STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	1	35

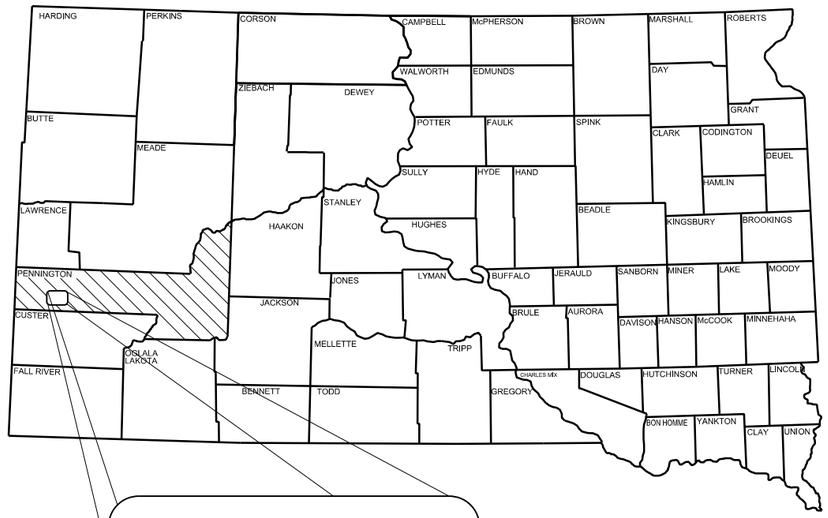
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

PROJECT BRO-B 8052(78)
CITY OF HILL CITY
PENNINGTON COUNTY

STRUCTURE REMOVAL
Str. No. 52-242-403
PCN 09A5



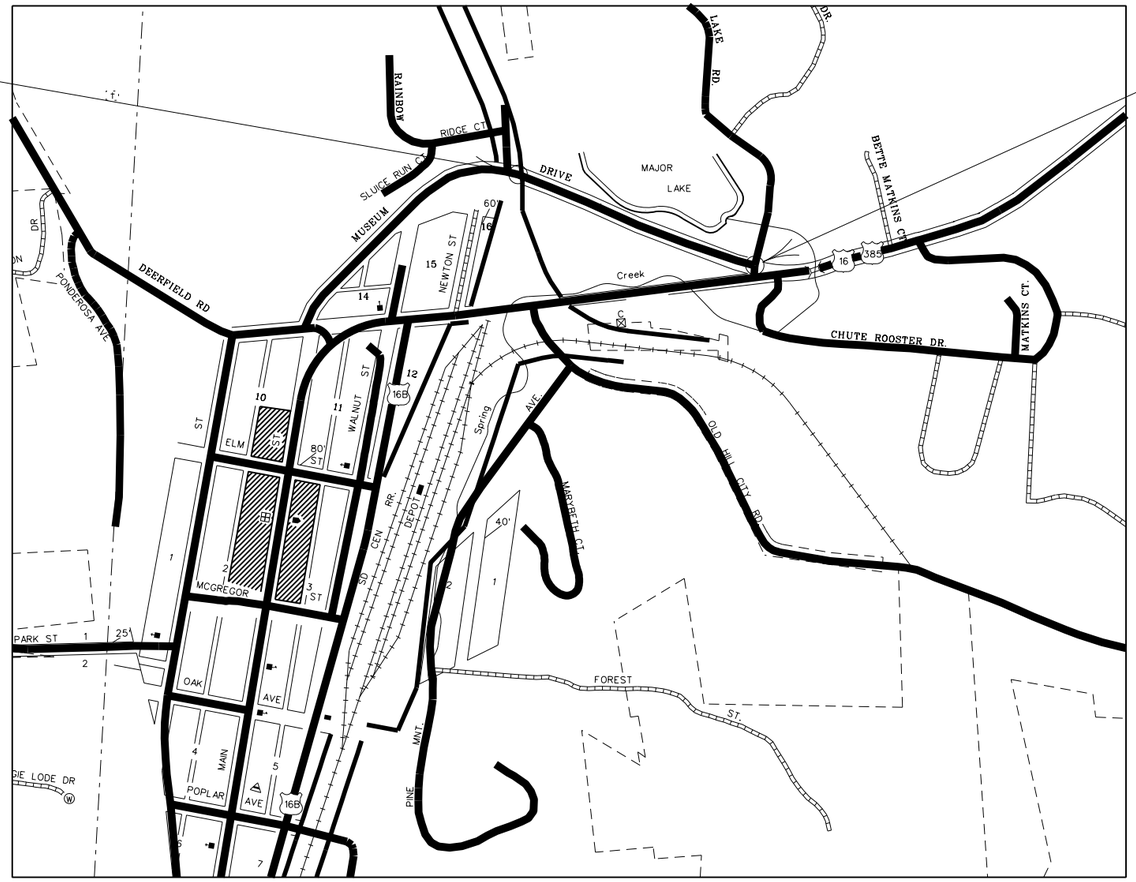
PROJECT LOCATION
0.2 mile North
of East Main Street on Museum Drive
over the Mickelson Trail

INDEX OF SHEETS

SHEET NO. 1	TITLE AND LAYOUT MAP
SHEET NO. 2-8	ESTIMATE OF QUANTITIES AND NOTES
SHEET NO. 9	TYPICAL DETAILS
SHEET NO. 10-11	TRAFFIC CONTROL
SHEET NO. 12	EASEMENTS
SHEET NO. 13	EROSION CONTROL
SHEET NO. 14-17	SWPPP NOTES
SHEET NO. 18	PLAN
SHEET NO. 19	PROFILE MAINLINE
SHEET NO. 20	PERMANENT SIGNING
SHEET NO. 21	STRUCTURE REMOVAL
SHEET NO. 22-24	STANDARD PLATES
SHEET NO. 25-27	SPECIAL DETAILS
SHEET NO. 28-35	MAINLINE CROSS SECTIONS

Begin Project BRO-B 8052(78)
At Sta. 9+20

End Project BRO-B 8052(78)
At Sta. 18+80



DESIGN DESIGNATION

ADT (2020)	1000
ADT (2040)	1577
DHV	237
D	50.0%
T DHV	3.5%
T ADT	7.7%
V	25 mph

STORM WATER PERMIT DATA

Major Receiving Body of Water: Newton Fork Creek
Area Disturbed: 0.31 Acres
Total Project Area: 0.5 Acres
Latitude: 43° - 56' - 09" N
Longitude: 103° - 34' - 18" W

Brosz ENGINEERING, INC.

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
11787
DANIEL
CICHOSZ
SOUTH DAKOTA
9-10-2026

December 9, 2026

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	BRO-B 8052(78)	2	35

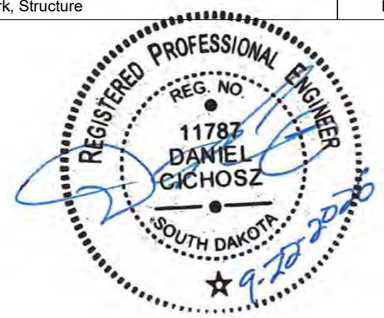
ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3230	Grade Staking	0.090	Mile
009E3250	Miscellaneous Staking	0.090	Mile
009E3280	Slope Staking	0.090	Mile
009E3301	Engineer Directed Surveying/Staking	40.0	Hour
009E4200	Construction Schedule, Category II	Lump Sum	LS
110E1010	Remove Asphalt Concrete Pavement	841.0	SqYd
110E1690	Remove Sediment	3.0	CuYd
110E4290	Salvage Beam Guardrail	873.0	Ft
110E5020	Salvage Traffic Sign	10	Each
120E1100	Unclassified/Rock Excavation	191	CuYd
230E0020	Contractor Furnished Topsoil	49	CuYd
250E0020	Incidental Work, Grading	Lump Sum	LS
260E3060	Gravel Surfacing, Modified	325.5	Ton
* 270E0040	Salvage and Stockpile Asphalt Mix and Granular Base Material	497.7	Ton
270E0110	Salvage and Stockpile Granular Material	176.6	Ton
632E1320	2.0"x2.0" Perforated Tube Post	24.0	Ft
632E2535	Type 4 Object Marker	3	Each
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	34.3	SqFt
632E4005	Type 3 Single Sided Barricade	48.0	Ft
* 633E1220	High Build Waterborne Pavement Marking Paint, 4" White	764	Ft
* 633E1222	High Build Waterborne Pavement Marking Paint, 4" Yellow	1,528	Ft
634E0110	Traffic Control Signs	263.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	7	Each
634E2000	Longitudinal Pedestrian Barricade	56	Ft
730E0210	Type F Permanent Seed Mixture	18	Lb
731E0100	Fertilizing	730	Lb
732E0250	Fiber Mulching	365	Lb
734E0154	12" Diameter Erosion Control Wattle	700	Ft
900E1080	Orange Plastic Safety Fence	800	Ft

*** - Denotes Non-Participating**

STRUCTURE NO. 52-242-403 QUANTITIES:

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
250E0030	Incidental Work, Structure	Lump Sum	LS



ENVIRONMENTAL COMMITMENTS

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

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <https://dot.sd.gov/doing-business/environmental/about-environmental/>

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

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

COMMITMENT C: WATER SOURCE

If a Contractor needs access to state waters for extraction, the Contractor must obtain a water right, through the application of a Temporary Permit to Use Public Waters before work begins.

The Contractor will not withdraw water with equipment previously used outside the State of South Dakota or previously used in aquatic invasive species (AIS) positive waters within South Dakota without prior approval from the SDDOT Environmental Office. To prevent and control the introduction and spread of invasive species into the project vicinity, all equipment will be power washed with hot water (≥140 °F) and completely dried for a minimum of 7 days prior to subsequent use. South Dakota administrative rule 41:10:04:02 forbids the possession and transport of AIS; therefore, all attached dirt, mud, debris and vegetation must be removed and all compartments and tanks capable of holding standing water must be drained. This includes, but is not limited to, all equipment, pumps, lines, hoses and holding tanks.

Action Taken/Required:

The Contractor will obtain the necessary permits from the regulatory agencies such as the South Dakota Department of Agriculture and Natural Resources (SDDANR) and the United States Army Corps of Engineers (USACE) prior to water extraction activities.

Temporary permit to use public waters for highway construction purposes application can be found on the SDDANR website:
https://danr.sd.gov/OfficeOfWater/WaterRights/PermitForms/default.aspx

Additional information and mapping of water sources impacted by Aquatic Invasive Species in South Dakota can be accessed at:
< https://sdleastwanted.sd.gov/maps/default.aspx >

South Dakota Administrative Rule 41:10:04 Aquatic Invasive Species:
< https://sdlegislature.gov/rules/DisplayRule.aspx?Rule=41:10:04 >

COMMITMENT D: WATER QUALITY STANDARDS

COMMITMENT D1: SURFACE WATER QUALITY

Major Lake is classified as a coldwater marginal fishery with a total suspended solids standard of less than 90 mg/L 30-day average, less than 158 mg/L daily maximum.

Newton Fork Creek and Spring Creek are classified as a coldwater permanent fishery with a total suspended solids standard of less than 30 mg/L 30-day average, less than 53 mg/L daily maximum.

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

Action Taken/Required:

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

COMMITMENT D2: SURFACE WATER DISCHARGE

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

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

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

Action Taken/Required:

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

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

Action Taken/Required (Continued):

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

Effluent monitoring, as a result of dewatering activities, will be summarized for each month and recorded on a separate Discharge Monitoring Report (DMR) and submitted to DANR monthly. Additional information can be found at: <https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/swdpermitting/Ereporting.aspx >

COMMITMENT E: STORM WATER

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

Action Taken/Required:

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

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

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

The form can be found at: <https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/docs/DANR_CGPAppendixCCA2023Fillable.pdf >

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

Storm Water Pollution Prevention Plan

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

The DOT 298 Form will be used for site inspections and to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents and retained for a minimum of three years.

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

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

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

DANR:<https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/stormwater/default.aspx >

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

COMMITMENT H: WASTE DISPOSAL SITE

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

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) will be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Agriculture and Natural Resources.

The waste disposal site(s) will not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Environmental Office and the Project Engineer.

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

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with fences, gates, and placement of a sign or signs at the entrance to the site stating, "No Dumping Allowed".

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period not to exceed the duration of the project. Prior to project completion, the waste will be removed from view of the ROW or buried, and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.
Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) will be incidental to the various contract items.

COMMITMENT I: HISTORIC PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historic Preservation Office (SHPO or THPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas, and waste sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require a cultural resource review prior to scheduling the pre-construction meeting. This work includes but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor will arrange and pay for a record search and when necessary, a cultural resource survey. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor will provide ARC with the following: a topographical map or aerial view in which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities within 150 feet of the inadvertent discovery will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office, who will contact the appropriate SHPO/THPO within 48 hours of the discovery to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

COMMITMENT M: SECTION 4(f)/6(f) RESOURCES

COMMITMENT M1: SECTION 4(f) PROPERTY

The demolition of Structure 52-242-403 will result in an Adverse Effect to historic properties. A Memorandum of Agreement was signed and MOA stipulations must be fulfilled prior to construction. The South Dakota SHPO confirmed that MOA stipulations I-III have been completed on 09/17/2025.

COMMITMENT M1: SECTION 4(f) PROPERTY (Continued):

A programmatic Section 4(f) Evaluation for Use of Historic Bridge 52-242-403 was approved by FHWA.

Table of Section 4(f) Property

Station	Section 4(f) Property
10+00	SN 52-242-403
10+00 – 11+50	Retaining Wall

Action Taken/Required:

The following measures are required to minimize harm to the above Section 4(f) property:

The contractor will notify the Project Engineer if additional temporary or permanent easement is necessary to construct the project. Temporary occupancy and permanent incorporation of, and restriction of access to, the Section 4(f) property must be avoided unless there are no feasible or prudent alternatives to use of the land and the action includes all possible planning to minimize harm to the property. The Project Engineer will notify the Environmental Office as Section 4(f) use must be approved by the Federal Highway Administration.

The Mickelson Trail will be returned to its preconstruction conditions after the completion of the structure removal.

A Section 4(f) Evaluation concluded there are no feasible and prudent alternatives to avoiding Section 4(f) property, Structure 52-242-403 located within the project.

Table of Section 4(f) Property

Station	Section 4(f) Property
96+00 – 102 +00	Mickelson Trail

The locations and boundaries of the site(s) for avoidance are shown in the plans.

Action Taken/Required:

The following measures are required to minimize harm to the above Section 4(f) property:

Access to the Mickelson Trail shall always be maintained during construction activities via a detour.

Appropriate signage shall be installed to alert users of the Mickelson Trail construction activities, access restrictions or closures, detours, and to direct users to secondary access points.

The Mickelson Trail shall be returned to its pre-construction condition.

The existing retaining wall will be avoided by all project activities and shall be fenced off using highly visible orange safety fencing

Access to the fishing pier along Major Lake shall be maintained at all times.

The staging and/or storage of construction equipment or materials shall take place on the existing roadway (Museum Drive).
The Contractor shall be required to closely coordinate the construction schedule with the following entities prior to the start of construction activities:

- City of Hill City
  - Contact: Nate Anderson, City Administrator

- South Dakota Game, Fish, and Parks
  - Contact: Dana B. Garry-Reiprich, Mickelson Trail Manager

The Contractor is not permitted to stage equipment or materials on the Mickelson Trail. The Contractor will notify the Project Engineer if additional easement is needed to complete the work adjacent to any Section 4(f) property. The Project Engineer will obtain an appropriate course of action from the Environmental Office before proceeding with construction activities that affect any Section 4(f) property.

COMMITMENT S: FIRE PREVENTION IN THE BLACK HILLS AREA

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

Action Taken/Required:

The Contractor will adhere to the “Special Provision for Fire Plan”.

CITY OF HILL CITY REQUIREMENTS

The City will be responsible for the following items without federal participation.

1. Right of way and temporary and permanent easements.
2. Coordination of any utility adjustments.
3. Payment of any final surfacing.
4. Furnish and install temporary and-or permanent fencing.
5. Remove silt fence or wattles in permanently seeded areas after vegetation is established.

SALVAGE BEAM GUARDRAIL

Steel beam rail, and hardware items will remain the property of the City and will be removed, hauled, and neatly stacked on the shoulder of the closed road or as approved by the Engineer. Posts and blocks will become the property of the City as well and will be stacked near the beam rail.

Payment for removing, hauling, and stacking the guardrail items will be incidental to the contract unit price per foot for “Salvage Beam Guardrail”.

UTILITIES

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

SD 1 Call: 1-800-781-7474

The City Administrator is Nate Anderson 1-605-574-2300

Golden West Communications
415 Crown St. PO Box 411
Wall, SD 57790
(605) 279-1207

Black Hills Energy
447 Mount Rushmore Road
Custer, SD 57730
(605) 673-4455

City of Hill City
243 Deerfield Road
Hill City, SD 57745
(605) 574-2300

Century Link
612 Mt Rushmore Road
Rapid City, SD 57701
(605) 394-4720

UNCLASSIFIED/ROCK EXCAVATION

All excavation that must be performed to construct the new grade in conformance with the cross sections and plan details will be included in the contract unit price per cubic yard for "Unclassified/Rock Excavation”.

All waste dirt is to be used to create the drainage ditch berm and fill in the voids left from the structure removal then any excess can be wasted on the north inslope. All waste dirt shall be covered with contractor furnished topsoil and covered with the proper erosion control measures.

The plans quantity for “Unclassified/Rock Excavation” as shown in the Estimate of Quantities will be the basis of payment for this item without further field measurement. If changes are necessary on construction, the altered quantities will be measured for payment.

TABLE OF UNCLASSIFIED EXCAVATION

Excavation (Mainline)		191
Topsoil (Mainline)		0
	Total	191

INCIDENTAL WORK, GRADING

All costs involved in drop inlet and culvert removal and using the waste dirt to create a drainage ditch berm will be incidental to the contract lump sum price for “Incidental Work, Grading”.

It will be the Contractor’s responsibility to contact and to coordinate their work schedule with the City. Cost for this work will be incidental to the contract lump sum price for “Incidental Work, Grading”.

The cost for water required for embankment and granular material will be incidental to the contract lump sum price for “Incidental Work, Grading”.



Revised 10/13/2026

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	BRO-B 8052(78)	5	35

REMOVE ASPHALT CONCRETE PAVEMENT

An estimated 841 Square Yards of the in-place asphalt concrete surfacing will be removed from the existing roadway from Sta. 9+20 to Sta. 14+00. The roadway will be sawcut full depth at the ends. The Contractor will haul the removed asphalt to a city lot/site provided by the City of Hill City. The Contractor will coordinate with the City Administrator Nate Anderson 605.574.2300.

