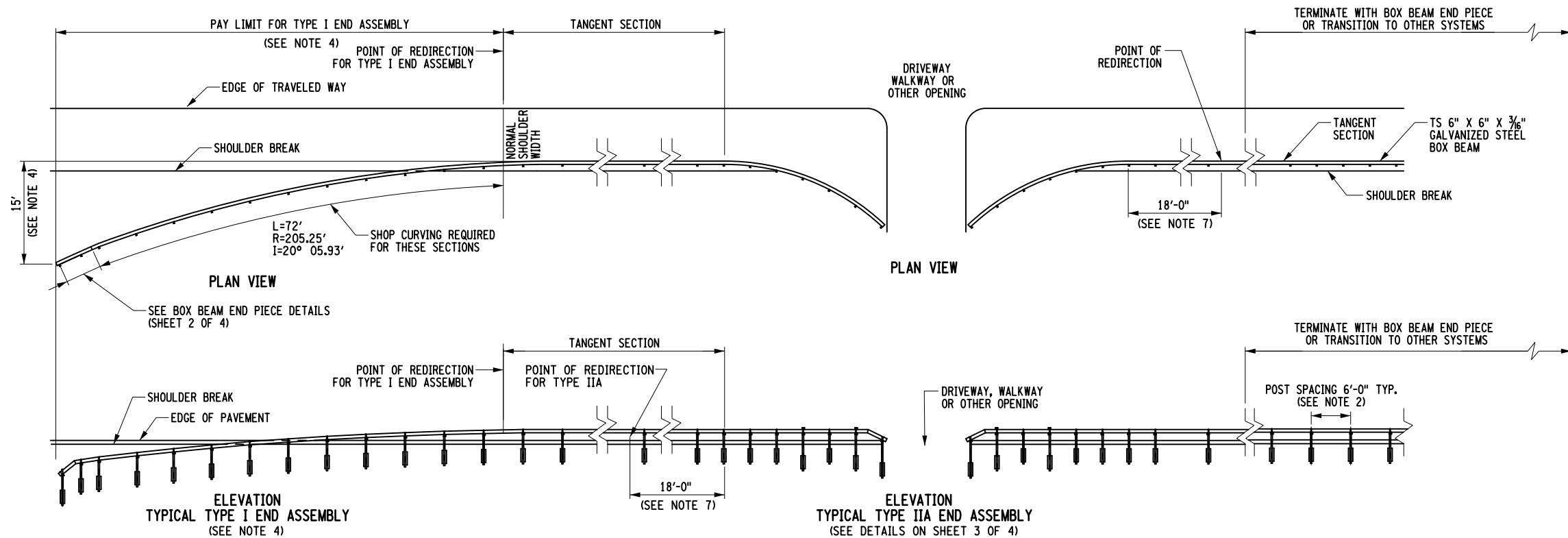
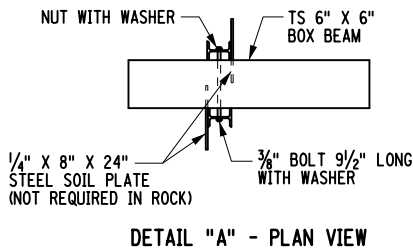
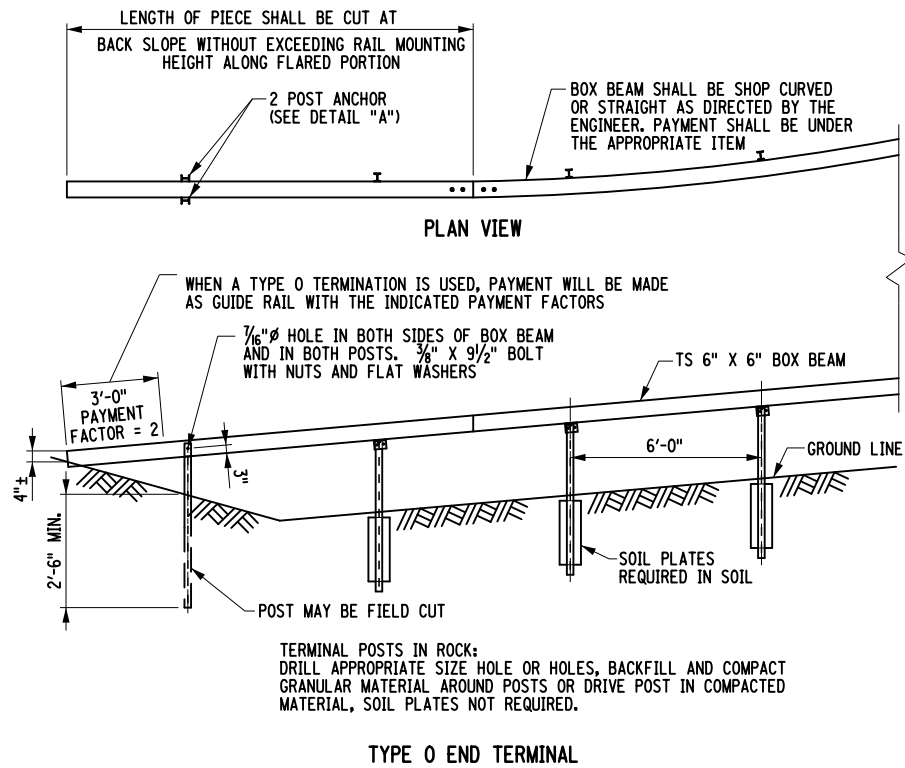




