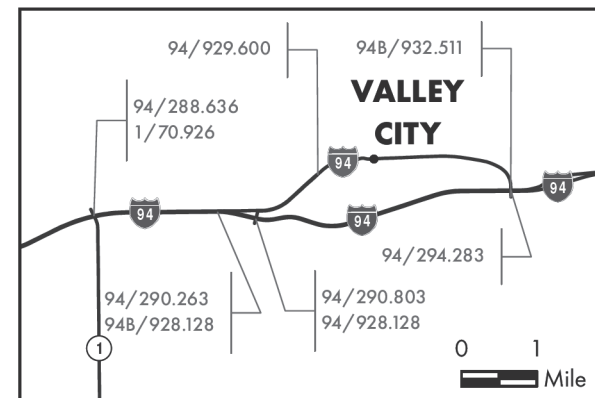
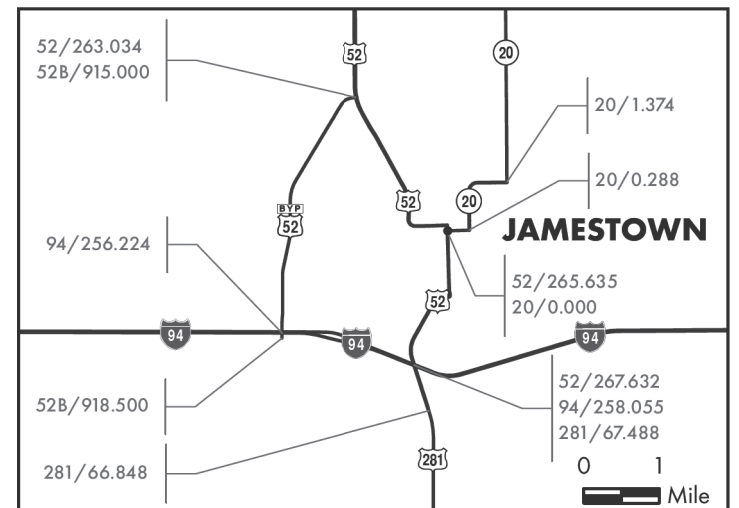


GOVERNING SPECIFICATIONS	Date Published and Adopted by the North Dakota Department of Transportation
Standard Specifications	7/1/2025
Supplemental Specifications	NONE

Barnes, Cass, Dicky, Kidder, LaMoure, Logan, McIntosh, Ransom, Steele, and Stutsman Counties  
Valley City District  
Pavement Marking



ND DEPARTMENT OF TRANSPORTATION  
VALLEY CITY DISTRICT

Nathan Haaland  
01/07/26

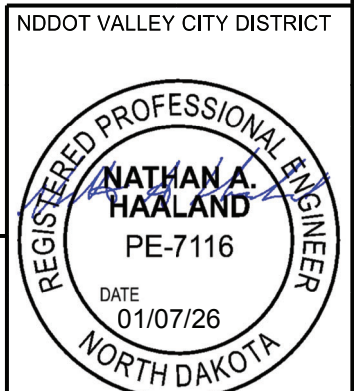
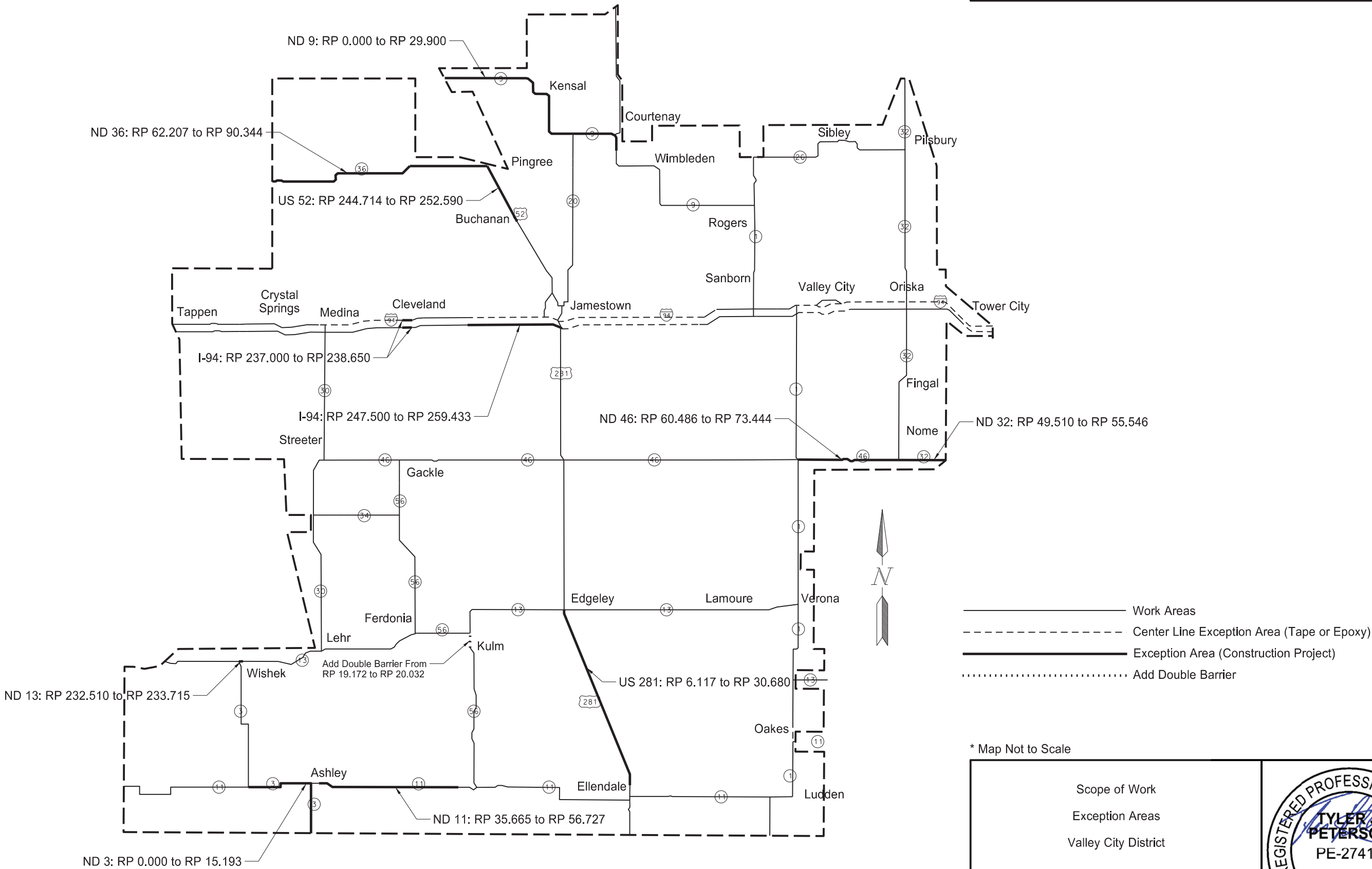


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2	1	Table of Contents	D-101-10	NDDOT Utility Company and Organization Abbreviations					
4	1	Scope of Work	D-101-20, 21	Line Styles					
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NOTES

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.

<u>Company</u>	<u>Name of Contact</u>	<u>Title</u>	<u>Email</u>	<u>Phone</u>	<u>Crossing ID (USDOT)</u>	<u>Mile Post</u>
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:

<u>Current Spec</u>	<u>Current Code</u>	<u>Unit</u>	<u>Description</u>	<u>Covers Company</u>	<u>Number of Crossings</u>
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.	SHEET 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.
	ND	HES-2-999(079)	11	1

VALLEY CITY DISTRICT PAVEMENT SUMMARY																		
Route	Location	From Ref Point	To Ref Point	Roadway Miles	Length of				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	6 Inch Edge line 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 8 IN LINE: East Jct ND 11 and ND 1 24 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				12 IN LINE: East Jct ND 11 and ND 1 MESSAGE: LT Arrows
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 ND1 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					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					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 8 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				12 IN LINE: Jct ND 20 and Co Rd 10, Jct ND 20 and Co Rd 42 24 IN LINE: Jct ND 20 and Co Rd 10, Jct ND 20 and Co. Rd. 42 MESSAGE: Jct ND 20 and Co Rd 10, Jct ND 20 and Co Rd 42
ND 20	East Jct ND 9 to Jct ND 200	27.701	44.930	17.229	3.952	1.000	1.239	34.048	40.240	54	61		49.0		121	144	52	6 IN LINE: Jct ND 20 and ND 200 8 IN LINE: Jct ND 20 and ND 200 24 IN LINE: Jct ND 20 and ND 9, Jct ND 20 and ND 200 MESSAGE: RR Crossing at RP 27.791, STOP AHEAD at RP 44.655

TABLE NOTES:

Page 1 Subtotals: 806.322 1759 263 1244 729 160 847 1008 208

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

Pavement Marking Summary  
Valley City District  
  
ND 1, 3, 9, 11, 13, 20



															STATE	PROJECT NO.		SECTION NO.	SHEET NO.
														ND	HES-2-999(079)		11	2	
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 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	24 IN LINE: ND 26 and ND 1, ND 26 and ND 32 MESSAGE: STOP AHEAD at RP 0.279	
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 32and 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	24 IN LINE: Jct ND 34 and ND 30, Jct ND 34 and ND 56 MESSAGE: Stop Ahead at RP 56.627	
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.	
TABLE NOTES:									Page 2 Subtotals:	648.838	1,923	4,761	28,746	519	2,816	726	864	104	
<div></div> 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  ND 26, 30, 32, 34, 36, 46, 56, US 52	
																		<div>REGISTERED PROFESSIONAL ENGINEER</div> <div>TYLER J. PETERSON</div> <div>PE-27417</div> <div>DATE 01/07/26</div> <div>NORTH DAKOTA</div>	



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

VALLEY CITY DISTRICT PAVEMENT SUMMARY																	
Route	Location	From Ref Point	To Ref Point	Roadway Miles	Length of			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	
US 281	South Dakota State Line to South Jct ND 11	0.000	4.612	4.612	0.901	0.103	1.034	8.410	10.449	650		44.0					6 IN LINE: Crosswalks in Ellendale, 2nd St. S, 1st St. S, Main St, 1st St. N 24 IN LINE: Main St.
US 281	South Jct ND 11 to 1 mile North of Ellendale	4.612	6.117	1.505	0.210	0.135	2.235	1.801	4.381	1,070		146	32				6 IN LINE: Crosswalks in Ellendale, 2nd, 3rd, 4th, 5th, 6th, and 7th St. N 12 IN LINE: Jct US 281 and ND 11 East MESSAGE: Jct US 281 and ND 11 East
US 281	1 Mile North of Ellendale to Jct ND 13	6.117	30.680	24.563	5.354	3.935	0.000	49.126	0.000					0	0		2026 Construction Project: NH-2-281(050)006 PCN: 24043
US 281	Jct ND 13 to Jct ND 46	30.000	49.707	19.707	3.621	4.669	1.678	38.112	48.079			4,250	432	121	144		24 IN LINE: Edgeley Rest Area Stop Bars at RP 38.918 MESSAGE: RR Crossing at RP 32.111, RT & LT Arrows
	Edgeley Rest Area	38.815	38.957	0.142	0.000	0.000	0.000	0.099	0.099	250							6 IN LINE: (10) Car Parking
US 281	Jct ND 46 to 0.4 Miles South I-94	49.707	66.909	17.202	2.904	3.458	5.596	34.138	46.096			5,980	789				12 IN LINE: Turnlanes MESSAGE: RT, LT, Straight, and Combination Arrows Double barrier includes left turn lanes and transition to 4-Lane at Jamestown
I-94 Bus. Loop	East Valley City to I 94	931.538	932.415	0.877	0.112	0.000	0.799	1.692	2.603			1063.000	244				12 IN LINE: Turnlanes North of Interchange MESSAGE: RT, LT and Straight Arrows
I-94	Eastbound (East of Dawson to Buffalo Exit)	209.340	314.863	105.523	26.381	0.000	0.000	211.046	188.557	See "Interstate Interchange Striping Summary Sheets" for these items							
	RT Edgeline 12 IN LINE & 6 IN LINE (Skips): Interchange Ramps							-10.718									Quantity is included in "Interstate Interchange Striping Summary Sheets" and Not included in Mainline quantities
	Tappen Interchange (Tape ☺)	214.031	214.222	0.191	-0.048			-0.382									Exception Area - Do Not Paint Centerline
	West of Cleveland Interchange (GRADE RAISE)	237.000	238.650	1.650	-0.413			-3.300									2026 Construction Project: IM-2-094(210)237 PCN:24461
	West of Lippert Interchange to East of US 281 Interchange	247.500	259.433	11.933	-2.983			-23.866									2026 Construction Project: IM-2-094(200)247 PCN:23890
	US 281 interchange to 1 mile West of Eckelson (Tape ☺)	258.435	275.494	17.059	-4.265												Exception Area - Do Not Paint Centerline
	Oakes interchange to East of Valley City (Tape ☺)	288.753	295.186	6.433	-1.608												Exception Area - Do Not Paint Centerline
	Hill Interchange to end of district (Tape ☺)	309.715	314.863	5.148	-1.287												Exception Area - Do Not Paint Centerline
I-94	Westbound (East of Buffalo to East of Dawson)	315.663	209.340	106.323	26.581	0.000	0.000	212.646	204.841	See "Interstate Interchange Striping Summary Sheets" for these items							
	RT Edgeline 12 IN LINE & 6 IN LINE (Skips): Interchange Ramps							-13.395									Quantity is included in "Interstate Interchange Striping Summary Sheets" and Not included in Mainline quantities
	End of District to 2 miles East of Oriska (Tape ☺)	315.665	305.855	9.810	-2.453												Exception Area - Do Not Paint Centerline
	2 Miles East of Oriska to East of Valley City (Epoxy ☺)	305.855	295.693	10.162	-2.541												Exception Area - Do Not Paint Centerline
	East of Valley City to Oakes Interchange (Tape ☺)	295.693	289.277	6.416	-1.604												Exception Area - Do Not Paint Centerline
	Hobart Lake (Tape ☺)	285.960	285.275	0.685	-0.171												Exception Area - Do Not Paint Centerline
	Eckelson Lake (Tape ☺)	278.405	277.800	0.605	-0.151												Exception Area - Do Not Paint Centerline
	Eckelson Interchange to 1 mile West of Lippert Interchange (Tape ☺)	275.912	247.639	28.273	-7.068												Exception Area - Do Not Paint Centerline
	East of Cleveland Exit (Tape ☺)	240.512	240.100	0.412	-0.103												Exception Area - Do Not Paint Centerline
	East Cleveland Exit to West Cleveland Exit (Tape ☺)	239.653	238.033	1.620	-0.405												Exception Area - Do Not Paint Centerline
	West of Cleveland Interchange (GRADE RAISE)	238.650	237.000	1.650	-0.413			-3.300									2026 Construction Project: IM-2-094(210)237 PCN:24461
	West Cleveland Exit to West Streeter Exit (Tape ☺)	237.405	227.308	10.097	-2.524												Exception Area - Do Not Paint Centerline
	West Streeter Exit (Tape ☺)	226.489	225.887	0.602	-0.151												Exception Area - Do Not Paint Centerline
	Pettibone Interchange (Tape ☺)	217.283	217.046	0.237	-0.059												Exception Area - Do Not Paint Centerline
	Tappen Interchange (Tape ☺)	214.222	214.031	0.191	-0.048												Exception Area - Do Not Paint Centerline
Totals from Valley City District "Interstate Interchange Striping Summary" (Section 11 Sheet 5)									80.536	1,135	290	64,297	2,973	128	0	0	0 See Section 11 Sheet 4 - 5

Page 3 Subtotal	585.641	3,105	290	75,736	3,045	1,625	121	144	-
Page 1 Subtotal	806.322	1759	263	1244	729	160	847	1008	208
Page 2 Subtotal	648.838	1,923	4,761	28,746	519	2,816	726	864	104
Page 3 Subtotal	585.641	3,105	290	75,736	3,045	1,625	121	144	0
TOTAL	2,041	6,787	5,314	105,726	4,293				8,623

**BASIS OF ESTIMATE:** 1 Roadway Mile = 5,280 LF  
Centerline (☺): Interstate and 4-Lane Divided Roadways = 0.25 x Roadway Miles  
2 lane roadways = Field Measured  
Single Barrier: Field Measured (Includes CL Skips)  
Double Barrier: Length Field Measured x 2  
Edgeline: 2.0 x roadway miles (Urban areas are deducted from length)

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

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





	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	HES-2-999(079)	11	4

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	W. 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	W. 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
Abn	abandoned	Calc	calculate	C&G	curb & gutter	Fed	Federal
Abut	abutment	CIP	cast iron pipe	CI	curb inlet	FP	feed point
Adj	adjusted	CB	catch basin	CR	curb ramp	Fn	fence
Aggr	aggregate	CRS	cationic rapid setting	C	cut	Fn P	fence post
Ahd	ahead	C Gd	cattle guard	Dd Ld	dead load	FO	fiber optic
ARV	air release valve	C To C	center to center	Defl	deflection	FD	field drive
Align	alignment	CL or ☞	centerline	Defm	deformed	F	fill
Al	alley	Ch	chain	DInt	delineate	FAA	fine aggregate angularity
Alt	alternate	Chnlk	chain-link	DIntr	delineator	FH	fire hydrant
Alum	aluminum	Ch Blk	channel block	Depr	depression	FI	flange
ADA	Americans with Disabilities Act	Ch Ch	channel change	Desc	description	Flrd	flared
&	and	Chk	check	Det	detail	FES	flared end section
Appr	approach	Chsld	chiseled	DWP	detectable warning panel	F Bcn	flashing beacon
Approx	approximate	Cir	circle	Dtr	detour	FA	flight auger sample
ACP	asbestos cement pipe	Cl	class	Dia or ø	diameter	FL	flow line
Asph	asphalt	Clnt	clean-out	Dir	direction	Ftg	footing
AC	asphalt cement	Clr	clear	Dist	distance	FM	force main
Assmd	assumed	Cl&gr	clearing & grubbing	DM	disturbed material	Fnd	found
@	at	Comb.	combination	DB	ditch block	Fdn	foundation
Atten	attenuation	Coml	commercial	DG	ditch grade	Frac	fractional
ATR	automatic traffic recorder	Compr	compression	Dbl	double	Frwy	freeway
Ave	Avenue	CADD	computer aided drafting & design	Dn	down	Frt	front
Avg	average	Conc	concrete	Dwg	drawing	FF	front face
ADT	average daily traffic	CECB	concrete erosion control blanket	Dr	drive	F Disp	fuel dispenser
		Cond	conductor	Drw	driveway	FFP	fuel filler pipes
		Const	construction	DI	drop inlet	FLS	fuel leak sensor
		Cont	continuous	D	dry density	Furn	furnish/ed
		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		

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09-20-18	General Revisions
12-18-20	General Revisions
08-16-22	General Revisions
04-14-25	General Revisions



