

April 9, 2021

Re: Project P 016A(08)59, PCN 04FU – US16A Keystone Wye Pre-Bid Meeting

To Whom It May Concern,

A pre-bid meeting for the Keystone Wye Bridge Rehabilitation project is being held on April 22nd, 2021 at 3:00 PM CST via Microsoft Teams. Interested contracting parties are invited to attend virtually via the Microsoft Teams Meeting Link provided below.

This meeting will include a presentation of the project covering topics such as the overall scope of work, design aspects, traffic control, and contract time. There will be an opportunity for contractors to present questions to Department staff, consultants, and project stakeholders.

Attendance is not a requirement, but all interested contracting parties are strongly encouraged to attend.

If attending the meeting you must join the meeting via the link provided. In order to reduce sound feedback please mute the microphone on your computer. Due to the meeting being virtual we are requesting that you please enter the name of your company followed by the individuals from your company attending the meeting into the chat feature of Microsoft Teams.

[Join Pre-Bid Meeting](#)

Date: April 22, 2021

Time: 3:00 – 4:30 (CST)

Video Conference ID: 118 401 985 2

Additional instructions regarding the meeting format will be provided at the beginning of the meeting.

Sincerely,

SD DOT

SECTION F: SURFACING PLANS

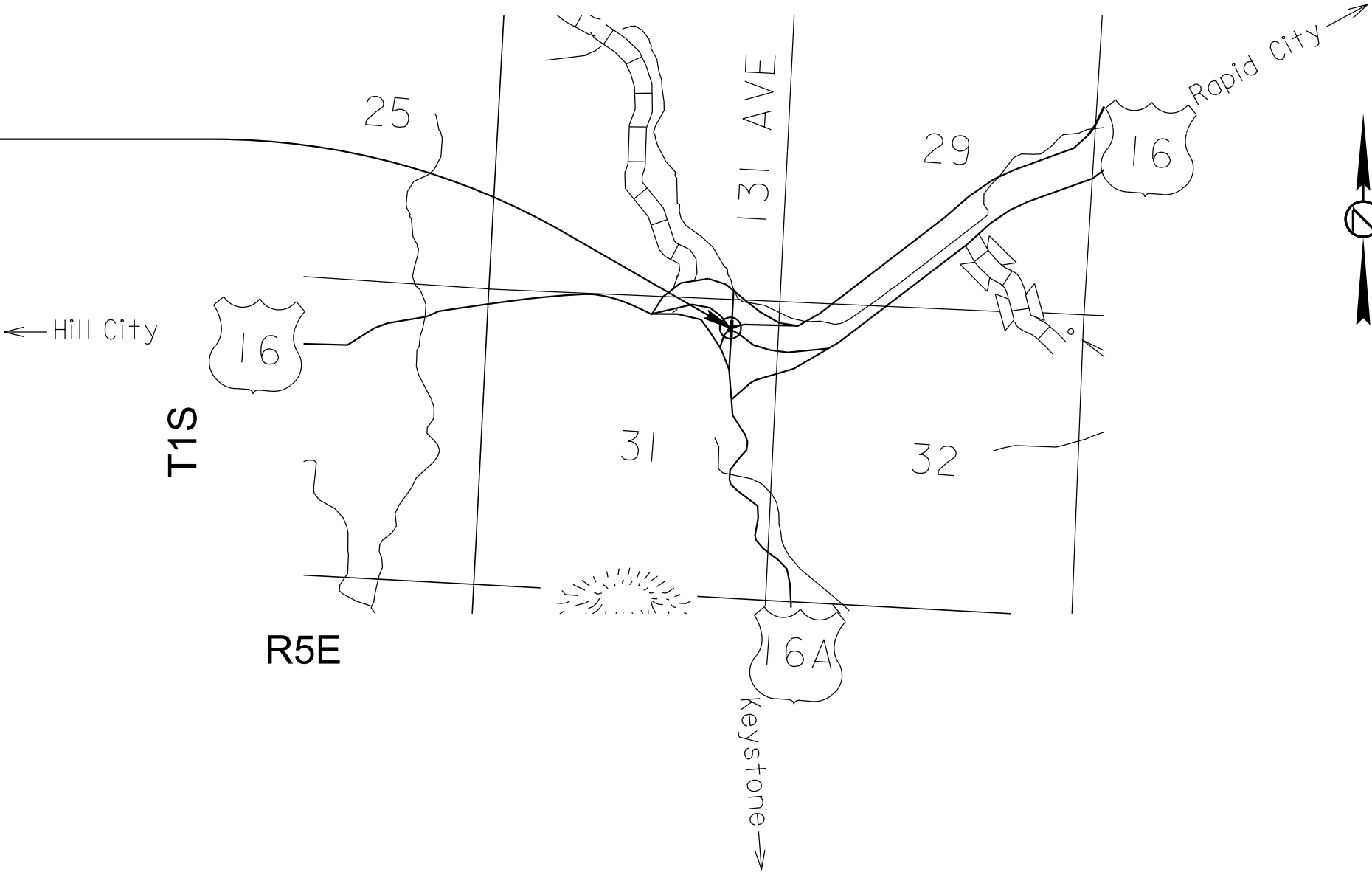
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 016A(08)59	F1	F33

Plotting Date: 07/23/2020

INDEX OF SHEETS

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PROJECT 016A(08)59
16A EB, MRM 59.44, Str. No. 52-308-412
16A WB, MRM 59.46, Str. No. 52-308-411



SECTION F – ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0300	Remove Concrete Curb and/or Gutter	205	Ft
110E0730	Remove Beam Guardrail	1,704.0	Ft
230E0100	Remove and Replace Topsoil	Lump Sum	LS
260E1010	Base Course	26.7	Ton
320E1200	Asphalt Concrete Composite	515.5	Ton
320E5000	Saw and Seal Joint in Asphalt Concrete	770	Ft
380E6500	Planing PCC Pavement	906.6	SqYd
600E0200	Type II Field Laboratory	1	Each
630E0513	Type 1C MGS	1,200.0	Ft
630E1500	Type 1 Guardrail Transition	7	Each
630E2019	MGS Tangent End Terminal	7	Each
632E2220	Guardrail Delineator	45	Each
650E4380	Type D48 Concrete Curb and Gutter	205	Ft
670E6000	Adjust Drop Inlet	3	Each
734E0154	12" Diameter Erosion Control Wattle	300	Ft
734E0845	Sediment Control at Inlet with Frame and Grate	3	Each

TYPE II 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 II Field Laboratory”.

SURFACING THICKNESS DIMENSIONS

Plans quantity 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, plans quantity may be varied to achieve the required elevation.

ASPHALT CONCRETE COMPOSITE

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

Mineral aggregate for the Asphalt Concrete Composite will conform to the requirements for Class G, Type 2.

The asphalt binder used in the mixture will be PG 64-34 Asphalt Binder.

All other requirements in the Standard Specifications for Asphalt Concrete Composite will apply.

TABLE OF SURFACING QUANTITIES

Ramp	Structure	Station to	Station	Length (Ft)	AC Composite (Ton)	Saw and Seal Joint in Asphalt Concrete (Ft)
B	52-308-412	10+13.5	11+73.5	160.0	133.6	176
		11+73.5	14+63.5	Bridge Deck (See Section E)		
		14+63.5	16+23.5	160.0	140.2	176
C	52-308-411	7+39.91	8+99.91	160.0	103.2	176
		8+99.91	10+69.49	Bridge Deck (See Section E)		
		10+69.49	12+89.5	220.0	138.5	242
Totals:					515.5	770

PLANING PCC PAVEMENT TAPERS

In order to construct the new asphalt surfacing flush with the existing concrete pavement, Planing PCC Pavement shall be done as per the Layout for Planing PCC Pavement.

This work will consist of removing a portion of the existing PCC pavement surfacing at the approximate locations:

Structure	Ramp	Station to	Station	Length (Ft)	Width (Ft)	Quantity (SqYd)
52-308-412	B	9+33.5	10+13.5	80.0	24	213.3
		16+23.5	17+03.5	80.0	26	231.1
52-308-411	C	6+59.91	7+39.91	80.0	26	231.1
		12+89.5	13+69.5	80.0	26	231.1
					Total:	906.6

Material resulting from Planing PCC Pavement will be disposed of as directed by the Engineer.

Planing PCC Pavement will be paid for at the contract unit price per square yard of pavement surface planed. Payment for this item will be full payment for furnishing all equipment, labor and incidentals required to plane, pickup, haul and dispose of the removed material, and broom the surface.

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SAW AND SEAL JOINTS IN ASPHALT CONCRETE

Saw and Seal Joints in Asphalt Concrete will consist of marking the existing transverse joint in the PCC pavement prior to placement of the asphalt concrete, sawing, cleaning, and sealing the transverse joint in the new asphalt concrete. The joints will be constructed immediately over and in line with the underlying transverse joint in the existing PCC pavement. Use a string line between established markings to determine the saw cut locations. The existing pavement joints are spaced at 20’.

Sawing will be performed after the asphalt concrete has cooled and no more than 36 hours after the asphalt concrete is placed. Sawing will be performed prior to any evidence of reflective cracking. Saw cuts may be made wet or dry and will be accurately located by pins and string line subject to approval of the Engineer.

The dimension of the saw cut on the Asphalt Concrete Composite lift shall be 1/8" wide by 2" deep directly above the underlying joint in the PCC Pavement to facilitate cracking. A sealant reservoir 5/8" wide by 5/8" deep shall be sawed in and centered directly over the underlying 1/8" saw cut.

The saw cut for the Top Lift shall be the full width of the existing joint.

Dry sawed joints will be cleaned with high-pressure air. Wet sawed joints will be cleaned with high-pressure water followed by high-pressure air. The air compressor will produce a minimum of 125-CFM output and shall be equipped with a 5/8" nozzle.

The sealant will conform to the requirements for ASTM D 6690 Type IV with the following modifications:

Penetration at 77° F	90-150
Bond at -20° F, Std. Specimen, 3 cycles, 200% extension	Passes
Resilience	30-60%
Material Weight (pounds per gallon)	9.00 to 10.00

Joint sealant material will be from the South Dakota Department of Transportation’s approved products list for Sealants Approved for Asphalt Concrete over Long Jointed Concrete Pavement. The Approved Product List for sealant may be viewed at the following Internet Site:

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

The sealant will be placed in accordance with the manufacturer's recommendations. The sealant will fit the joint such that after cooling, the level of the sealant will not be greater than 1/8" below the pavement surface. Care shall be taken so that the joints will not be overfilled. Sealant will not be spread over the pavement surface.

Blotting material such as toilet paper will be placed over the sealant material where traffic is allowed to cross a sealed area before track free status has been achieved.

Payment for sawing and sealing joints will be paid for as Saw and Seal Joints in Asphalt Concrete inclusive of costs for marking existing joints, sawing, cleaning, sealing, equipment, labor, and incidentals necessary to complete the work.

TABLE OF TYPE D48 CONCRETE CURB AND GUTTER

Location Structure No.	L/R	Length (Ft)	Remove Concrete Curb & Gutter Ft	Type D48 Curb & Gutter Ft
52-308-41, MRM 59.44 (Ramp B)				
14+63 to 15+21	R	58	58	58
52-308-411, MRM 59.46 (Ramp C)				
7+94 to 8+99	L	105	105	105
10+69 to 11+11	L	42	42	42
TOTALS:			205	205

ADJUSTMENT OF DROP INLETS

Under this item the elevations of the existing cast iron frame and grate assemblies on the existing drop inlets are to be flush with the top of the finished pavement. The locations of the drop inlets are as shown in the table below.

In performing this work, the Contractor will break down the drop inlet walls so none of the wall intersects with the paving equipment during placement of the Asphalt Concrete Composite. Following the paving the drop inlet walls will be built up with Class M6 Concrete and the frames seated at the elevation for the grates to be flush with the top of the finished pavement. Existing frames or grates which are broken or cracked through carelessness of the Contractor's forces will be replaced with new frames and/or grates at the Contractor's expense. This work will be paid for at the contract unit price per each for ADJUST DROP INLET. Payment will be full compensation for furnishing all materials, labor, equipment and incidentals necessary to complete the work.

Locations:	
Str. 52-308-412 (Ramp B)	Sta. 15+14 - 13' R
Str. 52-308-411 (Ramp C)	Sta. 8+02 - 13' L
Str. 52-308-411 (Ramp C)	Sta. 11+04 - 13' L

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TABLE OF GUARDRAIL

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Location Structure No.	L/R	Remove Beam Guardrail Ft	Type 1C MSG Ft	Type 1 Guardrail Transition Each	MGS Tangent End Terminal Each	Base Course Ton	Guardrail Delineator Each
52-308-412 - Hwy 16A EB, MRM 59.44 (Ramp B)							
On End (Sta. 14+63.50)	L	400	312.5	1	1	6.3	9
On End (Sta. 14+63.50)	R	425	350	1	1	6.6	9
Off End (Sta. 11+73.50)	L	102.5	37.5	1	1	1.6	5
Off End (Sta. 11+73.50)	R	177.5	100	1	1	2.8	5
52-308-411 - Hwy 16A WB MRM 59.46 (Ramp C)							
On End (Sta. 8+99.66)	L	167	150	1	1	2.6	5
On End (Sta. 8+99.66)	R	216	100	1	1	3.4	6
Off End (Sta. 10+69.44)	R	216	150	1	1	3.4	6
TOTALS:		1704	1200	7	7	26.7	45

GUARDRAIL POSTS THAT IMPACT UNDERGROUND CULVERTS OR UTILITIES

If it is discovered in the field that guardrail post installation will impact underground culverts or utilities, the guardrail post maybe left out or adjusted depending on the situation. The post can be left out if MGS is installed parallel to the roadway and greater than 25 feet from the hazard being protected. The post location maybe adjusted some if a new slot is cut in the rail. The post bolt slot will match the dimensions shown on standard plate 630.20. For other situations, contact the SDDOT Standards Engineer, 605-773-3268 for guidance. All costs associated with this work will be incidental to the various guardrail bid items.

GUARDRAIL DELINEATORS

The Contractor will place guardrail delineators on all portions of guardrail as per standard plate 632.40. All costs for furnishing and installing guardrail delineation will be incidental to the contract unit price per each for “Guardrail Delineator”.

The Contractor will use aluminum delineators and the use of flexible plastic will not be allowed as shown on standard plate 632.40.

Guardrail delineators currently exist on the w beam guardrail to be salvaged and replaced with new. The Contractor will remove and reset these delineators. All costs associated with the removal and resetting of guardrail delineators will be incidental to the various bid items on the project.

SURFACING AND EMBANKMENT FOR MGS TANGENT END TERMINALS

Additional embankment will not be required for the installation of MGS tangent end terminals. The guardrail installation line may be adjusted by the Project Engineer to best fit the existing embankment of the highway. The face of the rail will be placed along the edge of existing surfacing or greater if existing embankment material is wide enough to allow greater offset of the rail to the edge of surfacing.

At some locations, the 5’ dimension for guardrail surfacing behind the end terminal as per standard plate 630.89 is not feasible and will not be required at all locations on this project. This width will be reduced as needed to match the existing highway embankment. A quantity of guardrail surfacing materials are provided to fill along the existing edge of surfacing to remove any edge drop off if it exists. The quantity and width of guardrail surfacing material will be adjusted as directed by the Engineer to match the existing highway embankment width.

REMOVE AND REPLACE TOPSOIL

Topsoil will also be salvaged and stockpiled prior to installing the traffic diversion on the south end and installing guardrail. Limits of this work, depth of salvage, and stockpile location will be directed by the Engineer. Following completion of construction, topsoil will be spread evenly over the disturbed areas.

The estimated amount of topsoil to be removed and replaced is 94 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".

EROSION CONTROL

The estimated area requiring erosion control is 7,600 square feet. All costs for the erosion control work for furnishing, placing, and maintaining erosion control including equipment, labor, permanent seeding, fertilizing, and fiber mulching will be incidental to the contract lump sum price for "Erosion Control".

The limits of erosion control work will be for all locations disturbed during construction. These limits 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 the following fungal species:

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

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

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

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

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 all-natural slow release fertilizer will be as shown below or an approved equal:

Product	Manufacturer
Sustane	Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 www.sustane.com
Perfect Blend	Perfect Blend, LLC Bellevue, WA Phone: 1-866-456-8890 www.perfect-blend.com

Permanent Seeding

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

Type F Permanent Seed Mixture will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana, Walsh	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		10
Total:		26

Fiber Mulching

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

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

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

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

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

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

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

EROSION CONTROL WATTLE

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

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

Erosion control wattles will remain on the project until vegetation has been established and then they will be removed in accordance with the Engineer.

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

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

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SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES

This type of sediment control device should be used where there is pavement in the vicinity of the drop inlets and storm water or sediment could possibly enter the frame and grate. Sediment Control at Inlet with Frame and Grate will be installed prior to working in the vicinity of the drop inlets.

The Contractor will be responsible for maintaining and repairing the sediment control devices for the duration of the project for which sediment control measures are required.

“Sediment Control at Inlet with Frame and Grate” will be paid for one time at each location, regardless of the number of times the sediment control devices are installed, inspected, cleaned, removed, repaired, or replaced. All costs associated with furnishing, installing, inspecting, maintaining, cleaning, sediment removal, and repairing Sediment Control at Inlet with Frame and Grate will be incidental to the contract unit price per each for “Sediment Control at Inlet with Frame and Grate”.

Sediment collection devices will be:

A commercial made sediment collection device from the “Sediment Control at Inlet with Frame and Grate” list or an approved equal. The device will be installed in reinforced concrete drop inlets in accordance with the manufacturer’s recommendations.

