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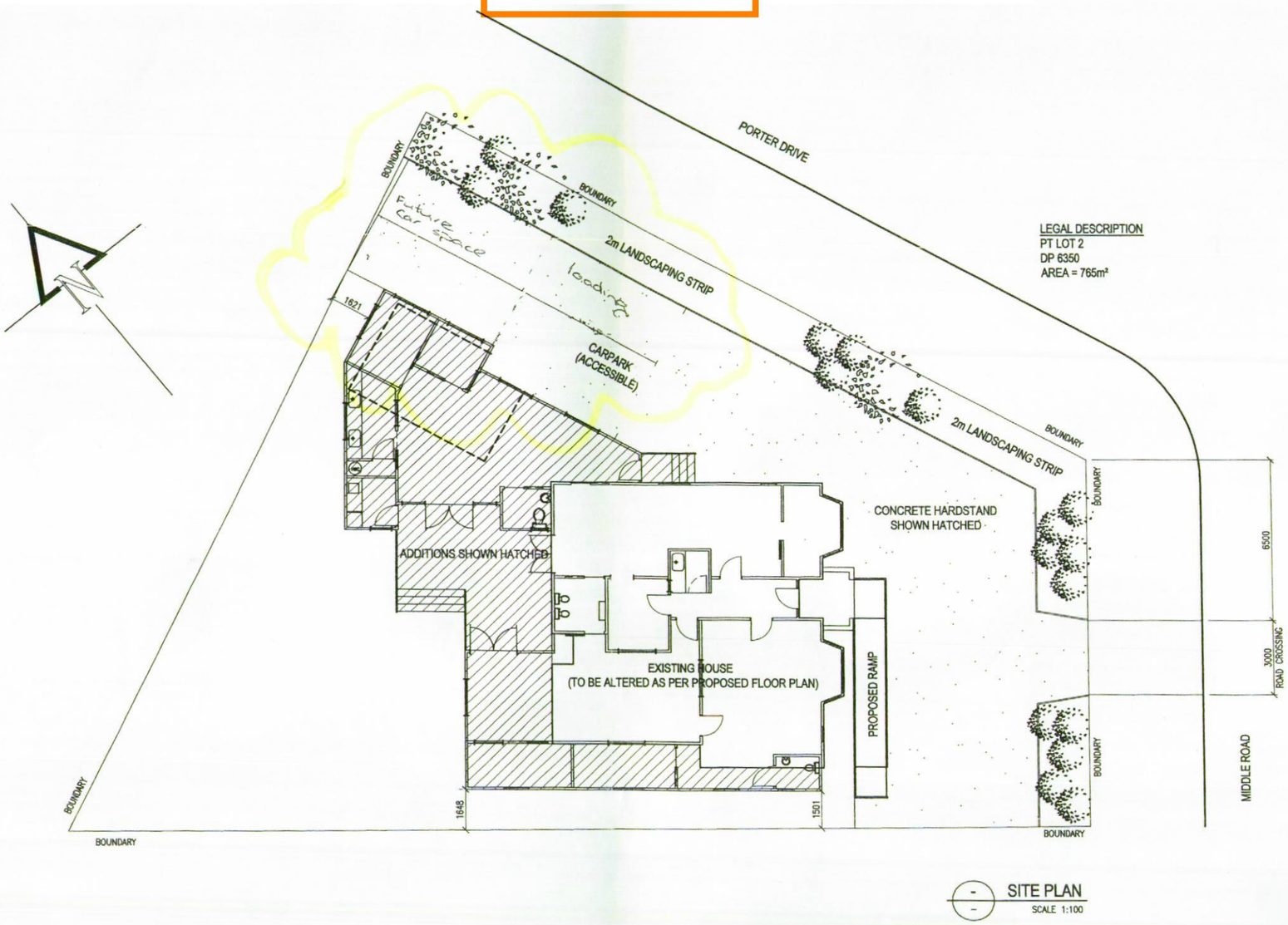

SITE PLAN
SCALE 1:100

LEGAL DESCRIPTION
PT LOT 2
DP 6350
AREA = 765m²

REV	DATE	BY	REASON
0	22.7.11	MF	FOR BUILDING CONSENT

CARPARKING
OK to Submit
9/8/2011.

