

DESIGN DATA			
Traffic		Average Daily	
Current	Varies	Pass: Varies	Trucks: Varies
Preventive Maintenance			

STATE	PROJECT NO.	PCN	SECTION NO.	HEET NO.
ND	HES-2-999(079)	24789	1	1

# NORTH DAKOTA

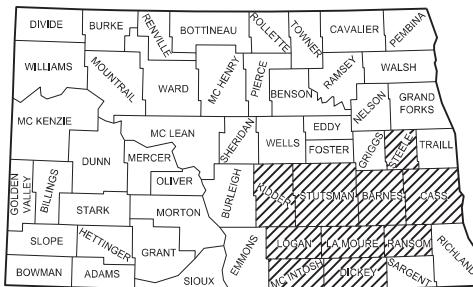
## DEPARTMENT OF TRANSPORTATION

HES-2-999(079)

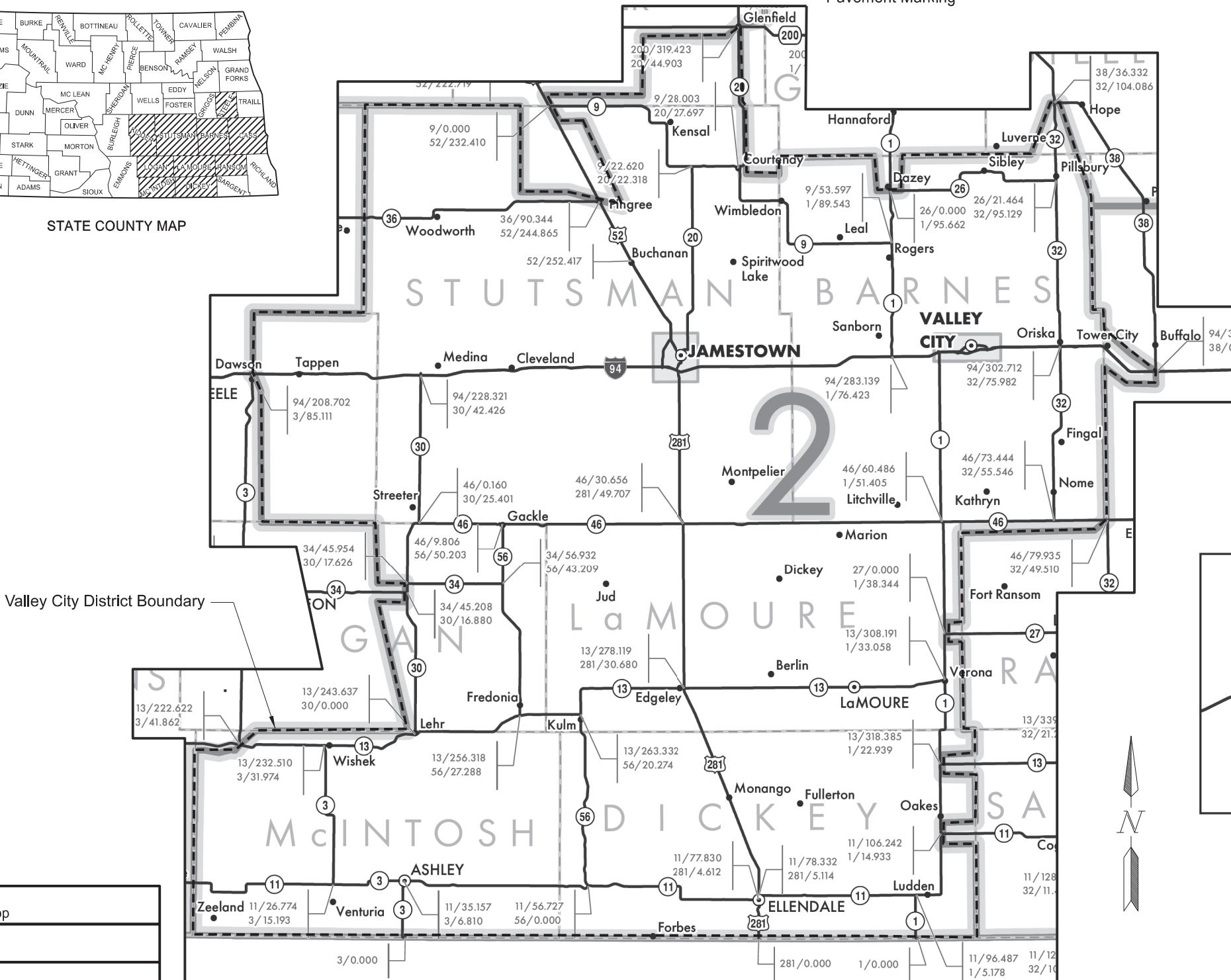
Barnes, Cass, Dicky, Kidder, LaMoure, Logan, McIntosh, Ransom, Steele, and Stutsman Counties

Valley City District

Pavement Marking



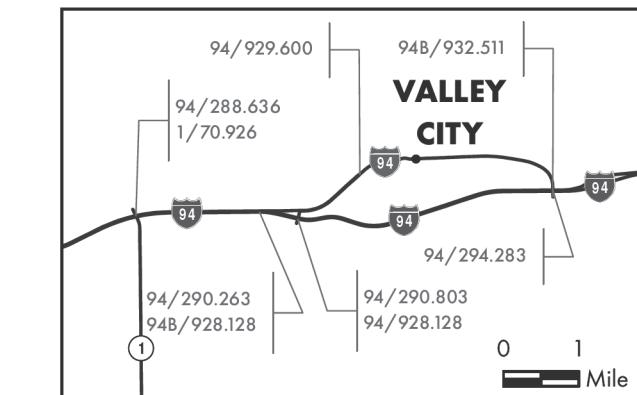
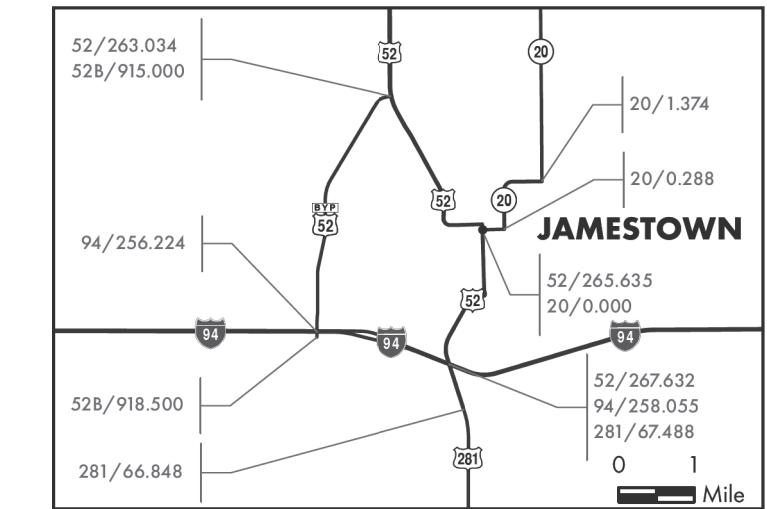
STATE COUNTY MAP



DESIGNER	Harrison Philipp
DESIGNER	
DESIGNER	

GOVERNING SPECIFICATIONS	Date Published and Adopted by the North Dakota Department of Transportation
Standard Specifications	7/1/2025
Supplemental Specifications	NONE

PROJECT NUMBER \ DESCRIPTION	NET MILES	GROSS MILES
HES-2-999(079)	Varies	Varies



ND DEPARTMENT OF TRANSPORTATION  
VALLEY CITY DISTRICT

Nathan Haaland  
01/07/26

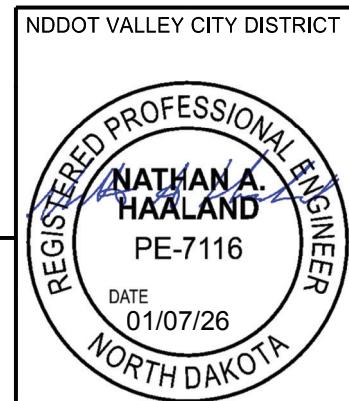
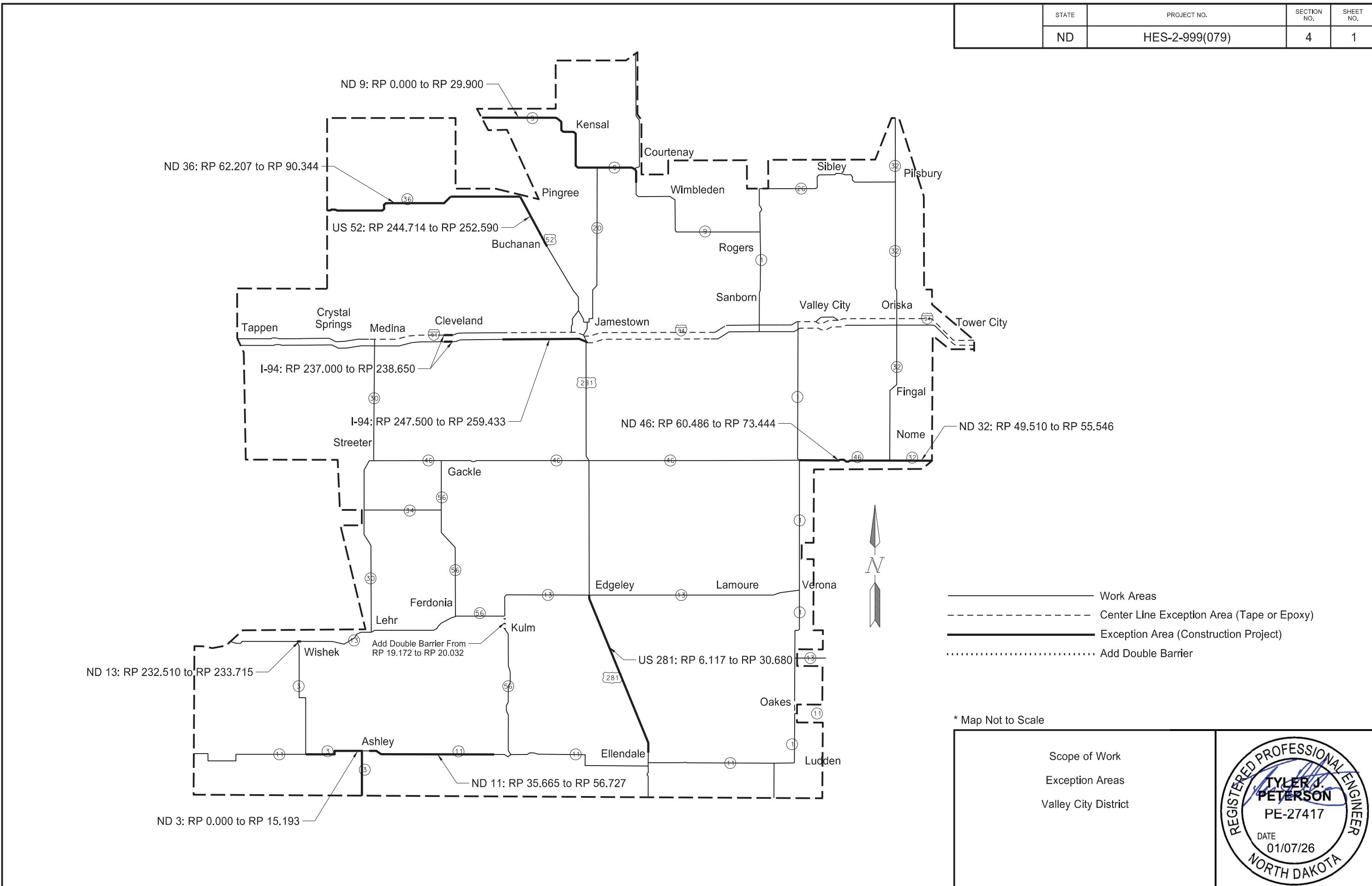


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Section	Page(s)	Description	Number	Description			
1	1	Title Sheet	D-101-1, 2,3,4	NDDOT Abbreviations			
2	1	Table of Contents	D-101-10	NDDOT Utility Company and Organization Abbreviations			
4	1	Scope of Work	D-101-20, 21	Line Styles			
6	1 - 2	Notes	D-101-30, 31, 32, 33	Symbols			
8	1	Quantities	D-704-9	Construction Sign Details - Terminal And Guide Signs			
11	1 - 5	Data Tables	D-704-11, 11A	Construction Sign Details - Warning Signs			
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			D-704-25	Lane Closures On Urban Streets Layouts			
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			D-704-35	Sign Layout For One Lane Closure - Interstate System			
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			D-762-2	Interstate Pavement Marking 4 Lane Divided Highway			
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			D-762-5	Pavement Marking for Standard 90 Degree Flared Intersection-(No Center Left Turn Lane on Major Road)			
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## NOTES

100-P01 PROJECT COORDINATION: Coordinate with the District Engineer or Assistant District Engineer at least one week prior to beginning work to determine if roadway segments are prepared for work to begin. Segments may be added or removed depending on projects under contract during the 2026 construction season.

107-P01 RAILROAD COORDINATION:  
Contractor is to Email the following RR companies a minimum of 7 days prior to working around the RR Crossing. Contractor to retain proof and receipt of email from the RR Company for Records. If Contractor does not receive notice of Receipt from the RR Company, they are to also call and contact the person.

Company	Name of Contact	Title	Email	Phone	Crossing ID (USDOT)	Mile Post
BNSF	Alexis Jones	Manager of Public Projects: MN, ND, SD, Manitoba	<a href="mailto:alexis.jones@bnsf.com">alexis.jones@bnsf.com</a>	(901) 495-3778	071163D	0055.040
CPKC / SOO	Brian Osborne	Manager of Public Works	<a href="mailto:brian.osborne@cpkcr.com">brian.osborne@cpkcr.com</a>	612-330-4555	691942H 691967D 691904Y	0305.170 0321.150 0271.530
DMVW	Jeff Wood	Manager	<a href="mailto:jwood@dmvwrr.com">jwood@dmvwrr.com</a>	701-223-9282	690531Y 690558H 690526C 690539D	0313.450 0330.520 0310.410 0317.650

Cost for coordination is to be incidental to all other bid items.

107-P02 RAILROAD PROTECTIVE LIABILITY INSURANCE  
Include the cost of railroad insurance in the contract to cover the number of crossings for each company identified as follows:

Current Spec	Current Code	Unit	Description	Covers Company	Number of Crossings
107	121	L SUM	RAILWAY PROTECTION INSURANCE - COMPANY A	BNSF	1
107	122	L SUM	RAILWAY PROTECTION INSURANCE - COMPANY B	DMVW	4

Upon receiving proof of approval of the policies by the railroad company, the Department will pay the Contractor the lump sum contract unit price.

107-111

RAILROAD PROTECTIVE LIABILITY INSURANCE:  
This project crosses the Dakota, Missouri Valley & Western Railroad Company at (ND 13 RP 260.403, ND 30 RP 0.457, and ND 56 RP 19.744 & RP 28.444). The type of work that will be performed within the railroad right of way is Striping. Direct inquiries regarding protective liability insurance to:

JEFF WOOD  
Executive Vice President  
Dakota, Missouri Valley & Western Railroad, Inc.  
3501 East Rosser Avenue  
Bismarck, ND 58501  
701-223-9282 off.  
[jwood@dmvwrr.com](mailto:jwood@dmvwrr.com)

Obtain information regarding crossing number 690531Y, 690558H, 690526C, and 690539D from the Federal Railroad Administration website:  
<http://safetydata.fra.dot.gov/Officeofsafety/>

107-115

RAILROAD PROTECTIVE LIABILITY INSURANCE: This project crosses the BNSF Railway Company at (ND 32 RP 76.815). The type of work that will be performed within the railroad right of way is Striping. Direct inquiries regarding protective liability insurance to:

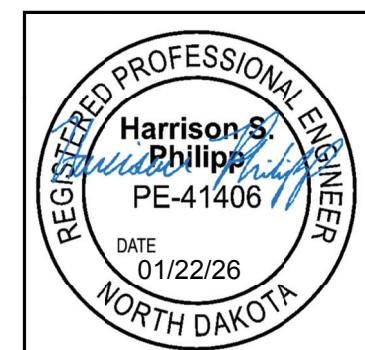
Rosa Martinez  
Marsh USA Inc.  
4400 Comerica Bank Tower  
1717 Main Street  
Dallas, TX 75201-7357, USA  
214-303-8519  
[Rosa.M.Martinez@marsh.com](mailto:Rosa.M.Martinez@marsh.com)

Obtain information regarding crossing number 071163D from the Federal Railroad Administration website: <http://safetydata.fra.dot.gov/Officeofsafety/>

704-P01

TRAFFIC CONTROL FOR PAVEMENT MARKING OPERATION: Maintain traffic at all times. Provide traffic control based on the following list:

1. D-704-27



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## NOTES

704-P02 TRAFFIC CONTROL FOR PAVEMENT MARKING MESSAGE OPERATION: Maintain traffic at all times. Provide traffic control based on the following list:

1. D-704-14, Note 6
2. D-704-15, Layout A

Any other method of traffic control must be submitted to the Engineer for approval prior to its use in the field.

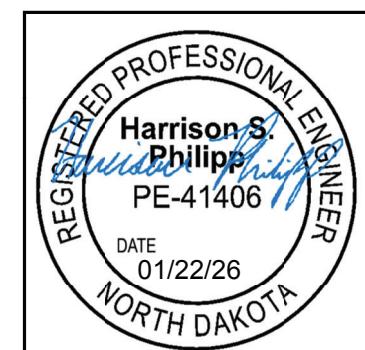
Include all costs associated with traffic control devices for installing pavement marking messages and any other hand work done in the contract unit price for the corresponding bid items.

762-P01 ESTIMATED QUANTITIES: The total pavement marking quantity shown is rounded to the nearest whole mile for bidding purposes.

If the Engineer and Contractor agree, plan quantity will be used as the measurement for payment for the pavement marking items. If the Contractor identifies a discrepancy with the agreed-upon quantities, the Contractor must submit a written request for remeasurement identifying the specific highway segment(s) in question. Upon receipt, NDDOT will perform a remeasurement of the identified segment(s) in accordance with Section 109 of the Standard Specifications. If the remeasurement confirms a different quantity, payment will be adjusted accordingly.

762-P02 PAVEMENT MARKING INSTALLATION: Installation of 6 IN pavement marking will be paid for when all 6 IN Lines of the segment of roadway are applied, completed, and accepted by the Engineer.

762-P03 PAVEMENT MARKING PAINTED 6 IN LINE & 24 IN LINE: Apply pavement marking material only to crosswalks which cross mainline highways.



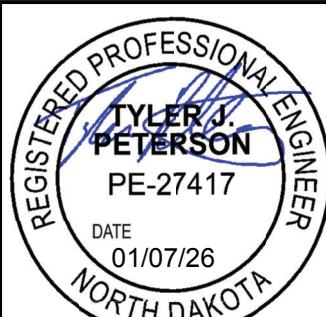
# ESTIMATE OF QUANTITIES

STATE	PROJECT NO.	SECTION NO.	HEET NO.
ND	HES-2-999(079)	8	1

SPEC	CODE	ITEM DESCRIPTION	UNIT	MAINLINE	TOTAL
103	0100	CONTRACT BOND	L SUM	1	1
107	0121	RAILWAY PROTECTION INSURANCE - COMPANY A	L SUM	1	1
107	0122	RAILWAY PROTECTION INSURANCE - COMPANY B	L SUM	1	1
702	0100	MOBILIZATION	L SUM	1	1
704	1065	TRAFFIC CONES	EA	70	70
762	0103	PVMT MK PAINTED-MESSAGE	SF	8,623	8,623
762	0109	PVMT MK INSTALLATION - 6IN	MILE	2,041	2,041
762	1106	PVMT MK PAINTED 6IN LINE	LF	6,787	6,787
762	1108	PVMT MK PAINTED 8IN LINE	LF	5,314	5,314
762	1112	PVMT MK PAINTED 12IN LINE	LF	105,726	105,726
762	1124	PVMT MK PAINTED 24IN LINE	LF	4,293	4,293

															STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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VALLEY CITY DISTRICT PAVEMENT SUMMARY																	
Route	Location	From Ref Point	To Ref Point	Roadway Miles	Length of			6 Inch Edge line Miles	6 Inch Total Miles	Hand Work 6 Inch LF	8 Inch Line LF	12 Inch Line LF	24 Inch Line LF	Messages			Notes
					6 Inch Skips Miles	6 Inch Single Barrier Miles	6 Inch Double Barrier Miles							ARROWS SF	Railroad "X" & "RR" SF	Railroad 24" Bars SF	Stop Ahead SF
ND 1	State Line to West Jct ND 11	0.000	5.178	5.178	1.128	0.373	0.630	10.252	12.383				12.0				24 IN LINE: West Jct ND 11 and ND 1
ND 1	West Jct ND 11 to East Jct ND 11	5.178	14.933	9.755	2.333	0.236	0.934	19.978	23.482	81	64		12.0				6 IN LINE: East Jct ND 11 and ND 1
ND 1	East Jct ND 11 to North End of Oakes (Paint)	14.933	15.140	0.207	0.000	0.000	0.280	0.360	0.640			438		48			8 IN LINE: East Jct ND 11 and ND 1
ND 1	East Jct ND 11 to North End of Oakes (Grooved Epoxy) DO NOT PAINT	15.140	17.603	2.463	0.490	0.459	0.674	0.000	0.000				0.0	0	0	0	Exception Area - Do Not Paint (Grooved Epoxy)
ND 1	North end of Oakes to East Jct ND 13	17.603	22.939	5.336	1.062	1.068	0.494	10.700	13.324	0			60.0				24 IN LINE: Continental Crosswalks, 87th St SE - Oakes, Stop Bar at East Jct ND 13 and ND 1
ND 1	East Jct ND 13 to West Jct ND 13	22.939	33.058	10.119	1.511	3.950	1.808	20.212	27.481				24.0		121.0	144	24 IN LINE: Jct ND 1 and ND 13 MESSAGE: RR Crossing at RP 33.035
ND 1	West Jct ND 13 to Jct ND 27	33.058	38.344	5.286	1.082	1.223	0.000	10.612	12.917								
ND 1	Jct ND 27 to Jct ND 46	38.344	51.405	13.061	2.784	2.180	0.340	26.102	31.406			27.0					24 IN LINE: Jct ND 1 and ND 27
ND 1	Jct ND 46 to Jct I-94	51.405	70.920	19.515	3.069	7.874	1.656	38.806	51.405								
ND 1	Jct I-94 to Jct ND 9	76.502	89.543	13.041	2.760	1.758	1.114	26.004	31.635								
ND 1	Jct ND 9 to Jct ND 26	89.543	95.662	6.119	1.404	0.603	0.000	12.195	14.202								
ND 3	State Line to East Jct ND 11	0.000	6.810	6.810	0.722	3.312	2.548	13.620	0.000	0	0	0.0					2026 Construction Project: SS-2-003(062)000 PCN: 24769
ND 3	East Jct ND 11 to West Jct ND 11	6.810	15.193	8.383	0.691	4.235	4.462	16.766	0.000	0	0	0.0					2026 Construction Project: SS-2-003(062)000 PCN: 24769
ND 3	West Jct ND 11 to East Jct ND 13	15.193	31.974	16.781	2.078	8.906	2.689	33.562	47.234			18.0			52	24 IN LINE: Jct ND 3 and ND 13 MESSAGE: STOP AHEAD at RP 31.678	
ND 3	East Jct ND 13 to West Jct ND 13	31.974	41.862	9.888	1.631	2.842	2.179	19.776	26.428			364	18.0	48			12 IN LINE: Jct ND 3 and ND 13 (10 Miles West of Wishek) 24 IN LINE: Jct ND 3 and ND 13 (10 Miles West of Wishek) MESSAGE: Jct ND 3 and ND 13 (10 Miles West of Wishek)
ND 9	Jct US 52 to City of Kensal	0.000	14.554	14.554	2.916	3.126	0.850	29.183	0.000			0.0					2026 Construction Project: SS-2-009)025(000) PCN: 24251
ND 9	City of Kensal to West Jct ND 20	14.554	22.620	8.066	1.294	2.788	0.892	15.701	0.000								2026 Construction Project: SS-2-009)025(000) PCN: 24251
ND 9	West Jct ND 20 to East Jct ND 20	22.620	29.900	7.280	1.523	0.675	1.284	13.988	0.000			0.0					2026 Construction Project: SS-2-009)025(000) PCN: 24251
ND 9	East Jct ND 20 to Jct ND 1	29.900	53.651	23.751	4.926	3.604	0.957	46.177	55.663			19.0		121	144	24 IN LINE: Jct ND 9 and ND 1 MESSAGE: RR Crossing at RP 49.234	
ND 11	County Line to W Jct ND 3	9.082	26.774	17.692	2.109	9.495	3.285	35.448	50.337								
ND 11	East Jct ND 3 to Ashley City Limits	35.157	35.665	0.508	0.000	0.000	0.930	0.082	1.012	1,360							6 IN LINE: Crosswalks at 2nd Ave W, 1st Ave W, Central N, 1st Ave E, 2nd Ave E
ND 11	Ashley City Limits to County Line	35.665	53.233	17.568	1.747	10.432	4.402	35.065	0.000								2026 Construction Project: SS-2-011(089)035 PCN: 24758
ND 11	County Line to Jct ND 56	53.233	56.727	3.494	0.331	2.306	0.651	6.988	0.000								2026 Construction Project: SS-2-011(089)035 PCN: 24758
ND 11	Jct ND 56 to 3 Miles West of Forbes Rd.	56.727	61.233	4.506	0.579	3.409	0.490	9.012	13.490								Centerline skips includes passing lanes
ND 11	3 Miles West of Forbes Rd. to Jct US 281	61.233	77.643	16.410	3.563	2.073	0.996	32.820	39.453			22.0					24 IN LINE: Jct nd 11 and US 281
ND 11	Jct US 281 to West Jct ND 1	78.332	96.487	18.155	3.710	3.072	1.718	36.310	44.809			14.0					24 IN LINE: Jct nd 11 and US 281
ND 13	East Jct ND 3 to RP 233.715 (East City of Wishek)	232.510	233.715	1.205	0.000	0.000	2.052	0.860	0.000	0	0	0.0					2026 Construction Project: NH-2-013(072)232 PCN: 24168
ND 13	East City of Wishek to Jct ND 30	233.715	243.637	9.922	1.489	4.618	0.605	30.258	36.970								
ND 13	Jct ND 30 to West Jct ND 56	243.637	256.318	12.681	1.163	8.193	2.879	25.295	37.530								
ND 13	West Jct ND 56 to East Jct ND 56	256.318	263.332	7.014	0.778	4.189	1.103	14.028	20.098				121	144			MESSAGE: RR Crossing at RP 260.403
ND 13	East Jct ND 56 to Jct US 281	263.332	278.119	14.787	2.933	2.899	1.380	29.103	36.314	95	58	15.0		121	144	52	6 IN LINE: Jct ND 13 and US 281 MESSAGE: RR Crossing at RP 278.051, STOP AHEAD at RP 277.886
ND 13	Jct US 281 to East of LaMoure	278.119	298.135	20.016	3.844	5.461	0.696	37.916	47.917	169	80	384.0		121	144	52	6 IN LINE: Jct ND 13 and US 281 8 IN LINE: Jct ND 13 and US 281 24 IN LINE: Jct ND 13 and US 281, 1st St SE, 2nd St SE, 3rd St SE MESSAGE: RR Crossing at RP 278.035, STOP AHEAD
ND 13	East of LaMoure to Jct ND 1	298.135	308.191	10.056	1.839	3.309	0.052	20.058	25.258			19.0		121	144		MESSAGE: RR Crossing at RP 298.335
ND 20	Jamestown to West Jct ND 9	1.040	22.318	21.278	3.429	7.653	2.826	50.788	64.695		442	36.0	64			</	

													STATE	PROJECT NO.	SECTION NO.	SHEET NO.		
<b>VALLEY CITY DISTRICT PAVEMENT SUMMARY</b>																		
Route	Location	From Ref Point	To Ref Point	Roadway Miles	6 Inch Skips Miles	Length of 6 Inch Single Barrier Miles	6 Inch Double Barrier Miles	6 Inch Edge line Miles	6 Inch Total Miles	Hand Work 6 Inch LF	8 Inch Line LF	12 Inch Line LF	24 Inch Line LF	Messages	<b>Notes</b>			
ND 26	Jct ND 1 to Jct ND 32	0.000	21.464	21.464	3.742	4.499	5.848	42.980	57.069				33.0				52	
ND 30	Jct ND 13 to South Jct ND 34	0.000	16.880	16.880	2.403	7.672	2.262	33.760	46.097	567			24.0		121	144	6 IN LINE: Crosswalks in Lehr, 1st, 2nd, 3rd, and 4th Ave S 24 IN LINE: Jct ND 30 and ND 13 MESSAGE: RR Crossing at RP 0.457	
ND 30	South Jct ND 34 to Jct ND 46	16.880	25.401	8.521	1.347	3.332	0.939	17.042	22.659			590	30.0	48			12 IN LINE: Jct ND 30 and ND 34 West - Turn lane and Channel Lines 24 IN LINE: Jct ND 30 and ND 34 West - Eastbound Stop Bars MESSAGE: RT Arrows	
ND 30	Jct ND 46 to Jct I-94	25.401	42.192	16.791	4.041	0.585	0.322	33.582	38.529				19.0				24 IN LINE: Jct ND 30 & ND 46	
ND 32	East Jct ND 46 to West Jct ND 46	49.510	55.546	6.036	1.346	0.245	1.115	12.273	0.000				0		0		2026 Construction Project: H-2-999(477) PCN: 24751	
ND 32	West Jct ND 46 to Jct I-94	55.546	75.873	20.327	4.443	2.357	1.302	40.614	48.716				73.0		121	144	24 IN LINE: Jct ND 32 and ND 46, Continental Crosswalks in Nome MESSAGE: RR Crossing at RP 65.736 Edge line includes T-intersection at Jct ND 46	
ND 32	Jct I-94 to Jct ND 26	76.126	95.129	19.003	4.404	1.005	1.146	37.983	44.538						121	144	MESSAGE: RR Crossing at RP 76.815	
ND 32	Jct ND 26 to Jct ND 38	95.129	104.086	8.957	1.866	1.759	0.144	17.885	21.654									
ND 34	Jct ND 30 to Jct ND 56	45.954	56.932	10.978	2.392	2.103	0.215	22.712	27.421				41.0				52	
ND 36	Stutsman County Line to Jct US 52	62.207	90.344	28.137	5.101	7.225	4.241	56.612	0.000	0	0	0.0	0	0			2026 Construction Project: SS-2-036(014)062 PCN: 24759	
ND 46	Jct ND 30 to Jct US 281	0.000	30.656	30.656	5.044	10.615	4.215	60.769	80.643	142	84	256	64.0	48			6 IN LINE: Jct ND 46 and US 281 8 IN LINE: Jct ND 46 and US 281 12 IN LINE: Jct ND 46 and ND 30 24 IN LINE: Jct ND 46 and ND 30, Jct ND 46 and Co. Rd. 67, Jct ND 46 and Jud, Jct ND 46 and US 281 MESSAGE: RT Arrows at Jct ND 46 and ND 30	
ND 46	Jct US 281 to Jct ND 1	30.656	60.486	29.830	6.204	5.423	1.474	59.782	72.883	285	265		25.0		121	144	6 IN LINE: Jct 46 and US 281 8 IN LINE: Jct 46 and US 281 24 IN LINE: Jct 46 and US 281 MESSAGE: RR Crossing at RP 37.266	
ND 46	Jct ND 1 to East Jct ND 32	60.486	73.444	12.958	3.573	1.142	2.381	26.577	0.000				0.0				2026 Construction Project: H-2-999(477) PCN: 24751	
ND 56	Jct ND 11 to East Jct ND 13	0.000	20.274	20.274	2.251	11.557	4.048	40.548	58.404				20.0		121	144	24 IN LINE: Jct 56 and 11 MESSAGE: RR Crossing RP 19.744 Quantity includes adding Double Barrier through the City of Kulm. (RP 19.172 to RP 20.032)	
ND 56	West Jct ND 13 to Jct ND 34	27.288	43.209	15.921	3.005	4.121	1.210	31.842	40.178				20.0		121	144	24 IN LINE: Jct 56 and 13 MESSAGE: RR Crossing RP 28.444	
ND 56	Jct ND 34 to Jct ND 46	43.209	50.203	6.994	0.859	3.161	1.147	13.073	18.239	323			98.0				6 IN LINE: Crosswalk, Maple St E & Cedar St E 24 IN LINE: Continental Crosswalk, Elm St E 24 IN LINE: Jct ND 56 and ND 46	
US 52	Jct ND 36 to 4 lane Buchanan	244.714	252.590	7.876	0.980	3.060	2.822	15.082	0.000				0		0		2026 Construction Project: NH-2-052(054)244 PCN: 24041	
US 52	Buchanan to Jamestown (4-lane Divided)	252.590	264.546	11.956	5.978	0.000	0.000	47.824	54.142		4,166	24,781		2,336			8 IN LINE: US 52 Bypass North to Buchanan 12 IN LINE: US 52 Bypass North to Buchanan MESSAGE: RT and LT Arrows Edge line includes right turn slip ramp at Bypass.	
	Frontage Road	263.181	264.546	1.365	0.340	0.000	0.000	0.000	0.680								Centerline Skips only	
US 52	Jamestown (4-Lane with center turn lane)	264.546	264.943	0.397	0.235	0.322	0.204	1.588	2.349		395		112			MESSAGE: RT and LT Arrows		
US 52	Jamestown Bypass	915.000	918.500	3.500	0.514	0.507	3.151	8.104	12.276	606	246	2,724	61.0	272			6 IN LINE: Jct US 52 and Co Rd 40, N Frontage Rd 8 IN LINE: Jct US 52 and Co Rd 40, N Frontage Rd 12 IN LINE: Turnlanes 24 IN LINE: Jct US 52 and Co Rd 40, N Frontage Rd MESSAGE: RT and LT ARROWS	
US 52	North Woodbury Frontage Road (Between Exit 256 & Exit 257)			1.028	0.250	0.000	0.056	2.057	2.363				11.0				24 IN LINE: Stop Bar at East End of Frontage Road.	
<b>TABLE NOTES:</b>																		
This stretch of road is excluded or revised from the quantities, due to construction projects scheduled for 2026 construction season.																		
													<b>Pavement Marking Summary Valley City District</b>					
													ND 26, 30, 32, 34, 36, 46, 56, US 52					
													 TYLER J. PETERSON PE-27417 REGISTERED PROFESSIONAL ENGINEER NORTH DAKOTA DATE 01/07/26					

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HES-2-999(079)	11	3

**BASIS OF ESTIMATE:** 1 Roadway Mile = 5.2

Centerline (C): Interstate and 4-Lane Divided Roadways  $\equiv 0.25 \times$  Roadway M

3-lane roadways = Field Measure

## 2 lane roadways - Field Measurements

### Single Barrier: Field Measured (Includ

## Double Barrier: Length Field Measured x 2

For more information, contact the Office of the Vice President for Research and the Office of the Vice President for Student Affairs.

## Pavement Marking Summary Valley City District

US 281, I-94 Business Loop  
I-94 Eastbound & Westbound

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	HES-2-999(079)	11

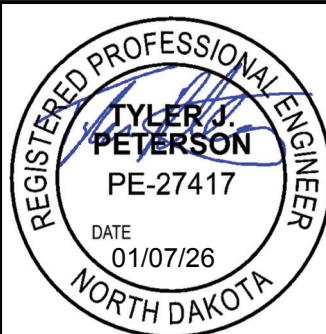
VALLEY CITY DISTRICT INTERSTATE INTERCHANGE STRIPING SUMMARY										
I-94 EXIT # OR REST AREA	6 INCH LF	Hand Work 6 INCH LF	8 INCH LF	12 INCH LF	24 INCH LF	RT Edgeline 12 IN & 6 IN LINE (Skips)	MESSAGE SF	NOTES		
						E. B. LF				
214 Tappen	17,004			1,806	141.0	1,710	1,874			
217 Pettibone	17,918			2,180	136.0	2,299	1,951			
Crystal Springs Rest Area Eastbound	4,158	380		1,026		2,118		6IN LINE: (21) Car Parking = 420 LF, (12) Truck Parking = 732 LF		
221 Crystal Springs	18,123			1,903	109.0	1,799	2,175			
Crystal Springs Rest Area Westbound	5,399	420		1,267			2,038	6IN LINE: (28) Car Parking = 700 LF, (12) Truck Parking = 732 LF		
228 Streeter	26,034			2,050	161.0	1,913	2,166			
230 Medina	19,721			1,958	144.0	1,921	2,645			
233 Halfway Lake	16,246			2,164	110.0	1,966	2,390			
238 Cleveland	18,276			1,914	105.0	1,970	2,082			
242 Windsor	15,825			2,131	145.0	834	2,047			
245 Oswego	17,198			2,101	114.0	1,976	1,981			
248 Lippert	7,011			1,142	0.0	0	1,994	Quantity Updated for Construction Project IM-2-094(200)247 PCN 23890		
251 Eldridge	6,028			1,204	0.0	0	1,920	Quantity Updated for Construction Project IM-2-094(200)247 PCN 23890		
Jamestown Rest Area - Eastbound	0	0		0		0		Quantity Updated for Construction Project IM-2-094(200)247 PCN 23890		
Jamestown Rest Area - Westbound	4,773	0		910			1,632	Quantity Updated for Construction Project IM-2-094(200)247 PCN 23890		
256 Woodbury	17,435	335	290	1,113	152.0	0	2,120	128	6 IN LINE: NE & SW Ramps 8 IN LINE: NE & SW Ramps 24IN LINE: NE & SW Ramps DO NOT PAINT WRONG WAY ARROW ON NE RAMP Quantity Updated for Construction Project IM-2-094(200)247 PCN 23890	
257 West Jamestown	8,442			316		0	850		Quantity Updated for Construction Project IM-2-094(200)247 PCN 23890	
258 US-281	7,731			1,855		0	1,966	0	Quantity Updated for Construction Project IM-2-094(200)247 PCN 23890	
260 E. Jamestown	23,530			1,203	32.0	2,545	2,764		Do not paint the "2' dotted lines" on WB exit ramp, they are tape.	
262 Bloom	18,602			1,866	98.0	2,052	2,199			
269 Spiritwood	17,811			1,998	101.0	2,304	1,892			
272 Urbana	18,849			1,866	149.0	2,321	2,015			
276 Eckelson	19,490			2,112	98.0	1,979	2,108			
281 Sanborn	19,958			2,106	99.0	2,009	2,115			
283 Rogers	23,630			2,438	39.0	2,318	2,137			
288 Oakes	20,350			2,244	146.0	1,927	2,039			
Page 4 Subtotals:	389,542	1,135	290	42,873	2,079.0	35,961	49,100	128		

## TABLE NOTES

This stretch of road is excluded or revised from the quantities, due to construction projects scheduled for 2026 construction season.

Pavement Marking Summary  
Valley City District

I-94 Interchanges & Rest Areas  
Exit 214 - Exit 288



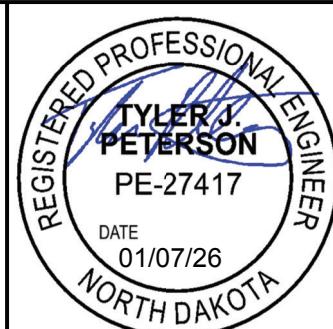
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	HES-2-999(079)	11 5

VALLEY CITY DISTRICT INTERSTATE INTERCHANGE STRIPING SUMMARY								
I-94 EXIT # OR REST AREA	6 INCH LF	Hand Work 6 INCH LF	8 INCH LF	12 INCH LF	24 INCH LF	RT Edgeline 12 IN & 6 IN LINE (Skips)	MESSAGE SF	NOTES
						E. B. LF		
290	W. Valley City	17,413		3,661	52.0	2,442	2,851	
292	Kathryn	17,071		1,923	0.0	3,269	2,160	0 Do not paint preformed patterned pavement markings on ramps.
294	E. Valley City	18,759		3,163	117.0	2,033	2,145	
296	Peak	16,671		2,184	86.0	1,775	2,313	
298	Cuba	17,181		2,147	139.0	1,768	2,289	
302	Oriska	16,346		2,216	125.0	1,847	2,335	
Oriska Rest Area		0		0	0.0	2,367	2,426	2025 - 2026 Construction Project: IM-2-094(195)304 PCN 23802
307	Tower City	14,599		2,048	135.0	1,919	1,878	
310	Hill	18,743		2,073	145.0	2,326	1,951	
314	Buffalo	26,224		2,009	95.0	885	1,277	
Page 5 Subtotal:		163,007		0	21,424	894.0	20,631	21,625 0
Page 4 Subtotal:		389,542	1,135	290	42,873	2,079	35,961	49,100 128
Page 5 Subtotal:		163,007	0	0	21,424	894	20,631	21,625 0
TOTAL FEET:		552,549	1,135.0	290.0	64,297.0	2,973.0	56,592	70,725 128
GROSS MILES:		104.649					-10.718	-13.395
NET MILES:		80.536						

TABLE NOTES

  This stretch of road is excluded or revised from the quantities, due to construction projects scheduled for 2026 construction season.

Pavement Marking Summary  
Valley City District  
I-94 Interchanges & Rest Areas  
Exit 290 - Exit 314



## NDDOT ABBREVIATIONS

D-101-1

?	This is a special text character used in the labeling of existing features. It indicates a feature that has an unknown characteristic, potentially based on: lack of description, location accuracy or purpose.	C Gdrl	cable guardrail	Culv	culvert	FOS	factor of safety
		Calc	calculate	C&G	curb & gutter	Fed	Federal
		CIP	cast iron pipe	CI	curb inlet	FP	feed point
		CB	catch basin	CR	curb ramp	Fn	fence
		CRS	cationic rapid setting	C	cut	Fn P	fence post
Abn	abandoned	C Gd	cattle guard	Dd Ld	dead load	FO	fiber optic
Abut	abutment	C To C	center to center	Defl	deflection	FD	field drive
Adj	adjusted	CL or C	centerline	Defm	deformed	F	fill
Aggr	aggregate	Ch	chain	DInt	delineate	FAA	fine aggregate angularity
Ahd	ahead	Chnlk	chain-link	Dlntr	delineator	FH	fire hydrant
ARV	air release valve	Ch Blk	channel block	Depr	depression	Fl	flange
Align	alignment	Ch Ch	channel change	Desc	description	Flrd	flared
Al	alley	Chk	check	Det	detail	FES	flared end section
Alt	alternate	Chsld	chiseled	DWP	detectable warning panel	F Bcn	flashing beacon
Alum	aluminum	Cir	circle	Dtr	detour	FA	flight auger sample
ADA	Americans with Disabilities Act	Cl	class	Dia or ø	diameter	FL	flow line
&	and	CInt	clean-out	Dir	direction	Ftg	footing
Appr	approach	Clr	clear	Dist	distance	FM	force main
Approx	approximate	Cl&gr	clearing & grubbing	DM	disturbed material	Fnd	found
ACP	asbestos cement pipe	Comb.	combination	DB	ditch block	Fdn	foundation
Asph	asphalt	Coml	commercial	DG	ditch grade	Frac	fractional
AC	asphalt cement	Compr	compression	Dbl	double	Frwy	freeway
Assmd	assumed	CADD	computer aided drafting & design	Dn	down	Fr	front
@	at	Conc	concrete	Dwg	drawing	FF	front face
Atten	attenuation	CECB	concrete erosion control blanket	Dr	drive	F Disp	fuel dispenser
ATR	automatic traffic recorder	Cond	conductor	Drwy	driveway	FFP	fuel filler pipes
Ave	Avenue	Const	construction	DI	drop inlet	FLS	fuel leak sensor
Avg	average	Cont	continuous	D	dry density	Furn	furnish/ed
ADT	average daily traffic	CSB	continuous split barrel sample				
		Contr	contraction				
		Contr	contractor				
Bk	back	CP	control point	Ea	each		
BF	back face	Coord	coordinate	Esmt	easement		
Balc	balcony	Cor	corner	E	East		
B Wire	barbed wire	Corr	corrected	EB	Eastbound		
Barr	barricade	CAES	corrugated aluminum end section	Elast	elastomeric		
Btry	battery	CAP	corrugated aluminum pipe	EL	electric locker		
BI	beehive inlet	CMES	corrugated metal end section	E Mtr	electric meter		
Beg	begin	CMP	corrugated metal pipe	EVSE	electric vehicle supply equipment		
BG	below grade	CPVCP	corrugated poly-vinyl chloride pipe	Elec	electric/al		
BM	bench mark	CSES	corrugated steel end section	EDM	electronic distance meter		
Bkwy	bikeway	CSFES	corrugated steel flared end section	Elev or El	elevation		
Bit	bituminous	CSP	corrugated steel pipe	Ellipt	elliptical		
Blk	block	CSTES	corrugated steel traversable end section	Emb	embankment		
BH	bore hole	Co	County	Emuls	emulsion/emulsified		
Bot	bottom	Crse	course	ES	end section		
Blvd	Boulevard	Ct	Court	Engr	engineer		
Bndry	boundary	Xarm	cross arm	ESS	environmental sensor station		
Brkwy	breakaway	Xbuck	cross buck	Eq	equal		
Br	bridge	Xsec	cross sections	Evgr	evergreen		
Bldg	building	Xing	crossing	Exc	excavation		
Bus.	business	Xrd	crossroad	Exst	existing		
BV	butterfly valve	Crn	crown	Exp	expansion		
Byp	bypass			Expy	Expressway		
				E	external of curve		
				Extru	extruded		

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
04-23-18 09-20-18 12-18-20 08-16-22 04-14-25	General Revisions General Revisions General Revisions General Revisions General Revisions

KIRK J. HOFF  
REGISTERED  
PROFESSIONAL  
PE-4683  
04/14/25  
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NORTH DAKOTA

