

PS1

DURAPANEL™

Delta 35

Pool Fencing & Fall Restraint Barriers

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.

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.buildin.govt.nz

Occupancy type	Specific use	Horizontal design loading	Minimum overall barrier height	Installation details (drawing number)
A - Domestic	Pool fence only	0.33kN/m	1.2m	All fixing details are applicable
A - Domestic	All areas serving one dwelling but excluding balconies, decks & terraces, e.g., walkways, stairs & landings, & retaining walls not adjacent to a deck or terrace	0.35kN/m	1.0m 0.9m for stairs only	DPA653501 DPA653502 DPA653503
A - Domestic	External balcony, decks, terraces, retaining walls & walkways in a multi-dwelling application, including open public spaces	0.75kN/m	1.0m single dwelling 1.1m multi dwelling	Delta 35 is not suitable for this application, please use Titan Panel instead, contact us for more details
B & E - Offices & work areas including storage	Access walkways, stairs & landings	0.35kN/m	1.1m	DPA653501 DPA653502 DPA653503
B & E - Offices & work areas including storage	Areas including balconies, decks & terraces not susceptible to overcrowding	0.75kN/m	1.1m	Delta 35 is not suitable for this application, please use Titan Panel instead, contact us for more details
C - Areas without obstacles for moving people & where people might congregate	Areas including walkways, stairs & landings, balconies, decks & terraces not susceptible to overcrowding, including parks and reserves	0.75kN/m	1.1m	Delta 35 is not suitable for this application, please use Titan Panel instead, contact us for more details

Post fixing details

The following pages detail common and standardised methods for fixing the barrier to various structures. First determine the barrier loading using the table above and reference the correct drawing(s) for that particular design. If a variant to these standard installation methods is required, please contact Boundaryline for further information about custom design and engineering services

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 for your installation location, please check maps in Figure 4.2 in NZS3604:201 (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 locations within 500m of coastline, including harbours, locations within 100m of tidal estuaries & sheltered inlets	316 stainless steel
Zone E	Very high risk, locations described in Zone D, beachfronts & seaside locations	316 stainless steel

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 'BMA NZ Maps') to determine the corrosion zone of the installation location and appropriate 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 saltwater and sheltered inlets.	316 Stainless Steel
Zone E	Very high risk, locations adjacent to coastal beachfronts and seaside locations.	316 Stainless Steel

Existing Support Structure

1. 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.