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Project Details

PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

Sheet Title

SITE PLAN

Drawn	Scale	
MF	1:100	(ON A1)
Approved	Filename	
MF	11032	

Job No	Sheet No	Rev
11032	S01	0

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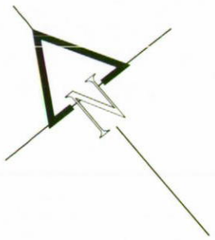

SITE COVERAGE

LAND AREA = 765m²
BUILDING AREA (TO EAVES) = 257m²
SITE COVERAGE = 33%

LEGAL DESCRIPTION
PT LOT 2
DP 6350
AREA = 765m²

SITE PLAN
SCALE 1:100

VEHICLE CROSSING AS AGREED ON SITE WITH SIMON ROBSON

REV	DATE	BY	REASON
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PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

Sheet Title

SITE PLAN

Drawn	Scale	
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Approved MF	Filename 11032	
Job No	Sheet No	Rev
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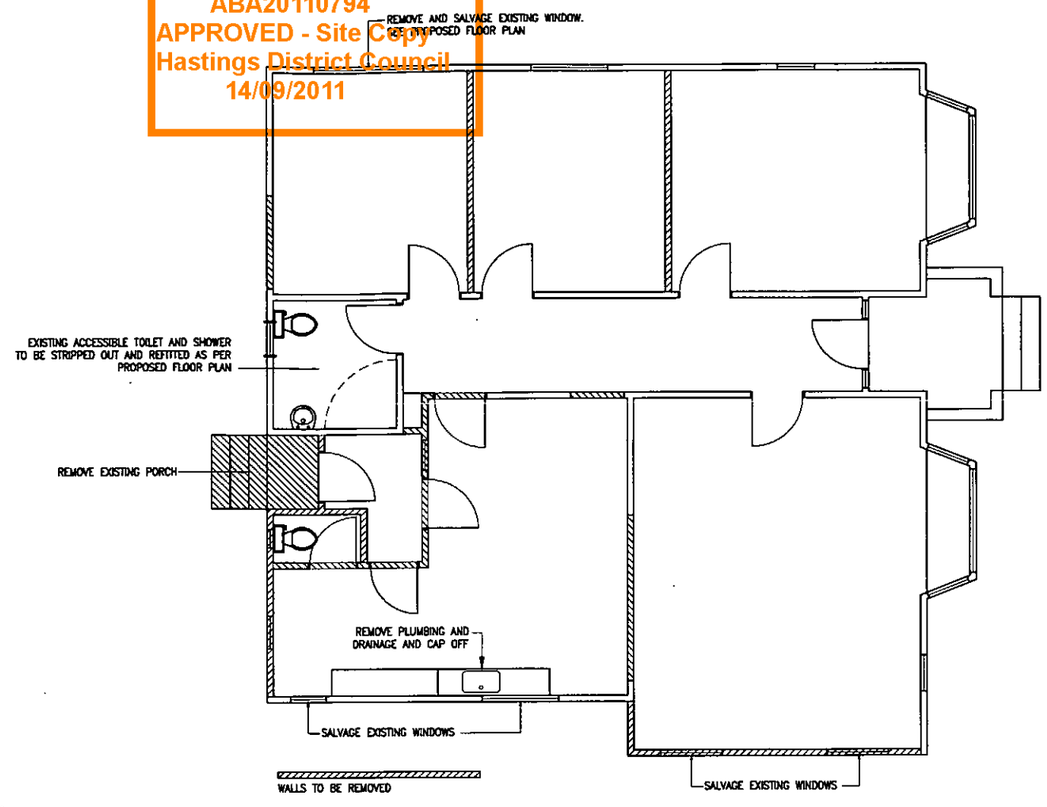
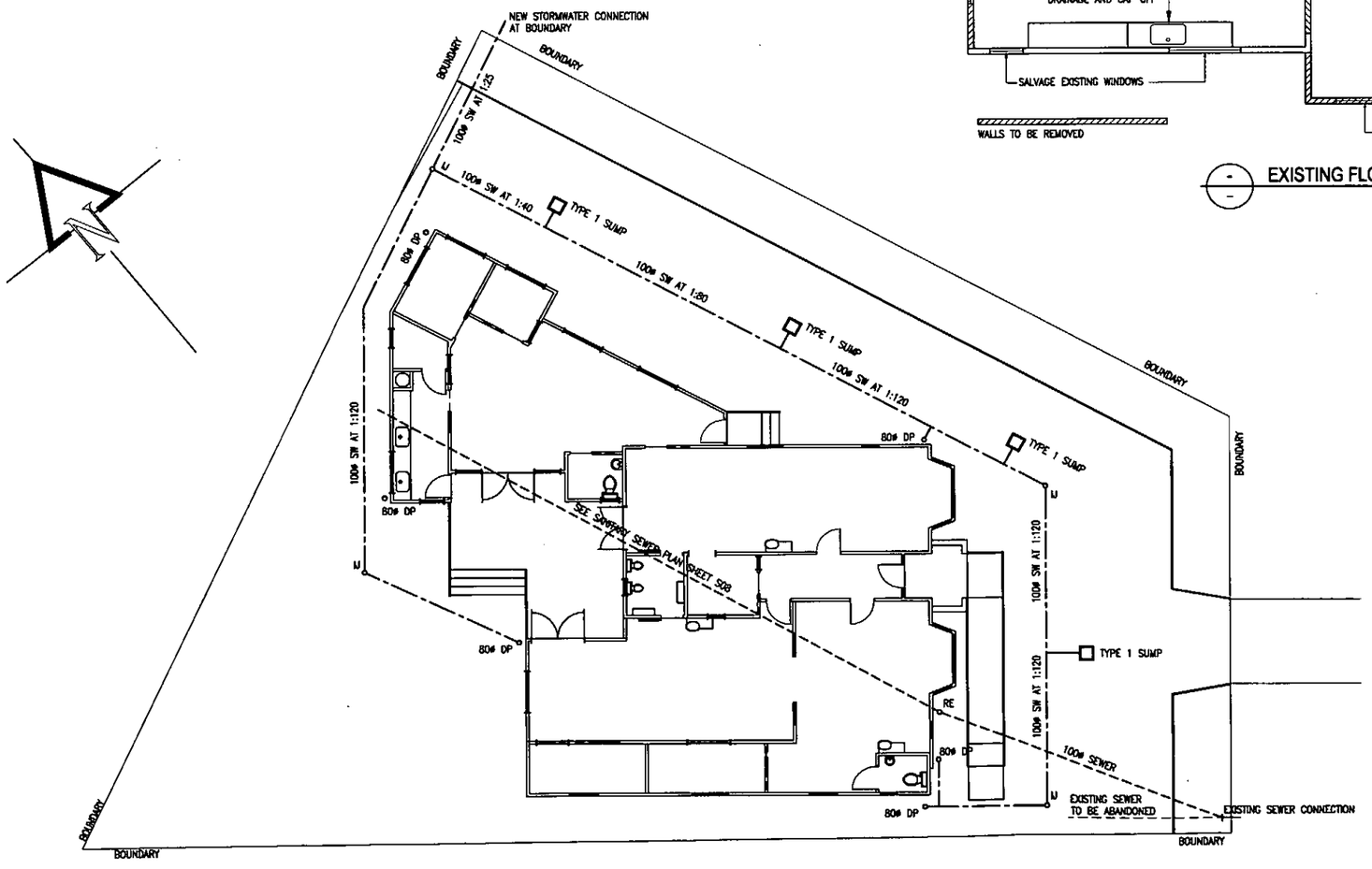


