Back with 1.12 Lb/Ft Post	180	Each
634E0010	Flagging	280	Hour
634E0020	Pilot Car	50	Hour
634E0100	Traffic Control	1,094	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
730E0210	Type F Permanent Seed Mixture	180	Lb

SPECIFICATIONS

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

SEQUENCE OF OPERATIONS

The Contractor shall use the following Sequence of Operations or submit a proposed alternative for the Engineer's approval at least one week prior to the preconstruction meeting.

1. Provide work start date to Gregg Ulmer, Winner Area Maintenance Supervisor, 605-842-0810, a minimum of two weeks prior to start of work so the shoulders can be mowed by the Winner Area Maintenance personnel.

2. Install fixed support signing and remove delineators from roadway shoulder.

3. Blade a 3 foot width of topsoil away from the edge of the shoulder to prevent contamination of this material. This material will be placed in a berm the length of the project to function as a temporary berm for sediment control.

4. Complete "Shoulder Preparation" work and daily open full road width to traffic with no shoulder dropoffs.

5. Remove temporary sediment control berm, level shoulder/existing topsoil area, and install permanent seeding.

6. Install delineators and remove fixed support signing.

Work activities will be conducted during daylight hours only.

The Contractor shall coordinate the schedule of work to ensure that US Highway 18/183 is fully open to traffic prior to nightfall with no shoulder dropoffs exceeding 1 inch caused by the project work.

SHOULDER PREPARATION

The Contractor shall notify Gregg Ulmer, Winner Area Maintenance Supervisor, 605-842-0810 a minimum of two weeks prior to this work. The Winner Area Maintenance Unit will mow the shoulders prior to the Contractor starting any shoulder work. Prior to placement of any surface application on the shoulders, vegetation and loose material shall be removed by methods approved by the Engineer.

"Shoulder Preparation" shall consist of processing the six foot width of in-place treated shoulder material to a depth of 4 inches; shaping to typical section; and compacting the processed material in accordance with Section 210.3.A. Surface Preparation in the Standard Specifications. Material shall have approximately 4 percent moisture uniformly blended throughout the depth of material. The percent moisture may be adjusted by the Engineer. Smoothness of the finished surface shall be to the satisfaction of the Engineer.

The in-place shoulder material consists of granular material or base course salvaged material. The super elevated curve sections have been cold treated with a liquid emulsion and topped with a blotter material. Asphalt patches and other areas topped with a blotter material may also be encountered in isolated areas.

Included in the Estimate of Quantities is 13.3 MGal of water per mile per shoulder for “Shoulder Preparation” material.

The Contractor shall conduct his operations in such a way that the additional “Base Course, Salvaged, State Furnished” material and water is hauled and placed ahead of the shoulder preparation operation.

The processed shoulder material will be brought up even to the edge of the Portland Cement Concrete pavement at the end of each day's work and no dropoffs greater than 1 inch, caused by the project work, shall be present. The processed shoulder material shall be bladed smooth and no windrow of material shall be present after daylight hours.

A pneumatic tired roller will be required to be used. All other requirements for Section 210.3.A. Surface Preparation of the Standard Specifications shall apply.

The Contractor shall prepare the inslope area for permanent seeding by breaking up all clumps larger than 3 inches and leveling this area using a process acceptable to the Engineer.

BASE COURSE, SALVAGED, STATE FURNISHED

The Base Course, Salvaged, State Furnished material shall be obtained from either the stockpile site located ¼ mile South of Colome on the North side of US 18 or the stockpile located at the Winner Maintenance yard located East of Winner on the North side of SD 44, SE ¼ of Section 21-T99N-R76W. There is an estimated 2,500 ton at the Colome site and 6,000 ton at the Winner site. Base Course, Salvaged, State Furnished shall be processed over a 1-1/2 inch screen prior to placement. This material may be used without further testing.

Material shall be placed immediately prior to the “Surface Preparation” work at a rate of 140 ton per mile per shoulder and shall be spread to the satisfaction of the Engineer to fill in drop offs at the edge of concrete pavement and low areas across the width of the shoulder. This spread rate may be adjusted by the Engineer to ensure sufficient material is available to fill in all areas and produce final shoulder slope.

Compaction shall be to the satisfaction of the Engineer and no additional compaction testing will be required.

Material shall have approximately 4 percent moisture uniformly blended throughout the material at time of placement. The percent moisture may be adjusted by the Engineer.

This material is royalty free to the Contractor. Furnish cost to the State for the Base Course, Salvaged, State Furnished is $4.50 per ton.

The Contractor and his forces shall contact Gregg Ulmer at (605) 842-0810 prior to removing any material, and with any questions regarding the stockpile material.

WATER FOR GRANULAR MATERIAL

All costs for furnishing and installing the construction water for “Shoulder Preparation” and “Base Course, Salvaged, State Furnished”, including labor, materials, equipment, and incidentals necessary to complete this work shall be incidental to the contract unit price per MGal for “Water For Granular Material”.

RATES OF MATERIALS

“Base Course, Salvaged, State Furnished” shall be placed, watered, and leveled immediately in front of the shoulder preparation work to fill in low spots in the shoulder. A plan rate of 140 ton per mile per shoulder was used.

“Water for Granular Material" is estimated at 4% moisture content using a 6 foot wide shoulder or a rate of 13.3 MGal per mile per shoulder.

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 Administrative Rules of South Dakota (Solid Waste) Article 74:27 administered 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.

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 Tom Lehmkuhl, DOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). 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.

FURNISH AND INSTALL DELINEATORS

The Contractor shall furnish and install 4”x4” white back to back delineators on the project. All delineators and posts shall be new materials.

The Contractor shall lay out delineator locations and shall obtain Engineer approval of locations prior to installation. Delineators shall be placed with the top of the reflector unit 4.0 feet above the roadway edge. They shall be located 14.0 feet from the edge of the 8” PCC pavement or as required by the Engineer.

Where a roadside barrier or other obstruction intrudes into the space between the pavement edge and the extension of the line of delineators, the delineators shall be placed in line with the barrier or in line with the innermost edge of the obstruction.

The standard spacing between delineators on the same side of the roadway shall be 528 feet. When normal spacing is interrupted by structures, crossroads, or ramps; delineators falling within such areas may be moved in either direction a distance not exceeding one-quarter of the standard spacing. Delineators still falling within such areas should be eliminated.

