

STATE OF SOUTH DAKOTA  
 DEPARTMENT OF TRANSPORTATION  
 PLANS FOR PROPOSED

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0026(01)267	1	45
Plotting Date: 12/22/2015			

**PROJECT P 0026(01)267**  
**SD HIGHWAY 26**  
**SPINK COUNTY**

ASPHALT CONCRETE RESURFACING, RUMBLE STRIPES, &  
 PERMANENT SIGNING  
 PCN 0260

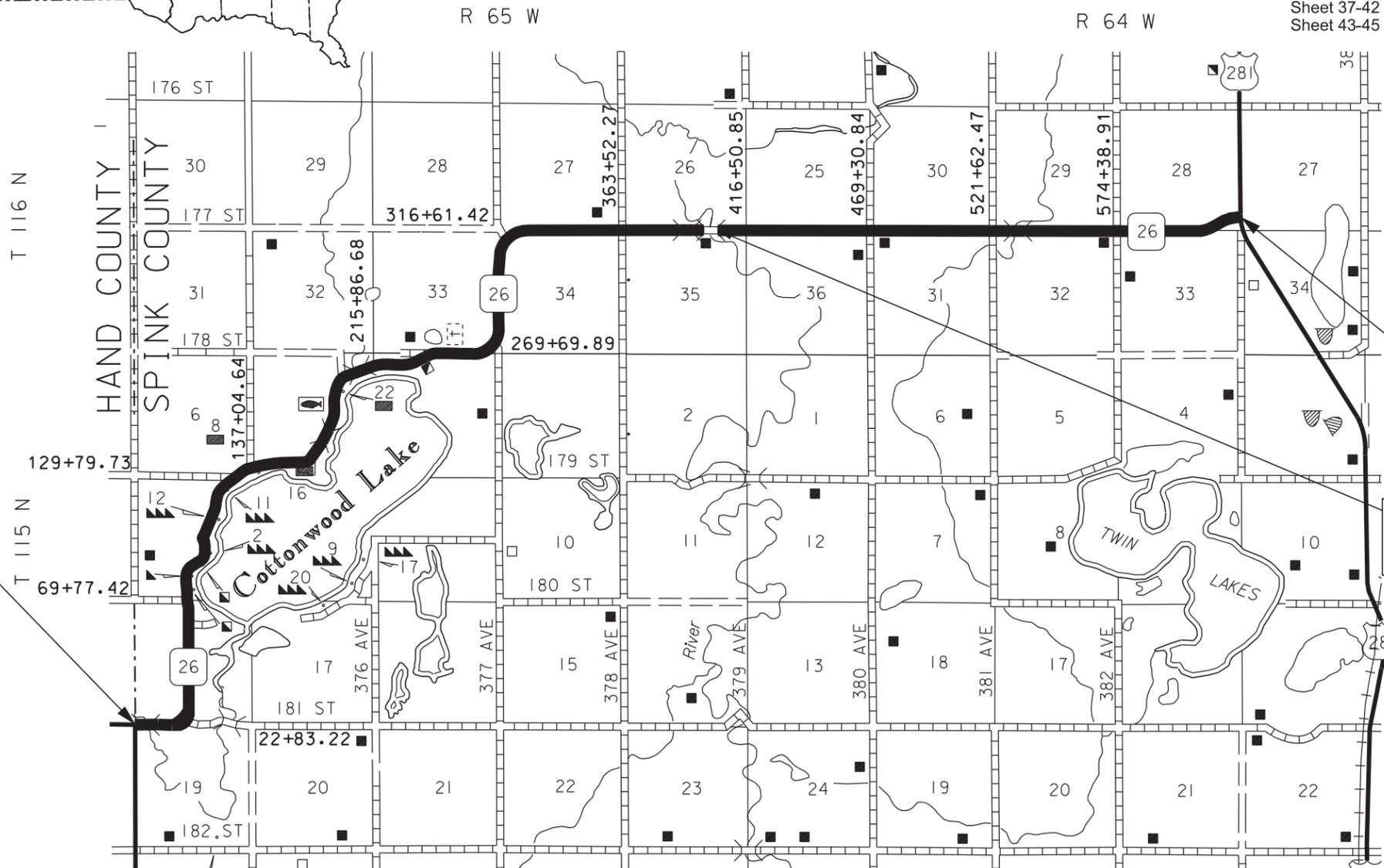
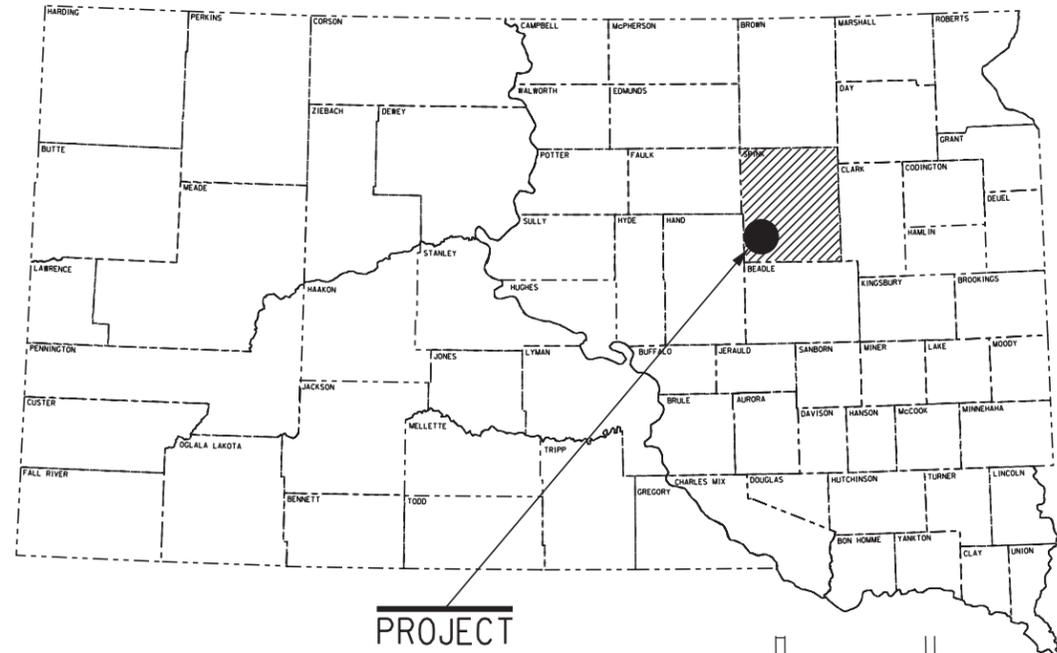
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PLOT SCALE - 1"=6000'

PLOT NAME

FILE ... \REGION DESIGN\0260\_TITLE.DGN



BEGIN PROJECT  
 P 0026(01)267  
 SD 26, PCN 0260  
 STA. 0+00.00  
 MRM 267.77+0.000

END PROJECT  
 P 0026(01)267  
 SD 26, PCN 0260  
 STA. 628+30.28  
 MRM 279.67+0.000

STRUCTURE #58-047-290  
 STA. 399+97.54 TO 401+34.00  
 MRM 275.37+0.000  
 136.5' Continuous Concrete Bridge

DESIGN DESIGNATION

ADT (2014)	435
ADT (2034)	512
DHV	65.5
D	52%
T DHV	6.4%
T ADT	14.0%
V	65 M.P.H
V LAKE	45 M.P.H

STORM WATER PERMIT  
 NONE REQUIRED

GROSS LENGTH	62830.28 FEET	11.900 MILES
LENGTH OF EXCEPTIONS	136.46 FEET	0.026 MILES
NET LENGTH	62693.82 FEET	11.874 MILES

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### ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0130	Remove Traffic Sign	86	Each
110E7150	Remove Sign for Reset	1	Each
120E0100	Unclassified Excavation, Digouts	594	CuYd
260E1010	Base Course	3,622.4	Ton
320E0007	PG 64-28 Asphalt Binder	2,125.1	Ton
320E1002	Class Q2 Hot Mixed Asphalt Concrete	36,880.3	Ton
320E4000	Hydrated Lime	363.9	Ton
320E7008	Grind 8" Rumble Strip or Stripe in Asphalt Concrete	15.6	Mile
330E0100	SS-1h or CSS-1h Asphalt for Tack	163.6	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	55.0	Ton
330E2000	Sand for Flush Seal	621.0	Ton
332E0010	Cold Milling Asphalt Concrete	2,394	SqYd
600E0300	Type III Field Laboratory	1	Each
632E1320	2.0"x2.0" Perforated Tube Post	1,263.0	Ft
632E2530	Type 3 Object Marker	4	Each
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	118.9	SqFt
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	559.1	SqFt
632E3500	Reset Sign	1	Each
633E0030	Cold Applied Plastic Pavement Marking, 24"	14	Ft
633E1300	Pavement Marking Paint, White	402	Gal
633E1305	Pavement Marking Paint, Yellow	202	Gal
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	14	Ft
634E0010	Flagging	350.0	Hour
634E0020	Pilot Car	175.0	Hour
634E0110	Traffic Control Signs	484	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0630	Temporary Pavement Marking	23.7	Mile
634E0810	Groove 6" Wide Rumble Strip	408	Ft
900E0010	Refurbish Single Mailbox	16	Each
900E0012	Refurbish Double Mailbox	1	Each
900E1980	Storage Unit	1	Each

### SPECIFICATIONS

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

# ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0026(01)267	3	45

## 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 B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

#### COMMITMENT B2: WHOOPING CRANE

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 pit, or staging site associated with the project, cease construction activities in the affected area until the Whooping Crane departs and 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 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.

The Contractor shall not withdraw water directly from streams of the James, Big Sioux, and Vermillion watersheds without prior approval from the SDDOT Environmental Office.

#### 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 State 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 State 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 State 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.

# TYPICAL RESURFACING SECTION

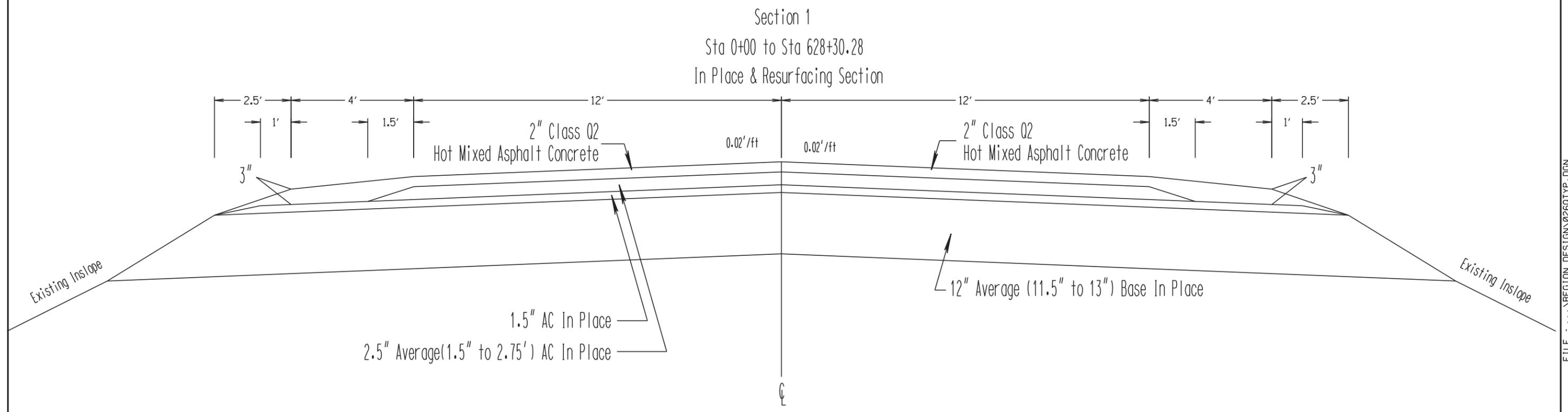
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0026(01)267	4	45
Plotting Date: 12/21/2015			

PLOT SCALE - 1:3.16667

PLOT NAME - 2

PLOTTED FROM - TRAB17882

FILE - ... \REGION DESIGN\0260TYP.DGN



**RATES OF MATERIALS**

The Estimate of Quantities is based on the following quantities of material per mile.

**STA. 0+00.00 to 628+30.28**

**CLASS Q2 HOT MIXED ASPHALT CONCRETE -2" LIFT**

Crushed Aggregate.....	2463 Tons
PG 64-28 Asphalt Binder.....	<u>152 Tons</u>
<b>Total without Lime</b>	<b>2615 Tons</b>
Hydrated Lime.....	<u>26 Tons</u>
<b>Total with Lime</b>	<b>2641 Tons</b>

The exact proportion of these materials will be determined on construction.

SS-1h or CSS-1h Emulsified Asphalt for Tack at the rate of **8.5** tons applied **38** feet wide.  
(Rate = 0.09 Gal./Sq.Yd.)

**FLUSH SEAL**

SS-1h or CSS-1h Emulsified Asphalt for Flush Seal at the rate of **4.6** tons applied **37** feet wide.  
(Rate = 0.05 Gal./Sq.Yd.)

Sand for Flush Seal at the rate of **52** tons applied **22** feet wide. (Rate = 8 Lb./Sq.Yd.)

### TABLE OF ADDITIONAL QUANTITIES

STATIONING:	SIDE	ITEM	COMMENTS	BASE COURSE TON	CLASS Q2 HOT MIXED ASPHALT CONCRETE (w/out Specified) TON	CLASS Q2 HOT MIXED ASPHALT CONCRETE (w/Specified Density) TON	PG 64-28 ASPHALT BINDER TON	HYDRATED LIME TON	Virgin Aggregate N.A.B.I. TON	SS-1h/ CSS-1h ASPH. FOR TACK TON	SS-1h/ CSS-1h ASPH. FOR FLUSH SEAL TON	SAND FOR FLUSH SEAL TON	COLD MILLING ASPHALT CONCRETE SQ YD
-1+35 to 0+00		BEGIN PROJECT TRANSTITION	Cold Mill Asphalt Concrete per plan layout sheet	-	28	40	3.94	0.68	63.4	0.23	0.17	1.80	334
0+00	R	SPINK COUNTY/374TH AVENUE	Cold Mill at ROW Line. AC surfacing to ROW Line	-	35		2.03	0.35	32.6	0.12			84
3+85	L&R	STRUCTURE	Place Base Course on both shoulders over box culvert	20									
5+16	L	FIELD ENTRANCE		15									
5+16	R	FIELD ENTRANCE		15									
19+88	R	181ST STREET	AC surfacing to end of radius of entrance	15	50		2.9	0.50	46.6	0.17			
27+00	L	FIELD ENTRANCE		15									
40+00	L	FIELD ENTRANCE		15									
43+30	L	FIELD ENTRANCE		15									
50+50	R	FIELD ENTRANCE		15									
59+50	R	LOCAL ROAD		15									
69+63	R	FIELD ENTRANCE		15									
69+77	L	180TH STREET	AC surfacing to end of radius of entrance	30	20		1.16	0.20	18.6	0.07			
71+92	R	RESIDENTIAL DRIVEWAY		15									
80+00	R	RESIDENTIAL DRIVEWAY		15									
88+50	R	LOCAL ROAD	of radius point.	-	25		1.45	0.25	23.3	0.09			
92+90	L	FIELD ENTRANCE		15									
95+74	R	LOCAL ROAD	of radius point.	-	20		1.16	0.20	18.6	0.07			
101+85	R	UNDEVELOPED LAKE LOT		15									
102+38	R	RESIDENTIAL DRIVEWAY		15									
103+67	R	RESIDENTIAL DRIVEWAY		15									
104+92	R	RESIDENTIAL DRIVEWAY	Double approach	30									
105+70	R	RESIDENTIAL DRIVEWAY		15									
106+20	R	RESIDENTIAL DRIVEWAY		15									
106+55	R	RESIDENTIAL DRIVEWAY	AC surfacing to ROW Line. Feather asphalt out to zero depth at ROW Line	-	15		0.87	0.15	14.0	0.05			
107+25	R	RESIDENTIAL DRIVEWAY		15									
108+25	R	RESIDENTIAL DRIVEWAY	Double approach	30									
110+15	R	RESIDENTIAL DRIVEWAY		15									
111+23	R	RESIDENTIAL DRIVEWAY	Log Home	15									
114+95	R	UNDEVELOPED LAKE LOT		15									
115+90	R	UNDEVELOPED LAKE LOT		15									
117+90	R	RESIDENTIAL DRIVEWAY	House with Red Roof	15									
119+70	R	RESIDENTIAL DRIVEWAY		15									
120+80	L	FIELD ENTRANCE		15									
121+50	R	RESIDENTIAL DRIVEWAY		15									
122+80	R	RESIDENTIAL DRIVEWAY	Double approach	30									
124+10	R	RESIDENTIAL DRIVEWAY	AC surfacing to ROW Line. Feather asphalt out to zero depth at ROW Line	-	10		0.58	0.10	9.3	0.03			
125+49	R	RESIDENTIAL DRIVEWAY	Double approach	30									
127+60	R	RESIDENTIAL DRIVEWAY	Double approach	30									
128+30	L	179TH STREET	AC surfacing to end of radius of entrance	30	25		1.45	0.25	23.3	0.09			-

PLOTTED FROM - TRAB17882

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STATIONING:	SIDE	ITEM	COMMENTS	BASE COURSE TON	CLASS Q2 HOT MIXED ASPHALT CONCRETE (w/out Specified TON	CLASS Q2 HOT MIXED ASPHALT CONCRETE (w/Specified Density) TON	PG 64-28 ASPHALT BINDER TON	HYDRATED LIME TON	Virgin Aggregate N.A.B.I. TON	SS-1h/ CSS-1h ASPH. FOR TACK TON	SS-1h/ CSS-1h ASPH. FOR FLUSH SEAL TON	SAND FOR FLUSH SEAL TON	COLD MILLING ASPHALT CONCRETE SQ YD
128+38	R	UNDEVELOPED LAKE LOT		15									
129+21	R	RESIDENTIAL DRIVEWAY	#1291	15									
132+00	R	UNDEVELOPED LAKE LOT	#1275	15									
134+00	R	UNDEVELOPED LAKE LOT	#1267	15									
135+50	R	RESIDENTIAL DRIVEWAY	#1263	15									
137+00	R	RESIDENTIAL DRIVEWAY	Double approach	30									
137+00	L	375TH AVENUE	AC surfacing to end of radius of entrance	30	20		1.16	0.20	18.6	0.07			-
138+30	R	RESIDENTIAL DRIVEWAY	#1255	15									
139+70	R	RESIDENTIAL DRIVEWAY		15									
141+19	R	UNDEVELOPED LAKE LOT	#1241	15									
143+22	R	RESIDENTIAL DRIVEWAY	#1237	15									
144+50	R	UNDEVELOPED LAKE LOT		15									
145+25	R	UNDEVELOPED LAKE LOT		15									
146+20	R	RESIDENTIAL DRIVEWAY		15									
155+45	R	RESIDENTIAL DRIVEWAY	#1031	15									
155+65	L	FIELD ENTRANCE		15									
157+80	R	FIELD ENTRANCE		15									
163+50	R	LAKE DRIVE	AC surfacing to end of radius of entrance	30	25		1.45	0.25	23.3	0.09			
164+35	R	RESIDENTIAL DRIVEWAY		15									
165+40	R	RESIDENTIAL DRIVEWAY	#1157 - Cold Mill to edge of PCCP Slab	-	20		1.16	0.20	18.6	0.07			62
168+60	R	RESIDENTIAL DRIVEWAY		15									
175+00	R	UNDEVELOPED LAKE LOT		15									
175+60	R	RESIDENTIAL DRIVEWAY		15									
176+30	R	RESIDENTIAL DRIVEWAY	#1109	15									
177+30	R	RESIDENTIAL DRIVEWAY	#1101 - Double approach	30									
179+90	R	RESIDENTIAL DRIVEWAY	#1097	15									
180+50	R	RESIDENTIAL DRIVEWAY	#1093 - Cold Mill to edge of PCCP Slab	-	5		0.29	0.05	4.7	0.02			31
181+90	R	RESIDENTIAL DRIVEWAY	#1091	15									
182+46	R	RESIDENTIAL DRIVEWAY	#1083	15									
183+05	R	RESIDENTIAL DRIVEWAY	#1081	15									
183+40	R	RESIDENTIAL DRIVEWAY	#1075	15									
183+80	R	RESIDENTIAL DRIVEWAY	#1071	15									
184+17	R	RESIDENTIAL DRIVEWAY	Coe-Max	15									
184+75	R	RESIDENTIAL DRIVEWAY	Kellogg's Kabin	15									
186+60	R	RESIDENTIAL DRIVEWAY		15									
187+35	R	RESIDENTIAL DRIVEWAY	#1055	15									
188+24	R	RESIDENTIAL DRIVEWAY	#1051	15									
190+20	R	RESIDENTIAL DRIVEWAY	#1045	15									
190+60	R	RESIDENTIAL DRIVEWAY	driveway.	-	10		0.58	0.10	9.3	0.03			31
190+97	R	RESIDENTIAL DRIVEWAY	Cold Mill approximately 7' wide to edge of PCCP Slab.	-	5		0.29	0.05	4.7	0.02			24

PLOTTED FROM - TRAB17882

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191+50	L	FIELD ENTRANCE		15									
191+70	R	RESIDENTIAL DRIVEWAY	Double approach	30									
193+09	R	RESIDENTIAL DRIVEWAY	#1035	15									
194+75	R	RESIDENTIAL DRIVEWAY	#1029	15									
196+05	R	RESIDENTIAL DRIVEWAY	#1021 - Double approach	30									
197+72	R	RESIDENTIAL DRIVEWAY	#1017 - Double approach	30									
198+71	L	FIELD ENTRANCE		15									
198+87	R	UNDEVELOPED LAKE LOT	#1007	15									
201+00	R	RESIDENTIAL DRIVEWAY		15									
206+35		STRUCTURE											
213+00	R	LOCAL ROAD		30									
231+85	R	LAKE ACCESS		15									
232+35	L	FARM ENTRANCE		15									
232+50	R	RESIDENTIAL DRIVEWAY	PAT APPEL	15									
241+00	L	LOCAL ROAD	AC surfacing to end of radius of entrance	30	25		1.45	0.25	23.3	0.09			
248+10	L	FIELD ENTRANCE		15									
255+42	L	FIELD ENTRANCE		15									
257+00	R	FIELD ENTRANCE		15									
268+50	R	377TH AVENUE	AC surfacing to end of radius of entrance	30	50		2.9	0.50	46.6	0.17			
277+00	R	FIELD ENTRANCE		15									
290+23	L	FIELD ENTRANCE	Double approach	30									
290+83	R	FIELD ENTRANCE		15									
302+15	R	FIELD ENTRANCE		15									
312+00	L	377TH AVENUE	AC surfacing to end of radius of entrance	30	35		2.03	0.35	32.6	0.12			
317+85	R	FIELD ENTRANCE		15									
319+70	L	FIELD ENTRANCE		15									
337+00	L	FIELD ENTRANCE		15									
337+00	R	FIELD ENTRANCE		15									
345+00	R	FIELD ENTRANCE		15									
351+60	L	RESIDENTIAL DRIVEWAY		15									
363+52	L	378TH AVENUE	AC surfacing to end of radius of entrance	30	20		1.16	0.20	18.6	0.07			
363+52	R	378TH AVENUE	AC surfacing to end of radius of entrance	30	20		1.16	0.20	18.6	0.07			
369+97	L	FIELD ENTRANCE		15									
374+92	R	FIELD ENTRANCE		15									
378+44	L	FIELD ENTRANCE		15									
383+70		STRUCTURE											
389+00	L	FIELD ENTRANCE		15									
397+92	L	FIELD ENTRANCE		15									
398+82	R	RESIDENTIAL DRIVEWAY		15									

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STATIONING:	SIDE	ITEM	COMMENTS	BASE COURSE TON	CLASS Q2 HOT MIXED ASPHALT CONCRETE (w/out Specified TON	CLASS Q2 HOT MIXED ASPHALT CONCRETE (w/Specified Density) TON	PG 64-28 ASPHALT BINDER TON	HYDRATED LIME TON	Virgin Aggregate N.A.B.I. TON	SS-1h/ CSS-1h ASPH. FOR TACK TON	SS-1h/ CSS-1h ASPH. FOR FLUSH SEAL TON	SAND FOR FLUSH SEAL TON	COLD MILLING ASPHALT CONCRETE SQ YD
		NW CORNER OF STRUCTURE	Surfacing for guardrail embankment flare prior to end terminal		6		0.348	0.06	5.6	0.02			45
		SW CORNER OF STRUCTURE	Surfacing for guardrail embankment flare prior to end terminal		6		0.348	0.06	5.6	0.02			45
398+22.5 to 399+97.5		WEST END OF STRUCTURE	Cold Mill Asphalt Concrete per plan layout sheet										584
401+34 to 403+09		EAST END OF STRUCTURE	Cold Mill Asphalt Concrete per plan layout sheet										584
		NE CORNER OF STRUCTURE	Surfacing for guardrail embankment flare prior to end terminal		6		0.348	0.06	5.6	0.02			45
		SE CORNER OF STRUCTURE	Surfacing for guardrail embankment flare prior to end terminal		6		0.348	0.06	5.6	0.02			45
403+73	R	FIELD ENTRANCE		15									
416+51	L	SECTION LINE ROAD		30									
421+00	R	FIELD ENTRANCE		15									
443+00	R	FIELD ENTRANCE	Double approach	30									
456+00	L	FIELD ENTRANCE		15									
456+00	R	FIELD ENTRANCE		15									
469+31	L	382ND AVENUE	AC surfacing to end of radius of entrance	30	20		1.16	0.20	18.6	0.07			
469+31	R	382ND AVENUE	AC surfacing to end of radius of entrance	30	20		1.16	0.20	18.6	0.07			
472+09	R	FIELD ENTRANCE		15									
472+40	L	FIELD ENTRANCE		15									
474+45	R	RESIDENTIAL DRIVEWAY		15									
495+20	L	FIELD ENTRANCE	Double approach	30									
495+41	R	FIELD ENTRANCE		15									
521+62	L	383RD AVENUE	AC surfacing to end of radius of entrance	30	20		1.16	0.20	18.6	0.07			
521+62	R	383RD AVENUE	AC surfacing to end of radius of entrance	30	20		1.16	0.20	18.6	0.07			
534+36	R	FIELD ENTRANCE		15									
567+00	L	FIELD ENTRANCE		15									
567+00	R	FIELD ENTRANCE		15									
574+39	L	384TH AVENUE	AC surfacing to end of radius of entrance	30	20		1.16	0.20	18.6	0.07			
574+39	R	384TH AVENUE	AC surfacing to end of radius of entrance	30	20		1.16	0.20	18.6	0.07			
593+00	L	FIELD ENTRANCE		15									
605+84	L	FIELD ENTRANCE		15									
606+00	R	FIELD ENTRANCE		15									
625+00	L	FIELD ENTRANCE		15									
625+00	R	FIELD ENTRANCE		15									
		END PROJECT TRANSITION AT US 281	Cold Mill Asphalt Concrete per plan layout sheet	-									480
	L&R	END PROJECT RADIUS'S AT US 281		-	65		3.77	0.65	60.6	0.22	0.17	1.80	
		12 MAILBOX PULLOUTS	Surfacing has been included for all mailbox pullouts, even those not presently utilized	-	60		3.48	0.60	55.9	0.20			
<b>TOTALS</b>				<b>2435</b>	<b>732</b>	<b>40</b>	<b>44.8</b>	<b>7.7</b>	<b>719.5</b>	<b>2.6</b>	<b>0.3</b>	<b>3.6</b>	<b>2394</b>

The tonnage shown in the Table of Additional Quantities for Class Q2 Hot Mix Asphalt Concrete is based on an average compacted thickness of 2 inches, unless otherwise indicated. Application shall be at the rate shown on the plans or as directed by the Engineer.  
The above quantities are included in the Estimate of Quantities.