The quantity of removed asphalt material is estimated from the in-place surfacing typical sections. This estimated quantity is not included in the unclassified quantities.

SALVAGE AND STOCKPILE GRANULAR MATERIAL

An estimated 176.6 Tons (93 Cubic Yards) of granular base material will be salvaged from Sta. 9+20 to Sta. 14+00 and stockpiled at a site provided by the City Administrator Nate Anderson and will remain property of the City.

The quantity of salvage granular base material may vary from the plans. No adjustments will be made to the contract unit price for variations of the quantity of “Salvage and Stockpile Granular Material”

The rate of salvageable material is based on a 4-inch depth of granular base.

If the quantity of salvaged material needs to be weighed or measured in the stockpile by the Engineer, then the conversion will be 1.89 Tons per Cubic Yard.

The cost for all labor, materials, and equipment needed to process, remove, and stockpile the salvaged surfacing will be included in the contract unit price per Ton for “Salvage and Stockpile Granular Material”.

SALVAGE AND STOCKPILE ASPHALT MIX AND GRANULAR MATERIAL

An estimated 497.7 Tons (263 Cubic Yards) of asphalt mix and granular base material will be salvaged from Sta. 14+00 to Sta. 18+80 and stockpiled at a site provided by the City Administrator Nate Anderson and will remain property of the City.

The quantity of salvage asphalt mix and granular base material may vary from the plans. No adjustments will be made to the contract unit price for variations of the quantity of “Salvage and Stockpile Asphalt Mix and Granular Base Material.”

The rate of salvageable material is based on a 4-inch depth of asphalt mix and a 4-inch depth of granular base.

If the quantity of salvaged material needs to be weighed or measured in the stockpile by the Engineer, then the conversion will be 1.89 Tons per Cubic Yard.

Sta. 14+00 to Sta. 18+80 may be salvaged during the same operation of Sta. 9+20 to Sta. 14+00.

The cost for all labor, materials, and equipment needed to process, remove, and stockpile the salvaged surfacing will be included in the contract unit price per Ton for “Salvage and Stockpile Asphalt Mix and Granular Base Material”.

GRAVEL SURFACING, MODIFIED

An estimated 265.1 Tons of Gravel Surfacing, Modified is shown in the estimate of quantities. The Gravel Surfacing, Modified will be placed on the pedestrian detour from the limits shown on the Plan Sheet. It will be place and compacted to achieve a depth of 6” and a width of 10’.

Once the project is complete, the Gravel Surfacing, Modified can be left in place on the pedestrian detour. If there is any disturbance on the Mickelson Trail, 60.4 of Gravel Surfacing, Modified can be placed on the trail.
The material will be crushed limestone granular material and will meet the following specification:

Screen Size	Passing
¼”	100%
No. 4	90-100%
No. 8	50-70%
No. 40	15-36%
No. 200	6-16%

All costs will be incidental to the contract unit price per ton for “Gravel Surfacing, Modified.

SEQUENCE OF OPERATIONS

Standard Plates No.’s 634.29 will be used to complete the work.

The Contractor will submit a sequence of operations for approval two weeks prior to the preconstruction meeting. If changes to the sequence of operations are proposed during the project, these must be submitted for review a minimum of one week prior to potential implementation. Approval for changes to the sequence of operations will only be allowed when the proposed changes meet with the Department’s intent for traffic control and sequencing of the work.

EQUIPMENT STAGING

Equipment will be staged on the closed portion of the road on Museum Drive, or within the temporary easements. Equipment will not be allowed to be staged on the Mickelson Trail grade, and any equipment within the site’s boundary will only be located within the construction limits.

TRAFFIC CONTROL GENERAL NOTES

Existing guide, route, informational logo, regulatory, and warning signs will be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor. Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

If there is a discrepancy between the traffic control plans, standard plates and the MUTCD – whichever is more stringent will be used, as determined by the Engineer.

LONGITUDINAL PEDESTRIAN BARRICADE

Longitudinal Pedestrian Barricades will be used to close the Mickelson Trail in the construction area. Pedestrians will be routed around the construction area and back on the Trail.

Longitudinal pedestrian barricades should not be used to provide positive protection for pedestrians.

To prevent any tripping hazard to pedestrians, ballast will be located behind or internal to the device.

When longitudinal pedestrian barricades are combined in a series, the maximum gap between devices that do not interlock will be one inch. Joints between devices that do interlock will be closed and flush to prevent canes or small wheels from being trapped and to facilitate safe hand trailing. When used as a sidewalk closure mechanism, longitudinal pedestrian barricade must run the entire width of the sidewalk. Longitudinal pedestrian barricade should provide a color contrasting pattern. Black should not be used to color any base on a device. The devices should comply with the general color and stripe pattern requirements of Section 6F.68 of the MUTCD.

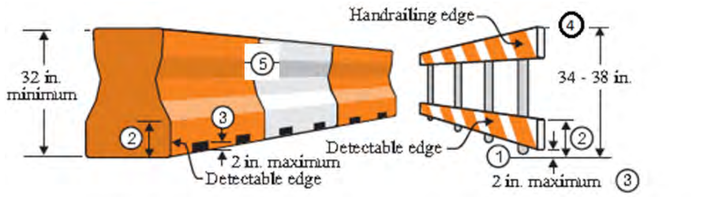
Longitudinal pedestrian barricade will have continuous bottom and top surfaces. The top surface will be smooth to allow safe hand trailing. Both upper and lower surfaces will share a common vertical plane.

All costs will be incidental to the contract unit price per foot for “Longitudinal Pedestrian Barricade”.



FOR BIDDING PURPOSES ONLY

PEDESTRIAN CHANNELIZING DEVICE DETAILS



1. Barricade rail supports may not extend into the pedestrian walkway more than 4 inches from the face of the barricade.

2. The top edge of the bottom portion will be a minimum of 8 inches above the walkway.

3. Devices will not block water drainage from the walkway. A gap height or opening from the walkway surface up to a maximum of 2 inches in height is allowed for drainage purposes.

4. The top edge of the longitudinal pedestrian barricade is to be used as a guiderail to provide visual and tactile guidance to pedestrians along a designated route. The top surface should have a minimum width of 0.5 inches to allow the hand to feel the surface. The surface should be smooth and free of any sharp or abrasive elements to allow safe hand trailing.

5. Longitudinal pedestrian barrier used to provide positive protection from traffic to pedestrians should be crashworthy.

TEMPORARY PEDESTRIAN ACCESS ROUTE

A Temporary Pedestrian Access Route (TPAR) will be provided when crosswalks, sidewalks, or other pedestrian facilities are blocked, closed, or relocated. A TPAR may consist of a combination of existing and/or temporary pedestrian facilities. The TPAR will be kept free of any obstructions and hazards, such as holes, debris, mud, snow, construction equipment, traffic control signing, stored materials, etc.

The Contractor will notify the Engineer at least 72 hours prior to start of any construction operation that will necessitate a change in pedestrian access. Pedestrian traffic signal displays controlling a crosswalk that is closed will be covered or removed.

CONTRACTOR FURNISHED TOPSOIL

It is anticipated that a larger volume of topsoil will be needed for the new grade than can be salvaged from the existing grade. The Contractor will be required to furnish and place 4 inches of topsoil on roadway inslopes and areas as determined by the Engineer during construction.

Contractor furnished topsoil will be free from stones, coarse gravel, or similar objects larger than 3/4 inch in diameter. Brush, stumps, roots, wood, objectionable weeds, liter, or any other material which may be harmful to plant growth will not be allowed. Organic material will be decomposed.

All costs to furnish and place the Contractor furnished topsoil will be incidental to the contract unit price per cubic yard for “Contractor Furnished Topsoil”.

MYCORRHIZAL INOCULUM

Mycorrhizal inoculum will consist of mycorrhizal fungi spores and mycorrhizal fungi-infected root fragments in a solid carrier. The carrier may include organic materials, calcinated clay, or other materials consistent with application and good plant growth. The supplier will provide certification of the fungal species claimed and the live propagule count. The inoculum will include a minimum 25% the fungal species *Rhizophagus intraradices*. The remaining 75% may include other endomycorrhizal fungal species.

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

The Mycorrhizal Inoculum provided will be from the approved product list. The approved product list may be viewed at the following internet site:

https://apps.sd.gov/HC60ApprovedProducts/main.aspx

FERTILIZING

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

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

The Fertilizer provided will be from the approved product list. The approved product list may be viewed at the following internet site:

https://apps.sd.gov/HC60ApprovedProducts/main.aspx



PERMANENT SEEDING

The areas to be seeded comprise of all newly graded areas within the project limits except for the top of roadways and temporary easements under cultivation. All disturbed areas will be ripped prior to seed application.
Type F Permanent Seed Mixture will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana, Walsh	7
Green Needlegrass	Lodorm, AC Mallard Ecovar	4
Sideoats Grama	Butte, Pierre	3
Blue Grama	Bad River	2
Oats or Spring Wheat: April through May; Winter Wheat: August through November		56
	Total:	72

EROSION CONTROL WATTLE

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

The Contractor will provide certification that the erosion control wattles do not contain noxious weed seeds. Erosion control wattles may remain on the project to decompose.

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

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

https://apps.sd.gov/HC60ApprovedProducts/main.aspx

TABLE OF EROSION CONTROL WATTLE

Station	L/R	Diameter (Inch)	Location	Quantity (Ft)
9+30 to 9+60	L&R	12	Abutment Removal	80
9+75 to 9+90	R	12	Bent Removal	20
10+10 to 10+25	R	12	Bent Removal	20
10+20 to 10+30	L&R	12	Abutment Removal	80
10+30 to 14+00	L	12	Edge of Excavation	330
14+05	L&R	12	Edge of Excavation	30
			ADDITIONAL QUANTITY	140
			Total	700

FOR BIDDING PURPOSES ONLY

REMOVE SEDIMENT

This work will consist of removing sediment collected by the temporary erosion and sediment control devices after a rainfall event.

Any sediment collected on the upstream side of the sediment control device that would render the sediment control device ineffective will be removed by the Contractor and blended back into the cut or fill of the graded area.

The Contractor and Engineer will inspect and maintain the sediment control devices once every week and within 24 hours after every rainfall event greater than 1/2".

All costs for removing and disposing of sediment collected by the sediment control device will be incidental to the contract unit price per cubic yard for "Remove Sediment".

FIBER MULCHING

Fiber mulch will be applied in a separate operation following permanent seeding.

An additional 2% by weight of tackifier will be added to the fiber mulch product selected from the approved product list. If the product selected has guar gum tackifier included, then the additional 2% of tackifier will be guar gum. If the product selected has synthetic tackifier included, then the additional 2% of tackifier will be synthetic.

Fiber mulch will be applied at the rate of 3,000 pounds per acre.

The Contractor will allow the fiber mulch to cure a minimum of 18 hours prior to watering or any storm event to ensure proper cohesion between the soil and fiber particles.

All costs for the additional tackifier added to the fiber mulch including labor, equipment, and materials will be incidental to the contract unit price per ton for "Fiber Mulching".

The fiber mulch provided will be from the approved product list. The approved product list for fiber mulch may be viewed at the following internet site:

http://apps.sd.gov/HC60ApprovedProducts/main.aspx

The fiber mulch will be applied after the erosion control blanket is installed.

GENERAL PERMANENT SIGNING

New sign installations will be staked in the field by the Contractor and checked by the Engineer. The Contractor will give the Engineer a minimum of one week to check staked locations prior to signpost installation. Lateral offset of signs will be as shown in the plans or as directed by the Engineer.

The Contractor will be responsible for contacting South Dakota One Call to locate the utilities at the staked sign installation locations.

When signs are mounted in an assembly, they will be 1-2 inches apart vertically and horizontally.

The height of the post must not exceed the minimum height needed by more than 0.5 feet. Any portion that extends above the sign will be cut off. No separate payment will be made for cutting the post or for that length cut off.

Aluminum U-Channel stiffeners will be used on all signs 36 inches or greater in width and will conform to ASTM B221 Alloy 6063-T6 or 6061-T6. The U-Channel will be 2 inches in width and free of holes. The U-Channel stiffeners will also be used to connect various signs together so that an entire sign assembly can be erected on a single installation. Stiffeners may be fastened to signs by use of 1/4-inch diameter drive rivets.

The Contractor will use 3/8-inch diameter rust proof machine sign bolts, flat metal washers, neoprene washers (against the sign sheeting), lock washers, and nuts to fasten the sign to the channel aluminum and posts. A minimum of two bolts will extend through each post.

Prior to ordering signs, the Contractor will verify dimensions, background, border, and legend of the signs.

Prior to use, the Contractor will provide documentation for the sign support devices showing they meet the applicable NCHRP 350 or MASH requirements.

SALVAGE TRAFFIC SIGN

All signs listed for salvage in the Table of Salvage Traffic Sign will have the existing posts, bases and signs dismantled and delivered to the City of Hill City Maintenance Shop. Signs will be handled with care so that the existing signs, posts, and bases are not damaged during the process. The Contractor will replace and pay for any reset signs damaged in their care.

All costs for labor and equipment to remove, dismantle, and deliver signs to the City of Hill City Maintenance Shop will be incidental to the contract unit price per each for "Salvage Traffic Sign". The quantity of signs to be salvaged is shown in the Table of Salvage Traffic Sign. The plans quantity is shown per assembly. Payment for salvaging signs will be paid per assembly at the contract unit price per each for "Salvage Traffic Sign".

TABLE OF SALVAGE TRAFFIC SIGN

Location	Dir. Face	Size In.	Message
3+00 RT	West	18 x 30	Weight Limit Sign(Sign Only)
7+12 RT	West	30 x 30	Narrow Bridge Sign
8+16 RT	West	30 x 30	Bump / Speed Advisory Sign
9+49 LT & RT	West	12 x 36	(2) Type 3 Object Markers
10+50 LT & RT	East	12 x 36	(2) Type 3 Object Markers
11+50 LT	East	30 x 30	Bump / Speed Advisory Sign
12+75 LT	East	30 x 30	Narrow Bridge Sign
18+75 LT	East	18 x 30	Weight Limit/Speed Limit Sign

NEW PERMANENT SIGNING

All signs will be manufactured in accordance with the sheeting manufacturer's recommendations utilizing a matched component system, including inks, electronic cuttable films, and protective overlay films.

All Flat Aluminum Signs, Nonremovable Copy Super/Very High Intensity will have sheeting in conformance with the requirements of ASTM D4956 Type XI.

All costs associated with furnishing and installing the new permanent signs, and with furnishing and installing stiffeners and hardware will be incidental to the contract unit price per square foot for "Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity".

SQUARE TUBE ANCHOR SLEEVE

The Contractor will furnish and install new 2.5" x 2.5" x 18", 12 Gauge square tube anchor sleeve or equivalent components as approved by the Engineer for 2.0" x 2.0" perforated tube posts. A 2.25" x 2.25" x 4', 12 Gauge perforated tube post will be used as the anchor post for installation with the square tube anchor sleeve.

PAVEMENT MARKING PAINT

A quantity of "High Build Waterborne Pavement Marking Paint, 4" Yellow" and "High Build Waterborne Pavement Marking Paint, 4" White" has been included in the Estimate of Quantities for marking Major Lake Dr. adjacent to the pedestrian detour. Major Lake Dr. is not currently striped. The new pavement marking will include one continuous white shoulder striping adjacent to the sidewalk and the centerline striped as no passing for the length of the pedestrian detour along Major Lake Dr.

HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

All materials will be applied as per manufacturer's recommendations. High build waterborne pavement marking paint will conform to Section 980.1 B.

Reflective media will consist of glass beads.

RATES OF MATERIALS FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

Solid 4" line = 22.5 Gal/Mile
Dashed 4" line = 6.2 Gal/Mile
Glass Beads = 8 Lbs/Gal.

All cost for materials, labor, and equipment necessary to furnish and install the pavement markings will be incidental to the contract unit price for the respective High Build Waterborne Pavement Marking Paint items.



STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	BRO-B 8052(78)	8	35

FOR BIDDING PURPOSES ONLY

CONSTRUCTION STAKING:

The control points are shown on the plan and profile sheet.

