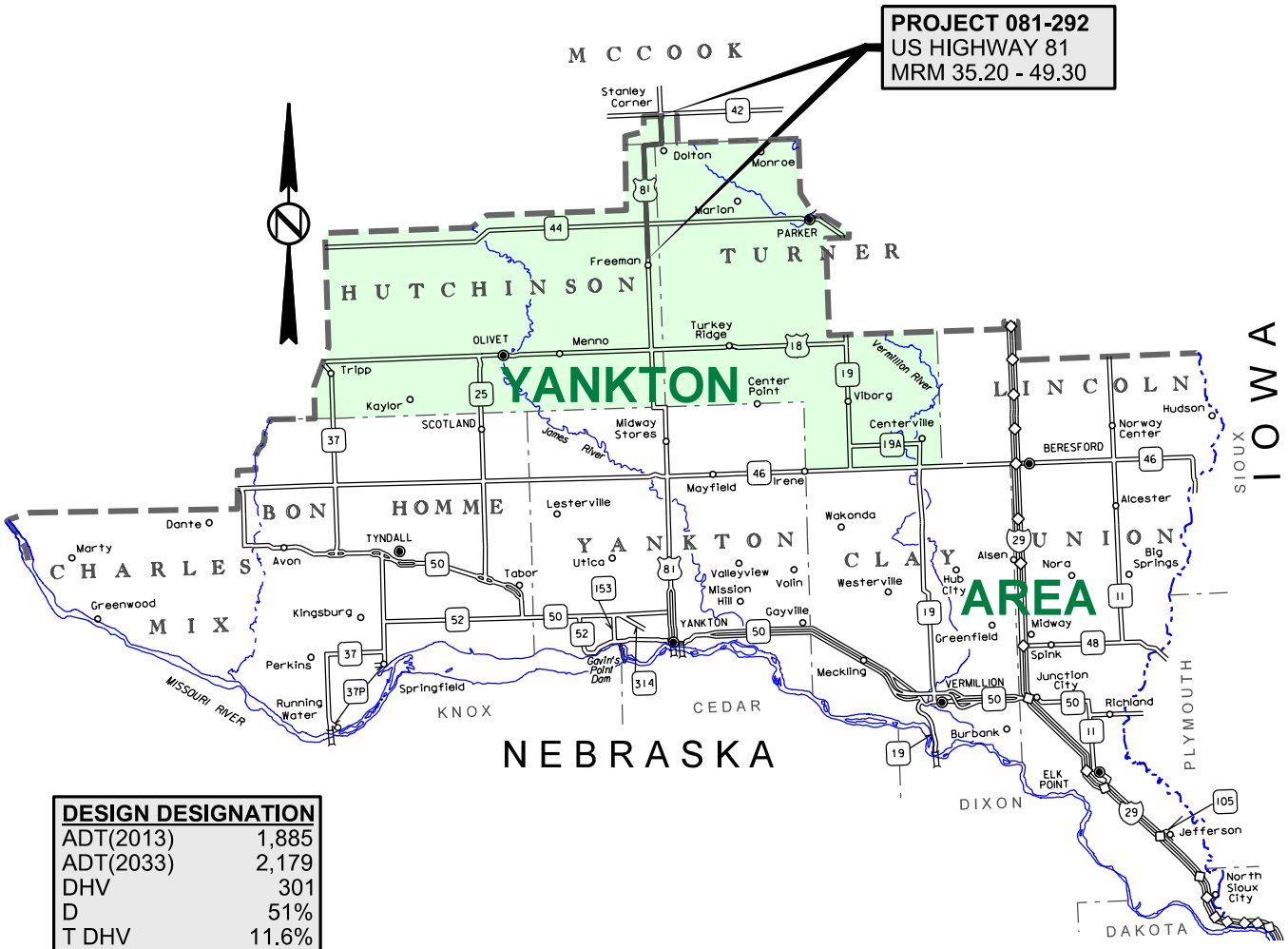
081-292
US HIGHWAY 81
HUTCHINSON, MCCOOK, & TURNER COUNTIES
SPOT COLD MILLING ASPHALT CONCRETE &
SPOT ASPHALT CONCRETE RESURFACING OF SHOULDERS
LENGTH: 14.100 MILES
PCN I3NM



DESIGN DESIGNATION	
ADT(2013)	1,885
ADT(2033)	2,179
DHV	301
D	51%
T DHV	11.6%
T ADT	25.5%
V	65 MPH

STORM WATER PERMIT
(None required)

