

NOTES

POSTS may be round (single rail only) or 6"x8" square-sawed pressure-treated wood or W6x8.5 galvanized steel. The same type post shall be used throughout the length of project unless otherwise required by the plans or permitted by the Engineer. Round posts shall be 8" plus or minus 1" in diameter at the top and not more than 11" at the butt with uniform taper from top to butt. Posts may be set in drilled holes or may be driven to grade.

Wood posts shall be fabricated with square ends. Posts and spacer blocks shall be pressure-treated as per 710.14. Bolt holes shall be bored and tops of posts trimmed after posts are set. Posts set or driven to within 1/2" of grade need not be trimmed.

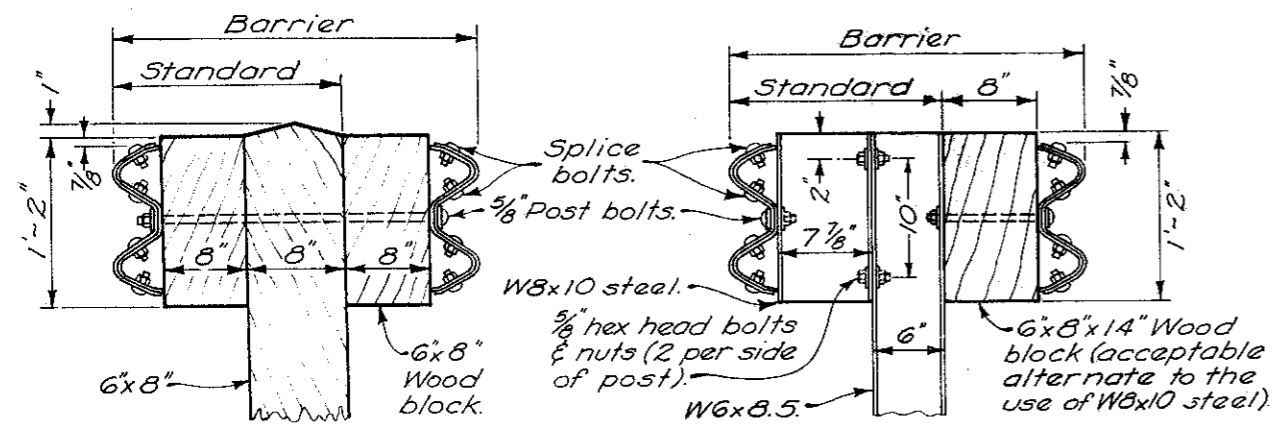
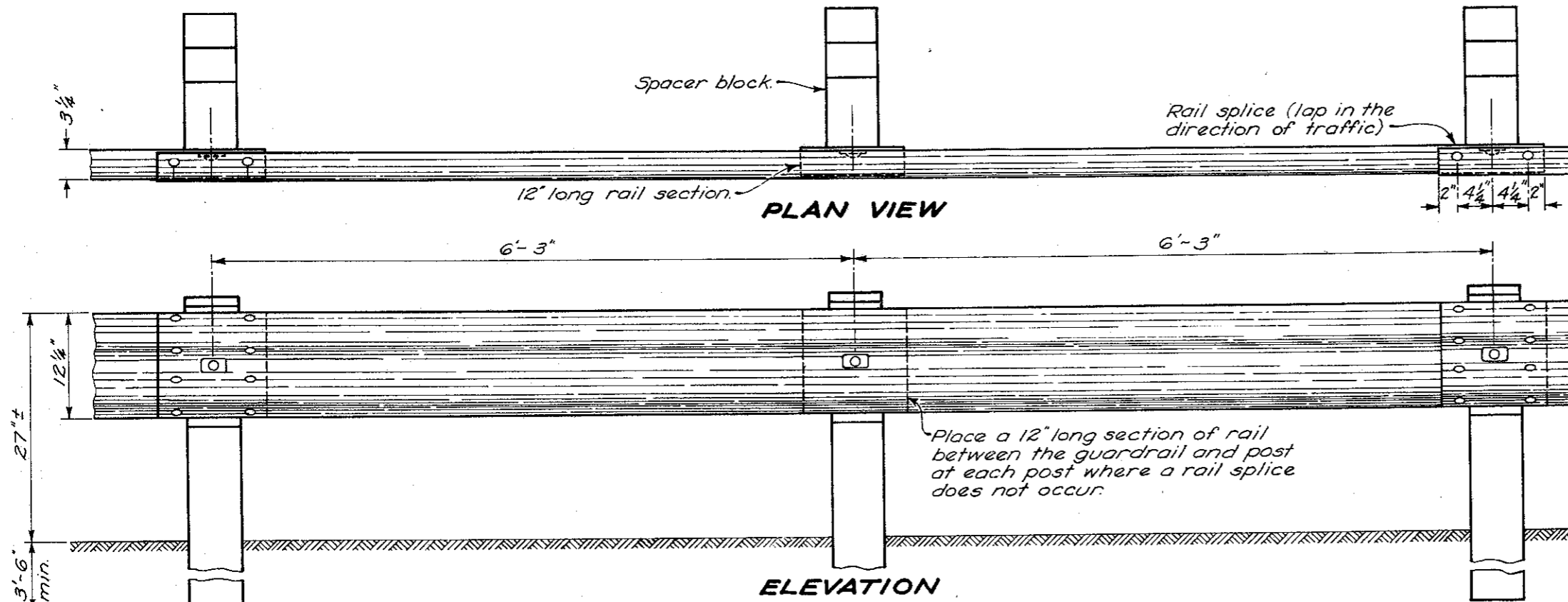
Cost of inlet mounted post to be included in the unit price bid for Type 5 barrier guardrail.

