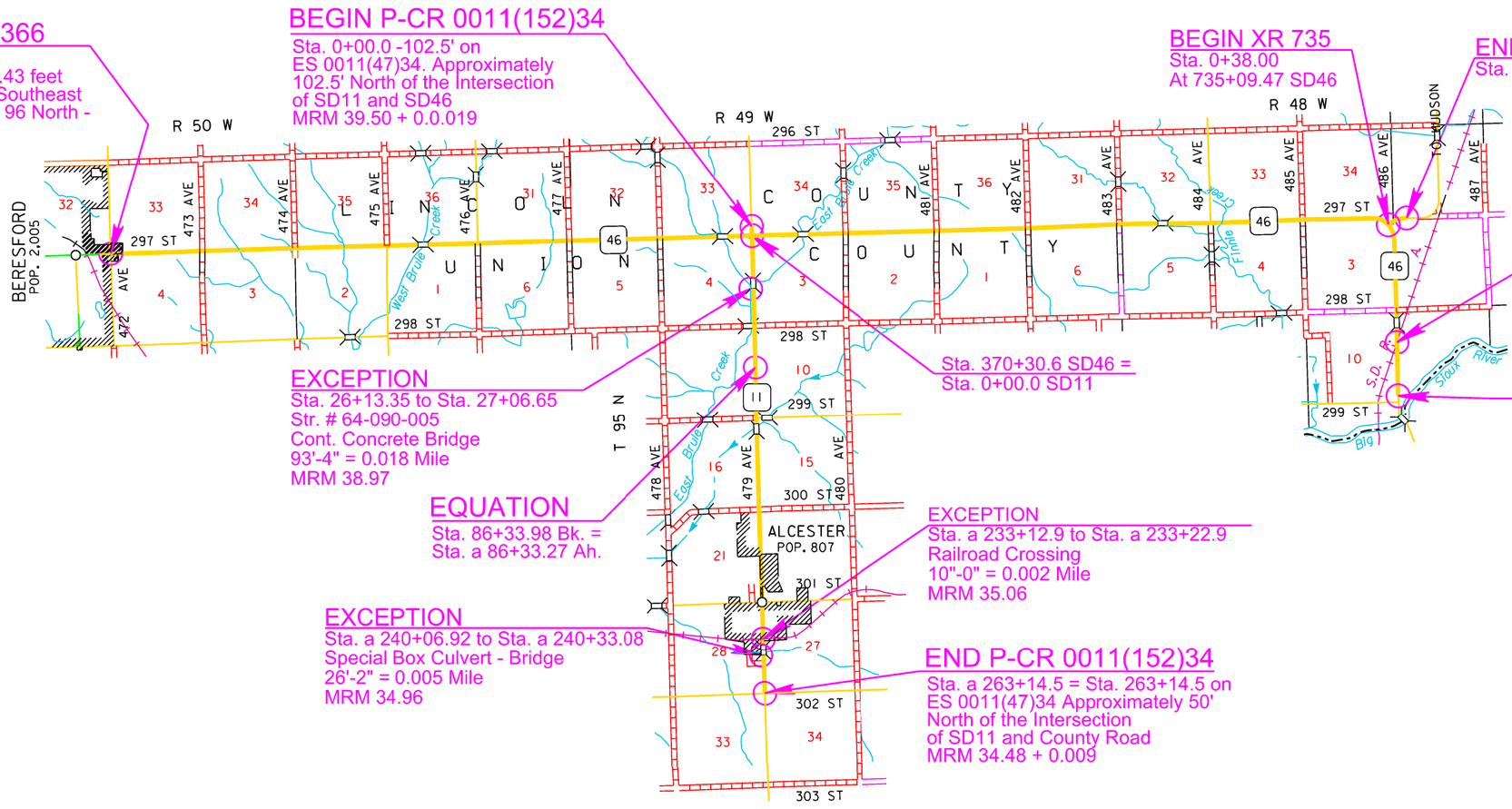
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0046(73)366 & P-CR 0011(152)34	M1	M12

Plotting Date: 01/03/2025

SECTION M: PERMANENT PAVEMENT MARKING PLAN

INDEX OF SHEETS



BEGIN P-CR 0046(73)366
Sta. 0+20.00 =Sta. 52+72.55 on
P 0046(48)365 Approximately 0.43 feet
South & 12.43 feet West of the Southeast
corner of Section 32 - Township 96 North -
Range 50 West 5th P.M.
MRM = 366.56+0.000

BEGIN P-CR 0011(152)34
Sta. 0+00.0 -102.5' on
ES 0011(47)34. Approximately
102.5' North of the Intersection
of SD11 and SD46
MRM 39.50 + 0.0.019

BEGIN XR 735
Sta. 0+38.00
At 735+09.47 SD46

END XR 735
Sta. 13+60.00

EXCEPTION
Sta. 800+35.5 to Sta. 800+66.0
Railroad Crossing
30'-5" = 0.006 Mile
MRM 381.75

END P-CR 0046(73)366
Sta. 828+60.0 = Sta. 822+81.84 on
F 0046(00)366 Approximately 852.5 feet North
& 105.8 feet West of the Southeast corner of
Section 10 - Township 95 North - Range 48
West 5th P.M.
MRM = 382.00+0.123

EXCEPTION
Sta. 26+13.35 to Sta. 27+06.65
Str. # 64-090-005
Cont. Concrete Bridge
93'-4" = 0.018 Mile
MRM 38.97

Sta. 370+30.6 SD46 =
Sta. 0+00.0 SD11

EQUATION
Sta. 86+33.98 Bk. =
Sta. a 86+33.27 Ah.

EXCEPTION
Sta. a 233+12.9 to Sta. a 233+22.9
Railroad Crossing
10"-0" = 0.002 Mile
MRM 35.06

EXCEPTION
Sta. a 240+06.92 to Sta. a 240+33.08
Special Box Culvert - Bridge
26'-2" = 0.005 Mile
MRM 34.96

END P-CR 0011(152)34
Sta. a 263+14.5 = Sta. 263+14.5 on
ES 0011(47)34 Approximately 50'
North of the Intersection
of SD11 and County Road
MRM 34.48 + 0.009

1

October 1, 2025

Section M - Pavement Marking - PCN 05J5

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E0235	Preformed Thermoplastic Pavement Marking, Arrow	22	Each
633E0250	Preformed Thermoplastic Pavement Marking, Railroad Crossing	2	Each
633E3000	Durable Pavement Marking, 4" White	166,918	Ft
633E3005	Durable Pavement Marking, 4" Yellow	59,587	Ft
633E3010	Durable Pavement Marking, 8" White	450	Ft
633E3015	Durable Pavement Marking, 8" Yellow	150	Ft
633E3030	Durable Pavement Marking, 24" White	72	Ft
633E3035	Durable Pavement Marking, 24" Yellow	1,080	Ft
633E3040	Durable Pavement Marking, Area	50	SqFt
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	22	Each
633E5040	Grooving for Cold Applied Plastic Pavement Marking, Railroad Crossing	2	Each
633E5100	Grooving for Durable Pavement Marking, 4"	226,505	Ft
633E5105	Grooving for Durable Pavement Marking, 8"	600	Ft
633E5115	Grooving for Durable Pavement Marking, 24"	1,152	Ft
633E5120	Grooving for Durable Pavement Marking, Area	50	SqFt
633E9200	Mobile Retroreflectometer Measurements	15.000	Mile

