

SECTION F: SURFACING PLANS

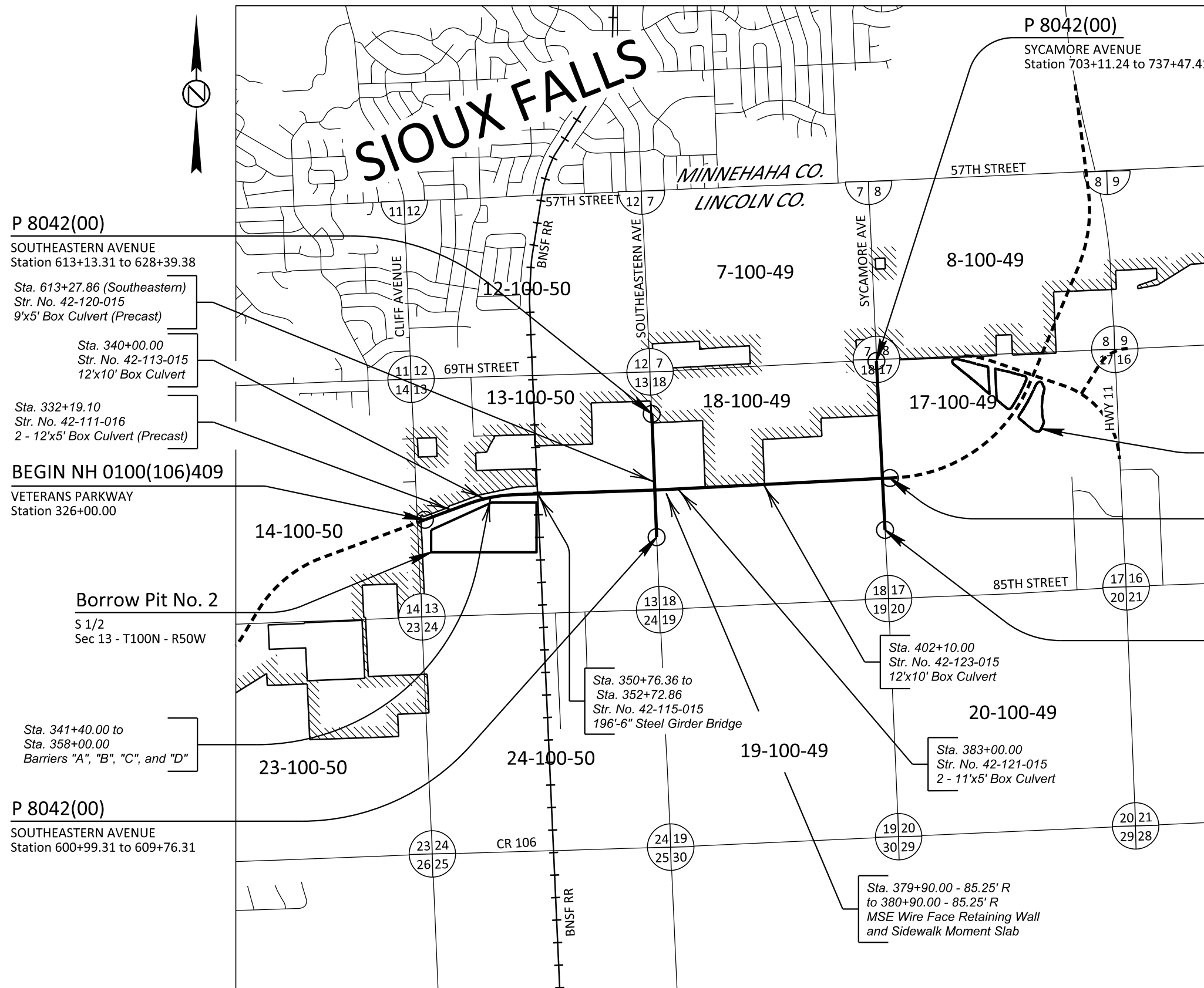
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)		

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PLOT DATE: 10-11-2024
REV DATE:
INITIAL:

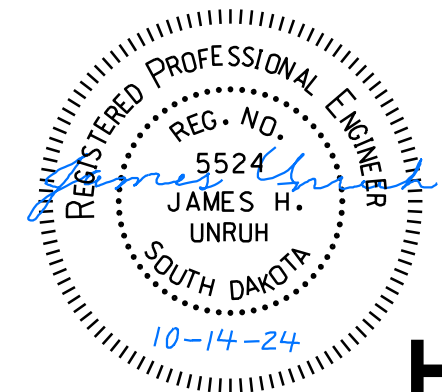
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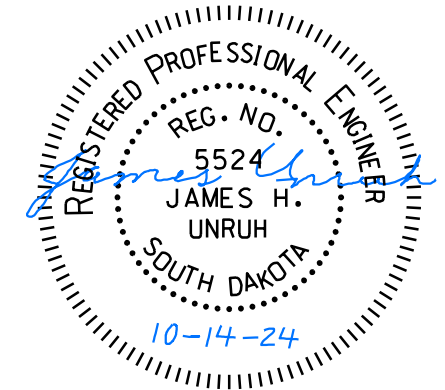
Borrow Pit No. 5
N 1/2
Sec 17 - T100N - R49W
END NH 0100(106)409
VETERANS PARKWAY
Station 430+00.00

P 8042(00)
SYCAMORE AVENUE
Station 699+99.87 to 709+78.23



SECTION F ESTIMATE OF QUANTITIES

Bid Item Number	Item	Quantity				Unit
		PCN 01V7 Veterans	PCN 08DG Southeastern	PCN 08DH Sycamore	Total	
120E6200	Water for Granular Material	603.9	242.5	188.3	1,034.7	MGal
260E1010	Base Course	5,850.0	18,960.4	14,702.2	39,512.6	Ton
260E2010	Gravel Cushion	44,301.8	1,040.4	756.1	46,098.3	Ton
320E0008	PG 64-34 Asphalt Binder	-	269.0	261.8	530.8	Ton
320E1060	Class G Asphalt Concrete	-	4,802.7	4,675.3	9,478.0	Ton
320E1200	Asphalt Concrete Composite	2,545.4	-	-	2,545.4	Ton
320E3000	Compaction Sample	-	3	3	6	Each
330E0100	SS-1h or CSS-1h Asphalt for Tack	-	7.4	6.9	14.3	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	-	3.1	2.9	6.0	Ton
330E2000	Sand for Flush Seal	-	57.7	54.3	112.0	Ton
380E0090	10" Nonreinforced PCC Pavement	95,854.4	-	-	95,854.4	SqYd
380E1070	10" Miscellaneous PCC Pavement	539.4	-	-	539.4	SqYd
380E6000	Dowel Bar	58,663	-	-	58,663	Each
831E0200	Woven Separator Fabric	-	19,417	18,249	37,665	SqYd



SURFCING THICKNESS DIMENSIONS

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

10" NONREINFORCED PCC PAVEMENT

The aggregate may require screening as determined by the Engineer.

The concrete mix will conform to the special provision for Contractor Furnished Mix Design for PCC Pavement.

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

The surface of the Veterans Parkway mainline paving will be longitudinally tined to within 2.5 feet of the face of the curb. All other concrete pavement areas will receive a heavy carpet drag or as otherwise directed by the Engineer.

Unless specified otherwise in the PCC Pavement Joint Layout Sheets or elsewhere in the plans, the typical joint spacing for the 10" Nonreinforced PCC Pavement will be 15'.

See Standard Plate 380.01 for placement of Dowel Bars. The transverse construction joints will be handled in accordance with Standard Plate 380.15.

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

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

PAVEMENT SMOOTHNESS

See the Special Provisions for PI PCC Pavement Smoothness: Non-Overlay.

- 0.0 band – Veterans Parkway mainline through and turning lanes Sta. 326+00 to Sta. 430+00

Other concrete pavement lanes will be tested for smoothness requirements per Section 380.3 O.1 of the Specifications.

POLY-ALPHA METHYLSTYRENE (AMS) MEMBRANE CURING COMPOUND

Provide poly-alpha methylstyrene liquid membrane curing compounds for spray application on Portland Cement Concrete (PCC) surfaces exposed to the air.

The AMS membrane curing compound will conform to section 821 of the Specifications and the following requirements:

1. The AMS membrane curing compound will be successfully reviewed by the Department before use.
2. Meets the requirements of ASTM C 309 for white pigmented Type 2, Class B.
3. The Engineer will not allow the use of curing compound that is over 1 year from the manufacture date.
4. Resin is 100 percent poly-alpha methylstyrene and formulated to maintain the specified properties of the following Table.

REQUIREMENTS FOR AMS MEMBRANE CURING COMPOUND

Properties	Range
Total solids, % by weight of compound	≥ 42
% reflectance in 72 h (ASTM E 1247)	≥ 65
Loss of Water, kg/sq. m in 24 h (AASHTO T 155)	≤ 0.15
Loss of Water, kg/sq. m in 72 h (AASHTO T 155)	≤ 0.40
Settling Test, ml/100 ml in 72 h *	≤ 2
V.O.C. Content, g/L	≤ 350
Infrared Spectrum, vehicle	100% α methylstyrene
*Test in accordance with MNDOT method.	

The application will be in accordance with section 380.3 M plus the following:

Before application, agitate the curing compound as received in the shipping container to obtain a homogenous mixture. Protect membrane curing compounds from freezing before application. Handle and apply the membrane curing compound in accordance with the manufacturer's recommendations.

1. Apply curing compound homogeneously to provide a uniform, solid, white opaque coverage on all exposed concrete surfaces (equal to a white sheet of typing paper) at the time of application.
2. If the Engineer determines that the initial or corrective spraying result in unsatisfactory curing, the Engineer may require the Contractor to use the blanket curing method, at no additional cost to the Department.

POLY-ALPHA METHYLSTYRENE (AMS) MEMBRANE CURING COMPOUND (CONTINUED)

Use the fully-automatic, self-propelled mechanical power sprayer to apply the curing compound:

1. Operate the equipment to direct the curing compound to the surface from two different lateral directions.
2. If puddling, dripping, or non-uniform application occurs, suspend the operation to perform corrections as approved by the Engineer.
3. A re-circulating bypass system that provides for continuous agitation of the reservoir material.
4. Separate filters for the hose and nozzle.
5. Check valve nozzles.
6. Multiple or adjustable nozzle system that provides for variable spray patterns.
7. A spray-bar drive system that operates independently of the wheels or track drive system.

Equipment for hand spraying of odd width or shapes and surfaces exposed by form removal will be:

1. Used from two directions to ensure coverage equal to a white sheet of typing paper as visible from any direction.
2. A re-circulating bypass system that provides for continuous agitation of the reservoir material.
3. Separate filters for the hose and nozzle.
4. Multiple or adjustable nozzle system that provides for variable spray patterns.

A recommended practice for using AMS membrane curing compound is to clean out the sprayer including tank and nozzles each day after use.

Payment for AMS membrane curing compound, including labor, materials and incidentals will be incidental to the contract unit price per square yard for 8.5", 9" or 10" Nonreinforced PCC Pavement.

10" MISCELLANEOUS PCC PAVEMENT

The large radius turning areas will be constructed as shown on the "Special Steel Bar Reinforcement Detail for Large Radius Turning Areas" detail. The cost to construct these areas as designated in the plans will be at the contract unit price per square yard for 10" Miscellaneous PCC Pavement. The curb and gutter section adjacent to this pavement is paid for separately.

The concrete used will be in accordance with the requirements stated under the notes for Nonreinforced PCC Pavement.

WATER FOR GRANULAR MATERIAL

Water for granular material compaction is estimated at 12 gallons per ton and will be paid for at the contract unit price per thousand gallons for "Water for Granular Material".

CLASS G ASPHALT CONCRETE

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

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 G will apply.

FLUSH SEAL

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

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

SAND FOR FLUSH SEAL

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

ALKALI SILICA REACTIVITY

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

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

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

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

** These sources will not be used.

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

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

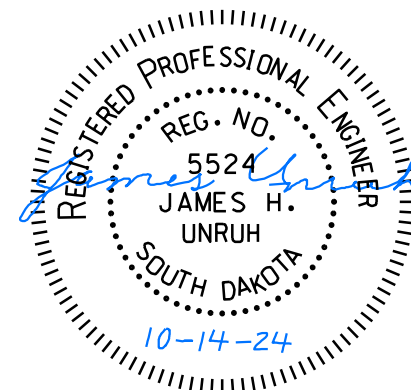


TABLE OF 10" NON-REINFORCED PCC PAVEMENT								
Station	to Station	L/R	Location	Width (ft)	Quantity (SqYd)	¹ Gravel Cushion (Tons)	Water (Mgal)	² Dowel Bars (each)
01V7 Veterans Parkway								
326+00	341+40	L	WB Lanes	36'-72'	7,743.9	3,239.0	38.9	4,739
		R	EB Lanes	36'	6,144.0	2,700.0	32.4	3,760
341+40	350+55	L	WB Lanes	40'	4,088.4	1,753.0	21.0	2,502
		R	EB Lanes	40'	4,057.6	1,740.0	20.9	2,483
352+94	358+00	L	WB Lanes	40'	2,254.5	966.0	11.6	1,380
		R	EB Lanes	40'	2,254.5	966.0	11.6	1,380
358+00	376+66	L	WB Lanes	36'	7,464.0	3,279.0	39.3	4,568
		R	EB Lanes	36'-72'	9,448.2	3,944.0	47.3	5,782
376+66	379+14	L/R	Southeastern Intersection	varies	5,363.3	1,974.0	23.7	3,282
379+14	427+16	L	WB Lanes	36'-72'	20,985.6	9,039.0	108.5	12,843
		R	EB Lanes	36'-72'	20,828.1	8,986.0	107.8	12,747
427+16	429+36	L/R	Sycamore Ave Intersection	varies	4,458.7	1,667.0	20.0	2,729
429+36	430+00	L	WB Lanes	72'	509.1	197.0	2.4	312
		R	EB Lanes	36'	254.5	112.0	1.3	156
Total Veterans Parkway					95,854.4	40,562.0	486.7	58,663
¹ Includes gravel cushion under adjacent curb and gutter								
² Use maximum 15' joint spacing								

SUMMARY TABLE OF WATER FOR GRANULAR MATERIAL			
Location	Water (MGal)		
	01V7 Veterans Parkway	08DG Southeastern Ave	08DH Sycamore Ave
10" Non-Reinforced PCC Pavemnt	486.7		
10" Miscellaneous PCC Pavement	2.2		
Medians	45.0	13.0	8.0
Base course under medians	12.3		
Under Asphalt	57.7	227.5	176.3
Driveways, Approaches		2.0	4.0
Total Water Required	603.9	242.5	188.3

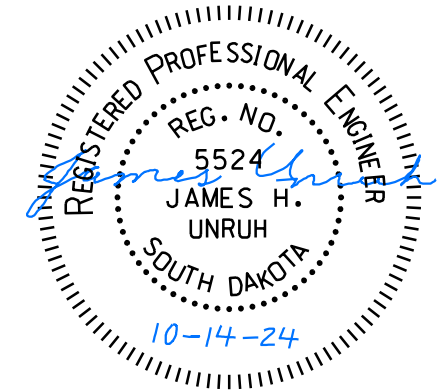


TABLE OF 10" MISCELLANEOUS PCC PAVEMENT				
L/R	Location	Quantity (SqYd)	Gravel Cushion (Tons)	Water (Mgal)
01V7 Veterans Parkway				
L	Southeastern Ave NW quadrant	89.4	29.9	0.4
L	Southeastern Ave NE quadrant	48.2	16.1	0.2
R	Southeastern Ave SW quadrant	46.0	15.4	0.2
R	Southeastern Ave SE quadrant	86.1	28.8	0.3
L	Sycamore Ave NW quadrant	87.2	29.2	0.3
L	Sycamore Ave NE quadrant	46.7	15.6	0.2
R	Sycamore Ave SW quadrant	47.5	15.9	0.2
R	Sycamore Ave SE quadrant	88.2	29.5	0.4
Total 01V7 Veterans Parkway		539.4	180.3	2.2

TABLE OF GRAVEL SURFACING					
Driveways, Approaches					
Station to	Station	L/R	Width (ft)	Gravel Cushion (Tons)	Water (MGal)
08DG Southeastern Avenue					
601+18	601+28	L	10'	29.4	1.0
604+08	604+18	R	10'	12.8	1.0
Total 08DG Southeastern Avenue				42.2	2.0
08DH Sycamore Avenue					
702+31	702+43	L	varies	32.5	1.0
716+50	716+80	R	varies	32.6	1.0
722+07	722+17	L	10'	24.0	1.0
722+55	722+67	R	10'	27.8	1.0
Total 08DH Sycamore Avenue				116.8	4.0

TABLE OF ADDITIONAL GRAVEL CUSHION					
Under Medians					
Station to	Station	L/R	Width (ft)	Gravel Cushion (Tons)	Water (MGal)
01V7 Veterans Parkway					
329+83	339+02	R/L	varies	535.2	7.0
360+12	371+87	R/L	varies	683.7	9.0
383+22	423+47	R/L	varies	2,340.6	29.0
Total Veterans Parkway				3,559.5	45.0
08DG Southeastern Avenue					
600+99	609+76	L/R	varies	284.7	4.0
613+13	620+00	L/R	varies	329.0	4.0
620+00	628+39	L/R	varies	384.6	5.0
Total 08DG Southeastern Avenue				998.2	13.0
08DH Sycamore Avenue					
700+00	709+78	R/L	varies	331.4	4.0
713+11	718+90	R/L	varies	307.8	4.0
Total 08DH Sycamore Avenue				639.3	8.0

Location	Gravel Cushion* (Ton)		
	01V7 Veterans Parkway	08DG Southeastern Ave	08DH Sycamore Ave
10" Non-Reinforced PCC Pavement	40,562.0		
10" Miscellaneous PCC Pavement	180.3		
Driveways, Approaches		42.2	116.8
Medians	3,559.5	998.2	639.3
Total Gravel Cushion Required	44,301.8	1,040.4	756.1

*Granular cushion material required for the concrete sidewalk is incidental to the concrete sidewalk bid item.

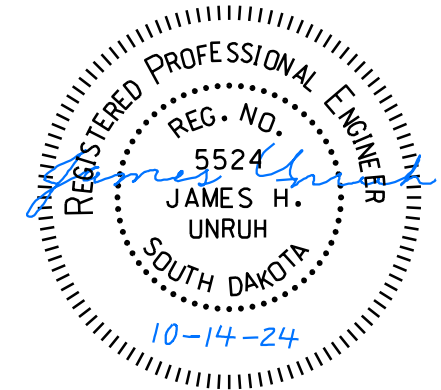


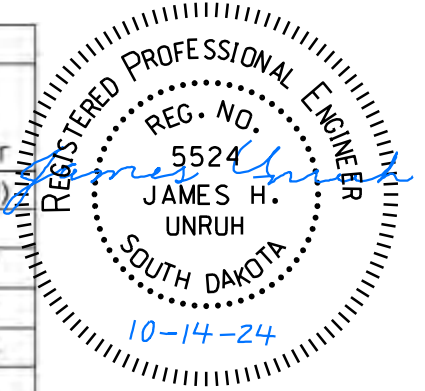
TABLE OF BASE COURSE UNDER MEDIANS QUANTITIES							
Location	Location	L/R	Width (Feet)	Area (sq ft)	Base Course (in)	Base Course (Tons)	Water (Mgal)
01V7 Veterans Parkway							
326+00 to 329+83	Median	R	2.67	1,196	14	129.8	1.6
339+02 to 341+40	Median	L/R	varies	1,880	14	204.0	2.4
358+00 to 360+12	Median	L/R	varies	1,679	14	182.2	2.2
371+87 to 376+66	Median	L	2.67	1,451	14	157.4	1.9
377+77	Median	R	2.67	189	14	20.5	0.2
377+97	Median	L	2.67	189	14	20.5	0.2
379+10 to 383+22	Median	R	2.67	1,275	14	138.3	1.7
423+47 to 427+17	Median	L	2.67	1,161	14	126.0	1.5
428+21	Median	R	2.67	180	14	19.5	0.2
428+33	Median	L	2.67	180	14	19.5	0.2
429+36 to 430+00	Median	R	2.67	170	14	18.4	0.2
Total 01V7 Veterans Parkway						1,036.2	12.3

Location	Base Course (Ton)		
	01V7 Veterans Parkway	08DG Southeastern Ave	08DH Sycamore Ave
Shared Use Path & Lanes	4,813.8	18,960.4	14,702.2
Medians	1,036.2	-	-
Total Base Course Required	5,850.0	18,960.4	14,702.2

TABLE OF ASPHALT AND BASE COURSE QUANTITIES

Location	Location	L/R	Width (Feet)	Area (sq ft)	Asphalt Depth (In)	Number of lifts (#)	¹ Base Course (in)	Asphalt Concrete Composite (Tons)	Class G Asphalt Concrete (Tons)	² PG 64-34 Asphalt Binder (Tons)	³ SS-1h or CSS- 1h Asphalt for Tack (Tons)	⁴ SS-1h or CSS- 1h Asphalt for Flush Seal (Tons)	⁵ Sand for Flush Seal (Tons)	¹ Base Course (Tons)	Water (Mgal)
01V7 Veterans Parkway															
326+00 to 350+65	Bike Path	R	10	24,540	4	2	6	605.3	-	-	-	-	-	1,141.1	13.7
337+56 to 340+05	Bike Path Loop	R	10	2,655	4	2	6	65.5	-	-	-	-	-	123.5	1.5
352+84 to 376+95	Bike Path	R	10	24,213	4	2	6	597.3	-	-	-	-	-	1,125.9	13.5
378+74 to 379+90	Bike Path	R	10	1,152	4	2	6	28.4	-	-	-	-	-	53.6	0.6
380+90 to 427+45	Bike Path	R	10	46,584	4	2	6	1,149.1	-	-	-	-	-	2,166.1	26.0
402+06 to 405+00	Bike Path Loop	R	10	3,058	4	2	6	75.4	-	-	-	-	-	142.2	1.7
429+00 to 430+00	Bike Path	R	10	991	4	2	8	24.4	-	-	-	-	-	61.4	0.7
Total 01V7 Veterans Parkway								2,545.4	0.0	0.0	0.0	0.0	0.0	4,813.8	57.7
08DG Southeastern Avenue															
600+99 to 603+85	South End Transistion	L/R	Varies	12,828	6	3	14	-	474.6	26.6	0.7	0.3	5.7	1,391.8	16.7
603+85 to 609+76	NB Lanes	L/R	Varies	19,992	6	3	14	-	739.7	41.4	1.1	0.5	8.9	2,875.7	34.5
603+85 to 609+76	SB Lanes	L	Varies	13,318	6	3	14	-	492.8	27.6	0.8	0.3	5.9	2,150.4	25.8
613+13 to 628+39	NB Lanes	L/R	Varies	40,772	6	3	14	-	1,508.6	84.5	2.3	1.0	18.1	6,160.3	73.9
613+13 to 628+39	SB Lanes	L/R	Varies	42,894	6	3	14	-	1,587.1	88.9	2.4	1.0	19.1	6,382.2	76.6
Total 08DG Southeastern Avenue								0.0	4,802.7	269.0	7.4	3.1	57.7	18,960.4	227.5
08DH Sycamore Avenue															
700+00 to 703+00	South End Transistion	L/R	Varies	14,161	6	3	12	-	524.0	29.3	0.8	0.3	6.3	1,317.0	15.8
703+00 to 709+78	NB Lanes	L/R	Varies	17,223	6	3	12	-	637.3	35.7	1.0	0.4	7.7	2,295.8	27.6
703+00 to 709+78	SB Lanes	L	Varies	15,242	6	3	12	-	564.0	31.6	0.9	0.4	6.8	2,111.6	25.3
713+11 to 718+90	NB Lanes	R	Varies	12,758	6	3	12	-	472.0	26.4	0.7	0.3	5.7	1,681.6	20.2
713+11 to 718+90	SB Lanes	L/R	Varies	13,747	6	3	12	-	508.6	28.5	0.8	0.3	6.1	1,773.6	21.3
718+90 to 737+47	Two Lane Section	L/R	Varies	49,132	6	3	12	-	1,969.4	110.3	2.8	1.2	21.8	5,522.5	66.3
Total 08DH Sycamore Avenue								0.0	4,675.3	261.8	6.9	2.9	54.3	14,702.2	176.3

