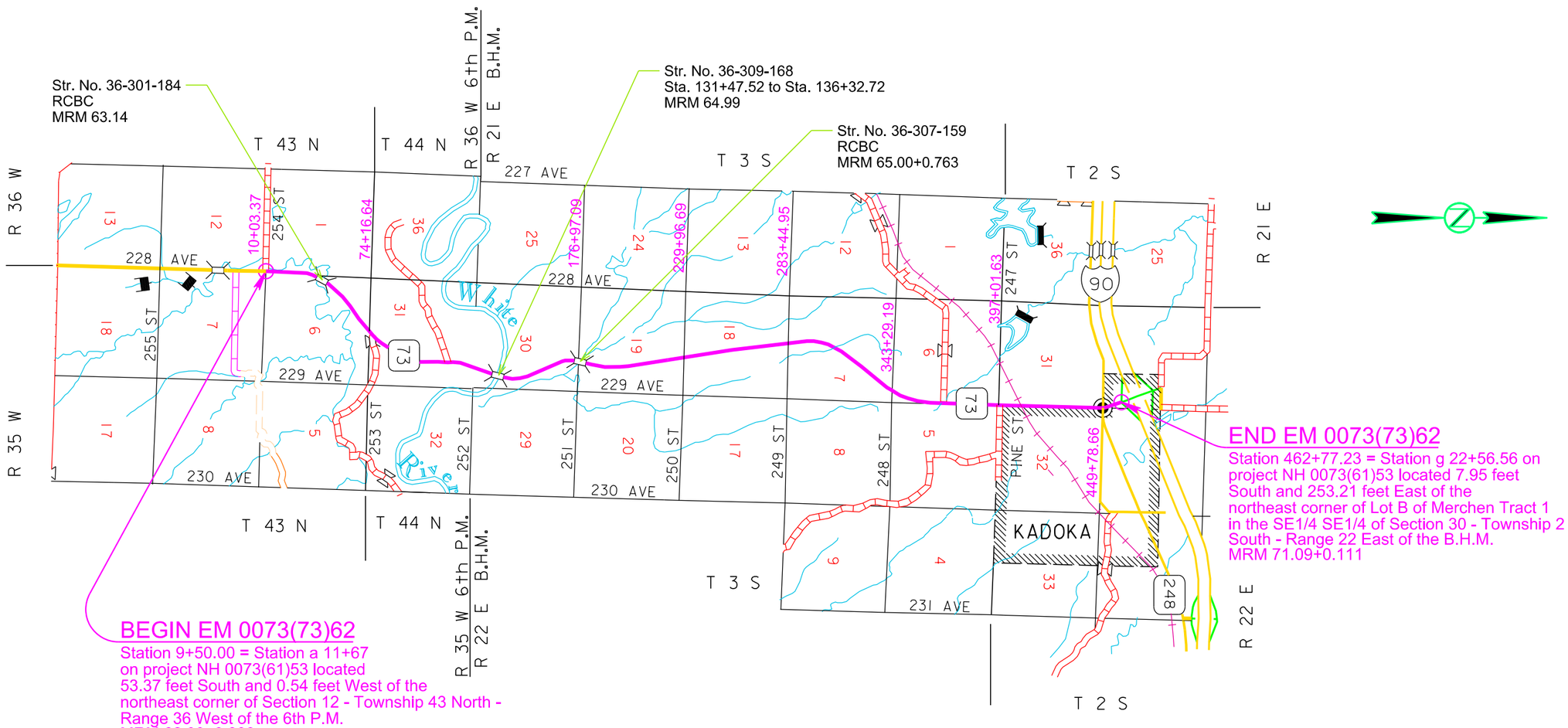
Section F: Surfacing Plans

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	EM 0073(73)62 & 248-391	F1	F32

Plotting Date: 07/23/2025
REVISED 7/24/2025 - BAH

INDEX OF SHEETS



BEGIN EM 0073(73)62

Station 9+50.00 = Station a 11+67
on project NH 0073(61)53 located
53.37 feet South and 0.54 feet West of the
northeast corner of Section 12 - Township 43 North -
Range 36 West of the 6th P.M.
MRM 62.00+0.399

END EM 0073(73)62

Station 462+77.23 = Station g 22+56.56 on
project NH 0073(61)53 located 7.95 feet
South and 253.21 feet East of the
northeast corner of Lot B of Merchen Tract 1
in the SE1/4 SE1/4 of Section 30 - Township 2
South - Range 22 East of the B.H.M.
MRM 71.09+0.111

PLOT NAME - 1

FILE - ...\PRJ\JACK05U4\05U4_TITLEF.DGN

PCN 05U4 SECTION F ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3210	Construction Staking	8.493	Mile
009E3250	Miscellaneous Staking	8.493	Mile
009E3301	Engineer Directed Surveying/Staking	40.0	Hour
009E3320	Checker	Lump Sum	LS
009E4200	Construction Schedule, Category II	Lump Sum	LS
110E1010	Remove Asphalt Concrete Pavement	3,555.6	SqYd
110E6410	Remove Type 1 MGS for Reset	262.5	Ft
110E6501	Remove Type 1 Retrofit Guardrail Transition for Reset	3	Each
110E6510	Remove Type 3 Guardrail Transition for Reset	1	Each
110E6619	Remove MGS MASH Tangent End Terminal for Reset	4	Each
120E0100	Unclassified Excavation, Digouts	425	CuYd
120E6200	Water for Granular Material	67.5	MGal
210E1005	Surface Preparation	2.000	Mile
260E1010	Base Course	2,653.3	Ton
260E1080	Base Course, Salvaged, State Furnished	1,215.0	Ton
260E3010	Gravel Surfacing	626.0	Ton
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	17.0	Mile
320E7028	Grind Centerline Rumble Stripe in Asphalt Concrete	7.0	Mile
320E7030	Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete	0.9	Mile
330E0010	MC-70 Asphalt for Prime	68.7	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	157.8	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	44.3	Ton
330E1000	Blotting Sand for Prime	145.0	Ton
330E2000	Sand for Flush Seal	441.8	Ton
380E3040	8" PCC Driveway Pavement	290.0	SqYd
600E0300	Type III Field Laboratory	1	Each
630E5010	Reset Type 1 MGS	262.5	Ft
630E5204	Reset MGS MASH Tangent End Terminal	4	Each
630E5301	Reset Type 1 Retrofit Guardrail Transition	3	Each
630E5310	Reset Type 3 Guardrail Transition	1	Each
630E5500	Furnish Beam Guardrail Post and Block	25	Each
900E0022	Remove and Reset Mailbox	5	Each
900E1980	Storage Unit	1	Each

PCN 05U4 SECTION F ALTERNATE A ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
320E0005	PG 58-34 Asphalt Binder	2,407.7	Ton
320E1203	Class Q3R Hot Mixed Asphalt Concrete	52,830.5	Ton
320E4000	Hydrated Lime	532.0	Ton

PCN 05U4 SECTION F ALTERNATE B ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
320E0005	PG 58-34 Asphalt Binder	1,987.4	Ton
320E1203	Class Q3R Hot Mixed Asphalt Concrete	54,243.2	Ton
320E4000	Hydrated Lime	532.4	Ton

PCN i7YF SECTION F ALTERNATE A ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
* 320E0005	PG 58-34 Asphalt Binder	91.1	Ton
* 320E1400	Contractor Furnished Asphalt Concrete	2,000.0	Ton
* 320E4000	Hydrated Lime	19.8	Ton

*** - Denotes Non-Participating**

PCN i7YF SECTION F ALTERNATE B ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
* 320E0005	PG 58-34 Asphalt Binder	73.3	Ton
* 320E1400	Contractor Furnished Asphalt Concrete	2,000.0	Ton
* 320E4000	Hydrated Lime	19.8	Ton

*** - Denotes Non-Participating**

UTILITIES

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

Utilities are not planned to be affected on this project. 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 Engineer to determine modifications that will be necessary to avoid utility impacts.

INTERSECTING ROADS AND ENTRANCES

Intersecting roads and entrances will be satisfactorily cleared of vegetation, shaped and compacted prior to placement of mainline surfacing. This work will be considered incidental to other contract items. Separate measurement and payment will not be made.

TYPE III FIELD LABORATORY

The lab will be equipped with an internet connection such as DSL, cable modem, or other approved service. The internet connection will be provided with a multi-port wireless router. The internet connection will be a minimum speed of 5 Mbps unless limited by job location and approved by the DOT. Prior to installing the wireless router, the Contractor will submit the wireless router's technical data to the Area Office to check for compatibility with the state's computer equipment. The internet connection is intended for state personnel usage only. The Contractor's personnel are prohibited from using the internet connection unless pre-approved by the Project Engineer. These items will be incidental to the contract unit price per each for "Type III Field Laboratory".

SURFACING THICKNESS DIMENSIONS

The plans shown spread rates will be applied even though the thickness may vary from that shown on the plans.

At those locations where material must be placed to achieve a required elevation, the depth/quantity may be varied to achieve the required elevation.

CHECKING SPREAD RATES

The Contractor will be responsible for checking all the Asphalt Concrete and Granular Materials spread rates and taking the weigh delivery tickets as the surfacing material arrives on the project and is placed onto the roadway.

The Contractor will compute the required spread rates for each typical surfacing section and create a spread chart prior to the start of material delivery and placement. The Engineer will review and check the Contractor's calculations and spread charts. The station to station spread will be written on each ticket as the surfacing material is delivered to the roadway.

At the end of each day's shift, the Contractor will verify the following:

- All tickets are present and accounted for,
- The quantity summary for each item is calculated,
- The amount of material wasted if any,
- Each day's ticket summary is marked with the corresponding 'computed by',
- The ticket summary is initialed and certified that the delivered and placed quantity is correct.

All daily tickets and the summary by item will be given to the Engineer no later than the following morning.

If the checker is not properly and accurately performing the required duties, the Contractor will correct the problem or replace the checker with an individual capable of performing the duties to the satisfaction of the Engineer. Failure to do so will result in suspension of the work.

The Department will perform depth checks. The Contractor will be responsible for placement of material to the correct depth unless otherwise directed by the Engineer. If the placed material is not within a tolerance of ±1/2 inch of the plan shown depth, the Contractor will correct the problem at no additional cost to the Department. Excess material above the tolerance will not be paid for. Achieving the correct depth may require picking up and moving material or other action as required by the Engineer.

All costs for providing the Contractor furnished checker and performing all related duties will be incidental to the contract lump sum price for the "Checker". No allowances will be made to the contract lump sum price for "Checker" due to authorized quantity variations unless the quantities for the material being checked vary above or below the estimated quantities by more than 25 percent. Payment for the Checker will then be increased or decreased by the same proportion as the placed material quantity bears to the estimated material quantity.

REMOVE ASPHALT CONCRETE PAVEMENT

The Los Angeles Abrasion Loss value on the aggregate used or the in-place asphalt concrete was unknown.

An estimated 3,555.6 Square Yards (321.7 Cubic Yards) of the in-place asphalt concrete surfacing will be removed from the existing highway according to the in-place surfacing typical sections and wasted as directed by the Engineer. Care will be taken not to waste the in-place granular material.

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

UNCLASSIFIED EXCAVATION, DIGOUTS

The locations and extent of digout areas will be determined in the field by the Engineer. The backfilling material for the digouts will be Base Course. The depth of asphalt will match the in-place thickness.

Included in the Estimate of Quantities are 50 cubic yards of Unclassified Excavation, Digouts per mile for the removal of the unstable material throughout the project.

Included in the Estimate of Quantities are 100 tons of Base Course per mile for backfill of Unclassified Excavation, Digouts.

The digouts will be extended through the shoulder and backfilled with granular material that will daylight to the inslope to allow water to escape the subsurface.

BASE COURSE, SALVAGED, STATE FURNISHED

Base Course, Salvaged, State Furnished estimated at 1,215 tons to 1,670 tons will be obtained from the stockpile site located at the Kadoka SDDOT Maintenance Yard in the Northwest 1/4 of Section 32 – Township 2 South – Range 22 East, Jackson County, South Dakota.

This material is salvaged asphalt concrete produced from PCN 05HV that was planned to be removed and stockpiled the year prior to this project. The salvaged asphalt was processed to meet the requirements of Section 884.2 C.1 prior to stockpiling. There is potential that some of the salvaged asphalt has clumped or gummed together since the time it was processed and stockpiled. The Contractor may be required to re-process the material to meet the requirements of Section 884.2 D.3, prior to use. All costs to process the material will be incidental to “Base Course, Salvaged, State Furnished”.

Base Course, Salvaged, State Furnished will only be used for surfacing of entrances and may only be used if there is excess material in the stockpile not used as RAP in the Class Q3R Asphalt Concrete for PCN 05U4 and PCN 07Y4.

The remainder of the salvaged asphalt concrete material will be stockpiled or disposed of as directed by the Engineer.

The Base Course, Salvaged, State Furnished is royalty free to the Contractor.

All other requirements for Base Course, Salvaged Asphalt Mix will apply.

SALVAGED MATERIAL

The quantity of Base Course, Salvaged, State Furnished may vary from the plans. After all RAP needs are met, the Contractor will be required to use the remaining stockpiled material for surfacing of entrances on this project, by decreasing or increasing the quantity of Gravel Surfacing necessary, or as directed by the Engineer.

SURFACE PREPARATION

Prior to placement of the Class Q3R Hot Mixed Asphalt Concrete, the Contractor will be required to prepare the existing surface according to the Surface Preparation specifications provided in Section 210, at locations determined by the Engineer.

The locations provided on the typical sections for Asphalt Surface Treatment, In Place, represent the locations where an asphalt surface treatment is anticipated to be in place at the time of construction. The Contractor is advised that locations and dimensions of actual Asphalt Surface Treatment, In Place, may vary from that given on the typical sections. There will be no increase in the payment for Surface Preparation based on the actual surface treatment in place at the time of construction.

Quantities for Surface Preparation, MC-70 Asphalt for Prime, and Blotting Sand for Prime have been provided for 2 miles of the asphalt surfacing project. Actual limits to receive Surface Preparation, MC-70 Asphalt for Prime, and Blotting Sand for Prime ahead of Class Q3R Hot Mixed Asphalt Concrete placement will be limited to particular project conditions and will be subject to approval by the Engineer. In no case will Surface Preparation operations ahead of Class Q3R Hot Mixed Asphalt Concrete placement operations exceed fourteen calendar days.

MC-70 Asphalt for Prime and Blotting Sand for Prime will be applied at all Surface Preparation locations (estimated length = 2.0 miles). Rate for MC-70 Asphalt for Prime will be 0.30 gallons per square yard applied 42.0 feet wide (estimated quantity = 58.4 tons). Rate of Blotting Sand for Prime will be 10 pounds per square yard applied 24.0 feet wide (estimated quantity = 140.0 tons).

The Contractor will ensure excess in place granular material is removed at locations (end of project, bridges, intersecting roads and entrances) to achieve the required elevation for the placement of the asphalt concrete. Payment for the removal of excess in place granular material will be incidental to the contract unit price per mile for Surface Preparation. This material may be reused as Base Course, Salvaged at the discretion of the Engineer.

BLOTTING SAND FOR PRIME

Also included in the Estimate of Quantities are an additional 5 tons of Blotting Sand for Prime to be used where necessary for maintenance of traffic as directed by the Engineer. (Rate = 10 pounds per square yard)

CLASS Q3R HOT MIXED ASPHALT CONCRETE

Mineral Aggregate:

Asphalt concrete aggregates will consist of reclaimed asphalt pavement (RAP) and virgin aggregate.

Virgin mineral aggregate for Class Q3R Hot Mixed Asphalt Concrete - Alternate A will conform to the requirements of Class Q3.

Virgin mineral aggregate for Class Q3R Hot Mixed Asphalt Concrete - Alternate B will consist of a minimum of 80 percent crushed limestone ledge rock and will conform to the requirements of Class Q3.

The Class Q3R Hot Mixed Asphalt Concrete will include 20 percent RAP in the mixture.

RAP will be obtained from the stockpiled salvaged asphalt mix material produced from project PCN 05HV, estimated at 10,360 tons (Alt A) and 10,730 tons (Alt B), located at the Kadoka SDDOT Maintenance Yard in the Northwest 1/4 of Section 32 – Township 2 South – Range 22 East, Jackson County, South Dakota. The RAP produced from PCN 05HV was planned to be removed and stockpiled the year prior to this project. The RAP was processed to meet the requirements of Section 884.2 C.1 prior to stockpiling. There is potential that some of the RAP has clumped or gummed together since the time it was processed and stockpiled. The Contractor may be required to re-process the material to meet the requirements of Section 884.2 C.1, prior to incorporating into the mixture. This determination will be made by the Engineer during construction. All costs to process the material will be incidental to “Class Q3R Hot Mixed Asphalt Concrete”.

Mix Design Criteria:

Gyratory Controlled QC/QA Mix Design requirements for the Class Q3R Hot Mixed Asphalt Concrete will conform to the requirements of Class Q3 except as modified by the following:

Gyratory Compactive Effort:

	$N_{initial}$	N_{design}	$N_{maximum}$
Class Q3R	6	50	75

Mix Design Criteria – Alternate B:

Gyratory Controlled QC/QA Mix Design requirements for the Class Q3R Hot Mixed Asphalt Concrete will conform to the requirements of Class Q3 except as modified by the following:

Voids in Mineral Aggregate (VMA):

	Minimum VMA (%):
Class Q3R	13.0

Pay Factor Attributes – Alternate B:

Air Voids:

	Air Voids (%):
Class Q3R	3.5 ± 1.0

All remaining requirements for Class Q3 will apply.

SUMMARY OF CLASS Q3R HOT MIXED ASPHALT CONCRETE COMPACTION – ALTERNATE A

Location		Class Q3R With Specified Density Compaction	Class Q3R Without Specified Density Compaction
Mainline - SD 73		Ton	Ton
Sta. 9+50 to Sta. 11+50	– 28' Wide Shoulders	149.6	79.8
Sta. 11+50 to Sta. 129+47.52	– 28' Wide Shoulders	8,823.7	4,701.1
Sta. 129+47.52 to Sta. 131+47.52	– 28' Wide Shoulders	179.5	97.3
Sta. 136+32.72 to Sta. 138+32.72	– 28' Wide Shoulders	179.5	97.3
Sta. 138+32.72 to Sta. 460+77.23	– 28' Wide Shoulders	24,116.2	12,849.0
Sta. 460+77.23 to Sta. 462+77.23	– 28' Wide Shoulders	149.6	79.8
Embankment for Guardrail		---	70.1
Intersecting Roads, Streets & Entrances		---	1,258.0
Totals:		33,598.1	19,232.4

SUMMARY OF CLASS Q3R HOT MIXED ASPHALT CONCRETE COMPACTION – ALTERNATE B

Location		Class Q3R With Specified Density Compaction	Class Q3R Without Specified Density Compaction
Mainline - SD 73		Ton	Ton
Sta. 9+50 to Sta. 11+50	– 28' Wide Shoulders	153.6	82.0
Sta. 11+50 to Sta. 129+47.52	– 28' Wide Shoulders	9,058.3	4,830.7
Sta. 129+47.52 to Sta. 131+47.52	– 28' Wide Shoulders	184.3	100.0
Sta. 136+32.72 to Sta. 138+32.72	– 28' Wide Shoulders	184.3	100.0
Sta. 138+32.72 to Sta. 460+77.23	– 28' Wide Shoulders	24,757.4	13,203.1
Sta. 460+77.23 to Sta. 462+77.23	– 28' Wide Shoulders	153.6	82.0
Embankment for Guardrail		---	71.9
Intersecting Roads, Streets & Entrances		---	1,282.0
Totals:		34,491.5	19,751.7

GRIND RUMBLE STRIPS OR STRIPES IN ASPHALT CONCRETE

Asphalt Concrete Rumble Strips/Stripes will be constructed on the shoulders. Rumble Strips/Stripes will be paid for at the contract unit price per mile for "Grind 12" Rumble Strip or Stripe in Asphalt Concrete".

It is estimated that 17 miles of asphalt concrete rumble strips/stripes will be required.

Rumble Strip/Stripe installation will be completed prior to application of the Flush Seal and Permanent Pavement Markings. In the event the Flush Seal is eliminated from the contract, the Contractor will still be required to apply a Flush Seal to the newly installed 12" Rumble Strips/Stripes at a width of 1.5' and at the same rate as specified in this plan set. No adjustment in payment will be made and SS-1h or CSS-1h Asphalt for Flush Seal will be paid at the contract unit price per ton.

GRIND CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE

Rumble stripes will be constructed on the centerline, as detailed in the plan set. Rumble stripes will be paid for at the contract unit price per mile for Grind Centerline Rumble Stripe in Asphalt Concrete. It is estimated that 7.0 miles of rumble stripes will be required.

Asphalt for Flush Seal will be applied after the centerline rumble stripes have been installed on SD25. The application width will extend 1 ft beyond the centerline of the roadway in each direction to create a total application rate of 0.10 gal./SqYd on the centerline rumble stripes. All costs associated with placing the flush seal will be incidental to the contract unit price per ton for "SS-1h or CSS-1h Asphalt for Flush Seal".

GRIND SINUSOIDAL CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE

Sinusoidal rumble stripes will be constructed on the centerline, as detailed in the plan set. Sinusoidal rumble stripes will be paid for at the contract unit price per mile for Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete. It is estimated that 0.9 miles of sinusoidal rumble stripes will be required.

Sinusoidal rumble stripe installation will be completed prior to application of the flush seal and permanent pavement markings. In the event the flush seal is eliminated from the contract, the Contractor will still be required to apply a flush seal to the newly installed sinusoidal rumble stripes at a width of 24" and a rate of 0.10 gal./SqYd. No adjustment in payment will be made and SS-1h or CSS-1h Asphalt for Flush Seal will be paid at the contract unit price per ton. See below for location of Sinusoidal Centerline Rumble Strips:

Sta. 17+46.17	to	Sta. 29+06.00
Sta. 133+08.01	to	Sta. 144+73.13
Sta. 383+89.63	to	Sta. 392+88.94
Sta. 407+66.49	to	Sta. 409+73.04
Sta. 416+12.62	to	Sta. 428+72.02

CENTERLINE RUMBLE STRIPES – FLUSH SEAL

Asphalt for Flush Seal will be applied after the centerline rumble stripes have been installed. The application width will extend 1 ft beyond the centerline of the roadway in each direction to create a total application rate of 0.10 gal./SqYd on the centerline rumble stripes.

