

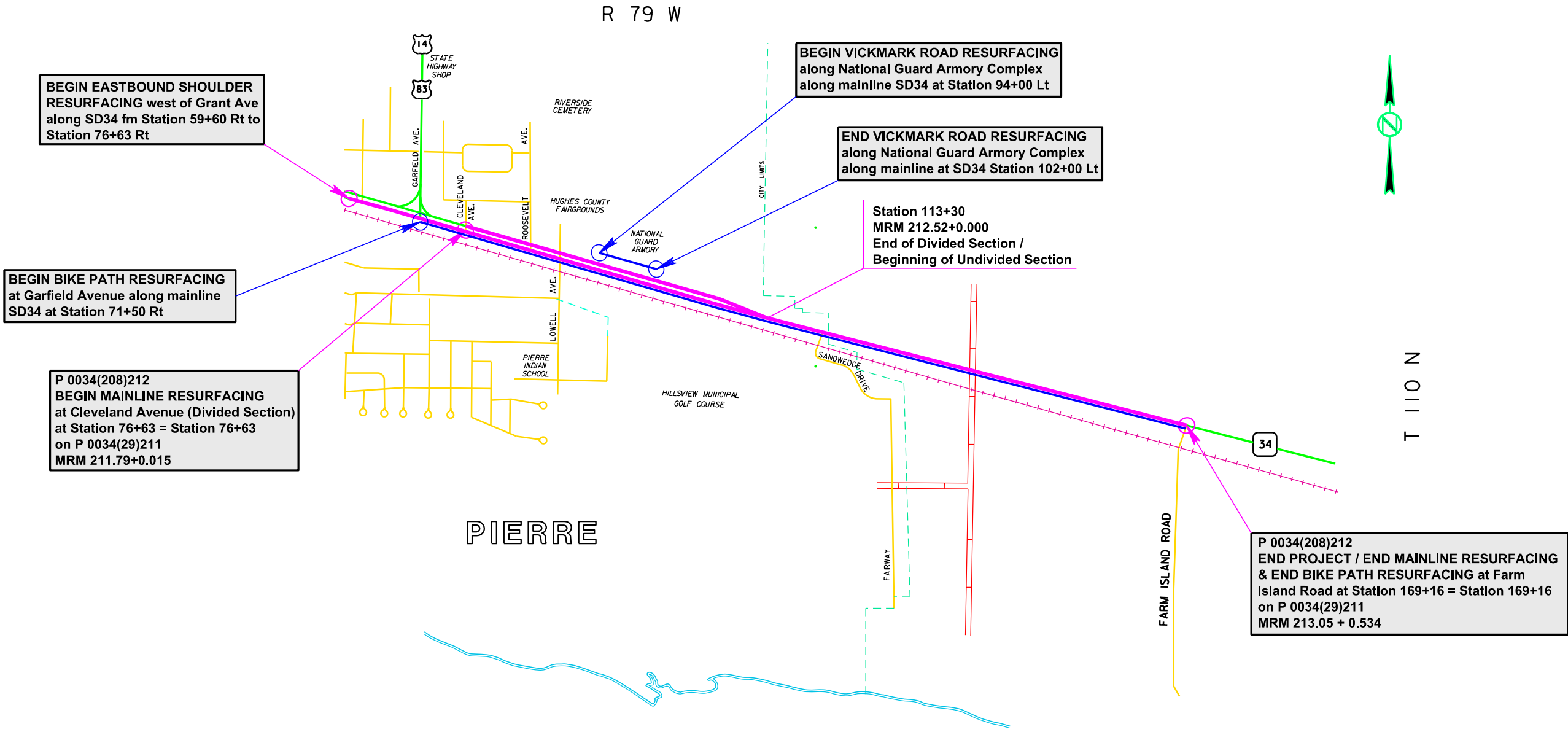
# SECTION F: SURFACING PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F1	F32

Plotting Date: 02/14/2024

### INDEX OF SHEETS

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Plotted From - TRPR26947

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**ESTIMATE OF QUANTITIES**

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3200	Construction Staking	Lump Sum	LS
009E3301	Engineer Directed Surveying/Staking	40.0	Hour
009E3320	Checker	Lump Sum	LS
009E4200	Construction Schedule, Category II	Lump Sum	LS
110E1010	Remove Asphalt Concrete Pavement	195.0	SqYd
120E0100	Unclassified Excavation, Digouts	130	CuYd
210E0100	Shoulder Clearing	9.2	Mile
260E1010	Base Course	320.0	Ton
* 260E6000	Granular Material, Furnish	1,200.0	Ton
* 270E0200	Blend, Haul, and Stockpile Granular Material	3,000.0	Ton
320E1200	Asphalt Concrete Composite	65.0	Ton
320E1800	Asphalt Concrete Blade Laid	416.9	Ton
320E3000	Compaction Sample	3	Each
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	1.6	Mile
330E0100	SS-1h or CSS-1h Asphalt for Tack	38.7	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	14.1	Ton
330E2000	Sand for Flush Seal	178.7	Ton
332E0010	Cold Milling Asphalt Concrete	59,050	SqYd
600E0300	Type III Field Laboratory	1	Each
900E0010	Refurbish Single Mailbox	8	Each
900E0012	Refurbish Double Mailbox	3	Each

\* - Denotes Non-Participating

**Alternate A**

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
320E0008	PG 64-34 Asphalt Binder	493.6	Ton
320E1050	Class E Asphalt Concrete	7,982.1	Ton

**Alternate B**

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
320E0008	PG 64-34 Asphalt Binder	439.3	Ton
320E1050	Class E Asphalt Concrete	8,191.0	Ton

**PROJECT SCOPE OF WORK**

The work required for the projects includes, but is not limited to, the following items, not listed in order of execution.

The Contractor is encouraged to inspect the project sites prior to bidding to evaluate the extent of work that will be required for construction.

- Traffic Control Installations
- Unclassified Excavation for Digouts & Backfill Operations
- Cold Milling Asphalt Concrete
- Asphalt Concrete Blade Laid
- Asphalt Concrete Strengthening & Leveling
- Asphalt Concrete Paving Operations
- If Required, Place Flush Seal
- Permanent Pavement Markings
- Refurbish Mailboxes
- Shoulder Rumble Strips
- Remove Project Temporary Signing
- Complete Any Remaining Project Cleanup

**SHOULDER CLEARING**

Vegetation and accumulated material on or adjacent to the existing roadway edge will be removed by the Contractor, to the satisfaction of the Engineer, prior to cold milling or placement of the surfacing. Any remaining windrow of accumulated material will be spread evenly on the inslope adjacent to the asphalt shoulder, to the satisfaction of the Engineer, following application of the flush seal.

The Contractor will notify the Pierre Area Office at (605) 773-5294 at least two weeks prior to commencing work on the surface of the highway and bike path so SDDOT personnel can mow or spray along the shoulder inslopes. The Department will not be responsible for the effectiveness of the mowing or spraying.

Each shoulder will be measured for payment. Costs associated with this work will be included in the contract unit price per mile for "SHOULDER CLEARING".

**INTERSECTING ROADS AND ENTRANCES**

In areas where granular material has been placed adjacent to the existing asphalt concrete, the Contractor will be required to remove the granular material to a depth below the existing asphalt concrete to allow for the placement of the new asphalt concrete. New asphalt concrete will be placed flush with the existing asphalt concrete. The existing granular material removed will be placed on the entrances, intersecting roads or other locations as directed by the Engineer.

All costs to remove and place the granular material including labor, equipment and incidentals will be incidental to the various related contract items.

**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.

**SURFACING THICKNESS DIMENSIONS**

Material will be placed evenly, at the rates shown in the plans, even though the thickness may vary from that shown on the typical section.

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

**WATER FOR COMPACTION**

The cost of water for compaction of the granular material will be incidental to the various other contract items. A minimum of 4% moisture will be required at the time of compaction unless otherwise directed by the Engineer.

**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 Asphalt Concrete Composite and Base Course. The depth of asphalt will match the in-place thickness.

Included in the Estimate of Quantities are 50 cubic yards of Unclassified Excavation, Digouts and 75 square yards of Remove Asphalt Concrete Pavement per mile for the removal of asphalt and unstable material throughout the project.

Included in the Estimate of Quantities are 100 tons of Base Course and 25 tons of Asphalt Concrete Composite 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.

A copy of the surfacing / subgrade investigation for this project is available from the Pierre Region and Pierre Area offices.

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0034(208)212	F3	F32

**COLD MILLING ASPHALT CONCRETE**

The Los Angeles Abrasion Loss value on the aggregate used for the in-place asphalt concrete was 29. This value was obtained from testing during construction of the in-place asphalt concrete.

Cold milling asphalt concrete will be done according to the typical section(s). In areas where maintenance patches have raised and/or widened the road, additional asphalt concrete will be milled to provide a uniform typical section from centerline to the edge of the finished shoulder. These areas also include farm, residential, field entrances, intersecting roads, and median crossovers. Milling will be daylighted to the outside edge of the roadway. Any additional costs associated with this additional cold milling will be incidental to the contract unit price per square yard for "COLD MILLING ASPHALT CONCRETE".

Cold milling asphalt concrete is estimated to produce **3,454.3** tons of cold milled asphalt concrete material of which **1,800.0** tons of the material will be blended, hauled, and stockpiled according to the Blend, Haul, and Stockpile Granular Material plan note. The remaining **1,654.3** tons of cold milled asphalt concrete material will become the property of the Contractor for their disposal.

**BLEND, HAUL, AND STOCKPILE GRANULAR MATERIAL**

Salvaged asphalt concrete material estimated at **1,800.0** tons (for informational purposes only) will be blended with **1,200.0** tons of Granular Material, Furnish and will be hauled, blended and stockpiled at the following stockpile site:

*located in Hughes County at the Pierre SDDOT Maintenance Shop  
in the NE ¼ of Sec3 T110N R79E of the 5<sup>th</sup> P.M.*

The Contractor will have approval from the Engineer of the stockpile location prior to stockpiling the material within the aforementioned site.

A computerized scale, portable platform scale, stationary commercial scale, stationary commercial plant, portable plant scale, or a belt scale along with a scale operator will be provided by the Contractor at the stockpile site to weigh the salvaged material prior to blending.

The salvaged asphalt concrete material will be crushed to meet the requirements of Section 884.2 D.8 prior to blending into the stockpile.

Salvaged asphalt concrete material will be blended with Granular Material, Furnish at a rate of 60% salvaged asphalt mix material and 40% Granular Material, Furnish to obtain stockpile material. Material will be uniformly blended to the satisfaction of the Engineer.

No further gradation testing of the blended material will be required.

All other costs for crushing, hauling, stockpiling, and blending salvaged asphalt concrete material and Granular Material, Furnish will be incidental to the contract unit price per ton for "BLEND, HAUL, AND STOCKPILE GRANULAR MATERIAL".

**GRANULAR MATERIAL, FURNISH**

Granular material will be furnished by the Contractor for use in blending with the salvaged asphalt mix material from this project.

The granular material will be Base Course meeting the requirements of Section 882.

**ASPHALT CONCRETE BLADE LAID**

Included in the Estimate of Additional Quantities are 150 tons of Asphalt Concrete Blade Laid and 11.1 tons of PG 64-34 Asphalt Binder per mile and will be tight bladed on the existing surface 24 feet wide prior to the overlay of Sections 1, 2, 5, 8, 9, and 12.

Included in the Estimate of Additional Quantities are 225 tons of Asphalt Concrete Blade Laid and 16.7 tons of PG 64-34 Asphalt Binder per mile and will be tight bladed on the existing surface 36 feet wide prior to the overlay of Sections 3, 4, 6, 7, 11, and 13.

Included in the Estimate of Additional Quantities are 75 tons of Asphalt Concrete Blade Laid and 5.6 tons of PG 64-34 Asphalt Binder per mile and will be tight bladed on the existing surface 36 feet wide prior to the overlay of Section 10.

Mineral Aggregate for tight bladed material will use only the fine aggregate components combined in the same proportions as the Class E Hot Mixed Asphalt Concrete mix. Quality testing is not required on the coarse aggregate (+No. 4 sieve) in this mixture.

The Asphalt Concrete Blade Laid Lift will be designed using an N<sub>design</sub> Gyratory Compactive Effort of 65. The asphalt binder content will be determined so that the air voids of Asphalt Concrete Blade Laid Lift are between 3.0% and 5.0%.

Included in the Estimate of Additional Quantities are 16.2 tons of SS-1h or CSS-1h Asphalt for Tack for use prior to the application of the Blade Laid lift. (Rate = 0.09 Gal./Sq.Yd.)

**CLASS E ASPHALT CONCRETE**

Mineral Aggregate for Class E Asphalt Concrete - Alternate A will conform to the requirements for Class E, Type 1.

Mineral Aggregate for Class E Asphalt Concrete - Alternate B will consist of a minimum of eighty percent crushed limestone ledge rock and will conform to the requirements for Class E, Type 1.

When directed by the Engineer, the Contractor will saw and remove a total of three undamaged compaction cores (4" dia. min.) per asphalt concrete lift from designated area(s) and repair the hole(s) to the satisfaction of the Engineer. 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 E will apply.

**ADDITIONAL QUANTITIES**

Included in the Table of Additional Quantities are 100 tons of Class E Asphalt Concrete and 5.8 tons of PG 64-34 Asphalt Binder per mile for eastbound and westbound lanes for Alternate A, and 100 tons of Class E Asphalt Concrete and 5.0 tons of PG 64-34 Asphalt Binder per mile for eastbound and westbound lanes for Alternate B for spot leveling, strengthening, and repair of the existing surface throughout the project.

Also included in the Table of Additional Quantities are 0.6 tons of SS-1h or CSS-1h Emulsified Asphalt for Tack per mile for repair and leveling areas throughout the project.

The materials will be placed as directed by the Engineer.

**FLUSH SEAL**

Application of Flush Seal will be completed within 10 working days following completion of the asphalt concrete surfacing and after the installation of rumble stripes.

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**

Sand for Flush Seal will be furnished by the Contractor meeting the requirements of Section 879.

The spreading device placing the sand must leave a gap of 6 inches each side of centerline, applicable lane lines and the edge-line to ensure a better bond between the pavement and the permanent pavement marking.

**GRIND RUMBLE STRIPS IN ASPHALT CONCRETE**

**Installation**

Asphalt concrete rumble strips will be constructed on the shoulders throughout the undivided section from Station 125+00 to end project. 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 **1.6** miles of asphalt concrete rumble strips will be required.

Rumble strip 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 at a width of 18" 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. It is estimated that **0.3** tons of SS-1h or CSS-1h Asphalt for Flush Seal will be required.

**Roadway Cleaning**

The Contractor will be required to remove loose material from the driving surface and/or asphalt shoulders of the roadway. Loose material may be swept to the edge of shoulders and it will be the Contractor's responsibility to ensure the loose material does not enter any vegetated areas and/or waterways.

All costs associated with the work will be incidental to the contract unit price per mile for "GRIND 12" RUMBLE STRIP OR STRIPE IN ASPHALT CONCRETE".

**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".

**CHECKING SPREAD RATES**

The Contractor will be responsible for checking the 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  $\pm 1/2$  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.

**REFURBISH MAILBOXES**

The Contractor will reset the existing mailboxes on new posts with the necessary support hardware for single or double mailbox assemblies. The local Postmaster will determine the recommended mounting height of the mailboxes throughout the project. The Contractor will coordinate with the Engineer on the proper postal representative to contact.

All mailboxes installed on an approach will be at a minimum of 20 feet from the roadway edgeline. All existing mailboxes that fall within the 20 foot minimum will be relocated further up the approach to meet the requirements.

If large mailboxes are located at double mailbox installations, a single post may need to be used for the large mailbox.

All costs for removing existing mailboxes, providing temporary mailboxes, and resetting mailboxes with new posts and necessary support hardware will be incidental to the contract unit price per each for "REFURBISH SINGLE MAILBOX" and "REFURBISH DOUBLE MAILBOX".