A sediment control device as shown on Standard Plate 734.10. Filter fabric used for constructing the sediment control at inlets with frames and grates will be the same type of fabric that is used in high flow silt fence from the approved product list. The approved product list may be viewed at the following internet site:

<http://sddot.com/business/certification/products/Default.aspx>

Sediment Control at Inlet with Frame and Grate Approved List:	
Product	Manufacturer
InfraSafe Debris Collection Device with filter sock	Royal Environmental Systems, Inc. Stacy, MN Phone: 1-800-817-3240 www.royalenterprises.net
Dandy Curb Sack and Dandy Curb Bag for curb inlets. Dandy Bag, Dandy Sack, and Dandy Pop for median drains.	Dandy Products Inc. Dublin, OH Phone: 1-800-591-2284 www.dandyproducts.com
Silt Trapper	Storm Water Solutions Lakeville, MN Phone: 1-952-461-4376 www.silttrapper.com
DIP Basket	Skyview Construction Co., LLC Summit, SD Phone: 1-605-520-0555
FLEXSTORM Inlet Filters	Inlet and Pipe Protection, Inc. Naperville, IL Phone: 1-866-287-8655 www.inletfilters.com

GR-8 Guard or Combo Guard	ERTEC Environmental Systems LLC Alameda, CA Phone: 1-866-521-0724 www.ertecsystems.com
Sediment Catchers	Shaun Jensen Brookings, SD Phone: 1-605-690-4950
Grate FX, Slammer, or VertiPro	Enviroscape ECM, Ltd. Oakwood, OH Phone: 1-419-594-3210 www.strawblanket.com
BX Inlet Sediment Boxes	BX Civil and Construction Dell Rapids, SD Phone: 1-605-428-5483 bx-cc.com
EZ-Flo and EZ-Catch	Flo-Water, LLC West Des Moines, IA Phone: 1-515-577-6763 www.flo-water.net
Basin Bag	Pro Drain Systems, Inc. Highland, MI Phone: 1-248-329-7001 www.prodrainsystems.com

TABLE OF EROSION CONTROL

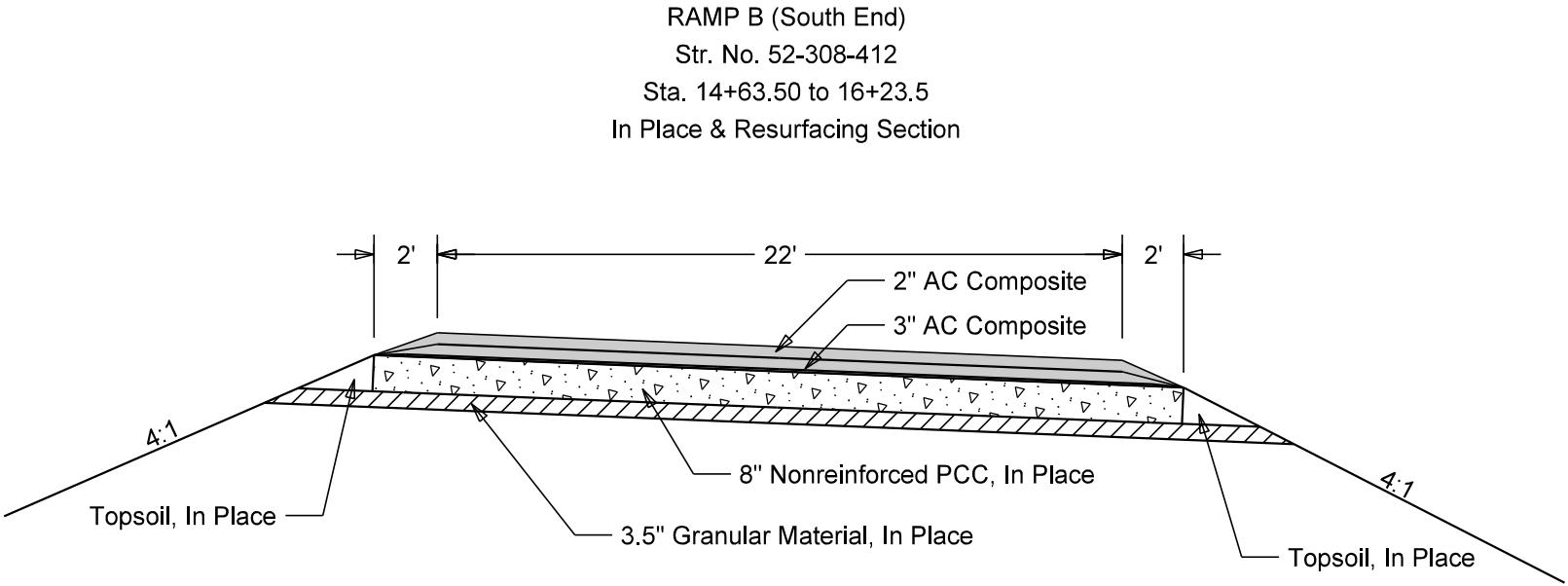
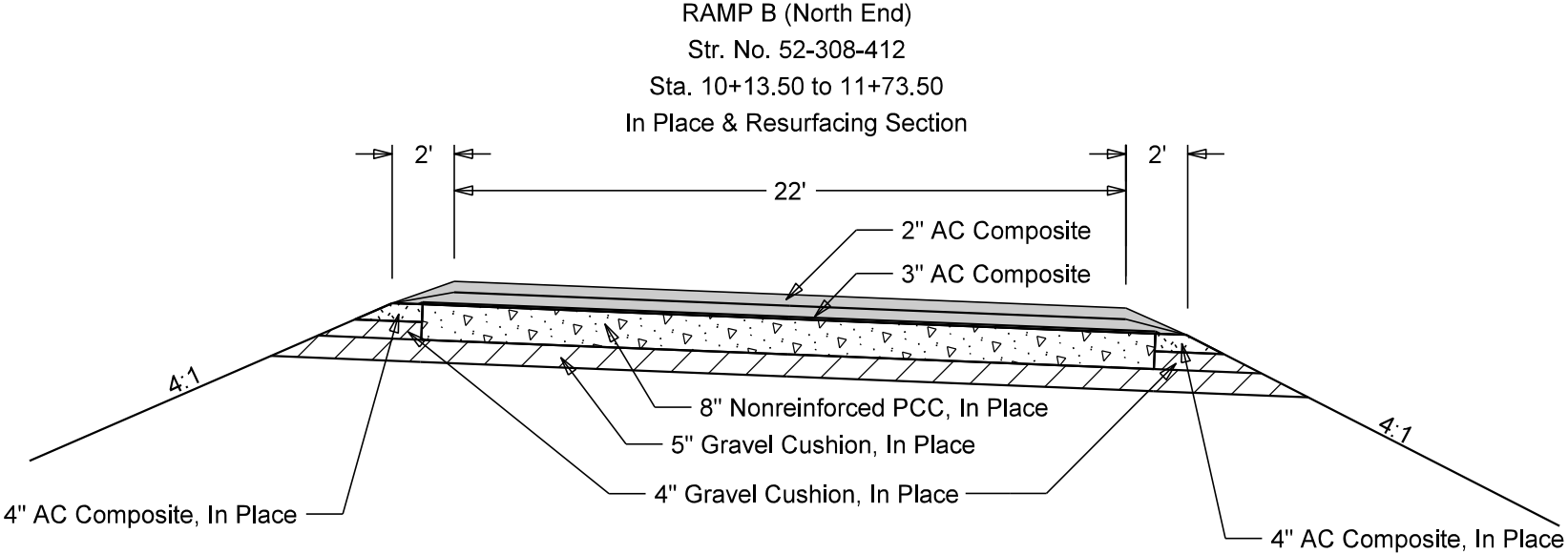
Location	Ramp	12" Erosion Control Wattles (Ft)	Sediment Control at Inlets with Frames and Grates (Each)
Str. 52-308-411	C	150	2
Str. 52-308-412	B	150	1
Totals:		300	3

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TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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Plotting Date: 07/23/2020



Plot Scale - 1:200

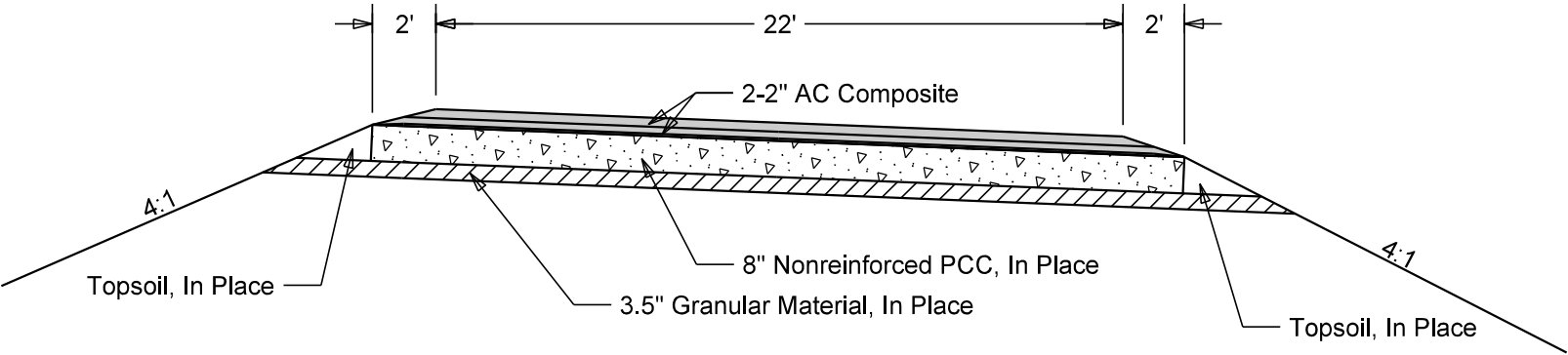
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TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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RAMP C
Str. No. 52-308-411
Sta. 7+39.91 to 8+99.91
Sta. 10+69.49 to 12+89.50
In Place & Resurfacing Section



Plot Scale - 1:200

Plotted From - trc11626

Plot Scale - 1:200

Plotted From - Irrc11626

LEGEND

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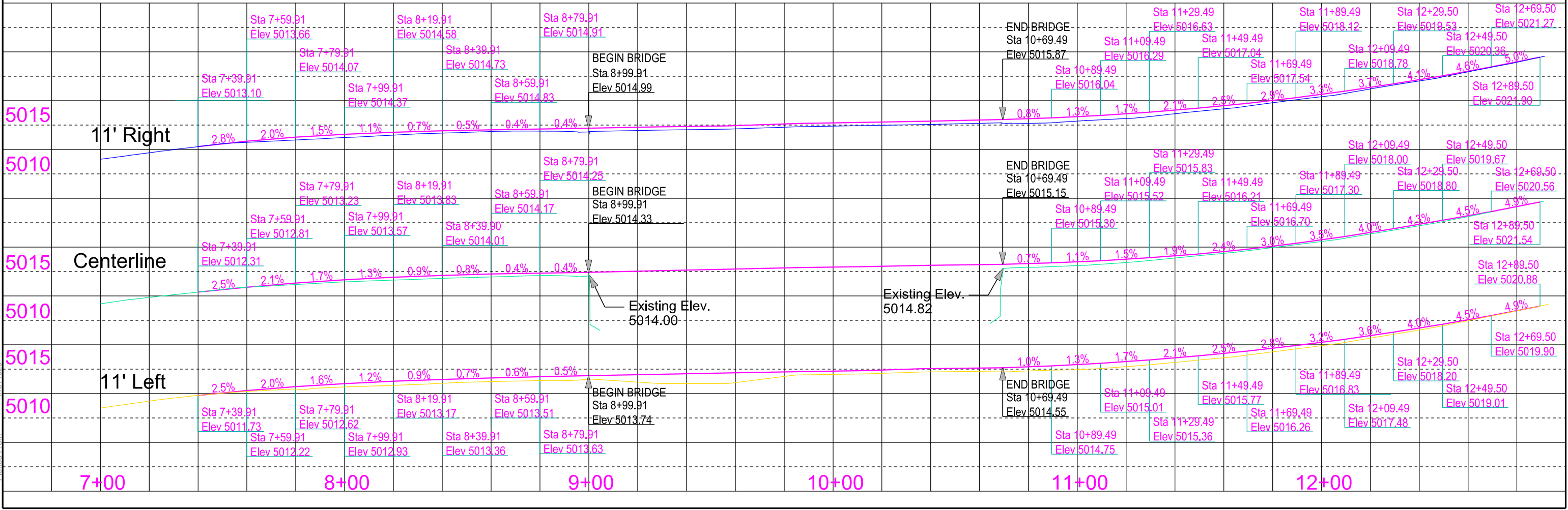
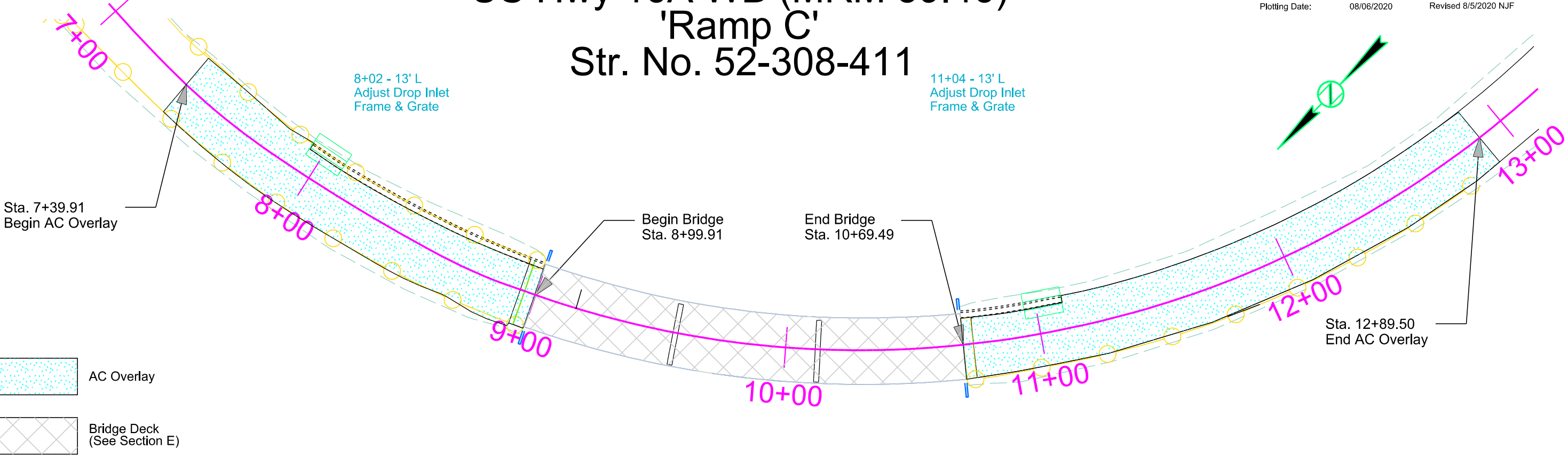
Anchor		Hedge		Septic Tank		State and National Line	
Antenna		Highway ROW Marker		Shrub Tree		County Line	
Approach		Interstate Close Gate		Sidewalk		Section Line	
Assumed Corner		Iron Pin		Sign Face		Quarter Line	
Azimuth Marker		Irrigation Ditch		Sign Post		Sixteenth Line	
BBQ Grill/ Fireplace		Lake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

US Hwy 16A WB (MRM 59.46)

'Ramp C'

Str. No. 52-308-411

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 016A(08)59	F10	F33
Plotting Date:	08/06/2020	Revised 8/5/2020 NJF	





US Hwy 16A EB (MRM 59.44) 'Ramp B' Str. No. 52-308-412

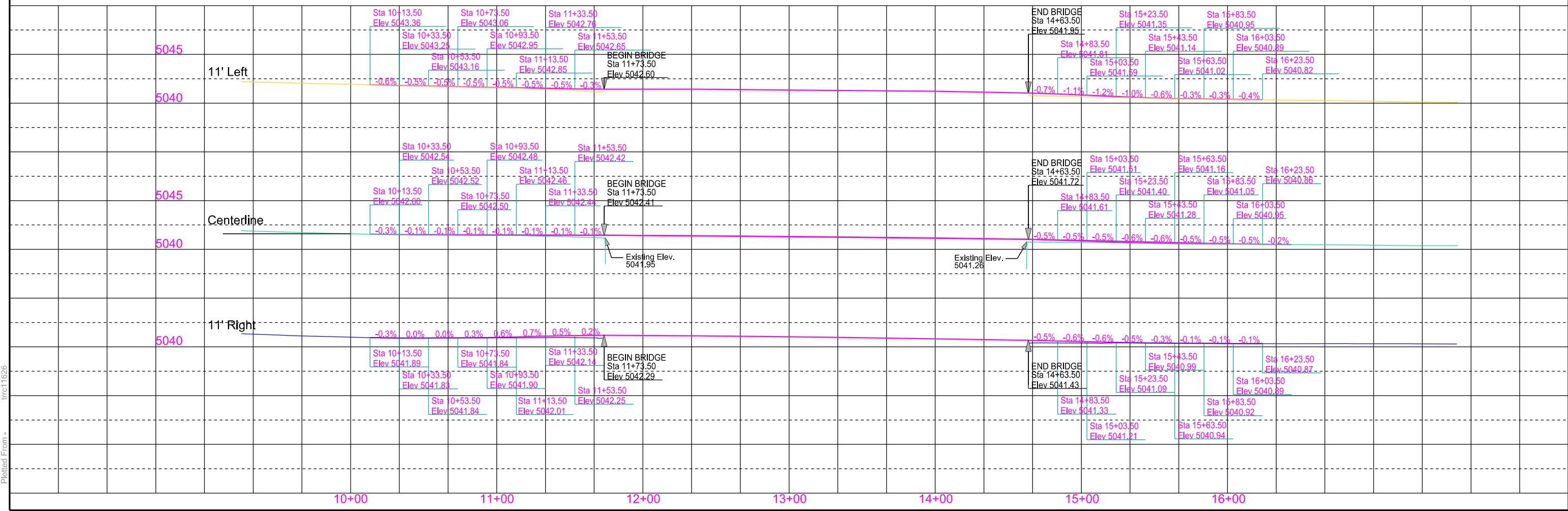
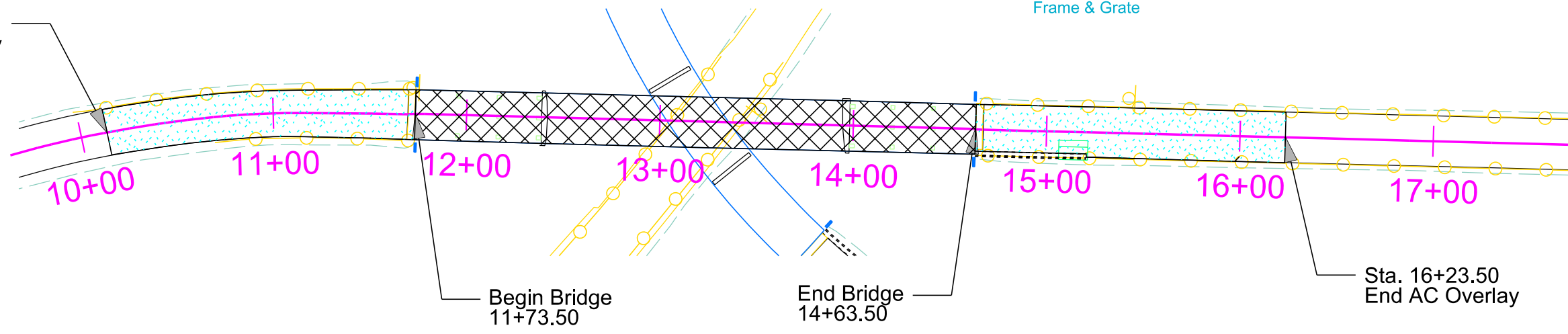
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 016A(08)59	F11	F33
Plotting Date: 08/06/2020		Revised 8/5/2020 NJF	



