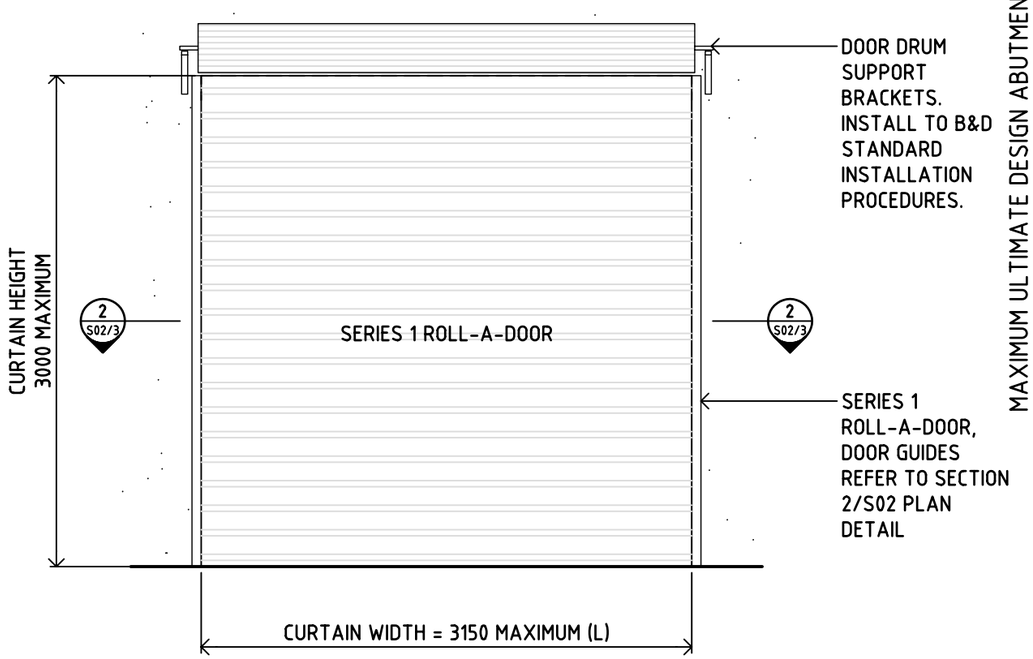


SERIES 1 ROLL-A-DOOR ELEVATION - TYPICAL

SCALE 1:50

NOTE:

- CURTAIN HEIGHT = OPENING HEIGHT
- OPENING WIDTH = CURTAIN WIDTH - CURTAIN OVERLAP (REFER SECTION 2 ON DRAWINGS S02 AND S03)

NOTE: CURTAIN WIDTH = OPENING WIDTH + CURTAIN OVERLAP

MAXIMUM ULTIMATE DESIGN ABUTMENT CATENARY FORCE Fx (PER METRE HEIGHT) FOR VARIOUS SPANS IN REGION C, TC2 FOR A DESIGN WIND PRESSURE OF 3.26 kPa

NOTE 1: $Fy = \frac{WL}{2}$

WHERE Fy = MAXIMUM OUT OF PLANE ULTIMATE DESIGN ABUTMENT FORCE (PER METRE HEIGHT)

W = ULTIMATE DESIGN WIND PRESSURE (kPa)

L = CURTAIN WIDTH (SPAN) (m)

NOTES :

