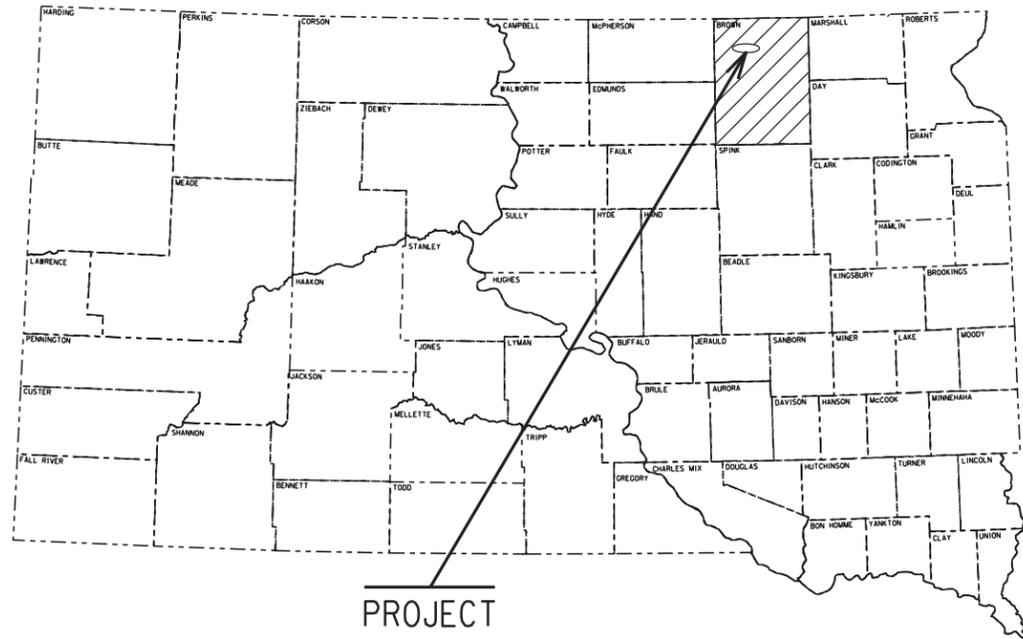


STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	010-151	1	9
Plotting Date:			

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
PROJECT 010-151
SD HIGHWAY 10
BROWN COUNTY
ASPHALT CONCRETE PATCHING
PCN i3c0

INDEX OF SHEETS

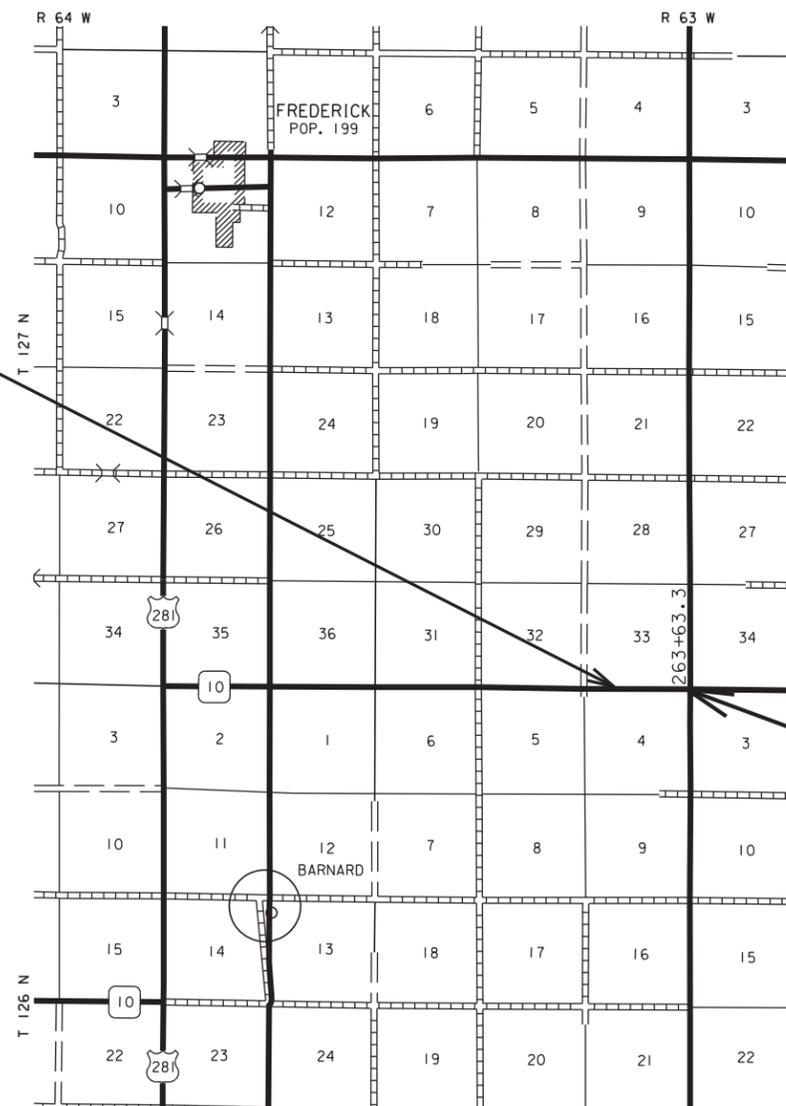
Sheet 1	Title Sheet and Layout Map
Sheet 2	Estimate of Quantities and Environmental Commitment Notes
Sheet 3	Typical Section
Sheet 4	Rates of Materials
Sheet 5	Plan Notes
Sheet 6	Pavement Marking and Itemized List for Traffic Control
Sheet 7	Cold Milling Detail
Sheet 8-9	Standard Plates