Sta. 10+13.50
Begin AC Overlay

15+14 - 13' R
Adjust Drop Inlet
Frame & Grate

-  AC Overlay
-  Bridge Deck
(See Section E)



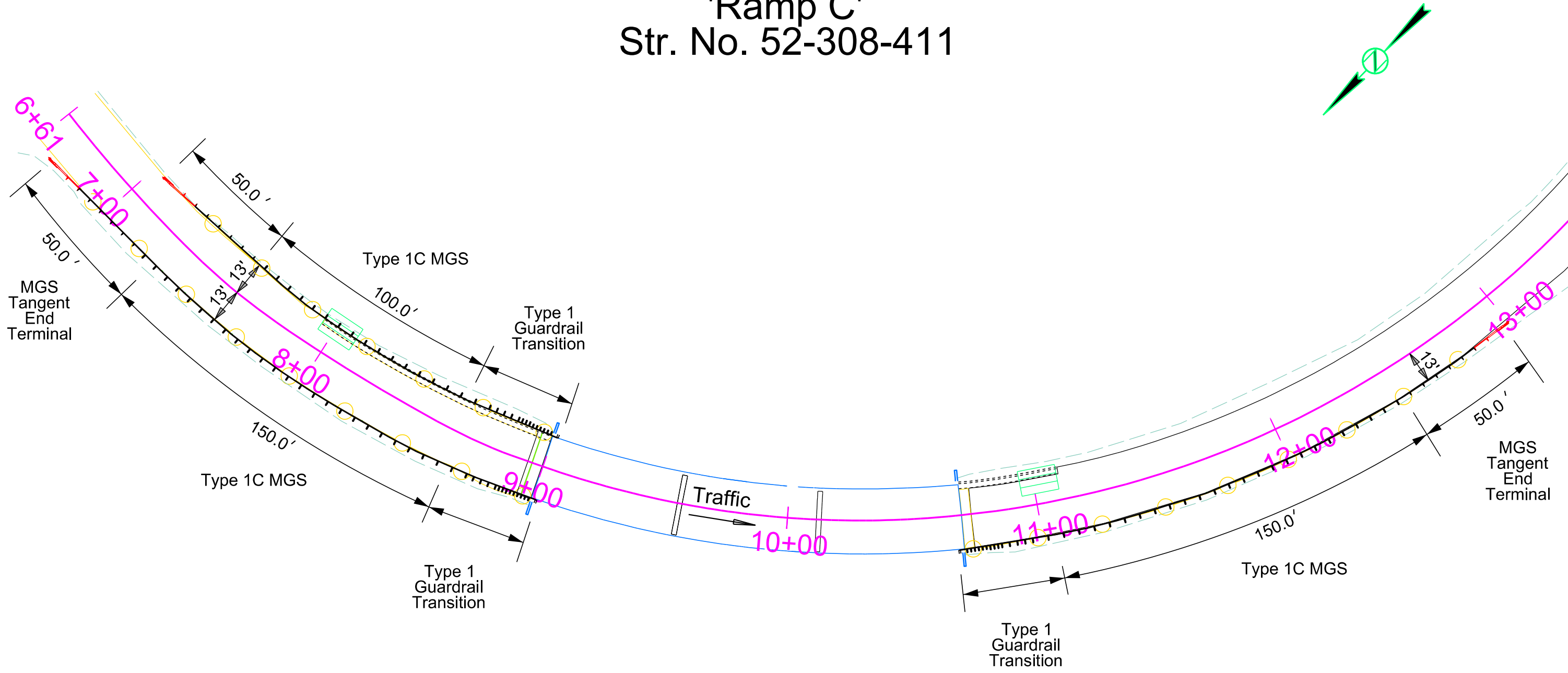
Plot Scale - 1:66.66
Plotted From - ttrc11626

File - ...\\penn04\\FUP\\PlanPro_412.dgn

GUARDRAIL LAYOUT
US Hwy 16A WB (MRM 59.46)
'Ramp C'
Str. No. 52-308-411

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 016A(08)59	F12	F33

Plotting Date: 07/23/2020



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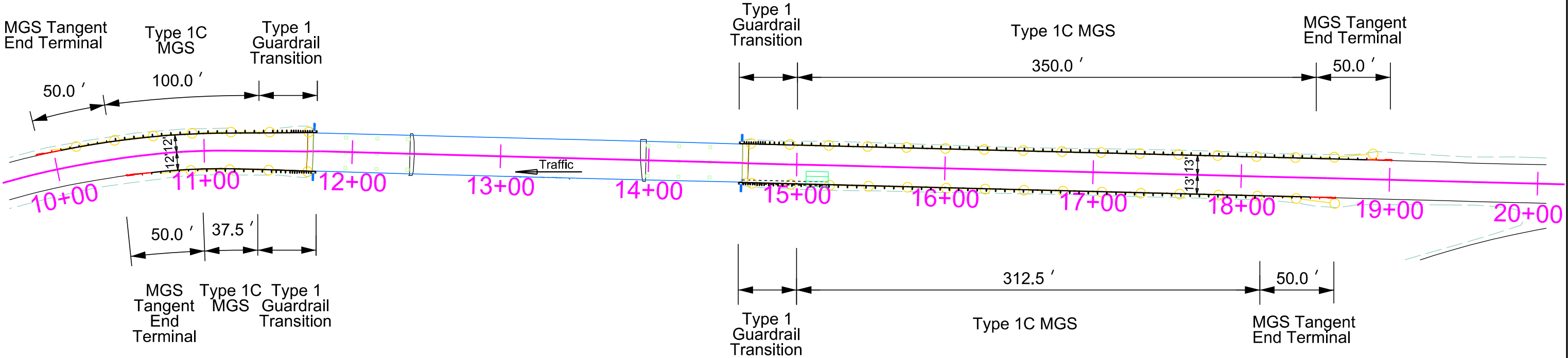
Plotted From - lrrc11626

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GUARDRAIL LAYOUT
US Hwy 16A EB (MRM 59.44)
'Ramp B'
Str. No. 52-308-412

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 016A(08)59	F13	F33

Plotting Date: 07/23/2020



Plot Scale - 1:66.66

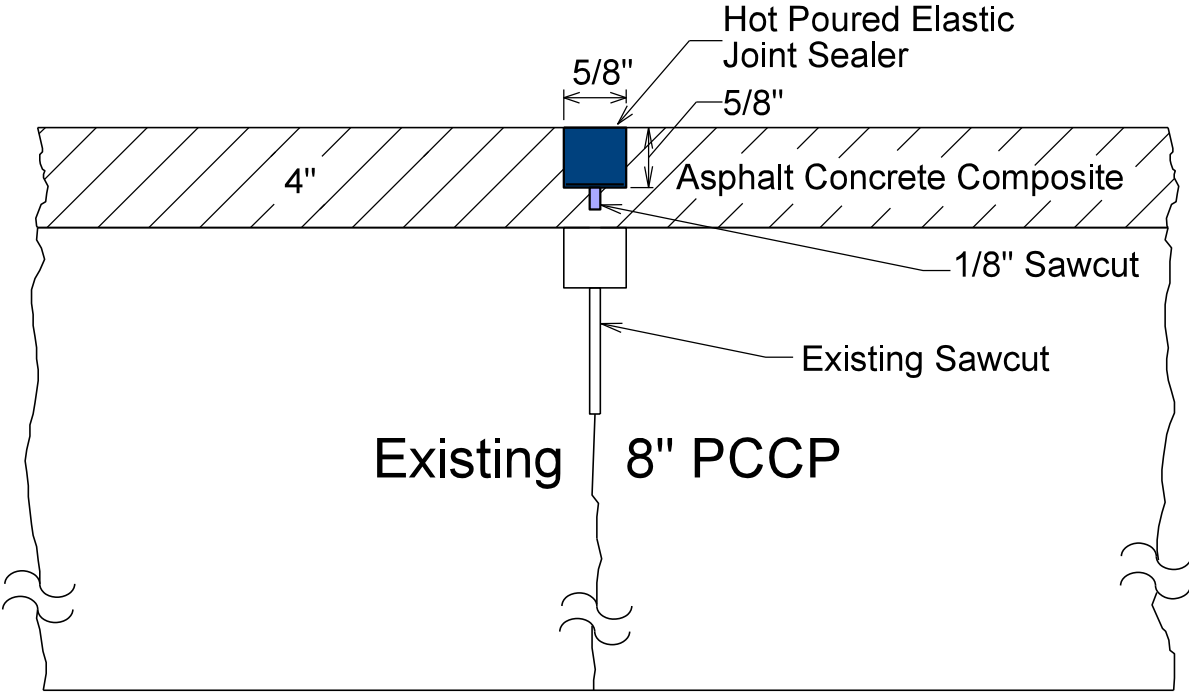
Plotted From - trc11626

File - ...lpj\Perm04\FU\Guardrail_412.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 016A(08)59	F14	F33

Plotting Date: 07/23/2020

SAW AND SEAL TRANSVERSE
JOINT IN ASPHALT CONCRETE
AFTER MAINLINE RESURFACING

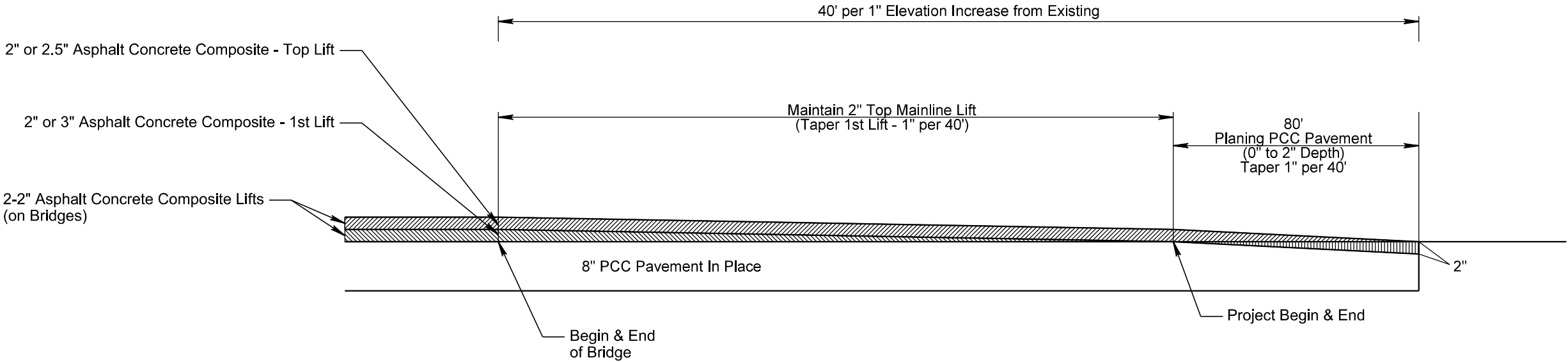


PLANING PCC PAVEMENT & RESURFACING

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 016A(08)59	F15	F33

Plotting Date: 07/23/2020

PLANING AT BEGIN & END OF PROJECT
Str. No. 52-308-411
Str. No. 52-308-412



Plot Scale - 1:40

Plotted From - trc11626



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.

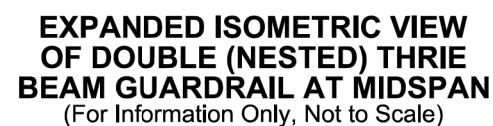
- ☑ The post and blockout illustrated above is typical for single thrie beam guardrail. When other variations of posts and blockouts are specified on other standard plates (e.g. transitions) then the posts and blockouts will be as specified on the other standard plates or as specified in the plans.

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.

The top of post and top of block will have a true square cut. The top of block will be a maximum of $\pm\frac{1}{2}$ inch from the top of the post.

September 14, 2019

Published Date: 3rd Qtr. 2020

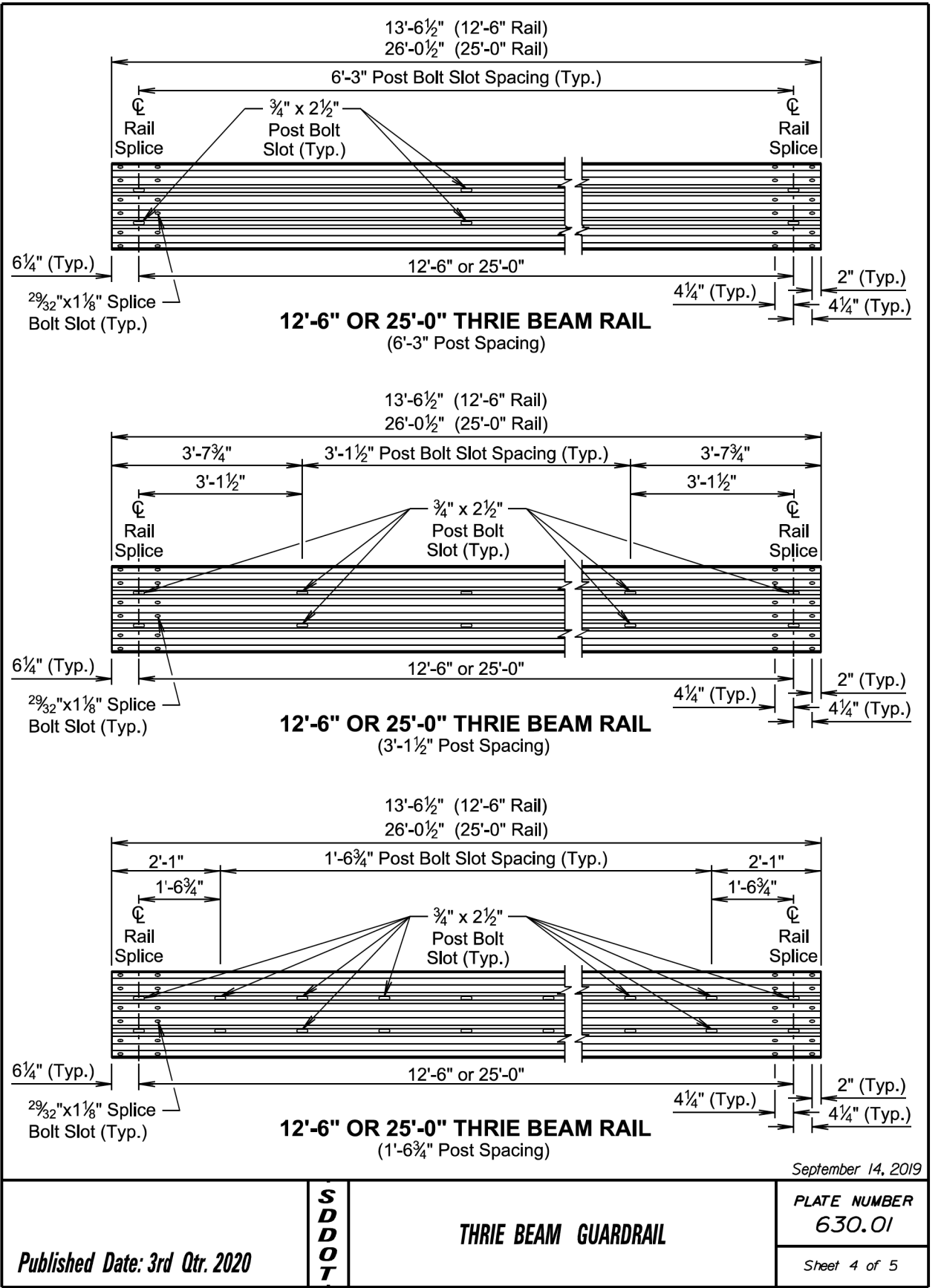
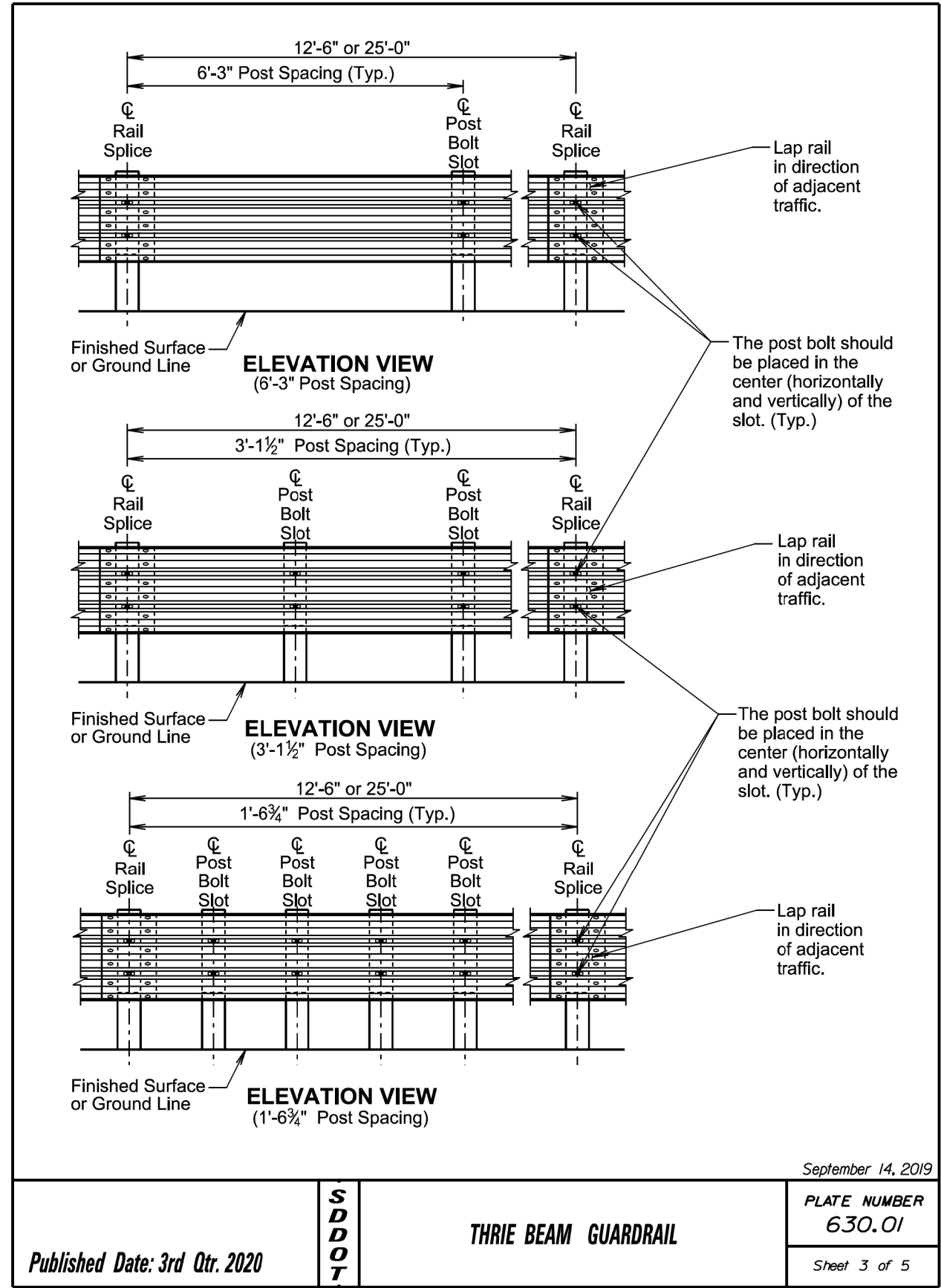