All cost for materials, labor and equipment necessary to furnish and install delineators shall be incidental to the contract unit price per each for “4”x4” White Delineator Back to Back With 1.12 lb/ft Post”

SALVAGED ITEMS - Delineators

All existing delineators shall be salvaged for future highway use and hauled to the Department of Transportation’s Winner Area office site as directed by the Engineer. Care shall be taken not to damage the structural properties of the items during dismantling and transporting. All broken concrete and materials not salvaged shall become property of the contractor. All costs for salvaging and transporting the items shall be incidental to the contract lump sum price for “Traffic Control, Miscellaneous”. Before preparing his/her bid, the Contractor shall make a visual inspection of the project to verify the extent of the work and material involved.

PERMANENT SEEDING

All disturbed areas within the right-of-way shall be seeded with Type F Permanent Seed Mix at the rate of 26 pound “Pure Live Seed” per acre. The width to be seeded is estimated to be three feet and will require equipment designed for this narrow width.

Type F Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Flintlock, Rodan, Rosana	7
Green Needlegrass	Lodorm	4
Sideoats Grama	Butte, Killdeer, Pierre, Trailway	3
Blue Grama	Bad River, Willis	2
Oats or Spring Wheat: April through July; Winter Wheat: August through November		10
	Total:	26

Following the seeding operations the areas shall be raked to the satisfaction of the Engineer. 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.

Hand seeding devices may be allowed for use due to small quantities, if approved by the Engineer.

Permanent Seeding will be measured and paid for along the shoulder of the roadway where the topsoil stripping and replacement work is accomplished.

PERMANENT PAVEMENT MARKING

The Contractor shall take care to preserve existing permanent pavement markings. Any permanent pavement marking damaged by the Contractor's operations will be replaced at no cost to the State.

GENERAL MAINTENANCE OF TRAFFIC

Fixed Location Signing placed more than 2 days prior to the start of construction shall be covered until the time of construction. The cost of materials, labor and equipment necessary to complete this work shall be incidental to other contract items. No separate payment will be made.

Removing, relocating, covering, salvaging and resetting of existing traffic control devices, including delineation, shall be the responsibility of the Contractor. Cost for this work shall be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any 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 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 Contractor will be allowed to use portable sign supports for the mobile operation portions of the work. Non-fixed location signs may be mounted on portable supports, however any sign used in the same location for more than 72 hours shall be mounted on fixed supports.

Portable supports shall be constructed to yield upon impact to minimize hazards to motorists. 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.

All breakaway sign supports shall comply with FHWA NCHRP 350 crashworthy requirements. **The Contractor shall provide post installation details at the preconstruction meeting for all steel post breakaway sign support assemblies.**

If operations exist where the traveling public will be delayed at a flagging station for more than 5 minutes, it is required that the flaggers and pilot car operators all have radio or telephone contact with one another. This equipment is to be used to assist the traffic movement in the event that an emergency vehicle such as ambulance, police, or fire vehicles need to pass through the project in an expedient manner.

Highway equipment working within traffic or adjacent to traffic shall, at all times, display a flashing or revolving amber light to warn the traveling public.

The sign tabulation units were calculated assuming work would be conducted at one work zone.

Traffic Control units, as shown in the Estimate of Quantities, are estimates. The Contractor's operation may require adjustments in quantities, either more or less. Payment will be made for signs actually ordered by the Engineer at the contract unit price.

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

❖ **SITE DESCRIPTION (4.2 1)**
- **Project Limits: See Title Sheet (4.2 1.b)**
- **Project Description: See Title Sheet (4.2 1.a.)**
- **Site Map(s): See Title Sheet and Plans (4.2 1.f. (1)-(6))**
- **Major Soil Disturbing Activities** (check all that apply)
  - ☐ Clearing and grubbing
  - ☐ Excavation/borrow
  - ☐ Grading and shaping
  - ☐ Filling
  - ☐ Cutting and filling
  - ☒ Other (describe): Shoulder Rehabilitation
- **Total Project Area** 19.8 Acre (**4.2 1.b.)**
- **Total Area To Be Disturbed** 6.6 Acre (**4.2 1.b.)**
- **Existing Vegetative Cover (70%)**
- **Soil Properties:** A-7, A-6, & A-4 Silty Clay & Silty Clay Loam – All well drained **(4.2 1. d.)**
- **Name of Receiving Water Body/Bodies** Thunder Creek **(4.2 1.e.)**

❖ **ORDER OF CONSTRUCTION ACTIVITIES (4.2 1.c.)**
(Stabilization measures shall be initiated as soon as possible, but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Initiation of final or temporary stabilization may exceed the 14-day limit if earth disturbing activities will be resumed within 21 days.)
- **Construction Sequence Requirements (see sheet 2)**
- **Install stabilized construction entrance(s).**
- **Strip and windrow 3 feet width of topsoil along edge of shoulder into temporary sediment control berm**
- **Complete shoulder rehabilitation**
- **Replace 3 feet width of topsoil from berm along shoulder.**
- **Reseed areas disturbed by removal activities.**

