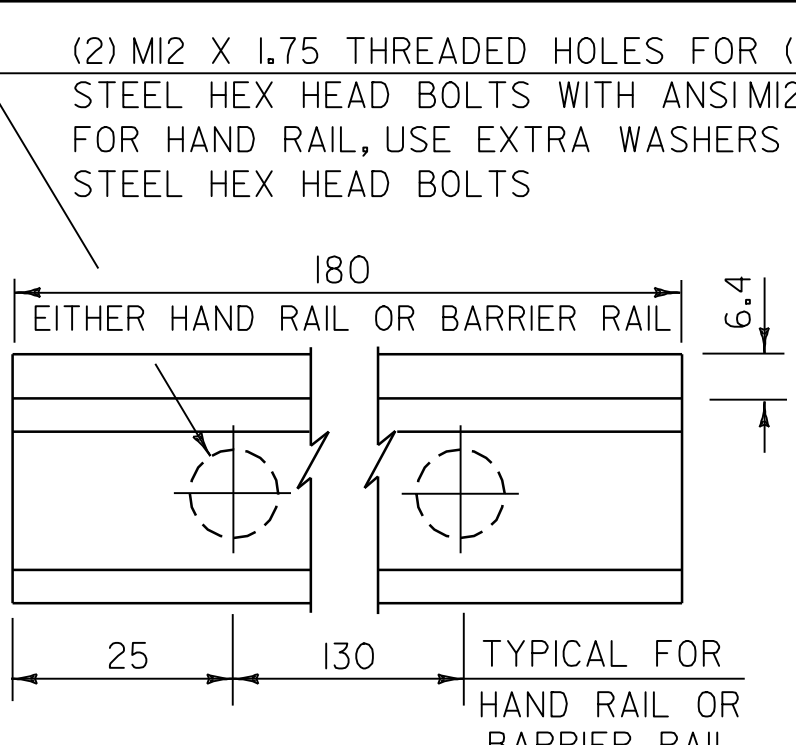
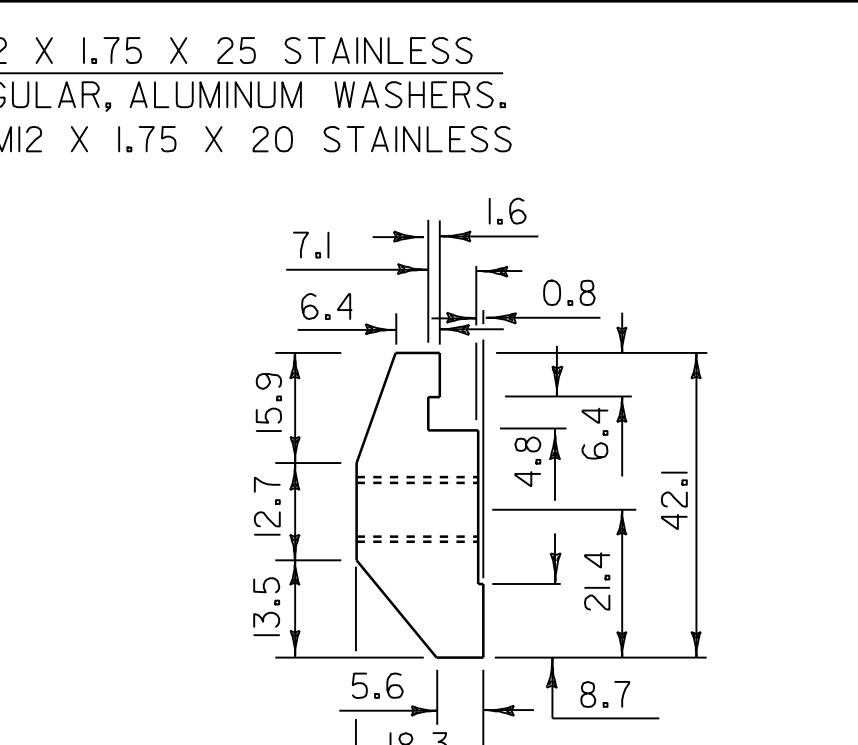


