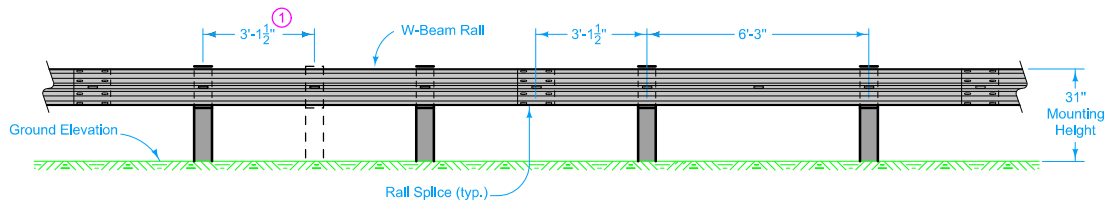
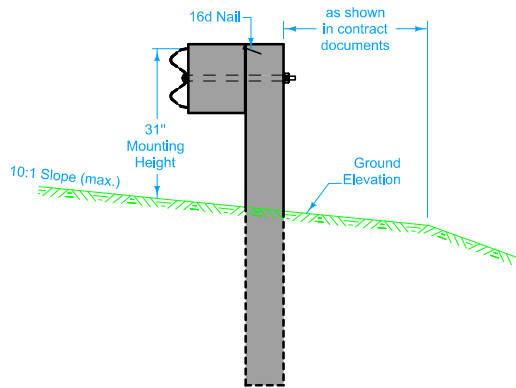


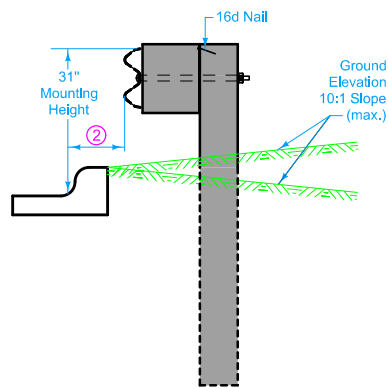
PLAN



ELEVATION



SECTION

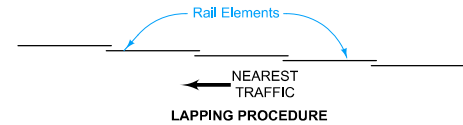


SECTION WITH CURB

W-BEAM INSTALLATION

At Bridge End Drains, cut Scour Protection (Transition Mat and Turf Reinforcement Mat) or remove rock as required to place post(s) such that Bridge End Drains abut post(s).

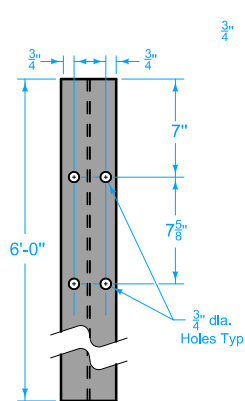
- ① When specified by the contract documents, install posts at 3'-1½" spacing.
- ② 6" maximum for 6" Standard or 6" Sloped curbs and for non-standard curbs.
- ③ Wood or composite only. Steel blockouts will not be allowed.



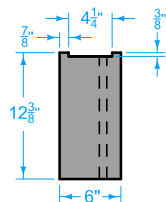
Possible Contract Item:
Steel Beam Guardrail

	REVISION
	4 10-18-16
STANDARD ROAD PLAN	BA-200
SHEET 1 of 4	
REVISIONS: Added holes on steel posts and corresponding blockouts.	
APPROVED BY DESIGN METHODS ENGINEER	
STEEL BEAM GUARDRAIL COMPONENTS	