STORAGE UNIT

The Contractor will provide a storage unit such as a portable storage container or a semi-trailer meeting the minimum size requirements from the table below:

Project Total Asphalt Concrete Tonnage	Minimum Internal Size (Cu Ft)	Minimum External Size (L x W x H)
Less than 50,000 ton	1,166	20' x 8' x 8.6' std
More than 50,000 ton	2,360	40' x 8' x 8.6' std
All Gyratory Controlled QC/QA Projects	2,360	40' x 8' x 8.6' std

The storage unit is intended for use only by the Engineer for the duration of the project. The QC lab personnel or the Contractor will not be allowed to use the storage container while it is on the project, without permission of the Engineer.

The storage unit will be on site and operational prior to asphalt concrete production. Upon completion of asphalt concrete production, the Engineer will notify the Contractor when the storage unit can be removed from the project. The storage unit use will not exceed 30 calendar days from the completion of asphalt concrete production. The storage unit will remain the property of the Contractor.

The storage unit will be weather proof and will be set in a level position. The storage unit will be able to be locked with a padlock.

The storage unit will be placed adjacent to the QA lab, as approved by the Engineer.

The following will apply when the storage unit provided on the project is a portable storage container:

1. The portable storage container will be constructed of steel.
2. The portable storage container will be set such that it is raised above the surrounding ground level to keep water from ponding under or around the storage container.

STORAGE UNIT (CONTINUED)

The following will apply when the storage unit provided on the project is a semi-trailer:

1. A set of steps and hand railings will be provided at the exterior door.
2. If the floor of the semi-trailer is 18 inches or more above the ground, a landing will be constructed at the exterior door. The minimum dimensions for the landing will be 4 feet by 5 feet. The top of the landing will be level with the threshold or opening of the doorway.
3. The semi-trailer may be connected to the QA lab by a stable elevated walkway. The walkway will be a minimum of 48 inches wide and contain handrails installed at 32 inches above the deck of the walkway. The walkway will be constructed such that it is stable and the deck does not deform during use and allows for proper door operation. Walkway construction will be approved by the Engineer.

All cost for furnishing, maintaining, and removing the storage unit including labor, equipment, and materials including any necessary walkways, landings, stairways, and handrails will be included in the contract unit price per each for “Storage Unit”.

REMOVE AND RESET MAILBOXES

The Contractor will remove and reset the existing mailboxes for single mailbox assemblies. The local Postmaster will determine the recommended mounting height of the mailboxes throughout the project. The Contractor will coordinate with the Engineer on the proper postal representative to contact.

All costs for removing and resetting existing mailboxes and providing temporary mailboxes will be incidental to the contract unit price per each for “Remove and Reset Mailbox”.

Four single mailboxes and one double mailbox will be removed and reset.

TABLE OF MAILBOXES

Station	L/R	Single (each)	Double (each)
23+80	L	1	
58+39	L	1	
139+45	L	--	1
443+55	L	1	
444+69	R	1	
	Total =	4	1

TABLE OF SUPERELEVATION

Station	to	Station	Remarks
9+50.00		25+00.10	Normal Crown Section
25+00.10		27+28.10	Superelevation Runoff
27+28.10		52+45.25	0.056 Superelevation Rate
			51° 48'05" Curve Rt.
52+45.25		54+73.25	Superelevation Runoff
54+73.25		73+00.81	Normal Crown Section
73+00.81		75+22.81	Superelevation Runoff
75+22.81		85+58.82	0.054 Superelevation Rate
			21° 50'47" Curve Lt.
85+58.82		87+80.82	Superelevation Runoff
87+80.82		90+42.87	Normal Crown Section
90+42.87		92+82.87	Superelevation Runoff
92+82.87		106+14.12	0.06 Superelevation Rate
			29° 50'37" Curve Lt.
106+14.12		108+54.12	Superelevation Runoff
108+54.12		115+35.67	Normal Crown Section
115+35.67		116+97.67	Superelevation Runoff
116+97.67		127+82.57	0.034 Superelevation Rate
			11° 29'49" Curve Rt.
127+82.57		129+44.57	Superelevation Runoff
129+44.57		137+30.30	Normal Crown Section
137+30.30		139+70.30	Superelevation Runoff
139+70.30		150+54.62	0.06 Superelevation Rate
			33° 09'02" Curve Lt.
150+54.62		152+94.62	Superelevation Runoff
152+94.62		166+09.53	Normal Crown Section
166+09.53		168+49.53	Superelevation Runoff
168+49.53		178+38.96	0.06 Superelevation Rate
			29° 11'51" Curve Rt.
178+38.96		180+78.96	Superelevation Runoff
180+78.96		183+42.41	Normal Crown Section
183+42.41		185+04.41	Superelevation Runoff
185+04.41		203+05.38	0.034 Superelevation Rate
			18° 22'04" Curve Lt.
203+05.38		204+67.38	Superelevation Runoff
204+67.38		288+96.01	Normal Crown Section
288+96.01		291+24.01	Superelevation Runoff
291+24.01		313+46.02	0.056 Superelevation Rate
			46° 01'11" Curve Rt.
313+46.02		315+74.02	Superelevation Runoff
315+74.02		337+07.51	Normal Crown Section
337+07.51		339+05.51	Superelevation Runoff
339+05.51		363+14.53	0.046 Superelevation Rate
			37° 25'07" Curve Lt.
363+14.53		365+12.53	Superelevation Runoff
365+12.53		452+39.29	Normal Crown Section
452+39.29		453+19.29	Superelevation Runoff
453+19.29		460+71.86	0.024 Superelevation Rate
			23° 47'03" Curve Lt.
460+71.86		461+51.86	Superelevation Runoff
461+51.86		462+77.23	Normal Crown Section

RATES OF MATERIALS

The Estimate of Surfacing Quantities is based on the following quantities of materials per mile.

SD HIGHWAY 73 MAINLINE

Sta. 11+50 to Sta. 129+47.52
Sta. 138+32.72 to Sta. 460+77.23

SS-1h or CSS-1h Emulsified Asphalt for Tack at the rate of 6.1 tons applied 41 feet wide (Rate = 0.06 gallon per square yard).

CLASS Q3R HOT MIXED ASPHALT CONCRETE – 1st LIFT

	Alt A	Alt B
Crushed Aggregate	1,342	1,391 Tons
Salvaged Asphalt Concrete	335	348 Tons
PG 58-34 Asphalt Binder	81	67 Tons
Hydrated Lime	18	18 Tons
Total:	1,776	1,824 Tons

The exact proportions of these materials will be determined on construction.

SS-1h or CSS-1h Emulsified Asphalt for Tack at the rate of 6.1 tons applied 41 feet wide (Rate = 0.06 gallon per square yard).

CLASS Q3R HOT MIXED ASPHALT CONCRETE – 2nd LIFT

	Alt A	Alt B
Crushed Aggregate	1,342	1,392 Tons
Salvaged Asphalt Concrete	336	348 Tons
PG 58-34 Asphalt Binder	81	67 Tons
Hydrated Lime	18	18 Tons
Total:	1,777	1,825 Tons

The exact proportions of these materials will be determined on construction.

SS-1h or CSS-1h Emulsified Asphalt for Tack at the rate of 6.1 tons applied 41 feet wide (Rate = 0.06 gallon per square yard).

CLASS Q3R HOT MIXED ASPHALT CONCRETE – TOP LIFT

	Alt A	Alt B
Crushed Aggregate	1,889	1,958 Tons
Salvaged Asphalt Concrete	472	490 Tons
PG 58-34 Asphalt Binder	114	94 Tons
Hydrated Lime	25	25 Tons
Total:	2,500	2,567 Tons

The exact proportions of these materials will be determined on construction.

FLUSH SEAL

SS-1h or CSS-1h Emulsified Asphalt for Flush Seal at the rate of 5.0 tons/mile applied 40 feet wide (Rate = 0.05 gallon per square yard).

Sand for Flush Seal at the rate of 52 ton/mile applied 22 feet wide (Rate = 8 lbs. per square yard).

CONSTRUCTION STAKING

Roadway and Description	Begin Station	End Station	Number of Lanes	Grade Staking Length (Ft)	Grade Staking Length (Mile)	Lane Factor	*Sets of Stakes	Miscellaneous Staking Quantity (Mile)	Construction Staking Quantity (Mile)
SD Highway 73	9+50.00	131+47.52	2	12,197.52	2.310	1	1	2.310	2.310
Str. # 36-309-168	131+47.52	136+32.72	---	---	---	---	---	---	---
SD Highway 73	136+32.72	462+77.23	2	32,644.51	6.183	1	1	6.183	6.183
							Totals:	8.493	8.493

LOCATION OF INTERSECTING ROADS, STREETS AND ENTRANCES

INTERSECTING ROADS			Farm Entrances			Business Entrances		
28' Intersecting Roads	40' Intersecting Road	40' Intersecting Road	24' Entrances		40' Entrances	24' Entrances	40' Entrances	
Base Course, Salvaged - 4 each	Base Course, Salvaged - 1 each	Asphalt Concrete - 2 Each	Base Course, Salvaged - 41 Each		Asphalt Concrete - 3 each	Asphalt Concrete - 5 Each	Asphalt Concrete - 11 Each	8" PCC Driveway Pavement – 1 Each
Sta. 10+00 Lt.	Sta. 370+73 Lt.	Sta. 449+86 Lt	Sta. 23+78 Rt.	Sta. 240+13 Rt.	Sta. 407+80 Rt.	Sta. 443+67 Lt.	Sta. 438+00 Rt.	Sta. 444+69 Rt.
Sta. 70+14 Rt.		Sta. 449+86 Rt	Sta. 33+00 Lt.	Sta. 254+61 Lt.	Sta. 421+21 Rt.	Sta. 444+93 Lt.	Sta. 443+67 Lt.	
Sta. 138+16 Rt.			Sta. 42+18 Lt.	Sta. 283+45 Lt.	Sta. 423+66 Rt.	Sta. 445+29 Rt.	Sta. 447+76 Lt.	
Sta. 397+00 Rt.			Sta. 42+18 Rt.	Sta. 283+45 Rt.		Sta. 445+95 Lt.	Sta. 451+33 Lt.	
			Sta. 49+62 Lt.	Sta. 299+13 Lt.		Sta. 446+52 Rt.	Sta. 451+33 Rt.	
			Sta. 58+59 Lt.	Sta. 299+13 Rt.			Sta. 455+27 Rt.	
			Sta. 58+59 Rt.	Sta. 330+88 Lt.			Sta. 457+34 Lt.	
INTERSECTING STREETS			Sta. 70+14 Lt.	Sta. 330+88 Rt.			Sta. 458+42 Lt.	
28' Intersecting Streets	32' Intersecting Street	40' Intersecting Street	Sta. 76+03 Lt.	Sta. 342+96 Lt.			Sta. 458+70 Rt.	
Asphalt Concrete - 2 Each	Asphalt Concrete - 1 Each	Asphalt Concrete - 1 Each	Sta. 107+00 Lt.	Sta. 343+63 Rt.			Sta. 459+86 Lt.	
Sta. 442+42 Rt.	Sta. 453+32 Rt.	Sta. 457+00 Rt.	Sta. 107+00 Rt.	Sta. 354+80 Rt.			Sta. 459+86 Rt.	
Sta. 447+76 Rt.			Sta. 119+03 Lt.	Sta. 368+04 Lt.				
			Sta. 119+03 Rt.	Sta. 368+04 Rt.				
			Sta. 171+10 Lt.	Sta. 373+75 Lt.				
			Sta. 171+10 Lt.	Sta. 373+75 Rt.				
			Sta. 175+63 Lt.	Sta. 389+87 Lt.				
			Sta. 183+89 Lt.	Sta. 389+87 Lt.				
			Sta. 189+85 Rt.	Sta. 403+11 Lt.				
			Sta. 204+41 Lt.	Sta. 419+86 Lt.				
			Sta. 204+41 Rt.	Sta. 423+40 Lt.				
			Sta. 240+13 Lt.					

TABLE OF MATERIALS

LOCATION	WATER FOR GRANULAR MATERIAL	BASE COURSE	BASE COURSE, SALVAGED, STATE FURNISHED	CLASS Q3R ASPHALT CONCRETE - Alt A			PG 58-34 ASPHALT BINDER - Alt A			CLASS Q3R ASPHALT CONCRETE - Alt B			PG 58-34 ASPHALT BINDER - Alt B			ASPHALT FOR PRIME	BLOTTING SAND FOR PRIME	HYDRATED LIME-Alt A			HYDRATED LIME-Alt B			ASPHALT FOR TACK			ASPHALT FOR FLUSH SEAL	SAND FOR FLUSH SEAL
				1st Lift	2nd Lift	Top Lift	1st Lift	2nd Lift	Top Lift	1st Lift	2nd Lift	Top Lift	1st Lift	2nd Lift	Top Lift			1st Lift	2nd Lift	Top Lift	1st Lift	2nd Lift	Top Lift	1st Lift	2nd Lift	Top Lift		
Station to Station	(MGal)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)
Mainline																												
9+50 to 11+50				67.3	67.3	94.8	3.1	3.1	4.3	69.1	69.2	97.3	2.5	2.5	3.6			0.7	0.7	0.9	0.7	0.7	0.9	0.2	0.2	0.2	0.2	2.0
11+50 to 129+47.52 - Rate				3,968.3	3,970.5	5,586.0	181.0	181.0	254.7	4,075.5	4,077.8	5,735.7	149.7	149.7	210.0			40.2	40.2	55.9	40.2	40.2	55.9	13.6	13.6	13.6	11.2	116.2
129+47.52 to 131+47.52				114.7	67.3	94.8	5.2	3.1	4.3	117.8	69.2	97.3	4.3	2.5	3.6			1.1	0.7	0.9	1.2	0.7	0.9	0.2	0.2	0.2	0.2	2.0
136+32.72 to 138+32.72				114.7	67.3	94.8	5.2	3.1	4.3	117.8	69.2	97.3	4.3	2.5	3.6			1.1	0.7	0.9	1.2	0.7	0.9	0.2	0.2	0.2	0.2	2.0
138+32.72 to 460+77.23 - Rate				10,845.9	10,852.0	15,267.3	494.7	494.7	696.2	11,139.0	11,145.1	15,676.4	409.2	409.2	574.0			109.9	109.9	152.7	109.9	109.9	152.7	37.3	37.3	37.3	30.5	317.6
460+77.23 to 462+77.23				67.3	67.3	94.8	3.1	3.1	4.3	69.1	69.2	97.3	2.5	2.5	3.6			0.7	0.7	0.9	0.7	0.7	0.9	0.2	0.2	0.2	0.2	2.0
Intersecting Roads, Streets & Entrances																												
28' Intersecting Roads - 3" BC,S,SF (4 each)	1.6		144.0																									
40' Intersecting Roads - 3" BC,S,SF (1 each)	0.8		64.0																									
28' Intersecting Streets - 3" AC (2 each)	0.8	72.0		76.0			4.0			78.0			2.0			0.6		0.8			0.8			0.2			0.1	
32' Intersecting Streets - 3" BC,S,SF (1 each)	0.5		40.0																									
40' Intersecting Streets - 3" BC,S,SF (1 each)	0.6		48.0																									
24' Field Entrances - BC,S,SF (41 each)	16.4		1,353.0																									
24' Field Entrance - Sta. 411+00 L - 3" AC	1.8	150.0		31.0			1.0			32.0			1.0			0.8		0.3			0.3							
40' Field Entrances - BC,S,SF (3 each)	2.4		192.0																									
24' Business Entrances - AC (5 each)	2.5	215.0		175.0			10.0			175.0			5.0			1.0		2.0			2.0			0.5			0.2	
40' Business Entrances - AC (11 each)	8.8	704.0		572.0			22.0			583.0			22.0			4.4		5.5			5.5			1.1			0.8	
40' Business Entrance - Sta. 444+69 Rt. - PCC	0.7	61.0																										
SD248 - 449+86 L - 3" AC	2.6	214.0		172.0			8.0			177.0			6.0			1.2		1.7			1.8			0.3			0.2	
SD248 - 449+86 R - 3" AC	3.5	289.0		232.0			11.0			237.0			9.0			1.6		2.3			2.4			0.4			0.3	
Guardrail Embankment - Begin																												
129+28 to 131+75	0.2	19.0		13.4			0.6			13.7			0.5			0.1		0.1			0.1			0.03			0.03	
128+39 to 131+65	0.3	27.0		19.1			0.9			19.6			0.7			0.2		0.2			0.2			0.04			0.04	
Guardrail Embankment - End																												
136+15 to 139+70	0.4	34.0		24.2			1.1			24.8			0.9			0.3		0.2			0.2			0.06			0.05	
136+05 to 138+53	0.2	19.0		13.4			0.6			13.8			0.5			0.1		0.1			0.1			0.03			0.03	
MATERIALS FROM NOTES																												
Unclassified Excavation, Digouts	10.2	849.3																										
Surface Preparation - 2 miles	13.2															58.4	140.0											
Additional Blotting Sand for Prime - Maintenance																	5.0											
Totals:	67.5	2,653.3	1,841.0	52,830.5			2,407.7			54,243.2			1,987.4			68.7	145.0	532.0			532.4			157.8			44.3	441.8

BASE COURSE, SALVAGED, STATE FURNISHED (BC,S,SF)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	EM 0073(73)62 & 248-391	F8	F32

Plotting Date: 07/23/2025
REVISED 7/24/2025 - BAH

8" PCC DRIVEWAY PAVEMENT

The concrete for the 8" PCC Driveway Pavement will comply with the requirements of the specifications for Class M6 Concrete, unless otherwise specified in the plans. The mix design can meet either Class M6 Concrete specifications or conform to Section 380.

The surface of the 8" PCC Driveway Pavement will have a maximum 10% slope and the tie-ins will match the existing and/or new adjoining PCC Approach Pavement.

Contraction joints in the 8" PCC Driveway Pavement will be 1½ inches deep if formed in the fresh concrete using a suitable grooving tool. If a saw is used to cut the contraction joints, then the depth of the joint will be at least ¼ the thickness of the approach pavement.

The curing compound will be applied in two applications to ensure the entire surface is white from any viewing angle.

All costs for furnishing and placing the 8" PCC Driveway Pavement and constructing the expansion and contraction joints including labor, equipment, and materials (including the earthen backfill) will be incidental to the contract unit price per square yard for "8" PCC Driveway Pavement".

Payment for any excavation required for placing the 8" PCC Driveway Pavement and granular material will be incidental to the contract unit price of the surfacing material.

All costs for furnishing and placing the granular material will be incidental to the contract unit price per ton for "Base Course".

CONTRACTOR FURNISHED ASPHALT CONCRETE

Projects:

248-391 PCN I7YF – 2,000 tons ~ SD 248 Cactus Flats to Kadoka

An estimated 2,000 tons of Asphalt Concrete will be produced by the Contractor for use by Department of Transportation Maintenance forces at locations other than on this project.

The Contractor Furnished Asphalt Concrete will be produced in accordance with the same specifications and job mix requirements as the Class Q3R Hot Mixed Asphalt Concrete used on the project.

The material will be loaded, directly from the plant, into Department of Transportation trucks. The Contractor will not be expected to disrupt the paving operations in order to produce this material, but it is the intent that it be produced intermittently during the course of this project and only during the normal hours of plant operation.

All costs involved in producing the Contractor Furnished Asphalt Concrete and loading into Department of Transportation trucks will be measured and paid for at the contract unit price per ton for "Contractor Furnished Asphalt Concrete", Alternate A or Alternate B.

An estimated 19.8 tons of "Hydrated Lime" to be used in the production of Contractor Furnished Asphalt Concrete will be measured and paid for at the contract unit price per ton for "Hydrated Lime".

Alternate A:
An estimated 91.1 tons of PG 58-34 Asphalt Binder to be used in the production of Contractor Furnished Asphalt Concrete will be measured and paid for at the contract unit price per ton for "PG 58-34 Asphalt Binder".

Alternate B:
An estimated 73.3 tons of PG 58-34 Asphalt Binder to be used in the production of Contractor Furnished Asphalt Concrete will be measured and paid for at the contract unit price per ton for "PG 58-34 Asphalt Binder."

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): Asphalt Surfacing, Pavement Marking
- **5.3 (3b): Total Project Area** 47 Acres
- **5.3 (3b): Total Area to be Disturbed** 6 Acres
- **5.3 (3c): Maximum Area Disturbed at One Time** 2.8 Acres
- **5.3 (3d): Existing Vegetative Cover** 60%
- **5.3 (3d): Description of Vegetative Cover** Typical west river native and introduced roadside vegetation
- **5.3 (3e): Soil Properties:** Silt clay, Sandy clay, Clay silt, Clay, Gravelly Silty Sand
- **5.3 (3f): Name of Receiving Water Body/Bodies** White River, Timber Creek
- **5.3 (3g): Location of Construction Support Activity Areas**

5.3 (3h): ORDER OF CONSTRUCTION ACTIVITIES

- **Special sequencing requirements (**see Section C).

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

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

Wetland Avoidance

Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes ☐ No ☒ If yes, the structural and erosion and sediment controls have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.

5.3 (6): PROCEDURES FOR INSPECTIONS

- Inspections will be conducted at least once every 7 days.
- All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report.
- Silt fence will be inspected for depth of sediment and for tears to ensure the fabric is securely attached to the posts and that the posts are well anchored. Sediment buildup will be removed from the silt fence when it reaches $^1/_3$ of the height of the silt fence.
- Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction.
- Check dams will be inspected for stability. Sediment will be removed when depth reaches ½ the height of the dam.
- All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
- Inspection and maintenance reports will be prepared on form DOT 298 for each site inspection, this form will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.
- The SDDOT Project Engineer and Contractor's Erosion Control Supervisor are responsible for inspections. Maintenance and repair activities are the responsibility of the Contractor. The SDDOT Project Engineer will complete the inspection and maintenance reports and distribute copies per the distribution instructions on DOT 298.

5.3 (7): POST CONSTRUCTION STORMWATER MANAGEMENT

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

5.3 (8): POLLUTION PREVENTION PROCEDURES

5.3 (8a): Spill Prevention and Response Procedures

➢ **Material Management**

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

- Hazardous Materials
  - Products will be kept in original containers unless the container is not resealable and provide secondary containment as applicable.
  - Original labels and material safety data sheets will be retained in a safe place to relay important product information.
  - If surplus product must be disposed of, manufacturer's label directions for disposal will be followed.
  - Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants will be conducted on an impervious surface and under cover during wet weather to prevent the release of contaminants onto the ground.
  - Wheel wash water will be collected and allowed to settle out suspended solids prior to discharge. Wheel wash water will not be discharged directly into any stormwater system or stormwater treatment system.
  - Potential pH-modifying materials such as: bulk cement, cement kiln dust, fly ash, new concrete washings, concrete pumping, residuals from concrete saw cutting (either wet or dry), and mixer washout waters will be collected on site and managed to prevent contamination of stormwater runoff.