Boundaryline

Terranota Ltd, P.O. Box 1703 Invercargill 9703

Telephone: 0800 003 006

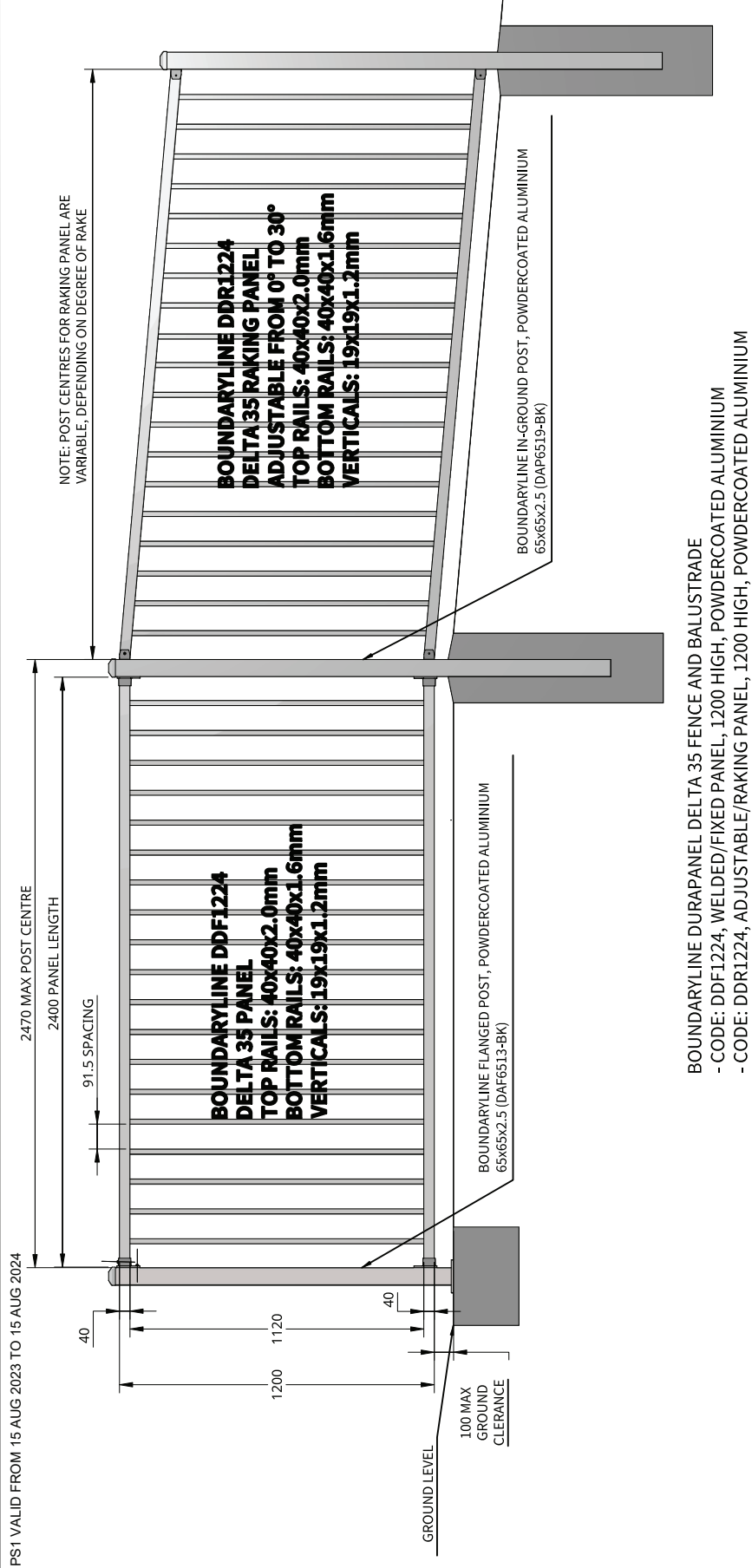
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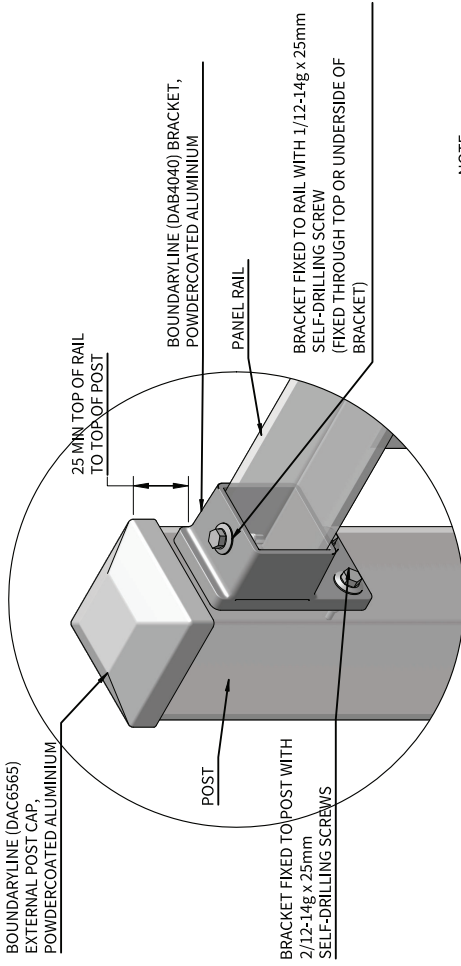
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SCALE	SIZE	DRAWING NO	
1:25	A4	DDF1224	
REV.	DATE ISSUED	SHEET	
A	15/08/2023	1 of 1	