\* The Contractor will relocate the existing mailboxes that are along mainline onto the nearby approach as per specifications.

**Table of Refurbish Mailbox**

Station	L/R	Single (Each)	Double (Each)	Location
107+50 WBL	R	1	-	approach
122+25	L	1	-	approach
129+75	L	1	-	approach
131+50	L	1	-	approach
142+00	R	1	3	approach
147+75	L	1	-	approach
167+25	L	2	-	approach
Totals:		8	3	



# TYPICAL SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F5	F32

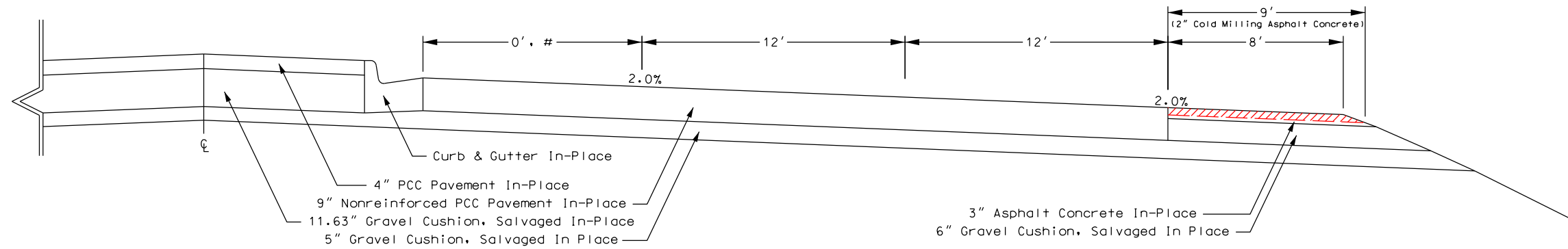
Plotting Date: 02/13/2024

## SECTION 1A

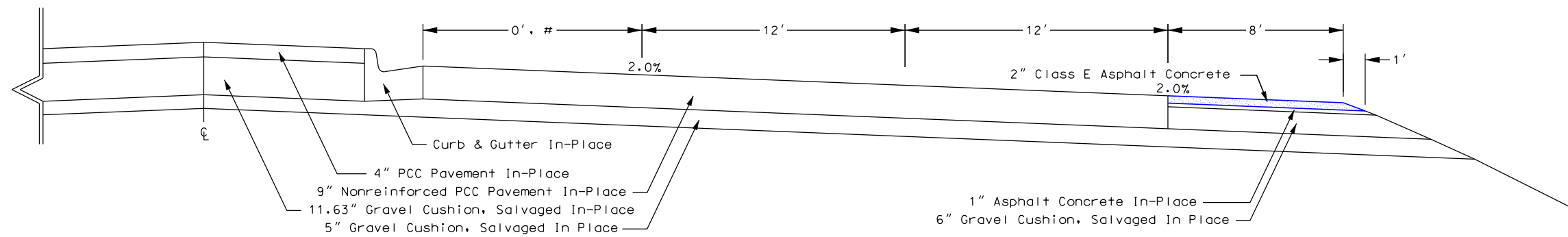
Eastbound (EBL) Shoulder  
Station 59+60 to Station 76+63

-  Cold Milling Asphalt Concrete
-  Class E Asphalt Concrete

### IN-PLACE & COLD MILLING ASPHALT CONCRETE SECTION



### ASPHALT CONCRETE RESURFACING SECTION



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# TYPICAL SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F6	F32

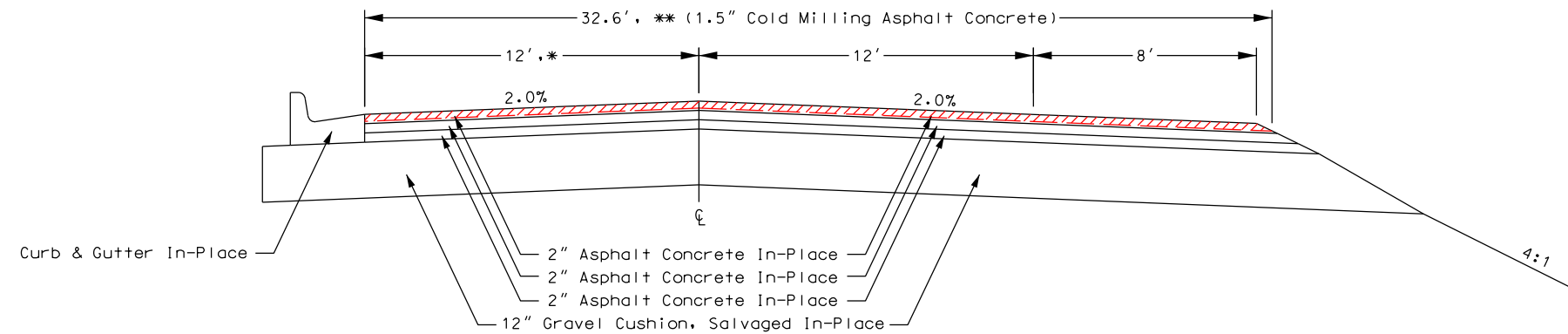
Plotting Date: 02/13/2024

## SECTION 1

Eastbound (EBL) & Westbound (WBL)  
Station 76+63 to Station 82+92.3

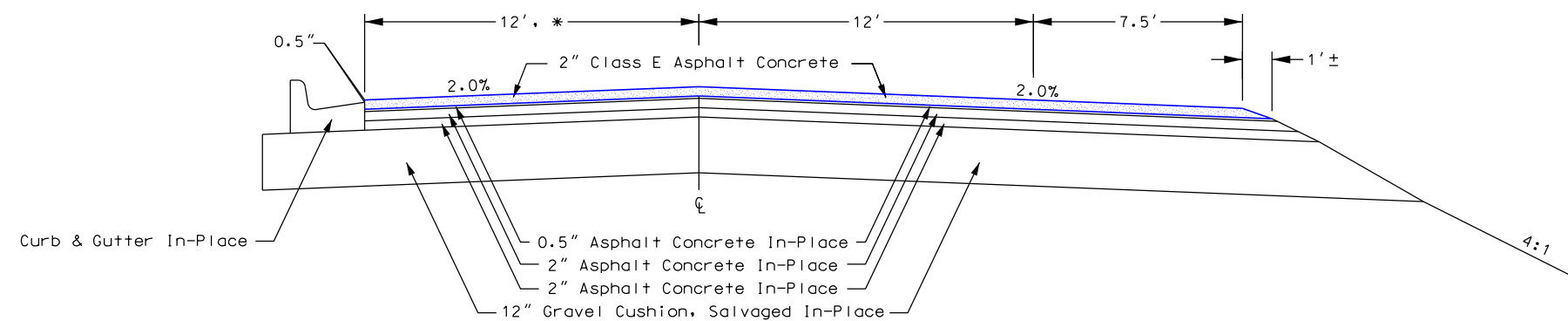
-  Cold Milling Asphalt Concrete
-  Class E Asphalt Concrete

### IN-PLACE & COLD MILLING ASPHALT CONCRETE SECTION EBL (WBL Reversed)



- EASTBOUND LANES (EBL)**
- Transition: fm Sta 78+70 to Sta 80+40
    - \* fm 12' to 14'
    - \*\* fm 32.6' to 34.6'
  - Transition: fm Sta 80+40 to Sta 81+60
    - \* fm 14' to 24.8'
    - \*\* fm 34.6' to 45.4'
  - Transition: fm Sta 81+60 to Sta 82+22.2
    - \* fm 24.8' to 26'
    - \*\* fm 45.4' to 46.6'
  - Constant Width: fm Sta 82+22.2 to 82+92.3
    - \* 26'
    - \*\* 46.6'

### ASPHALT CONCRETE RESURFACING SECTION EBL (WBL Reversed)



- WESTBOUND LANES (WBL)**
- Transition: fm Sta 78+70 to Sta 80+40
    - \* fm 12' to 14'
    - \*\* fm 32.6' to 34.6'
  - Constant Width: fm Sta 80+40 to Sta 82+92.3
    - \* 14'
    - \*\* 34.6'

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# TYPICAL SECTION

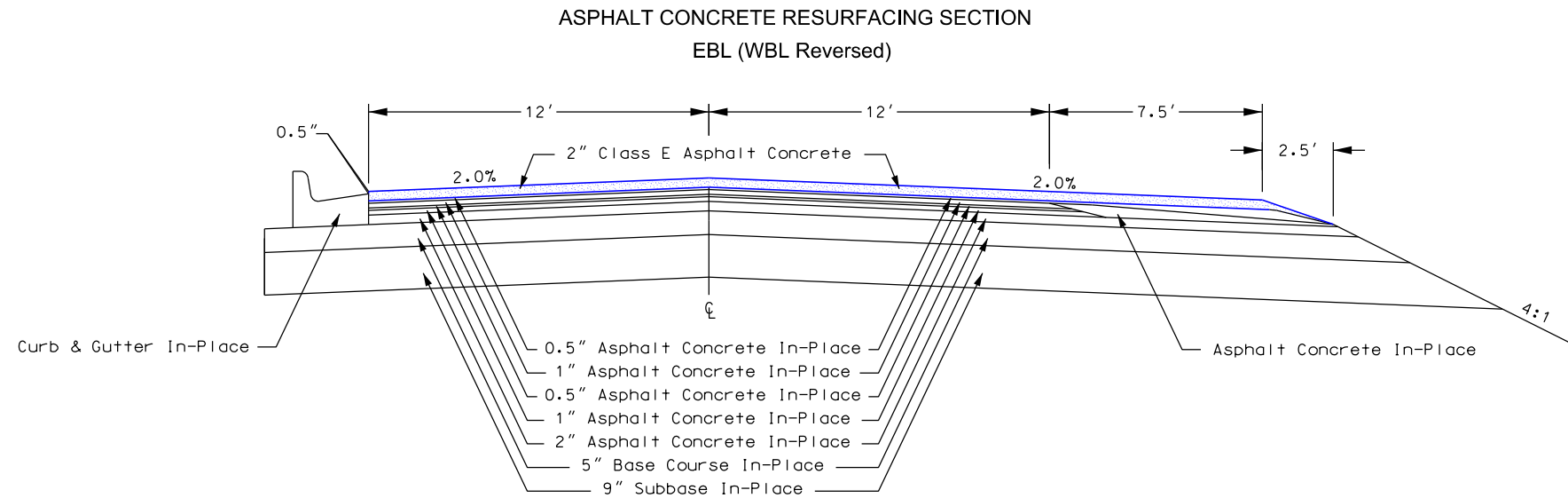
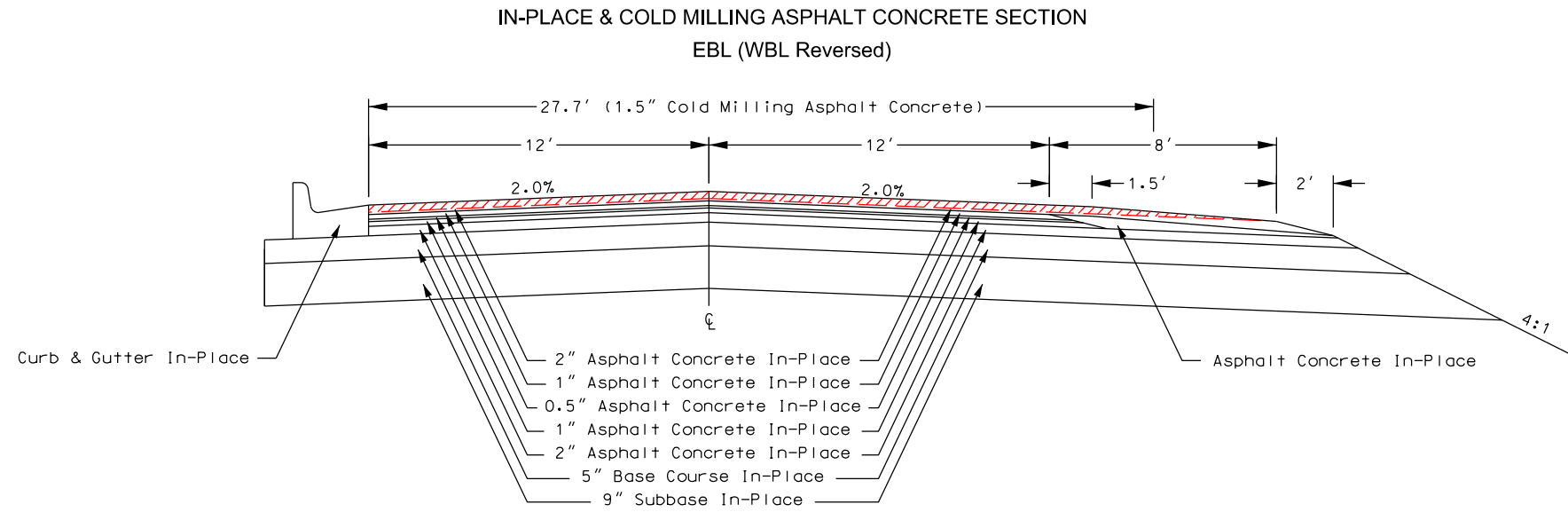
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F7	F32

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## SECTION 2

Westbound (WBL)	Eastbound (EBL)
Station 82+92.3 to Station 86+48.6	Station 82+92.3 to Station 85+05
Station 93+08.6 to Station 93+75	Station 95+00 to Station 95+48.3

- Cold Milling Asphalt Concrete
- Class E Asphalt Concrete



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# TYPICAL SECTION



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	P 0034(208)212	F8	F32

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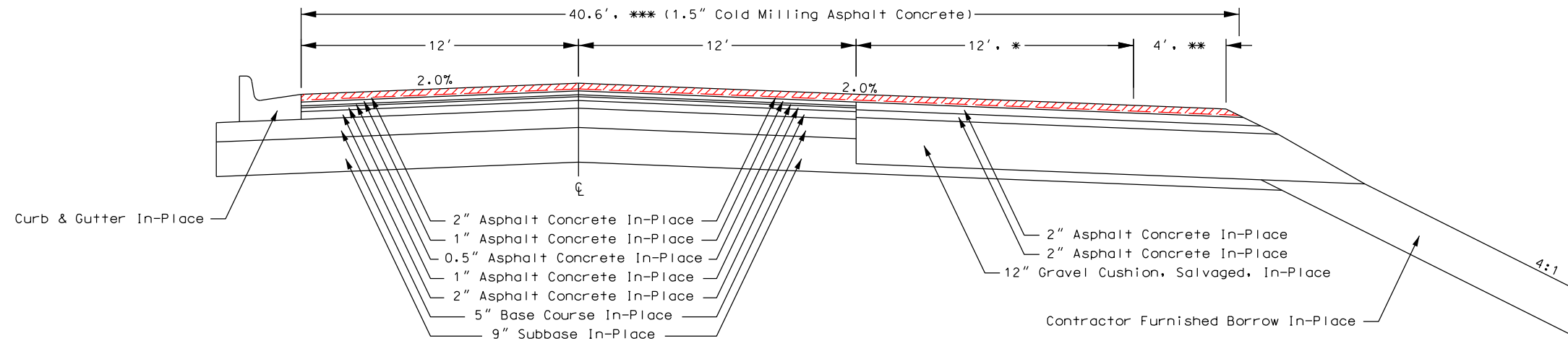
## SECTION 3

