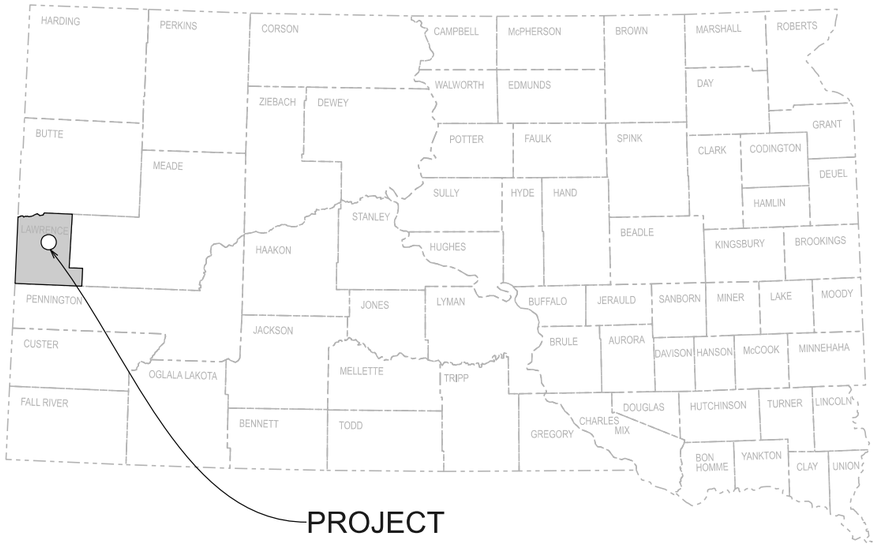
SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	1/73

Plotting Date: 12/22/2025



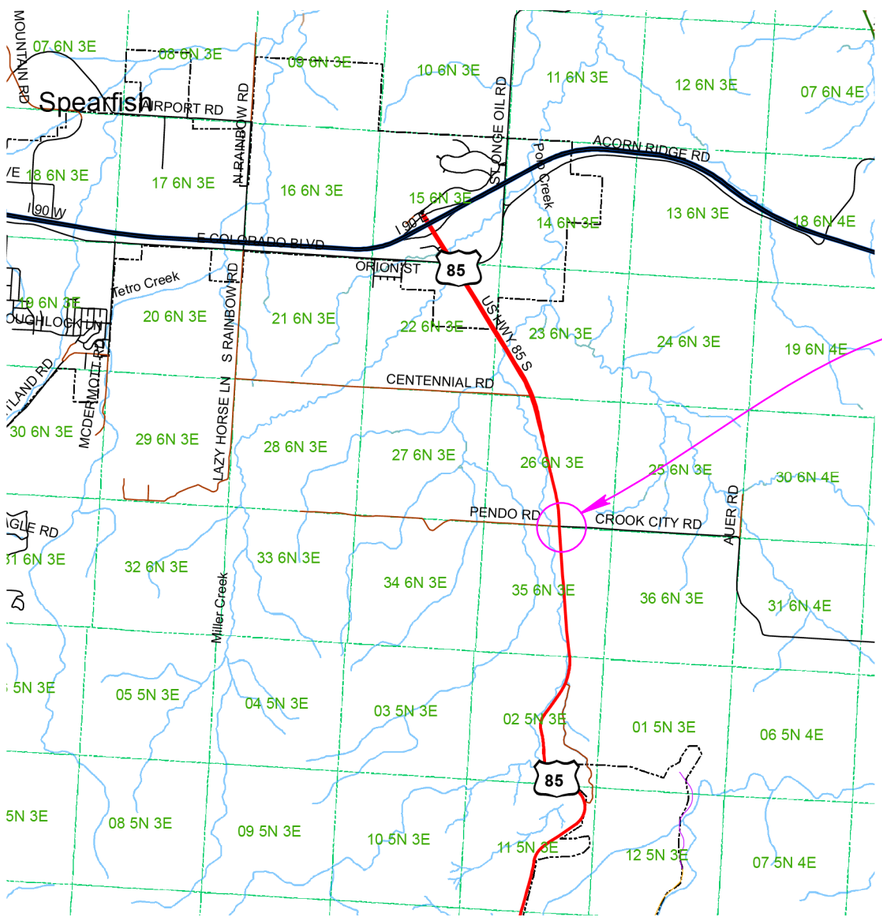
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

PROJECT NH 0085(116)34
US HIGHWAY 85
LAWRENCE COUNTY

INSTALL LEFT TURN LANES
PCN 08UX

INDEX OF SHEETS



US85 & Crook City Rd
NB & SB Left Turn Lanes

DESIGN DESIGNATION

ADT (2022)	7,819
ADT (2042)	11,330
DHV	1,856
D	51%
T DHV	6.0%
T ADT	13.1%
V	70 mph

STORM WATER PERMIT

Major Receiving
Body of Water: Polo Creek
Area Disturbed: 2.4 acres
Total Project Area: 5.4 acres
Approx. Begin Lat,Long: 44.445381, -103.717770

Gross Length	3135 Feet	0.5938 Miles
Length of Exceptions	0 Feet	0 Miles
Net Length	3135 Feet	0.5938 Miles

5

February 18, 2026

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(116)34	Non	2/73

Revised 12/22/2025 NJT

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E4200	Construction Schedule, Category II	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E0130	Remove Traffic Sign	8	Each
110E0510	Remove Pipe End Section	1	Each
110E0600	Remove Fence	1,570	Ft
110E1010	Remove Asphalt Concrete Pavement	106.3	SqYd
110E1100	Remove Concrete Pavement	5,798.8	SqYd
110E1700	Remove Silt Fence	395	Ft
110E5451	Salvage Riprap	12.4	Ton
110E7150	Remove Sign for Reset	3	Each
120E0010	Unclassified Excavation	6,926	CuYd
120E0600	Contractor Furnished Borrow Excavation	7,622	CuYd
120E2000	Undercutting	6,183	CuYd
120E6200	Water for Granular Material	21.3	MGal
210E1005	Surface Preparation	0.318	Mile
230E0100	Remove and Replace Topsoil	Lump Sum	LS
260E1010	Base Course	161.6	Ton
260E2010	Gravel Cushion	1,793.1	Ton
320E1200	Asphalt Concrete Composite	135.0	Ton
332E0010	Cold Milling Asphalt Concrete	430	SqYd
380E0070	9" Nonreinforced PCC Pavement	7,550.0	SqYd
380E0800	PCC Shoulder Pavement	1,395.0	SqYd
380E6000	Dowel Bar	3,356	Each
380E6110	Insert Steel Bar in PCC Pavement	790	Each
450E3022	30" RCP Arch Class 2, Furnish	24	Ft
450E3030	30" RCP Arch, Install	24	Ft
450E3320	30" RCP Arch Bend, Furnish	1	Each
450E3321	30" RCP Arch Bend, Install	1	Each
450E4604	30" RCP Arch Sloped End, Furnish	1	Each
450E4605	30" RCP Arch Sloped End, Install	1	Each
* 450E8900	Cleanout Pipe Culvert	1	Each
600E0200	Type II Field Laboratory	1	Each
620E0020	Type 2 Right-of-Way Fence	1,570	Ft
620E0520	Type 2 Temporary Fence	1,598	Ft
620E1020	2 Post Panel	4	Each
632E1100	1.12 Lb/Ft Flanged Channel Post	6.1	Ft
632E1320	2.0"x2.0" Perforated Tube Post	10.6	Ft
632E1340	2.5"x2.5" Perforated Tube Post	22.0	Ft
632E2207	4" Tubular White Delineator Reflector	16	Each
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	24.0	SqFt
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	47.5	SqFt
632E3500	Reset Sign	3	Each
633E0010	Cold Applied Plastic Pavement Marking, 4"	11,520	Ft
633E0030	Cold Applied Plastic Pavement Marking, 24"	343	Ft
633E0040	Cold Applied Plastic Pavement Marking, Arrow	6	Each
633E1201	High Build Waterborne Pavement Marking Paint with Reflective Elements, White	18	Gal
633E5000	Grooving for Cold Applied Plastic Pavement Marking, 4"	11,520	Ft
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	343	Ft
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	6	Each
633E5100	Grooving for Durable Pavement Marking, 4"	3,293	Ft
634E0010	Flagging	1,000.0	Hour
634E0110	Traffic Control Signs	383.4	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	3	Each
634E0330	Temporary Raised Pavement Markers	21,830	Ft
634E0380	Tubular Marker	54	Each
634E0420	Type C Advance Warning Arrow Board	2	Each
634E0560	Remove Pavement Marking, 4" or Equivalent	1,040	Ft
634E1002	Detour and Restriction Signing	504.0	SqFt
634E1255	Contractor Furnished Vehicle Speed Feedback Sign	2	Each
700E2010	Place Riprap	12.4	Ton
730E0210	Type F Permanent Seed Mixture	187	Lb
731E0100	Fertilizing	240	Lb
732E0200	Fiber Mulching	2.4	Ton
734E0154	12" Diameter Erosion Control Wattle	480	Ft
734E0604	High Flow Silt Fence	1,580	Ft
734E0610	Mucking Silt Fence	110	CuYd
734E0620	Repair Silt Fence	395	Ft

*** - Denotes Non-Participating**

ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Section A 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. 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 B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

The Whooping Crane is a spring and fall migratory bird in South Dakota that is about 5 feet tall and typically stops on wetlands, rivers, and agricultural lands along their migration route. An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight.

Action Taken/Required:

Harassment or other measures to cause the Whooping Crane to leave the site is a violation of the Endangered Species Act. If a Whooping Crane is sighted roosting in the vicinity of the project, borrow pits, or staging areas associated with the project, cease construction activities in the affected area until the Whooping Crane departs and immediately contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

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

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 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: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all 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

A Section 4(f) Evaluation concluded there are no feasible and prudent alternatives to avoiding Section 4(f) property located within the project.

Table of Section 4(f) Property

Station	Section 4(f) Property
251+75.9 – 267+30 R	Frawley Ranch National Historic Landmark

Action Taken/Required:

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

The Contractor is not permitted to stage equipment or materials within Frawley Ranch National Historic Landmark. 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 Q: ARCHAEOLOGICAL COORDINATION

As a result of a Cultural Resources Survey, historic properties have been identified within and/or adjacent to the project rights-of-way.

The following historic properties have been identified that require avoidance of construction activities:

Table of Historic Properties

Station	Offset (Ft.)	L/R	Environmental Sensitive Site	Action
251+75 – 267+35	75’	R	Frawley Ranch NHL	Work must remain within temporary easements

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

Action Taken/Required:

If evidence for cultural resources is uncovered 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 consult with the Archaeological Research Center (ARC) and FHWA to determine the appropriate course of action.

All artifacts, features, or other items of interest uncovered by project construction activities will not be displaced unless the landowner and the SHPO consent to it.

These identified sites cannot be used for material sources, storage areas, waste sites, and/or any other project related activities outside the plan work limits.

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 shall adhere to the “Special Provision for Fire Plan”.

GRADING OPERATIONS

Water for Embankment is estimated at the rate of 10 gallons of water per cubic yard of Embankment minus Waste. The estimated quantity of Water for Embankment is 38 MGal. No separate payment will be made for the Water for Embankment and all costs associated will be incidental to the contract unit price per cubic yard of “Unclassified Excavation”.

TYPE II FIELD LABORATORY

The Contractor will provide high-speed broadband internet connection to the field lab. The multiport internet connection may be hardwired, through a cellular method, or other approved service that allows Wi-Fi connection. Prior to obtaining the internet connection, the Contractor will submit the internet connection’s technical data to the Area Office to check for compatibility with the state’s computer equipment. The Contractor’s personnel are prohibited from using the internet connection unless pre-approved by the Project Engineer. The internet service will be incidental to the contract unit price per each for “Type II Field Laboratory”.

UTILITIES

The Contractor will contact the involved utility companies through South Dakota One Call (1-800-781-7474) prior to starting work. It shall be the responsibility of the Contractor to coordinate work with the utility owners to avoid damage to existing facilities.

If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule Article 20:25, the Contractor will contact the Project Engineer to determine modifications that will be necessary to avoid utility impacts.

SURFACING THICKNESS DIMENSIONS

Plans tonnage will be applied even though the thickness may vary from that shown in the plans. At those locations where material must be placed to achieve a required elevation, plans tonnages may be varied to achieve the required elevation.

GENERAL GEOLOGY

The project is underlain by Minnekahta Limestone. The South Dakota Geologic Survey describes the Minnekahta Limestone as outlined below:

The Minnekahta Limestone consists of purple to gray fine-grained, thin-to medium-bedded limestone with varying amounts of red shale.

CLASSIFICATION OF EXCAVATION

Most of the materials encountered should be able to be excavated using conventional methods associated with normal Unclassified Excavation. Blasting is not anticipated.

SHRINKAGE FACTOR: Embankment +40%

TABLE OF EXCAVATION QUANTITIES BY BALANCES

Station	to	Station	Excavation (CuYd)	* Undercut (CuYd)	* Contractor Furnished Borrow Exc. (CuYd)	Total Excavation (CuYd)
235+95		267+30	743	6,183	7,307	13,983
Crook City Road					315	315
		Totals:	**743**	**6,183**	**7,622**	**14,298**

* The quantities for these items are in the Estimate of Quantities under their respective bid items.

TABLE OF UNCLASSIFIED EXCAVATION

Excavation		743
Undercut		6,183
	Total	6,926

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

UNDERCUTTING

The existing embankment will be undercut in a manner that allows 2 foot of new embankment to be constructed below the finished subgrade top. The remaining new embankment will be benched in to the existing inslope as per Section 120.3 B.2 of the Specifications.

The plan shown quantity will be the basis of payment. However, if there are additional areas of undercut other than what is shown in the plans, the Engineer will direct removal of these areas and the additional areas will be measured according to the Engineer.

TABLE OF UNDERCUTTING LOCATIONS RURAL

Station	to	Station
235+50		267+50

CONTRACTOR FURNISHED BORROW EXCAVATION

The Contractor will provide a suitable site for Contractor furnished borrow excavation material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site.

Restoration of the Contractor furnished borrow excavation site will be the responsibility of the Contractor.

The borrow material will be approved by the Engineer. The plans quantity for “Contractor Furnished Borrow Excavation” as shown in the Estimate of Quantities will be the basis of payment for this item.

CLEARING

Trees located within the work limits will be removed from the project. The removal of the trees will be paid for as Clearing, Lump Sum.

CLEANOUT PIPE CULVERT

Material in existing pipe culvert will be cleaned out by water flushing or other approved methods.

Material removed from the pipe culvert will become property of the Contractor for disposal.

The Contractor will implement appropriate sediment control measures prior to water flushing to prevent discharges from the project boundaries.

The pipe culvert will be cleaned to the satisfaction of the Engineer.

All costs to dewater, clean pipe, and dispose of removed materials will be incidental to the contract unit price per each for “Cleanout Pipe Culvert”.

TABLE OF CLEANOUT PIPE CULVERT

Station	Pipe Size and Material	Quantity (Each)
251+22	30” RCP Arch	1
	Total:	1

REMOVE & RESET PIPE

The Contractor will tie each section of pipe to the adjacent sections with tie bolts conforming to Standard Plate 450.18. All costs for drilling holes, furnishing, and installing the tie bolt assembly will be incidental to the corresponding pipe bid item.

Existing tie bolts, if any, may be salvaged and reused if condition is acceptable to the Engineer.

TABLE OF RIPRAP

Station	Approx. Size	L/R	Salvage Riprap (Ton)	Place Riprap (Ton)
246+75	12'x10'x2'	R	12.4	12.4
		Total:	12.4	12.4

Shape the riprap as needed to match the backslope. Remove any rock protrusions greater than 4'.

TEMPORARY FENCE

The Contractor will verify the location of the temporary fence with the landowner prior to installation of the fence.

BRACE PANELS FOR ROW FENCE

The E-Z Brace or an approved equal may be utilized as an alternate horizontal brace in the brace panels if approved by the Engineer. The E-Z Brace will be attached to each wood post utilizing two 5/16" x 3" lag screws. Holes of appropriate diameter, based on wood post condition, will be drilled before placement of lag screws. The following is the contact regarding the E-Z Brace:

Charlie Mack
Macksteel E-Z Braces
415 20th Ave. SE.
Watertown, SD 57201
605-882-2177

TABLE OF FENCE QUANTITIES

Station to Station		Side (L/R)	Right-of-Way Fence Type 2 (Ft)	Temporary Fence Type 1A (Ft)	Gate Barbed Wire Gate (Each)	Post Panels 2 Post Panel (Each)	Remove Fence (Ft)
251+69	267+35	R	1,570	1,598	1	4	1,570
	TOTALS:		1,570	1,598	1	4	1,570

Post Type and Sequence: Right-of-way fence will be constructed using alternate wood and steel posts except as noted.

TABLE OF PIPE QUANTITIES

Location		RCP Arch 30" Ft	30" RCP Arch Bend, 45° Each	30" RCP Arch Sloped End Section Each	Remove Pipe End Section Each
251+18	R	24	1	1	1
	Totals:	24	1	1	1

EXISTING PCC PAVEMENT

The existing pavement for US 85 is Plain Jointed PCC Pavement. The existing transverse joints are perpendicular and are spaced at 20 feet and the dowel bars are 1 ¼" x 18". The aggregate in the existing Plain Jointed PCC Pavement is Limestone Crushed Ledge Rock.

SURFACE PREPARATION

Prior to placement of the 9" Nonreinforced PCC Pavement, the Contractor will be required to prepare the existing granular surface according to the Surface Preparation specifications provided in Section 210, at locations determined by the Engineer.

A quantity of 250 tons of Gravel Cushion has been added to the plans for the Contractor to use during the Surface Preparation operation of Section 1 to reshape the granular material to the typical section. This material may be trimmed and used as Gravel Cushion at other locations specified in the plans.

Included in the Estimate of Quantities are 21.3 MGal of Water for Granular Material for compaction.

RECYCLED CONCRETE AGGREGATE (RCA)

Portland cement concrete pavement (RCA) removed from the mainline within the project limits may be crushed and reused as granular material provided it meets the requirements for the granular material it is replacing.

All in-place rebar will be separated and removed from the RCA.

There is an estimated 2,230 tons of PCC Pavement on this project that can be crushed and reused. This quantity is based on a unit weight of 118 lbs. per cubic foot for the recycled concrete aggregate.

The Contractor will dispose of the material (including existing rebar) not utilized on the project at a site approved by the Engineer.

Payment for the recycled concrete aggregate will be at the contract unit price per ton for the granular material that it is replacing.

BASE COURSE

Base Course shall be furnished by the Contractor.

Compaction shall be to the satisfaction of the Engineer. All other requirements of the specifications for Base Course shall apply.

ASPHALT CONCRETE COMPOSITE

Asphalt Concrete Composite will include MC-70 Asphalt for Prime placed at the rate of 0.30 gallons per square yard. The Asphalt for Prime will be applied to the Base Course for the full width of the bottom layer of Asphalt Concrete Composite plus one foot additional on the outside shoulder.

Asphalt for tack SS-1h or CSS-1h will be applied prior to each lift of Asphalt Concrete Composite. Asphalt for tack will be applied at a rate of 0.09 gallons per square yard on existing pavement or milled asphalt concrete surfaces and at a rate of 0.06 gallons per square yard on primed base course or new asphalt concrete pavement. The Asphalt for tack will be applied for the full width of the bottom layer of Asphalt Concrete Composite plus one-half foot additional on the outside shoulder.

PCC SHOULDER PAVEMENT

In lieu of an automatic subgrader operating from a preset grade line, a motor grader or other suitable equipment may be used to bring the gravel cushion to final grade prior to placement of the concrete.

The shoulder may be poured monolithic with the mainline pavement.

Provide a heavy carpet drag finish, a metal-tine finish will not be required on the shoulders. A metal-tine finish may be applied to the shoulders poured monolithic with the mainline.

If the shoulders are poured monolithic with the mainline pavement a sawed joint with tie bars will be constructed between the mainline pavement and the shoulders.

Rumble Strips will be placed 1.5 feet wide 6 inches from the outside edge of the driving lane. Payment for forming rumble strips including labor, materials and incidentals will be incidental to the contract unit price per square yard for “PCC Shoulder Pavement”.

POLY-ALPHA METHYLSTYRENE (AMS) MEMBRANE CURING COMPOUND

Provide poly-alpha methylstyrene liquid membrane curing compounds for spray application on portland cement concrete surfaces exposed to the air.

The AMS membrane curing compound will conform to section 821 of the Specifications and the following requirements:

1. The AMS membrane curing compound will be successfully reviewed by the Department before use.
2. Meets the requirements of ASTM C 309 for white pigmented Type 2, Class B.
3. The Engineer will not allow the use of curing compound that is over 1 year from the manufacture date.
4. Resin is 100 percent poly-alpha methylstyrene and formulated to maintain the specified properties of the following Table.

REQUIREMENTS FOR AMS MEMBRANE CURING COMPOUND	
Properties	**Range**
Total solids, % by weight of compound	≥ 42
% reflectance in 72 h (ASTM E 1247)	≥ 65
Loss of Water, kg/sq. m in 24 h (AASHTO T 155)	≤ 0.15
Loss of Water, kg/sq. m in 72 h (AASHTO T 155)	≤ 0.40
Settling Test, ml/100 ml in 72 h *	≤ 2
V.O.C. Content, g/L	≤ 350
Infrared Spectrum, vehicle	100% α methylstyrene
*Test in accordance with MNDOT method.	

The application will be in accordance with section 380.3 M plus the following:

Before application, agitate the curing compound as received in the shipping container to obtain a homogenous mixture. Protect membrane curing compounds from freezing before application. Handle and apply the membrane curing compound in accordance with the manufacturer‘s recommendations.

1. Apply curing compound homogeneously to provide a uniform, solid, white opaque coverage on all exposed concrete surfaces (equal to a white sheet of typing paper) at the time of application.
2. If the Engineer determines that the initial or corrective spraying result in unsatisfactory curing, the Engineer may require the Contractor to use the blanket curing method, at no additional cost to the Department.

Use the fully-automatic, self-propelled mechanical power sprayer to apply the curing compound:

1. Operate the equipment to direct the curing compound to the surface from two different lateral directions.
2. If puddling, dripping, or non-uniform application occurs, suspend the operation to perform corrections as approved by the Engineer.
3. A re-circulating bypass system that provides for continuous agitation of the reservoir material.
4. Separate filters for the hose and nozzle.
5. Check valve nozzles.
6. Multiple or adjustable nozzle system that provides for variable spray patterns.
7. A spray-bar drive system that operates independently of the wheels or track drive system.

Equipment for hand spraying of odd width or shapes and surfaces exposed by form removal will be:

1. Used from two directions to ensure coverage equal to a white sheet of typing paper as visible from any direction.
2. A re-circulating bypass system that provides for continuous agitation of the reservoir material.
3. Separate filters for the hose and nozzle.
4. Multiple or adjustable nozzle system that provides for variable spray patterns.

A recommended practice for using AMS membrane curing compound is to clean out the sprayer including tank and nozzles each day after use.

Payment for AMS membrane curing compound, including labor, materials and incidentals will be incidental to the contract unit price per square yard for “9" Nonreinforced PCC Pavement” or “PCC Shoulder Pavement”.

9" NONREINFORCED PCC PAVEMENT

The fine aggregate will be screened over a 1-inch square opening screen just prior to introduction into the concrete paving mix. The Contractor will screen all of the aggregate to prevent the incorporation of foreign materials (i.e. mud balls) into the concrete mix.

The concrete mix will conform to the Special Provision for Contractor Furnished Mix Design for PCC Pavement.

A construction joint will be sawed whenever new concrete pavement is placed adjacent to existing concrete pavement. The transverse construction joints will be handled in accordance with Standard Plate 380.15.

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

All driving surfaces of the mainline paving will be longitudinally tined from 6" each side of centerline pavement markings to 6" inside the outside pavement markings. All other areas will be textured as directed by the Engineer.

The outside driving lane will be tested for smoothness with a Contractor furnished and operated 25 foot California style profilograph or profiler in accordance with the Special Provision for PI PCC Pavement Smoothness with 0.2" Blanking Band.

The center turn lane and passing lane will be tested using the 10' straight edge as per Specifications 380.3.O.1.

STEEL BAR INSERTION

The Contractor will insert the Steel Bars into drilled holes in the existing concrete pavement. Anchoring of the steel bars in the drilled holes will conform to the Specifications.

The steel bars will be cut to the specified length by sawing or shearing and will be free from burring or other deformations.

Epoxy coated plain round steel bars will be inserted on 12-inch centers in the transverse joint. The first steel bar will be placed a minimum of 3 inches and a maximum of 6 inches from the outside edge of the slab.

Epoxy coated deformed steel bars will be inserted on 30-inch centers in the longitudinal joint and will be placed a minimum of 15 inches from the existing transverse contraction joint.

COLD MILLING ASPHALT CONCRETE

Cold milling asphalt concrete will be done on Crook City Road. Additional asphalt concrete will be milled to provide a uniform typical section from centerline to the edge of the finished shoulder. Milling will be daylighted to the outside edge of the roadway. Any additional costs associated with this additional cold milling will be incidental to the contract unit price per square yard for "Cold Milling Asphalt Concrete".

Cold milling asphalt is estimated to produce 23 tons of cold milled asphalt concrete material from Crook City Road. The salvaged asphalt concrete material will become the property of the Contractor for disposal.

TABLE OF SURFACING QUANTITIES

Station to Station	Section	Remove Concrete Pavement	Remove Asphalt Concrete Pavement	9" Nonreinforced PCC Pavement	PCC Shoulder Pavement	Surface Preparation	Cold Milling	Asphalt Concrete Composite	Base Course	Gravel Cushion	Water for Granular	1 1/4" Dowel Bars	Insert Steel Bar in PCC Pavement
US 85		(SqYd)	(SqYd)	(SqYd)	(SqYd)	(Mile)	(SqYd)	(Ton)	(Ton)	(Ton)	(Mgal)	(Each)	(Each)
235+95 to 244+35	1	2,616.0		2,800.0	373.0	0.159				271.7	3.3	1,234	92
244+35 to 258+90	2	576.8		1,942.0	647.0					979.8	11.8	888	606
258+90 to 267+30	1	2,606.0		2,808.0	375.0	0.159				271.7	3.3	1,234	92
Added Quantities													
Surface Preparation										250.0	3.0		
Crook City Road			106.3				430	135.0	161.6				
Approach at 260+50 R										20.0			
TOTALS:		5,798.8	106.3	7,550.0	1,395.0	0.318	430	135.0	161.6	1,793.1	21.3	3,356	790

SEQUENCE OF OPERATIONS

Phase 1

- Install traffic control per Standard Plate 634.46 and Phase 1 Traffic Control plans.
- Construct the areas designated in the Phase 1 Traffic Control plans while maintaining access to Crook City Road.
- Install pavement markings in the northbound driving lane. Pavement markings will include the edge line and skips.

Phase 2

- Install traffic control per Standard Plate 634.48 and Phase 2 Traffic Control plans.
- Construct the areas designated in the Phase 2 Traffic Control plans while maintaining access to Crook City Road.
- Finish installing pavement markings and remove traffic control.

Contractor requests to deviate from the sequence of operations will be submitted in writing to the Engineer for review. Approval of an alternate 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. An alternate sequence will be submitted for review a minimum of one week prior to potential implementation.

GENERAL TRAFFIC CONTROL

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

All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.

All temporary speed limit signs will have a minimum mounting height of 5 feet in rural locations, even when mounted on portable supports.

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.

Unless otherwise stated in these plans, work will not be allowed during hours of darkness.

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

All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following pavement marking.

All haul trucks will be equipped with an additional flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights will be incidental to the various related contract items.

At no time will a vertical drop-off of greater than 3 inches be left overnight adjacent to the traveled way. The Contractor will utilize embankment material to ensure a 3-inch vertical drop-off is not exceeded. The slope of the embankment material will not be steeper than a 4:1 within 30 feet of the traveled way.

Traffic will be maintained on the driving lanes. Use of the shoulder as a driving lane will not be permitted. Any damage to the shoulder due to rerouted traffic or Contractor's equipment will be repaired at no expense to the Department.

GROOVED PAVEMENT (W8-15) signs with MOTORCYCLE (W8-15P) plaques are required in advance of areas that have been cold milled and are not resurfaced the same day. The GROOVED PAVEMENT sign assemblies will be installed a minimum of 1000 feet in advance of cold milled sections and remain in place until the sections have been resurfaced.

If inappropriate or conflicting pavement markings exist, the markings will be removed and replaced with applicable temporary pavement markings when the work duration is more than 3 days. When the work duration is less than 3 days, the channelizing devices in the area where the pavement markings conflict will be placed at one-half of the normal channelizing device spacing. Pavement marking removals will be incidental to the contract unit price per foot for "Remove Pavement Marking, 4" or equivalent". Temporary pavement marking will be paid for at the contract unit price per mile/foot for "Temporary Pavement Marking". The additional channelizing devices will be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

A Type 3 Barricade will be installed at the end of a lane closure taper as detailed in these plans. Additional Type 3 Barricades will be installed facing traffic within the closed lane at a spacing of ¼ mile.

Lane closures will be removed when work will not be occurring for a period of 3 or more calendar days. Activities that do not involve workers being present, such as curing time for concrete, constitute work. Lane closures will not be set up on a Friday if no work will be occurring on Saturday or Sunday. In these cases, the lane closure will be installed on Monday.

The speed limit through the construction zone will be 55 MPH. The 65 MPH for NBL of Hwy 85 south of the construction will be covered with a 55 MPH. The speed will be increased to 65 MPH after the construction zone. The SBL traffic of Hwy 85 will not be increased to 65 MPH after the construction zone.

OVERWIDTH RESTRICTION SIGNING

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

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

The overwidth restriction will be 10 feet.

ITEMIZED LIST FOR DETOUR AND RESTRICTION SIGNING

		EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
SPECIAL	WIDTH RESTRICTION __ FT WIDE __ MILES	4	144" x 126"	126.0	504.0
		EXPRESSWAY / INTERSTATE DETOUR AND RESTRICTION SIGNING SQFT			**504.0**

FLAGGING

Operations will be conducted so that the traveling public will not have to wait longer than 5 minutes at the flagger station.

It is required that the flagger operators be able to communicate with one another. If an emergency vehicle needs to pass through the project, the Contractor will be required to expedite traffic movement. All costs associated with this will be incidental to the contract unit price per hour for "Flagging".

WORK ZONE SPEED REDUCTION

The Department is required to obtain a speed reduction resolution prior to the installation of any SPEED LIMIT (R2-1) signs shown on standard plate 634.63. To provide adequate time for the resolution to be enacted, the Contractor will inform the Engineer a minimum of 3 weeks prior to the scheduled installation of any work zone speed reduction signs on the project. The information provided by the Contractor will include the anticipated date of sign installation, the newly reduced speed limit, the location of the work zone, and the anticipated completion date of work requiring the speed reduction.

TEMPORARY RAISED PAVEMENT MARKERS

Temporary raised pavement markers will be used for marking edge lines, lane lines, and centerlines. Temporary raised pavement markers will be used on all new permanent surfacing sections of roadway and on existing surfacing where temporary marking locations are different than existing marking locations, unless noted or as directed by the Engineer.

Temporary raised pavement markers will be attached to the roadway surface with a flexible non-permanent bituminous adhesive capable of being removed from the roadway surface or with an adhesive approved by the Engineer.

All costs to furnish, install, replace if necessary, and remove the markers will be incidental to the contract unit price per foot for "Temporary Raised Pavement Markers".

CONTRACTOR FURNISHED SPEED MONITORING RADAR TRAILER

The Contractor will provide 2 radar speed feedback trailers to monitor traffic speeds on designated routes at locations specified in the field by the Engineer.

The radar speed feedback sign assembly will include a speed limit sign mounted in conjunction with the radar speed feedback display. The speed display will not flash vehicle speeds exceeding the speed limit or any other messages.

All costs associated with furnishing, maintaining, transporting, relocating if necessary, and removing the radar speed feedback trailers from locations specified by the Engineer will be incidental to the contract unit price per each for “Contractor Furnished Speed Monitoring Radar Trailer”.

PRESS RELEASE ANNOUNCEMENTS

The SDDOT will prepare a press release to be released 5 days prior to any phase change or any other major change that affects traffic flow. The SDDOT will be responsible to keep law enforcement, emergency services, and the traveling public notified of changes in project access. The Contractor will provide the Engineer with pertinent information 7 days prior to any phase change or any other major change that affects traffic flow.

TUBULAR MARKERS

The color of the tubular markers on centerline will be predominately orange. The color of the tubular markers installed on the shoulders will be predominately white.

All tubular markers will be a minimum of 28 inches in height. The base of the tubular marker should be attached to the roadway surface with a flexible non-permanent bituminous adhesive capable of being removed from the roadway surface after use. The pin used to connect the marker to the base will be of a type that will not puncture a vehicle tire if it should become dislodged from the base.

All costs for furnishing, installing, maintaining, and removing the tubular markers will be incidental to the contract unit price per each for “Tubular Marker”.

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP	1	36"	7.5	7.5
R2-1	SPEED LIMIT 65	1	36" x 48"	12.0	12.0
R2-1	SPEED LIMIT 55	2	36" x 48"	12.0	24.0
R4-7c	(Narrow) KEEP RIGHT (symbol)	2	18" x 30"	3.8	7.6
W1-4	REVERSE CURVE (L or R)	4	48" x 48"	16.0	64.0
W3-5	SPEED REDUCTION AHEAD (55 MPH)	1	48" x 48"	16.0	16.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W8-15	GROOVED PAVEMENT	2	48" x 48"	16.0	32.0
W8-15P	MOTORCYCLE (plaque)	2	30" x 24"	5.0	10.0
W13-1P	ADVISORY SPEED (plaque)	1	30" x 30"	6.3	6.3
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
R3-20L	BEGIN LEFT TURN LANE	2	24" x 36"	6.0	12.0
G20-2	END ROAD WORK	4	48" x 24"	8.0	32.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			383.4

REMOVE AND REPLACE TOPSOIL

Prior to beginning the construction of the turn lane installation embankment, a 4" depth of topsoil will be removed or bladed down the respective inslope and left in a windrow at the edge of the work limits. Following completion of construction, topsoil will be spread evenly over the disturbed areas.