- GENERAL NOTES:
1. POST SPACING SHALL BE 6'-0" EXCEPT WHERE REDUCED POST SPACING IS INDICATED ON THE CONTRACT PLANS. FOR RUNS UNDER 130 FEET IN LENGTH, BACKUP POSTS ARE REQUIRED TO REDUCE POST SPACING TO 3'-0" AND SHALL BE FASTENED TORAIL, EXCEPT AT SPLICE LOCATIONS.
 2. SEE BRIDGE PLANS FOR GUIDE RAIL DETAILS, POST SPACING AND PAY ITEMS FOR TRANSITIONS AND CONNECTIONS TO BRIDGE RAIL.
 3. THE LINE OF BOX BEAM GUIDE RAIL, WHEN COMPLETED, SHALL PRESENT A SMOOTH AND PLEASING GRADE LINE IN BOTH HORIZONTAL AND VERTICAL PLANES. BOX BEAM WITH RADIUS OF 720'-0" OR LESS SHALL BE SHOP WORKED TO THE REQUIRED CURVATURE. PAYMENT FOR SUCH CURVED LENGTHS SHALL BE MADE UNDER THE APPROPRIATE ITEM.
 4. THE END MAY BE EXTENDED BY ONE 18'-0" STRAIGHT SECTION, PLACED BETWEEN THE CURVED SECTION AND THE END PIECE, TO MOVE THE END CLOSER TO THE EDGE OF THE CLEAR ZONE. PAYMENT SHALL BE MADE UNDER THE APPROPRIATE ITEM.
 5. BACKUP MAY REMAIN IN PLACE.
 6. THE RAIL MOUNTING HEIGHT OF ALL GUIDE RAIL OR MEDIAN BARRIER PLACED BEHIND CURB (REGARDLESS OF THE CURB HEIGHT OR SPEED) SHALL BE MEASURED FROM THE PAVEMENT SURFACE WHEN THE OFFSET IS 12" OR LESS AND TO THE GROUND SURFACE UNDER THE FACE OF THE RAIL WHEN THE OFFSET IS GREATER.
 7. FOR DESIGN SPEEDS UNDER 50 MPH THE POINT OF REDIRECTION WILL BE AT THE POINT OF TANGENCY.