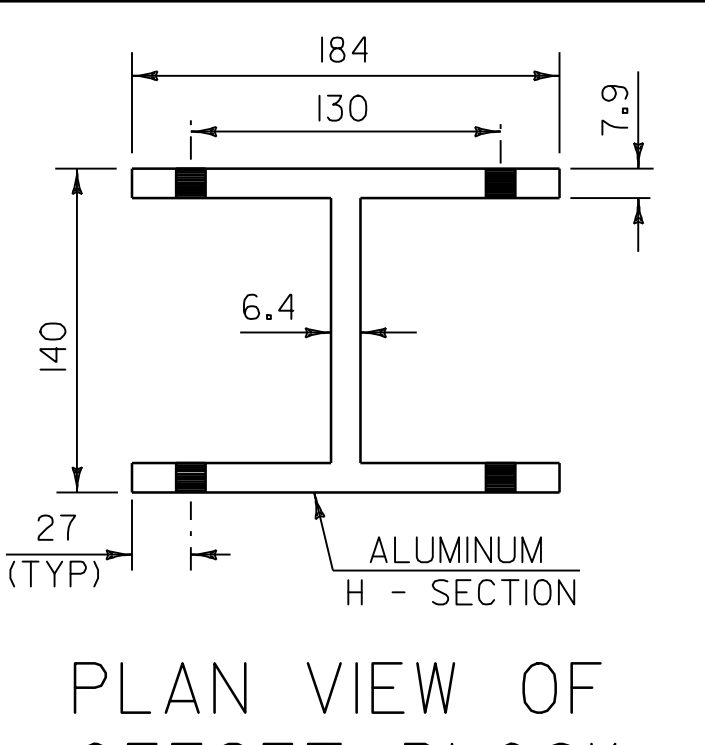
**POST CONNECTION  
HAND RAIL SECTION**



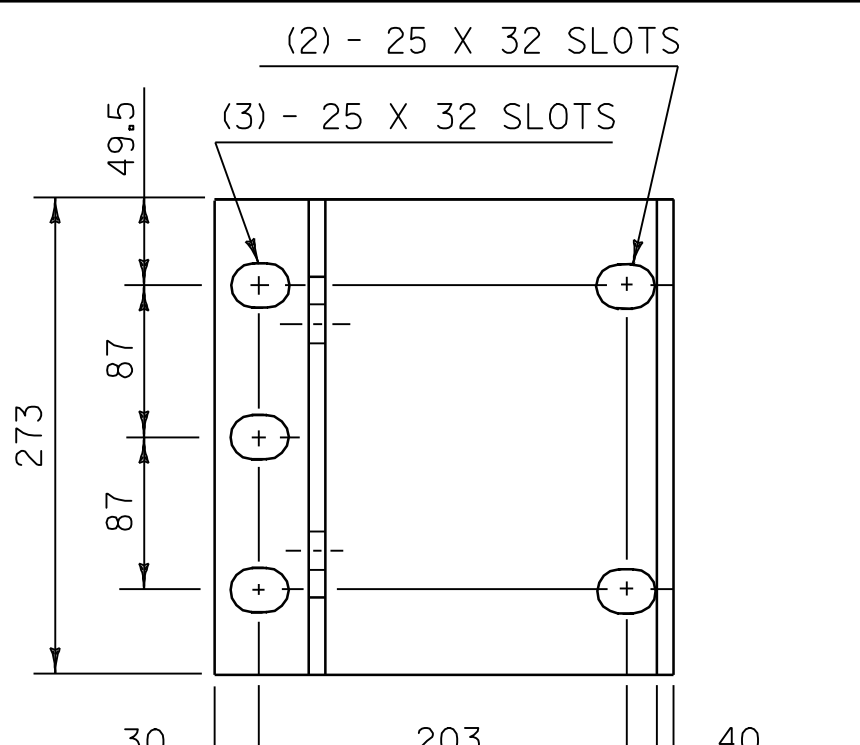
**POST CONNECTION  
ELEVATION**



**POST CONNECTION  
BARRIER RAIL SECTION**



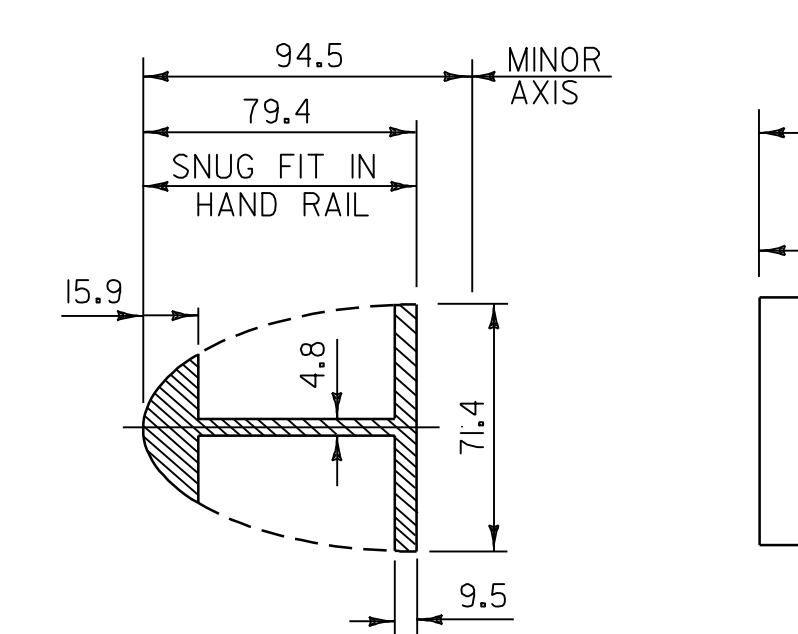
**PLAN VIEW OF  
OFFSET BLOCK  
(TO BE USED ON  
SUPERSTRUCTURE  
ON CURB SIDE)**



