

SECTION B: GRADING PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0902(186)101	B1	B32

Plotting Date: 02/07/2025

INDEX OF SHEETS

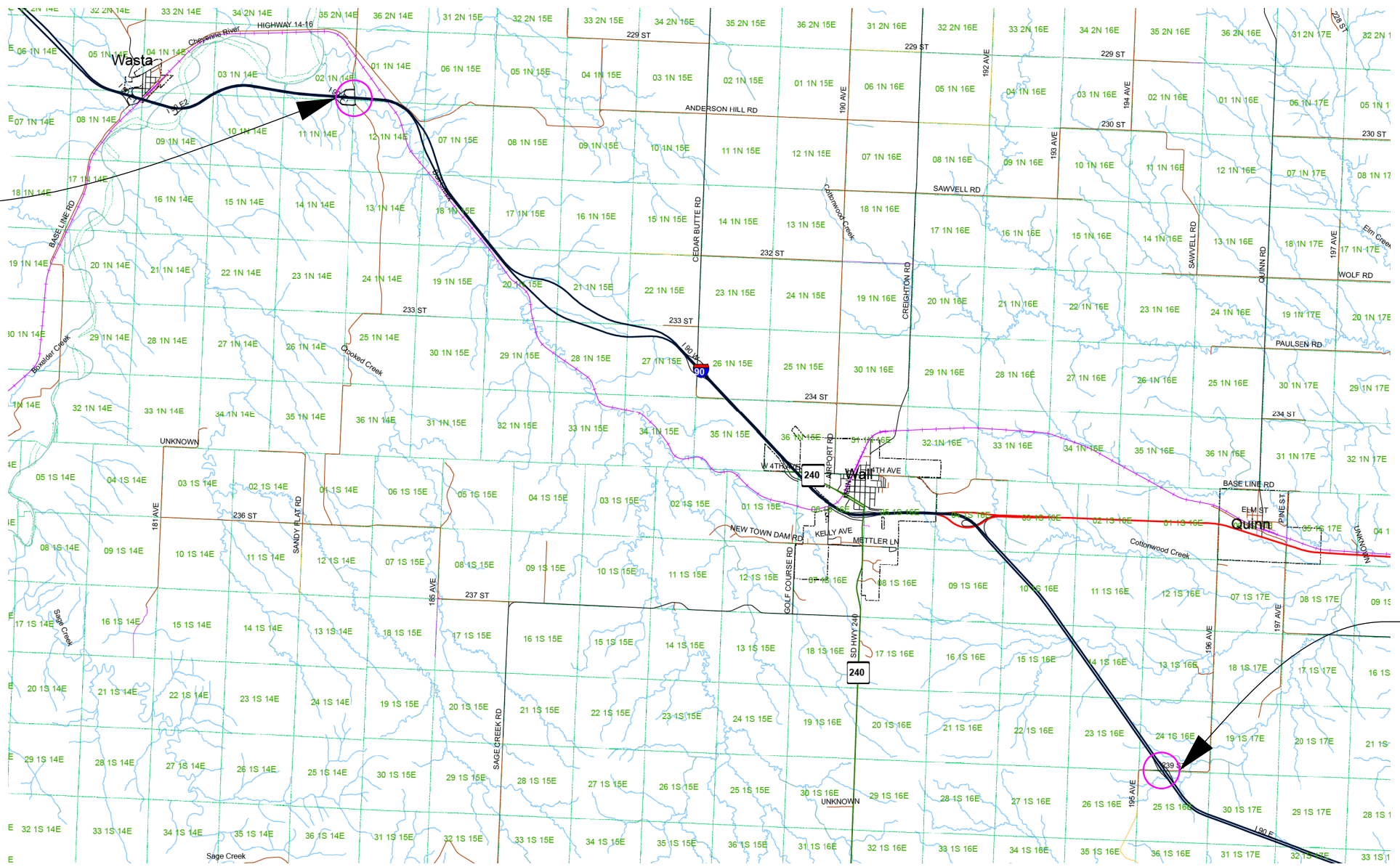
- B1 General Layout with Index
- B2-B5 Estimate With General Notes & Tables
- B6-B14 Special Details
- B15-B32 Standard Plates

PLOT SCALE - 1:200

PLOT NAME - 1

Str. No. 52-830-310
I90, MRM 101.23

Str. No. 52-953-400 (I90E)
Str. No. 52-954-400 (I90W)
MRM 116.94



PLOTTED FROM - TRRC12508

FILE - ... \DESIGN\TITLE 3D SECTION B.DGN

SECTION B ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0400	Remove Drop Inlet	2	Each
110E0420	Remove Drop Inlet Frame and Grate Assembly	2	Each
110E0500	Remove Pipe Culvert	20	Ft
110E0700	Remove 3 Cable Guardrail	760	Ft
110E0730	Remove Beam Guardrail	1,062.5	Ft
110E0740	Remove 3 Cable Guardrail Anchor Assembly	8	Each
110E0810	Remove Rubrail	48.0	Ft
110E1010	Remove Asphalt Concrete Pavement	12.0	SqYd
120E0100	Unclassified Excavation, Digouts	18	CuYd
120E0600	Contractor Furnished Borrow Excavation	6	CuYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
260E1010	Base Course	24.0	Ton
320E1200	Asphalt Concrete Composite	332.0	Ton
332E0010	Cold Milling Asphalt Concrete	2,640	SqYd
380E1000	6" Miscellaneous PCC Pavement	7.0	SqYd
450E4739	12" CMP 16 Gauge, Furnish	140	Ft
450E4740	12" CMP, Install	140	Ft
450E5000	12" CMP Elbow, Furnish	2	Each
450E5001	12" CMP Elbow, Install	2	Each
450E5203	12" CMP Flared End, Furnish	4	Each
450E5204	12" CMP Flared End, Install	4	Each
464E0100	Controlled Density Fill	14.0	CuYd
630E0500	Type 1 MGS	1,325.0	Ft
630E1500	Type 1 Guardrail Transition	4	Each
630E1501	Type 1 Retrofit Guardrail Transition	4	Each
630E2018	MGS MASH Tangent End Terminal	8	Each
632E2220	Guardrail Delineator	50	Each
633E1220	High Build Waterborne Pavement Marking Paint, 4" White	1,484	Ft
633E1222	High Build Waterborne Pavement Marking Paint, 4" Yellow	1,408	Ft
650E4360	Type D46 Concrete Curb and Gutter	38	Ft
650E4689	Modified Type P9 Concrete Gutter	18	Ft
734E0010	Erosion Control	Lump Sum	LS
734E0133	Type 3 Turf Reinforcement Mat	32.4	SqYd

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.

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.

UNCLASSIFIED EXCAVATION, DIGOUTS

Unclassified Excavation, Digouts will be used at Structure No. 52-830-310 to match the new sleeper slab elevation as shown on the detail sheet for Cold Milling Asphalt Concrete Profile to Match New Approach Slabs to Existing Surface.

Payment will be based on plans quantity. Further measurements will not be made unless there is a change made in the limits of work.

WATER FOR COMPACTION

The cost of Water for Compaction of the granular material will be incidental to the various other contract items. A minimum of 4% moisture will be required at the time of compaction unless otherwise directed by the Engineer.

COLD MILLING ASPHALT CONCRETE

Cold Milling Asphalt Concrete is provided for matching asphalt approach pavement to the new sleeper slabs for Structure No. 52-830-310.

The salvaged asphalt concrete material will become the property of the Contractor for disposal.

ASPHALT CONCRETE COMPOSITE

Section 324 will apply.

Plans specified locations for Asphalt Concrete Composite will be paid for at the contract unit price per ton for Asphalt Concrete Composite regardless of the class of asphalt concrete used at such locations. Prime will not be required. Flush Seal will not be required.

CONTRACTOR FURNISHED BORROW EXCAVATION

Contractor Furnished Borrow Excavation is provided for backfilling removed drop inlets and pipe at Structure No. 52-830-310.

The Contractor will provide a suitable site for Contractor Furnished Borrow Excavation material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site. The borrow material will be approved by the Engineer. The plans quantity for Contractor Furnished Borrow Excavation as shown in the Estimate of Quantities will be the basis of payment for this item.

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

CONTROLLED DENSITY FILL FOR PIPE

Controlled density fill will be used to fill the existing 12" culverts remaining in-place at Structure Number 52-830-310.

Controlled density fill will be in conformance with Section 464 of the Specifications.

If the ends of the pipes are not currently plugged the Contractor will use soil or other means approved by the Engineer to plug them prior to filling. All cost for plugging the pipes will be incidental to the unit price per Cubic Yard of Controlled Density Fill.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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REMOVE AND REPLACE TOPSOIL

Prior to beginning Curb and Gutter operations and guardrail installation, a 4" depth of topsoil will be removed or bladed down the respective inslope and left in a windrow a maximum of 10' from the edge of the existing shoulder. Following completion of construction, topsoil will be spread evenly over the disturbed areas.

The estimated amount of topsoil to be removed and replaced is 14 CuYd.

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

CORRUGATED METAL PIPE

Corrugated metal pipes will have 2 2/3-inch x 1/2-inch corrugations for 42-inch and smaller round pipe and 48-inch and smaller arch pipe unless otherwise stated in the plans. Corrugated metal pipes will have 3-inch x 1-inch or 5-inch x 1-inch corrugations for 48-inch and larger round pipe and 54-inch and larger arch pipe unless otherwise stated in the plans.

EROSION CONTROL

Erosion Control is provided for work at Structure Number 52-830-310.

All costs for the erosion control work for furnishing, placing, and maintaining erosion control including equipment, labor, seeding, mulching, and fertilizing will be incidental to the contract lump sum price for Erosion Control.

The limits of erosion control work will be determined by the Engineer during construction.

Mycorrhizal Inoculum

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

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

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

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

Fertilizing

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

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

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

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

Permanent Seeding

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

Type F Permanent Seed Mixture will consist of the following:

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

Fiber Mulching

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

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

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

All costs for the additional tackifier added to the fiber mulch including labor, equipment, and materials will be incidental to the contract lump sum price for Erosion Control.

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

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

TURF REINFORCEMENT MAT

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

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

Turf Reinforcement Mat will be installed in accordance with the manufacturer's installation instructions.

HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

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

Reflective media will consist of glass beads. Reflective media will require a Certificate of Compliance for Certification for each source and lot.

Acceptance sampling will not be required.

RATES OF MATERIALS FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

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

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

Table of Surfacing Quantities						
Str. No.	MRM	Cold Milling Asphalt Concrete (SqYd)	Remove Asphalt Concrete Pavement (SqYd)	Unclassified Excavation, Digouts (CuYd)	Asphalt Concrete Composite (Ton)	Base Course (Ton)
52-830-310	101.23	1000	12	18	192	24
52-953-400	116.94 EB	820			70	
52-954-400	116.94 WB	820			70	
	Total	2640	12	18	332	24

Table of Guardrail										
Structure No.	MRM	Remove 3 Cable Guardrail (Ft)	Remove Beam Guardrail (Ft)	Remove Rubrail (Ft)	Remove 3 Cable Guardrail Anchor Assembly (Each)	Type 1 MGS (Ft)	MGS MASH Tangent End Terminal (Each)	Type 1 Guardrail Transition (Each)	Type 1 Retrofit Guardrail Transition (Each)	Guardrail Delineator (Each)
52-830-310	101.23		350	48		175	4	4		16
52-953-400	116.94 EB	260	337.5		4	575	2		2	17
52-954-400	116.94 WB	500	375		4	575	2		2	17
	Total	760	1062.5	48	8	1325	8	4	4	50

Table of Curb & Gutter and Pipe Work															
Str. No.	MRM	Remove Drop Inlet (Each)	Remove Drop Inlet Frame and Grate Assembly (Each)	Remove Pipe Culvert (Ft)	Controlled Density Fill (CuYd)	Contractor Furnished Borrow Excavation (CuYd)	Type D46 Concrete Curb and Gutter (Ft)	Modified Type P9 Concrete Gutter (Ft)	6" Miscellaneous PCC Pavement (SqYd)	12" CMP 16 Gauge, Furnish (Ft)	12" CMP, Install (Ft)	12" CMP Elbow, Furnish (Each)	12" CMP Elbow, Install (Each)	12" CMP Flared End, Furnish (Each)	12" CMP Flared End, Install (Each)
52-830-310	101.23	2	2	20	14	6	38	18	7	140	140	2	2	4	4

Table of Erosion Control Measures				
Str. No.	MRM	Remove and Replace Topsoil (LS)	Erosion Control (LS)	Type 3 Turf Reinforcement Mat (SqYd)
52-830-310	101.23	LS	LS	32.4

Table of Pavement Marking			
Structure No.	MRM	High Build Waterborne Pavement Marking Paint, 4" White	High Build Waterborne Pavement Marking Paint, 4" Yellow
		(Ft)	(Ft)
52-830-310	101.23	456	456
52-953-400	116.94 EB	514	476
52-954-400	116.94 WB	514	476
	Total	1484	1408

GUARDRAIL LAYOUT

Str. No. 52-830-310
MRM 101.23

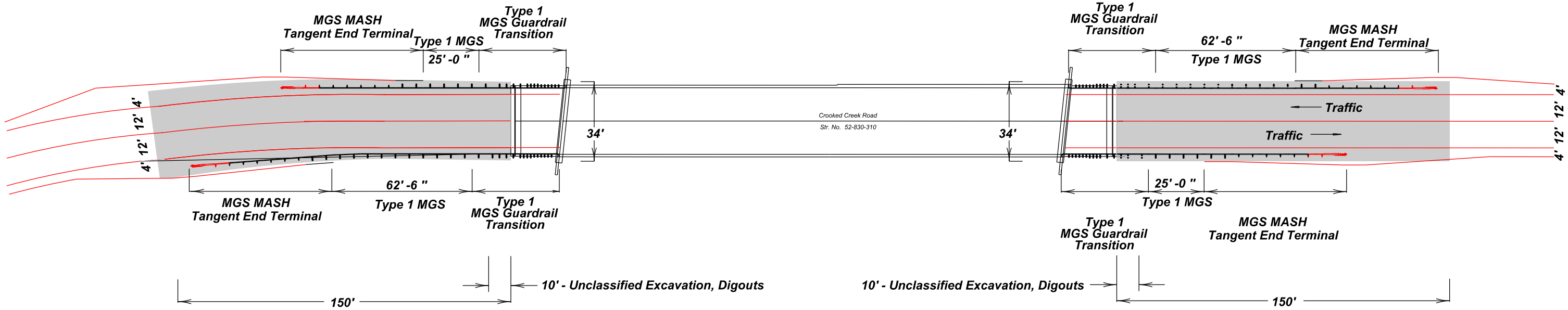
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0902(186)101	B6	B32

Plotting Date: 02/07/2025

PLOT SCALE - 1:45

PLOT NAME - 2

Mill Asphalt Concrete and Overlay & Unclassified Excavation, Digouts, Base Course, and AC Composite to tie in Bridge Approach Slabs
 (See COLD MILLING ASPHALT CONCRETE PROFILE TO MATCH NEW APPROACH SLABS TO EXISTING SURFACE for details)



PLOTTED FROM - TRRC12608

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DRAINAGE DETAILS

Str. No. 52-830-310
MRM 101.23

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0902(186)101	B7	B32

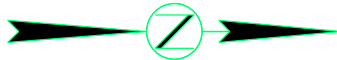
Plotting Date: 02/07/2025

PLOT SCALE - 1:45

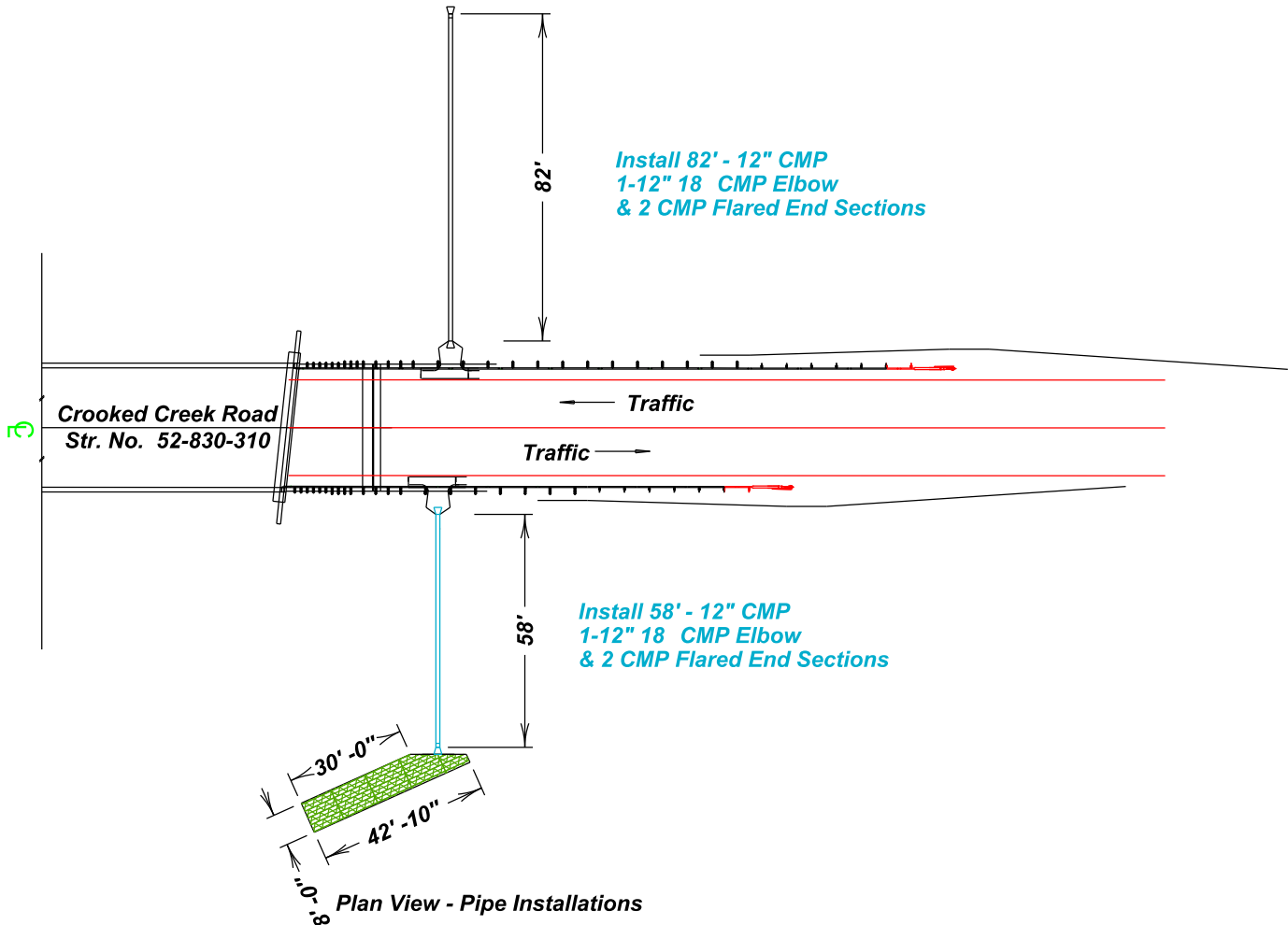
PLOT NAME - 3

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PLOTTED FROM - TRRC12508



Type 3 Turf Reinforcement Mat



CURB AND GUTTER LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0902(186)101	B8	B32

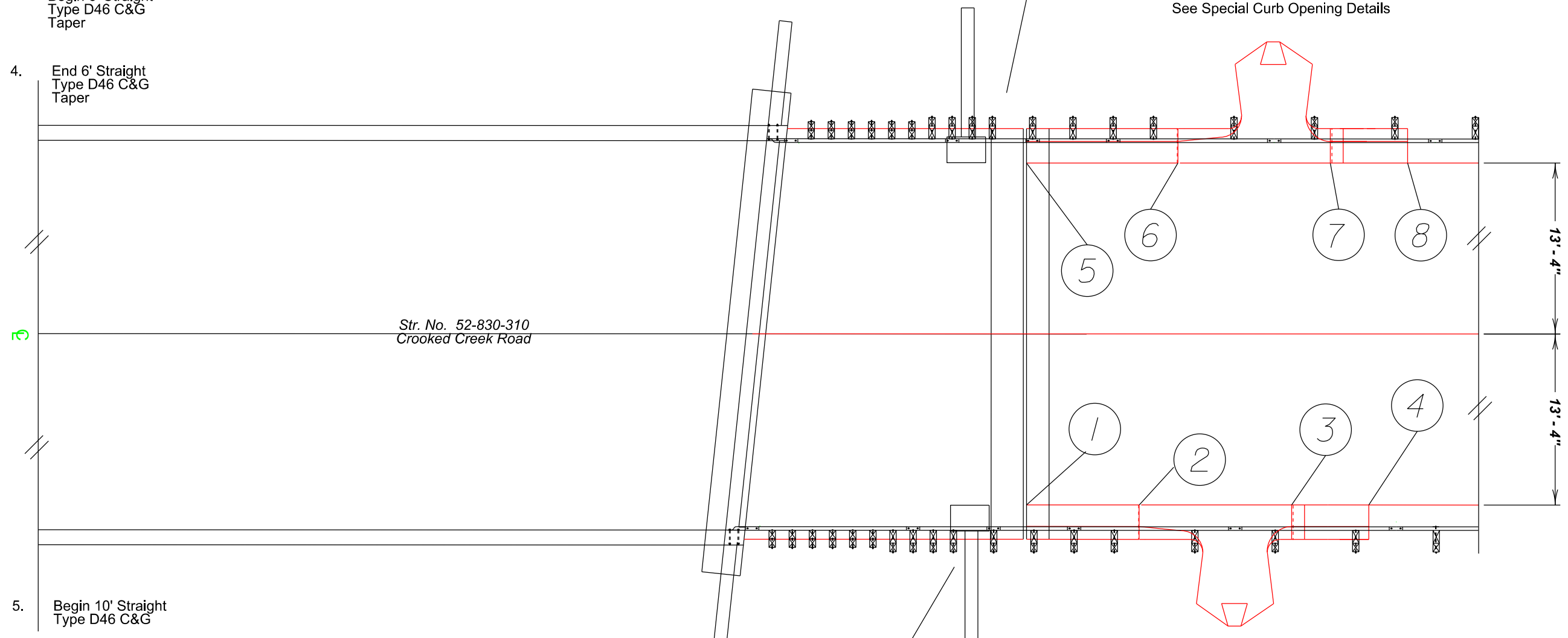
Plotting Date: 02/07/2025

Str. No. 52-830-310
MRM 101.23

1. Begin 10' Straight Type D46 C&G
2. End 10' Straight Type D46 C&G
Begin 12' Special Curb Opening
3. End 12' Special Curb Opening
Begin 6' Straight Type D46 C&G Taper
4. End 6' Straight Type D46 C&G Taper
5. Begin 10' Straight Type D46 C&G
6. End 10' Straight Type D46 C&G
Begin 12' Special Curb Opening
7. End 12' Special Curb Opening
Begin 6' Straight Type D46 C&G Taper
8. End 6' Straight Type D46 C&G Taper

Remove Drop Inlet
Remove Frame and Grate
Remove 10' - 12" Culvert
Plug Remaining Culvert with Controlled Density Fill - 5.8 CuYd

See Special Curb Opening Details



Remove Drop Inlet
Remove Frame and Grate
Remove 10' - 12" Culvert
Plug Remaining Culvert with Controlled Density Fill - 8.2 CuYd

See Special Curb Opening Details

Type D46 Curb will be warped into curb at the special curb openings.
All costs for this work will be incidental to the various curb and gutter contract items.