HORIZONTAL ALIGNMENT (MAINLINE)

Element	Curve Data	Station	Northing	Easting
POB		2+02.81	600473.810	1115026.410
PC		5+33.59	600705.710	1115262.120
PI		7+22.85	600838.440	1115397.030
	DE=54°03'17" Rt			
	DOC=15°26'37"			
	R=371.00'			
	L=350.01'			
	T=189.26'			
PT		8+83.61	600807.140	1115583.680
PC		9+11.50	600802.520	1115611.190
PI		9+47.56	600796.560	1115646.750
	DE=11°06'12" Rt			
	DOC=15°26'37"			
	R=371.00'			
	L=71.90'			
	T=36.06'			
PT		9+83.40	600783.85	1115680.5
PC		13+77.43	600645.06	1116049.28
PI		14+14.90	600631.86	1116084.35
	DE=2°51'43" Rt			
	DOC=3°49'11"			
	R=1500.00'			
	L=74.93'			
	T=37.47'			

Element	Curve Data	Station	Northing	Easting
PT		14+52.36	600616.92	1116118.72
PC		15+58.19	600574.74	1116215.79
PI		16+00.21	600558.00	1116254.32
	DE=2°24'24" Lt			
	DOC=2°51'53"			
	R=2000.00'			
	L=84.01'			
	T=42.01'			
PT		16+42.21	600542.89	1116293.52
PC		19+16.28	600444.31	1116549.25
PI		19+49.56	600432.34	1116580.3
	DE=18°53'39" Lt			
	DOC=28°38'52"			
	R=200.00'			
	L=65.95'			
	T=33.28'			
PT		19+82.23	600431.07	1116613.56
POE		20+37.24	600428.98	1116668.52

TABLE OF CONSTRUCTION STAKING
(See Special Provision for Contractor Staking)

					Grade Staking					
Roadway and Description	Begin Station	End Station	Number of Lanes	Length (Ft)	Length (Mile)	Lane Factor	* Sets of Stakes	**Grade Staking Quantity (Mile)	Miscellaneous Staking Quantity (Mile)	Slope Staking Quantity (Mile)
City Road (2 Lanes Asphalt Surface)	9+20	14+00	2	480	0.090	1	1	0.090	0.090	0.090
							Totals:	0.090	0.090	0.090

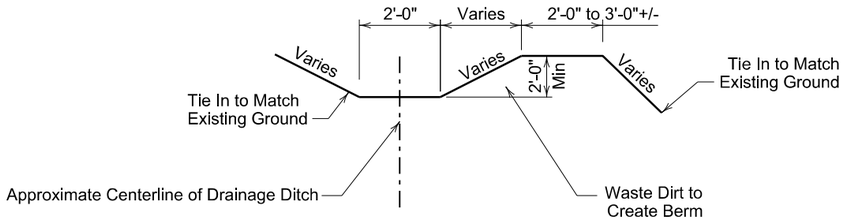
* 1 = Blue Top Stakes Only (Subgrade for Gravel Surface)
2 = Blue Top and Paving Hub Stakes (Asphalt Concrete Pavement)

** Grade Staking Quantity = (Length) x (Lane Factor) x (Sets of Stakes)



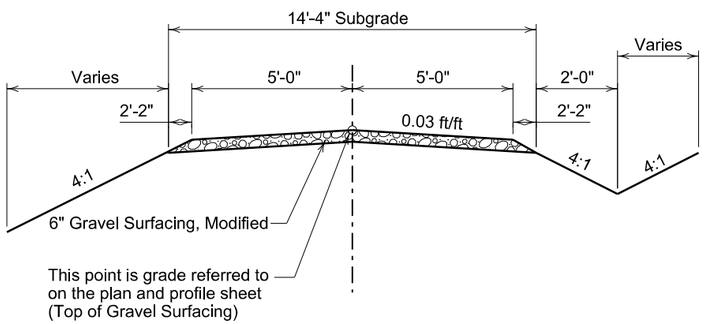
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TYPICAL DETAILS



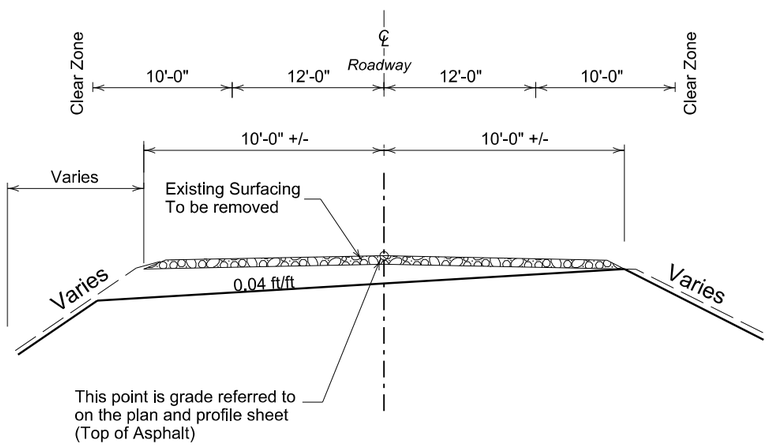
TYPICAL SECTION DRAINAGE DITCH

(Sta 9+05 to 9+50 Lt)
(Not To Scale)



TYPICAL SECTION MICKELSON TRAIL

(Not To Scale)



TYPICAL SECTION MAINLINE

(Not To Scale)

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
11787
DANIEL CICHOSZ
SOUTH DAKOTA
9-10-2020

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	10	35

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TRAFFIC CONTROL - ROADWAY

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R9-9a	TRAIL CLOSED	2	24" x 12"	2.0	4.0
R9-11	TRAIL CLOSED AHEAD NO THRU ACCESS	1	24" x 18"	3.0	3.0
R11-2	ROAD CLOSED	2	48" x 30"	10.0	20.0
R11-4	ROAD CLOSED TO THRU TRAFFIC	1	60" x 30"	12.5	12.5
W11-2	PEDESTRIAN (symbol)	1	36" x 36"	9.0	9.0
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-3	ROAD CLOSED AHEAD	4	48" x 48"	16.0	64.0
G20-2	END ROAD WORK	4	36" x 18"	4.5	18.0
M4-8a	END DETOUR	2	24" x 18"	3.0	6.0
M4-9a	BIKE/PEDESTRIAN DETOUR	7	30" x 24"	5.0	35.0
SPECIAL	MUSEUM DRIVE	2	36" x 24"	6.0	12.0
SPECIAL	MICKELSON TRAIL	7	36" x 18"	4.5	31.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			263.0

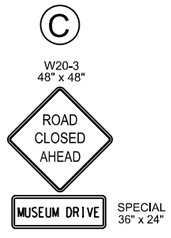
NOTE:

See Standard Plate 634.29 for spacing of all signs.

16 Drums are recommended to be placed on the ends of the road closure.

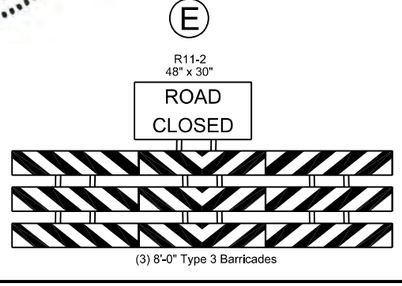






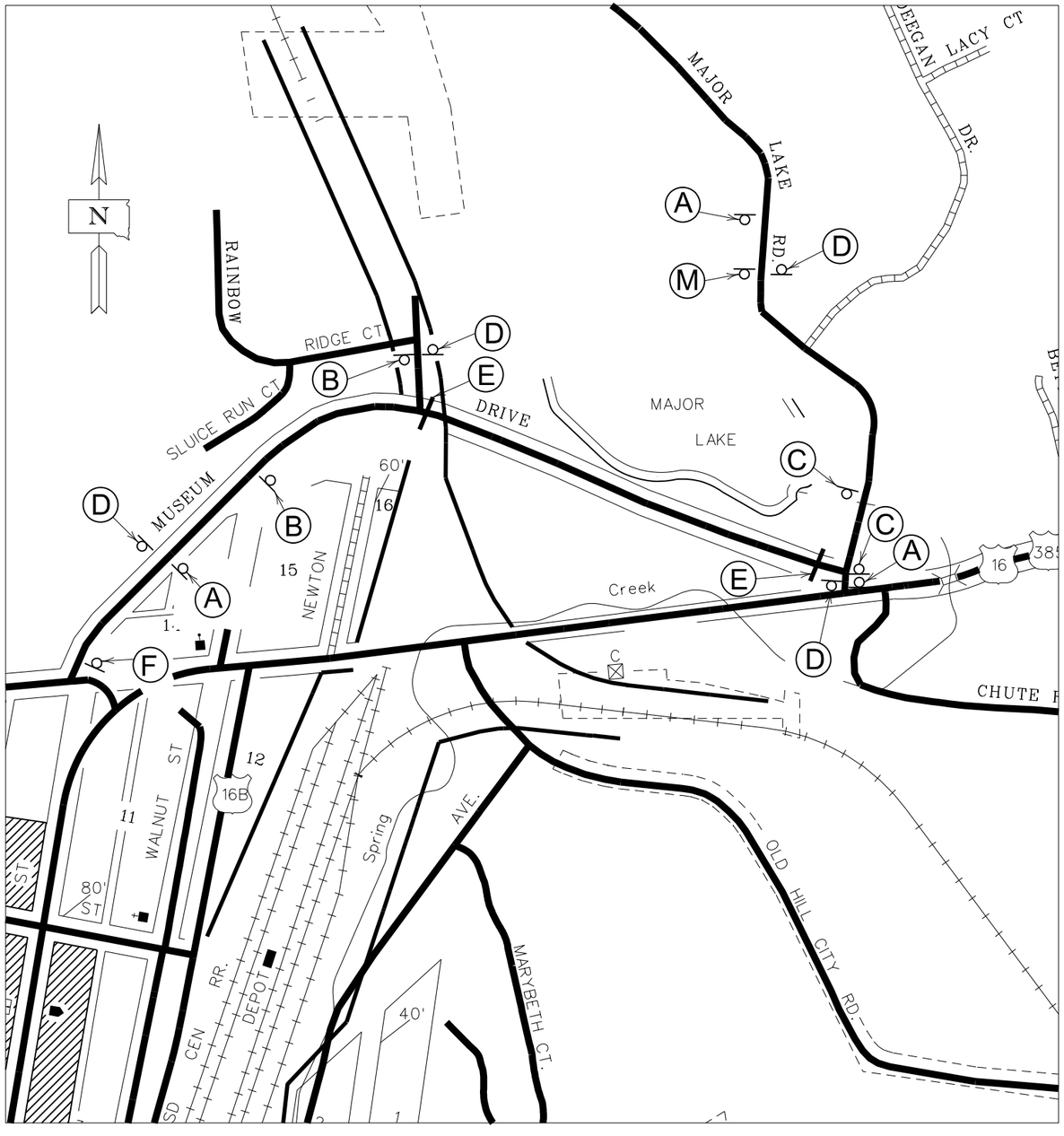








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SOUTH DAKOTA
9-20-2018



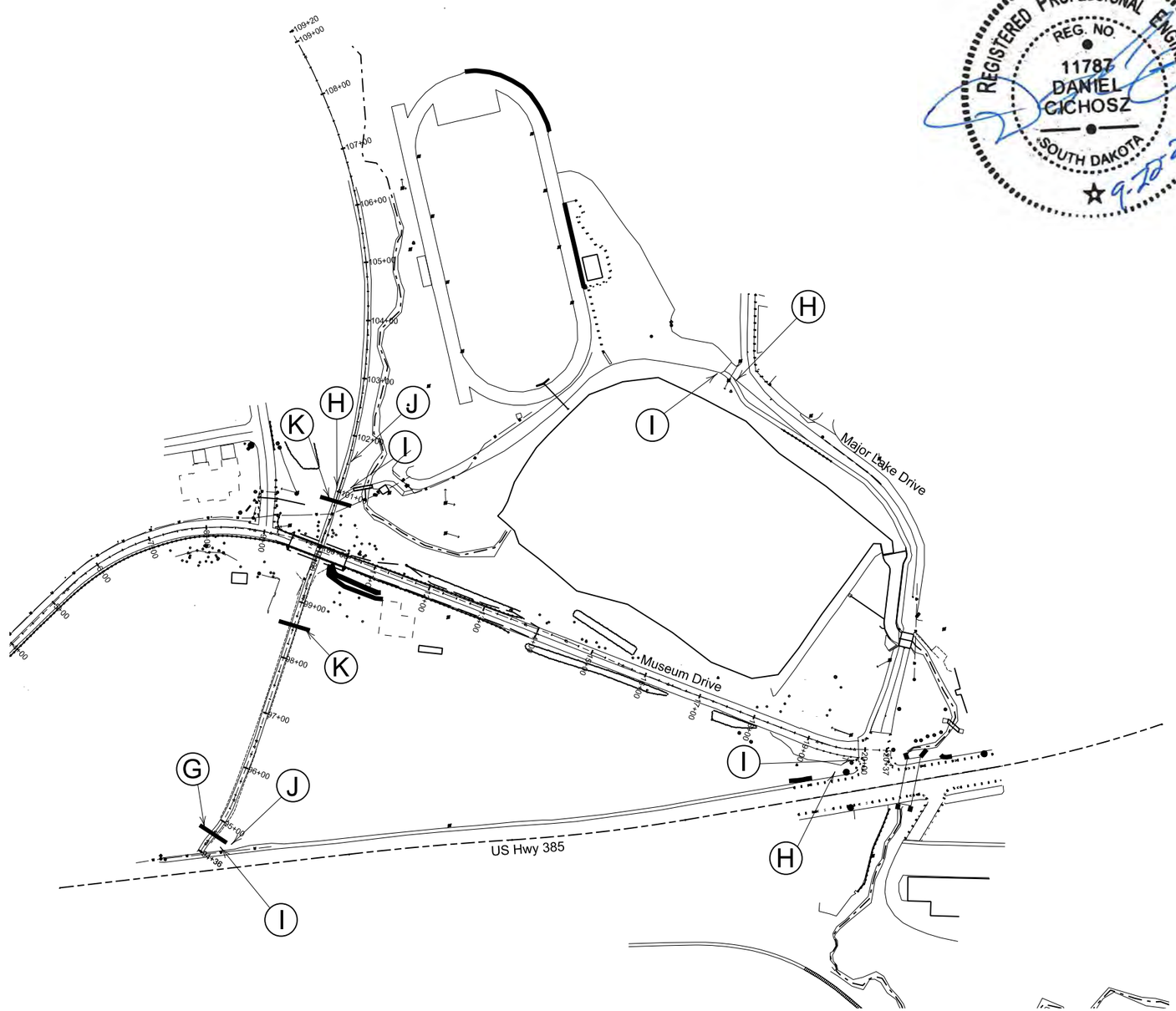
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	11	35

FOR BIDDING PURPOSES ONLY

TRAFFIC CONTROL - PEDESTRIAN

REGISTERED PROFESSIONAL ENGINEER
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DANIEL CICHOSZ
SOUTH DAKOTA
9-22-2025

N



G

R9-11
24" x 18"



(1) Longitudinal Pedestrian Barricade

H

M4-9a
30" x 24"



I

M4-9a
30" x 24"



J

M4-8a
24" x 18"



K

R9-9
24" x 12"



(3) Longitudinal Pedestrian Barricade

NOTE:

See Traffic Control Mainline for itemized list of all signs.

See Special Provision for required coordination with Game Fish and Parks for all Trail Traffic Control and Longitudinal Pedestrian Barricades.

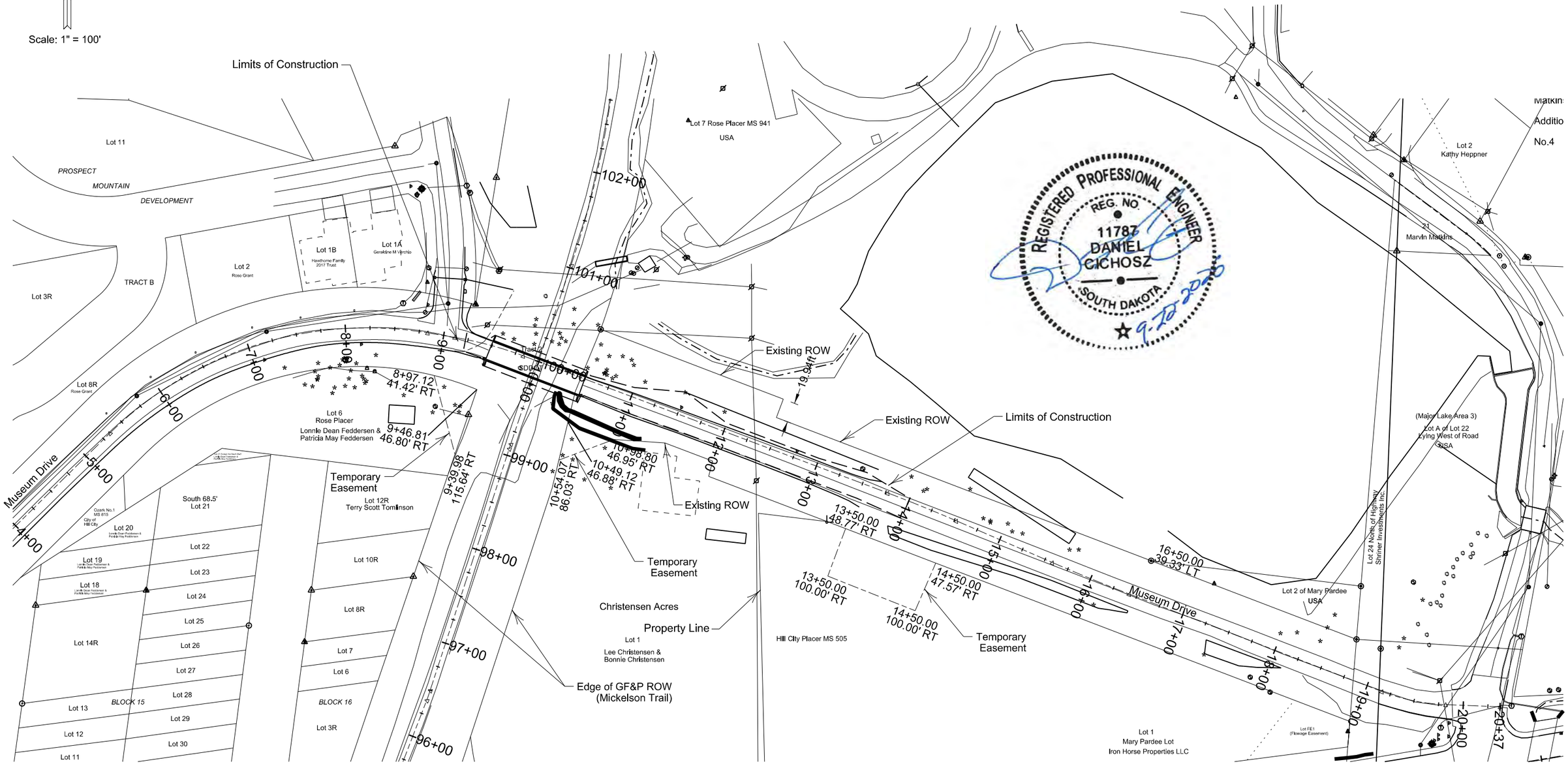
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	12	35

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Easements

N

Scale: 1" = 100'



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CICHOSZ
SOUTH DAKOTA
9-10-2020

Temporary Easement
Sta 9+00 to 9+53.58 RT
Lot 6
Rose Placer
in the City of Hill City
0.04 Acres

Lonnie Dean Feddersen &
Patricia May Feddersen

Temporary Easement
Sta 10+54.07 to 10+98.80 RT
Lot 1
Christensen Acres
in the City of Hill City
0.02 Acres

Lee Christensen &
Bonnie Christensen

Temporary Easement
Sta 13+50.00 to 14+50.00 RT
Lot 1
Mary Pardee Lot
in the City of Hill City
0.13 Acres