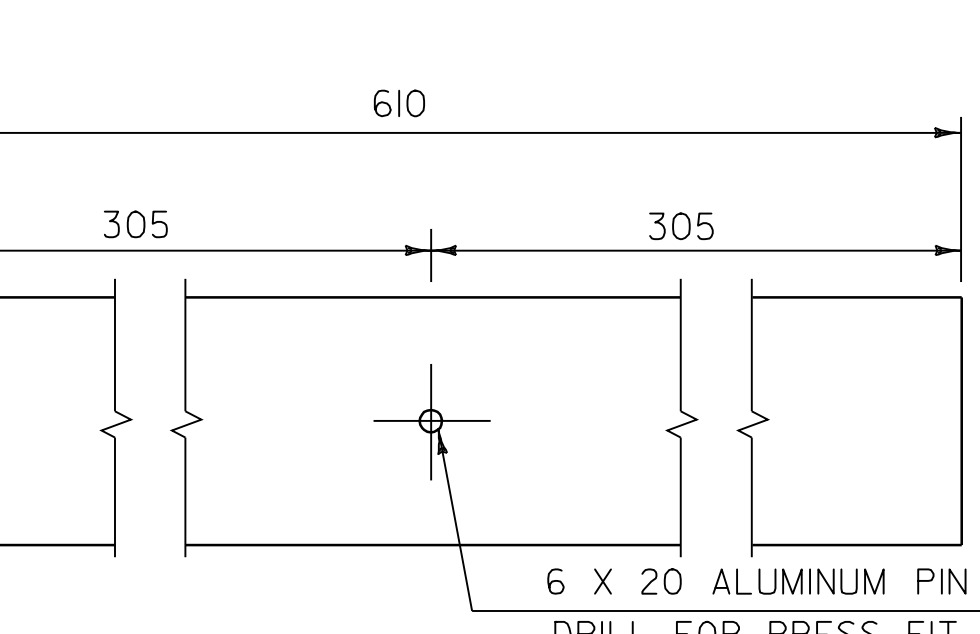
**POST BASE  
PLAN**

**NOTES**

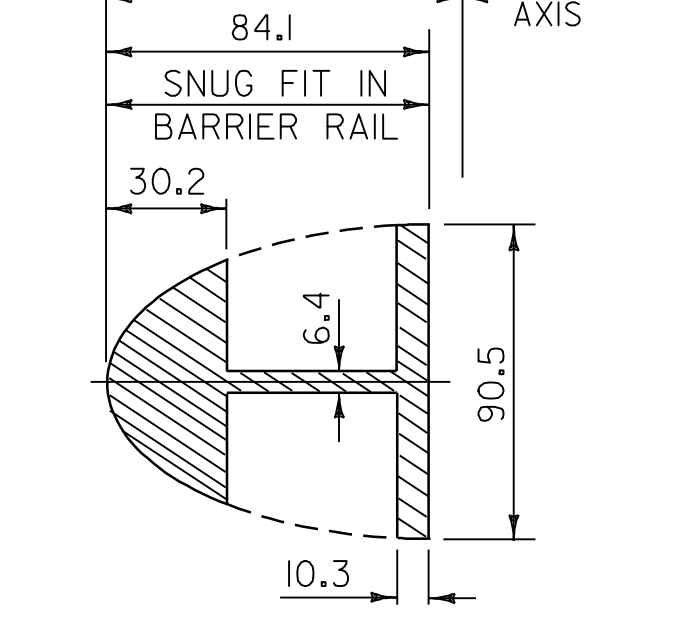
- ANCHOR BOLTS, WASHERS & HEAVY HEXAGONAL NUTS MAY BE ANY OF THE FOLLOWING:
  - ASTM F 568M, CLASS 8.8 GALVANIZED.
  - ASTM M 164M GALVANIZED, OR
  - BOLTS AND WASHERS OF STAINLESS STEEL ASTM F 738M, CLASS A1-70, CONDITION CW, ALLOY TYPE 304 WITH STAINLESS STEEL NUTS OF ASTM F 836M, CLASS A1-70, CONDITION CW, ALLOY TYPE 304.
- ALUMINUM POSTS, POST BASES, SPLICE BARS, CONNECTION BARS, RAILS AND BALUSTER FRAMES SHALL CONFORM TO ASTM B 221M ALLOY 6061-T6 OR ALLOY 6351-T5. MINIMUM YIELD STRNTH  $F_y = 240$  MPa.
- ALUMINUM BALUSTER TUBES SHALL CONFORM TO ASTM B 210M ALLOY 6061-T5 OR 6063-T5.
- ALUMINUM RAIL AND CAPS SHALL CONFORM TO ASTM B 26/B 26M ALLOY 356-T6.
- THE POST, RAIL AND OFFSET CONNECTION BOLTS AND WASHERS SHALL CONFORM TO ASTM F 738M, CLASS A1-50, CONDITION AF, ALLOY TYPE 304. NUTS FOR THESE BOLTS SHALL CONFORM TO ASTM 836M, CLASS A1-50, CONDITION AF, ALLOY TYPE 304.
- SET SCREWS FOR ATTACHING BALUSTERS TO RAILING SHALL CONFORM TO ASTM F 880M, CLASS A1-70, CONDITION CW, ALLOY TYPE 304.
- RIVETS SHALL BE COLD DRIVEN HIGH BUTTON HEAD "CONE POINT", CONFORMING TO ASTM B 316/B 316M ALLOY 6061-T6.
- THE ANCHOR PLATE FOR THE POST ANCHOR ASSEMBLY SHALL BE AASHTO M 183/M 183 STRUCTURAL STEEL.
- WELDING SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 506.10 USING THE GMAW-INERT GAS PROCESS AND AWS ER 5356 ELECTRODE WIRE.