Westbound (WBL)  
Station 93+75 to Station 95+47.2

Eastbound (EBL)  
Station 85+05 to Station 88+32

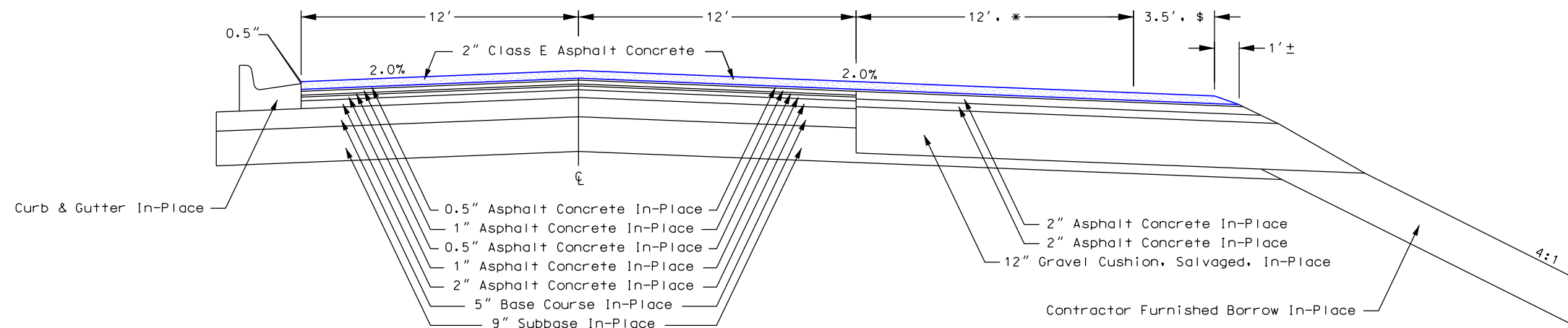
-  Cold Milling Asphalt Concrete
-  Class E Asphalt Concrete

### IN-PLACE & COLD MILLING ASPHALT CONCRETE SECTION EBL (WBL Reversed)



Eastbound (EBL) Transition: fm Sta 85+05 to Sta 86+25  
 \* fm 0' to 12'  
 \*\* fm 8' to 4'  
 \*\*\* fm 32.6' to 40.6'  
 \$ fm 7.5' to 3.5'

### ASPHALT CONCRETE RESURFACING SECTION EBL (WBL Reversed)



PLOT SCALE - 1+6.00001

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# TYPICAL SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F9	F32

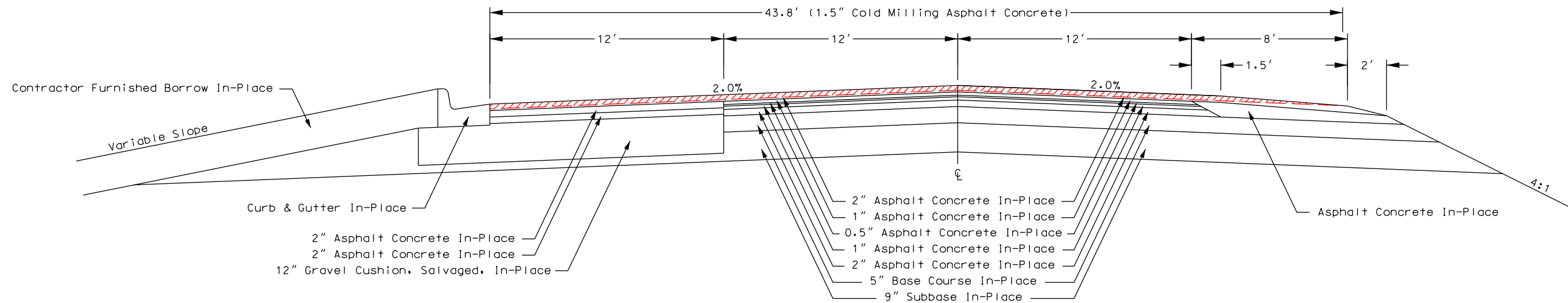
Plotting Date: 02/13/2024

## SECTION 4

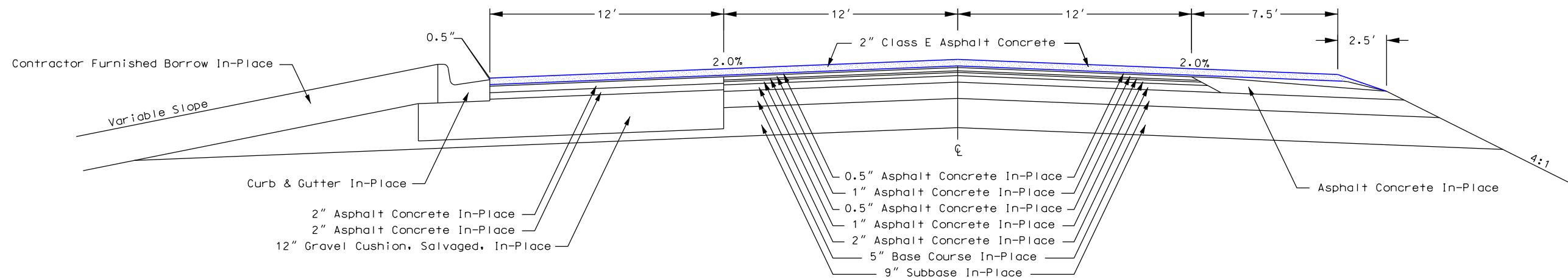
Westbound (WBL) Station 86+48.6 to Station 88+60  
 Eastbound (EBL) Station 93+04.9 to Station 95+00

-  Cold Milling Asphalt Concrete
-  Class E Asphalt Concrete

### IN-PLACE & COLD MILLING ASPHALT CONCRETE SECTION EBL (WBL Reversed)



### ASPHALT CONCRETE RESURFACING SECTION EBL (WBL Reversed)



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PLOT NAME - 4



# TYPICAL SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F10	F32

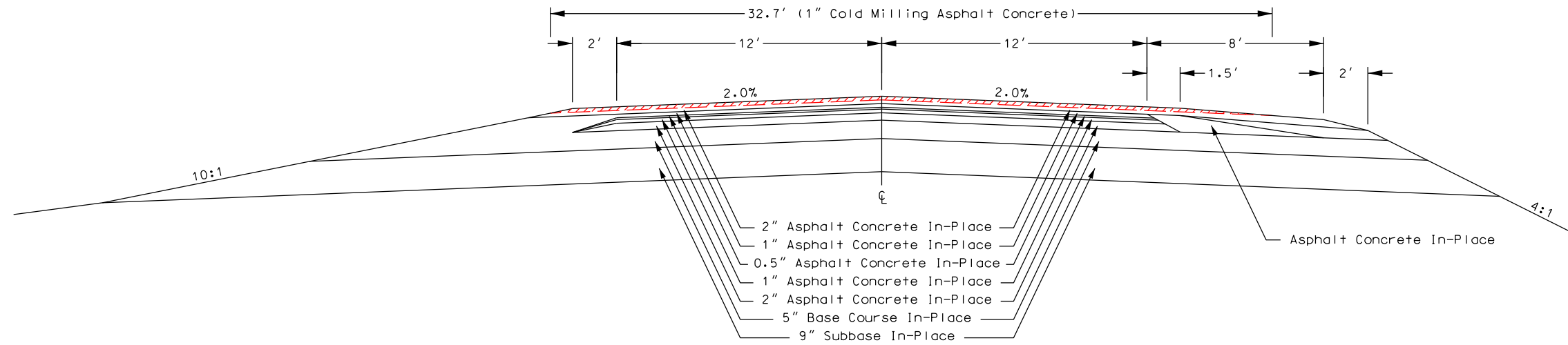
Plotting Date: 02/13/2024

## SECTION 5

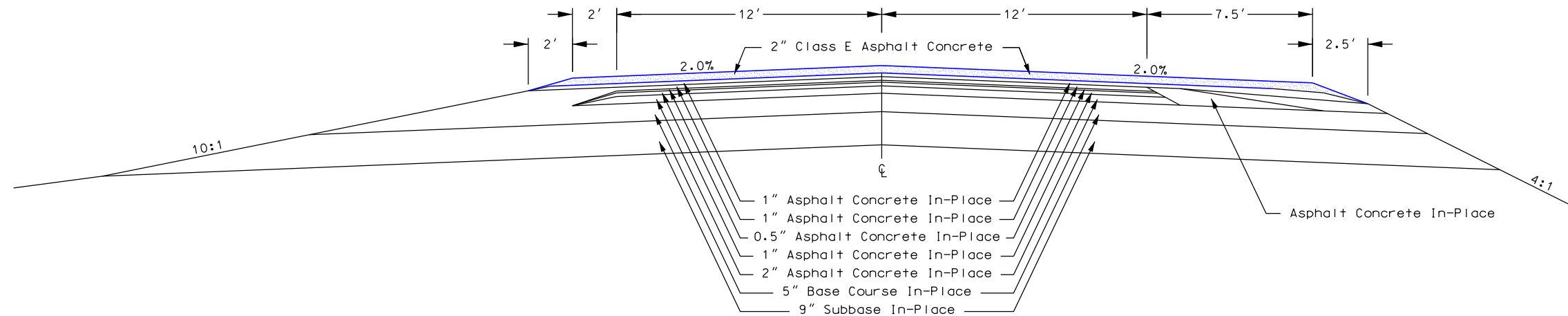
Westbound (WBL)	Eastbound (EBL)
Station 89+80 to Station 93+08.6	Station 88+32 to Station 91+84.9
Station 96+78.8 to Station 98+30	Station 95+48.3 to Station 98+30

-  Cold Milling Asphalt Concrete
-  Class E Asphalt Concrete

### IN-PLACE & COLD MILLING ASPHALT CONCRETE SECTION EBL (WBL Reversed)



### ASPHALT CONCRETE RESURFACING SECTION EBL (WBL Reversed)



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# TYPICAL SECTION



STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F11	F32

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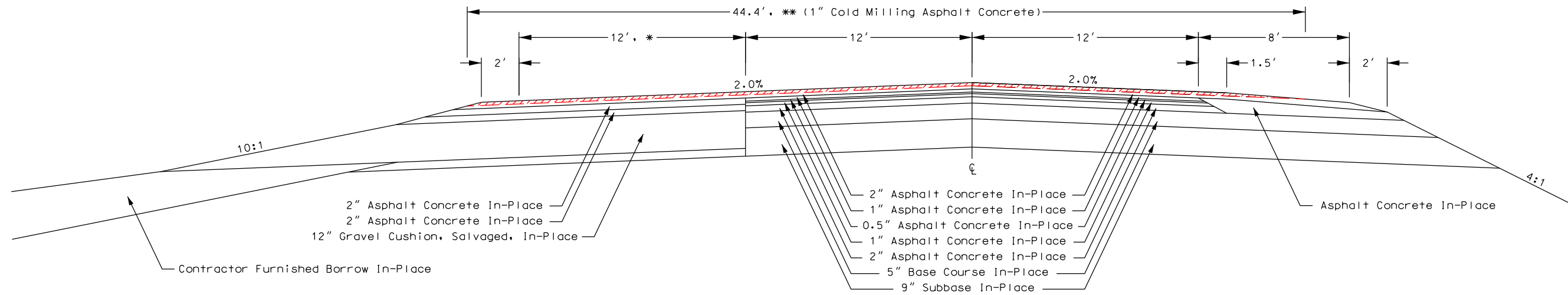
## SECTION 6

Westbound (WBL)  
Station 88+60 to Station 89+80

Eastbound (EBL)  
Station 91+84.9 to Station 93+04.9

-  Cold Milling Asphalt Concrete
-  Class E Asphalt Concrete

### IN-PLACE & COLD MILLING ASPHALT CONCRETE SECTION EBL (WBL Reversed)



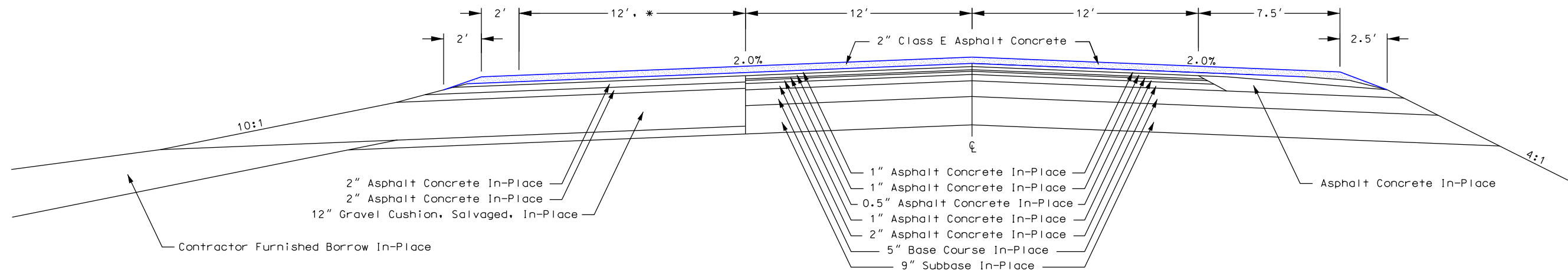
Westbound (WBL) Transition: fm Sta 88+60 to Sta 89+80

- \* fm 12' to 0'
- \*\* fm 44.4' to 32.7'

Eastbound (EBL) Transition: fm Sta 91+84.9 to Sta 93+04.9

- \* fm 0' to 12'
- \*\* fm 32.7' to 44.4'

### ASPHALT CONCRETE RESURFACING SECTION EBL (WBL Reversed)



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# TYPICAL SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F12	F32

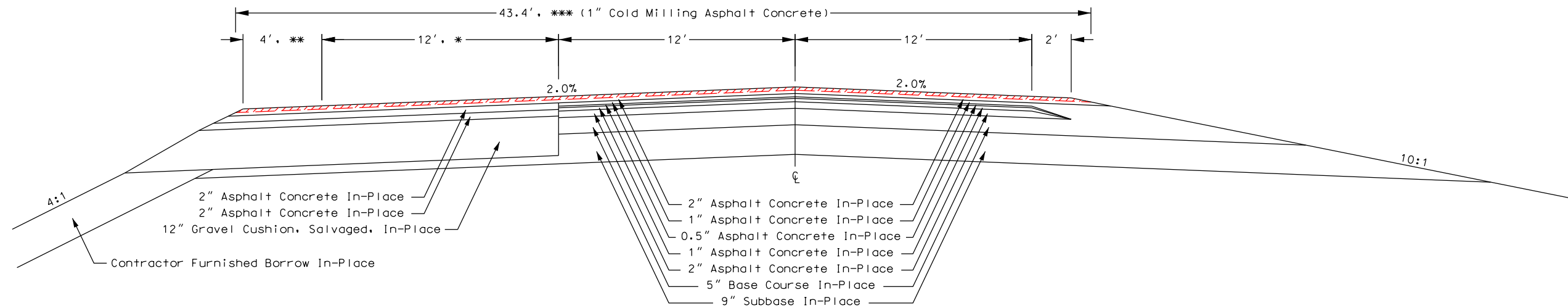
Plotting Date: 02/13/2024

## SECTION 7

Westbound (WBL)  
Station 95+47.2 to Station 96+78.8

-  Cold Milling Asphalt Concrete
-  Class E Asphalt Concrete

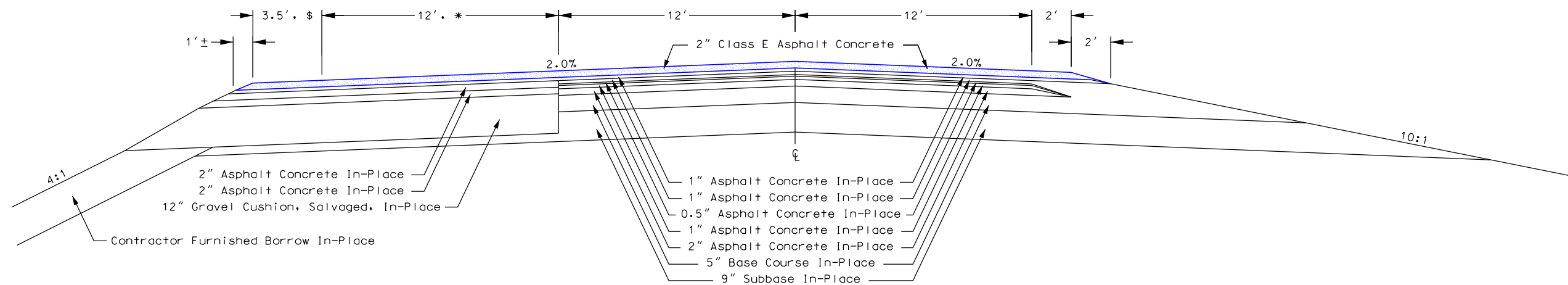
### IN-PLACE & COLD MILLING ASPHALT CONCRETE SECTION



