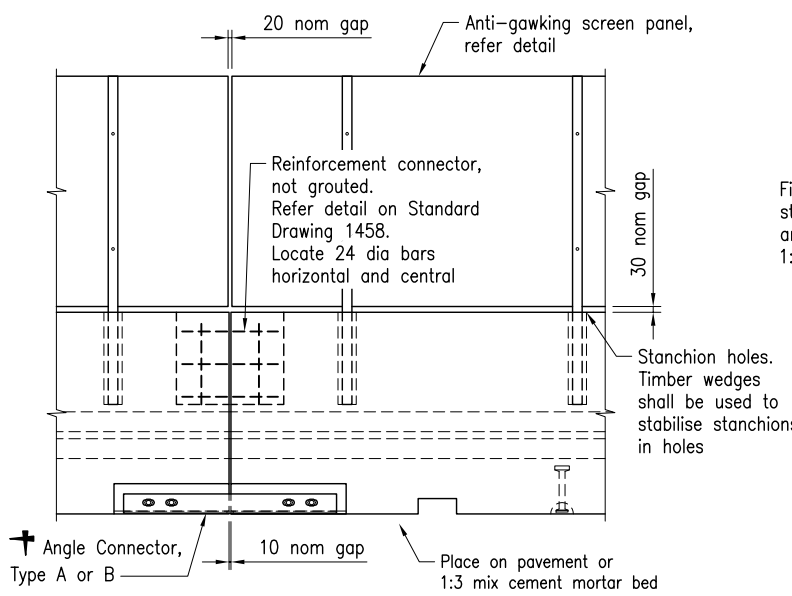
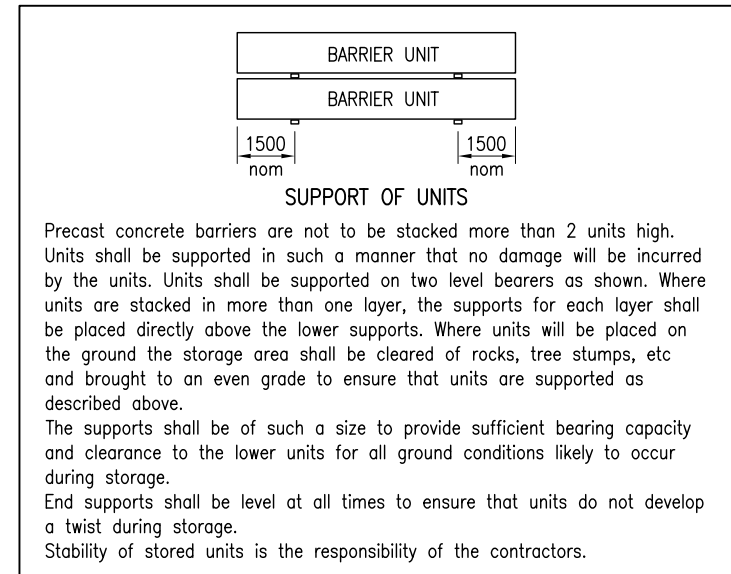
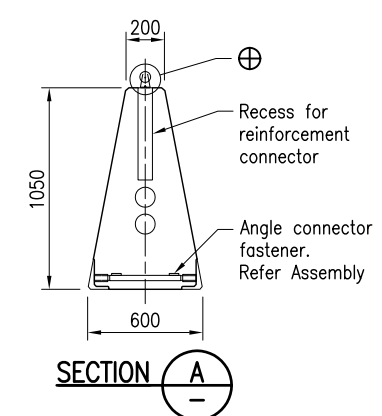
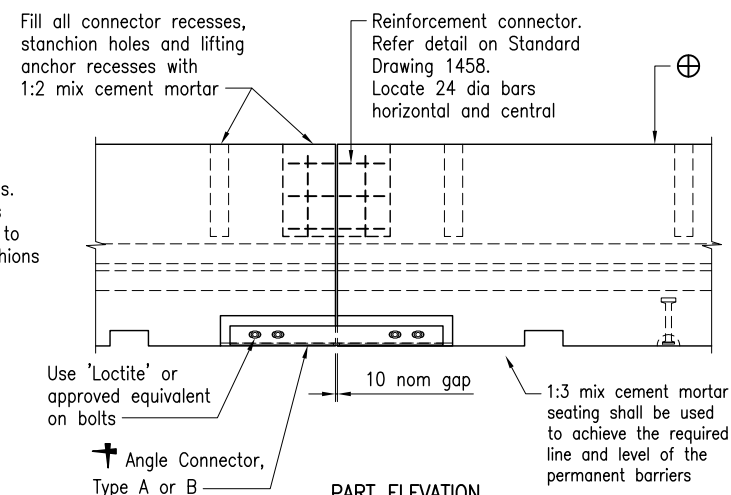