PLOT SCALE - 1:45

PLOTTED FROM - TRRC12508

PLOT NAME - 4

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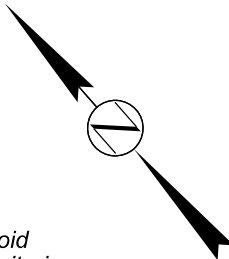
GUARDRAIL LAYOUT

Str. No. 52-953-400

MRM 116.94 EB

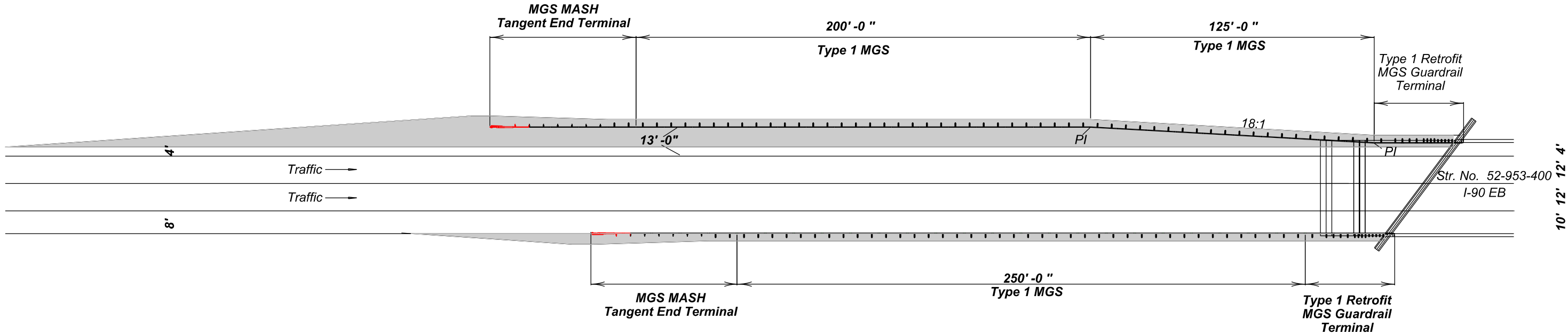
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0902(186)101	B9	B32

Plotting Date: 02/07/2025



Mill 1.5" of Asphalt Concrete and Place 1.5" Asphalt Concrete Composite

There are 4 traffic loops per lane 250' E of Str. 52-953-400. The Contractor will avoid damaging the loops, conduit, and any infrastructure associated with this traffic monitoring station. Any damage to these facilities caused by the Contractor's operations will be repaired by the Contractor at no additional cost to the State.



PLOT SCALE - 1:45

PLOT NAME - 5

FILE - ... \PENND911\DESIGN\52-953-400.DGN

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GUARDRAIL LAYOUT

Str. No. 52-954-400

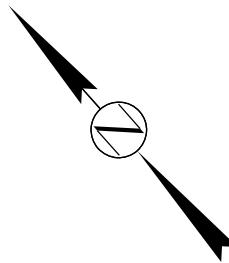
MRM 116.94 WB

STATE OF SOUTH DAKOTA	PROJECT IM 0902(186)101	SHEET B10	TOTAL SHEETS B32
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Plotting Date: 02/07/2025

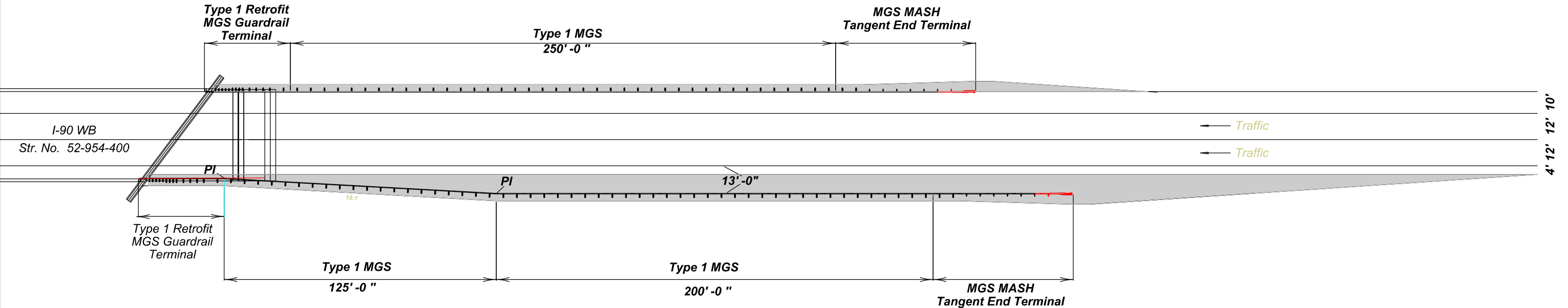
PLOT SCALE - 1:45

PLOT NAME - 6



Mill 1.5" of Asphalt Concrete and Place 1.5" Asphalt Concrete Composite

There are 4 traffic loops per lane and an electronics cabinet 100' E of Str. 52-594-400. Contractor must avoid damaging the loops, conduit, and any infrastructure associated with this traffic monitoring station. Any damage to these facilities caused by the Contractor's operations will be repaired by the Contractor at no additional cost to the State.



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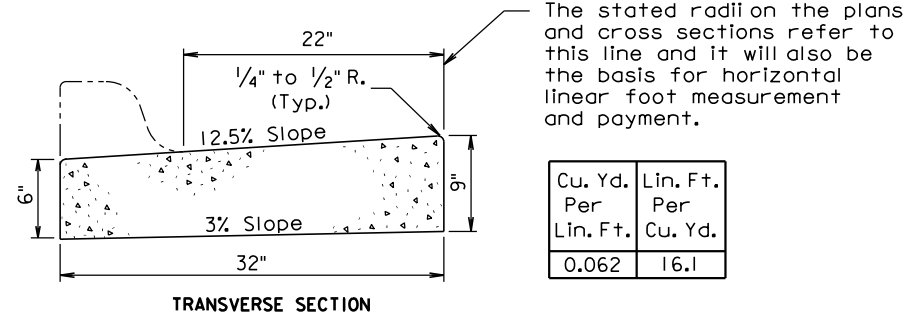
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SPECIAL CURB OPENING DETAILS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0902(186)101	B11	B32

Plotting Date: 02/07/2025

MODIFIED TYPE P9 CONCRETE GUTTER



The stated radii on the plans and cross sections refer to this line and it will also be the basis for horizontal linear foot measurement and payment.

GENERAL NOTES:

The concrete for the Modified Type P9 Concrete Gutter will comply with the requirements of the Standard Specifications for Class M6 Concrete.

When concrete gutter longitudinally adjoins new concrete pavement, the method of attachment will be by one of the methods shown on Standard Plate 380.20.

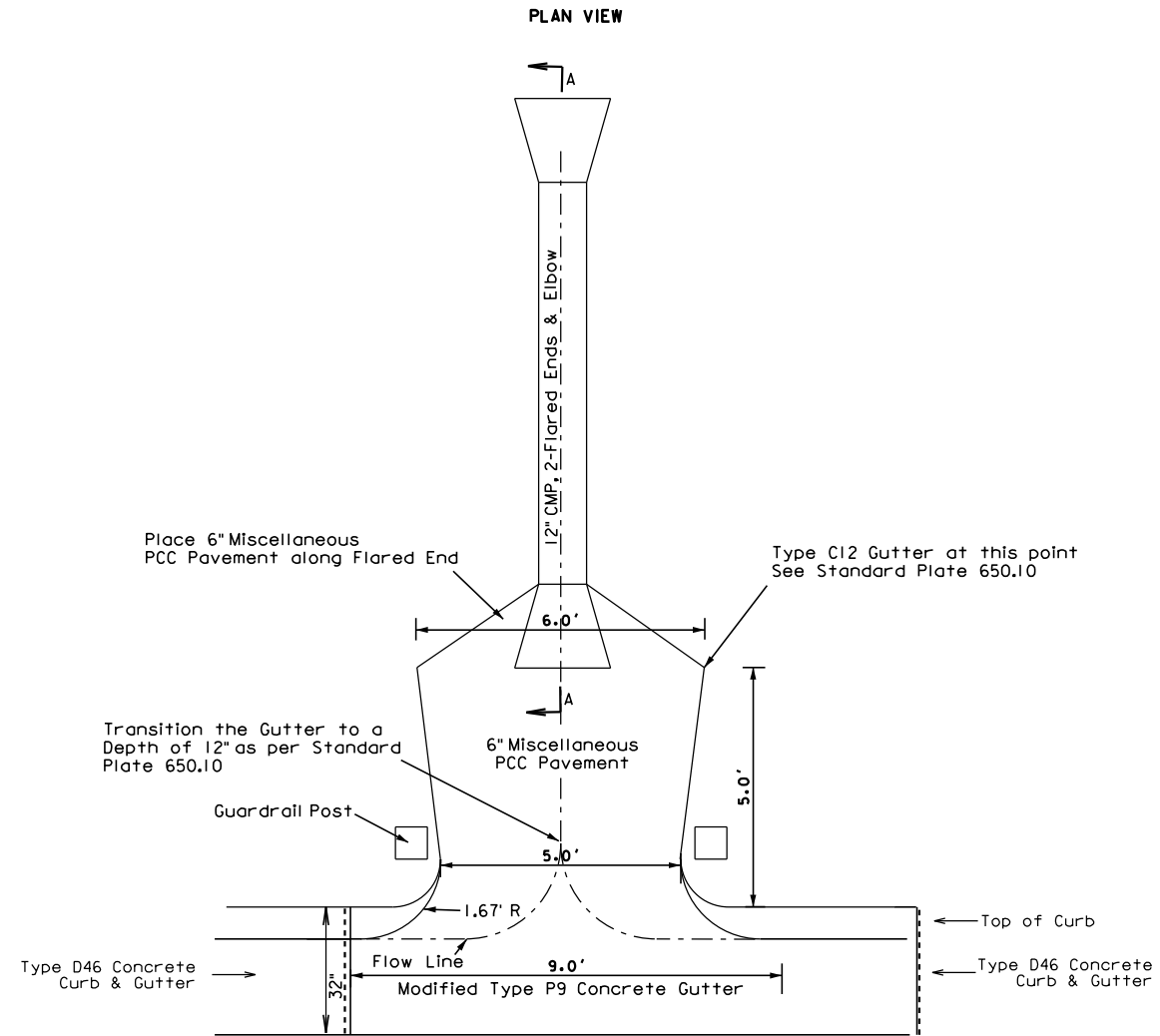
Transverse contraction joints will be constructed at 10' intervals in the concrete gutter except when concrete gutter is constructed adjacent to mainline PCC pavement. When concrete gutter is constructed adjacent to mainline PCC pavement, a transverse contraction joint will be constructed in the concrete gutter at each mainline PCC pavement transverse contraction joint location.

When concrete gutter is placed monolithically with mainline PCC pavement, the transverse contraction joints in the concrete gutter will be sawed and sealed the same as the transverse contraction joints in the mainline PCC pavement.

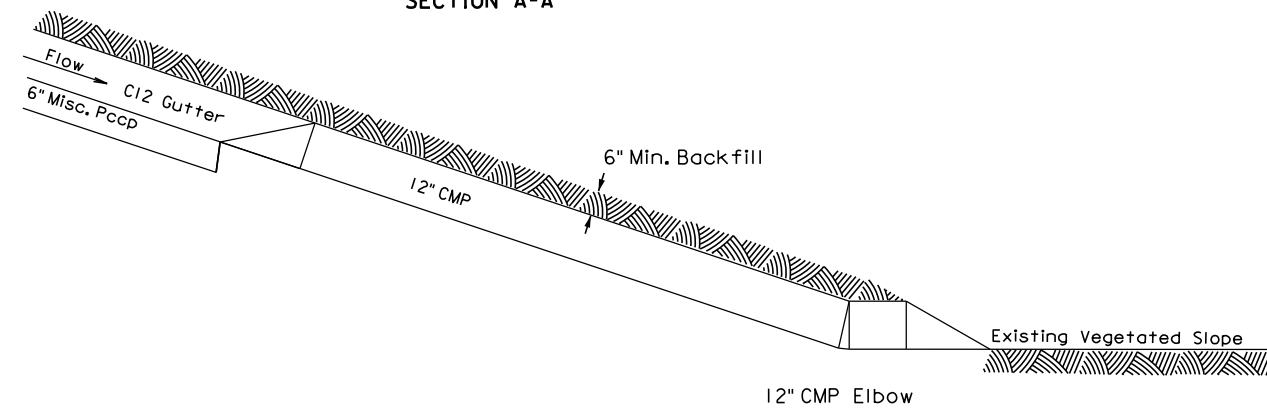
When concrete gutter is not placed monolithically with the mainline PCC pavement and when the adjacent mainline surfacing is not PCC concrete, the transverse contraction joints in the concrete gutter will be 1 1/2 inches deep if formed in the fresh concrete using a suitable grooving tool. If a saw is used to cut the contraction joints, then the depth of the joint will be at least 1/4 the thickness of the concrete.

Curb along 6" Miscellaneous PCC Pavement will be poured monolithically and will be measured and paid as 6" Miscellaneous PCC Pavement.

CURB OPENING DETAILS



SECTION A-A



PLOT SCALE - 1:4

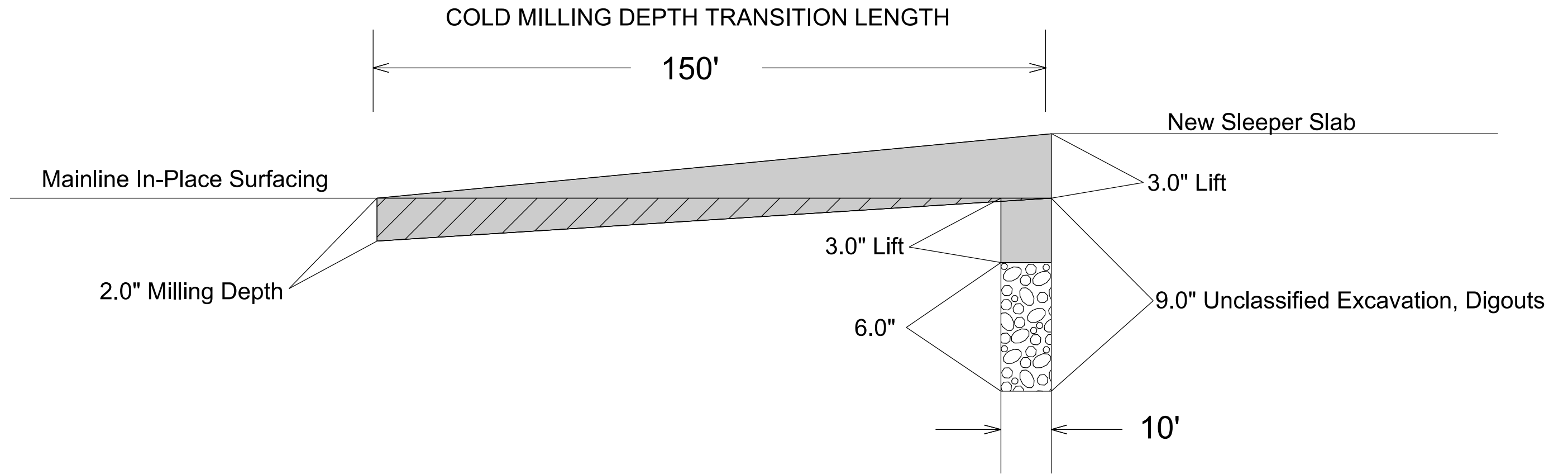
PLOTTED FROM - TRRC12608

PLOT NAME - 7

FILE - ... \DESIGN\CURB OPENING DETAIL.DGN

COLD MILLING ASPHALT CONCRETE
PROFILE TO MATCH NEW APPROACH SLABS TO EXISTING SURFACE
STR. NO. 52-830-310
MRM 101.23

STATE OF SOUTH DAKOTA	PROJECT IM 0902(186)101	SHEET B12	TOTAL SHEETS B32
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- Cold Milling
- Asphalt Concrete Composite
- Base Course

PLOT SCALE - 1:200

PLOTTED FROM - TRRC12608

FILE - ... \AC COLD MILLING PROFILE TO MATCH EXISTING SURFACES.DGN PLOT NAME - 8

TYPICAL PAVEMENT MARKING LAYOUT

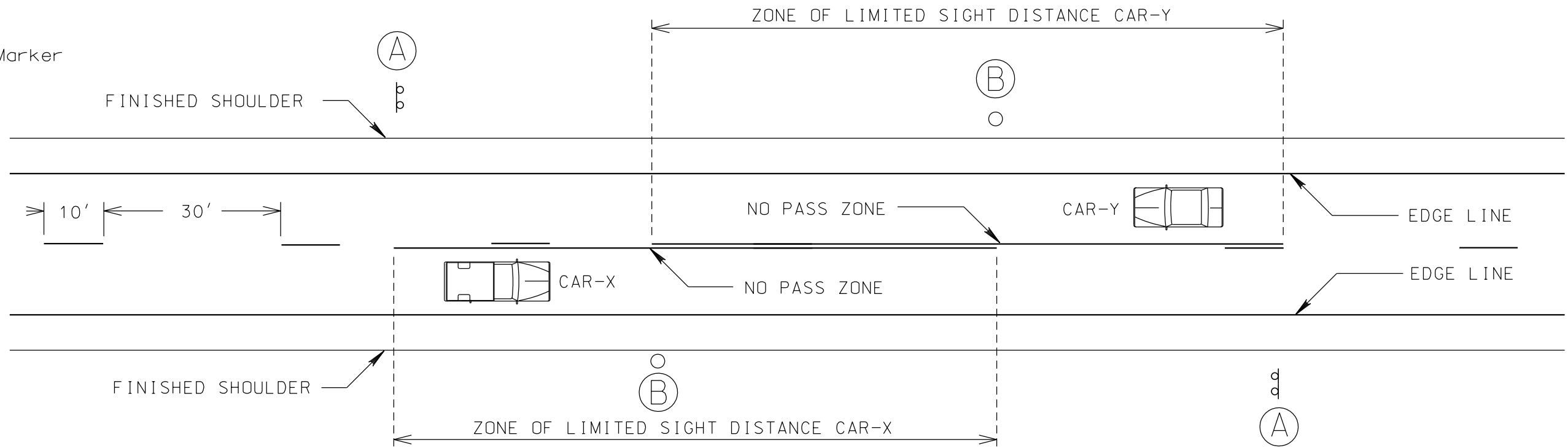
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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(A)



(B)

End of Zone Marker



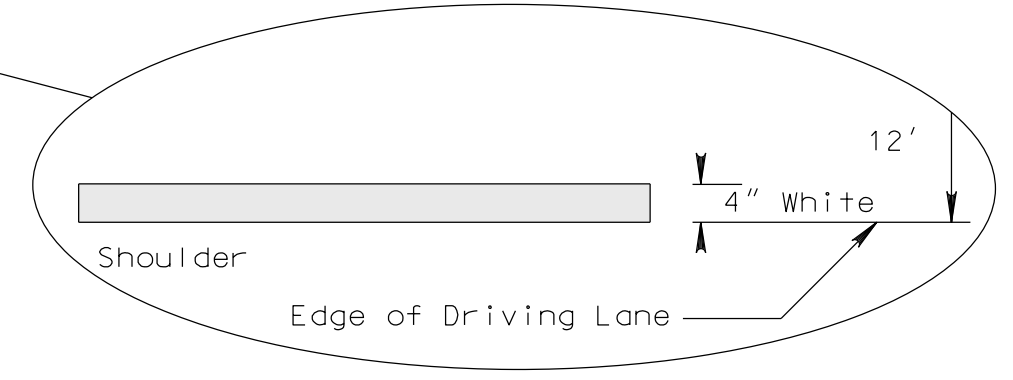
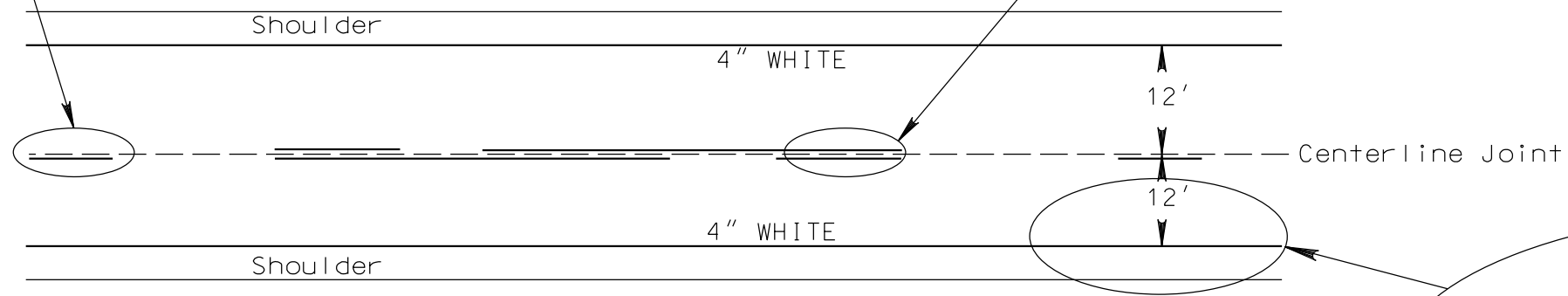
Centerline Detail



NOTE: A TWO "GUN" SYSTEM WILL BE USED TO OBTAIN THIS PATTERN.