Westbound (WBL) Transition: fm Sta 95+58 to Sta 96+78.8

- \* fm 12' to 0'
- \*\* fm 4' to 8'
- \*\*\* fm 43.4' to 35.4'
- \$ fm 3.5' to 7.5'

### ASPHALT CONCRETE RESURFACING SECTION



PLOT SCALE - 1+6.00001

PLOTTED FROM - TRPR26947

FILE - ... \SECTION\TYPICAL SECTIONS.DGN

# TYPICAL SECTION



STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F13	F32

Plotting Date: 02/13/2024

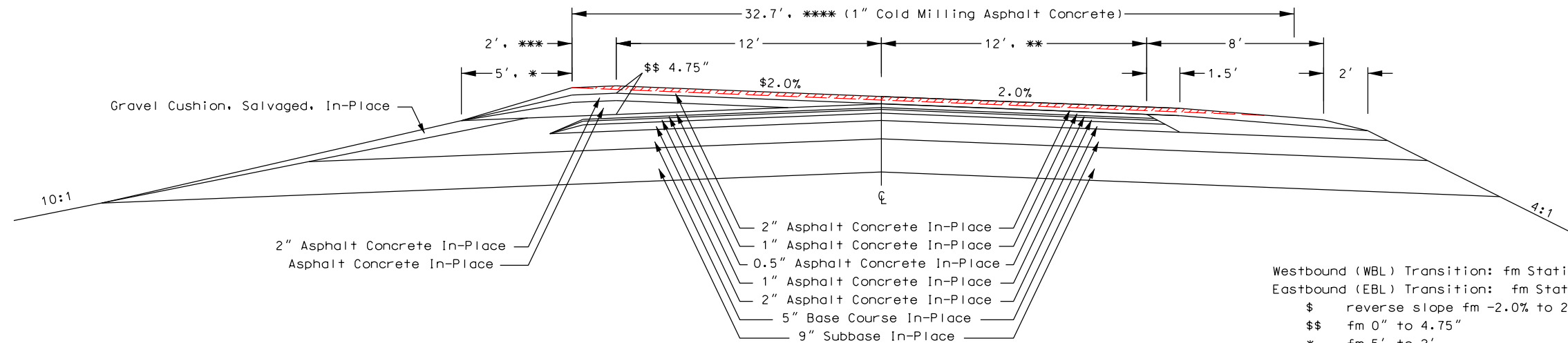
## SECTION 8

Westbound (WBL)  
Station 98+30 to Station 106+00

Eastbound (EBL)  
Station 98+30 to Station 105+10  
Station 107+92 to Station 113+30

-  Cold Milling Asphalt Concrete
-  Class E Asphalt Concrete

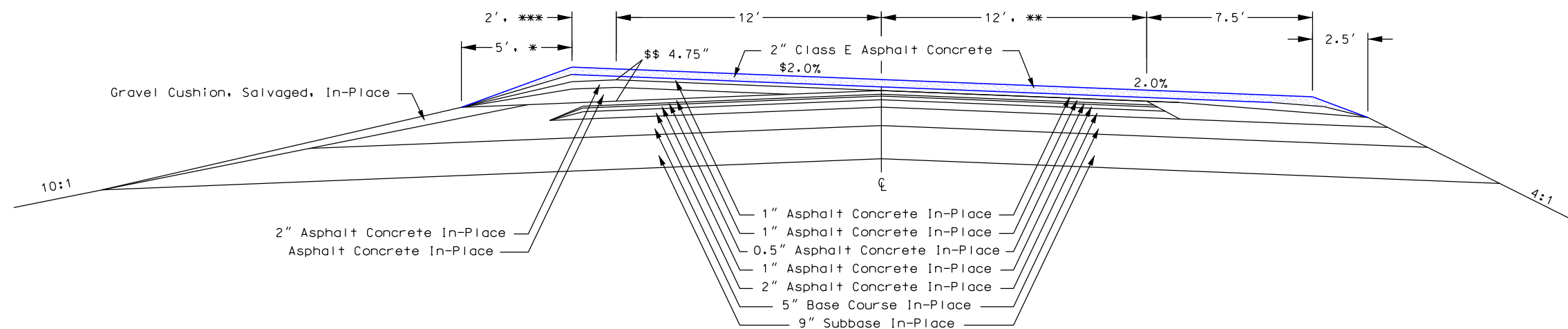
### IN-PLACE & COLD MILLING ASPHALT CONCRETE SECTION EBL (WBL Reversed)



Westbound (WBL) Transition: fm Station 98+30 to Station 105+50  
 Eastbound (EBL) Transition: fm Station 98+30 to Station 105+10  
 \$ reverse slope fm -2.0% to 2.0%  
 \$\$ fm 0" to 4.75"  
 \* fm 5' to 2'  
 \*\* fm 12' to 0'  
 \*\*\*\* fm 32.7' to 19.7'

Westbound (WBL) Constant Section: fm Station 105+50 to Station 106+00  
 Eastbound (EBL) Constant Section: fm Station 107+92 to Station 111+89.8  
 \*\* 0'  
 \*\*\*\* 19.7'  
 Eastbound (EBL) Transition: fm Station 111+89.8 to Station 113+30  
 \*\* 0'  
 \*\*\* fm 2' to 6'  
 \*\*\*\* fm 19.7' to 23.7'

### ASPHALT CONCRETE RESURFACING SECTION EBL (WBL Reversed)



PLOT SCALE - 1+6.00001

PLOTTED FROM - TRPR26947

FILE - ... \SECTION\TYPICAL SECTIONS.DGN PLOT NAME - 8



# TYPICAL SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F14	F32

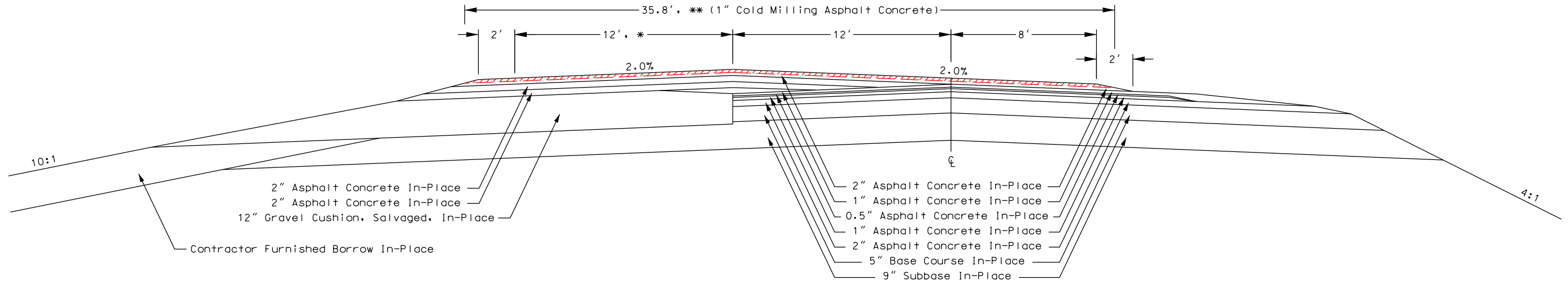
Plotting Date: 02/13/2024

## SECTION 9

Eastbound (EBL)  
Station 105+10 to Station 107+92

-  Cold Milling Asphalt Concrete
-  Class E Asphalt Concrete

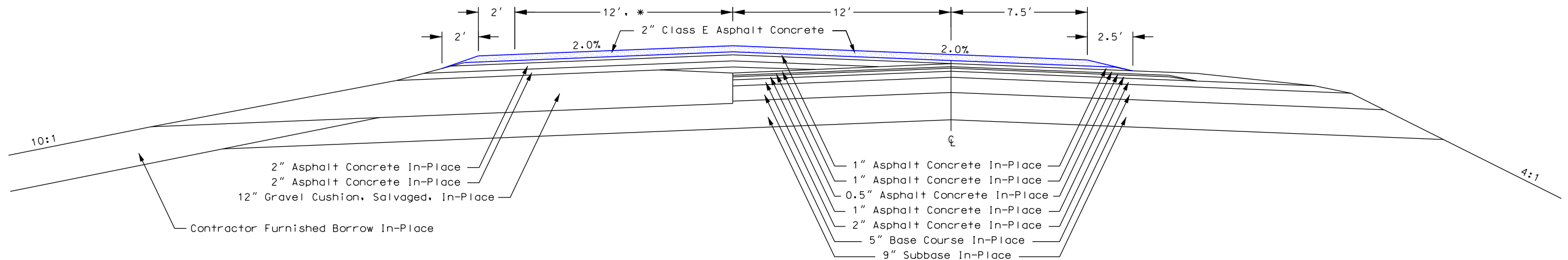
### IN-PLACE & COLD MILLING ASPHALT CONCRETE SECTION



Eastbound (EBL) Transition: fm Sta 105+10 to Sta 106+30

- \* fm 0' to 12'
- \*\* fm 23.8' to 35.8'

### ASPHALT CONCRETE RESURFACING SECTION



PLOT SCALE - 1+6.00001

PLOTTED FROM - TRPR26947

FILE - ... \SECTION\TYPICAL SECTIONS.DGN



# TYPICAL SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F15	F32

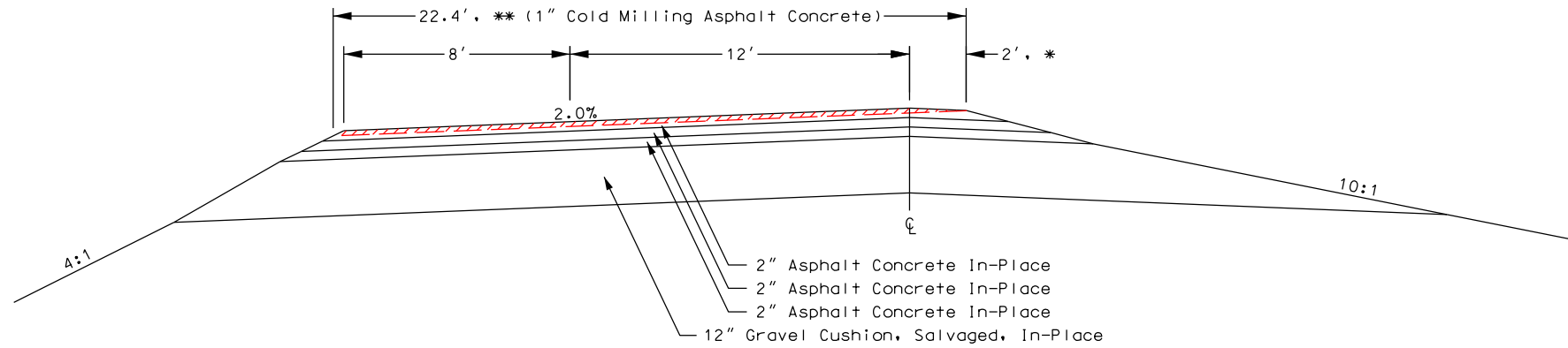
Plotting Date: 02/13/2024

## SECTION 10

Westbound (WBL)  
Station 106+00 to Station 113+30

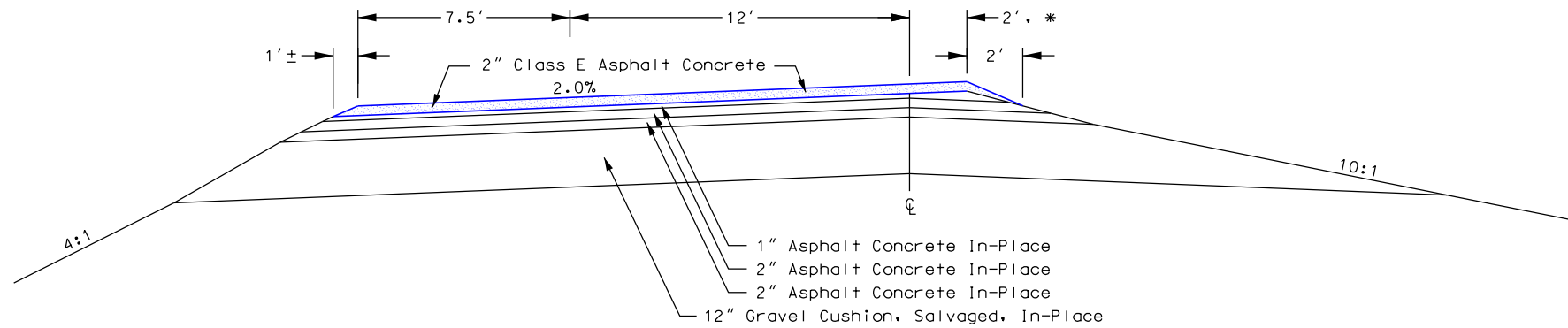
-  Cold Milling Asphalt Concrete
-  Class E Asphalt Concrete

### IN-PLACE & COLD MILLING ASPHALT CONCRETE SECTION



Westbound (WBL) Transition: fm Sta 111+89.8 to Sta 113+30  
 \* fm 2' to 6'  
 \*\* fm 22.4' to 26.4'

### ASPHALT CONCRETE RESURFACING SECTION



PLOT SCALE - 1+6.00001

PLOTTED FROM - IRPR26947

PLOT NAME - 10

FILE - ... \SECTION\TYPICAL SECTIONS.DGN



# TYPICAL SECTION



STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F16	F32

Plotting Date: 02/13/2024

## SECTION 11

Station 113+30 to Station 124+50

### IN-PLACE & COLD MILLING ASPHALT CONCRETE SECTION

-  Cold Milling Asphalt Concrete
-  Class E Asphalt Concrete

#### COLD MILLING ASPHALT CONCRETE

Transition: fm Sta 116+50 to Sta 117+67

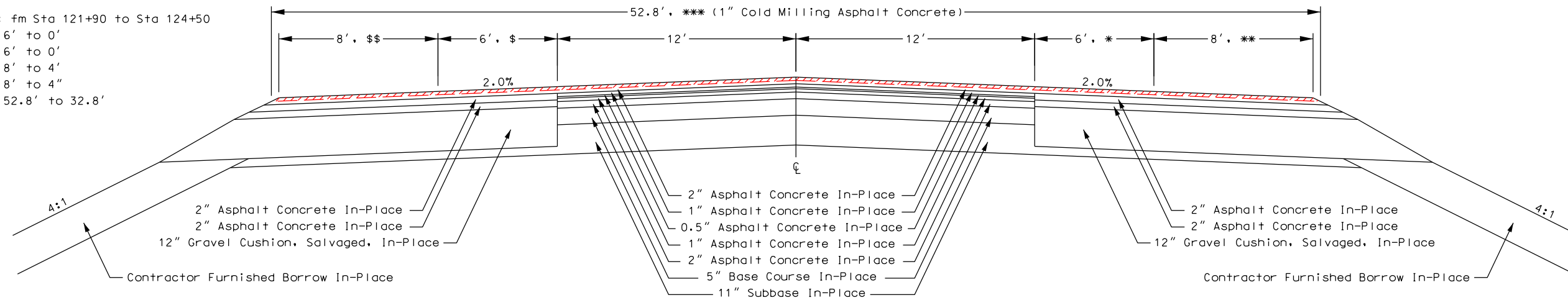
- \* fm 6' to 18'
- \*\* fm 8' to 4'
- \*\*\* fm 52.8' to 60.8'

Constant Width: fm Sta 117+67 to Sta 119+00

- \* 18'
- \*\* 4'
- \*\*\* 60.8'

Transition: fm Sta 121+90 to Sta 124+50

- \* fm 6' to 0'
- \$ fm 6' to 0'
- \*\* fm 8' to 4'
- \$\$ fm 8' to 4"
- \*\*\* fm 52.8' to 32.8'



#### ASPHALT CONCRETE RESURFACING

Transition: fm Sta 116+50 to Sta 117+67

- \* fm 6' to 18'
- \*\* fm 7.5' to 3.5'

