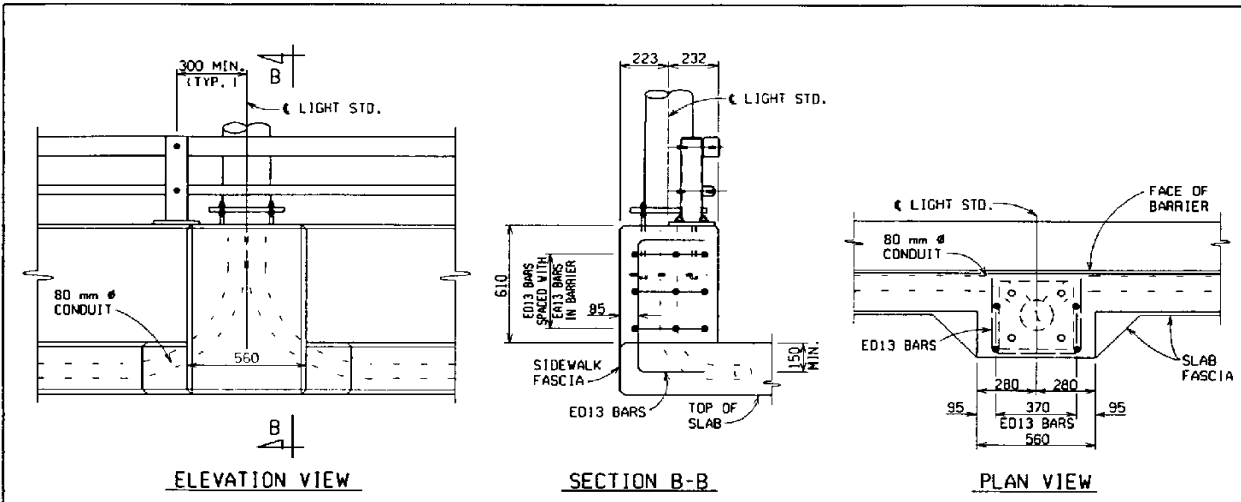
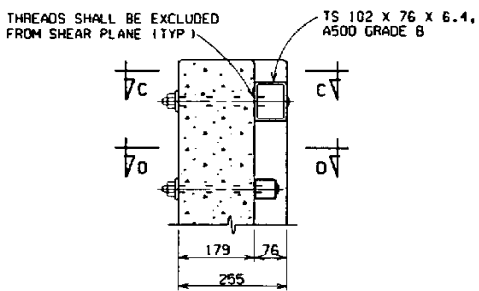