SPACER BLOCKS: When wood spacer blocks are used with the steel post, a roofing nail shall be driven through the hole in the adjacent flange to prevent blocks from turning.

WASHERS: Standard galvanized washers of appropriate size are required on post bolts where special washers are not indicated.

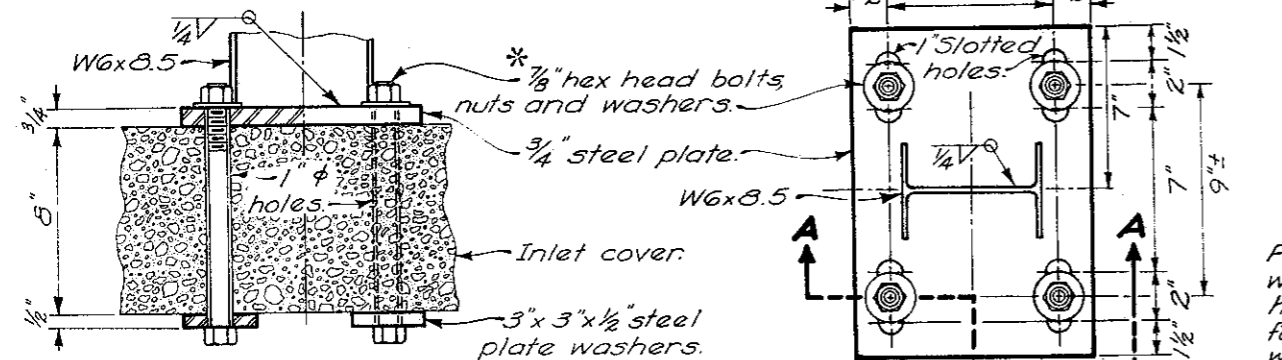
BARRICADE GUARDRAIL shall be mounted on Type 5 posts with 5/8" post bolts and washers as specified hereon. Omit spacer blocks, anchor assemblies and intermediate posts. Place standard terminals at each end (see Standard Construction Drawing GR-2A for detail).

* 7/8" threaded self-drilling anchors with 7/8"x2 1/4" hex head bolts may be substituted. Self-drilling anchors may be of the snap-off chuck-end type or of the flush-end type conforming to Federal Specification No. FF-S-325, Group III, Type 1(a) or (c).

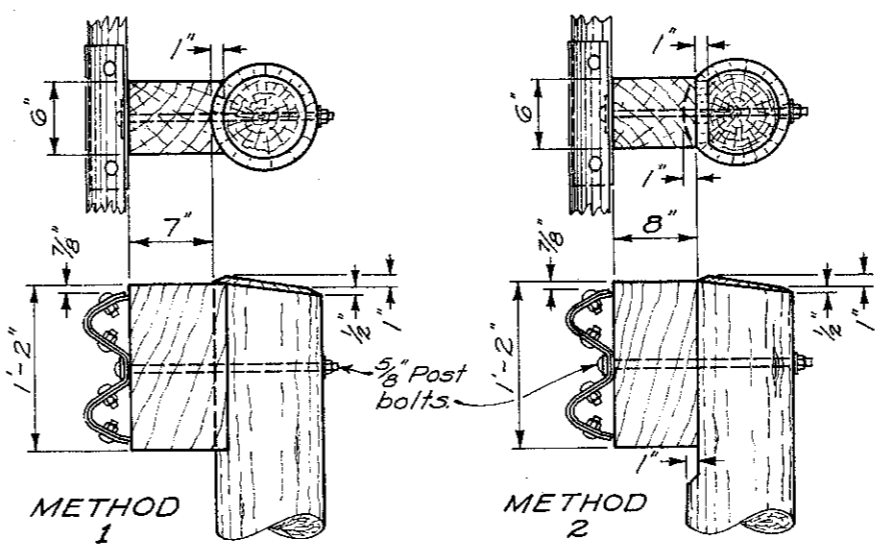


SQUARE WOOD POST

STEEL POST



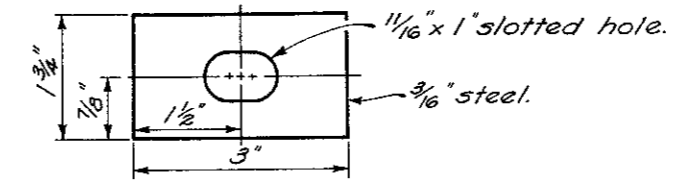
SECTION A-A INLET MOUNTED POST



Alternate methods of placing the spacer blocks on the round posts may be submitted for consideration and approval by the Engineer.

ROUND WOOD POSTS

Place one rectangular washer between bolt head or nut and the face of rail. All other washers indicated above are standard.



