

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
120E6200	Water for Granular Material	539.3	MGal
260E1010	Base Course	25,740.4	Ton
260E1030	Base Course, Salvaged	18,802.6	Ton
260E2010	Gravel Cushion	443.2	Ton
260E6000	Granular Material, Furnish	45.0	Ton
320E1200	Asphalt Concrete Composite	2,772.5	Ton
320E5020	Saw Joint in Asphalt Concrete	301	Ft
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	0.2	Mile
380E0050	8" Nonreinforced PCC Pavement	43,369.2	SqYd
380E3040	8" PCC Driveway Pavement	138.1	SqYd
380E6000	Dowel Bar	25,869	Each
380E6110	Insert Steel Bar in PCC Pavement	92	Each
380E6450	Saw Joint in PCC Pavement	15,363.7	Ft
380E6548	Grind Sinusoidal Centerline Rumble Stripe in PCC Pavement	0.3	Mile

SURFACING THICKNESS DIMENSIONS

The plans shown spread rates will be applied even though the thickness may vary from that shown in the plans.

At those locations where material must be placed to achieve a required elevation, the depth/quantity may be varied to achieve the required elevation.

SALVAGED MATERIAL

The quantity of salvaged asphalt mix and granular base material may vary from the plans. The Contractor will be required to use all of the salvaged material on this project, by decreasing or increasing the quantity of Base Course as necessary, or as directed by the Engineer. Estimated quantity of Base Course, Salvaged equals 18,802.6 tons.

BASE COURSE, SALVAGED

Base Course, Salvaged will be obtained from the stockpile site(s) provided by the Contractor and may be used without further gradation testing.

The Contractor will ensure the Base Course, Salvaged material contains no more than 50% salvaged asphalt mix material and at least 50% granular material (salvaged or virgin). Blended material will be to the satisfaction of the Engineer.

All other requirements for Base Course, Salvaged will apply.

SAW JOINT IN ASPHALT CONCRETE OR PCC PAVEMENT

Prior to the removal of in place PCC Pavement, the existing pavement will be sawed full depth to a true line with a vertical face, See typical sections. Prior to the removal of in place Traffic Control asphalt concrete, the existing pavement will be sawed full depth to a true line with a nonvertical face, See typical sections. If approved by the Engineer, the Contractor may elect to use a different method to create this vertical face. All costs to saw joint will be incidental to the contract unit price per foot for "Saw Joint in Asphalt Concrete" or "Saw Joint in PCC Pavement".

JOINT SAWING TABLE

Station		Station	Asphalt Concrete Joint (feet)	PCC Pavement Joint (feet)
Rt. Shoulder				
354+14.0	to	357+14.77	300.8	
447+75.0	to	475+96.16		2,821.2
Lt. Shoulder				
357+14.77	to	380+00.3		# 4,571.1
421+99.9	to	447+75.0		# 5,150.2
447+75.0	to	475+96.16		2,821.2
Total =			300.8	15,363.7

Requires 2 sawing.

RECYCLED CONCRETE AGGREGATE (RCA)

RCA (in place PCC Pavement) removed from the mainline within the project limits may be crushed and reused as granular material provided it meets the requirements for Base Course or Gravel Cushion. RCA tonnage is based on a unit weight of 118 lbs. per cubic foot for in place PCC Pavement.

All in-place rebar will be separated and removed from the RCA. Existing rebar will become the property of the Contractor.

The Contractor will dispose of the material (including existing rebar) not utilized on the project at a site approved by the Engineer.

Payment for the recycled concrete aggregate will be at the contract unit price per ton for Base Course or Gravel Cushion.

GRANULAR MATERIAL, FURNISH

The Contractor will provide 45 tons of crushed concrete for the parking lot at Sta. 405+65 Lt. (37 tons of crushed concrete and 0.4 MGal of Water for Granular Material will be placed in the grading work area and 8 tons will be stockpiled in the Northeast corner of the property). See PCC Pavement Layout sheets for details.

The Contractor may obtain the crushed concrete from the RCA on the project or from another source. The crushed concrete will be approved by the Engineer. No testing will be required. All cost to produce, haul, place and stockpile the 45 tons of crushed concrete will be incidental to the contact unit price per ton for Granular Material, Furnish.

ASPHALT CONCRETE COMPOSITE

Asphalt Concrete Composite will include MC-70 Asphalt for Prime placed at the rate of 0.30 gallons per square yard. The Asphalt for Prime will be applied to the Base Course, Salvaged or Base Course for the full width of the bottom layer of Asphalt Concrete Composite plus one foot additional on the outside shoulder for a rural section or to match the width of the gutter.

Asphalt for tack SS-1h or CSS-1h will be applied prior to each lift of Asphalt Concrete Composite. Asphalt for tack will be applied at a rate of 0.06 gallons per square yard on primed base course or new asphalt concrete pavement. The Asphalt for tack will be applied for the full width of the bottom layer of Asphalt Concrete Composite plus one-half foot additional on the outside shoulder for a rural section or to match the width of the gutter.

GRIND RUMBLE STRIPS IN ASPHALT CONCRETE

Asphalt concrete rumble strips will be constructed on the shoulders. Rumble strips will be paid for at the contract unit price per mile for Grind 12" Rumble Strip or Stripe in Asphalt Concrete. It is estimated that 0.16 miles of asphalt concrete rumble strips will be required. Location of Rumble Strips will be Sta. 447+75.0 to Sta. 351+96.16 Lt. & Rt. Shoulders.

Rumble strip installation will be completed prior to application of the flush seal and permanent pavement markings. If flush seal is not applied to the entire shoulder width, it will be applied to the newly installed 12" rumble strips at a width of 18" and a rate of 0.10 Gal./SqYd. All costs associated with placing the flush seal will be incidental to the contract unit price per ton for Asphalt Concrete Composite.

STEEL BAR INSERTION

The Contractor will insert the Steel Bars (1 1/4" x 18-inch Epoxy Coated Plain Round Dowel Bars into drilled holes in the existing concrete pavement. Anchoring of the steel bars in the drilled holes will conform to the Specifications.

The steel bars will be cut to the specified length by sawing or shearing and will be free from burring or other deformations.

Epoxy coated plain round steel bars will be inserted on 12-inch centers in the transverse joint. The first steel bar will be placed a minimum of 3 inches and a maximum of 6 inches from the centerline of the slab.

TABLE OF STEEL BAR INSERTION

LOCATION	QUANTITY OF BARS
	1 1/4" x 18"
SD34 Mainline	
Sta. 357+14.77 - 15' Lt. to 15' Rt.	30
Sta. 447+75.0 - 13' Lt. to 13' Rt.	26
Miscellaneous	
Enterprise Ave.	36
Totals	92

8" NONREINFORCED PCC PAVEMENT

The fine aggregate will be screened over a 1-inch square opening screen just prior to introduction into the concrete paving mix. The Contractor will screen all of the aggregate to prevent the incorporation of foreign materials (i.e. mud balls) into the concrete mix.

The concrete mix will conform to the Special Provision for Contractor Furnished Mix Design for PCC Pavement.

There will be no direct payment for trimming of the gravel cushion for PCC pavement. The trimming will be considered incidental to the related items required for PCC Pavement. Trimming will be performed as required by Section 380.3 C of the Specifications.

A construction joint will be sawed whenever new concrete pavement is placed adjacent to existing concrete pavement. The transverse construction joints will be handled in accordance with Standard Plate 380.15.

The location of joints, as shown and designated on the PCC Pavement Joint Layout(s) are only approximate locations to be used as a guide and to afford bidders a basis for estimating the construction cost of the joints. The final locations of the joints are to be designated by the Engineer during construction.

All driving surfaces of the mainline paving, including turning lanes, will be longitudinally tined from 6" each side of centerline pavement markings to 6" inside the outside pavement markings. All other areas will be textured as directed by the Engineer.

Rumble Strips will be placed according to Standard Plate 380.53. Payment for forming rumble strips including labor, materials and incidentals will be incidental to the contract unit price per square yard for "8" Nonreinforced PCC Pavement". Estimated length for both shoulders equals 0.52 miles.

Location: Sta. 357+14.77 to Sta. 367+25.0 Lt. & Rt. Shoulders
Sta. 444+03.0 to Sta. 447+75.0 Lt. & Rt. Shoulders

The mainline pavement from Sta. 357+14.77 to Sta. 447+75.0 will be tested for smoothness with a Contractor furnished and operated 25-foot California style profilograph in accordance with the Special Provision for PI PCC Pavement Smoothness with 0.2 Blanking Band.

Turning lanes including center turn lane will be tested using the 10' straight edge as per Specifications 380.3.O.1.

Table of 8" Nonreinforced PCC Pavement

LOCATION			8" Nonreinforced PCC Pavement	Dowel Bars
Station		Station	sq.yds.	each
SD34 MAINLINE				
357+14.77	to	361+04.77	1,993.3	870
361+04.77	to	372+87.8	6,828.9	3,457
372+87.8	to	375+86.9	1,456.3	882
375+86.9	to	379+20.3	1,333.6	936
379+20.28	to	379+99.4	303.2	241
379+99.41	to	419+78.3	14,589.3	10,035
419+78.28	to	420+79.5	387.9	241
420+79.5	to	422+19.1	558.4	432
422+19.1	to	423+19.1	476.0	252
423+19.1	to	431+00.3	3,819.2	2,260
431+00.3	to	434+49.2	2,076.8	1,190
434+49.2	to	438+23.1	1,828.0	1,080
438+23.1	to	442+58.5	2,748.9	1,539
442+58.5	to	447+75.0	2,984.2	1,482
MISCELLANEOUS AREAS				
Intersecting Streets - 11 each			1,556.8	774
Entrances - 2 each			428.4	198
TOTAL			43,369.2	25,869

Table of 8" PCC Driveway Pavement

LOCATION	8" PCC Driveway Pavement
Station	sq.yds.
397+74 Lt.	87.1
410+27 Lt.	20.5
410+83 Lt.	30.5
TOTAL	138.1

GRIND SINUSOIDAL CENTERLINE RUMBLE STRIPE IN PCC PAVEMENT

Sinusoidal rumble stripes will be constructed on the centerline according to Standard Plate 380.56. Sinusoidal rumble stripes will be paid for at the contract unit price per mile for Grind Sinusoidal Centerline Rumble Stripe in PCC Pavement. It is estimated that 0.26 miles of sinusoidal rumble stripes will be required.

Location: Sta. 357+14.77 to Sta. 367+25.0
Sta. 444+03.0 to Sta. 447+75.0

ALKALI SILICA REACTIVITY

Fine aggregate will conform to Section 800.2 D Alkali Silica Reactivity (ASR) Requirements.

Below is a list of known fine aggregate sources and the average corresponding 14-day expansion values (as of 8-30-2023):

Source	Location	Expansion Value
Bachman	Winner, SD	0.335*
Bitterman	Delmont, SD	0.316*
Concrete Materials	Corson, SD	0.146
Concrete Materials - Vellek Pit	Yankton, SD	0.411**
Croell	Hot Springs, SD	0.089
Croell	Wasta, SD	0.212
Emme Sand & Gravel	Oneil, NE	0.217
Fisher S&G - Blair Pit	W of Vale, SD	0.171
Fisher S&G - Mickelson Pit	E of Nisland, SD	0.129
Fisher S&G - Vallery Pit	Nisland, SD	0.110
Fisher S&G	Rapid City, SD	0.092
Fisher S&G	Spearfish, SD	0.053
Fisher S&G	Wasta, SD	0.159
Fuchs	Pickstown, SD	0.275*
Henning - Tilstra Pit	Ash Creek, MN	0.199
Higman	Hudson, SD	0.187
Jensen	Herried, SD	0.276*
L.G. Everist	Akron, IA	0.257*
L.G. Everist	Brookings, SD	0.297*
L.G. Everist - Ode Pit	E Sioux Falls, SD	0.215
L.G. Everist - Nelson Pit	NE Sioux Falls, SD	0.156
L.G. Everist	Hawarden, IA	0.176
L.G. Everist	Summit, SD	0.184
Mark's S&G - Moerke Pit	Underwood, MN	0.165
Morris - Birdsall	Blunt, SD	0.229
Morris - Leesman	Blunt, SD	0.231
Morris - Richards Pit	Onida, SD	0.188
Morris - Shawn's Pit	E of Sturgis, SD	0.186
Northern Concrete Agg.	Rauville, SD	0.113
Northern Concrete Agg.	Luverne, MN	0.133
Opperman - Gunvordahl Pit	Burke, SD	0.363*
Opperman - Cahoy Pit	Herrick, SD	0.307*
Opperman - Jones Pit	Burke, SD	0.321*
Opperman - Randall Pit	Pickstown, SD	0.230
Pete Lien & Sons	Creston, SD	0.158
Pete Lien & Sons	Oral, SD	0.157
Pete Lien & Sons	Wasta, SD	0.226
Simon Materials - Beltline Pit	Scottsbluff, NE	0.277*
Thorpe Pit	Britton, SD	0.098
Wagner Building Supplies	Pickstown (Wagner), SD	0.251*
Winter Brothers- Whitehead Pit	Brookings, SD	0.197

* These sources will require Type II cement with a fly ash content of 25% in the concrete mix.

** These sources will not be used.

ALKALI SILICA REACTIVITY (CONTINUED)

The Department will use the running average of the last three or fewer known expansion test results for determining acceptability of the source. These expansion results are reported in the preceding table. Additional testing, when requested by the Contractor, will be performed by the Department at the Contractor's expense.

The values listed in the table are intended for use in bidding. If a previously tested pit by SDDOT with a test value less than 0.250 is discovered after letting to be 0.250 or greater, then the Department will accept financial responsibility if higher costs are incurred due to higher percent of fly ash requirement.

CURING OF CONCRETE

Portland Cement Concrete Pavement, Concrete Curb & Gutter, Concrete Gutter, and Concrete Fillet will be cured with Linseed Oil Base Emulsion Compound. All costs for Curing of Concrete will be incidental to the contract unit price per various Portland Cement Concrete bid items.

TRANSVERSE CONTRACTION JOINTS

Unless specified otherwise in the PCC Pavement Joint Layout Sheets or elsewhere in the plans, the typical joint spacing for the 8" Nonreinforced PCC Pavement from Sta. 357+14.77 to Sta. 447+75.0 will be 13'. See Standard Plates 380.01 and 380.04 for placement of Dowel Bars.

The transverse contraction joints will be perpendicular to the centerline. In multilane areas the transverse contraction joints will be perpendicular to the centerline and be in a straight line across the entire width of pavement. In special situations the Engineer may pre-approve transverse contraction joints that do not meet these requirements. All nonconforming transverse contraction joints will be removed at the Contractor's expense. Any method of placement that cannot produce these requirements will not be allowed.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F4	F38

RATES OF MATERIALS

The Estimate of Surfacing Quantities is based on the following quantities of materials per STATION.

SD34 MAINLINE SURFACING SECTIONS – Rate A

Sta. 361+04.8 to Sta. 372+69.9
Sta. 442+58.6 to Sta. 447+75.0

BASE COURSE OR BASE COURSE, SALVAGED 448.00 tons.

Water for Granular Material at the rate of 5.38 M. Gallons.

SD34 MAINLINE SURFACING SECTIONS – Rate B

Sta. 384+14.8 to Sta. 399+42.8

BASE COURSE OR BASE COURSE, SALVAGED 331.38 tons.

Water for Granular Material at the rate of 3.98 M. Gallons.

SD34 MAINLINE SURFACING SECTIONS – Rate C

Sta. 400+40.8 to Sta. 419+78.3

BASE COURSE OR BASE COURSE, SALVAGED 310.38 tons.

Water for Granular Material at the rate of 3.72 M. Gallons.

SD34 MAINLINE SURFACING SECTIONS – Rate D

Sta. 423+19.1 to Sta. 431+00.3
Sta. 434+49.3 to Sta. 438+22.9

BASE COURSE OR BASE COURSE, SALVAGED 410.69 tons.

Water for Granular Material at the rate of 4.93 M. Gallons.

SD34 WEDGE ADJACENT TO PCCP SURFACING SECTIONS – Rate E

(Rates are for one shoulder only)

Sta. 357+14.77 to Sta. 374+95.0 Lt. Shoulder
Sta. 422+19.1 to Sta. 447+75.0 Lt. Shoulder
Sta. 357+14.77 to Sta. 371+93.9 Rt. Shoulder
Sta. 442+58.6 to Sta. 447+75.0 Rt. Shoulder

GRAVEL CUSHION 7.00 tons.

Water for Granular Material at the rate of 0.08 M. Gallons.

TABLE OF ADDITIONAL QUANTITIES

LOCATION			WATER FOR GRANULAR MATERIAL (MGal)	BASE COURSE OR BASE COURSE, SALVAGED (Ton)	BASE COURSE (Ton)	ASPHALT CONCRETE COMPOSITE		
station	to	station				1 st Lift (Ton)	2 nd Lift (Ton)	3 rd Lift (Ton)
MAINLINE								
357+14.77	to	361+04.8	17.0	1,419.7				
372+69.9	to	375+87.0	15.5	1,300.5				
375+87.0	to	379+20.3	14.9	1,244.5				
379+20.3	to	379+99.4	3.4	287.0				
379+99.4	to	384+14.8	17.5	1,463.0				
399+42.8	to	400+40.8	3.8	314.5				
419+78.3	to	420+79.5	4.2	346.0				
420+79.5	to	422+19.1	6.3	521.3				
422+19.1	to	423+19.1	4.7	393.2				
431+00.3	to	434+27.6	18.8	1,568.7				
434+27.6	to	434+49.3	1.1	95.1				
438+22.9	to	442+58.6	25.2	2,098.6				
LEFT SHOULDER								
447+75.0	to	451+96.16	7.0	579.9	64.2	64.2	64.2	
RIGHT SHOULDER								
447+75.0	to	451+96.16	7.0	584.4	64.9	64.9	64.9	
TRAFFIC CONTROL SURFACING								
Left Shoulder								
355+14.0	to	380+00.3	22.3		1,854.4	384.4	384.4	
421+99.9	to	451+96.16	26.9		2,243.8	460.3	460.3	
Right Shoulder								
354+14.0	to	358+77.4	3.2		262.6	55.7	55.7	
Mainline								
380+50.0	to	382+00.0	0.7		61.2	13.5	13.5	
408+80.0	to	410+30.0	0.7		61.2	13.5	13.5	
Temp Access directed by Engineer			4.8		400.0	150.0		
MISCELLANEOUS AREAS								
Intersecting Roads								
Int. Rds. (Location A) - 2 ea			3.4	284.0		37.2	37.2	
Int. Rds. (Location B) - 9 ea			15.7	1,306.2		55.2	55.2	
Int. Rds. (Location C) - 1 ea			1.0	89.7				
Int. Rds. (Location D) - 1 ea			1.9	160.3				
Entrances								
Entrances (Location E) - 23 ea			6.2	516.5				
Entrances (Location F) - 5 ea			8.5	711.6		85.3	85.3	
Entrances (Location G) - 6 ea			0.3	31.3		11.6	11.6	
Backfill for Reinforcement Fabric (MSE), See Section B			11.8	980.0				
Parking Lot @ Sta. 381+50 Lt.			0.1	11.0		0.9	0.9	
Subtotal				16,307.0	4,883.2	1,396.7	1,246.7	129.1
Total			253.9	21,190.2			2,772.5	

TABLE OF MISCELLANEOUS AREA LOCATION

LOCATION	STATION			# MATERIAL
A	Sta. 367+14 Lt.	Sta. 367+14 Rt.		4" Asphalt Concrete / 6" Granular Material
B	Sta. 399+92 Lt.	Sta. 407+61 Lt.	Sta. 420+29 Lt.	12" Granular Material under 8" PCCP w/ 4" Asphalt Concrete / 4" Granular Material beyond PCCP
	Sta. 402+95 Rt.	Sta. 411+52 Lt.	Sta. 420+29 Rt.	
	Sta. 403+68 Lt.	Sta. 415+33 Lt.	Sta. 433+98 Rt.	
C	Sta. 415+28 Rt.			12" Granular Material under 8" PCCP w/ 8" Granular Material beyond PCCP
D	Sta. 442+06 Rt.			12" Granular Material under 8" PCCP
E	Sta. 367+14 Lt.-Bk.	Sta. 406+65 Rt.	Sta. 418+30 Rt.	6" Granular Material
	Sta. 367+14 Rt.-Bk.	Sta. 407+38 Rt.	Sta. 422+48 Rt.	
	Sta. 379+67 Rt.	Sta. 408+44 Rt.	Sta. 424+25 Rt.	
	Sta. 393+21 Lt.	Sta. 408+83 Lt.	Sta. 424+28 Lt.	
	Sta. 393+21 Rt.	Sta. 409+07 Rt.	Sta. 426+14 Rt.	
	Sta. 396+63 Rt.	Sta. 410+27 Lt.	Sta. 428+24 Rt.	
	Sta. 397+74 Lt.	Sta. 410+83 Lt.	Sta. 447+20 Lt.	
F	Sta. 377+41 Rt.	Sta. 401+46 Rt.	Sta. 404+96 Rt.	4" Asphalt Concrete / 6" Granular Material
	Sta. 400+96 Rt.	Sta. 404+59 Rt.		
G	Sta. 372+40 Rt.	Sta. 379+65 Lt.	Sta. 385+16 Lt.	6" Granular Material under PCCP w/ 4" Asphalt Concrete / 4" Granular Material
	Sta. 375+42 Lt.	Sta. 383+64 Lt.	Sta. 391+33 Rt.	

