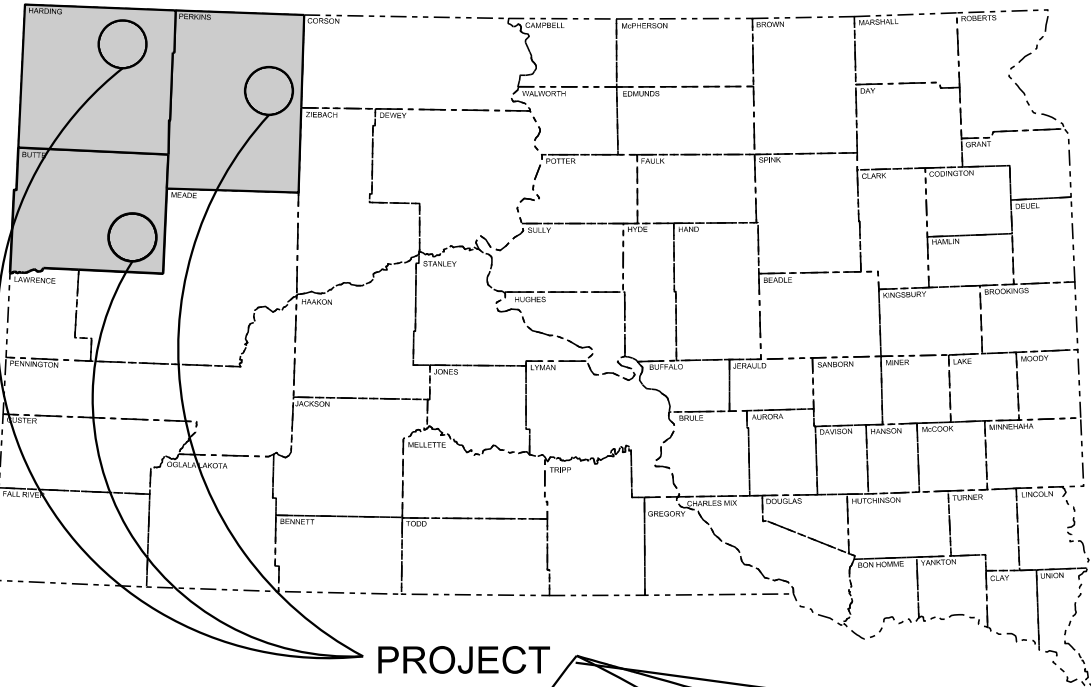


Plot Scale - 1:200

TRRC12608

Plotted From -



STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

PROJECTS 212-468,
212-468, 085-468, & 073-468
US HIGHWAYS 212
AND 85 & SD HIGHWAY 73
BUTTE, HARDING, & PERKINS COUNTIES
MILL AND OVERLAY BRIDGE ENDS AND PIPE CROSSING
PCNS i54r , i54t, i54q, & i54u

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	212-468, etc.	1	16

Plotting Date: 05/10/2018

INDEX OF SHEETS

1	General Layout with Index
2 - 4	Estimate with General Notes & Tables
5 - 8	Typical Sections
9 - 13	Plan Sheets
14	Striping Detail
15 - 16	Standard Plates

