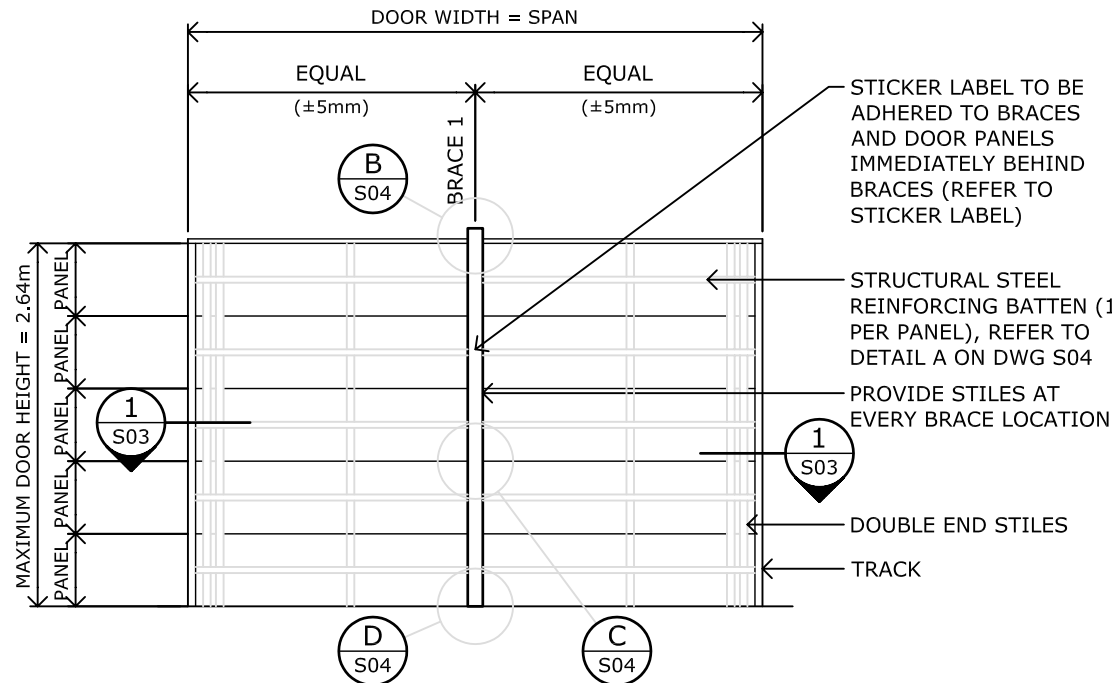


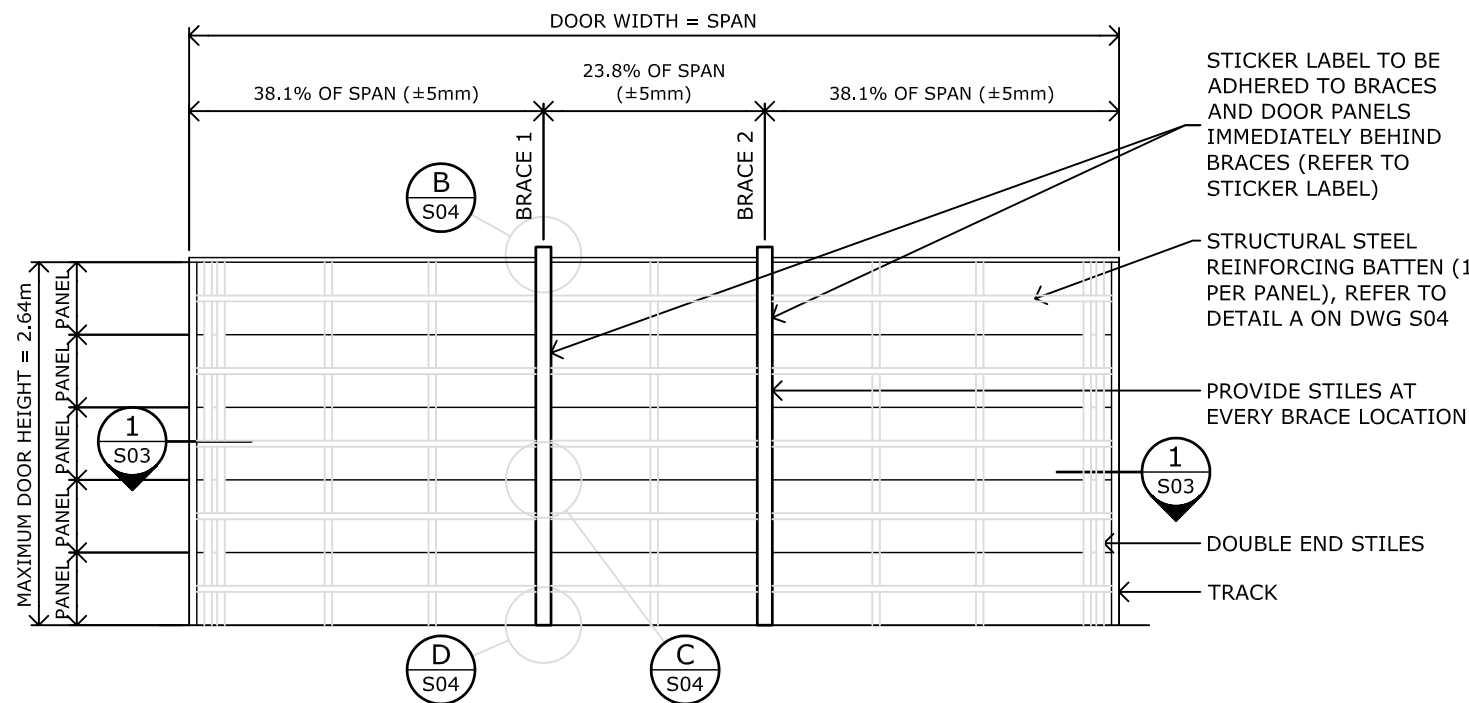
RC1 ELEVATION - B&D WINDPANEL  
TRACKLOCK DOOR UP TO 3.1m DOOR WIDTH

1:50



RC2 ELEVATION - B&D WINDPANEL™ DOOR  
3.105m TO 3.7m DOOR WIDTH (ONE BRACE)

1:50



RC3 ELEVATION - B&D WINDPANEL™ DOOR  
3.705m TO 6.15m DOOR WIDTH (TWO BRACES)

1:50

#### DESIGN CRITERIA:

(REFER ALSO TO NOTES COVERING BASIS OF DRAWINGS & LIMITATIONS)  
DOOR HEIGHT (RC1-3) = 2.64m MAX.  
DOOR HEIGHT (RD1-5) = 2.4m MAX.  
WIND RATING C2 (FOR RC1-3) AND C4 (FOR RD1-5) AS GIVEN IN TABLE 5.2 OF AS/NZS 4505:2012 OR APPROXIMATELY EQUAL TO THE FOLLOWING WIND RATING WHEN IN ACCORDANCE WITH AS/NZS 1170.2:2011.

#### FOR RC1-3 CONFIGURATIONS

- REGION C
- TERRAIN CATEGORY 2
- INTERNAL PRESSURE COEFFICIENTS CPI = (-0.3,+0.6)
- REGIONAL WIND SPEED  $V_R$  = 69.3m/s

#### FOR RD1-5 CONFIGURATIONS

- REGION D
- TERRAIN CATEGORY 1
- INTERNAL PRESSURE COEFFICIENTS CPI = (-0.3,+0.6)
- REGIONAL WIND SPEED  $V_R$  = 88m/s

