EDGESMITH

FOR RESIDENTIAL AND COMMERCIAL BALUSTRADES

PS1 | FINNS

Producer Statement
Commercial and Residential Balustrades

The design is in compliance with the **New Zealand Building Code (NZBC)**, NZS 3604:2011 section **B1** and **F4**.
Barrier loadings meet AS/NZS 1170.1:2002

Rev No. 03 | **Issue Date:** February 2025

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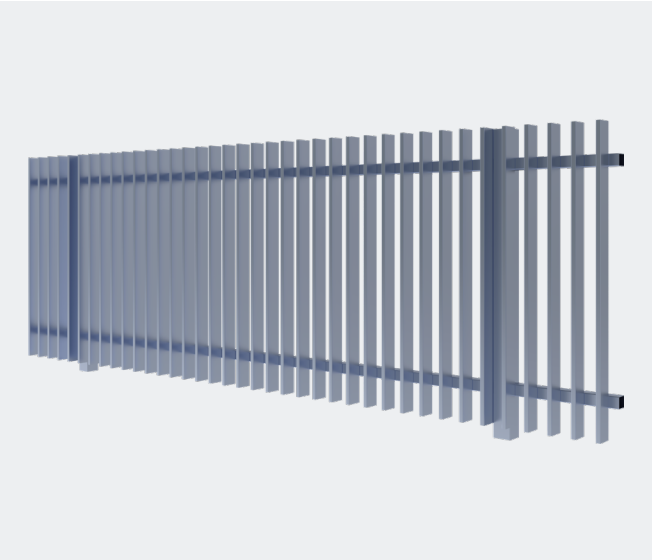


Posted panels for retaining walls, pools & general fencing

Plated panels (post less) for decks & balcony

FINNS

Balustrade System

A modern architectural styled panel with striking vertical pickets closely spaced to accentuate the vertical lines of the house. Fence panels, balustrade panels and a matching series of gates compliment the range. The design is Pool safety compliant at 1.2m high.

1. Aluminium Caps

Finn panels use aluminium caps to top the pickets. Unlike plastic caps they don't bow or break down in sunlight. They are powder coated with the panel so you have a perfect colour match that will look good throughout the lifespan of the product. Our caps perfectly match the radius of the picket extrusion, giving the illusion that the extrusion is a solid bar.

2. Closely Spaced Pickets

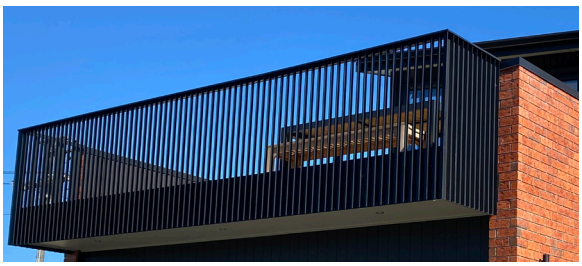
The Finn panel uses a 1:1 gap to depth ratio (65mm gap: 65mm depth) giving it a 45˚ block-out angle. This balances visibility and privacy and makes the balustrade look like a solid smooth surface when viewed from the side.

3. Hidden Posts

Using 65mm posts in line with the front of the rails the design of the brackets create the illusion of a continuous wall.

4. Hand Support

The top rail of a Finn Balustrade can be capped off with a (optional) capping rail to give a flat surface suitable as a hand support.



Applications

The New Zealand Building Code (AS/NZS 1170.1:2002) designates different occupancy types and specifies the load ratings that the system must be capable of withstanding. The system comprises of the panel, posts, fixings and the structure that the balustrade is being attached to. These are summarised in the table below. Refer to the drawings on pages 5-9 for more details.

Residential - Occupancy Type A, B, E, C3

Setting	Application	Type	Design Load	Plate Thickness / Post Centres	Fixing Options	Drawing Number	Pages
Residential	Side Fixed to Masonry Wall	Plated	0.75 kN/m	6mm	Chemset Rod, Screw Bolt	SF1, SF2	**Pg. 11**
	Side Fixed to Masonry Wall	Posted	0.75 kN/m	1459mm (1500mm MAX)	Chemset Rod	SF9	**Pg. 15**
	Side Fixed to Timber Deck	Plated	0.75 kN/m	6mm	M12 Coach Screws	SF5, SF6, SF7	**Pg. 13-14**
	Side Fixed to Timber Deck	Posted	0.75 kN/m	1459mm (1500mm MAX)	M12 Bolts	SF11	**Pg. 16**
	Side Fixed to Steel Boundary Beam	Plated	0.75 kN/m	6mm	M12 Bolts	SF4	**Pg. 12**
	Side Fixed to Steel Boundary Beam	Posted	0.75 kN/m	1459mm (1500mm MAX)	M12 Bolts	SF12	**Pg. 16**
	Side Fixed to Concrete Slab	Plated	0.75 kN/m	6mm	Chemset Rod, Screw Bolt	SF5, SF6, SF7, SF8	**Pg. 13-14**
	Side Fixed to Concrete Slab	Posted	0.75 kN/m	1459mm (1500mm MAX)	Chemset Rod	SF10	**Pg. 15**
	Side Fixed to Timber Retaining Wall	Posted	0.75 kN/m	1459mm (1500mm MAX)	M12 Coach Screws, M12 Bolts	SF13, SF14	**Pg. 17-18**
	Top Fixed to Concrete	Posted	0.75 kN/m	1459mm (1500mm MAX)	Chemset Rod, Screw Bolt	TF1, TF2	**Pg. 19**
	Top Fixed to Masonry	Posted	0.75 kN/m	1459mm (1500mm MAX)	Chemset Rod	TF3	**Pg. 20**
	Top Fixed to Timber Deck	Posted	0.75 kN/m	1459mm (1500mm MAX)	M12 Coach Screws	TF4	**Pg. 20**

Commercial - Occupancy Type A, B, E, C1/C2, C3, D

Setting	Application	Type	Design Load	Plate Thickness / Post Centres	Fixing Options	Drawing Number	Pages
Commercial	Side Fixed to Masonry Wall	Plated	1.5 kN/m	8mm	Chemset Rod, Screw Bolt	SF1, SF2	**Pg. 11**
	Side Fixed to Steel Boundary Beam	Plated	1.5 kN/m	8mm	M12 Bolts	SF4	**Pg. 12**
	Side Fixed to Concrete Slab	Plated	1.5 kN/m	8mm	Chemset Rod	SF5	**Pg. 13**

AS/NZS 1170.1:2002 Table 3.3 Occupancy Reference

Fasteners And Corrosion Zones

New Zealand's coastal climate means that attention must be paid to the proximity to salt water when choosing what fasteners to use. The table below is a guide to where hot dip galvanised fasteners can be used. While it may seem counter intuitive that sheltered installations require stainless steel fittings even within 5km of the sea, it is because regular exposure to rainfall cleans the fasteners and prolongs their life.

Environment	Corrosion Classification	Exposed	Sheltered
Within 500m of breaking surf or 50m of calm salt water	C4	All fixings 304 Stainless Steel	All fixings 304 Stainless Steel
Within 20km of salt water on West or South Coast of South Island or within 5km of salt water elsewhere	C3	All fixings Hot dip Galvanised or 304 Stainless Steel	All fixings 304 Stainless Steel
More than 20km of salt water on West or South Coast of South Island or more than 5km of salt water elsewhere	C2	All fixings Hot dip Galvanised or 304 Stainless Steel	All fixings Hot dip Galvanised or 304 Stainless Steel

Note 1: While hot dip galvanised fixings are acceptable in inland locations it is safer to use 304 grade stainless steel.
Note 2: The table above is only a guide. Please refer to SNZ TS 3404:2018, Figures 1 to 7 for specific corrosivity maps for further guidance.

