STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	014A-451, etc.	1	19

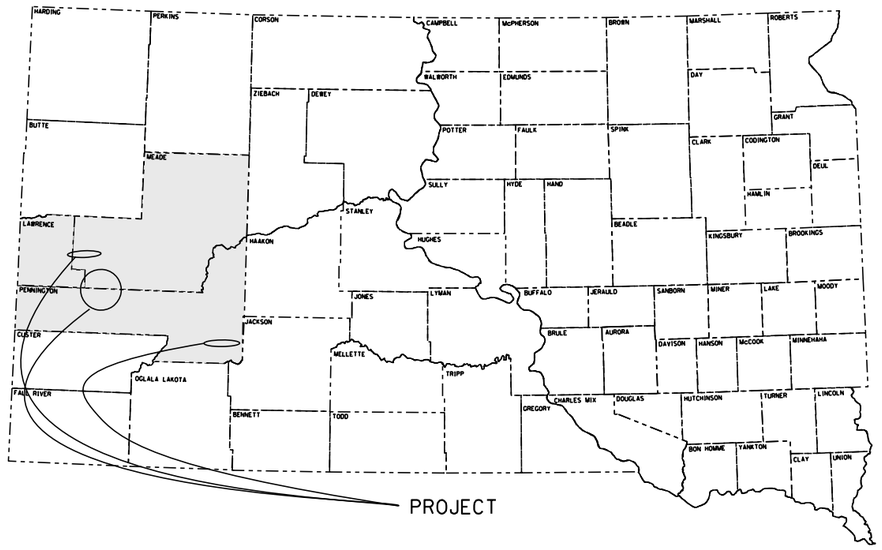
Plotting Date: 07/17/2017

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

HIGHWAYS US 14A, SD 34, US 16, I–90, & SD 44
PROJECTS 014A–451, 034–451, 016 W–452, 090 E–452, & 044–452
PENNINGTON, LAWRENCE, & MEADE COUNTIES

ASPHALT CONCRETE PAVEMENT REPAIR
PCNs i4ua, i4uc, i4ud, i4ue, & i4uh



INDEX OF SHEETS

(1) US 14A
MRM 49.570 to MRM 51.498,
014A-451 PCN i4ua

(2) SD 34
MRM 35.872 to MRM 36.360,
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(3) US 16 W
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(4) I-90
MRM 48.000,
090 E-452, PCN i4ue

(5) SD 44
89.585 to MRM 103.955
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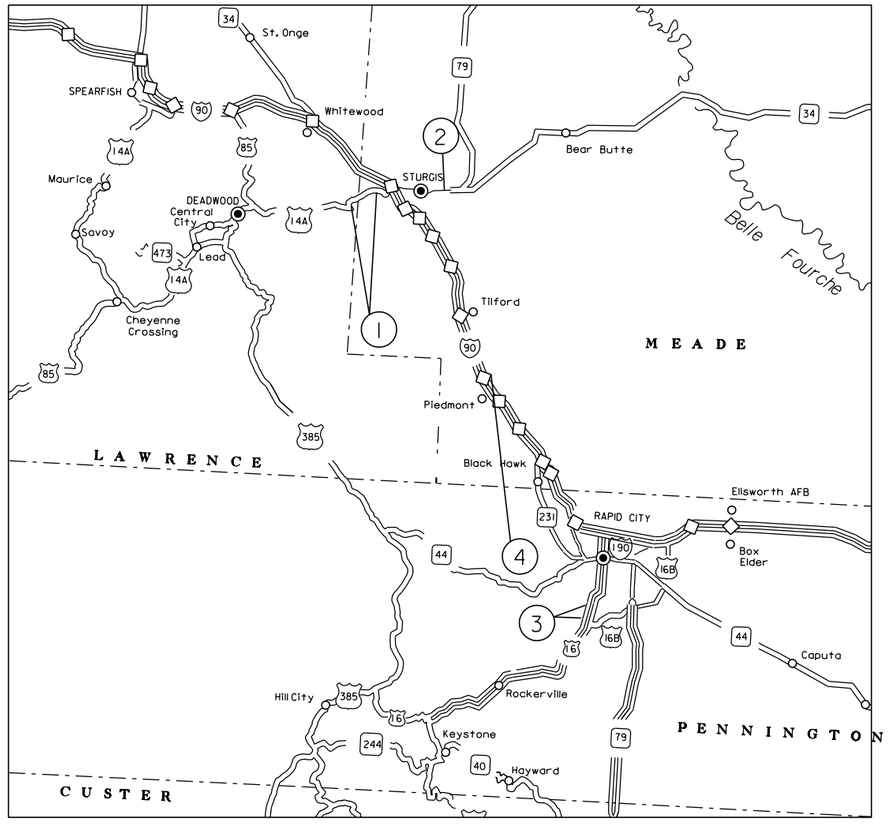

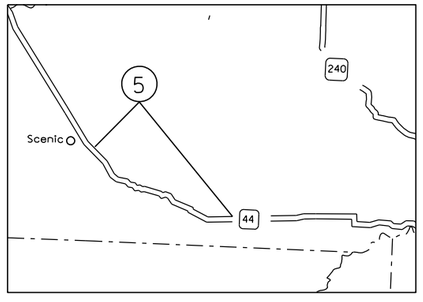

Storm Water Permit
No Permit Required

Plotted From - trnc12608

Plot Scale - 1:200

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ESTIMATE OF QUANTITIES

014A-451, PCN i4ua, US 14A

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
120E0100	Unclassified Excavation, Digouts	450	CuYd
260E1010	Base Course	600.0	Ton
320E1200	Asphalt Concrete Composite	365.1	Ton
332E0010	Cold Milling Asphalt Concrete	578	SqYd
633E1200	Waterborne Pavement Marking Paint with High Grade Polymer, White	3	Gal
633E1205	Waterborne Pavement Marking Paint with High Grade Polymer,Yellow	2	Gal
634E0010	Flagging	40.0	Hour
634E0020	Pilot Car	20.0	Hour
634E0110	Traffic Control Signs	201.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0640	Temporary Pavement Marking	200	Ft

034-451, PCN i4uc, SD 34

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0300	Remove Concrete Curb and/or Gutter	22	Ft
120E0010	Unclassified Excavation	2	CuYd
120E0100	Unclassified Excavation, Digouts	2	CuYd
260E1010	Base Course	7.4	Ton
320E1200	Asphalt Concrete Composite	187.0	Ton
332E0010	Cold Milling Asphalt Concrete	1,619	SqYd
633E1200	Waterborne Pavement Marking Paint with High Grade Polymer, White	7	Gal
633E1205	Waterborne Pavement Marking Paint with High Grade Polymer,Yellow	7	Gal
634E0010	Flagging	30.0	Hour
634E0110	Traffic Control Signs	137.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0285	Type 3 Barricade, 8' Double Sided	2	Each
634E0420	Type C Advance Warning Arrow Board	2	Each
634E0640	Temporary Pavement Marking	617	Ft
650E0060	Type B66 Concrete Curb and Gutter	12	Ft
650E4660	Type P6 Concrete Gutter	10	Ft
734E0010	Erosion Control	Lump Sum	LS

016W-452, PCN i4ud, US 16 W

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
120E0100	Unclassified Excavation, Digouts	6	CuYd
260E1010	Base Course	8.0	Ton
320E1200	Asphalt Concrete Composite	35.9	Ton
332E0010	Cold Milling Asphalt Concrete	282	SqYd
633E1200	Waterborne Pavement Marking Paint with High Grade Polymer, White	1	Gal
634E0010	Flagging	40.0	Hour
634E0110	Traffic Control Signs	116.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0420	Type C Advance Warning Arrow Board	1	Each
634E0640	Temporary Pavement Marking	223	Ft

090 E-452, PCN i4ue, I-90 EB

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E1200	Asphalt Concrete Composite	239.0	Ton
332E0010	Cold Milling Asphalt Concrete	2,111	SqYd
633E1200	Waterborne Pavement Marking Paint with High Grade Polymer, White	5	Gal
633E1205	Waterborne Pavement Marking Paint with High Grade Polymer,Yellow	5	Gal
634E0010	Flagging	20.0	Hour
634E0110	Traffic Control Signs	488.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0285	Type 3 Barricade, 8' Double Sided	1	Each
634E0420	Type C Advance Warning Arrow Board	1	Each
634E0640	Temporary Pavement Marking	1,000	Ft
634E1215	Contractor Furnished Portable Changeable Message Sign	2	Each

044-452, PCN i4uh, SD 44

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
320E1200	Asphalt Concrete Composite	453.0	Ton
332E0010	Cold Milling Asphalt Concrete	4,000	SqYd
633E1200	Waterborne Pavement Marking Paint with High Grade Polymer, White	16	Gal
633E1205	Waterborne Pavement Marking Paint with High Grade Polymer,Yellow	16	Gal
634E0010	Flagging	80.0	Hour
634E0020	Pilot Car	40.0	Hour
634E0110	Traffic Control Signs	201.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0640	Temporary Pavement Marking	1,500	Ft

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 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:

1. 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".

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) 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.

COMMITMENT K: RAPID CITY AREA AIR QUALITY CONTROL ZONE

Administrative Rule of South Dakota (ARSD) 74:36:18:03 states that "no state facility or state contractor may engage in any construction activity or continuous operation activity within the Rapid City air quality control zone which may cause fugitive emissions of particulate to be released into the ambient air without first obtaining a permit issued by the board or the secretary."

Construction activity is defined as any temporary activity at a state facility, which involves the removal or alteration of the natural or pre-existing cover of one acre or more of land. One acre of surface area is based on a cumulative area of disturbance to be completed for the entire project. Construction activity shall include, but not be limited to, stripping of topsoil, drilling, blasting, excavation, dredging, ditching, grading, street maintenance and repair, or earth moving. Construction activity is generally completed within one year. It also includes stockpiles, access roads, and disposal areas. An off-site disposal area of excess material will require an additional permit.

Action Taken/Required:

In order to be considered eligible for authorization to conduct a construction activity under the terms and conditions of this permit, the owner operator must submit a Notice of Intent (NOI) form. The form must be submitted to the address below at least seven business days prior to the anticipated date of beginning the construction activity.

South Dakota Department of Environment and Natural Resources Air Quality Program
523 East Capitol, Joe Foss Building
Pierre, SD 57501-3181
Phone: 605-773-3151

The permit requires the Contractor to use reasonably available technology to control fugitive dust emissions. The Contractor is required to use control measures for track out, paved areas, unpaved roads, unpaved parking lots, disturbed areas, and for material handling and storage. The control measures that the Contractor is required to use are listed in the permit.

