

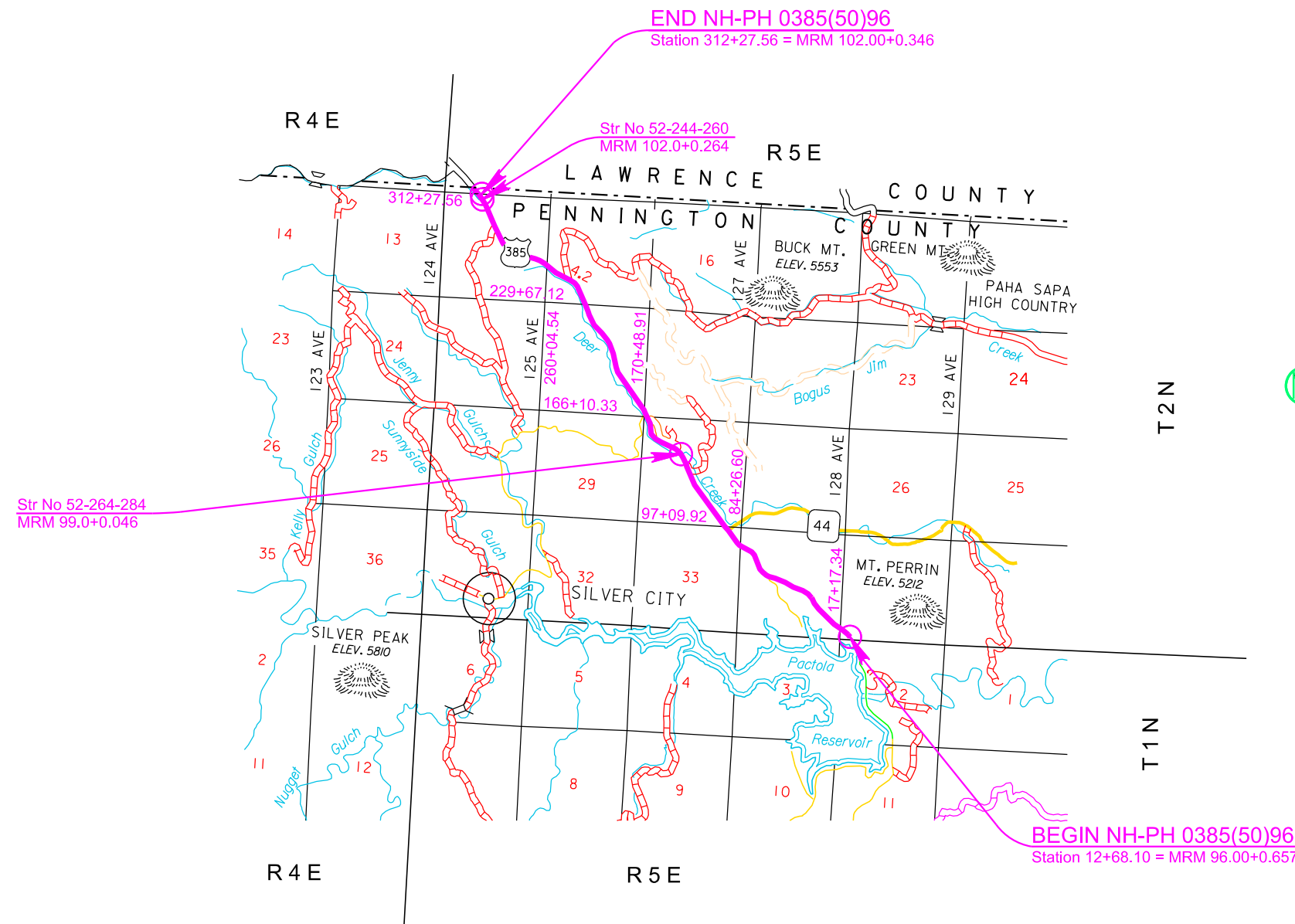
# SECTION F: SURFACING PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0385(50)96	F1	F15

Plotting Date: 03/27/2024

## INDEX OF SHEETS

- F1 General Layout with Index
- F2 - F7 Estimate with General Notes & Tables
- F8 - F11 Typical Surfacing Sections
- F12 - F15 Standard Plates



**SECTION F – ESTIMATE OF QUANTITIES**

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E1350	Restoration of Stockpile Site	Lump Sum	LS
009E3320	Checker	Lump Sum	LS
009E4200	Construction Schedule, Category II	Lump Sum	LS
009E4220	Project Management, Category II	Lump Sum	LS
120E0100	Unclassified Excavation, Digouts	284	CuYd
120E6200	Water for Granular Material	15.0	MGal
210E1005	Surface Preparation	1.500	Mile
260E1010	Base Course	1,252.5	Ton
330E0010	MC-70 Asphalt for Prime	49.1	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	82.5	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	33.1	Ton
330E1000	Blotting Sand for Prime	115.0	Ton
330E2000	Sand for Flush Seal	320.5	Ton
600E0300	Type III Field Laboratory	1	Each
900E0022	Remove and Reset Mailbox	27	Each
900E1980	Storage Unit	1	Each

**SECTION F – ESTIMATE OF QUANTITIES – ALTERNATE A**

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
320E0005	PG 58-34 Asphalt Binder	1,637.9	Ton
320E1203	Class Q3R Hot Mixed Asphalt Concrete	33,698.1	Ton
320E4000	Hydrated Lime	337.1	Ton

**SECTION F – ESTIMATE OF QUANTITIES – ALTERNATE B**

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
320E0005	PG 58-34 Asphalt Binder	1,371.8	Ton
320E1203	Class Q3R Hot Mixed Asphalt Concrete	34,603.5	Ton
320E4000	Hydrated Lime	338.3	Ton

**TYPE III FIELD LABORATORY**

The lab will be equipped with an internet connection such as DSL, cable modem, or other approved service. The internet connection will be provided with a multi-port wireless router. The internet connection will be a minimum speed of 5 Mbps unless limited by job location and approved by the DOT. Prior to installing the wireless router, the Contractor will submit the wireless router's technical data to the Area Office to check for compatibility with the state's computer equipment. The internet connection is intended for state personnel usage only. The Contractor's personnel are prohibited from using the internet connection unless pre-approved by the Project Engineer. These items will be incidental to the contract unit price per each for "Type III Field Laboratory".

**UNCLASSIFIED EXCAVATION, DIGOUTS**

The locations and extent of digout areas will be determined in the field by the Engineer. The backfilling material for the digouts will be Base Course. The depth of Base Course will match the in-place thickness.

Included in the Estimate of Quantities are 50 cubic yards of Unclassified Excavation, Digouts per mile for the removal of unstable granular material throughout the project.

Included in the Estimate of Quantities are 100 tons of Base Course and 1.2 MGal of Water for Granular Material per mile for backfill of Unclassified Excavation, Digouts.

The digouts will be extended through the shoulder and backfilled with granular material that will daylight to the inslope to allow water to escape the subsurface.

**SURFACE PREPARATION**

An estimated length of 1.5 miles of Surface Preparation will be completed at locations to be determined by the Engineer prior to placement of the Class Q3R Hot Mixed Asphalt Concrete. The Contractor will be required to prepare the existing surface according to the Surface Preparation specifications provided in Section 210.

The locations provided on the typical sections for Asphalt Surface Treatment, In Place, represent the locations where an asphalt surface treatment is anticipated to be in place at the time of construction. The Contractor is advised that locations and dimensions of actual Asphalt Surface Treatment, In Place, may vary from that given on the typical sections. There will be no increase in the payment for Surface Preparation based on the actual surface treatment in place at the time of construction.

Quantities for Surface Preparation, MC-70 Asphalt for Prime, and Blotting Sand for Prime have been provided for 1.5 miles of the asphalt surfacing project. Actual limits to receive Surface Preparation, MC-70 Asphalt for Prime, and Blotting Sand for Prime ahead of Class Q3R Hot Mixed Asphalt Concrete placement will be limited to particular project conditions and will be subject to approval by the Engineer. In no case will Surface Preparation operations ahead of Class Q3R Hot Mixed Asphalt Concrete placement operations exceed fourteen calendar days. Rate for MC-70 Asphalt for Prime will be 0.30 gallons per square yard applied 47.0 feet wide. Rate of Blotting Sand for Prime will be 10 pounds per square yard applied 24.0 feet wide.

The Contractor will ensure excess in place granular material is removed at locations (end of project, intersecting roads and entrances) to achieve the required elevation for the placement of the asphalt concrete. Payment for the removal of excess in place granular material will be incidental to the contract unit price per mile for Surface Preparation. This material may be reused as Base Course, Salvaged at the discretion of the Engineer.

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**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.

**CHECKING SPREAD RATES**

The Contractor will be responsible for checking the Class Q3R Hot Mixed 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.

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### STORAGE UNIT

The Contractor will provide a storage unit such as a portable storage container or a semi-trailer meeting the minimum size requirements from the table below:

Project Total Asphalt Concrete Tonnage	Minimum Internal Size (Cu Ft)	Minimum External Size (L x W x H)
Less than 50,000 ton	1,166	20' x 8' x 8.6' std
More than 50,000 ton	2,360	40' x 8' x 8.6' std
All Gyratory Controlled QC/QA Projects	2,360	40' x 8' x 8.6' std

The storage unit is intended for use only by the Engineer for the duration of the project. The QC lab personnel or the Contractor will not be allowed to use the storage container while it is on the project, without permission of the Engineer.