➢ **Spill Control Practices**

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

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

➢ **Spill Response**

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

- The Contractor's site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
- If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
- Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the Contractor at the site.
- If oil sheen is observed on surface water (e.g. settling ponds, detention ponds, swales), action will be taken immediately to remove the material causing the sheen. The Contractor will use appropriate materials to contain and absorb the spill. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.
- If a spill occurs the superintendent or the superintendent's designee will be responsible for completing the spill reporting form and for reporting the spill to SDDANR.
- Personnel with primary responsibility for spill response and cleanup will receive training by the Contractor's site superintendent or designee. The training must include identifying the location of the spill kits and other spill response equipment and the use of spill response materials.
- Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

5.3 (8b): WASTE MANAGEMENT PROCEDURES

➢ **Waste Disposal**

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

➢ **Hazardous Waste**

- All hazardous waste materials will be disposed of in a manner specified by local or state regulations or by the manufacturer. Site personnel will be instructed in these practices, and the Contractor will be responsible for seeing that these practices are followed.

➢ **Sanitary Waste**

- Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units which must be secured to prevent tipping and serviced in a timely manner by a licensed waste management Contractor or as required by any local regulations.

5.3 (9): CONSTRUCTION SITE POLLUTANTS

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

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

Product Specific Practices

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

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

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

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

5.3 (10): NON-STORMWATER DISCHARGES

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

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

5.3 (11): INFEASIBILITY DOCUMENTATION

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

7.0: SPILL NOTIFICATION

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

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

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

5.4: SWPPP CERTIFICATIONS

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

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

➢ **South Dakota Department of Transportation**

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

_____

Authorized Signature (See the General Permit, Section 7.4 (1))

➢ **Prime Contractor**

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

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

_____

Authorized Signature

CONTACT INFORMATION

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

➢ **Contractor Information**:

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

➢ **Erosion Control Supervisor**

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

➢ **SDDOT Project Engineer**

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

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

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

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

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

5.5: REQUIRED SWPPP MODIFICATIONS

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

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

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

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

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

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

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

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

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

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

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

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

IN PLACE TYPICAL SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	EM 0073(73)62 & 248-391	F13	F32

Plotting Date: 07/23/2025

Remove Asphalt Concrete Pavement

Surface Preparation
(See Surface Preparation Notes for more details)

Transitions:

Sta. 9+50 to Sta. 11+50
2.5" to 1.5"
2.5" to 0"
12" to 10.5"

Sta. 129+47.52 to Sta. 131+47.52
1.5" to 2.5"
0" to 2.5"
10.5" to 12"

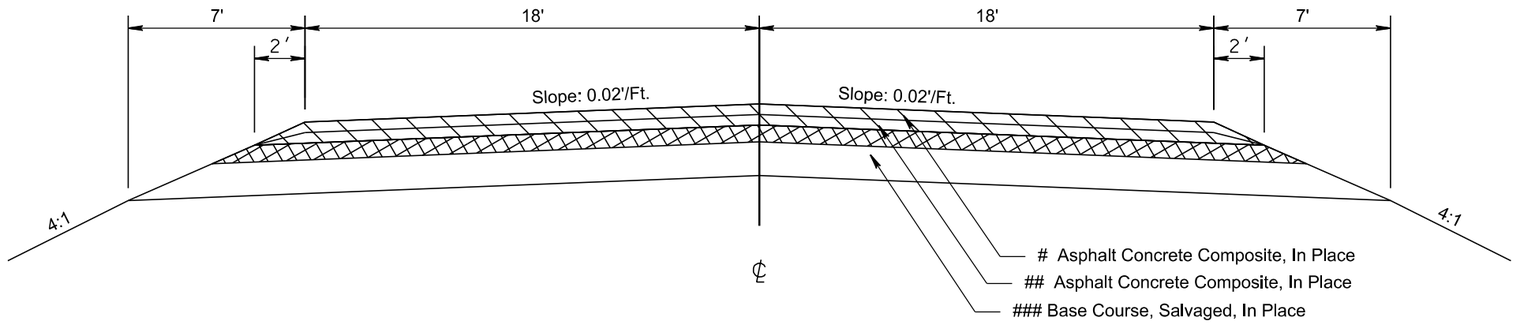
Sta. 136+32.72 to Sta. 138+32.72
2.5" to 1.5"
2.5" to 0"
12" to 10.5"

Sta. 460+77.23 to Sta. 462+77.23
1.5" to 2.5"
0" to 2.5"
10.5" to 12"

Section 1
SD 73 MAINLINE

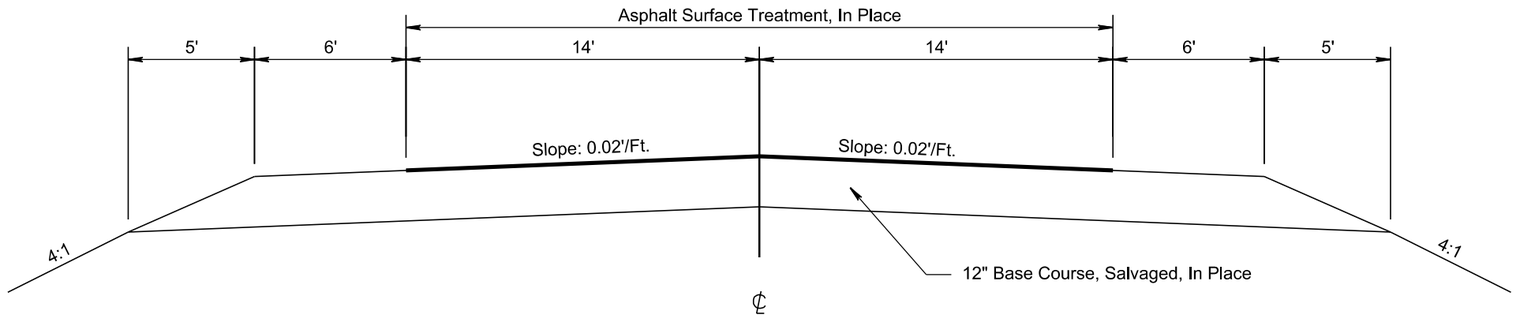
Sta. 9+50 to Sta. 11+50
Sta. 129+47.52 to Sta. 131+47.52
Sta. 136+32.72 to Sta. 138+32.72
Sta. 460+77.23 to Sta. 462+77.23

Bridge and Approach Slabs
Sta. 131+47.52 to Sta. 136+32.72



Section 2
SD 73 MAINLINE

Sta. 11+50 to Sta. 129+47.52
Sta. 138+32.72 to Sta. 460+77.23



PLOT SCALE - 1.0000'
PLOTTED FROM - TRPR18388A
PLOT NAME - 13
FILE - ...\05U4_TYPICAL SECTIONS.DGN

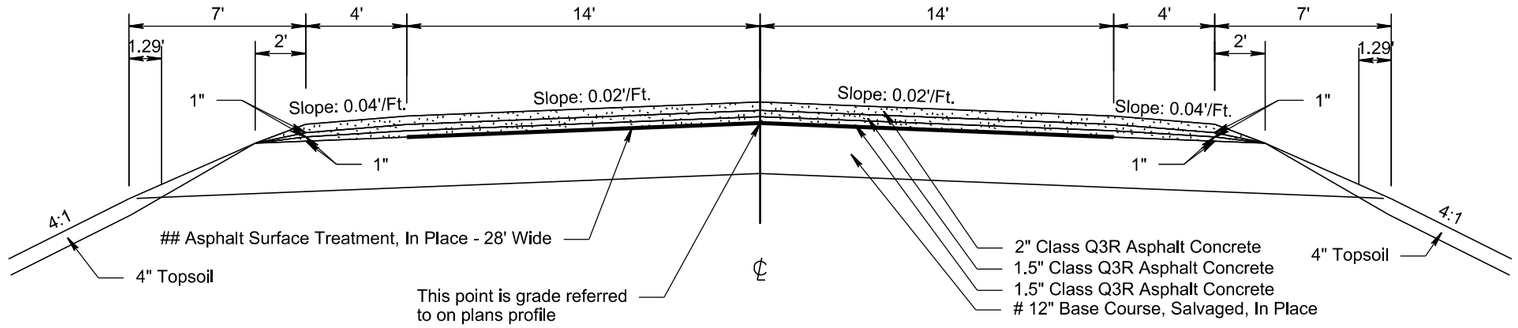
TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	EM 0073(73)62 & 248-391	F14	F32

Plotting Date: 07/23/2025

Section 3
SD 73 MAINLINE

Sta. 9+50 to Sta. 129+47.52
Sta. 138+32.72 to Sta. 462+77.23



Transitions:

Sta. 9+50 to Sta. 11+50
12" to 10.5"

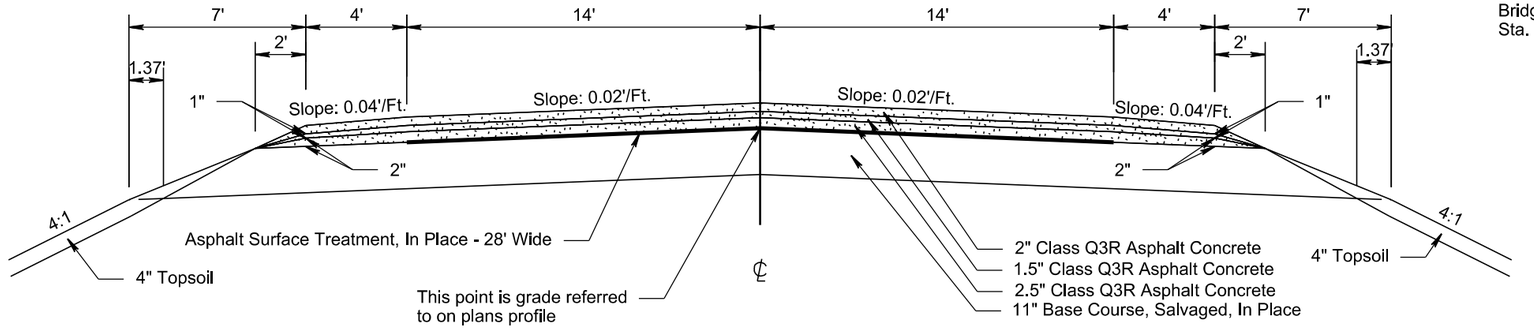
Sta. 460+77.23 to Sta. 462+77.23
10.5" to 12"

Note:

Sta. 9+50 to Sta. 11+50
Sta. 129+47.52 to Sta. 131+47.52
Sta. 136+32.72 to Sta. 138+32.72
Sta. 460+77.23 to Sta. 462+77.23
No Asphalt Surface Treatment

Section 4
SD 73 MAINLINE

Sta. 129+47.52 to Sta. 131+47.52
Sta. 136+32.72 to Sta. 138+32.72



Bridge and Approach Slabs
Sta. 131+47.52 to Sta. 136+32.72

PLOT SCALE - 1:6.00001

PLOTTED FROM - TRPR18388A

PLOT NAME - 14

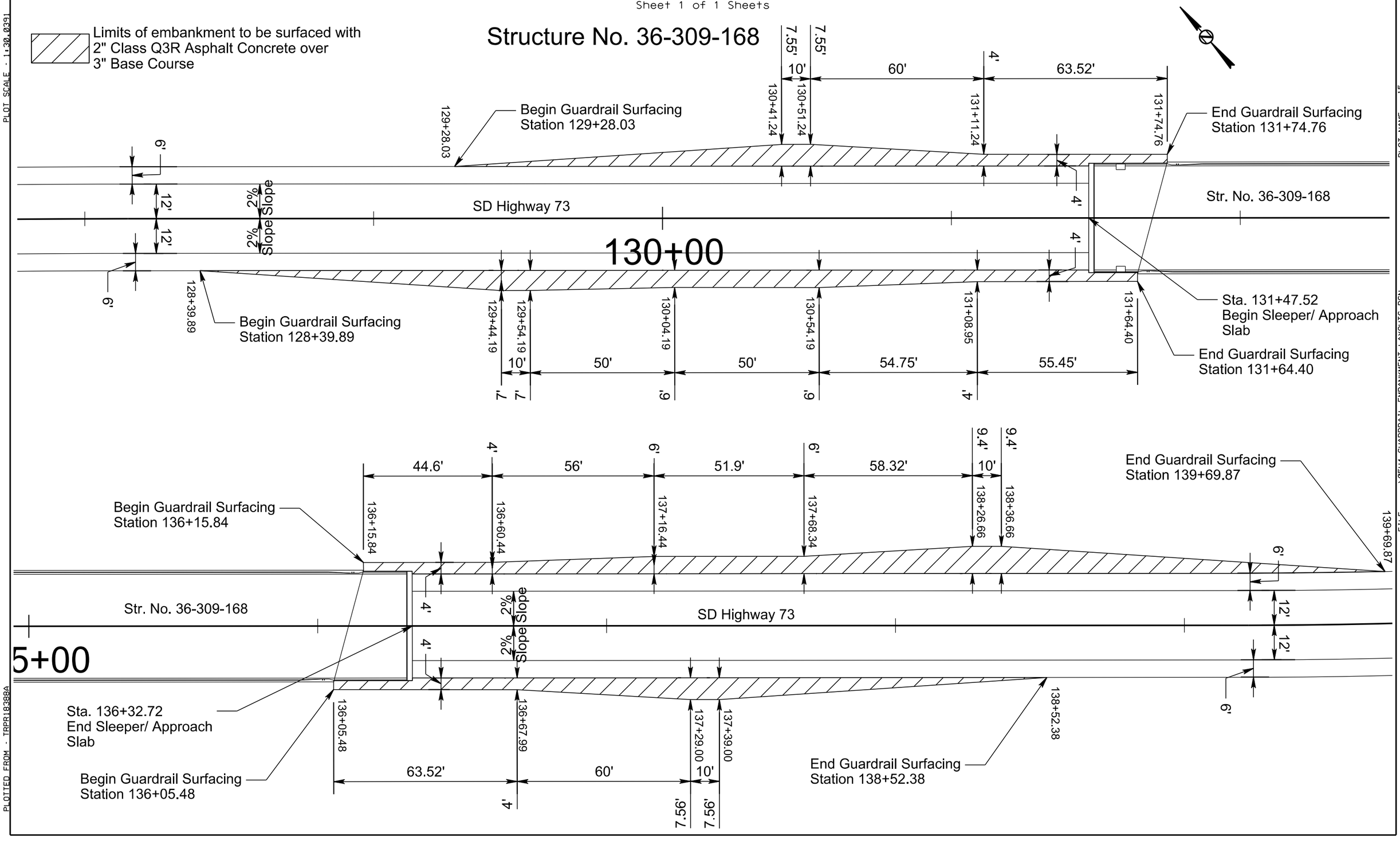
FILE - ...\05U4_TYPICAL SECTIONS.DGN

GUARDRAIL SURFACING LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	EM 0073(73)62 & 248-391	F15	F32

Plotting Date: 07/23/2025
REVISED 7/24/2025 - BAH

Scale 1 Inch = 40 Feet
Sheet 1 of 1 Sheets



PLOT SCALE - 1:30.0391
PLOT NAME - 15
FILE - \05U4_GUARDRAIL EMBANKMENT LAYOUTS.DGN
PLOTTED FROM - TRPR18388A

GUARDRAIL LAYOUTS

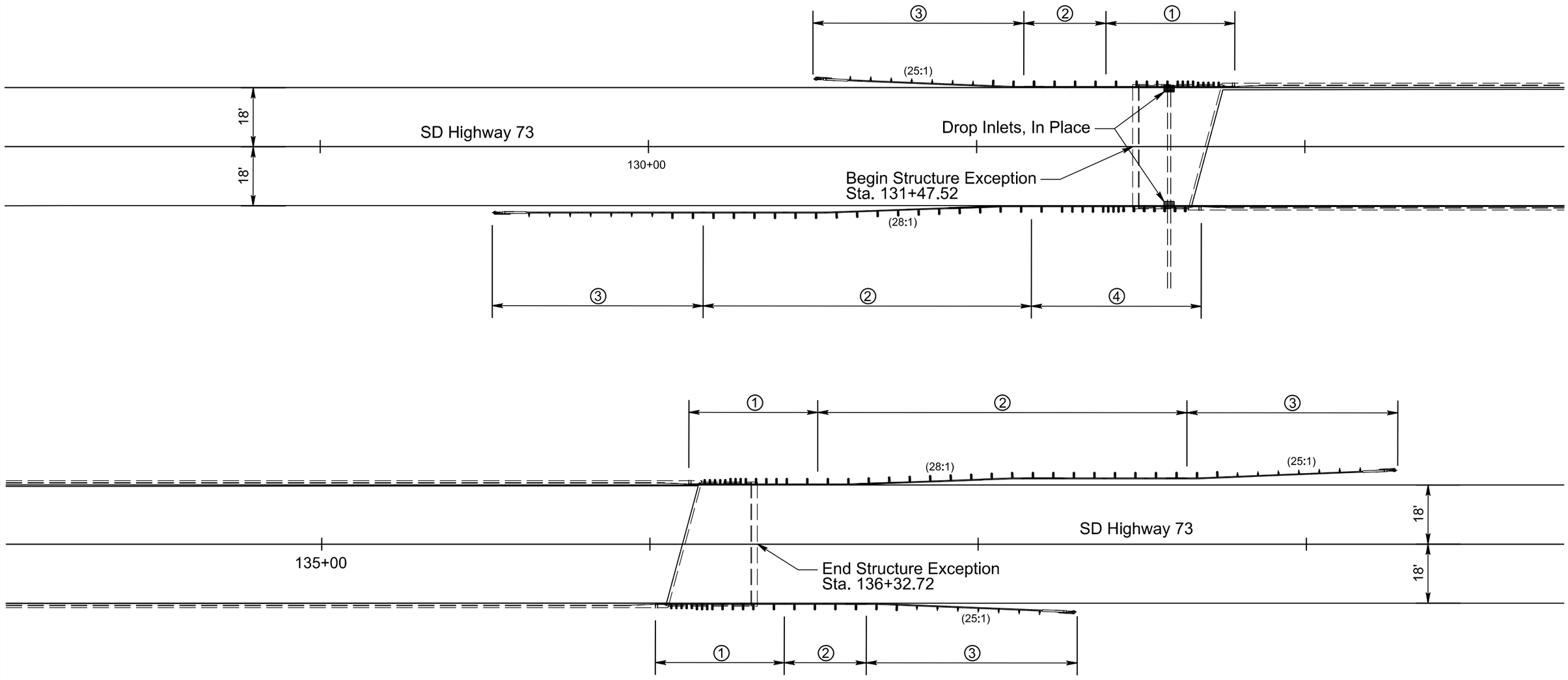
Scale 1 Inch = 40 Feet
Sheet 1 of 1 Sheets

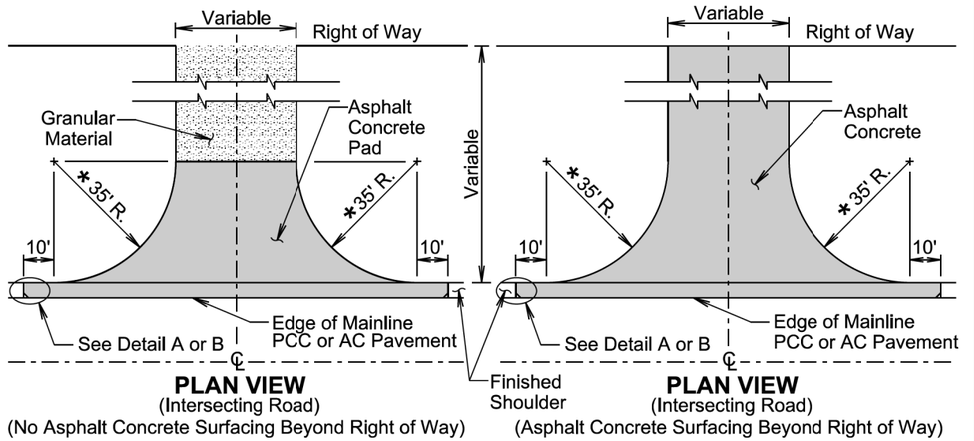
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	EM 0073(73)62 & 248-391	F16	F32

Plotting Date: 07/23/2025
REVISED 7/24/2025 - BAH

①Remove & Reset Retrofit Guardrail Transition
②Remove & Reset Type 1 MGS
③Remove & Reset MGS Tangent End Terminal
④Remove & Reset Type 3 Guardrail Transition

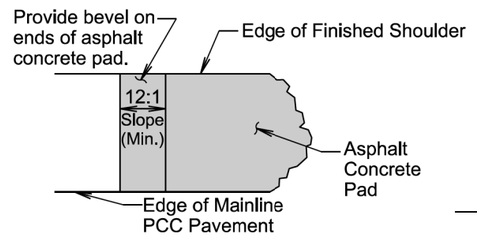
Structure No. 36-309-168



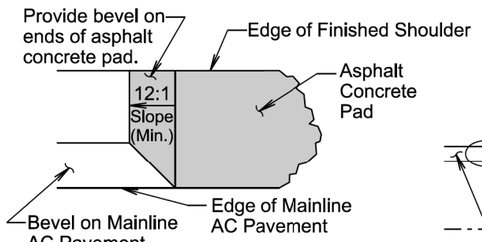


PLAN VIEW
(Intersecting Road)
(No Asphalt Concrete Surfacing Beyond Right of Way)

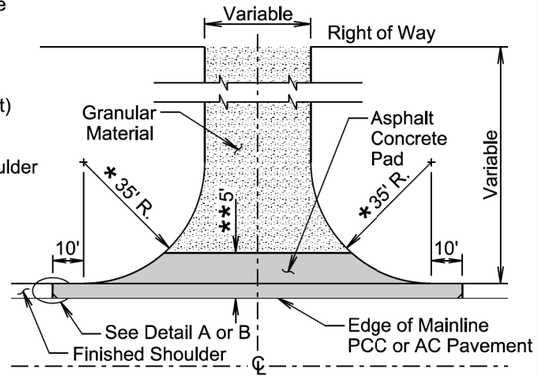
PLAN VIEW
(Intersecting Road)
(Asphalt Concrete Surfacing Beyond Right of Way)



DETAIL A
(Typ. For Projects with Mainline PCC Pavement)



DETAIL B
(Typ. For Projects with Mainline AC Pavement)



PLAN VIEW
(Entrance)

GENERAL NOTES:

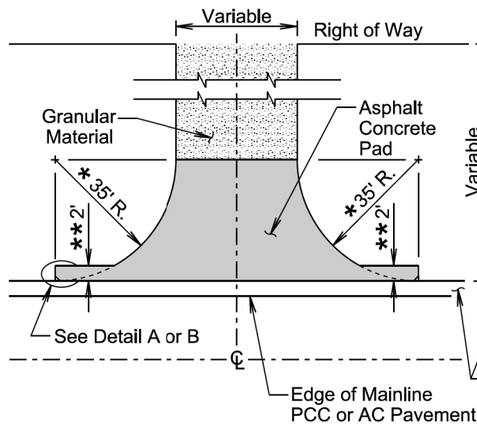
The precise construction limits for situations other than shown above will be determined by the Engineer during construction.