The estimated amount of topsoil to be removed and replaced is 1,636 CuYd.

All costs associated with removing and replacing the topsoil along areas to be resurfaced will be incidental to the contract lump sum price for "Remove and Replace Topsoil".

TABLE OF SEEDING, FIBER MULCH, & FERTILIZING

Hwy	Station to	Station	Area (Acres)	Type F Seed Mixture (Lb)	Fiber Mulching (Ton)	Fertilizing (Lb)
US85	235+95	267+35	2.4	187	2.4	240.0
		Totals:	2.4	187	2.4	240.0

MYCORRHIZAL INOCULUM

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

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

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

The mycorrhizal inoculum will be as shown below or an approved equal:

Product	Manufacturer
MycoApply	Mycorrhizal Applications, Inc. Grants Pass, OR Phone: 1-866-476-7800 www.mycorrhizae.com
AM 120 Multi Species Blend	Reforestation Technologies Int. Gilroy, CA Phone: 1-800-784-4769 www.reforest.com

PERMANENT SEEDING

The areas to be seeded consist of all newly graded areas within the project limits except for the top of roadways.

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	21
Green Needlegrass	Lodorm, AC Mallard Ecovar	12
Sideoats Grama	Butte, Pierre	9
Blue Grama	Bad River	6
Oats or Spring Wheat: April through May; Winter Wheat: August through November		30
	Total:	78

FIBER MULCHING

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

An additional 2% by weight of tackifier shall 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 shall be guar gum. If the product selected has synthetic tackifier included, then the additional 2% of tackifier shall be synthetic.

Fiber mulch will be applied at the rate of 2,000 pounds per acre.

The Contractor shall 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 shall be incidental to the contract unit price per ton for "Fiber Mulching".

The fiber mulch provided shall 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

FERTILIZING

A commercial fertilizer with a minimum guaranteed analysis of 13-13-13, 18-46-0, 11-52-0, or an approved alternate fertilizer sold for use as a lawn starter fertilizer will be applied to all areas designated for permanent seeding. The application rate of fertilizer will be 100 pounds per acre.

EROSION CONTROL WATTLE

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

The Contractor will provide certification that the erosion control wattles do not contain noxious weed seeds.

Erosion control wattles will remain on the project to decompose.

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

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

TABLE OF EROSION CONTROL WATTLE

Station	L/R	Diameter (Inch)	Location	Quantity (Ft)
244+00	R	12	Pipe Outlet	40
251+22	L	12	Pipe Outlet	40
252+00 to 267+50	R	12	Ditch Control	400
			Total:	480

HIGH FLOW SILT FENCE

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

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

High flow silt fence will be placed at the locations noted in the table and at locations that will minimize siltation of adjacent streams, lakes, dams, or drainage areas as determined by the Engineer during construction. Refer to Standard Plate 734.05 for details.

TABLE OF HIGH FLOW SILT FENCE

Station	Location	Quantity (Ft)
236+00 to 251+25	Perimeter Control	1,580
	Total:	1,580

REPAIR SILT FENCE

Silt fence will be repaired as needed in accordance with Standard Plate 734.05 at the locations listed in the Table of High Flow Silt Fence.

MUCKING SILT FENCE

Mucking silt fence will consist of removing muck trapped by the silt fence and spreading the material evenly over the adjacent area to conform to the existing grade.

REMOVE SILT FENCE

Silt fence will be removed when vegetation is established. Some or all of the silt fence may be left on the project until vegetation is established.

COLD APPLIED PLASTIC PAVEMENT MARKING

All materials will be applied as per the manufacturer's recommendations.

Cold Applied Plastic Pavement Markings will be 3M Series 380 IES or an approved equal.

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 the supplemental specifications for Section 980.1 B.

Reflective media consisting of glass beads as well as wet-reflective optics will be adhered to the paint.

The wet-reflective optics will contain either clear, white, amber, or yellow tinted beads composed of glass or a composite consisting of a core made from ceramic or glass with an outer layer of microcrystalline ceramic or glass beads. The wet-reflective optics will provide a 50/50 blend of dry to wet ratio of optics. All beads bonded to wet-reflective optics will have a minimum index of refraction of 1.8 for dry retroreflectivity and 2.4 for wet retroreflectivity when tested using the liquid oil immersion method.

Reflective media will require a Certificate of Compliance for Certification for each type, source, and lot. Acceptance sampling will not be required.

The Department will take retroreflectivity readings on the pavement marking lines no sooner than 3 days and no later than 30 days after the completion of all line applications required for an individual highway route using a portable retroreflectometer conforming to 30-meter geometry. Retroreflectivity readings will be taken on a test location with cleaning being limited to light hand brooming.

Pavement markings not conforming to the retroreflectivity requirements will be removed and replaced. If replacement of markings cannot be applied within the same year, the Contractor will schedule subject work to be completed no later than June 15th in the following year. Upon replacement, the retroreflectivity testing process will be done again requiring new readings.

The Department will randomly select one test location per mile of each edge line including ramps and one test location per mile of centerline (solid and/or skip line will be considered as one centerline). Three retroreflectivity readings will be taken at each test location. The three readings will be averaged and become the reading for that test location.

Initial readings:

Pavement Marking Color	Minimum Value
White	350 mc/m²/lux
Yellow	275 mc/m²/lux

All pavement markings not conforming to the requirements provided in these plans will be considered deficient and will be removed and replaced. Additional retroreflectivity readings will be taken by the Department to determine the limits of removal. The removal will be accomplished using suitable sand blasting or grinding equipment unless the Engineer authorizes other means. The removal process will remove at least 90% of the deficient line, with no excessive scarring of the existing pavement. The removal width will be one inch wider all around the nominal width of the pavement marking to be removed. Removal and replacement of the pavement markings will be at the Contractor's expense, with no cost incurred by the State.

RATES OF MATERIALS FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

Solid 4" line = 27.8 Gals/Mile
Dashed 4" line = 7.6 Gal/Mile
Glass Beads = 5.3 Lbs/Gal.
Wet-Reflective Optics = 2.1 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 per gallon for High Build Waterborne Pavement Marking Paint, White.

GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING

The Contractor will establish a positive means for the removal of the grinding and/or grooving residue. Residue from dry grooving will be vacuumed. Solid residue will be removed from the pavement surfaces before being blown by traffic action or wind. The Contractor will conduct this work to control and minimize airborne dust and similar debris that may become a hazard to motor vehicle operation or nuisance to property owners. Residue from wet grooving will not be permitted to flow across lanes being used by public traffic or into gutter or drainage facilities. Residue, whether in solid or slurry form, will be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state. All costs for removal of grinding and/or grooving residue will be included in the contract unit price per foot or each for "Grooving for Cold Applied Plastic Pavement Marking" contract items.

GROOVING FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

The Contractor will establish a positive means for the removal of the grinding and/or grooving residue. Residue from dry grooving will be vacuumed. Solid residue will be removed from the pavement surfaces before being blown by traffic action or wind. The Contractor will conduct this work to control and minimize airborne dust and similar debris that may become a hazard to motor vehicle operation or nuisance to property owners. Residue from wet grooving will not be permitted to flow across lanes being used by public traffic or into gutter or drainage facilities. Residue, whether in solid or slurry form, will be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state. All costs for removal of grinding and/or grooving residue will be included in the contract unit price per foot “Grooving for Durable Pavement Marking” contract items.

Unless otherwise specified in the plans, the Contractor will groove the surface for High Build Waterborne Pavement Marking Paint as specified in these plans and as per the manufacturer’s instructions.

The grooving will be completed within the following tolerances:

Description	Specification	Tolerance
Depth of Groove	Marking Thickness[1] + 15 mils	+ 5 mils
Width of Groove	5 to 6 inches	
Length of Skip Lines[2]	10 foot 6 inches	± 3 inch
Tapers at ends of lines	6 to 9 inches	
Between Double Lines	4 inches	± 1/2 inch

[1] Marking thickness will include the thickness of marking material and reflective media.
[2] Additional length may be required as specified in the plans.

The equipment will be capable of the following:

- Grooving the total width of the groove in one pass or uniform depths with multiple passes.
- Grooving without causing damage to the pavement joints or joint sealant material.
- Provide uniform alignment and depth.
- Moving continuously to permit a mobile traffic work operation.

If damage occurs, including, but not limited to, joints, joint sealant material, and backer rod, the grooving operation will be stopped and modifications will be made to the grooving operation to prevent further damage. The Contractor may be required to use specially prepared circular diamond blade cutting heads to prevent damage at the joints. Damage caused will be repaired or replaced by the Contractor, as directed by the Engineer. No additional payment will be made for the repair work or any reapplication of the pavement marking in the area of the repair.

TABLE OF PAVEMENT MARKING QUANTITIES

Location		Length	Cold Applied Plastic Pavement Marking, 4" White	Cold Applied Plastic Pavement Marking, 4" Yellow	Cold Applied Plastic Pavement Marking, 24" Yellow	Cold Applied Plastic Pavement Marking, Arrow	High Build Waterborne Pavement Marking Paint with Reflective Elements, White	Grooving for Cold Applied Plastic Pavement Marking, 4"	Grooving for Cold Applied Plastic Pavement Marking, 24"	Grooving for Cold Applied Plastic Pavement Marking, Arrow	Grooving for Durable Pavement Marking, 4"
Station to	Station	Ft	Ft	Ft	Ft	Each	Gal	Ft	Ft	Each	Ft
235+95	251+25	1530	880	4,880	168	3	9	5,760	168	3	1,617
252+00	267+30	1530	880	4,880	175	3	9	5,760	175	3	1,676
		Totals:	**1,760**	**9,760**	**343**	**6**	**18**	**11,520**	**343**	**6**	**3,293**

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** 5.4 acres
- **5.3 (3b): Total Area to be Disturbed** 2.0 acres
- **5.3 (3c): Maximum Area Disturbed at One Time** 2.0 acres
- **5.3 (3d): Existing Vegetative Cover (%)**
- **5.3 (3d): Description of Vegetative Cover**

- **5.3 (3e): Soil Properties:** AASHTO Soil A-6
- **5.3 (3f): Name of Receiving Water Body/Bodies:** Polo Creek
- **5.3 (3g): Location of Construction Support Activity Areas**

5.3 (3h): ORDER OF CONSTRUCTION ACTIVITIES
- **Special sequencing requirements (**see sheet).

The Contractor will enter the Estimated Start Date.

Description	Estimated Start Date
Install stabilized construction entrance(s).	
Install perimeter protection where runoff may exit site.	
Install perimeter protection around stockpiles.	
Install channel and ditch bottom protection.	
Clearing and grubbing.	
Remove and stockpile topsoil.	
Stabilize disturbed areas.	
Install utilities, storm sewers, curb and gutter.	
Install inlet and culvert protection after completing storm drainage and other utility installations.	
Final grading.	
Final paving.	
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 shall begin the following work day whenever earth disturbing activity on any portion of the site has temporarily or permanently ceased. Temporary stabilization shall 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.

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 SDDENR.
- 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 SDDENR 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 SDDENR 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 SDDENR 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 shall be sent to SDDENR within 14 days of the discharge.

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: _____

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

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

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

➢ **SDDENR Stormwater Contact Information**
- SDDENR 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, SDDENR, 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.

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.

REMOVE TRAFFIC SIGN

Existing signs that are shown as being removed in the Permanent Signing Table will become the property of the Contractor. Existing signposts and bases will be removed in their entirety. All existing signs, posts, and/or hardware removed will not be reused. Holes remaining from the removal of wood posts will be backfilled and compacted with material placed in layers not to exceed 6 inches in depth.

All costs associated with the removal of existing signs, posts, hardware, and backfilled holes will be incidental to the contract unit price per each for “Remove Traffic Sign”. Quantities will be per assembly at the contract unit price per each.

REMOVE SIGN FOR RESET AND RESET SIGN

Signs that are scheduled for reset will be dismantled and reassembled to the extent needed by the Contractor to properly reset the sign. Signs will be handled with care so that the existing signs, posts, and bases are not damaged during the relocation process. The Contractor will replace and pay for any reset signs damaged in their care. The Contractor will remove and dispose of any existing posts for all reset signs that require use of new posts as shown in the Table of Permanent Signing.

All costs for removing, dismantling, and disposing of any existing posts will be incidental to the contract unit price per each for “Remove Sign for Reset”. All costs for resetting the existing signs will be incidental to the contract unit price per each for “Reset Sign”. All quantities for Remove Sign for Reset and Reset Sign will be per assembly at the contract unit price per each.

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 High Intensity will have sheeting in conformance with the requirements of ASTM D4956 Type IV. 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 High Intensity” or “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.

SQUARE TUBE POST SLEEVE

All 2.5” x 2.5”, 10 Gauge perforated tube post will be sleeved with a 2-3/16” x 2-3/16” x 4’, 10 Gauge perforated tube post.

WINGED SLIP BASE ANCHOR

The Contractor will furnish and install new winged slip base anchors for 2.5” x 2.5” perforated tube posts as required in the Permanent Signing Table. Winged slip base anchors will be installed using the direct drive method. Winged slip base anchors will consist of a slip base (upper), a 48-inch long winged anchor (lower), and a hardware kit.

MILEAGE REFERENCE MARKERS

Mileage Reference Markers (MRMs) are not to be disturbed. If an MRM is attached to a sign listed for replacement it will be salvaged and reattached to the new sign in the same location. Payment for this work will be incidental to the various signing contract items.

MRM 34 is within the work area and expected to be disturbed. All costs for removing, dismantling, and disposing of any existing posts will be incidental to the contract unit price per each for “Remove Sign for Reset”. All costs for resetting the existing MRM will be incidental to the contract unit price per each for “Reset Sign”. All quantities for Remove Sign for Reset and Reset Sign will be per assembly at the contract unit price per each.

DIGITALLY PRINTED SIGNS

Digitally printed signs will be allowed on this project. If the Contractor elects to provide digitally printed signs, such signs will adhere to the following specifications.

PROTECTIVE OVERLAY FILM

Permanent traffic signs printed with digital ink systems will be fabricated with a full sign protective overlay film designed to provide a smooth surface needed for retroreflectivity, and to protect the sign from fading and UV degradation. The overlaminate will comply with the retroreflective sheeting manufacturer's recommendations to ensure proper adhesion and transparency and will also meet the reflective film durability as identified in Table 1.

Table 1: Retroreflective Film Minimum Durability Requirements

ASTM D4956 Type	Full Sign Replacement Term (years)	Sheeting Replacement Term (years)
I	0	7
III	7	10
IV	7	10
VIII	7	10
IX	7	12
XI	7	12

FABRICATION

Retroreflective sheeting will be applied to a properly cleaned and prepared aluminum sign blank in accordance with the retroreflective sheeting manufacturer's recommendations. Sign legend will be applied using digital print technologies and systems in accordance with the retroreflective sheeting manufacturer's recommendations and the requirements of these plans.

Finished signs will be free of ragged edges and must be supplied clean and free of scratches, grease, oil, lubricants or other contaminants. Minor blemishes (dirt speck, dust, etc.) may settle on the fresh ink surface or become entrapped between the sheeting surface and transparent overlay film due to static charge within the sign shop environment. Any blemish must be minor and not interfere with the communication of the sign message to the motorist. The blemish must not be visible to the naked eye when viewed from 30 feet or greater.

After application of the retroreflective sheeting, sign blanks will be stacked and packaged face to face, back to back, and protected in accordance with the sheeting manufacturer's recommendations. Finished signs will be securely packaged to prevent damage during transit or storage according to the sheeting manufacturer's recommendations.

TRAFFIC SIGN PERFORMANCE WARRANTY PROVISIONS

Based on the ASTM Type of sheeting specified, traffic control signs will be warranted for the duration shown in Table 1. Full product terms and conditions are as established by each sheeting manufacturer and may contain certain limitations based on sheeting and ink colors, and geographic exposure of the sign. A copy of the warranty document with complete details of terms and conditions will be supplied if requested by the Engineer.

CERTIFIED DIGITAL SIGN FABRICATOR

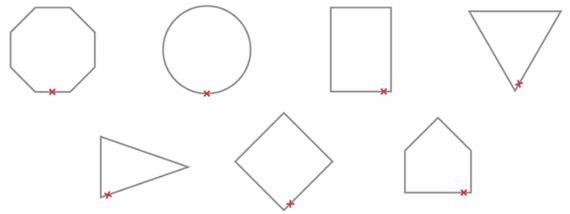
Sign fabricators using digital imaging methods to produce regulated traffic signs must be certified by the reflective sheeting manufacturer whose materials are used to produce the delivered signs.

DATE TAGGING SIGNS WITH PERTINENT INFORMATION

All digitally printed signs are required to be date-tagged with the following 2 components:

1. Date tags on the back of signs
   Tags will have the following information and be fabricated with material and printing system that are as durable as the warranted sign.
   - Name of Sign Fabricator
   - Date the sign was fabricated (month and year)
   - Process that was used for sign fabrication (digitally printed)
   - Supplier of sheeting that was used for fabricating the sign.
2. Border date

The month and year (mm/yyyy) of sign fabrication will be printed in the border of the sign in 3/8" sans serif font. Border date will be printed with the same warranted printed system as the sign face. The date should be printed in the locations indicated below.



STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(116)34	Non	20/73

TABLE OF PERMANENT SIGNING

PCN 08UX - PERMANENT SIGNING

HWY	MRM	STA	SIGN										POST								SIGN DESCRIPTION	WORK TO BE DONE	LF of 1.12 lb post	LF of 2.0"	LF of 2.5"	FLAT ALUMINUM SIGN		REMOVE SIGN	REMOVE SIGN FOR RESET & RESET SIGN
			Side of Road	Width (in)	Height (in)	Direction Facing	Location	New Sign	Sign Type	Remove Existing	Square Footage	Sheeting Type	New Post	Length Post #1 (ft)	Offset to center of Post #1 (ft)	Length Post #2 (ft)	Offset to center of Post #2 (ft)	Size (in)	# of Posts	Shear Slip Base						SQFT IV	SQFT XI		
85	33+0.722	236+10	Right	36	36	South	ROW	YES	FLAT ALUM	YES	9.0	XI	NO								W8-6G: TRUCKS ENTERING HIGHWAY	Remove existing sign from existing post. Install new sign on existing post.					9.0	1	
85	32+1.819	241+29	Left	36	48	North	ROW	YES	FLAT ALUM	YES	12.0	IV	NO								R4-3: SLOWER TRAFFIC KEEP RIGHT	Remove existing sign from existing post. Install new sign on existing post.				12.0		1	
85	33+0.884	244+84	Left	24	30	North	ROW	NO					NO								R2-1: SPEED LIMIT - 65 MPH	Do not disturb existing sign.							
85	32+1.978	249+72	Left	24	24	North	ROW	YES	FLAT ALUM	YES	4.0	IV	NO								M1-4: ROUTE MARKER (US HIGHWAYS) - US 85	Remove existing signs from existing post. Install new signs on existing post.				4.0		1	
85				24	12	North		YES	FLAT ALUM	YES	2.0	IV									M3-3A: DIRECTIONAL MARKER - SOUTH - US					2.0			
85		250+97	Right	4.5	12	North	ROW	NO					YES	6.1	52.0			1.12 lb	1	NO	D10-5: Milage Reference Marker - 34	Remove existing signs and existing post. Install existing signs on new 1.12 lb post.	6.1						1
				4.5	12	South		NO													D10-5: Milage Reference Marker - 34								
85	34+0.004	EXISTING: 251+35 NEW: 251+41	Right			North	ROW	NO					NO								D3-1: PENDO RD	Remove existing signs for reset and remove existing post. Install existing signs above new STOP sign.							1
						South		NO													D3-1: PENDO RD								
						East		NO													D3-1: US HWY 85								
						West		NO													D3-1: US HWY 85								
85	34+0.005	251+41	Left	36	36	West	ROW	YES	FLAT ALUM	YES	7.5	XI	YES	11.0	60.0			2.5	1	YES	R1-1: STOP	Remove existing sign and existing post. Install new sign on new post and install new street name signs above new STOP sign.			11.0		7.5	1	
85	34+0.018	EXISTING: 251+68 NEW: 251+67	Right	36	36	East	ROW	YES	FLAT ALUM	YES	7.5	XI	YES	11.0	86.0			2.5	1	YES	R1-1: STOP	Remove existing sign and existing post. Install new sign on new post and install new street name signs above new STOP sign.			11.0		7.5	1	
85	34+0.019	EXISTING: 251+73 NEW: 251+67	Right			East	ROW	NO					NO								D3-1: US HWY 85	Remove existing signs for reset and remove existing post. Install existing signs above new STOP sign.							1
						West		NO													D3-1: US HWY 85								
						North		NO													D3-1: CROOK CITY RD								
						South		NO													D3-1: CROOK CITY RD								
85	34+0.052	253+67	Right	24	12	South	ROW	YES	FLAT ALUM	YES	2.0	IV	YES	10.6	54.0			2.0	1	NO	M3-1A: DIRECTION MARKER - NORTH - US	Remove existing sign and existing post. Install new sign on new post.		10.6		2.0		1	
				24	24	South		YES	FLAT ALUM	YES	4.0	IV									M1-4: ROUTE MARKER (US HIGHWAYS) - US 85					4.0			
85	34+0.09	255+89	Left	36	36	West	ROW	YES	FLAT ALUM	YES	7.5	XI	NO								R1-1: STOP	Remove existing sign from existing post. Install new sign on existing post.					7.5	1	
85	34+0.155	259+11	Left	48	48	North	ROW	YES	FLAT ALUM	YES	16.0	XI	NO								W8-6G: TRUCKS ENTERING HIGHWAY	Remove existing sign from existing post. Install new sign on existing post.					16.0	1	
85	34+0.195	261+21	Left			North	ROW	NO					NO								SS1-1: SPECIAL SERVICES NO CAMP FIRES EXCEPT IN DESIGNATED AREAS	Do not disturb existing sign.							
																				TOTALS:		**6.1**	**10.6**	**22.0**	**24.0**	**47.5**	**8**	**3**

TYPICAL GRADING AND SURFACING SECTION

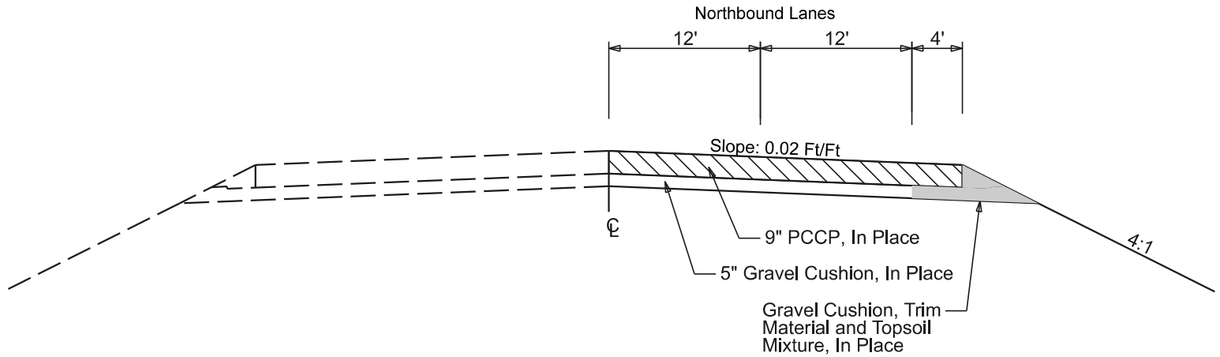
SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	21/73

Plotting Date: 12/2/2025

Remove Concrete Pavement

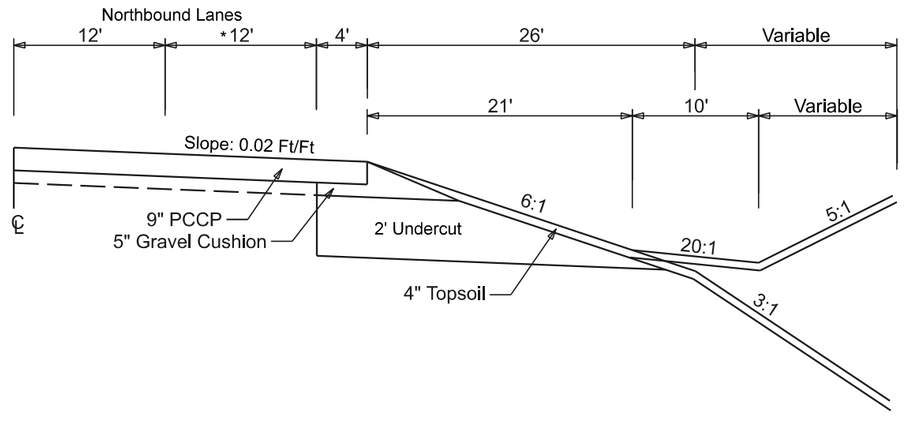
Unclassified Excavation

US 85
Sta. 235+95 to Sta. 244+35
Sta. 258+90 to Sta. 267+30
In-Place Section



US 85
Sta. 235+95 to Sta. 244+35
Sta. 258+90 to Sta. 267+30
Transitions for Turn Lane

Transitions:
* 12' to 24' from Sta. 235+95 to Sta. 244+35
* 24' to 12' from Sta. 258+90 to Sta. 267+30



TYPICAL GRADING AND SURFACING SECTION

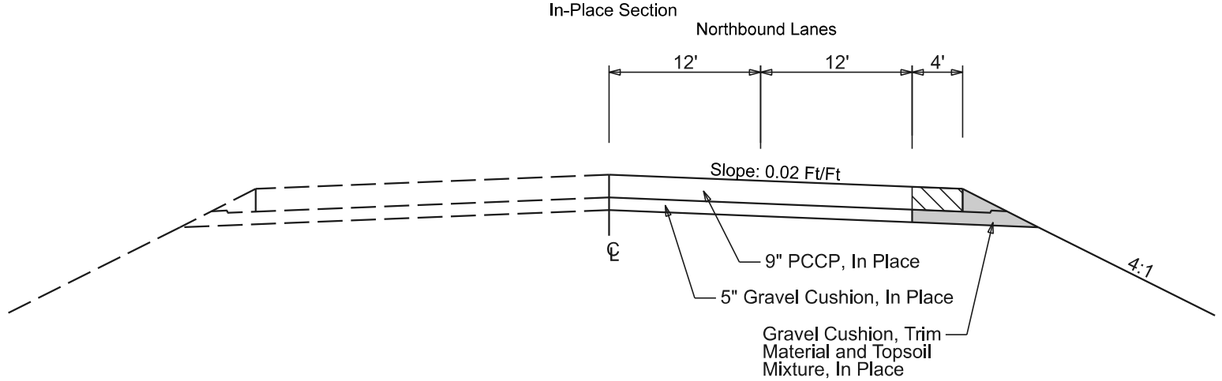
SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	22/73

Plotting Date: 12/2/2025

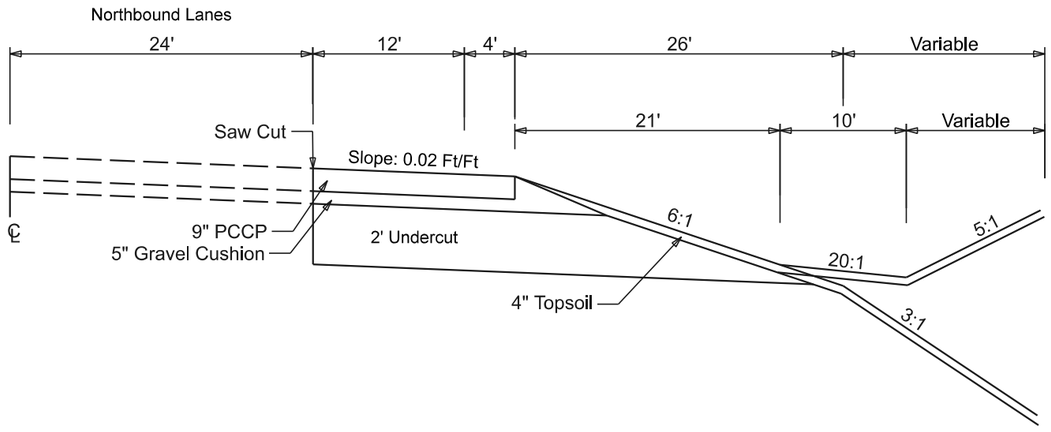
Remove Concrete Pavement

Unclassified Excavation

US 85
Sta. 244+35 to Sta. 258+90
In-Place Section



US 85
Sta. 244+35 to Sta. 258+90
Shoulder Widening for Turn Lane

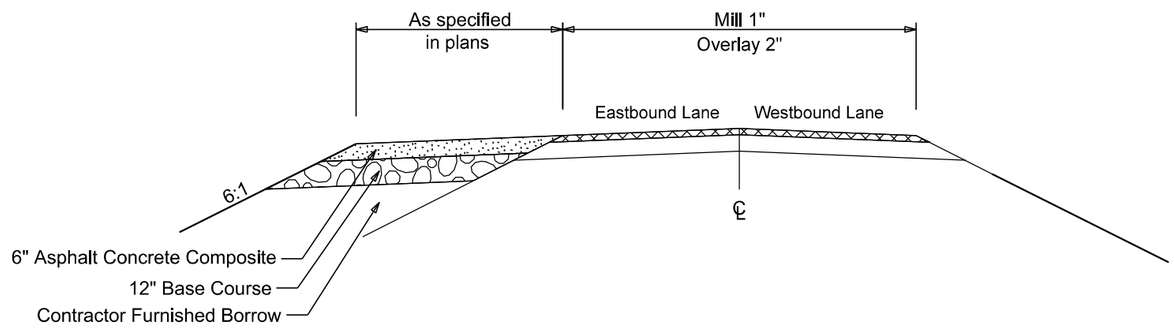


TYPICAL GRADING AND SURFACING SECTION

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	23/73

Plotting Date: 12/2/2025

Crook City Road



STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(116)34	Non	24/73

HORIZONTAL ALIGNMENT DATA

Type	Station			Northing	Easting
POB	235+10.550			243792.483	997999.191
		TL= 412.082	355°15'00"		
PI	239+22.632			244203.150	997965.067
		TL= 758.125	355°24'44"		
PI	246+80.757			244958.846	997904.426
		TL= 495.138	355°26'24"		
PI	251+75.895			245452.417	997865.061
		TL= 586.581	355°21'33"		
PC	257+62.476			246037.074	997817.600
PI	260+52.007	R = 3819.720	Delta = 8.669 L	246325.656	997794.174
PT	263+40.433			246607.409	997727.516
		TL= 494.885	346°41'23"		
POE	268+35.317			247089.000	997613.582

CONTROL DATA

POINT	DESCRIPTION	NORTHING	EASTING	ELEVATION
CP AH100	Rebar	255822.322	993784.134	3789.446
CP KE21	Rebar/Cap Approach	244951.536	997853.509	4023.619
CP KE22	Rebar/Cap Approach	245855.020	997903.024	3995.780

The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System. North Zone (NAD 83/2011); epoch 2010.00; Geoid 18 (Conus); SF = 0.9998719092.
The elevations shown on this sheet are based on NAVD 88.