The storage unit will be on site and operational prior to asphalt concrete production. Upon completion of asphalt concrete production, the Engineer will notify the Contractor when the storage unit can be removed from the project. The storage unit use will not exceed 30 calendar days from the completion of asphalt concrete production. The storage unit will remain the property of the Contractor.

The storage unit will be weather proof and will be set in a level position. The storage unit will be able to be locked with a padlock.

The storage unit will be placed adjacent to the QA lab, as approved by the Engineer.

The following will apply when the storage unit provided on the project is a portable storage container:

1. The portable storage container will be constructed of steel.
2. The portable storage container will be set such that it is raised above the surrounding ground level to keep water from ponding under or around the storage container.

The following will apply when the storage unit provided on the project is a semi-trailer:

1. A set of steps and hand railings will be provided at the exterior door.
2. If the floor of the semi-trailer is 18 inches or more above the ground, a landing will be constructed at the exterior door. The minimum dimensions for the landing will be 4 feet by 5 feet. The top of the landing will be level with the threshold or opening of the doorway.
3. The semi-trailer may be connected to the QA lab by a stable elevated walkway. The walkway will be a minimum of 48 inches wide and contain handrails installed at 32 inches above the deck of the walkway. The walkway will be constructed such that it is stable and the deck does not deform during use and allows for proper door operation. Walkway construction will be approved by the Engineer.

All cost for furnishing, maintaining, and removing the storage unit including labor, equipment, and materials including any necessary walkways, landings, stairways, and handrails will be included in the contract unit price per each for "Storage Unit".

### FLEXIBLE PAVEMENT SMOOTHNESS PROVISION

All sections, not excluded by the Special Provision for Flexible Pavement Smoothness will be evaluated as two opportunities.

### CLASS Q3R HOT MIXED ASPHALT CONCRETE

Mineral Aggregate:

Asphalt concrete aggregates will consist of reclaimed asphalt pavement (RAP) and virgin aggregate.

Virgin mineral aggregate for Class Q3R Hot Mixed Asphalt Concrete-Alternate A will conform to the requirements of Class Q3.

Virgin mineral aggregate for Class Q3R Hot Mixed Asphalt Concrete-Alternate B will consist of a minimum of 80 percent crushed limestone ledge rock and will conform to the requirements of Class Q3.

The Class Q3R Hot Mixed Asphalt Concrete will include 15 percent RAP in the mixture.

RAP will be obtained from the stockpiled salvaged asphalt mix material produced from projects PCN 03BD, estimated at 5,300 tons, located on the state owned property in the Southwest 1/4 of Section 7, Township 2 North, Range 5 East of the 5th P.M., near the Pennington/Lawrence County Line in South Dakota on the east side of US385. The RAP produced from PCN 03BD will be removed and stockpiled the year prior to this project. The RAP was processed to meet the requirements of Section 884.2 C.1 prior to stockpiling. There is potential that some of the RAP has clumped or gummed together since the time it was processed and stockpiled. The Contractor may be required to re-process the material to meet the requirements of Section 884.2 C.1, prior to incorporating into the mixture. This determination will be made by the Engineer during construction. All costs to process the material will be incidental to Class Q3R Hot Mixed Asphalt Concrete.

The excess material not used as RAP will become property of the Contractor.

Mix Design Criteria:

Gyratory Controlled QC/QA Mix Design requirements for the Class Q3R Hot Mixed Asphalt Concrete will conform to the requirements of Class Q3R except as modified by the following:

Gyratory Compactive Effort:

	N <sub>initial</sub>	N <sub>design</sub>	N <sub>maximum</sub>
Class Q3R	6	50	75

Mix Design Criteria – Alternate B:

Gyratory Controlled QC/QA Mix Design requirements for the Class Q3R Hot Mixed Asphalt Concrete will conform to the requirements of Class Q3 except as modified by the following:

Voids in Mineral Aggregate (VMA):

	Minimum VMA (%)
Class Q3R	13.0

Pay Factor Attributes – Alternate B:

Air Voids:

	Air Voids (%)
Class Q3R	3.5 ±1.0

All remaining requirements for Class Q3 will apply.

### BLOTTING SAND FOR PRIME

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

### FLUSH SEAL

Application of flush seal will be completed within 10 working days following completion of the asphalt concrete surfacing.

Application of flush seal may be eliminated by the Engineer. If the paved surface remains tight, the Engineer will notify the Contractor as soon as possible that the flush seal is unnecessary.

### SAND FOR FLUSH SEAL

The sand application will be placed 11' wide in each lane, leaving 12" on center line and 6" on each edge line free of sand.

### UTILITIES

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

If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule Article 20:25, the Contractor will contact the Engineer to determine modifications that will be necessary to avoid utility impacts.

**RESTORATION OF STOCKPILE SITE**

The Contractor will be responsible for the removal of any remaining stockpiled asphalt mix material from the state furnished stockpile site. The Contractor will remove all ruts, if needed, and the stockpile site will be left clean as approved by the Engineer.

All costs associated with this work will be incidental to the lump sum unit price bid for "Restoration of Stockpile Site".

**MAILBOXES**

Mailboxes will be moved and adjusted to the correct height and location by resetting the posts in accordance with Standard Plate 900.01. The local Postmaster will determine the recommended mounting height. The Contractor will coordinate with the Engineer on the proper postal representative to contact. The cost of removing and resetting existing mailboxes will be paid for at the contract unit price per each for "Remove and Reset Mailbox" (17 single and 10 double).

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	NH-PH 0385(50)96	F4	F15

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**RATES OF MATERIALS**

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

Section 1

- Sta. 12+68 to 55+20
- Sta. 66+55 to 89+17
- Sta. 102+57 to 159+37
- Sta. 171+21 to 174+50
- Sta. 176+82 to 310+00

SS-1h or CSS-1h Asphalt for Tack at the rate of 6.9 ton applied 46 feet wide (Rate = 0.06 gallon per square yard).

CLASS Q3R HOT MIXED ASPHALT CONCRETE – 1<sup>st</sup> Lift

	Alt. A	Alt. B
Crushed Aggregate	2,239 tons	2,321 tons
Salvaged Asphalt Concrete	395 tons	410 tons
PG 58-34 Asphalt Binder	136 tons	114 tons
Hydrated Lime	<u>28 tons</u>	<u>28 tons</u>
Total	2,798 tons	2,873 tons

SS-1h or CSS-1h Asphalt for Tack at the rate of 6.9 ton applied 46 feet wide (Rate = 0.06 gallon per square yard).

CLASS Q3R HOT MIXED ASPHALT CONCRETE – 2<sup>ND</sup> Lift

	Alt. A	Alt. B
Crushed Aggregate	2,239 tons	2,321 tons
Salvaged Asphalt Concrete	395 tons	410 tons
PG 58-34 Asphalt Binder	136 tons	114 tons
Hydrated Lime	<u>28 tons</u>	<u>28 tons</u>
Total	2,798 tons	2,873 tons

FLUSH SEAL

SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 5.6 tons applied 45 feet wide (Rate = 0.05 gallon per square yard).

Sand for Flush Seal at the rate of 52 tons applied 22 feet wide (Rate = 8 lbs. per square yard).

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

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

Section 2

- Sta. 58+50 to 63+25
- Sta. 162+67 to 167+91

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.16 ton applied 58.0 feet wide (Rate = 0.06 gallon per square yard).

CLASS Q3R HOT MIXED ASPHALT CONCRETE – 1<sup>st</sup> Lift

	Alt. A	Alt. B
Crushed Aggregate	54.38 tons	56.38 tons
Salvaged Asphalt Concrete	9.60 tons	9.95 tons
PG 58-34 Asphalt Binder	3.30 tons	2.76 tons
Hydrated Lime	<u>0.67 tons</u>	<u>0.69 tons</u>
Total	67.95 tons	69.78 tons

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.16 ton applied 58.0 feet wide (Rate = 0.06 gallon per square yard).

CLASS Q3R HOT MIXED ASPHALT CONCRETE – 2<sup>ND</sup> Lift

	Alt. A	Alt. B
Crushed Aggregate	54.38 tons	56.38 tons
Salvaged Asphalt Concrete	9.60 tons	9.95 tons
PG 58-34 Asphalt Binder	3.30 tons	2.76 tons
Hydrated Lime	<u>0.67 tons</u>	<u>0.69 tons</u>
Total	67.95 tons	69.78 tons

FLUSH SEAL

SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 0.13 ton applied 57.0 feet wide (Rate = 0.06 gallon per square yard).

Sand for Flush Seal at the rate of 1.47 ton applied 33 feet wide (Rate = 8 lbs. per square yard).