* For new construction, 35' radius typical or as specified in the plans. For resurfacing projects, radius is variable depending on existing conditions.

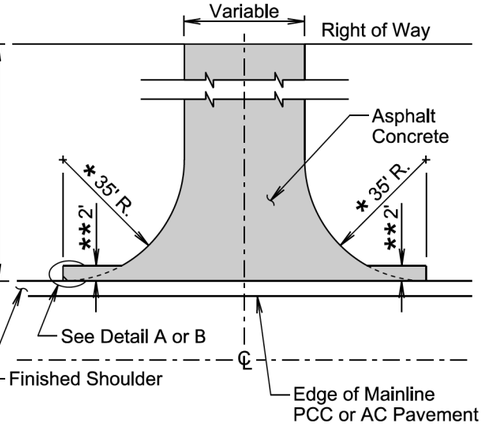
** For shoulder widths < 4', the Asphalt Concrete Pad width must be 5'. For shoulders widths of 4' or more, pave the full width of the shoulder only.

August 27, 2020

Published Date: 2026	SDDOT	*SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (SHOULDERS: GRANULAR MATERIAL OR COLD RECYCLED MATERIAL)*	*PLATE NUMBER* 320.01 *Sheet 1 of 1*



PLAN VIEW
(Intersecting Road)
(No Asphalt Concrete Surfacing Beyond Right of Way)



PLAN VIEW
(Intersecting Road)
(Asphalt Concrete Surfacing Beyond Right of Way)

GENERAL NOTES:

The precise construction limits for situations other than shown above will be determined by the Engineer during construction.

* For new construction, 35' radius typical or as specified in the plans. For resurfacing projects, radius is variable depending on existing conditions.

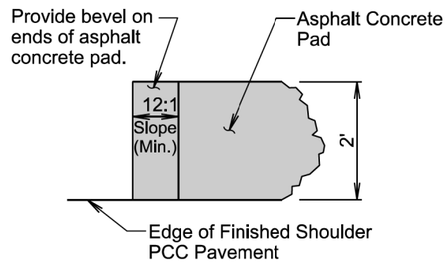
** The Contractor may adjust the screed of the paver during mainline paving operations to provide the 2-foot asphalt concrete pad or the Contractor may provide the 2-foot asphalt concrete pad during paving of the intersecting roads as shown above. The Engineer may eliminate the 2-foot asphalt concrete pads if the Engineer, in the Engineer's sole discretion, determines the pads are infeasible to construct due to site specific reasons including, but not limited to; existing inslope configuration, borrow and material availability, and right-of-way constraints.

August 27, 2020

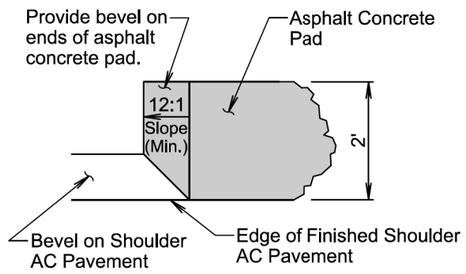
Published Date: 2026	SDDOT	*SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (MAINLINE AND SHOULDERS: PCC OR AC PAVEMENT)*	*PLATE NUMBER* 320.04 *Sheet 1 of 2*

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	EM 0073(73)62 & 248-391	F18	F32

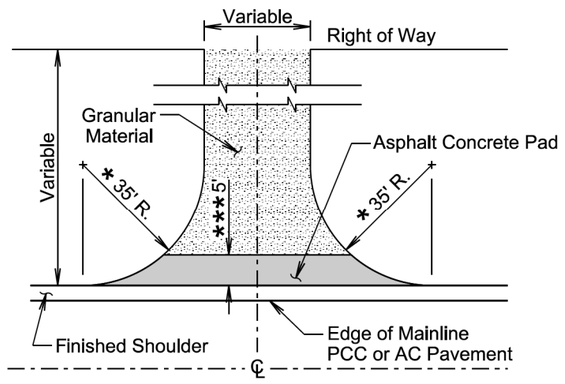
Plotting Date: 07/23/2025



DETAIL A
(Typ. for Projects with PCC Pavement on Shoulder)



DETAIL B
(Typ. for Projects with AC Pavement on Shoulder)

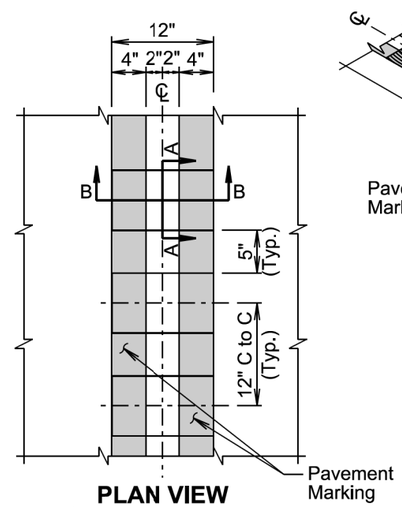


PLAN VIEW
(Entrance)

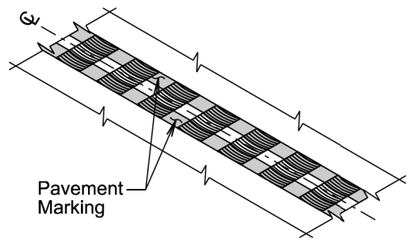
*** Not required if finished shoulder width is 4' or greater.

August 27, 2020

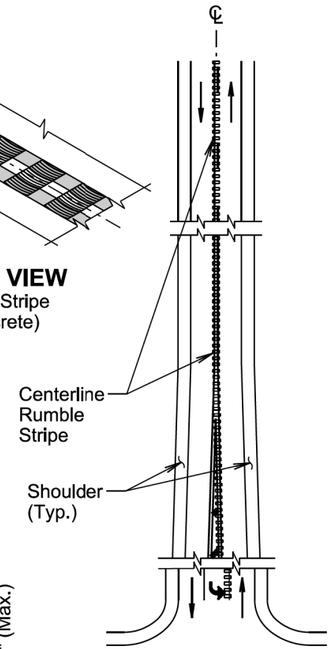
Published Date: 2026	SDDOT	SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (MAINLINE AND SHOULDERS: PCC OR AC PAVEMENT)	PLATE NUMBER 320.04 Sheet 2 of 2

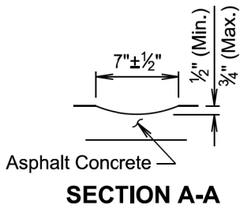


PLAN VIEW
(Typical Rumble Stripe in Asphalt Concrete)

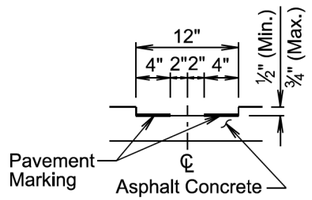


PERSPECTIVE VIEW
(Typical Rumble Stripe in Asphalt Concrete)





SECTION A-A



SECTION B-B

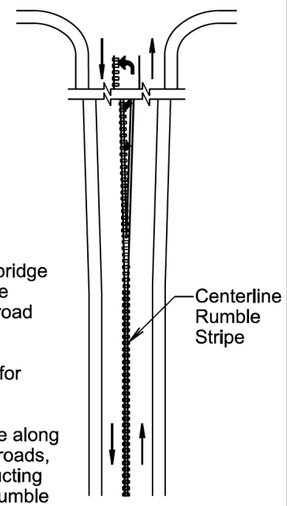
GENERAL NOTES:

A rumble stripe will be constructed on the centerline of the roadway by grinding continuous indentations in the asphalt concrete. The rumble stripe will receive a flush seal or asphalt surface treatment as specified in the plans.

A rumble stripe will not be constructed through intersecting roads, bridge decks, bridge approach slabs, and railroad crossings. The beginning and ending locations of the rumble stripe at intersecting roads, bridge decks, bridge approach slabs, and railroad crossings will be adjusted as approved by the Engineer.

Prior to constructing the rumble stripe the Contractor will submit to the Engineer, for approval, the proposed method of constructing the rumble stripe.

Measurement and payment of the rumble stripe will be to the nearest 0.1 of a mile along the centerline and will include segments without the rumble stripe at intersecting roads, bridge decks, bridge approach slabs, and railroad crossings. Payment for constructing the rumble stripe will be at the contract unit price per mile for "Grind Centerline Rumble Stripe in Asphalt Concrete".



PLAN VIEW

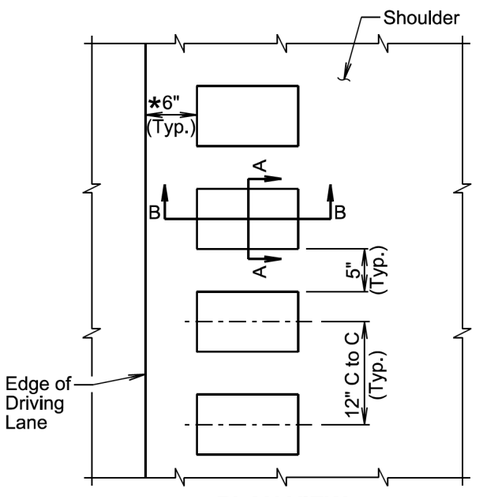
November 19, 2020

Published Date: 2026	SDDOT	12" CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE	PLATE NUMBER 320.18 Sheet 1 of 1

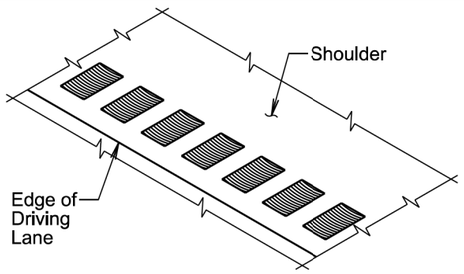
Plot Scale - 1:200
Plotted From - TRPR18388A
File - ...\jack05U4\StdPlateSectionF.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	EM 0073(73)62 & 248-391	F19	F32

Plotting Date: 07/23/2025

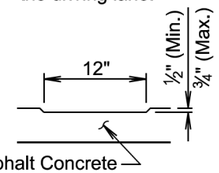


PLAN VIEW
(Typical Rumble Strip in Asphalt Concrete)

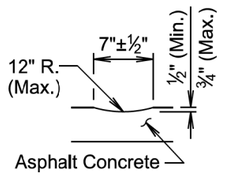


PERSPECTIVE VIEW
(Typical Rumble Strip in Asphalt Concrete)

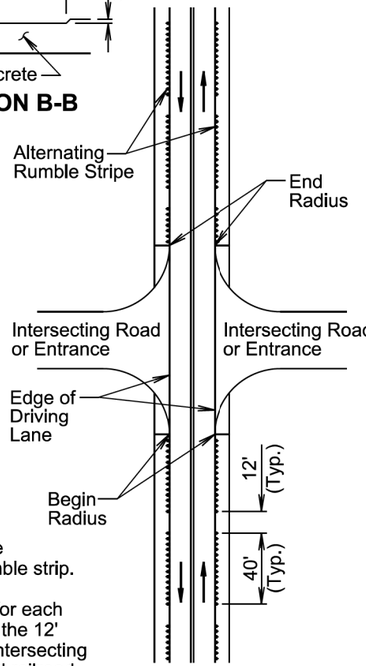
* When PCC pavement width from centerline to edge of pavement is 12', the rumble strip may be placed a maximum of 2' from the edge of the driving lane.



SECTION B-B



SECTION A-A



PLAN VIEW

GENERAL NOTES:

A rumble strip will be constructed on all of the asphalt concrete shoulders by grinding alternating patterns of 40' continuous indentations in the asphalt concrete. The rumble strip will receive a flush seal or asphalt surface treatment as specified in the plans.

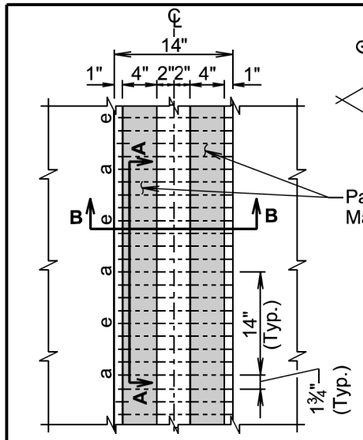
A rumble strip will not be constructed through intersecting roads, entrances, turnouts, bridge decks, bridge approach slabs, and railroad crossings. The lengths of the 40' segments with continuous indentations and the 12' segments without a rumble strip adjacent to the intersecting roads, entrances, turnouts, bridge decks, bridge approach slabs, and railroad crossings will be adjusted as approved by the Engineer.

Prior to constructing the rumble strip the Contractor will submit to the Engineer, for approval, the proposed method of constructing the rumble strip.

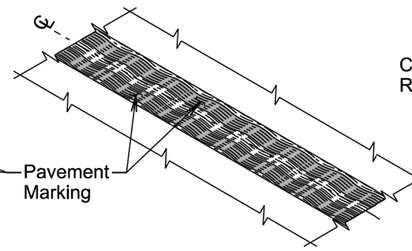
Measurement of the rumble strip will be to the nearest 0.1 of a mile for each shoulder. Measurement and payment of the rumble strip will include the 12' long segments without rumble strips and the segments adjacent to intersecting roads, entrances, turnouts, bridge decks, bridge approach slabs, and railroad crossings without rumble strips. Payment for constructing the rumble strip will be at the contract unit price per mile for "Grind 12" Rumble Strip or Stripe in Asphalt Concrete".

September 14, 2019

Published Date: 2026	SDDOT	12" RUMBLE STRIP IN ASPHALT CONCRETE ON NONDIVIDED HIGHWAY SHOULDERS	PLATE NUMBER 320.24
			Sheet 1 of 1

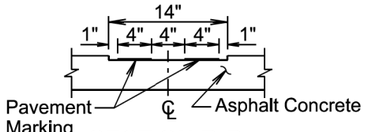


PLAN VIEW
(Typical Rumble Strip in Asphalt Concrete)

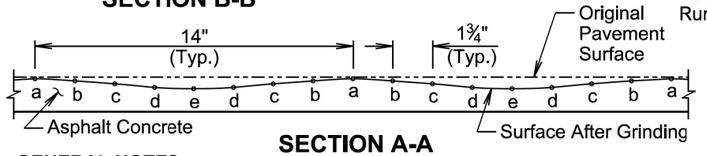


PERSPECTIVE VIEW
(Typical Rumble Strip in Asphalt Concrete)

SINUSOIDAL GRINDING	
Location	* Depth (In.)
a	1/16
b	5/32
c	9/32
d	7/16
e	½



SECTION B-B



SECTION A-A

GENERAL NOTES:

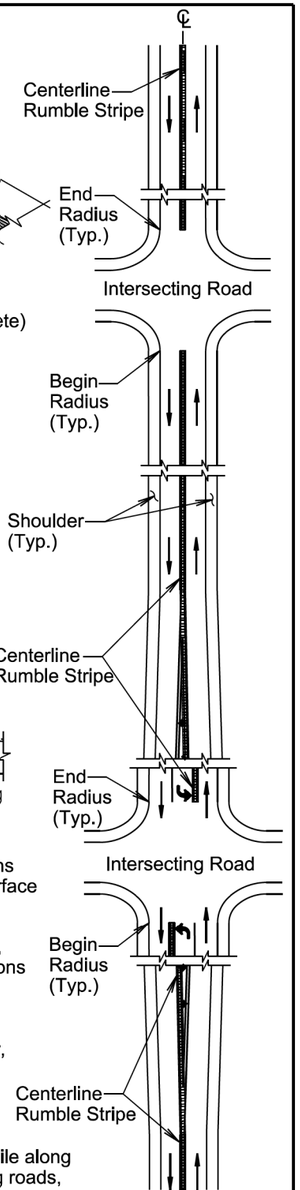
A rumble stripe will be constructed by grinding continuous sinusoidal indentations in the asphalt concrete. The rumble stripe will receive a flush seal or asphalt surface treatment as specified in the plans.

A rumble stripe will not be constructed through intersecting roads, bridge decks, bridge approach slabs, and railroad crossings. The beginning and ending locations of the rumble stripe at intersecting roads, bridge decks, bridge approach slabs, and railroad crossings will be adjusted as approved by the Engineer.

Prior to constructing the rumble stripe the Contractor will submit to the Engineer, for approval, the proposed method of constructing the rumble stripe.

* The sinusoidal rumble stripe construction grinding tolerance will be ± 1/16 inch.

Measurement and payment of the rumble stripe will be to the nearest 0.1 of a mile along the centerline and will include segments without the rumble stripe at intersecting roads, bridge decks, bridge approach slabs, and railroad crossings. Payment for constructing the rumble stripe will be at the contract unit price per mile for "Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete".



PLAN VIEW

September 14, 2019

Published Date: 2026	SDDOT	SINUSOIDAL CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE	PLATE NUMBER 320.40
			Sheet 1 of 1

Plot Scale - 1:200

Plotted From - TRPR18388A

File - ...\jack05U4\StdPlateSectionF.dgn

TYPE AND DETAILS OF MGS						
Type of MGS	W Beam Rail Single or Double (Nested)	Blockout Size	Blockout Material	Post Size	Post Material	Post Spacing
1	Single	6"x12"x14"	Wood	6"x8"x6'-0"	Wood	6'-3"
1C	Single	6"x12"x14"	Wood	6"x8"x7'-6"	Wood	6'-3"
2	Single	6"x12"x14"	Wood	6"x8"x6'-0"	Wood	3'-1½"
3	Single	6"x12"x14"	Wood	6"x8"x6'-0"	Wood	1'-6¾"
4	Double	6"x12"x14"	Wood	6"x8"x6'-0"	Wood	6'-3"

STANDARD PLATE REFERENCE	
Type of MGS	See Standard Plate(s)
1	630.20, 630.22
1C	630.20, 630.25
2	630.20
3	630.20
4	630.20

GENERAL NOTES:

Asphalt concrete will be the same type used elsewhere on the project or will be as specified in the plans. If asphalt concrete is not specified in the plans, the asphalt concrete will conform to the Specifications for "Asphalt Concrete Composite".

Granular material will be the same type used elsewhere on the project or will be as specified in the plans. If granular material type is not specified in the plans, the material will conform to the Specifications for "Base Course". The granular material will be placed the same thickness as the mainline surfacing or as specified in the plans.

Topsoil is not shown in the transverse section drawing on sheet 2 of 6.

All W beam rail will be Type 1 and Class A (12 Ga.) unless specified otherwise in the plans.

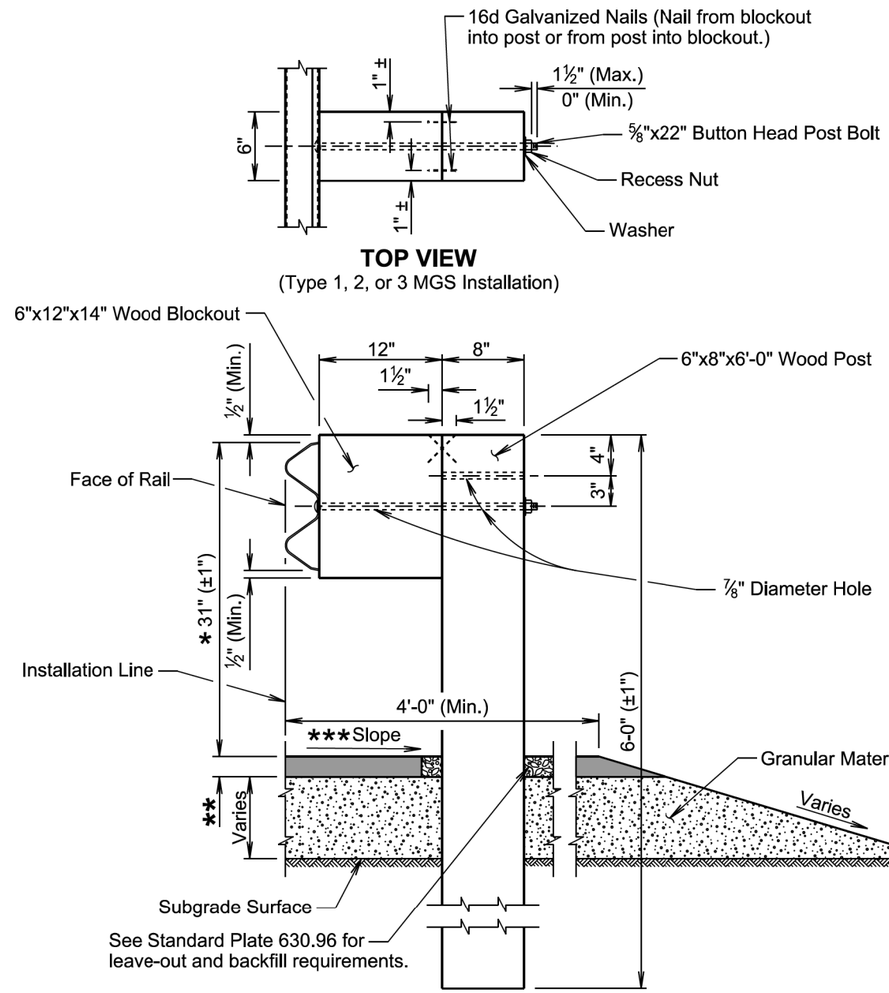
W beam rail section lengths may be 12'-6" and/or 25'-0". The combination of section lengths used will be compatible with the total length of rail per site as shown in the plans.

Slots in the rails will be provided as specified in the plans and by the manufacturer. A drilled hole through the rail is not allowed as a replacement for a slot. If the Contractor must create a slot, a cutting torch or plasma cutter is not allowed. The slot edges will be smooth and free of burrs or notches.

All costs for constructing the MGS including labor, equipment, and materials including all posts, blockouts, steel beam rail, and hardware will be incidental to the contract unit price per foot for the respective MGS contract item.