Section M - Pavement Marking - PCN 06QY

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E0225	Preformed Thermoplastic Pavement Marking, 24"	184	Ft
633E0250	Preformed Thermoplastic Pavement Marking, Railroad Crossing	2	Each
633E1200	High Build Waterborne Pavement Marking Paint, White	225	Gal
633E1205	High Build Waterborne Pavement Marking Paint, Yellow	101	Gal
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	184	Ft
633E5040	Grooving for Cold Applied Plastic Pavement Marking, Railroad Crossing	2	Each

PAVEMENT MARKING PAINT

The Contractor will advise the Engineer a minimum of 3 weeks prior to the application of the permanent pavement marking to allow the State to check and mark the location of no passing zones.

The application of permanent pavement marking will begin no sooner than 7 calendar days following completion of the fog or flush seal. Application of permanent pavement marking will be completed within 14 calendar days following completion of the final surfacing.

COLD APPLIED PLASTIC PAVEMENT MARKING

All materials will be applied as per the manufacturer's recommendations.

Cold Applied Plastic Pavement Markings will be 3M Series 380 AW or an approved equal.

HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

All materials will be applied as per manufacturer's recommendations. High build waterborne pavement marking paint will conform to the supplemental specifications for Section 980.1 B.

Reflective media will consist of glass beads. Reflective media will require a Certificate of Compliance for Certification for each source and lot. Acceptance sampling will not be required.

RATES OF MATERIALS FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

Solid 4" line = 22.5 Gals/Mile
Dashed 4" line = 6.2 Gal/Mile
Glass Beads = 8 Lbs/Gal.

All cost for materials, labor, and equipment necessary to furnish and install the pavement markings will be incidental to the contract unit price for the respective High Build Waterborne Pavement Marking Paint items.

GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING

The Contractor will establish a positive means for the removal of the grinding and/or grooving residue. Residue from dry grooving will be vacuumed. Solid residue will be removed from the pavement surfaces before being blown by traffic action or wind. The Contractor will conduct this work to control and minimize airborne dust and similar debris that may become a hazard to motor vehicle operation or nuisance to property owners. Residue from wet grooving will not be permitted to flow across lanes being used by public traffic or into gutter or drainage facilities. Residue, whether in solid or slurry form, will be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state. The cleaning of the residue for grooving will be to the satisfaction of the Engineer and may require more than one pass to adequately remove material. All costs for removal of grinding and/or grooving residue will be included in the contract unit price per foot, square foot, each, or word for "Grooving for Cold Applied Plastic Pavement Marking" contract items.

PREFORMED THERMOPLASTIC PAVEMENT MARKING

General

- Made of prefabricated retroreflective, resilient thermoplastic material;
- Contains glass beads uniformly distributed through the entire cross-sectional area;
- Capable of being affixed to bituminous or concrete pavement by heating;
- Resistant to deterioration due to exposure to sunlight, water, salt, and adverse weather conditions;
- Under traffic wear, shows no appreciable fading in accordance with the color requirements, lifting, or shrinkage throughout the life of the marking;
- Capable of conforming to pavement contours, breaks, and faults through the action of traffic at normal pavement temperatures;
- Possesses resealing characteristics, such that it is capable of fusing with itself and previous thermoplastic markings when heated; and
- Protected during shipment and in storage.

Apply the preformed thermoplastic pavement marking as recommended by the manufacturer to provide a neat, durable marking that will not flow, distort, or crack due to temperature if the pavement surface remains stable. Use equipment and application methods specified by the manufacturer. Primer as required by the manufacturer will be provided with the material.

Application of the markings will include the use of any manufacturer recommended sealers. Sealers may be required on concrete pavements, inside grooves, or on older asphalt pavements. Prior to placing any markings on new concrete, the Contractor will remove any curing compounds. Removal will be by sandblasting or other standard industry methods.

PREFORMED THERMOPLASTIC PAVEMENT MARKING (CONTINUED)

Any required primers or sealers will be included in the contract unit price for the various preformed thermoplastic pavement marking items.

Provide precut messages and symbols meeting the requirements of the MUTCD and the Standard Signs Manual in custom kits. Use separate pieces or segments to form individual letters or symbols only to the extent supplied by the manufacturer. Provide shapes, sizes, and colors as required by the contract.

Color

- Will meet the color specification limits and luminance factors for Cold Applied Plastic Pavement Marking and Legends (Section 983.2 D, Tables 1 and 2).

Glass Beads

- Ensure the preformed thermoplastic pavement marking contains a minimum 30% intermixed glass beads by weight and a minimum 80% true spheres.
- Ensure preformed thermoplastic pavement markings contain only clear beads.

Skid Resistance

- Ensure the surface of the preformed thermoplastic pavement marking provides a skid resistance value of at least 45 British Pendulum Number (BPN) when tested in accordance with ASTM E303.

Retroreflectivity

- Provide preformed thermoplastic pavement marking meeting the minimum initial pavement marking retroreflectivity values using 30 m geometry and meeting the testing procedures of ASTM E1710:

Minimum Initial Pavement Marking Retroreflectivity		
	White	**Yellow**
Thermoplastic	400 mcd/sq. ft./ft.	250 mcd/sq. ft./ft.
Thermoplastic, enhanced skid resistance (ESR)	250 d/sq. ft./ft.	150 d/sq. ft./ft.

Thickness

- A longitudinal marking is a minimum 90 mils thick at the edges, and a maximum 125 mils thick at the center of the stripe.
- Transverse markings and symbols are a minimum 125 mils thick at the edges, and a maximum 160 mils thick at the center.