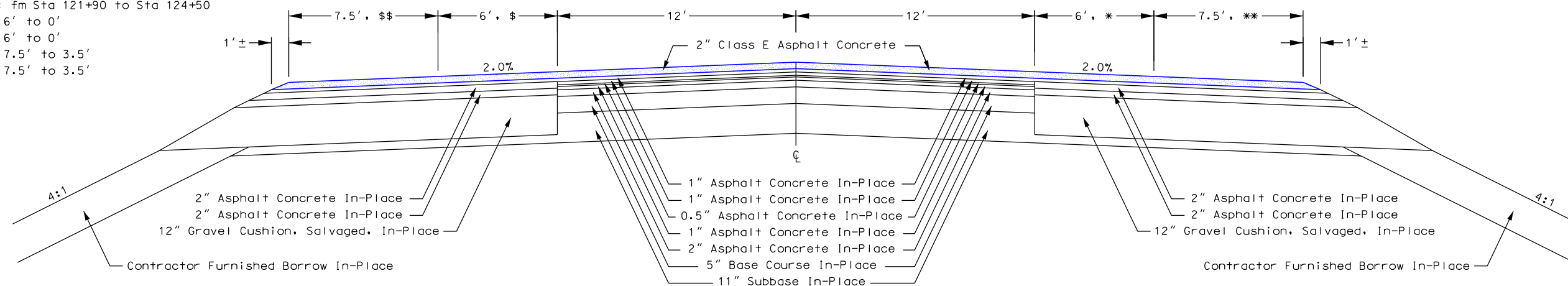
Constant Width: fm Sta 117+67 to Sta 119+00

- \* 18'
- \*\* 3.5'

Transition: fm Sta 121+90 to Sta 124+50

- \* fm 6' to 0'
- \$ fm 6' to 0'
- \*\* fm 7.5' to 3.5'
- \$\$ fm 7.5' to 3.5'

### ASPHALT CONCRETE RESURFACING SECTION



PLOT SCALE - 1:6,000

PLOTTED FROM - TRP26947

FILE - ... \SECTION\TYPICAL SECTIONS.DGN

PLOT NAME - 11



# TYPICAL SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F17	F32

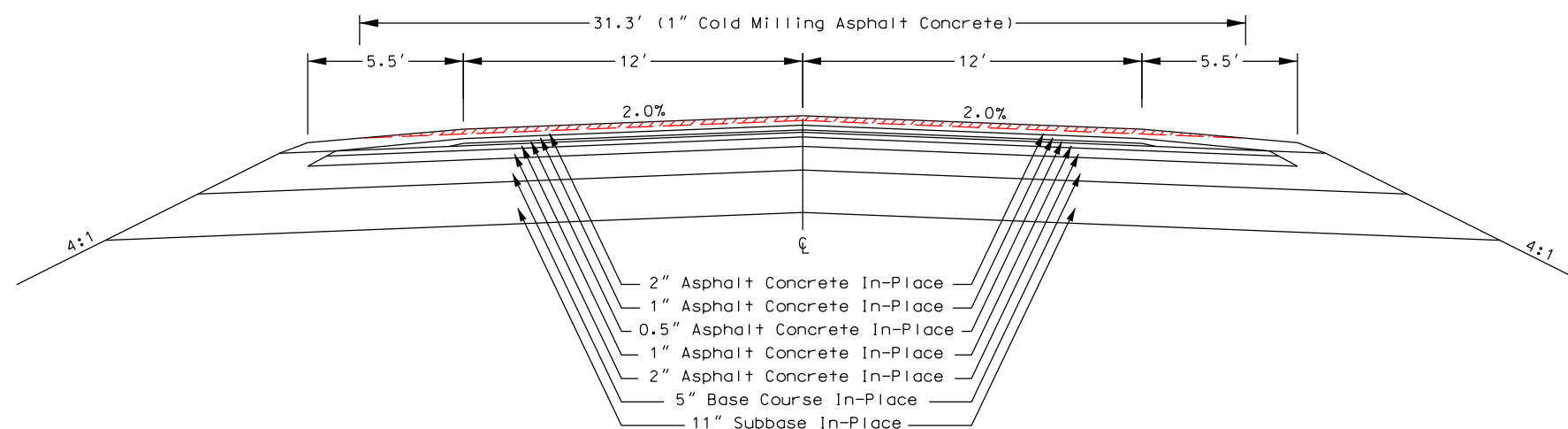
Plotting Date: 02/13/2024

## SECTION 12

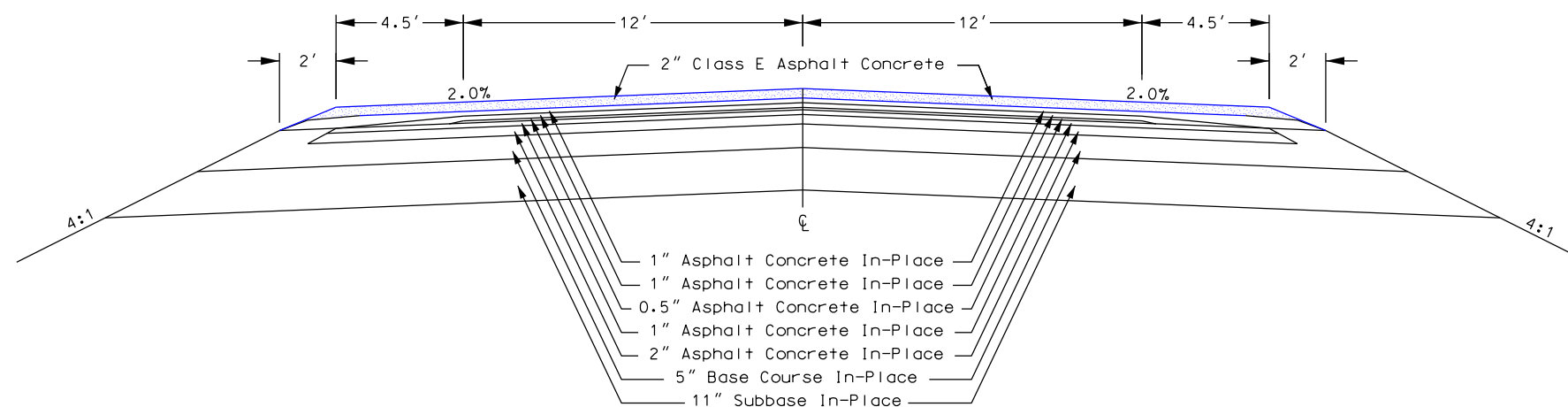
Station 124+50 to Station 166+73

-  Cold Milling Asphalt Concrete
-  Class E Asphalt Concrete

### IN-PLACE & COLD MILLING ASPHALT CONCRETE SECTION



### ASPHALT CONCRETE RESURFACING SECTION



PLOT SCALE - 1+6.00001

PLOT NAME - 12

FILE - ... \SECTION\TYPICAL SECTIONS.DGN

PLOTTED FROM - TRPR26947



# TYPICAL SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F18	F32

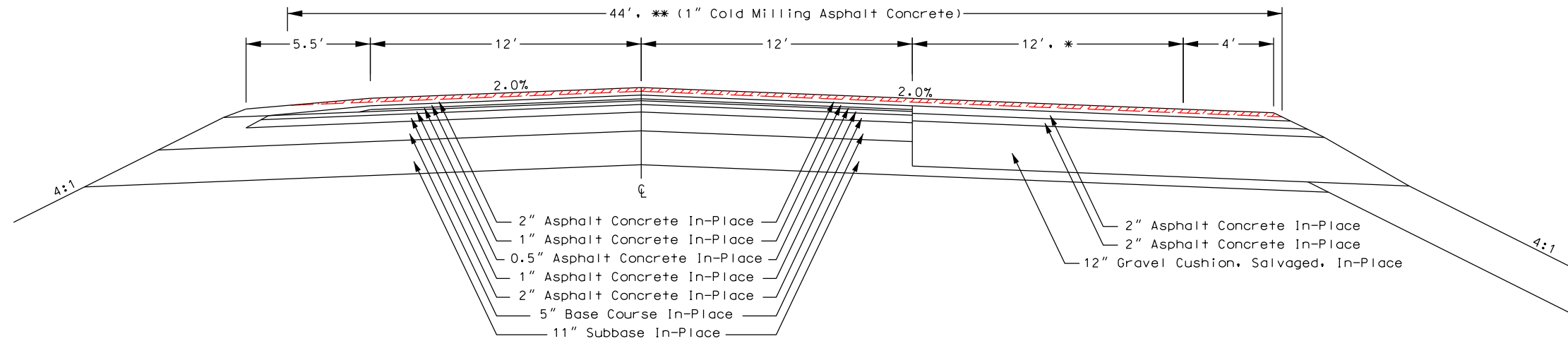
Plotting Date: 02/13/2024

## SECTION 13

Station 166+73 to Station 169+16

-  Cold Milling Asphalt Concrete
-  Class E Asphalt Concrete

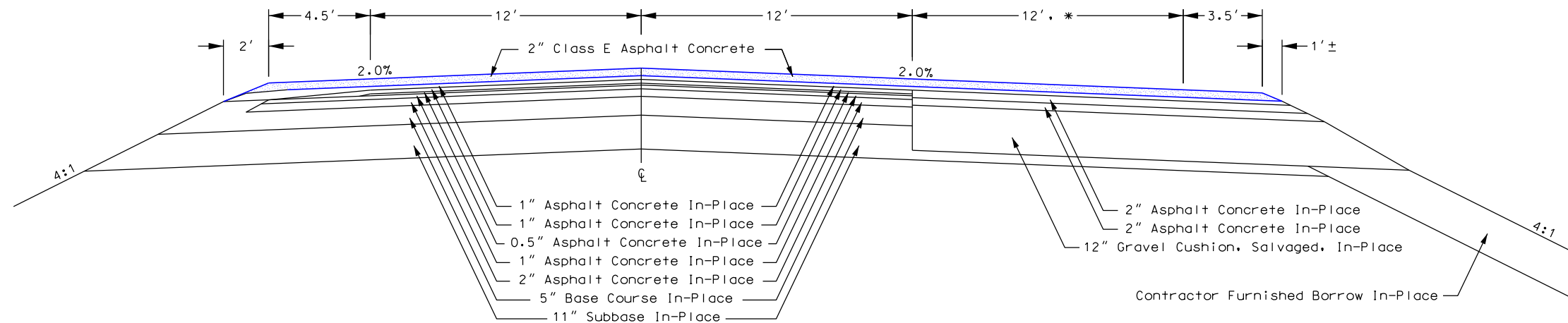
### IN-PLACE & COLD MILLING ASPHALT CONCRETE SECTION



Transition: fm Sta 166+73 to Sta 167+42

- \* fm 0' to 12'
- \*\* fm 32' to 44'

### ASPHALT CONCRETE RESURFACING SECTION



Contractor Furnished Borrow In-Place

PLOT SCALE - 1+6.00001

PLOTTED FROM - TRPR26947

PLOT NAME - 13

FILE - ... \SECTION\TYPICAL SECTIONS.DGN



# TYPICAL SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F19	F32

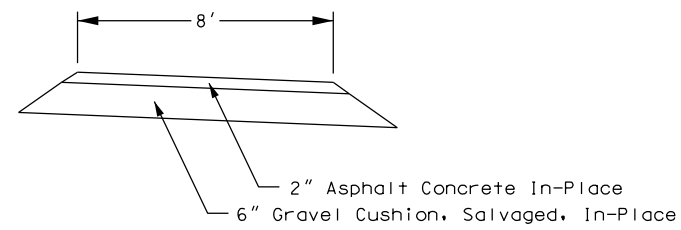
Plotting Date: 02/13/2024

## Section 14 - Bike Path

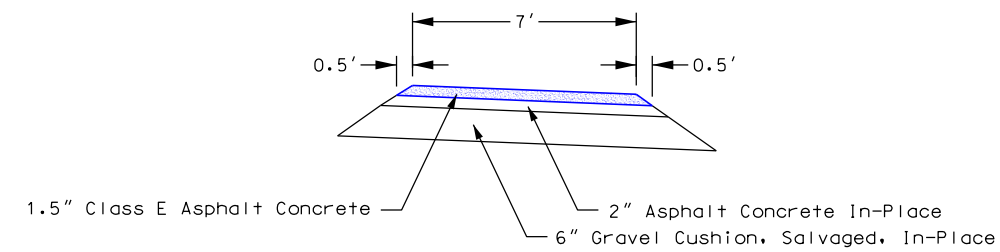
Station 68+58.37 to Station 87+11.5 Rt  
Station 87+88.7 to Station 168+43 Rt

-  Cold Milling Asphalt Concrete
-  Class E Asphalt Concrete

IN-PLACE SECTION



ASPHALT CONCRETE RESURFACING SECTION



PLOT SCALE - 1+6.00001

PLOTTED FROM - TRPR26947

PLOT NAME - 14

FILE - ... \SECTION\TYPICAL SECTIONS.DGN



# TYPICAL SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F20	F32

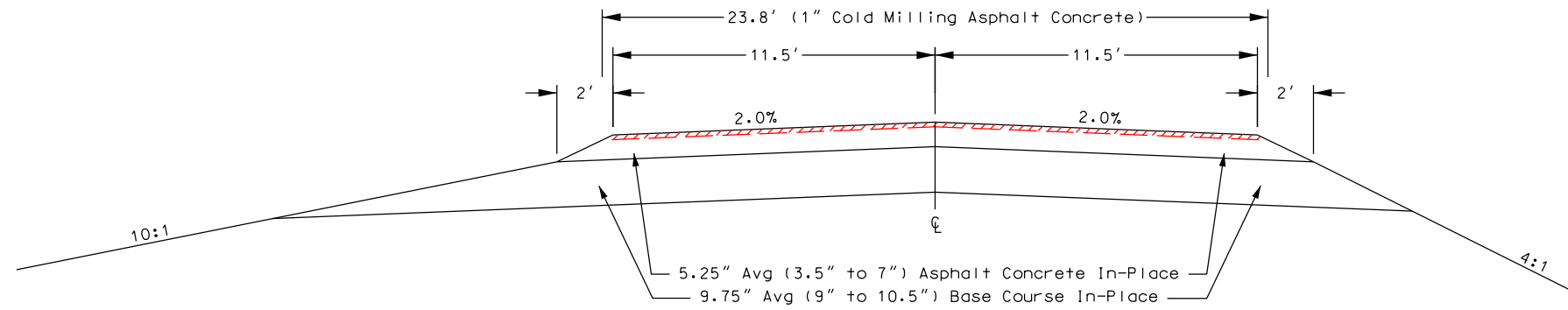
Plotting Date: 02/13/2024

## SECTION 15 - Vickmark Road

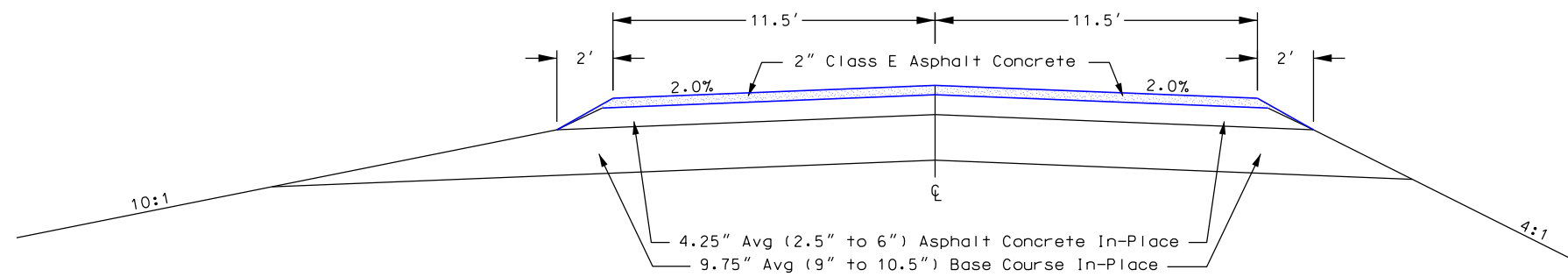
Station 94+40 to Station 102+00 Lt (SD34)

-  Cold Milling Asphalt Concrete
-  Class E Asphalt Concrete

### IN-PLACE & COLD MILLING ASPHALT CONCRETE SECTION



### ASPHALT CONCRETE RESURFACING SECTION



PLOT SCALE - 1+6.00001

PLOTTED FROM - TRPR26947

PLOT NAME - 15

FILE - ... \SECTION\TYPICAL SECTIONS.DGN

# RATES OF MATERIALS

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0034(208)212	F21	F32

## SECTION 1A (per station)

Eastbound (EBL) Shoulder Lift  
Station 59+60 to Station 76+63

### COLD MILLING ASPHALT CONCRETE

Cold Milling Asphalt Concrete is computed at the rate of 100 square yards, applied 9 feet wide.

