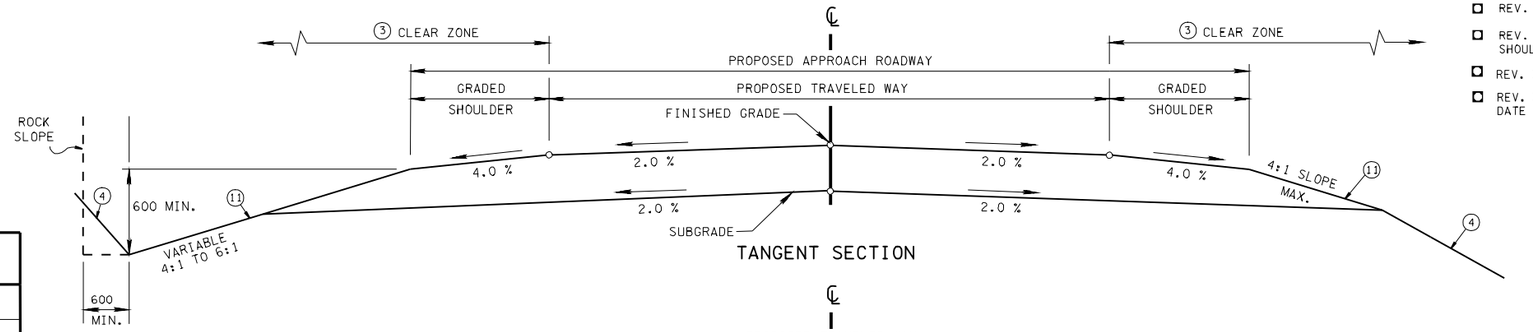
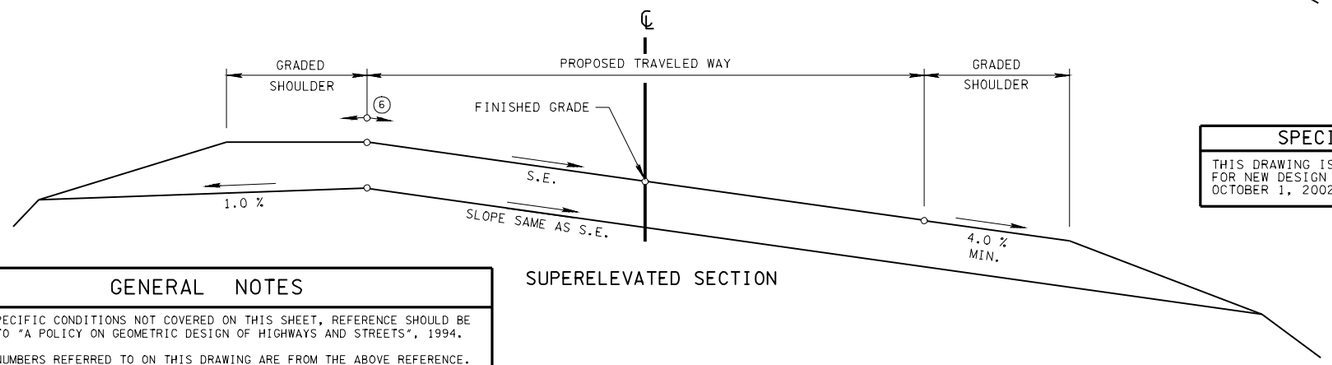
- REV. 11-1-95: CHANGED TO METRIC.
- REV. 12-18-97: CHANGED MINIMUM SHOULDER WIDTH TABLE.
- REV. 3-20-02: ADDED SPECIAL NOTE.
- REV. 3-31-03: CHANGED EFFECTIVE DATE IN SPECIAL NOTE.

DESIGN LOADING: ALL NEW AND REHABILITATED BRIDGES SHALL BE DESIGNED FOR MS-18 LOADING.

FOR NEW ROUTE CONSTRUCTION OR ROUTE RECONSTRUCTION PROJECTS:
THE MINIMUM CLEAR WIDTH FOR NEW BRIDGES SHALL BE EQUAL TO THE FULL WIDTH OF THE APPROACH ROADWAY CURB-TO-CURB OR FULL SHOULDER WIDTH AS APPLICABLE.