BASE COURSE

Base Course shall be placed and compacted according to Section 260.3 B. of the Specifications. At the time of compaction, the material placed on the shoulders shall have approximately 4 percent moisture uniformly blended throughout the depth of material. The percent moisture may be adjusted by the Engineer.

All remaining requirements of the Specifications for Base Course shall apply, except that in Section 260.3 A, the requirement for mixing the Base Course with water by a central plant and placed by an approved spreader shall be waived.

Water for Granular Material shall be applied at a rate of 20 gallons of water per cubic yard of Base Course and shall be incidental to the contract unit price per cubic yard for Base Course.

MAINTENANCE PATCHING

Maintenance Patching shall be in accordance with the requirements of Section 324 of the Standard Specifications, Asphalt Concrete Composite.

UNCLASSIFIED EXCAVATION DIGOUTS

Provided in the Estimate of Quantities is Unclassified Excavation-Digouts at the Maintenance Patching locations for the necessary removal of existing asphalt concrete and base material. The dimensions provided in these plans are subject to change in the field, at the discretion of the Engineer. Payment will be based on the actual quantities installed. Unclassified Excavation Digouts depth shall be 1 foot or as directed by the Engineer. Backfill shall be 6” of Base Course placed in 3” lifts and 6” of Asphalt Concrete Composite placed in 3” lifts.

The existing asphalt concrete shall be sawed full depth with a vertical face to the removal limits established by the Engineer.

All costs associated with sawing, removal and disposal of existing asphalt and base material shall be incidental to the contract unit price per cubic yard Unclassified Excavation Digouts.

.ASPHALT CONCRETE COMPOSITE

Asphalt Concrete Composite shall be furnished by the Contractor.

Mineral Aggregate for Asphalt Concrete Composite shall conform to the requirements of the Standard Specifications for Class E, Type 1 Asphalt Concrete Specifications.

SS-1h or CSS-1h Emulsified Asphalt for Tack shall be applied at the rate of 0.09 gallons per square yard.

The asphalt binder used in the mixture shall be PG 58-28, PG 64-22 or PG 64-28 Asphalt Binder.

A Flush Seal will not be required on the asphalt concrete patching.

Locations and quantities of asphalt repair are subject to change. The exact locations will be determined in the field by the Engineer. The Engineer reserves the right to adjust quantities and/or add locations at no additional cost to the state.

SURFACING THICKNESS DIMENSIONS

Plans 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 for smoothness, plans tonnage may be varied to achieve the required elevation.

COLD MILLING

The removed material from the Cold Milling operation shall be properly disposed of by the Contractor.

The Contractor shall provide temporary asphalt ramps with a 50:1 transition at all locations where traffic is transitioning from a milled to a paved surface and vice versa. All costs associated with this work shall be incidental to the various bid items on the project.

CURB OPENING

The curb and gutter quantities are provided in these plans to all water to drain off the pavement and soak into the grass boulevard along SD34. Currently water sits on the pavement on top of the joint between surfacing and curb and gutter.

TABLE OF MATERIAL QUANTITIES

	MRM	to	MRM	Location	Length (Feet)	Width (Feet)	Maint Patch Thickness (Feet)	Cold Milling Asphalt Concrete (SqYd)	Digouts (CuYd)	Asphalt Concrete Composite (Tons)	Base Course (Ton)	Unclassified Excavation (CuYd)	Remove Concrete Curb and/or Gutter (Feet)	Type B66 Concrete Curb and Gutter (Feet)	Type P6 Concrete Gutter (Feet)	Temporary Pavement Marking (Feet)	Pavement Marking Paint, Yellow (Gal)	Pavement Marking Paint, White (Gal)	Comments
PCN i4ua																			
14A			49.570	WB & EB	200	26	0.17	577.8		65.4						200	2.11	2.11	Bridge approaches, Mill and Overlay 100' each end
14A			51.498	Left Side	180	45	0.5		450.0	299.7	600					180		0.95	Snowplow turn around bottom of Boulder Canyon, Digout and replace with 6" AC Composite and 12" of Base Course
							Total	**577.8**	**450**	**365.1**	**600**					**380**	**2**	**3**	
PCN i4uc																			
34			36.360	WB	10	10	0.5		1.9	3.7	7.4					10	0.11	0.11	Remove and Replace 6",Westbound, Between Driving and Passing Lane
34	35.987		35.872	WB	607	24	0.17	1618.7		183.3		2	22	12	10	607	6.39	6.39	Add curb opening at low point, excavate 6" below P Gutter in grassed boulevard , 10' by 10' area maintain max 10:1 slopes
							Total	**1618.7**	**1.9**	**187**	**7.4**	**2**	**22**	**12**	**10**	**617**	**7**	**7**	
PCN i4ud																			
16 W	64.127		64.087	WB	211.2	12	0.17	281.6		31.9						211		1.11	2" Mill and Overlay, Driving Lane
16 W	63.644			WB	12	9	0.5		6.0	4	8					12			Digout and replace.
							Total	**281.6**	**6**	**35.9**	**8**					**223**		**1**	
PCN i4ue																			
I-90	48.000			EB on-ramp	1000	19	0.17	2111.1		239						1000	5.0	5.0	Exit 48 Ramp EB On
							Total	2111.1		239						1000	5	5	
PCN i4uh																			
44	89.585		89.615		200	28	0.17	622.2		70.4						200	2.11	2.11	
44	100.703				100	28	0.17	311.1		35.2						100	1.05	1.05	
44	102.638		102.658		200	28	0.17	622.2		70.4						200	2.11	2.11	
44	102.688				100	28	0.17	311.1		35.2						100	1.05	1.05	
44	102.708		102.718		150	28	0.17	466.7		52.8						150	1.58	1.58	
44	102.768		102.818		400	28	0.17	1244.4		140.9						400	4.21	4.21	
44	103.845				100	28	0.17	311.1		35.2						100	1.05	1.05	
44	103.925		103.955		250	28	0.17	777.8		88.1						250	2.63	2.63	
							Total	**4666.6**		**528.2**						**1500**	**16**	**16**	
							Total	**4666.6**		**528.2**						**1500**	**16**	**16**	

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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.

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.

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,

TRAFFIC CONTROL

i4ua

Work on bridge ends at MRM 49.57 shall be conducted using flagger and pilot car. See Special Provision for Contract Time regarding work restrictions on the bridge ends.

The Contractor shall conduct all work at MRM 51.498 off the traveled lanes.

i4uc

Utilize Standard Plate 634.47, 634.48, and 634.60 to complete work. See Special Provision for Contract Time regarding work restrictions.

i4ud

Utilize Standard Plate 634.64 and Ramp Entrance and Exit Signing Detail #1 to complete work at MRM's 63.64 and 64.1. The southbound (westbound) Hwy 16 to westbound Catron Boulevard Right Turn Lane may be closed to complete work at MRM 64.1. See Special Provision for Contract Time regarding work restrictions.

i4ue

Utililze Standard Plate 634.63 to complete overlay of the Exit 48 On Ramp. The Exit 48 On-Ramp may be closed during milling and resurfacing operations. See Special Provision for Contract Time for work restrictions.

i4uh

Work shall be conducted using flagger and pilot car.

CONTRACTOR FURNISHED PORTABLE CHANGEABLE MESSAGE SIGN

Contractor Furnished Portable Changeable Message Signs shall be utilized on this project to advise the traveling public of project conditions. The Contractor shall furnish, position, and maintain the message signs at locations as directed by the Engineer.

Each message sign shall be in a new or nearly new condition and consist of a message board, power supply, and a message control system, all mounted on a heavy duty trailer. The message signs shall remain the property of the Contractor upon completion of the project.

Addco Manufacturing, Precision Solar Controls Inc., Winkomatic Signal Company, and American Signal Company are manufacturers of acceptable Solar Powered Portable Changeable Message Signs.

The overall dimensions of the message board shall be a minimum of 108" wide x 72" high. The message board shall be enclosed in a rigidly framed, weather tight housing.

The message board shall contain a minimum of three message lines. Each message line shall be capable of displaying a minimum of 8 characters. Each character shall be approximately 18" high and shall be formed by 35 dots in a 5 x 7 matrix. The message boards shall be capable of changing the entire message content in not more than 100 milliseconds. No more than 2 displays shall be used within any message cycle.

All costs associated with obtaining, positioning, re-positioning, programming, re-programming, maintaining, and removing the message signs shall be incidental to the contract unit price per each for Contractor Furnished Portable Changeable Message Sign.

ITEMIZED LIST OF TRAFFIC CONTROL DEVICES

014A-451, PCN i4ua, US 14A

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W3-4	BE PREPARED TO STOP	2	48" x 48"	16.0	32.0
W8-1	BUMP	2	48" x 48"	16.0	32.0
W8-15	GROOVED PAVEMENT	2	48" x 48"	16.0	32.0
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			201.0

034-451, PCN i4uc, SD 34

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W4-2	LEFT or RIGHT LANE ENDS (symbol)	3	48" x 48"	16.0	48.0
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	3	48" x 48"	16.0	48.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			137.0

TYPE 3 BARRICADES

ITEM DESCRIPTION	QUANTITY
Type 3 Barricade, 8' Double Sided	2 Each

ARROW BOARDS

ITEM DESCRIPTION	QUANTITY
Type C Advance Warning Arrow Board	2 Each

016E-452, PCN i4ud, US 16

		EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R2-6aP	FINES DOUBLE (plaque)	2	36" x 24"	6.0	12.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	1	48" x 24"	8.0	8.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			116.0

ARROW BOARDS

ITEM DESCRIPTION	QUANTITY
Type C Advance Warning Arrow Board	1 Each

ITEMIZED LIST OF TRAFFIC CONTROL DEVICES (CONTINUED)

090 E-452, PCN i4ue, I-90 EB

		EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-2aP	TO ONCOMING TRAFFIC (plaque)	1	48" x 36"	12.0	12.0
R2-1	SPEED LIMIT __	6	36" x 48"	12.0	72.0
R2-6aP	FINES DOUBLE (plaque)	2	36" x 24"	6.0	12.0
W3-2	YIELD AHEAD (symbol)	1	48" x 48"	16.0	16.0
W3-4	BE PREPARED TO STOP	1	48" x 48"	16.0	16.0
W3-5	SPEED REDUCTION AHEAD (__ MPH)	4	48" x 48"	16.0	64.0
W4-1	MERGE (symbol)	1	48" x 48"	16.0	16.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W8-1	BUMP	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	2	48" x 48"	16.0	32.0
W8-15	GROOVED PAVEMENT	2	48" x 48"	16.0	32.0
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-5	LEFT or RIGHT LANE CLOSED 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	3	48" x 24"	8.0	24.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			488.0

TYPE 3 BARRICADES

ITEM DESCRIPTION	QUANTITY
Type 3 Barricade, 8' Double Sided	1 Each

ARROW BOARDS

ITEM DESCRIPTION	QUANTITY
Type C Advance Warning Arrow Board	1 Each

044-452, PCN i4uh, SD 44

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W3-4	BE PREPARED TO STOP	2	48" x 48"	16.0	32.0
W8-1	BUMP	2	48" x 48"	16.0	32.0
W8-15	GROOVED PAVEMENT	2	48" x 48"	16.0	32.0
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			201.0

PERMANENT PAVEMENT MARKINGS

All surfaces have existing markings and the Contractor is encouraged to review prior to bidding.