- UNLESS OTHERWISE SPECIFIED, ANCHOR BOLTS SHALL BE CAST INTO THE CONCRETE AS DETAILED.
- WHENEVER FEASIBLE, BARRIER RAIL AND HAND RAIL SECTIONS SHALL BE FULL LENGTH SECTIONS ( $12\text{ m} \pm$ ) AND WHEN PRACTICAL SHALL BE ATTACHED TO THREE POSTS. RAILS SHALL BE SPLICED AT EACH DECK JOINT AND INTERMITTENTLY AS REQUIRED. SPLICES SHALL OCCUR WITHIN THE SAME PANEL.
- ENDS OF RAILS SHALL BE CUT SQUARE AND GROUND FREE OF BURRS OR RAGGED EDGES. EXPOSED ENDS SHALL BE CAPPED.
- THE CONCRETE CONTACT SURFACE AT THE POST BASE SHALL BE BUSH HAMMERED AND/OR SHIMMED AS REQUIRED FOR PROPER POST ALIGNMENT. POST HEIGHT ADJUSTMENTS LESS THAN 6 mm SHALL BE WITH 2-mm AND 3-mm SHIMS. CORRECTIONS EXCEEDING 6 mm SHALL BE WITH EPOXY MORTAR CONFORMING WITH SECTION 530. FABRIC BEARING PADS AND ANY REQUIRED SHIMS OR EPOXY MORTAR ARE SUBSIDIARY TO THE UNIT PRICE BID FOR THE RAILING.
- SHIMS AND 3-mm FABRIC BEARING PADS SHALL BE 273 mm SQUARE WITH SLOTTED HOLES SIZED AND LOCATED THE SAME AS THE POST BASE DETAIL. FABRIC BEARING PADS SHALL CONFORM TO SUBSECTION 731.01 OR 731.02, SHIM MATERIAL SHALL BE ASTM B 209M ALLOY 1100-0.
- EXTRUDED SECTIONS ARE DETAILED TO COMPLY WITH CURRENT AASHTO-AGC-ARTBA STANDARDS. MINOR VARIATIONS OF THE DETAILS SHOWN MAY BE CONSIDERED PROVIDING THEY DO NOT REDUCE THE STRENGTH CAPACITY OF THE RAIL SYSTEM.
- ALUMINUM WASHERS SHALL BE ASTM B209M ALLOY ACLAD 2024-T4.
- OFFSET BLOCKS AND ALUMINUM APPROACH RAIL POSTS SHALL CONFORM TO ASTM SPECIFICATION B 308/ B 308M.