PLOT SCALE - 1:156000

PLOT NAME - 4

Begin Project
Sta 231+00
MRM 286.668



End Project
Sta 263+10
MRM 287.271

GROSS LENGTH	3210.00 FEET	0.608 MILES
LENGTH OF EXCEPTIONS	0.00 FEET	0.000 MILES
NET LENGTH	3210.00 FEET	0.608 MILES

STORM WATER PERMIT
None Required

PLOTTED FROM - TRAB17886

FILE - ... \TITLE_SHEET.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	010-151	2	9
Plotting Date:			

ESTIMATE OF QUANTITIES

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
320E1200	Asphalt Concrete Composite	1,837.0	Ton
332E0010	Cold Milling Asphalt Concrete	400	SqYd
633E1300	Pavement Marking Paint, White	23.0	Gal
633E1305	Pavement Marking Paint, Yellow	4.0	Gal
634E0010	Flagging	40	Hour
634E0020	Pilot Car	20	Hour
634E0100	Traffic Control	662	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0630	Temporary Pavement Marking	1.2	Mile

SPECIFICATIONS

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

ENVIRONMENTAL COMMITMENTS

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

COMMITMENT 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 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:

- 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".
- 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.

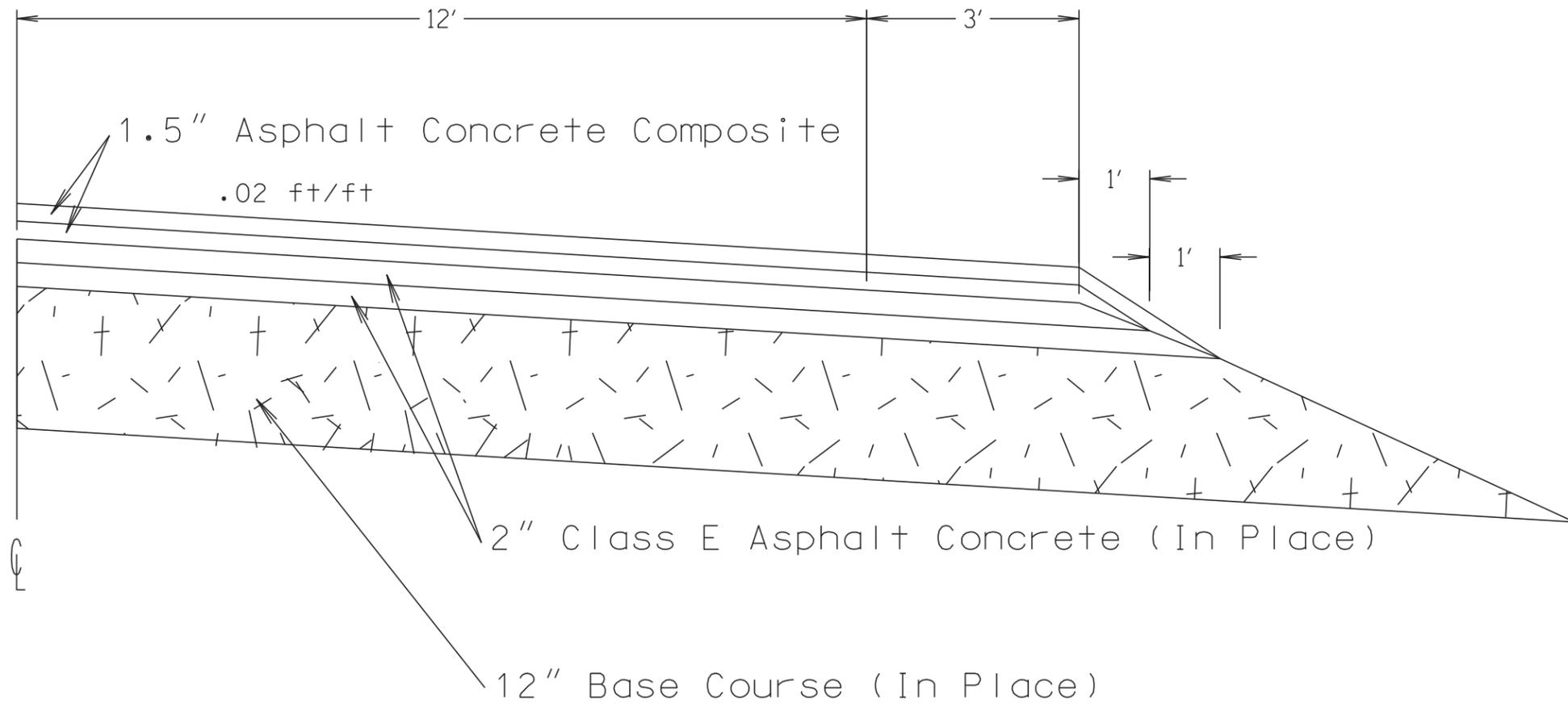
If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order to determine an appropriate course of action.

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.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	010-151	3	9
Plotting Date:			

TYPICAL SURFACING SECTION

Sta 231+00 to 263+10



PLOT SCALE - 1:2.08333

PLOTTED FROM - TRAB17886

PLOT NAME - 2

FILE - ... \TYPICAL_SECTION.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	010-151	4	9
Plotting Date:			

RATES OF MATERIALS

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

STA. 231+60 TO 262+50