Iron Horse Properties LLC
Victor Alexander

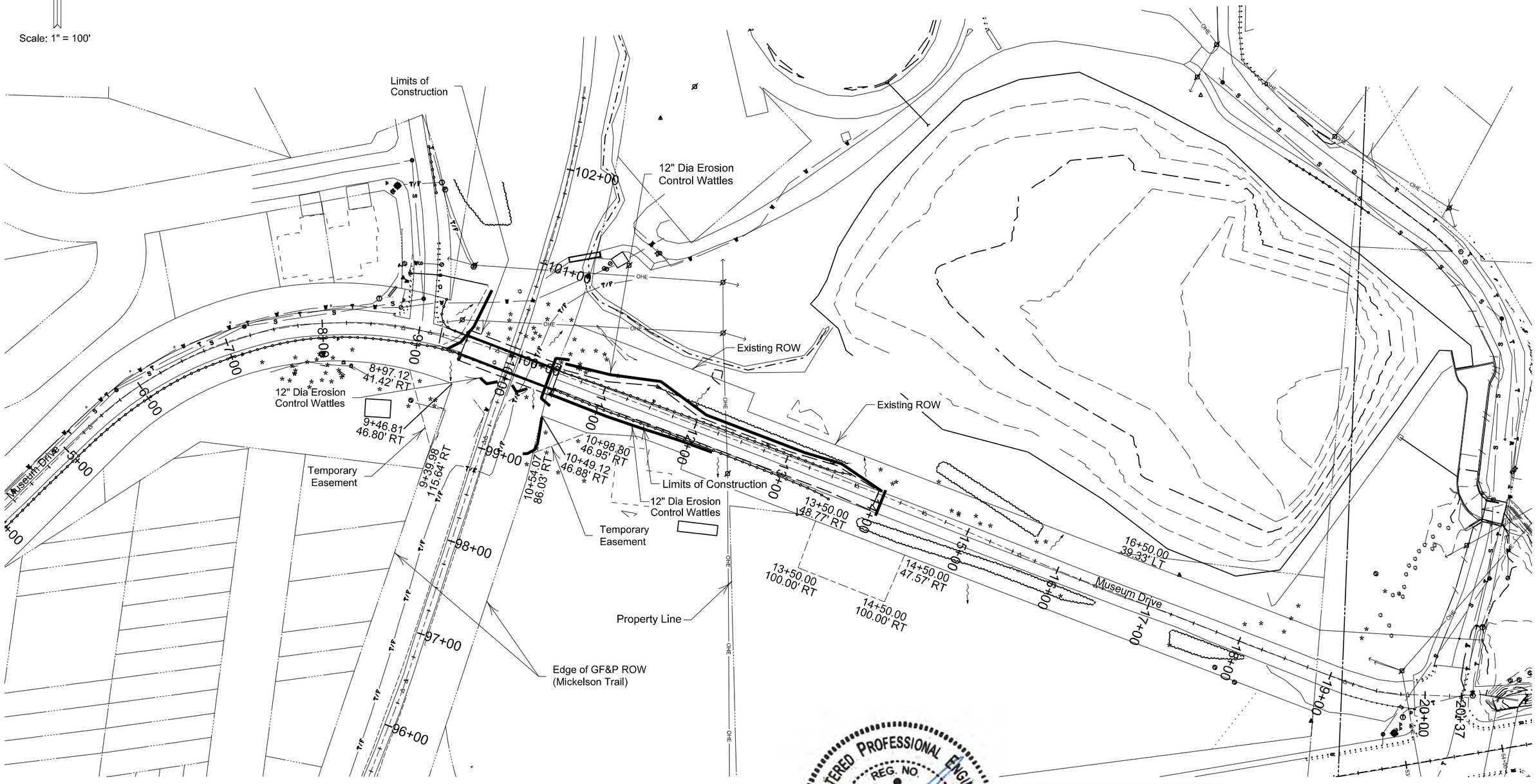
Erosion Control

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	13	35

N

Scale: 1" = 100'



REGISTERED PROFESSIONAL ENGINEER
REG. NO.
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DANIEL CICHOSZ
SOUTH DAKOTA
9-10-2020

12" Dia Erosion Control Wattles

	LT	RT
9+30 to 9+60	40 Ft	40 Ft
9+75 to 9+90		20 Ft
10+10 to 10+25		20 Ft
10+20 to 10+30	40 Ft	40 Ft
10+30 to 14+00	330 Ft	
14+05	15 Ft	15 Ft
Engineer's Discretion		140 Ft
Total		700 Ft

Erosion Control Legend

- Drainage Arrow
- Erosion Control Wattles
- Low Flow Silt Fence
- Floating Silt Curtain

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	14	35

FOR BIDDING PURPOSES ONLY

STORMWATER POLLUTION PREVENTION PLAN CHECKLIST

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

5.3 (2): STAFF TRAINING/SWPPP IMPLEMENTATION

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

5.3 (3): DESCRIPTION OF CONSTRUCTION ACTIVITIES

- **5.3 (3a): Project Limits** (See Title Sheet)
- **5.3 (3a): Project Description** (See Title Sheet)
- **5.3 (4): Site Map(s)** (See Title Sheet and Plans)
- **Major Soil Disturbing Activities** (check all that apply)
  - ☒ Clearing and grubbing
  - ☒ Excavation/borrow
  - ☒ Grading and shaping
  - ☒ Filling
  - ☐ Other (describe):
- **5.3 (3b): Total Project Area** 0.5
- **5.3 (3b): Total Area to be Disturbed** 0.31
- **5.3 (3c): Maximum Area Disturbed at One Time** 0.31
- **5.3 (3d): Existing Vegetative Cover (%)** 70%
- **5.3 (3d): Description of Vegetative Cover** Grass

- **5.3 (3e): Soil Properties:** AASHTO Soil Sand with Gravel
- **5.3 (3f): Name of Receiving Water Body/Bodies** Newton Fork Creek
- **5.3 (3g): Location of Construction Support Activity Areas** ROW & Temporary Easement

5.3 (3h): ORDER OF CONSTRUCTION ACTIVITIES

The Contractor will enter the Estimated Start Date.

Description	Estimated Start Date
Install perimeter protection where runoff may exit site.	
Remove and stockpile topsoil as required	
Remove and stockpile surfacing.	
Install channel and ditch bottom protection.	
Clearing and grubbing.	
Stabilize disturbed areas & topsoil piles.	
Remove bridge.	
Grade roadway.	
Final grading	
Replace topsoil	
Removal of protection devices.	
Reseed areas disturbed by removal activities.	

5.3 (5): DESCRIPTION AND MAINTENANCE OF CONTROL MEASURES

All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report. Include the technical reasoning for selecting each control. (check all that apply)

Perimeter Controls (See Detail Plan Sheets)

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

Structural Erosion and Sediment Controls

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

Dust Controls

Description	Estimated Start Date
☐ Tarps & Wind impervious fabrics	
☐ Watering	
☒ Stockpile location/orientation	
☐ Dust Control Chlorides	
☐ Other	

Dewatering BMPs

Description	Estimated Start Date
☐ Sediment Basins	
☐ Dewatering bags	
☐ Weir tanks	
☐ Temporary Diversion Channel	
☐ Other:	

Stabilization Practices (See Detail Plan Sheets)

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

Description	Estimated Start Date
☐ Vegetation Buffer Strips	
☐ Temporary Seeding (Cover Crop Seeding)	
☒ Permanent Seeding	
☐ Sodding	
☐ Planting (Woody Vegetation for Soil Stabilization)	
☐ Mulching (Grass Hay or Straw)	
☐ Fiber Mulching (Wood Fiber Mulch)	
☐ Soil Stabilizer	
☐ Bonded Fiber Matrix	
☐ Fiber Reinforced Matrix	
☒ Erosion Control Blankets	
☐ Surface Roughening (e.g. tracking)	
☐ 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.

FOR BIDDING PURPOSES ONLY

5.3 (6): PROCEDURES FOR INSPECTIONS

- Inspections will be conducted at least once every 7 days.
- All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report.
- Silt fence will be inspected for depth of sediment and for tears to ensure the fabric is securely attached to the posts and that the posts are well anchored. Sediment buildup will be removed from the silt fence when it reaches 1/3 of the height of the silt fence.
- Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction.
- Check dams will be inspected for stability. Sediment will be removed when depth reaches ½ the height of the dam.
- All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
- Inspection and maintenance reports will be prepared on form DOT 298 for each site inspection, this form will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.
- The SDDOT Project Engineer and Contractor's Erosion Control Supervisor are responsible for inspections. Maintenance and repair activities are the responsibility of the Contractor. The SDDOT Project Engineer will complete the inspection and maintenance reports and distribute copies per the distribution instructions on DOT 298.

5.3 (7): POST CONSTRUCTION STORMWATER MANAGEMENT

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

5.3 (8): POLLUTION PREVENTION PROCEDURES

5.3 (8a): Spill Prevention and Response Procedures

Material Management

- Housekeeping
  - Only needed products will be stored on-site by the Contractor.
  - Except for bulk materials the contractor will store all materials under cover and/or in appropriate containers.
  - Products must be stored in original containers and labeled.
  - Material mixing will be conducted in accordance with the manufacturer's recommendations.
  - When possible, all products will be completely used before properly disposing of the container off-site.
  - The manufacturer's directions for disposal of materials and containers will be followed.
  - The Contractor's site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
  - Dust generated will be controlled in an environmentally safe manner.

- Hazardous Materials
  - Products will be kept in original containers unless the container is not resealable and provide secondary containment as applicable.
  - Original labels and material safety data sheets will be retained in a safe place to relay important product information.
  - If surplus product must be disposed of, manufacturer's 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 stormwater system or stormwater treatment system.
  - Potential pH-modifying materials such as: bulk cement, cement kiln dust, fly ash, new concrete washings, concrete pumping, residuals from concrete saw cutting (either wet or dry), and mixer washout waters will be collected on site and managed to prevent contamination of stormwater runoff.

Spill Control Practices

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

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

Spill Response

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

- The Contractor's site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
- If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
- 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.
- If a spill occurs the superintendent or the superintendent's designee will be responsible for completing the spill reporting form and for reporting the spill to SDDANR.
- Personnel with primary responsibility for spill response and cleanup will receive training by the Contractor's site superintendent or designee. The training must include identifying the location of the spill kits and other spill response equipment and the use of spill response materials.
- Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

5.3 (8b): WASTE MANAGEMENT PROCEDURES

Waste Disposal

- All liquid waste materials will be collected and stored in approved sealed containers. All trash and construction debris from the site will be deposited in the approved containers. Containers will be serviced as necessary, and the trash will be hauled to an approved disposal site or licensed landfill. All onsite personnel will be instructed in the proper procedures for waste disposal and notices stating proper practices will be posted. The Contractor is responsible for ensuring waste disposal procedures are followed.

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 Contractor 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 which must be secured to prevent tipping and serviced in a timely manner by a licensed waste management Contractor or as required by any local regulations.

5.3 (9): CONSTRUCTION SITE POLLUTANTS

The following materials or substances are expected to be present on the site during the construction period. These materials will be handled as noted under the heading "POLLUTION PREVENTION PROCEDURES" (check all that apply).

- ☒ Concrete and Portland Cement
- ☐ Detergents
- ☐ Paints
- ☒ Metals
- ☒ Bituminous Materials
- ☐ Petroleum Based Products
- ☒ Diesel Exhaust Fluid
- ☒ Cleaning Solvents
- ☒ Wood
- ☒ Cure
- ☐ Texture
- ☐ Chemical Fertilizers
- ☐ Other:

Product Specific Practices

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

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

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

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

5.3 (10): NON-STORMWATER DISCHARGES

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

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

5.3 (11): INFEASIBILITY DOCUMENTATION

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

7.0: SPILL NOTIFICATION

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

- A release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to SDDANR immediately **if any one of the following** conditions exists:
  - The release or spill threatens or is able to threaten waters of the state (surface water or ground water)
  - The release or spill causes an immediate danger to human health or safety
  - The release or spill exceeds 25 gallons
  - The release or spill causes a sheen on surface water
  - The release or spill of any substance that exceeds the ground water quality standards of ARSD Chapter 74:54:01
  - The release or spill of any substance that exceeds the surface water quality standards of ARSD Chapter 74:51:01
  - The release or spill of any substance that harms or threatens to harm wildlife or aquatic life
  - The release or spill is required to be reported according to Superfund Amendments and Reauthorization Act (SARA) Title III List of Lists, Consolidated List of Chemicals Subject to Reporting Under the Emergency Planning and Community Right to Know Act, US Environmental Protection Agency.

- To report a release or spill, call SDDANR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central Standard Time). To report the release after hours, on weekends or holidays, call South Dakota Emergency Management at 605-773-3231. Reporting the release to SDDANR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, you must also contact local authorities to determine the local reporting requirements for releases. A written report of the unauthorized release of any regulated substance, including quantity discharged, and the location of the discharge will be sent to SDDANR within 14 days of the discharge.

FOR BIDDING PURPOSES ONLY

5.4: SWPPP 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 7.4 (1))

➢ **Prime Contractor**

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

I certify under penalty of law that this document and all attachments will be revised or maintained under my direction or supervision in accordance with a system designed to assure that 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

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

➢ **Contractor Information**:

- Prime Contractor Name: _____
- Contractor Contact Name: _____
- Address: _____
- _____
- City: _____State: _____Zip: _____
- Office Phone: _____Field: _____
- Cell Phone: _____Fax: _____

➢ **Erosion Control Supervisor**

- Name: _____
- Address: _____
- _____
- City: _____State: _____Zip: _____
- Office Phone: _____Field: _____
- Cell Phone: _____Fax: _____

➢ **SDDOT Project Engineer**

- Name: _____
- Business Address: _____
- Job Office Location: _____
- City: _____State: _____Zip: _____
- Office Phone: _____Field: _____
- Cell Phone: _____Fax: _____

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

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

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

➢ **SDDANR Stormwater Contact Information**
- SDDANR Stormwater (800) 737-8676
- Surface Water Quality Program (605) 773-3351

5.5: REQUIRED SWPPP MODIFICATIONS

➢ **5.5 (1): Conditions Requiring SWPPP Modification**

The SWPPP must be modified, including the site map(s), in response to any of the following conditions:

- When a new operator responsible for implementation of any part the SWPPP begins work on the site.
- When changes to the construction plans, sediment and erosion control measures, or any best management practices on site that are no longer accurately reflected in the SWPPP. This includes changes made in response to corrective actions triggered by inspections.
- To reflect areas on the site map where operational control has been transferred (including the date of the transfer) or has been covered under a new permit since initiating coverage under this general permit.
- If inspections by site staff, local officials, SDDANR, or U.S. EPA determine that SWPPP modifications are necessary for compliance with the Stormwater Permit.
- To reflect any revisions to applicable federal, state, or local requirements that affect the control measures implemented at the site.
- If approved by the Secretary, to reflect any changes in chemical water treatment systems or controls, including the use of a different water treatment chemical, age rates, different areas, or methods of application.

➢ **5.5 (2): Deadlines for SWPPP Modification**

Any required revisions to the SWPPP must be completed within 7 calendar days following any of the items listed above.

➢ **5.5 (3): Documentation of Modifications to the Plan**

All SWPPP modification records are required to be maintained showing the dates of when the modification occurred. The records must include the name of the person authorizing each change and a brief summary of all changes.

➢ **5.5 (4): Certification Requirements**

All modifications made to the SWPPP must be signed and certified as required in Section 7.4.

➢ **5.5 (5): Required Notice to Other Operators**

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

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

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	18	35

Plan

FOR BIDDING PURPOSES ONLY

N

Scale: 1" = 100'

9+05 to 9+50 Lt
Construct Drainage Ditch
Minimum 1% Slope to Drain North
(Incidental Work, Grading)

Salvage Traffic Signs at the Following Locations:

Station	L/R	Remarks
3+00	R	Weight Limit Sign (Sign only)
7+12	R	Narrow Bridge Sign
8+16	R	Bump / Speed Advisory Sign
9+49	L&R	(2) Type 3 Object Markers
10+50	L&R	(2) Type 3 Object Markers
11+50	L	Bump / Speed Advisory Sign
12+75	L	Narrow Bridge Sign
18+75	L	Weight Limit / Speed Limit Sign

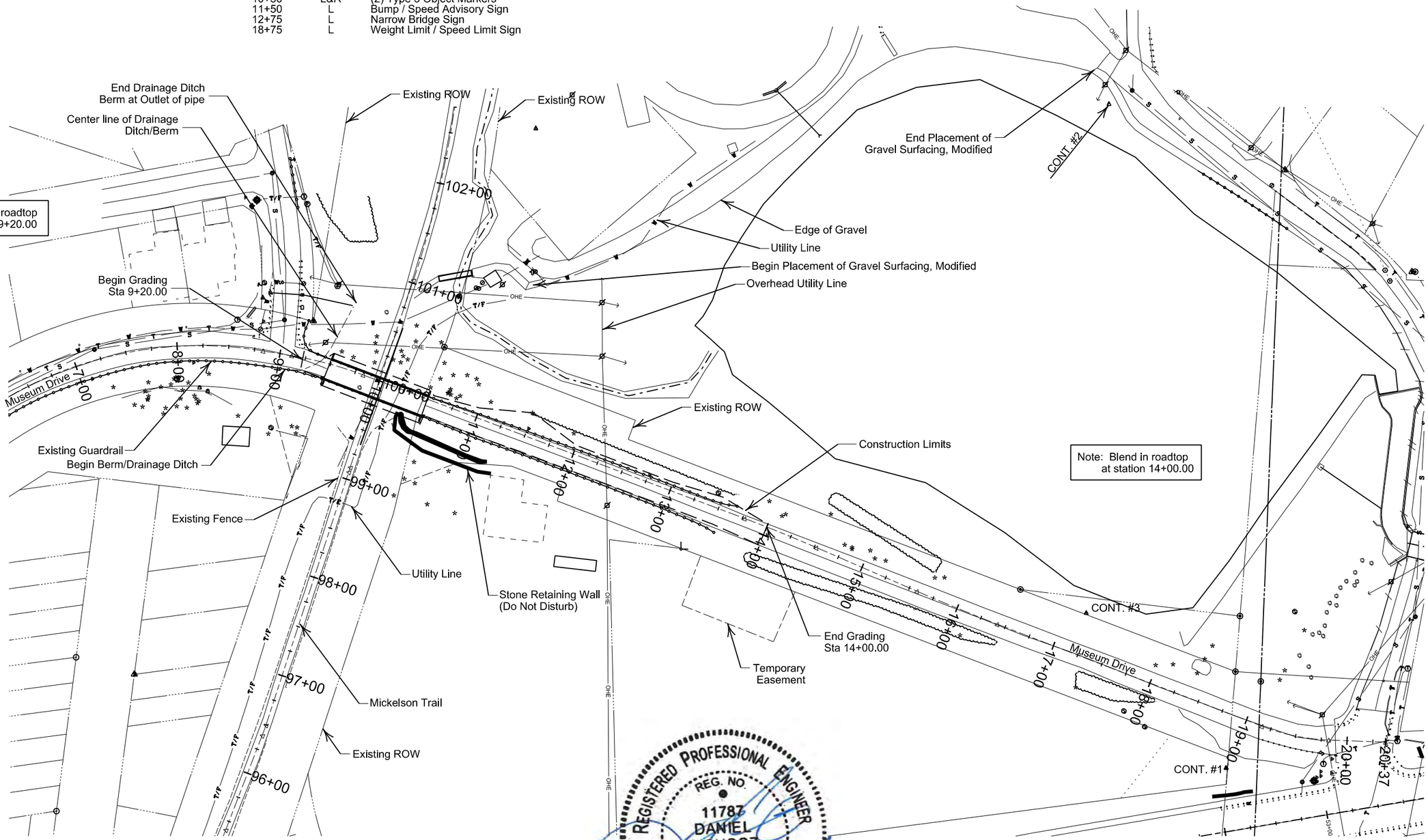
9+25 to 13+68 Lt
9+25 to 13+55 Rt
873 Ft Total
(Salvage Beam Guardrail)