INDEX OF SHEETS

ESTIMATE OF QUANTITIES

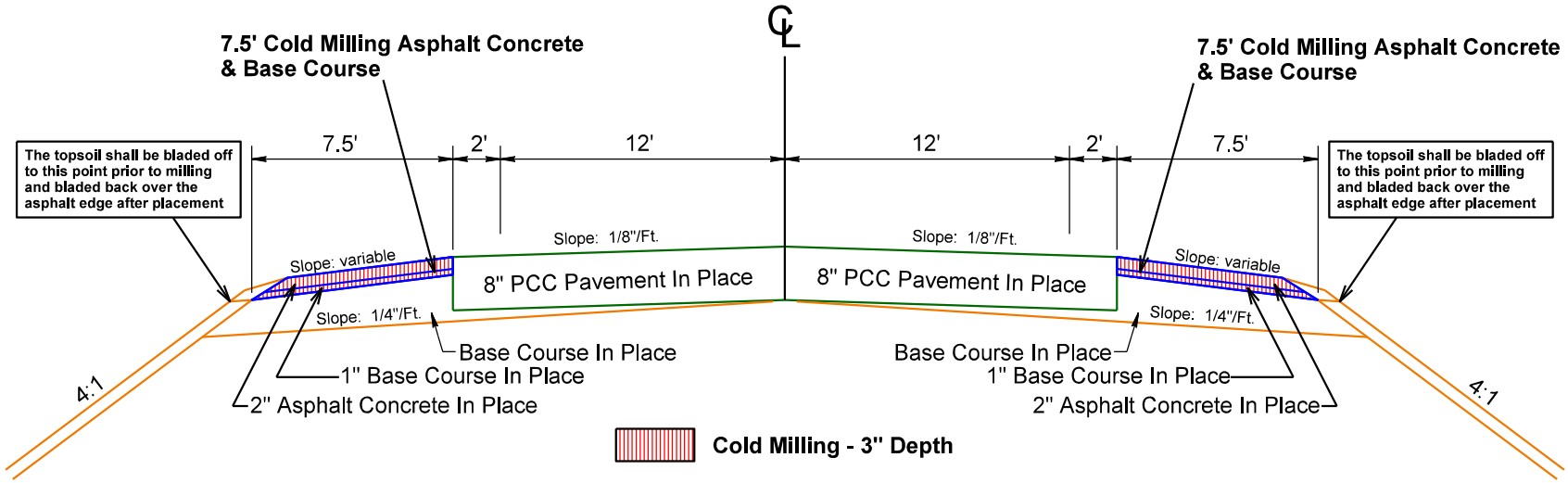
Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
120E0100	Unclassified Excavation, Digouts	71	CuYd
260E1030	Base Course, Salvaged	141.0	Ton
320E1200	Asphalt Concrete Composite	1,957.0	Ton
332E0010	Cold Milling Asphalt Concrete	13,050	SqYd
634E0010	Flagging	100	Hour
634E0020	Pilot Car	50	Hour
634E0100	Traffic Control	786	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

SPECIFICATIONS

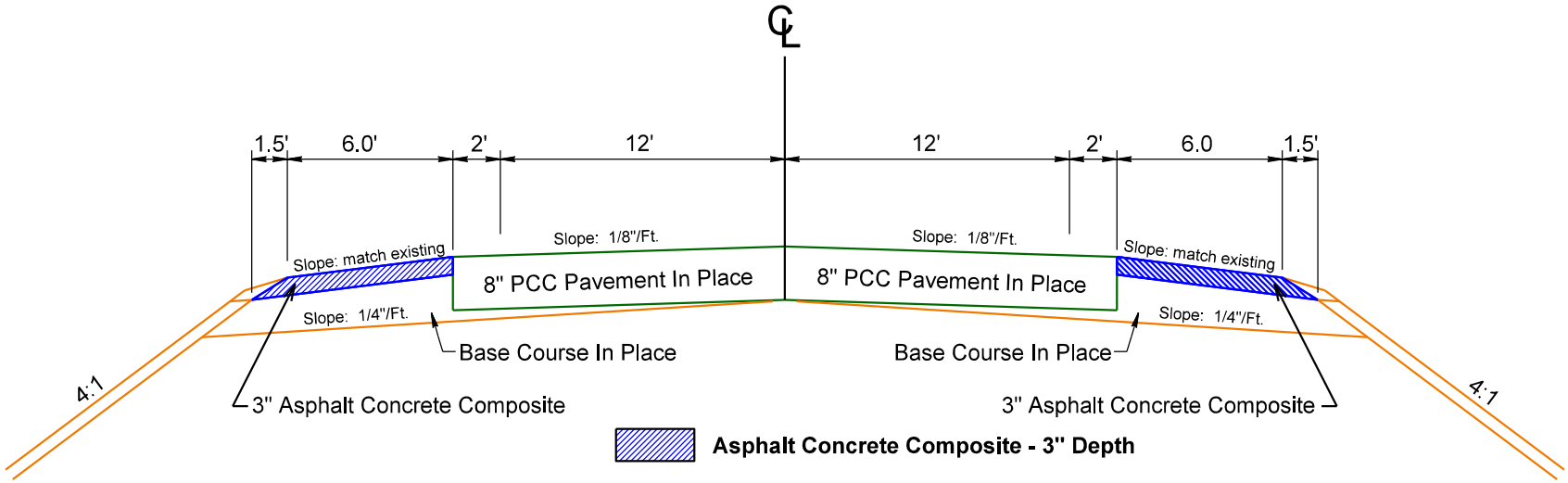
Standard Specifications for Roads and Bridges, 2004 Edition and Required Provisions, Supplemental Specifications and Special Provisions as included in the Proposal.