April 8, 2025

Published Date: 2026	SDDOT	MIDWEST GUARDRAIL SYSTEM (MGS)	PLATE NUMBER 630.20 Sheet 1 of 6



TRANSVERSE SECTION
(Type 1, 2, or 3 MGS Installation)

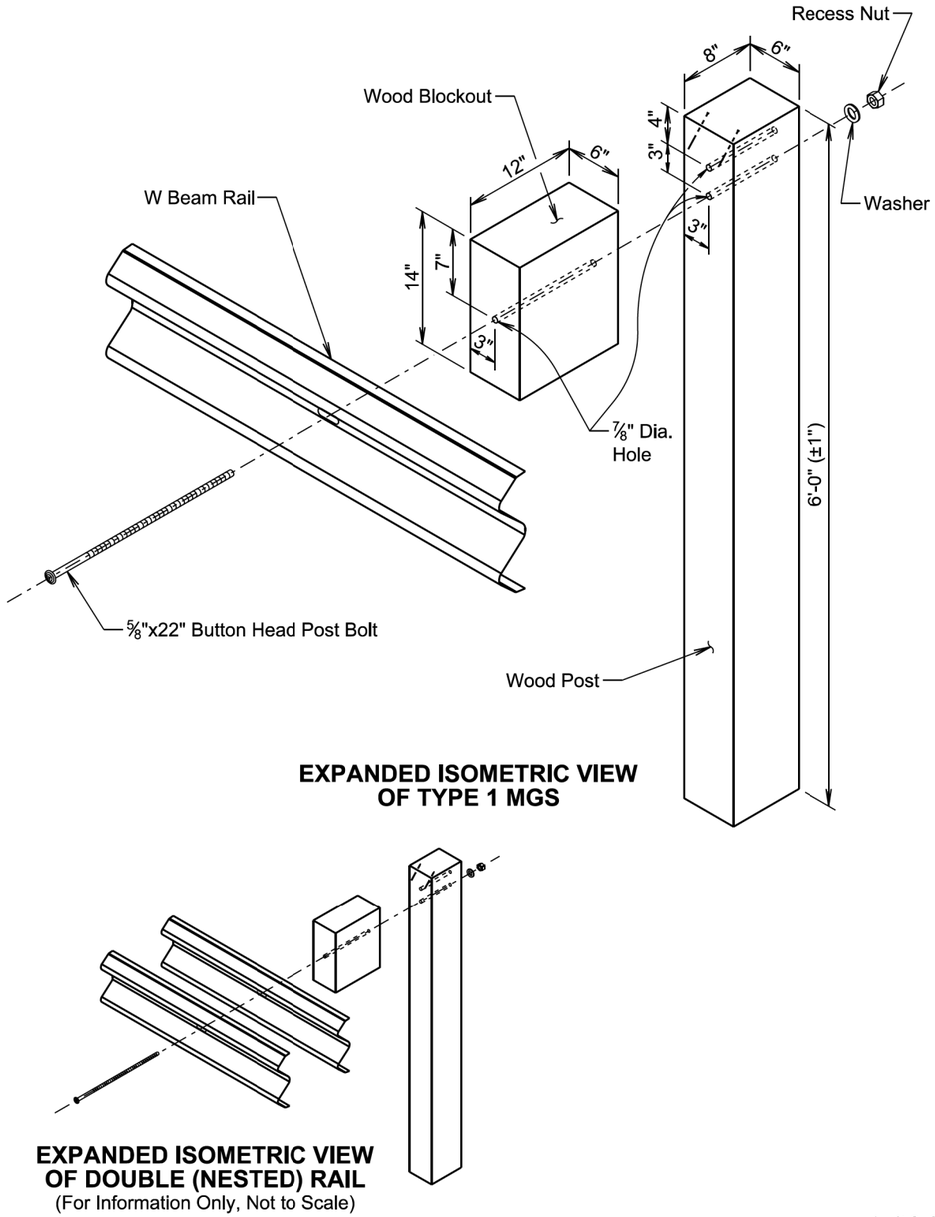
* See Standard Plate 630.99

** 2" asphalt concrete or as specified in the plans.

*** The cross slope will be as specified in the plans; however, the cross slope will not be steeper than a 10:1 slope.

April 8, 2025

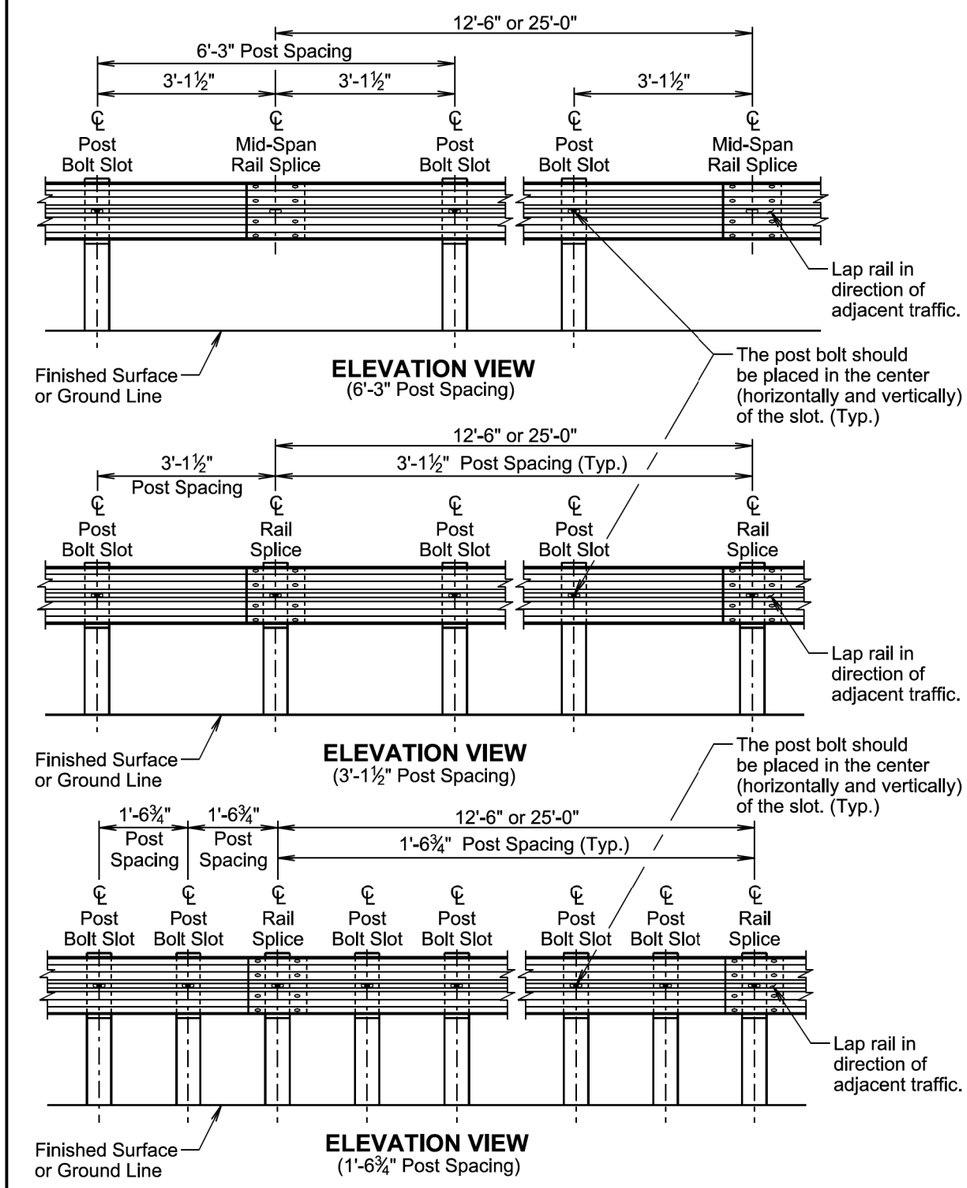
Published Date: 2026	SDDOT	MIDWEST GUARDRAIL SYSTEM (MGS)	PLATE NUMBER 630.20 Sheet 2 of 6



EXPANDED ISOMETRIC VIEW OF TYPE 1 MGS

EXPANDED ISOMETRIC VIEW OF DOUBLE (NESTED) RAIL
(For Information Only, Not to Scale)

April 8, 2025

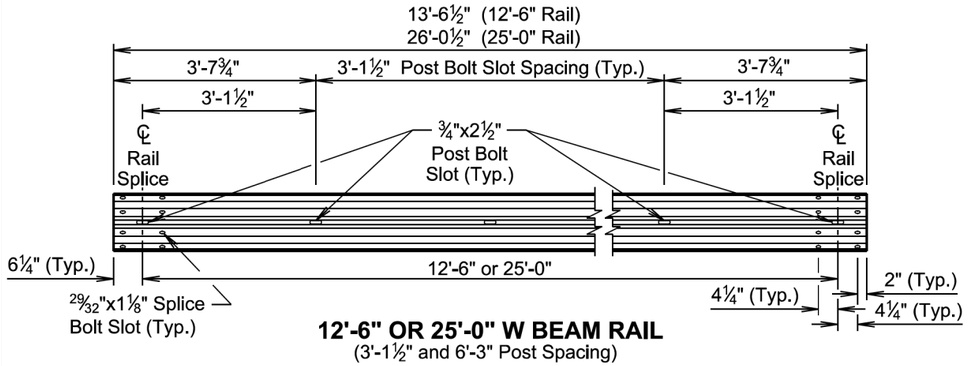


ELEVATION VIEW
(6'-3" Post Spacing)

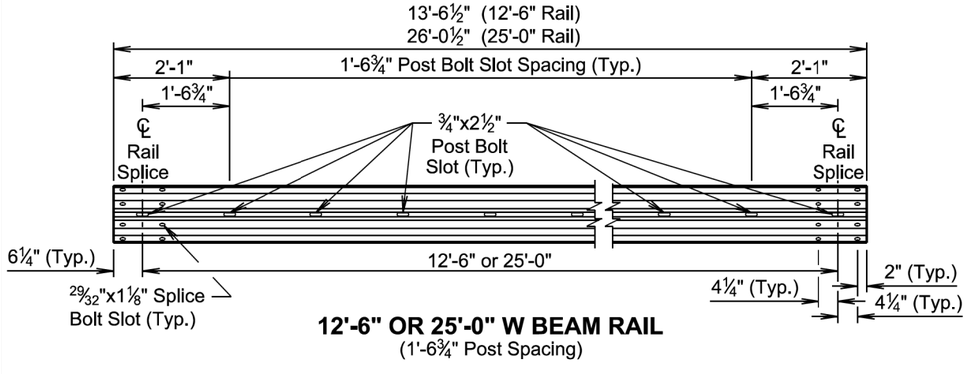
ELEVATION VIEW
(3'-1½" Post Spacing)

ELEVATION VIEW
(1'-6¾" Post Spacing)

April 8, 2025



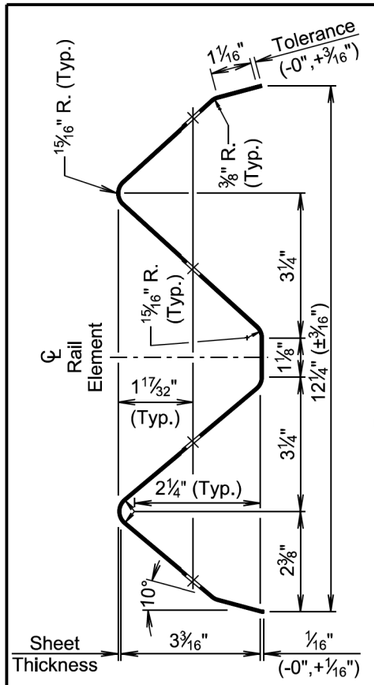
12'-6" OR 25'-0" W BEAM RAIL
(3'-1½" and 6'-3" Post Spacing)



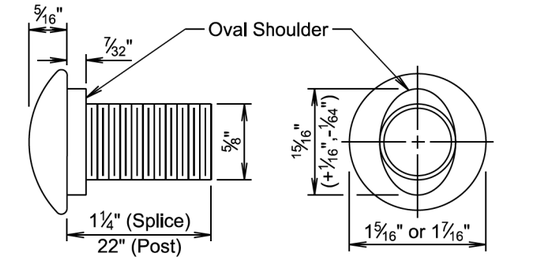
12'-6" OR 25'-0" W BEAM RAIL
(1'-6¾" Post Spacing)

April 8, 2025

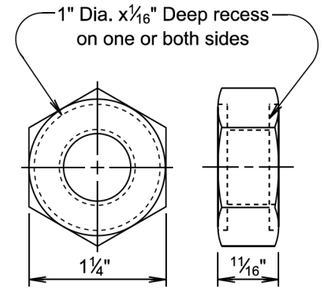
Published Date: 2026	SDDOT	MIDWEST GUARDRAIL SYSTEM (MGS)	PLATE NUMBER 630.20
			Sheet 5 of 6



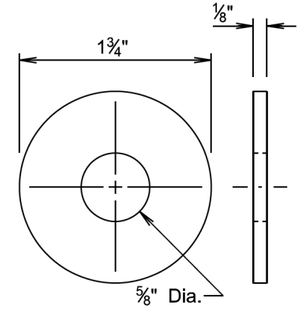
SECTION THROUGH W BEAM RAIL



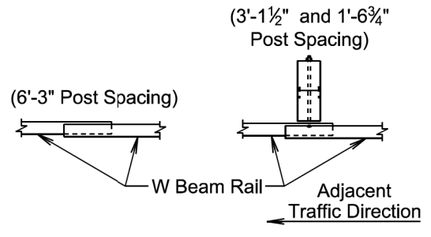
SPLICE BOLT AND POST BOLT
(⅝" Button Head Bolt)



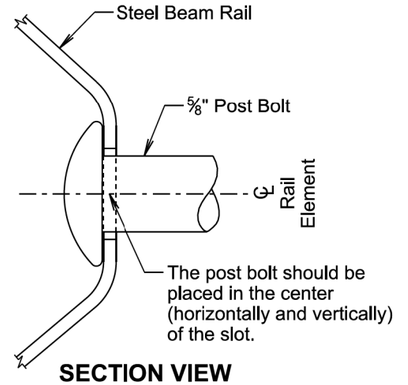
RECESS NUT
(At lap splices, the recess will be placed against the steel rail.)



WASHER
(The washer will be placed between the back side of wood post and the recess nut, see sheet 2 and 3.)



PLAN VIEW
(Lap Splice)
(Lap rail in direction of adjacent traffic.)
(8 splice bolts and 8 recess nuts per splice, NO washers)

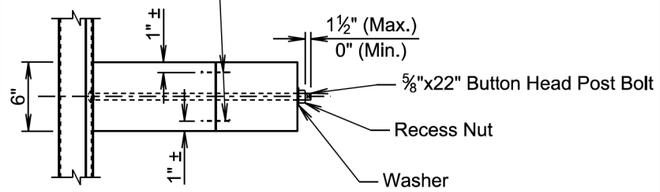


SECTION VIEW
(At Post Bolt)

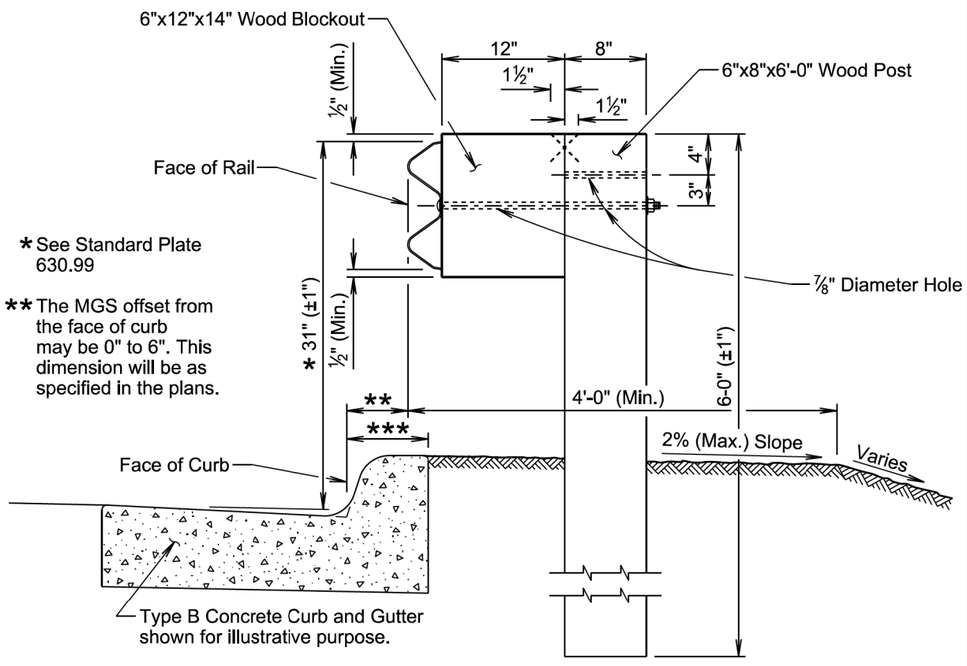
April 8, 2025

Published Date: 2026	SDDOT	MIDWEST GUARDRAIL SYSTEM (MGS)	PLATE NUMBER 630.20
			Sheet 6 of 6

CONCRETE CURB AND GUTTER TYPE	DIMENSION *** (in.)
B and BL	8
D	12
F and FL	10
R	11



TOP VIEW



* See Standard Plate 630.99

** The MGS offset from the face of curb may be 0" to 6". This dimension will be as specified in the plans.

TRANSVERSE SECTION

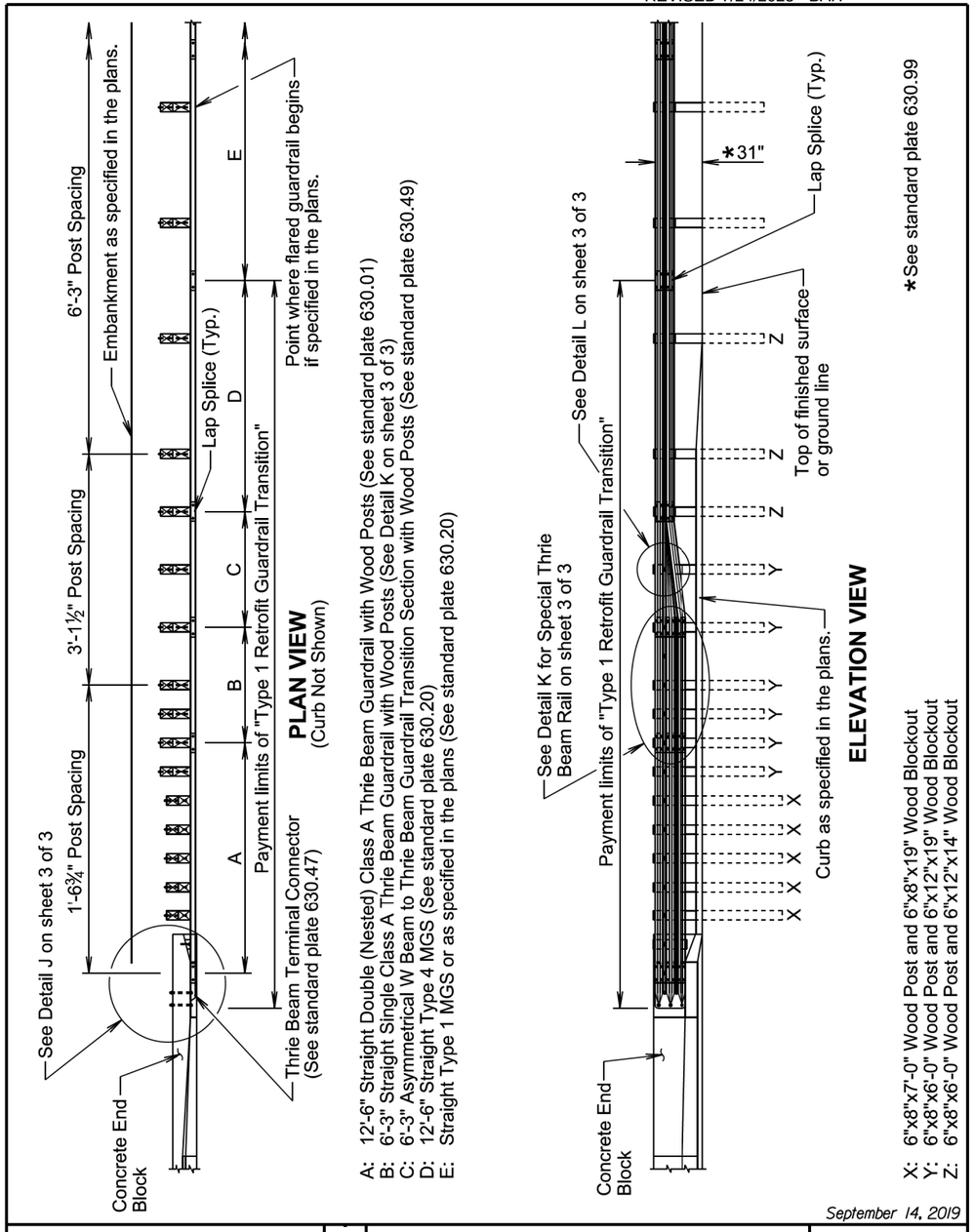
GENERAL NOTES:

The guardrail on this standard plate is Type 1 MGS. See standard plate 630.20 for specifications regarding Type 1 MGS.

When PCC pavement or asphalt concrete pavement is adjacent to the post, see standard plate 630.96 for leave-out and backfill requirements.