POST BOLT WASHER

BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF HIGHWAYS	
GUARDRAIL TYPE 5	
STANDARD CONSTRUCTION DRAWING GR-2B	
APPROVED: <i>[Signature]</i> ENGR., L. & D.	
DATE 2-15-68 1-1-71	

NOTES

POSTS may be round (single rail only) or 6"x8" square-sawed pressure-treated wood or W6x8.5 galvanized steel. The same type post shall be used throughout the length of project unless otherwise required by the plans or permitted by the Engineer. Round posts shall be 8" plus or minus 1" in diameter at the top and not more than 11" at the butt with uniform taper from top to butt. Posts may be set in drilled holes or may be driven to grade.

Wood posts shall be fabricated with square ends. Posts and spacer blocks shall be pressure-treated as per 710.14. Bolt holes shall be bored and tops of posts trimmed after posts are set. Posts set or driven to within 1/2" of grade need not be trimmed.

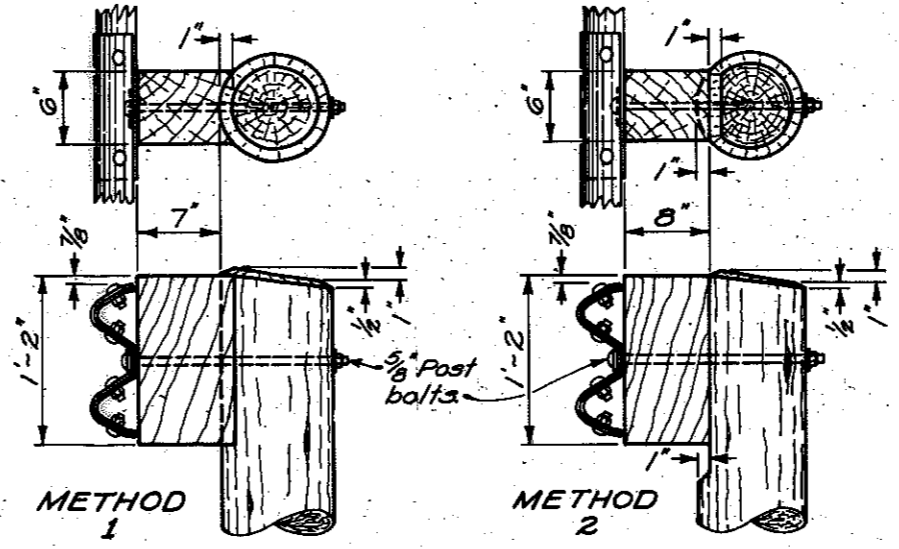
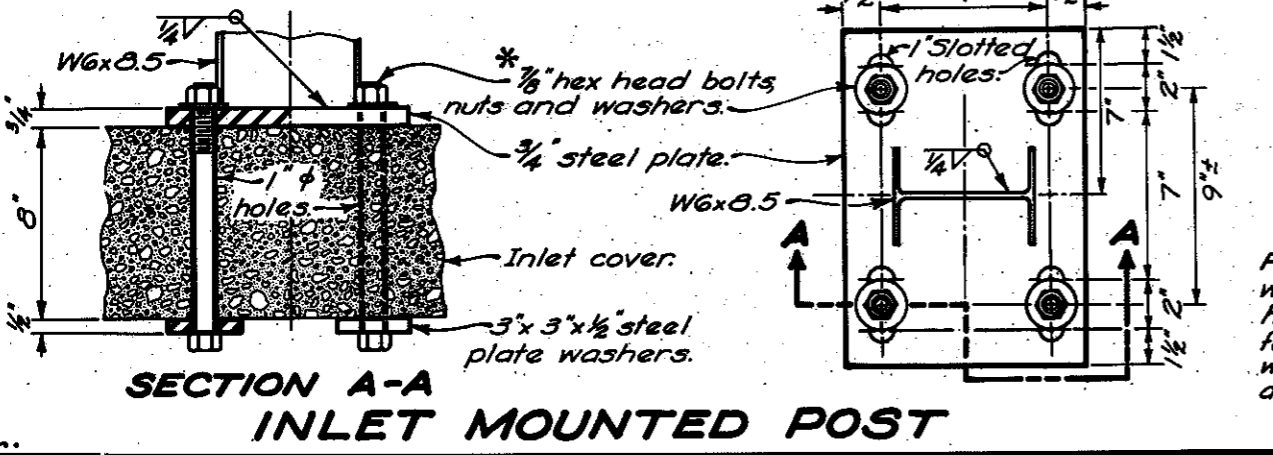
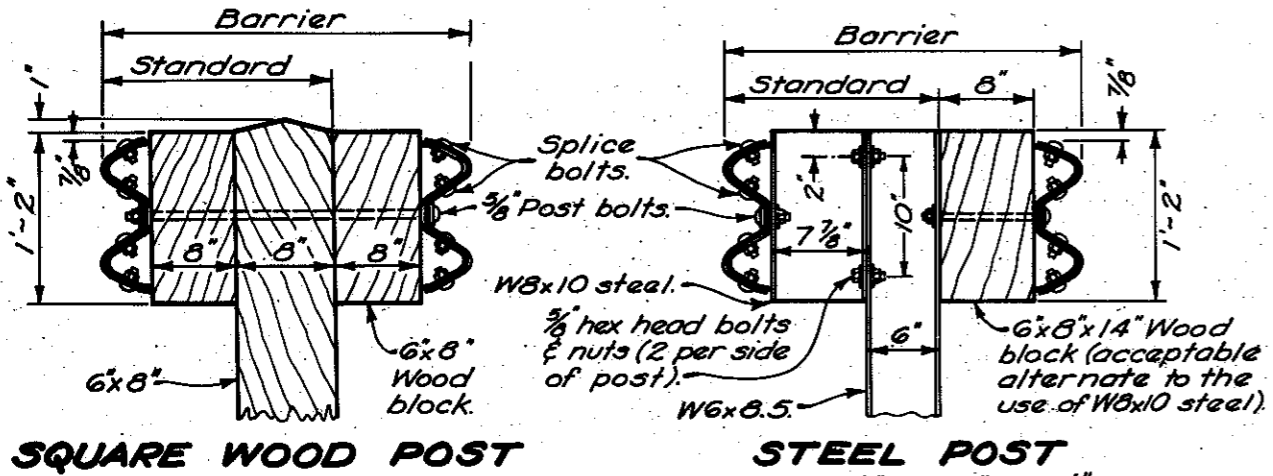
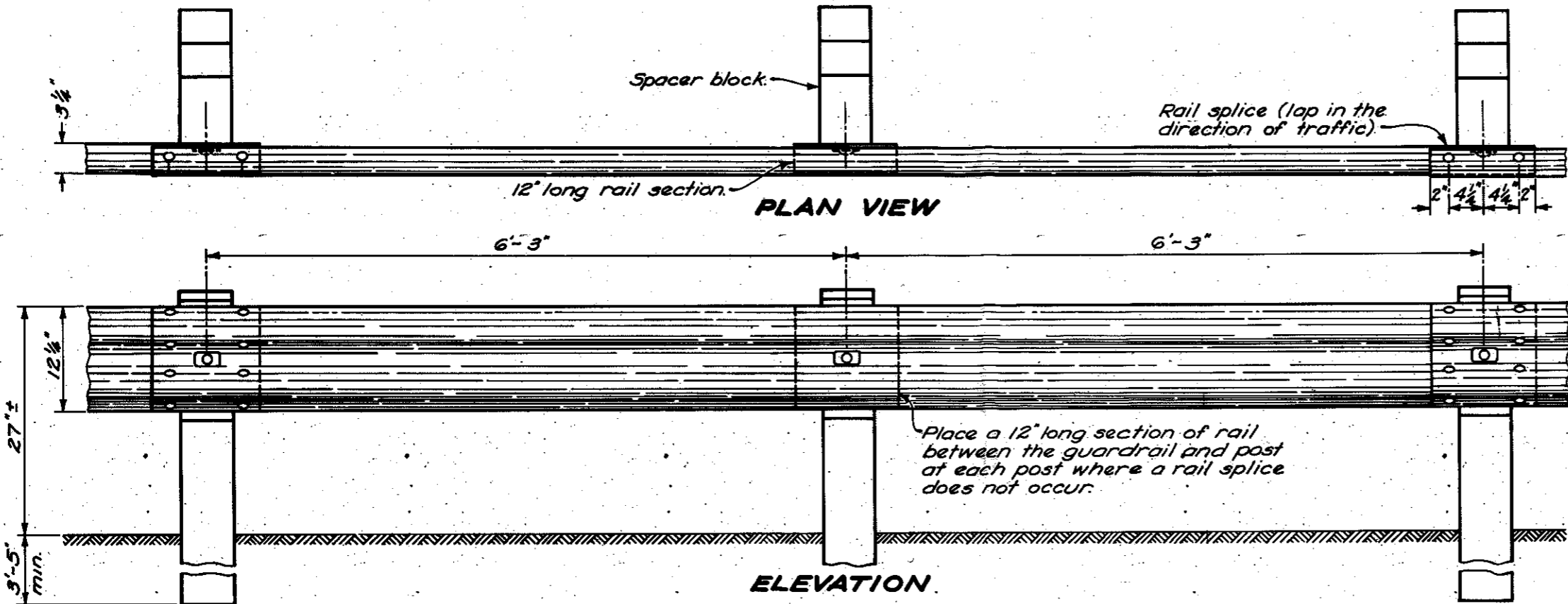
Cost of inlet mounted post to be included in the unit price bid for Type 5 barrier guardrail.

