

# PicketPanel PS1

Rev: 1.0

Issue Date: 01/03/2024

**Application** 

Engineering specifications & installation details for compliance with NZBC B1, F4 & F9

## BARRIER SPECIFICATION SELECTION GUIDE

Clause F4 'Safety from Falling' of the New Zealand Building Code requires building areas to be constructed to reduce the likelihood of accidental falls. Specifically, barriers are required where people could fall one metre or more.

Barriers need to be designed and constructed so that they are capable of providing the strength and stiffness necessary for the proposed location and occupancy type of the property which they serve. Evidence of the suitability of the barrier system for its proposed use, needs to be provided when making a building consent application. This producer statement provides the assurance that Boundaryline product specifications and installation details have been pre-approved by Chartered Professional Engineers and comply with all NZBC B1, F4, F9 requirements.

It is important that your selected barrier design is appropriate to the specific installation location and intended use. Use this guide to determine your specific barrier design and installation details.

### **Generic Producer Statement:**

This is a generic Producer Statement, issued to Terranota Ltd, which provides the assurance that the proprietary products detailed in this document have been structurally engineered to comply with the New Zealand Building Code and the building code clauses as detailed, and for the application(s) as described in this document.

The fencing components detailed in this Producer Statement are proprietary products, engineered to comply with the requirements of the stated building code clause. Of equal importance is the detail of the fixing method to ensure the correct installation of the proprietary components. To this end, most common installation applications have been illustrated with appropriate details to ensure a safe and compliant fence/balustrade.

The structure (or ground conditions) to which the proprietary components are installed is the responsibility of the installer or end user, and it is recommended that an independent engineer is engaged to confirm the compliance of the structure (or ground condition) with the New Zealand Building Code. Where relevant, and when critical to the compliance of the proprietary components, this producer statement details specific requirements of the structure (or ground conditions) as a minimum standard.

It is the installer or end user's responsibility to ensure the proprietary components are installed accurately to the detail provided. If your particular structure design or application is not covered in the details provided, then this generic producer statement cannot be applied to your installation. In this instance, please contact Boundaryline to discuss a custom-engineered solution that will meet your requirements.

# **Barrier Loading Selection:**

Where a barrier serves multiple occupancies, default to the highest loading requirement from all location scenarios. For more information, please refer to www.building.govt.nz.

Occupancy Type:	Building Code Clause:	Specific Use:	Horizontal Design Loading:	Minimum Overall Barrier Height:
A - Domestic	F9	Pool fence only.	0.33kN	1.2m
A - Domestic	F4	All areas serving one dwelling but excluding balconies, decks, and terraces. For example; walkways, stairs and landings and retaining walls, not adjacent to a deck or terrace.	0.35kN/m	1.0m 0.9m for stairs only
A - Domestic	F4	External balcony, decks, terraces, retaining walls and walkways in a multi-dwelling application, including open public spaces.	0.75kN/m	1.0m single dwelling 1.1m multi dwelling
B & E – Offices and work areas including storage	F4	Access walkways, stairs and landings.	0.35kN/m	1.1m
B & E – Offices and work areas including storage	F4	Areas including balconies, decks and terraces not susceptible to overcrowding.	0.75kN/m	1.1m
C3 – Areas without obstacles for moving people and where people may congregate	F4	Areas including walkways, stairs and landings, balconies, decks and terraces not susceptible to overcrowding, including parks and reserves.	0.75kN/m	1.1m

## Wind Zones:

There are five main Wind Zones in New Zealand: Low, Medium, High, Very High, and Extra High. All details in this Producer Statement have been engineered to Medium and High wind zone's (please see tables below). If your property falls into a higher wind zone, please contact Boundaryline to discuss a custom-engineered solution to meet your requirements.

To identify the wind zone at your site location, search for BRANZ Maps, turn on the 'Wind Regions' layer, and search your site address. If it is unclear what wind zone applies to your site, please contact your engineer to calculate the wind zone for your property.

For properties that fall into a high or very high wind zone, but are in a built-up area, it may be beneficial to engage a Professional Engineer to calculate the specific wind zone for your site, as terrain and adjacent structures can impact the wind zone applicable to your particular site. A means of determining the wind zone for a specific location is in detailed in NZS 3604:2011.