DESIGN DESIGNATION - US 212

AADT (2017)	609
AADT (2037)	686
DHV	107
D	50%
DHV T%	17.0%
AADT T%	7.7%
V	65 mph

STORM WATER PERMIT - US 212

None Required

DESIGN DESIGNATION - US 85

AADT (2017)	1325
AADT (2037)	1574
DHV	181
D	51%
DHV T%	32.6%
AADT T%	14.8%
V	65 mph

STORM WATER PERMIT - US 85

None Required

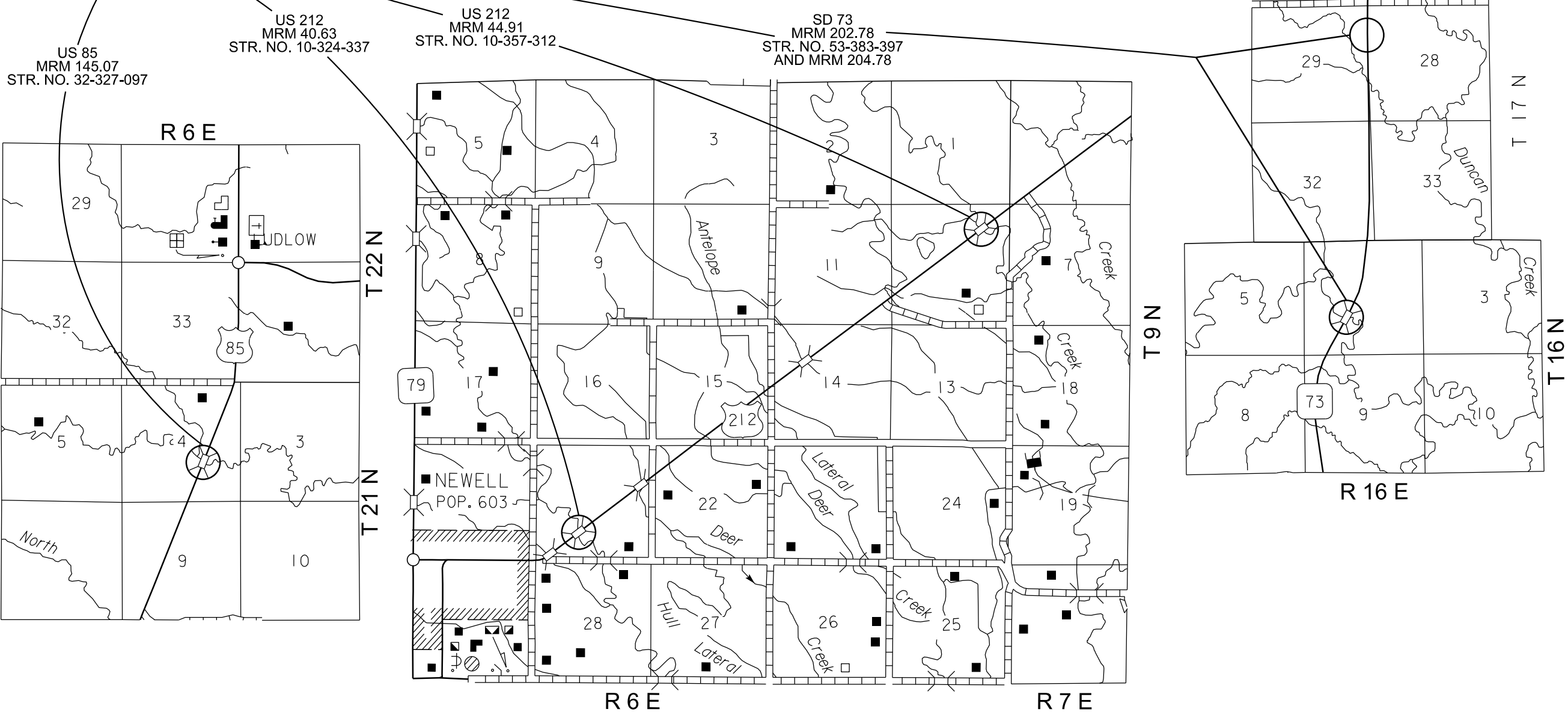
DESIGN DESIGNATION - SD 73

AADT (2017)	494
AADT (2037)	623
DHV	97
D	50%
DHV T%	30.5%
AADT T%	13.9%
V	65 mph

STORM WATER PERMIT - SD 73

None Required

PROJECT



ESTIMATE OF QUANTITIES

US 212 - MRM 40.63 – PCN i54r

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E1200	Asphalt Concrete Composite	64.1	Ton
332E0010	Cold Milling Asphalt Concrete	578	SqYd
633E1400	Pavement Marking Paint, 4" White	400	Ft
633E1405	Pavement Marking Paint, 4" Yellow	400	Ft
634E0010	Flagging	20.0	Hour
634E0110	Traffic Control Signs	105.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

US 212 – MRM 44.91 – PCN i54t

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E1200	Asphalt Concrete Composite	64.1	Ton
332E0010	Cold Milling Asphalt Concrete	578	SqYd
633E1400	Pavement Marking Paint, 4" White	400	Ft
633E1405	Pavement Marking Paint, 4" Yellow	400	Ft
634E0010	Flagging	20.0	Hour
634E0110	Traffic Control Signs	105.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

US 85 - MRM 145.07 – PCN i54q

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E1200	Asphalt Concrete Composite	64.1	Ton
332E0010	Cold Milling Asphalt Concrete	578	SqYd
633E1400	Pavement Marking Paint, 4" White	400	Ft
633E1405	Pavement Marking Paint, 4" Yellow	400	Ft
634E0010	Flagging	20.0	Hour
634E0110	Traffic Control Signs	105.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

SD 73 - MRM 202.78 & MRM 204.78 – PVN i54u

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E1200	Asphalt Concrete Composite	158.0	Ton
332E0010	Cold Milling Asphalt Concrete	1,421	SqYd
633E1400	Pavement Marking Paint, 4" White	830	Ft
633E1405	Pavement Marking Paint, 4" Yellow	830	Ft
634E0010	Flagging	20.0	Hour
634E0110	Traffic Control Signs	105.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

SPECIFICATIONS

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

ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Section A Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office.

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <http://www.sddot.com/resources/Manuals/EnvironProcManual.pdf>

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Office at 605-773-3098 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

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

Action Taken/Required:

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

COMMITMENT B4: BALD EAGLE

Bald eagles are known to occur in this area.

Action Taken/Required:

If a nest is observed within one mile of the project site, notify the Project Engineer immediately so that he/she can consult with the Environmental Office for an appropriate course of action.

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

Action Taken/Required:

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

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

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

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

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

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

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

State Historical Preservation Office (SHPO or THPO) concurrence has not been obtained for this project.

Action Taken/Required:

All earth disturbing activities not designated within the plans require a cultural resource review prior to scheduling the pre-construction meeting. This work includes, but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

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

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

The Contractor will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office to determine an appropriate course of action.

The Contractor is responsible for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

SURFACING THICKNESS DIMENSIONS

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

COLD MILLING ASPHALT CONCRETE

Cold Milling Asphalt Concrete shall be profiled such that once the composite is placed, the result will provide a smooth transition to the structure.

Millings shall become the property of the contractor.

ASPHALT CONCRETE COMPOSITE

Asphalt Concrete Composite shall be placed in tone 2” lifts as shown on the typical sections.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	212-468, etc.	3	16

PERMANENT PAVEMENT MARKING

The Contractor shall survey and mark the location of no passing zones prior to beginning construction operations.

The Contractor shall repaint all of the existing pavement marking. A copy of the pavement marking inventory shall be provided to the Engineer. All costs associated with this work shall be incidental to the pavement marking bid items.

Striper and advance and trailing warning vehicles shall be equipped with an arrow panel and flashing amber warning lights.

Table of Material Quantities				
Location	Cold Milling Asphalt Concrete (SqYd)	Asphalt Concrete Composite (Ton)	Pavement Marking Paint, 4" White (Ft)	Pavement Marking Paint, 4" Yellow (Ft)
US 212 MRM 40.63	578	64.1	400	400
US 212 MRM 44.91	578	64.1	400	400
US 85 MRM 145.07	578	64.1	400	400
SD 73 MRM 202.78	621	69.0	430	430
SD 73 MRM 204.78	800	89	400	400
SD 73 Total	1421	158	830	830

TRAFFIC CONTROL – GENERAL NOTES

Two weeks prior to beginning construction the Contractor shall provide a sequence of operations for approval by the Engineer. 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.

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.

All regulatory signs shall have a minimum mounting height of 5’ in rural locations, even when mounted on portable supports.

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.