ASPHALT COMPOSITE LEVELING LIFT – 1.5”

Asphalt Concrete Composite.....28.7 Ton

SS-1h or CSS-1h Emulsified Asphalt for Tack at the rate of .1 tons applied 33 feet wide.
(Rate = 0.05 Gal./Sq.Yd.)

STA. 231+00 TO 263+10

ASPHALT COMPOSITE SECOND LIFT – 1.5”

Asphalt Concrete Composite.....29.6 Ton

SS-1h or CSS-1h Emulsified Asphalt for Tack at the rate of .1 tons applied 35 feet wide.
(Rate = 0.05 Gal./Sq.Yd.)

PLOT SCALE - 1:2,000

PLOTTED FROM - TRAB17886

PLOT NAME - 2

FILE - ... \TYPICAL_SECTION.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	010-151	5	9
Plotting Date:			

TRAFFIC CONTROL

Removing, relocating, covering, salvaging and resetting of existing traffic control devices, including delineation, shall be the responsibility of the Contractor. Cost of this work shall be incidental to the various contract items unless otherwise specified in the plans. 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 as near the right-of-way line as possible. 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.

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

Traffic approaching the project from intersecting roadways, streets, and approaches must be adequately accommodated. Major intersections or large commercial entrances may require additional signing, flaggers, and channelizing devices on a temporary basis until work activities pass these areas.

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.

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

Traffic Control units, as shown in the Estimate of Quantities, 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.

ASPHALT CONCRETE COMPOSITE

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

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

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

Asphalt Concrete Composite shall be paver laid in lifts not exceeding 2" in depth.

