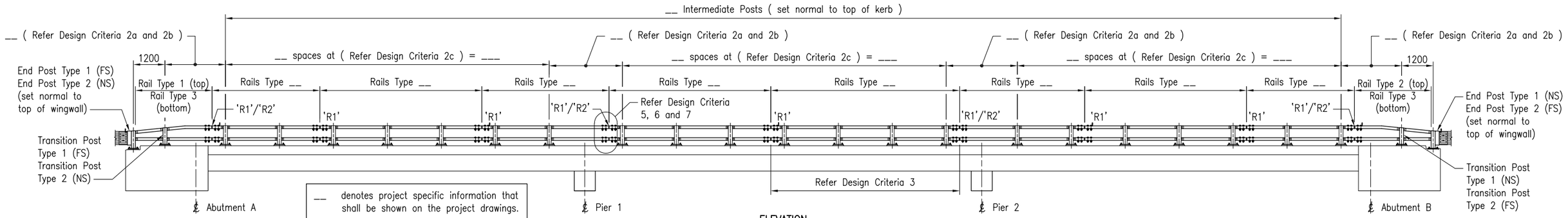


__ denotes project specific information that shall be shown on the project drawings.

'R1' and 'R2' denotes rail joint assembly type. Refer DRAWING 2

ELEVATION

TYPICAL BRIDGE TRAFFIC BARRIER LAYOUT

NEAR SIDE BARRIER – AS SHOWN
FAR SIDE BARRIER – OPPOSITE HAND

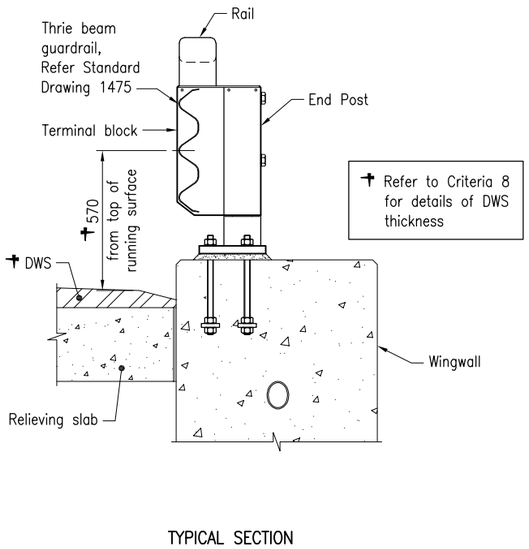
The purpose of This Standard Drawing is to provide typical standard details. The bridge traffic barrier details in this drawing are designed to AS 5100 (2017) for Regular performance level and the fitness for purpose of these details for a specific project shall be designed and certified by an RPEQ and shown on the project specific drawings.

NOTES:

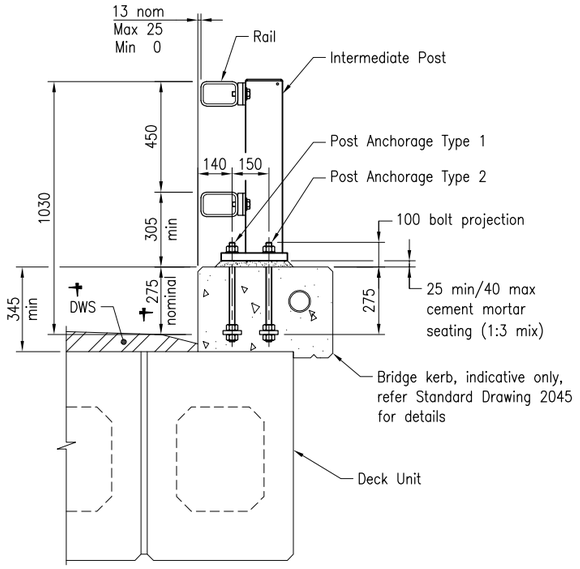
1. SCOPE: This Standard Drawing provides details of Regular performance level post and rail bridge traffic barriers.
2. DELINEATION on the bridge traffic barrier system shall be installed in the location and to the spacing shown on the drawing. Delineators shall be consistent with the requirements specified in MRTS14.
3. STEELWORK shall be fabricated to the requirements of MRTS78.
   RHS and SHS to be Grade C450L0 to AS/NZS 1163.
   All hollow section material manufactured to AS/NZS 1163 will require abrasive blasting to develop a surface profile of 50μm prior to hot dip galvanizing.
   All plate material manufactured to AS/NZS 1594 will require abrasive blasting to develop a surface profile of 50μm prior to hot dip galvanizing.
   Steel plate to AS/NZS 3678, and steel grades are as noted.
   Flat bar to be Grade 300 to AS/NZS 3679.1.
   Bolts Class 8.8, nuts Class 8 and washers for Class 8.8 bolts shall be fabricated in accordance with Technical Note 66 (TN66) and AS/NZS 1252, thin nuts Class 5 to AS 1112.4.
   The exposed end of threaded bar shall have the original galvanising finish.
   All threaded bars, bolts and nuts shall be hot dip galvanized to AS 1214.
   All other steelwork to be hot dip galvanized to AS/NZS 4680 unless shown otherwise.
   Prior to galvanizing all weld splatter and welding slag is to be removed.
   Members to be branded with suitable type number after fabrication.
4. WELDING symbols conform to AS 1101.3.
   All welding to AS/NZS 1554.1.
   All welds except location tack welds to be SP category.
   Welding consumables to be controlled hydrogen type: G493 to AS/NZS ISO 14341–B or T493 to AS/NZS ISO 17632–B unless shown otherwise.
5. DIMENSIONS are in millimetres unless shown otherwise.