Wind Zone		950h	1200h	1500h	1800h
Medium	Atlas	2.48m	2.48m	2.48m	2m
	Juno, Opus, Rondo, Forte	2.48m	2.48m	2m	1.65m
High	Atlas	2.48m	2.48m		
	Juno, Opus, Rondo, Forte	2.48m	2.38m		
Very High/Extra High	Atlas	Diagon contact Dounday line for a colution			
	Juno, Opus, Rondo, Forte	Please Co	Please contact Boundaryline for a solution		

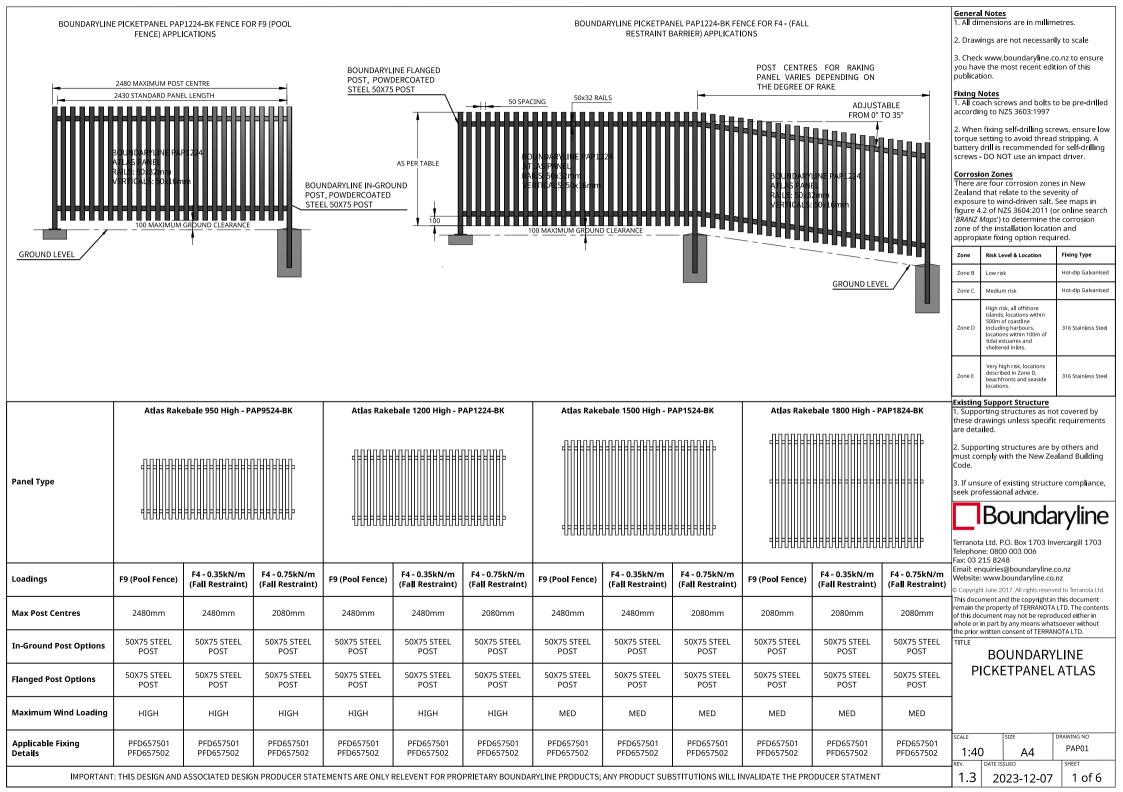
# Maximum Post centres for Picket Panel for 0.75kN/m Loading

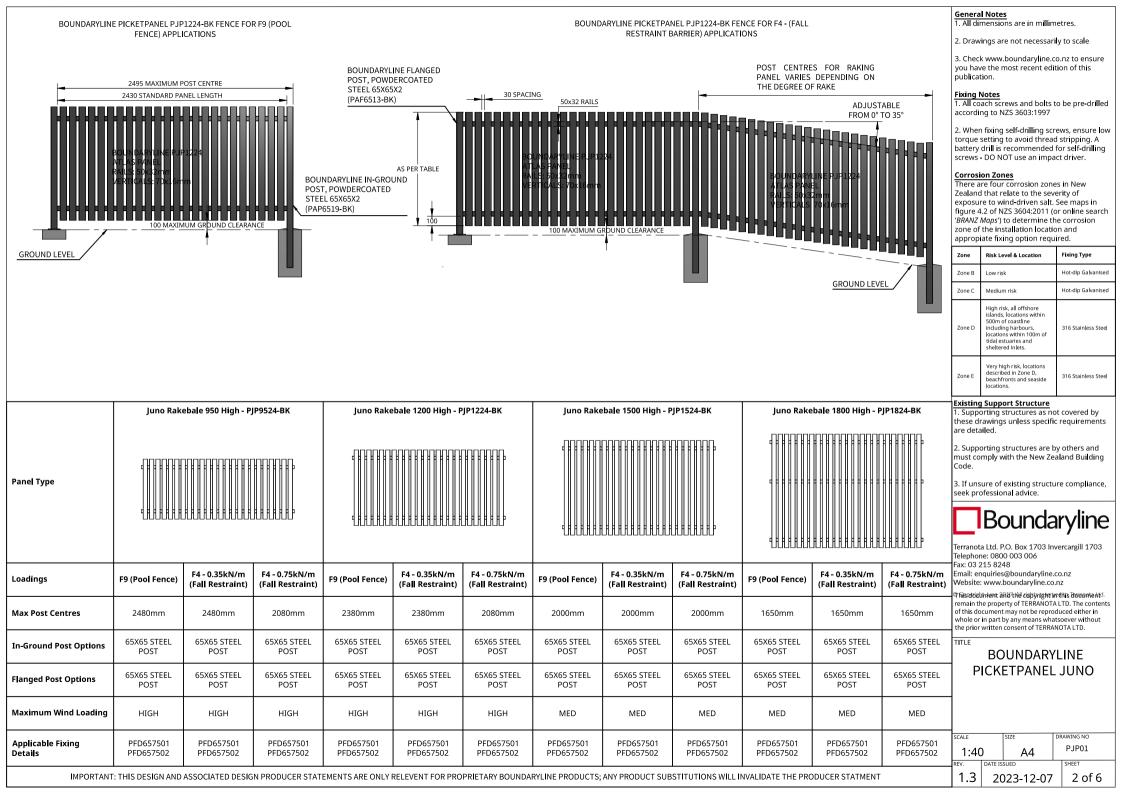
Wind Zone		950h	1200h	1500h	1800h
Medium	Atlas	2.08m	2.08m	2.08m	2m
	Juno, Opus, Rondo, Forte	2.08m	2.08m	2m	1.65m
High	Atlas	2.08m	2.08m		
	Juno, Opus, Rondo, Forte	2.08m	2.08m		
Very High/Extra High	Atlas	Diagon contact Doundar line for a solution			
	Juno, Opus, Rondo, Forte	Please Co	Please contact Boundaryline for a solution		