# APPENDIX C

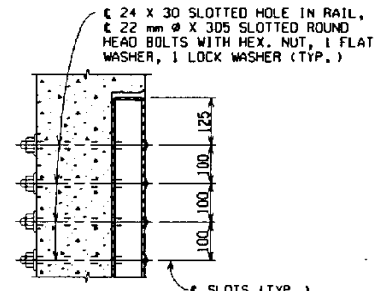
## “Tube-Style” Guardrail Designs



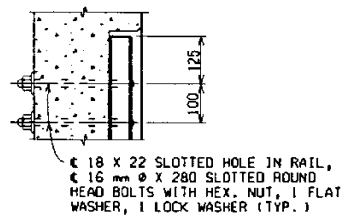
LIGHT STANDARD DETAILS



SECTION A-A



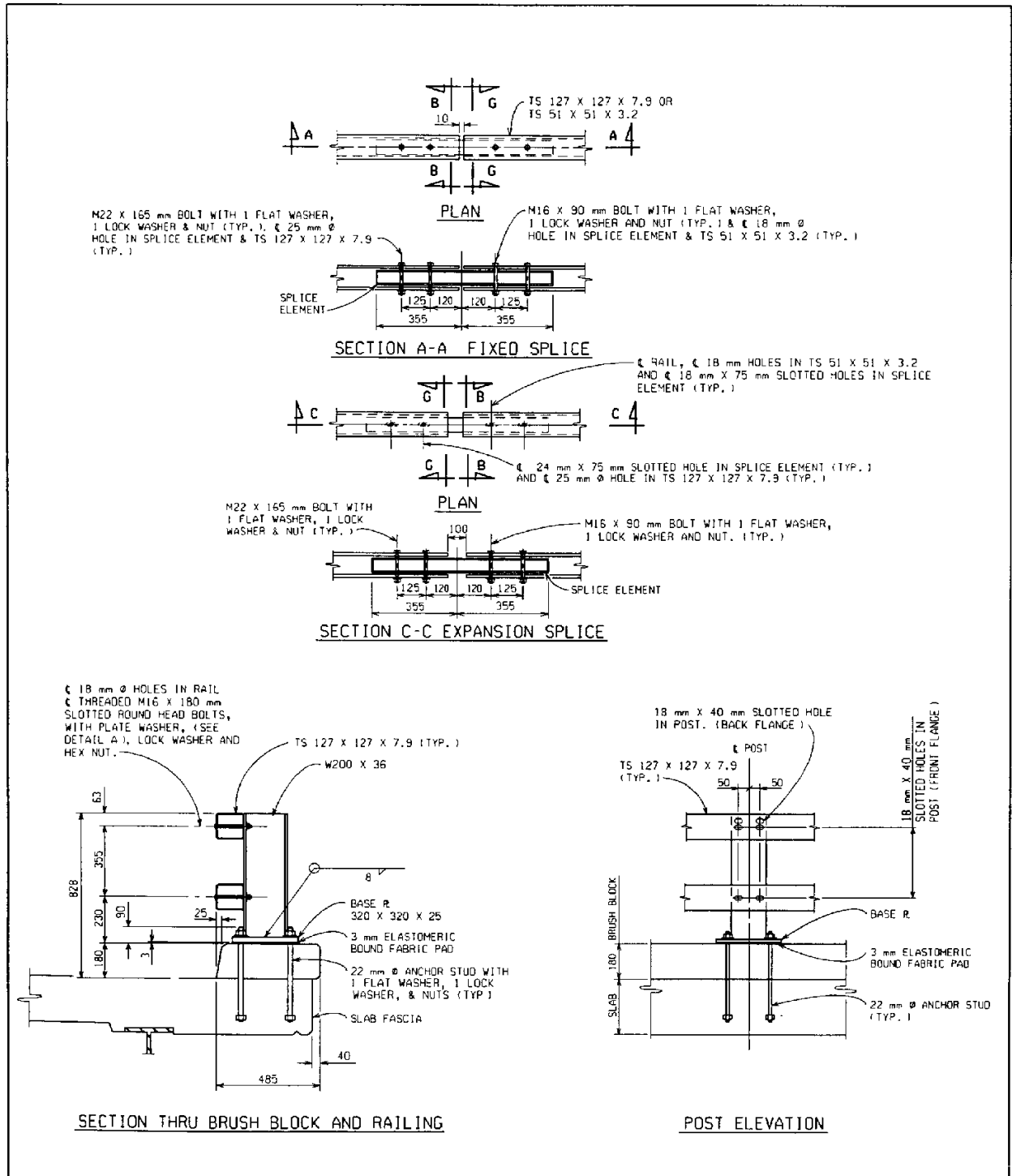
SECTION C-C



SECTION D-D

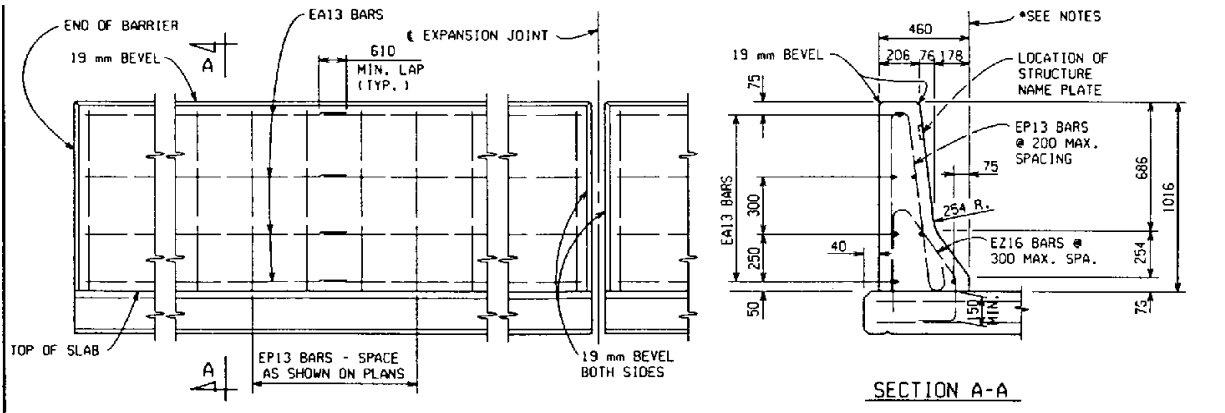
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY TECHNICAL SERVICES STANDARD PLAN FOR			
<h3 style="margin: 0;">BRIDGE RAILING, AESTHETIC PARAPET TUBE</h3>			
02-26-98 <small>F.H.W.A. APPROVAL</small>	01-20-98 <small>PLAN DATE</small>	<b>B-25-A</b>	SHEET 4 OF 6