ASSOCIATED DOCUMENTS:
Design Criteria for Bridges and other Structures

REFERENCED DOCUMENTS:
Departmental Standard Drawings:
1475 Steel Beam Guardrail – Installation on Bridge and Barrier Approaches
1481 Steel Beam Guardrail – Fabrication Details for Thrie Beam Rails and Rail Components
2045 Bridge Kerbs – Standard Details Cast Insitu Kerbs for Transversely Stressed Deck Units
2203 Bridge Traffic Barriers – Bridge Safety Rail for Pedestrian only Pathway
Departmental Specifications and Technical Notes:
MRTS14 Road Furniture
MRTS78 Fabrication of Structural Steelwork
MRTS80 Supply and Erection of Bridge Barrier
TN66 Commercial and Fabricated Bolts and Nuts



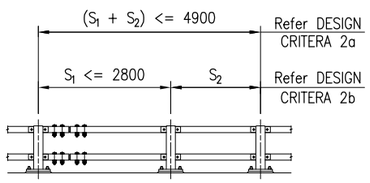
TYPICAL SECTION
AT END POSTS



TYPICAL SECTION
AT INTERMEDIATE POSTS

BRIDGE TRAFFIC BARRIER DESIGN CRITERIA

1. Design Criteria:
   AS 5100 'Regular' Barrier Performance Level
2. Post Spacings:
   a) The average spacing of any 3 adjacent posts ($S_{average}$) shall not exceed 2450
   b) The maximum spacing of any 2 adjacent posts (S_{max}) shall not exceed 2800
   c) The typical intermediate post spacing across each span shall be as follows:
      i) For cast–insitu kerbs on PSC deck units; typical post spacing $S_{typical}$ = 2050
      ii) For cast–insitu concrete decks; maximum post spacing S_{max} = 2450
3. Maximum Rail Length = 8.2 metres
4. Each rail shall be supported by a minimum of 2 posts
5. Only one rail joint permitted between successive posts
6. Provide a rail joint adjacent to each abutment or pier
7. Rail expansion joint gap to be:
   a) Nominal 40 at installation
   b) Minimum 5/maximum 124 after movement
8. Refer to Design Criteria for Bridges and other Structures for minimum DWS thickness.



POST SPACING CRITERIA

INDEX – BRIDGE TRAFFIC BARRIER

DESCRIPTION	DRAWING REFERENCE
Typical Layout and Sections, Design Criteria, Notes	2200 Drawing 1 of 5
Post and Rail Joint Assemblies, Rail Connectors, Post Anchorages	2200 Drawing 2 of 5
Rails	2200 Drawing 3 of 5
Transition and Intermediate Posts	2200 Drawing 4 of 5
End Posts	2200 Drawing 5 of 5

Note: The above index shall be included on the project drawings, amended to suit the requirements of the specific Project

Department of Transport and Main Roads

BRIDGE TRAFFIC BARRIERS

POST AND RAIL TRAFFIC BARRIERS
REGULAR PERFORMANCE LEVEL

DRAWING 1 OF 5

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A3
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Standard Drawing No
2200
Date 3/2020