THE MAXIMUM DESIGN WIND PRESSURES ARE NOT TO EXCEED THE FOLLOWING MAGNITUDES:

#### FOR RC1-3 CONFIGURATIONS

- FOR DOORS WIDTHS LESS THAN 4m
  - ULTIMATE DESIGN INWARD WIND PRESSURE = 2.92KPa.
  - ULTIMATE DESIGN OUTWARD WIND PRESSURE = 3.37KPa.
- FOR DOORS WIDTHS GREATER THAN 4m
  - ULTIMATE DESIGN INWARD WIND PRESSURE = 2.92KPa.
  - ULTIMATE DESIGN OUTWARD WIND PRESSURE = 3.04KPa.

#### FOR RD1-5 CONFIGURATIONS

- FOR DOOR WIDTHS LESS THAN 4m
  - ULTIMATE DESIGN INWARD WIND PRESSURE = 5.81KPa.
  - ULTIMATE DESIGN OUTWARD WIND PRESSURE = 6.69KPa.
- FOR DOOR WIDTHS GREATER THAN 4m
  - ULTIMATE DESIGN INWARD WIND PRESSURE = 5.81KPa.
  - ULTIMATE DESIGN OUTWARD WIND PRESSURE = 6.04KPa.

#### LIMITATIONS:

- STEEL ABUTMENT POST AND STEEL LINTEL TO BE 2.4mm (MIN.) AND 3.0mm (MIN.) THICK RESPECTIVELY, WITH A MINIMUM STRESS GRADE OF 250 MPa U.N.O.
- CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF BLOCK WALL UNIT ( $f_{uc}$ ) = 15 MPa (MIN.)
- CORE FILLING OF BLOCKWALL ( $f_c$ ) = 15 MPa (MIN.)