## NDDOT ABBREVIATIONS

D-101-2

Galv	galvanized	Ln	lane	Obsc	obscure(d)	Qty	quantity
Gar	garage	Lg	large	Ocpd	occupied	Qtr	quarter
Gs L	gas line	Lat	latitude	Ocpy	occupy		
G Reg	gas line regulator	Lt	left	O/s	offset		
GMV	gas main valve	Lens	lenses	OC	on center	Rad or R	radius
G Mtr	gas meter	Lvl	level	C	one dimensional consolidation	RR	railroad
GSV	gas service valve	Lvng	leveling	OC	organic content	Rlw	railway
GVP	gas vent pipe	Lht	light	Orig	original	Rsd	raised
GV	gate valve	LP	light pole	O To O	out to out	RC	rapid curing
Ga	gauge	Ltg	lighting	OD	outside diameter	Rec	record
Gov	government	Liq	liquid	OH	overhead	Rcy	recycle
Grd	graded/grade	LL	liquid limit			RAP	recycled asphalt pavement
Grnd	ground	Loc	location	PMT	pad mounted transformer	RPCC	recycled portland cement concrete
GWM	ground water monitor	Long.	longitude	Pg	pages	Ref	reference
Gdrl	guardrail	Lp	loop	Pntd	painted	R Mkr	reference marker
Gtr	gutter	LD	loop detector	Pr	pair	RM	reference monument
		Lum	luminaire	Pnl	panel	RP	reference point
				Pk	park	Refl	reflectorized
H Plg	H piling			PSD	passing sight distance	RCB	reinforced concrete box
Hdwl	headwall	Mb	mailbox	Pvmt	pavement	RCES	reinforced concrete end section
Ht	height	ML	main line	Ped	pedestal	RCFES	reinforced concrete flared end section
Hel	helical	MH	manhole	Ped	pedestrian	RCP	reinforced concrete pipe
HDPE	high density polyethylene	Mkd	marked	PPP	pedestrian pushbutton post	RCPS	reinforced concrete pipe sewer
HM	high mast	Mkr	marker	Pen.	penetration	RCTES	reinforced concrete traversable end section
HP	high pressure	Mkg	marking	Perf	perforated	Reinf	reinforcement
HPS	high pressure sodium	MA	mast arm	Per.	perimeter	Res	reservation
HTCG	high tension cable guardrail	Matl	material	Perm	permanent	Res	residence
Hwy	highway	Max	maximum	PL	pipeline	Ret	retaining
Hor	horizontal			PI	place	Rev	reverse
HBP	hot bituminous pavement	Meas	measure	P&P	plan & profile	Rt	right
HMA	hot mix asphalt	Mdn	median	PL	plastic limit	R/W	right of way
Hyd	hydrant	MD	median drain	PI or P	plate	Riv	river
Ph	hydrogen ion content	MC	medium curing	Pt	point	Rd	road
		MGS	Midwest Guardrail System	PE	polyethylene	Rdbo	road bed
		MM	mile marker	PVC	polyvinyl chloride	Rdw	roadway
Id	identification	MP	mile post	PCC	Portland Cement concrete	RWIS	roadway weather information system
Incl	inclinometer tube	Min	minimum	PP	power pole	Rk	rock
IMH	inlet manhole	Misc	miscellaneous	Preempt	preemption	Rt	route
ID	inside diameter	Mon	monument	Prefab	prefabricated		
Inst	instrument	Mnd	mound	Prfmd or Pref	preformed		
Intchg	interchange	Mtbl	mountable	Prep	preperation		
Intmdt	intermediate	Mtd	mounted	Press.	pressure		
Intscn	intersection	Mtg	mounting	PRV	pressure relief valve		
Inv	invert	Mk	muck	Prestr	prestressed		
IP	iron pipe			Pvt	private		
				PD	private drive		
Jt	joint			Prod.	production/produce		
Jct	junction	Neop	neoprene	Prog	programmed	07-01-14	
		Ntwk	network	Prop.	property	REVISIONS	
		N	North	Ppsd	proposed	DATE	CHANGE
		NE	Northeast	PB	pull box	08-03-15	General Revisions
		NW	Northwest			04-23-18	General Revisions
		NB	Northbound			12-18-20	General Revisions
		No. or #	number			08-16-22	General Revisions
						04-14-25	General Revisions

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
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DATE	CHANGE
08-03-15	General Revisions
04-23-18	General Revisions
12-18-20	General Revisions
08-16-22	General Revisions
04-14-25	General Revisions



## NDDOT ABBREVIATIONS

D-101-3

Salv	salvage(d)	Tel	telephone
San	sanitary sewer line	Tel B	Telephone Booth
Sec	section	Tel P	telephone pole
SL	section line	Tv	television
Sep	separation	Temp	temperature
Seq	sequence	Temp	temporary
Serv	service	TBM	temporary bench mark
Sht	sheet	T	thinwall tube sample
Shtng	sheeting	Ts	topsoil
Shldr	shoulder	Traf	traffic
Sw or Sdwk	sidewalk	TSCB	traffic signal control box
SD	sight distance	Tr	trail
SN	sign number	Transf	transformer
Sig	signal	Trans	transition
Sgl	single	TT	transmission tower
SRCP	slotted reinforced concrete pipe	TES	traversable end section
SC	slow curing	Trans	transverse
SS	slow setting	Trtd	treated
Sm	small	Trmt	treatment
S	South	Qc	triaxial compression
SE	Southeast	TERO	tribal employment rights ordinance
SW	Southwest	Tpl	triple
SB	Southbound	Typ	typical
Sp	spaces		
Spcl	special		
SA	special assembly	Qu	unconfined compressive strength
SP	special provisions	Ugrnd	underground
G	specific gravity	Util	utility
Spk	spike		
SB	split barrel sample		
SH	sprinkler head	VG	valley gutter
SV	sprinkler valve	Vap	vapor
Sq	square	Vert	vertical
Stk	stake	VCP	vitrified clay pipe
Std	standard	Vol	volume
N	standard penetration test	VSFS	vehicle speed feedback sign
Std Specs	standard specifications		
Stm L	steam line	Wkwy	walkway
SEC	steel encased concrete	W	water content
SMA	stone matrix asphalt	WGV	water gate valve
SSD	stopping sight distance	WL	water line
SD	storm drain	WM	water main
St	street	WMV	water main valve
SPP	structural plate pipe	W Mtr	water meter
SPPA	structural plate pipe arch	WSV	water service valve
Str	structure	WW	water well
Subd	subdivision	Wrng	wearing
Sub	subgrade	WIM	weigh in motion
Sub Prep	subgrade preperation	W	west
Ss	subsoil	WB	westbound
SS	supplement specification	Wrng	wiring
Supp	supplemental	W/	with
Surf	surfacing	W/o	without
Surv	survey		
Sym	symmetrical		

NORTH DAKOTA	
DEPARTMENT OF TRANSPORTATION	
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DATE	CHANGE
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04/14/25

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## NDDOT ABBREVIATIONS

D-101-4

## MEASUREMENTS

ac	acres
A	ampere
Bd Ft	board feet
Cd	candela
cm	centimeter
C	coulomb
CF	cubic feet
m3	cubic meter
m3/s	cubic meters per second
CY	cubic yard
CY/mi	cubic yards per mile
D or Deg	degree
F	Fahrenheit
F	farad
ft	feet/foot
Gal	gallon
G	giga
Ha	hectare
H	henry
Hz	hertz
hr	hour(s)
in.	inch
J	joule
K	kelvin
kN	kilo newton
kPa	kilo pascal
kg	kilogram
kg/m3	kilogram per cubic meter
km	kilometer
K	Kip(s)
LF	linear foot
L	litre
Lm	lumen
L sum	lump sum
Lx	lux
M Hr	man hour
M	mega
m	meter
m/s	meters per second
mi	mile
mL	milliliter
mm	millimeter
mm/hr	millimeters per hour
n	nano
N	newton
Pa	pascal
lb	pounds
sec	seconds
S	siemens
SF	square feet
km2	square kilometer
m2	square meter
SY	square yard
Sta Yd	station yards
SI	Systems International

T	tesla
T/mi	tons per mile
V	volt
W	watt
Wb	weber

## SURVEY DESCRIPTIONS

Az	azimuth
Bs	backsight
Brg	bearing
BP Cap	blue plastic cap
BS	both sides
BC	brass cap
CC	closing corner
CS	curve to spiral
Eq	equation
E	external of curve
FS	far side
FB	field book
Fs	foresight
Geod	geodetic
GIS	Geographical Information System
GPS	Global Positioning System
HI	height of instrument
IM	iron monument
I Pn	iron pin
LS	Land Surveyor (licensed)
LSIT	Land Surveyor In Training
L	length of curve
LC	long chord
LB	level book
MC	meander corner
Mer	meridian
M	mid ordinate of curve
NGS	National Geodetic Survey
NS	near side
Obsn	observation
Off Loc	office location
OP Cap	orange plastic cap
PK	Parker-Kalon nail
P Cap	plastic cap
PP Cap	pink plastic cap
PCC	point of compound curve
PC	point of curve
PI	point of intersection
PRC	point of reverse curvature
PT	point of tangent
POC	point on curve
POT	point on tangent
RTP	random traverse point
Rge	range
RP Cap	red plastic cap
SC	spiral to curve
SC	standard corner
ST	spiral to tangent
Sta	station
SE	superelevation
Tan	tangent
T	tangent (semi)
TS	tangent to spiral
Twp	township
TB	transit book
TP	traverse point
TP	turning point
USC&G	US Coast & Geodetic Survey
USGS	US Geologic Survey
VC	vertical curve
WC	witness corner
WGS	World Geodetic System
YP Cap	yellow plastic cap
Z	zenith

## SOIL TYPES

Cl	clay
Cl F	clay fill
Cl Hvy	clay heavy
Cl Lm	clay loam
Co S	coal slack
C Gr	coarse gravel
CS	coarse sand
FS	fine sand
Gr	gravel
Lig Co	lignite coal
Lig Sl	lignite slack
Lm	loam
Rk	rock
Sd	sand
Sdy Cl	sandy clay
Sdy Cl Lm	sandy clay loam
Sdy Fl	sandy fill
Sdy Lm	sandy loam
Sc	scoria
Sh	shale
Si Cl	silt clay
Si Cl Lm	silty clay loam
Si Lm	silty loam

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
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12-18-20 4-14-25	Sheet Added - Continued from D-101-3 General Revisions



## NDDOT UTILITY COMPANY AND ORGANIZATION ABBREVIATIONS

D-101-10

702COM	702 Communications	GTR RAMSEY WD	Greater Ramsey Water District	RED RIV COMM	Red River Communications
ACCENT	Accent Communications	GT PLNS NAT GAS	Great Plains Natural Gas Company	RESVTN TEL	Reservation Telephone
AGASSIZ WU	Agassiz Water Users District	HALS TEL	Halstad Telephone Company	ROBRTS TEL	Roberts Company Telephone
AGC	Associated General Contractors of America	IDEA1	Idea1	R-RIDER ELEC	Roughrider Electric Cooperative
ALL PL	Alliance Pipeline	INT-COMM TEL	Inter-Community Telephone Company	RRVW	Red River Valley & Western Railroad
ALL SEAS WU	All Seasons Water Users District	KANEPL	Kaneb Pipeline Company	S CENT REG WD	South Central Regional Water District
AMOCO PI	Amoco Pipeline Company	KEM ELEC	Kem Electric Cooperative Incorporated	SE WU	Southeast Water Users Incorporated
AMRDA HESS	Amerada Hess Corporation	KOCH GATH SYS	Koch Gathering Systems Incorporated	SCOTT CABLE	Scott Cable Television Dickinson
AT&T	AT&T Corporation	LKHD PL	Lakehead Pipeline Company	SHERDN ELEC	Sheridan Electric Cooperative
B PAW	Bear Paw Energy Incorporated	LWR YELL R ELEC	Lower Yellowstone Rural Electric	SHEYEN VLY ELEC	Sheyenne Valley Electric Cooperative
BAKER ELEC	Baker Electric	LUMEN	Lumen Technologies Incorporated	SKYTECH	Skyland Technologies Incorporated
BASIN ELEC	Basin Electric Cooperative Incorporated	MCKNZ CON	McKenzie Consolidated Telcom	SLOPE ELEC	Slope Electric Cooperative Incorporated
BEK TEL	Bek Communications Cooperative	MCKNZ ELEC	McKenzie Electric Cooperative	SOURIS RIV TELCOM	Souris River Telecommunications
BELLE PL	Belle Fourche Pipeline Company	MCKNZ WRD	McKenzie County Water Resource District	ST WAT COMM	State Water Commission
BLM	Bureau of Land Management	MCLEOD	McLeod USA	STATE LN WATER	State Line Water Cooperative
BNSF	Burlington Northern Santa Fe Railway	MCLN ELEC	McLean Electric Cooperative	STER ENG	Sterling Energy
BOEING	Boeing	MCLN-SHRDN R WAT	McLean-Sheridan Rural Water District	STUT RWD	Stutsman Rural Water District
BRNS RWD	Barnes Rural Water District	MDU	Montana-dakota Utilities	SW PL PRJ	Southwest Pipeline Project
BURK-DIV ELEC	Burke-Divide Electric Cooperative	MIDCO	MidContinent Communications	SWWA	Southwest Water Authority
BURL WRD	Burleigh County Water Resource District	MIDSTATE TEL	Midstate Telephone Company	SUNOCO	Sunoco LP
CABLE ONE	Cable One	MINOT CABLE	Minot Cable Television	T M C	Turtle Mountain Communications
CABLE SERV	Cable Services	MINOT TEL	Minot Telephone Company	TCI	TCI of North Dakota
CAP ELEC	Capital Electric Cooperative Incorporated	MISS VALL COMM	Missouri Valley Communications Incorporated	TESORO HGH PLNS PL	Tesoro High Plains Pipeline
CASS CO ELEC	Cass County Electric Cooperative	MISS W W S	Missouri West Water System	TRI-CNTY WU	Tri-County Water Users Incorporated
CASS RWU	Cass Rural Water Users District	MNKOTA PWR	Minnkota Power	TRL CO WRD	Trail County Water Resource District
CAV ELEC	Cavalier Rural Electric Cooperative	MOR-GRAN-SOU ELEC	Mor-gran-sou Electric Cooperative	UNTD TEL	United Telephone
CBLCOM	Cablecom Of Fargo	MOUNT-WILLIELEC	Mountrail-williams Electric Cooperative	UPPR SOUR WD	Upper Souris Water District
CENEX PL	Cenex Pipeline	MLGC	Moore & Liberty - Griggs County	US SPRINT	U.S. Sprint
CENT PL WATER DIST	Central Pipe Line Water District	MUNICIPAL	City Water And Sewer	USAF MSL CABLE	U.S.A.F. Missile Cable
CENT PWR ELEC	Central Power Electric Cooperative	MUNICIPAL	City Of '.....'	USFWS	US Fish and Wildlife Service
CENTURYLINK	CenturyLink	N CENT ELEC	North Central Electric Cooperative	USW COMM	U.S. West Communications
COE	Corps of Engineers	N PRAIR REG WD	North Prairie Regional Water District	VRNDRY ELEC	Verendrye Electric Cooperative
CONS COMM	Consolidated Communications	ND PKS & REC	North Dakota Parks And Recreation	W RIV TEL	West River Telephone Incorporated
CONS TELCOM	Consolidated Telcom	ND TEL	North Dakota Telephone Company	WAPA	Western Area Power Administration
CONT RES	Continental Resource Inc	NDDDOT	North Dakota Department of Transportation	WAWSA	Western Area Water Supply Authority
CPR	Canadian Pacific Railway	NE REG WD	Northeast Regional Water District	WEB	W. E. B. Water Development Association
D O E	Department Of Energy	NDSU SOIL SCI DEPT	NDSU Soil Science Department	WILLI WRD	Williams County Water Resource District
DAK CARR	Dakota Carrier Network	NEMONT TEL	Nemont Telephone	WILSTN BAS PL	Williston Basin Interstate Pipeline Company
DAK CENT TEL	Dakota Central Telephone	NODAK R ELEC	Nodak Rural Electric Cooperative	WLSH RWD	Walsh Water Rural Water District
DAK RWD	Dakota Rural Water District	NOON FRMS TEL	Noonan Farmers Telephone Company	WOLVRTN TEL	Wolverton Telephone
DGC	Dakota Gasification Company	NPR	Northern Plains Railroad	XLENER	Xcel Energy
DICKEY R NET	Dickey Rural Networks	NSP	Northern States Power	YSVR	Yellowstone Valley Railroad
DICKEY WRD	Dickey County Water Resource District	NTHN BRDR PL	Northern Border Pipeline		
DICKEY TEL	Dickey Telephone	NTHN PLNS ELEC	Northern Plains Electric Cooperative Incorporated		
DNRR	Dakota Northern Railroad	NTHWSTRN REF	Northwestern Refinery Company		
DOME PL	Dome Pipeline Company	NW COMM	Northwest Communication Cooperation		
DVELEC	Dakota Valley Electric Cooperative	NWRWD	Northwest Rural Water District		
DVMW	Dakota, Missouri Valley & Western	ONEOK	Oneok gas		
E CENT REG WD	East Central Water District	OSHA	Occupational Safety and Health Administration		
ENBRDG	Enbridge Pipelines Incorporated	OTTR TL PWR	Otter Tail Power Company		
ENVENTIS	Enventis Telephone	PAAP	Plains All American Pipeline		
EQUINOR	Equinor Pipeline	P L E M	Prairielands Energy Marketing		
FALK MNG	Falkirk Mining Company	POLAR COM	Polar Communications		
FHWA	Federal Highway Administration	PVT ELEC	Private Electric		
G FKS-TRL WD	Grand Forks-trail Water District	QWEST	Qwest Communications		
GETTY TRD & TRAN	Getty Trading & Transportation	R&T REG WD	R & T Water District		
GLDN W ELEC	Golden West Electric Cooperative				

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
04-23-18 09-20-18 12-18-20 08-16-22 04-14-25	General Revisions General Revisions General Revisions General Revisions General Revisions



## LINE STYLES

D-101-20

## Existing Topography

Void — Void — Void — v Existing Ground Void

—+—+— Existing Cemetery Boundary

----- Existing Box Culvert Bridge

----- Existing Concrete Surface

----- Existing Drainage Structure

----- Existing Gravel Surface

----- Existing Riprap

----- Existing Dirt Surface

----- Existing Asphalt Surface

----- Existing Tie Point Line

----- Existing Railroad Centerline

----- Existing Guardrail Cable

----- Existing Guardrail Metal

----- Existing Edge of Water

----- Existing Fence

----- Existing Railroad

----- Existing Field Line

----- Exst Flow

----- Existing Curb

----- Existing Valley Gutter

----- Existing Driveway Gutter

----- Existing Curb and Gutter

----- Existing Mountable Curb and Gutter

## Existing Topography

----- Existing 3-Cable w Posts

----- Site Boundary

----- Existing Berm, Dike, Pit, or Earth Dam

----- Existing Ditch Block

----- Existing Tree Boundary

----- Existing Brush or Shrub Boundary

----- Existing Retaining Wall

----- Existing Planter or Wall

----- Existing W-Beam Guardrail with Posts

----- Existing Railroad Switch

----- Gravel Pit - Borrow Area

----- Existing Wet Area-Vegetation Break

----- Existing High Tension Cable Guardrail

----- Existing High Tension Cable Guardrail with Posts

## Proposed Topography

----- 3-Cable w Posts

----- Flow

----- Fence

----- REMOVE REMOVE Remove Line

----- Wall

----- Retaining Wall (Plan View)

----- W-Beam w Posts

----- High Tension Cable Guardrail with Posts

## Existing Utilities

----- E Existing Electrical

----- FO Existing Fiber Optic Line

----- FO Existing TV Fiber Optic

----- G Existing Gas Pipe

----- OH Existing Overhead Utility Line

----- P Existing Power

----- PL Existing Fuel Pipeline

----- PL Existing Undefined Above Ground Pipe Line

----- SAN Existing Sanitary Sewer

----- SAN FM Existing Sanitary Force Main

----- SD Existing Storm Drain

----- SD FM Existing Storm Drain Force Main

----- Existing Culvert

----- T Existing Telephone Line

----- TV Existing TV Line

----- W Existing Water or Steam Line

----- Existing Under Drain

----- Existing Slotted Drain

----- Existing Conduit

----- Existing Conductor

----- Existing Down Guy Wire Down Guy

----- Existing Underground Vault or Lift Station

## Proposed Utilities

----- 24 Inch Pipe

----- Reinforced Concrete Pipe

----- Under Drain

----- Edge Drain

## Traffic Utilities

----- Conductor

----- Fiber Optic

----- Existing Loop Detector

----- Existing Double Micro Loop Detector

----- Micro Loop Detector Double

----- Existing Micro Loop Detector

----- Micro Loop Detector

----- Signal Head with Mast Arm

----- Existing Signal Head with Mast Arm

## Sign Structures

----- Existing Overhead Sign Structure

----- Existing Overhead Sign Structure Cantilever

----- Overhead Sign Structure Cantilever

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
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DATE	CHANGE
09-23-16 12-18-20	Added and Revised Items, Organized by Functional Groups General Revisions



## LINE STYLES

D-101-21

## Right Of Way

-----	Easement
-----	Existing Easement
-----	Right of Way
-----	Existing Right of Way
-----	Existing Right of Way Railroad
-----	Existing Right of Way Not State Owned
-----	Existing Government Lot Line
.....	Existing Adjacent Block Lines

## Cross Sections and Typicals

-----	Existing Ground
-----	Existing Topsoil (Cross Section View)
void — void — void — v	Existing Ground Void (Not Surveyed)
-----	Existing Concrete
-----	Existing Aggregate (Cross Section View)
-----	Existing Curb and Gutter (Cross Section View)
-----	Existing Asphalt (Cross Section View)
-----	Existing Reinforcement Rebar

## Striping

-----	Centerline Pavement Marking
=====	Barrier with Centerline Pavement Marking
=====	Barrier Pavement Marking
- - - - -	Stripe 4 IN Dotted Extension White
- - - - -	Stripe 8 IN Dotted Extension White
- - - - -	Stripe 8 IN Lane Drop

## Erosion Control

.....	Limits of Const Transition Line
.....	Bale Check
.....	Rock Check
-----	Floating Silt Curtain
-----	Silt Fence
.....	Excavation Limits
-----	Fiber Rolls

## Geotechnical

----- D ----- D -----	Geotextile Fabric Type D
----- Geo ----- Geo -----	Geogrid
----- R ----- R -----	Geotextile Fabric Type R
----- R ----- R -----	Geotextile Fabric Type R1
----- RR ----- RR -----	Geotextile Fabric Type RR

## Pavement Joints

*****	Doweled Joint
+++++	Tie Bar 30 Inch 4 Foot Center to Center
+++++	Tie Bar 18 Inch 3 Foot Center to Center
+++++	Tie Bar at Random Spacing

## Environmental

-----	Wetland Mitigation
-----	Existing Wetland Easement USFWS
-----	Existing Wetland Jurisdictional
-----	Existing Wetland
-----	Tree Row