EXISTING FLOOR AND DEMOLITION PLAN
SCALE 1:50



DRAINAGE PLAN
SCALE 1:100

REV	DATE	BY	REASON
1	10.8.11	MF	REVISED LAYOUT
0	22.7.11	MF	FOR BUILDING CONSENT

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Project Details

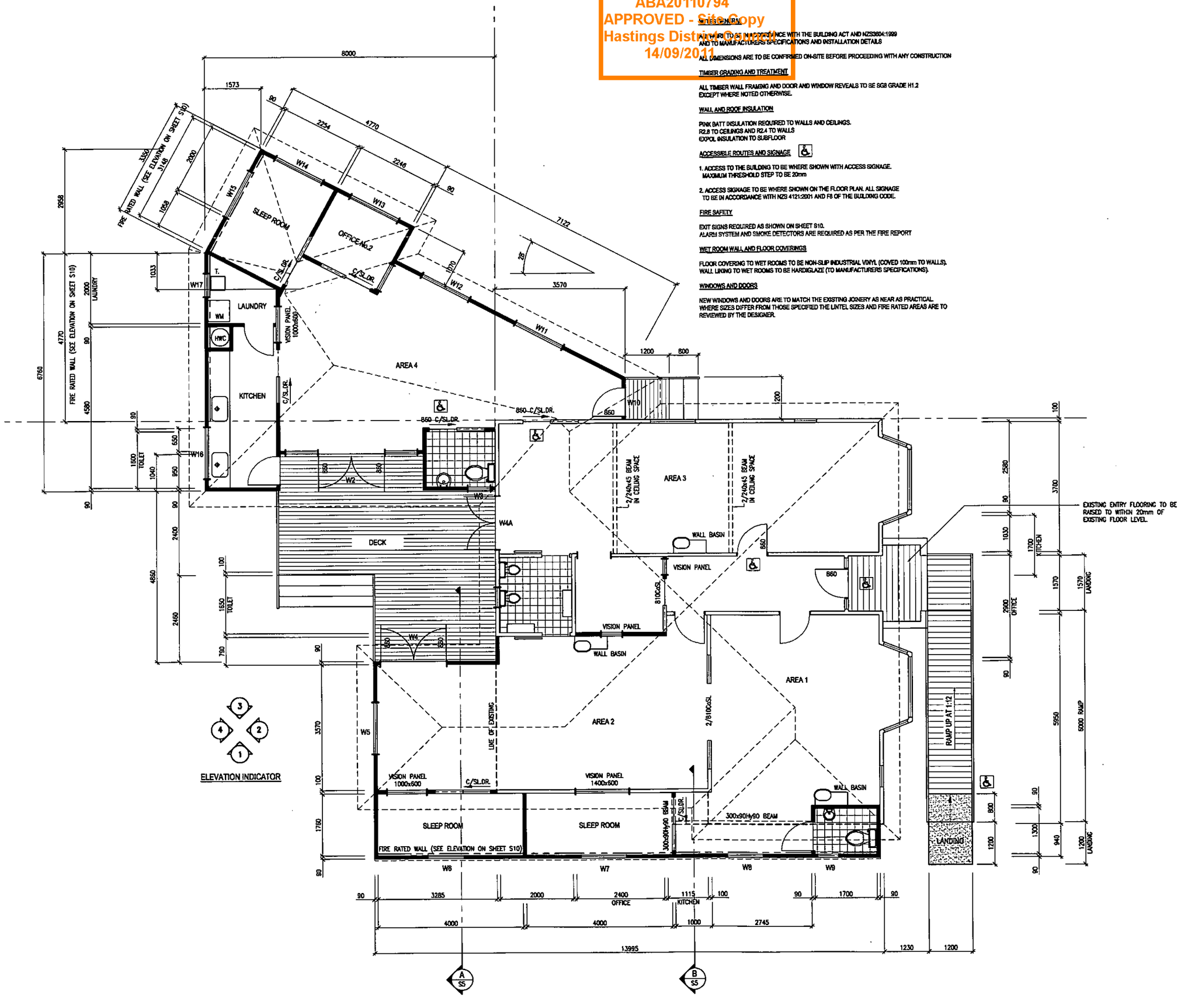
PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