A traveling stringline shall be used on the paver and have a minimum effective length of 28 Ft. The system shall be capable of manually controlling the transverse slope and the screed height.

The leveling lift shall be 1.5" thick at centerline and a 2% slope shall be carried out to a 15 Ft width. The thickness on the outside edges will vary due to the inconsistencies in the road. The quantities for the leveling lift may vary significantly due to the inconsistencies in the road surface.

All construction related traffic is restricted to travel on US and State Highways.

COLD MILLING ASPHALT CONCRETE

The cold milled material obtained from the project shall become the property of the Contractor. The cold milled material may be placed on field approaches, as approved by the Engineer.

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.

Gradation testing of the cold milled material shall not be required unless deemed necessary by the Engineer.

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 road markers shall be used to mark dashed centerline and No Passing Zones. **Paint will not be allowed for Temporary Pavement Marking on the Asphalt Concrete Composite.**

TEMPORARY PAVEMENT MARKINGS

The total length of no passing zone on this project is estimated to be .1 miles.

Quantities of Temporary Pavement Markings consist of:
 One pass on top of the 1st Lift of Asphalt Concrete.
 One pass on top of the 2nd Lift of Asphalt Concrete.

Temporary Road 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.

Cost for furnishing, applying, removing and disposing of the Temporary Road Markers 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 road markers. The traffic control device used shall be moved to provide proper warning of the work operation. A ROAD WORK AHEAD (W20-1), a Workers symbol sign (W21-1) or a BE PREPARED TO STOP (W3-4) warning sign 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.

Glass beads shall be applied on the wet paint line at a minimum of eight pounds of glass beads per gallon of paint.

The Contractor shall advise the Engineer a minimum of 2 weeks prior to the application of the permanent pavement marking to allow the State to check and mark the location of no passing zones. All materials shall be applied as per manufacturer's recommendations.

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.

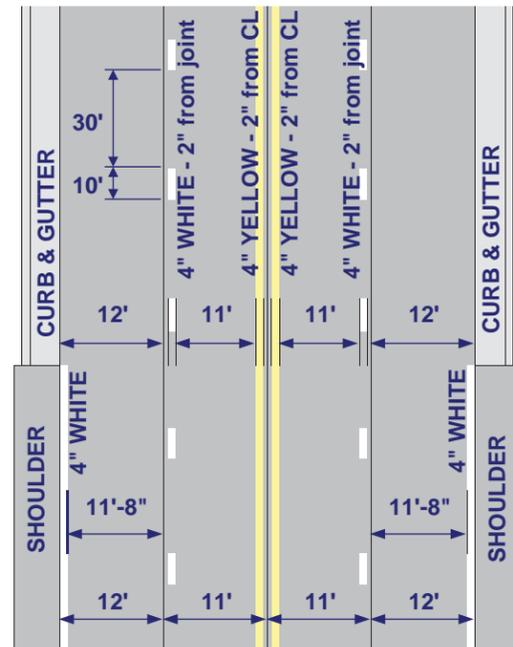
For each working day the application of permanent pavement marking paint remains uncompleted beyond the time limits described in the preceding paragraph, the Contractor will be assessed liquidated damages at the rate of \$250.00 per day.

The liquidated damages shall apply up to the Contract Completion Date, as extended. After the completion date, liquidated damages will be assessed in accordance with section 8.7 of the specifications, until the permanent pavement marking is completed, even though the project may be open to traffic.

FURNISHING AND APPLYING PAVEMENT MARKING PAINT

UNDIVIDED ROADWAY

Approximate paint application rates shall be as follows:



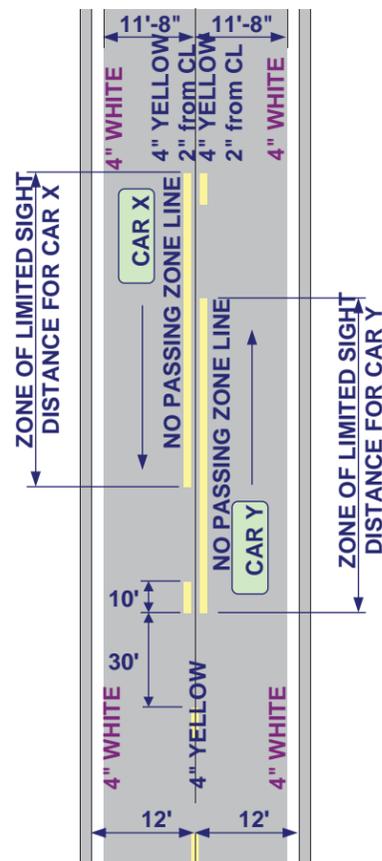
Four Lane Roadway (Rates for one line)	Two Lane Roadway
<u>Solid Yellow Centerline</u> Rate = 16.9 Gals./Pass-Mile	<u>Yellow Centerline</u> (Includes No Passing Zones) Rate = 12± Gals./Pass-Mile
<u>Dashed White Laneline</u> Rate = 4.6 Gals./Pass-Mile	<u>Solid White Edgeline</u> (Rate for one 4" line) Rate = 16.9 Gals./Pass-Mile
<u>Solid White Edgeline</u> (Not applicable in curb & gutter section) Rate = 16.9 Gals./Pass-Mile	

Typical pavement marking as shown on this sheet shall be applied throughout the entire length of undivided roadway.

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.

ITEMIZED LIST FOR TRAFFIC CONTROL

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2	36" x 18"	END ROAD WORK	2	17	34
W8-1	48" x 48"	BUMP	4	34	136
W13-1P	30" x 30"	ADVISORY SPEED PLATE "35 MPH"	4	21	84
W20-1	48" x 48"	ROAD WORK ##### FT. OR AHEAD	4	34	136
W20-4	48" x 48"	ONE LANE ROAD ##### FT. OR AHEAD	2	34	68
W20-5	48" x 48"	LT. OR RT. LANE CLOSED ##### FT. OR AHEAD	2	34	68
W20-7	48" x 48"	FLAGGER (SYMBOL)	4	34	136
TOTAL UNITS				662	

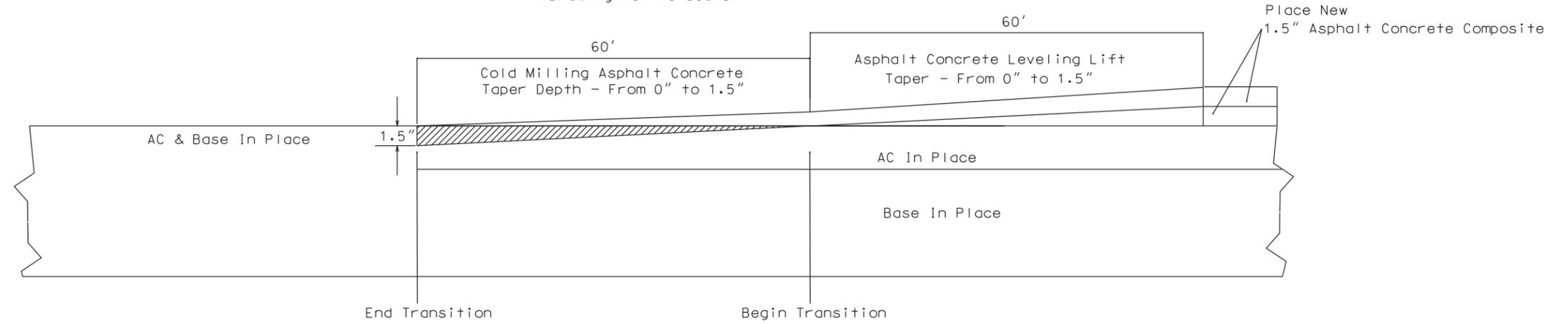


NOTE: All pavement marking dimensions are based on 12' driving lanes.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
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COLD MILLING DETAILS AT BEGINNING AND END OF PROJECT