⊕ Where required, delineator brackets shall be fixed to the barrier with an approved 10 dia masonry anchor, 30 minimum into concrete, or to screen panels with an appropriate fixing to prevent rotation of the delineator. Refer to Standard Drawing 1466

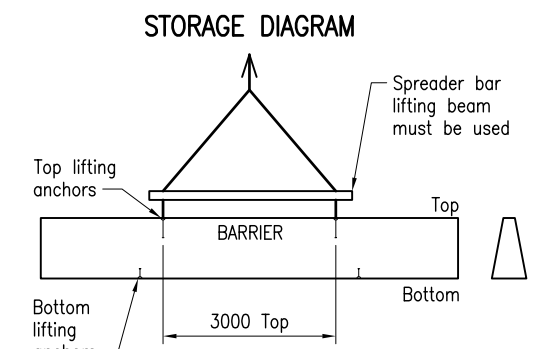


⊕ Type A Angle connectors shall be installed on straights. Type B Angle connectors shall be used on small radius curves, where radius no less than 150m. For details of connectors, refer standard drawing 1458



LIFTING CRITERIA NOTES

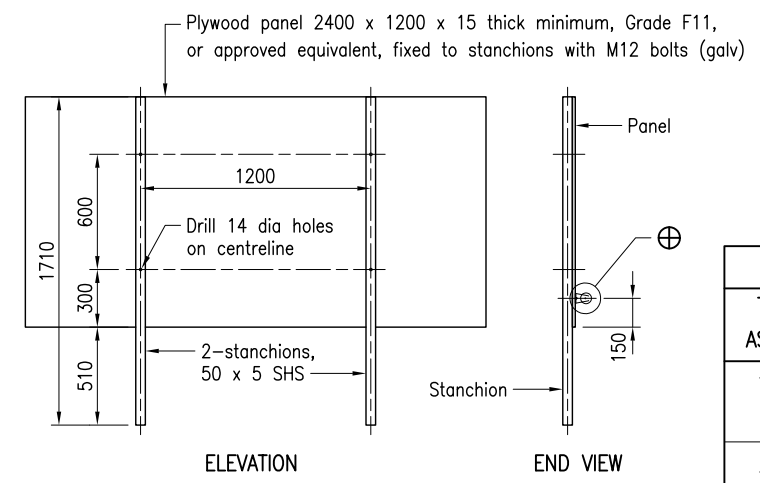
- LC1. Units shall be cast inverted with the bottom face trowel finished.
- LC2. Installation of anchors within the form shall be inspected before placing concrete. Refer to MRTS72.
- LC3. Bottom lifting anchors are to be used to lift unit out of mould, are designed for single use and shall not be used for general lifting on site. Refer to Standard Drawing 1458.
- LC4. General loading, offloading and site positioning shall be carried out using the top lifting anchors. Design of the top anchors is based on:
 - Dynamic lifting factor of crane = 2.0 maximum
 - Design factor of safety = 4.0
- LC5. Units shall not be lifted by a back hoe/excavator/forklift or similar plant and equipment. Units shall not be suspended from any vehicle when traversing rough terrain.
- LC6. The lifting anchors and concrete surrounding the anchors shall be inspected for any sign of damage or corrosion before each lift. The lifting anchors shall not be used if there is any sign of damage or corrosion.
- LC7. All lifting shall be undertaken to conform with both these lifting criteria and those of the manufacturer of the lifting anchors.



TEMPORARY BARRIER CONNECTION

Viewed from new construction side

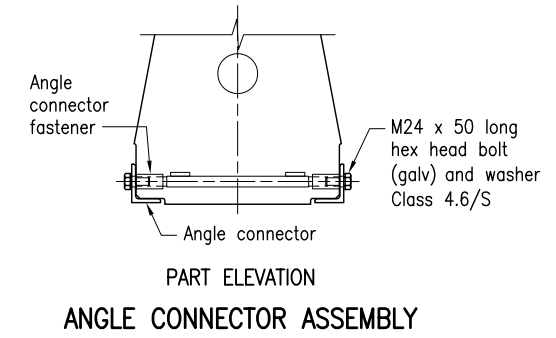
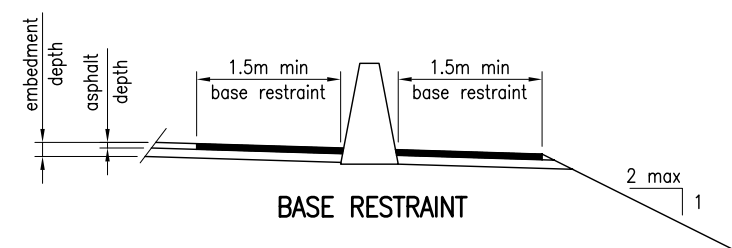
PERMANENT BARRIER CONNECTION