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

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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**Summary of Class Q3R Hot Mixed Asphalt Concrete Compaction – Alternate A**

Location-Description	Compaction With Specified Density	Compaction Without Specified Density
	Ton / Lift	Ton / Lift
US 385 Sta. 12+68 to 55+20 24' Mainline Shoulders	1,271.6 / 1,276.3	981.6 / 982.4
US 385 Sta. 55+20 to 66+55 24' Mainline + Turn lane Shoulders	459.7 / 459.7	262.2 / 262.2
US 385 Sta. 66+55 to 89+17 24' Mainline Shoulders	676.4 / 676.4	522.3 / 522.3
US 385 Sta. 89+17 to 102+57 24' Mainline + Turn lanes Shoulders	667.1 / 667.1	309.6 / 309.6
US 385 Sta. 102+57 to 159+37 24' Mainline Shoulders	1,698.7 / 1,698.7	1,311.4 / 1,311.4
US 385 Sta. 159+37 to 171+21 24' Mainline + Turn lane Shoulders	481.5 / 481.5	273.4 / 273.4
US 385 Sta. 171+21 to 174+50 24' Mainline Shoulders	98.4 / 98.4	75.9 / 75.9
US 385 Sta. 174+50 to 176+82 24' Mainline Shoulders	69.3 / 69.3	44.6 / 44.6
US 385 Sta. 176+82 to 310+00 24' Mainline Shoulders	3,982.7 / 3,982.7	3,074.7 / 3,074.7
US 385 Sta. 310+00 to 312+28 24' Mainline Shoulders	68.2 / 72.9	55.8 / 56.6
SD 44 Sta. 20+00 to 22+00 24' Mainline Shoulders	59.8 / 64.5	46.2 / 47.0
Miscellaneous Areas		
XR 63		106.0 / 106.0
Silver City Road		58.2 / 58.2
Intersecting Roads – 3		371.0
<b>TOTAL</b>	<b>19,080.9</b>	<b>14,617.2</b>

**Summary of Class Q3R Hot Mixed Asphalt Concrete Compaction – Alternate B**

Location-Description	Compaction With Specified Density	Compaction Without Specified Density
	Ton / Lift	Ton / Lift
US 385 Sta. 12+68 to 55+20 24' Mainline Shoulders	1,305.4 / 1,310.2	1,008.2 / 1,009.1
US 385 Sta. 55+20 to 66+55 24' Mainline + Turn lane Shoulders	472.3 / 472.3	269.1 / 269.1
US 385 Sta. 66+55 to 89+17 24' Mainline Shoulders	694.4 / 694.4	536.4 / 536.4
US 385 Sta. 89+17 to 102+57 24' Mainline + Turn lanes Shoulders	685.2 / 685.2	318.0 / 318.0
US 385 Sta. 102+57 to 159+37 24' Mainline Shoulders	1,743.9 / 1,743.9	1,346.9 / 1,346.9
US 385 Sta. 159+37 to 171+21 24' Mainline + Turn lane Shoulders	494.7 / 494.7	280.6 / 280.6
US 385 Sta. 171+21 to 174+50 24' Mainline Shoulders	101.0 / 101.0	78.0 / 78.0
US 385 Sta. 174+50 to 176+82 24' Mainline Shoulders	71.2 / 71.2	45.8 / 45.8
US 385 Sta. 176+82 to 310+00 24' Mainline Shoulders	4,088.6 / 4,088.6	3,158.0 / 3,158.0
US 385 Sta. 310+00 to 312+28 24' Mainline Shoulders	70.1 / 74.9	57.3 / 58.2
SD 44 Sta. 20+00 to 22+00 24' Mainline Shoulders	61.4 / 66.2	47.5 / 48.4
Miscellaneous Areas		
XR 63		108.9 / 108.9
Silver City Road		59.8 / 59.8
Intersecting Roads – 3		381.0
<b>TOTAL</b>	<b>19,590.8</b>	<b>15,012.7</b>

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**TABLE OF ADDITIONAL QUANTITIES**

Location-Description	Water for Granular Material	Base Course	Class Q3R Hot Mixed Asphalt Concrete Alternate A (1 <sup>st</sup> / 2 <sup>nd</sup> Lift)	PG 58-34 Asphalt Binder Alternate A (1 <sup>st</sup> / 2 <sup>nd</sup> Lift)	Hydrated Lime Alternate A (1 <sup>st</sup> / 2 <sup>nd</sup> Lift)	Class Q3R Hot Mixed Asphalt Concrete Alternate B (1 <sup>st</sup> / 2 <sup>nd</sup> Lift)	PG 58-34 Asphalt Binder Alternate B (1 <sup>st</sup> / 2 <sup>nd</sup> Lift)	Hydrated Lime Alternate B (1 <sup>st</sup> / 2 <sup>nd</sup> Lift)	SS-1h or CSS-1h Asphalt for Tack (1 <sup>st</sup> / 2 <sup>nd</sup> 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
<b>Mainline US 385</b>											
Sta. 55+20 to Sta. 58+50			199.5 / 199.5	9.7 / 9.7	2.0 / 2.0	204.9 / 204.9	8.1 / 8.1	2.0 / 2.0	0.5 / 0.5	0.4	4.0
Sta. 63+25 to Sta. 66+55			199.5 / 199.5	9.7 / 9.7	2.0 / 2.0	204.9 / 204.9	8.1 / 8.1	2.0 / 2.0	0.5 / 0.5	0.4	4.0
Sta. 89+17 to Sta. 102+57			976.7 / 976.7	47.4 / 47.4	9.6 / 9.6	1,003.2 / 1,003.2	39.7 / 39.7	10.0 / 10.0	2.3 / 2.3	1.9	21.7
Sta. 159+37 to Sta. 162+67			199.5 / 199.5	9.7 / 9.7	2.0 / 2.0	204.9 / 204.9	8.1 / 8.1	2.0 / 2.0	0.5 / 0.5	0.4	4.0
Sta. 167+91 to Sta. 171+21			199.5 / 199.5	9.7 / 9.7	2.0 / 2.0	204.9 / 204.9	8.1 / 8.1	2.0 / 2.0	0.5 / 0.5	0.4	4.0
Sta. 174+50 to Sta. 176+82			113.9 / 113.9	5.5 / 5.5	1.1 / 1.1	117.0 / 117.0	4.6 / 4.6	1.1 / 1.1	0.4 / 0.4	0.2	2.3
Sta. 310+00 to 312+28			124.0 / 124.0	6.1 / 6.1	1.3 / 1.3	127.4 / 127.4	5.0 / 5.0	1.3 / 1.3	0.3 / 0.3	0.2	2.3
<b>Mainline SD 44</b>											
Sta. 20+00 to 22+00			106.0 / 106.0	5.2 / 5.2	1.1 / 1.1	108.9 / 108.9	4.3 / 4.3	1.1 / 1.1	0.3 / 0.3	0.2	2.0
<b>* Pavement Transitions</b>											
US 385 Sta. 12+68.10 to 13+18.1 (1.25" to 0")			5.5	0.3	0.1	5.7	0.2	0.1			
US 385 Sta. 311+78 to 312+28 (0" to 1.25")			5.5	0.3	0.1	5.7	0.2	0.1			
SD 44 Sta. 21+50 to 22+00 (0" to 1.25")			5.5	0.3	0.1	5.7	0.2	0.1			
XR 63			106.0 / 106.0	5.1 / 5.1	1.1 / 1.1	108.9 / 108.9	4.3 / 4.3	1.1 / 1.1	0.3 / 0.3	0.2	3.2
XR 133	1.5	127.1									
Silver City Road			58.2 / 58.2	2.8 / 2.8	0.6 / 0.6	59.8 / 59.8	2.4 / 2.4	0.6 / 0.6	0.2 / 0.2	0.1	1.8
<b>Miscellaneous Areas</b>											
Farm Entrances – 23	6.7	558.0									
Intersecting Roads – 3			371.0	18.0	4.0	381.0	15.0	4.0	0.1	0.1	2.0
<b>TOTAL</b>	<b>8.2</b>	<b>685.1</b>	<b>4,953.1</b>	<b>240.7</b>	<b>49.9</b>	<b>5,087.7</b>	<b>201</b>	<b>50.7</b>	<b>11.7</b>	<b>4.5</b>	<b>51.3</b>

\* See Pavement Transition Details

**TABLE OF MATERIAL QUANTITIES**

Location-Description	Water for Granular Material	Base Course	Class Q3R Hot Mixed Asphalt Concrete Alternate A	PG 58-34 Asphalt Binder Alternate A	Hydrated Lime Alternate A	Class Q3R Hot Mixed Asphalt Concrete Alternate B	PG 58-34 Asphalt Binder Alternate B	Hydrated Lime Alternate B	Asphalt for Prime	Blotting Sand for Prime	SS-1h or CSS-1h Asphalt for Tack	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	Ton
Section 1 - Rates of Materials			13,693.7 / 13,693.7	665.6 / 665.6	136.9 / 136.9	14,060.8 / 14,060.8	557.8 / 557.8	136.9 / 136.9			33.8 / 33.8	27.3	254.5
Section 2 - Rates of Materials			678.8 / 678.8	33.0 / 33.0	6.7 / 6.7	697.1 / 697.1	27.6 / 27.6	6.9 / 6.9			1.6 / 1.6	1.3	14.7
Additional Quantities Table	8.2	685.1	4,953.1	240.7	49.9	5,087.7	201	50.7			11.7	4.5	51.3
Quantities from Notes	6.8	567.4							49.1	115.0			
<b>TOTAL</b>	<b>15.0</b>	<b>1252.5</b>	<b>33,698.1</b>	<b>1,637.9</b>	<b>337.1</b>	<b>34,603.5</b>	<b>1,371.8</b>	<b>338.3</b>	<b>49.1</b>	<b>115.0</b>	<b>82.5</b>	<b>33.1</b>	<b>320.5</b>