Granular Material will be Base Course or Base Course, Salvaged

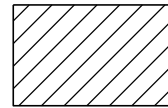
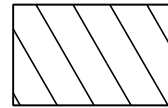
TABLE OF MATERIAL QUANTITIES

LOCATION	WATER FOR GRANULAR MATERIAL	BASE COURSE OR BASE COURSE, SALVAGED	GRAVEL CUSHION	GRANULAR MATERIAL, FURNISH	ASPHALT CONCRETE COMPOSITE
	MGal	Ton	Ton	Ton	Ton
Rate A	90.5	7,533.1			
Rate B	60.8	5,063.5			
Rate C	72.1	6,013.6			
Rate D	56.9	4,742.6			
Rate E	5.1		443.2		
Additional Quantities Table	253.9	21,190.2			2,772.5
Notes	0.4			45.0	
Total =	539.3	44,543.0	443.2	45.0	2,772.5

IN PLACE TYPICAL SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F7	F38

Plotting Date: 07/30/2024

-  Salvage & Stockpile Asphalt Mix and Granular Base Material
-  Remove PCC Pavement

Transitions:

Sta. 368+27.6 to Sta. 372+41.1
15' to 22'

Sta. 379+40.6 to Sta. 380+00.3
* 21.5' to 22'
** 2.7'
22' to 20.8'
2.7'

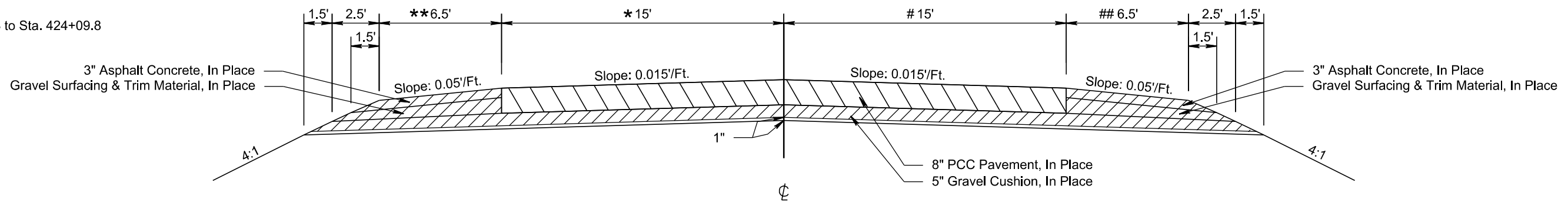
Sta. 421+99.9 to Sta. 424+09.8
* 22' to 15'

Sta. 421+99.9 to Sta. 422+88.8
** 2.7'

Sta. 422+88.8 to Sta. 424+09.8
** 2.7' to 6.5'

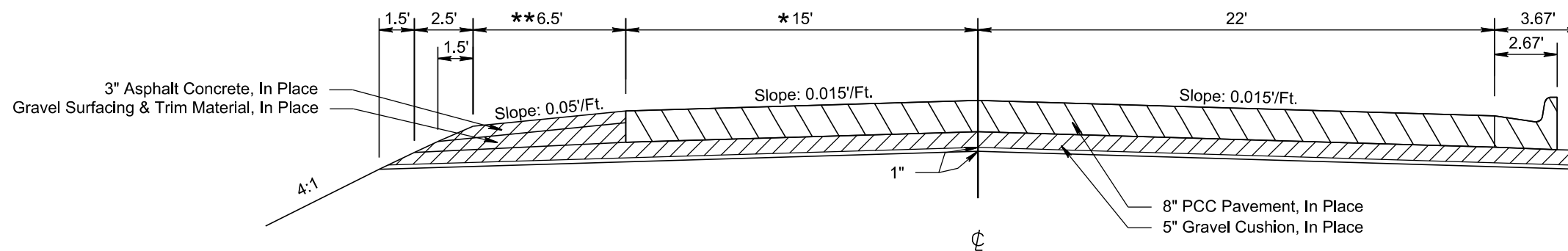
Section 1

Sta. 357+14.77 to Sta. 372+44.1
Sta. 379+40.2 to Sta. 380+00.3
Sta. 421+99.9 to Sta. 447+75.0



Section 2

Sta. 372+44.1 to Sta. 379+40.2



Transitions:

Sta. 375+58.5 to Sta. 379.40.2
* 15' to 21.5'

Sta. 375+58.5 to Sta. 377+98.2
** 6.5' to 2.7'

Sta. 377+98.2 to Sta. 379+40.2
** 2.7'

PLOT SCALE - 1+6.00001

PLOTTED FROM - TRPR16032

PLOT NAME - 2

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IN PLACE TYPICAL SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F8	F38

Plotting Date: 07/30/2024

Transitions:

Sta. 380+00.3 to Sta. 382+99.3
20.8' to 15'

Sta. 392+09.6 to Sta. 392+64.8
Sta. 420+91.4 to Sta. 421+99.9
22' to 15'

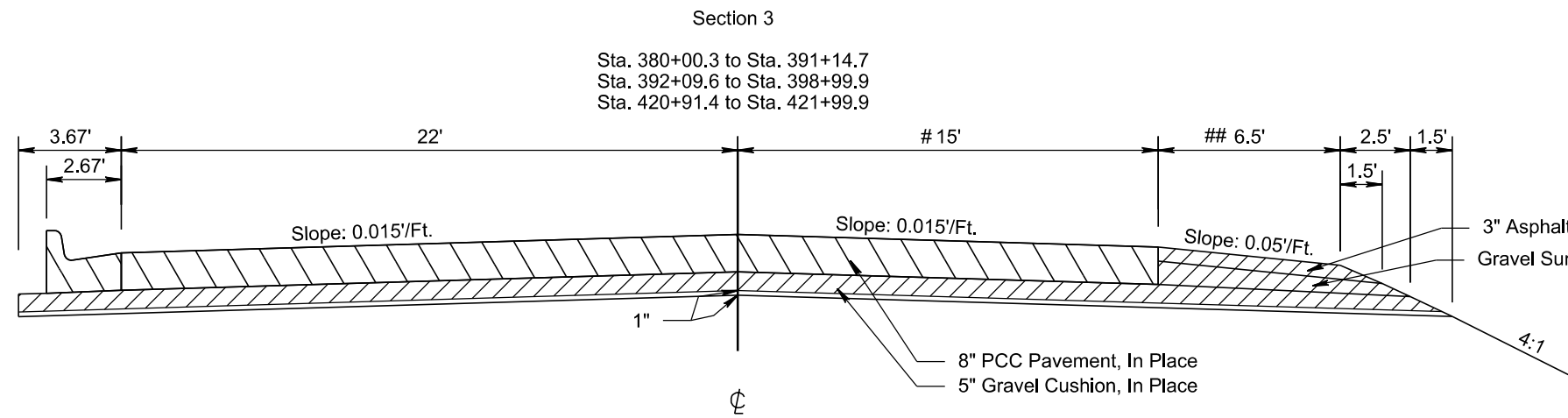
Sta. 380+00.3 to Sta. 381+09.6
Sta. 392+09.6 to Sta. 392+44.5
2.7'

Sta. 381+09.6 to Sta. 382+99.3
Sta. 392+44.5 to Sta. 392+64.8
Sta. 420+91.4 to Sta. 421+99.9
2.7' to 6.5'

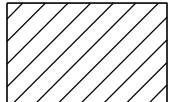
Sta. 396+92.5 to Sta. 398+99.9
15' to 22'

Sta. 396+92.5 to Sta. 398+05.0
6.5' to 2.7'

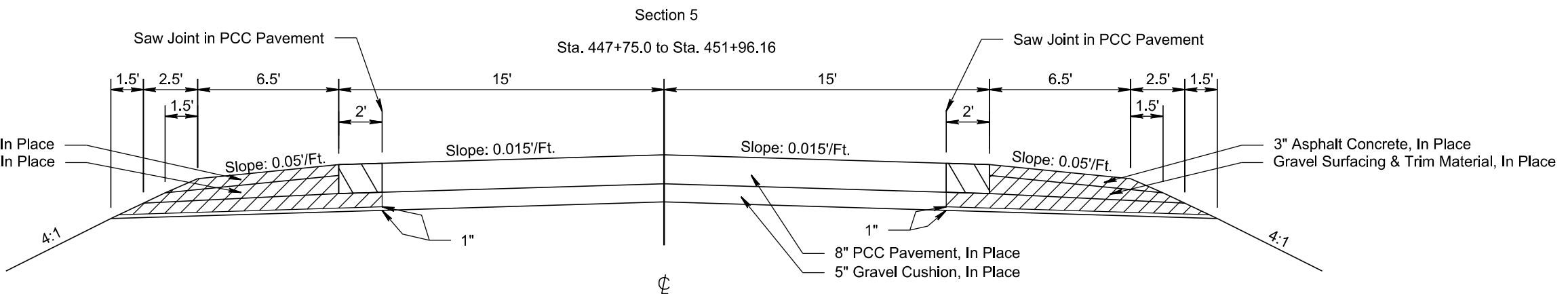
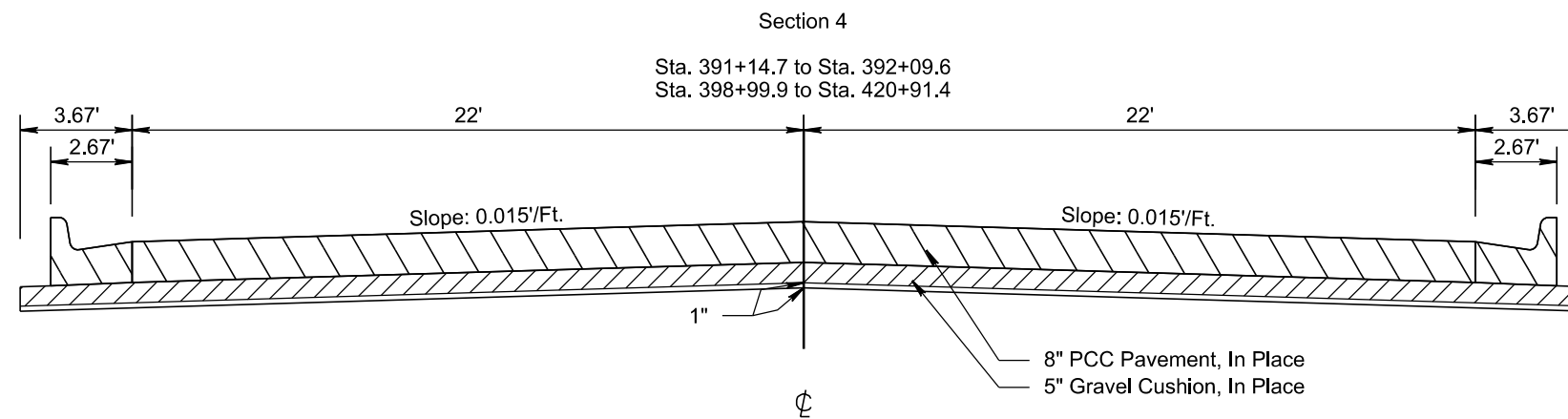
Sta. 398+05.0 to Sta. 398+99.9
2.7'



Salvage & Stockpile Asphalt Mix and Granular Base Material



Remove PCC Pavement



PLOT SCALE - 1/8"=1'-0"

PLOTTED FROM - TRPR16032

PLOT NAME - 3

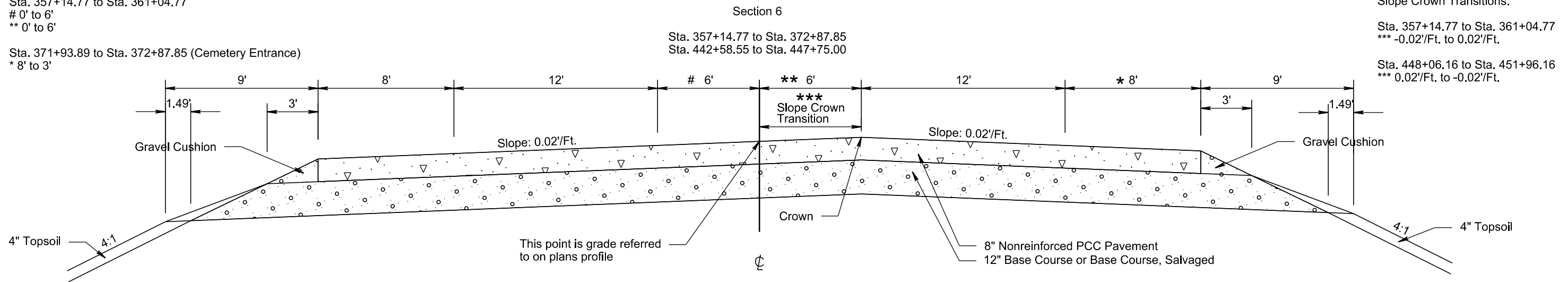
FILE - ... \0609_TYPICAL SECTIONS.DGN

TYPICAL SURFACING SECTIONS

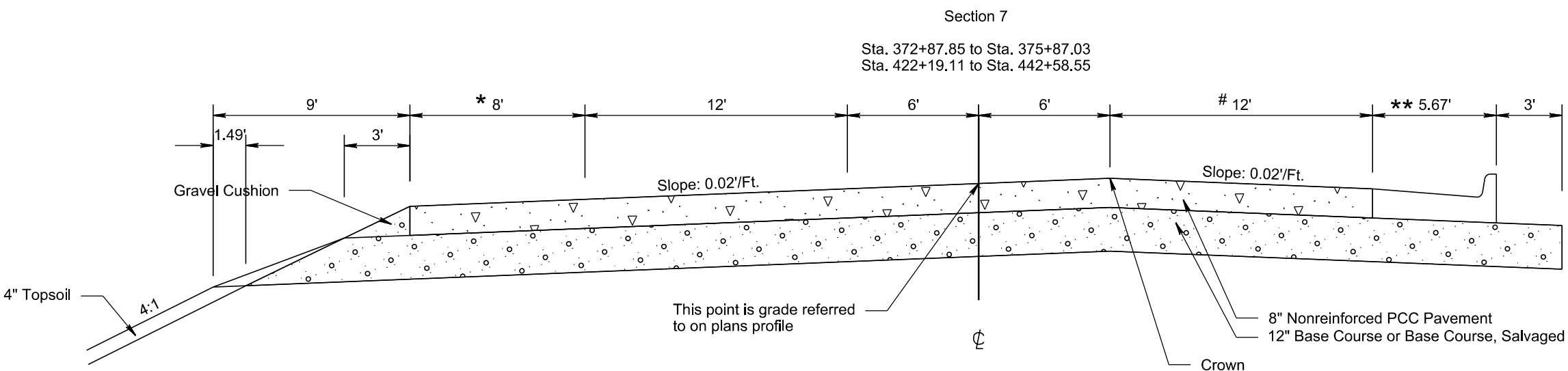
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F9	F38

Plotting Date: 07/30/2024

Transitions:
 Sta. 357+14.77 to Sta. 361+04.77
 # 0' to 6'
 ** 0' to 6'
 Sta. 371+93.89 to Sta. 372+87.85 (Cemetery Entrance)
 * 8' to 3'



Slope Crown Transitions:
 Sta. 357+14.77 to Sta. 361+04.77
 *** -0.02'/Ft. to 0.02'/Ft.
 Sta. 448+06.16 to Sta. 451+96.16
 *** 0.02'/Ft. to -0.02'/Ft.



Transitions:
 Sta. 374+95.00 to Sta. 375+87.03 (Sewage Lagoon Entrance)
 * 8' to 3'
 Sta. 422+19.11 to Sta. 423+19.11
 * 5.67' to 8'
 Sta. 431+00.32 to Sta. 432+20.32 ((Summit Avenue)
 # 12' to 24'
 Sta. 432+20.32 to Sta. 433+45.32
 # 24'
 Sta. 433+45.32 to Sta. 434+49.29
 # 24' to 12'
 Sta. 438+22.94 to Sta. 439+42.94 (Enterprise Avenue)
 # 12' to 24'
 Sta. 439+42.92 to Sta. 441+52.56
 # 24'
 Sta. 441+52.56 to Sta. 442+58.55
 # 24' to 12'
 ** 5.67' to 10.67'

PLOT SCALE - 1/8" = 1'-0"

PLOTTED FROM - TRPR16032

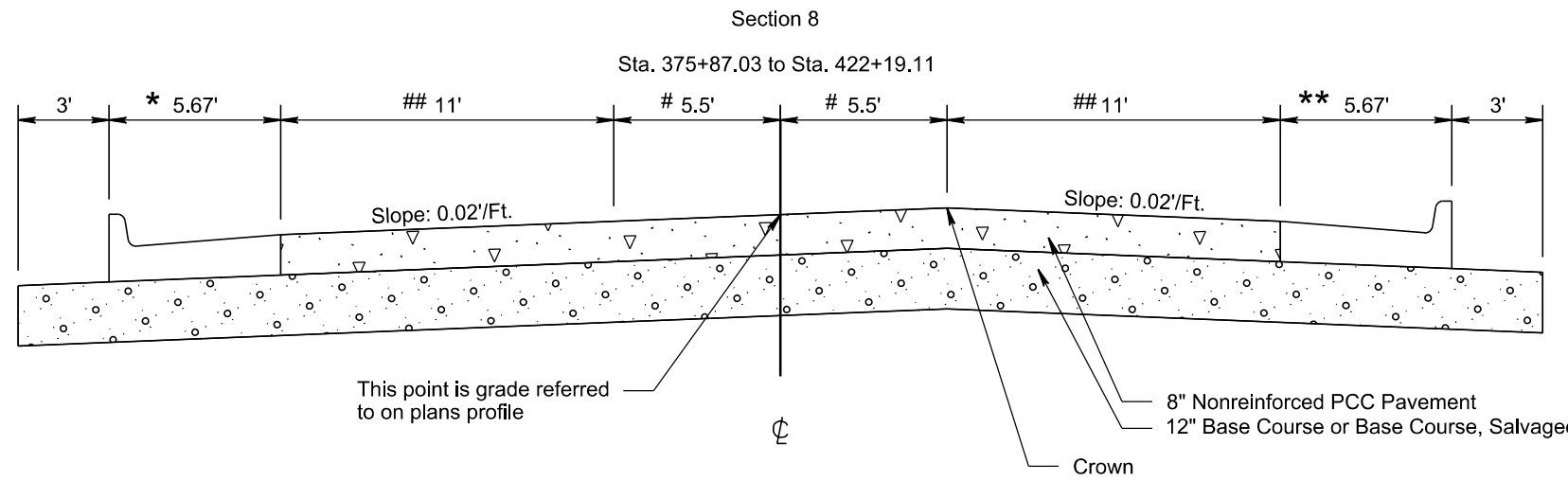
PLOT NAME - 4

FILE - ... \0609_TYPICAL SECTIONS.DGN

TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F10	F38

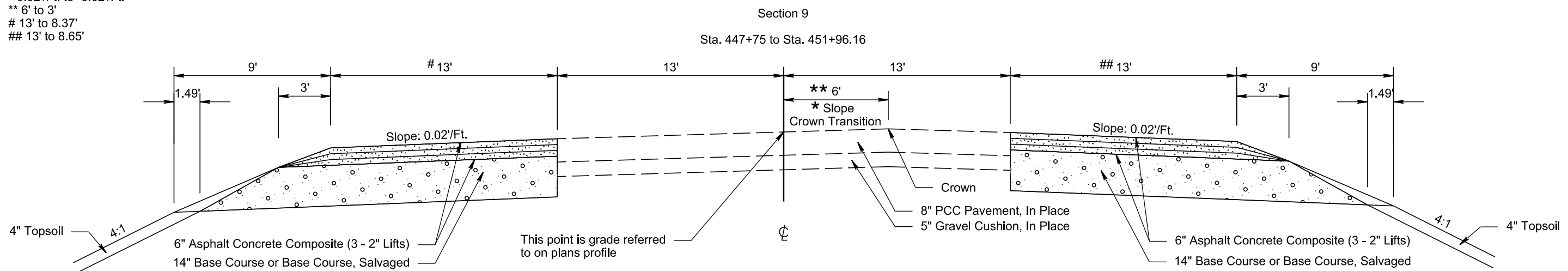
Plotting Date: 07/30/2024



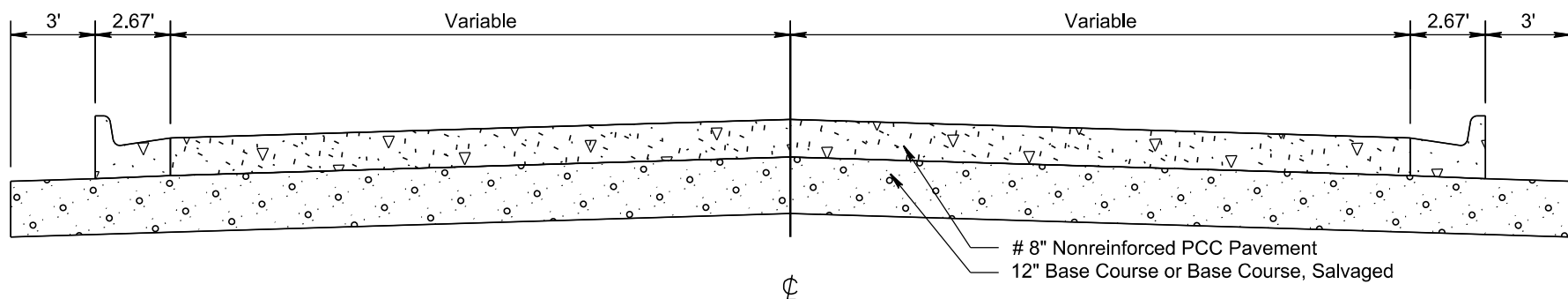
- Transitions:
- Sta. 375+87.03 to Sta. 379+20.28
6'
12'
 - Sta. 379+20.28 to Sta. 379+99.41 (T & R West Entrance)
6' to 5.5'
12' to 11'
 - Sta. 383+12.62 to Sta. 384+14.79 (T & R Main Entrance)
* 5.67' to 2.67'
 - Sta. 384+14.79 to Sta. 419+78.28
* 2.67'
 - Sta. 399+42.75 to Sta. 400+40.75
** 5.67' to 2.67'
 - Sta. 400+40.75 to Sta. 419+78.28
** 2.67'
 - Sta. 419+78.28 to Sta. 420+79.50
11' to 12'
5.5' to 6'
* 2.67' to 5.67'
** 2.67' to 5.67'

Slope Crown Transitions:

- Sta. 448+06.16 to Sta. 451+96.16
* 0.02'/Ft. to -0.02'/Ft.
** 6' to 3'
13' to 8.37'
13' to 8.65'



Intersecting Roads



- Surfacing Transition:
- # 4" Asphalt Concrete Composite (2 Lifts) and 4" Base Course or Base Course, Salvaged (See PCC Pavement Layouts sheets)

PLOT SCALE - 1+6.00001

PLOTTED FROM - TRPR16032

PLOT NAME - 5

FILE - ... \0609_TYPICAL SECTIONS.DGN

TRAFFIC CONTROL TYPICAL SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F11	F38

Plotting Date: 07/30/2024

Transitions:

Sta. 355+14 to Sta. 357+14.77
0'

