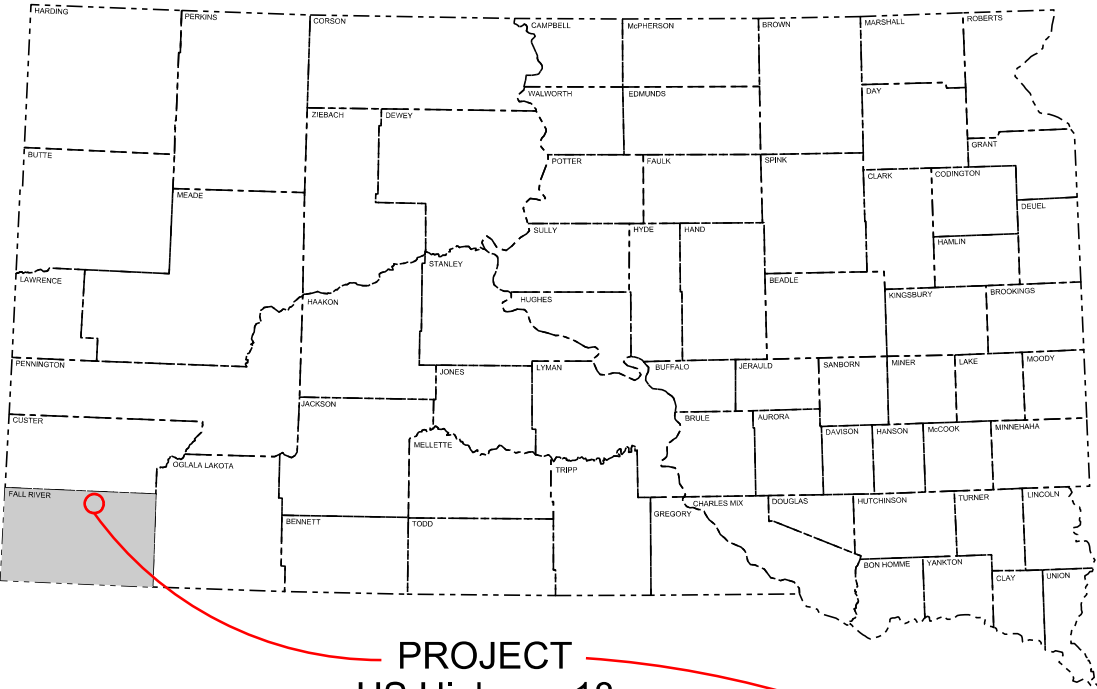


Plot Scale - 1:200

Plotted From - Irrc12608



PROJECT
US Highway 18
MRM 39.46 to MRM 39.68

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

PROJECT 018-492
US HIGHWAY 18
FALL RIVER COUNTY

EROSION REPAIR
PCN i4h4

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	018-492	1	19

Plotting Date: 04/05/2017

INDEX OF SHEETS

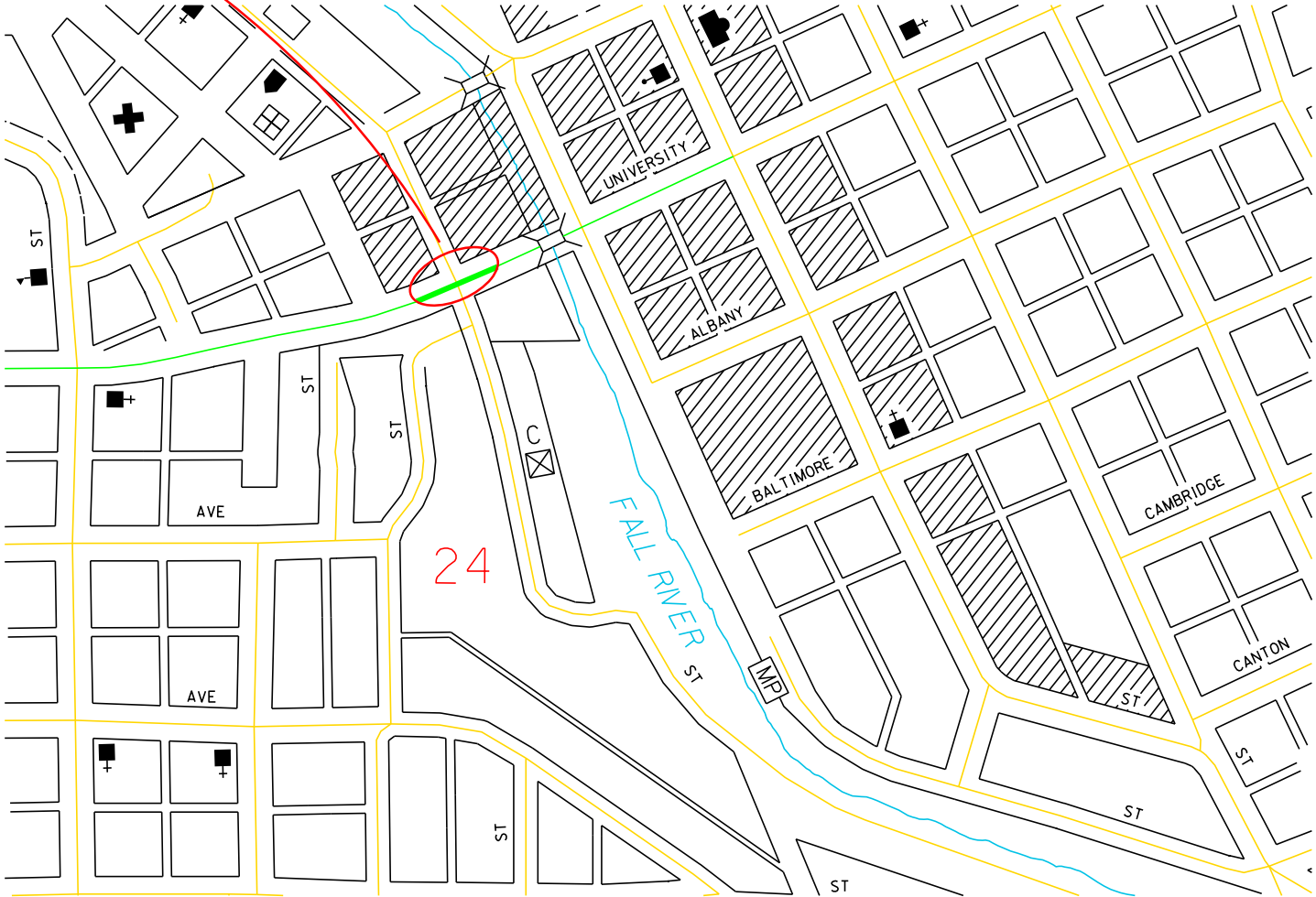
Sheet No.	1:	Title and Index
Sheets No.	2 - 5:	Estimate of Quantities, Notes, and Tables
Sheet No.	6:	Plan Sheet
Sheet No.	7:	Special Details
Sheets No.	8 - 7:	Standard Plates
Sheets No.	18 - 19:	Cross-Sections

DESIGN DESIGNATION

ADT (2015)	3500
ADT (2035)	4434
DHV	1126
D	51%
T DHV	1.4%
T ADT	2.0%
V	25 mph

STORM WATER PERMIT

None Required



ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT	REMARKS
009E0010	Mobilization	Lump Sum	LS	
110E0300	Remove Concrete Curb and/or Gutter	43	Ft	
110E0605	Remove Chain Link Fence	31	Ft	
110E0730	Remove Beam Guardrail	25.0	Ft	
110E0760	Remove Beam Guardrail Trailing End Terminal	2	Each	
110E1100	Remove Concrete Pavement	12.6	SqYd	
120E0600	Contractor Furnished Borrow Excavation	26	CuYd	
230E0020	Contractor Furnished Topsoil	20	CuYd	
230E0100	Remove and Replace Topsoil	Lump Sum	LS	
462E0100	Class M6 Concrete	21.6	CuYd	
621E0040	4' Chain Link Fence with Top Rail	34	Ft	
630E0200	Straight Class A Thrie Beam Rail	25.0	Ft	
630E2050	Beam Guardrail Trailing End Terminal	2	Each	
630E2110	Beam Guardrail Post and Block	9	Each	
634E0110	Traffic Control Signs	99.0	SqFt	
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS	
634E0420	Type C Advance Warning Arrow Board	1	Each	
650E0060	Type B66 Concrete Curb and Gutter	43	Ft	
650E4660	Type P6 Concrete Gutter	3	Ft	
730E0206	Type D Permanent Seed Mixture	12	Lb	
731E0100	Fertilizing	80	Lb	
732E0250	Fiber Mulching	180	Lb	

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. The environmental commitments associated with this project are as follows:

COMMITMENT C: WATER SOURCE

The Contractor shall not withdraw water with equipment previously used outside the State of South Dakota without prior approval from the SDDOT Environmental Office. Thoroughly wash all construction equipment before entering South Dakota to reduce the risk of invasive species introduction into the project vicinity.

Action Taken/Required:

The Contractor shall obtain the necessary permits from the regulatory agencies such as the Department of Environment and Natural Resources (DENR) and the United States Army Corps of Engineers (COE) prior to executing water extraction activities.

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

COMMITMENT H: WASTE DISPOSAL SITE

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

Action Taken/Required:

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

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

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

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

- Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials shall be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the Public ROW through the use of fences, gates, and placement of a sign or signs at the entrance to the site stating "No Dumping Allowed".
- Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	018-492	2	19

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

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

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

Action Taken/Required:

All earth disturbing activities not designated within the plans require review of cultural resources impacts. This work includes, but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

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

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

The Contractor shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order to determine an appropriate course of action.

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

GRADING OPERATIONS

Water for Embankment is estimated at the rate of 20 gallons of water per cubic yard of Embankment minus Waste.

Costs for Water for Embankment shall be incidental to the price per cubic yard of Contractor Furnished Borrow, Excavation.

UTILITIES

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

CONTRACTOR FURNISHED TOPSOIL

It is anticipated that a larger volume of topsoil will be needed for the new grade than can be salvaged from the existing project. The Contractor will be required to furnish and place 4 inches of topsoil on areas at station 19+42.6 left.

Contractor furnished topsoil shall be free from clay lumps, stones, coarse gravel, or similar objects larger than 1/2 inch in diameter. Brush, stumps, roots, wood, objectionable weeds, litter, or any other material which may be harmful to plant growth will not be allowed. Organic material shall be decomposed.