SPACER BLOCKS: When wood spacer blocks are used with the steel post, a roofing nail shall be driven through the hole in the adjacent flange to prevent blocks from turning.

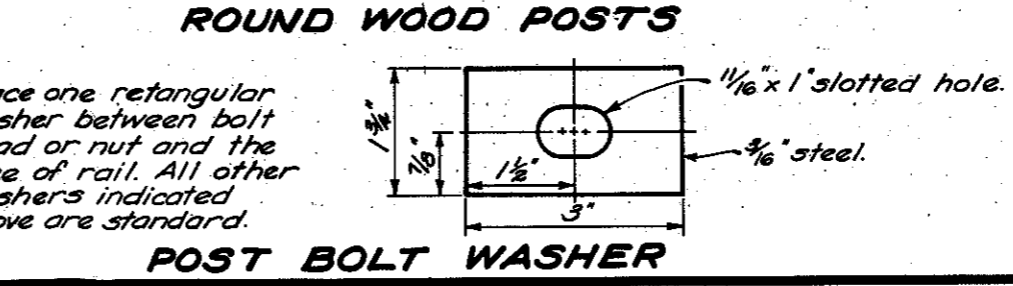
WASHERS: Standard galvanized washers of appropriate size are required on post bolts where special washers are not indicated.

