

STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED  
**PROJECT 090W-271**  
**INTERSTATE 90 WBL**  
**MINNEHAHA COUNTY**

PLANING PCC PAVEMENT,  
COLD MILLING ASPHALT CONCRETE,  
ASPHALT CONCRETE RESURFACING &  
EPOXY PAVEMENT MARKING  
PCN I3GH

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	1	24

Plotting Date: 05/19/2014

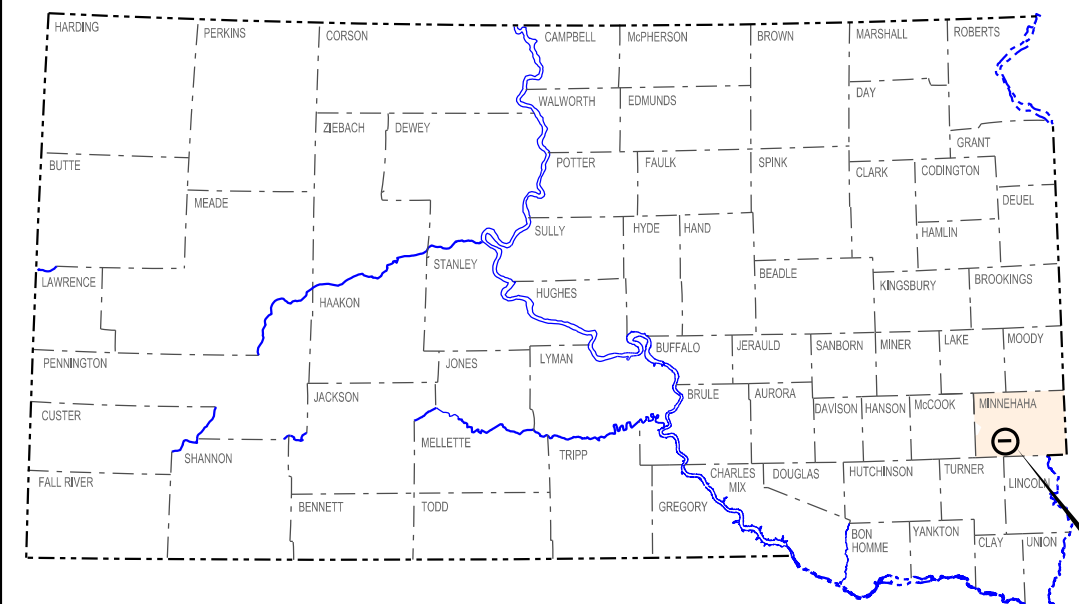
INDEX OF SHEETS

Sheet 1	Layout Map & Index of Sheets
Sheet 2	Estimate of Quantities & Environmental Commitments
Sheets 3-7	Typical Sections
Sheet 8	Rates of Materials
Sheet 9	Summary of Asphalt Concrete
Sheet 10	Table of Project Stationing, Table of Materials Quantities & Table of Additional Quantities
Sheets 11&12	Plan Notes
Sheets 13-19	Pavement Marking & Traffic Control
Sheets 20-23	Layouts for Cold Milling Tapers, PCC Pavement Planing Tapers & Asphalt Concrete Resurfacing Tapers
Sheet 24	Standard Plate for Rumble Strips

PLOT SCALE - 1:62500

PLOT NAME - 1

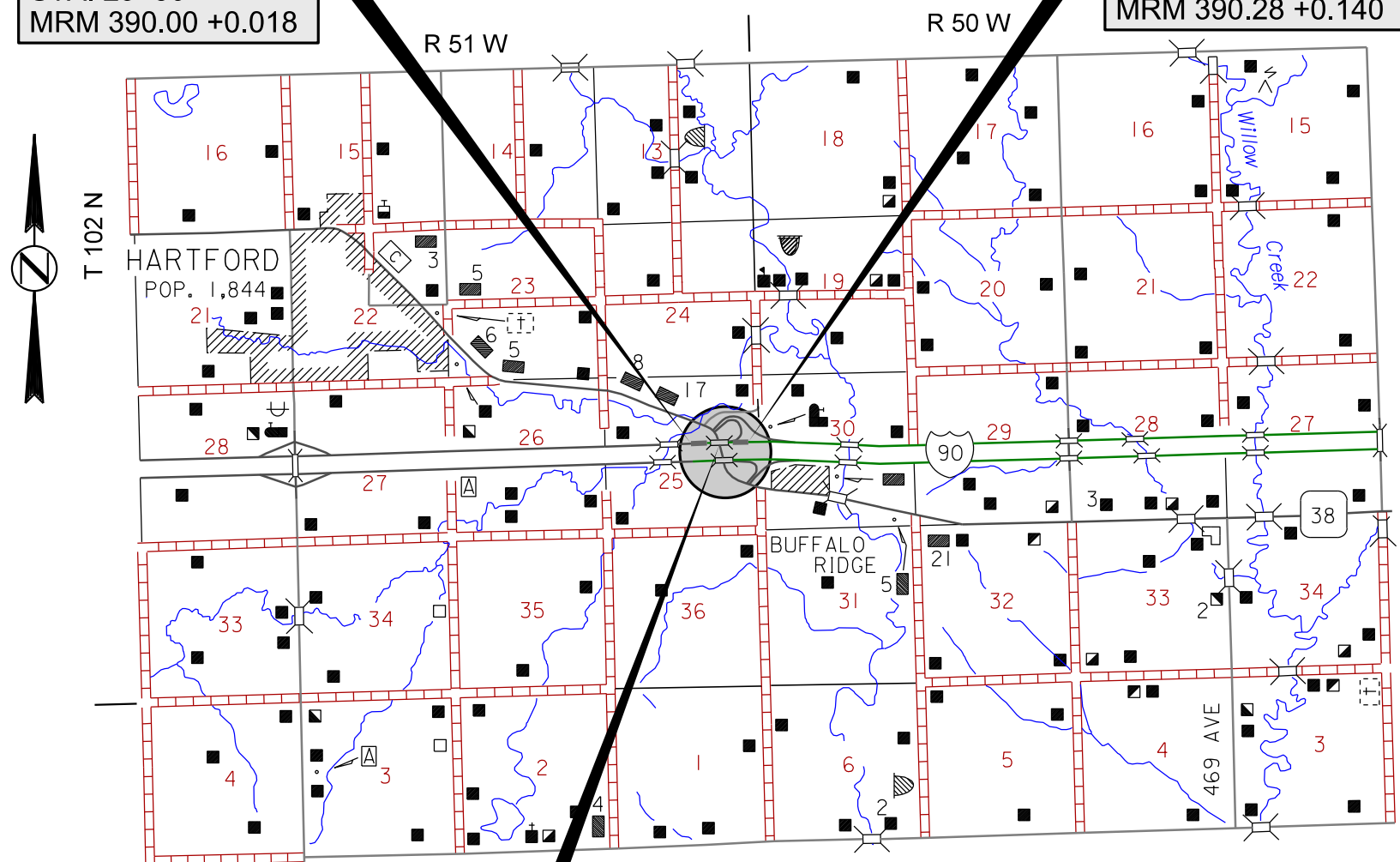
FILE - ...MINNI30GH\TTLI3GH.DGN



**BEGIN PROJECT**  
STA. 29+30  
MRM 390.00 +0.018

**PROJECT**

**END PROJECT**  
STA. 49+70  
MRM 390.28 +0.140



**STORM WATER PERMIT**  
(None required)

**DESIGN DESIGNATION**

ADT(2013)	5,919
ADT(2033)	8,736
DHV	1,127
D	51%
T DHV	8.8%
T ADT	19.3%
V	75 MPH

**STR. NO. 50-119-165**  
40+16 to 42+55  
Prestressed Girder Bridge  
239'-3 1/8" = 0.045 Mile  
MRM 390.28 WBL  
Approach Slabs (1@46'±, 1@35'±)  
and Adjacent PCC Joint Panels  
(2@6'±) Totaling 93' = 0.018 Mile

**PROJECT LENGTH**

Gross Length:	2,040'	0.386 Mile
Bridge Length:	239'	0.045 Mile
Approach Slabs & Adjacent PCC Joint Panel Length:	93'	0.018 Mile
Net Length:	1,708'	0.323 Mile

PLOTTED FROM - TRM11115

# ESTIMATE OF QUANTITIES & ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	2	24

## ESTIMATE OF QUANTITIES

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
320E0007	PG 64-28 Asphalt Binder	77.3	Ton
320E1060	Class G Asphalt Concrete	1,373.0	Ton
320E3000	Compaction Sample	6	Each
320E4000	Hydrated Lime	13.6	Ton
320E5000	Saw and Seal Joint in Asphalt Concrete	3,720	Ft
320E5020	Saw Joint in Asphalt Concrete	3,750	Ft
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	0.6	Mile
330E0100	SS-1h or CSS-1h Asphalt for Tack	3.5	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	1.8	Ton
330E2000	Sand for Flush Seal	23.0	Ton
332E0010	Cold Milling Asphalt Concrete	435	SqYd
380E5200	PCC Pavement Partial Depth Patch	500	SqFt
380E6450	Saw Joint in PCC Pavement	120.0	Ft
380E6500	Planing PCC Pavement	1,138.0	SqYd
633E1100	Epoxy Pavement Marking Paint, 4" White	2,700	Ft
633E1105	Epoxy Pavement Marking Paint, 4" Yellow	2,040	Ft
633E1120	Epoxy Pavement Marking Paint, 12" White	220	Ft
633E5100	Grooving for Durable Pavement Marking, 4"	3,921	Ft
633E5110	Grooving for Durable Pavement Marking, 12"	160	Ft
634E0010	Flagging	20	Hour
634E0100	Traffic Control	1,127	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0330	Raised Pavement Markers	2,120	Ft
634E0420	Type C Advance Warning Arrow Panel	1	Each
634E0630	Temporary Pavement Marking	1.3	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 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 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.

Cost 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 contract unit prices for the various 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.

# TYPICAL COLD MILLING SECTIONS

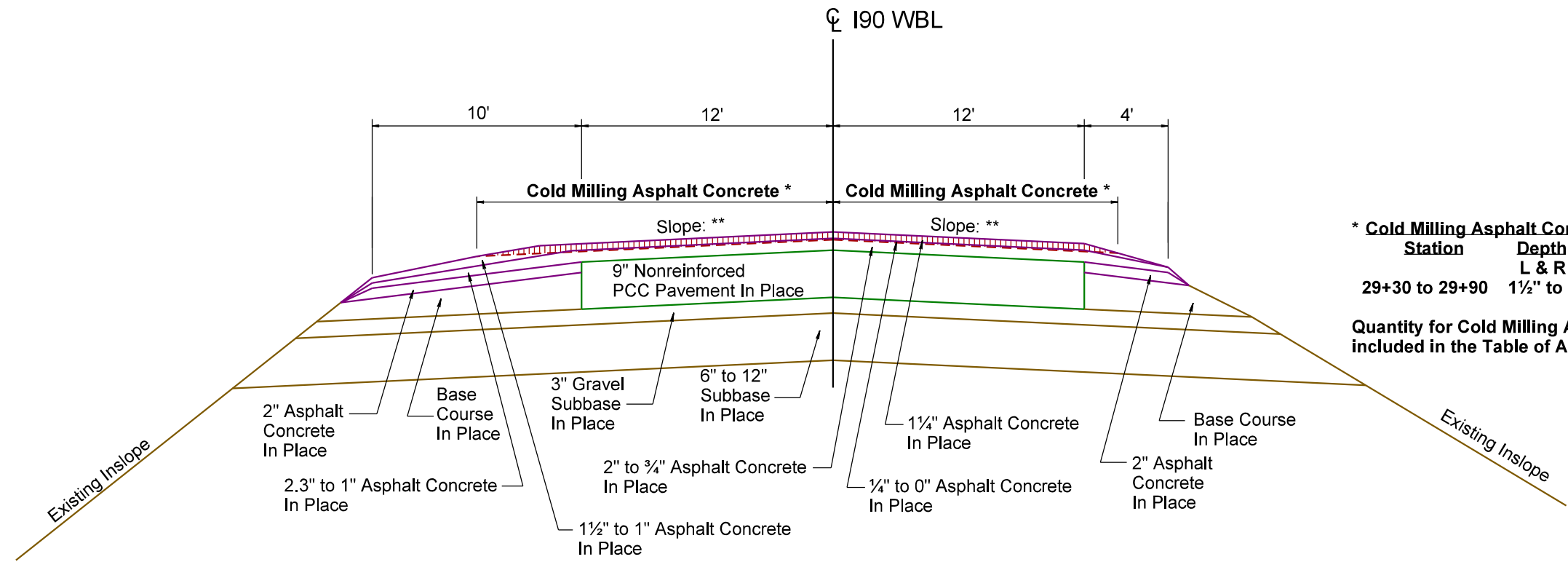
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	3	24

Plotting Date: 05/19/2014

PLOT SCALE - 1:6.6668

PLOT NAME - 2

SECTION 1  
29+30 to 29+90



\* Cold Milling Asphalt Concrete Transitions:

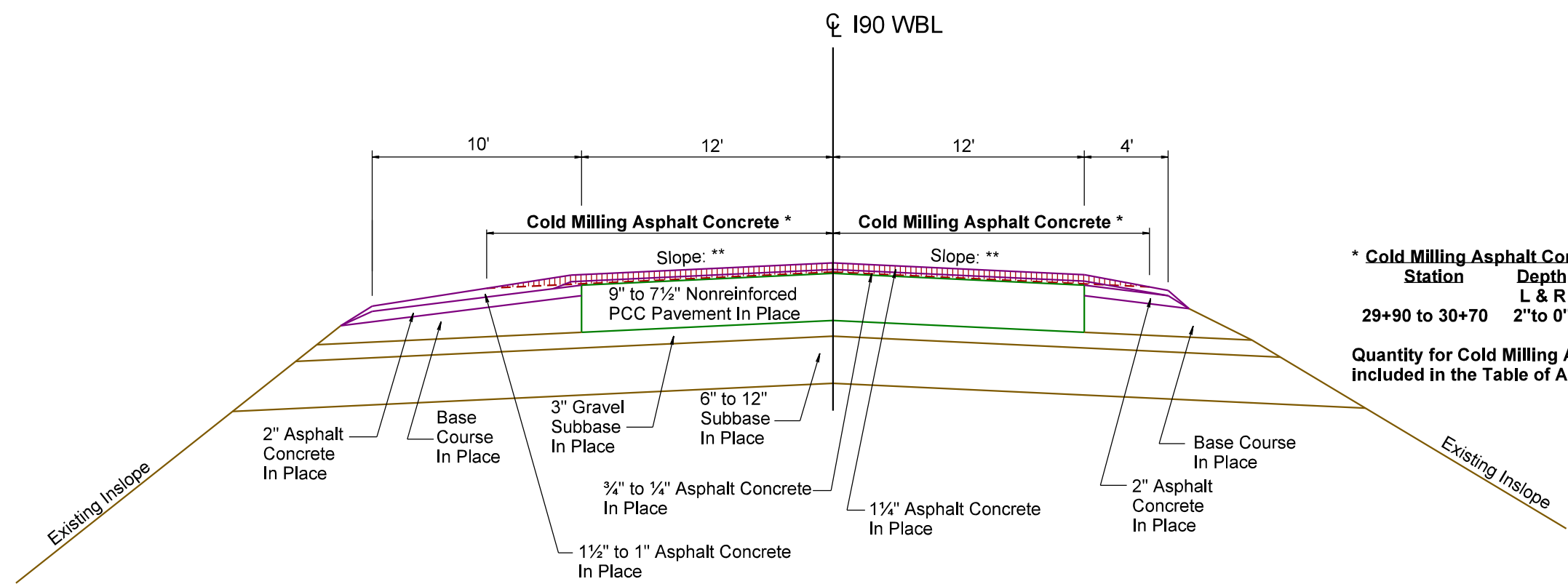
Station	Depth L & R	Width	
		L	R
29+30 to 29+90	1 1/2" to 0"	17' to 12.5'	13.6' to 12'

Quantity for Cold Milling Asphalt Concrete is included in the Table of Additional Quantities.