#### LIMITATIONS (continued):

- CONCRETE STRENGTH OF SLAB FOR BASE FLOOR FLANGE FIXING ( $f_c$ ) = 20 MPa.
- ALL DOOR COMPONENTS TO BE IN ACCORDANCE WITH STANDARD B&D WINDPANEL™ MANUFACTURING.
- DOOR INSTALLATION TO BE IN ACCORDANCE WITH STANDARD B&D WINDPANEL™ INSTALLATION GUIDELINES.
- WINDPANEL™ BRACES TO BE INSTALLED WHEN CYCLONE WARNING IS ISSUED.
- WINDPANEL™ BRACES ARE TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH MANUFACTURERS INSTALLATION GUIDELINES AND HANDLING PROCEDURES.
- THE STRUCTURE TO WHICH THE DOOR IS ATTACHED, INCLUDING LINTEL HEADS CEILING WIND BEAMS AND SUPPORT ABUTMENTS SHALL BE ASSESSED AND CERTIFIED INDEPENDENTLY AS REQUIRED BY A SUITABLY QUALIFIED ENGINEER.
- ALTERNATIVE DESIGN PARAMETERS TO WHAT ARE SPECIFIED ON THESE DRAWINGS ALONG WITH ALTERNATIVE SITE SPECIFIC LOCAL PRESSURE FACTORS MAY BE ADOPTED PROVIDED THE CALCULATED SITE SPECIFIC ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED THE ULTIMATE DESIGN WIND PRESSURE RATINGS SPECIFIED IN THE DESIGN CRITERIA.
- THE BUILDING DESIGN ENGINEER IS TO ENSURE THAT THE SITE SPECIFIC DESIGN WIND LOADINGS DO NOT EXCEED THE ULTIMATE DESIGN WIND PRESSURE RATINGS AS SPECIFIED IN THE DESIGN CRITERIA.
- DOORS MAY BE POSITIONED AT ANY LOCATION ALONG THE BUILDING ENVELOPE INCLUDING ALL LOCAL PRESSURE ZONES (ie. CORNERS OF BUILDINGS), PROVIDED THE CALCULATED SITE SPECIFIC ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED THE ULTIMATE DESIGN WIND PRESSURE RATINGS SPECIFIED IN THE DESIGN CRITERIA.
- NOTES COVERING BASIS OF DRAWINGS (RELEVANT TEST REPORTS etc)
- REPORT No's TS917 & TS811 Revision A (CYCLONE TESTING STATION, SCHOOL OF ENGINEERING AND PHYSICAL SCIENCES, JAMES COOK UNIVERSITY).
- PRINCIPLES OF MECHANICS.
- AS 1170.2:2011-STRUCTURAL DESIGN ACTIONS, PART 2:WIND ACTIONS.
- AS 1170.1:2002-STRUCTURAL DESIGN ACTIONS, PART 1:PERMANENT, IMPOSED AND OTHER ACTIONS.
- AS 1170.0:2002-STRUCTURAL DESIGN ACTIONS, PART 0:GENERAL PRINCIPLES.
- AS 4100:1998-STEEL STRUCTURES.
- AS 1720.1:2010-TIMBER STRUCTURES, PART 1:DESIGN METHODS.
- AS 4600:2005-COLD FORMED STEEL STRUCTURES.
- AS 3700:2001-MASONRY STRUCTURES
- AS 1664.1:1997-ALUMINIUM STRUCTURES, PART 1: LIMIT STATE DESIGN.
- AS/NZS 4505:2012 GARAGE DOORS AND OTHER LARGE ACCESS DOORS.
- AS 3600:2009 CONCRETE STRUCTURES.
- BUILDEX FASTENERS-TECHICAL SPECIFICATION.
- RAMSET-SPECIFIERS RESOURCE BOOK.
- REFER TO DESIGN CRITERIA & LIMITATIONS.

#### STICKER LABEL:

#### WARNING:

WINDPANEL™ BRACES ARE TO BE INSTALLED WHEN CYCLONE WARNING IS ISSUED. WINDPANEL™ BRACES ARE TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH B&D DOORS AND OPENERS QUICK REFERENCE GUIDE.

