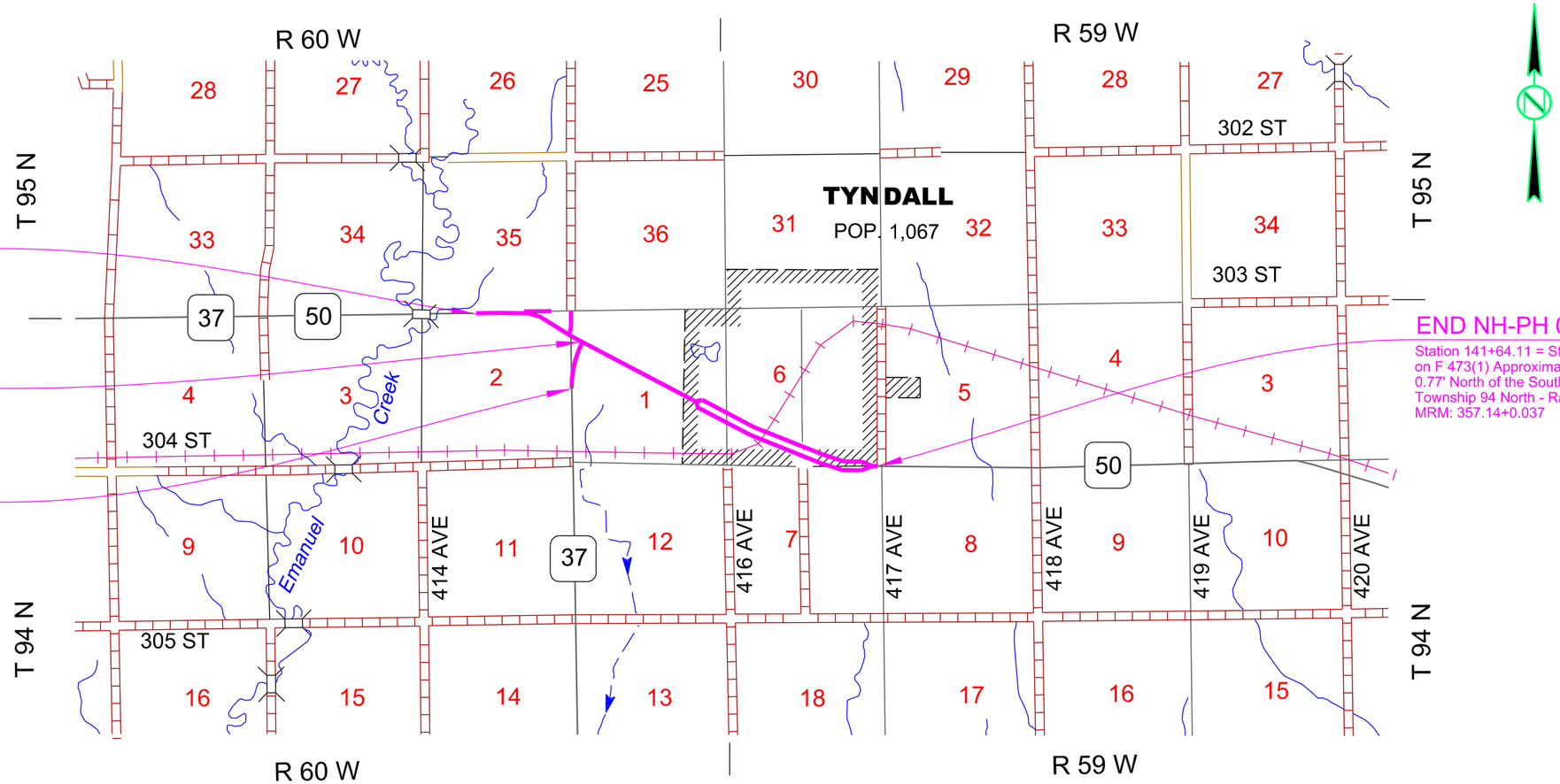
Section F: Surfacing Plans

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0050(116)354 P 0037(168)19	F1	F18

Plotting Date: 12/04/2024

INDEX OF SHEETS



BEGIN NH-PH 0050(116)354

Station -9+51.75 = Station -9+51.75
on F 473(1) Approximately 2003.26' East and
66.71' North of the Southwest corner of Section 35 -
Township 95 North - Range 60 West of the 5th PM
MRM: 354.00+0.283

END P 0037(168)19

Station 478+04.62 = Station 8+13.1
on FAP 167A(3) Approximately 1058.45' South and
495.45' East of the Northwest corner of Section 1
Township 94 North - Range 60 West of the 5th PM
MRM: 355.00+0.031

BEGIN P 0037(168)19

Station 459+89.26 = Station 459+89.30
on PH 0037(139)11 Approximately 2420.36' North and
111.73' West of the Southwest corner of Section 1 -
Township 94 North - Range 60 West of the 5th PM
MRM: 020.00+0.027

END NH-PH 0050(116)354

Station 141+64.11 = Station 141+64.11
on F 473(1) Approximately 91.06' West and
0.77' North of the Southwest corner of Section 5 -
Township 94 North - Range 59 West of the 5th PM
MRM: 357.14+0.037

October 15, 2025

SECTION F – ESTIMATE OF QUANTITIES – 04K7

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3320	Checker	Lump Sum	LS
120E6200	Water for Granular Material	881.7	MGal
260E1030	Base Course, Salvaged	34,376.0	Ton
260E1080	Base Course, Salvaged, State Furnished	39,087.4	Ton
260E6000	Granular Material, Furnish	15,066.4	Ton
270E0220	Blend and Stockpile Granular Material	34,376.0	Ton
320E0005	PG 58-34 Asphalt Binder	1,703.8	Ton
320E1203	Class Q3R Hot Mixed Asphalt Concrete	36,613.3	Ton
320E4000	Hydrated Lime	361.8	Ton
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	3.2	Mile
330E0010	MC-70 Asphalt for Prime	65.8	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	79.8	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	0.6	Ton
330E1000	Blotting Sand for Prime	433.2	Ton
380E3040	8" PCC Driveway Pavement	804.5	SqYd
900E1980	Storage Unit	1	Each

SECTION F – ESTIMATE OF QUANTITIES – 080L

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3320	Checker	Lump Sum	LS
120E6200	Water for Granular Material	80.2	MGal
260E1080	Base Course, Salvaged, State Furnished	6,680.8	Ton
320E0005	PG 58-34 Asphalt Binder	128.4	Ton
320E1203	Class Q3R Hot Mixed Asphalt Concrete	2,761.2	Ton
320E4000	Hydrated Lime	27.2	Ton
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	0.7	Mile
330E0010	MC-70 Asphalt for Prime	5.6	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	6.9	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	0.1	Ton
330E1000	Blotting Sand for Prime	24.1	Ton

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.

BASE COURSE, SALVAGED

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

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

All other requirements for Base Course, Salvaged will apply.

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.

BLEND AND STOCKPILE GRANULAR MATERIAL

An Estimated 17,188.0 tons (for informational purposes only) of Salvaged Asphalt Mix Material will be blended with 2,121.6 tons of Salvaged Granular Material and 15,066.4 tons of Granular Material, Furnish and stockpiled at the Contractor's furnished stockpile site.

The Contractor will use a portable platform scale, stationary commercial scale, stationary commercial plant, portable plant scale, or a belt scale to control the blending and weighing of the salvage material with Contractor furnished granular material.

The salvaged asphalt mix material will be crushed to meet the requirements of Section 884.2 D.2 prior to blending into the stockpile.

Salvaged asphalt mix material will be blended with salvaged granular material or Granular Material, Furnish at a rate of 50% salvaged asphalt mix material and 50% salvaged granular material or 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 costs for crushing the salvaged asphalt mix material, stockpiling, and blending the materials will be incidental to the contract unit price per ton for "Blend and Stockpile Granular Material".

BASE COURSE, SALVAGED, STATE FURNISHED

All salvaged material produced on the project will be used on the project. Base Course, Salvaged, State Furnished will be used to supplement the material salvaged from the project.

An estimated 11,250 tons of Base Course, Salvaged, State Furnished has been stockpiled in the southwest quarter of Section 6, Township 94 North, Range 59 West of the 5th P.M., Bon Homme County, South Dakota at the Tyndall SDDOT Maintenance Shop. 2,000 tons of the granular material within this stockpile will not be available for use on this project and must remain in the stockpile. The granular material in the stockpile is a 50/50 salvaged asphalt to granular material blend that was produced from PCN 080F.

An estimated 65,701 tons of Base Course, Salvaged, State Furnished has been stockpiled in the southwest quarter of Section 25, Township 95 North, Range 62 West of the 5th P.M., Charles Mix County, South Dakota west of Avon on SD50 near the intersection of 302nd Street and 403rd Avenue. All of the material within this stockpile will be available for use on this project. The granular material in the stockpile is a 50/50 salvaged asphalt to granular material blend that was produced from PCN 06J7 and 05E1.

The Base Course, Salvaged, State Furnished is royalty free to the Contractor.

No gradation testing will be required for the Base Course, Salvaged, State Furnished material.

All other requirements for Base Course, Salvaged 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)

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”.

CHECKING SPREAD RATES

The Contractor will be responsible for checking the Base Course, Salvaged, Base Course, Salvaged, State Furnished and 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.

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 will conform to the requirements of Class Q3.