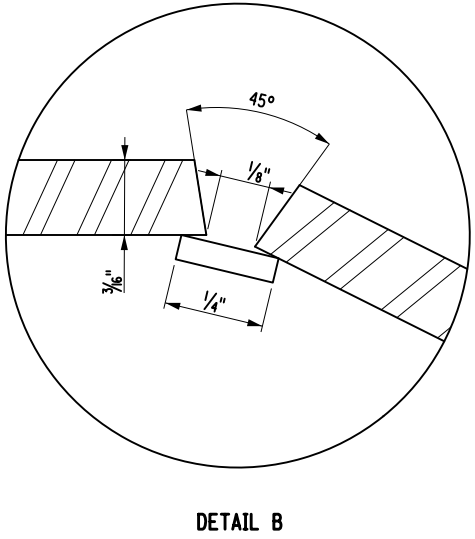
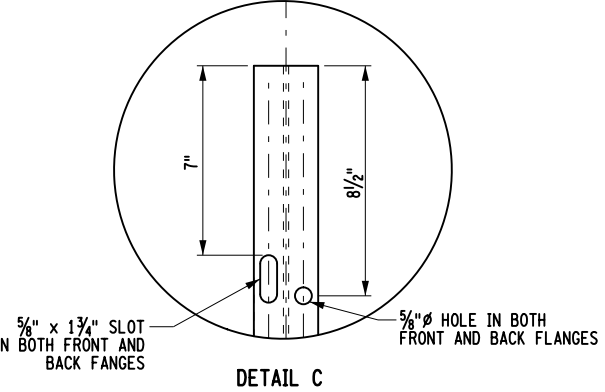
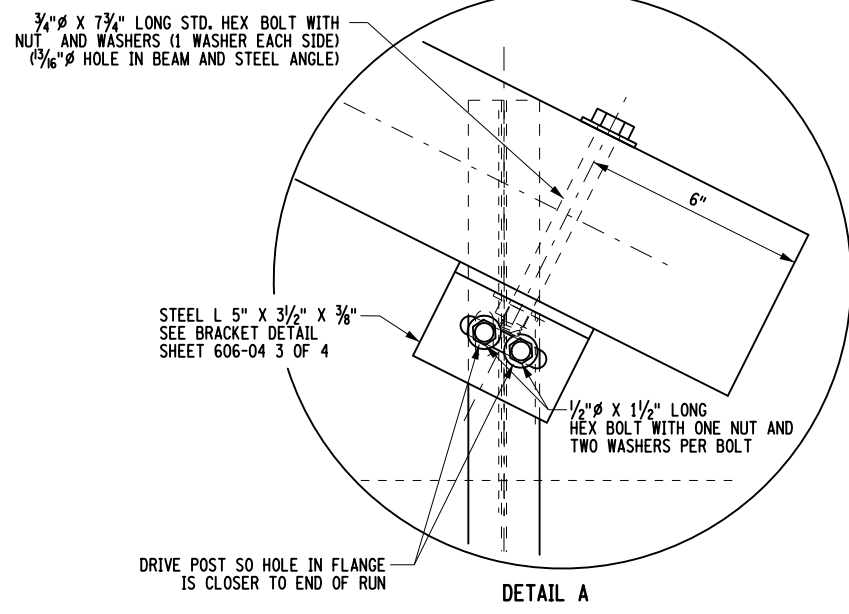
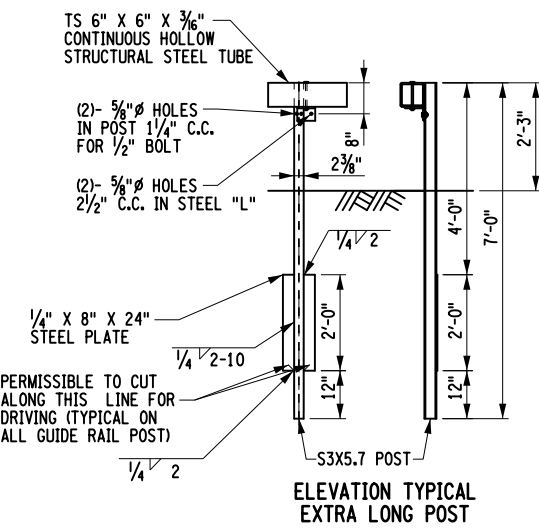
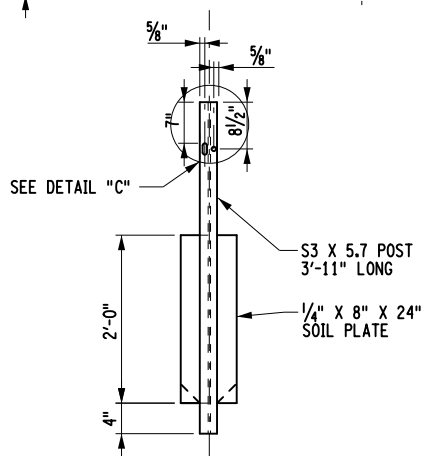
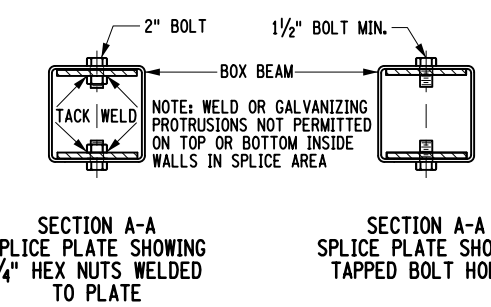
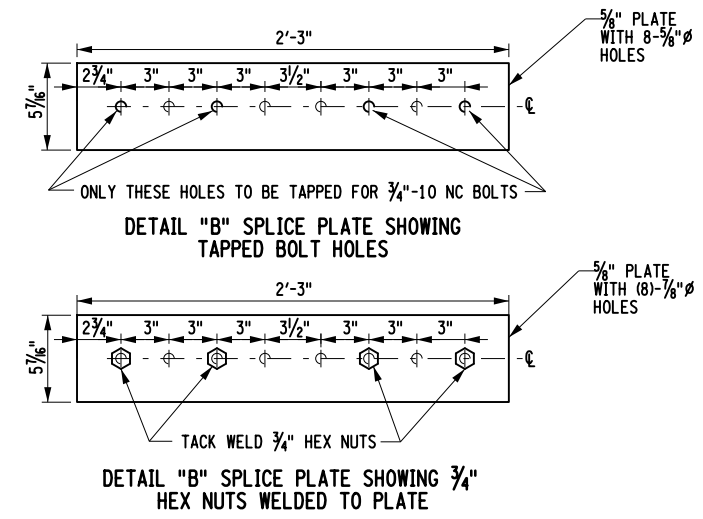
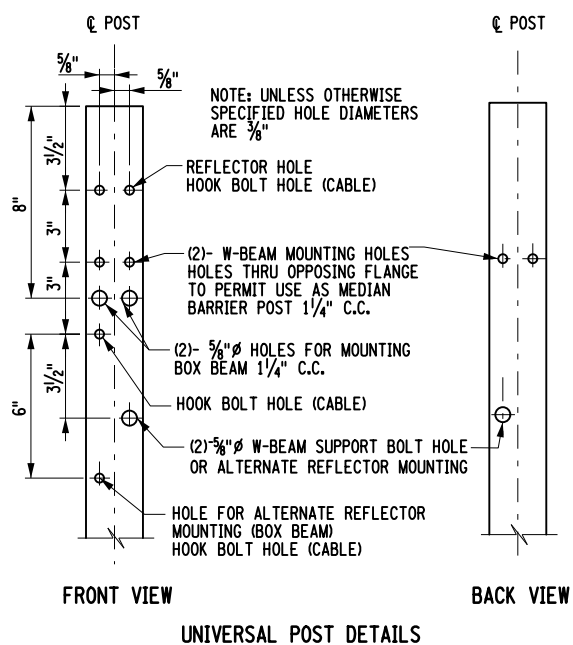
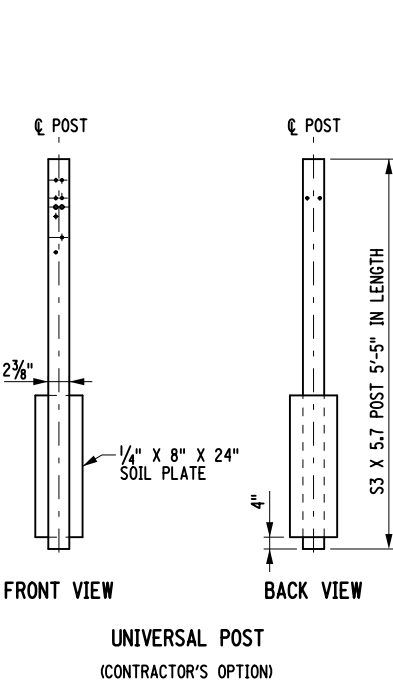
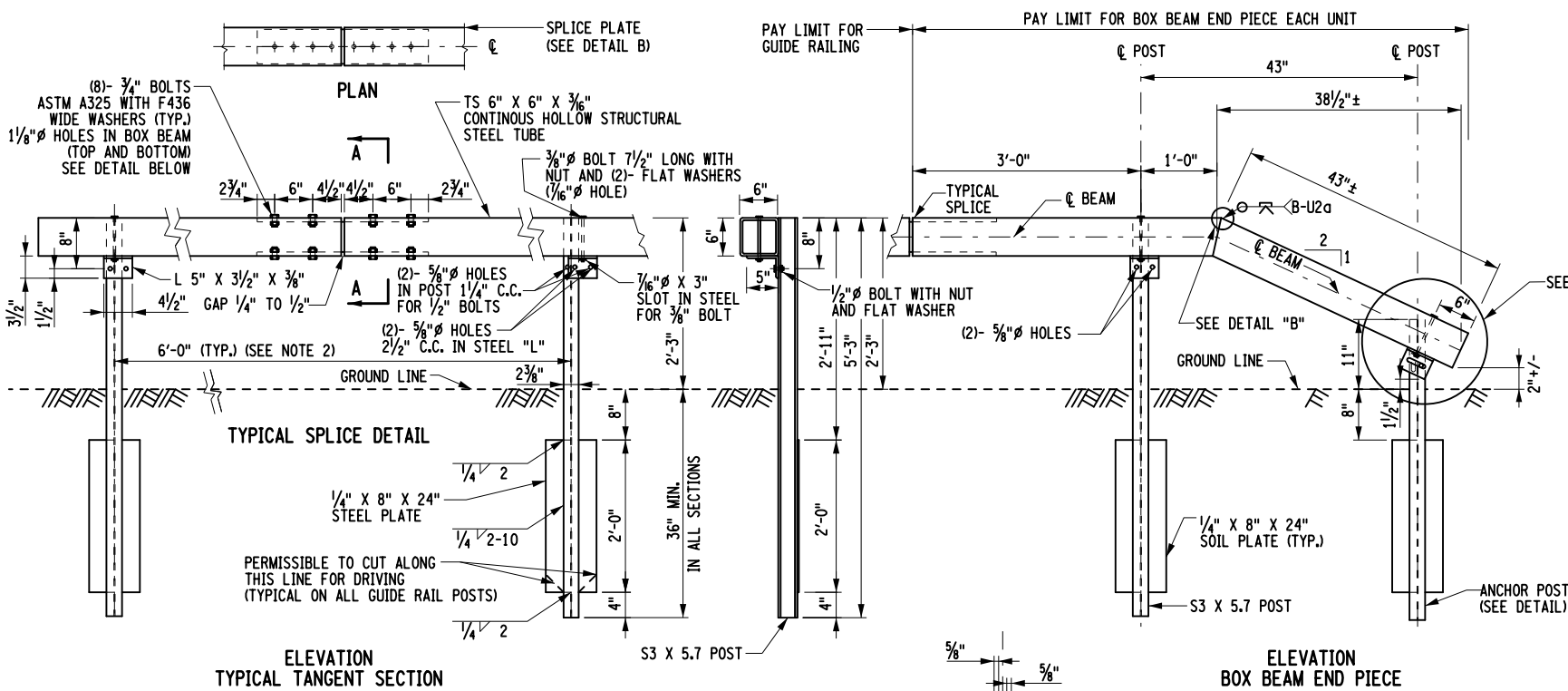
U.S. CUSTOMARY STANDARD SHEET