9+20 to 9+49
10+50 to 18+80
Remove Asphalt Concrete Pavement

9+49 to 10+50
Remove 101' Three Span Steel
Stringer Bridge
(Incidental Work, Structure)

9+00 to 13+75 Rt and
99+00 and 100+90 and
at the discretion of the Engineer
Install Orange Plastic Safety Fence

9+48 Rt & 10+52 Rt
Remove Drop Inlet & CMP
(Incidental Work, Grading)



CONTROL POINT #1
Sta 18+98.50 - 50.25' Rt
N = 600403.819
E = 1116514.581
Elev = 4969.616

CONTROL POINT #2
Sta 15+40.78 - 505.70 Lt
N = 601045.512
E = 1116401.356
Elev = 4979.735

CONTROL POINT #3
Sta 17+18.54 - 40.82' Lt
N = 600553.524
E = 1116379.426
Elev = 4975.154

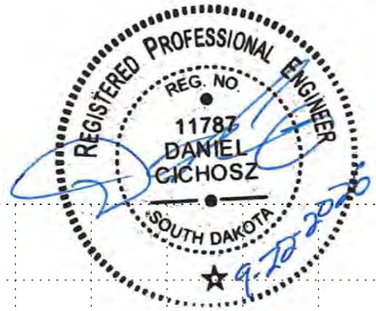
Note: Mainline Alignment at station 10+00 intersects the Mickelson Trail at station 100+00.00

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
11787
DANIEL
CICHOSZ
SOUTH DAKOTA
9-10-2020

Profile Mainline

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	19	35



* Waste Dirt to be used to Construct Drainage Ditch Berm from 9+05 to 9+50 Lt

Exc. (CY) 191
Emb. (CY) 3
+25% (CY) 1
*Waste(CY) 187
Total (CY) 191

Topsoil (CY) 0

PVI 5+80.12 Elev 5016.90
PVT 6+70.12 Elev 5016.80
PVC 7+40.12 Elev 5016.72
PVI 8+40.12 Elev 5016.60
PVT 9+40.12 Elev 5012.07
10+57.02 Elev 5006.77
PVC 15+35.12 Elev 4985.12
PVI 15+85.12 Elev 4982.85
PVT 16+35.12 Elev 4980.74
PVC 19+20.00 Elev 4968.72
PVI 19+75.00 Elev 4966.40
PVT 20+30.00 Elev 4966.40
PVI 20+50.00 Elev 4966.40

-0.115%
-4.530%
-4.219%
0.000%

K 46.05
L 180.00'

K 45.30
L 200.00'

K 321.59
L 100.00'

K 26.07
L 110.00'

5+50	6+00	7+00	8+00	9+00	10+00	11+00	12+00	13+00	14+00	15+00	16+00	17+00	18+00	19+00	20+00	20+50
5015.37	5016.34	5016.76	5016.25	5013.71	5009.36	5004.83	5000.30	4995.77	4991.24	4986.71	4982.24	4978.00	4973.78	4969.56	4966.57	4966.40
5015.0	5016.1	5016.7	5016.1	5013.9	4981.1	5005.2	5000.3	4995.7	4991.4	4987.0	4982.3	4978.3	4973.4	4969.3	4967.0	

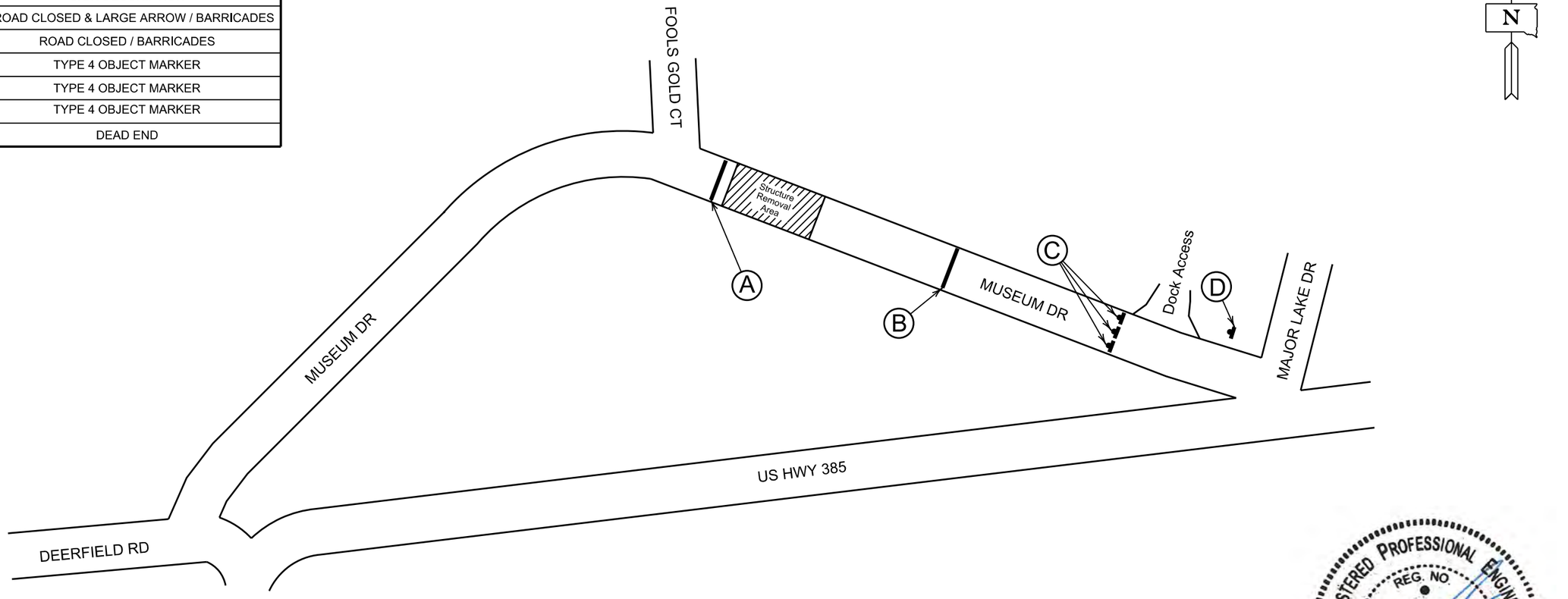
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	20	35

FOR BIDDING PURPOSES ONLY

PERMANENT SIGNING

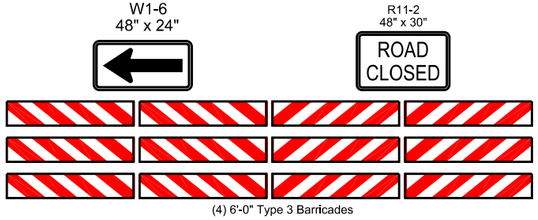
PERMANENT SIGNING TABLE

STATION - OFFSET	SIGN DESCRIPTION
9+20.00	ROAD CLOSED & LARGE ARROW / BARRICADES
12+25.00	ROAD CLOSED / BARRICADES
16+90.00 - 5.00' L	TYPE 4 OBJECT MARKER
16+90.00	TYPE 4 OBJECT MARKER
16+90.00 - 5.00' R	TYPE 4 OBJECT MARKER
19+66.00 - 15' L	DEAD END



REGISTERED PROFESSIONAL ENGINEER
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DANIEL CICHOSZ
SOUTH DAKOTA
9-10-2020

Ⓐ



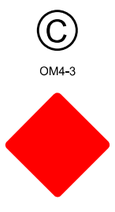
(4) 6'-0" Type 3 Barricades

Ⓑ



(4) 6'-0" Type 3 Barricades

Ⓒ



Ⓓ



ITEMIZED LIST FOR PERMANENT SIGNS

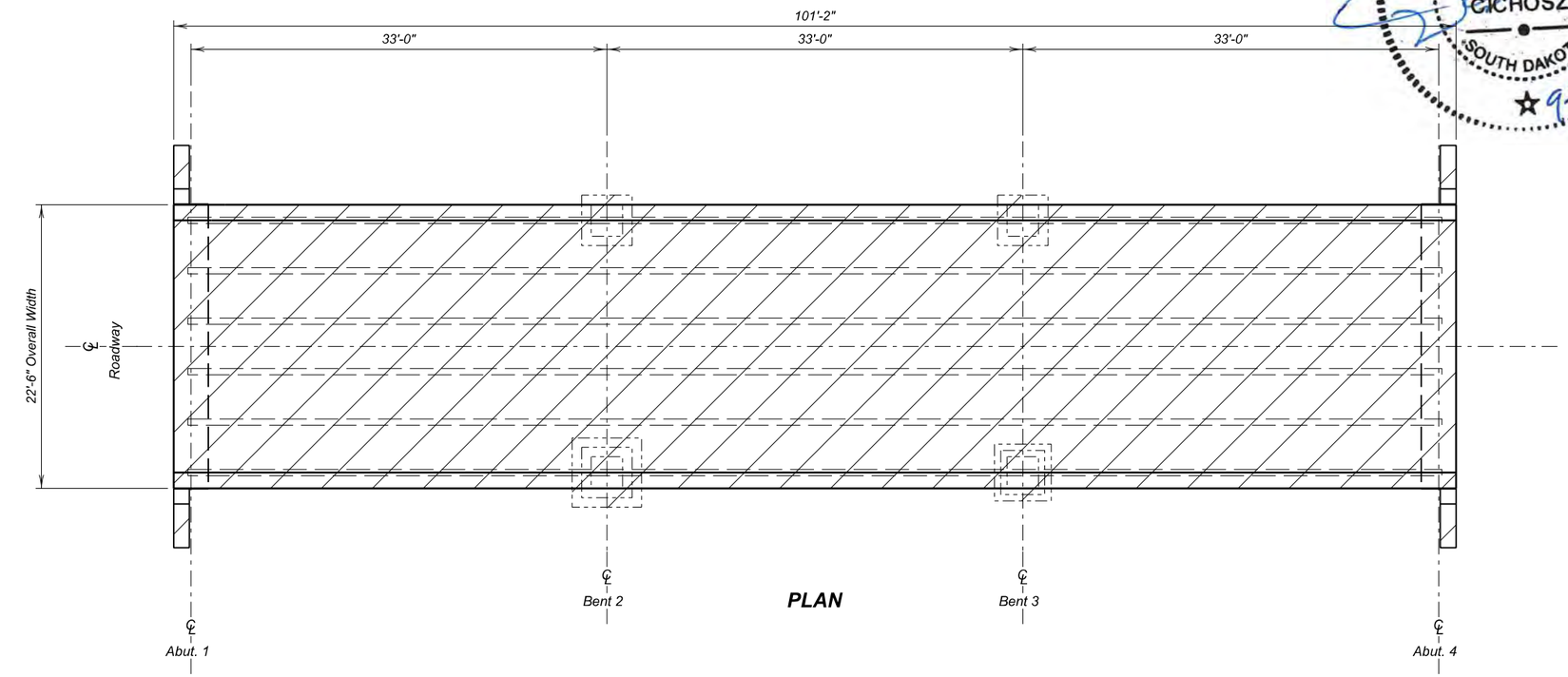
SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R11-2	ROAD CLOSED	2	48" x 30"	10.0	20.0
W1-6	LARGE ARROW (one direction)	1	48" x 24"	8.0	8.0
W14-1	DEAD END	1	30" x 30"	6.3	6.3
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			34.3

The elevations shown in these plans are based on the National Geodetic Survey (NGS) North American Vertical Datum of 1988 (NAVD88).

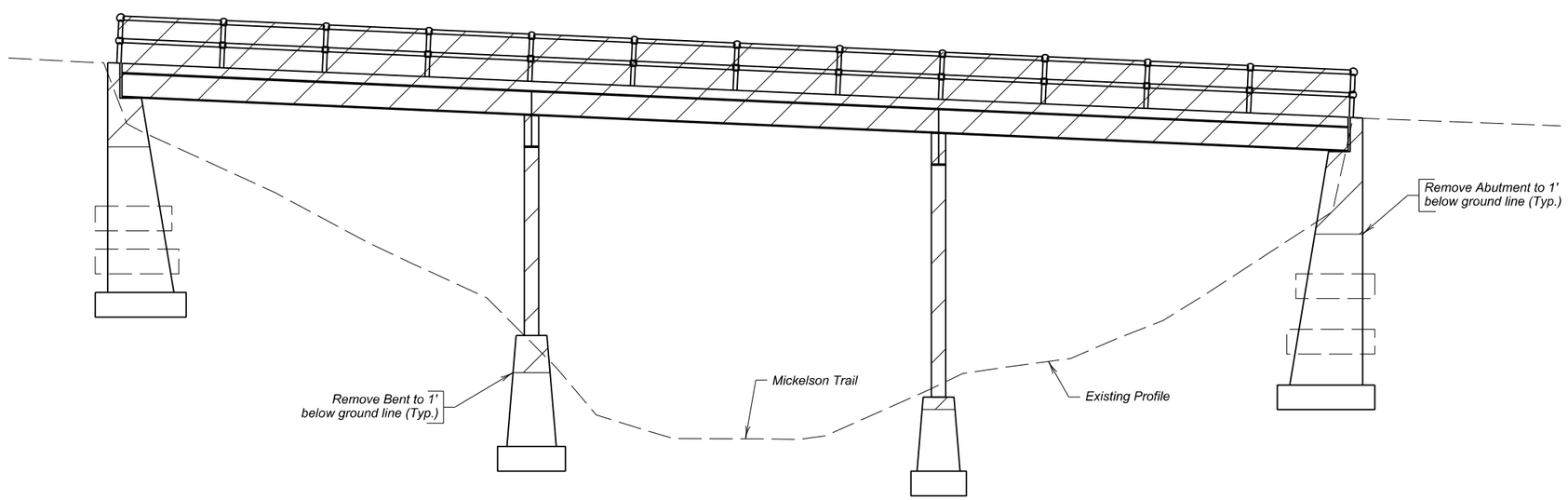
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	21	35

FOR BIDDING PURPOSES ONLY

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
11787
DANIEL CICHOSZ
SOUTH DAKOTA
9-10-2026



PLAN



ELEVATION

INCIDENTAL WORK, STRUCTURE

1. *The in place structure is a 101'-2" three span steel stringer bridge with a concrete deck. The bents are steel beams and columns on reinforced concrete footings. The only information we have is the footing were cast on to the rock. The railing is a steel railing. The wingwalls and abutments are concrete. This bridge is over an abandoned railroad line.*

2. *Break down and remove the existing bridge to 1 foot below finished ground line. All excavation required along the edges of the structure, will be filled so no void left after the structure units are removed. All portions of the existing bridge will be removed and disposed of by the Contractor on a site obtained by the Contractor and approved by the Engineer in accordance with the Environmental Commitments found elsewhere in these plans.*

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

4. *All costs associated with the foregoing work will be included in the contract lump sum price for "Incidental Work, Structure".*

NOTICE - LEAD BASED PAINT

Be advised that the paint on the steel surfaces of the existing structure contains lead. The Contractor should plan operations accordingly and inform employees of the hazards of lead exposure.

ESTIMATED QUANTITIES		
ITEM	**UNIT**	**QUANTITY**
Incidental Work, Structure	*LS*	*Lum Sum*

LAYOUT FOR REMOVAL

FOR

101'-2" STEEL GIRDER BRIDGE

OVER MICKELSON TRAIL
STA 9+49.00 TO 10+50.00
STR. NO. 52-242-403
PCN 09A5

SKEW 0°
SEC. 30, T01S, R05E

CITY OF HILL CITY

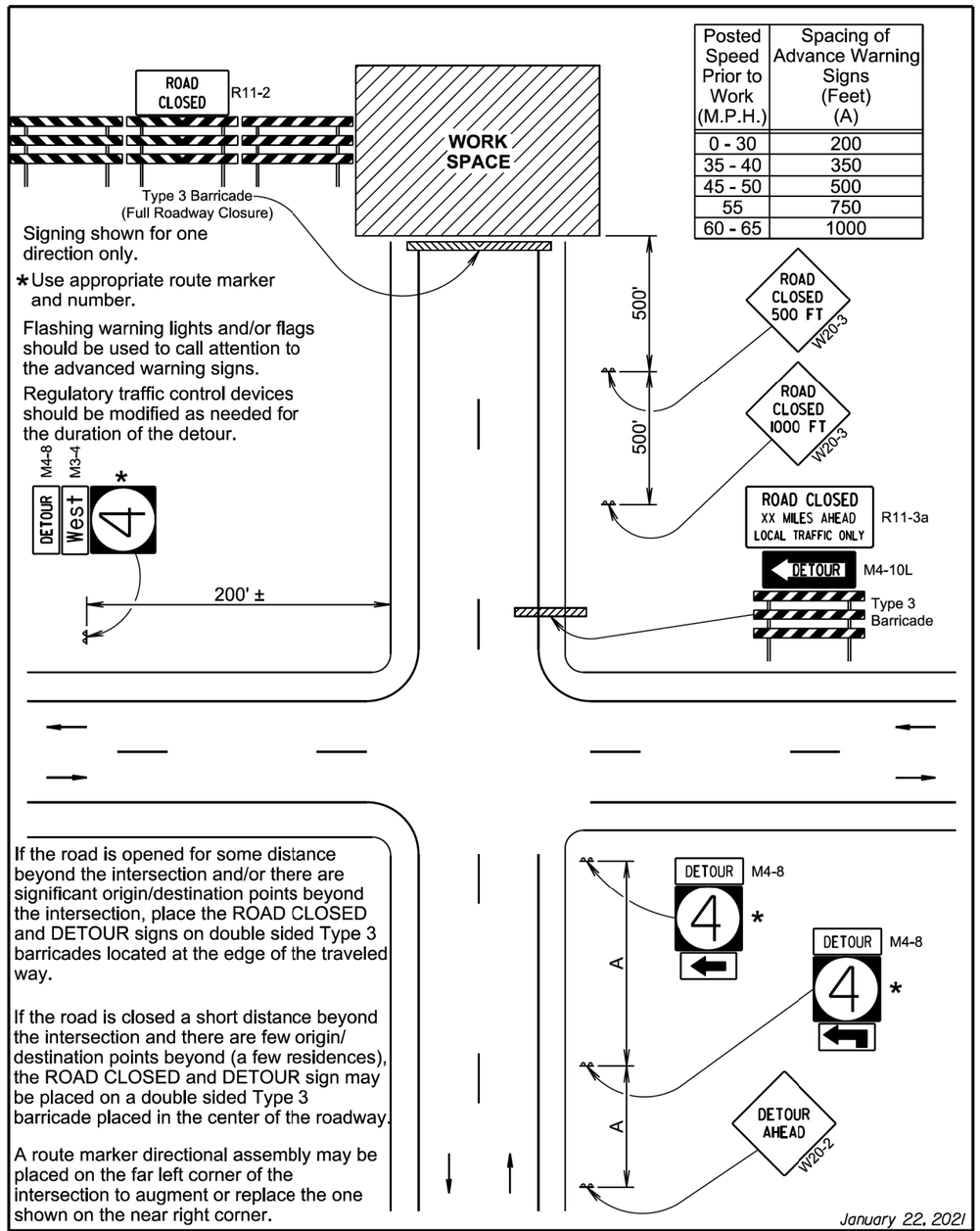
S. D. DEPT. OF TRANSPORTATION

SEPTEMBER 2026

1 OF 1

PLANS BY: BROSZ ENGINEERING INC.