## NDDOT ABBREVIATIONS

Galv	galvanized	Lh	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	LvIng	leveling	OC	organic content	Rlwy	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			RPCC	recycled portland cement concrete
GWM	ground water monitor	Long.	longitude	PMT	pad mounted transformer	Ref	reference
Gdrl	guardrail	Lp	loop	Pg	pages	R Mkr	reference marker
Gtr	gutter	LD	loop detector	Pntd	painted	RM	reference monument
		Lum	luminaire	Pr	pair	RP	reference point
				Pnl	panel	Refl	reflectorized
H Plg	H piling			Pk	park	RCB	reinforced concrete box
Hdwl	headwall	Mb	mailbox	PSD	passing sight distance	RCES	reinforced concrete end section
Ht	height	ML	main line	Pvmt	pavement	RCFES	reinforced concrete flared end section
Hel	helical	MH	manhole	Ped	pedestal	RCP	reinforced concrete pipe
HDPE	high density polyethylene	Mkd	marked	Ped	pedestrian	RCPS	reinforced concrete pipe sewer
HM	high mast	Mkr	marker	PPP	pedestrian pushbutton post	RCTES	reinforced concrete traversable end section
HP	high pressure	Mkg	marking	Pen.	penetration	Reinf	reinforcement
HPS	high pressure sodium	MA	mast arm	Perf	perforated	Res	reservation
HTCG	high tension cable guardrail	Matl	material	Per.	perimeter	Res	residence
Hwy	highway	Max	maximum	Perm	permanent	Ret	retaining
Hor	horizontal			PL	pipeline	Rev	reverse
HBP	hot bituminous pavement	Meas	measure	PI	place	Rt	right
HMA	hot mix asphalt	Mdn	median	P&P	plan & profile	R/W	right of way
Hyd	hydrant	MD	median drain	PL	plastic limit	Riv	river
Ph	hydrogen ion content	MC	medium curing	PI or PL	plate	Rd	road
		MGS	Midwest Guardrail System	Pt	point	Rdbd	road bed
		MM	mile marker	PE	polyethylene	Rdwy	roadway
Id	identification	MP	mile post	PVC	polyvinyl chloride	RWIS	roadway weather information system
Incl	inclinometer tube	Min	minimum	PCC	Portland Cement concrete	Rk	rock
IMH	inlet manhole	Misc	miscellaneous	PP	power pole	Rt	route
ID	inside diameter	Mon	monument	Preempt	preemption		
Inst	instrument	Mnd	mound	Prefab	prefabricated		
Intchg	interchange	Mtbl	mountable	Prfmd or Pref	preformed		
Intmdt	intermediate	Mtd	mounted	Prep	preparation		
Intscn	intersection	Mtg	mounting	Press.	pressure		
Inv	invert	Mk	muck	PRV	pressure relief valve		
IP	iron pipe			Prestr	prestressed		
				Pvt	private		
				PD	private drive		
Jt	joint			Prod.	production/produce		
Jct	junction	Neop	neoprene	Prog	programmed		
		Ntwk	network	Prop.	property		
		N	North	Ppsd	proposed		
		NE	Northeast	PB	pull box		
		NW	Northwest				
		NB	Northbound				
		No. or #	number				

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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	Qu	unconfined compressive strength
SA	special assembly	Ugrnd	underground
SP	special provisions	Util	utility
G	specific gravity		
Spk	spike		
SB	split barrel sample	VG	valley gutter
SH	sprinkler head	Vap	vapor
SV	sprinkler valve	Vert	vertical
Sq	square	VCP	vitrified clay pipe
Stk	stake	Vol	volume
Std	standard	VSFS	vehicle speed feedback sign
N	standard penetration test		
Std Specs	standard specifications	Wkwy	walkway
Stm L	steam line	W	water content
SEC	steel encased concrete	WGV	water gate valve
SMA	stone matrix asphalt	WL	water line
SSD	stopping sight distance	WM	water main
SD	storm drain	WMV	water main valve
St	street	W Mtr	water meter
SPP	structural plate pipe	WSV	water service valve
SPPA	structural plate pipe arch	WW	water well
Str	structure	Wrng	wearing
Subd	subdivision	WIM	weigh in motion
Sub	subgrade	W	west
Sub Prep	subgrade preperation	WB	westbound
Ss	subsoil	Wrng	wiring
SS	supplement specification	W/	with
Supp	supplemental	W/o	without
Surf	surfacing		
Surv	survey		
Sym	symmetrical		

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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	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	Sheet Added - Continued from D-101-3 General Revisions
4-14-25	



NDDOT UTILITY COMPANY AND ORGANIZATION ABBREVIATIONS

D-101-10

702COM  
ACCENT  
AGASSIZ WU  
AGC  
ALL PL  
ALL SEAS WU  
AMOCO PI  
AMRDA HESS  
AT&T  
B PAW  
BAKER ELEC  
BASIN ELEC  
BEK TEL  
BELLE PL  
BLM  
BNSF  
BOEING  
BRNS RWD  
BURK-DIV ELEC  
BURL WRD  
CABLE ONE  
CABLE SERV  
CAP ELEC  
CASS CO ELEC  
CASS RWU  
CAV ELEC  
CBLCOM  
CENEX PL  
CENT PL WATER DIST  
CENT PWR ELEC  
CENTURYLINK  
COE  
CONS COMM  
CONS TELCOM  
CONT RES  
CPR  
D O E  
DAK CARR  
DAK CENT TEL  
DAK RWD  
DGC  
DICKY R NET  
DICKY WRD  
DICKY TEL  
DNRR  
DOME PL  
DVELEC  
DVMW  
E CENT REG WD  
ENBRDG  
ENVENTIS  
EQUINOR  
FALK MNG  
FHWA  
G FKS-TRL WD  
GETTY TRD & TRAN  
GLDN W ELEC

702 Communications  
Accent Communications  
Agassiz Water Users District  
Associated General Contractors of America  
Alliance Pipeline  
All Seasons Water Users District  
Amoco Pipeline Company  
Amerada Hess Corporation  
AT&T Corporation  
Bear Paw Energy Incorporated  
Baker Electric  
Basin Electric Cooperative Incorporated  
Bek Communications Cooperative  
Belle Fourche Pipeline Company  
Bureau of Land Management  
Burlington Northern Santa Fe Railway  
Boeing  
Barnes Rural Water District  
Burke-Divide Electric Cooperative  
Burleigh County Water Resource District  
Cable One  
Cable Services  
Capital Electric Cooperative Incorporated  
Cass County Electric Cooperative  
Cass Rural Water Users District  
Cavalier Rural Electric Cooperative  
Cablecom Of Fargo  
Cenex Pipeline  
Central Pipe Line Water District  
Central Power Electric Cooperative  
CenturyLink  
Corps of Engineers  
Consolidated Communications  
Consolidated Telcom  
Continental Resource Inc  
Canadian Pacific Railway  
Department Of Energy  
Dakota Carrier Network  
Dakota Central Telephone  
Dakota Rural Water District  
Dakota Gasification Company  
Dickey Rural Networks  
Dickey County Water Resource District  
Dickey Telephone  
Dakota Northern Railroad  
Dome Pipeline Company  
Dakota Valley Electric Cooperative  
Dakota, Missouri Valley & Western  
East Central Water District  
Enbridge Pipelines Incorporated  
Enventis Telephone  
Equinor Pipeline  
Falkirk Mining Company  
Federal Highway Administration  
Grand Forks-traill Water District  
Getty Trading & Transportation  
Golden West Electric Cooperative

GTR RAMSEY WD  
GT PLNS NAT GAS  
HALS TEL  
IDEA1  
INT-COMM TEL  
KANEB PL  
KEM ELEC  
KOCH GATH SYS  
LKHD PL  
LWR YELL R ELEC  
LUMEN  
MCKNZ CON  
MCKNZ ELEC  
MCKNZ WRD  
MCLEOD  
MCLN ELEC  
MCLN-SHRDN R WAT  
MDU  
MIDCO  
MIDSTATE TEL  
MINOT CABLE  
MINOT TEL  
MISS VALL COMM  
MISS W W S  
MNKOTA PWR  
MOR-GRAN-SOU ELEC  
MOUNT-WILLI ELEC  
MLGC  
MUNICIPAL  
MUNICIPAL  
N CENT ELEC  
N PRAIR REG WD  
ND PKS & REC  
ND TEL  
NDDOT  
NE REG WD  
NDSU SOIL SCI DEPT  
NEMONT TEL  
NODAK R ELEC  
NOON FRMS TEL  
NPR  
NSP  
NTHN BRDR PL  
NTHN PLNS ELEC  
NTHWSTRN REF  
NW COMM  
NWRWD  
ONEOK  
OSHA  
OTTR TL PWR  
PAAP  
P L E M  
POLAR COM  
PVT ELEC  
QWEST  
R&T REG WD

Greater Ramsey Water District  
Great Plains Natural Gas Company  
Halstad Telephone Company  
Idea1  
Inter-Community Telephone Company  
Kaneb Pipeline Company  
Kem Electric Cooperative Incorporated  
Koch Gathering Systems Incorporated  
Lakehead Pipeline Company  
Lower Yellowstone Rural Electric  
Lumen Technologies Incorporated  
McKenzie Consolidated Telcom  
McKenzie Electric Cooperative  
McKenzie County Water Resource District  
McLeod USA  
McLean Electric Cooperative  
McLean-Sheridan Rural Water District  
Montana-dakota Utilities  
MidContinent Communications  
Midstate Telephone Company  
Minot Cable Television  
Minot Telephone Company  
Missouri Valley Communications Incorporated  
Missouri West Water System  
Minnkota Power  
Mor-gran-sou Electric Cooperative  
Mountrail-williams Electric Cooperative  
Moore & Liberty - Griggs County  
City Water And Sewer  
City Of '.....'  
North Central Electric Cooperative  
North Prairie Regional Water District  
North Dakota Parks And Recreation  
North Dakota Telephone Company  
North Dakota Department of Transportation  
Northeast Regional Water District  
NDSU Soil Science Department  
Nemont Telephone  
Nodak Rural Electric Cooperative  
Noonan Farmers Telephone Company  
Northern Plains Railroad  
Northern States Power  
Northern Border Pipeline  
Northern Plains Electric Cooperative Incorporated  
Northwestern Refinery Company  
Northwest Communication Cooperation  
Northwest Rural Water District  
Oneok gas  
Occupational Safety and Health Administration  
Otter Tail Power Company  
Plains All American Pipeline  
Praieliands Energy Marketing  
Polar Communications  
Private Electric  
Qwest Communications  
R & T Water District

RED RIV COMM  
RESVTN TEL  
ROBRTS TEL  
R-RIDER ELEC  
RRVW  
S CENT REG WD  
SE W U  
SCOTT CABLE  
SHERDN ELEC  
SHEYN VLY ELEC  
SKYTECH  
SLOPE ELEC  
SOURIS RIV TELCOM  
ST WAT COMM  
STATE LN WATER  
STER ENG  
STUT RWD  
SW PL PRJ  
SWWA  
SUNOCO  
T M C  
TCI  
TESORO GHG PLNS PL  
TRI-CNTY WU  
TRL CO WRD  
UNTD TEL  
UPPR SOUR WD  
US SPRINT  
USAF MSL CABLE  
USFWS  
USW COMM  
VRNDRY ELEC  
W RIV TEL  
WAPA  
WAWSA  
WEB  
WILLI WRD  
WILSTN BAS PL  
WLSH RWD  
WOLVRTN TEL  
XLENER  
YSVR

Red River Communications  
Reservation Telephone  
Roberts Company Telephone  
Roughrider Electric Cooperative  
Red River Valley & Western Railroad  
South Central Regional Water District  
Southeast Water Users Incorporated  
Scott Cable Television Dickinson  
Sheridan Electric Cooperative  
Sheyenne Valley Electric Cooperative  
Skyland Technologies Incorporated  
Slope Electric Cooperative Incorporated  
Souris River Telecommunications  
State Water Commission  
State Line Water Cooperative  
Sterling Energy  
Stutsman Rural Water District  
Southwest Pipeline Project  
Southwest Water Authority  
Sunoco LP  
Turtle Mountain Communications  
TCI of North Dakota  
Tesoro High Plains Pipeline  
Tri-County Water Users Incorporated  
Traill County Water Resource District  
United Telephone  
Upper Souris Water District  
U.S. Sprint  
U.S.A.F. Missile Cable  
US Fish and Wildlife Service  
U.S. West Communications  
Verendrye Electric Cooperative  
West River Telephone Incorporated  
Western Area Power Administration  
Western Area Water Supply Authority  
W. E. B. Water Development Association  
Williams County Water Resource District  
Williston Basin Interstate Pipeline Company  
Walsh Water Rural Water District  
Wolverton Telephone  
Xcel Energy  
Yellowstone Valley Railroad

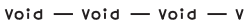






















NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
04-23-18 09-20-18 12-18-20 08-16-22 04-14-25	General Revisions General Revisions General Revisions General Revisions General Revisions






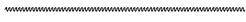
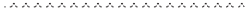









LINE STYLES



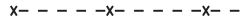





D-101-20

Existing Topography









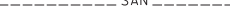













	Existing Ground Void
	Existing Cemetary Boundary
	Existing Box Culvert Bridge
	Existing Concrete Surface
	Existing Drainage Structure
	Existing Gravel Surface
	Existing Riprap
	Existing Dirt Surface
	Existing Asphalt Surface
	Existing Tie Point Line
	Existing Railroad Centerline
	Existing Guardrail Cable
	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 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




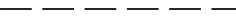
Proposed Topography

	3-Cable w Posts
	Flow
	Fence
	Remove Line
	Wall
	Retaining Wall (Plan View)
	W-Beam w Posts
	High Tension Cable Guardrail with Posts










Existing Utilities

	Existing Electrical
	Existing Fiber Optic Line
	Existing TV Fiber Optic
	Existing Gas Pipe
	Existing Overhead Utility Line
	Existing Power
	Existing Fuel Pipeline
	Existing Undefined Above Ground Pipe Line
	Existing Sanitary Sewer
	Existing Sanitary Force Main
	Existing Storm Drain
	Existing Storm Drain Force Main
	Existing Culvert
	Existing Telephone Line
	Existing TV Line
	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

07-01-14

REVISIONS

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

KIRK J. HOFF

REGISTERED

PROFESSIONAL

PE-4683

ENGINEER






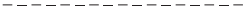







NORTH DAKOTA

12 18 2020










LINE STYLES

D-101-21



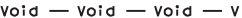





Right Of Way

	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
	Existing Adjacent Lot Lines
	Existing Adjacent Property Line
	Existing Adjacent Subdivision Lines
	Sight Distance Triangle Line
	Dimension Leader







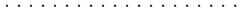
Boundary Control

	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

Cross Sections and Typicals



	Existing Ground
	Existing Topsoil (Cross Section View)
	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

Geotechnical



	Geotextile Fabric Type D
	Geogrid
	Geotextile Fabric Type R
	Geotextile Fabric Type R1
	Geotextile Fabric Type RR
	Geotextile Fabric Type S
	Subgrade Reinforcement

	Failure Line
--	--------------







Countours

	Depression Contours
	Supplemental Contour




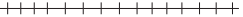
Profile

	Subgrade, Subcut or Ditch Grade
	Topsoil Profile










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








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






Bridge Details

	Small Hidden Object
	Large Hidden Object
	Phantom Object
	Existing Conditions Object
	Centerline Main
	Centerline Secondary
	Excavation Limits
	Proposed Ground
	Sheet Piling

Erosion Control

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

Environmental


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

NORTH DAKOTA  
DEPARTMENT OF TRANSPORTATION

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REVISIONS

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



12 18 2020


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 DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions

KIRK J. HOFF

REGISTERED



PROFESSIONAL

PE-4683

ENGINEER
































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 DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions




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 DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions



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



12 18 2020

SYMBOLS

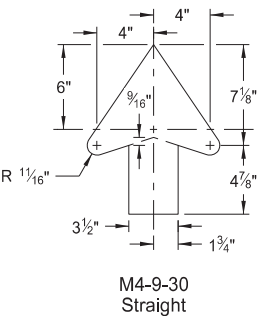
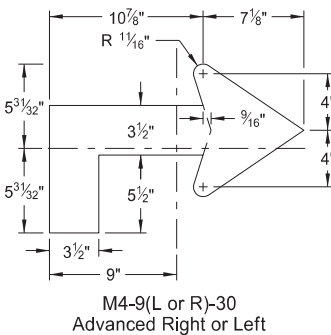
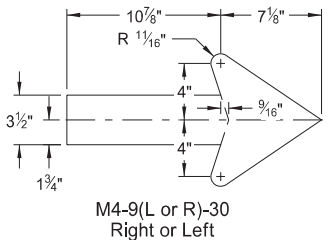
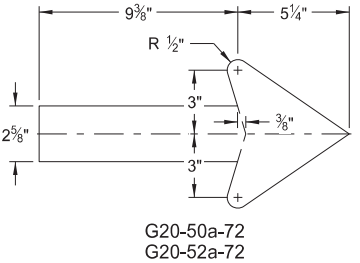
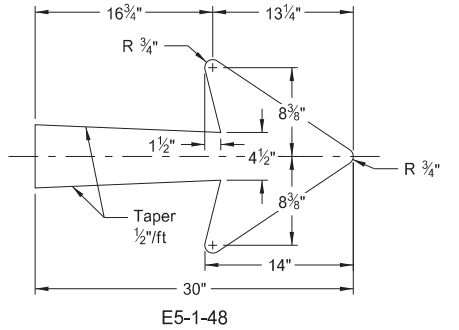
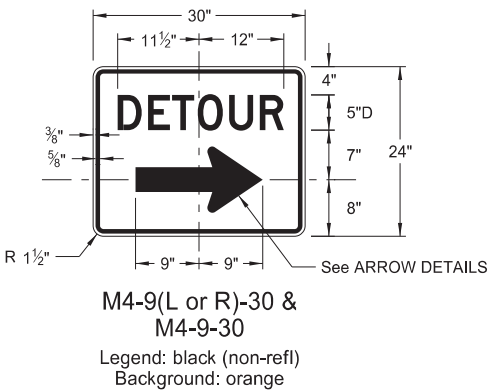
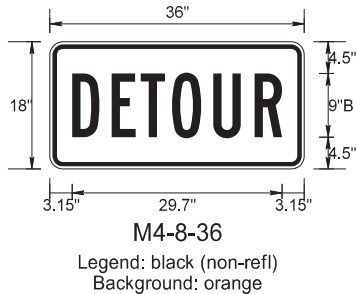
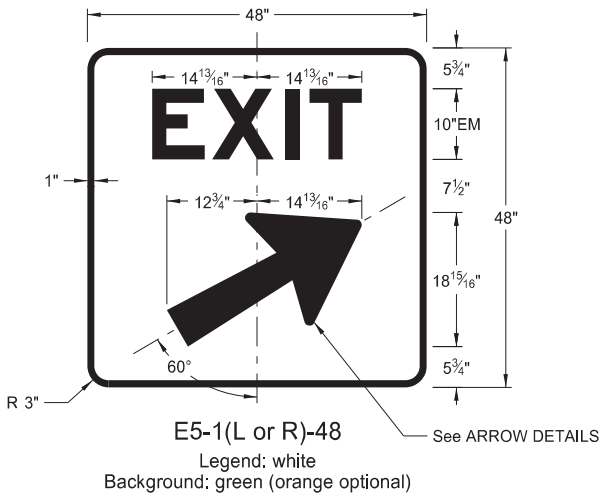
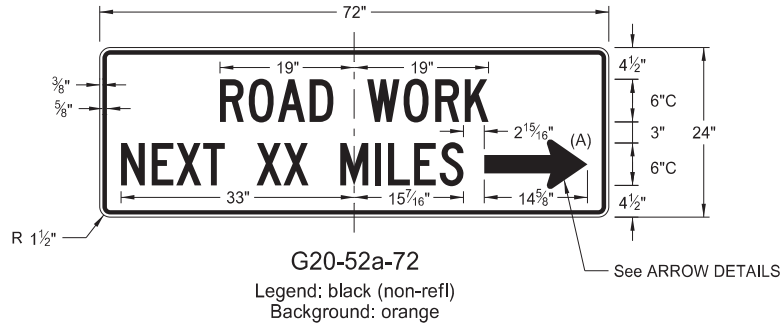
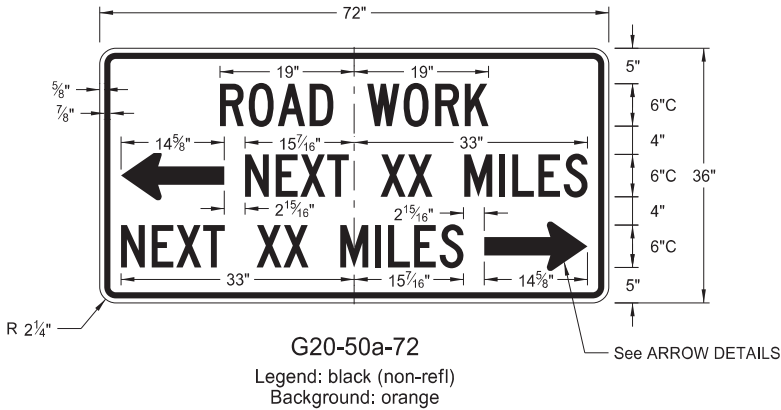
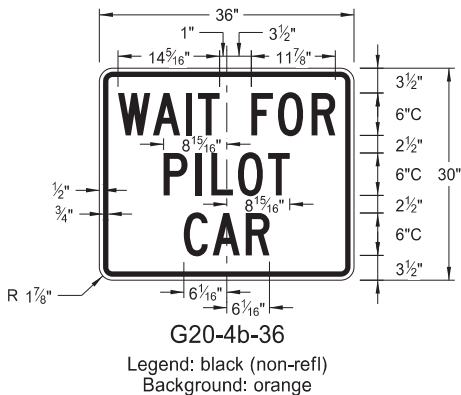
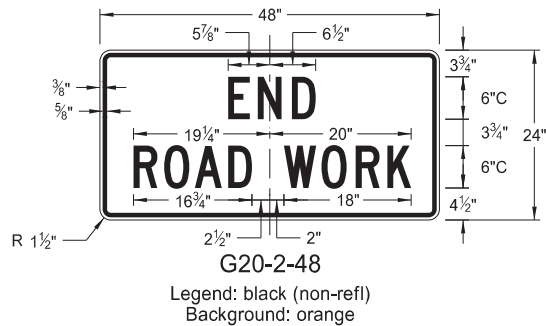
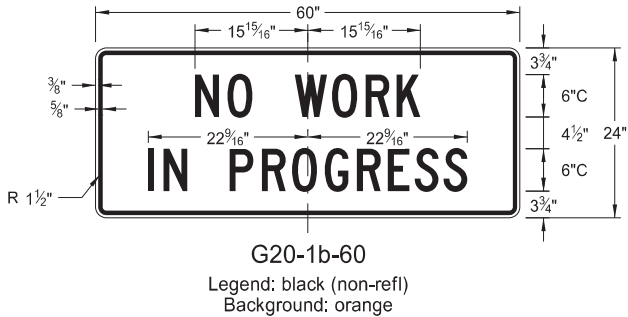
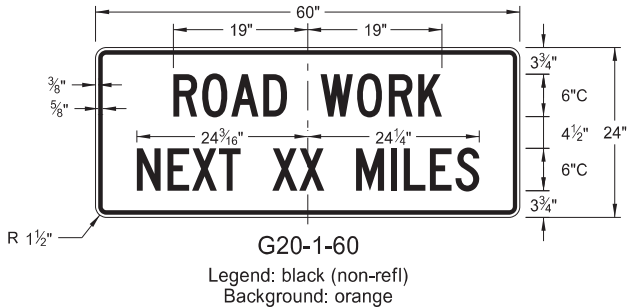
D-101-33

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

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions Sheet added - Continued from D-101-32

12 18 2020

CONSTRUCTION SIGN DETAILS  
TERMINAL AND GUIDE SIGNS



ARROW DETAILS

NOTES:

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

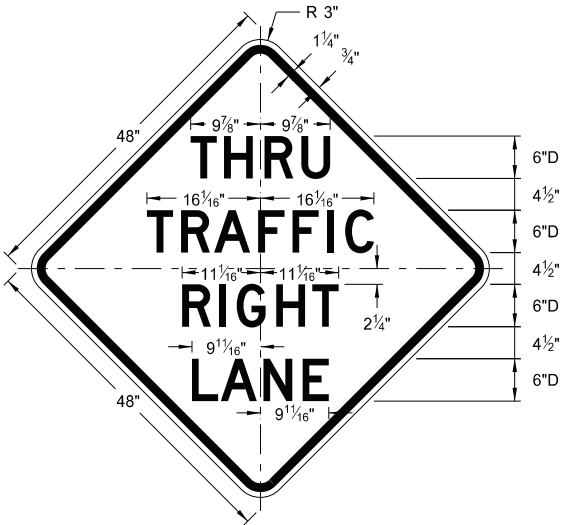
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
8-13-13	
REVISIONS	
DATE	CHANGE
08-17-17	Added sign & background color
10-03-19	New Design Engineer PE Stamp
08-01-24	Electronic Stamp/Signature
06-30-25	Legislative Changes



CONSTRUCTION SIGN DETAILS  
WARNING SIGNS

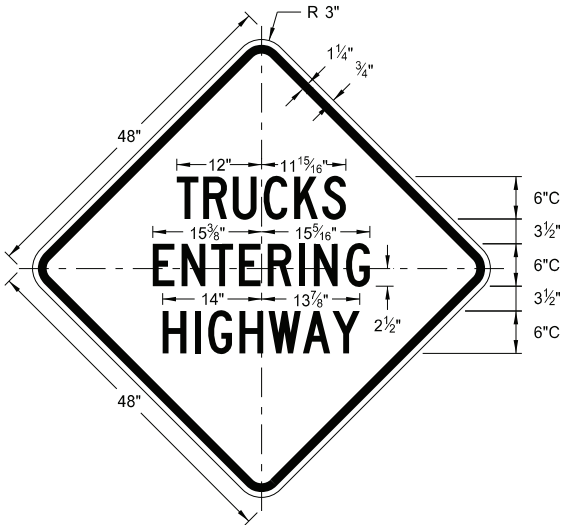
WORD	LETTER SPACING
AHEAD	Standard
200 FT	Standard
350 FT	Standard
500 FT	Standard
1000 FT	Reduce 40%
1500 FT	Reduce 40%
½ MILE	Reduce 50%
1 MILE	Standard

\* DISTANCE MESSAGES



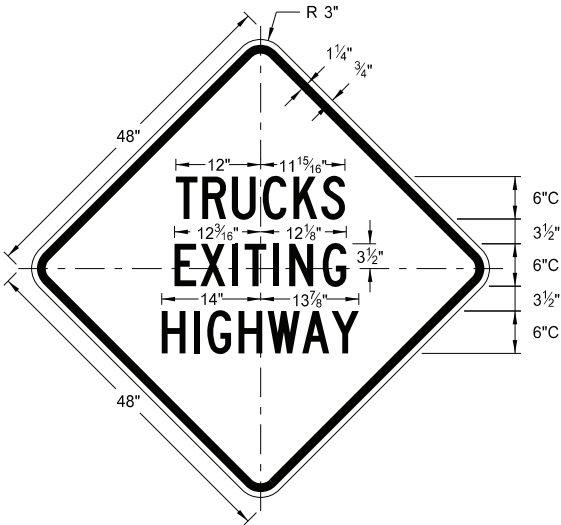
W5-8-48

Legend: black (non-refl)  
Background: orange



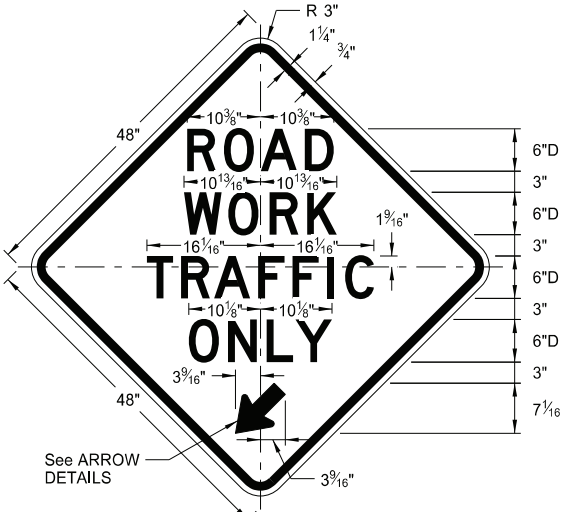
W8-53-48

Legend: black (non-refl)  
Background: orange



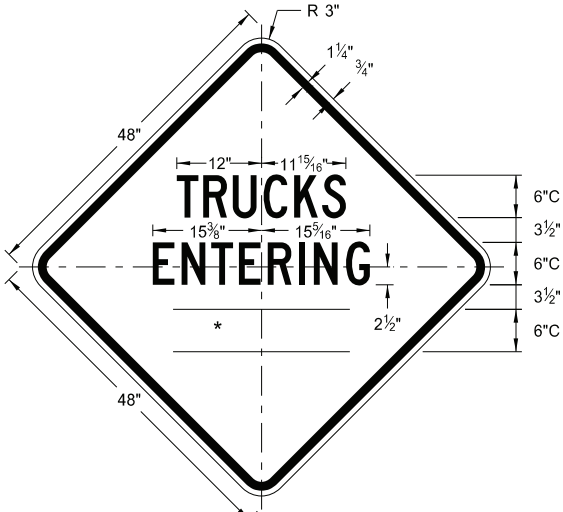
W8-56-48

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Background: orange



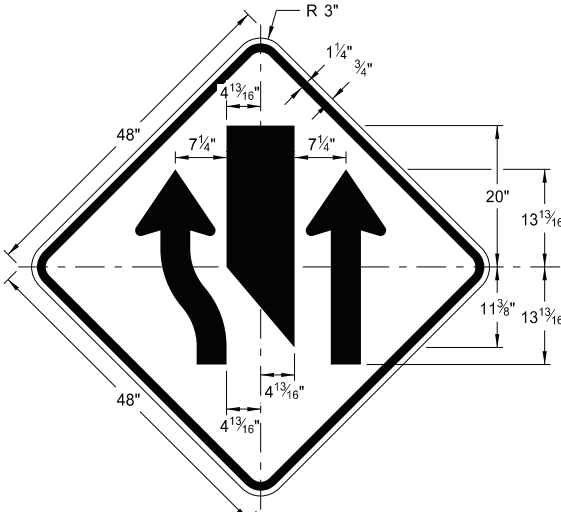
W5-9-48

Legend: black (non-refl)  
Background: orange



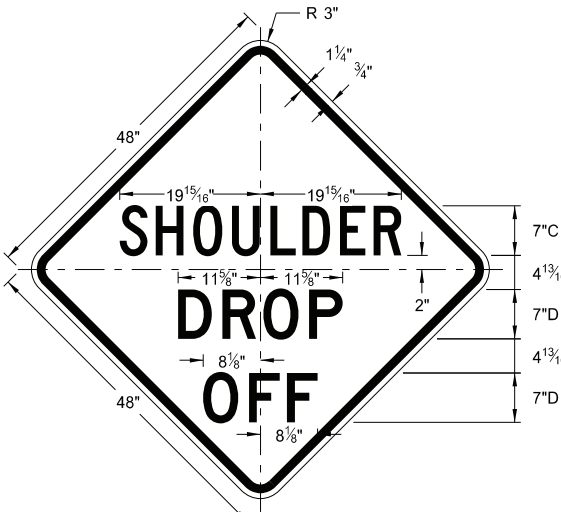
W8-54-48

Legend: black (non-refl)  
Background: orange



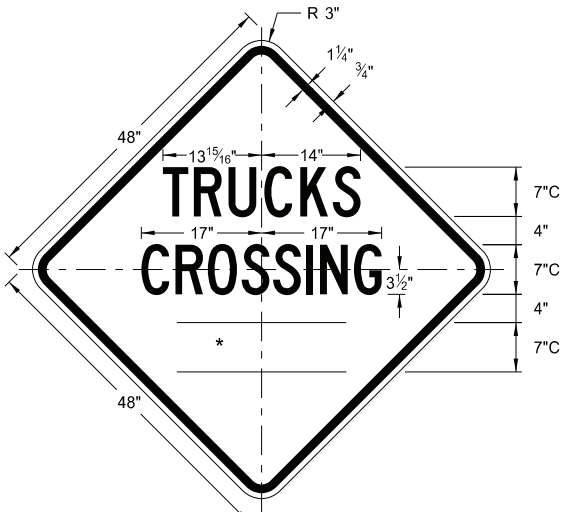
W9-3a-48

Legend: black (non-refl)  
Background: orange



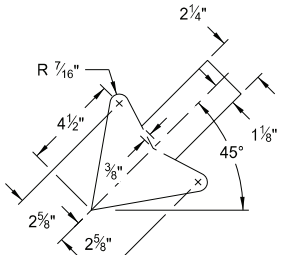
W8-9a-48

Legend: black (non-refl)  
Background: orange

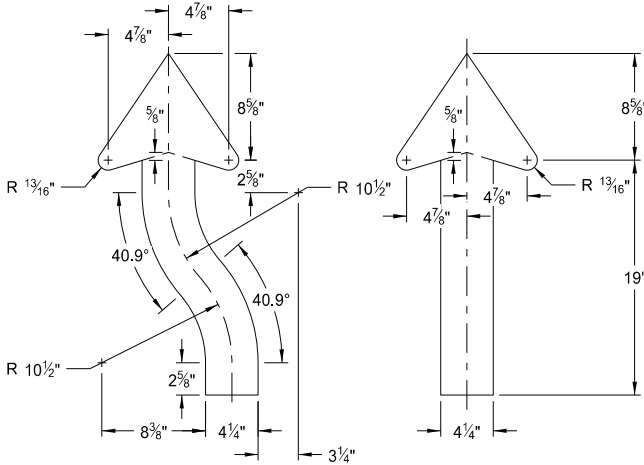


W8-55-48

Legend: black (non-refl)  
Background: orange



W5-9-48



W9-3a-48

ARROW DETAILS

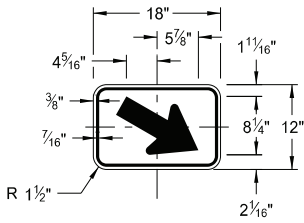
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
8-13-13	
REVISIONS	
DATE	CHANGE
8-17-17	Updated sign number
5-31-18	Revised sign and arrow details
10-03-19	New Design Engineer PE Stamp
8-01-24	Electronic Stamp/Signature



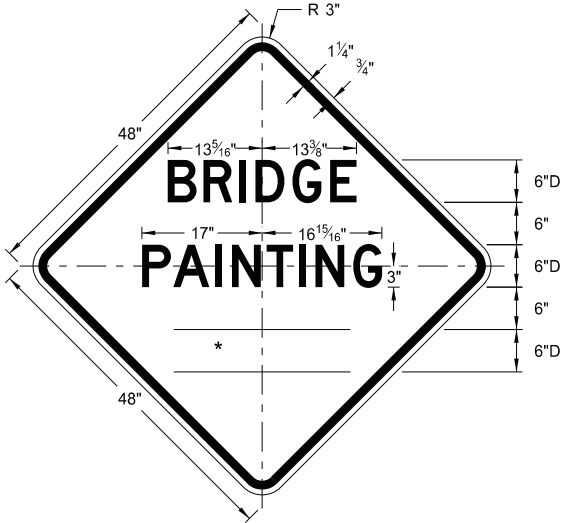
08/01/24



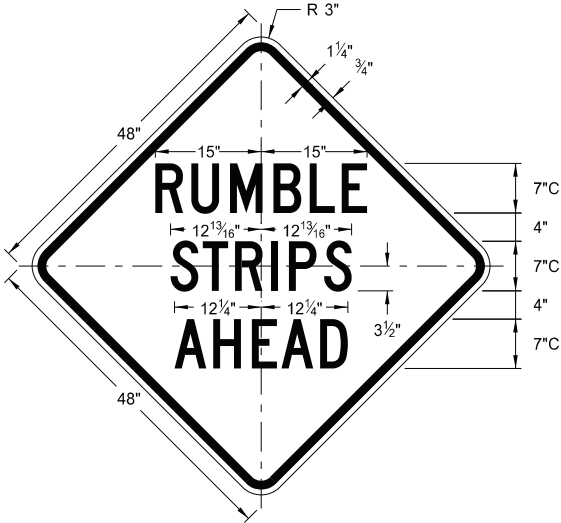
CONSTRUCTION SIGN DETAILS  
WARNING SIGNS



W16-7aP-18  
Legend: black (non-refl)  
Background: orange



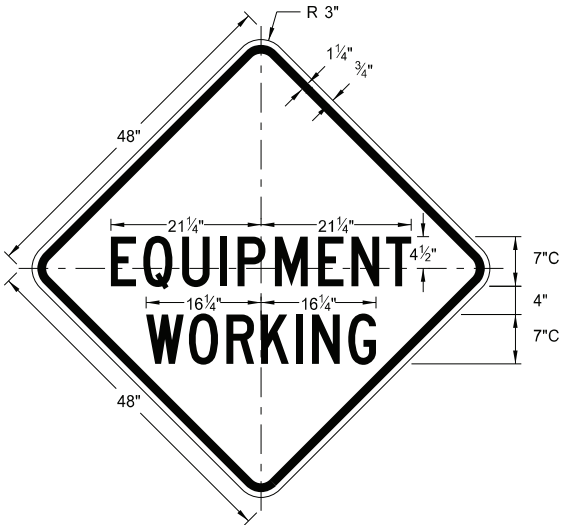
W21-50-48  
Legend: black (non-refl)  
Background: orange