INVENTORY OF TRAFFIC CONTROL DEVICES

US 212 - MRM 40.63

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		105.0			

US 212 - MRM 44.91

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		105.0			

US 85 - MRM 145.07

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		105.0			

SD 73 - MRM 202.78 & MRM 204.78

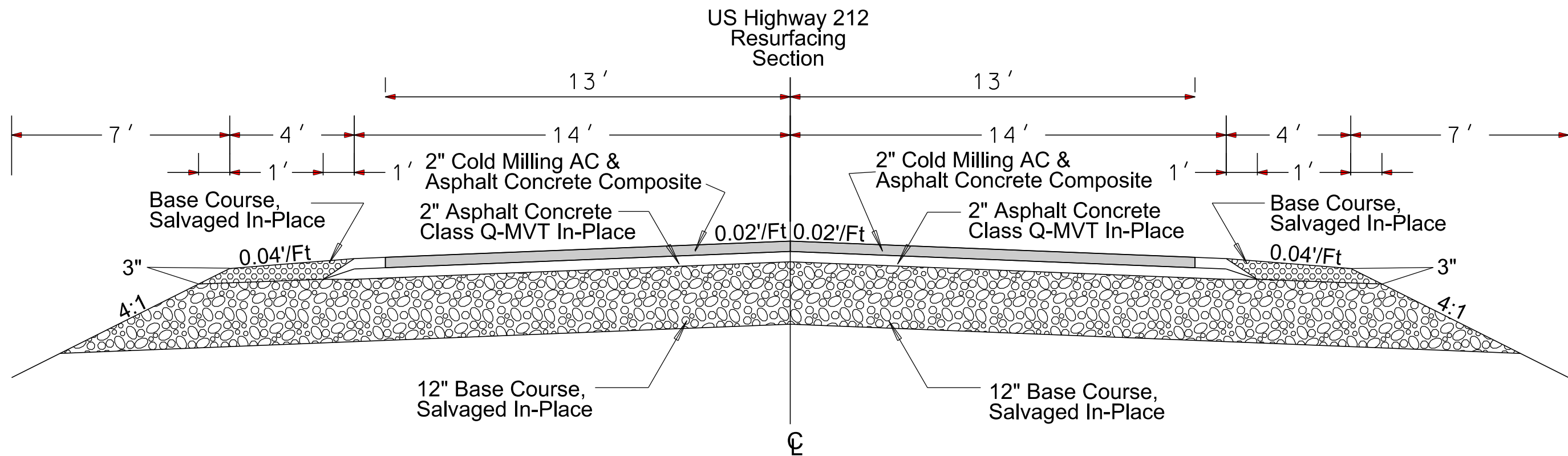
		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		105.0			

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	212-468, etc.	4	16

TYPICAL SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	212-468, etc.	5	16

Plotting Date: 05/10/2018



Plot Scale - 1:3.51563

Plotted From - TRRC/2608

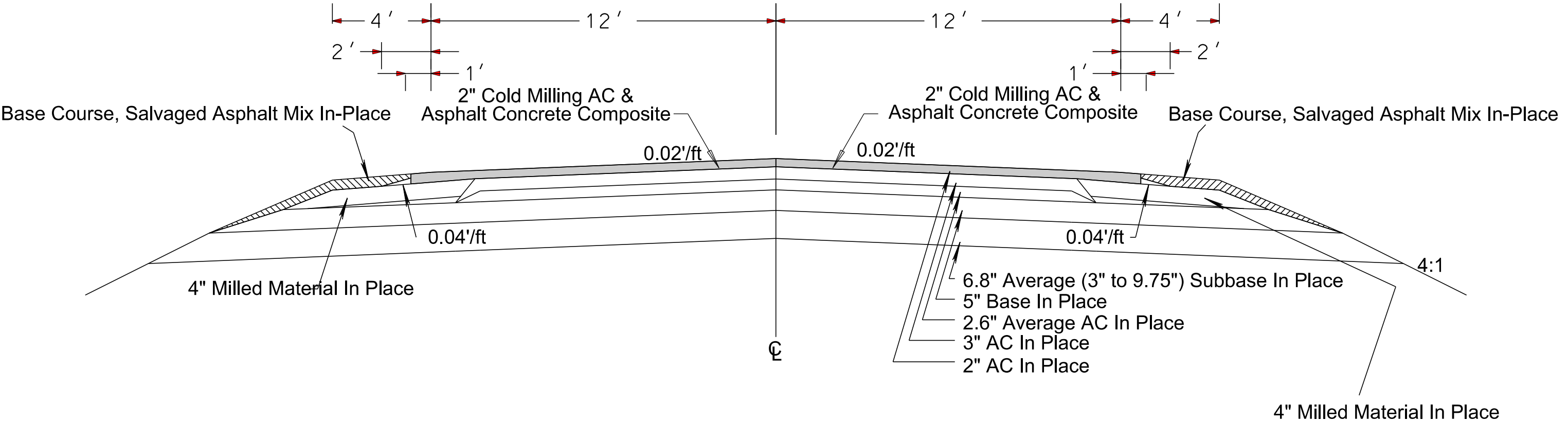
File - ...Design\Typical.dgn

TYPICAL SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	212-468, etc.	6	16

Plotting Date: 05/10/2018

US Highway 85 MRM 145.07 Resurfacing Section



Plot Scale - 1:3.51563

Plotted From - TRRC12608

File - ...Design\Typical.dgn

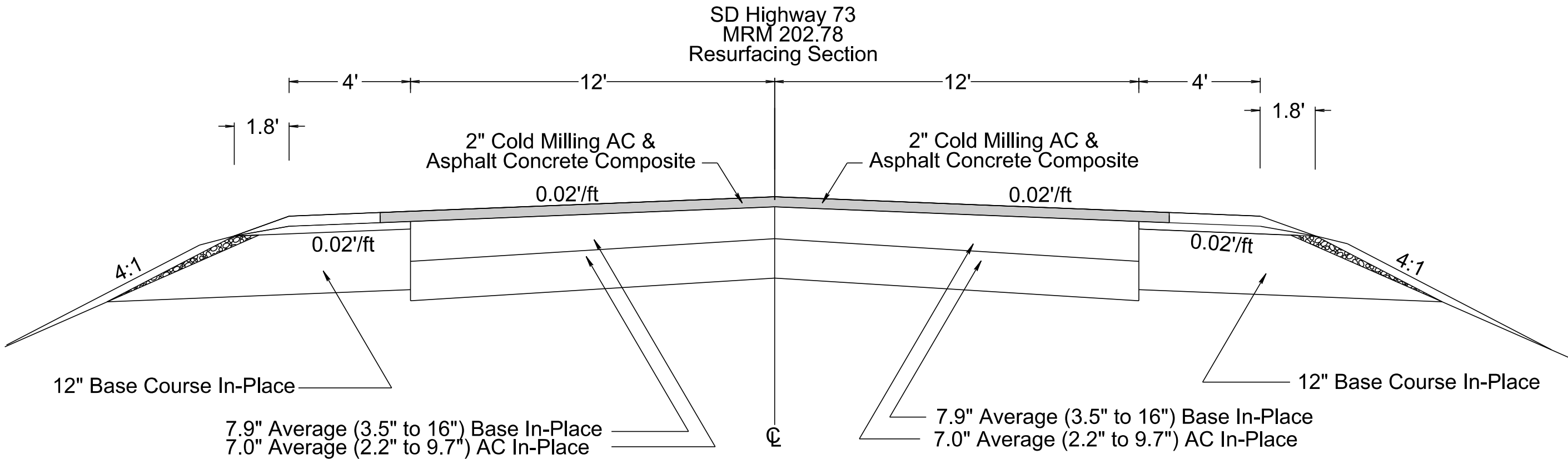
TYPICAL SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	212-468, etc.	7	16

