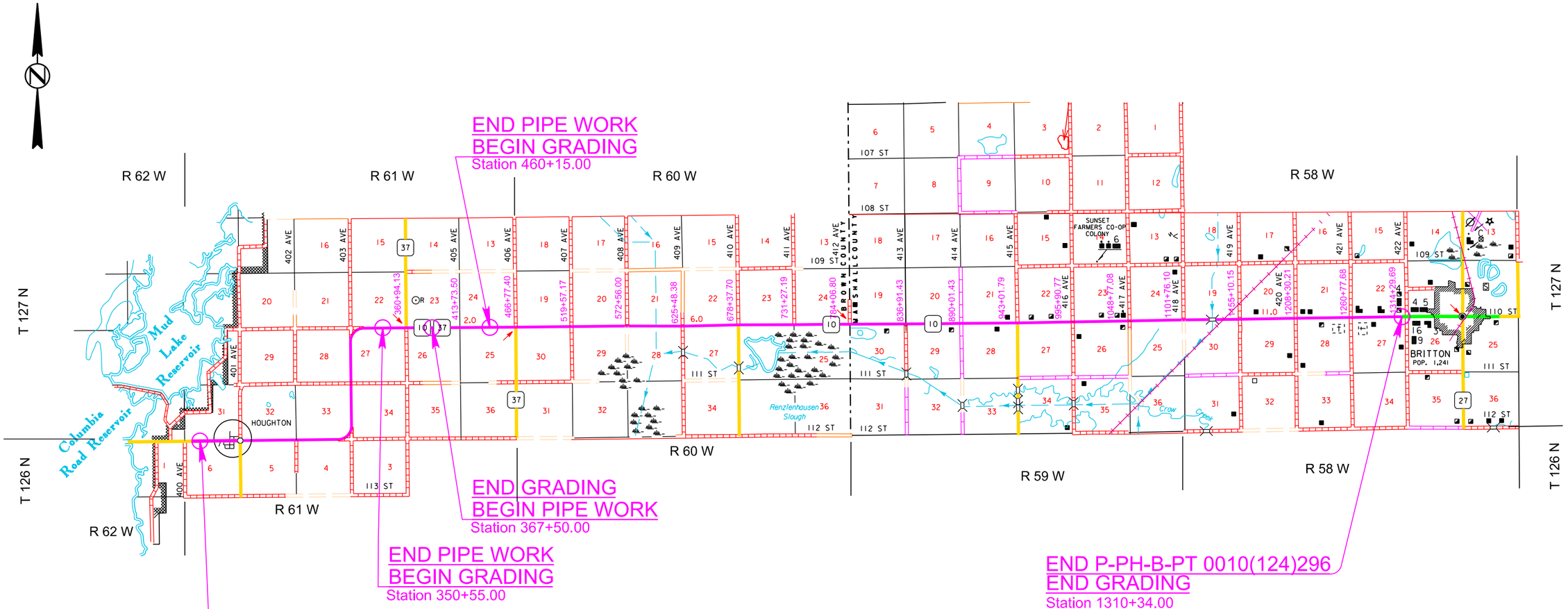
Section F: Surfacing Plans

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH-B-PT 0010(124)296	F1	F11

Plotting Date: 01/23/2024

INDEX OF SHEETS



SECTION F – ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3320	Checker	Lump Sum	LS
120E6200	Water for Granular Material	1,796.6	MGal
260E1010	Base Course	98,955.8	Ton
260E1030	Base Course, Salvaged	50,754.8	Ton
260E3050	Gravel Surfacing, Salvaged Asphalt Mix	70.0	Ton
320E0005	PG 58-34 Asphalt Binder	1,191.9	Ton
320E1050	Class E Asphalt Concrete	20,536.9	Ton
320E1200	Asphalt Concrete Composite	1,571.9	Ton
320E3000	Compaction Sample	12	Each
320E5020	Saw Joint in Asphalt Concrete	165,038	Ft
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	32.8	Mile
330E0010	MC-70 Asphalt for Prime	230.2	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	52.3	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	37.7	Ton
330E1000	Blotting Sand for Prime	83.3	Ton
330E2000	Sand for Flush Seal	89.6	Ton

SHOULDER WIDENING

The elevation of the subgrade under shoulder widening will be at or below subgrade elevation under existing adjacent mainline pavement that is to remain in place.

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.

CLASS G ASPHALT CONCRETE

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

Two random locations on each lift of asphalt will be selected by the Engineer for density determination. The cutting and trimming of the cores to the appropriate lift thickness will be performed by the Contractor as per SD 315. Density determination of the cores will be performed by the Engineer as per SD 315. The density of each lift of asphalt will be the average of the two cores. All costs associated with the compaction cores will be incidental to the contract unit price per each for “Compaction Sample”.

All other requirements for Class G will apply.

CHECKING SPREAD RATES

The Contractor will be responsible for checking the Base Course, Base Course, Salvaged and Asphalt Concrete spread rates and taking the weigh delivery tickets as the surfacing material arrives on the project and is placed onto the roadway.

The Contractor will compute the required spread rates for each typical surfacing section and create a spread chart prior to the start of material delivery and placement. The Engineer will review and check the Contractor’s calculations and spread charts. The station to station spread will be written on each ticket as the surfacing material is delivered to the roadway.

At the end of each day’s shift, the Contractor will verify the following:

- All tickets are present and accounted for,
- The quantity summary for each item is calculated,
- The amount of material wasted if any,
- Each day’s ticket summary is marked with the corresponding ‘computed by’,
- The ticket summary is initialed and certified that the delivered and placed quantity is correct.

All daily tickets and the summary by item will be given to the Engineer no later than the following morning.

If the checker is not properly and accurately performing the required duties, the Contractor will correct the problem or replace the checker with an individual capable of performing the duties to the satisfaction of the Engineer. Failure to do so will result in suspension of the work.

The Department will perform depth checks. The Contractor will be responsible for placement of material to the correct depth unless otherwise directed by the Engineer. If the placed material is not within a tolerance of ±1/2 inch of the plan shown depth, the Contractor will correct the problem at no additional cost to the Department. Excess material above the tolerance will not be paid for. Achieving the correct depth may require picking up and moving material or other action as required by the Engineer. All costs for providing the Contractor furnished checker and performing all related duties will be incidental to the contract lump sum price for the CHECKER. No allowances will be made to the contract lump sum price for CHECKER due to authorized quantity variations unless the quantities for the material being checked vary above or below the estimated quantities by more than 25 percent. Payment for the Checker will then be increased or decreased by the same proportion as the placed material quantity bears to the estimated material quantity.

