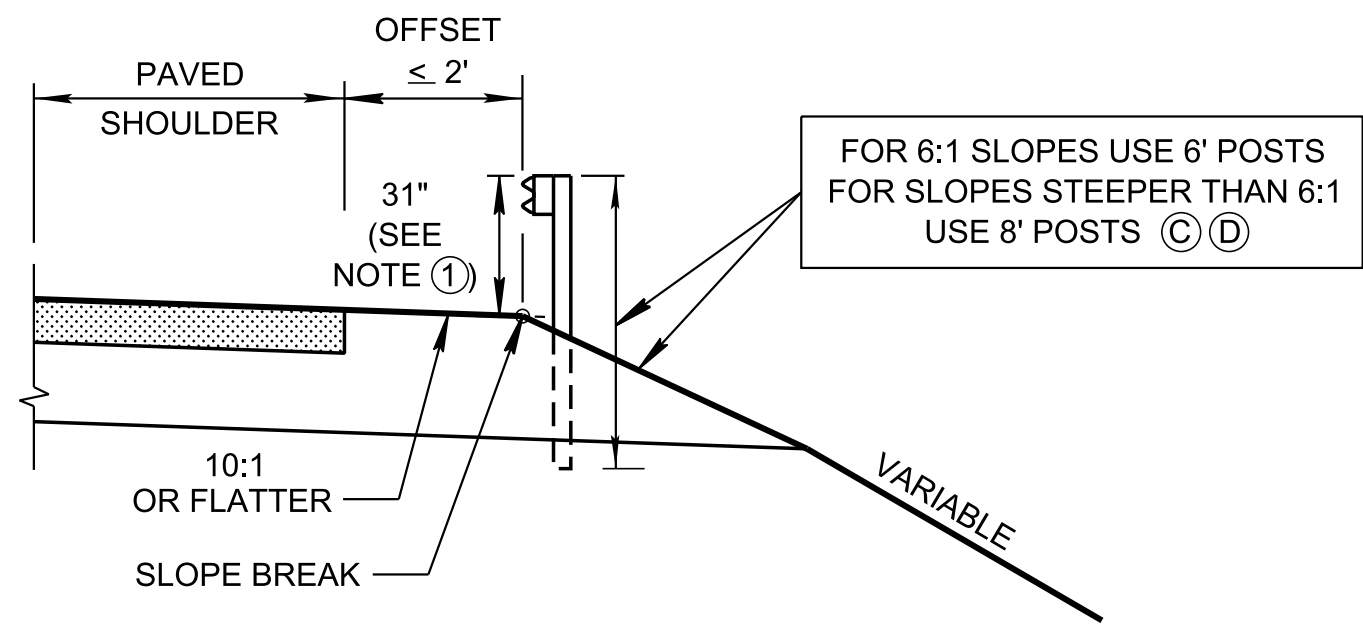
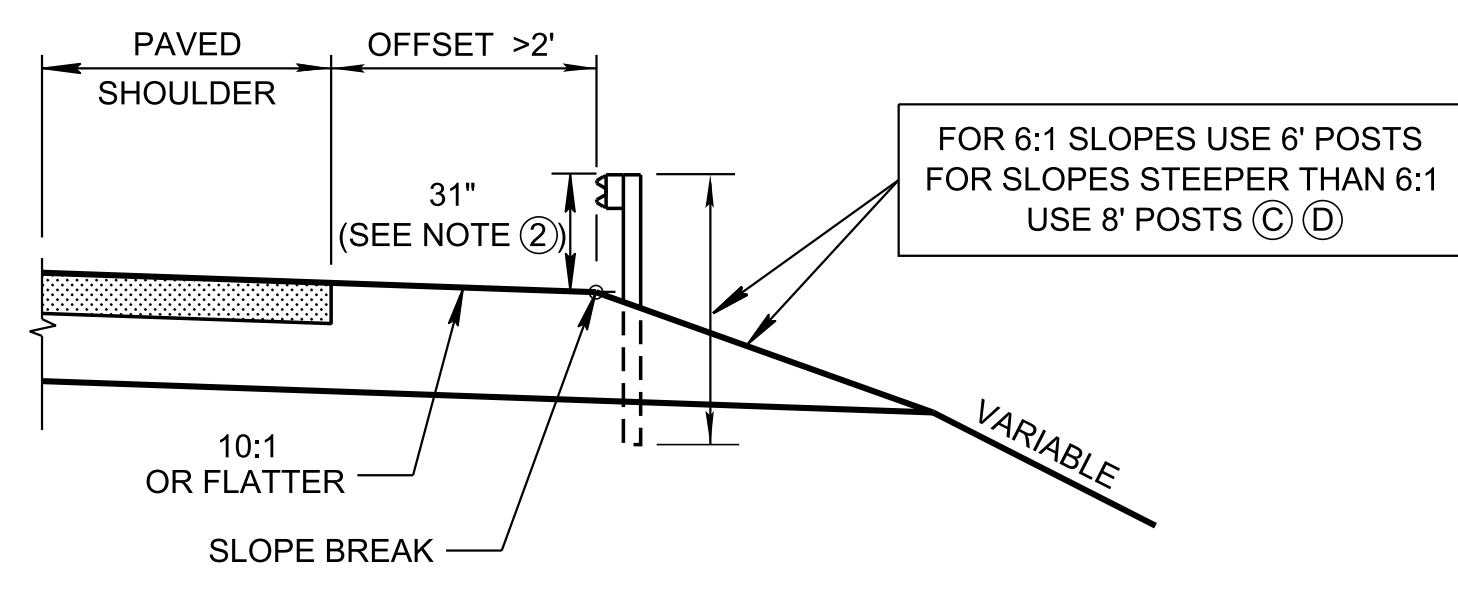