WHEN A SINGLE SKIP LINE EXISTS, THE SKIP WILL BE PLACED TO THE SOUTH OR EAST OF THE CENTERLINE JOINT.

Centerline Detail



TYPICAL PAVEMENT MARKING LAYOUT

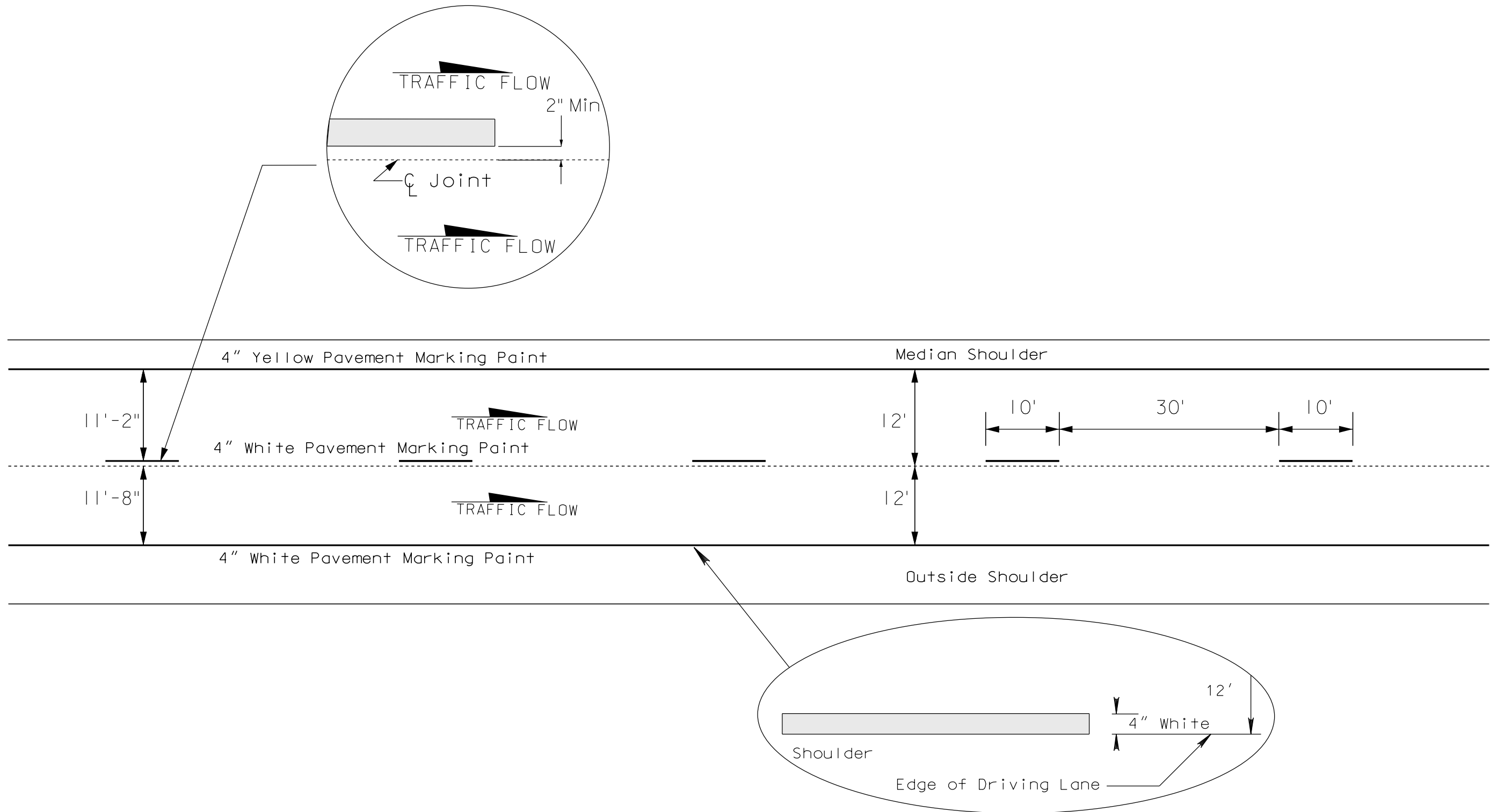
4 LANE DIVIDED HIGHWAY (4" Marking)

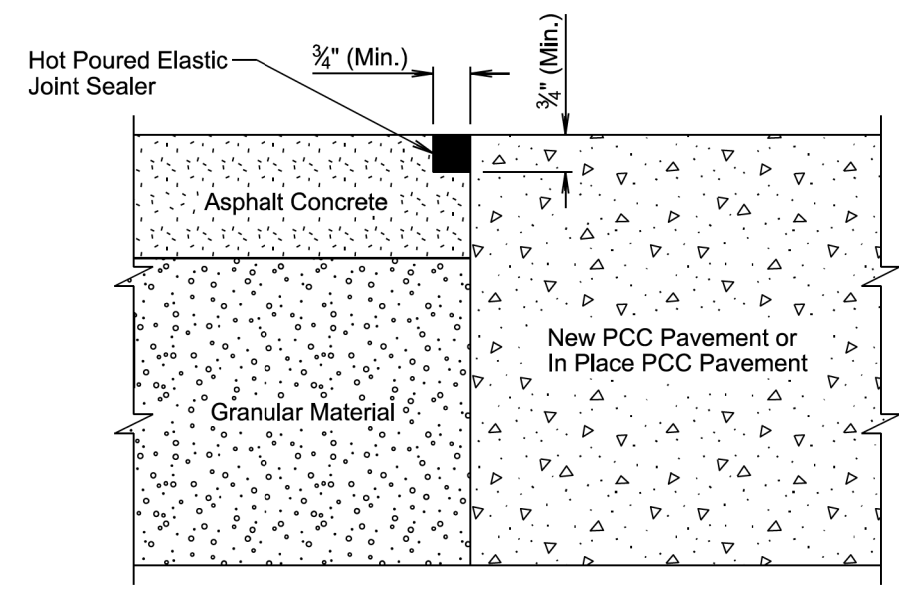
PLOT SCALE - 1:200

PLOT NAME - 10

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PLOTTED FROM - TRRC12508





TRANSVERSE SECTION
(Asphalt Concrete Shoulder Joint)

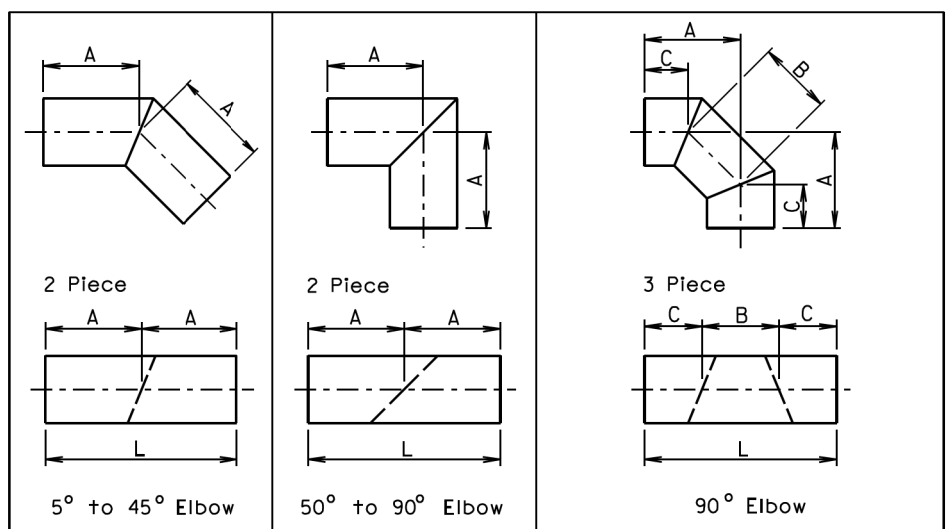
September 14, 2019

<i>Published Date: 2025</i>	S D D O T	ASPHALT CONCRETE SHOULDER JOINT ADJACENT TO PCC PAVEMENT	PLATE NUMBER 320.15
			Sheet 1 of 1

Plot Scale - 1:200

Plotted From - TRRC12608

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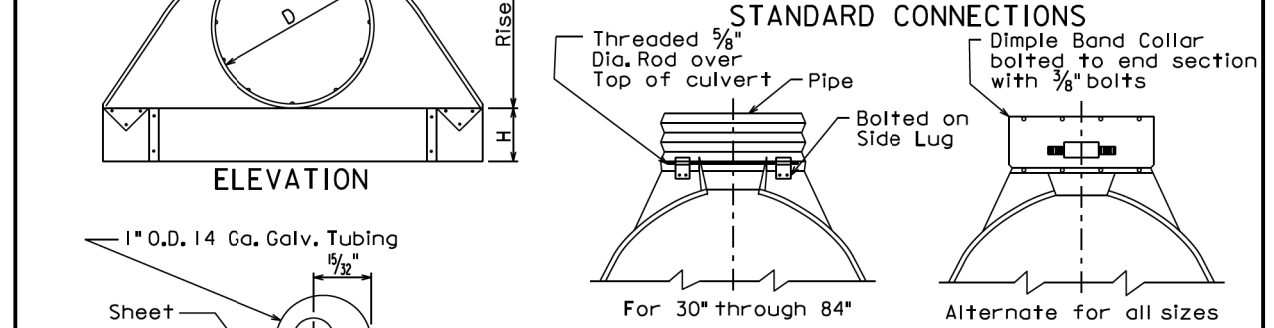
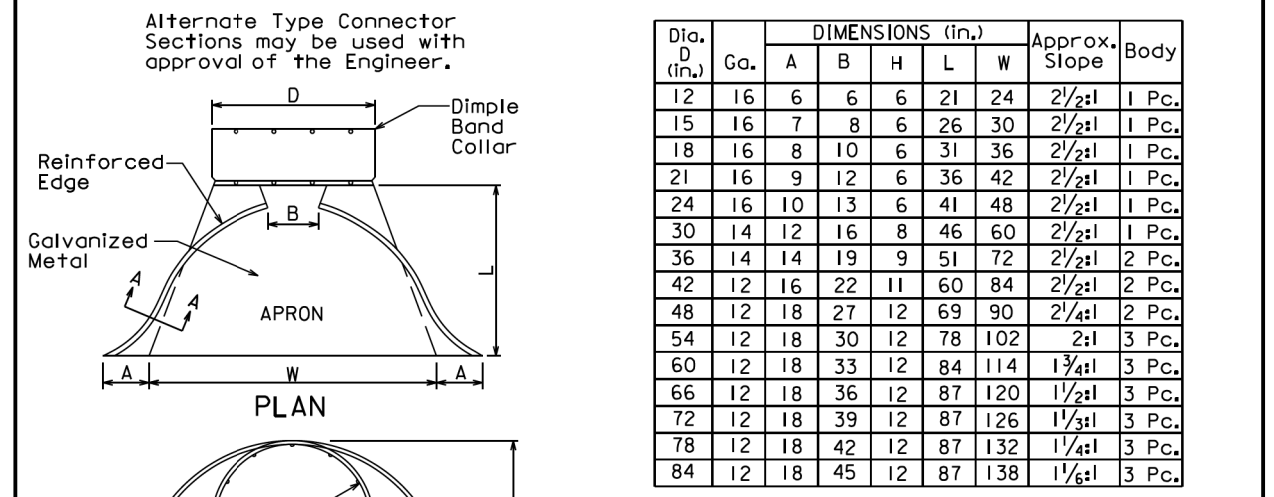
Diameter	A	L	Diameter	A	L	Diameter	A	B	C	L
Inches	Feet	Feet	Inches	Feet	Feet	Inches	Inches			Feet
12	1	2	12	2	4	12	25 1/2	11	18 1/2	4
15	1	2	15	2	4	15	26 1/2	12	18	4
18	1	2	18	2	4	18	27	14	17	4
21	2	4	21	2	4	21	27	15	16 1/2	4
24	2	4	24	2	4	24	27 1/2	16	16	4
27	2	4	27	2	4	27	27 1/2	17	15 1/2	4
30	2	4	30	3	6	30	40	19	26 1/2	6
33	2	4	33	3	6	33	40	20	26	6
36	2	4	36	3	6	36	40 1/2	21	25 1/2	6
42	2	4	42	3	6	42	41	23	24 1/2	6
48	2	4	48	4	8	48	53 1/2	26	35	8
54	3	6	54	4	8	54	54	28	34	8
60	3	6	60	4	8	60	54 1/2	31	32 1/2	8
66	3	6	66	4	8	66	54	33	31 1/2	8
72	3	6	72	5	10	72	67 1/2	36	42	10
78	3	6	78	5	10	78	68	39	40 1/2	10
84	3	6	84	5	10	84	68 1/2	41	39 1/2	10
90	3	6	90	6	12	90	70	46	37	10
96	3	6	96	6	12	96	82	46	49	12

FABRICATED ELBOW LENGTHS FOR ALL CORRUGATIONS

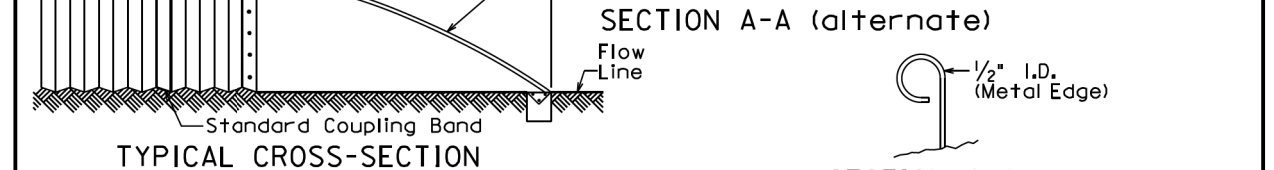
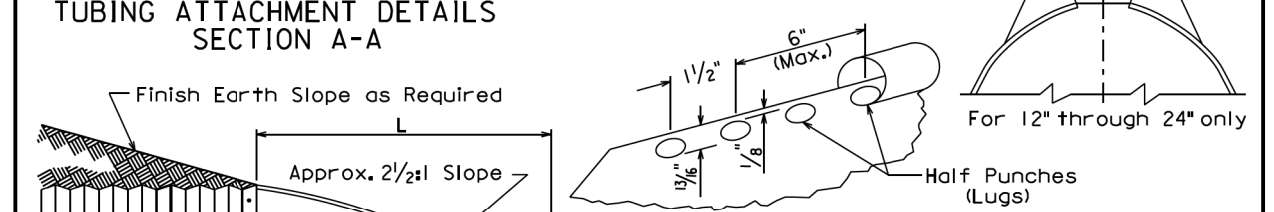
GENERAL NOTES:
 All dimensions shown are nominal.
 L = Linear Feet of C.M.P. required to fabricate fitting.

June 26, 2001

S D D O T	C.M.P. FABRICATED LENGTHS FOR ELBOWS	PLATE NUMBER 450.32
	Published Date: 2025	Sheet 1 of 1



NOTE: Tubing is slipped over the sheet and rivets or lugs prior to forming operations of the apron.



GENERAL NOTES:
 All 3 pc. bodies shall have 12 Ga. sides and 10 Ga. center panels. Width of center panels shall be greater than 20% of the pipe periphery. Multiple panel bodies to have lap seams tightly joined by 3/8" Dia. galvanized rivets or bolts.
 For 60" through 84" sizes, reinforced edges shall be supplemented with galvanized stiffener angles. The angles will be 2" x 2" x 1/4" for 60" through 72" diameters and 2 1/2" x 2 1/2" x 1/4" for 78" and 84" diameters. The angles shall be attached by 3/8" diameter galvanized nuts and bolts.
 Rivets and Bolts shall be 3/8" Dia. Min. for 10 Ga. and 12 Ga. sheet, and 5/16" Dia. Min. for 14 Ga. and 16 Ga. sheets. Tighten nuts with torque wrench to 25 lbs. torque.

March 31, 2000

S D D O T	C.M.P. FLARED ENDS	PLATE NUMBER 450.35
	Published Date: 2025	Sheet 1 of 1

Plot Scale - 1:200

Plotted From - TRRC12608

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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'-1 1/2"
3	Single	6"x12"x14"	Wood	6"x8"x6'-0"	Wood	1'-6 3/4"
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.

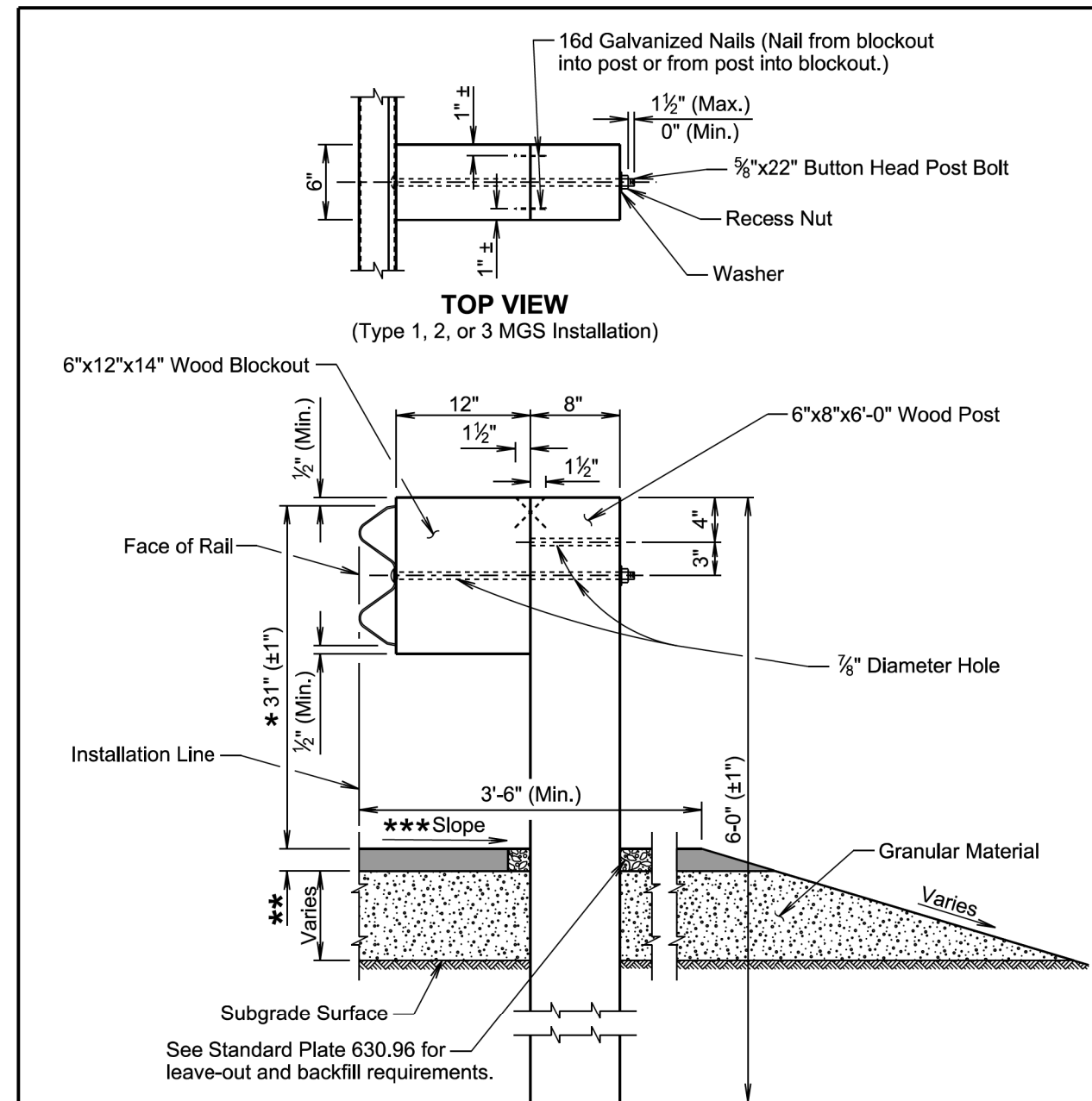
Slots in the rails will be provided as specified in the plans and by the manufacturer. A drilled hole through the rail is not allowed as a replacement for a slot. If the Contractor must create a slot, a cutting torch or plasma cutter is not allowed. The slot edges will be smooth and free of burrs or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

September 14, 2019

September 14, 2019

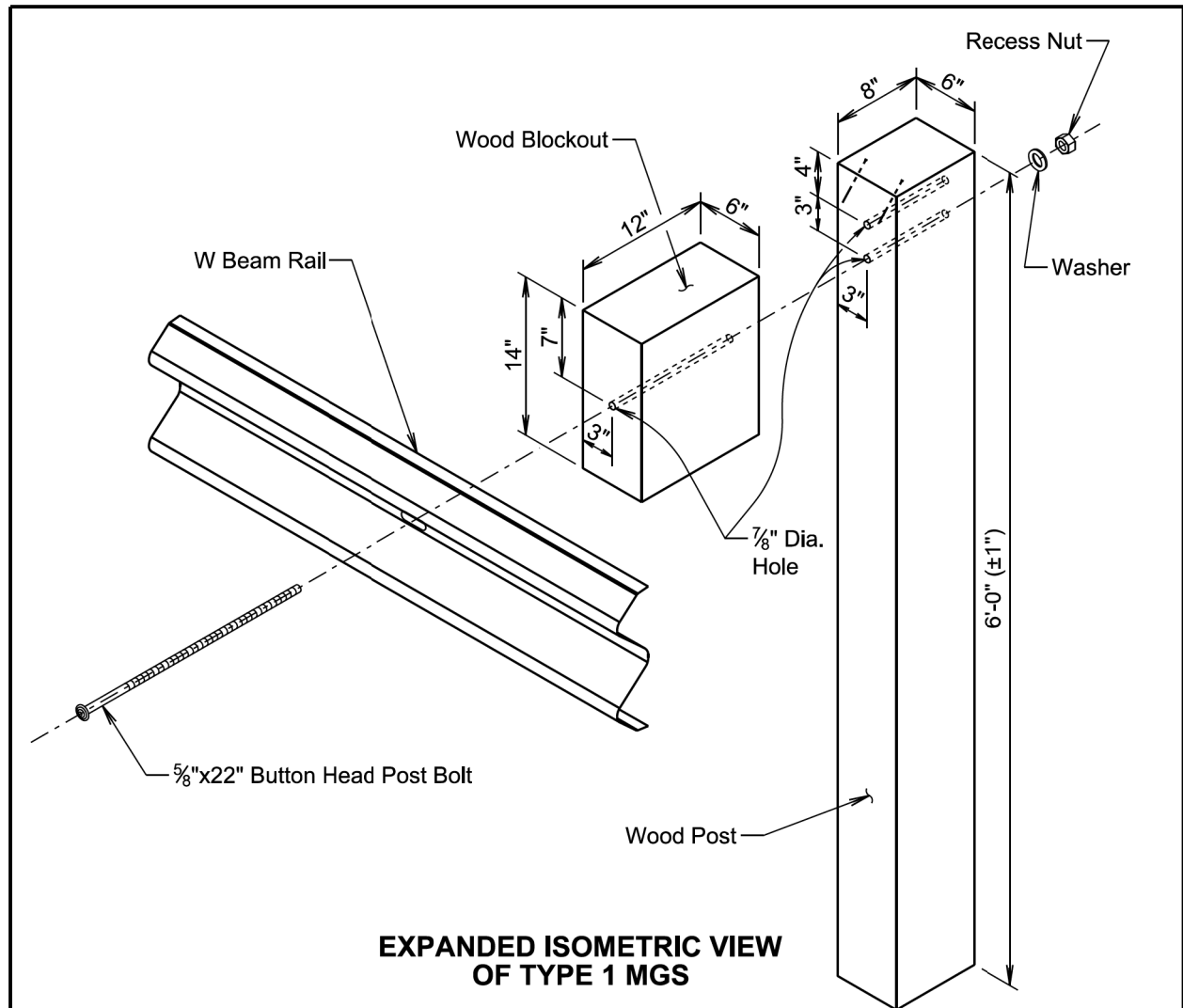
Published Date: 2025	S D D O T	MIDWEST GUARDRAIL SYSTEM (MGS)	PLATE NUMBER 630.20
			Sheet 1 of 6



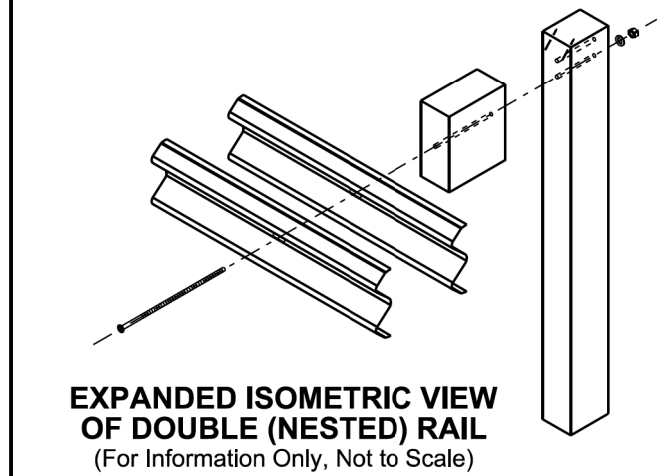
TRANSVERSE SECTION
(Type 1, 2, or 3 MGS Installation)

- * 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.