Plotting Date: 05/10/2018

Plot Scale - 1:3.51563

Plotted From - TRRC/2608



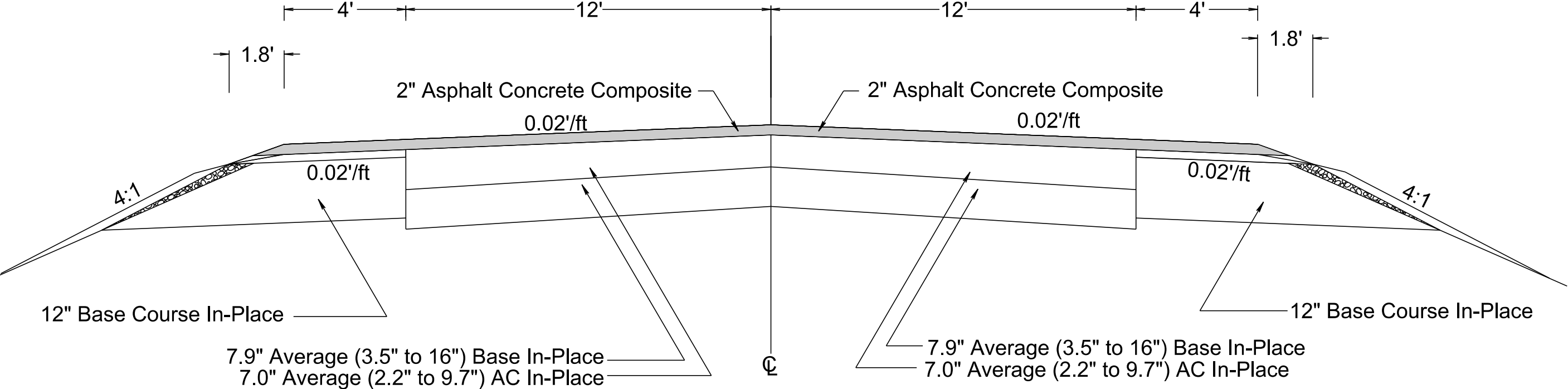
File - ...Design\Typical.dgn

TYPICAL SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	212-468, etc.	8	16

Plotting Date: 05/10/2018

SD Highway 73 MRM 204.78 Resurfacing Section



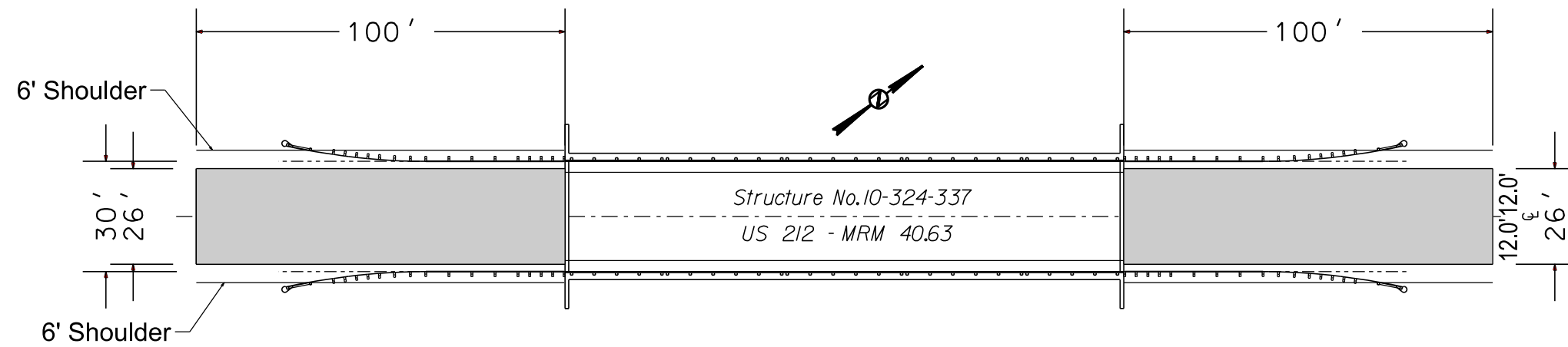
Plot Scale - 1:3.51563

Plotted From - TRRC/2608

File - ...Design\Typical.dgn

Structure No. 10-324-337 – US 212 – MRM 40.63

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	212-468, etc.	9	16
Plotting Date:		05/10/2018	