The pavement marking paint and glass beads shall be furnished and applied by the Contractor. All materials shall be applied as per manufacturer's recommendations.

WATERBORNE PAVEMENT MARKING PAINT WITH HIGH GRADE POLYMER

All materials shall be applied as per manufacturer's recommendations.

This material shall consist of a durable high build, low VOC, fast drying, waterborne traffic paint with a 100% acrylic polymer (Dow DT-400 or Dow HD-21A or equivalent). The Contractor shall provide certification that the material is one of the following products or an equivalent as approved by the Operations Traffic Engineer:

Diamond Vogel's Waterborne High Build Polymer Marking Paint
Ennis-Flint's High Build Polymer Marking Paint

No further testing of this material will be required. Reflective media consisting of glass beads as well as bonded core reflective elements shall be adhered to the paint.

The bonded core reflective elements shall contain either clear or yellow tinted microcrystalline ceramic beads bonded to the outer surface. All microcrystalline ceramic beads bonded to reflective elements shall have a minimum index of refraction of 1.8 when tested using the liquid oil immersion method.

RATES OF MATERIALS FOR WATERBORNE PAVEMENT MARKING PAINT WITH HIGH GRADE POLYMER

Solid 4" line = 27.8 Gals/Mile
Glass Beads = 5.3 Lbs/Gal.
Composite Reflective Elements = 2.1 Lbs/Gal.

All cost for materials, labor and equipment necessary to furnish and install the pavement markings shall be incidental to the contract unit price per gallon for "Waterborne Pavement Marking Paint with High Grade Polymer, White or Yellow".

EROSION CONTROL

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

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

MYCORRHIZAL INOCULUM

Mycorrhizal inoculum 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:

Glomus intraradices	25%
Glomus aggregatu	25%
Glomus mosseae	25%
Glomus etunicatum	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 lump sum for Erosion Control.

The mycorrhizal inoculum shall 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

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% (P_2O_5) available phosphate, a minimum of 4% (K_2O) 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 1,500 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:

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

PERMANENT SEEDING

The areas to be seeded consist of disturbed areas within the project limits.

Type F Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana	7
Green Needlegrass	Lodorm	4
Sideoats Grama	Butte, Killdeer, Pierre, Trailway	3
Blue Grama	Bad River, Willis	2
Oats or Spring Wheat: April through May; Winter Wheat: August through November		10
	Total:	26

FIBER MULCHING

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

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.

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

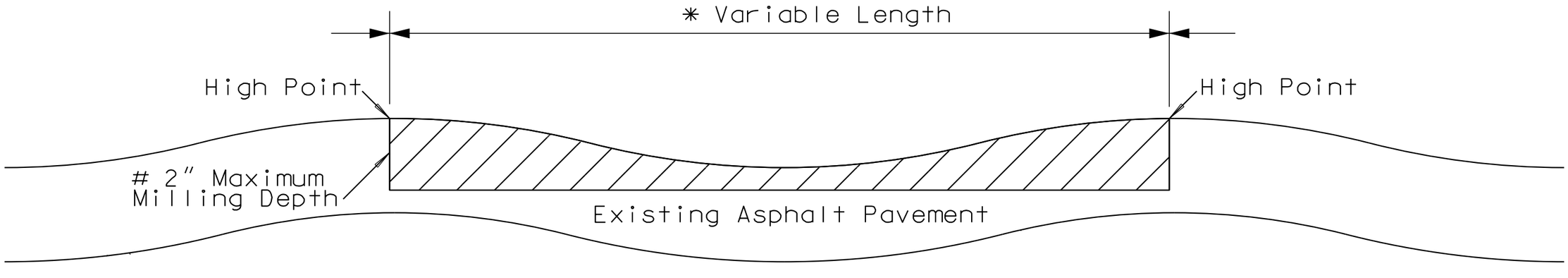
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	014A-451, etc.	8	19

Plotting Date: 07/17/2017

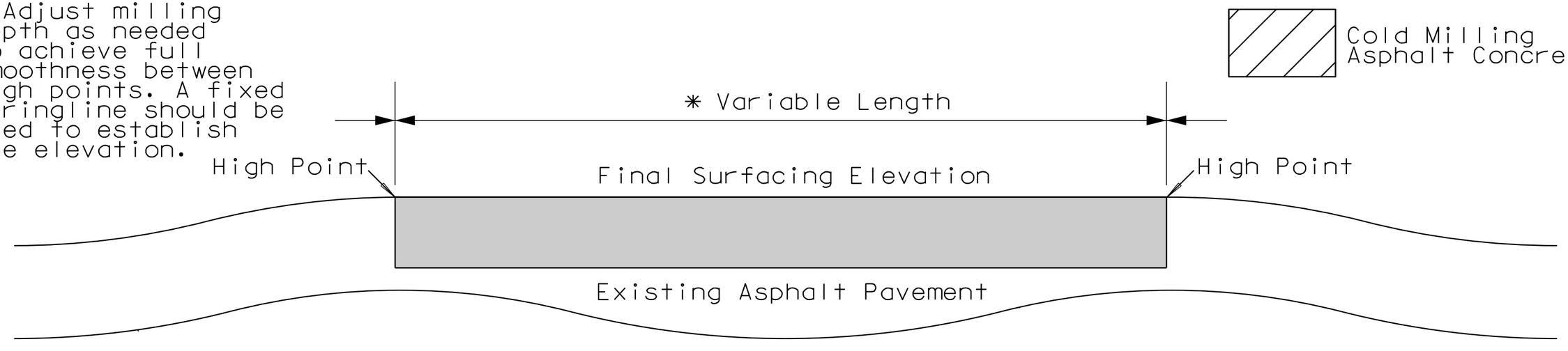
SD 44 ASPHALT PATCHES

LONGITUDINAL SECTION ALONG CENTERLINE (FULL ROADWAY WIDTH)

* Lengths used for estimating purposes can be found in the Table of Material Quantities. These distances shall be adjusted in the field based upon in-place conditions between high points.



Adjust milling depth as needed to achieve full smoothness between high points. A fixed stringline should be used to establish the elevation.



Cold Milling Asphalt Concrete

Asphalt Concrete Composite

Plot Scale - 1:4

Plotted From - trnc12608

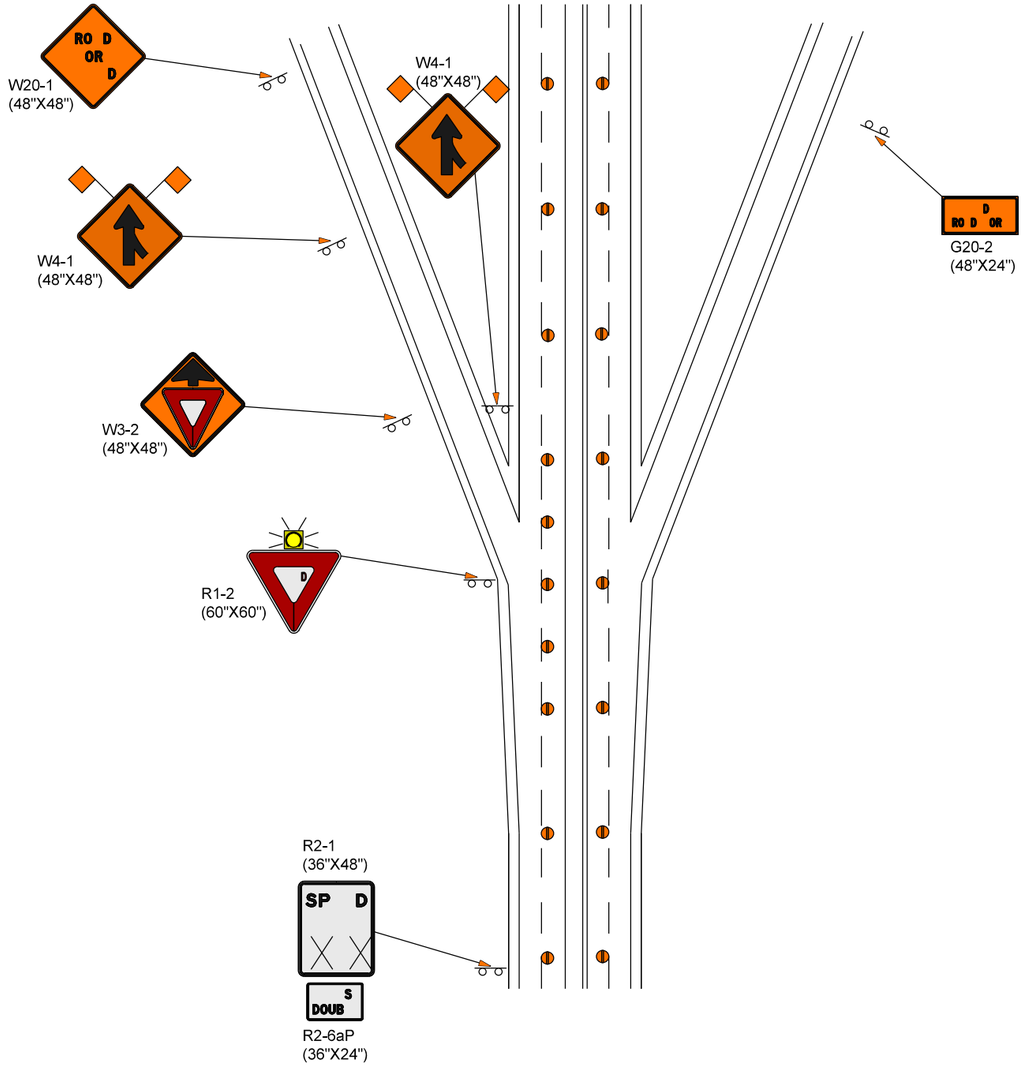
File - ...\SD44 Milling.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	014A-451, etc.	9	19

Plotting Date: 07/17/2017

TRAFFIC CONTROL

RAMP ENTRANCE AND EXIT SIGNING DETAILS



USE APPROPRIATE SPEED LIMIT

-- THE WARNING LIGHT SHALL BE A SHIELDED TYPE B, IN ACCORDANCE WITH THE MUTCD

Plot Scale - 1:40

Plotted From - trrc12608

File - ...\Typical ramp signing details.dgn

Vehicle-mounted signs shall be mounted in a manner such that they are not obscured by equipment or supplies.