LEGEND

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	25/73

Plotting Date: 12/2/2025

- Anchor
- Antenna
- Approach
- Assumed Corner
- Azimuth Marker
- BBQ Grill/ Fireplace
- Bearing Tree
- Bench Mark
- Box Culvert
- Bridge
- Brush
- Buildings
- Bulk Tank
- Cattle Guard
- Cemetery
- Centerline
- Cistern
- Clothes Line
- Control Point
- Commercial Sign Double Face
- Commercial Sign One Post
- Commercial Sign Overhead
- Commercial Sign Two Post
- Concrete Symbol
- Creek Edge
- Curb/Gutter
- Curb
- Dam Grade/Dike/Levee
- Deck Edge
- Ditch Block
- Doorway Threshold
- Drainage Profile
- Drop Inlet
- Edge Of Asphalt
- Edge Of Concrete
- Edge Of Gravel
- Edge Of Other
- Edge Of Shoulder
- Elec. Trans./Power Jct. Box
- Fence Barbwire
- Fence Chainlink
- Fence Electric
- Fence Misc.
- Fence Rock
- Fence Snow
- Fence Wood
- Fence Woven
- Fire Hydrant
- Flag Pole
- Flower Bed
- Gas Valve Or Meter
- Gas Pump Island
- Grain Bin
- Guardrail
- Guide Sign One Post
- Guide Sign Two Post
- Gutter
- Guy Pole
- Haystack
- Hedge
- Highway ROW Marker
- Interstate Close Gate
- Iron Pin
- Irrigation Ditch
- Lake Edge
- Lawn Sprinkler
- Mailbox
- Manhole Electric
- Manhole Gas
- Manhole Misc
- Manhole Sanitary Sewer
- Manhole Storm Sewer
- Manhole Telephone
- Manhole Water
- Merry-Go-Round
- Microwave Radio Tower
- Misc. Line
- Misc. Property Corner
- Misc. Post
- Overhang Or Encroachment
- Overhead Utility Line — OH —
- Parking Meter
- Pedestrian Push Button Pole
- Pipe With End Section
- Pipe With Headwall
- Pipe Without End Section
- Playground Slide
- Playground Swing
- Power And Light Pole
- Power And Telephone Pole
- Power Meter
- Power Pole
- Power Pole And Transformer
- Power Tower Structure
- Propane Tank
- Property Pipe
- Property Pipe With Cap
- Property Stone
- Public Telephone
- Railroad Crossing Signal
- Railroad Milepost Marker
- Railroad Profile
- Railroad R.O.W. Marker
- Railroad Signs
- Railroad Switch
- Railroad Track
- Railroad Trestle
- Rebar
- Rebar With Cap
- Reference Mark
- Regulatory Sign One Post
- Regulatory Sign Two Post
- Retaining Wall
- Riprap
- River Edge
- Rock And Wire Baskets
- Rockpiles
- Satellite Dish
- Septic Tank
- Shrub Tree
- Sidewalk
- Sign Face
- Sign Post
- Slough Or Marsh
- Spring
- Stream Gauge
- Street Marker
- Subsurface Utility Exploration Test Hole
- Telephone Fiber Optics — T/F —
- Telephone Junction Box
- Telephone Pole
- Television Cable Jct Box
- Television Tower
- Test Wells/Bore Holes
- Traffic Signal
- Trash Barrel
- Tree Belt
- Tree Coniferous
- Tree Deciduous
- Tree Stumps
- Triangulation Station
- Underground Electric Line — P —
- Underground Gas Line — G —
- Underground High Pressure Gas Line — HG —
- Underground Sanitary Sewer — S —
- Underground Storm Sewer — S —
- Underground Tank
- Underground Telephone Line — T —
- Underground Television Cable — TV —
- Underground Water Line — W —
- Warning Sign One Post
- Warning Sign Two Post
- Water Fountain
- Water Hydrant
- Water Meter
- Water Tower
- Water Valve
- Water Well
- Weir Rock
- Windmill
- Wingwall
- Witness Corner

- State and National Line
- County Line
- Section Line
- Quarter Line
- Sixteenth Line
- Property Line
- Construction Line
- ROW Line
- New ROW Line
- Cut and Fill Limits
- Control of Access
- New Control of Access
- Proposed ROW (After Property Disposal)

- Drainage Arrow

- Remove Concrete Pavement
- Remove Concrete Driveway Pavement
- Remove Asphalt Concrete Pavement
- Remove Concrete Sidewalk
- Remove Concrete Median Pavement
- Remove Concrete Curb and/or Gutter

- Detectable Warning
- Pedestrian Push Button Pole and 30" x 48" Clear Space with 1.5% slope

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	26/73

Plotting Date: 12/9/2025

246+75 R
Salvage & Place Riprap
(12.4 ton)

251+22-50' R
Take Out 30" RCP Arch Flared End

251+22
Pipe Cleanout

251+18-46.67' R
Install 30"x45° RCP Arch Bend

251+18-46.7' R to 250+90-59.2' R
Install 30"-24' RCP Arch
& 30" RCP Arch Sloped End Section
(Between Bend and Outlet)

NW 1/4

SW 1/4

BEGIN NH 0085(116)34
Station 235+95

Sec. 35 - T6N - R3E

33'

33'

Sec. 26 - T6N - R3E

NE 1/4

SE 1/4

Pendo Rd

PI 239+22.63
R 0.00'

PI 246+80.76
R 0.00'

PI 251+75.90
0.00'

PI 260+52.01
R 3819.72'

75'

235+11

N04°45'00"W

N04°35'16"W

N04°33'36"W

N04°38'27"W

150'

N13

240+00

245+00

250+00

255+00

260+00

265+00

HO

HO

2 PP

2 PP

2 PP

CENTENNIAL QUARRY SUBDIVISION

LOT 1

251+00 R
Do Not Disturb Rock
Retaining Wall

251+68 R
Do Not Disturb
Power Pole

251+69 R
Begin Type 2 fence

251+69.00-123.00'

251+75.16-75.00'

256+00.00-112.00'

260+50.00-174.00'

TRACT CP2

255+99 R
Elim Ent

260+50 R
1 Barbed Wire Gate

260+50 R
24' Ent

Section Line

251+51.50

Crook City Rd

Northwestern Engineering Company
(Information Only)

Zachary N. Carter & Sara K. Carter

Tract CP2, being part of the SE1/4, all in Section 26 -
Township 6 North - Range 3 East of the B.H.M.

Parcel A1

Sec. 35 - T6N - R3E

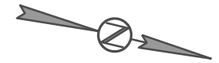
Sec. 26 - T6N - R3E

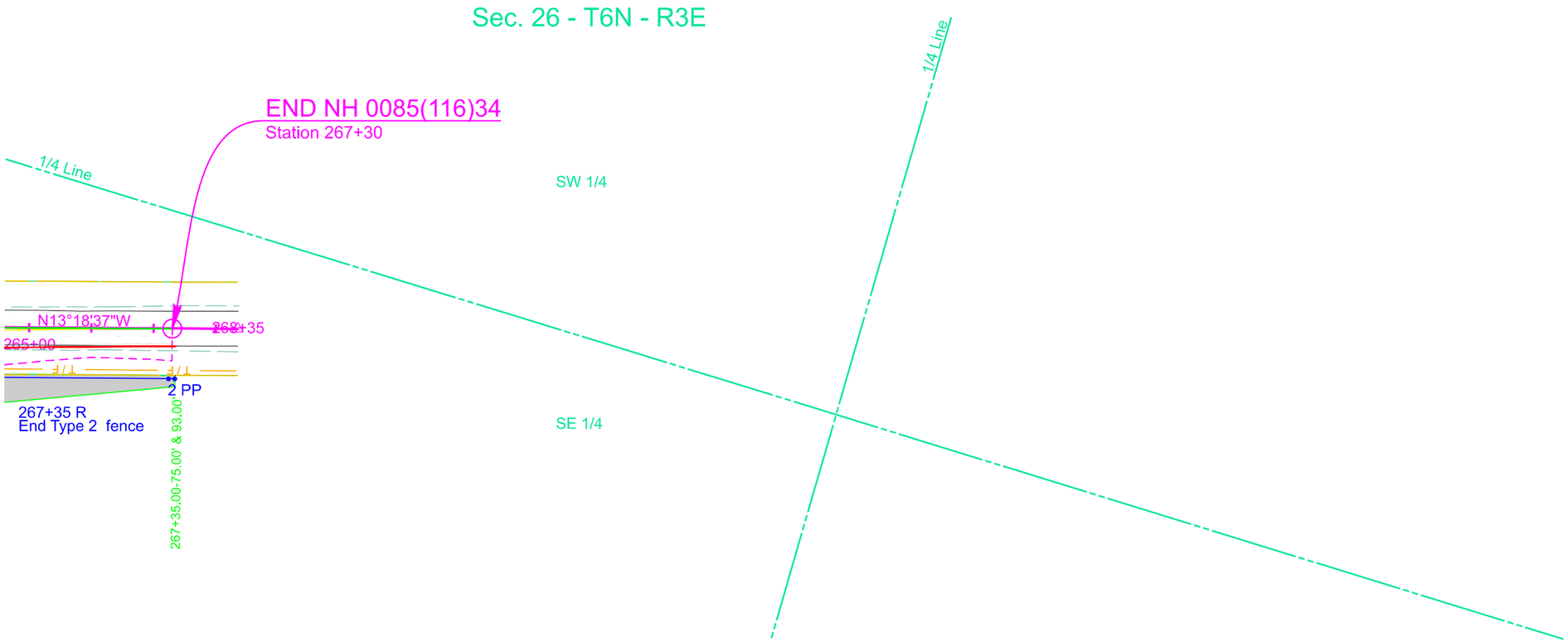
Parcel A1
251+69.00 to 267+35.00 R
Temporary Easement containing
2.0 ac, more or less

Plotted From - TRRC11626 File - ...\prj\Lawr08UX\dgn\08UX_PP.dgn

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	27/73

Plotting Date: 12/9/2025





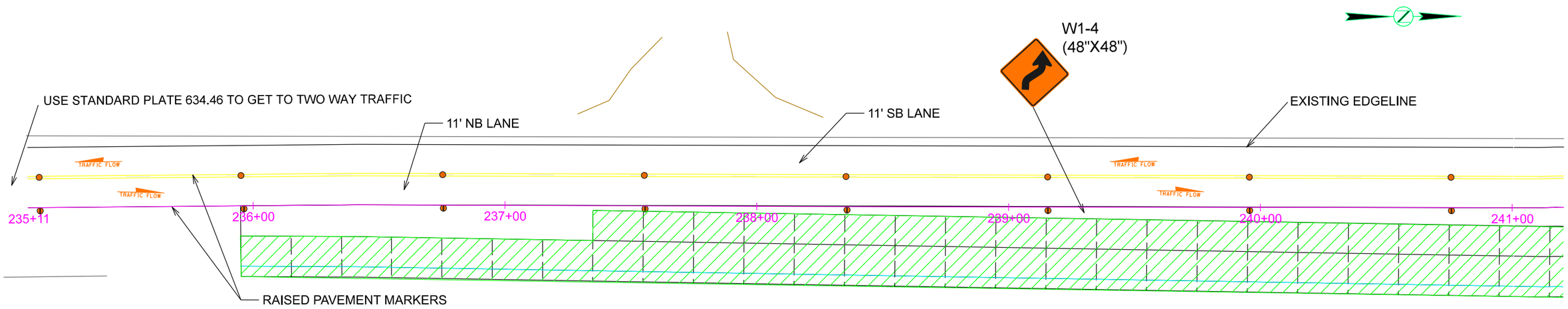
Plotted From - TRRC11626 File - ...\prj\Lawr08UX\dgn\08UX_PP.dgn

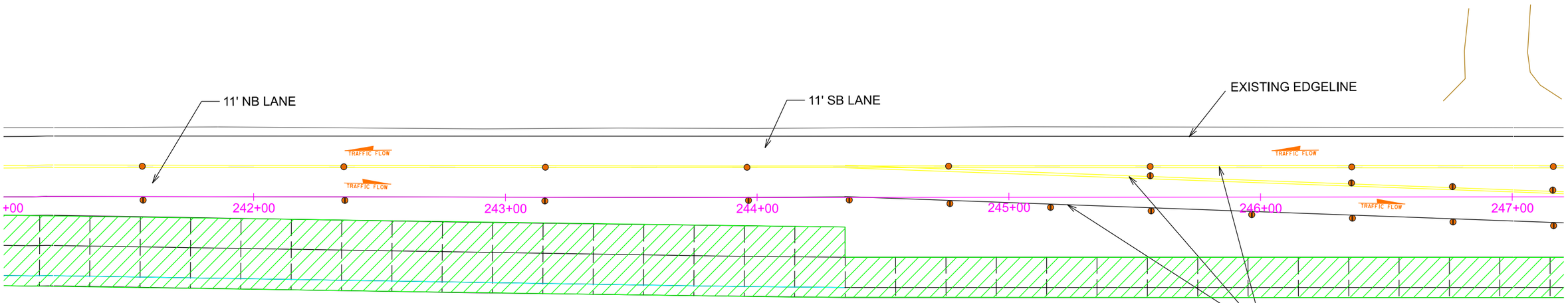
SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	28/73

Plotting Date: 11/18/2025

TRAFFIC CONTROL

PHASE 1





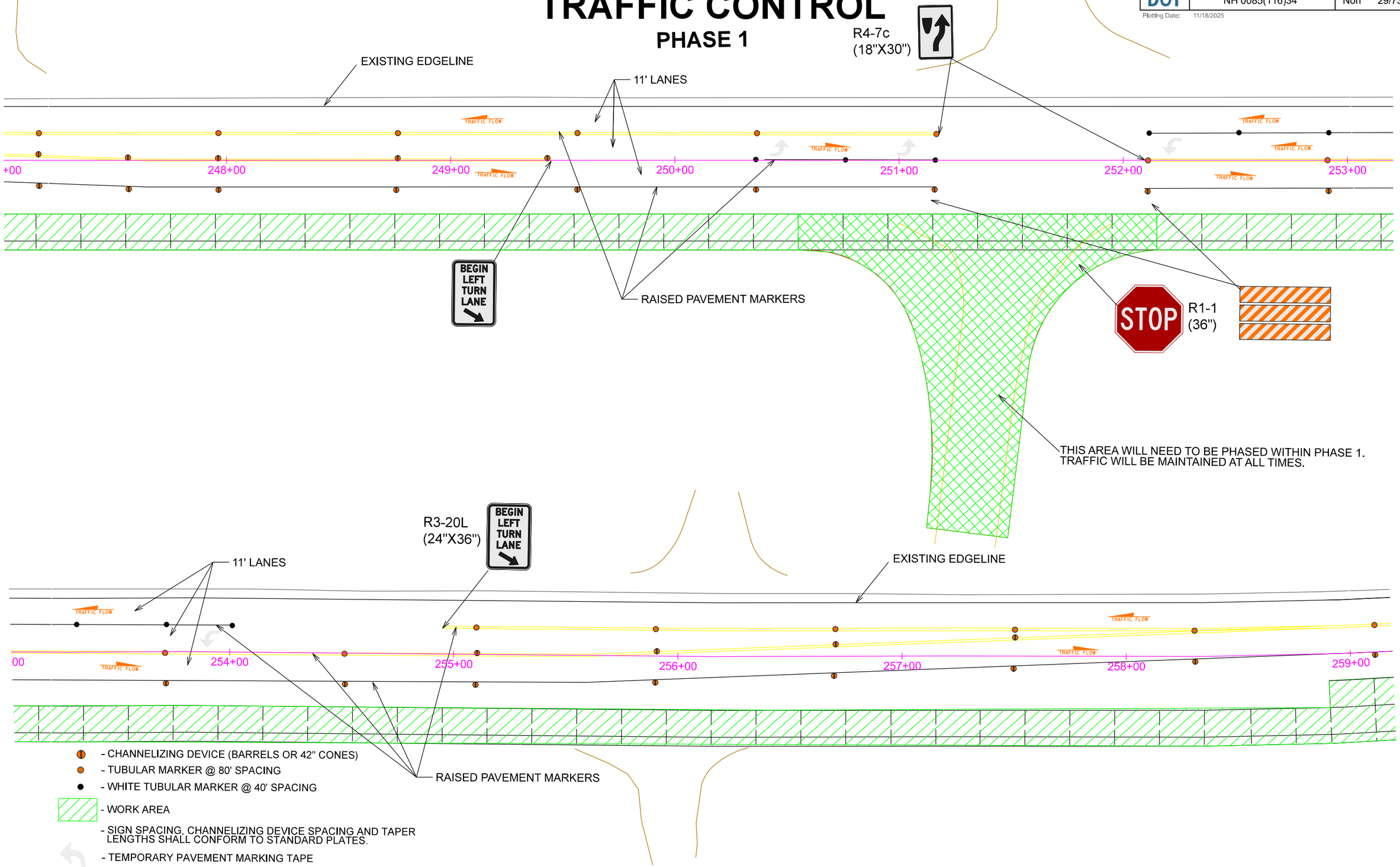
- CHANNELIZING DEVICE (BARRELS OR 42" CONES)
- TUBULAR MARKER @ 80' SPACING
- WHITE TUBULAR MARKER @ 40' SPACING
- WORK AREA
- SIGN SPACING, CHANNELIZING DEVICE SPACING AND TAPER LENGTHS SHALL CONFORM TO STANDARD PLATES.

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	29/73

Plotting Date: 11/18/2025

TRAFFIC CONTROL

PHASE 1

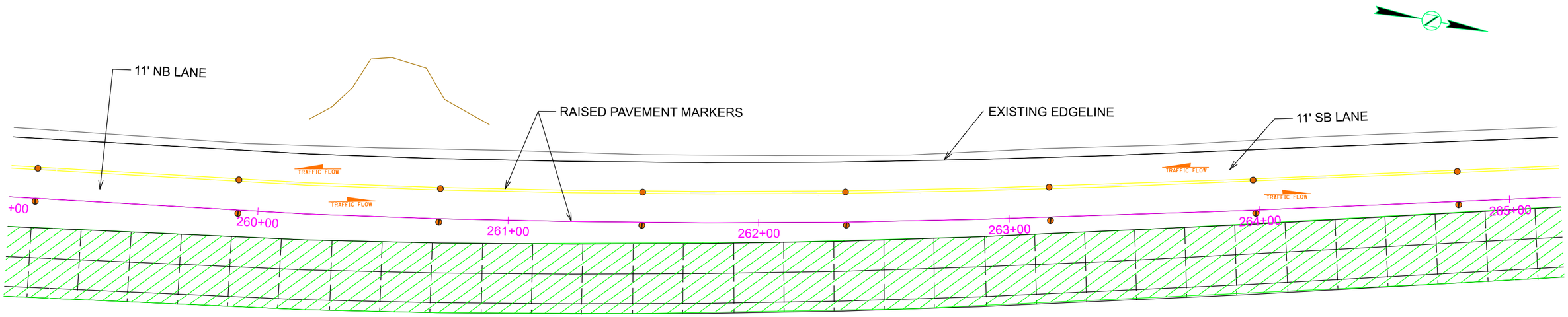


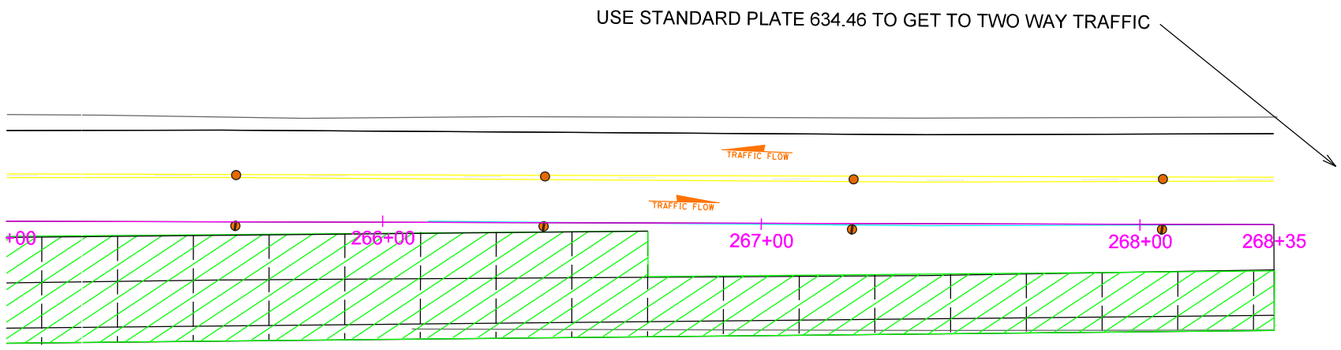
SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	30/73

Plotting Date: 11/18/2025

TRAFFIC CONTROL

PHASE 1



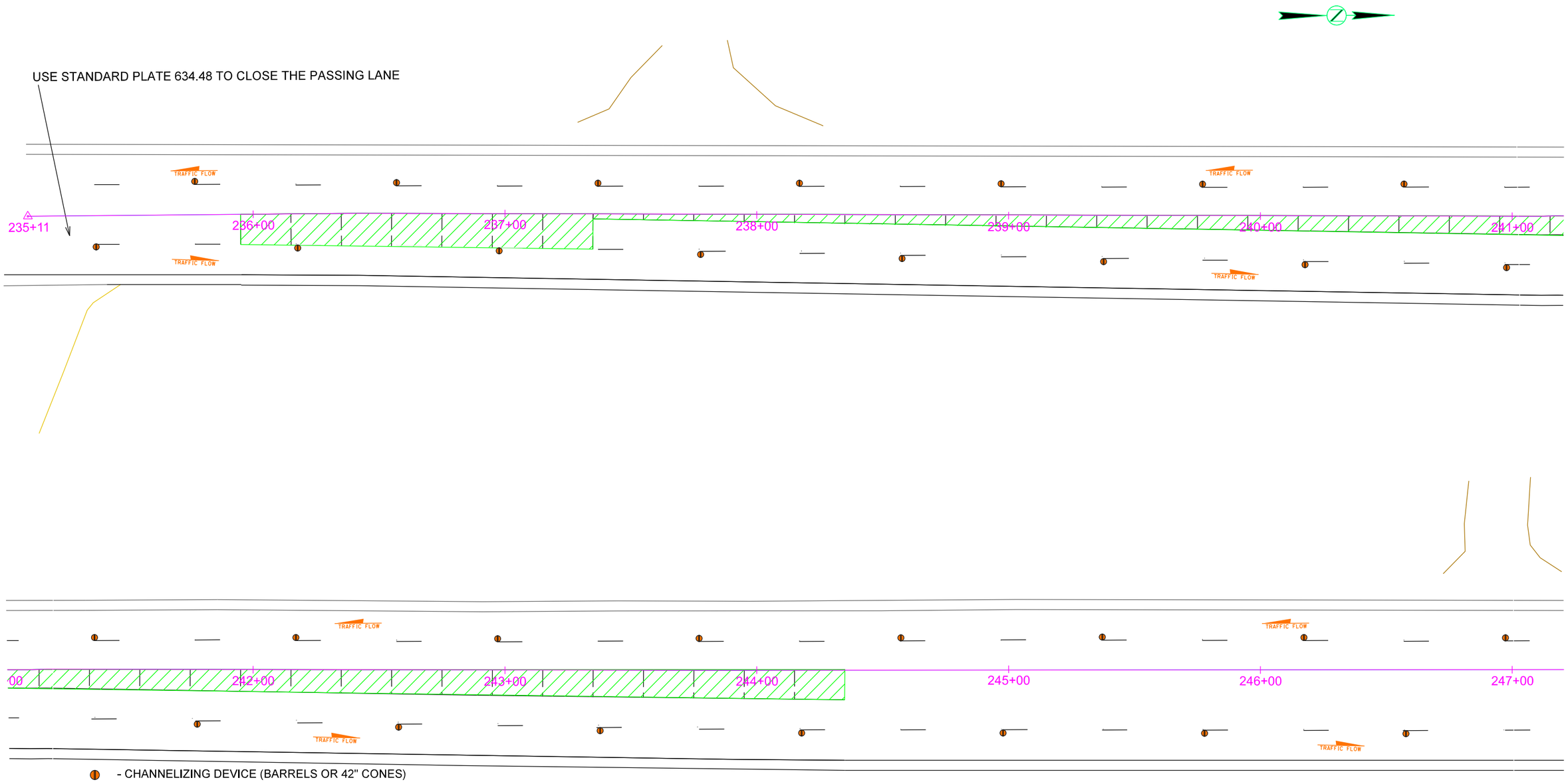


- CHANNELIZING DEVICE (BARRELS OR 42" CONES)
- TUBULAR MARKER @ 80' SPACING
- WHITE TUBULAR MARKER @ 40' SPACING
- WORK AREA
- SIGN SPACING, CHANNELIZING DEVICE SPACING AND TAPER LENGTHS SHALL CONFORM TO STANDARD PLATES.

TRAFFIC CONTROL
PHASE 2

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	31/73

Plotting Date: 11/18/2025

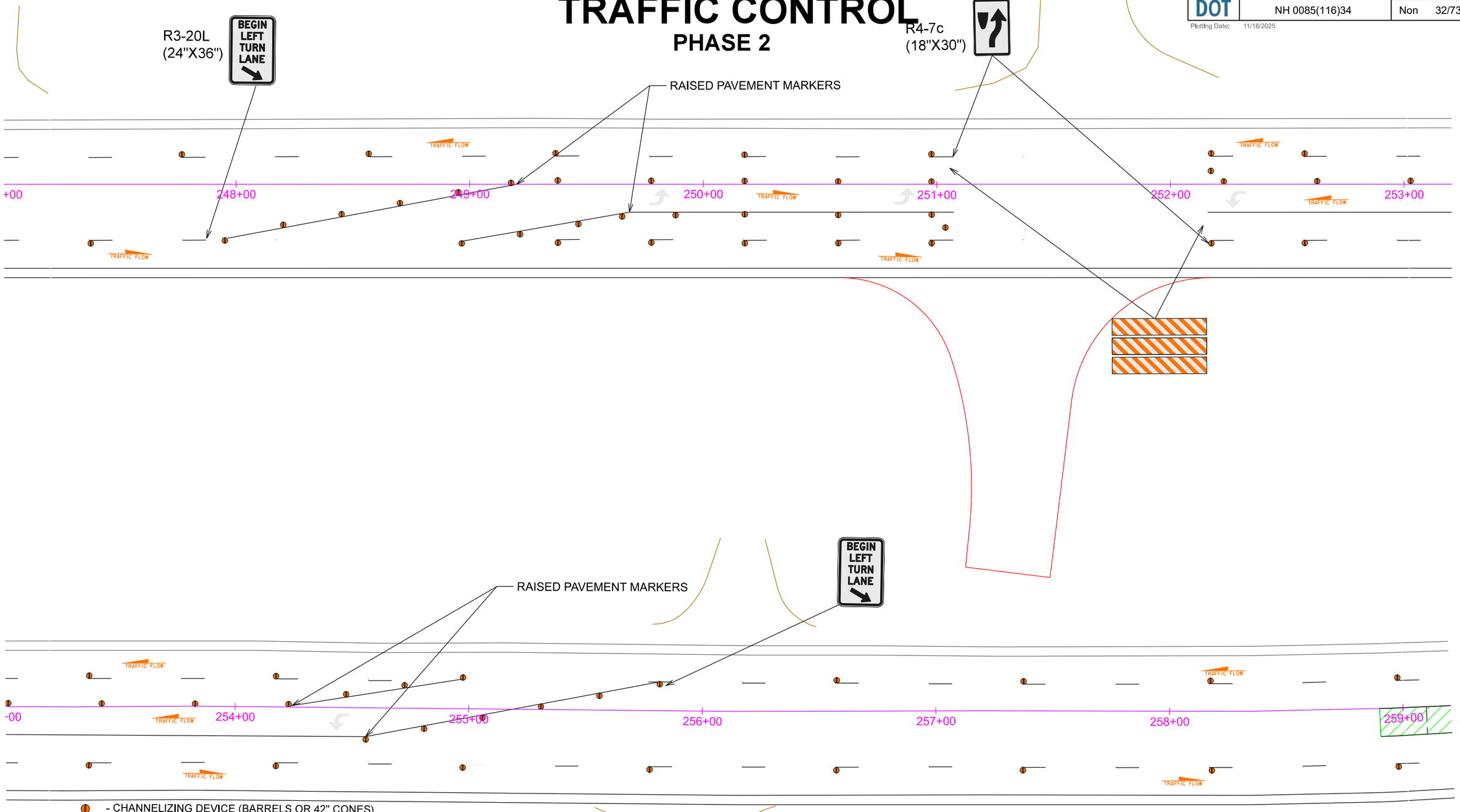


- CHANNELIZING DEVICE (BARRELS OR 42" CONES)
- TUBULAR MARKER @ 80' SPACING
- WHITE TUBULAR MARKER @ 40' SPACING
- WORK AREA
- SIGN SPACING, CHANNELIZING DEVICE SPACING AND TAPER LENGTHS SHALL CONFORM TO STANDARD PLATES.
- TEMPORARY PAVEMENT MARKING TAPE

TRAFFIC CONTROL
PHASE 2

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	32/73

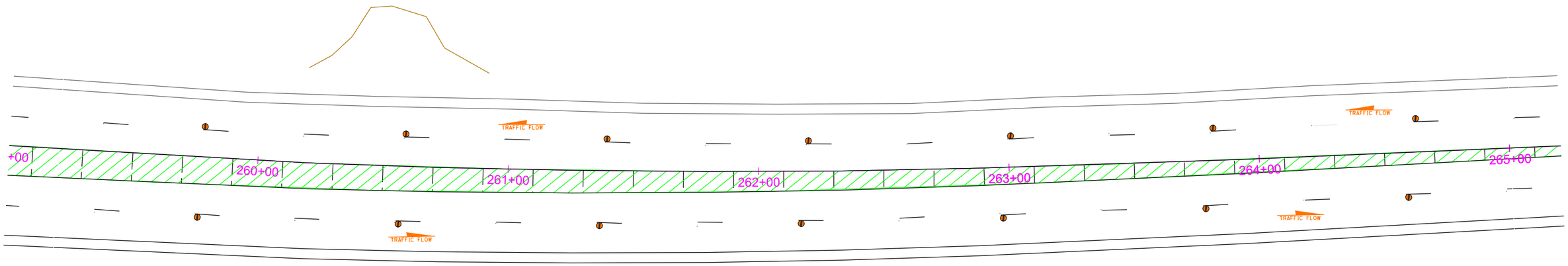
Plotting Date: 11/18/2025

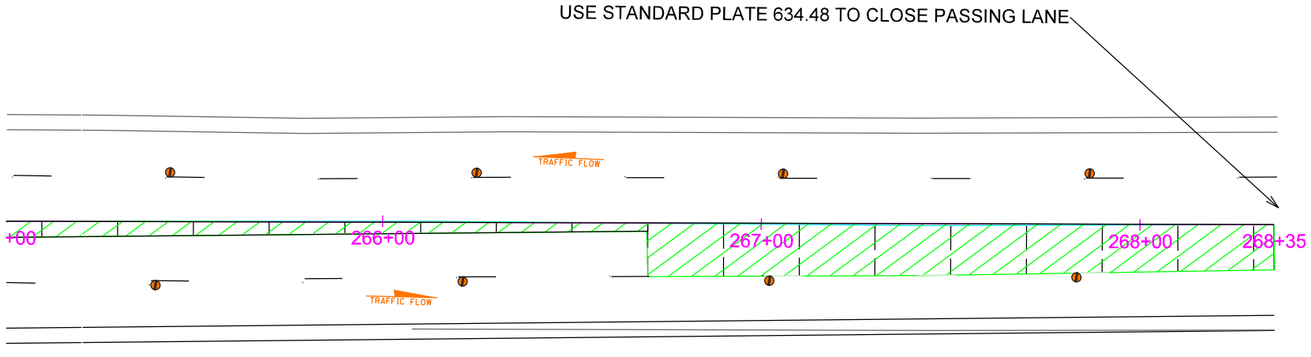


TRAFFIC CONTROL
PHASE 2

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	33/73

Plotting Date: 11/18/2025





- CHANNELIZING DEVICE (BARRELS OR 42" CONES)
- TUBULAR MARKER @ 80' SPACING
- WHITE TUBULAR MARKER @ 40' SPACING
- WORK AREA
- SIGN SPACING, CHANNELIZING DEVICE SPACING AND TAPER LENGTHS SHALL CONFORM TO STANDARD PLATES.