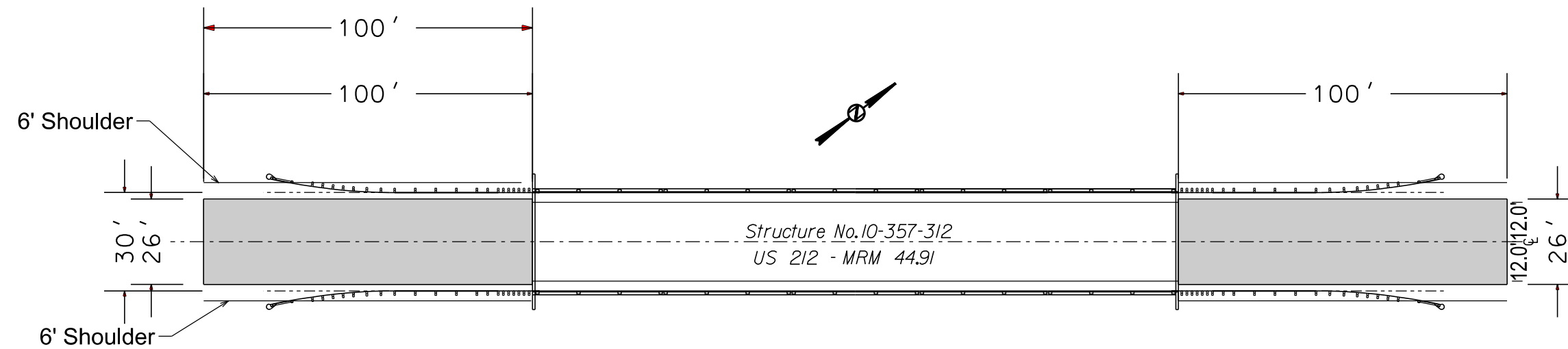


 Cold Mill Asphalt Concrete - Place Asphalt Concrete Composite

Structure No. 10-357-312 – US 212 – MRM 44.91

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	212-468, etc.	10	16

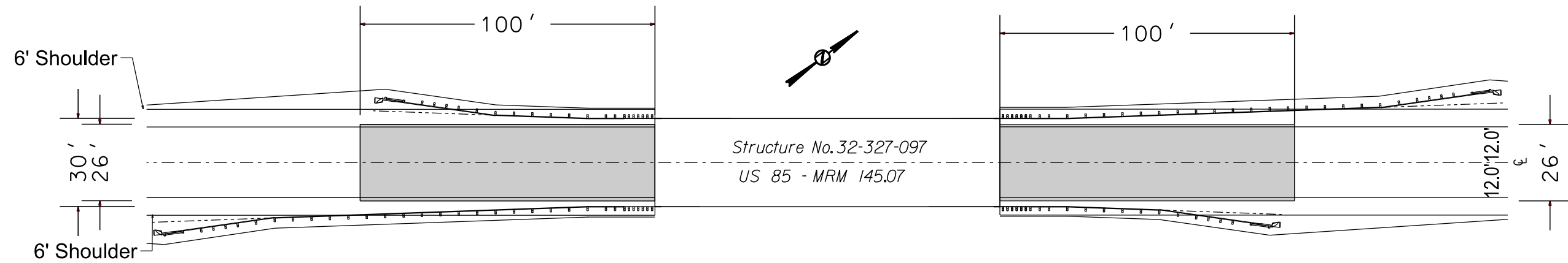
Plotting Date: 05/10/2018



Cold Mill Asphalt Concrete - Place Asphalt Concrete Composite

Structure No. 32-327-097 – US 85 – MRM 145.07

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	212-468, etc.	11	16
Plotting Date: 05/10/2018			



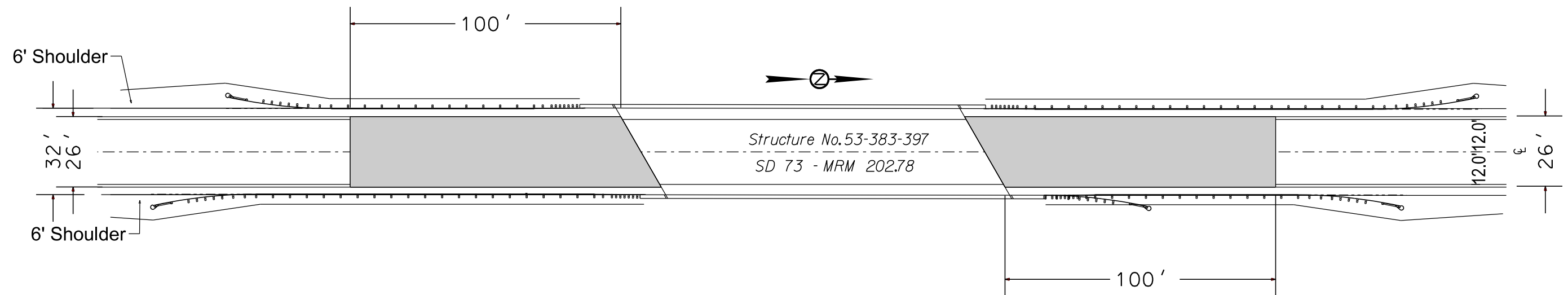
 Cold Mill Asphalt Concrete - Place Asphalt Concrete Composite