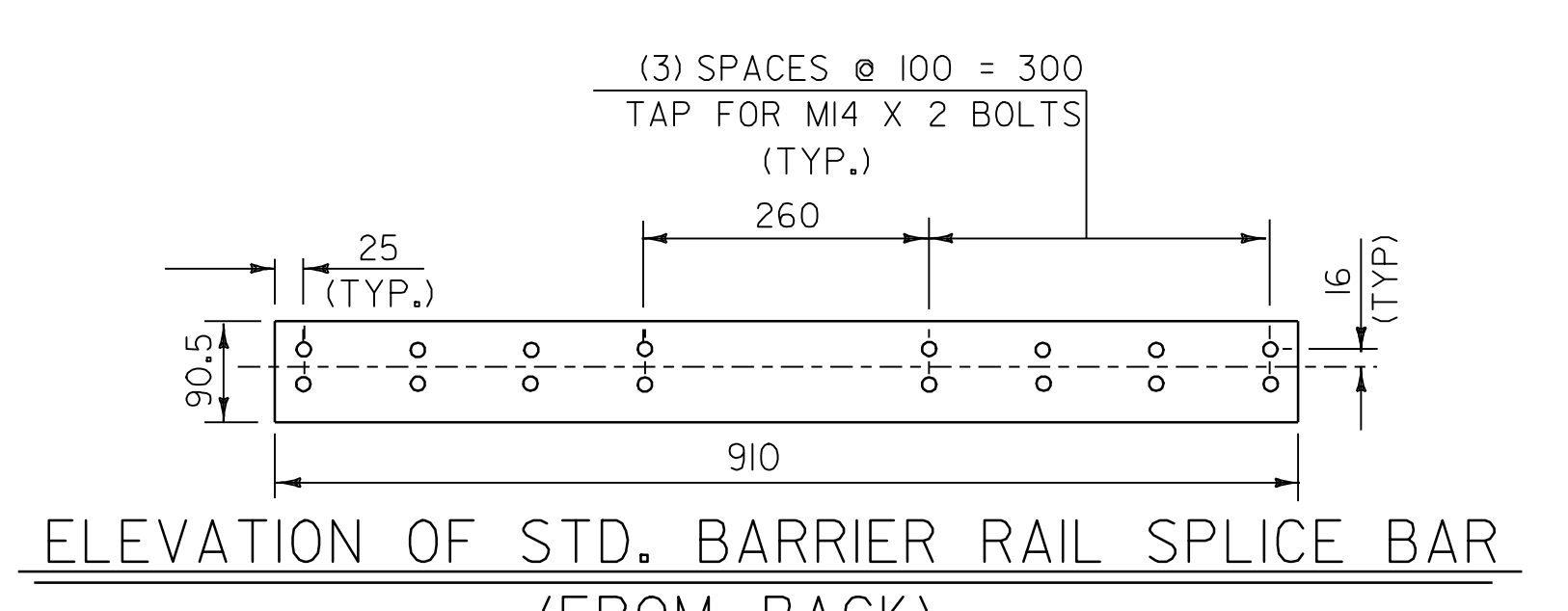
**HAND RAIL  
SPLICE SECTION**



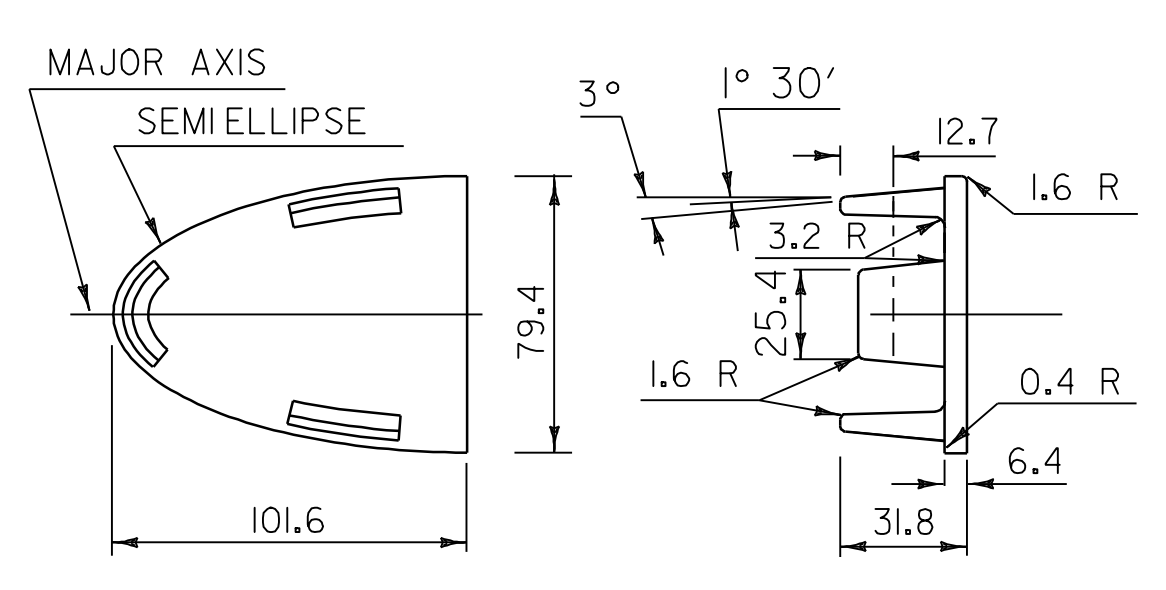
**ELEVATION OF  
HAND RAIL SPLICE BAR**