DESIGN CRITERIA

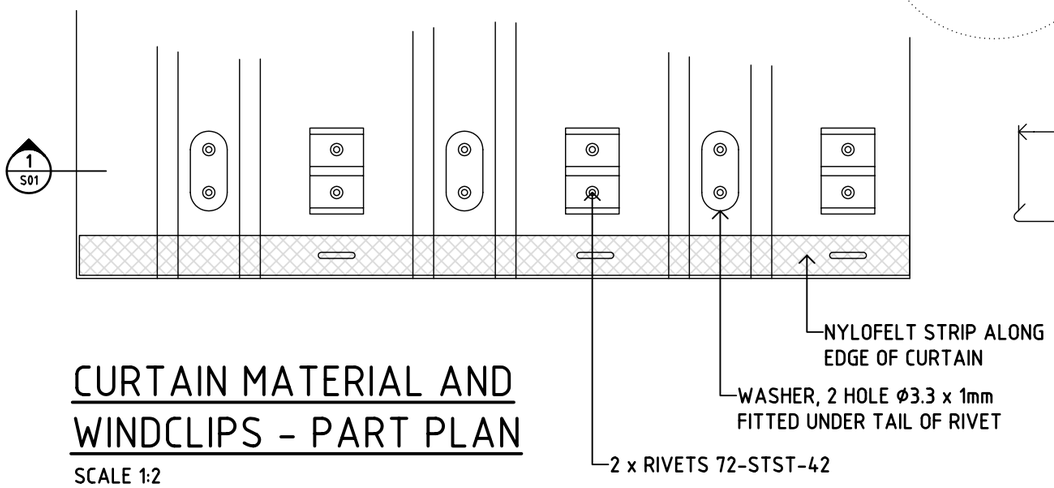
- (REFER ALSO TO NOTES COVERING BASIS OF DRAWINGS & LIMITATIONS)
- REGION C
- TERRAIN CATEGORY 2
- DOOR HEIGHT 3.0M MAX.
- INTERNAL PRESSURE COEFFICIENTS, Cpi = (-0.3,+0.6) NOMINAL
- BUILDING IMPORTANCE = LEVEL 2
- REGION WINDSPEED VR = 69.3m/s
- DOORS ARE RATED UP TO AN ULTIMATE DESIGN WIND PRESSURE = 3.26 kPa FOR A MAXIMUM ALLOWABLE CURTAIN WIDTH (L) OF 3150mm.

LIMITATIONS

- ((REFER ALSO TO NOTES COVERING BASIS OF DRAWINGS AND DESIGN CRITERIA).
- STEEL ABUTMENT POSTS TO BE 2.4mm (MIN.) IN THICKNESS WITH A MINIMUM STRESS GRADE OF G250 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.).
- THE STRUCTURE TO WHICH THE DOOR IS ATTACHED 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 ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED 3.26 kPa.
- THE BUILDING DESIGN ENGINEER IS TO ENSURE THAT THE SITE SPECIFIC DESIGN WIND LOADINGS DO NOT EXCEED THE ULTIMATE DESIGN WIND PRESSURE RATING OF 3.26 kPa.
- DOORS MAY BE POSITIONED AT ANY LOCATION ALONG THE BUILDING ENVELOPE INCLUDING ALL LOCAL PRESSURE ZONES (ie. CORNERS OF BUILDINGS), PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED 3.26 kPa.