## Boundary Control

Existing City Corporate Limits or Reservation Boundary

Existing State or International Line

Existing Township

Existing County

Existing Section Line

Existing Quarter Section Line

Existing Sixteenth Section Line

Existing Centerline

Tangent Line

## Contours

Depression Contours

Supplemental Contour

## Profile

Subgrade, Subcut or Ditch Grade

Topsoil Profile

Small Hidden Object

Large Hidden Object

Phantom Object

Existing Conditions Object

Centerline Main

Centerline Secondary

Excavation Limits

Proposed Ground

Sheet Piling

NORTH DAKOTA	
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09-23-16      Added and Revised Items, Organized by Functional Groups  
12-18-20      General Revisions

## SYMBOLS

D-101-30

	North Arrow (Half Scale)
	Alignment Data Point
	Alignment Monument
	Spot Elevation
	Existing Miscellaneous Spot
	Existing Access Control Arrow
	Existing Benchmark
	Reset USGS Marker
	Iron Monument Found
	Iron Pin R/W Monument
	Property Corner
	Iron Pin Reference Monument
	Right of Way Marker (Exst, Ppsd, Reset)
	Existing Federal Reference Corner
	Existing Section Corner (Full, Quarter, Sixteenth, Meander)
	Existing Witness Corner
	Existing Control Point (CP, GPS-RTK, TRI)
	Existing Traverse PI Aerial Panel
	Existing Reference Marker Point NGS
	Existing EFB Misc
	Existing Bush or Shrub
	Existing Large Evergreen Tree
	Existing Small Evergreen Tree
	Existing Large Tree
	Existing Small Tree
	Existing Tree Trunk
	Cairn or Stone Circle
	Existing Artifact
	Existing Satellite Dish
	Existing Weather Station
	Existing Windmill or Tower
	Reinforced Pavement
	Continuous Split Barrel Sample
	Flight Auger Sample
	Split Barrel Sample
	Thinwall Tube Sample
	Standard Penetration Test
	Inclinometer Tube
	Excavation Unit
	Existing Ground Water Well Bore Hole

NORTH DAKOTA	
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07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions

KIRK J. HOFF  
REGISTERED  
PROFESSIONAL  
PE-4683  
Kirk J. Hoff  
NORTH DAKOTA  
12 18 2020

## SYMBOLS

D-101-31

■	Flexible Delineator	■	Highway Sign (Exst, Ppsd)
□ □	Flexible Delineator Type A (Exst, Ppsd)	□ □	Mile Post Type A (Exst-Ppsd-Reset)
□ □	Flexible Delineator Type B (Exst, Ppsd)	□ □	Mile Post Type B (Exst, Ppsd)
□ □	Flexible Delineator Type C (Exst, Ppsd)	□ □	Mile Post Type C (Exst, Ppsd)
○ ○	Flexible Delineator Type D (Exst, Ppsd)	○ ○	Object Marker Type I (Exst, Ppsd)
○ ○	Flexible Delineator Type E (Exst, Ppsd)	○ ○	Object Marker Type II (Exst, Ppsd)
└ └ └ └	Delineator Type A (Exst, Ppsd, Diamond Grade-Reset)	└ └	Object Marker Type III (Exst, Ppsd)
└ └ └ └	Delineator Type B (Exst, Ppsd, Diamond Grade-Reset)	○	Existing Reference Marker
└ └ └ └	Delineator Type C (Exst, Ppsd, Diamond Grade)	○—○	Road Closure Gate 18 Ft (Exst, Ppsd)
○ ○ ○	Delineator Type D (Exst, Ppsd, Diamond Grade)	○—○	Road Closure Gate 28 Ft (Exst, Ppsd)
○ ○ ○	Delineator Type E (Exst, Ppsd, Diamond Grade)	○—○	Road Closure Gate 40 Ft (Exst, Ppsd)
└ └ └	Barricade (Type I, Type II, Type III)	□	Existing Railroad Battery Box
○ ○ ○	Arrow Panel (Caution Mode, Double Direction, Left Directional, Right Directional, Sequencing, Truck Mounted)	×	Existing RR Profile Spot
△	Attenuation Device	×	Existing Railroad Crossbuck
☒	Truck Mounted Attenuator	×	Existing Railroad Frog
●	Delineator Drums	—	Existing Mailbox (Private, Federal)
□	Flagger	□	
←	Tubular Marker		
▲	Traffic Cone		
---	Back to Back Vertical Panel Sign		

NORTH DAKOTA	
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DATE	CHANGE
12-18-20	General Revisions


  
 Kirk J. Hoff  
 REGISTERED  
 PROFESSIONAL  
 PE-4683  
 ENGINEER  
 NORTH DAKOTA  
 12 18 2020

## SYMBOLS

D-101-32

	Existing Luminaire			High Mast Light Standard 3 Luminaire (Exst, Ppsd)			Existing Traffic Signal Standard
	Luminaire LED			High Mast Light Standard 4 Luminaire (Exst, Ppsd)			Pull Box (Exst-Ppsd-Undefined)
	Existing Light Standard Luminaire			High Mast Light Standard 5 Luminaire (Exst, Ppsd)			Intelligent Transportation Pull Box (Exst, Ppsd)
	Relocate Light Standard			High Mast Light Standard 6 Luminaire (Exst, Ppsd)			Transformer (Exst, Ppsd)
	Light Standard Light LED Luminaire			High Mast Light Standard 7 Luminaire (Exst, Ppsd)			Power Pole (Exst-Ppsd-with Transformer)
	Light Standard 35 Watt High Pressure Sodium Vapor Luminaire			High Mast Light Standard 8 Luminaire (Exst, Ppsd)			Wood Pole (Exst, Ppsd)
	Light Standard 50 Watt High Pressure Sodium Vapor Luminaire			High Mast Light Standard 9 Luminaire (Exst, Ppsd)			Pedestrian Push Button Post (Exst, Ppsd)
	Light Standard 70 Watt High Pressure Sodium Vapor Luminaire			High Mast Light Standard 10 Luminaire (Exst, Ppsd)			Existing Pole
	Light Standard 100 Watt High Pressure Sodium Vapor Luminaire			Overhead Sign Structure Load Center (Exst, Ppsd)			Existing Telephone Pole
	Light Standard 150 Watt High Pressure Sodium Vapor Luminaire			Traffic Signal Controller (Exst, Ppsd)			Existing Post
	Light Standard 200 Watt High Pressure Sodium Vapor Luminaire			Pad Mounted Traffic Signal Controller (Exst, Ppsd)			Connection Conductor (Ground, Neutral, Phase 1, Phase 2)
	Light Standard 250 Watt High Pressure Sodium Vapor Luminaire			Flashing Beacon (Exst, Ppsd)			
	Light Standard 310 Watt High Pressure Sodium Vapor Luminaire			Concrete Foundation (Exst, Ppsd)			
	Light Standard 400 Watt High Pressure Sodium Vapor Luminaire			Pipe Mounted Flasher (Exst, Ppsd)			
	Light Standard 700 Watt High Pressure Sodium Vapor Luminaire			Pad Mounted Feed Point (Exst, Ppsd)			
	Light Standard 1000 Watt High Pressure Sodium Vapor Luminaire			Pipe Mounted Feed Point with Pad (Exst, Ppsd)			
	Emergency Vehicle Detector			Pole Mounted Feed Point (Exst, Ppsd)			
	Video Detection Camera			Junction Box (Exst, Ppsd)			
				Existing Pedestrian Head with Number			
				Existing Signal Head			
				Pole Mounted Head			
				Existing Lighting Standard Pole			

NORTH DAKOTA	
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12-18-20	General Revisions

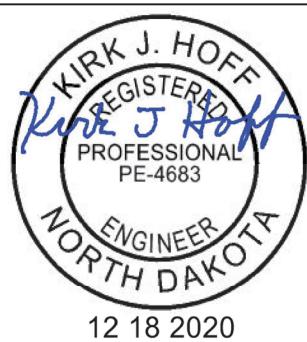


## SYMBOLS

D-101-33

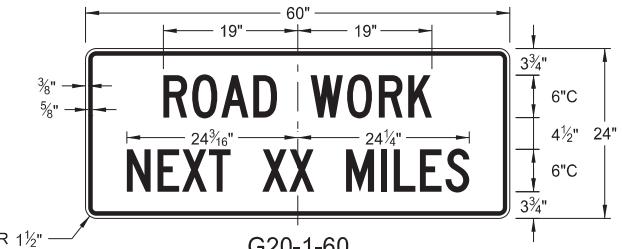
○ ○ ○	Existing Manhole (Electrical, Gas, Telephone)	Cap or Stub Exst Gas, Exst Sanitary, Exst Storm Drain, Ppsd Storm Drain, Exst Water
○ ○ ○	Water Manhole (Exst, Exst with Valve)	□ □ □ □ □
○ ○ ○	Sanitary Sewer Manhole (Exst, Ppsd, Exst with Valve)	Existing Pedestal Electrical, Telephone, Fiber Optic Telephone, TV, Fiber Optic TV, Undefined
○ ○ ○	Sanitary Force Main Manhole (Exst, Ppsd, Exst with Valve)	□ □ □ □ □ □
○ ○ ○	Storm Drain Manhole (Exst, Ppsd, Exst with Inlet, Ppsd with Inlet)	Existing Pipe Vent Gas, Fuel, Sanitary, Storm Drain, Water, Undefined
○ ○ ○	Force Main Storm Drain Manhole (Exst, Exst with Valve)	□ □ □ □ □ □
○ ○ ○	Manhole (Ppsd, Ppsd 48 Inch, Exst Undefined)	Valve Exst Gas, Exst Water, Ppsd Water, Exst Undefined
○ ○ ○	Existing Water Appurtenance	○ ○ ○ ○
○ ○ ○	Sprinkler Head (Exst, Ppsd)	Pump Sanitary, Storm Drain, Exst Water
○ ○ ○	Fire Hydrant (Exst, Ppsd)	○ ○ ○
○ ○ ○	Cleanout (Exst Sanitary, Underdrain)	Corrugated Metal End Section (18, 24, 30, 36, 42, 48, 54, 60 Inch)
○ ○ ○	Existing Catch Basin Inlet (Round, Square)	□ □ □ □ □ □ □ □
○ ○ ○	Existing Curb Inlet (Round, Square)	Reinforced Concrete End Section (18, 24, 30, 36, 42, 48, 54, 60 Inch)
○ ○ ○	Existing Slotted Reinforced Concrete Pipe	□ □ □ □ □ □ □
○ ○ ○	Catch Basin (Riser 30 Inch, Beehive, Type A)	
○ ○ ○	Inlet Mountable Curb (Type A, Type B)	Existing Utility Marker
○ ○ ○	Inlet Saddle Base (Type 1, Type 2)	□ Existing Meter
○ ○ ○	Inlet Special (Catch Basin, Type 1, Type A)	□ Existing Fuel Dispensers
○ ○ ○	Inlet (Tee, Type 1, Type 2, Type 2 Double)	□ Existing Fuel Filler Pipes
○ ○ ○	Median Drain	○ Existing Fuel Leak Sensors
○ ○ ○	Headwall (Exst, Ppsd, Ppsd Single with Vegetation Barrier, Ppsd Double with Vegetation Barrier)	

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
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12-18-20	General Revisions Sheet added - Continued from D-101-32

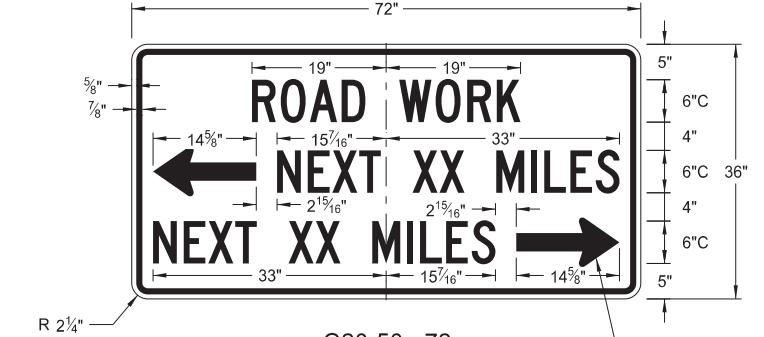


CONSTRUCTION SIGN DETAILS  
TERMINAL AND GUIDE SIGNS

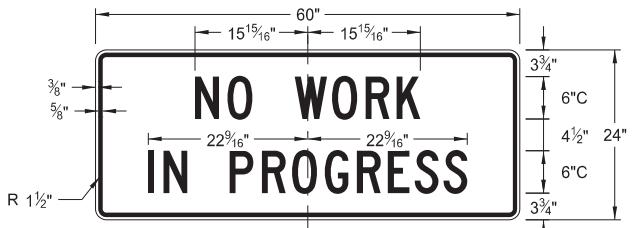
D-704-9



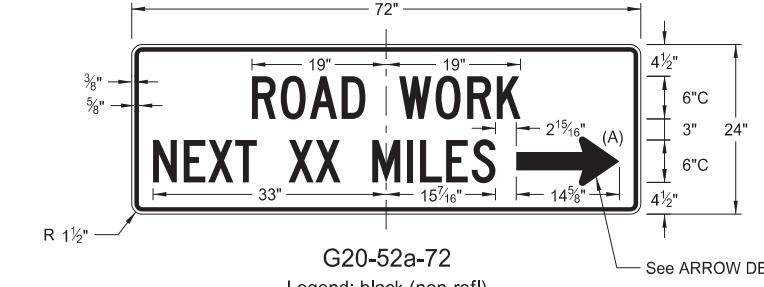
G20-1-60

Legend: black (non-refl)  
Background: orange

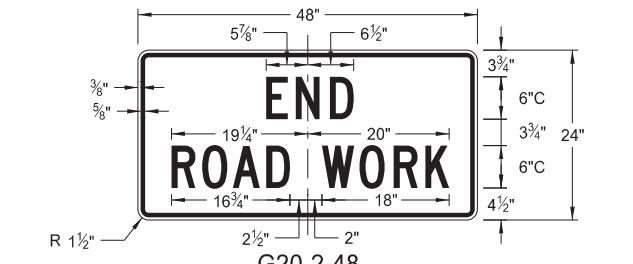
G20-50a-72

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Background: orange

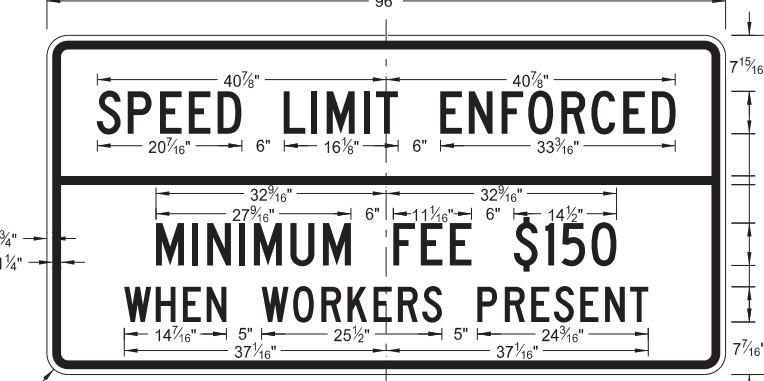
G20-1b-60

Legend: black (non-refl)  
Background: orange

G20-52a-72

Legend: black (non-refl)  
Background: orange

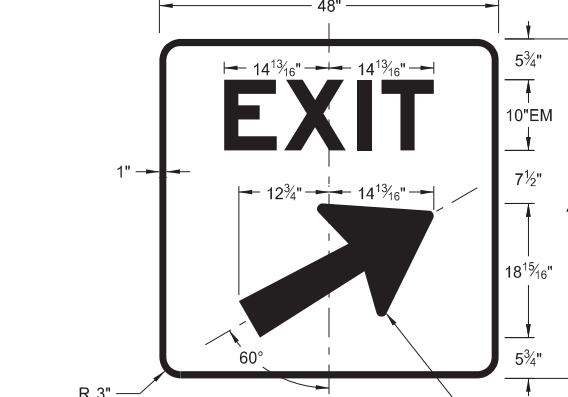
G20-2-48

Legend: black (non-refl)  
Background: orange

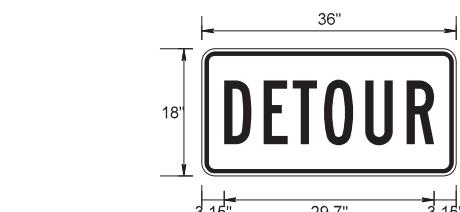
G20-55-96

Legend: black (non-refl)  
Background: orange

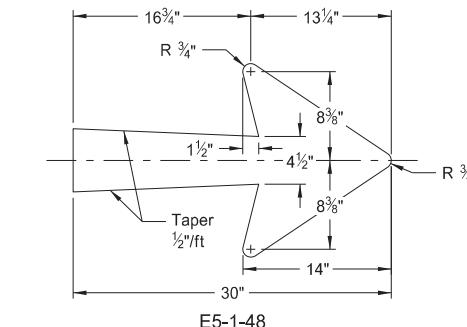
G20-4b-36

Legend: black (non-refl)  
Background: orange

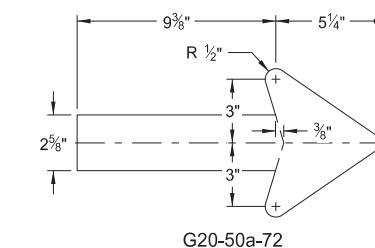
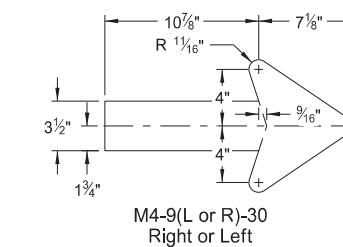
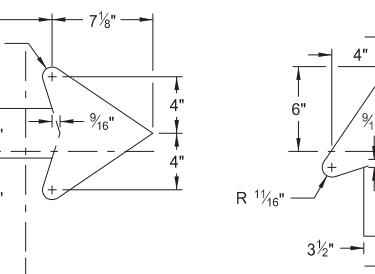
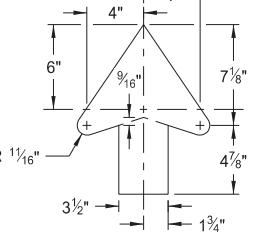
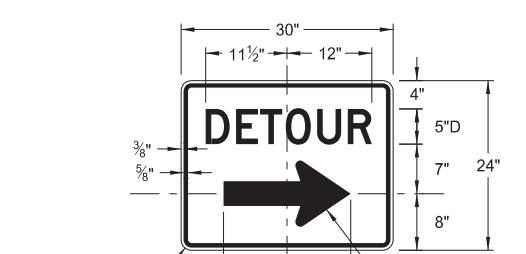
E5-1(L or R)-48

Legend: white  
Background: green (orange optional)

M4-8-36

Legend: black (non-refl)  
Background: orange

E5-1-48

G20-50a-72  
G20-52a-72M4-9(L or R)-30  
Right or LeftM4-9(L or R)-30  
Advanced Right or LeftM4-9-30  
StraightM4-9(L or R)-30 &  
M4-9-30Legend: black (non-refl)  
Background: orange

## NOTES:

(A) Arrow may be right or left of the legend to indicate construction to the right or left.

## ARROW DETAILS

## DATE

08-17-17

10-03-19

08-01-24

06-30-25

## CHANGE

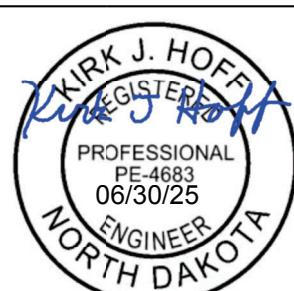
Added sign &amp; background color

New Design Engineer PE Stamp

Electronic Stamp/Signature

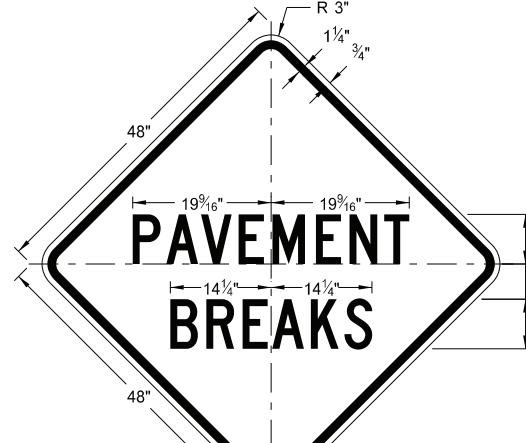
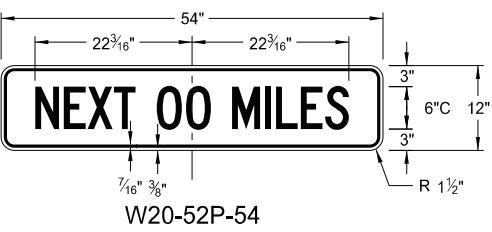
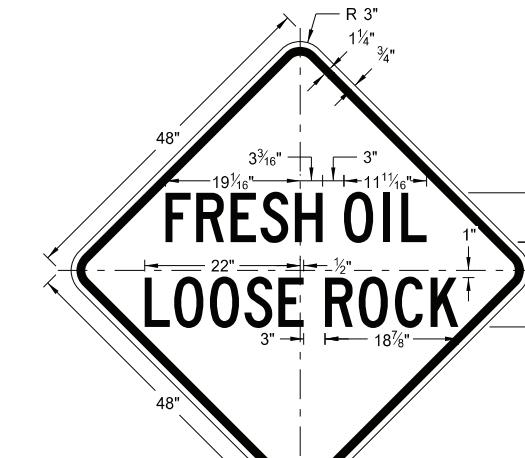
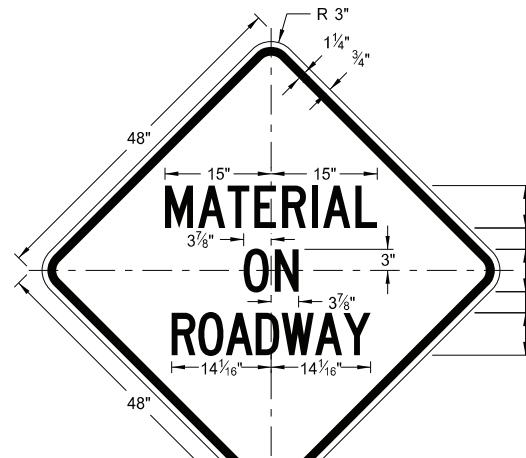
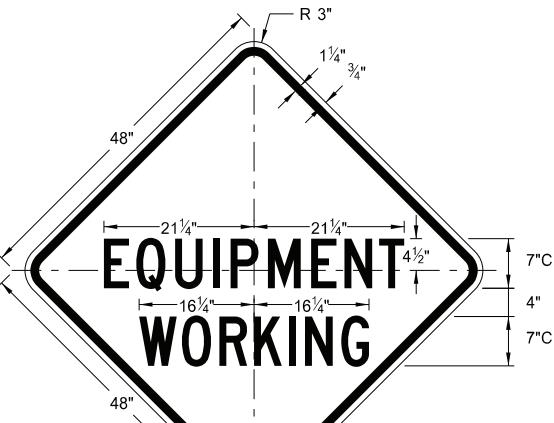
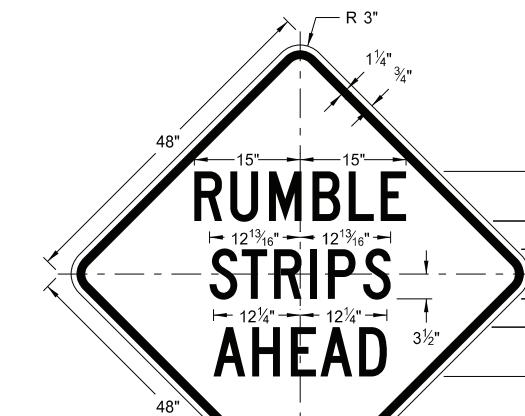
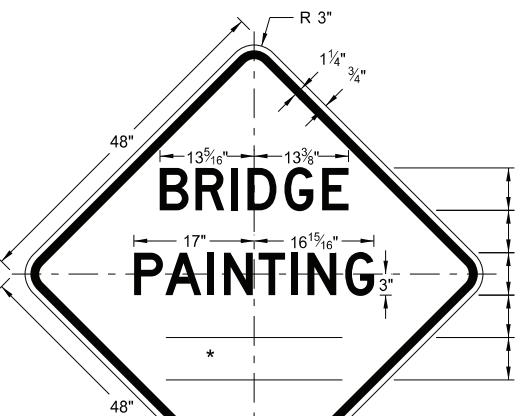
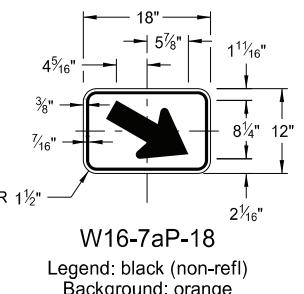
Legislative Changes

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
8-13-13	
REVISIONS	
DATE	CHANGE



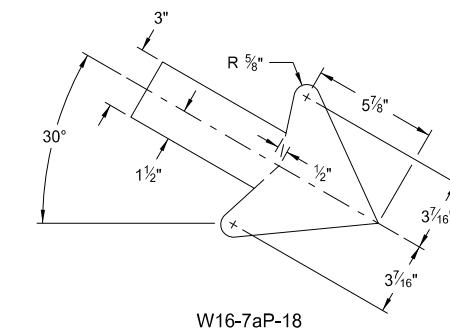


D-704-11A

CONSTRUCTION SIGN DETAILS  
WARNING SIGNS

WORD	LETTER SPACING
AHEAD	Standard
200 FT	Standard
350 FT	Standard
500 FT	Standard
1000 FT	Reduce 40%
1500 FT	Reduce 40%
½ MILE	Reduce 50%
1 MILE	Standard

\* DISTANCE MESSAGES



NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
5-31-18	
REVISIONS	
DATE	CHANGE
11-01-19	Added details for sign W16-7aP-18.
8-01-24	Electronic Stamp/Signature.