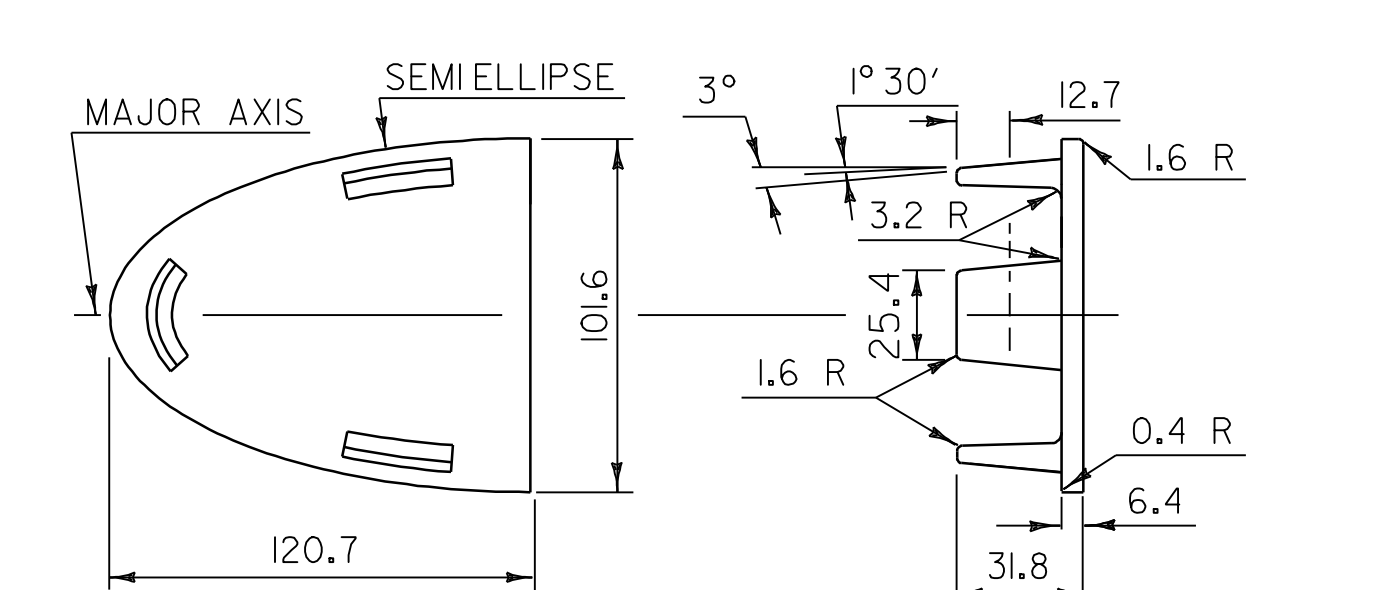
**BARRIER RAIL  
SPLICE SECTION**



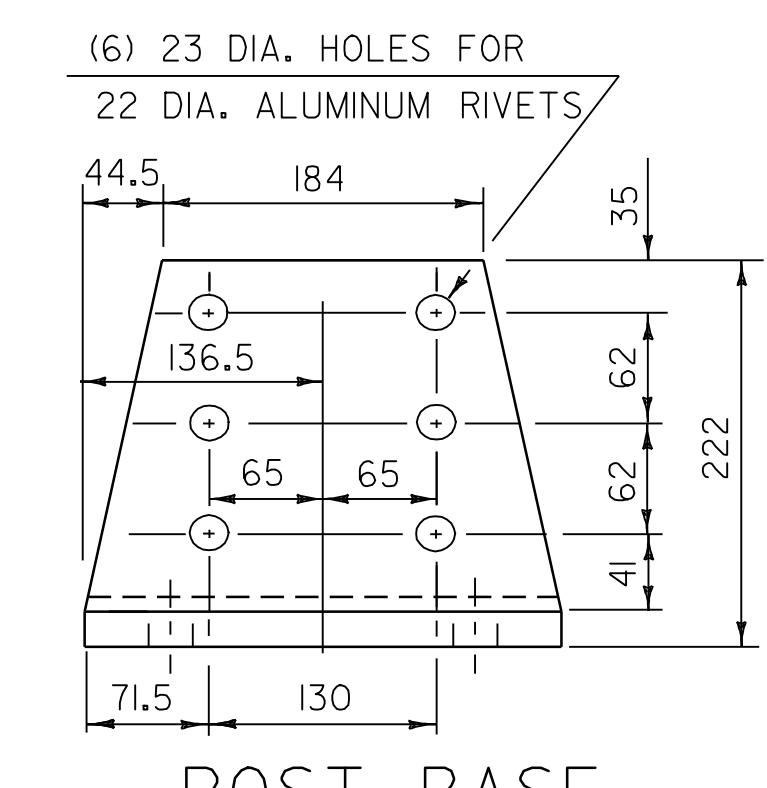
**ELEVATION OF STD. BARRIER RAIL SPLICE BAR  
(FROM BACK)**