DRAFT
BOX BEAM GUIDE RAIL
(SHEET 1 OF 5)

APPROVED JUNE 21, 2011
/S/ RICHARD W. LEE, P.E.
DEPUTY CHIEF ENGINEER
(DESIGN)

ISSUED UNDER EB 11-013
606-04

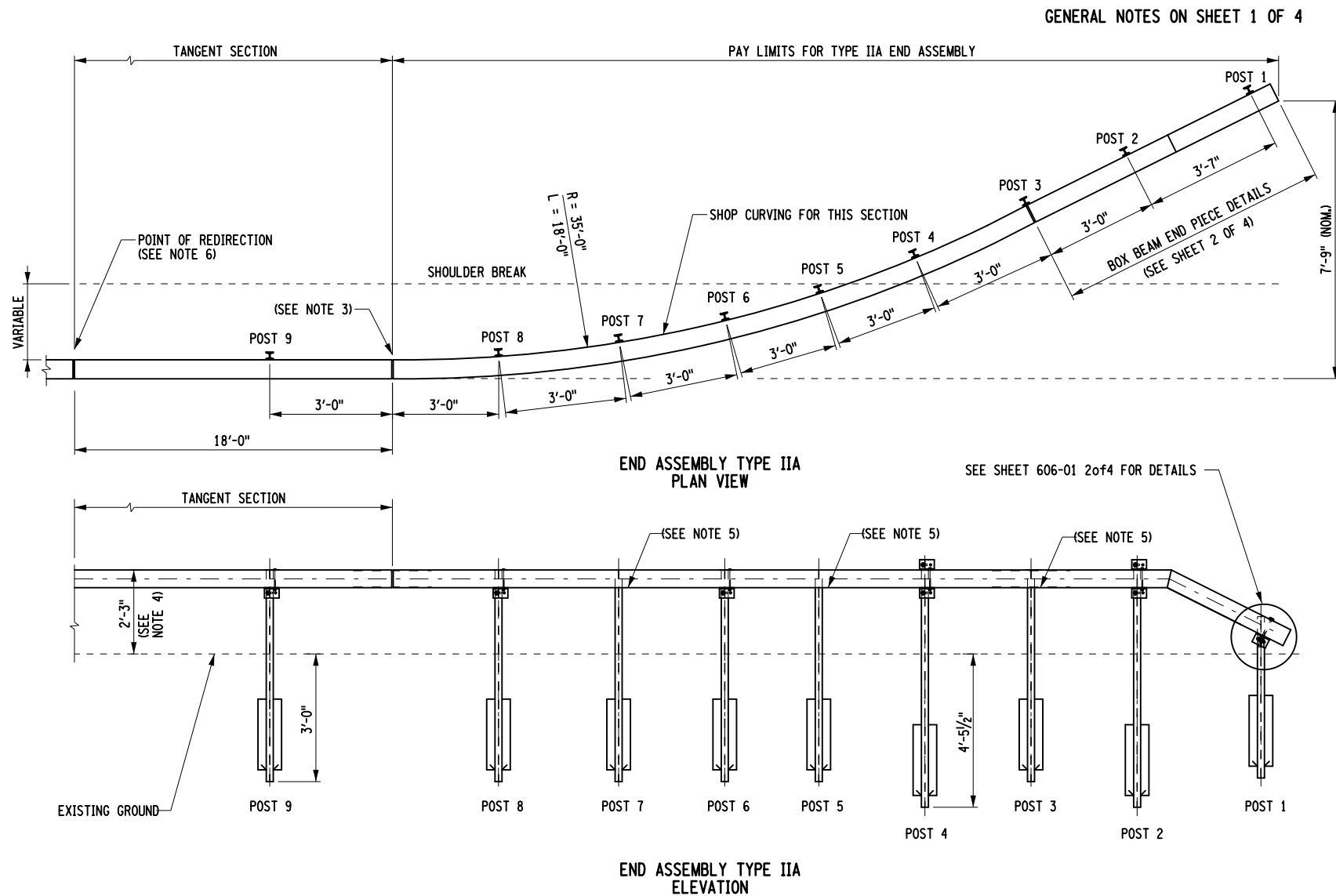
ERRATA 1 EFF. 01/01/2020
ISSUED WITH EB 19-041



 NEW YORK STATE OF OPPORTUNITY.		Department of Transportation
U.S. CUSTOMARY STANDARD SHEET		
BOX BEAM GUIDE RAIL (SHEET 2 of 5)		
APPROVED JANUARY 30, 2023  DEPUTY CHIEF ENGINEER (DESIGN)	ISSUED UNDER EI 23-001 606-04	