\*\* Slope Transition:

Station	Slope
29+30 to 30+70	3/16"/Ft to 0.02'/Ft

SECTION 2  
29+90 to 30+70



\* Cold Milling Asphalt Concrete Transitions:

Station	Depth L & R	Width	
		L	R
29+90 to 30+70	2" to 0"	17' to 12.5'	15' to 12'

Quantity for Cold Milling Asphalt Concrete is included in the Table of Additional Quantities.

PLOTTED FROM - IRMIN115

FILE - ... \MINNI30H\TSEC130H.DGN

# TYPICAL RESURFACING SECTIONS

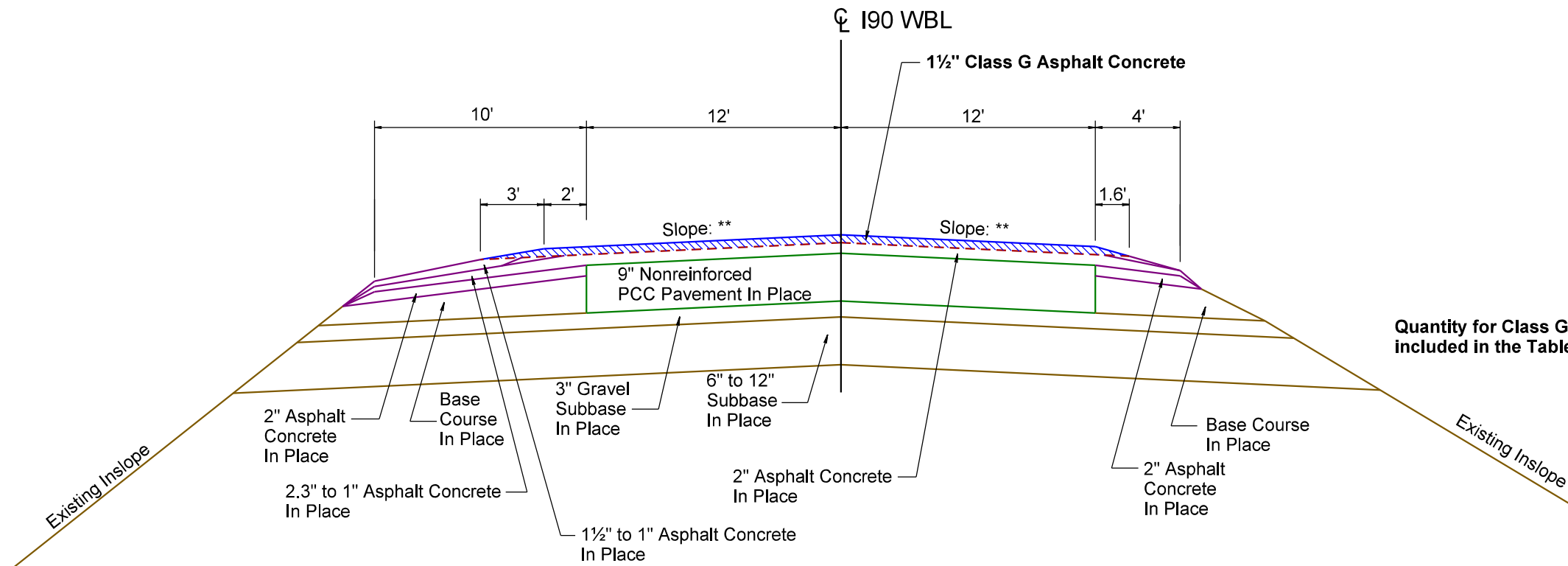
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	4	24

Plotting Date: 05/19/2014

PLOT SCALE - 1:6.6668

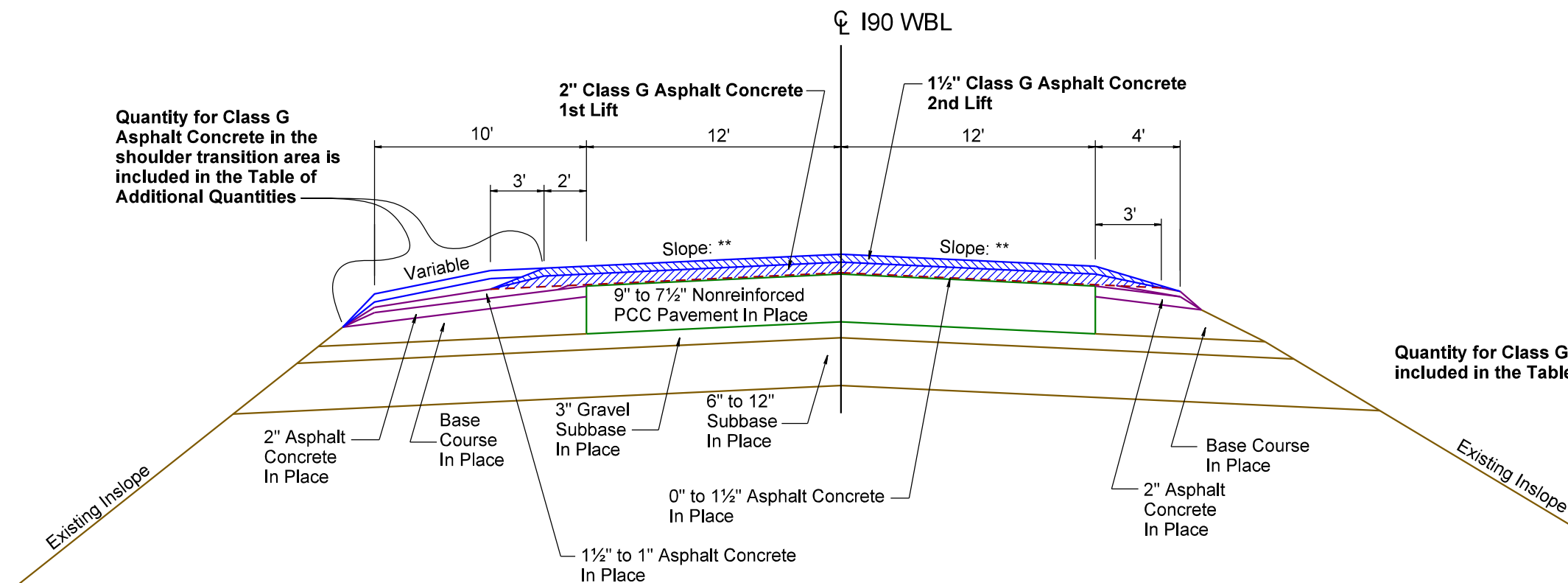
PLOT NAME - 3

SECTION 1  
29+30 to 29+90



Quantity for Class G Asphalt Concrete is included in the Table of Material Quantities.

SECTION 2  
29+90 to 30+70



Quantity for Class G Asphalt Concrete in the shoulder transition area is included in the Table of Additional Quantities

\*\* Slope Transition:  
Station 29+30 to 30+70      Slope 3/16"/Ft to 0.02'/Ft

Quantity for Class G Asphalt Concrete is included in the Table of Material Quantities.

PLOTTED FROM - IRWIN1115

FILE - ... \MINNI30H\TSEC130H.DGN

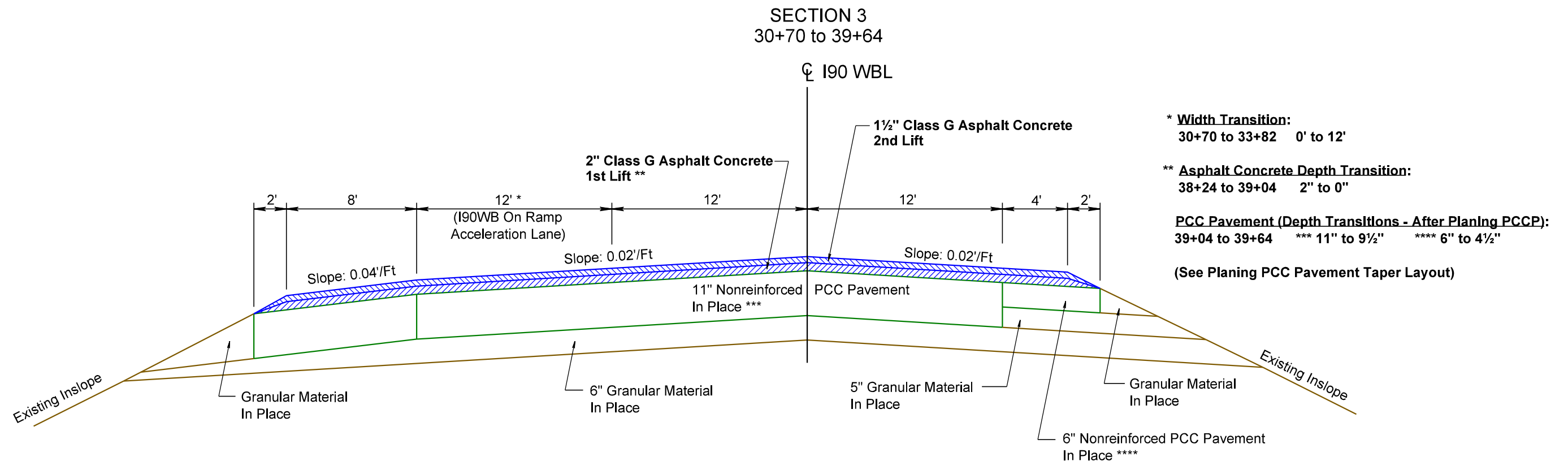
# TYPICAL RESURFACING SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	5	24

Plotting Date: 05/19/2014

PLOT SCALE - 1:6.6668

PLOT NAME - 4



PLOTTED FROM - IRMIN115

FILE - ... \MINN130H\TSEC130H.DGN

# TYPICAL PCCP PLANING SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	6	24

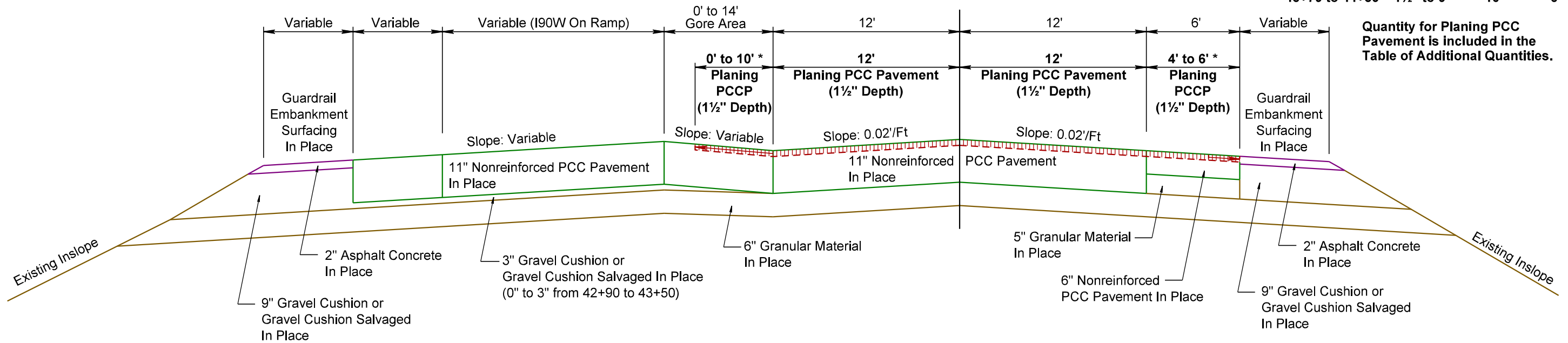
Plotting Date: 05/19/2014

SECTION 4  
42+96 to 44+30

☉ I90 WBL

**\* Planing PCC Pavement Tapers/Transitions:**

Station	Depth	Width	
		L	R
42+96 to 43+30	1½"	0'	4'
43+30 to 43+70	1½"	0' to 10'	4' to 6'
43+70 to 44+30	1½" to 0"	10'	6'



Quantity for Planing PCC Pavement is included in the Table of Additional Quantities.

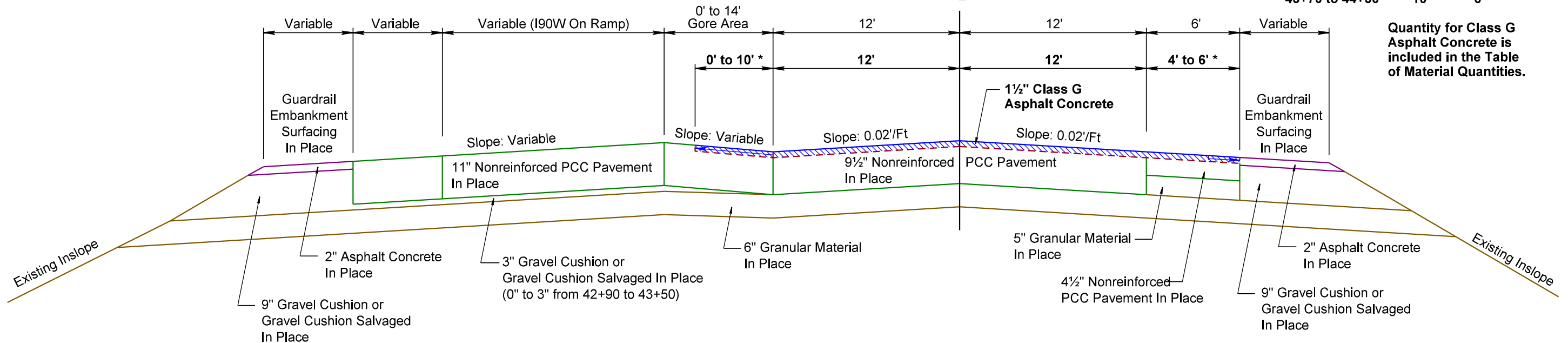
# TYPICAL RESURFACING SECTION

SECTION 4  
42+96 to 44+30

☉ I90 WBL

**\* Asphalt Concrete Transitions:**

Station	Width	
	L	R
42+96 to 43+30	0'	4'
43+30 to 43+70	0' to 10'	4' to 6'
43+70 to 44+30	10'	6'



Quantity for Class G Asphalt Concrete is included in the Table of Material Quantities.