### SUMMARY OF ASPHALT CONCRETE

LOCATIONS:	Class Q2 Hot Mixed Asphalt Concrete with Specified Density Compaction <u>TONS</u>	Class Q2 Hot Mixed Asphalt Concrete without Specified Density Compaction <u>TONS</u>
Section 1 - 24' Top	18761.7	-
Section 1 - 4' Shoulder and 2.5' Sluff	-	12597.1
Spot leveling, strengthening, and repair of existing surface	-	4749.5
Table of Additional Quantities	40.0	732.0
<b>TOTAL</b>	<b>18801.7</b>	<b>18078.6</b>
<i>Total Class Q2 Hot Mixed Asphalt Concrete:</i>		
	36880.3	Tons

TABLE OF PROJECT STATIONING									
SECTION	STATION	TO	STATION	LENGTH	EXCEPTION	GROSS SECTION LENGTH	GROSS SECTION LENGTH	NET SECTION LENGTH	NET SECTION LENGTH
				(Ft)	(Ft)	(Ft)	(Miles)	(Ft)	(Miles)
1	+0.00		399+97.54	39997.54	-	62830.28	11.900	62693.82	11.874
	399+97.54		401+34.00	-	136.46				
	401+34.00	to	628+30.28	22696.3	-				
TOTAL:						62830.28	11.900	62693.82	11.874

TABLE OF MATERIAL QUANTITIES														
	UNCLASSIFIED EXCAVATION, DIG OUTS	BASE COURSE	COLD MILLING ASPHALT CONCRETE	CLASS Q2 HOT MIXED ASPHALT CONCRETE	HYDRATED LIME	PG 64-28 ASPHALT BINDER	VIRG.. AGGR. (NABI.)	CLASS Q2 HOT MIXED ASPHALT CONCRETE	HYDRATED LIME	PG 64-28 ASPHALT BINDER	VIRG.. AGGR. (NABI.)	SS-1h/ CSS-1h ASPH. FOR TACK	SS-1h/ CSS-1h ASPH. FOR FLUSH SEAL	SAND FOR FLUSH SEAL
	50.0			<-----Spot Leveling----->				<-----Final Lift----->						
SECTION	CuYd	Ton	SqYd	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton
1	593.7	1187.4	-	4749.5	47.5	275.5	4426.6	31358.8	308.7	1804.8	29245.2	100.9	54.6	617.4
<b>Sub totals</b>	593.7	1187.4	0	4749.5	47.5	275.5	4426.6	31358.8	308.7	1804.8	29245.2	100.9	54.6	617.4
Additional Quantities	-	2435	2394	-	-	-	-	772.0	7.7	44.8	719.5	62.6	0.3	3.6
<b>Totals</b>	593.7	3622.4	2394	4749.5	47.5	275.5	4426.6	32130.8	316.4	1849.6	29964.7	163.6	55.0	621.0

### SD 26 Permanent Sign Installation Table

MRM + Displacement	Side of Road	Description	Sign Code	Width (Inches)	Height (Inches)	Flat Aluminum Sign, Nonremovable Copy High Intensity (SqFt)	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity (SqFt)	2.0"x2.0" Perforated Tube Post 12 Ga. (Ft)	(N.A.B.I.) Square Tube Anchor Sleeve (Each)	Remove Traffic Sign (Each)	Remove Sign For Reset (Each)	Reset Sign (Each)	Direction Sign Faces	Current Type of Post	Remarks
267.00 + 0.737	Lt.	Hand County	I-1	36	24	6.0		11	1	1			E	U-Channel	Replace Existing Sign with New Sign on New Post
267.00 + 0.748	Lt.	Horizontal Double Arrow	W1-7	48	24		8.0	13	1	1			S	4" X 6" Wood	Replace Existing Sign with New Sign on New Post
267.00 + 0.753	Rt.	Stop	R1-1	36	36		7.5	12	1	1			N	U-Channel	Replace Existing Sign with New Sign on New Post
267.00 + 0.759	Rt.	Spink County	I-1	36	24	6.0		11	1	1			W	U-Channel	Replace Existing Sign with New Sign on New Post
267.00 + 0.817	Rt.	Type 3 Object Marker	OM-3R										W		Replace Existing Sign with New Sign on New Post
267.00 + 0.817	Lt.	Type 3 Object Marker	OM-3L										E		Replace Existing Sign with New Sign on New Post
267.00 + 0.825	Rt.	Type 3 Object Marker	OM-3R										W		Replace Existing Sign with New Sign on New Post
267.00 + 0.825	Lt.	Type 3 Object Marker	OM-3L										E		Replace Existing Sign with New Sign on New Post
267.00 + 0.853	Rt.	East	M3-2	24	12	2.0		11	1	1			W	U-Channel	Replace Existing Sign Assembly with New Sign Assembly on New Post
		SD 26	M1-5	24	24	4.0					W				
267.85 + 0.041	Lt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			W	U-Channel	Replace Existing Sign with New Sign on New Post
267.85 + 0.053	Lt.	Road Narrows								1			E	4" X 6" Wood	Remove Do Not Replace
267.85 + 0.053	Lt.	<--- Wessington 21	D1-1	102	18	12.8		22	2	1			E	4" X 6" Wood	Replace Existing Sign at 267.85 + 0.079 with New Sign on New Post At 267.85 + 0.053
267.85 + 0.055	Rt.	Left Curve Arrow	W1-2L	36	36		9.0	24	2	1			W	4" X 6" Wood	Replace Existing Sign at 267.00 + 0.786 with New Sign on New Post at 267.00 +0.905 (Approximately 100 Ft. From Start of Curve)
		Advisory Speed Plaque 60 MPH	W13-1P	18	18		2.3						W		New Sign Install
268.00 + 0.150	Rt.	Stop	R1-1	30	30		5.2	11	1	1			SE	U-Channel	Replace Existing Sign with New Sign on New Post
268.00 + 0.355	Lt.	Right Curve Arrow	W1-2R	36	36		9.0	24	2	1			N	U-Channel	Replace Existing Sign at 268.00 + 0.488 with New Sign on New Post at 268.00 +0.355 (Approximately 100 Ft. From Start of Curve)
		Advisory Speed Plaque 60 MPH	W13-1P	18	18		2.3						N		New Sign Install
268.00 + 0.470	Rt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			N	U-Channel	Replace Existing Sign with New Sign on New Post
268.00 + 0.907	Rt.	Stop	R1-1	30	30		5.2	11	1	1			E	U-Channel	Replace Existing Sign with New Sign on New Post
268.00 + 0.963	Rt.	Speed Limit Ahead 45 MPH	W3-5	36	36		9.0	11	1	1			S	U-Channel	Replace Existing Sign with New Sign on New Post
269.00 + 0.088	Lt.	Stop	R1-1	30	30		5.2	11	1	1			W	U-Channel	Replace Existing Sign with New Sign on New Post
269.00 + 0.103	Rt.	Speed Limit 45 MPH	R2-1	24	30	5.0		10	1	1			S	U-Channel	Replace Existing Sign with New Sign on New Post

### SD 26 Permanent Sign Installation Table

MRM + Displacement	Side of Road	Description	Sign Code	Width (Inches)	Height (Inches)	Flat Aluminum Sign, Nonremovable Copy High Intensity (SqFt)	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity (SqFt)	2.0"x2.0" Perforated Tube Post 12 Ga. (Ft)	(N.A.B.I.) Square Tube Anchor Sleeve (Each)	Remove Traffic Sign (Each)	Remove Sign For Reset (Each)	Reset Sign (Each)	Direction Sign Faces	Current Type of Post	Remarks
269.00 + 0.103	Lt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			S	U-Channel	Replace Existing Sign with New Sign on New Post
269.00 + 0.105	Lt.	Speed Limit 65 MPH	R2-1	24	30	5.0		10	1				N		
269.00 + 0.208	Rt.	Winding Road Right	W1-5R	36	36		9.0	12	1	1			S	4" X 6" Wood	Replace Existing Sign at 269.00 + 0.064 with New Sign on New Post at 269.00 +0.208 (Approximately 50 Ft. From Start of Curve)
269.00 + 0.453	Rt.	Stop	R1-1	30	30		5.2	11	1	1			E	U-Channel	Yield Sign Currently In Place. Replace Existing Sign with New Stop Sign on New Post
269.00 + 0.589	Rt.	Stop	R1-1	30	30		5.2	11	1	1			E	U-Channel	Yield Sign Currently In Place. Replace Existing Sign with New Stop Sign on New Post
269.00 + 0.690	Lt.	Winding Road Left	W1-5L	36	36		9.0	12	1	1			NE		Replace Existing Sign at 270.00 + 0.239 with New Sign on New Post at 269.00 +0.690 (Approximately 50 Ft. From Start of Curve)
269.00 + 0.843	Rt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			N	U-Channel	Replace Existing Sign with New Sign on New Post
269.00 + 0.851	Lt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			S	U-Channel	Replace Existing Sign with New Sign on New Post
269.00 + 0.988	Rt.	Right Curve Arrow	W1-2R	36	36		9.0	12	1				SW		New Sign Install. ( Install Approximately 50 Ft. From Start of Curve.)
270.00 + 0.099	Lt.	Left Curve Arrow	W1-2L	36	36		9.0	12	1				NE		New Sign Install. ( Install Approximately 50 Ft. From Start of Curve.)
270.00 + 0.172	Lt.	Speed Limit 45 MPH	R2-1	24	30	5.0		10	1	1			NE	U-Channel	Replace Existing Sign with New Sign on New Post
270.00 + 0.188	Lt.	Stop	R1-1	30	30		5.2	11	1	1			W	U-Channel	Replace Existing Sign with New Sign on New Post
270.00 + 0.202	Lt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			SW	U-Channel	Replace Existing Sign with New Sign on New Post
270.00 + 0.246	Rt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			NE	U-Channel	Replace Existing Sign with New Sign on New Post
270.00 + 0.357	Lt.	Stop	R1-1	30	30		5.2	11	1	1			N	U-Channel	Replace Existing Sign with New Sign on New Post
270.00 + 0.455	Rt.	Speed Limit 45 MPH	R2-1	24	30	5.0		10	1	1			SW	U-Channel	Replace Existing Sign with New Sign on New Post
270.00 + 0.505	Rt.	Deer Symbol								1			SW	Telespar	Remove Do Not Replace
		No Passing Zone					12	1		1	1	NE	Reset Existing Sign on New Post		
270.00 + 0.713	Lt.	Left Curve Arrow	W1-2L	36	36		9.0	12	1	1			W	4" X 6" Wood	Replace Existing Sign at 270.00 + 0.580 with New Sign on New Post at 270.00 +0.713 (Approximately 50 Ft. From Start of Curve)
270.00 + 0.824	Lt.	West	M3-4	24	12	2.0		11	1	1			NE	U-Channel	Replace Existing Sign Assembly with New Sign Assembly on New Post
		SD 26	M1-5	24	24	4.0									
270.00 + 0.858	Rt.	Stop	R1-1	30	30		5.2	11	1	1			SE	U-Channel	Replace Existing Sign with New Sign on New Post

### SD 26 Permanent Sign Installation Table

MRM + Displacement	Side of Road	Description	Sign Code	Width (Inches)	Height (Inches)	Flat Aluminum Sign, Nonremovable Copy High Intensity (SqFt)	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity (SqFt)	2.0"x2.0" Perforated Tube Post 12 Ga. (Ft)	(N.A.B.I.) Square Tube Anchor Sleeve (Each)	Remove Traffic Sign (Each)	Remove Sign For Reset (Each)	Reset Sign (Each)	Direction Sign Faces	Current Type of Post	Remarks
270.00 + 0.882	Rt.	East	M3-2	24	12	2.0		11	1	1			SW	U-Channel	Replace Existing Sign Assembly with New Sign Assembly on New Post
		SD 26	M1-5	24	24	4.0							SW		
270.00 + 0.959	Lt.	Right Curve Arrow	W1-2R	36	36		9.0	12	1	1			NE	4" X 6" Wood	Replace Existing Sign at 271.00 + 0.117 with New Sign on New Post at 270.00 +0.959 (Approximately 50 Ft. From Start of Curve)
271.00 + 0.084	Rt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			NE	U-Channel	Replace Existing Sign with New Sign on New Post
271.00 + 0.117	Lt.	No Passing Zone	W14-3	48X48X36			5.6	12	1				SW	4" X 6" Wood	Replace Existing Sign with New Sign on New Post. Removal Paid for With Right Curve Arrow 2 Rows Above
271.00 + 0.208	Rt.	Left Reverse Curve	W1-4L	36	36		9.0	12	1				SW		New Sign Install
271.00 + 0.408	Lt.	Left Reverse Curve	W1-4L	36	36		9.0	12	1				NE		New Sign Install
271.00 + 0.528	Rt.	Right Curve Arrow	W1-2R	36	36		9.0	12	1				SW		New Sign Install. ( Install Approximately 50 Ft. From Start of Curve.)
271.68 + 0.028	Lt.	Left Curve Arrow	W1-2L	36	36		9.0	12	1				NE		New Sign Install. ( Install Approximately 50 Ft. From Start of Curve.)
271.68 + 0.073	Lt.	Deer Symbol								1			NE	U-Channel	Remove Do Not Replace
271.68 + 0.142	Rt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			E	U-Channel	Replace Existing Sign with New Sign on New Post
271.68 + 0.169	Lt.	Winding Road Arrow								1			E	U-Channel	Remove Do Not Replace
272.00 + 0.019	Lt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			W	U-Channel	Replace Existing Sign with New Sign on New Post
272.00 + 0.056	Lt.	Speed Limit 45 MPH	R2-1	24	30	5.0		10	1	1			E	U-Channel	Replace Existing Sign with New Sign on New Post
272.00 + 0.056	Rt.	Speed Limit 65 MPH	R2-1	24	30	5.0		10	1	1			W	U-Channel	Replace Existing Sign with New Sign on New Post
272.00 + 0.083	Rt.	Left Reverse Curve	W1-4L	36	36		9.0	24	2	1			W	4" X 6" Wood	Replace Existing Sign at 271.00 + 0.950 with New Sign on New Post at 272.00 +0.083 (Approximately 100 Ft. From Start of Curve)
		Advisory Speed Plaque 60 MPH	W13-1P	18	18		2.3								
272.00 + 0.202	Lt.	Speed Limit Ahead 45 MPH	W3-5	36	36		9.0	11	1	1			NE	U-Channel	Replace Existing Sign with New Sign on New Post
272.00 + 0.327	Lt.	Stop	R1-1	30	30		5.2	11	1	1			NW	U-Channel	Replace Existing Sign with New Sign on New Post
272.00 + 0.413	Lt.	Left Reverse Curve	W1-4L	36	36		9.0	24	2	1			E	4" X 6" Wood	Replace Existing Sign at 272.00 + 0.561 with New Sign on New Post at 272.00 +0.413 (Approximately 100 Ft. From Start of Curve)
		Advisory Speed Plaque 60 MPH	W13-1P	18	18		2.3								
272.00 + 0.514	Lt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			W	U-Channel	Replace Existing Sign with New Sign on New Post
272.00 + 0.515	Rt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			E	U-Channel	Replace Existing Sign with New Sign on New Post

### SD 26 Permanent Sign Installation Table

MRM + Displacement	Side of Road	Description	Sign Code	Width (Inches)	Height (Inches)	Flat Aluminum Sign, Nonremovable Copy High Intensity (SqFt)	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity (SqFt)	2.0"x2.0" Perforated Tube Post 12 Ga. (Ft)	(N.A.B.I.) Square Tube Anchor Sleeve (Each)	Remove Traffic Sign (Each)	Remove Sign For Reset (Each)	Reset Sign (Each)	Direction Sign Faces	Current Type of Post	Remarks
272.00 + 0.603	Rt.	Left Curve Arrow	W1-2L	36	36		9.0	24	2	1			W	4" X 6" Wood	Replace Existing Sign at 272.00 + 0.473 with New Sign on New Post at 272.00 +0.603 (Approximately 100 Ft. From Start of Curve)
		Advisory Speed Plaque 55 MPH	W13-1P	18	18		2.3							W	
From 272.00 + 0.623 To 272.00+ 0.993	Rt.	Chevron Right	W1-8R	18	24		3.0	8	1				NE		Chevrons at this Location are New Installs. The Chevrons Should Be Placed Approximately 160 Ft. Apart with Equal Spacing. 1 Chevron Shall Be Placed at Each End of The Curve Facing Traffic Exiting the Curve.
	Rt.	Chevron Left	W1-8L	18	24		3.0	8	1				SW		
		Chevron Right	W1-8R	18	24		3.0						NE		
	Rt.	Chevron Left	W1-8L	18	24		3.0	8	1				SW		
		Chevron Right	W1-8R	18	24		3.0						NE		
	Rt.	Chevron Left	W1-8L	18	24		3.0	8	1				SW		
		Chevron Right	W1-8R	18	24		3.0						NE		
	Rt.	Chevron Left	W1-8L	18	24		3.0	8	1				SW		
		Chevron Right	W1-8R	18	24		3.0						NE		
	Rt.	Chevron Left	W1-8L	18	24		3.0	8	1				SW		
		Chevron Right	W1-8R	18	24		3.0						NE		
	Rt.	Chevron Left	W1-8L	18	24		3.0	8	1				SW		
		Chevron Right	W1-8R	18	24		3.0						NE		
	Rt.	Chevron Left	W1-8L	18	24		3.0	8	1				SW		
		Chevron Right	W1-8R	18	24		3.0						NE		
	Rt.	Chevron Left	W1-8L	18	24		3.0	8	1				SW		
		Chevron Right	W1-8R	18	24		3.0						NE		
	Rt.	Chevron Left	W1-8L	18	24		3.0	8	1				SW		
Chevron Right		W1-8R	18	24		3.0						NE			
Rt.	Chevron Left	W1-8L	18	24		3.0	8	1				SW			
	Chevron Right	W1-8R	18	24		3.0						NE			

### SD 26 Permanent Sign Installation Table

MRM + Displacement	Side of Road	Description	Sign Code	Width (Inches)	Height (Inches)	Flat Aluminum Sign, Nonremovable Copy High Intensity (SqFt)	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity (SqFt)	2.0"x2.0" Perforated Tube Post 12 Ga. (Ft)	(N.A.B.I.) Square Tube Anchor Sleeve (Each)	Remove Traffic Sign (Each)	Remove Sign For Reset (Each)	Reset Sign (Each)	Direction Sign Faces	Current Type of Post	Remarks
272.00 + 0.858	Rt.	Stop	R1-1	30	30		5.2	11	1	1			SE	U-Channel	Replace Existing Sign with New Sign on New Post
273.00 + 0.026	Lt.	Right Curve Arrow	W1-2R	36	36		9.0	24	2	1			N	U-Channel	Replace Existing Sign at 273.00 + 0.163 with New Sign on New Post at 273.00 +0.016 (Approximately 100 Ft. From Start of Curve)
		Advisory Speed Plaque 55 MPH	W13-1P	18	18		2.3						N		New Sign Install
273.00 + 0.065	Lt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			S	U-Channel	Replace Existing Sign with New Sign on New Post
273.00 + 0.153	Rt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			N	U-Channel	Replace Existing Sign with New Sign on New Post
273.00 + 0.423	Lt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			S	U-Channel	Replace Existing Sign with New Sign on New Post
273.00 + 0.452	Rt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			N	U-Channel	Replace Existing Sign with New Sign on New Post
273.00 + 0.490	Rt.	Right Curve Arrow	W1-2R	36	36		9.0	24	2	1			S	U-Channel	Replace Existing Sign at 273.00 + 0.369 with New Sign on New Post at 273.00 +0.490 (Approximately 100 Ft. From Start of Curve)
		Advisory Speed Plaque 60 MPH	W13-1P	18	18		2.3								New Sign Install
273.00 + 0.653	Lt.	West	M3-4	24	12	2.0		11	1	1			NE	U-Channel	Replace Existing Sign Assembly with New Sign Assembly on New Post
		SD 26	M1-5	24	24	4.0									
273.00 + 0.673	Lt.	Stop	R1-1	30	30		5.2	11	1	1			NW	U-Channel	Replace Existing Sign with New Sign on New Post
273.00 + 0.710	Rt.	East	M3-2	24	12	2.0		11	1	1			SW	U-Channel	Replace Existing Sign Assembly with New Sign Assembly on New Post
		SD 26	M1-5	24	24	4.0							SW		
273.00 + 0.926	Lt.	Left Curve Arrow	W1-2L	36	36		9.0	24	2	1			E	4" X 6" Wood	Replace Existing Sign at 274.00 + 0.049 with New Sign on New Post at 273.00 +0.926 (Approximately 100 Ft. From Start of Curve)
		Advisory Speed Plaque 60 MPH	W13-1P	18	18		2.3								New Sign Install
274.00 + 0.024	Rt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			E	U-Channel	Replace Existing Sign with New Sign on New Post
274.00 + 0.636	Lt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			W	4" X 6" Wood	Replace Existing Sign with New Sign on New Post
274.00 + 0.645	Lt.	Stop	R1-1	30	30		5.2	11	1	1			N	U-Channel	Replace Existing Sign with New Sign on New Post
274.00 + 0.651	Rt.	Stop	R1-1	30	30		5.2	11	1	1			S	U-Channel	Replace Existing Sign with New Sign on New Post
274.00 + 0.907	Rt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			E	4" X 6" Wood	Replace Existing Sign with New Sign on New Post
275.02 + 0.307	Rt.	Type 3 Object Marker	OM-3R							1			W		Remove Do Not Replace
275.02 + 0.307	Lt.	Type 3 Object Marker	OM-3L							1			E		Remove Do Not Replace
275.37 + 0.003	Rt.	Type 3 Object Marker	OM-3R							1			W		Remove Do Not Replace
275.37 + 0.003	Lt.	Type 3 Object Marker	OM-3L							1			E		Remove Do Not Replace