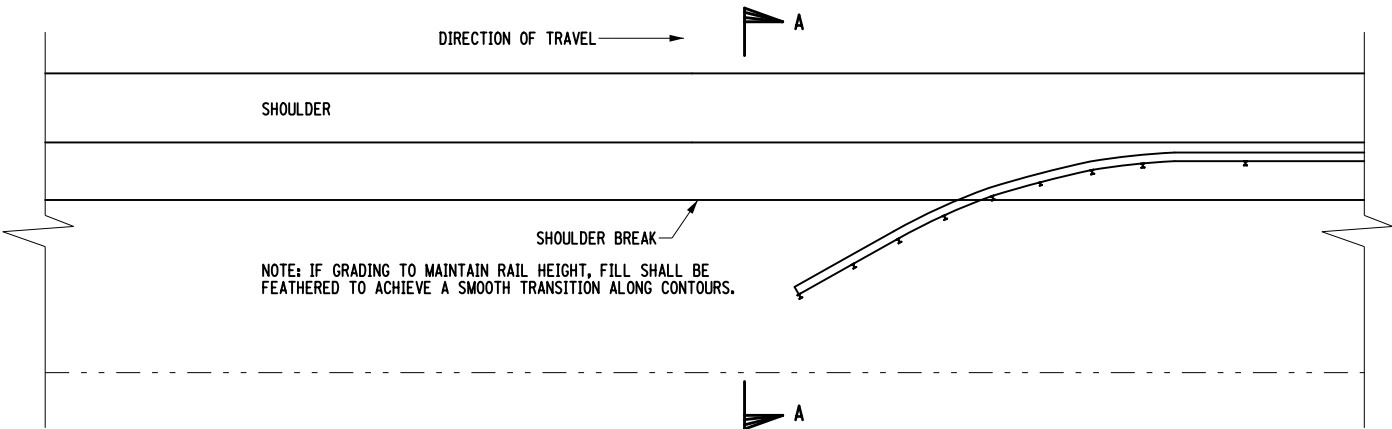
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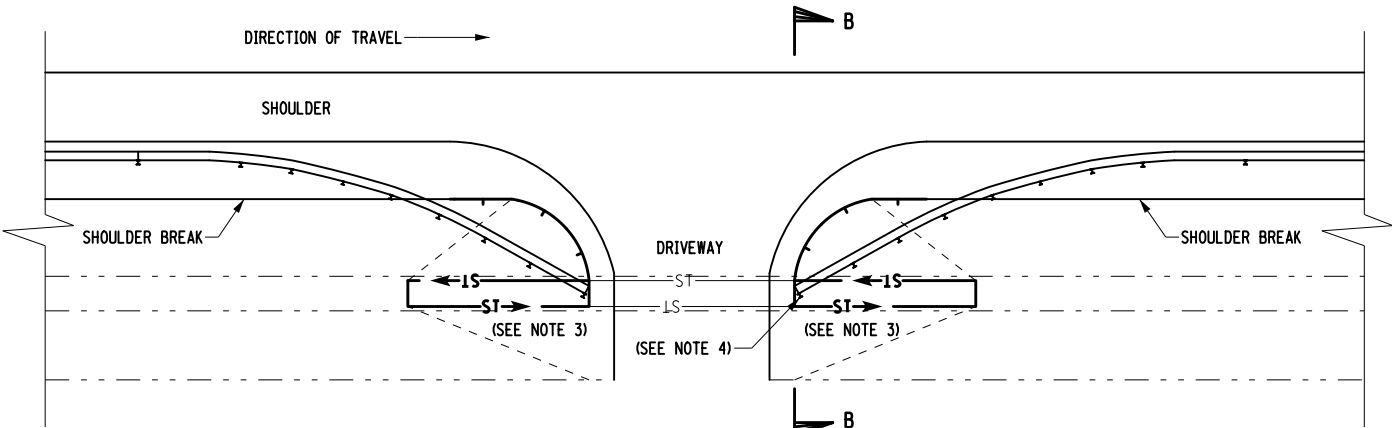


- TYPE IIA NOTES:
1. POSTS 2, AND 4 SHALL BE EXTRA LONG POSTS. POSTS 3, 5, 6, 7, 8, AND 9 SHALL BE STANDARD LENGTH.
 2. POSTS 2 AND 4 SHALL BE FASTENED TO THE RAIL USING DETAIL "A".
 3. FOR SIDE SLOPES 1:5 OR FLATTER, THE 18' OF CURVED BOX BEAM MAY BE PROVIDED IN A CURVED PORTION OF A 24' OR 36' PIECE. OTHERWISE, AN 18' SECTION IS TO BE SPLICED AT THE POINT OF TANGENCY.
 4. THE DRAWING INDICATES THE TERMINAL INSTALLED ON LEVEL GROUND. WHEN INSTALLED OVER A SLOPE OR DITCH, THE TERMINAL END SHOULD BE PUSHED DOWN WITH THE EQUIVALENT OF APPROXIMATELY 100 LBS EFFORT TO DEPRESS THE TERMINAL DOWN.
 5. POSTS 3, 5, AND 7 SHALL NOT BE CONNECTED TO BOX BEAM GUIDE RAIL. HOWEVER, FOR RUNS LESS THAN 130' IN LENGTH, ALL BACKUP POSTS SHALL BE FASTENED TO THE RAIL.
 6. FOR DESIGN SPEEDS UNDER 50 MPH THE POINT OF REDIRECTION WILL BE AT THE POINT OF TANGENCY.