Sheet Title

DRAINAGE PLAN
AND
DEMOLITION PLAN

Drawn	Scale	
MF	AS SHOWN	(ON A1)
Approved	Filename	
MF	11032	

Job No	Sheet No	Rev
11032	S02	1



NOTES GENERAL

ALL WORK TO BE IN ACCORDANCE WITH THE BUILDING ACT AND NZS3604:1999 AND TO MANUFACTURERS SPECIFICATIONS AND INSTALLATION DETAILS

ALL DIMENSIONS ARE TO BE CONFIRMED ON-SITE BEFORE PROCEEDING WITH ANY CONSTRUCTION

TIMBER GRADING AND TREATMENT

ALL TIMBER WALL FRAMING AND DOOR AND WINDOW REVEALS TO BE SG8 GRADE H1.2 EXCEPT WHERE NOTED OTHERWISE.

WALL AND ROOF INSULATION

PINK BATT INSULATION REQUIRED TO WALLS AND CEILINGS.
R2.8 TO CEILINGS AND R2.4 TO WALLS
EXPOL INSULATION TO SUBFLOOR

ACCESSIBLE ROUTES AND SIGNAGE

1. ACCESS TO THE BUILDING TO BE WHERE SHOWN WITH ACCESS SIGNAGE. MAXIMUM THRESHOLD STEP TO BE 20mm

2. ACCESS SIGNAGE TO BE WHERE SHOWN ON THE FLOOR PLAN. ALL SIGNAGE TO BE IN ACCORDANCE WITH NZS 4121:2001 AND F8 OF THE BUILDING CODE.

FIRE SAFETY

EXIT SIGNS REQUIRED AS SHOWN ON SHEET S10.
ALARM SYSTEM AND SMOKE DETECTORS ARE REQUIRED AS PER THE FIRE REPORT

WET ROOM WALL AND FLOOR COVERINGS

FLOOR COVERING TO WET ROOMS TO BE NON-SLIP INDUSTRIAL VINYL (COVED 100mm TO WALLS). WALL LINING TO WET ROOMS TO BE HARDIGLAZE (TO MANUFACTURERS SPECIFICATIONS).

WINDOWS AND DOORS

NEW WINDOWS AND DOORS ARE TO MATCH THE EXISTING JOINERY AS NEAR AS PRACTICAL. WHERE SIZES DIFFER FROM THOSE SPECIFIED THE LINTEL SIZES AND FIRE RATED AREAS ARE TO REVIEWED BY THE DESIGNER.

REV	DATE	BY	REASON
1	10.8.11	MF	REVISED LAYOUT
0	22.7.11	MF	FOR BUILDING CONSENT

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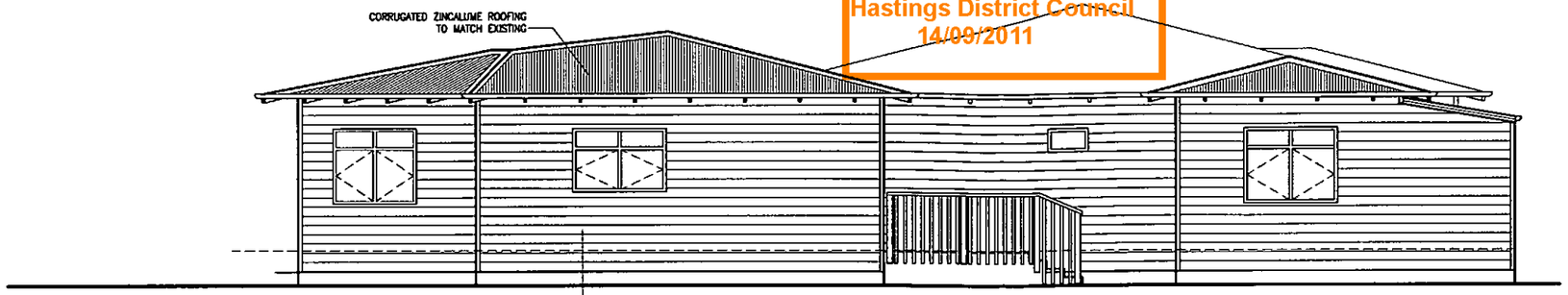
Project Details

PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

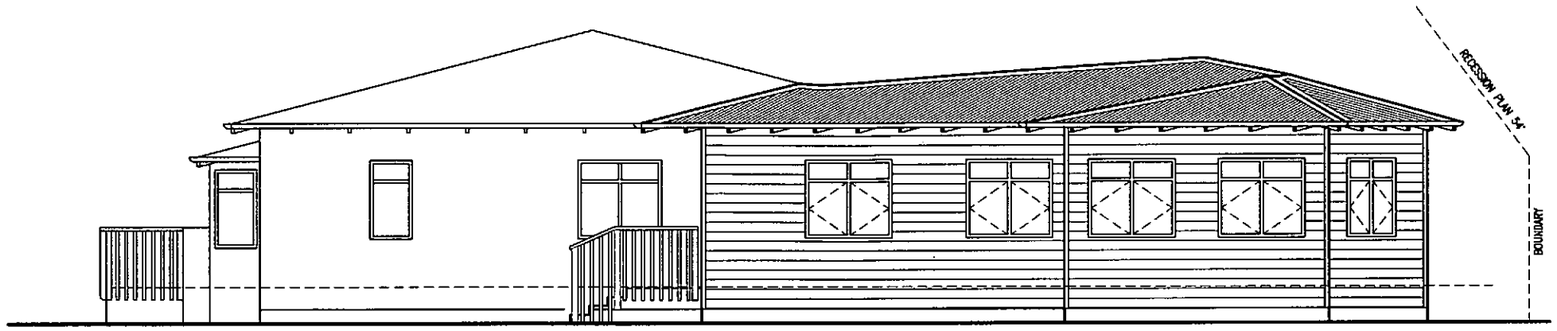
Sheet Title

PROPOSED FLOOR PLAN

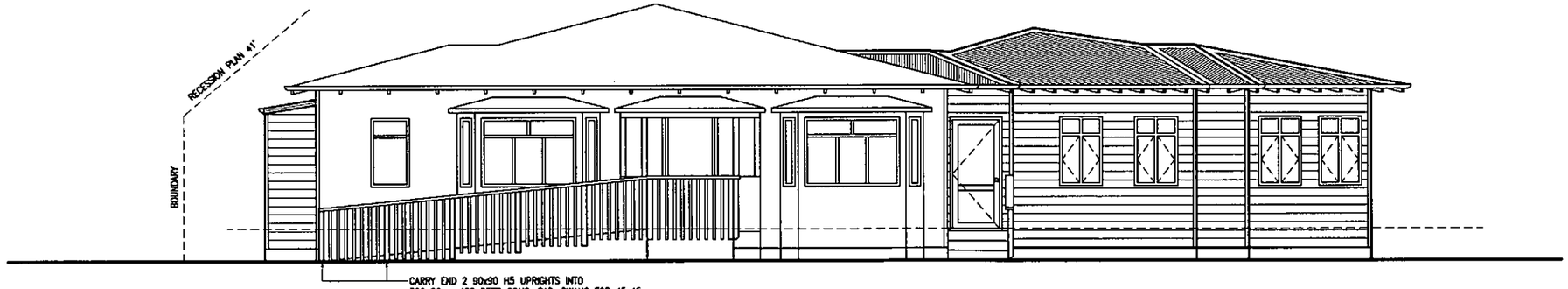
Drawn	Scale	
MF	1:50	(ON A1)
Approved MF	Filename 11032	
Job No	Sheet No	Rev
11032	S03	1