Published Date: 2025	S D D O T	MIDWEST GUARDRAIL SYSTEM (MGS)	PLATE NUMBER 630.20
			Sheet 2 of 6



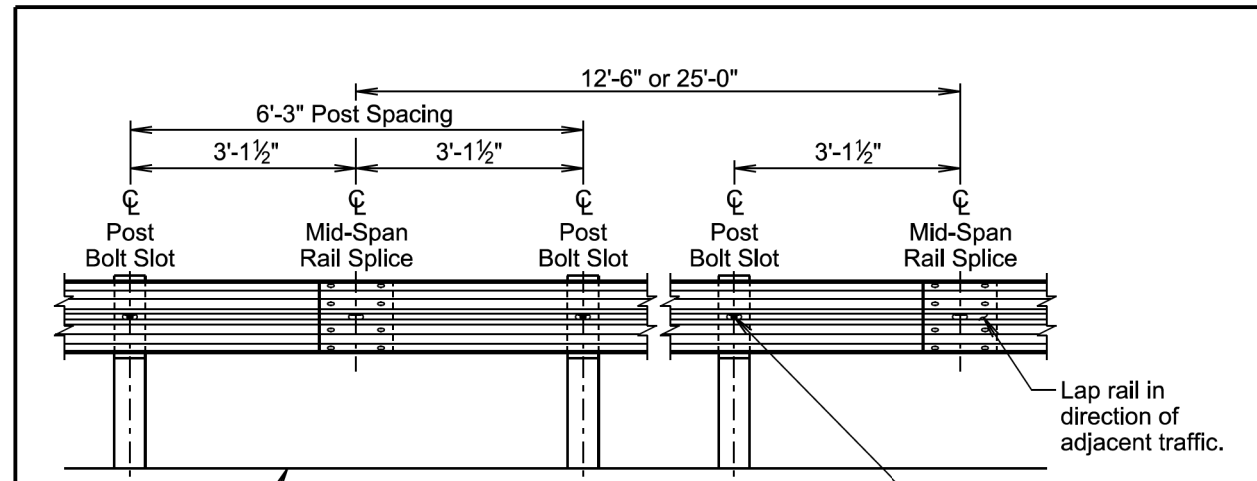
EXPANDED ISOMETRIC VIEW OF TYPE 1 MGS



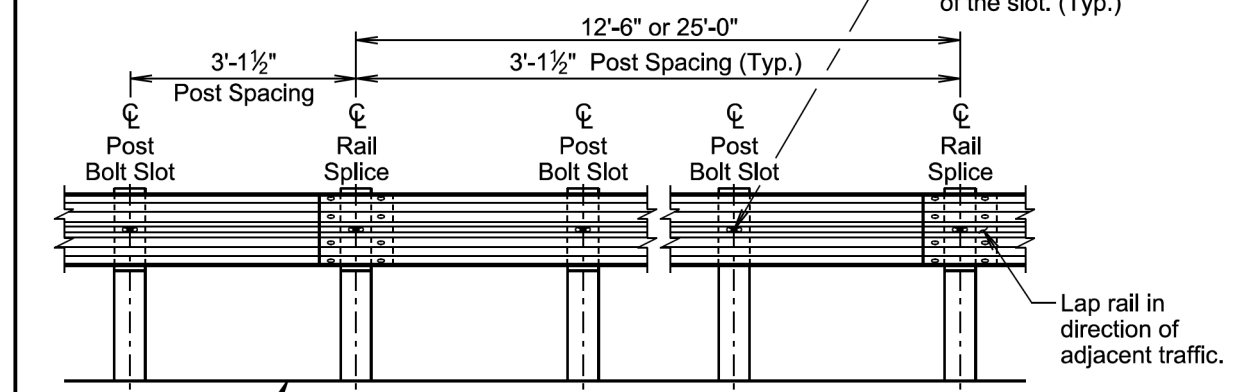
EXPANDED ISOMETRIC VIEW OF DOUBLE (NESTED) RAIL
(For Information Only, Not to Scale)

September 14, 2019

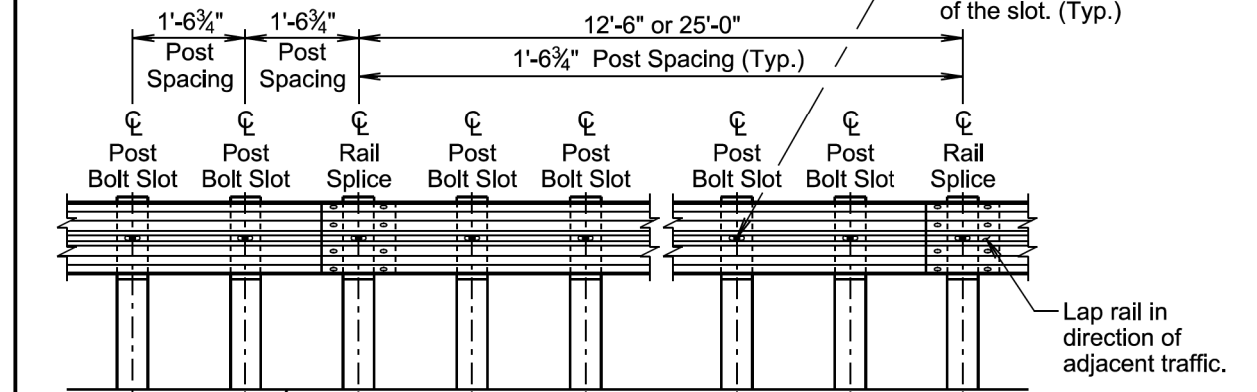
Published Date: 2025	S D D O T	MIDWEST GUARDRAIL SYSTEM (MGS)	PLATE NUMBER 630.20
			Sheet 3 of 6



ELEVATION VIEW (6'-3" Post Spacing)



ELEVATION VIEW (3'-1 1/2" Post Spacing)



ELEVATION VIEW (1'-6 3/4" Post Spacing)

September 14, 2019

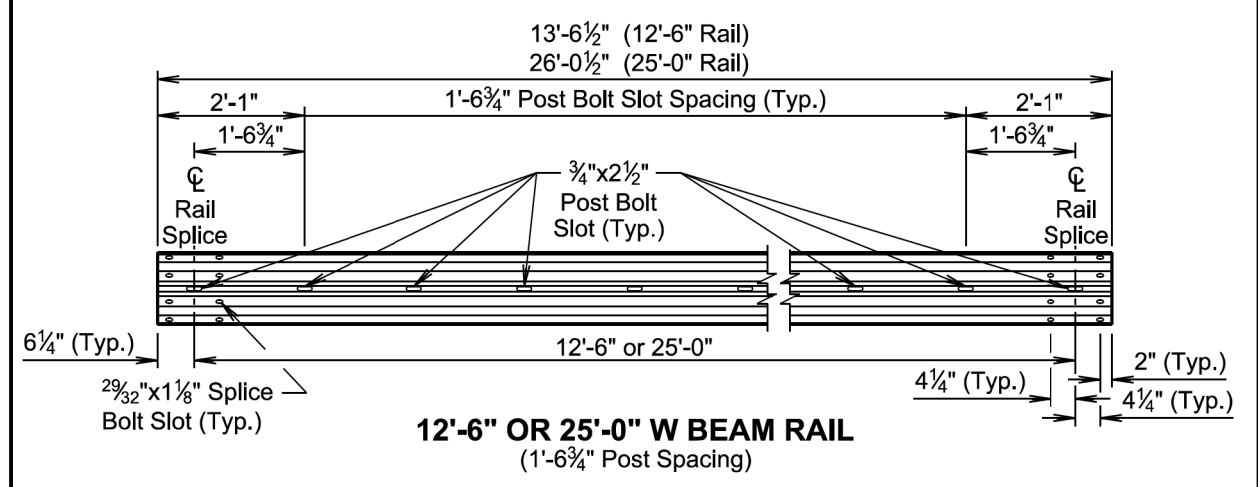
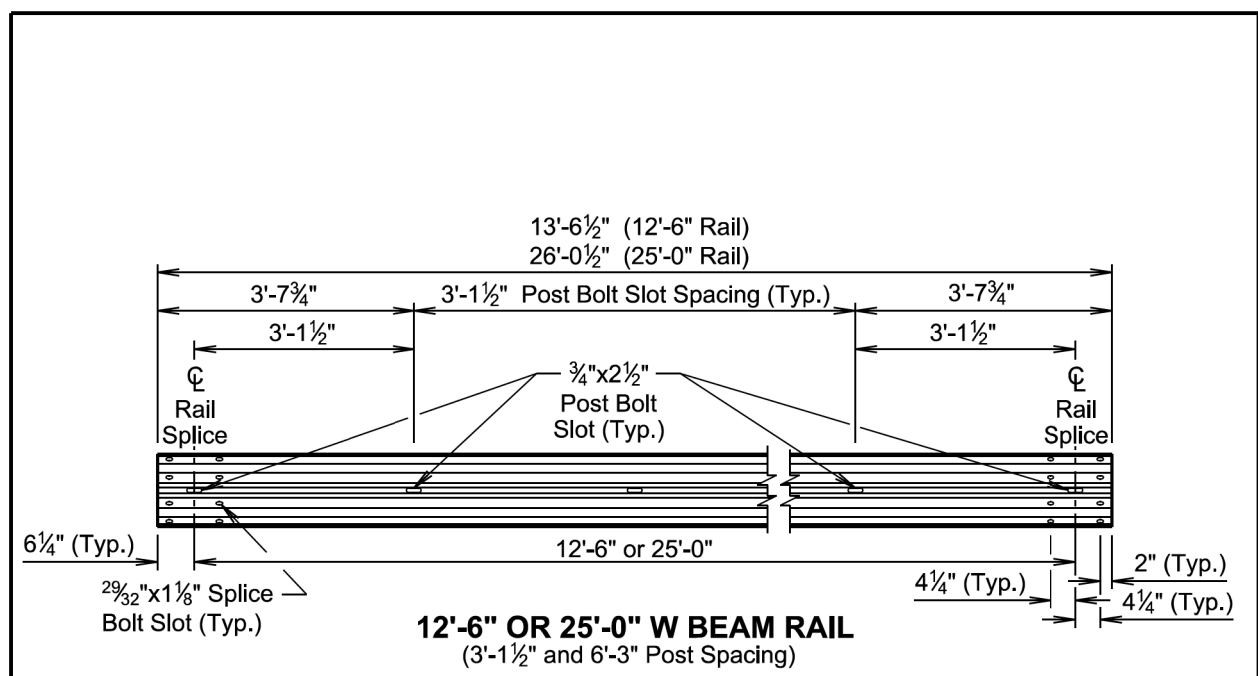
Published Date: 2025	S D D O T	MIDWEST GUARDRAIL SYSTEM (MGS)	PLATE NUMBER 630.20
			Sheet 4 of 6

Plot Scale - 1:200

Plotted From - TRRC12608

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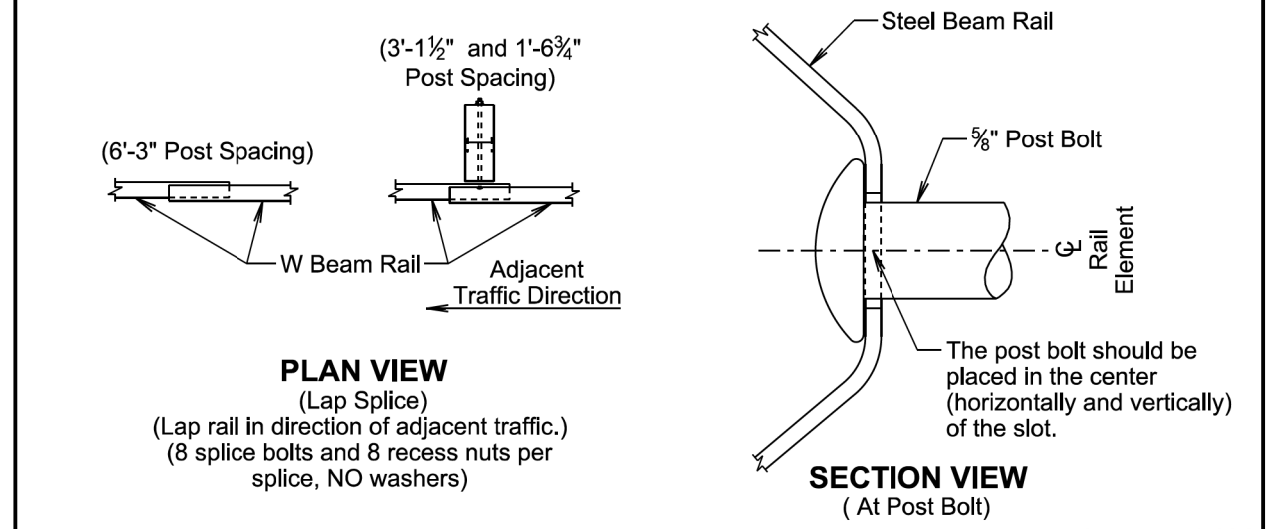
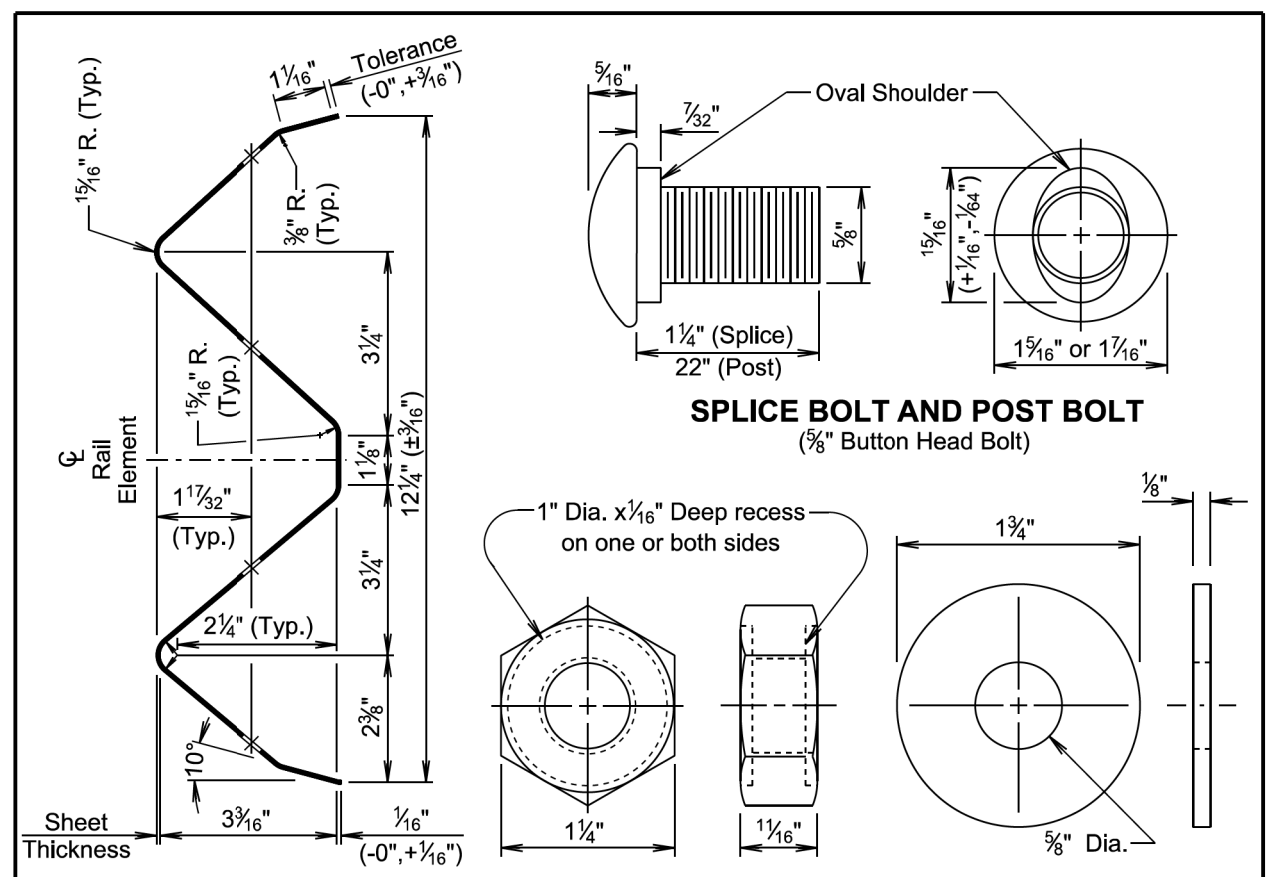
Plot Scale - 1:200



September 14, 2019

SDDOT	MIDWEST GUARDRAIL SYSTEM (MGS)	PLATE NUMBER 630.20
		Sheet 5 of 6

Published Date: 2025



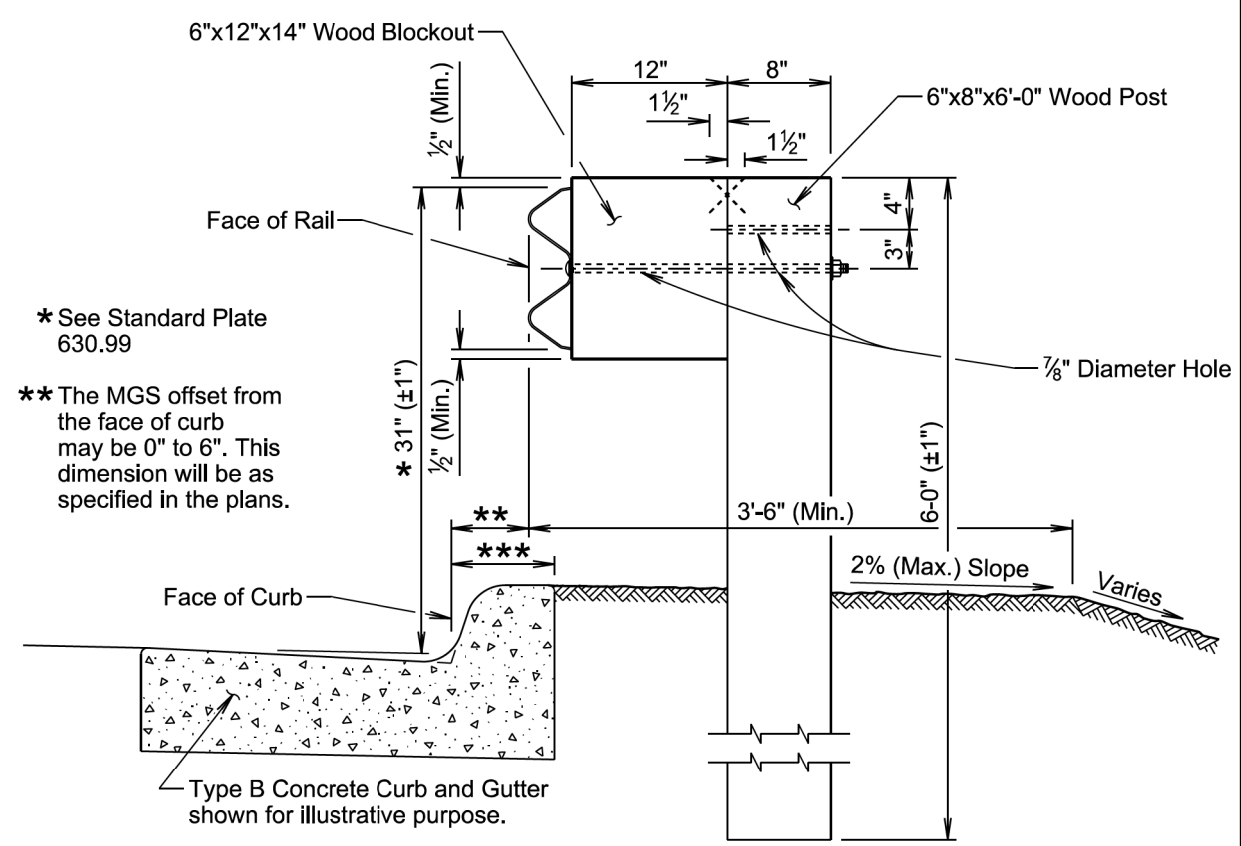
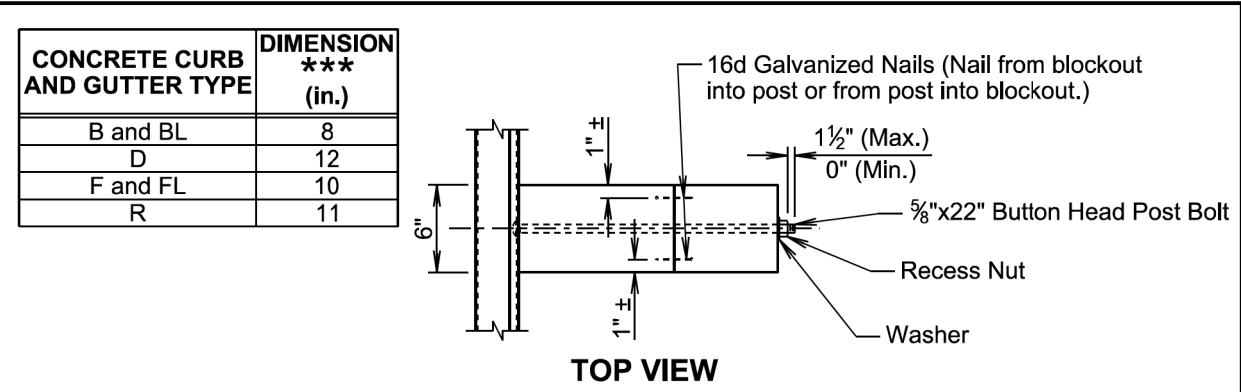
September 14, 2019

SDDOT	MIDWEST GUARDRAIL SYSTEM (MGS)	PLATE NUMBER 630.20
		Sheet 6 of 6

Published Date: 2025

Plotted From - TRRC12608

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* 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.