PLOT SCALE - 1:6,666

PLOTTED FROM - IRMIN115

PLOT NAME - 5

FILE - ... \MINN136H1SEC136H.DGN

# TYPICAL RESURFACING SECTION

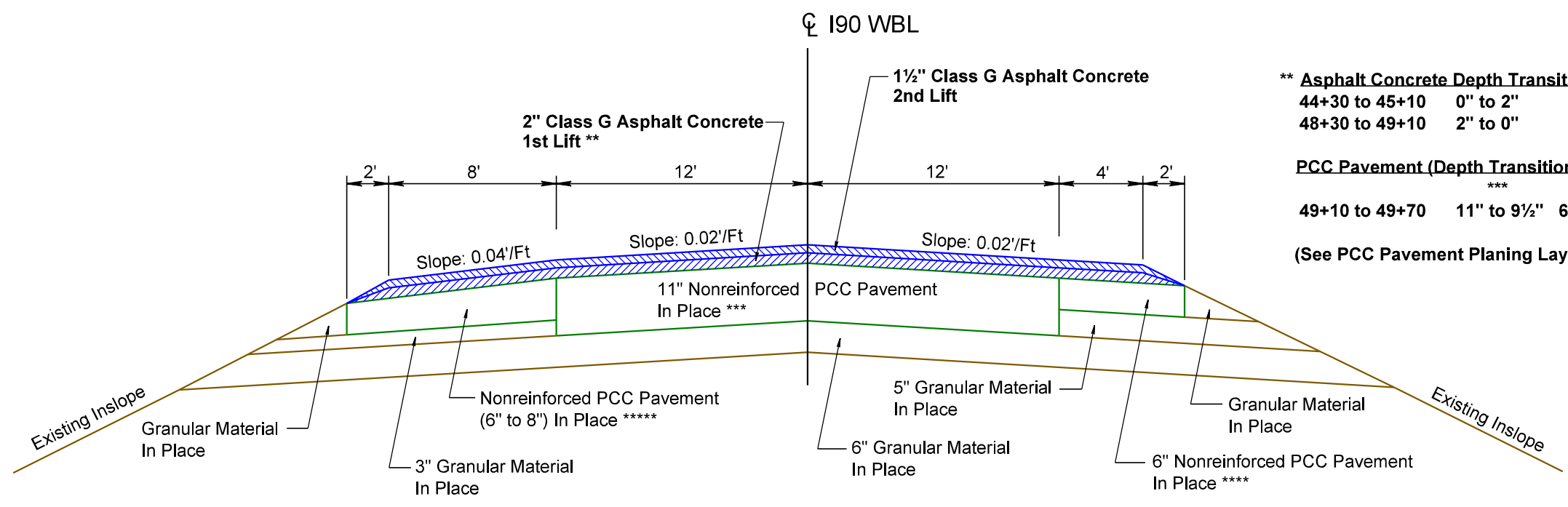
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	7	24

Plotting Date: 05/19/2014

PLOT SCALE - 1:6.6668

PLOT NAME - 6

## SECTION 5 44+30 to 49+70



**\*\* Asphalt Concrete Depth Transitions:**  
 44+30 to 45+10 0" to 2"  
 48+30 to 49+10 2" to 0"

**PCC Pavement (Depth Transitions - After Planing PCCP):**  
 49+10 to 49+70 11" to 9½" 6" to 4½" (4½" to 6½")  
 to (6" to 8")  
 (See PCC Pavement Planing Layout)

PLOTTED FROM - TRMINT15

FILE - ... \MINNI306\TSEC136H.DGN

# RATES OF MATERIALS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	8	24

See Table of Materials Quantities for Sections 1 & 2.

**Section 3**  
**WBL with WB On Ramp Acceleration Lane Taper**  
30+70.00 to 33+82.00

**WBL with WB On Ramp Acceleration Lane & PCC Pavement Planing for Tie In**  
33+82.00 to 39+64.00

The Estimate of quantities is based on the following quantities of materials per station.

These rates apply from 33+82 to 38+24. Quantities for width taper area at Begin Section 3 (30+70 to 33+82) and for depth taper area at End Section 3 (38+24 to 38+64) are included in the Table of Materials Quantities.

**CLASS G ASPHALT CONCRETE 2" LIFT**

Crushed Aggregate	58.15 Tons
PG 64-28 Asphalt Binder	3.52 Tons
	<b>TOTAL: 61.67 Tons</b>
Hydrated Lime	0.62 Ton
	<b>TOTAL: 62.29 Tons</b>

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

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.12 ton applied 52 feet wide (Rate = 0.05 gallon per square yard).

**CLASS G ASPHALT CONCRETE 1½" LIFT**

Crushed Aggregate	43.61 Tons
PG 64-28 Asphalt Binder	2.64 Tons
	<b>TOTAL: 46.25 Tons</b>
Hydrated Lime	0.46 Ton
	<b>TOTAL: 46.71 Tons</b>

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

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.12 ton applied 52 feet wide (Rate = 0.05 gallon per square yard).

**FLUSH SEAL**

SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 0.12 ton applied 52 feet wide (Rate = 0.05 gallon per square yard).

Sand for Flush Seal at the rate of 1.6 tons applied 36 feet wide (Rate = 8 pounds per square yard).

See Table of Materials Quantities for Section 4.

**Section 5**  
**WBL with PCC Pavement Planing for Tie In at End Project**  
44+30.00 to 49+70.00

The Estimate of quantities is based on the following quantities of materials per station.

These rates apply from 45+10 to 48+30. Quantities for depth taper area at Begin Section 5 (44+30 to 45+10) and for depth taper area at End Section 5 (45+10 to 49+70) are included in the Table of Materials Quantities.

**CLASS G ASPHALT CONCRETE 2" LIFT**

Crushed Aggregate	44.20 Tons
PG 64-28 Asphalt Binder	2.67 Tons
	<b>TOTAL: 46.87 Tons</b>
Hydrated Lime	0.47 Ton
	<b>TOTAL: 47.34 Tons</b>

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

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.09 ton applied 40 feet wide (Rate = 0.05 gallon per square yard).

**CLASS G ASPHALT CONCRETE 1½" LIFT**

Crushed Aggregate	33.15 Tons
PG 64-28 Asphalt Binder	2.00 Tons
	<b>TOTAL: 35.15 Tons</b>
Hydrated Lime	0.35 Ton
	<b>TOTAL: 35.50 Tons</b>

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

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.09 ton applied 40 feet wide (Rate = 0.05 gallon per square yard).

**FLUSH SEAL**

SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 0.09 ton applied 40 feet wide (Rate = 0.05 gallon per square yard).

Sand for Flush Seal at the rate of 1.07 tons applied 24 feet wide (Rate = 8 pounds per square yard).



# SUMMARY OF ASPHALT CONCRETE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	9	24

	CLASS G ASPHALT CONCRETE 2" LIFT WITH SPECIFIED DENSITY COMPACTION TONS	CLASS G ASPHALT CONCRETE 1½" LIFT WITH SPECIFIED DENSITY COMPACTION TONS
<b>Section 1</b>		
24' Finished Roadway Surface	-	13
Shoulders	-	3
<b>Section 1 Totals:</b>	-	16
<b>Section 2</b>		
24' Finished Roadway Surface	24	18
Shoulders	5	4
<b>Section 2 Totals:</b>	29	22
<b>Section 3</b>		
24' to 36' & 36' Finished Roadway Surface	340	289
Shoulders	132	112
<b>Section 3 Totals:</b>	472	401
<b>Section 4</b>		
24' Finished Roadway Surface	-	30
Shoulders	-	14
<b>Section 4 Totals:</b>	-	44
<b>Section 5</b>		
24' Finished Roadway Surface	120	121
Shoulders	70	71
<b>Section 5 Totals:</b>	190	192
Table of Additional Quantities	4	3
<b>Additional Totals:</b>	4	3
<b>090W-271 Totals:</b>	695	678

090W-271	1373 TONS ASPHALT CONCRETE WITH SPECIFIED DNESITY COMPACTION
----------	---

# TABLES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	10	24

**TABLE OF PROJECT STATIONING**

SECTION	STATION TO STATION	DESCRIPTION	LENGTH	GROSS SECTION LENGTHS	EXCEPTION LENGTHS	BRIDGE LENGTHS	NET SECTION LENGTHS				
1	29+30.00 to 29+90.00	WBL with Milling for 2nd Lift Tie In at Begin Project	60.00'	60.00'			60.00' 0.011 mi.				
2	29+90.00 to 30+70.00	WBL with Milling for 1st Lift Tie In at Begin Project	80.00'	80.00'			80.00' 0.015 mi.				
3	30+70.00 to 33+82.00	WBL with WB On Ramp Acceleration Lane Taper	312.00'	1226.00'	52.00'	239.00'	894.00' 0.169 mi.				
	33+82.00 to 42+96.00	WBL with WB On Ramp Acceleration Lane & PCC Pavement Planing for Tie In	914.00'		41.00'						
4	42+96.00 to 44+30.00	WBL with WB On Ramp Gore PCC Pavement Planing for Tie In	134.00'	134.00'			134.00' 0.025 mi.				
5	44+30.00 to 49+70.00	WBL with PCC Pavement Planing for Tie In at End Project	540.00'	540.00'			540.00' 0.102 mi.				
<b>Grand Totals</b>				<b>2040.00'</b>	<b>0.386 mi.</b>	<b>93.00'</b>	<b>0.018 mi.</b>	<b>239.00'</b>	<b>0.045 mi.</b>	<b>1708.00'</b>	<b>0.323 mi.</b>

**TABLE OF MATERIALS QUANTITIES**

SECTION	PLANING PCC PAVEMENT	COLD MILLING ASPHALT CONCRETE	CLASS G ASPHALT CONCRETE 2" LIFT	PG 64-28 ASPHALT BINDER 2" LIFT	HYDRATED LIME 2" LIFT	CLASS G ASPHALT CONCRETE 1 1/2" LIFT	PG 64-28 ASPHALT BINDER 1 1/2" LIFT	HYDRATED LIME 1 1/2" LIFT	SS-1h/ CSS-1h ASPH. FOR TACK	SS-1h/ CSS-1h ASPH. FOR FLUSH SEAL	SAND FOR FLUSH SEAL
	SqYd	SqYd	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton
1	-	-	-	-	-	16	0.9	0.2	-	-	1
2	-	-	29	1.6	0.3	22	1.2	0.2	0.2	0.1	1
3	-	-	472	26.6	4.7	401	22.6	4.0	2.2	1.1	14
4	-	-	-	-	-	44	2.5	0.4	0.1	0.1	1
5	-	-	190	10.7	1.9	192	10.8	1.9	1.0	0.5	6
<b>Subtotals:</b>	-	-	691	38.9	6.9	675	38.0	6.7	3.5	1.8	23
<b>Additional Quantities:</b>	1138	435	4	0.2	-	3	0.2	-	-	-	-
<b>Totals:</b>	<b>1138</b>	<b>435</b>	<b>695</b>	<b>39.1</b>	<b>6.9</b>	<b>678</b>	<b>38.2</b>	<b>6.7</b>	<b>3.5</b>	<b>1.8</b>	<b>23</b>

**TABLE OF ADDITIONAL QUANTITIES**

LOCATION	PLANING PCC PAVEMENT	COLD MILLING ASPHALT CONCRETE	CLASS G ASPHALT CONCRETE 2" to 1" LIFT	PG 64-28 ASPHALT BINDER 2" to 1" LIFT	CLASS G ASPHALT CONCRETE 1 1/2" LIFT	PG 64-28 ASPHALT BINDER 1 1/2" LIFT			
	SqYd	SqYd	Ton	Ton	Ton	Ton			
Mainline Transitions		Width	Mill Depth						
Sec. 1	29+30 to 29+90	30.6' to 24.5'	1.5" to 0"	-	184	-			
Sec. 2	29+90 to 30+70	32' to 24.5'	2" to 0"	-	251	-			
		Width	Plane Depth						
Sec. 3	39+04 to 39+64	52'	0" to 1.5"	347	-	-			
Sec. 4	42+96 to 43+30	28'	1.5"	106	-	-			
Sec. 4	43+30 to 43+70	28' to 40'	1.5"	151	-	-			
Sec. 4	43+70 to 44+30	40'	1.5" to 0"	267	-	-			
Sec. 5	49+10 to 49+70	40'	0" to 1.5"	267	-	-			
Shoulder Transition		Width							
Sec. 2	29+90 to 30+70	0' to 7'		-	-	4			
<b>TOTALS:</b>				<b>1138</b>	<b>435</b>	<b>4</b>	<b>0.2</b>	<b>3</b>	<b>0.2</b>

NOTE: The above quantities are included in the Estimate of Quantities.

# NOTES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	11	24

## COORDINATION BETWEEN CONTRACTORS

A separate contract for Project IM 0909(79)387, Minnehaha County - PCN 01SF has been awarded to Journey Group Company of Sioux Falls for Bridge Repair - Bridge Deck Epoxy Chip Seal, Joint Modification, Bearing Modification and Bent Patching on I90W at the following structures:

- Structure 50-090-165 MRM 387.46
- Structure 50-160-166 MRM 394.45
- Structure 50-180-162 MRM 396.55

The Contractor shall schedule his work so as not to interfere with or hinder the progress of the work performed by other Contractors on the bridge repair project.

## EXISTING PCC PAVEMENT

The existing pavement is 9" and 11" Nonreinforced PCC Pavement.

Existing contraction joints are spaced at approximately 20'.

The aggregate in the existing PCC Pavement is quartzite.

## 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 asphalt concrete resurfacing. Any remaining windrow of accumulated material shall be spread evenly on the inslope adjacent to the asphalt shoulder, to the satisfaction of the Engineer, following application of the flush seal.

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

## PLANING PCC PAVEMENT

In order to construct the new surfacing flush with the existing concrete, it will be necessary to taper the depth of Planing PCC Pavement as per the typical sections and layouts for Planing PCC Pavement Tapers.

The outside shoulder has existing rumble strips. The Contractor shall plane through the existing rumble strips.

Planing PCC Pavement operations ahead of asphalt concrete laydown will be limited by particular job conditions and will be subject to approval of the Engineer. In no case shall cold milling operations ahead of asphalt concrete laydown operations exceed seven calendar days.

If resurfacing as per the typical section cannot be placed immediately after planing, then temporary asphalt mix ramps shall be placed as directed by the Engineer prior to opening to traffic. Cost for placing and removing the temporary ramps shall be incidental to the contract unit prices for the various items.