Sign legends on vehicle-mounted signs shall be covered or turned from view when work is not in progress.

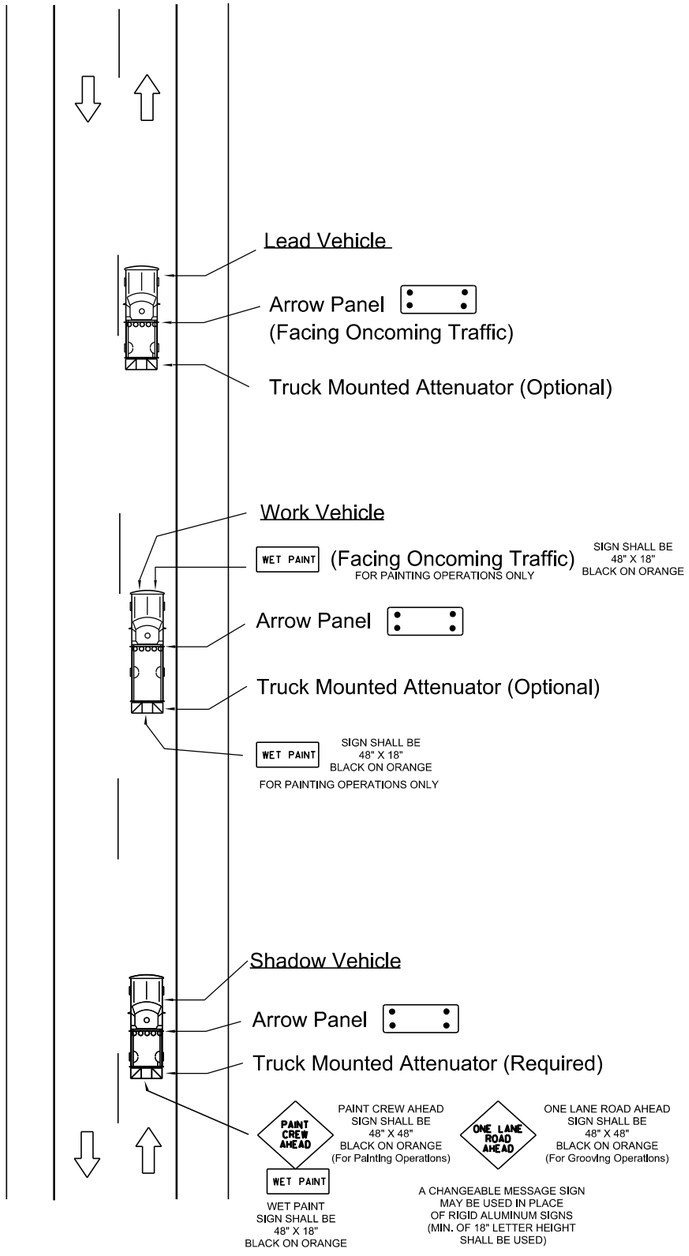
Shadow and Work vehicles shall display high-intensity rotating, flashing, oscillating, or strobe lights, flags, signs, or arrow panels.

Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights

Arrow panel shall be used in the caution mode.

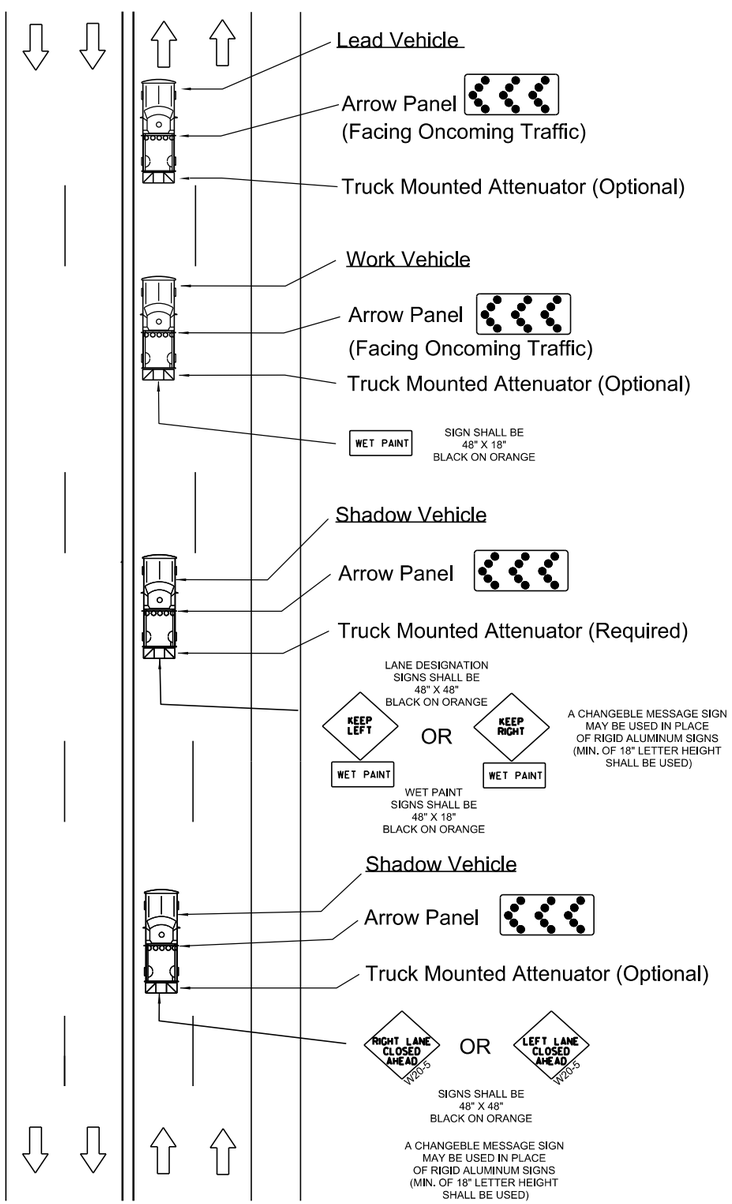
Flashing

Arrow panels shall, as a minimum, be Type B, with a size of 60" x 30".



GUIDES FOR TRAFFIC CONTROL DEVICES MOBILE OPERATIONS 0N 2-LANE ROAD

MOBILE: Intermittent & Continuous Moving



GUIDES FOR TRAFFIC CONTROL DEVICES MOBILE OPERATIONS 0N 4-LANE DIVIDED

MOBILE: Intermittent & Continuous Moving

TYPICAL PAVEMENT MARKING LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	014A-451, etc.	11	19

Plotting Date: 07/17/2017

Plot Scale = 1:20

Plotted From - trnc12608

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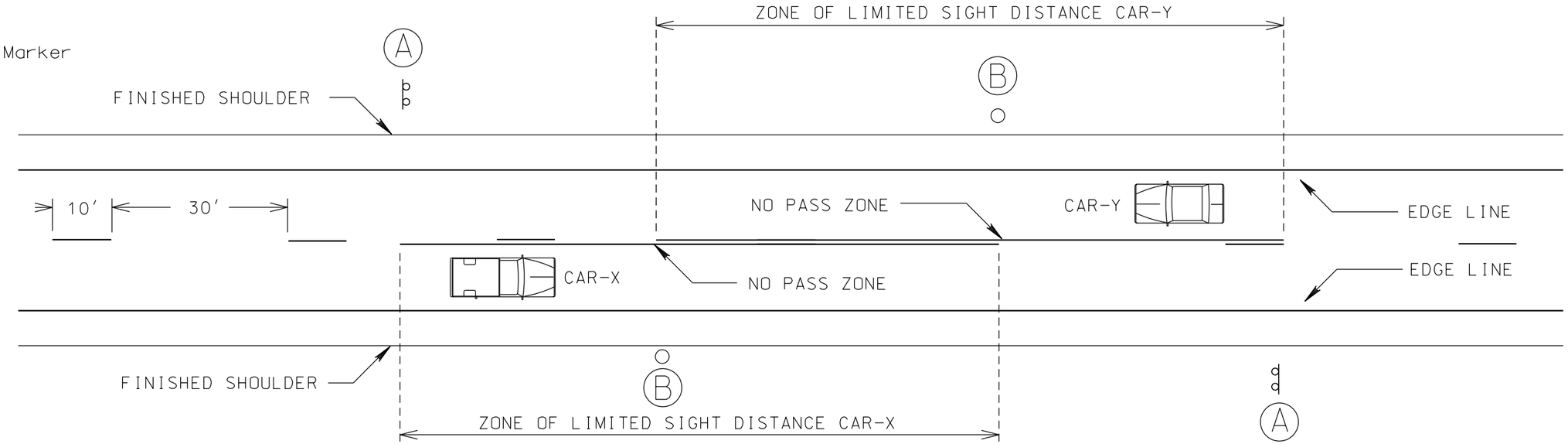
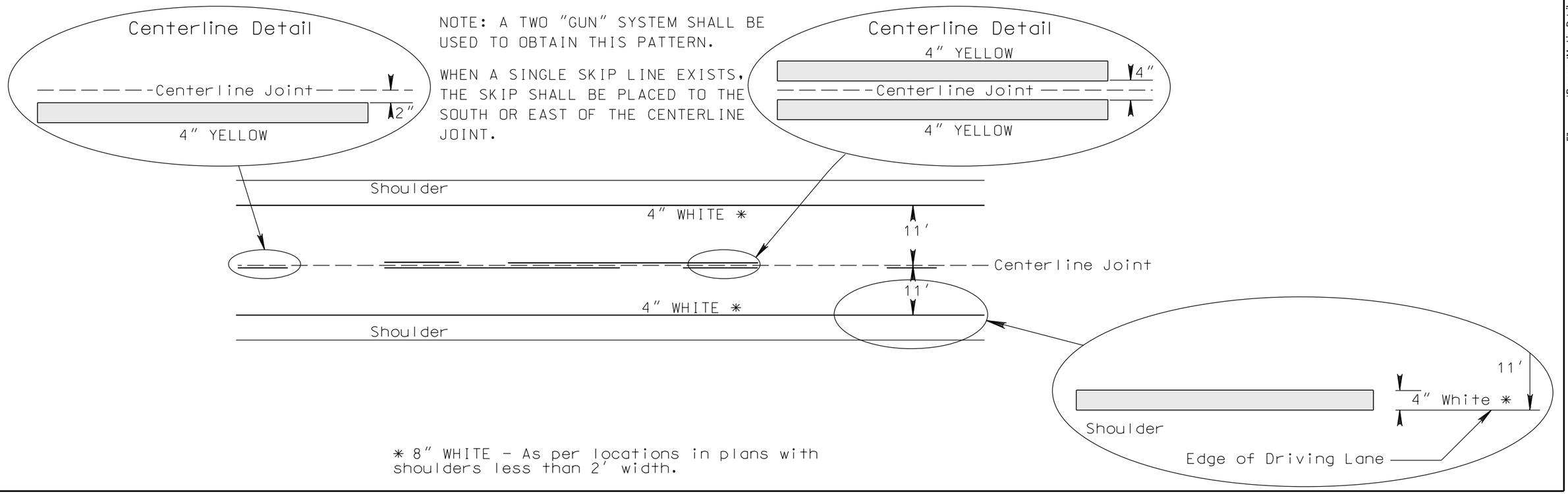
(A) NO PASSING ZONE

(B) End of Zone Marker





* 8" WHITE - As per locations in plans with shoulders less than 2' width.