BOUNDARYLINE DURAPANEL DELTA 35 FENCE AND BALUSTRADE

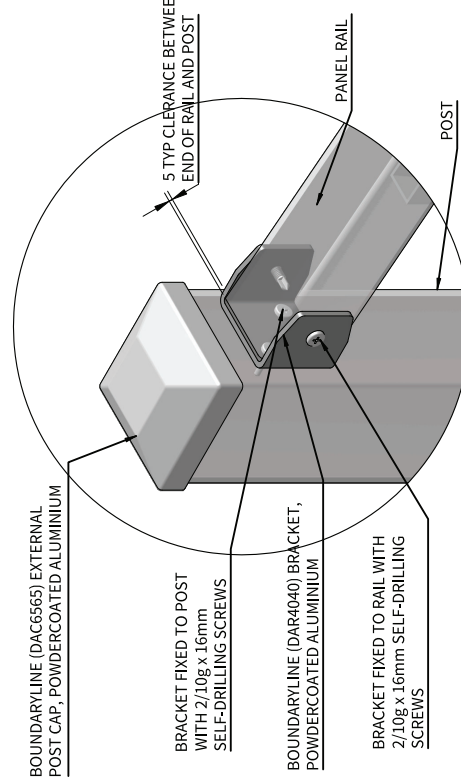
- CODE: DDF1224, WELDED/FIXED PANEL, 1200 HIGH, POWDERCOATED ALUMINIUM

- CODE: DDR1224, ADJUSTABLE/RAKING PANEL, 1200 HIGH, POWDERCOATED ALUMINIUM



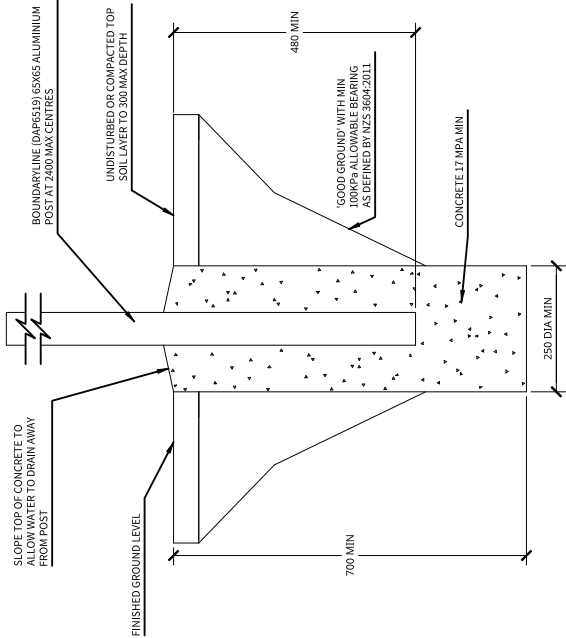
STANDARD PANEL BRACKET FIXING DETAIL

SCALE: 1:3.5

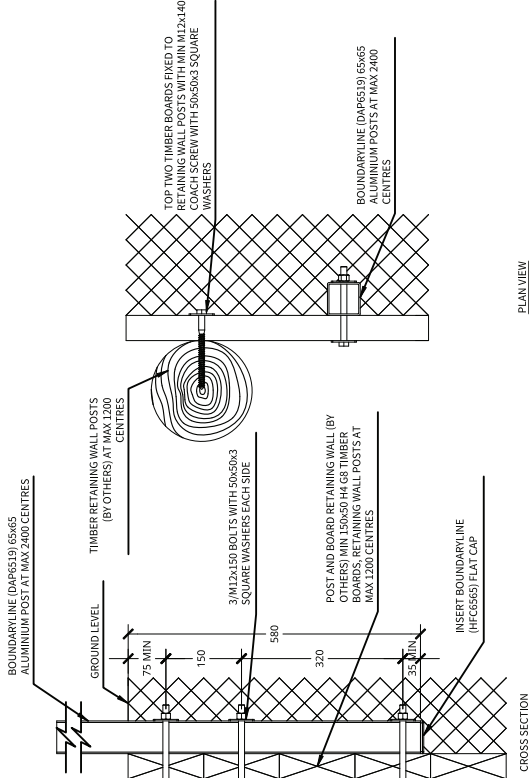


ADJUSTABLE PANEL BRACKET FIXING DETAIL

SCALE: 1:3.5



DRAWING NO: ICA653524
APPLICATION: CONCRETE IN-GROUND
LOADING: 0.35kN/m AT MAX 2470 POST CENTRES

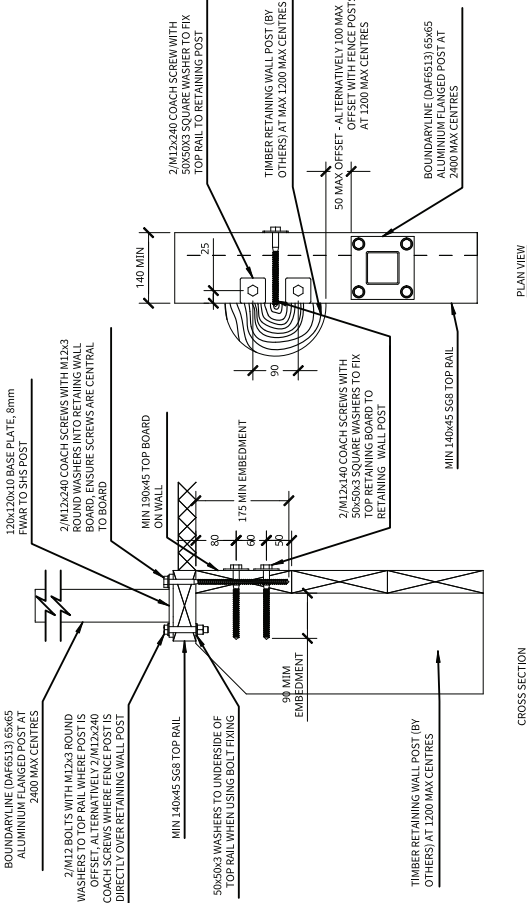


NOTES:
IF WALL IS SLOPING, PACK FENCE POSTS TO VERTICAL AND ADJUST BOLT LENGTH TO SUIT, ALL INGROUND FIXINGS TO BE STAINLESS STEEL OR GALVANISED WITH DPM PROTECTION

DRAWING NO: SRA653524-A
APPLICATION: SIDE-FIX TO TIMBER RETAINING WALL (POST ON INSIDE OF RETAINING WALL)
LOADING: 0.35kN/m AT MAX 2470 POST CENTRES

NOTE:

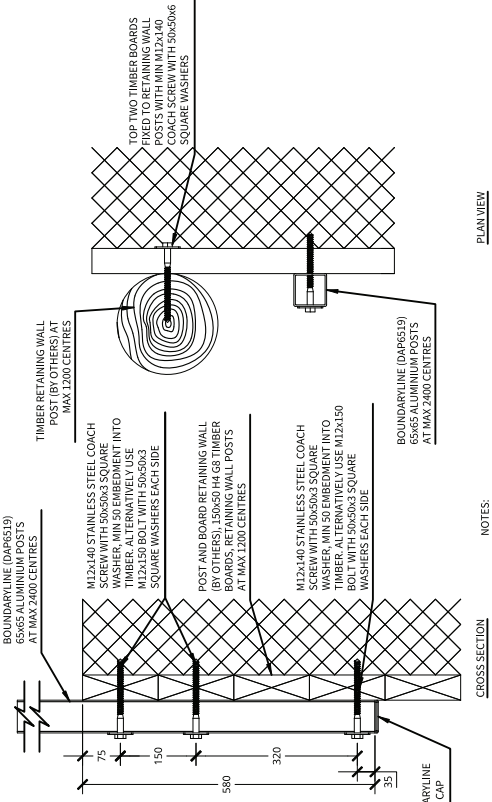
WIND LEE ZONE LOCATIONS ARE EXCLUDED FROM THE SCOPE OF THIS DOCUMENT. PLEASE CONTACT BOUNDARYLINE IF LOCATION OF PROJECT FALLS WITHIN A WIND LEE ZONE
IMPORTANT: THIS DESIGN AND ASSOCIATED DESIGN PRODUCER STATEMENTS ARE ONLY RELEVANT FOR PROPRIETARY BOUNDARYLINE PRODUCTS; ANY PRODUCT SUBSTITUTIONS WILL INVALIDATE THE PRODUCER STATMENT