Plot Scale - 1:200

Plotted From - TRPR15123

File - ...:\p\penm0694\NotesSectionF.dgn

# TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0385(50)96	F8	F15

Plotting Date: 03/27/2024

PLOT SCALE - 1+6.00001

PLOT NAME - 8

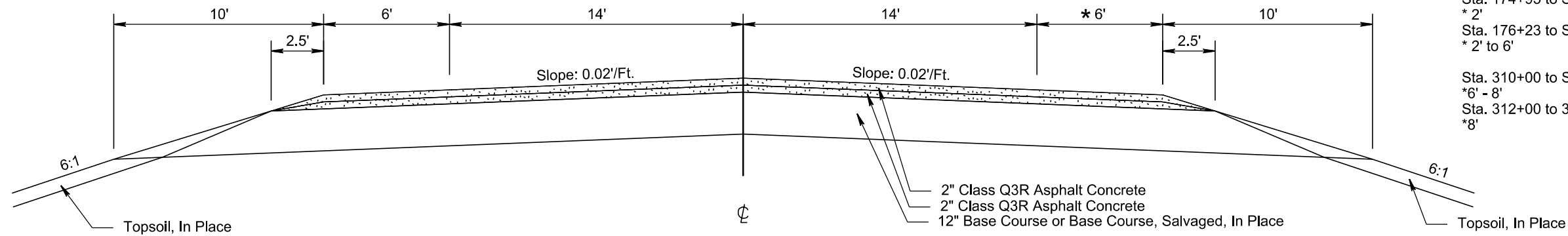
FILE - ... \0694\_TYPICAL SECTIONS.DGN

Section 1  
US HWY 385  
Sta. 12+68 to Sta. 55+20  
Sta. 66+55 to Sta. 89+17  
Sta. 102+57 to Sta. 159+37  
Sta. 171+21 to Sta. 312+28

Transition:

Sta. 174+50 to Sta. 174+95  
\* 6' to 2'  
Sta. 174+95 to Sta. 176+23  
\* 2'  
Sta. 176+23 to Sta. 176+82  
\* 2' to 6'

Sta. 310+00 to Sta. 312+00  
\* 6' - 8'  
Sta. 312+00 to 312+28  
\* 8'



Transitions:

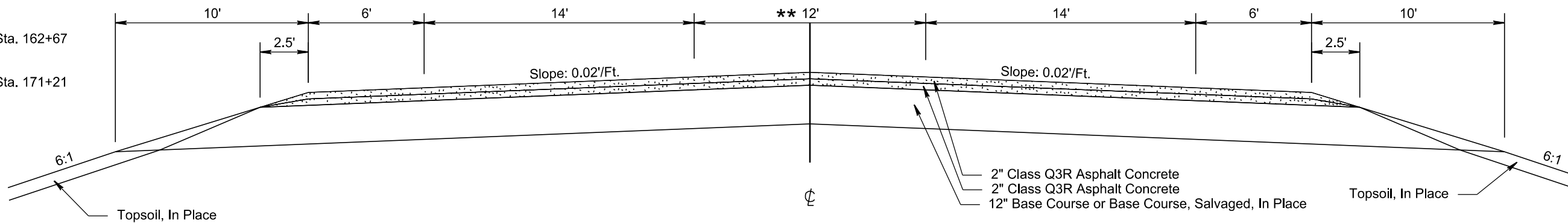
Sta. 55+20 to Sta. 58+50  
\*\* 0' to 12'

Sta. 63+25 to Sta. 66+55  
\*\* 12' to 0'

Sta. 159+37 to Sta. 162+67  
\*\* 0' to 12'

Sta. 167+91 to Sta. 171+21  
\*\* 12' to 0'

Section 2  
US HWY 385  
Sta. 55+20 to Sta. 66+55  
Sta. 159+37 to Sta. 171+21



Transitions:

Sta. 89+17 to Sta. 89+92  
\* 0'

Sta. 89+92 to Sta. 93+22  
\* 0' to 12'

Sta. 99+27 to Sta. 102+57  
\* 12' to 0'

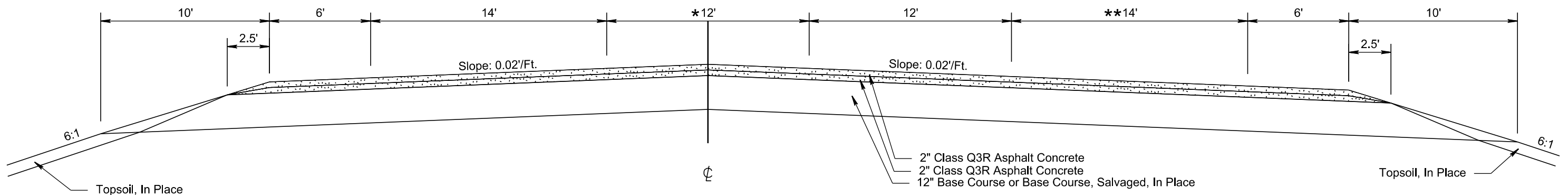
Transitions:

Sta. 89+17 to Sta. 90+36  
\*\* 2' to 14'

Sta. 90+36 to Sta. 93+91  
\*\* 14'

Sta. 93+91 to Sta. 102+57  
\*\* 14' to 2'

Section 3  
US HWY 385  
Sta. 89+17 to Sta. 102+57



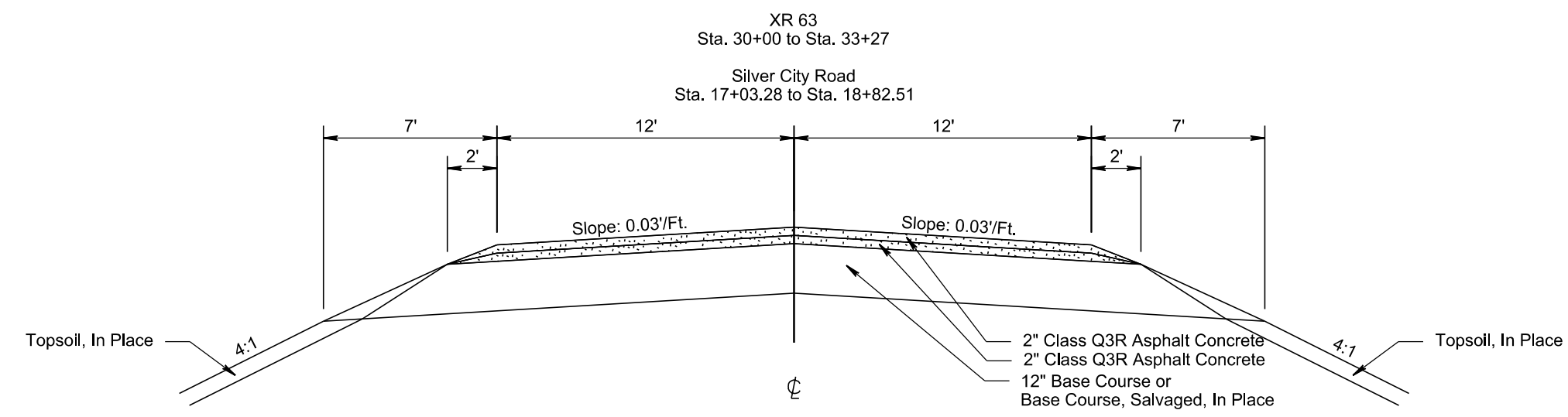
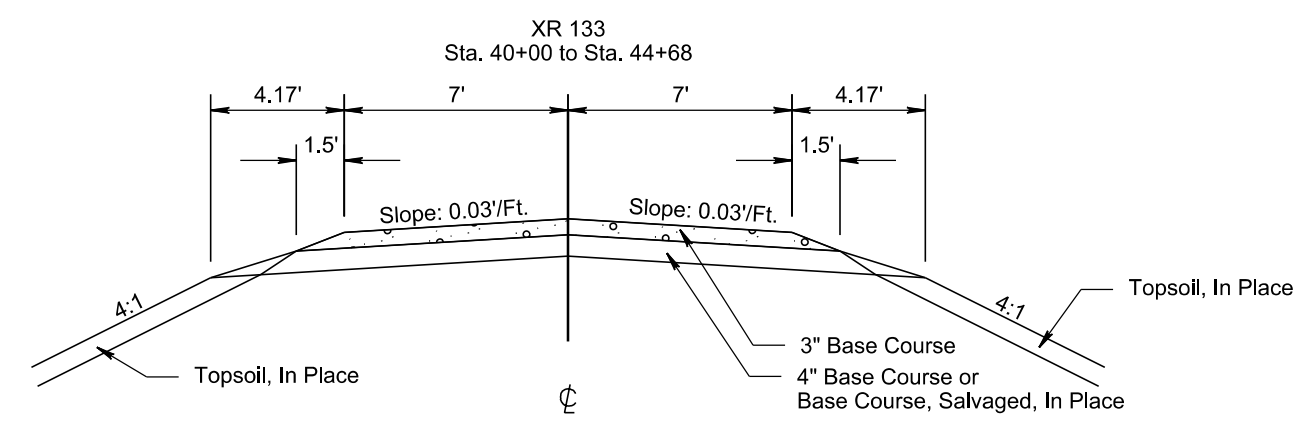
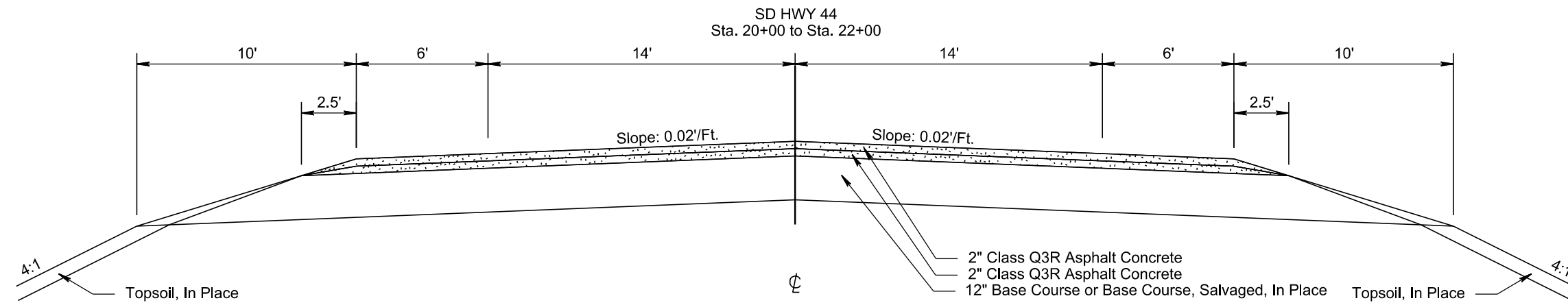
PLOTTED FROM - TRPR15123



# TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0385(50)96	F9	F15

Plotting Date: 03/27/2024



PLOT SCALE - 1+6.00001

PLOTTED FROM - TRPR15123

PLOT NAME - 9

FILE - ... \0694\_TYPICAL\_SECTIONS.DGN

# TYPICAL SURFACING SECTIONS

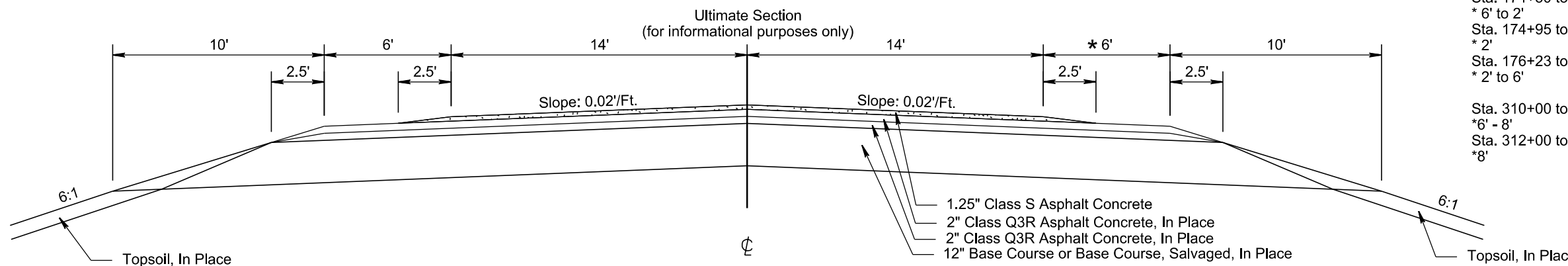
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0385(50)96	F10	F15

Plotting Date: 03/27/2024

US HWY 385  
 Sta. 12+68 to Sta. 55+20  
 Sta. 66+55 to Sta. 89+17  
 Sta. 102+57 to Sta. 159+37  
 Sta. 171+21 to Sta. 312+28

Transition:

Sta. 174+50 to Sta. 174+95  
 \* 6' to 2'  
 Sta. 174+95 to Sta. 176+23  
 \* 2'  
 Sta. 176+23 to Sta. 176+82  
 \* 2' to 6'  
 Sta. 310+00 to Sta. 312+00  
 \* 6' - 8'  
 Sta. 312+00 to 312+28  
 \* 8'



Transitions:

Sta. 55+20 to Sta. 58+50  
 \*\* 0' to 12'

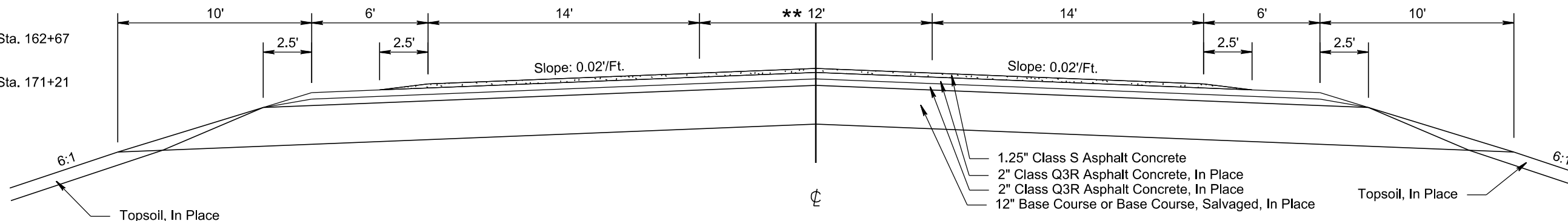
Sta. 63+25 to Sta. 66+55  
 \*\* 12' to 0'

Sta. 159+37 to Sta. 162+67  
 \*\* 0' to 12'

Sta. 167+91 to Sta. 171+21  
 \*\* 12' to 0'

US HWY 385  
 Sta. 55+20 to Sta. 66+55  
 Sta. 159+37 to Sta. 171+21

Ultimate Section  
 (for informational purposes only)



Transitions:

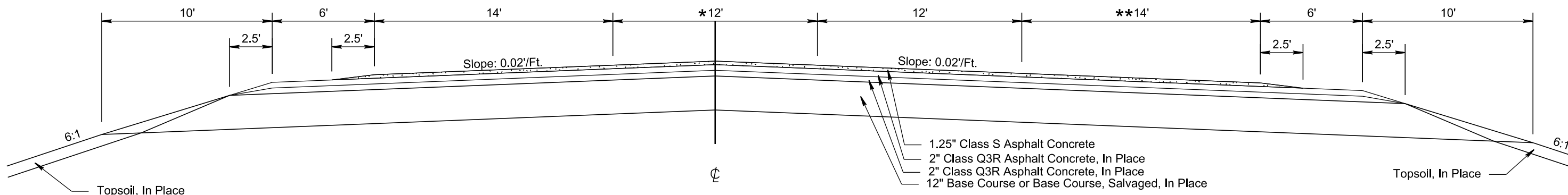
Sta. 89+17 to Sta. 89+92  
 \* 0'

Sta. 89+92 to Sta. 93+22  
 \* 0' to 12'

Sta. 99+27 to Sta. 102+57  
 \* 12' to 0'

US HWY 385  
 Sta. 89+17 to Sta. 102+57

Ultimate Section  
 (for informational purposes only)



Transitions:

Sta. 89+17 to Sta. 90+36  
 \*\* 2' to 14'

Sta. 90+36 to Sta. 93+91  
 \*\* 14'

Sta. 93+91 to Sta. 102+57  
 \*\* 14' to 2'

PLOT SCALE - 1+6.00001

PLOTTED FROM - TRPR15123

PLOT NAME - 10

FILE - ... \0694\_TYPICAL SECTIONS.DGN

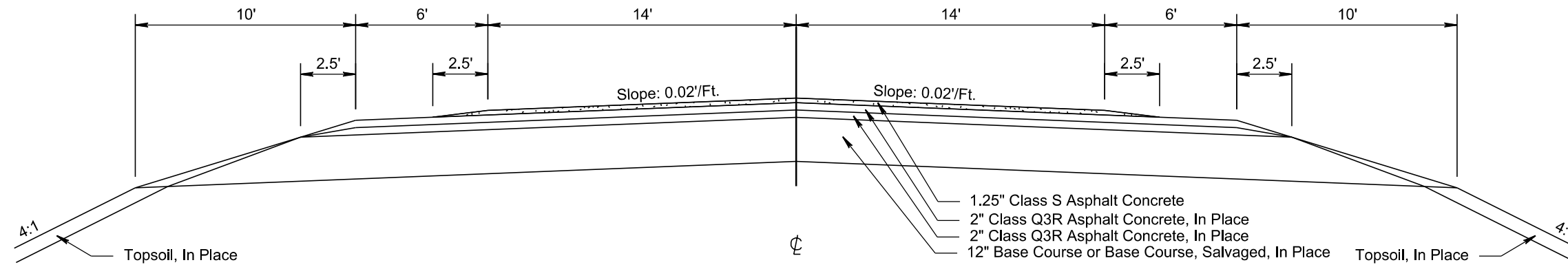
# TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0385(50)96	F11	F15

Plotting Date: 03/27/2024

SD HWY 44  
Sta. 20+00 to Sta. 22+00

Ultimate Section  
(for informational purposes only)



