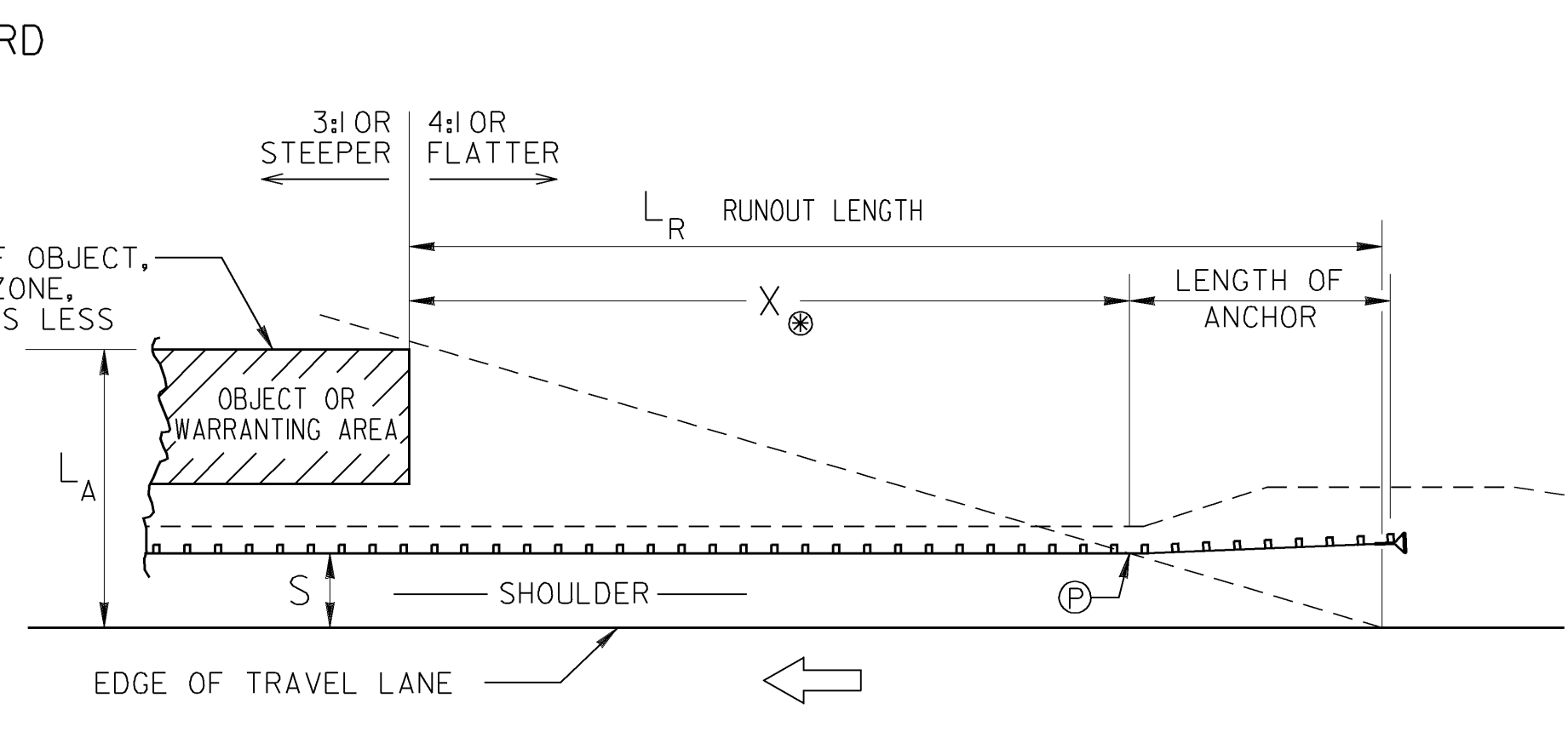
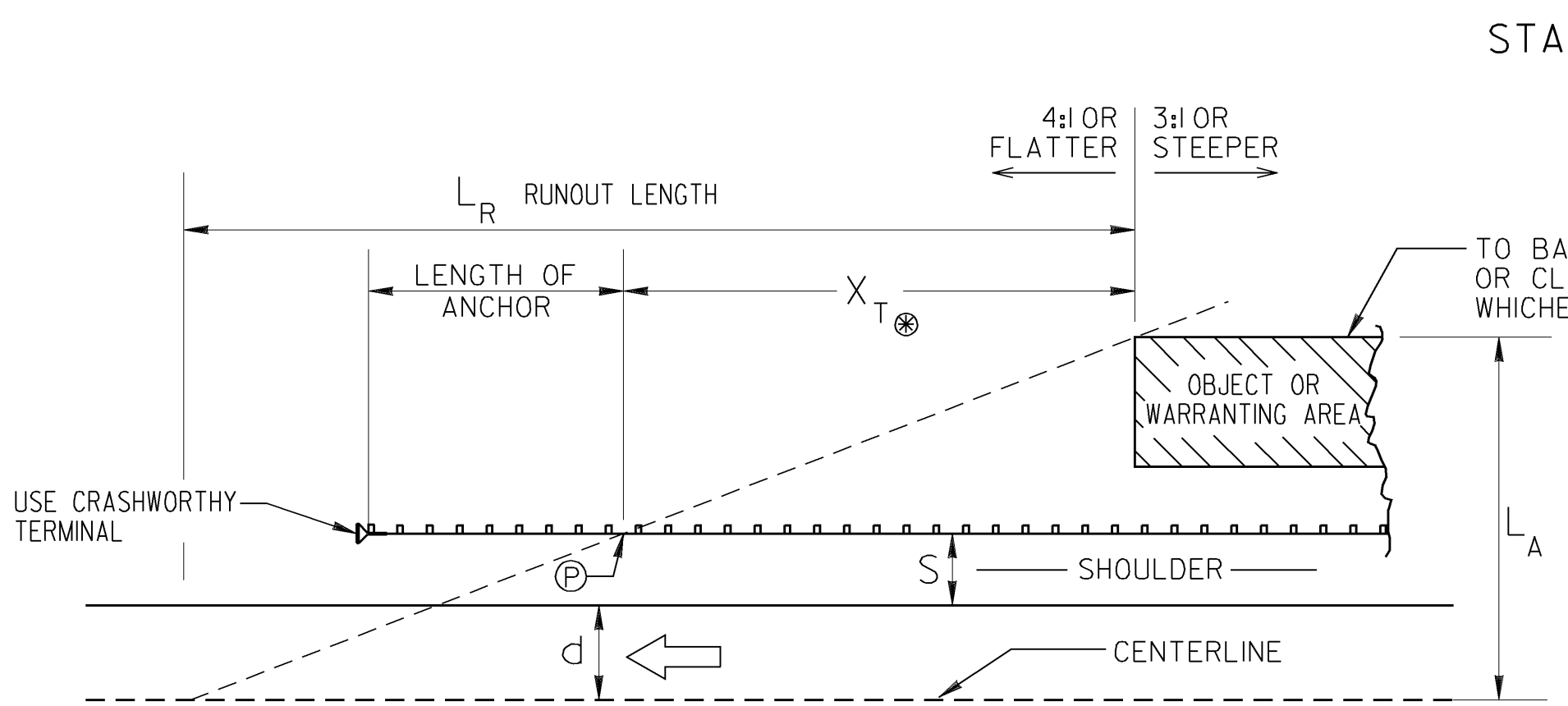