September 14, 2019

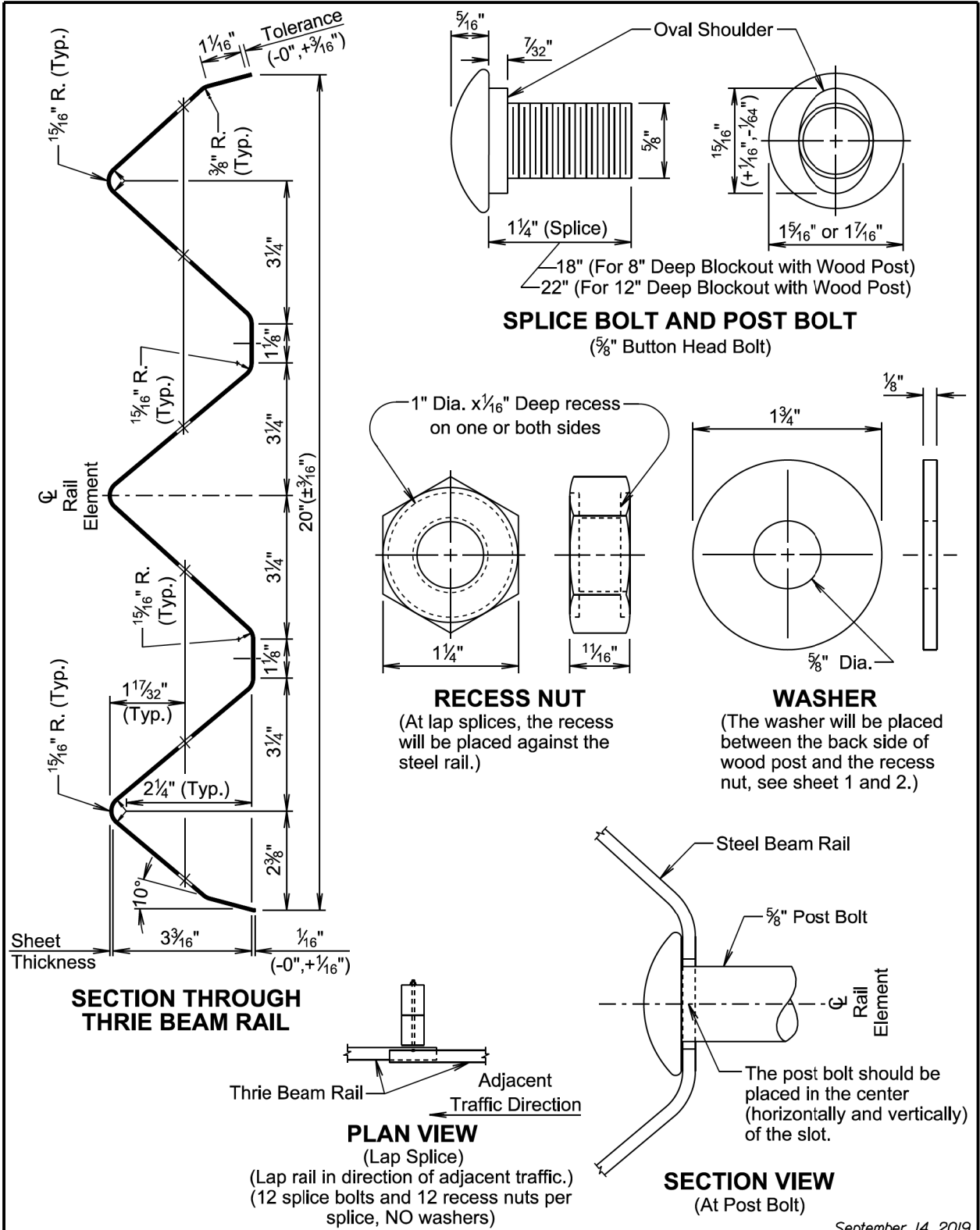
Published Date: 3rd Qtr. 2020

Plot Scale - 1:200

Plotted From - trc11626



File - ...SectionF_StandardPlates.dgn



September 14, 2019

Published Date: 3rd Qtr. 2020	S D D O T	THRIE BEAM GUARDRAIL	PLATE NUMBER 630.01
			Sheet 5 of 5

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.

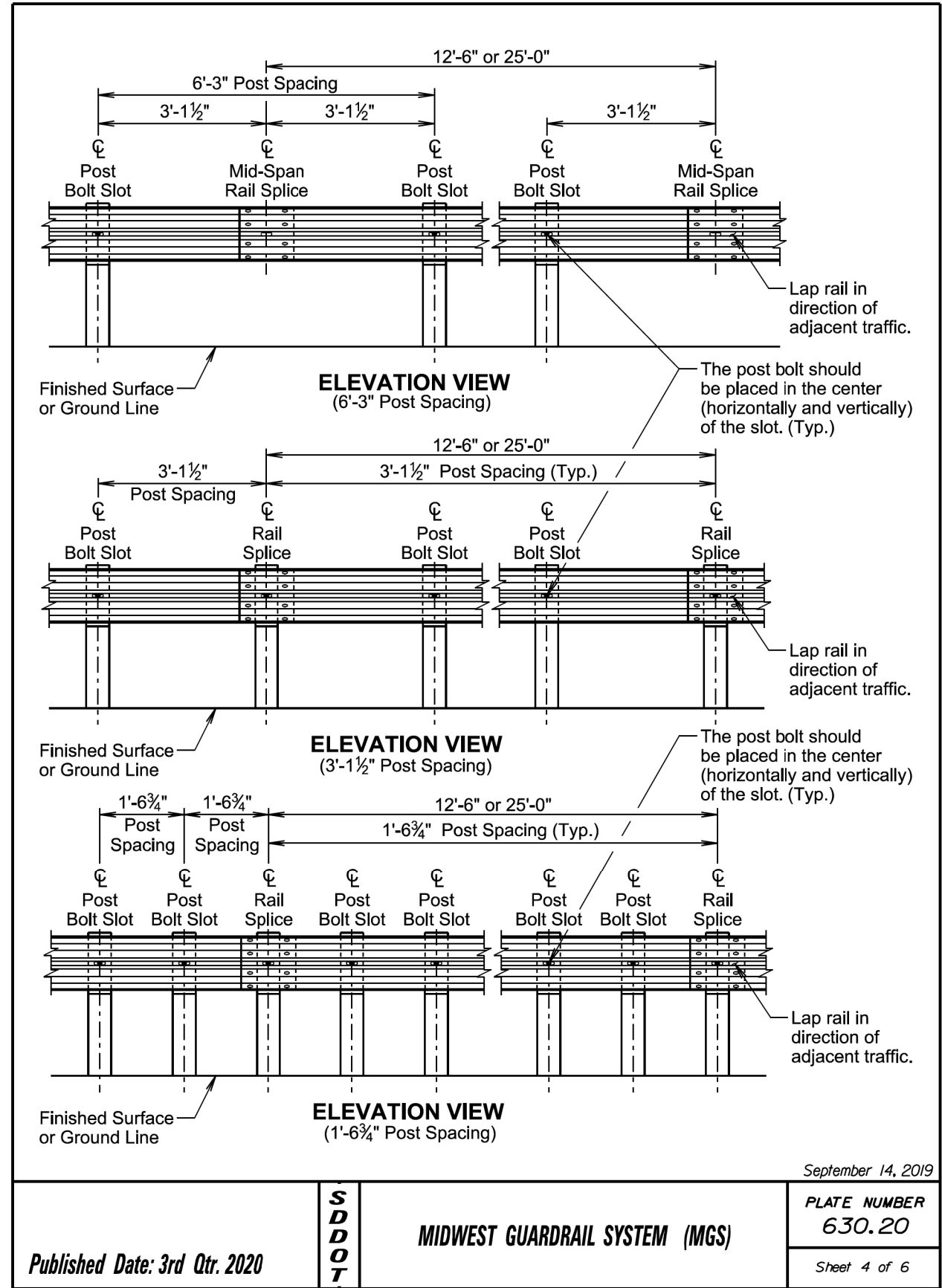
All costs for constructing the MGS including labor, equipment, and materials including all posts, blockouts, steel beam rail, and hardware will be incidental to the contract unit price per foot for the respective MGS contract item.

September 14, 2019

Published Date: 3rd Qtr. 2020	S D D O T	MIDWEST GUARDRAIL SYSTEM (MGS)	PLATE NUMBER 630.20
			Sheet 1 of 6

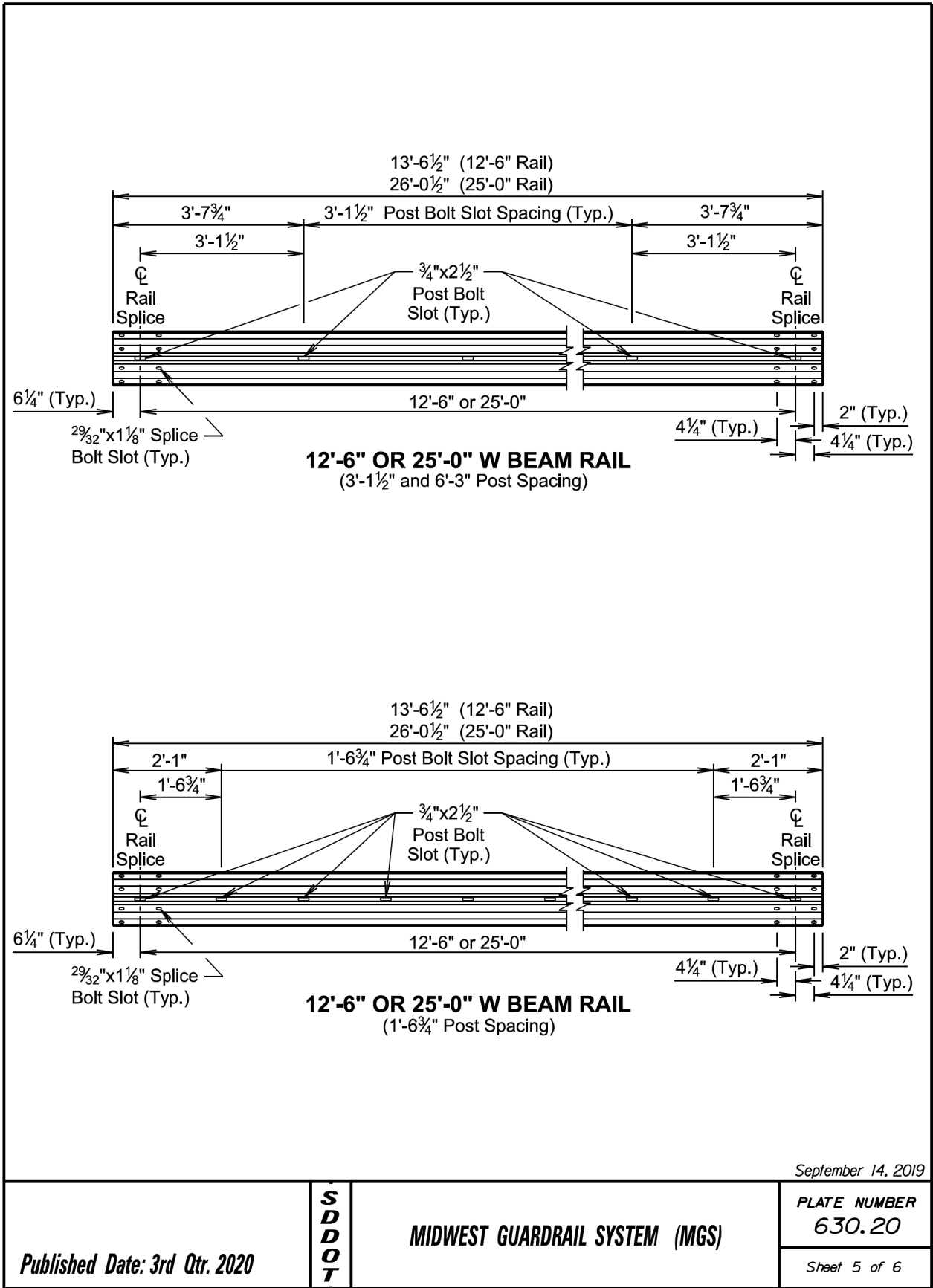
Plot Scale - 1:200

Plotted From - trc11626

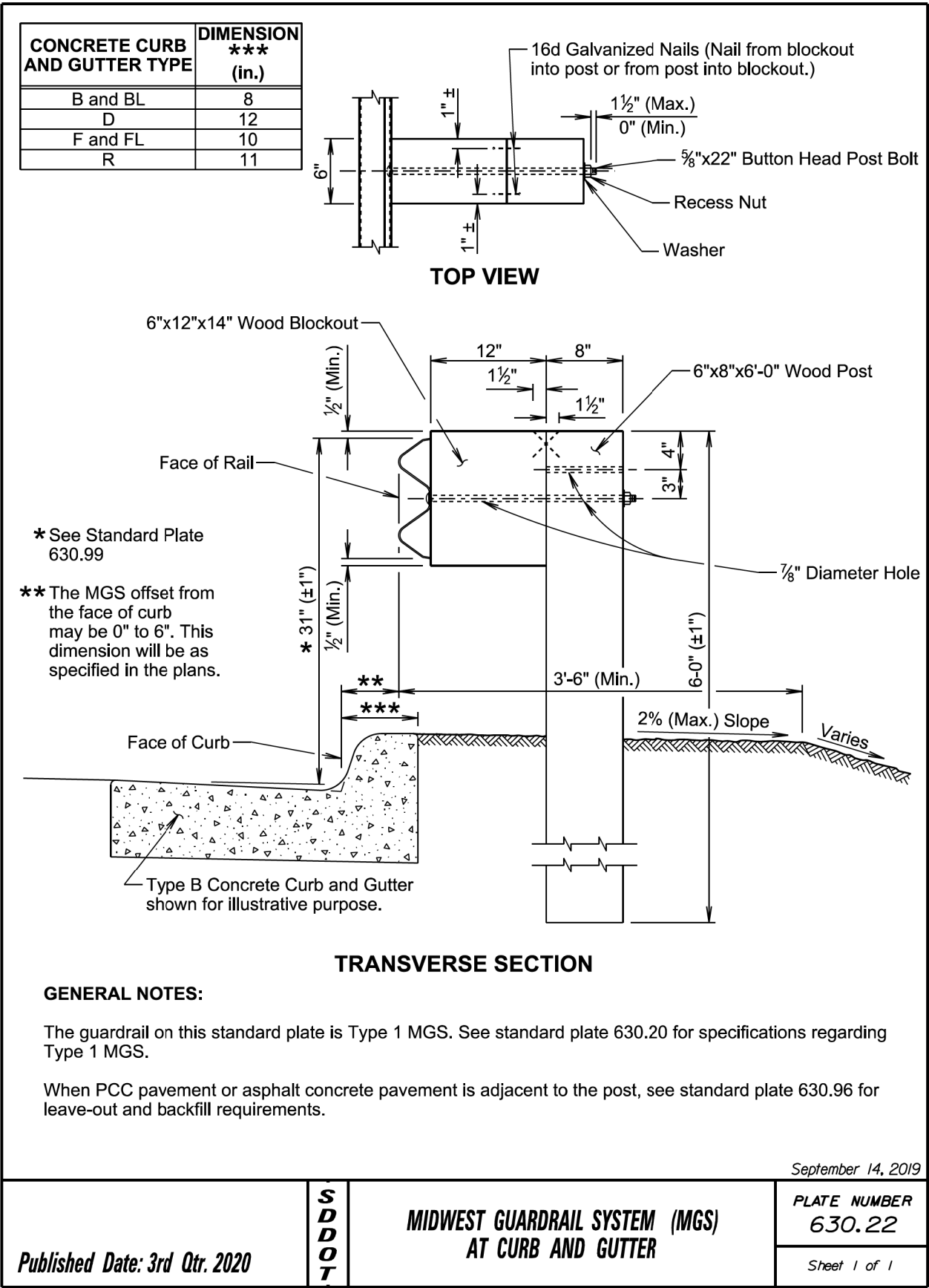
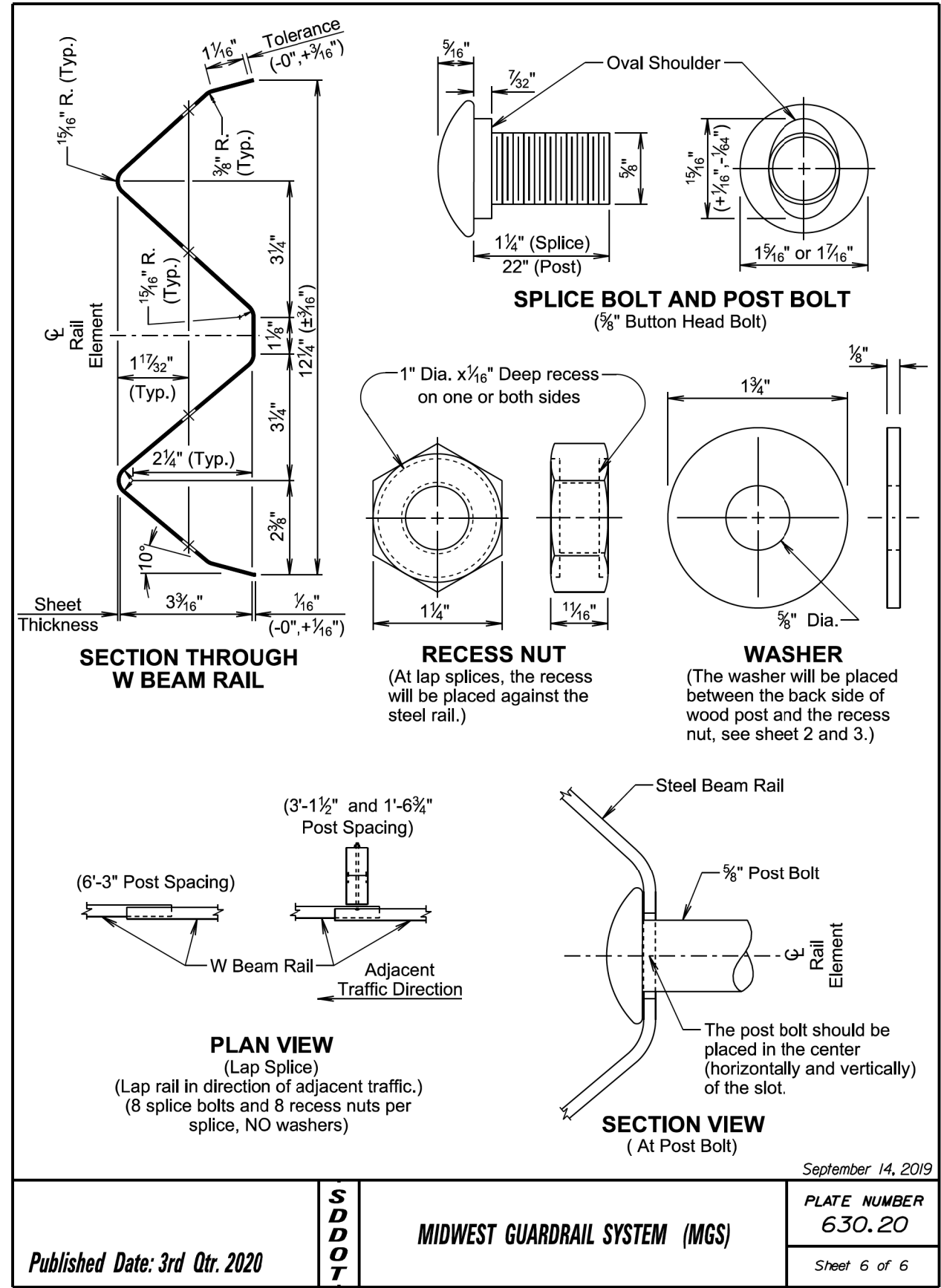