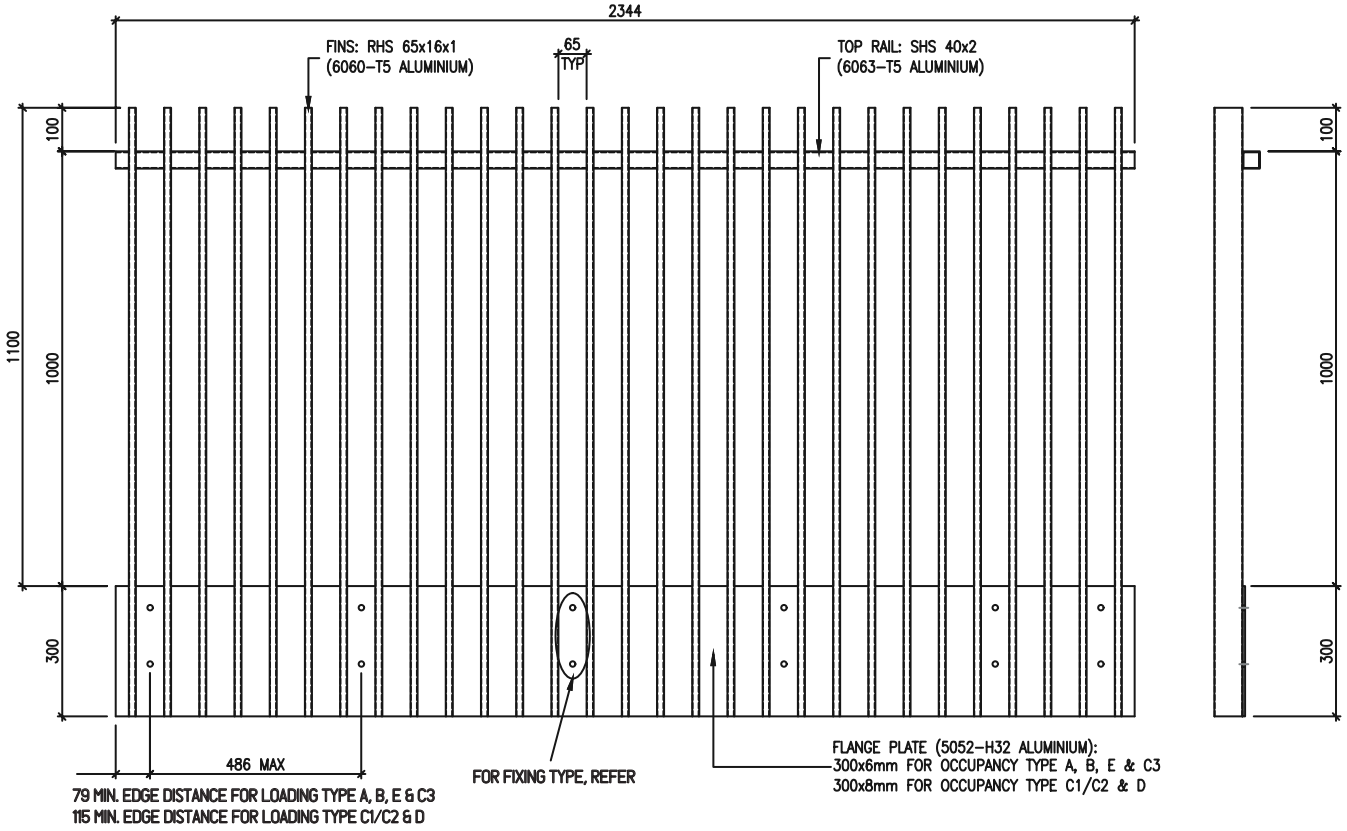
Inspection And Maintanence Schedule

This schedule of ongoing maintenance of structural elements shall be included with the O&M manuals and provided to the Owner/Body Corporate and building managers.

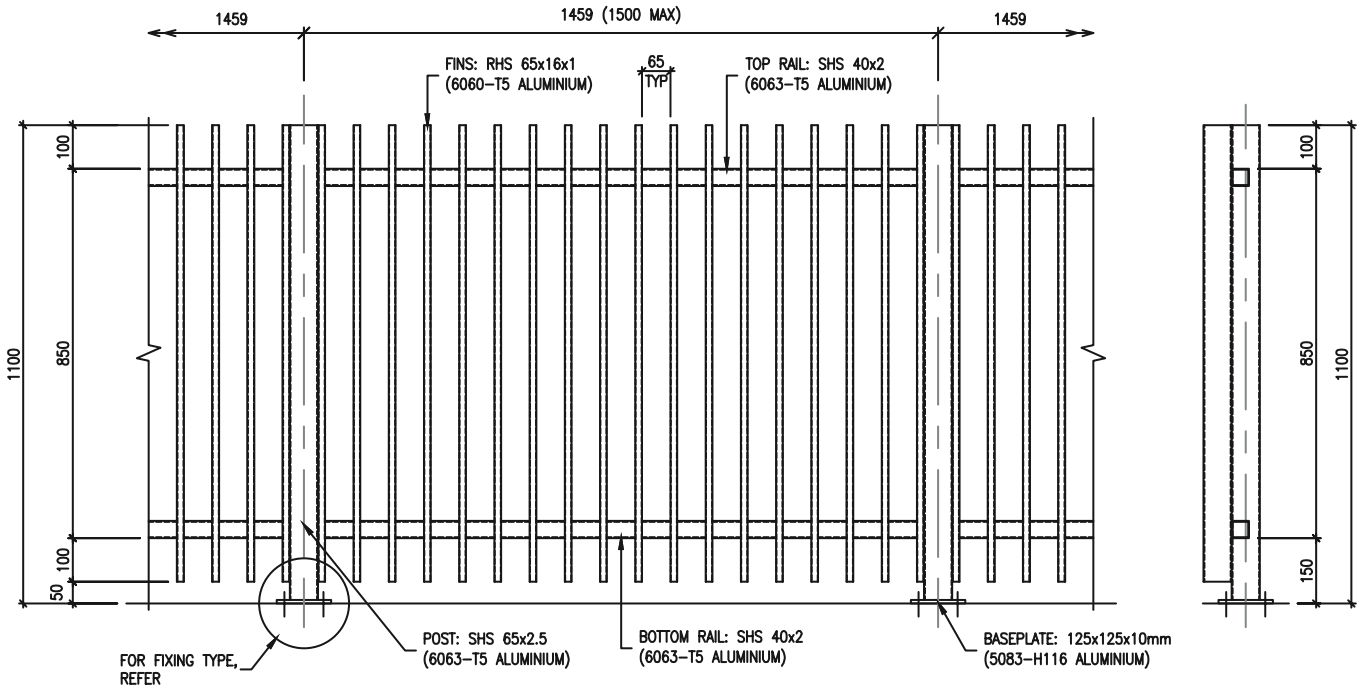
Timeframe	Inspection / Maintenance
1/2 yearly	Wash down all exposed metalwork including panels, posts and fixings
10 yearly	Check panels, posts and fixings for signs of corrosion. Repair protective coatings or replace as required.
Following seismic shaking > SLS1 event	Inspect and repair as per the 10 yearly requirements.

Full engineers report with design calculations available on request.

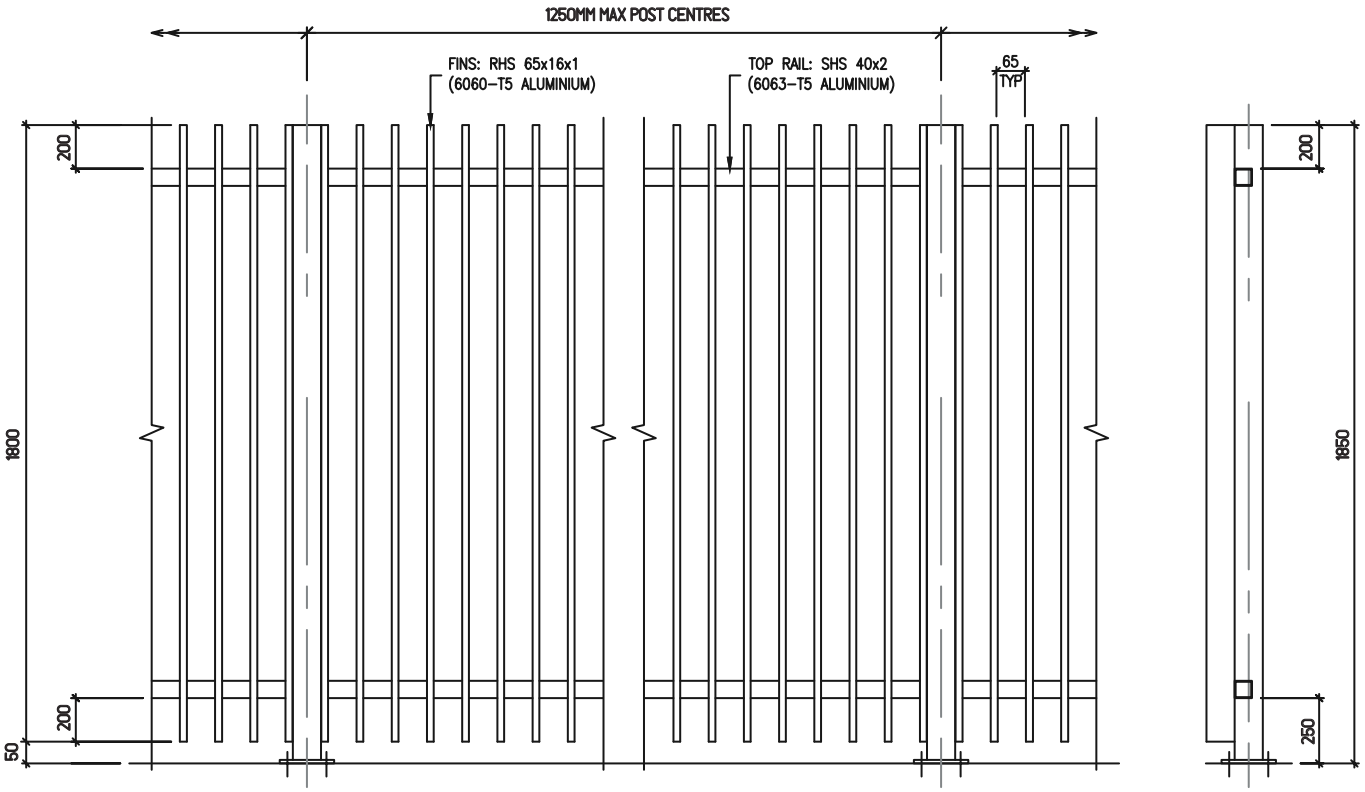
The Finns Balustrade - Face Fixed Flange Plate Type



The Finns Balustrade - Post & Rail Type



The Finns Balustrade - Post & Rail Type - 1.8 m panel



Building Code Clause(s) B1, F4

PRODUCER STATEMENT – PS1 – DESIGN

ISSUED BY: Lautrec Technology Group Limited
(Design Firm)

TO: Edgesmith
(Owner/Developer)

TO BE SUPPLIED TO: All Building Consent Authorities in NZ (Auckland Council Author Number: 1385)
(Building Consent Authority)

IN RESPECT OF: Edgesmith Finns Balustrade Systems
(Description of Building Work)

AT: N/A (all locations in NZ)
(Address)

Town/City:..... **LOT**..... **DP**..... **SO**.....
(Address)

We have been engaged by the owner/developer referred to above to provide:

Specific Engineering Design Structural Components Only
(Extent of Engagement)

services in respect of the requirements of Clause(s) B1, F4 of the Building Code for:

☐ All or ■ Part only (as specified in the attachment to this statement), of the proposed building work.