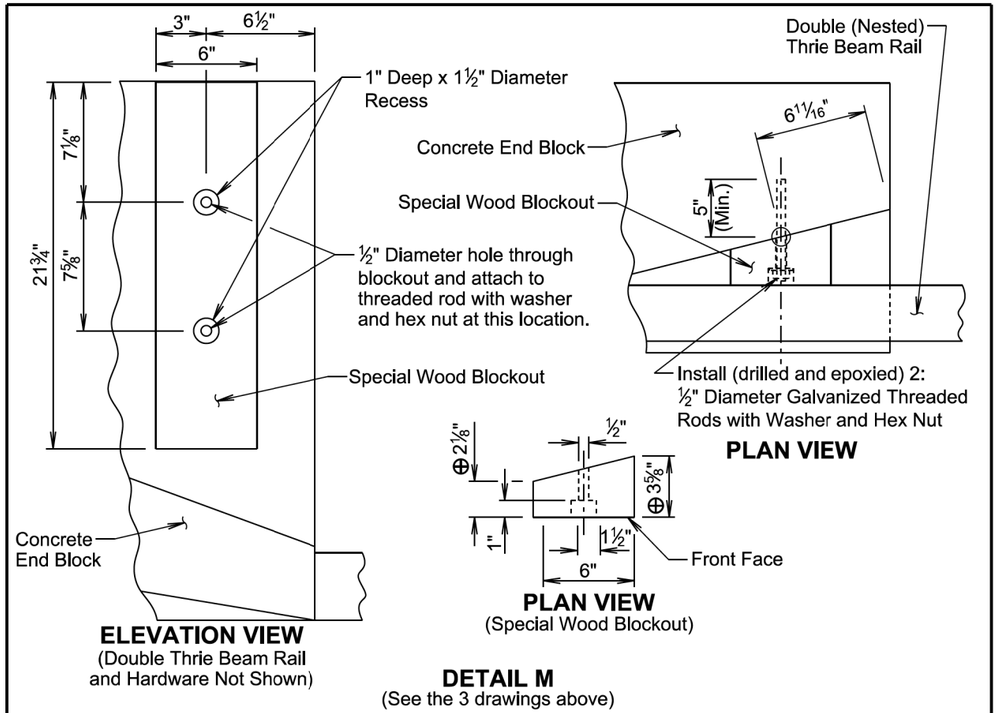
April 8, 2025

Published Date: 2026	SDDOT	MIDWEST GUARDRAIL SYSTEM (MGS) AT CURB AND GUTTER	PLATE NUMBER 630.22
			Sheet 1 of 1



September 14, 2019

Published Date: 2026	SDDOT	TYPE 1 RETROFIT GUARDRAIL TRANSITION (CONCRETE END BLOCK TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.51
			Sheet 1 of 3



DETAIL M
(See the 3 drawings above)

GENERAL NOTES FOR INSTALLING THREADED RODS INTO CONCRETE:

⊕ The dimensions shown are estimated based on original construction plans of the concrete end block. The special wood blockout will be cut as necessary such that the front face of the special wood blockout will align with the vertical front face of the concrete end block ±½".

The threaded rods will be ½" diameter and conform to ASTM F1554, Grade 55. The threaded rods will be embedded a minimum of 5" into the concrete.

The diameter of the drilled holes will not be less than ⅛" greater or more than ⅜" greater than the diameter of the threaded rods or as per the Manufacturer's recommendations. The holes will not be drilled using core bits. The drilled holes will be blown out with compressed air using a device that will reach the back of the hole to ensure that all debris or loose material has been removed prior to the epoxy injection.

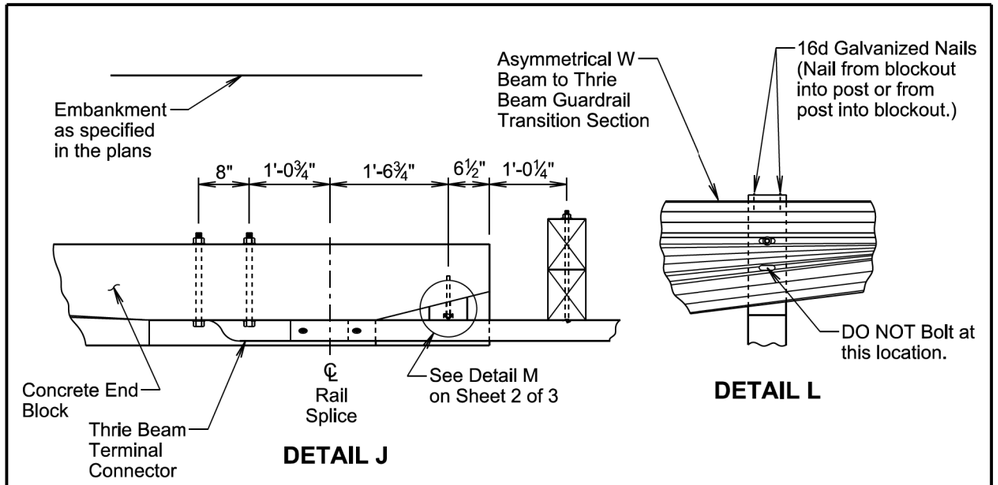
The epoxy resin mixture will be of a type for bonding steel to hardened concrete and will conform to AASHTO M235 Type IV, Grade 3 (Equivalent to ASTM C881, Type IV, Grade 3).

Mix epoxy resin as recommended by the Manufacturer and apply by an injection method as approved by the Engineer. Beginning at the back of the drilled holes, fill the holes ⅓ to ½ full of epoxy, or as recommended by the Manufacturer, prior to insertion of the steel rod. Rotate the steel rod during installation to eliminate voids and ensure complete bonding of the rod. Insertion of the rods by the dipping or painting methods will not be allowed.

Loads will not be applied to the epoxy grouted threaded rods until the epoxy resin has had sufficient time to cure as specified by the epoxy resin Manufacturer.

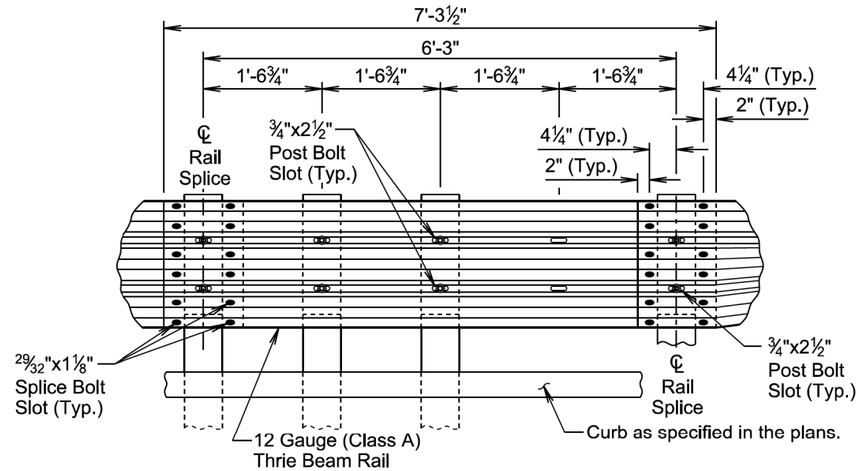
September 14, 2019

Published Date: 2026	SDDOT	*TYPE 1 RETROFIT GUARDRAIL TRANSITION (CONCRETE END BLOCK TO MIDWEST GUARDRAIL SYSTEM (MGS))*	*PLATE NUMBER* 630.51
			Sheet 2 of 3



DETAIL J

DETAIL L



DETAIL K
(Special Thrie Beam Rail)

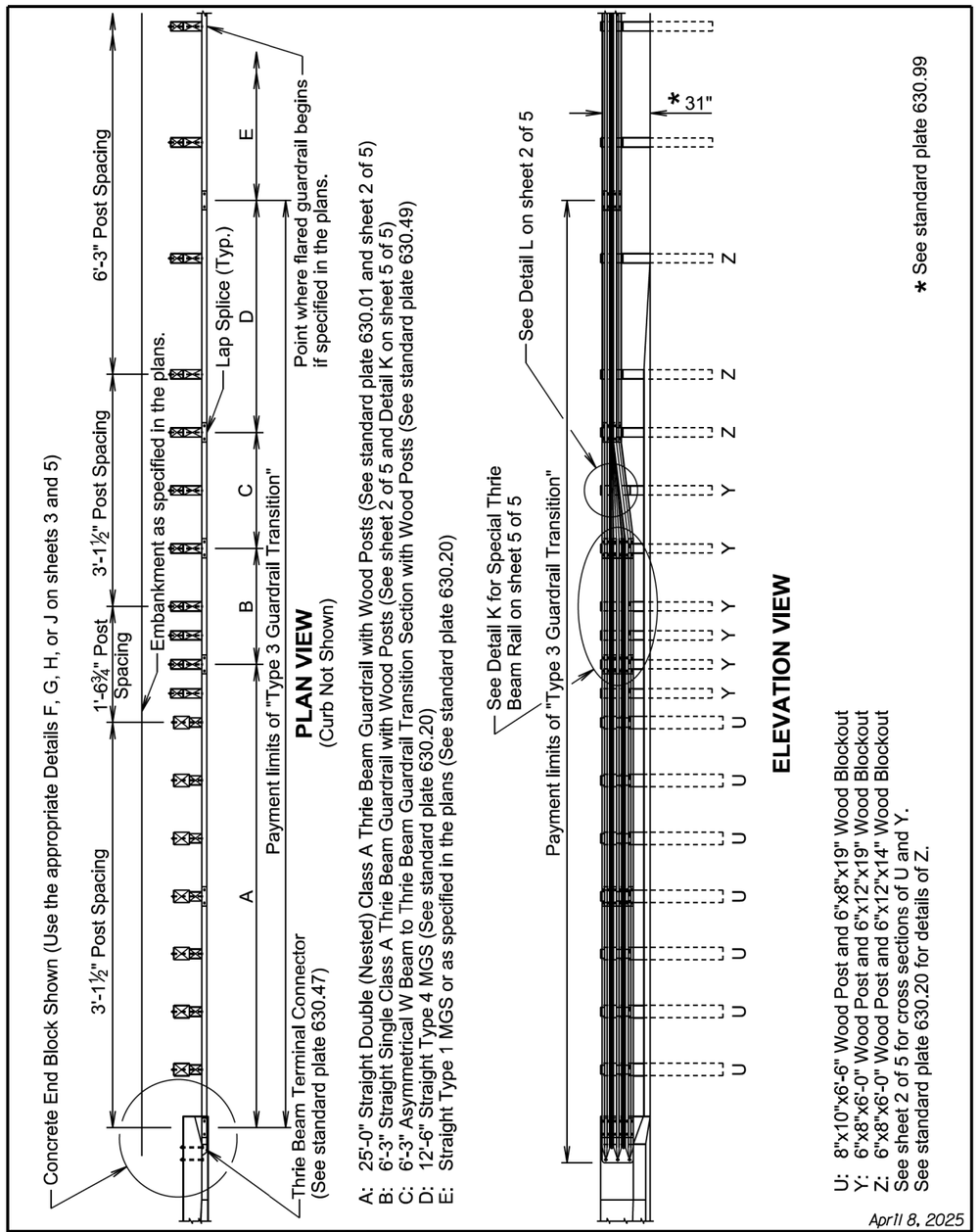
GENERAL NOTES:

Throughout the type 1 retrofit guardrail transition, slots in the rails will be provided as specified in the plans and by the Manufacturer. A drilled hole through the rail is not allowed as a replacement for a slot. If the Contractor must create a slot, a cutting torch or plasma cutter is not allowed. The slot edges will be smooth and free of burrs or notches.

All costs for furnishing and installing the type 1 retrofit guardrail transition including labor, equipment, and materials which includes all rail sections, posts and blockouts, special blockout, hardware, and incidentals will be included in the contract unit price per each for "Type 1 Retrofit Guardrail Transition".

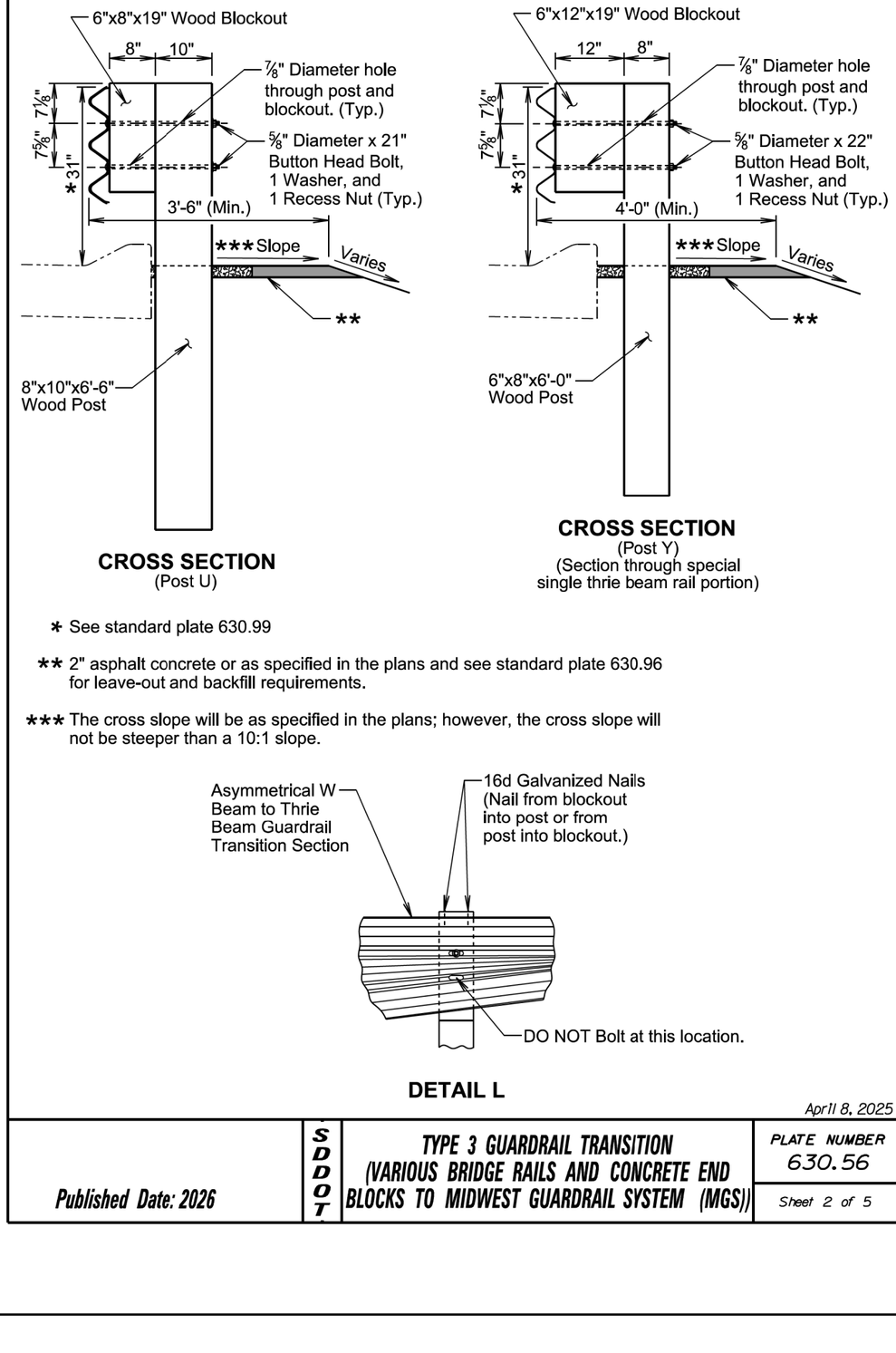
September 14, 2019

Published Date: 2026	SDDOT	*TYPE 1 RETROFIT GUARDRAIL TRANSITION (CONCRETE END BLOCK TO MIDWEST GUARDRAIL SYSTEM (MGS))*	*PLATE NUMBER* 630.51
			Sheet 3 of 3



April 8, 2025

Published Date: 2026	SDDOT	TYPE 3 GUARDRAIL TRANSITION (VARIOUS BRIDGE RAILS AND CONCRETE END BLOCKS TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.56
			Sheet 1 of 5



* See standard plate 630.99

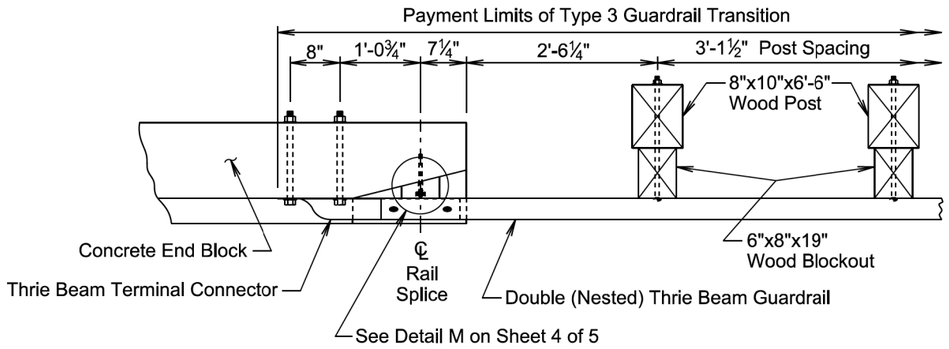
** 2" asphalt concrete or as specified in the plans and see standard plate 630.96 for leave-out and backfill requirements.

*** The cross slope will be as specified in the plans; however, the cross slope will not be steeper than a 10:1 slope.

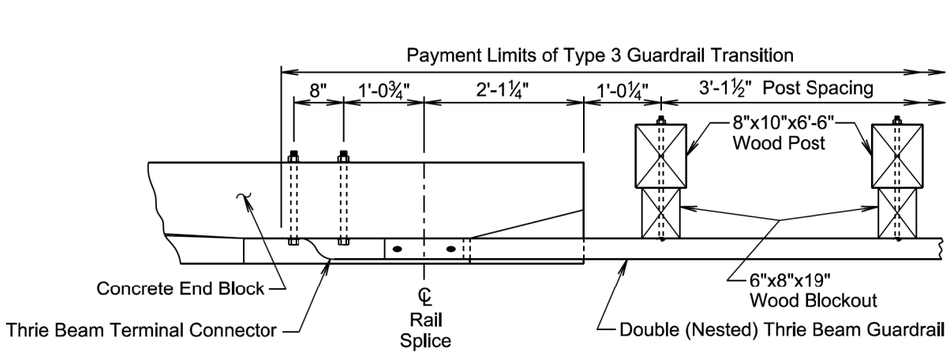
DETAIL L

April 8, 2025

Published Date: 2026	SDDOT	TYPE 3 GUARDRAIL TRANSITION (VARIOUS BRIDGE RAILS AND CONCRETE END BLOCKS TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.56
			Sheet 2 of 5



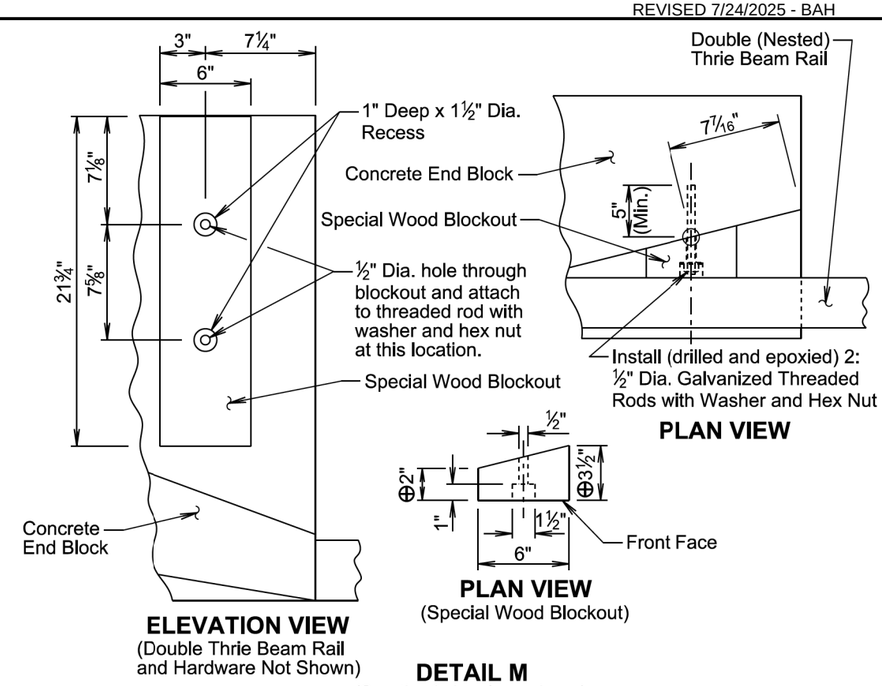
DETAIL F



DETAIL G

April 8, 2025

Published Date: 2026	SDDOT	TYPE 3 GUARDRAIL TRANSITION (VARIOUS BRIDGE RAILS OR CONCRETE END BLOCKS TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.56
			Sheet 3 of 5



ELEVATION VIEW
(Double Thrie Beam Rail and Hardware Not Shown)

PLAN VIEW

PLAN VIEW
(Special Wood Blockout)

DETAIL M
(See the 3 drawings above)

GENERAL NOTES FOR INSTALLING THREADED RODS INTO CONCRETE:

⊕ The dimensions shown are estimated based on original construction plans of the concrete end block. The special wood blockout will be cut as necessary such that the front face of the special wood blockout will align with the vertical front face of the concrete end block ± ½".

The threaded rods will be ½" diameter and conform to ASTM F1554, Grade 55. The threaded rods will be embedded a minimum of 5" into the concrete.

The diameter of the drilled holes will not be less than ⅛" greater or more than ⅜" greater than the diameter of the threaded rods or as per the Manufacturer's recommendations. The holes will not be drilled using core bits. The drilled holes will be blown out with compressed air using a device that will reach the back of the hole to ensure that all debris or loose material has been removed prior to the epoxy injection.

The epoxy resin mixture will be of a type for bonding steel to hardened concrete and will conform to AASHTO M235 Type IV, Grade 3 (Equivalent to ASTM C881, Type IV, Grade 3).

Mix epoxy resin as recommended by the Manufacturer and apply by an injection method as approved by the Engineer. Beginning at the back of the drilled holes, fill the holes ⅓ to ½ full of epoxy, or as recommended by the Manufacturer, prior to insertion of the steel rod. Rotate the steel rod during installation to eliminate voids and ensure complete bonding of the rod. Insertion of the rods by the dipping or painting methods will not be allowed.

Loads will not be applied to the epoxy grouted threaded rods until the epoxy resin has had sufficient time to cure as specified by the epoxy resin Manufacturer.