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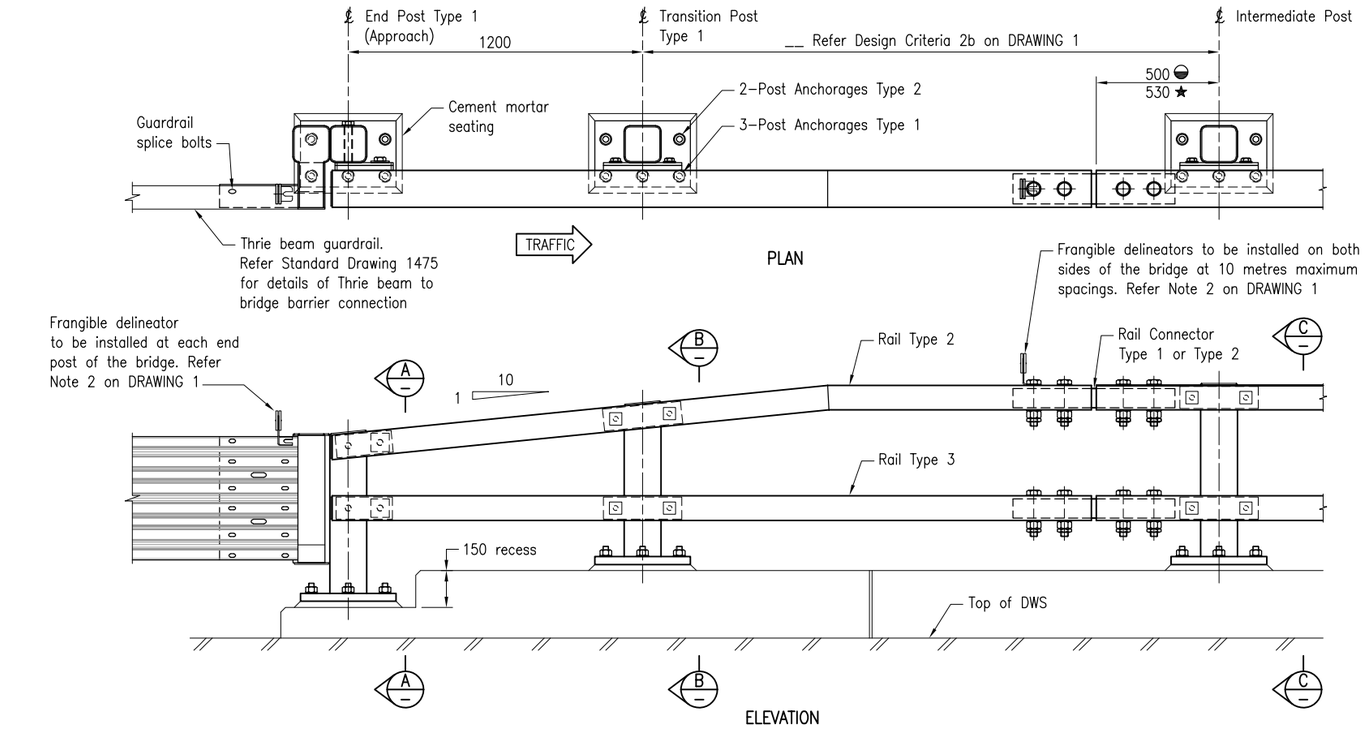
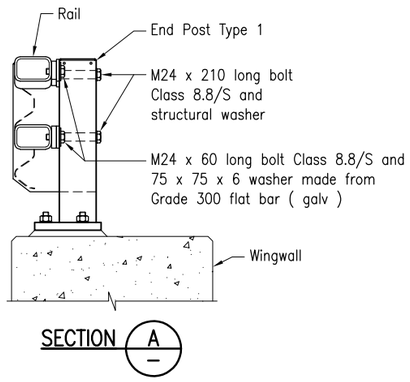


TYPICAL ASSEMBLY – END, TRANSITION AND INTERMEDIATE POSTS

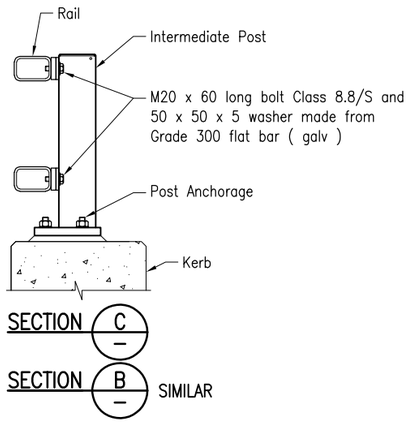
__ Denotes project specific information that shall be shown on the project drawings