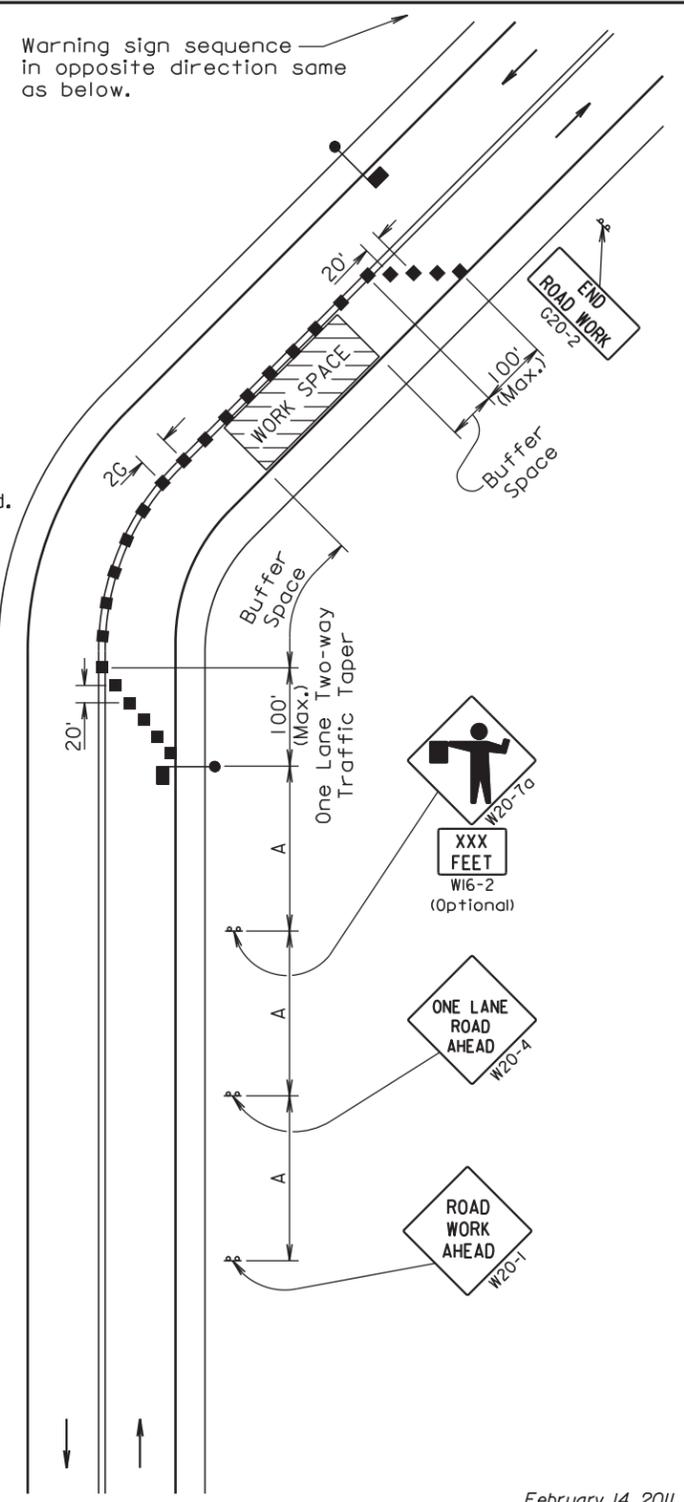
(Drawing not to scale)



All costs associated with tapering the depth of cold milling asphalt concrete shall be incidental to the contract unit price per square yard for Cold Milling Asphalt Concrete.

PLOT SCALE - 1:2,000

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (C)
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.