The Contractor shall establish a positive means for the removal of the planing residue. Solid residue shall be removed from the pavement surfaces before being blown by traffic action or wind. Residue shall not be permitted to flow across lanes used by public traffic or into gutters or drainage facilities.

Plans quantity will be the basis of payment and no further measurement will be made.

### TABLE OF PLANING PCC PAVEMENT

<u>LOCATION</u>	<u>SIZE</u>	<u>QUANTITY</u>
End Section 3	60' L x 52' W	347 SqYds
Section 4	134' L x 28' to 40' W	524 SqYds
End Project	60' L x 40' W	267 SqYds
<b>Total:</b>		<b>1,138 SqYds</b>

## COLD MILLING ASPHALT CONCRETE

In order to construct the new surfacing flush with the existing asphalt concrete, it will be necessary to taper the depth of milling as per the typical sections and layouts for Cold Milling Tapers.

The requirement for a traveling stringline shall be waived.

Cold Milling is estimated to produce 20 tons of salvaged asphalt concrete material which will become the property of the Contractor. Estimated quantities are for information purposes only and the exact quantity will be determined upon construction. No allowance will be made for loss of expected reimbursement or loss of anticipated profit.

Cold Milling Asphalt Concrete operations ahead of asphalt concrete laydown will be limited by particular job conditions and will be subject to approval of the Engineer. In no case shall cold milling operations ahead of asphalt concrete laydown operations exceed seven calendar days.

If resurfacing as per the typical section cannot be placed immediately after cold milling, then temporary asphalt mix ramps shall be placed as directed by the Engineer prior to opening to traffic. Cost for placing and removing the temporary ramps shall be incidental to the contract unit prices for the various items.

### TABLE OF COLD MILLING ASPHALT CONCRETE

<u>LOCATION</u>	<u>SIZE</u>	<u>QUANTITY</u>
Begin Project	140' L x Variable W	435 SqYds
<b>Total:</b>		<b>435 SqYds</b>

## CONSTRUCTION/DEMOLITION DEBRIS

Grinding, planing and milling residue, deteriorated asphalt concrete, waste water, and other waste material generated from the Contractor's operations are included in the construction/demolition debris that may not be disposed of within the State ROW.

## PCC PAVEMENT PARTIAL DEPTH PATCH

PCC Pavement Partial Depth Patch work shall consist of removing existing deteriorated asphalt concrete, broken or loose concrete and any loose joint material. The exposed surface shall be cleaned with compressed air. The repair area shall be tacked and filled with Class G Asphalt Concrete.

Included in the Estimate of Quantities are 500 square feet of PCC Pavement Partial Depth Patch at locations to be staked by the Engineer.

PCC Pavement Partial Depth Patch will be paid for at the contract unit price per square foot measured for payment. Payment shall be full compensation for all labor, equipment, material and incidentals necessary for removing, disposing of removed material, cleaning, furnishing and placing fill material and preserving the existing transverse joint.

## SURFACING THICKNESS DIMENSIONS

Plans quantities 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 quantities may be varied to achieve the required elevation.

## CLASS G ASPHALT CONCRETE

Mineral Aggregate for Class G Asphalt Concrete shall conform to the requirements for Class G, Type 1.

## EXISTING RUMBLE STRIPS

Existing rumble strips shall be filled with asphalt concrete and compacted to the satisfaction of the Engineer.

Cost for this work shall be incidental to the contract unit price for Class G Asphalt Concrete.

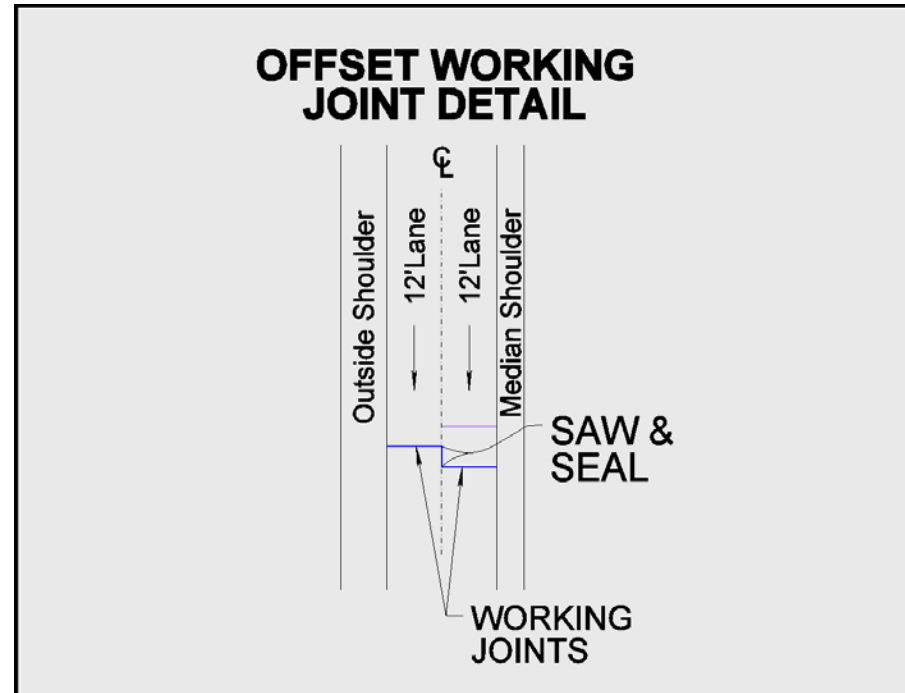
# NOTES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	12	24

## SAW JOINTS IN ASPHALT CONCRETE AND SAW AND SEAL JOINTS IN ASPHALT CONCRETE

Saw and seal joints in asphalt concrete shall consist of marking the existing transverse joint in the PCC Pavement prior to placement of the asphalt concrete, sawing, cleaning, and sealing the transverse joint in the new asphalt concrete. Joints shall be constructed immediately over and in line with the underlying transverse joint in the PCC Pavement. Existing PCC Pavement joints are spaced at approximately 20'.

At locations where the working joints in adjacent lanes are not in line with each other, the centerline joint between the working joints shall be sawed and sealed in accordance with the Offset Working Joint Detail.



Sawing shall be performed after the asphalt concrete has cooled and no more than 36 hours after the asphalt concrete is placed. Sawing shall be performed prior to any evidence of reflective cracking. Sawcuts may be made wet or dry and shall be accurately located by pins and stringline subject to approval of the Engineer.

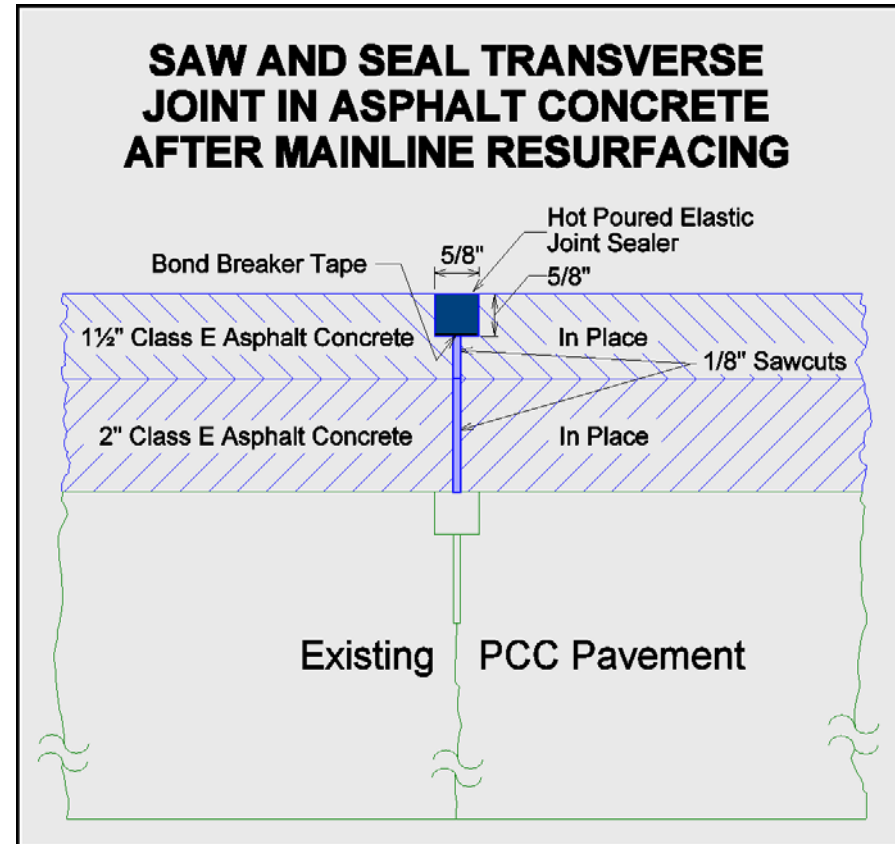
Sawcuts to facilitate cracking shall be made as follows:

The dimensions of the sawcut on the 1<sup>st</sup> Lift shall be 1/8" wide by 2" deep directly over the underlying PCCP joint.

The dimension of the sawcut on the 2<sup>nd</sup> lift shall be 1/8" wide by 1 1/2" deep directly above the underlying PCCP joint. A sealant reservoir 5/8" wide by 5/8" deep shall be sawed in and centered directly over the underlying 1/8" sawcut.

Refer to the Saw Seal Transverse Joint in Asphalt Concrete Detail.

## SAW JOINTS IN ASPHALT CONCRETE AND SAW AND SEAL JOINTS IN ASPHALT CONCRETE (CONTINUED)



The sawcuts for the two lifts shall be full width of the existing pavement including shoulders and bevells.

Dry sawed joints shall be cleaned with high-pressure air. Wet sawed joints shall be cleaned with high pressure water followed by high pressure air. The air compressor shall produce a minimum of 125 CFM output and shall be equipped with a 5/8" nozzle. After cleaning and drying and just prior to sealing, a bond breaker tape consisting of masking tape or other suitable bond breaker tape shall be placed in the bottom of the reservoir. The tape width shall be equal to the reservoir width or 1/8" narrower.

The sealant shall conform to the requirements for ASTM D 6690 Type IV with the following modifications:

Penetration at 77° F	90-150
Bond at -20° F, Std. Specimen, 3 cycles, 200% Extension	Passes
Resilience	30-60%
Material Weight (pounds per gallon)	9.00 to 10.00

Joint sealant material shall be from the South Dakota Department of Transportation's approved products list for Sealant Approved For Asphalt Concrete Over Long Jointed Concrete Pavement. A listing of acceptable products may be obtained on the Internet at the following address: <http://www.sddot.com/business/certification/products/Default.aspx>

A Certificate of compliance shall be furnished prior to construction.

The sealant shall be placed in accordance with the manufacturer's recommendations. The sealant shall fit the joint such that after cooling, the level of the sealant will not be greater than 1/8" below the pavement surface. Care shall be taken so that the joints shall not be overfilled. Sealant shall not be spread over the pavement surface.

## SAW JOINTS IN ASPHALT CONCRETE AND SAW AND SEAL JOINTS IN ASPHALT CONCRETE (CONTINUED)

Blotting material such as toilet paper shall be placed over the sealant material where traffic is allowed to cross a sealed area before track free status has been achieved.

Cost for sawing joints in the 1<sup>st</sup> lift including marking existing joints, sawing, cleaning, equipment, labor and incidentals necessary to complete the work shall be included in the contract unit price per foot for Saw Joint in Asphalt Concrete. A quantity of 3720' is included for this work.

Cost for sawing and sealing joints in the 2<sup>nd</sup> lift including marking existing joints, sawing, cleaning, sealing, equipment, labor and incidentals necessary to complete the work shall be included in the contract unit price per foot for Saw and Seal Joint in Asphalt Concrete. A quantity of 3720' is included for this work.

### SAWING AT COLD MILLING TAPER AT BEGIN PROJECT

Where new asphalt concrete is placed adjacent to existing asphalt concrete at Begin Project (29+30), the existing asphalt concrete shall be sawed 1/8" wide by 1 1/2" deep for a width of 30' to a true line with a vertical face.

Cost for this work including sawing and removing the asphalt concrete to depth adjacent to the sawcut, equipment, labor and incidentals necessary to complete the work shall be included in the contract unit price per foot for Saw Joint in Asphalt Concrete. A quantity of 30' is included for this work.

### SAWING AT PLANING PCC PAVEMENT TAPERS

At Planing PCC Pavement Tapers, where new asphalt concrete is placed adjacent to existing concrete pavement, the existing concrete pavement shall be sawed to a true line with a vertical face to the following dimensions:

TABLE OF SAW JOINT IN PCC PAVEMENT

LOCATION	STA	DEPTH	QUANTITY
End Section 3	39+64	1 1/2"	52'
Begin Section 4	42+96	1 1/2"	28'
End Project	49+70	1 1/2"	40'
			<b>Total: 120'</b>

Cost for this work including sawing and removing the concrete pavement to depth adjacent to the sawcut, equipment, labor and incidentals necessary to complete the work shall be included in the contract unit price per foot for Saw Joint in PCC Pavement. A quantity of 120' is included for this work.

### RUMBLE STRIPS

#### INSTALLATION:

Rumble strips shall be constructed according to the details of Standard Plate 320.32.

The Engineer shall provide the exact start and stop locations.

Gaps for rumble strip installation as detailed on the standard plates are included with the measurement and payment.

Cost for asphalt concrete rumble strips shall be included in the contract unit price per mile for Grind 12" Rumble Strip or Stripe in Asphalt Concrete.

#### ROADWAY CLEANING:

The Contractor shall be required to remove loose material from the driving surface and shoulders of the roadway.

Cost for this work shall be incidental to the contract unit price per mile for Grind 12" Rumble Strip or Stripe in Asphalt Concrete.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	13	24

### SEQUENCE OF OPERATIONS

The following sequence of operations is to be followed unless an alternative is submitted a minimum of two weeks prior to the preconstruction meeting and approved.

1. Install traffic control to close the driving and acceleration lanes. Maintain traffic in the passing (left) lane.
2. Complete work from Station 29+30 to Station 39+64. Apply temporary pavement marking.
3. While maintaining mainline I-90 traffic in the passing (left) lane and leaving the lane closure in place, revise traffic control to allow the on ramp traffic to proceed west in the driving and acceleration lanes Station 39+64 to Station 24+30.
4. Complete work in the driving lane from Station 42+96 to 49+70. Apply temporary pavement marking.
5. Relocate Traffic Control to close the passing lane.
6. Complete work in the passing lane.
7. Install permanent pavement marking.
8. Remove traffic control.

### 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.

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

### INCIDENTS

An incident is an emergency road user occurrence, a natural disaster, or other unplanned event that affects or impedes the normal flow of traffic such as an accident, hazardous materials spill, or similar event.

As deemed necessary by the Engineer, the Contractor should set up a meeting prior to start of work to plan and coordinate responses to an incident. The Contractor will invite the Department of Transportation, the South Dakota Highway Patrol, the City of Hartford, and local emergency response entities to the meeting. The Engineer will conduct the meeting.