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.

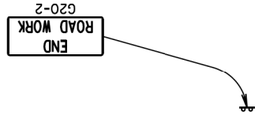
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

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.

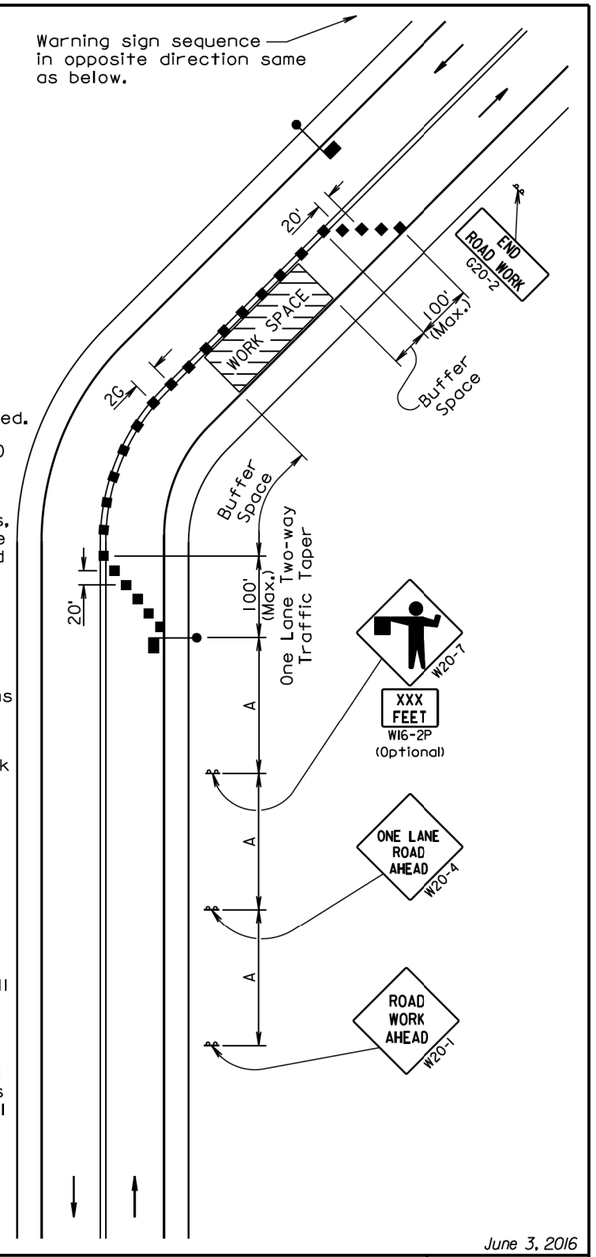
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



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

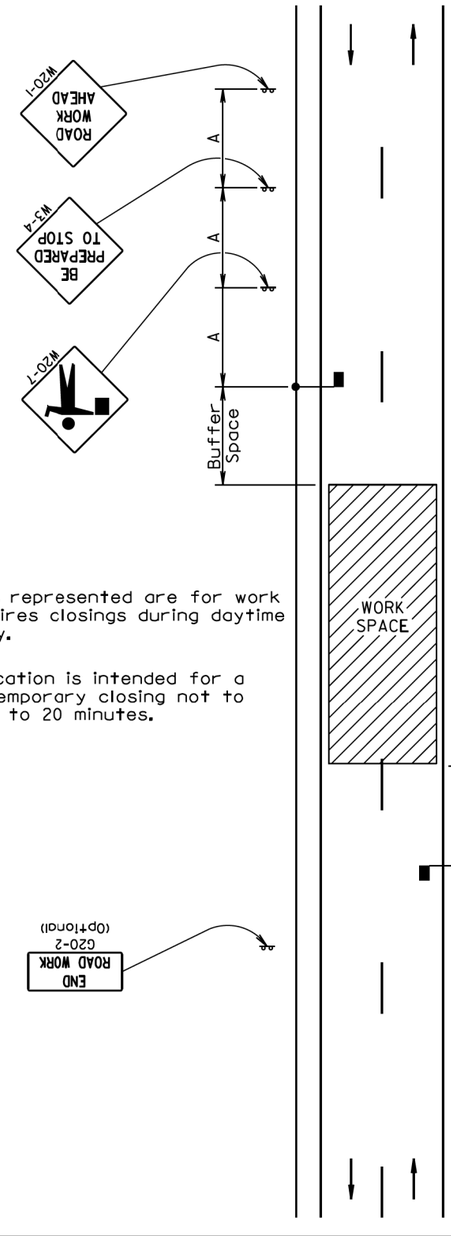
The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

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



June 3, 2016

Published Date: 3rd Qtr. 2017	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23 Sheet 1 of 1



Conditions represented are for work that requires closings during daytime hours only.

This application is intended for a planned temporary closing not to exceed 15 to 20 minutes.

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

Flagger

END ROAD WORK
G20-2
(Optional)

Posted Speed Prior to Work (M.P.H.)	Length of Longitudinal Buffer Space (Feet)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645

Buffer space dependent on work site limitations.

September 6, 2015

Published Date: 3rd Qtr. 2017	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES TEMPORARY ROAD WORK	PLATE NUMBER 634.30 Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	014A-451, etc.	13	19

Plotting Date: 07/17/2017

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

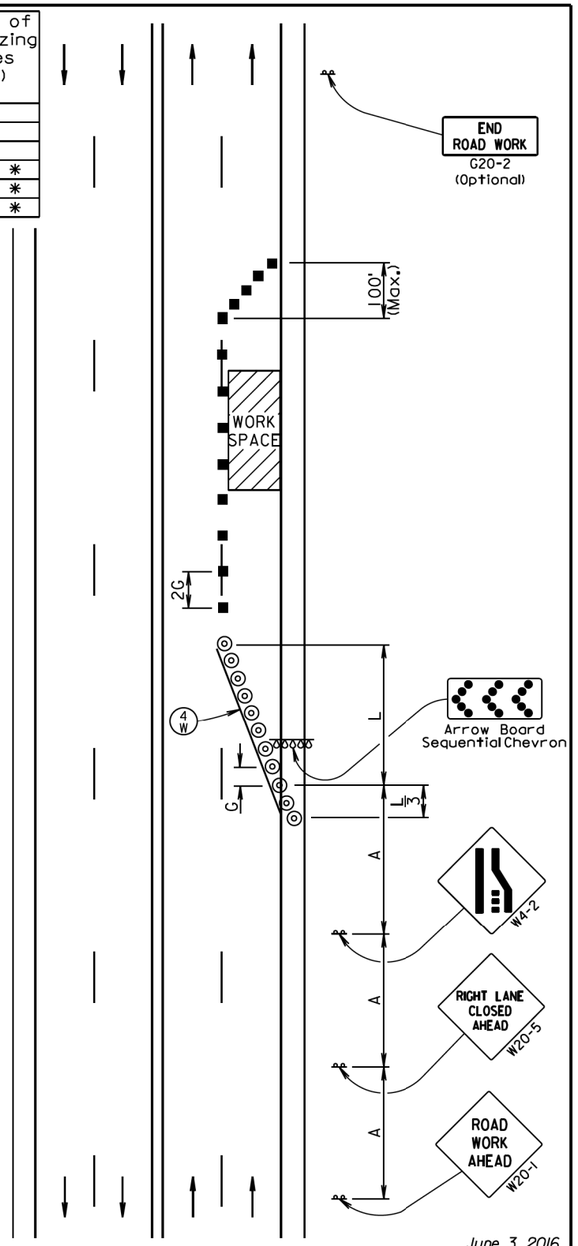
(4W) 4" White Temporary Pavement Marking

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: 3rd Qtr. 2017	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES 4-LANE UNDIVIDED, RIGHT LANE CLOSED	PLATE NUMBER 634.47 Sheet 1 of 1

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

(4Y) 4" Yellow Temporary Pavement Marking

Pavement markings no longer applicable shall be removed or obliterated as soon as practical.

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

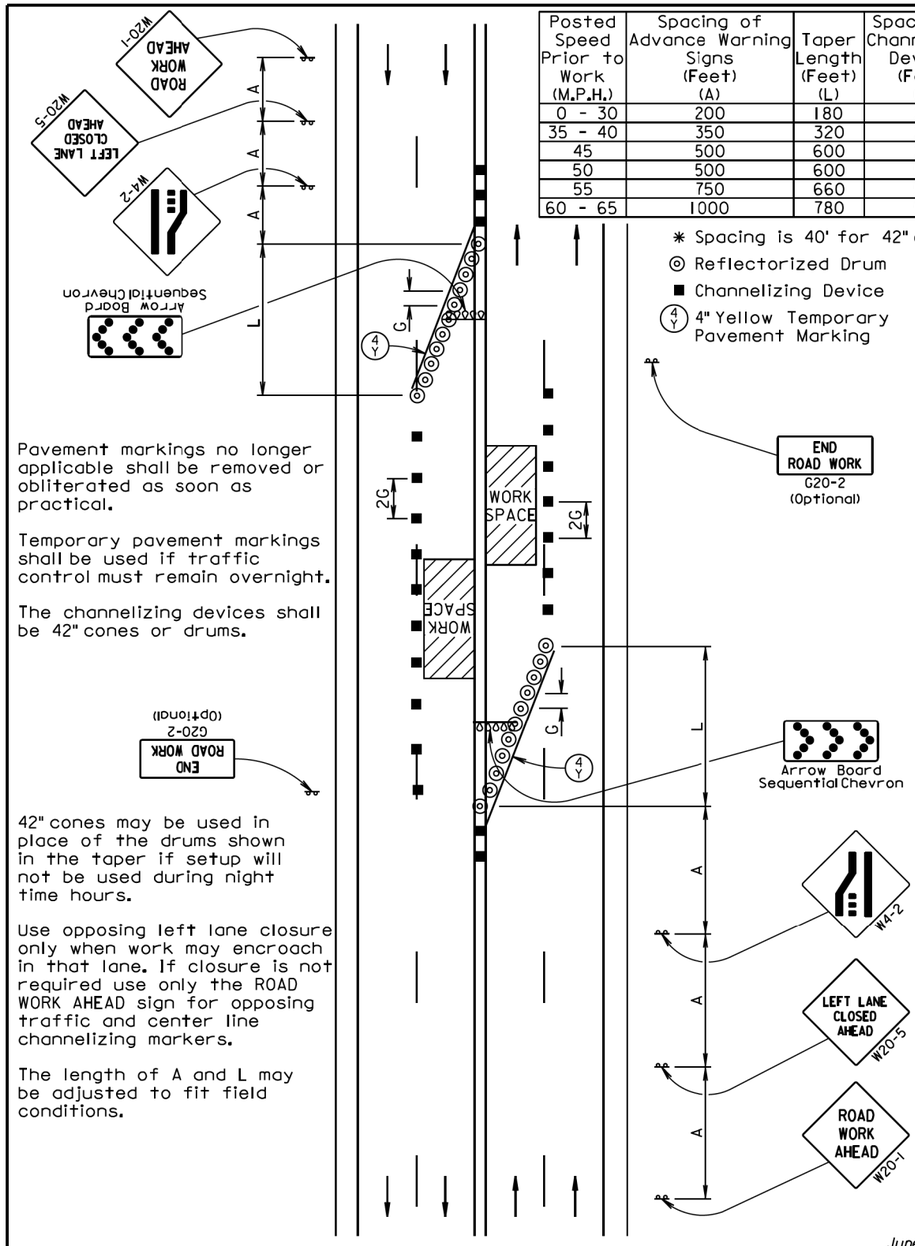
The channelizing devices shall be 42" cones or drums.