The design carried out by us has been prepared in accordance with:

■ Compliance Documents issued by the Ministry of Business, Innovation & Employment B1/VM1; AS/NZS 1170:2021; AS/NZS 1664.1:1997; NZS AS 1720.1:2022; NZS 3101:2006; NZS 3404:1997 (verification method/acceptable solution) or

☐ Alternative solution as per the attached schedule

The proposed building work covered by this producer statement is described on the report titled:
"PS1 Report - Edgesmith Finns Balustrade Systems_10.02.25" together with
product manual "Edgesmith Finns Balustrade Systems_2025 Issue";
together with the specification, and other documents set out in the schedule attached to this statement.

On behalf of the Design Firm, and subject to:
(i) Site verification of the following design assumptions assumed adequate support structure by others
(ii) All proprietary products meeting their performance specification requirements;

I believe on reasonable grounds that a) the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the attached schedule, will comply with the relevant provisions of the Building Code and that b), the persons who have undertaken the design have the necessary competency to do so. I also recommend the following level of construction monitoring/observation:

☐ CM1 ☐ CM2 ☐ CM3 ☐ CM4 ☐ CM5 (Engineering Categories) or ■ as per agreement with owner/developer (Architectural)

I, Kevin Brown (Name of Design Professional) am: ■ CPEng # 140404

I am a member of: ■ Engineering New Zealand and hold the following qualifications: BE, CMEngNZ, CPEng, IntPE(NZ), MBA

The Design Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*.
The Design Firm is a member of ACE New Zealand: ■

SIGNED BY Kevin Brown (Name of Design Professional) (Signature)

ON BEHALF OF Lautrec Technology Group Limited (Design Firm) Date 10/02/2025

Note: This statement shall only be relied upon by the Building Consent Authority named above. Liability under this statement accrues to the Design Firm only. The total maximum amount of damages payable arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in contract, tort or otherwise (including negligence), is limited to the sum of $200,000.*

This form is to accompany **Form 2 of the Building (Forms) Regulations 2004** for the application of a Building Consent.

THIS FORM AND ITS CONDITIONS ARE COPYRIGHT TO ACE NEW ZEALAND AND ENGINEERING NEW ZEALAND

Lautrec Technology Group Ltd.
Professional Consulting Engineers

10/02/2025

To the Building Official,

B2 COMPLIANCE - EDGESMITH FINNS BALUSTRADE SYSTEMS
at ***occupancy categories A, B, E, C1/C2, C3 and D only;*** at ***any location in New Zealand that falls within the scope of this PS1 - see supporting PS1 report for scope***

We have been asked to provide a PS1 for Clause B2 of the Building Code - Structural Durability

We are not able to provide this because there is no effective verification method for B2 contained within the New Zealand Building Code.

As these systems can be installed in a variety of settings, including internal and exposed environments, it is not deemed practical to specify durability requirements for the sub structure. Timber treatments, mild steel corrosion protection coatings, and concrete and masonry covers are therefore up to the building designer to specify in accordance with the relevant recognised standards.

However, we can confirm that for the structural elements shown in the attached documentation:

Material	Means of compliance	Details
Edgesmith Finns Balustrade Systems - Aluminium and Steel	Alternative Solution	Protection for mild steel has been specified in accordance with SNZ TS 3404 - Durability requirements for steel structures and components and AS/NZS 2312 - Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings. Aluminium extrusions conform to 6060-T5, 6063-T5, 5052-H32 and 5083-H116. Refer to the manual for more details. We note that this is on a time to first maintenance basis.
Connections - Hot Dip Galvanised and Stainless Steel fixings	Alternative Solution	All bolt and screw fixings for the Edgesmith Finns Balustrade Systems shall be either Hot Dip Galvanised or 304 Stainless Steel. Refer to the fixing table in the manual.

It is assumed that these structural elements are fixed to adequate structures by others.

Minor tea staining may occur in coastal environments. Refer to Edgesmith Finns Balustrade Systems manual for the supplier's maintenance requirements.

Yours faithfully,

Managing Director
Kevin Brown
BE, CMEngNZ, CPEng, IntPE(NZ), MBA

Lautrec Technology Group Ltd.
Professional Consulting Engineers

LAUTREC CONSULTING ENGINEERS

OUTLINE OF COMPLIANCE FOR PARTICULAR ITEMS COMPRISING THE EDGESMITH FINNS BALUSTRADE SYSTEMS

Outline of compliance for particular components, NZBC B1	
Mild steel sections and aluminium extrusions	Refer to Appendix A3 Calculations - Edgesmith Finns Balustrade Systems
Coach screws, bolts and concrete anchors	Refer to Appendix A3 Calculations - Edgesmith Finns Balustrade Systems For fixings to timber, calculations by Lautrec outlined within Appendices A3 confirm compliance of fixings to timber. For fixings to concrete, refer to Appendix A3. Concrete is assumed to be min. 20 MPa reinforced concrete (C20), uncracked, and without edge reinforcement. The project engineer shall review and confirm appropriate supporting structure to accommodate loads introduced by the proposed system. Refer to sections within the manual for guidance on installation, and Appendix A3 for loadings of connections back to assumed adequate structure.

Outline of compliance for NZBC B2

All components outlined in the product catalogue shall meet NZBC B2.3.1(b) **15 years**, assuming reasonable maintenance, and appropriate architectural context.

Refer to the Edgesmith Finns Balustrade Systems manual for maintenance requirements.

Mild steel, Aluminium components, hot dip galvanised or stainless steel 304 fixings are fit for purpose in NZBC corrosion zones C2, C3 and C4. Refer to the product catalogue for more details.

Adequate supporting structure shall be designed by the project designers.

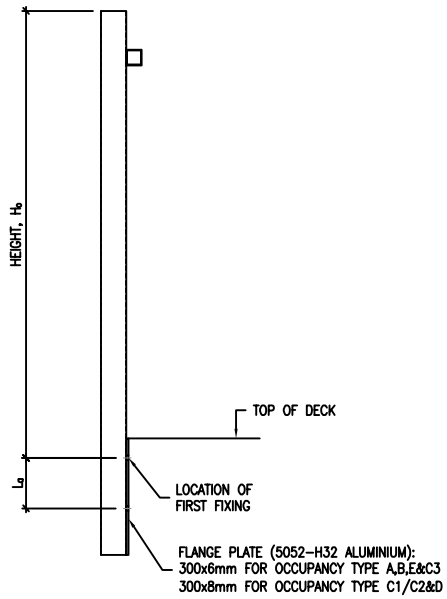
Durability of assumed adequate supporting structure is outside the scope of this PS1.

FINNS BALUSTRADE FACE FIXED FLANGE PLATE (LOADING TYPE A, B, E & C3)										
FIXING CENTERS	MAX HEIGHT TO 1ST	MAX BENDING MOMENT	APPLICABLE CONNECTION/FIXING TYPES							
(in mm)	FIXING, H_o (in mm)	(in kN.m)	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8
486	1150	0.63	YES	YES	YES	YES	YES	YES	YES	YES
405	1250	0.57	YES	YES	YES	YES	YES	YES	YES	YES
324	1350	**0.61**	YES	YES	YES	YES	YES	YES	YES	YES
243	1400	**0.61**	YES	YES	YES	YES	YES	YES	YES	YES

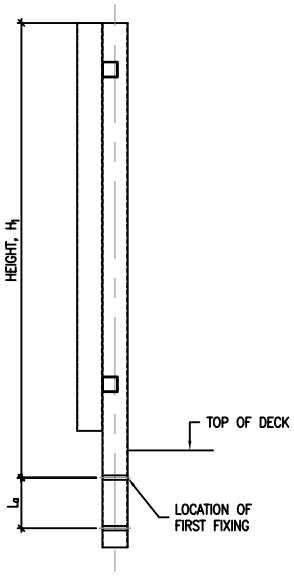
FINNS BALUSTRADE FACE FIXED FLANGE PLATE (LOADING TYPE C1/C2 & D)										
FIXING CENTERS	MAX HEIGHT TO 1ST	MAX BENDING MOMENT	APPLICABLE CONNECTION/FIXING TYPES							
(in mm)	FIXING, H_o (in mm)	(in kN.m)	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8
486	1150	**1.29**	YES	YES		YES	YES			
405	1250	**1.41**	YES	YES		YES	YES			
324	1250	**1.41**	YES	YES		YES	YES			
243	1250	**1.41**	YES	YES		YES	YES			

FINNS BALUSTRADE POST & RAIL SIDE-FIXED (LOADING TYPE A, B, E & C3)									
POST CENTERS	MAX HEIGHT TO 1ST	MAX BENDING MOMENT	APPLICABLE CONNECTION/FIXING TYPES						
(in mm)	FIXING, H_1 (in mm)	(in kN.m)	SF9	SF10	SF11	SF12	SF13	SF14	
1500	1170	1.97	YES	YES	YES	YES	YES	YES	
1250	**1870**	1.97	YES	YES	YES	YES	YES	YES	

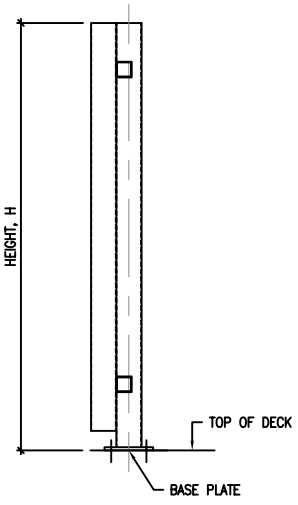
FINNS BALUSTRADE POST & RAIL TOP-FIXED (LOADING TYPE A, B, E & C3)							
POST CENTERS	POST HEIGHT FROM TOP	MAX BENDING MOMENT	APPLICABLE CONNECTION TYPES				
(in mm)	OF DECK, H (in mm)	(in kN.m)	TF1	TF2	TF3	TF4	
1500	1100	1.86	YES	YES	YES	YES	
1250	**1800**	1.86	YES	YES	YES	YES	