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.

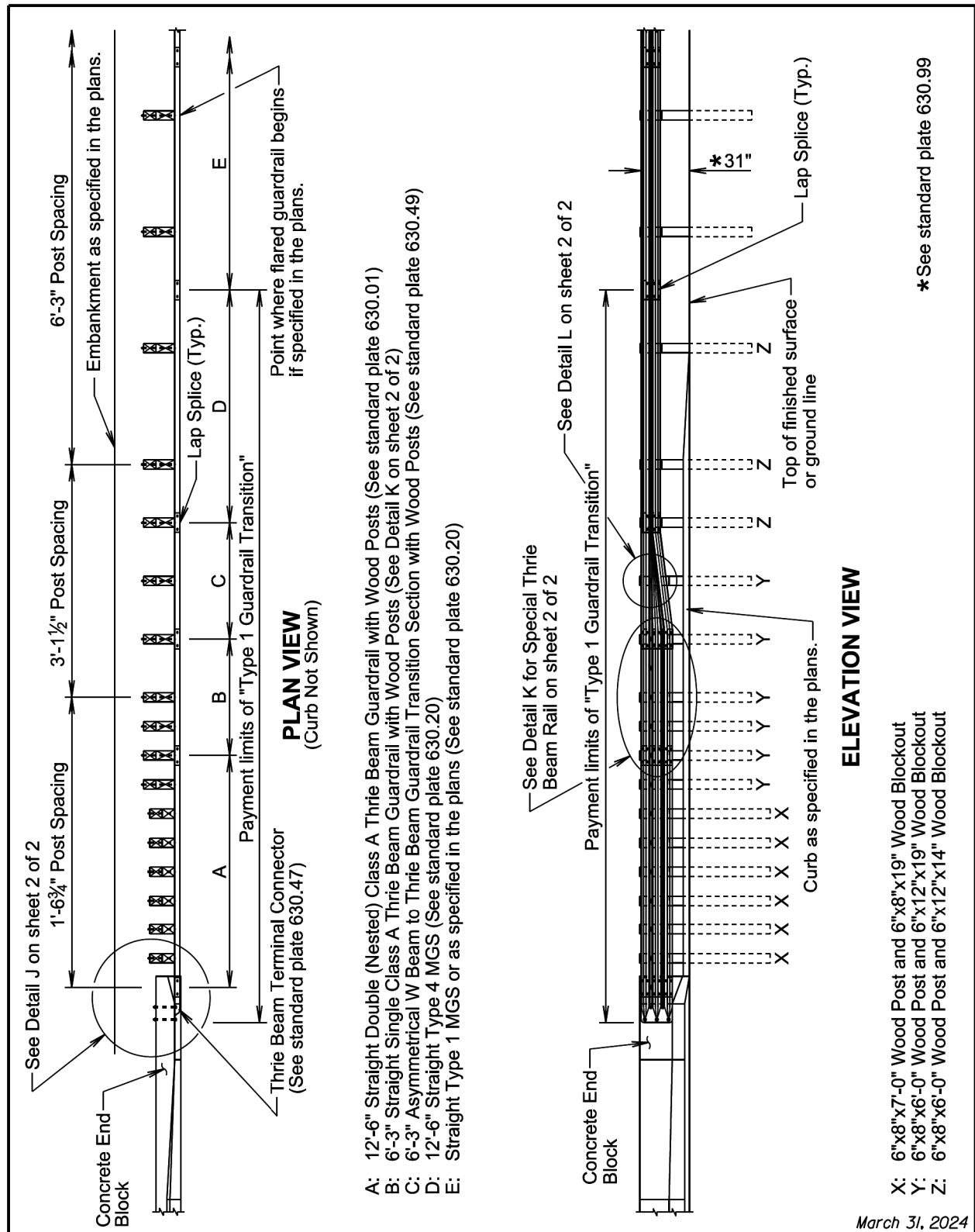
September 14, 2019

Published Date: 2025	S D D O T	MIDWEST GUARDRAIL SYSTEM (MGS) AT CURB AND GUTTER	PLATE NUMBER 630.22
			Sheet 1 of 1

Plot Scale - 1:200

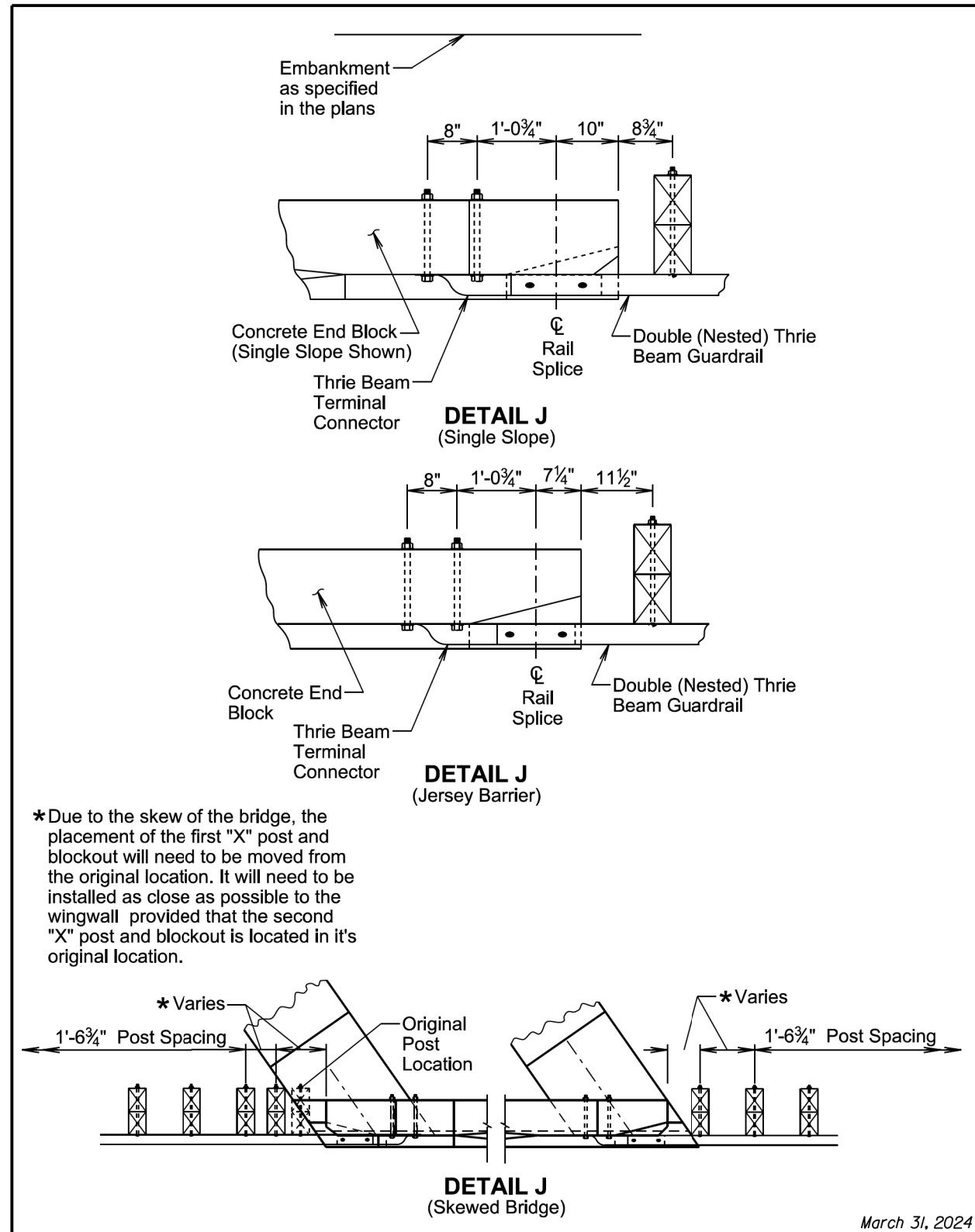
Plotted From - TRRC12608

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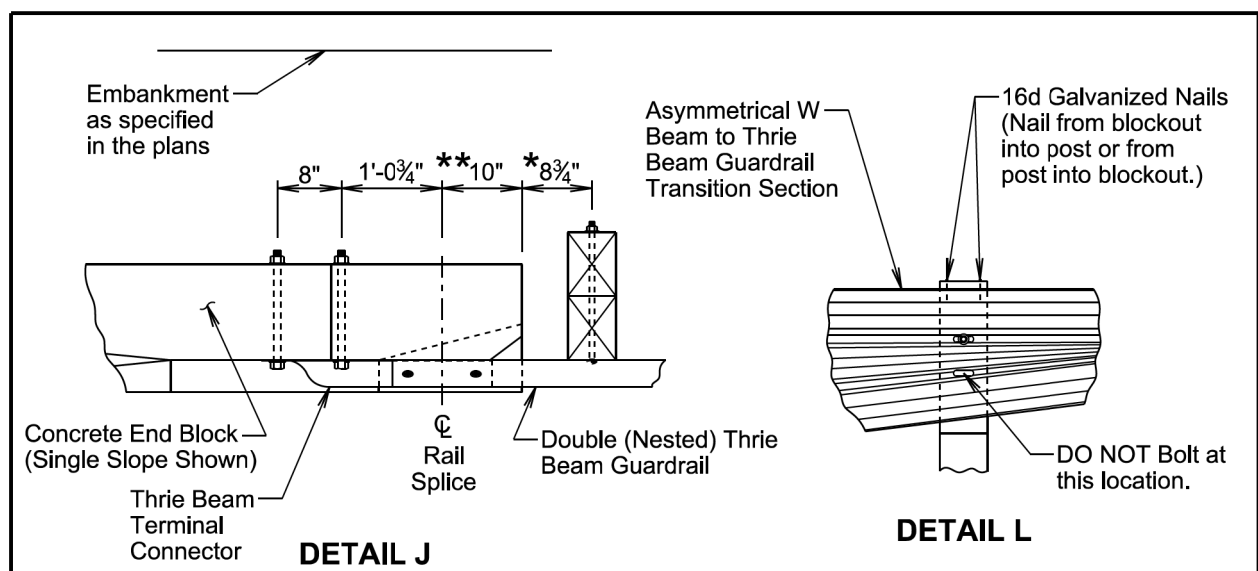
* See standard plate 630.99

SDOT	TYPE 1 GUARDRAIL TRANSITION (CONCRETE END BLOCK TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.50
	Published Date: 2025	Sheet 1 of 3

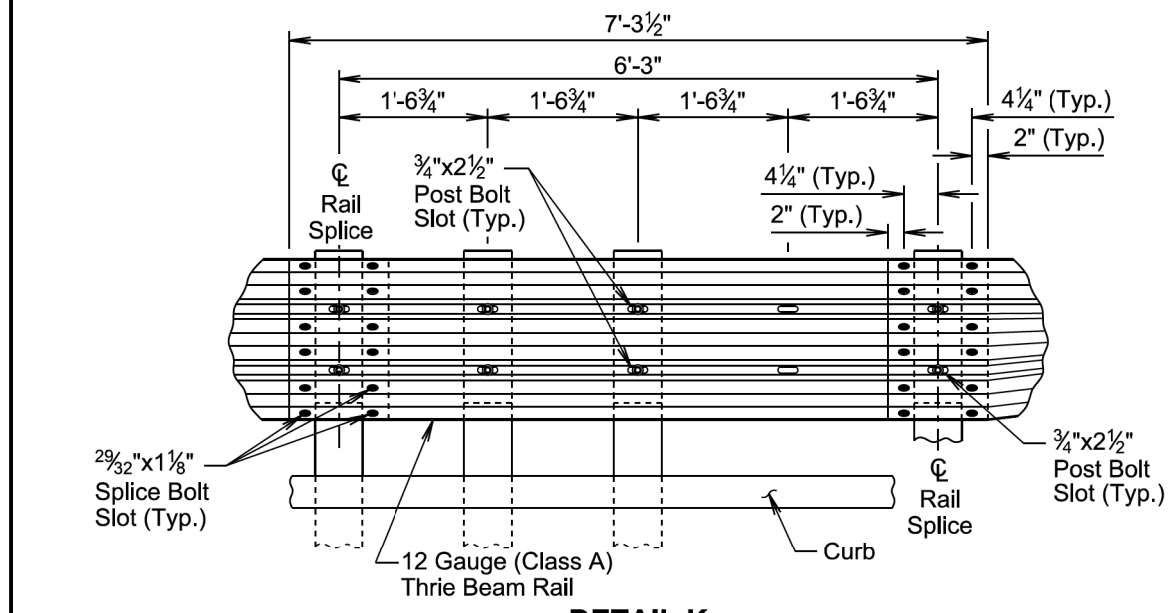


SDOT	TYPE 1 GUARDRAIL TRANSITION (CONCRETE END BLOCK TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.50
	Published Date: 2025	Sheet 2 of 3

Plot Scale - 1:200



Jersey Barrier Dimensions are ** 7 1/4" and * 11 1/2"



DETAIL K
(Special Thrie Beam Rail)

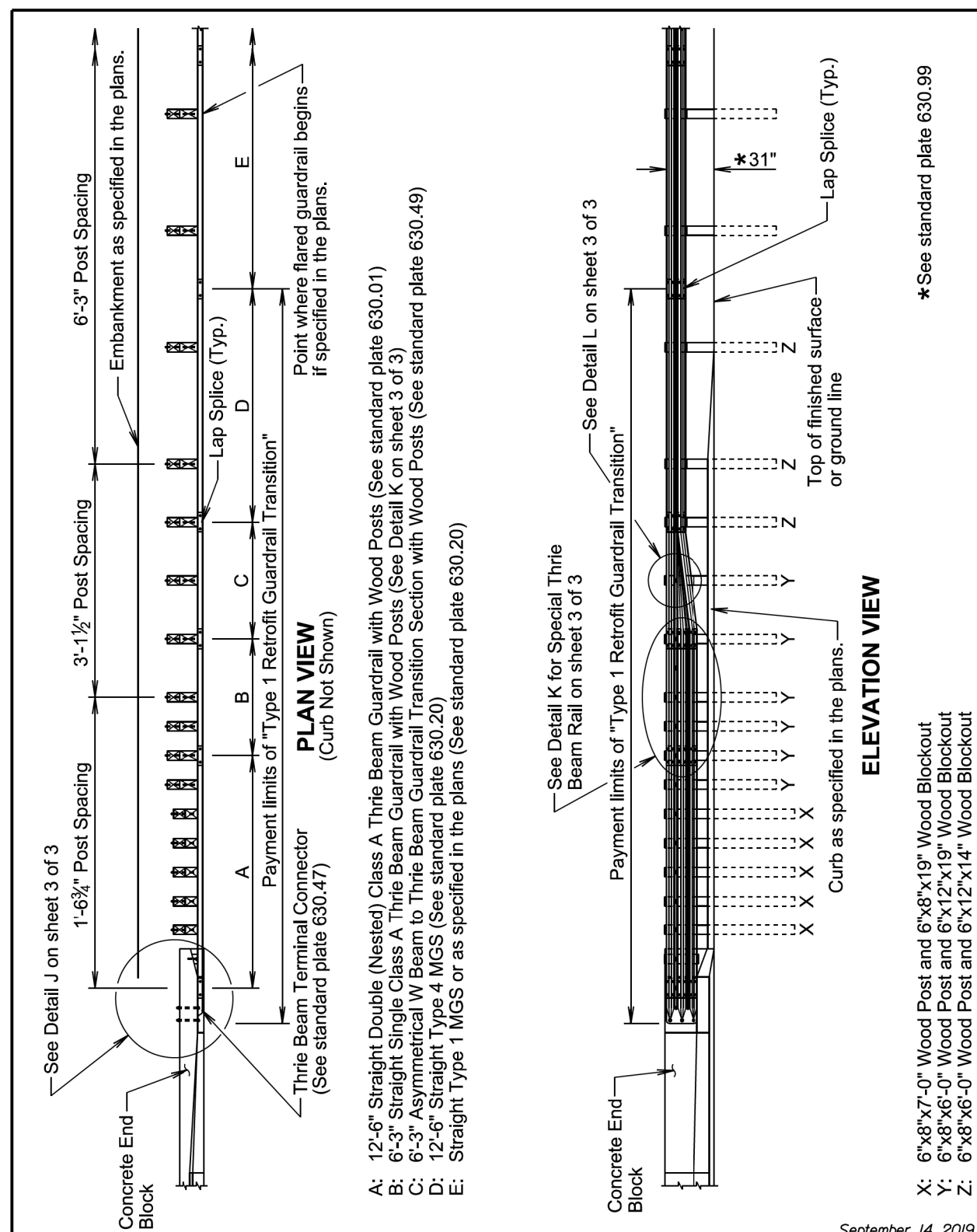
GENERAL NOTES:

Throughout the type 1 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 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 1 Guardrail Transition".

March 31, 2024

S D D O T	TYPE 1 GUARDRAIL TRANSITION (CONCRETE END BLOCK TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.50
	Published Date: 2025	Sheet 3 of 3



PLAN VIEW
(Curb Not Shown)

ELEVATION VIEW

- A: 12'-6" Straight Double (Nested) Class A Thrie Beam Guardrail with Wood Posts (See standard plate 630.01)
- B: 6'-3" Straight Single Class A Thrie Beam Guardrail with Wood Posts (See Detail K on sheet 3 of 3)
- C: 6'-3" Asymmetrical W Beam to Thrie Beam Guardrail Transition Section with Wood Posts (See standard plate 630.49)
- D: 12'-6" Straight Type 4 MGS (See standard plate 630.20)
- E: Straight Type 1 MGS or as specified in the plans (See standard plate 630.20)

- X: 6"x8"x7'-0" Wood Post and 6"x8"x19" Wood Blockout
- Y: 6"x8"x6'-0" Wood Post and 6"x12"x19" Wood Blockout
- Z: 6"x8"x6'-0" Wood Post and 6"x12"x14" Wood Blockout

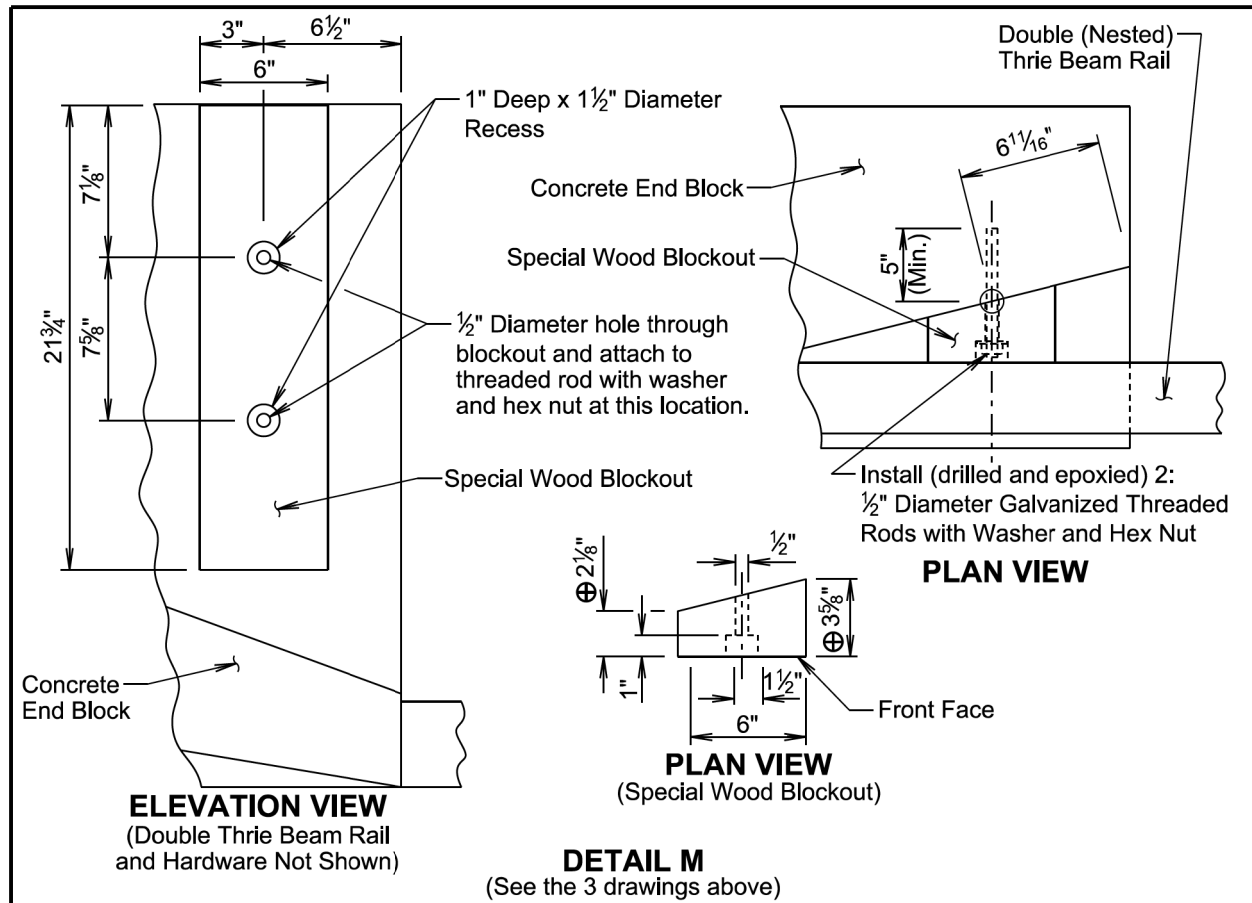
* See standard plate 630.99

September 14, 2019

S D D O T	TYPE 1 RETROFIT GUARDRAIL TRANSITION (CONCRETE END BLOCK TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.51
	Published Date: 2025	Sheet 1 of 3

Plotted From - TRRC12608

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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 $\pm 1/2$ ".