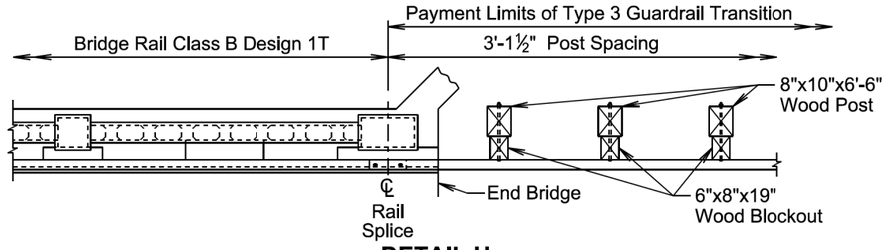
April 8, 2025

Published Date: 2026	SDDOT	TYPE 3 GUARDRAIL TRANSITION (VARIOUS BRIDGE RAILS OR CONCRETE END BLOCKS TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.56
			Sheet 4 of 5

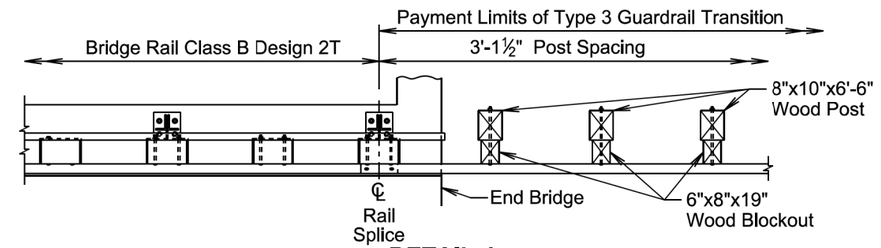
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	EM 0073(73)62 & 248-391	F27	F32

Plotting Date: 07/23/2025

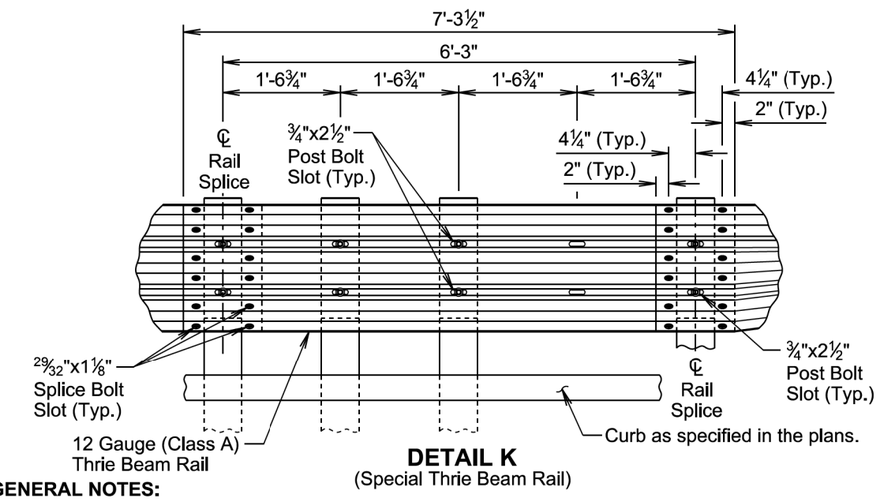
REVISED 7/24/2025 - BAH



DETAIL H



DETAIL J



DETAIL K
(Special Thrie Beam Rail)

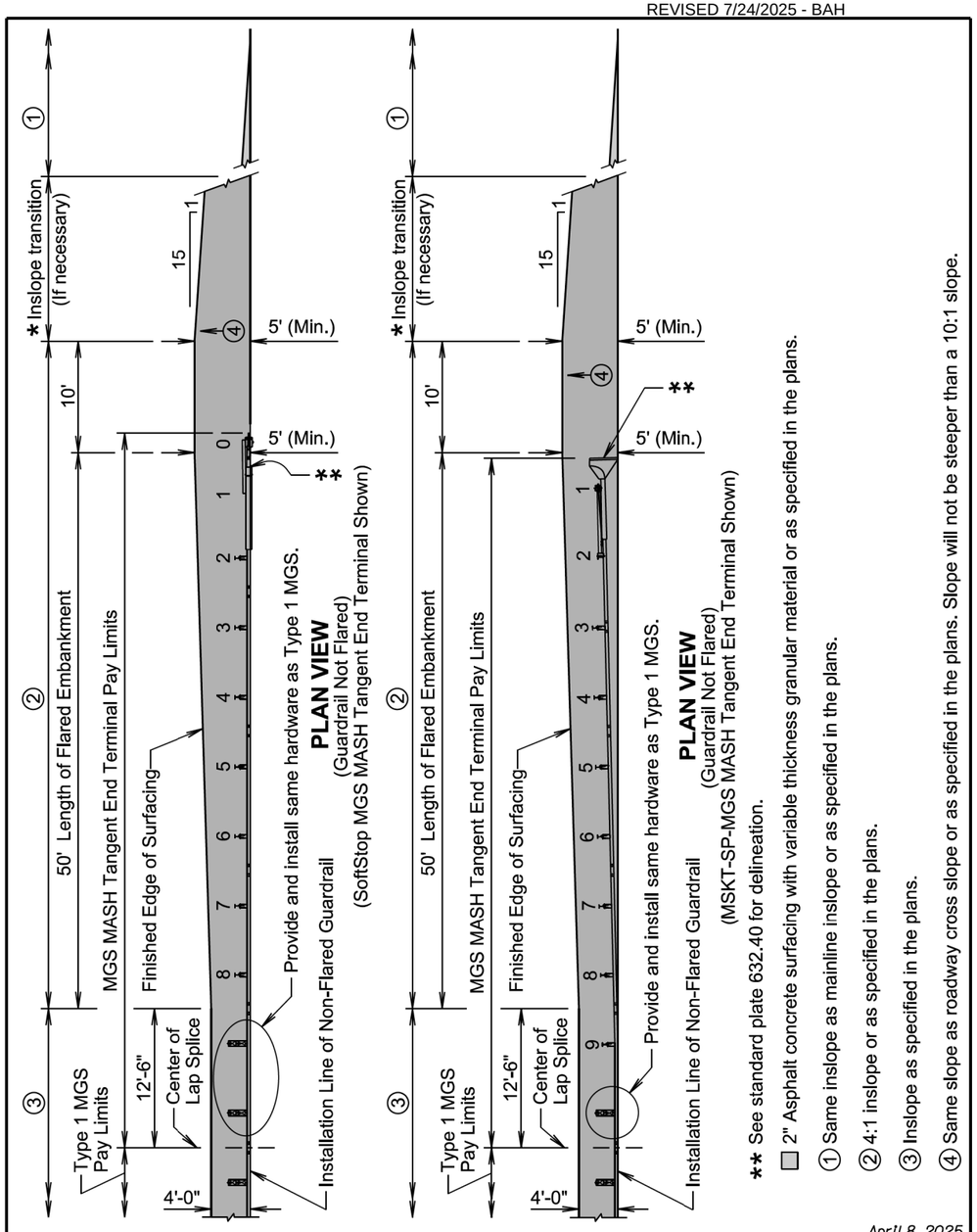
GENERAL NOTES:

Throughout the type 3 guardrail transition, slots in the rails will be provided as specified in the plans and by the manufacturer. A drilled hole through the rail is not allowed as a replacement for a slot. If the Contractor must create a slot, a cutting torch or plasma cutter is not allowed. The slot edges will be smooth and free of burrs or notches.

All costs for furnishing and installing the type 3 guardrail transition including labor, equipment, and materials which includes all rail sections, posts and blockouts, hardware, and incidentals will be included in the contract unit price per each for "Type 3 Guardrail Transition".

April 8, 2025

Published Date: 2026	SDDOT	TYPE 3 GUARDRAIL TRANSITION (VARIOUS BRIDGE RAILS AND CONCRETE END BLOCKS TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.56
			Sheet 5 of 5



April 8, 2025

Published Date: 2026	SDDOT	EMBANKMENT, SURFACING, AND PAYMENT LIMITS FOR MGS MASH TANGENT END TERMINAL	PLATE NUMBER 630.89
			Sheet 1 of 3

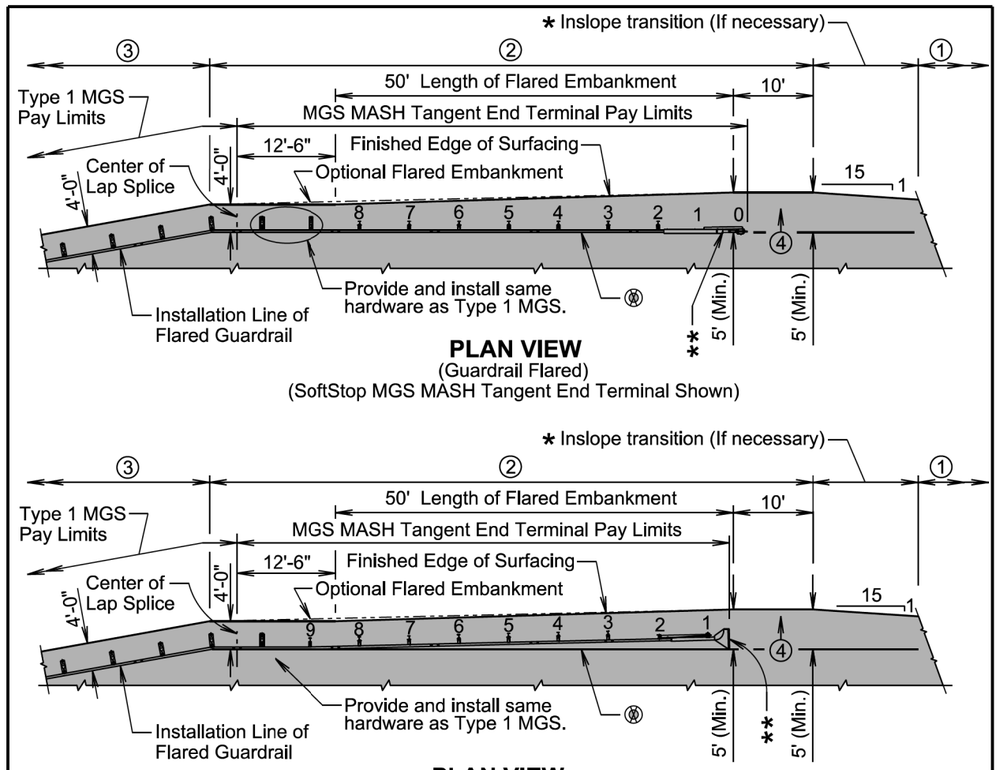
Plot Scale - 1:200

Plotted From - TRPR18388A

File - ...\jack05U4\StdPlateSectionF.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	EM 0073(73)62 & 248-391	F28	F32

Plotting Date: 07/23/2025
REVISED 7/24/2025 - BAH



PLAN VIEW
(Guardrail Flared)
(SoftStop MGS MASH Tangent End Terminal Shown)

PLAN VIEW
(Guardrail Flared)
(MSKT-SP-MGS MASH Tangent End Terminal Shown)

GENERAL NOTES:

The MGS MASH tangent end terminals above are for illustrative purpose only. Pay limit length of the MGS MASH tangent end terminal is 62'-6".

* The length of inslope transition varies with the amount of change between inslopes. The length of the transition will change 100' for every whole number change in the inslope. For Example: If the inslope changes from a 5:1 to a 4:1 the length of the inslope transition would be 100'. If the inslope changes from a 6:1 to a 4:1 the length of the inslope transition would be 200'.

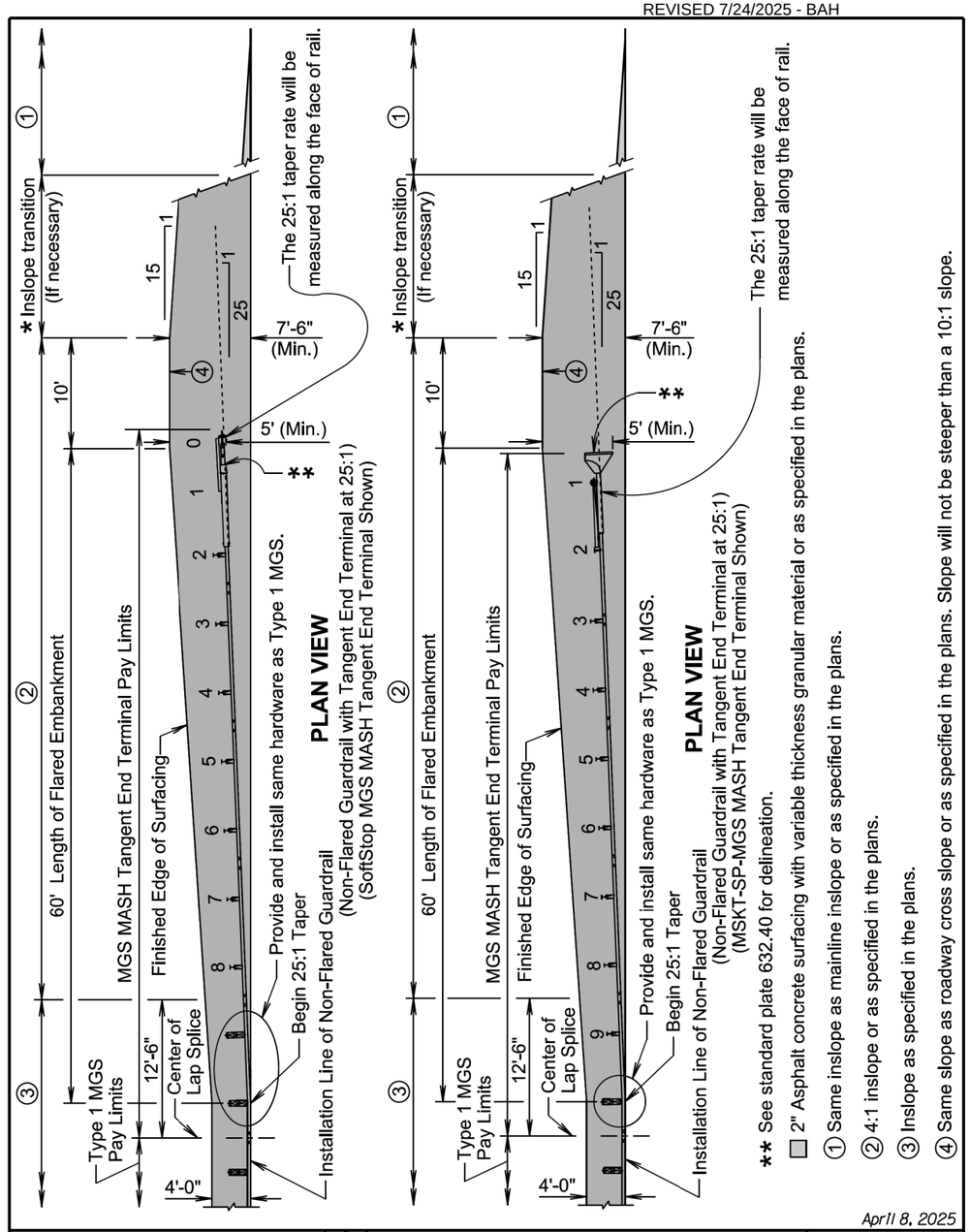
Ⓜ The installation reference line for MGS MASH tangent end terminals will always be parallel to the roadway.

Asphalt concrete will be the same type used elsewhere on the project or will be as specified in the plans. If asphalt concrete is not specified in the plans, the asphalt concrete will conform to the Specifications for "Asphalt Concrete Composite."

Granular material will be the same type used elsewhere on the project or will be as specified in the plans. If granular material type is not specified in the plans, the material will conform to the Specifications for "Base Course". The granular material will be placed the same thickness as the mainline surfacing or as specified in the plans.

April 8, 2025

Published Date: 2026	SDDOT	EMBANKMENT, SURFACING, AND PAYMENT LIMITS FOR MGS MASH TANGENT END TERMINAL	PLATE NUMBER 630.89 Sheet 2 of 3



PLAN VIEW

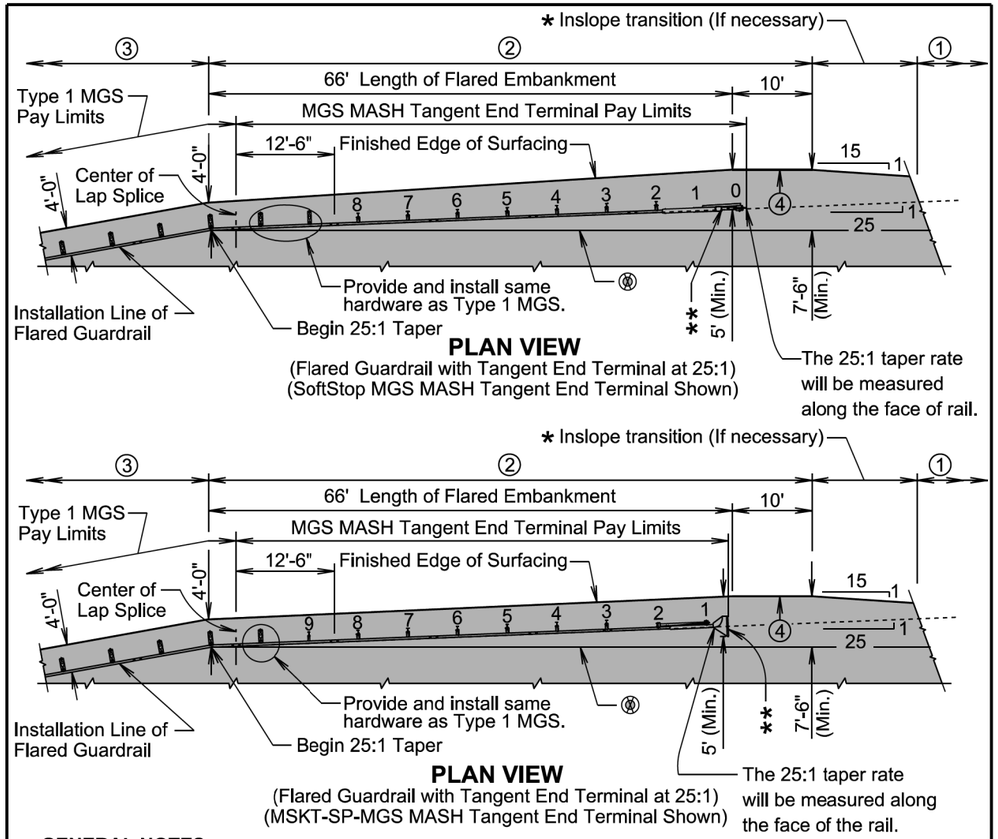
April 8, 2025

Published Date: 2026	SDDOT	EMBANKMENT, SURFACING, AND PAYMENT LIMITS FOR MGS MASH TANGENT END TERMINAL INSTALLED WITH 25:1 TAPER	PLATE NUMBER 630.90 Sheet 1 of 3

Plot Scale - 1:200
Plotted From - TRPR18388A
File - ...\jack05U4\StdPlateSectionF.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	EM 0073(73)62 & 248-391	F29	F32

Plotting Date: 07/23/2025
REVISED 7/24/2025 - BAH



PLAN VIEW
(Flared Guardrail with Tangent End Terminal at 25:1)
(SoftStop MGS MASH Tangent End Terminal Shown)

PLAN VIEW
(Flared Guardrail with Tangent End Terminal at 25:1)
(MSKT-SP-MGS MASH Tangent End Terminal Shown)

GENERAL NOTES:

The MGS MASH tangent end terminals above are for illustrative purpose only. Pay limit length of the MGS MASH tangent end terminal is 62'-6".

* The length of inslope transition varies with the amount of change between inslopes. The length of the transition will change 100' for every whole number change in the inslope. For Example: If the inslope changes from a 5:1 to a 4:1 the length of the inslope transition would be 100'. If the inslope changes from a 6:1 to a 4:1 the length of the inslope transition would be 200'.

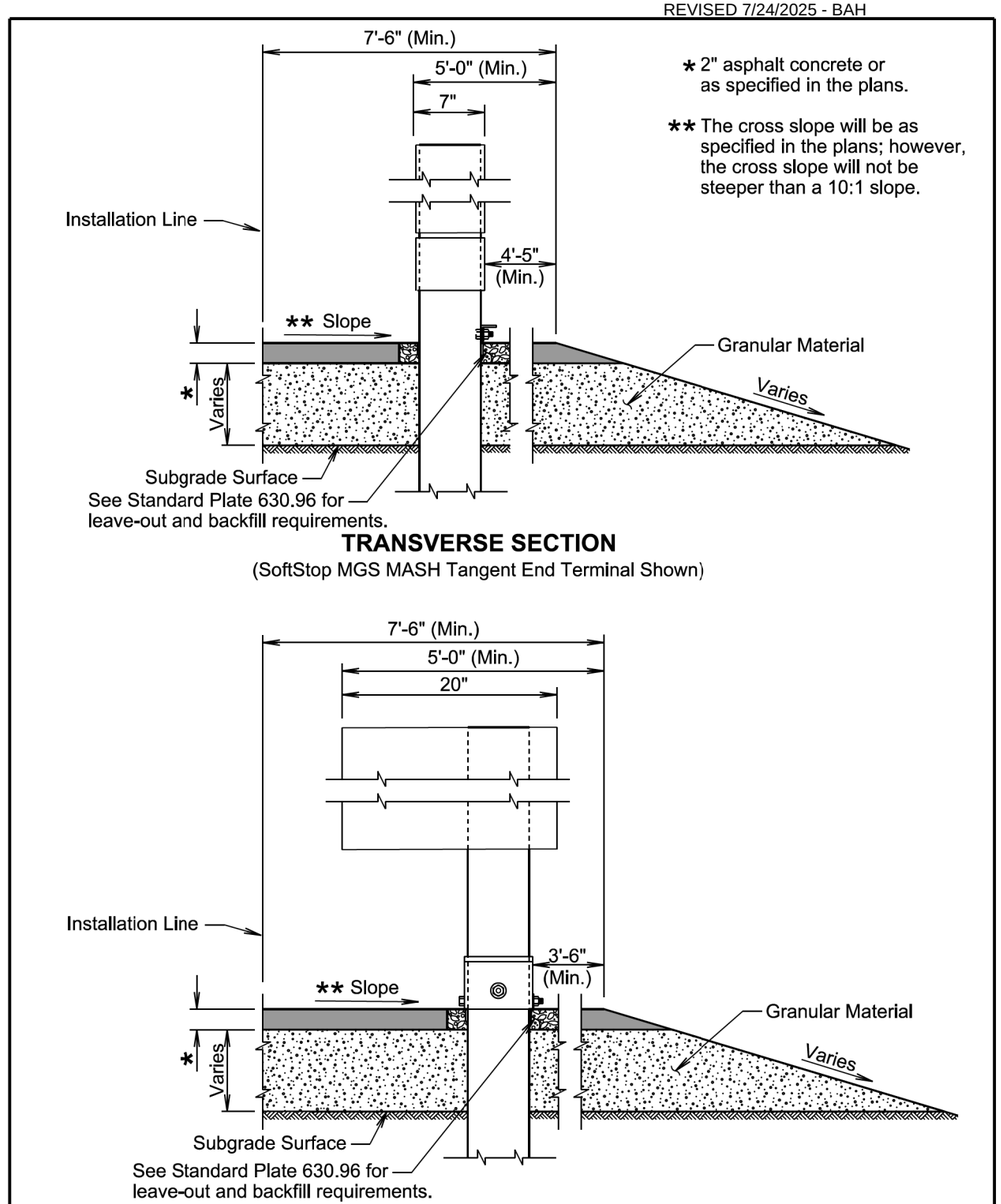
Ⓜ The installation reference line for MGS MASH tangent end terminals will always be parallel to the roadway.