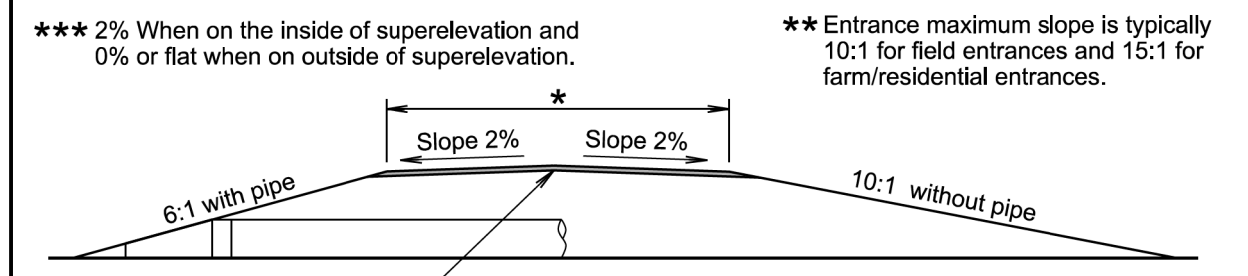
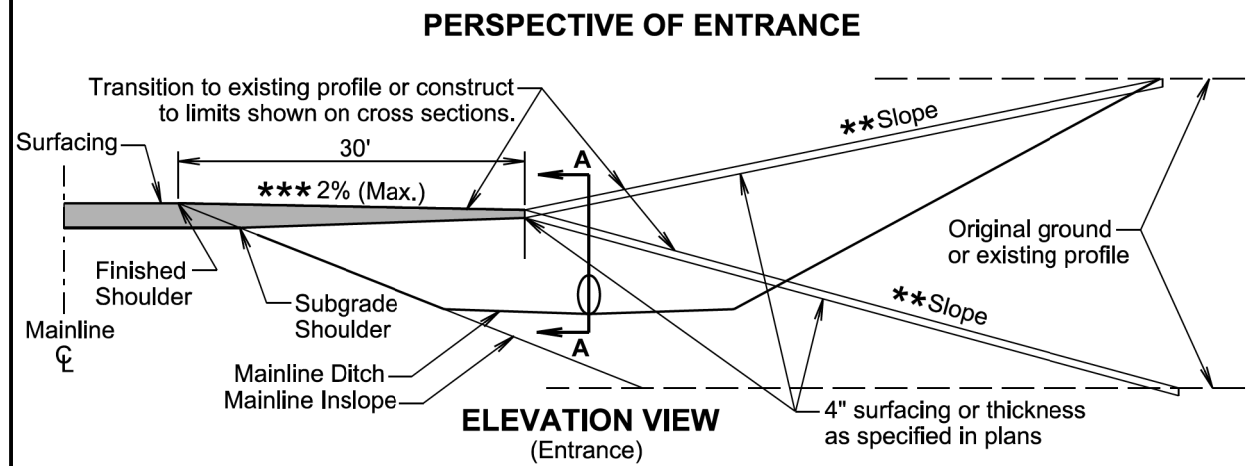
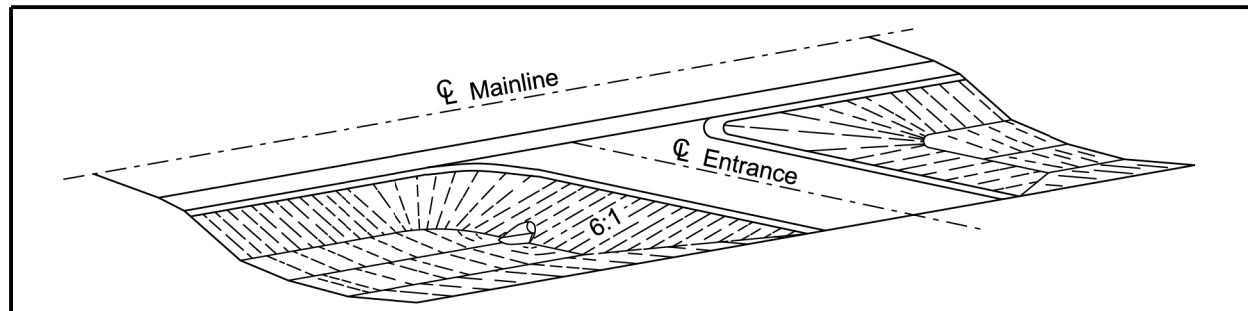
PLOT SCALE - 1+6.00001

PLOT NAME - 11

PLOTTED FROM - TRPR15123

FILE - ... \0694\_TYPICAL\_SECTIONS.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.

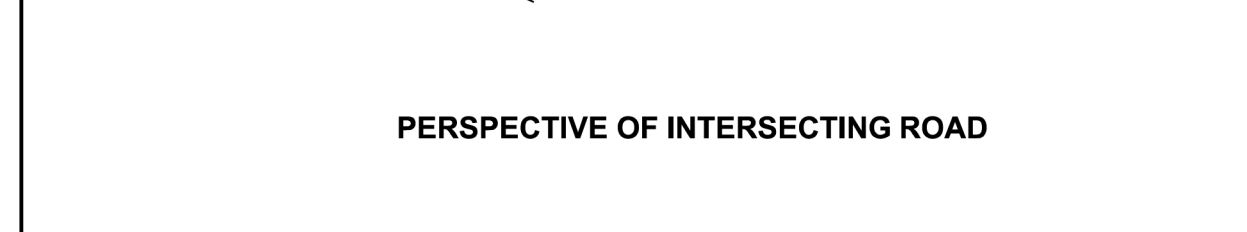
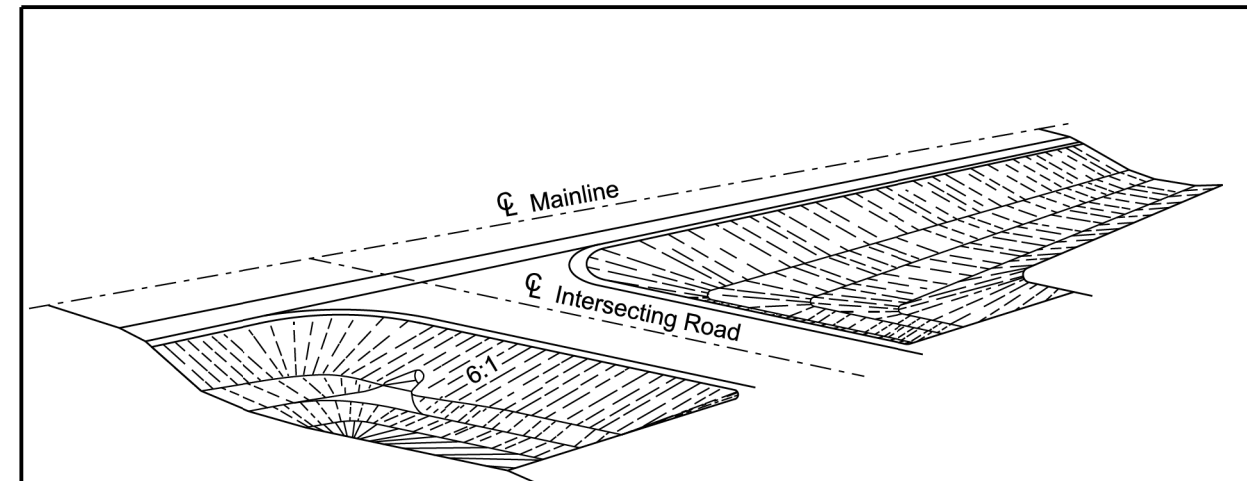
\*\*\* 2% When on the inside of superelevation and 0% or flat when on outside of superelevation.

\*\* Entrance maximum slope is typically 10:1 for field entrances and 15:1 for farm/residential entrances.

\* The finished surfacing width is stated elsewhere in the plans. The subgrade width is 4' wider than the finished surfacing width unless stated otherwise in the plans.

November 19, 2021

<b>Published Date: 2024</b>	<b>S D D O T</b>	<b>INTERSECTING ROADS AND ENTRANCES</b>	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.

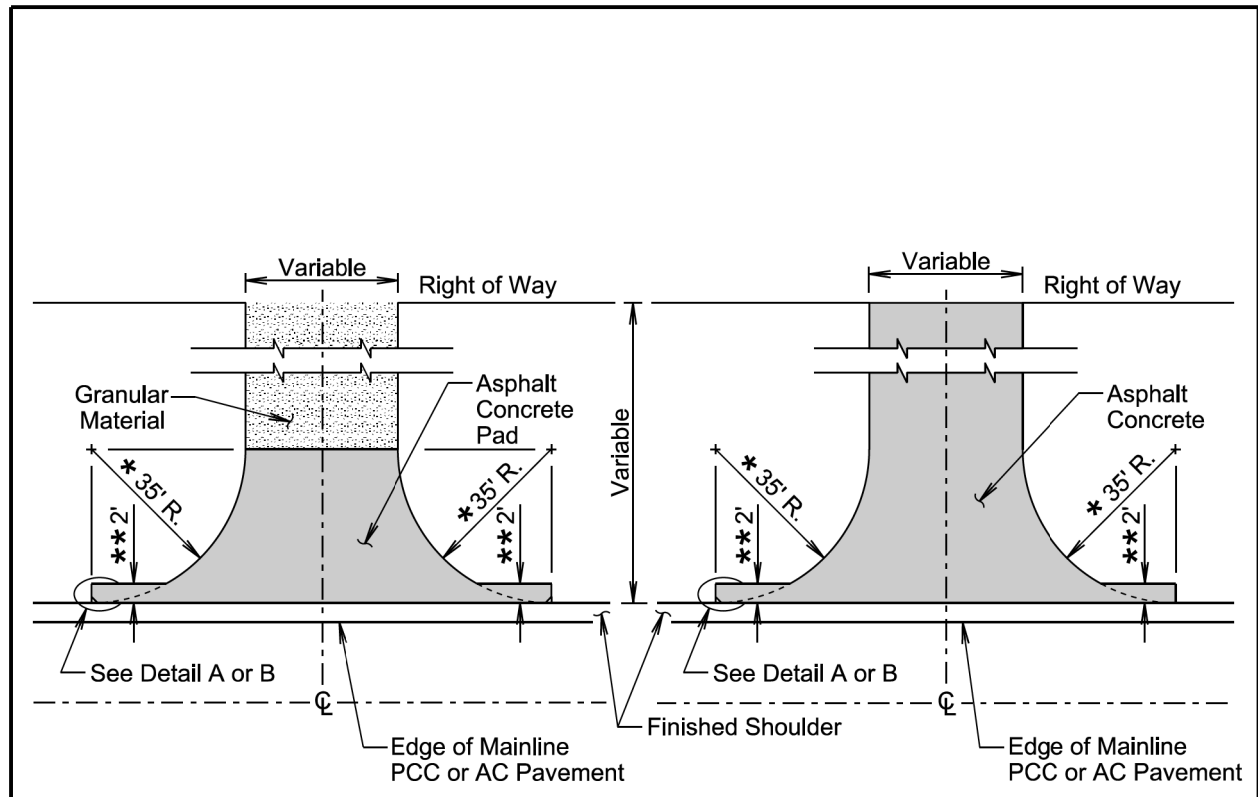
November 19, 2021

<b>Published Date: 2024</b>	<b>S D D O T</b>	<b>INTERSECTING ROADS AND ENTRANCES</b>	PLATE NUMBER 120.01
			Sheet 2 of 2