❖ **EROSION AND SEDIMENT CONTROLS (4.2 2.a.(1)(a)-(f))**
(Check all that apply)
- **Stabilization Practices (See Detail Plan Sheets)**
  - ☒ Temporary or Permanent Seeding
  - ☐ Sodding
  - ☐ Planting
  - ☐ Mulching (Straw or Cellulose Fiber)
  - ☐ Erosion Control Blankets or Mats
  - ☒ Vegetation Buffer Strips
  - ☐ Roughened Surface (e.g. tracking)
  - ☐ Gabions-Gabion Mattress
  - ☐ Other
- **Structural Temporary Erosion and Sediment Controls**
  - ☐ Silt Fence
  - ☐ Straw Bale Check
  - ☒ Temporary Berm
  - ☐ Temporary Slope Drain
  - ☐ Straw Wattles or Rolls
  - ☐ Diversion Channels/Swales
  - ☐ Channel Liners (TRM)
  - ☐ Stone Rip Rap Sheet
  - ☐ Rock Check Dams
  - ☐ Sediment Traps/Basins
  - ☐ Inlet Protection
  - ☐ Outlet Protection
  - ☐ Surface Inlet Protection
  - ☐ Curb Inlet Protection
  - ☐ Stabilized Construction Entrances
  - ☐ Other
- **Wetland Avoidance**
  Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes ☐ No ☒ If yes, the structural and erosion and sediment controls have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.
- **Storm Water Management (4.2 2.b., (1) and (2))**
  Storm water management will be handled by temporary controls outlined in "EROSION AND SEDIMENT CONTROLS" above, and any permanent controls needed to meet permanent storm water management needs in the post construction period. Permanent controls will be shown on the plans and noted as permanent.
- **Other Storm Water Controls (4.2 2.c., (1) and (2))**
  - **Waste Disposal**
    All liquid waste materials will be collected and stored in sealed metal containers approved by the project engineer. All trash and construction debris from the site will be deposited in the approved containers. Containers will be serviced as necessary, and the trash will be hauled to an approved disposal site or licensed landfill. All onsite personnel will be instructed in the proper procedures for waste disposal, and notices stating proper practices will be posted in the field office. The general contractor's representative responsible for the conduct of work on the site will be responsible for seeing waste disposal procedures are followed.
  - **Hazardous Waste**
    All hazardous waste materials will be disposed of in a manner specified by local or state regulations or by the manufacturer. Site personnel will be instructed in these practices, and the individual designated as the contractor's on-site representative will be responsible for seeing that these practices are followed.
  - **Sanitary Waste**
    Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units in a timely manner by a licensed waste management contractor or as required by any local regulations.

❖ **MAINTENANCE AND INSPECTION (4.2 3. and 4.2 4.)**
- **Maintenance and Inspection Practices**
  - Inspections will be conducted at least one time per week and after a storm event of 0.50 inches or greater.
  - All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report.
  - 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 site superintendent are responsible for inspections. Maintenance, repair activities are the responsibility of the contractor. The SDDOT Project Engineer will complete the inspection and maintenance reports and distribute copies per the distribution instructions on DOT 298.

❖ **NON-STORM WATER DISCHARGES (3.0)**
The following non-storm water discharges are anticipated during the course of this project (check all that apply).
- ☐ Discharges from water line flushing.
- ☐ Pavement wash-water, where no spills or leaks of toxic or hazardous materials have occurred.
- ☐ Uncontaminated ground water associated with dewatering activities.

❖ **MATERIALS INVENTORY (4.2. 2.c.(2))**
The following materials or substances are expected to be present on the site during the construction period. These materials will be handled as noted under the headings "EROSION AND SEDIMENT CONTROLS" and "SPILL PREVENTION" (check all that apply).
- ☐ Concrete and Portland Cement
- ☐ Detergents
- ☐ Paints
- ☒ Metals
- ☒ Bituminous Materials
- ☒ Petroleum Based Products
- ☒ Cleaning Solvents
- ☐ Wood
- ☐ Cure
- ☐ Texture
- ☐ Chemical Fertilizers
- ☐ Other

Spill Prevention (4.2 2.c.(2))

- **Material Management**
  - Housekeeping
    - Only needed products will be stored on-site by the contractor.
    - Except for bulk materials the contractor will store all materials under cover and in appropriate containers.
    - Products must be stored in original containers and labeled.
    - Material mixing will be conducted in accordance with the manufacturer's recommendations.
    - When possible, all products will be completely used before properly disposing of the container off site.
    - The manufacturer's directions for disposal of materials and containers will be followed.
    - The contractor's site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
    - Dust generated will be controlled in an environmentally safe manner.
    - Vegetation areas not essential to the construction project will be preserved and maintained as noted on the plans.

  - Hazardous Materials
    - Products will be kept in original containers unless the container is not resealable.
    - Original labels and material safety data sheets will be retained in a safe place to relay important product information.
    - If surplus product must be disposed of, manufacturer's label directions for disposal will be followed.
    - Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, 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 storm water system or storm water treatment system.
    - Potential pH-modifying materials such as: bulk cement, cement kiln dust, fly ash, new concrete washings, concrete pumping, and mixer washout waters will be collected on site and managed to prevent contamination of storm water runoff.

- **Product Specific Practices (6.8)**

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

- **Spill Control Practices (4.2 2 c.(2))**
  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 clean up 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 clean up purposes.
  - All spills will be cleaned immediately after discovery and the materials disposed of properly.
  - The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
  - After a spill a report will be prepared describing the spill, what caused it, and the cleanup measures taken. The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, as well as clean up instructions in the event of reoccurrences.
  - The contractor's site superintendent, responsible for day-to-day operations, will be the spill prevention and cleanup coordinator. The contractor is responsible for ensuring that the site superintendent has had appropriate training for hazardous materials handling, spill management, and cleanup.

- **Spill Response (4.2 2 c.(2))**
  The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens storm water or surface water at the site, the spill response procedures outlined below must be implemented in a timely manner to prevent the release of pollutants.
  - The contractor's site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
  - If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
  - Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the contractor at the site.
  - 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.

Spill Response (Continued) (4.2 2 c.(2))

- If a spill occurs the superintendent or the superintendent's designee will be responsible for completing the spill reporting form and for reporting the spill to SD DENR.
- Personnel with primary responsibility for spill response and clean up will receive training by the contractor's site superintendent or designee. The training must include identifying the location of the spill kits and other spill response equipment and the use of spill response materials.
- Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

❖ **SPILL NOTIFICATION**

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

- A release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to DENR immediately **if any one of the following** conditions exists:
  - The discharge threatens or is in a position to threaten the waters of the state (surface water or ground water).
  - The discharge causes an immediate danger to human health or safety.
  - The discharge exceeds 25 gallons.
  - The discharge causes sheen on surface water.
  - The discharge of any substance that exceeds the ground water quality standards of ARSD (Administrative Rules of South Dakota) chapter 74:54:01.
  - The discharge of any substance that exceeds the surface water quality standards of ARSD chapter 74:54:01.
  - The discharge of any substance that harms or threatens to harm wildlife or aquatic life.
  - The discharge of crude oil in field activities under SDCL (South Dakota Codified Laws) chapter 45-9 is greater than 1 barrel (42 gallons).