RC1 - REGION C, CONFIGURATION 1

RC2 - REGION C, CONFIGURATION 2

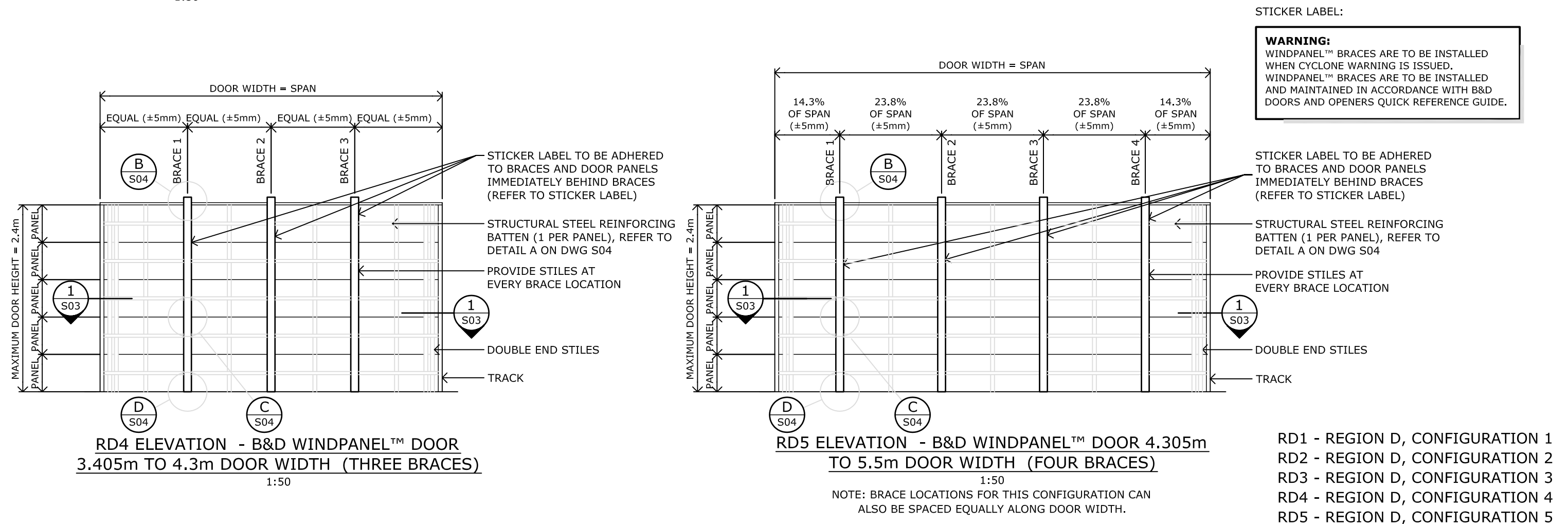
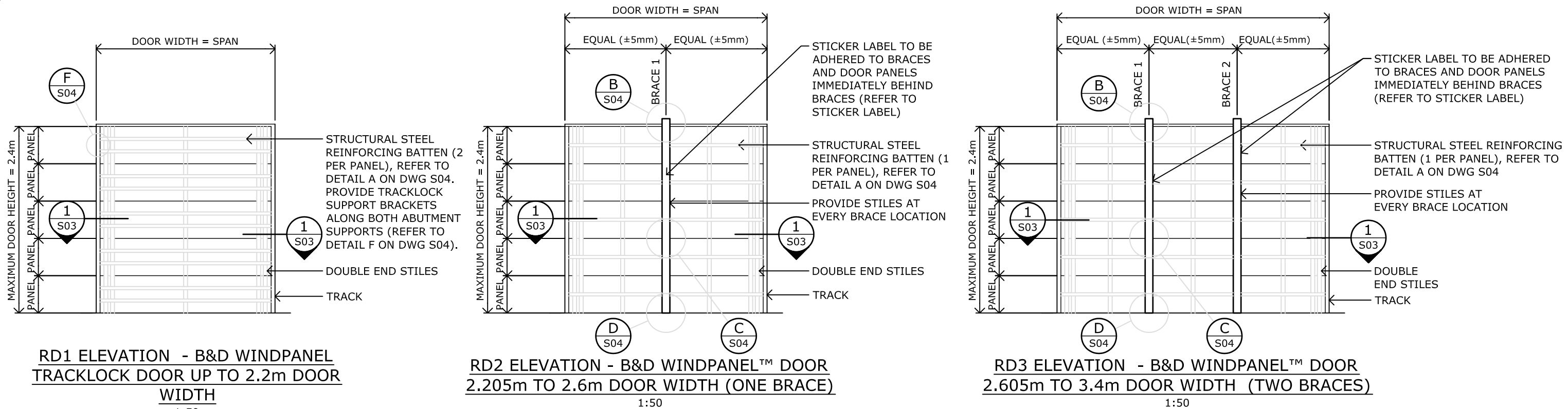
RC3 - REGION C, CONFIGURATION 3

ISSUE	DATE	AMENDMENTS
F	23.10.13	GENERAL REVISION
G	27.11.13	GENERAL REVISION
H	09.12.13	GENERAL REVISION
I	21.05.14	GENERAL REVISION
J	16.06.14	GENERAL REVISION

CLIENT	B&D AUSTRALIA PTY LTD
PROJECT	B&D WINDPANEL™ REINFORCED SECTIONAL DOOR WITH VERTICAL BRACES AND TRACKLOCK

DRAWING	SECTIONAL DOOR ELEVATIONS FOR USE IN WIND REGIONS C2
James Ellis & Associates	Consulting Structural Engineers
SCALE	DESIGNED J.E.
DRAWN AAB	CHECKED & APPROVED [Signature]
DATE	June 2014

DRAWING No.	S01 J
PROJECT No.	2191



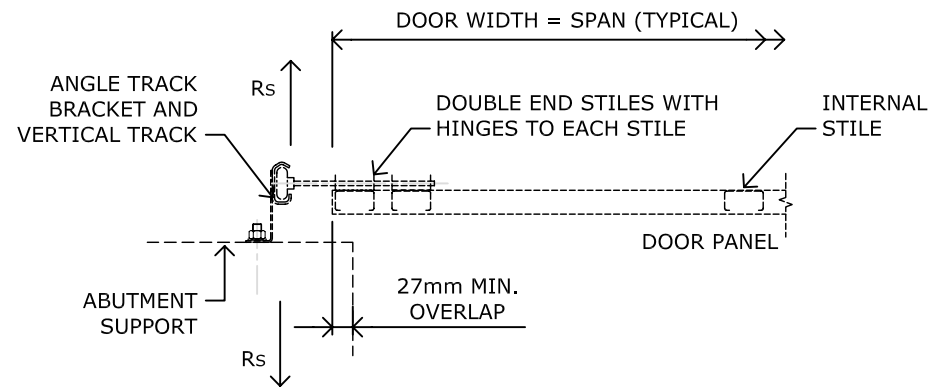
ISSUE	DATE	AMENDMENTS
F	23.10.13	GENERAL REVISION
G	27.11.13	GENERAL REVISION
H	09.12.13	GENERAL REVISION
I	21.05.14	GENERAL REVISION
J	16.06.14	GENERAL REVISION