Used at Fixed Joints and Continuous Decks

★ Used at Expansion Joints

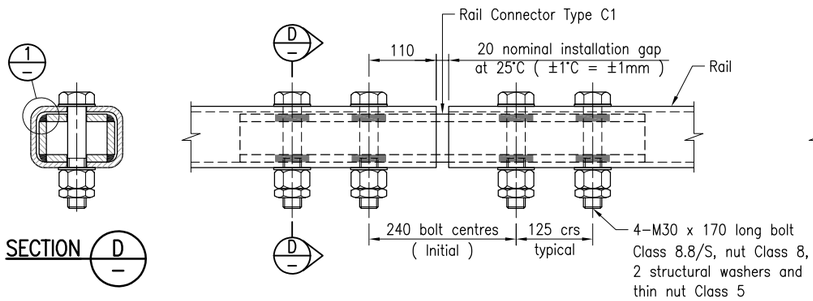


SECTION A



SECTION C

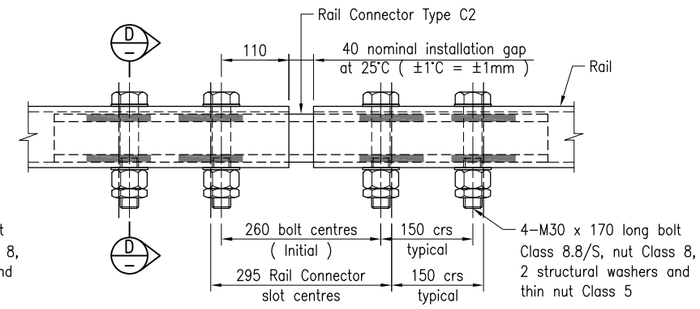
SECTION B SIMILAR



SECTION D

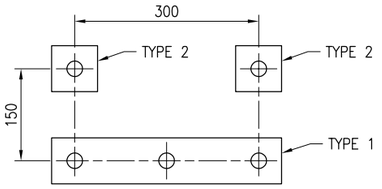
ELEVATION

RAIL JOINT ASSEMBLY 'R1' AT FIXED JOINTS AND CONTINUOUS DECKS

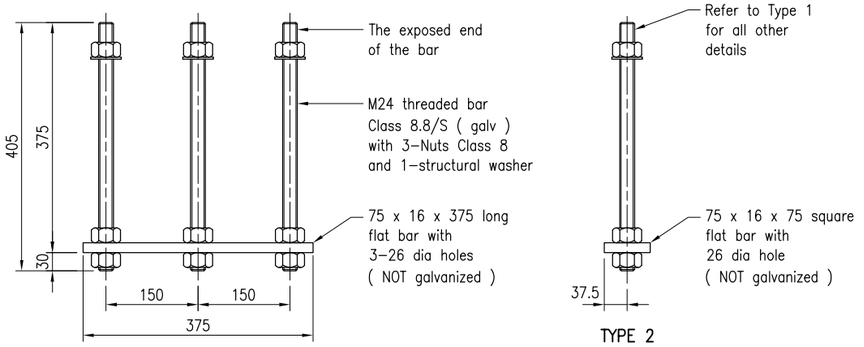


ELEVATION

RAIL JOINT ASSEMBLY 'R2' AT EXPANSION JOINTS



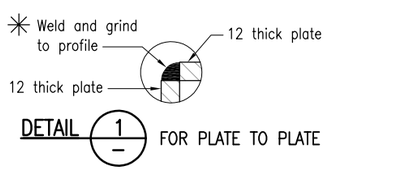
ANCHORAGE GROUP SETOUT



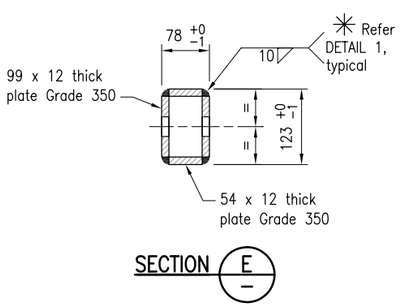
POST ANCHORAGES

No OFF Sets = __ (including Abutments)

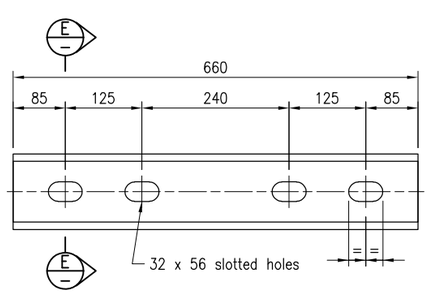
Each Anchorage Group comprises 1–Type 1 and 2–Type 2



DETAIL 1 FOR PLATE TO PLATE



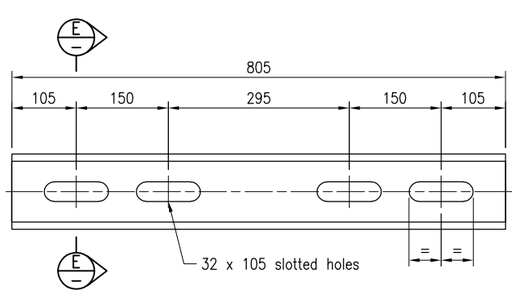
SECTION E



PLAN

RAIL CONNECTOR – TYPE C1 No OFF = __

Used at Fixed Joints and Continuous Decks



PLAN

RAIL CONNECTOR – TYPE C2 No OFF = __

Used at Expansion Joints

Department of Transport and Main Roads		
BRIDGE TRAFFIC BARRIERS		
POST AND RAIL TRAFFIC BARRIERS REGULAR PERFORMANCE LEVEL	A3	Standard Drawing No 2200
DRAWING 2 OF 5	Not to Scale	Date 3/2020

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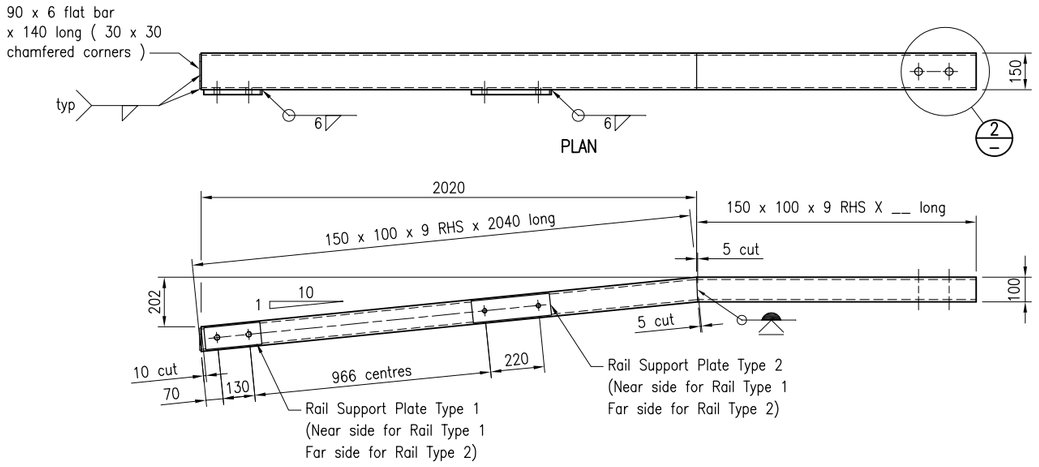
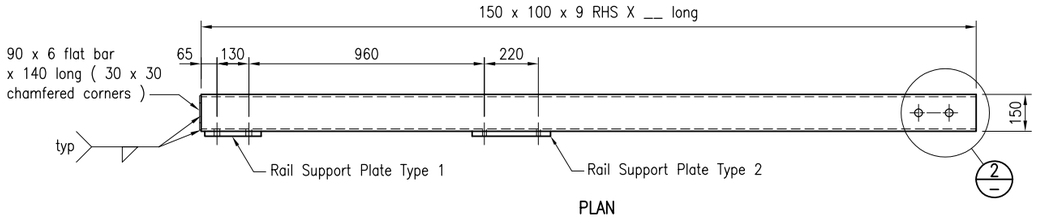
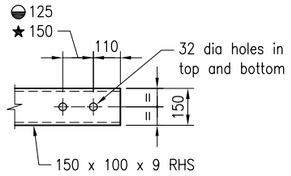