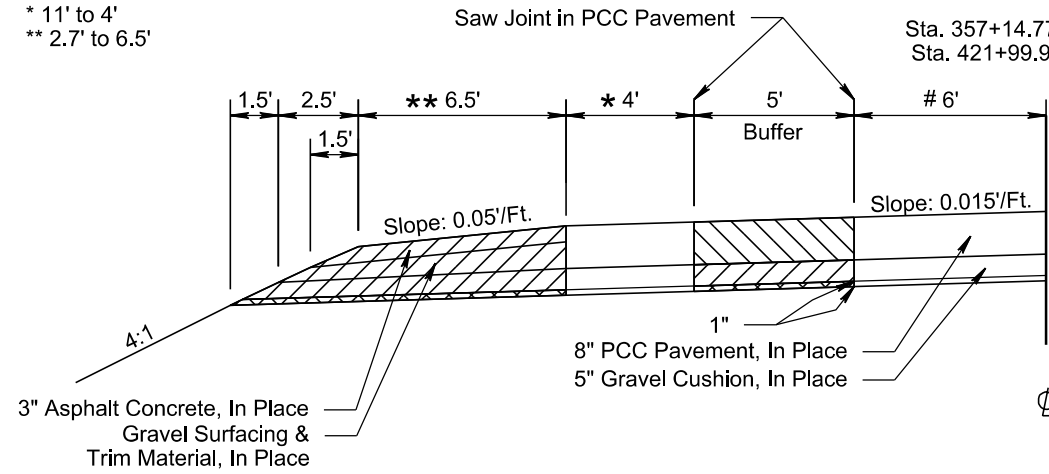
Sta. 357+14.77 to Sta. 361+05.0
0' to 6'
* 10' to 4'

Sta. 375+58.5 to Sta. 380+00.3
* 4' to 11'
** 6.5' to 2.7'

Sta. 421+99.9 to Sta. 424+09.8
* 11' to 4'
** 2.7' to 6.5'

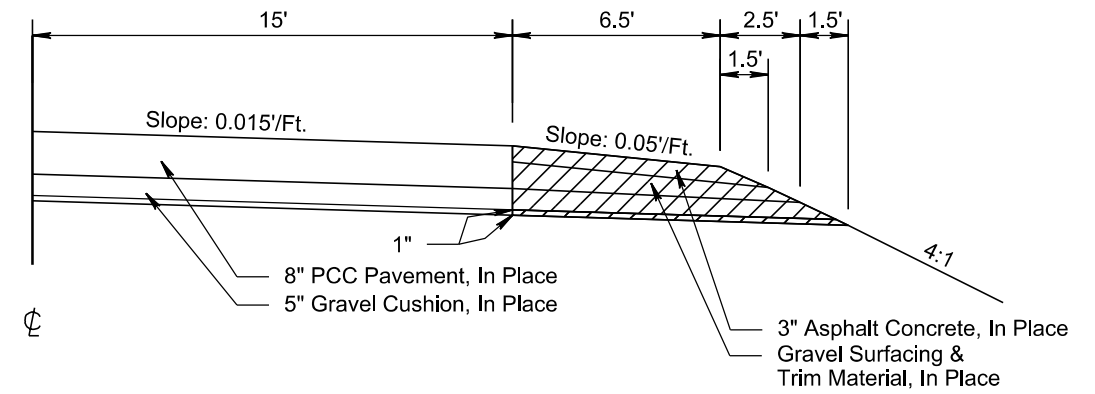
Phase 1




Sta. 357+14.77 to Sta. 380+00.3
Sta. 421+99.9 to Sta. 447+75.0



Phase 1

Sta. 354+14.00 to Sta. 357+14.77



-  Salvage & Stockpile Asphalt Mix and Granular Base Material
-  Remove PCC Pavement
-  Unclassified Excavation

Transitions:

Sta. 355+14 to Sta. 357+14.77
0'
** 6.5'

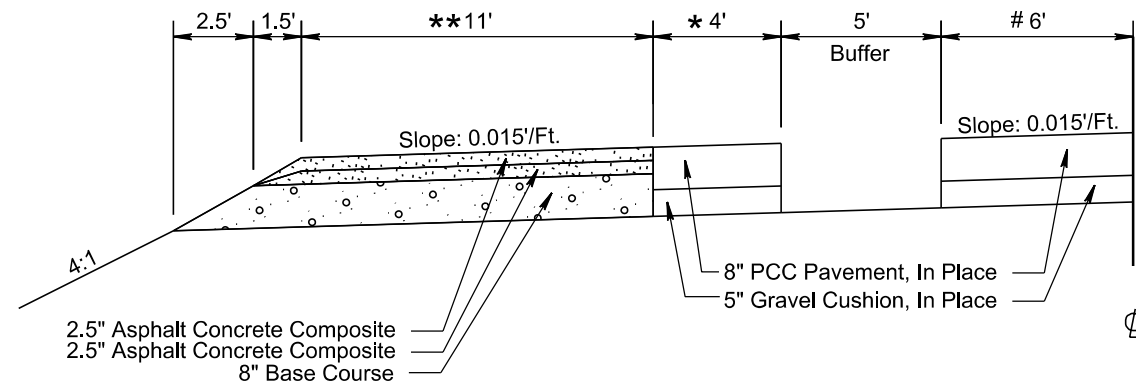
Sta. 357+14.77 to Sta. 361+05.0
0' to 6'
* 10' to 4'
** 6.5' to 11'

Sta. 375+58.5 to Sta. 380+00.3
* 4' to 11'
** 11' to 2.7'

Sta. 421+99.9 to Sta. 424+09.8
* 11' to 4'
** 2.7' to 11'

Phase 1

Sta. 357+14.77 to Sta. 380+00.3
Sta. 421+99.9 to Sta. 447+75.0

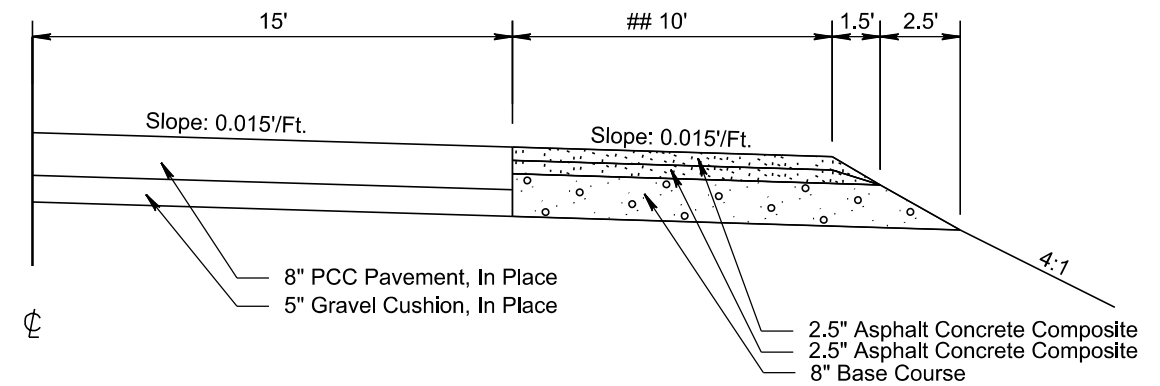


Transitions:

Sta. 354+14.0 to Sta. 356+14.0
6.5' to 10'

Phase 1

Sta. 354+14.00 to Sta. 357+14.77



PLOT SCALE - 1:6.00001

PLOTTED FROM - TRPR16032

PLOT NAME - 6


FILE - ... \0609_TYPICAL SECTIONS.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F12	F38

Plotting Date: 07/30/2024

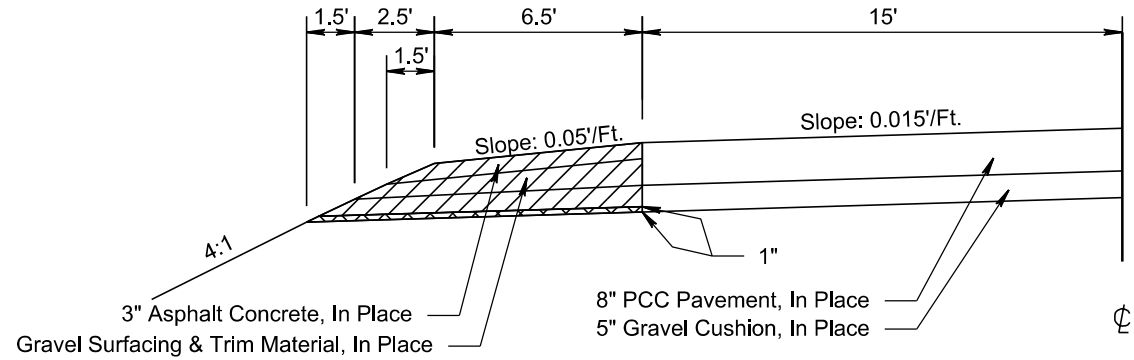
TRAFFIC CONTROL TYPICAL SECTIONS

 Salvage & Stockpile Asphalt Mix and Granular Base Material

 Unclassified Excavation

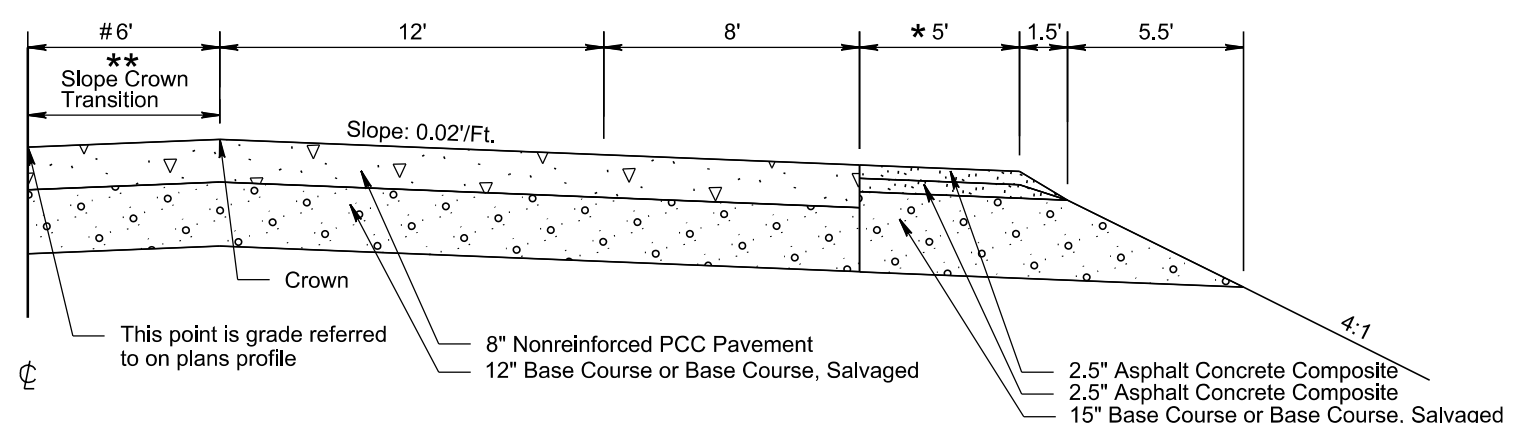
Phase 1

Sta. 355+14.0 to Sta. 357+14.77
Sta. 447+75.0 to Sta. 451+96.16



Phase 2

Sta. 357+14.77 to Sta. 358+77.4



Transitions:

Sta. 357+14.77 to Sta. 361+04.77
0' to 6'
** -0.02'/ft. to 0.02'/ft

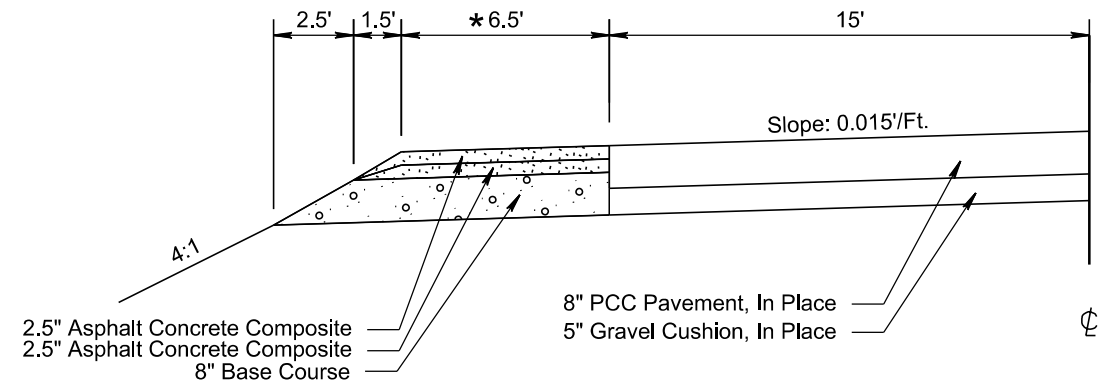
Sta. 357+14.77 to Sta. 358+77.4
* 5' to 2'

Transitions:

Sta. 447+75.0 to Sta. 451+96.16
* 11' to 6.5'

Phase 1

Sta. 355+14.0 to Sta. 357+14.77
Sta. 447+75.0 to Sta. 451+96.16



PLOT SCALE - 1+6.00001

PLOTTED FROM - TRPR16032

PLOT NAME - 7

FILE - ... \0609_TYPICAL SECTIONS.DGN

SALVAGING TRAFFIC CONTROL TYPICAL SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F13	F38

Plotting Date: 07/30/2024

 Salvage & Stockpile Asphalt Mix and Granular Base Material

Transitions:

Sta. 357+14.77 to Sta. 361+05.0
0' to 6'
* 10' to 4'
** 6.5' to 11'

Sta. 375+58.5 to Sta. 380+00.3
* 4' to 11'
** 11' to 2.7'

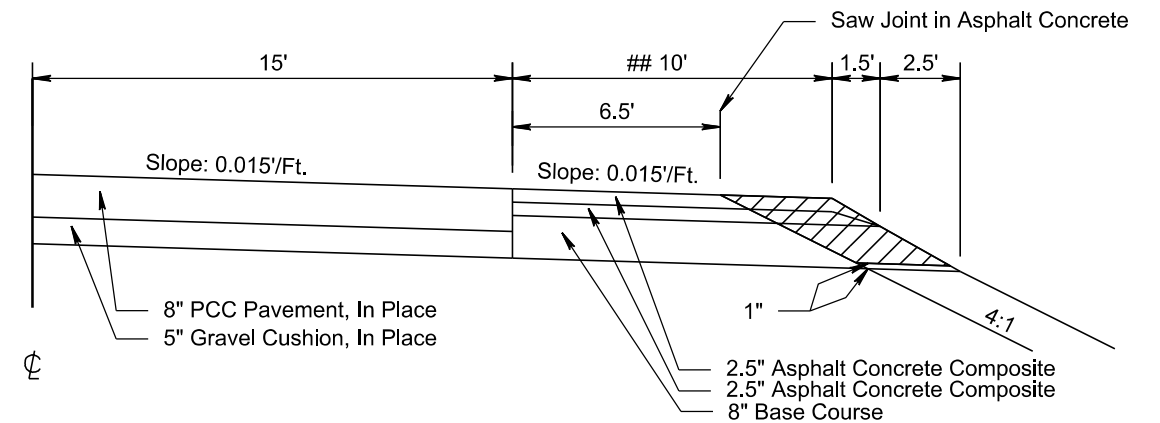
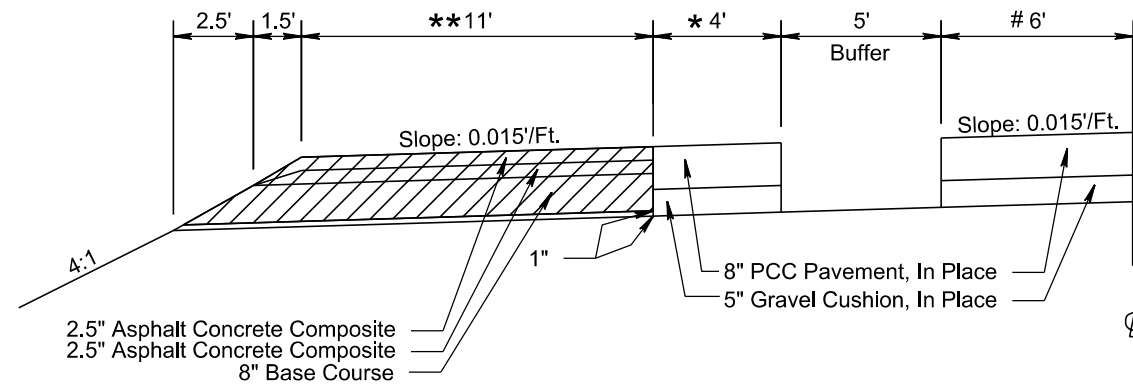
Sta. 421+99.9 to Sta. 424+09.8
* 11' to 4'
** 2.7' to 11'

Sta. 357+14.77 to Sta. 380+00.3
Sta. 421+99.9 to Sta. 447+75.0

Sta. 354+14.00 to Sta. 357+14.77

Transitions:

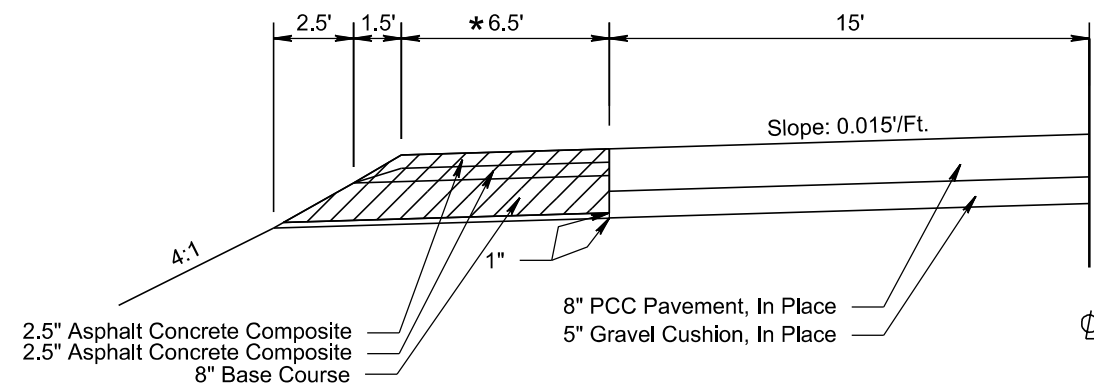
Sta. 354+14.0 to Sta. 356+14.0
6.5' to 10'



Transitions:

Sta. 447+75.0 to Sta. 451+96.16
* 11' to 6.5'

Sta. 447+75.0 to Sta. 451+96.16

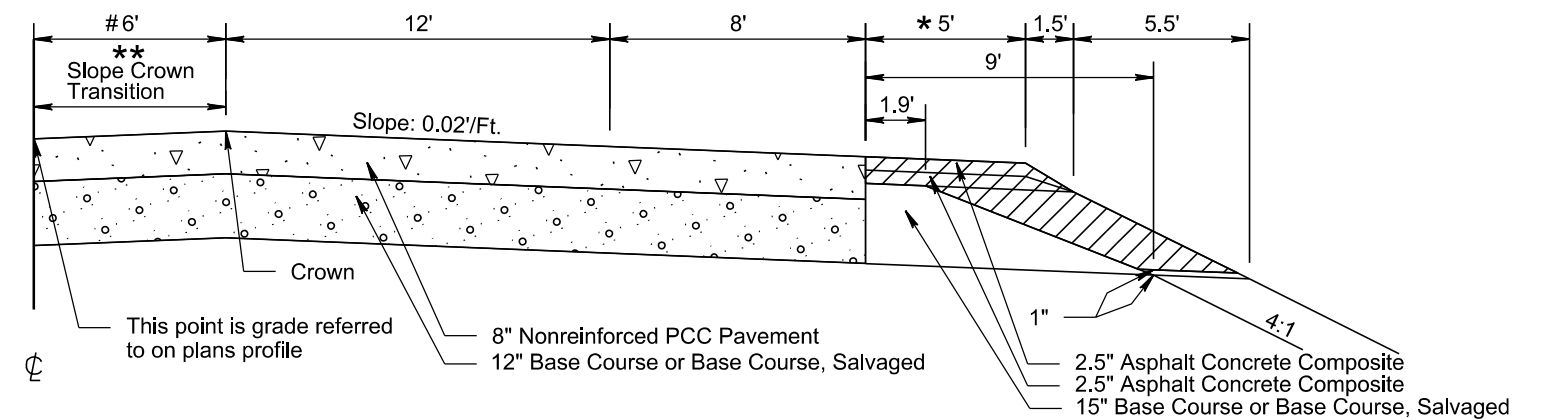


Transitions:

Sta. 357+14.77 to Sta. 361+04.77
0' to 6'
** -0.02'/Ft. to 0.02'/Ft.