CLIENT	B&D AUSTRALIA PTY LTD
PROJECT	B&D WINDPANEL™ REINFORCED SECTIONAL DOOR WITH VERTICAL BRACES AND TRACKLOCK

DRAWING	SECTIONAL DOOR ELEVATIONS FOR USE IN WIND REGIONS C4
	James Ellis & Associates Consulting Structural Engineers
SCALE	DESIGNED J.E.
	DRAWN AAB
	CHECKED & APPROVED [Signature]
	DATE June 2014

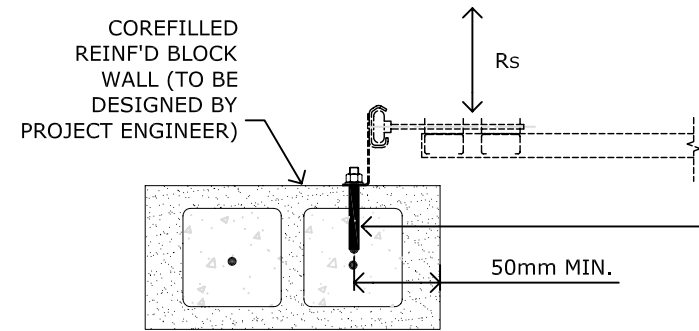
DRAWING No.	S02 J
PROJECT No.	2191

RD1 - REGION D, CONFIGURATION 1  
RD2 - REGION D, CONFIGURATION 2  
RD3 - REGION D, CONFIGURATION 3  
RD4 - REGION D, CONFIGURATION 4  
RD5 - REGION D, CONFIGURATION 5



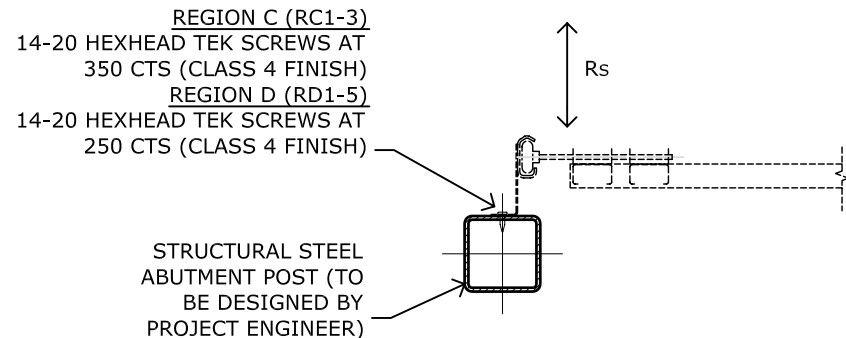
### SECTION 1 1

1:10  
PLAN OF END  
SUPPORT - GENERAL DETAIL  
NOTE: TRACKLOCK SUPPORT BRACKET NOT SHOWN



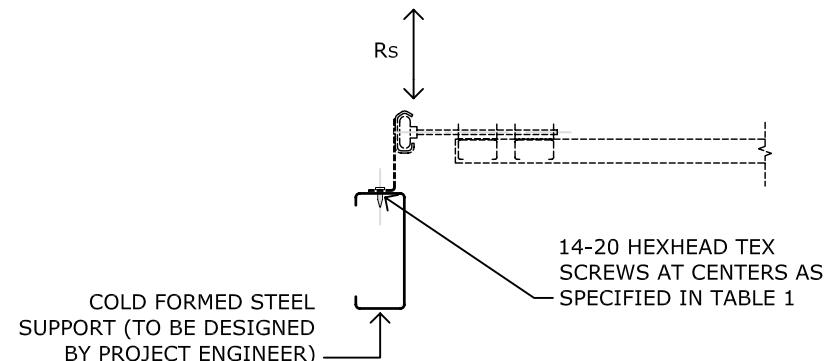
### SECTION 1 1

1:10  
PLAN OF TRACK  
FIXING TO REINFORCED  
COREFILLED BLOCKWORK ABUTMENT SUPPORTS.  
NOTE: TRACKLOCK SUPPORT BRACKET NOT SHOWN.