END ROAD WORK G20-2 (Optional)

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

Use opposing left lane closure only when work may encroach in that lane. If closure is not required use only the ROAD WORK AHEAD sign for opposing traffic and center line channelizing markers.

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



June 3, 2016

Published Date: 3rd Qtr. 2017	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES 4-LANE UNDIVIDED, LEFT LANE CLOSED	PLATE NUMBER 634.48 Sheet 1 of 1

Plot Scale - 1:200

- Plotted From - trrc12608

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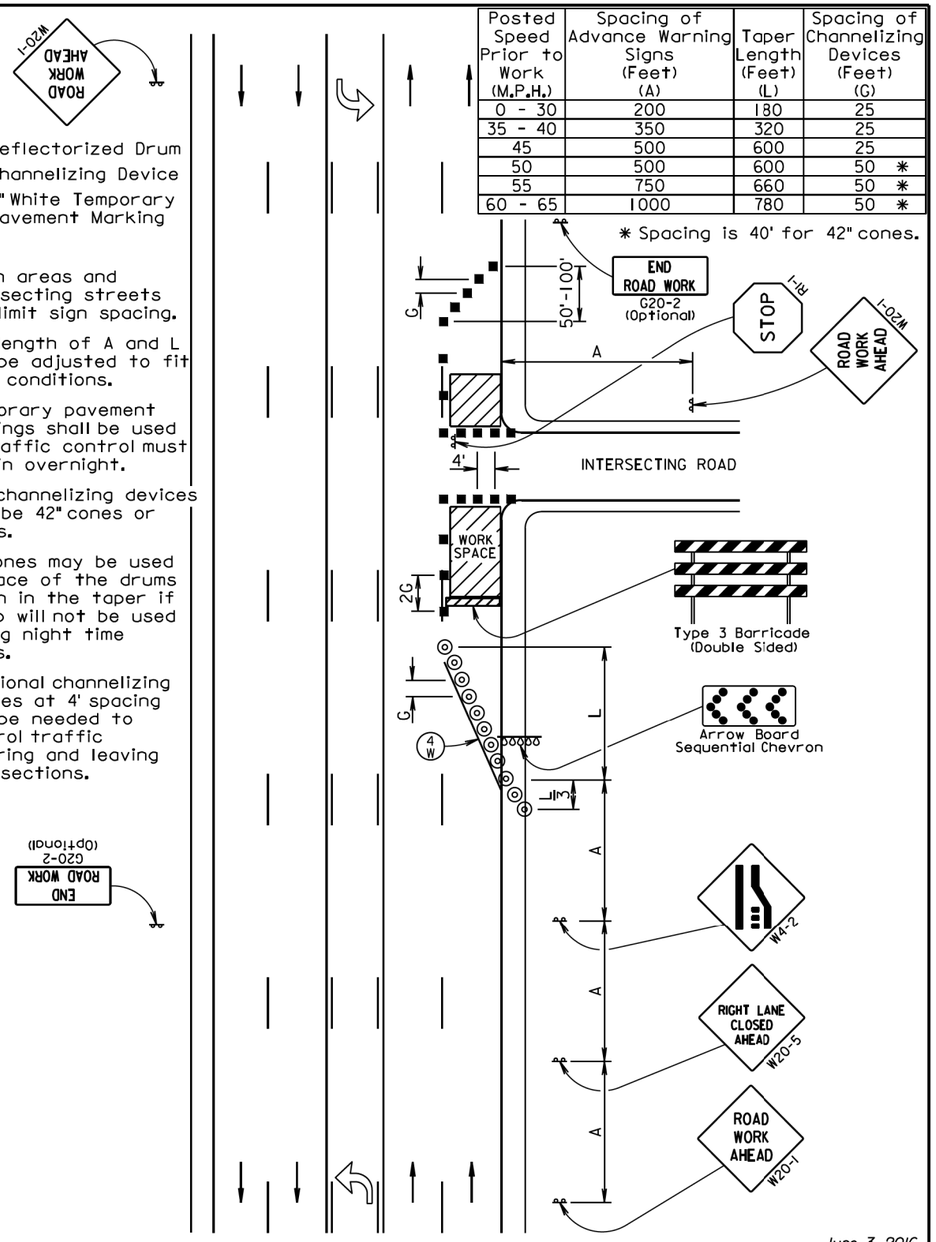


Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45	500	600	25
50	500	600	50 *
55	750	660	50 *
60 - 65	1000	780	50 *

June 3, 2016

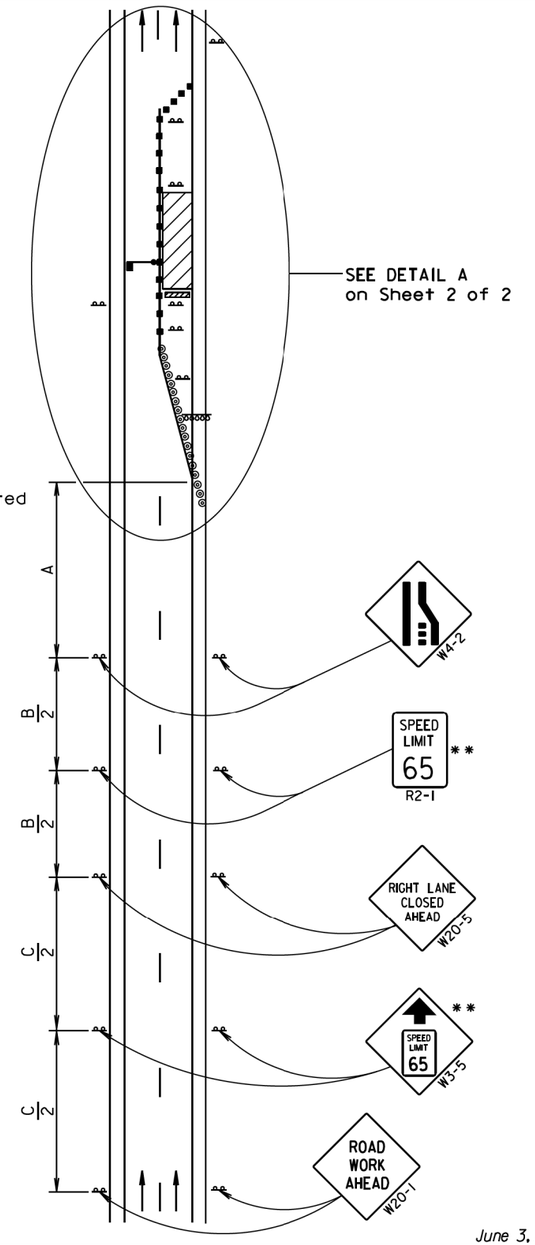
Published Date: 3rd Qtr. 2017	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES 5-LANE, OUTSIDE LANE CLOSED	PLATE NUMBER 634.60 Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B) (C)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000
	(A) (B) (C)
70 - 80	1000 1500 2640

** Speed appropriate for location.
Reflectorized Drum
Channelizing Device

ROAD WORK AHEAD sign is only required in advance of the first lane closure.

High speed is defined as having a posted speed limit greater than 45 mph.



June 3, 2016

Published Date: 3rd Qtr. 2017	SDDOT	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63 Sheet 1 of 2

Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (Feet) (G)	Taper Length (Feet) (L)
0 - 30	25	180
35 - 40	25	320
45	25	600
50	50 *	600
55	50 *	660
60 - 65	50 *	780
70 - 80	50 *	960

* Spacing is 40' for 42" cones.

** Speed appropriate for location.

*** Use speed limit designated for the condition when workers are present in the work space. Signs shall be covered or removed when workers are not present.

Flagger (As Necessary)

◎ Reflectorized Drum

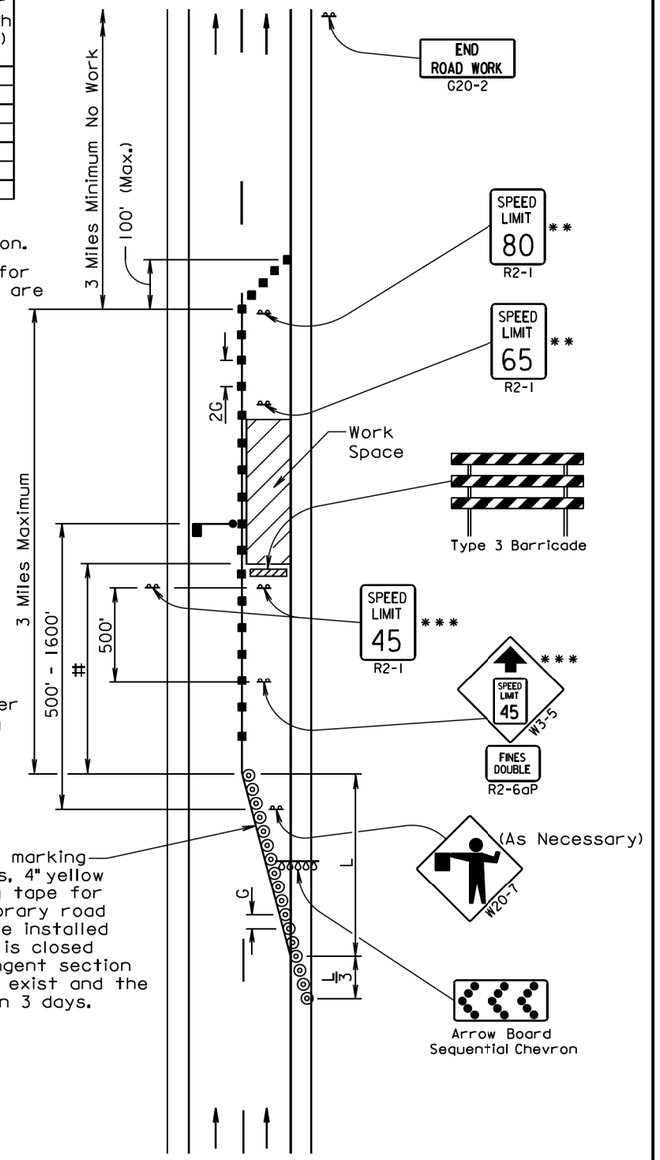
■ Channelizing Device

The Work Space shall be a minimum of 500' from the end of the taper.