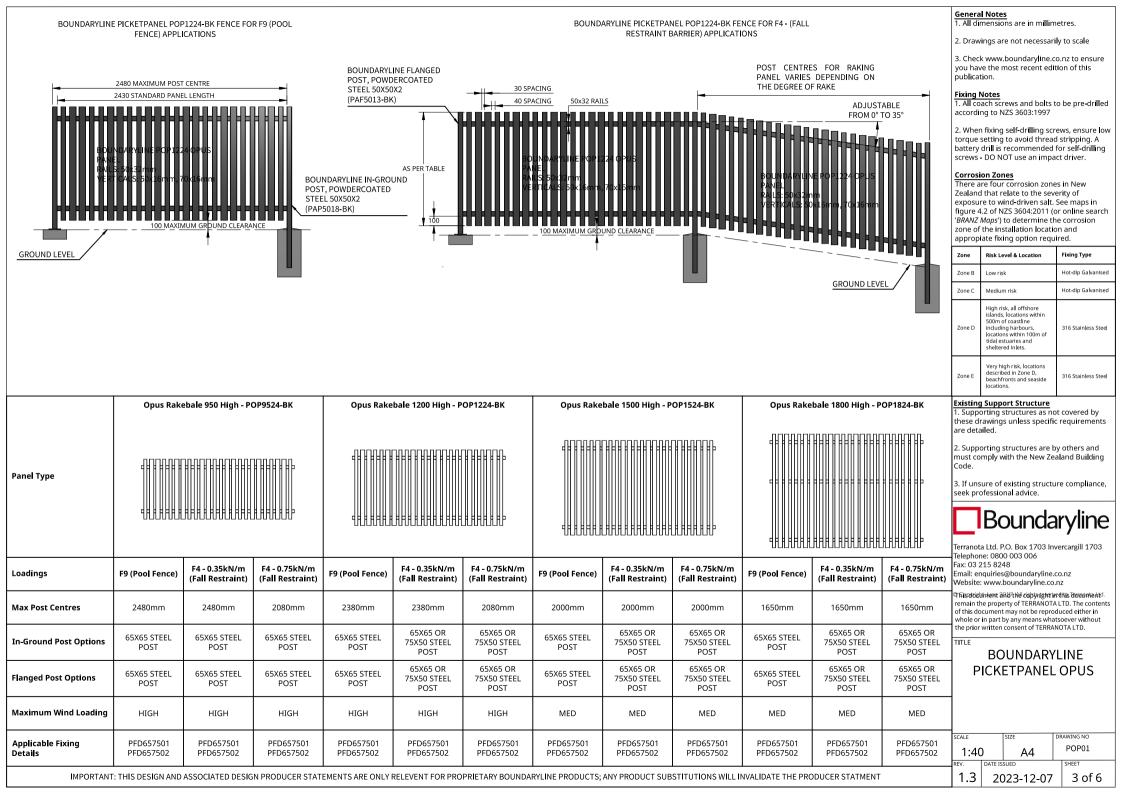
# **Fixing Types**

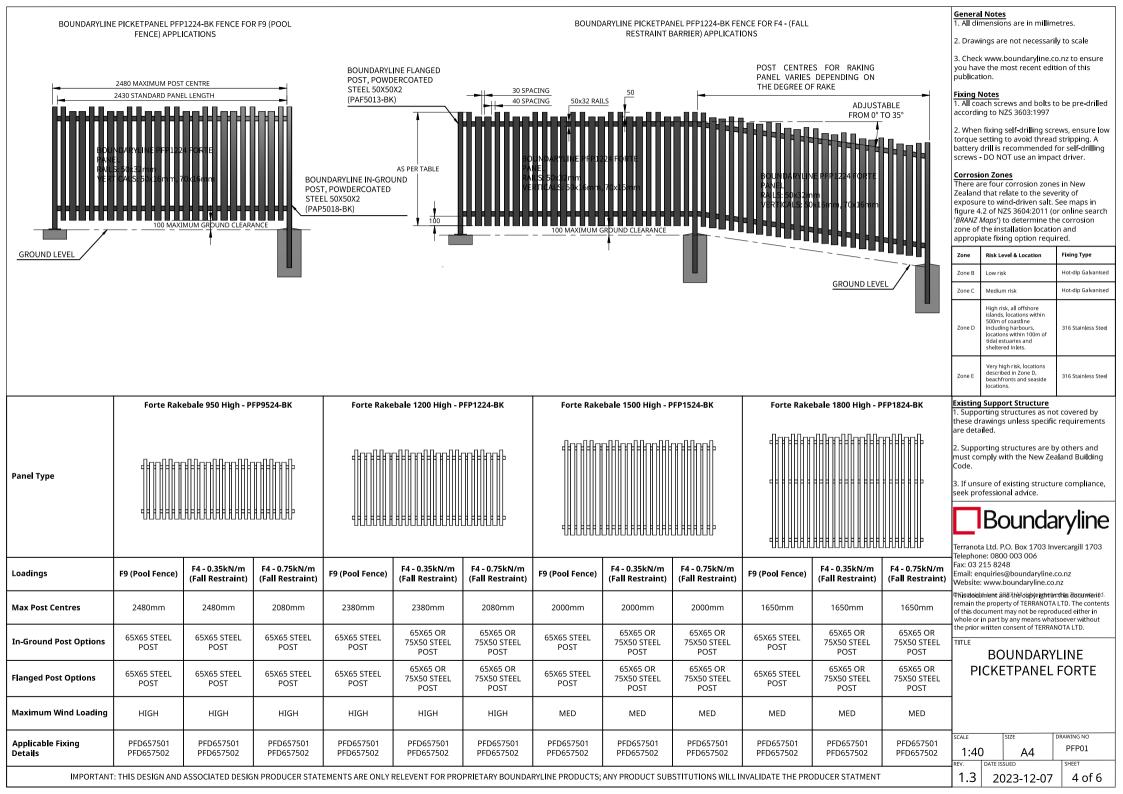
There are four corrosion zones in New Zealand that relate to the severity of exposure to wind-driven salt. To determine the corrosion zone of your installation location, please check maps in Figure 4.2 in NZS3604:2011 (or online search 'BRANZ Maps'). Use the table below to determine the appropriate fixing types required for your particular location.