Plotted From - TRPR15123

File - ...lpenn0894\StdPlateSectionF.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:**

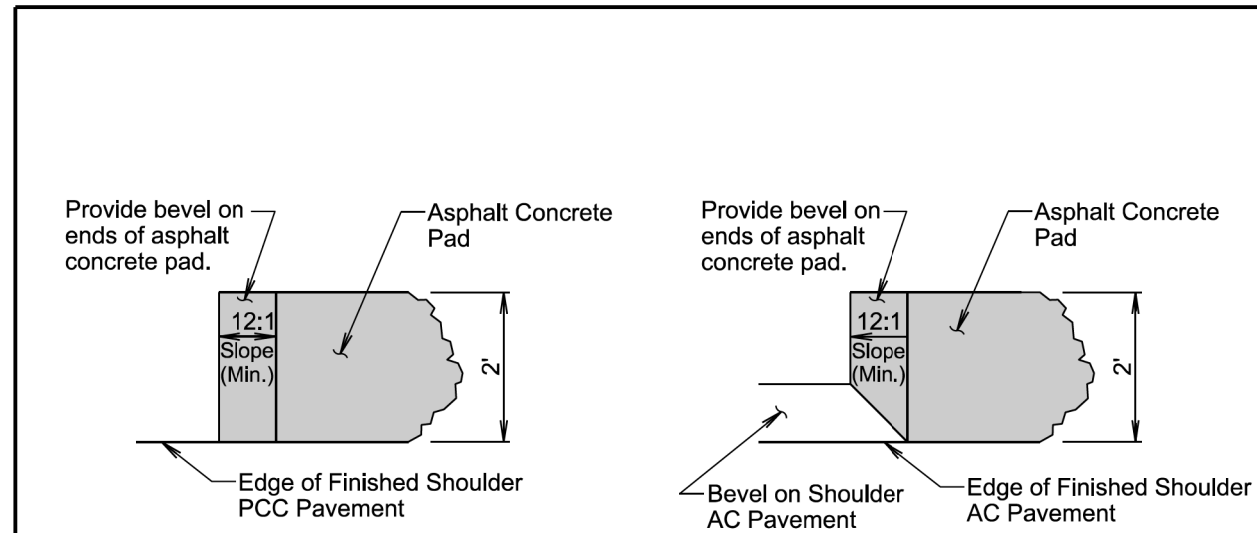
The precise construction limits for situations other than shown above will be determined by the Engineer during construction.

\* 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.

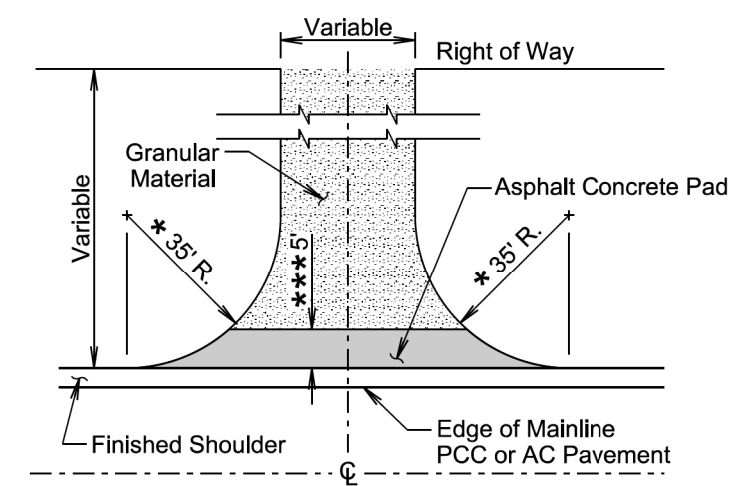
August 27, 2020

<b>S D D O T</b>	<b>SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (MAINLINE AND SHOULDERS: PCC OR AC PAVEMENT)</b>	PLATE NUMBER 320.04
		Sheet 1 of 2
Published Date: 2024		



**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.

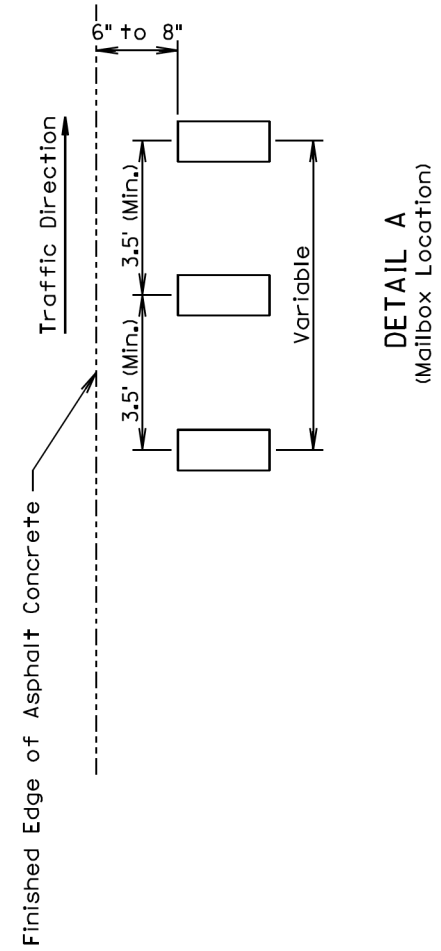
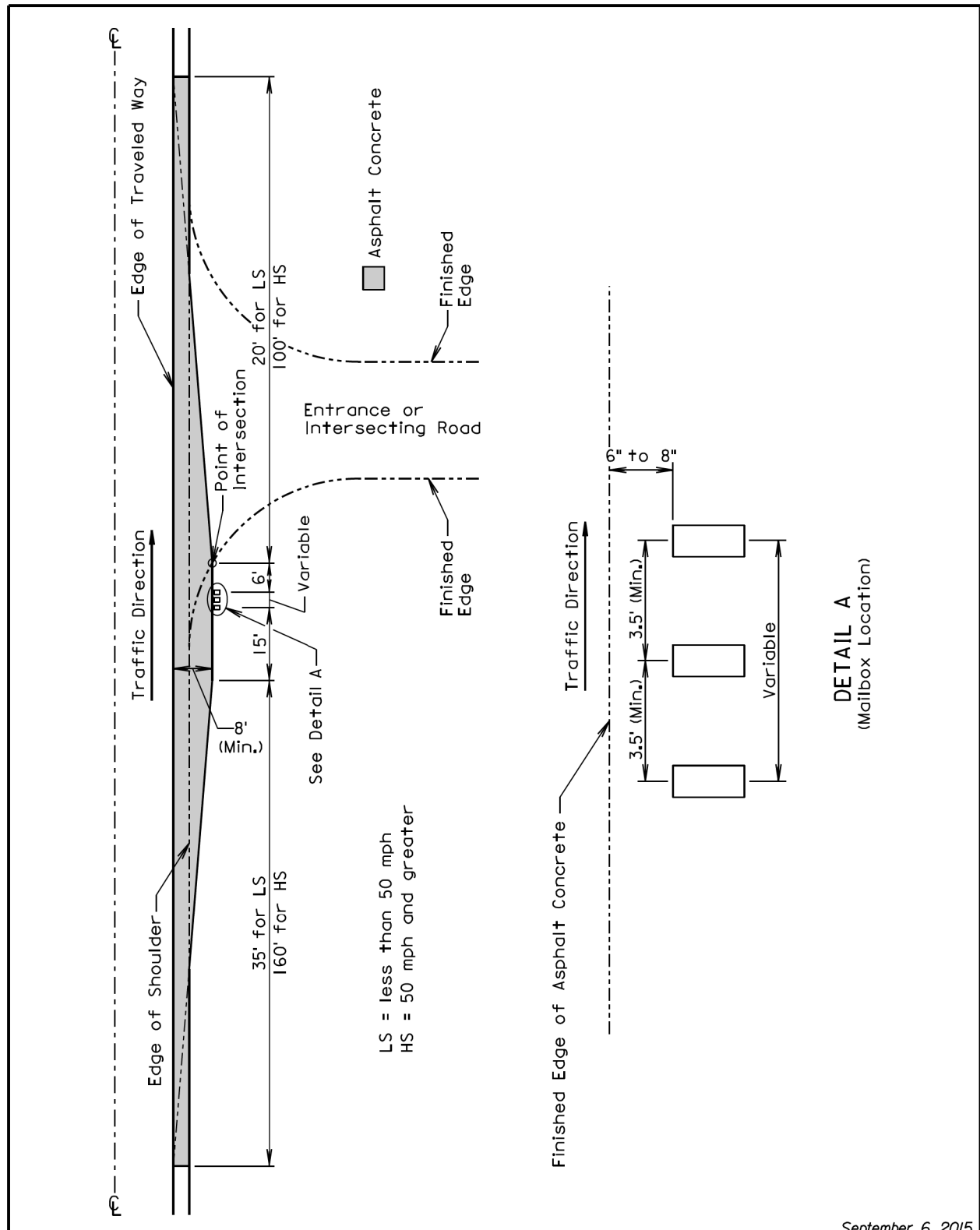
August 27, 2020