TYPICAL COLD MILLING SECTION FULL WIDTH

Northbound and Southbound shoulders shown.
Some areas require only one shoulder to be repaired per location.



TYPICAL RESURFACING SECTION FULL WIDTH



ENVIRONMENTAL COMMITMENTS

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

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

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

COMMITMENT H: WASTE DISPOSAL SITE

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

Action Taken/Required:

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

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Highway, Road, and Railway 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 designated option borrow 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: staging areas, borrow sites, waste disposal sites, and all material processing sites.

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 staging areas, borrow sites, waste disposal sites, or material processing sites 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.

TABLE OF SPOT REPAIR OF SHOULDERS

MRM	to	MRM	LOCATION	LENGTH FT	TOP WIDTH FT	BOTTOM WIDTH FT	COLD MILLING ASPHALT CONCRETE (3" Depth) SqYd	ASPHALT CONCRETE COMPOSITE TON
37.176	to	37.375	NB Shoulder	1051	6	7.5	876	131
47.175	to	47.326	NB Shoulder	797	6	7.5	664	100
47.909	to	47.942	NB Shoulder	174	6	7.5	145	22
47.997	to	48.020	NB Shoulder	121	6	7.5	101	15
35.271	to	36.896	SB Shoulder	8580	6	7.5	7150	1071
36.965	to	37.151	SB Shoulder	982	6	7.5	818	123
37.726	to	37.880	SB Shoulder	813	6	7.5	678	102
38.299	to	38.408	SB Shoulder	576	6	7.5	480	72
41.032	to	41.108	SB Shoulder	401	6	7.5	334	50
43.127	to	43.345	SB Shoulder	1151	6	7.5	959	144
43.607	to	43.772	SB Shoulder	871	6	7.5	726	109
47.836	to	47.844	SB Shoulder	42	6	7.5	35	5
47.887	to	47.906	SB Shoulder	100	6	7.5	84	13
						TOTALS:	**13050**	**1957**

These quantities and locations are estimates only. Final locations and dimensions shall be marked by the Engineer and are subject to change.

UTILITIES

The Contractor shall contact the involved utility companies through South Dakota One Call (1-800-781-7474) prior to starting work. It shall be the responsibility of the Contractor to coordinate work with the utility owners to avoid damage to existing facilities.

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.

COORDINATION BETWEEN CONTRACTORS

The Contractor shall coordinate with work being completed on project NH 0081(98)35 PCN 047D, which is a PCC Pavement repair project.

SHOULDER WORK

Prior to construction, Department of Transportation Maintenance Forces will spray the shoulders to kill existing vegetation. It is the Contractor's responsibility to notify the State a minimum of thirty days prior to starting work on the surface of the highway. The State assumes no responsibility for the effectiveness of the herbicide applied.

Vegetation and accumulated material on or adjacent to the existing roadway edge shall be removed to the satisfaction of the Engineer prior to cold milling. Along the repair areas, a 4"± depth of topsoil shall be bladed down the respective inslopes and left in a windrow 1'± from the shoulder. Following completion of surfacing operations, topsoil shall be bladed back up the inslope to the point indicated on the typical section. Any remaining windrow of accumulated material shall be redistributed evenly on the inslope adjacent to the asphalt shoulder to the satisfaction of the Engineer.

Cost for shoulder work including removal and replacement of topsoil shall be incidental to the contract unit prices for the various items. Separate measurement and payment will not be made.

COLD MILLING ASPHALT CONCRETE (INCLUDING 1"± BASE COURSE)

The requirements for the traveling or fixed string line in Section 332.3 B. of the Specifications shall be waived.

Material obtained from cold milling may be used as Base Course, Salvaged without further testing.

Cold milling operations ahead of asphalt concrete operations will be limited by particular job conditions and shall be subject to approval of the Engineer. In no case shall cold milling operations ahead of asphalt concrete operations exceed three calendar days. Care should be taken to maintain drainage of all milled areas. In the event of precipitation the Contractor shall recompact the base material to the satisfaction of the Engineer at no cost to the State.

Compaction of the base material will be required in the milled areas prior to the placement of Asphalt Concrete Composite. Cost for this work shall be incidental to the contract unit prices for the various items. Compaction shall be to the satisfaction of the Engineer.

SURFACING THICKNESS DIMENSIONS

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

EXCAVATION OF UNSTABLE MATERIAL

Included in the Estimate of Quantities are 5 cubic yards per mile of Unclassified Excavation, Digouts for the necessary removal of unstable material.

