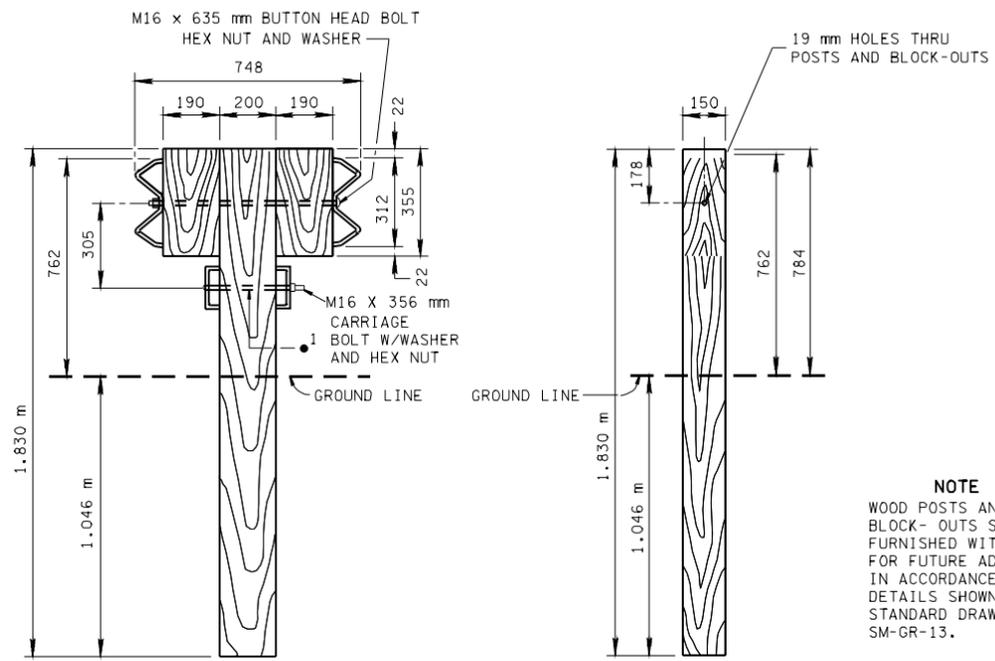


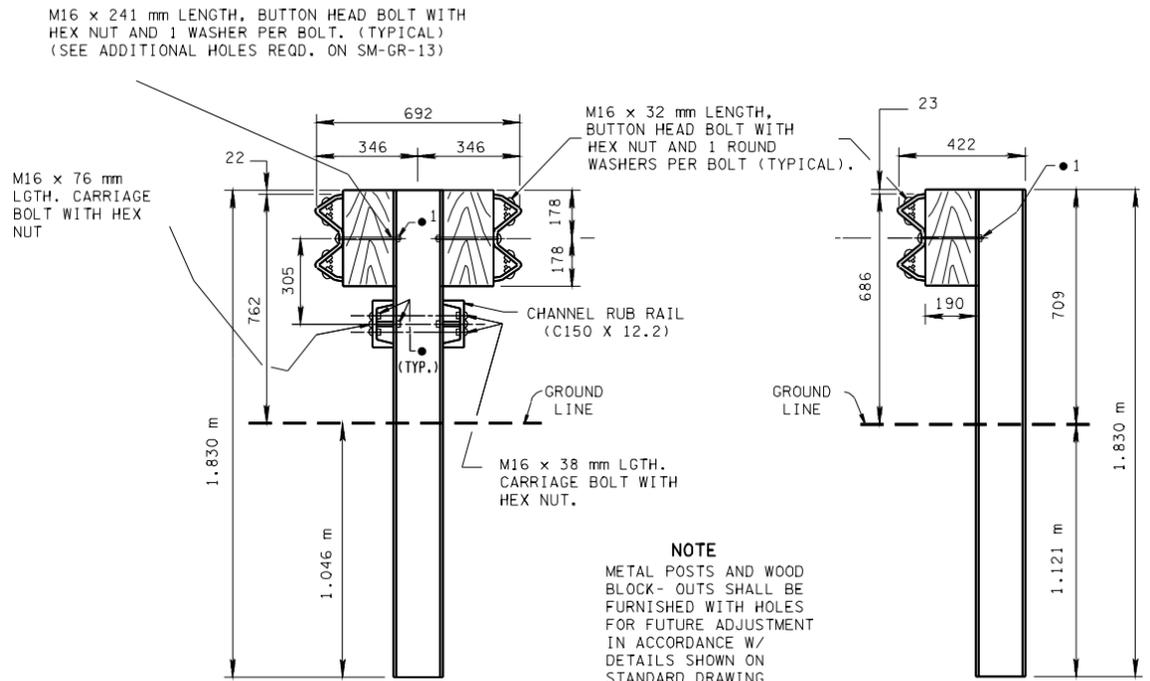
- REV. 11-1-95: CHANGED TO METRIC.
- REV. 7-29-96: ADDED DIMENSION TO SIDE VIEW FOR SINGLE GUARDRAIL. REV. 7-29-98: DELETED DETAILS FOR MEDIAN DIVIDER GUARDRAIL USING THRIE-RAIL. CHANGED STEEL BLOCK-OUT TO WOOD BLOCK-OUT IN ALL DETAILS AND NOTES.
- REV. 9-5-98: GENERAL REVISION THROUGHOUT DRAWING. CHANGED DRAWING NO. FROM SM-GR-13 TO SM-GR-12.
- REV. 3-22-99: CHANGED NUMBER OF WASHERS WHERE BLOCK-OUT ATTACHES TO POST FROM 2 TO 1.
- REV. 9-11-02: ADDED GENERAL NOTE (C). ADDED WELDED STEEL SHAPES FOR W200X19 AND W200X31.3 GUARDRAIL POSTS.



