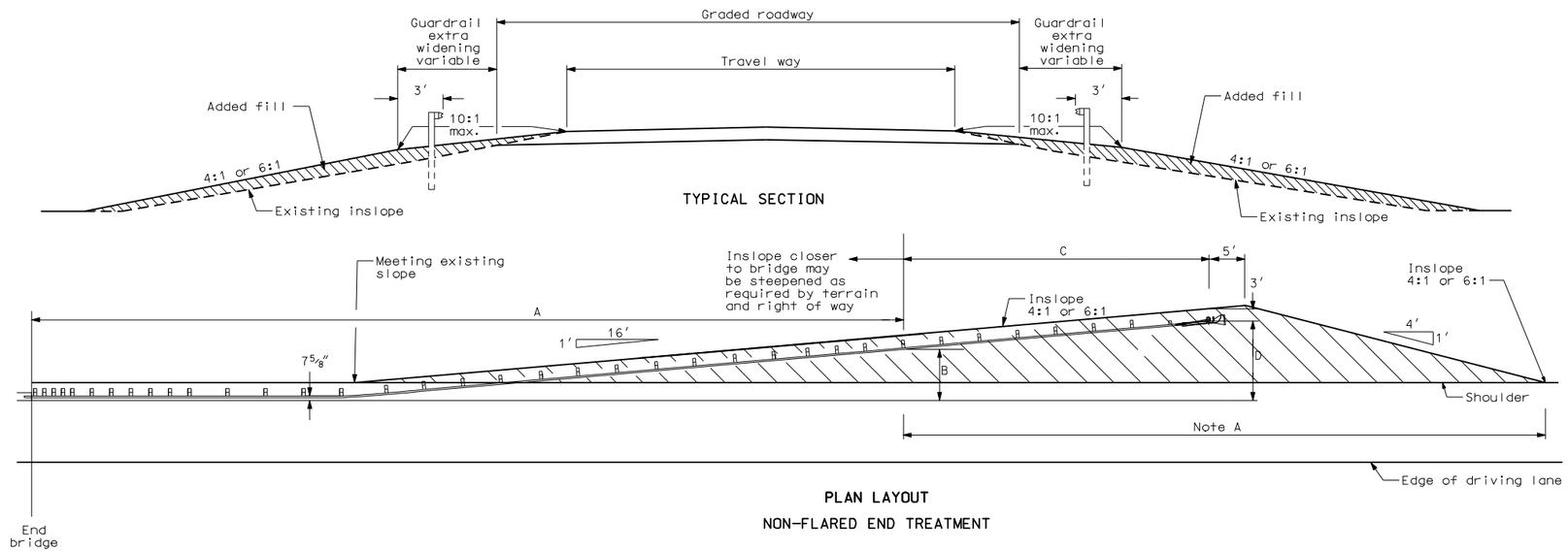
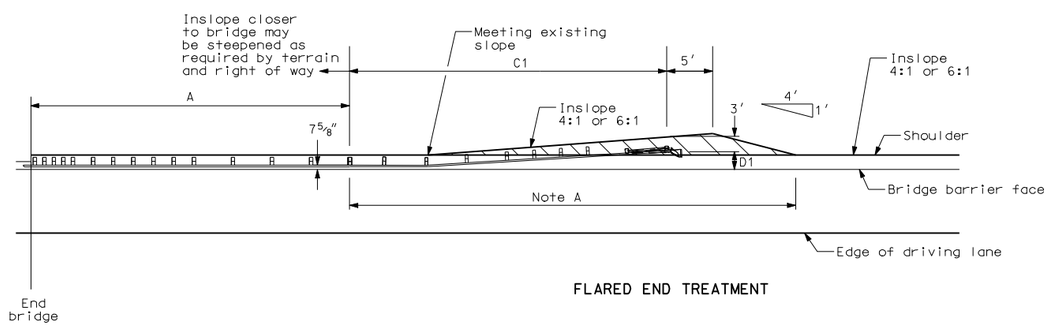
TYPICAL GRADING AT BRIDGE ENDS WITH FLARED W-BEAM GUARDRAIL 75 MPH DESIGN SPEED