The FLAGGER sign shall be used whenever there is a Flagger present.

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.



4" white temporary pavement marking tape for right lane closures, 4" yellow temporary pavement marking tape for left lane closures, or temporary road markers at 5' spacing shall be installed in the taper when the lane is closed overnight, and along the tangent section where the skip lines do not exist and the lane is closed for more than 3 days.

DETAIL A

June 3, 2016

Published Date: 3rd Qtr. 2017	SDDOT	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63
			Sheet 2 of 2

Posted Speed Prior to Work (M.P.H.)	Length of Longitudinal Buffer Space (Feet)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820
80	910

◎ Reflectorized Drum

■ Channelizing Device

(4W) 4" White Temporary Pavement Marking

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

This procedure also applies when work is being performed in the lane adjacent to the median on a divided highway. Under these conditions, LEFT LANE CLOSED signs and the corresponding LANE REDUCTION symbol signs shall be used.

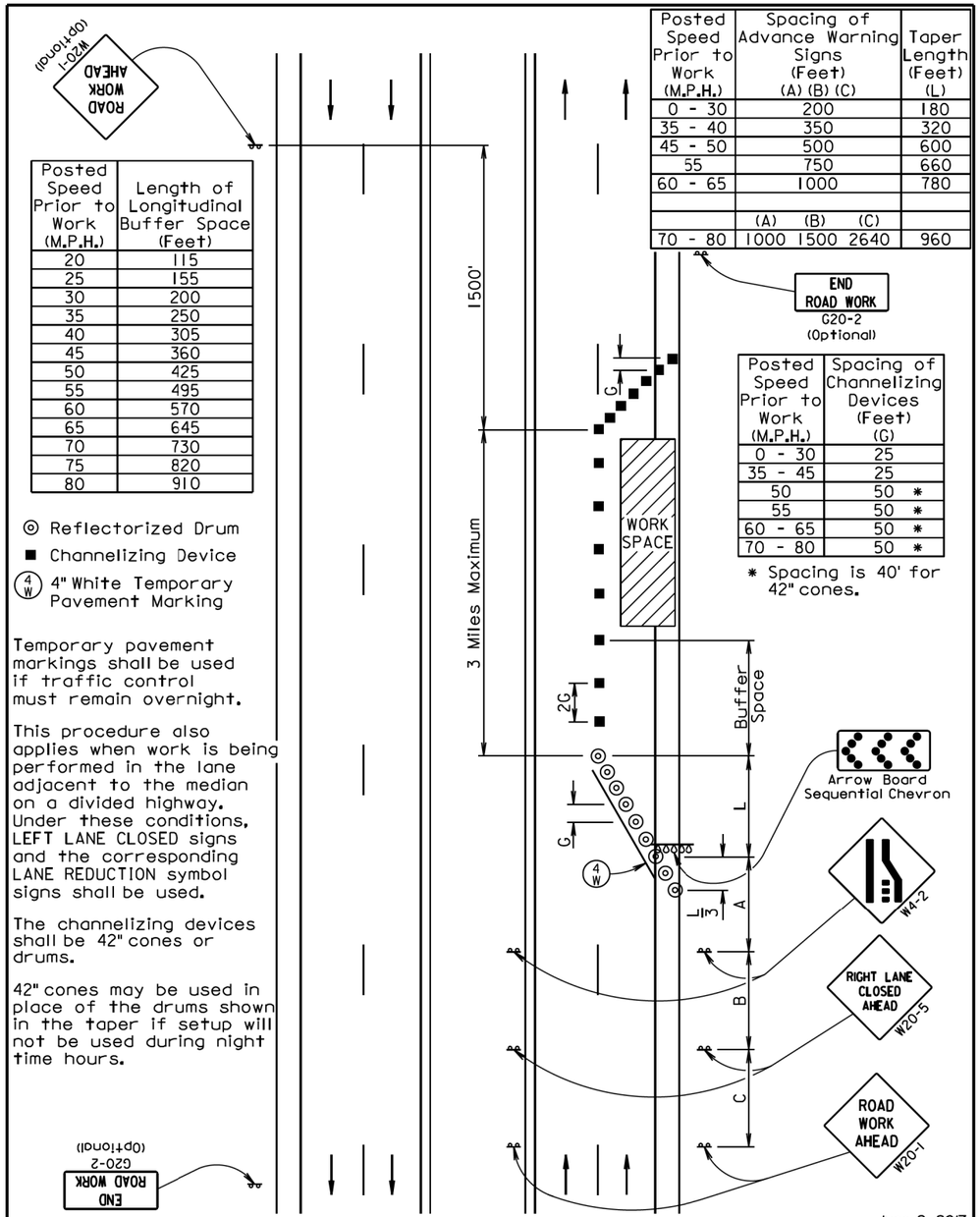
The channelizing devices shall be 42" cones or drums.

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

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B) (C)	Taper Length (Feet) (L)
0 - 30	200	180
35 - 40	350	320
45 - 50	500	600
55	750	660
60 - 65	1000	780
	(A) (B) (C)	
70 - 80	1000 1500 2640	960

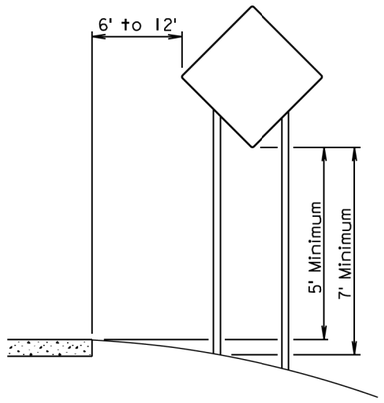
Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	25
35 - 45	25
50	50 *
55	50 *
60 - 65	50 *
70 - 80	50 *

* Spacing is 40' for 42" cones.

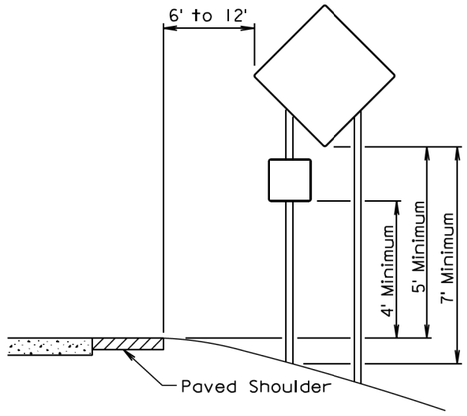


June 9, 2017

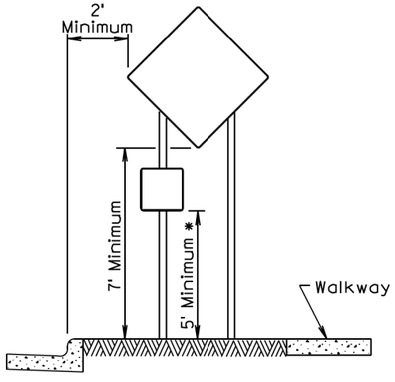
Published Date: 3rd Qtr. 2017	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITHOUT BARRIER	PLATE NUMBER 634.64
			Sheet 1 of 1



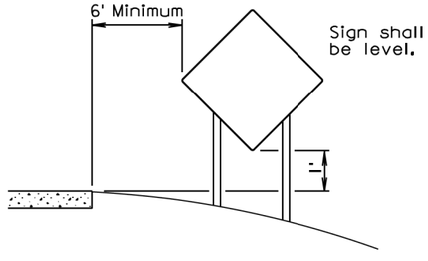
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

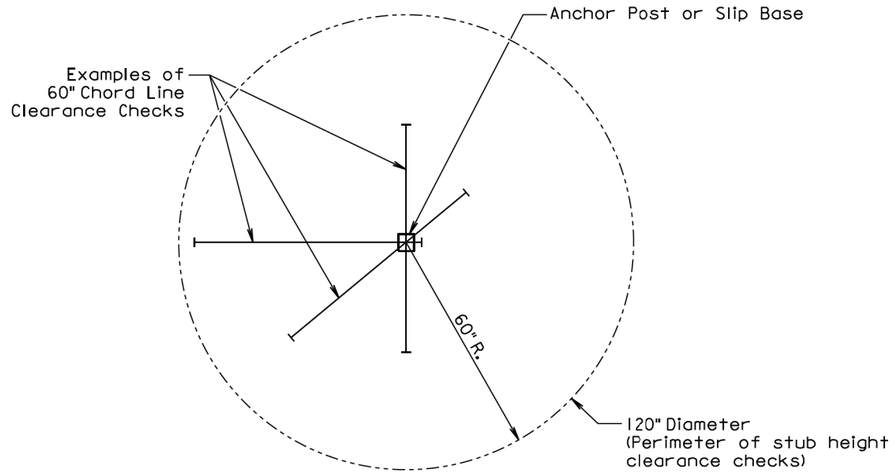


RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

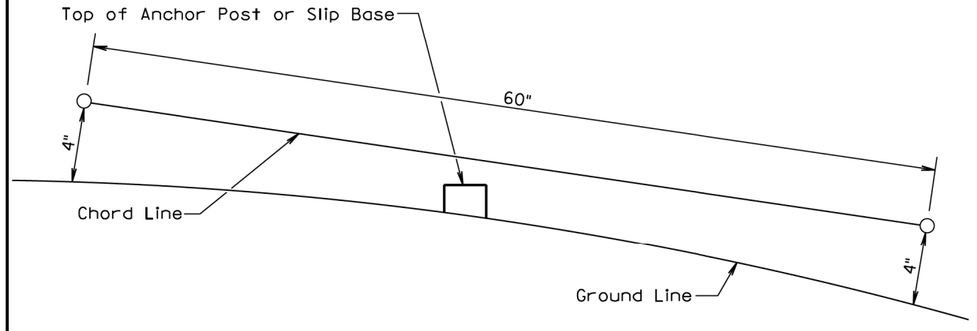
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

