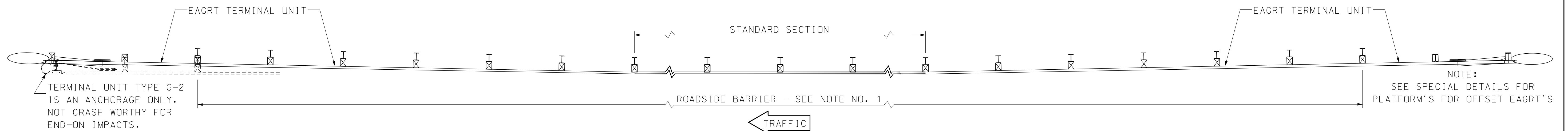
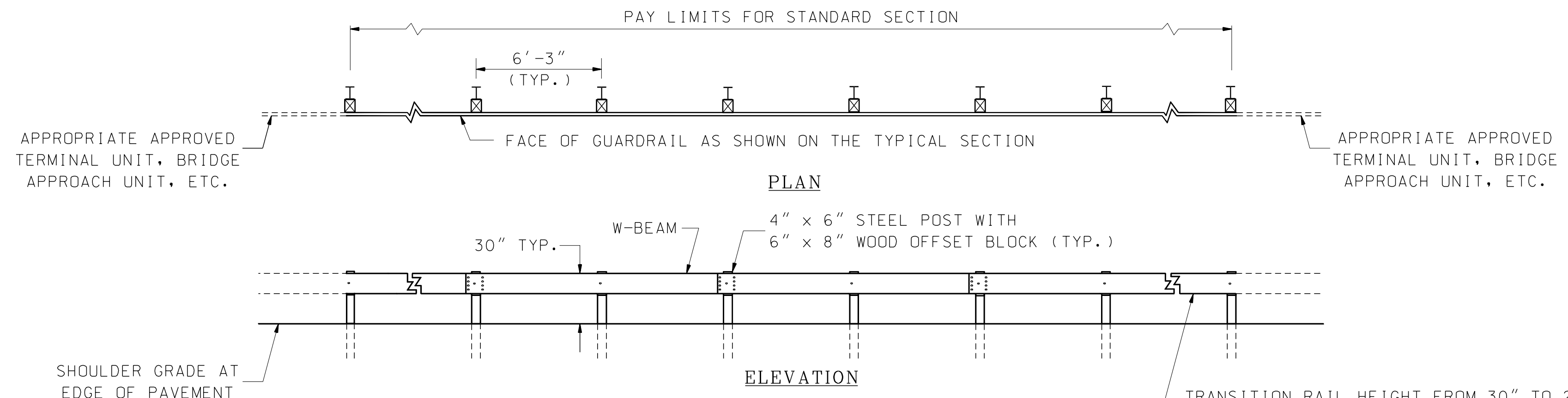