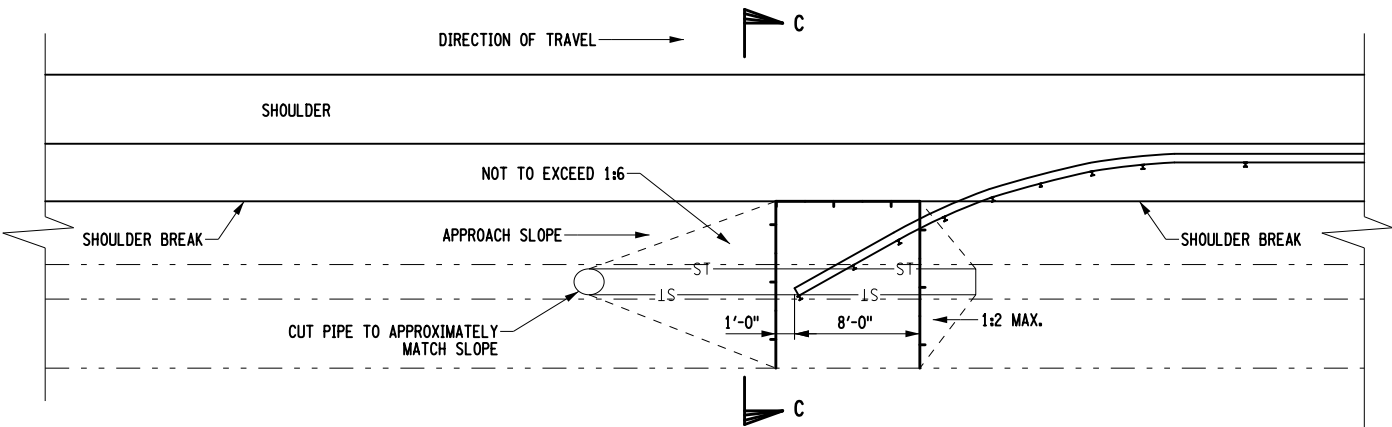
 NEW YORK STATE OF OPPORTUNITY.	Department of Transportation
U.S. CUSTOMARY STANDARD SHEET	
BOX BEAM GUIDE RAIL (SHEET 3 OF 5)	
APPROVED JANUARY 2, 2020 /S/ RICHARD D. WILDER P.E. DEPUTY CHIEF ENGINEER (DESIGN)	ISSUED UNDER EB 19-049 606-04



FLARING OPTION 1 FOR TYPE IIA BOX BEAM GUIDE RAIL
(SEE NOTE 4 SHEET 1 OF 4)

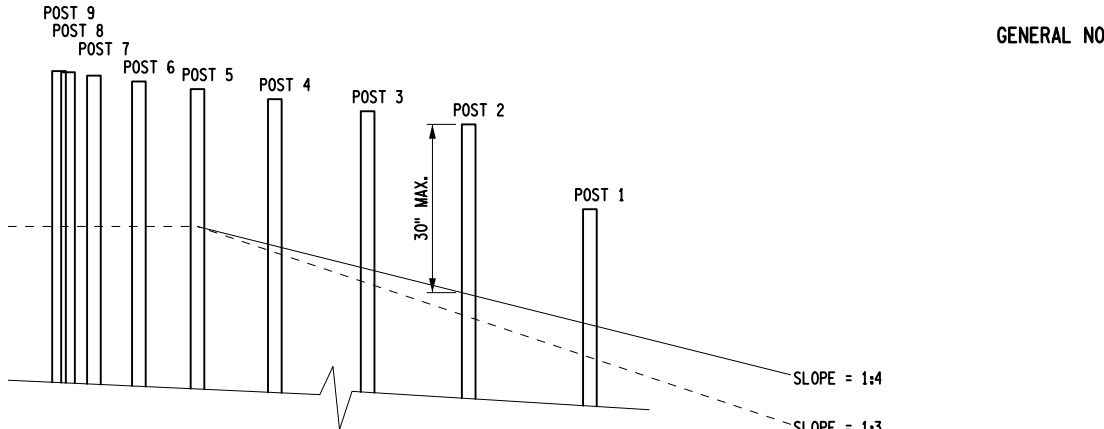


FLARING OPTION 2 FOR TYPE IIA BOX BEAM GUIDE RAIL
(SEE NOTE 4 SHEET 1 OF 4)



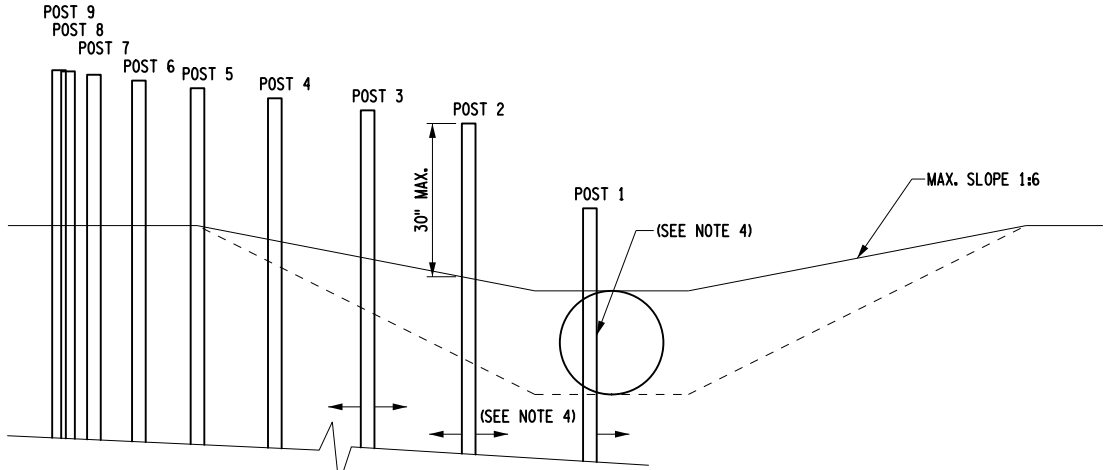
FLARING OPTION 3 FOR TYPE IIA BOX BEAM GUIDE RAIL
(SEE NOTE 4 SHEET 1 OF 4)

TYPICAL PIPE LENGTHS	
DITCH DEPTH	PIPE LENGTH
2'-0"	25'-0"
2'-6"	29'-0"
3'-0"	33'-0"
4'-0"	40'-0"