¹ Includes base course under adjacent curb and gutter (08DG, 08DH)
² 5.60% of total mixture weight
³ 0.06 gallons per square yard of final surface @ 8.5 pounds per gallon
⁴ 0.05 gallons per square yard of final surface @ 8.5 pounds per gallon
⁵ 8.00 pounds per square yard of flushed surface



TYPICAL SURFACING SECTIONS

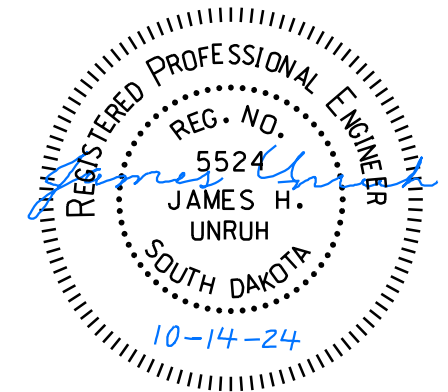
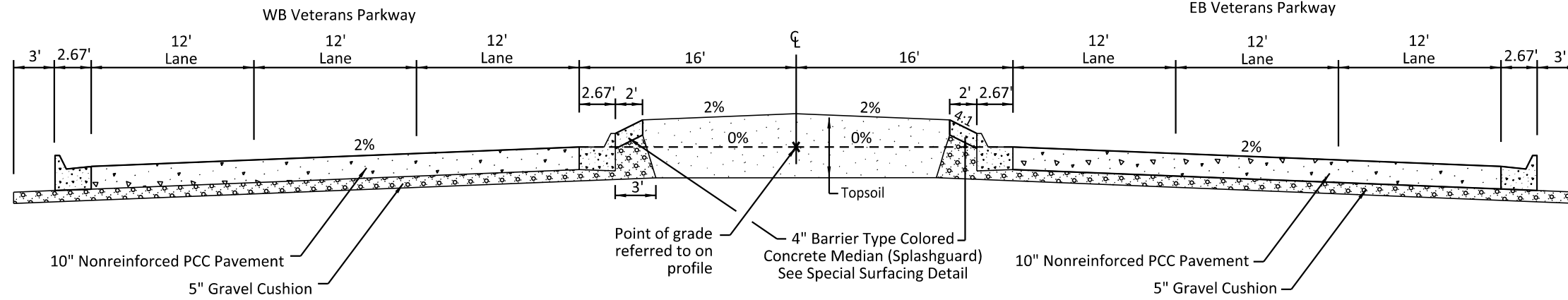
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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)		

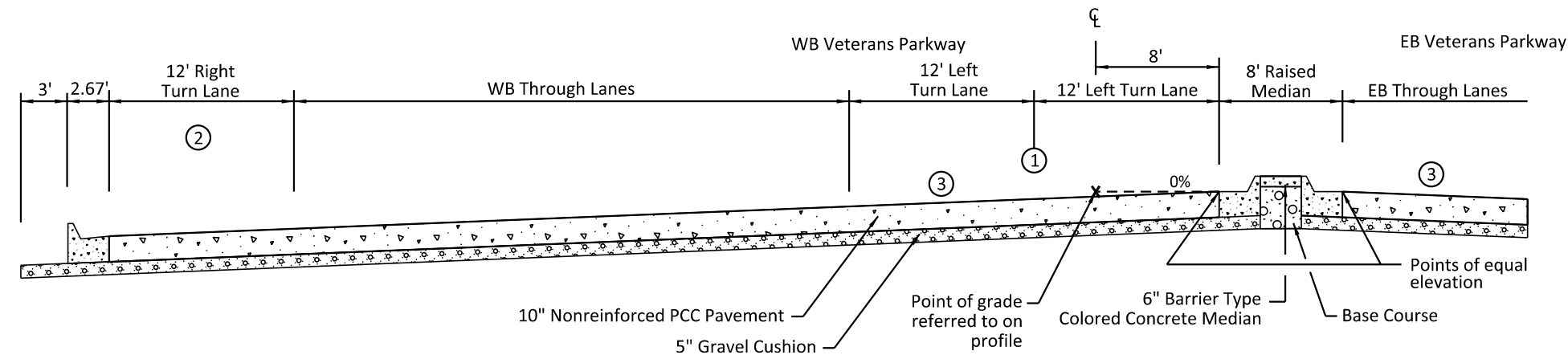
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PLOT DATE: 10-11-2024

REV DATE:
INITIAL:

Veterans Parkway
326+00.00 to 430+00.00

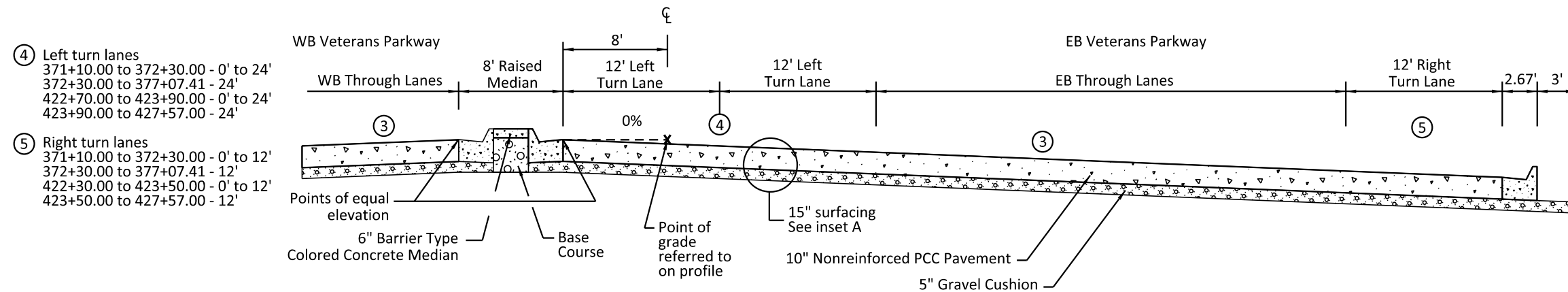


WB Turn Lanes



- ① Left turn lanes
326+00.00 to 329+40.00 - 24'
329+40.00 to 330+60.00 - 24' to 0'
378+78.85 to 382+80.00 - 24'
382+80.00 to 384+00.00 - 24' to 0'
428+96.37 to 430.00.00 - 24'
- ② Right turn lanes
326+00.00 to 329+15.00 - 12'
329+15.00 to 330+35.00 - 12' to 0'
378+78.85 to 383+10.00 - 12'
383+10.00 to 384+30.00 - 12' to 0'
429+11.75 to 430+00.00 - 12'
- ③ See Superelevation Table and Pavement Slope Layout Sheets for Superelevation Rates and Transitions

EB Turn Lanes



- ④ Left turn lanes
371+10.00 to 372+30.00 - 0' to 24'
372+30.00 to 377+07.41 - 24'
422+70.00 to 423+90.00 - 0' to 24'
423+90.00 to 427+57.00 - 24'
- ⑤ Right turn lanes
371+10.00 to 372+30.00 - 0' to 12'
372+30.00 to 377+07.41 - 12'
422+30.00 to 423+50.00 - 0' to 12'
423+50.00 to 427+57.00 - 12'



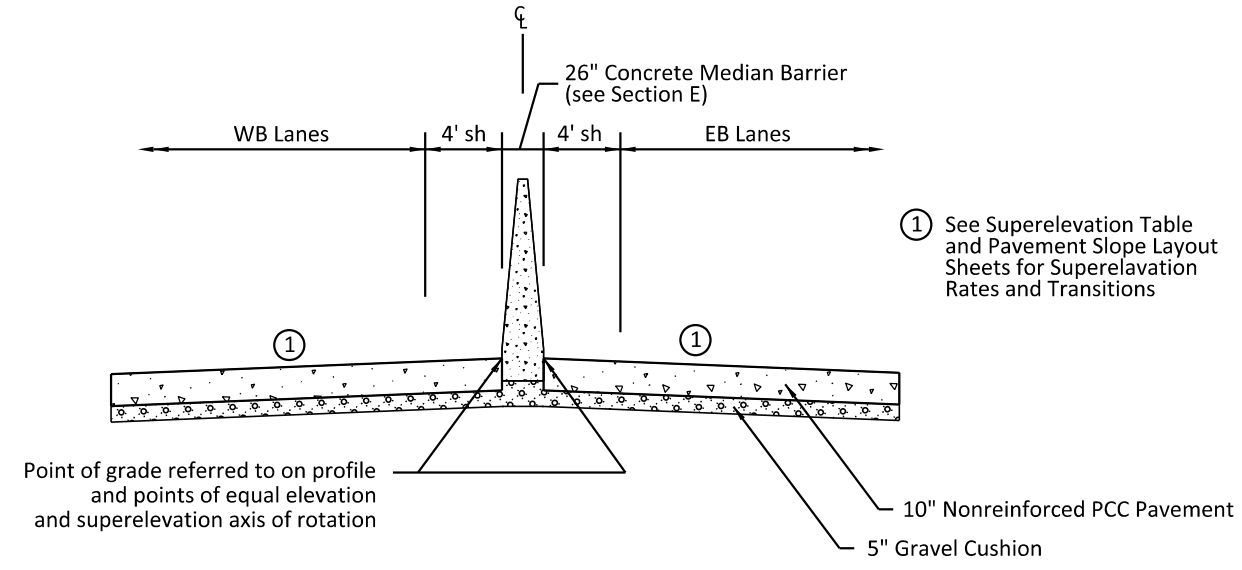
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F8	F43

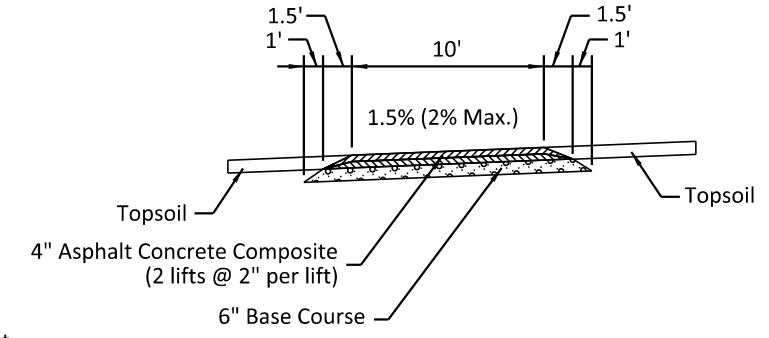
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TYPICAL SURFACING SECTIONS

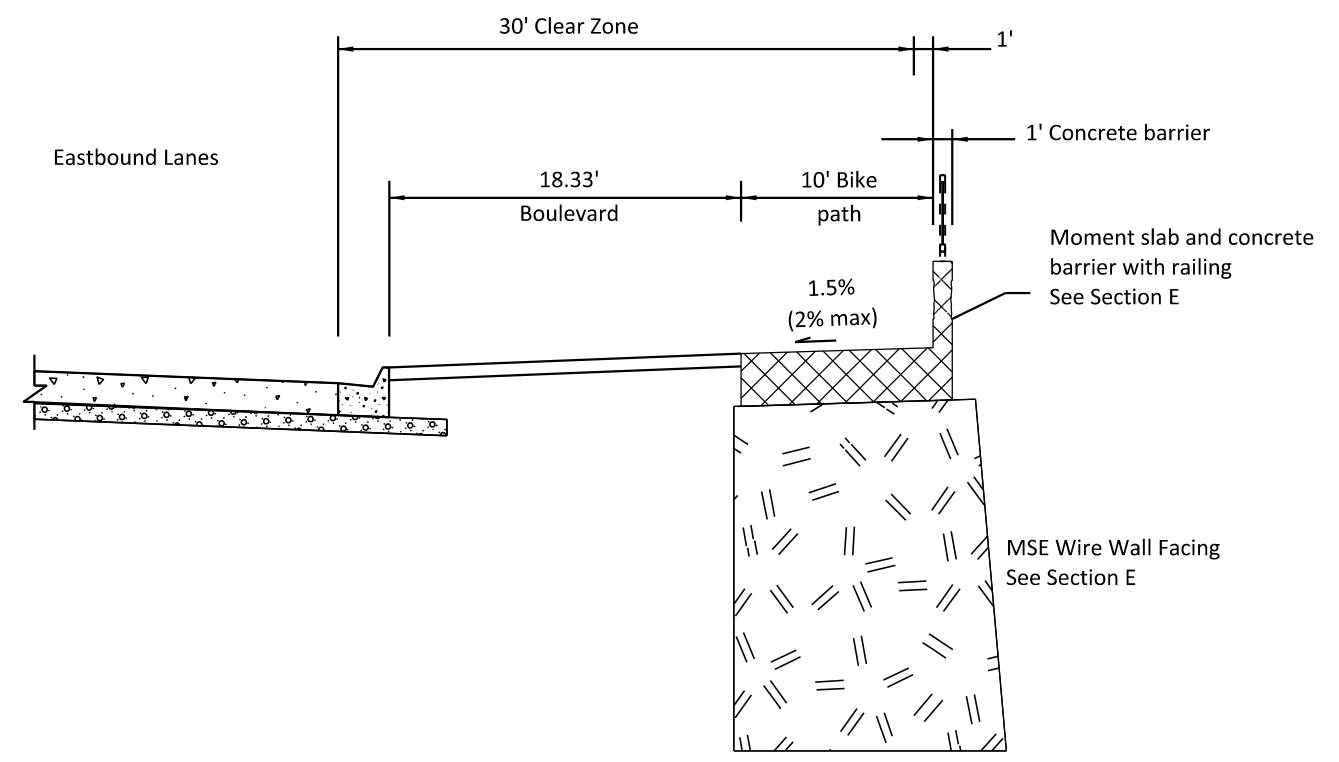
Concrete Median Barrier
 341+40 to 350+54.86 (bridge approach panel)
 & 352+94.36 (bridge approach panel) to 358+00



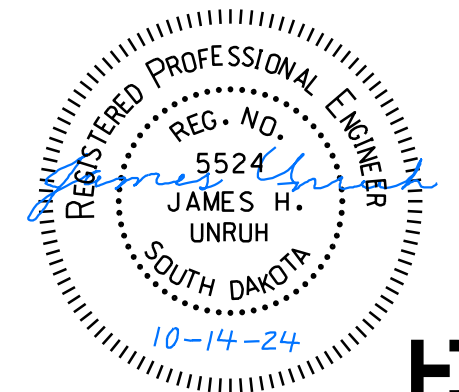
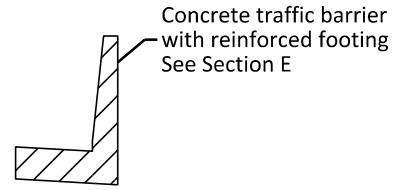
Bike Path
 326+00 to 379+90
 380+90 to 430+00



Veterans Parkway Sidewalk Moment Slab and MSE Retaining Wall A
 379+90.00 to 380+90.00



Veterans Parkway Concrete Barrier
 EB: 348+31.70 to 350+54.86
 WB: 352+94.36 to 355+17.53



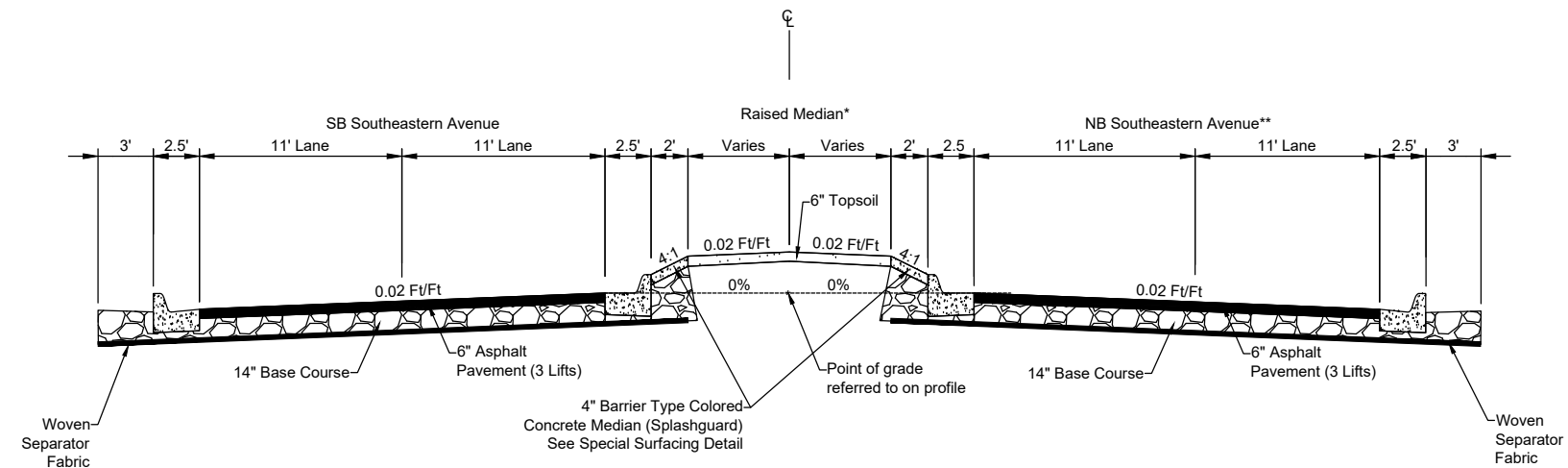
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F9	F43

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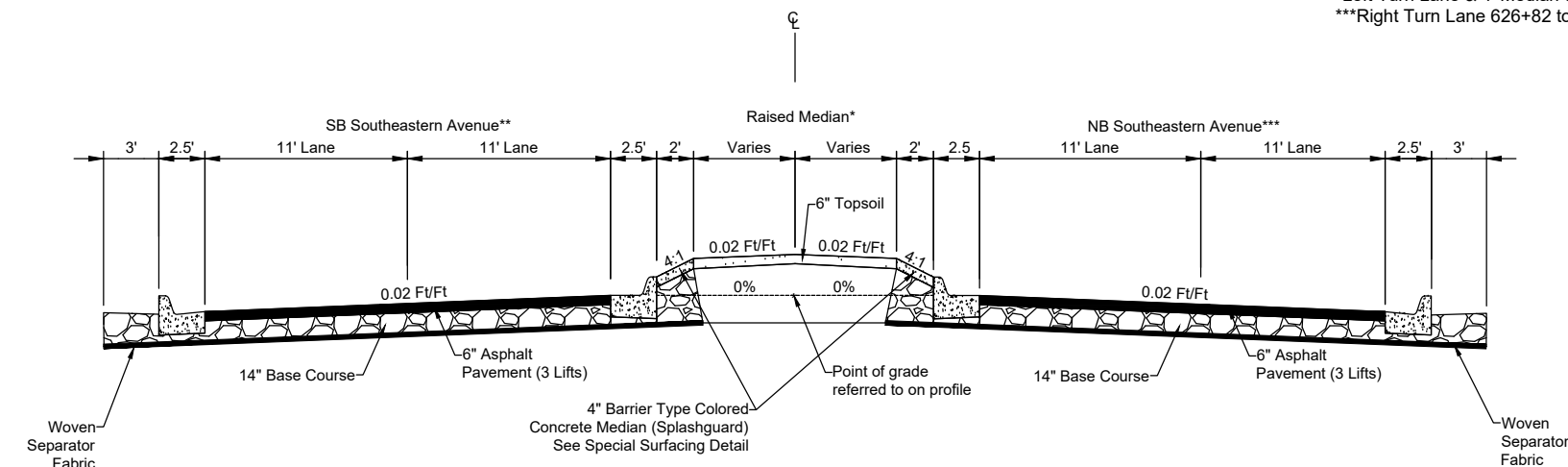
**Southeastern
 Station 603+85 to 609+76**

- NOTES**
 *Left Turn Lane Taper 606+64 to 607+84
 *11' Dual Left Turn Lanes & 4' Median 607+84 to 609+76
 **Right Turn Lane Taper 607+84 to 609+04
 **Right Turn Lane 609+04 to 609+76



**Southeastern
 Station 613+13 to 627+92**

- NOTES**
 *11' Dual Left Turn Lanes & 4' Median 613+13 to 614+31
 **Right Turn Lane 613+13 to 615+05
 ***U-Turn Taper 613+13 to 613+93
 *Left Turn Lane Taper 614+31 to 615+51
 **Right Turn Lane Taper 615+05 to 616+25
 *Left Turn Lane Taper 625+22 to 626+42
 ***Right Turn Lane Taper 625+62 to 626+82
 *Left Turn Lane & 4' Median 626+42 to 627+92
 ***Right Turn Lane 626+82 to 627+92