REVISION DATE
07-13-2001
06-16-2010
05-03-2011
08-19-2015

*DGN FILE NAME GR-2



SAMPLE GUARDRAIL INSTALLATION LAYOUT

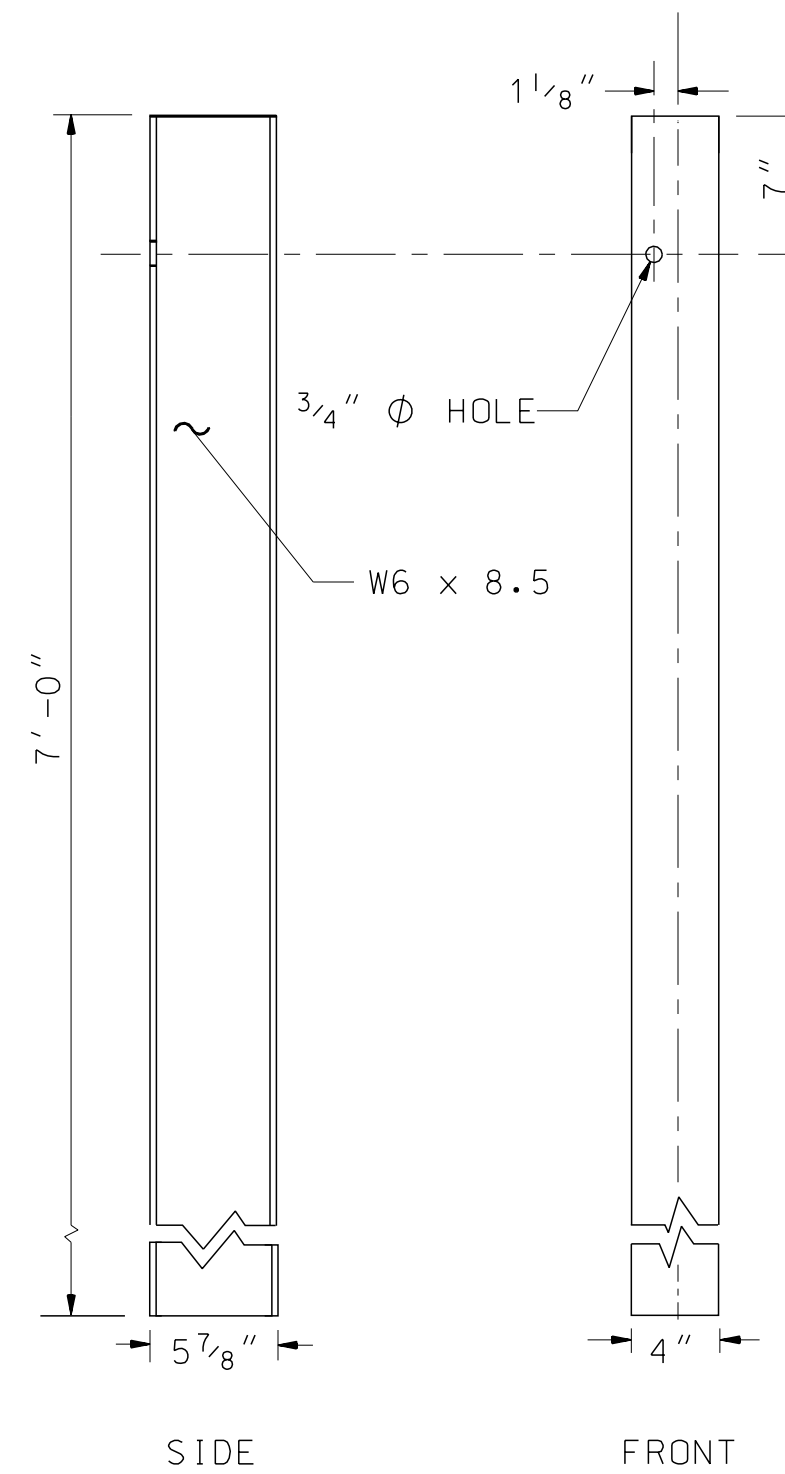


STANDARD SECTION

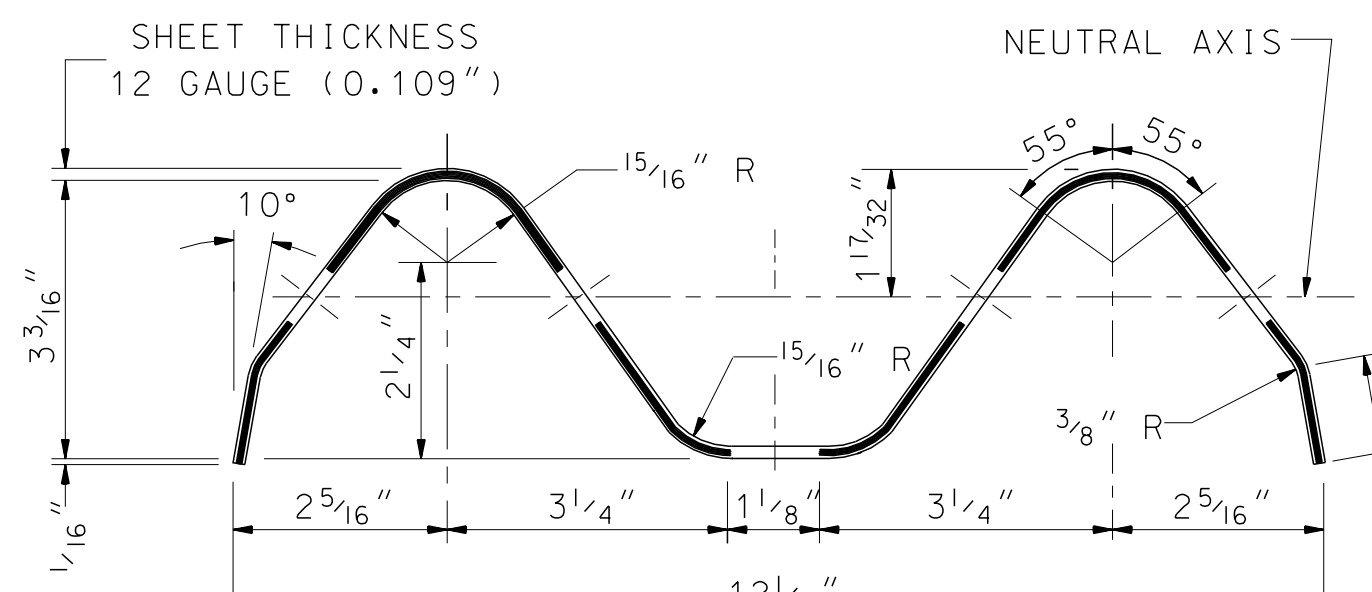
ITEM 606.120 - BEAM GUARDRAIL (STANDARD SECTION-STEEL POSTS)
 PAID: LINEAR FOOT
 USE: STRONG STEEL POST W-BEAM WITH SPLICE ON POST IS APPROPRIATE FOR REPAIRS OF EXISTING STRONG POST W-BEAM SPLICE ON POST GUARDRAIL RUNS OF LIMITED LENGTH OR SPECIFIC LOCATIONS WHERE USE OF 31" MID-SPLICE STEEL POST W-BEAM GUARDRAIL WOULD NOT BE PRACTICAL. OTHERWISE, 31" MID-SPLICE STEEL POST W-BEAM GUARDRAIL IS TO BE USED