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL SIGNED COPY APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.

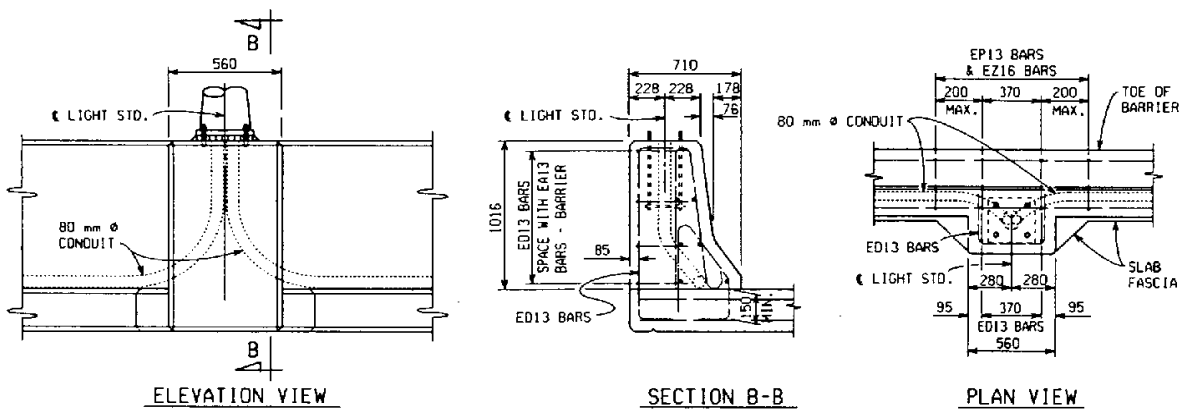


	ENGINEER OF CONSTRUCTION AND TECHNOLOGY	ENGINEER - BRIDGE DESIGN	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY TECHNICAL SERVICES STANDARD PLAN FOR <b>BRIDGE RAILING, 2 TUBE</b>		
	ENGINEER OF MAINTENANCE	ENGINEER OF DESIGN DEPARTMENT DIRECTOR JAMES R. DESANA			
PREPARED BY DESIGN DIVISION		CHIEF ENGINEER/DEPUTY DIRECTOR BUREAU OF HIGHWAY TECHNICAL SERVICES	3-3-2000	12-06-99	B-21-D SHEET 1 OF 4
DRAWN BY:		F.H.W.A. APPROVAL	PLAN DATE		
CHECKED BY: VZ	ENGINEER OF TRAFFIC AND SAFETY				

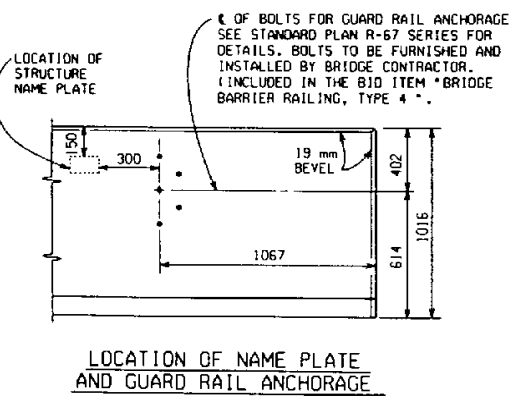
NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL SIGNED COPY APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



**BRIDGE BARRIER RAILING, TYPE 4  
OUTSIDE ELEVATION**



**LIGHT STANDARD DETAILS**



**LOCATION OF NAME PLATE  
AND GUARD RAIL ANCHORAGE**

**NOTES:**


DETAILS SHOWN ARE IN ACCORDANCE WITH CURRENT AASHTO SPECIFICATIONS.