TANGENT SECTION



SUPERELEVATED SECTION

① CLEAR ROADWAY WIDTHS FOR BRIDGE REPLACEMENT AND REHABILITATION PROJECTS (PAGE 467; TABLE VI-5)	
CURRENT ADT	MINIMUM CLEAR ROADWAY WIDTH OF BRIDGE
UNDER 400	TRAVELED WAY + 1.2 m. (0.6 m EACH SIDE)
400 - 1500	TRAVELED WAY + 2.0 m (1.0 m EACH SIDE)
1500 - 2000	TRAVELED WAY + 2.4 m (1.2 m EACH SIDE)
OVER 2000	APPROACH ROADWAY WIDTH

② MINIMUM STRUCTURAL CAPACITIES AND MINIMUM WIDTHS FOR EXISTING BRIDGES TO REMAIN IN PLACE (PAGE 467; TABLE VI-6)		
CURRENT ADT	DESIGN LOADING (STRUCTURAL CAPACITY)	⑤ ROADWAY CLEAR WIDTH (m)
UNDER 400	MS-13.5	6.6
400 - 1500	MS-13.5	6.6
1500 - 2000	MS-13.5	7.2
OVER 2000	MS-13.5	8.4

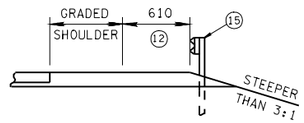
⑨ MINIMUM RURAL DESIGN SPEEDS	ADT 0-400	ADT OVER 400-2000	ADT OVER 2000
LEVEL TOPO	60	80	100
ROLLING TOPO	50	60	80
MOUNTAINOUS TOPO	⑭ 30	50	60

GENERAL NOTES

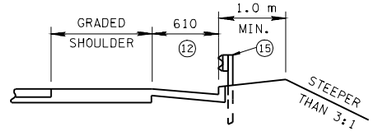
- (A) FOR SPECIFIC CONDITIONS NOT COVERED ON THIS SHEET, REFERENCE SHOULD BE MADE TO "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS", 1994.
- (B) PAGE NUMBERS REFERRED TO ON THIS DRAWING ARE FROM THE ABOVE REFERENCE.
- (C) REFERENCE SHOULD ALSO BE MADE TO THE AASHTO "ROADSIDE DESIGN GUIDE".
- (D) THE DESIGN YEAR ADT SHOULD BE USED FOR THE DESIGN.
- (E) DESIRABLE RIGHT-OF-WAY IS SLOPE LINES PLUS 3.0 m.
- (F) FOR RURAL INTERSECTION DESIGN SEE PAGE 469.
- (G) FOR URBAN INTERSECTION DESIGN SEE PAGE 479.
- (H) IF NO ABOVE GROUND UTILITIES ARE INVOLVED, MINIMUM RIGHT-OF-WAY SHALL BE TRAVELED WAY PLUS CLEAR ZONE.
- (I) IF ABOVE GROUND UTILITIES ARE INVOLVED, MINIMUM RIGHT-OF-WAY SHALL BE SUFFICIENT TO ACCOMODATE THE UTILITIES OUTSIDE THE CLEAR ZONE.

SPECIAL NOTE

THIS DRAWING IS NOT TO BE UTILIZED FOR NEW DESIGN PROJECTS BEGUN AFTER OCTOBER 1, 2002.



GUARDRAIL PLACEMENT ON NON-CURB AND GUTTER SECTION



GUARDRAIL PLACEMENT ON CURB AND GUTTER SECTION

DESIGN STANDARDS (FOR GIVEN DESIGN SPEED)			DESIGN SPEEDS (km/h)									⑩ MINIMUM WIDTH OF GRADED SHOULDERS FOR ALL SPEEDS (m)
			30	40	50	60	70	80	90	100	110	
⑩ MINIMUM AND DESIRABLE WIDTH OF TRAVELED WAY IN RURAL AREAS (m)	ADT UNDER 400	MINIMUM	6.0	6.0	6.0	6.0	6.0	6.0	6.6	6.6	6.6	⑬ 0.6
		DESIRABLE	6.6	6.6	6.6	6.6	6.6	6.6	6.6	7.2	7.2	
	ADT 400-1500	MINIMUM	6.0	6.0	6.0	6.6	6.6	6.6	6.6	6.6	6.6	1.2
		DESIRABLE	6.6	6.6	6.6	6.6	6.6	6.6	7.2	7.2	7.2	
	ADT 1500-2000	MINIMUM	6.6	6.6	6.6	6.6	6.6	6.6	7.2	7.2	7.2	1.8
		DESIRABLE	6.6	6.6	6.6	6.6	7.2	7.2	7.2	7.2	7.2	
	ADT OVER 2000	MINIMUM	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	1.8
		DESIRABLE	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	
MINIMUM RADIUS (m) 4.0 % MAX. S.E.			35	60	100	150	215	280	375	490	635	
MINIMUM RADIUS (m) 6.0 % MAX. S.E.			30	55	90	135	195	250	335	435	560	
MINIMUM RADIUS (m) 8.0 % MAX. S.E.			30	50	80	125	175	230	305	395	500	
MINIMUM RADIUS (m) 10.0 % MAX. S.E.			25	45	75	115	160	210	275	360	455	
MAXIMUM RURAL GRADES (%) (PAGE 463; TABLE VI-3)		LEVEL TOPO	7	7	7	7	7	6	6	5	4	
		ROLLING TOPO	10	10	9	8	8	7	7	6	5	
		MOUNTAINOUS TOPO	12	11	10	10	10	9	9	8	6	
MAXIMUM URBAN GRADES (%) (PAGE 463; TABLE VI-3)		LEVEL TOPO	9	9	9	9	8	7	7	6	5	
		ROLLING TOPO	12	12	11	10	9	8	8	7	6	
		MOUNTAINOUS TOPO	14	13	12	12	11	10	10	9	7	
⑧ MINIMUM STOPPING SIGHT DISTANCE (m)			29.6	44.4	57.4-62.8	74.3-84.6	94.1-110.8	112.8-139.4	131.2-168.7	157.0-205.0	179.5-246.4	
⑦ MINIMUM "K" VALUE (PAGE 462;TABLE VI-2A)		CREST VERTICAL CURVE	3	5	9-10	14-18	22-31	32-49	43-71	62-105	80-151	
		SAG VERTICAL CURVE	4	8	11-12	15-18	20-25	25-32	30-40	37-51	43-62	
MIN. PASSING SIGHT DISTANCE (m)(PAGE 462,TABLE VI-2B)			217	285	345	407	482	541	605	670	728	
⑦ MINIMUM "K" VALUE FOR CREST VERTICAL CURVE			50	90	130	180	250	310	390	480	570	
SUPERELEVATION			SEE STANDARD DRAWINGS RDM-SE-2 & RDM-SE-3									