TRAFFIC CONTROL

OVERWIDTH SIGNING

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	34/73

Plotting Date: 11/18/2025

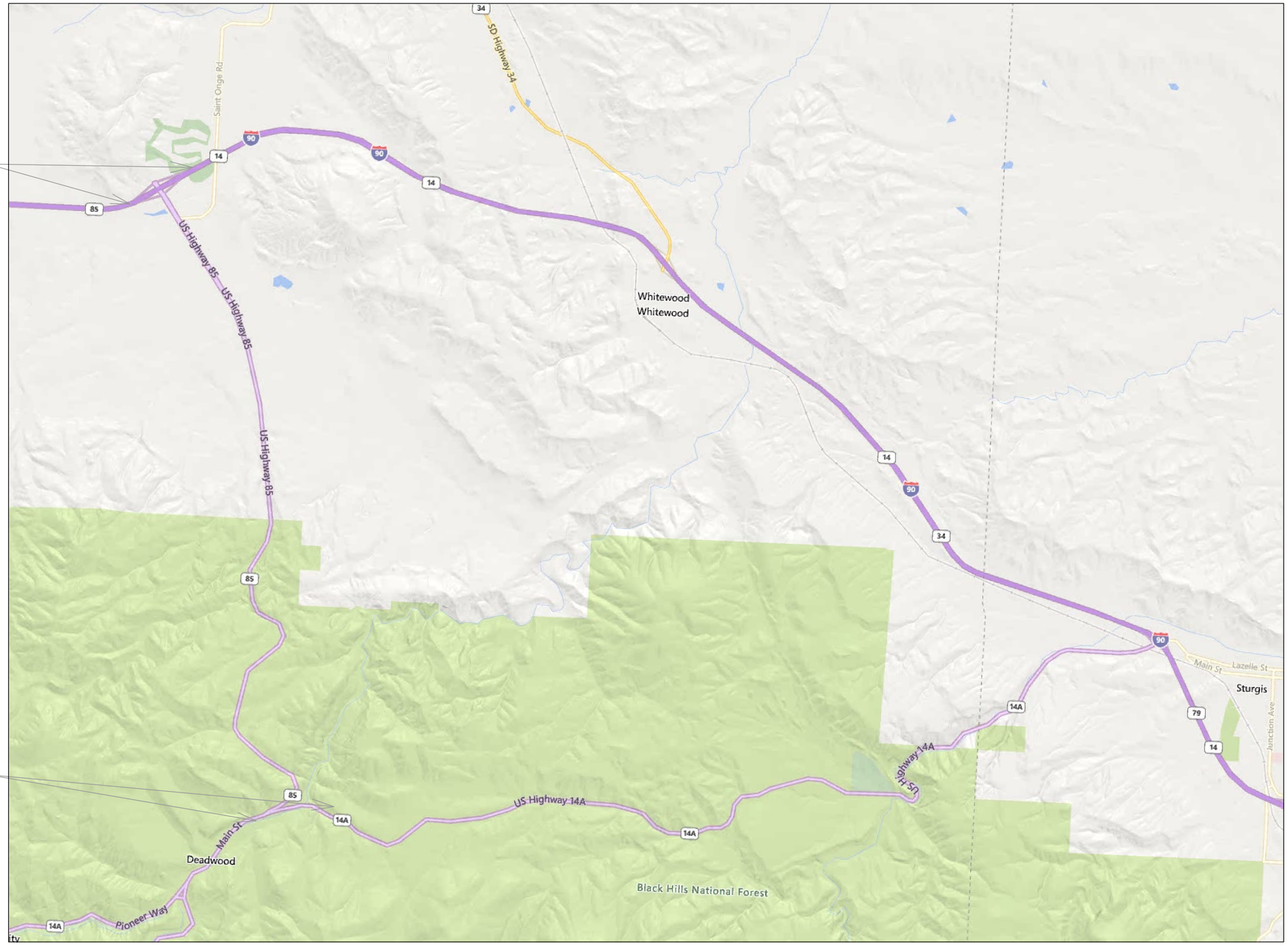
WIDTH RESTRICTION

10 FT MAX

85 SOUTH

2 MILES AHEAD

USE ALT ROUTE



WIDTH RESTRICTION

10 FT MAX

85 NORTH

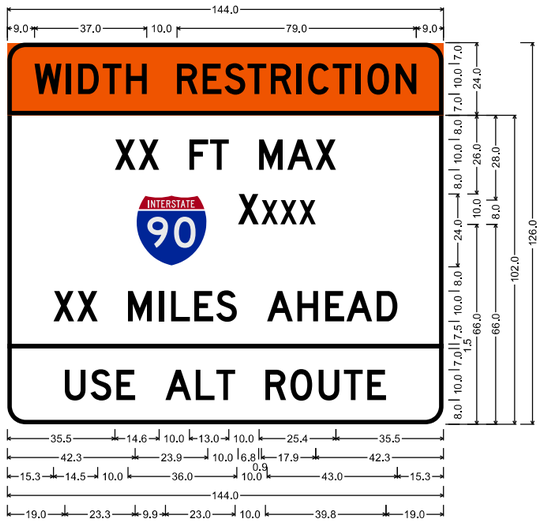
5 MILES AHEAD

USE ALT ROUTE

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	35/73

Plotting Date: 11/18/2025

TEMPORARY TRAFFIC CONTROL
WIDTH RESTRICTION SIGN DETAILS



6.0" Radius, 1.5" Border, Black on Orange;
"WIDTH RESTRICTION", D 2K;

6.0" Radius, 1.5" Border, Black on White;
"XX FT MAX", D 2K; "XXXX", D 2K; "XX MILES AHEAD", D 2K;
"USE ALT ROUTE", D 2K;

Table of letter and object lefts

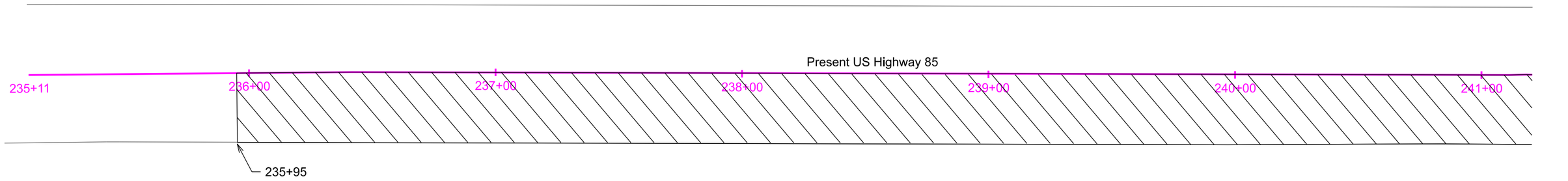
W 9.0	I 19.4	D 23.4	T 31.5	H 39.3								
	R 56.0	E 64.5	S 71.8	T 79.3	R 87.0	I 95.5	C 99.3	T 107.4	I 115.1	O 118.9	N 128.3	
X 35.5	X 43.3	F 60.1	T 66.9	M 83.1	A 92.4	X 101.8						
42.3	X 76.3	X 83.9	X 90.1	X 96.4								
X 15.3	X 23.0	M 39.9	I 50.0	L 54.0	E 61.8	S 69.0	A 85.8	H 95.8	E 105.0	A 112.0	D 122.0	
-0.0												
U 19.0	S 27.5	E 36.0	A 52.3	L 62.3	T 69.0	R 85.3	O 93.5	U 102.8	T 111.1	E 118.8		

NOTE: ALL X's WILL BE REPLACED WITH APPROPRIATE VALUES OR CARDINAL DIRECTIONS AS SPECIFIED ELSEWHERE IN THE PLANS

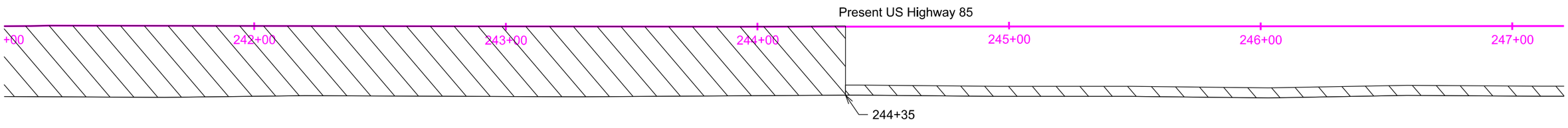
PAVEMENT REMOVAL LAYOUT

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	36/73

Plotting Date: 12/2/2025



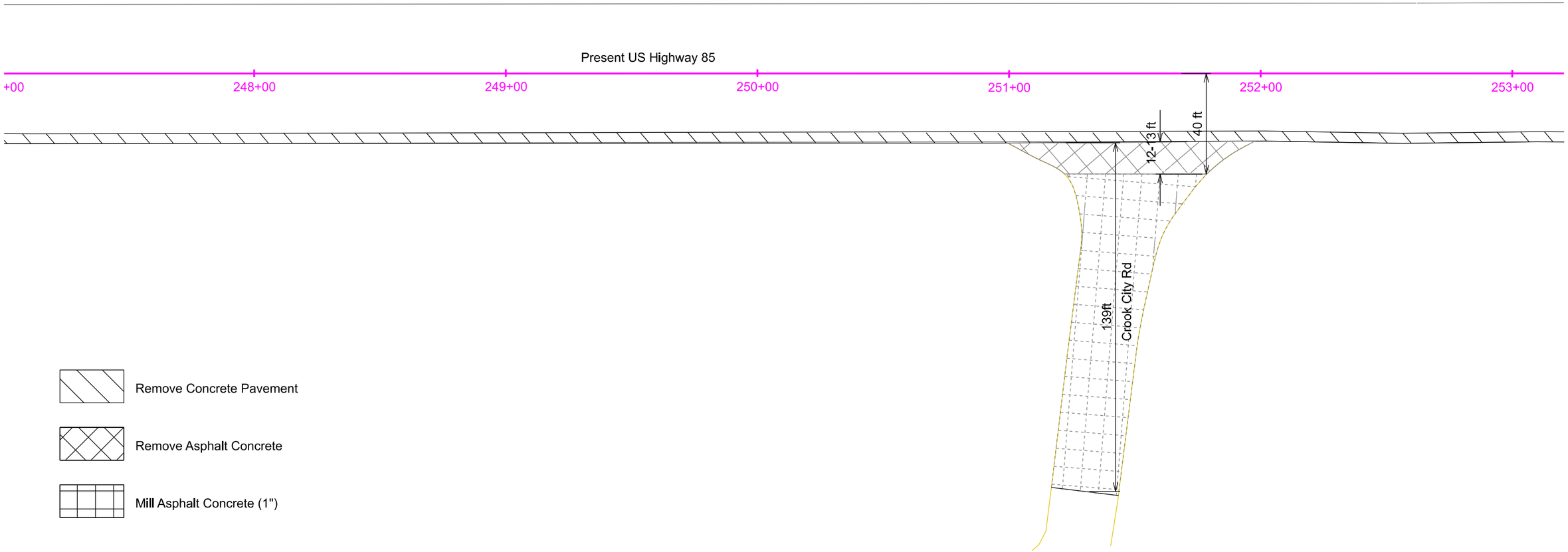
Remove Concrete Pavement



PAVEMENT REMOVAL LAYOUT

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	37/73

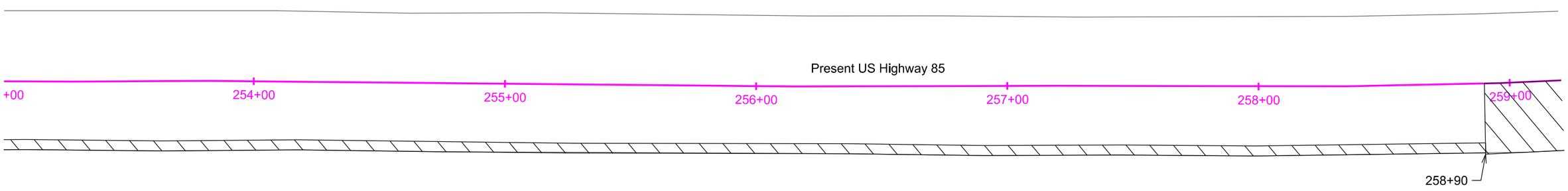
Plotting Date: 12/3/2025



Remove Concrete Pavement

Remove Asphalt Concrete

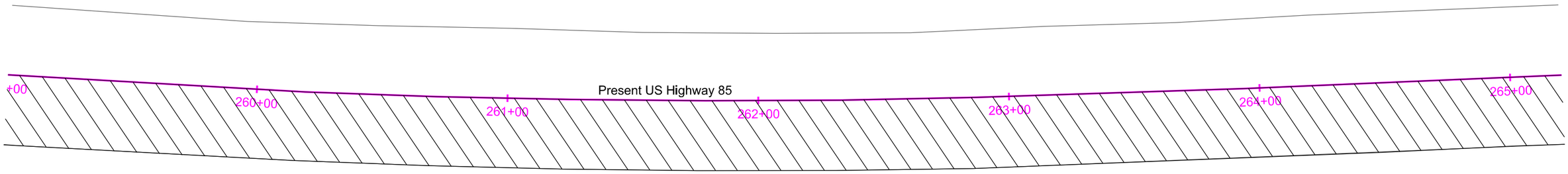
Mill Asphalt Concrete (1")



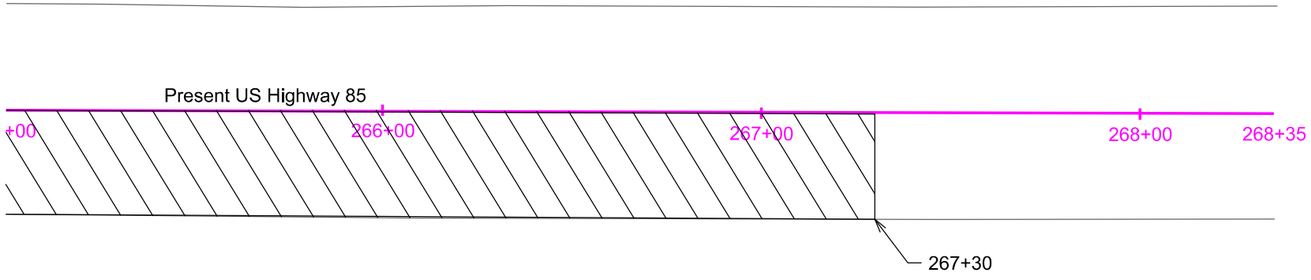
PAVEMENT REMOVAL LAYOUT

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	38/73

Plotting Date: 12/2/2025



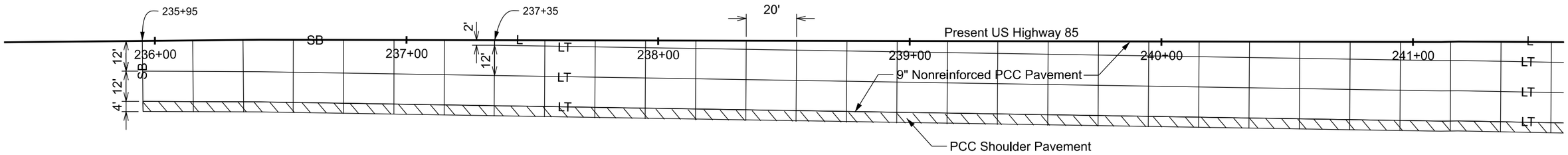
Remove Concrete Pavement



PCC PAVEMENT JOINT LAYOUT

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	39/73

Plotting Date: 12/2/2025



LEGEND:

Transverse Joint spacing = 20'

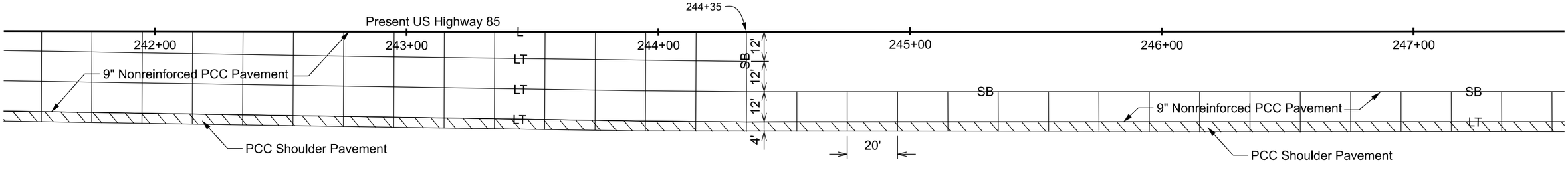
Longitudinal Joint Without Tie Bars (Construction or Sawed) ——— L ——— L ———

Longitudinal Joint With Tie Bars (Construction or Sawed) ——— LT ——— LT ———

Transverse Contraction Joint — — — — — — — —

Steel Bar Installation in Longitudinal or Transverse Joint ——— SB ——— SB ———

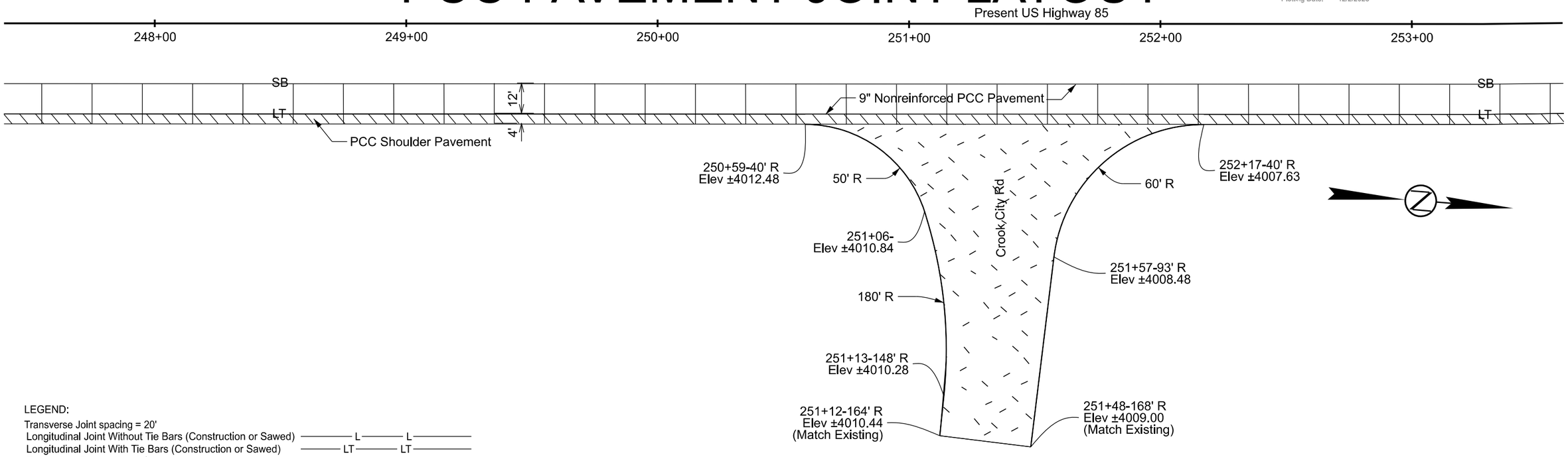
Transverse contraction joints within these areas shall not have dowel bar assemblies. All other transverse contraction joints shall have dowel bar assemblies.



PCC PAVEMENT JOINT LAYOUT

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	40/73

Plotting Date: 12/2/2025



LEGEND:

Transverse Joint spacing = 20'

Longitudinal Joint Without Tie Bars (Construction or Sawed) ——— L ——— L ———

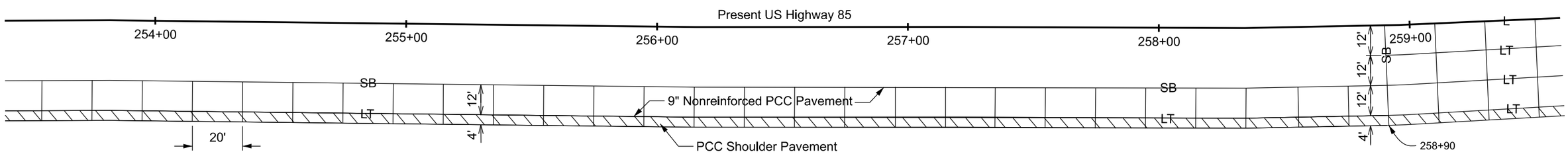
Longitudinal Joint With Tie Bars (Construction or Sawed) ——— LT ——— LT ———

Transverse Contraction Joint — — — — — — — —

Steel Bar Installation in Longitudinal or Transverse Joint ——— SB ——— SB ———

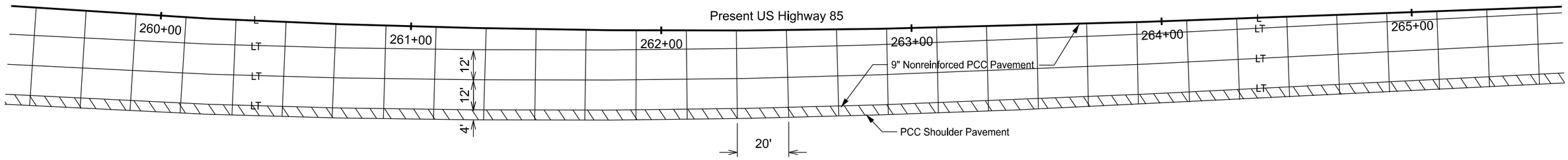
Transverse contraction joints within these areas shall not have dowel bar assemblies. All other transverse contraction joints shall have dowel bar assemblies.

2" Asphalt Concrete Composite



PCC PAVEMENT JOINT LAYOUT

SD DOT	PROJECT	SECTION	SHEET
Plotting Date: 12/2/2025	NH 0085(116)34	Non	41/73



LEGEND:

Transverse Joint spacing = 20'

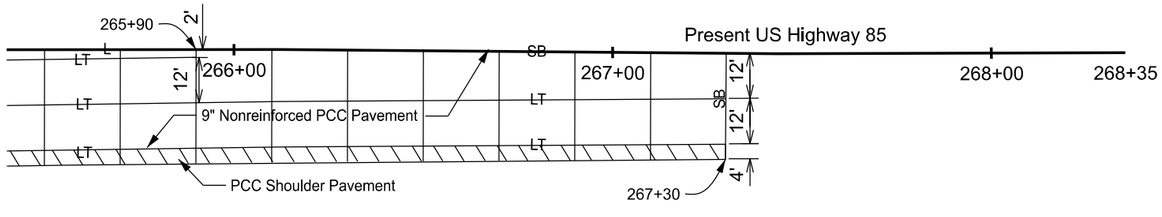
Longitudinal Joint Without Tie Bars (Construction or Sawed) ——— L ——— L ———

Longitudinal Joint With Tie Bars (Construction or Sawed) ——— LT ——— LT ———

Transverse Contraction Joint — — — — — — — —

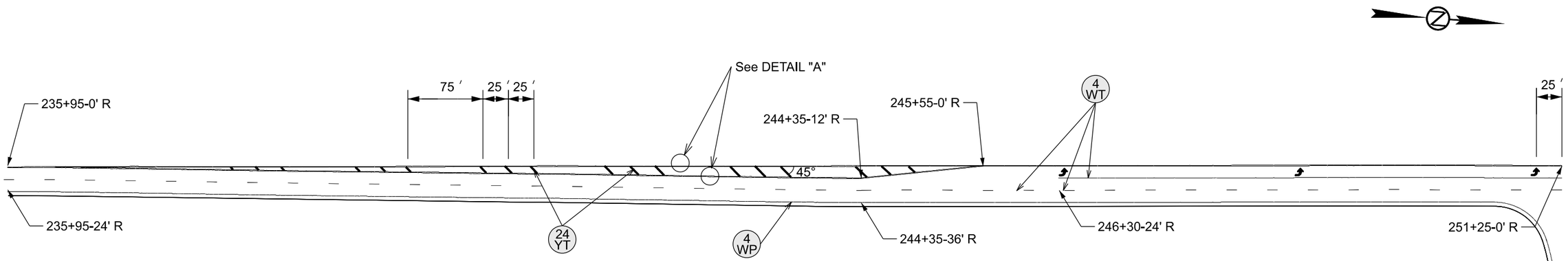
Steel Bar Installation in Longitudinal or Transverse Joint ——— SB ——— SB ———

Transverse contraction joints within these areas shall not have dowel bar assemblies. All other transverse contraction joints shall have dowel bar assemblies.



PAVEMENT MARKING LAYOUT

SD DOT	PROJECT	SECTION	SHEET
Plotting Date: 12/2/2025	NH 0085(116)34	Non	42/73

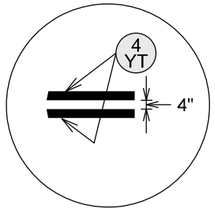


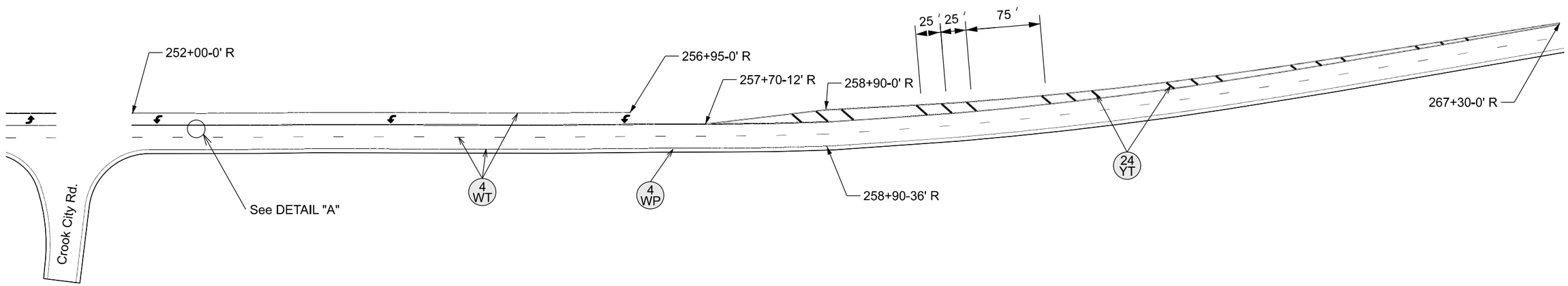
ESTIMATE OF QUANTITIES

KEY	ITEM	EST QUANT	UNIT
4 WP	High Build Waterborne Pavement Marking Paint with Reflective Elements, 4" White	18	GAL
4 WT	Cold Applied Plastic Pavement Marking, 4" White	1,760	FT
4 YT	Cold Applied Plastic Pavement Marking, 4" Yellow	9,760	FT
24 YT	Cold Applied Plastic Pavement Marking, 24" Yellow	343	FT
	Cold Applied Plastic Pavement Marking, Arrow (Left)	6	FT
	Grooving For Cold Applied Plastic Pavement Marking, 4"	11,520	EACH
	Grooving For Cold Applied Plastic Pavement Marking, 24"	343	FT
	Grooving For Cold Applied Plastic Pavement Marking, Arrow (Left)	6	EACH
	Grooving For Durable Pavement Marking, 4"	3,293	Feet

Edge of Surfacing

DETAIL "A"



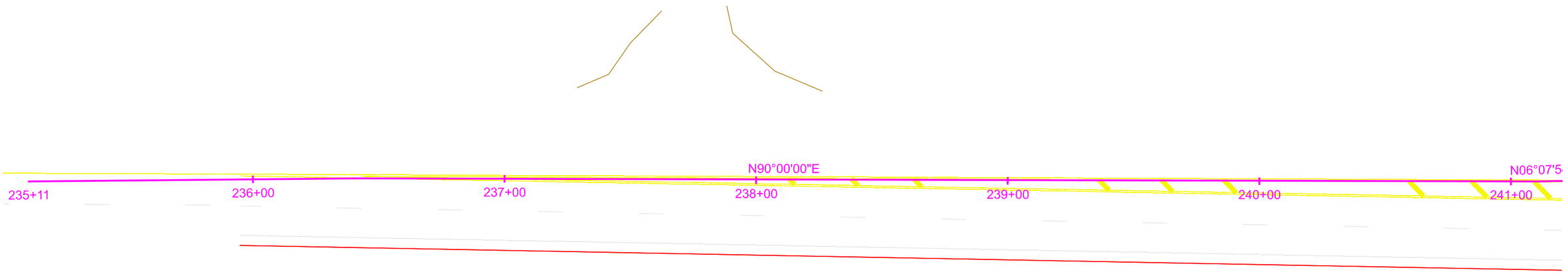


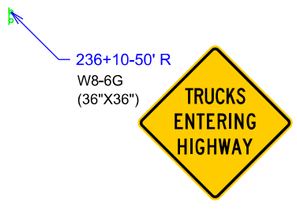
Plotted From - TRRC11626 File - ...\Lawr08UX\dgn\08UX_PP_PM.dgn

SIGNING LAYOUT

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	43/73

Plotting Date: 12/2/2025

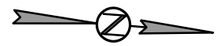


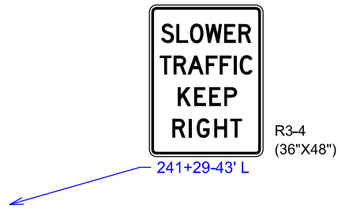


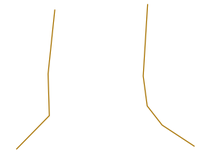
SIGNING LAYOUT

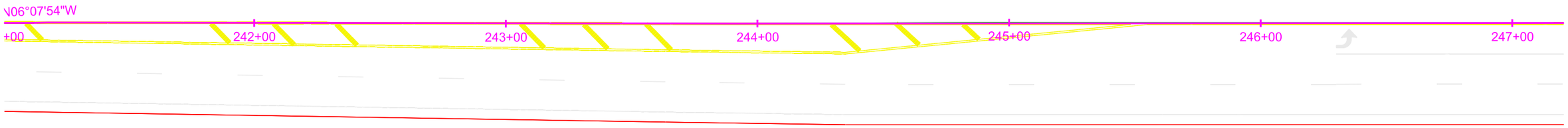
SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	44/73

Plotting Date: 12/2/2025





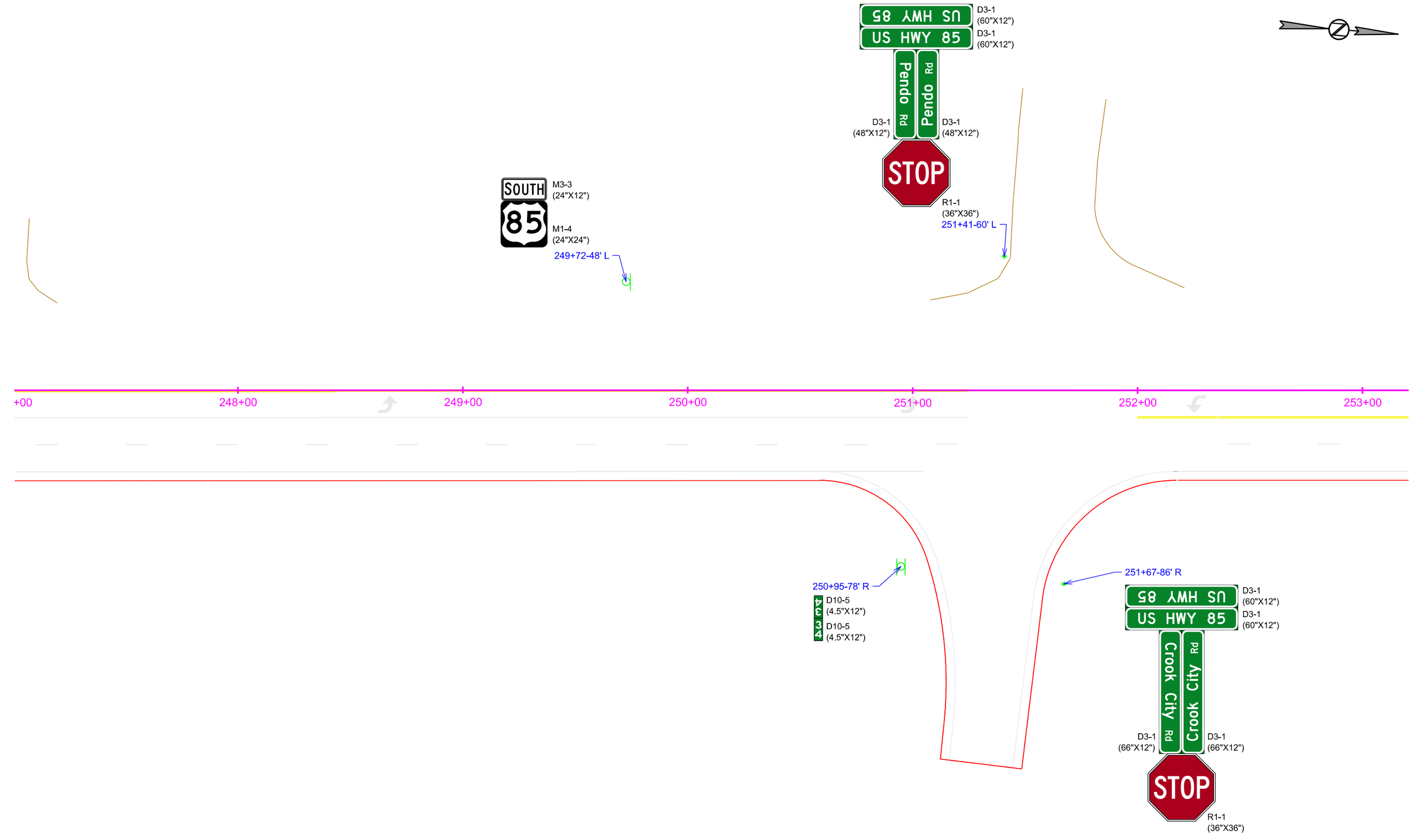




SIGNING LAYOUT

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	45/73

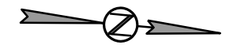
Plotting Date: 12/2/2025



SIGNING LAYOUT

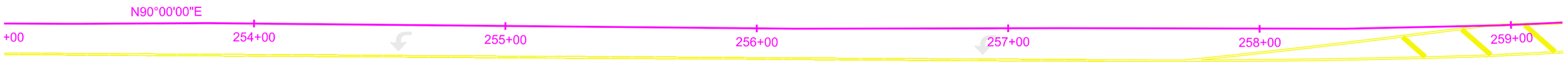
SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	46/73

Plotting Date: 12/2/2025

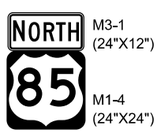


W8-6G
(36"X36")
259+11-45' L

R1-1
(36"X36")
255+89-49' L



253+67-53' R



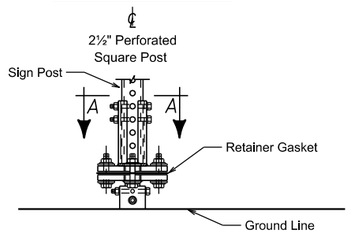
M3-1
(24"X12")

M1-4
(24"X24")

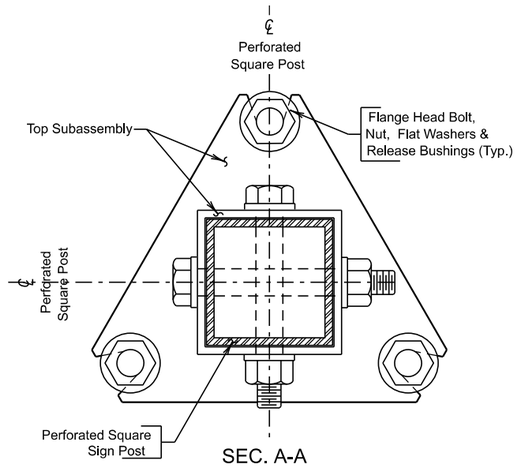
SIGN BASE DETAILS

BREAKAWAY SIGN SUPPORTS

SLIP BASE DESIGN

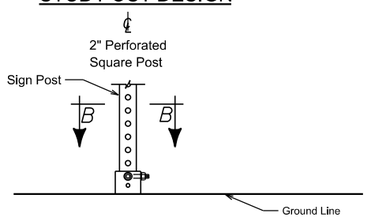


ELEVATION

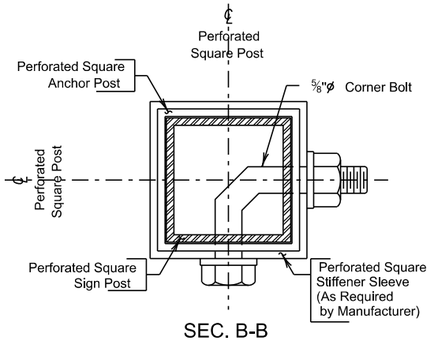


SEC. A-A

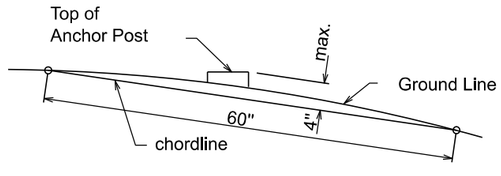
STUB POST DESIGN



ELEVATION



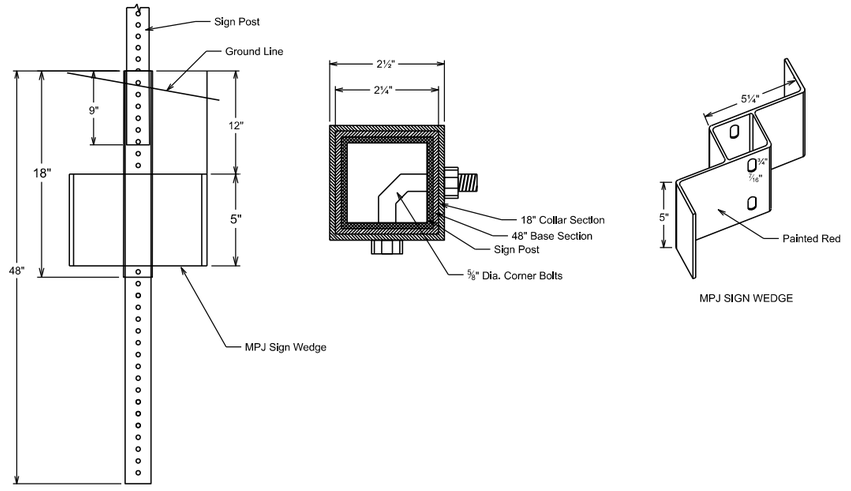
SEC. B-B



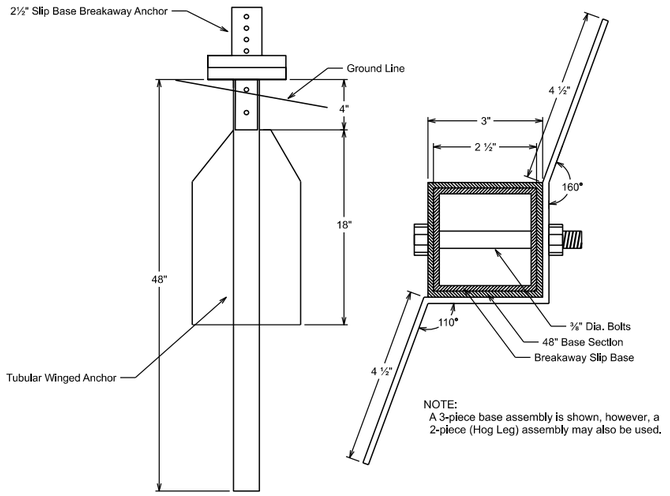
BREAKAWAY SUPPORT STUB CLEARANCE DIAGRAM

NOTE: The top of anchor post will NOT extend more than 4" max above the chordline within a 60" chord.