### CLASS E ASPHALT CONCRETE

Asphalt Mix Materials	Alternate A	Alternate B
Aggregate (Contractor Furnished)	9.88 Tons	10.23 Tons
PG 64-34 Asphalt Binder	0.61 Tons	0.54 Tons
<b>Total Mix</b>	<b>10.49 Tons</b>	<b>10.77 Tons</b>

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

Provide SS-1h or CSS-1h Asphalt for Tack at the rate of 0.04 on applied 9.5 feet wide prior to application of Class E Asphalt Concrete.  
(Rate = 0.09 gallon per square yard)

### Flush Seal

Provide SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 0.02 ton applied 9.5 feet wide. (Rate = 0.05 gallon per square yard)

Provide Sand for Flush Seal at the rate of 0.36 ton applied 8 feet wide.  
(Rate = 8 pounds per square yard)

## SECTION 2 (per station)

Westbound (WBL) Station 82+92.3 to Station 86+48.6  
Station 93+08.6 to Station 93+75

Eastbound (EBL) Station 82+92.3 to Station 82+05  
Station 95+00 to Station 95+48.3

### COLD MILLING ASPHALT CONCRETE

Cold Milling Asphalt Concrete for mainline is computed at the rate of 308 square yards, applied 27.7 feet wide.

### CLASS E ASPHALT CONCRETE

Asphalt Mix Materials	Alternate A	Alternate B
Aggregate (Contractor Furnished)	37.72 Tons	39.06 Tons
PG 64-34 Asphalt Binder	2.32 Tons	2.06 Tons
<b>Total Mix</b>	<b>40.04 Tons</b>	<b>41.12 Tons</b>

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

Provide SS-1h or CSS-1h Asphalt for Tack at the rate of 0.11 ton applied 25 feet wide prior to application of Asphalt Concrete Blade Laid.  
(Rate = 0.09 gallon per square yard)

Provide SS-1h or CSS-1h Asphalt for Tack at the rate of 0.10 ton applied 34.5 feet wide prior to application of Class E Asphalt Concrete.  
(Rate = 0.06 gallon per square yard)

### Flush Seal

Provide SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 0.08 ton applied 34 feet wide. (Rate = 0.05 gallon per square yard)

Provide Sand for Flush Seal at the rate of 0.98 ton applied 22 feet wide.  
(Rate = 8 pounds per square yard)

## SECTION 5 (per station)

Westbound (WBL) Station 89+80 to Station 93+08.6  
Station 96+78.8 to Station 98+30

Eastbound (EBL) Station 88+32 to Station 91+84.9  
Station 95+48.3 to Station 98+30

### COLD MILLING ASPHALT CONCRETE

Cold Milling Asphalt Concrete for mainline is computed at the rate of 363 square yards, applied 32.7 feet wide.

### CLASS E ASPHALT CONCRETE

Asphalt Mix Materials	Alternate A	Alternate B
Aggregate (Contractor Furnished)	41.50 Tons	42.99 Tons
PG 64-34 Asphalt Binder	2.56 Tons	2.26 Tons
<b>Total Mix</b>	<b>44.06 Tons</b>	<b>45.25 Tons</b>

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

Provide SS-1h or CSS-1h Asphalt for Tack at the rate of 0.11 ton applied 25 feet wide prior to application of Asphalt Concrete Blade Laid.  
(Rate = 0.09 gallon per square yard)

Provide SS-1h or CSS-1h Asphalt for Tack at the rate of 0.11 ton applied 39 feet wide prior to application of Class E Asphalt Concrete.  
(Rate = 0.06 gallon per square yard)

### Flush Seal

Provide SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 0.09 ton applied 38 feet wide. (Rate = 0.05 gallon per square yard)

Provide Sand for Flush Seal at the rate of 0.98 ton applied 22 feet wide.  
(Rate = 8 pounds per square yard)

# RATES OF MATERIALS

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0034(208)212	F22	F32

## SECTION 10 (per station)

Westbound (WBL)  
Station 106+00 to Station 113+30

### COLD MILLING ASPHALT CONCRETE

Cold Milling Asphalt Concrete is computed at the rate of 249 square yards, applied 22.4 feet wide.

### CLASS E ASPHALT CONCRETE

Asphalt Mix Materials	Alternate A	Alternate B
Aggregate (Contractor Furnished)	26.67 Tons	27.62 Tons
PG 64-34 Asphalt Binder	1.64 Tons	1.45 Tons
<b>Total Mix</b>	<b>28.31 Tons</b>	<b>29.07 Tons</b>

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

Provide SS-1h or CSS-1h Asphalt for Tack at the rate of 0.06 ton applied 13 feet wide prior to application of Asphalt Concrete Blade Laid.  
(Rate = 0.09 gallon per square yard)

Provide SS-1h or CSS-1h Asphalt for Tack at the rate of 0.07 on applied 25.5 feet wide prior to application of Class E Asphalt Concrete.  
(Rate = 0.09 gallon per square yard)

### Flush Seal

Provide SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 0.06 ton applied 24.5 feet wide. (Rate = 0.05 gallon per square yard)

Provide Sand for Flush Seal at the rate of 0.49 ton applied 11 feet wide.  
(Rate = 8 pounds per square yard)

## SECTION 12 (per station)

Station 124+50 to Station 166+73

### COLD MILLING ASPHALT CONCRETE

Cold Milling Asphalt Concrete for mainline is computed at the rate of 348 square yards, applied 31.3 feet wide.

### CLASS E ASPHALT CONCRETE

Asphalt Mix Materials	Alternate A	Alternate B
Aggregate (Contractor Furnished)	40.03 Tons	41.47 Tons
PG 64-34 Asphalt Binder	2.47 Tons	2.18 Tons
<b>Total Mix</b>	<b>42.50 Tons</b>	<b>43.65 Tons</b>

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

Provide SS-1h or CSS-1h Asphalt for Tack at the rate of 0.11 ton applied 25 feet wide prior to application of Asphalt Concrete Blade Laid.  
(Rate = 0.09 gallon per square yard)

Provide SS-1h or CSS-1h Asphalt for Tack at the rate of 0.11 ton applied 38 feet wide prior to application of Class E Asphalt Concrete.  
(Rate = 0.06 gallon per square yard)

### Flush Seal

Provide SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 0.09 ton applied 37 feet wide. (Rate = 0.05 gallon per square yard)

Provide Sand for Flush Seal at the rate of 0.98 ton applied 22 feet wide.  
(Rate = 8 pounds per square yard)

## SECTION 14 (per mile)

Bike Path  
Station 68+58.37 to Station 87+11.5 Rt  
Station 87+88.7 to Station 168+43 Rt

### CLASS E ASPHALT CONCRETE

Asphalt Mix Materials	Alternate A	Alternate B
Aggregate (Contractor Furnished)	460 Tons	477 Tons
PG 64-34 Asphalt Binder	28 Tons	25 Tons
<b>Total Mix</b>	<b>488 Tons</b>	<b>502 Tons</b>

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

Provide SS-1h or CSS-1h Asphalt for Tack at the rate of 2.2 ton applied 10 feet wide prior to application of Class E Asphalt Concrete.  
(Rate = 0.09 gallon per square yard)

### Flush Seal

Provide SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 1.1 ton applied 9 feet wide. (Rate = 0.05 gallon per square yard)

Provide Sand for Flush Seal at the rate of 19 ton applied 8 feet wide.  
(Rate = 8 pounds per square yard)



# TABLE OF PROJECT STATIONING

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0034(208)212	F23	F32

SECTION	STATION TO	STATION	DESCRIPTION	PROJECT GROSS LENGTH	EXCEPTION LENGTH	PROJECT NET LENGTH	
<b>Eastbound (EBL) Shoulder</b>							
1A	59+60.00	to 76+63.00	Eastbound Divided Section Shoulder	1,703.00'		1,703.00'	
<b>Westbound (WBL) Divided Mainline Section</b>							
1	76+63.00	to 82+92.30	Westbound Divided Section	629.30'		629.30'	
2	82+92.30	to 86+48.60	Westbound Divided Section	356.30'		356.30'	
4	86+48.60	to 88+60.00	Westbound Divided Section	211.40'		211.40'	
6	88+60.00	to 89+80.00	Westbound Divided Section	120.00'		120.00'	
5	89+80.00	to 93+08.60	Westbound Divided Section	328.60'		328.60'	
2	93+08.60	to 93+75.00	Westbound Divided Section	66.40'		66.40'	
3	93+75.00	to 95+47.20	Westbound Divided Section	172.20'		172.20'	
7	95+47.20	to 96+78.80	Westbound Divided Section	131.60'		131.60'	
5	96+78.80	to 98+30.00	Westbound Divided Section	151.20'		151.20'	
8	98+30.00	to 106+00.00	Westbound Divided Section	770.00'		770.00'	
10	106+00.00	to 113+30.00	Westbound Divided Section	730.00'		730.00'	
<b>Eastbound (EBL) Divided Mainline Section</b>							
1	76+63.00	to 82+92.30	Eastbound Divided Section	629.30'		629.30'	
2	82+92.30	to 85+05.00	Eastbound Divided Section	212.70'		212.70'	
3	85+05.00	to 88+32.00	Eastbound Divided Section	327.00'		327.00'	
5	88+32.00	to 91+84.90	Eastbound Divided Section	352.90'		352.90'	
6	91+84.90	to 93+04.90	Eastbound Divided Section	120.00'		120.00'	
4	93+04.90	to 95+00.00	Eastbound Divided Section	195.10'		195.10'	
2	95+00.00	to 95+48.30	Eastbound Divided Section	48.30'		48.30'	
5	95+48.30	to 98+30.00	Eastbound Divided Section	281.70'		281.70'	
8	98+30.00	to 105+10.00	Eastbound Divided Section	680.00'		680.00'	
9	105+10.00	to 107+92.00	Eastbound Divided Section	282.00'		282.00'	
8	107+92.00	to 113+30.00	Eastbound Divided Section	538.00'		538.00'	
<b>Undivided Mainline Section</b>							
11	113+30.00	to 124+50.00	Rural 2-Lane	1,120.00'	-	1,120.00'	
12	124+50.00	to 166+73.00	Rural 2-Lane	4,223.00'	-	4,223.00'	
13	166+73.00	to 169+16.00	Rural 2-Lane w/ Turn Lane	243.00'	-	243.00'	
<b>Bike Path</b>							
14	69+50.00	to 87+11.50	Bike Path	1,761.50'		1,761.50'	
14	87+88.70	to 168+43.00	Bike Path	8,054.30'		8,054.30'	
<b>Vickmark Road</b>							
15	94+00.00	to 102+00.00	Vickmark Road	800.00'		800.00'	
<b>Mainline Sections 1 thru 13</b>							
					Westbound Divided Mainline:	3,667.00	0.694 Miles
					Eastbound Divided Mainline:	3,667.00	0.694 Miles
					Undivided Mainline:	5,586.00	1.058 Miles
					<b>Mainline Section Total:</b>	<b>12,920.00</b>	<b>2.446 Miles</b>
					Eastbound Shoulder Section 1A:	1,703.00	0.323 Miles
					Bike Path Section 14:	9,815.80	1.859 Miles
					Vickmark Road Section 15:	800.00	0.152 Miles
					<b>Combined Section Project Total:</b>	<b>25,238.80</b>	<b>4.779 Miles</b>
<b>Section Totals</b>							
					Eastbound Shoulder Section 1A:	1,703.00	0.323 Miles
					Section 1:	1,258.60	0.238 Miles
					Section 2:	683.70	0.129 Miles
					Section 3:	499.20	0.095 Miles
					Section 4:	406.50	0.077 Miles
					Section 5:	1,114.40	0.211 Miles
					Section 6:	240.00	0.045 Miles
					Section 7:	131.60	0.025 Miles
					Section 8:	1,988.00	0.377 Miles
					Section 9:	282.00	0.053 Miles
					Section 10:	730.00	0.138 Miles
					Section 11:	1,120.00	0.212 Miles
					Section 12:	4,223.00	0.800 Miles
					Section 13:	243.00	0.046 Miles
					Bike Path Section 14:	9,815.80	1.859 Miles
					Vickmark Road Section 15:	800.00	0.152 Miles

# TABLE OF MATERIAL QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0034(208)212	F24	F32

Description / Location	(Info Only)									ALTERNATE A		ALTERNATE B				
	Water For Granular Material	Cold Milling Asphalt Concrete	Remove Asphalt Concrete Pavement	Unclassified Excavation, Digouts	Base Course	Granular Material, Furnish	Blend, Haul, and Stockpile Granular Material	Asphalt Concrete Blade Laid	Asphalt Concrete Composite	Class E Asphalt Concrete	PG 64-34 Asphalt Binder	Class E Asphalt Concrete	PG 64-34 Asphalt Binder	SS-1h or CSS-1h Asphalt For Tack	SS-1h or CSS-1h Asphalt For Flush Seal	Sand For Flush Seal
	(MGal)	(SqYd)	(SqYd)	(CuYd)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)
<b>Section 1A</b>		1,703							178.6	10.4	183.4	9.2		0.3	6.1	
<b>Section 1 **</b>																
<b>Section 2</b>		2,107							273.9	15.9	281.3	14.1	0.7	0.5	6.7	
<b>Section 3 **</b>																
<b>Section 4 **</b>																
<b>Section 5</b>		4,044							490.8	28.5	504.1	25.2	1.2	1.0	10.9	
<b>Section 6 **</b>																
<b>Section 7 **</b>																
<b>Section 8 **</b>																
<b>Section 9 **</b>																
<b>Section 10</b>		1,818							206.7	12.0	212.2	10.6	0.5	0.4	3.6	
<b>Section 11 **</b>																
<b>Section 12</b>		14,696							1,794.8	104.3	1,843.3	92.1	4.6	3.8	41.4	
<b>Section 13 **</b>																
<b>Section 14</b>									907.2	52.1	933.2	46.5	4.1	2.0	35.3	
<b>Section 15</b>		2,112							238.7	13.8	245.1	12.2	0.9	0.5	7.8	
Section Totals		26,480							4,090.7	237.0	4,202.6	209.9	12.0	8.5	111.8	
Table of Additional Quantities Totals	3.0	32,570	195.0	130	320.0	1,200.0	3,000.0	416.9	65.0	3,891.4	256.6	3,988.4	229.4	26.7	5.6	66.9
<b>Project Totals</b>	<b>3.0</b>	<b>59,050</b>	<b>195.0</b>	<b>130</b>	<b>320.0</b>	<b>1,200.0</b>	<b>3,000.0</b>	<b>416.9</b>	<b>65.0</b>	<b>7,982.1</b>	<b>493.6</b>	<b>8,191.0</b>	<b>439.3</b>	<b>38.7</b>	<b>14.1</b>	<b>178.7</b>

Tonnage shown in the table above for Class E Asphalt Concrete is based on a compacted depth as detailed in the plans.

\*\* Refer to "Table of Additional Quantities" for estimated quantities.

