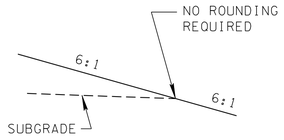
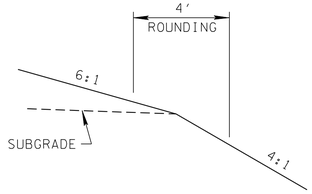
REV. 10-15-02: NEW SHEET.
REPLACES RD-TS-5A.




DETAIL A

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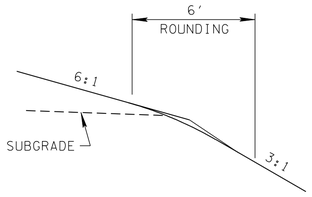
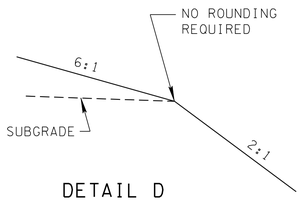
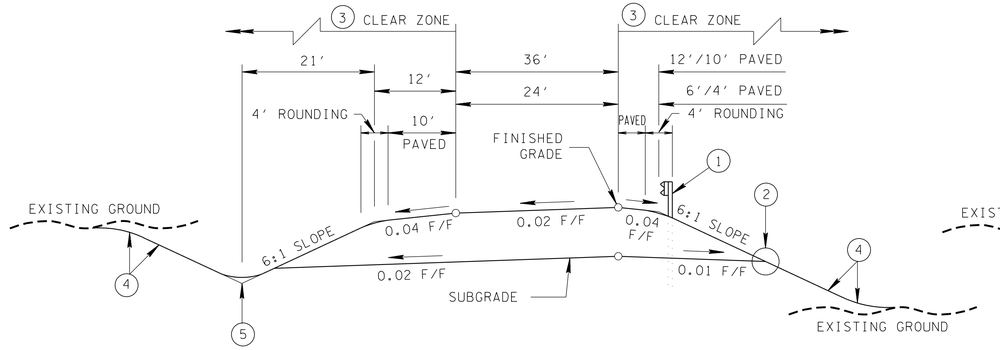
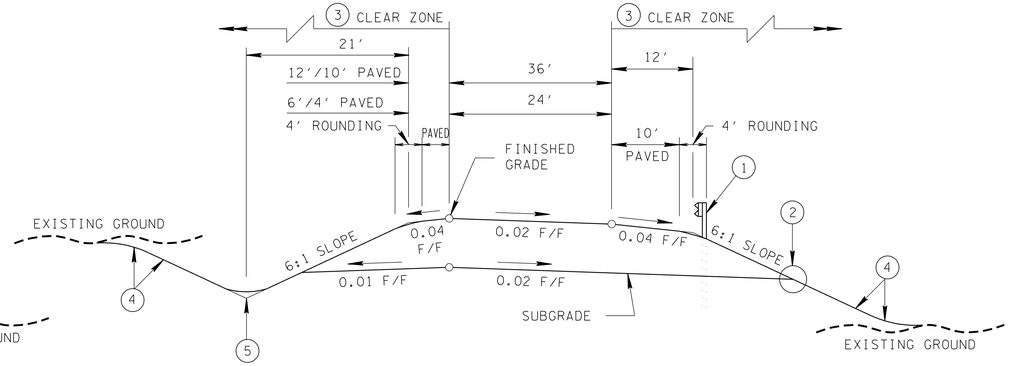