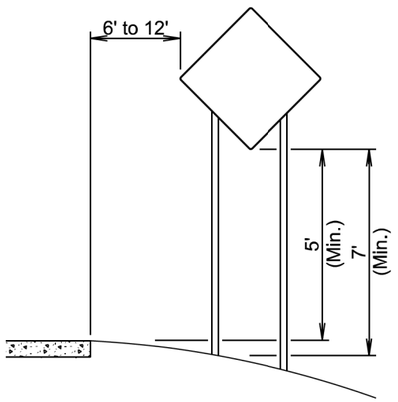
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED
D.C.	J.H.	J.V.	



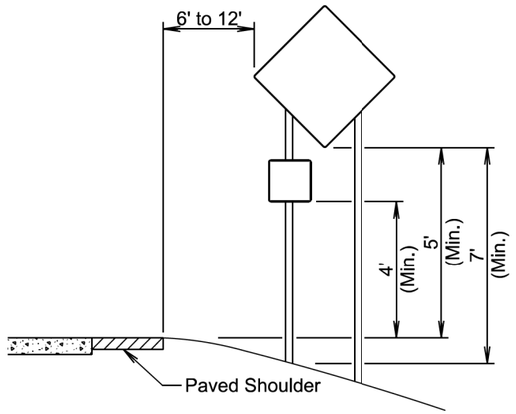
Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000

January 22, 2021

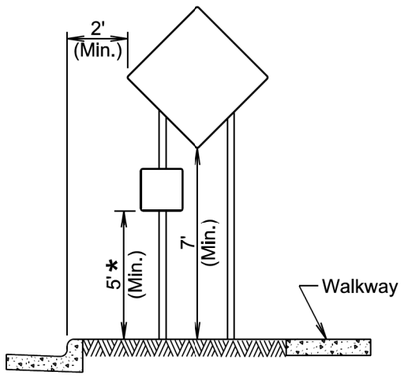
Published Date: 2027	SDDOT	ROAD CLOSED WITH OFF-SITE DETOUR	PLATE NUMBER 634.29 Sheet 1 of 1



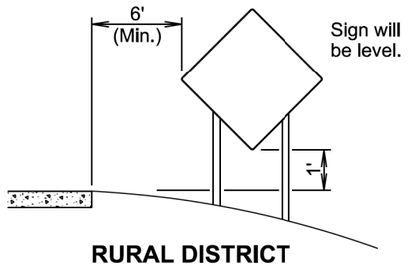
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

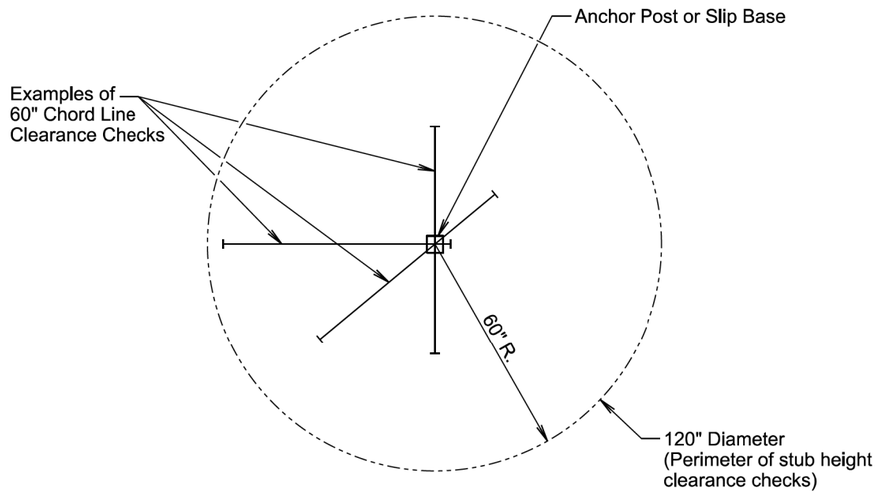


RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

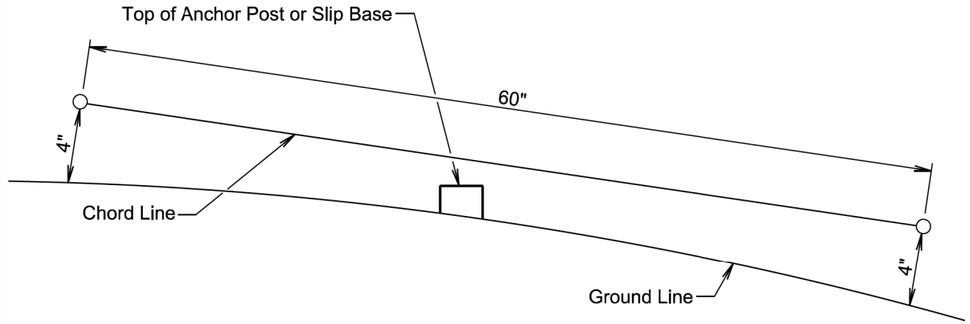
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

January 22, 2021

Published Date: 2027	SDDOT	CRASHWORTHY 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:

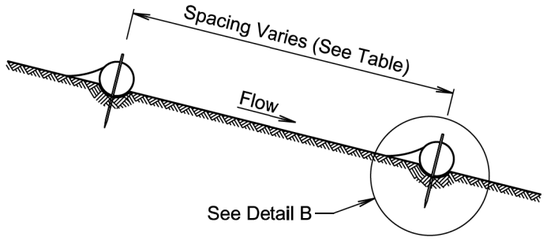
The top of anchor posts and slip bases WILL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height will 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.

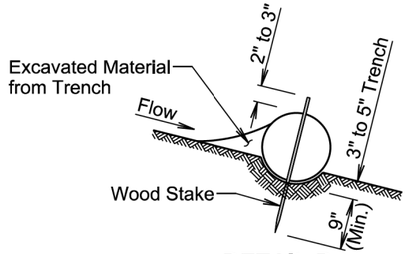
January 22, 2021

Published Date: 2027	SDDOT	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99 Sheet 1 of 1

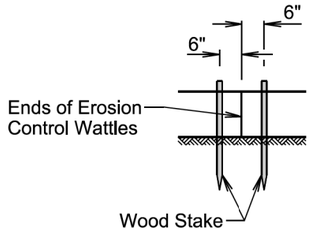


ELEVATION VIEW
(Cut or Fill Slope Installation)

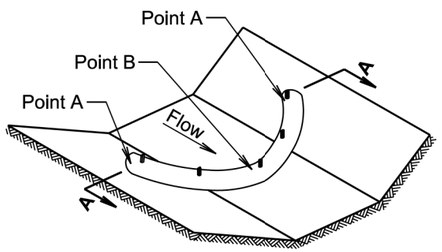
CUT OR FILL SLOPE INSTALLATION	
Slope	Spacing (Ft.)
1:1	10
2:1	20
3:1	30
4:1	40



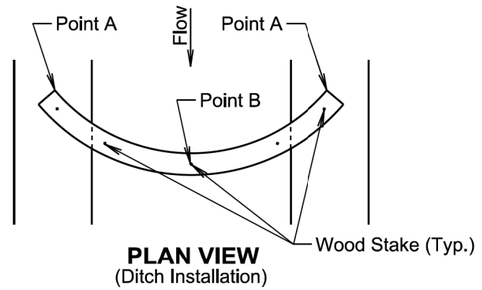
DETAIL B
(Typical of All Installations)



DETAIL C
(See General Notes)

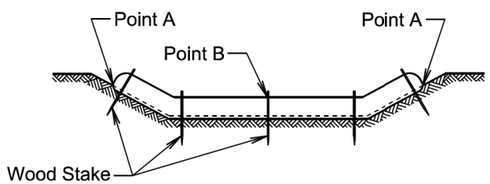


ISOMETRIC VIEW
(Ditch Installation)



PLAN VIEW
(Ditch Installation)

DITCH INSTALLATION	
Grade	Spacing (Ft.)
2%	150
3%	100
4%	75
5%	50



SECTION A-A

February 14, 2020

Published Date: 2027	SDDOT	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 1 of 2

GENERAL NOTES:

At cut or fill slope installations, wattles will be installed along the contour and perpendicular to the water flow.

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

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

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

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

The Contractor and Engineer will inspect the erosion control wattles in accordance with the storm water permit. The Contractor will remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

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

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

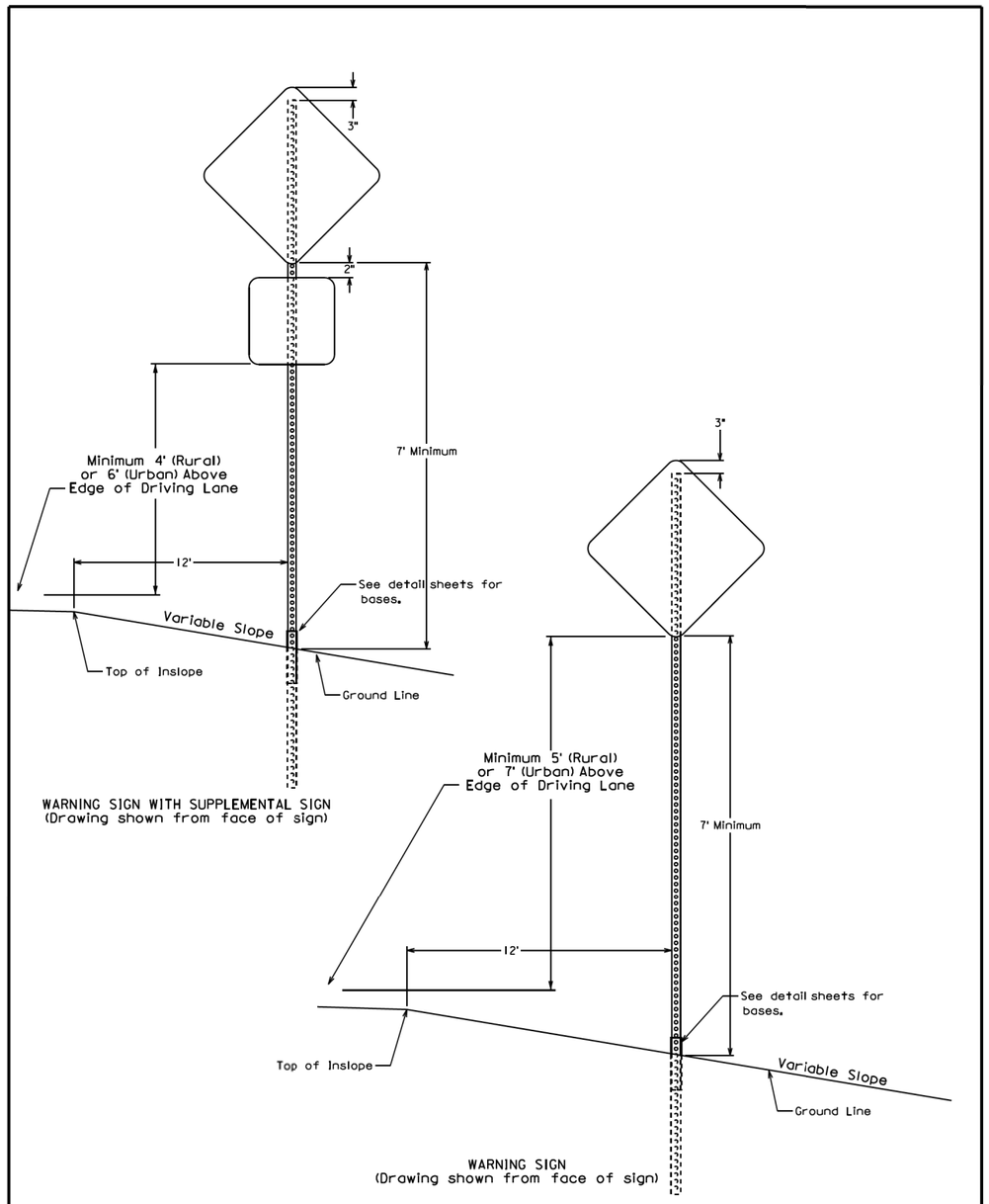
All costs for removing the erosion control wattle from the project including labor, equipment, and materials will be incidental to the contract unit price per foot for "Remove Erosion Control Wattle".

February 14, 2020

Published Date: 2027	SDDOT	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 2 of 2

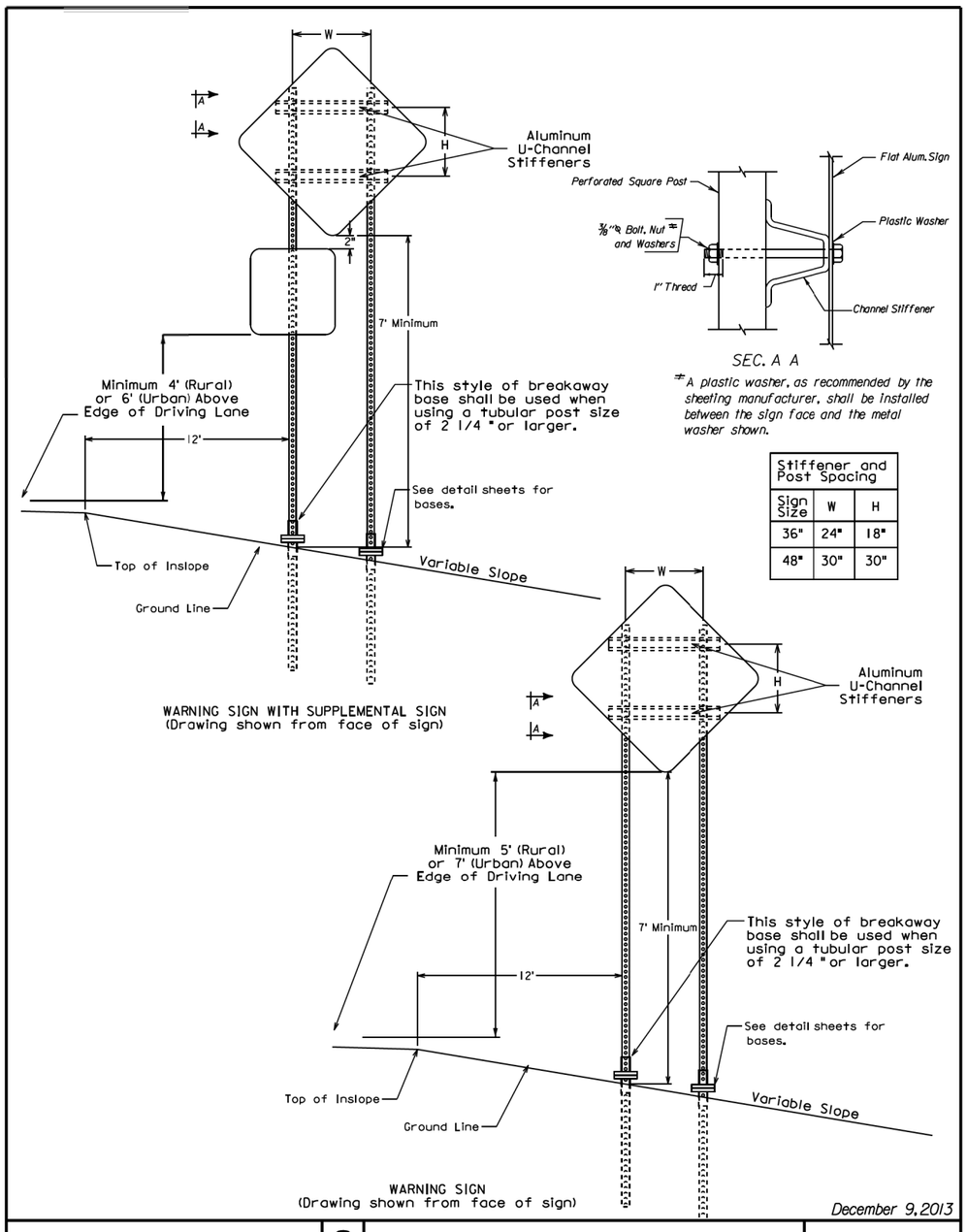
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	25	35



December 9, 2013

SDDOT	30" WARNING SIGNS (Typical Sign Detail)	SPECIAL DETAIL LO1
		Sheet 1 of 1

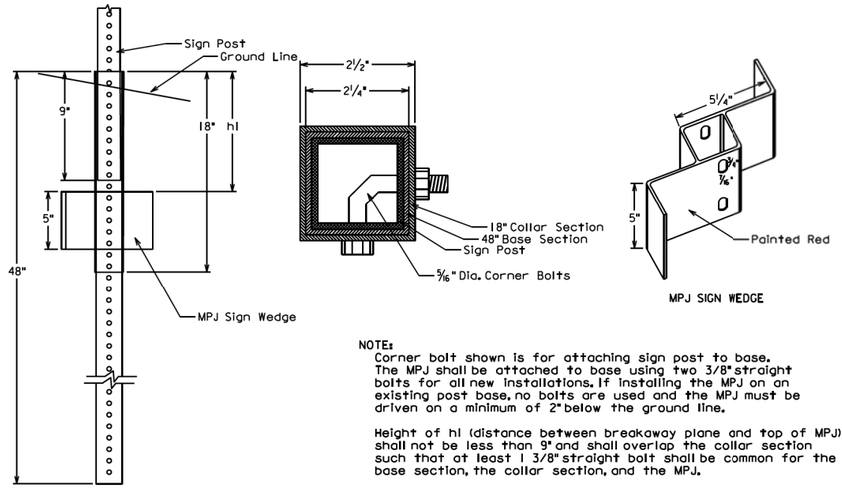


Stiffener and Post Spacing		
Sign Size	W	H
36"	24"	18"
48"	30"	30"

December 9, 2013

SDDOT	36" AND 48" WARNING SIGNS (Typical Sign and Stiffener Detail)	SPECIAL DETAIL LO2
		Sheet 1 of 1

SIGN BASE DETAILS FOR A 2" SIGN POST

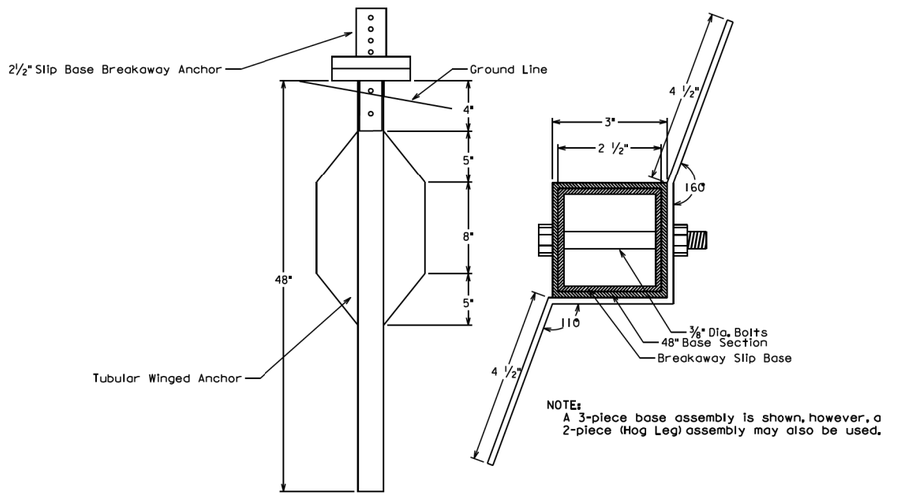


MPJ SIGN WEDGE

NOTE:
Corner bolt shown is for attaching sign post to base. The MPJ shall be attached to base using two 3/8" straight bolts for all new installations. If installing the MPJ on an existing post base, no bolts are used and the MPJ must be driven on a minimum of 2" below the ground line.