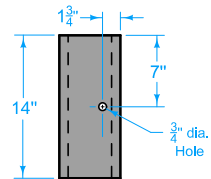
STEEL POST AND BLOCKOUT DETAILS



6'-0" STEEL POST
W6x9 or W6x8.5

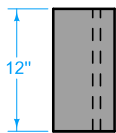


PLAN

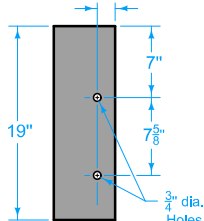


ELEVATION

W-BEAM BLOCKOUT ③

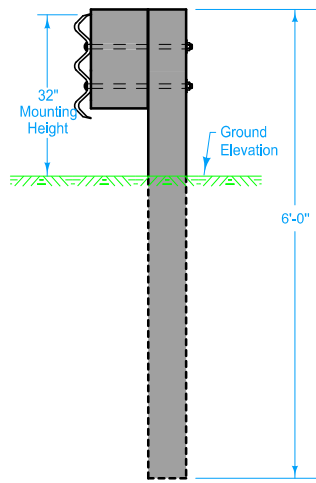


PLAN



ELEVATION

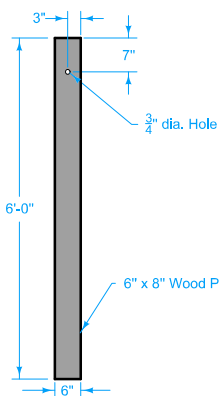
THRIE-BEAM BLOCKOUT ③



THRIE-BEAM INSTALLATION

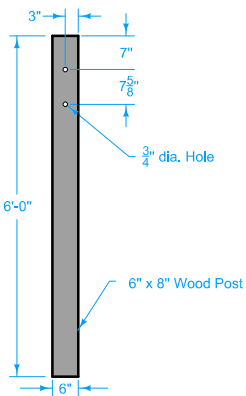
③ Wood or composite only. Steel blockouts will not be allowed.

WOOD POST AND BLOCKOUT DETAILS

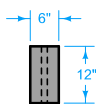


W-BEAM

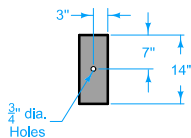
POSTS



THRIE-BEAM

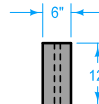


PLAN

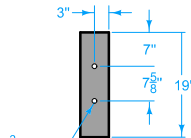


ELEVATION

W-BEAM BLOCKOUT ③



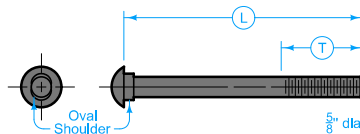
PLAN



ELEVATION

THRIE-BEAM BLOCKOUT ③

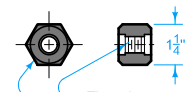
BOLT DETAILS



BOLT

APPLICATION	T	L
Splice Bolt	1 1/16"	1 1/4"
Bolt for Steel Post with 8" Blockout	2 1/2"	10"
Bolt for Steel Post with 12" Blockout	2 1/2"	14"
Bolt for Wood Post with 8" Blockout	2 1/2"	18"
Bolt for Wood Post with 12" Blockout	2 1/2"	22"

T = Min. Thread Length L = Bolt Length



NUT

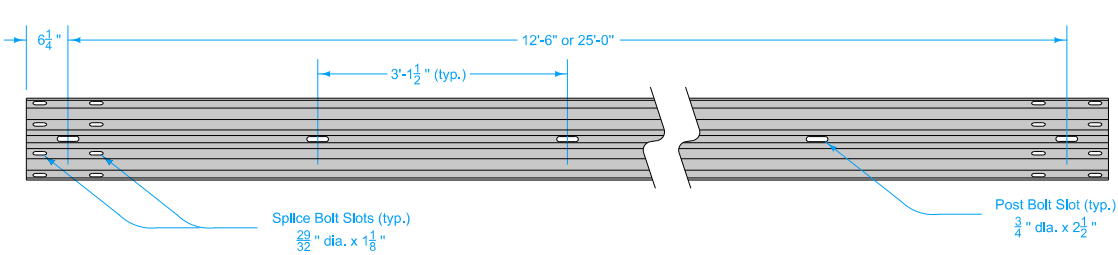
HARDWARE

<p>STANDARD ROAD PLAN</p>	REVISION 4 10-18-16
	BA-200
	SHEET 2 of 4

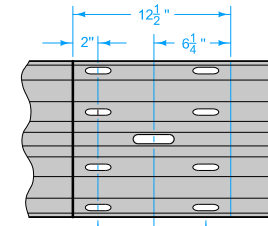
REVISIONS: Added holes on steel posts and corresponding blockouts.