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

❖ **CONSTRUCTION CHANGES (4.4)**

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

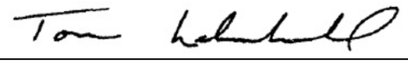
❖ CERTIFICATIONS

➢ **Certification of Compliance with Federal, State, and Local Regulations**

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

➢ **South Dakota Department of Transportation**

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



Authorized Signature (See the General Permit, Section 6.7.1.C.)

➢ **Prime Contractor**

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

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

_____

Authorized Signature

❖ CONTACT INFORMATION

➢ **Contractor Information**:
- Prime Contractor Name:
- Contractor Contact Name:
- Address:
- Address:
- City: State: Zip:
- Office Phone: Field:
- Cell Phone: Fax:

➢ **Erosion Control Supervisor**
- Name:
- Address:
- Address:
- City: State: Zip:
- Office Phone: Field:
- Cell Phone: Fax:

➢ **SDDOT Project Engineer**
- Name:
- Business Address: Box 771
- Job Office Location: 1200 East Highway 44
- City: Winner State: South Dakota Zip: 57580
- Office Phone: 605-842-0810 Field:
- Cell Phone: Fax:605-842-0611

➢ **SD DENR Contact Spill Reporting**
- Business Hours Monday-Friday (605) 773-3296
- Nights and Weekends (605) 773-3231

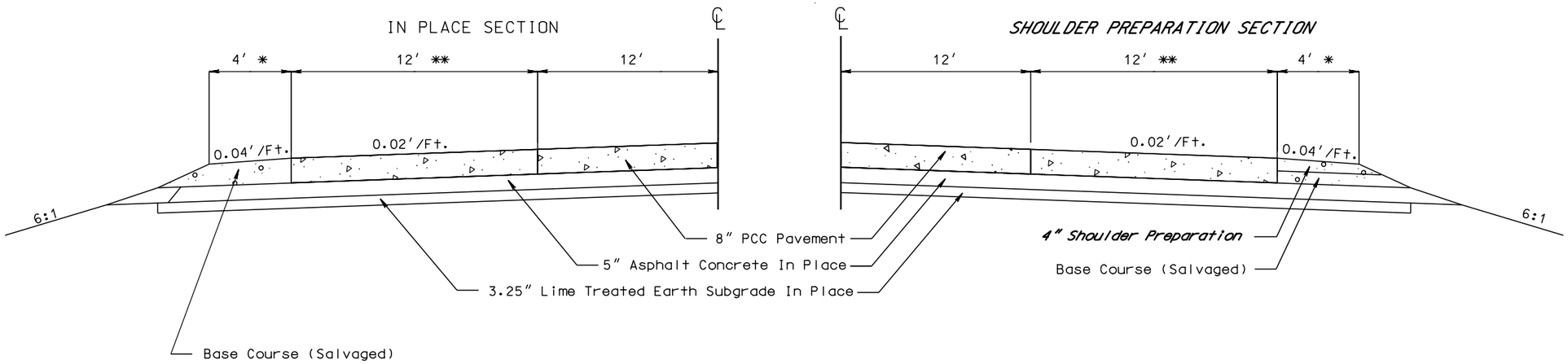
➢ **SD DENR Contact for Hazardous Materials.**
- (605) 773-3153

➢ **National Response Center Hotline**
- (800) 424-8802.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	018-392	8	13

TYPICAL SECTIONS

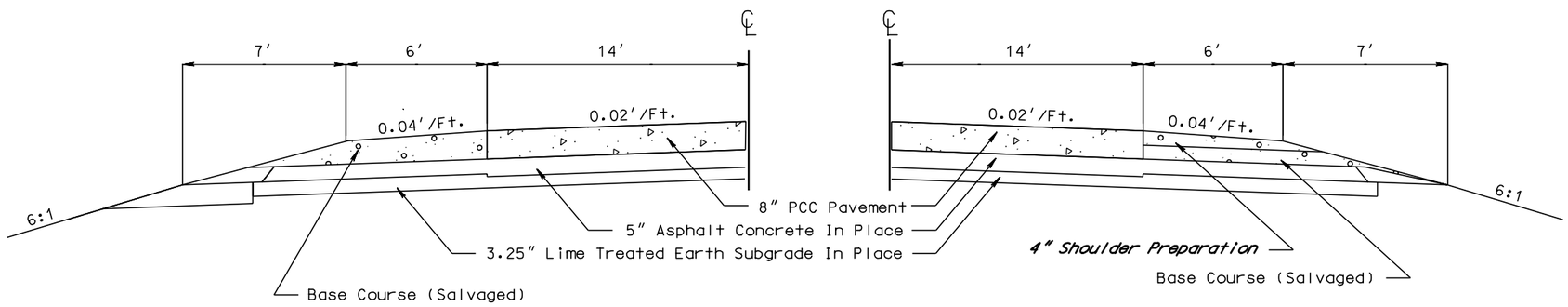
Sta. 58+35 to Sta. 81+00



Transitions
Sta. 59+25 to Sta. 61+25
* 5′ to 4′

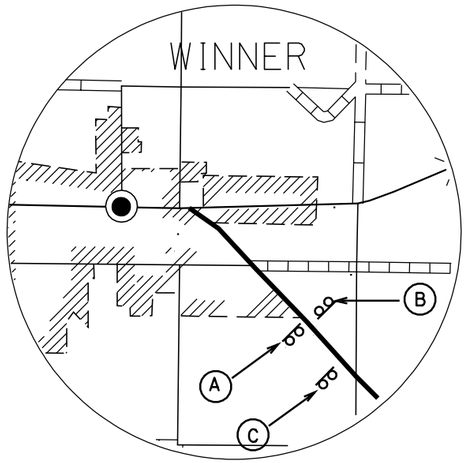
Sta. 73+00 to Sta. 81+00
* 4′ to 6′
** 12′ to 2′