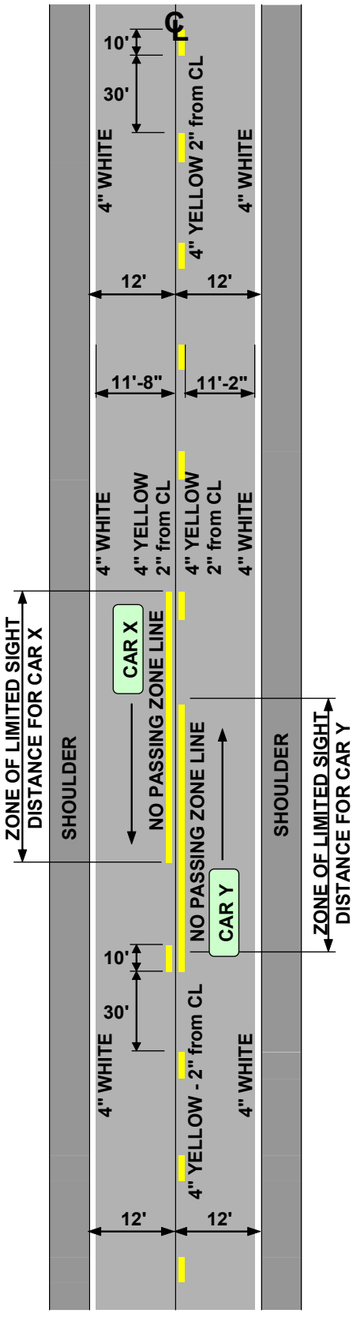
Sample

- Prior to application, the Contractor will provide a sample of the preformed thermoplastic pavement marking to be used on the project to the Region Traffic Engineer for inspection and approval.
- Do not begin application of the preformed thermoplastic pavement marking prior to obtaining the Region Traffic Engineer's approval of the preformed thermoplastic pavement marking material. The Region Traffic Engineer's approval of the preformed thermoplastic pavement marking does not void other preformed thermoplastic pavement marking requirements specified.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0046(73)366 & P-CR 0011(152)34	M3	M12

PAVEMENT MARKING - PCN 06QY

TWO LANE ROADWAY



Typical pavement marking as shown on this sheet will be applied throughout the entire length of two lane roadway.

Traffic Control will be incidental to the cost of application. The striper and advance or trailing warning vehicle will be equipped with flashing amber lights and advance warning arrow board.

Application rates will be as follows:

Two Lane Roadway (Rates for one line)
Dashed Yellow Centerline Rate = 6.2 Gals./Pass-Mile
Solid Yellow Centerline Rate = 22.5 Gals./Pass-Mile
Solid White Edgeline Rate = 22.5 Gals./Pass-Mile

4" Yellow Skip Centerline (when not adjacent to a 4" Yellow No Passing Zone) will be placed consistently to the south or east side of centerline.

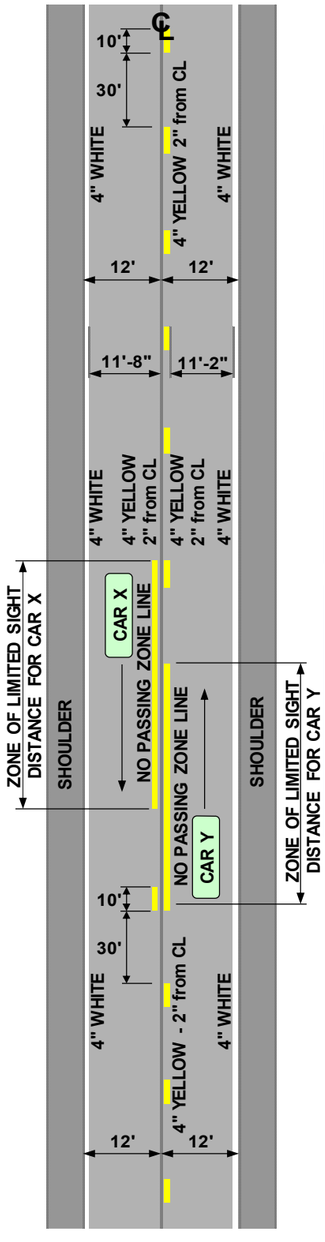
ESTIMATED QUANTITIES (BASED ON ONE APPLICATION)	
HIGH BUILD	QUANTITY
WHITE	225 GALLONS
YELLOW	101 GALLONS

ESTIMATED QUANTITIES					
THERMO	4"	8"	12"	24"	SOLID AREAS
WHITE	-	-	-	184'	-
YELLOW	-	-	-	-	-

Included in the above quantities are:					
Thermo Additional White			Additional Yellow		
Description			Description		
4" Lines		-	Transitions	-	-
8" Lines		-	4" Skip Lines		-
12" Gore Lines		-	8" Lines		-
Crosswalks	2 Ea, 24" W	112'	12" Lines		-
24" Stop Lines		72'	24" Hatches		-
24" Hatches		-	Solid Areas		-
R X R w/ Stop Lines		2 Ea			

PAVEMENT MARKING - PCN 05J5

TWO LANE ROADWAY



Typical pavement marking as shown on this sheet will be applied throughout the entire length of two lane roadway.

Traffic Control will be incidental to the cost of application. The striper and advance or trailing warning vehicle will be equipped with flashing amber lights and advance warning arrow board.

ESTIMATED QUANTITIES (BASED ON ONE APPLICATION)				
DURABLE	Project No. 1	Project No. 2	Project No. 3	TOTALS
4" White	166918'	-	-	166918'
8" White	450'	-	-	450'
12" White	-	-	-	-
24" White	72'	-	-	72'
Solid White	-	-	-	-
4" Yellow	59587'	-	-	59587'
8" Yellow	150'	-	-	150'
12" Yellow	-	-	-	-
24" Yellow	1080'	-	-	1080'
Solid Yellow	50 SqFt	-	-	50 SqFt

ESTIMATED QUANTITIES (BASED ON ONE APPLICATION)					
DURABLE	4"	8"	12"	24"	SOLID AREAS
WHITE	166918'	450'	-	72'	-
YELLOW	59587'	150'	-	1080'	50 SQFT

Included in the above quantities are:			
Additional White		Additional Yellow	
Description		Description	
4" Lines	1200'	Transitions	6 Ea 6000'
8" Lines	450'	4" Skip Lines	-
12" Gore Lines	-	8" Lines	150'
Crosswalks	-	12" Lines	-
24" Stop Lines	72'	24" Hatches	1080'
24" Hatches	-	Solid Areas	50sf
Solid Areas	-		

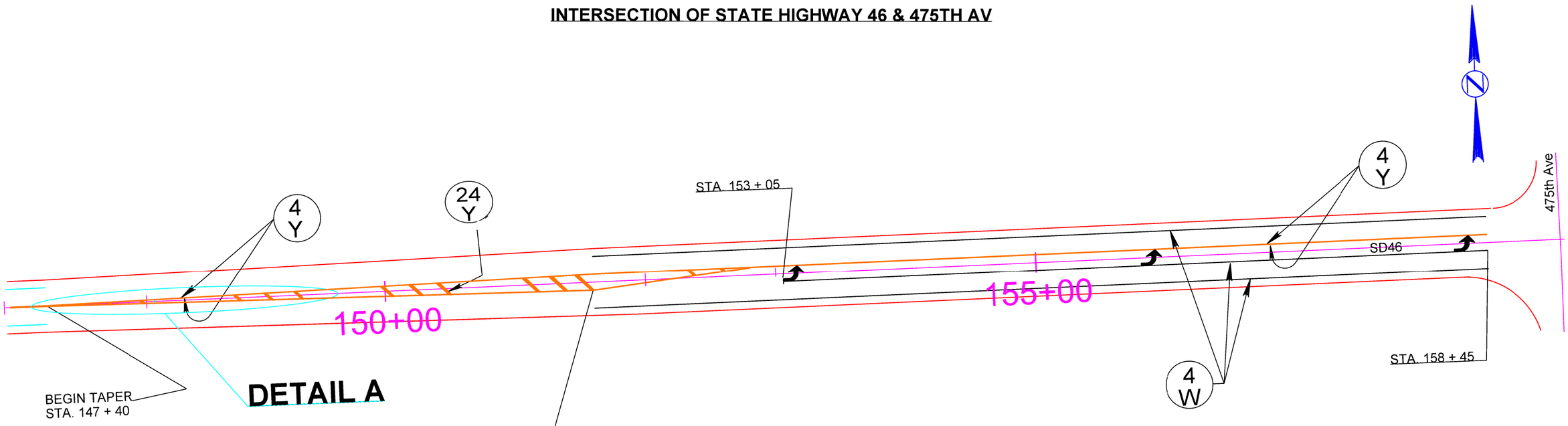
THERMO - Additional White Items	
Arrows	
Left Arrows	15 Ea
Right Arrows	5 Ea
Straight Arrows	-
Combo Arrows	-
Lane Drop Arrows	2 Ea
Messages	
STOP	- -
STOP AHEAD	- -
R X R w/ Stop Lines	2 Ea
SCHOOL X-ING	-
Symbols	
Symbols	-
Int'l Symbol of Accessibility	-