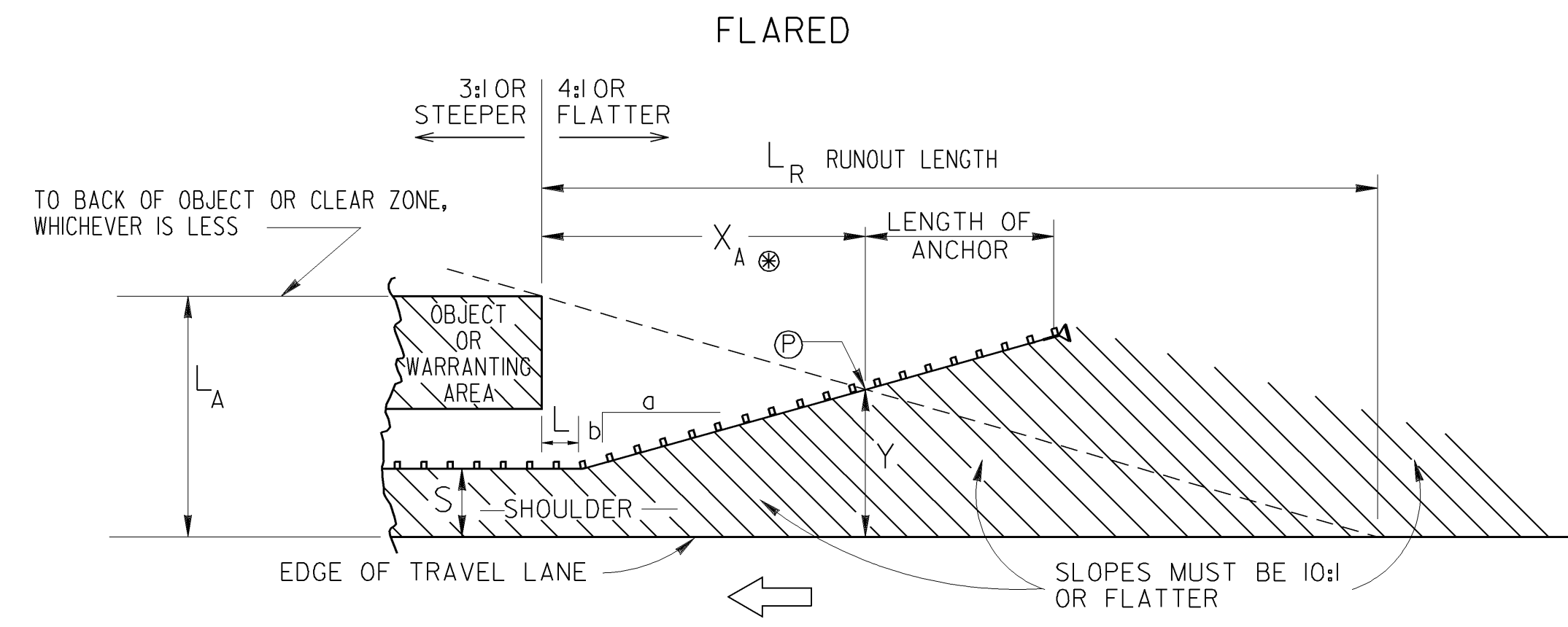