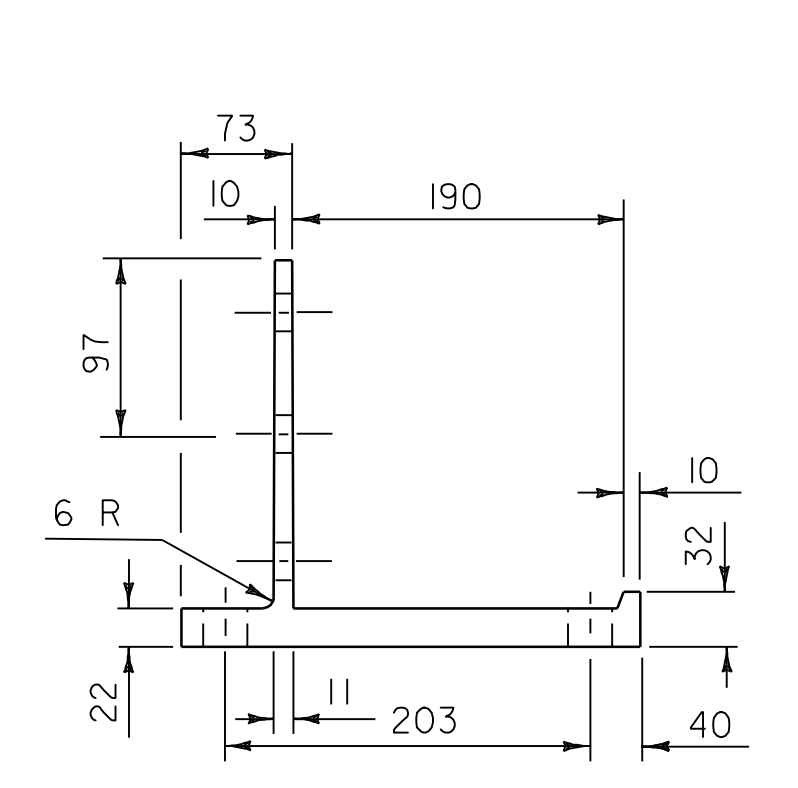
**HAND RAIL END CAP**



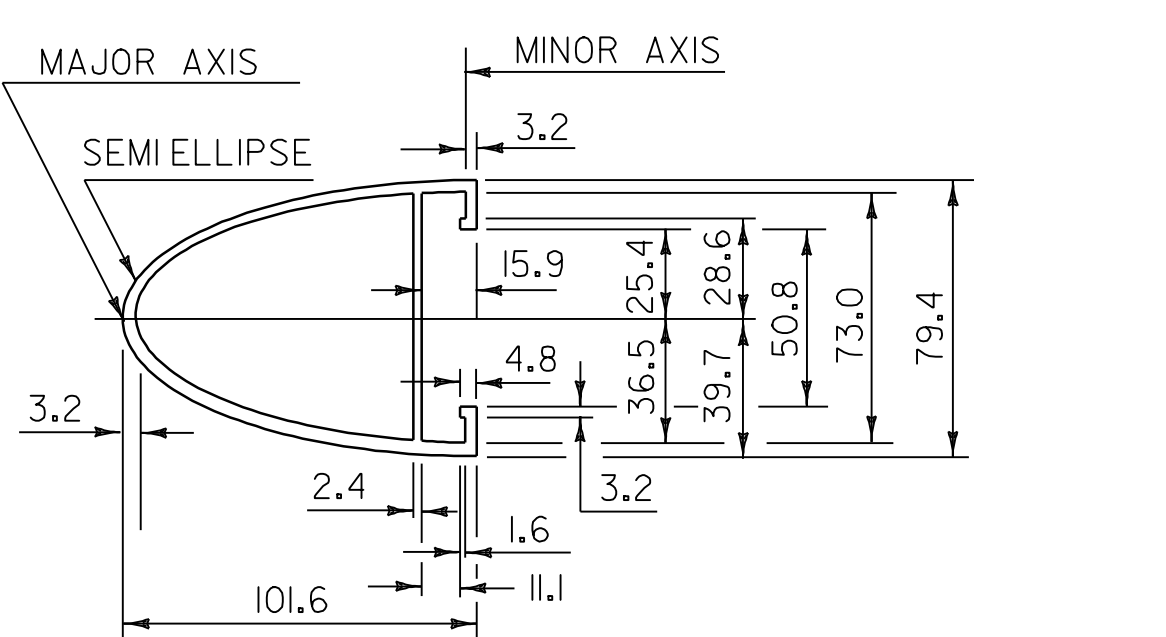
**BARRIER RAIL END CAP**



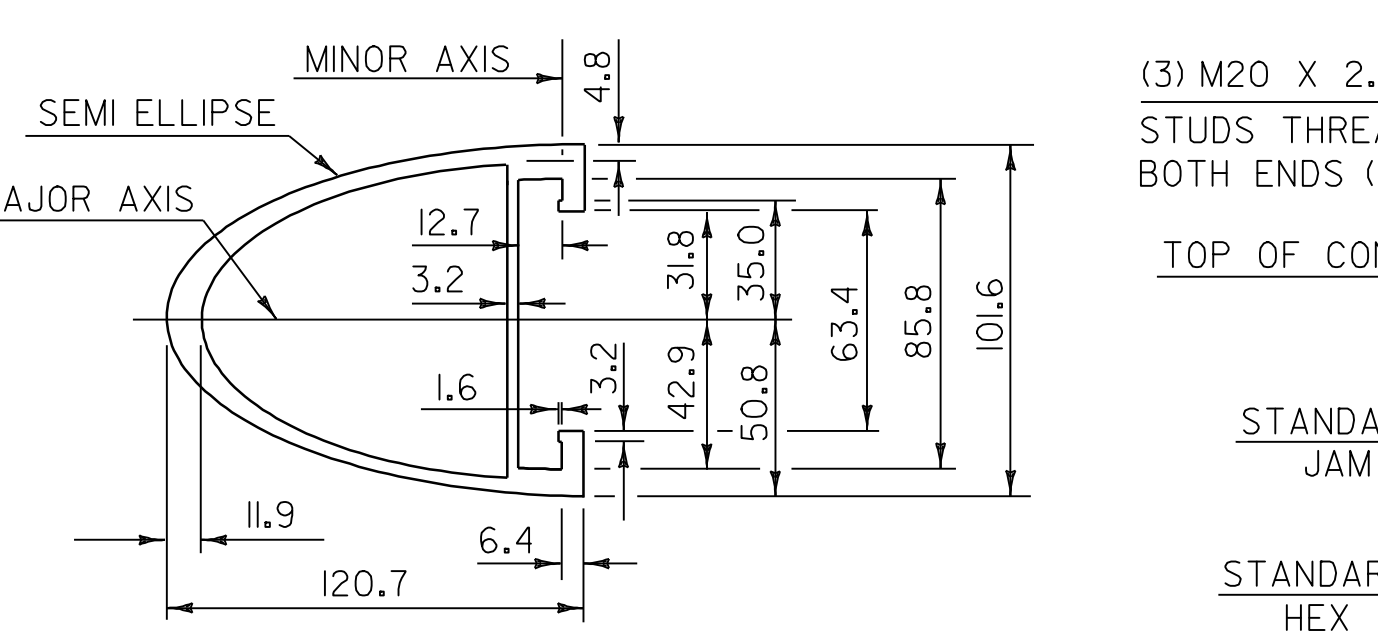
**POST BASE  
FRONT ELEVATION**



**POST BASE  
SECTION**

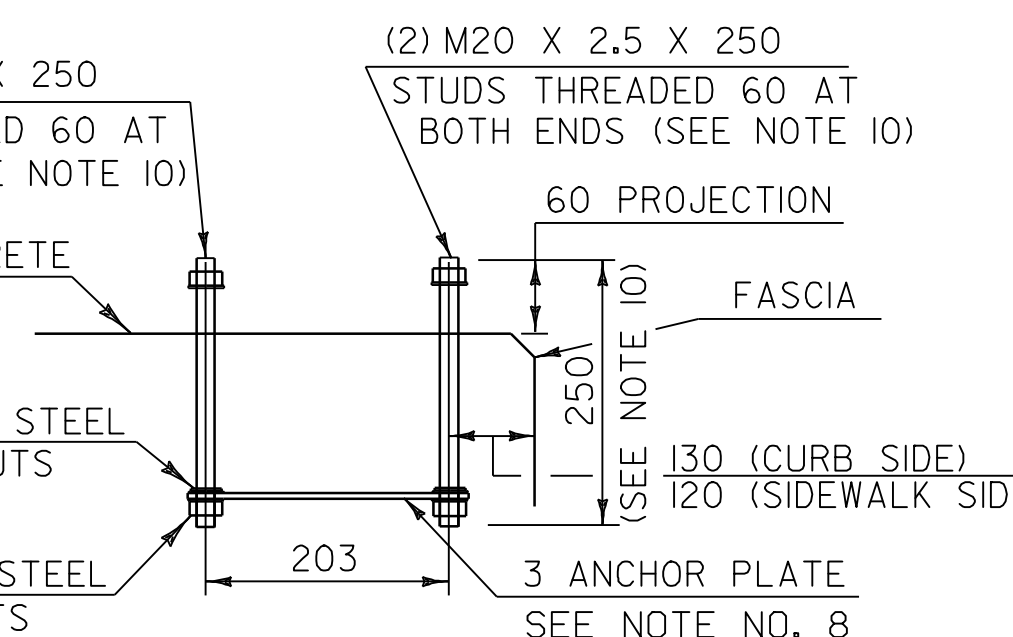


**HAND RAIL SECTION**

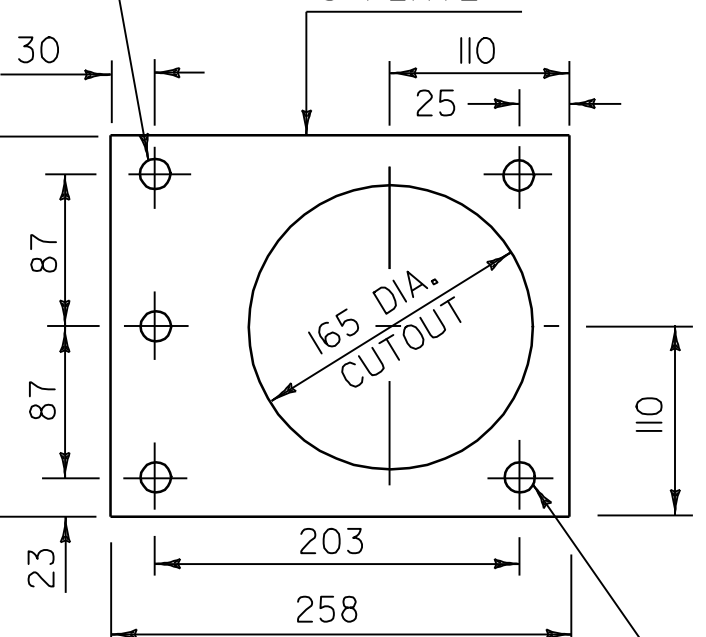


**BARRIER RAIL SECTION**

(SEE SHEET 1 OF 2 FOR ELEVATION OF BARRIER RAIL)



**POST ANCHOR ASSEMBLY**



**ANCHOR PLATE**

REVISIONS AND CORRECTIONS	
DECEMBER 18, 1997 - ORIGINAL APPROVAL DATE	

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town of	<b>BRISTOL</b>	Bridge No.	10
Highway No.	<b>VT.116</b>	Log Sta.	
		Surv. Sta.	

**ALUMINUM BRIDGE RAILING DETAILS 2 OF 3**

Designed By	<b>A.PORTALUPI</b>	Drawn By	<b>L.BULLOCK</b>
Checked By	<b>T.LACKEY</b>	Bridge Design Supervisor	<b>A.PORTALUPI</b>
Date	<b>5/99</b>	Date	<b>5/99</b>

PROJECT	<b>BRISTOL</b>	PROJECT NO.	<b>ER 021-(13)</b>
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