FLANGE PLATE FACE FIXED

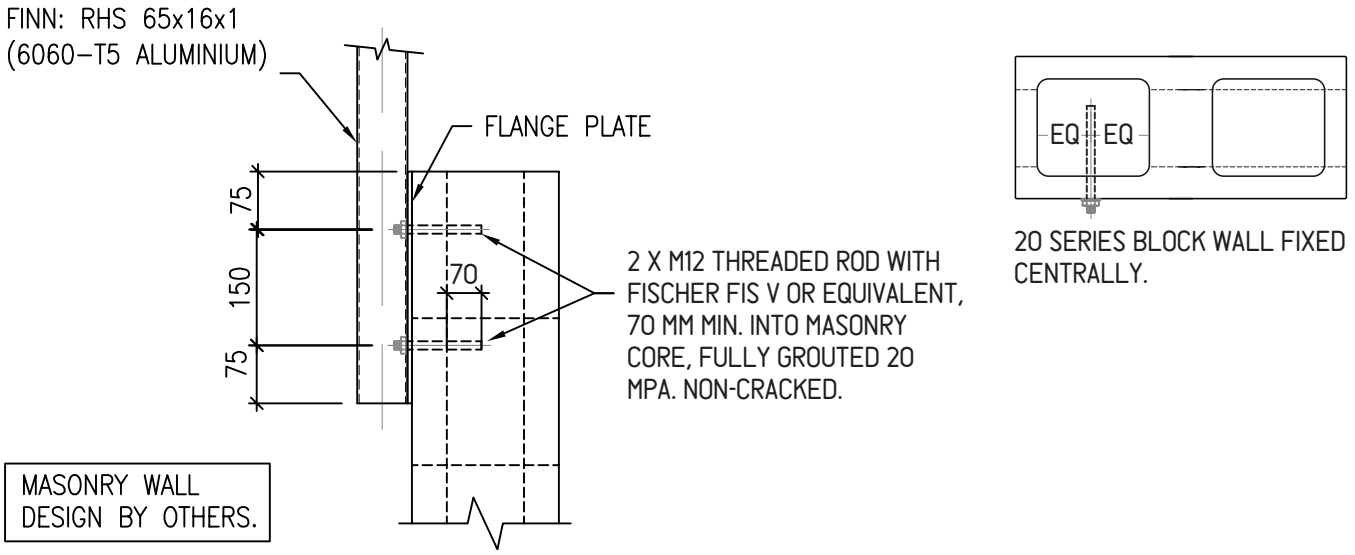


POST SIDE FIXED

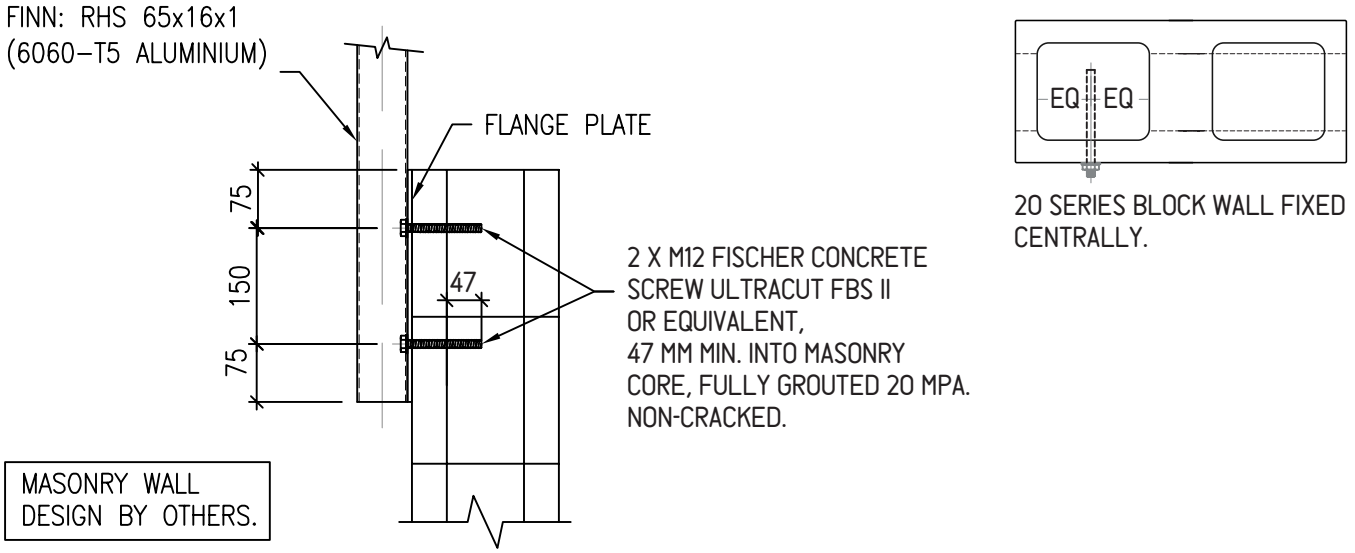


POST TOP FIXED

FACE FIXED FLANGE PLATE TYPE - Detail Page 1

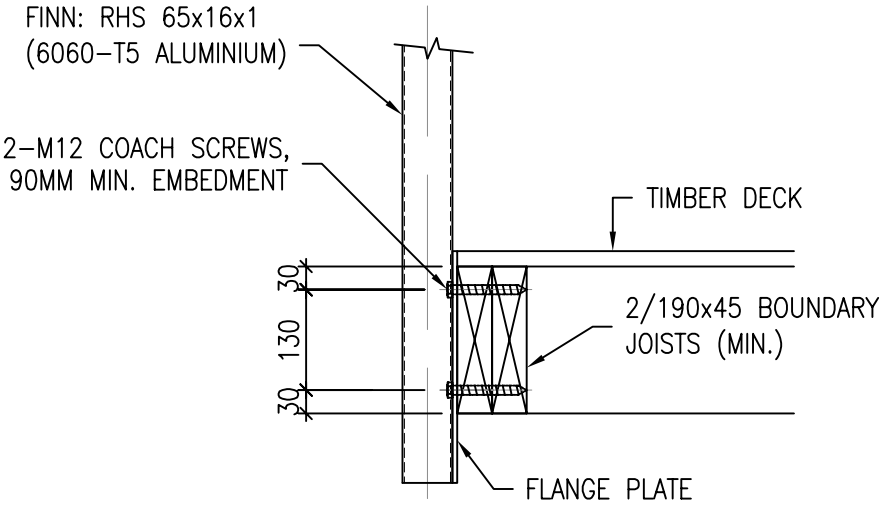


1 – TYPE SF1 – FLANGE PL. SIDE FIXED TO MASONRY USING CHEMSET THREADED ROD
SCALE: NOT TO SCALE



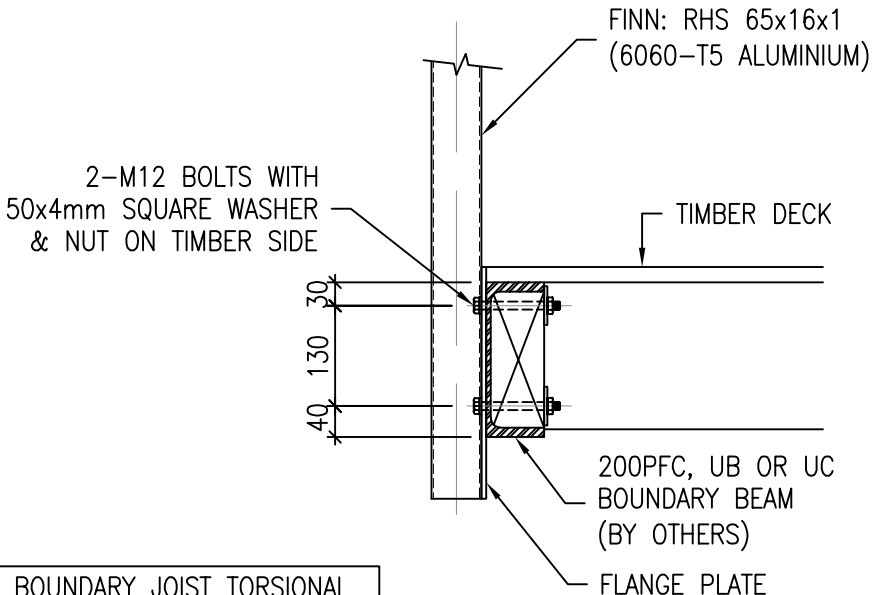
2 – TYPE SF2 – FLANGE PL. SIDE FIXED TO MASONRY USING CONCRETE SCREWS
SCALE: NOT TO SCALE

FACE FIXED FLANGE PLATE TYPE - Detail Page 2



DOUBLE BOUNDARY JOIST TORSIONAL RESTRAINTS AND CONNECTIONS TO DECK FRAMING (BY OTHERS).