LENGTH OF GUARDRAIL ADVANCEMENT AT FIXED OBJECTS OR AT WARRANTING FILL SLOPES (TYPICAL)

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



DESIGN SPEED (mph)	SHY-LINE OFFSET (ft)	(a/b)	
		BARRIER INSIDE SHY-LINE	BARRIER AT OR BEYOND SHY-LINE
70	9	30	15
60	8	26	14
55	7	24	12
50	6.5	21	11
45	6	18	10
40	5	16	8
30	4	13	7

$$Y = L_A - \frac{L_A}{L_R} (X_A)$$

$$X_A = \frac{L_A + (b/a)L - S}{b/a + (L_A/L_R)}$$

$$X_T = L_R \times \frac{L_A - (S+d)}{L_A}$$

(TRAILING END)

$$X = L_R \times \frac{L_A - S}{L_A}$$

(APPROACH END)

WHERE 'S' IS LESS THAN THE SHY-LINE OFFSET, USE FLATTER RATES GIVEN IN TABLE.

DESIGN SPEED (MPH)	L _R Runout Length in feet			
	OVER 10000 (A.D.T.)	5000-10000 (A.D.T.)	1000-5000 (A.D.T.)	UNDER 1000 (A.D.T.)
80	470	430	380	330
70	360	330	290	250
60	300	250	210	200
50	230	190	160	150
40	160	130	110	100
30	110	90	80	70

S = NORMAL WIDTH OF USUABLE SHOULDER PLUS 2 FT (TYP.)

Ⓟ = BEGINNING OF TERMINAL (TYP.)

⊗ X_A, X_T, AND X MEASURED TO THE END OF W-BEAM, WHERE TERMINAL BEGINS

CLEAR ZONE DISTANCES

CLEAR ZONE DISTANCES (FT) CHART

DESIGN SPEED	DESIGN ADT	FORESLOPES			BACKSLOPES		
		IV:6H OR FLATTER	IV:5H TO IV:4H	IV:3H	IV:3H	IV:5H TO IV:4H	IV:6H OR FLATTER
40 M.P.H. OR LESS	UNDER 750	7-10	7-10	**	7-10	7-10	7-10
	750-1500	10-12	12-14	**	12-14	12-14	12-14
	1500-6000	12-14	14-16	**	14-16	14-16	14-16
	OVER 6000	14-16	16-18	**	16-18	16-18	16-18
45-50 M.P.H.	UNDER 750	10-12	12-14	**	8-10	10-12	10-12
	750-1500	14-16	16-20	**	10-12	12-14	14-16
	1500-6000	16-18	20-26	**	12-14	14-16	16-18
	OVER 6000	20-22	24-28	**	14-16	18-20	20-22
55 M.P.H.	UNDER 750	12-14	14-18	**	8-10	10-12	10-12
	750-1500	16-18	20-24	**	10-12	14-16	16-18
	1500-6000	20-22	24-30	**	14-16	16-18	20-22
	OVER 6000	22-24	26-32*	**	16-18	20-22	22-24
60 M.P.H.	UNDER 750	16-18	20-24	**	10-12	12-14	14-16
	750-1500	20-24	26-32*	**	12-14	16-18	20-22
	1500-6000	26-30	32-40*	**	14-18	18-22	24-26
	OVER 6000	30-32*	36-44*	**	20-22	24-26	26-28
65-70 M.P.H.	UNDER 750	18-20	20-26	**	10-12	14-16	14-16
	750-1500	24-26	28-36*	**	12-16	18-20	20-22
	1500-6000	28-32*	34-42*	**	16-20	22-24	26-28
	OVER 6000	30-34*	38-46*	**	22-24	26-30	28-30