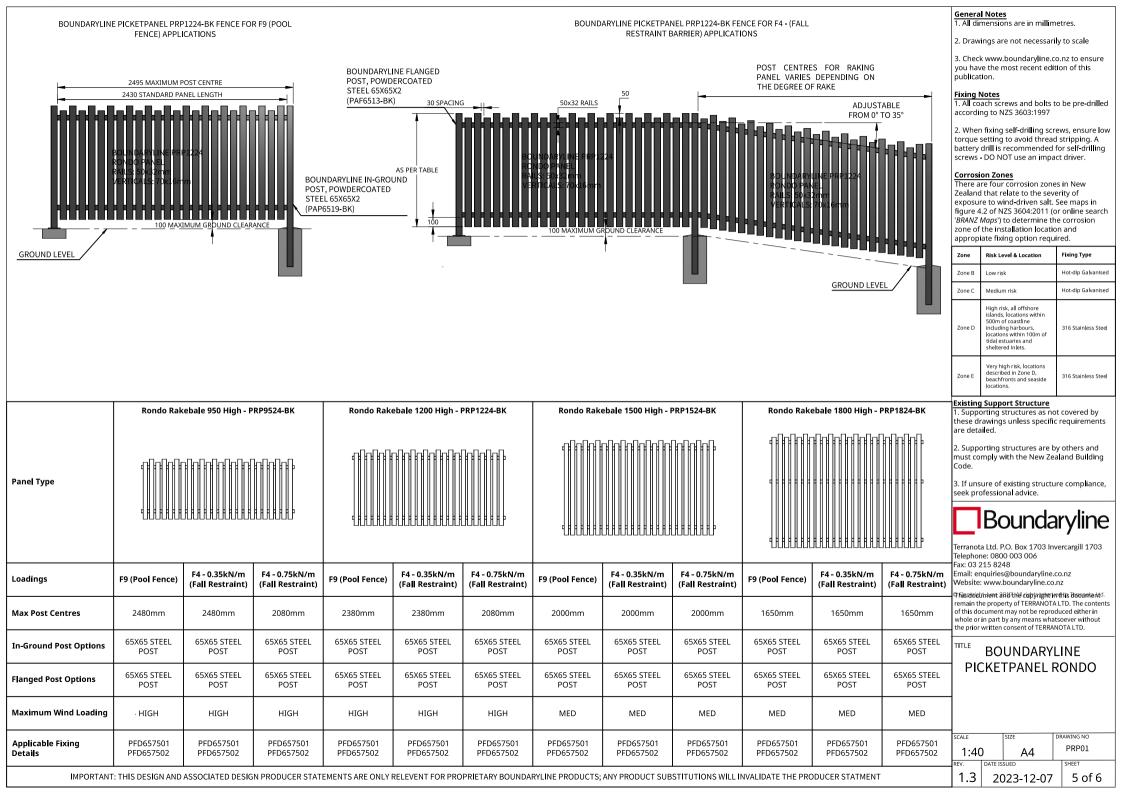
Zone	Risk Level & Location	Fixing Type
Zone B	Low risk	Hot-dip Galvanised
Zone C	Medium risk	Hot-dip Galvanised
Zone D	High risk, all offshore islands, locations within 500m of coastline including harbours, locations within 100m of tidal estuaries and sheltered inlets	316 Stainless Steel
Zone D	Very high risk, locations described in Zone D, beach fronts and seaside locations	316 Stainless Steel