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

TABLE OF REMOVE CONCRETE PAVEMENT

			Remove Concrete Pavement	
Station	to	Station	L/R	(SqYd)
18+00.0		18+30.1	L	12.6

TABLE OF CONCRETE CURB AND GUTTER REMOVAL

			Remove Concrete Curb and Gutter	
Station	to	Station	L/R	(Ft)
18+00.0		18+30.1	L	37.0
18+29.4		18+33.2	L	6.0
			Total:	43.0

FALLEN CONCRETE FENCE FOUNDATION

The concrete fence foundation leaning against the rock wall adjacent to the concrete wall panels shall be removed. The concrete foundation slab shall be removed as per section 110 of the Standard Specifications. All costs for removing this concrete section shall be incidental to the contract unit price per foot for Remove Concrete Curb and/or Gutter.

CONTRACTOR FURNISHED BORROW EXCAVATION

Contractor Furnished Borrow Excavation is provided for the construction of berms.

The Contractor shall 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 shall 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 shall be the responsibility of the Contractor.

TABLE OF CONTRACTOR FURNISHED BORROW EXCAVATION

			Contractor Furnished Borrow, Excavation	
Station	to	Station	L/R	(CuYd)
18+00.0		18+44.9	L	25.0
19+42.6			L	1.0
			Total	26.0

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	018-492	3	19

SAWING EXISTING ASPHALT CONCRETE OR PCCP

Where new asphalt concrete or PCCP is placed adjacent to existing asphalt concrete or Portland Cement Concrete the existing asphalt concrete or portland cement concrete shall be sawed full depth to a true line with a vertical face. Saw cutting will not be required at locations where cold milling is used to match existing surfacing elevations.

The existing surfacing shall be cut straight so that form work will not be required for the new curb and gutter. Re-sawing may be required if the alignment specifications for the new curb and gutter are not met.

No separate payment shall be made for sawing and shall be incidental to the various asphalt concrete bid items on the project.

CLASS M6 CONCRETE

Class M6 Concrete shall be used to fill the erosion hole at station 19+42.60 and to fill any voids near the edge of the concrete wall that ties into the rock backslope.

Formwork shall be placed 5” behind the shadow line of the rock wall face.

A Commercial Texture Finish Type B shall be used to finish the exposed vertical surface of the M6 concrete. The Commercial Texture Finish shall be colored to match the existing rock face as approved by the Engineer. The Commercial Texture Finish shall be installed as per section 460.3.L.1.c of the Standard Specifications. All costs for the Commercial Texture Finish shall be incidental to the contract unit price per CuYd of Class M6 Concrete

If sidewalk is damaged, or if removal of sidewalk is required for construction

TABLE OF CLASS M6 CONCRETE

			Class M6 Concrete
Station	L/R	Location	(CuYd)
18+00.0	L	Wall	0.1
19+42.6	L	Hole in ROW	17.8
19+42.6	L	Hole in Yard	3.7
		Total:	21.6

TABLE OF TYPE P6 CONCRETE GUTTER

			Type P6 Gutter	
Station	to	Station	L/R	(Ft)
18+29.4		18+33.2	L	3.0
Total:				3.0

TABLE OF TYPE B66 CONCRETE CURB AND GUTTER

			Type B66 Curb and Gutter
Station	to	L/R	
18+00.0	18+30.1	L	
18+34.3	18+44.9	L	
		Total:	43.0

TABLE OF CHAIN LINK FENCE

Table of Chain Link Fence	
Remove Chain Link Fence	4' Chain Link Fence with Top Rail
(Ft)	(Ft)
31	34

STEEL BEAM GUARDRAIL

The guardrail at the end of the street above the wall shall be removed and replaced with Thrie Beam and two Thrie Beam Training End Terminals.

			Remove Beam Guardrail	Remove Beam Guardrail Trailing End Terminal	Straight Class A Thrie Beam Rail	Beam Guardrail Trailing End Terminal	Beam Guardrail Post and Block	
Station	to	Station	L/R	(Ft)	(Each)	(Ft)	(Each)	(Each)
18+32.7		18+59.0	L	25	2	25	2	9

TRAFFIC CONTROL – GENERAL NOTES

Requests to deviate from the sequence of operations shall be submitted in writing to the Engineer for review. Approval of an alternate sequence of operations will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work. An alternate sequence shall be submitted for review a minimum of one week prior to potential implementation.

Unless otherwise stated in these plans, no work will be allowed during hours of darkness.

Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage of the vegetation, surfacing, embankment, delineators, and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the State, and to the satisfaction of the Engineer.

Existing guide, route, informational logo, regulatory, warning signs and delineation shall be temporarily reset and maintained during construction as directed by the Engineer. Removing, relocating, salvaging and resetting of the above items shall be the responsibility of the Contractor.

Non-applicable traffic control devices shall be completely covered or removed during periods of inactivity. Periods of inactivity shall be defined as no work taking place for a period of more than 2 calendar days. Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State.

All materials and equipment shall be stored a minimum distance of 30' from the traveled way during nonworking hours.

The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

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

All construction operations shall be conducted in the general direction of traffic movement.

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

Temporary Flexible Vertical Markers (Tabs) shall be used for lane closure tapers or lane shift tapers and shall be installed at 5' spacing. Tabs used for tapers and shifts will not be measured for payment. All costs associated to furnish, install, maintain (including replacement as required by the Engineer at no added cost to the Department), and remove all markers will be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

INVENTORY OF TRAFFIC CONTROL DEVICES

SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R9-9	SIDEWALK CLOSED	2	24" x 12"	2.0	4.0
R9-11	SIDEWALK CLOSED AHEAD with ARROW (L or R) CROSS HERE	2	24" x 18"	3.0	6.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	1	48" x 48"	16.0	16.0
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	1	48" x 48"	16.0	16.0
W21-5	SHOULDER WORK	1	48" x 48"	16.0	16.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS				SQFT	99.0

ARROW BOARDS

ITEM DESCRIPTION	QUANTITY
Type C Advance Warning Arrow Board	1 Each

REMOVE AND REPLACE TOPSOIL

Prior to beginning construction operations, a 4" depth of topsoil shall be bladed down the berm and wall installation areas and left in a windrow adjacent to construction limits. Following completion of construction operations, topsoil shall be bladed back up over the berm and the wall area.

The estimated amount of topsoil to be removed and replaced is 20 CuYd.

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

MYCORRHIZAL INOCULUM

Mycorrhizal inoculum shall 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 shall provide certification of the fungal species claimed and the live propagule count. The inoculum shall include the following fungal species:

<i>Glomus intraradices</i>	25%
<i>Glomus aggregatu</i>	25%
<i>Glomus mosseae</i>	25%
<i>Glomus etunicatum</i>	25%

All seed shall 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 shall be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

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

Product

MycosApply

Manufacturer

Mycorrhizal Applications, Inc.
Grants Pass, OR
Phone: 1-866-476-7800
www.mycorrhizae.com

FERTILIZING

The Contractor shall apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer shall have a minimum guaranteed analysis of 4-6-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 3.2%, a minimum of 6% (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 shall 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 shall 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 shall 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 shall be applied at a rate of 2000 pounds per acre in accordance with the manufacturer's recommended method of application. The all-natural slow release fertilizer shall be as shown below or an approved equal:

<u>Product</u>	<u>Manufacturer</u>
Sustane	Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 www.sustane.com

PERMANENT SEEDING

The areas to be seeded consist of all newly graded areas within the project limits except for the top of roadways and temporary easements under cultivation.

Type D Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/1000 SqFt)
Kentucky Bluegrass	Avalanche, Appalachian, Wildhorse, Blue Bonnet	1.4
Perennial Ryegrass	Turf Type Varieties	1.4
Creeping Red Fescue	Epic, Boreal	1.4
Chewings Fescue	Ambrose, K2, VNS, Zodiac	1.4
Alkali Grass	Fults, Fults II, Quill, Salty	1.4
Total:		7

FIBER MULCHING

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

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

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

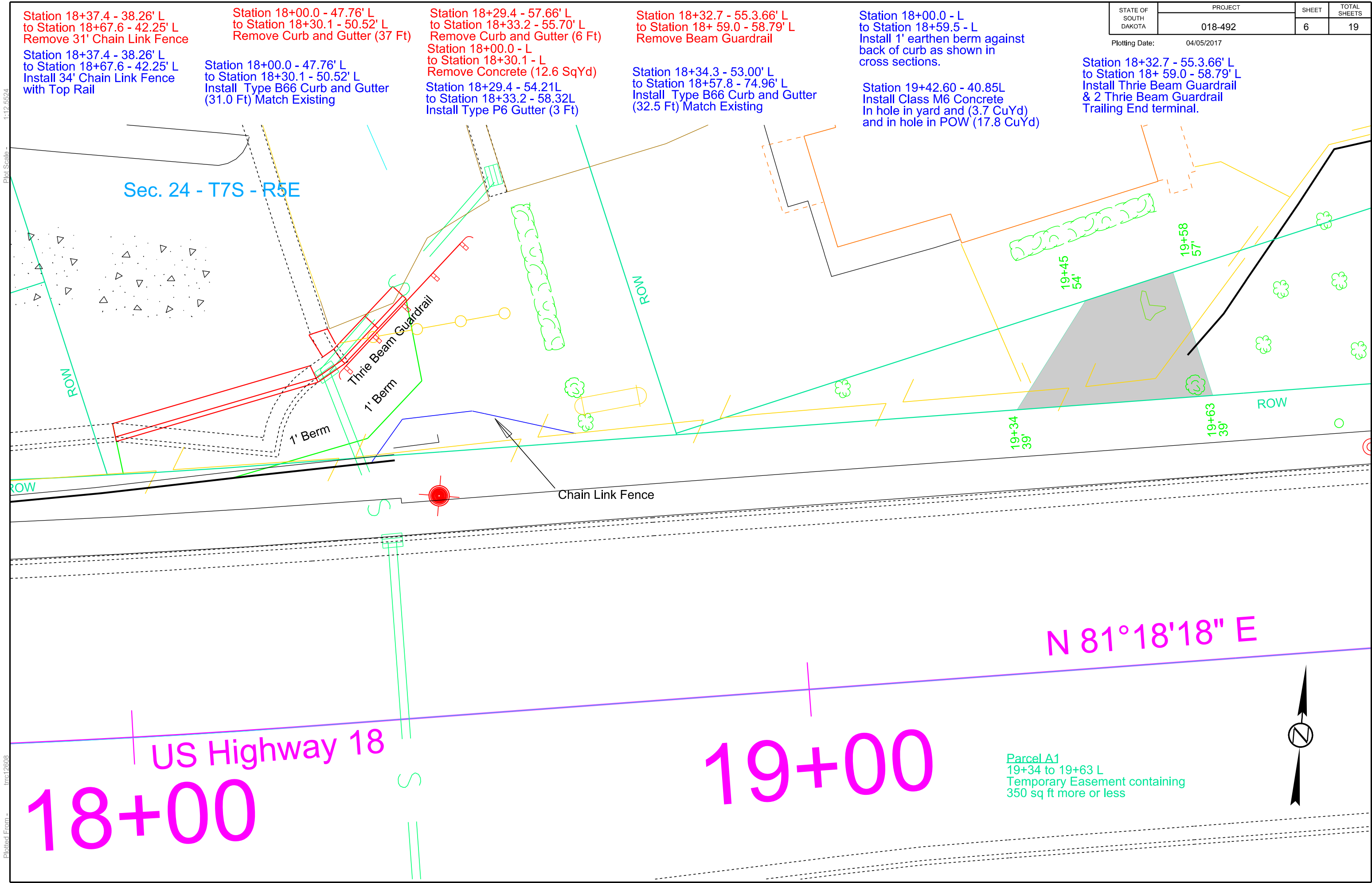
The Contractor shall allow the fiber mulch to cure a minimum of 18 hours prior to watering or any storm event to ensure proper cohesion between the soil and fiber particles.