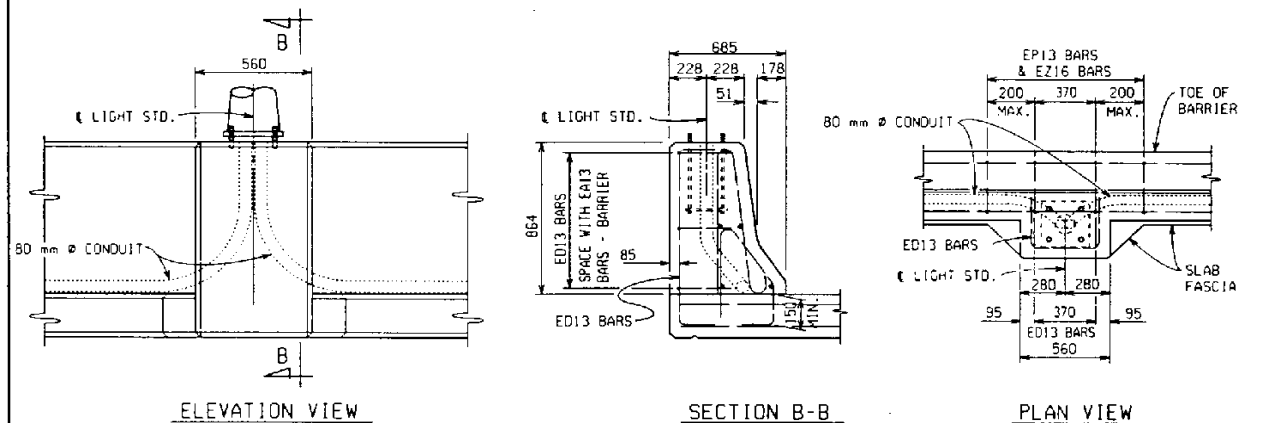
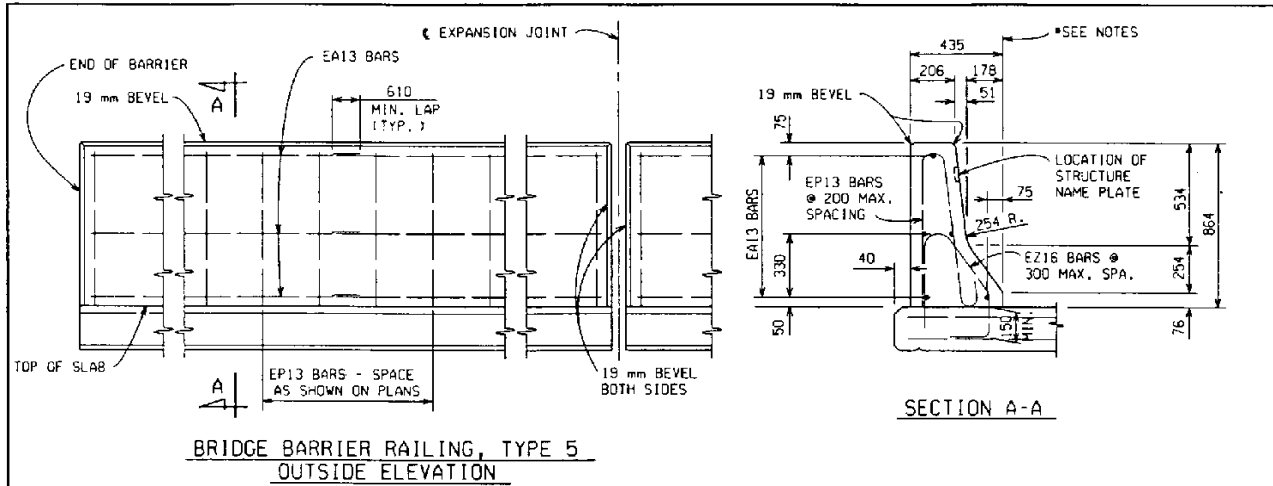
FOR LIGHT STANDARD ANCHOR BOLT ASSEMBLY DETAILS, SEE STANDARD PLAN B-103 SERIES. THE LIGHT STANDARD ANCHOR BOLT ASSEMBLY IS INCLUDED IN THE BID ITEM "BRIDGE BARRIER RAILING, TYPE 4".