Sta. 81+00 to Sta. 540+15

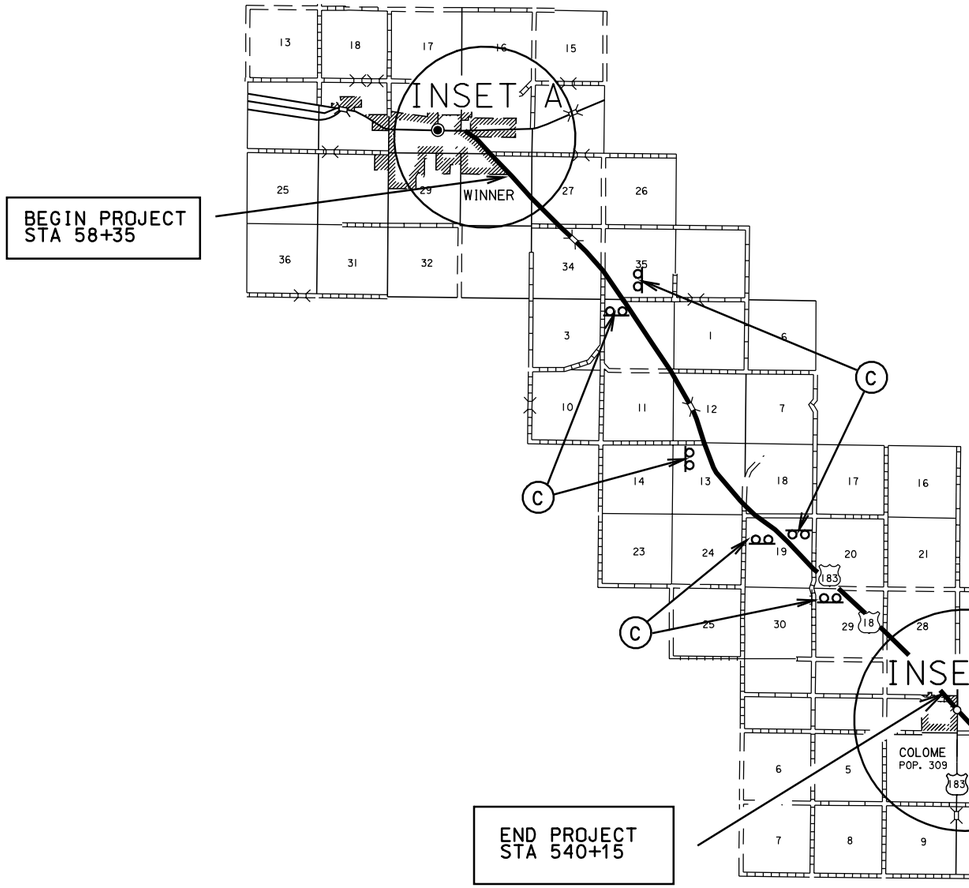


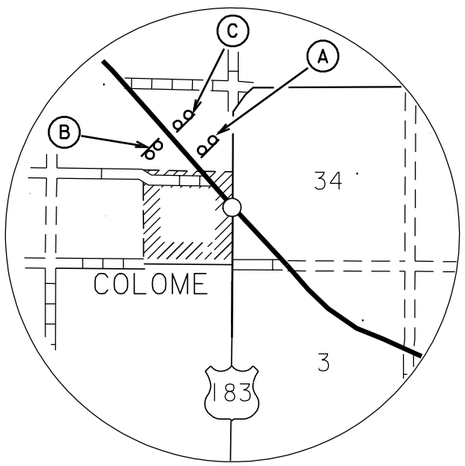
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	018-392	9	13

FIXED LOCATION SIGN LAYOUT



INSET A





INSET B

Ⓐ = ROAD WORK NEXT MILES (G20-1) 60"x 24"

Ⓑ = END ROAD WORK (G20-2A) 48"x 24"

Ⓒ = ROAD WORK AHEAD (W20-1) 48" x 48"

NOTES:

Posts used for the mounting of construction signs shall yield upon impact to minimize hazards to motorists. If a two-part post assembly is used, the connection must conform to FHWA break away sign support requirements.

Construction signs shall not block the view of exisiting signs. Construction signs shall be installed a minimum of 100 ft. from any existing sign or as directed by the Engineer.

Sign locations will be verified in the field by the Engineer prior to installation.

Payment for "Fixed Location Signing" will be paid for under the unit bid item "Traffic Control."

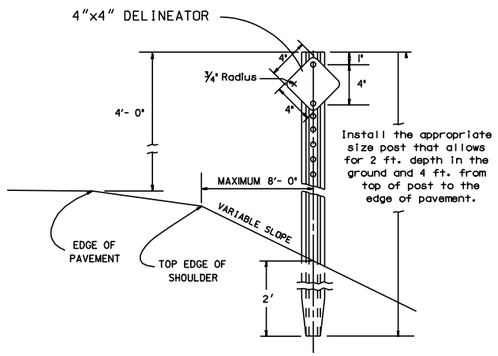
PROJECT SIGN TABULATION

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-1	48" x 24"	ROAD WORK NEXT ## MILES	2	24	48
G20-2A	36" x 18"	END ROAD WORK	4	17	68
R1-1	48" x 48"	STOP		34	
R1-2	48" x 48"	YIELD		34	
R1-2a	48" x 24"	TO ONCOMING TRAFFIC		24	
R2-1	30" x 36"	SPEED LIMIT ##		23	
R2-5C	30" x 36"	SPEED ZONE AHEAD		23	
R4-1	24" x 30"	DO NOT PASS		18	
R4-2	24" x 30"	PASS WITH CARE		18	
SW12-1B	120" x 60"	HIGHWAY WORKERS GIVE'EM A BRAKE		80	
W1-1	48" x 48"	LEFT OR RIGHT TURN ARROW		34	
W1-2	48" x 48"	LEFT OR RIGHT CURVE ARROW		34	
W1-3	48" x 48"	REVERSE TURN SIGN (LEFT OR RIGHT)		34	
W1-4a	48" x 48"	REVERSE CURVE SIGN (LEFT OR RIGHT)		34	
W3-1A	48" x 48"	STOP AHEAD (SYMBOL)		34	
W3-2a	48" x 48"	YIELD AHEAD (SYMBOL)		34	
W3-3	48" x 48"	SIGNAL AHEAD (SYMBOL)		34	
W4-1	48" x 48"	MERGE (SYMBOL)		34	
W4-2	48" x 48"	LEFT OR RIGHT LANE ENDS (SYMBOL)		34	
R4-7	24" x 30"	KEEP RIGHT (SYMBOL)		18	
R4-8	24" x 30"	KEEP LEFT (SYMBOL)		18	
W6-3	48" x 48"	TWO WAY TRAFFIC (SYMBOL)		34	
W7-3a	30" x 24"	NEXT ## MILES		18	
W8-1	36" x 36"	BUMP		27	
W8-4	36" x 36"	SOFT SHOULDER	4	27	108
W8-6	48" x 48"	TRUCK CROSSING	4	34	136
W8-7	36" x 36"	LOOSE GRAVEL		27	
W8-7A	36" x 36"	WINDROW	2	27	54
W8-9a	48" x 48"	SHOULDER DROP-OFF	4	34	136
W8-11	48" x 48"	UNEVEN LANES		34	
W12-1	36" x 36"	DOUBLE ARROW		27	
W13-1	24" x 24"	ADVISORY SPEED PLATE		16	
W20-1	48" x 48"	ROAD WORK #### FT. OR AHEAD	10	34	340
W20-2	48" x 48"	DETOUR #### FT. OR AHEAD		34	
W20-3	48" x 48"	ROAD CLOSED #### FT. OR AHEAD		34	
W20-4	48" x 48"	ONE LANE ROAD #### FT. OR AHEAD	2	34	68
W20-5	48" x 48"	LT. OR RT. LANE CLOSED #### FT. OR AHEAD		34	
W20-7a	48" x 48"	FLAGGER	2	34	68
W20-7b	48" x 48"	BE PREPARED TO STOP		34	
W21-1a	48" x 48"	WORKERS (SYMBOL)		34	
W21-2	36" x 36"	FRESH OIL		27	
W21-3	48" x 48"	ROAD MACHINERY AHEAD		34	
W21-5	48" x 48"	SHOULDER WORK	2	34	68
****	***	TYPE III BARRICADE - 8 FT. DOUBLE SIDED		56	
				TOTAL UNITS	**1094**