CROSS SECTION

PLAN VIEW

DRAWING NO: TRA653524
APPLICATION: TOP-FIX TO TIMBER RETAINING WALL
LOADING: 0.35kN/m AT MAX 2470 POST CENTRES



NOTES:
IF WALL IS SLOPING, PACK FENCE POSTS TO VERTICAL AND ADJUST COACH SCREW LENGTH TO SUIT, ALL INGROUND FIXINGS TO BE STAINLESS STEEL

PLAN VIEW

CROSS SECTION

DRAWING NO: SRA653524-B
APPLICATION: SIDE-FIX TO TIMBER RETAINING WALL (POST ON OUTSIDE OF RETAINING WALL)
LOADING: 0.35kN/m AT MAX 2470 POST CENTRES

General Notes

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

Fixing Notes

- All coach screws and bolts to be pre-drilled according to NZS 3603:1993
- 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 '898NZ Maps') to determine the corrosion zone of the installation location and appropriate 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 sheltered inlets.	316 Stainless Steel
Zone E	Very high risk, locations exposed to salt spray from beachfronts and seaside locations.	316 Stainless Steel

Existing Support Structure

- All supporting structure by others and must comply with the New Zealand Building Code
- If unsure of existing structure compliance, seek professional advice.



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TITLE
BOUNDARYLINE DURAPANEL
BARRIER FIXING DESIGNS FOR:
- CONCRETE IN-GROUND
- TIMBER RETAINING WALL

FOR 0.35kN/m HORIZONTAL
LOADING
(REFER TO BARRIER SPECIFICATION GUIDE FOR RELEVANT OCCUPANCY TYPES)

SCALE	SIZE	DRAWING NO
1:15	A4	DP653501
REV.	DATE ISSUED	SHEET
A	15/08/2023	1 of 1

General Notes
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Fixing Notes

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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

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 appropriate fixing position 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

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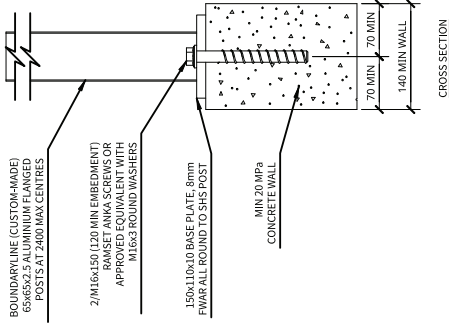
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FIXING DESIGNS FOR:
- TIMBER RETAINING WALL (DOUBLE BOARD)
- TIMBER DECK
- CONCRETE DECK
(FOR 0.35kN/m HORIZONTAL LOADING
(REFER TO BARRIER SPECIFICATION GUIDE FOR
REF IAN OCCUPANCY TYPES)**

SCALE	SIZE	DRAWING NO
1:10	A4	DPA653502
REV.	DATE ISSUED	SHEET
A	15/08/2023	1 of 1

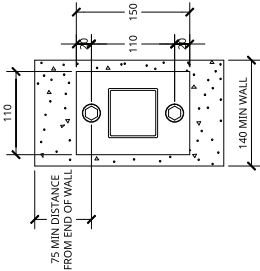


NOTE: WIND LEE ZONE LOCATIONS ARE EXCLUDED FROM THE SCOPE OF THIS DOCUMENT. PLEASE CONTACT BOUNDARYLINE IF LOCATION OF PROJECT FALLS WITHIN A WIND LEE ZONE

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

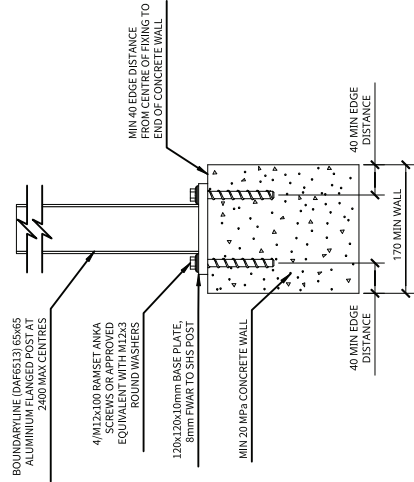
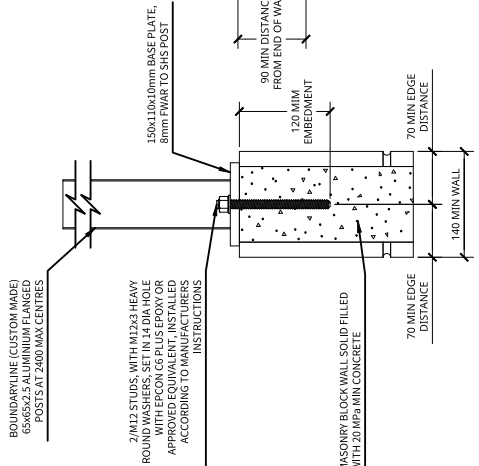