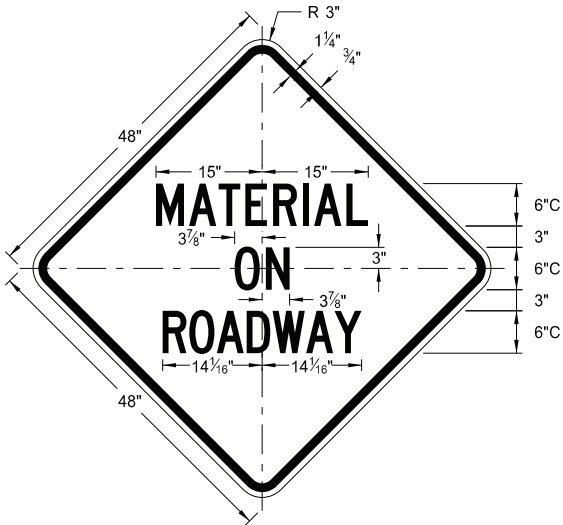
W21-53-48  
Legend: black (non-refl)  
Background: orange

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

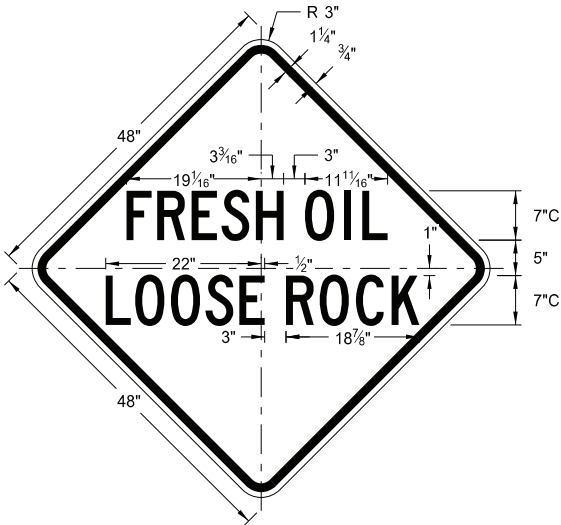
\* DISTANCE MESSAGES



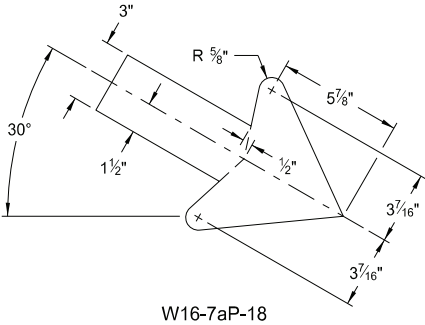
W20-51-48  
Legend: black (non-refl)  
Background: orange



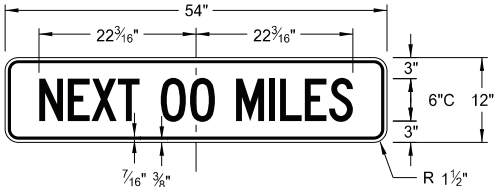
W21-51-48  
Legend: black (non-refl)  
Background: orange



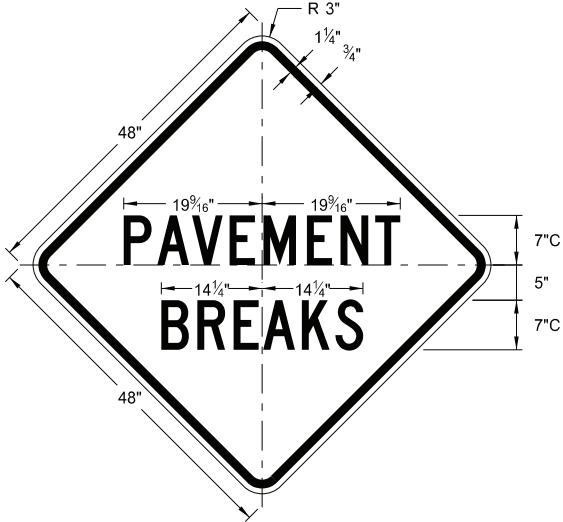
W22-8-48  
Legend: black (non-refl)  
Background: orange



W16-7aP-18



W20-52P-54  
Legend: black (non-refl)  
Background: orange



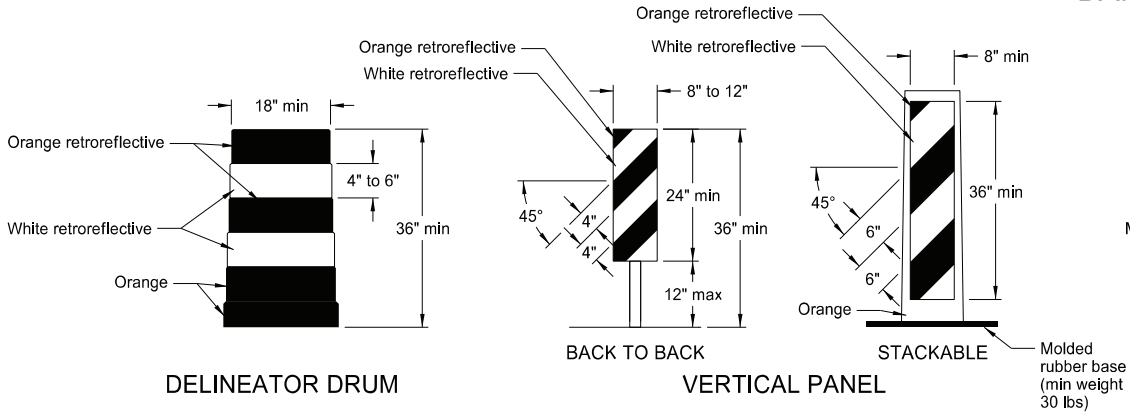
W21-52-48  
Legend: black (non-refl)  
Background: orange

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.



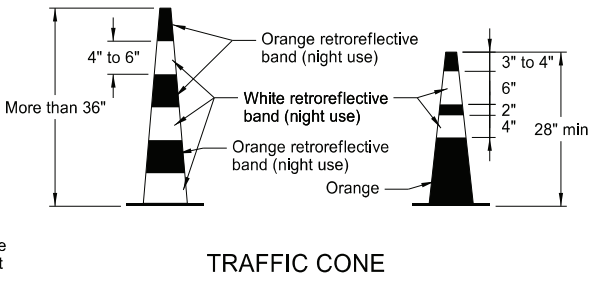
08/01/24

BARRICADE AND CHANNELIZING DEVICE DETAILS

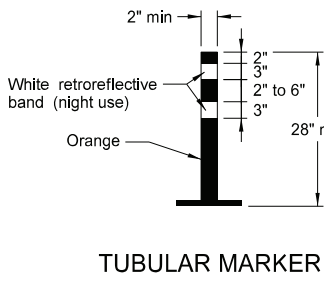


Provide horizontal, circumferential, alternating orange and white retroreflective stripes 4" to 6" wide for drum markings. Use a minimum of two orange and two white stripes with the top stripe being orange for each drum. Do not exceed 3" nonretroreflectORIZED spaces between the horizontal orange and 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.

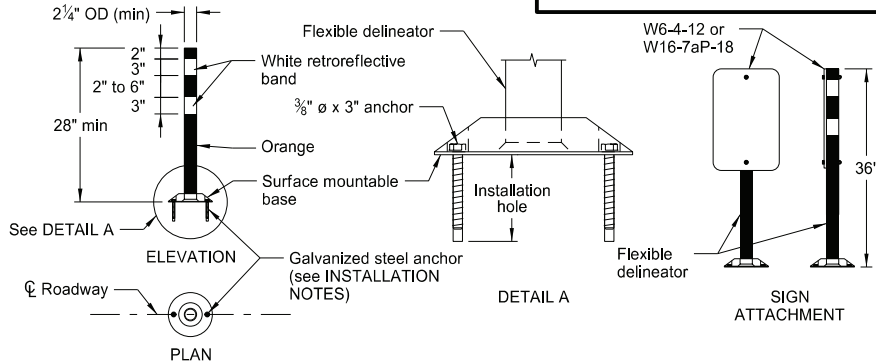
Provide alternating orange and white retroreflective stripes, sloping downward in direction vehicular traffic is to pass. Place retroreflective sheeting on both sides of panel with a minimum of 270 square inches of retroreflective area facing vehicular traffic. Where the height of the retroreflective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



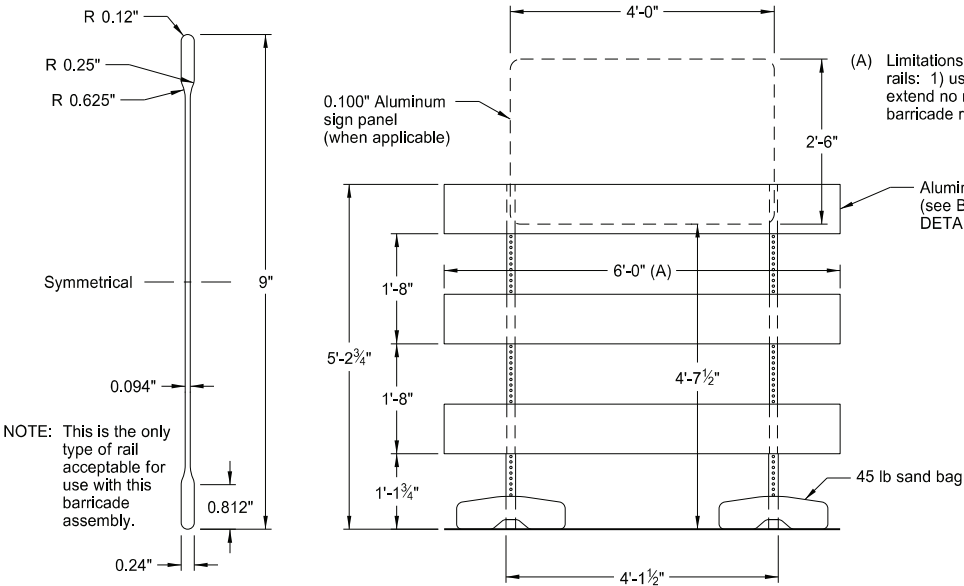
Provide retroreflectORIZATION of cones more than 36" in height by alternating orange and white retroreflective stripes. Use a minimum of two orange and two white stripes for each cone with the top stripe being orange. Use maximum 3" nonretroreflectORIZED space between the orange and white stripes.



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.



- 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.

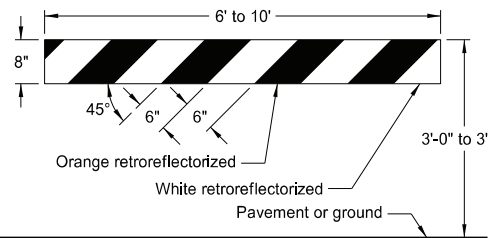


BARRICADE BLADE DETAIL

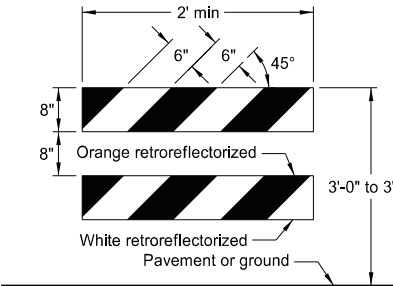
ELEVATION VIEW

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".

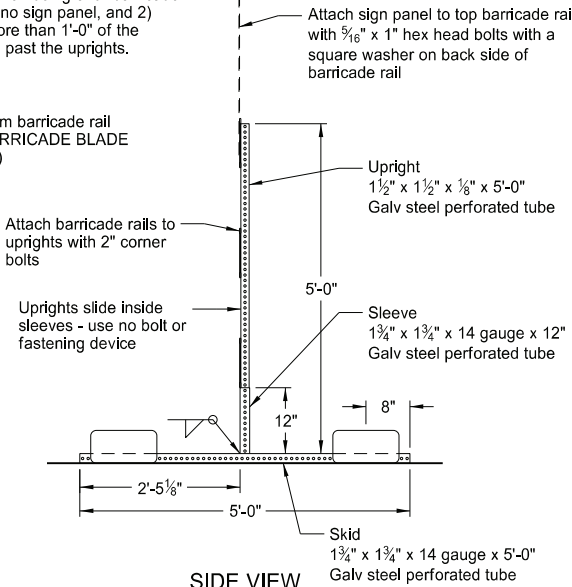


TYPE I BARRICADE

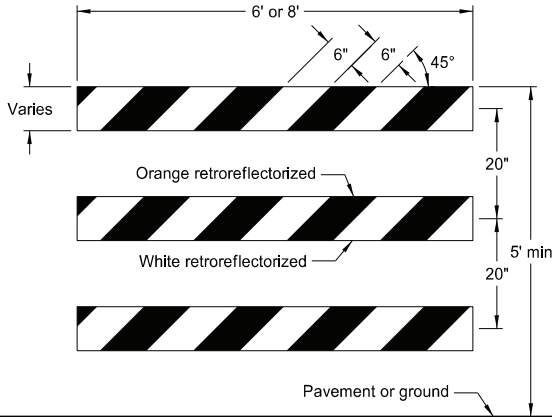


TYPE II BARRICADE

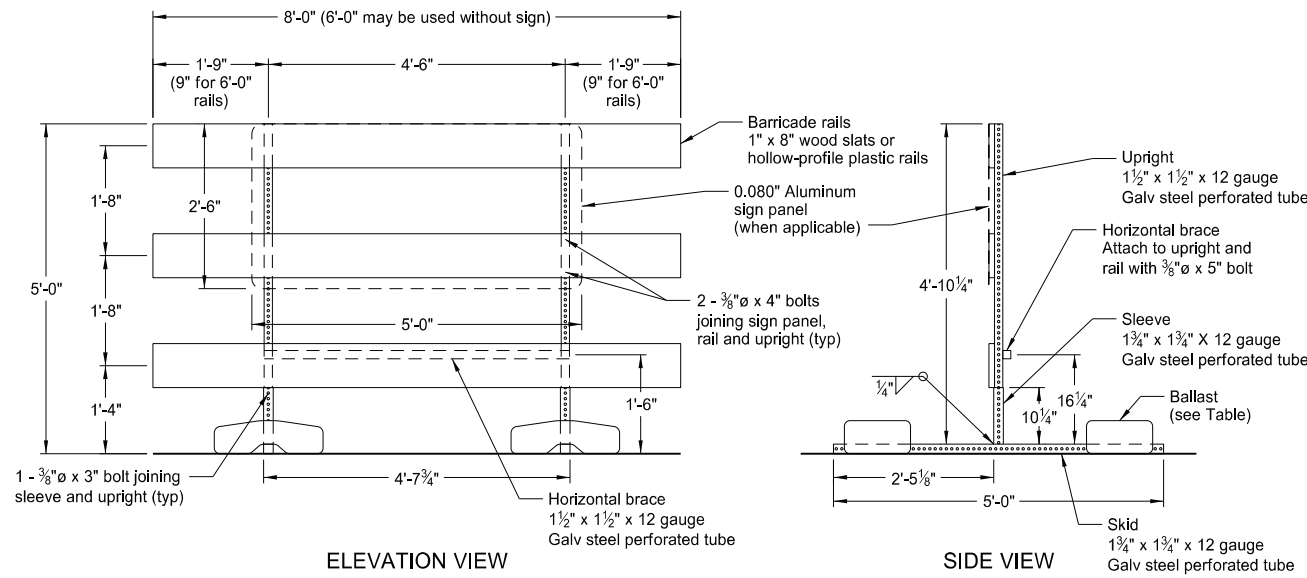
BARRICADE RAIL DETAILS



SIDE VIEW



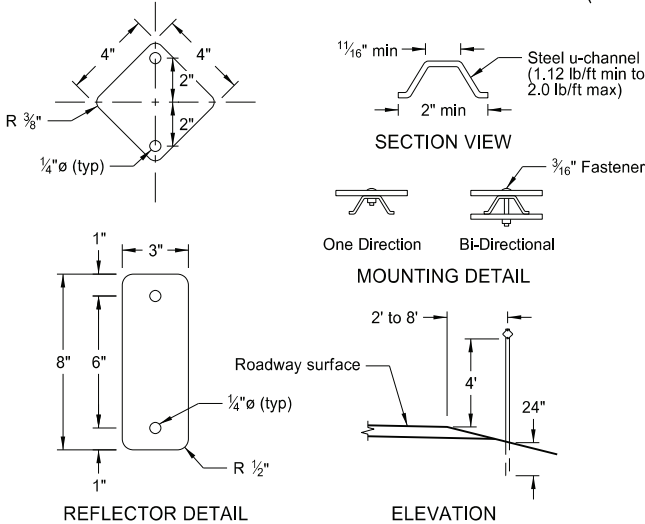
TYPE III BARRICADE



ELEVATION VIEW

BARRICADE ASSEMBLY DETAIL  
(Wood or Plastic Rails)

SIDE VIEW



REFLECTOR DETAIL

ELEVATION

DELINEATORS

MINIMUM BALLAST  
(For each side of barricade support)

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

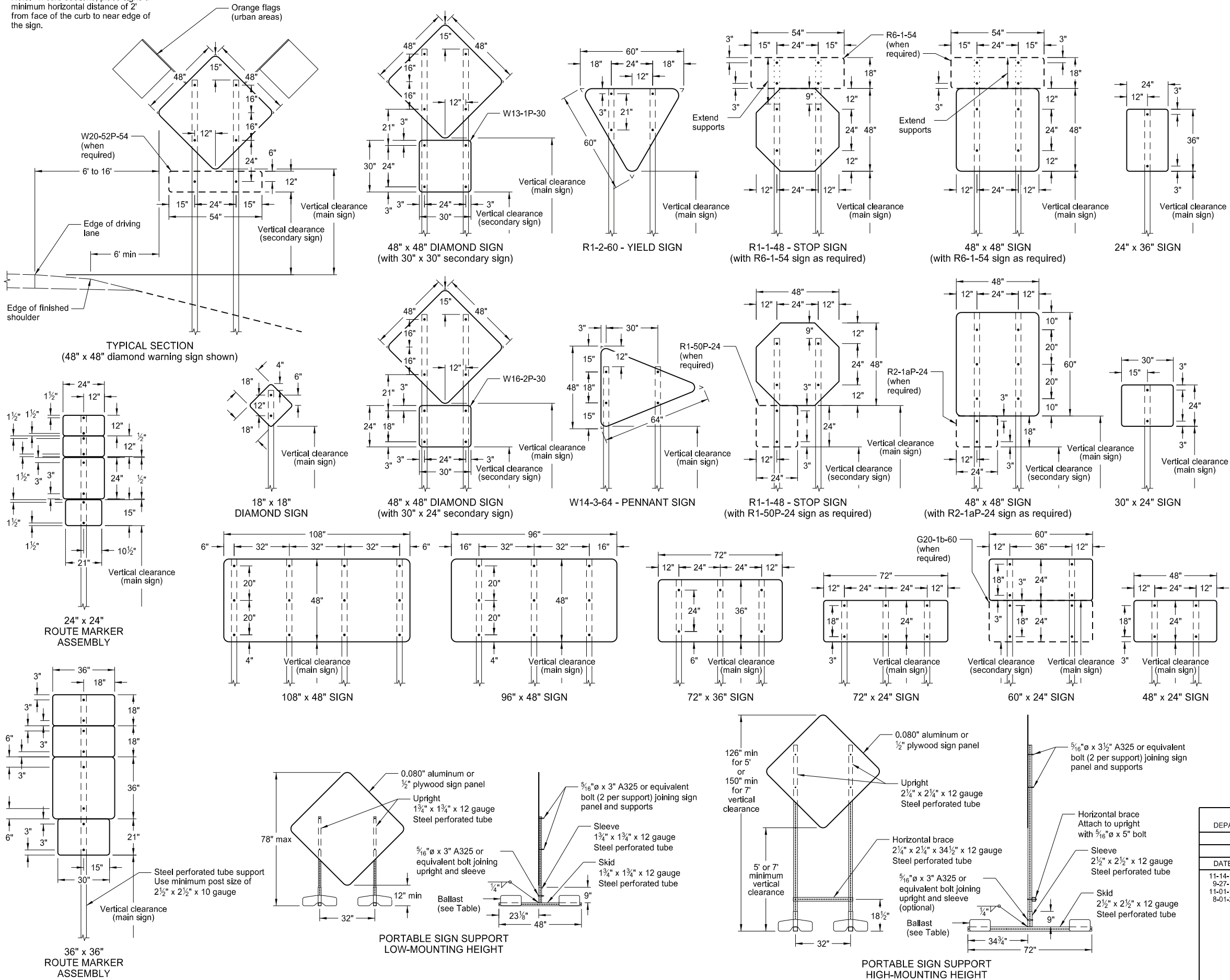
Note: Number of sandbags based on a wind speed of 55 MPH. Sandbags assumed to be placed at or near the ends of the skids.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
10-3-13	
REVISIONS	
DATE	CHANGE
9-27-17	Updated to active voice
11-01-19	Revised details for Flexible Delineator
8-01-24	Electronic Stamp/Signature



CONSTRUCTION SIGN PUNCHING AND MOUNTING DETAILS

Note: In curb sections, place signs a minimum horizontal distance of 2' from face of the curb to near edge of the sign.