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

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

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

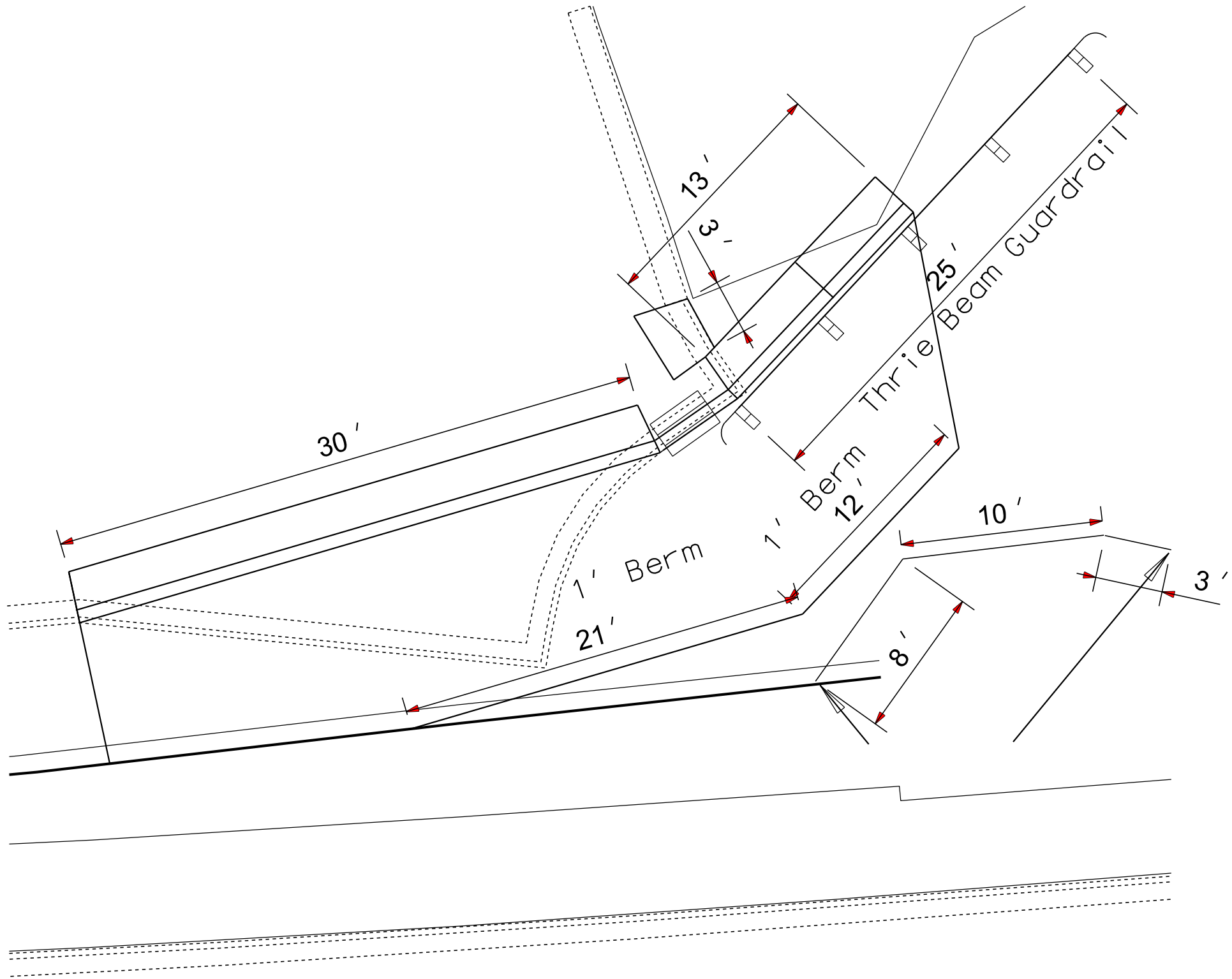
			Fertilizing	Type D Permanent Seed Mixture	Fiber Mulching
Station	to	Station	L/R	(Lb)	(Lb)
18+00.0		18+59.5	L	70	6
19+55.0			L	10	6
		Total		80	12



LOCATION DETAIL FOR BERM, GUARDRAIL, AND CHAIN LINK FENCE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	018-492	7	19