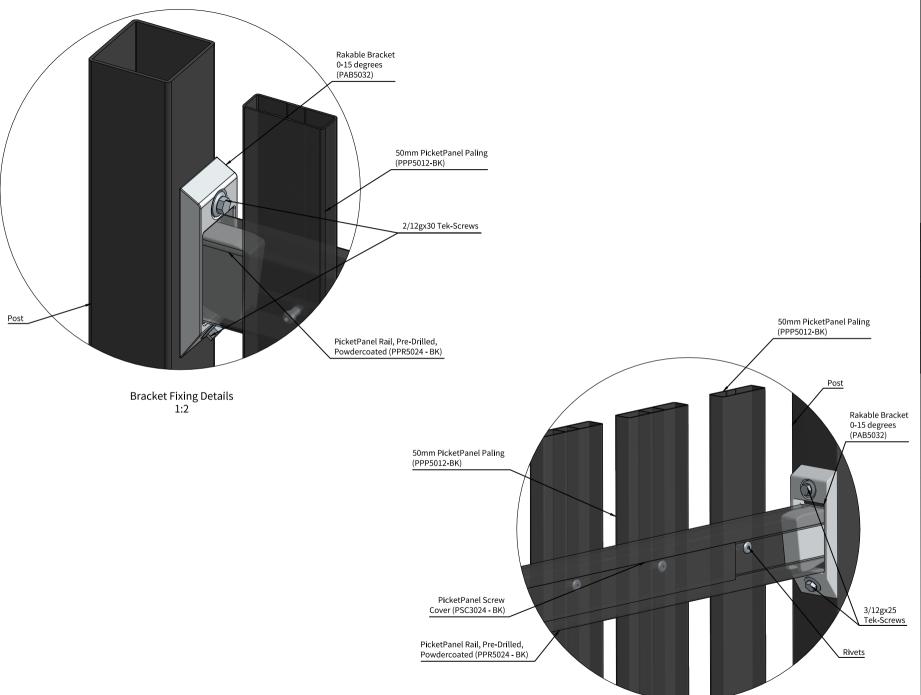












Picket - Rail Fixing Details

1:3

- General Notes
- 1. All dimensions are in millimetres.
- 2. Drawings are not necessarily to scale
- 3. Check www.boundaryline.co.nz to ensure you have the most recent edition of this publication.

### Fixing Notes

1. All coach screws and bolts to be pre-drilled according to NZS 3603:1997

2. When fixing self-drilling screws, ensure low torque setting to avoid thread stripping. A battery drill is recommended for self-drilling screws - DO NOT use an impact driver.

#### **Corrosion Zones**

There are four corrosion zones in New Zealand that relate to the severity of exposure to wind-driven salt. See maps in figure 4.2 of NZS 3604:2011 (or online search 'BRANZ Maps') to determine the corrosion zone of the installation location and appropiate fixing option required.

Zone	Risk Level & Location	Fixing Type
Zone B	Low risk	Hot-dip Galvanised
Zone C	Medium risk	Hot-dip Galvanised
Zone D	High risk, all offshore islands, locations within 500m of coastline including harbours, locations within 100m of tidal estuaries and sheltered inlets.	316 Stainless Steel
Zone E	Very high risk, locations described in Zone D, beachfronts and seaside locations.	316 Stainless Steel

#### **Existing Support Structure**

- Supporting structures as not covered by these drawings unless specific requirements are detailed.
- 2. Supporting structures are by others and must comply with the New Zealand Building Code.
- 3. If unsure of existing structure compliance, seek professional advice.