The Class Q3R Hot Mixed Asphalt Concrete will include 20 percent RAP in the mixture. RAP will be obtained from the Salvaged Asphalt Mix Material produced on this project (See Section B).

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 Q3 except as modified by the following:

Gyratory Compactive Effort:

	$N_{initial}$	N_{design}	$N_{maximum}$
Class Q3R	6	50	75

All remaining requirements for Class Q3 will apply.

FLEXIBLE PAVEMENT SMOOTHNESS PROVISION

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

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.

PREPARATION FOR PARKING LOT & DRIVEWAY PAVEMENTS

The foundation will be excavated, shaped, and compacted to a firm, uniform bearing surface. Unsuitable foundation material will be removed and replaced as directed by the Engineer. The foundation will be thoroughly moistened immediately prior to placing the PCC Pavement. Moisture will be applied without forming pools of water.

Granular material will be placed to the depth specified and satisfactorily compacted.

Payment for any excavation will be incidental to the contract unit price of the surfacing material.

8" PCC DRIVEWAY PAVEMENT

The concrete for the 8" PCC Driveway Pavement will comply with the requirements of the specifications for Class M6 Concrete, unless otherwise specified in the plans. The mix design can meet either Class M6 Concrete specifications or conform to Section 380.

The surface of the 8" PCC Driveway Pavement will have a maximum 10% slope and the tie-ins will match the existing and/or new adjoining PCC Approach Pavement.

Contraction joints in the 8" PCC Driveway Pavement will be 1½ inches deep if formed in the fresh concrete using a suitable grooving tool. If a saw is used to cut the contraction joints, then the depth of the joint will be at least ¼ the thickness of the approach pavement.

The curing compound will be applied in two applications to ensure the entire surface is white from any viewing angle.

All costs for furnishing and placing the 8" PCC Driveway Pavement and constructing the expansion and contraction joints including labor, equipment, and materials (including the earthen backfill) will be incidental to the contract unit price per square yard for 8" PCC Driveway Pavement".

Payment for any excavation required for placing the 8" PCC Driveway Pavement and granular material will be incidental to the contract unit price of the surfacing material.

All costs for furnishing and placing the granular material will be incidental to the contract unit price per ton for "Base Course, Salvaged" or "Base Course, Salvaged, State Furnished".

TABLE OF 8" **PCC DRIVEWAY PAVEMENT**

Location	Quantity (sq.yds.)
Sta. 105+75 L SD 50 alignment	269.6
Sta. 2+89 R Ford Ave. alignment	467.1
Sta. 5+94 L Main St. alignment	67.8
TOTAL	804.5

GRIND RUMBLE STRIPS/STRIPES IN ASPHALT CONCRETE

Asphalt Concrete Rumble Strips/Stripes will be constructed on the shoulders. Rumble Strips/Stripes will be paid for at the contract unit price per mile for Grind 12" Rumble Strip or Stripe in Asphalt Concrete. It is estimated that 3.2 miles of asphalt concrete rumble strips/stripes will be required on SD 50 and that 0.7 miles of asphalt concrete rumble strips/stripes will be required on SD 37.

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

RATES OF MATERIALS

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

Section 5 – Rate A
SD 50 Mainline
Sta. 4+71.18 to 11+07.52
Sta. 41+91.93 to 72+60.74
SD 37 Mainline
Sta. 459+89.26 to 478+04.62

BASE COURSE, SALVAGED or BASE COURSE, SALVAGED, STATE FURNISHED

Crushed Aggregate or Salvaged Material	343.11 Tons.

Water for Granular Material at the rate of 4.12 M. Gallons.

MC-70 Asphalt for Prime at the Rate of 0.62 ton applied 47 feet wide (Rate = 0.30 gallon per square yard).

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

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.13 tons applied 46 feet wide (Rate = 0.06 gallon per square yard).

CLASS Q3R HOT MIXED ASPHALT CONCRETE - 1st Lift

Crushed Aggregate	41.38 Tons
Salvaged Asphalt Concrete	10.35 Tons
PG 58-34 Asphalt Binder	2.55 Tons
Hydrated Lime	0.54 Tons
Total Mix	54.82 Tons

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.12 tons applied 44 feet wide (Rate = 0.06 gallon per square yard).

CLASS Q3R HOT MIXED ASPHALT CONCRETE – 2nd Lift

Crushed Aggregate	35.03 Tons
Salvaged Asphalt Concrete	8.76 Tons
PG 58-34 Asphalt Binder	2.16 Tons
Hydrated Lime	0.46 Tons
Total Mix	46.41 Tons

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.09 tons applied 30 feet wide (Rate = 0.06 gallon per square yard).

CLASS Q3R HOT MIXED ASPHALT CONCRETE – 3rd Lift

Crushed Aggregate	26.80 Tons
Salvaged Asphalt Concrete	6.70 Tons
PG 58-34 Asphalt Binder	1.65 Tons
Hydrated Lime	0.35 Tons
Total Mix	35.50 Tons

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

Section 5 – Rate B
SD 50 Shoulders (one side only)
Sta. 4+71.18 to 11+07.52
Sta. 41+91.93 to 72+60.74
SD 37 Shoulders (one side only)
Sta. 459+89.26 to 478+04.62

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.02 applied 8 feet wide (Rate = 0.06 gallon per square yard).

CLASS Q3R HOT MIXED ASPHALT CONCRETE

Crushed Aggregate	5.57 Tons
Salvaged Asphalt Concrete	1.39 Tons
PG 58-34 Asphalt Binder	0.34 Tons
Hydrated Lime	0.07 Tons
Total Mix	7.37 Tons

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

Section 6 – Rate C
SD 50 Mainline
Sta. 15+27.52 to Sta. 22+27.29
Sta. 30+71.15 to Sta. 37+71.93

BASE COURSE, SALVAGED or BASE COURSE, SALVAGED, STATE FURNISHED

Crushed Aggregate or Salvaged Material	427.13 Tons.

Water for Granular Material at the rate of 5.13 M. Gallons.

MC-70 Asphalt for Prime at the Rate of 0.78 ton applied 59 feet wide (Rate = 0.30 gallon per square yard).

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

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.16 tons applied 58 feet wide (Rate = 0.06 gallon per square yard).

CLASS Q3R HOT MIXED ASPHALT CONCRETE - 1st Lift

Crushed Aggregate	52.67 Tons
Salvaged Asphalt Concrete	13.17 Tons
PG 58-34 Asphalt Binder	3.25 Tons
Hydrated Lime	0.69 Tons
Total Mix with Hydrated Lime	69.78 Tons

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

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.16 tons applied 56 feet wide (Rate = 0.06 gallon per square yard).

CLASS Q3R HOT MIXED ASPHALT CONCRETE – 2nd Lift

Crushed Aggregate	46.32 Tons
Salvaged Asphalt Concrete	11.58 Tons
PG 58-34 Asphalt Binder	2.86 Tons
Hydrated Lime	0.61 Tons
Total Mix with Hydrated Lime	61.37 Tons

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

SS-1h or CSS-1h Asphalt for Tack at the rate of 0.16 tons applied 56 feet wide (Rate = 0.06 gallon per square yard).

CLASS Q3R HOT MIXED ASPHALT CONCRETE – 3rd Lift

Crushed Aggregate	49.23 Tons
Salvaged Asphalt Concrete	12.31 Tons
PG 58-34 Asphalt Binder	3.04 Tons
Hydrated Lime	0.65 Tons
Total Mix with Hydrated Lime	65.23 Tons

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

RATES OF MATERIALS

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

Section 6 – Rate D
SD 50 Mainline
Sta. 82+80.74 to 131+44.11

BASE COURSE, SALVAGED or BASE COURSE, SALVAGED, STATE FURNISHED

Crushed Aggregate or Salvaged Material	24,440 Tons.

Water for Granular Material at the rate of 293.3 M. Gallons.

MC-70 Asphalt for Prime at the Rate of 20.9 ton applied 60 feet wide (Rate = 0.30 gallon per square yard).

Blotting Sand for Prime at the rate of 176 tons applied 60 feet wide (Rate = 10 lbs. per square yard).

SS-1h or CSS-1h Asphalt for Tack at the rate of 9.0 tons applied 60 feet wide (Rate = 0.06 gallon per square yard).

CLASS Q3R HOT MIXED ASPHALT CONCRETE - 1st Lift

Crushed Aggregate	2,979 Tons
Salvaged Asphalt Concrete	745 Tons
PG 58-34 Asphalt Binder	184 Tons
Hydrated Lime	39 Tons
Total Mix	3,947 Tons

SS-1h or CSS-1h Asphalt for Tack at the rate of 9.0 tons applied 60 feet wide (Rate = 0.06 gallon per square yard).

CLASS Q3R HOT MIXED ASPHALT CONCRETE - 2nd Lift

Crushed Aggregate	2,979 Tons
Salvaged Asphalt Concrete	745 Tons
PG 58-34 Asphalt Binder	184 Tons
Hydrated Lime	39 Tons
Total Mix	3,947 Tons

SS-1h or CSS-1h Asphalt for Tack at the rate of 9.0 tons applied 60 feet wide (Rate = 0.06 gallon per square yard).