BARRICADE GUARDRAIL shall be mounted on Type 5 posts with 5/8" post bolts and washers as specified hereon. Omit spacer blocks, anchor assemblies and intermediate posts. Place standard terminals at each end (see Standard Construction Drawing GR-2A for detail).

* 7/8" threaded self-drilling anchors with 1/8"x2 1/4" hex head bolts may be substituted. Self-drilling anchors may be of the snap-off chuck-end type or of the flush-end type conforming to Federal Specification No. FF-5-325, Group III, Type 1(a) or (c).



Alternate methods of placing the spacer blocks on the round posts may be submitted for consideration and approval by the Engineer.



BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF HIGHWAYS	
GUARDRAIL TYPE 5	
DATE 2-15-60 11-9-71	
STANDARD CONSTRUCTION DRAWING	
GR-2B	
APPROVED: <i>[Signature]</i> ENGR. L. & D.	

NOTES

POSTS may be round (single rail only) or 6"x8" square-sawed pressure-treated wood or W6x8.5 galvanized steel. The same type post shall be used throughout the length of project unless otherwise required by the plans or permitted by the Engineer. Round posts shall be 8" plus or minus 1" in diameter at the top and not more than 11" at the butt with uniform taper from top to butt.

Posts may be set in drilled holes or may be driven to grade.

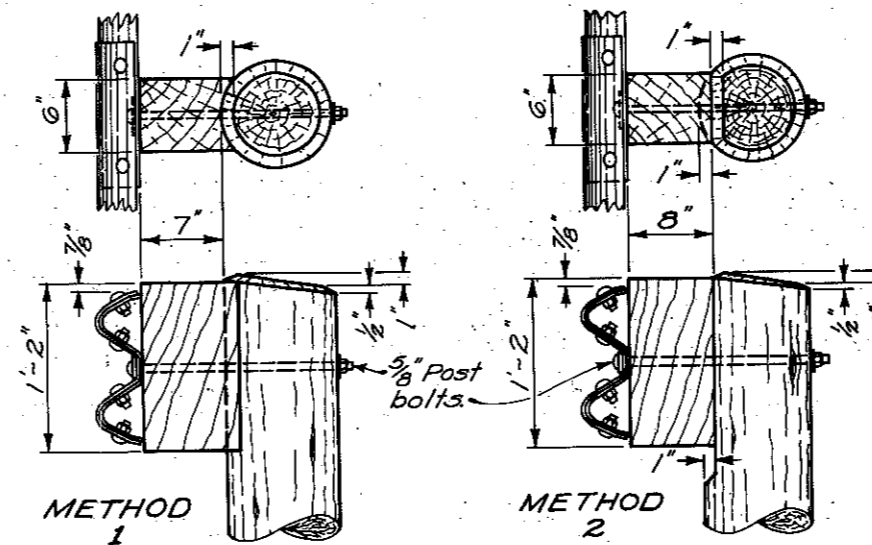
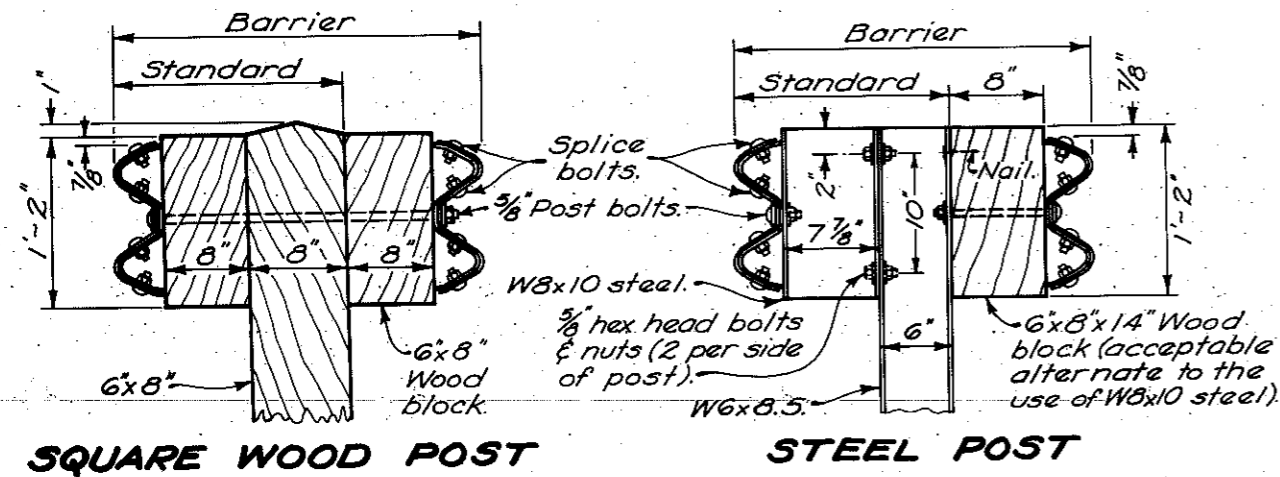
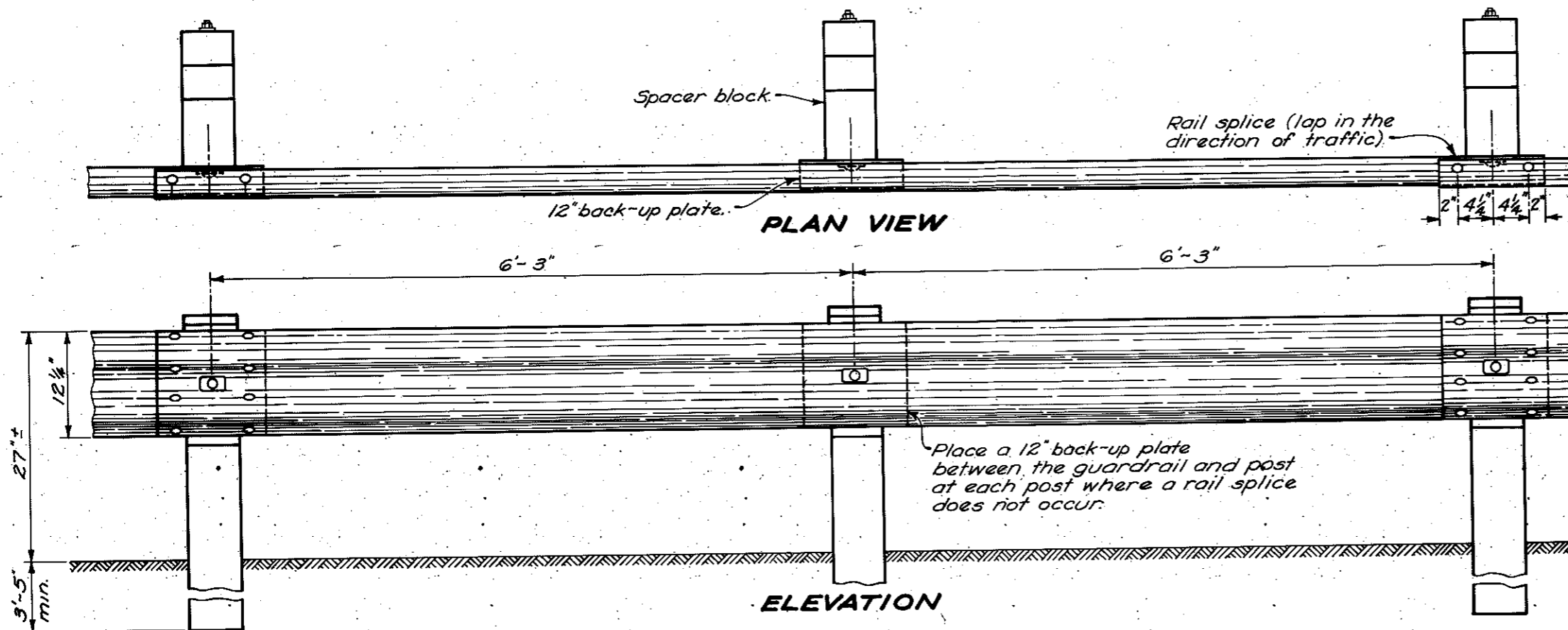
Wood posts shall be fabricated with square ends. Posts and spacer blocks shall be pressure-treated as per 710.14. Bolt holes shall be bored and tops of posts trimmed after posts are set. Posts set or driven to within 1/2" of grade need not be trimmed.