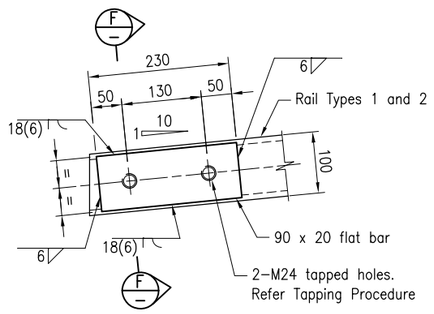
RAIL TYPES 1 AND 2 No OFF = __ of each as noted



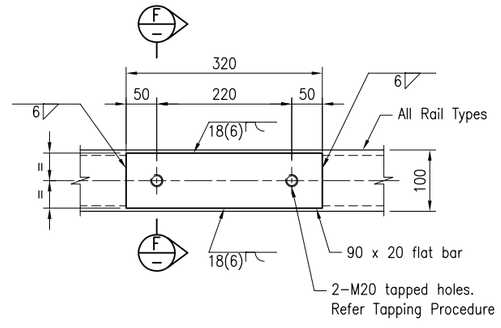
RAIL TYPE 3 No OFF = __



DETAIL 2



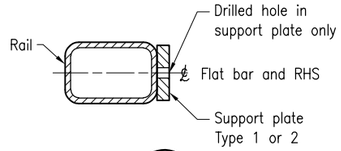
RAIL SUPPORT PLATE – TYPE 1



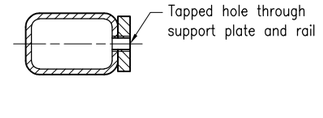
RAIL SUPPORT PLATE – TYPE 2

TAPPING PROCEDURE:

1. Drill holes through the support plates only (using the correct tapping drill to match bolt size or smaller size drill).
2. Position and weld the support plates to the rail.
3. Fill the holes in the support plates with natural silicone.
4. Hot dip galvanize the rail.
5. After galvanizing, drill and tap the required size holes through the support plates and the rail.



Before galvanizing

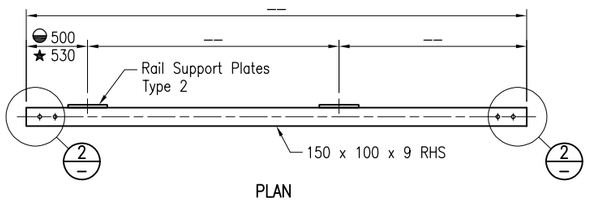


After galvanizing

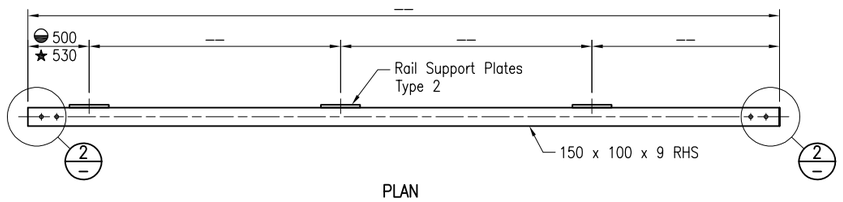
__ Denotes project specific information that shall be shown on the project drawings

Used at Fixed Joints and Continuous Decks

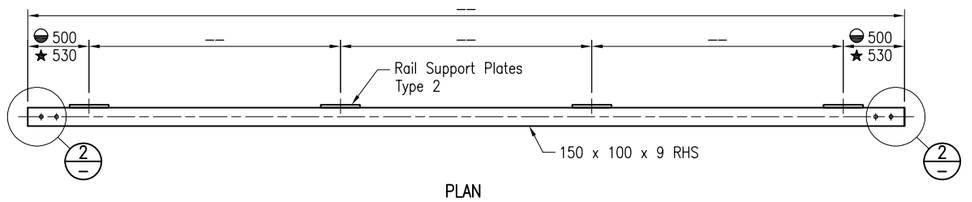
★ Used at Expansion Joints



TYPICAL – RAIL TYPE __ No OFF = __



TYPICAL – RAIL TYPE __ No OFF = __



TYPICAL – RAIL TYPE __ No OFF = __

Department of Transport and Main Roads

BRIDGE TRAFFIC BARRIERS

POST AND RAIL TRAFFIC BARRIERS
REGULAR PERFORMANCE LEVEL

DRAWING 3 OF 5

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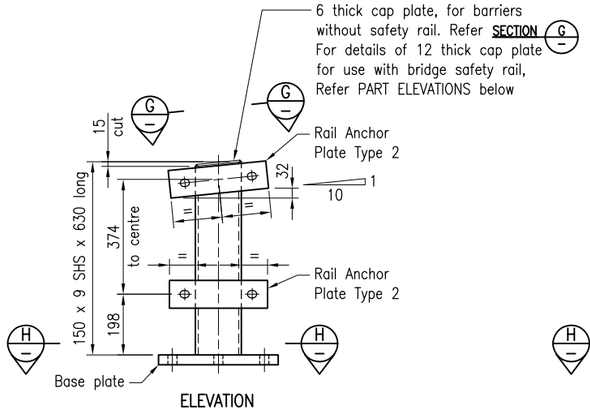
A3