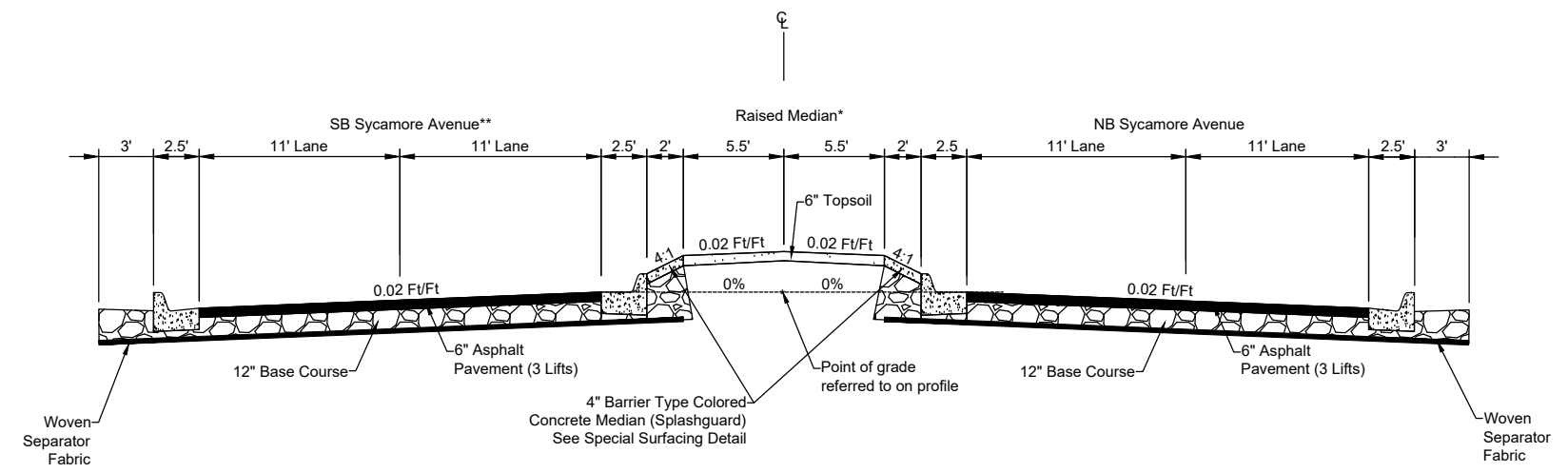
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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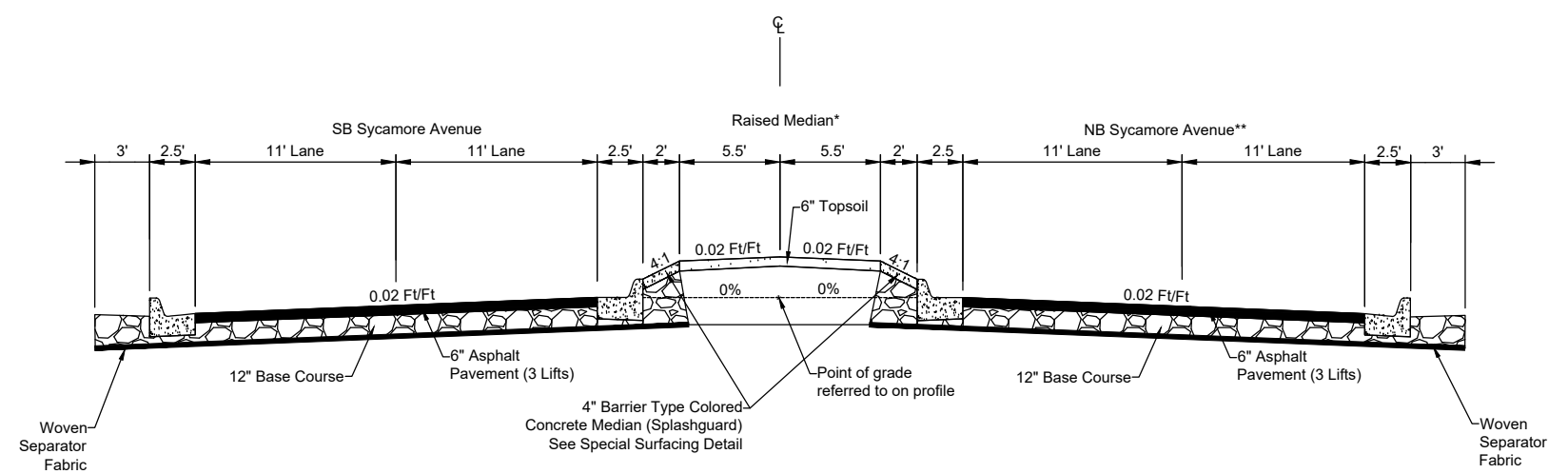
Sycamore
 Station 703+00 to 709+78

NOTES
 *Left Turn Lane Taper 707+09 to 708+29
 *11' Left Turn Lanes & 4' Median 708+29 to 709+78
 **U-Turn Lane Taper 708+98 to 709+78



Sycamore
 Station 713+11 to 717+00

NOTES
 *11' Left Turn Lane & 4' Median 713+11 to 713+70
 **U-Turn Taper 713+11 to 713+91
 *Left Turn Lane Taper 713+70 to 714+90

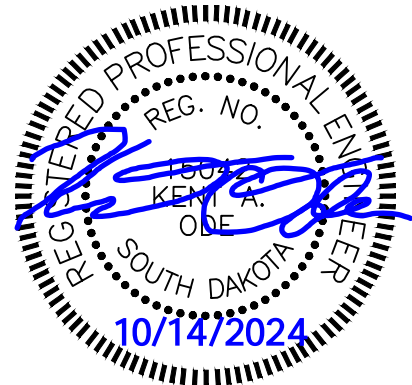
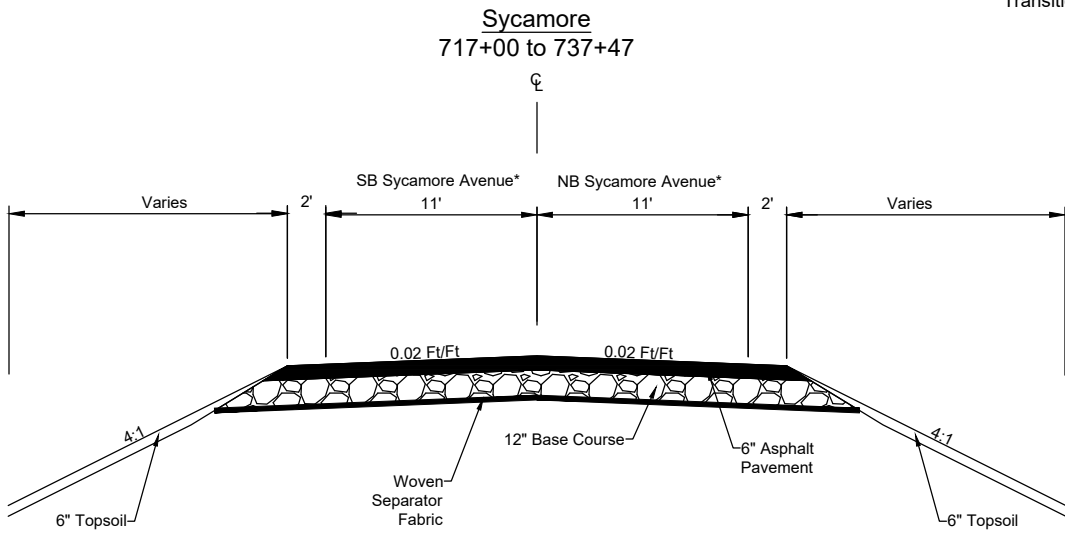


FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F11	F43

FILE: TYPICAL SECTIONS_CIP_6.7
 PLOTTING DATE: 10/10/2024
 REV DATE:
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NOTES
 *Transition from full section 717+00 to 720+00
 *Transition into existing roadway form 736+47 to 737+47



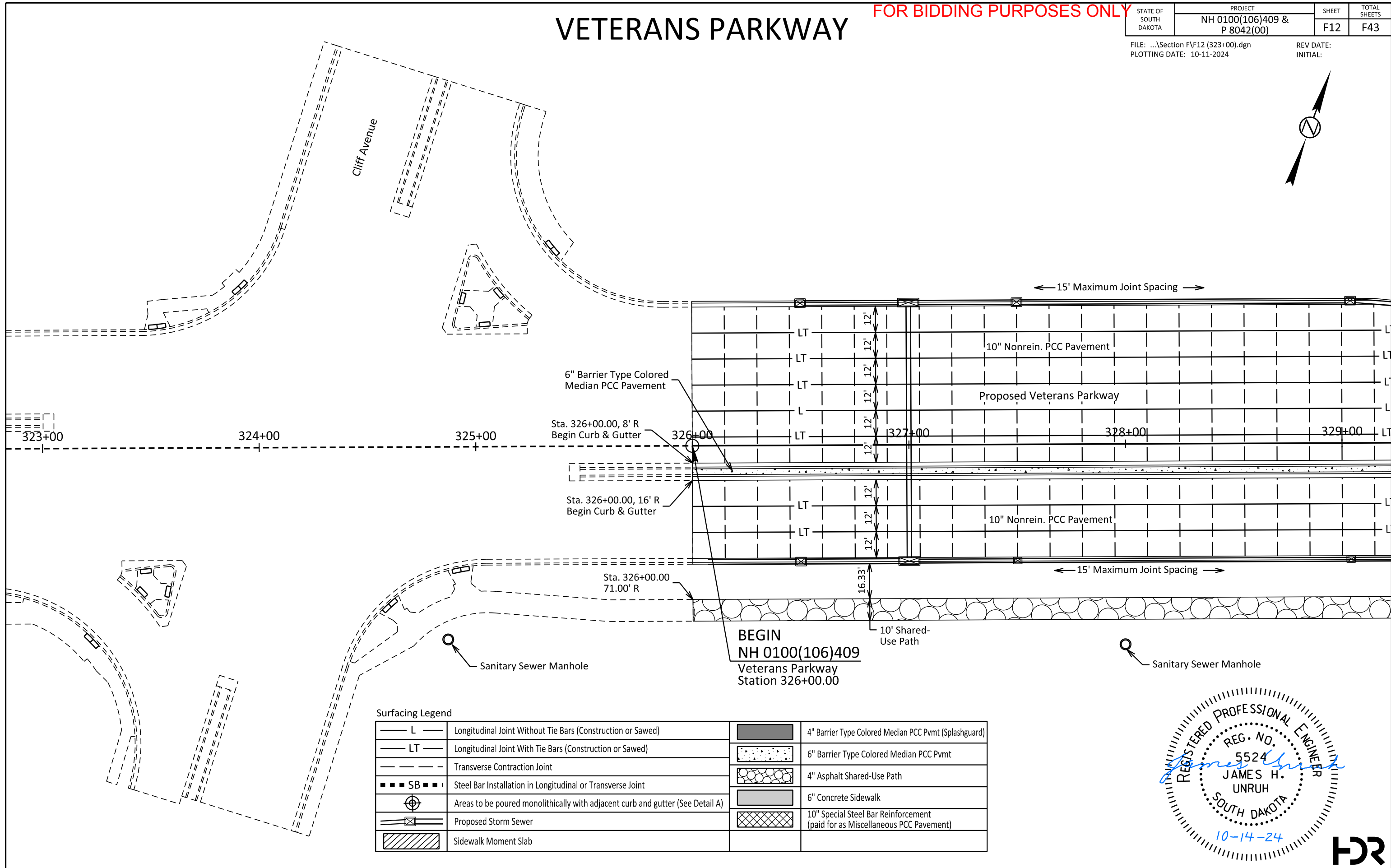
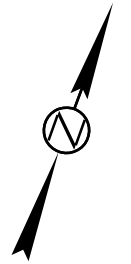
VETERANS PARKWAY

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F12	F43

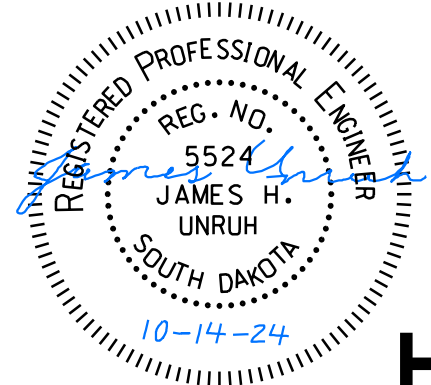
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PLOTTING DATE: 10-11-2024

REV DATE:
INITIAL:



Surfacing Legend

	Longitudinal Joint Without Tie Bars (Construction or Sawed)		4" Barrier Type Colored Median PCC Pvmnt (Splashguard)
	Longitudinal Joint With Tie Bars (Construction or Sawed)		6" Barrier Type Colored Median PCC Pvmnt
	Transverse Contraction Joint		4" Asphalt Shared-Use Path
	Steel Bar Installation in Longitudinal or Transverse Joint		6" Concrete Sidewalk
	Areas to be poured monolithically with adjacent curb and gutter (See Detail A)		10" Special Steel Bar Reinforcement (paid for as Miscellaneous PCC Pavement)
	Proposed Storm Sewer		
	Sidewalk Moment Slab		



VETERANS PARKWAY

FOR BIDDING PURPOSES ONLY

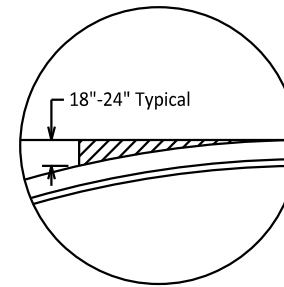
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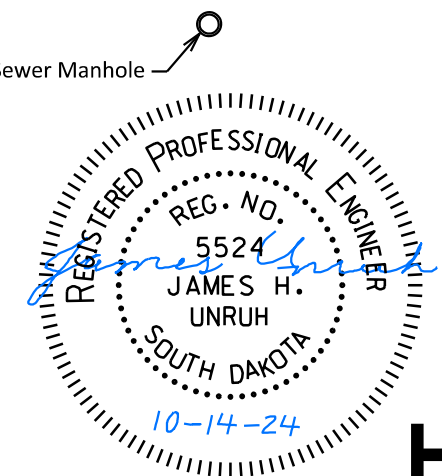
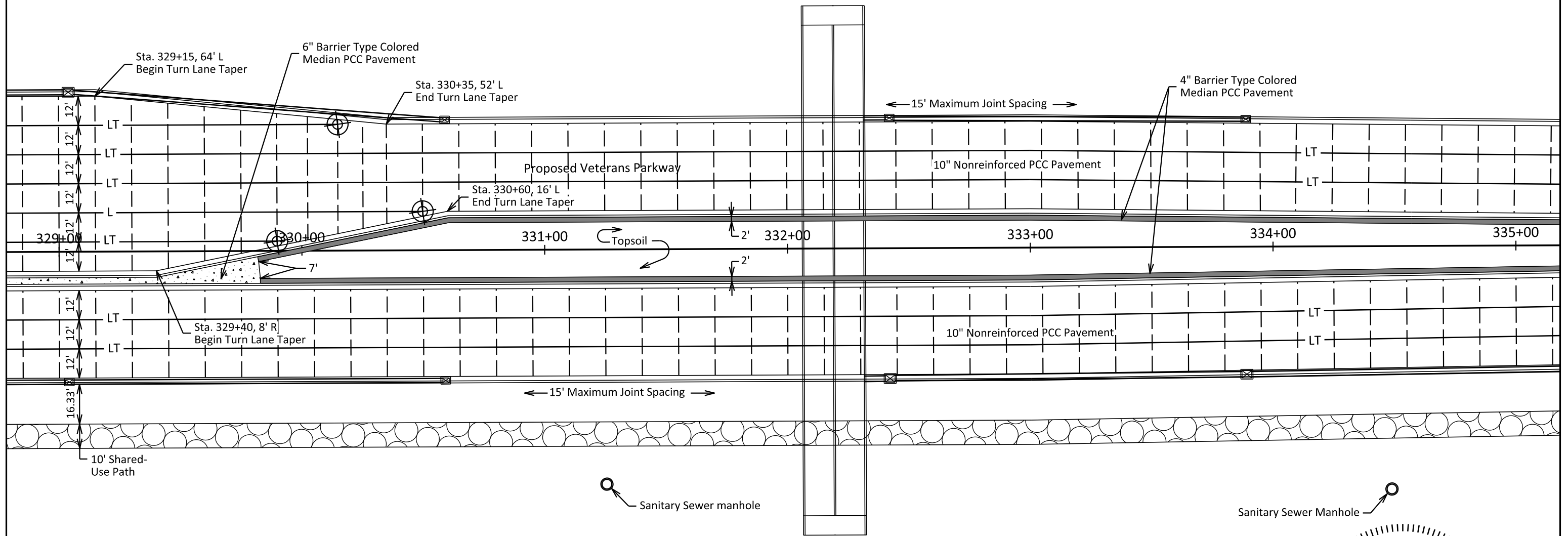
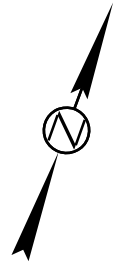
REV DATE:
INITIAL:

Surfacing Legend

	Longitudinal Joint Without Tie Bars (Construction or Sawed)		4" Barrier Type Colored Median PCC Pvmnt (Splashguard)
	Longitudinal Joint With Tie Bars (Construction or Sawed)		6" Barrier Type Colored Median PCC Pvmnt
	Transverse Contraction Joint		4" Asphalt Shared-Use Path
	Steel Bar Installation in Longitudinal or Transverse Joint		6" Concrete Sidewalk
	Areas to be poured monolithically with adjacent curb and gutter (See Detail A)		10" Special Steel Bar Reinforcement (paid for as Miscellaneous PCC Pavement)
	Proposed Storm Sewer		
	Sidewalk Moment Slab		



Detail A

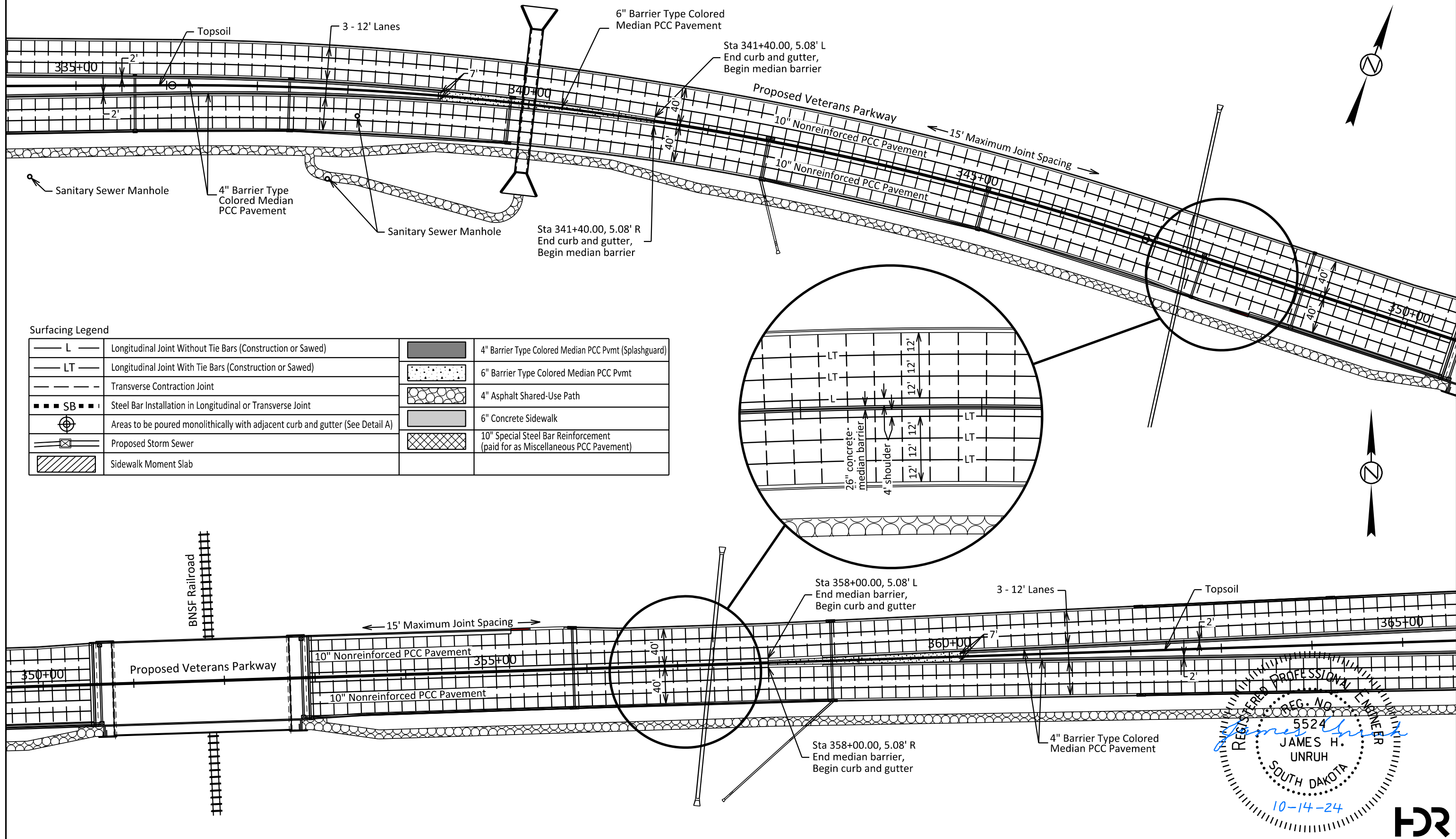


VETERANS PARKWAY

FOR BIDDING PURPOSES ONLY

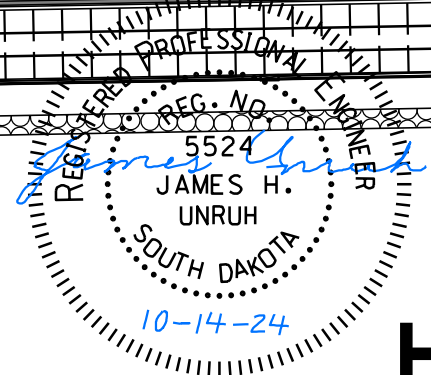
STATE OF SOUTH DAKOTA	PROJECT NH 0100(106)409 & P 8042(00)	SHEET F14	TOTAL SHEETS F43
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FILE: ...Section F\F14 (335+00).dgn
PLOTTING DATE: 10-11-2024
REV DATE:
INITIAL:



Surfacing Legend

— L —	Longitudinal Joint Without Tie Bars (Construction or Sawed)		4" Barrier Type Colored Median PCC Pvmnt (Splashguard)
— LT —	Longitudinal Joint With Tie Bars (Construction or Sawed)		6" Barrier Type Colored Median PCC Pvmnt
- - -	Transverse Contraction Joint		4" Asphalt Shared-Use Path
■ ■ ■ SB ■ ■ ■	Steel Bar Installation in Longitudinal or Transverse Joint		6" Concrete Sidewalk
	Areas to be poured monolithically with adjacent curb and gutter (See Detail A)		10" Special Steel Bar Reinforcement (paid for as Miscellaneous PCC Pavement)
	Proposed Storm Sewer		
	Sidewalk Moment Slab		



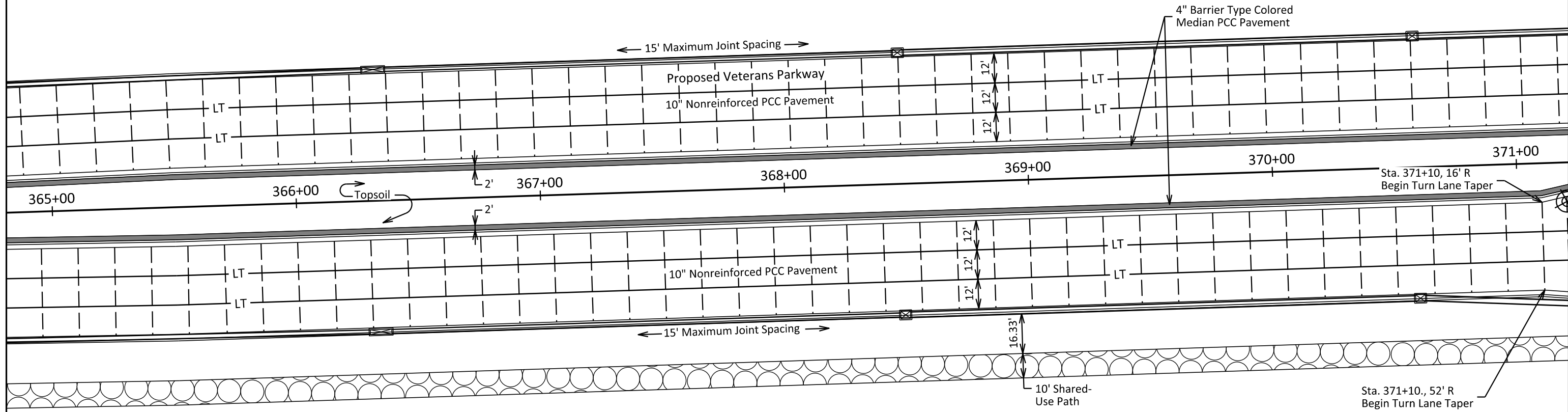
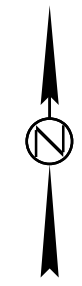
VETERANS PARKWAY