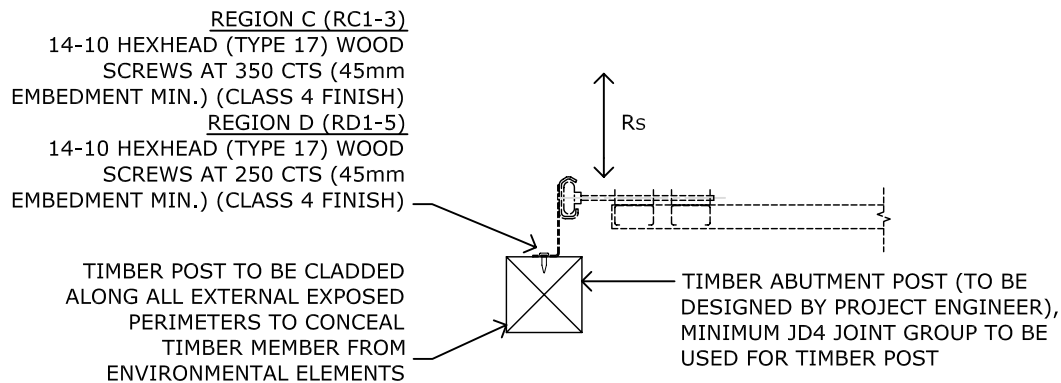
### SECTION 1 1

1:10  
PLAN OF TRACK  
FIXING TO STEEL ABUTMENT SUPPORT POST.  
NOTE: TRACKLOCK SUPPORT BRACKET NOT SHOWN



### SECTION 1 1

1:10  
PLAN OF TRACK  
FIXING TO COLD FORMED STEEL ABUTMENT SUPPORTS.  
NOTE: TRACKLOCK SUPPORT BRACKET NOT SHOWN.



### SECTION 1 1

1:10  
PLAN OF TRACK FIXING TO  
TIMBER ABUTMENT SUPPORT POST.  
NOTE: TRACKLOCK SUPPORT BRACKET NOT SHOWN

BRACE REACTION TABLE		
ULTIMATE DESIGN WIND LOADS		
	R <sub>b</sub> REACTION AT BASE OF BRACE (MAXIMUM PER BRACE)	R <sub>t</sub> REACTION AT TOP OF BRACE (MAXIMUM PER BRACE)
RC1	N/A	N/A
RC2	8.3kN	7.48kN
RC3	8.39kN	7.7kN
RD1	N/A	N/A
RD2	7.80kN	7.80kN
RD3	8.4kN	8.22kN
RD4	9.36kN	8.70kN
RD5	11.31kN	10.32kN

ABUTMENT LOAD TABLE	
ULTIMATE DESIGN WIND LOADS	
	RS (PER METRE HEIGHT)
RC1	5.22kN/m
RC2	3.25kN/m
RC3	3.25kN/m
RD1	7.36kN/m
RD2	6.10kN/m
RD3	5.17kN/m
RD4	4.10kN/m
RD5	3.37kN/m

TABLE 1

FASTENING SPECIFICATIONS ONTO COLD FORMED STEEL  
ABUTMENT SUPPORTS COMPLYING WITH AS 1397-1993

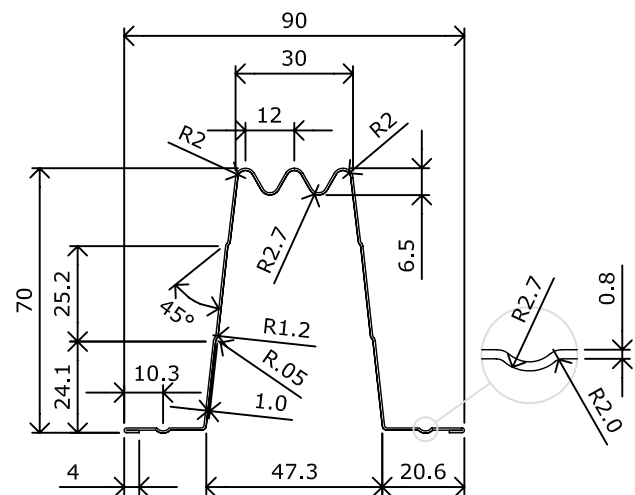
CONFIGURATIONS	MATERIAL THICKNESS (t)mm	GRADE	YIELD STRENGTH	TENSILE STRENGTH	SPACING (mm)
RC1-3	1mm	G550	550 MPa	550 MPa	250mm
RC1-3	1.2mm	G500	500 MPa	520 MPa	300mm
RC1-3	1.5mm	G450	450 MPa	480 MPa	350mm
RC1-3	1.9mm	G450	450 MPa	480 MPa	400mm
RD1-5	1mm	G550	550 MPa	550 MPa	150mm
RD1-5	1.2mm	G500	500 MPa	520 MPa	200mm
RD1-5	1.5mm	G450	450 MPa	480 MPa	250mm
RD1-5	1.9mm	G450	450 MPa	480 MPa	300mm

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CLIENT	B&D AUSTRALIA PTY LTD
PROJECT	B&D WINDPANEL™ REINFORCED SECTIONAL DOOR WITH VERTICAL BRACES AND TRACKLOCK

DRAWING	SECTIONS AND TABLES	SCALE
		DESIGNED J.E.
	James Ellis & Associates	DRAWN AAB
	Consulting Structural Engineers	CHECKED & APPROVED [Signature]
		DATE June 2014