Structure No. 53-383-397 – SD 73 – MRM 202.78

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	212-468, etc.	12	16

Plotting Date: 05/10/2018

Plot Scale - 1:40



 Cold Mill Asphalt Concrete - Place Asphalt Concrete Composite

Plotted From - TRRC12608

File - ...DesignPlan View.dgn

Plot Scale - 1:40

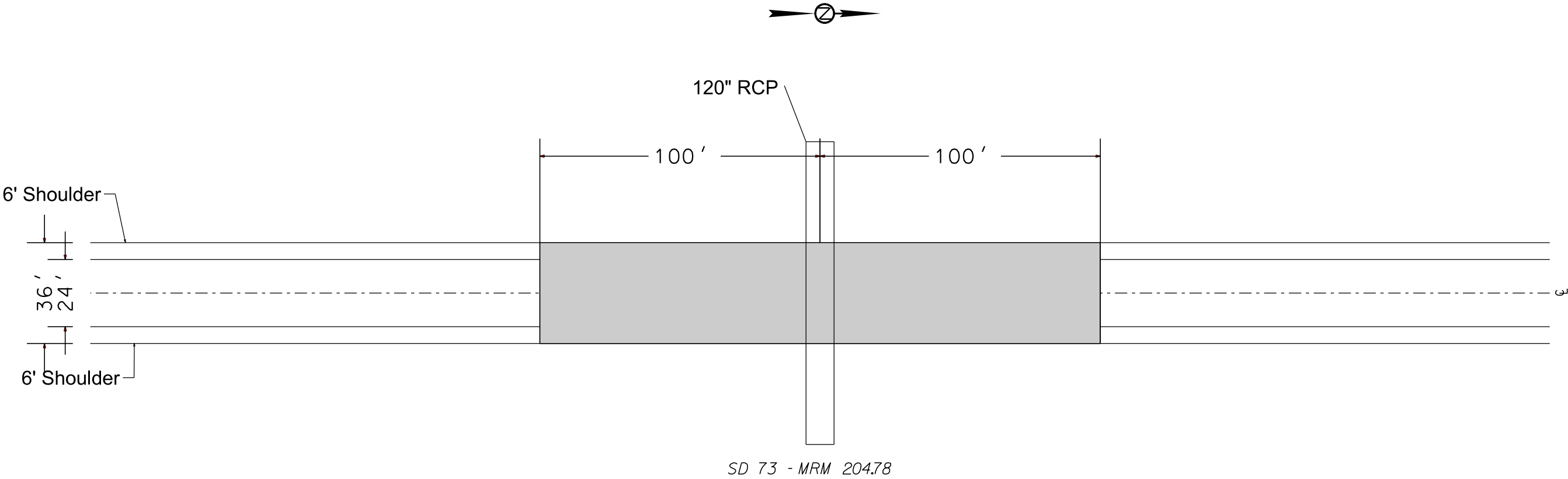
Plotted From - TRRC12608

File - ...DesignPlan View.dgn

SD 73 – MRM 204.78

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	212-468, etc.	13	16

Plotting Date: 05/10/2018



 Cold Mill Asphalt Concrete - Place Asphalt Concrete Composite

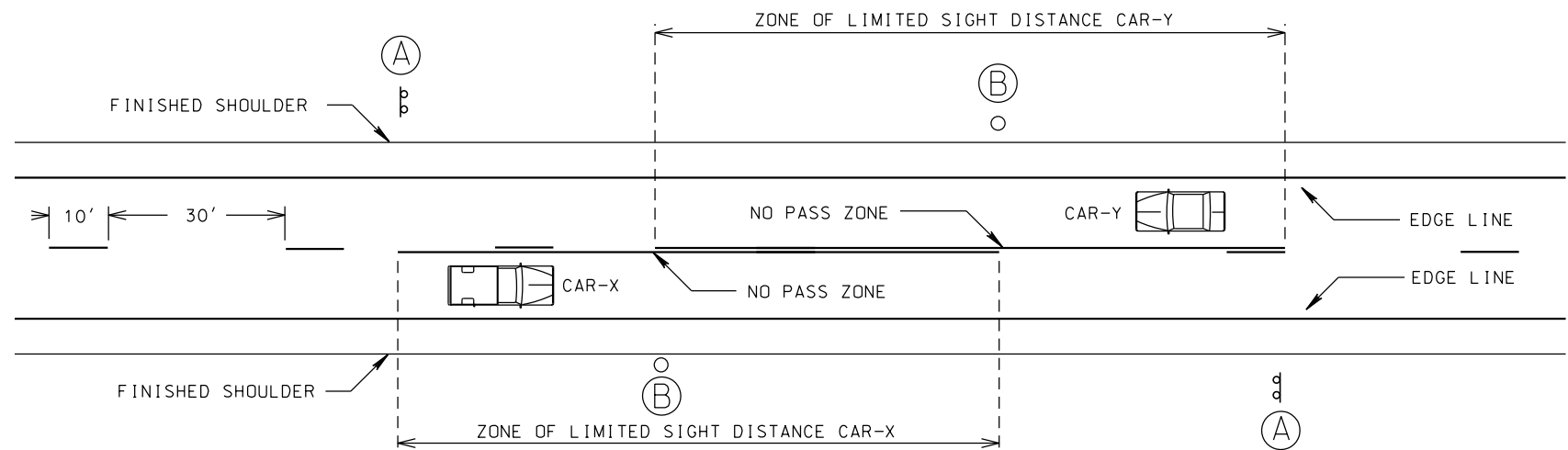
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	212-468, etc.	14	16