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F15	F43

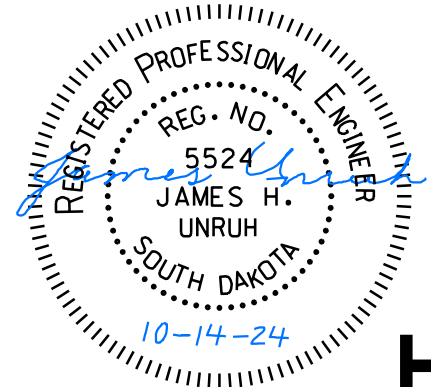
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PLOTTING DATE: 10-11-2024

REV DATE:
INITIAL:



Surfacing Legend

	Longitudinal Joint Without Tie Bars (Construction or Sawed)		4" Barrier Type Colored Median PCC Pvmnt (Splashguard)
	Longitudinal Joint With Tie Bars (Construction or Sawed)		6" Barrier Type Colored Median PCC Pvmnt
	Transverse Contraction Joint		4" Asphalt Shared-Use Path
	Steel Bar Installation in Longitudinal or Transverse Joint		6" Concrete Sidewalk
	Areas to be poured monolithically with adjacent curb and gutter (See Detail A)		10" Special Steel Bar Reinforcement (paid for as Miscellaneous PCC Pavement)
	Proposed Storm Sewer		
	Sidewalk Moment Slab		



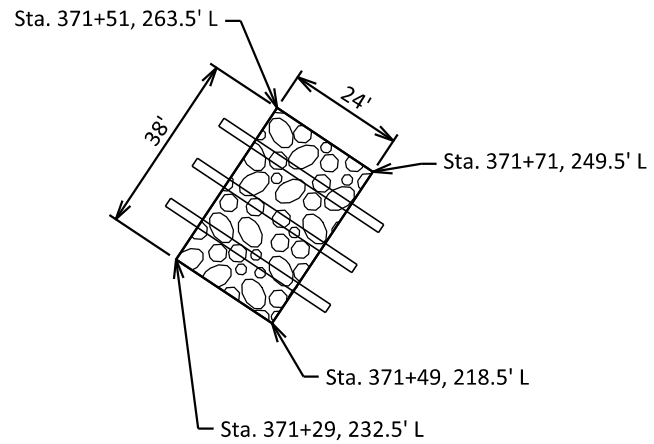
VETERANS PARKWAY

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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PLOT DATE: 10-11-2024

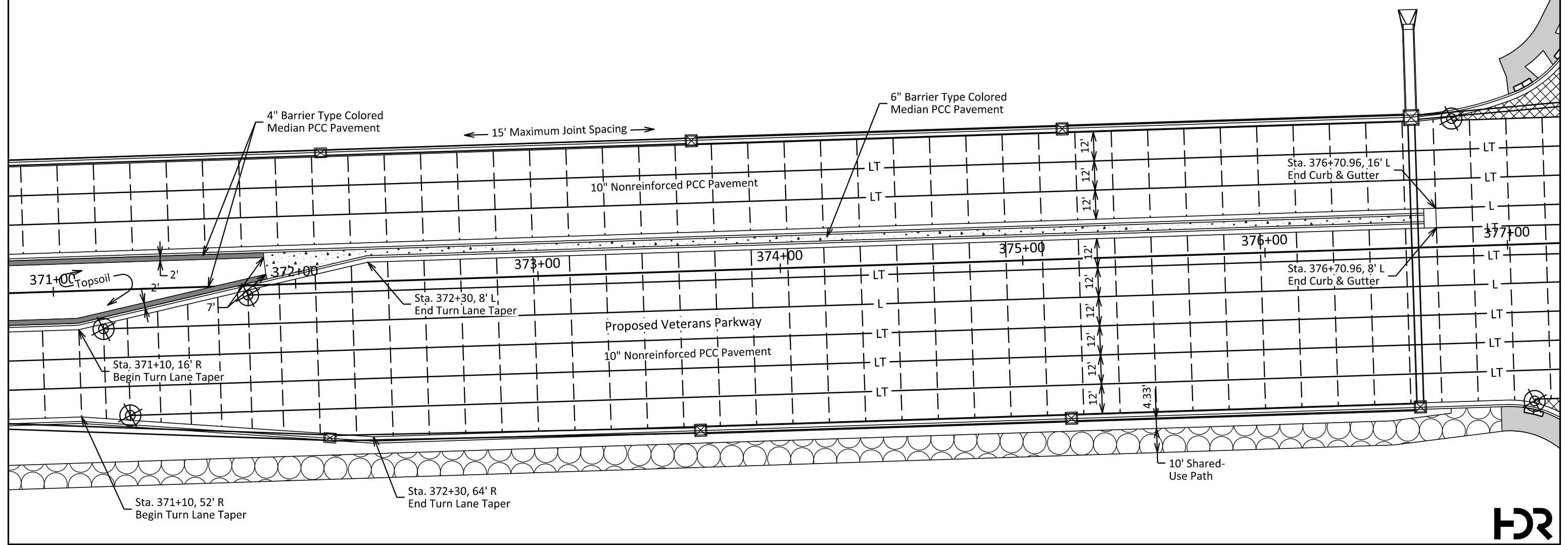
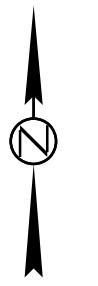
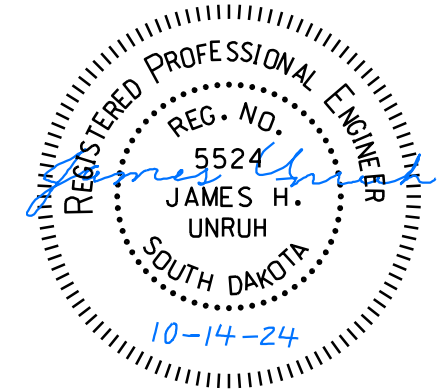
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See Section B plans for surface type

Surfacing Legend

— L —	Longitudinal Joint Without Tie Bars (Construction or Sawed)	[Pattern]	4" Barrier Type Colored Median PCC Pvmnt (Splashguard)
— LT —	Longitudinal Joint With Tie Bars (Construction or Sawed)	[Pattern]	6" Barrier Type Colored Median PCC Pvmnt
- - -	Transverse Contraction Joint	[Pattern]	4" Asphalt Shared-Use Path
■ ■ ■ SB ■ ■ ■	Steel Bar Installation in Longitudinal or Transverse Joint	[Pattern]	6" Concrete Sidewalk
⊕	Areas to be poured monolithically with adjacent curb and gutter (See Detail A)	[Pattern]	10" Special Steel Bar Reinforcement (paid for as Miscellaneous PCC Pavement)
— S —	Proposed Storm Sewer	[Pattern]	
[Pattern]	Sidewalk Moment Slab		

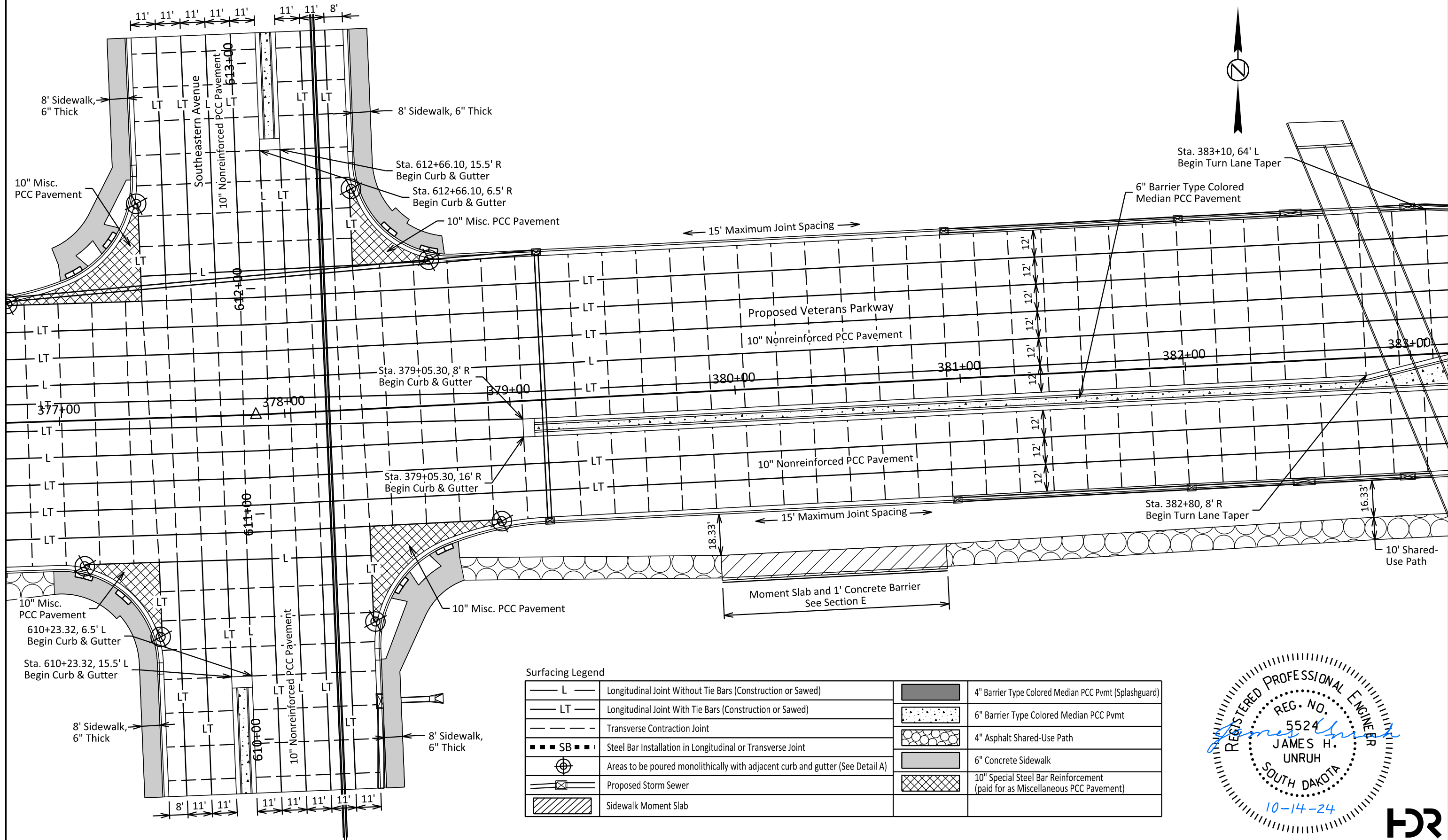


VETERANS PARKWAY

FOR BIDDING PURPOSES ONLY

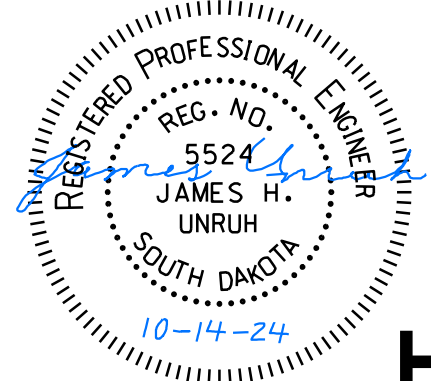
STATE OF SOUTH DAKOTA	PROJECT NH 0100(106)409 & P 8042(00)	SHEET F17	TOTAL SHEETS F43
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FILE: ...Section F\F17 (377+00).dgn
PLOTTING DATE: 10-11-2024
REV DATE:
INITIAL:



Surfacing Legend

— L —	Longitudinal Joint Without Tie Bars (Construction or Sawed)	[Pattern]	4" Barrier Type Colored Median PCC Pvmt (Splashguard)
— LT —	Longitudinal Joint With Tie Bars (Construction or Sawed)	[Pattern]	6" Barrier Type Colored Median PCC Pvmt
---	Transverse Contraction Joint	[Pattern]	4" Asphalt Shared-Use Path
■ ■ ■ SB ■ ■ ■	Steel Bar Installation in Longitudinal or Transverse Joint	[Pattern]	6" Concrete Sidewalk
⊕	Areas to be poured monolithically with adjacent curb and gutter (See Detail A)	[Pattern]	10" Special Steel Bar Reinforcement (paid for as Miscellaneous PCC Pavement)
— S —	Proposed Storm Sewer		
[Pattern]	Sidewalk Moment Slab		



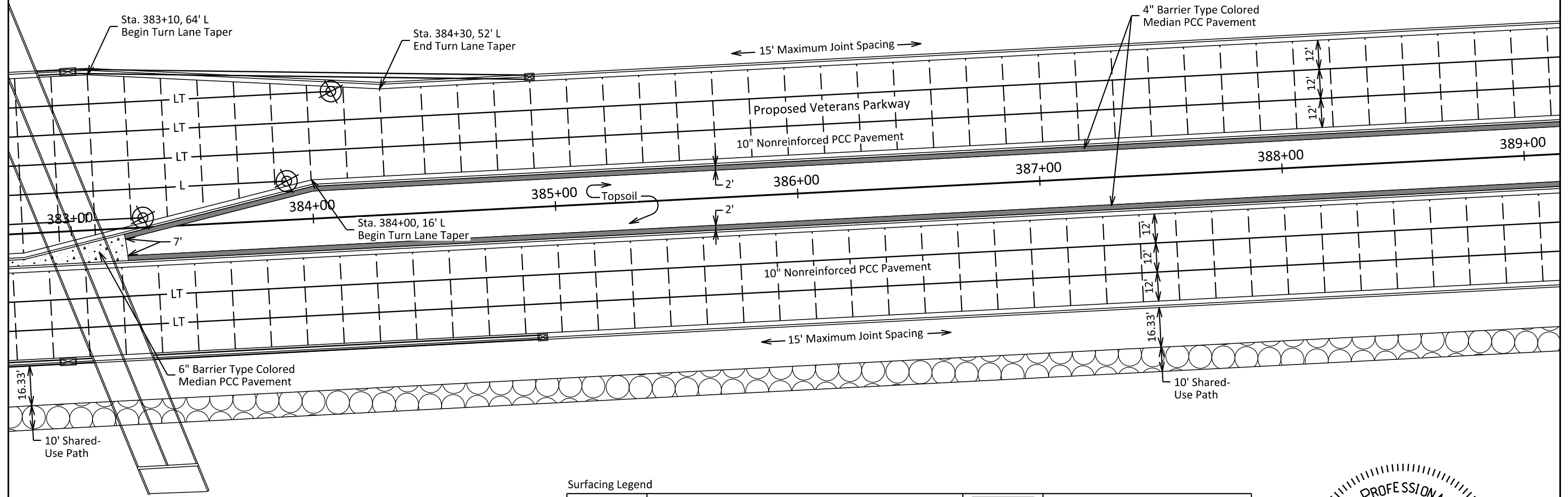
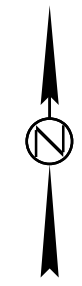
VETERANS PARKWAY

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F18	F43

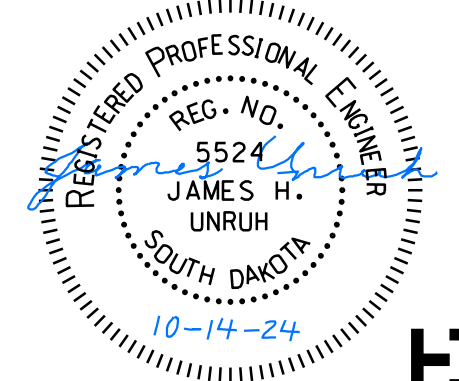
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PLOTING DATE: 10-11-2024

REV DATE:
INITIAL:



Surfacing Legend

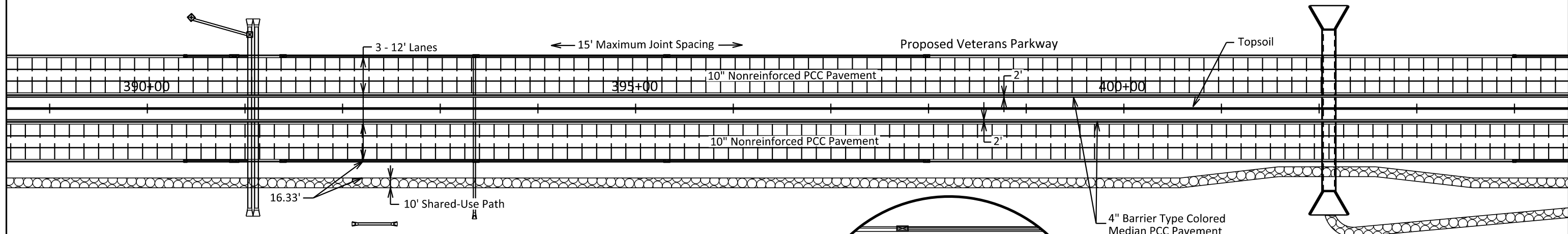
	Longitudinal Joint Without Tie Bars (Construction or Sawed)		4" Barrier Type Colored Median PCC Pavmt (Splashguard)
	Longitudinal Joint With Tie Bars (Construction or Sawed)		6" Barrier Type Colored Median PCC Pavmt
	Transverse Contraction Joint		4" Asphalt Shared-Use Path
	Steel Bar Installation in Longitudinal or Transverse Joint		6" Concrete Sidewalk
	Areas to be poured monolithically with adjacent curb and gutter (See Detail A)		10" Special Steel Bar Reinforcement (paid for as Miscellaneous PCC Pavement)
	Proposed Storm Sewer		
	Sidewalk Moment Slab		



VETERANS PARKWAY

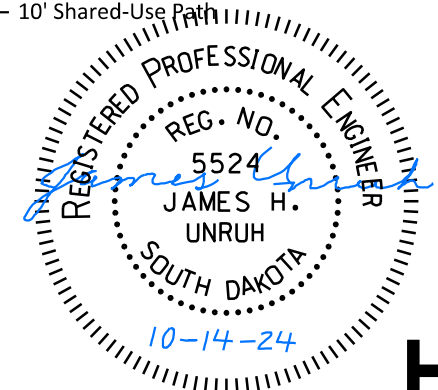
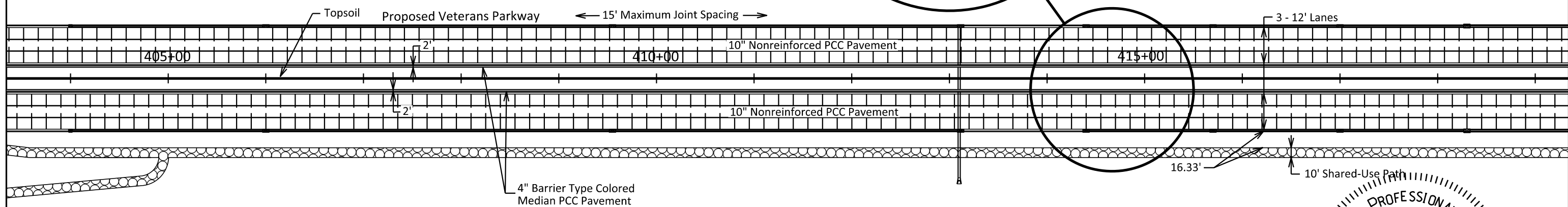
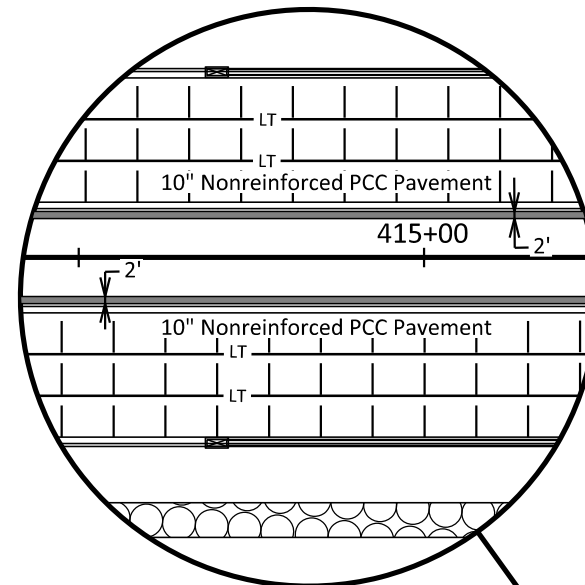
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)		
FILE: ...Section F\F19 (389+00).dgn		REV DATE:	
PLOT DATE: 10-11-2024		INITIAL:	



Surfacing Legend

— L —	Longitudinal Joint Without Tie Bars (Construction or Sawed)		4" Barrier Type Colored Median PCC Pvm (Splashguard)
— LT —	Longitudinal Joint With Tie Bars (Construction or Sawed)		6" Barrier Type Colored Median PCC Pvm
- - -	Transverse Contraction Joint		4" Asphalt Shared-Use Path
■ ■ ■ SB ■ ■ ■	Steel Bar Installation in Longitudinal or Transverse Joint		6" Concrete Sidewalk
	Areas to be poured monolithically with adjacent curb and gutter (See Detail A)		10" Special Steel Bar Reinforcement (paid for as Miscellaneous PCC Pavement)
	Proposed Storm Sewer		
	Sidewalk Moment Slab		