SPACER BLOCKS: When wood spacer blocks are used with the steel post, a roofing nail shall be driven through the hole in the adjacent flange to prevent blocks from turning.

WASHERS: Standard galvanized washers of appropriate size are required on post bolts where special washers are not indicated.

BARRICADE GUARDRAIL shall be mounted on Type 5 posts with 5/8" post bolts and washers as specified hereon. Omit spacer blocks and anchor assemblies. Place a flared end section at each end.

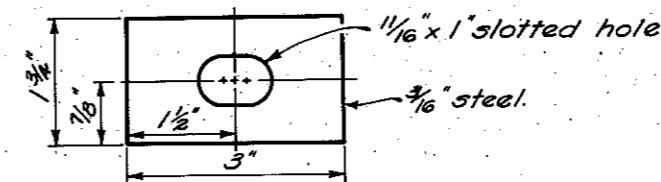
FOR DETAILS not shown see GR-1.



Alternate methods of placing the spacer blocks on the round posts may be submitted for consideration and approval by the Engineer.

ROUND WOOD POSTS

Place one rectangular washer between bolt head or nut and the face of rail. All other washers indicated above are standard.



POST BOLT WASHER

BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF TRANSPORTATION	
GUARDRAIL TYPE 5	
STANDARD CONSTRUCTION DRAWING	GR-2B
APPROVED <i>[Signature]</i>	ENGR. L.&D.

DATE
2-15-60
1-1-71
11-9-71
12-6-76

NOTES

POSTS may be round (single rail only) or 6"x8" square-sawed pressure-treated wood or W6x9 galvanized steel. The same type post shall be used throughout the length of project unless otherwise required by the plans or permitted by the Engineer. Round posts shall be 8" plus or minus 1" in diameter at the top and not more than 3" larger at the butt with a uniform taper.