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	018-392	11	13

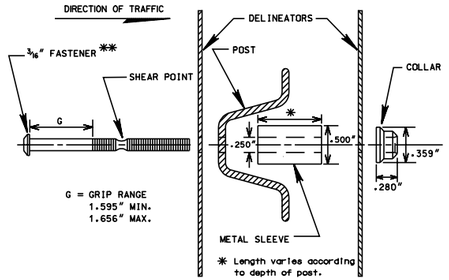
Delineator Erection Details

4"x4" and 4"x8" DELINEATORS



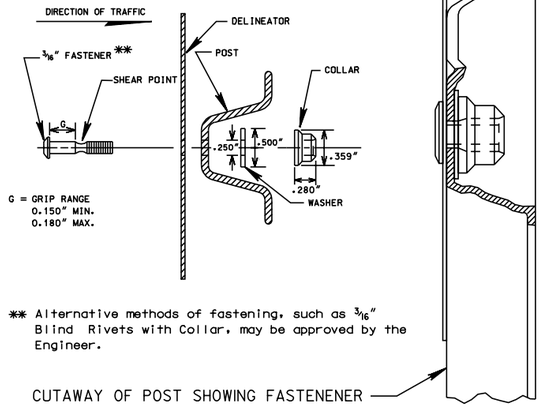
Mounting Holes in all Delineators to be 1/4" diameter

DETAIL FOR MOUNTING 4"x4" DELINEATORS BACK TO BACK ON POST



** Alternative methods of fastening, such as 3/4"- 7/8" Twin Rivets, may be approved by the Engineer.

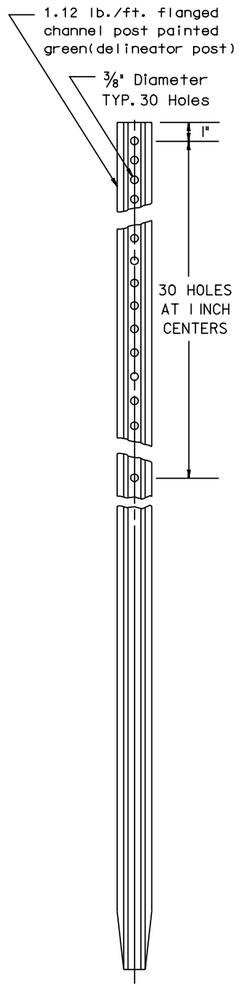
DETAIL FOR SINGLE MOUNTING DELINEATORS ON POST



** Alternative methods of fastening, such as 3/16" Blind Rivets with Collar, may be approved by the Engineer.

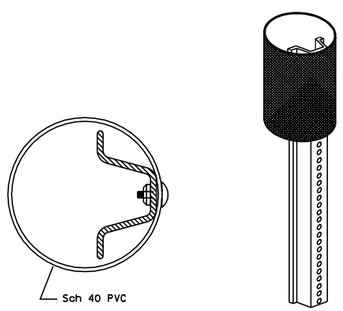
CUTAWAY OF POST SHOWING FASTENENER

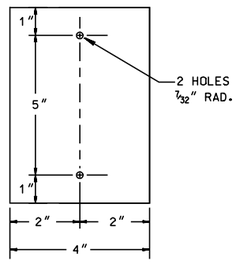
POST DETAIL



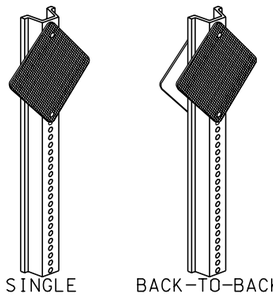
(TYPICAL)

4" TUBULAR DELINEATORS

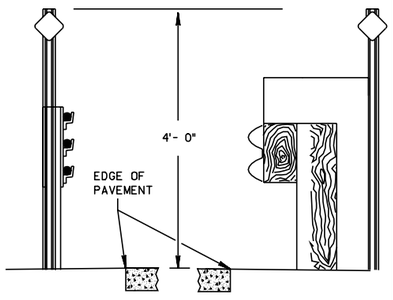




4"x4" DELINEATORS



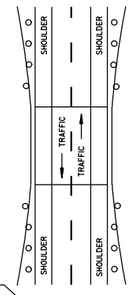
PLACEMENT BEHIND GUARDRAIL



LOCATION DETAILS

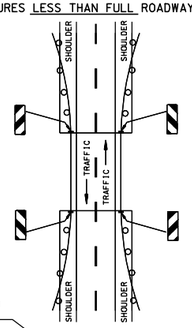
PRIMARY HIGHWAY SYSTEM AND CROSSROAD OVER INTERSTATE (UNDIVIDED ROADWAYS, TWO-WAY TRAFFIC)

STRUCTURES FULL ROADWAY WIDTH

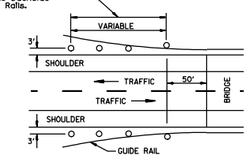


NOTE:
Standard spacing of all Delineators to be 50' center to center. Those Delineators located behind the Guide Rail are to be placed against the nearest Guide Rail Post Assembly.