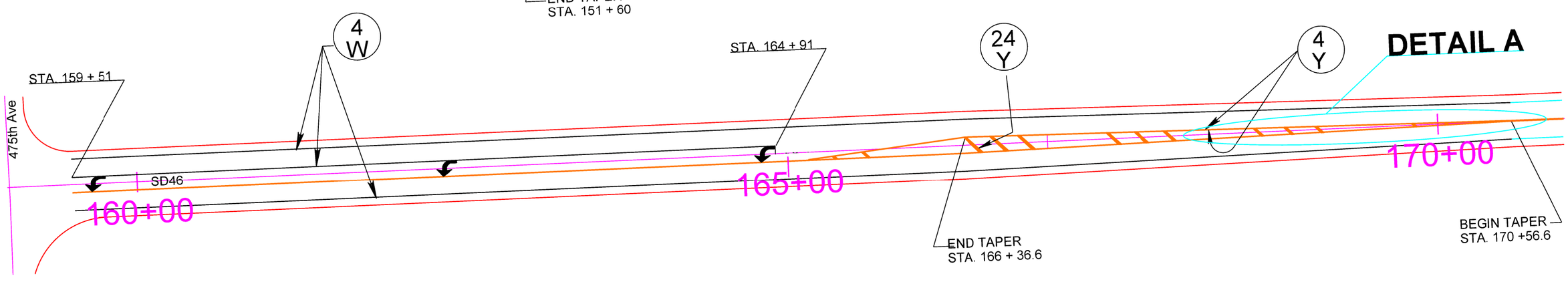
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0046(73)366 & P-CR 0011(152)34	M4	M12

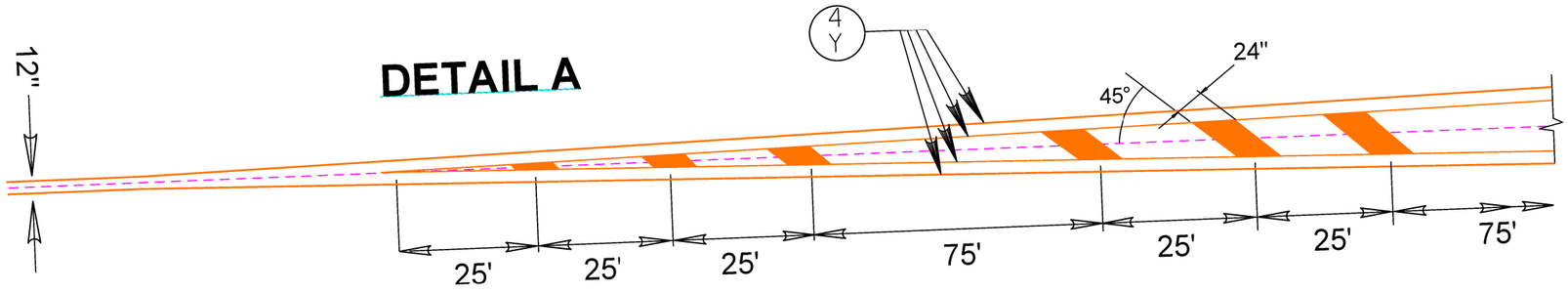
Plotting Date: 01/02/2025

PERMANENT PAVEMENT MARKING LAYOUT

INTERSECTION OF STATE HIGHWAY 46 & 475TH AV







LEGEND

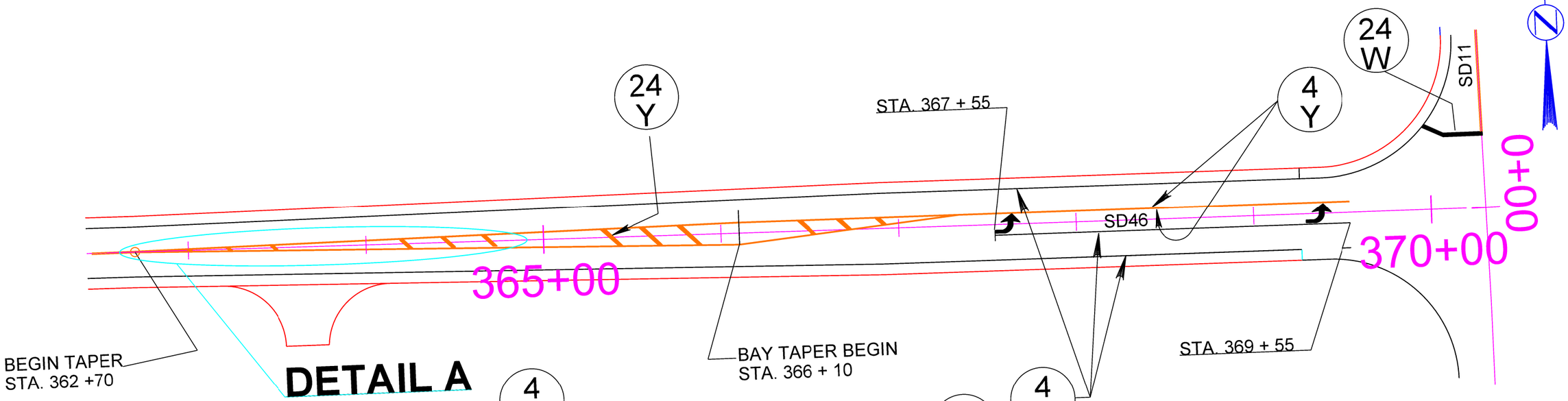
- (4 W) - 4" WHITE PAINTED PAVEMENT MARKING
- (4 Y) - 4" YELLOW PAINTED PAVEMENT MARKING
- (24 Y) - 24" YELLOW PAINTED PAVEMENT MARKING
- ↰ - THERMOPLASTIC PAVEMENT MARKING, ARROW