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

BASE COURSE, SALVAGED

Base Course, Salvaged shall be obtained from the milled material on the project and may be used without further testing. Compaction of the Base Course, Salvaged for the Digouts shall be to the satisfaction of the Engineer.

All other requirements of the Specifications for Base Course shall apply.

Included in the Estimate of Quantities are 10 tons per mile of Base Course, Salvaged for backfill of the Unclassified Excavation, Digouts.

If necessary, water shall be added to the Base Course, Salvaged to bring the material to 6%± moisture at the time of compaction unless otherwise directed by the Engineer. Water, if required, shall be incidental to the contract unit price per ton for Base Course, Salvaged.

ASPHALT CONCRETE COMPOSITE

Mineral aggregate for the Asphalt Concrete Composite shall conform to the requirements for Class E, Type 1.

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

The asphalt binder used in the mixture shall be PG 64-22, PG 64-28 or PG 64-34 Asphalt Binder.

Mineral aggregate for the Asphalt Concrete Composite shall be furnished by the Contractor.

SS-1h or CSS-1h Asphalt for Tack (Rate = 0.05 gallon per square yard) shall be applied to all surfaces prior to the placement of Asphalt Concrete Composite.

GENERAL MAINTENANCE OF TRAFFIC

Removing, relocating, covering, salvaging and resetting of permanent traffic control devices, including delineation, shall be the responsibility of the Contractor. Cost for this work shall be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State.

Storage of vehicles and equipment shall be outside the clear zone and as near as possible to the right-of-way line. Contractor's employees should mobilize at a location off the right-of-way and arrive at the work sites in a minimum number of vehicles necessary to perform the work.

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

GENERAL MAINTENANCE OF TRAFFIC cont:

The Contractor shall provide documentation that all breakaway sign supports comply with FHWA NCHRP 350 or MASH crash-worthy requirements. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

Sufficient traffic control devices have been included in these plans to sign one three mile workspace. If the Contractor elects to work on additional sites simultaneously, the cost for additional traffic control devices shall be incidental to the contract unit price per unit for Traffic Control.

PERMANENT PAVEMENT MARKING

The Contractor shall conduct operations so as not to disturb the existing durable pavement marking. Any durable pavement marking disturbed/damaged due to the Contractor's operations shall be replaced by the Contractor at no expense to the State. Repair of the durable pavement marking shall be completed within 3 days of the final surfacing work.