ALL WORK AND MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 711 OF THE STANDARD SPECIFICATIONS.

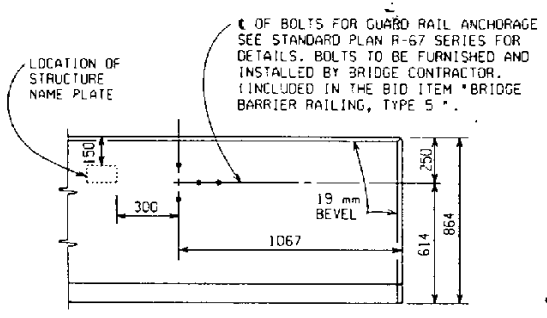
\*BRIDGE BARRIER ORIENTATION :  
PERPENDICULAR TO PLANE OF SLAB ON NORMAL CROWN SECTION AND HIGH SIDE OF SUPERELEVATION SECTION.  
VERTICAL ON LOW SIDE OF SUPERELEVATED SECTION.

ALL DIMENSIONS ARE IN MILLIMETERS.

 PREPARED BY DESIGN DIVISION	D. J. Mills ENGINEER OF CONSTRUCTION	R. P. Kulkarni ENGINEER - BRIDGE DESIGN	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY TECHNICAL SERVICES STANDARD PLAN FOR <b>BRIDGE BARRIER RAILING, TYPE 4</b>		
	S. R. Brown ENGINEER OF MAINTENANCE	R. P. Kulkarni ENGINEER OF DESIGN			DEPARTMENT DIRECTOR ROBERT A. WELKE
DRAWN BY: GL CHECKED BY: VZ	Colvin Roberts ENGINEER OF MATERIALS & TECHNOLOGY	G. D. Taylor BUREAU DIRECTOR HIGHWAY TECHNICAL SERVICES	07-17-96 F.H.W.A. APPROVAL	06-12-96 PLAN DATE	B-17-B SHEET 1 OF 1



**LIGHT STANDARD DETAILS**



**NOTES:**

DETAILS SHOWN ARE IN ACCORDANCE WITH CURRENT AASHTO SPECIFICATIONS.

FOR LIGHT STANDARD ANCHOR BOLT ASSEMBLY DETAILS, SEE STANDARD PLAN B-103 SERIES. THE LIGHT STANDARD ANCHOR BOLT ASSEMBLY IS INCLUDED IN THE BID ITEM "BRIDGE BARRIER RAILING, TYPE 5".

ALL WORK AND MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 711 OF THE STANDARD SPECIFICATIONS.

\*BRIDGE BARRIER ORIENTATION :  
PERPENDICULAR TO PLANE OF SLAB ON NORMAL CROWN SECTION AND HIGH SIDE OF SUPERELEVATION SECTION.  
VERTICAL ON LOW SIDE OF SUPERELEVATED SECTION.

ALL DIMENSIONS ARE IN MILLIMETERS.

<p>PREPARED BY DESIGN DIVISION</p>	<p><i>John P. Miller</i> ENGINEER OF CONSTRUCTION</p>	<p><i>S.R. Kulkarni</i> ENGINEER - BRIDGE DESIGN</p>	<p>MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY TECHNICAL SERVICES STANDARD PLAN FOR <b>BRIDGE BARRIER RAILING, TYPE 5</b></p>			
	<p><i>Samuel Brown</i> ENGINEER OF MAINTENANCE</p>	<p><i>S.R. Kulkarni</i> ENGINEER OF DESIGN</p>				<p>DEPARTMENT DIRECTOR ROBERT A. WELKE</p>
	<p><i>Colvin Roberts</i> ENGINEER OF MATERIALS &amp; TECHNOLOGY</p>	<p><i>Greg D. [Signature]</i> BOURCAU DIRECTOR</p>				<p>HIGHWAY TECHNICAL SERVICES</p>
<p>DRAWN BY: CL</p> <p>CHECKED BY: V2</p>	<p><i>James S. [Signature]</i> ENGINEER OF TRAFFIC AND SAFETY</p>	<p>07-17-96</p> <p>F.H.W.A. APPROVAL</p>	<p>06-12-95</p> <p>PLAN DATE</p>	<p><b>B-20-B</b></p>	<p>SHEET 1 OF 1</p>	