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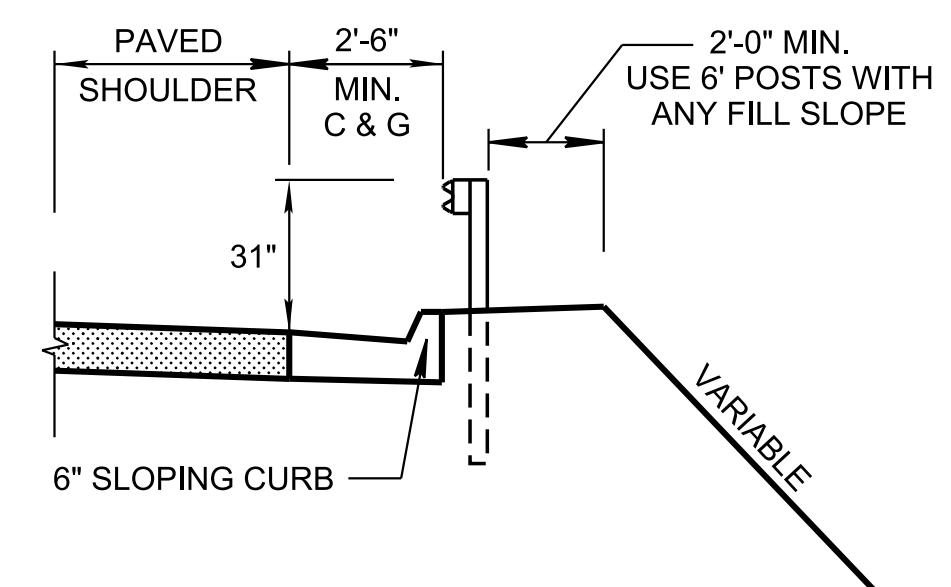