SIGN BASE DETAILS FOR A 2" SIGN POST



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.

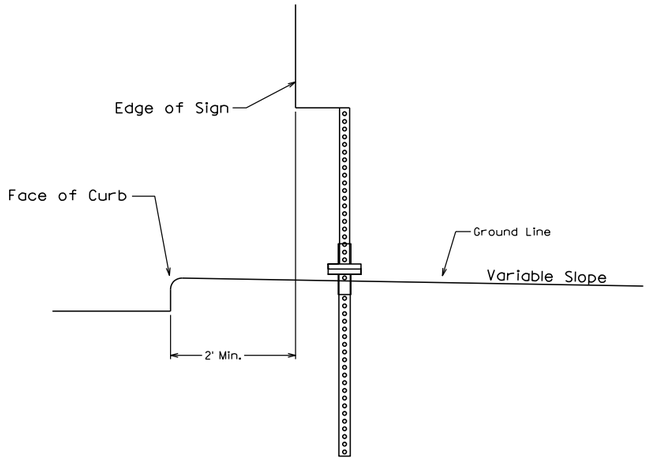
General Notes:

1. Design Specification: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, Latest Edition.
2. The manufacturer will provide certification that the posts and hardware furnished have essentially the same chemistry, mechanical porperties and geometry as that used in the FHWA tests, and that it will meet the FHWA change in velocity requirements.
3. The manufacturer will also provide certification that the breakaway system furnished will develop the full shear and bending yield strength of the sign post section being spliced.
4. All posts will be galvanized in accordance with ASTM A653, Des. G-90.
5. All hardware will be galvanized in accordance with ASTM A153.

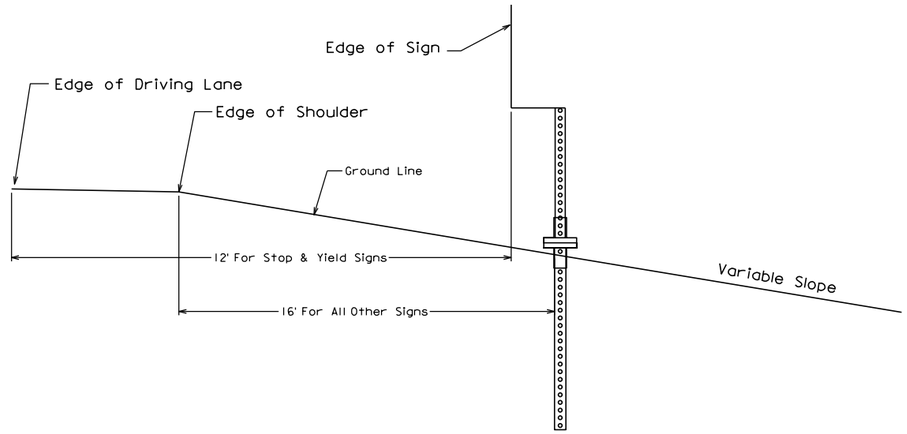
TYPICAL SIGN BASE PLACEMENT

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	48/73

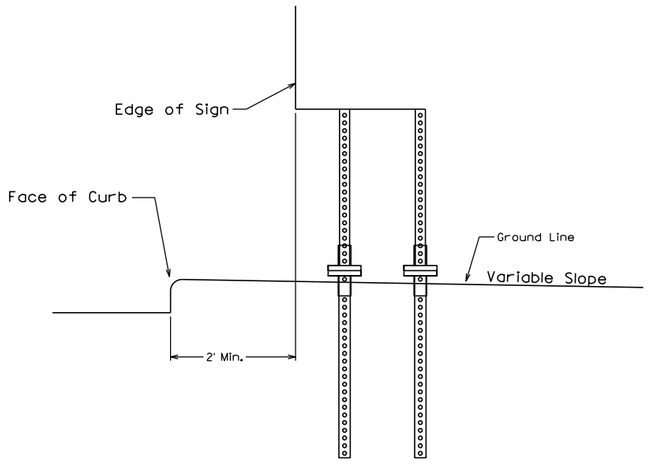
Plotting Date: 12/2/2025



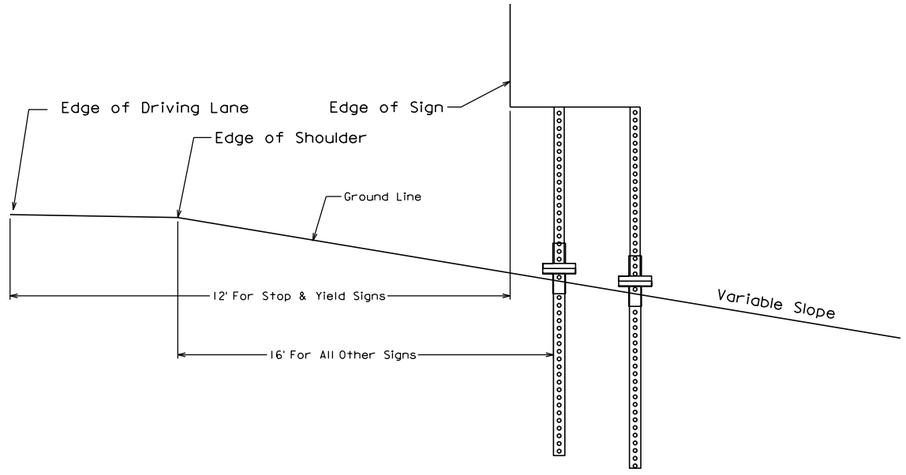
URBAN LOCATION WITH 1 POST
(Drawing shown from face of sign)



RURAL LOCATION WITH 1 POST
(Drawing shown from face of sign)



URBAN LOCATION WITH 2 POSTS
(Drawing shown from face of sign)



RURAL LOCATION WITH 2 POSTS
(Drawing shown from face of sign)

SIGN DESIGNS

SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	49/73

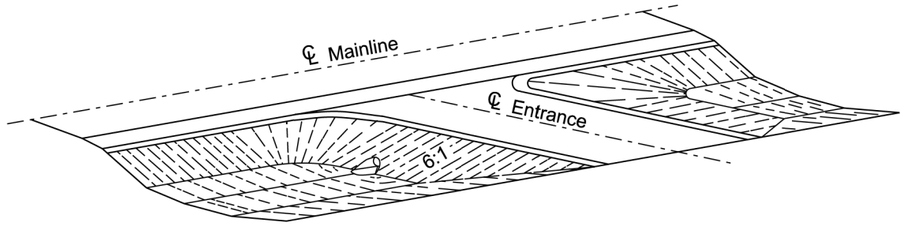
Plotting Date: 12/2/2025

36.0" across sides 2.3" Radius, 0.9" Border, 0.6" Indent, Black on Yellow;
"TRUCKS", C 2K specified length: "ENTERING", C 2K;
"HIGHWAY", C 2K;
Table of letter and object lefts

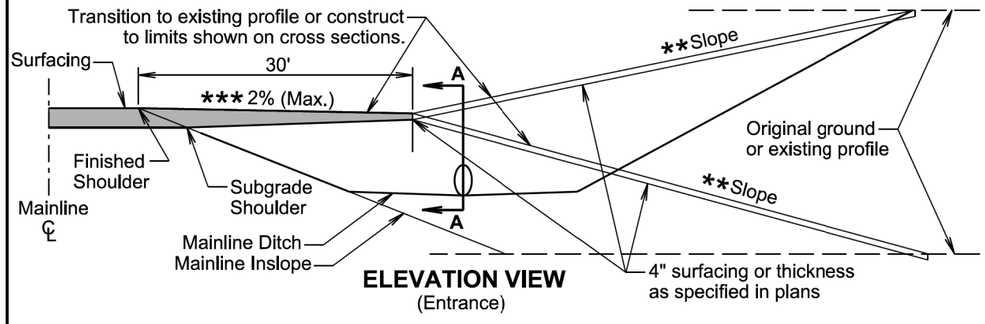
T 15.0	R 18.0	U 21.3	C 24.6	K 28.1	S 31.3			
E 11.8	N 15.1	T 18.6	E 21.9	R 25.3	I 28.9	N 30.8	G 34.5	
H 12.6	I 16.6	G 18.3	H 22.1	W 25.6	A 29.6	Y 33.1		

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(116)34	Non	50/73

Plotting Date: 12/22/2025



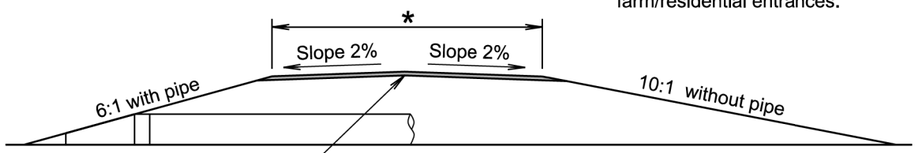
PERSPECTIVE OF ENTRANCE



ELEVATION VIEW
(Entrance)

*** 2% When on the inside of superelevation and 0% or flat when on outside of superelevation.

** Entrance maximum slope is typically 10:1 for field entrances and 15:1 for farm/residential entrances.



SECTION A-A
(Entrance and Intersecting Road)

* The finished surfacing width is stated elsewhere in the plans. The subgrade width is 4' wider than the finished surfacing width unless stated otherwise in the plans.

GENERAL NOTES:

The ditch section shown above in the perspective view is only for illustrative purpose.

The elevation view above is typical for either a ditch cut or fill section. Entrances that vary from above should be specified in the plans.

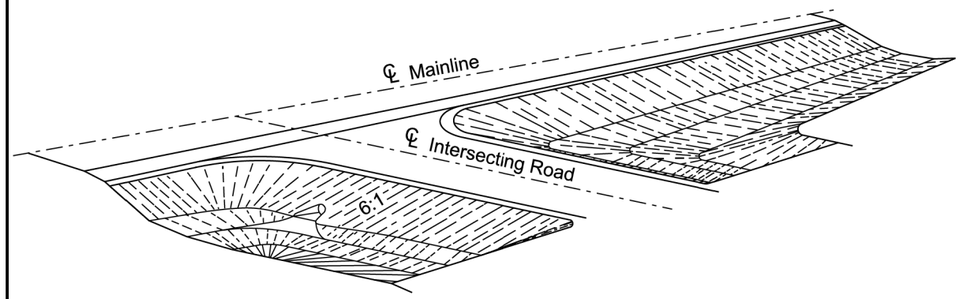
Pipe length will be adjusted if necessary during construction to obtain the 6:1 slope. For grading projects, the pipe length is estimated typically using a 4" thickness of surfacing directly over the subgrade above the pipe.

The transition area between the mainline inslope and the entrance or intersecting road inslope will be rounded to eliminate an abrupt transition.

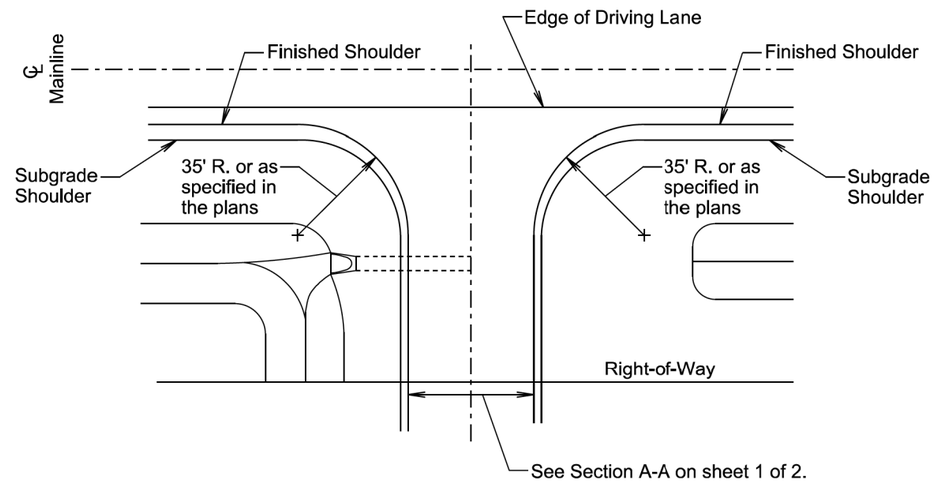
The turning radii will be 35' for intersecting roads and entrances unless stated otherwise in the plans.

November 19, 2021

Published Date: 2026	SDDOT	INTERSECTING ROADS AND ENTRANCES	PLATE NUMBER 120.01
			Sheet 1 of 2



PERSPECTIVE OF INTERSECTING ROAD



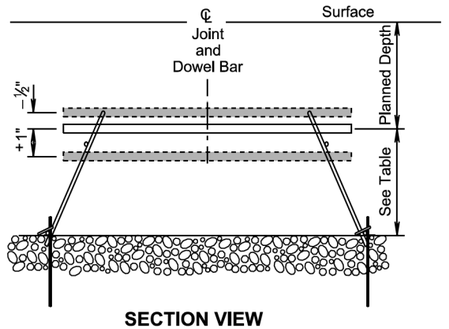
PLAN VIEW

GENERAL NOTES:

The 6:1 or 10:1 intersecting road inslope will transition to the existing intersecting road inslope near the right-of-way or at a location as determined by the Engineer.

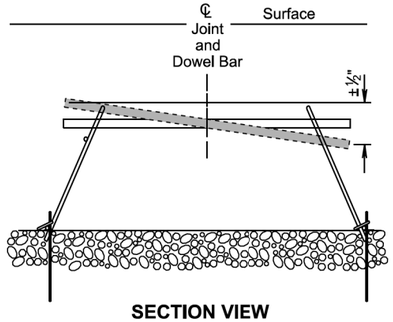
November 19, 2021

Published Date: 2026	SDDOT	INTERSECTING ROADS AND ENTRANCES	PLATE NUMBER 120.01
			Sheet 2 of 2



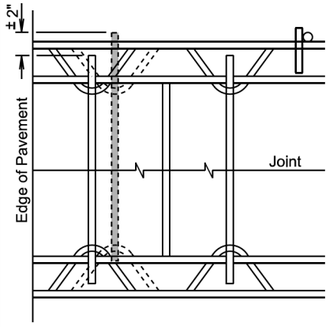
SECTION VIEW
VERTICAL TRANSLATION

Depth: mid-depth + 1 inch or – ½ inch



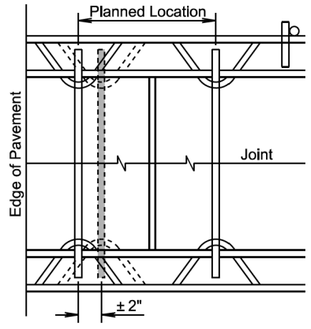
SECTION VIEW
VERTICAL TILT

Vertical rotational alignment: ½ inch over 18 inch



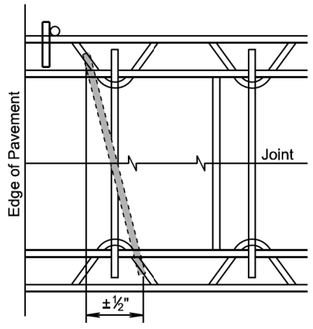
PLAN VIEW
LONGITUDINAL TRANSLATION

Longitudinal side shift: ± 2 inch for 18 inch bars



PLAN VIEW
HORIZONTAL TRANSLATION

Side shift ± 2 inch



PLAN VIEW
HORIZONTAL SKEW

Horizontal rotational alignment: ½ inch over 18 inch

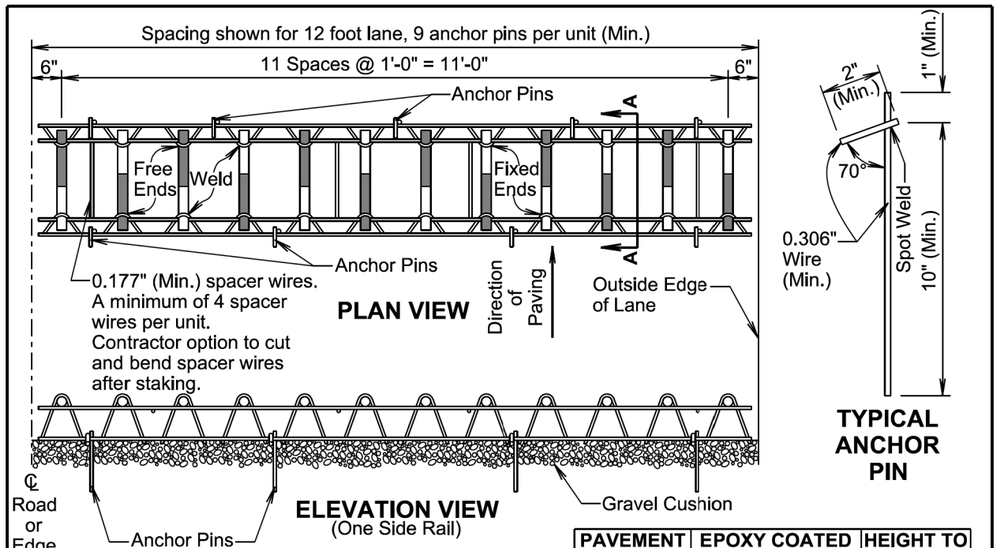
PAVEMENT THICKNESS	EPOXY COATED DOWEL BAR SIZE	HEIGHT TO CENTER
7" to 7½"	1" x 18"	3.0"
8" to 10"	1¼" x 18"	4.0"
10½" to 13"	1½" x 18"	5.0"

GENERAL NOTE:

The tolerances shown above represent the maximum deviation for acceptance of dowel bar placement.

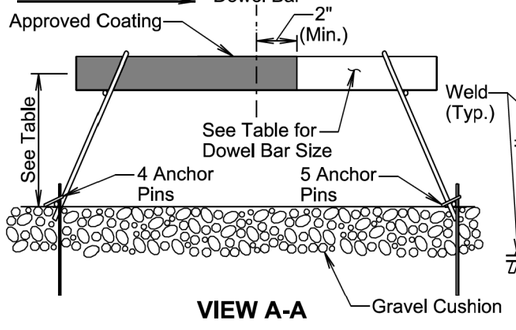
November 19, 2022

Published Date: 2026	SDDOT	*PCC PAVEMENT DOWEL BAR ALIGNMENT TOLERANCES*	*PLATE NUMBER* 380.01 *Sheet 1 of 1*

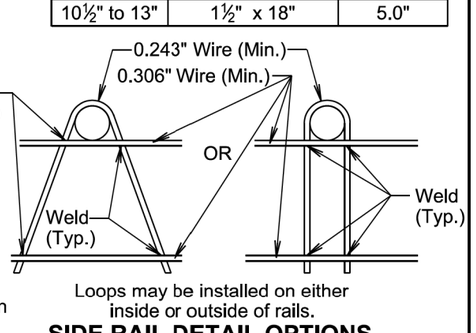


TYPICAL ANCHOR PIN

PAVEMENT THICKNESS	EPOXY COATED DOWEL BAR SIZE	HEIGHT TO CENTER
7" to 7½"	1" x 18"	3.0"
8" to 10"	1¼" x 18"	4.0"
10½" to 13"	1½" x 18"	5.0"



VIEW A-A



Loops may be installed on either inside or outside of rails.

SIDE RAIL DETAIL OPTIONS

GENERAL NOTES:

Longitudinal joint tie bars will be placed a minimum of 15 inches from the transverse contraction joint.

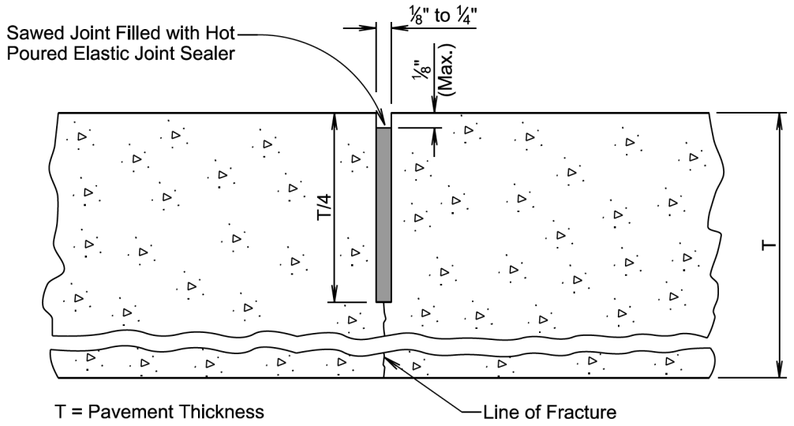
The transverse contraction joints will be sawed perpendicular to the centerline of the roadway. The transverse sawed joint will be centered over the dowel bars.

Supporting devices as shown on this sheet, or equivalent as approved by the Engineer, will be used to maintain proper horizontal and vertical alignment of the dowel bars.

All dowel bar alignment tolerances will be as shown in the PCC Pavement Dowel Bar Alignment Tolerances standard plate.

November 19, 2022

Published Date: 2026	SDDOT	*PCC PAVEMENT DOWEL BAR ASSEMBLY FOR TRANSVERSE CONTRACTION JOINTS 12 Bar Assembly on Granular Base Material*	*PLATE NUMBER* 380.04 *Sheet 1 of 1*



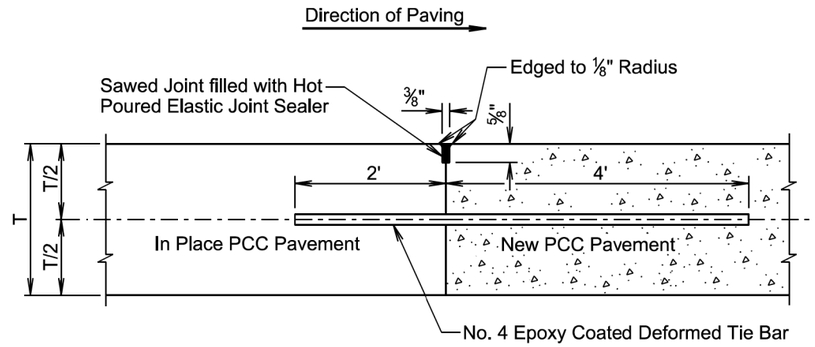
GENERAL NOTES:

If an early entrance saw cut does not develop the full transverse crack, then the saw cut to control cracking will be a minimum ¼ of the thickness of the pavement.

All hot poured elastic joint sealer material spilled on the surface of the concrete pavement will be removed as soon as the material has cooled. The extent of removal of material will be to the satisfaction of the Engineer. All costs for removal of the spilled joint sealer material will be borne by the Contractor.

November 19, 2022

Published Date: 2026	SDDOT	PCC PAVEMENT TRANSVERSE CONTRACTION JOINT WITH OR WITHOUT DOWEL BAR ASSEMBLY	PLATE NUMBER 380.12
			Sheet 1 of 1



T = Pavement Thickness

GENERAL NOTES:

No. 4 epoxy coated deformed tie bars will be spaced 12 inches center to center and will be a minimum of 3 inches and a maximum of 6 inches from the pavement edges.

The minimum distance between a transverse construction joint with tie bars and an adjacent transverse contraction joint will be 5 feet.

When a transverse construction joint is made, paving will not be allowed in this area for 12 hours.

The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on the current project.

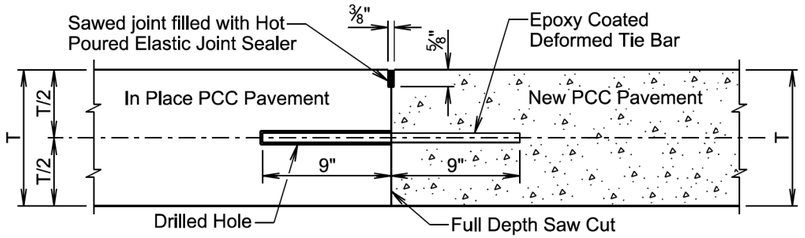
March 31, 2024

Published Date: 2026	SDDOT	PCC PAVEMENT MID PANEL TRANSVERSE CONSTRUCTION JOINT	PLATE NUMBER 380.14
			Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(116)34	Non	53/73

Plotting Date: 12/22/2025

DETAIL A
TRANSVERSE CONSTRUCTION JOINT WITH TIE BARS



T = In Place PCC Pavement and New PCC Pavement Thickness

GENERAL NOTES:

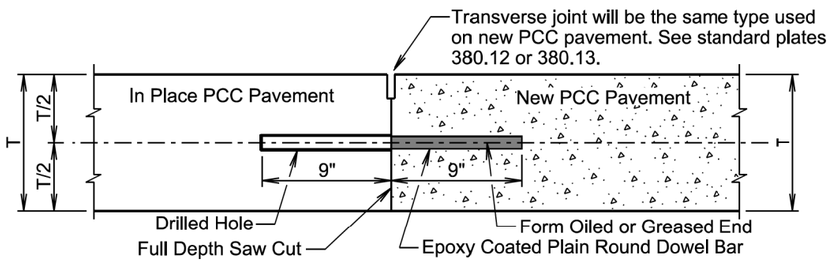
The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on a previous project.

See sheet 2 of 2 of this standard plate to determine if Detail A will be used.

The tie bars will be embedded a minimum depth of 9 inches into the in place PCC pavement and anchored with an epoxy resin adhesive or a non-shrink grout.

No. 9 epoxy coated deformed tie bars will be used in 10 inch thickness and less PCC Pavement and No. 11 epoxy coated deformed tie bars will be used in 10.5 inch thickness and greater PCC Pavement. The tie bar spacing will be 18 inches center to center and will be a minimum of 3 inches and a maximum of 9 inches from the pavement edges.

DETAIL B
TRANSVERSE CONSTRUCTION JOINT WITH DOWEL BARS



GENERAL NOTES: T = In Place PCC Pavement and New PCC Pavement Thickness

The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on a previous project or current project.

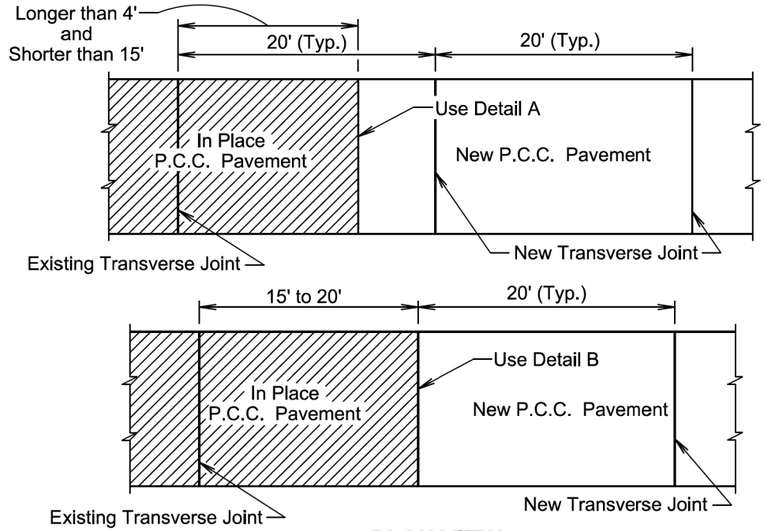
See sheet 2 of 2 of this standard plate to determine if Detail B will be used.

The plain round dowel bars will be embedded a minimum depth of 9 inches into the in place PCC pavement and anchored with an epoxy resin adhesive or a non-shrink grout.

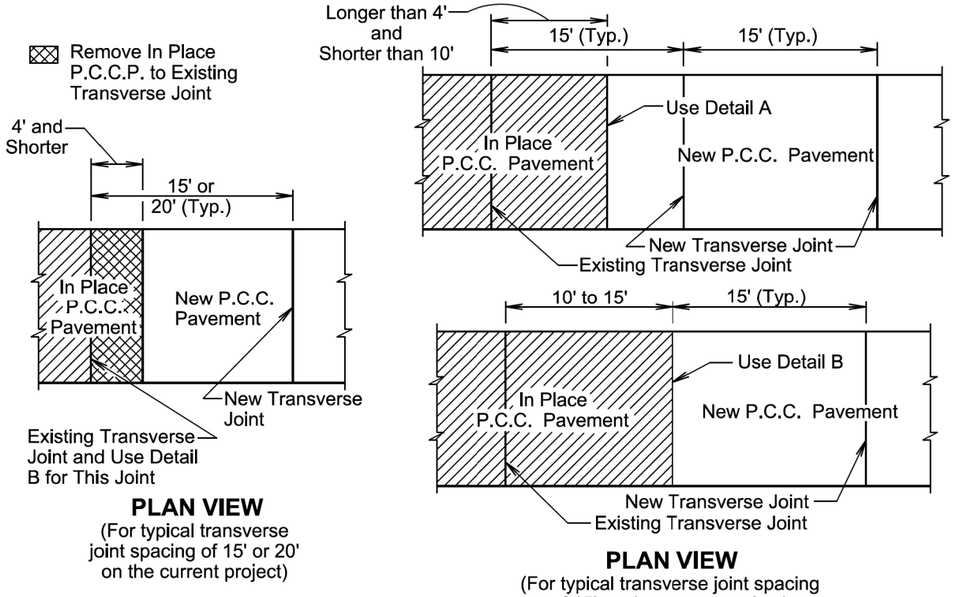
The epoxy coated plain round dowel bar size, number, and spacing will be the same as detailed on the corresponding dowel bar assembly standard plate (380.04, 380.05, 380.06, or 380.07). The epoxy coated plain round dowel bars will be a minimum of 3 inches and a maximum of 6 inches from the pavement edges.

January 22, 2023

Published Date: 2026	SDDOT	PCC PAVEMENT TRANSVERSE CONSTRUCTION JOINTS WITH TIE BARS OR DOWEL BARS	PLATE NUMBER 380.15
			Sheet 1 of 2



PLAN VIEW
(For typical transverse joint spacing of 20' on the current project)



PLAN VIEW
(For typical transverse joint spacing of 15' or 20' on the current project)

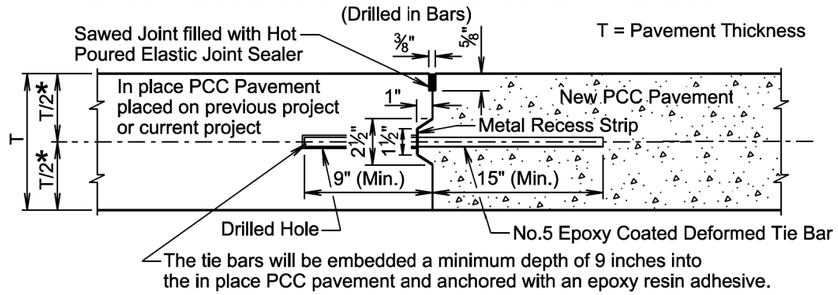
PLAN VIEW
(For typical transverse joint spacing of 15' on the current project)

January 22, 2023

Published Date: 2026	SDDOT	PCC PAVEMENT TRANSVERSE CONSTRUCTION JOINTS WITH TIE BARS OR DOWEL BARS	PLATE NUMBER 380.15
			Sheet 2 of 2

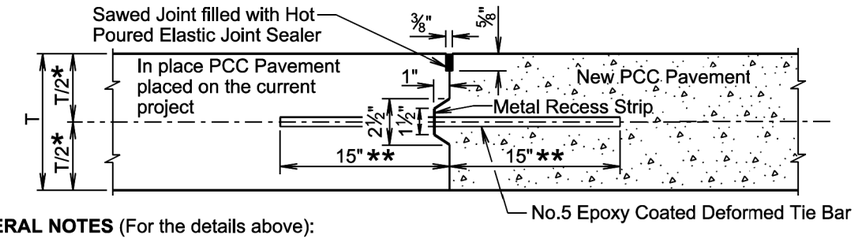
LONGITUDINAL CONSTRUCTION JOINT WITH TIE BARS

(Drilled in Bars)



LONGITUDINAL CONSTRUCTION JOINT WITH TIE BARS

(Inserted or Formed in Bars)



GENERAL NOTES (For the details above):

The epoxy coated deformed tie bars will be spaced in accordance with the following tables:

TIE BAR SPACING 48" MAXIMUM	
Transverse Contraction Joint Spacing	Number of Tie Bars
6.5' to 10'	2
10.5' to 14'	3
14.5' to 18'	4
18.5' to 22'	5

TIE BAR SPACING 30" MAXIMUM	
Transverse Contraction Joint Spacing	Number of Tie Bars
5' to 7'	2
7.5' to 9.5'	3
10' to 12'	4
12.5' to 14.5'	5
15' to 17'	6
17.5' to 19.5'	7
20' to 22'	8

The tie bars will be placed a minimum of 15 inches from transverse contraction joints.