CLASS Q3R HOT MIXED ASPHALT CONCRETE - 3rd Lift

Crushed Aggregate	2,979 Tons
Salvaged Asphalt Concrete	745 Tons
PG 58-34 Asphalt Binder	184 Tons
Hydrated Lime	39 Tons
Total Mix	3,947 Tons

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

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0050(116)354 P 0037(168)19	F7	F18

Plotting Date: 12/04/2024

SUMMARY OF CLASS Q3R ASPHALT CONCRETE COMPACTION – 04K7

Location	Compaction With Specified Density (1st / 2nd / 3rd Lift)	Compaction Without Specified Density (1st / 2nd / 3rd Lift)
	Ton	Ton
SD 50 mainline		
Sta. -9+51 to 4+71.18 Mainline & Ramp Lt. & Rt. Shoulders	688.5 / 688.5 / 688.5	283.6 / 164.0 / 219.0
Sta. 4+71.18 to 11+07.52 28' Mainline Lt. & Rt. Shoulders	222.0 / 222.0 / 225.9	126.8 / 73.3 / 93.8
Sta. 11+07.52 to 22+27.29 28' Mainline + Turn Lane Lt. & Rt. Shoulders	526.5 / 526.5 / 526.5	223.5 / 129.2 / 172.6
Sta. 22+27.29 to 30+71.15 28' Mainline + Turn Lane Lt. & Rt. Shoulders	941.4 / 941.4 / 941.4	168.5 / 97.5 / 130.2
Sta. 30+71.15 to 41+91.93 28' Mainline + Turn Lane Lt. & Rt. Shoulders	527.0 / 527.0 / 527.0	223.7 / 129.4 / 172.7
Sta. 41+91.93 to 72+60.74 28' Mainline Lt. & Rt. Shoulders	1,070.4 / 1,070.4 / 1,089.4	611.9 / 353.8 / 452.3
Sta. 72+60.74 to 76+80.74 28' Mainline + Turn Lane Lt. & Rt. Shoulders	177.9 / 177.9 / 177.9	83.8 / 48.4 / 64.7
Sta. 76+80.74 to 82+80.74 36' Mainline + transition	398.7 / 398.7 / 398.7	
Sta. 82+80.74 to 131+44.11 60' Mainline	3,635.6 / 3,635.6 / 3,635.6	
Sta. 131+44.11 to 137+44.11 36' Mainline + transition	398.7 / 398.7 / 398.7	
Sta. 137+44.11 to 141+6411 24' Mainline + transition Lt. & Rt. Shoulders	177.9 / 177.9 / 177.9	83.8 / 48.4 / 64.7
Ramp A	1,898.8 / 1,898.8	
415th Ave		323.9 / 323.9
Fir Street		168.7 / 168.7
Main Street		273.3 / 273.3
Birch Street		282.2 / 282.2
Ivy Street		72.0 / 72.0
Intersecting Road – 1		39.2
TOTALS	30,114.3	6,499.0

SUMMARY OF CLASS Q3R ASPHALT CONCRETE COMPACTION – 080L

Location	Compaction With Specified Density (1st / 2nd / 3rd Lift)	Compaction Without Specified Density (1st / 2nd / 3rd Lift)
	Ton	Ton
SD 37 mainline		
Sta. 459+89.26 to 478+04.62 Mainline & Ramp Lt. & Rt. Shoulders	633.2 / 633.2 / 644.5	362.0 / 220.7 / 267.6
TOTALS	1,910.9	850.3

Plot Scale - 1:200

Plotted From - TRPR15123

File - ...\prj\bonh\04K7\NotesSectionF.dgn

TABLE OF ADDITIONAL QUANTITIES – 04K7

Location-Description	Water for Granular Material	Base Course, Salvaged or Base Course, Salvaged, State Furnished	Class Q3R Hot Mixed Asphalt Concrete (1st / 2nd / 3rd Lift)	PG 58-34 Asphalt Binder (1st / 2nd / 3rd Lift)	MC-70 Asphalt for Prime	Blotting Sand for Prime	Hydrated Lime (1st / 2nd / 3rd Lift)	SS-1h or CSS-1h Asphalt for Tack (1st / 2nd / 3rd Lift)	SS-1h or CSS-1h Asphalt for Flush Seal
	Mgal	Ton	Ton	Ton	Ton	Ton	Ton	Ton	Ton
SD 50 Transitions:									
Sta. -9+51 to 4+71.18	71.5	5,961.1	972.1 / 852.5 / 907.5	45.2 / 39.7 / 42.2	5.4	32.5	9.6 / 8.4 / 9.0	2.3 / 2.2 / 2.2	
Sta. 11+07.52 to 15+27.52	19.4	1,617.5	261.7 / 226.3 / 242.6	12.2 / 10.5 / 11.3	1.5	7.0	2.6 / 2.2 / 2.4	0.6 / 0.6 / 0.6	
Sta. 22+27.29 to 30+71.15	78.3	6,532.9	1,109.9 / 1,038.9 / 1,071.6	51.6 / 48.4 / 49.9	6.1	41.9	11.0 / 10.3 / 10.6	2.6 / 2.6 / 2.6	
Sta. 37+71.93 to 41+91.93	19.4	1,617.5	261.7 / 226.3 / 242.6	12.2 / 10.5 / 11.3	1.5	7.0	2.6 / 2.2 / 2.4	0.6 / 0.6 / 0.6	
Sta. 72+60.74 to 76+80.74	19.4	1,617.5	261.7 / 226.3 / 242.6	12.2 / 10.5 / 11.3	1.5	7.0	2.6 / 2.2 / 2.4	0.6 / 0.6 / 0.6	
Sta. 76+80.74 to 82+80.74	29.9	2,497.3	398.7 / 398.7 / 398.7	18.5 / 18.5 / 18.5	2.1	17.8	4.0 / 4.0 / 4.0	0.9 / 0.9 / 0.9	
Sta. 131+44.11 to 137+44.11	29.9	2,497.3	398.7 / 398.7 / 398.7	18.5 / 18.5 / 18.5	2.1	17.8	4.0 / 4.0 / 4.0	0.9 / 0.9 / 0.9	
Sta. 137+44.11 to 141+64.11	19.4	1,617.5	261.7 / 226.3 / 242.6	12.2 / 10.5 / 11.3	1.5	7.0	2.6 / 2.2 / 2.4	0.6 / 0.6 / 0.6	
Ramp A									
Sta. 14+25.07 to 27+21.33	38.9	3,239.0	1,898.8 / 1,898.8	88.3 / 88.3	2.4	15.0	18.8 / 18.8	1.0 / 1.0	
415th Ave	13.4	1,114.0	323.9 / 323.9	15.1 / 15.1	1.5	8.3	3.2 / 3.2	0.7 / 0.7	
Fir Street	7.1	578.5	168.7 / 168.7	7.8 / 7.8	0.8	4.2	1.6 / 1.6	0.3 / 0.3	
Main Street	11.3	946.2	273.3 / 273.3	12.7 / 12.7	1.3	8.2	2.7 / 2.7	0.6 / 0.6	
Birch Street	11.8	981.7	282.2 / 282.2	13.1 / 13.1	1.4	8.0	2.8 / 2.8	0.7 / 0.7	
Ivy Street	3.0	252.6	72.0 / 72.0	3.3 / 3.3	0.4	2.1	0.7 / 0.7	0.2 / 0.2	
Intersecting roads – 1	0.9	73.4	39.2	1.8	0.1	--	0.4	--	
Field Entrances – 19	12.0	1,000.6							
Concrete Entrances – 3	1.4	112.3							
Shoulder rumble strips									0.6
TOTAL	387.0	32,256.9	17,344.1	806.4	29.6	183.8	171.7	34.1	0.6

TABLE OF ADDITIONAL QUANTITIES – 080L

Location-Description	Water for Granular Material	Base Course, Salvaged or Base Course, Salvaged, State Furnished	SS-1h or CSS-1h Asphalt for Flush Seal
	Mgal	Ton	Ton
SD 37:			
Field Entrances – 3	5.4	452.1	
Shoulder rumble strips			0.1
TOTAL	5.4	452.1	0.1

IN PLACE TYPICAL SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0050(116)354 P 0037(168)19	F9	F18

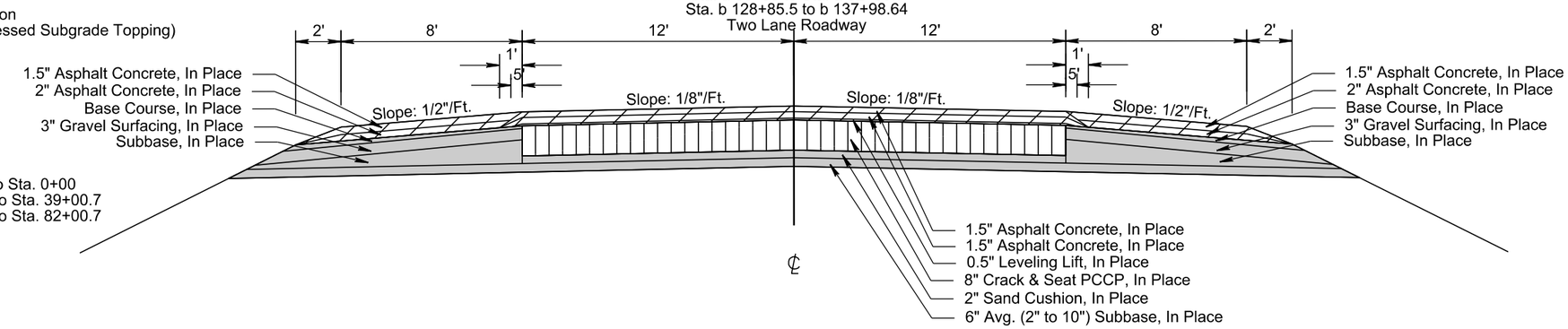
Plotting Date: 12/04/2024

Salvage Asphalt Mix Material

Remove Concrete Pavement
(To be used for Processed Subgrade Topping)