NOTES:

1. Sign Supports: Galvanize or paint supports. Minimum post sizes are 2.5 lb/ft u-channel or 2" x 2" x 12 gauge steel perforated tube, except where noted. When installing signs on u-channel, minimum post size for assemblies containing a secondary sign is 3.0 lb/ft. Post sizes based on a wind speed of 55 MPH.  
  
Place signs over 50 square feet on 2½" x 2½" perforated tube supports as a minimum.  
  
Do not attach guy wires to sign supports. Attach wind beams behind sign panels when used with u-posts.
2. Sign Panels: Provide sign panels made of 0.100" aluminum, ½" plywood, or other approved material, except where noted. Punch all holes round for ⅜" bolts.
3. Alternate Messages: Install and remove alternate message signs on reflectorized plate (without borders) as required. (i.e. "Left" and "Right" message on lane closure sign)
4. Route Marker Auxiliary Signs: Provide route marker auxiliary signs, such as the cardinal direction and directional arrows, with a background and legend that match the route marker they are used with:

Interstate - white legend on blue background  
Interstate Business Loop - white legend on green background  
US and State - black legend on white background  
County - yellow legend on blue background

5. Vertical Clearance: Install signs with a vertical clearance of 5'-0" (see TYPICAL SECTION.) In areas where parking or pedestrian movements are likely or the view of the sign may be obstructed, install signs with a vertical clearance of 7'-0" from the top of the curb or from the near edge of the driving lane in absence of a curb.

The vertical clearance to secondary signs is 1'-0" less than the vertical clearance stated above.

Provide a minimum clearance of 7'-0" from the ground at the post for signs with an area exceeding 50 square feet.

6. Portable Signs: Provide portable signs that meet the vertical clearance stated above when it is necessary to place signs within the pavement surface.

Use of low-mounting height (minimum 12" vertical clearance) portable signs for 5 days or less, is allowed as long as the view of the sign is not obstructed. Time delays caused by unforeseen circumstances, such as equipment breakdown, rain, subgrade failures, etc., will not accrue towards the 5 day period. Use of R9-8 through R9-11a series, W1-6 through W1-8 series, M4-10, and E5-1 is allowed for longer than 5 days.

Restrict signs mounted on portable sign supports shown in the LOW-MOUNTING HEIGHT and HIGH-MOUNTING HEIGHT details to a maximum surface area of 16 square feet.

MINIMUM BALLAST  
(For each side of sign support base)

Sign Panel Mounting Height (ft)	Number of 25 lb sandbags for 4' x 4' sign panel
1'	6
5'	8
7'	10

Note: The number of sandbags are based on a wind speed of 55 MPH. Place sandbags at or near the ends of skids.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
10-4-13	
REVISIONS	
DATE	CHANGE
11-14-13	Revised Note 6
9-27-17	Updated to active voice
11-01-19	Revised 60"x24" sign detail
8-01-24	Electronic Stamp/Signature

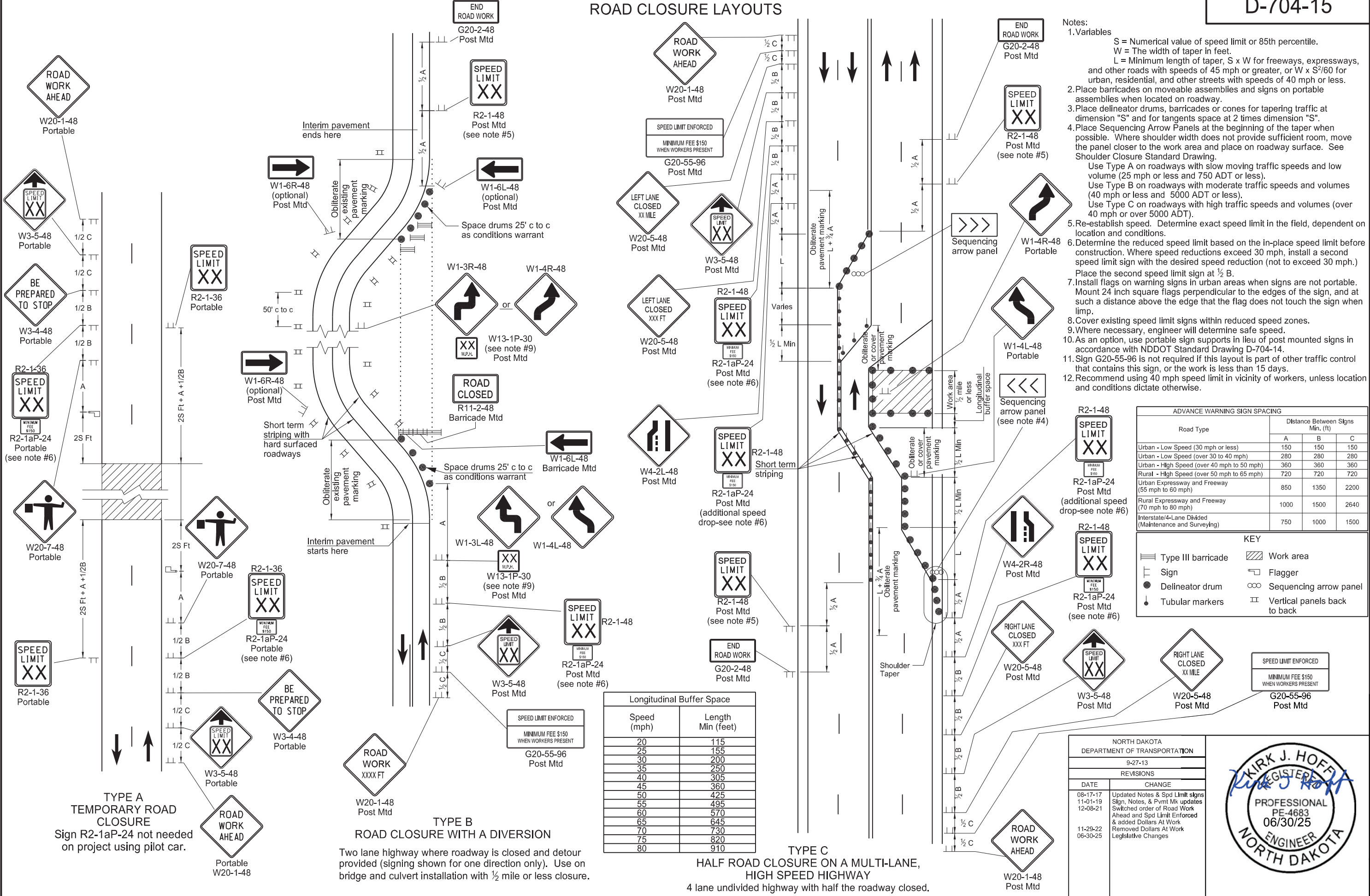


08/01/24



ROAD CLOSURE LAYOUTS

D-704-15



ADVANCE WARNING SIGN SPACING				
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	

KEY			
	Type III barricade		Work area
	Sign		Flagger
	Delineator drum		Sequencing arrow panel
	Tubular markers		Vertical panels back to back

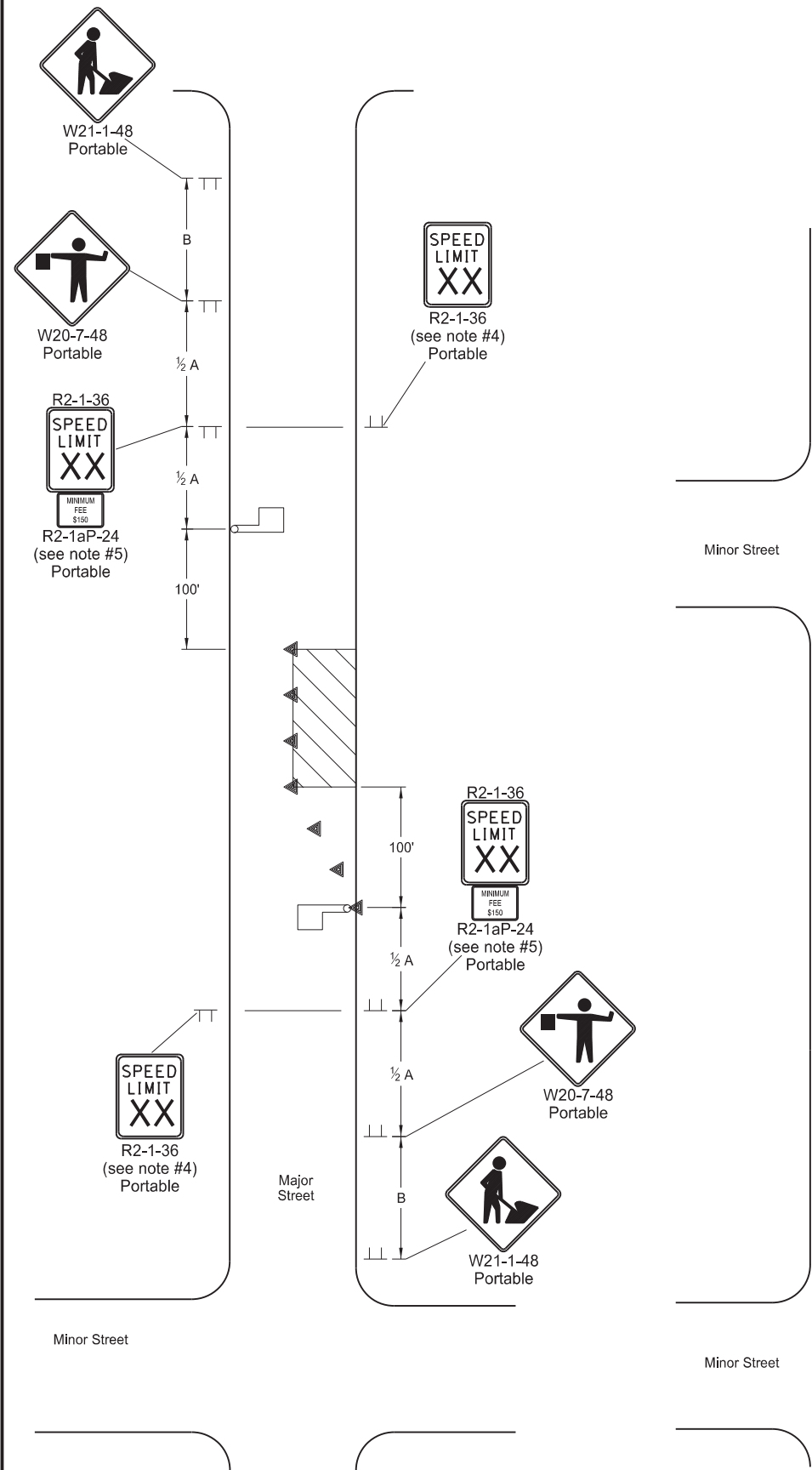
Longitudinal Buffer Space	
Speed (mph)	Length Min (feet)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820
80	910

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
9-27-13	
REVISIONS	
DATE	CHANGE
08-17-17	Updated Notes & Spd Limit signs
11-01-19	Sign, Notes, & Pmnt Mk updates
12-08-21	Switched order of Road Work Ahead and Spd Limit Enforced & added Dollars At Work
11-29-22	Removed Dollars At Work
06-30-25	Legislative Changes



LANE CLOSURES ON URBAN STREETS LAYOUTS

D-704-25

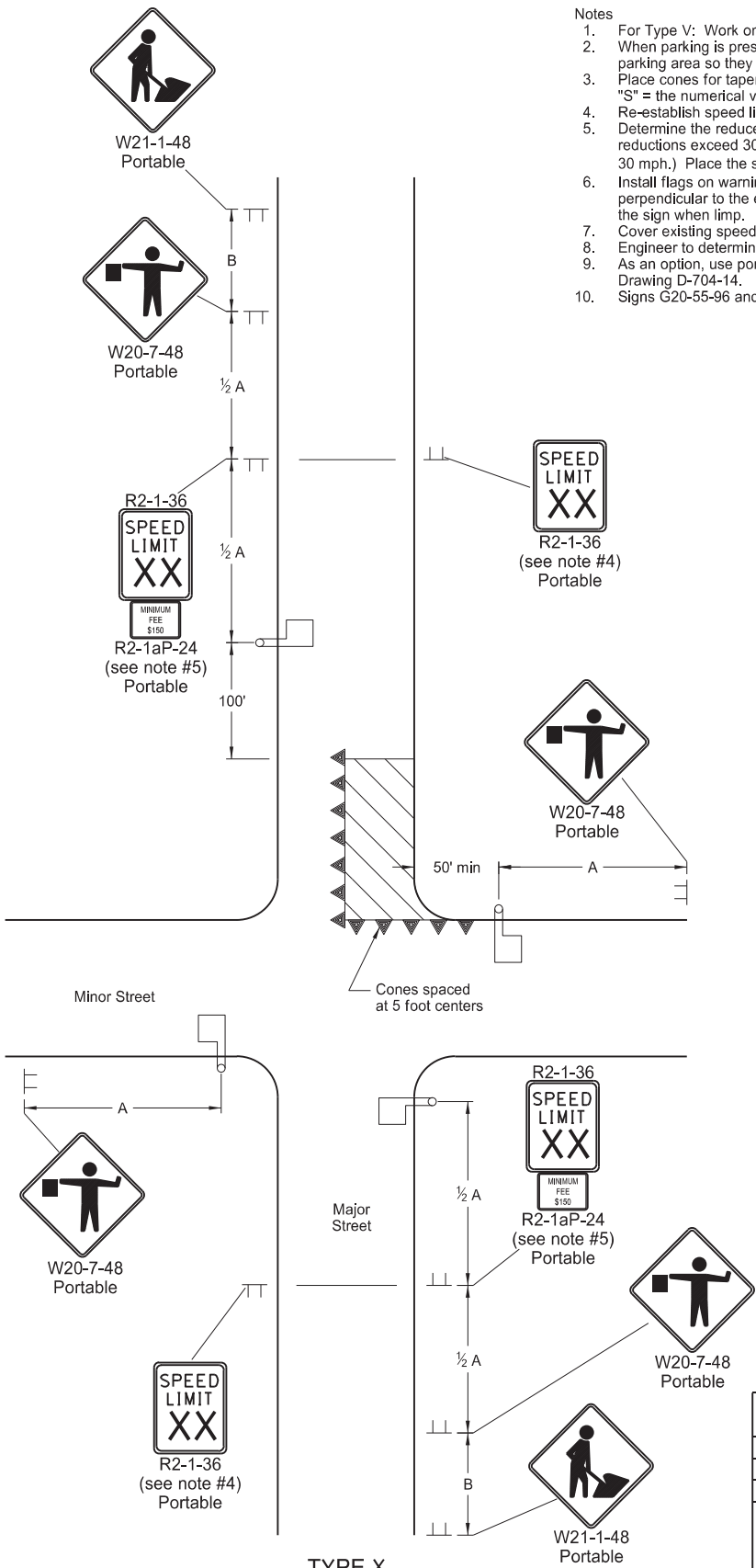
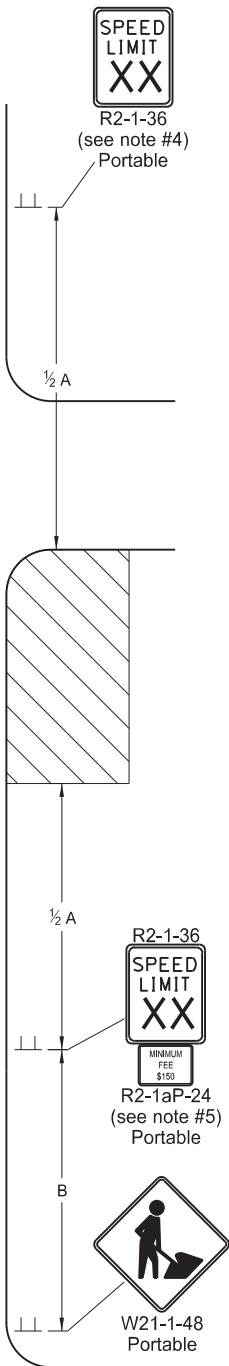


TYPE V  
LANE CLOSURE ON URBAN STREET

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 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			
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