The required number of tie bars as shown in the table will be uniformly spaced within each panel. The uniformly spaced tie bars will be spaced a maximum of 48 inches center to center for a female keyway and will be spaced a maximum of 30 inches center to center for a vertical face and male keyway. The maximum tie bar spacing will apply to tie bars within each panel.

The keyway illustrated in the above details depict a female keyway.

The keyway is optional and is not required. When concrete pavement is formed and a keyway is provided, a metal recess strip will be used. When concrete pavement is slip formed, a metal recess strip is not required.

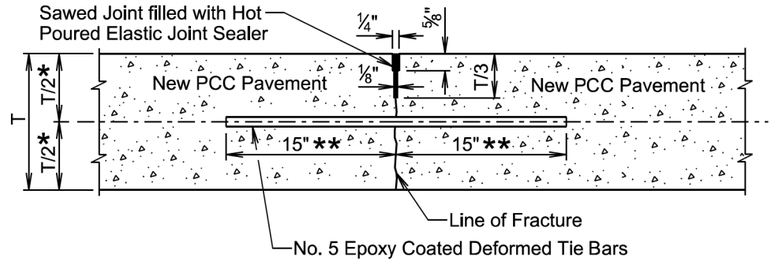
* The vertical placement tolerance for any part of the tie bar will be ± T/6.
** The transverse placement (side shift) tolerance will be ± 3 inches when measured perpendicular to the longitudinal joint line.

November 19, 2022

Published Date: 2026	SDDOT	PCC PAVEMENT LONGITUDINAL JOINTS WITH TIE BARS	PLATE NUMBER 380.20
			Sheet 1 of 2

SAWED LONGITUDINAL JOINT WITH TIE BARS

(Poured Monolithically)



T = Pavement Thickness

GENERAL NOTES (For the detail above):

The epoxy coated deformed tie bars will be spaced in accordance with the following table:

TIE BAR SPACING 48" MAXIMUM	
Transverse Contraction Joint Spacing	Number of Tie Bars
6.5' to 10'	2
10.5' to 14'	3
14.5' to 18'	4
18.5' to 22'	5

The tie bars will be placed a minimum of 15 inches from the transverse contraction joints.

The required number of tie bars as shown in the table will be uniformly spaced within each panel with a maximum space of 48 inches center to center. The maximum tie bar spacing will apply to tie bars within each panel.

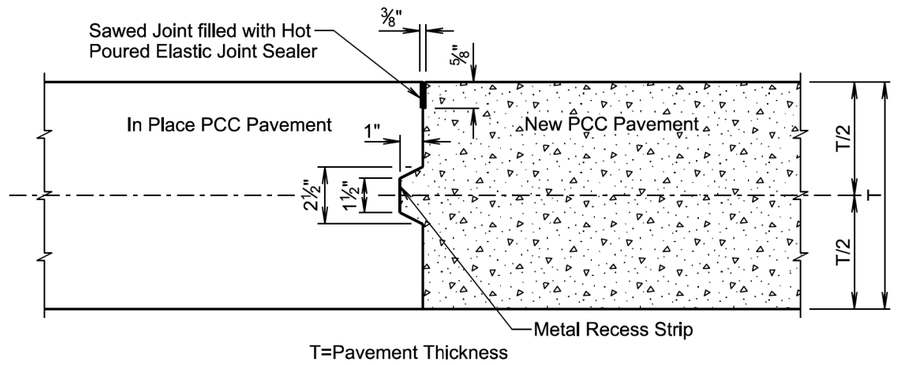
The first saw cut to control cracking will be a minimum of 1/3 the thickness of the pavement. Additional sawing for widening the saw cut to provide the width for the installation of the hot poured elastic joint sealer is necessary.

* The vertical placement tolerance for any part of the tie bar will be ± T/6.
** The transverse placement (side shift) tolerance will be ± 3 inches when measured perpendicular to the longitudinal joint line.

November 19, 2022

Published Date: 2026	SDDOT	PCC PAVEMENT LONGITUDINAL JOINTS WITH TIE BARS	PLATE NUMBER 380.20
			Sheet 2 of 2

LONGITUDINAL CONSTRUCTION JOINT WITHOUT TIE BARS



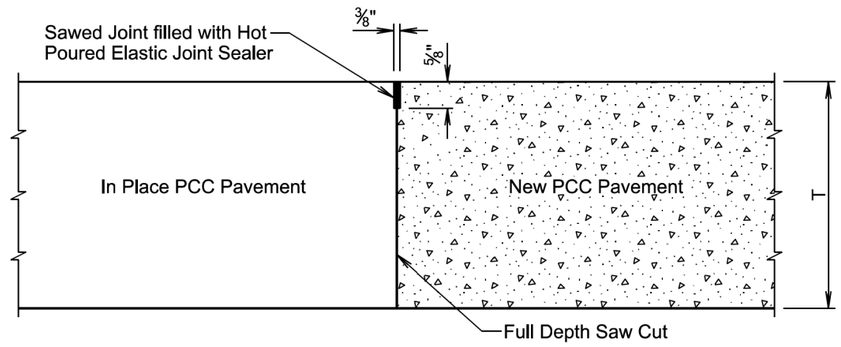
T=Pavement Thickness

GENERAL NOTES:

When concrete pavement is formed and a keyway is provided, a metal recess strip will be used. When concrete pavement is slip formed, a metal recess strip is not required.

The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on the current project.

LONGITUDINAL CONSTRUCTION JOINT WITHOUT TIE BARS



T=Pavement Thickness

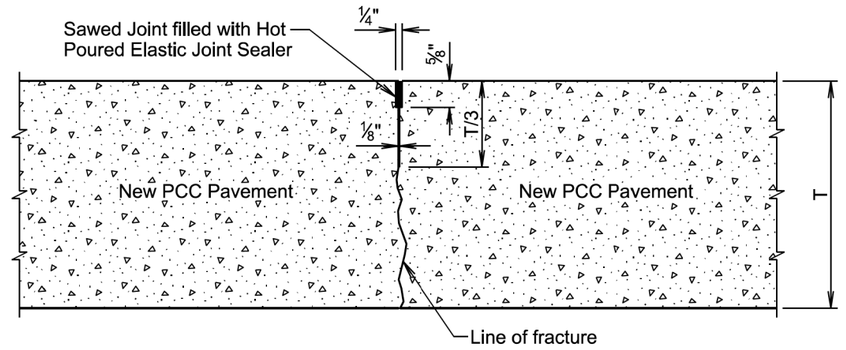
GENERAL NOTE:

The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on a previous project.

November 19, 2022

Published Date: 2026	SDDOT	PCC PAVEMENT LONGITUDINAL JOINTS WITHOUT TIE BARS	PLATE NUMBER 380.22
			Sheet 1 of 2

SAWED LONGITUDINAL JOINT WITHOUT TIE BARS



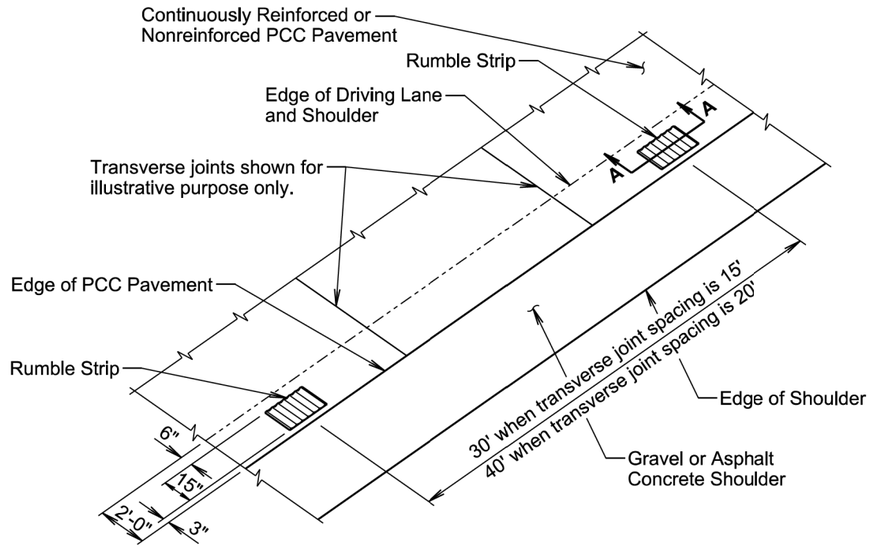
T=Pavement Thickness

GENERAL NOTE:

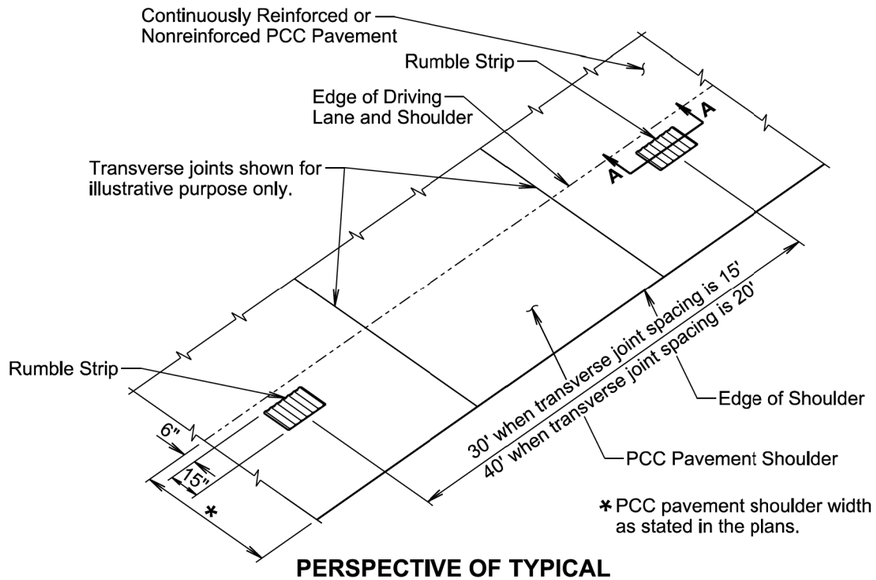
The first saw cut to control cracking will be a minimum of ⅓ the thickness of the pavement. Additional sawing for widening the saw cut to provide the width for the installation of the hot poured elastic joint sealer will be necessary.

November 19, 2022

Published Date: 2026	SDDOT	PCC PAVEMENT LONGITUDINAL JOINTS WITHOUT TIE BARS	PLATE NUMBER 380.22
			Sheet 2 of 2



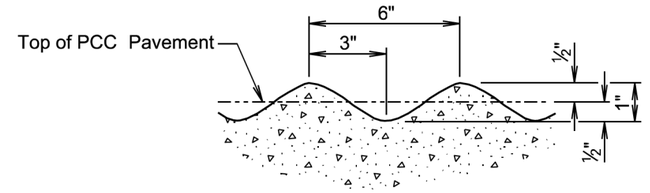
PERSPECTIVE OF TYPICAL RUMBLE STRIPS ON PCC PAVEMENT SHOULDER ADJACENT TO GRAVEL OR ASPHALT CONCRETE SHOULDER



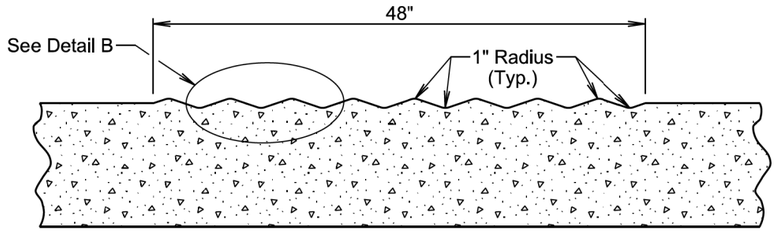
PERSPECTIVE OF TYPICAL RUMBLE STRIPS ON PCC PAVEMENT SHOULDER

November 19, 2022

Published Date: 2026	SDDOT	RUMBLE STRIP ON PCC PAVEMENT SHOULDER	PLATE NUMBER 380.53
			Sheet 1 of 2



DETAIL B



SECTION A-A

GENERAL NOTES:

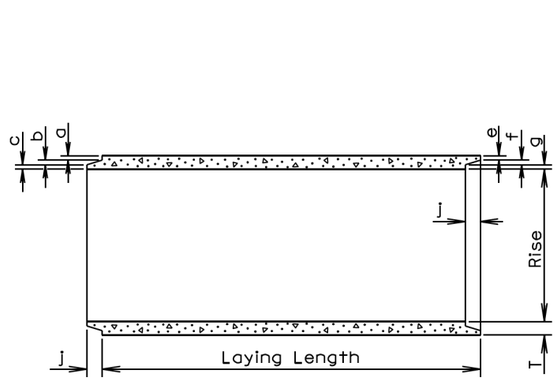
The rumble strips will be evenly spaced and will not coincide with any transverse contraction joints.

The rumble strips will NOT be placed along areas adjacent to entrance ramps, exit ramps, and gore areas.

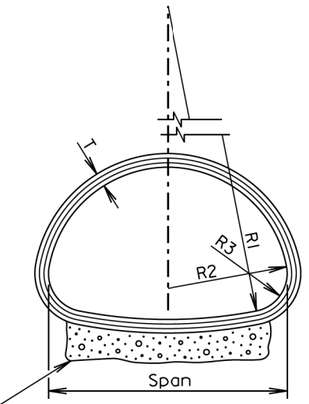
Payment for constructing the PCC Pavement Rumble Strips will be incidental to the contract unit price per square yard for the corresponding PCC Pavement contract item.

November 19, 2022

Published Date: 2026	SDDOT	RUMBLE STRIP ON PCC PAVEMENT SHOULDER	PLATE NUMBER 380.53
			Sheet 2 of 2



LONGITUDINAL SECTION



END VIEW

TOLERANCES IN DIMENSIONS

Radial dimensions at joints: ± 1/8" for 65" span or less and ± 1/4" for longer spans.
Rise and Span: ±2% of tabular values.
Length of Joint (J): ± 1/4".
Wall thickness (T): not less than design T by more than 5% or 3/16", whichever is greater.
Laying length: shall not underrun by more than 1/2".

Gravel Bedding Material shall be supplied for 102" to 169" spans. It shall be placed to a thickness of 6" (Min.) x 85% of the Span x Length of culvert and shall conform to the gradation requirements for gravel surfacing except material may be screened or may be plan provided material.

* Size (in.)	Approx. Wt./Ft. (lb.)	Rise (in.)	Span (in.)	T (in.)	a (in.)	b (in.)	c (in.)	j (in.)	e (in.)	f (in.)	g (in.)	R1 (in.)	R2 (in.)	R3 (in.)
18	170	13 1/2	22	2 1/2	1 3/8	3/8	3/4	2	1 1/8	3/8	1	27 1/2	13 3/4	5 1/4
24	320	18	28 1/2	3 1/2	1 5/8	1/2	1 3/8	3	1 3/8	1/2	1 5/8	40 11/16	14 3/4	4 5/8
30	450	22 1/2	36 1/4	4	1 13/16	5/8	1 9/16	3 1/2	1 9/16	5/8	1 13/16	51	18 3/4	6 1/8
36	600	26 5/8	43 3/4	4 1/2	2	3/4	1 3/4	4	1 3/4	3/4	2	62	22 1/2	6 1/2
42	740	31 5/16	51 1/8	4 1/2	2	3/4	1 3/4	4	1 3/4	3/4	2	73	26 1/4	7 3/4
48	890	36	58 1/2	5	2 1/4	3/4	2	5	2	3/4	2 1/4	84	30	8 7/8
54	1100	40	65	5 1/2	2 1/2	3/4	2 1/4	5	2 1/4	3/4	2 1/2	92 1/2	33 3/8	10
60	1400	45	73 1/2	6	3 5/16	3/4	1 15/16	5	2 3/4	3/4	2 1/2	105	37 1/2	11
72	1900	54	88	7	3 13/16	1	2 3/16	6	3 1/4	1	2 3/4	126	45	13 5/16
84	2500	62	102	8	4 1/8	1	2 7/8	6	3 1/2	1	3 1/2	162 1/2	52	14 1/2
96	3300	78	122 3/8	9	4 1/2	1	3 1/2	7	4	1	4	218	62	20
108	4200	88	138 1/2	10	5	1	4	7	4 1/2	1	4 1/2	269	70	22
120	5100	96 7/8	154	11	5 1/2	1	4 1/2	7	5	1	5	301 3/8	78	24
132	5100	106 1/2	168 3/4	10		1	4	7	4 1/2	1	4 1/2	329	85 5/8	26 7/8

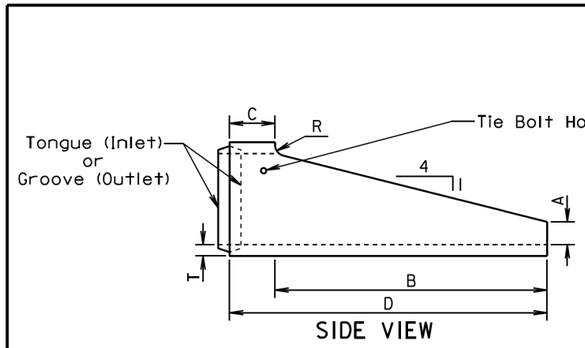
* Equivalent Diameter of Circular R. C. P.

GENERAL NOTES:

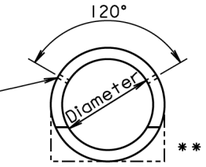
Construction of R.C.P. Arch shall conform to the requirements of Section 990 of the Specifications. Not more than 2 four-foot sections shall be permitted near the ends of any culvert. Four-foot lengths shall be used only to secure the required length of culvert.

June 26, 2015

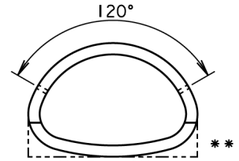
Published Date: 2026	SDDOT	REINFORCED CONCRETE PIPE ARCH	PLATE NUMBER 450.02
			Sheet 1 of 1



SIDE VIEW



END VIEW
"CIRCULAR"



END VIEW
"ARCH"

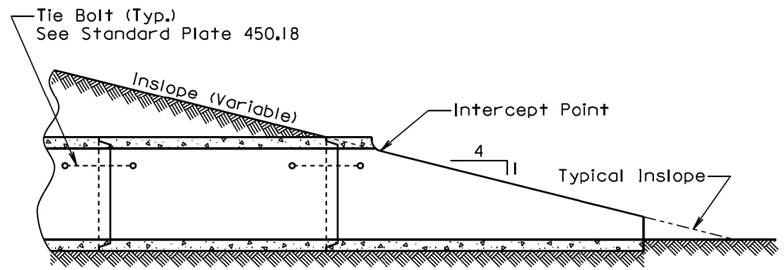
Dia. (in.)	T (in.)	A (in.)	B (in.)	C (in.)	D (in.)	R (in.)
FOR CIRCULAR PIPE						
24	3	6	72	12	84	3
30	3 1/2	7 1/2	90	12	102	3 1/2
FOR ARCH PIPE						
* 24	3	6	48	12	60	3
* 30	3 1/2	7 1/2	60	12	72	3 1/2
* 36	4 1/2	8 5/8	66	30	96	0
* 42	4 1/2	10	77 1/4	18 3/4	96	0

ALTERNATE

Dia. (in.)	T (in.)	A (in.)	B (in.)	C (in.)	D (in.)	R (in.)
FOR CIRCULAR PIPE						
24	3	9	72	12	84	0
30	3 1/2	11	90	12	102	0
FOR ARCH PIPE						
* 24	3	9	48	12	60	0
* 30	3 1/2	11	60	12	72	0

* Equivalent Diameter of Circular R.C.P.

** Acceptable Flat Bottom Alternate.



SECTION
(Along Centerline of Pipe)

GENERAL NOTE:

The length of concrete pipe shown in the construction plans is between sloped ends.

September 22, 2006

Published Date: 2026	SDDOT	R. C. P. SLOPED ENDS	PLATE NUMBER 450.13
			Sheet 1 of 1

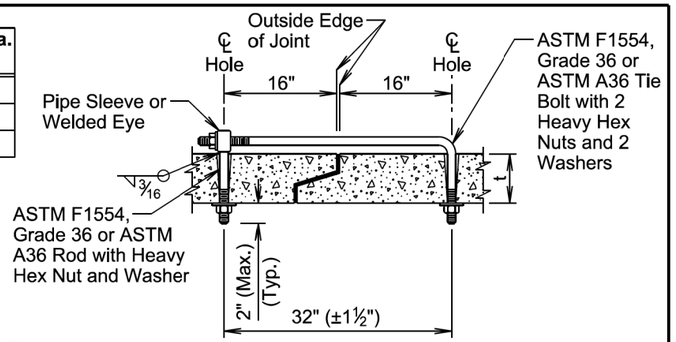
Wall "t" (in.)	Rod Dia. (in.)	Pipe Sleeve Dia. (nominal)
≤ 3¼	⅝	¾
3½-6½	¾	1
≥ 7	1	1¼

GENERAL NOTES:

Tie bolts will conform to ASTM F1554, Grade 36 or ASTM A36. Nuts will be heavy hex conforming to ASTM A563. Washers will conform to ASTM F436.

Pipe Sleeve will conform to ASTM A53, Grade B or ASTM A500, Grade B or C.

Galvanize adjustable eye bolt tie assembly in accordance with ASTM A153.



ADJUSTABLE EYE BOLT TIE

Pipe Dia. (in.)	"L" (in.)	Bolt Dia. (in.)
≤ 48	4	¾
> 48	6	1

ANGLE AND BOLT TIE

GENERAL NOTES:

Angles will conform to ASTM A36.

Bolts will conform to ASTM A307. Nuts will be heavy hex conforming to ASTM A563. Washers will conform to ASTM F436.

Galvanize angles, bolts, nuts, and washers in accordance with ASTM A153.

END VIEW (Circular)

END VIEW (Arch)

GENERAL NOTES:

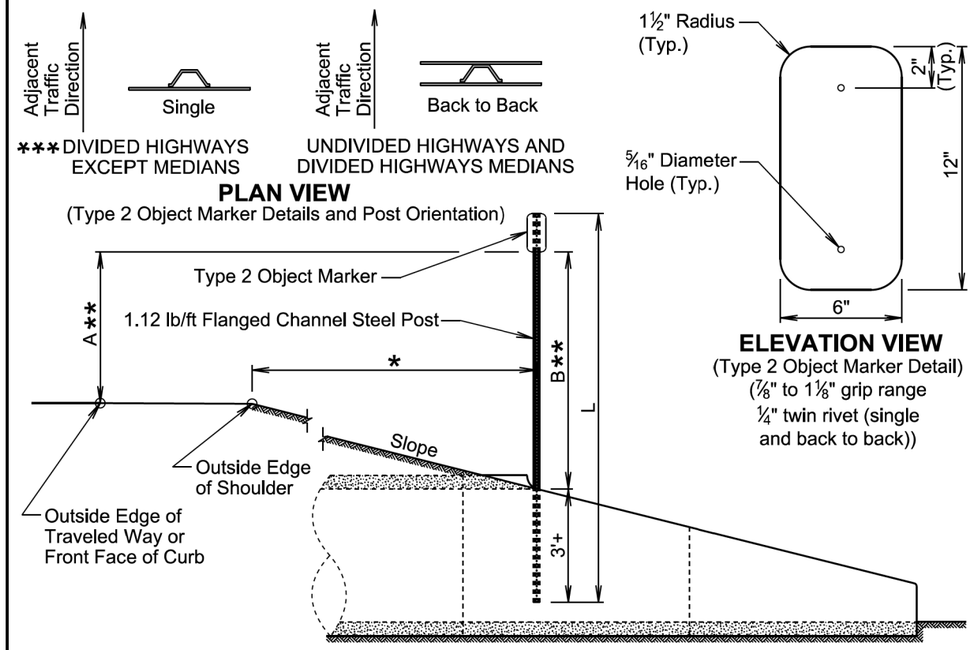
In lieu of the tie bolts detailed above other types of tie bolt connections may be installed as approved by the Office of Bridge Design.

All pipe sections of R.C.P. and R.C.P. Arch will be tied with tie bolts except for pipe located between drop inlets, manholes, and junction boxes. All pipe sections of pipes that only enter or exit drop inlets, manholes, and junction boxes will be tied with tie bolts.

There will be no separate measurement or payment for the tie bolts. The cost for furnishing and installing the tie bolts will be incidental to the contract unit price per foot for the corresponding bid item for R.C.P. or R.C.P. Arch.

April 8, 2025

	SDDOT	TIE BOLTS FOR R.C.P. AND R.C.P. ARCH	PLATE NUMBER 450.18
Published Date: 2026			Sheet 1 of 1



TYPE 2 OBJECT MARKER POST LENGTHS									
OFFSET (*)		1'	2'	3'	4'	5'	6'	7'	8'	Greater Than 8'
		POST LENGTH (L)								
SLOPE	3:1	8'-6"	8'-9"	9'-3"	9'-6"	9'-9"	10'-3"	10'-6"	10'-9"	8'-0"
	4:1	8'-6"	8'-9"	9'-0"	9'-3"	9'-9"	9'-9"	10'-0"	10'-3"	8'-0"
	5:1	8'-3"	8'-6"	8'-9"	9'-0"	9'-3"	9'-3"	9'-6"	9'-9"	8'-0"
	6:1	8'-3"	8'-6"	8'-9"	8'-9"	9'-0"	9'-3"	9'-3"	9'-6"	8'-0"

GENERAL NOTES:

*** The type 2 object marker may be installed back to back when specified in the plans.

Post Length L was calculated based on a shoulder width of 6 feet at a crosslope of 4 percent and L was rounded up to the nearest 3 inches.

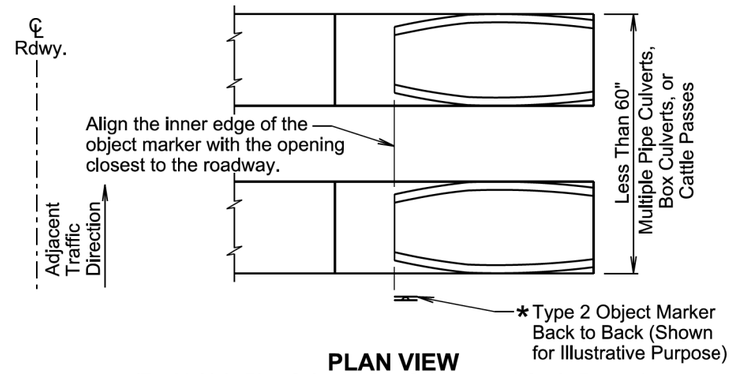
** Dimension A is 4 feet when the Offset * is 8 feet and less. Dimension B is 4 feet when Offset * is greater than 8 feet.

The type 2 object marker and the 1.12 lb/ft flanged channel steel post will be in conformance with Specifications Section 982.2 J.

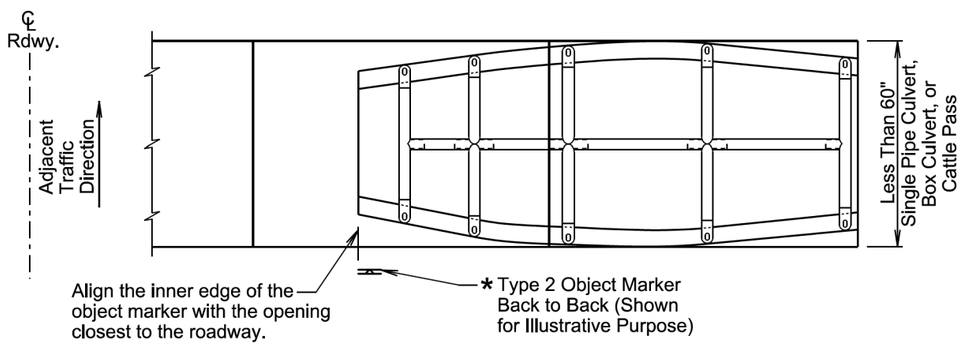
Payment for the type 2 object marker will be in conformance with Specification Section 632.5 B.

December 23, 2019

	SDDOT	TYPE 2 OBJECT MARKER (DIRECT DRIVE)	PLATE NUMBER 632.01
Published Date: 2026			Sheet 1 of 1



PLAN VIEW
(For Multiple Pipe Culverts, Box Culverts, and Cattle Passes)
(Pipe culverts shown for illustrative purpose.)
(Embankment is not shown.)



PLAN VIEW
(For Single Pipe Culvert, Box Culvert, and Cattle Pass)
(Pipe culvert shown for illustrative purpose.)
(Embankment is not shown.)

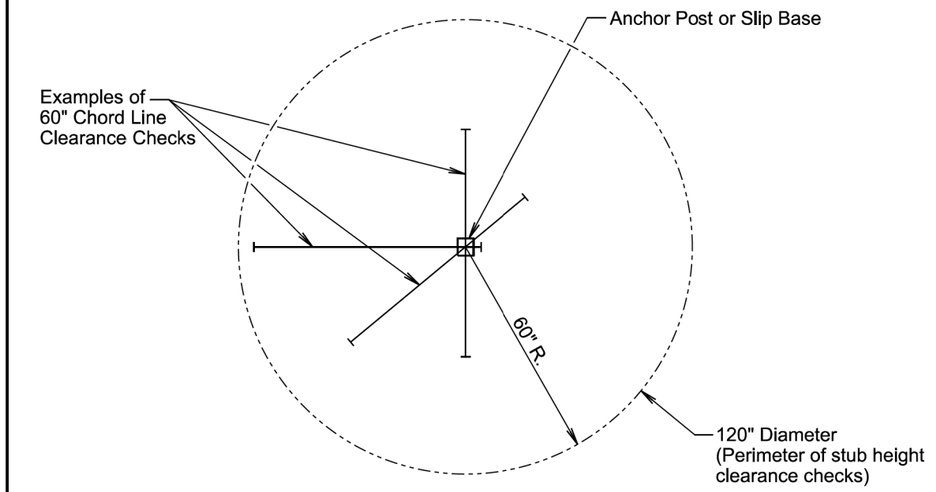
GENERAL NOTES:

This standard plate will be used in conjunction with standard plate 632.01.

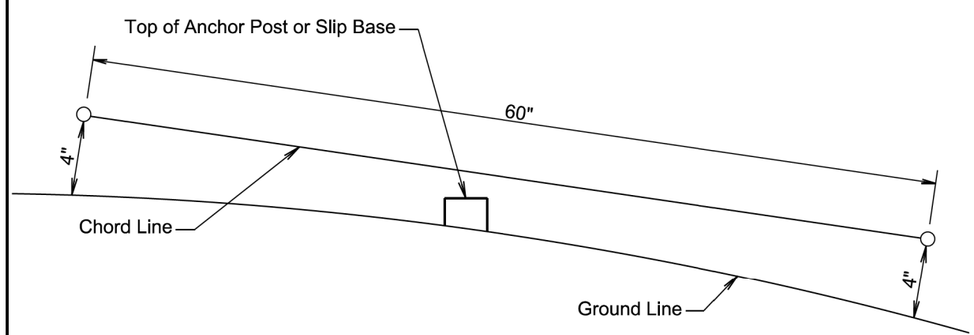
* The type 2 object markers will be installed at the locations shown above. The type 2 object markers, single faced or back to back, will be as specified in the plans.

December 23, 2019

Published Date: 2026	SDDOT	TYPE 2 OBJECT MARKER AT PIPE CULVERTS, BOX CULVERTS, AND CATTLE PASSES (Less than 60" Overall Width)	PLATE NUMBER 632.03 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.

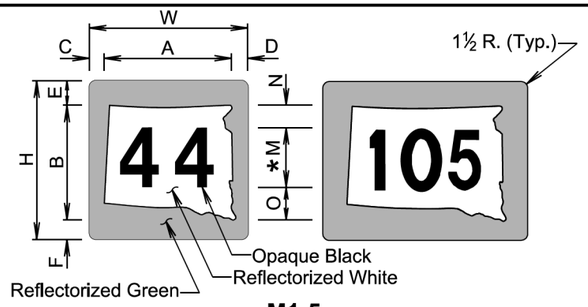
At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height will be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

January 22, 2021

Published Date: 2026	SDDOT	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 632.18 Sheet 1 of 1

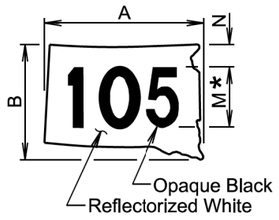
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(116)34	Non	60/73

Plotting Date: 12/22/2025



M1-5

SIGN CODE	WxH	A	B	C	D	E	F	M*	N	O
M1-5	24x24	20½	18	2	1½	3½	2½	12D	2	4
M1-5 **	30x24	24	18	2¼	1¾	3½	2½	12D	2	4
M1-5	30x30	25⅝	22½	2½	1⅞	4⅜	3⅛	15D	2½	5
M1-5	36x36	30¾	27	3	2¼	5¼	3¾	18D	3	6

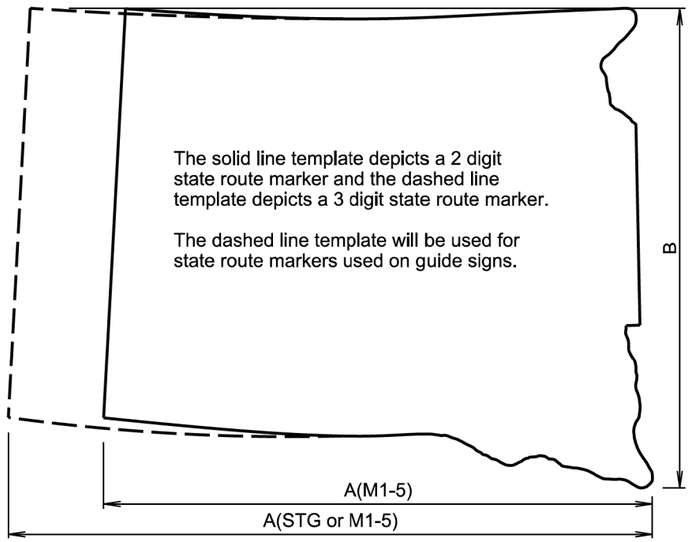


STG

SIGN CODE	AxB	M*	N
STG-24	24x18	10D	4
STG-32	32x24	12D	4¾
STG-48	48x36	18D	7
STG-64	64x48	24D	9½

* In the few cases where there is not enough space for the numerals, the standard D series font may be replaced with C series font if approved by the Engineer.