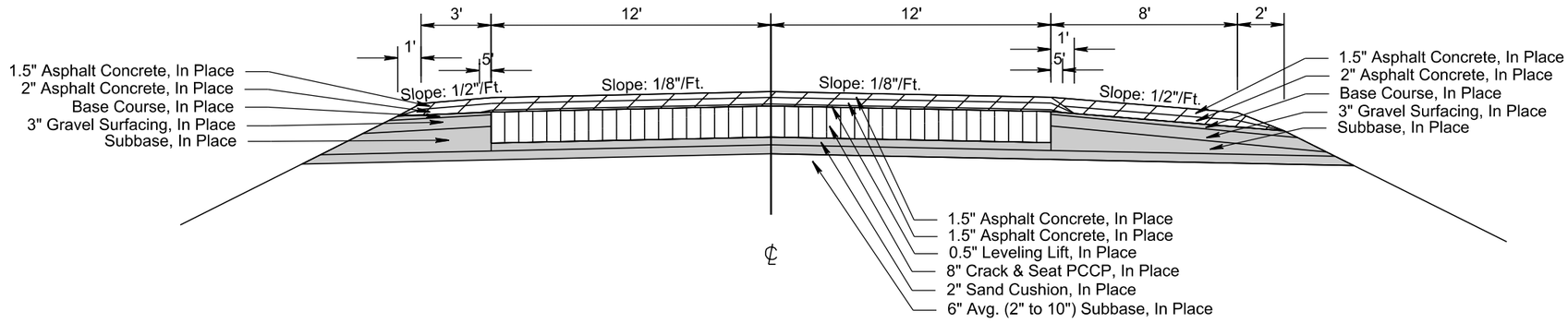
Unclassified Excavation
(To be used for Processed Subgrade Topping)

Section 1
SD50
Sta. -4+75 to Sta. 0+00
Sta. a 30+00 to Sta. a 82+00.7
Sta. b 128+85.5 to b 137+98.64
Two Lane Roadway



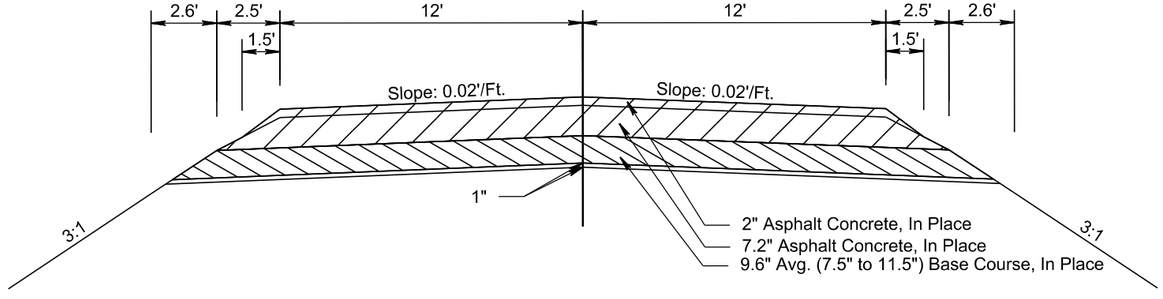
Two Lane to Four Lane Sta. -4+75 to Sta. 0+00
Four Lane to Two Lane Sta. 30+00 to Sta. 39+00.7
Two Lane to Four Lane Sta. 73+00 to Sta. 82+00.7

Section 2
SD50
Sta. 0+00 to Sta. a 30+00 (Thru Equation)
Sta. a 82+00.7 to Sta. b 128+85.5 (Thru Equation)
Four Lane Divided Roadway



Salvage Granular Material

Section 3
SD37
Sta. 461+00 to Sta. 479+17.6



PLOT SCALE - 1:6.00001

PLOTTED FROM - TRPR15123

PLOT NAME - 9

FILE - ...\04K7_TYPICAL SECTIONS.DGN

TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0050(116)354 P 0037(168)19	F10	F18

Plotting Date: 12/04/2024

Transitions:

Sta. 0+00 to Sta. 6+00 Ramp A = Sta. -9+51 to Sta. -3+52 SD50
* 2' to 14'

Sta. 6+00 to Sta. 14+25.07 Ramp A = Sta. -3+52 to Sta. 4+71.18 SD50
* 14'

Sta. 0+00 to Sta. 10+94.49 Ramp A = Sta. -9+51 to Sta. 1+41.76 SD50
** 0'

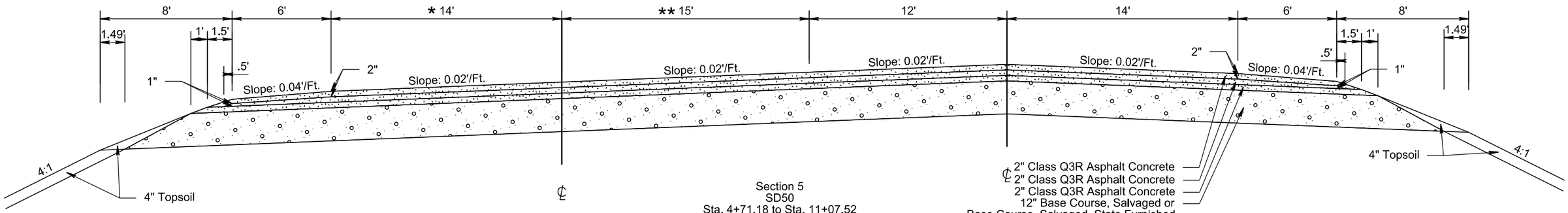
Sta. 10+94.49 to Sta. 12+25.92 Ramp A = Sta. 1+41.76 to Sta. 2+73.8 SD50
** 0' to 3'

Sta. 12+25.92 to Sta. 14+25.07 Ramp A = Sta. 2+73.8 to Sta. 4+71.18 SD50
** 3' to 15'

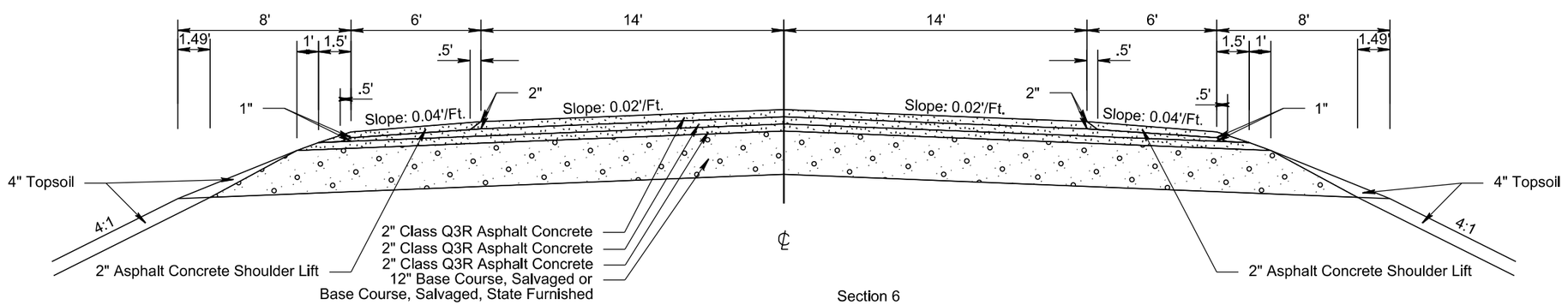
Section 4
Ramp A
Sta. 0+00.00 to Sta. 14+25.07

Section 4
SD50
Sta. -9+51.75 to Sta. 4+71.18

Ramp A Sta. 0+00 = SD 50 Sta. -9+51.75



Section 5
SD50
Sta. 4+71.18 to Sta. 11+07.52
Sta. 41+91.93 to Sta. 72+60.74
SD37
Sta. 459+89.26 to Sta. 478+04.62



Transitions:

Sta. 11+07.52 to Sta. 15+27.52
* 0' to 6'

Sta. 15+27.52 to Sta. 22+27.29
* 6'

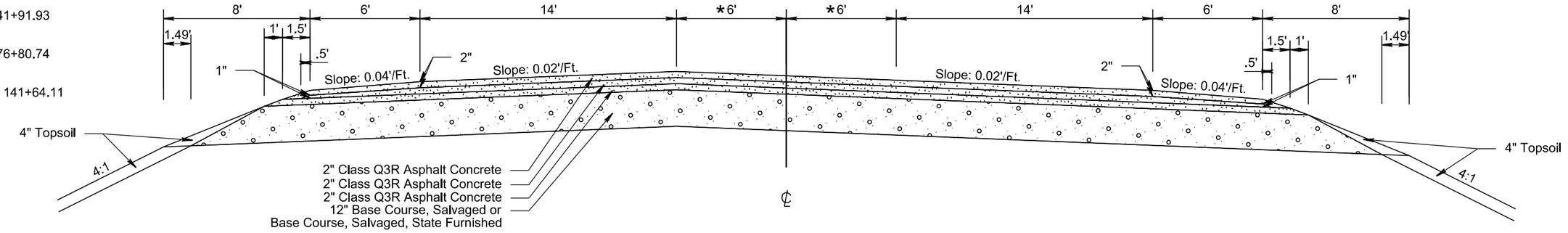
Sta. 30+71.15 to Sta. 37+71.93
* 6'