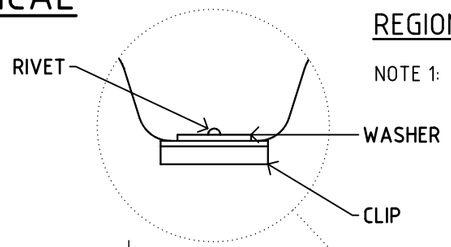
NOTES COVERING BASIS OF DRAWINGS

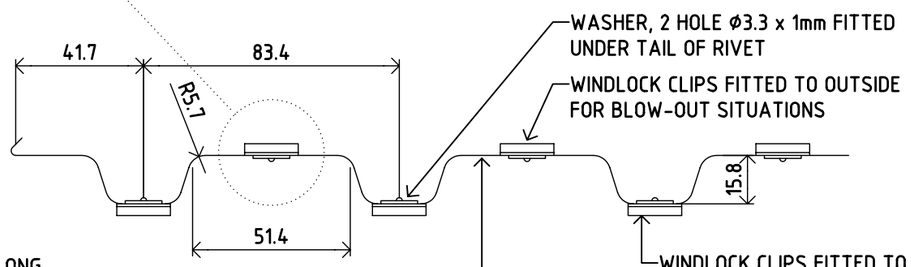
- TEST REPORT NO. TS894 REVISION A (CYCLONE TESTING STATION, SCHOOL OF ENGINEERING AND PHYSICAL SCIENCES, JAMES COOK UNIVERSITY).
- PRINCIPLES OF MECHANICS.
- AS/NZS 1170.2:2011 STRUCTURAL DESIGN ACTIONS-PART 2: WIND ACTIONS.
- AS/NZS 1170.0:2002 STRUCTURAL DESIGN ACTIONS-PART 0:GENERAL PRINCIPLES.
- AS/NZS 4505:2012 GARAGE DOORS AND OTHER LARGE ACCESS DOORS.
- AS 4100:1998 STEEL STRUCTURES.
- AS 3700:2001 MASONRY STRUCTURES.
- AS/NZS 1170.1:2002 STRUCTURAL DESIGN ACTIONS - PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS.
- AS/NZS 4600:2005 COLD FORMED STRUCTURES.
- AS/NZS 1664.1:1997 ALUMINIUM STRUCTURES PART 1: LIMIT STATE DESIGN.
- AS 1720.1-2010 TIMBER STRUCTURES PART 1:DESIGN METHODS.
- THE SERIES 1 ROLL-A-DOORS INCLUDE THE FOLLOWING B&D PRODUCT/MODEL NAMES:
  a) SQUARELINE™ DELUXE ROLL-A-DOOR® (MODEL R1D)
  b) FIRMADOOR (MODEL R1F)
  c) ROLLMASTA (MODEL R1R)
  d) ROLL-A-DOOR™ MINI WAREHOUSE MODEL (MODEL R1M)
  e) ROLL-A-DOOR™ MINI WAREHOUSE (R1ME)
- ALL DOOR COMPONENTS TO BE IN ACCORDANCE WITH STANDARD B&D SERIES 1 ROLL-A-DOOR MANUFACTURING.
- DOOR INSTALLATION TO BE IN ACCORDANCE WITH STANDARD B&D SERIES 1 ROLL-A-DOOR INSTALLATION GUIDELINES.



CURTAIN MATERIAL AND WINDCLIPS - PART PLAN

SCALE 1:2





SECTION 1 / -

SCALE = 1:2

ISSUE	DATE	AMENDMENTS
E	13.05.13	ISSUED FOR CONSTRUCTION
F	16.06.13	GENERAL REVISION
G	09.07.13	GENERAL REVISION
H	01.11.13	GENERAL REVISION
J	02.06.14	GENERAL REVISION

CLIENT: B&D AUSTRALIA PTY LTD

PROJECT: B&D SERIES 1 ROLL-A-DOOR (WINDLOCKED) FOR USE IN WIND REGION C, TC2

DRAWING: SERIES 1 ROLL-A-DOOR ELEVATION, PART PLAN, SECTION DETAIL, GRAPH AND NOTES

James Ellis & Associates
Consulting Structural Engineers

SCALE

DESIGNED J.E.