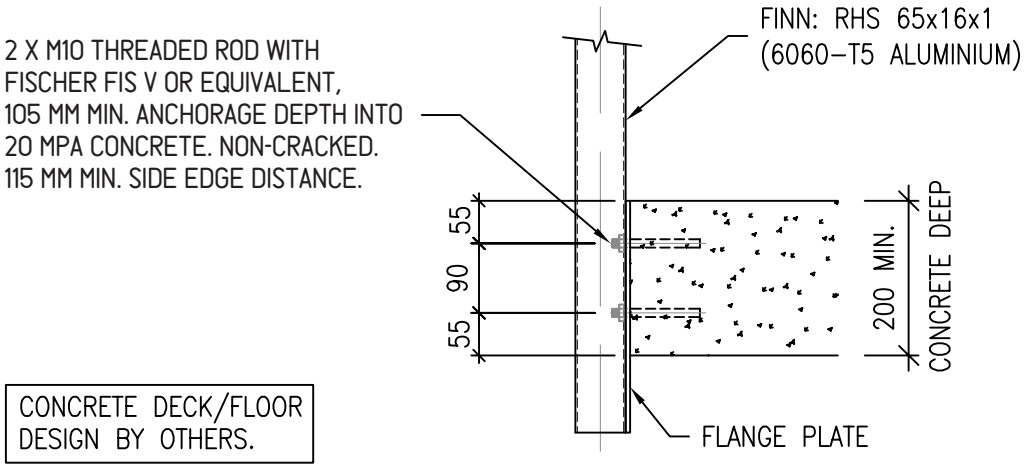
3 – TYPE SF3 – FLANGE PL. SIDE FIXED TO TIMBER BOUNDARY JOIST USING COACH SCREWS
SCALE: NOT TO SCALE



STEEL BOUNDARY JOIST TORSIONAL RESTRAINTS AND CONNECTIONS TO DECK FRAMING (BY OTHERS).

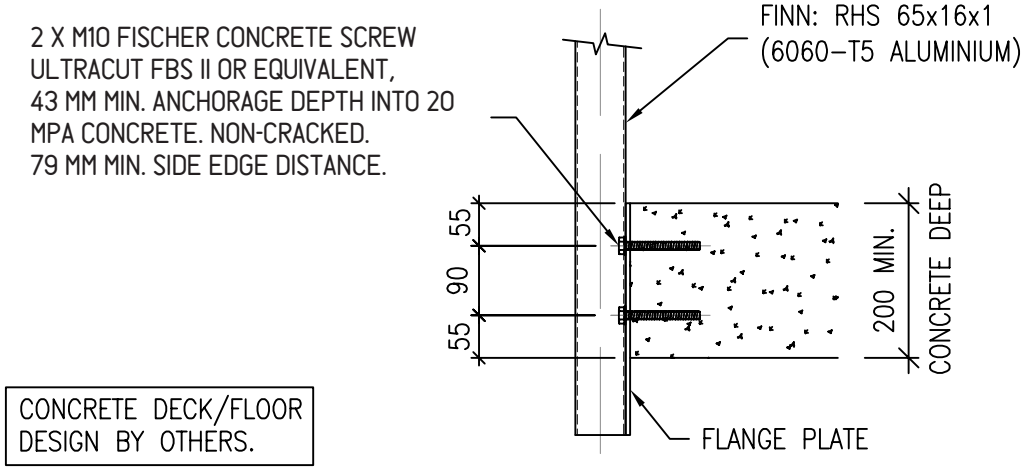
4 – TYPE SF4 – FLANGE PL. SIDE FIXED TO STEEL BOUNDARY JOIST USING BOLTS
SCALE: NOT TO SCALE

FACE FIXED FLANGE PLATE TYPE - Detail Page 3



FOR LOADING TYPE A, B, E, C3, C1/C2 & D

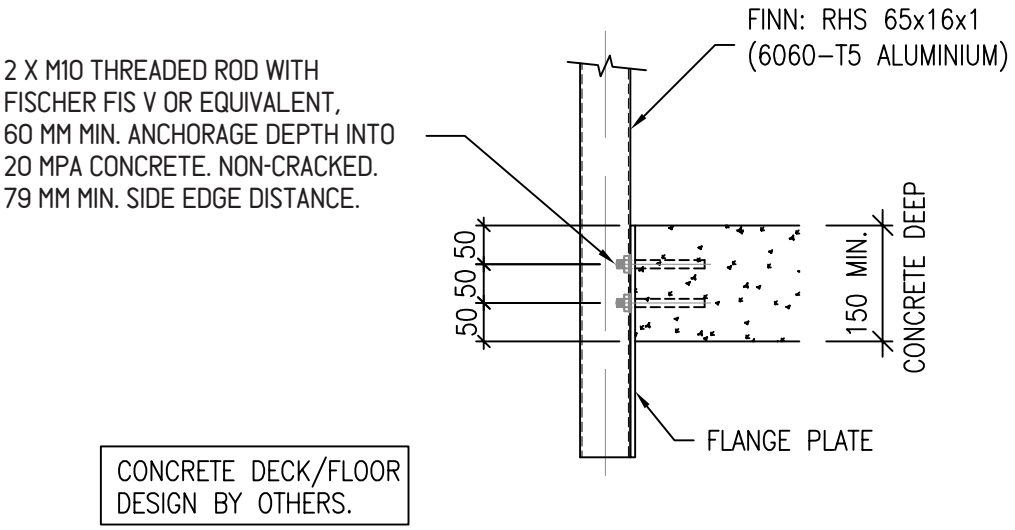
5 – TYPE SF5 – FLANGE PL. SIDE FIXED TO 200MM CONCRETE USING CHEMSET THREADED ROD
SCALE: NOT TO SCALE



FOR LOADING TYPE A, B, E, C3 ONLY

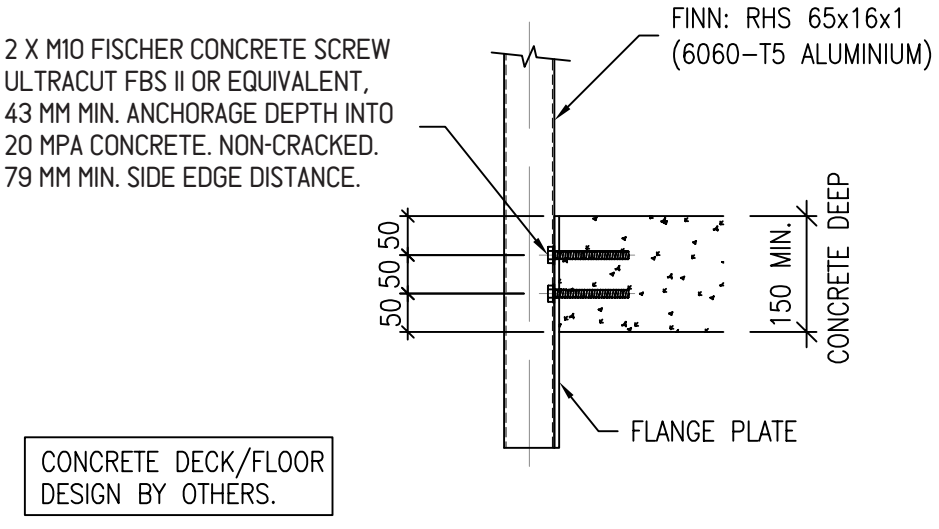
6 – TYPE SF6 – FLANGE PL. SIDE FIXED TO 200MM CONCRETE USING SCREWS
SCALE: NOT TO SCALE

FACE FIXED FLANGE PLATE TYPE - Detail Page 4



FOR LOADING TYPE A, B, E, C3 ONLY

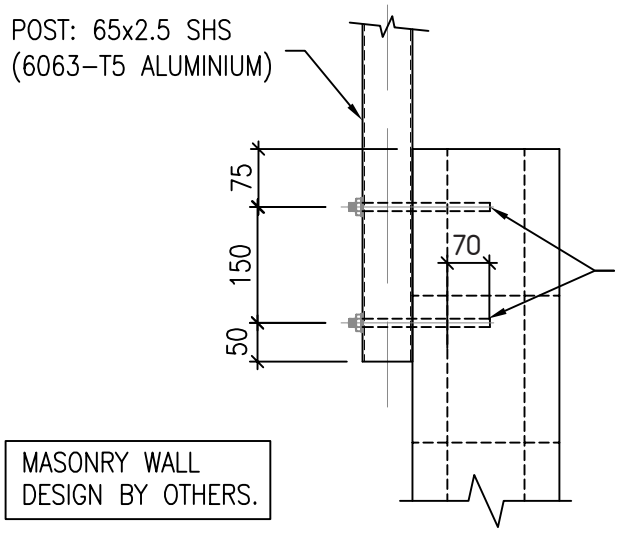
7 – TYPE SF7 – FLANGE PL. SIDE FIXED TO 150MM CONCRETE USING CHEMSET BOLT
SCALE: NOT TO SCALE

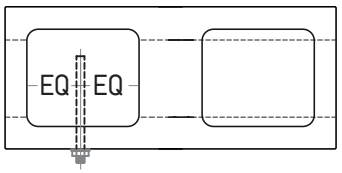


FOR LOADING TYPE A, B, E, C3 ONLY

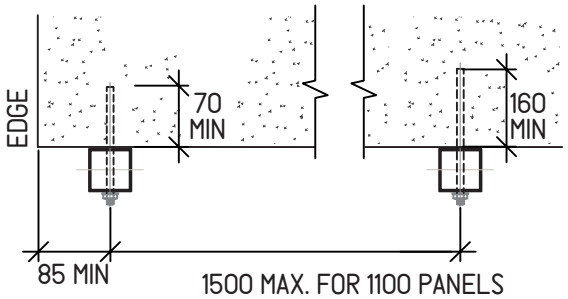
8 – TYPE SF8 – FLANGE PL. SIDE FIXED TO 150MM CONCRETE USING SCREWS
SCALE: NOT TO SCALE