The threaded rods will be $1/2$ " 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 $1/8$ " greater or more than $3/8$ " 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.

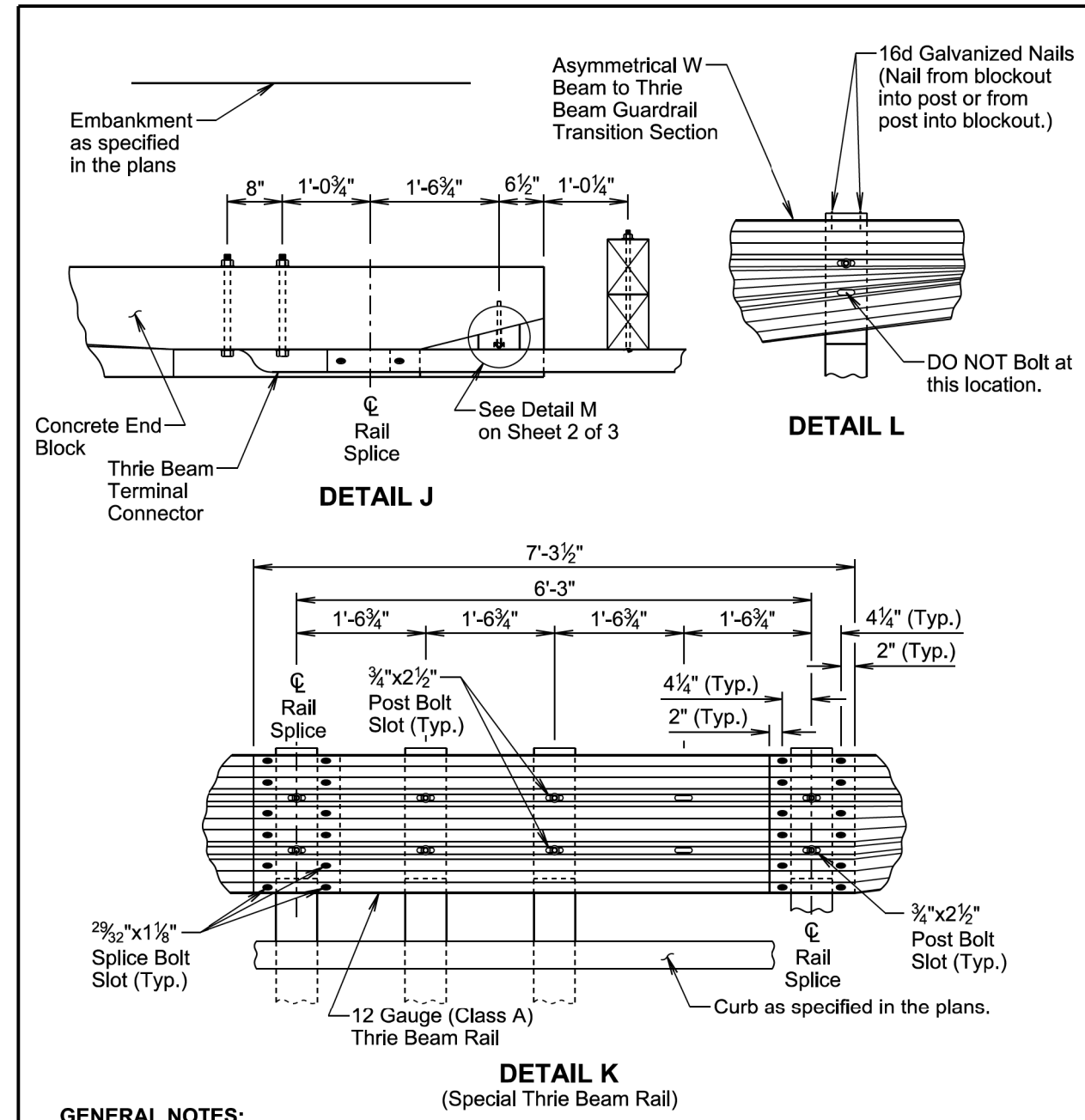
The epoxy resin mixture will be of a type for bonding steel to hardened concrete and will conform to AASHTO M235 Type IV, Grade 3 (Equivalent to ASTM C881, Type IV, Grade 3).

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 $1/3$ to $1/2$ 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

S D D O T	TYPE 1 RETROFIT GUARDRAIL TRANSITION (CONCRETE END BLOCK TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.51
	Published Date: 2025	Sheet 2 of 3



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".

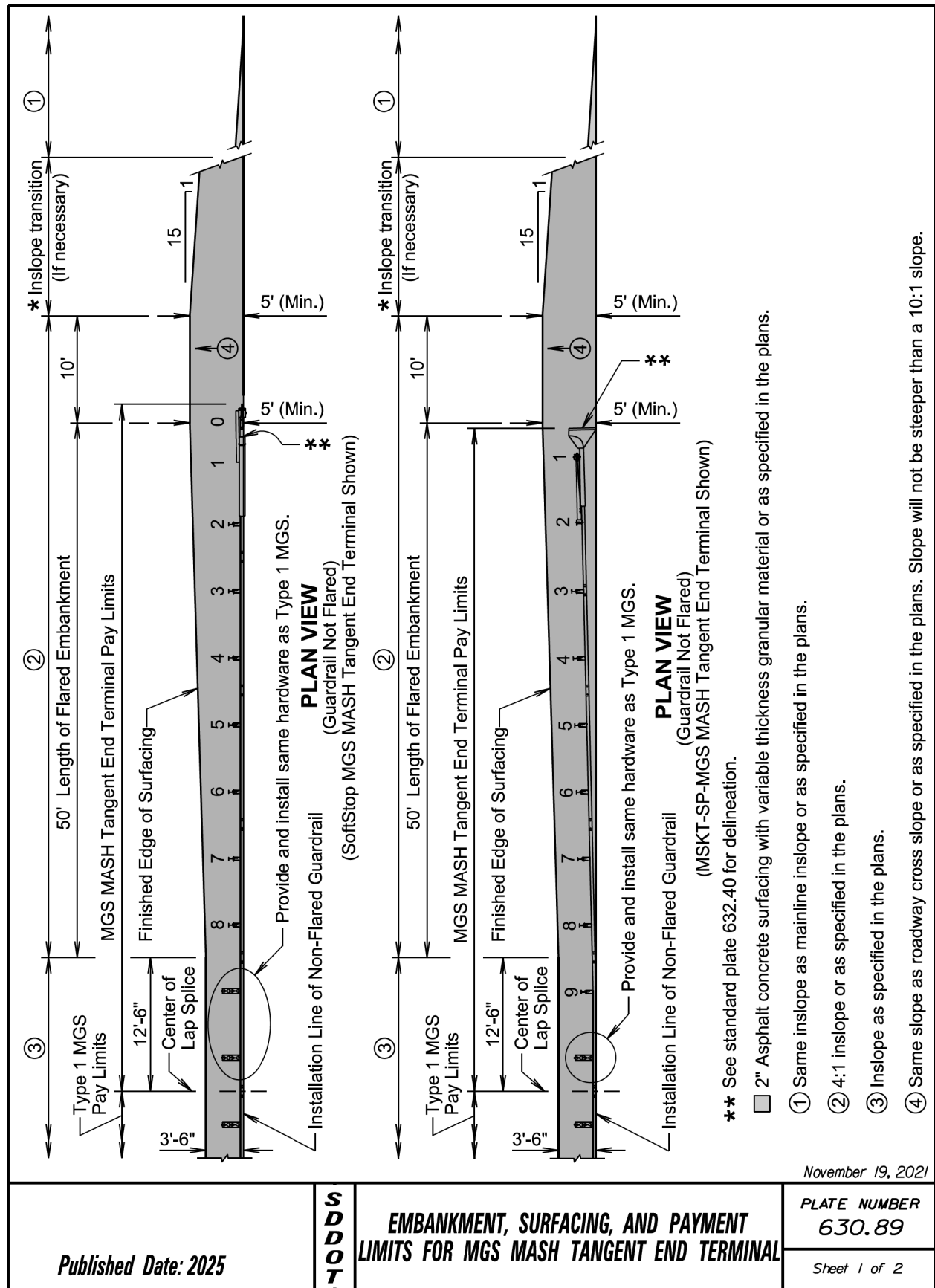
September 14, 2019

S D D O T	TYPE 1 RETROFIT GUARDRAIL TRANSITION (CONCRETE END BLOCK TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.51
	Published Date: 2025	Sheet 3 of 3

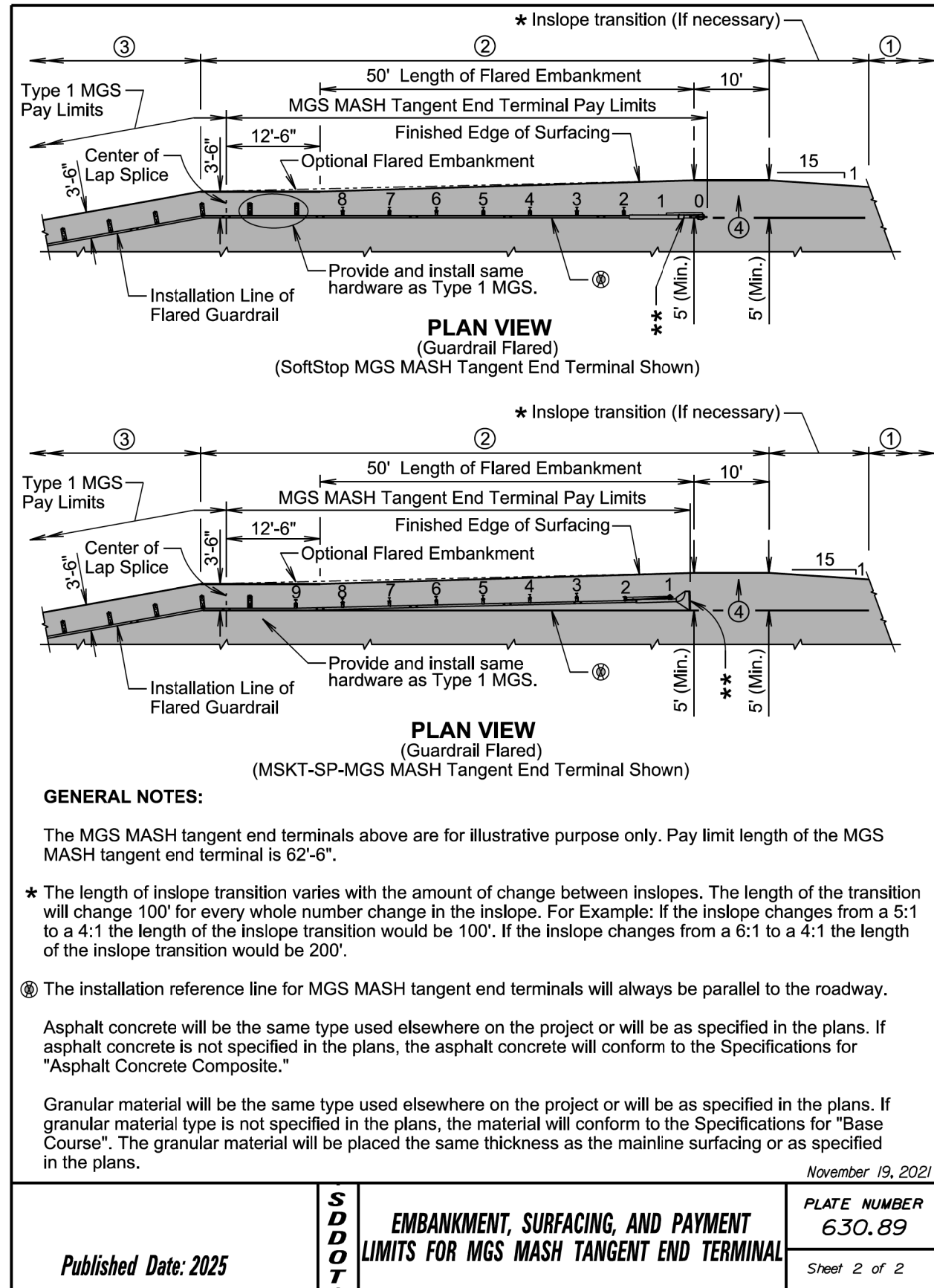
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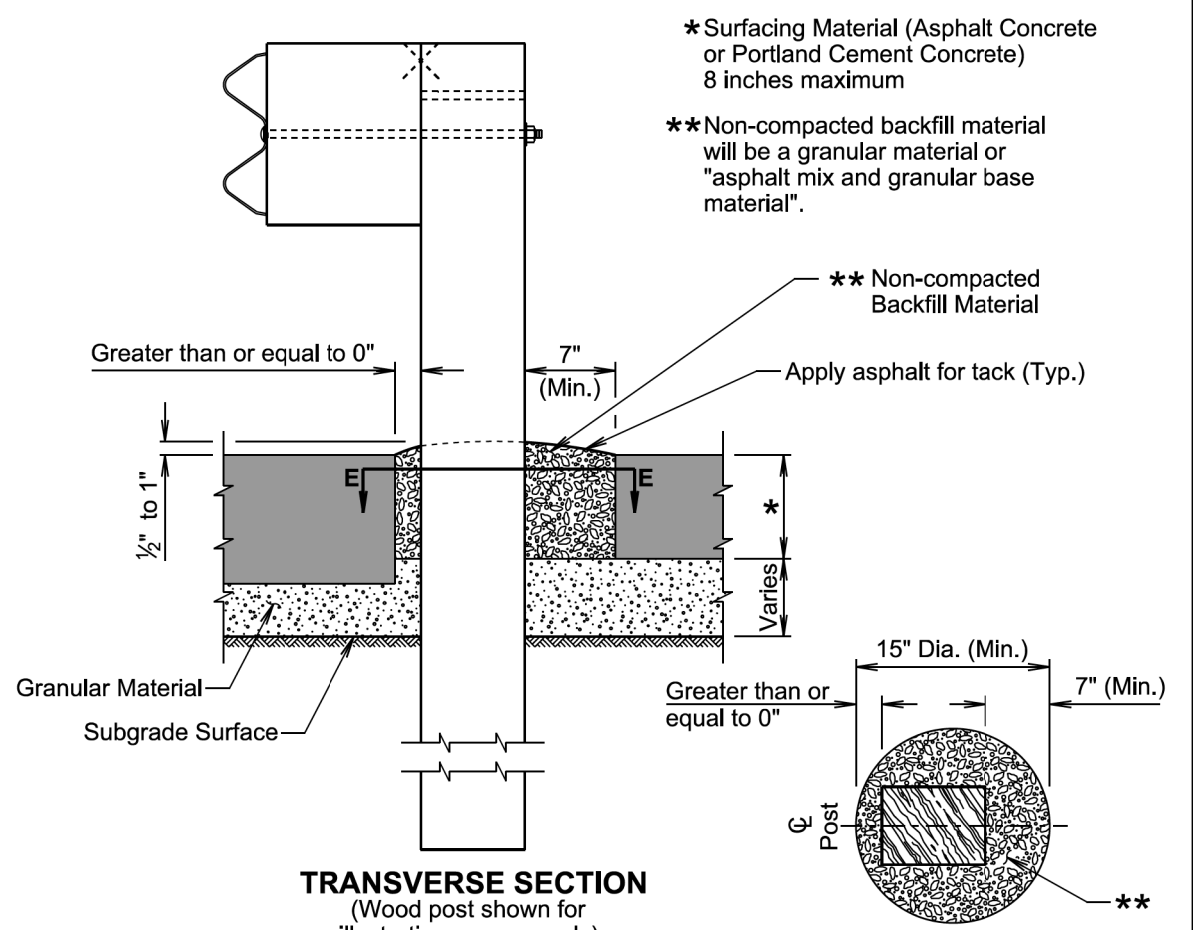


- ** See standard plate 632.40 for delineation.
- 2" Asphalt concrete surfacing with variable thickness granular material or as specified in the plans.
- ① Same inslope as mainline inslope or as specified in the plans.
- ② 4:1 inslope or as specified in the plans.
- ③ Inslope as specified in the plans.
- ④ Same slope as roadway cross slope or as specified in the plans. Slope will not be steeper than a 10:1 slope.



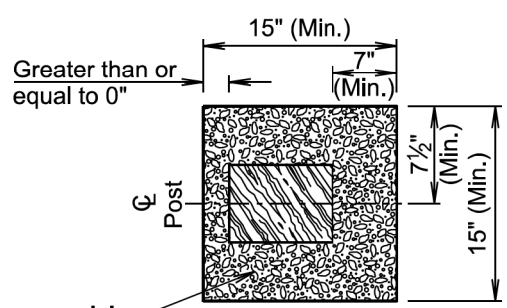
- GENERAL NOTES:**
- The MGS MASH tangent end terminals above are for illustrative purpose only. Pay limit length of the MGS MASH tangent end terminal is 62'-6".
- * The length of inslope transition varies with the amount of change between inslopes. The length of the transition will change 100' for every 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.

Plot Scale - 1:200



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.

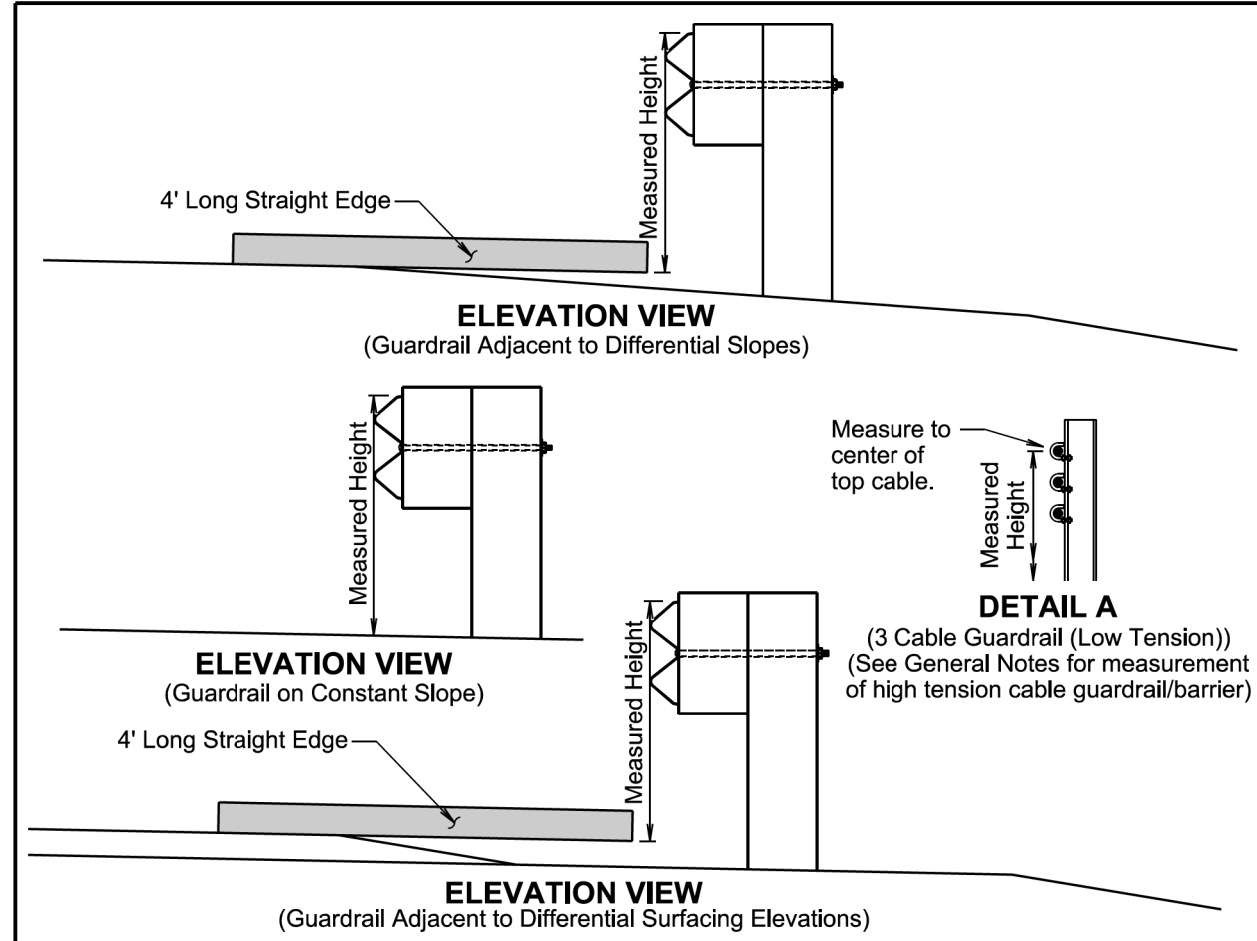
The backfill material will be mounded 1/2 inch to 1 inch above the top of the adjacent surfacing as illustrated above.