KIRK J. HOFF  
REGISTERED  
PROFESSIONAL  
PE-4683  
ENGINEER  
NORTH DAKOTA

08/01/24

**BARRICADE AND CHANNELIZING DEVICE DETAILS**

**D-704-13**

**DELINERATOR DRUM**

Provide horizontal, circumferential, alternating orange and white retroreflective stripes 4" to 6" wide for drum markings. Use a minimum of two orange and two white stripes with the top stripe being orange for each drum. Do not exceed 3" nonretroreflective spaces between the horizontal orange and white stripes. Avoid placement of stripes on drum ribs or indentations. Use closed top drums that will not allow collection of debris. Do not place ballast on the top of drum.

**VERTICAL PANEL**

Provide alternating orange and white retroreflective stripes, sloping downward in direction vehicular traffic is to pass. Place retroreflective sheeting on both sides of panel with a minimum of 270 square inches of retroreflective area facing vehicular traffic. Where the height of the retroreflective material on the vertical panel is 36 inches or more, use a stripe width of 6 inches.

**TRAFFIC CONE**

Provide retroreflectorization of cones more than 36" in height by alternating orange and white retroreflective stripes. Use a minimum of two orange and two white stripes for each cone with the top stripe being orange. Use maximum 3" nonretroreflective space between the orange and white stripes.

**TUBULAR MARKER**

Provide retroreflectorization of tubular markers more than 42" in height by alternating four 4" to 6" wide orange and white stripes with the top stripe being orange.

**FLEXIBLE DELINEATOR**

**INSTALLATION NOTES:**

1. Drill installation holes to diameter and depth required by manufacturer's specifications.
2. For removal, remove anchors and fill installation hole with an epoxy designed to bond to pavement surface.
3. In lieu of bolted down base, use an 8" x 8" butyl pad or hot melt butyl. Remove butyl as close as possible to pavement surface.

**BARRICADE BLADE DETAIL**

NOTE: This is the only type of rail acceptable for use with this barricade assembly.

**ELEVATION VIEW**

(A) Limitations when using 8'-0" barricade rails: 1) use no sign panel, and 2) extend no more than 1'-0" of the barricade rail past the uprights.

**SIDE VIEW**

**BARRICADE ASSEMBLY DETAIL (Aluminum Barricade Rails)**

NOTE: For barricade markings use alternating orange and white retroreflective stripes, sloping downward in the direction traffic is to pass. Place retroreflective sheeting on both sides of the rails with a minimum of 270 square inches of visible retroreflective area facing vehicular traffic. When the barricade length is less than 36", use a rail stripe width of 4".

**TYPE I BARRICADE**

**TYPE II BARRICADE**

**TYPE III BARRICADE**

**BARRICADE RAIL DETAILS**

**REFLECTOR DETAIL**

**ELEVATION**

**DELINERATORS**

**MINIMUM BALLAST (For each side of barricade support)**

Without Sign	4 - 25 lb sandbags
With Sign	6 - 25 lb sandbags

Note: Number of sandbags based on a wind speed of 55 MPH. Sandbags assumed to be placed at or near the ends of the skids.

**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION**

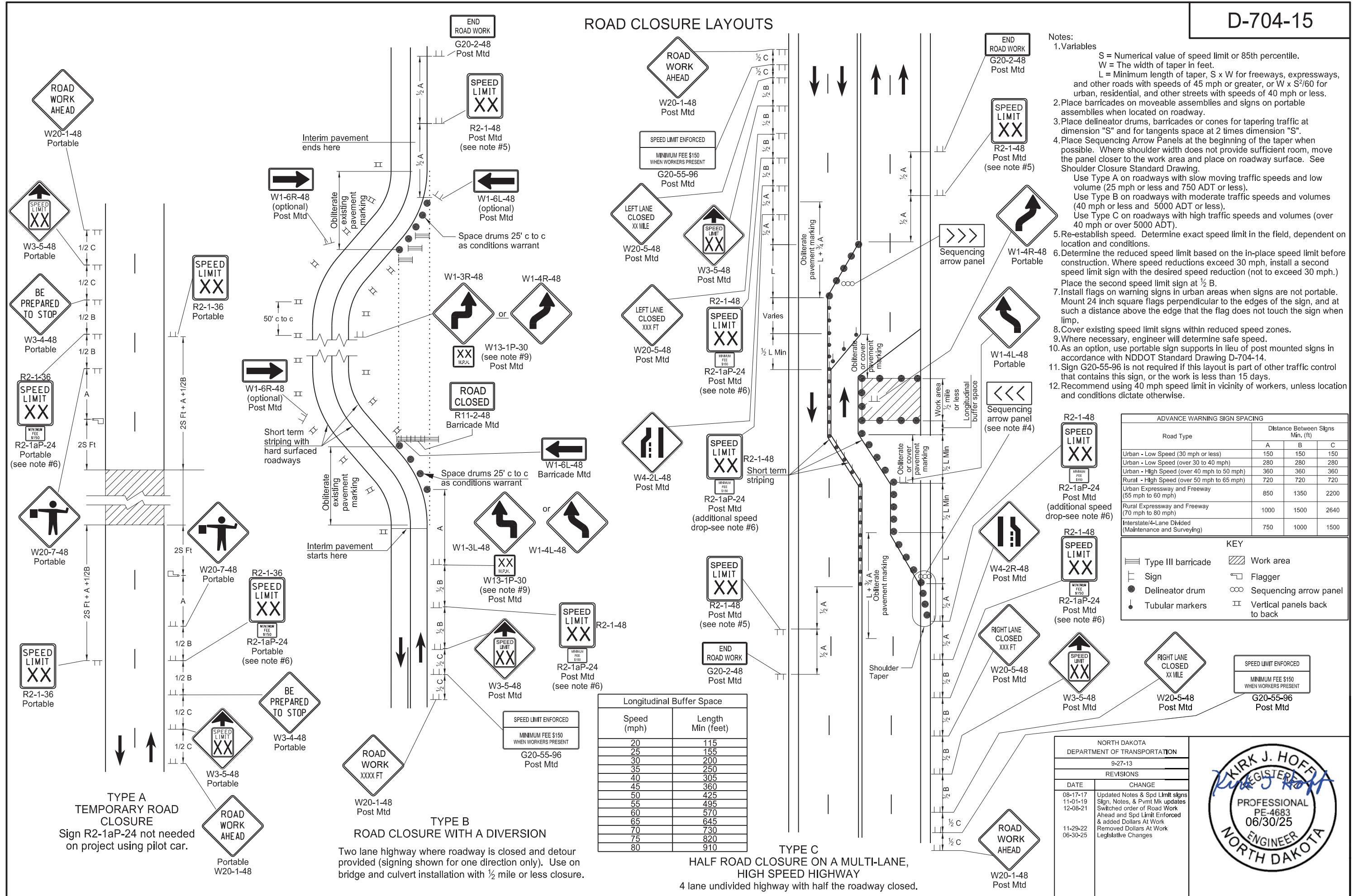
10-3-13	REVISIONS
9-27-17 11-01-19 8-01-24	Updated to active voice Revised details for Flexible Delineator Electronic Stamp/Signature

**KIRK J. HOFF**  
REGISTERED  
PROFESSIONAL  
PE-4683  
NORTH DAKOTA  
08/01/24



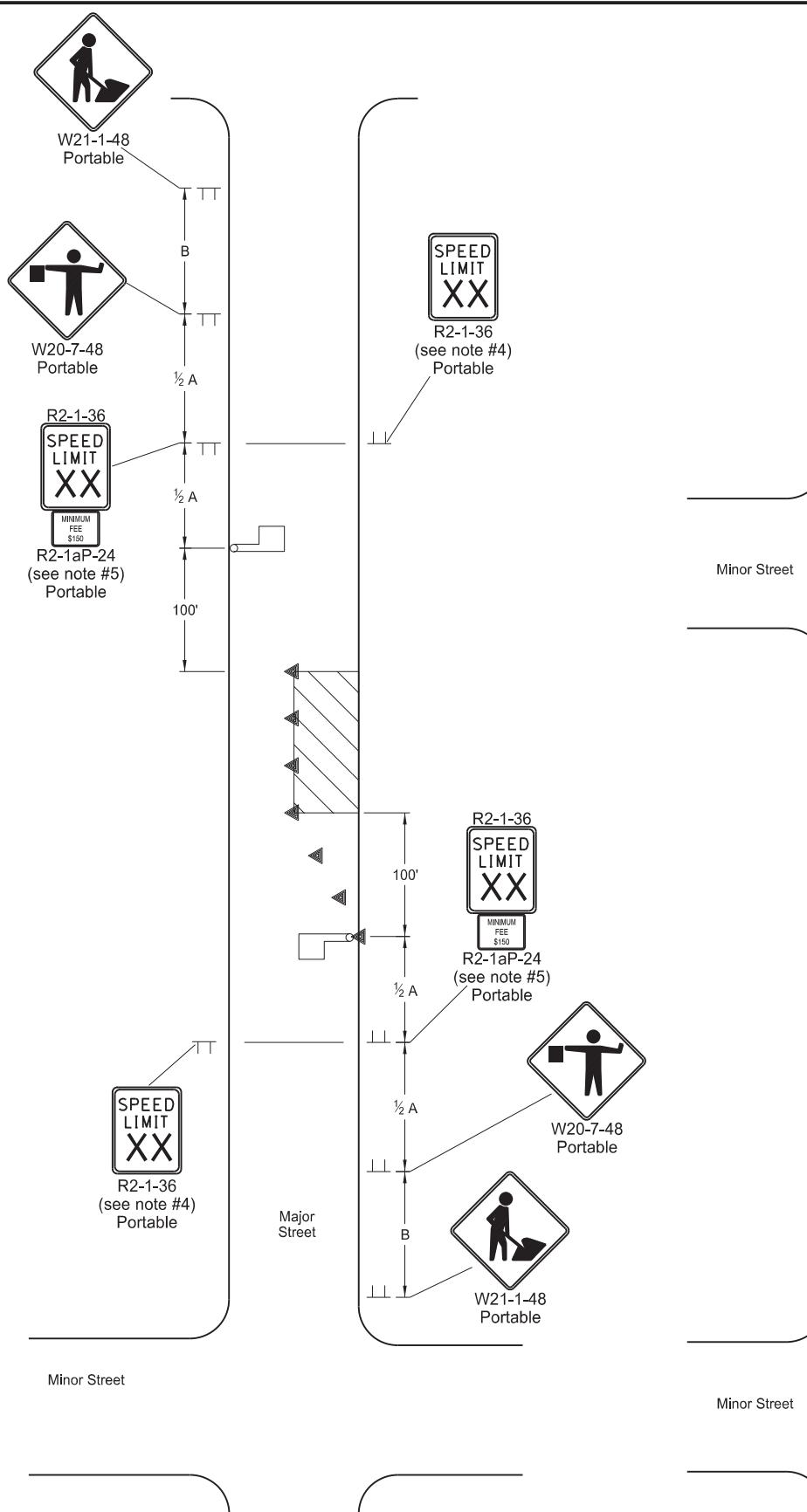
D-704-15

## ROAD CLOSURE LAYOUTS



## LANE CLOSURES ON URBAN STREETS LAYOUTS

D-704-25

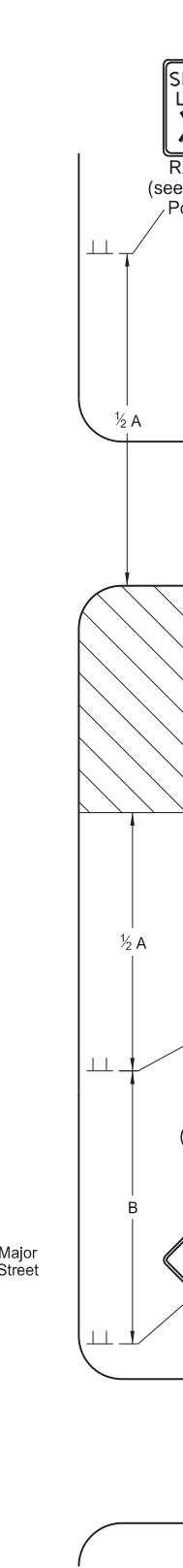


TYPE V  
LANE CLOSURE ON URBAN STREET

Portion of roadway closed to traffic only  
during daylight hours (mid block location).

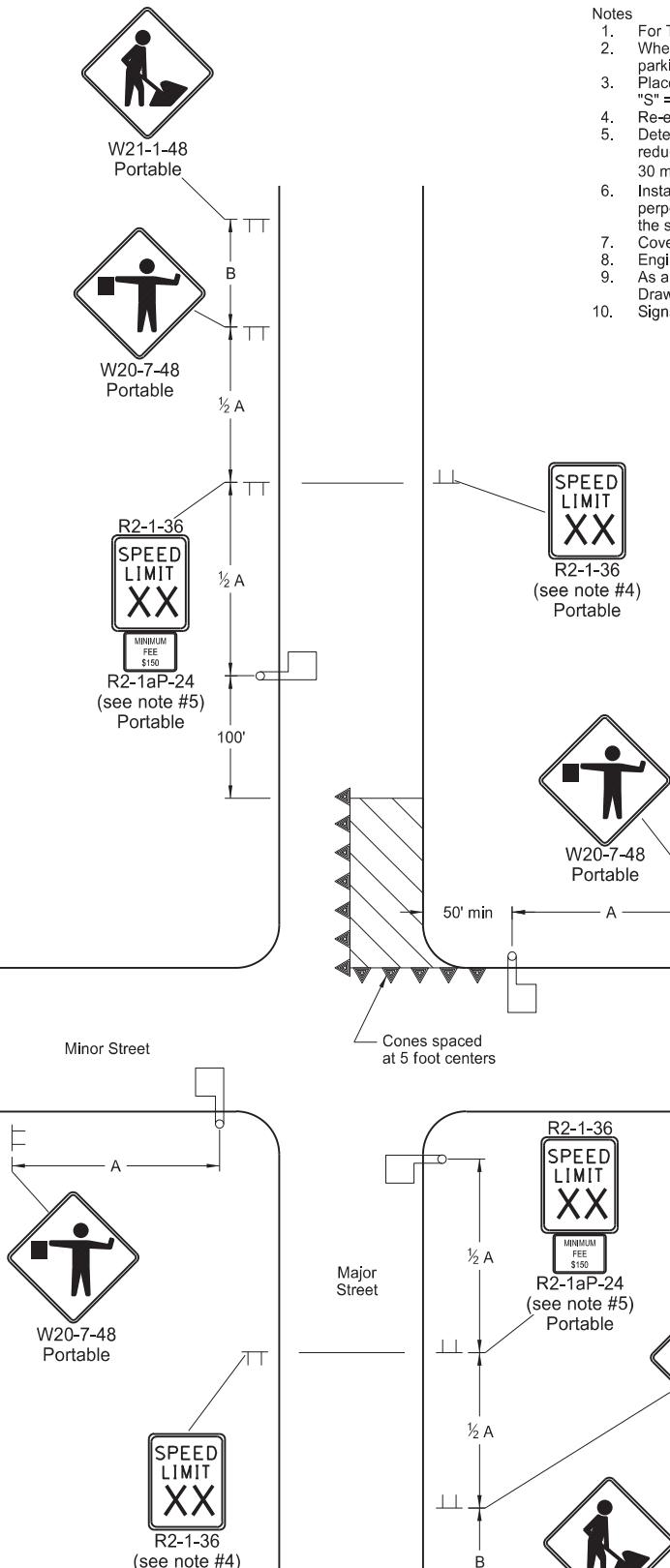
TYPE W  
WORK BEYOND CURB ON URBAN STREET

Work area outside driving lane and no closure necessary.



TYPE X  
LANE CLOSURE NEAR INTERSECTION ON URBAN STREET

Portion of roadway closed to traffic only  
during daylight hours (end block location).



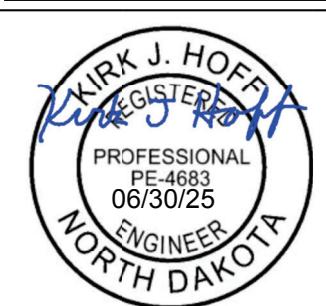
Notes

1. For Type V: Work on one side of roadway at a time so as not to block off more than one lane of traffic.
2. When parking is present, place signs so they are entirely visible above parked vehicles or at the edge of the parking area so they are visible to oncoming traffic. Place signs on portable mounts when located on roadway.
3. Place cones for tapering traffic at 3 equal spaces and cones for tangents at dimension "S". "S" = the numerical value of speed limit.
4. Re-establish speed limit. Determine exact speed limit in the field, dependent on location and conditions.
5. Determine the reduced speed limit based on the in-place speed limit before construction. Where speed reductions exceed 30 mph, install a second speed limit sign with the desired speed reduction (not to exceed 30 mph). Place the second speed limit sign at  $\frac{1}{2} B$ .
6. Install flags on warning signs in urban areas when signs are not portable. Mount 24 inches square flags perpendicular to the edges of the sign, and at such a distance above the edge that the flag does not touch the sign when limp.
7. Cover existing speed limit signs within reduced speed zones.
8. Engineer to determine safe speed, when necessary.
9. As an option, use portable sign supports in lieu of post mounted signs in accordance with NDDOT Standard Drawing D-704-14.
10. Signs G20-55-96 and R2-1aP-24 are not required for urban projects.