Sta. 37+71.93 to Sta. 41+91.93
* 6' to 0'

Sta. 72+60.74 to Sta. 76+80.74
* 0' to 6'

Sta. 137+44.11 to Sta. 141+64.11
* 6' to 0'

Section 6
SD50
Sta. 11+07.52 to Sta. 22+27.29
Sta. 30+71.15 to Sta. 41+91.93
Sta. 72+60.74 to Sta. 76+80.74 (Mirrored Typical Section)
Sta. 137+44.11 to Sta. 141+64.11 (Mirrored Typical Section)



PLOT SCALE - 1:6.00001

PLOT NAME - 10

FILE ...\04K7_TYPICAL SECTIONS.DGN

PLOTTED FROM - TRPR15123

TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0050(116)354 P 0037(168)19	F11	F18

Plotting Date: 12/04/2024

Transitions:

Sta. 22+27.29 to Sta. 29+51.46
* 14'

Sta. 29+51.46 to Sta. 30+71.15
* 14' to 2'

Sta. 22+27.29 to Sta. 29+51.46
** 17.5' to 0'

Sta. 29+51.46 to Sta. 30+71.15
** 0'

Section 7
SD50
Sta. 22+27.29 to Sta. 30+71.15

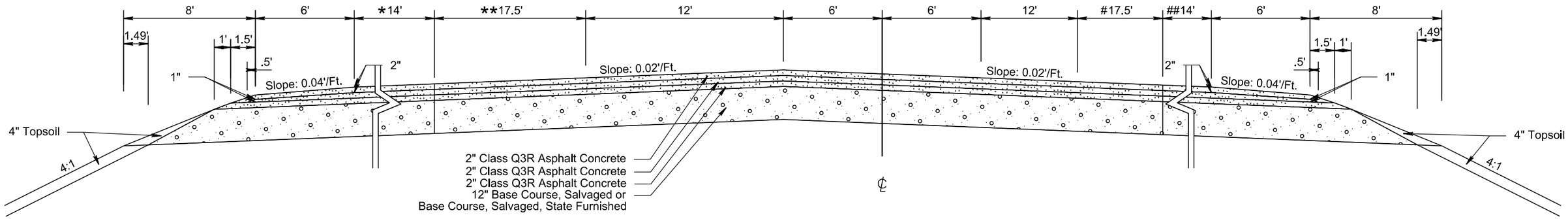
Transitions:

Sta. 22+27.29 to Sta. 23+46.98
0'

Sta. 23+46.98 to Sta. 30+71.15
0' to 17.5'

Sta. 22+27.29 to Sta. 23+46.98
2' to 14'

Sta. 23+46.98 to Sta. 30+71.15
14'



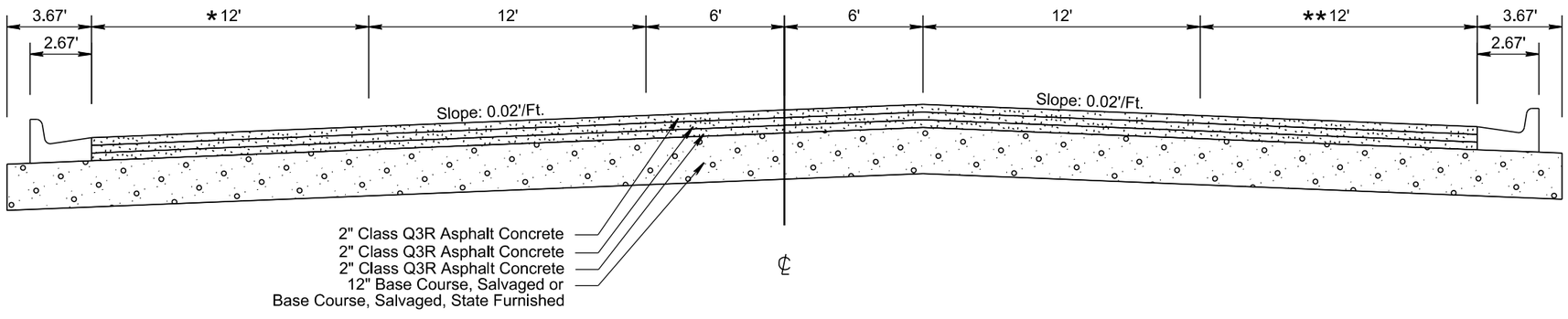
Section 8
SD50
Sta. 76+80.74 to Sta. 137+44.11

Transitions:

Sta. 76+80.74 to Sta. 82+80.74
* 0' to 12'

Sta. 82+80.74 to Sta. 136+24.11
* 12'

Sta. 136+24.11 to Sta. 141+64.11
* 12' to 5.33'



Transitions:

Sta. 76+80.74 to Sta. 78+00.74
** 5.33' to 12'

Sta. 78+00.74 to Sta. 131+44.11
** 12'

Sta. 131+44.11 to Sta. 141+64.11
** 12' to 0'

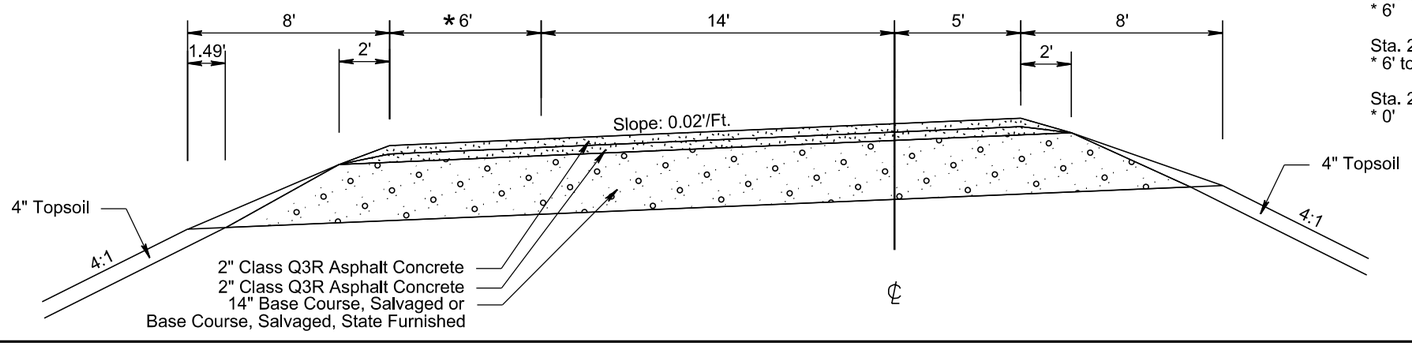
Section 9
Ramp A
Sta. 14+25.07 to Sta. 27+21.33

Transitions:

Sta. 14+25.07 to Sta. 20+07.49
* 6'

Sta. 20+07.49 to Sta. 21+27.49
* 6' to 0'

Sta. 21+27.49 to Sta. 27+21.33
* 0'



PLOT SCALE - 1:6.00001

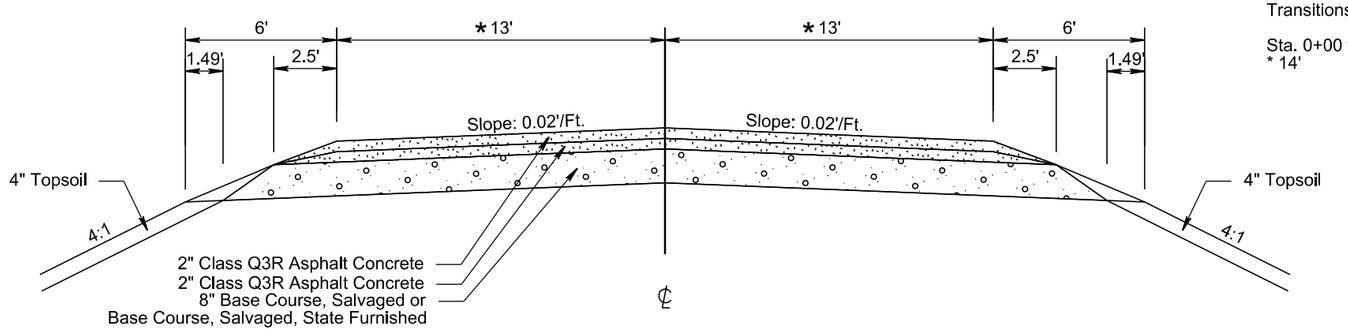
PLOT NAME - 11

FILE - ...\04K7_TYPICAL SECTIONS.DGN

PLOTTED FROM - TRPR15123

TYPICAL SURFACING SECTIONS

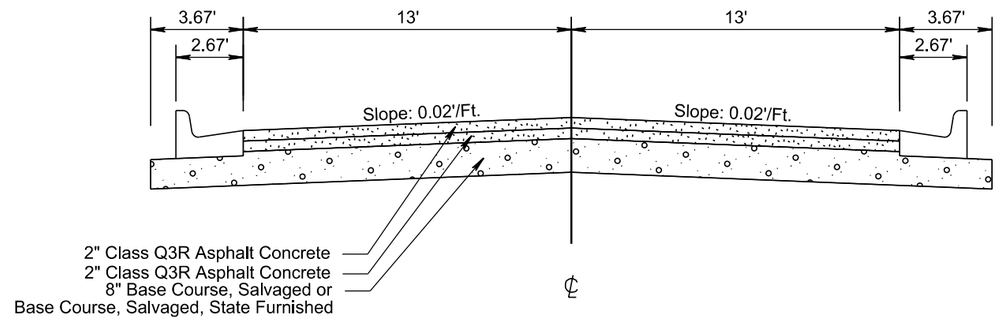
Section 10
415th Ave
Sta. 0+00 to Sta. 6+81.41
Birch Street
Sta. 3+63.71 to Sta. 8+32.95
Sta. 9+99.69 to Sta. 10+69.28
Fir Street
Sta. 4+14.75 to Sta. 4+66.38
Sta. 6+96.25 to Sta. 8+18.11
Main Street
Sta. 0+73.01 to Sta. 4+78.54