GENERAL NOTES

- THE DEFINITION OF ROADSIDE BARRIER IS PER THE LATEST ADOPTED EDITION OF THE AASHTO ROADSIDE DESIGN GUIDE. EXCLUDED FROM THIS IS THE GATING PORTION OF A GUARDRAIL TERMINAL UNIT OR CRASH CUSHION AS WELL AS THE ENTIRE G-2 TERMINAL UNIT.
- ITEMS IN BRACKETS [] ARE STANDARD ELEMENTS DESCRIBED IN AASHTO'S "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE".
- ONLY USE RECTANGULAR PLATE WASHERS [FWR03] WHERE SHOWN ON THE OTHER STANDARD SHEETS OR AS REQUIRED BY THE MANUFACTURERS FOR THEIR PROPRIETARY PRODUCTS.
- USE 12'-6" LENGTH RAIL ELEMENTS IN RAIL CURVES OF LESS THAN 100' RADIUS.
- ESTABLISH RAIL HEIGHT AS FOLLOWS:
 - SET THE HEIGHT OF RAIL FROM THE EDGE OF THE PAVEMENT (EP) WHEN THE FACE OF RAIL IS AT THE EDGE OF PAVEMENT.
 - SET THE HEIGHT OF RAIL FROM THE GROUND AT THE FACE OF RAIL WHEN:
 - THE FACE OF RAIL IS OFFSET FROM THE EP AND THE CROSS SLOPE FROM THE EP TO THE FACE OF RAIL IS 10:1 OR FLATTER OR
 - THE FACE OF RAIL IS AT THE BACK OF A CURBED SIDEWALK AND THE CURB IS AT THE EDGE OF PAVEMENT
 - WHEN SITUATIONS OTHER THAN THOSE DESCRIBED IN A OR B ABOVE ARE ENCOUNTERED, ESTABLISH RAIL HEIGHT THROUGH AN ENGINEERING REVIEW TO ENSURE APPROPRIATE SYSTEM PERFORMANCE.
- USE OF POSTS SHORTER THAN 7', BUT NOT LESS THAN 6'-0" LONG, IS ONLY ALLOWED UNDER THE FOLLOWING CONDITIONS:
 - WHERE THERE IS A MINIMUM DISTANCE OF 1' FROM THE BACK OF THE GUARDRAIL POST ALONG A 10:1 OR FLATTER SLOPE TO THE SLOPE BREAK OF A 4:1 OR FLATTER SLOPE OR
 - WHERE THERE IS A MINIMUM DISTANCE OF 2' FROM THE BACK OF THE GUARDRAIL POST ALONG A 10:1 OR FLATTER SLOPE TO THE SLOPE BREAK OF A STEEPER THAN 4:1 STABLE SOIL OR STONE LINED SLOPE. THE TERM STABLE INCLUDES NOT SHOWING SIGNS OF SLOPE MOVEMENT (SUCH AS DEPRESSIONS, CRACKS PARALLEL TO THE ROADWAY, ETC.) OR ACTIVE EROSION.
- THE FHWA HAS LISTED OFFSET BLOCKS ON THEIR WEBSITE THAT ARE ELIGIBLE FOR FEDERAL PARTICIPATION PER NCHRP 350 TEST LEVEL 3 CRITERIA. OTHERS MAY BE ADDED UNDER MASH AT TEST LEVEL 3 OR HIGHER IN THE FUTURE. SOME OF THESE OFFSET BLOCKS HAVE OR MAY HAVE DIMENSIONS THAT VARY MORE THAN WOULD BE CONSIDERED WITHIN THE NORMAL CONTEXT OF NOMINAL DIMENSIONS. IN ORDER TO USE ANY OFFSET BLOCKS THAT HAVE OTHER THAN THE NOMINAL DIMENSIONS AS SHOWN ON THE PLANS, THE FOLLOWING APPLIES:
 - THE FACE OF RAIL SHALL REMAIN AT THE EDGE OF PAVEMENT OR AT THE INDICATED LOCATION AS SHOWN ON THE PLANS, AND
 - THE DISTANCE FROM THE BACK OF THE POST TO THE BREAK IN THE SLOPE SHALL NOT BE LESS THAN WHAT IS SHOWN ON THE PLANS BUT IT MAY BE MORE.
 - ALL OTHER REQUIREMENTS OF THE PERTINENT SPECIFICATIONS AND DETAILS REMAIN IN FORCE.