ADVANCE WARNING SIGN SPACING		Distance Between Signs Min. (ft)		
Road Type		A	B	C
Urban - Low Speed (30 mph or less)		150	150	150
Urban - Low Speed (over 30 to 40 mph)		280	280	280
Urban - High Speed (over 40 mph to 50 mph)		360	360	360
Rural - High Speed (over 50 mph to 65 mph)		720	720	720
Urban Expressway and Freeway (55 mph to 60 mph)		850	1350	2200
Rural Expressway and Freeway (70 mph to 80 mph)		1000	1500	2640
Interstate/4-Lane Divided (Maintenance and Surveying)		750	1000	1500

KEY

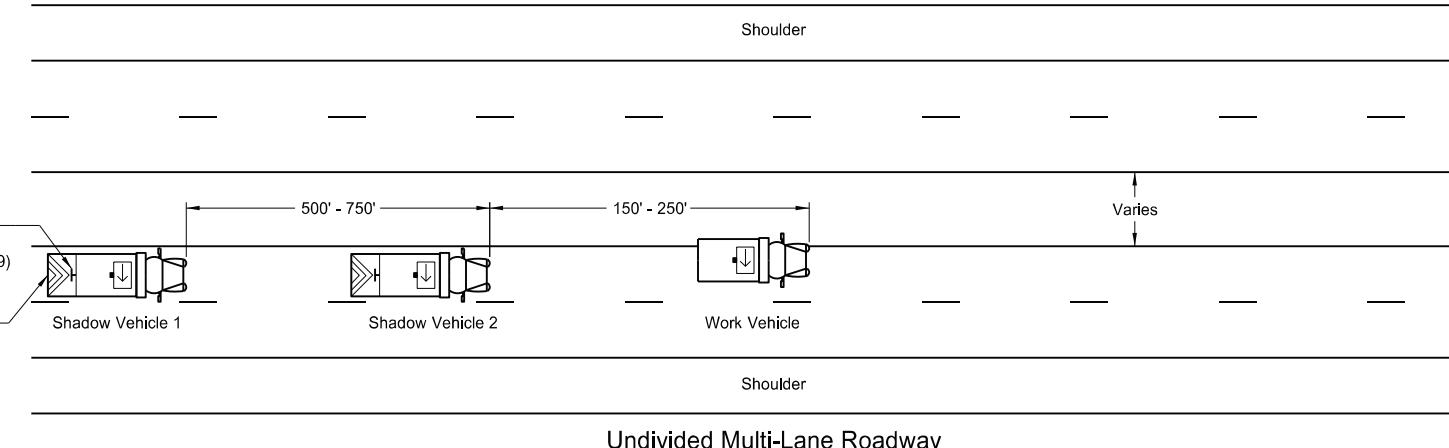
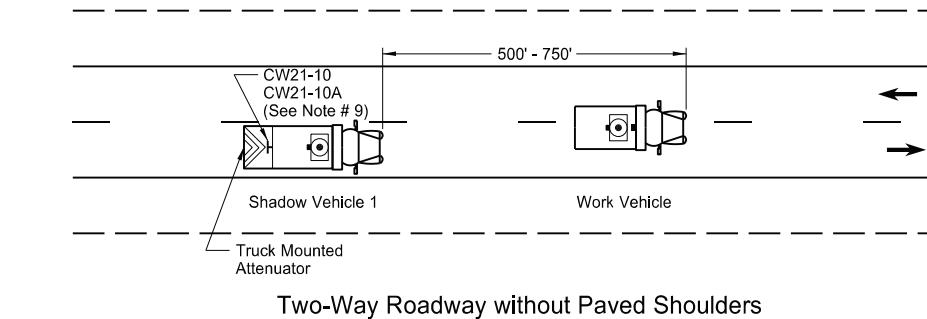
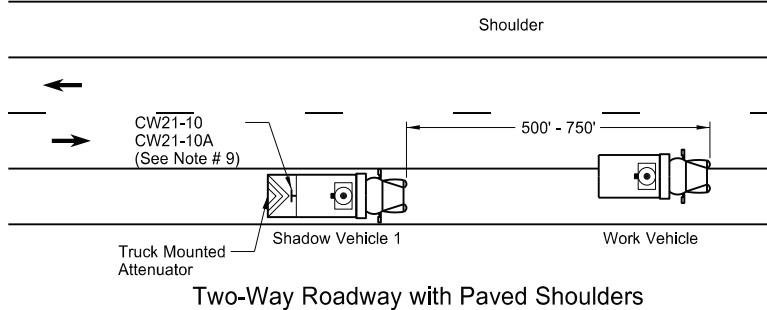
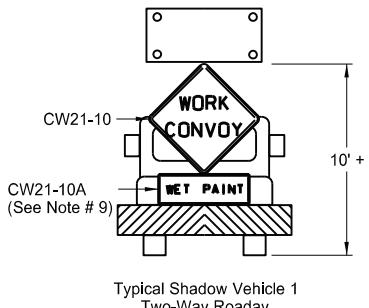
—	Sign	▨	Work area
▲	Cones	□	Flagger



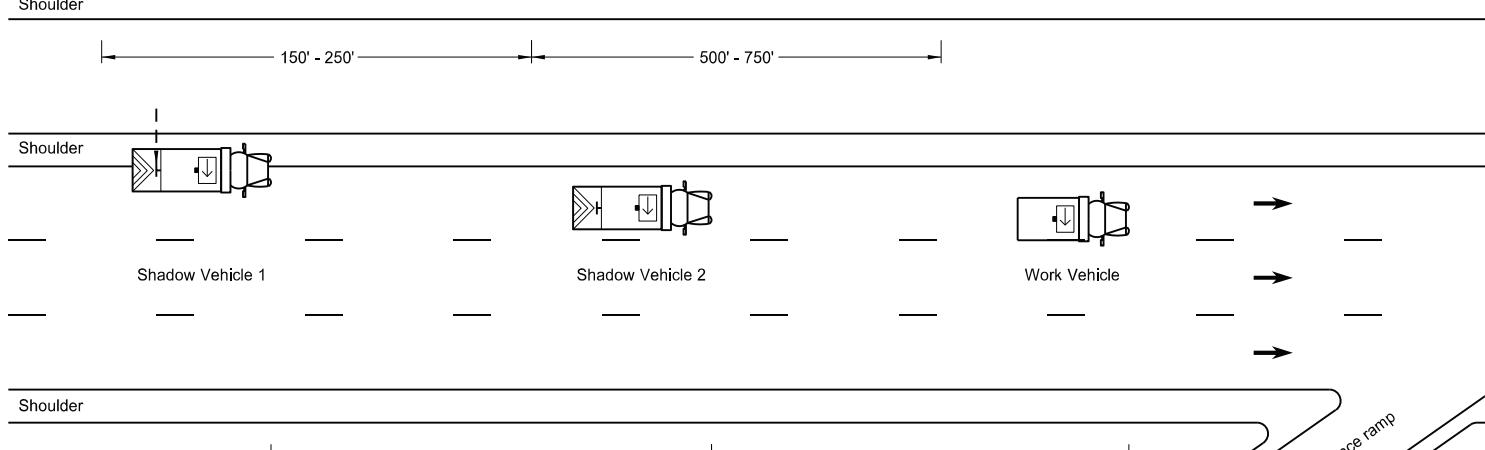
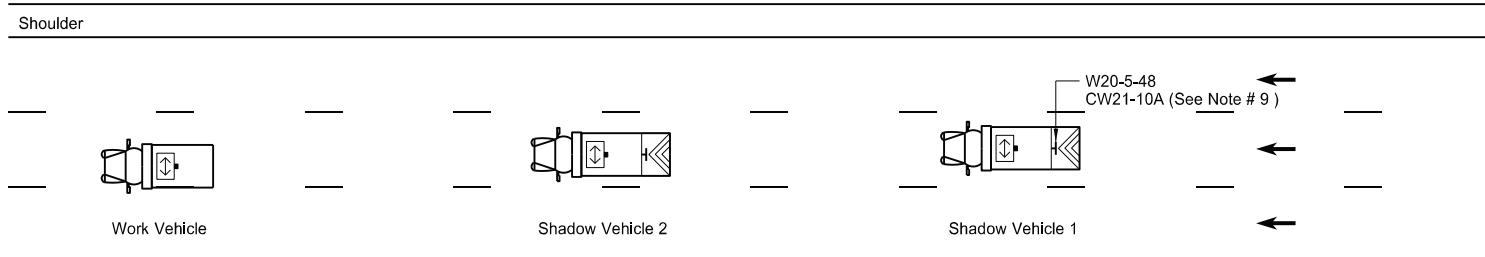
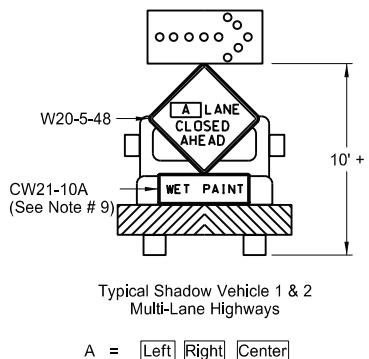
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
9-27-13	
REVISIONS	
DATE	CHANGE
08-17-17 11-01-19 08-01-24 06-30-25	Updated notes & removed signs Revised note & added Min Fee sign Electronic Stamp/Signature Legislative Changes

MOBILE OPERATION  
(PAVEMENT MARKING)

D-704-27

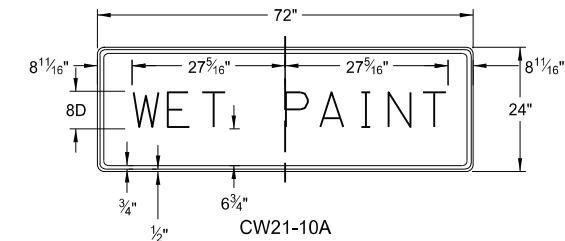
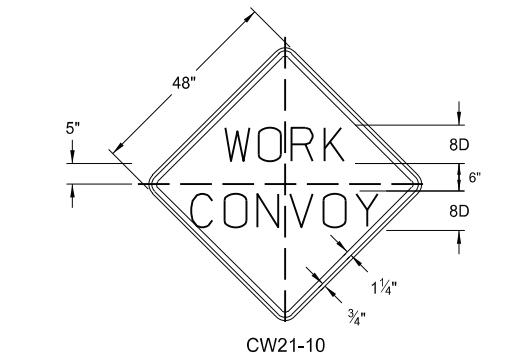


Undivided Multi-Lane Roadway



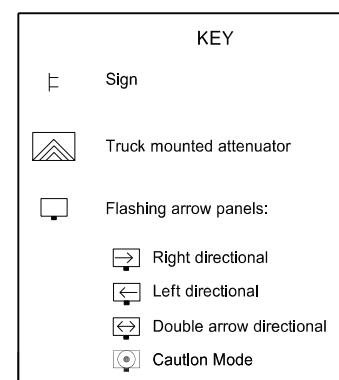
Divided Multi-Lane Highway

## Sign Details



## Notes

1. Use additional vehicles you choose to be in the convoy with truck mounted attenuators, at your own expense.
2. Display yellow rotating beacons or strobe lights on shadow and work vehicles, unless otherwise stated in the plans.
3. Use Type B or Type C flashing arrow panels controlled from inside the vehicle.
4. Provide each vehicle with two-way electronic communication capability.
5. Move shadow vehicle 1 first to shadow other convoy vehicles when convoy changes lane.
6. Vary vehicle spacing between shadow vehicle 1 and shadow vehicle 2 based on sight distance restrictions. Motorists approaching the work convoy need to see trail vehicle in time to slow down and/or change lanes as they approach shadow vehicle.
7. Sign Colors  
Letters = Black  
Border = Black  
Background = Orange
8. As an option, use shadow vehicle 2 the paint tender vehicle.
9. Use sign CW21-10A only during painting operation.
10. Pull over work and shadow vehicles periodically to allow motor vehicle traffic to pass on two lane - two way roadways.



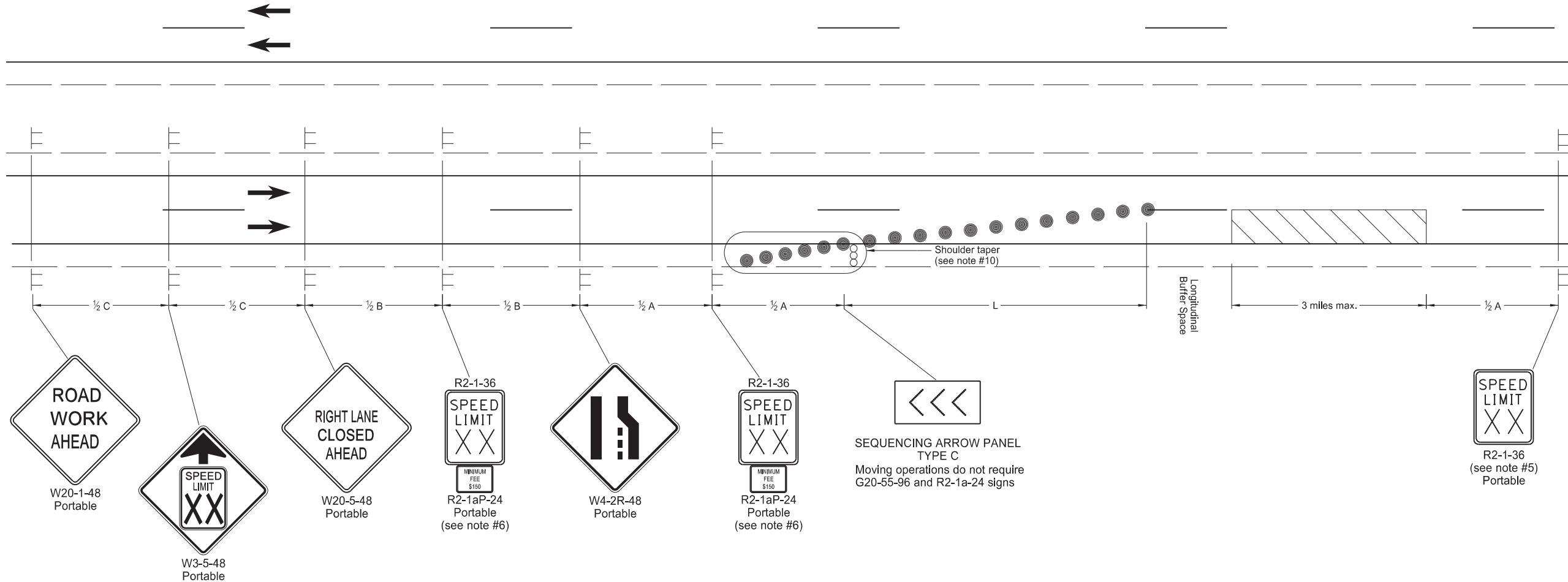
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
9-27-13	
REVISIONS	
DATE	CHANGE
6-18-14	Removed shadow vehicle 2 on two lane roadways
9-27-17 11-08-19 8-02-24	Updated to active voice Changed Standard Heading Electronic Stamp/Signature



08/02/24

## SIGN LAYOUT FOR ONE LANE CLOSURE DIVIDED HIGHWAY MOVING OPERATION

D-704-32



## Notes

- Provide an additional sequencing arrow panel in the closed lane, near the work area, if the moving operation is not visible to the motorist from the end of the taper.
- Variables
  - $S$  = Numerical value of speed limit or 85th percentile.
  - $W$  = The width of the taper.
  - $L$  = Minimum length of taper,  $S \times W$  for freeways, expressways, and all other roads with speeds of 45 mph or greater, or  $W \times S^2 / 60$  for urban, residential, and other streets with speeds of 40 mph or less.
- Space delineator drums for tapering traffic at dimension "S".
- Sequencing Arrow Panels
  - Panels should normally be placed at the beginning of the taper. Where shoulder width does not provide sufficient room, the panel should be moved closer to the work area so that it can be placed on the roadway surface.
  - Type A shall be used on roadways with slow moving traffic speeds and low volume (25 mph & 750 ADT or less).
  - Type B shall be used on roadways with moderate traffic speeds and volumes (40 mph and 5000 ADT or less).
  - Type C shall be used on roadways with high traffic speeds and volumes (over 40 mph and 5000 ADT).
- Re-establish speed limit. Determine the exact speed limit in the field, dependent on location and conditions.
- Determine the reduced speed limit the in-place speed limit before construction. Where speed reductions exceed 30 mph, install a second speed limit sign with the desired speed reduction (not to exceed 30 mph). Place the second speed limit sign at  $\frac{1}{2} B$ .
- Install flags or warning signs in urban areas when signs are not portable. Mount 24 inch square flags perpendicular to the edges of the sign, and at such a distance above the edge that the flag does not touch the sign when limp.
- Cover existing speed limit signs within a reduced speed zone.
- As an option, use portable sign supports in lieu of post mounted signs in accordance with NDDOT Standard Drawing D-704-14.
- Provide shoulder taper when shoulder is 8' or wider.
- Recommend using 40 mph speed limit in vicinity of workers, unless location and conditions dictate otherwise.

KEY			
Sign	Work area	Delineator Drums	Sequencing arrow panel

Road Type	Distance Between Signs Min. (ft)		
	A	B	C
Urban - Low Speed (30 mph or less)	150	150	150
Urban - Low Speed (over 30 to 40 mph)	280	280	280
Urban - High Speed (over 40 mph to 50 mph)	360	360	360
Rural - High Speed (over 50 mph to 65 mph)	720	720	720
Urban Expressway and Freeway (55 mph to 60 mph)	850	1350	2200
Rural Expressway and Freeway (70 mph to 80 mph)	1000	1500	2640
Interstate/4-Lane Divided (Maintenance and Surveying)	750	1000	1500

Longitudinal Buffer Space	
*Speed (mph)	Length Min (feet)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820
80	910

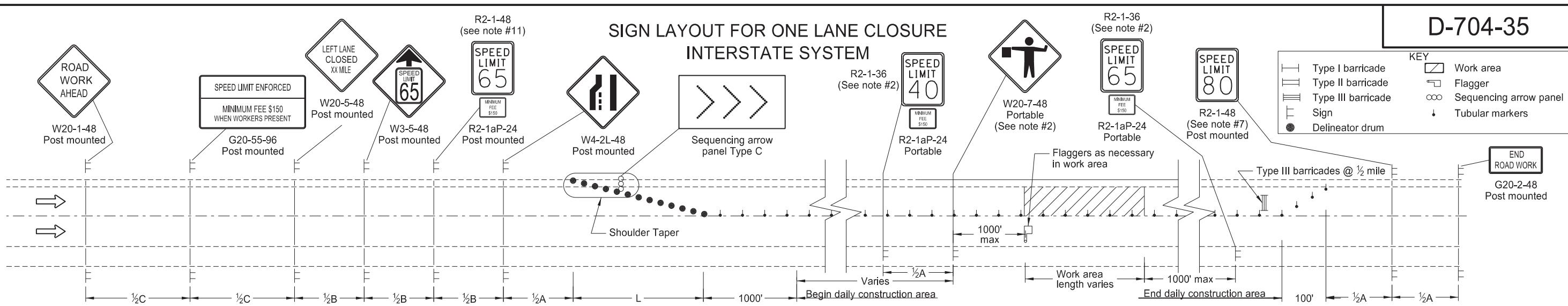
\* Posted speed, off-peak 85th percentile speed prior to work starting, or anticipated operating speed in mph.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
9-27-13	
REVISIONS	
DATE	CHANGE
06-24-14	Revised Note 9
08-17-17	Updated notes & sign numbers
11-01-19	Added sign, revised note & sign #
08-02-24	Electronically Signed/Signature
06-30-25	Legislative Changes



# SIGN LAYOUT FOR ONE LANE CLOSURE INTERSTATE SYSTEM

D-704-35



LEFT LANE CLOSED  
WORKERS IN WORK ARE

N

EA

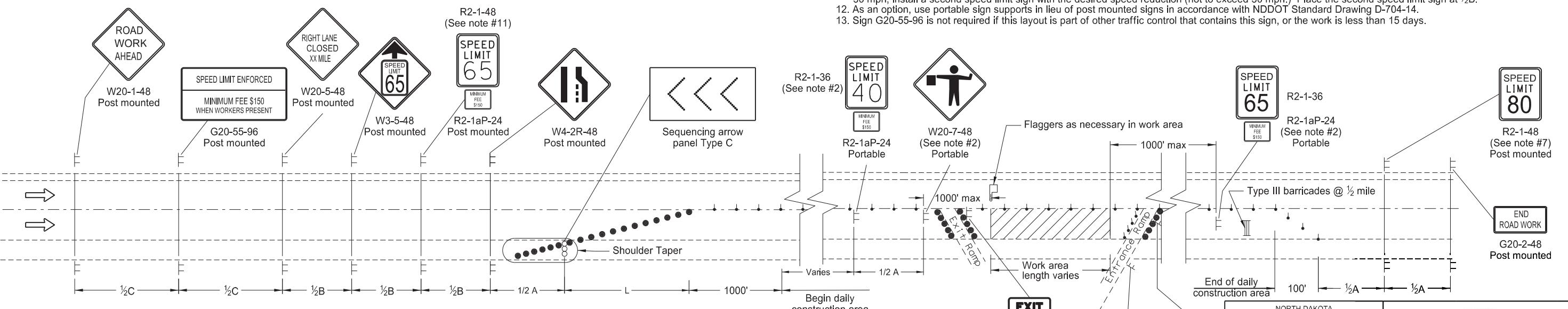
Notes:

1. Install advance signs for flagging when flaggers are flagging.
2. Move the advanced flagger sign and the speed limit signs as the work area moves through the construction zone. When the work area is not visible from the flagger, move the flagger station so the work area is visible. Space the 40 mph speed limit sign at  $\frac{1}{2}$ A in advance of the flagger sign and move the 65 mph speed limit sign. Cover or remove the 40 mph speed limit and Minimum Fee \$150 signs and the 65 mph speed limit sign upon completion of the work day or when workers are not present.
3. RAMPS: When the work area encompasses an entrance ramp, install a 40 mph speed limit sign on the ramp and cover any existing yield sign. Install new yield sign as necessary. Remove the ramp speed limit sign when the main line 40 mph speed zone is moved past the ramp.
4. Variables:

4. Variables:  
 S=Numerical value of speed limit or 85th percentile  
 W=The width of taper.  
 L=Minimum length of taper, or  $SxW$  for freeways, expressways, and all other roads with speeds of 45 mph or greater, or  
 $WxS/60$  for urban, residential, and other streets with speeds of 40 mph or less.  
 5. Space delineator drums for tapering traffic at the dimension "S". Space tubular markers used for tangents at 2 times dimension "S".  
 6. Place sequencing arrow panels at the beginning of the taper when possible. Where shoulder width does not provide sufficient room, move the panel closer to the work area and place on the roadway surface.

- 7. Re-establish the speed limit. Determine the exact speed limit in the field, dependent on location and conditions.
- 8. Cover existing speed limit signs within a reduced speed zone.
- 9. Upon approval, the Engineer will measure obliterated or covered pavement marking as Obliteration of Pavement Marking.
- 10. Install flags on warning signs in urban areas when signs are not portable. Mount 24 inch square flags perpendicular to the edges of the diamond sign, and at such a distance above the edge that the flag does not touch the sign when limp.
- 11. Determine the reduced speed limit dependent on the in place speed limit before construction. When speed limits are to be reduced more than 30 mph, install a second speed limit sign with the desired speed reduction (not to exceed 30 mph.) Place the second speed limit sign at 1/2B.
- 12. As an option, use portable sign supports in lieu of post mounted signs in accordance with NDDOT Standard Drawing D-704-14.
- 13. Sign G20-55-96 is not required if this layout is part of other traffic control that contains this sign, or the work is less than 15 days.

