SOIL PLATES REQUIRED IN SOIL TS 6" X 6" BOX BEAM

DRIVEWAY, WALKWAY OR OTHER OPENING

EDGE OF TRAVELED WAY

HOLE IN BOTH SIDES OF BOX BEAM AND IN BOTH POSTS. …" BOLT WITH NUTS AND FLAT WASHERS

2'-6" MIN.
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.

TYPE 0 END TERMINAL POST MAY BE FIELD CUT

TERMINAL POSTS IN ROCK
STAIN STEEL MATERIAL AROUND POSTS OF STEEL POST IN COMPACTED MATERIAL, SOIL PLATES NOT REQUIRED.

ELEVATION

TYPICAL TYPE I END ASSEMBLY
SEE DETAIL "A"

NOTICE: SEE DETAIL ON SHEET 3 OF 4

GENERAL NOTES:
1. POST SPACING SHALL BE 6'-0" EXCEPT WHERE REDUCED POST SPACING IS INDICATED ON THE CONTRACT PLANS. POSTS ARE CONNECTED TO RAIL AT 6'-0" SPACING. WHEN 36" OR 24" REDUCED POST SPACING IS REQUIRED, PAYMENT FOR ADDITIONAL POSTS ASSOCIATED WITH REDUCED POST SPACING WILL BE MADE UNDER EITHER THE PAY ITEM FOR BACKUP POSTS FOR GUIDE RAIL OR THE PAYMENT FACTORS SPECIFIED IN CONTRACT DOCUMENTS. SEE BRIDGE PLANS FOR GUIDE RAIL DETAILS, POST SPACING AND PAY ITEMS FOR TRANSITIONS AND CONNECTIONS TO BRIDGE RAIL.

2. THE LINE OF BOX BEAM GUIDE RAIL, WHEN COMPLETE, SHALL PRESENT A SMOOTH AND FLEXIBLE GUIDE LINE IN BOTH HORIZONTAL AND VERTICAL PLANS. 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.

3. POST SPACING SHALL BE 6'-0" EXCEPT WHERE REDUCED POST SPACING IS INDICATED ON THE CONTRACT PLANS. POSTS ARE CONNECTED TO RAIL AT 6'-0" SPACING. WHEN 36" OR 24" REDUCED POST SPACING IS REQUIRED, PAYMENT FOR ADDITIONAL POSTS ASSOCIATED WITH REDUCED POST SPACING WILL BE MADE UNDER EITHER THE PAY ITEM FOR BACKUP POSTS FOR GUIDE RAIL OR THE PAYMENT FACTORS SPECIFIED IN CONTRACT DOCUMENTS. SEE BRIDGE PLANS FOR GUIDE RAIL DETAILS, POST SPACING AND PAY ITEMS FOR TRANSITIONS AND CONNECTIONS TO BRIDGE RAIL.

4. THE END MAY BE EXTENDED BY AN 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. 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.

6. FOR DESIGN SPEEDS UNDER 50 MPH THE POINT OF REDIRECTION WILL BE AT THE POINT OF TANGENCY.
POSTS 2 AND 4 SHALL BE EXTRA LONG POSTS. POSTS 3, 5, 6, 7, 8, AND 9 SHALL BE STANDARD LENGTH.

POSTS 2 AND 4 SHALL BE FASTENED TO THE RAIL USING DETAIL "A".

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.

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.

POSTS 3, 5, AND 7 SHALL NOT BE CONNECTED TO BOX BEAM GUIDE RAIL.

FOR DESIGN SPEEDS UNDER 50 MPH THE POINT OF REDIRECTION WILL BE AT THE POINT OF TANGENCY.
POST 1
POST 2
POST 3
POST 4
POST 5
POST 6
POST 7
POST 8
POST 9

SLOPE = 1:4
SLOPE = 1:3

SHOULDER BREAK
SHOULDER BREAK
SHOULDER BREAK

DIRECTION OF TRAVEL
DIRECTION OF TRAVEL
DIRECTION OF TRAVEL

SECTION "A-A" - OPTION 1 - ON WILD FILL SLOPE
1. Place terminal end of box beam in post 9. Before attaching bolts on splice between posts 8 & 9, cut pipe to approximate match slope.
2. If the slope from shoulder break is 1:4 or flatter, no additional grading is required.

SECTION "B-B" - OPTION 2 - DRIVEWAY EMBANKMENT
1. Extend culvert a minimum of 4'-0" past guide rail for spacing.
2. Cut pipe to approximate match slope. Before attaching bolts on splice between posts 8 & 9, cut pipe to approximate match slope.
3. The fill shall be sufficient to limit guide rail height to no more than 30".
4. The fill shall be sufficient to limit guide rail height to no more than 30".
5. If a back slope is accessible at the correct height, the box beam end piece should be eliminated and a Type 0 ending used.

SECTION "C-C" - OPTION 3 - LOCALIZED DITCH FILLING
1. Cut pipe to approximate match slope. Before attaching bolts on splice between posts 8 & 9, cut pipe to approximate match slope.
2. If the slope from shoulder break is 1:4 or flatter, no additional grading is required.
3. The fill shall be sufficient to limit guide rail height to no more than 30".

TYPICAL PIPE LENGTHS

<table>
<thead>
<tr>
<th>DITCH DEPTH</th>
<th>PIPE LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>2'-0&quot;</td>
<td>25'-0&quot;</td>
</tr>
<tr>
<td>4'-0&quot;</td>
<td>33'-0&quot;</td>
</tr>
</tbody>
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NOTE: IF GRADING TO MAINTAIN RAIL HEIGHT, FILL SHALL BE FEATHERED TO ACHIEVE A SMOOTH TRANSITION ALONG CONTOURS.

MAX. SLOPE 1:6

NOTE 1: POST 1 SHALL BE POSITIONED AT OR BELOW SHOULDER BREAK OF DRIVEWAY.
NOTE 2: POST 2 MAY BE MOVED UP TO 1'-6" ALONG RAIL, MOVING CLOSER TO ROAD TO AVOID DRIVEWAY PIPE.
NOTE 3: POST 3 MAY BE RELOCATED ALONG RAIL BETWEEN POSTS 2 AND 4 TO AVOID DRIVEWAY PIPE.
NOTE 4: POST 1 SHALL NOT BE DRIVEN THROUGH PIPE. TO AVOID POST HITTING DRIVEWAY PIPE:
A. POST 1 MAY BE MOVED UP TO 1'-6" ALONG RAIL, MOVING CLOSER TO ROAD TO AVOID DRIVEWAY PIPE.
B. POST 1 MAY BE MOVED UP TO 1'-6" ALONG RAIL, MOVING CLOSER TO ROAD TO AVOID DRIVEWAY PIPE.
C. POST 1 MAY BE MOVED UP TO 1'-6" ALONG RAIL, MOVING CLOSER TO ROAD TO AVOID DRIVEWAY PIPE.

APPROVED JULY 2, 2010
1/8.2-0.20.00
FOR THE DEPUTY CHIEF ENGINEER
606-04