FOOTNOTES

1. IF AN EXISTING APPROACH ROADWAY WIDTH IS GREATER THAN THE MINIMUM WIDTH DERIVED FROM THIS TABLE, THE NEW BRIDGE SHALL HAVE A CLEAR WIDTH EQUAL TO THE EXISTING APPROACH WIDTH OR THE WIDTH AS DETERMINED FROM THE DESIGN STANDARDS TABLE ON THIS SHEET, WHICHEVER IS LESS.
2. THESE STRUCTURES SHOULD BE ANALYZED INDIVIDUALLY, TAKING INTO CONSIDERATION THE CLEAR WIDTH PROVIDED, TRAFFIC VOLUMES, REMAINING LIFE OF THE STRUCTURE, PEDESTRIAN VOLUMES, SNOW STORAGE, DESIGN SPEED, ACCIDENT RECORD, AND OTHER PERTINENT FACTORS.
3. MINIMUM CLEAR ZONE IS 3.0 m FOR 60 km/h LESS. FOR 80 km/h DESIGN AND GREATER, THE CLEAR ZONE WIDTH SHALL BE DETERMINED FROM STANDARD DRAWING RDM-S-11. FOR URBAN DESIGN SEE PAGE 477-478.
4. SEE STANDARD DRAWING RDM-S-11 FOR DESIRABLE SLOPES AND NOTE REGARDING GEOLOGICAL RECOMMENDATIONS.
5. CLEAR WIDTH BETWEEN CURBS AND RAILS, WHICHEVER IS LESSER, IS CONSIDERED TO BE AT LEAST THE SAME AS THE APPROACH TRAVELED WAY WIDTH.
6. THE SLOPE OF THE SHOULDER AND THE ROADWAY PAVEMENT SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 7.0 %.
7. "K" VALUE IS A COEFFICIENT BY WHICH THE ALGEBRAIC DIFFERENCE IN GRADE MAY BE MULTIPLIED TO DETERMINE THE LENGTH IN METERS OF THE VERTICAL CURVE.
8. ANY LENGTH OF STOPPING SIGHT DISTANCE WITHIN THE RANGE OF VALUES ESTABLISHED ON PAGE 462, TABLE VI-2A IS ACCEPTABLE FOR A SPECIFIC SPEED. HOWEVER, VALUES APPROACHING OR EXCEEDING THE UPPER LIMIT OF THE RANGE SHOULD BE USED AS THE BASIS FOR DESIGN WHEREVER CONDITIONS PERMIT.
9. RURAL PAGE 461, TABLE VI-1. FOR URBAN DESIGN SEE PAGE 471-472.
10. RURAL PAGE 465, TABLE VI-4. FOR URBAN DESIGN SEE PAGE 473-474.
11. CURRENT ADT'S OVER 400 AND DESIGN SPEEDS OF 80 km/h AND GREATER SHALL REQUIRE 6:1 SLOPES.
12. FOR LESS THAN CURRENT 400 ADT OR ON BRIDGE REPLACEMENT AND REHABILITATION PROJECTS THE 610 mm OFFSET TO FACE OF GUARDRAIL AND/OR FACE OF CURB MAY BE ELIMINATED.
13. MINIMUM WIDTH IS 1.2 m IF ROADSIDE BARRIER IS UTILIZED.
14. USE OF 30 km/h DESIGN SPEED ON RURAL ROADS IS NOT DESIRABLE AND EFFORTS SHOULD BE MADE TO AVOID ITS USE.
15. SEE GUARDRAIL STANDARD DRAWINGS FOR TYPICAL GUARDRAIL PLACEMENT.

TENNESSEE METRIC 0.01

ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DESIGN STANDARDS FOR COLLECTOR ROADS AND STREETS

11-1-95 | RDM-TS-2