ADVANCE WARNING SIGN SPACING			
Road Type	Distance Between Signs Min (ft)		
	A	B	C
Rural - High Speed (over 50 mph to 65 mph)	720	720	720
Urban Expressway and Freeway (55 mph to 60 mph)	850	1350	2200
Rural Expressway and Freeway (70 mph to 80 mph)	1000	1500	2640
Interstate/4-lane Divided (Maintenance and Surveying)	750	1000	1500

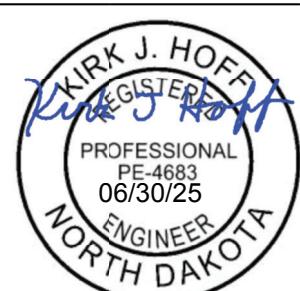


RIGHT LANE CLOSED  
WORKERS IN WORK ARE

SPEED LIMIT ENFORCED  
MINIMUM FEE \$15  
WHEN WORKERS PRESENT

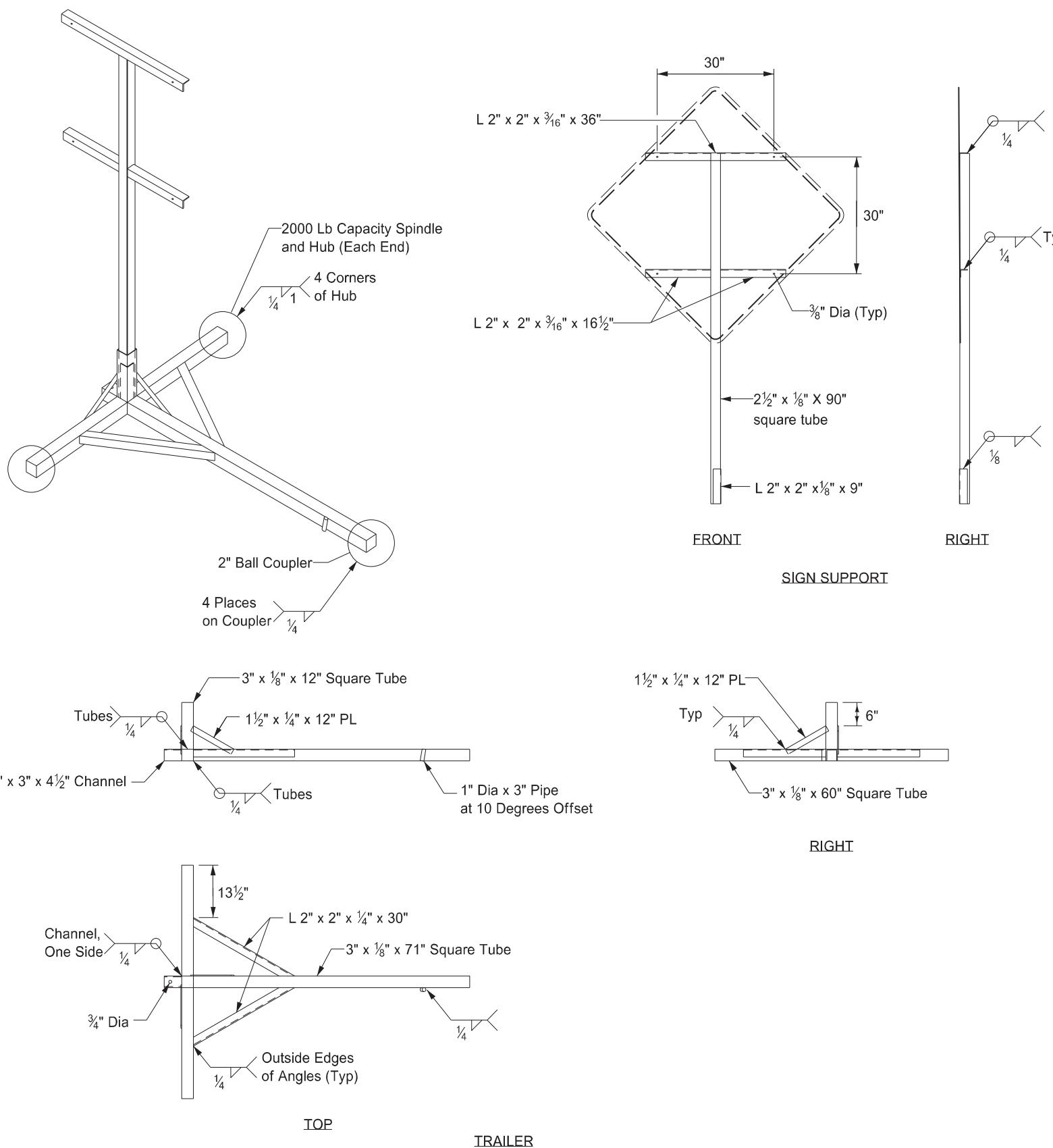
G20-55-96 R2-1aP-24  
Post mounted Portable  
Install this sign only when ramp (see notes #2 & #3)  
is level. 100% AT.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
9-7-2012	
REVISIONS	
DATE	CHANGE
06-23-14 03-15-16	Revised Note 12 Removed Do Not Pass signs & updated notes
08-17-17 10-17-17 11-01-19 12-08-21	Moved speed signs & added note Corrected spelling of "shoulder" Revised tubular Mrkr/s symbols Switched order of Road Work Ahead and Spd Lmt Enforced, added Dollars At Work, & removed table
11-29-22 06-30-25	Removed Dollars At Work Legislative Changes



## PORTABLE SIGN SUPPORT ASSEMBLY

D-704-50



## Notes:

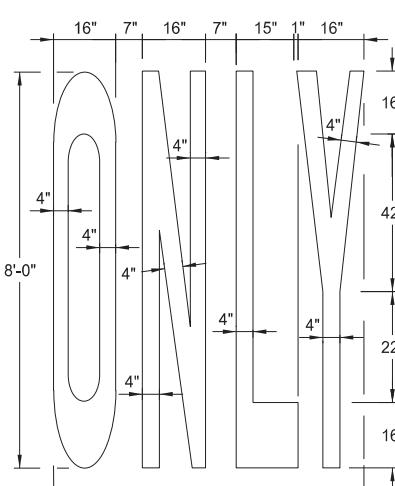
- ① Maximum 250 pound weight of assembly.
- ② Use a 14" wheel and tire.
- ③ Use no automotive and equipment axle assemblies for trailer-mounted sign supports.
- ④ Other NCHRP 350 or MASH crash tested assemblies are acceptable.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
11-23-10	
REVISIONS	
DATE	CHANGE
12/02/2020	Updated Note to active voice.

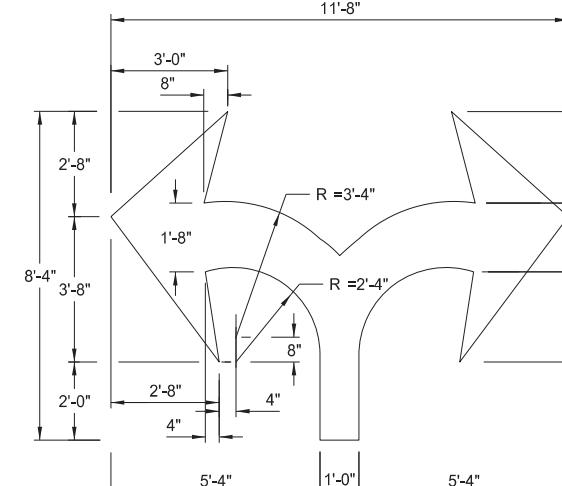


## Pavement Marking Message Details

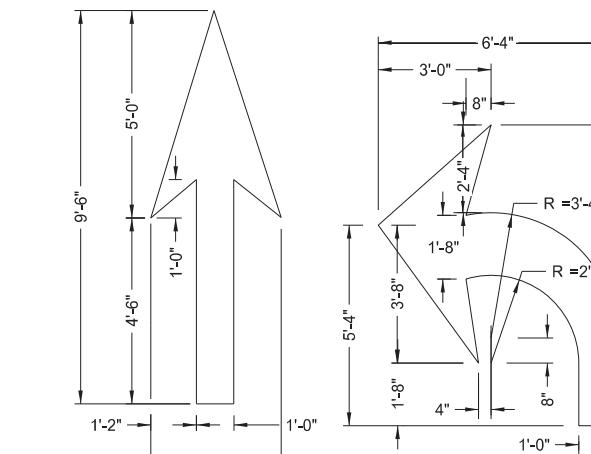
D-762-1



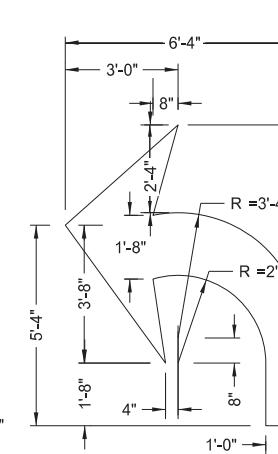
22 S. F.



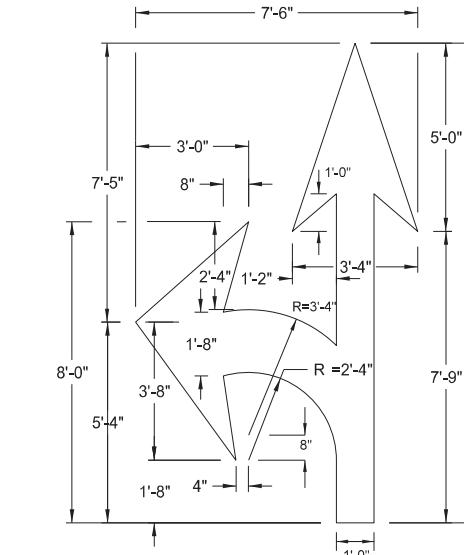
29 S. F.



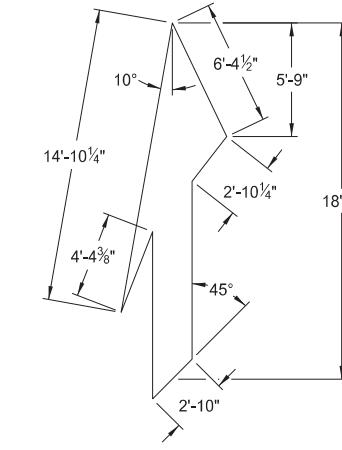
12 S. F.



16 S. F.

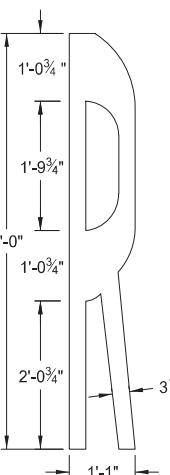


27 S. F.

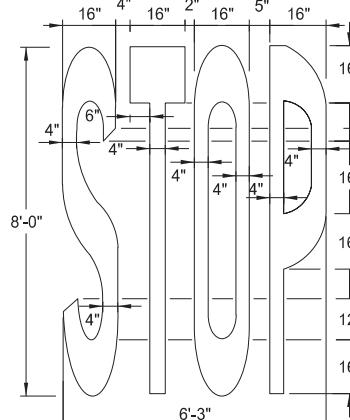


41 S. F.

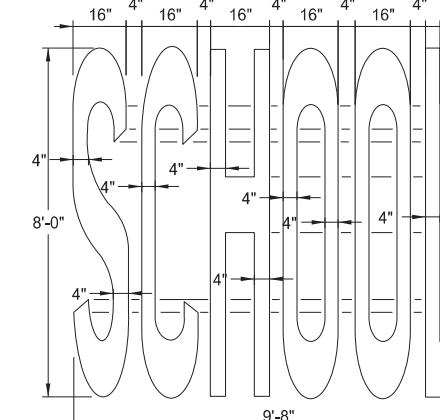
Note: Rotate merge arrow 20° from edge of roadway.



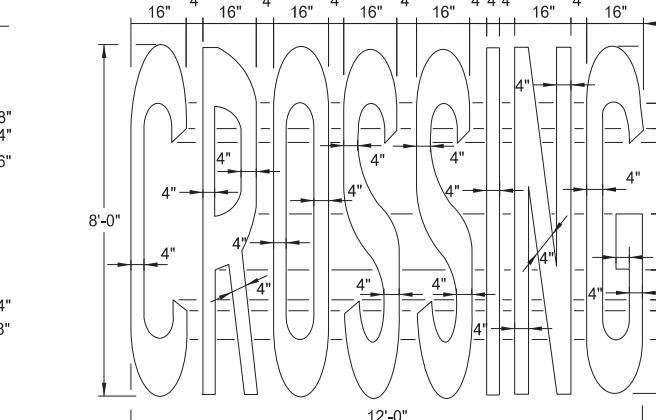
4 S. F.



22 S. F.



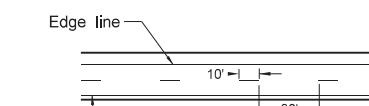
34.5 S. F.



46 S. F.

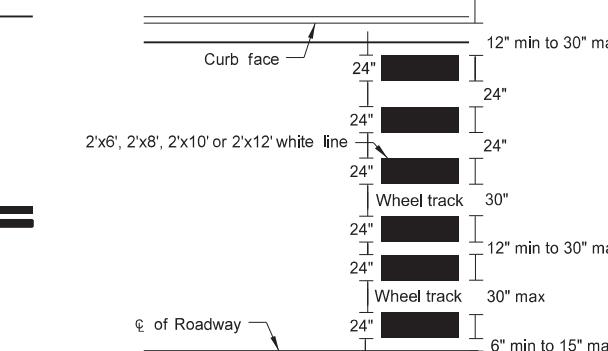
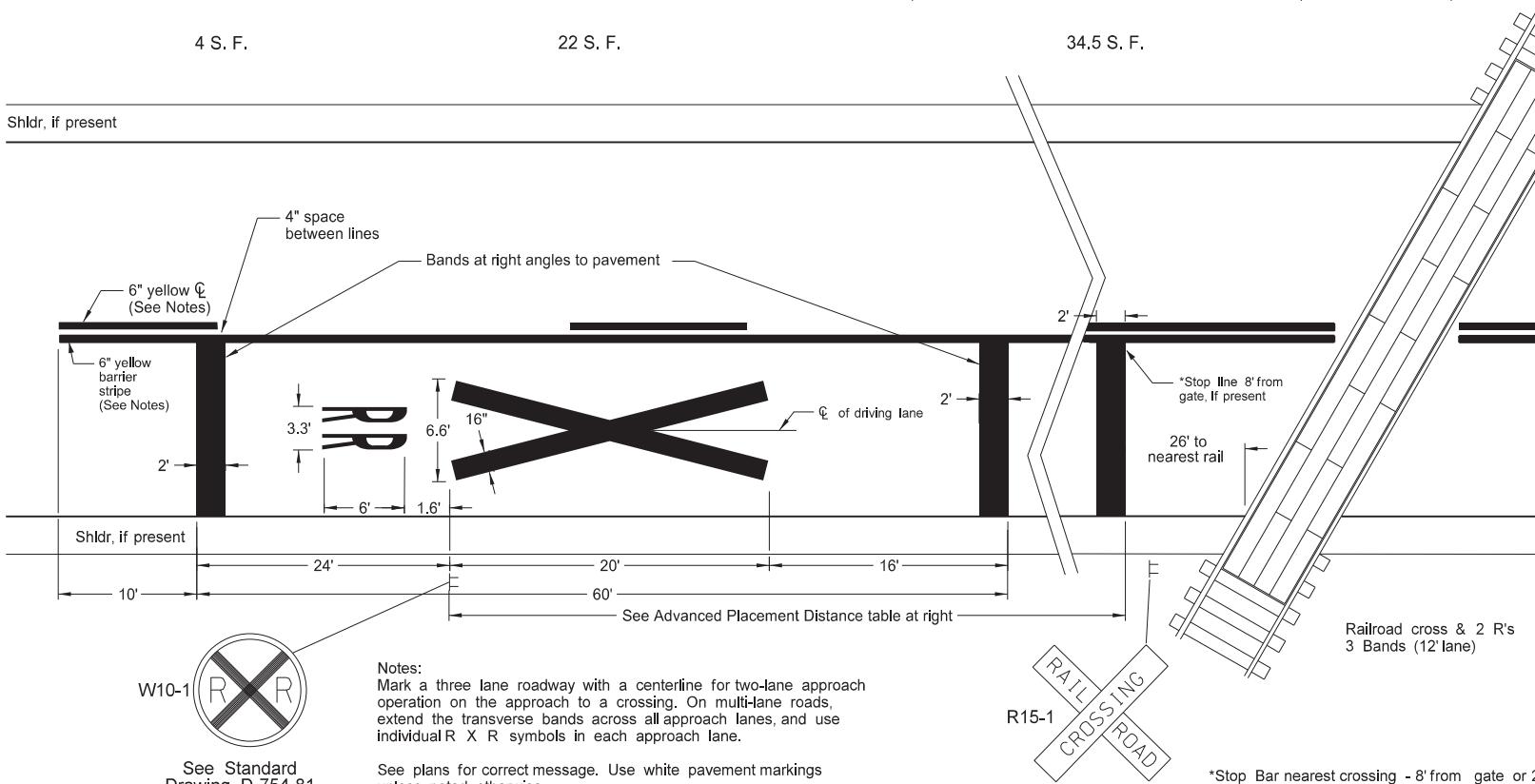
Speed Limit	Chevron Width	Chevron Spacing 45° to Traffic
0-25 mph	8"	5'
30-40 mph	8"	15'
45 mph and above	12"	25'

Chevron Crosshatching Table



Centerline Pavement Marking Skip Spacing Detail

Shldr, if present



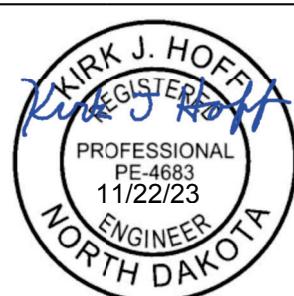
Continental Crosswalk Detail

Advance Placement Distance for Railroad Warning Signs	
Posted or 85th Percentile Speed	Advance Distance
20 mph	min. 100 ft
25 mph	min. 100 ft
30 mph	min. 100 ft
35 mph	min. 100 ft
40 mph	125 ft
45 mph	175 ft
50 mph	250 ft
55 mph	325 ft
60 mph	400 ft
65 mph	475 ft
70 mph	550 ft

## NOTES:

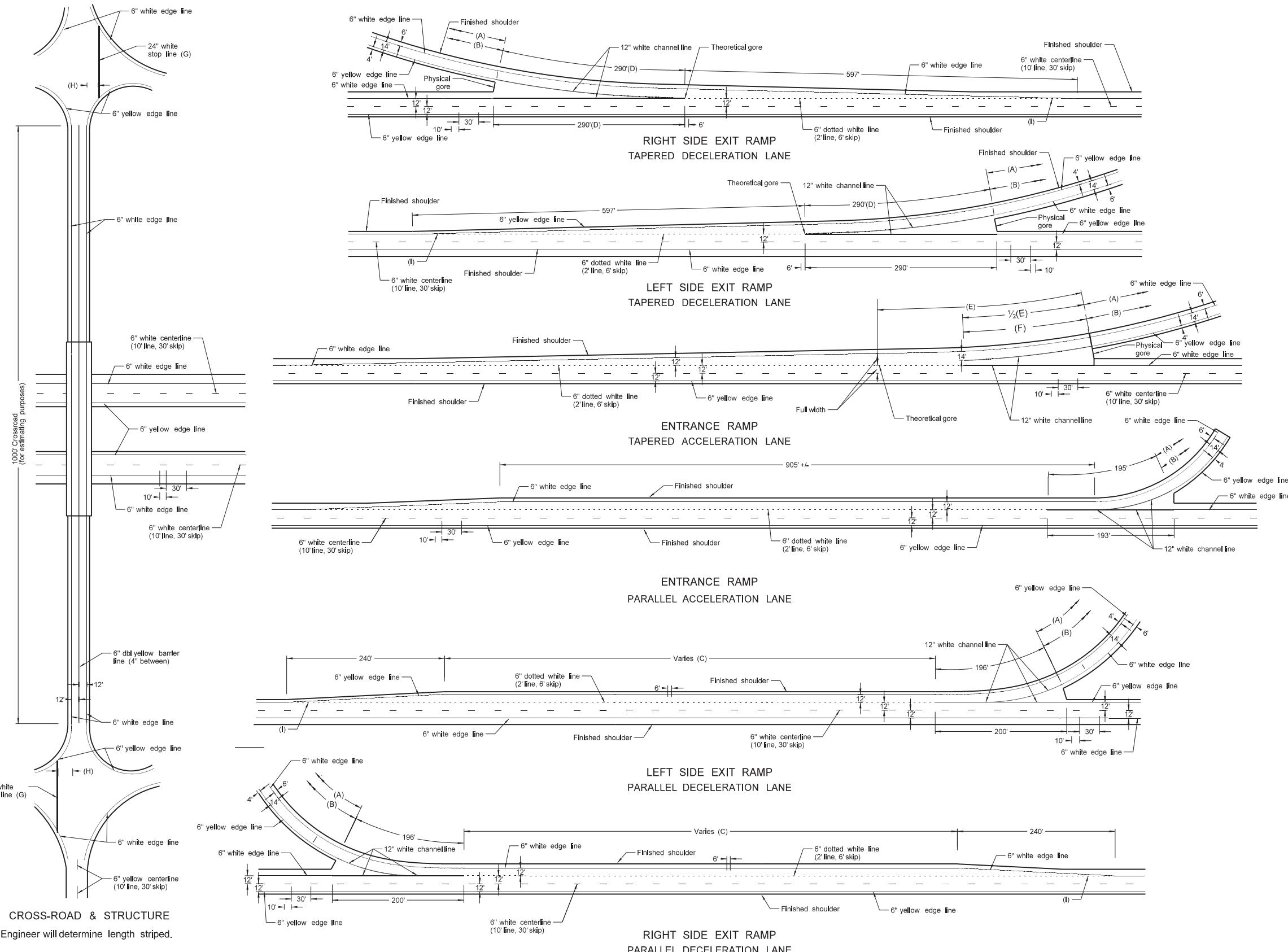
- Normal width line - 6 inches wide for freeways, expressways, and ramps; 6 inches for all other roadways with speed limits > 40 mph.
- Use 4 or 6 inch wide pavement marking for all other roadways with speed limits ≤ 40 mph.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
12-6-11	
REVISIONS	
DATE	CHANGE
10-17-17 08-27-19 01-28-2020 11-22-2023	Updated to active voice. New Design Engineer PE Stamp. Revised min Stop Bar distance to rail. Revised pavement marking widths.



## INTERSTATE PAVEMENT MARKING 4 LANE DIVIDED HIGHWAY

D-762-2



## CROSS-ROAD & STRUCTURE

Engineer will determine length striped.

NOTE:

- (A) Normal width white edge line - 6 inches wide for freeways, expressways, and ramps; 6 inches for all other roadways with speed limits > 40 mph.  
Use 4 or 6 inch wide pavement marking for all other roadways with speed limits ≤ 40 mph.
- (B) Normal width yellow edge line - 6 inches wide for freeways, expressways, and ramps; 6 inches for all other roadways with speed limits > 40 mph.  
Use 4 or 6 inch wide pavement marking for all other roadways with speed limits ≤ 40 mph.
- (C) Assume "varies" equals 790' for purpose of estimate. Place pavement marking from beginning of taper to the 12' line. Beginning of physical gore to theoretical gore.  
If the distance is less than 350' extend the 12' channel line to the theoretical gore, otherwise use 195'.  
Use 195 for estimating purposes.
- (D) Not required for gravel surface crossroad approaches.  
4' minimum, 15' maximum from nearest edge of intersection traveled way.
- (E) Extend dotted line until it touches the edge line.