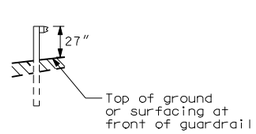
D-764-13A

W-BEAM DIMENSION TABLE

DESIGN TRAFFIC VOLUME (ADT)	CLEAR RDWY. WIDTH OF BRIDGE	APPROACH SIDE: STRAIGHT AND FLARED GUARDRAIL A FT.	APPROACH SIDE: STRAIGHT AND FLARED GUARDRAIL B FT.	APPROACH SIDE: END TREATMENT TERMINAL NON-FLARED C FT.	APPROACH SIDE: END TREATMENT TERMINAL NON-FLARED D FT.	APPROACH SIDE: END TREATMENT TERMINAL FLARED C1 FT.	APPROACH SIDE: END TREATMENT TERMINAL FLARED D1 FT.	OPPOSITE SIDE: STRAIGHT AND FLARED GUARDRAIL A FT.	OPPOSITE SIDE: STRAIGHT AND FLARED GUARDRAIL B FT.	OPPOSITE SIDE: END TREATMENT TERMINAL NON-FLARED C FT.	OPPOSITE SIDE: END TREATMENT TERMINAL NON-FLARED D FT.	OPPOSITE SIDE: END TREATMENT TERMINAL FLARED C1 FT.	OPPOSITE SIDE: END TREATMENT TERMINAL FLARED D1 FT.
UNDER 250	44	138.0	5.7	49.9	8.8			63.1	1.0	49.9	4.2		
	42	138.0	5.7	49.9	8.8			63.1	1.0	49.9	4.2		
	40	150.5	6.5	49.9	9.6			75.6	1.8	49.9	4.9		
	38	150.5	6.5	49.9	9.6			75.6	1.8	49.9	4.9		
	36	163.0	7.3	49.9	10.4			88.1	2.6	49.9	5.7		
	34	163.0	7.3	49.9	10.4			88.1	2.6	49.9	5.7		
	32	175.4	8.1	49.9	11.2			100.6	3.4	49.9	6.5		
	30	175.4	8.1	49.9	11.2			100.6	3.4	49.9	6.5		
	28	187.9	8.8	49.9	12.0			113.0	4.2	49.9	7.3		
	26	187.9	8.8	49.9	12.0			113.0	4.2	49.9	7.3		
	24	200.4	9.6	49.9	12.7			125.5	4.9	49.9	8.1		
800-250	44	150.5	6.5	49.9	9.6			75.6	1.8	49.9	4.9		
	42	163.0	7.3	49.9	10.4			88.1	2.6	49.9	5.7		
	40	163.0	7.3	49.9	10.4			88.1	2.6	49.9	5.7		
	38	175.4	8.1	49.9	11.2			100.6	3.4	49.9	6.5		
	36	175.4	8.1	49.9	11.2			100.6	3.4	49.9	6.5		
	34	187.9	8.8	49.9	12.0			113.0	4.2	49.9	7.3		
	32	187.9	8.8	49.9	12.0			113.0	4.2	49.9	7.3		
	30	200.4	9.6	49.9	12.7			125.5	4.9	49.9	8.1		
	28	200.4	9.6	49.9	12.7			125.5	4.9	49.9	8.1		
	26	212.9	10.4	49.9	13.5			125.5	4.9	49.9	8.1		
	24	212.9	10.4	49.9	13.5			138.0	5.7	49.9	8.8		
2000-800	44	187.9	8.8	49.9	12.0			100.6	3.4	49.9	6.5		
	42	187.9	8.8	49.9	12.0			113.0	4.2	49.9	7.3		
	40	200.4	9.6	49.9	12.7			125.5	4.9	49.9	8.1		
	38	200.4	9.6	49.9	12.7			125.5	4.9	49.9	8.1		
	36	212.9	10.4	49.9	13.5			138.0	5.7	49.9	8.8		
	34	212.9	10.4	49.9	13.5			138.0	5.7	49.9	8.8		
	32	225.3	11.2	49.9	14.3			150.5	6.5	49.9	9.6		
	30	225.3	11.2	49.9	14.3			150.5	6.5	49.9	9.6		
	28	237.8	12.0	49.9	15.1			163.0	7.3	49.9	10.4		
	26	237.8	12.0	49.9	15.1			163.0	7.3	49.9	10.4		
	24	250.3	12.7	49.9	15.8			175.4	8.1	49.9	11.2		
6000-2000	44	212.9	10.4	49.9	13.5			138.0	5.7	49.9	8.8		
	42	212.9	10.4	49.9	13.5			138.0	5.7	49.9	8.8		
	40	225.3	11.2	49.9	14.3			150.5	6.5	49.9	9.6		
	38	225.3	11.2	49.9	14.3			150.5	6.5	49.9	9.6		
	36	237.8	12.0	49.9	15.1			163.0	7.3	49.9	10.4		
	34	237.8	12.0	49.9	15.1			163.0	7.3	49.9	10.4		
	32	250.3	12.7	49.9	15.8			175.4	8.1	49.9	11.2		
	30	250.3	12.7	49.9	15.8			175.4	8.1	49.9	11.2		
	28	262.8	13.5	49.9	16.6			187.9	8.8	49.9	12.0		
	26	262.8	13.5	49.9	16.6			187.9	8.8	49.9	12.0		
	24	275.2	14.3	49.9	17.4			200.4	9.6	49.9	12.7		
OVER 6000	44	237.8	12.0	49.9	15.1			163.0	7.3	49.9	10.4		
	42	237.8	12.0	49.9	15.1			163.0	7.3	49.9	10.4		
	40	250.3	12.7	49.9	15.8			175.4	8.1	49.9	11.2		
	38	250.3	12.7	49.9	15.8			175.4	8.1	49.9	11.2		
	36	262.8	13.5	49.9	16.6			187.9	8.8	49.9	12.0		
	34	262.8	13.5	49.9	16.6			187.9	8.8	49.9	12.0		
	32	275.2	14.3	49.9	17.4			200.4	9.6	49.9	12.7		
	30	275.2	14.3	49.9	17.4			200.4	9.6	49.9	12.7		
	28	287.7	15.1	49.9	18.2			212.9	10.4	49.9	13.5		
	26	287.7	15.1	49.9	18.2			212.9	10.4	49.9	13.5		
	24	300.2	15.8	49.9	19.0			225.3	11.2	49.9	14.3		







GUARDRAIL HEIGHT

Note:

The design traffic volumes (ADT) shall be as shown on title sheet under traffic forecast.

Where normal inslope is 4:1, the added fill shall be 4:1.

Where normal inslope is 6:1, the added fill shall be 6:1.

Note A: This area may have to be placed at flatter than 10:1 to provide the proper guardrail height.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
08-09-01	
REVISIONS	
DATE	CHANGE
12-18-02	Revised table
12-17-03	Revised flared rate detail
12-01-04	PE Stamp added
07-11-05	Revised Standard Number

This document was originally issued and sealed by Mark S Gaydos, Registration Number PE-4518, on 07/11/05 and the original document is stored at the North Dakota Department of Transportation