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

S D D O T	GUARDRAIL POST INSTALLED IN ASPHALT CONCRETE OR PORTLAND CEMENT CONCRETE	PLATE NUMBER 630.96
	Published Date: 2025	Sheet 1 of 1



ELEVATION VIEW
(Guardrail Adjacent to Differential Surfacing Elevations)

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.

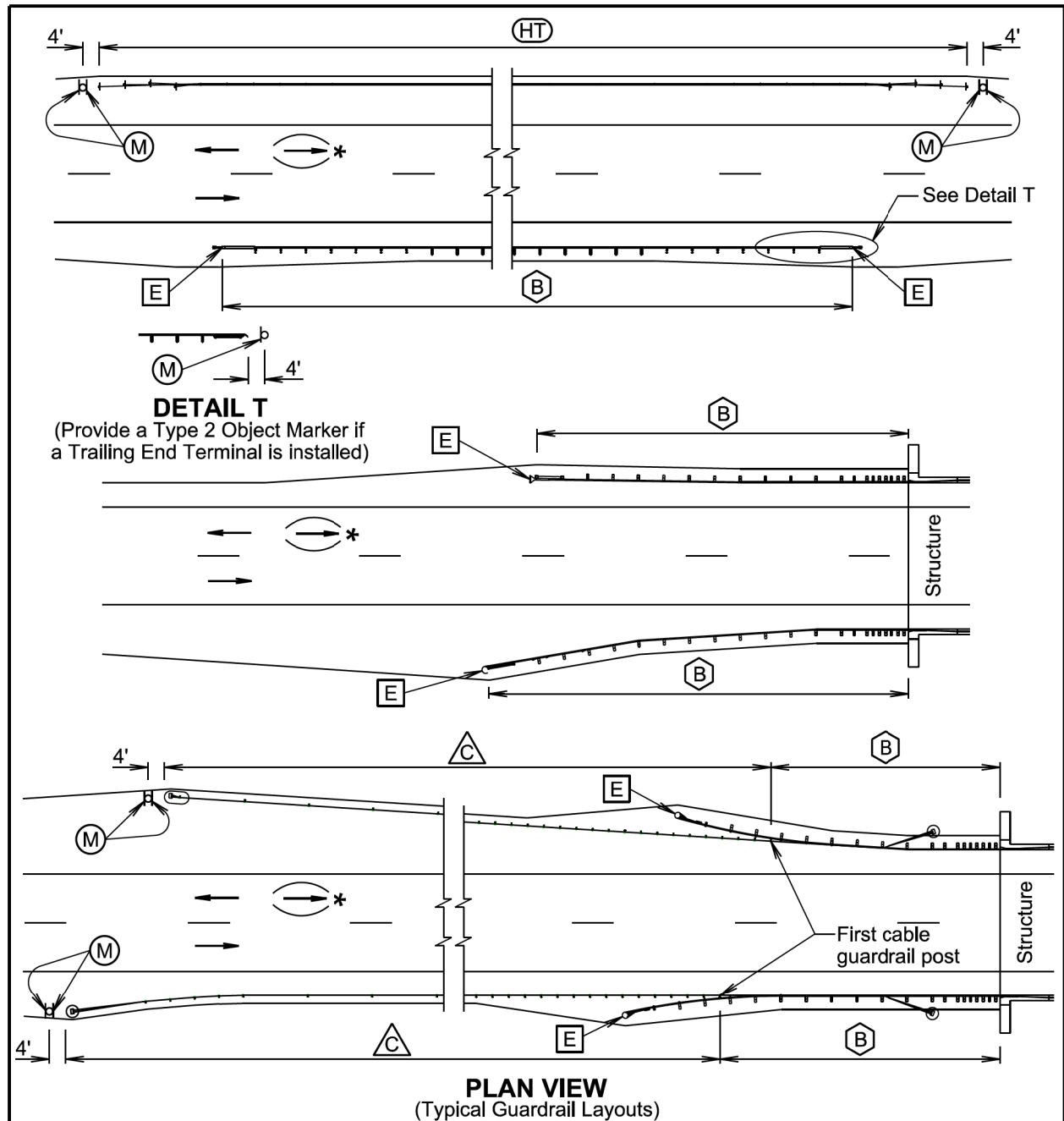
The height of high tension cable guardrail/barrier will be measured in accordance with the Manufacturer's installation instructions.

September 14, 2019

S D D O T	MEASURING GUARDRAIL HEIGHT	PLATE NUMBER 630.99
	Published Date: 2025	Sheet 1 of 1

Plotted From: TRRC12608

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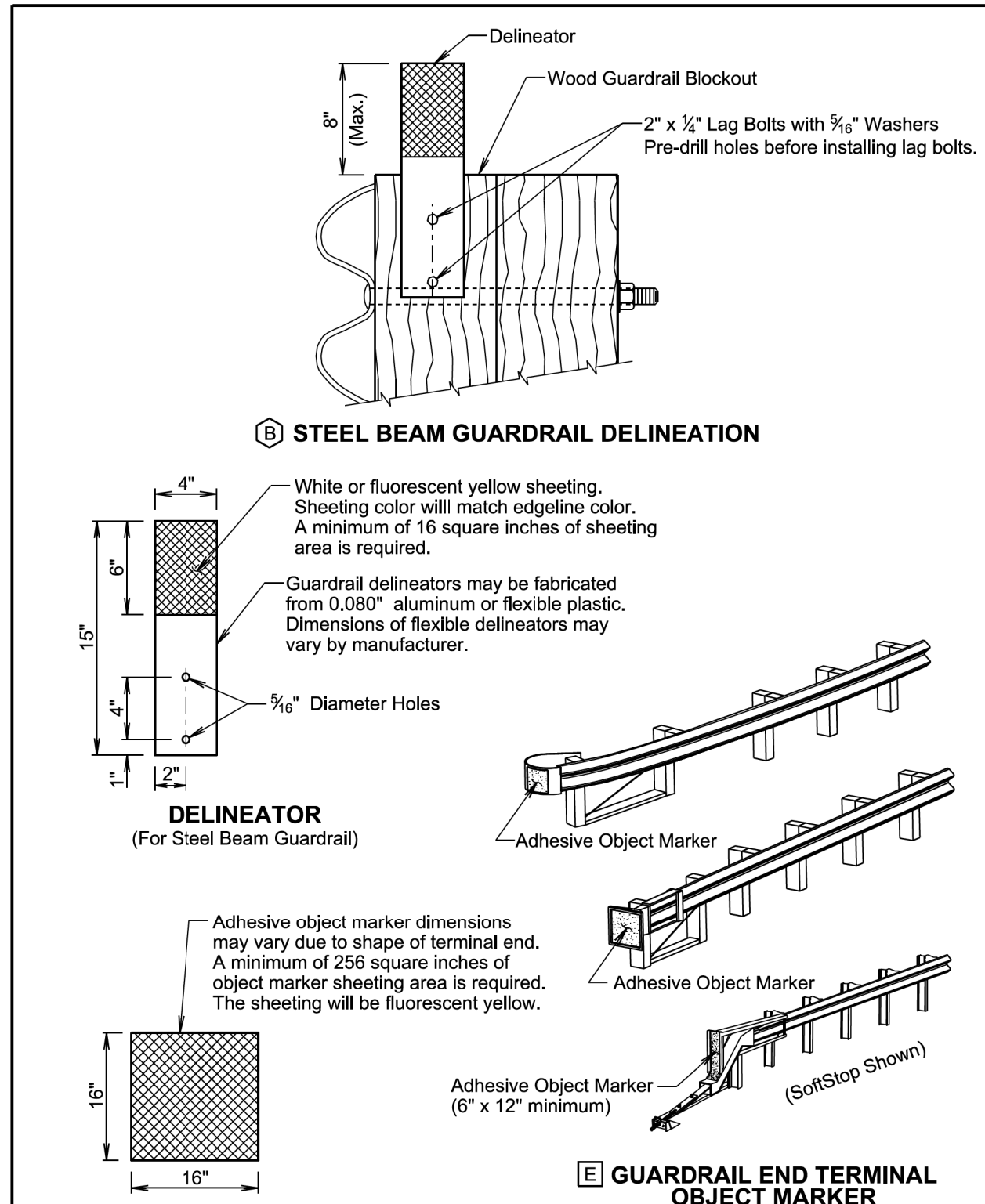


PLAN VIEW
(Typical Guardrail Layouts)

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

*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.

Published Date: 2025	S D D O T	DELINEATION OF GUARDRAIL	March 31, 2024
			PLATE NUMBER 632.40
			Sheet 1 of 4



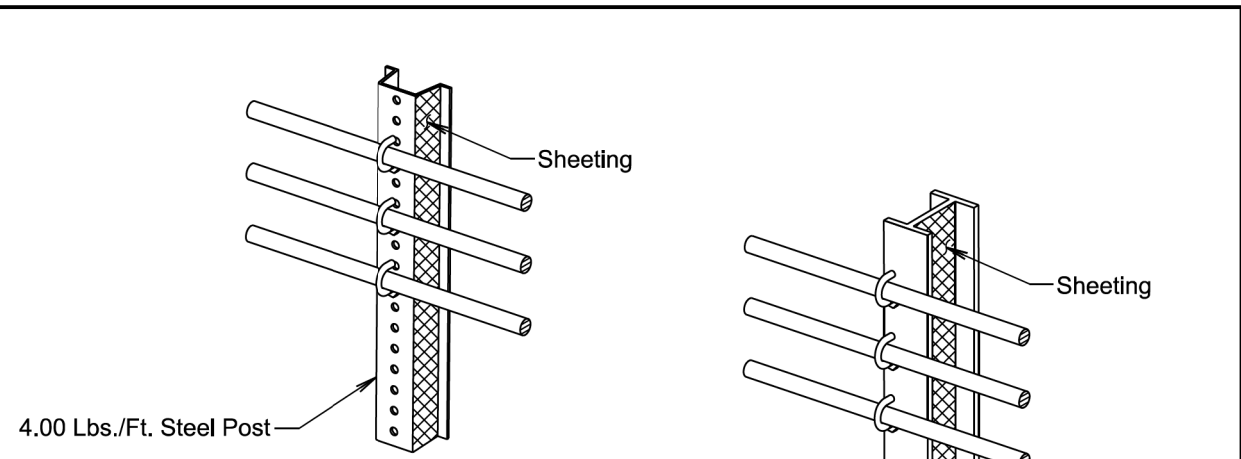
Published Date: 2025	S D D O T	DELINEATION GUARDRAIL	March 31, 2024
			PLATE NUMBER 632.40
			Sheet 2 of 4

Plot Scale - 1:200

Plotted From - TRRC12608

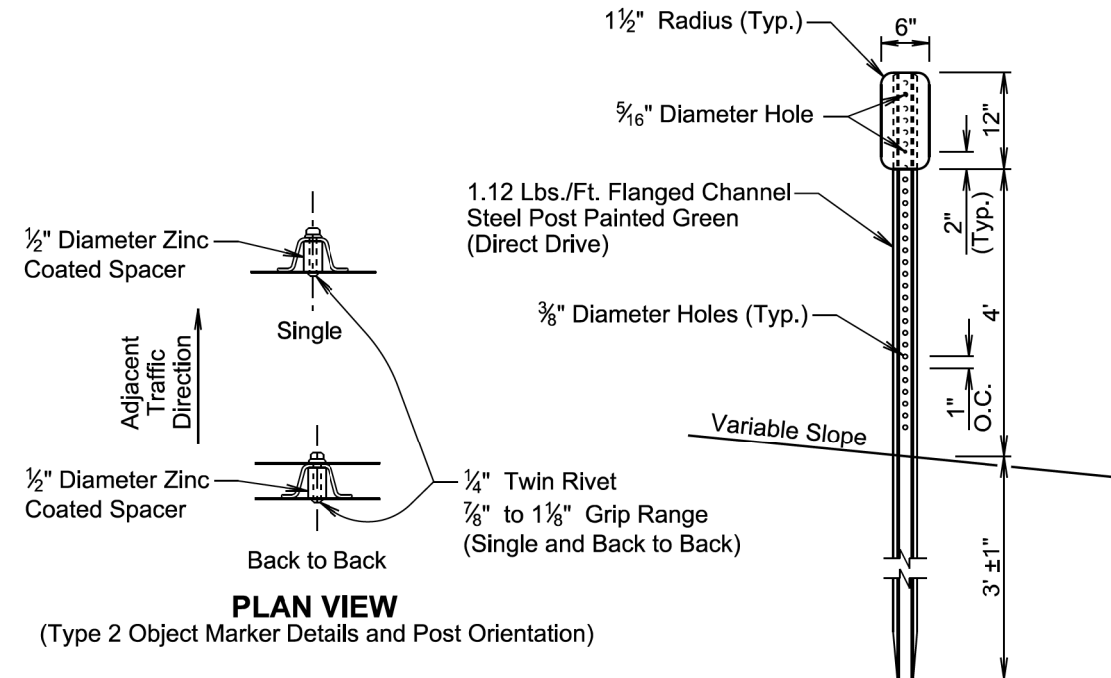
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Plot Scale - 1:200



△ 3 CABLE GUARDRAIL (LOW TENSION) DELINEATION

△ 3 CABLE GUARDRAIL (LOW TENSION) DELINEATION



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

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

March 31, 2024

Published Date: 2025	S D D O T	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 adjacent to the 3 cable guardrail (low tension) anchor, high tension cable guardrail anchor, and trailing end terminal at the location 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.

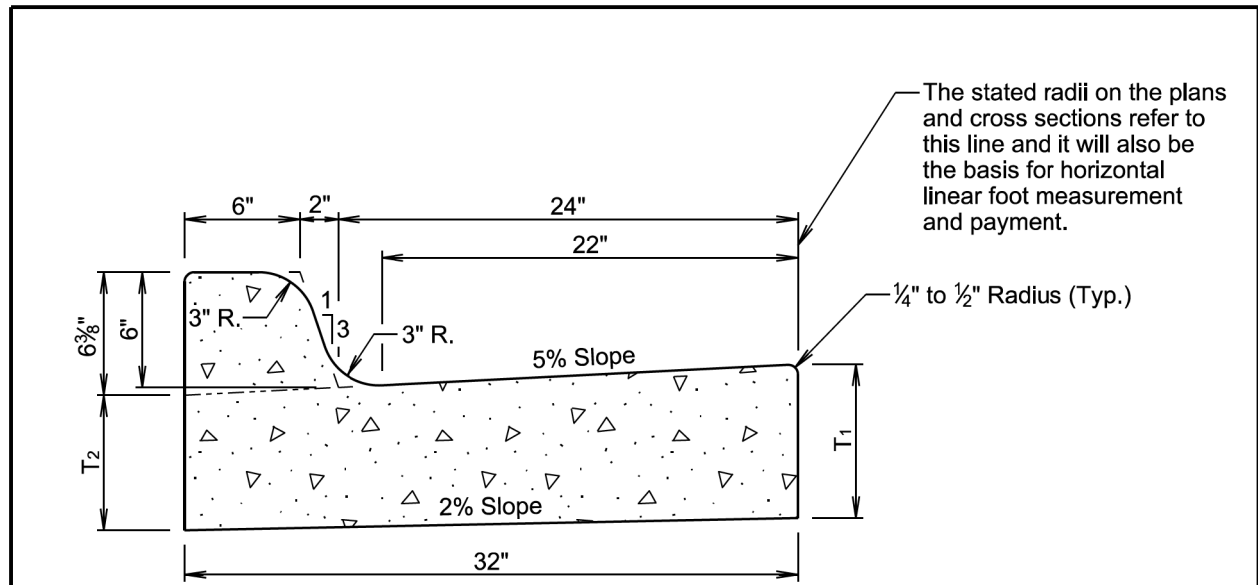
March 31, 2024

Published Date: 2025	S D D O T	DELINEATION OF GUARDRAIL	PLATE NUMBER 632.40
			Sheet 4 of 4

Plotted From - TRRC12608

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Plot Scale - 1:200



TYPE B CONCRETE CURB AND GUTTER

Type	T ₁ (Inches)	T ₂ (Inches)	Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
B66	6	5 1/16	0.057	17.7
B67	7	6 1/16	0.065	15.4
B68	8	7 1/16	0.073	13.7
B68.5	8.5	7 9/16	0.077	13.0
B69	9	8 1/16	0.081	12.3
B69.5	9.5	8 9/16	0.085	11.7
B610	10	9 1/16	0.090	11.2
B610.5	10.5	9 9/16	0.094	10.7
B611	11	10 1/16	0.098	10.2
B611.5	11.5	10 9/16	0.102	9.8
B612	12	11 1/16	0.106	9.4

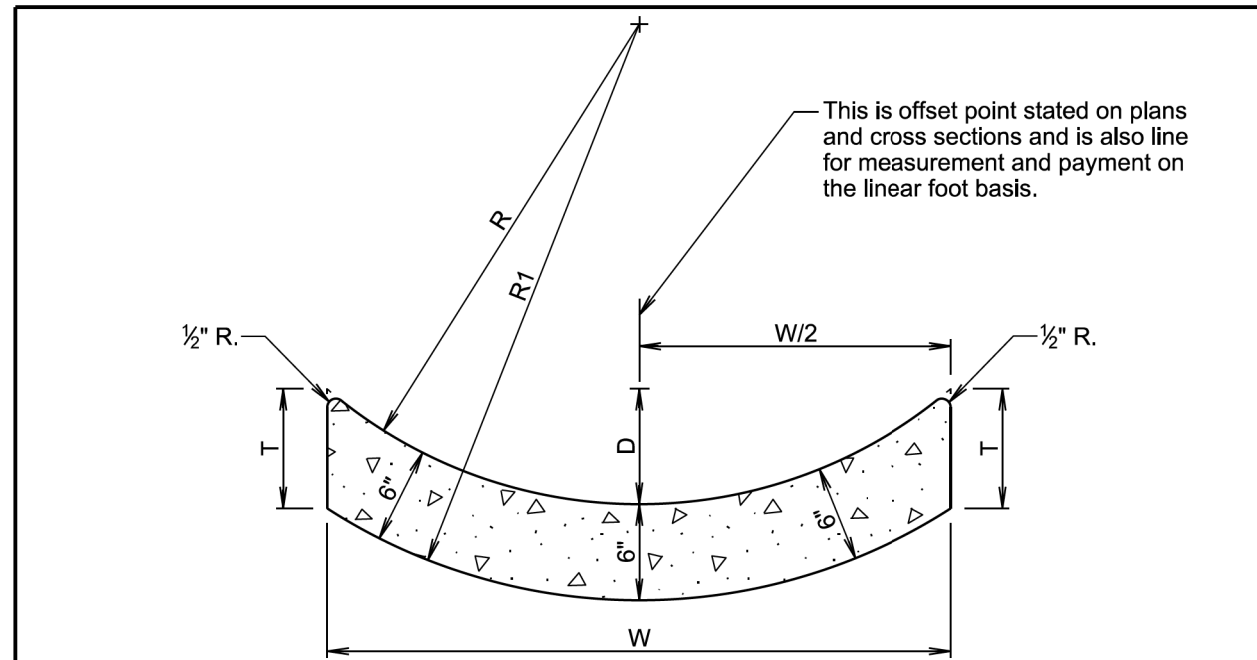
GENERAL NOTES:

When concrete curb and gutter longitudinally adjoins new concrete pavement, the method of attachment will be by one of the methods shown on standard plate 380.21.

See standard plate 650.90 for expansion and contraction joints in the curb and gutter.

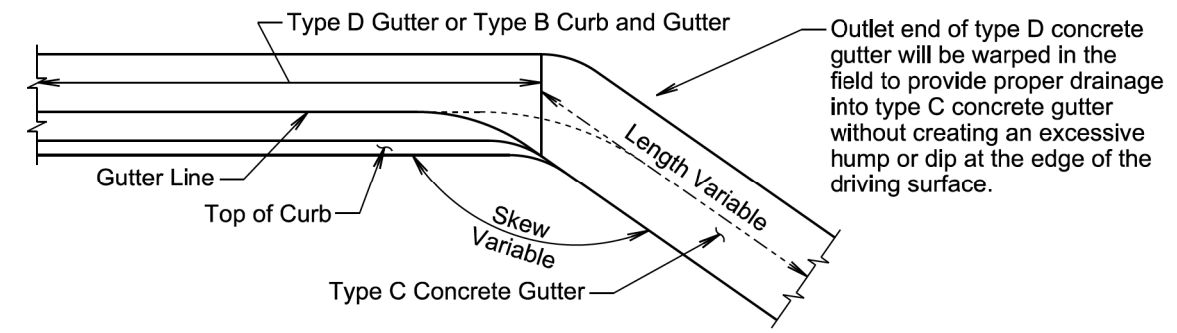
January 22, 2023

Published Date: 2025	S D D O T	TYPE B CONCRETE CURB AND GUTTER	PLATE NUMBER 650.01
			Sheet 1 of 1



TYPE C CONCRETE GUTTER

Type	Gutter Depth D	Gutter Width W	Radius of Top of Gutter R	Radius of Bottom of Gutter R1	Vertical Depth of Concrete at Edges T	Cu. Yd. Per Lin. Foot	Lin. Ft. Per Cu. Yd.
C6	6"	30"	21 3/4"	27 3/4"	7 5/8"	0.04982	20.1
C9	9"	48"	36 1/2"	42 1/2"	7 5/8"	0.07966	12.6
C12	12"	72"	60"	66"	7 3/8"	0.11828	8.5



GENERAL NOTE:

The concrete for the type C concrete gutter will comply with the requirements of the specifications for class M6 concrete.