DETAIL A
GUARDRAIL PLACEMENT AT SLOPE BREAK WITH LESS THAN 2'-0" OFFSET

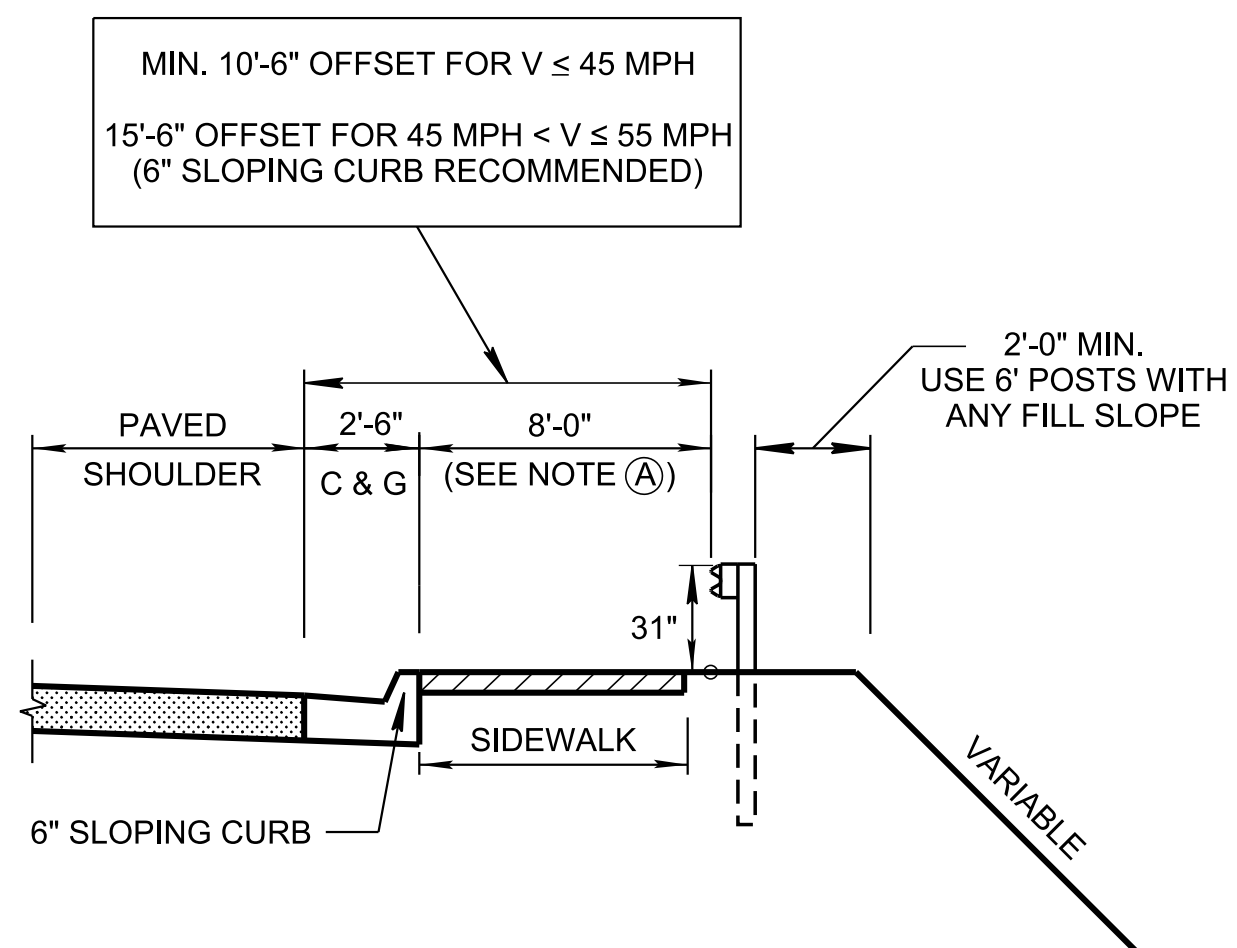


DETAIL B
GUARDRAIL PLACEMENT AT SLOPE BREAK WITH MORE THAN 2'-0" OFFSET

TYPICAL SECTIONS (NON CURB & GUTTER)