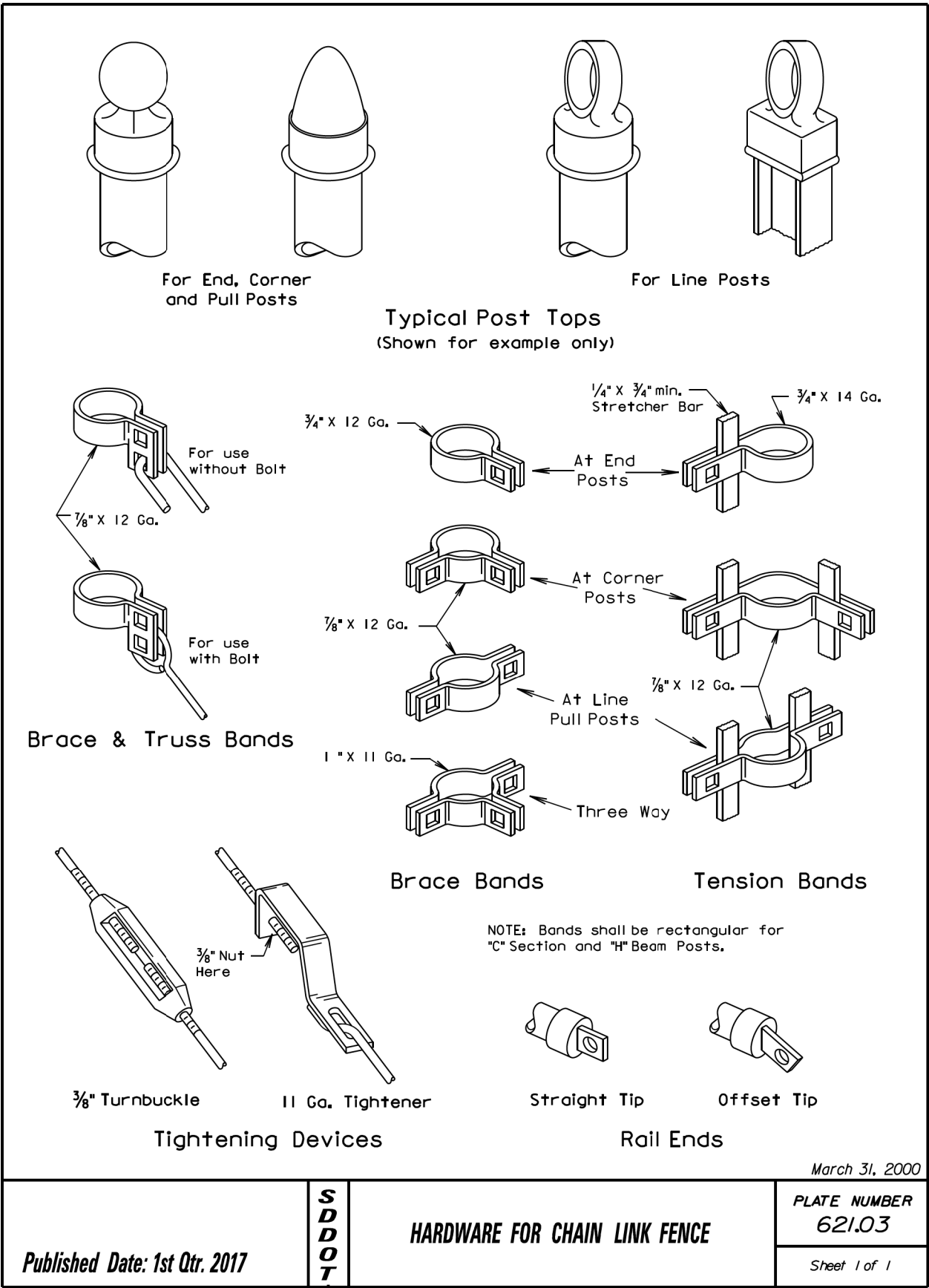
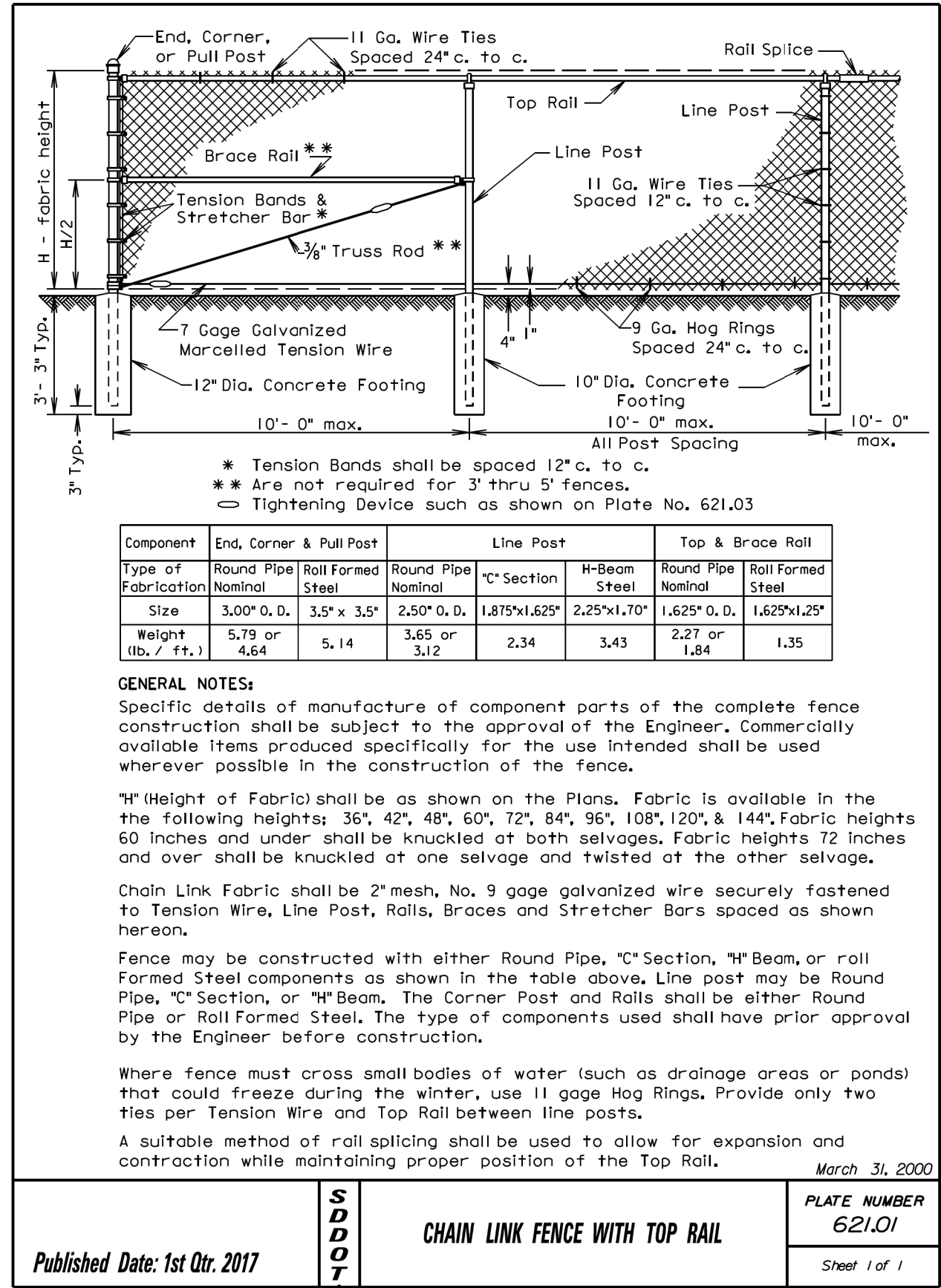
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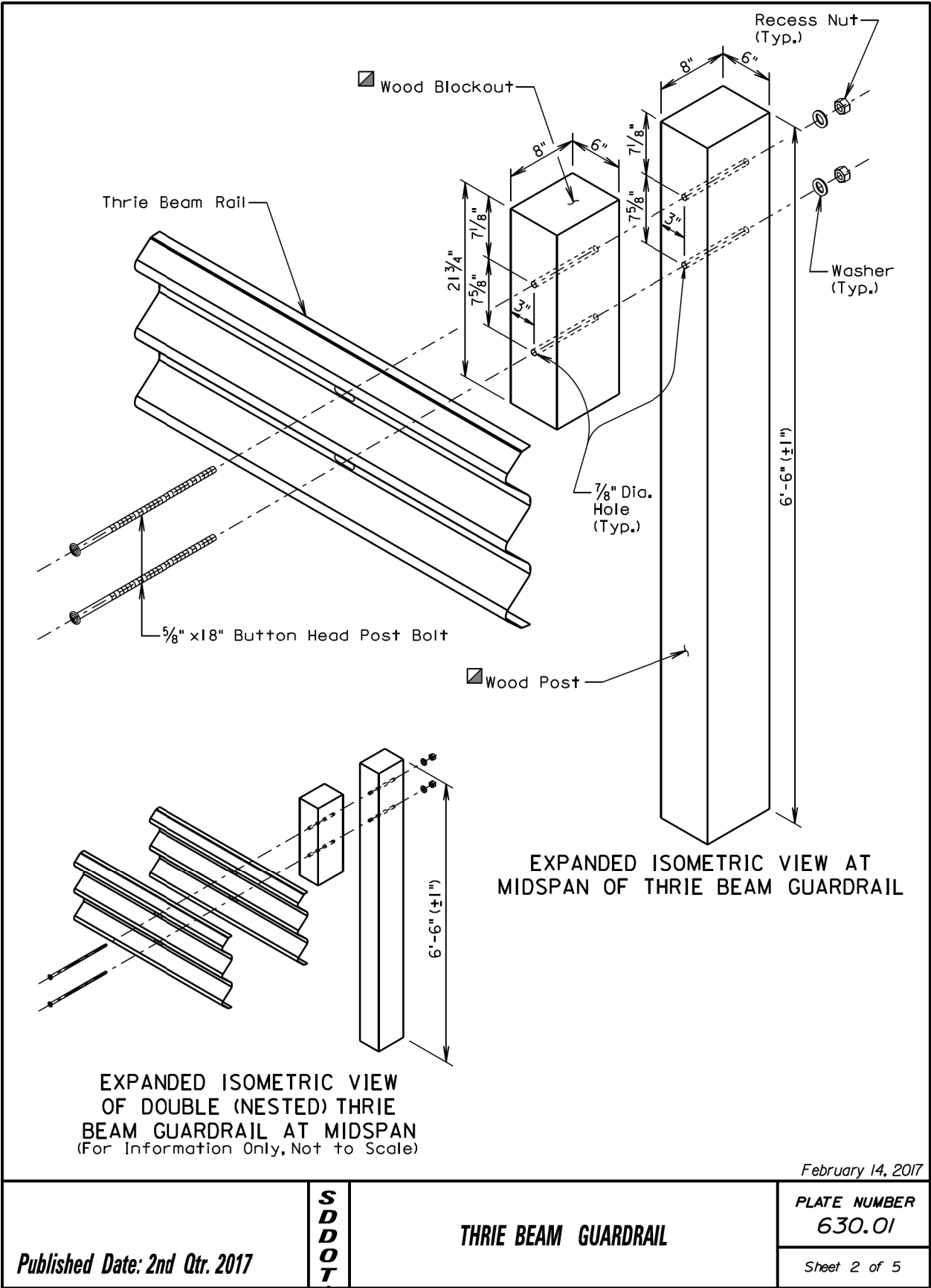
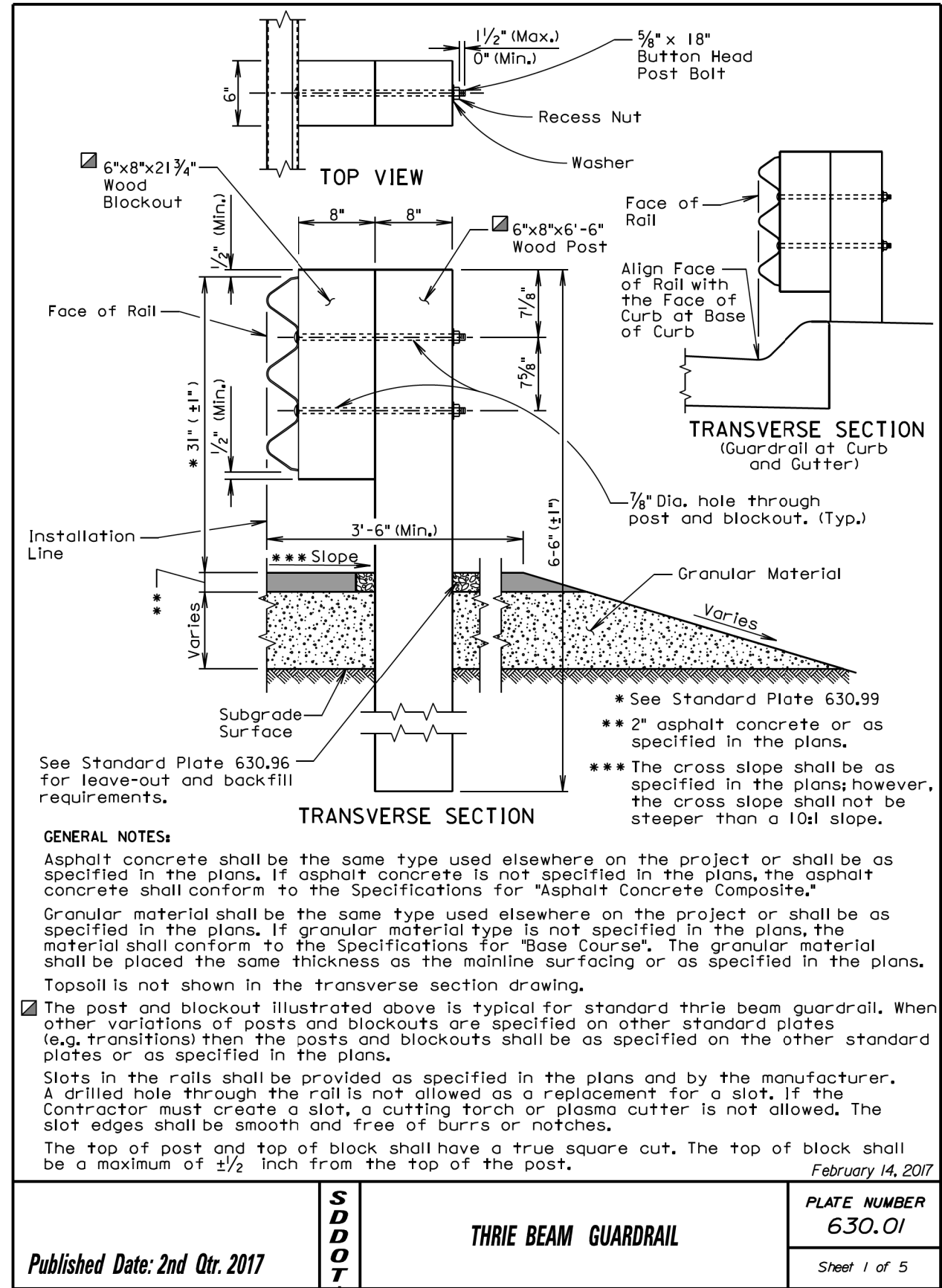