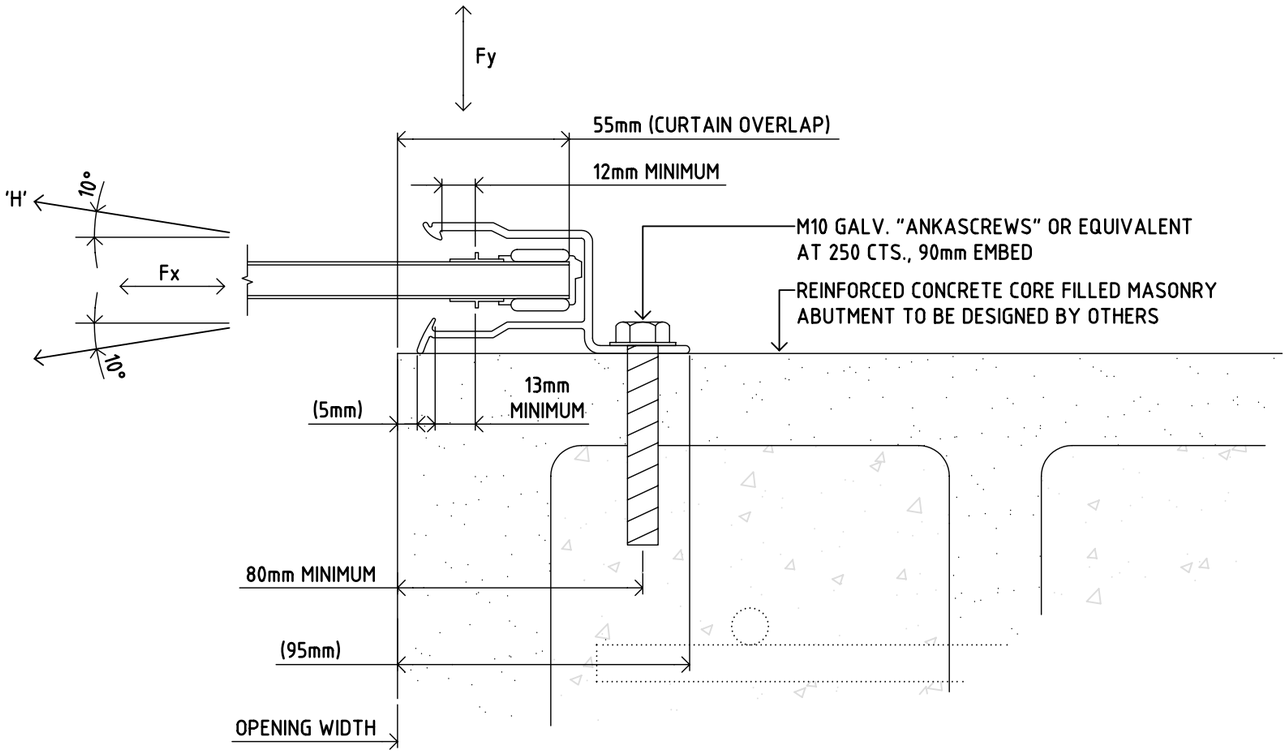
DRAWN AAB

CHECKED& APPROVED

DATE June 2014

DRAWING No. S01 J

PROJECT No. 2212



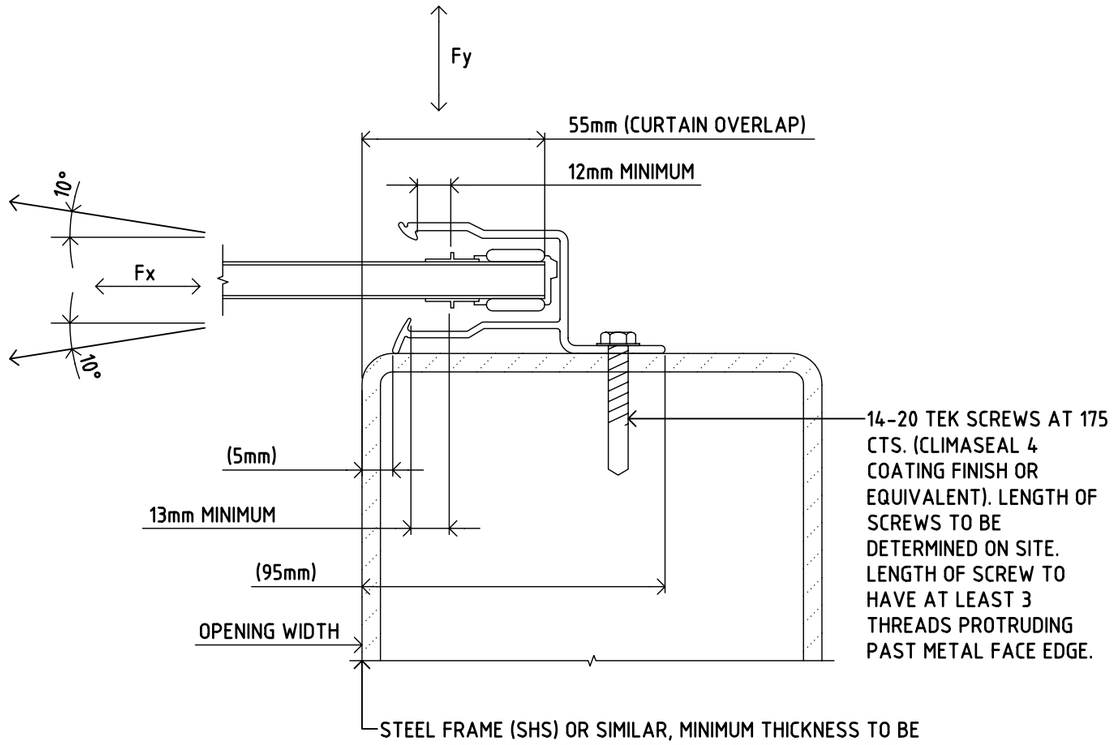
SECTION 2/S01 PLAN

SCALE = 1:2

GUIDE SUPPORTED BY REINFORCED CONCRETE CORE FILLED MASONRY UNITS FOR A DOOR SPAN OF 3150mm IN REGION C TC2 FOR A DESIGN WIND PRESSURE OF 3.26 kPa.