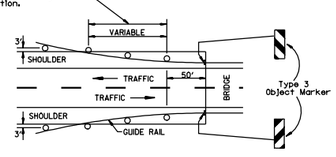
STRUCTURES LESS THAN FULL ROADWAY WIDTH



Delineators to be placed 3 feet from shoulder. Those Delineators which falls whthin a Guide Rail section are to be mounted flush with the backside of the Guide Rails.



Delineators to be placed flush with the backside of Guide Rail through this section.



Delineator and Object Markers at Bridge Ends

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	200	180	25
35 - 40	350	320	25
45 - 50	500	600	50
55	750	660	50
60 - 65	1000	780	50

■ Channelizing Device

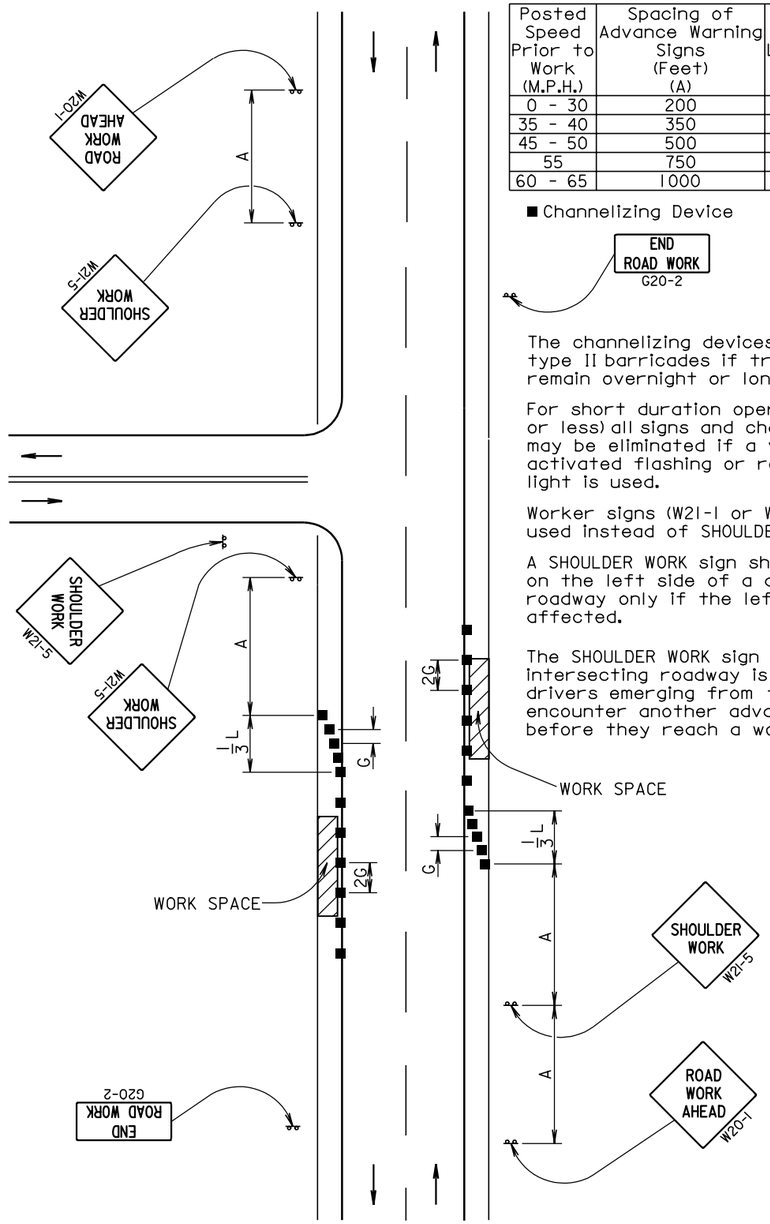
The channelizing devices shall be drums or type II barricades if traffic control must remain overnight or longer.

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.



July 1, 2005

Published Date: 1st Qtr. 2010

SDDOT

GUIDES FOR TRAFFIC CONTROL DEVICES
WORK ON SHOULDERS

PLATE NUMBER 634.03

Sheet 1 of 1

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

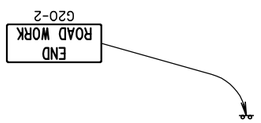
For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

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.

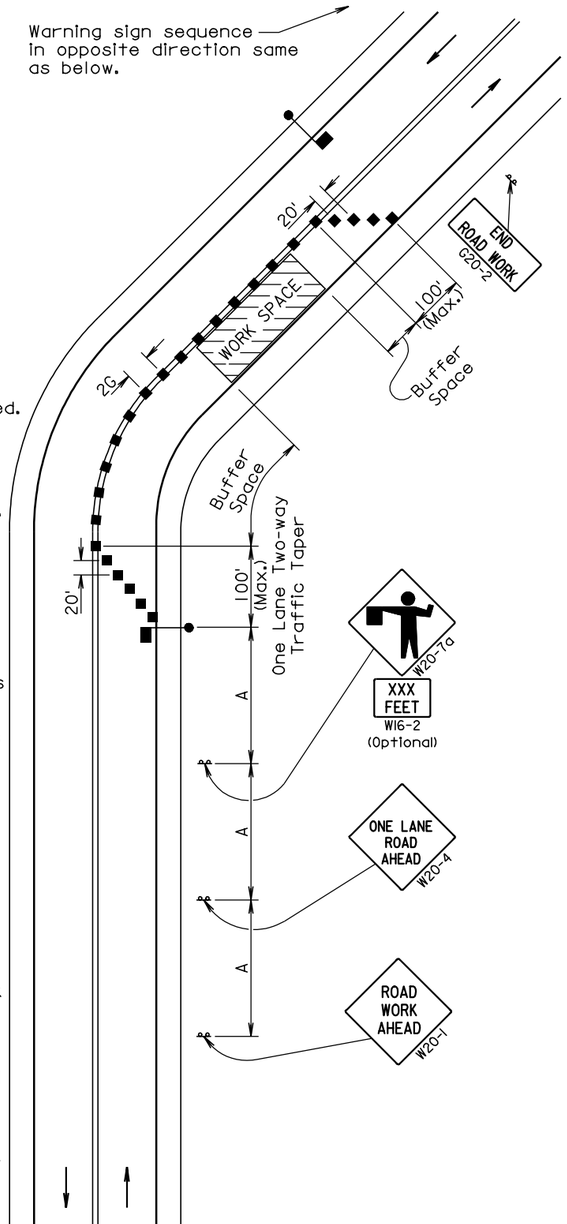
The channelizing devices shall be drums or type II barricades if traffic control must remain overnight or longer. During daylight hours, 42" cones may be used in lieu of drums or type II barricades along the centerline.