KEY	
	Sign
	Cones
	Work area
	Flagger

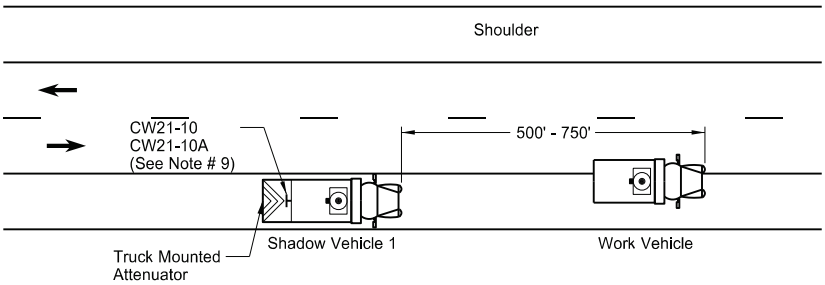
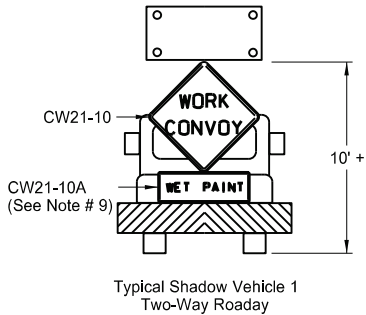
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
9-27-13	
REVISIONS	
DATE	CHANGE
08-17-17	Updated notes & removed signs
11-01-19	Revised note & added Min Fee sign
08-01-24	Electronic Stamp/Signature
06-30-25	Legislative Changes



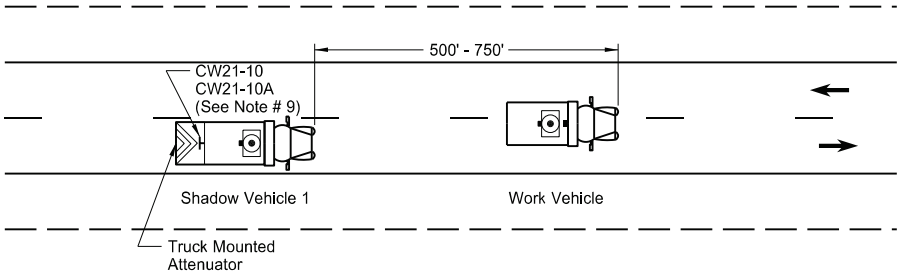


MOBILE OPERATION  
(PAVEMENT MARKING)

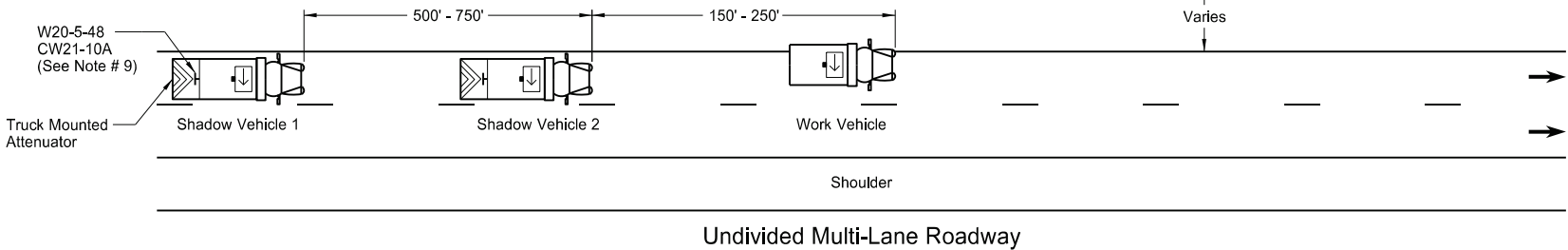
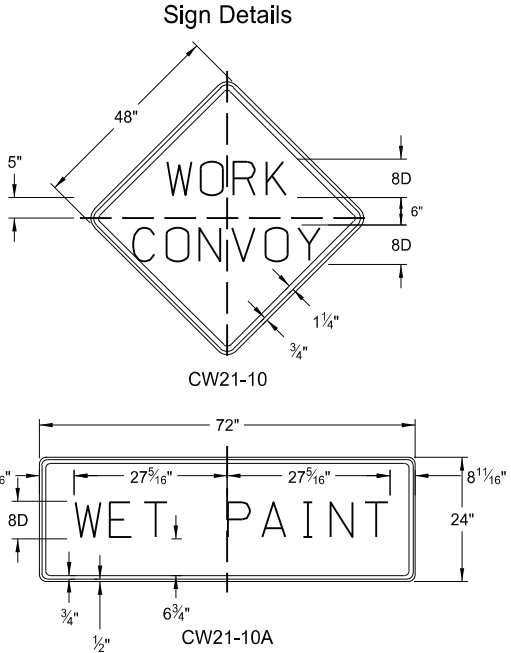
D-704-27



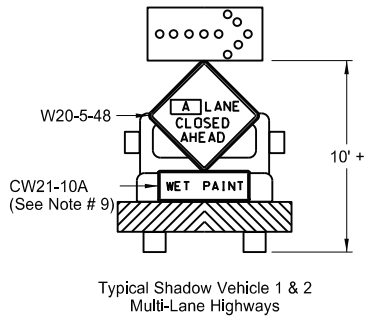
Two-Way Roadway with Paved Shoulders



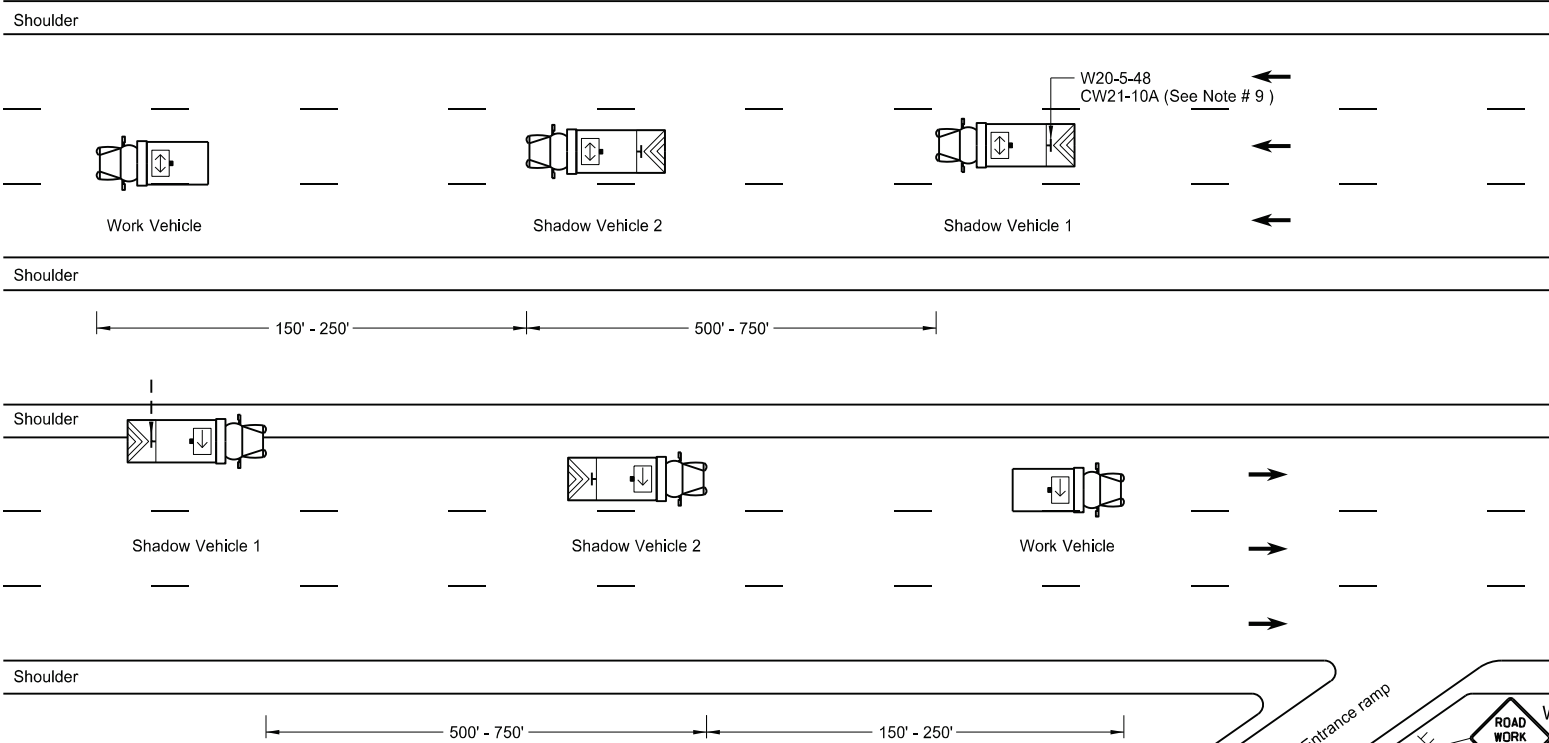
Two-Way Roadway without Paved Shoulders



Undivided Multi-Lane Roadway

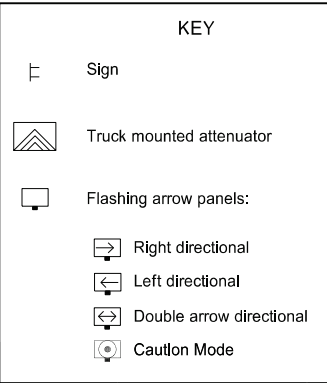


A = ☐ Left ☐ Right ☐ Center



Divided Multi-Lane Highway

- 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.



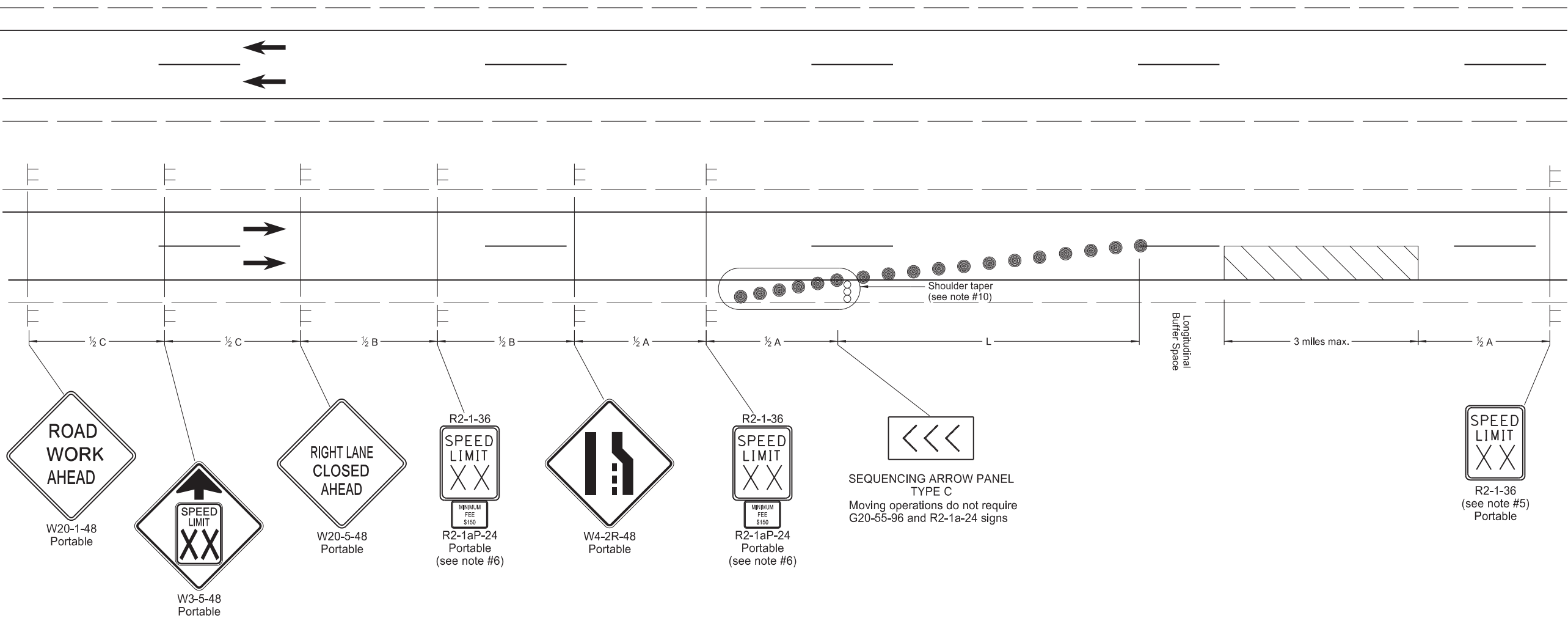
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
9-27-13	
REVISIONS	
DATE	CHANGE
6-18-14	Removed shadow vehicle 2 on two lane roadways
9-27-17	Updated to active voice
11-08-19	Changed Standard Heading
6-02-24	Electronic Stamp/Signature.



08/02/24

SIGN LAYOUT FOR ONE LANE CLOSED DIVIDED HIGHWAY MOVING OPERATION

D-704-32



Notes

1. 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.
2. Variables  
S = Numerical value of speed limit or 85th percentile.  
W = The width of the taper.  
L = Minimum length of taper, S x W for freeways, expressways, and all other roads with speeds of 45 mph or greater, or W x S<sup>2</sup> /60 for urban, residential, and other streets with speeds of 40 mph or less.
3. Space delineator drums for tapering traffic at dimension "S".
4. 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).
5. Re-establish speed limit. Determine the exact speed limit in the field, dependent on location and conditions.
6. 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 1/2 B.
7. Install flags on 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.
8. Cover existing speed limit signs within a reduced speed zone.
9. As an option, use portable sign supports in lieu of post mounted signs in accordance with NDDOT Standard Drawing D-704-14.
10. Provide shoulder taper when shoulder is 8' or wider.
11. 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

ADVANCE WARNING SIGN SPACING			
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

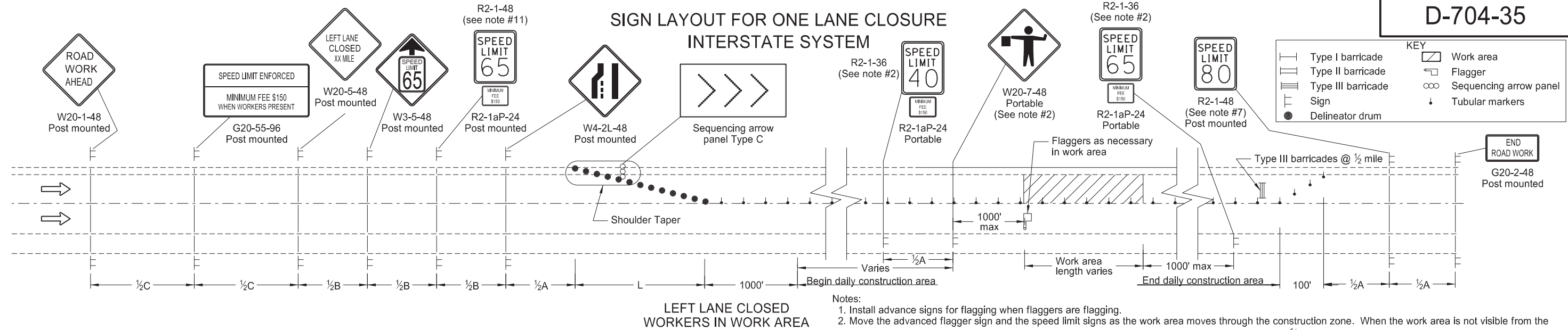
\* Posted speed, off-peak 85th percentile speed prior to work starting, or anticipated operating speed in mph.

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	Electronic Stamp/Signature
06-30-25	Legislative Changes

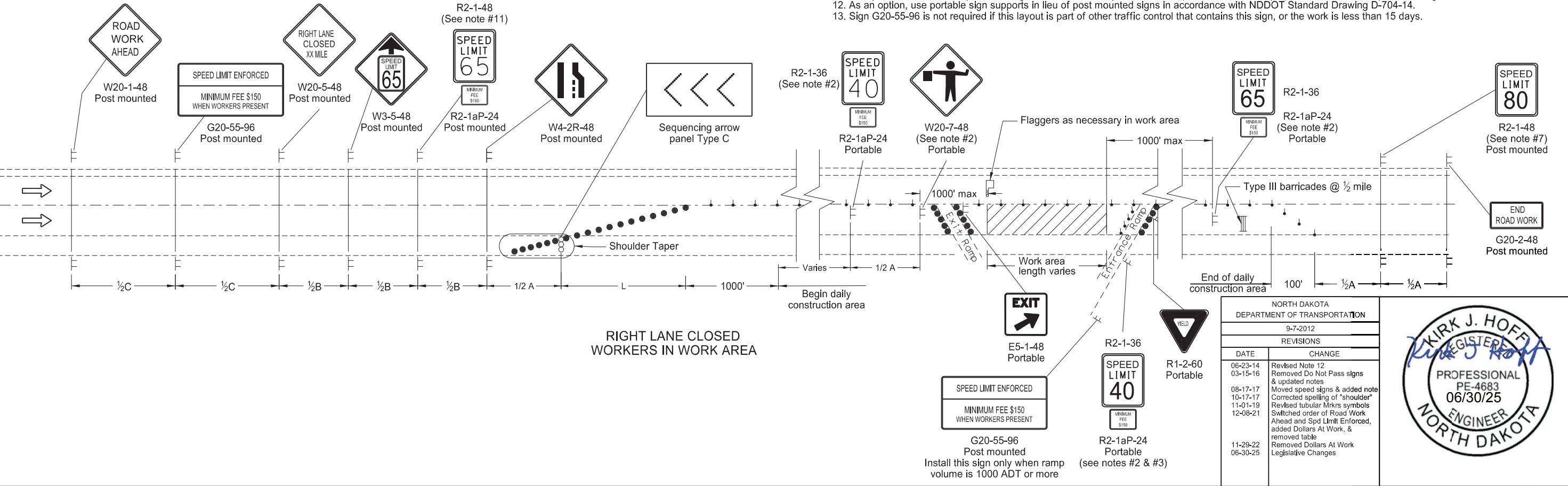


SIGN LAYOUT FOR ONE LANE CLOSURE  
INTERSTATE SYSTEM

D-704-35



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



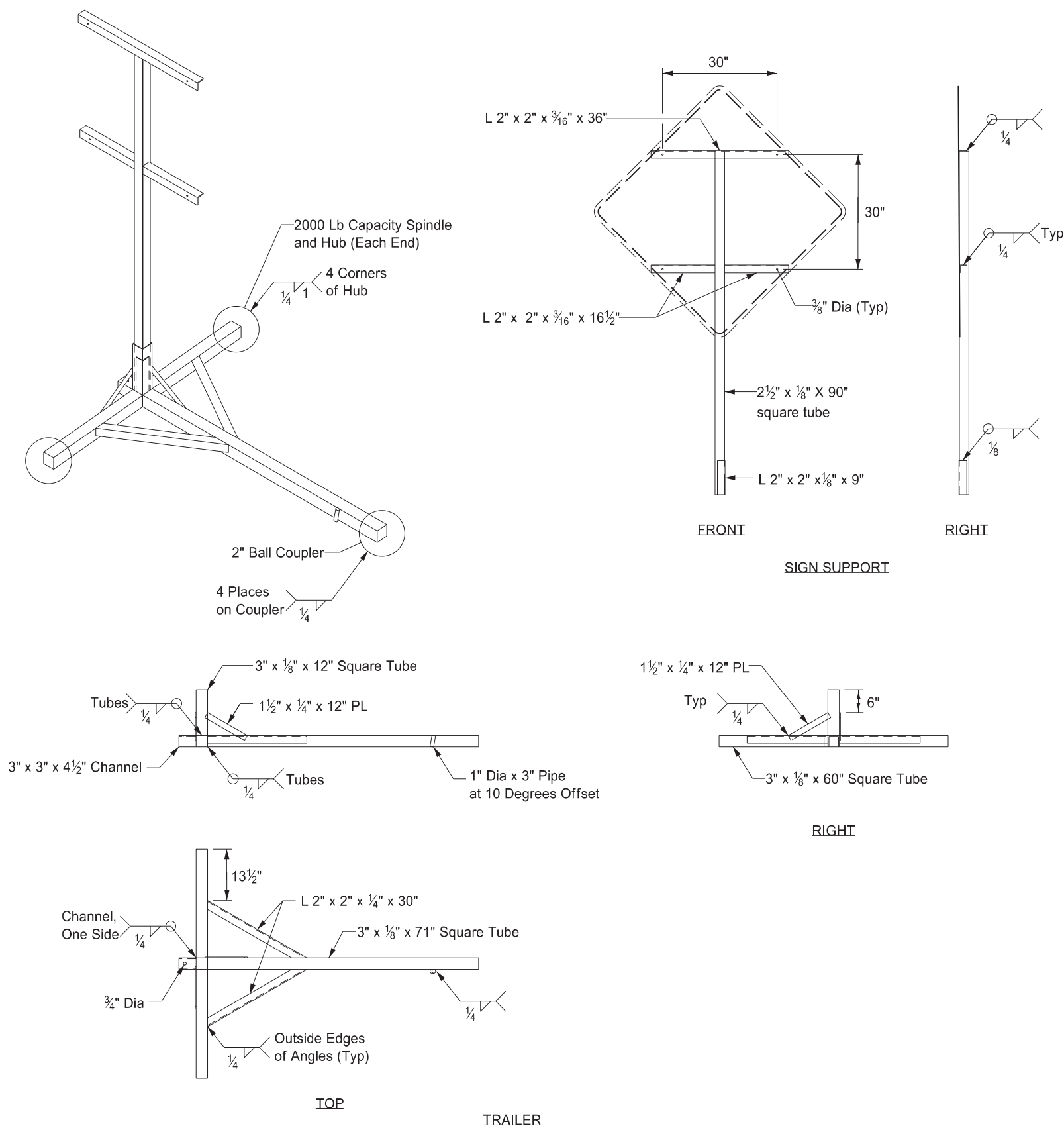
- Notes:
1. Install advance signs for flagging when flaggers are flagging.
  2. Move the advanced flagger sign and the speed limit signs as the work area moves through the construction zone. When the work area is not visible from the flagger, move the flagger station so the work area is visible. Space the 40 mph speed limit sign at 1/2A 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:
    - 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 WxSxS/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.
  - Use Type C on roadways with high traffic speeds and volumes (over 40 mph or 5000 ADT or greater).
  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.