Posts may be set in drilled holes or may be driven to grade.

Wood posts shall be fabricated with square ends. Posts and spacer blocks shall be pressure-treated as per 710.14. Bolt holes shall be bored and tops of posts trimmed, if required, after posts are set.

FOR DETAILS not shown see GR-1.

SPACER BLOCKS: When wood spacer blocks are used with the steel post, a roofing nail shall be driven through the hole in the adjacent flange to prevent blocks from turning.

WASHERS: Place a rectangular plate washer between the face of rail and post bolt head or nut. All other washers indicated are standard galvanized steel of the appropriate size.

WELDED BEAM guardrail posts and spacer blocks may be used for Item 606, Guardrail, provided the web and flange sizes are as shown hereon. Welding of the web to the flanges shall conform to ASTM A769, Class 1 using A36 steel with the following exceptions:

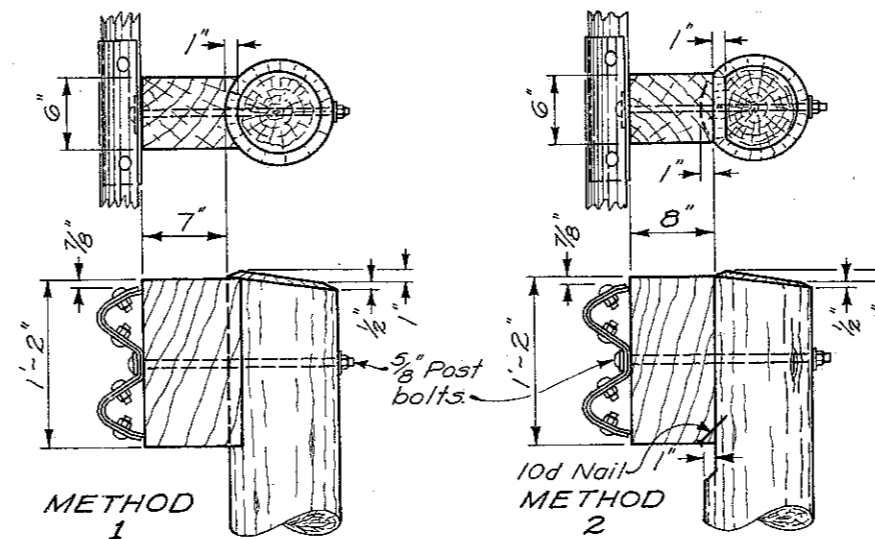
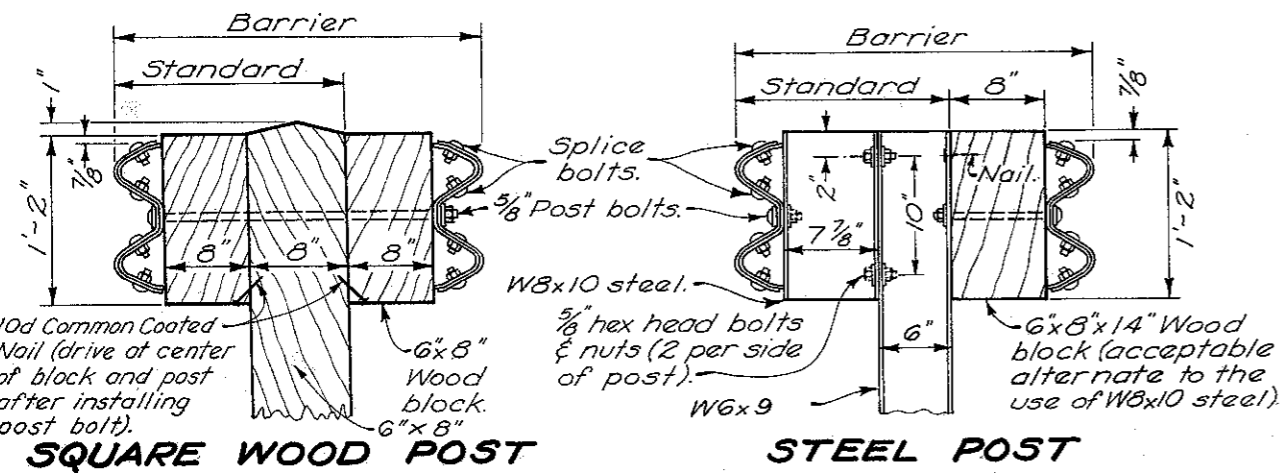
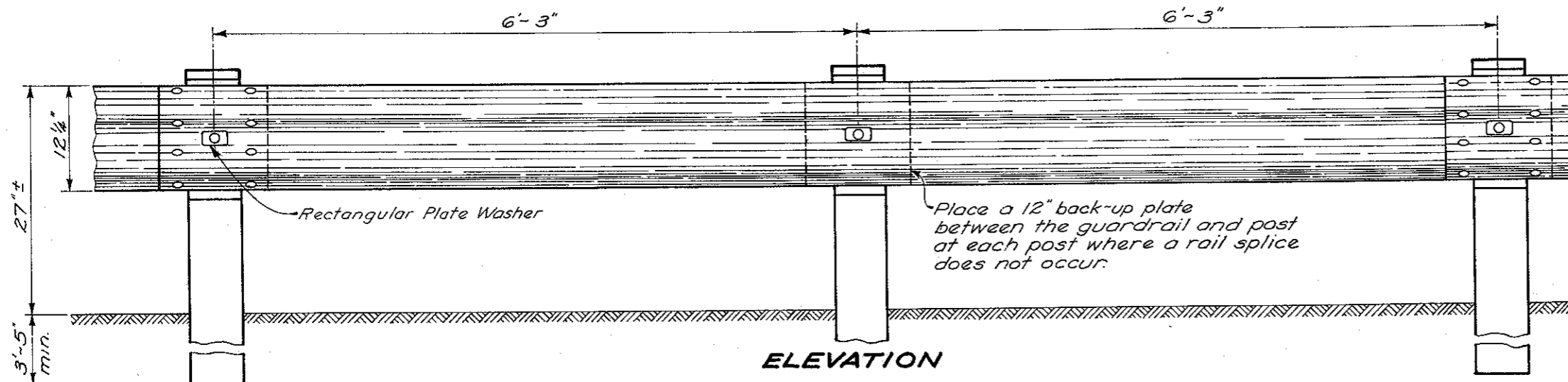
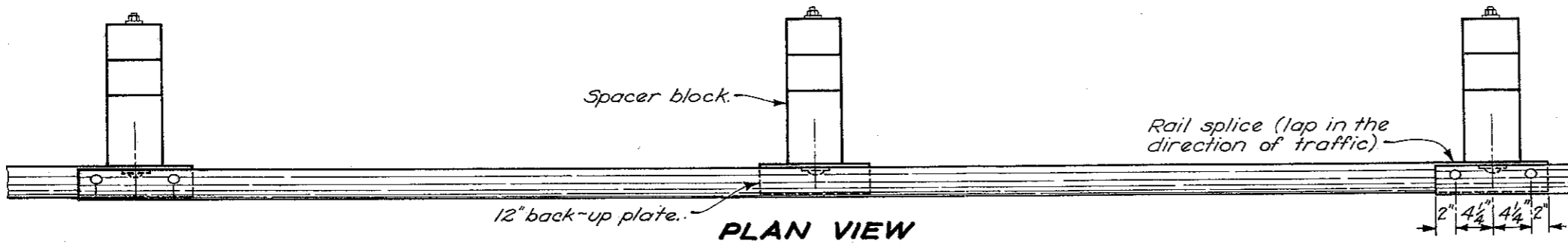
7.2 Test reports of tensile properties for each lot shall accompany each shipment.