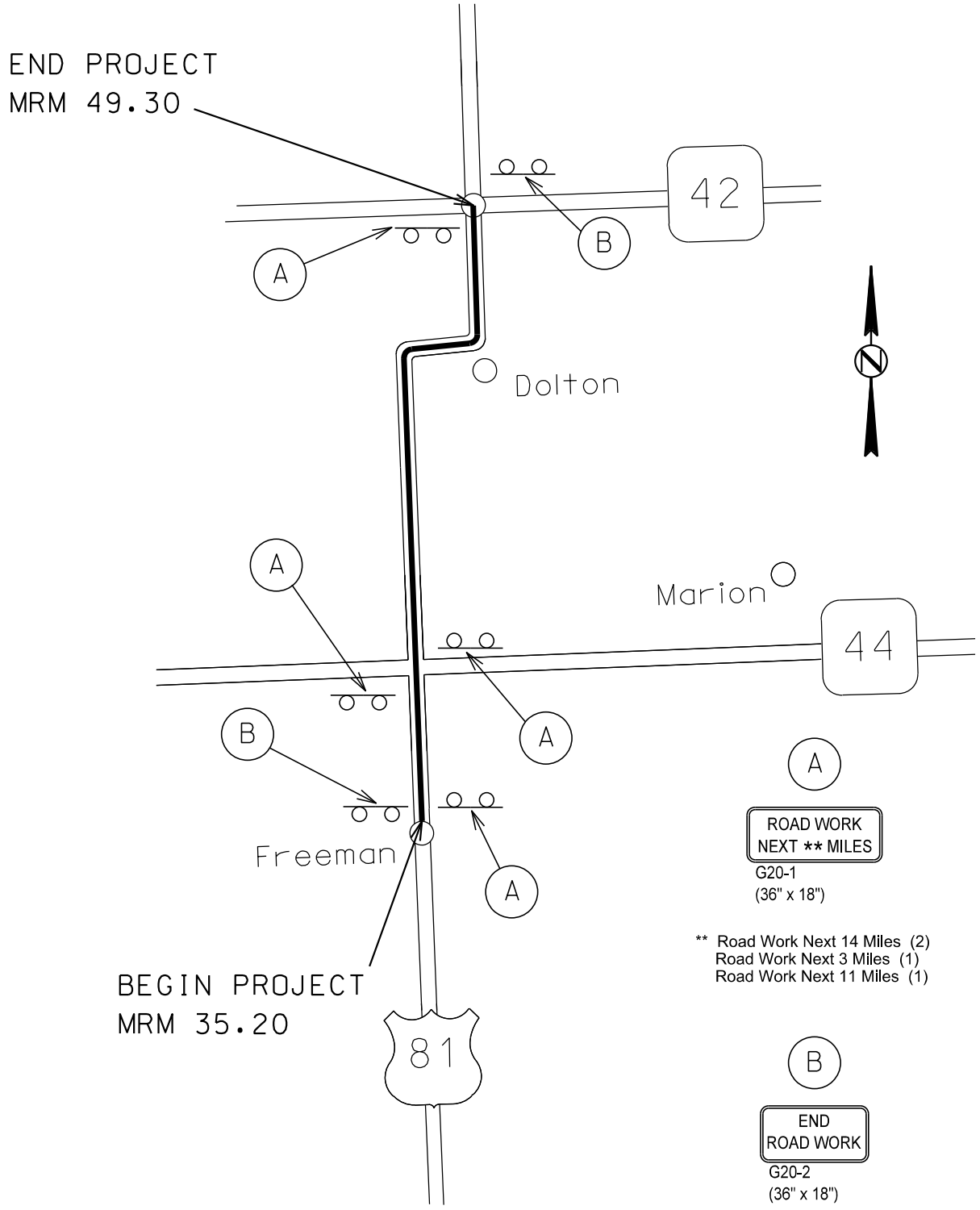
RUMBLE STRIPS IN PCCP

The Contractor shall conduct operations so as not to disturb the existing rumble strips. All material which accumulates in the rumble strip due to the Contractor's operations shall be removed at no expense to the State.

ITEMIZED LIST FOR TRAFFIC CONTROL

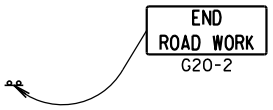
		CONVENTIONAL ROAD			
SIGN CODE	DESCRIPTION	NUMBER	SIGN SIZE	UNITS PER SIGN	UNITS
W8-17	SHOULDER DROP-OFF (symbol)	4	48" x 48"	34	136
W8-17P	SHOULDER DROP-OFF (plaque)	4	30" x 24"	18	72
W20-1	ROAD WORK AHEAD	4	48" x 48"	34	136
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	34	68
W20-7	FLAGGER (symbol)	2	48" x 48"	34	68
W21-5	SHOULDER WORK	2	48" x 48"	34	68
W21-5a	LEFT or RIGHT SHOULDER CLOSED	2	48" x 48"	34	68
W21-5b	LEFT or RIGHT SHOULDER CLOSED AHEAD	2	48" x 48"	34	68
G20-1	ROAD WORK NEXT 14 MILES	2	36" x 18"	17	34
G20-1	ROAD WORK NEXT 3 MILES	1	36" x 18"	17	17
G20-1	ROAD WORK NEXT 11 MILES	1	36" x 18"	17	17
G20-2	END ROAD WORK	2	36" x 18"	17	34
				TOTAL UNITS	**786**