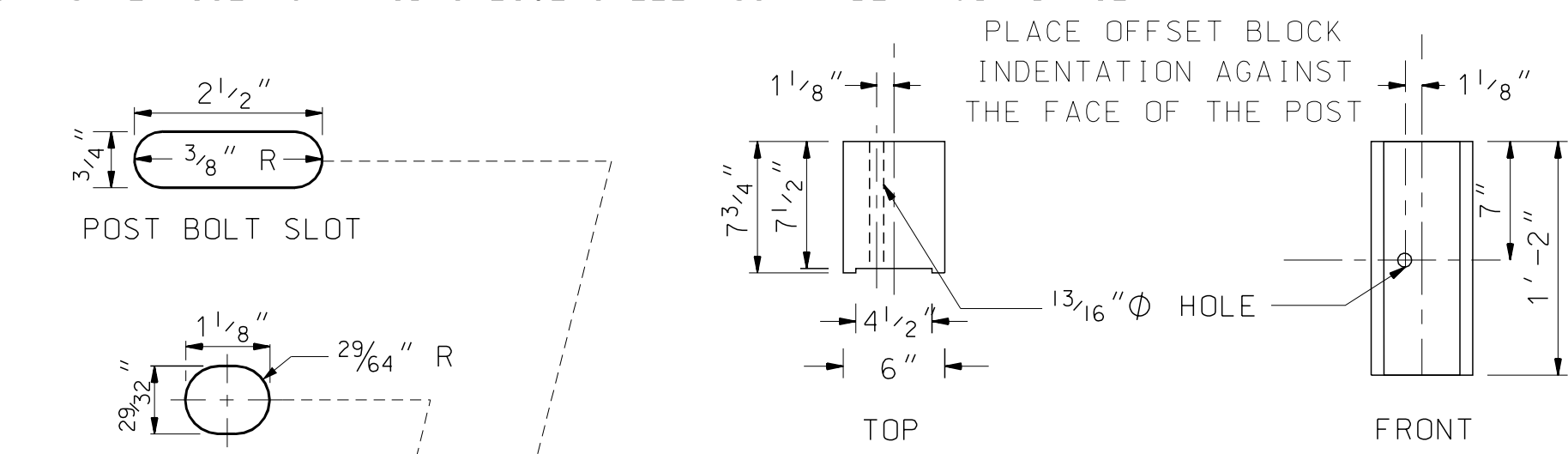


STRUCTURAL SHAPE STEEL POST

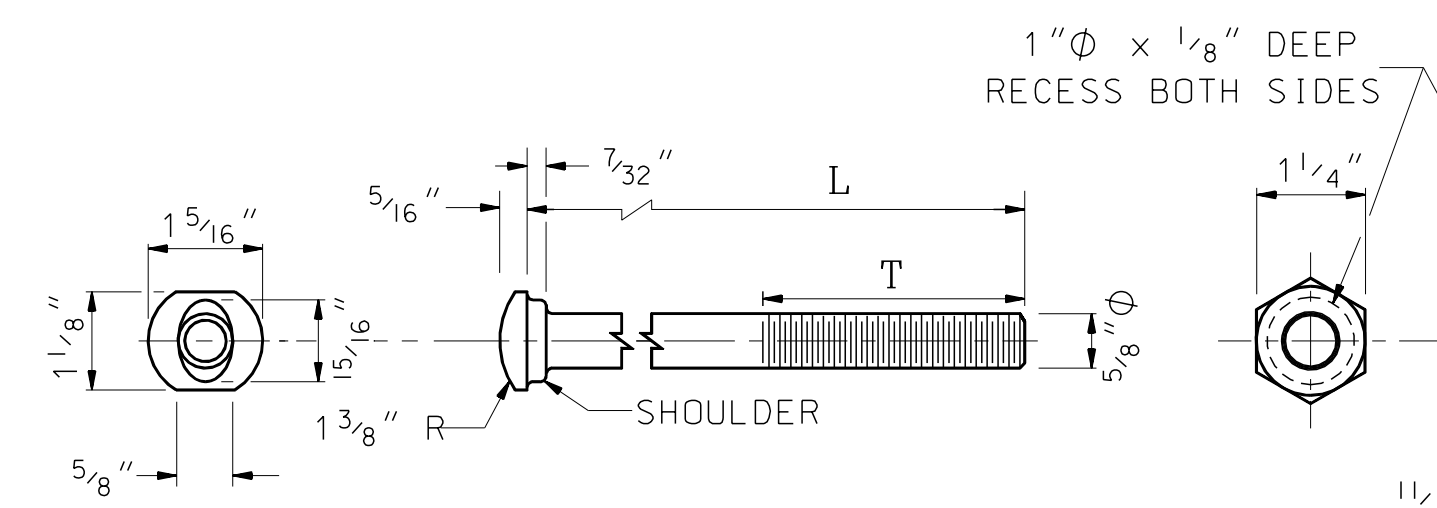


SECTION THRU RAIL ELEMENT

14 SPACE W-BEAM GUARDRAIL DESIGNATED RWM04a (NOMINALLY 12'-6")
 18 SPACE W-BEAM GUARDRAIL UNDESIGNATED AT THIS TIME (NOMINALLY 25'-0")