Sta. 357+14.77 to Sta. 358+77.4
* 5' to 2'

Sta. 357+14.77 to Sta. 358+77.4



PLOT SCALE - 1+6.00001

PLOTTED FROM - TRPR16032

PLOT NAME - 8

FILE - ... \0609_TYPICAL SECTIONS.DGN

PCC PAVEMENT JOINT LAYOUTS

Scale 1 Inch = 40 Feet
Sheet 1 of 14 Sheets

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F14	F38

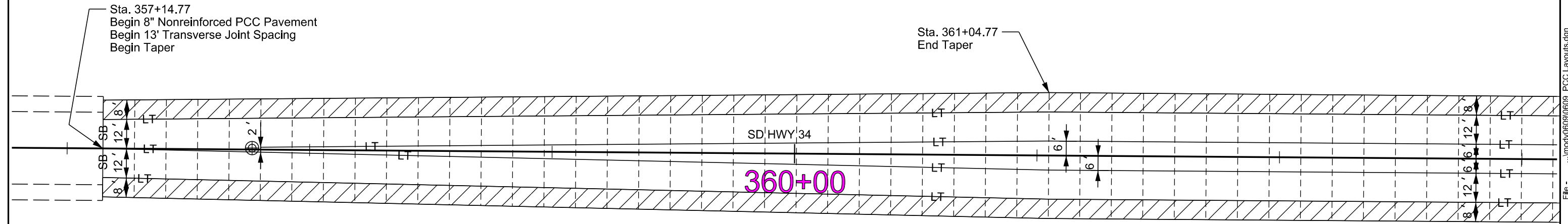
Plotting Date: 07/30/2024



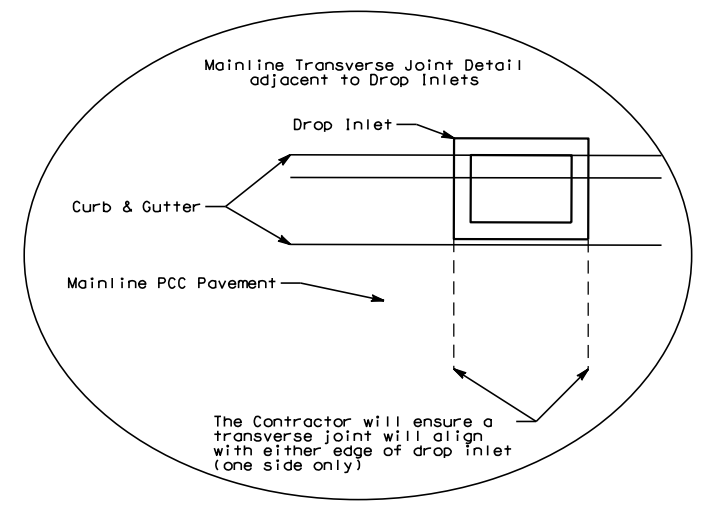
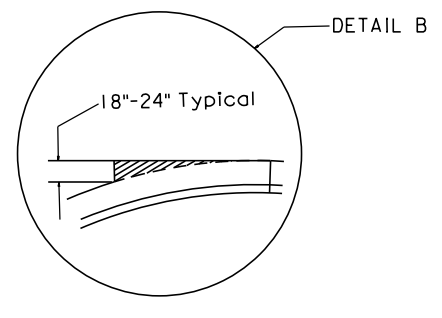
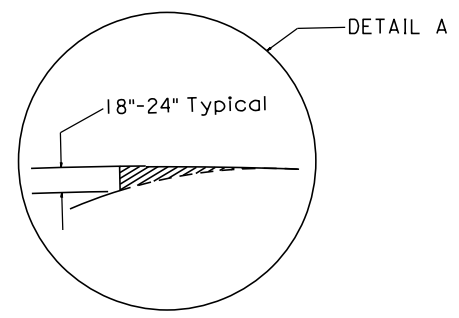
Plot Scale - 1:40

Plotted From - TRPR16032

File - ...imedy06090609_PCC Layouts.dgn



- LEGEND:**
- Longitudinal Joint Without Tie Bars (Construction or Sawed) ——— L ——— L ———
 - Longitudinal Joint With Tie Bars (Construction or Sawed) ——— LT ——— LT ———
 - Transverse Contraction Joint ——— - - - - -
 - Steel Bar Installation in Longitudinal or Transverse Joint ——— SB ——— SB ———
 - Areas to be poured monolithically with adjacent slab ⊕ (See Detail A)
 - Areas to be poured monolithically with adjacent curb and gutter ⊙ (See Detail B)
 - Drop Inlets
 - Transverse contraction joints within these areas will not have dowel bar assemblies. All other transverse contraction joints will have dowel bar assemblies.





PCC PAVEMENT JOINT LAYOUTS

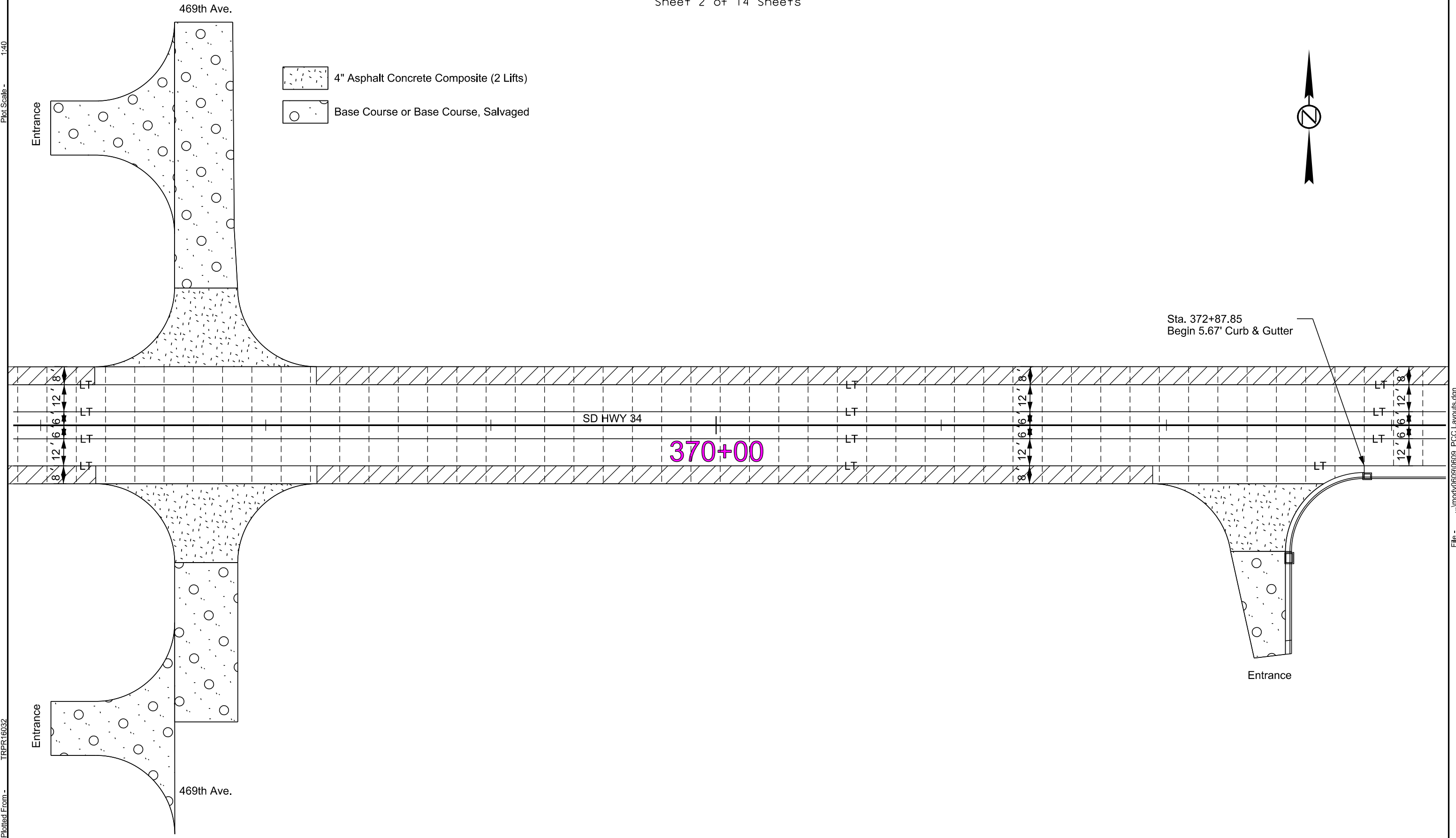
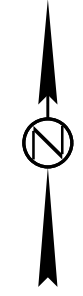
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F15	F38
Plotting Date: 07/30/2024			

Scale 1 Inch = 40 Feet
Sheet 2 of 14 Sheets

Plot Scale - 1:40

Plotted From - TRPR16032

-  4" Asphalt Concrete Composite (2 Lifts)
-  Base Course or Base Course, Salvaged


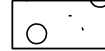


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PCC PAVEMENT JOINT LAYOUTS

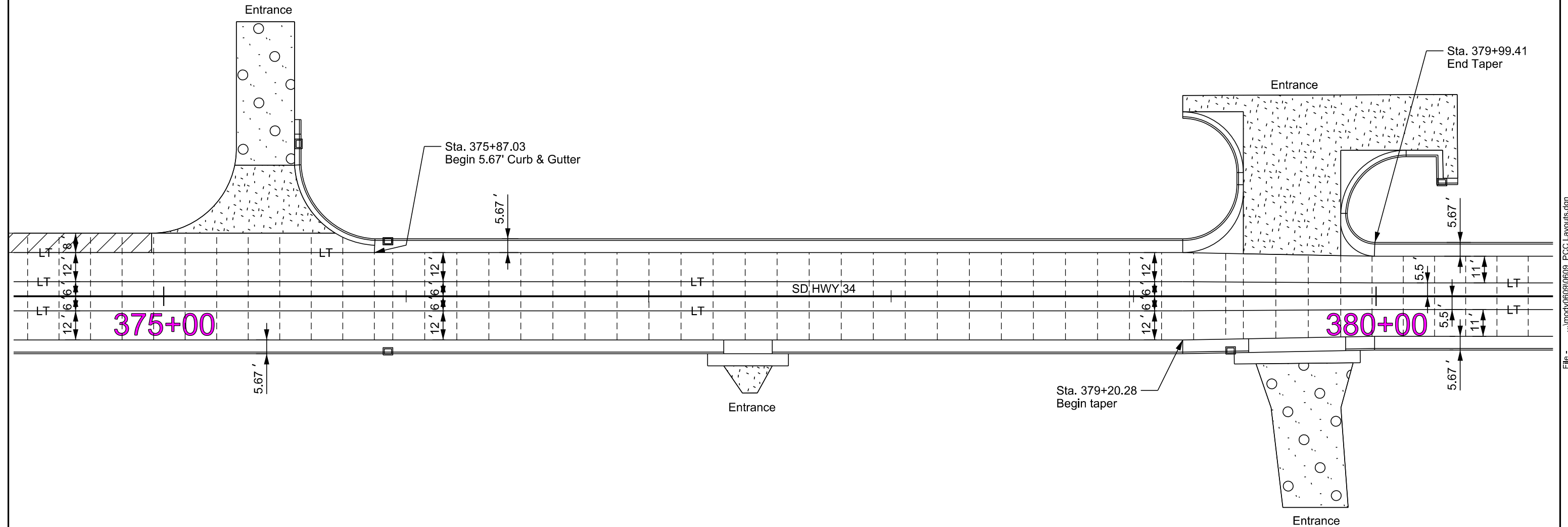
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F16	F38
Plotting Date: 07/30/2024			

Scale 1 Inch = 40 Feet
Sheet 3 of 14 Sheets

-  4" Asphalt Concrete Composite (2 Lifts)
-  Base Course or Base Course, Salvaged



Plot Scale - 1:40



Plotted From - TRPR16032



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PCC PAVEMENT JOINT LAYOUTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F17	F38

Plotting Date: 07/30/2024

Scale 1 Inch = 40 Feet
Sheet 4 of 14 Sheets

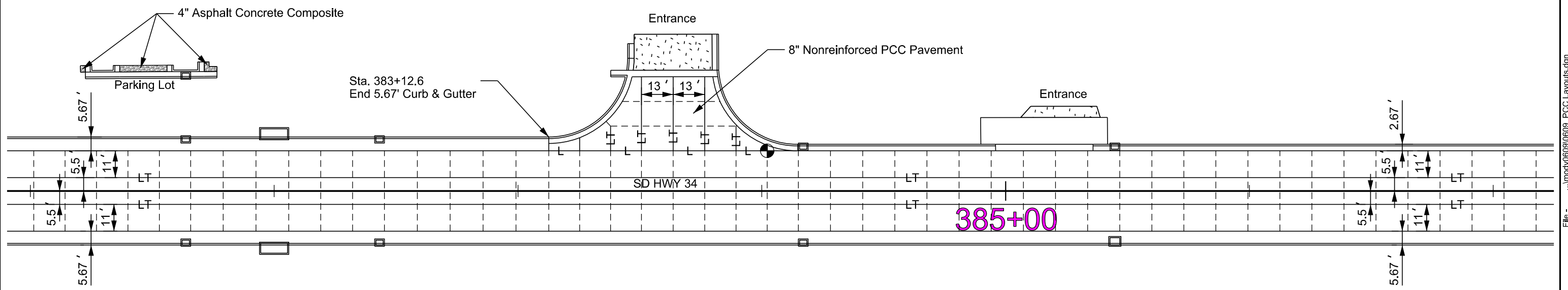
-  4" Asphalt Concrete Composite (2 Lifts)
-  Base Course or Base Course, Salvaged



Plot Scale - 1:40

Plotted From - TRPR16032

File - ...imedy06090609_PCC Layouts.dgn


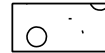


PCC PAVEMENT JOINT LAYOUTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F18	F38

Plotting Date: 07/30/2024

Scale 1 Inch = 40 Feet
Sheet 5 of 14 Sheets

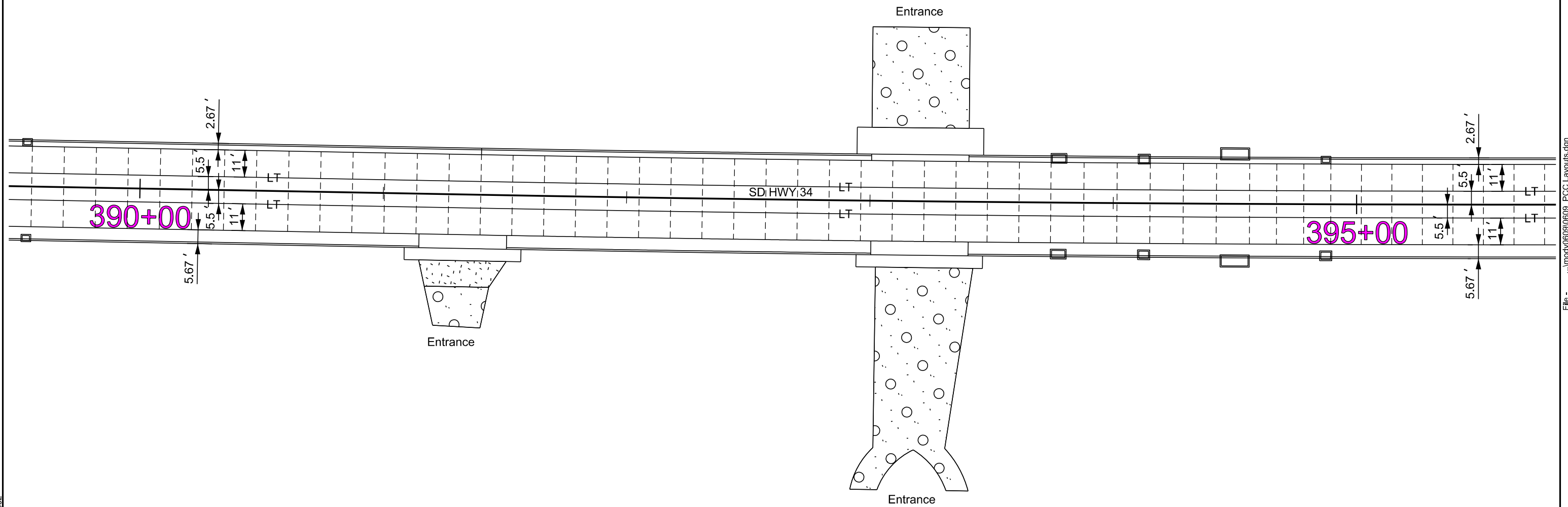
-  4" Asphalt Concrete Composite (2 Lifts)
-  Base Course or Base Course, Salvaged



Plot Scale - 1:40

Plotted From - TRPR16032

File - ...imedy06090609_PCC Layouts.dgn






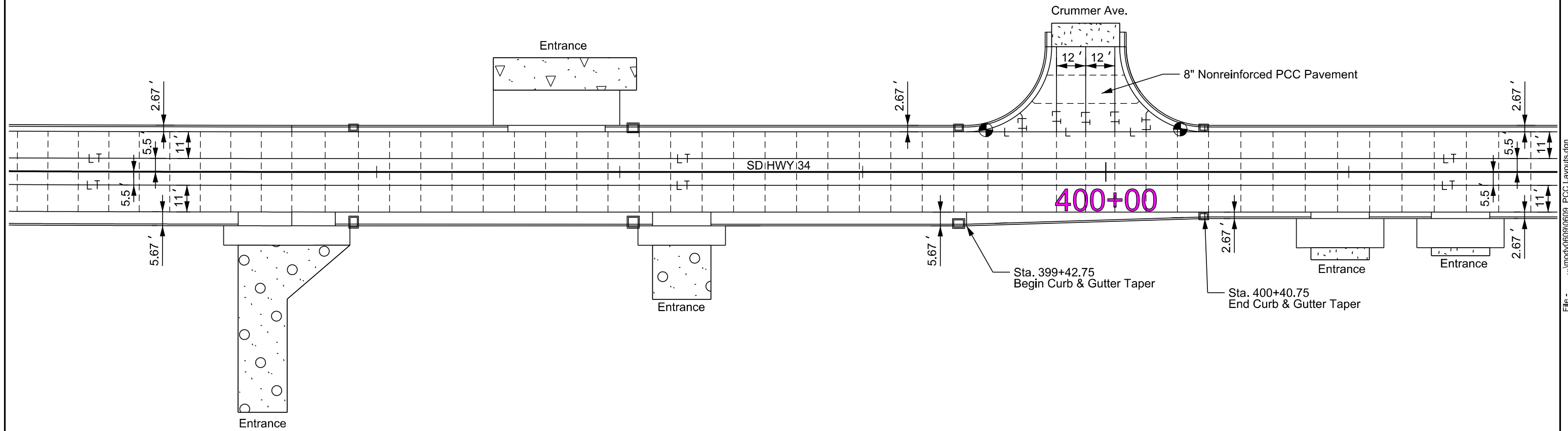
PCC PAVEMENT JOINT LAYOUTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F19	F38
Plotting Date:		07/30/2024	

Scale 1 Inch = 40 Feet
Sheet 6 of 14 Sheets

Plot Scale - 1:40

-  4" Asphalt Concrete Composite (2 Lifts)
-  Base Course or Base Course, Salvaged
-  8" PCC Driveway Pavement






Plotted From - TRPR16032

File - ...amedy\0609\0609_PCC Layouts.dgn

PCC PAVEMENT JOINT LAYOUTS

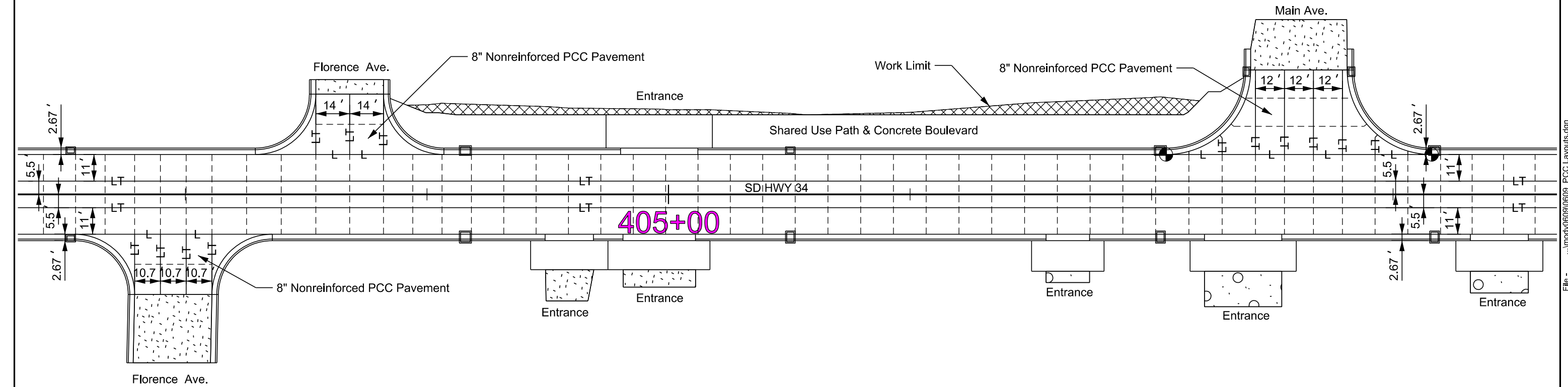
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F20	F38
Plotting Date: 07/30/2024			

Scale 1 Inch = 40 Feet
Sheet 7 of 14 Sheets

-  4" Asphalt Concrete Composite (2 Lifts)
-  Base Course or Base Course, Salvaged
-  6" Granular Material, Furnished (Crushed Concrete)



Plot Scale - 1:40



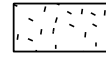
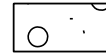
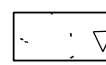
Plotted From - TRPR16032

File - ...amedy06090609_PCC Layouts.dgn

PCC PAVEMENT JOINT LAYOUTS

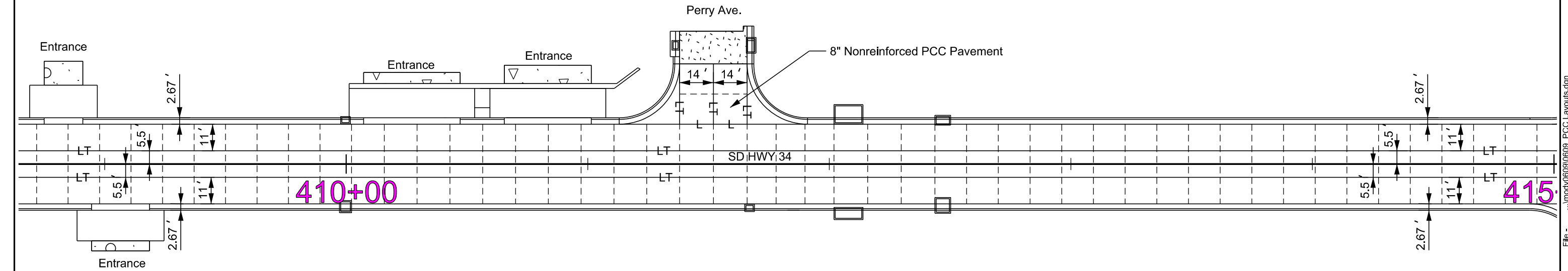
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F21	F38
Plotting Date: 07/30/2024			

Scale 1 Inch = 40 Feet
Sheet 8 of 14 Sheets

-  4" Asphalt Concrete Composite (2 Lifts)
-  Base Course or Base Course, Salvaged
-  8" PCC Driveway Pavement