HORIZONTAL CURVE ADJUSTMENTS

RADIUS (FEET)	K _{CZ} (CURVE CORRECTION FACTOR)					
	DESIGN SPEED (MPH)					
	40	45	50	55	65	70
2950	1.1	1.1	1.1	1.2	1.2	1.2
2300	1.1	1.1	1.2	1.2	1.2	1.3
1970	1.1	1.2	1.2	1.2	1.3	1.4
1640	1.1	1.2	1.2	1.3	1.3	1.4
1475	1.2	1.2	1.3	1.3	1.4	1.5
1315	1.2	1.2	1.3	1.3	1.4	1.4
1150	1.2	1.2	1.3	1.4	1.5	1.5
985	1.2	1.3	1.4	1.5	1.5	1.5
820	1.3	1.3	1.4	1.5		
660	1.3	1.4	1.5			
495	1.4	1.5				
330	1.5					

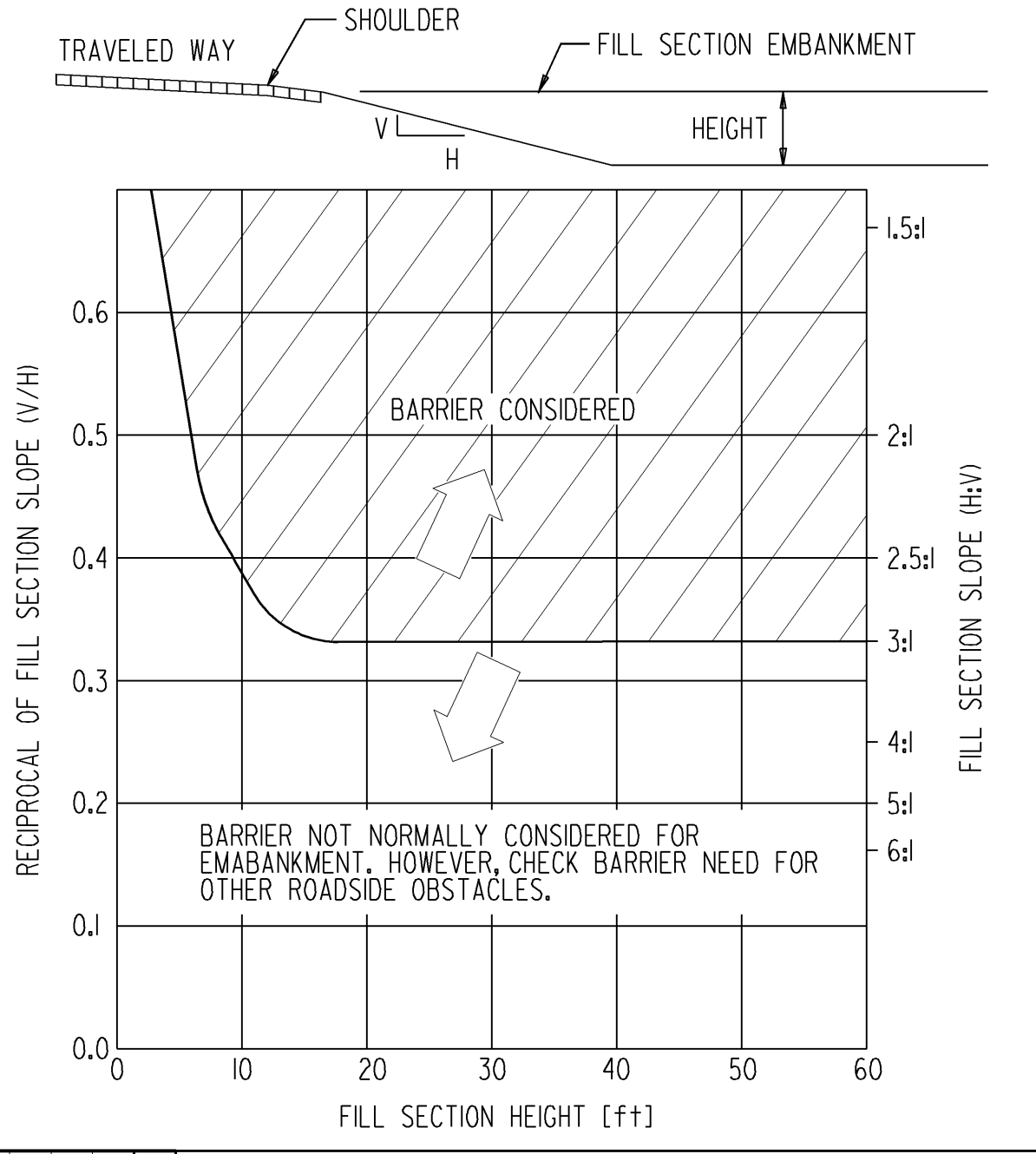
CZ_C = (L_C) (K_{CZ})
 Where:
 CZ_C = CLEAR ZONE ON OUTSIDE OF CURVATURE, FEET
 L_C = CLEAR ZONES DISTANCE, FEET (SEE CHART AT LEFT)
 K_{CZ} = CURVE CORRECTION FACTOR