NOTE:

- THE ABOVE FIXING DETAIL HAS BEEN BASED ON A MAXIMUM DESIGN SPAN OF 3150mm.
- FIXINGS INTO REINFORCED CONCRETE CORE FILLED BLOCK WALL ABUTMENTS HAVE BEEN DESIGNED USING THE RAMSET-SPECIFIERS RESOURCE BOOK.
- THE FOLLOWING CODES OF PRACTICE WERE ALSO CONSIDERED IN THE DESIGN OF THE ABOVE FIXING DETAIL:
  - AS/NZS 1664.1:1997 ALUMINIUM STRUCTURES PART 1: LIMIT STATE DESIGN.
  - AS 3700-2001 MASONRY STRUCTURES



SECTION 2/S01 PLAN

SCALE = 1:2

GUIDE SUPPORTED BY STEEL FRAME FOR A DOOR SPAN OF 3150mm IN REGION C TC2 FOR A DESIGN WIND PRESSURE OF 3.26 kPa.

NOTE:

- THE ABOVE FIXING DETAIL HAS BEEN BASED ON A MAXIMUM DESIGN SPAN OF 3150mm.
- FIXINGS INTO STRUCTURAL STEEL ABUTMENTS HAVE BEEN DESIGNED USING TECHNICAL DATA PROVIDED BY BUILDEX FASTERNERS.
- THE FOLLOWING CODES OF PRACTICE WERE ALSO CONSIDERED IN THE DESIGN OF THE ABOVE FIXING DETAIL:
  - AS 4100:1998 STEEL STRUCTURES.
  - AS/NZS 4600:2005 COLD FORMED STEEL STRUCTURES
  - AS/NZS 1664.1:1997 ALUMINIUM STRUCTURES PART 1:LIMIT STATE DESIGN.

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H	01.11.13	GENERAL REVISION
J	02.06.14	GENERAL REVISION

CLIENT: B&D AUSTRALIA PTY LTD

PROJECT: B&D SERIES 1 ROLL-A-DOOR (WINDLOCKED) FOR USE IN WIND REGION C, TC2

DRAWING: SERIES 1 ROLL-A-DOOR SUPPORT SECTION DETAILS

James Ellis & Associates
Consulting Structural Engineers

SCALE

DESIGNED J.E.