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0046(73)366 & P-CR 0011(152)34	M5	M12

Plotting Date: 01/02/2025

PERMANENT PAVEMENT MARKING LAYOUT

INTERSECTION OF SD46 & SD11

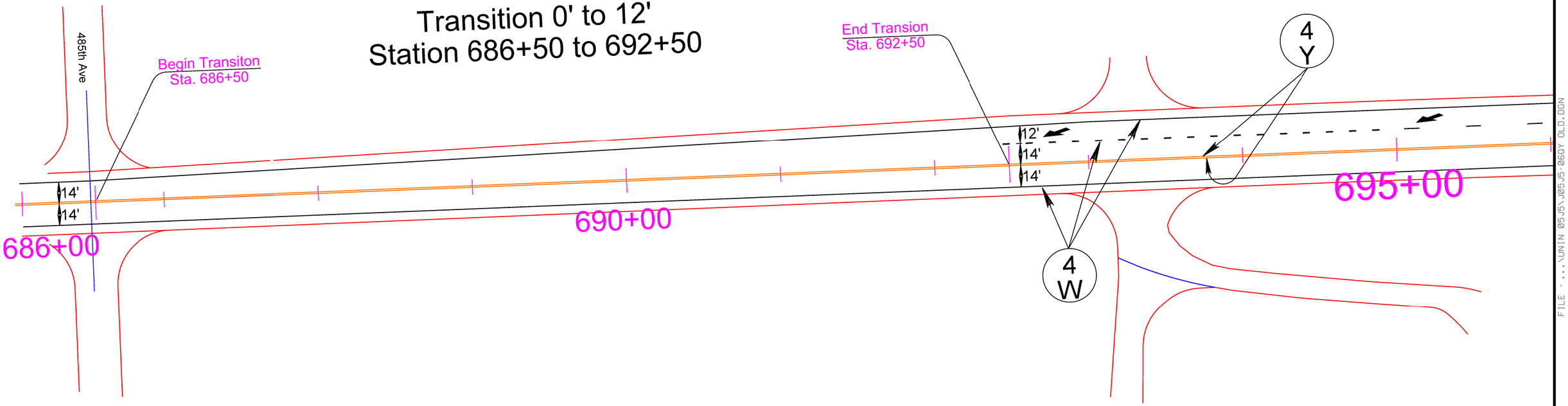


LEGEND

- (4 W) - 4" WHITE PAINTED PAVEMENT MARKING
- (4 Y) - 4" YELLOW PAINTED PAVEMENT MARKING
- (24 Y) - 24" YELLOW PAINTED PAVEMENT MARKING
- (24 W) - 24" WHITE PAINTED PAVEMENT MARKING
- - THERMOPLASTIC PAVEMENT MARKING, ARROW

PERMANENT PAVEMENT MARKING LAYOUT

TRUCK CLIMBING LANE DROP MARKING DETAILS



LEGEND

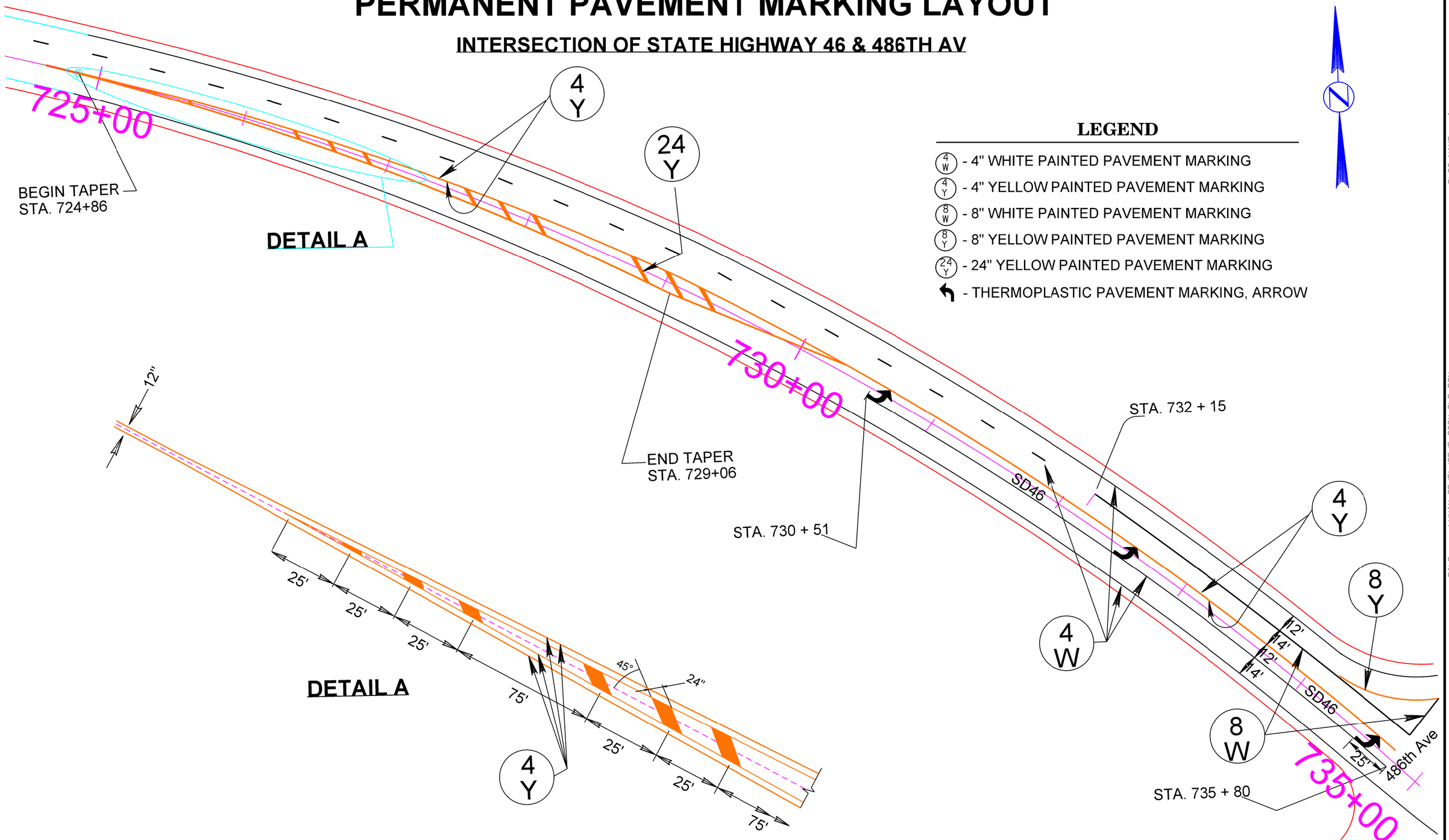
- (4 W) - 4" WHITE PAINTED PAVEMENT MARKING
- (4 Y) - 4" YELLOW PAINTED PAVEMENT MARKING
- - THERMOPLASTIC PAVEMENT MARKING, LANE DROP ARROWS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0046(73)366 & P-CR 0011(152)34	M7	M12