Brian Smith
APPROVED BY DESIGN METHODS ENGINEER

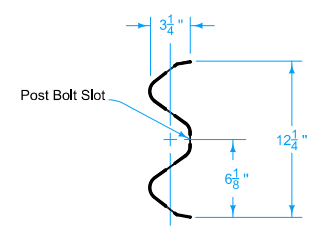
STEEL BEAM GUARDRAIL COMPONENTS



ELEVATION

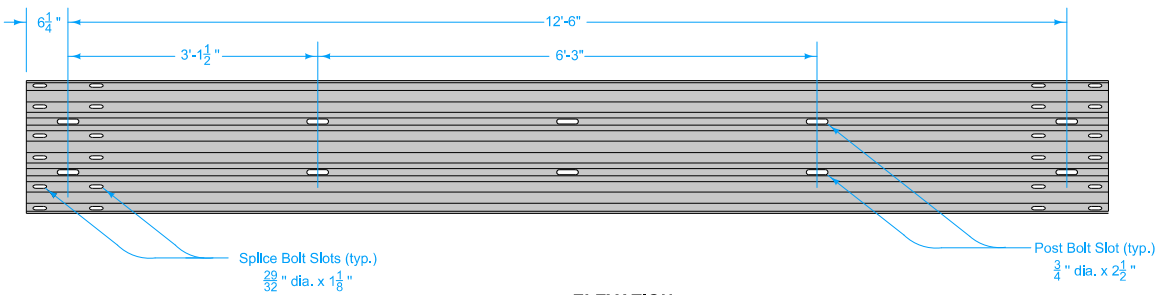


RAIL SPLICE

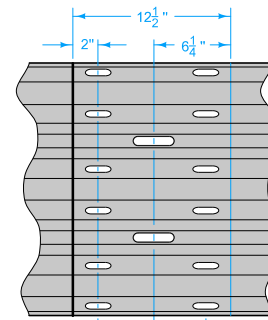


SECTION

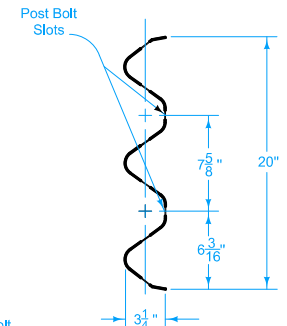
W-BEAM RAIL



ELEVATION

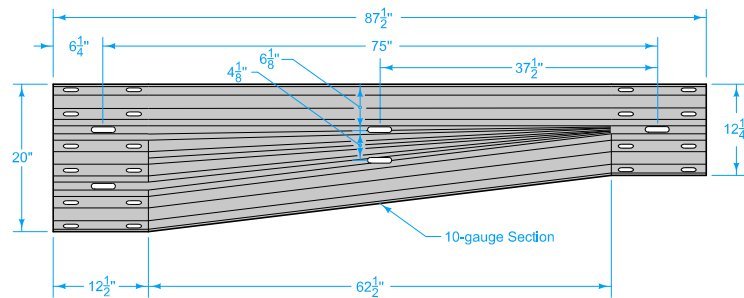


RAIL SPLICE



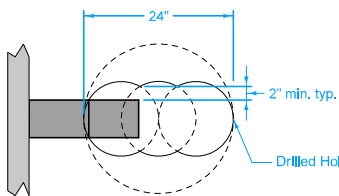
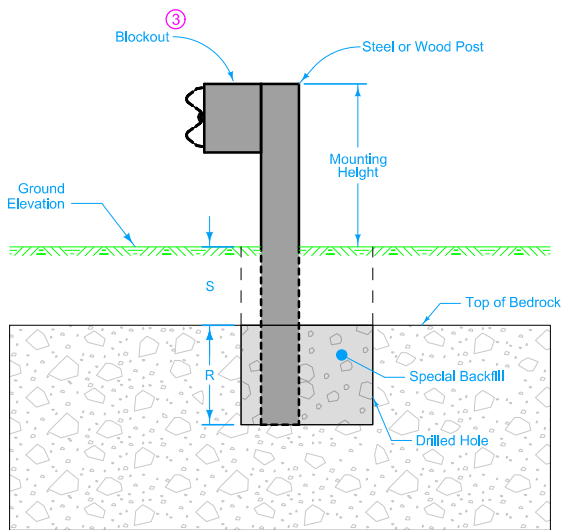
SECTION