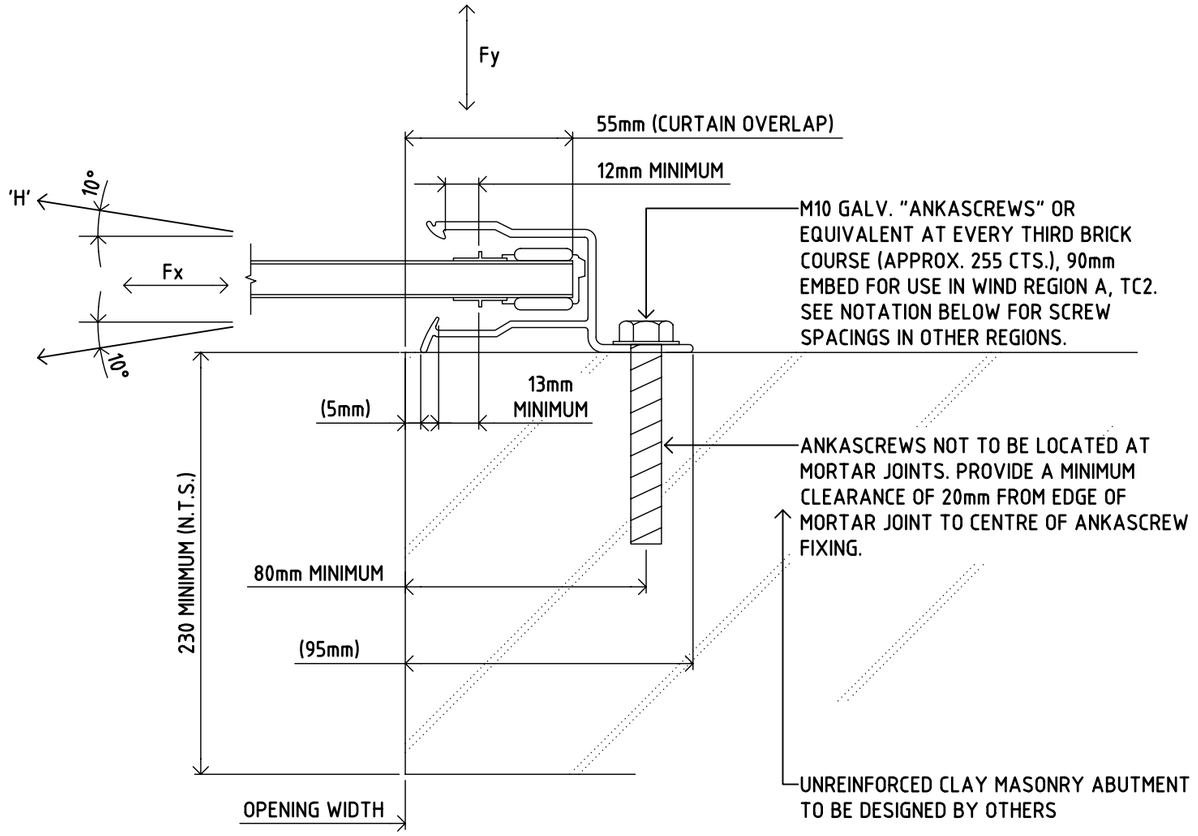
DRAWN AAB

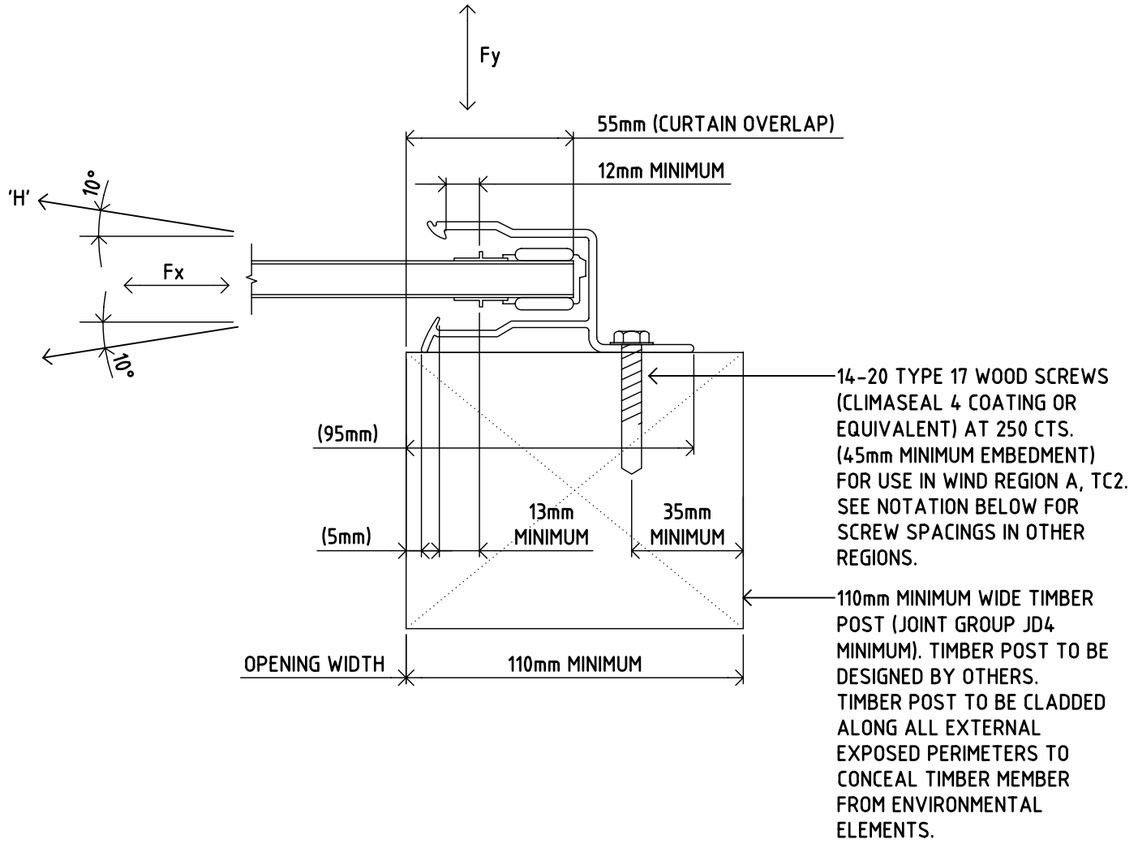
CHECKED& APPROVED

DATE June 2014

DRAWING No. S02 J

PROJECT No. 2212





SECTION 2/S01 PLAN

SCALE = 1:2

GUIDE SUPPORTED BY UNREINFORCED CLAY MASONRY WALLS FOR A DOOR SPAN OF 3150mm IN REGION A TC2 FOR A DESIGN WIND PRESSURE OF 1.18 kPa

NOTE: IN WIND REGION B, TC2 FOR A DESIGN WIND PRESSURE OF 1.89kPa, ANKASCREWS TO BE SPACED AT EVERY SECOND BRICK COURSE (APPROX. 170 CTS.)
IN WIND REGION C, TC2 FOR A DESIGN WIND PRESSURE OF 3.26 kPa ANKASCREWS TO BE SPACED AT EVERY BRICK COURSE (APPROX. 85 CTS.).

NOTE:

- THE ABOVE FIXING DETAIL HAS BEEN BASED ON A MAXIMUM DESIGN SPAN OF 3150mm.
- FIXINGS INTO UNREINFORCED CLAY MASONRY ABUTMENTS HAVE BEEN DESIGNED USING THE RAMSET-SPECIFIERS RESOURCE BOOK.
- THE FOLLOWING CODES OF PRACTICE WERE ALSO CONSIDERED IN THE DESIGN OF THE ABOVE FIXING DETAIL:
  AS/NZS 1664.1:1997 ALUMINIUM STRUCTURES PART 1: LIMIT STATE DESIGN.
  AS 3700-2001 MASONRY STRUCTURES

SECTION 2/S01 PLAN

SCALE = 1:2

GUIDE SUPPORTED BY TIMBER FRAMED WALLS FOR A DOOR SPAN OF 3150mm IN REGION A TC2 FOR A DESIGN WIND PRESSURE OF 1.18 kPa.