Plot Scale - 1:40



Plotted From - TRPR16032

File - ...incoy06090609_PCC Layouts.dgn



PCC PAVEMENT JOINT LAYOUTS

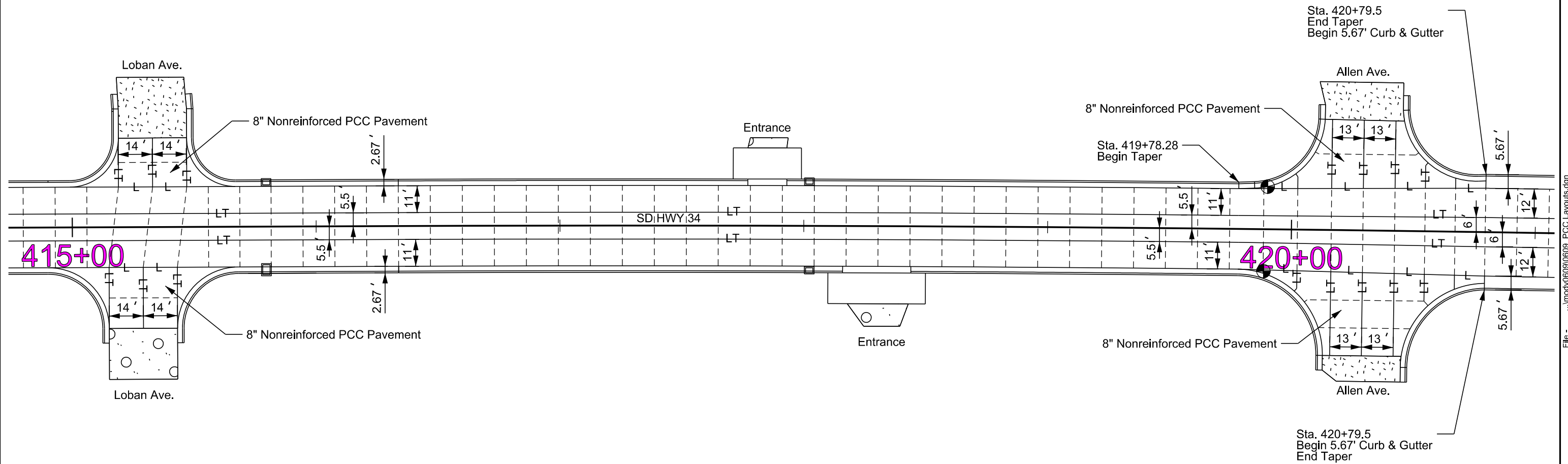
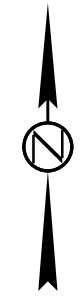
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F22	F38

Plotting Date: 07/30/2024

Scale 1 Inch = 40 Feet
Sheet 9 of 14 Sheets

Plot Scale - 1:40

-  4" Asphalt Concrete Composite (2 Lifts)
-  Base Course or Base Course, Salvaged



Plotted From - TRPR16032

File - ...imedy06090609_PCC Layouts.dgn


PCC PAVEMENT JOINT LAYOUTS

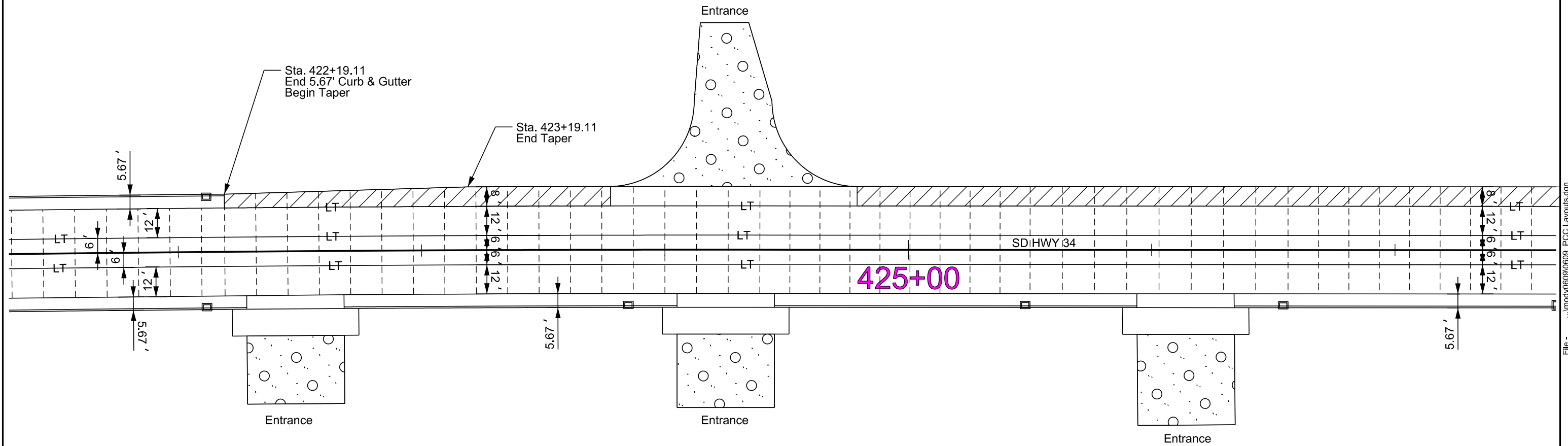
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F23	F38

Plotting Date: 07/30/2024

Scale 1 Inch = 40 Feet
Sheet 10 of 14 Sheets

Plot Scale - 1:40

 Base Course or Base Course, Salvaged



Plotted From - TRPR16032


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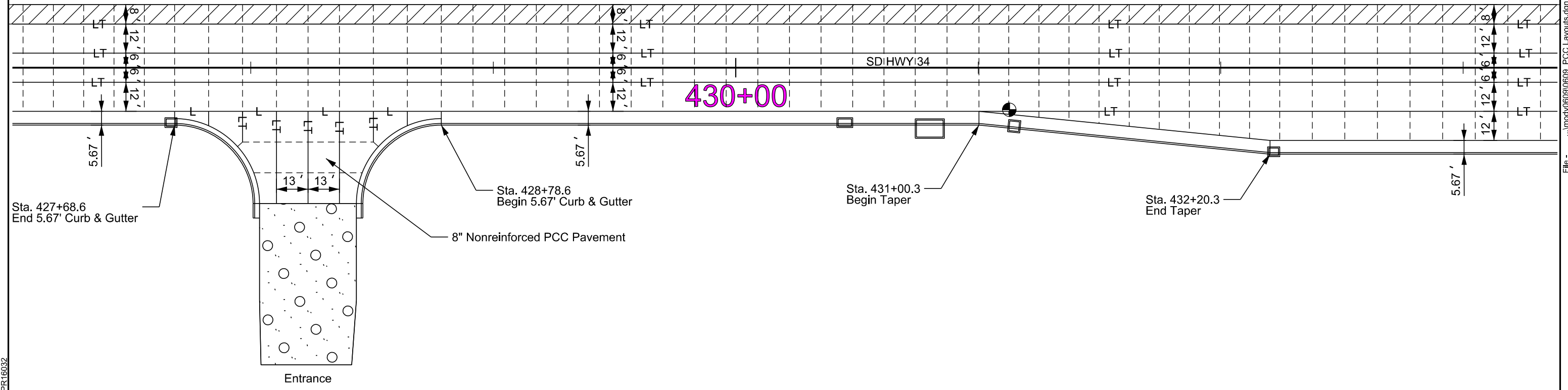
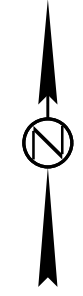
PCC PAVEMENT JOINT LAYOUTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F24	F38
Plotting Date:		07/30/2024	

Scale 1 Inch = 40 Feet
Sheet 11 of 14 Sheets

Plot Scale - 1:40

 Base Course or Base Course, Salvaged



Plotted From - TRPR16032

File - ...imedy06090609_PCC Layouts.dgn

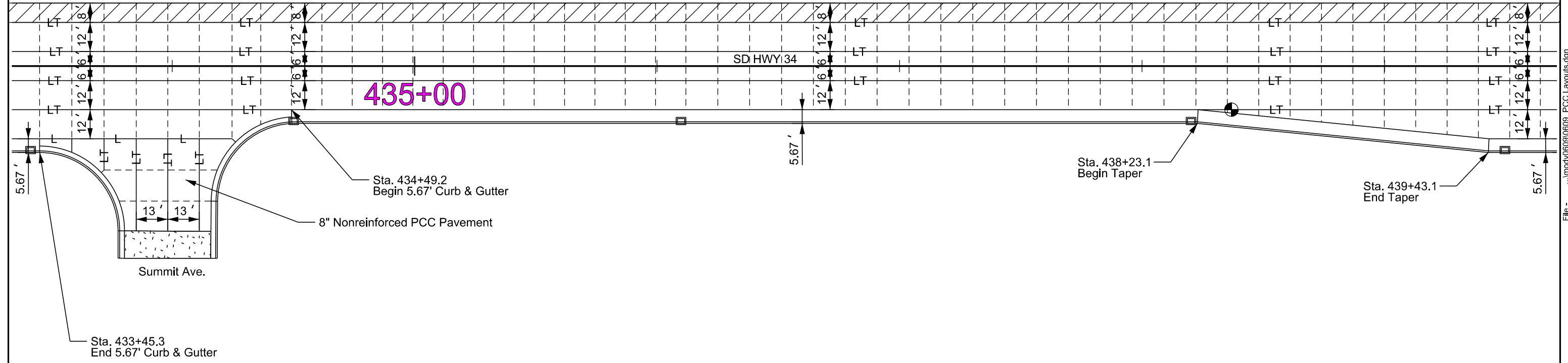
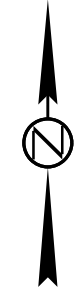
PCC PAVEMENT JOINT LAYOUTS

Scale 1 Inch = 40 Feet
Sheet 12 of 14 Sheets

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F25	F38
Plotting Date:		07/30/2024	

Plot Scale - 1:40

 4" Asphalt Concrete Composite (2 Lifts)



Plotted From - TRPR16032

File - ...:\mody\0609\0609_PCC Layouts.dgn

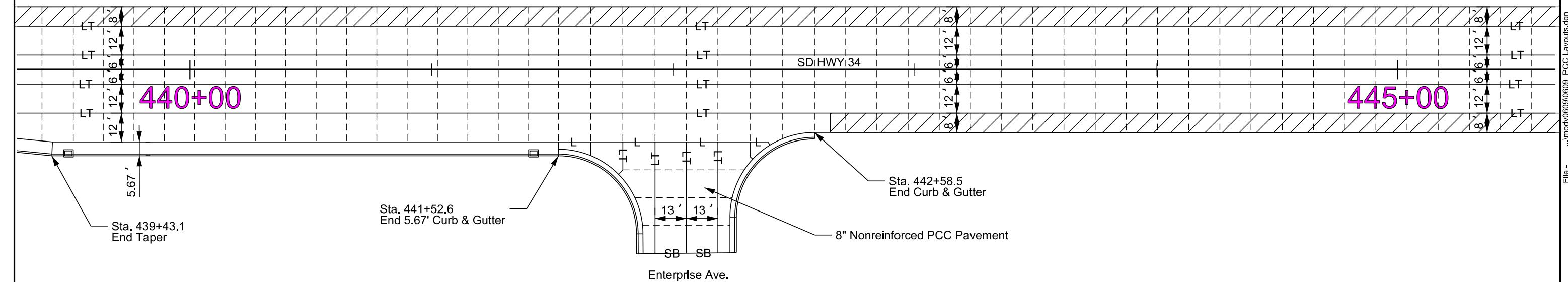
PCC PAVEMENT JOINT LAYOUTS

Scale 1 Inch = 40 Feet
Sheet 13 of 14 Sheets

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F26	F38
Plotting Date:		07/30/2024	



Plot Scale - 1:40



Plotted From - TRPR16032

File - ...:\mody\0609\0609_PCC Layouts.dgn

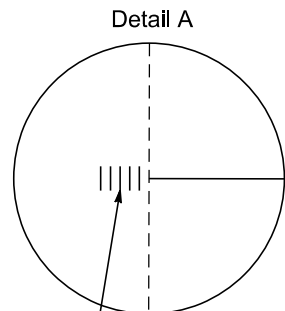
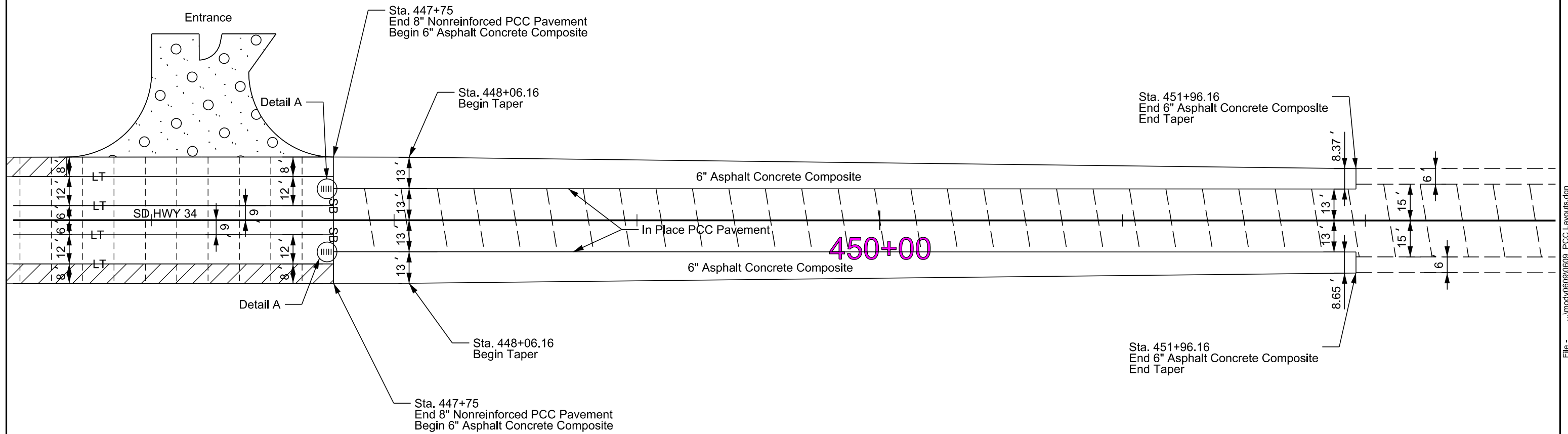
PCC PAVEMENT JOINT LAYOUTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-CR 0034(193)402	F27	F38

Plotting Date: 07/30/2024

Scale 1 Inch = 40 Feet
Sheet 14 of 14 Sheets

Plot Scale - 1:40



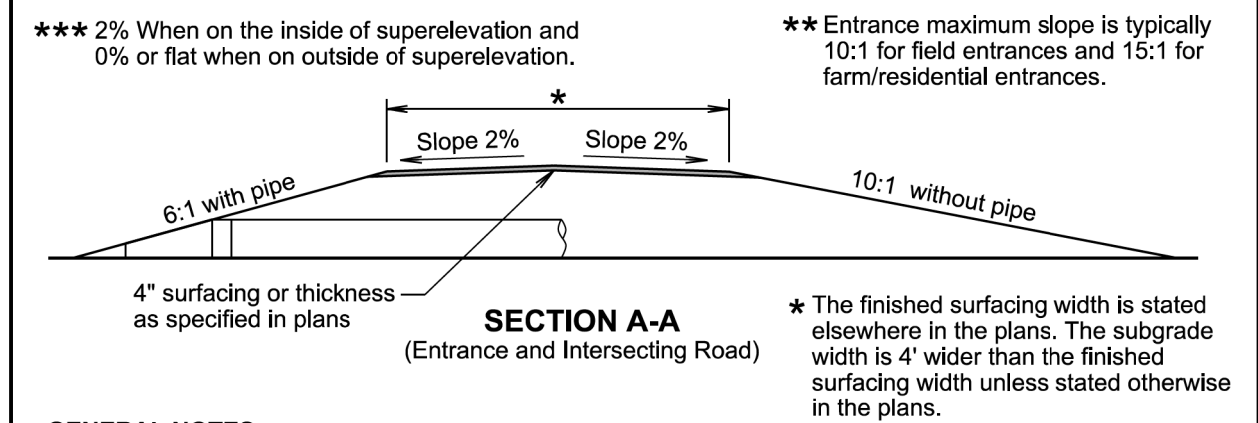
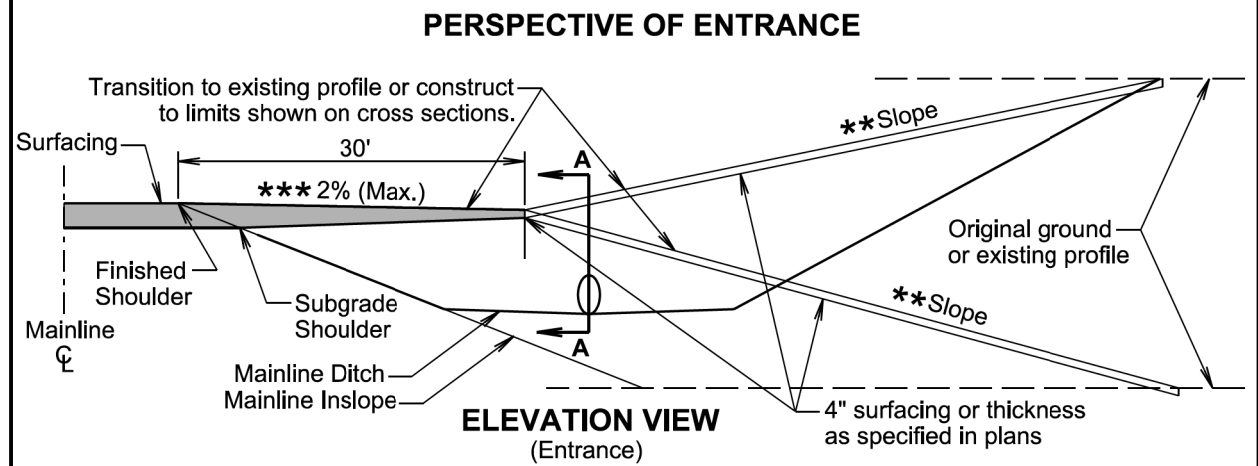
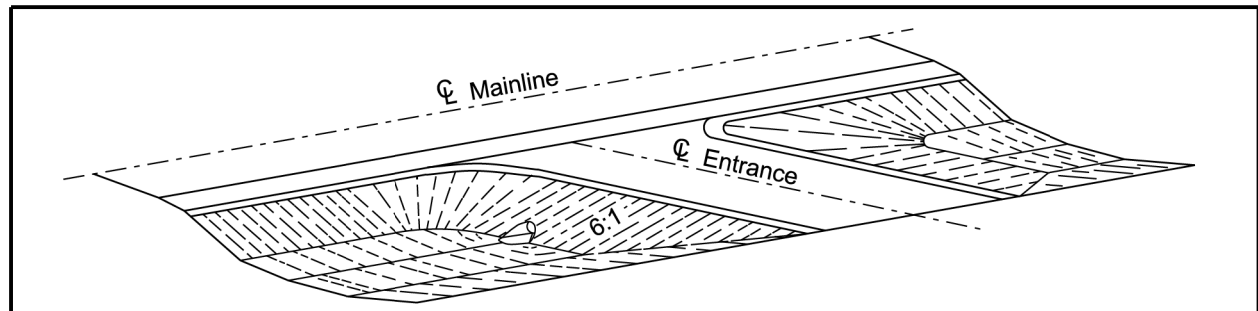
5 - #4 x 30" Rebar
12" Center to Center.
6" from joint and
centered (Typical)

Sta. 447+75 to Sta. 451+96.16
Transverse shoulder joints will
match in place transverse joints.
Spacing for in place transverse joints
equals 15' with a 10° skew.
Shoulder joints will not be skewed.

Plotted From: TRPR16032

File: ...lmody06090609_PCC Layouts.dgn

Plot Scale - 1:200



GENERAL NOTES:

The ditch section shown above in the perspective view is only for illustrative purpose.

The elevation view above is typical for either a ditch cut or fill section. Entrances that vary from above should be specified in the plans.

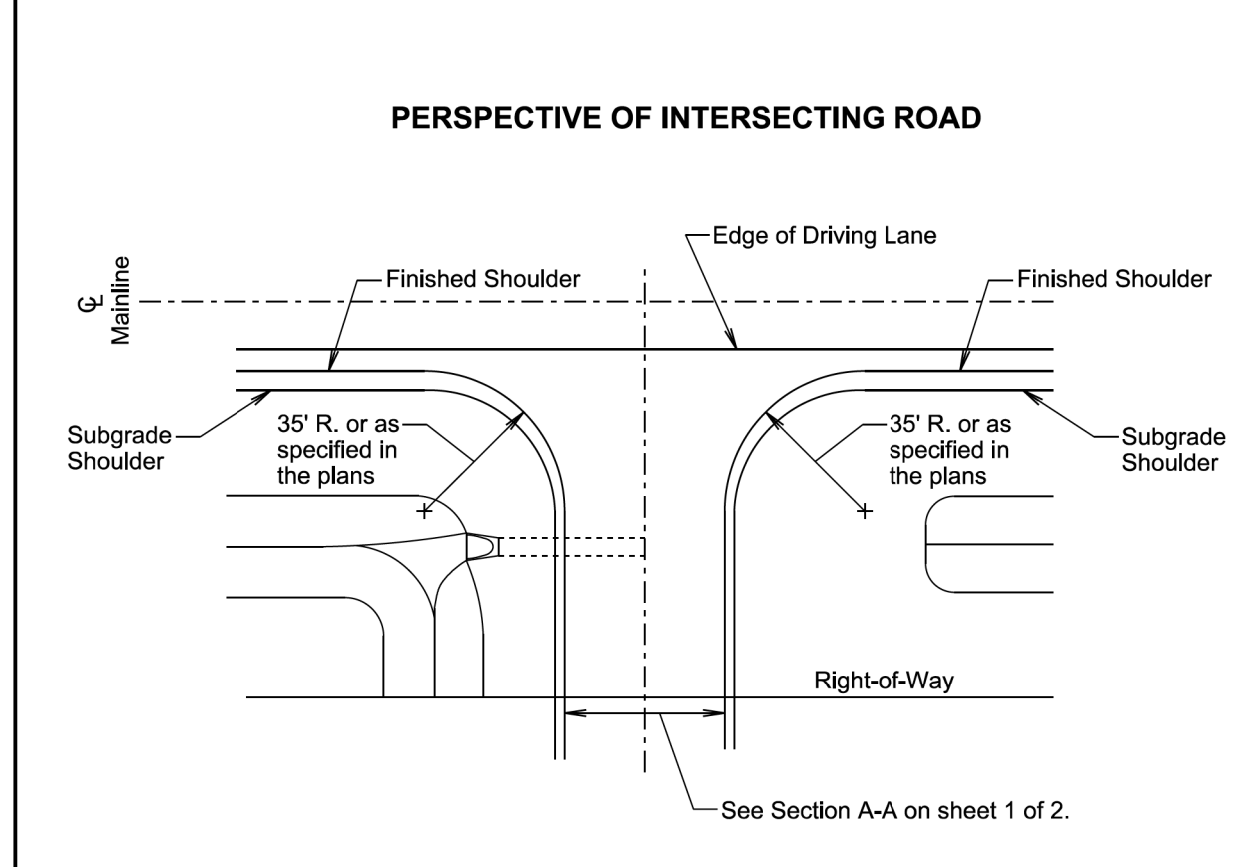
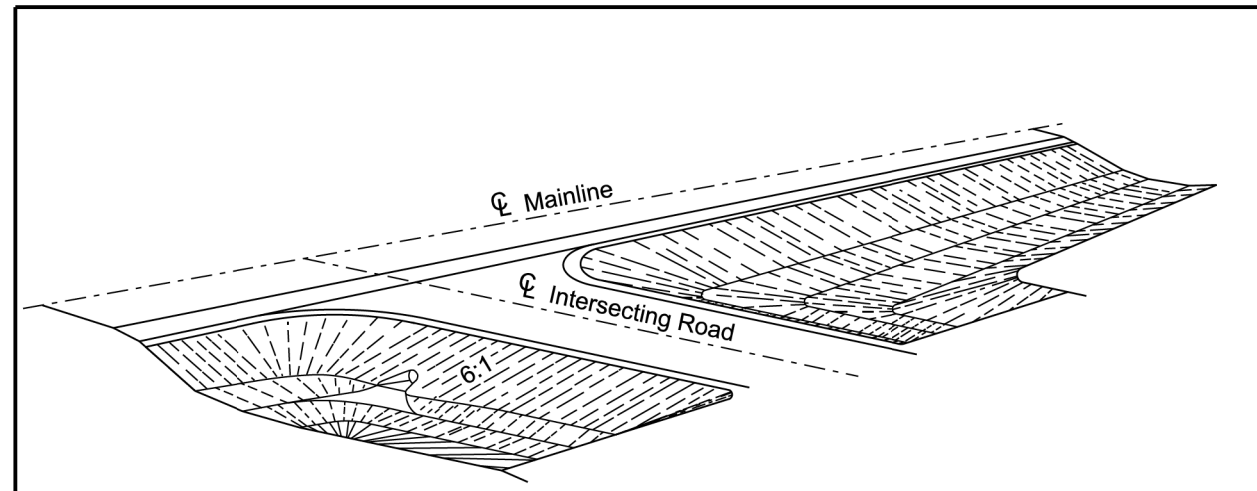
Pipe length will be adjusted if necessary during construction to obtain the 6:1 slope. For grading projects, the pipe length is estimated typically using a 4" thickness of surfacing directly over the subgrade above the pipe.