Plotting Date: 05/10/2018
Revised Date: 6/2/16 jpr

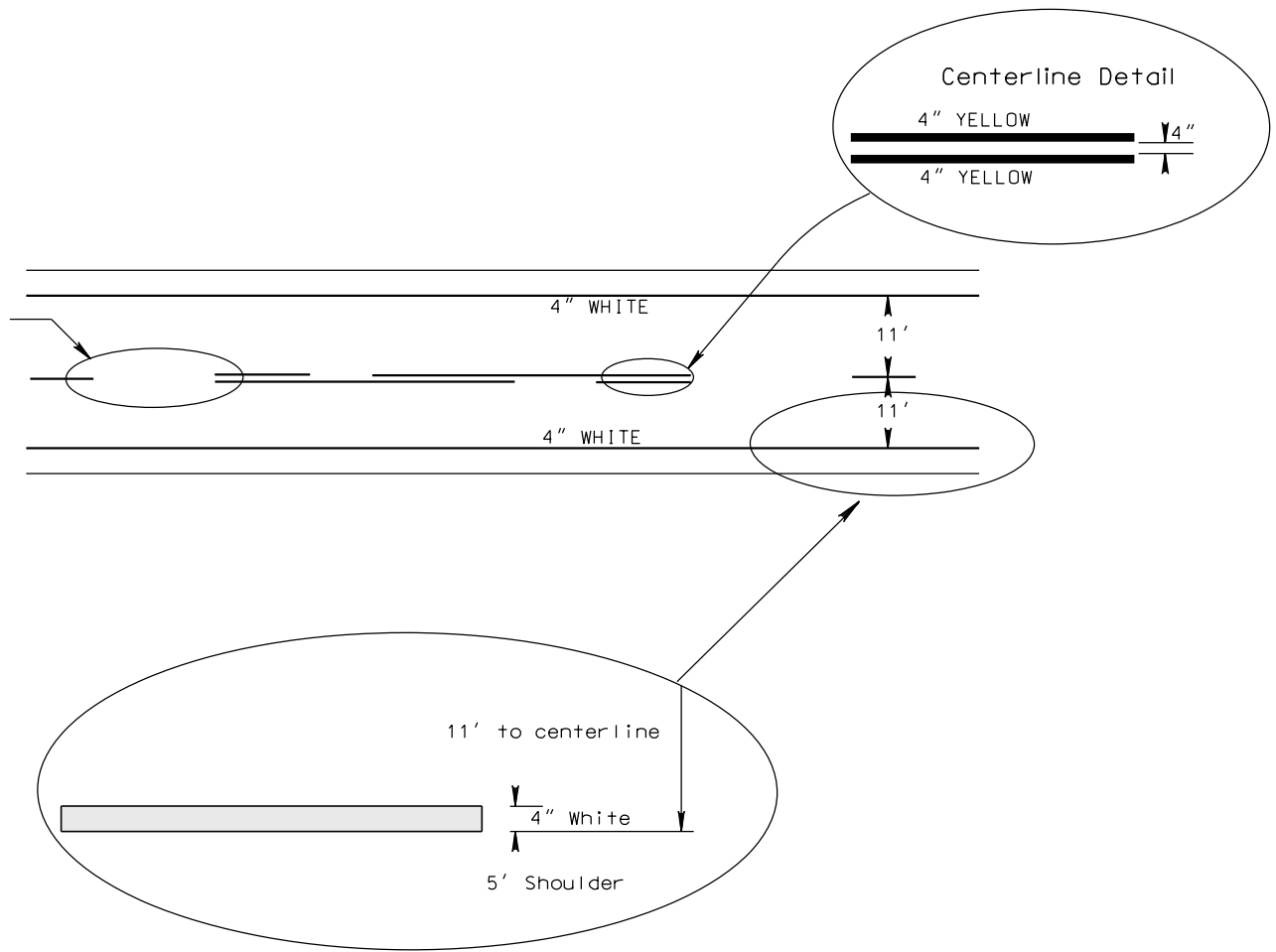
PAVEMENT MARKING LAYOUT



(B) End of Zone Marker



NOTE: A THREE "GUN" SYSTEM SHALL BE USED TO OBTAIN THIS PATTERN.



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

- Flagger
- Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) shall be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

The channelizing devices shall be drums or 42" cones.

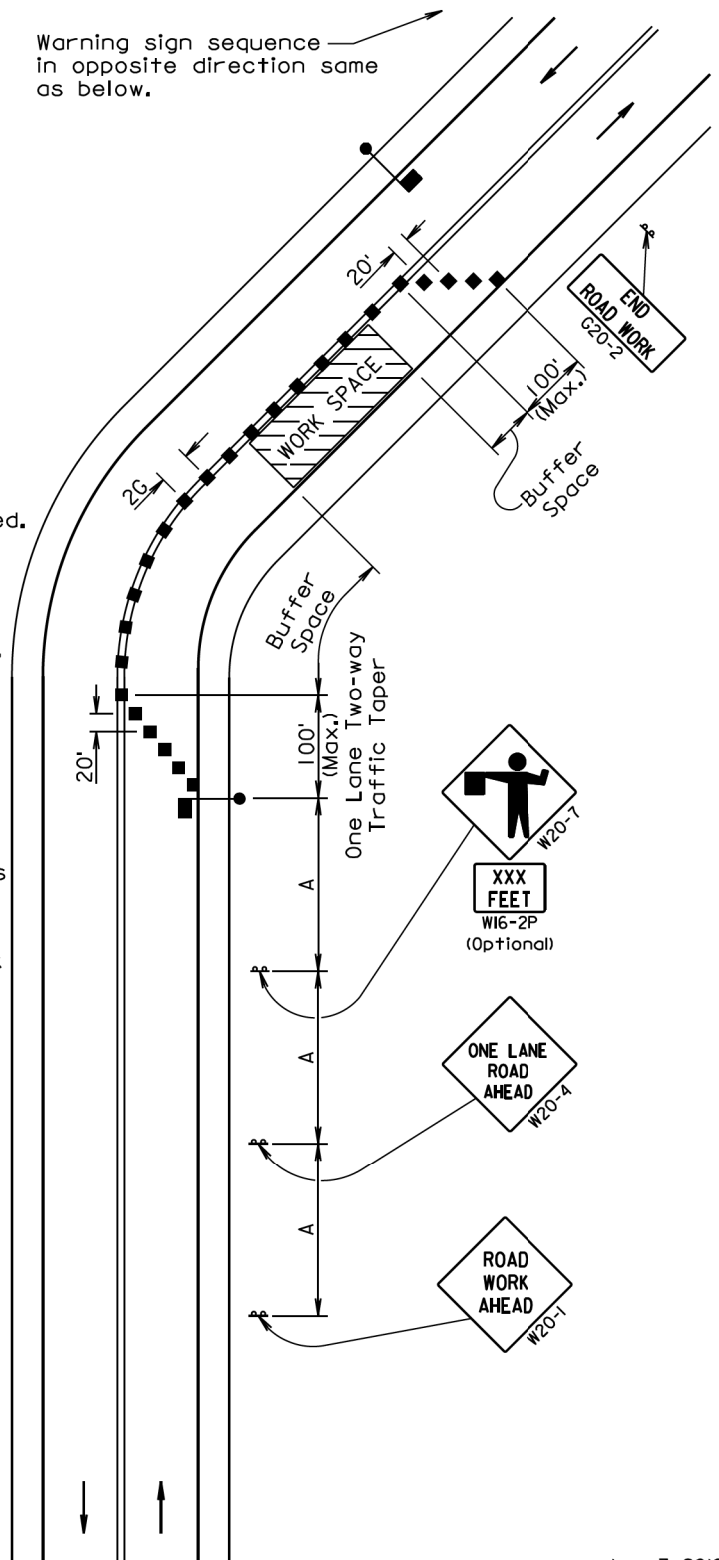
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.

Channelizing devices and flaggers shall be used at intersecting roads to control intersecting road traffic as required.

The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

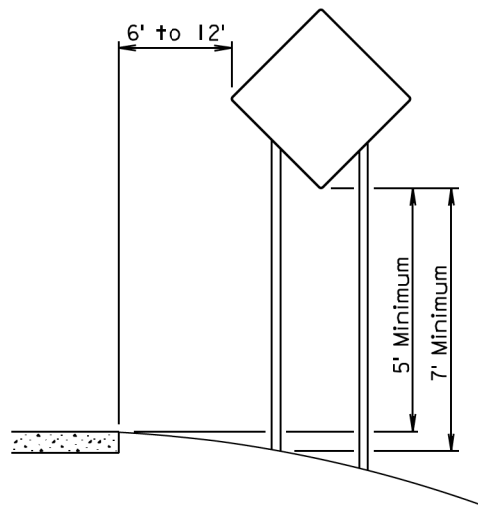
The length of A may be adjusted to fit field conditions.

Warning sign sequence in opposite direction same as below.