Height of hi (distance between breakaway plane and top of MPJ) shall not be less than 9" and shall overlap the collar section such that at least 1 3/8" straight bolt shall be common for the base section, the collar section, and the MPJ.

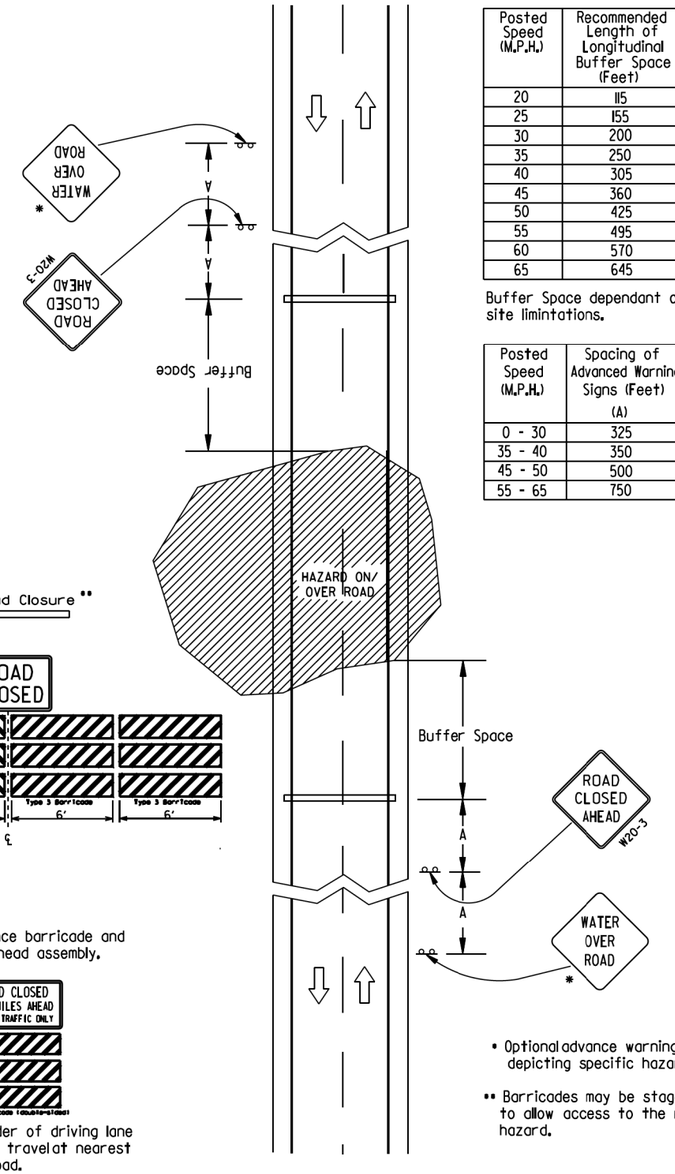
SIGN BASE DETAILS FOR A 2½" SIGN POST



NOTE:
A 3-piece base assembly is shown, however, a 2-piece (Hog Leg) assembly may also be used.

March 28, 2014

SDDOT	TUBULAR POST BASE DETAILS (Typical Soil Installation)	SPECIAL DETAIL L21
		Sheet 1 of 1



Posted Speed (M.P.H.)	Recommended Length of Longitudinal Buffer Space (Feet)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645

Buffer Space dependant on site limintations.

Posted Speed (M.P.H.)	Spacing of Advanced Warning Signs (Feet) (A)
0 - 30	325
35 - 40	350
45 - 50	500
55 - 65	750

Optional - Advance barricade and Road Closure Ahead assembly.

Install on Shoulder of driving lane in direction of travel at nearest intersecting road.

* Optional advance warning depicting specific hazard.

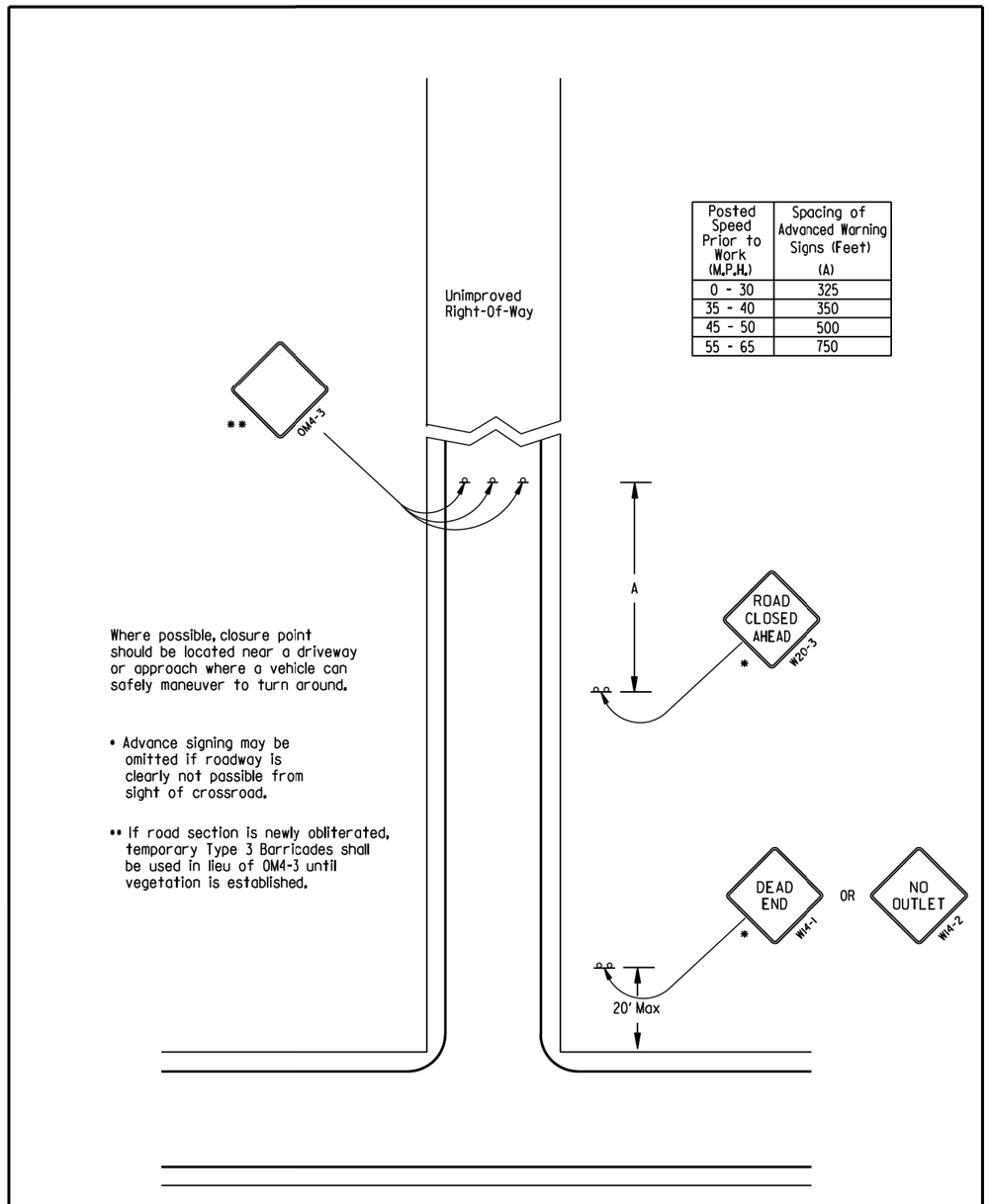
** Barricades may be staggered to allow access to the road hazard.

Install signs as applicable for each direction of travel.

June 13, 2017

SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES ROAD CLOSED FOR HAZARD ON IMPROVED ROADWAY	SPECIAL DETAIL L70
		Sheet 1 of 1

FOR BIDDING PURPOSES ONLY



Posted Speed Prior to Work (M.P.H.)	Spacing of Advanced Warning Signs (Feet) (A)
0 - 30	325
35 - 40	350
45 - 50	500
55 - 65	750

February 8, 2016

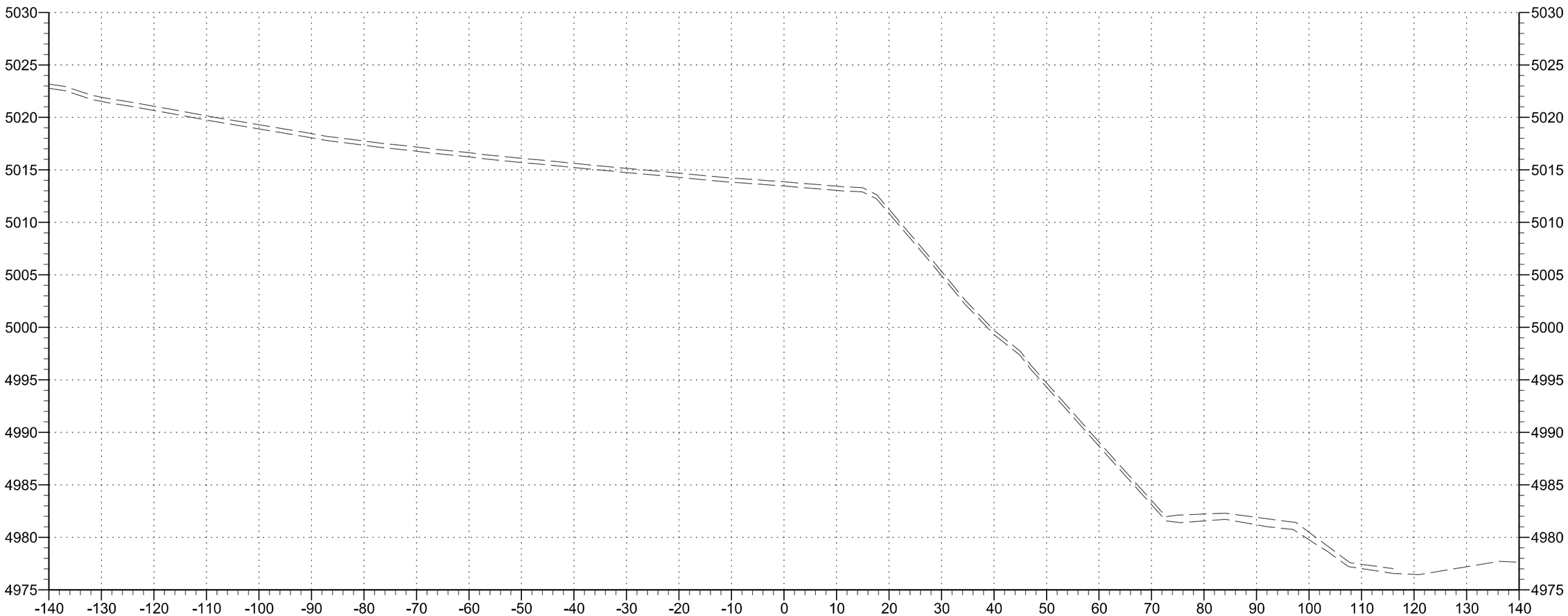
SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES ROAD CLOSED OBLITERATED OR UNIMPROVED ROADWAY	SPECIAL DETAIL L71 Sheet 1 of 1

MAINLINE CROSS SECTIONS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	28	35

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
11787
DANIEL
CICHOSZ
SOUTH DAKOTA
9-20-2023



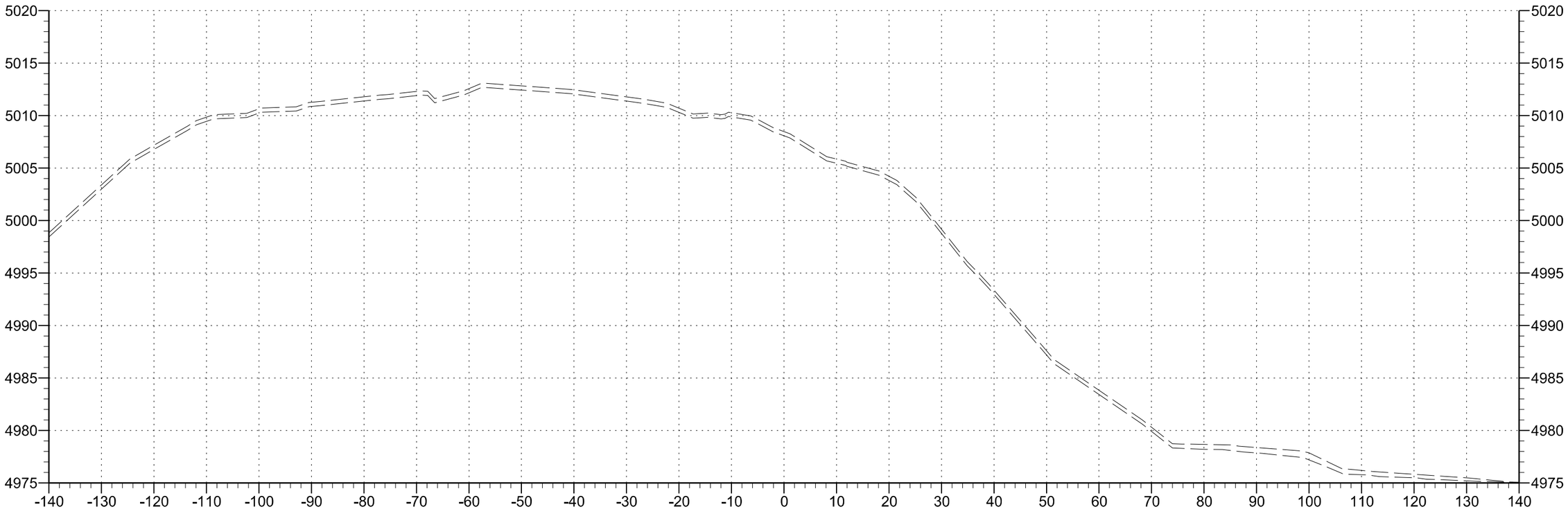
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MAINLINE CROSS SECTIONS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	29	35

REGISTERED PROFESSIONAL ENGINEER
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9-10-2020



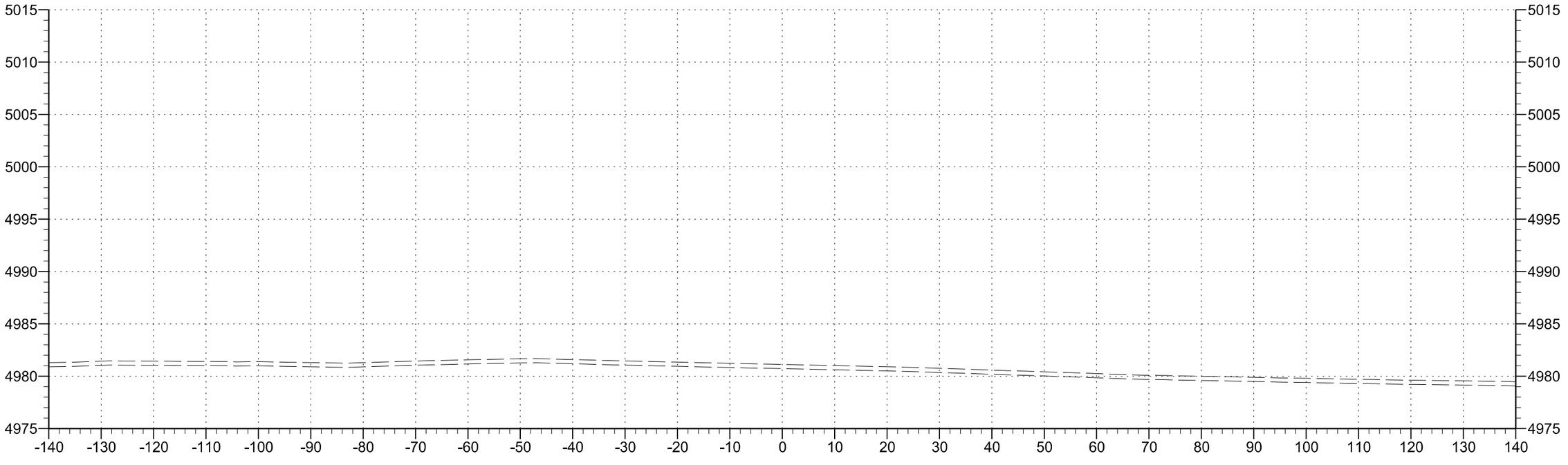
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MAINLINE CROSS SECTIONS