Plotting Date: 01/02/2025

PERMANENT PAVEMENT MARKING LAYOUT

INTERSECTION OF STATE HIGHWAY 46 & 486TH AV



LEGEND

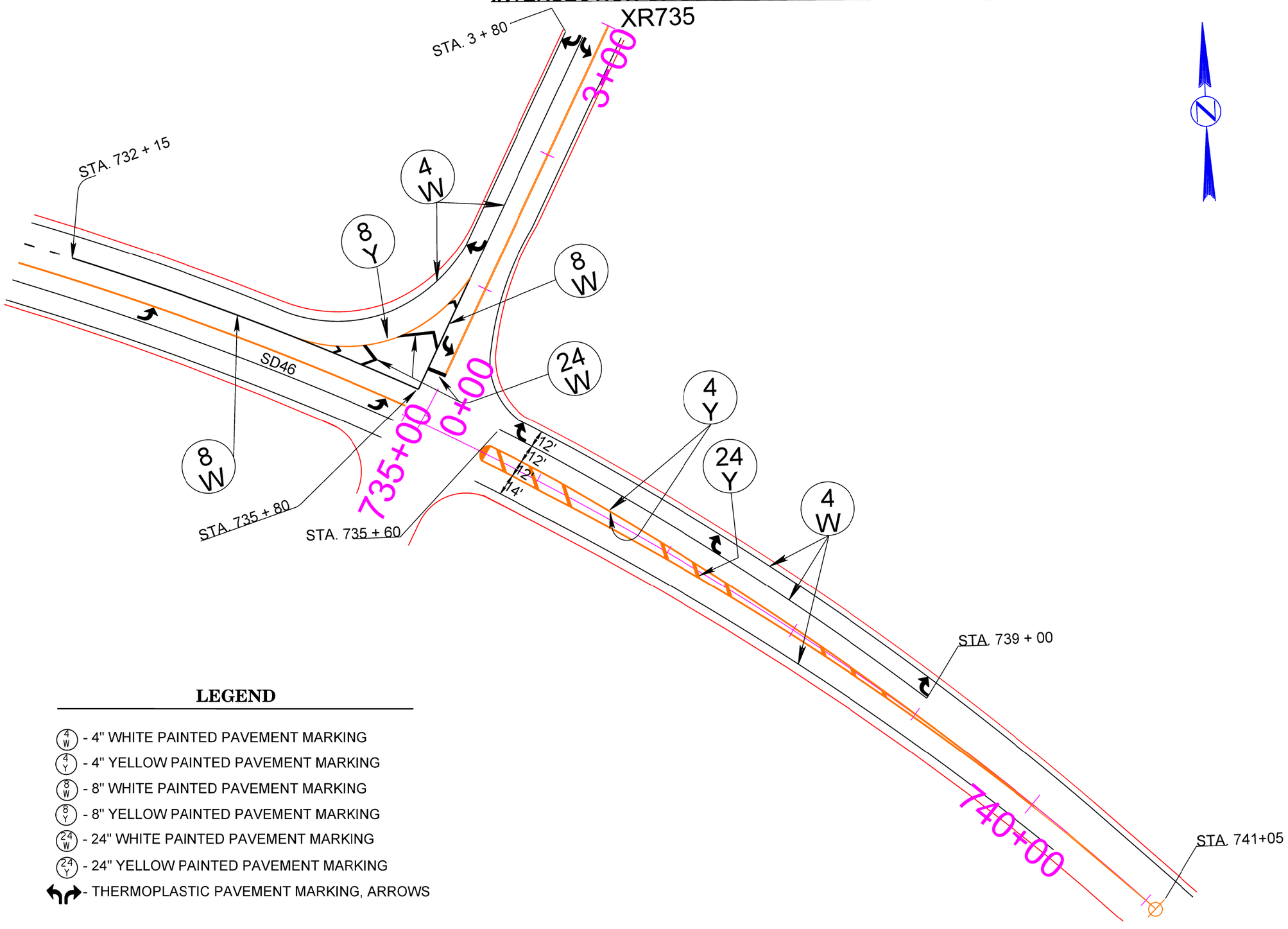
- (4 W) - 4" WHITE PAINTED PAVEMENT MARKING
- (4 Y) - 4" YELLOW PAINTED PAVEMENT MARKING
- (8 W) - 8" WHITE PAINTED PAVEMENT MARKING
- (8 Y) - 8" YELLOW PAINTED PAVEMENT MARKING
- (24 Y) - 24" YELLOW PAINTED PAVEMENT MARKING
- - THERMOPLASTIC PAVEMENT MARKING, ARROW

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0046(73)366 & P-CR 0011(152)34	M8	M12

