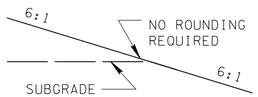
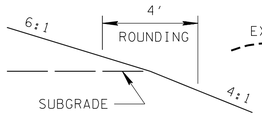
REV. 9-10-90: REDREW SHEET, REORGANIZED SHEET AND UPDATED TO 1990 POLICY.

REV. 10-26-91: IN DESIGN STANDARDS TABLE ELIMINATED LINE SHOWING MAXIMUM PERCENT GRADES USED ON INTERSTATE. ELIMINATED OLD FOOTNOTE NO. (9). RENUMBERED FOOTNOTE NOS. (10) AND (11).

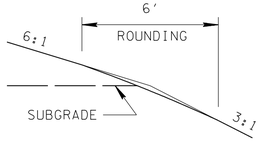
- REV. 1-19-92: ADDED FOOTNOTE NO. (11).
- REV. 7-29-92: MODIFIED GENERAL NOTE (D) AND DELETED GENERAL NOTE (H).
- REV. 3-20-02: ADDED SPECIAL NOTE.
- REV. 3-31-03: CHANGED EFFECTIVE DATE IN SPECIAL NOTE.



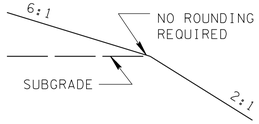
DETAIL A



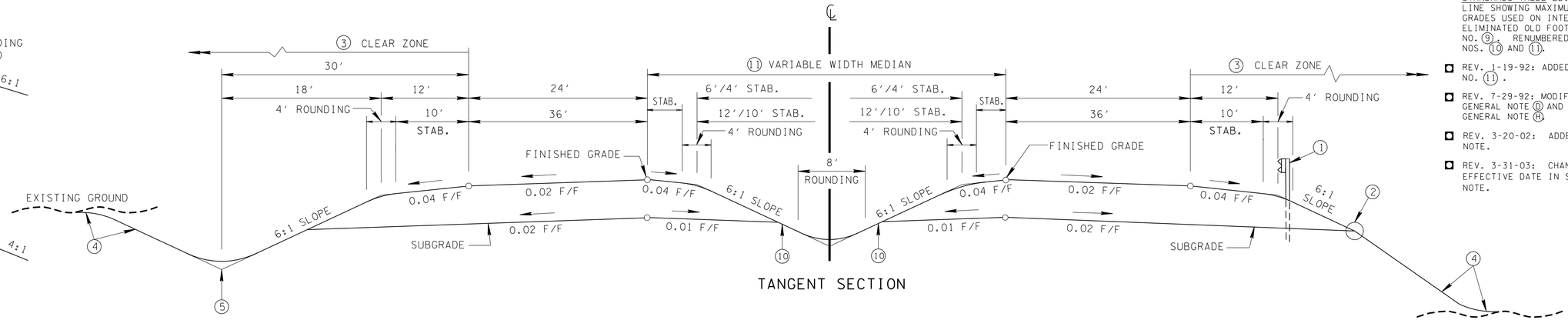
DETAIL B



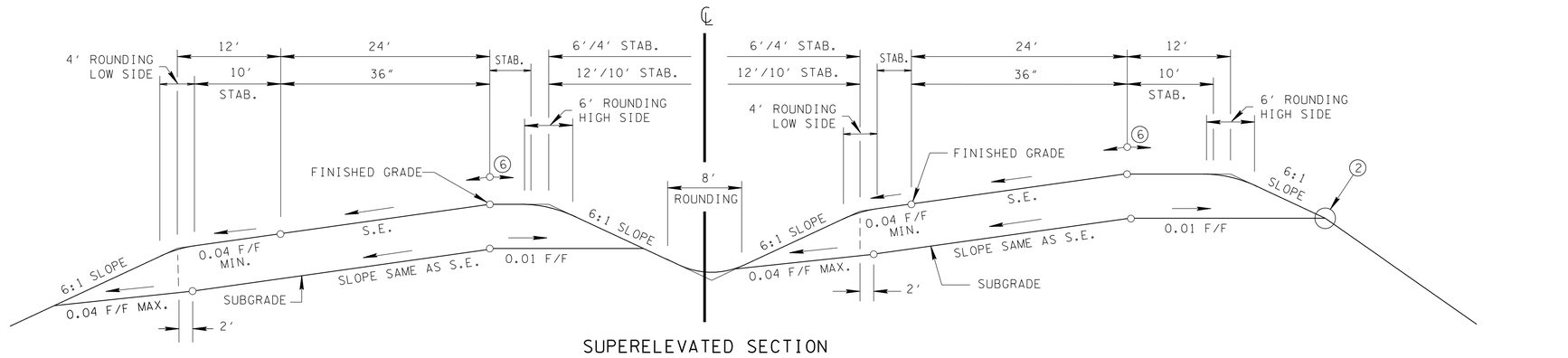
DETAIL C



DETAIL D



TANGENT SECTION



SUPERELEVATED SECTION

⑨ DESIGN SPEED (MPH)	
LEVEL TOPO	70
ROLLING TOPO	60
MOUNTAINOUS TOPO	50

DESIGN STANDARDS (FOR GIVEN DESIGN SPEED)		DESIGN SPEEDS (MPH)		
		50	60	70
MAXIMUM CURVATURE (DEGREES) 0.04 MAX. S.E.		6° 00′	3° 45′	——
MAXIMUM CURVATURE (DEGREES) 0.06 MAX. S.E.		6° 45′	4° 15′	2° 45′
MAXIMUM CURVATURE (DEGREES) 0.08 MAX. S.E.		7° 30′	4° 45′	3° 00′
MAXIMUM CURVATURE (DEGREES) 0.10 MAX. S.E.		8° 15′	5° 15′	3° 30′
⑧ MINIMUM STOPPING SIGHT DISTANCE (FEET)		400-475	525-650	625-850
⑦ MINIMUM "K" VALUE	CREST VERTICAL CURVE	110-160	190-310	290-540
	SAG VERTICAL CURVE	90-110	120-160	150-220
SUPERELEVATION		SEE STAND. DWG. RD-SE-2 & 3		
⑩ MAXIMUM GRADES (%) (PAGE 585; TABLE VIII-1)	LEVEL TOPO	4	3	3
	ROLLING TOPO	5	4	4
	MOUNTAINOUS TOPO	6	6	5

FOOTNOTES

(1) SEE GUARDRAIL STANDARD DRAWINGS FOR TYPICAL GUARDRAIL PLACEMENT.

(2) SEE DETAIL A, B, C, OR D ON THIS SHEET FOR ROUNDING.

(3) CLEAR ZONE WIDTHS SHALL BE DETERMINED FROM STANDARD DRAWING RD-S-11.

(4) SEE STANDARD DRAWING RD-S-11 FOR FILL AND CUT SLOPE TABLES, ROUNDING ON TOP OF CUT SLOPES AND TOE OF FILL SLOPES, AND SPECIAL ROCK CUT TREATMENT.

(5) SEE STANDARD DRAWING RD-S-11A FOR ROUNDING OF ROADSIDE DITCH SLOPES.

(6) THE SLOPES OF THE SHOULDER AND ROADWAY PAVEMENT SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 0.07 FOOT PER FOOT.