ASPHALT CONCRETE COMPOSITE

Section 324 will apply except that Class E Asphalt Concrete as specified elsewhere in the plans may be used as Asphalt Concrete Composite.

Plans specified locations for Asphalt Concrete Composite will be paid for at the contract unit price per ton for Asphalt Concrete Composite regardless of the class of asphalt concrete used at such locations.

BLOTTING SAND FOR PRIME

Included in the Estimate of Quantities are 10.0 tons of Blotting Sand for Prime to be used where necessary for maintenance of traffic as directed by the Engineer. (Rate = 10pounds per square yard)

SAW JOINT IN ASPHALT CONCRETE

Prior to the removal of in place asphalt concrete, the existing pavement will be sawed full depth to a true line with a vertical 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.

TABLE OF JOINT SAWING

Station		Station	Asphalt Concrete Joint (feet)
Lt. & Rt. Shoulders			
477+10	to	1124+35	64,725
1132+40	to	1310+34	17,794
		Subtotal (Per Shoulder):	82,519
Grand Total (Both Shoulders):			165,038

HAUL ROAD

Included in the Estimate of Quantities are 2,000 tons of Base Course per mile, and 24 MGal of Water for Granular Material per mile for maintenance and repair of the haul road to the Borrow Pit. The use of this material will be at the discretion of the Contractor. Any additional construction for the haul road will be the Contractor’s responsibility. The Contractor will receive no additional compensation for this work. The estimated distance to the Borrow Pit is 3.25 miles.

The Base Course used on the haul road will be compacted to the satisfaction of the Engineer.

All costs associated with the maintenance and repair of haul road will be incidental to the “Base Course” quantities provided.

GRIND RUMBLE STRIPS/STRIPES IN ASPHALT CONCRETE

Asphalt Concrete Rumble Strips/Stripes will be constructed on the shoulders. Rumble Strips/Stripes 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 32.8 miles of asphalt concrete rumble strips/stripes will be required.

Rumble Strip/Stripe installation will be completed prior to application of the Flush Seal and Permanent Pavement Markings. In the event the Flush Seal is eliminated from the contract, the Contractor will still be required to apply a Flush Seal to the newly installed 12” Rumble Strips/Stripes at a width of 1.5’ and at the same rate as specified in this plan set. No adjustment in payment will be made and SS-1h or CSS-1h Asphalt for Flush Seal will be paid at the contract unit price per ton.

RATES OF MATERIALS

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

Section 8
Sta. 354+45 to 363+60
Sta. 464+05 to 473+20

BASE COURSE or BASE COURSE, SALVAGED 374.79 tons.

Water for Granular Material at the rate of 4.50 M. Gallons.

MC-70 Asphalt for Prime at the Rate of 0.74 ton applied 55 feet wide (Rate = 0.30 gallon per square yard).

Blotting Sand for Prime at the rate of 2.00 tons applied 36 feet wide (Rate = 10 lbs. per square yard).

CLASS E ASPHALT CONCRETE – 1st Lift

Crushed Aggregate		70.65 Tons
PG 58-34 Asphalt Binder		4.35 Tons
	Total Mix	75.00 Tons

The exact proportions of this material will be determined on construction.

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.16 tons applied 55 feet wide (Rate = 0.06 gallon per square yard).

CLASS E ASPHALT CONCRETE – 2nd Lift

Crushed Aggregate		58.69 Tons
PG 58-34 Asphalt Binder		3.61 Tons
	Total Mix	62.30 Tons

The exact proportions of this material will be determined on construction.

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.15 tons applied 54 feet wide (Rate = 0.06 gallon per square yard).

SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 0.13 ton applied 53 feet wide (Rate = 0.05 gallon per square yard).

Sand for Flush Seal at the rate of 1.47 ton applied 33 feet wide (Rate = 8.0 lbs. per square yard).

Section 10
Sta. 1124+35 to 1132+40

BASE COURSE or BASE COURSE, SALVAGED 325.34 tons.

Water for Granular Material at the rate of 3.90 M. Gallons.

MC-70 Asphalt for Prime at the Rate of 0.57 ton applied 43 feet wide (Rate = 0.30 gallon per square yard).

Blotting Sand for Prime at the rate of 1.33 tons applied 24 feet wide (Rate = 10 lbs. per square yard).

CLASS E ASPHALT CONCRETE – 1st Lift

Crushed Aggregate		52.58 Tons
PG 58-34 Asphalt Binder		3.24 Tons
	Total Mix	55.82 Tons

The exact proportions of this material will be determined on construction.

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.12 tons applied 42 feet wide (Rate = 0.06 gallon per square yard).

CLASS E ASPHALT CONCRETE – 2nd Lift

Crushed Aggregate		56.65 Tons
PG 58-34 Asphalt Binder		3.49 Tons
	Total Mix	60.14 Tons

The exact proportions of this material will be determined on construction.

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.12 tons applied 42 feet wide (Rate = 0.06 gallon per square yard).

SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 0.10 ton applied 41 feet wide (Rate = 0.05 gallon per square yard).

Sand for Flush Seal at the rate of 0.98 ton applied 22 feet wide (Rate = 8.0 lbs. per square yard).

Section 11 Shoulders (one side only)
Sta. 1207+00 to 1252+00 R

BASE COURSE or BASE COURSE, SALVAGED 71.01 tons.

Water for Granular Material at the rate of 0.85 M. Gallons.

MC-70 Asphalt for Prime at the Rate of 0.13 ton applied 10 feet wide (Rate = 0.30 gallon per square yard).

CLASS E ASPHALT CONCRETE

Crushed Aggregate		13.01 Tons
PG 58-34 Asphalt Binder		0.80 Tons
	Total Mix	13.81 Tons

The exact proportions of this material will be determined on construction.

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.03 tons applied 9.5 feet wide (Rate = 0.06 gallon per square yard).

SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 0.02 ton applied 9 feet wide (Rate = 0.05 gallon per square yard).

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

Section 9 Shoulders (one side only)
Sta. 477+10 to 681+00 L&R
Sta. 681+00 to 696+00 L

BASE COURSE or BASE COURSE, SALVAGED 3,321 tons.

Water for Granular Material at the rate of 39.9 M. Gallons.

MC-70 Asphalt for Prime at the Rate of 5.6 ton applied 8 feet wide (Rate = 0.30 gallon per square yard).