PLOTTED FROM - TRAB10100

### SD 26 Permanent Sign Installation Table

MRM + Displacement	Side of Road	Description	Sign Code	Width (Inches)	Height (Inches)	Flat Aluminum Sign, Nonremovable Copy High Intensity (SqFt)	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity (SqFt)	2.0"x2.0" Perforated Tube Post 12 Ga. (Ft)	(N.A.B.I.) Square Tube Anchor Sleeve (Each)	Remove Traffic Sign (Each)	Remove Sign For Reset (Each)	Reset Sign (Each)	Direction Sign Faces	Current Type of Post	Remarks
276.00 + 0.647	Lt.	Stop	R1-1	30	30		5.2	11	1	1			N	U-Channel	Replace Existing Sign with New Sign on New Post
276.00 + 0.650	Rt.	Stop	R1-1	30	30		5.2	11	1	1			S	U-Channel	Replace Existing Sign with New Sign on New Post
277.00 + 0.546	Lt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			W	4" X 6" Wood	Replace Existing Sign with New Sign on New Post
277.00 + 0.635	Lt.	Stop	R1-1	30	30		5.2	11	1	1			N	U-Channel	Replace Existing Sign with New Sign on New Post
277.00 + 0.642	Rt.	Stop	R1-1	30	30		5.2	11	1	1			S	U-Channel	Replace Existing Sign with New Sign on New Post
277.00 + 0.851	Rt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			E	4" X 6" Wood	Replace Existing Sign with New Sign on New Post
278.00 + 0.605	Lt.	West	M3-4	24	12	2.0		11	1	1			E	U-Channel	Replace Existing Sign Assembly with New Sign Assembly on New Post
		SD 26	M1-5	24	24	4.0					E				
278.00 + 0.631	Lt.	Stop	R1-1	30	30		5.2	11	1	1			N	U-Channel	Replace Existing Sign with New Sign on New Post
278.00 + 0.639	Rt.	Stop	R1-1	30	30		5.2	11	1	1			S	U-Channel	Replace Existing Sign with New Sign on New Post
279.00 + 0.222	Lt.	No Passing Zone	W14-3	48X48X36			5.6	12	1	1			E	Telespar	Replace Existing Sign with New Sign on New Post
279.00 + 0.252	Rt.	Left Reverse Curve	W1-4L	36	36		9.0	24	2	1			W	4" X 6" Wood	Replace Existing Sign at 279.00 + 0.175 with New Sign on New Post at 279.00 + 0.252 (Approximately 50 Ft. From Start of Curve)
		Advisory Speed Plaque 60 MPH	W13-1P	18	18		2.3								
279.00 + 0.495	Rt.	Stop Ahead	W3-1	48	48		16.0	26	2	1			SW	4" X 6" Wood	Replace Existing Sign at 279.00 + 0.410 with New Sign on New Post at 279.00 + 0.495
279.00 + 0.527	Lt.	Cottonwood Lake 8... JCT 45 26												Telespar	Do Not Disturb
279.00 + 0.533	Rt.	Junction Marker	M2-1	21	15	2.2		12	1	1			W		Replace Existing Sign at 279.00 + 0.485 with New Sign on New Post at 279.00 + 0.533
		US 281	M1-4	30	24	5.0					W				
279.00 + 0.563	Lt.	West	M3-4	24	12	2.0		11	1	1			E	U-Channel	Replace Existing Sign Assembly with New Sign Assembly on New Post
		SD 26	M1-5	24	24	4.0					E				
279.00 + 0.571	Rt.	Redfield / To US 14	D1-2	60	36	15.0		24	2	1			W	4" X 6" Wood	Replace Existing Sign at 279.00 + 0.544 with New Sign on New Post at 279.00 + 0.571
279.00 + 0.602	Lt.	Left Reverse Curve	W1-4L	36	36		9.0	24	2	1			E	U-Channel	Replace Existing Sign with New Sign on New Post
		Advisory Speed Plaque 60 MPH	W13-1P	18	18		2.3								
279.00 + 0.642	Rt.	Stop	R1-1	36	36		7.5	12	1	1			W	4" X 6" Wood	Replace Existing Sign with New Sign on New Post
					TOTAL	118.9	559.1	1263.0	113	86	1	1			

## Sign Summary SD 26

Sign Code	Description	Width (Inches)	Height (Inches)	Sq. Ft.	Quantity	Flat Aluminum Sign, Nonremovable Copy High Intensity (SQFT)	Flat Aluminum Sign, Nonremovable Copy Super or Very High Intensity (SQFT)	Text / Background
D1-1	<--- Wessington 21	102	18	12.8	1	12.8		White on Green
D1-2	Redfield / To US 14	60	36	15.0	1	15.0		White on Green
I-1	Hand County	36	24	6.0	1	6.0		White on Green
I-1	Spink County	36	24	6.0	1	6.0		White on Green
M1-4	US 281	30	24	5.0	1	5.0		Black on White
M1-5	SD 26	24	24	4.0	7	28.0		See Standard Plate 632.20
M2-1	Junction Marker	21	15	2.2	1	2.2		Black on White
M3-2	East	24	12	2.0	3	6.0		Black on White/Green Border
M3-4	West	24	12	2.0	4	8.0		Black on White/Green Border
R1-1	Stop	30	30	5.2	19		98.8	White on Red
R1-1	Stop	36	36	7.5	2		15.0	White on Red
R2-1	Speed Limit 45 MPH	24	30	5.0	4	20.0		Black on White
R2-1	Speed Limit 65 MPH	24	30	5.0	2	10.0		Black on White
W1-2L	Left Curve Arrow	36	36	9.0	6		54.0	Black on Fluorescent Yellow
W1-2R	Right Curve Arrow	36	36	9.0	6		54.0	Black on Fluorescent Yellow
W13-1P	Advisory Speed Plaque 55 MPH	18	18	2.3	2		4.5	Black on Fluorescent Yellow
W13-1P	Advisory Speed Plaque 60 MPH	18	18	2.3	8		18.0	Black on Fluorescent Yellow
W14-3	No Passing Zone	48X48X36		5.6	23		128.8	Black on Fluorescent Yellow
W1-4L	Left Reverse Curve	36	36	9.0	6		54.0	Black on Fluorescent Yellow
W1-5L	Winding Road Left	36	36	9.0	1		9.0	Black on Fluorescent Yellow
W1-5R	Winding Road Right	36	36	9.0	1		9.0	Black on Fluorescent Yellow
W1-7	Horizontal Double Arrow	48	24	8.0	1		8.0	Black on Fluorescent Yellow
W1-8L	Chevron Left	18	24	3.0	12		36.0	Black on Fluorescent Yellow
W1-8R	Chevron Right	18	24	3.0	12		36.0	Black on Fluorescent Yellow
W3-1	Stop Ahead Symbol	48	48	16.0	1		16.0	Black on Fluorescent Yellow
W3-5	Speed Limit Ahead 45 MPH	36	36	9.0	2		18.0	Black on Fluorescent Yellow
<b>Totals</b>						<b>118.9</b>	<b>559.1</b>	

### SURFACING THICKNESS DIMENSIONS

Plans tonnage will be applied even though the thickness may vary from that shown on the plans.

At those locations where material must be placed to achieve a required elevation, plans tonnage may be varied to achieve the required elevation.

### SCOPE OF WORK

Work on this project involves placement of 2" Asphalt Concrete pavement, rumble strips and stripes, permanent sign replacement and pavement markings.

### SEQUENCE OF OPERATIONS

The following general Sequence of Operations shall be adhered to. Any changes must be approved in writing by the Area Engineer prior to changes being made.

1. Install fixed location construction signing prior to start of work.
2. Complete cold milling operations.
3. Excavate digouts and complete backfill operations.
4. Complete all asphalt concrete strengthening and leveling.
5. Complete gravel placement operations on rural approaches and intersecting roads.
6. Knockdown gravel to allow access on approaches and intersecting roads.
7. Complete asphalt paving operations.
8. Final shape gravel on approaches and intersecting roads.
9. Grind rumble strips and stripes.
10. Place flush seal if required.
11. Install permanent pavement markings.
12. Install new permanent signing.
13. Refurbish mailboxes.
14. Remove fixed location construction project signing.
15. Mow project inslopes and complete any remaining project cleanup.

### GENERAL NOTES

The Contractor shall be required to mow the inslopes with a rotary mower to a height of 6 inches for a distance of 14 feet from the edge of the roadway (or shoulder) for the length of the project. This work will be completed to the satisfaction of the Engineer after all construction activities are completed. All costs associated with this work shall be incidental to the various contract items.

### UTILITIES

Utilities are not planned to be affected on this project. If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule Article 20:25, the Contractor shall contact the Project Engineer to determine modifications that will be necessary to avoid utility impacts.

### TRAFFIC CONTROL

Work activities during non-daylight hours are subject to prior approval.

Work zones for the various construction operations that utilize a pilot car shall not exceed 3 miles in length. The maximum delay for a vehicle at a flagging station shall not exceed 15 minutes.

An advisory Speed Plate displaying 30 M.P.H. shall be attached to all "Bump" signs used on the project. Speed plates are included in the Itemized List for Traffic Control Signs sheet in these plans.

The bottom of signs on portable or temporary supports shall not be less than seven feet above the pavement in urban areas and one foot above the pavement in rural areas. Portable sign supports may be used as long as the duration is less than 3 days. If the duration is more than 3 days the signs shall be on fixed location, ground mounted, breakaway supports.

Traffic Control signs, as shown in the Itemized List for Traffic Control Signs, are estimates. Contractor's operation may require adjustments in quantities, either more or less. Payment will be for those signs actually ordered by the Engineer and used.

### TYPE III FIELD LABORATORY

The lab shall be equipped with an internet connection such as DSL, cable modem, or other approved service. The internet connection shall be provided with a multi-port wireless router. The internet connection shall be a minimum speed of 512 Kb unless limited by job location and approved by the DOT. Prior to installing the wireless router the Contractor shall submit the wireless router's technical data to the Area Office to check for compatibility with the state's computer equipment. The internet connection is intended for state personnel usage only. The Contractor's personnel are prohibited from using the internet connection unless pre-approved by the Project Engineer. These items shall be incidental to the contract unit price per each for TYPE III FIELD LABORATORY.

### STORAGE UNIT

The Contractor shall provide a storage unit such as a portable storage container or a semi-trailer meeting the minimum size requirements from the table below:

Project Total Asphalt Concrete Tonnage	Minimum Internal Size (Cu Ft)	Minimum External Size (L x W x H)
Less than 50,000 ton	1,166	20' x 8' x 8.6' std
More than 50,000 ton	2,360	40' x 8' x 8.6' std
All Gyratory Controlled QC/QA Projects	2,360	40' x 8' x 8.6' std

The storage unit is intended for use only by the Engineer for the duration of the project. The QC lab personnel or the Contractor will not be allowed to use the storage container while it is on the project, without permission of the Engineer.

The storage unit shall be on site and operational prior to asphalt concrete production. Upon completion of asphalt concrete production, the Engineer will notify the Contractor when the storage unit can be removed from the project. The storage unit use will not exceed 30 calendar days from the completion of asphalt concrete production. The storage unit will remain the property of the Contractor.

The storage unit shall be weather proof and shall be set in a level position. The storage unit shall be able to be locked with a padlock.

The storage unit shall be placed adjacent to the QA lab, as approved by the Engineer.

The following shall apply when the storage unit provided on the project is a portable storage container:

1. The portable storage container shall be constructed of steel.
2. The portable storage container shall be set such that it is raised above the surrounding ground level to keep water from ponding under or around the storage container.

The following shall apply when the storage unit provided on the project is a semi-trailer:

1. A set of steps and hand railings shall be provided at the exterior door.
2. If the floor of the semi-trailer is 18 inches or more above the ground, a landing shall be constructed at the exterior door. The minimum dimensions for the landing shall be 4 feet by 5 feet. The top of the landing shall be level with the threshold or opening of the doorway.
3. The semi-trailer may be connected to the QA lab by a stable elevated walkway. The walkway shall be a minimum of 48 inches wide and contain handrails installed at 32 inches above the deck of the walkway. The walkway shall be constructed such that it is stable and the deck does not deform during use and allows for proper door operation. Walkway construction shall be approved by the Engineer.

All cost for furnishing, maintaining, and removing the storage unit including labor, equipment, and materials including any necessary walkways, landings, stairways, and handrails shall be included in the contract unit price per each for STORAGE UNIT.

### FLEXIBLE PAVEMENT SMOOTHNESS PROVISION

The Special Provision for Flexible Pavement Smoothness will be followed with the subsequent exception; all horizontal curves and superelevation transitions will be profiled.

**SHOULDER PREPARATION**

Vegetation and accumulated material adjacent to the existing surface edge shall be removed to the satisfaction of the Engineer prior to placement of mainline surfacing. Any remaining windrow of accumulated material shall be re-spread evenly on the inslope adjacent to the asphalt shoulder to the satisfaction of the Engineer prior to the application of the flush seal.

Any vegetation damaged outside of the asphalt concrete limits shall be repaired and/or restored by the Contractor, at no expense to the State, and to the satisfaction of the Engineer.

This shoulder work shall be incidental to other contract items. Separate measurement and payment will not be made.

Prior to construction, State Maintenance Forces will spray the shoulders to kill existing vegetation. It will be the Contractor's responsibility to notify the State at least 30 days in advance of when he plans to begin work on the surface of the highway. The State assumes no responsibility for the effectiveness of the herbicide applied.

**INTERSECTING ROADS AND ENTRANCES**

Intersecting roads and entrances shall be satisfactorily cleared of vegetation, shaped, and compacted prior to placement of mainline surfacing. This work will be considered incidental to other contract items. Separate measurement and payment will not be made.

**EXCAVATION OF UNSTABLE MATERIAL**

Included in the Estimate of Quantities are 50 Cubic Yards of Unclassified Excavation, Digouts per mile for the necessary removal of unstable material.

Backfill shall be Base Course paid for at the contract unit price per ton.

The digout shall be extended to the shoulder and the granular material backfill shall daylight to the inslope to allow water to escape the subgrade.

A copy of the surfacing/subgrade investigation for this project is available from the Huron Area and the Aberdeen Region offices.

**BASE COURSE**

Base Course shall conform to the specifications, except that the compaction shall be to the satisfaction of the Engineer.

Included in the Estimate of Quantities are 100 tons of Base Course per mile for backfill of Unclassified Excavation, Digouts.

**WATER FOR COMPACTION OF GRANULAR MATERIALS**

Cost of water for compaction of the granular material shall be incidental to the contract unit price for the various contract items. Six percent, plus or minus, moisture will be required at the time of compaction unless otherwise directed by the Engineer.

**COLD MILLING ASPHALT CONCRETE**

The cold milled material obtained from the project shall become the property of the Contractor. Gradation testing of cold milled material not utilized on the project shall not be required, unless deemed necessary by the Engineer.

The cold milled material may be placed on field approaches, as approved by the Engineer. Cold milled material which remains on the project shall be subjected to gradation testing.

The placement of asphalt concrete shall begin within 5 working days after completion of cold milling of mainline asphalt concrete. The Contractor shall be responsible maintaining the temporary ramps at the project limits, intersecting roads and bridge ends.

**ASPHALT FOR TACK**

Included in the Estimate of Quantities are 60 tons of SS-1h or CSS-1h Asphalt for Tack for surface repair, strengthening, and spot leveling areas throughout the project. (Rate = 0.09 Gal./ Sq.Yd.).

**CLASS Q2 HOT MIXED ASPHALT CONCRETE**

Mineral Aggregate:  
Mineral aggregate for Class Q2 Hot Mixed Asphalt Concrete shall conform to the requirements of Class Q2.

**ADDITIONAL QUANTITIES:**

Included in the Estimate of Quantities are 400 tons of Class Q2 Asphalt Concrete and, 4.0 tons of Hydrated Lime for Asphalt Concrete and 23.2 tons of PG 64-28 Asphalt Binder, per mile for spot leveling, strengthening, and repair of the existing surface. This material shall be placed where and as directed by the Engineer.

**FLUSH SEAL**

Application of Flush Seal shall be completed within 10 working days following completion of the asphalt concrete surfacing.

For each working day that the Flush Seal remains uncompleted after the 10 working day limitation, the Contractor will be assessed liquidated damages at the rate of \$250.00 per day.

The liquidated damages shall apply only up to the Substantial Completion Date, as extended. After the Substantial Completion Date, liquidated damages will be assessed in accordance with the schedule set forth in Section 8.8 of the specifications.

Application of Flush Seal may be eliminated by the Engineer. If the paved surface remains tight, the Engineer shall notify the Contractor as soon as possible that the Flush Seal is unnecessary.

**SAND FOR FLUSH SEAL**

The sand application shall be placed 11' wide in each lane, leaving 12" on center line and 6" on each edge line free of sand.

**REFURBISH MAILBOXES**

Existing mailboxes shall be removed, turnouts constructed, and mailboxes reset on new posts with the necessary support hardware for single or double mailbox assemblies (See Standard Plate No's. 900.01, 900.02 and 900.03). The local Postmaster will determine the recommended mounting height of the mailboxes throughout the project. The Contractor shall coordinate with the Engineer on the proper postal representative to contact.

**TABLE OF REFURBISH MAILBOXES**

Station	Side	Single Mailbox (Each)	Double Mailbox (Each)	Comments
71+92	L	1	-	
106+55	R	-	1	
108+25	R	2	-	
111+23	R	1	-	
117+80	L	-	-	Engineer to verify on construction if there is a need to replace the mailbox at this location.
122+60	R	1	-	
124+10	L	1	-	Merkel
125+49	R	1	-	PLASTIC BOX AND POST
137+00	R	1	-	
168+00	R	1	-	
176+50	R	1	-	
191+20	R	1	-	
198+00	R	1	-	
232+75	R	1	-	Pat Appel
363+24	R	1	-	
398+70	R	1	-	
474+30	R	1	-	
<b>TOTAL</b>		<b>16</b>	<b>1</b>	

If large mailboxes are located at double mailbox installations, a single post may need to be used for the large mailbox.

All costs for removing existing mailboxes, providing temporary mailboxes, and resetting mailboxes with new posts and necessary support hardware shall be incidental to the contract unit price per each for REFURBISH SINGLE MAILBOX or REFURBISH DOUBLE MAILBOX.

**RUMBLE STRIPES**

Rumble Stripes installation shall be completed prior to application of the Flush Seal and Permanent Pavement Markings. Rumble Stripes shall not be installed on the bridge deck. In the event the Flush Seal is eliminated from the contract, the Contractor will still be required to apply a Flush Seal to the newly installed 8" Rumble Stripes at a width of 1.0' and at the same rate as specified in this plan set. No adjustment in the contract unit price will be made and SS-1h or CSS-1h Asphalt for Flush Seal will be paid at the contract unit price per ton.

The Contractor shall be required to remove loose material from the driving surface and/or asphalt shoulders of the roadway. Loose material may be broomed to the edge of shoulders and it shall be the Contractor's responsibility to ensure the loose material does not enter any vegetated areas and/or waterways.

All costs associated with the work shall be incidental to the contract unit price per mile for GRIND 8" RUMBLE STRIP OR STRIPE IN ASPHALT CONCRETE.

**TABLE OF 8" RUMBLE STRIPES**

Station to Station	Length (Ft)	Length (Miles)
0+60 to 69+25 (Both Shoulder)	13,730	2.60
282+80 to 627+00 (Both Shoulders)	68,840	13.04
Total	82,570	15.64

**RUMBLE STRIPS AT US 281 JUNCTION**

Rumble Strip installation shall be completed prior to application of the Flush Seal and Permanent Pavement Markings.

The Contractor shall grind rumble strips in the asphalt concrete on SD 26 at the US 281 Junction according to the detail Recessed Rumble Strip Layout.

All costs for installing rumble strips shall be incidental to the contract unit price per foot for GROOVE 6" WIDE RUMBLE STRIP. Basis of Payment shall be plans quantity.

In the event the Flush Seal is eliminated from the contract, the Contractor will still be required to apply a Flush Seal to the newly installed rumble strips at the same rate as specified in this plan set. No adjustment in the contract unit price will be made and SS-1h or CSS-1h will be paid at the contract unit price per ton.

**TEMPORARY AND PERMANENT PAVEMENT MARKINGS**

Maintaining size, shape, and dimension of existing pavement markings shall be the responsibility of the Contractor for both temporary and permanent pavement marking applications.

Temporary Flexible Vertical Markers (Tabs) shall be used to mark dashed centerline, No Passing Zones and applicable lane lines on the wear course or after application of the Flush Seal. Paint will not be allowed for Temporary Pavement Marking on the Asphalt Concrete Class Q2 Hot Mixed Asphalt Concrete wear course or after application of the Flush Seal.

The following items shall be reproduced with the Permanent Pavement Markings:  
STOP BAR at the US 281 Junction. (Cold Applied Plastic Pavement Marking, 24")

**TEMPORARY PAVEMENT MARKINGS**

The total length of no passing zone on this project is estimated to be **9.3** miles. There are a total of **26** No Passing Zones on the project.

Quantities of Temporary Pavement Markings consist of:  
One pass on top of the Class Q2 Hot Mixed Asphalt Concrete.  
One pass on top of the Flush Seal.

If the Flush Seal is eliminated, the application of the Temporary Pavement Marking on top of the Flush Seal will be eliminated. No adjustment in the contract unit price for Temporary Pavement Marking will be made because of a variation in quantities.

Temporary Flexible Vertical Markers (Tabs) may be used as detailed in the specifications. Covers on the tabs shall be sufficiently secured to prevent traffic from dislodging the cover and when removed, the covers shall be properly disposed. The Contractor shall remove and properly dispose of the tabs after Permanent Pavement Marking is applied. Method of removal shall be nondestructive to the road surface and shall be accomplished within one week of completion of the Permanent Pavement Marking.

Any Temporary Flexible Vertical Markers (Tabs) with covers removed before the flush seal shall be replaced prior to Flush Seal application.

Cost for furnishing, applying, removing and disposing of the Temporary Flexible Vertical Markers (Tabs) shall be included in the contract unit price per mile for TEMPORARY PAVEMENT MARKING.

Flagger symbol signs (W20-7) and flaggers, or a shadow vehicle with rotating yellow lights or strobe lights shall be positioned on the roadway shoulder in advance of workers for both directions of traffic during the installation of Temporary Flexible Vertical Markers (Tabs). The traffic control device used shall be moved to provide proper warning of the work operation. A Workers symbol sign (W21-1) shall be mounted on the rear of the shadow vehicle. The method of traffic control used by the Contractor for this work shall be approved by the Engineer.

**PERMANENT PAVEMENT MARKING**

Traffic Control shall be incidental to the cost of application. The striper and advance or trailing warning vehicle shall be equipped with flashing amber lights or advance warning arrow panel.

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

The Contractor shall advise the Engineer a minimum of 3 weeks prior to the application of the permanent pavement marking to allow the State to check and mark the location of no passing zones.

The application of Permanent Pavement Marking paint may not begin until 7 calendar days following completion of final surfacing (including Flush Seal if applied) and shall be completed within 14 calendar days following completion of the final surfacing.

For each working day the application of permanent pavement marking paint remains uncompleted beyond the time limits described in the preceding paragraph, the Contractor will be assessed liquidated damages at the rate of \$250.00 per day.

The liquidated damages shall apply up to the Substantial Completion Date, as extended. After the Substantial Completion Date, liquidated damages will be assessed in accordance with Section 8.8 of the specifications, until the permanent pavement marking is completed, even though the project may be open to traffic.

**COLD WEATHER, WATERBORNE PAINT**

Waterborne paint applied after October 15 shall be formulated as cold weather, waterborne paint and shall be applied in accordance with manufacturer's recommendations, including minimum temperature requirements.

Cold weather, waterborne paint shall conform to Section 980 of the Specifications except for the following:

980.1: Resin Binder shall be Fastrack™ XSR manufactured by Dow, or approved equal.