CROSS SECTION

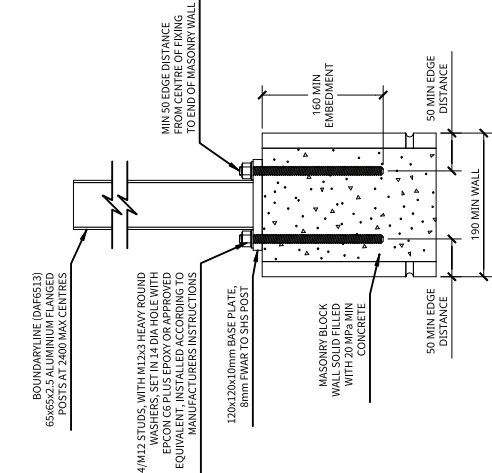


PLAN VIEW

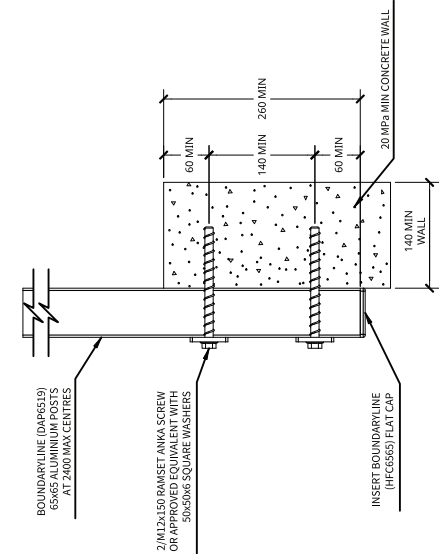
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APPLICATION: TOP-FIX TO CONCRETE WALL
LOADING: 0.35kN/m AT MAX 2470 POST CENTRE



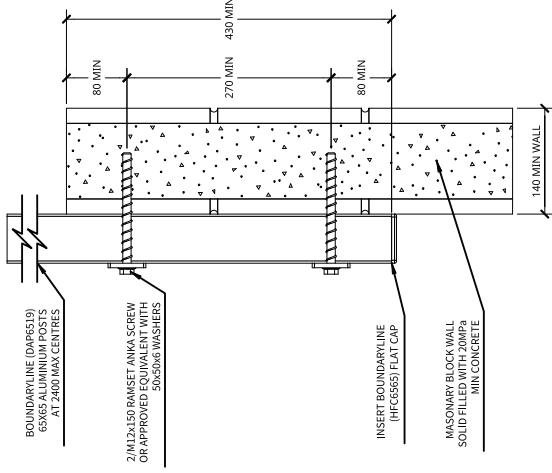
DRAWING NO: TWA653524-B
APPLICATION: TOP-FIX TO CONCRETE WALL
LOADING: 0.35kN/m AT MAX 2470 POST CENTRE



DRAWING NO: TWA653524-B
APPLICATION: TOP-FIX TO MASONRY WALL (20 SERIES)
LOADING: 0.35kN/m AT MAX 2470 POST CENTRE



DRAWING NO: SWA653524
APPLICATION: SIDE-FIX TO CONCRETE WALL
LOADING: 0.35kN/m AT MAX 2470 POST CENTRE



DRAWING NO: SWA653524
APPLICATION: SIDE-FIX TO MASONRY WALL (15 SERIES)
LOADING: 0.35kN/m AT MAX 2470 POST CENTRE

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Fixing Notes
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Corrosion Zones
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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 saltwater and sheltered inlets.	316 Stainless Steel
Zone E	Very high risk, locations exposed to salt and beachfronts and seaside locations.	316 Stainless Steel

Existing Support Structure
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.