Asphalt concrete will be the same type used elsewhere on the project or will be as specified in the plans. If asphalt concrete is not specified in the plans, the asphalt concrete will conform to the Specifications for "Asphalt Concrete Composite."

Granular material will be the same type used elsewhere on the project or will be as specified in the plans. If granular material type is not specified in the plans, the material will conform to the Specifications for "Base Course". The granular material will be placed the same thickness as the mainline surfacing or as specified in the plans.

April 8, 2025

Published Date: 2026	SDDOT	EMBANKMENT, SURFACING, AND PAYMENT LIMITS FOR MGS MASH TANGENT END TERMINAL INSTALLED WITH 25:1 TAPER	PLATE NUMBER 630.90
			Sheet 2 of 3



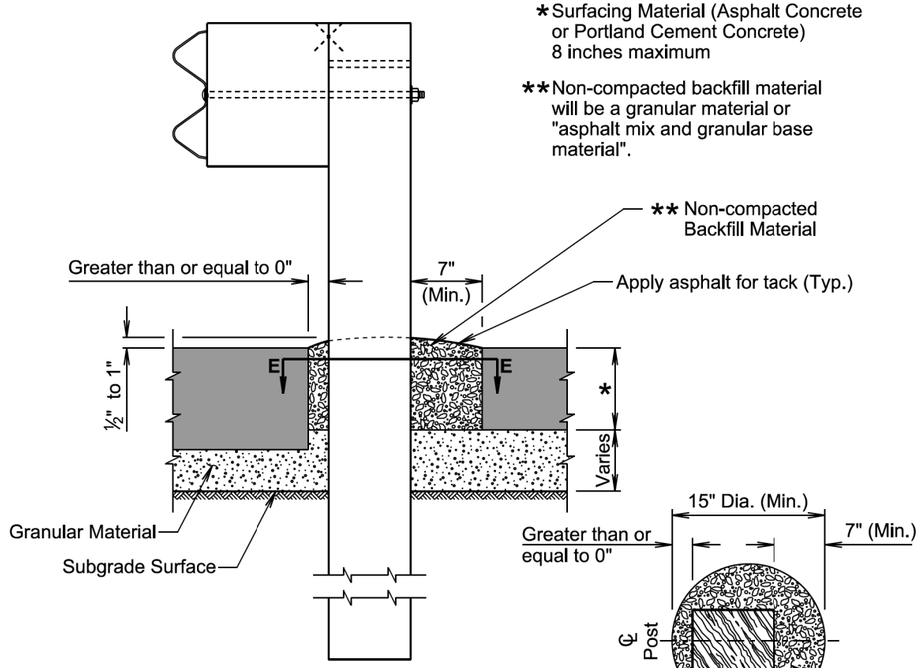
TRANSVERSE SECTION
(SoftStop MGS MASH Tangent End Terminal Shown)

TRANSVERSE SECTION
(MSKT-SP-MGS MASH Tangent End Terminal Shown)

April 8, 2025

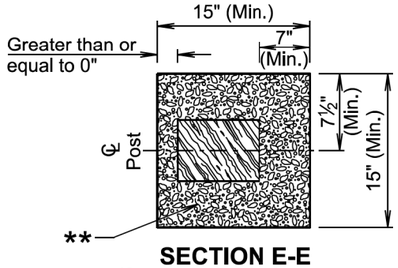
Published Date: 2026	SDDOT	EMBANKMENT, SURFACING, AND PAYMENT LIMITS FOR MGS MASH TANGENT END TERMINAL INSTALLED WITH 25:1 TAPER	PLATE NUMBER 630.90
			Sheet 3 of 3

Plot Scale - 1:200
Plotted From - TRPR18388A
File - ...\jack05U41\StdPlateSectionF.dgn



TRANSVERSE SECTION
(Wood post shown for illustrative purpose only)

SECTION E-E
(Round option for leave-out and backfill limits)
(Wood post shown for illustrative purpose only)



SECTION E-E
(Square option for leave-out and backfill limits)
(Wood post shown for illustrative purpose only)

GENERAL NOTES:

The leave-out limits may be increased to accommodate construction equipment and tolerances.

When posts are installed in augured or dug holes, the backfill material will be compacted to the bottom of the pavement surfacing material to the satisfaction of the Engineer. The backfill material for the thickness of the pavement surfacing material will be non-compacted.

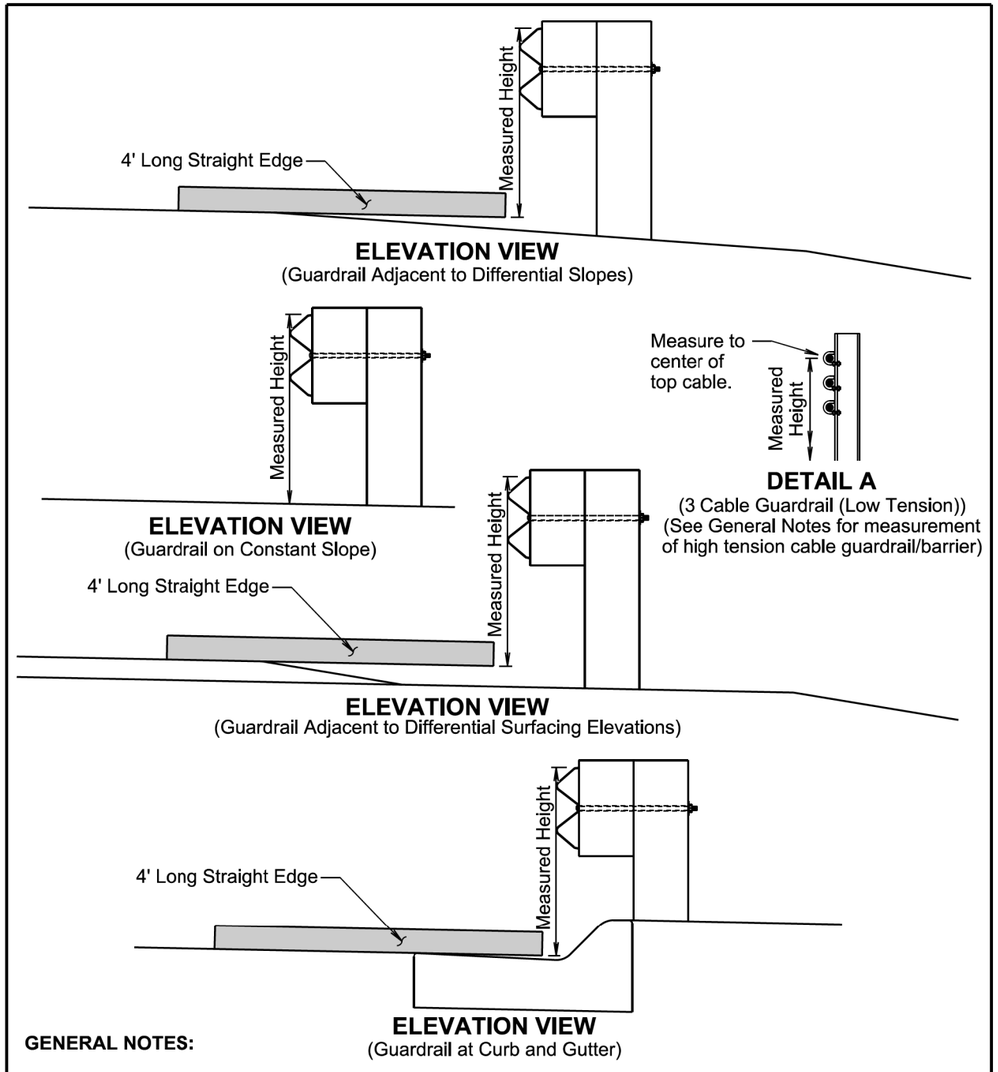
The backfill material will be mounded ½ inch to 1 inch above the top of the adjacent surfacing as illustrated above.

Asphalt for tack will be applied to the surface of the backfill material at the rate of 0.15 to 0.20 gallons per square yard.

All costs for constructing the leave-out including labor, equipment, and materials which includes the backfill material and tack coat will be incidental to the contract unit price for the respective guardrail contract item.

November 19, 2021

Published Date: 2026	SDDOT	GUARDRAIL POST INSTALLED IN ASPHALT CONCRETE OR PORTLAND CEMENT CONCRETE	PLATE NUMBER 630.96
			Sheet 1 of 1



ELEVATION VIEW
(Guardrail Adjacent to Differential Slopes)

ELEVATION VIEW
(Guardrail on Constant Slope)

DETAIL A
(3 Cable Guardrail (Low Tension))
(See General Notes for measurement of high tension cable guardrail/barrier)

ELEVATION VIEW
(Guardrail Adjacent to Differential Surfacing Elevations)

ELEVATION VIEW
(Guardrail at Curb and Gutter)

GENERAL NOTES:

The W Beam guardrail shown is for illustrative purpose. The guardrail height for all types of guardrail systems except for high tension cable guardrail/barrier will be measured in accordance with this standard plate.

When measuring height of 3 cable guardrail (low tension) the height will be measured to the center of the top cable. See Detail A.

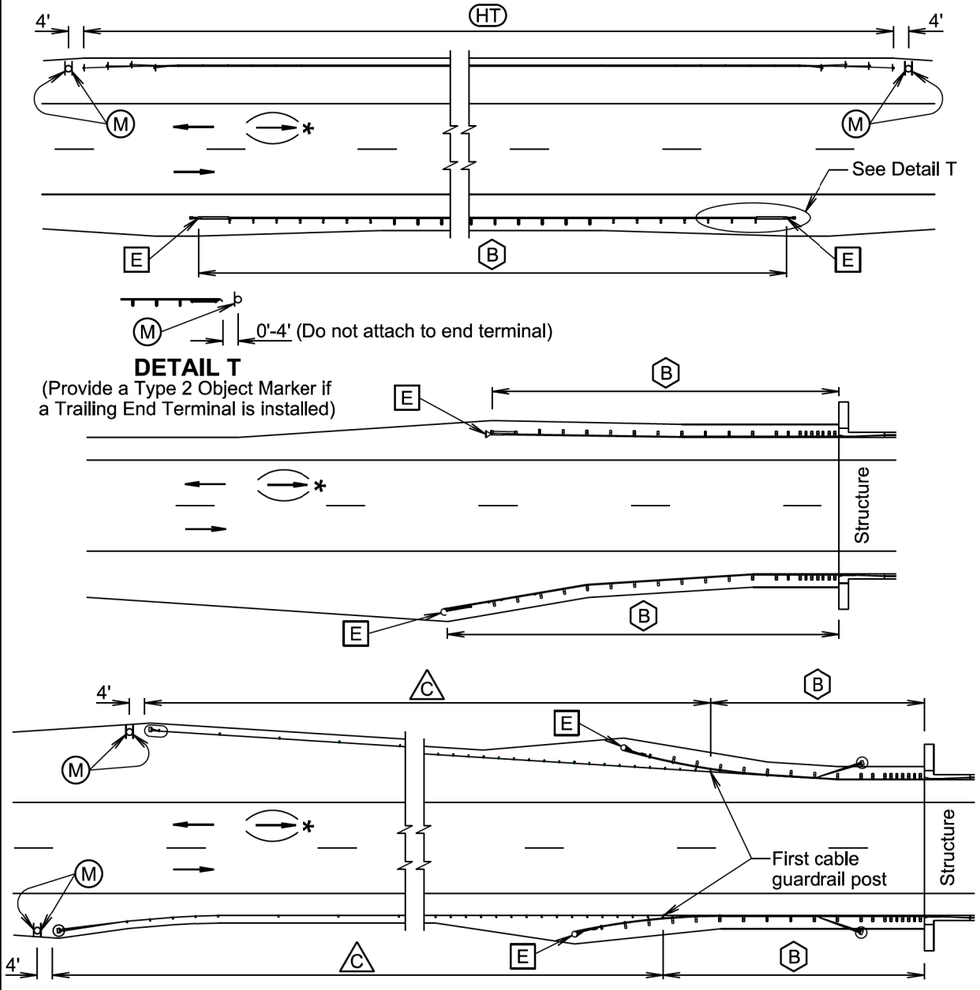
The height of high tension cable guardrail/barrier will be measured in accordance with the Manufacturer's installation instructions.

September 14, 2019

Published Date: 2026	SDDOT	MEASURING GUARDRAIL HEIGHT	PLATE NUMBER 630.99
			Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	EM 0073(73)62 & 248-391	F31	F32

Plotting Date: 07/23/2025
REVISED 7/24/2025 - BAH



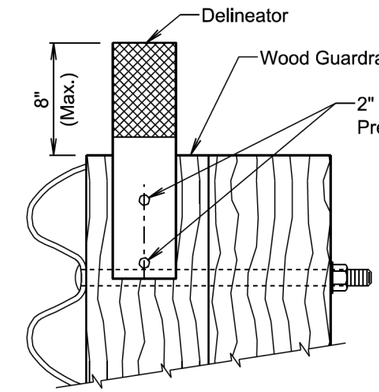
PLAN VIEW
(Typical Guardrail Layouts)

- (B) Steel Beam Guardrail Delineation
- [E] Guardrail End Terminal Object Marker
- (C) 3 Cable Guardrail (Low Tension) Delineation
- (HT) High Tension Cable Guardrail Delineation
- (M) Type 2 Object Marker

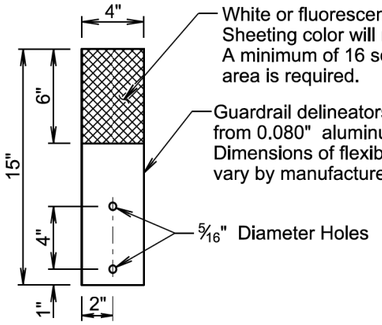
*For two-way traffic, install delineation at the opposite end of structure the same as shown. Back-to-back delineation is required for two-way traffic, single-sided delineation for one-way traffic.

April 8, 2025

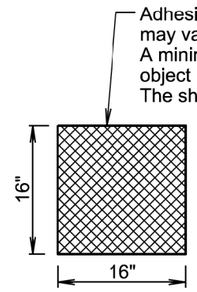
Published Date: 2026	SDDOT	DELINEATION OF GUARDRAIL	PLATE NUMBER 632.40 Sheet 1 of 4



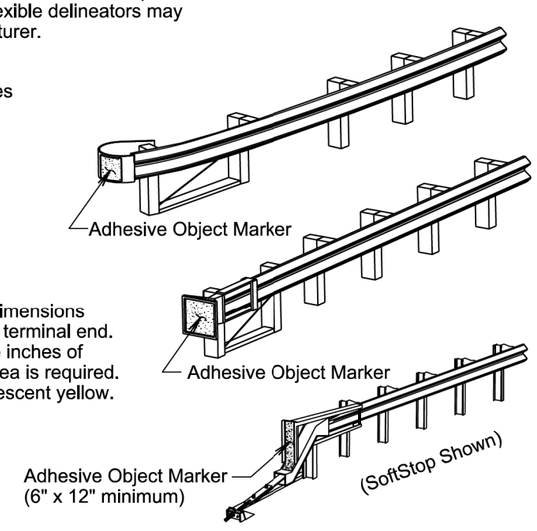
(B) STEEL BEAM GUARDRAIL DELINEATION



DELINEATOR
(For Steel Beam Guardrail)



ADHESIVE OBJECT MARKER

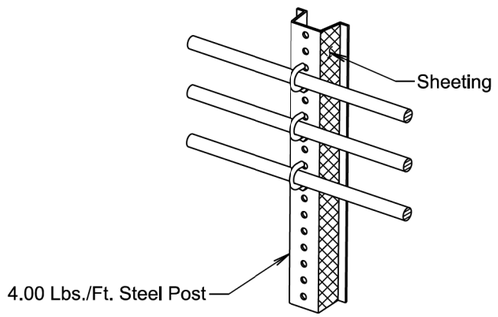


[E] GUARDRAIL END TERMINAL OBJECT MARKER

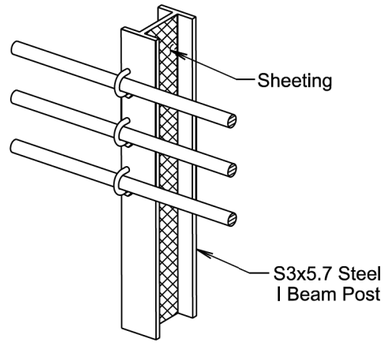
April 8, 2025

Published Date: 2026	SDDOT	DELINEATION GUARDRAIL	PLATE NUMBER 632.40 Sheet 2 of 4

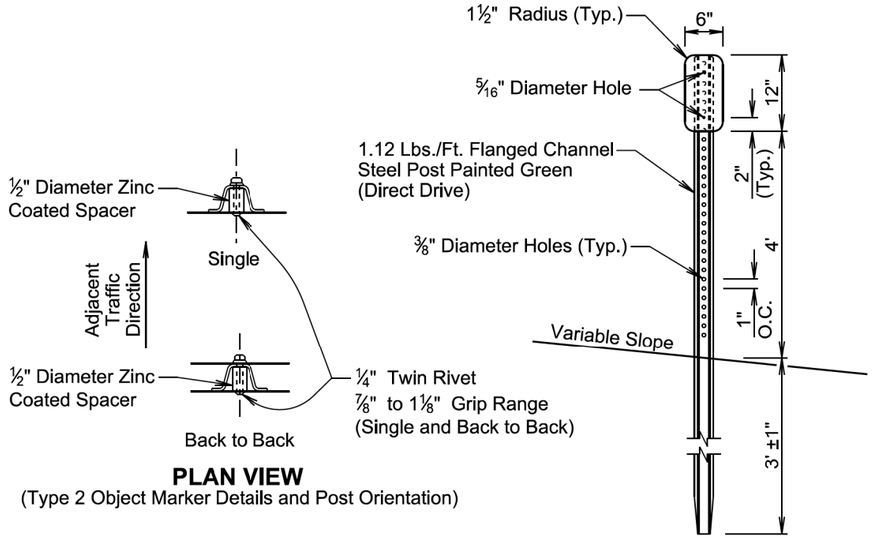
Plot Scale - 1:200
Plotted From - TRPR18388A
File - ...\jack05U4\StdPlateSectionF.dgn



Ⓒ 3 CABLE GUARDRAIL (LOW TENSION) DELINEATION



Ⓒ 3 CABLE GUARDRAIL (LOW TENSION) DELINEATION



PLAN VIEW
(Type 2 Object Marker Details and Post Orientation)

ELEVATION VIEW
Ⓜ (Type 2 Object Marker)
(For Marking 3 Cable Guardrail (Low Tension) Anchor, High Tension Cable Guardrail Anchor, and Trailing End Terminal)

April 8, 2025

Published Date: 2026	SDDOT	DELINEATION OF GUARDRAIL	PLATE NUMBER 632.40
			Sheet 3 of 4

GENERAL NOTES:

The delineation of high tension cable guardrail will be reflective sheeting placed back to back on every third post cap or cable spacer. Maximum spacing of delineation will not exceed 35 feet. The sheeting will be type XI in conformance with ASTM D4956. The color of the reflective sheeting will be the same as the nearest pavement marking.

The delineators for steel beam guardrail and sheeting on 3 cable guardrail (low tension) posts will be covered with a minimum of 16 square inches of reflective sheeting. The reflective sheeting will be type XI in conformance with ASTM D4956. Along two-way roadways the sheeting will be on both sides of the delineators and guardrail posts and will be white in color. For one-way roadways the sheeting will only be required on the side facing traffic and the color will be the same as the nearest pavement marking, yellow on the left side of the roadway and white on the right side.

When steel beam guardrail is attached to a bridge the first delineator will be attached to the post nearest the bridge.

At bridges with guardrail less than 200 feet in length, a minimum of 4 delineators will be placed in addition to the end terminal yellow object marker. The spacing between the delineators will be approximately one third of the length of the guardrail.

At bridges with guardrail 200 feet and greater in length, including bridges that have steel beam guardrail transitioning to 3 cable guardrail (low tension), the delineators will be placed at a spacing of approximately 50 feet. Delineation will extend throughout the length of the guardrail system.

Steel beam guardrail that is not attached to a bridge and is less than 200 feet in length, a minimum of 4 delineators will be placed in addition to the end terminal yellow object markers. The spacing between the delineators will be approximately one third of the length of the guardrail.

Steel beam guardrail that is not attached to a bridge and is 200 feet and greater in length, including steel beam guardrail transitioning to 3 cable guardrail (low tension), the delineators will be placed at a spacing of approximately 50 feet. Delineation will extend throughout the length of the guardrail system.

All costs for furnishing and installing single or back to back guardrail delineation on 3 cable guardrail and steel beam guardrail will be included in the contract unit price per each for "Guardrail Delineator".

All costs for furnishing and installing the reflective sheeting on the cable spacers or post caps for the high tension cable guardrail will be incidental to the respective high tension cable guardrail contract item.

An adhesive object marker will be placed on the end of the W beam guardrail or MGS end terminal. The adhesive object marker dimensions may vary due to the shape of the terminal end. A minimum of 256 square inches of object marker reflective sheeting area is required on end terminals with sufficient surface area. Other end terminals (SoftStop) will require an adhesive object marker with a minimum size of 6" x 12". The reflective sheeting will be fluorescent yellow type XI sheeting in conformance with ASTM D4956. All costs for furnishing and installing the adhesive object marker will be incidental to various contract items.

A type 2 object marker will be placed such that the edges of the type 2 object marker and the 3 cable guardrail (low tension) anchor, high tension cable guardrail anchor, or the trailing end terminal that are nearest to the roadway will be installed in line with the same lateral offset from the traveled way at the location as noted on sheet 1 of this standard plate. The type 2 object marker (6" x 12") will have fluorescent yellow type XI sheeting in conformance with ASTM D4956. All costs for furnishing and installing the type 2 object marker including the steel post, 6" x 12" reflective panel, and hardware will be included in the contract unit price per each for "Type 2 Object Marker" for single-sided and "Type 2 Object Marker Back to Back" for back to back type 2 object markers.

April 8, 2025

Published Date: 2026	SDDOT	DELINEATION OF GUARDRAIL	PLATE NUMBER 632.40
			Sheet 4 of 4