980.1 A. Quantitative Requirements:

Pigment, percent by weight: 60.0 – 63.0 for white and 58.5 – 61.5 for yellow.

Pigment, percent by weight; tested in accordance with ASTM D3723: 60.0 – 63.0 for white and 56.1 – 59.2 for yellow.

Non-volatile Vehicle, percent by weight; tested in accordance with NIST 141C (Method 4051.1): 41.5 minimum for white and 51.5 minimum for yellow.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0026(01)267	22	45

### **GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING**

The work shall generally consist of grooving the asphalt surface and subsequent application of cold applied plastic tape.

All surfaces receiving cold applied plastic pavement markings shall be grooved prior to application of the cold applied plastic pavement markings.

The Contractor shall establish a positive means for the removal of the grinding and/or grooving residue. Residue from dry grooving shall be vacuumed. Solid residue shall be removed from the pavement surfaces before being blown by traffic action or wind. Residue from wet grooving shall not be permitted to flow across lanes being used by public traffic or into gutter or drainage facilities. Residue, whether in solid or slurry form, shall be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state. All costs for removal of grinding and/or grooving residue shall be included in the contract unit price per foot for GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, 24".

**Groove cleaning:** Grooves must be cleaned by using high pressure compressed air (90 psi minimum).

If the cold applied plastic pavement marking tape (including primer if required) does not immediately follow dry pavement grooving, the following shall apply:

Within 24 hours prior to placing the cold applied plastic pavement marking tape the groove shall be sandblasted and free of any residue or laitance. If the cold applied plastic pavement marking tape is not placed within 24 hours of sandblasting, the groove shall be re- sandblasted.

The cold applied plastic pavement marking tape shall be installed in accordance with the manufacturer's recommendations.

### **GENERAL PERMANENT SIGNING NOTES**

Permanent sign locations shall be staked in the field by the Contractor and checked by the Engineer. The Contractor shall give the Engineer a minimum of one week to check staked locations prior to sign/post installation.

The Contractor shall be responsible for contacting South Dakota One Call to locate the utilities at the staked sign installation locations.

Prior to ordering sign posts, the Contractor shall verify post lengths. The height of the post shall not exceed the minimum height needed by more than 0.5 feet. Any portion that extends above the sign shall be cut off. No separate payment will be made for cutting the post or for that length cut off.

### **REMOVE EXISTING SIGNS**

Existing signs within the project limits are summarized in the Sign Table. This table provides the approximate MRM location for each sign. Existing signs in the table are indicated to be removed and not reused.

All existing signs and hardware listed to be removed shall become the property of the Contractor.

Holes remaining from the removal of 4"x6" wood posts shall be backfilled and compacted with material placed in layers not to exceed 6 inches in depth.

All costs associated with the removal of existing signs, posts, hardware, and backfilling holes shall be incidental to the contract unit price per each for REMOVE TRAFFIC SIGN.

All existing sign posts and/or sign bases shall be removed in their entirety.

### **NEW PERMANENT SIGNING**

New signs for installation are summarized in the Sign Table.

#### **Sign Design**

Signs shall be constructed as required per the Manual on Uniform Traffic Control Devices (MUTCD), the latest edition of "Standard Highway Signs", and as specified on the Special Sign Design sheets.

All upper/lower case letters and numerals shall be as required per the MUTCD, the latest edition of "Standard Highway Signs", and as illustrated on the Special Sign Design sheets.

The Contractor shall furnish the Aberdeen Region Traffic Engineer (P.O. Box 1767; Aberdeen, SD 57402) with a detailed sign layout sheet for each sign shown. These detailed sign layouts shall be approved by the Region Traffic Engineer prior to ordering the signs.

#### **Sign Sheeting**

All signs shall be manufactured in accordance with the sheeting manufacturer's recommendations utilizing a matched component system, including inks, electronic cuttable films, and protective overlay films. Digitally printed signs will not be accepted.

#### **Sign Installation Hardware**

Aluminum U-Channel stiffeners shall be used on all standard highway signs greater than 36 inches in width and shall conform to Alloy 6063-T6 or 6061-T6. The U-Channel shall be 2 inches in width and free of holes. The U-Channel stiffeners shall also be used to connect various signs together so that an entire sign assembly can be erected on a single installation.

Stiffeners may be fastened to signs by use of ¼ inch diameter drive rivets.

Refer to the Breakaway Sign Supports diagram for typical sign and stiffener details.

The Contractor shall use 3/8 inch diameter rust proof machine sign bolts, flat metal washers, neoprene washers (against the sign sheeting), lock washers, and nuts to fasten the sign to the channel aluminum and posts. A minimum of two bolts shall extend through each post.

All costs associated with furnishing and installing the new permanent signs, and with furnishing and installing stiffeners and hardware shall be incidental to the contract unit price per square foot for Flat Aluminum Sign, Nonremovable Copy High Intensity, or Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity.

### **SQUARE TUBE ANCHOR SLEEVE**

The Contractor shall furnish and install new square tube anchor sleeve as follows:

2.5" x 18", 12 Gauge square tube anchor sleeve, (or equivalent components as approved by the Engineer).

A 2.25" x 2.25" x 4' perforated tube post (12 Gauge) shall be used as the anchor post for installation with the square tube anchor sleeve.

### **MILEAGE REFERENCE MARKERS**

MRMs (Mileage Reference Markers) are not to be disturbed. If an MRM is attached to a sign listed for replacement it shall be salvaged and reattached to the new sign in the same location. Payment for this work shall be incidental to the various signing contract items.

# TABLE OF SUPERELEVATION

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0026(01)267	23	45

STATION	STATION	REMARKS	106+18.73	108+49.16	SUPERELEVATION RATE = 0.030 2°30' CURVE LT. POINT OF ROTATION = 12' LT. C <sub>L</sub>
0+00.0	7+34.24	NORMAL CROWN			
7+34.24	10+24.24	SUPERELEVATION RUNOFF	108+49.16	111+39.16	SUPERELEVATION RUNOFF
10+24.24	29+52.69	SUPERELEVATION RATE = 0.052 4°15' CURVE LT. POINT OF ROTATION = 12' LT. C <sub>L</sub>	111+39.16	115+78.53	NORMAL CROWN
29+52.69	32+42.69	SUPERELEVATION RUNOFF	115+78.53	118+68.53	SUPERELEVATION RUNOFF
32+42.69	58+83.68	NORMAL CROWN	118+68.53	122+51.28	SUPERELEVATION RATE = 0.050 6°45' CURVE RT. POINT OF ROTATION = 12' RT. C <sub>L</sub>
58+83.68	61+73.68	SUPERELEVATION RUNOFF	122+51.28	130+52.30	NORMAL CROWN
61+73.68	67+58.72	SUPERELEVATION RATE = 0.020 1° CURVE LT. POINT OF ROTATION = 12' LT. C <sub>L</sub>	130+52.30	133+42.30	SUPERELEVATION RUNOFF
67+58.72	70+48.72	SUPERELEVATION RUNOFF	133+42.30	139+22.57	SUPERELEVATION RATE = 0.034 3°00' CURVE RT. POINT OF ROTATION = 12' RT. C <sub>L</sub>
70+48.72	74+89.72	NORMAL CROWN	139+22.57	142+12.57	SUPERELEVATION RUNOFF
74+89.72	77+79.72	SUPERELEVATION RUNOFF	142+12.57	142+39.01	NORMAL CROWN
77+79.72	84+17.21	SUPERELEVATION RATE = 0.050 RT. C <sub>L</sub> 6°45' CURVE RT. POINT OF ROTATION = 12' RT. C <sub>L</sub>	142+39.01	145+29.01	SUPERELEVATION RUNOFF
84+17.21	87+07.21	SUPERELEVATION RUNOFF	145+29.01	153+42.20	SUPERELEVATION RATE = 0.020 1°30' CURVE RT. POINT OF ROTATION = 12' RT. C <sub>L</sub>
87+07.21	86+71.68	NORMAL CROWN	153+42.20	155+39.83	SUPERELEVATION RUNOFF
86+71.68	89+61.68	SUPERELEVATION RUNOFF	155+39.83	157+37.45	SUPERELEVATION RUNOFF
89+61.68	93+88.47	SUPERELEVATION RATE = 0.050 6°45' CURVE LT. POINT OF ROTATION = 12' LT. C <sub>L</sub>	157+37.45	167+78.98	SUPERELEVATION RATE = 0.046 5°30' CURVE LT. POINT OF ROTATION = 12' LT. C <sub>L</sub>
93+88.47	96+78.47	SUPERELEVATION RUNOFF	167+78.98	170+68.98	SUPERELEVATION RUNOFF
96+78.47	99+68.47	SUPERELEVATION RUNOFF	170+68.98	180+55.59	NORMAL CROWN
99+68.47	100+38.73	SUPERELEVATION RATE = 0.050 6°45' CURVE RT. POINT OF ROTATION = 12' RT. C <sub>L</sub>	180+55.59	183+45.59	SUPERELEVATION RUNOFF
100+38.73	103+28.73	SUPERELEVATION RUNOFF	183+45.59	184+83.33	SUPERELEVATION RATE = 0.050 6°45' CURVE LT. POINT OF ROTATION = 12' LT. C <sub>L</sub>
103+28.73	106+18.73	SUPERELEVATION RUNOFF	184+83.33	187+73.33	SUPERELEVATION RUNOFF
			187+73.33	190+63.33	SUPERELEVATION RUNOFF

# TABLE OF SUPERELEVATION

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0026(01)267	24	45

190+63.33	191+42.97	SUPERELEVATION RATE = 0.050 6°45' CURVE RT. POINT OF ROTATION = 12' RT. C <sub>L</sub>	276+39.34	279+29.34	SUPERELEVATION RUNOFF
191+42.97	194+32.97	SUPERELEVATION RUNOFF	279+29.34	301+13.48	NORMAL CROWN
194+32.97	196+81.23	NORMAL CROWN	301+13.48	304+03.48	SUPERELEVATION RUNOFF
196+81.23	199+71.23	SUPERELEVATION RUNOFF	304+03.48	323+30.99	SUPERELEVATION RATE = 0.052 4°15' CURVE RT. POINT OF ROTATION = 12' RT. C <sub>L</sub>
199+71.23	206+99.00	SUPERELEVATION RATE = 0.050 6°45' CURVE RT. POINT OF ROTATION = 12' RT. C <sub>L</sub>	323+30.99	606+59.82	NORMAL CROWN
206+99.00	209+89.00	SUPERELEVATION RUNOFF	606+59.82	609+49.82	SUPERELEVATION RUNOFF
209+89.00	214+18.42	NORMAL CROWN	609+49.82	614+42.32	SUPERELEVATION RATE = 0.052 4°15' CURVE LT. POINT OF ROTATION = 12' LT. C <sub>L</sub>
214+18.42	217+08.42	SUPERELEVATION RUNOFF	614+42.32	617+32.32	SUPERELEVATION RUNOFF
217+08.42	219+18.20	SUPERELEVATION RATE = 0.200 1°30' CURVE RT. POINT OF ROTATION = 12' RT. C <sub>L</sub>	617+32.32	617+35.46	NORMAL CROWN
219+18.20	222+08.20	SUPERELEVATION RUNOFF	617+35.46	620+25.46	SUPERELEVATION RUNOFF
222+08.20	227+06.51	NORMAL CROWN	620+25.46	624+46.43	SUPERELEVATION RATE = 0.052 4°15' CURVE RT. POINT OF ROTATION = 12' RT. C <sub>L</sub>
227+06.51	229+96.51	SUPERELEVATION RUNOFF	624+46.43	627+36.43	SUPERELEVATION RUNOFF
229+96.51	233+99.29	SUPERELEVATION RATE = 0.041 4°15' CURVE LT. POINT OF ROTATION = 12' LT. C <sub>L</sub>	627+36.43	628+30.28	NORMAL CROWN
233+99.29	236+89.29	SUPERELEVATION RUNOFF			
236+89.29	237+15.96	NORMAL CROWN			
237+15.96	240+35.96	SUPERELEVATION RUNOFF			
240+35.96	244+72.08	SUPERELEVATION RATE = 0.052 4°15' CURVE RT. POINT OF ROTATION = 12' RT. C <sub>L</sub>			
244+72.08	247+62.08	SUPERELEVATION RUNOFF			
247+62.08	254+19.01	NORMAL CROWN			
254+19.01	257+09.01	SUPERELEVATION RUNOFF			
257+09.01	276+39.34	SUPERELEVATION RATE = 0.052 4°15' CURVE LT. POINT OF ROTATION = 12' LT. C <sub>L</sub>			

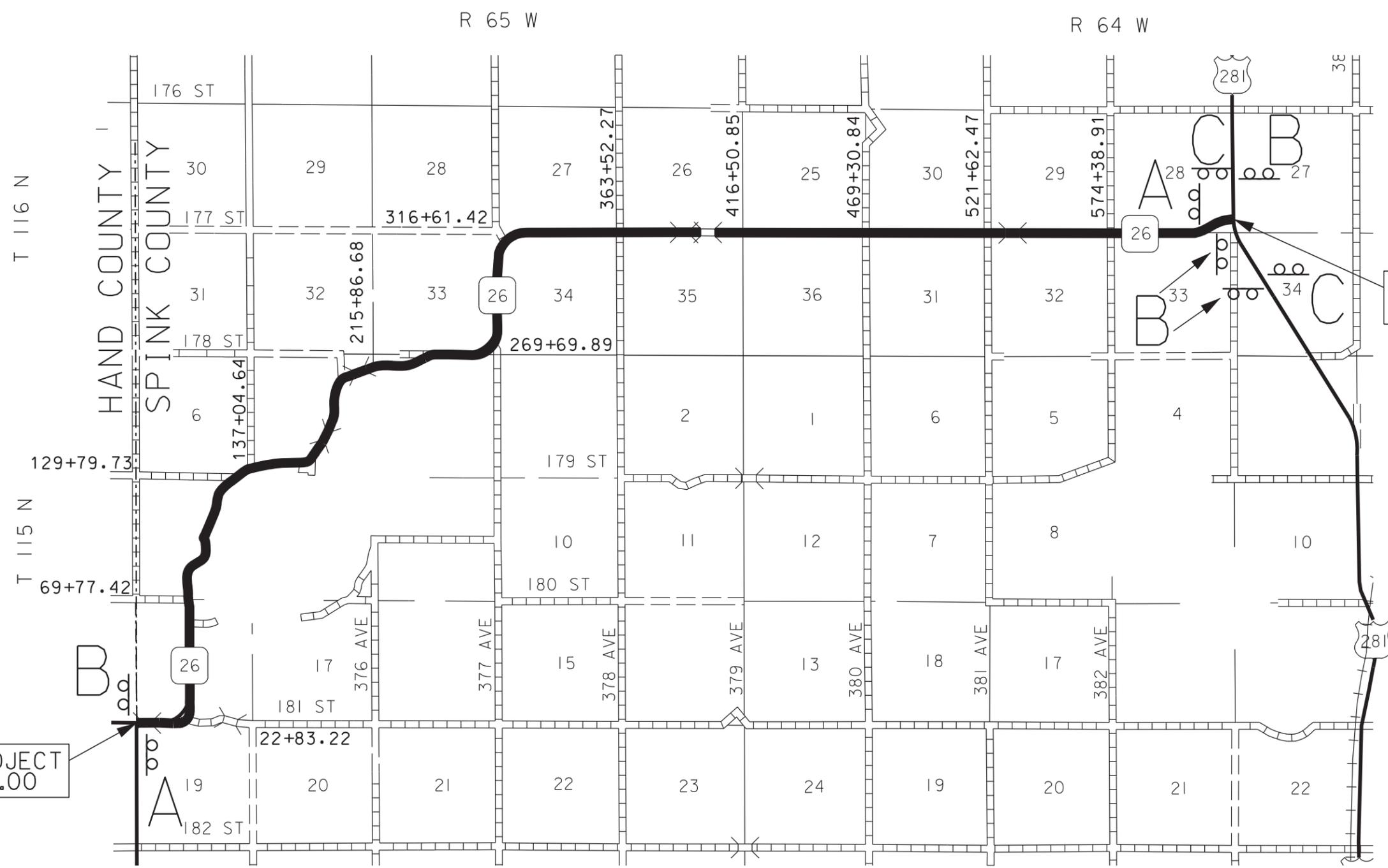
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0026(01)267	25	45
Plotting Date: 12/21/2015			

# FIXED LOCATION GROUND MOUNTED BREAKAWAY SUPPORT SIGNS

PLOT SCALE - 1:5000

PLOT NAME - 3

FILE - ... \0260\_FIXED SIGNS.DGN



BEGIN PROJECT  
STA. 0+00.00

END PROJECT  
STA. 628+30.28

A  
ROAD WORK  
NEXT 12 MILES  
G20-1

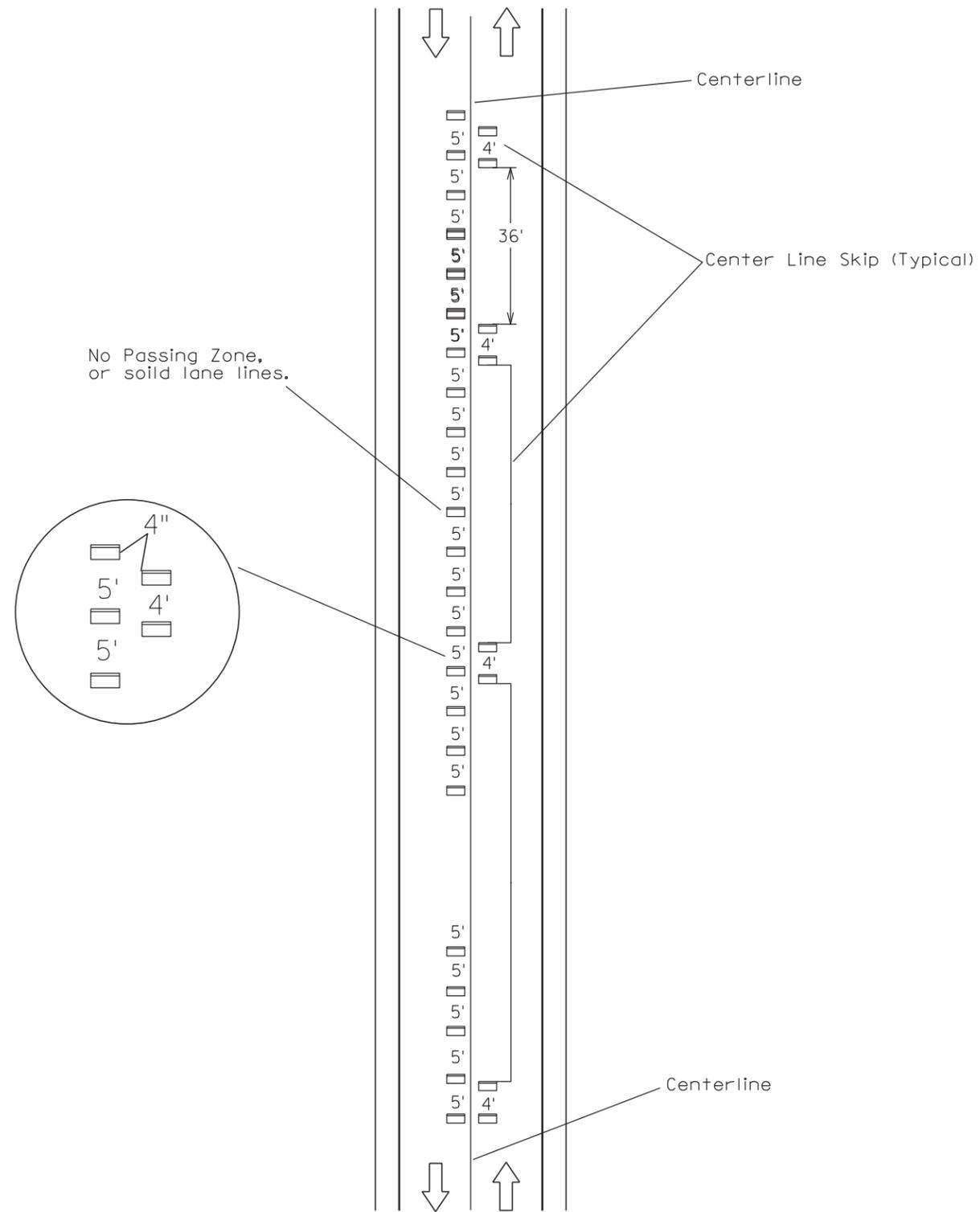
B  
END  
ROAD WORK  
G20-2

C  
ROAD  
WORK  
AHEAD

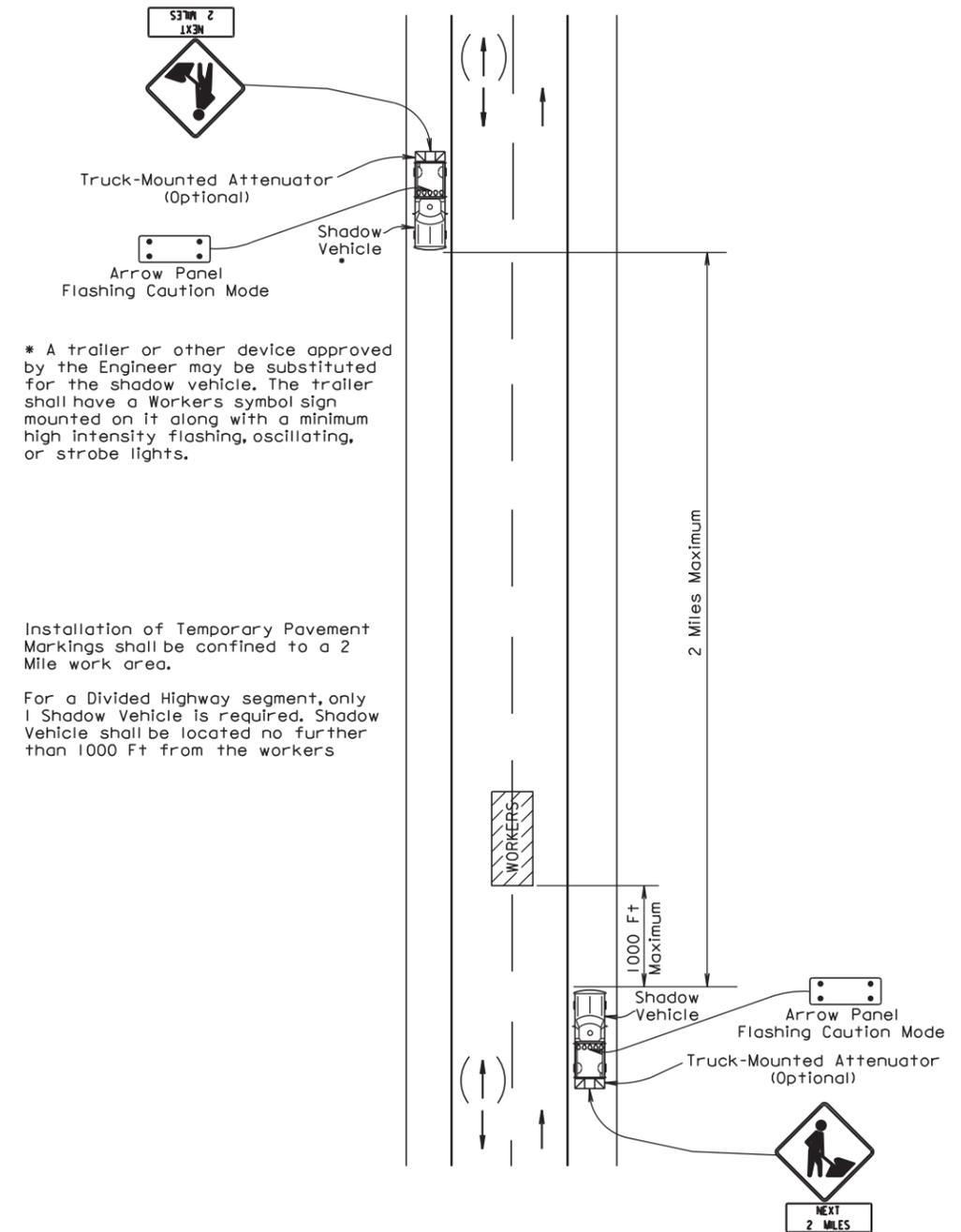
ROAD  
WORK  
AHEAD

W20-1 ROAD WORK AHEAD signs shall be mounted on portable supports, and shall be placed on intersecting roadways as directed by the Engineer. ROAD WORK AHEAD signs shall be moved as necessary to keep current with the work activities.