Not to Scale

Standard Drawing No
2200
Date 3/2020

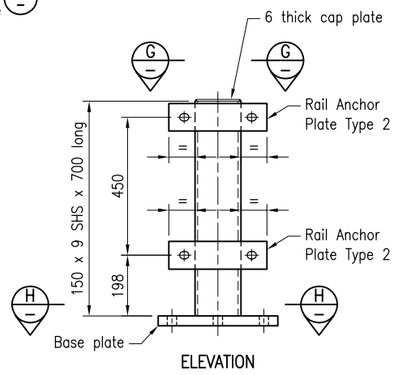
A | B | C | D | E



ELEVATION

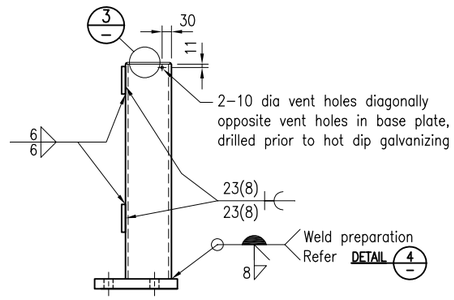
TYPE 1 No OFF = __ AS SHOWN
TYPE 2 No OFF = __ OPPOSITE HAND

TRANSITION POSTS – TYPES 1 AND 2



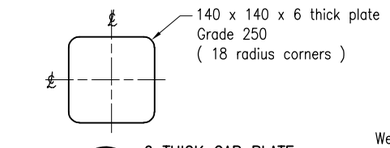
ELEVATION

INTERMEDIATE POSTS
No OFF = __

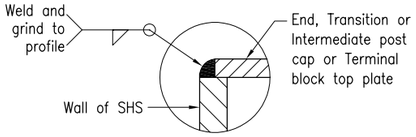


TYPICAL END VIEW

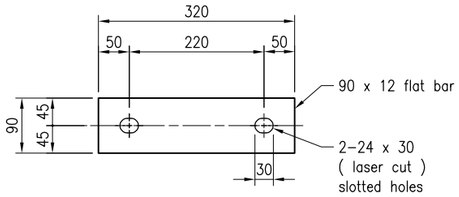
__ denotes project specific information that shall be shown on the project drawings



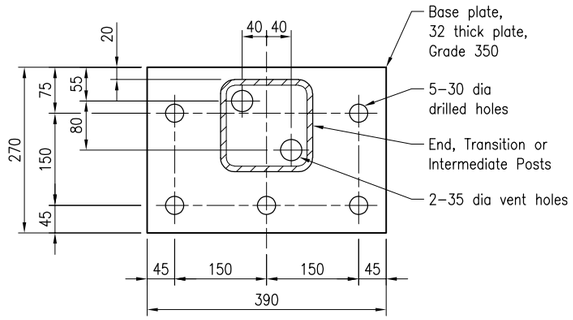
SECTION G –,5 6 THICK CAP PLATE, TYPICAL FOR POSTS WITHOUT BRIDGE SAFETY RAIL



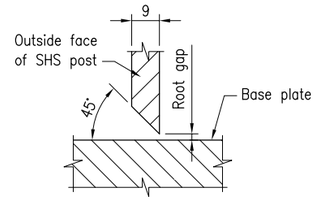
DETAIL 3 –,5 FOR 6 THICK CAP PLATE TO SHS POST



RAIL ANCHOR PLATE – TYPE 2

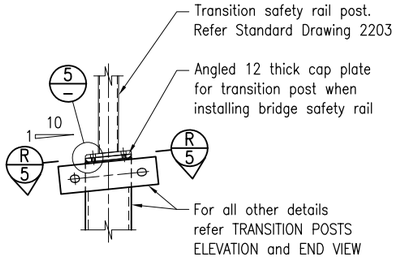


SECTION H –,5 BASE PLATE FOR ALL POSTS



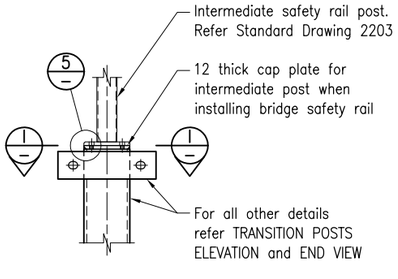
DETAIL 4 –,5 WELD PREPARATION FOR SHS POST TO BASE PLATE