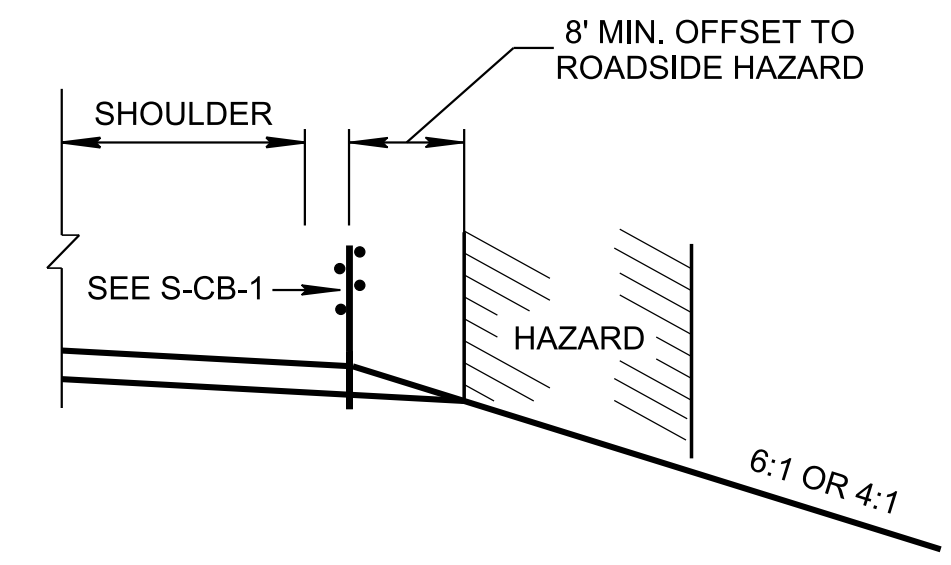
DETAIL C
GUARDRAIL PLACEMENT ON CURB AND GUTTER SECTION



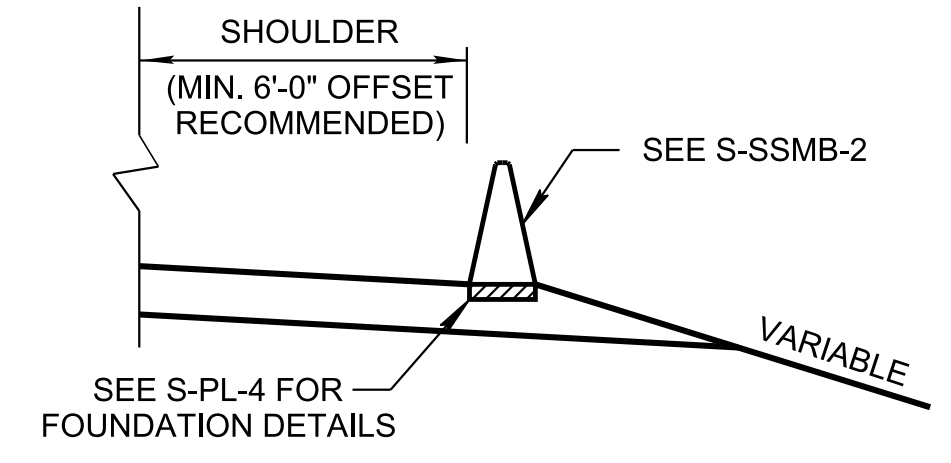
DETAIL D
OFFSET GUARDRAIL PLACEMENT ON CURB AND GUTTER SECTION
(REFER TO MM-TS SERIES FOR PROVIDING ADDITIONAL GUIDANCE ACCOMMODATING OTHER USERS)

TYPICAL SECTIONS WITH CURB AND GUTTER

USE 6" SLOPING CURB AT LOCATIONS WHERE THE POSTED SPEED IS BETWEEN 45 - 55 M.P.H. DO NOT USE CURB AND GUTTER AT LOCATIONS WHERE THE POSTED SPEEDS ARE ABOVE 55 M.P.H.



DETAIL E
HIGH TENSION 4 STRAND CABLE BARRIER (TL-3 OR TL-4)

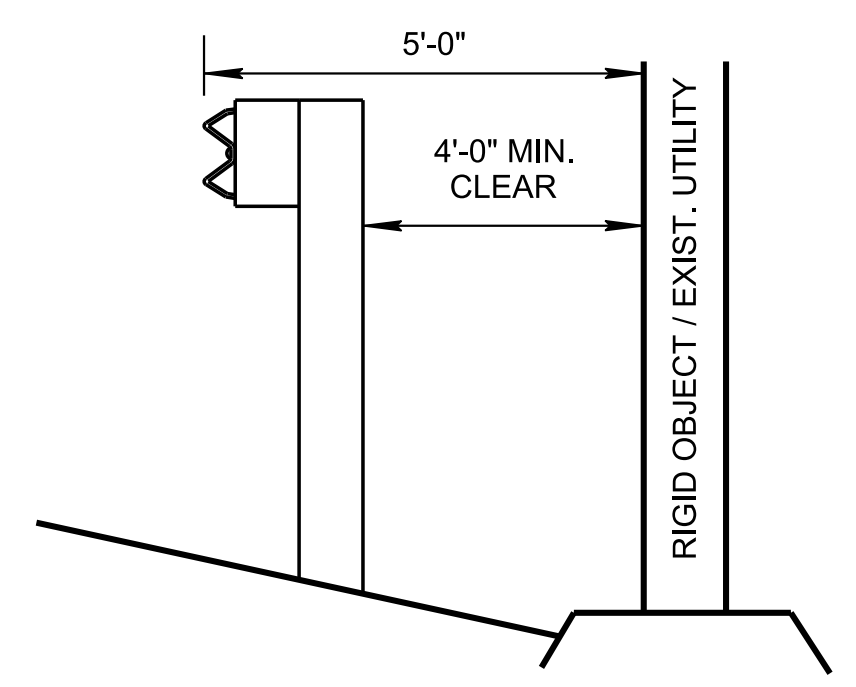


DETAIL F
FREE STANDING CONCRETE BARRIER RAIL (TL-3, TL-4 OR TL-5)