POST & RAIL TYPE - Detail Page 1





9 – TYPE SF9 – POST SIDE FIXED TO MASONRY WITH CHEMSET THREADED ROD
SCALE: NOT TO SCALE

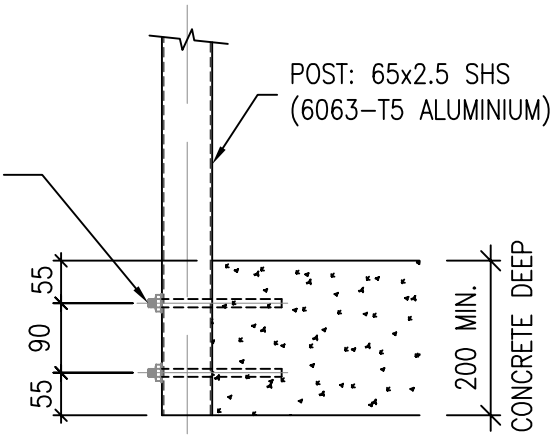


FOR TYPICAL/INTERMEDIATE BALUSTRADE POSTS:

2 X M12 THREADED ROD WITH FISCHER FIS V OR EQUIVALENT, 160 MM MIN. ANCHORAGE DEPTH INTO 20 MPA CONCRETE, NON-CRACKED.

FOR END BALUSTRADE POSTS:

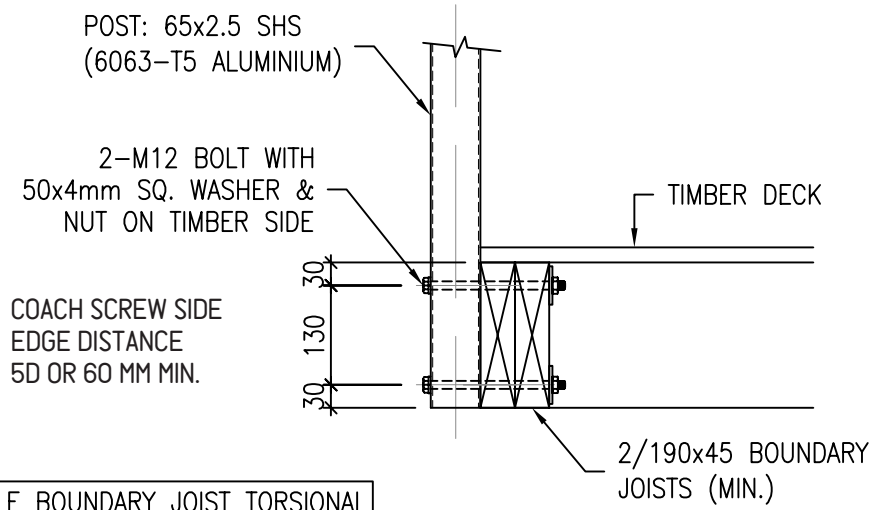
2 X M12 THREADED ROD WITH FISCHER FIS V OR EQUIVALENT, 70 MM MIN. ANCHORAGE DEPTH INTO 20 MPA CONCRETE, NON-CRACKED. ENSURE 85 MM MIN. SIDE EDGE DISTANCE.



CONCRETE DECK/FLOOR DESIGN BY OTHERS.

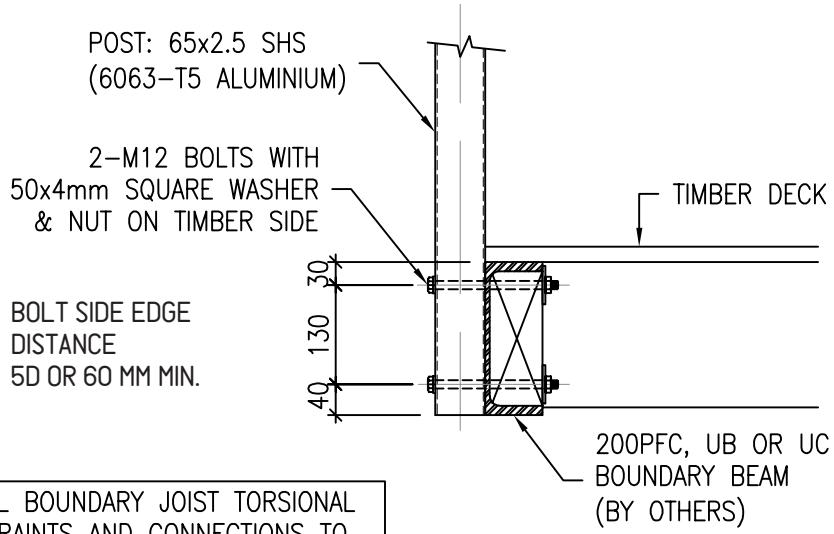
10 – TYPE SF10 – POST SIDE FIXED TO 200MM CONCRETE USING CHEMSET THREADED ROD
SCALE: NOT TO SCALE

POST & RAIL TYPE - Detail Page 2



DOUBLE BOUNDARY JOIST TORSIONAL RESTRAINTS AND CONNECTIONS TO DECK FRAMING (BY OTHERS).

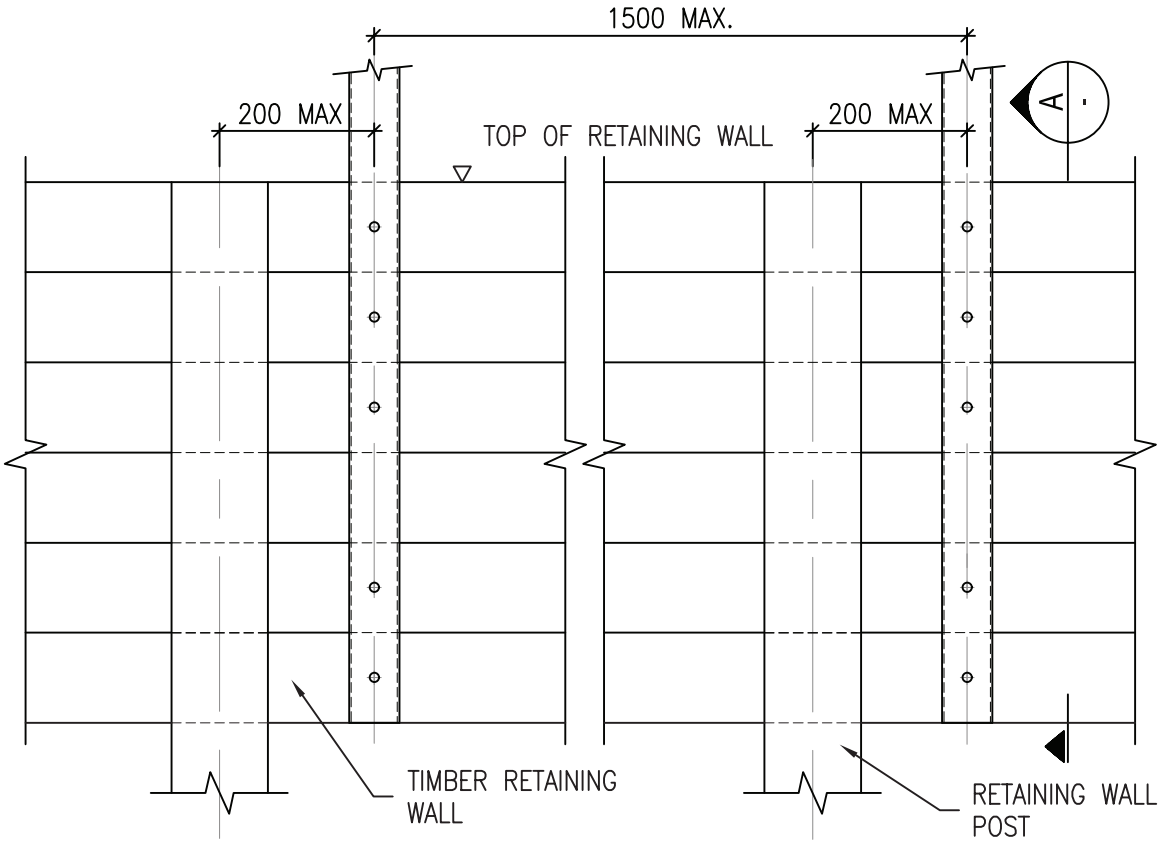
11 – TYPE SF11 – POST SIDE FIXED TO TIMBER JOIST USING STEEL BOLTS
SCALE: NOT TO SCALE