CLASS E ASPHALT CONCRETE

Crushed Aggregate		373 Tons
PG 58-34 Asphalt Binder		23 Tons
	Total Mix	396 Tons

The exact proportions of this material will be determined on construction.

SS-1h or CSS-1h Asphalt for Tack at the rate of 1.1 tons applied 7.5 feet wide (Rate = 0.06 gallon per square yard).

SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 0.9 ton applied 7 feet wide (Rate = 0.05 gallon per square yard).

Section 9 Shoulders (one side only)
Sta. 681+00 to 696+00 R
Sta. 696+00 to 1124+35 L&R
Sta. 1132+40 to 1207+00 L&R
Sta. 1207+00 to 1252+00 L
Sta. 1252+00 to 1310+34 L&R

BASE COURSE or BASE COURSE, SALVAGED 3,667 tons.

Water for Granular Material at the rate of 44.0 M. Gallons.

MC-70 Asphalt for Prime at the Rate of 6.3 ton applied 9 feet wide (Rate = 0.30 gallon per square yard).

CLASS E ASPHALT CONCRETE

Crushed Aggregate		438 Tons
PG 58-34 Asphalt Binder		27 Tons
	Total Mix	465Tons

The exact proportions of this material will be determined on construction.

SS-1h or CSS-1h Asphalt for Tack at the rate of 1.3 tons applied 8.5 feet wide (Rate = 0.06 gallon per square yard).

SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 1.0 ton applied 8 feet wide (Rate = 0.05 gallon per square yard).

SUMMARY OF CLASS E ASPHALT CONCRETE

Location	Compaction With Specified Density (Left / Right)	Compaction Without Specified Density (Left / Right)
	Ton	Ton
Shoulders:		
Sta. 477+10 to 681+00	1,529.2 / 1,529.2	--
Sta. 681+00 to 696+00	112.5 / 132.1	--
Sta. 696+00 to 1124+35	3,772.4 / 3,772.4	--
Sta. 1132+40 to 1207+00	657.0 / 657.0	--
Sta. 1207+00 to 1252+00	396.3 / 454.5	--
Sta. 1252+00 to 1310+34	513.8 / 513.8	--
Full width asphalt overlay		
Sta. 350+55 to 367+50	1,199.3 / 998.5	
Sta. 460+15 to 477+10	1,199.3 / 998.5	
Sta. 1124+35 to 1132+40	449.5 / 484.2	
Intersecting Roads – 29		1,142.1
Field Entrances – 1		25.3
TOTAL	19,369.5	1,167.4

*Full width quantities reflect 1st and 2nd layers instead of Left/Right shoulders.

PLACING SALVAGED ASPHALT MATERIAL

Salvaged Asphalt Material (estimated at 70.0 tons) will be obtained from the material produced on this project and placed on the entrance at Sta. 818+07 Rt. This material will be 100% salvaged asphalt concrete and obtained from the “Salvage and Stockpile Asphalt Mix and Granular Base Material” operation.

All costs associated with placing the salvaged asphalt material (70.0 tons) on the entrance will be incidental to the contract unit price per ton for “Gravel Surfacing, Salvaged Asphalt Mix”. Included in the entrance is 0.7 Mgal of Water for Granular Material.
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TABLE OF ADDITIONAL QUANTITIES

Location-Description	Water for Granular Material	Base Course or Base Course, Salvaged	Base Course	Asphalt Concrete Composite	Class E Asphalt Concrete (1st / 2nd Lift)	PG 58-34 Asphalt Binder (1st / 2nd Lift)	MC-70 Asphalt for Prime	Blotting Sand for Prime	SS-1h or CSS-1h Asphalt for Tack (1st / 2nd Lift)	SS-1h or CSS-1h Asphalt for Flush Seal	Sand for Flush Seal
	Mgal	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton
Transitions:											
Sta. 350+55 to 354+45	15.7	1,312.0			256.5 / 214.2	14.9 / 12.4	2.5	6.5	0.5 / 0.5	0.4	4.7
Sta. 363+60 to 367+50	15.7	1,312.0			256.5 / 214.2	14.9 / 12.4	2.5	6.5	0.5 / 0.5	0.4	4.7
Sta. 460+15 to 464+05	15.7	1,312.0			256.5 / 214.2	14.9 / 12.4	2.5	6.5	0.5 / 0.5	0.4	4.7
Sta. 473+20 to 477+10	15.7	1,312.0			256.5 / 214.2	14.9 / 12.4	2.5	6.5	0.5 / 0.5	0.4	4.7
Traffic Diversions											
div1086 – 0+00 to 7+71.60	5.6	468.0									
div1129 – 0+00 to 9+17.62	6.7	556.7									
div1207 – 0+00 to 7+84.00	5.7	475.7									
div1217 – 0+00 to 7+70.58	5.6	467.3									
Intersecting Roads w/ asphalt – 29	21.8	1,818.4			1,142.1	66.2	10.3		1.7	1.5	27.4
Intersecting Roads – 5	4.0	325.0									
Entrances – 82	59.3	5,072.4									
Entrance Sta. 652+08 L	0.5	39.2			25.3	1.5	0.2	--	--	--	0.6
Miscellaneous Areas											
Pipe replacement – see Section B	57.2	4,715.7									
Area Requiring Reinforcement Fabric (MSE)	31.5		2,625	714.5 / 857.4							
Maintenance and repair of the haul road	78.0		6,500								
TOTAL	338.7	19,186.4	9,125.0	1,571.9	3,050.2	176.9	20.5	26.0	5.7	3.1	46.8

TABLE OF MATERIAL QUANTITIES

Location-Description	Water for Granular Material	Base Course or Base Course, Salvaged	Base Course	Gravel Surfacing, Salvaged Asphalt Mix	Asphalt Concrete Composite	Class E Asphalt Concrete (1st / 2nd Lift)	PG 58-34 Asphalt Binder (1st / 2nd Lift)	MC-70 Asphalt for Prime	Blotting Sand for Prime	SS-1h or CSS-1h Asphalt for Tack (1st / 2nd Lift)	SS-1h or CSS-1h Asphalt for Flush Seal	Sand for Flush Seal
	Mgal	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton
Section 8 – Rates of Materials	82.4	6,858.8				1,372.6 / 1,140.2	79.6 / 66.0	13.2	36.6	2.8 / 2.8	2.4	27.0
Section 9 – Rates of Materials	1,305.1	108,725.3				13,585.7	788.6	186.0		37.6	29.7	
Section 10 – Rates of Materials	31.4	2,619.6				449.5 / 484.2	26.1 / 28.1	4.6	10.7	1.0 / 1.0	1.6	15.8
Section 11 – Rates of Materials	38.3	3,195.5				454.5	26.6	5.9		1.4	0.9	
Additional Quantities Table	338.7	19,186.4	9,125.0		1,571.9	3,050.2	176.9	20.5	26.0	5.7	3.1	46.8
Quantities from Notes	0.7			70.0					10.0			
TOTAL	1,796.6	140,585.6	9,125.0	70.0	1,571.9	20,536.9	1,191.9	230.2	83.3	52.3	37.7	89.6