The transition area between the mainline inslope and the entrance or intersecting road inslope will be rounded to eliminate an abrupt transition.

The turning radii will be 35' for intersecting roads and entrances unless stated otherwise in the plans.

November 19, 2021

Published Date: 2025	S D D O T	INTERSECTING ROADS AND ENTRANCES	PLATE NUMBER 120.01
			Sheet 1 of 2



GENERAL NOTES:

The 6:1 or 10:1 intersecting road inslope will transition to the existing intersecting road inslope near the right-of-way or at a location as determined by the Engineer.

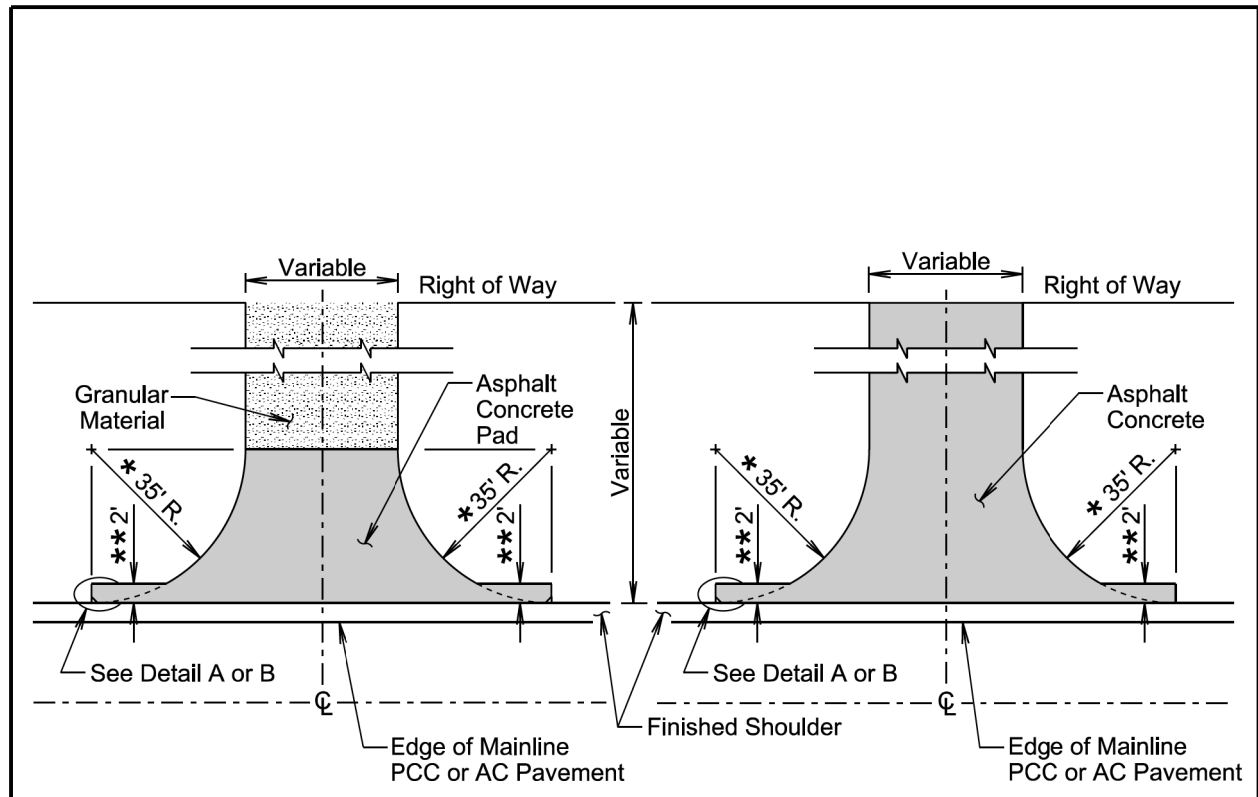
November 19, 2021

Published Date: 2025	S D D O T	INTERSECTING ROADS AND ENTRANCES	PLATE NUMBER 120.01
			Sheet 2 of 2

Plotted From: TRPR16032

File: ... \StdPlateSection 0609.dgn

Plot Scale - 1:200



PLAN VIEW
(Intersecting Road)
(No Asphalt Concrete Surfacing
Beyond Right of Way)

PLAN VIEW
(Intersecting Road)
(Asphalt Concrete Surfacing
Beyond Right of Way)

GENERAL NOTES:

The precise construction limits for situations other than shown above will be determined by the Engineer during construction.

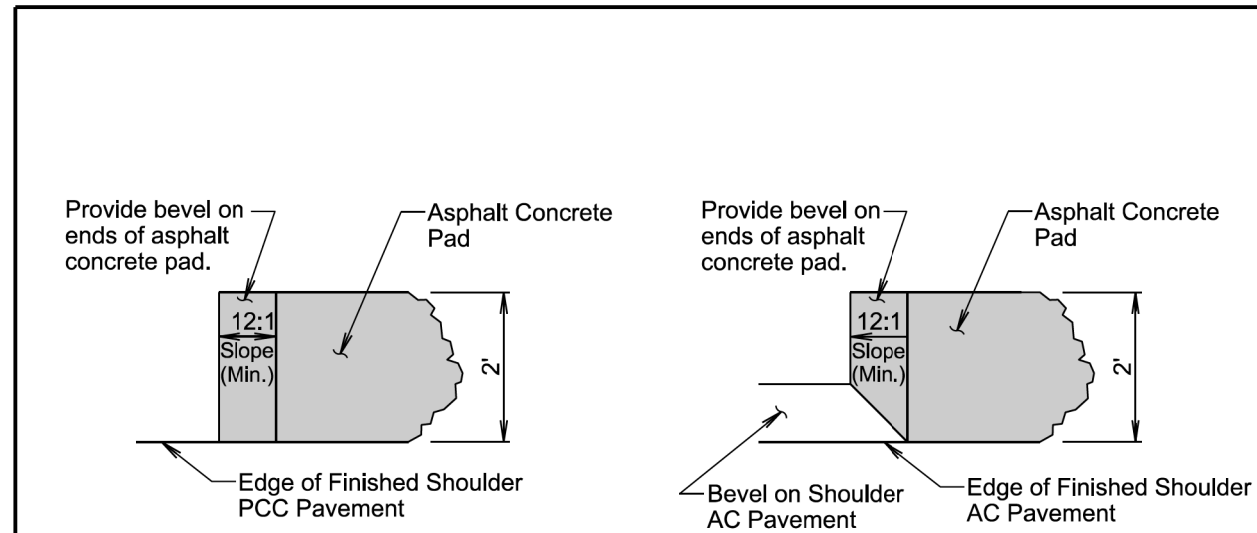
* For new construction, 35' radius typical or as specified in the plans. For resurfacing projects, radius is variable depending on existing conditions.

** The Contractor may adjust the screed of the paver during mainline paving operations to provide the 2-foot asphalt concrete pad or the Contractor may provide the 2-foot asphalt concrete pad during paving of the intersecting roads as shown above. The Engineer may eliminate the 2-foot asphalt concrete pads if the Engineer, in the Engineer's sole discretion, determines the pads are infeasible to construct due to site specific reasons including, but not limited to; existing inslope configuration, borrow and material availability, and right-of-way constraints.

August 27, 2020

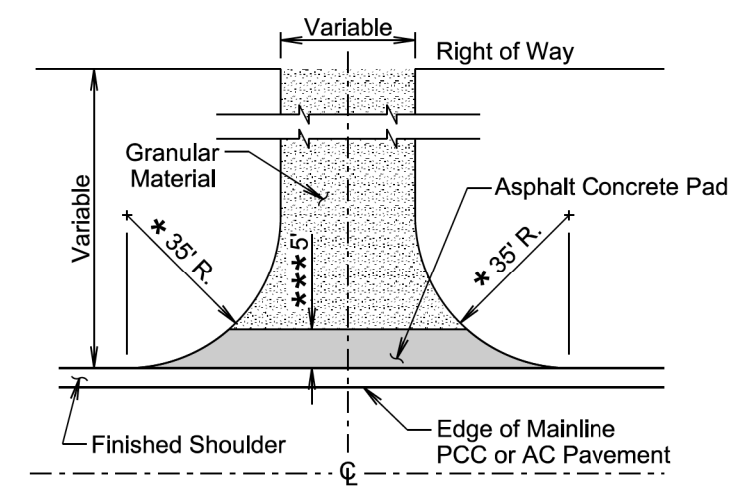
S D D O T	SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (MAINLINE AND SHOULDERS: PCC OR AC PAVEMENT)	PLATE NUMBER 320.04
		Sheet 1 of 2

Published Date: 2025



DETAIL A
(Typ. for Projects with PCC Pavement on Shoulder)

DETAIL B
(Typ. for Projects with AC Pavement on Shoulder)



PLAN VIEW
(Entrance)

*** Not required if finished shoulder width is 4' or greater.

August 27, 2020

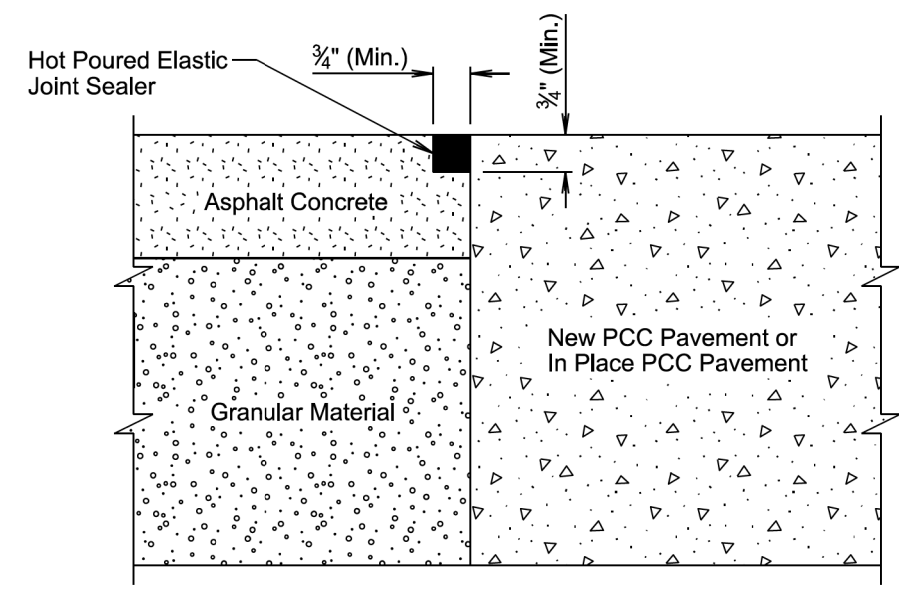
S D D O T	SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (MAINLINE AND SHOULDERS: PCC OR AC PAVEMENT)	PLATE NUMBER 320.04
		Sheet 2 of 2

Published Date: 2025

Plotted From: TRPR16032

File - ... \StdPlateSection 0609.dgn

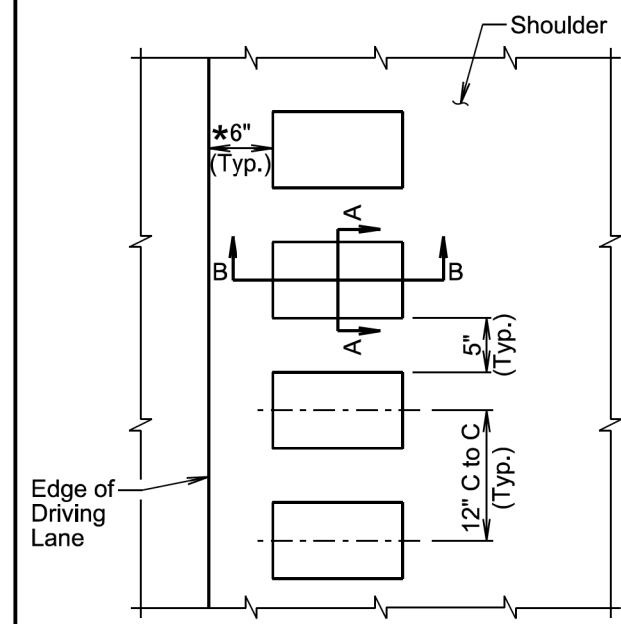
Plot Scale - 1:200



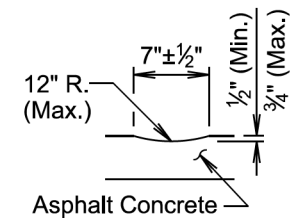
TRANSVERSE SECTION
(Asphalt Concrete Shoulder Joint)

September 14, 2019

SDDOT	ASPHALT CONCRETE SHOULDER JOINT ADJACENT TO PCC PAVEMENT	PLATE NUMBER 320.15
	Published Date: 2025	Sheet 1 of 1



PLAN VIEW
(Typical Rumble Strip in Asphalt Concrete)



SECTION A-A

GENERAL NOTES:

A rumble strip will be constructed on all of the asphalt concrete shoulders by grinding alternating patterns of 40' continuous indentations in the asphalt concrete. The rumble strip will receive a flush seal or asphalt surface treatment as specified in the plans.

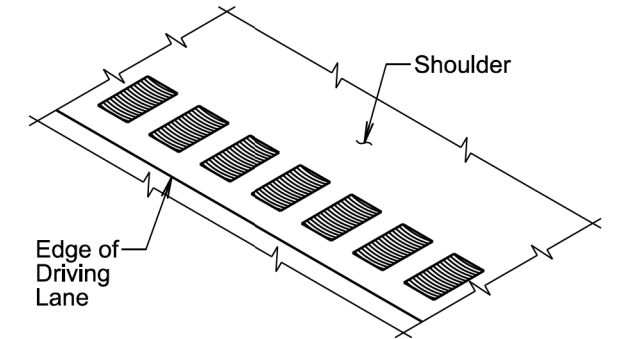
A rumble strip will not be constructed through intersecting roads, entrances, turnouts, bridge decks, bridge approach slabs, and railroad crossings. The lengths of the 40' segments with continuous indentations and the 12' segments without a rumble strip adjacent to the intersecting roads, entrances, turnouts, bridge decks, bridge approach slabs, and railroad crossings will be adjusted as approved by the Engineer.

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

Measurement of the rumble strip will be to the nearest 0.1 of a mile for each shoulder. Measurement and payment of the rumble strip will include the 12' long segments without rumble strips and the segments adjacent to intersecting roads, entrances, turnouts, bridge decks, bridge approach slabs, and railroad crossings without rumble strips. Payment for constructing the rumble strip will be at the contract unit price per mile for "Grind 12" Rumble Strip or Stripe in Asphalt Concrete".

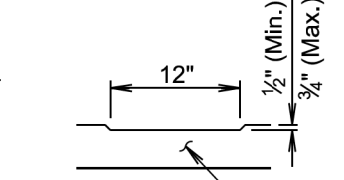
September 14, 2019

SDDOT	12" RUMBLE STRIP IN ASPHALT CONCRETE ON NONDIVIDED HIGHWAY SHOULDERS	PLATE NUMBER 320.24
	Published Date: 2025	Sheet 1 of 1

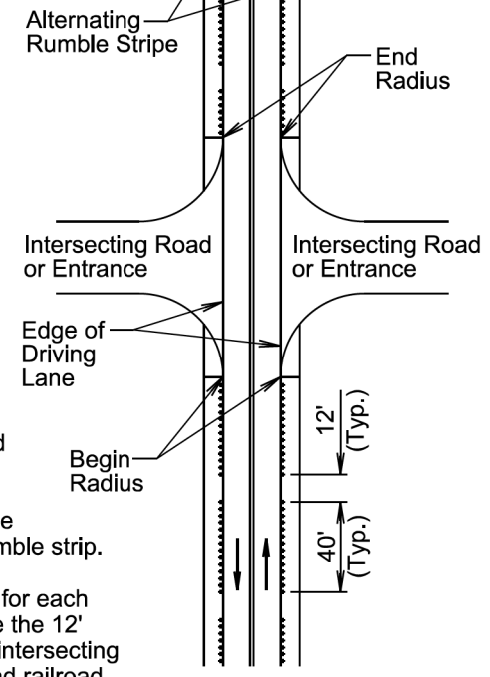


PERSPECTIVE VIEW
(Typical Rumble Strip in Asphalt Concrete)

* 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.



SECTION B-B

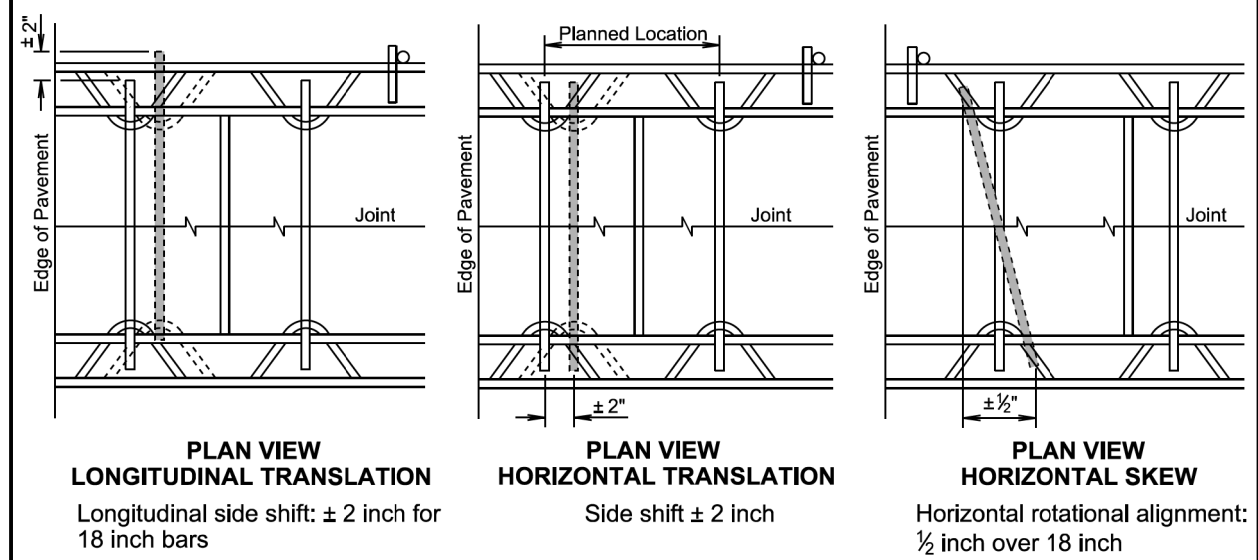
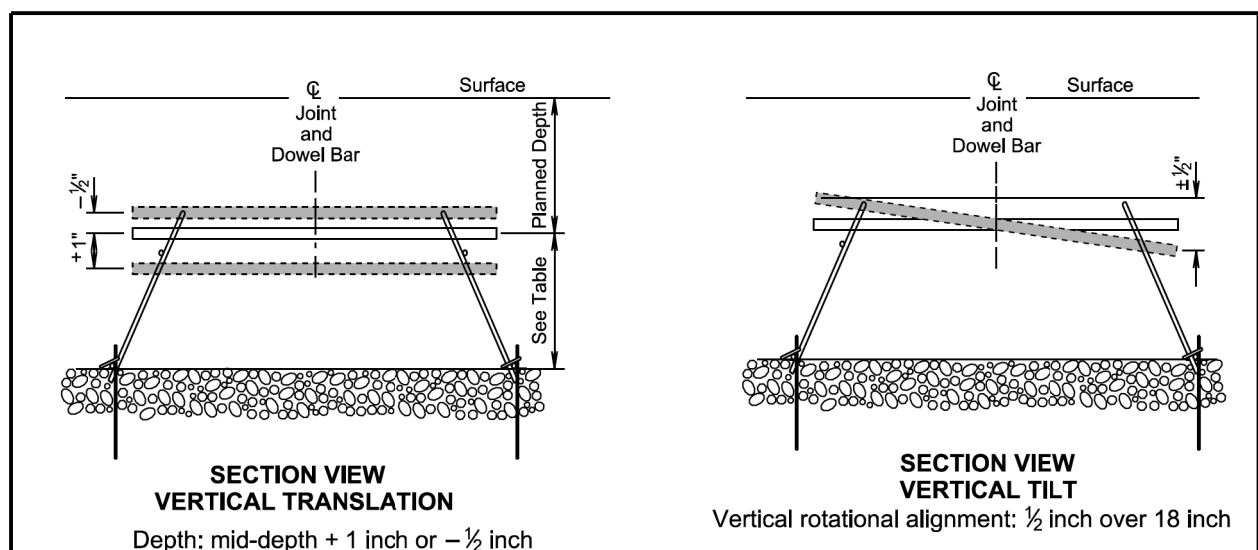