FIXED LOCATION SIGNS



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

■ Channelizing Device



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

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

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

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

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

September 22, 2014

Published Date: 4th Qtr. 2014

SDDOT

GUIDES FOR TRAFFIC CONTROL DEVICES
WORK ON SHOULDERS

PLATE NUMBER
634.03

Sheet 1 of 1

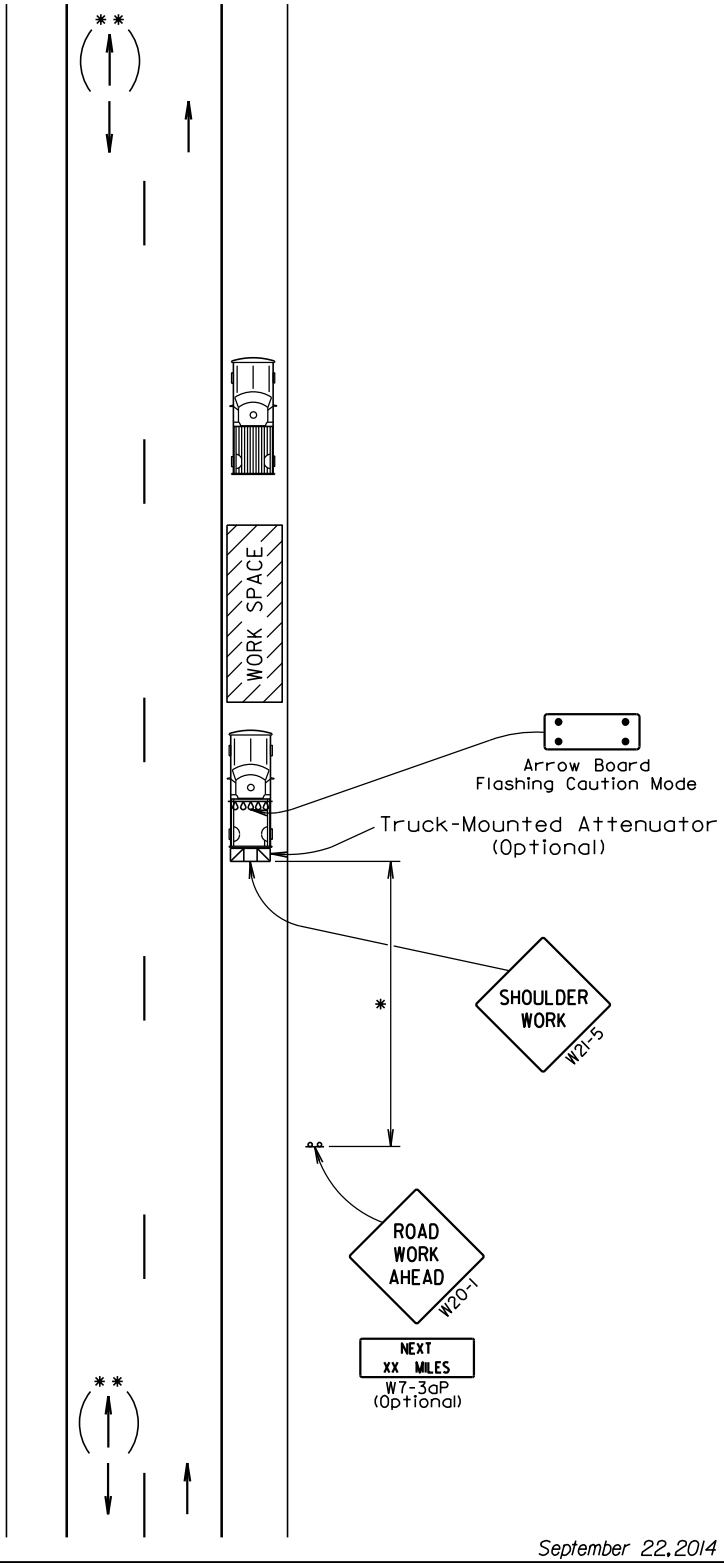
* In situations where multiple work locations in a limited distance make it practical to place stationary signs, the distance between the advance warning sign and the work should not exceed 5 miles.

The ROAD WORK NEXT xx MILES sign may be used instead of the ROAD WORK AHEAD sign if the work locations occur over a distance of more than 2 miles.

Arrow board is required for intermittently and continuously moving mobile operations when work exceeds 1 hour.

** If the work space is on a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

In situations where the distance between the advance warning signs and the work is 2 miles to 5 miles, a Supplemental Distance plaque should be used with the ROAD WORK AHEAD sign.



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SDDOT

GUIDES FOR TRAFFIC CONTROL DEVICES
MOBILE OPERATIONS ON SHOULDER

PLATE NUMBER
634.04

Sheet 1 of 1

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

Flagger

Channelizing Device

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

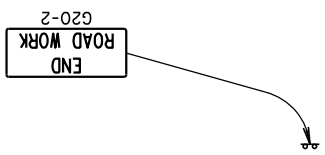
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

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

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

The channelizing devices shall be drums or 42" cones.

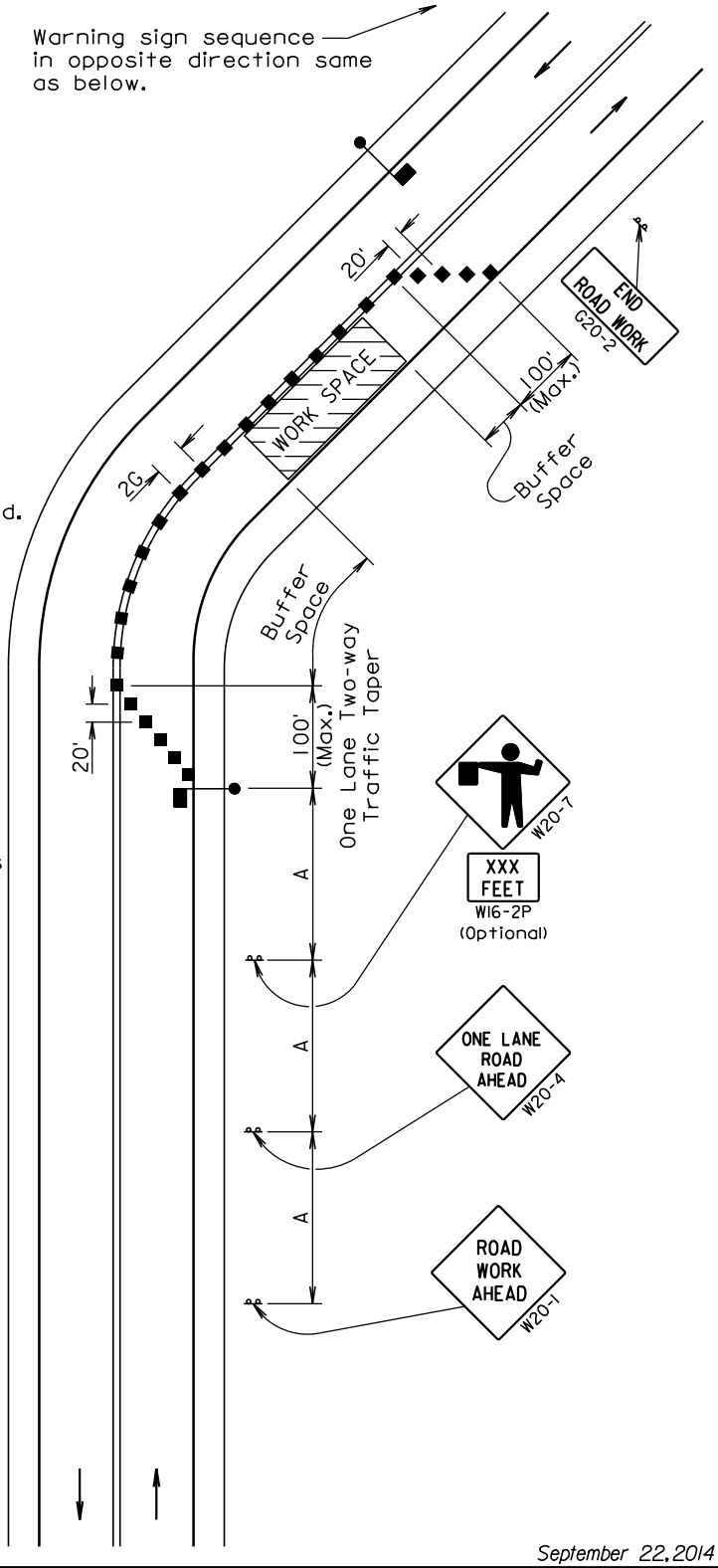
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