STANCHIONS shall be hot dip galvanised after drilling. 2 stanchions per screen required. 3 screens per barrier unit required. Timber wedges shall be used to stabilise stanchions in stanchion holes.

ANTI-GAWKING SCREEN: For advice on the requirements for the provision of anti-gawking screens, refer to the MUTCD. This Anti-gawking screen must only be used when all other anti-gawking options that are outside the working width of the barrier have been considered and found not to be feasible.

ANTI-GAWKING SCREEN PANEL



DESIGN CRITERIA FOR INSTALLATION				
TEST LEVEL AS/NZS 3845	CONNECTION TYPE	LATERAL RESTRAINING METHOD	BASE RESTRAINT	END RESTRAINT
Test Level 3 (TL3)	Temporary Barrier Connection	Angle Connector <u>AND</u> reinforcement connector	not applicable	Provide end restraint outside of length of need (refer RPDM Chapter 8) at each end.
Test Level 3 (TL3)	Permanent Barrier Connection	Angle Connector, <u>OR</u> Base restraint <u>AND</u> grouted reinforcement connector	<ul style="list-style-type: none"> • Road cross section to extend 1.5m minimum past barrier on both sides of barrier with minimum 50mm embedment including asphalt depth (refer notes below) 	<ul style="list-style-type: none"> • Provide minimum 18m of additional concrete barrier as ballast at each end. Ends of barrier must be shielded, or
Test Level 4 (TL4)	Permanent Barrier Connection	Angle Connector, <u>AND</u> Base restraint <u>AND</u> grouted reinforcement connector	<ul style="list-style-type: none"> • Road cross section to extend 1.5m minimum past barrier on both sides of barrier with minimum 75mm embedment including asphalt depth (refer notes below) 	<ul style="list-style-type: none"> • Proprietary end treatment which is either secured to the ground or used as additional ballast.

Asphalt depths for Base Restraint embedment:

- 30mm minimum depth DG asphalt extending at least 1.5m both sides of barriers, or
- 40mm minimum depth OG asphalt extending at least 1.5m both sides of barriers.

Installation lengths:

- Minimum installation length 36m plus length of need.
- With an anchored proprietary end treatment, refer to Barrier Installation Design Sheet for design details.

Note. Sufficient drainage shall be provided.

NOTES:

1. SCOPE: This Standard Drawing provides installation details of precast concrete barrier in accordance with MRTS14 and AS/NZS 3845.
2. PRECAST CONCRETE BARRIERS shall be manufactured in accordance with Standard Drawing 1458.
3. STEELWORK shall be fabricated to the requirements of MRTS78. SHS Grade C350L0 to AS 1163, hot dip galvanised to AS/NZS 4680. Bolts Class 4.6 to AS 1111, nuts Class 5 to AS 1112, washers to AS 1237. All bolts and nuts shall be hot dip galvanised to AS 1214.
4. Each barrier shall be supplied with the following, in accordance with Standard Drawing 1458:
 - 2-angle connectors,
 - 8-M24 x 50 long hex head screws
 - 8-M24 washers and
 - 1-reinforcement connector
5. DIMENSIONS are in millimetres unless shown otherwise.

ASSOCIATED DOCUMENTS:

- Main Roads Planning and Design Manual (RPDM)
 - Manual for Uniform Traffic Control Devices (MUTCD)
- REFERENCED DOCUMENTS:**
- Departmental Standard Drawings:
 - 1458 Single Slope Concrete Barrier - Precast Concrete Barrier - Fabrication Details
 - 1466 Delineator Bracket Details
 - Departmental Specifications and Technical Notes:
 - MRTS14 Road Furniture
 - MRTS78 Fabrication of Structural Steelwork
 - TN66 Commercial and Fabricated Bolts and Nuts

Department of Transport and Main Roads			
SINGLE SLOPE CONCRETE BARRIER			
PRECAST CONCRETE BARRIER INSTALLATION DETAILS		A3	Standard Drawing No
		Not to Scale	1473
			Date 11/18
A	B	C	D
E	F	G	