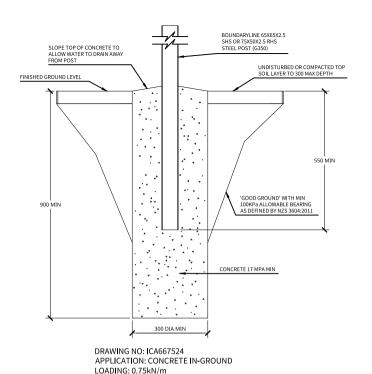


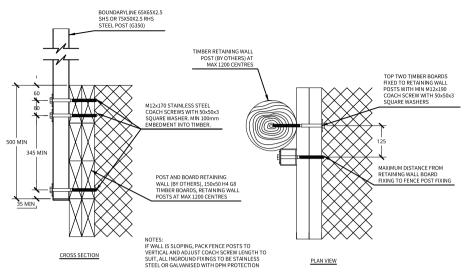
Terranota Ltd. P.O. Box 1703 Invercargill 1703 Telephone: 0800 003 006 Fax: 03 215 8248 Email: enquiries@boundaryline.co.nz

Email: enquiries@boundaryline.co.nz Website: www.boundaryline.co.nz

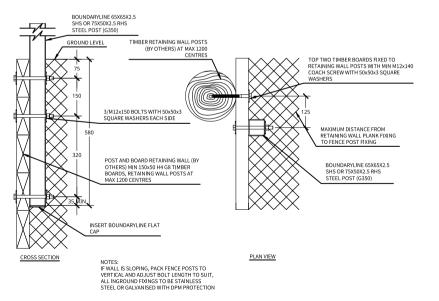
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BOUNDARYLINE
PICKETPANEL FIXING
DETAILS





DRAWING NO: SRB667524-B APPLICATION: SIDE-FIX TO DOUBLE BOARD TIMBER RETAINING WALL (POSTS ON OUTSIDE OF RETAINING WALL) LOADING: 0.75kN/m



DRAWING NO: SRA667524-A APPLICATION: SIDE-FIX TO TIMBER RETAINING WALL (POST ON INSIDE OF RETAINING WALL) LOADING: 0.75kN/m

#### General Notes

1. All dimensions are in millimetres.

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- 3. Check www.boundaryline.co.nz to ensure you have the most recent edition of this publication.

#### Fixing Notes

1. All coach screws and bolts to be pre-drilled according to NZS 3603:1993

2. When fixing self-drilling screws, ensure low torque setting to avoid thread stripping. A battery drill is recommended for self-drilling screws - DO NOT use an impact driver.

#### Corrosion Zones

There are four corrosion zones in New Zealand that relate to the severity of exposure to wind-driven salt. See maps in figure 4.2 of NZS 3604:2011 (or online search 'BRANZ Maps') to determine the corrosion zone of the installation location and appropiate fixing ontion required

optioni	equireu.	
Zone	Risk Level & Location	Fixing Type
Zone B	Low risk	Hot-dip Galvanised
Zone C	Medium risk	Hot-dip Galvanised
Zone D	High risk, all offshore islands, locations within 500m of coastline including harbours, locations within 100m of tidal estuaries and sheltered inlets.	316 Stainless Steel
Zone E	Very high risk, locations described in Zone D, beachfronts and seaside locations.	316 Stainless Steel

#### Existing Support Sturcture

1. All supporting structure by others and must comply with the New Zealand Building Code

2. If unsure of existing structure compliance, seek professional advice.



Telephone: 0800 003 006 Fax: 03 215 8248 Email: enquiries@boundaryline.co.nz

Website: www.boundaryline.co.nz

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BOUNDARYLINE PICKETPANEL BARRIER FIXING DESIGNS FOR:

- CONCRETE IN-GROUND
- TIMBER RETAINING WALL

FOR 0.75kN/m HORIZONTAL LOADING (REFER TO BARRIER SPECIFICATION GUIDE FOR

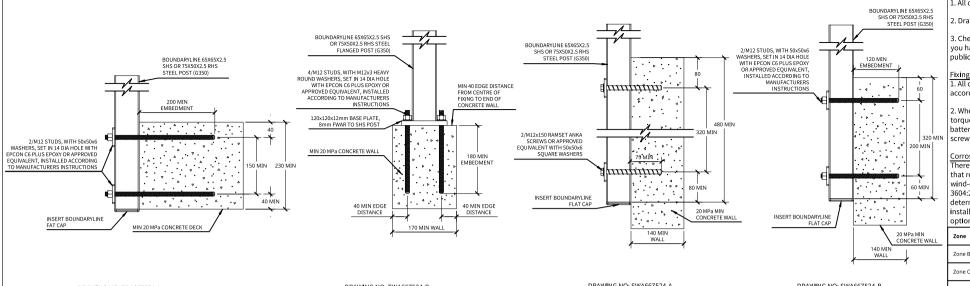
RELEVANT OCUPANCY TYPES) SCALE RAWING NO