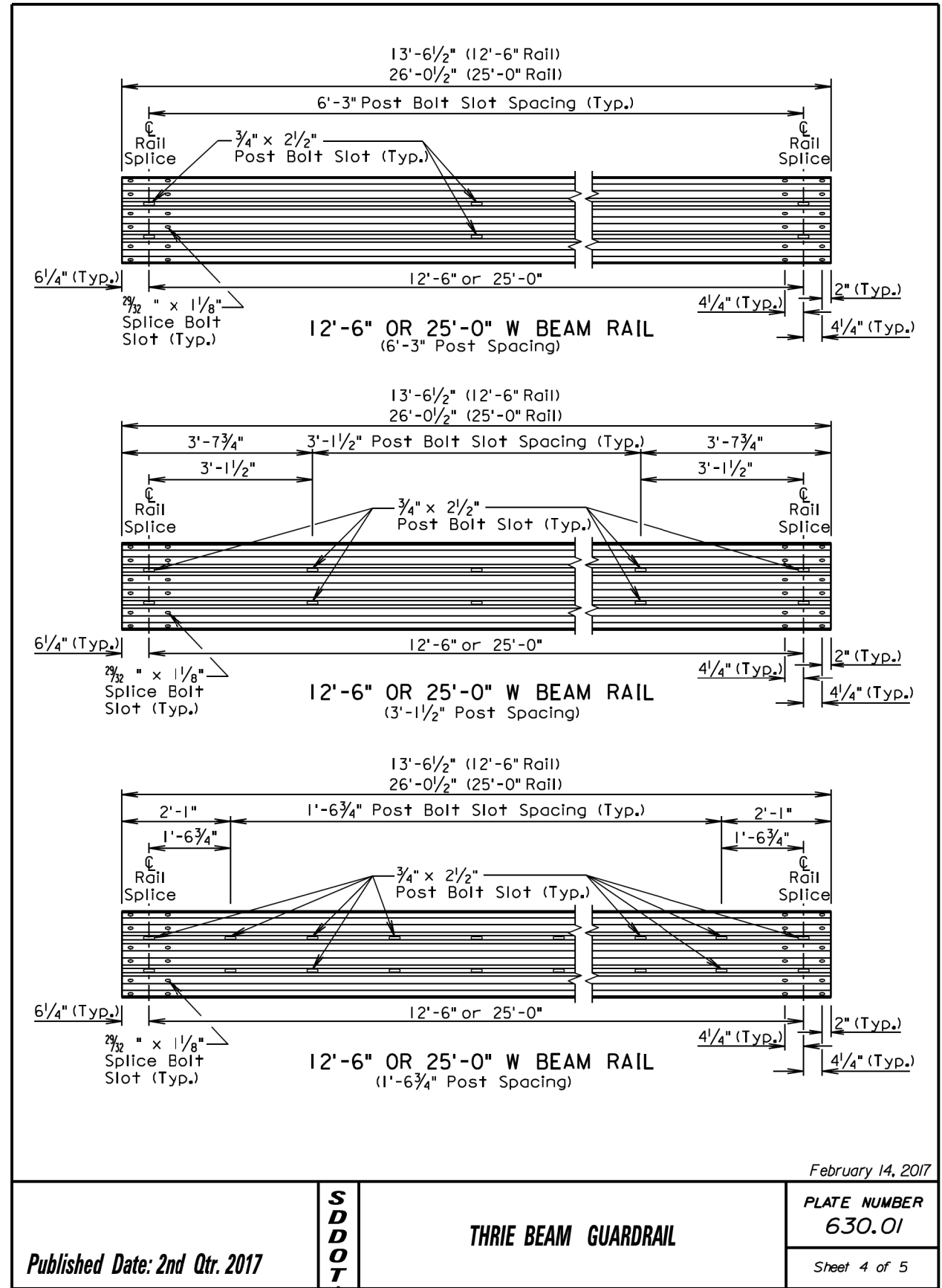
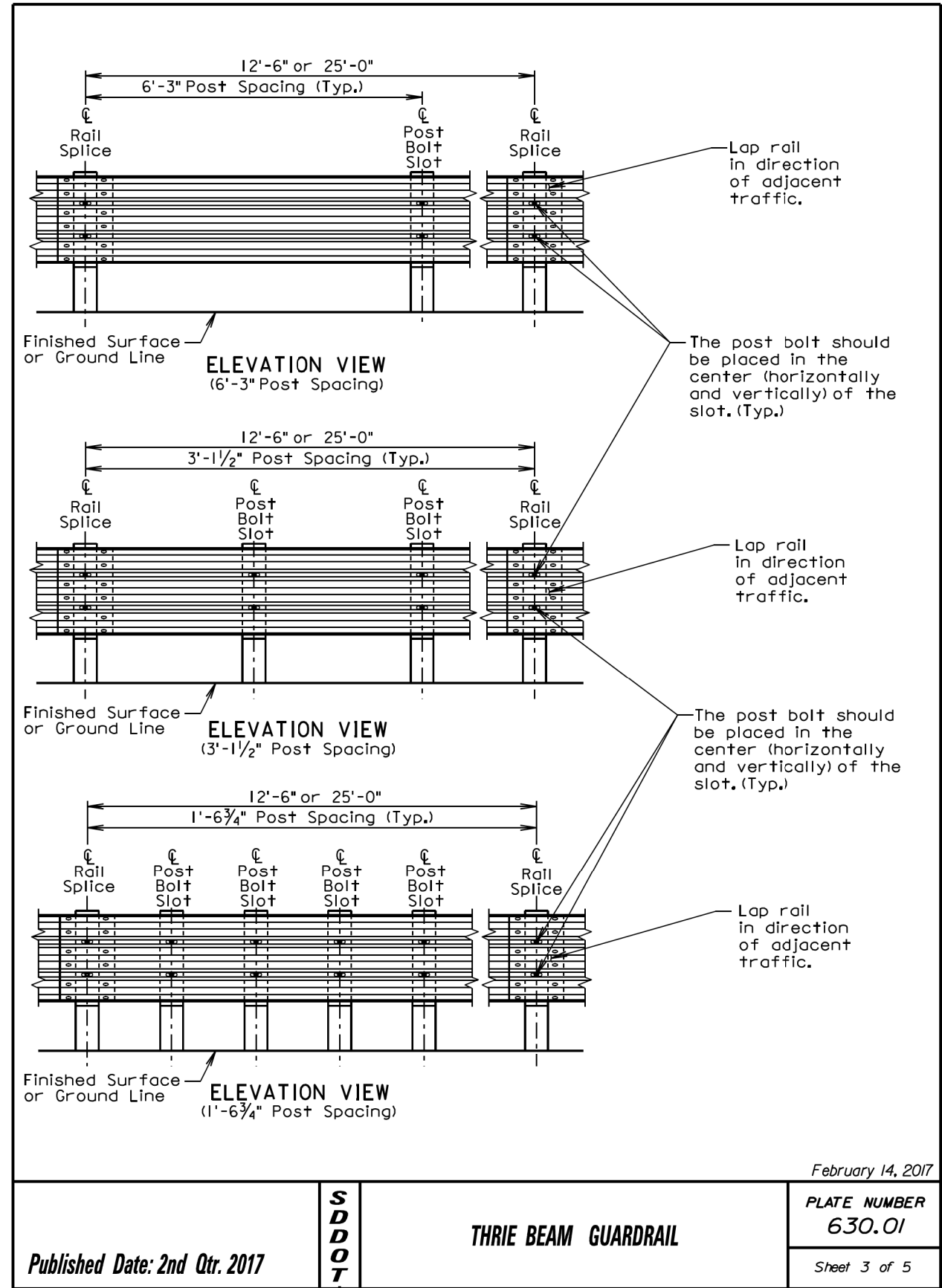
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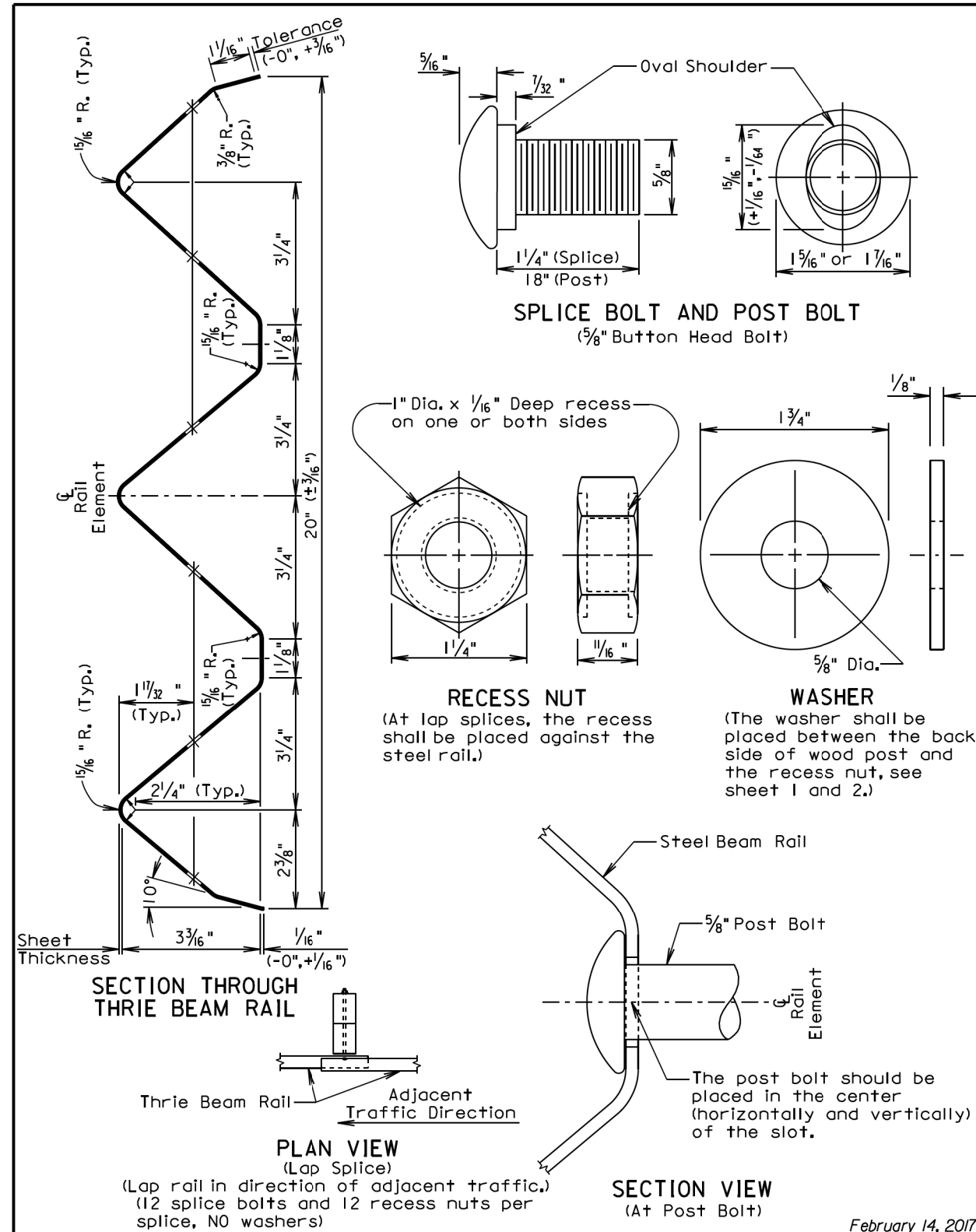
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February 14, 2017