### GUIDES FOR TRAFFIC CONTROL DEVICES TEMPORARY ROAD MARKER INSTALLATION

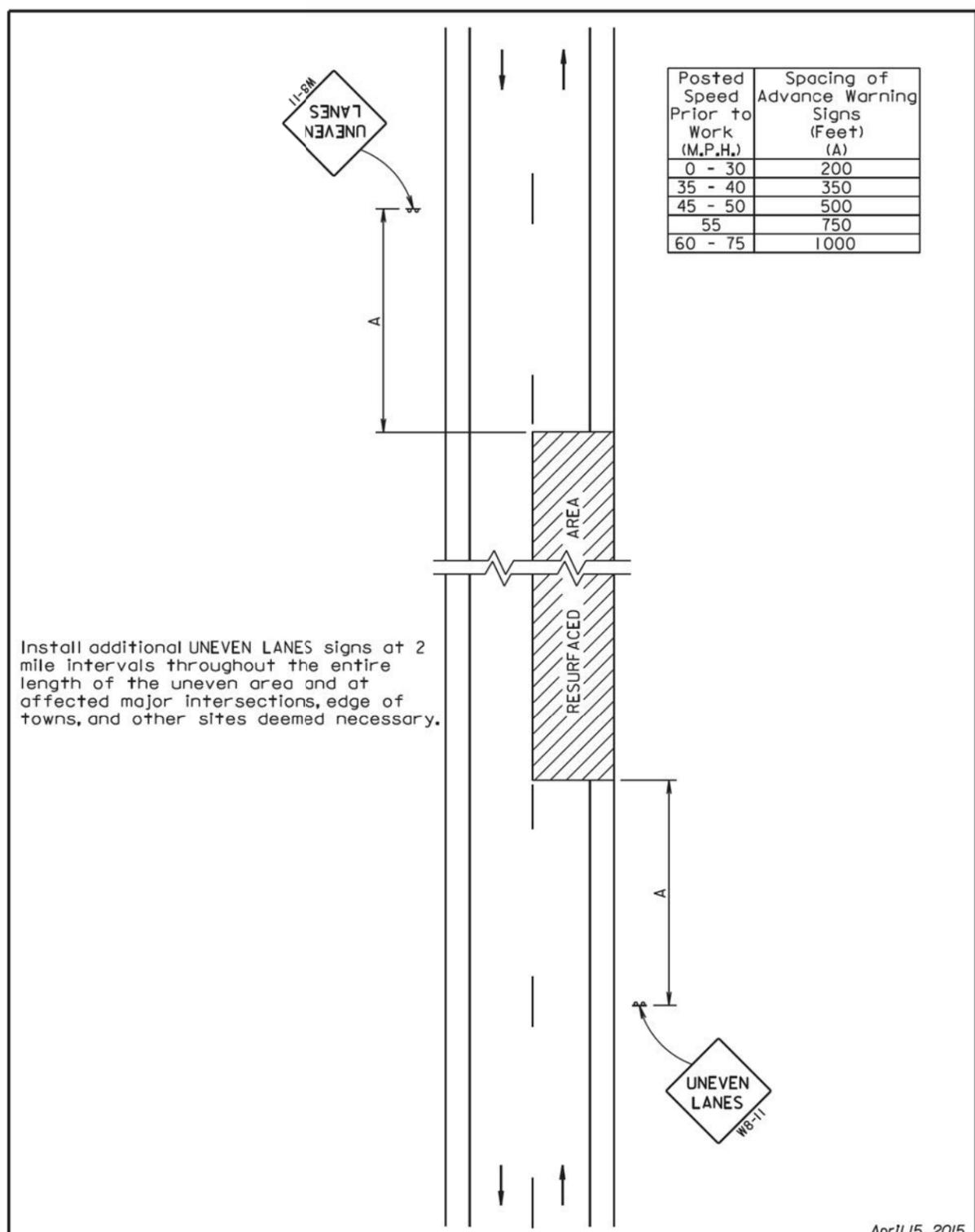


### GUIDES FOR TRAFFIC CONTROL DEVICES APPLICATION OF TEMPORARY PAVEMENT MARKING TABS



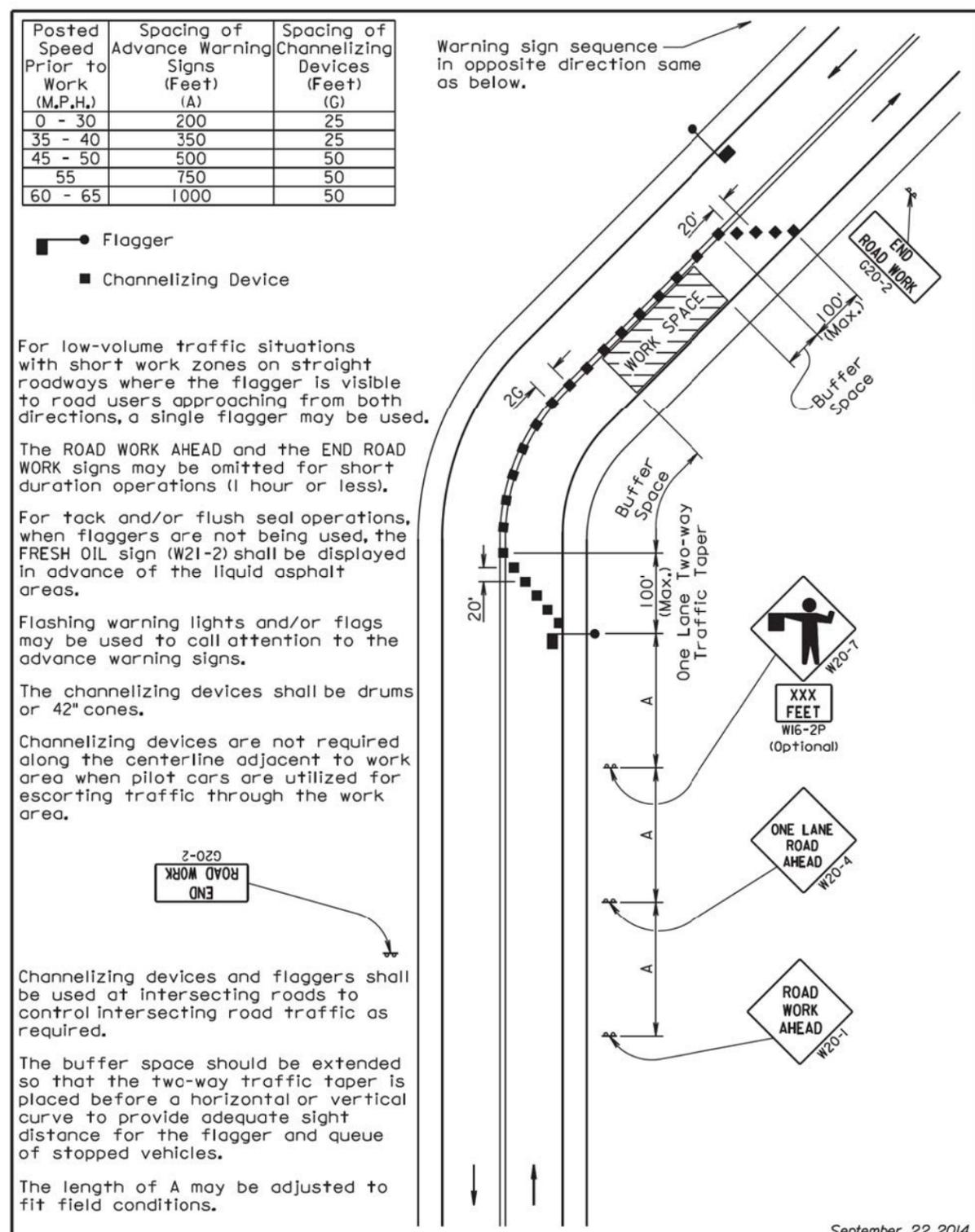
Plotting Date: 12/21/2015

PLOT SCALE - 1:200



April 15, 2015

<b>S D D O T</b>	<b>GUIDES FOR TRAFFIC CONTROL DEVICES UNEVEN ROAD SURFACE</b>	PLATE NUMBER <b>634.22</b>
	Published Date: 4th Qtr. 2015	Sheet 1 of 1



September 22, 2014

<b>S D D O T</b>	<b>GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED</b>	PLATE NUMBER <b>634.23</b>
	Published Date: 4th Qtr. 2015	Sheet 1 of 1

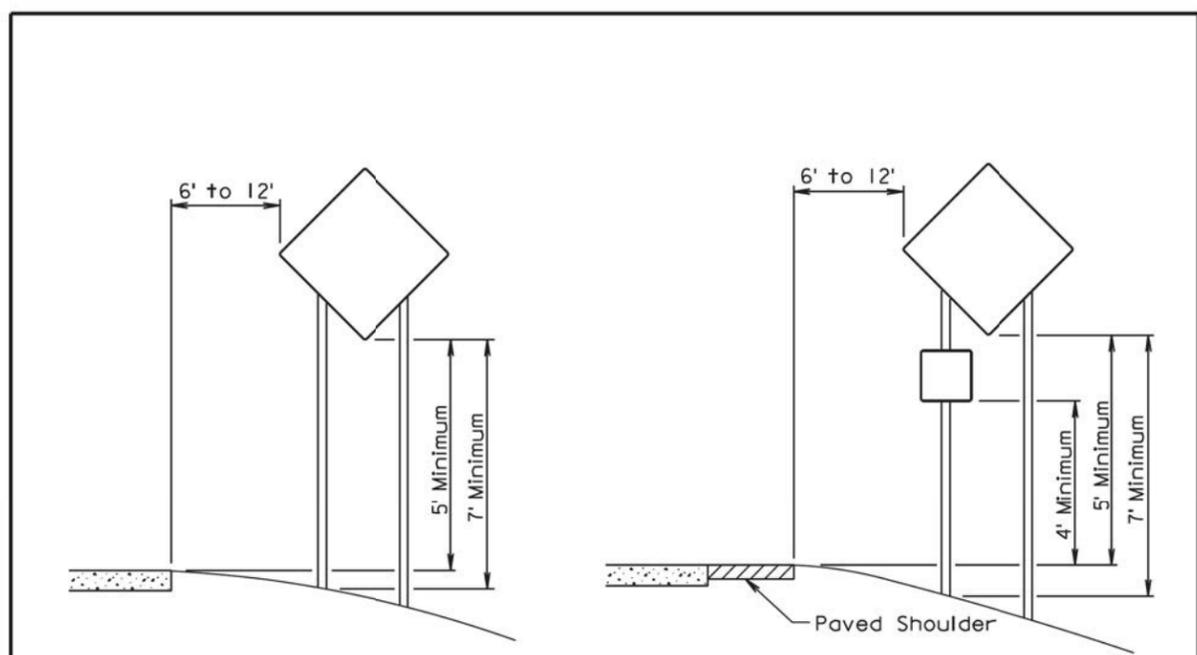
PLOT NAME - 1  
FILE - ... \63422\_ & 63423.DGN

Plotting Date: 12/21/2015

PLOT SCALE - 1:200

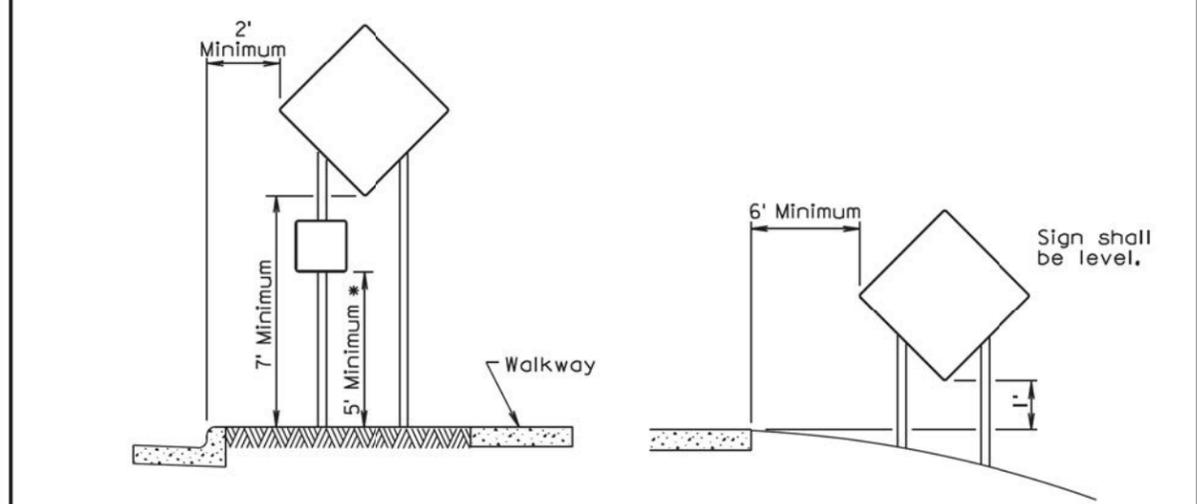
PLOT NAME - 2

FILE - ... \63485\_ & 63489.DGN



RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

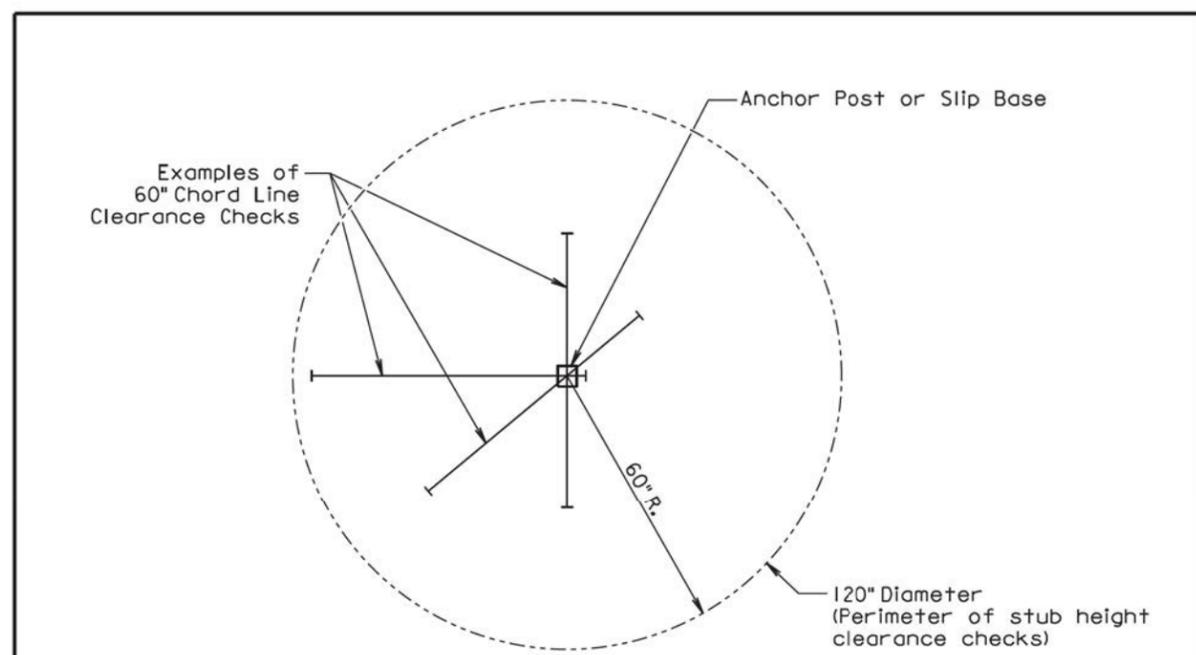
RURAL DISTRICT 3 DAY MAXIMUM

\* 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.

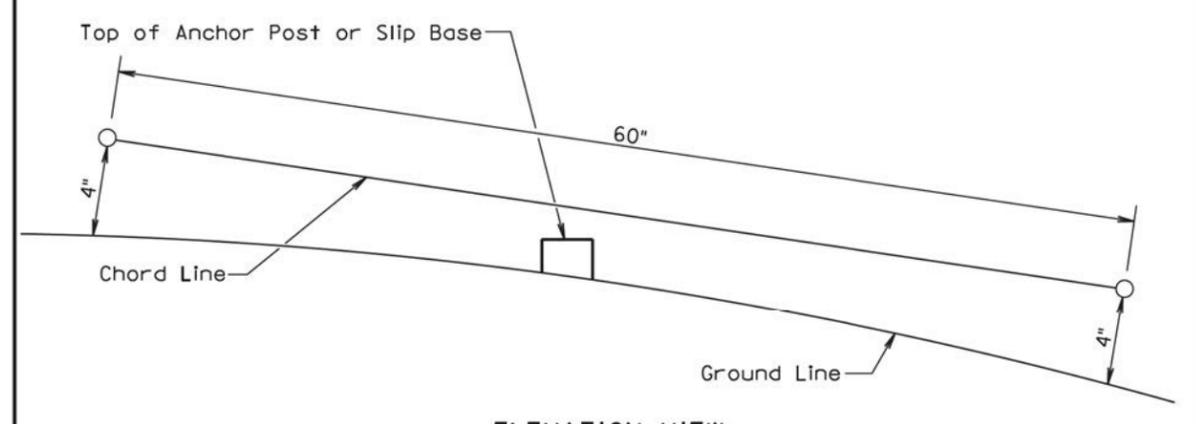
(Not applicable to regulatory signs)

September 22, 2014

Published Date: 4th Qtr. 2015	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.

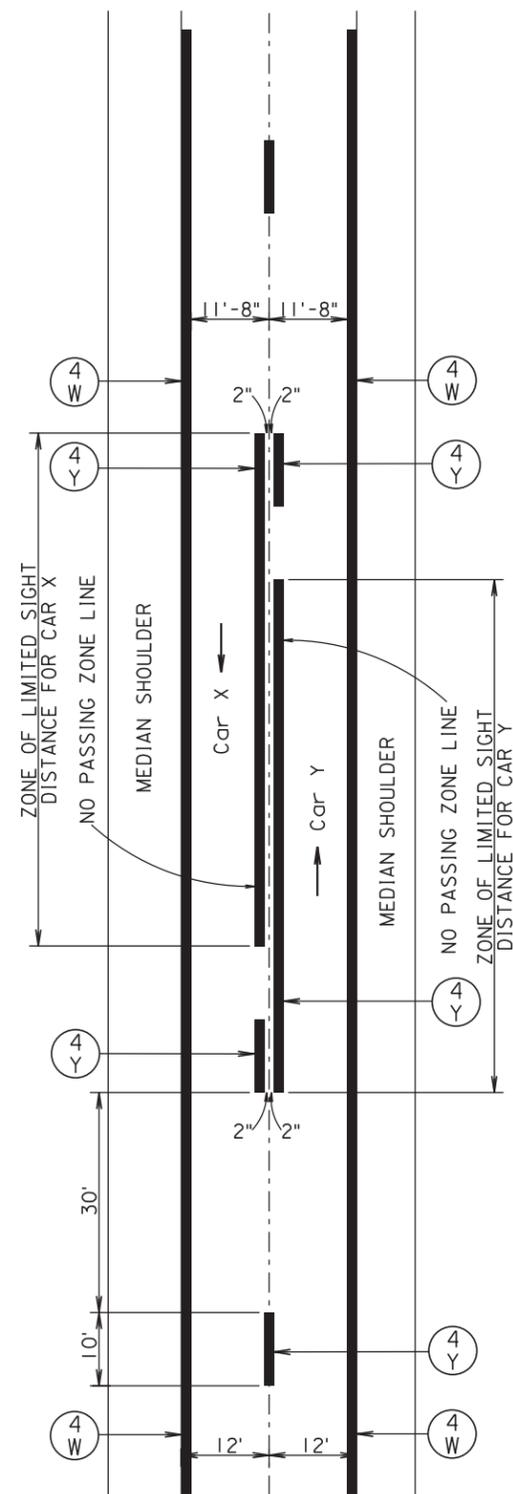
July 1, 2005

Published Date: 4th Qtr. 2015	S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1

**ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS**

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-1	BUMP	9	48" x 48"	16	144
W8-11	UNEVEN LANES	4	48" x 48"	16	64
W13-1P	ADVISORY SPEED (plaque)	9	30" x 30"	6	54
W20-1	ROAD WORK AHEAD	6	48" x 48"	16	96
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	2	48" x 48"	16	32
W21-2	FRESH OIL	2	48" x 48"	16	32
G20-1	ROAD WORK NEXT ___ MILES	2	36" x 18"	5	10
G20-2	END ROAD WORK	4	36" x 18"	5	20
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			<b>484</b>

**TWO LANE  
UNDIVIDED ROADWAY**



KEY	ITEM
(4) W	4" White
(4) Y	4" Yellow

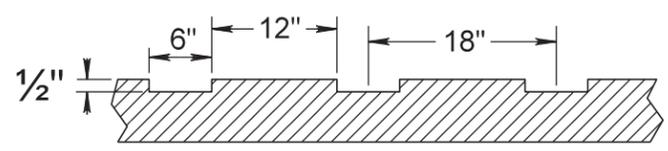
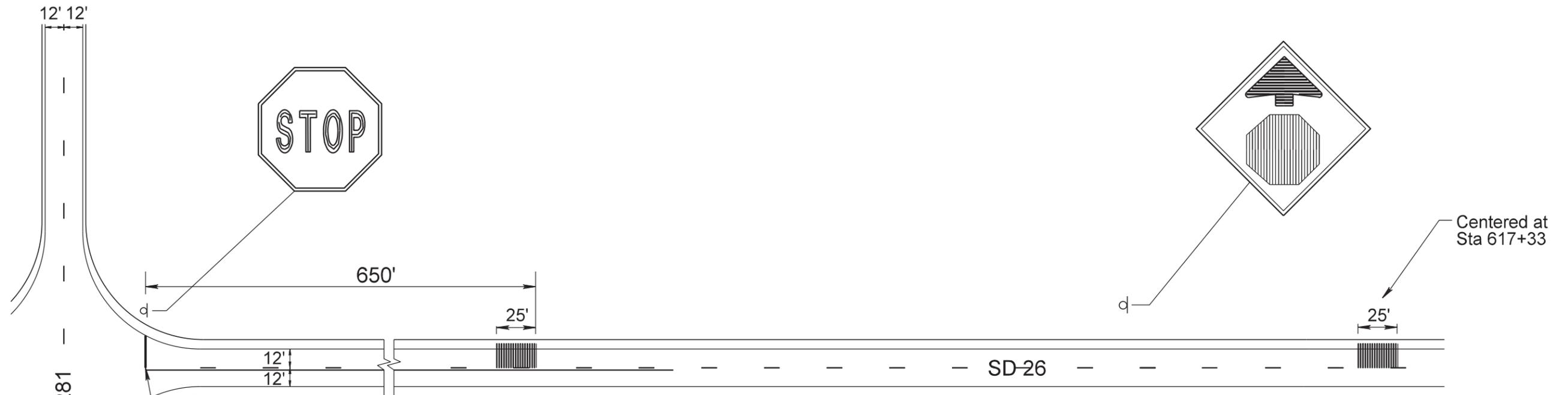
**FURNISHING AND APPLYING PAVEMENT MARKING PAINT**

1. The approximate paint application rates shall be as follows:

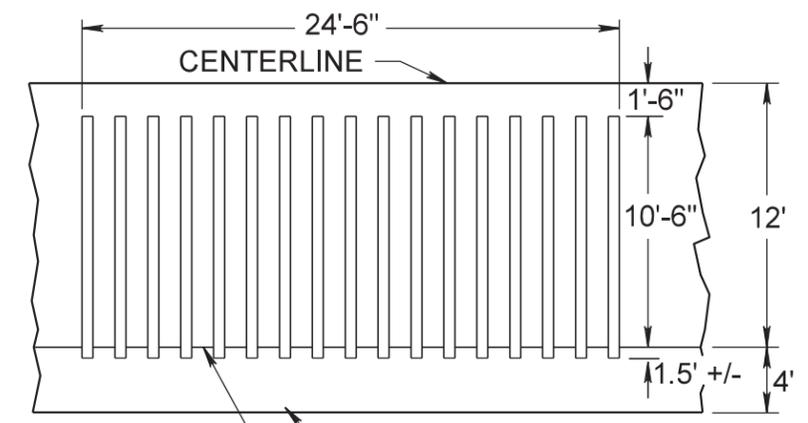
Undivided Roadway	Divided Roadway
Yellow Centerline 12± Gallons/Pass-Mile (Includes No-passing lines)	White Centerline 4.60 Gallons/Pass-Mile
White Edgeline 16.90 Gallons/Pass-Mile (Solid Line)	Yellow or White Edgeline 16.90 Gallons/Pass-Mile (Solid Line)

- The typical pavement markings as shown on this sheet shall be applied throughout the entire length of the project.
- Exact location of the NO PASSING ZONE lines will be determined in the field by the Engineer. A dash of white paint will mark the beginning and end of all no passing zones. NO PASSING ZONE signs and the ending post in fence lines, if present, shall not be used as the beginning and ending NO PASSING ZONE lines.
- Traffic Control shall be incidental to the cost of application. The striper and advance or trailing warning vehicle shall be equipped with flashing amber lights or advance warning arrow panel.