Plotting Date: 01/02/2025

PERMANENT PAVEMENT MARKING LAYOUT

INTERSECTION OF STATE HIGHWAY 46 & 486TH AV

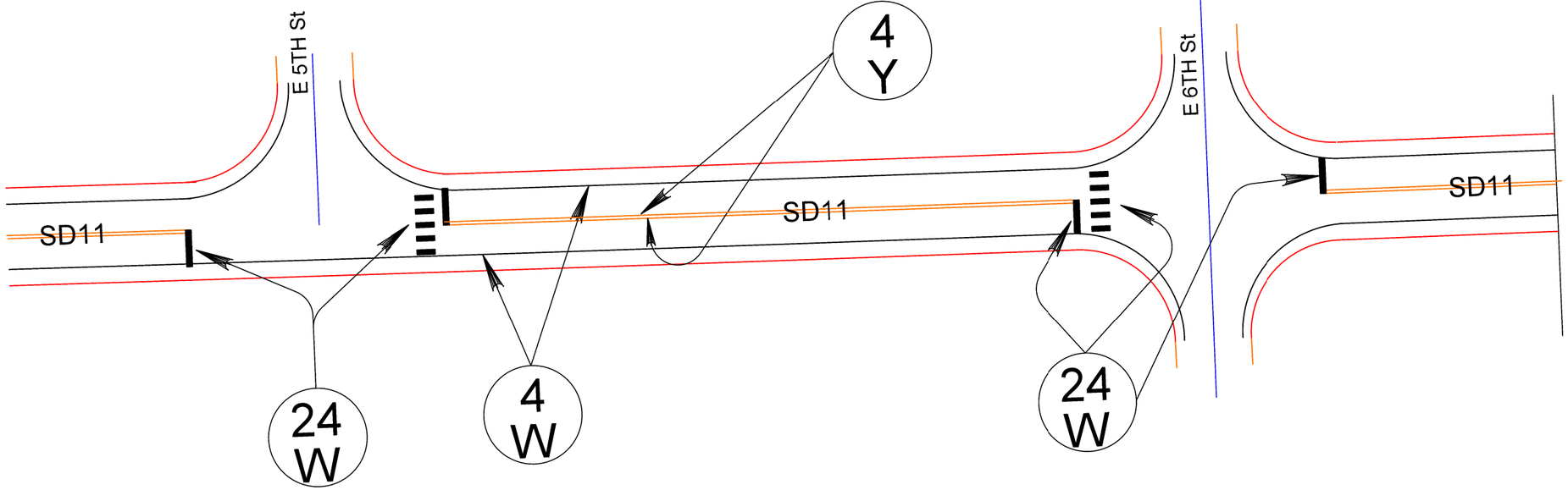


LEGEND

- (4 W) - 4" WHITE PAINTED PAVEMENT MARKING
- (4 Y) - 4" YELLOW PAINTED PAVEMENT MARKING
- (8 W) - 8" WHITE PAINTED PAVEMENT MARKING
- (8 Y) - 8" YELLOW PAINTED PAVEMENT MARKING
- (24 W) - 24" WHITE PAINTED PAVEMENT MARKING
- (24 Y) - 24" YELLOW PAINTED PAVEMENT MARKING
- - THERMOPLASTIC PAVEMENT MARKING, ARROWS