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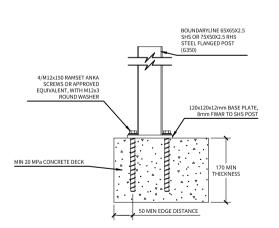


DRAWING NO: SDA667524-A APPLICATION: SIDE-FIX TO CONCRETE DECK (230 min THICKNESS) LOADING: 0.75kN/m

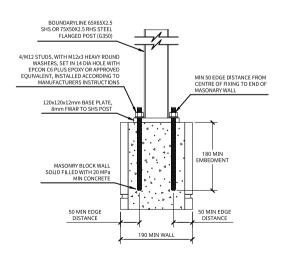
DRAWING NO: TWA667524-B APPLICATION: TOP-FIX TO CONCRETE WALL LOADING: 0.75kN/m

DRAWING NO: SWA667524-A APPLICATION: SIDE-FIX TO CONCRETE WALL LOADING: 0.75kN/m

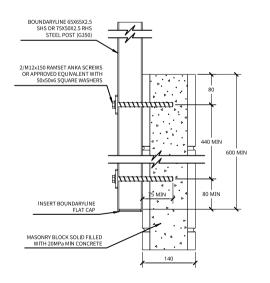
DRAWING NO: SWA667524-B APPLICATION: SIDE-FIX TO CONCRETE WALL LOADING: 0.75kN/m



DRAWING NO: TDA667524-C APPLICATION: TOP-FIX TO CONCRETE DECK LOADING: 0.75kN/m



DRAWING NO: TMA667524 APPLICATION: TOP-FIX TO MASONARY WALL LOADING: 0.75kN/m



DRAWING NO: SMA667524 APPLICATION: SIDE-FIX TO MASONARY WALL (15 SERIES) LOADING: 0.75kN/m

#### General Notes

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- 3. Check www.boundaryline.co.nz to ensure you have the most recent edition of this publication.

#### Fixing Notes

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#### Corrosion Zones

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option r	equired.		
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#### **Existing Support Sturcture**

1. All supporting structure by others and must comply with the New Zealand Building Code

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# Boundaryline

Terranota Ltd. P.O. Box 1703 Invercargill 1703 Telephone: 0800 003 006 Fax: 03 215 8248 Email: enquiries@boundaryline.co.nz

Website: www.boundaryline.co.nz

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#### TITLE:

BOUNDARYLINE PICKETPANEL BARRIER FIXING DESIGNS FOR:

- CONCRETE WALL
- MASONARY WALL

# FOR 0.75kN/m

HORIZONTAL LOADING (REFER TO BARRIER SPECIFICATION GUIDE FOR

RELEVANT OCCUPANCY TYPES) RAWING NO SCALE

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2024-02-26

1 of 1

IMPORTANT: THIS DESIGN AND ASSOCIATED DESIGN PRODUCER STATEMENTS ARE ONLY RELEVENT FOR PROPRIETARY BOUNDARYLINE PRODUCTS; ANY PRODUCT SUBSTITUTIONS WILL INVALIDATE THE PRODUCER STATMENT





# PRODUCER STATEMENT – PS1 DESIGN

BUILDING CODE CLAUSE(S):   ISSUED BY:	JOB NUMBER:	
(Engineering Design Firm)		]
TO:   (Owner/Developer)		
TO BE SUPPLIED TO:		
(Building Consent Authority) IN RESPECT OF:		
(Description of Building Work)		,
AT:   (Address, Town/City)		
LEGAL DESCRIPTION:		N/A □
We have been engaged by the owner/developer referred to about	ove to provide (Extent of Engagem	ent):
in respect of the requirements of the Clause(s) of the Building Conscience of the proposed building work.	ode specified above for Choose a	n item., as specified in the
The design carried out by us has been prepared in accordance w  ■ Compliance documents issued by the Ministry of Bus solution)		(Verification method/acceptable and/or;
• □ Alternative solution as per the attached Schedule.		
The proposed building work covered by this producer statemen with the specification, and other documents set out in the Sche	<u> </u>	cified in the Schedule, together
On behalf of the Engineering Design Firm, and subject to:		,
<ul> <li>Site verification of the following design assumptions:</li> <li>All proprietary products meeting their performance sp</li> </ul>	ecification requirements;	ļ.
I believe on reasonable grounds that:		
<ul> <li>the building, if constructed in accordance with the draw Schedule, will comply with the relevant provisions of the</li> </ul>	ne Building Code and that;	cuments provided or listed in the
<ul> <li>the persons who have undertaken the design have the</li> </ul>	necessary competency to do so.	
I recommend the <b>Choose one</b> level of <b>construction monitoring</b> .		
<ul> <li>I, (Name of Engineering Design Professional)</li> <li>■ CPEng number</li> <li>and hold the following qualifications</li> </ul>		, am:
The Engineering Design Firm holds a current policy of Profession The Engineering Design Firm Choose one a member of ACE New		an \$200,000
<b>SIGNED BY</b> (Name of Engineering Design Professional): (Signature below):		
ON BEHALF OF (Engineering Design Firm):		Date:n1/n3/24 EXPIRES 28/