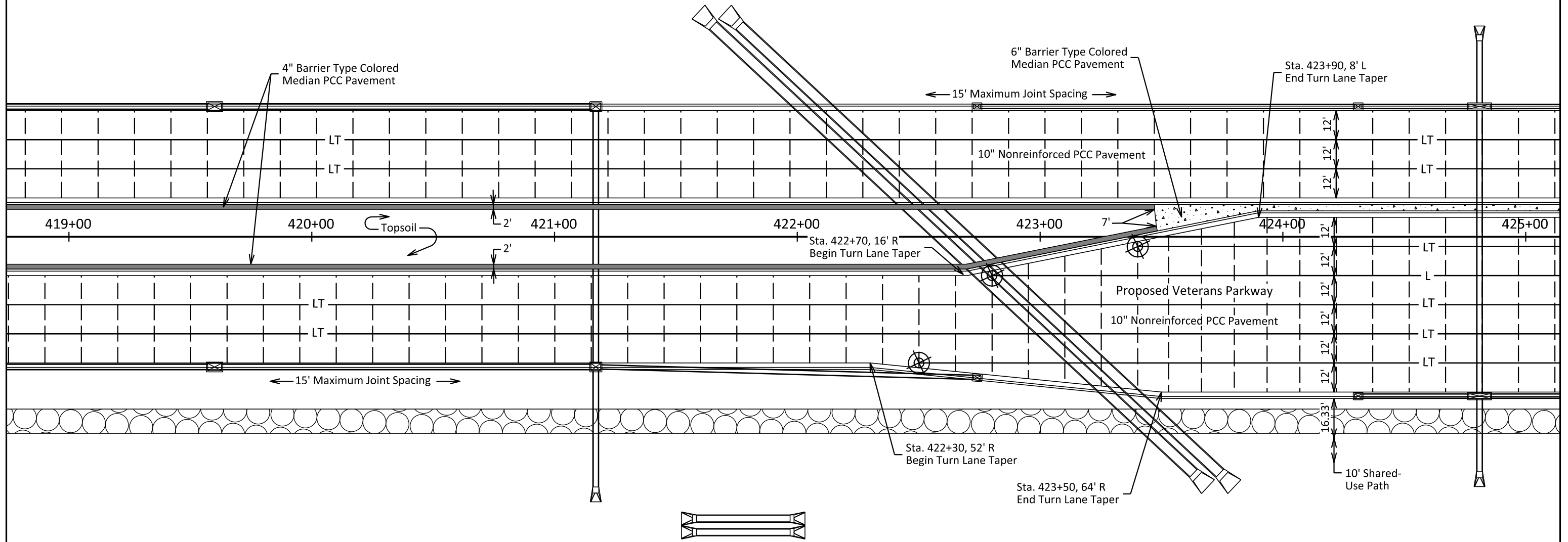
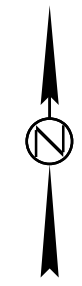
VETERANS PARKWAY

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F20	F43

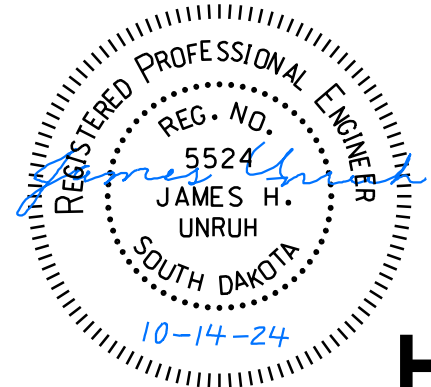
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PLOTING DATE: 10-11-2024

REV DATE:
INITIAL:



Surfacing Legend

	Longitudinal Joint Without Tie Bars (Construction or Sawed)		4" Barrier Type Colored Median PCC Pvmt (Splashguard)
	Longitudinal Joint With Tie Bars (Construction or Sawed)		6" Barrier Type Colored Median PCC Pvmt
	Transverse Contraction Joint		4" Asphalt Shared-Use Path
	Steel Bar Installation in Longitudinal or Transverse Joint		6" Concrete Sidewalk
	Areas to be poured monolithically with adjacent curb and gutter (See Detail A)		10" Special Steel Bar Reinforcement (paid for as Miscellaneous PCC Pavement)
	Proposed Storm Sewer		
	Sidewalk Moment Slab		



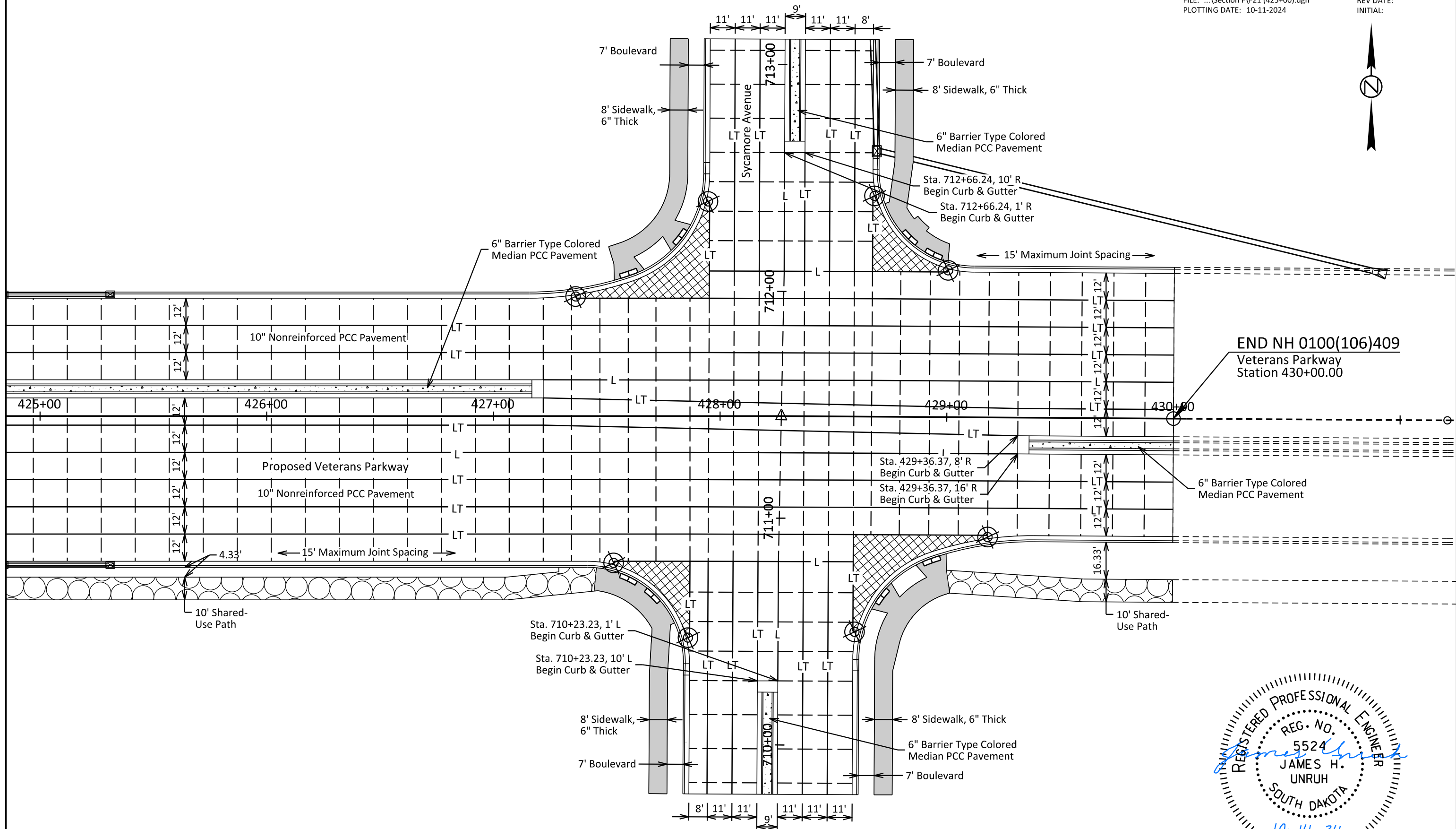
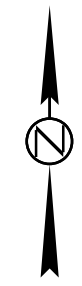
VETERANS PARKWAY

FOR BIDDING PURPOSES ONLY

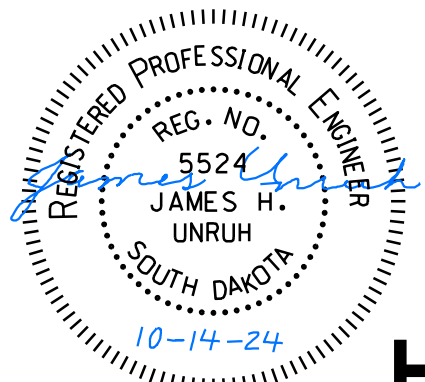
STATE OF SOUTH DAKOTA	PROJECT NH 0100(106)409 & P 8042(00)	SHEET F21	TOTAL SHEETS F43
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FILE: ...Section F\F21 (425+00).dgn
PLOT DATE: 10-11-2024

REV DATE:
INITIAL:



END NH 0100(106)409
Veterans Parkway
Station 430+00.00



VETERANS PARKWAY PAVEMENT SLOPES

FOR BIDDING PURPOSES ONLY

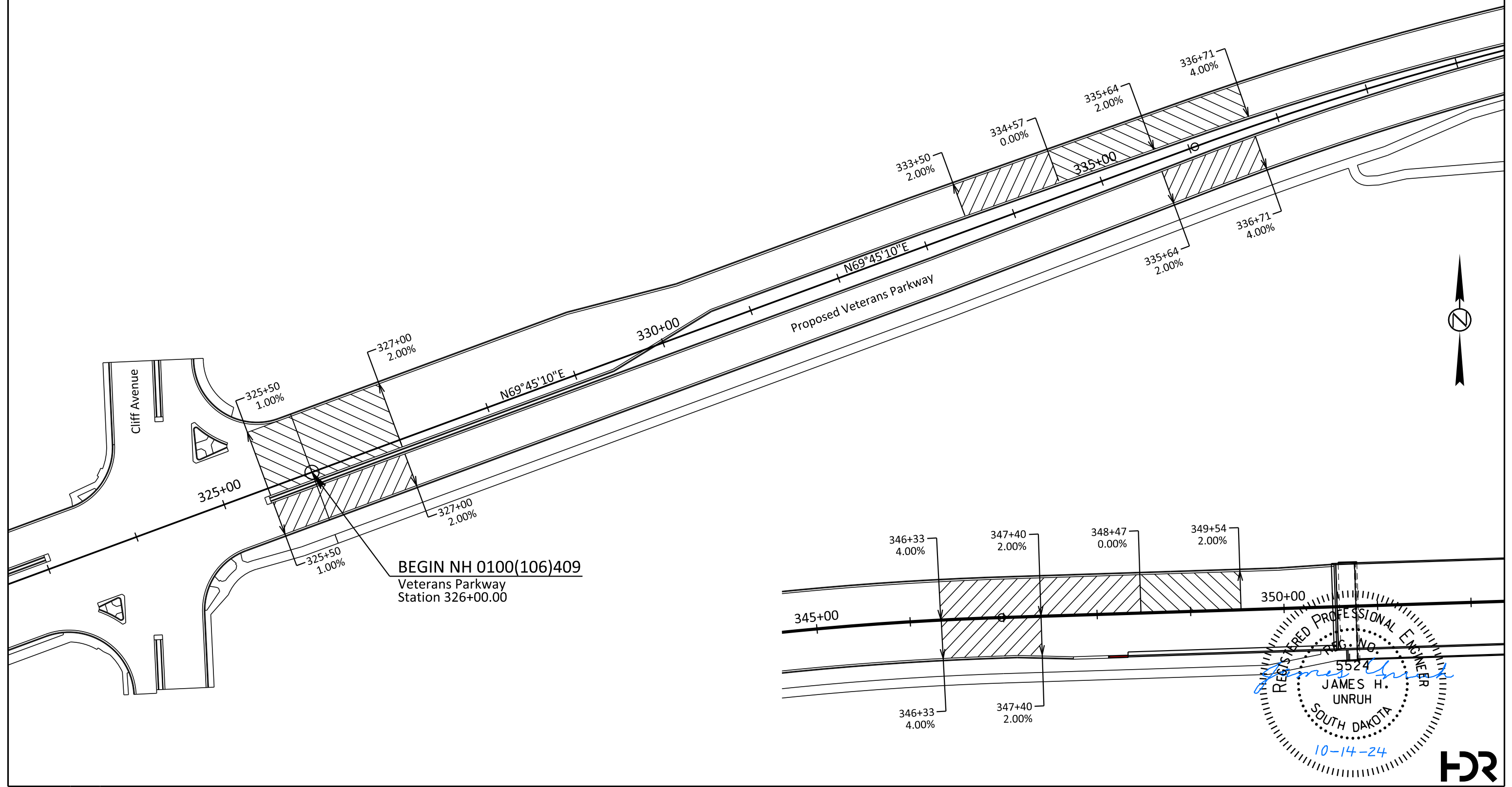
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F22	F43

FILE: ...Section F\F22 SE (326+00).dgn
PLOTING DATE: 10-11-2024

REV DATE:
INITIAL:

LEGEND

Pavement Slope Transition



REGISTERED PROFESSIONAL ENGINEER
REG. NO. 5524
JAMES H. UNRUH
SOUTH DAKOTA
10-14-24

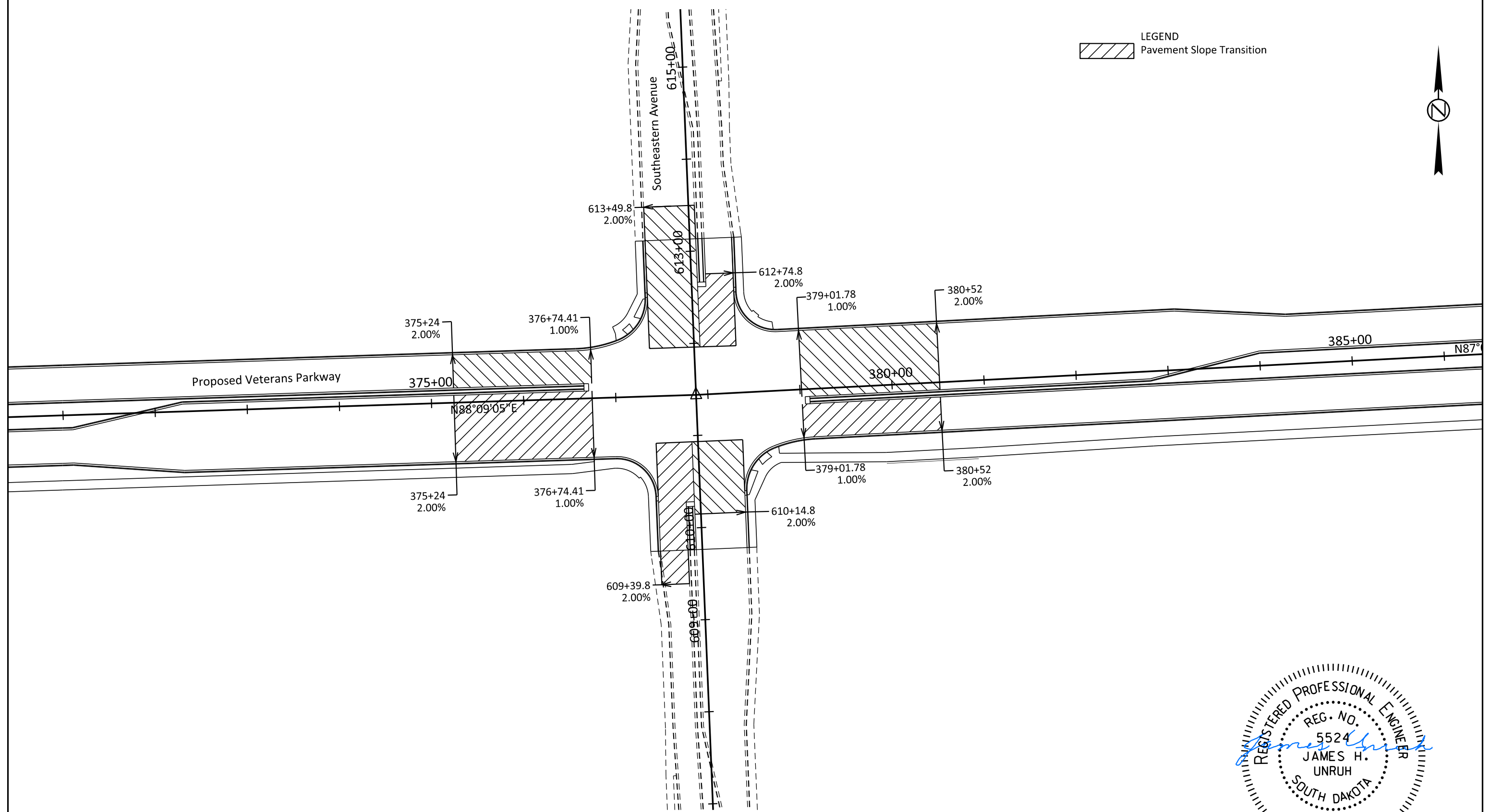
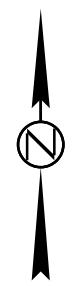


VETERANS PARKWAY PAVEMENT SLOPES

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F23	F43
FILE: ...Section F\F23 SE (375+00).dgn		REV DATE:	
PLOTING DATE: 10-11-2024		INITIAL:	

LEGEND
 Pavement Slope Transition



REGISTERED PROFESSIONAL ENGINEER
 REG. NO. 5524
 JAMES H. UNRUH
 SOUTH DAKOTA
 10-14-24



VETERANS PARKWAY PAVEMENT SLOPES

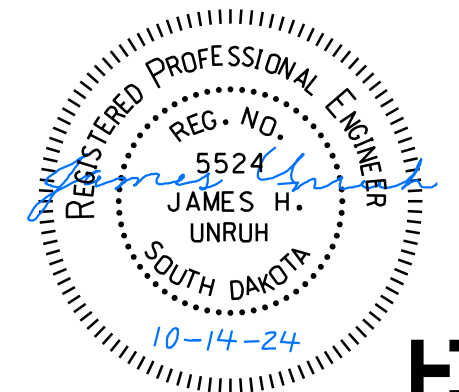
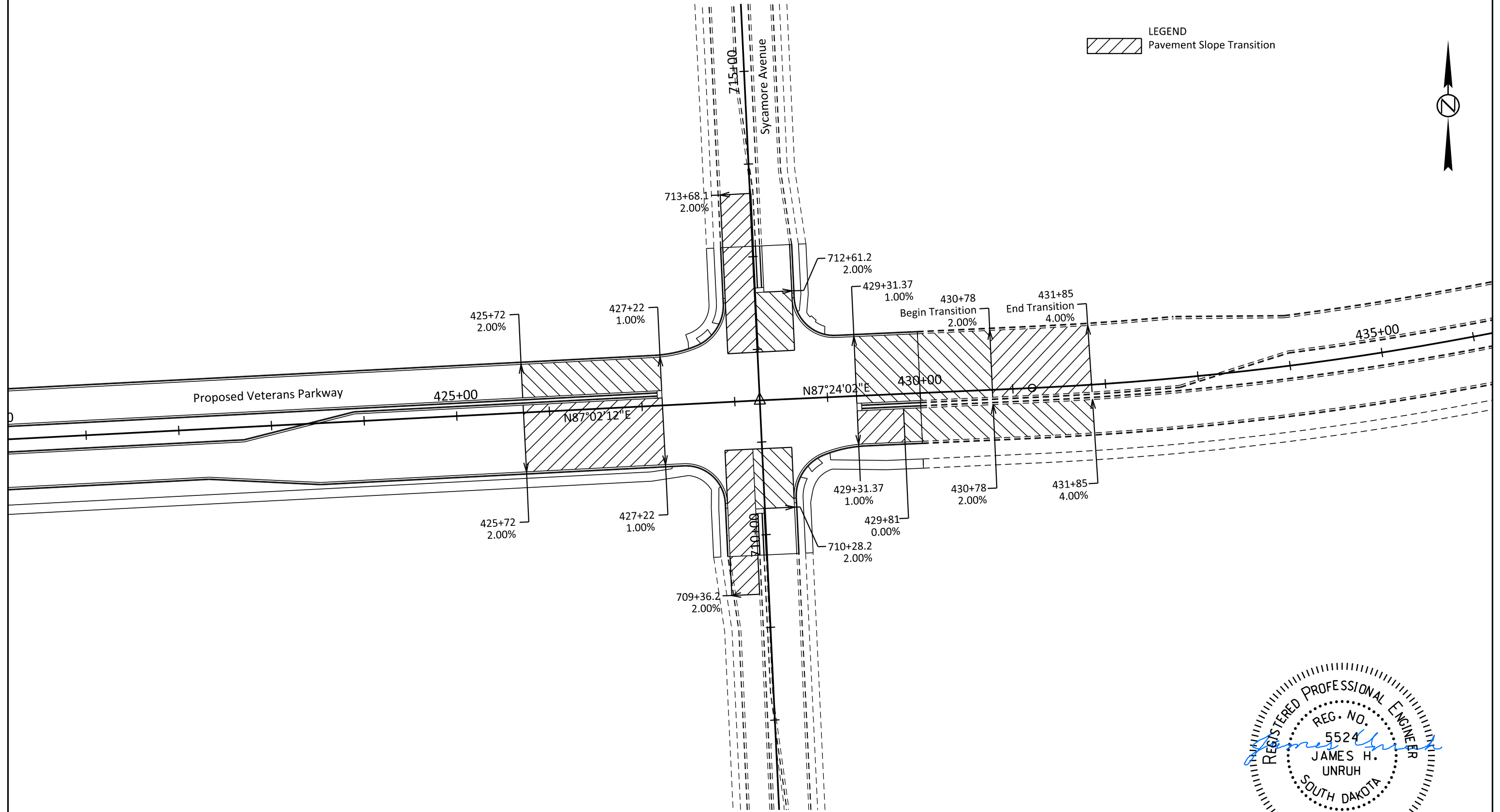
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F24	F43

FILE: ...Section F\F24 SE (425+00).dgn
PLOTTING DATE: 10-11-2024

REV DATE:
INITIAL:

LEGEND
 Pavement Slope Transition



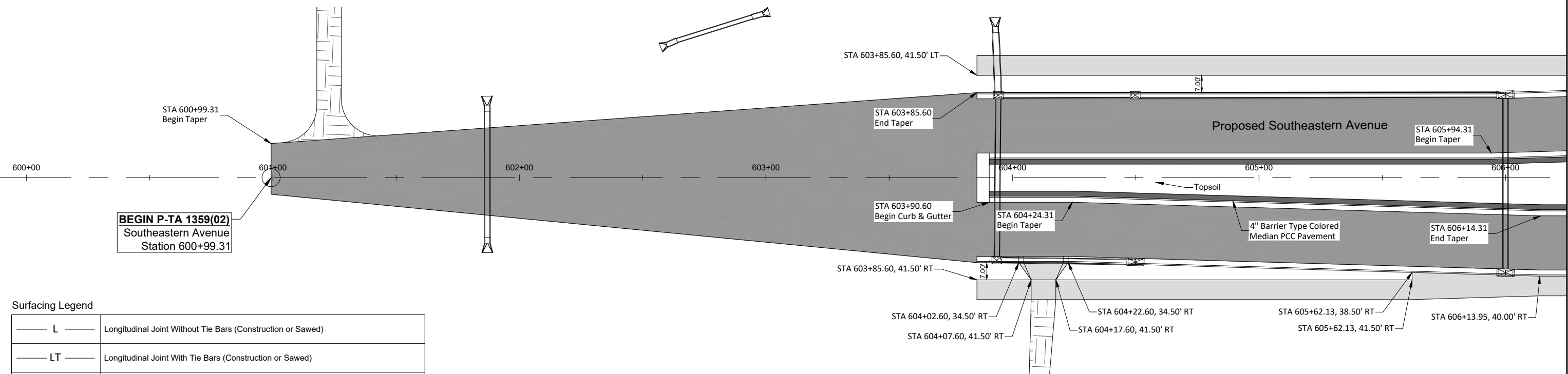
SOUTHEASTERN AVENUE

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 0100(106)409 & P 8042(00)	SHEET F25	TOTAL SHEETS F43
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FILE: PLAN_SURFACING_CIP_6.7
PLOT DATE: 10/10/2024