# TABLE OF ADDITIONAL QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0034(208)212	F25	F32

Description / Location	(Info Only)									ALTERNATE A		ALTERNATE B				
	Water For Granular Material	Cold Milling Asphalt Concrete	Remove Asphalt Concrete Pavement	Unclassified Excavation, Digouts	Base Course	Granular Material, Furnish	Blend, Haul, and Stockpile Granular Material	Asphalt Concrete Blade Laid	Asphalt Concrete Composite	Class E Asphalt Concrete	PG 64-34 Asphalt Binder	Class E Asphalt Concrete	PG 64-34 Asphalt Binder	SS-1h or CSS-1h Asphalt For Tack	SS-1h or CSS-1h Asphalt For Flush Seal	Sand For Flush Seal
	(MGal)	(SqYd)	(SqYd)	(CuYd)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)
<b>Section 1</b>		4,947							540.8	31.3	555.5	27.8	1.4	1.1	13.8	
<b>Section 3</b>		2,198							240.5	13.9	247.0	12.4	0.5	0.5	7.0	
<b>Section 4</b>		1,982							223.2	12.9	229.2	11.5	0.5	0.4	6.0	
<b>Section 6</b>		1,027							123.4	7.2	126.7	6.3	0.3	0.2	2.9	
<b>Section 7</b>		583							63.5	3.7	65.2	3.3	0.1	0.1	1.7	
<b>Section 8</b>		5,393							707.1	41.1	726.1	36.3	1.8	1.4	13.2	
<b>Section 9</b>		729							113.1	6.6	116.1	5.8	0.3	0.2	2.5	
<b>Section 10 Transition Area Only (Sta 111+89.8 to Sta 113+30)</b>		31							3.4	0.2	3.5	0.2	0.0	0.0	0.0	
<b>Section 11</b>		6,455							703.4	40.8	722.4	36.1	1.6	1.5	16.8	
<b>Section 13</b>		1,025							117.4	6.8	120.6	6.0	0.3	0.2	3.0	
<b>Cold Milling Surface Transitions</b>																
Section 1 (At Begin Mainline Project)		71														
Between Section 4 & 5		240														
Section 13 (At End Mainline Project)		213														
Vickmark Road (At Begin / End)		107														
Bike Path (At Begin / End / At Intersections)		360														
<b>Divided Section Approaches</b>																
4 ~ Median Crossovers (Sta 82+80, Sta 87+25, Sta 94+15, & Sta 107+30)		1,014							107.6	6.2	110.4	5.4	0.4			
* 5 ~ Approach Entrance Surfacing (Asphalt to R.O.W.)		2,205							244.5	14.2	251.0	12.2	0.6			
* 3 ~ Approach Entrance Surfacing (Granular Material to R.O.W.)	0.4				45.0											
<b>Undivided Section Approaches</b>																
* 14 ~ Approach Entrance Surfacing (Asphalt to R.O.W.)		3,990							443.8	25.7	455.0	22.2	1.0			
* 1 ~ Approach Entrance Surfacing (Granular Material to R.O.W.)	0.1				15.0											
<b>Stockpile Production for Remaining Salvaged Asphalt Concrete Material</b>						1,200.0	3,000.0									
<b>Spot Leveling, Strengthening, &amp; Repair</b>									259.7	15.1	259.7	13.0	1.6			
<b>Tight Blading on Milled Surface</b>										416.9		30.9	16.3			
<b>Digouts (Surfacing / Subgrade Repair Areas)</b>	2.5		195.0	130	260.0											
<b>Project Totals</b>	<b>3.0</b>	<b>32,570</b>	<b>195.0</b>	<b>130</b>	<b>320.0</b>	<b>1,200.0</b>	<b>3,000.0</b>	<b>416.9</b>	<b>65.0</b>	<b>3,891.4</b>	<b>256.6</b>	<b>3,988.4</b>	<b>229.4</b>	<b>26.7</b>	<b>5.6</b>	<b>66.9</b>

Tonnage shown in the table above for Class E Asphalt Concrete is based on a compacted depth as detailed in the plans.

\* Refer to "Table of Approaches" for locations.

\* Granular Material to R.O.W. - The area will have the specified granular material evenly placed on the approach surface from finished shoulder to the R.O.W. line. It is estimated that 15 tons of Granular Material will be needed for each approach.

\* Asphalt to R.O.W. - Each approach will have a cold milling transition from 1" at edge of shoulder to 2" at the R.O.W. The milled area will have 2" Class E Asphalt Concrete placed.

All work at the sites above will be completed to the satisfaction of the Engineer.

All quantities in the table are included in the "Table of Material Quantities".

# SUMMARY OF ASPHALT CONCRETE

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 0034(208)212	F26	F32

Description / Location	ALTERNATE A		ALTERNATE B		Asphalt Concrete Composite (Ton)
	Compaction WITH Specified Density for Class E Asphalt Concrete  (Ton)	Compaction WITHOUT Specified Density for Class E Asphalt Concrete  (Ton)	Compaction WITH Specified Density for Class E Asphalt Concrete  (Ton)	Compaction WITHOUT Specified Density for Class E Asphalt Concrete  (Ton)	
	<b>Section 1A</b> 8' Finished Shoulder Surface w/1' Bevel		178.6		
<b>Section 1</b> 24' - 38' Finished Roadway Surface 7.5' Shoulder w/1' bevel	416.1	124.7	427.5	128.0	
<b>Section 2</b> 24' Finished Roadway Surface 7.5' Shoulder w/2.5' bevel	202.5	71.4	208.0	73.3	
<b>Section 3</b> 24' - 36' Finished Roadway Surface 3.5' -7.5' Shoulder w/1' bevel	212.7	27.8	218.5	28.5	
<b>Section 4</b> 36' Finished Roadway Surface 7.5' Shoulder w/2.5' bevel	180.8	42.4	185.6	43.6	
<b>Section 5</b> 26' Finished Roadway Surface 7.5' Shoulder w/2.5' bevel	367.4	123.4	377.4	126.7	
<b>Section 6</b> 26' - 38' Finished Roadway Surface 7.5' Shoulder w/1' bevel	96.8	26.6	99.4	27.3	
<b>Section 7</b> 38' - 26' Finished Roadway Surface 3.5' -7.5' Shoulder w/1' bevel	53.6	9.9	55.0	10.2	
<b>Section 8</b> 14' - 26' Finished Roadway Surface 7.5' Shoulder w/2.5' bevel	487.0	220.1	500.1	226.0	
<b>Section 9</b> 14' - 26' Finished Roadway Surface 7.5' Shoulder w/2.5' bevel	84.0	29.1	86.2	29.9	
<b>Section 10</b> 12' Finished Roadway Surface 7.5' Shoulder w/1' bevel	138.6	71.5	142.3	73.4	
<b>Section 11</b> 24' - 48' Finished Roadway Surface 3.5' - 7.5' Shoulder w/1' bevel	523.1	180.3	537.3	185.1	
<b>Section 12</b> 24' Finished Roadway Surface 4.5' Shoulder w/2' bevel	1,250.0	544.8	1,283.8	559.5	
<b>Section 13</b> 24' - 36' Finished Roadway Surface 3.5' - 4.5' Shoulder w/1' - 2' bevel	98.2	19.2	100.9	19.7	
<b>Section 14</b> 7' Finished Bike Path Surface w/0.5' bevel		907.2		933.2	
<b>Section 15</b> 11.5' Finished Roadway Surface w/2' bevel		238.7		245.1	
<b>Additional Asphalt Concrete Quantities</b> Spot Leveling, Strengthening, & Repair Sites Median Crossovers Approach Entrances Digouts		259.7 107.6 688.3		259.7 110.4 706.0	65.0
<b>Totals =</b>	<b>4,110.8</b>	<b>3,871.3</b>	<b>4,222.0</b>	<b>3,969.0</b>	<b>65.0</b>
<b>Alternate Totals =</b>	<b>7,982.1</b>		<b>8,191.0</b>		

# TABLE OF APPROACH INVENTORY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0034(208)212	F27	F32

APPROACH NUMBER	HIGHWAY	STATION	LEFT OR RIGHT	LOCATION / TYPE
1	34	82+80	WBL - Rt	Roosevelt Avenue, Asphalt to R.O.W.
2	34	83+00	EBL - Rt	Private Entrance, Gravel
3	34	87+23	WBL - Rt	Landfill Entrance, Asphalt to R.O.W.
4	34	87+23	EBL - Rt	Lowell Avenue, Asphalt to R.O.W.
5	34	94+15	WBL - Rt	Prison Armory, Asphalt to R.O.W.
6	34	94+15	EBL - Rt	Field Entrance, Gravel
7	34	107+35	WBL - Rt	Human Services, Asphalt to R.O.W.
8	34	107+35	EBL - Rt	Field Entrance, Gravel
9	34	114+20	Lt	Envirotech / Morris, Asphalt to R.O.W.
10	34	119+70	Lt	Mid-Dakota / Morris, Asphalt to R.O.W.
11	34	119+70	Rt	Hillsview Golf Club, Asphalt to R.O.W.
12	34	122+10	Lt	Nystrom Electric, Asphalt to R.O.W.
13	34	126+30	Lt	Private Entrance, Asphalt to R.O.W.
14	34	129+75	Lt	Hillsview Storage, Asphalt to R.O.W.
15	34	131+40	Lt	H & H Repair, Asphalt to R.O.W.
16	34	134+80	Lt	The Great Escape, Asphalt to R.O.W.
17	34	137+85	Lt	Whiskey River, Asphalt to R.O.W.
18	34	141+75	Lt	UPS / Capital Welding, Asphalt to R.O.W.
19	34	142+00	Rt	UPS Road / Hillsview Residential, Asphalt to R.O.W.
20	34	147+70	Lt	Capital Storage, Asphalt to R.O.W.
21	34	153+75	Lt	Capital Storage, Asphalt to R.O.W.
22	34	167+45	Lt	Private Entrance, Gravel
23	34	168+43	Rt	Farm Island, Asphalt to R.O.W.

# CONTROL & HORIZONTAL ALIGNMENT DATA

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F28	F32

## CONTROL DATA

POINT	DESCRIPTION	NORTHING	EASTING	ELEVATION
CP1	PC	736470.578	1977271.862	1459.793
CP2	CP	735638.324	1981100.954	1460.245
SDPR	City Base	747230.963	1965829.189	1730.510

## HORIZONTAL ALIGNMENT DATA

The following alignment data for the project can be retrieved electronically from the Bid Letting office upon request:

- *project stationing.alg*

The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System. South Zone NAD 83(2011); epoch 2010.00  
Geoid18; SF = 0.999847  
The elevations shown on this sheet are based on NAD 83.

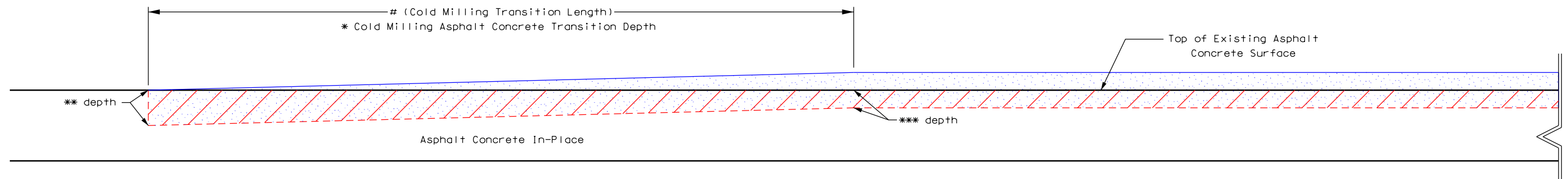
# SURFACING TRANSITION LAYOUT

STATE OF SOUTH DAKOTA	PROJECT P 0034(208)212	SHEET F29	TOTAL SHEETS F32
-----------------------	---------------------------	--------------	---------------------

Plotting Date: 02/14/2024

- Cold Milling Asphalt Concrete
- 2" Class E Asphalt Concrete

# ≤ 65 mph Transition Length = 40' per inch of elevation change  
 # > 65 mph Transition Length = 60' per inch of elevation change



- \* Section 1 (At Begin Mainline Project)      -- fm \*\* 2" to \*\*\* 1.5"
- \* Section 4 (At End Section)                      -- fm \*\*\* 1.5" to \*\* 2"
- \* Section 5 (At Begin Section)                  -- fm \*\* 2" to \*\*\* 1"
- \* Section 13 (At End Mainline Project)        -- fm \*\*\* 1" to \*\* 2"
- \* Vickmark Road (At Begin / End)              -- fm \*\* 2" to \*\*\* 1" / fm \*\*\* 1" to \*\* 2"
- \* Bike Path (At Begin / End / At Intersections) -- fm \*\* 2" to \*\*\* 0" / fm \*\*\* 0" to \*\* 2" / fm \*\*\* 0" to \*\* 1"

PLOT SCALE - 1+6.00001

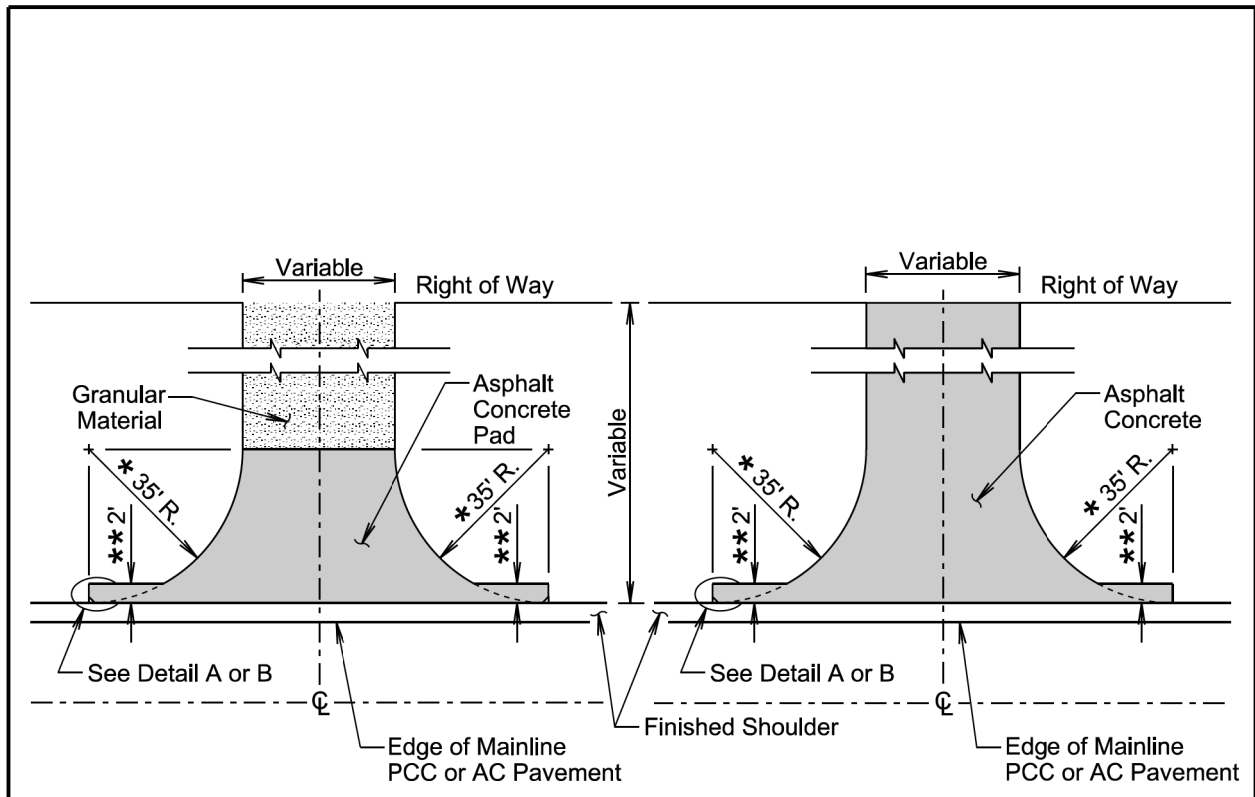
PLOT NAME - 1

FILE - ... \SURFACE TRANSITIONS.DGN

PLOTTED FROM - TRPR26947



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.