IN PLACE TYPICAL SECTIONS

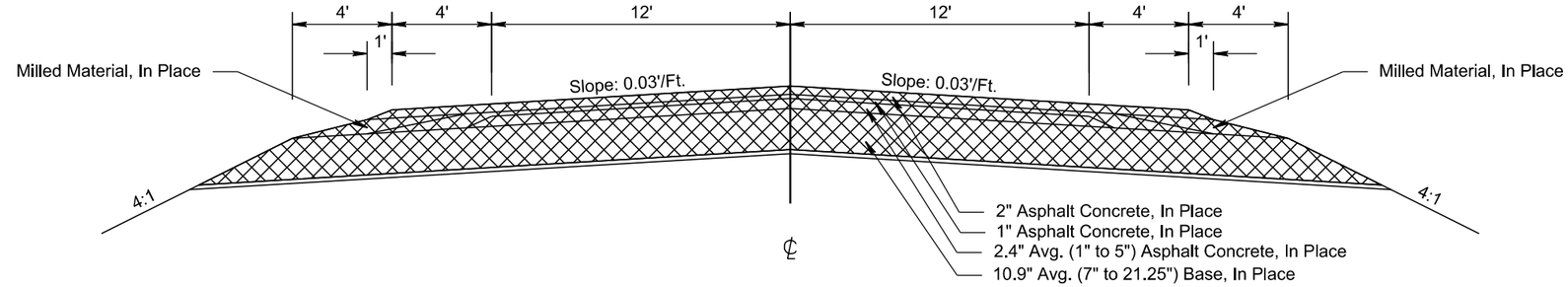
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH-B-PT 0010(124)296	F6	F11

Plotting Date: 01/23/2024

Salvage & Stockpile Asphalt Mix and Granular Base Material

Section 1
Sta. 350+55 to Sta. 367+50
Sta. 460+15 to Sta. 466+77

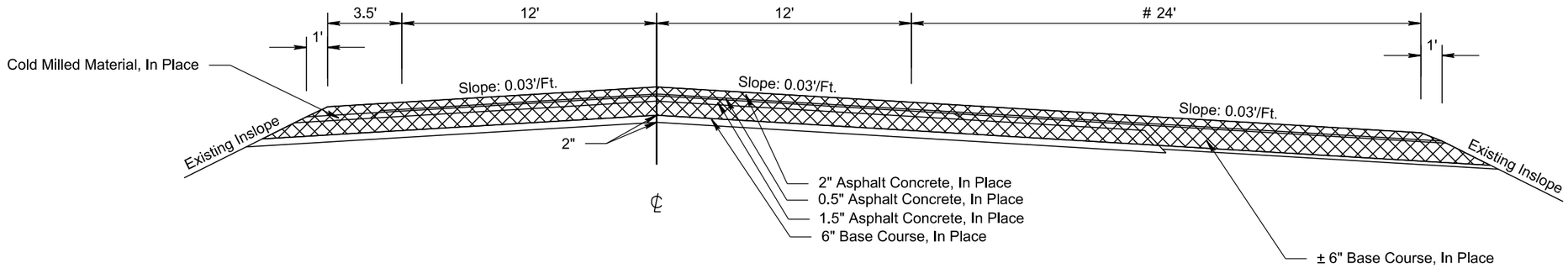
Exception: 367+50 to 460+15



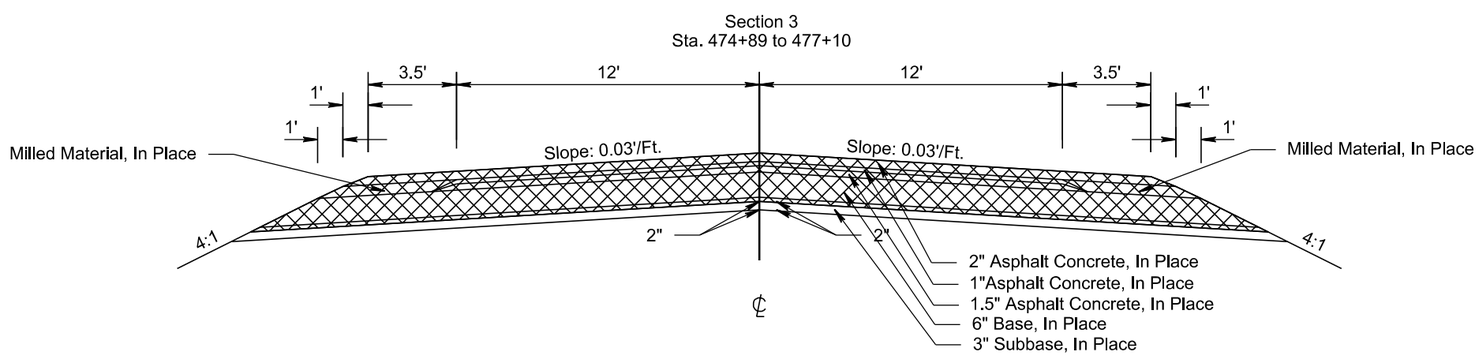
Section 2
Sta. 466+77 to 474+89

Transitions:

Sta. 470+40.5 to Sta. 474+89
24' to 3.5'