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 shall be a sufficient length so that the channelizing devices are visible to approaching traffic.



June 26, 2006

Published Date: 1st Qtr. 2010

SDDOT

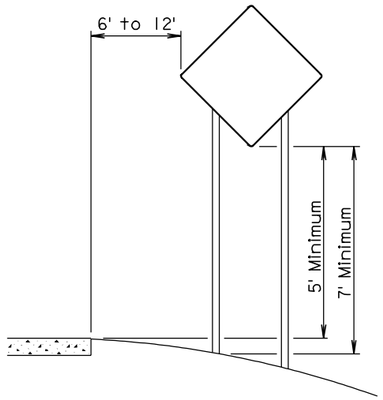
GUIDES FOR TRAFFIC CONTROL DEVICES
LANE CLOSURE WITH FLAGGER PROVIDED

PLATE NUMBER 634.23

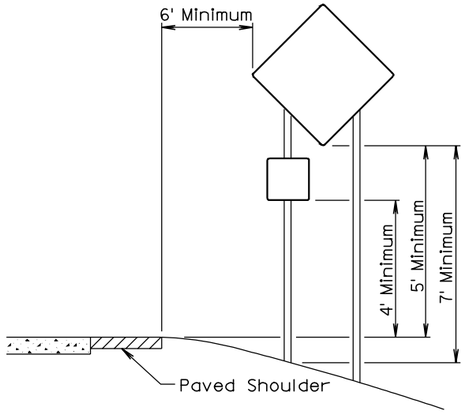
Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	018-392	13	13

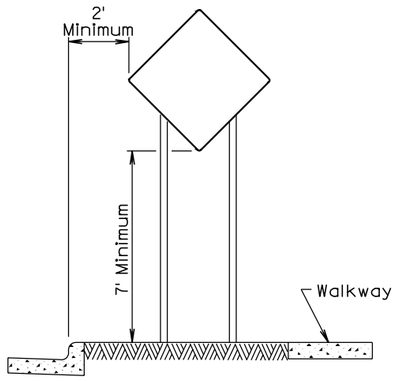
Plotting Date: 09-FEB-2010



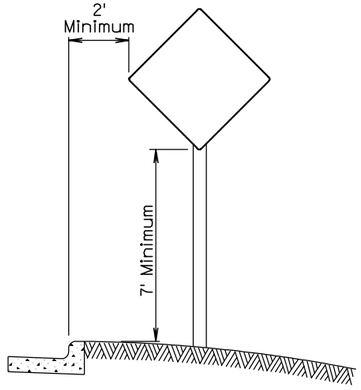
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



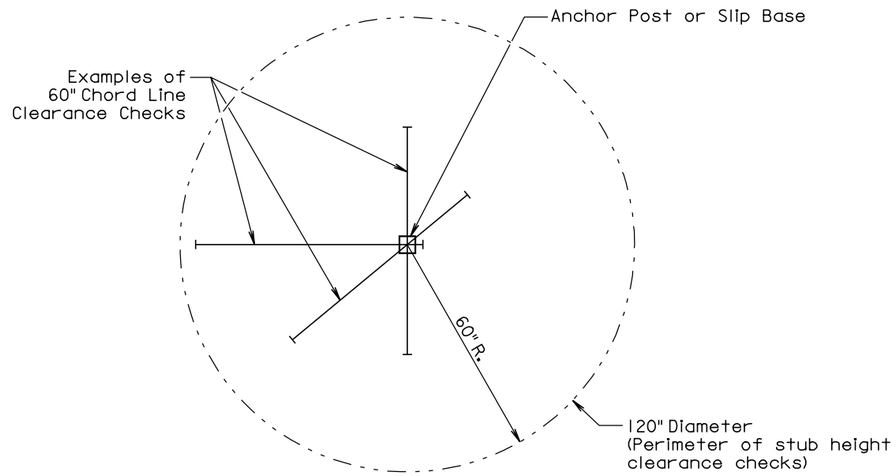
URBAN DISTRICT



URBAN DISTRICT

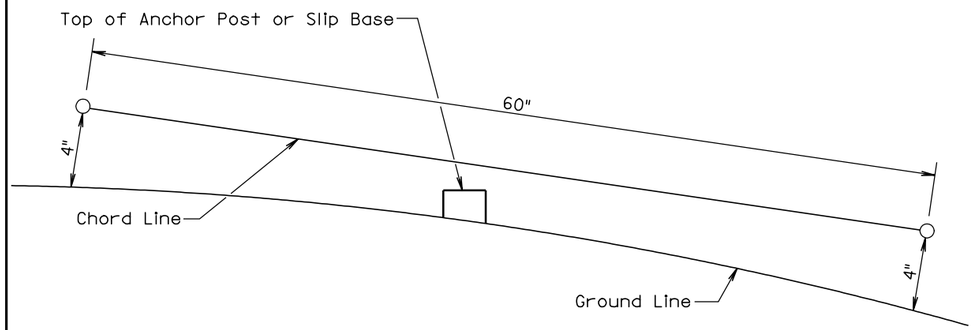
December 23, 2003

Published Date: 1st Qtr. 2010	SDDOT	BREAKAWAY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1



PLAN VIEW

(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

July 1, 2005

Published Date: 1st Qtr. 2010	SDDOT	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1