The Contractor will assist to maintain traffic as required by these plan notes and as agreed to at the meeting.

Emergency vehicle access through the project shall be maintained.

The Contractor may be asked to provide flaggers to direct or detour traffic. The Contractor should be prepared to relocate advance warning signs if determined to be necessary for a major traffic incident lasting for more than two hours. Ground mounted advance warning signs may be covered and additional portable warning signs provided.

Cost for flagging shall be paid at the contract unit price per hour for Flagging. Cost for the relocation of an advanced warning sign due to an incident shall be 50% of the designated sign rate as per Section 634.5 Basis of Payment in the Specifications. Cost for additional signs shall be included in the contract unit price per unit for Traffic Control.

### REDUCED SPEED LIMITS

The R2-1 Speed Limit 45 and W3-5 Speed Reduction (45 MPH) signs are to be used for work spaces when work is being performed within the lane closure. When no work is being performed within a lane closure, the R2-1 Speed Limit 45 and W3-5 Speed Reduction (45 MPH) signs shall be replaced with R2-1 Speed Limit 65 and corresponding W3-5 Speed Reduction sign. The signs shall be installed in advance of the lane closure taper and the minimum spacing between signs shall be 500'.

### RAISED PAVEMENT MARKERS

Raised Pavement Markers shall be used as temporary pavement marking in lane closure and ramp tapers.

Raised Pavement Markers shall be attached to the roadway surface with a bituminous adhesive capable of being removed from the roadway surface. Cost for furnishing, installing, maintaining (including cleaning and replacing, if necessary), removing markers and bituminous adhesive shall be included in the contract unit price per foot (4" equivalent) for Raised Pavement Markers.

### TEMPORARY PAVEMENT MARKING

Temporary Pavement Marking shall meet Specifications except for lane closure and ramp tapers as noted above.

Cost for Temporary Pavement Marking shall be included in the contract unit price per mile for Temporary Pavement Marking.

### LINE MASK PREFORMED TAPE

A line mask preformed tape shall be used to mask the existing skip pavement markings on the approach slabs and the bridge at the location of the entrance ramp.

The removable, nonreflective, preformed tape shall have a nominal width of 6 inches (150 mm) and shall consist of a dark grey or black, weather and traffic resistant film. The tape shall be precoated on the bottom with a pressure sensitive adhesive. The top of the tape shall be embedded with skid resistant particles. The tape shall be flexible and conform to the pavement surface. The tape shall be capable of remaining in place during its useful life and shall be easily removed from the pavement at any time. The tape shall not damage or discolor the underlying pavement or pavement marking.

Cost for the line mask preformed tape shall be incidental to the contract unit price per mile for Temporary Pavement Marking.

### PERMANENT PAVEMENT MARKING

Application of permanent pavement marking shall be completed within fourteen days following completion of the final surfacing.

Quantities are included for one application of epoxy.

Grooving is not to be performed on the bridge and approach slabs.

Epoxy shall be surface applied on the bridge and approach slabs.

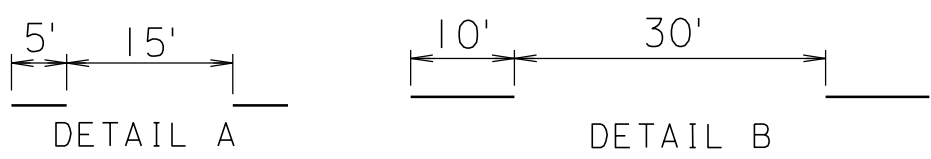
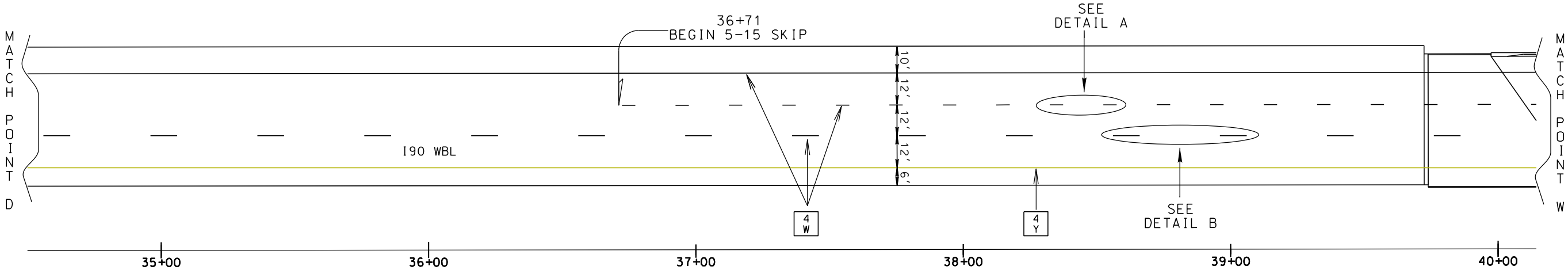
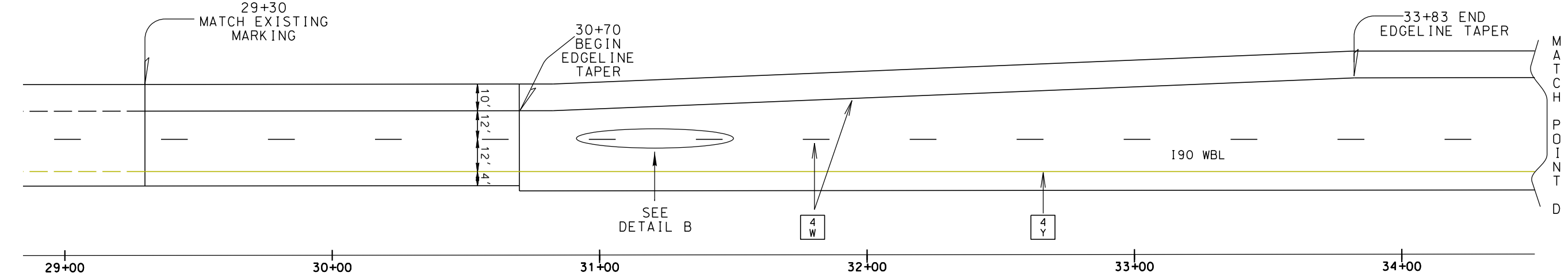
# PAVEMENT MARKING LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	14	24

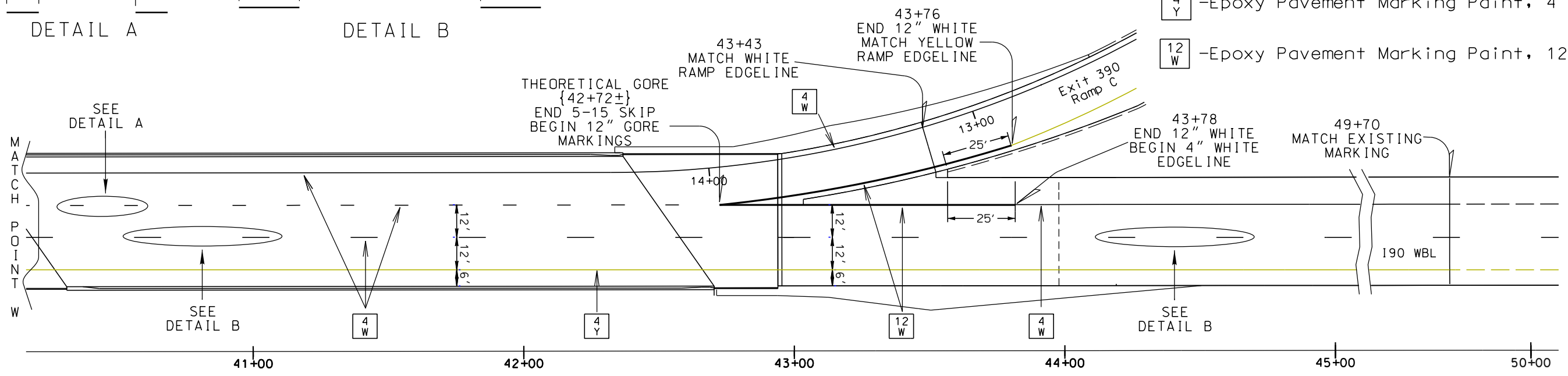
Plotting Date: 05/13/2014

PLOT SCALE - 1:41,250

PLOT NAME - 1



- KEY:**
- 4  
W -Epoxy Pavement Marking Paint, 4" White
  - 4  
Y -Epoxy Pavement Marking Paint, 4" Yellow
  - 12  
W -Epoxy Pavement Marking Paint, 12" White



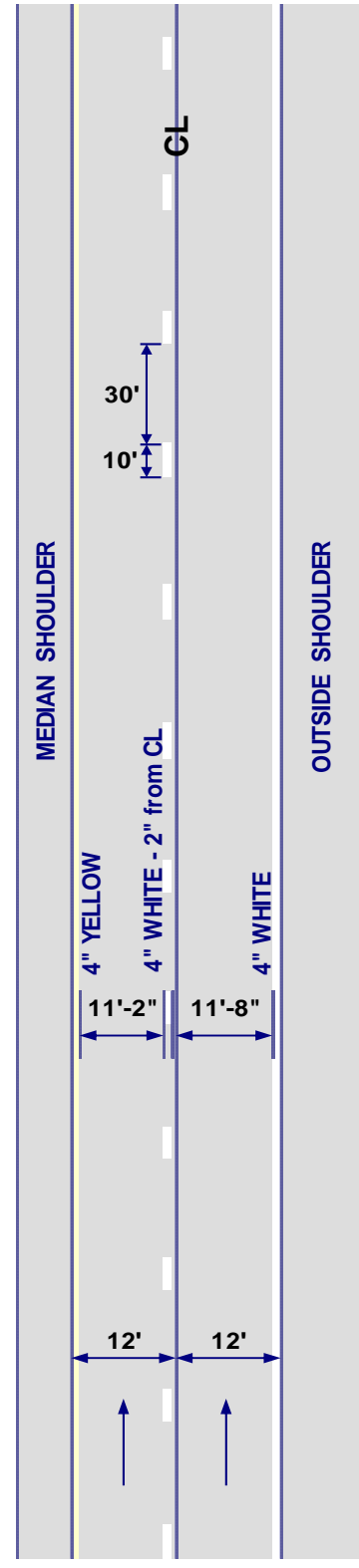
PLOTTED FROM - IRWJIN17

FILE - ... \13GH MARKING CONTAINER.DGN

### ITEMIZED LIST FOR TRAFFIC CONTROL

SIGN CODE	DESCRIPTION	EXPRESSWAY / INTERSTATE			
		NUMBER	SIGN SIZE	UNITS PER SIGN	UNITS
R1-1	STOP		36" x 36"	27	
R1-2	YIELD	1	60" x 60"	44	44
R2-1	SPEED LIMIT 45	3	36" x 48"	29	87
R2-1	SPEED LIMIT 65	3	36" x 48"	29	87
R2-1	SPEED LIMIT 75	1	36" x 48"	29	29
R2-6aP	FINES DOUBLE (plaque)	3	36" x 24"	20	60
R4-7	KEEP RIGHT (symbol)		36" x 48"	29	
R5-1	DO NOT ENTER		36" x 36"	27	
R5-1a	WRONG WAY		42" x 30"	25	
R11-2	ROAD CLOSED		48" x 30"	27	
W1-1	LEFT or RIGHT TURN ARROW		48" x 48"	34	
W1-2	LEFT or RIGHT CURVE ARROW		48" x 48"	34	
W1-3	REVERSE TURN (L or R)		48" x 48"	34	
W1-4	REVERSE CURVE (L or R)		48" x 48"	34	
W1-6	LARGE ARROW (one direction)	1	60" x 30"	30	30
W3-1	STOP AHEAD (symbol)		48" x 48"	34	
W3-2	YIELD AHEAD (symbol)	1	48" x 48"	34	34
W3-3	SIGNAL AHEAD (symbol)		48" x 48"	34	
W3-4	BE PREPARED TO STOP		48" x 48"	34	
W3-5	SPEED REDUCTION AHEAD (___ MPH)	2	48" x 48"	34	68
W4-1	MERGE (symbol)	2	48" x 48"	34	68
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	34	68
W4-3	ADDED LANE (symbol)		48" x 48"	34	
W5-3	ONE LANE BRIDGE		48" x 48"	34	
W7-3aP	NEXT ___ MILES (plaque)		36" x 30"	23	
W8-1	BUMP		48" x 48"	34	
W8-6	TRUCK CROSSING		48" x 48"	34	
W8-7	LOOSE GRAVEL		48" x 48"	34	
W8-11	UNEVEN LANES	2	48" x 48"	34	68
W8-17	SHOULDER DROP-OFF (symbol)		48" x 48"	34	
W8-17P	SHOULDER DROP-OFF (plaque)		30" x 24"	18	
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	21	42
W20-1	ROAD WORK AHEAD	3	48" x 48"	34	102
W20-2	DETOUR AHEAD		48" x 48"	34	
W20-3	ROAD CLOSED AHEAD		48" x 48"	34	
W20-4	ONE LANE ROAD AHEAD		48" x 48"	34	
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	34	68
W20-7	FLAGGER (symbol)	2	48" x 48"	34	68
W21-1	WORKERS (symbol)		48" x 48"	34	
W21-2	FRESH OIL		48" x 48"	34	
W21-3	ROAD MACHINERY AHEAD		48" x 48"	34	
W21-5	SHOULDER WORK		48" x 48"	34	
W21-5a	LEFT or RIGHT SHOULDER CLOSED		48" x 48"	34	
W21-5b	LEFT or RIGHT SHOULDER CLOSED AHEAD		48" x 48"	34	
G20-1	ROAD WORK NEXT ___ MILES		48" x 24"	24	
G20-2	END ROAD WORK	1	48" x 24"	24	24
G20-5aP	WORK ZONE (plaque)	1	36" x 24"	20	20
-	TYPE III OBJECT MARKER		12" x 36"	15	
-	TYPE 3 BARRICADE - 8' single sided	4		40	160
-	TYPE 3 BARRICADE - 8' double sided			56	
<b>TOTAL UNITS</b>				<b>1127</b>	

### DIVIDED ROADWAY (ONE DIRECTION SHOWN)



### PAVEMENT MARKING

Typical pavement marking as shown on this sheet shall be applied throughout the entire length of divided 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 and advance warning arrow panel.