THREE-BEAM RAIL

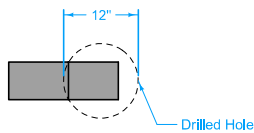


ASYMMETRICAL TRANSITION SECTION

<p>STANDARD ROAD PLAN</p> <p>REVISIONS: Added holes on steel posts and corresponding blockouts.</p> <p><i>Brian Smith</i> APPROVED BY DESIGN METHODS ENGINEER</p> <p>STEEL BEAM GUARDRAIL COMPONENTS</p>	<p>REVISION</p> <p>4 10-18-16</p>
	<p>BA-200</p> <p>SHEET 3 of 4</p>



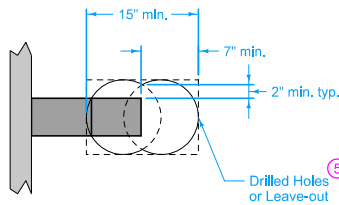
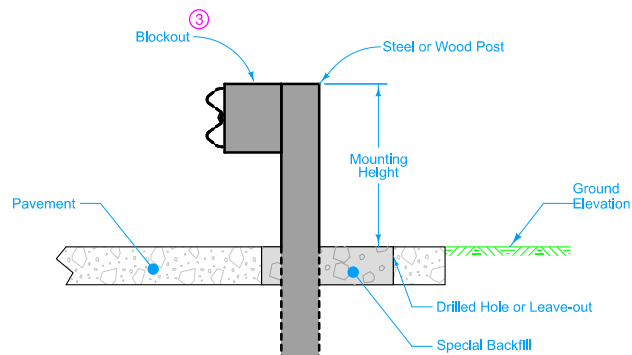
PLAN - CASE A



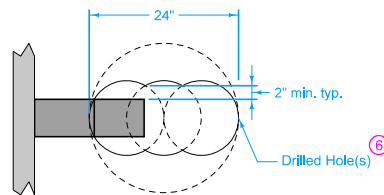
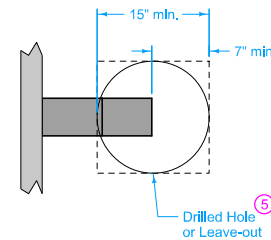
PLAN - CASE B

Post Embedment (4)		
Case	Depth to Bedrock	Minimum Depth to Drill into Bedrock
A	S = 0" to 16"	R = 24"
B	S = 16" to 52"	R = Post Length - Mounting Height - S

POST INSTALLED IN BEDROCK



PLAN - PAVEMENT THICKNESS $\leq 8"$
Either approach is acceptable.



PLAN - PAVEMENT THICKNESS $> 8"$

POST INSTALLED IN PAVEMENT

Installation information applies to both wood and steel posts.

- (3) Wood or composite only. Steel blockouts will not be allowed.
- (4) Post extends to bottom of hole in all cases. Trim top of post as required and treat with preservative according to Section 4161 of the Standard Specifications.
- (5) Use a 12 inch bit with two drills or a 15 inch bit with one drill. If placing post before paving, provide required leave-out area. If placing post after paving, drill or cut required area. Leave-out may be round or square.
- (6) Use a 12 inch bit with three drills or a 24 inch bit with one drill.

	REVISION	4	10-18-16
	STANDARD ROAD PLAN	BA-200	
			SHEET 4 of 4

REVISIONS: Added holes on steel posts and corresponding blockouts.

Brian Smith
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STEEL BEAM GUARDRAIL COMPONENTS