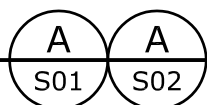
DRAWING No.	S03 J
PROJECT No.	2191



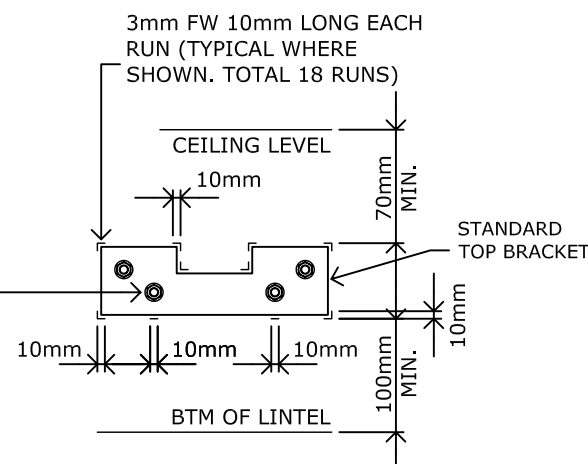
## DETAIL

1:2

STRUCTURAL STEEL  
REINFORCING BATTEN - CROSS  
SECTION - ELEVATION (TYPICAL)  
MATERIAL: 0.7mm G550 GALVABOND



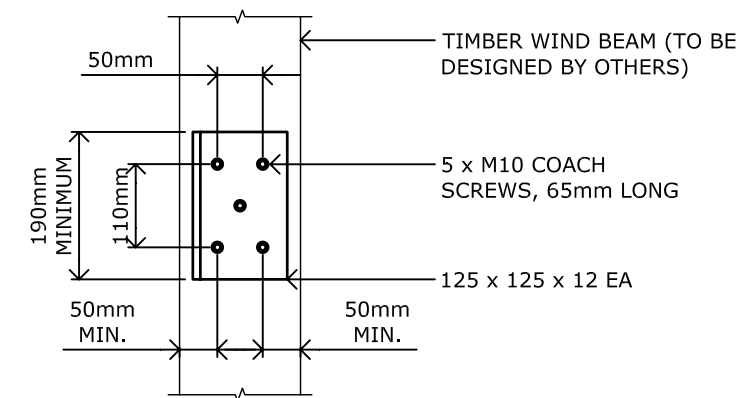
**FASTENING INTO STEEL LINTEL**  
4 x (14-20) HEX HEAD TEK SCREWS  
(CLASS 4 FINISH) WITH Ø17 WASHER or  
3mm FILLET WELDS (REFER SECTION B1).  
**FASTENING INTO CORE FILLED  
REINFORCED BLOCKWALL**  
4.M8 (RAMSET) GALV. ANKASCREWS  
(60mm EMBEDMENT).  
**FASTENING INTO TIMBER LINTEL**  
4 x 14-10 HEX HEAD (TYPE 17) WOOD  
SCREWS WITH Ø17 WASHERS (50mm  
EMBEDMENT) (CLASS 4 FINISH)



## SECTION

B1

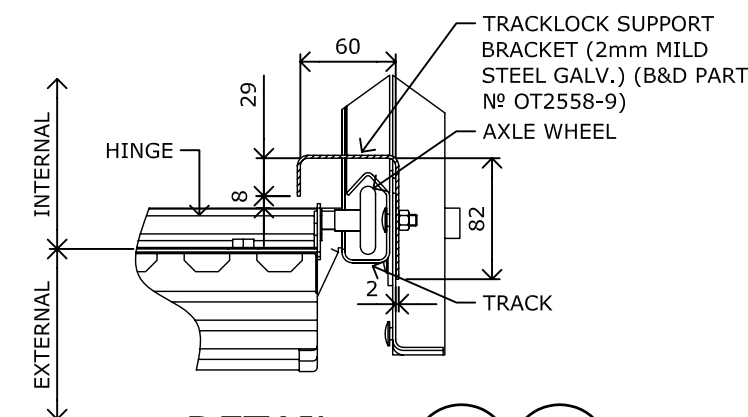
1:10  
TOP BRACKET FIXING  
DETAIL (ELEVATION).  
NOTE: PROTRUDING LIP OF TOP BRACKET  
NOT SHOWN FOR CLARITY PURPOSES