<b>S D D O T</b>	<b>SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (MAINLINE AND SHOULDERS: PCC OR AC PAVEMENT)</b>	PLATE NUMBER 320.04
		Sheet 2 of 2
Published Date: 2024		

Plotted From: - TRPR15123

File - ...lpenn0894\StdPlateSectionF.dgn

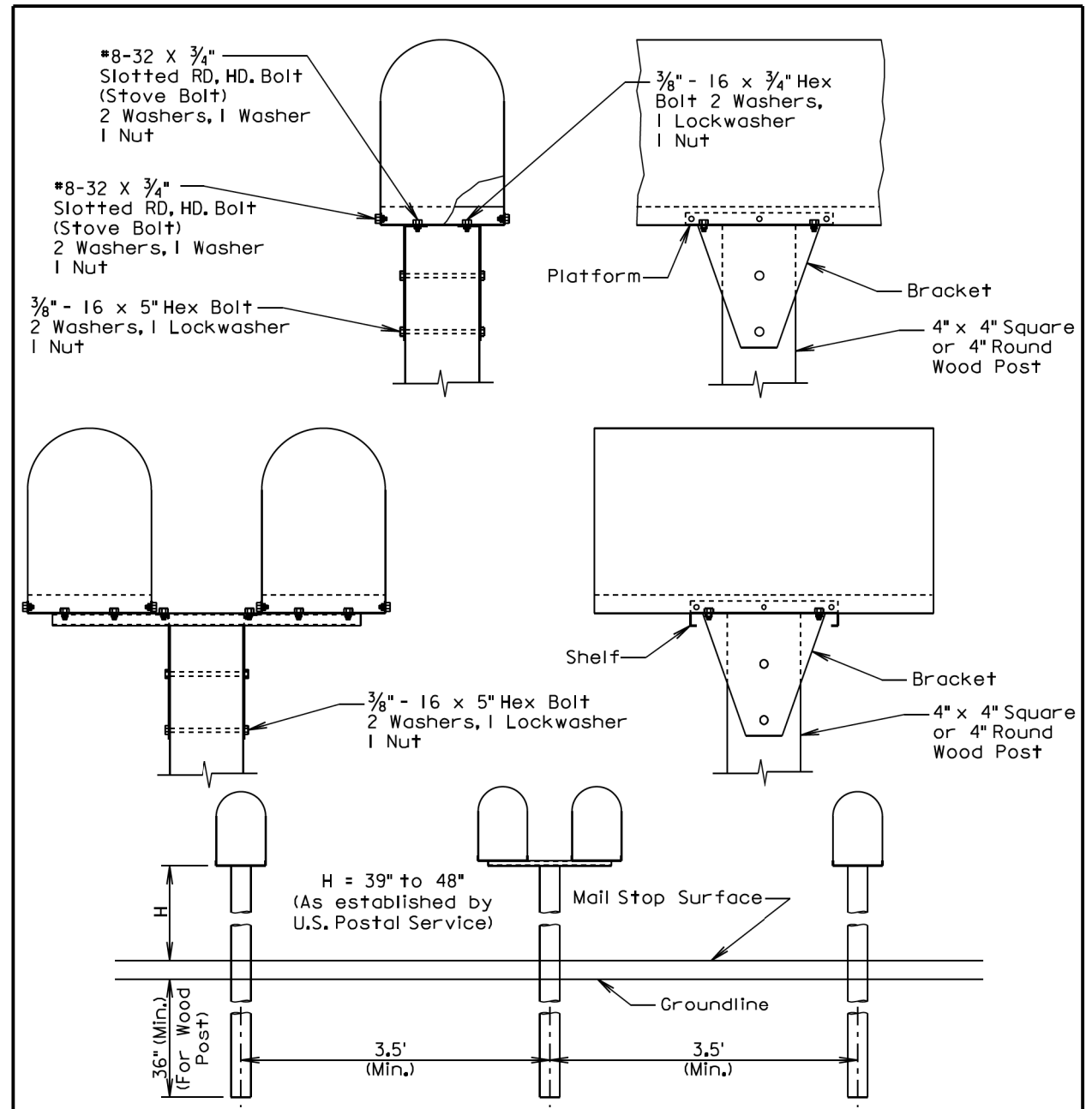
Plot Scale - 1:200



September 6, 2015

<b>SDDOT</b>	<b>MAILBOX TURNOUT</b>	PLATE NUMBER 900.01
		Sheet 1 of 1

Published Date: 2024



**GENERAL NOTES:** SPACING FOR MULTIPLE POST INSTALLATION

The post support assemblies provided should be consistent throughout the project. Single and double mailboxes may be in any sequence.

Post support assemblies shall be one from the approved products list, a 4"x4" or 4" round wood post, or an alternate post support assembly that meets the test level 3 crash testing requirements of NCHRP 350 or MASH.

Alternate mailbox support assemblies shall be approved by the Engineer prior to installation. The Contractor shall provide the Engineer written certification that the mailbox support assembly has met the crash testing requirements and will be installed in accordance with the manufacturer's installation instructions.

September 6, 2013

<b>SDDOT</b>	<b>SINGLE AND DOUBLE MAILBOX ASSEMBLIES</b>	PLATE NUMBER 900.02
		Sheet 1 of 1

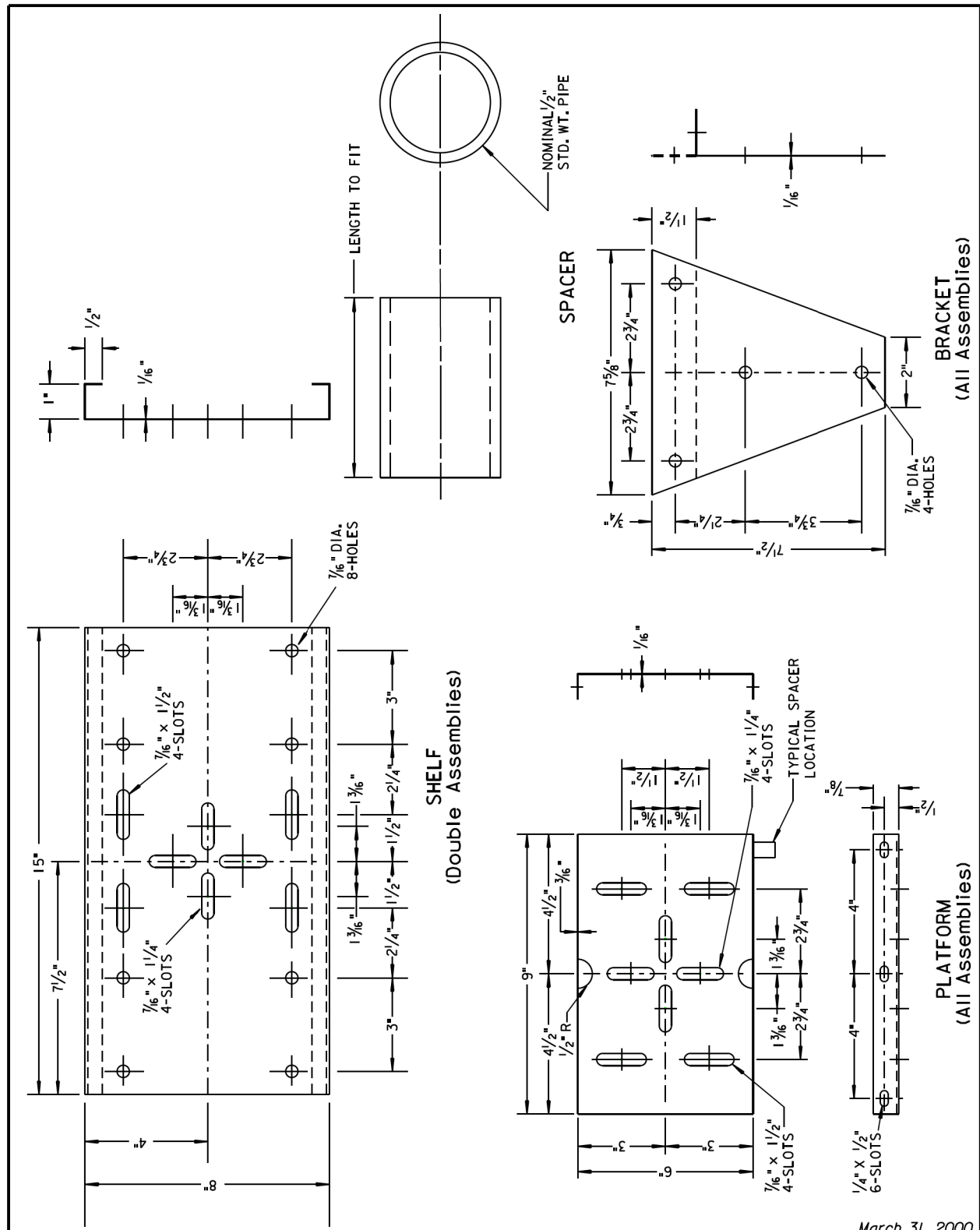
Published Date: 2024

Plotted From: TRPR15123

File: ...lpenn0894\StdPlateSection\F.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0385(50)96	F15	F15

Plotting Date: 03/27/2024



March 31, 2000

<b>SD DOT</b>	<b>MAILBOX SUPPORT HARDWARE</b>	PLATE NUMBER <b>900.03</b>
		Sheet 1 of 1

Published Date: 2024