TYPICAL TRANSITION AND INTERMEDIATE POST DETAILS



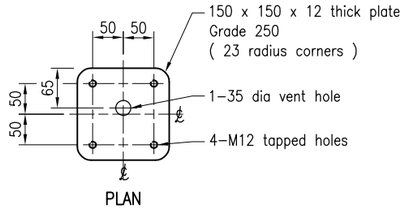
PART ELEVATION

ASSEMBLY OF TRANSITION POST WITH TRANSITION SAFETY POST



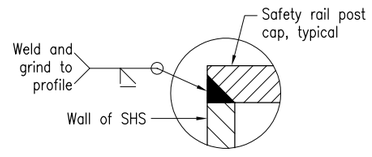
PART ELEVATION

ASSEMBLY OF INTERMEDIATE POST WITH INTERMEDIATE SAFETY POST



PLAN

SECTION I – 12 THICK CAP PLATE TYPICAL FOR INTERMEDIATE POSTS FOR BRIDGE SAFETY RAIL



DETAIL 5 –,5 FOR 12 THICK CAP PLATE TO SHS POST

TRAFFIC BARRIER POST MODIFICATION FOR SAFETY RAIL ASSEMBLY

Refer Standard Drawing 2203

Department of Transport and Main Roads

BRIDGE TRAFFIC BARRIERS

POST AND RAIL TRAFFIC BARRIERS
REGULAR PERFORMANCE LEVEL

DRAWING 4 OF 5

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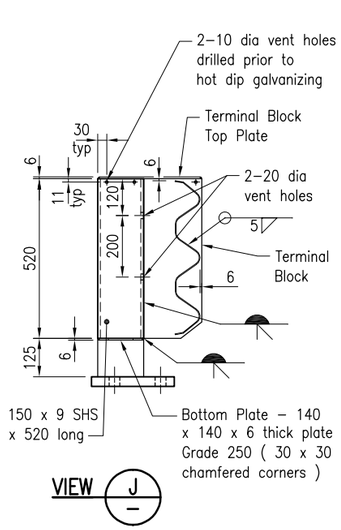
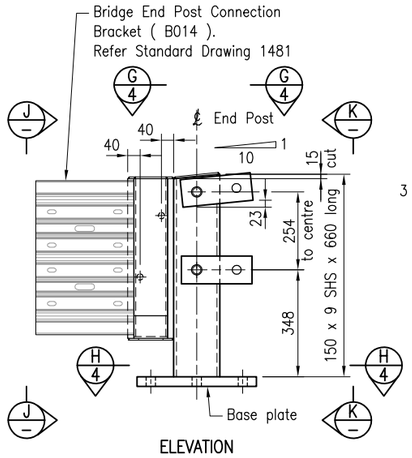
A3
Not to Scale

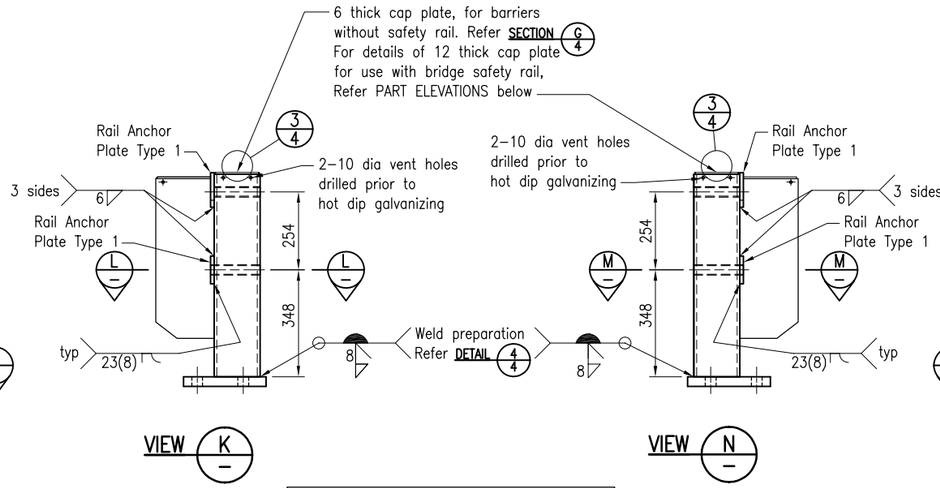
Standard Drawing No 2200
Date 3/2020

A B C D E

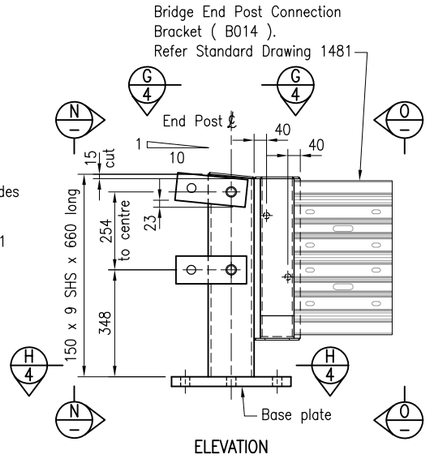




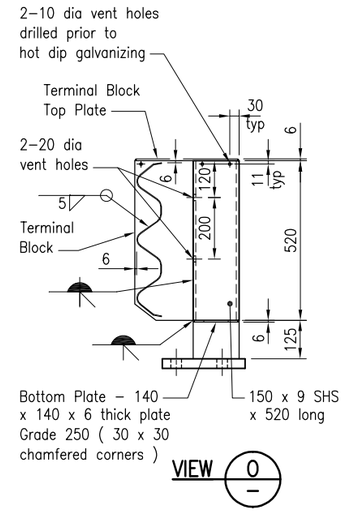
END POST – TYPE 1 (APPROACH)
No OFF = __