**SIDE VIEW  
MEDIAN DIVIDER  
GUARDRAIL**  
(W-BEAM/RUB RAIL ALT.)

**FRONT VIEW  
MEDIAN DIVIDER  
GUARDRAIL**  
(SHOWING BOLT HOLES FOR W-BEAM RAIL)

**NOTE**  
WOOD POSTS AND WOOD BLOCK-OUTS SHALL BE FURNISHED WITH HOLES FOR FUTURE ADJUSTMENT IN ACCORDANCE W/ DETAILS SHOWN ON STANDARD DRAWING SM-GR-13.



**SIDE VIEW  
MEDIAN DIVIDER GUARDRAIL**

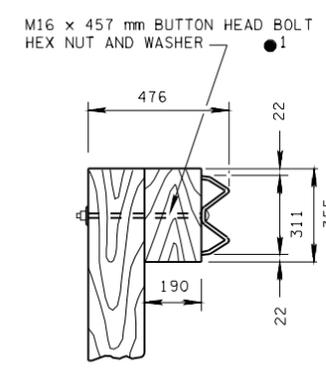
**SIDE VIEW  
SINGLE GUARDRAIL**

**NOTE**  
METAL POSTS AND WOOD BLOCK-OUTS SHALL BE FURNISHED WITH HOLES FOR FUTURE ADJUSTMENT IN ACCORDANCE W/ DETAILS SHOWN ON STANDARD DRAWING SM-GR-13.

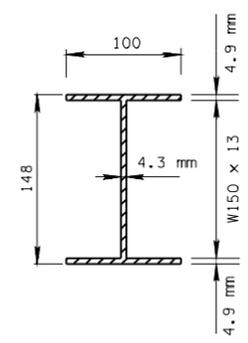
**DETAILS FOR STEEL POSTS AND WOOD BLOCK-OUTS**

SIDE VIEW DIMENSIONS BASED ON W150 X 12.6, OTHER DETAILS APPLY TO W150 X 13.5 AND W150 X 22 POSTS.

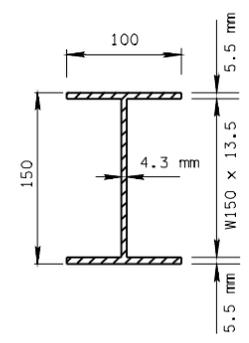
**DETAILS FOR WOOD POSTS AND BLOCK-OUTS**