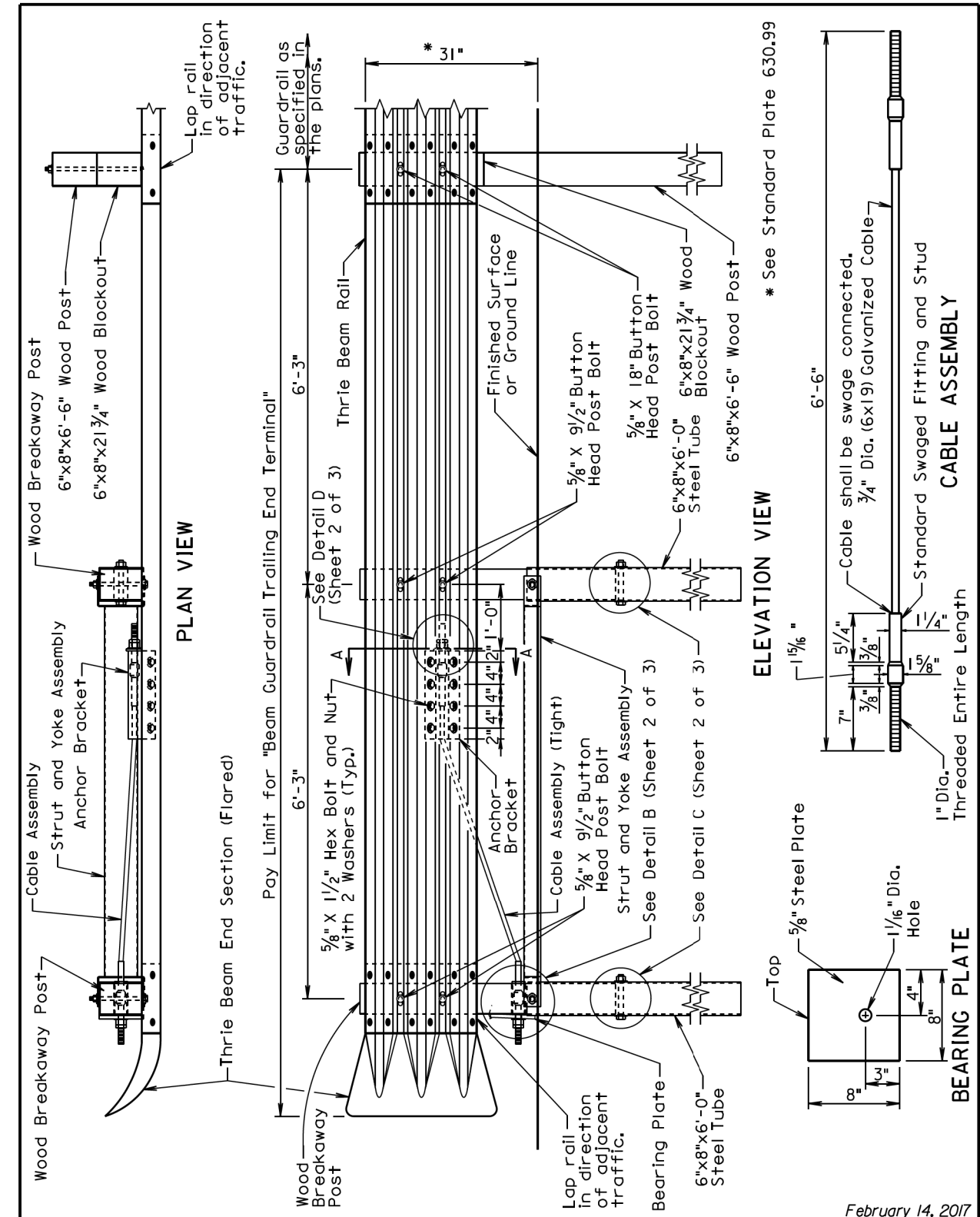
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THREE BEAM GUARDRAIL

PLATE NUMBER
630.01

Sheet 5 of 5



February 14, 2017

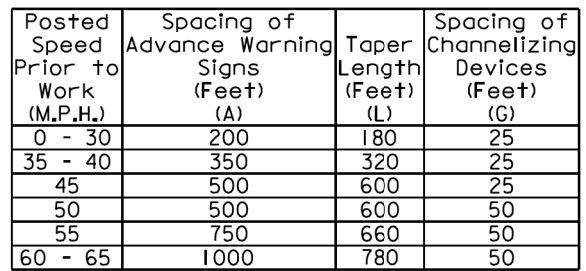
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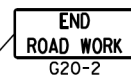
**THRIE BEAM GUARDRAIL
TRAILING END TERMINAL**

PLATE NUMBER
630.80

Sheet 1 of 3



■ Channelizing Device



The channelizing devices shall be drums or 42" cones if traffic control must remain overnight.

For short duration operations (1 hour or less) all channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

Worker signs (W21-1 or W21-1a) may be used instead of SHOULDER WORK signs.

A SHOULDER WORK sign should be placed on the left side of a divided or one-way roadway only if the left shoulder is affected.

The **SHOULDER WORK** sign on an intersecting roadway is not required if drivers emerging from that roadway will encounter another advance warning sign before they reach a work activity area.

—WORK SPACE

A	
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1. **Introduction**

11

Year	Percentage of Population Aged 65 and Over
1950	7%
1960	10%
1970	12%
1980	14%
1990	16%
2000	18%
2020	20%

June 3, 2016

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GUIDES FOR TRAFFIC CONTROL DEVICES WORK ON SHOULDERS

PLATE NUMBER
634.03

Sheet 1 of 1

Published Date: 1st Qtr. 2017



Only the traffic control devices controlling pedestrian flows are shown. Other devices may be needed to control traffic on the streets. Use lane closure signing or ROAD NARROWS signs, as needed.

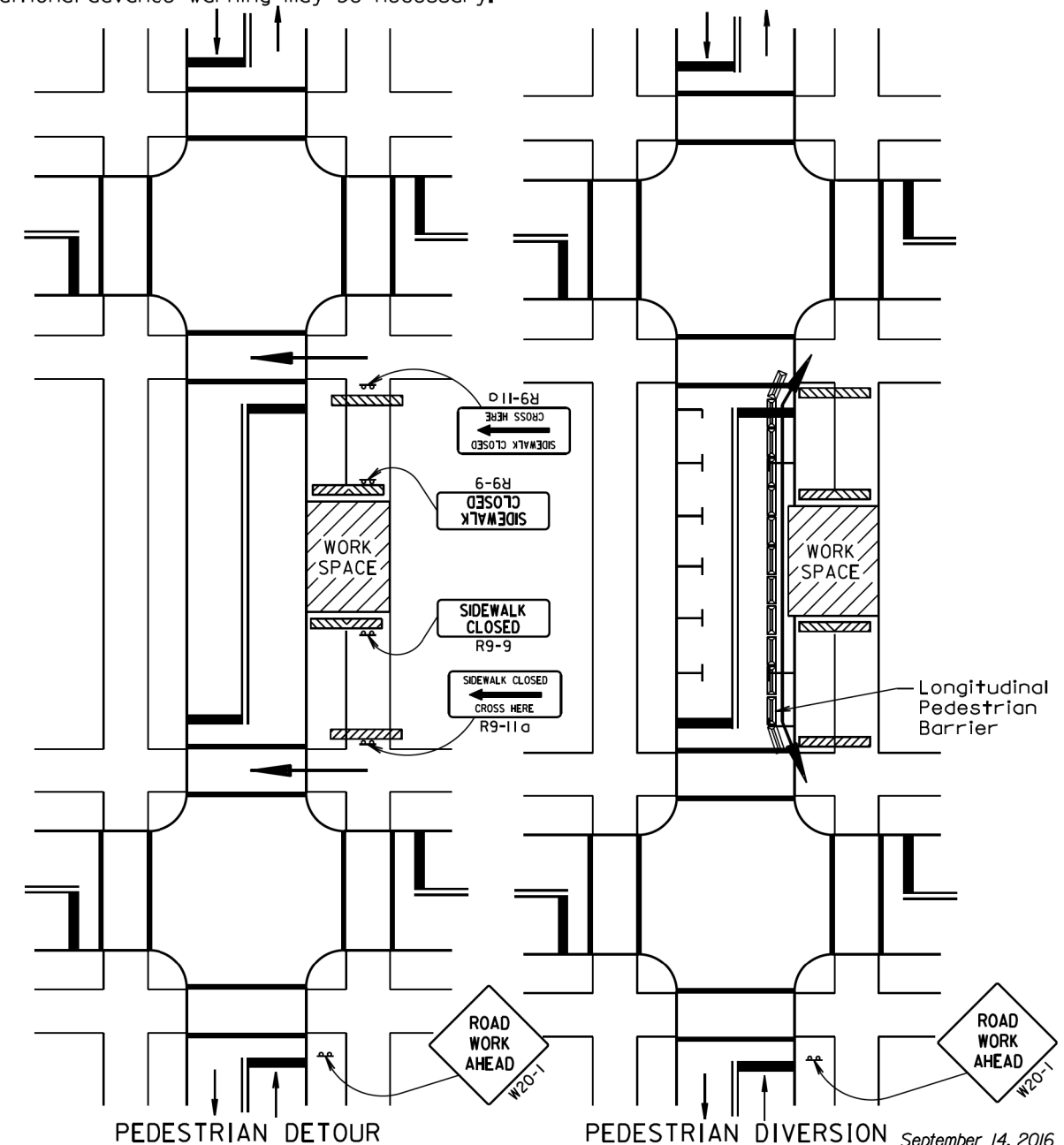
Signs may be placed along a temporary diversion to guide or direct pedestrians. Examples include KEEP RIGHT and KEEP LEFT signs.

Additional advance warning may be necessary.

For nighttime closures, Type A flashing warning lights may be used on barricades supporting signs and closing sidewalks. Type C steady-burn lights may be used on channelizing devices separating the temporary pedestrian diversion from vehicular traffic.

Street lighting should be considered.