# RECESSED RUMBLE STRIPS



**RUMBLE STRIP PROFILE  
(TYPICAL)**



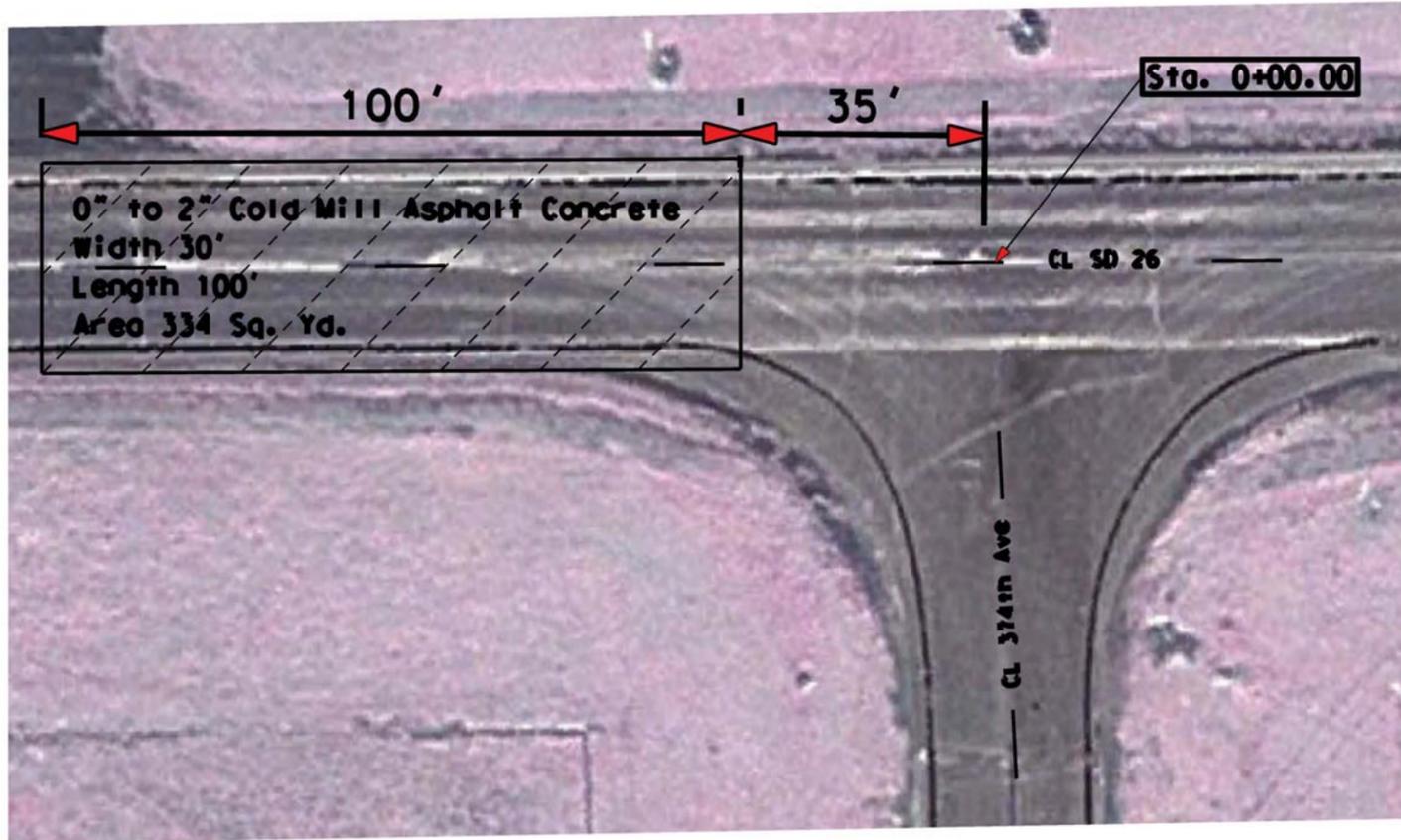
**RUMBLE STRIP PLAN VIEW**

THE RUMBLE STRIPS SHALL BE ROUTED OR CUT INTO THE ASPHALT CONCRETE SURFACE. THE RUMBLE STRIP CUTS SHOULD EXTEND PAST THE EDGE OF THE DRIVING LANE TO ALLOW FOR DRAINAGE.

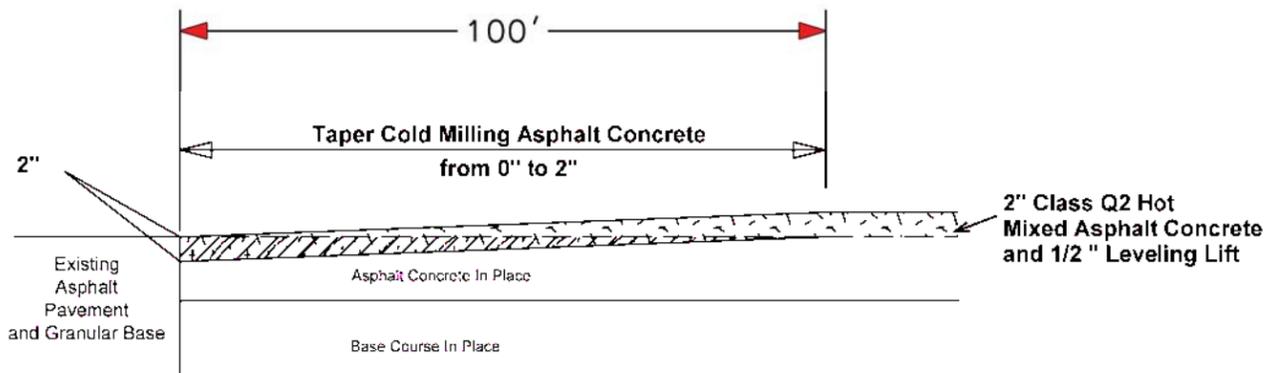
# COLD MILLING ASPHALT CONCRETE LAYOUTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0026(01)267	32	45
Plotting Date: 12/21/2015			

## BEGINNING OF PROJECT

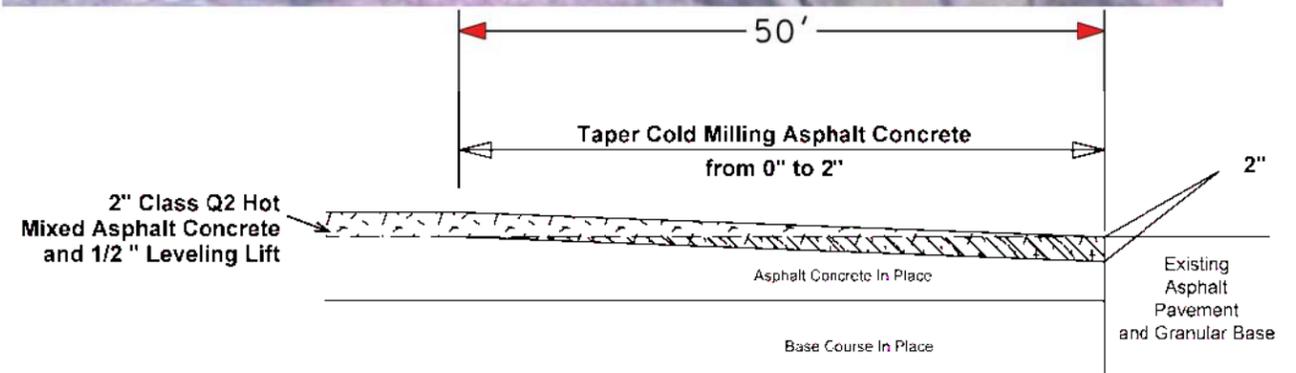


## END OF PROJECT



Cold Milling Asphalt Concrete

Asphalt Concrete



Note: Width of Cold Milling Asphalt Concrete at Project Limits shall match adjacent surfacing width.

# COLD MILLING ASPHALT CONCRETE LAYOUTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0026(01)267	33	45
Plotting Date: 12/21/2015			

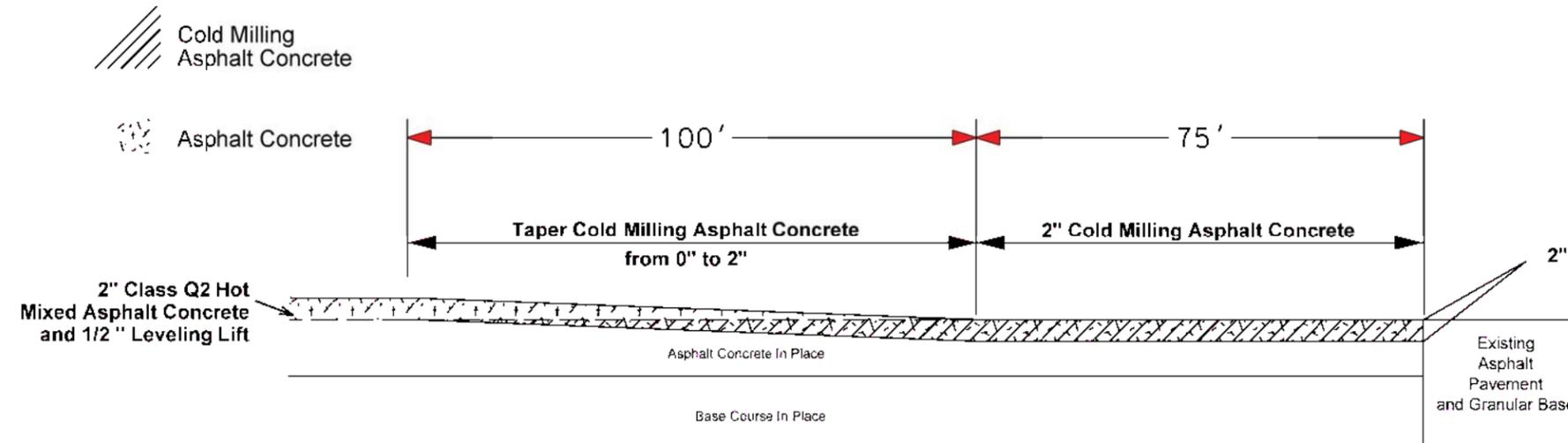
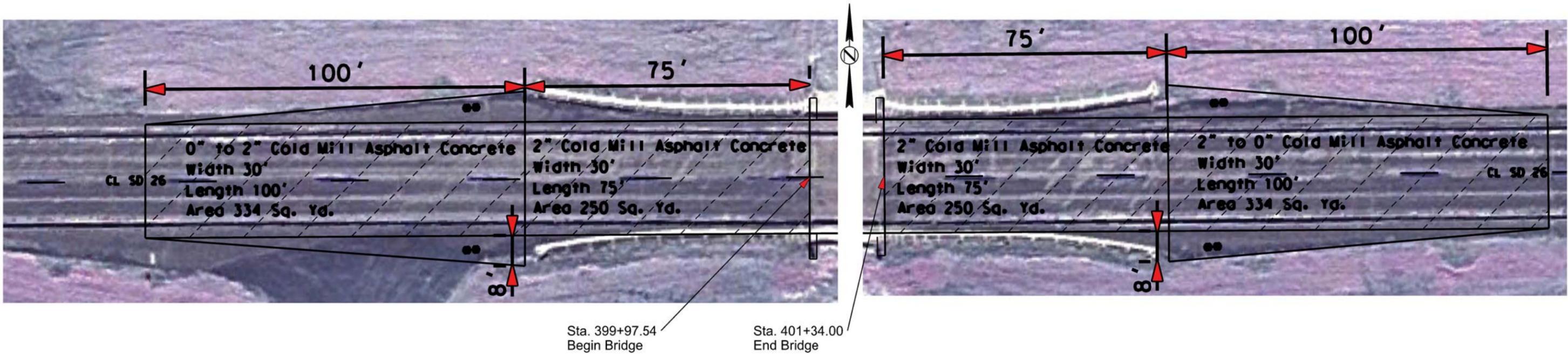
Str. No. 58-047-290  
MRM 275.37 +0.000

WEST END OF BRIDGE

EAST END OF BRIDGE

PLOT SCALE - 1:126

PLOT NAME - 8



- An additional 45 Sq.Yd. per bridge corner of Cold Milling Asphalt Concrete shall be required beyond the head of the guardrail terminal to maintain a uniform typical surfacing section from centerline to the outside edge of asphalt surfacing. Cold Milling Asphalt Concrete shall be daylighted to the outside edge of the roadway. Any additional costs associated with this additional cold milling shall be incidental to the contract unit price per square yard for COLD MILLING ASPHALT CONCRETE.

The above detail is for the west end of the bridge. Reverse detail for the east end of the bridge.

PLOTTED FROM - TRAB17882

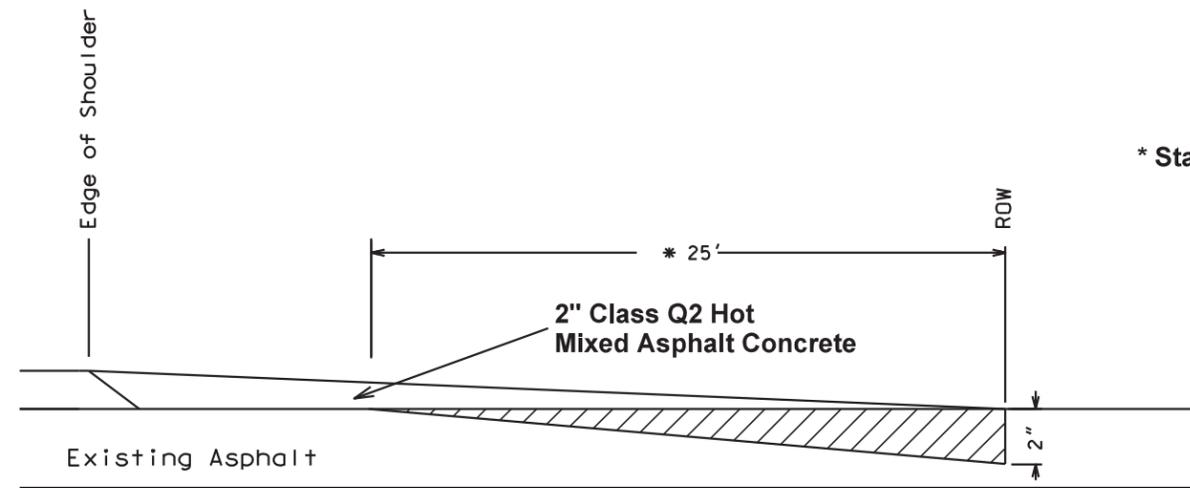
FILE - ... \BRIDGE ENDS COLD MILL LAYOUTS.DGN

# COLD MILLING ASPHALT CONCRETE LAYOUTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0026(01)267	34	45
Plotting Date: 12/21/2015			

## INTERSECTING ROADS & DRIVEWAYS

See Table of Additional Quantities  
for Locations and Quantities



\* Sta 190+97 R, length shall be reduced to 7'

 Cold Milling Asphalt Concrete

Note: Width of Cold Milling Asphalt Concrete at Intersecting Roads  
and Driveways shall match adjacent surfacing width.

PLOT SCALE - 1:28000

PLOTTED FROM - TRAB17882

PLOT NAME - 9

FILE - ... \0260\_COLD\_MILLING.DGN

# GUARDRAIL EMBANKMENT LAYOUT

STR. NO. 58-047-290

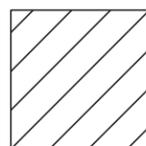
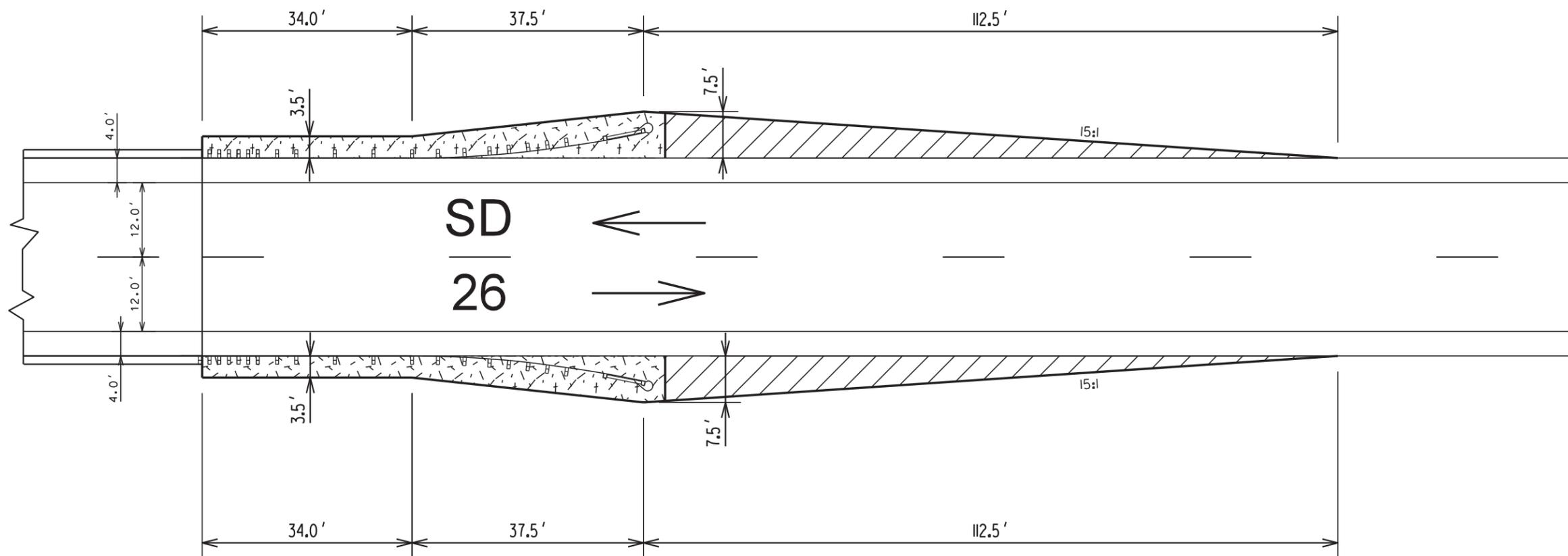
SD 26 @ MRM 275.37

(Guardrail surfacing identical at both ends of the bridge)

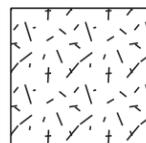
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0026(01)267	35	45
Plotting Date: 12/21/2015			

PLOT SCALE - 1:20

PLOT NAME - 10



Indicates area where Class Q2 Hot Mixed Asphalt Concrete shall be placed



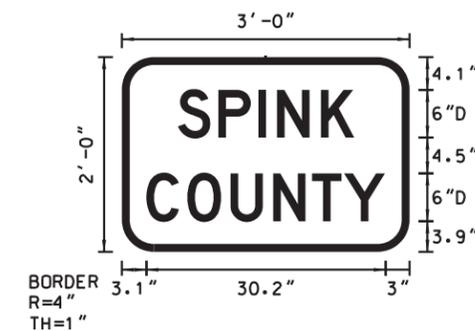
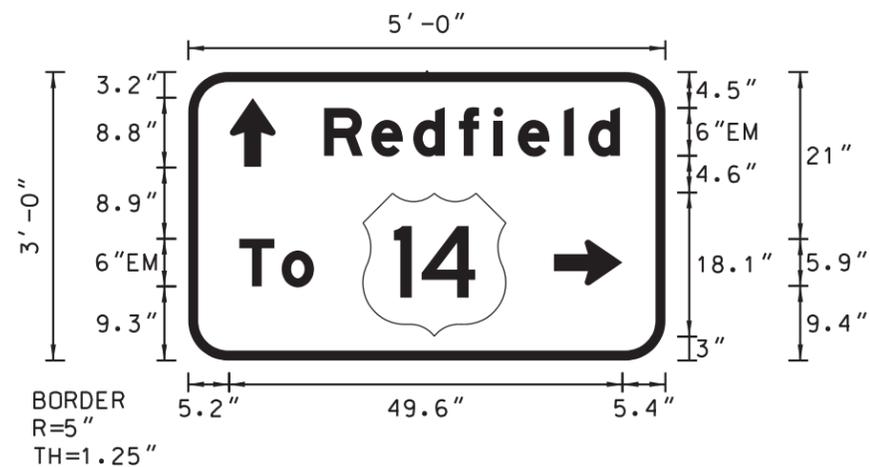
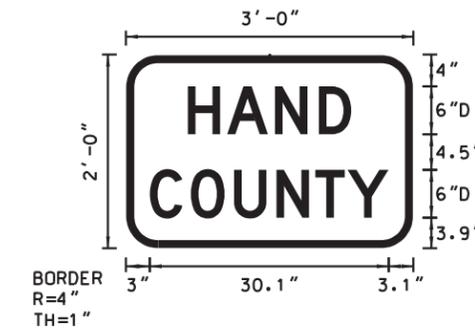
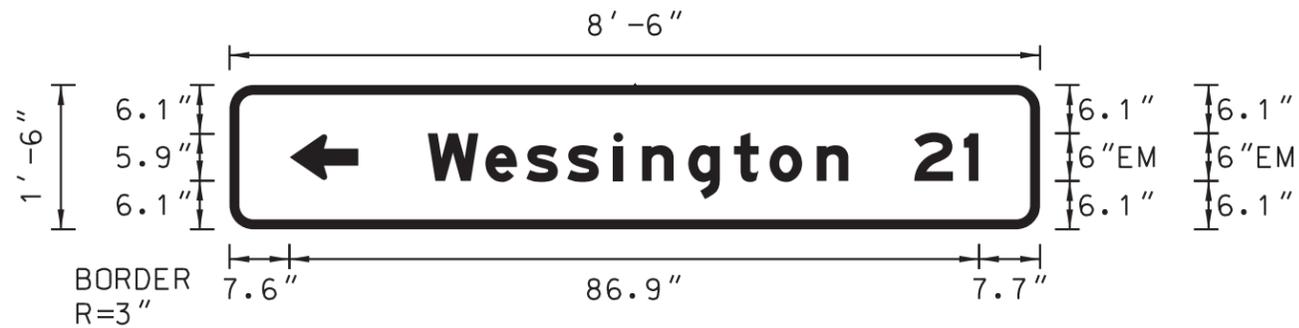
Indicates area where in 2015 asphalt concrete was placed under the guardrail

PLOTTED FROM - TRAB17882

FILE - ... \58-047-290\_GUARDRAIL\_EMBANKMENT\_LAYOUT.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0026(01)267	36	45
Plotting Date: 12/02/2015			

# SPECIAL SIGN DESIGN

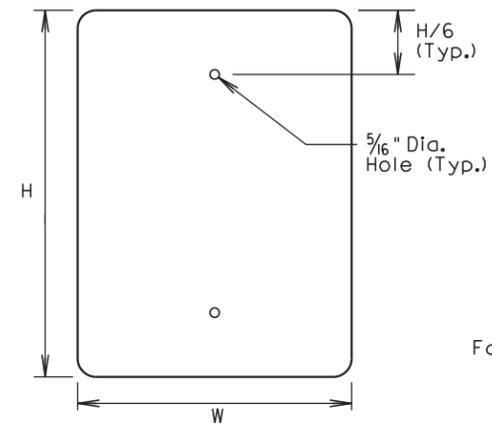


All signs on this sheet shall have a green background with white legend and white border