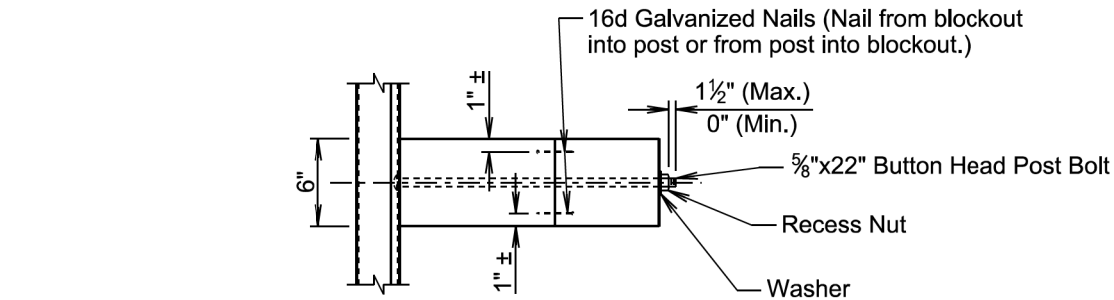
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 016A(08)59	F20	F33

Plotting Date: 07/23/2020

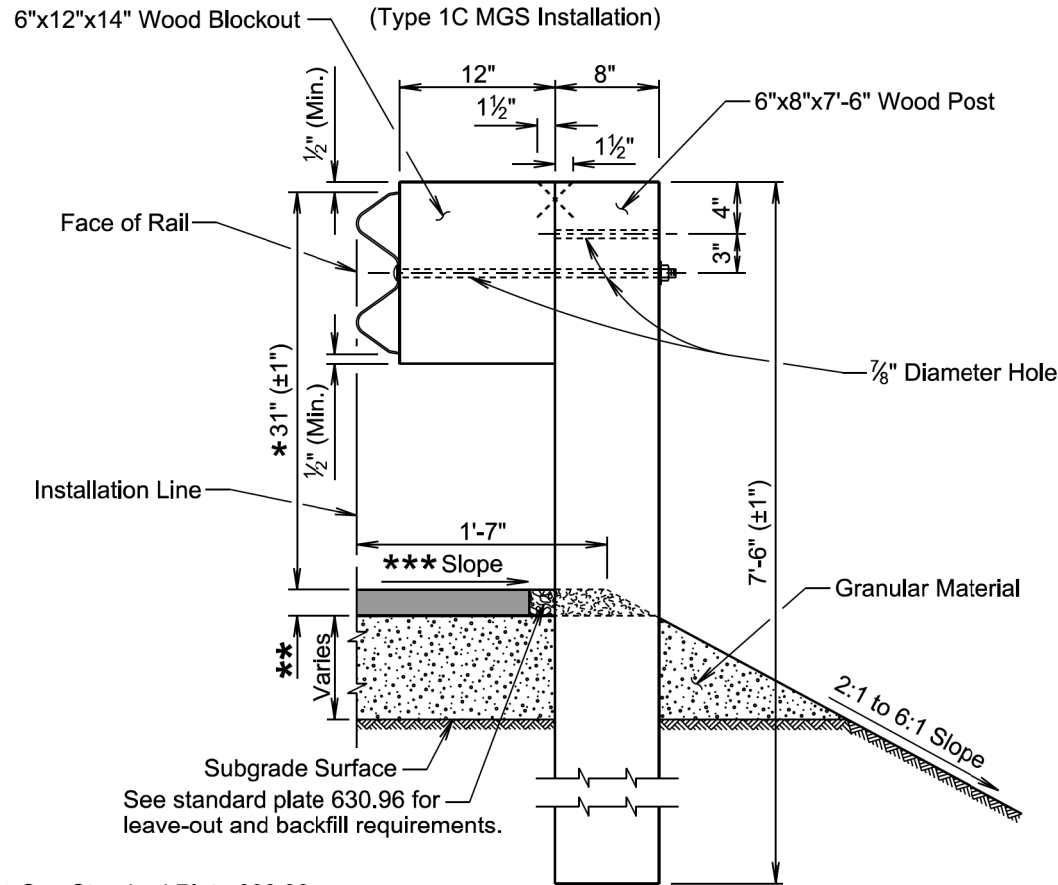


File - ...SectionF_StandardPlates.dgn





TOP VIEW
(Type 1C MGS Installation)



TRANSVERSE SECTION
(Type 1C 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.

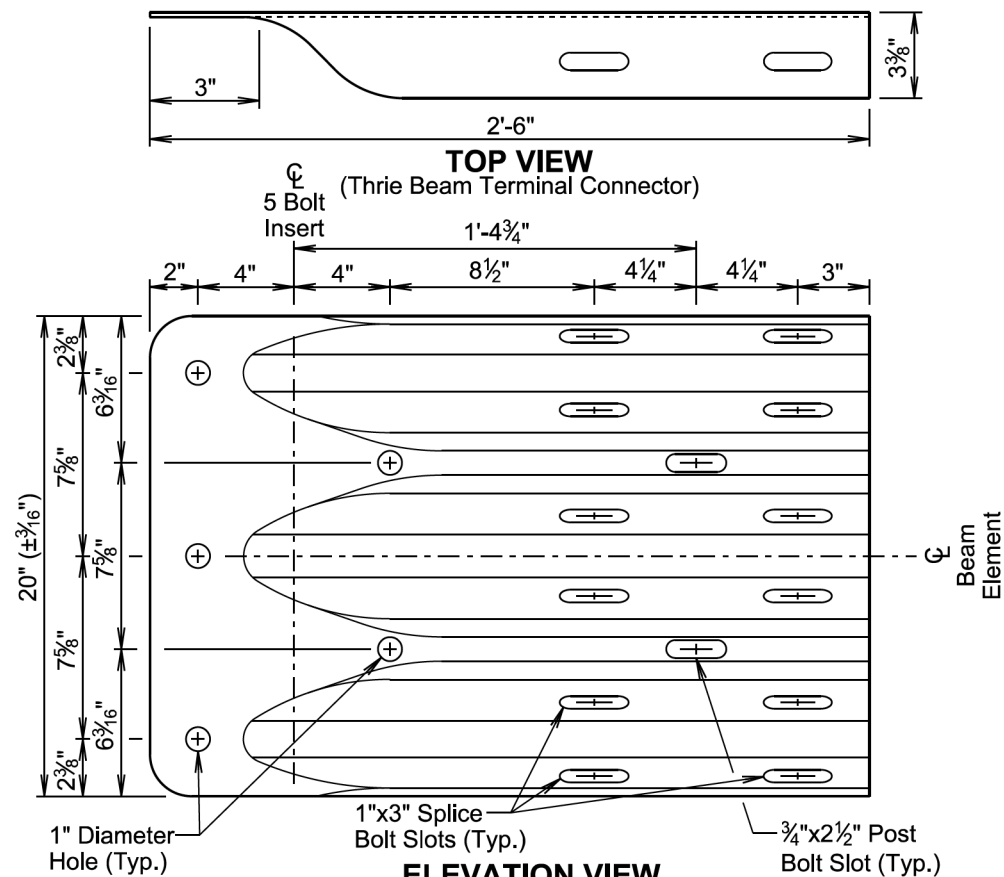
GENERAL NOTES:

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

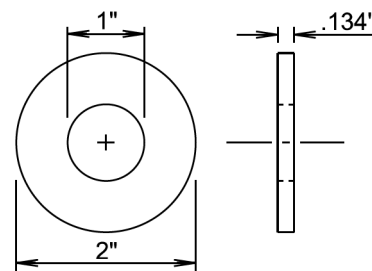
Topsoil is not shown in the transverse section drawing.

September 14, 2019

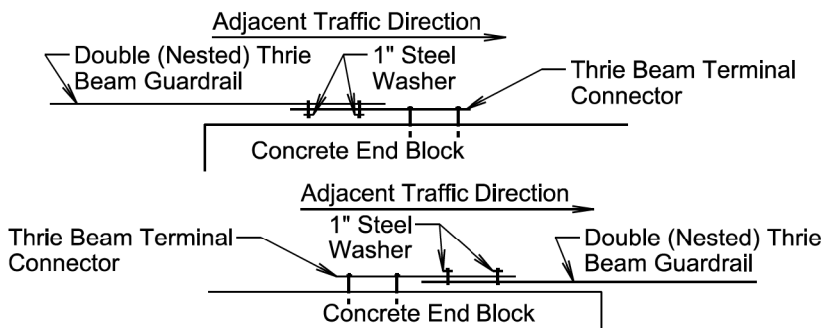
<i>Published Date: 3rd Qtr. 2020</i>	S D D O T	TYPE 1C MIDWEST GUARDRAIL SYSTEM (MGS) INSTALLATION AT BREAK POINT OF SLOPE	PLATE NUMBER 630.25
			Sheet 1 of 1



ELEVATION VIEW
(Thrie Beam Terminal Connector)



1" STEEL WASHER
(12 washers required)



PLAN VIEWS
(Typical Locations of 1" Steel Washers)
(Washers are required at these lap splices)

GENERAL NOTES:

Thrie Beam Terminal Connectors will be 10 gauge.

When the thrie beam terminal connector is used to connect the rail to the bridge or concrete end block, 1" steel washers will be used at the lap splice and the washers will be in direct contact with the 3" slots of the thrie beam terminal connector. See the drawings above for the typical locations of the 1" steel washers.

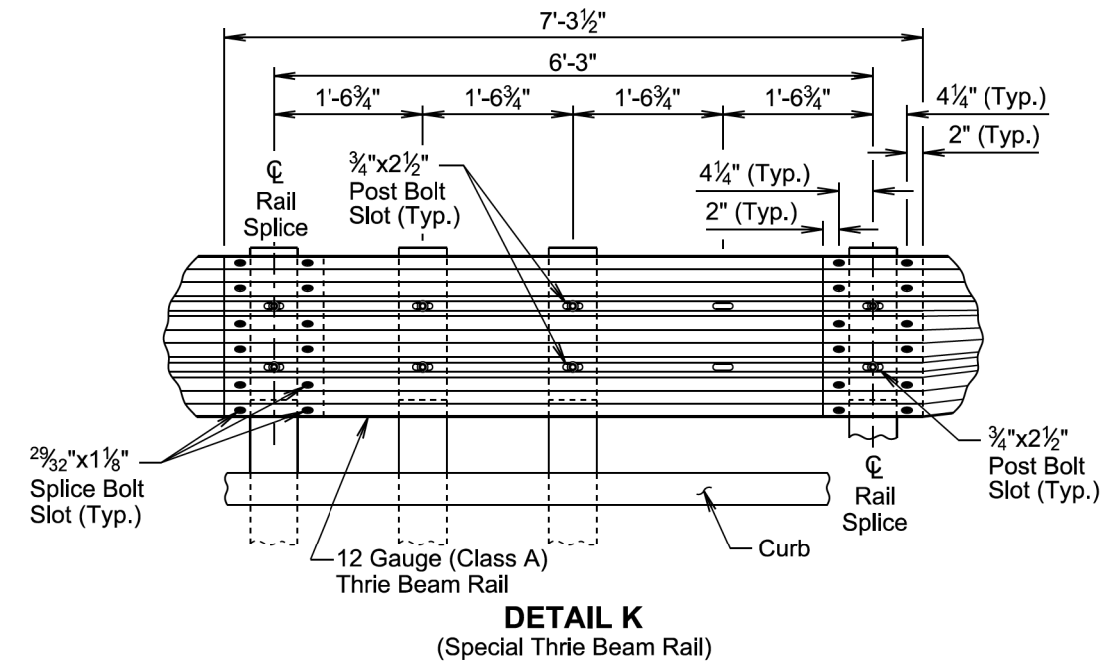
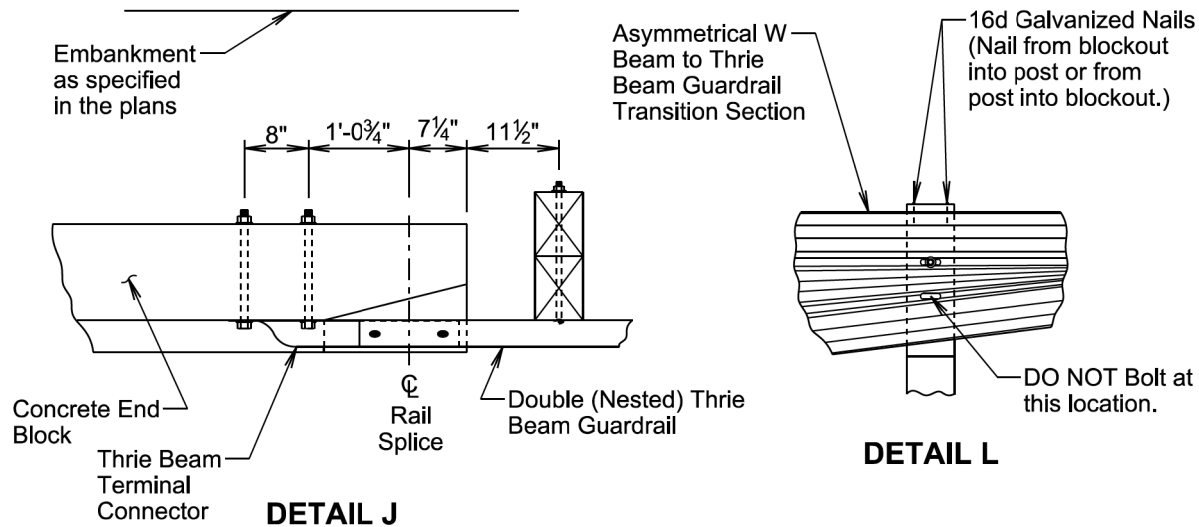
There will be no separate payment for furnishing and installing the thrie beam terminal connector. All costs for furnishing and installing the thrie beam terminal connector will be incidental to the contract unit price of the respective guardrail item it is attached to.