PLAN VIEW

File - ... \StdPlateSection 0609.dgn

Plotted From - TRPR16032

Plot Scale - 1:200

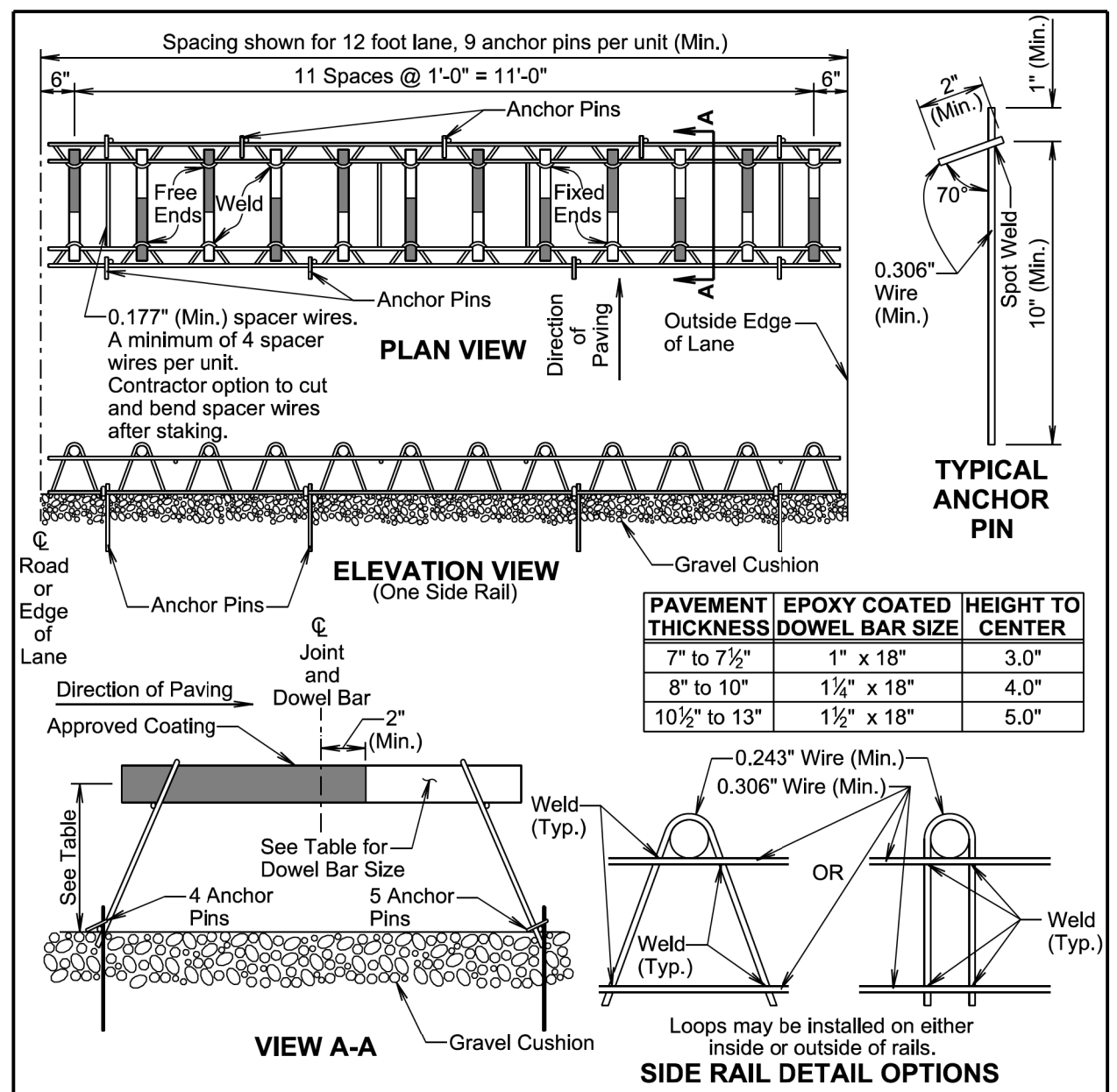


PAVEMENT THICKNESS	EPOXY COATED DOWEL BAR SIZE	HEIGHT TO CENTER
7" to 7 1/2"	1" x 18"	3.0"
8" to 10"	1 1/4" x 18"	4.0"
10 1/2" to 13"	1 1/2" x 18"	5.0"

GENERAL NOTE:
The tolerances shown above represent the maximum deviation for acceptance of dowel bar placement.

November 19, 2022

S D D O T	PCC PAVEMENT DOWEL BAR ALIGNMENT TOLERANCES	PLATE NUMBER 380.01
	Published Date: 2025	Sheet 1 of 1



PAVEMENT THICKNESS	EPOXY COATED DOWEL BAR SIZE	HEIGHT TO CENTER
7" to 7 1/2"	1" x 18"	3.0"
8" to 10"	1 1/4" x 18"	4.0"
10 1/2" to 13"	1 1/2" x 18"	5.0"

GENERAL NOTES:

Longitudinal joint tie bars will be placed a minimum of 15 inches from the transverse contraction joint.

The transverse contraction joints will be sawed perpendicular to the centerline of the roadway. The transverse sawed joint will be centered over the dowel bars.

Supporting devices as shown on this sheet, or equivalent as approved by the Engineer, will be used to maintain proper horizontal and vertical alignment of the dowel bars.

All dowel bar alignment tolerances will be as shown in the PCC Pavement Dowel Bar Alignment Tolerances standard plate.

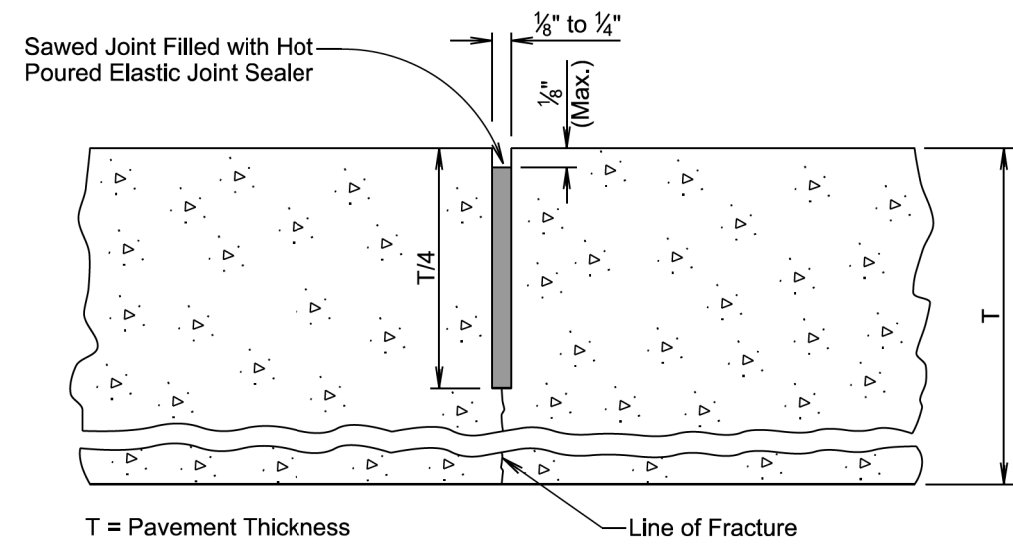
November 19, 2022

S D D O T	PCC PAVEMENT DOWEL BAR ASSEMBLY FOR TRANSVERSE CONTRACTION JOINTS 12 Bar Assembly on Granular Base Material	PLATE NUMBER 380.04
	Published Date: 2025	Sheet 1 of 1

Plotted From: TRPR16032

File: ...StdPlateSection 0609.dgn

Plot Scale - 1:200



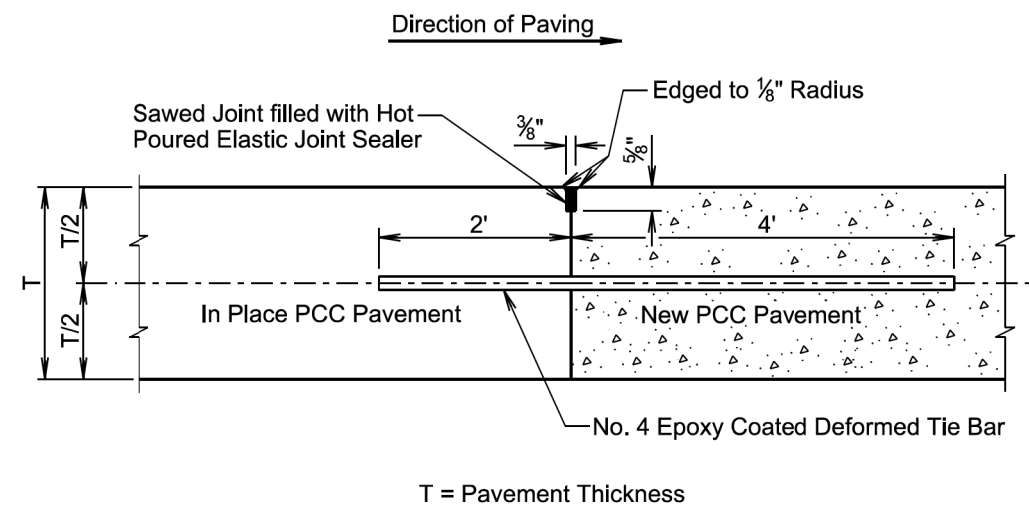
GENERAL NOTES:

If an early entrance saw cut does not develop the full transverse crack, then the saw cut to control cracking will be a minimum 1/4 of the thickness of the pavement.

All hot poured elastic joint sealer material spilled on the surface of the concrete pavement will be removed as soon as the material has cooled. The extent of removal of material will be to the satisfaction of the Engineer. All costs for removal of the spilled joint sealer material will be borne by the Contractor.

November 19, 2022

<i>Published Date: 2025</i>	S D D O T	PCC PAVEMENT TRANSVERSE CONTRACTION JOINT WITH OR WITHOUT DOWEL BAR ASSEMBLY	PLATE NUMBER 380.12
			Sheet 1 of 1



GENERAL NOTES:

No. 4 epoxy coated deformed tie bars will be spaced 12 inches center to center and will be a minimum of 3 inches and a maximum of 6 inches from the pavement edges.

The minimum distance between a transverse construction joint with tie bars and an adjacent transverse contraction joint will be 5 feet.

When a transverse construction joint is made, paving will not be allowed in this area for 12 hours.

The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on the current project.

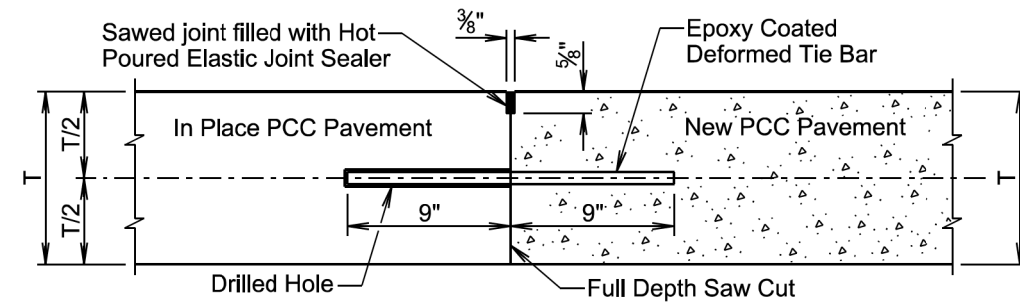
March 31, 2024

<i>Published Date: 2025</i>	S D D O T	PCC PAVEMENT MID PANEL TRANSVERSE CONSTRUCTION JOINT	PLATE NUMBER 380.14
			Sheet 1 of 1

Plotted From - TRPR16032

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DETAIL A TRANSVERSE CONSTRUCTION JOINT WITH TIE BARS



T = In Place PCC Pavement and New PCC Pavement Thickness

GENERAL NOTES:

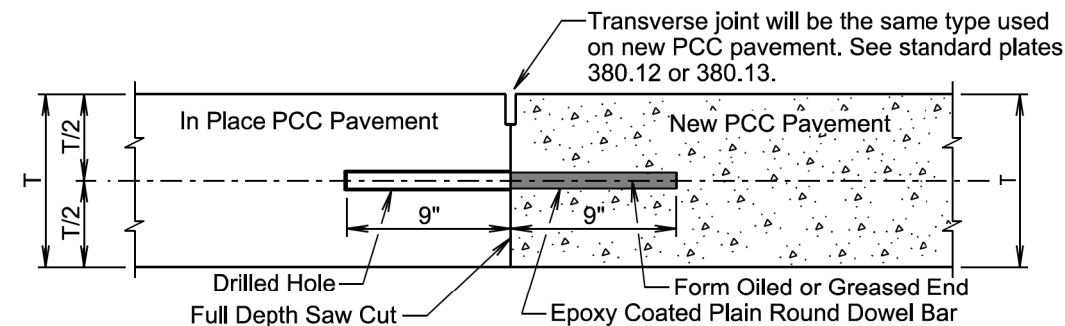
The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on a previous project.

See sheet 2 of 2 of this standard plate to determine if Detail A will be used.

The tie bars will be embedded a minimum depth of 9 inches into the in place PCC pavement and anchored with an epoxy resin adhesive or a non-shrink grout.

No. 9 epoxy coated deformed tie bars will be used in 10 inch thickness and less PCC Pavement and No. 11 epoxy coated deformed tie bars will be used in 10.5 inch thickness and greater PCC Pavement. The tie bar spacing will be 18 inches center to center and will be a minimum of 3 inches and a maximum of 9 inches from the pavement edges.

DETAIL B TRANSVERSE CONSTRUCTION JOINT WITH DOWEL BARS



T = In Place PCC Pavement and New PCC Pavement Thickness

GENERAL NOTES:

The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on a previous project or current project.

See sheet 2 of 2 of this standard plate to determine if Detail B will be used.

The plain round dowel bars will be embedded a minimum depth of 9 inches into the in place PCC pavement and anchored with an epoxy resin adhesive or a non-shrink grout.

The epoxy coated plain round dowel bar size, number, and spacing will be the same as detailed on the corresponding dowel bar assembly standard plate (380.04, 380.05, 380.06, or 380.07). The epoxy coated plain round dowel bars will be a minimum of 3 inches and a maximum of 6 inches from the pavement edges.

January 22, 2023

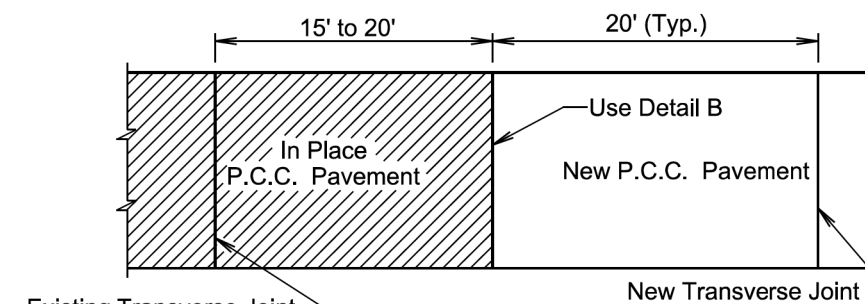
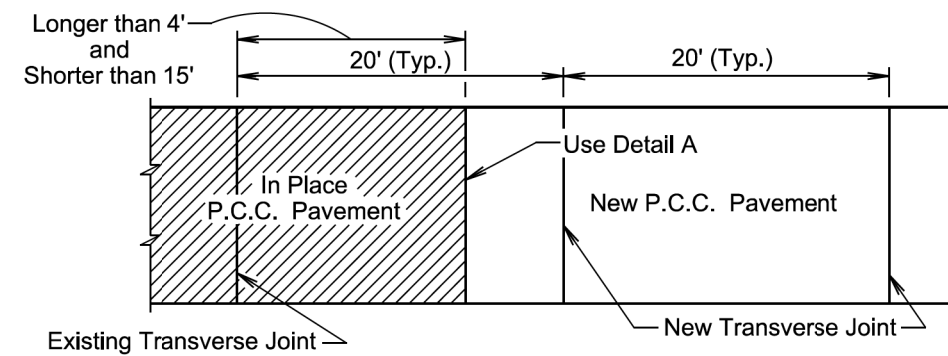
Published Date: 2025

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PCC PAVEMENT TRANSVERSE CONSTRUCTION JOINTS WITH TIE BARS OR DOWEL BARS

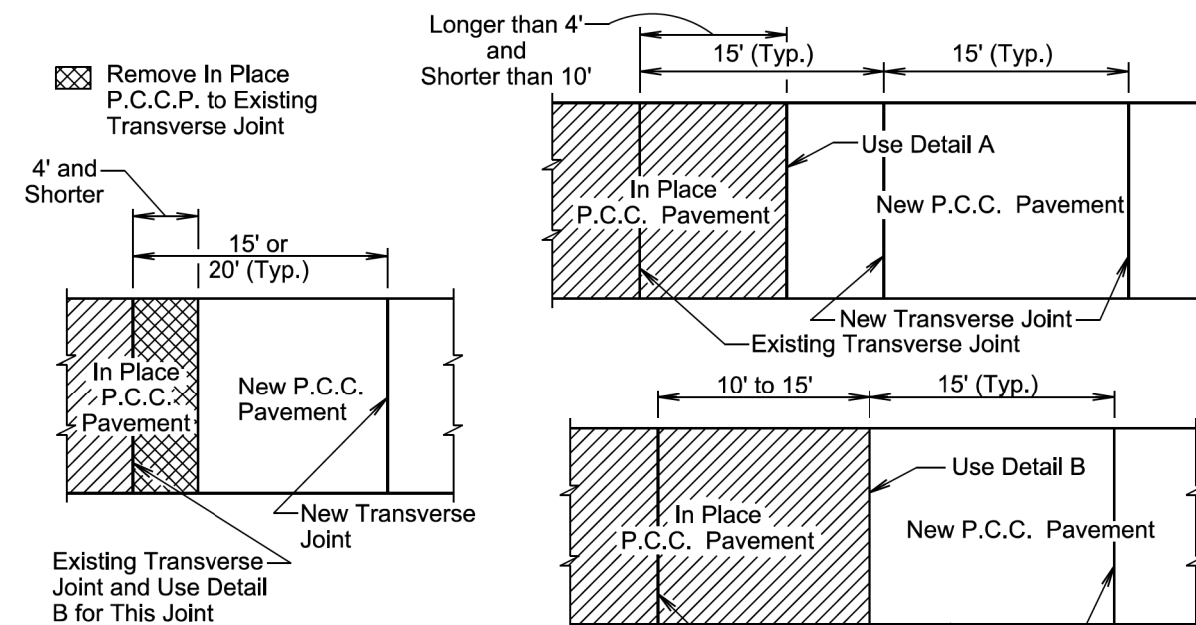
PLATE NUMBER
380.15

Sheet 1 of 2



PLAN VIEW

(For typical transverse joint spacing of 20' on the current project)



PLAN VIEW

(For typical transverse joint spacing of 15' or 20' on the current project)



PLAN VIEW

(For typical transverse joint spacing of 15' on the current project)

January 22, 2023

Published Date: 2025

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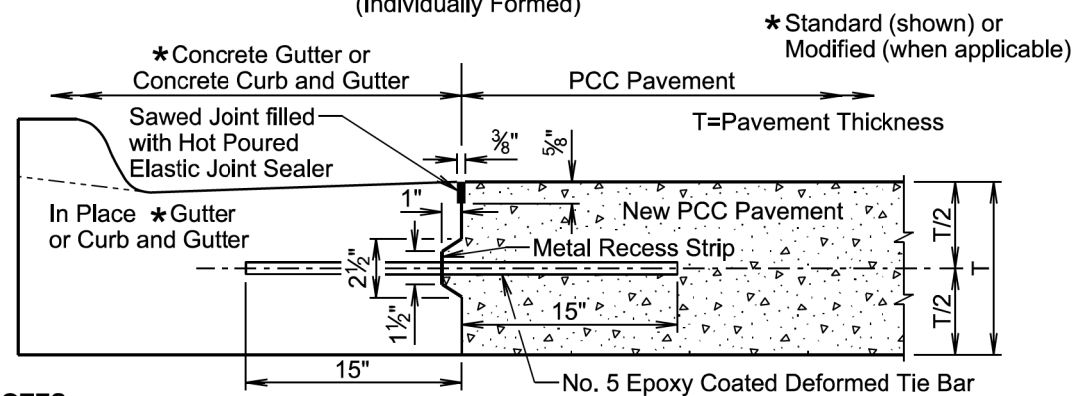
PCC PAVEMENT TRANSVERSE CONSTRUCTION JOINTS WITH TIE BARS OR DOWEL BARS

PLATE NUMBER
380.15

Sheet 2 of 2

LONGITUDINAL CONSTRUCTION JOINT WITH TIE BARS

(Individually Formed)



GENERAL NOTES:

No. 5 epoxy coated deformed tie bars will be spaced 48 inches center to center. The tie bars will be placed a minimum of 15 inches from existing transverse contraction joints. The keyway shown above is a female keyway.

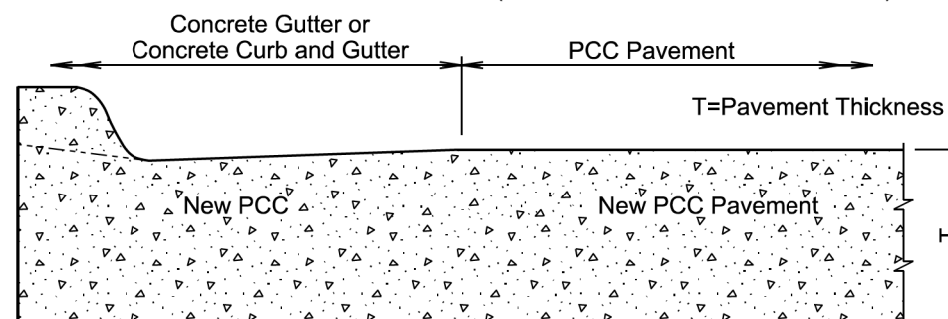
The keyway is optional and is not required. When concrete pavement is formed and a keyway is provided, a metal recess strip will be used. When concrete pavement is slip formed, a metal recess strip is not required.