REV DATE:
INITIAL:



Surfacing Legend

	L	Longitudinal Joint Without Tie Bars (Construction or Sawed)
	LT	Longitudinal Joint With Tie Bars (Construction or Sawed)
		Transverse Contraction Joint
	SB	Steel Bar Installation in Longitudinal or Transverse Joint
		Areas to be poured monolithically with adjacent curb and gutter (See Detail A)
		Asphalt Concrete Pavement
		6" Barrier Type Colored Median PCC Pavement (Splashguard)
		4" Barrier Type Colored Median PCC Pavement
		4" Asphalt Shared-Use Path
		6" Concrete Bike Path / Sidewalk / Driveway Approach
		6" Gravel approach
		Drilled in No. 9 X 18" epoxy coated deformed tie bar spaced 18" center to center
		Proposed Storm Sewer



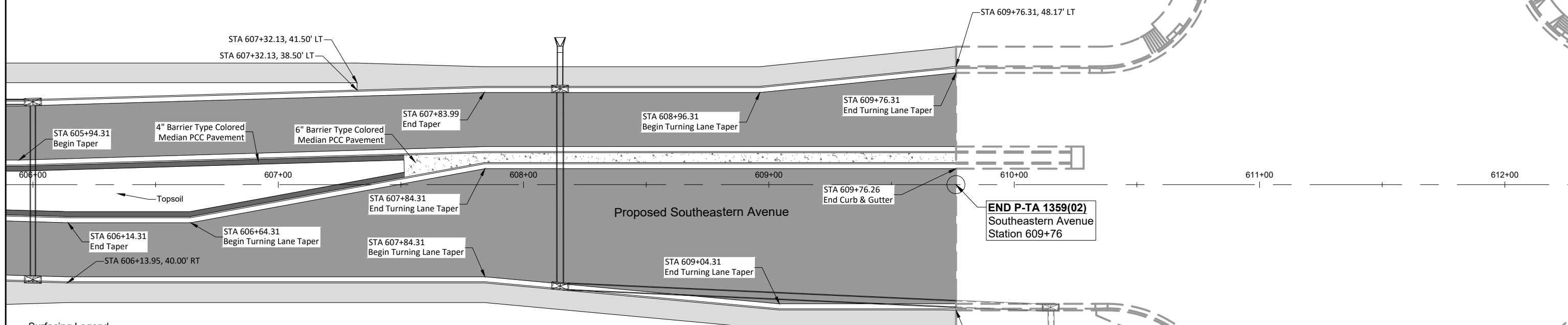
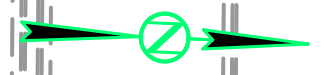
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PLOT DATE: 10/10/2024 3:08 PM Burkman, Heather

SOUTHEASTERN AVENUE

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F26	F43

FILE: PLAN_SURFACING_CIP_6.7
 PLOTTING DATE: 10/10/2024
 REV DATE: INITIAL:



Surfacing Legend

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		6" Gravel approach
		Drilled in No. 9 X 18" epoxy coated deformed tie bar spaced 18" center to center
		Proposed Storm Sewer



Proposed Veterans Parkway



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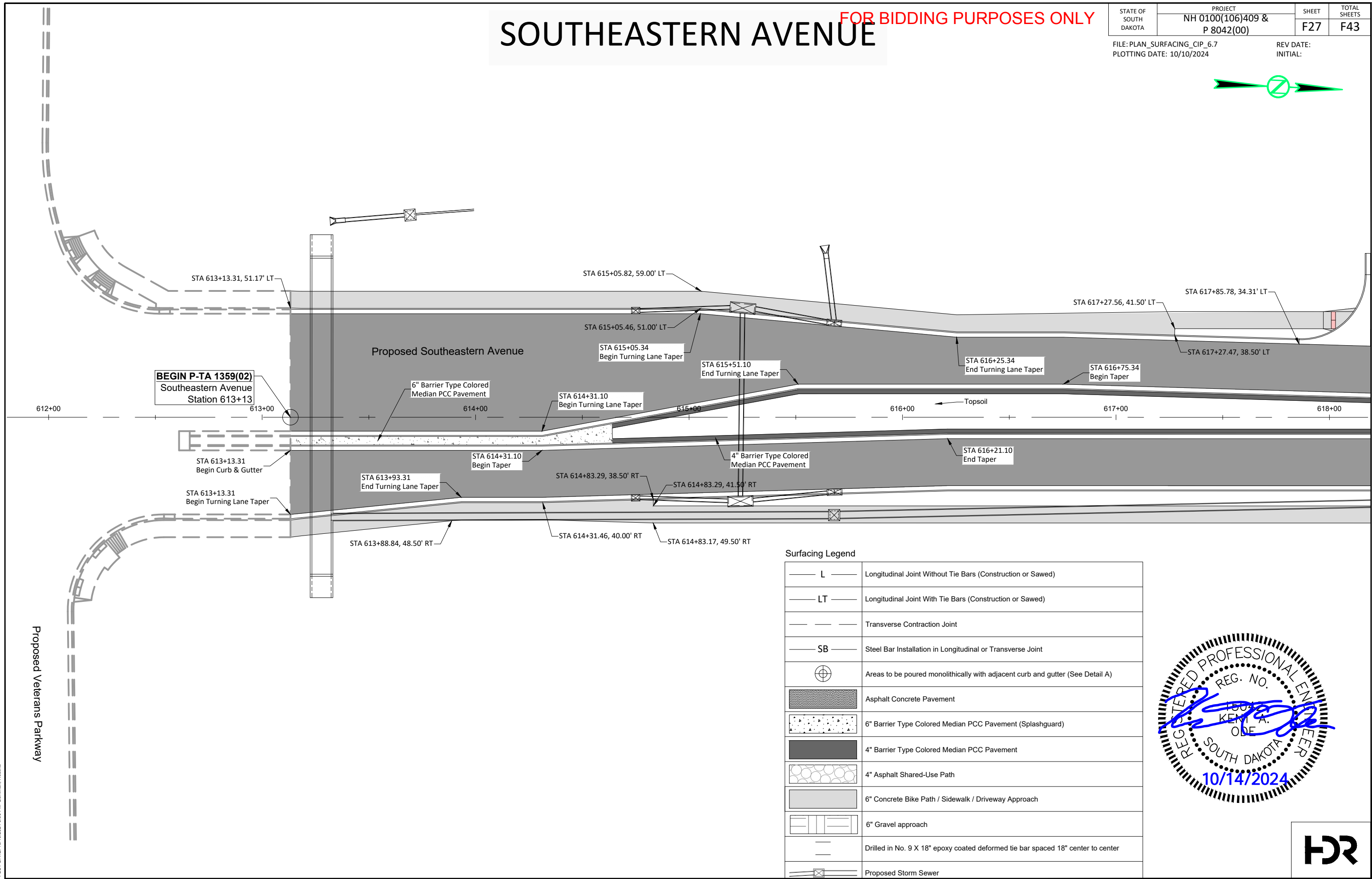
SOUTHEASTERN AVENUE

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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FILE: PLAN_SURFACING_CIP_6.7
PLOTTING DATE: 10/10/2024

REV DATE:
INITIAL:



Surfacing Legend

— L —	Longitudinal Joint Without Tie Bars (Construction or Sawed)
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	Proposed Storm Sewer



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Proposed Veterans Parkway

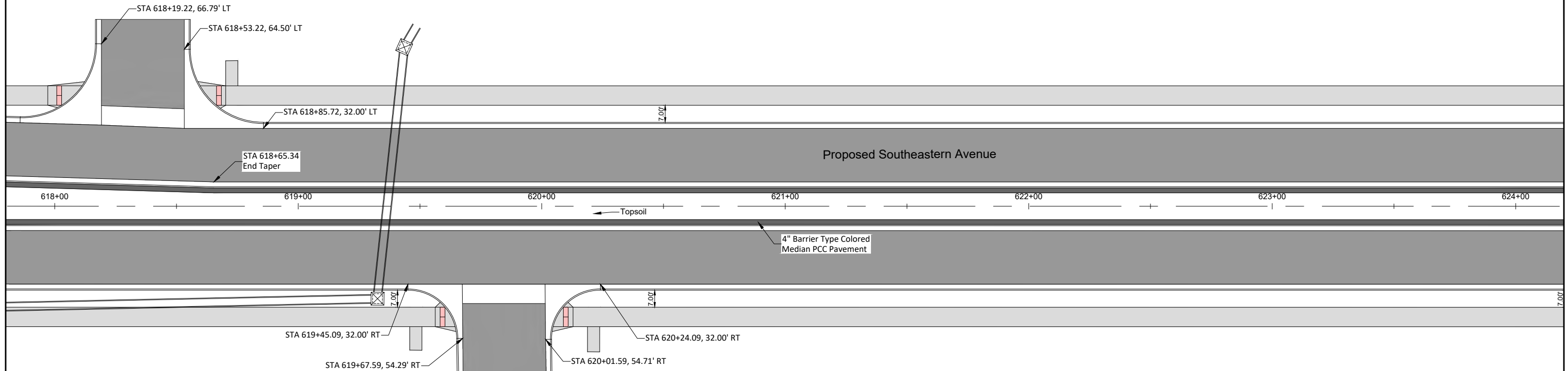
SOUTHEASTERN AVENUE

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F28	F43

FILE: PLAN_SURFACING_CIP_6.7
PLOT DATE: 10/10/2024

REV DATE:
INITIAL:



Surfacing Legend

	L	Longitudinal Joint Without Tie Bars (Construction or Sawed)
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		Drilled in No. 9 X 18" epoxy coated deformed tie bar spaced 18" center to center
		Proposed Storm Sewer

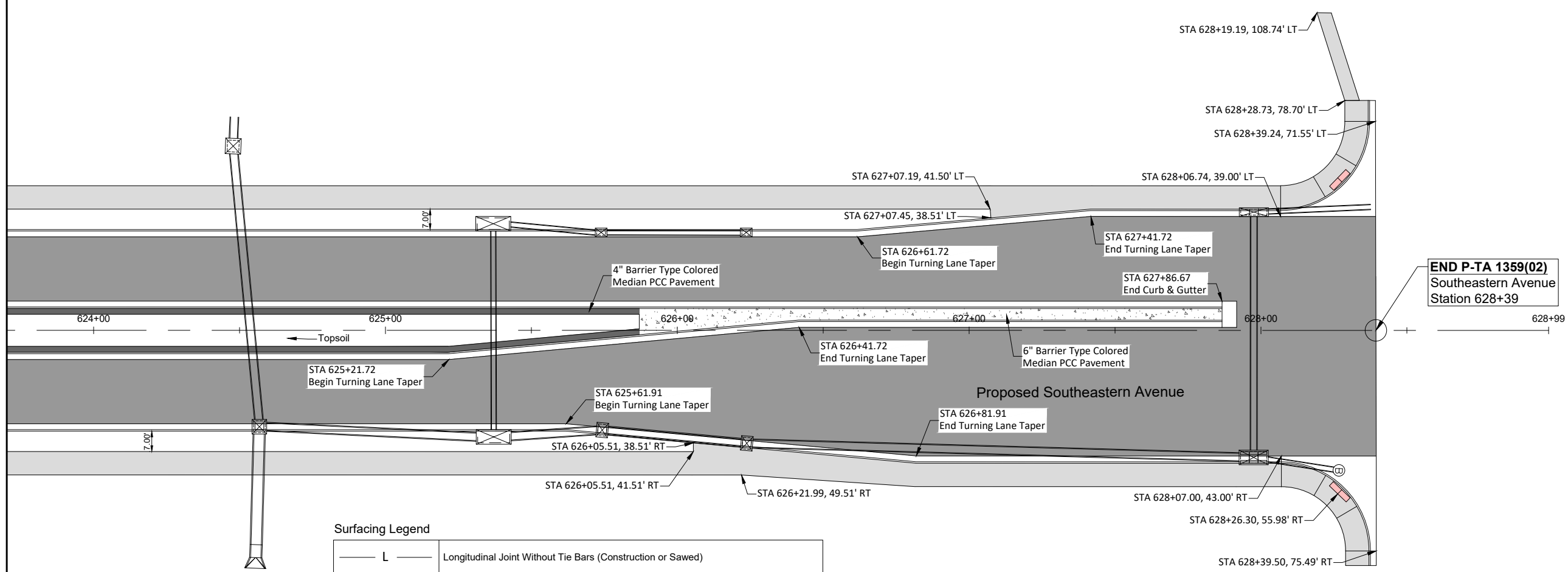
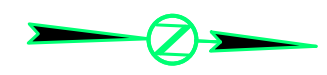


SOUTHEASTERN AVENUE

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F29	F43

FILE: PLAN_SURFACING_CIP_6.7
 PLOTTING DATE: 10/10/2024
 REV DATE:
 INITIAL:



END P-TA 1359(02)
 Southeastern Avenue
 Station 628+39

Surfacing Legend

	L	Longitudinal Joint Without Tie Bars (Construction or Sawed)
	LT	Longitudinal Joint With Tie Bars (Construction or Sawed)
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	SB	Steel Bar Installation in Longitudinal or Transverse Joint
		Areas to be poured monolithically with adjacent curb and gutter (See Detail A)
		Asphalt Concrete Pavement
		Drilled in No. 9 X 18\"/>
		Proposed Storm Sewer



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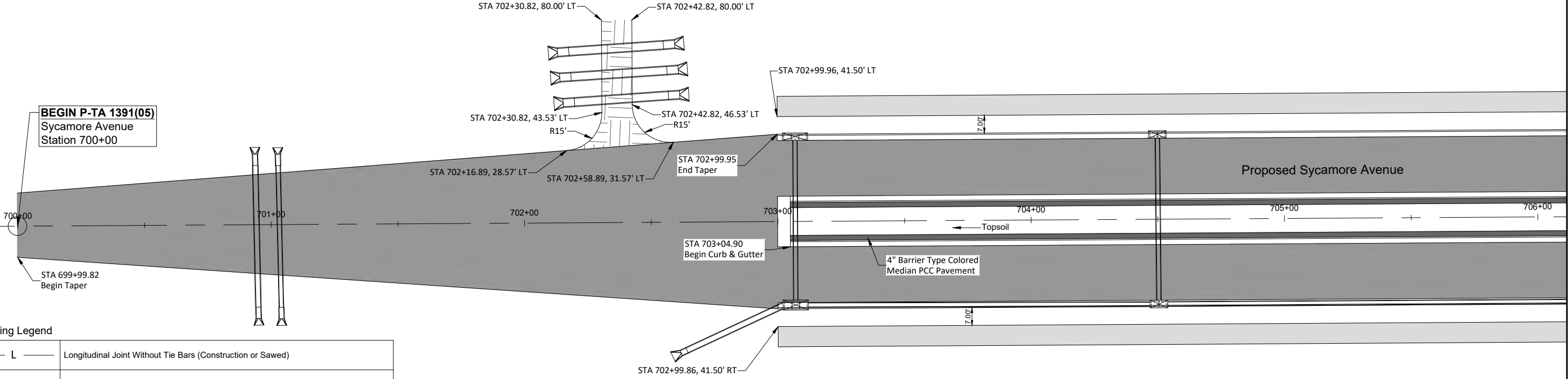
SYCAMORE AVENUE

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 0100(106)409 & P 8042(00)	SHEET F30	TOTAL SHEETS F43
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FILE: PLAN_SURFACING_CIP_6.7
PLOT DATE: 10/10/2024

REV DATE:
INITIAL:



Surfacing Legend

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		Drilled in No. 9 X 18" epoxy coated deformed tie bar spaced 18" center to center
		Proposed Storm Sewer

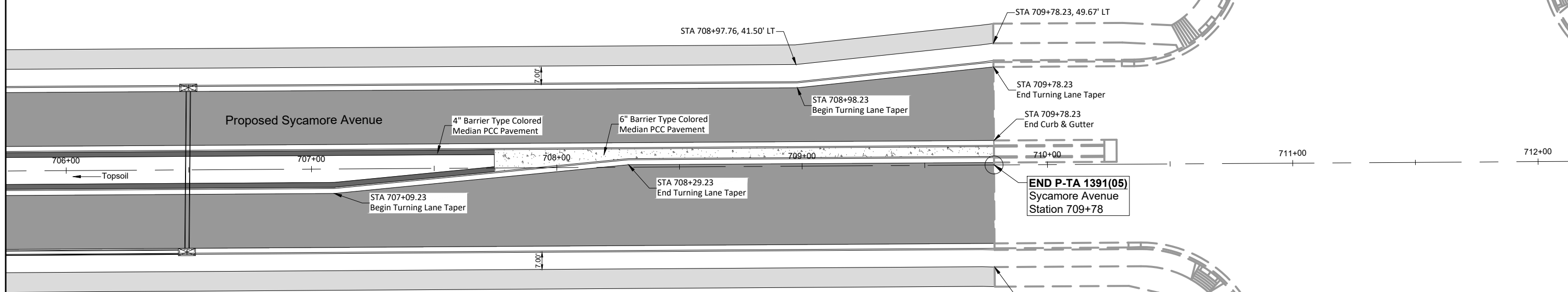
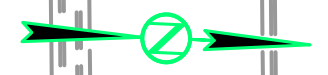


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SYCAMORE AVENUE FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F31	F43

FILE: PLAN_SURFACING_CIP_6.7
 PLOTTING DATE: 10/10/2024
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Surfacing Legend

	Longitudinal Joint Without Tie Bars (Construction or Sawed)
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	6" Gravel approach
	Drilled in No. 9 X 18" epoxy coated deformed tie bar spaced 18" center to center
	Proposed Storm Sewer



Proposed Veterans Parkway



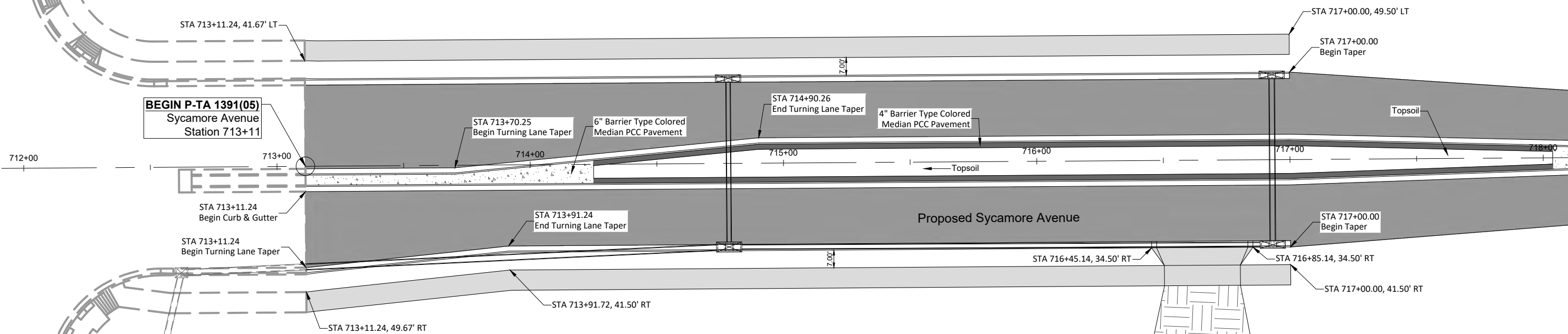
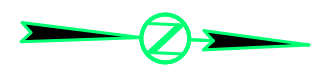
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SYCAMORE AVENUE FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F32	F43

FILE: PLAN_SURFACING_CIP_6.7
PLOTTING DATE: 10/10/2024

REV DATE:
INITIAL:



Surfacing Legend

— L —	Longitudinal Joint Without Tie Bars (Construction or Sawed)
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	Proposed Storm Sewer

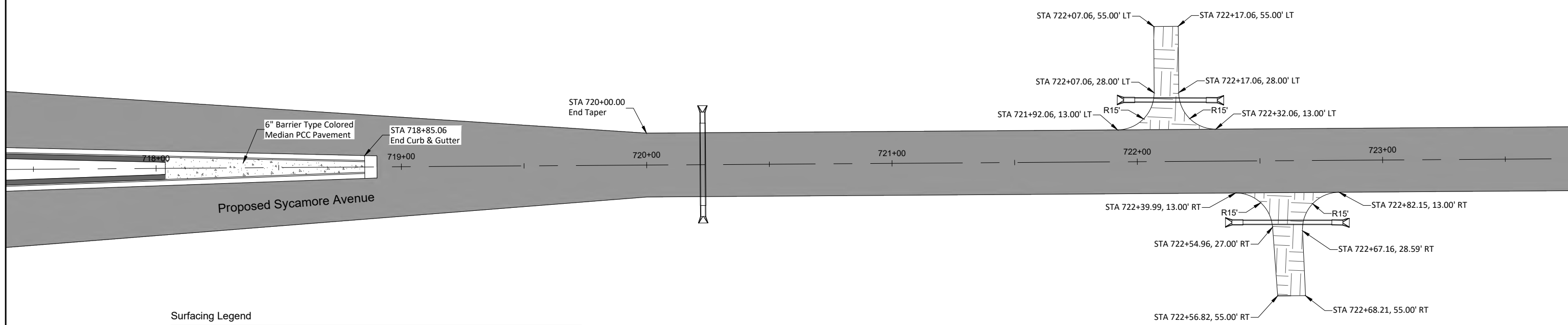
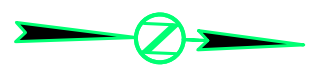


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SYCAMORE AVENUE FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F33	F43

FILE: PLAN_SURFACING_CIP_6.7
PLOTTING DATE: 10/10/2024
REV DATE:
INITIAL:



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	Proposed Storm Sewer

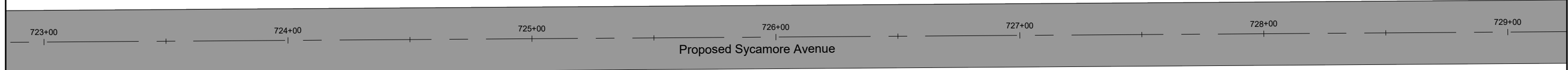
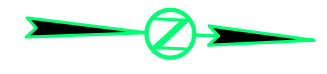


SYCAMORE AVENUE FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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FILE: PLAN_SURFACING_CIP_6.7
PLOTTING DATE: 10/10/2024

REV DATE:
INITIAL:



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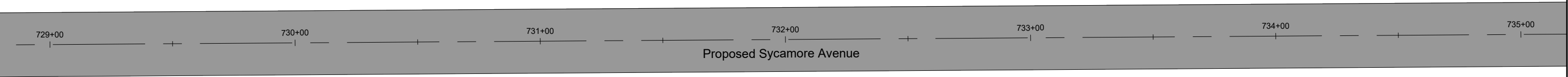
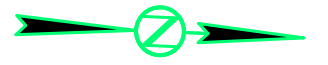
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SYCAMORE AVENUE FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F35	F43