NOTE: IN WIND REGION B, TC2 FOR A DESIGN WIND PRESSURE OF 1.89kPa
WOOD SCREWS TO BE SPACED AT 175 CTS.
IN WIND REGION C, TC2 FOR A DESIGN WIND PRESSURE OF 3.26 kPa
WOOD SCREWS TO BE SPACED AT 100 CTS.

NOTE:

- THE ABOVE FIXING DETAIL HAS BEEN BASED ON A MAXIMUM DESIGN SPAN OF 3150mm.
- FIXINGS INTO TIMBER FRAMED ABUTMENTS HAVE BEEN DESIGNED USING TECHNICAL DATA PROVIDED BY BUILDEX FASTERNERS.
- THE FOLLOWING CODES OF PRACTICE WERE ALSO CONSIDERED IN THE DESIGN OF THE ABOVE FIXING DETAIL:
  AS 1720.1-2010 TIMBER STRUCTURES PART 1:DESIGN METHODS.
  AS/NZS 1664.1:1997 ALUMINIUM STRUCTURES PART 1:LIMIT STATE DESIGN.

ISSUE	DATE	AMENDMENTS
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J	02.06.14	GENERAL REVISION

CLIENT: B&D AUSTRALIA PTY LTD

PROJECT: B&D SERIES 1 ROLL-A-DOOR (WINDLOCKED)
FOR USE IN WIND REGION C, TC2

DRAWING: SERIES 1 ROLL-A-DOOR
SUPPORT SECTION DETAIL

James Ellis & Associates
Consulting Structural Engineers

SCALE
DESIGNED J.E.
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CHECKED& APPROVED
DATE June 2014