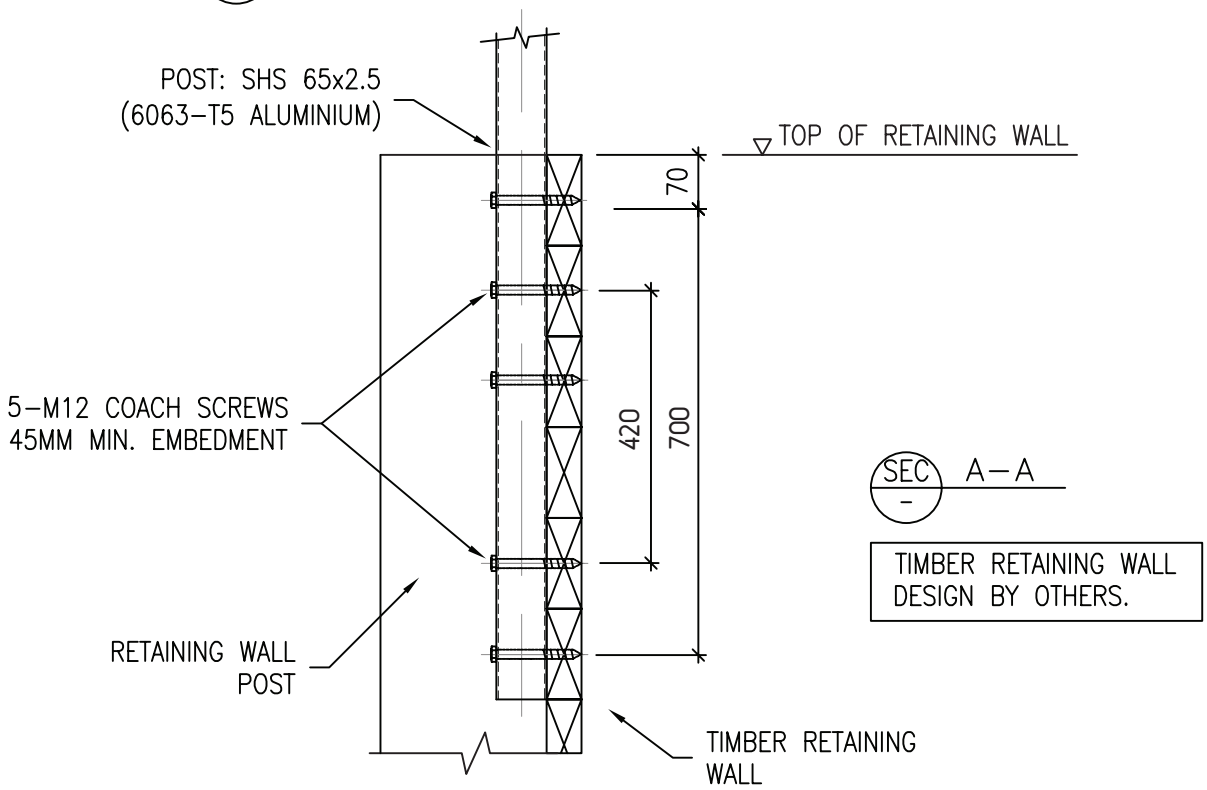
STEEL BOUNDARY JOIST TORSIONAL RESTRAINTS AND CONNECTIONS TO DECK FRAMING (BY OTHERS).

12 – TYPE SF12 – POST. SIDE FIXED TO STEEL BOUNDARY JOIST USING BOLTS
SCALE: NOT TO SCALE

POST & RAIL TYPE - Detail Page 3



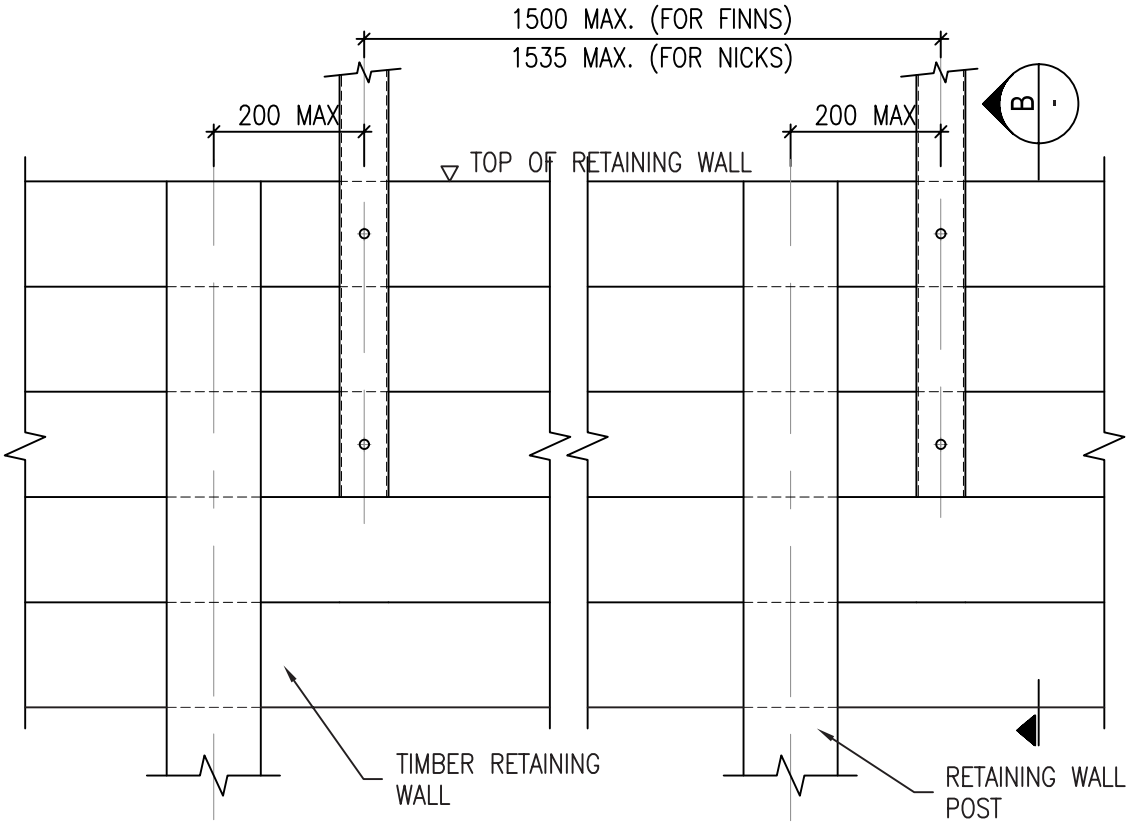
13 – TYPE SF13 – POST SIDE FIXED TO TIMBER RETAINING WALL USING COACH SCREWS
SCALE: NOT TO SCALE



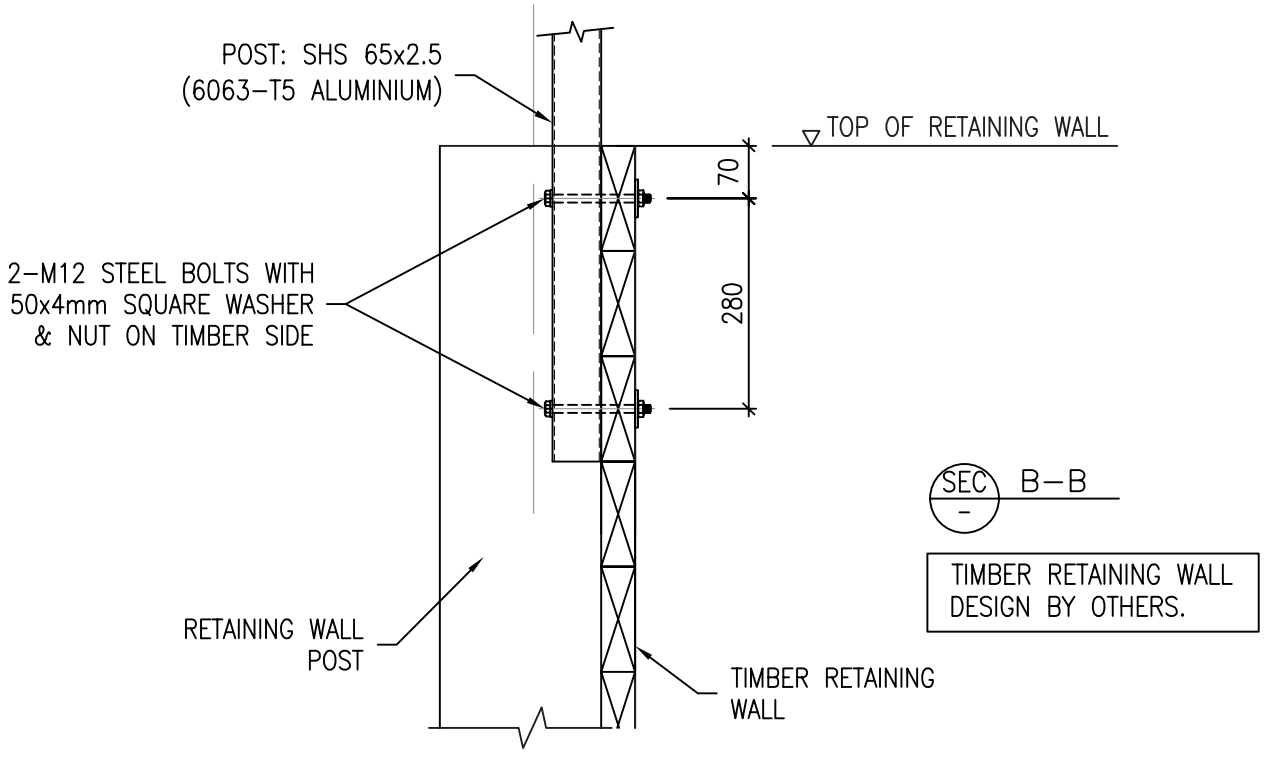
SEC – A–A

TIMBER RETAINING WALL
DESIGN BY OTHERS.