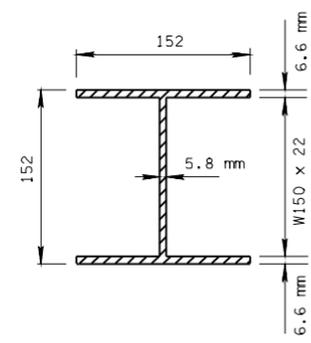
**SIDE VIEW  
SINGLE GUARDRAIL**



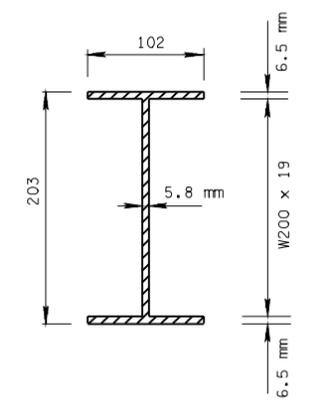
**WELDED STEEL SHAPE**



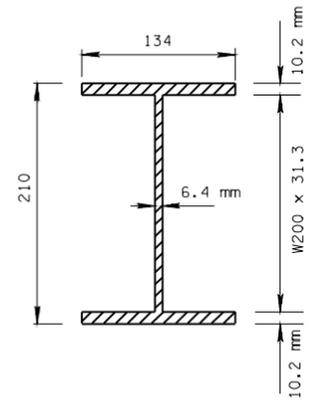
**WELDED STEEL SHAPE**



**WELDED STEEL SHAPE**



**WELDED STEEL SHAPE**



**WELDED STEEL SHAPE**

**LEGEND FOR WASHER REQUIREMENTS**  
1 OR 2 ROUND WASHERS — ●1●2

**WOOD SPECIFICATIONS**

(S1) POSTS AND BLOCK-OUTS SHALL BE OF TIMBER WITH A STRESS GRADE OF 8.3 MPa OR MORE, POSTS WILL HAVE NOMINAL SIZE OF 150 mm X 200 mm. BLOCK-OUTS WILL HAVE NOMINAL SIZE OF 150 mm X 200 mm (TYPICAL SIZE 140 mm X 190 mm). TESTING SHALL BE IN ACCORDANCE WITH WEST COAST LUMBER INSPECTION BUREAU, SOUTHERN PINE INSPECTION BUREAU, OR OTHER APPROPRIATE TIMBER ASSOCIATIONS. TIMBER FOR POSTS SHALL BE ROUGH SAWN (UNPLANED) WITH NOMINAL DIMENSIONS INDICATED. TIMBER FOR BLOCK-OUTS SHALL BE S4S WITH THE TYPICAL DIMENSIONS INDICATED.

(S2) ALL WOOD POSTS AND BLOCK-OUTS SHALL BE TREATED WITH TIMBER PRESERVATIVE AS REQUIRED BY SUBSECTION 911.02(A) OF THE TENNESSEE STANDARD SPECIFICATION.

(S3) WOOD POSTS AND BLOCK-OUTS SHALL BE FURNISHED WITH HOLES FOR FUTURE RAIL ADJUSTMENT IN ACCORDANCE WITH DETAILS SHOWN ON STANDARD DRAWINGS SM-GR-13.

**GENERAL NOTES**

(A) MATERIALS AND SPECIFICATIONS NOT SHOWN IN THESE "SM-GR" SERIES OF DRAWINGS SHALL BE IN ACCORDANCE WITH STANDARD PROVISIONS REGARDING SECTION 705.

(B) THE CONTRACTOR MAY HAVE OPTIONAL CHOICE OF EITHER THE STEEL W150 X 12.6 OR W150 X 13.5 HOT ROLLED OR WELDED STEEL SHAPE, OR THE WOOD POSTS WITH THEIR COMPANION BLOCK-OUTS AS SHOWN ABOVE, WITHIN THE FOLLOWING STIPULATIONS:  
(1) THE MIXING OF ANY OF THE ABOVE POSTS TYPES ON A GIVEN PROJECT WILL BE AVOIDED IF POSSIBLE.  
(2) SHOULD IT BECOME NECESSARY TO CHANGE THE TYPE OF POSTS ON A GIVEN PROJECT, THE POSTS SHALL NOT BE MIXED ON ANY GIVEN RUN OF GUARDRAIL. (EXCEPTION, WOOD POSTS ON GUARDRAIL TERMINALS).

(C) ON EXISTING STRUCTURES NOT HAVING A VERTICAL FACE FOR THE ATTACHMENT OF TWO RAIL ELEMENTS, USE OF THE W150 X 22 POSTS IS REQUIRED ON THE SEMI-RIGID TO RIGID BARRIER TRANSITION DETAILS, SEE STANDARD DRAWINGS SM-GR-16 AND SM-GR-20. THE BOLT HOLES WILL BE ORIENTED TO THE CENTER LINE OF THE FLANGE OF THE STEEL POST AND WILL BE THE SAME SIZE AND DIMENSION AS THOSE SHOWN ON STANDARD DRAWING SM-GR-13.

(D) METAL POSTS AND ALL BLOCK-OUTS SHALL BE FURNISHED WITH HOLES FOR FUTURE RAIL ADJUSTMENT IN ACCORDANCE WITH DETAILS SHOWN ON STANDARD DRAWING SM-GR-12.

(E) W150 X 13.5 OR W150 X 12.6 POST SHALL BE USED FOR INSTALLATIONS ON BRIDGES AS SHOWN ON STANDARD DRAWING SM-GR-22.

(F) WELDED STEEL POSTS MAY BE USED AS ALTERNATES TO THE HOT ROLLED STEEL SHAPE. THEY MUST CONFORM TO ASTM A769M AND BE GALVANIZED ACCORDING TO ASTM A123.

(G) RECYCLED PLASTIC GUARDRAIL BLOCKOUTS LISTED ON THE TENNESSEE DEPARTMENT OF TRANSPORTATIONS QUALIFIED PRODUCTS LIST MAY BE SUBSTITUTED FOR WOOD BLOCKOUTS. THE USE OF RECYCLED PLASTIC GUARDRAIL BLOCKOUTS ARE SUBJECT TO THE FOLLOWING STIPULATIONS:  
(1) THE MIXING OF BLOCKOUTS ON A GIVEN PROJECT WILL BE AVOIDED IF POSSIBLE.  
(2) SHOULD IT BECOME NECESSARY TO CHANGE THE BLOCKOUT TYPE ON A GIVEN PROJECT, THE BLOCKOUTS SHOULD NOT BE MIXED ON A GIVEN RUN OF GUARDRAIL.  
(3) BLOCKOUTS SHALL MEET NCHRP-350 GUIDELINES.



ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**W-BEAM BARRIER  
POST DETAILS AND  
SPECIFICATIONS**