DRAWING No. S03 J

PROJECT No. 2212

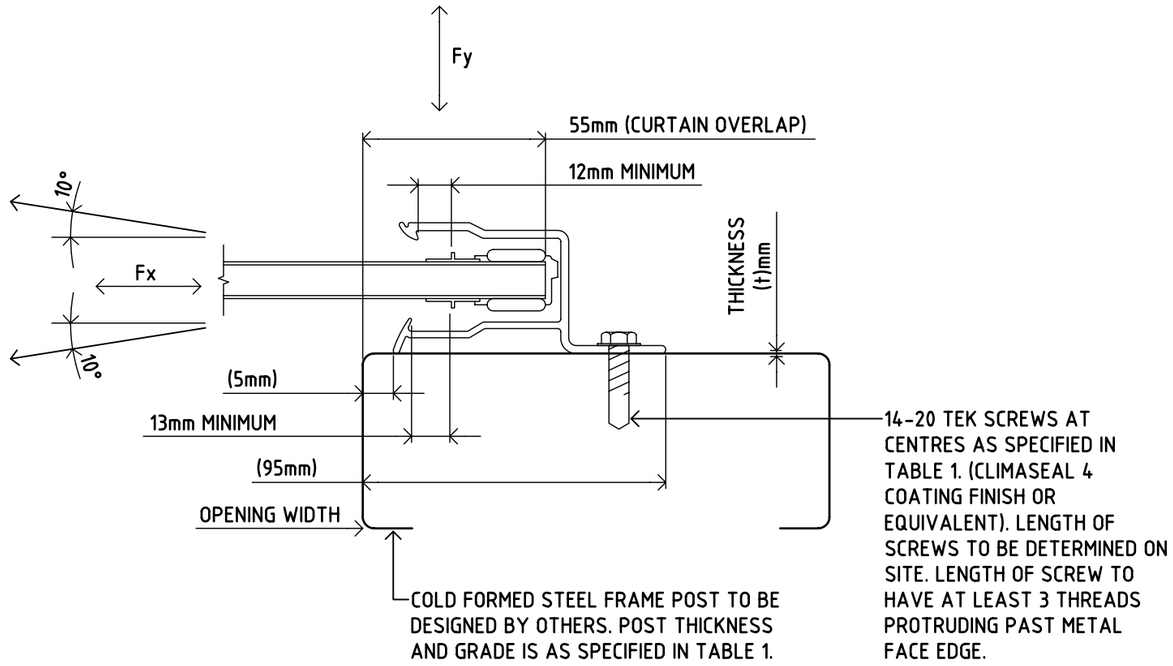

TABLE 1

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

THICKNESS (t)mm	GRADE	YIELD STRENGTH	TENSILE STRENGTH	SPACING (mm)
1mm	G550	550 MPa	550 MPa	125mm
1.2mm	G500	500 MPa	520 MPa	150mm
1.5mm	G450	450 MPa	480 MPa	175mm
1.9mm	G450	450 MPa	480 MPa	175mm

SECTION 2/S01 PLAN
SCALE = 1:2

GUIDE SUPPORTED BY COLD FORMED STEEL FRAME FOR A DOOR SPAN OF 3150mm IN REGION C TC2 FOR A DESIGN WIND PRESSURE OF 3.26 KPa.

NOTE:

- THE ABOVE FIXING DETAIL HAS BEEN BASED ON A MAXIMUM DESIGN SPAN OF 3150mm.
- FIXINGS ONTO COLD FORMED STEEL ABUTMENTS HAVE BEEN DESIGNED USING TECHNICAL DATA PROVIDED BY BUILDEX FASTENERS.
- THE FOLLOWING CODES OF PRACTICE WERE ALSO CONSIDERED IN THE DESIGN OF THE ABOVE FIXING DETAIL:
  AS/NZS 4600:2005 COLD FORMED STEEL STRUCTURES
  AS/NZS 1664.1:1997 ALUMINIUM STRUCTURES PART 1:LIMIT STATE DESIGN.

ISSUE	DATE	AMENDMENTS
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CLIENT: B&D AUSTRALIA PTY LTD

PROJECT: B&D SERIES 1 ROLL-A-DOOR (WINDLOCKED) FOR USE IN WIND REGION C, TC2

DRAWING: SERIES 1 ROLL-A-DOOR SUPPORT SECTION DETAIL

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Consulting Structural Engineers

SCALE
DESIGNED J.E.
DRAWN AAB
CHECKED& APPROVED
DATE June 2014

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PROJECT No. 2212