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

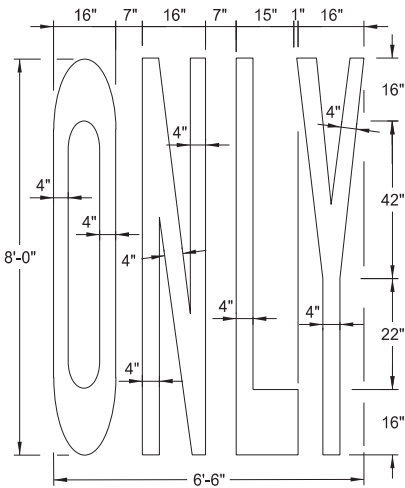
KIRK J. HOFF  
REGISTERED  
PROFESSIONAL  
PE-4683  
ENGINEER  
NORTH DAKOTA

12 02 2020

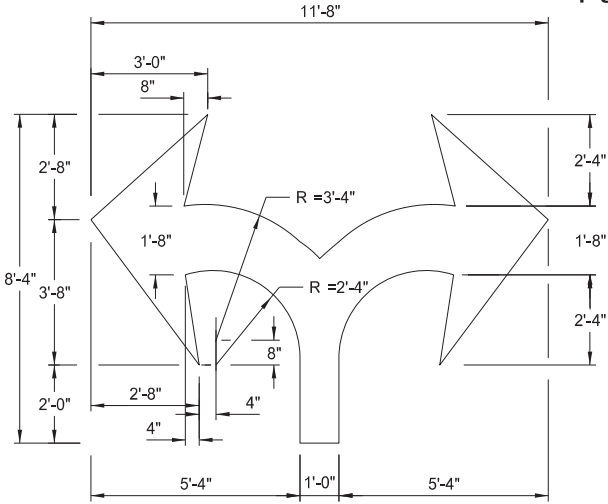


Pavement Marking Message Details

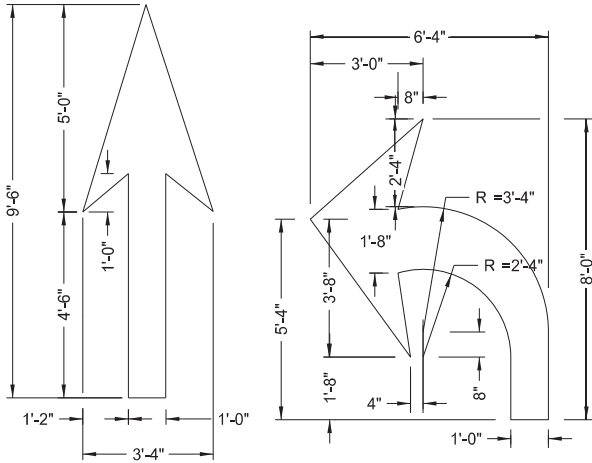
D-762-1



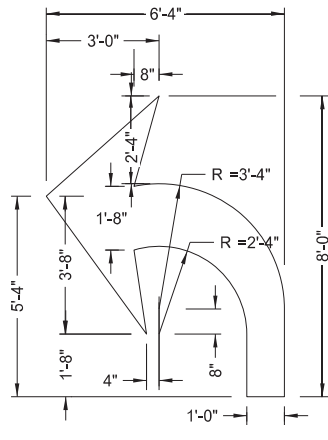
22 S. F.



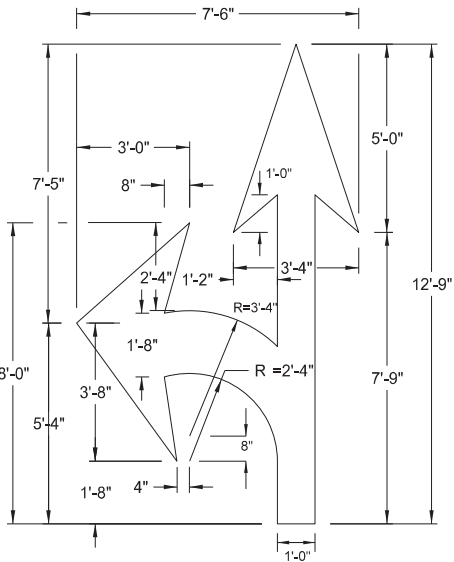
29 S. F.



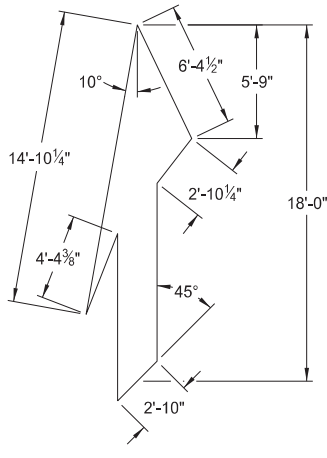
12 S. F.



16 S. F.



27 S. F.

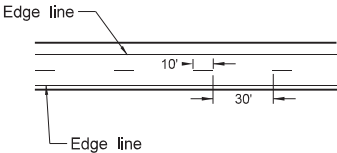


41 S. F.

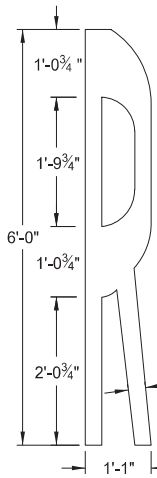
Note: Rotate merge arrow 20° from edge of roadway.

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'

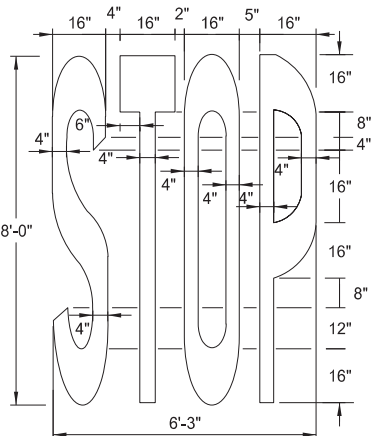
Chevron Crosshatching Table



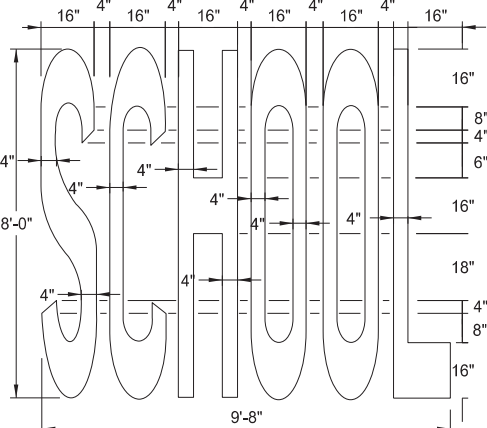
Centerline Pavement Marking Skip Spacing Detail



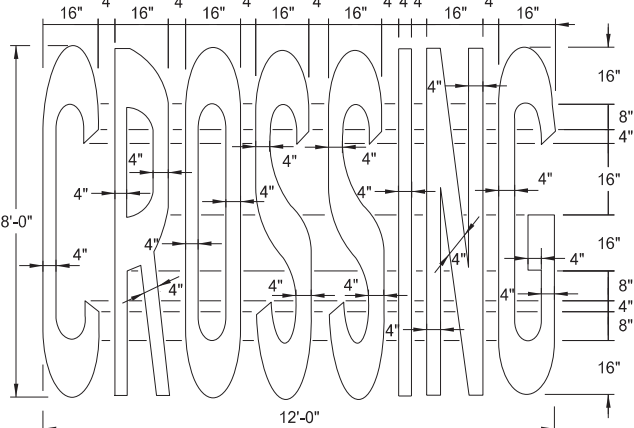
4 S. F.



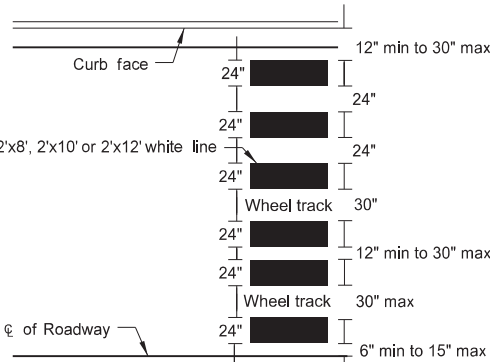
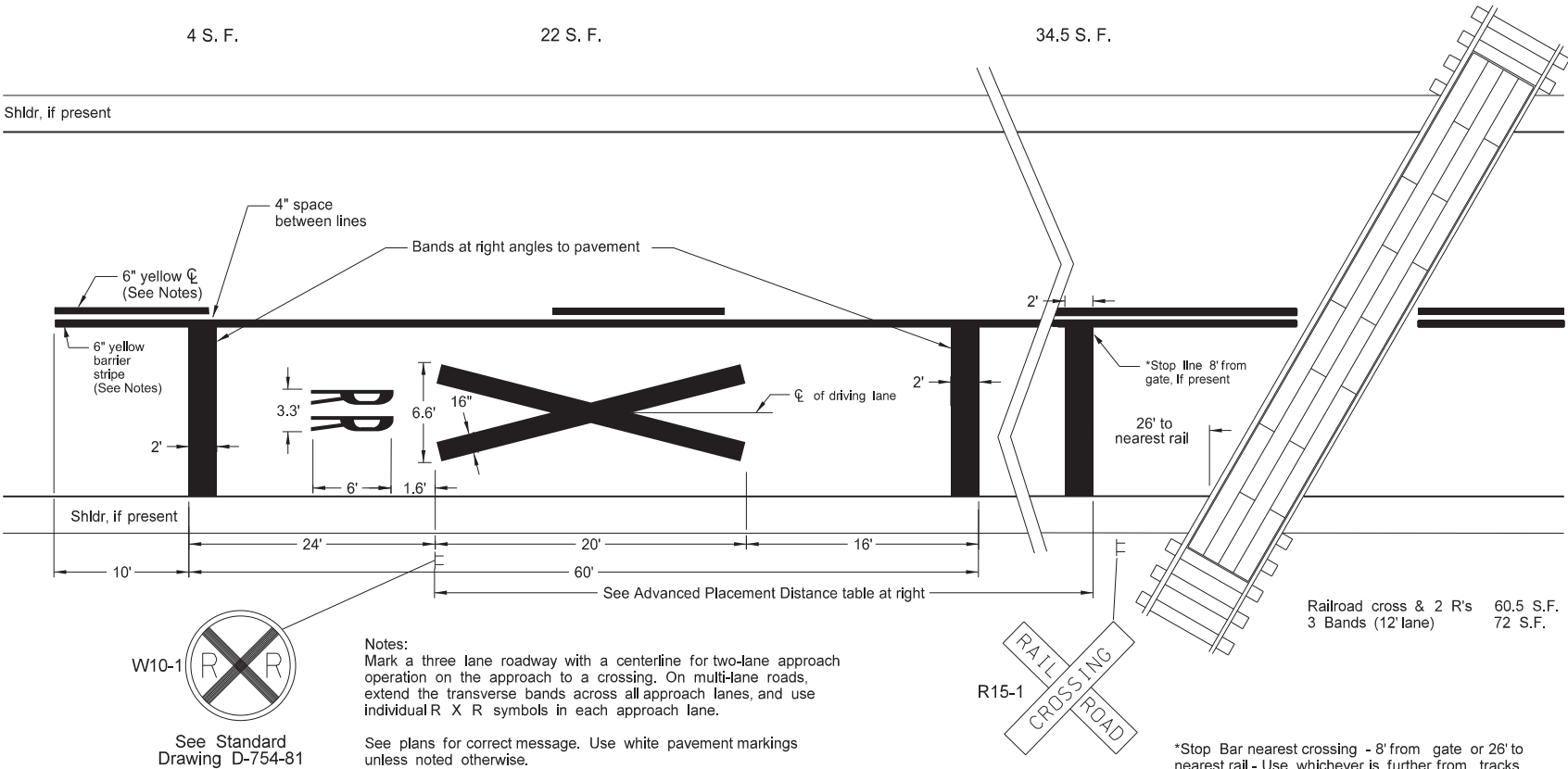
22 S. F.



34.5 S. F.



46 S. F.



Continental Crosswalk Detail

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

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

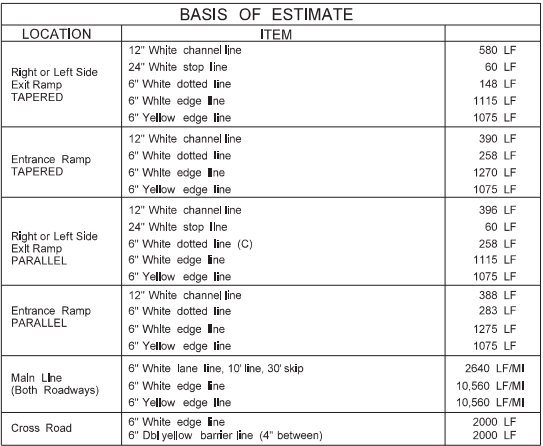
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
12-6-11	
REVISIONS	
DATE	CHANGE
10-17-17	Updated to active voice.
08-27-19	New Design Engineer PE Stamp.
01-28-2020	Revised min Stop Bar distance to rail.
11-22-2023	Revised pavement marking widths.





NOTE:

- (A) Normal width white edge line - 6 inches wide for freeways, expressways, and ramps; 4 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 750' for purpose of estimate. Place pavement marking from beginning of taper to the 12" line.
- (D) Beginning of physical gore to theoretical gore.
- (E) If the distance is less than 350' extend the 12" channel line to the theoretical gore, otherwise use 195'.
- (F) Use 195' for estimating purposes.
- (G) Not required for gravel surface crossroad approaches.
- (H) 4' minimum, 15' maximum from nearest edge of intersection traveled way.
- (I) Extend dotted line until it touches the edgeline.