September 14, 2019

<i>Published Date: 3rd Qtr. 2020</i>	S D D O T	THRIE BEAM TERMINAL CONNECTOR	PLATE NUMBER 630.47
			<i>Sheet 1 of 1</i>

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 016A(08)59	F24	F33

Plotting Date: 07/23/2020



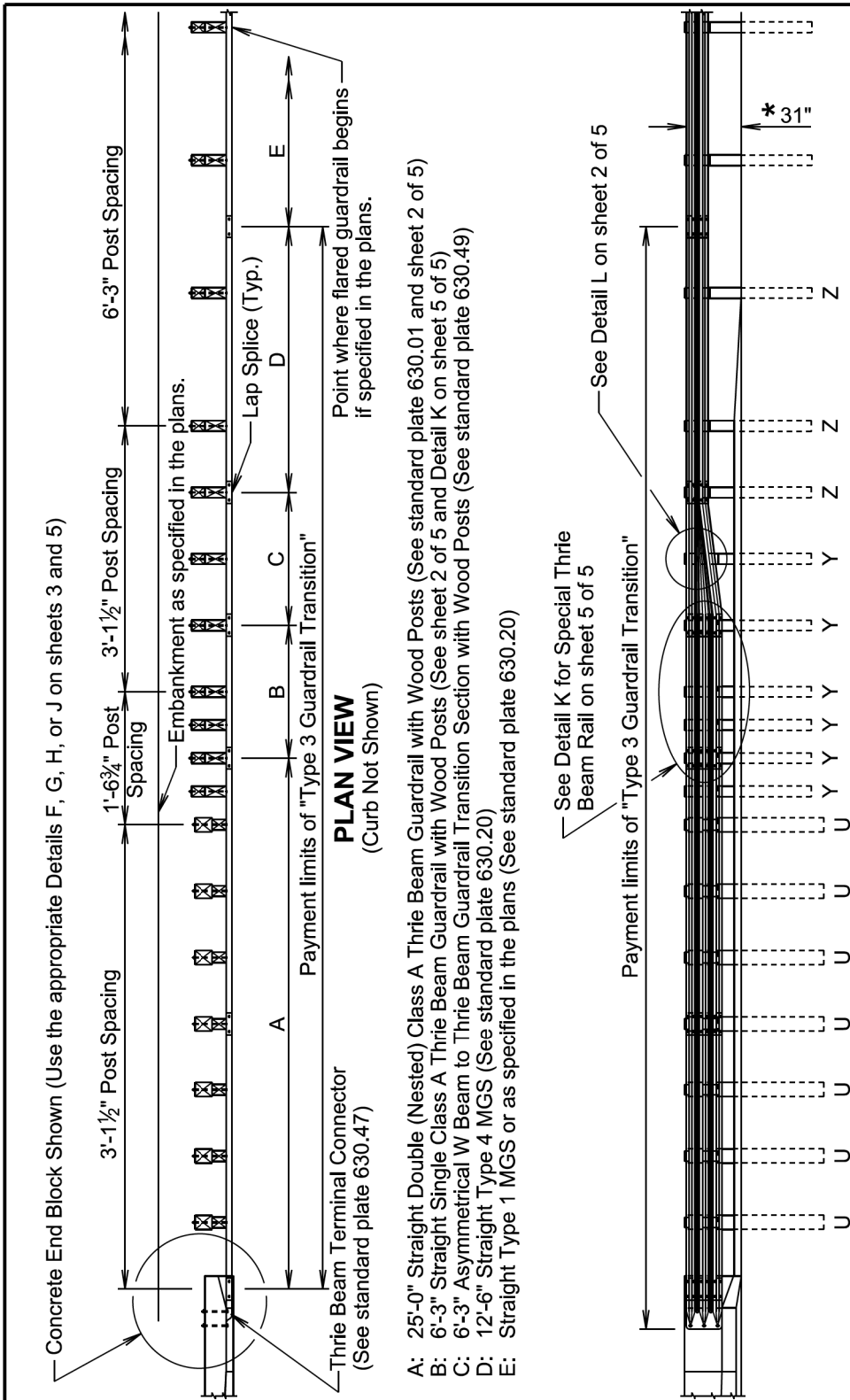
GENERAL NOTES:

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".

September 14, 2019

S D D O T	TYPE 1 GUARDRAIL TRANSITION (CONCRETE END BLOCK TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.50
		Sheet 2 of 2
		Published Date: 3rd Qtr. 2020



- A: 25'-0" Straight Double (Nested) Class A Thrie Beam Guardrail with Wood Posts (See standard plate 630.01 and sheet 2 of 5)
- B: 6'-3" Straight Single Class A Thrie Beam Guardrail with Wood Posts (See sheet 2 of 5 and Detail K on sheet 5 of 5)
- 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)

U: 8"x10"x6'-6" Wood Post and 6"x8"x19" Wood Blockout

Y: 6"x8"x6'-0" Wood Post and 6"x12"x19" Wood Blockout

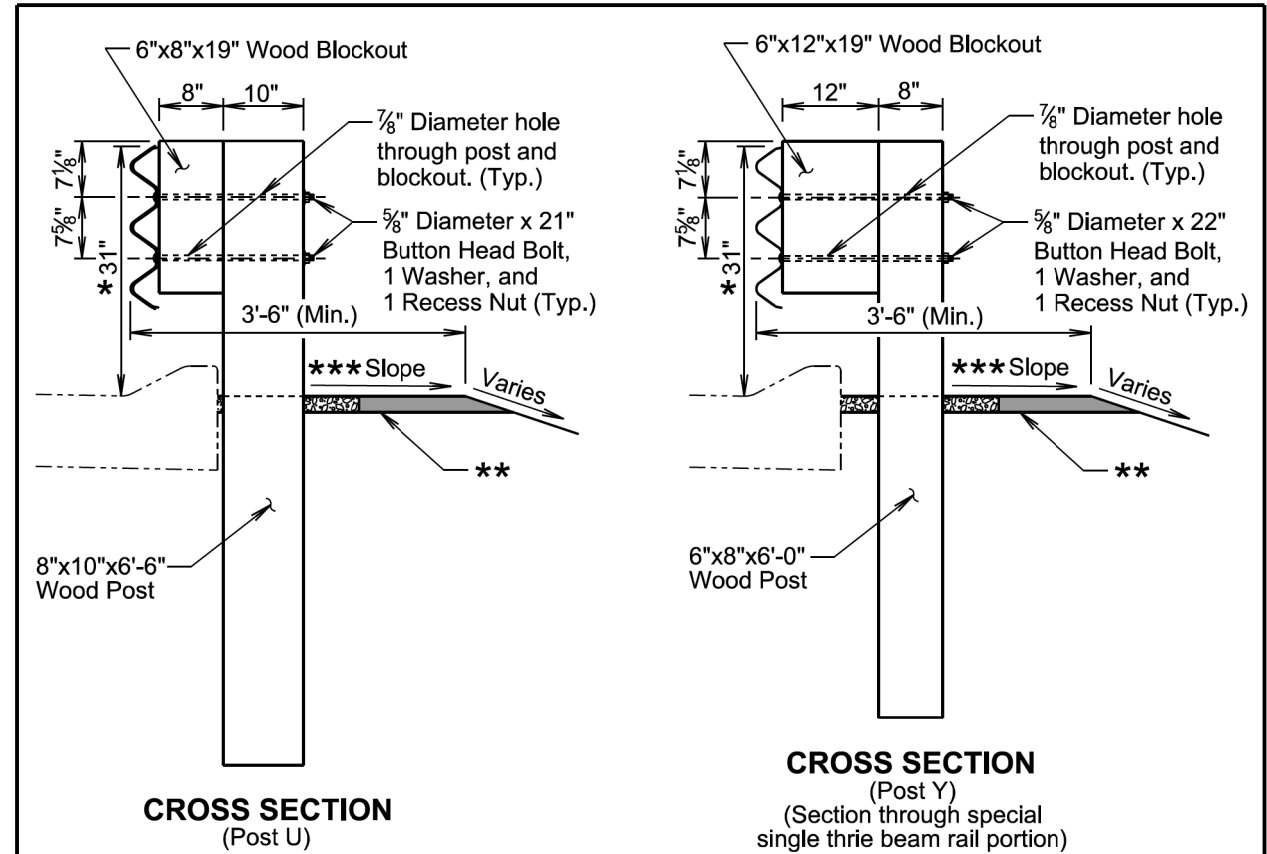
Z: 6"x8"x6'-0" Wood Post and 6"x12"x14" Wood Blockout

See sheet 2 of 5 for cross sections of U and Y.

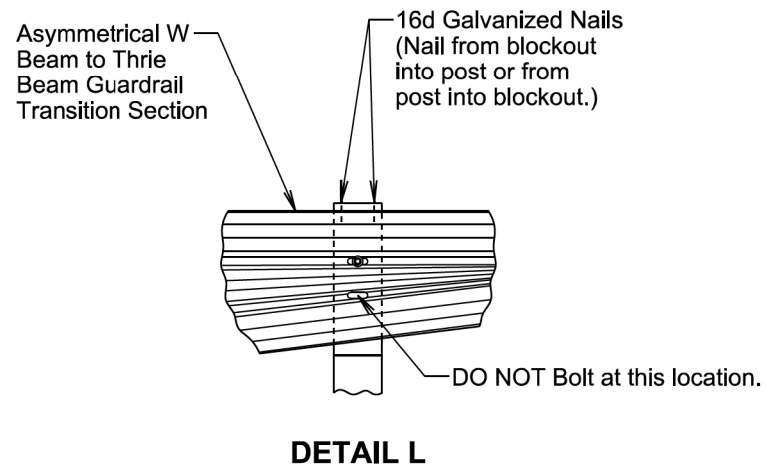
See standard plate 630.20 for details of Z.

September 14, 2019

S D D O T	TYPE 3 GUARDRAIL TRANSITION (VARIOUS BRIDGE RAILS AND CONCRETE END BLOCKS TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.56
		Sheet 1 of 5
		Published Date: 3rd Qtr. 2020



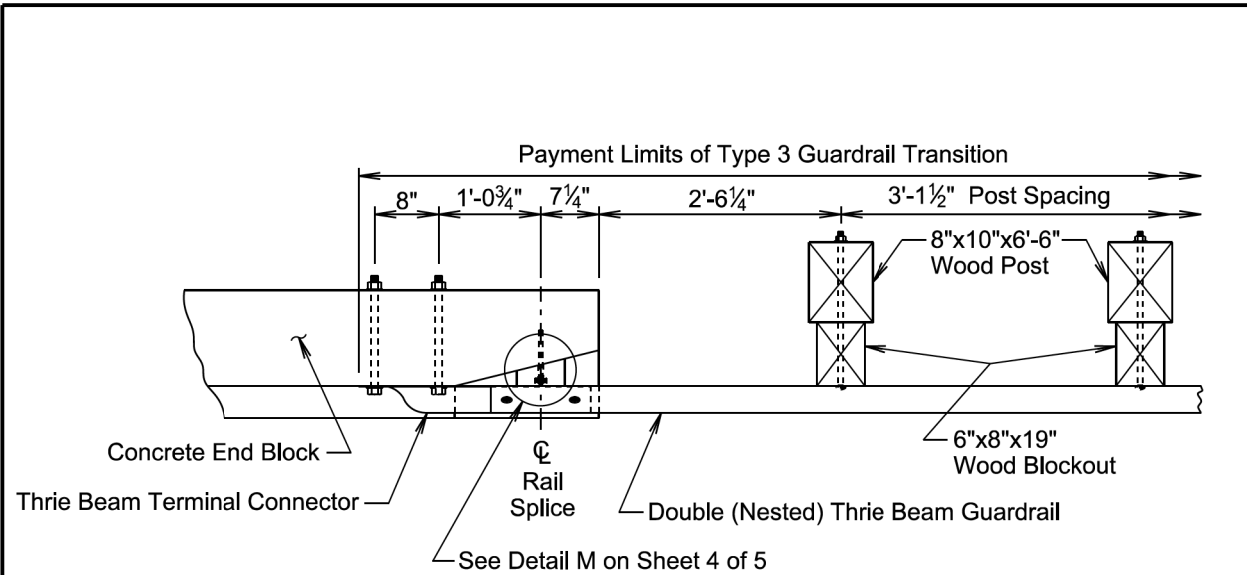
- * See standard plate 630.99
- ** 2" asphalt concrete or as specified in the plans and see standard plate 630.98 for leave-out and backfill requirements.
- *** The cross slope will be as specified in the plans; however, the cross slope will not be steeper than a 10:1 slope.



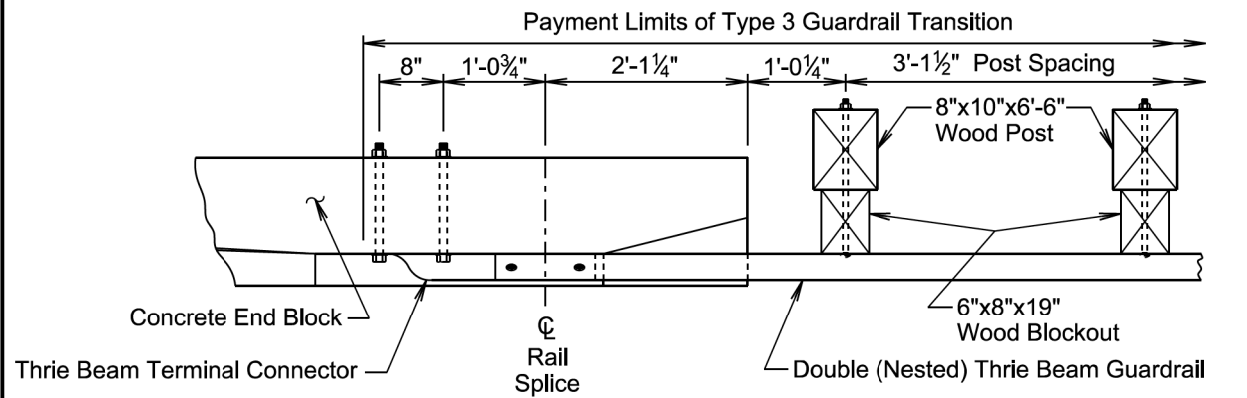
DETAIL L

September 14, 2019

Published Date: 3rd Qtr. 2020	S D D O T	TYPE 3 GUARDRAIL TRANSITION (VARIOUS BRIDGE RAILS AND CONCRETE END BLOCKS TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.56
			Sheet 2 of 5



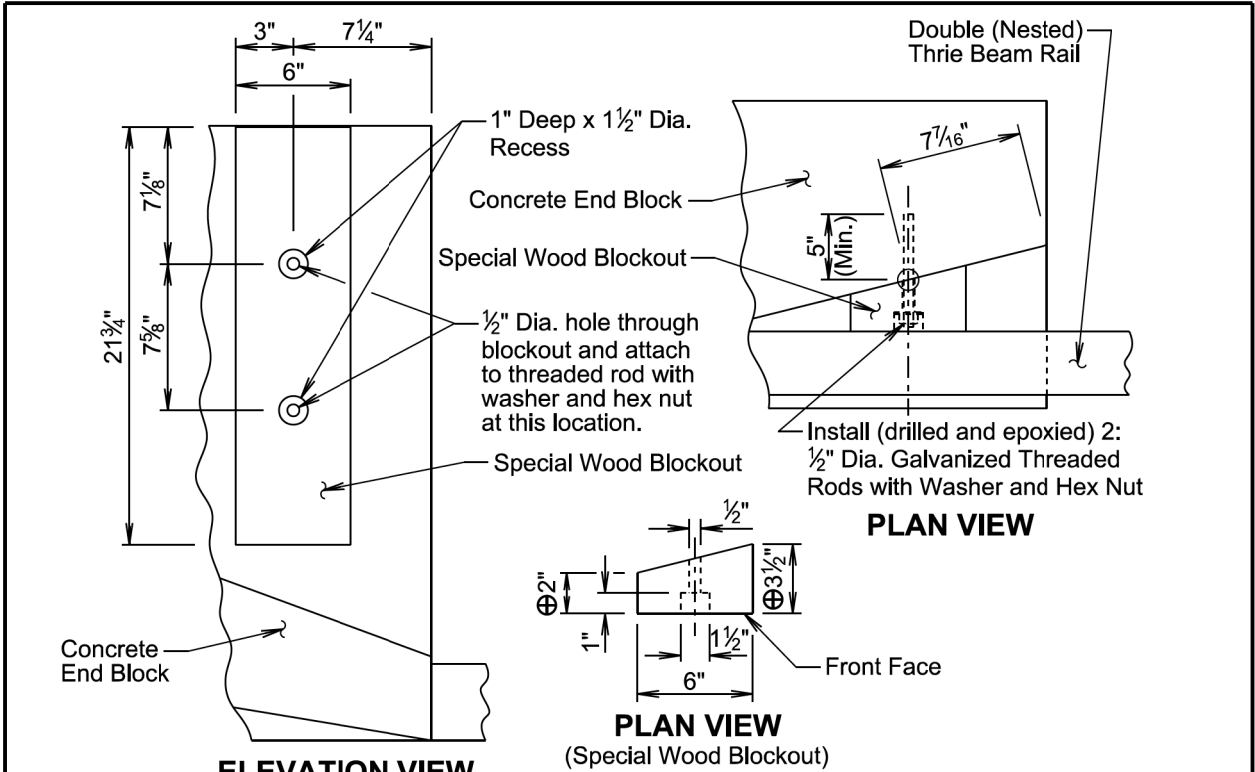
DETAIL F



DETAIL G

September 14, 2019

Published Date: 3rd Qtr. 2020	S D D O T	TYPE 3 GUARDRAIL TRANSITION (VARIOUS BRIDGE RAILS OR CONCRETE END BLOCKS TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.56
			Sheet 3 of 5

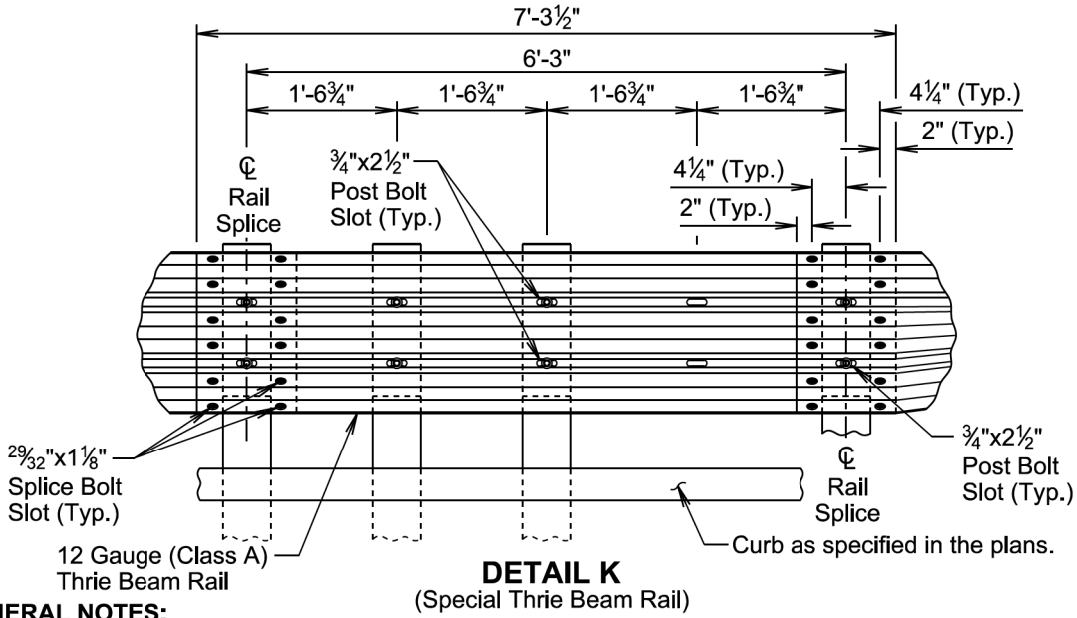
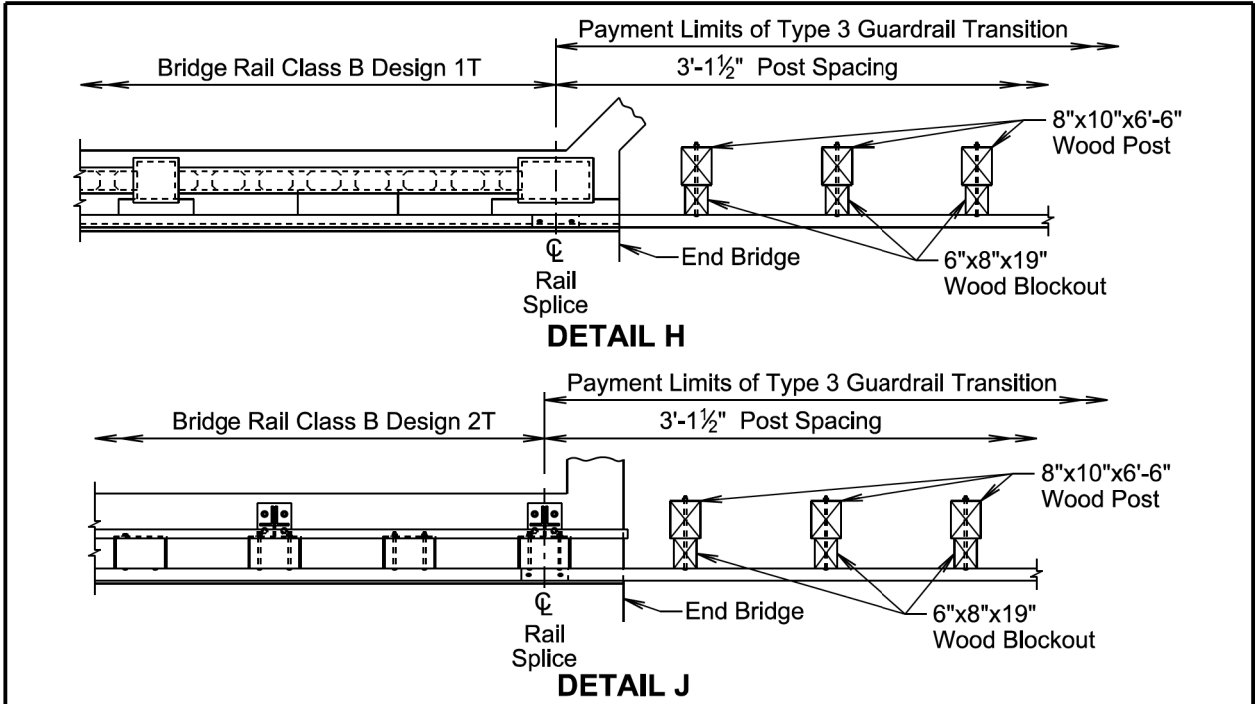