11. Ultrasonic inspection need not be performed on welded beams used for Item 606.

12. Beams which have imperfections repaired by welding shall not be accepted for use in Item 606.

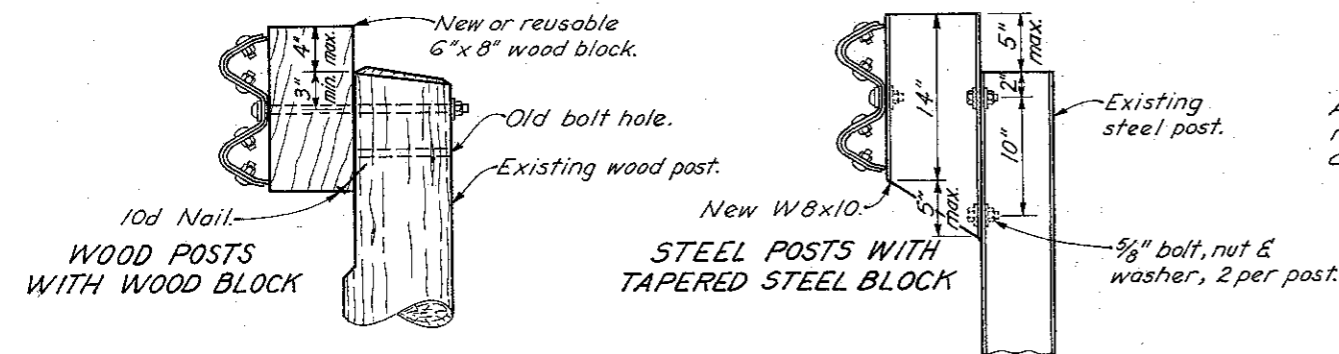
15. Random samples shall be tested by the Department from materials delivered to the project site or other locations designated by the Laboratory.

STEEL BEAM POSTS & BLOCKS				
Size	Beam depth	Flange width	Flange thickness	Web thickness
Rolled W 6x8.5	5.83"	3.94"	.194"	.170
Rolled W 6x9	5.90"	3.94"	.215"	.170
Rolled W 8x10	7.89"	3.94"	.205"	.170
Welded 6x8.5	6.0"	3.94"	.194"	.170
Welded 6x9	6.0"	3.94"	.215"	.170
Welded 8x10	8.0"	3.94"	.205"	.170



Alternate methods of placing the spacer blocks on the round posts may be submitted for consideration and approval by the Engineer.

ROUND WOOD POSTS



RAISING EXISTING GUARDRAIL HEIGHT

BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF TRANSPORTATION	
GUARDRAIL TYPE 5	
STANDARD CONSTRUCTION DRAWING	GR-2B
APPROVED	ENGR. L. & D.

DATE
 2-15-68
 1-1-71
 11-9-71
 12-6-76
 2-5-82