Section 3
Sta. 474+89 to 477+10



PLOT SCALE - 1:6.00001

PLOTTED FROM - TRPR15123

PLOT NAME - 6

FILE - ...\05F4_TYPICAL SECTIONS.DGN

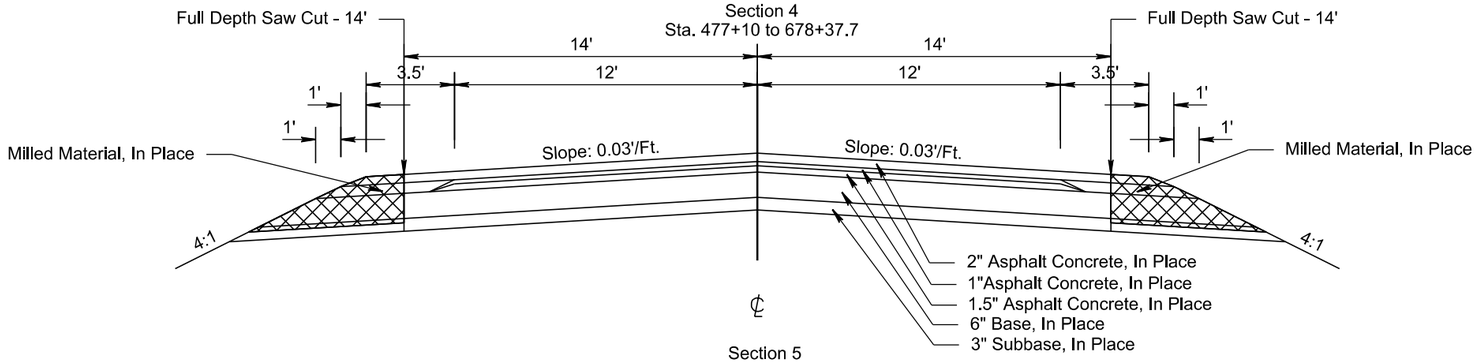
IN PLACE TYPICAL SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH-B-PT 0010(124)296	F7	F11

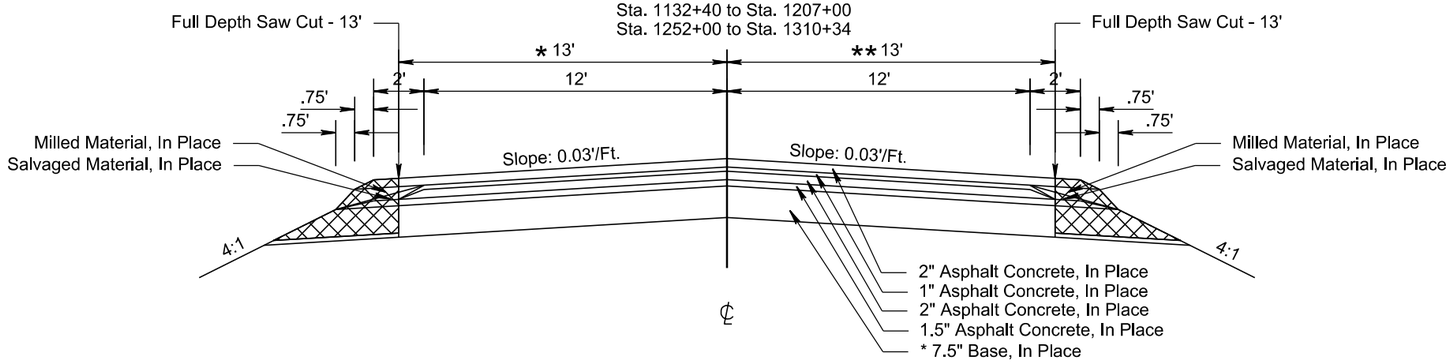
Plotting Date: 01/23/2024

Salvage & Stockpile Asphalt Mix and Granular Base Material

Section 4
Sta. 477+10 to 678+37.7



Section 5
Sta. 678+37.7 to Sta. 1124+35
Sta. 1132+40 to Sta. 1207+00
Sta. 1252+00 to Sta. 1310+34

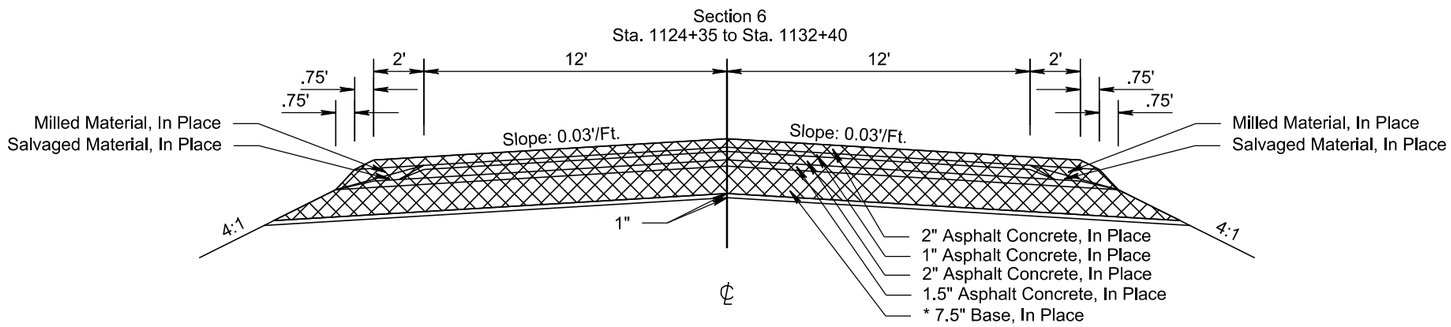


Transitions:

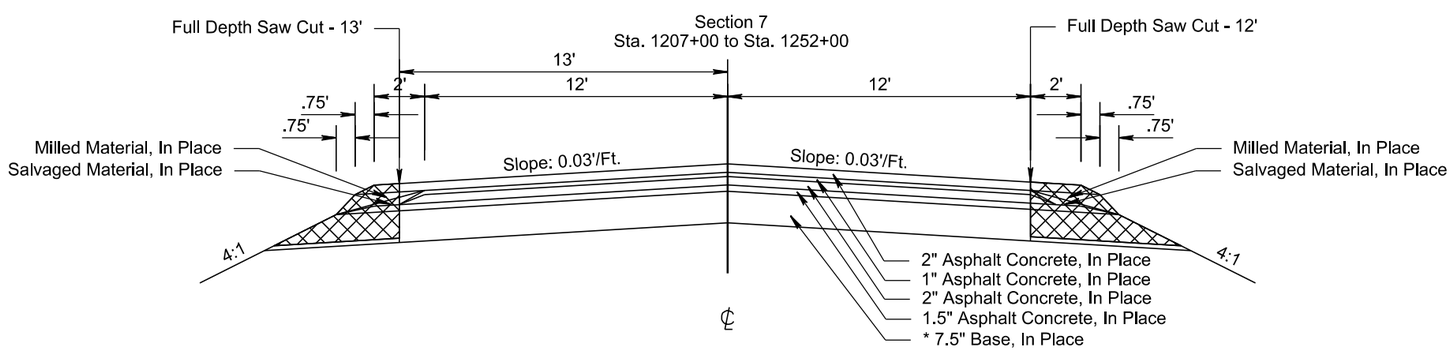
Sta. 678+37.7 to Sta. 696+00
* 14'