GENERAL NOTES FOR INSTALLING THREADED RODS INTO CONCRETE:

- ⊕ 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 $\pm \frac{1}{2}$ ".
- The threaded rods will be $\frac{1}{2}$ " 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 $\frac{1}{8}$ " greater or more than $\frac{3}{8}$ " 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 shall 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 $\frac{1}{3}$ to $\frac{1}{2}$ 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

Published Date: 3rd Qtr. 2020	S D D O T	TYPE 3 GUARDRAIL TRANSITION (VARIOUS BRIDGE RAILS OR CONCRETE END BLOCKS TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.56
			Sheet 4 of 5



GENERAL NOTES:

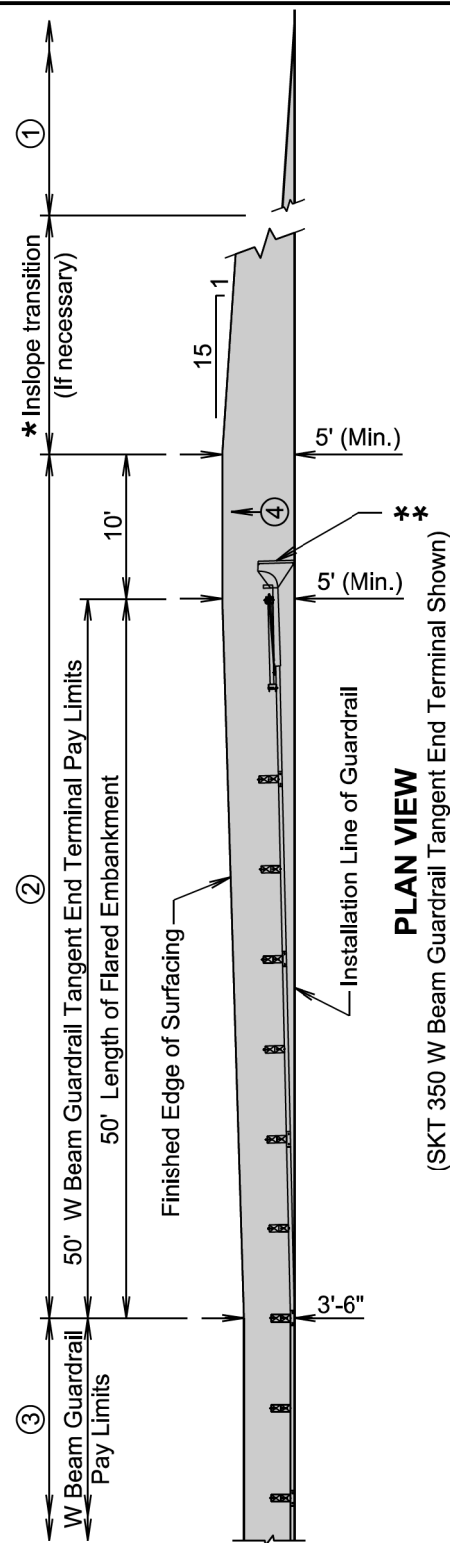
- Throughout the type 3 guardrail transition, slots in the rails will be provided as specified in the plans and by the manufacturer. A drilled hole through the rail is not allowed as a replacement for a slot. If the Contractor must create a slot, a cutting torch or plasma cutter is not allowed. The slot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

September 14, 2019

Published Date: 3rd Qtr. 2020	S D D O T	TYPE 3 GUARDRAIL TRANSITION (VARIOUS BRIDGE RAILS AND CONCRETE END BLOCKS TO MIDWEST GUARDRAIL SYSTEM (MGS))	PLATE NUMBER 630.56
			Sheet 5 of 5

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 016A(08)59	F27	F33

Plotting Date: 07/23/2020



PLAN VIEW

(SKT 350 W Beam Guardrail Tangent End Terminal Shown)

*** 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 tangent guardrail end terminal above is for illustrative purpose only.

- ★ 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'.

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.

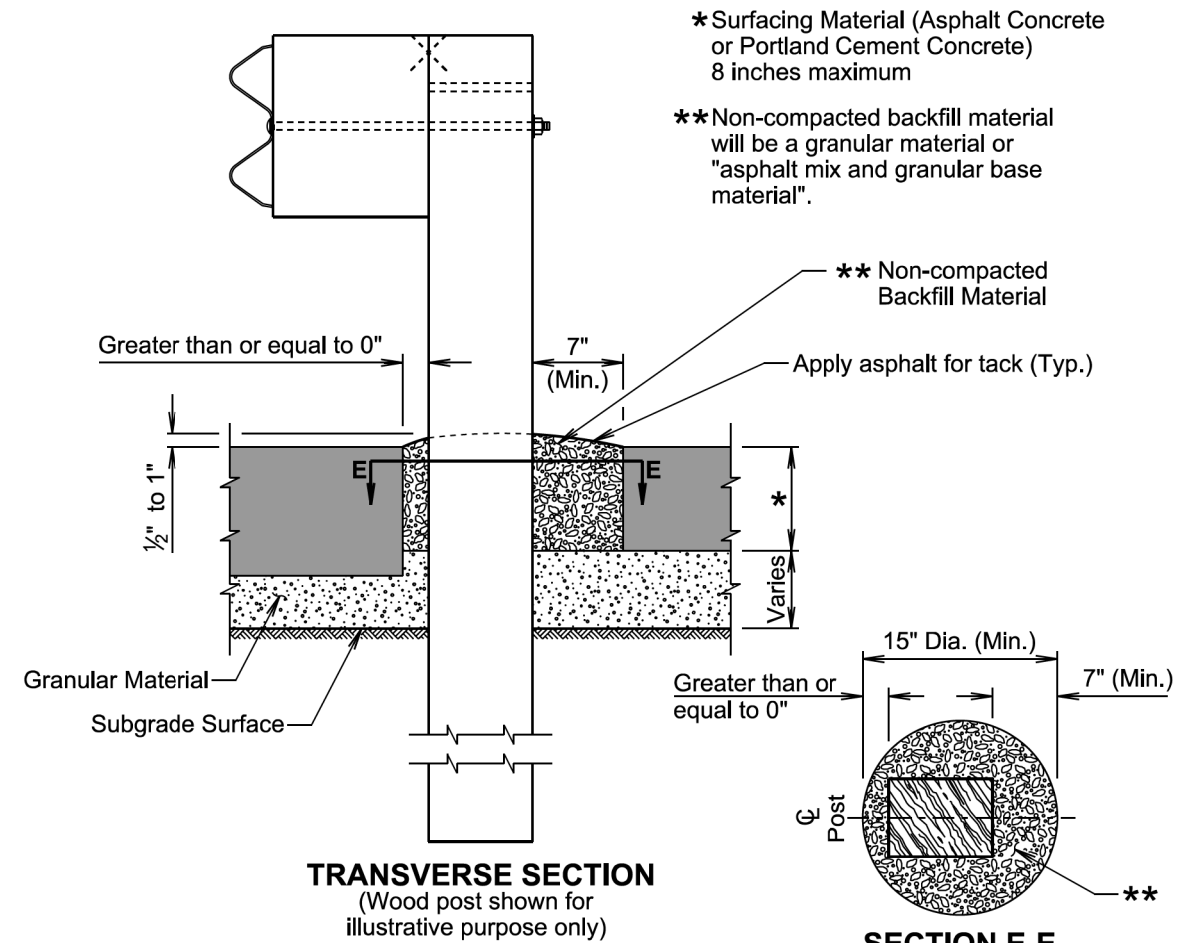
November 14, 2018

SDDOT

**EMBANKMENT, SURFACING, AND PAYMENT
LIMITS FOR W BEAM GUARDRAIL
TANGENT END TERMINAL**

PLATE NUMBER
630.88

Sheet 1 of 1



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.

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.

September 14, 2019

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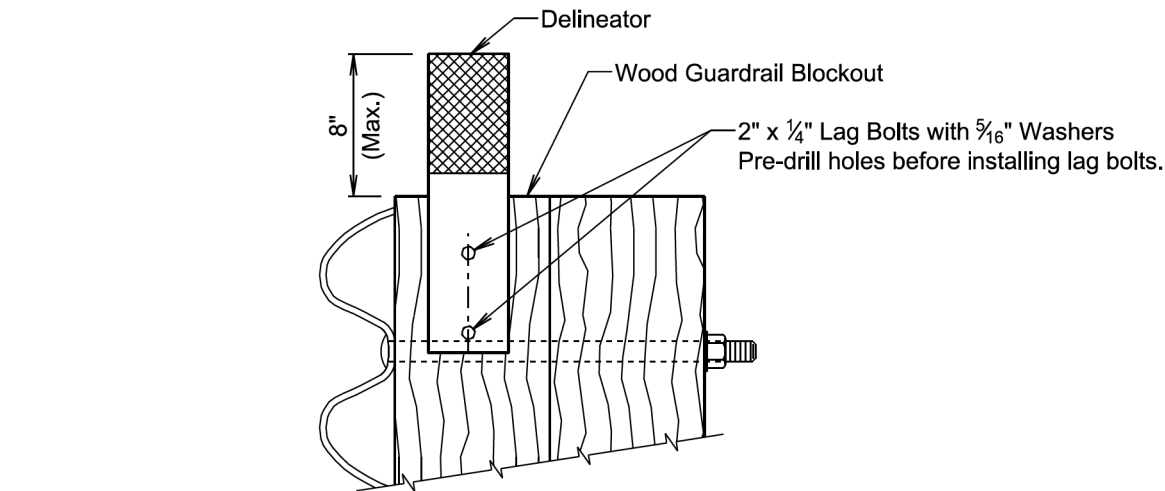
**GUARDRAIL POST INSTALLED IN
ASPHALT CONCRETE OR
PORTLAND CEMENT CONCRETE**

PLATE NUMBER
630.96

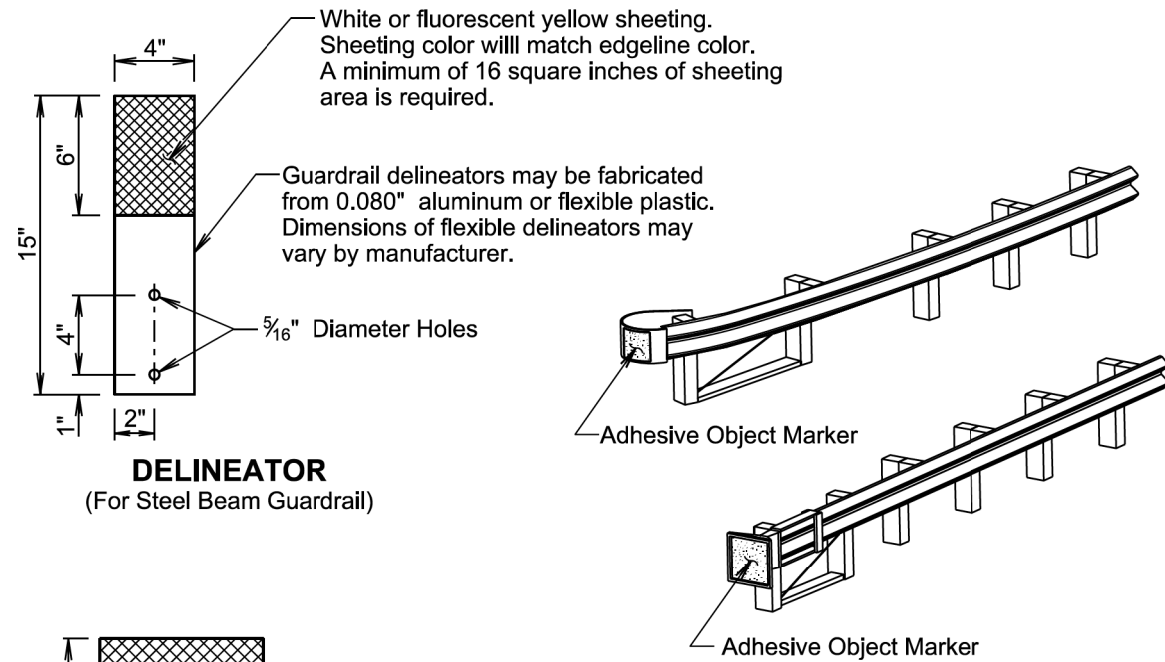
Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 016A(08)59	F29	F33

Plotting Date: 07/23/2020

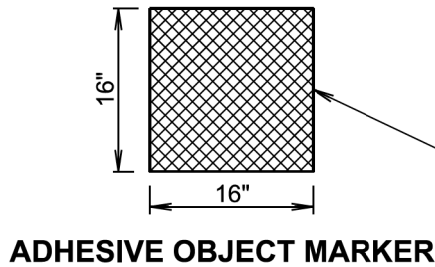


B STEEL BEAM GUARDRAIL DELINEATION



DELINEATOR
(For Steel Beam Guardrail)

E GUARDRAIL END TERMINAL OBJECT MARKER



Adhesive object marker dimensions may vary due to shape of terminal end. A minimum of 256 square inches of object marker sheeting area is required. The sheeting will be fluorescent yellow.

Published Date: 3rd Qtr. 2020

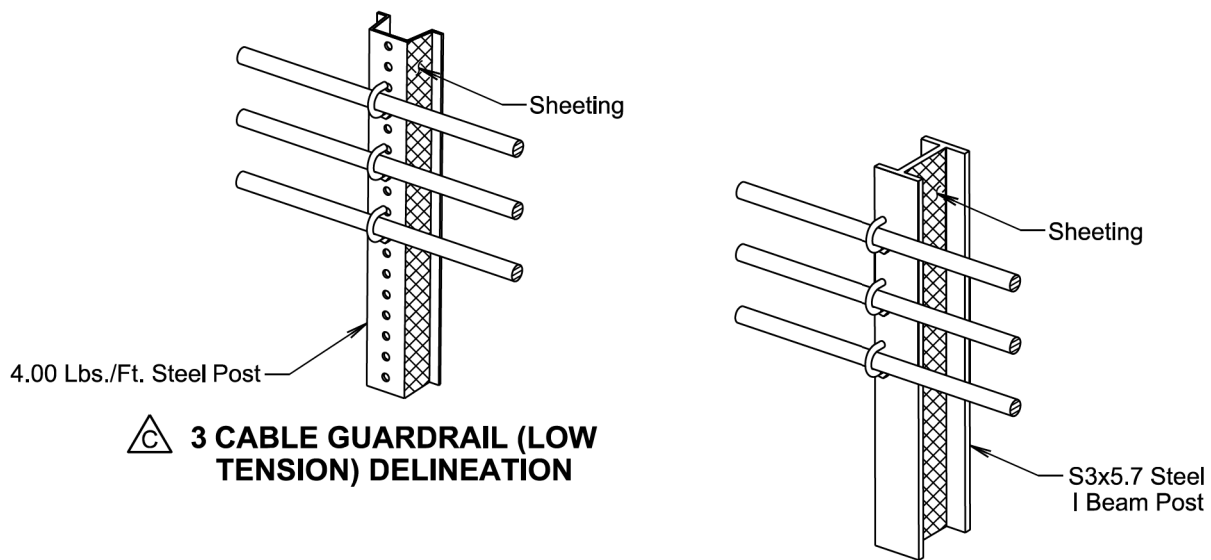
**S
D
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DELINEATION OF GUARDRAIL

PLATE NUMBER
632.40

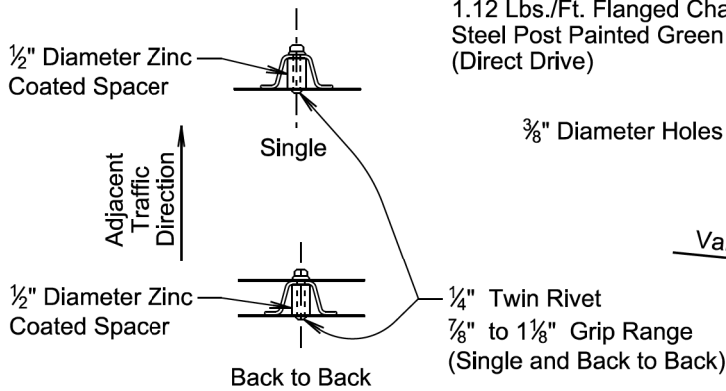
Sheet 2 of 4

December 23, 2019

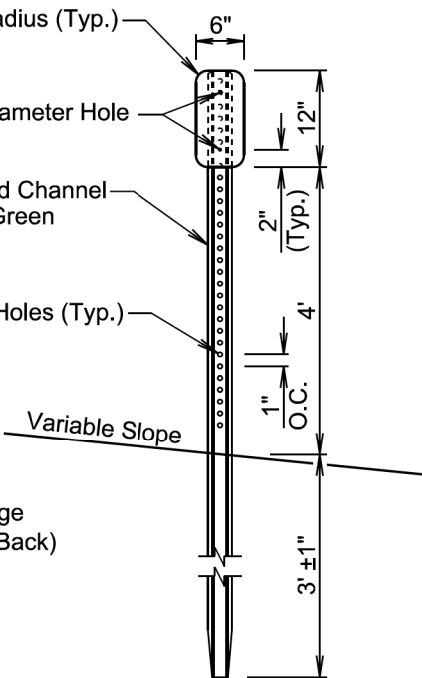


C 3 CABLE GUARDRAIL (LOW TENSION) DELINEATION

C 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)

Published Date: 3rd Qtr. 2020

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DELINEATION OF GUARDRAIL

PLATE NUMBER
632.40

Sheet 3 of 4

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 016A(08)59	F30	F33

Plotting Date: 07/23/2020

GENERAL NOTES:

The delineation of high tension cable guardrail will be reflective sheeting placed back to back on every other post cap or cable spacer. The sheeting will be type XI in conformance with ASTM D4956. The color of the reflective sheeting shall 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".