** 3 Digits



TEMPLATE FOR STATE ROUTE MARKER

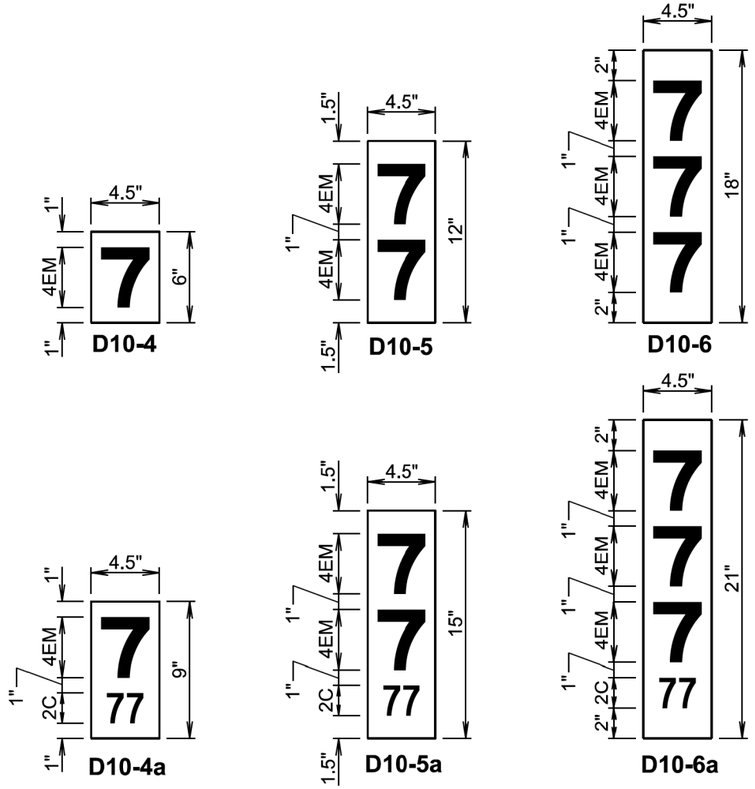
GENERAL NOTES:

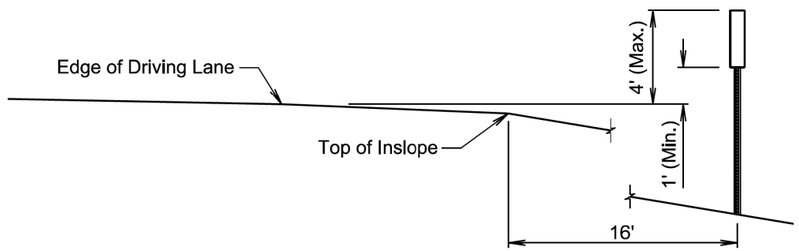
The unit for all dimensions shown is inches.

Numerals will be D series font for all state route markers except as noted above.

December 23, 2019

Published Date: 2026	SDDOT	*STATE ROUTE MARKERS*	*PLATE NUMBER* 632.20 *Sheet 1 of 1*





ELEVATION VIEW

GENERAL NOTES:

Background will be high intensity green.

Legend will be high intensity white.

Signs will have squared corners with no border.

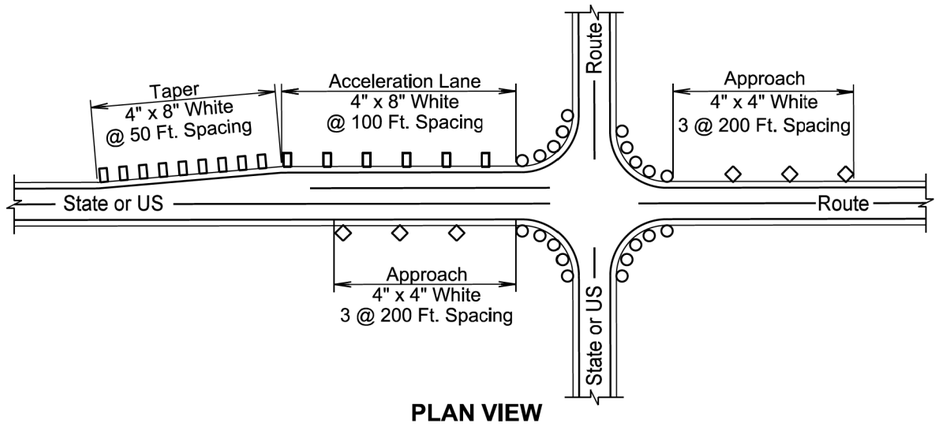
Sign locations will be staked by the Engineer.

December 23, 2019

Published Date: 2026	SDDOT	*NON-INTERSTATE MILEAGE REFERENCE MARKERS*	*PLATE NUMBER* 632.30 *Sheet 1 of 1*

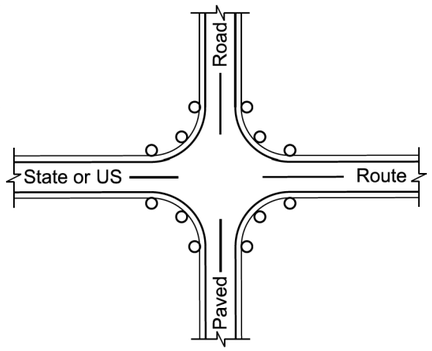
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(116)34	Non	61/73

Plotting Date: 12/22/2025



PLAN VIEW
(State or US Highway Intersection)

LEGEND
◇ 4" x 4" White Delineator
▯ 4" x 8" White Delineator
○ 4" x 6" White Tubular Delineator



PLAN VIEW
(Paved County Crossroad)

GENERAL NOTES:

At all intersections with State or US highways and paved county roads:

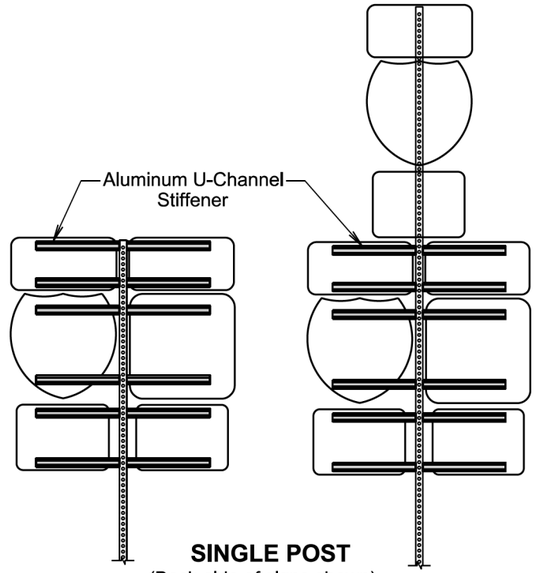
For radii greater than 100 feet, place 5 tubular white delineators on equally spaced posts around the turning radius.

For radii greater than 50 feet up to 100 feet, place 4 tubular white delineators on equally spaced posts around the turning radius.

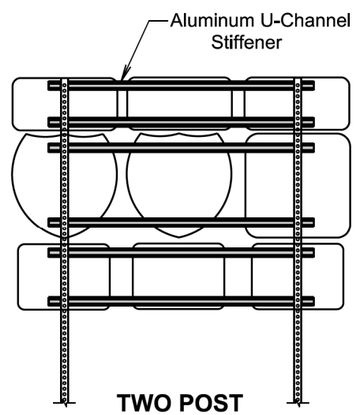
For radii of 50 feet or less, place 3 tubular white delineators on equally spaced posts around the turning radius.

November 19, 2020

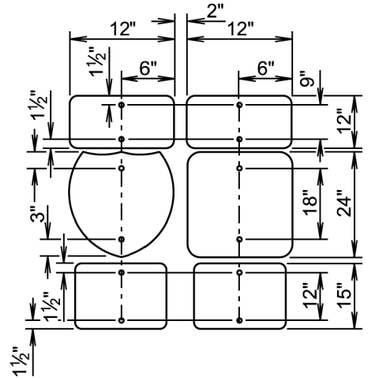
Published Date: 2026	SDDOT	DELINEATOR AT INTERSECTIONS	PLATE NUMBER 632.44
			Sheet 1 of 1



SINGLE POST
(Back-side of signs shown)



TWO POST
(Back-side of signs shown)



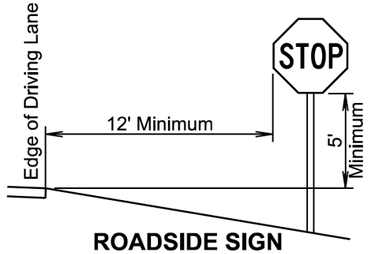
TYPICAL ROUTE MARKER BOLT HOLE LOCATIONS

November 19, 2020

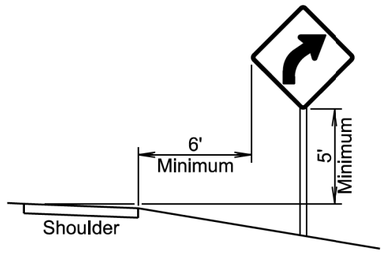
Published Date: 2026	SDDOT	MULTIPLE ROUTE MARKER SIGN STIFFENER INSTALLATION DETAILS	PLATE NUMBER 632.62
			Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(116)34	Non	62/73

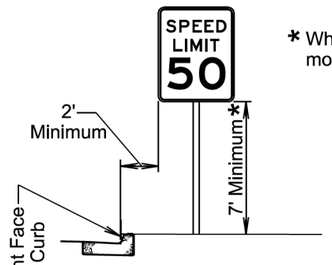
Plotting Date: 12/22/2025



ROADSIDE SIGN IN RURAL AREA

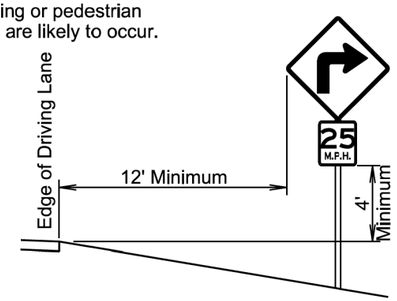


ROADSIDE SIGN IN RURAL AREA
(If shoulder width is greater than 6 foot)

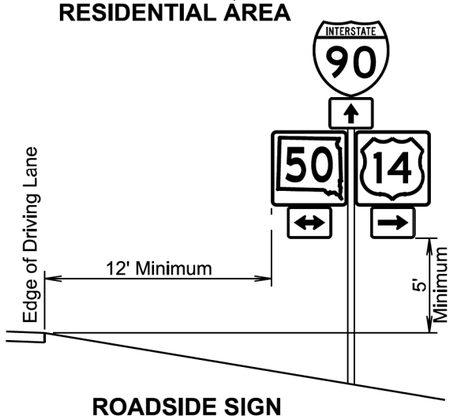


ROADSIDE SIGN IN BUSINESS, COMMERCIAL, OR RESIDENTIAL AREA

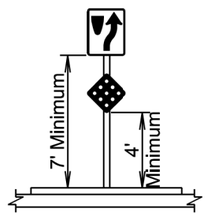
* Where parking or pedestrian movements are likely to occur.



WARNING SIGN ADVISORY SPEED PLAQUE IN RURAL AREA



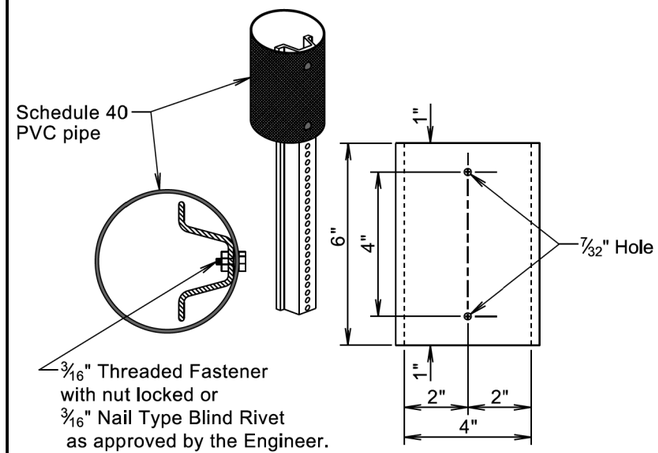
ROADSIDE SIGN IN RURAL AREA



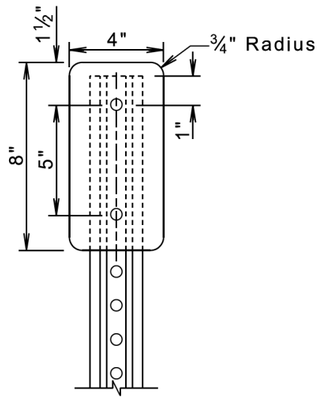
SIGN ON NOSE OF MEDIAN

April 8, 2025

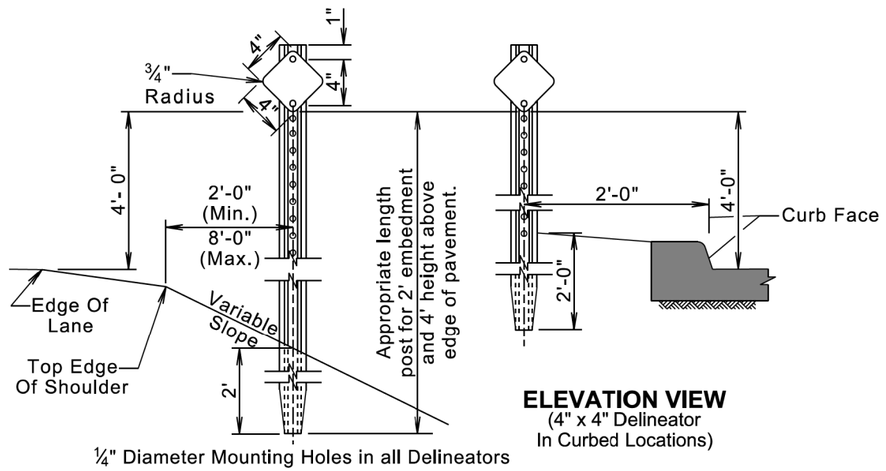
Published Date: 2026	SDDOT	OFFSETS FOR SIGN INSTALLATION	PLATE NUMBER 632.90
			Sheet 1 of 1



ELEVATION VIEW
(4" Tubular delineator mounted on post)



ELEVATION VIEW
(4" x 8" Delineator)



1/4" Diameter Mounting Holes in all Delineators

ELEVATION VIEW
(4" x 4" Delineator In Curbed Locations)

ELEVATION VIEW
(4" x 4" Delineators)

GENERAL NOTES:

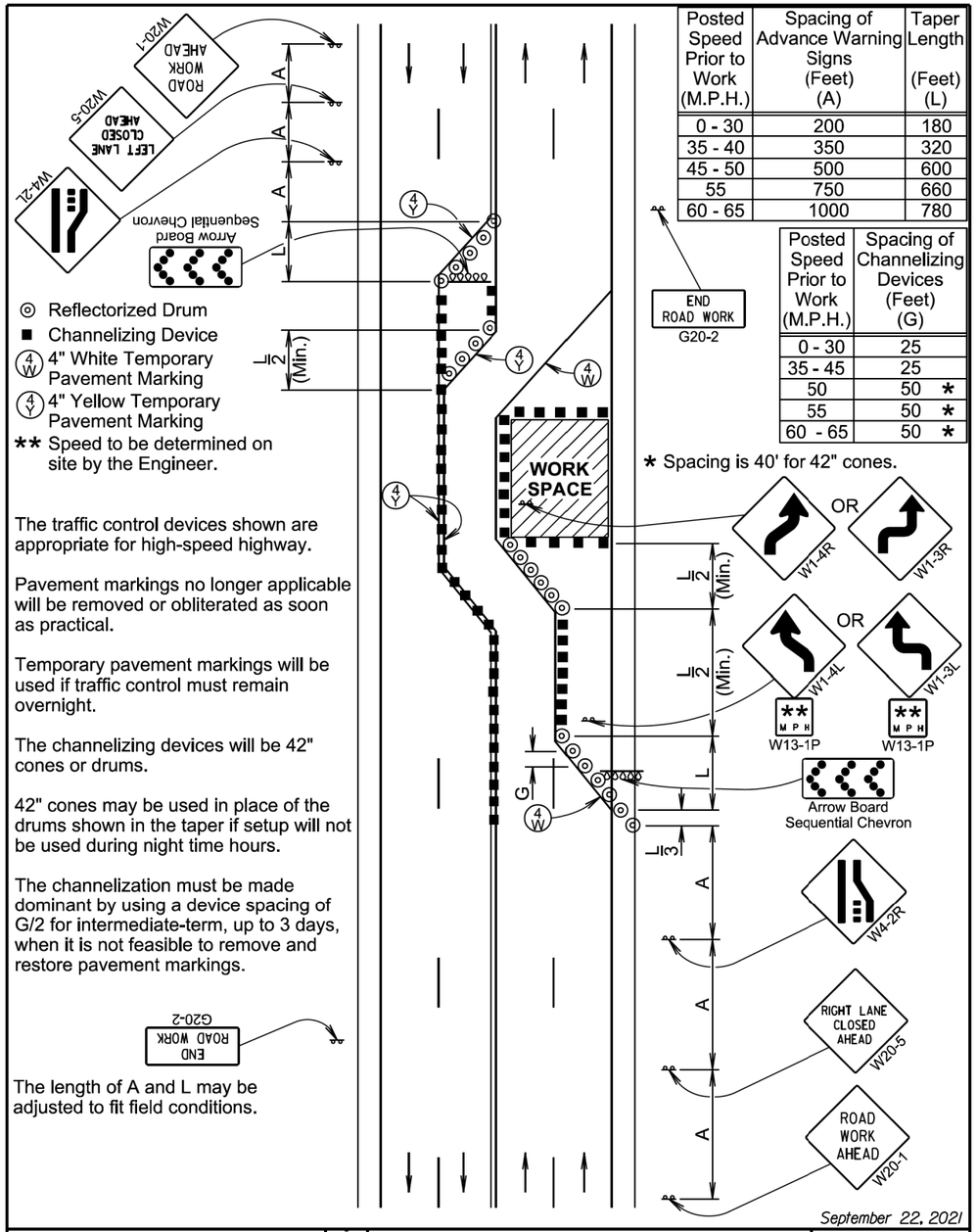
Back-to-back delineation is required for two-way traffic, single-sided delineation for one-way traffic.

March 31, 2024

Published Date: 2026	SDDOT	DELINEATOR INSTALLATION DETAIL	PLATE NUMBER 632.42
			Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(116)34	Non	63/73

Plotting Date: 12/22/2025



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Taper Length (Feet) (L)
0 - 30	200	180
35 - 40	350	320
45 - 50	500	600
55	750	660
60 - 65	1000	780

Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	25
35 - 45	25
50	50 *
55	50 *
60 - 65	50 *

* Spacing is 40' for 42" cones.

Reflectorized Drum
Channelizing Device
(4W) 4" White Temporary Pavement Marking
(4Y) 4" Yellow Temporary Pavement Marking
** Speed to be determined on site by the Engineer.

The traffic control devices shown are appropriate for high-speed highway.

Pavement markings no longer applicable will be removed or obliterated as soon as practical.

Temporary pavement markings will be used if traffic control must remain overnight.

The channelizing devices will be 42" cones or drums.

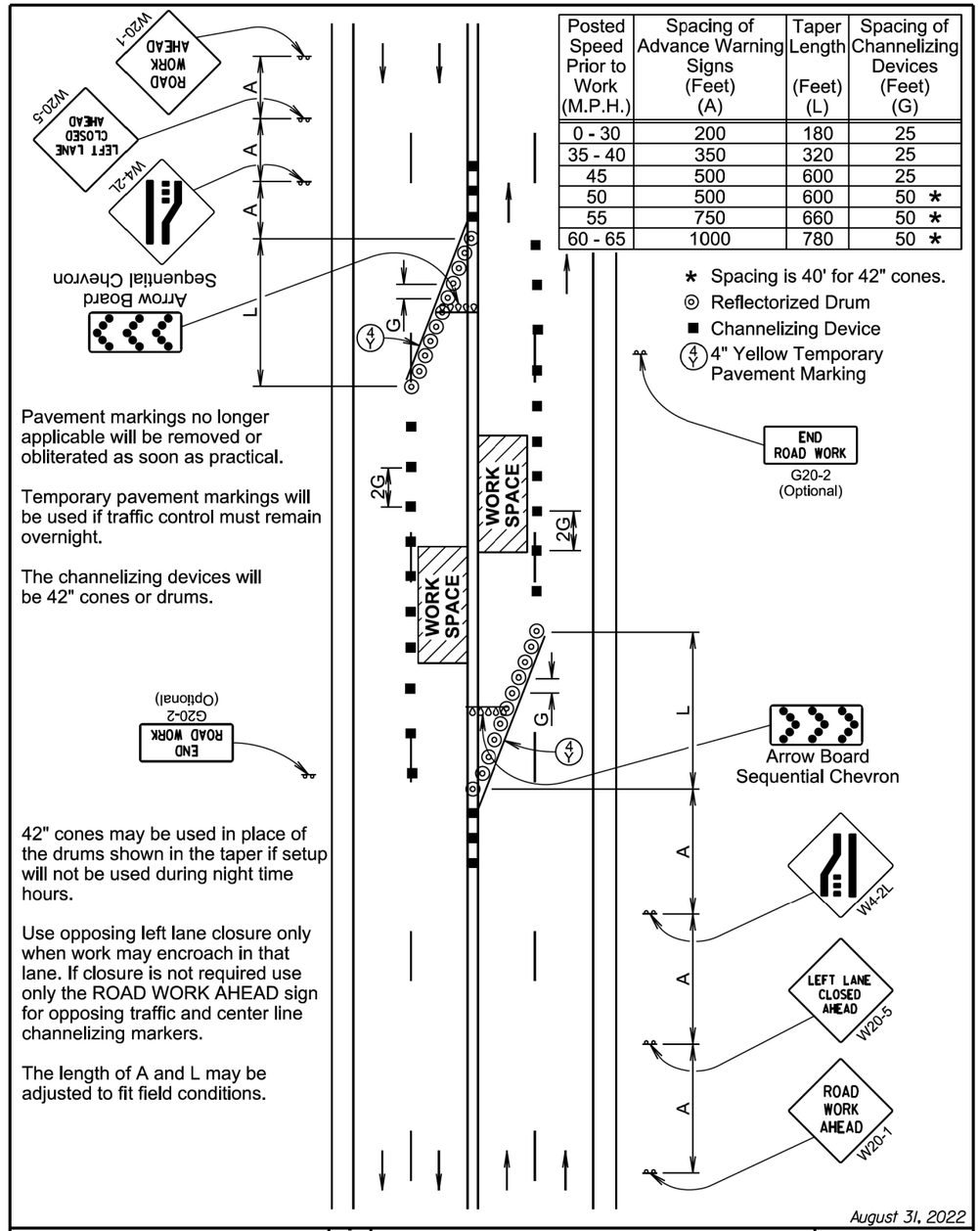
42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

The channelization must be made dominant by using a device spacing of G/2 for intermediate-term, up to 3 days, when it is not feasible to remove and restore pavement markings.

The length of A and L may be adjusted to fit field conditions.

September 22, 2021

Published Date: 2026	SDDOT	HALF ROAD CLOSURE ON MULTILANE HIGHWAY	PLATE NUMBER 634.46
			Sheet 1 of 1



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45	500	600	25
50	500	600	50 *
55	750	660	50 *
60 - 65	1000	780	50 *

* Spacing is 40' for 42" cones.

Reflectorized Drum
Channelizing Device
(4Y) 4" Yellow Temporary Pavement Marking

Pavement markings no longer applicable will be removed or obliterated as soon as practical.

Temporary pavement markings will be used if traffic control must remain overnight.

The channelizing devices will be 42" cones or drums.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

Use opposing left lane closure only when work may encroach in that lane. If closure is not required use only the ROAD WORK AHEAD sign for opposing traffic and center line channelizing markers.

The length of A and L may be adjusted to fit field conditions.

August 31, 2022

Published Date: 2026	SDDOT	4-LANE UNDIVIDED, LEFT LANE CLOSED	PLATE NUMBER 634.48
			Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(116)34	Non	64/73

Plotting Date: 12/22/2025

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B) (C)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000
	(A) (B) (C)
70 - 80	1000 1500 2640

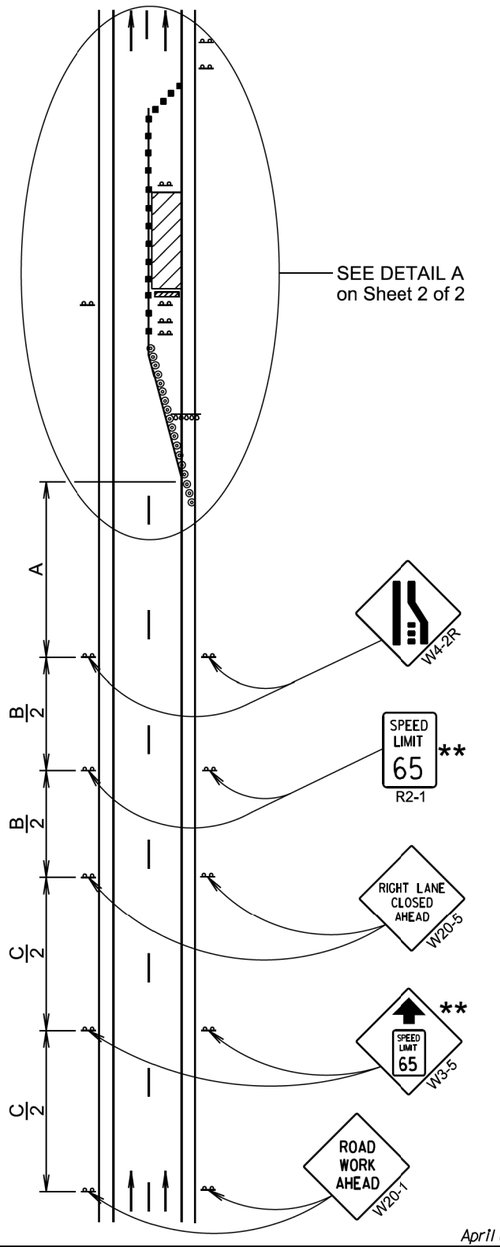
** Speed appropriate for location.

◎ Reflectorized Drum

▪ Channelizing Device

ROAD WORK AHEAD sign is only required in advance of the first lane closure.

High speed is defined as having a posted speed limit greater than 45 mph.



April 8, 2025

Published Date: 2026	SDDOT	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63
			Sheet 1 of 2

Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (Feet) (G)	Taper Length (Feet) (L)
0 -30	25	180
35 - 40	25	320
45	25	600
50	50 *	600
55	50 *	660
60 - 65	50 *	780
70 - 80	50 *	960

* Spacing is 40' for 42" cones.

** Speed appropriate for location.

*** Use speed limit designated for the condition when workers are present in the work space. Signs will be covered or removed when workers are not present.

◎ Reflectorized Drum

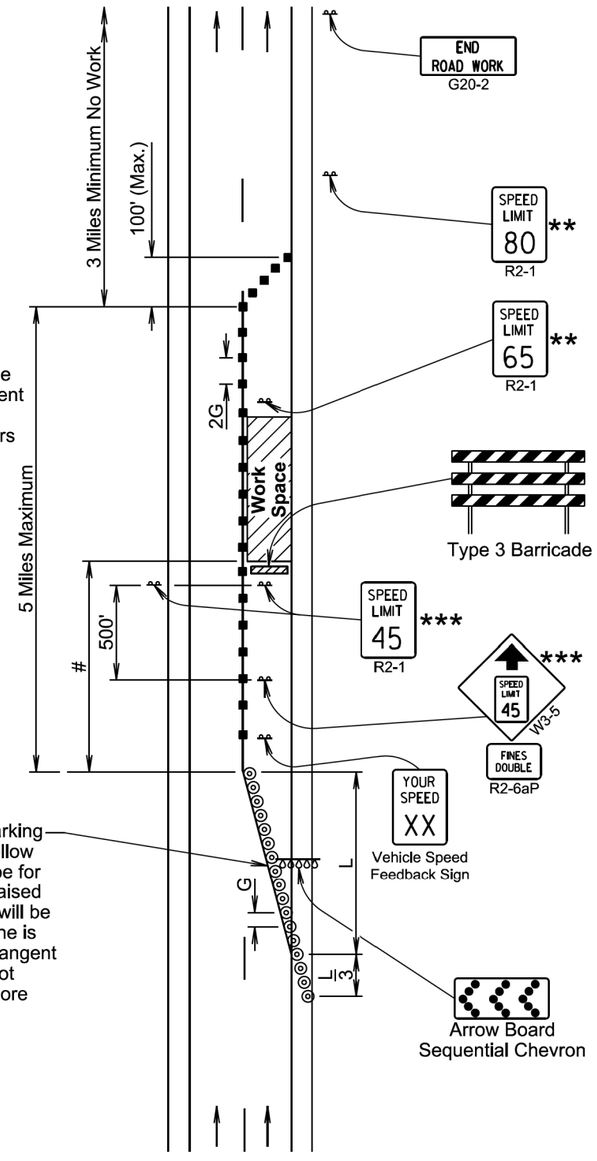
■ Channelizing Device

The Work Space will be a minimum of 500' from the end of the taper.

The channelizing devices will be 42" cones or drums.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

4" white temporary pavement marking tape for right lane closures, 4" yellow temporary pavement marking tape for left lane closures, or temporary raised pavement markers at 5' spacing will be installed in the taper when the lane is closed overnight, and along the tangent section where the skip lines do not exist and the lane is closed for more than 3 days.



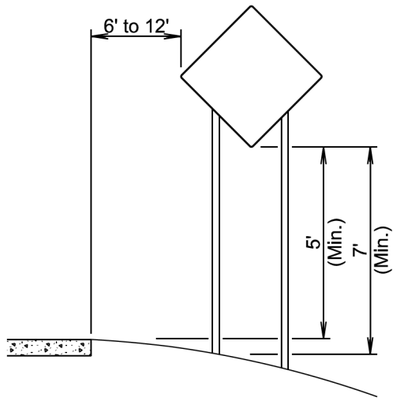
DETAIL A

April 8, 2025

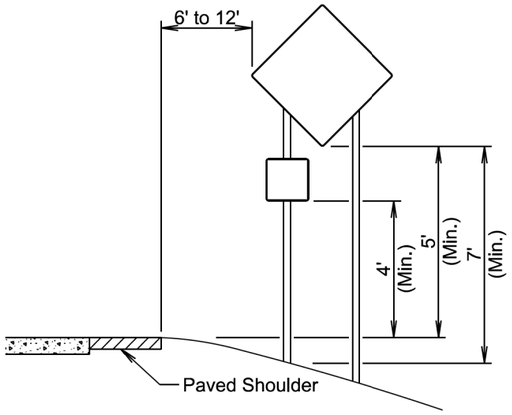
Published Date: 2026	SDDOT	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63
			Sheet 2 of 2

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(116)34	Non	65/73

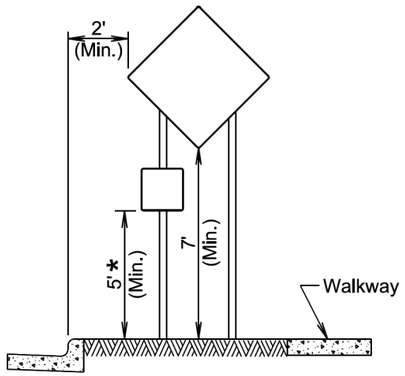
Plotting Date: 12/22/2025



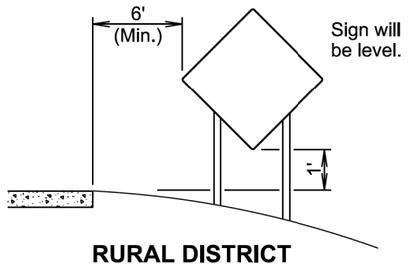
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

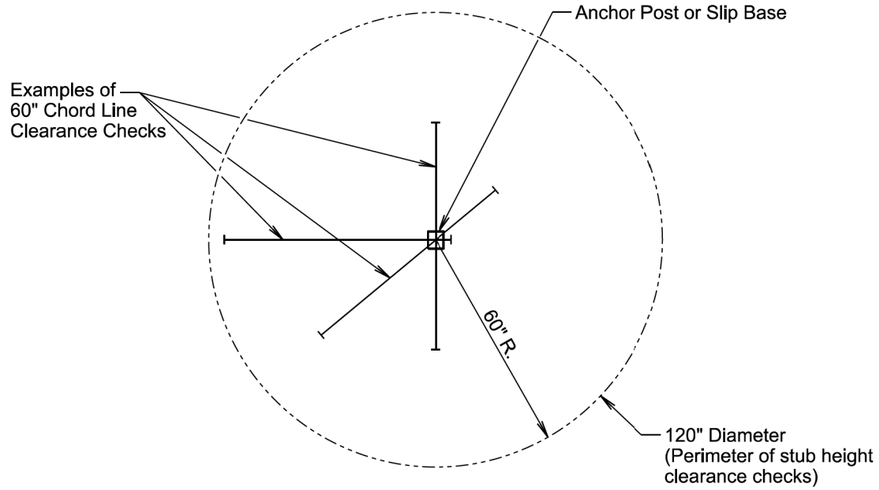


RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

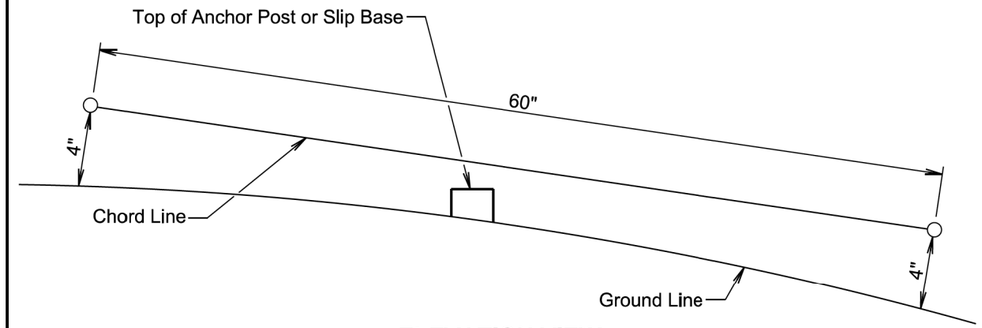
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

January 22, 2021

Published Date: 2026	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.