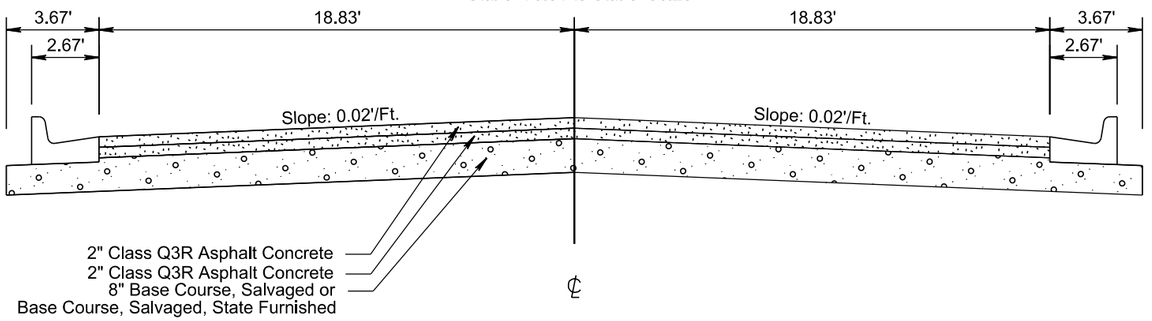
Transitions:

Sta. 0+00 to Sta. 6+81.41 415th Ave
* 14'

Section 11
Birch Street
Sta. 8+32.95 to Sta. 8+87.16
Sta. 9+48.10 to Sta. 9+99.69
Fir Street
Sta. 4+66.38 to Sta. 5+10.50
Main Street
Sta. 4+78.54 to Sta. 5+27.62



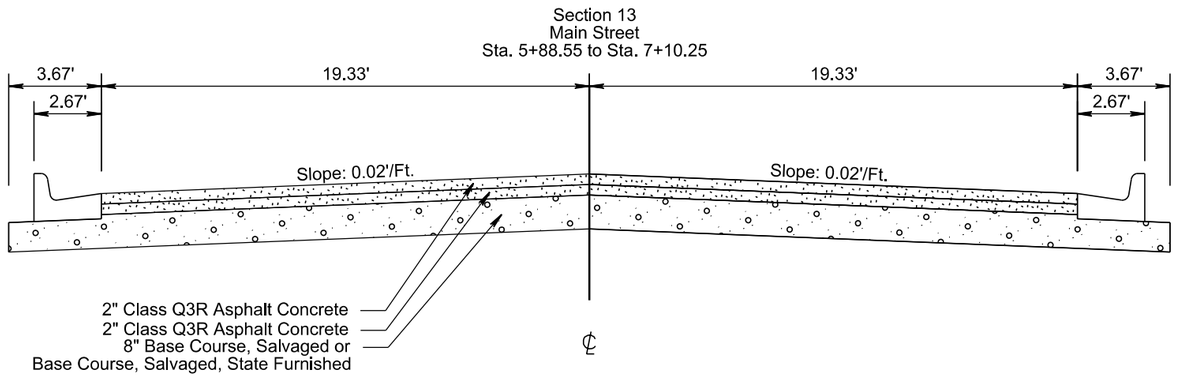
Section 12
Fir Street
Sta. 5+70.51 to Sta. 6+96.25

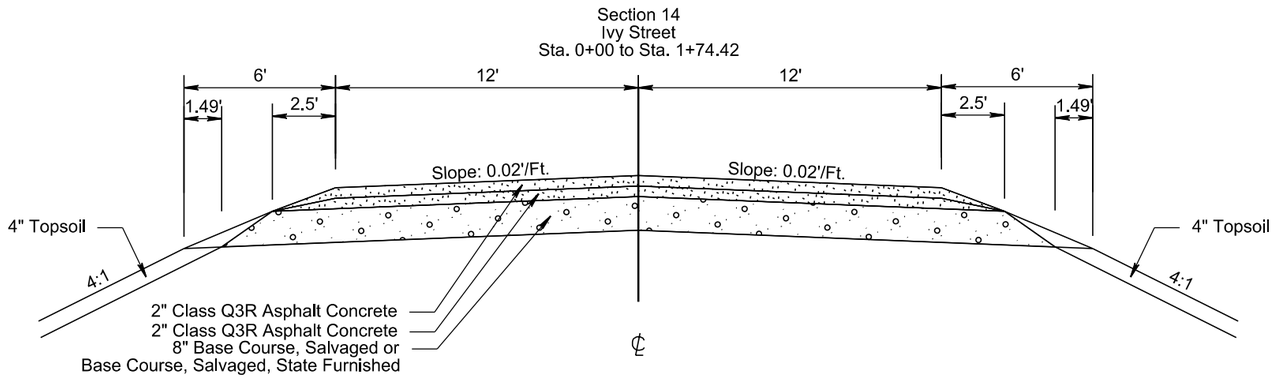


TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0050(116)354 P 0037(168)19	F13	F18

Plotting Date: 12/04/2024





PLOT SCALE - 1:6.00001

PLOTTED FROM - TRPR15123

PLOT NAME - 13

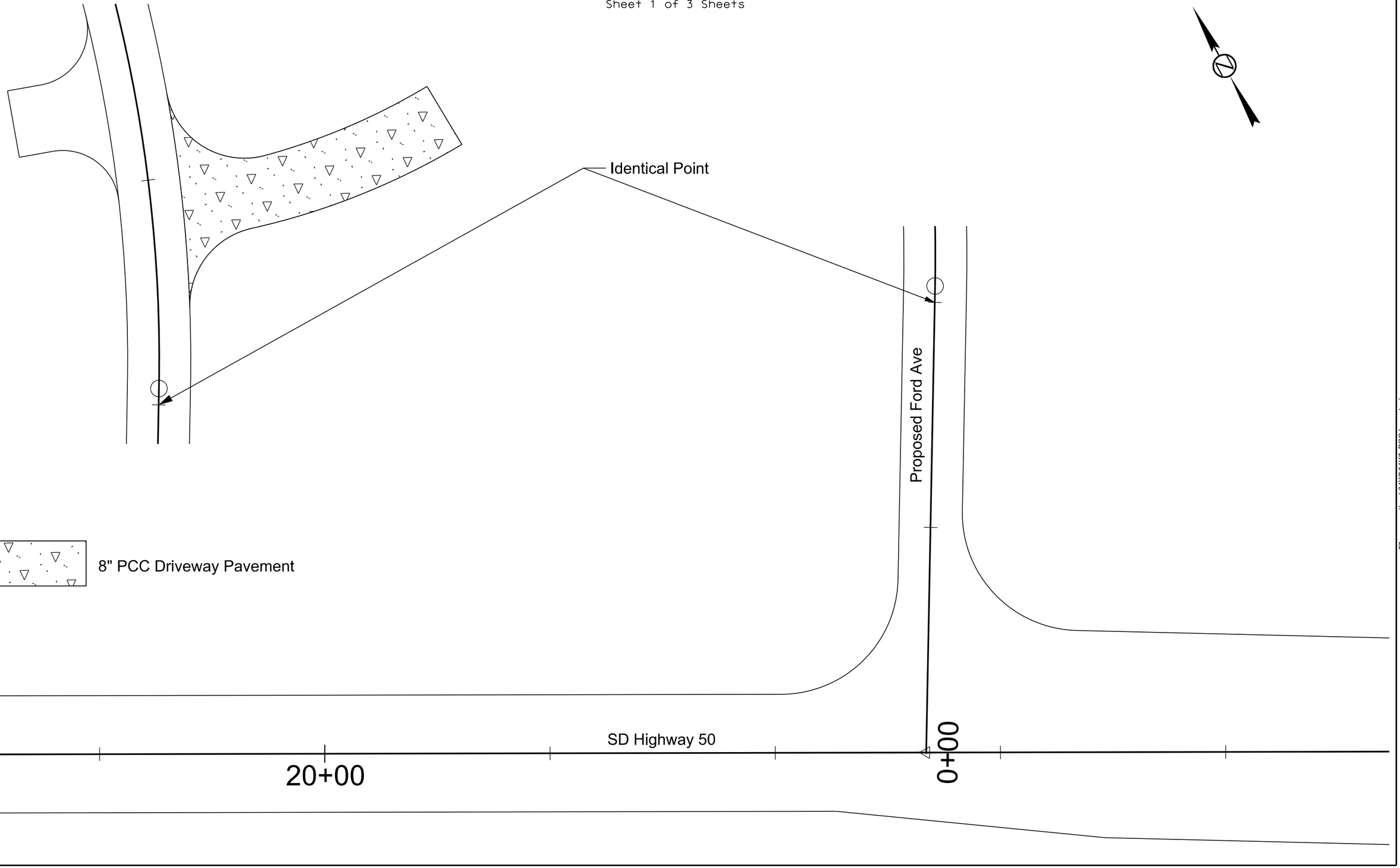
FILE - ...\04K7_TYPICAL SECTIONS.DGN

PCC LAYOUTS

Scale 1 Inch = 40 Feet
Sheet 1 of 3 Sheets

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0050(116)354 P 0037(168)19	F14	F18