## SECTION

E

1:10



## DETAIL

F

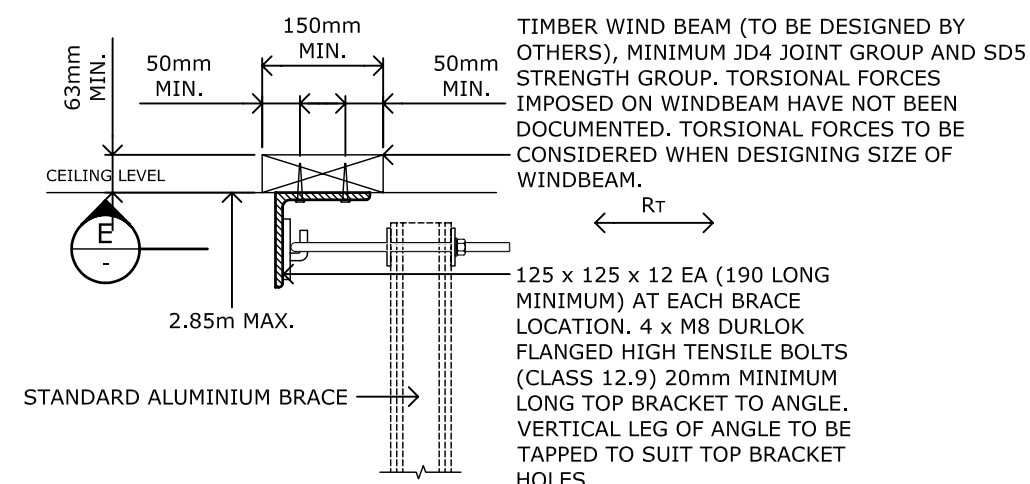
1:5

S01

S02

## TRACKLOCK SUPPORT BRACKET - PART PLAN (CROSS SECTION)

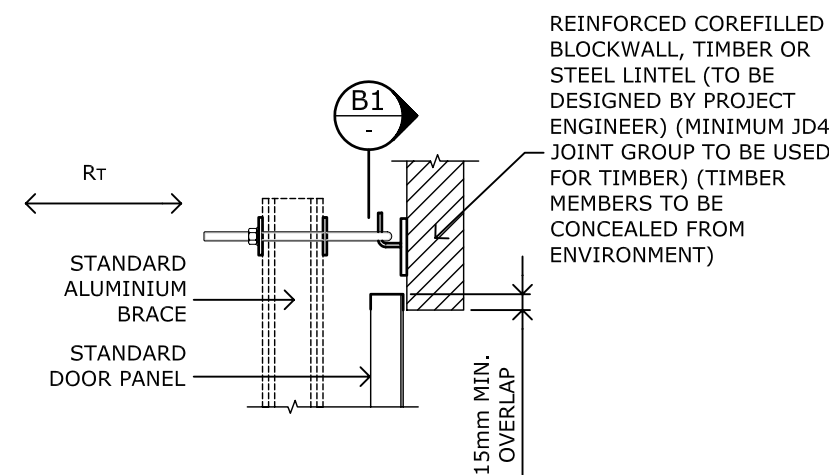
NOTE: DETAIL TO APPLY TO RC1 AND RD1 ONLY



## ALTERNATIVE - TOP BRACKET FIXING DETAIL (ELEVATION)

TO BE APPLIED TO RC1-3 ONLY

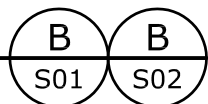
1:10



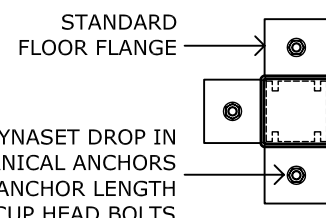
## DETAIL

1:10

ALUMINIUM BRACE  
TO TOP BRACKET - ELEVATION (TYPICAL)



REINFORCED COREFILLED  
BLOCKWALL, TIMBER OR  
STEEL LINTEL (TO BE  
DESIGNED BY PROJECT  
ENGINEER) (MINIMUM JD4  
JOINT GROUP TO BE USED  
FOR TIMBER) (TIMBER  
MEMBERS TO BE  
CONCEALED FROM  
ENVIRONMENT)

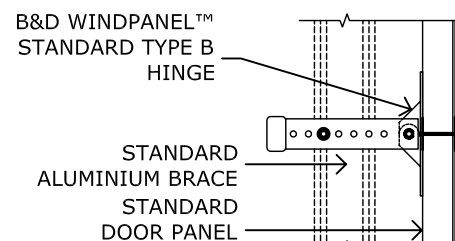


## SECTION

D1

1:10

PLAN - FLOOR FLANGE  
BASE FIXING DETAIL

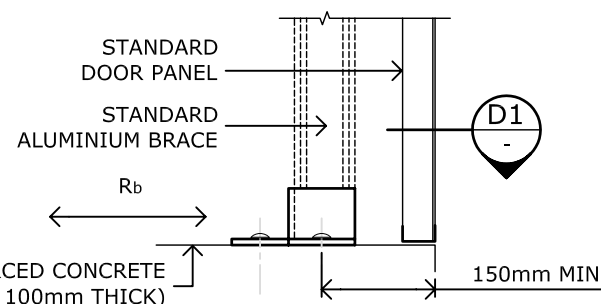
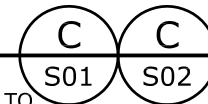


## DETAIL

C

1:10

ALUMINIUM BRACE TO  
PANEL INTERSECTIONS  
TYPICAL (ELEVATION)

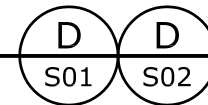


## DETAIL

D

1:10

ALUMINIUM BRACE  
TO CONCRETE SLAB BASE - ELEVATION (TYPICAL)



CLIENT

B&D AUSTRALIA PTY LTD

PROJECT

B&D WINDPANEL™ REINFORCED SECTIONAL DOOR  
WITH VERTICAL BRACES AND TRACKLOCK

DRAWING

TYPICAL SECTIONS, PLANS, ELEVATIONS AND  
DETAILS OF BRACED SECTIONAL DOOR COMPONENTS

James Ellis & Associates

Consulting Structural Engineers

SCALE

DESIGNED J.E.

DRAWN AAB

CHECKED & APPROVED

DATE June 2014

DRAWING No.

S04 J

PROJECT No.

2191

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F	23.10.13	GENERAL REVISION
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