 Longitudinal Pedestrian Barricade
and




September 14, 2016

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GUIDES FOR TRAFFIC CONTROL DEVICES PEDESTRIAN DETOUR AND PEDESTRIAN DIVERSION

PLATE NUMBER
634.34

Sheet 1 of 1

Published Date: 1st Qtr. 2017

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

* Spacing is 40' for 42" cones.

⊙ Reflectorized Drum

■ Channelizing Device

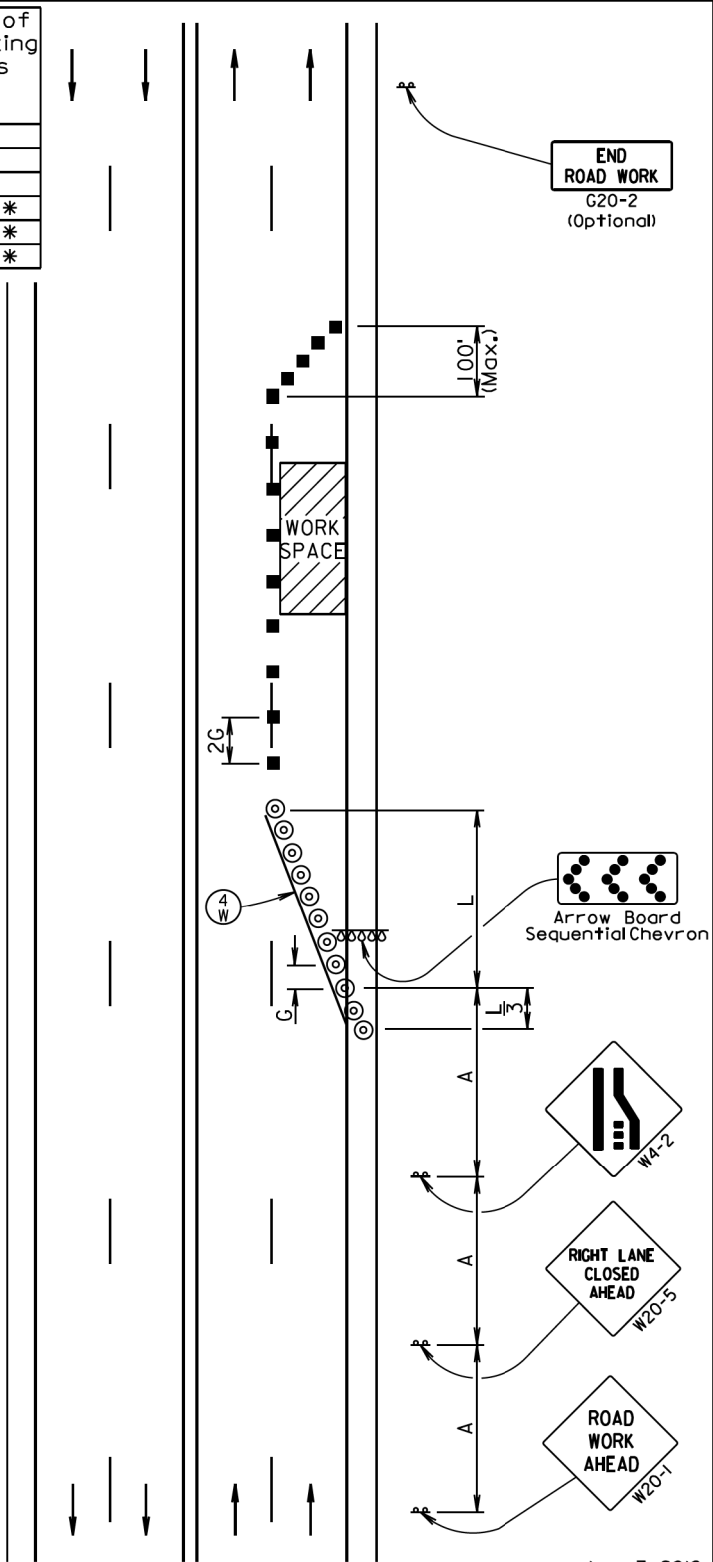
④ 4" White Temporary Pavement Marking

The channelizing devices shall be 42" cones or drums.

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

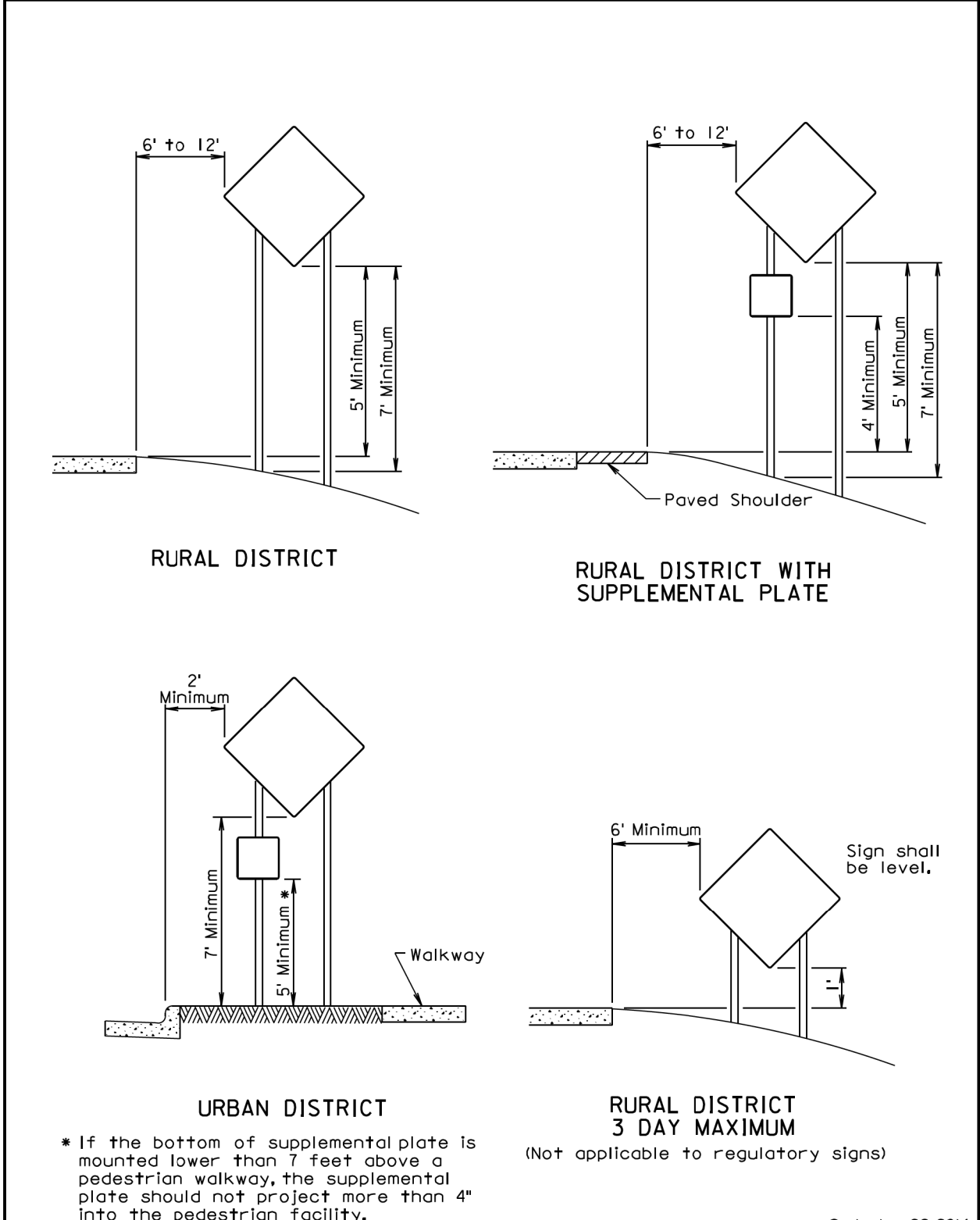
Temporary pavement markings shall be used if traffic control must remain overnight.

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



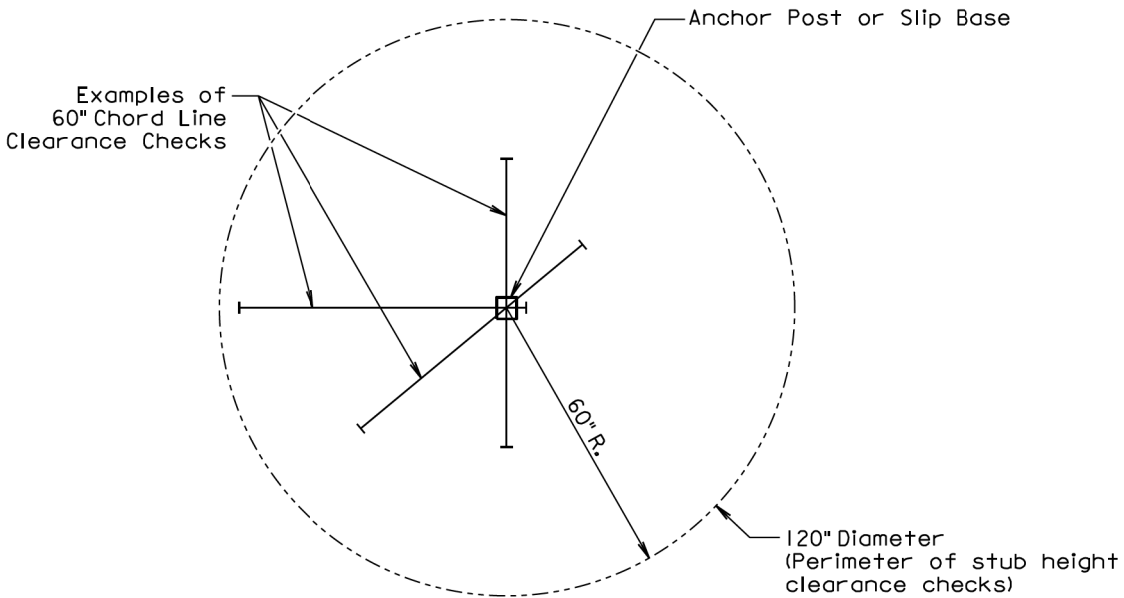
June 3, 2016

Published Date: 1st Qtr. 2017	S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES 4-LANE UNDIVIDED, RIGHT LANE CLOSED	PLATE NUMBER 634.47
		Sheet 1 of 1	