Boundaryline

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TITLE		
BOUNDARYLINE DURAPANEL BARRIER		
FIXING DESIGNS FOR:		
- CONCRETE WALL		
- MASONRY WALL		
FOR 0.35kN/m		
HORIZONTAL LOADING		
(REFER TO BARRIER SPECIFICATION GUIDE FOR RELEVANT OCCUPANCY TYPES)		
SCALE	SIZE	DRAWING NO
1:10	A4	DPA653503
REV.	DATE ISSUED	SHEET
A	15/08/2023	1 of 1

PRODUCER STATEMENT – PS1 DESIGN

BUILDING CODE CLAUSE(S): B1 F4 F9

JOB NUMBER: S89-0109-F

ISSUED BY: STUDIO89 PTY LTD

(Engineering Design Firm)

TO: BOUNDARYLINE

(Owner/Developer)

TO BE SUPPLIED TO: VARIOUS COUNCILS ACROSS NEW ZEALAND

(Building Consent Authority)

IN RESPECT OF: BOUNDARY DELTA 35 FENCE/BALUSTRADE

(Description of Building Work)

AT: VARIOUS LOCATIONS ACROSS NEW ZEALAND (EXCLUDING LEE ZONES)

(Address, Town/City)

LEGAL DESCRIPTION:

N/A ☐

We have been engaged by the owner/developer referred to above to provide (Extent of Engagement):

BOUNDARY DELTA 35 FENCE/BALUSTRADE FIXING AND MEMBER DESIGN (EXCLUDING LEE ZONES)

in respect of the requirements of the Clause(s) of the Building Code specified above for Part only, as specified in the Schedule, 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 (Verification method/acceptable solution) B1/VM1 F4/AS1 and/or;
- ☐ Alternative solution as per the attached Schedule.

The proposed building work covered by this producer statement is described on the drawings specified in the Schedule, together with the specification, and other documents set out in the Schedule.

On behalf of the Engineering Design Firm, and subject to:

- Site verification of the following design assumptions: SEE ATTACHED DOCUMENTS.
- All proprietary products meeting their performance specification requirements;

I believe on reasonable grounds that:

- the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the Schedule, will comply with the relevant provisions of the Building Code and that;
- the persons who have undertaken the design have the necessary competency to do so.

I recommend the CM 2 level of **construction monitoring**.

I, (Name of Engineering Design Professional) TINUS SMITH, am:

- ☒ CPEng number 1163700

and hold the following qualifications B.ENG, M.ENG

The Engineering Design Firm holds a current policy of Professional Indemnity Insurance no less than \$200,000

The Engineering Design Firm is not a member of ACE New Zealand.

SIGNED BY (Name of Engineering Design Professional): TINUS SMITH

(Signature below):



15/08/24 VALID

Date: TILL 14/08/25

ON BEHALF OF (Engineering Design Firm): STUDIO89 PTY LTD

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:

PS1 VALID FROM 15 AUG 2024 TO 15 AUG 2025

P.1 - Cover Page

P.2 - Barrier specification selection guide

P.3 - Boundaryline Durapanel Delta 35 Code: DDF1224 and DDR1224 1200 High

P.4 - Boundaryline Durapanel Fixing Designs For: Concrete in ground and Timber Retaining Wall (0.35 kN/m Horizontal Loading)

P.5 - Boundaryline Durapanel Fixing Designs For: Timber Retaining Wall (Double Board), Timber Deck, Concrete Deck (0.35kN/m Horizontal Loading)

P.6 - Boundaryline Durapanel Fixing Designs For: Concrete Wall, Masonry Wall (0.35 kN/m)

P.7-P.9 - Council PS1 Document

P.10 - Last Page

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 2011²

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 engineers³). 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:

- ¹ Conditions of Contract for Building & Civil Engineering Construction NZS 3910: 2013
- ² NZIA Standard Conditions of Contract SCC 2011
- ³ Guideline on the Briefing & Engagement for Consulting Engineering Services (ACE New Zealand/Engineering New Zealand 2004)
- ⁴ PN01 Guidelines on Producer Statements

www.acenz.org.nz

www.engineeringnz.org



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