ESTIMATED QUANTITIES				
EPOXY	4"	8"	12"	24"
WHITE	2700'	0'	220'	0'
YELLOW	2040'	0'	0'	0'

Included in the above quantities are:			
Additional White		Additional Yellow	
Description		Description	
4" Lines	150'	Transitions	0 Ea
8" Lines	0'	4" Skip Lines	0'
12" Gore Lines	220'	8" Lines	0'
Crosswalks	0 Ea	12" Lines	0'
24" Stop Lines	0'	24" Hatches	0'
24" Hatches	0'	Solid Areas	0sf
Solid Areas	0sf	Symbols	0 Ea

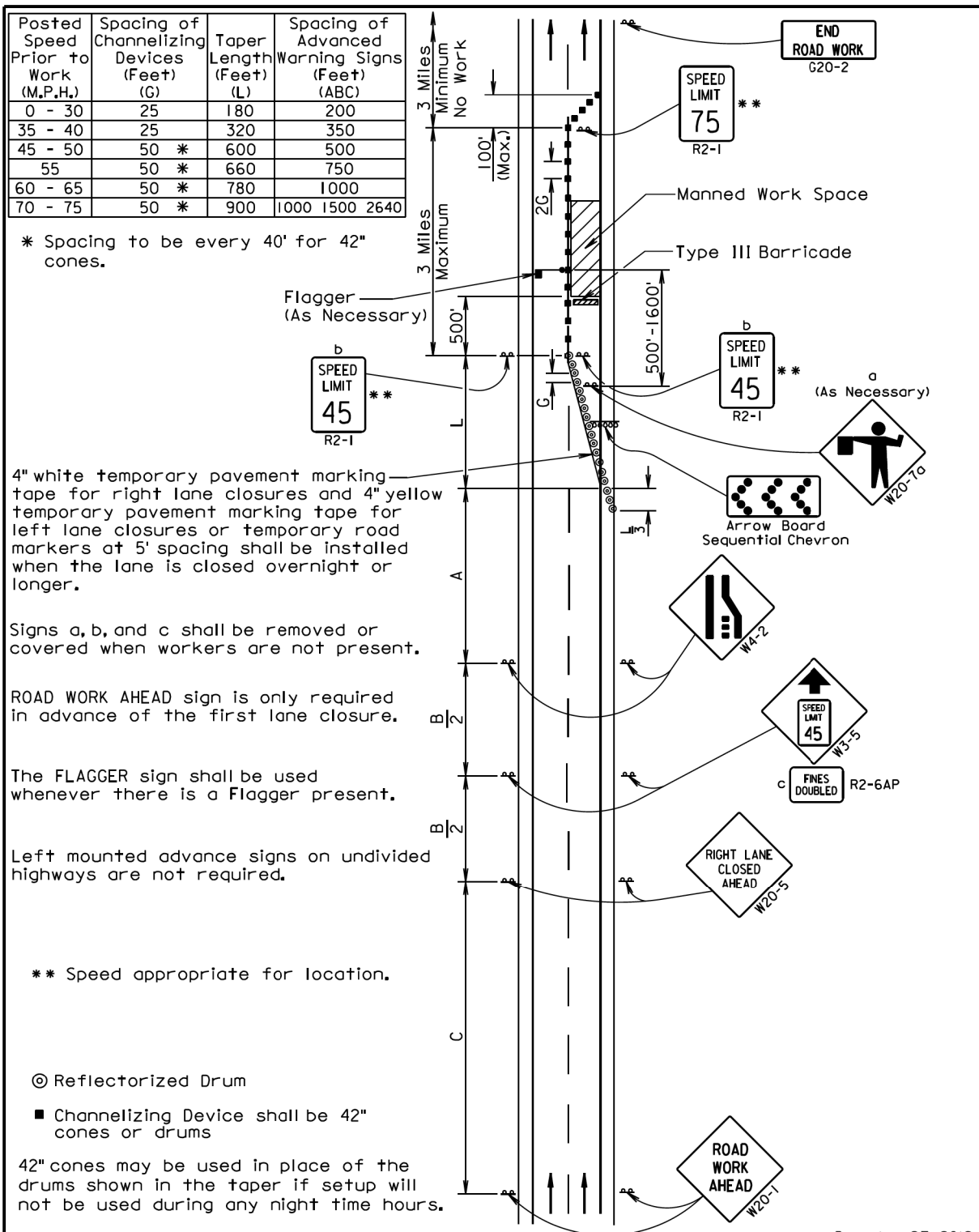
Additional White Items	
<u>Arrows</u>	
Left Arrows	0 Ea
Right Arrows	0 Ea
Straight Arrows	0 Ea
Combo Arrows	0 Ea
Lane Drop Arrows	0 Ea
<u>Messages</u>	
STOP	0 Ea
STOP AHEAD	0 Ea
R X R with Bars	0 Ea
SCHOOL X-ING	0 Ea
<u>Symbols</u>	
Symbols	0 Ea
Wheelchair Symbols	0 Ea

**NOTE:** All pavement marking dimensions are based on 12' driving lanes.  
Pavement marking at On Ramps and at Off Ramps shall be applied as detailed in these plans.

PLOT SCALE - 1:206.452

PLOT NAME - 3

FILE - ... \TC\13GH TC CONTAINER.DGN



December 23, 2012

<b>SDDOT</b> Published Date: 2nd Qtr. 2014	<b>MANNED WORK SPACE SIGNING FOR DIVIDED AND UNDIVIDED HIGHWAYS</b>	PLATE NUMBER <b>634.63</b>
	Sheet 1 of 1	

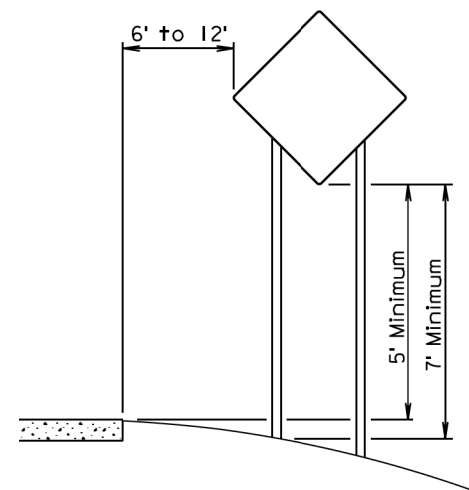
PLOTTED FROM - TRWJINT17



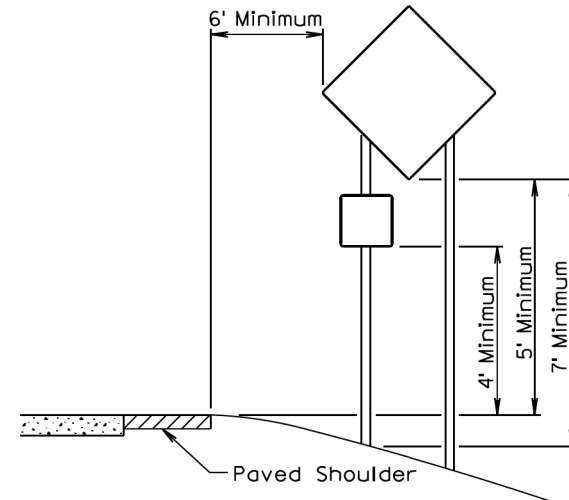
PLOT SCALE - 1:206.452

PLOT NAME - 4

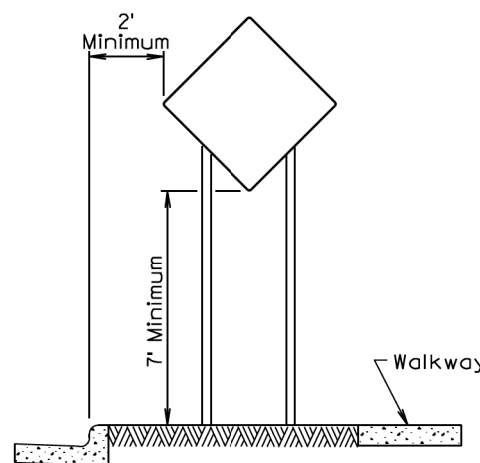
FILE - ... \TC\13GH TC CONTAINER.DGN



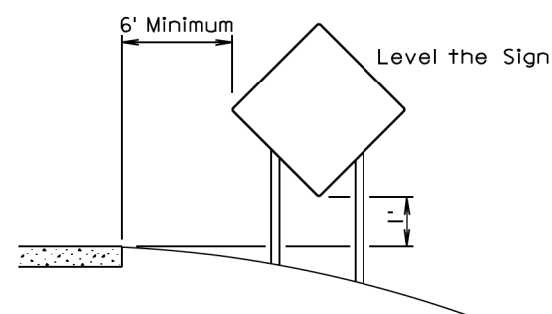
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



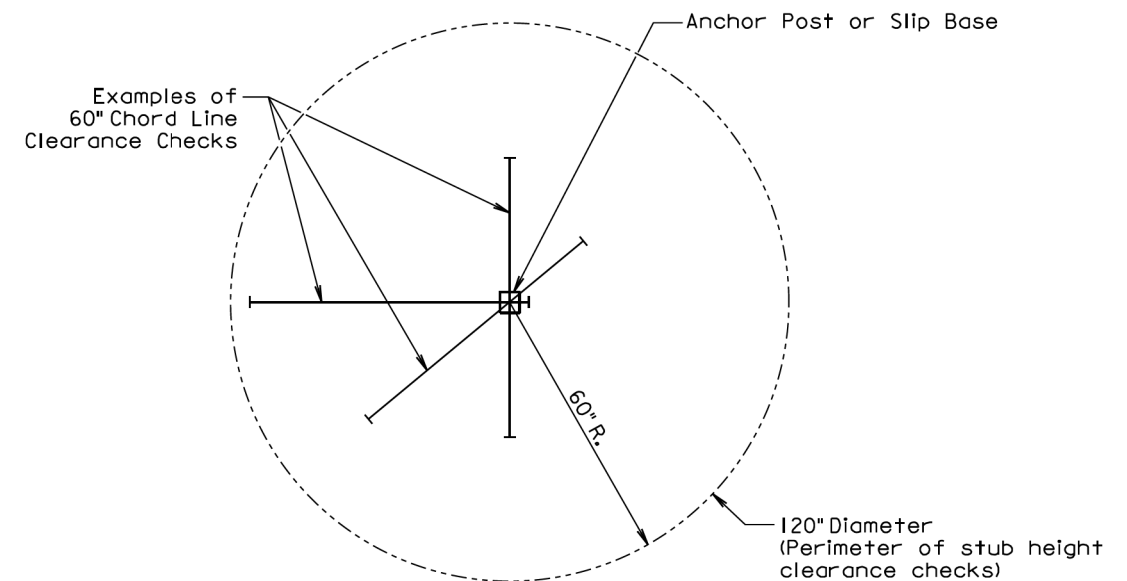
URBAN DISTRICT



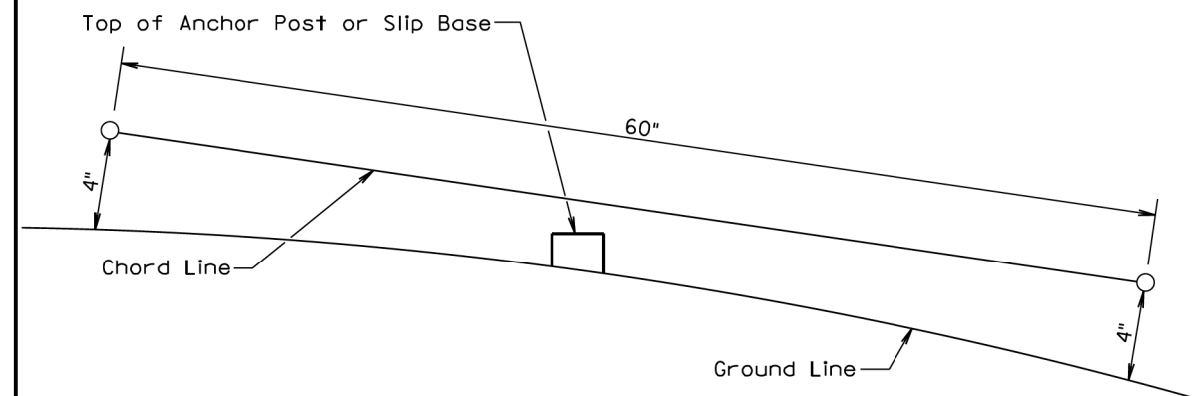
RURAL DISTRICT 3 DAY MAXIMUM

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



PLAN VIEW  
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

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

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

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

July 1, 2005

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

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	18	24

Plotting Date: 05/13/2014

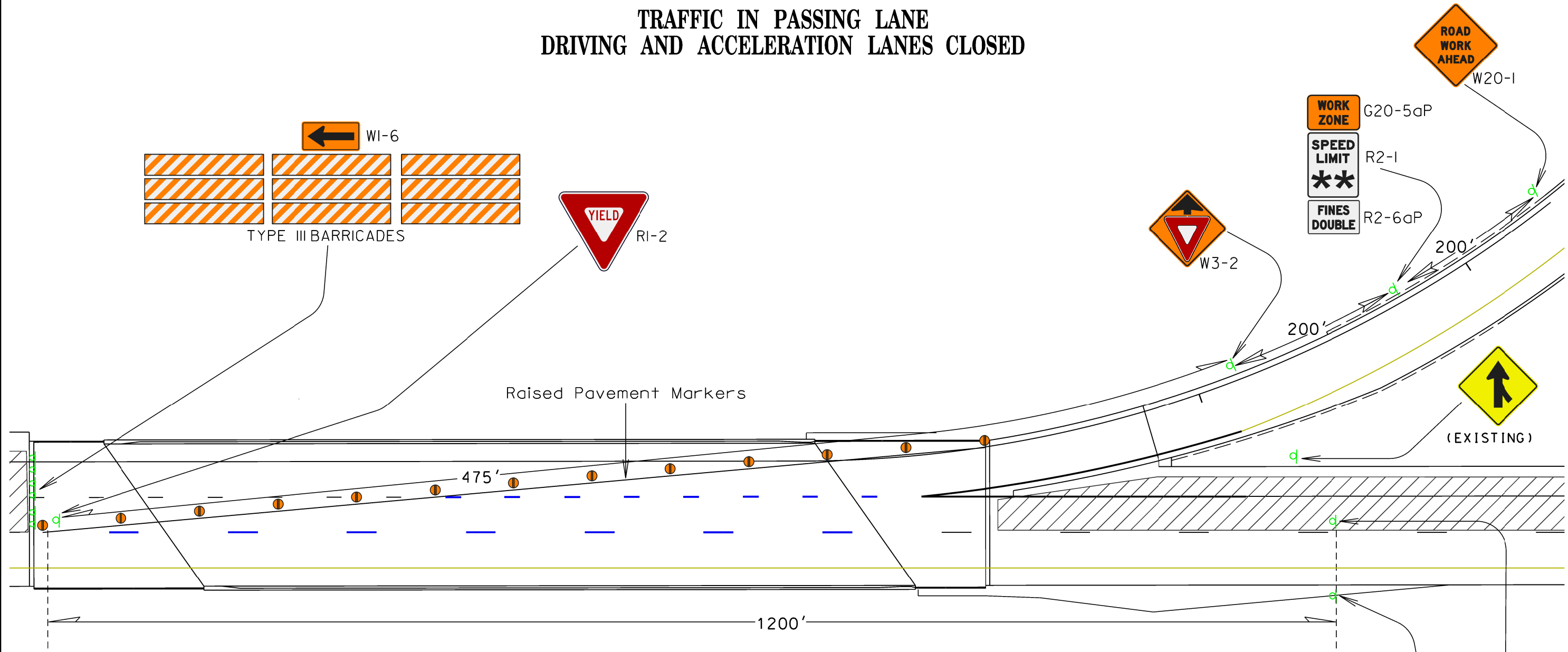
# SUPPLEMENTAL TRAFFIC CONTROL AT ENTRANCE RAMP

## TRAFFIC IN PASSING LANE DRIVING AND ACCELERATION LANES CLOSED




PLOT SCALE - 1:34,0646

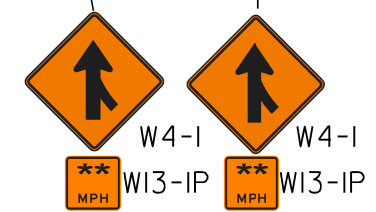
PLOT NAME - 1

FILE - ... \TC\13GH TC CONTAINER.DGN



### KEY:

-  - Work Area
-  - Marking masking
-  - Reflectorized drums at 25' spacing.
- \*\* - Speed appropriate for location.



STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	19	24

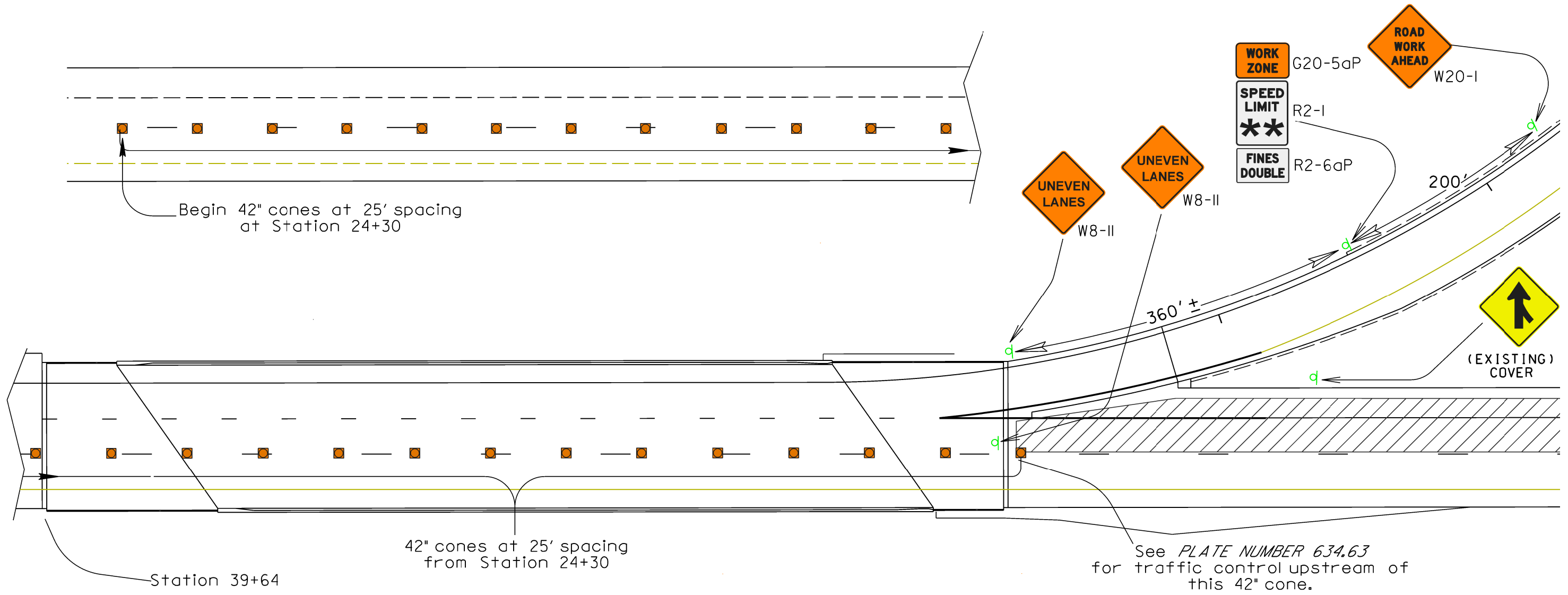
Plotting Date: 05/13/2014

# SUPPLEMENTAL TRAFFIC CONTROL AT ENTRANCE RAMP

TRAFFIC IN PASSING LANE  
DRIVING AND ACCELERATION LANES OPEN  
FROM STATION 24+30 to STATION 39+64

PLOT SCALE - 1:34,0646



PLOT NAME - 2



FILE - ... \TC\13GH TC CONTAINER.DGN

PLOTTED FROM - IRWIN17

## KEY:

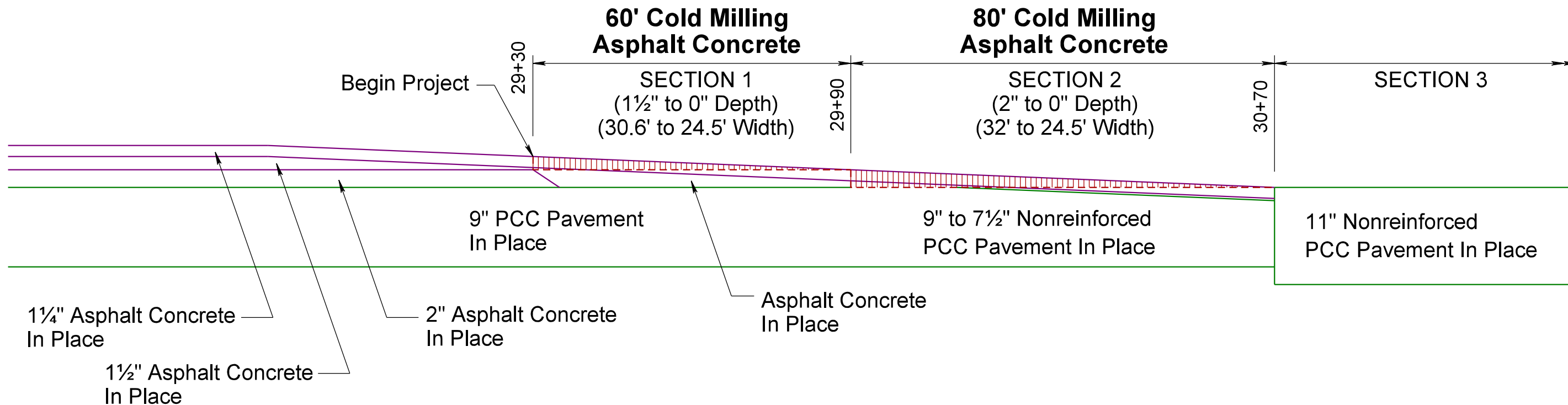
-  - Work Area
-  - 42" cones at 25' spacing.
- \* \* - Speed appropriate for location.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	20	24