NOTE:
 THE CURVE CORRECTION FACTOR IS APPLIED TO THE OUTSIDE OF CURVES ONLY. CORRECTIONS ARE TYPICALLY MADE ONLY TO CURVES LESS THAN 2,950-FT RADIUS.

* WHEN A SITE-SPECIFIC INVESTIGATION INDICATES A HIGH PROBABILITY OF CONTINUING CRASHES OR WHEN SUCH OCCURRENCES ARE INDICATED BY CRASH HISTORY, THE DESIGNER MAY PROVIDE CLEAR-ZONE DISTANCES GREATER THAN THE CLEAR ZONE SHOWN ABOVE. CLEAR ZONES MAY BE LIMITED TO 30 FT. FOR PRACTICALITY AND TO PROVIDE A CONSISTENT ROADWAY TEMPLATE IF PREVIOUS EXPERIENCE WITH SIMILAR PROJECTS OR DESIGNS INDICATES SATISFACTORY PERFORMANCE.

** BECAUSE RECOVERY IS LESS LIKELY ON THE UNSHIELDED, TRAVERSABLE IV:3H FILL SLOPES, FIXED OBJECTS SHOULD NOT BE PRESENT IN THE VICINITY OF THE TOE OF THESE SLOPES. RECOVERY OF HIGH-SPEED VEHICLES THAT ENCRoACH BEYOND THE EDGE OF THE SHOULDER MAY BE EXPECTED TO OCCUR BEYOND THE TOE OF SLOPE. DETERMINATION OF THE WIDTH OF THE RECOVERY AREA AT THE TOE OF SLOPE SHOULD CONSIDER RIGHT-OF-WAY AVAILABILITY, ENVIRONMENTAL CONCERNS, ECONOMIC FACTORS, SAFETY NEEDS, AND CRASH HISTORIES. ALSO, THE DISTANCE BETWEEN THE EDGE OF THE THROUGH TRAVELED LAND AND THE BEGINNING OF THE IV:3H SLOPE SHOULD INFLUENCE THE RECOVERY AREA PROVIDED AT THE TOE OF SLOPE. A 10-FT RECOVERY AREA AT THE TOE OF SLOPE SHOULD BE PROVIDED FOR ALL TRAVERSABLE, NON RECOVERABLE FILL SLOPES.

COMPARATIVE BARRIER CONSIDERATION FOR EMBANKMENTS



DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA			
STANDARD GUARDRAIL WARRANT GUIDES LENGTHS OF ADVANCEMENT CLEAR ZONE DISTANCES FILL HEIGHT EMBANKMENTS			
REV. ANCH. LOC. UPDATED 1-29-16	FLARE TBL; ADDED CHART 4-16-15	REMOVED SLOPE WARRANTS 9-4-07	REMOVED GUARDRAIL AND CLEAR ZONE DATE
NOT TO SCALE		DEC., 1999	
F.B.F.	B.J.O.	G.L.O.	BY
(SUBMITTED)		STATE DESIGN POLICY ENGINEER	
(APPROVED)		CHIEF ENGINEER	
NUMBER			4000W