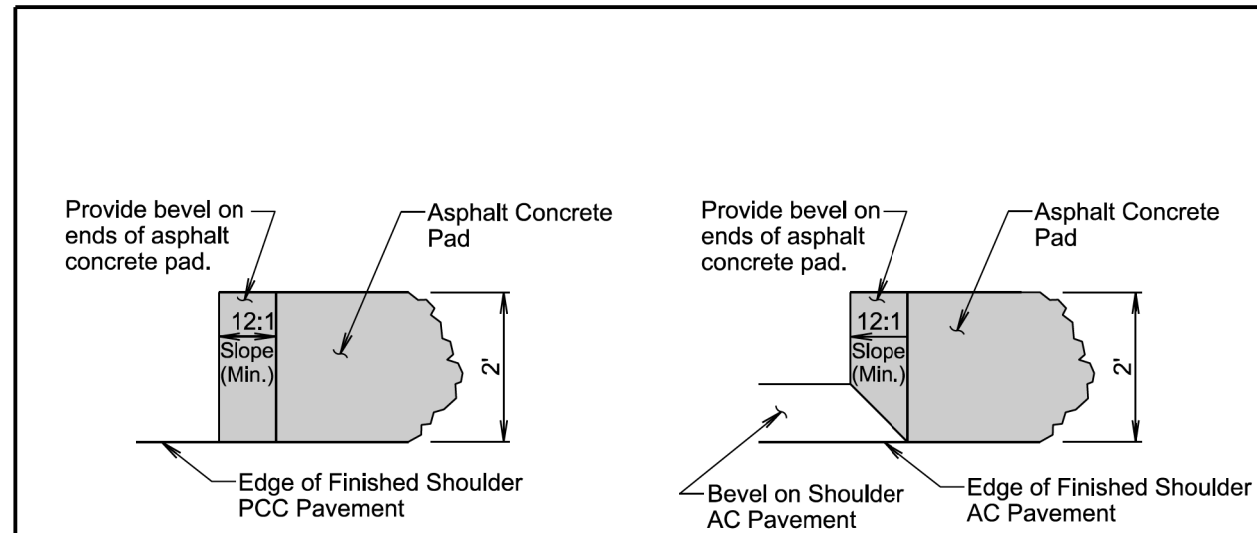
\* For new construction, 35' radius typical or as specified in the plans. For resurfacing projects, radius is variable depending on existing conditions.

\*\* 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

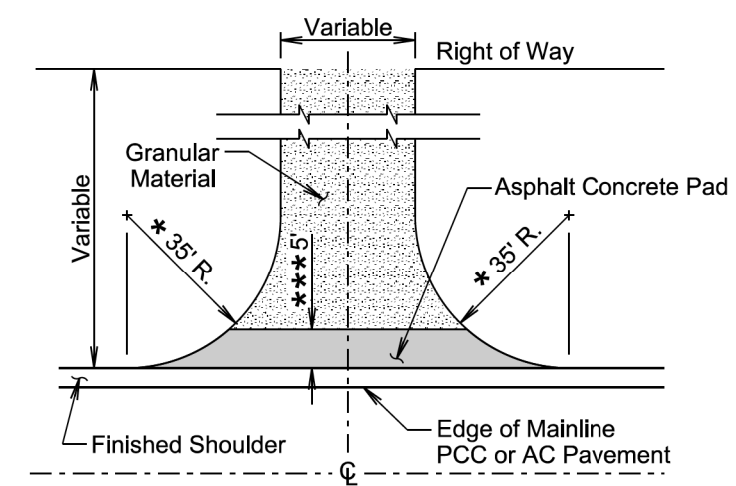
<b>S D D O T</b>	<b>SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (MAINLINE AND SHOULDERS: PCC OR AC PAVEMENT)</b>	PLATE NUMBER 320.04
		Sheet 1 of 2

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.

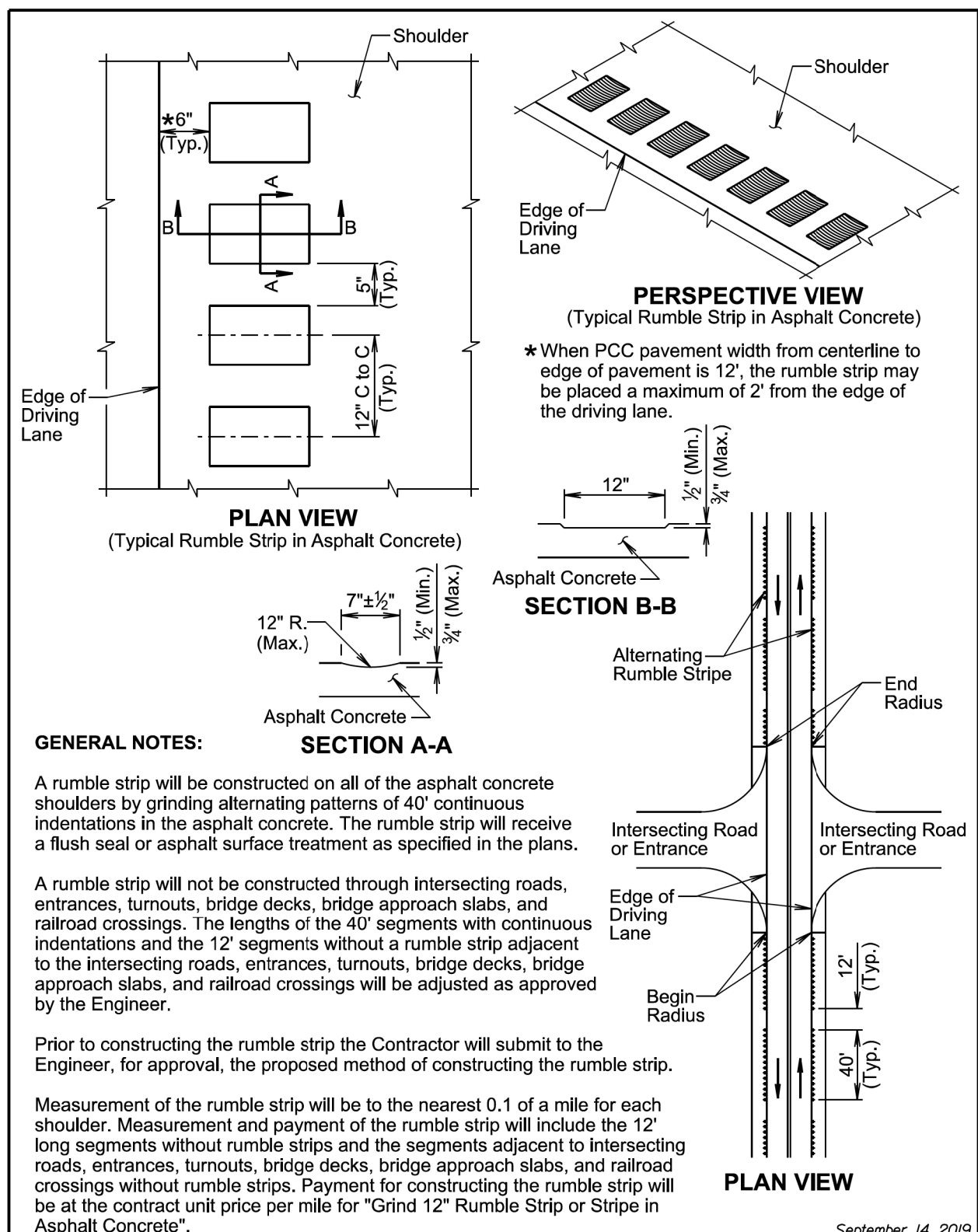
August 27, 2020

<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 - TRPR26947

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\* 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.

**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.

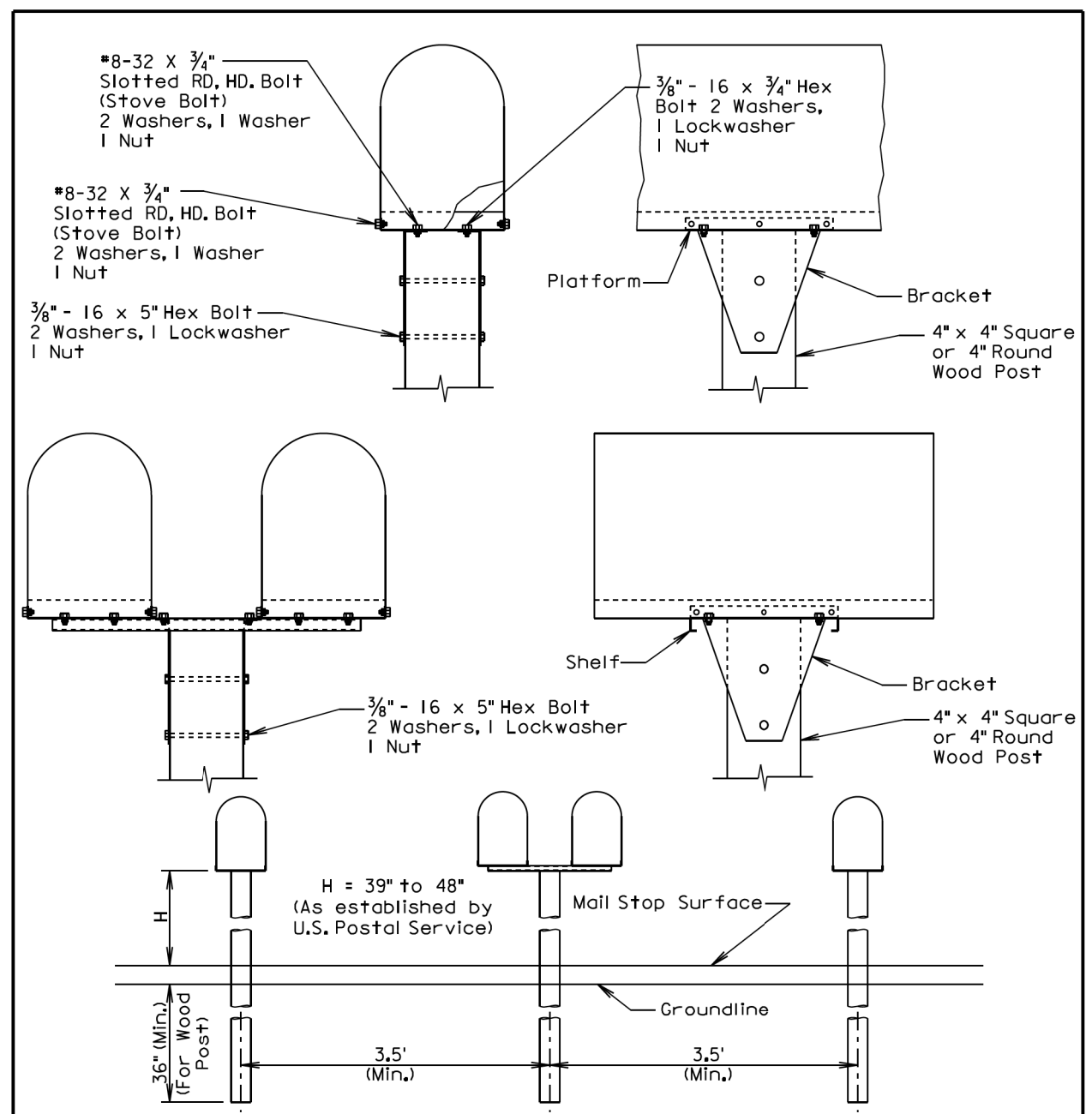
A rumble strip will not be constructed through intersecting roads, entrances, turnouts, bridge decks, bridge approach slabs, and railroad crossings. The lengths of the 40' segments with continuous indentations and the 12' segments without a rumble strip adjacent to the intersecting roads, entrances, 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	S D D O T	12" RUMBLE STRIP IN ASPHALT CONCRETE ON NONDIVIDED HIGHWAY SHOULDERS	PLATE NUMBER 320.24
			Sheet 1 of 1



**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

Published Date: 2024	S D D O T	SINGLE AND DOUBLE MAILBOX ASSEMBLIES	PLATE NUMBER 900.02
			Sheet 1 of 1

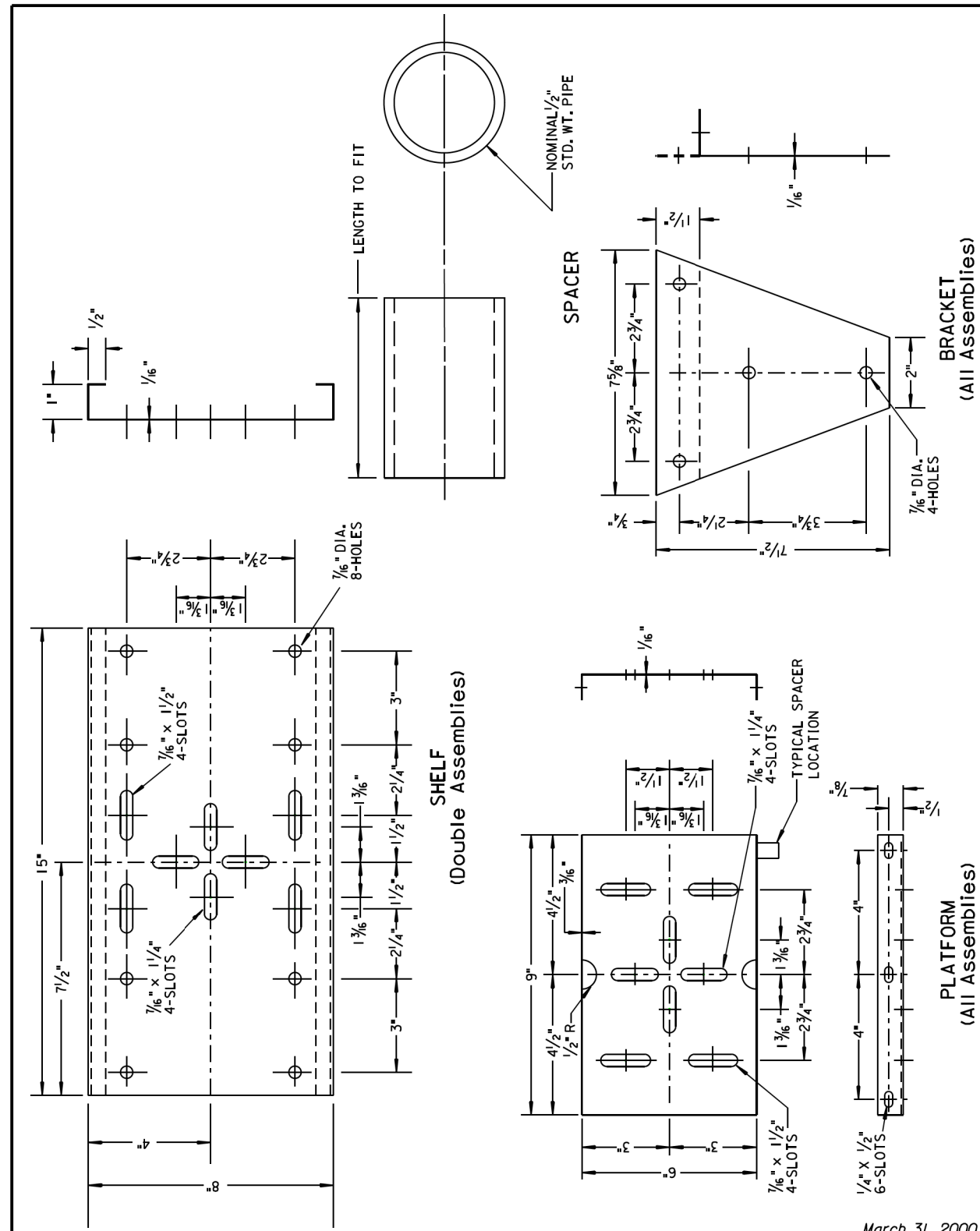
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Plotted From - TRPR26947

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0034(208)212	F32	F32

Plotting Date: 02/14/2024



Published Date: 2024

**SDDOT**

**MAILBOX SUPPORT HARDWARE**

March 31, 2000

PLATE NUMBER  
**900.03**

Sheet 1 of 1