Plotting Date: 05/19/2014

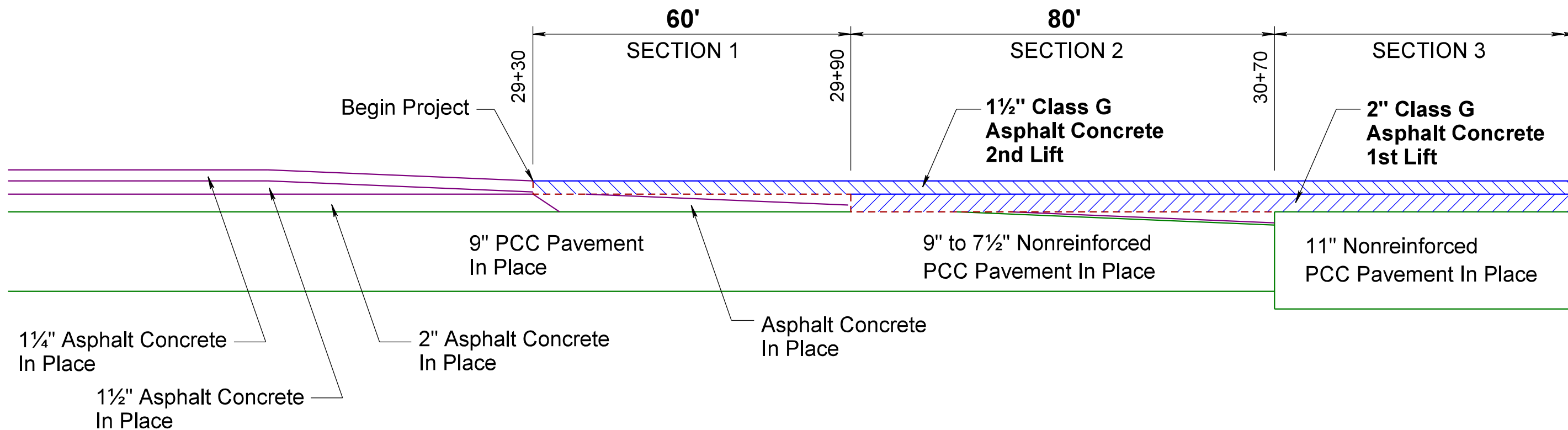
# COLD MILLING TAPERS

BEGIN PROJECT



# ASPHALT CONCRETE RESURFACING

BEGIN PROJECT



PLOT SCALE - 1:20

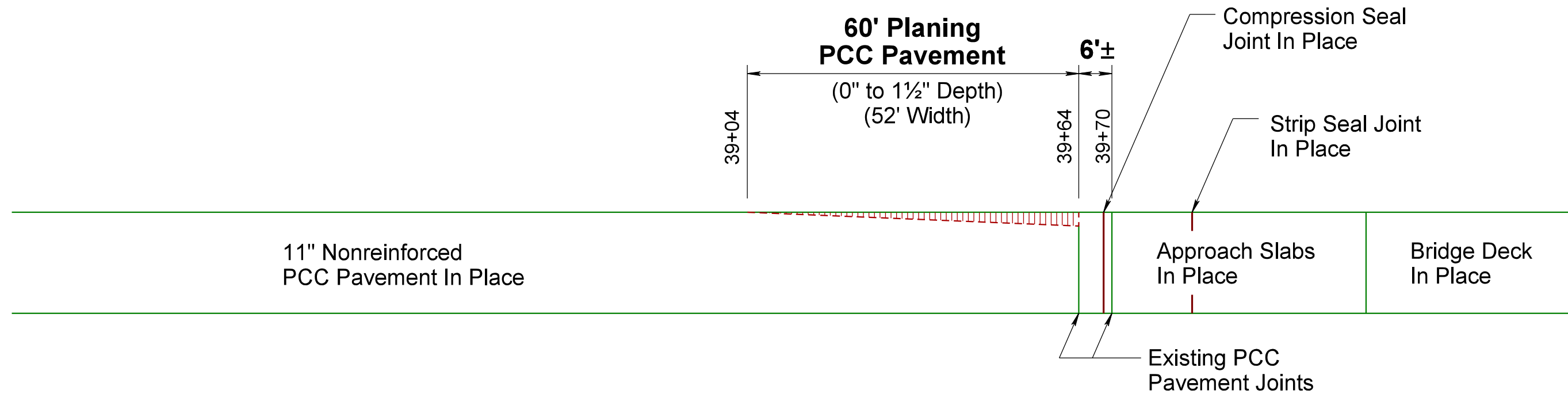
PLOTTED FROM - TRM11N115

PLOT NAME - 7

FILE - ... \MINNI306N\MILL136H.DGN

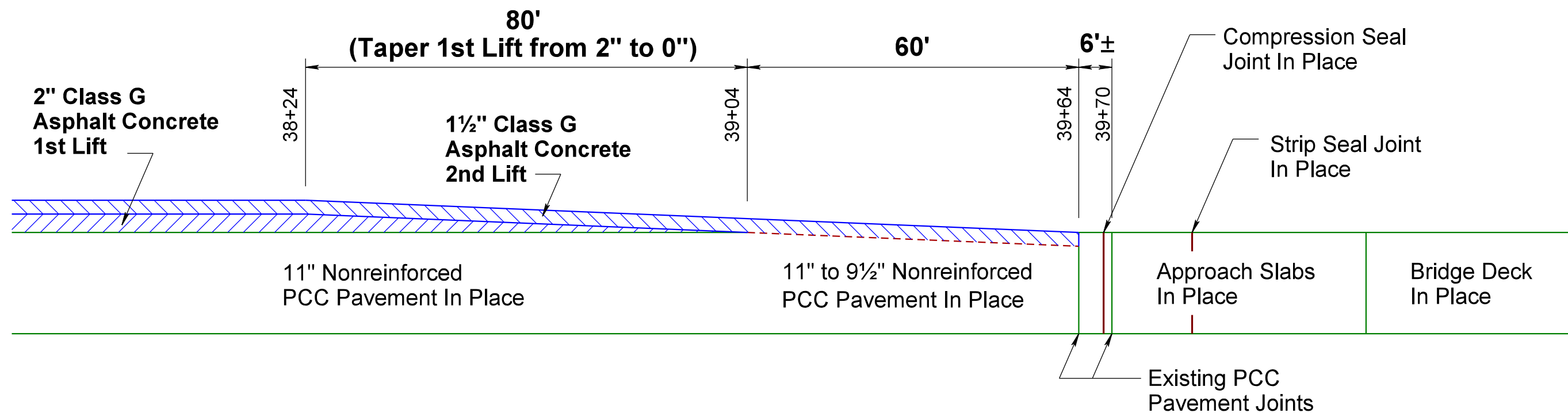
# PLANING PCC PAVEMENT TAPER

## END SECTION 3



# ASPHALT CONCRETE RESURFACING

## END SECTION 3



PLOT SCALE - 1:20

PLOTTED FROM - IRMIN115

PLOT NAME - 8

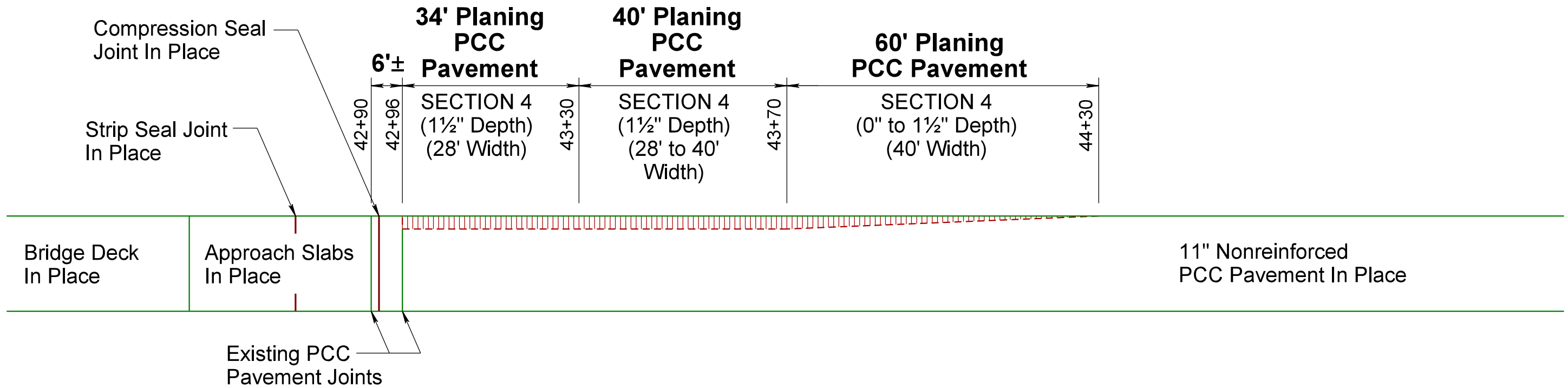
FILE - ... \MINNI306N\MILL136H.DGN

# PLANING PCC PAVEMENT TAPER

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	22	24

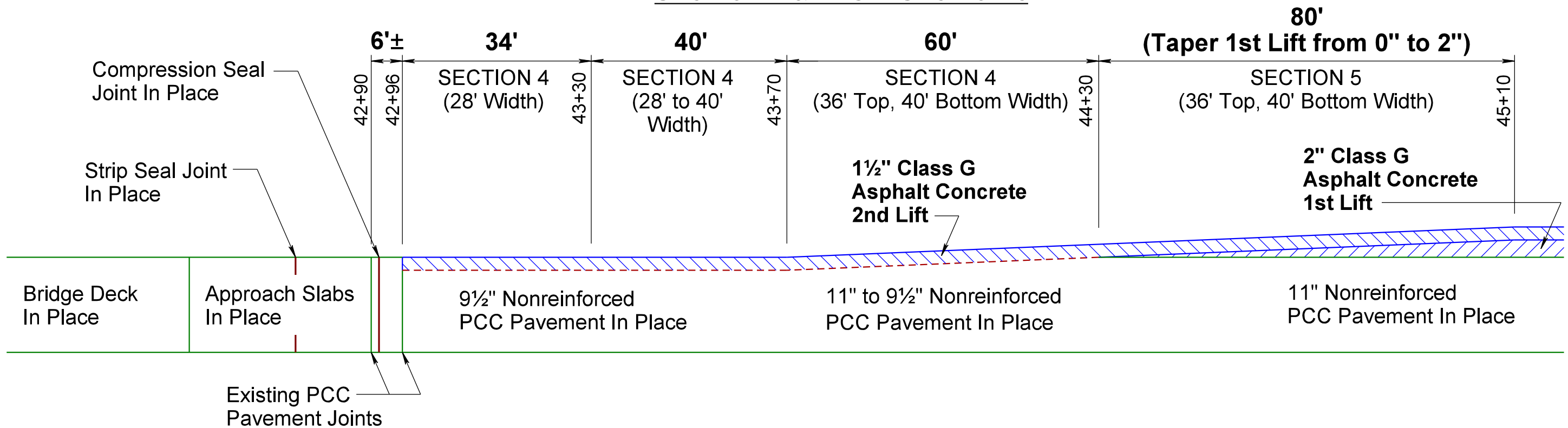
Plotting Date: 05/19/2014

## SECTION 4



# ASPHALT CONCRETE RESURFACING

## SECTION 4 & BEGIN SECTION 5



PLOT SCALE - 1:20

PLOTTED FROM - TRM11115

PLOT NAME - 9

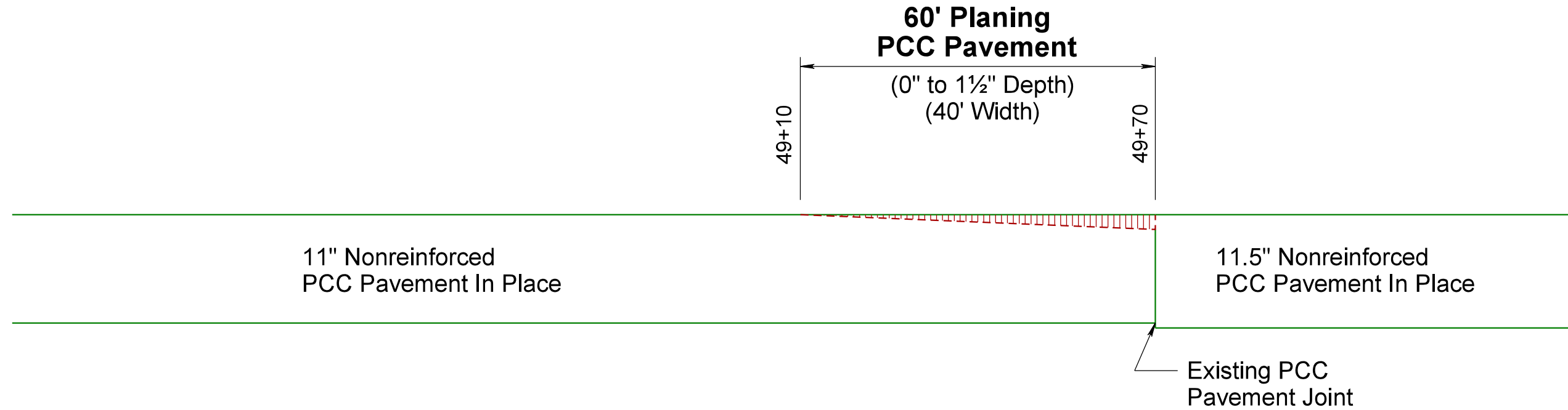
FILE - ... \MINNI36H\MILL136H.DGN

# PLANING PCC PAVEMENT TAPER

END PROJECT

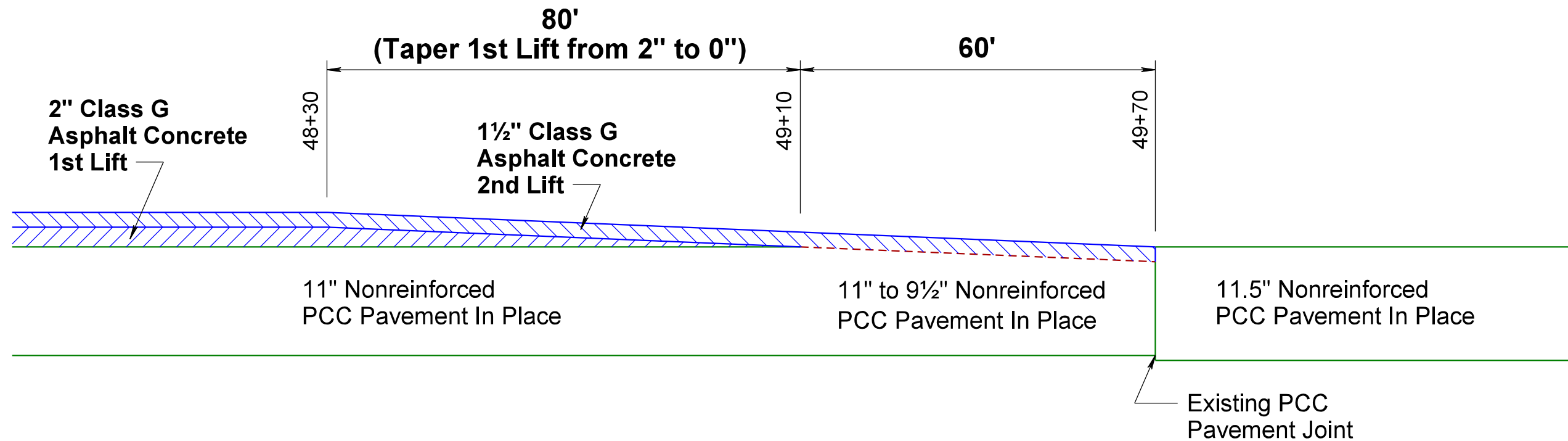
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090W-271	23	24

Plotting Date: 05/19/2014



# ASPHALT CONCRETE RESURFACING

END PROJECT



PLOT SCALE - 1:20

PLOTTED FROM - TRMINT15

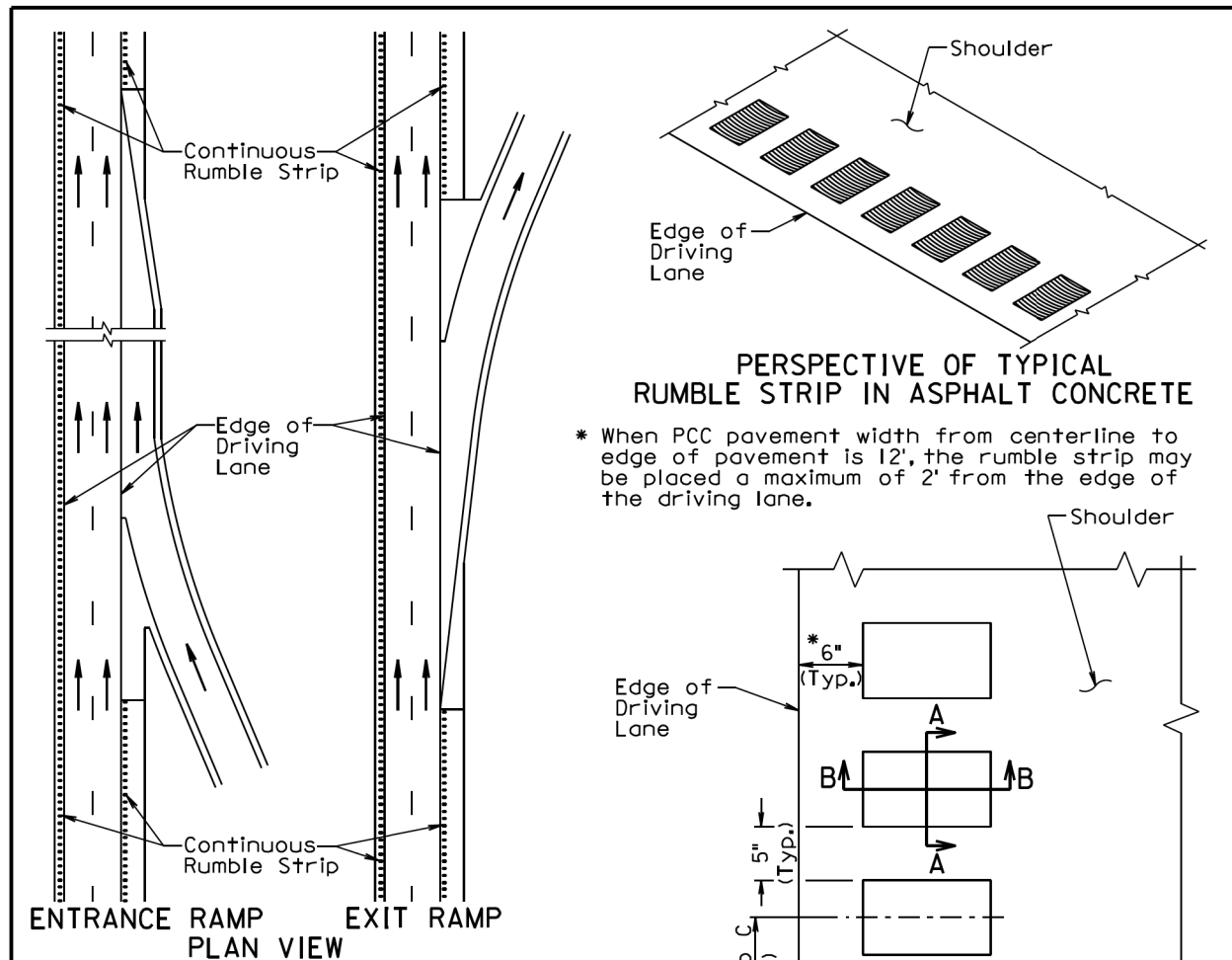
PLOT NAME - 10

FILE - ... \MINNI36H\MILL136H.DGN

PLOT SCALE - 1:200

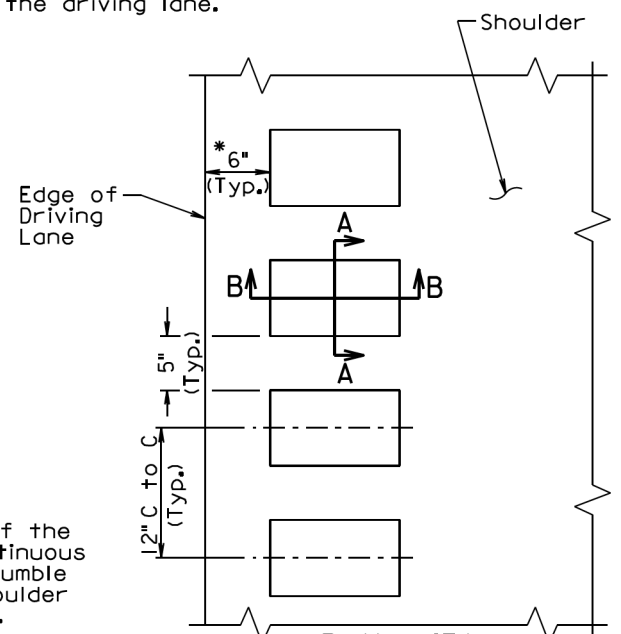
PLOT NAME - 11

FILE - ... \MINNI30H\STD\PLATE S32032.DGN

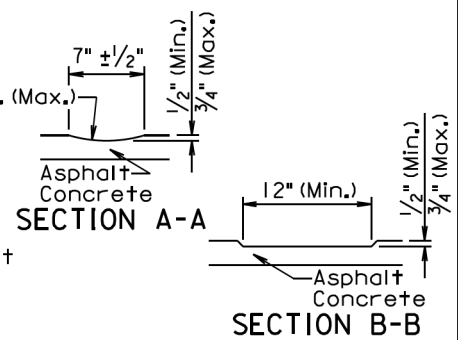


**PERSPECTIVE OF TYPICAL RUMBLE STRIP IN ASPHALT CONCRETE**

\* When PCC pavement width from centerline to edge of pavement is 12', the rumble strip may be placed a maximum of 2' from the edge of the driving lane.



**PLAN VIEW TYPICAL RUMBLE STRIP IN ASPHALT CONCRETE**



**GENERAL NOTES:**

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

A rumble strip should be placed through median crossovers as directed by the Engineer.

A rumble strip shall not be constructed through entrance ramps, exit ramps, and gore areas.

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

Measurement of the rumble strip shall be to the nearest 0.1 of a mile for each shoulder. Measurement and payment of the rumble strip shall include the segments adjacent to median crossovers, entrance ramps, exit ramps, and gore areas without rumble strips. Payment for constructing the rumble strip shall be at the contract unit price per mile for "Grind 12" Rumble Strip or Stripes in Asphalt Concrete".

June 26, 2011

<b>S D D O T</b>	<b>12" RUMBLE STRIP IN ASPHALT CONCRETE ON INTERSTATE SHOULDERS</b>	PLATE NUMBER <b>320.32</b>
	Published Date: 2nd Qtr. 2014	Sheet 1 of 1