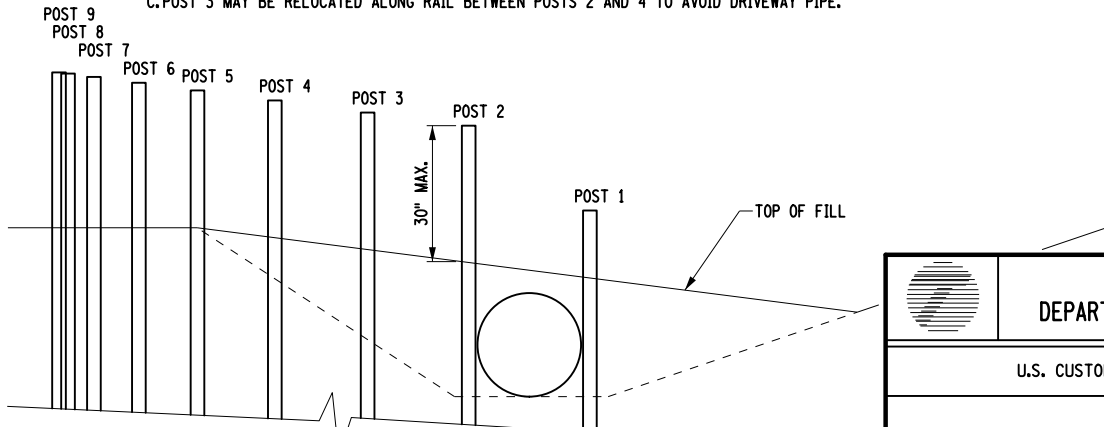
SECTION "A-A" - OPTION 1 : ON MILD FILL SLOPE

- DEPRESS TERMINAL END BY 12" AND FASTEN TO POSTS BEFORE TIGHTENING BOLTS ON SPLICE BETWEEN POSTS 8 AND 9. IF THE SLOPE FROM SHOULDER BREAK BEGINS 2'-0" OR MORE BEHIND GUIDE RAIL RUN AND IS 1:4 OR FLATTER, NO ADDITIONAL GRADING IS REQUIRED.
- TERMINAL MAY BE PLACED ON STEEPER SLOPES IF GRADING IS PROVIDED TO LIMIT RAIL HEIGHT TO 30" OR LESS.



SECTION "B-B" - OPTION 2 : DRIVEWAY EMBANKMENT

- EXTEND CULVERT A MINIMUM OF 4'-0" PAST GUIDE RAIL FOR GRADING.
- DEPRESS TERMINAL BY 12" BEFORE TIGHTENING BOLTS ON SPLICE BETWEEN POSTS 8 AND 9. IF THE SLOPE FROM SHOULDER BREAK IS 1:4 OR FLATTER, NO ADDITIONAL GRADING IS REQUIRED.
- POST 1 SHALL BE POSITIONED AT OR BELOW SHOULDER BREAK OF DRIVEWAY.
- DO NOT DRIVE POST THROUGH PIPE. TO AVOID POST HITTING DRIVEWAY PIPE:
A. TERMINAL FLARE MAY BE INCREASED TO PLACE POST 1 BEYOND PIPE.
B. POST 2 MAY BE MOVED UP TO 1'-6" ALONG RAIL, MOVING CLOSER TO ROAD TO AVOID DRIVEWAY PIPE.
C. POST 3 MAY BE RELOCATED ALONG RAIL BETWEEN POSTS 2 AND 4 TO AVOID DRIVEWAY PIPE.



SECTION "C-C" - OPTION 3 : LOCALIZED DITCH FILLING

- WHEN TERMINAL MUST FLARE ACROSS A DEEP DITCH AND NO LATERAL EMBANKMENT IS NEAR, A PIPE SHALL BE SET IN THE DITCH AND AN EMBANKMENT CONSTRUCTED AT THE TERMINAL.
A. THE APPROACH SLOPE SHALL HAVE A MAXIMUM STEEPNESS OF 1:6.
B. THE FILL SHALL BE SUFFICIENT TO LIMIT GUIDE RAIL HEIGHT TO NO MORE THAN 30".
C. IF A BACK SLOPE IS ACCESSIBLE AT THE CORRECT HEIGHT, THE BOX BEAM END PIECE SHOULD BE ELIMINATED AND A TYPE O ENDING USED.

EFFECTIVE DATE: 01/06/2011

GENERAL NOTES ON SHEET 1 OF 4



STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY STANDARD SHEET

BOX BEAM GUIDE RAIL
(SHEET 4 OF 5)

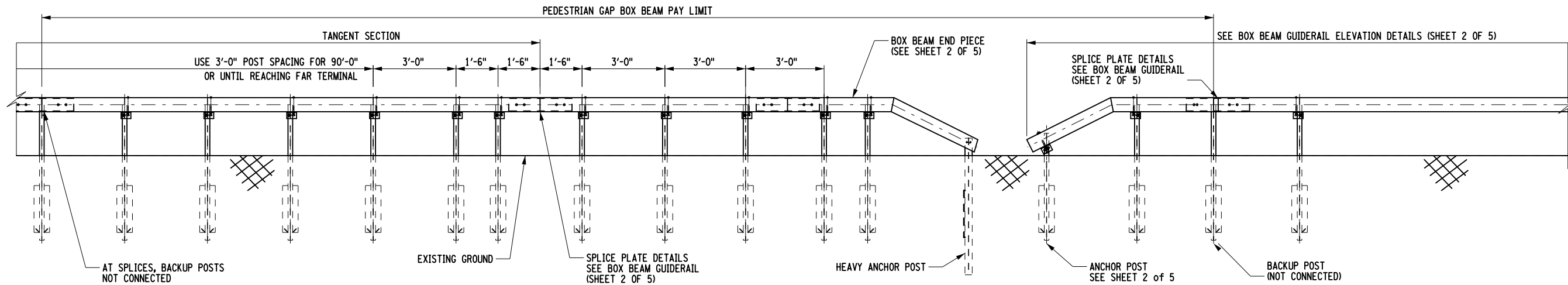
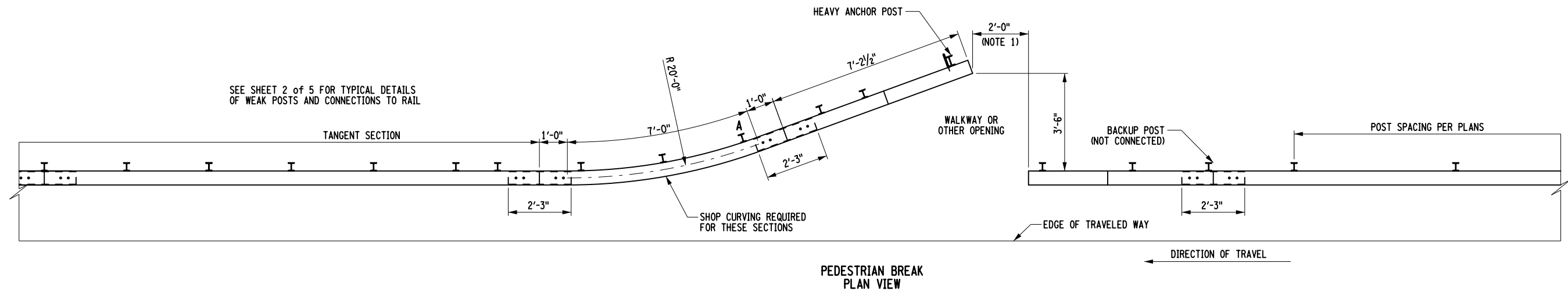
APPROVED JULY 2, 2010