**Note:** This statement has been prepared solely for the Building Consent Authority named above and shall not be relied upon by any other person or entity. Any liability in relation to this statement accrues to the Engineering Design Firm only. As a condition of reliance on this statement, the Building Consent Authority accepts that the total maximum amount of liability of any kind arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in tort or otherwise, 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.

# **SCHEDULE to PS1**

Please include an itemised list of all referenced documents, drawings, or other supporting materials in relation to this producer statement below:				

Job Number ..... PRODUCER STATEMENT PS1

# **GUIDANCE ON USE OF PRODUCER STATEMENTS**

Information on the use of Producer Statements and Construction Monitoring Guidelines can be found on the Engineering New Zealand website

https://www.engineeringnz.org/engineer-tools/engineering-documents/producer-statements/

Producer statements were first introduced with the Building Act 1991. The producer statements were developed by a combined task committee consisting of members of the New Zealand Institute of Architects (NZIA), Institution of Professional Engineers New Zealand (now Engineering New Zealand), Association of Consulting and Engineering New Zealand (ACE NZ) in consultation with the Building Officials Institute of New Zealand (BOINZ). The original suite of producer statements has been revised at the date of this form to ensure standard use within the industry.

The producer statement system is intended to provide Building Consent Authorities (BCAs) with part of the reasonable grounds necessary for the issue of a Building Consent or a Code Compliance Certificate, without necessarily having to duplicate review of design or construction monitoring undertaken by others.

**PS1 DESIGN** Intended for use by a suitably qualified independent engineering design professional in circumstances where the BCA accepts a producer statement for establishing reasonable grounds to issue a Building Consent;

**PS2 DESIGN REVIEW** Intended for use by a suitably qualified independent engineering design review professional where the BCA accepts an independent design professional's review as the basis for establishing reasonable grounds to issue a Building Consent;

**PS3 CONSTRUCTION** Forms commonly used as a certificate of completion of building work are Schedule 6 of NZS 3910:2013 or Schedules E1/E2 of NZIA's SCC 2011<sup>2</sup>

**PS4 CONSTRUCTION REVIEW** Intended for use by a suitably qualified independent engineering construction monitoring professional who either undertakes or supervises construction monitoring of the building works where the BCA requests a producer statement prior to issuing a Code Compliance Certificate.

This must be accompanied by a statement of completion of building work (Schedule 6).

The following guidelines are provided by ACE New Zealand and Engineering New Zealand to interpret the Producer Statement.

# **Competence of Engineering Professional**

This statement is made by an engineering firm that has undertaken a contract of services for the services named, and is signed by a person authorised by that firm to verify the processes within the firm and competence of its personnel.

The person signing the Producer Statement on behalf of the engineering firm will have a professional qualification and proven current competence through registration on a national competence-based register such as a Chartered Professional Engineer (CPEng).

Membership of a professional body, such as Engineering New Zealand provides additional assurance of the designer's standing within the profession. If the engineering firm is a member of ACE New Zealand, this provides additional assurance about the standing of the firm.

Persons or firms meeting these criteria satisfy the term "suitably qualified independent engineering professional".

# **Professional Indemnity Insurance**

As part of membership requirements, ACE New Zealand requires all member firms to hold Professional Indemnity Insurance to a minimum level.

The PI Insurance minimum stated on the front of this form reflects standard practice for the relationship between the BCA and the engineering firm.

# **Professional Services during Construction Phase**

There are several levels of service that an engineering firm may provide during the construction phase of a project (CM1-CM5 for engineers<sup>3</sup>). The building Consent Authority is encouraged to require that the service to be provided by the engineering firm is appropriate for the project concerned.

# **Requirement to provide Producer Statement PS4**

Building Consent Authorities should ensure that the applicant is aware of any requirement for producer statements for the construction phase of building work at the time the building consent is issued as no design professional should be expected to provide a producer statement unless such a requirement forms part of the Design Firm's engagement.

# Refer Also:

- Conditions of Contract for Building & Civil Engineering Construction NZS 3910: 2013
- <sup>2</sup> NZIA Standard Conditions of Contract SCC 2011
- Guideline on the Briefing & Engagement for Consulting Engineering Services (ACE New Zealand/Engineering New Zealand 2004)
- <sup>4</sup> PN01 Guidelines on Producer Statements

www.acenz.org.nz www.engineeringnz.org