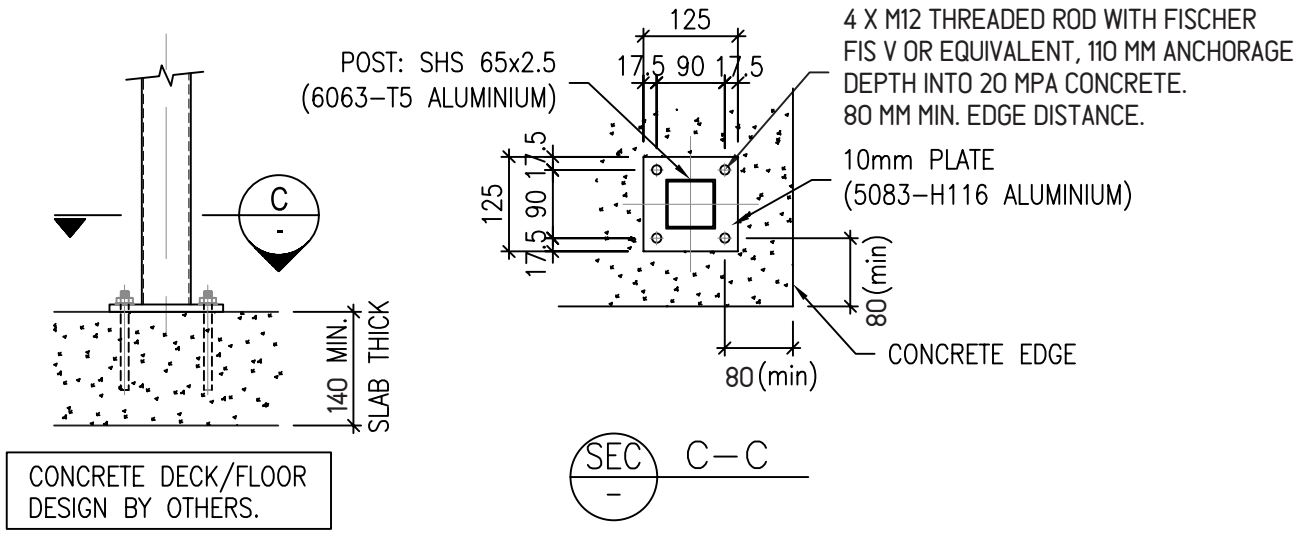
POST & RAIL TYPE - Detail Page 4



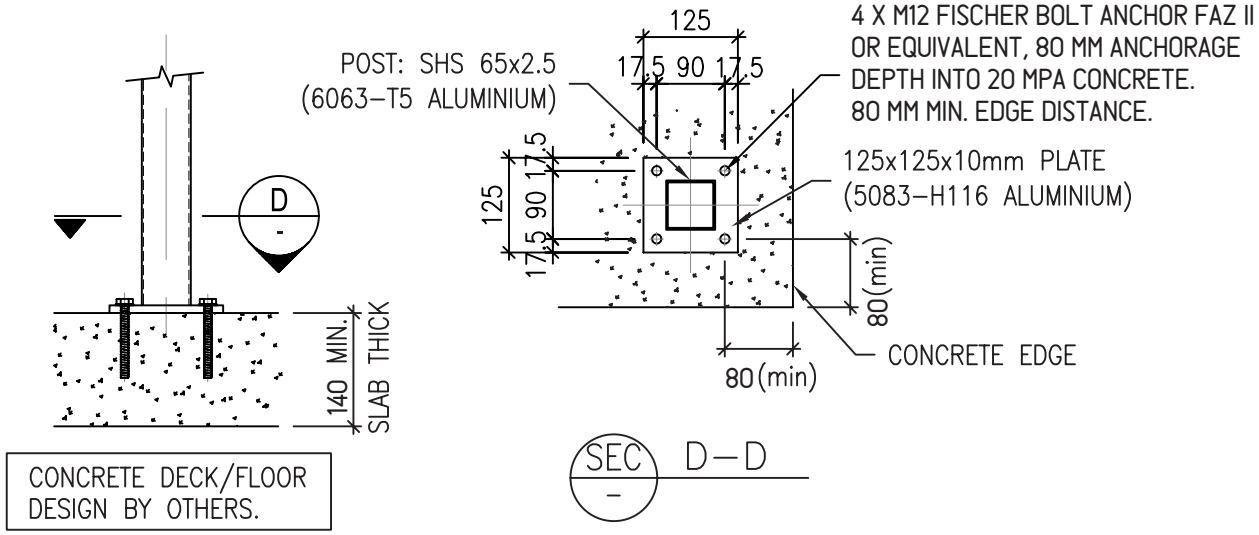
14 – TYPE SF14 – POST SIDE FIXED TO TIMBER RETAINING WALL USING BOLTS
SCALE: NOT TO SCALE



POST & RAIL TYPE - Detail Page 5

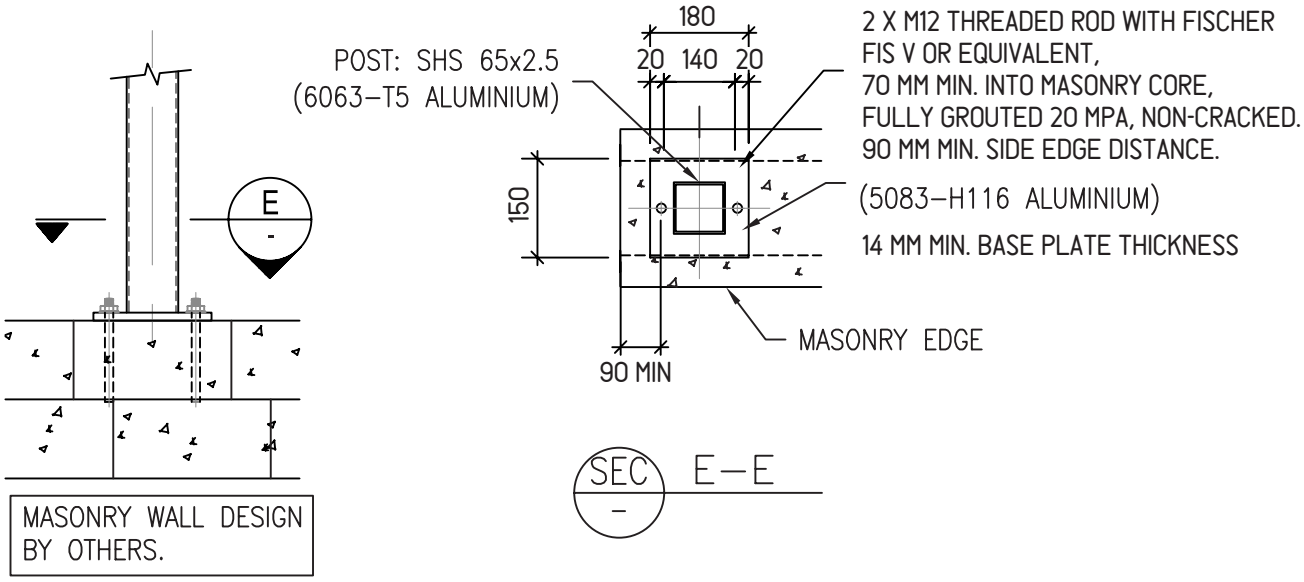


15 – CONNECTION TYPE TF1 – TOP FIXED TO 140MM CONCRETE USING CHEMSET THREADED ROD
SCALE: NOT TO SCALE

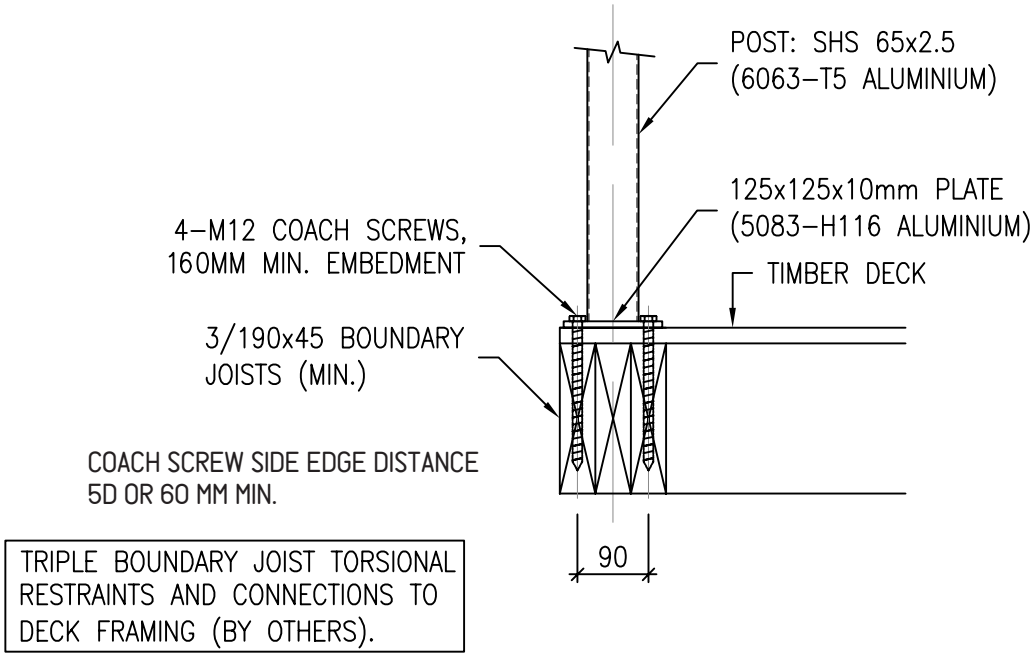


16 – CONNECTION TYPE TF2 – TOP FIXED TO 140MM CONCRETE USING SCREWS
SCALE: NOT TO SCALE

POST & RAIL TYPE - Detail Page 6



17 – CONNECTION TYPE TF3 – TOP FIXED TO MASONRY USING CHEMSET THREADED ROD
SCALE: NOT TO SCALE



18 – CONNECTION TYPE TF4 – TOP FIXED TO TIMBER BOUNDARY JOIST USING COACH SCREW
SCALE: NOT TO SCALE

EDGE SMITH

North Auckland Branch

20 Anvil Road, Silverdale
Auckland 0932

South Auckland Branch

20 Kerwyn Avenue, East Tamaki
Auckland 2013

Christchurch Branch

4 Anchorage Road, Hornby,
Christchurch 8042

Contact

T: 09 427 4980
E: crew@edgesmith.co.nz

Monday - Friday:
8.00am - 4.30pm

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