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	30	35



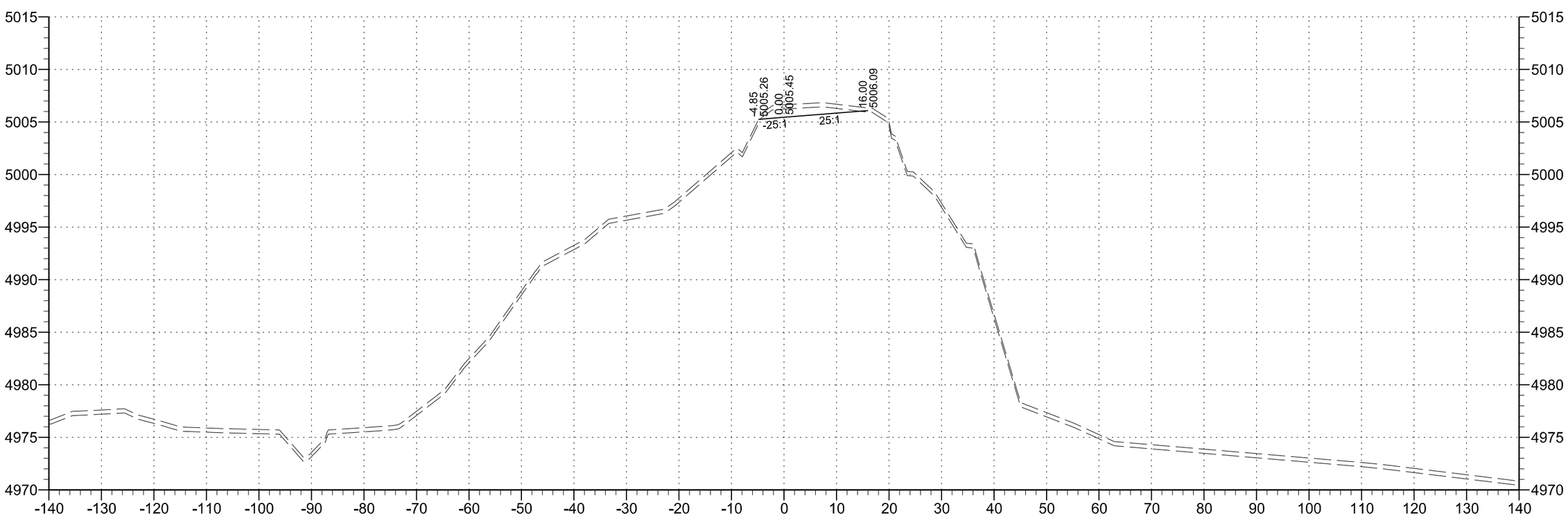


MAINLINE CROSS SECTIONS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	31	35

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9.10.2020



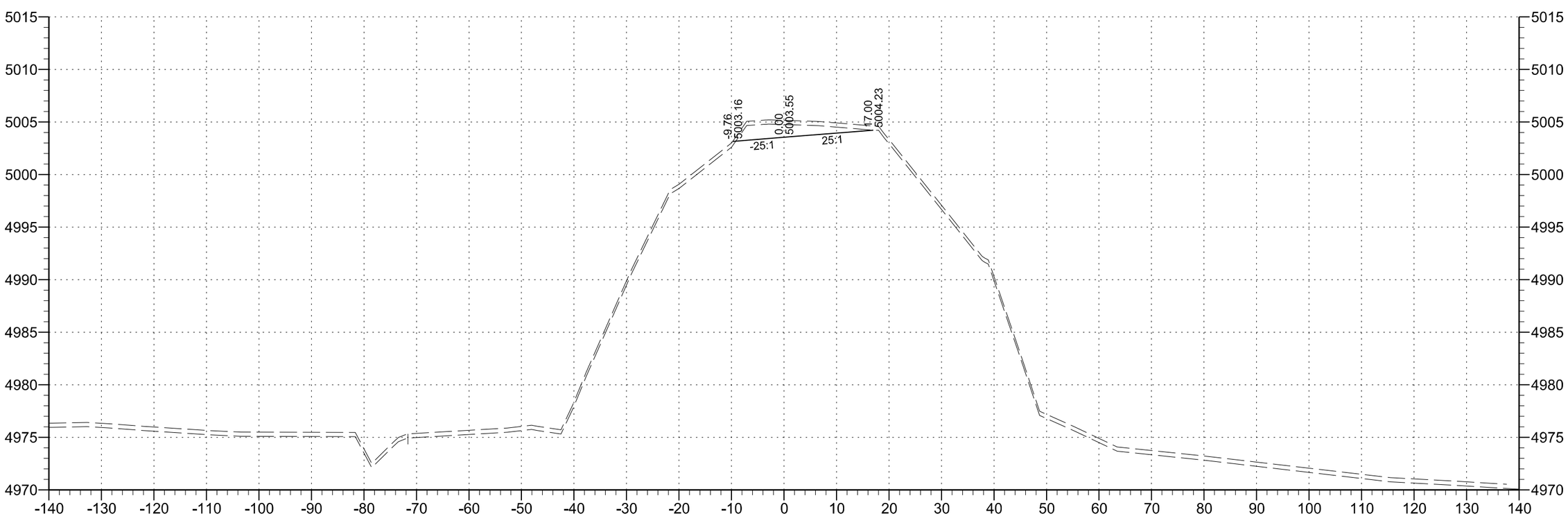
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MAINLINE CROSS SECTIONS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	32	35

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SOUTH DAKOTA
9-12-2025

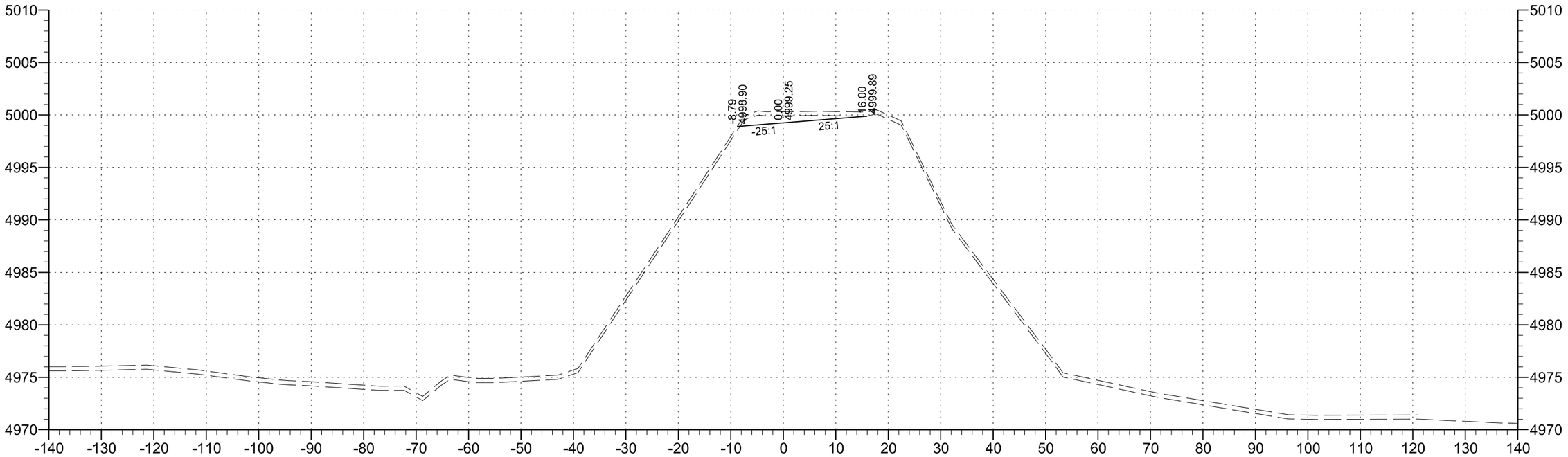


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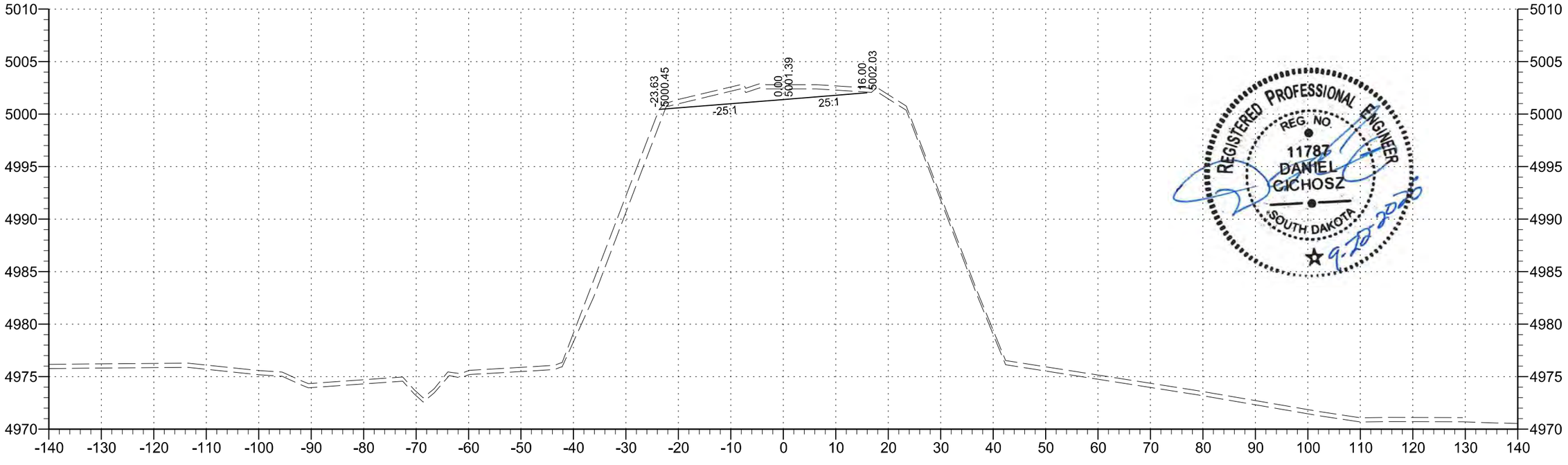
MAINLINE CROSS SECTIONS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	33	35



12+00

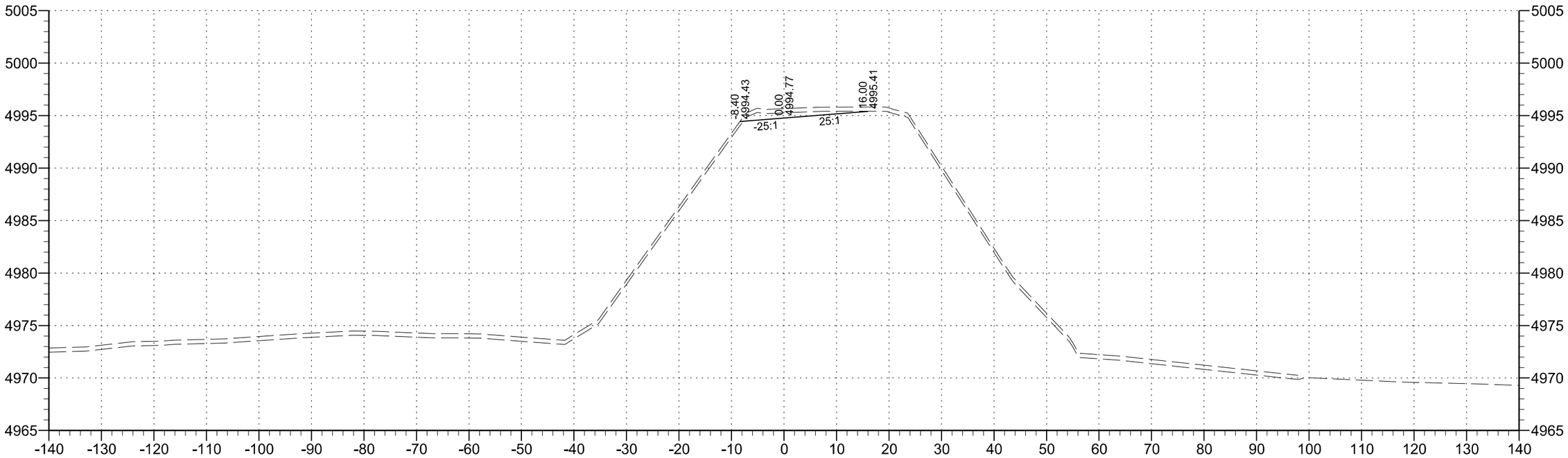


11+50

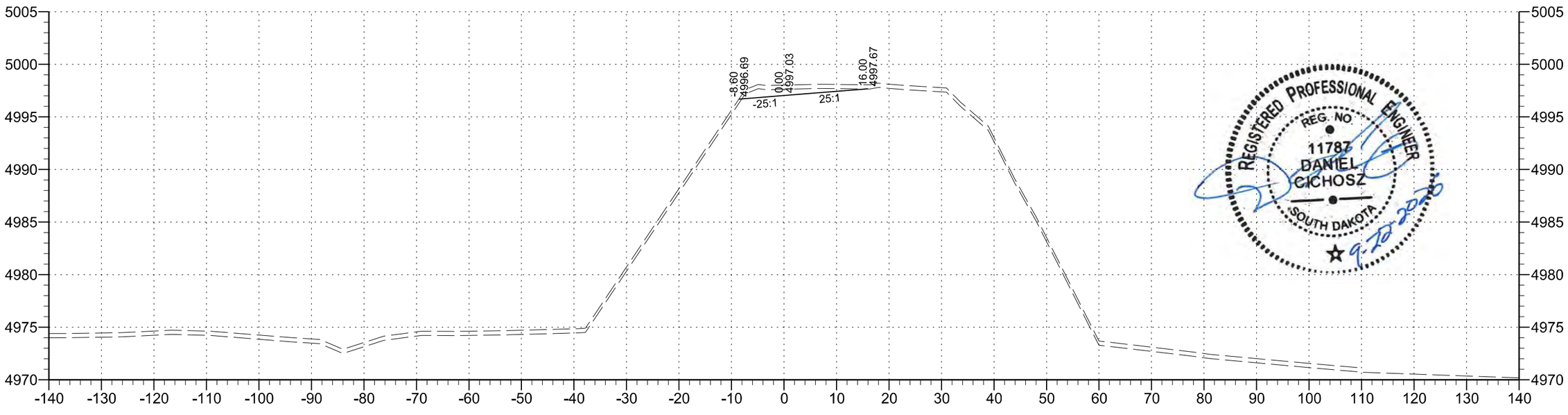
MAINLINE CROSS SECTIONS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	34	35



13+00



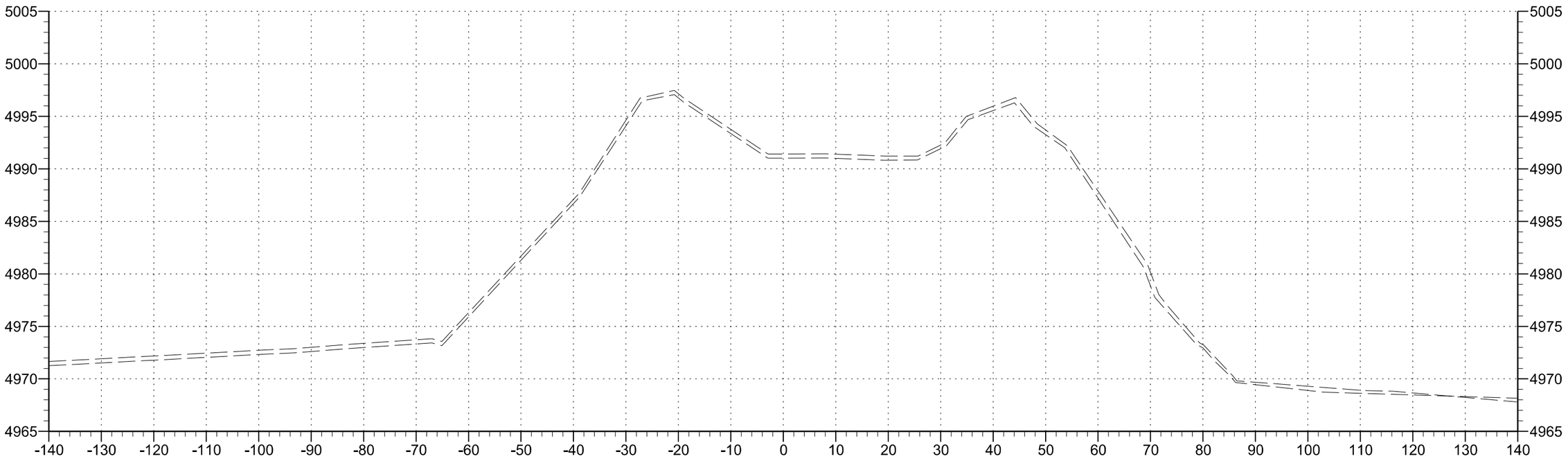
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SOUTH DAKOTA
9-10-20

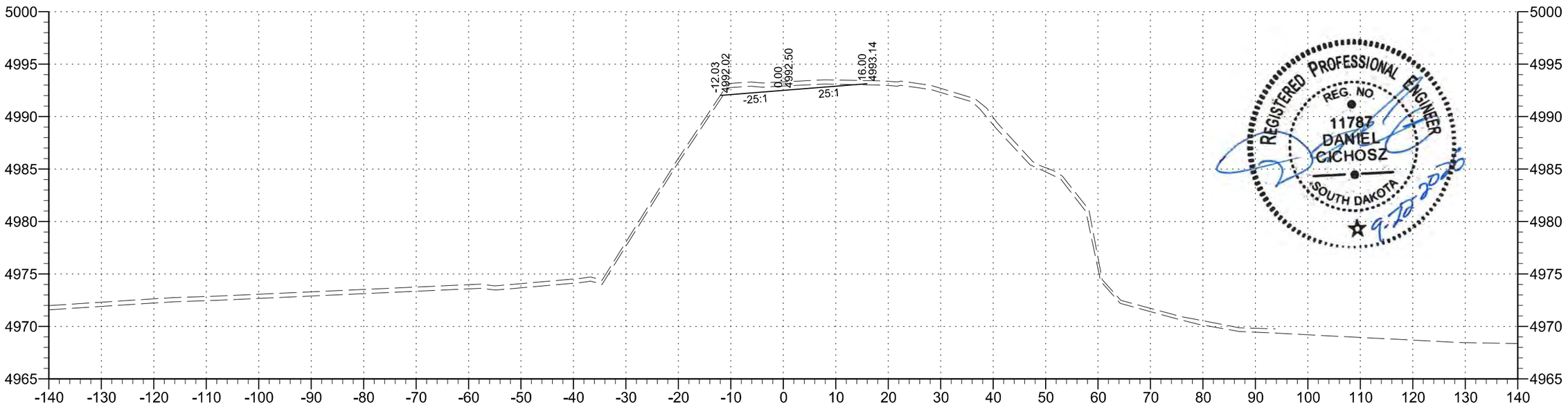
MAINLINE CROSS SECTIONS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO-B 8052(78)	35	35



14+00



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9-18-2020

13+50