Sta. 678+37.7 to Sta. 681+00
** 14'

Section 6
Sta. 1124+35 to Sta. 1132+40



Section 7
Sta. 1207+00 to Sta. 1252+00



TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH-B-PT 0010(124)296	F8	F11

Plotting Date: 01/23/2024

PLOT SCALE - 1:6.00001

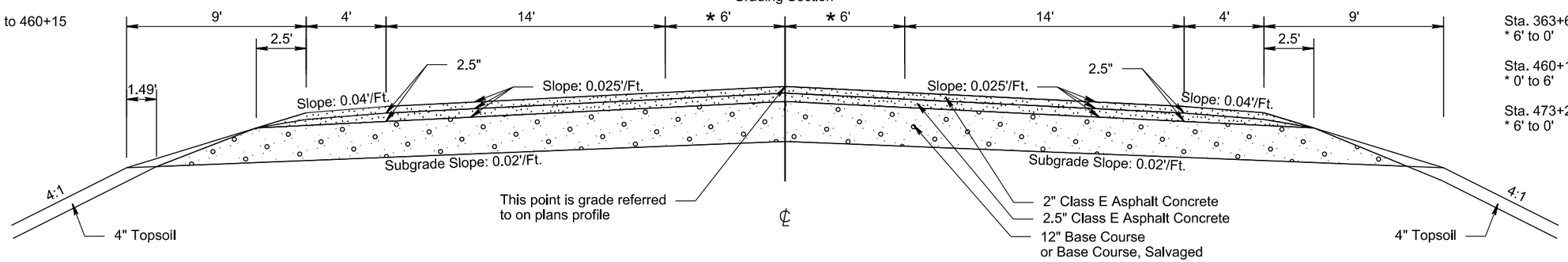
PLOT NAME - 8

FILE - ...\05F4_TYPICAL SECTIONS.DGN

PLOTTED FROM - TRPR15123

Section 8
Sta. 350+55 to Sta. 367+50
Sta. 460+15 to Sta. 477+10
Grading Section

Exception: 367+50 to 460+15



Transitions:

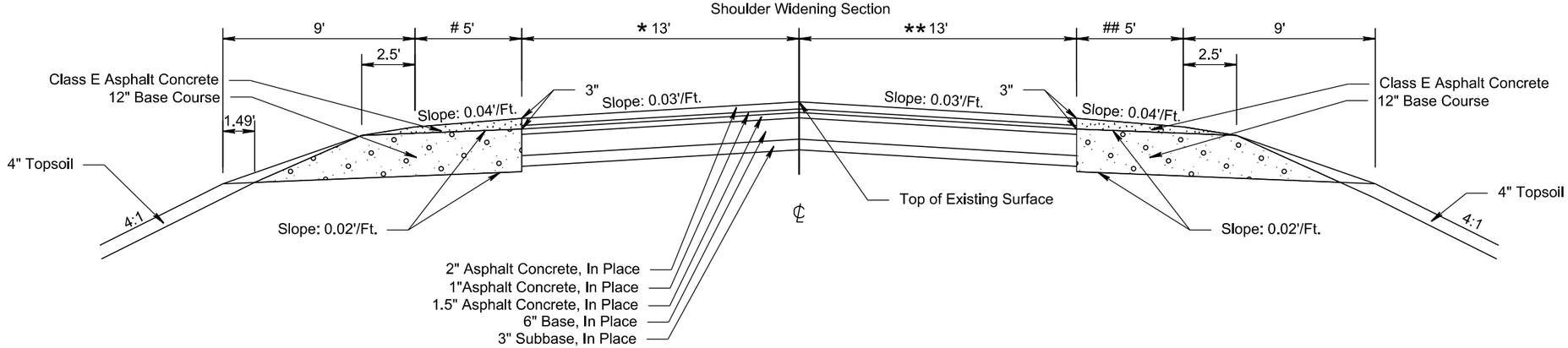
Sta. 350+55 to Sta. 354+45
* 0' to 6'

Sta. 363+60 to Sta. 367+50
* 6' to 0'

Sta. 460+15 to Sta. 464+05
* 0' to 6'

Sta. 473+20 to Sta. 477+10
* 6' to 0'

Section 9
Sta. 477+10 to Sta. 1124+35
Sta. 1132+40 to Sta. 1207+00
Sta. 1252+00 to Sta. 1310+34
Shoulder Widening Section

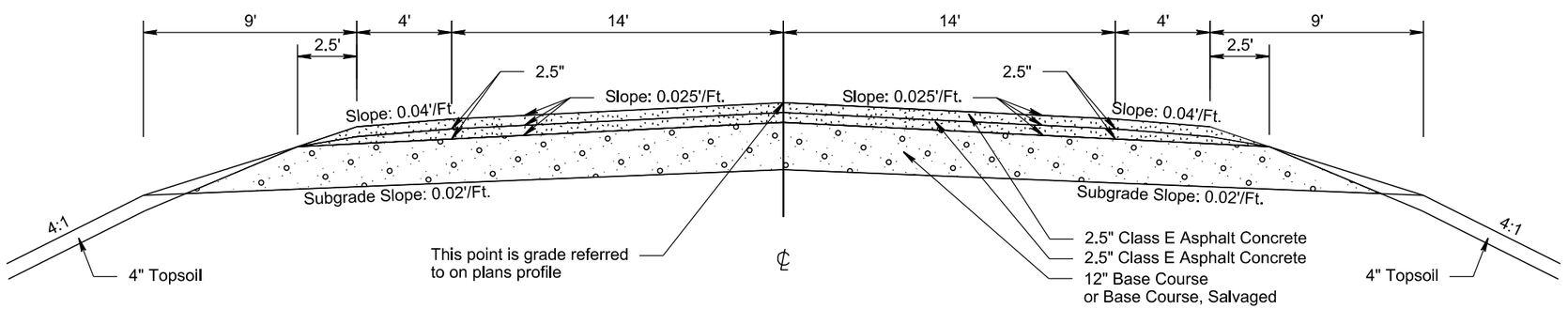


Transitions:

Sta. 477+10 to Sta. 696+00
* 14'
# 4'

Sta. 477+10 to Sta. 681+00
** 14'
4'

Section 10
Sta. 1124+35 to Sta. 1132+40



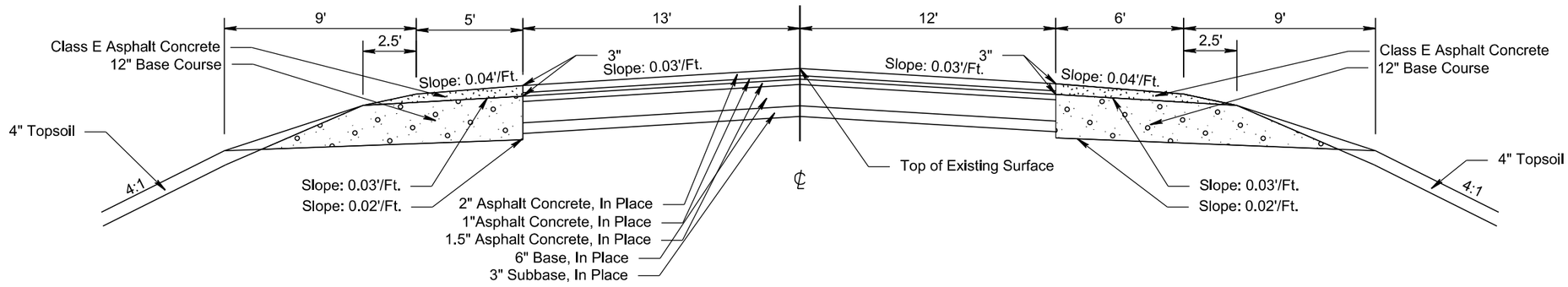
TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-PH-B-PT 0010(124)296	F9	F11

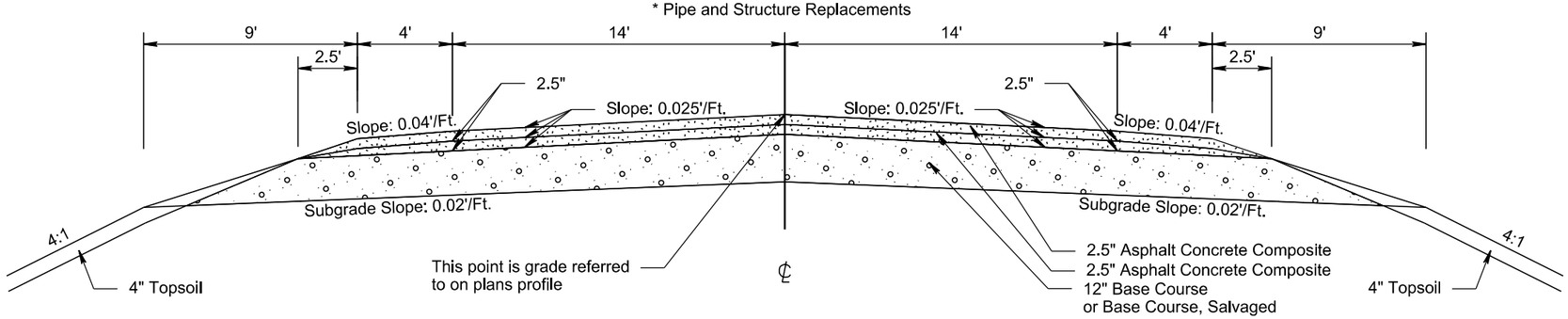
Plotting Date: 02/27/2024

Revised: 27Feb24, LLR

Section 11
Sta. 1207+00 to Sta. 1252+00
Shoulder Widening Section



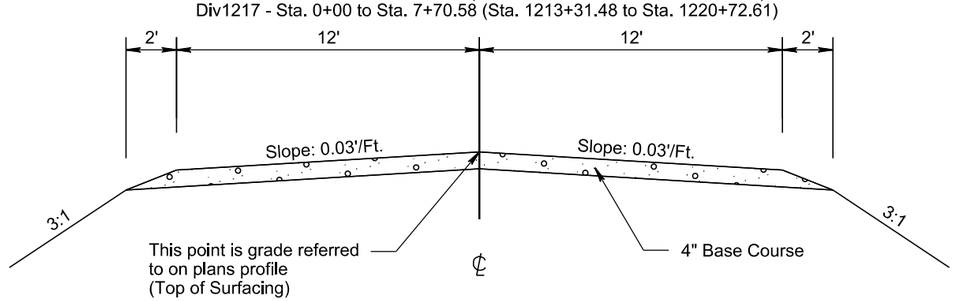
Section 12
* Pipe and Structure Replacements

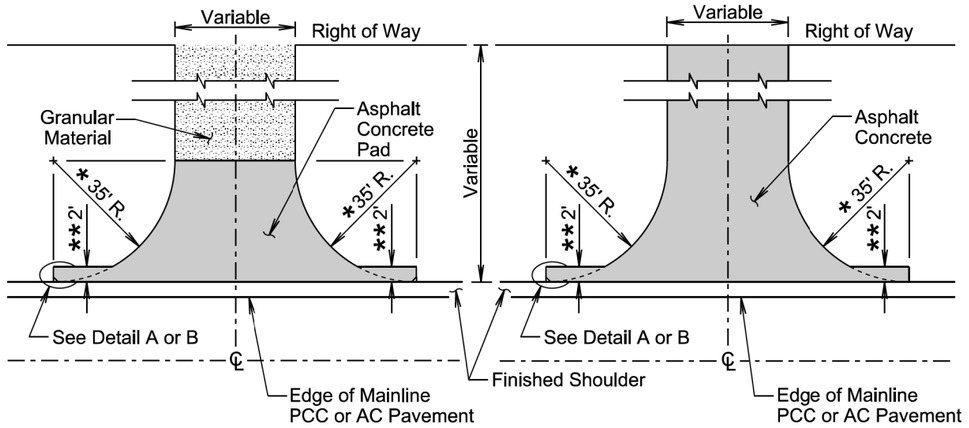


*The cross slope for all other pipe and structure replacements will match the cross slope of the adjacent surfacing section.