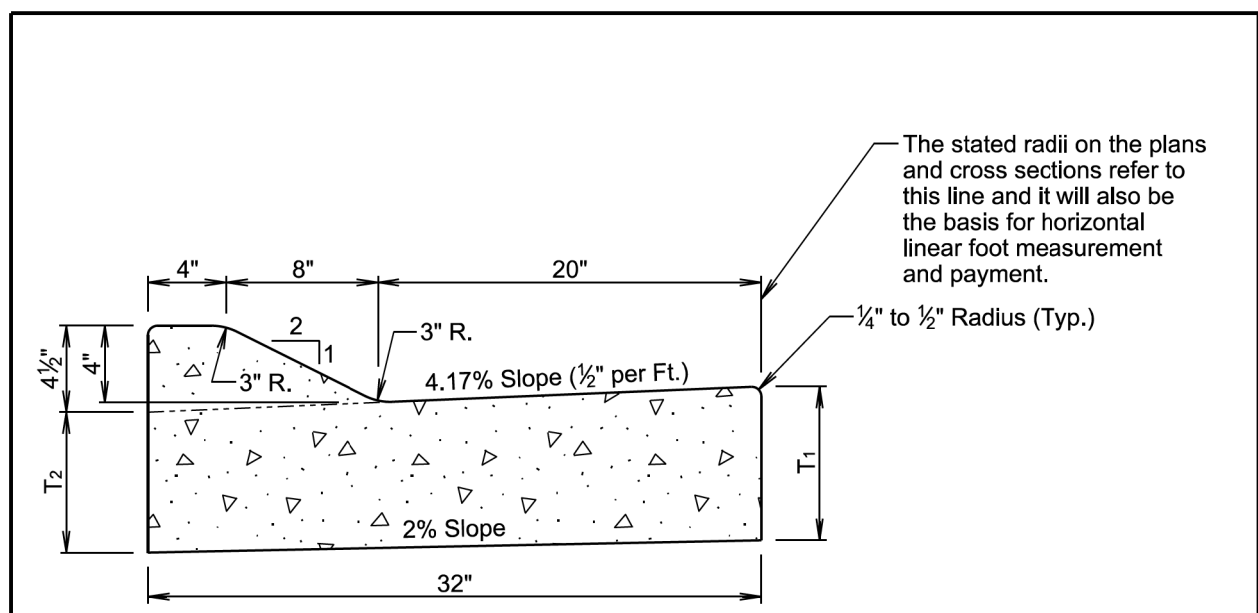
One-half inch preformed expansion joint filler will be placed transversely in the concrete gutter at intervals of approximately 30 feet.

December 23, 2019

Published Date: 2025	S D D O T	TYPE C CONCRETE GUTTER	PLATE NUMBER 650.10
			Sheet 1 of 1

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TYPE D CONCRETE CURB AND GUTTER				
Type	T ₁ (Inches)	T ₂ (Inches)	Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
D46	6	5 ⁵ / ₁₆	0.056	18.0
D47	7	6 ⁵ / ₁₆	0.064	15.7
D48	8	7 ⁵ / ₁₆	0.072	13.9
D48.5	8.5	7 ¹³ / ₁₆	0.076	13.1
D49	9	8 ⁵ / ₁₆	0.080	12.5
D49.5	9.5	8 ¹³ / ₁₆	0.084	11.9
D410	10	9 ⁵ / ₁₆	0.088	11.3
D410.5	10.5	9 ¹³ / ₁₆	0.093	10.8
D411	11	10 ⁵ / ₁₆	0.097	10.3
D411.5	11.5	10 ¹³ / ₁₆	0.101	9.9
D412	12	11 ⁵ / ₁₆	0.105	9.5

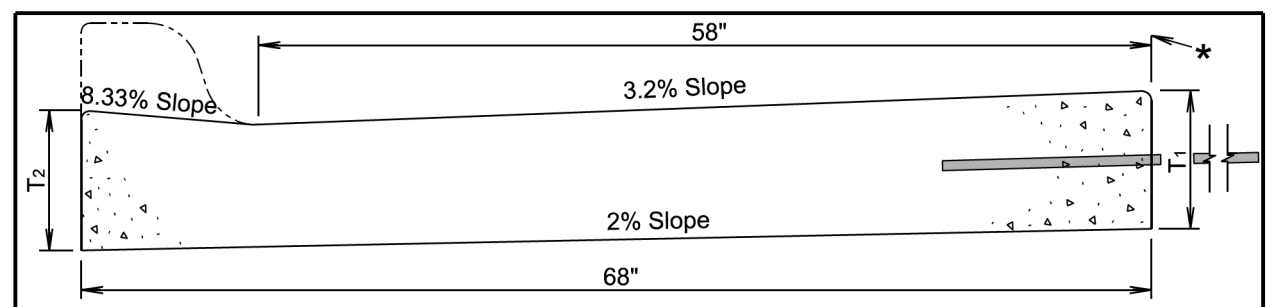
GENERAL NOTES:

When concrete curb and gutter longitudinally adjoins new concrete pavement, the method of attachment will be by one of the methods shown on standard plate 380.21.

See standard plate 650.90 for expansion and contraction joints in the curb and gutter.

January 22, 2023

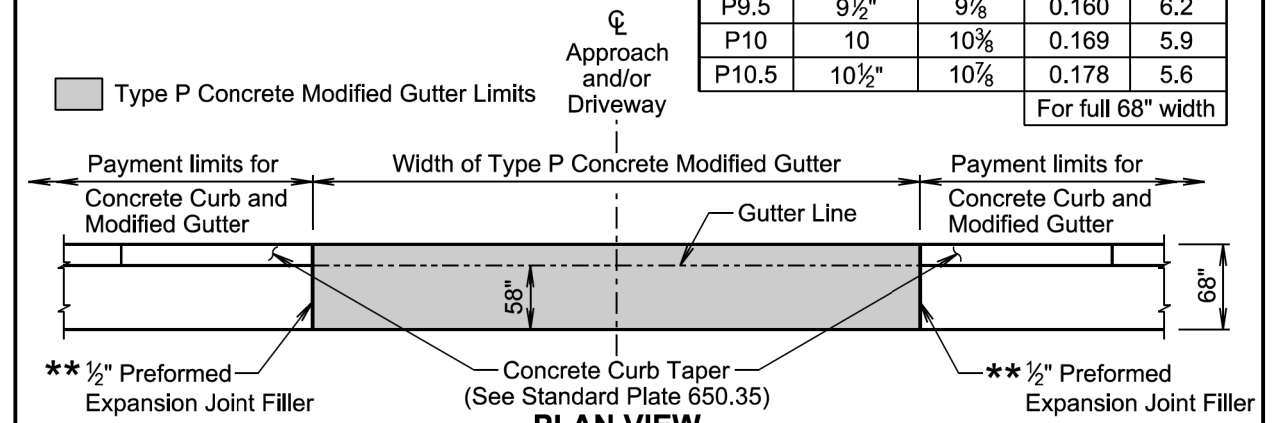
Published Date: 2025	S D D O T	TYPE D CONCRETE CURB AND GUTTER	PLATE NUMBER 650.15
			Sheet 1 of 1



TYPE P CONCRETE MODIFIED GUTTER				
Type	T ₁ (Inches)	T ₂ (Inches)	Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
P8	8	8 ³ / ₈	0.134	7.4
P8.5	8 ¹ / ₂ "	8 ⁷ / ₈	0.143	6.9
P9	9	9 ³ / ₈	0.152	6.6
P9.5	9 ¹ / ₂ "	9 ⁷ / ₈	0.160	6.2
P10	10	10 ³ / ₈	0.169	5.9
P10.5	10 ¹ / ₂ "	10 ⁷ / ₈	0.178	5.6

For full 68" width

* The stated radii on the plans and cross sections refer to this line and it will also be the basis for horizontal linear foot measurement and payment.



PLAN VIEW

** Joint will not be needed if concrete curb and gutter and type P concrete gutter is placed at the same time. If the 1/2 inch preformed expansion joint filler is provided, then the joint will be sealed in accordance with standard plate 650.90.

GENERAL NOTES:

The concrete for the type P concrete modified gutter will comply with the requirements of the specifications for class M6 concrete.

When concrete gutter longitudinally adjoins new concrete pavement, the method of attachment will be by one of the methods shown on standard plate 380.21.

Transverse contraction joints will be constructed at 10-foot intervals in the concrete gutter except when concrete gutter is constructed adjacent to mainline PCC pavement. When concrete gutter is constructed adjacent to mainline PCC pavement, a transverse contraction joint will be constructed in the concrete gutter at each mainline PCC pavement transverse contraction joint location.

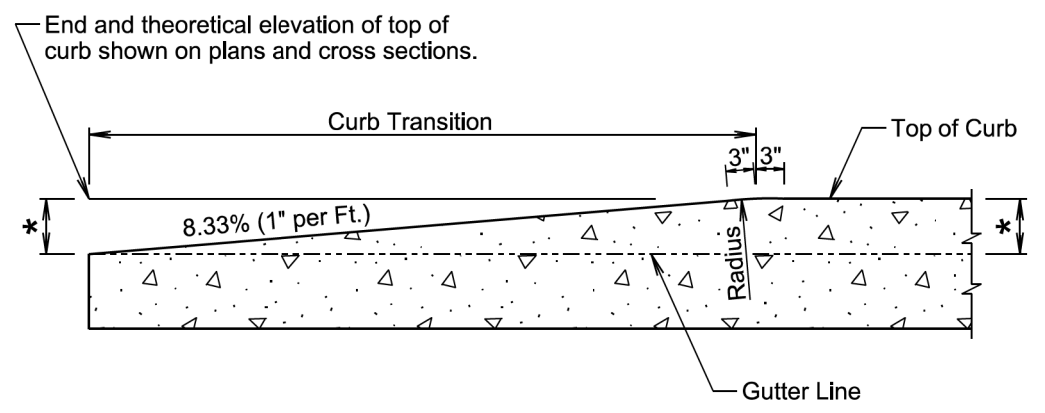
When concrete gutter is placed monolithically with mainline PCC pavement, the transverse contraction joints in the concrete gutter will be sawed and sealed the same as the transverse contraction joints in the mainline PCC pavement.

When concrete gutter is not placed monolithically with the mainline PCC pavement and when the adjacent mainline surfacing is not PCC concrete, the transverse contraction joints in the concrete gutter will be 1 1/2 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 1/4 the thickness of the concrete.

March 31, 2024

Published Date: 2025	S D D O T	TYPE P CONCRETE MODIFIED GUTTER	PLATE NUMBER 650.32
			Sheet 1 of 1

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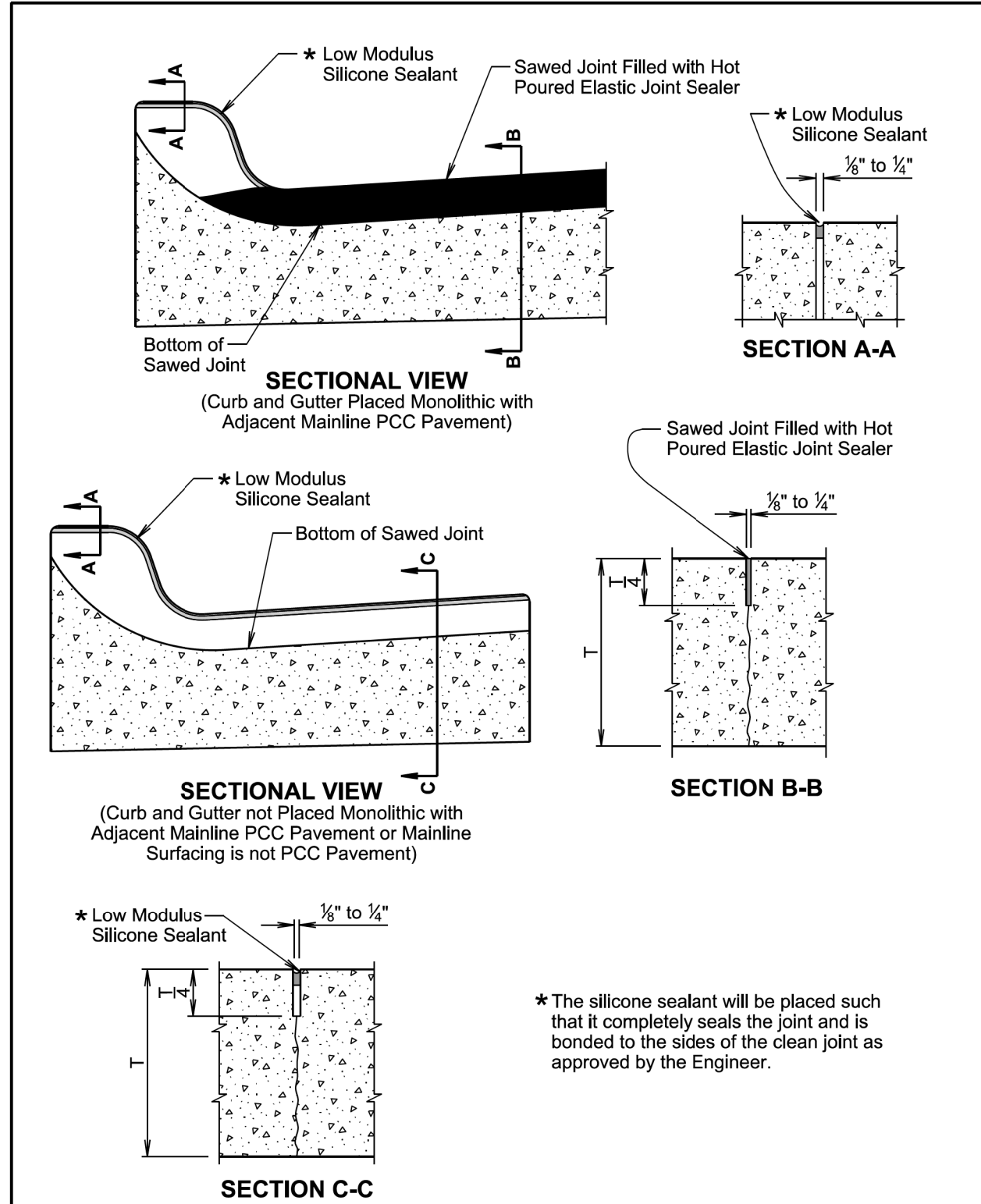
LONGITUDINAL SECTION
(Concrete Curb Taper)

* Height of Curb

December 23, 2019

S D D O T	CONCRETE CURB TAPER	PLATE NUMBER 650.35
		Sheet 1 of 1

Published Date: 2025



SECTIONAL VIEW
(Curb and Gutter Placed Monolithic with Adjacent Mainline PCC Pavement)

SECTIONAL VIEW
(Curb and Gutter not Placed Monolithically with Adjacent Mainline PCC Pavement or Mainline Surfacing is not PCC Pavement)

SECTION C-C

* The silicone sealant will be placed such that it completely seals the joint and is bonded to the sides of the clean joint as approved by the Engineer.

December 23, 2019

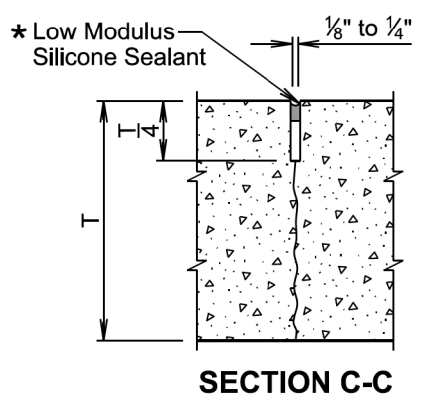
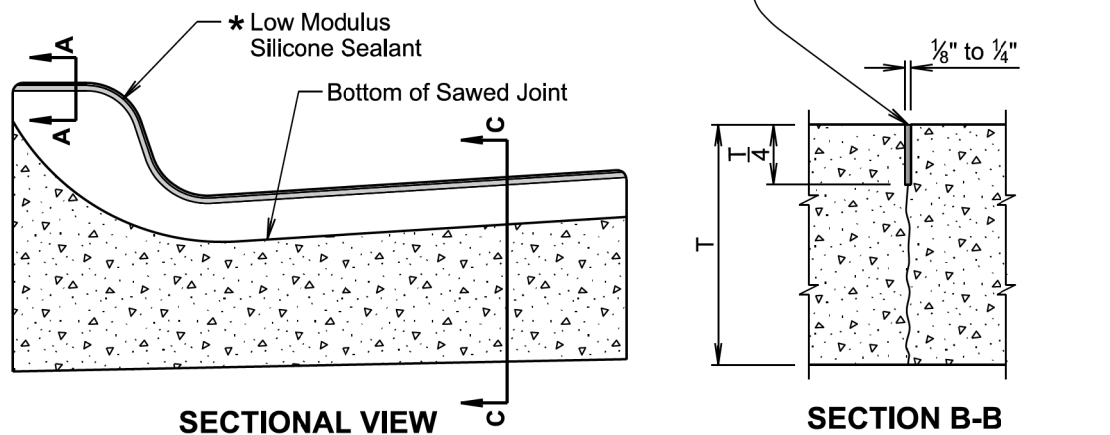
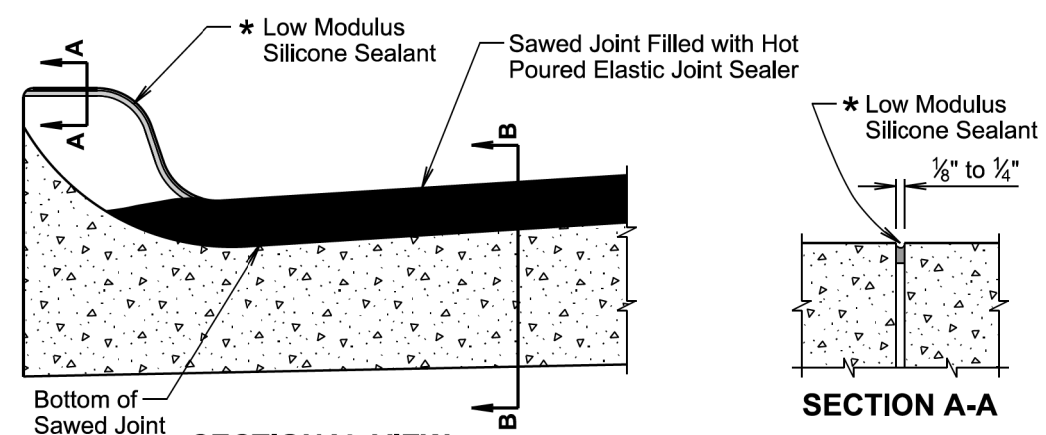
S D D O T	JOINTS IN CONCRETE CURB AND GUTTER	PLATE NUMBER 650.90
		Sheet 1 of 2

Published Date: 2025

Plotted From - TRRC12608

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Plot Scale - 1:200



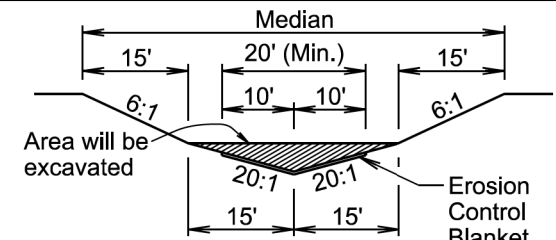
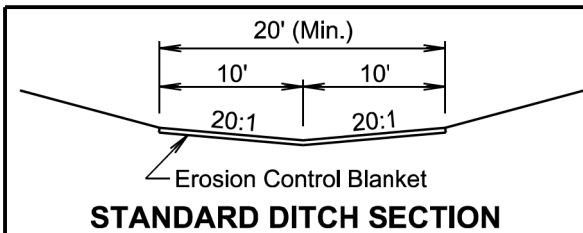
* The silicone sealant will be placed such that it completely seals the joint and is bonded to the sides of the clean joint as approved by the Engineer.

December 23, 2019

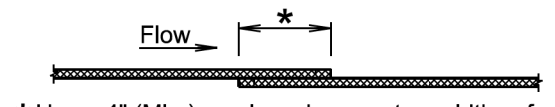
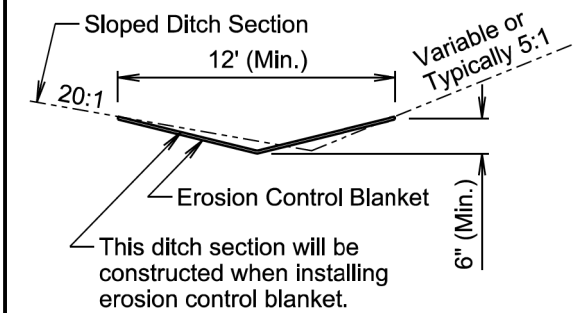
<i>Published Date: 2025</i>	S D D O T	JOINTS IN CONCRETE CURB AND GUTTER	PLATE NUMBER 650.90
			Sheet 1 of 2

Plotted From - TRRC12608

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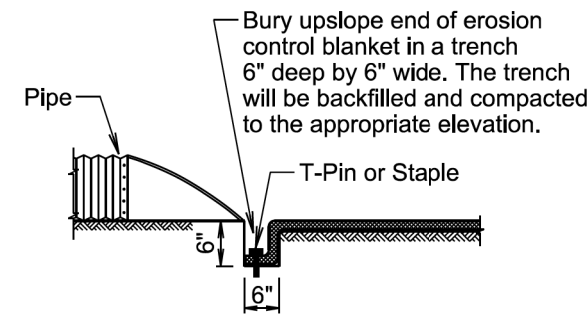
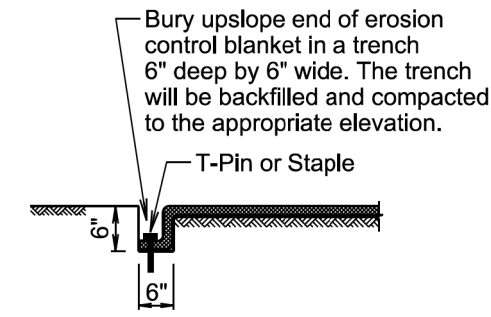
The median will be shaped to the limits shown in this detail where the erosion control blanket will be placed.



* Use a 4" (Min.) overlap wherever two widths of erosion control blanket are applied side by side.

* Use a 6" (Min.) overlap wherever one roll of erosion control blanket ends and another begins.

OVERLAP DETAIL



GENERAL NOTES:

Prior to placement of the erosion control blanket, the areas will be properly prepared, shaped, seeded, and fertilized.

Erosion control blanket will be unrolled in the direction of the flow of water when placed in ditches and on slopes. The upslope end of the erosion control blanket will be buried in a trench 6" wide by 6" deep. There will be at least a 6" overlap wherever one roll of erosion control blanket ends and another begins, with the upslope erosion control blanket placed on top of the downslope erosion control blanket.

The erosion control blanket will be pinned to the ground according to the manufacturer's installation recommendations.

After the placement of the erosion control blanket, the Contractor will fine grade along all edges of the blanket to maintain a uniform slope adjacent to the blanket and level any low spots which might prevent uniform and unrestricted flow of side drainage directly onto the erosion control blanket.

All ditch sections will be shaped when installing the erosion control blanket. All costs for shaping the ditches will be incidental to the contract unit price per foot for "Shaping for Erosion Control Blanket".

February 14, 2020

Published Date: 2025	S D D O T	EROSION CONTROL BLANKET	PLATE NUMBER 734.01
			Sheet 1 of 1

Plot Scale - 1:200

Plotted From - TRRC12608

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