(7) "K" VALUE IS A COEFFICIENT BY WHICH THE ALGEBRAIC DIFFERENCE IN GRADE MAY BE MULTIPLIED TO DETERMINE THE LENGTH IN FEET OF THE VERTICAL CURVE.

(8) ANY LENGTH OF STOPPING SIGHT DISTANCE WITHIN THE RANGE OF VALUES ESTABLISHED ON PAGE 500, TABLE VII-3 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) IN URBAN AREAS, THE DESIGN SPEED SHALL BE AT LEAST 50 MILES PER HOUR.

(10) GRADES ONE PER CENT STEEPER THAN THE VALUE SHOWN MAY BE USED FOR EXTREME CASES IN URBAN AREAS WHERE DEVELOPMENT PRECLUDES THE USE OF FLATTER GRADES AND FOR ONE-WAY DOWNGRADES EXCEPT IN MOUNTAINOUS TERRAIN.

(11) MINIMUM MEDIAN WIDTH IS TO BE 48 FEET WHEN USING 6 FEET WIDE INSIDE SHOULDERS. MINIMUM MEDIAN WIDTH IS TO BE 64 FEET WHEN USING 12 FOOT WIDE INSIDE SHOULDERS.

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" 1990.

(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) MINIMUM RIGHT-OF-WAY IS THAT REQUIRED TO ACCOMMODATE SLOPES. (15 TO 20 FEET OUTSIDE THE SLOPE LINES IS DESIRABLE IN RURAL AREAS).

(E) ALL NEW AND REHABILITATED BRIDGES SHALL BE DESIGNED FOR HS-20 LOADING. THE MINIMUM CLEAR WIDTH FOR NEW AND REHABILITATED BRIDGES SHALL BE EQUAL TO THE FULL WIDTH OF THE APPROACH ROADWAY, CURB-TO-CURB OR FULL SHOULDER WIDTH AS APPLICABLE.

(F) BRIDGES TO REMAIN IN PLACE SHOULD HAVE ADEQUATE STRENGTH AND AT LEAST THE WIDTH OF THE TRAVELED WAY PLUS 2 FEET CLEARANCE ON EACH SIDE, BUT SHOULD BE CONSIDERED FOR ULTIMATE WIDENING OR REPLACEMENT IF THEY DO NOT PROVIDE AT LEAST 3 FEET CLEARANCE ON EACH SIDE OR ARE NOT CAPABLE OF HS-20 LOADINGS. AS AN INTERIM MEASURE, ALL BRIDGES THAT ARE LESS THAN FULL WIDTH SHOULD BE CONSIDERED FOR SPECIAL NARROW BRIDGE TREATMENTS SUCH AS SIGNING AND PAVEMENT MARKING.

(G) FOR INTERSTATES, SEE AASHTO'S "A POLICY ON DESIGN STANDARDS-INTERSTATE SYSTEM" JULY 1991.

SPECIAL NOTE

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

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DESIGN STANDARDS FREEWAYS WITH DEPRESSED MEDIANS

RD-TS-5