September 22, 2014

Published Date: 3rd Qtr. 2017	SDDOT	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:

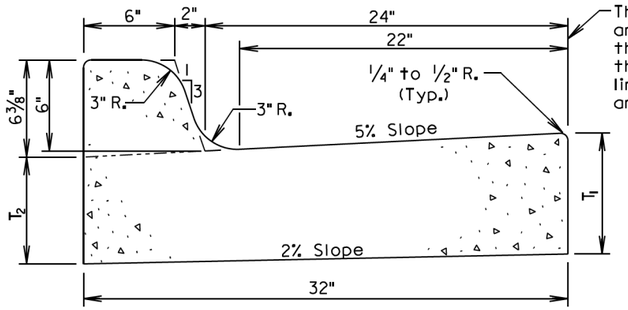
The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

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: 3rd Qtr. 2017	SDDOT	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1



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

Type	T_1 (Inches)	T_2 (Inches)	Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
B66	6	5 1/16	0.057	17.7
B67	7	6 1/16	0.065	15.4
B68	8	7 1/16	0.073	13.7
B68.5	8.5	7 9/16	0.077	13.0
B69	9	8 1/16	0.081	12.3
B69.5	9.5	8 9/16	0.085	11.7
B610	10	9 1/16	0.090	11.2
B610.5	10.5	9 9/16	0.094	10.7
B611	11	10 1/16	0.098	10.2
B611.5	11.5	10 9/16	0.102	9.8
B612	12	11 1/16	0.106	9.4

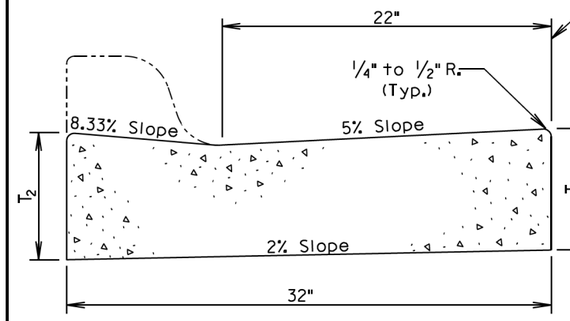
GENERAL NOTES:

When concrete curb and gutter longitudinally adjoins new concrete pavement, the method of attachment 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: 3rd Qtr. 2017	SDDOT	**TYPE B CONCRETE CURB AND GUTTER**	***PLATE NUMBER*** 650.01 *Sheet 1 of 1*

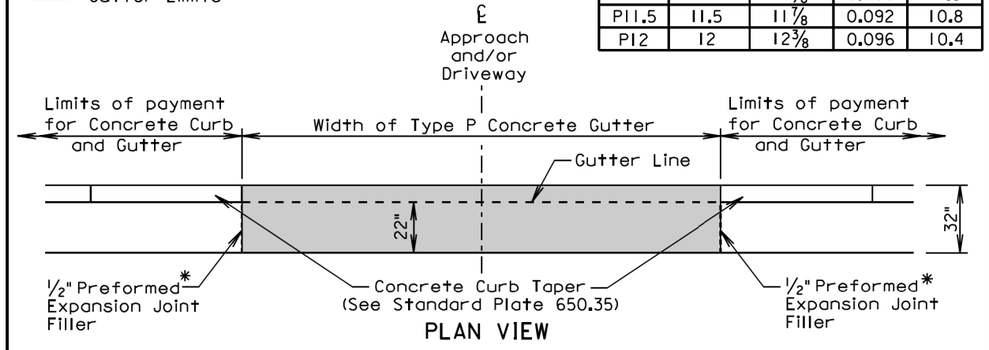


The stated radii on the plans and cross sections refer to this line and it shall also be the basis for horizontal linear foot measurement and payment.

Type	T_1 (Inches)	T_2 (Inches)	Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
P6	6	6 3/8	0.047	21.2
P7	7	7 3/8	0.055	18.1
P8	8	8 3/8	0.064	15.7
P8.5	8.5	8 7/8	0.068	14.8
P9	9	9 3/8	0.072	13.9
P9.5	9.5	9 7/8	0.076	13.2
P10	10	10 3/8	0.080	12.5
P10.5	10.5	10 7/8	0.084	11.9
P11	11	11 3/8	0.088	11.3
P11.5	11.5	11 7/8	0.092	10.8
P12	12	12 3/8	0.096	10.4

TRANSVERSE SECTION

Type P Concrete Gutter Limits



PLAN VIEW

* Joint will not be needed if concrete curb and gutter and type P concrete gutter is placed at the same time. If the 1/2" 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.

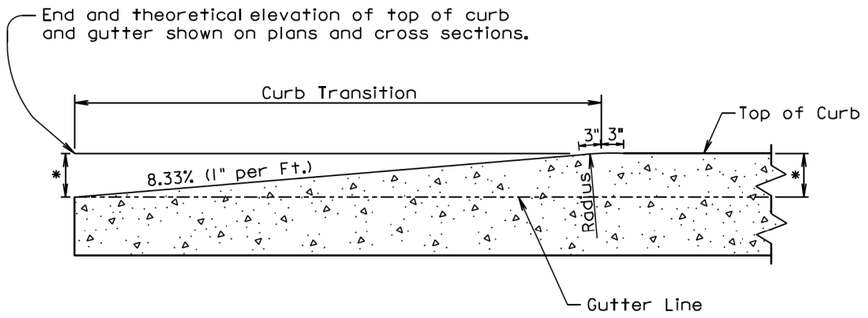
Transverse contraction joints shall be constructed at 10' intervals in the concrete gutter except when concrete gutter is constructed adjacent to mainline PCC pavement. When concrete gutter is constructed adjacent to mainline PCC pavement, a transverse contraction joint shall be constructed in the concrete 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 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 1/4 the thickness of the concrete.

June 26, 2015

Published Date: 3rd Qtr. 2017	SDDOT	**TYPE P CONCRETE GUTTER**	***PLATE NUMBER*** 650.30 *Sheet 1 of 1*

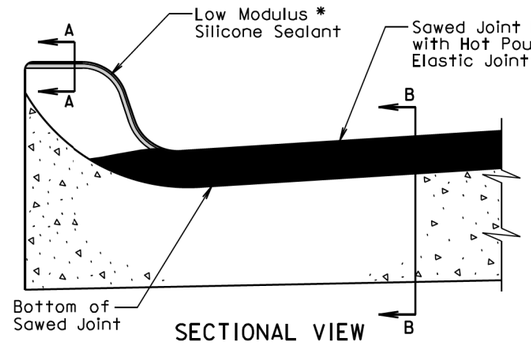


* Height of Curb

LONGITUDINAL SECTION OF CONCRETE CURB TAPER

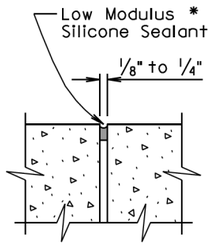
September 14, 2005

Published Date: 3rd Qtr. 2017	SDDOT	CONCRETE CURB TAPER	PLATE NUMBER 650.35 Sheet 1 of 1

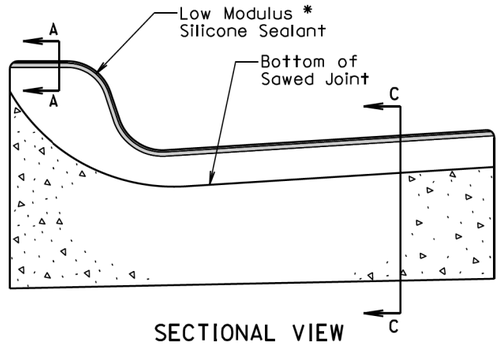


SECTIONAL VIEW

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

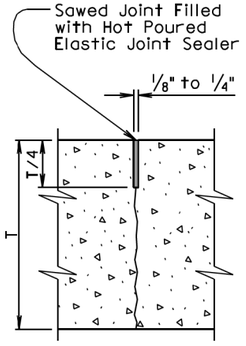


SECTION A-A

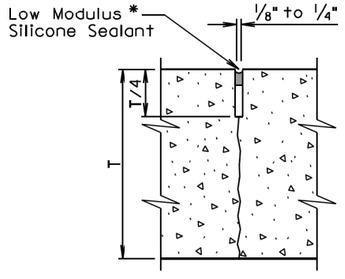


SECTIONAL VIEW

(Curb and Gutter not Placed Monolithic with Adjacent Mainline PCC Pavement or Mainline Surfacing is not PCC Pavement)



SECTION B-B

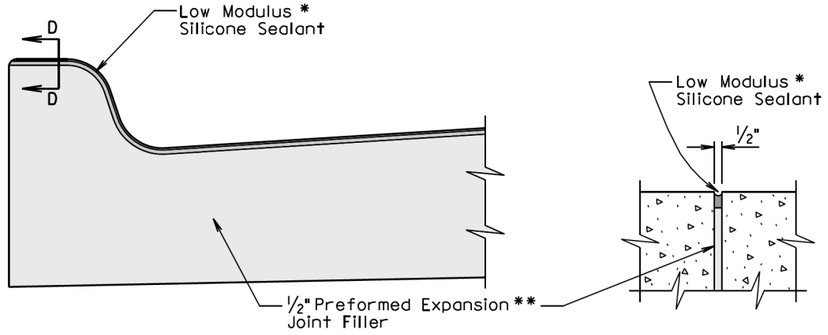


SECTION C-C

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

September 6, 2013

Published Date: 3rd Qtr. 2017	SDDOT	JOINTS IN CONCRETE CURB AND GUTTER	PLATE NUMBER 650.90 Sheet 1 of 2



SECTIONAL VIEW
(Curb and Gutter at ½" Preformed
Expansion Joint Filler Location)

SECTION D-D

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

GENERAL NOTES:

For illustrative reason, only the type B curb and gutter is shown.

** A ½" preformed expansion joint filler shall be placed transversely in the curb and gutter at the following locations:

1. At each junction between the radius return of curb and gutter and curb and gutter which is parallel to the project centerline.
2. At each junction between new curb and gutter and existing curb and gutter.

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

When concrete curb and gutter is not placed monolithically with the mainline PCC pavement or when the adjacent mainline surfacing is not PCC concrete, the transverse contraction joints in the concrete curb and gutter shall be 1½ inches deep if formed in the fresh concrete using a suitable grooving tool. If a saw is used to cut the contraction joints, then the depth of the joint shall be at least ¼ the thickness of the concrete and the joint shall be sealed in accordance with the details shown above.

September 6, 2013

Published Date: 3rd Qtr. 2017	SDDOT	***JOINTS IN CONCRETE CURB AND GUTTER***	***PLATE NUMBER*** 650.90
			Sheet 2 of 2