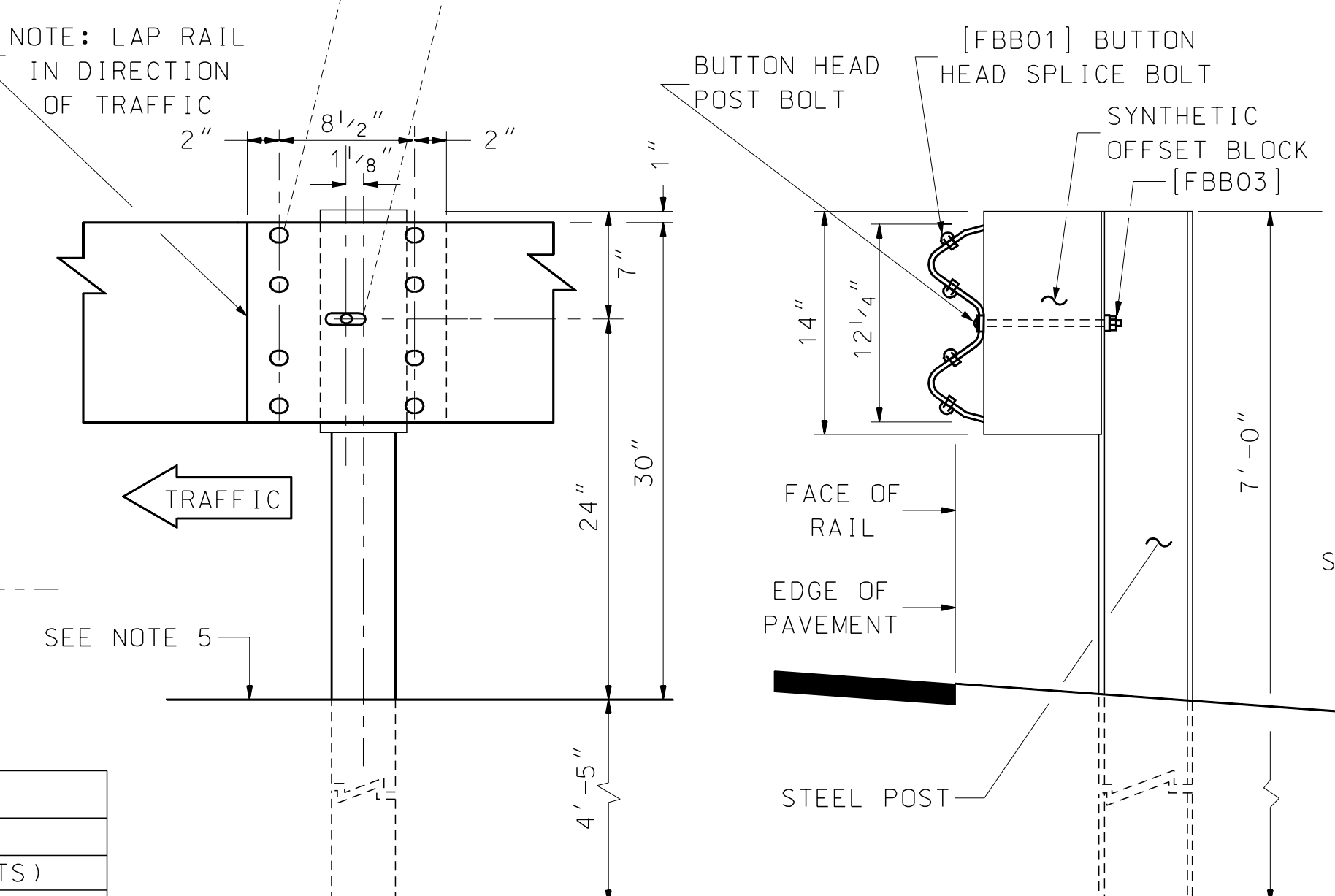


SYNTHETIC OFFSET BLOCK



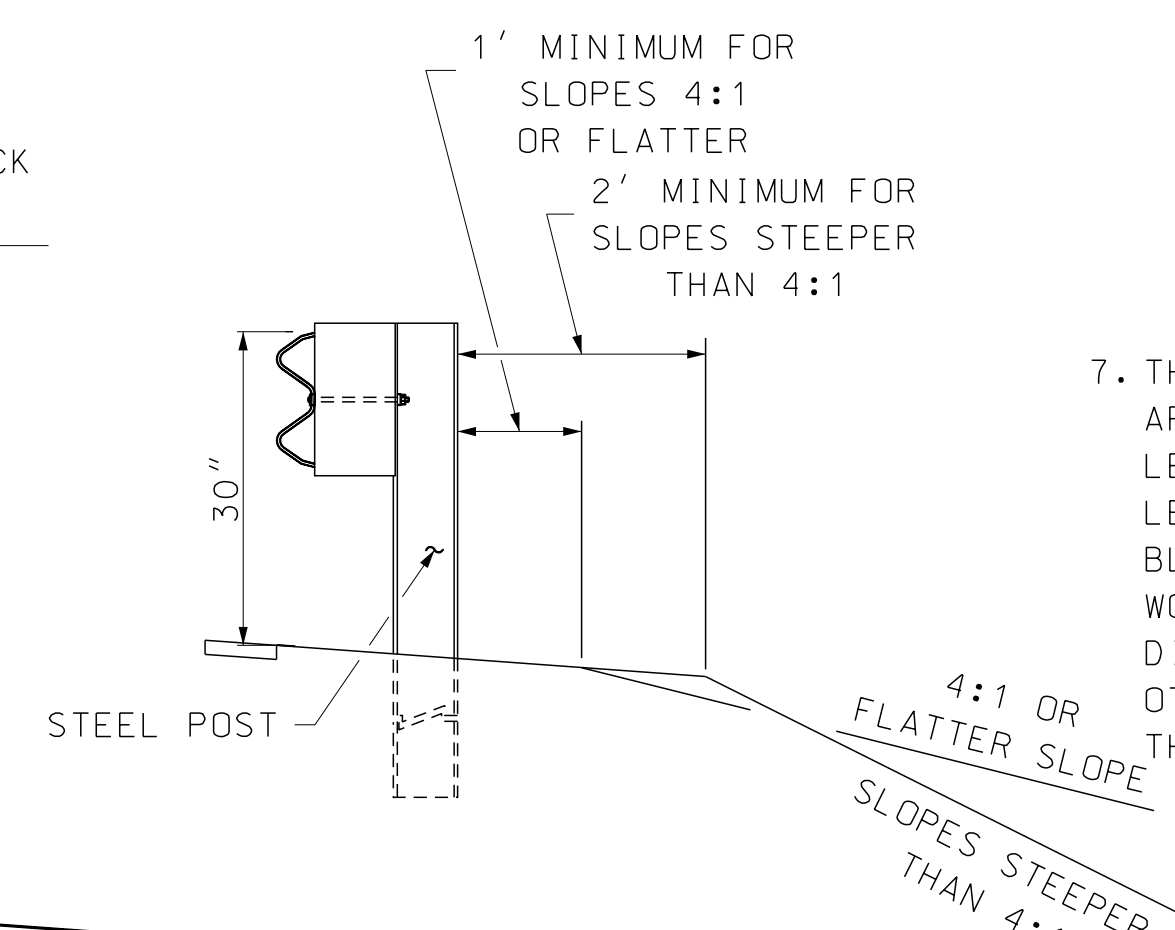
DESIGNATOR	L	T	INTENDED USE
FBB01	1 1/4"	FULL LENGTH THREAD	RAIL SPLICE BOLTS
FBB02	2"	1 3/4" MIN. THREAD LENGTH	POST BOLT (STEEL POSTS)
FBB03	9 1/2"	4" MIN. THREAD LENGTH	POST BOLT

5/8" BUTTON HEAD BOLT AND RECESSED NUT [FBB01-03]



LINE POST ELEVATION VIEW AT BEAM SPLICE

TYPICAL SIDE VIEW (SHOWN WITH FASTENERS)



CLARIFICATION DETAIL FOR GENERAL NOTE 6

GUARDRAIL STANDARD
 BEAM GUARDRAIL
 STANDARD SECTION-STEEL POSTS
 & HARDWARE DETAILS