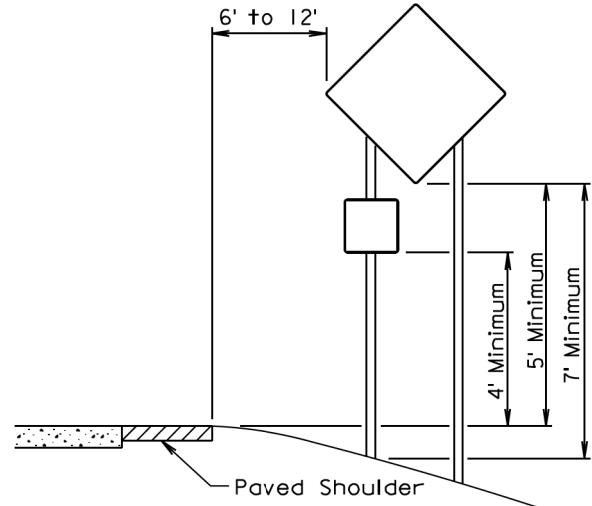


June 3, 2016

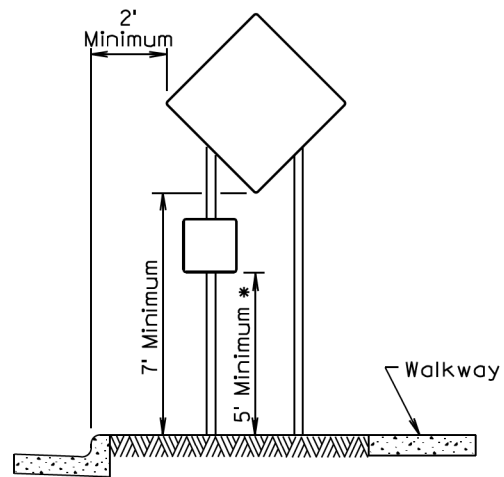
Published Date: 2nd Qtr. 2018	S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
			Sheet 1 of 1



RURAL DISTRICT

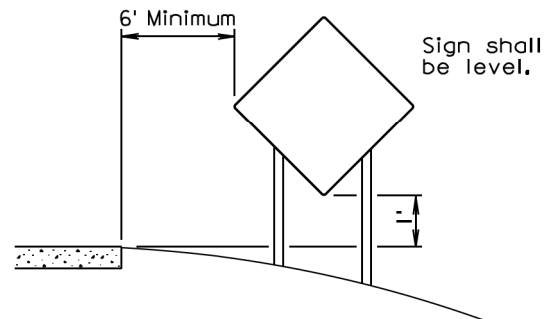


RURAL DISTRICT WITH
SUPPLEMENTAL PLATE



URBAN DISTRICT

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



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

September 22, 2014

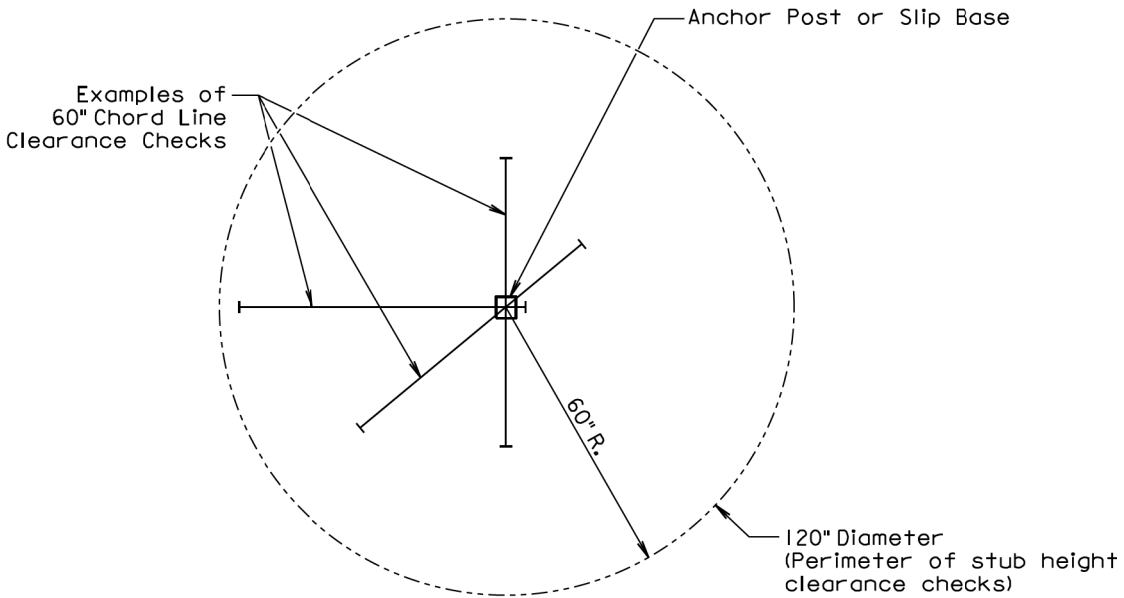
Published Date: 2nd Qtr. 2018	S D D O T	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1

1:200
Plot Scale -

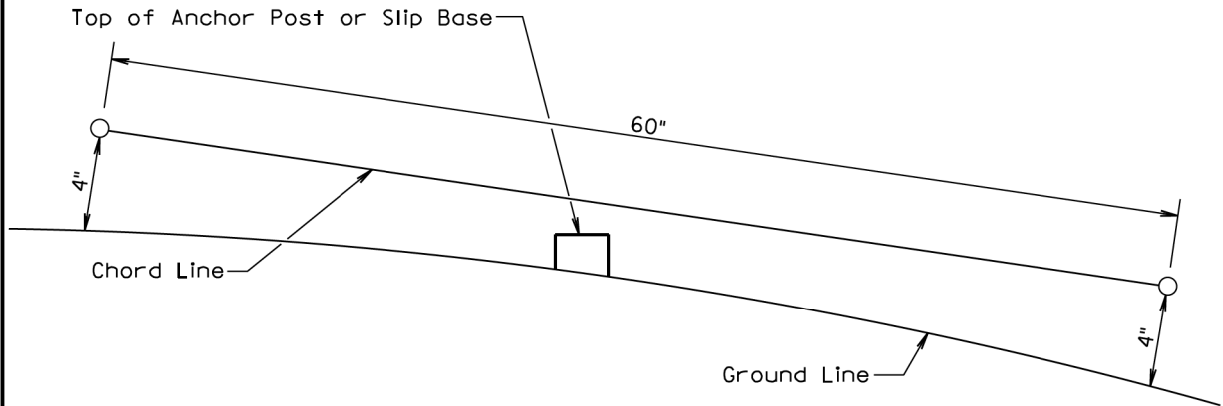
TRRC/2608
- Plotted From -

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	212-468, etc.	16	16

Plotting Date: 05/10/2018



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: 2nd Qtr. 2018	S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1

File - ...Design\634_2.dgn