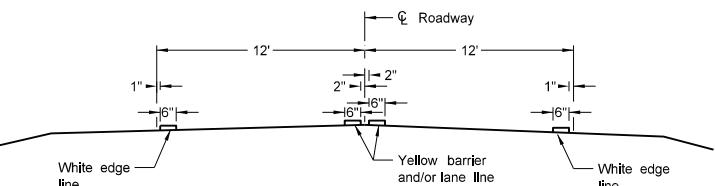
BASIS OF ESTIMATE		
LOCATION	ITEM	
Right or Left Side Exit Ramp TAPERED	12' White channel line 24' White stop line 6' White dotted line 6' White edge line 6' Yellow edge line	580 LF 60 LF 148 LF 1115 LF 1075 LF
Entrance Ramp TAPERED	12' White channel line 6' White dotted line 6' White edge line 6' Yellow edge line	390 LF 258 LF 1270 LF 1075 LF
Right or Left Side Exit Ramp PARALLEL	12' White channel line 24' White stop line 6' White dotted line (C) 6' White edge line 6' Yellow edge line	396 LF 60 LF 258 LF 1115 LF 1075 LF
Entrance Ramp PARALLEL	12' White channel line 6' White dotted line 6' White edge line 6' Yellow edge line	388 LF 283 LF 1275 LF 1075 LF
Main Line (Both Roadways)	6' White lane line, 10'line, 30' skip 6' White edge line 6' Yellow edge line	2640 LF/M 10,560 LF/M 10,560 LF/M
Cross Road	6' White edge line 6' Dbl yellow barrier line (4" between)	2000 LF 2000 LF

<p style="text-align: center;"><b>NORTH DAKOTA</b>  <b>DEPARTMENT OF TRANSPORTATION</b></p>	
8-3-11	
REVISIONS	
DATE	CHANGE
10-17-17	Updated to active voice
10-25-19	Replaced '2 Max dim with Note (1)
11-05-21	Revised labels
11-22-23	Revised pvtm marking widths
1-17-24	Revised wide pvtm marking width

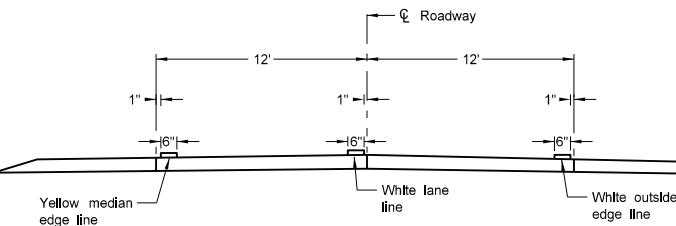


## PAVEMENT MARKING

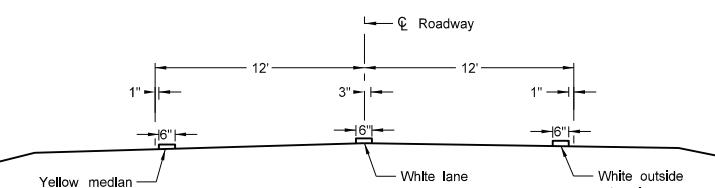
D-762-4



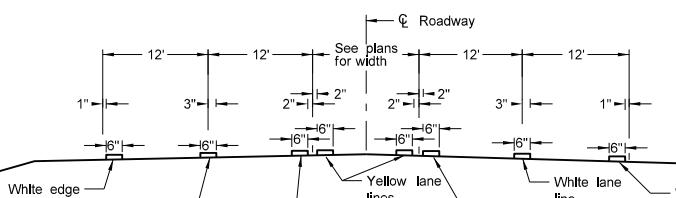
Two Lane Two Way  
RURAL ROADWAY



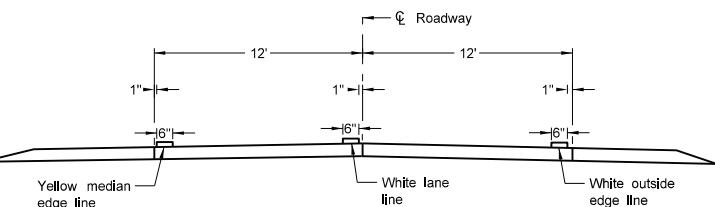
Two Lane Roadway  
INTERSTATE HIGHWAY  
Concrete Section



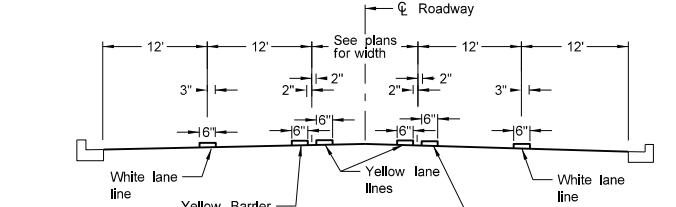
Two Lane Divided  
Rural Roadway  
PRIMARY HIGHWAY  
Asphalt Section



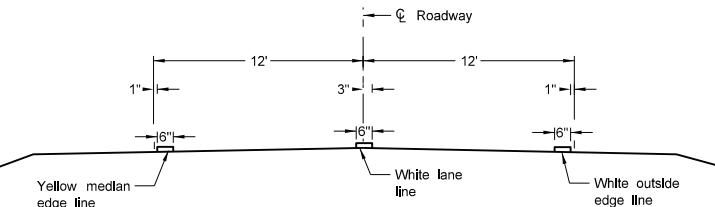
RURAL FIVE LANE ROADWAY  
Asphalt Section



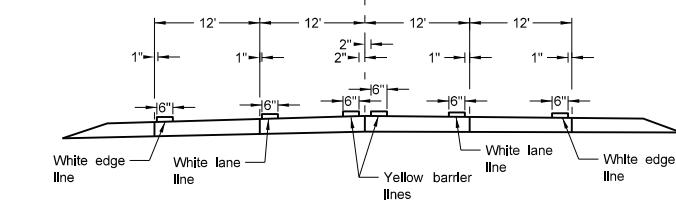
Two Lane Divided  
Rural Roadway  
PRIMARY HIGHWAY  
Concrete Section



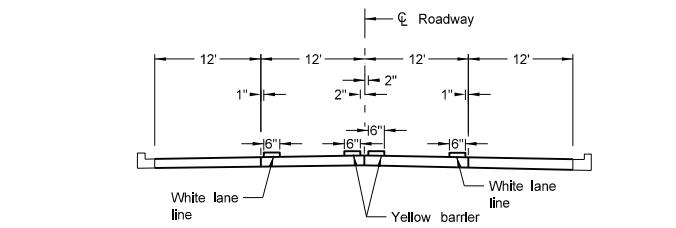
URBAN FIVE LANE SECTION  
Asphalt Section



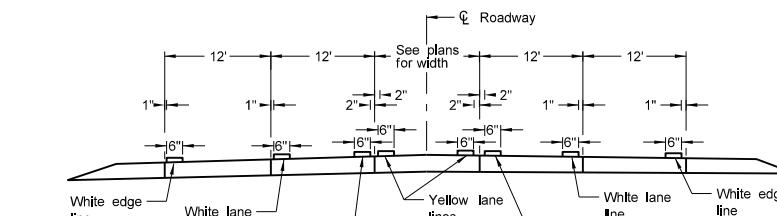
Two Lane Roadway  
INTERSTATE HIGHWAY  
Asphalt Section



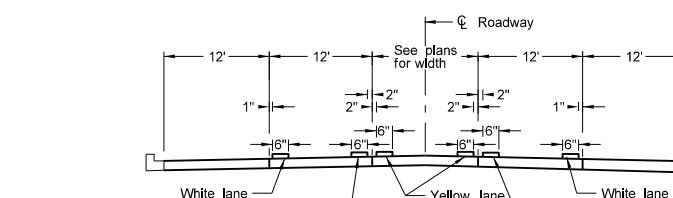
RURAL FOUR LANE ROADWAY  
Concrete Section



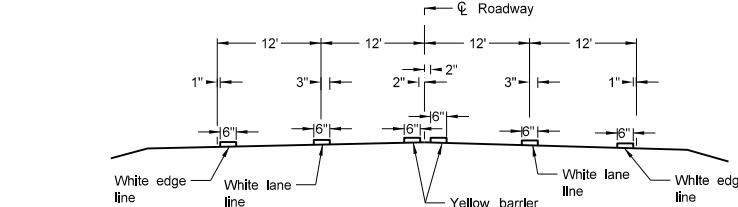
URBAN FOUR LANE SECTION  
Concrete Section



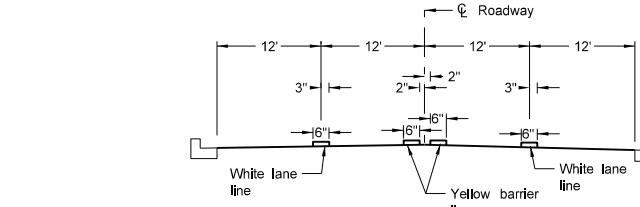
RURAL FIVE LANE ROADWAY  
Concrete Section



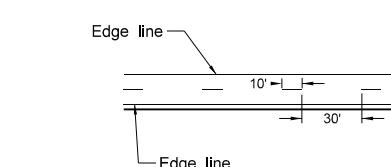
URBAN FIVE LANE SECTION  
Concrete Section



RURAL FOUR LANE ROADWAY  
Asphalt Section



URBAN FOUR LANE SECTION  
Asphalt Section



CENTERLINE PAVEMENT MARKING SKIP SPACING DETAIL

## NOTES:

1. Continue edge lines through private drives and field drives. Break edge lines for intersections.

For section lines, county roads, and street approaches, stripe the radii and edge lines of the paved surface within the right of way except where curb and gutter is present.

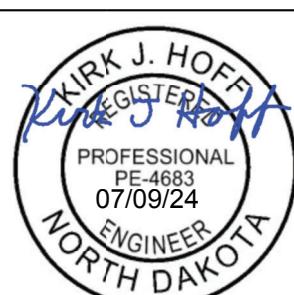
2. Normal width line - 6 inches wide for freeways, expressways, and ramps; 6 inches for all other roadways with speed limits > 40 mph.

3. Use 4 or 6 inch wide pavement marking for all other roadways with speed limits < 40 mph.

NORTH DAKOTA  
DEPARTMENT OF TRANSPORTATION  
12-1-10

REVISIONS

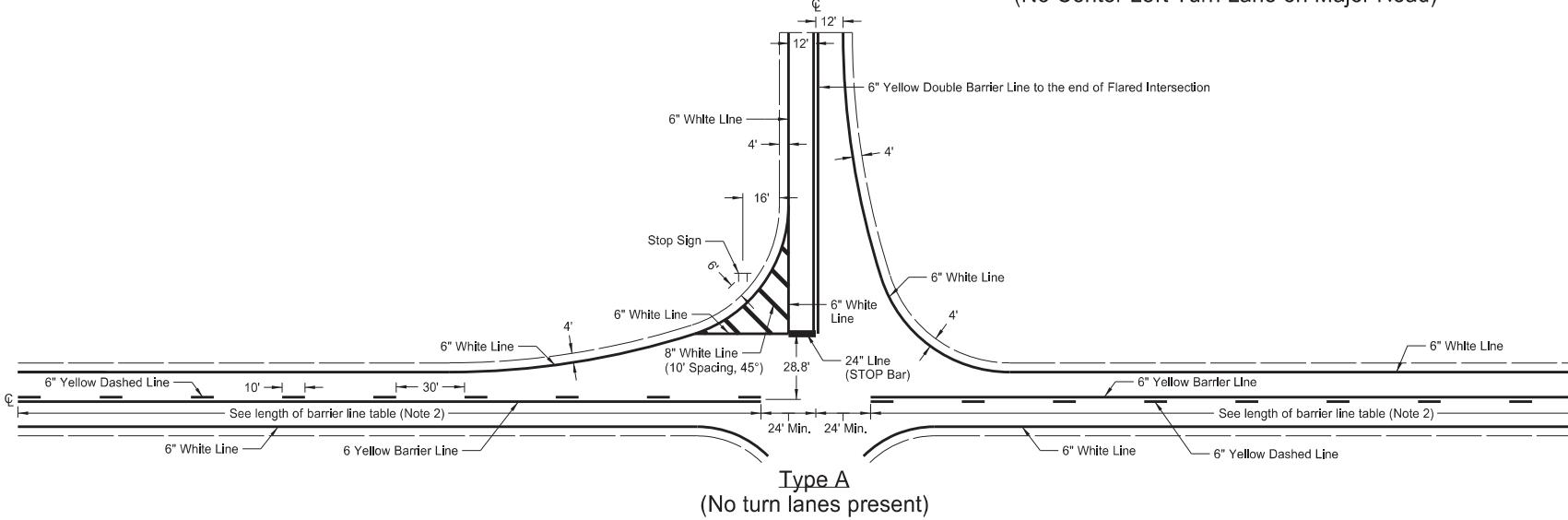
DATE	CHANGE
10-17-17 08-27-19 11-22-23 07-09-24	Updated to active voice. New Design Engineer PE Stamp. Revised pavement marking widths. Modified Note 1.



## PAVEMENT MARKING FOR STANDARD 90 DEGREE FLARED INTERSECTION

D-762-5

(No Center Left Turn Lane on Major Road)

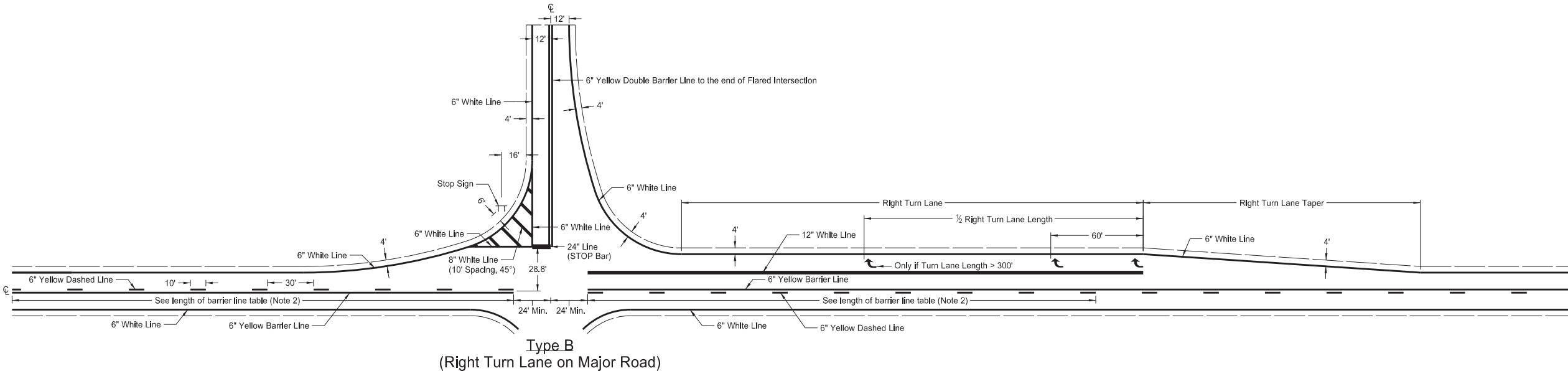


## Notes

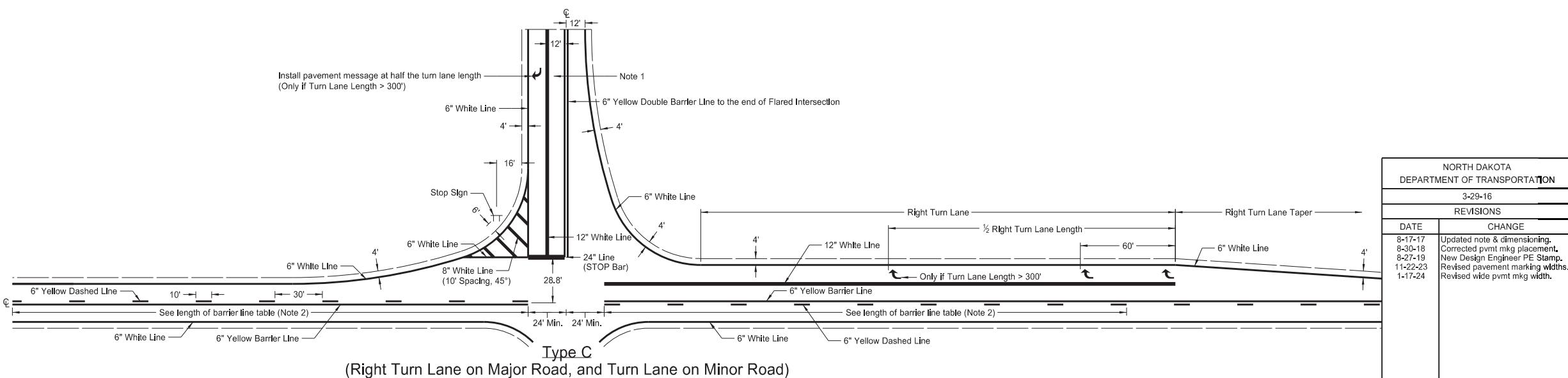
- At "T" intersections (3-leg), additionally install left turn pavement marking message arrow.
- The barrier lines have variable distances dependent on speed limit. Obtain barrier line length from table below (stopping sight distance.)
- Normal width line - 6 inches wide for freeways, expressways, and ramps; 6 inches for all other roadways with speed limits > 40 mph.
- Use 4 or 6 inch wide pavement marking for all other roadways with speed limits  $\leq$  40.
- Wide line - 8 inches wide if 4 inch normal width lines are used and 12 inches wide if 6 inch normal width lines are used.

Table for Length of Barrier Line

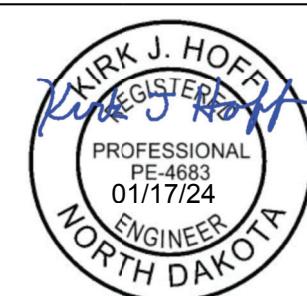
Speed Limit (mph)	30	35	40	45	50	55	60	65	70
Minimum Length	200'	250'	305'	360'	425'	495'	570'	645'	730'



- 6" Marking
- 8" Marking
- 12" Marking
- 24" Marking



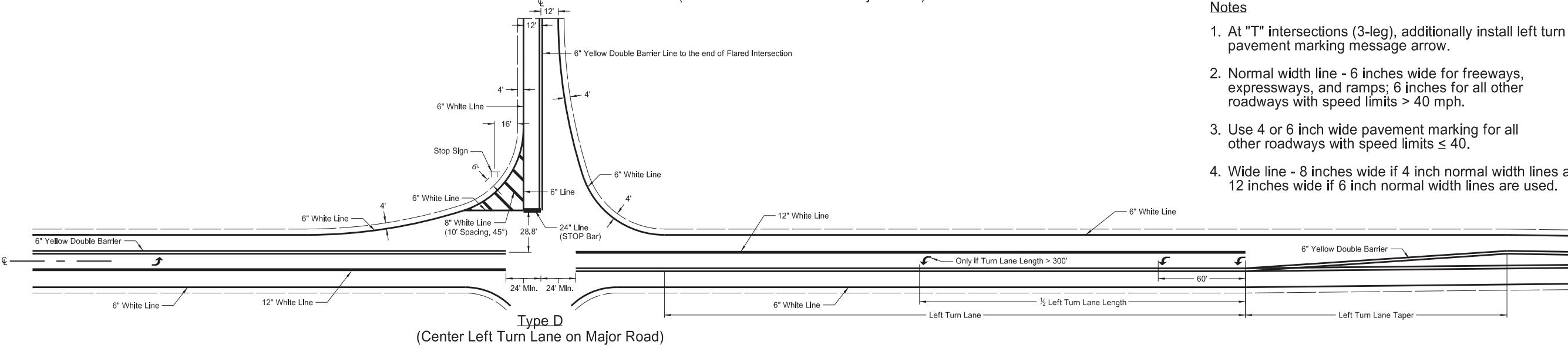
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
3-29-16	
REVISIONS	
DATE	CHANGE
8-17-17 8-30-18 8-27-19 11-22-23 1-17-24	Updated note & dimensioning. Corrected pmkt mkg placement. New Design Engineer PE Stamp. Revised pavement marking widths. Revised wide pmkt mkg width.



## PAVEMENT MARKING FOR STANDARD 90 DEGREE FLARED INTERSECTION

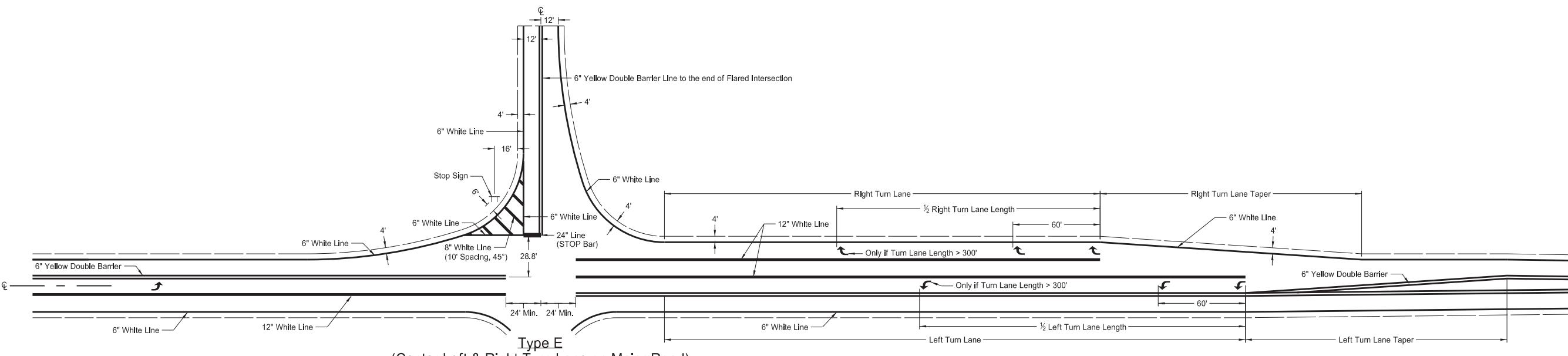
D-762-6

(Center Left Turn Lane on Major Road)

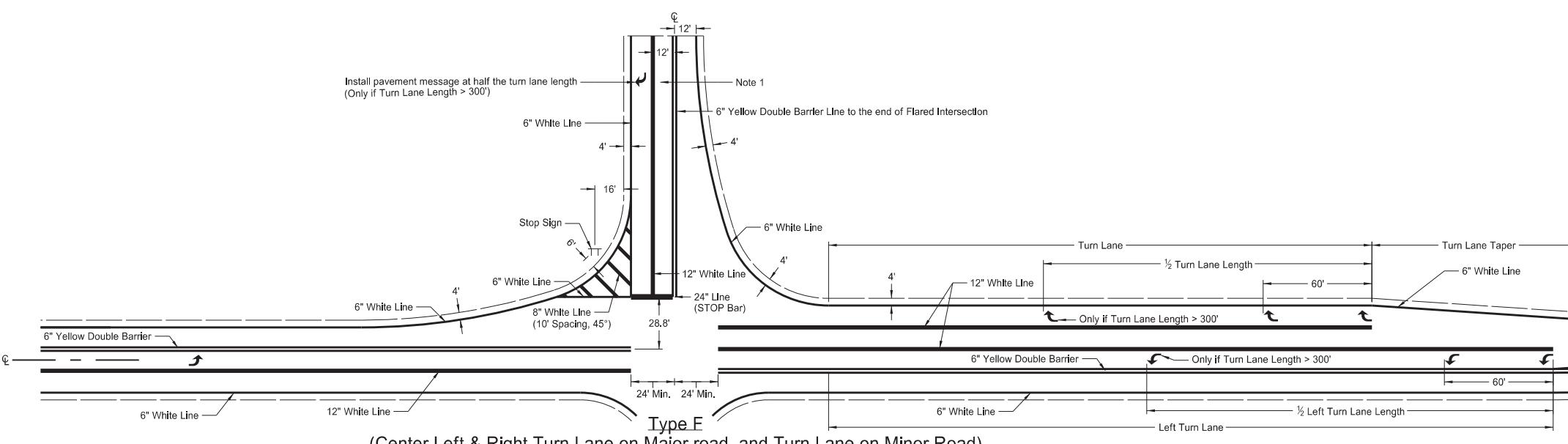


## Notes

1. At "T" intersections (3-leg), additionally install left turn pavement marking message arrow.
2. Normal width line - 6 inches wide for freeways, expressways, and ramps; 6 inches for all other roadways with speed limits > 40 mph.
3. Use 4 or 6 inch wide pavement marking for all other roadways with speed limits  $\leq 40$ .
4. Wide line - 8 inches wide if 4 inch normal width lines are used and 12 inches wide if 6 inch normal width lines are used.



- 6" Marking
- 8" Marking
- 12" Marking
- 24" Marking

NORTH DAKOTA  
DEPARTMENT OF TRANSPORTATION

3-29-16

REVISIONS

DATE	CHANGE
8-17-17	Updated dimensioning.
8-27-19	New Design Engineer PE Stamp.
11-22-23	Revised pavement marking widths.
1-17-24	Revised wide pvt mkg width.