/S/ RICHARD W. LEE, P.E.
FOR THE DEPUTY CHIEF ENGINEER
(DESIGN)

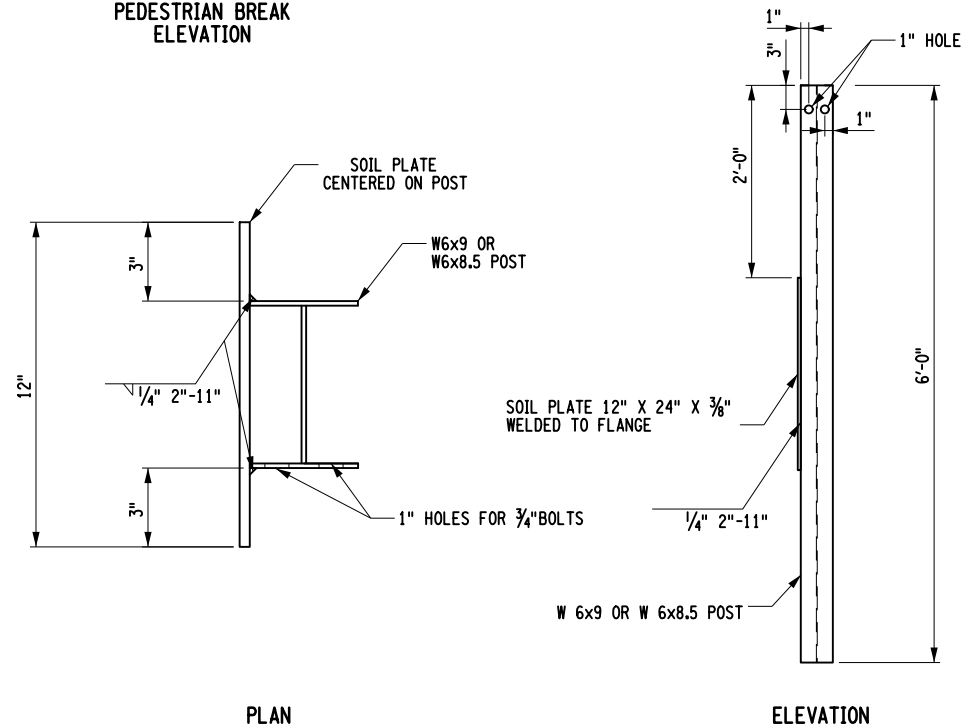
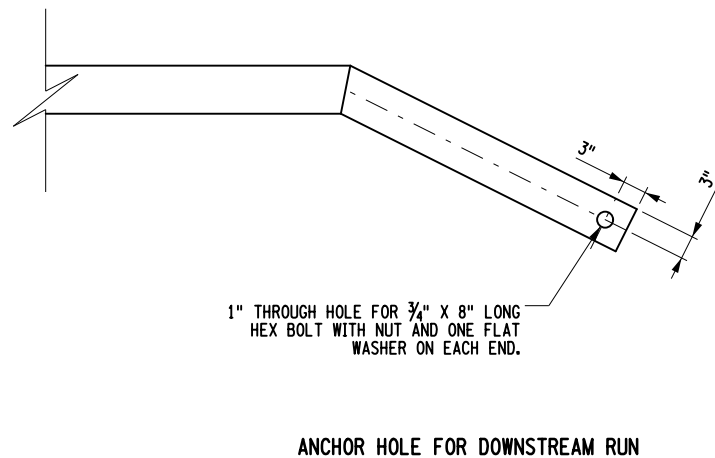
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606-04

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PEDESTRIAN BREAK ELEVATION



PEDESTRIAN BREAK NOTES:

1. A LONGITUDINAL GAP OF 2 FEET IS PREFERRED. IF REQUIRED BY FIELD CONDITIONS, LENGTH MAY BE BETWEEN 0 AND 5 FEET.
2. THIS DRAWING ILLUSTRATES TERMINAL INSTALLED ON LEVEL GROUND. WHEN EXTENDED BEYOND A SLOPE BREAK, THE TERMINAL END SHOULD BE PUSHED DOWN WITH UP TO 100 LBS. OF FORCE TO DEPRESS THE RAIL TO BEST FOLLOW TOPOGRAPHY. THE FIRST POST SHALL BE DRIVEN AND FASTENED TO THE RAIL AT ITS DEPRESSED HEIGHT. THE REMAINING POSTS SHALL BE DRIVEN TO MEET THE RAIL.
3. TERMINAL POSTS IN ROCK: DRILL APPROPRIATE SIZE HOLE OR HOLES, BACKFILL AND COMPACT GRANULAR MATERIAL AROUND POSTS OR DRIVE POST IN COMPACTED MATERIAL, SOIL PLATES NOT REQUIRED.
4. ALL CUTS AND HOLES THROUGH THE GALVANIZING SHALL BE TREATED WITH ZINC PAINT.

HEAVY ANCHOR POST



Department of
Transportation

U.S. CUSTOMARY STANDARD SHEET

BOX BEAM GUIDE RAIL
(SHEET 5 OF 5)
PEDESTRIAN BREAK

APPROVED SEPTEMBER 06, 2019

/S/ RICHARD WILDER, P.E.

DEPUTY CHIEF ENGINEER
DESIGN

ISSUED UNDER EB 19-034

606-04

ERRATA 1 EFF. 01/01/2025
ISSUED WITH EB EB 24-037