Plotting Date: 12/04/2024



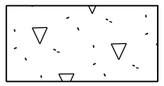
Plot Scale - 1:40
TRPR15123
Plotted From -
File - ...\bonh04K7\04K7_PCC Layouts.dgn

PCC LAYOUTS

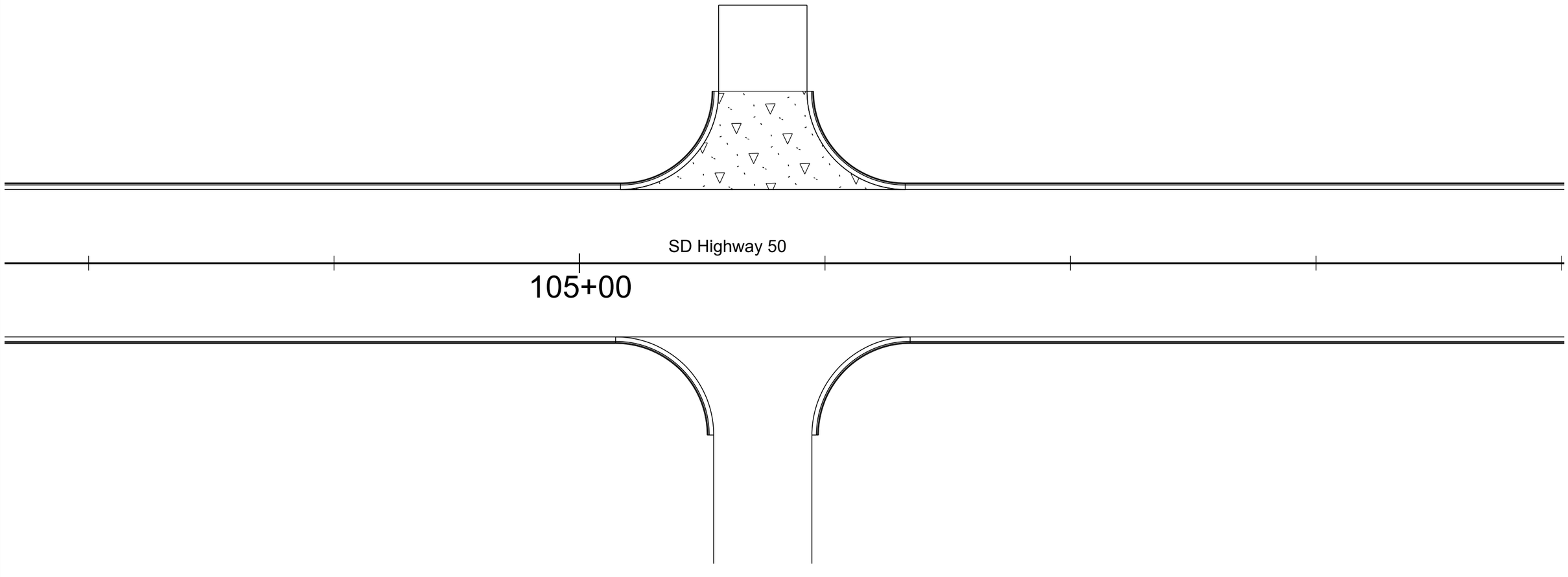
Scale 1 Inch = 40 Feet
Sheet 2 of 3 Sheets

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0050(116)354 P 0037(168)19	F15	F18

Plotting Date: 12/04/2024



8" PCC Driveway Pavement



Plot Scale - 1:40

Plotted From - TRPR15123

File - ...\bonh04K7\04K7_PCC Layouts.dgn

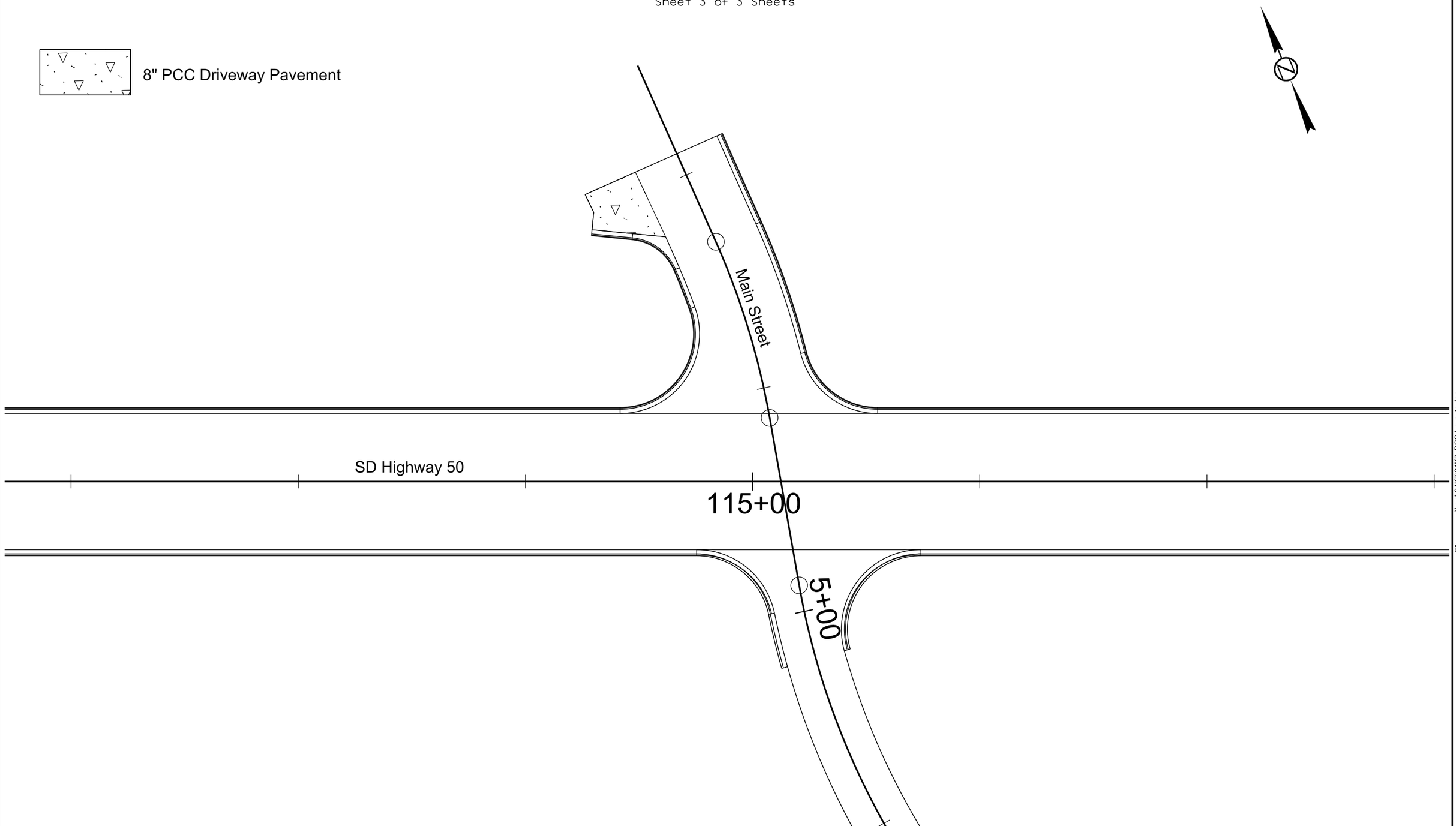
PCC LAYOUTS

Scale 1 Inch = 40 Feet
Sheet 3 of 3 Sheets

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0050(116)354 P 0037(168)19	F16	F18

Plotting Date: 12/04/2024

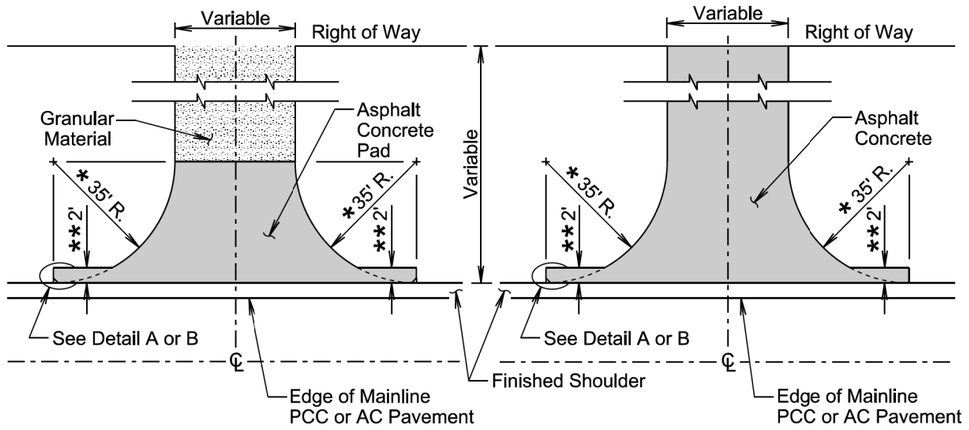
8" PCC Driveway Pavement



Plot Scale - 1:40

Plotted From - TRPR15123

File - ...\bonh04K7\04K7_PCC Layouts.dgn



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:

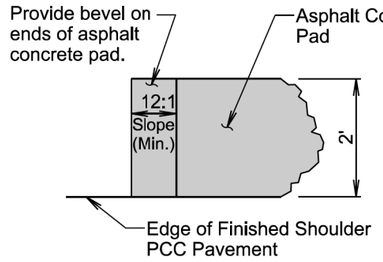
The precise construction limits for situations other than shown above will be determined by the Engineer during construction.