FILE: PLAN_SURFACING_CIP_6.7
PLOTTING DATE: 10/10/2024

REV DATE:
INITIAL:



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	Proposed Storm Sewer



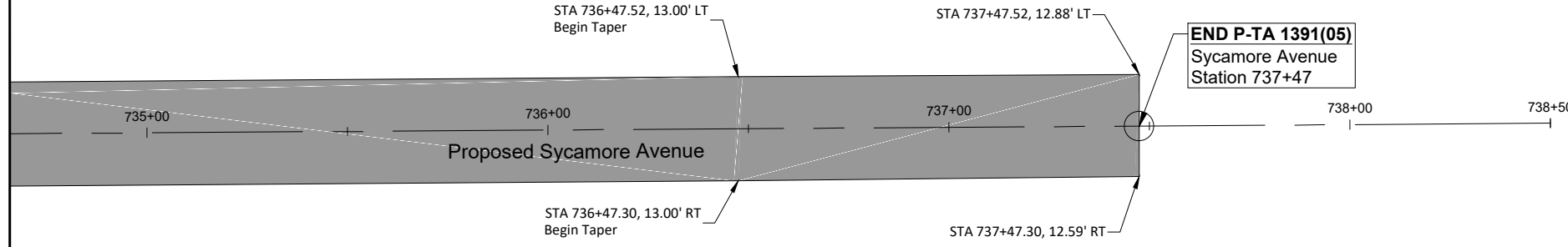
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SYCAMORE AVENUE FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	F36	F43

FILE: PLAN_SURFACING_CIP_6.7
PLOTTING DATE: 10/10/2024

REV DATE:
INITIAL:



Surfacing Legend

	Longitudinal Joint Without Tie Bars (Construction or Sawed)
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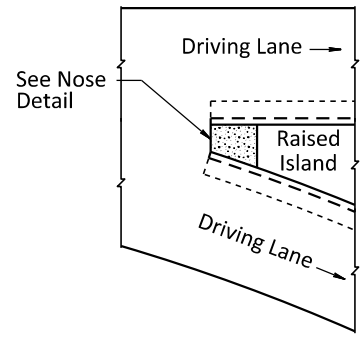
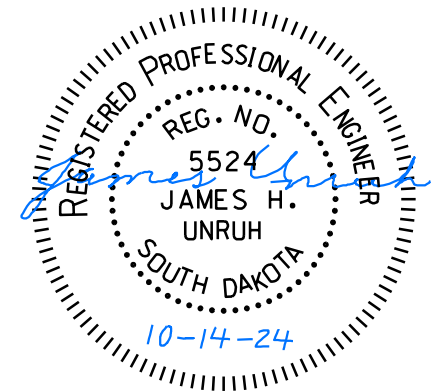
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SPECIAL SURFACING DETAILS

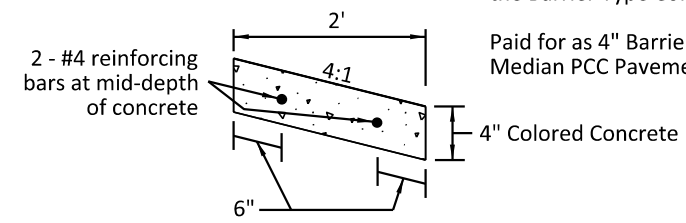
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STATE OF SOUTH DAKOTA	PROJECT NH 0100(106)409 & P 8042(00)	SHEET F37	TOTAL SHEETS F43
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FILE: ...F37 (Special Details).dgn
PLOTTING DATE: 10-11-2024
REV DATE:
INITIAL:

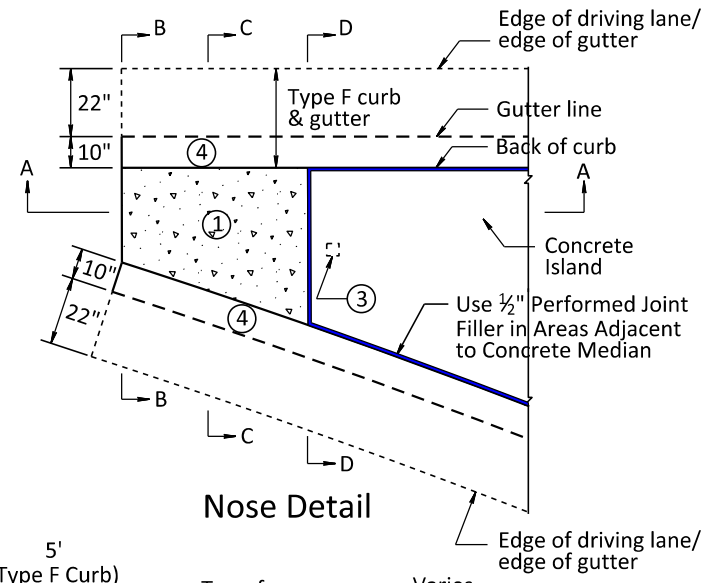


PLAN VIEW

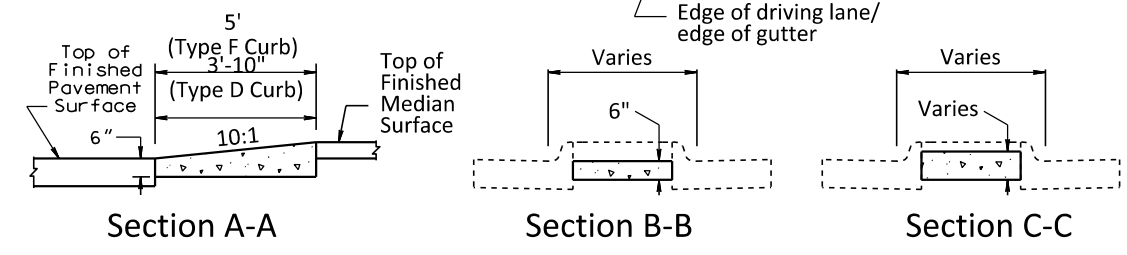


Splash Guard with Reinforcing Bars Detail

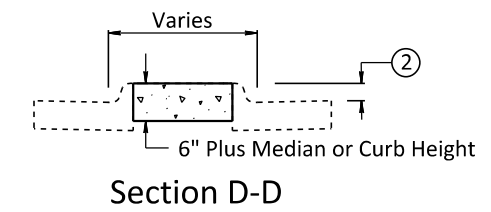
Notes:
Reinforcing steel will be incidental to the unit price for the Barrier Type Colored Concrete.
Paid for as 4" Barrier Type Colored Median PCC Pavement



Nose Detail



Section A-A Section B-B Section C-C

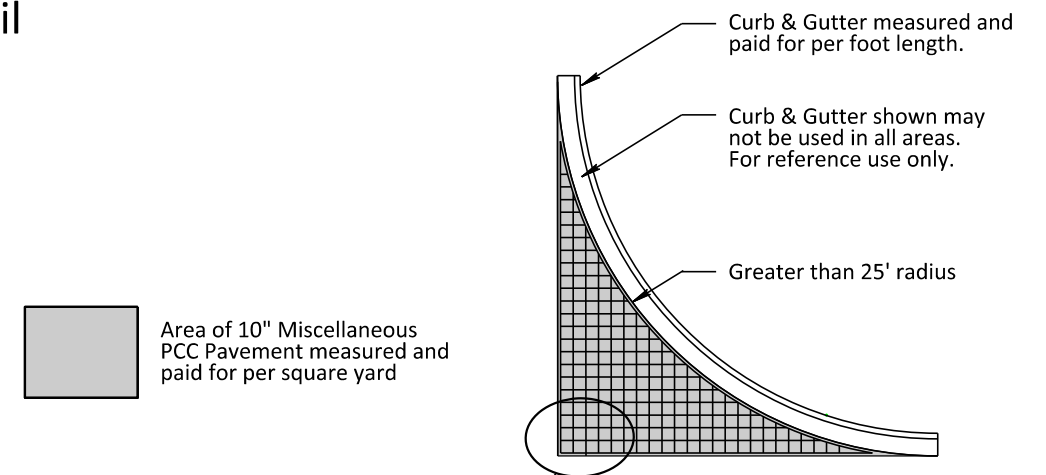


Section D-D

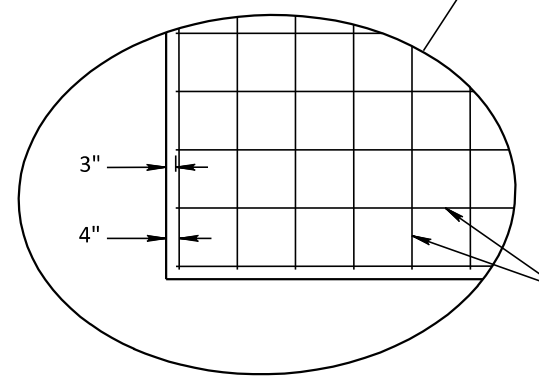
NOTES:

- ① This area will be placed monolithically with curb and gutter. Paid for as part of curb & gutter.
- ② Median or curb height.
- ③ Provide one 6" x 6" opening in island for signing if required.
- ④ Curb height to taper at same rate as sloped median nose.

Concrete Approach Nose Detail



Area of 10" Miscellaneous PCC Pavement measured and paid for per square yard

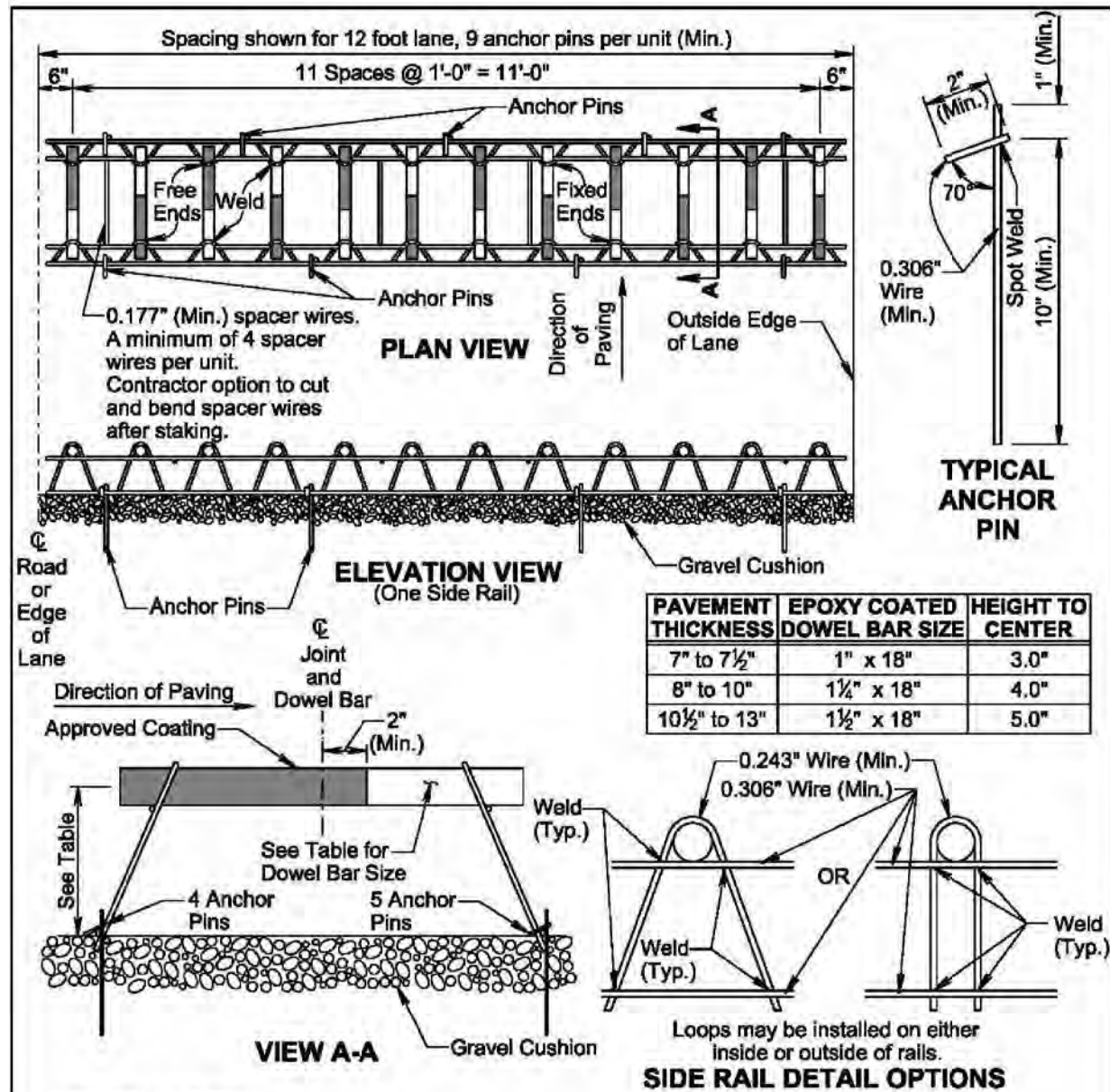


No. 5 Deformed Steel Bars spaced 18" center to center.

NOTE:
Use this detail only if indicated on PCC Pavement Layout Sheets. All other fillets refer to Standard Plates 380.16 or 380.17.
This item will be paid for as 10" Miscellaneous PCC Pavement.

Special Steel Bar Reinforcement Detail for Large Radius Turning Areas



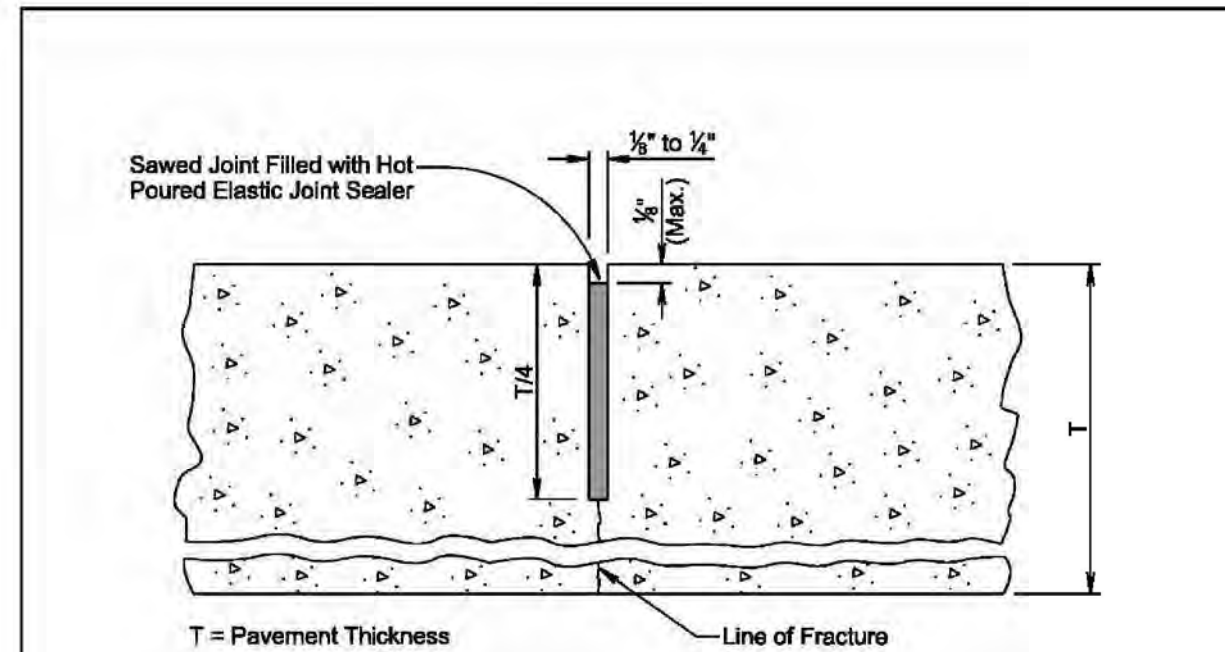


GENERAL NOTES:

- Longitudinal joint tie bars will be placed a minimum of 15 inches from the transverse contraction joint.
- The transverse contraction joints will be sawed perpendicular to the centerline of the roadway. The transverse sawed joint will be centered over the dowel bars.
- Supporting devices as shown on this sheet, or equivalent as approved by the Engineer, will be used to maintain proper horizontal and vertical alignment of the dowel bars.
- All dowel bar alignment tolerances will be as shown in the PCC Pavement Dowel Bar Alignment Tolerances standard plate.

November 19, 2022

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



GENERAL NOTES:

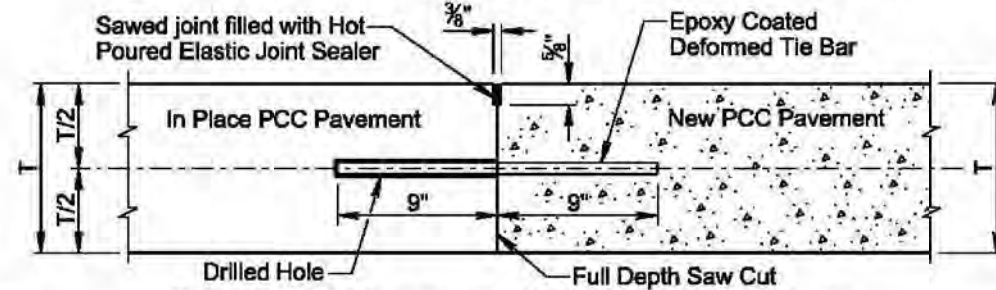
- If an early entrance saw cut does not develop the full transverse crack, then the saw cut to control cracking will be a minimum ¼ of the thickness of the pavement.
- All hot poured elastic joint sealer material spilled on the surface of the concrete pavement will be removed as soon as the material has cooled. The extent of removal of material will be to the satisfaction of the Engineer. All costs for removal of the spilled joint sealer material will be borne by the Contractor.

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			Sheet 1 of 1



**DETAIL A
TRANSVERSE CONSTRUCTION JOINT WITH TIE BARS**



T = In Place PCC Pavement and New PCC Pavement Thickness

GENERAL NOTES:

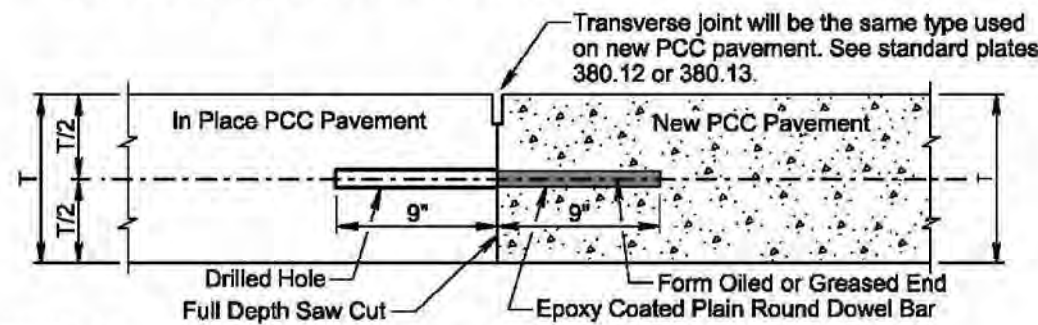
The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on a previous project.

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

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

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

**DETAIL B
TRANSVERSE CONSTRUCTION JOINT WITH DOWEL BARS**



T = In Place PCC Pavement and New PCC Pavement Thickness

GENERAL NOTES:

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

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

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

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

January 22, 2023

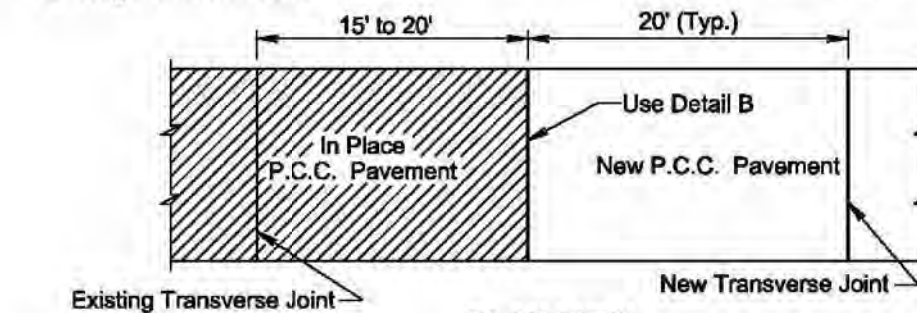
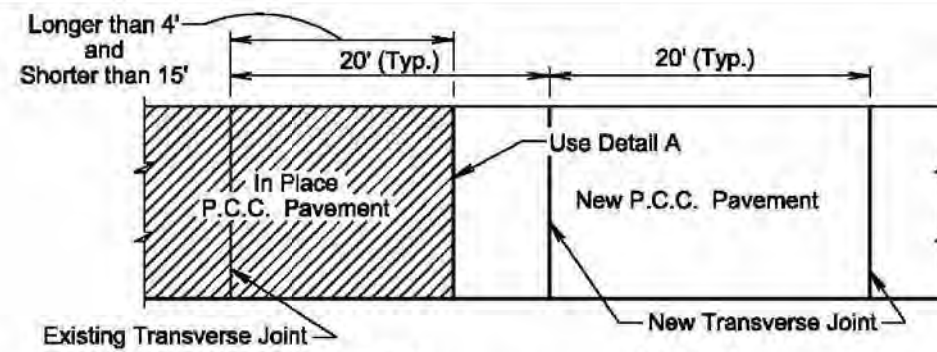
Published Date: 2025

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PCC PAVEMENT TRANSVERSE CONSTRUCTION JOINTS WITH TIE BARS OR DOWEL BARS

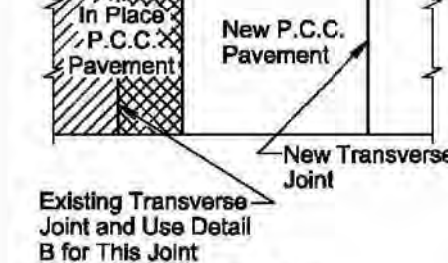
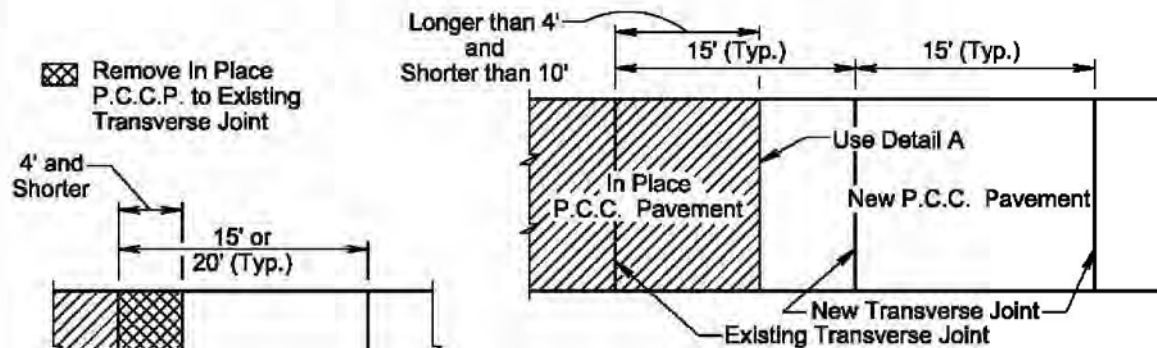
PLATE NUMBER
380.15