# CHEVRON INSTALLATION DETAIL

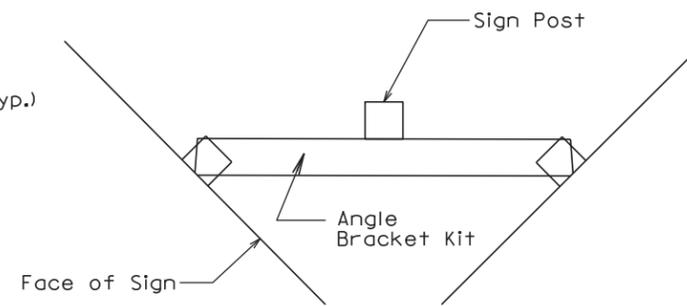
WI-8 Single Mount Detail

View from Face

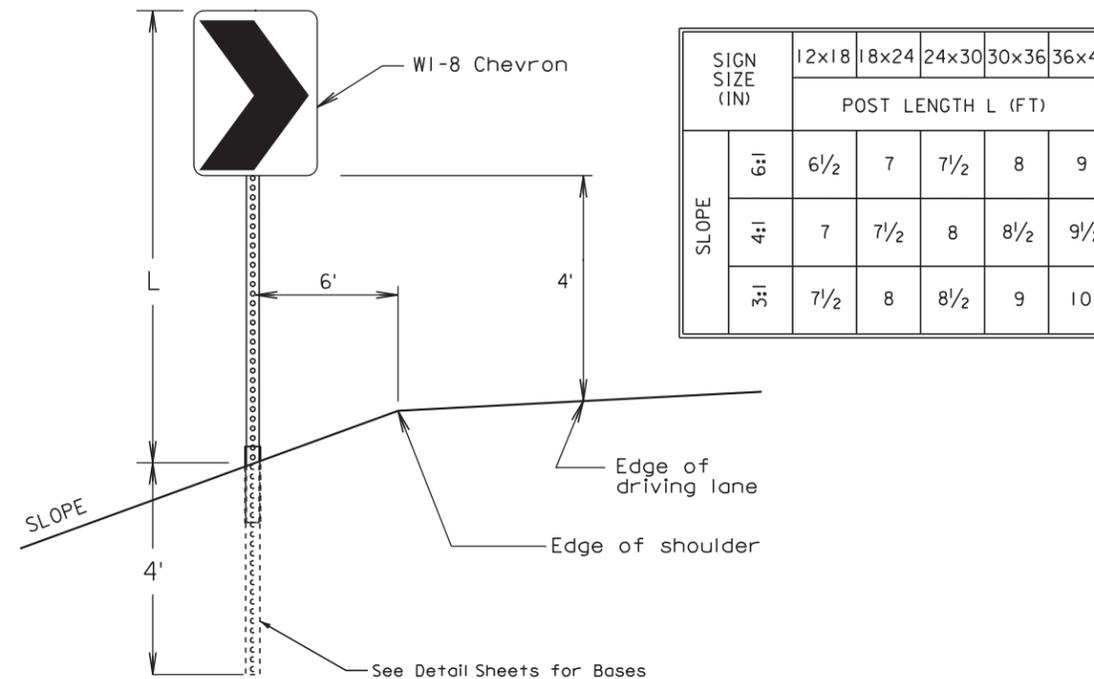


WI-8 Double Mount Detail

View from Top

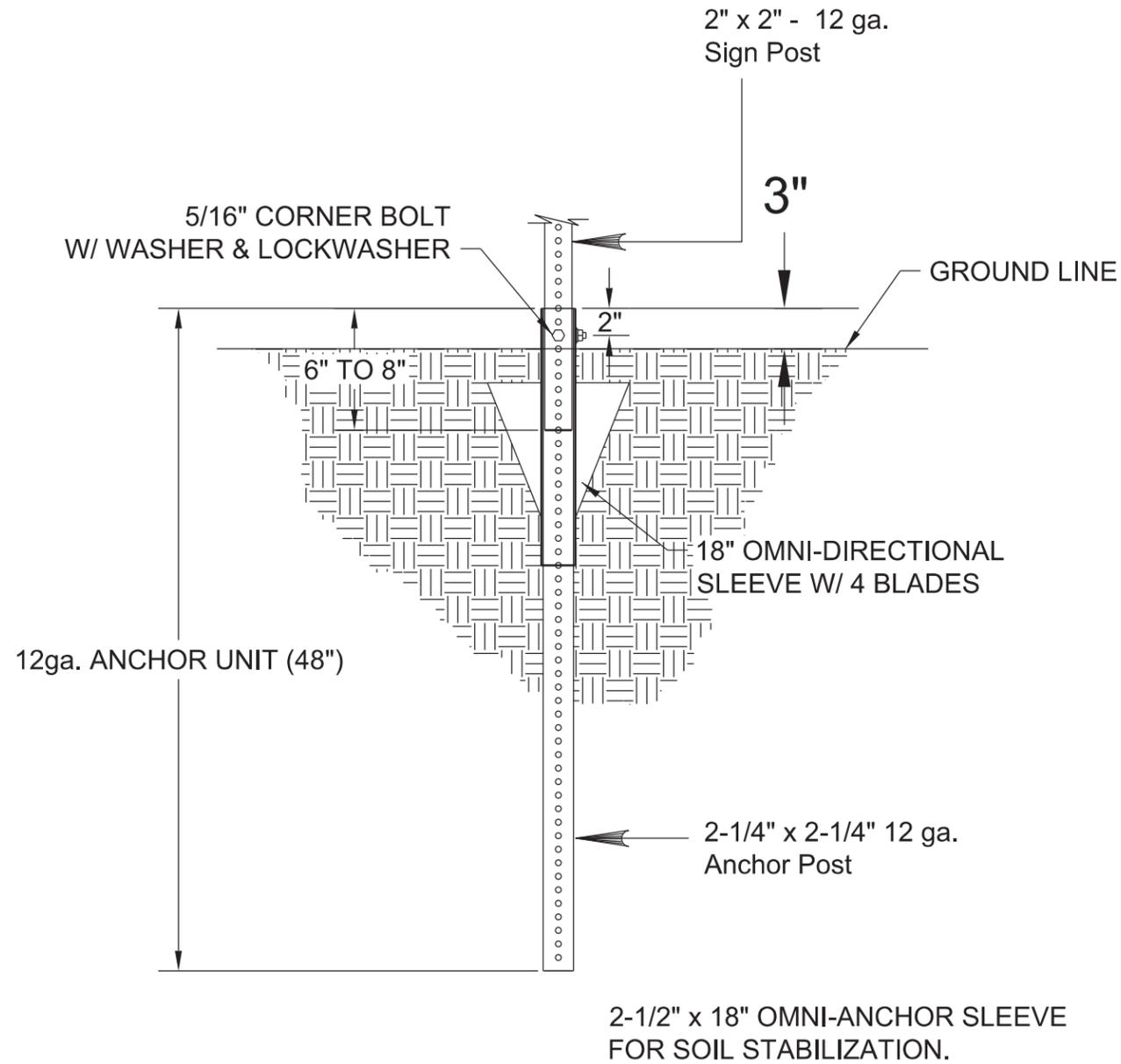


NOTE: Chevrons shall be installed on all curves where the difference between the speed limit and the advisory speed is 10 mph or greater. The first Chevron shall be placed within 50' of beginning of curve from each direction of travel and shall be mounted as a single mount installation. All intermediate installations shall be mounted as a double mount installation with approach angle adjusted such that 3 sign faces are visible at all times when traveling through the curve.



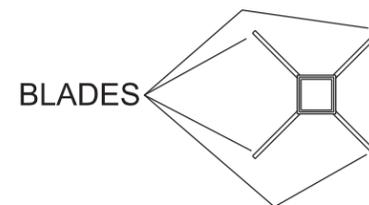
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0026 (01) 267	38	45
Plotting Date: 12/02/2015			

# SQUARE TUBE 4 BLADE ANCHOR DETAIL



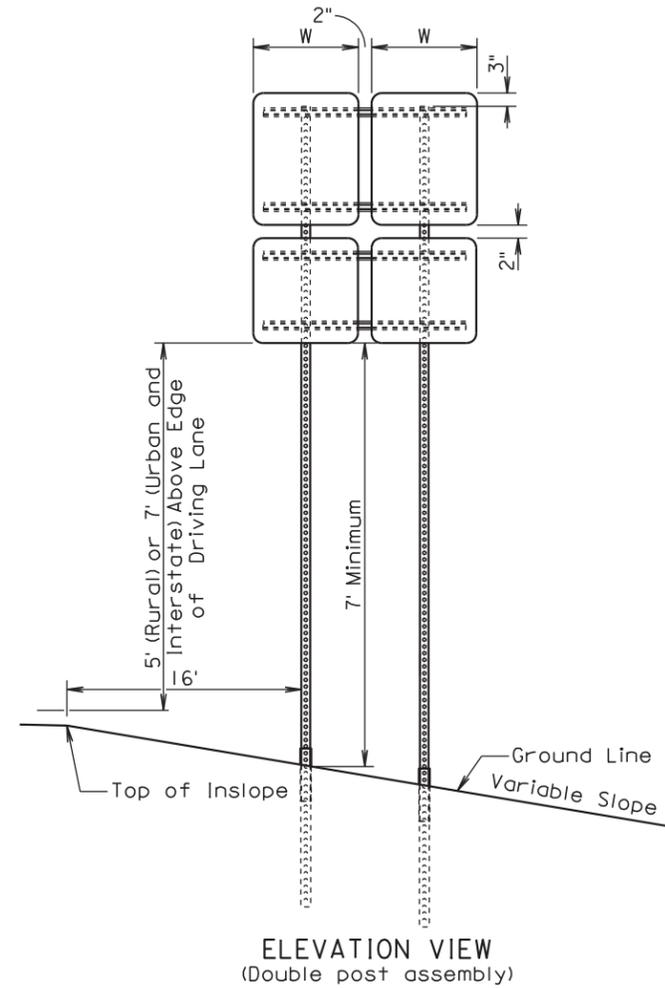
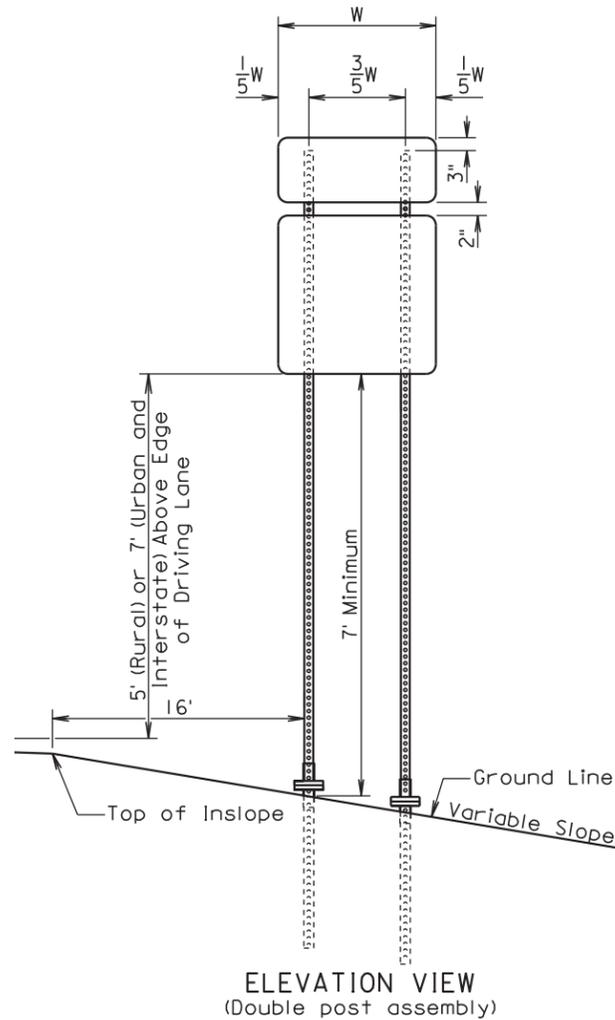
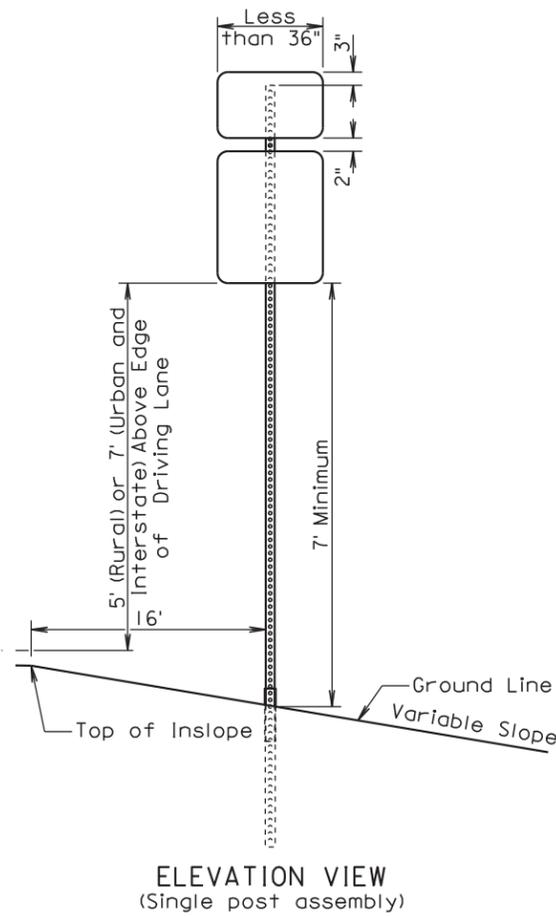
ANCHOR SLEEVE  
TOP VIEW

2-1/2" x 18" 12 ga. Omni-Sleeve



STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0026 (01) 267	39	45
Plotting Date: 12/02/2015			

# INSTALLATION DETAILS FOR MULTIPLE SIGN ASSEMBLIES

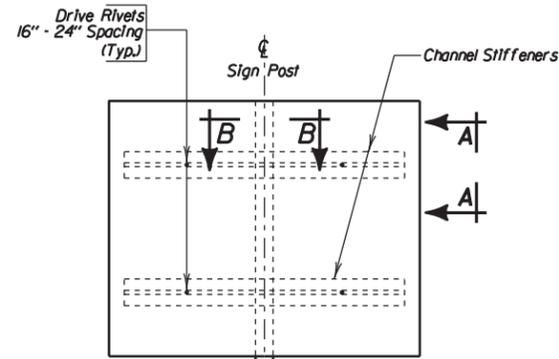


### GENERAL NOTES:

The sign posts and bases shown are for illustrative purpose. The post type required shall be the type specified in the plans.

All breakaway sign supports shall comply with NCHRP 350 or MASH crash testing requirements and FHWA requirements. The Contractor shall provide post installation details at the preconstruction meeting for all breakaway sign support assemblies.

# ONE POST BREAKAWAY SIGN SUPPORTS

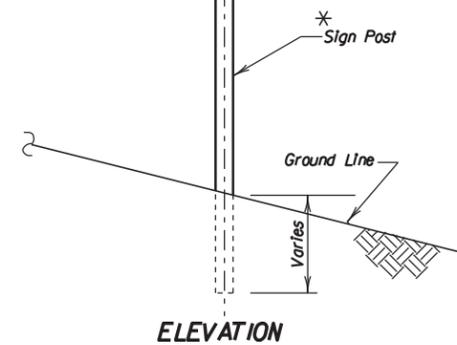


∅ A plastic washer, as recommended by the sheeting manufacturer, shall be installed between the sign face and the metal washer shown.

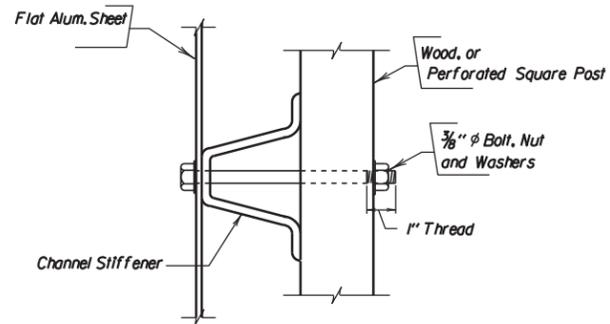
Height and lateral distance as recommended by latest edition of MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

\* Single post installation shown. (See applicable Details or Standard Plates shown in these plans for multiple post spacing requirements.)

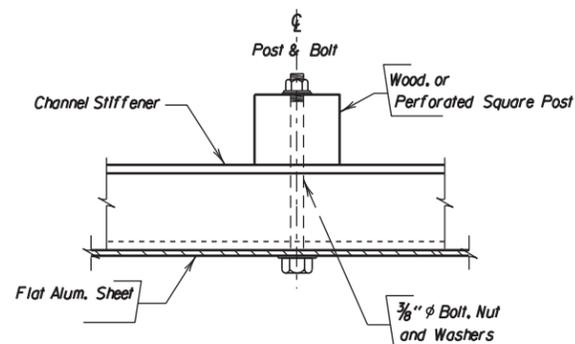
## (Typical Sign and Stiffener Details)



ELEVATION

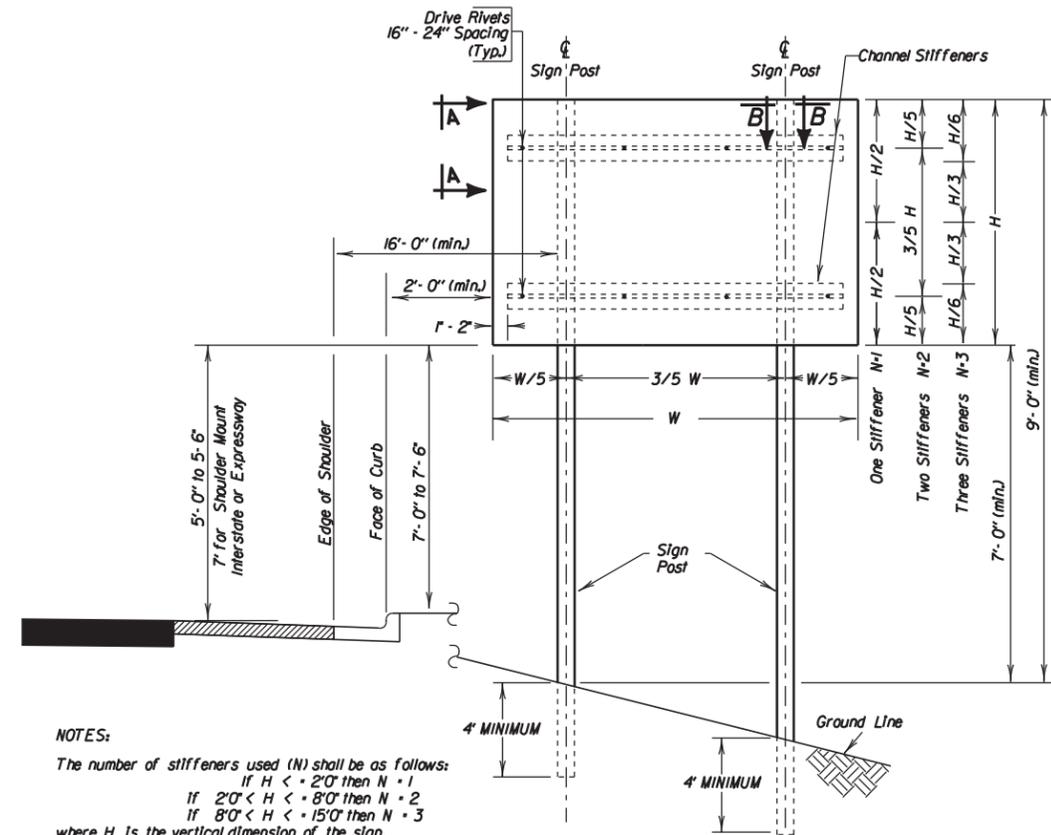


SEC. A-A



SEC. B-B

# TWO POST BREAKAWAY SIGN SUPPORTS



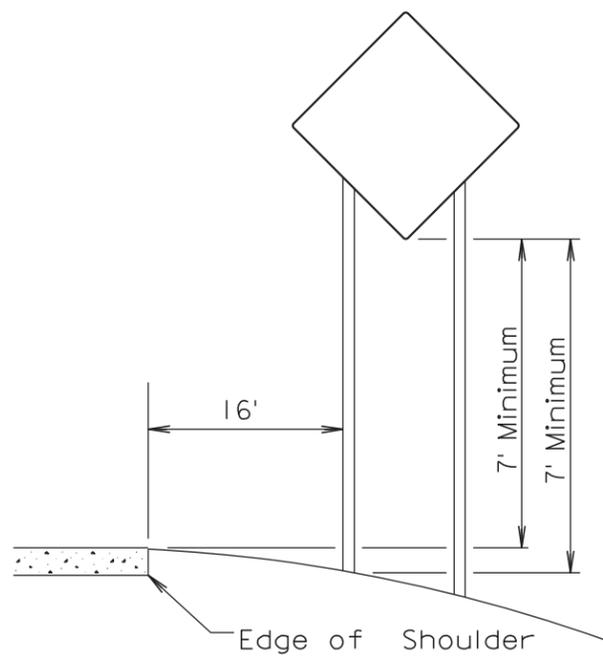
### NOTES:

The number of stiffeners used (N) shall be as follows:  
 If  $H < 2'0"$  then  $N = 1$   
 If  $2'0" < H < 8'0"$  then  $N = 2$   
 If  $8'0" < H < 15'0"$  then  $N = 3$   
 where H is the vertical dimension of the sign.

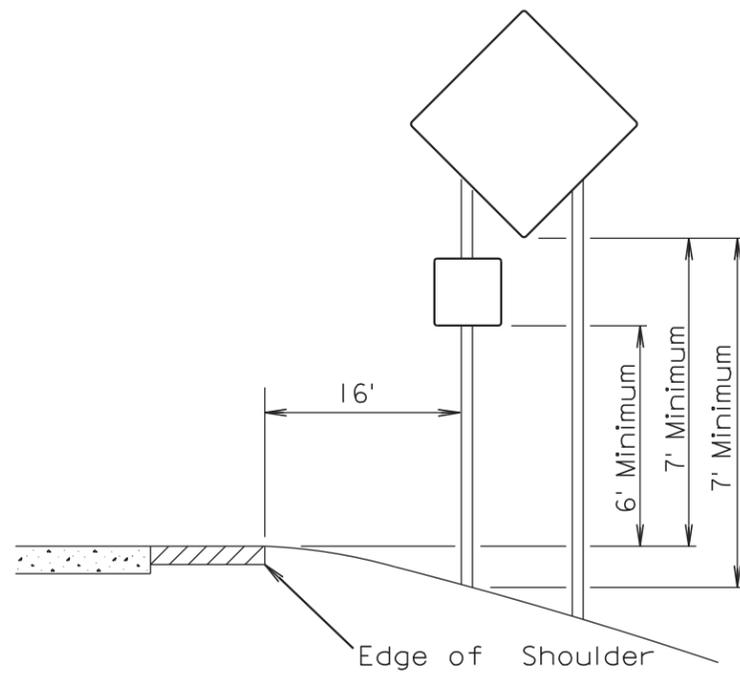
A minimum of two bolts shall be required to fasten the sign to each post.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0026(01)267	41	45
Plotting Date: 12/02/2015			

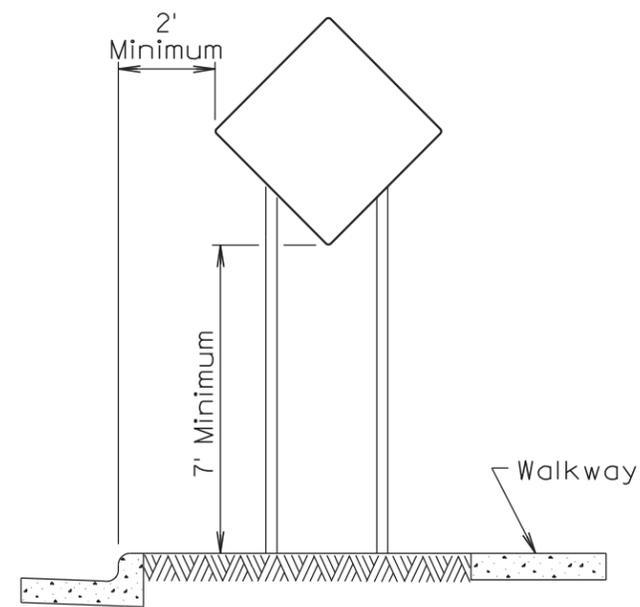
# SIGN SUPPORTS (Lateral Off-Sets)