DETAIL C

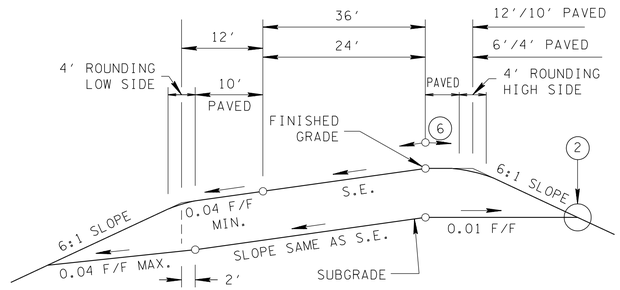


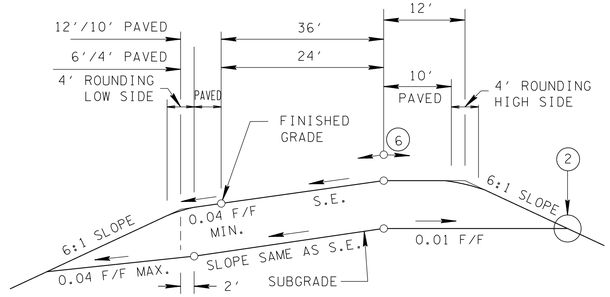

DETAIL D




TANGENT SECTIONS




SUPERELEVATED SECTIONS

## 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," AASHTO, 2001.
- (B) PAGE NUMBERS REFERRED TO ON THIS DRAWING ARE FROM "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS," AASHTO, 2001, UNLESS OTHERWISE NOTED.
- (C) REFERENCE SHOULD ALSO BE MADE TO THE "ROADSIDE DESIGN GUIDE," AASHTO, 2002.
- (D) DESIRABLE RIGHT-OF-WAY IS SLOPE LINE PLUS TWENTY FEET.
- (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) FOR EXISTING BRIDGES TO REMAIN IN PLACE, THEY SHOULD HAVE ADEQUATE STRENGTH AND A WIDTH AT LEAST EQUAL TO THE WIDTH OF THE TRAVELED WAY PLUS 2 FEET CLEARANCE ON EACH SIDE. BRIDGES 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 THE CURRENT EDITION OF AASHTO'S "A POLICY ON DESIGN STANDARDS - INTERSTATE SYSTEM."

## FOOTNOTES

1. SEE GUARDRAIL STANDARD DRAWINGS FOR TYPICAL GUARDRAIL PLACEMENT.
2. SEE DETAILS A, B, C, OR D FOR ROUNDING.
3. CLEAR ZONE WIDTH SHALL BE DETERMINED FROM STANDARD DRAWING RD01-S-12. SEE THE "ROADSIDE DESIGN GUIDE," AASHTO, 2002, FOR FURTHER INFORMATION ON CLEAR ZONES.
4. SEE STANDARD DRAWINGS RD01-S-11 AND RD01-S-11B 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 RD01-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. GRADES ONE PERCENT 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.
8. ALTHOUGH THE SELECTED DESIGN SPEED ESTABLISHES THE LIMITING VALUES OF CURVE RADIUS AND MINIMUM SIGHT DISTANCE THAT SHOULD BE USED IN DESIGN, THERE SHOULD BE NO RESTRICTION ON THE USE OF FLATTER HORIZONTAL CURVES OR GREATER SIGHT DISTANCES WHERE SUCH IMPROVEMENTS CAN BE PROVIDED AS A PART OF AN ECONOMICAL DESIGN (SEE PAGE 69).

**TABLE II. FREEWAY - DESIGN STANDARDS (8)**

| DESIGN STANDARDS (FOR GIVEN DESIGN SPEED) | | DESIGN SPEEDS (MPH) 50 | 55 | 60 | 65 | 70 | |
|---|---|---|---|---|---|---|---|
| MINIMUM RADIUS (FT.) 0.08 MAX. S.E. | | 760 | 965 | 1205 | 1485 | 1820 | SEE PAGE 145 |
| MINIMUM STOPPING SIGHT DISTANCE (FT.) | | 425 | 495 | 570 | 645 | 730 | SEE PAGE 112 |
| MINIMUM "K" VALUE | CREST VERTICAL CURVE | 84 | 114 | 151 | 193 | 247 | SEE PAGE 274 |
| | SAG VERTICAL CURVE | 96 | 115 | 136 | 157 | 181 | SEE PAGE 280 |
| MAXIMUM GRADES % (7) | LEVEL TERRAIN | 4 | 4 | 3 | 3 | 3 | SEE PAGE 510 |
| | ROLLING TERRAIN | 5 | 5 | 4 | 4 | 4 | |
| | MOUNTAINOUS TERRAIN | 6 | 6 | 6 | 5 | 5 | |
| SUPERELEVATION | | SEE STANDARD DRAWINGS RD01-SE-2 AND RD01-SE-3 | | | | | |

**TABLE I. MINIMUM DESIGN SPEEDS FOR FREEWAYS (SEE PAGE 507)**

| LOCATION | MINIMUM DESIGN SPEED (MPH) |
|---|---|
| URBAN | 50 |
| RURAL | 70 |
| MOUNTAINOUS | 50 |

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DESIGN STANDARDS FREEWAYS WITH INDEPENDENT ROADWAYS

10-15-02 RD01-TS-5A