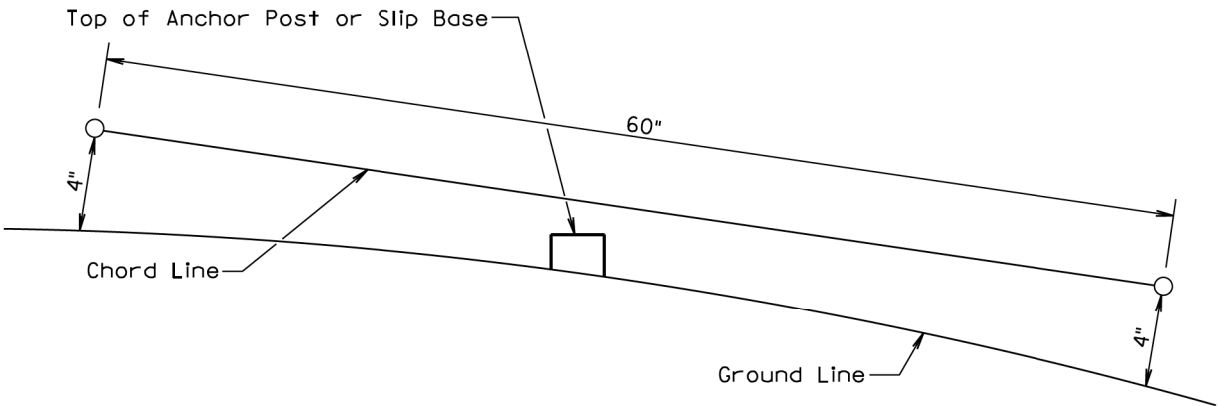


September 22, 2014

Published Date: 1st Qtr. 2017	S D D O T	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
		Sheet 1 of 1	



PLAN VIEW
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

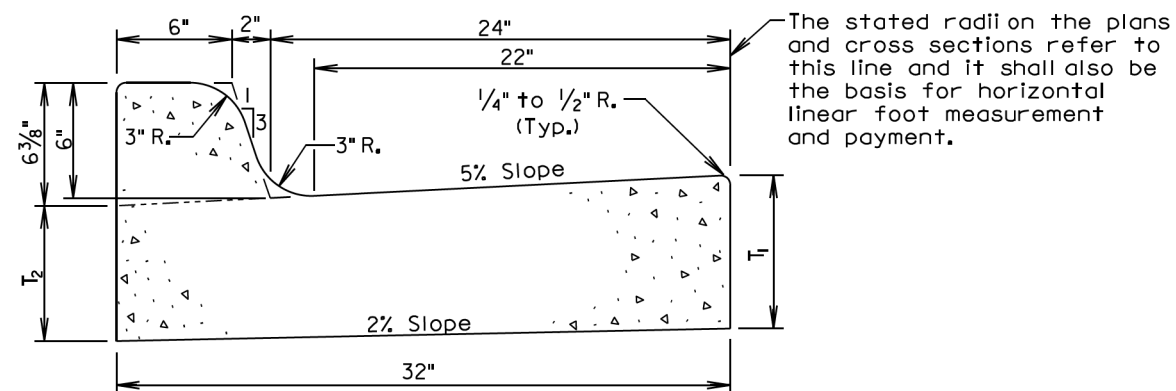
The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

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

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

July 1, 2005

Published Date: 1st Qtr. 2017	S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1



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 ³ / ₁₆	0.085	11.7
B610	10	9 ¹ / ₁₆	0.090	11.2
B610.5	10.5	9 ³ / 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 shall be by one of the methods shown on Standard Plate 380.11.

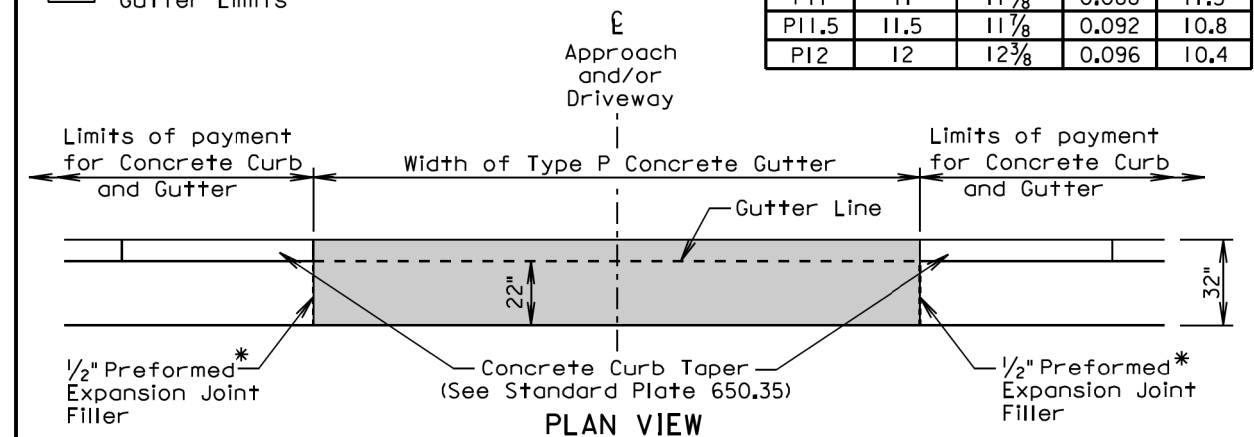
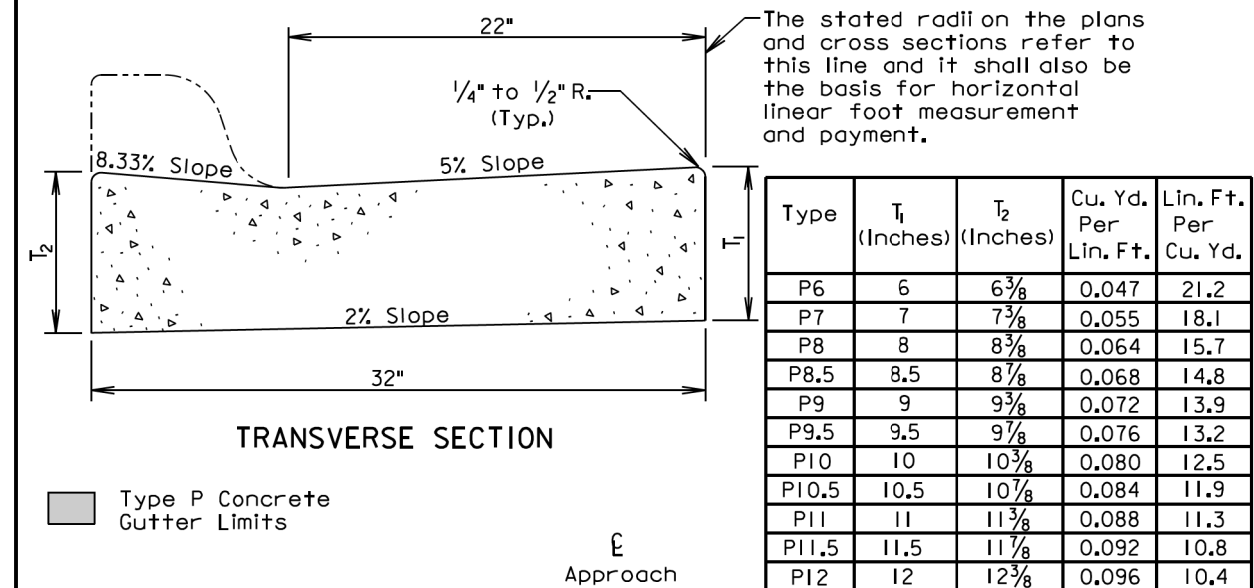
See Standard Plate 650.90 for expansion and contraction joints in the curb and gutter.

September 6, 2008

Published Date: 1st Qtr. 2017	S D D O T	TYPE B CONCRETE CURB AND GUTTER	September 07, 2008
			PLATE NUMBER 650.01 Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	018-492	16	19

Plotting Date: 04/05/2017



* 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" Preformed Expansion Joint Filler is provided, then the joint shall be sealed in accordance with Standard Plate 650.90.

GENERAL NOTES:

The concrete for the Type P Concrete Gutter shall comply with the requirements of the Specifications for Class M6 Concrete.

When concrete gutter longitudinally adjoins new concrete pavement, the method of attachment shall be by one of the methods shown on Standard Plate 380.11.

Transverse contraction joints shall 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 shall 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 shall be sawed and sealed the same as the transverse contraction joints in the mainline PCC pavement.

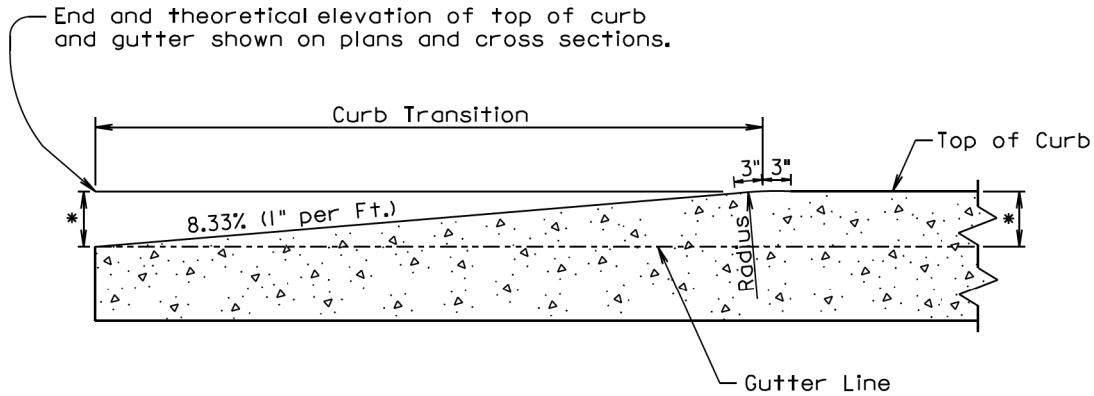
When concrete gutter is not placed monolithically with the mainline PCC pavement and when the adjacent mainline surfacing is not PCC concrete, the transverse contraction joints in the concrete gutter shall be $1\frac{1}{2}$ inches deep if formed in the fresh concrete using a suitable grooving tool. If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

June 26, 2015

Published Date: 1st Qtr. 2017	S D D O T	TYPE P CONCRETE GUTTER	PLATE NUMBER 650.30
			Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	018-492	17	19

Plotting Date: 04/05/2017



LONGITUDINAL SECTION OF CONCRETE CURB TAPER

September 14, 2005

<i>Published Date: 1st Qtr. 2017</i>	S D D O T	CONCRETE CURB TAPER	PLATE NUMBER 650.35
			Sheet 1 of 1