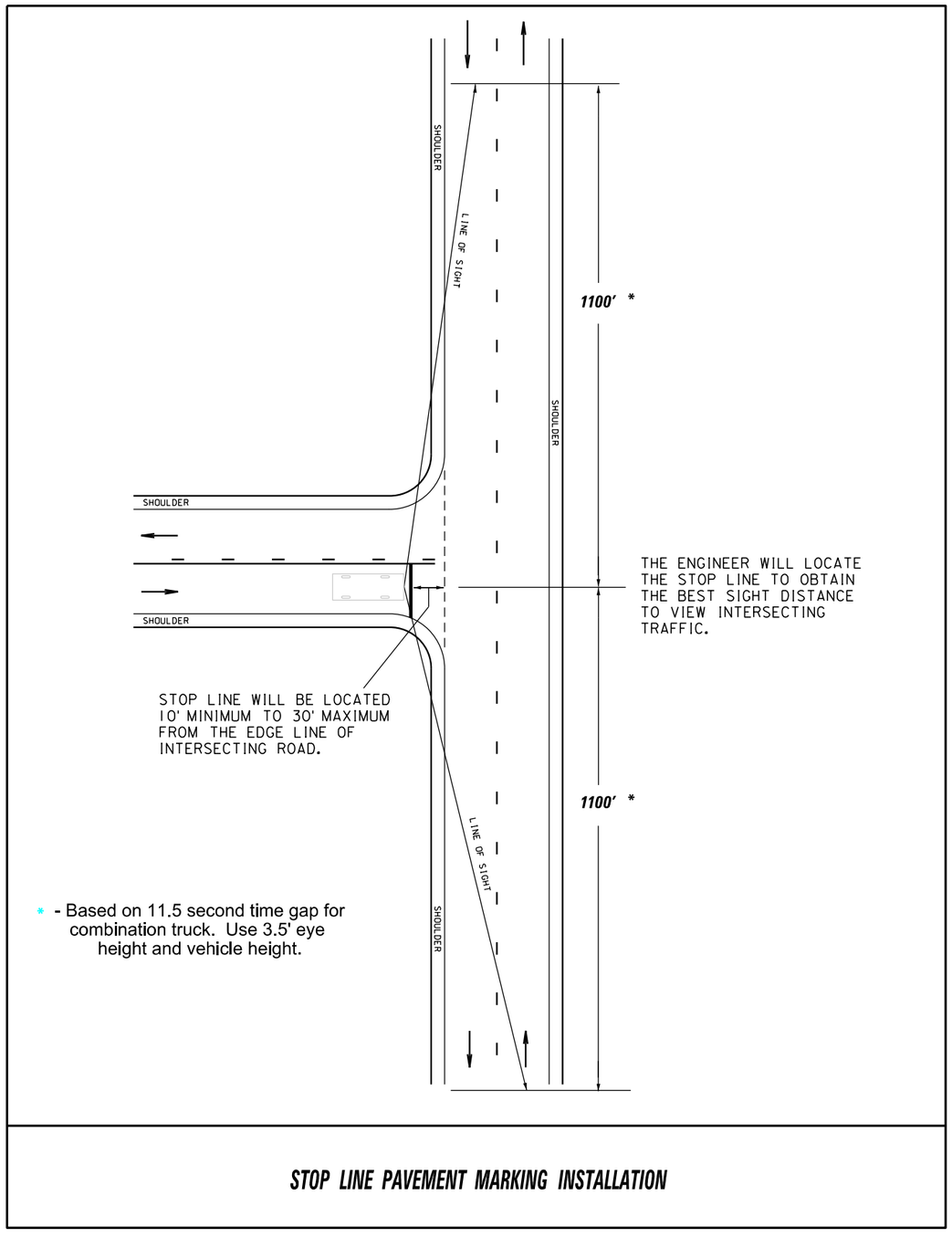
PERMANENT PAVEMENT MARKING LAYOUT

CITY OF ALCESTER CROSSWALKS & STOP BARS

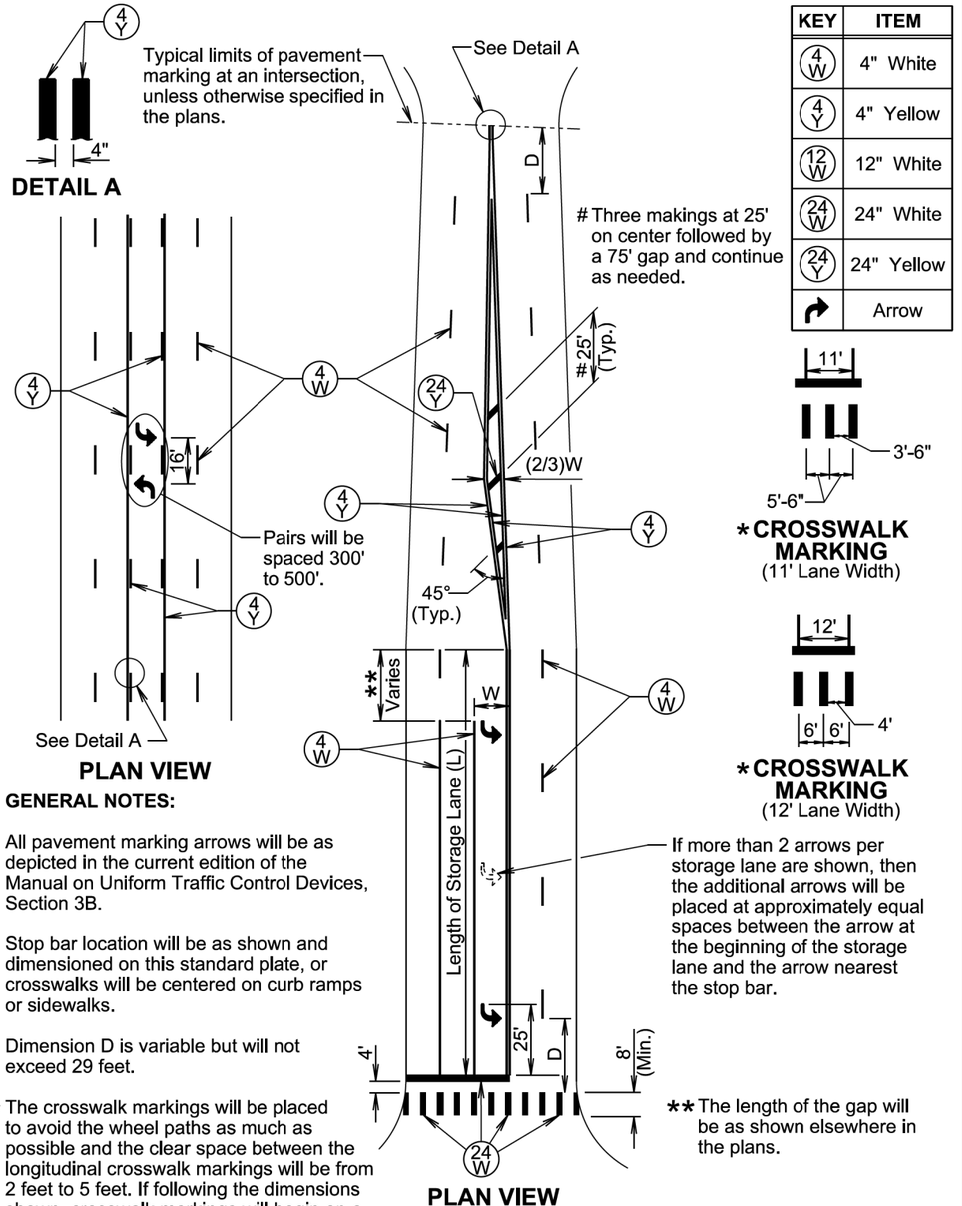


LEGEND

- (4 W) - 4" WHITE PAINTED PAVEMENT MARKING
- (4 Y) - 4" YELLOW PAINTED PAVEMENT MARKING
- (24 Y) - 24" YELLOW PAINTED PAVEMENT MARKING
- (24 W) - 24" WHITE PAINTED PAVEMENT MARKING
- - THERMOPLASTIC PAVEMENT MARKING, ARROW



STOP LINE PAVEMENT MARKING INSTALLATION



GENERAL NOTES:

All pavement marking arrows will be as depicted in the current edition of the Manual on Uniform Traffic Control Devices, Section 3B.

Stop bar location will be as shown and dimensioned on this standard plate, or crosswalks will be centered on curb ramps or sidewalks.

Dimension D is variable but will not exceed 29 feet.

* The crosswalk markings will be placed to avoid the wheel paths as much as possible and the clear space between the longitudinal crosswalk markings will be from 2 feet to 5 feet. If following the dimensions shown, crosswalk markings will begin on a lane line or centerline.

March 31, 2024

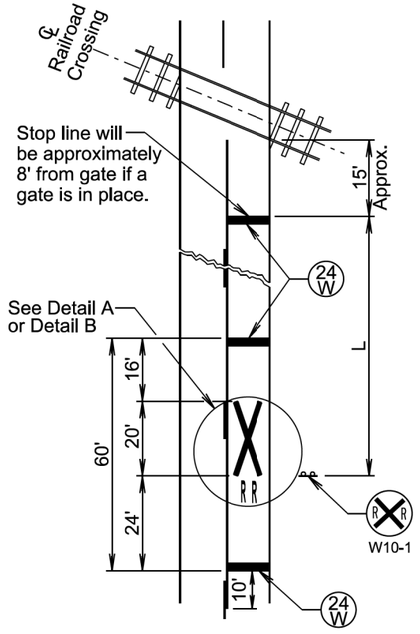
Published Date: 2025

SDDOT

PAVEMENT MARKINGS FOR ADJACENT INTERSECTIONS AND CENTER TURN LANE

PLATE NUMBER 633.01

Sheet 1 of 1



PLAN VIEW

KEY	ITEM
24 W	24" White
RR	White

Posted Speed Limit (M.P.H.)	L (Ft.)
≤ 30	100
35	100
40	125
45	175
50	250
55	325
60	400
65	475
70	550

GENERAL NOTES:

The railroad crossing pavement markings will be placed symmetrically about the centerline of the railroad crossing. DETAIL A should be used unless the railroad crossing pavement markings are installed in existing grooves that match DETAIL B.

When pavement markings are used, a portion of the RXR symbol will be placed directly opposite of the advance warning sign W10-1.

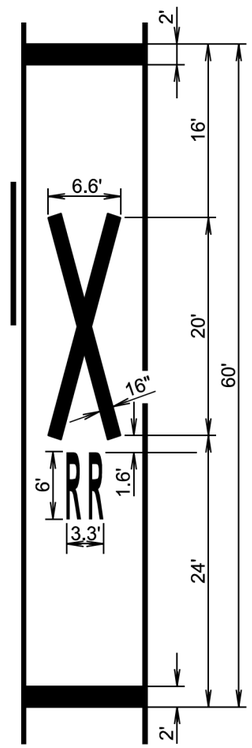
On multi-lane roads the transverse bands will extend across all approach lanes and individual RXR symbols will be placed in each approach lane.

The railroad crossing pavement markings will consist of all the transverse bands, stop lines, and RXR symbols.

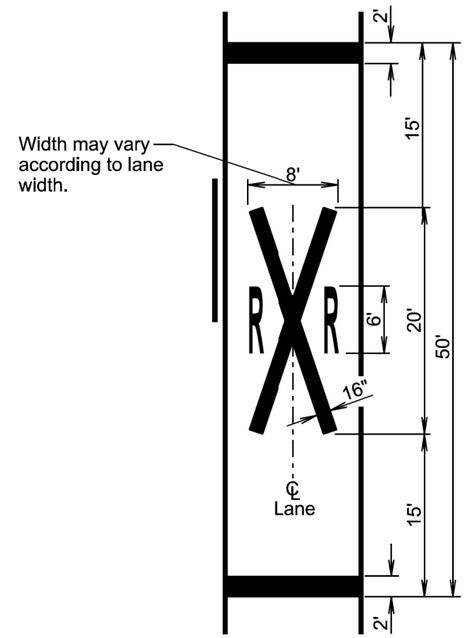
All costs for furnishing and installing the markings, materials, labor, and necessary equipment for the railroad crossing makings will be paid for at the contract unit price per gallon or per each for the type of marking material specified in the plans.

November 19, 2020

Published Date: 2025	SDDOT	PAVEMENT MARKINGS AT RAILROAD CROSSING	PLATE NUMBER 633.10
			Sheet 1 of 2



DETAIL A



DETAIL B

November 19, 2020

Published Date: 2025	SDDOT	PAVEMENT MARKINGS AT RAILROAD CROSSING	PLATE NUMBER 633.10
			Sheet 2 of 2