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

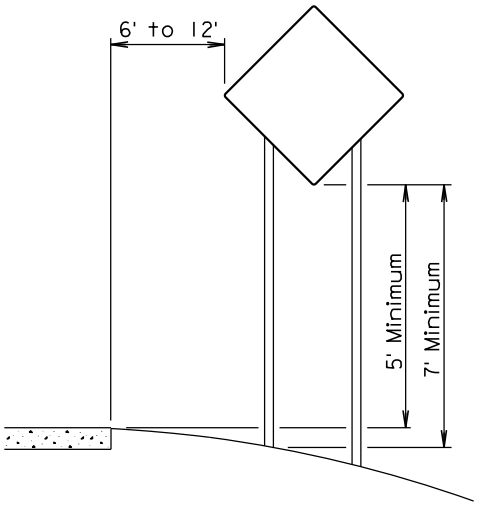
The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

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

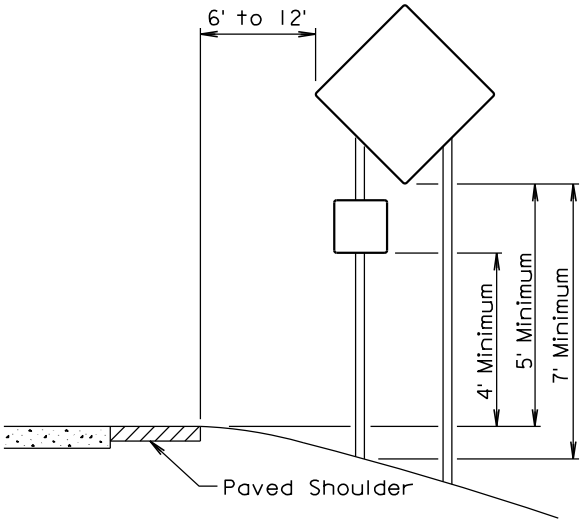


September 22, 2014

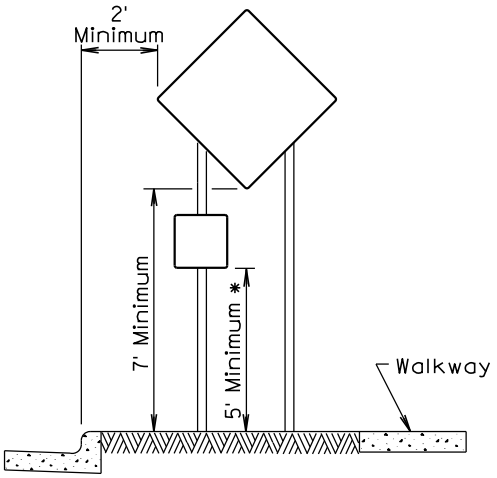
Published Date: 4th Qtr. 2014	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23 Sheet 1 of 1