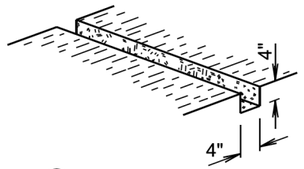
January 22, 2021

Published Date: 2026	SDDOT	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1

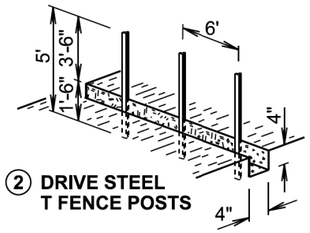
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(116)34	Non	66/73

Plotting Date: 12/22/2025

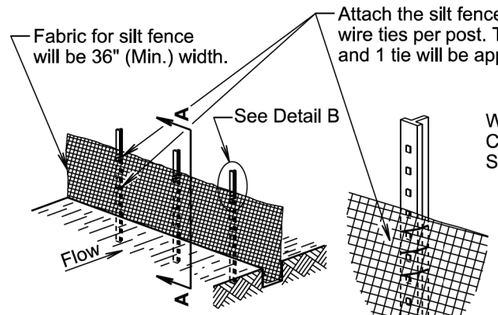
MANUAL HIGH FLOW SILT FENCE INSTALLATION



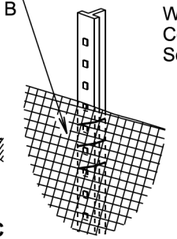
① EXCAVATE TRENCH



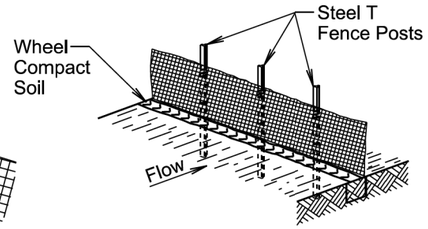
② DRIVE STEEL T FENCE POSTS



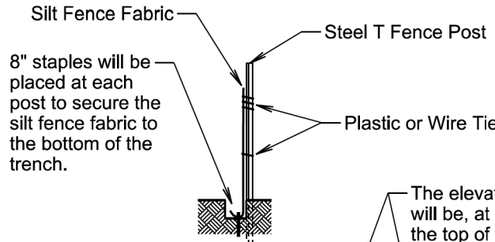
③ ATTACH SILT FENCE FABRIC



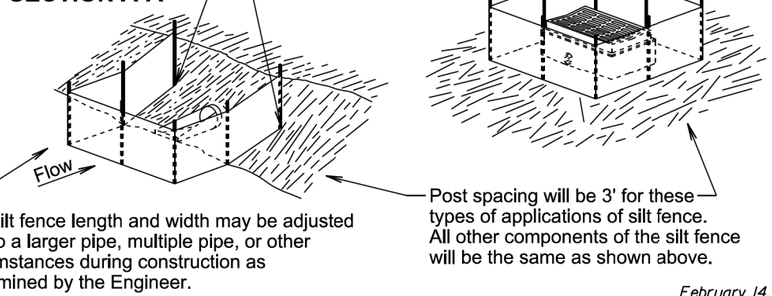
DETAIL B



④ BACKFILL TRENCH AND WHEEL COMPACT SOIL



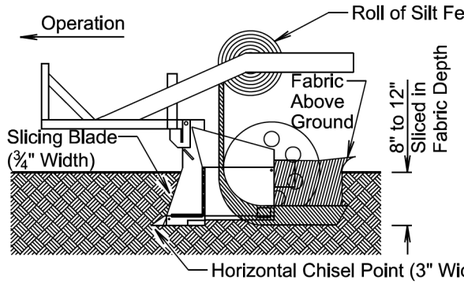
SECTION A-A



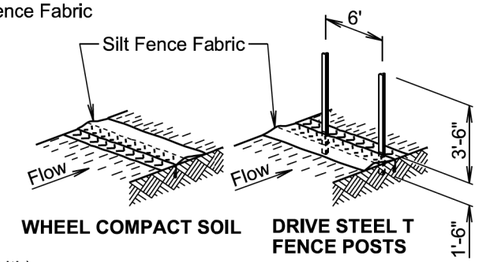
February 14, 2020

Published Date: 2026	SDDOT	HIGH FLOW SILT FENCE	PLATE NUMBER 734.05
			Sheet 1 of 2

MACHINE SLICED HIGH FLOW SILT FENCE INSTALLATION

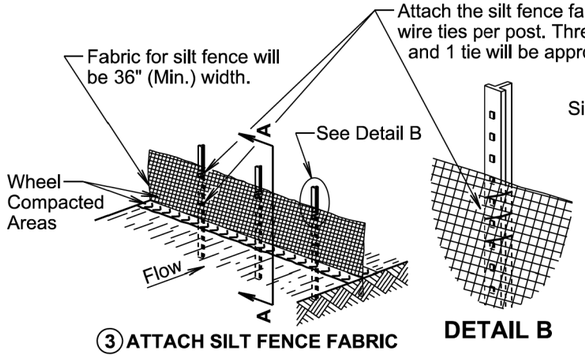


① INSTALL SILT FENCE FABRIC BY MACHINE SLICING METHOD.



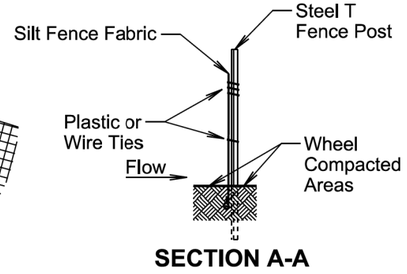
WHEEL COMPACT SOIL — DRIVE STEEL T FENCE POSTS

② WHEEL COMPACT SOIL ABOVE SLICED IN PORTION OF FABRIC AND THEN DRIVE STEEL T FENCE POSTS.

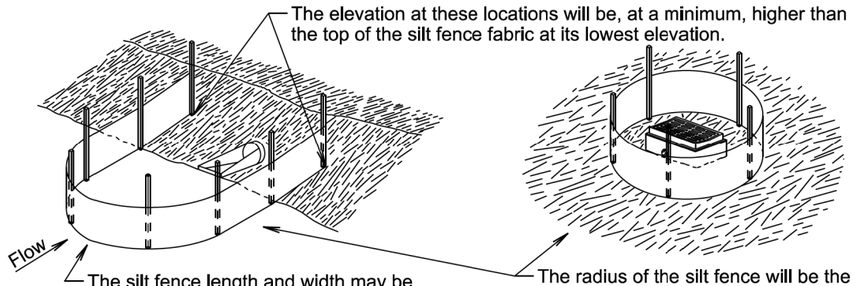


③ ATTACH SILT FENCE FABRIC

DETAIL B



SECTION A-A



GENERAL NOTE:

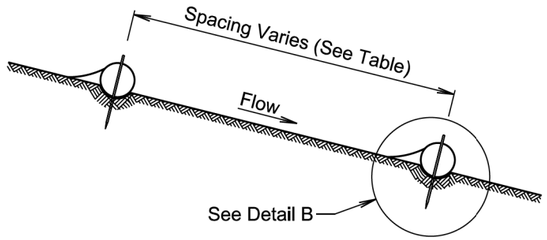
If a trench can not be dug or the silt fence fabric can not be sliced in due to the type of earthen material (such as rock), then a row of 30 to 40 pound sandbags butted end to end will be provided on top of the extra length of silt fence fabric to prevent underflow.

February 14, 2020

Published Date: 2026	SDDOT	HIGH FLOW SILT FENCE	PLATE NUMBER 734.05
			Sheet 2 of 2

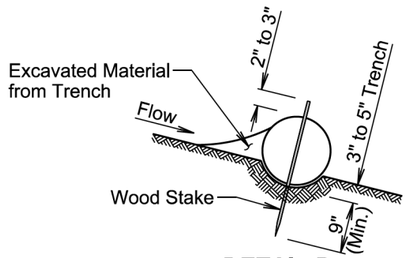
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(116)34	Non	67/73

Plotting Date: 12/22/2025

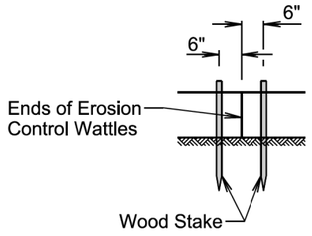


ELEVATION VIEW
(Cut or Fill Slope Installation)

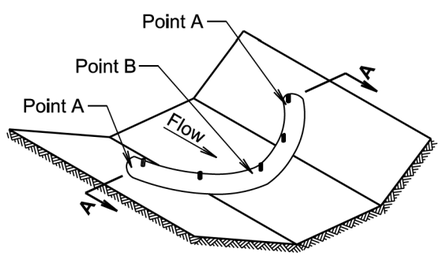
CUT OR FILL SLOPE INSTALLATION	
Slope	Spacing (Ft.)
1:1	10
2:1	20
3:1	30
4:1	40



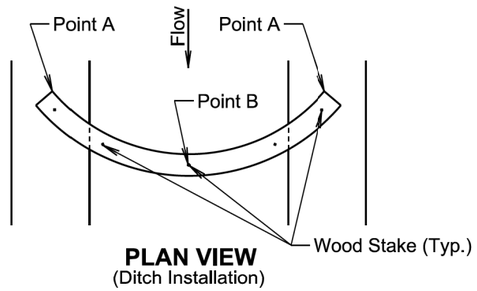
DETAIL B
(Typical of All Installations)



DETAIL C
(See General Notes)

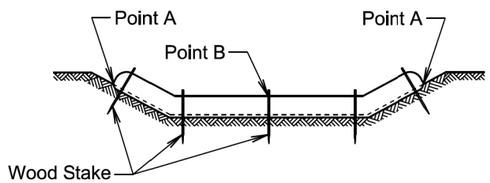


ISOMETRIC VIEW
(Ditch Installation)



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: 2026	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.

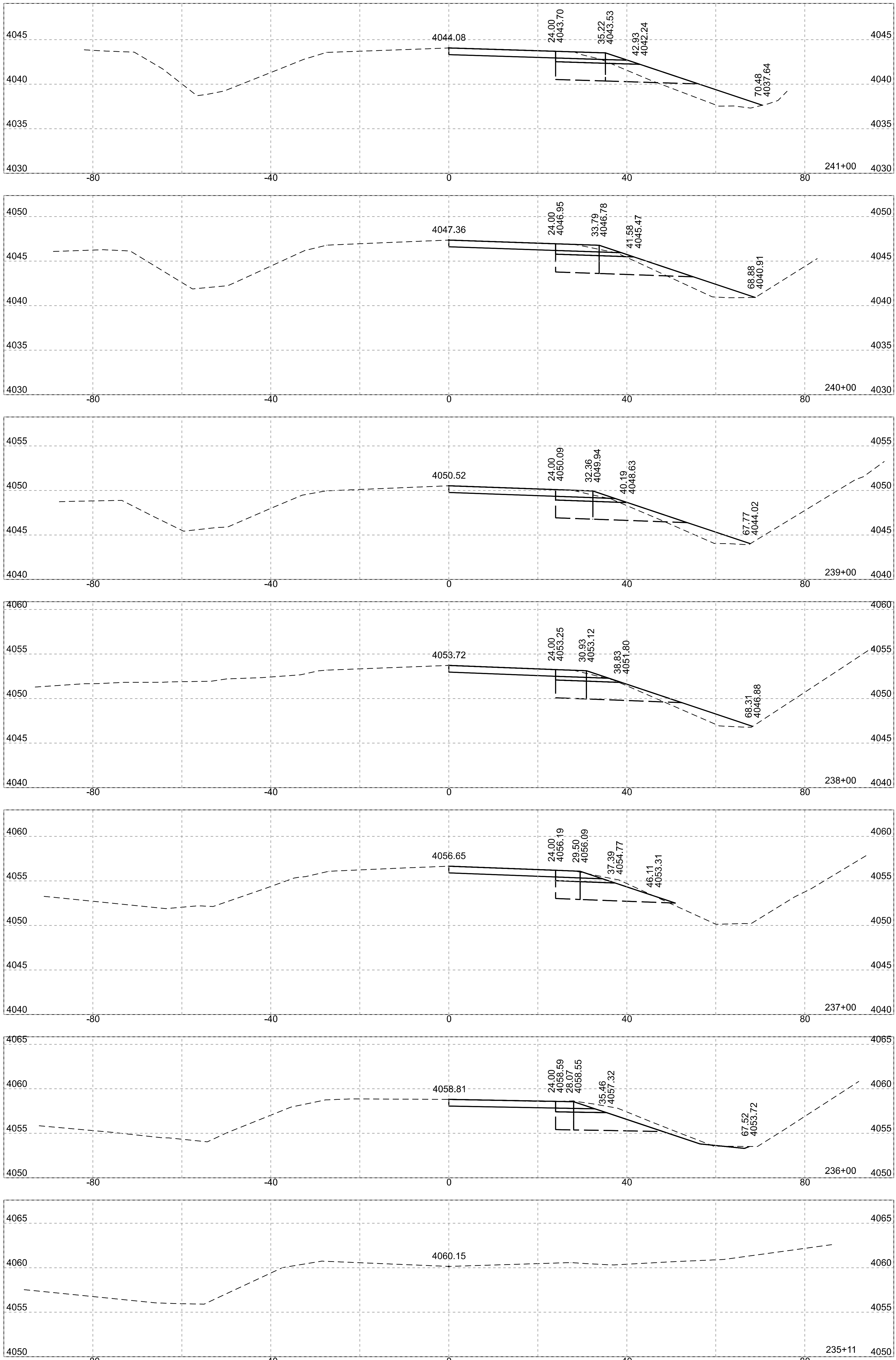
All costs for removing the erosion control wattle from the project including labor, equipment, and materials will be incidental to the contract unit price per foot for "Remove Erosion Control Wattle".

February 14, 2020

Published Date: 2026	SDDOT	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 2 of 2

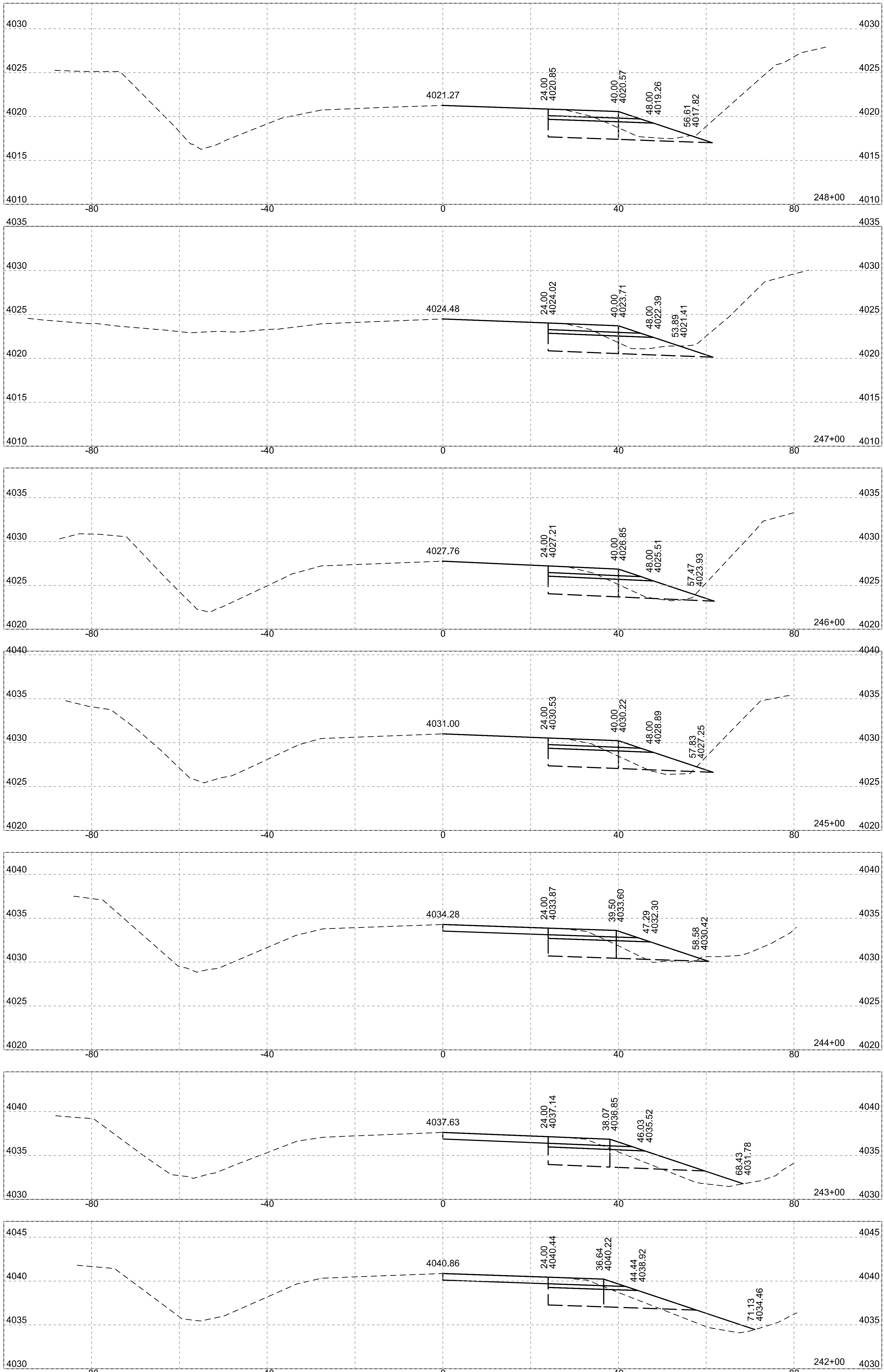
SD DOT	PROJECT	SECTION	SHEET
	NH 0085(116)34	Non	68/73

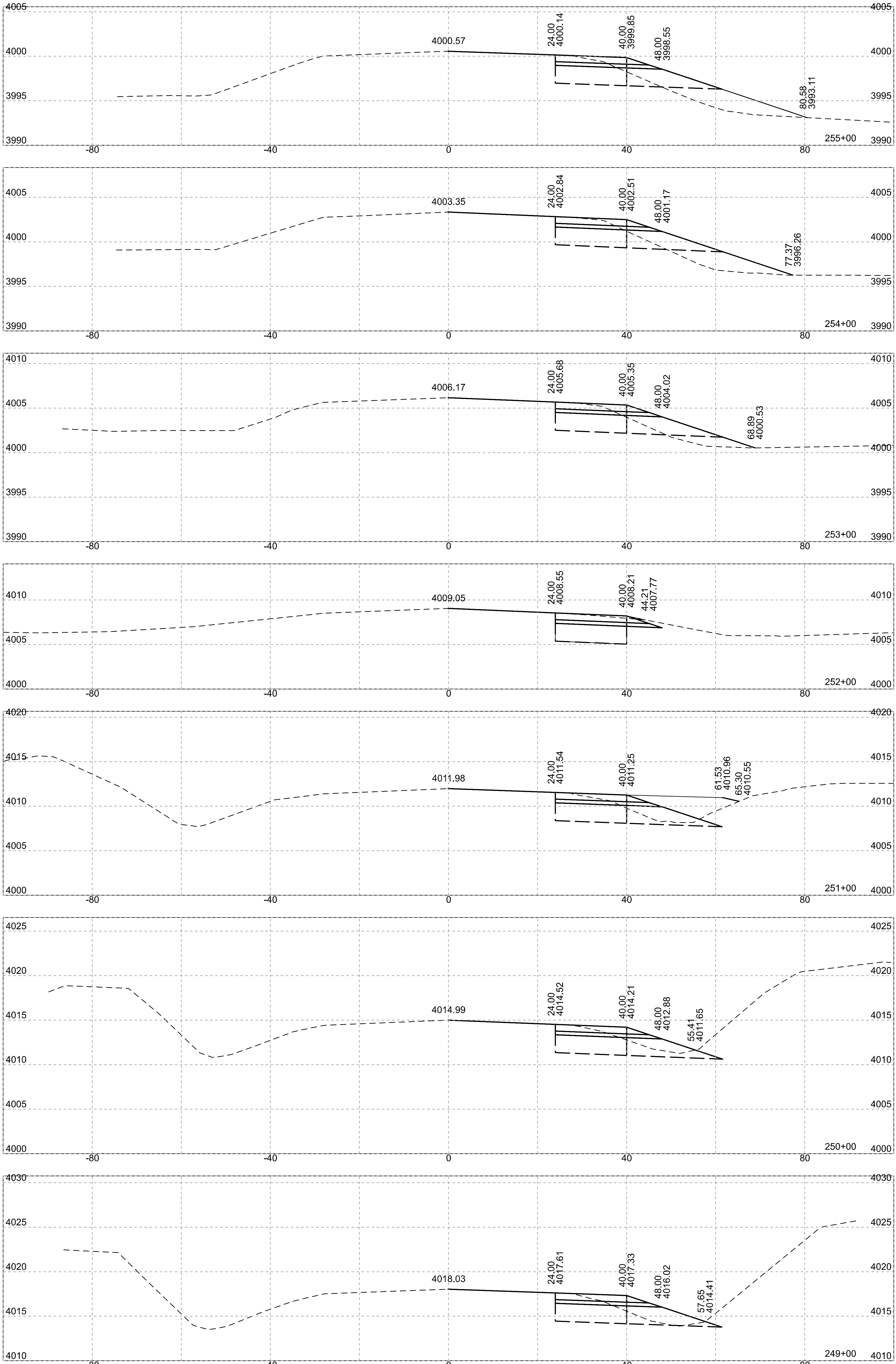
Plotting Date: 12/2/2025



PROJECT	SECTION	SHEET
NH 0085(116)34	Non	69/73

Plotting Date: 12/2/2025

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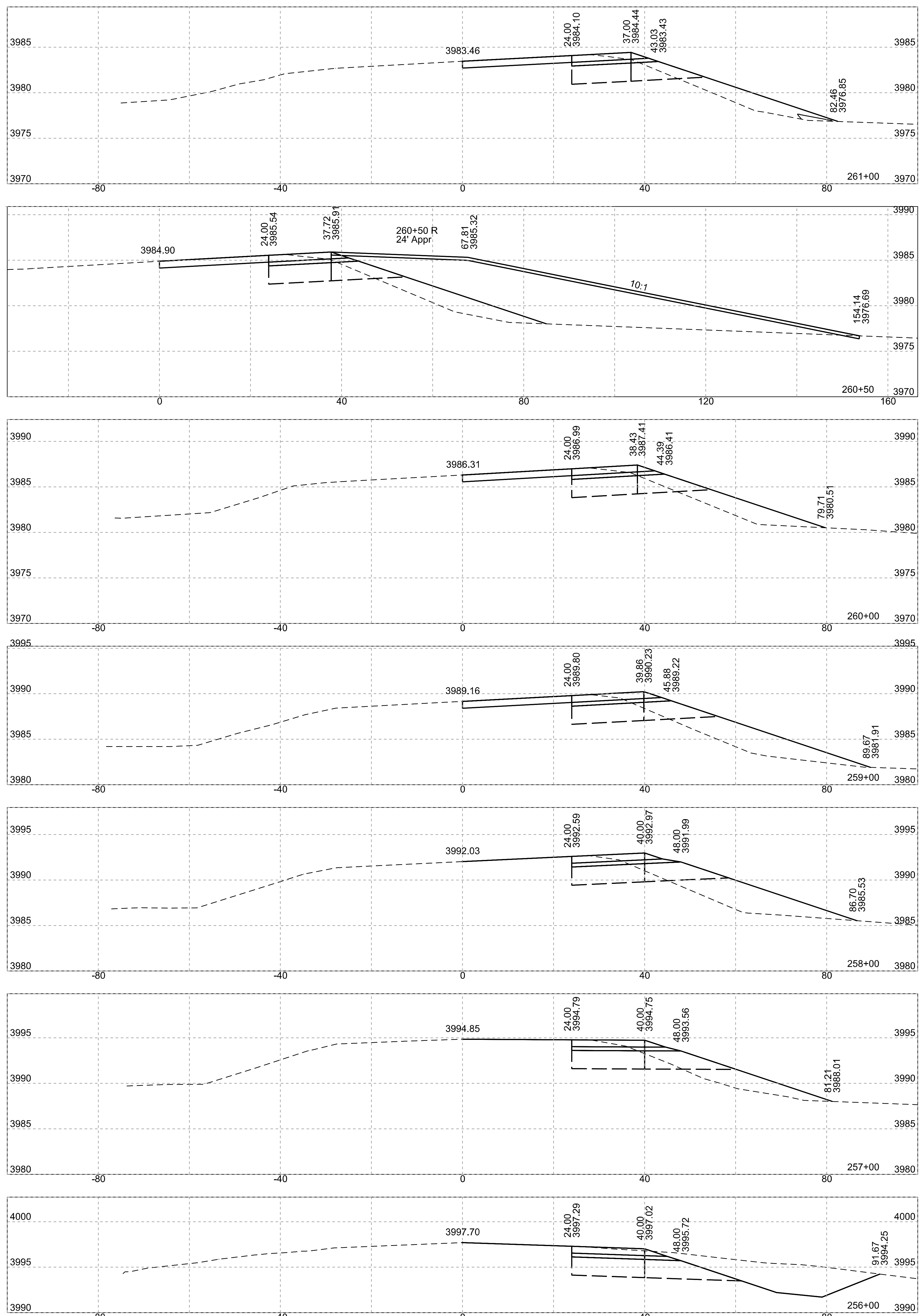
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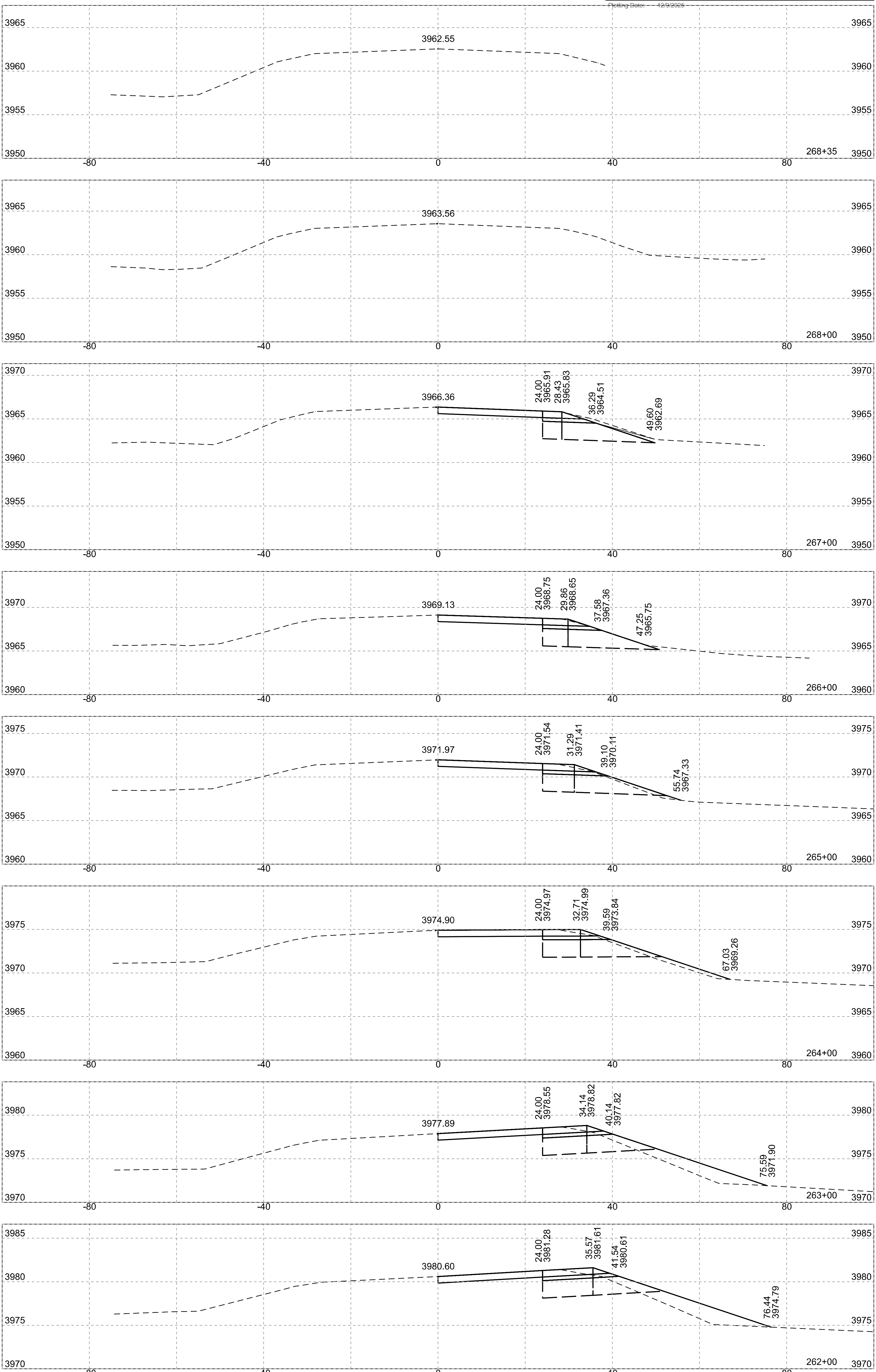
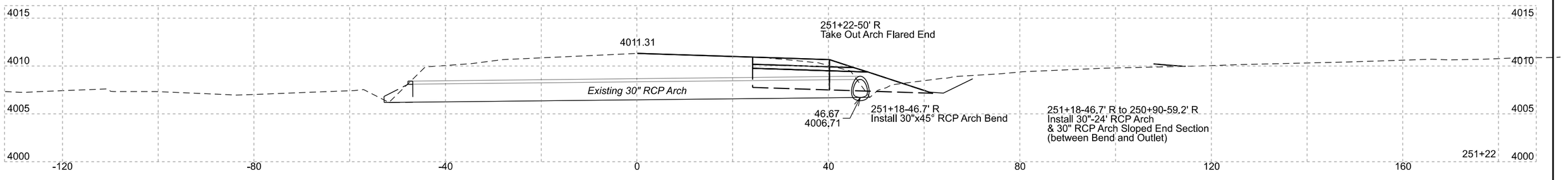
PROJECT	SECTION	SHEET
NH 0085(116)34	Non	72/73

Plotting Date: 12/9/2025

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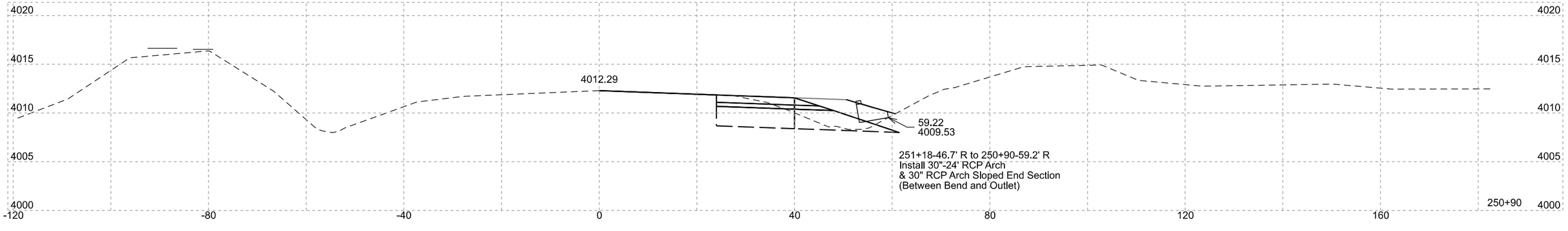
4010
4005
4000
-120
-80
-40
0
40
80
120
160
251+22
4011.31
251+22-50' R
Take Out Arch Flared End
Existing 30" RCP Arch
46.67
4006.71
251+18-46.7' R
Install 30"x45° RCP Arch Bend
251+18-46.7' R to 250+90-59.2' R
Install 30"-24' RCP Arch
& 30" RCP Arch Sloped End Section
(between Bend and Outlet)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251+18-46.7' R to 250+90-59.2' R
Install 30"-24' RCP Arch
& 30" RCP Arch Sloped End Section
(Between Bend and Outlet)