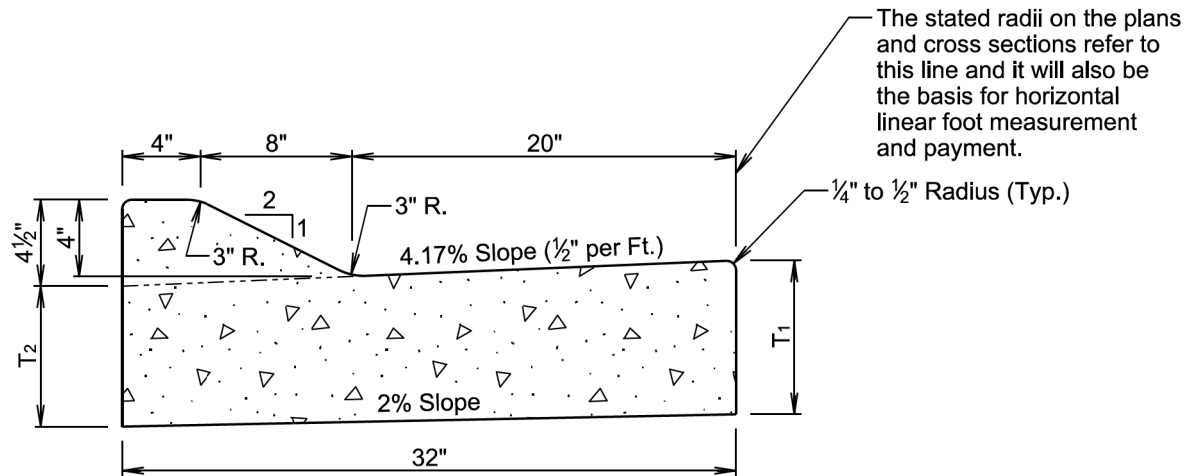
All costs for furnishing and installing the reflective sheeting on the cable spacers or post caps for the high tension cable guardrail will be incidental to the respective high tension cable guardrail contract item.

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. 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.

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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

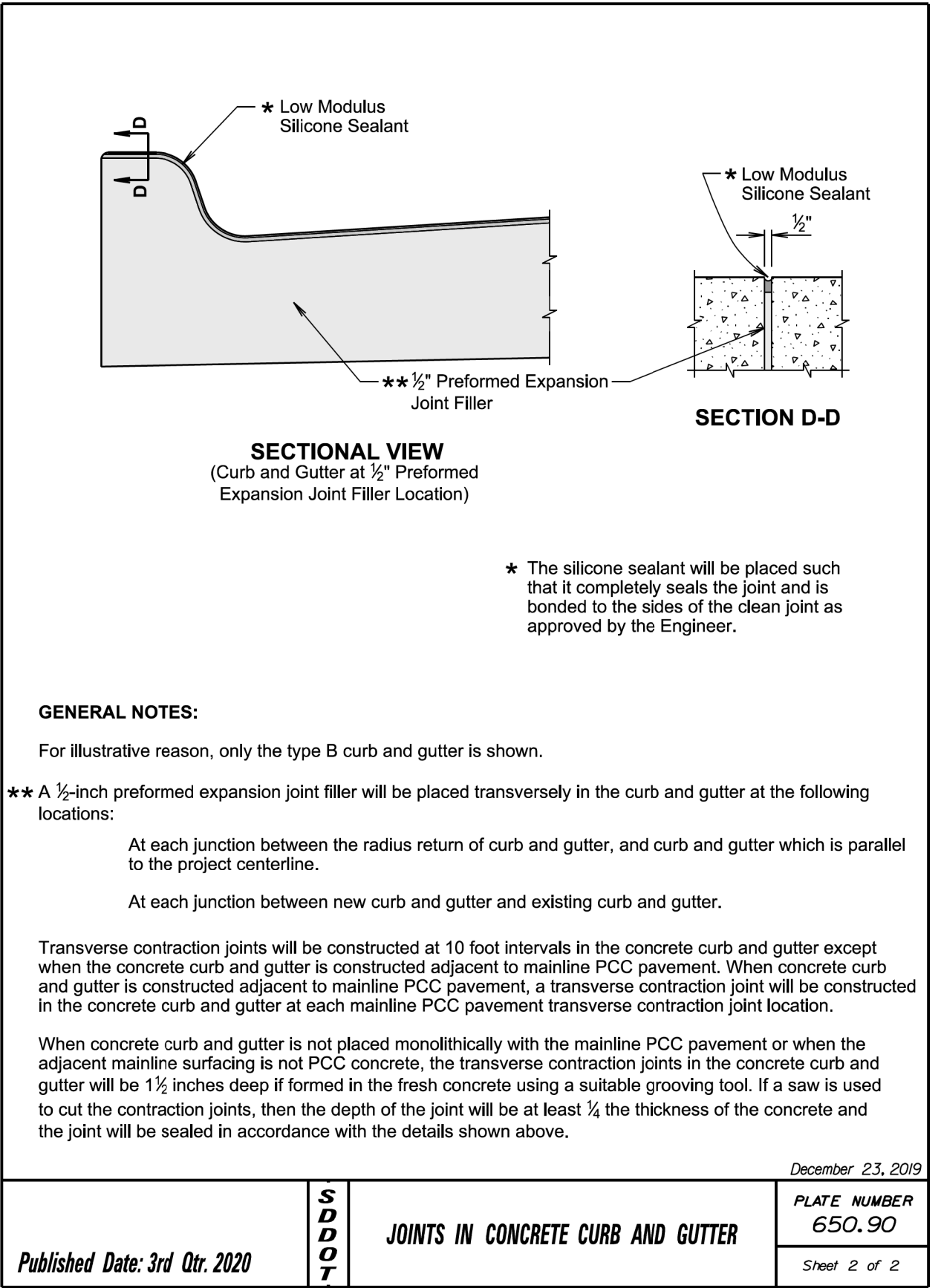
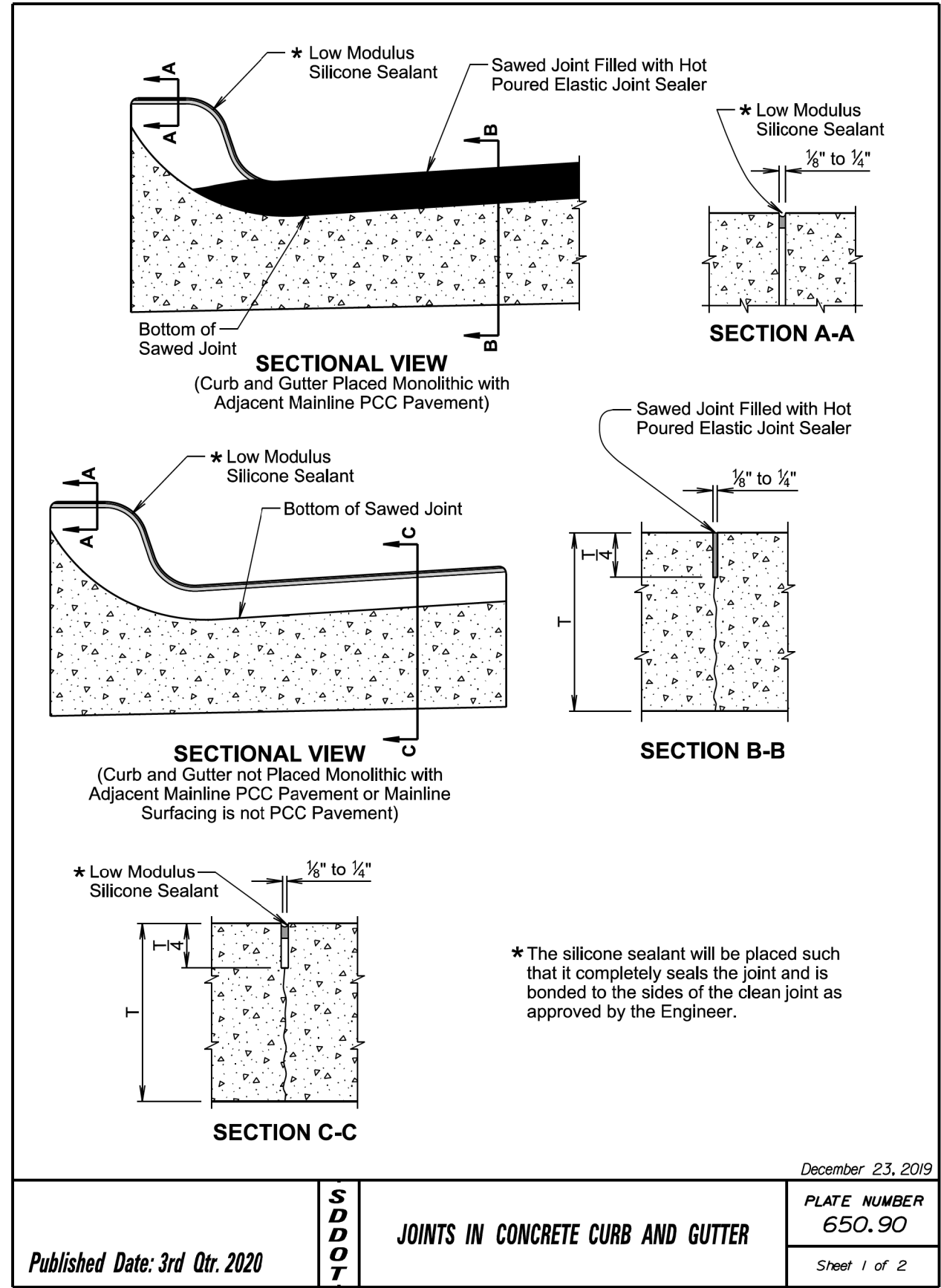
GENERAL NOTES:

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 380.11.

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

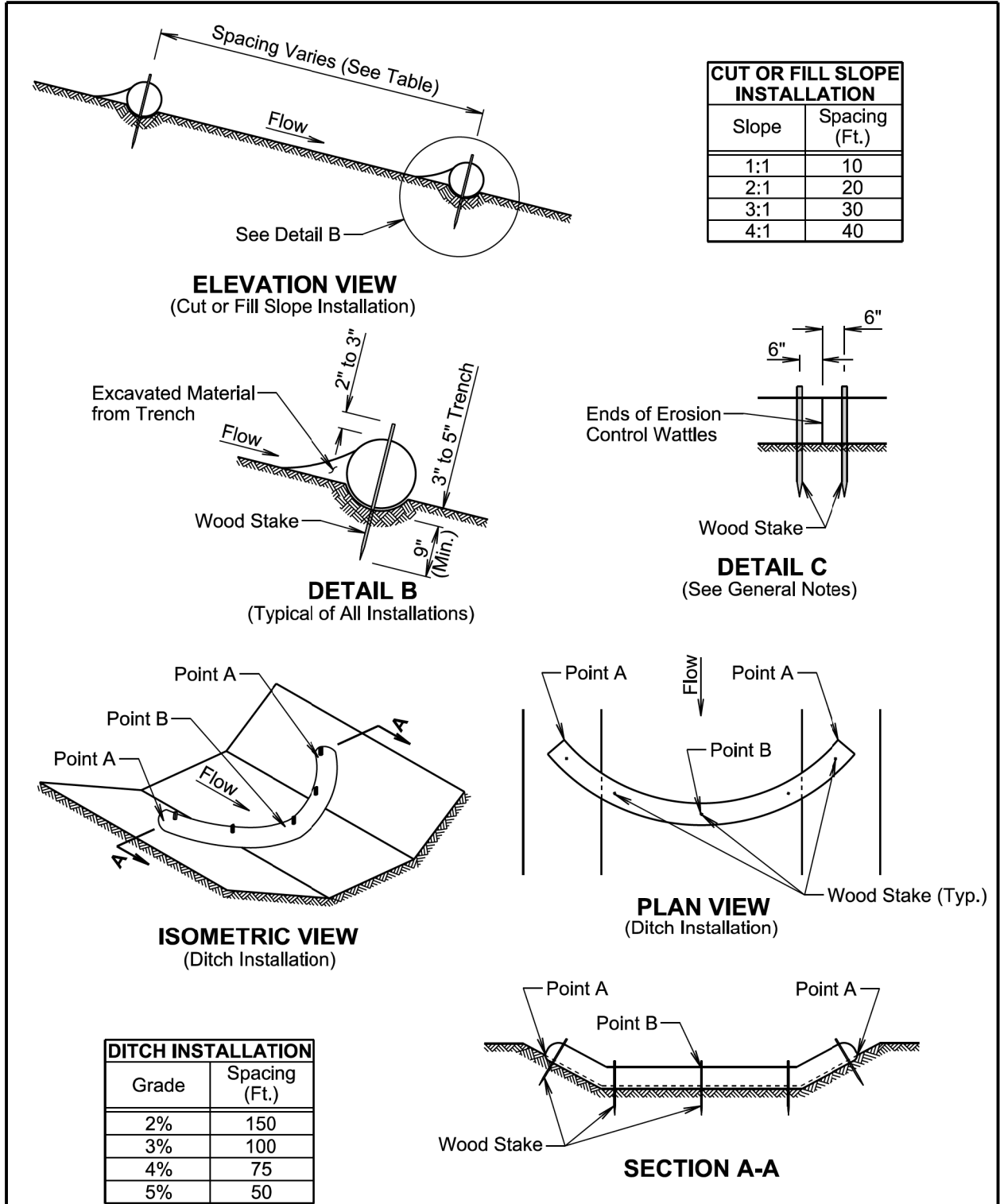
December 23, 2019

<i>Published Date: 3rd Qtr. 2020</i>	S D D O T	TYPE D CONCRETE CURB AND GUTTER	PLATE NUMBER 650.15
			Sheet 1 of 1



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	P 016A(08)59	F32	F33

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February 14, 2020

Published Date: 3rd Qtr. 2020	S D D O T	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 1 of 2

GENERAL NOTES:

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

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

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

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

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

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

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

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

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

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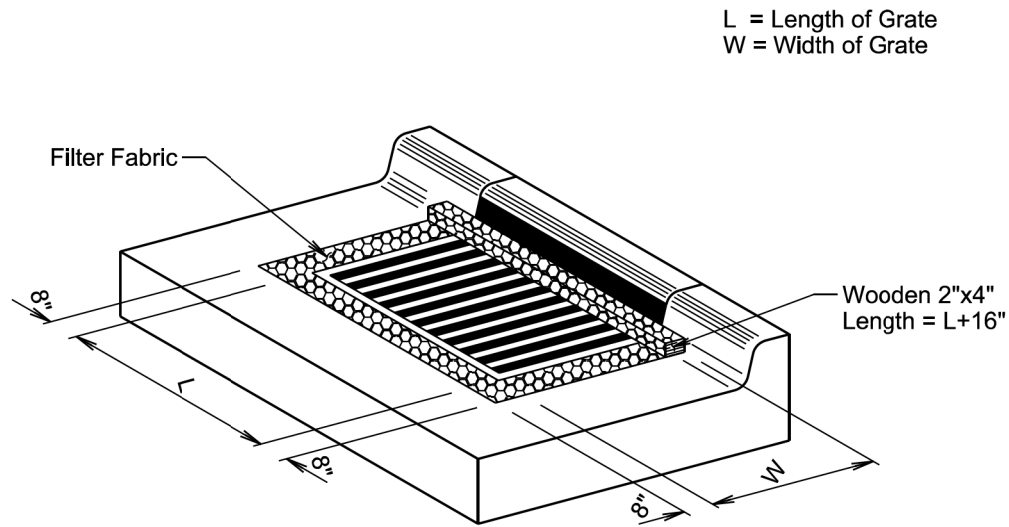
Published Date: 3rd Qtr. 2020	S D D O T	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 2 of 2

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Plot Scale -

Plotted From -
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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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Plotting Date: 07/23/2020



ISOMETRIC VIEW

GENERAL NOTES:

The grate and curb and gutter shown are for illustrative purposes only.

The sediment control at inlet with frame and grate will be placed at locations stated in the plans or at locations determined by the Engineer.

The filter fabric will be the type specified in the plans.

The filter fabric will be placed in the inlet opening prior to placing the grate. Approximately 18 inches of excess filter fabric will be wrapped around the 2"x4" and stapled securely to the 2"x4" after the grate has been placed.

The Contractor and Engineer will inspect the sediment control device in accordance with the storm water permit. The Contractor will maintain the sediment control device by removing accumulated sediment and replacing torn filter fabric with new filter fabric.

The removed sediment will be placed at a location away from the drop inlet where the sediment will not be washed back into the drop inlet or other storm sewer system.

All costs for furnishing, installing, inspecting, maintaining, removing, and replacing the sediment control device at the inlet including labor, equipment, and materials will be incidental to the contract unit price per each for "Sediment Control at Inlet with Frame and Grate".

February 14, 2020

Published Date: 3rd Qtr. 2020

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**SEDIMENT CONTROL AT INLETS
WITH FRAMES AND GRATES**

PLATE NUMBER
734.10

Sheet 1 of 1

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