Sheet 1 of 2



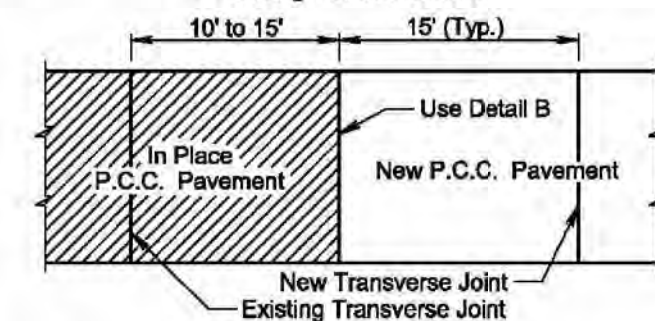
PLAN VIEW

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



PLAN VIEW

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



PLAN VIEW

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

January 22, 2023

Published Date: 2025

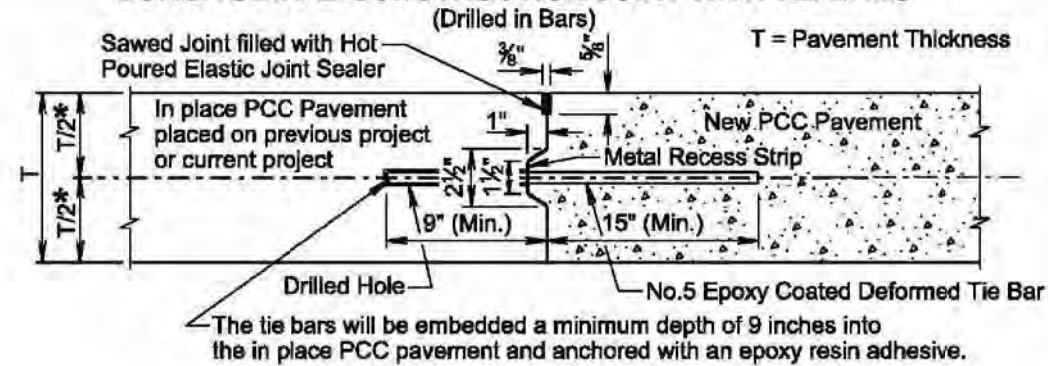
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PCC PAVEMENT TRANSVERSE CONSTRUCTION JOINTS WITH TIE BARS OR DOWEL BARS

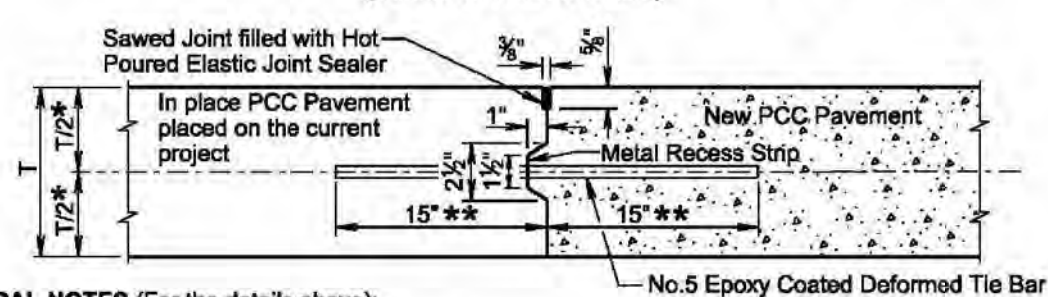
PLATE NUMBER
380.15

Sheet 2 of 2

LONGITUDINAL CONSTRUCTION JOINT WITH TIE BARS



LONGITUDINAL CONSTRUCTION JOINT WITH TIE BARS
(Inserted or Formed in Bars)



GENERAL NOTES (For the details above):

The epoxy coated deformed tie bars will be spaced in accordance with the following tables:

TIE BAR SPACING 48" MAXIMUM	
Transverse Contraction Joint Spacing	Number of Tie Bars
6.5' to 10'	2
10.5' to 14'	3
14.5' to 18'	4
18.5' to 22'	5

TIE BAR SPACING 30" MAXIMUM	
Transverse Contraction Joint Spacing	Number of Tie Bars
5' to 7'	2
7.5' to 9.5'	3
10' to 12'	4
12.5' to 14.5'	5
15' to 17'	6
17.5' to 19.5'	7
20' to 22'	8

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

The required number of tie bars as shown in the table will be uniformly spaced within each panel. The uniformly spaced tie bars will be spaced a maximum of 48 inches center to center for a female keyway and will be spaced a maximum of 30 inches center to center for a vertical face and male keyway. The maximum tie bar spacing will apply to tie bars within each panel.

The keyway illustrated in the above details depict a female keyway.

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

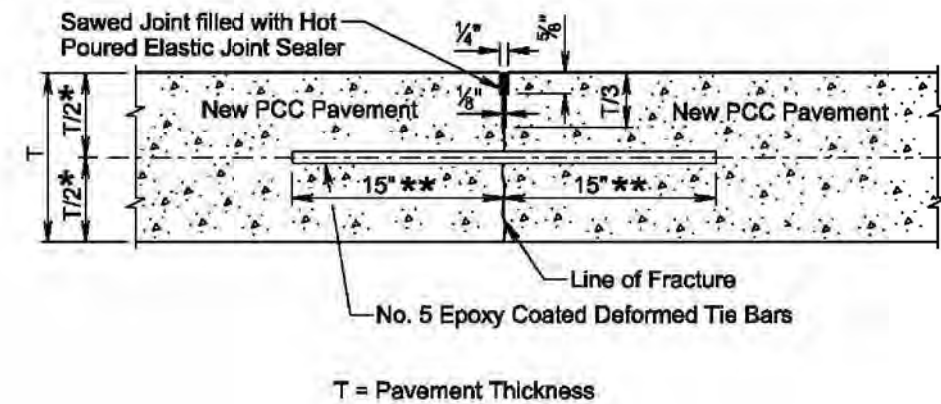
* The vertical placement tolerance for any part of the tie bar will be $\pm T/6$.

** The transverse placement (side shift) tolerance will be ± 3 inches when measured perpendicular to the longitudinal joint line.

November 19, 2022

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			Sheet 1 of 2

SAWED LONGITUDINAL JOINT WITH TIE BARS
(Poured Monolithically)



GENERAL NOTES (For the detail above):

The epoxy coated deformed tie bars will be spaced in accordance with the following table:

TIE BAR SPACING 48" MAXIMUM	
Transverse Contraction Joint Spacing	Number of Tie Bars
6.5' to 10'	2
10.5' to 14'	3
14.5' to 18'	4
18.5' to 22'	5

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

The required number of tie bars as shown in the table will be uniformly spaced within each panel with a maximum space of 48 inches center to center. The maximum tie bar spacing will apply to tie bars within each panel.

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

* The vertical placement tolerance for any part of the tie bar will be $\pm T/6$.

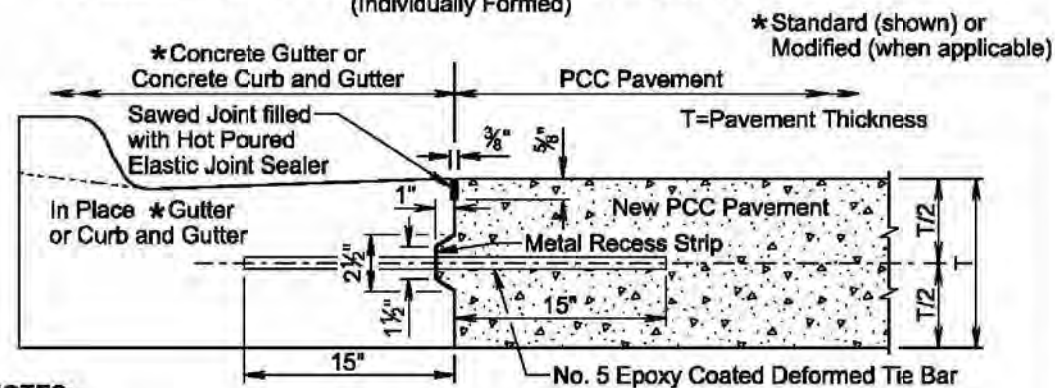
** The transverse placement (side shift) tolerance will be ± 3 inches when measured perpendicular to the longitudinal joint line.

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			Sheet 2 of 2



LONGITUDINAL CONSTRUCTION JOINT WITH TIE BARS
(Individually Formed)



GENERAL NOTES:

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

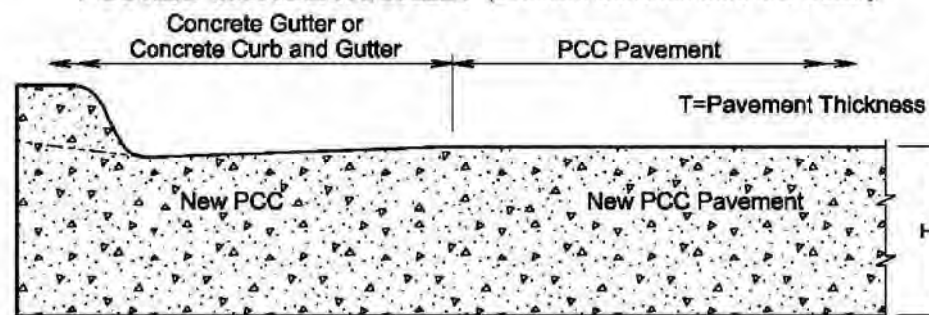
The keyway is optional and is not required. When concrete pavement is formed and a keyway is provided, a metal recess strip will be used. When concrete pavement is slip formed, a metal recess strip is not required.

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

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

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

POURED MONOLITHICALLY (Standard Concrete Curb and Gutter)



GENERAL NOTES:

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

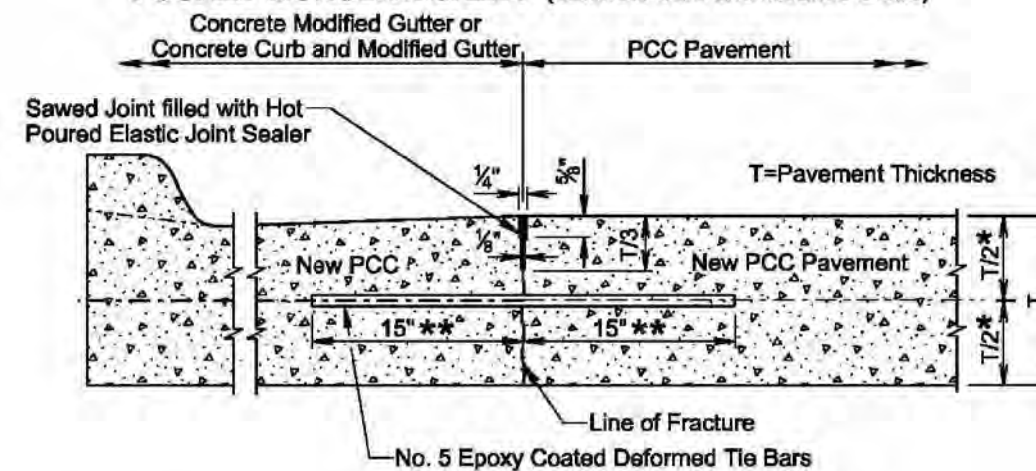
The gutter or curb and gutter will be sawed transversely at each mainline transverse contraction joint. The transverse contraction joints in the gutter or curb and gutter will be sawed and sealed same as the transverse contraction joints in the PCC pavement.

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

March 31, 2024

Published Date: 2025	S D D O T	PCC PAVEMENT LONGITUDINAL CONSTRUCTION JOINTS WITH CONCRETE GUTTER OR CONCRETE CURB AND GUTTER	PLATE NUMBER 380.21
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POURED MONOLITHICALLY (Concrete Curb and Modified Gutter)



GENERAL NOTES:

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

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

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

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

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

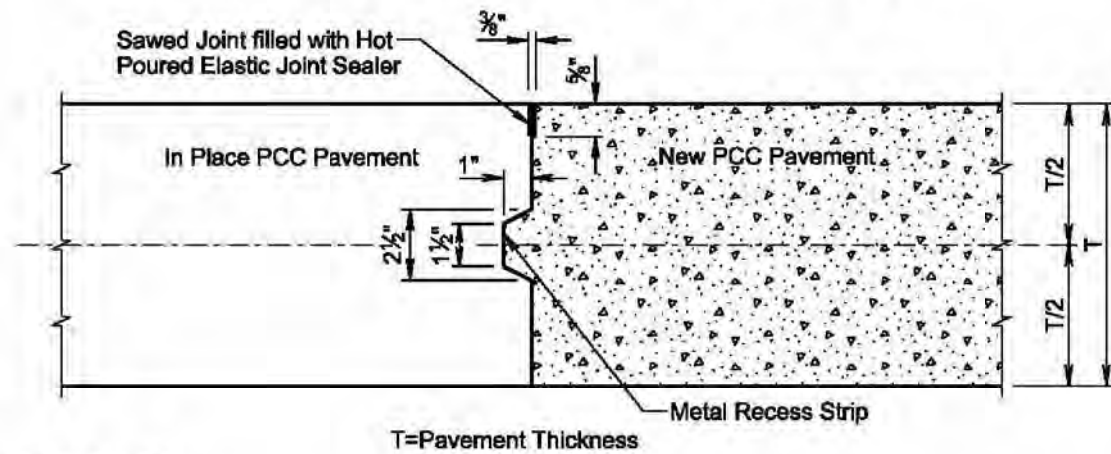
The slope of the gutter will be the slope designated for the type of gutter or curb and gutter to be constructed. The bottom slope of the gutter or curb and gutter will be constructed at the same slope as the mainline concrete pavement.

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

March 31, 2024

Published Date: 2025	S D D O T	PCC PAVEMENT LONGITUDINAL CONSTRUCTION JOINTS WITH CONCRETE GUTTER OR CONCRETE CURB AND GUTTER	PLATE NUMBER 380.21
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LONGITUDINAL CONSTRUCTION JOINT WITHOUT TIE BARS

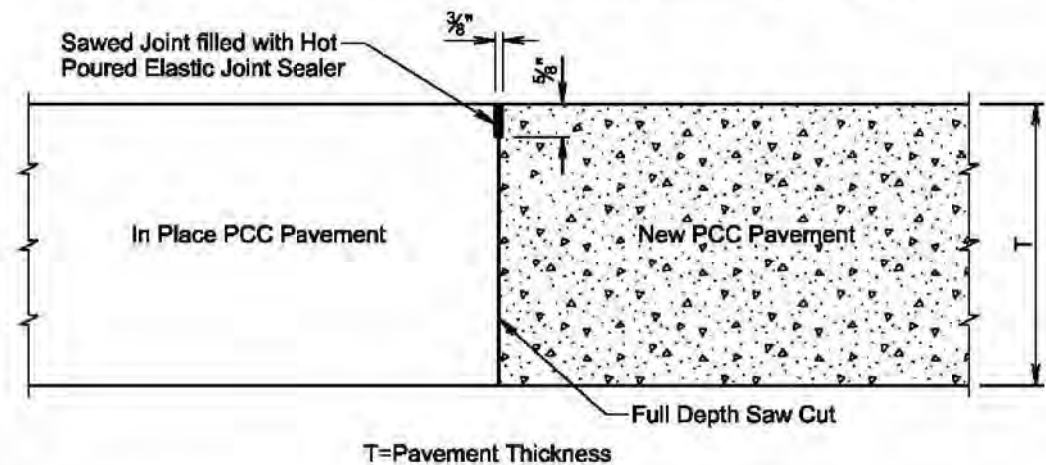


GENERAL NOTES:

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

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

LONGITUDINAL CONSTRUCTION JOINT WITHOUT TIE BARS



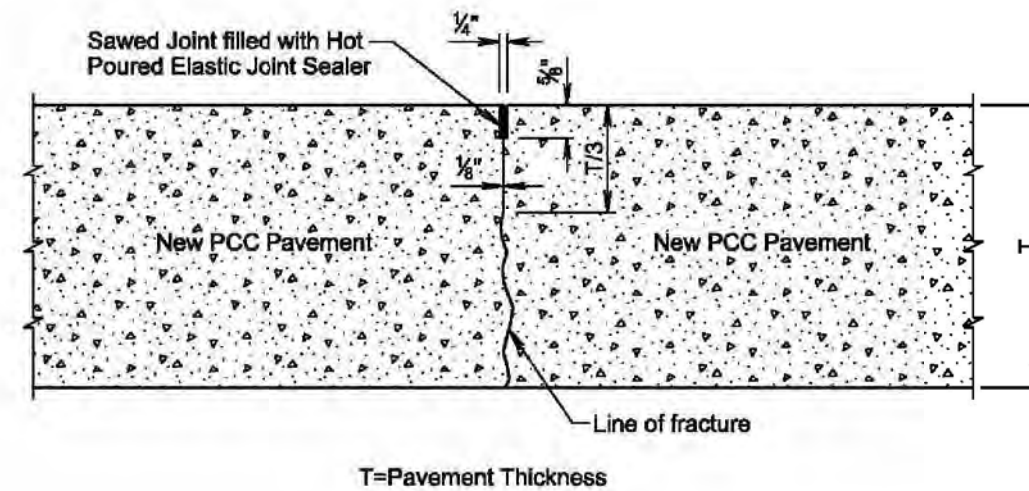
GENERAL NOTE:

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

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

SAWED LONGITUDINAL JOINT WITHOUT TIE BARS

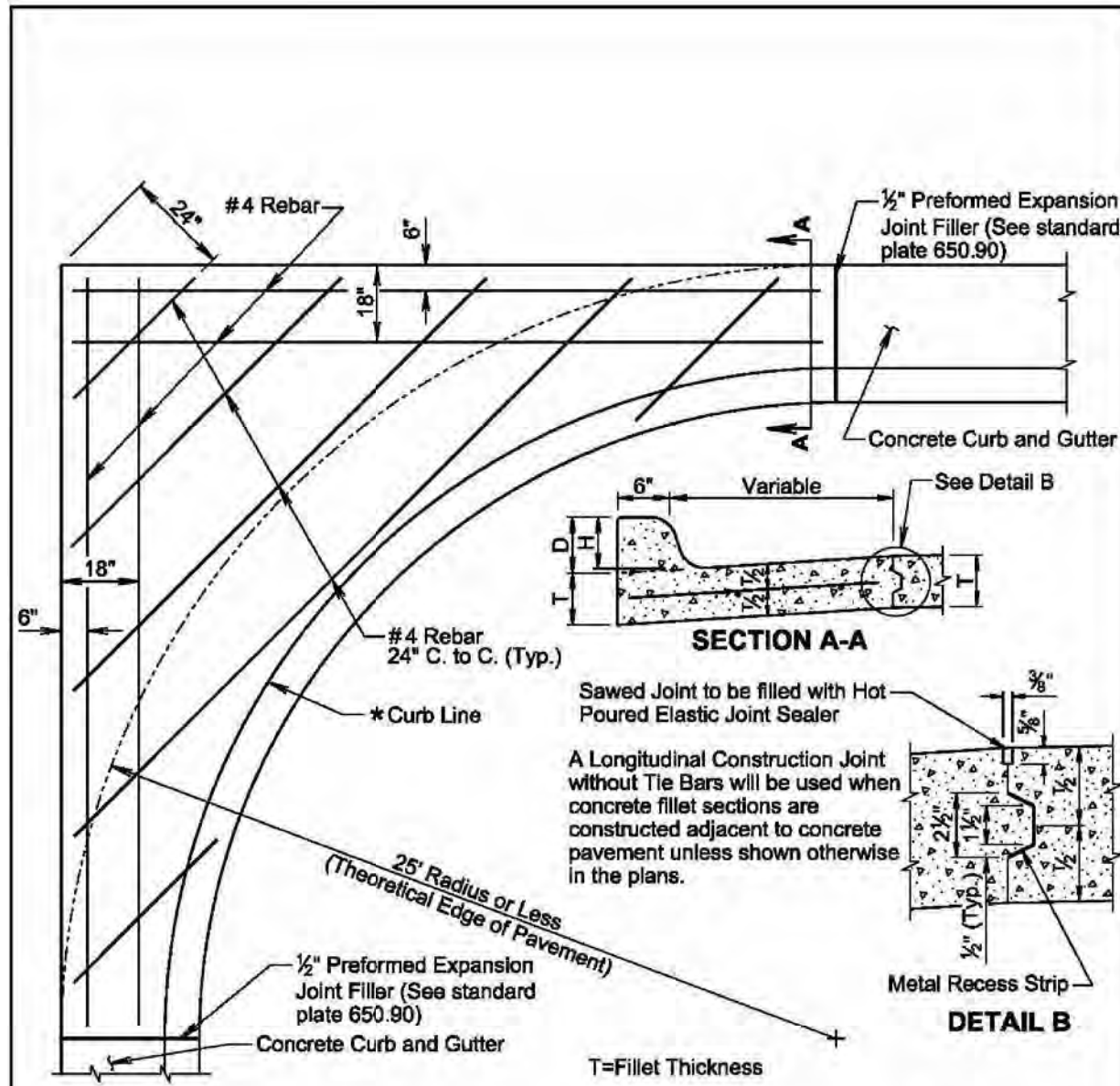


GENERAL NOTE:

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

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



* If a curb ramp is constructed adjacent to a PCC fillet section, the curb will need to be modified. Refer to the corresponding curb ramp standard plate or other special details in the plans for modification of the PCC fillet section.

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Published Date: 2025	S D D O T	PCC FILLET SECTION WITH TYPE B CURB AND GUTTER	PLATE NUMBER 380.30
			Sheet 1 of 2

GENERAL NOTES:

For fillets with irregular shapes or bump outs:

- 1) The 6" and 18" offset #4 rebar will be included on any side next to pavement or driveways (not along the Curb and Gutter).
- 2) All remaining area will have #4 rebar spaced 24" center to center in a square pattern.

Dimensions D, H, and T will conform to those shown on the appropriate curb and gutter standard plate.

All rebar will be in conformance with Sections 480 and 1010 of the Specifications. All rebar will have a minimum of 3 inches of clear cover.

Class M6 Concrete will be used in construction of the fillets.

The concrete curb will be monolithic with the concrete fillet. No separate payment for this curb will be made as the curb is considered a part of the fillet.

Joints will be constructed at 10-foot intervals except when fillets are constructed adjacent to PCC Pavement. If there is adjacent PCC Pavement the joints will be extended from edge of pavement through the fillet section as directed by the Engineer.

The cost for all materials, labor, and incidentals necessary to construct the PCC fillet section with curb and gutter will be incidental to the contract unit price per square yard for the corresponding PCC fillet section contract item.

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Published Date: 2025	S D D O T	PCC FILLET SECTION WITH TYPE B CURB AND GUTTER	PLATE NUMBER 380.30
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