RURAL DISTRICT

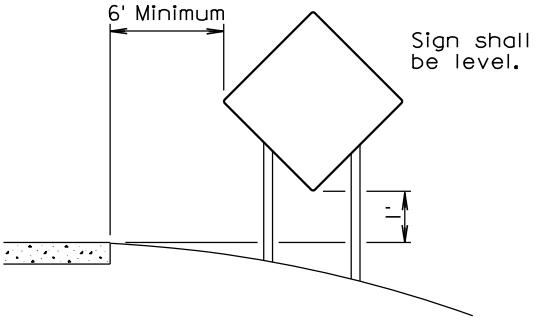


RURAL DISTRICT WITH
SUPPLEMENTAL PLATE



URBAN DISTRICT

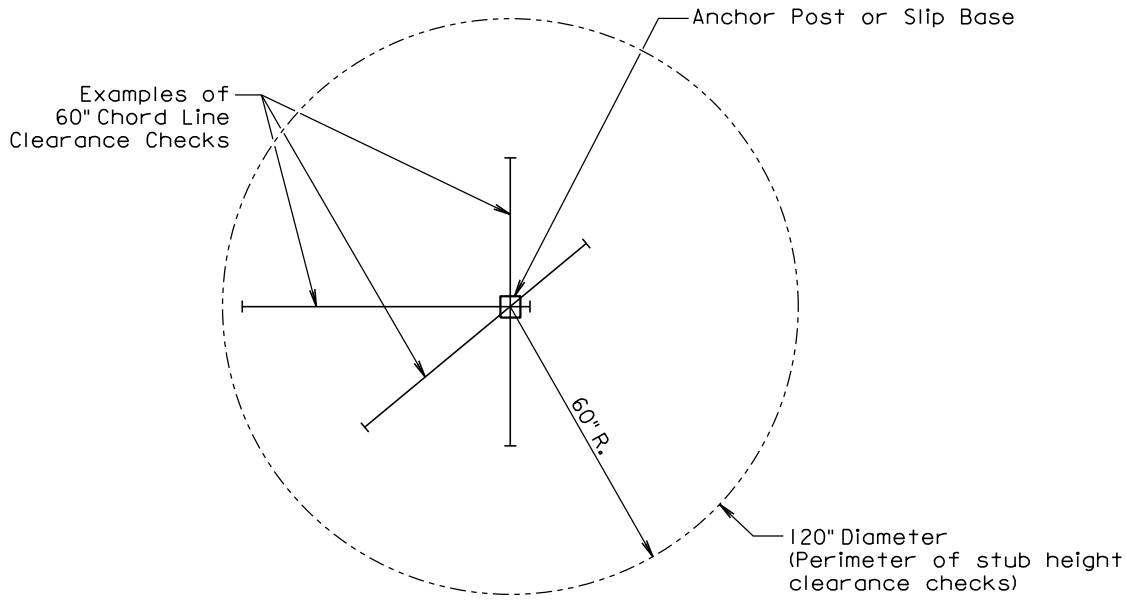
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.



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

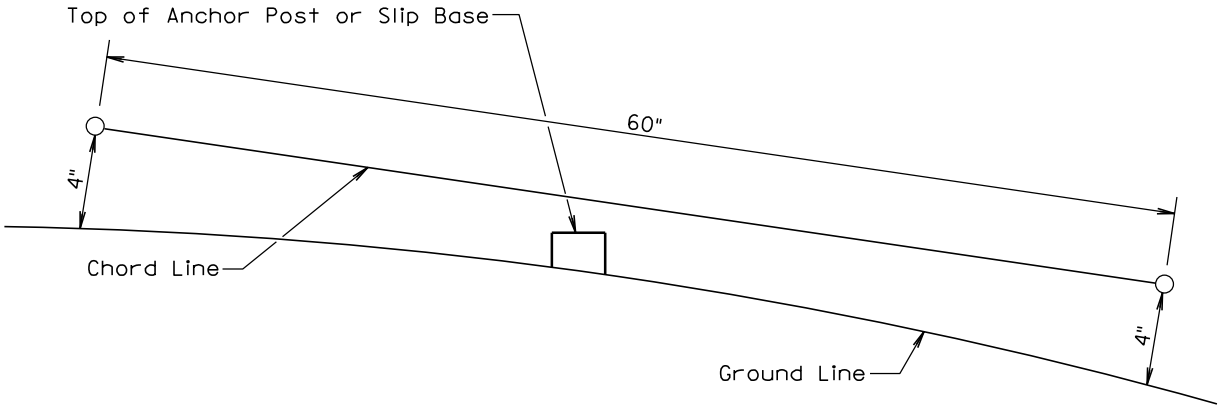
September 22, 2014

Published Date: 4th Qtr. 2014	SDDOT	***CRASHWORTHY SIGN SUPPORTS*** ***(Typical Construction Signing)***	***PLATE NUMBER*** 634.85 *Sheet 1 of 1*



PLAN VIEW

(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

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

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

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

July 1, 2005

Published Date: 4th Qtr. 2014	SDDOT	***BREAKAWAY SUPPORT STUB CLEARANCE***	***PLATE NUMBER*** *634.99*
			Sheet 1 of 1