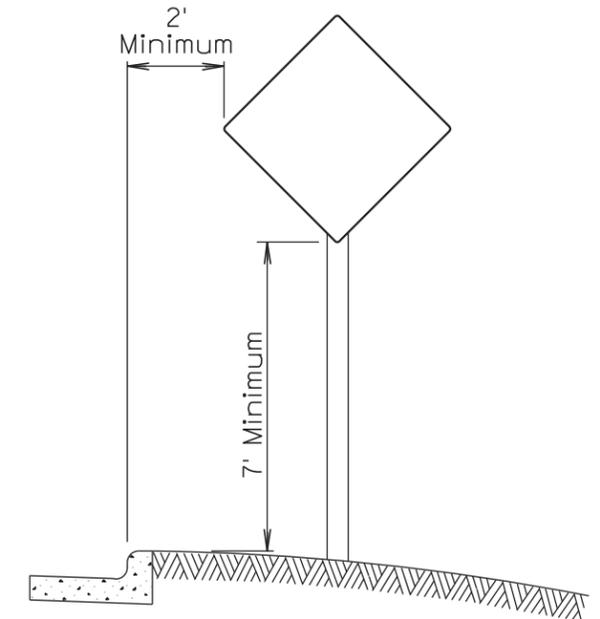
RURAL DISTRICT



RURAL DISTRICT WITH  
SUPPLEMENTAL PLATE



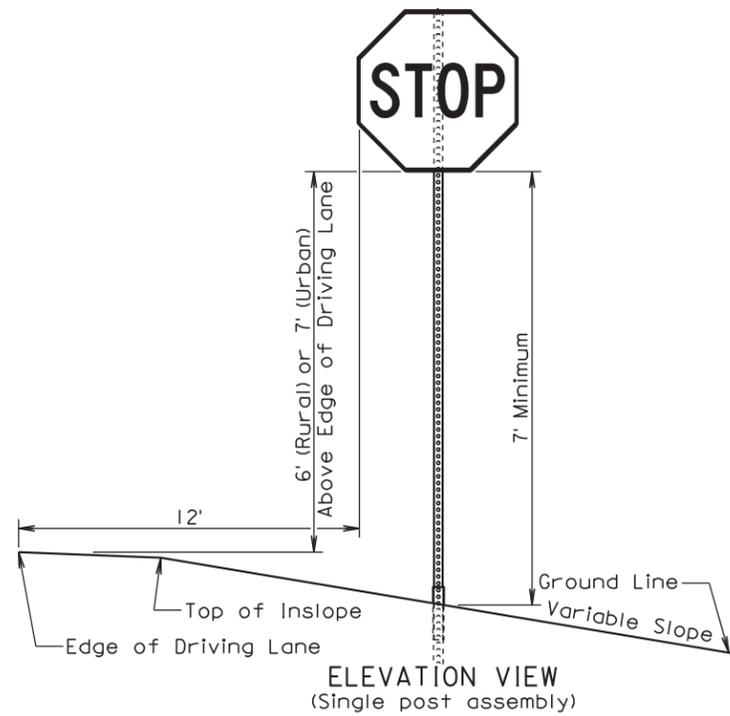
URBAN DISTRICT



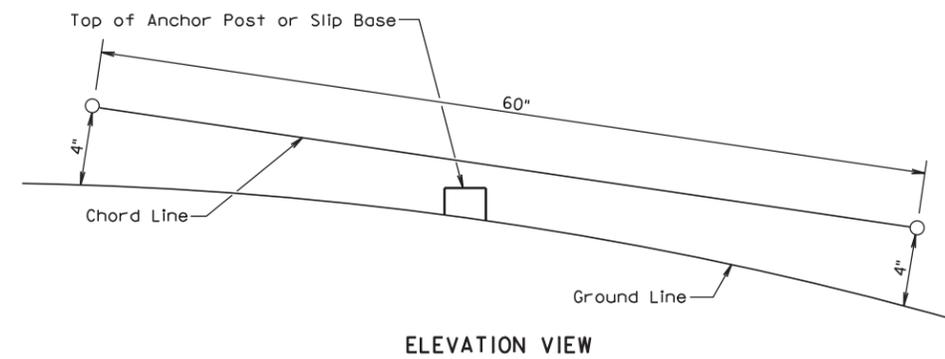
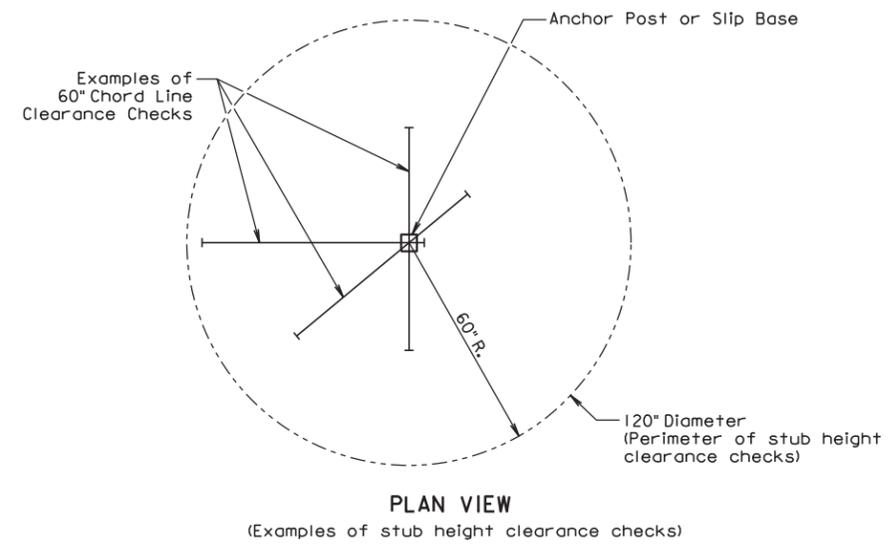
URBAN DISTRICT

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0026 (01) 267	42	45
Plotting Date: 12/02/2015			

# INSTALLATION DETAILS FOR STOP SIGNS



# BREAKAWAY SUPPORT STUB CLEARANCE

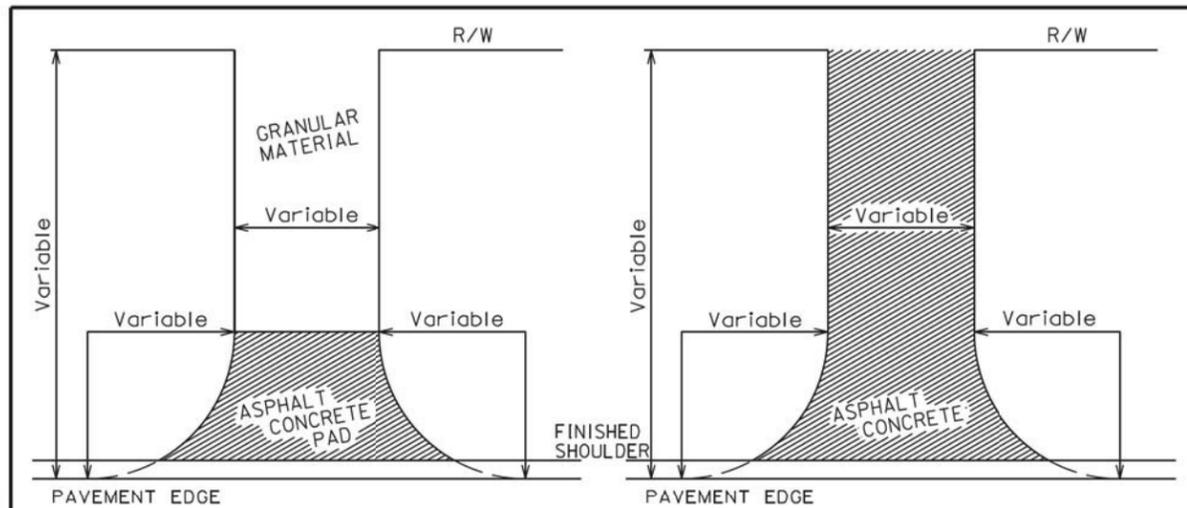


**GENERAL NOTES:**

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.

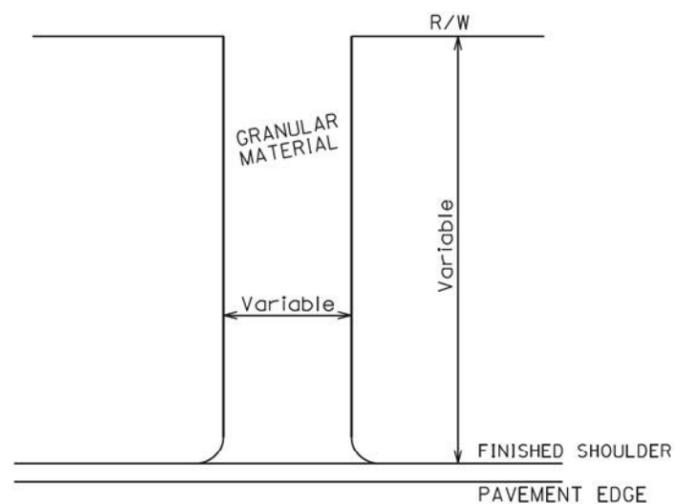
At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

Plotting Date: 12/21/2015



INTERSECTING ROAD  
NO ASPHALT CONCRETE SURFACING  
BEYOND R/W

INTERSECTING ROAD  
ASPHALT CONCRETE SURFACING  
BEYOND R/W



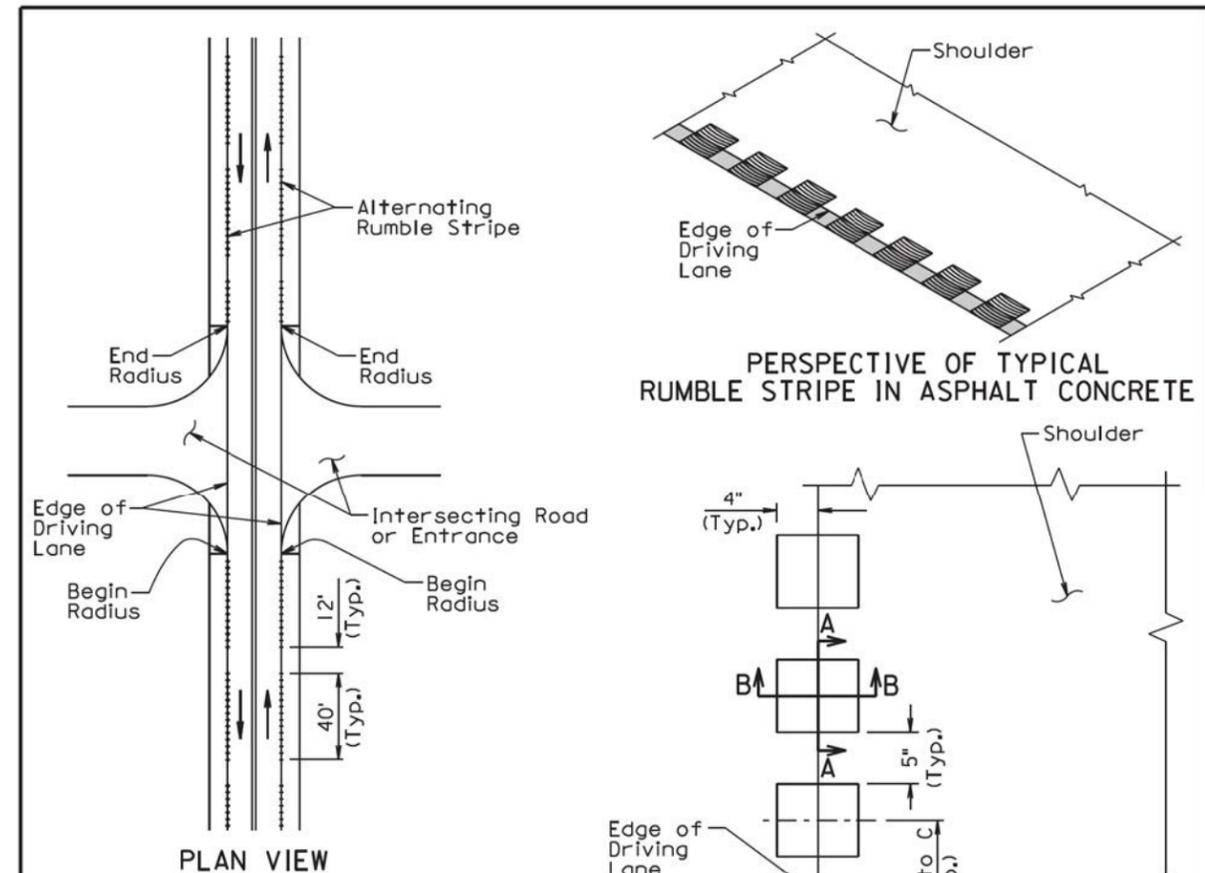
ENTRANCE

The surfacing details shown on this sheet are provided as a guide for surfacing these facilities. The precise construction limits for situations other than the standards shown will be determined by the Engineer, at the time of construction.

ROADWAY WITH SHOULDER

March 31, 2000

Published Date: 4th Qtr. 2015	S D D O T	RESURFACING OF INTERSECTING ROADS AND ENTRANCES	PLATE NUMBER 320.11
			Sheet 1 of 1



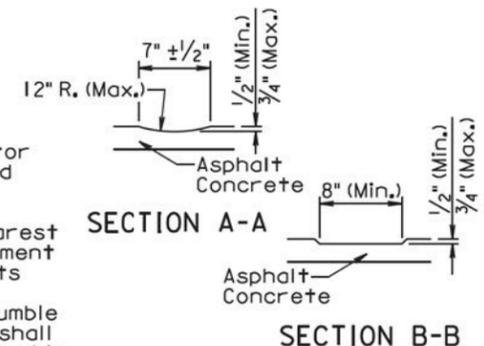
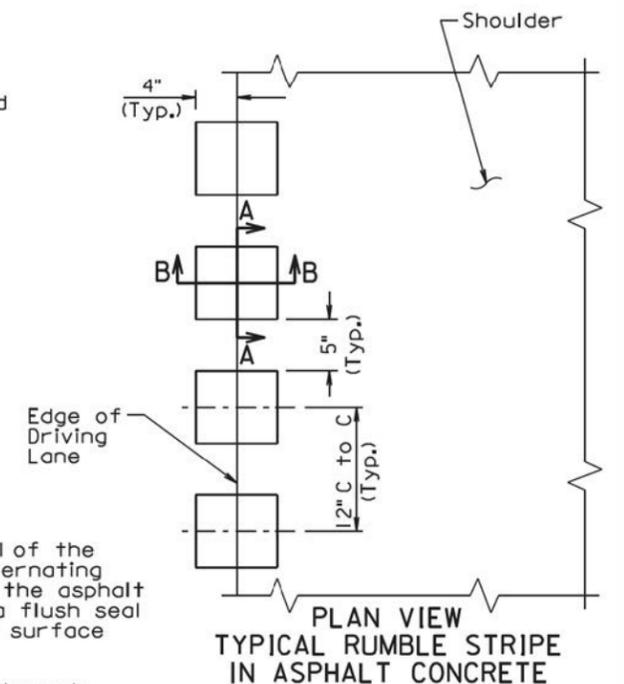
GENERAL NOTES:

A rumble stripe shall be constructed on all of the asphalt concrete shoulders by grinding alternating patterns of 40' continuous indentations in the asphalt concrete. The rumble stripe shall receive a flush seal with the shoulder flush sealing or asphalt surface treatment.

A rumble stripe shall not be constructed through intersecting roads, entrances, and turnouts. The lengths of the 40' segments with continuous indentations and the 12' segments without a rumble stripe adjacent to the intersecting roads, entrances, and turnouts shall be adjusted as approved by the Engineer.

Prior to constructing the rumble stripe the Contractor shall submit to the Engineer, for approval, the proposed method of constructing the rumble stripe.

Measurement of the rumble stripe shall be to the nearest 0.1 of a mile for each shoulder. Measurement and payment of the rumble stripe shall include the 12' long segments without rumble stripes and the segments adjacent to intersecting roads, entrances, and turnouts without rumble stripes. Payment for constructing the rumble stripe shall be at the contract unit price per mile for "Grind 8" Rumble Strip or Stripe in Asphalt Concrete".



June 26, 2011

Published Date: 4th Qtr. 2015	S D D O T	8" RUMBLE STRIPE IN ASPHALT CONCRETE ON NONDIVIDED HIGHWAY SHOULDERS	PLATE NUMBER 320.20
			Sheet 1 of 1

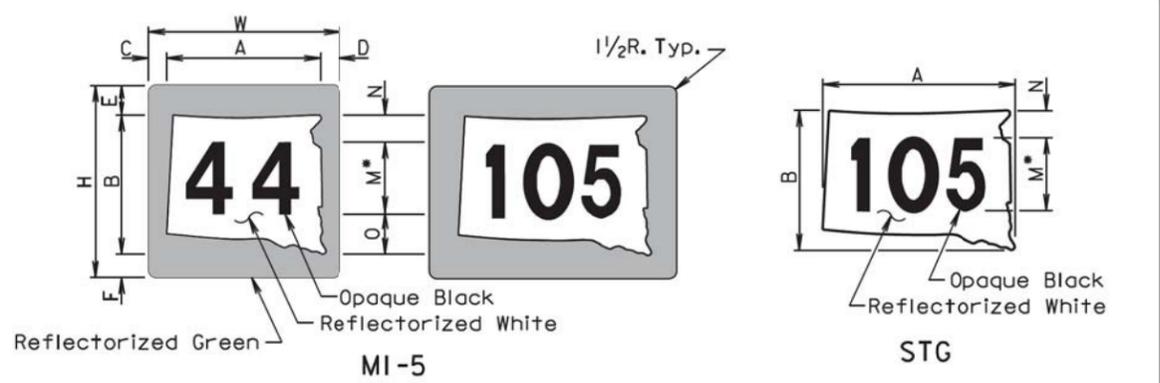
PLOT SCALE - 1:200

PLOTTED FROM - TRAB17882

PLOT NAME - 3

FILE - ... \32011\_8\_32020.DGN

Plotting Date: 12/21/2015

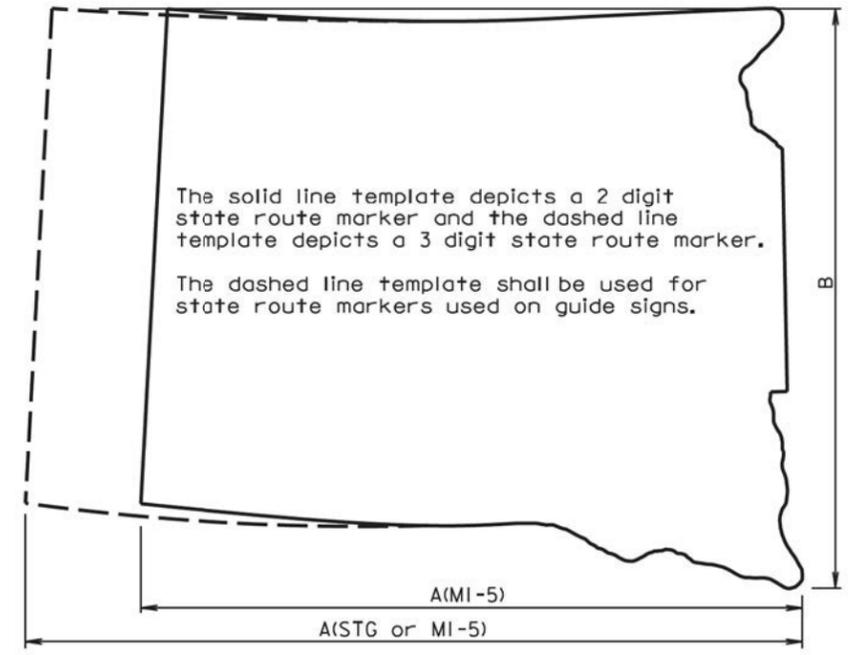


SIGN CODE	WxH	A	B	C	D	E	F	M*	N	O
MI-5	24x24	20 1/2	18	2	1 1/2	3 1/2	2 1/2	12D	2	4
MI-5**	30x24	24	18	2 1/4	1 3/4	3 1/2	2 1/2	12D	2	4
MI-5	30x30	25 5/8	22 1/2	2 1/2	1 7/8	4 3/8	3 1/8	15D	2 1/2	5
MI-5	36x36	30 3/4	27	3	2 1/4	5 1/4	3 3/4	18D	3	6

SIGN CODE	AxB	M*	N
STG-24	24x18	10D	4
STG-32	32x24	12D	4 3/4
STG-48	48x36	18D	7
STG-64	64x48	24D	9 1/2

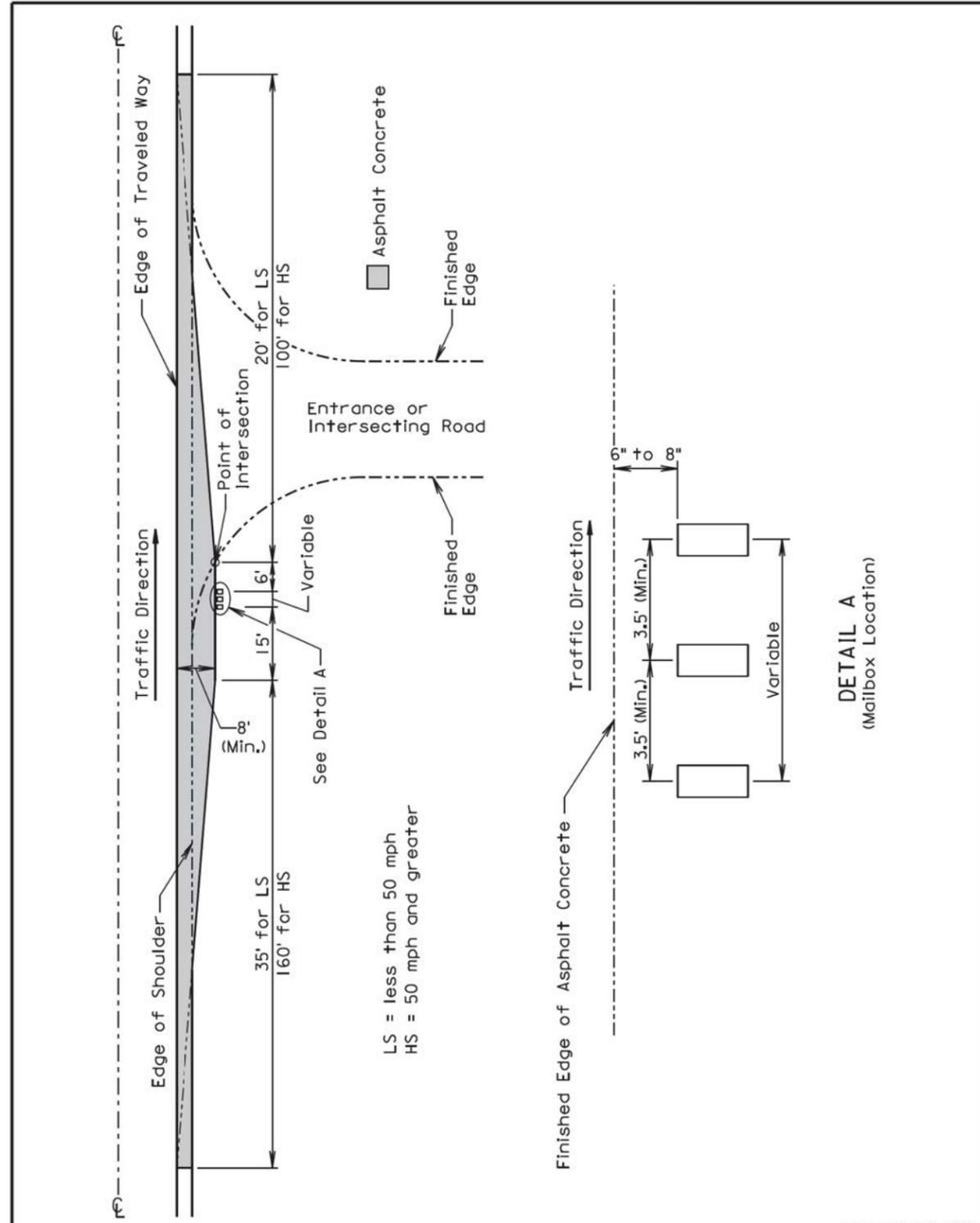
\*In the few cases where there is not enough space for the numerals, the standard "D" series font may be replaced with "C" series font if approved by the Engineer.  
 \*\* 3 Digits



TEMPLATE FOR STATE ROUTE MARKER

GENERAL NOTES:  
 The unit for all dimensions shown is inches.  
 Numerals shall be "D" series font for all state route markers except as noted above.  
 December 23, 2003

<b>S D D O T</b>	<b>STATE ROUTE MARKERS</b>	PLATE NUMBER 632.20
	Published Date: 4th Qtr. 2015	Sheet 1 of 1



<b>S D D O T</b>	<b>MAILBOX TURNOUT</b>	PLATE NUMBER 900.01
	Published Date: 4th Qtr. 2015	Sheet 1 of 1

PLOT SCALE - 1:200

PLOTTED FROM - TRAB17882

PLOT NAME - 4

FILE - ... \63220\_ & \_90001.DGN