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

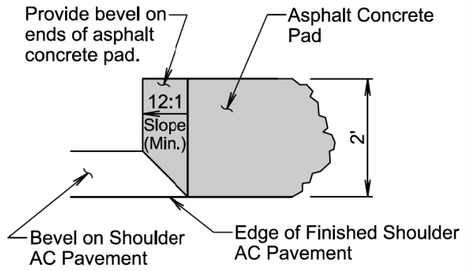
** The Contractor may adjust the screed of the paver during mainline paving operations to provide the 2-foot asphalt concrete pad or the Contractor may provide the 2-foot asphalt concrete pad during paving of the intersecting roads as shown above. The Engineer may eliminate the 2-foot asphalt concrete 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

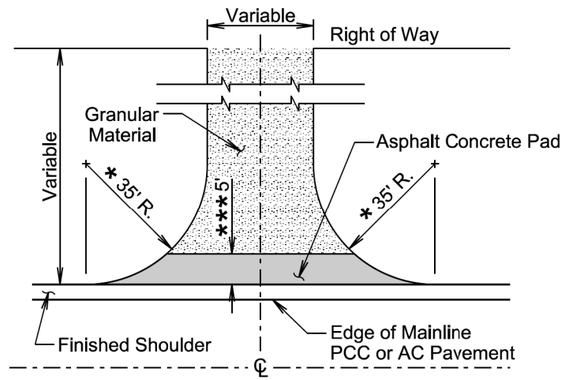
Published Date: 2025	SDDOT	SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (MAINLINE AND SHOULDERS: PCC OR AC PAVEMENT)	PLATE NUMBER 320.04 Sheet 1 of 2



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



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

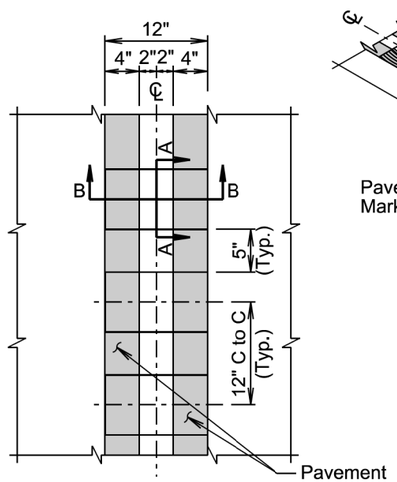


PLAN VIEW
(Entrance)

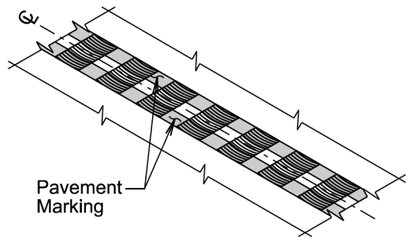
*** Not required if finished shoulder width is 4' or greater.

August 27, 2020

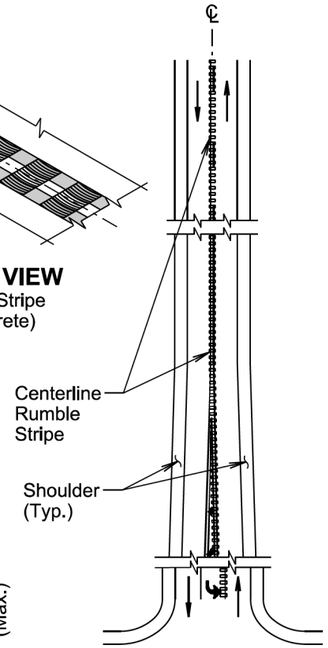
Published Date: 2025	SDDOT	SURFACING OR RESURFACING OF INTERSECTING ROADS AND ENTRANCES (MAINLINE AND SHOULDERS: PCC OR AC PAVEMENT)	PLATE NUMBER 320.04 Sheet 2 of 2



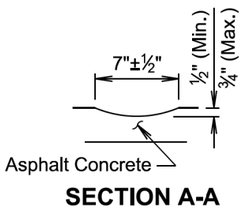
PLAN VIEW
(Typical Rumble Stripe in Asphalt Concrete)



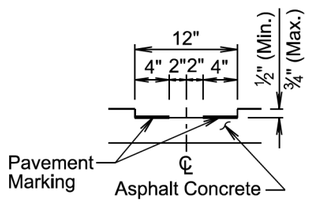
PERSPECTIVE VIEW
(Typical Rumble Stripe in Asphalt Concrete)



PLAN VIEW



SECTION A-A



SECTION B-B

GENERAL NOTES:

A rumble stripe will be constructed on the centerline of the roadway by grinding continuous indentations in the asphalt concrete. The rumble stripe will receive a flush seal or asphalt surface treatment as specified in the plans.

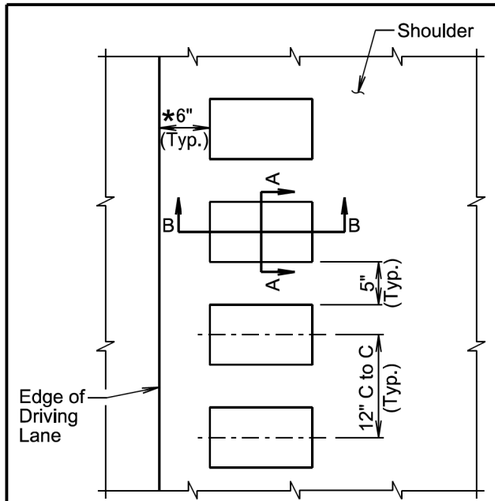
A rumble stripe will not be constructed through intersecting roads, bridge decks, bridge approach slabs, and railroad crossings. The beginning and ending locations of the rumble stripe at intersecting roads, bridge decks, bridge approach slabs, and railroad crossings will be adjusted as approved by the Engineer.

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

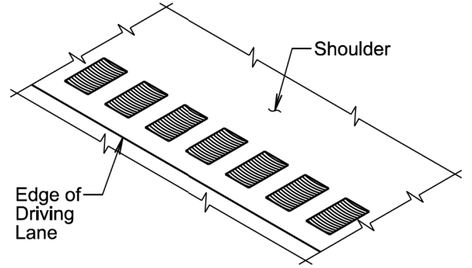
Measurement and payment of the rumble stripe will be to the nearest 0.1 of a mile along the centerline and will include segments without the rumble stripe at intersecting roads, bridge decks, bridge approach slabs, and railroad crossings. Payment for constructing the rumble stripe will be at the contract unit price per mile for "Grind Centerline Rumble Stripe in Asphalt Concrete".

November 19, 2020

Published Date: 2025	SDDOT	12" CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE	PLATE NUMBER 320.18 Sheet 1 of 1

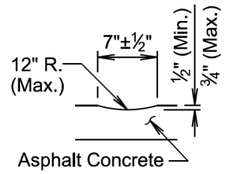


PLAN VIEW
(Typical Rumble Strip in Asphalt Concrete)

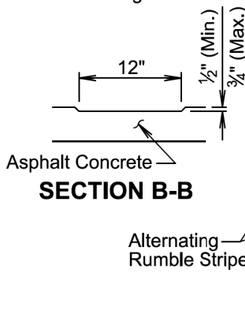


PERSPECTIVE VIEW
(Typical Rumble Strip in Asphalt Concrete)

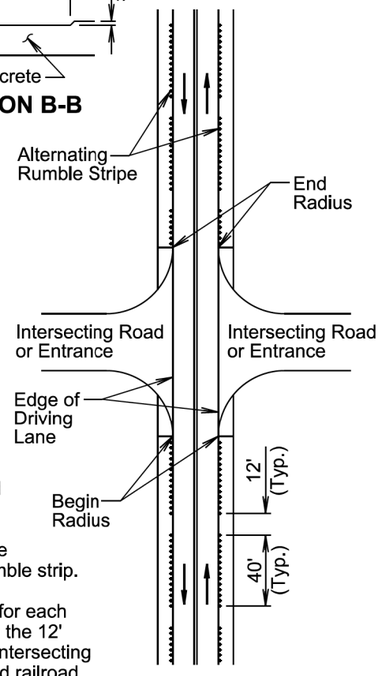
*When PCC pavement width from centerline to edge of pavement is 12', the rumble strip may be placed a maximum of 2' from the edge of the driving lane.



SECTION A-A



SECTION B-B



PLAN VIEW

GENERAL NOTES:

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

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

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

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

September 14, 2019

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