ALTERNATE TO W-BEAM GUARDRAIL WHERE HIGHER PERFORMANCE IS NEEDED

NOTES FOR MEASURING THE HEIGHT OF GUARDRAIL :

- IF THE GUARDRAIL IS WITHIN 2 FEET OF THE SHOULDER, THE GUARDRAIL HEIGHT IS MEASURED BY EXTENDING THE SHOULDER SLOPE (SEE DETAIL A).
- IF THE GUARDRAIL IS 2 FEET OR MORE AWAY FROM THE SHOULDER, THE GUARDRAIL HEIGHT IS MEASURED FROM THE GROUND (SEE DETAIL B).



TYPICAL MIN. CLEAR TO A RIGID OBJECT
(SEE TABLE BELOW IF LESS DEFLECTION IS DESIRED)
(REFER TO MWRSF REPORT TRP 03-171-06)

GUARDRAIL POST REDUCTION IN DEFLECTION FOR SINGLE W-BEAM			
POST SPACING	6' - 3"	3' - 1 1/2"	1' - 6 3/4"
DEFLECTION	3' - 6"	3' - 0"	2' - 6"

NOTE: THE DEFLECTION DISTANCE SHOWN ON THE ABOVE TABLE IS FOR GUIDANCE ONLY. THE ACTUAL DEFLECTION DISTANCE MAY BE LESS THAN AS SHOWN.

GENERAL NOTES TO DESIGNER

- IF GUARDRAIL IS IN A CURB AND GUTTER SECTION, IT SHALL BE PLACED SUCH THAT THE GUARDRAIL FACE IS EVEN WITH THE BACK OF THE CURB (DETAIL C) OR A MINIMUM OF 8' FROM THE CURB (DETAIL D).
- REFER TO RD11-TS SERIES OF STANDARD DRAWINGS FOR ROADWAY TYPICAL SECTIONS.
- REFER TO TEXAS A & M REPORT NUMBER 405160-20, FOR GUARDRAIL PLACED ON 2:1 SLOPE.
- PAY ITEMS:
705-06.01, W BEAM GR (TYPE 2) MASH TL3, L.F. (6' POST)
705-06.02, W BEAM GR (TYPE 2) MASH TL3 (LONG POST), L.F. (8' POST)
- SEE STANDARD DRAWING S-GR31-1D FOR GUARDRAIL POST PLACEMENT IN ROCK.

REV. 12-1-14: ADDED NOTE TO DETAIL E MINOR DRAFTING UPDATE. ADDED TABLE.
REV. 4-4-16: GENERAL REVISION.
REV. 06-28-19: ADDED GENERAL NOTE (E) AND (F). REVISED TABLE FOR GUARDRAIL POST REDUCTION IN DEFLECTION FOR SINGLE W-BEAM. REVISED DETAILS A THRU E. REMOVED TABLE A. REDRAW SHEET.
REV. 06-15-21: REVISED ALL DETAILS. DELETED GENERAL NOTES (A) AND (C). ADJUSTED LOCATION OF GENERAL NOTE NO'S. REVISED GENERAL NOTES (B), AND (C) AND ADDED NOTE (E). ADDED NOTES UNDER DEFLECTION TABLE AND FOR GUARDRAIL HEIGHT MEASUREMENT.
REV. 07-30-24: MOVED THE GUARDRAIL HEIGHT MEASUREMENT TO THE GROUND, AND ADDED 8' DIMENSION WITH NOTE ON DETAIL D.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED

STATE OF TENNESSEE
STANDARD DRAWING
DEPARTMENT OF TRANSPORTATION

**SAFETY PLAN
SAFETY HARDWARE
PLACEMENT
ON OUTSIDE
EDGE**