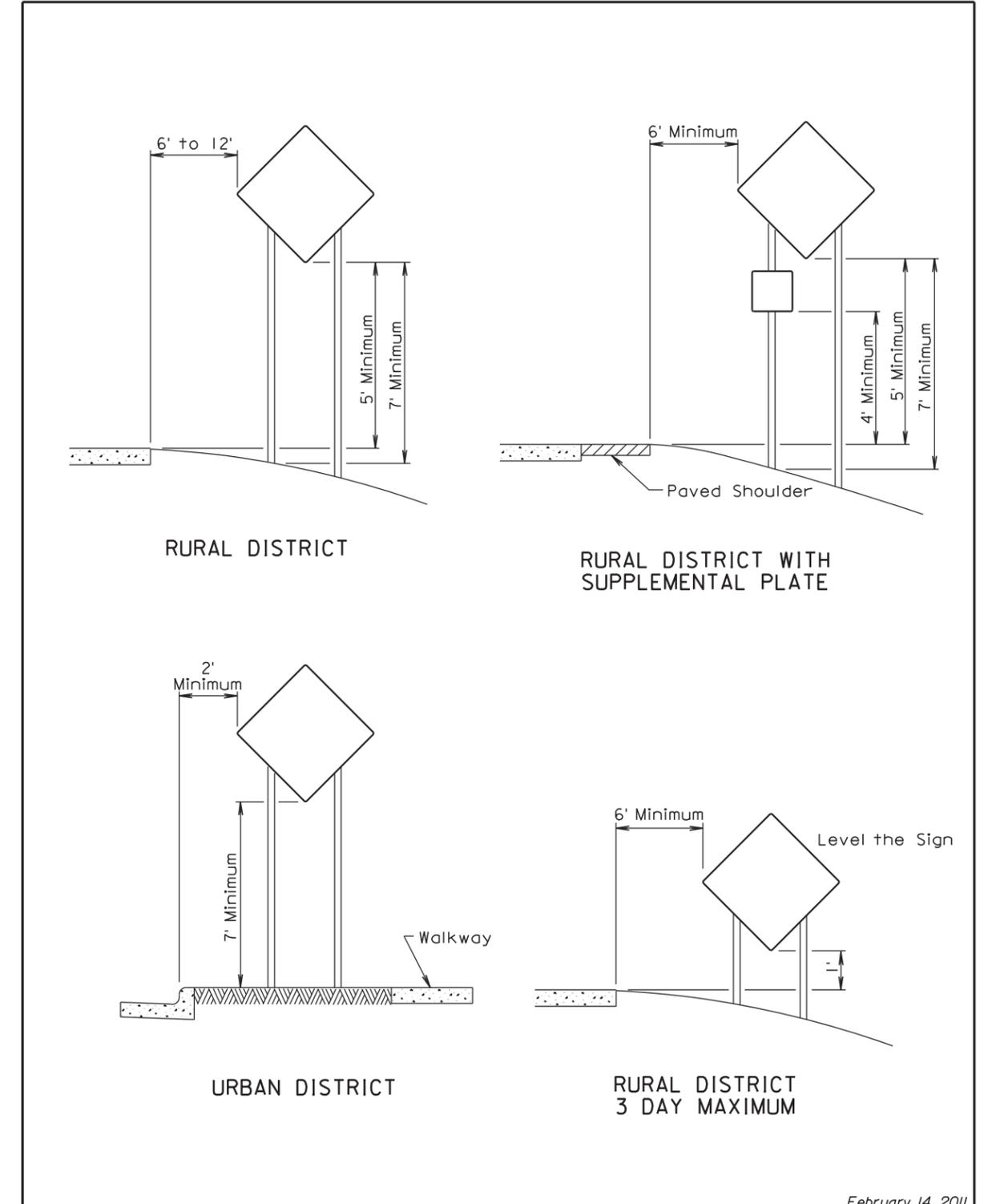
Channelizing devices and flaggers shall be used at intersecting roads to control intersecting road traffic as required.

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.

February 14, 2011

Published Date: 2nd Qtr. 2014	S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
			Sheet 1 of 1

PLOT NAME - 2



February 14, 2011

Published Date: 2nd Qtr. 2014	S D D O T	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1