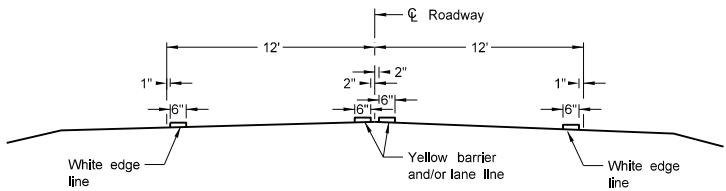


NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
8-3-11	
REVISIONS	
DATE	CHANGE
10-17-17	Updated to active voice
10-25-19	Replaced 2' Max dim with Note (I)
11-05-21	Revised labels
11-22-23	Revised pvmt marking widths
1-17-24	Revised wide pvmt marking width

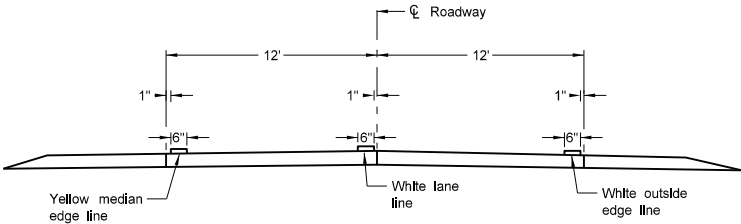


PAVEMENT MARKING

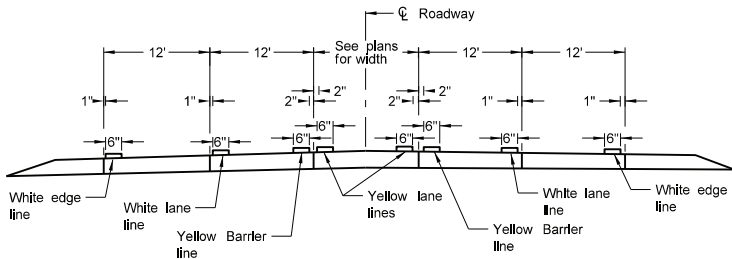
D-762-4



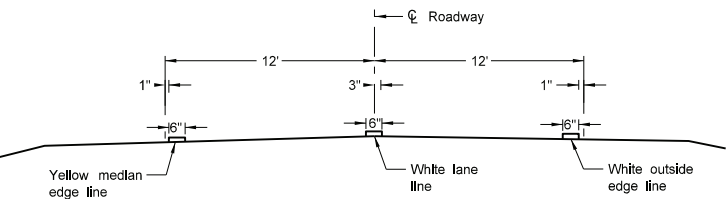
Two Lane Two Way  
RURAL ROADWAY



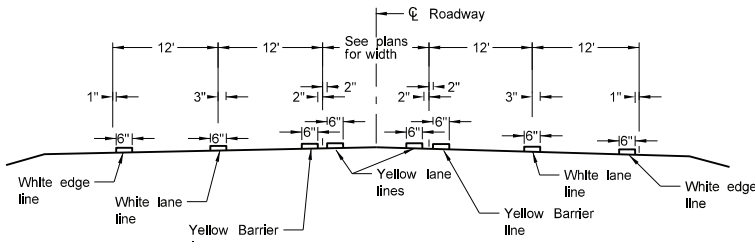
Two Lane Roadway  
INTERSTATE HIGHWAY  
Concrete Section



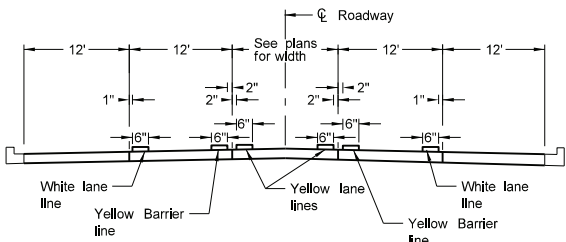
RURAL FIVE LANE ROADWAY  
Concrete Section



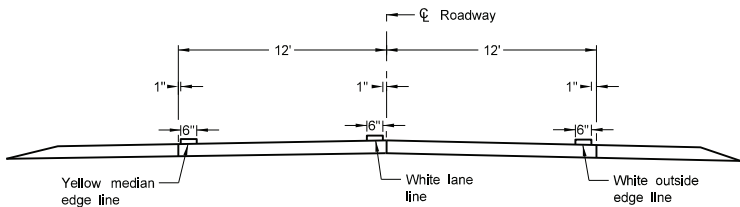
Two Lane Divided  
Rural Roadway  
PRIMARY HIGHWAY  
Asphalt Section



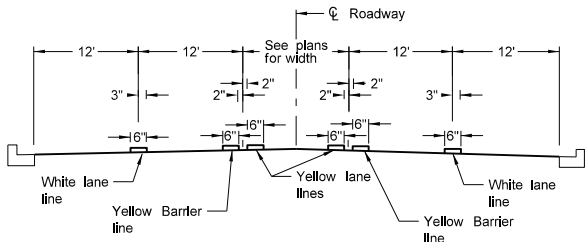
RURAL FIVE LANE ROADWAY  
Asphalt Section



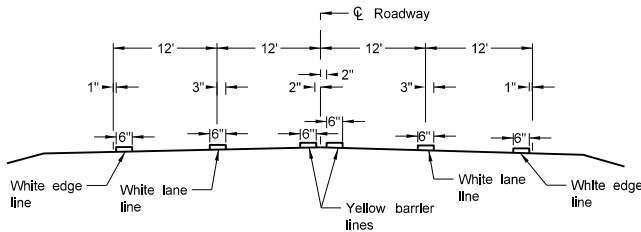
URBAN FIVE LANE SECTION  
Concrete Section



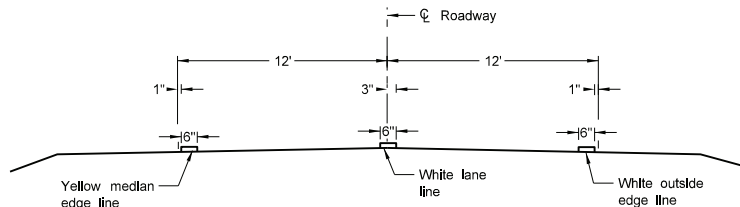
Two Lane Divided  
Rural Roadway  
PRIMARY HIGHWAY  
Concrete Section



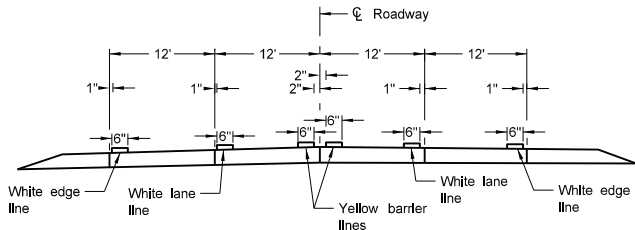
URBAN FIVE LANE SECTION  
Asphalt Section



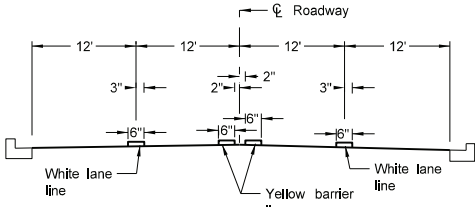
RURAL FOUR LANE ROADWAY  
Asphalt Section



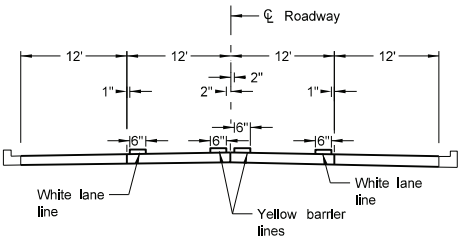
Two Lane Roadway  
INTERSTATE HIGHWAY  
Asphalt Section



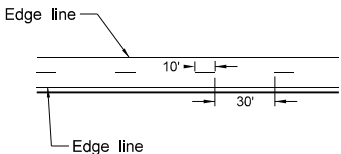
RURAL FOUR LANE ROADWAY  
Concrete Section



URBAN FOUR LANE SECTION  
Asphalt Section



URBAN FOUR LANE SECTION  
Concrete 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	Updated to active voice.
08-27-19	New Design Engineer PE Stamp.
11-22-23	Revised pavement marking widths.
07-09-24	Modified Note 1.



PAVEMENT MARKING FOR STANDARD 90 DEGREE FLARED INTERSECTION

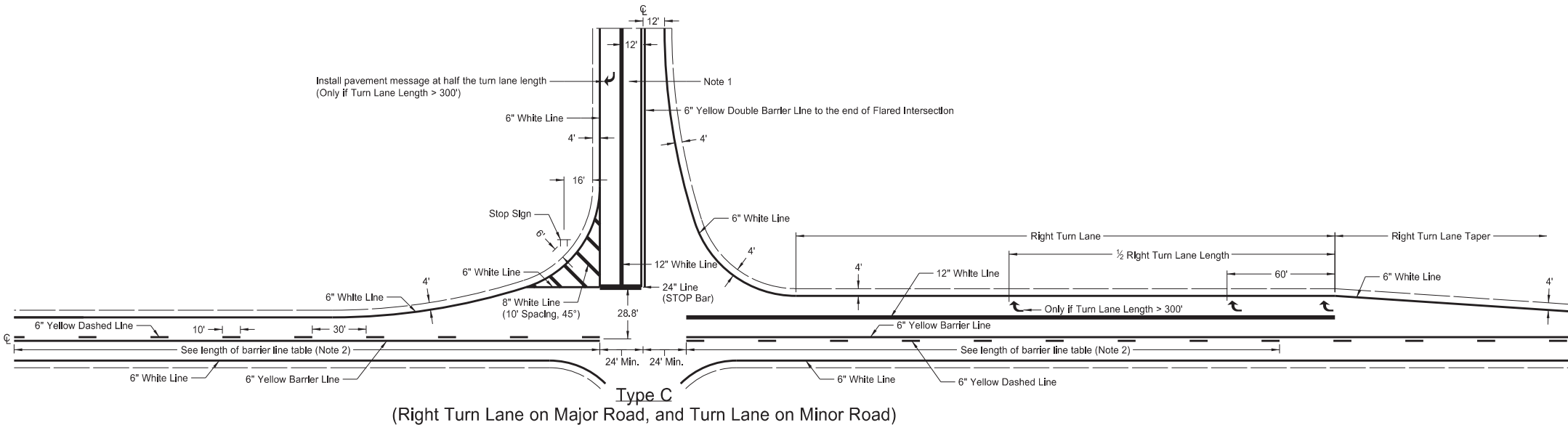
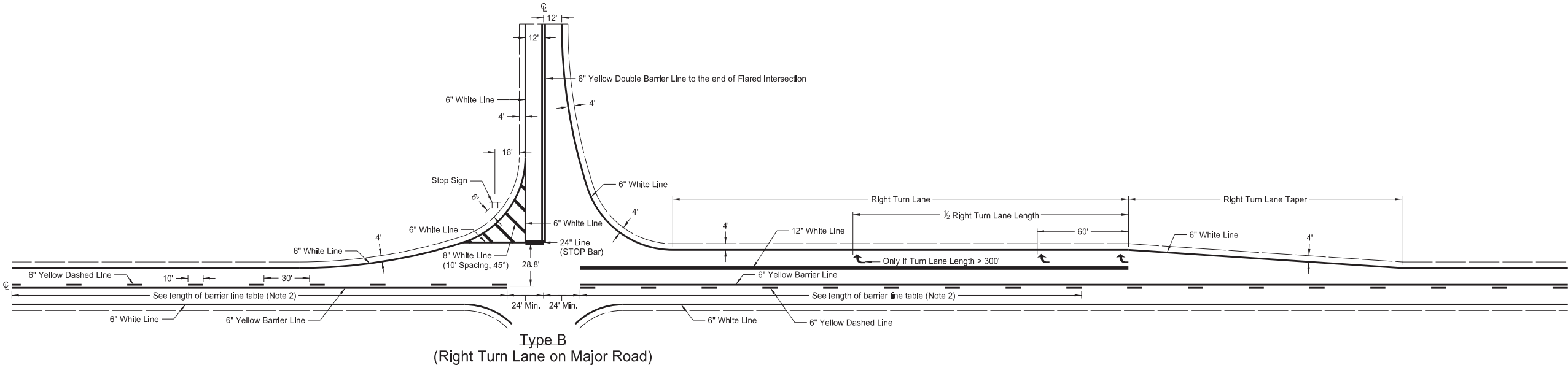
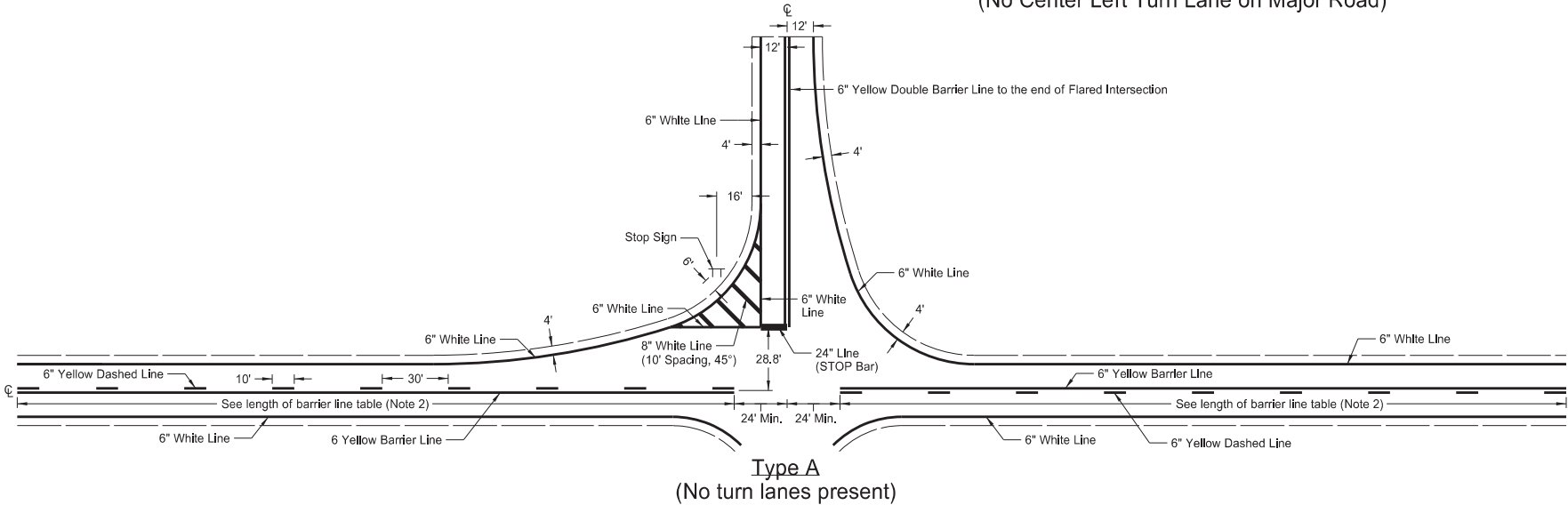
(No Center Left Turn Lane on Major Road)

D-762-5

Notes

- 1. At "T" intersections (3-leg), additionally install left turn pavement marking message arrow.
- 2. The barrier lines have variable distances dependent on speed limit. Obtain barrier line length from table below (stopping sight distance.)
- 3. Normal width line - 6 inches wide for freeways, expressways, and ramps; 6 inches for all other roadways with speed limits > 40 mph.
- 4. Use 4 or 6 inch wide pavement marking for all other roadways with speed limits ≤ 40.
- 5. 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	Updated note & dimensioning.
8-30-18	Corrected pvmt mkg placement.
8-27-19	New Design Engineer PE Stamp.
11-22-23	Revised pavement marking widths.
1-17-24	Revised wide pvmt mkg width.

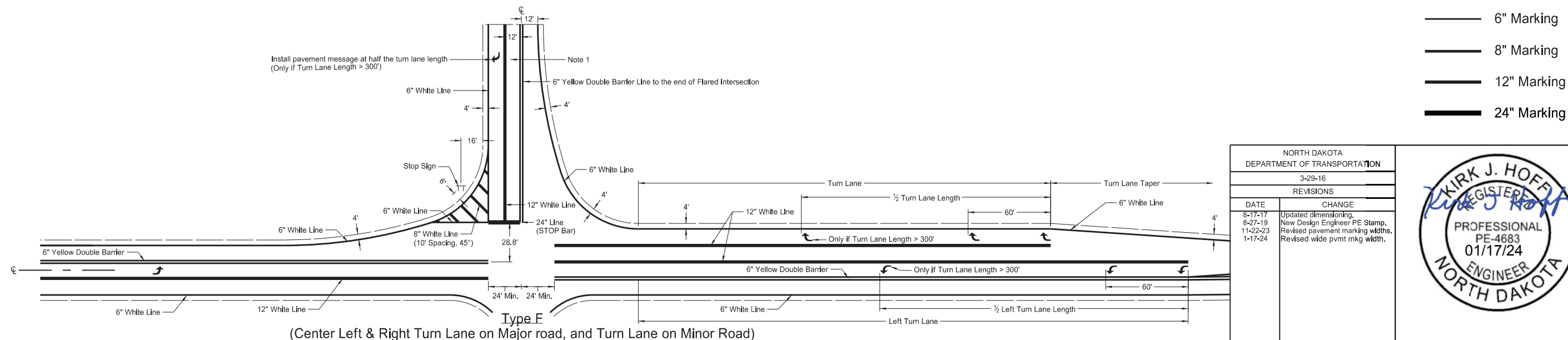
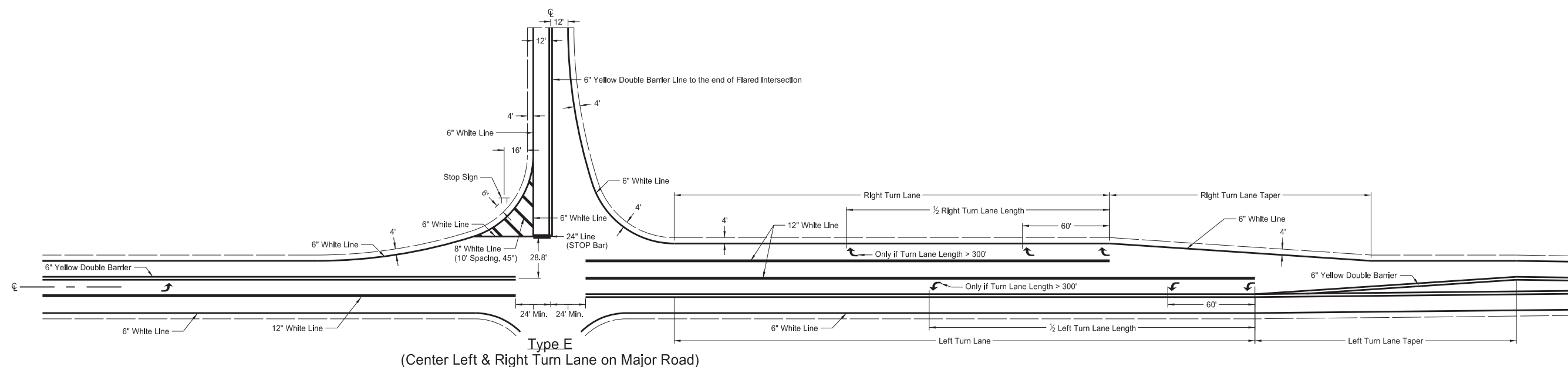
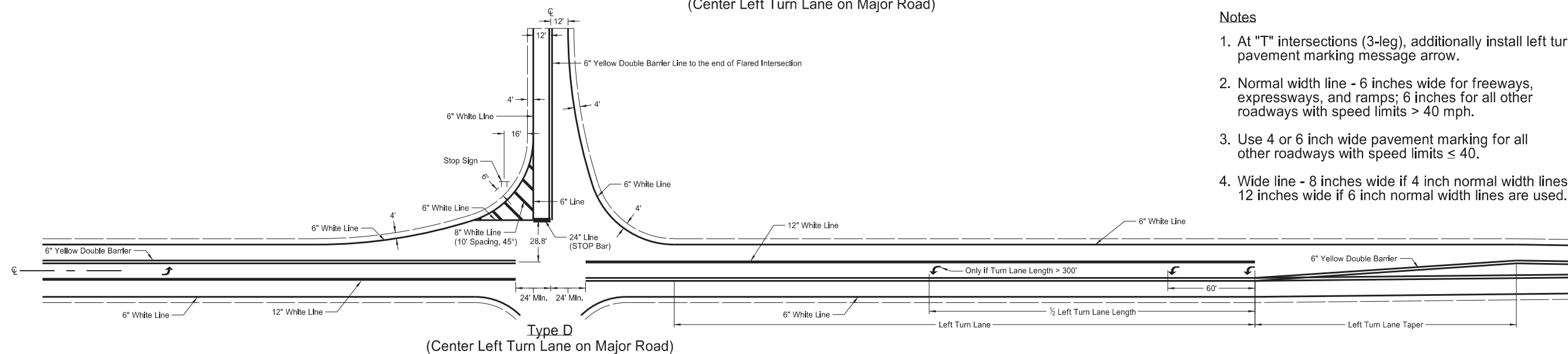


## PAVEMENT MARKING FOR STANDARD 90 DEGREE FLARED INTERSECTION

(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.



NORTH DAKOTA	
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3-29-16	
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DATE	CHANGE
8-17-17	Updated dimensioning.
8-27-19	New Design Engineer PE Stamp
11-22-23	Revised pavement marking width
1-17-24	Revised wide pvmt mkg width