The transverse contraction joints in the concrete gutter or concrete curb and gutter will be placed at each mainline PCC pavement transverse contraction joint. The transverse contraction joints in the concrete gutter or the concrete curb and gutter will be 1 1/2 inches deep if formed in fresh concrete using a suitable grooving tool. If a saw is used to cut the transverse contraction joints, then the depth of the joint will be at least 1/4 the thickness of the concrete gutter or concrete curb and gutter.

Standard curb and gutter may not be placed monolithically with PCC pavement if the mainline lane width is greater than 12 feet.

The term "In Place *Gutter or Curb and Gutter" in the above drawing indicates that the in place *concrete gutter and concrete curb and gutter was placed on the current project.

POURED MONOLITHICALLY (Standard Concrete Curb and Gutter)



GENERAL NOTES:

The mainline curb and gutter may be placed monolithically with the PCC pavement if the mainline lane width is less than or equal to 12 feet. If this method of construction is used, the tie bars and the sawed joint between the curb and gutter and the PCC pavement will be eliminated.

The gutter or curb and gutter will be sawed transversely at each mainline transverse contraction joint. The transverse contraction joints in the gutter or curb and gutter will be sawed and sealed same as the transverse contraction joints in the PCC pavement.

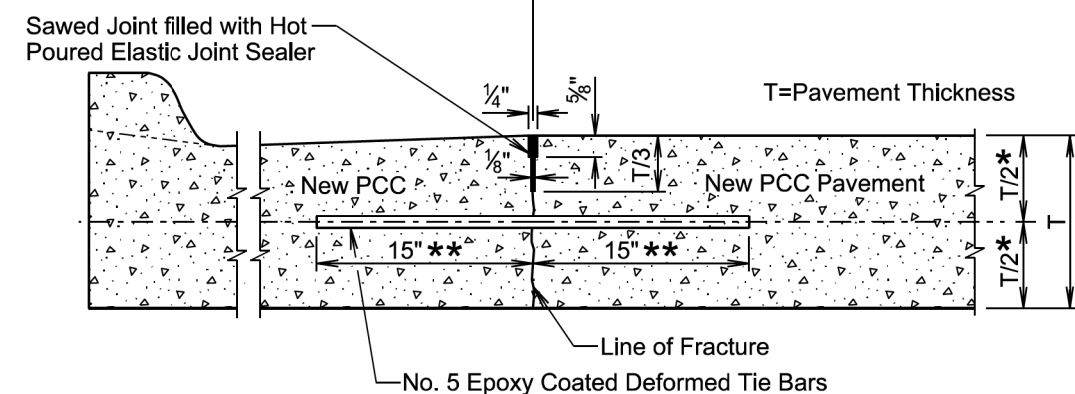
The slope of the gutter will be the slope designated for the type of gutter or curb and gutter to be constructed. The bottom slope of the gutter or curb and gutter will be constructed at the same slope as the mainline concrete pavement.

March 31, 2024

Published Date: 2025	S D D O T	PCC PAVEMENT LONGITUDINAL CONSTRUCTION JOINTS WITH CONCRETE GUTTER OR CONCRETE CURB AND GUTTER	PLATE NUMBER 380.21
			Sheet 1 of 2

POURED MONOLITHICALLY (Concrete Curb and Modified Gutter)

Concrete Modified Gutter or Concrete Curb and Modified Gutter



GENERAL NOTES:

No. 5 epoxy coated deformed tie bars will be spaced 48 inches center to center.

The tie bars will be placed a minimum of 15 inches from existing transverse contraction joints.

The mainline curb and modified gutter may be placed monolithically with the PCC pavement if the mainline lane width is less than or equal to 14 feet.

The first saw cut to control cracking will be a minimum of 1/3 the thickness of the pavement. Additional sawing for widening the saw cut to provide the width for the installation of the hot-poured elastic joint sealer is necessary.

The gutter or curb and gutter will be sawed transversely at each mainline transverse contraction joint. The transverse contraction joints in the gutter or curb and gutter will be sawed and sealed same as the transverse contraction joints in the PCC pavement.

The slope of the gutter will be the slope designated for the type of gutter or curb and gutter to be constructed. The bottom slope of the gutter or curb and gutter will be constructed at the same slope as the mainline concrete pavement.

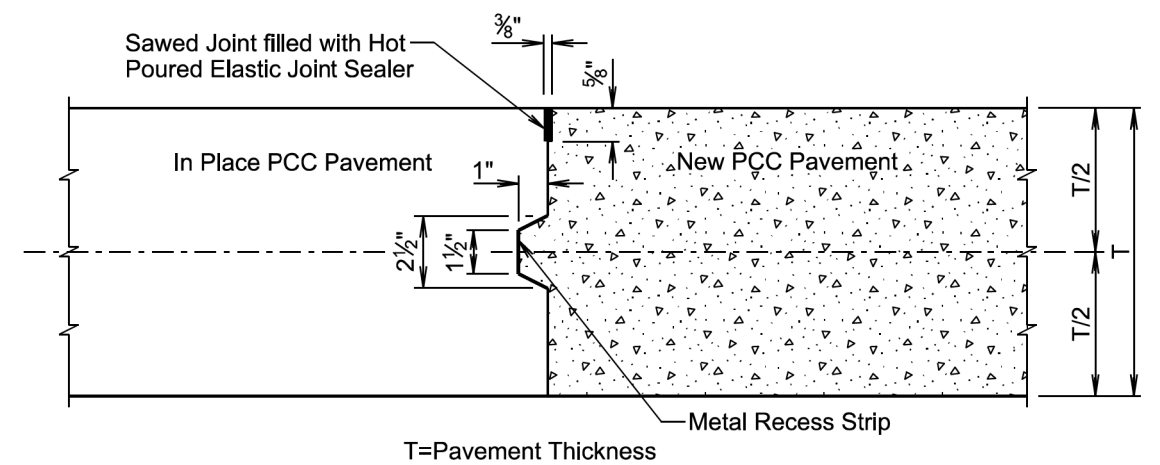
* The vertical placement tolerance for any part of the tie bar will be $\pm T/6$.
 ** The transverse placement (side shift) tolerance will be ± 3 inches when measured perpendicular to the longitudinal joint line.

March 31, 2024

Published Date: 2025	S D D O T	PCC PAVEMENT LONGITUDINAL CONSTRUCTION JOINTS WITH CONCRETE GUTTER OR CONCRETE CURB AND GUTTER	PLATE NUMBER 380.21
			Sheet 2 of 2

Plot Scale - 1:200

LONGITUDINAL CONSTRUCTION JOINT WITHOUT TIE BARS

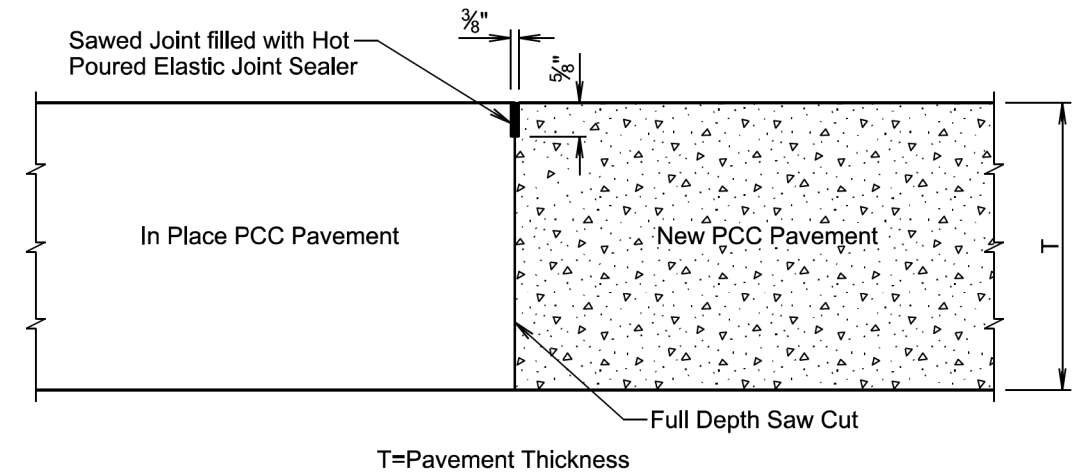


GENERAL NOTES:

When concrete pavement is formed and a keyway is provided, a metal recess strip will be used. When concrete pavement is slip formed, a metal recess strip is not required.

The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on the current project.

LONGITUDINAL CONSTRUCTION JOINT WITHOUT TIE BARS



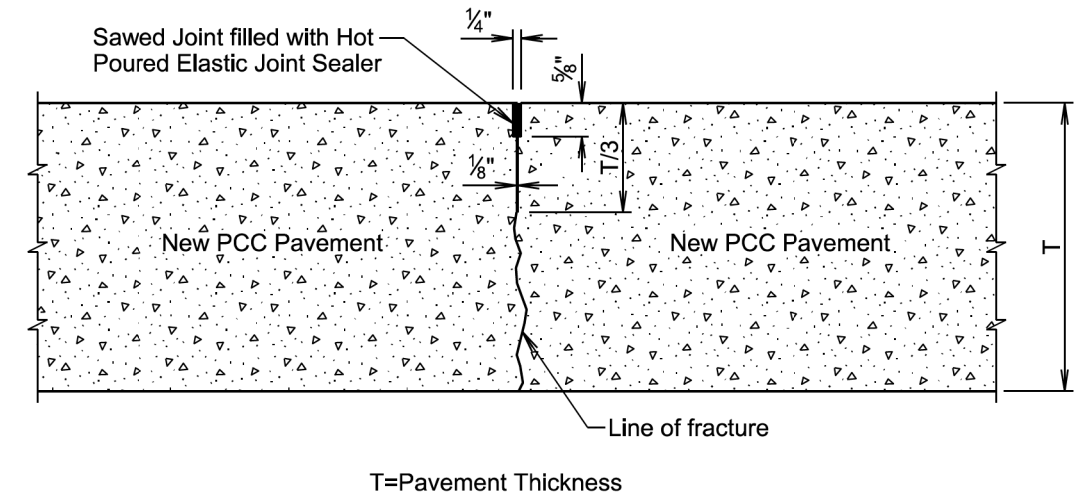
GENERAL NOTE:

The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on a previous project.

November 19, 2022

<i>Published Date: 2025</i>	S D D O T	PCC PAVEMENT LONGITUDINAL JOINTS WITHOUT TIE BARS	PLATE NUMBER 380.22
			Sheet 1 of 2

SAWED LONGITUDINAL JOINT WITHOUT TIE BARS



GENERAL NOTE:

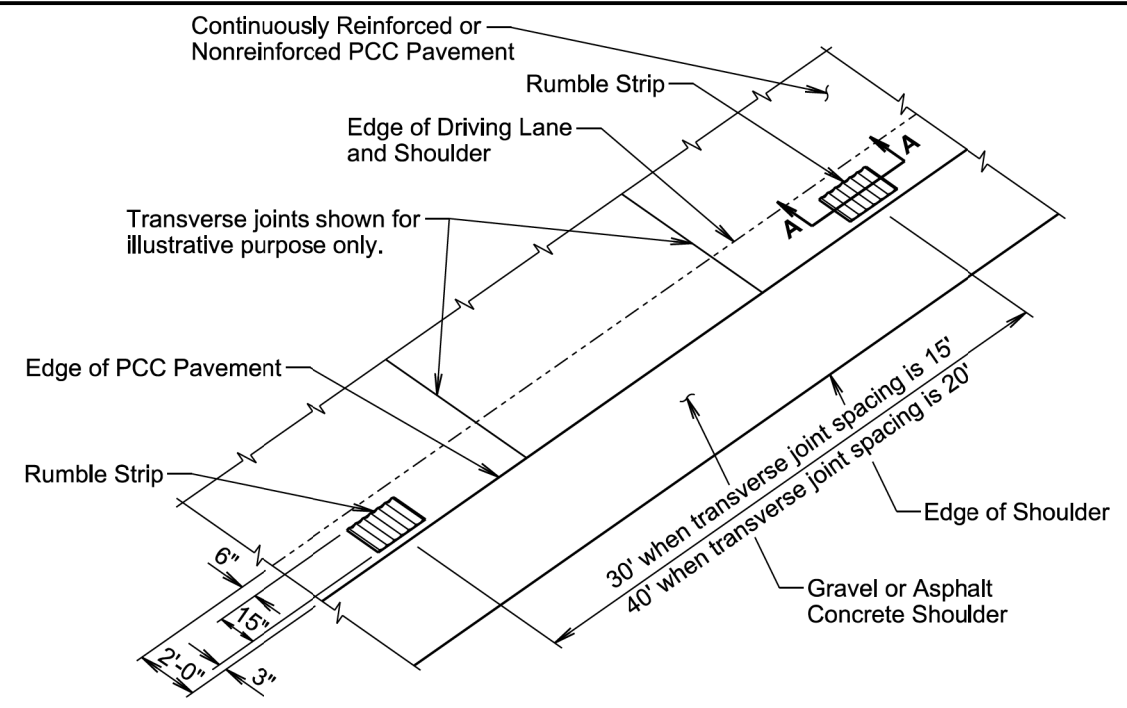
The first saw cut to control cracking will be a minimum of 1/3 the thickness of the pavement. Additional sawing for widening the saw cut to provide the width for the installation of the hot poured elastic joint sealer will be necessary.

November 19, 2022

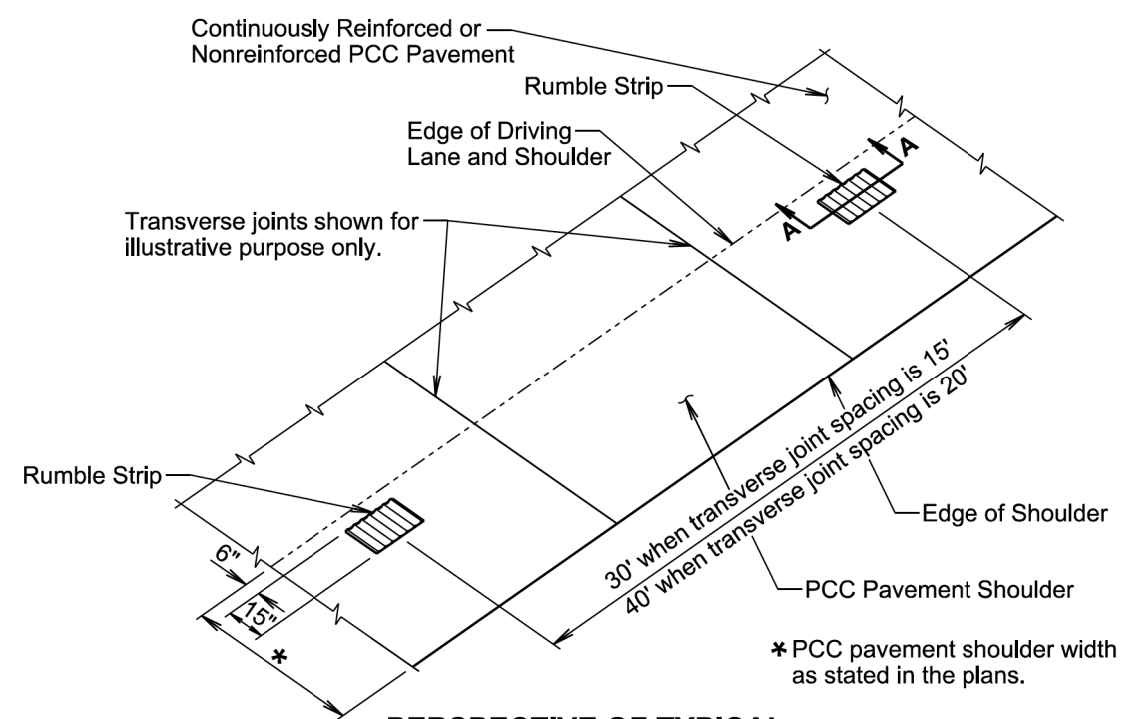
<i>Published Date: 2025</i>	S D D O T	PCC PAVEMENT LONGITUDINAL JOINTS WITHOUT TIE BARS	PLATE NUMBER 380.22
			Sheet 2 of 2

Plotted From - TRPR16032

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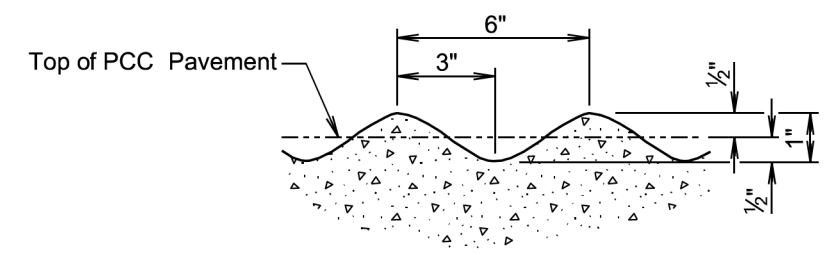
PERSPECTIVE OF TYPICAL RUMBLE STRIPS ON PCC PAVEMENT SHOULDER ADJACENT TO GRAVEL OR ASPHALT CONCRETE SHOULDER



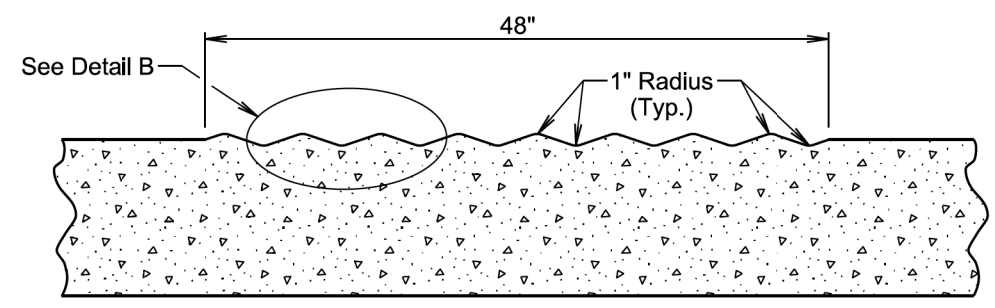
PERSPECTIVE OF TYPICAL RUMBLE STRIPS ON PCC PAVEMENT SHOULDER

November 19, 2022

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DETAIL B



SECTION A-A

GENERAL NOTES:

- The rumble strips will be evenly spaced and will not coincide with any transverse contraction joints.
- The rumble strips will NOT be placed along areas adjacent to entrance ramps, exit ramps, and gore areas.
- Payment for constructing the PCC Pavement Rumble Strips will be incidental to the contract unit price per square yard for the corresponding PCC Pavement contract item.

November 19, 2022

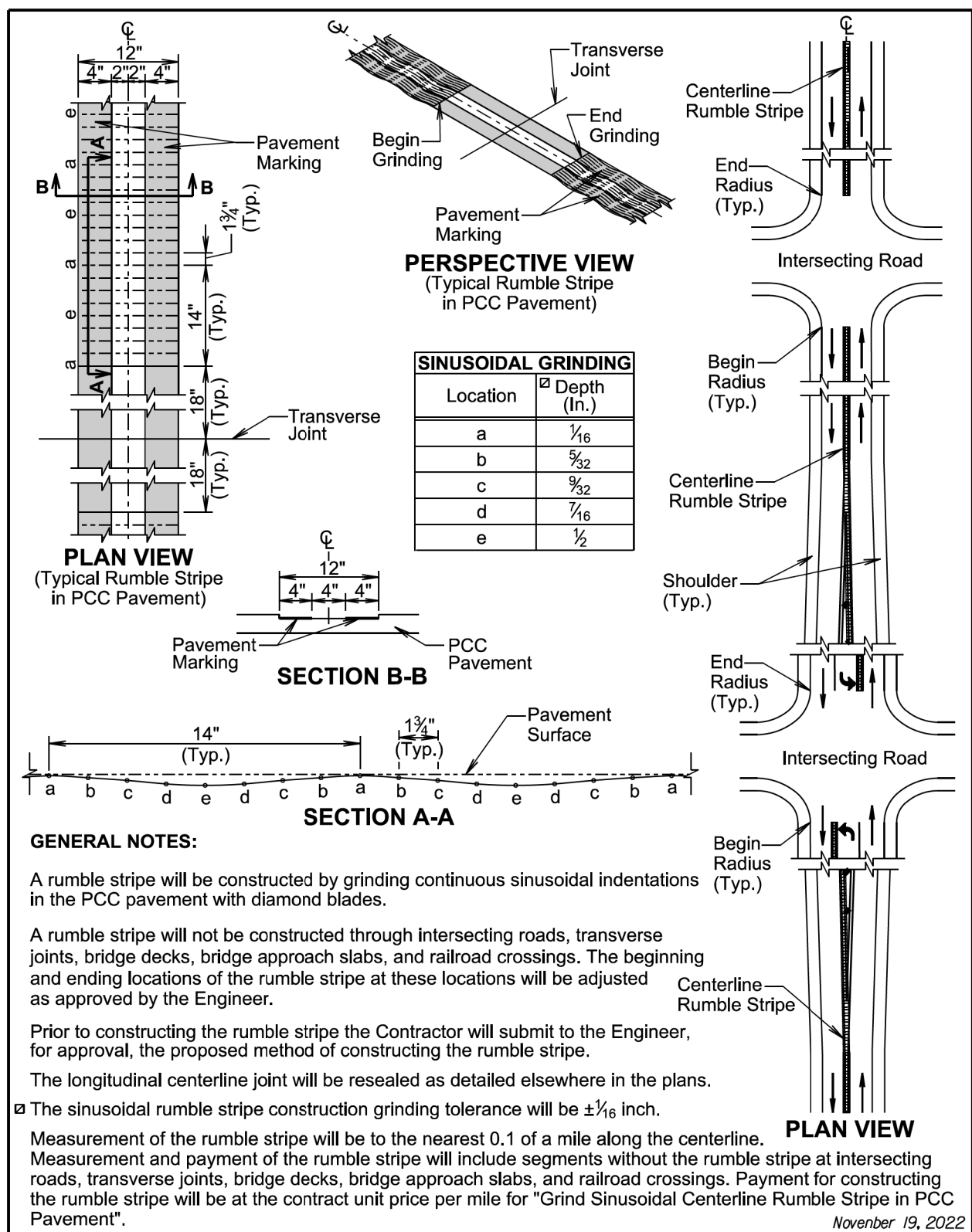
Published Date: 2025	S D D O T	RUMBLE STRIP ON PCC PAVEMENT SHOULDER	PLATE NUMBER 380.53
			Sheet 2 of 2

Plot Scale - 1:200

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S D D O T	SINUSOIDAL CENTERLINE RUMBLE STRIPE IN PCC PAVEMENT	PLATE NUMBER 380.56
	Published Date: 2025	Sheet 1 of 1