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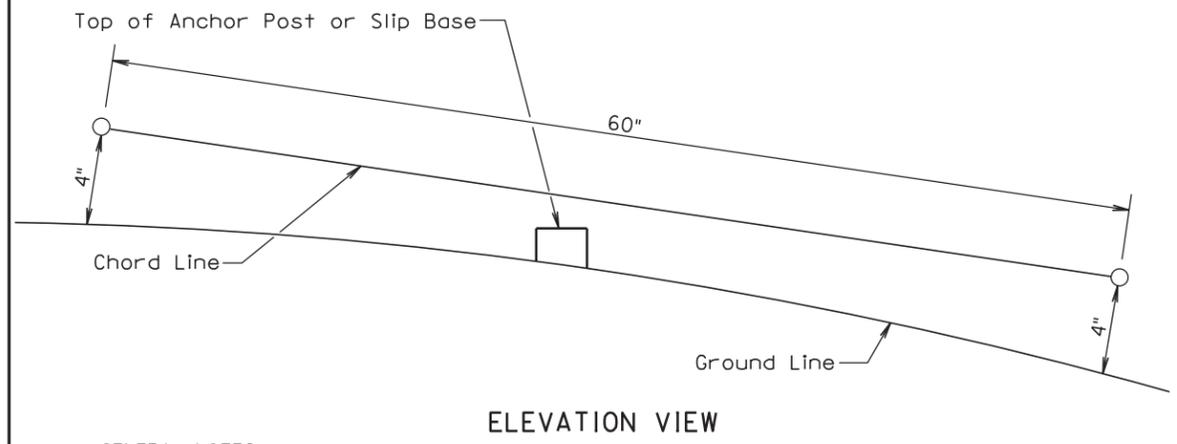
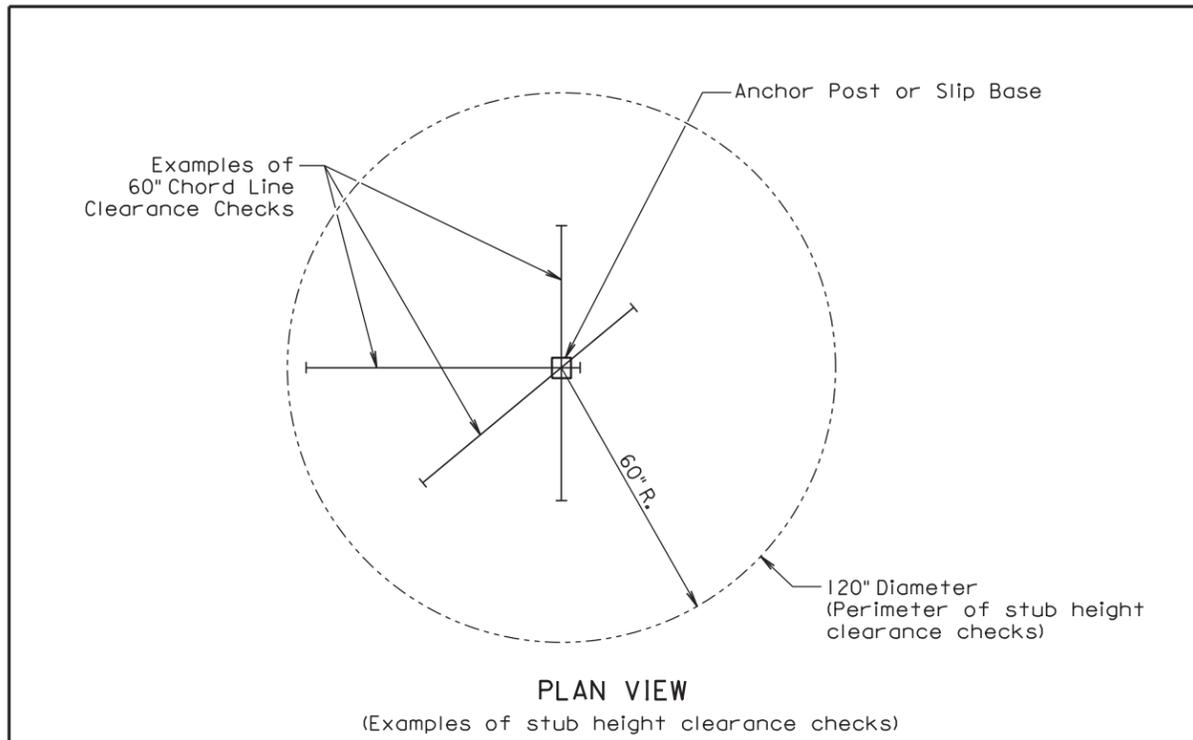
PLOTTED FROM - TRAB17886

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	010-151	9	9

Plotting Date:

PLOT SCALE - 1:2.08333

PLOT NAME - 2



GENERAL NOTES:

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

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

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

July 1, 2005

Published Date: 2nd Qtr. 2014	S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1

PLOTTED FROM - TRAB17886

FILE - ... \TYPICAL_SECTION.DGN