Section 13
Traffic Diversions

Div1086 - Sta. 0+00 to Sta. 7+71.60 (Sta. 1081+84.33 to Sta. 1089+26.37)
Div1129 - Sta. 0+00 to Sta. 9+17.62 (Sta. 1124+27.67 to Sta. 1132+95.84)
Div1207 - Sta. 0+00 to Sta. 7+84 (Sta. 1203+24.48 to Sta. 1210+77.01)
Div1217 - Sta. 0+00 to Sta. 7+70.58 (Sta. 1213+31.48 to Sta. 1220+72.61)





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.

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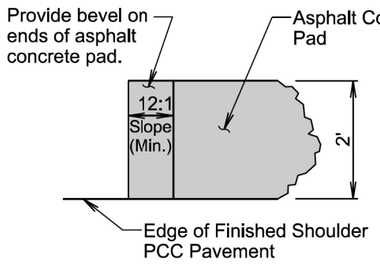
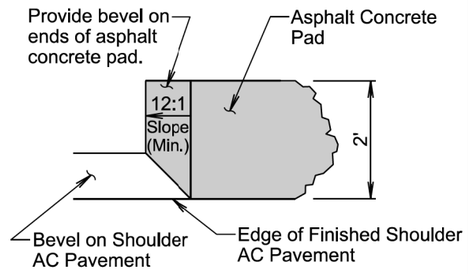
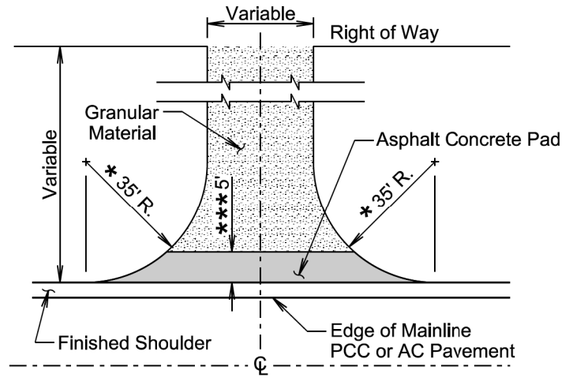


DETAIL A
(Typ. for Projects with PCC Pavement on Shoulder)



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



PLAN VIEW
(Entrance)

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

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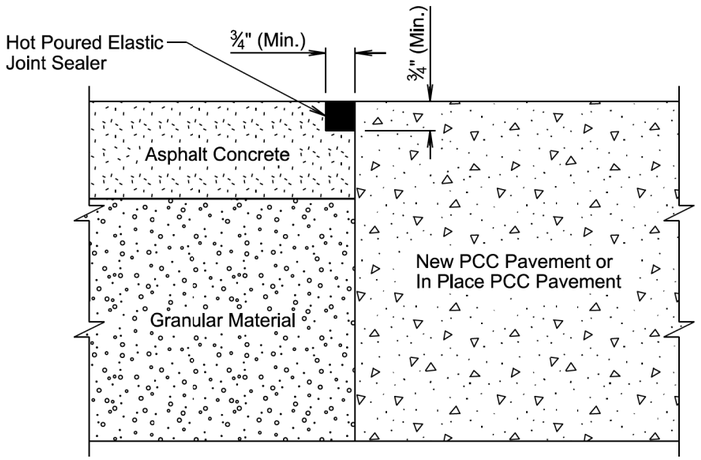
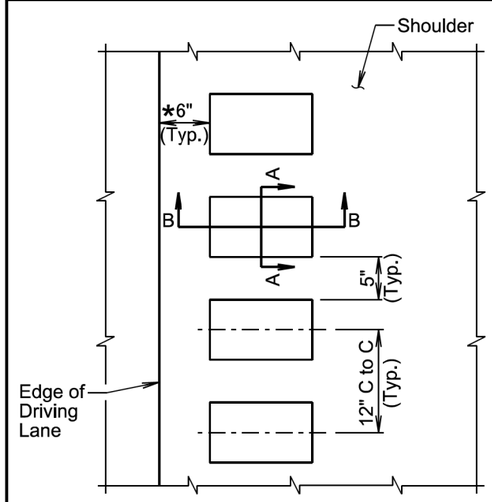


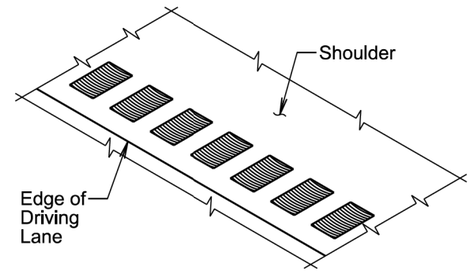
TRANSVERSE SECTION
(Asphalt Concrete Shoulder Joint)

September 14, 2019

Published Date: 2024	SDDOT	ASPHALT CONCRETE SHOULDER JOINT ADJACENT TO PCC PAVEMENT	PLATE NUMBER 320.15
			Sheet 1 of 1

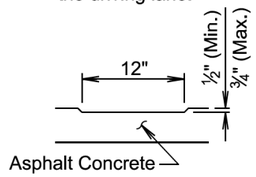


PLAN VIEW
(Typical Rumble Strip in Asphalt Concrete)

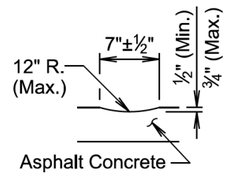


PERSPECTIVE VIEW
(Typical Rumble Strip in Asphalt Concrete)

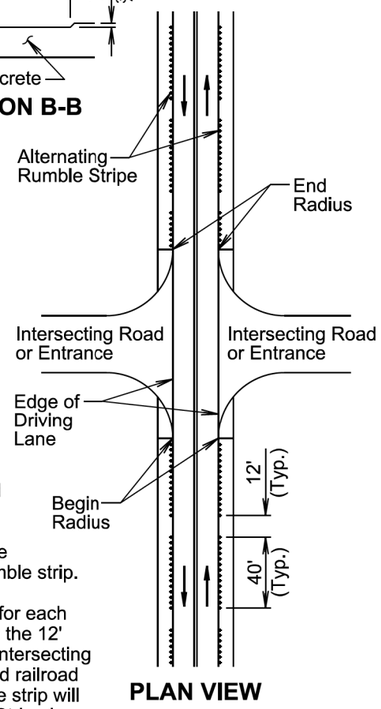
* When PCC pavement width from centerline to edge of pavement is 12', the rumble strip may be placed a maximum of 2' from the edge of the driving lane.



SECTION B-B



SECTION A-A



PLAN VIEW

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

Published Date: 2024	SDDOT	12" RUMBLE STRIP IN ASPHALT CONCRETE ON NONDIVIDED HIGHWAY SHOULDERS	PLATE NUMBER 320.24
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