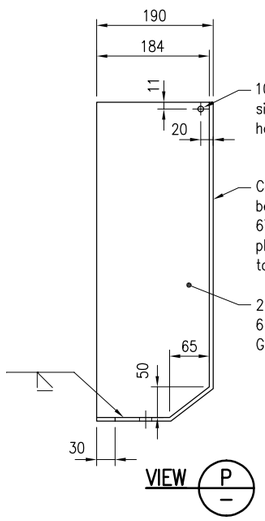


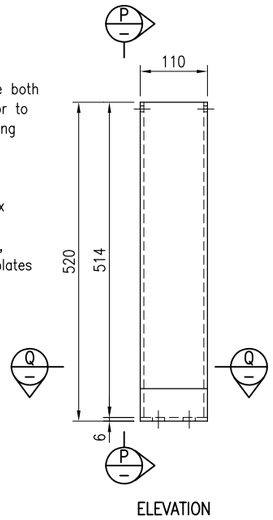
__ denotes project specific information that shall be shown on the project drawings

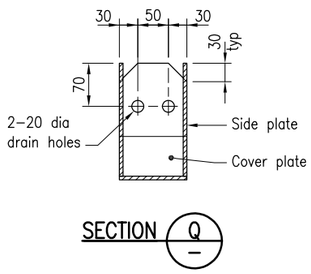


END POST – TYPE 2 (DdepartURE)
No OFF = __

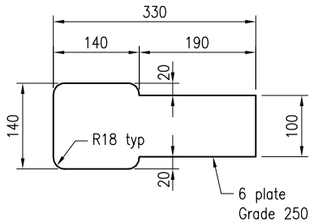




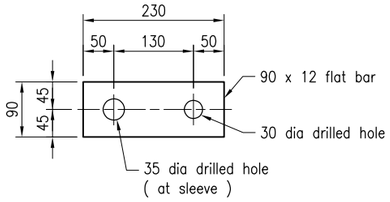




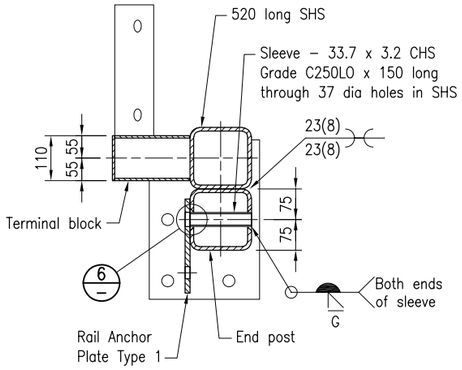
TERMINAL BLOCK

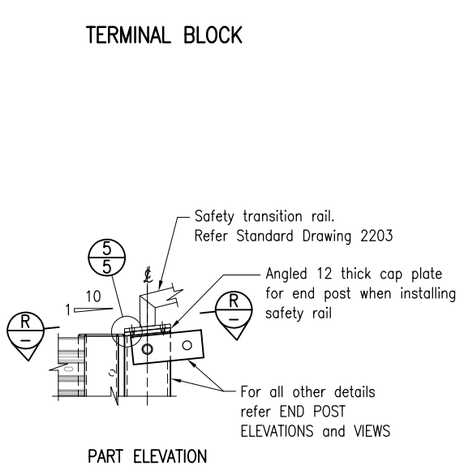


TERMINAL BLOCK TOP PLATE



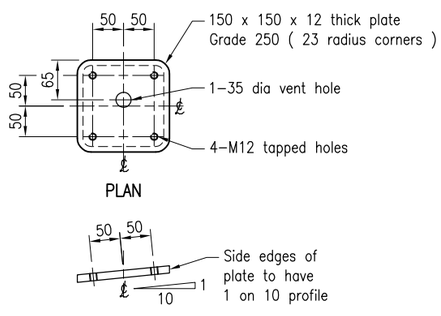
RAIL ANCHOR PLATE – TYPE 1



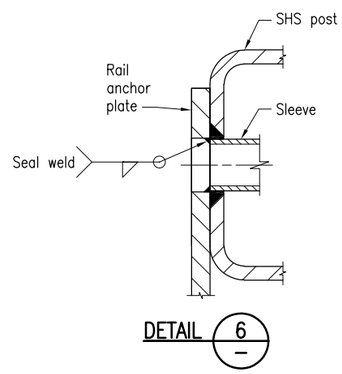


ASSEMBLY OF END POST WITH TRANSITION SAFETY RAIL

TYPICAL END POST DETAILS



SECTION R –,4 12 THICK CAP PLATE FOR END POSTS AND FOR TRANSITION POSTS FOR USE WITH TRANSITION SAFETY RAIL



TRAFFIC BARRIER END POST MODIFICATION FOR SAFETY RAIL ASSEMBLY

Refer Standard Drawing 2203

Department of Transport and Main Roads

BRIDGE TRAFFIC BARRIERS

POST AND RAIL TRAFFIC BARRIERS
REGULAR PERFORMANCE LEVEL

DRAWING 5 OF 5

Queensland Government

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A3
Not to Scale

Standard Drawing No
2200
Date 3/2020

A | B | C | D | E