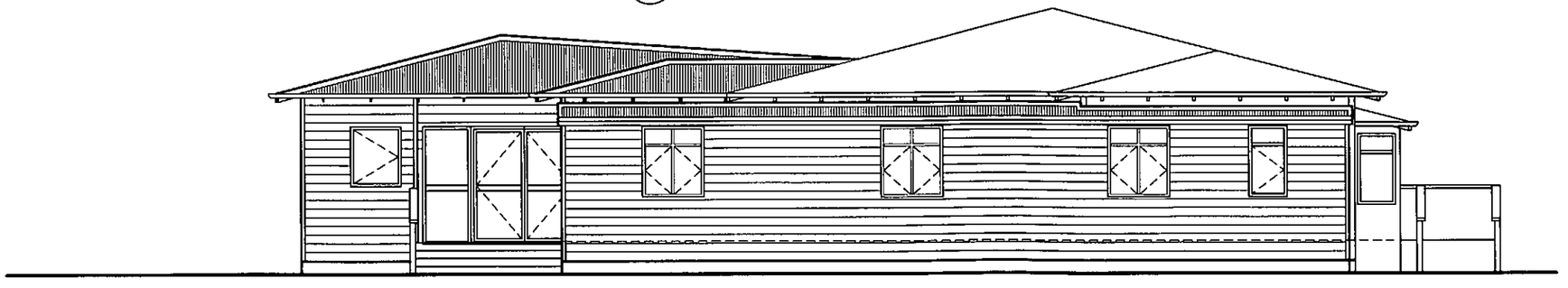
4 S03 NORTH ELEVATION
SCALE 1:50



3 S03 EAST ELEVATION
SCALE 1:50



2 S03 SOUTH ELEVATION
SCALE 1:50



1 S03 WEST ELEVATION
SCALE 1:50

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1	10.8.11	MF	REVISED LAYOUT
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Project Details

PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

Sheet Title

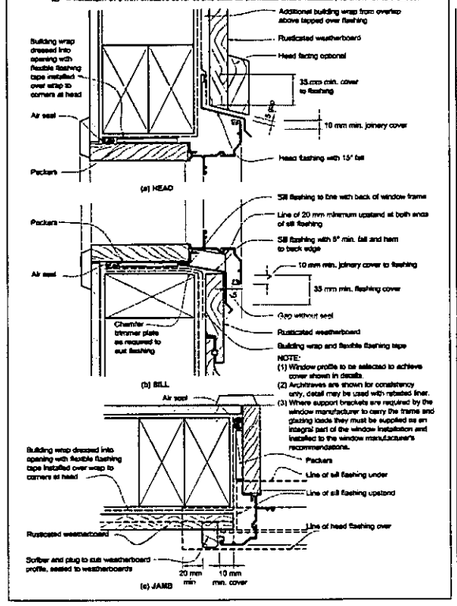
ELEVATIONS

Drawn	Scale	
MF	1:50	(ON A1)
Approved	Filename	
MF	11032	

Job No	Sheet No	Rev
11032	S04	1

Figure 82 Windows for direct fixed rusticated weatherboards (Paragraph 9.4.6.5)

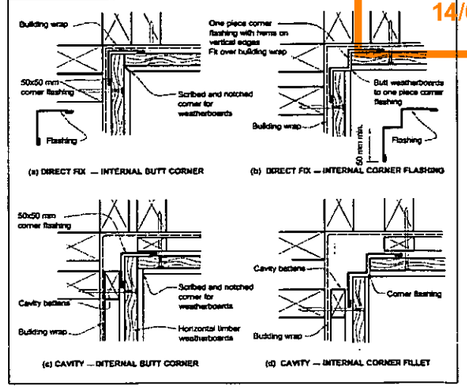
GENERAL: (a) Refer Figure 72 for wrapping of framed opening prior to window installation.
(b) Sliding and bi-fold windows will require specific design.
(c) A minimum of 9 mm effective cover at sills shall be permitted where necessary to allow for colorsmoss.



NOTE:
(1) Window profile to be selected to achieve cover shown in details.
(2) Architraves are shown for consistency only, detail may be used with rebated liner.
(3) Where support brackets are required by the window manufacturer to carry the frame and glazing loads they must be supplied as an integral part of the window installation and installed to the window manufacturer's recommendations.

Amend 2 Jul 2005

Figure 79 Internal corners for horizontal weatherboards (Paragraph 9.4.6.)



9.4.5 Vertical weatherboards

Vertical shiplap and board and batten weatherboards shall be in continuous lengths over a *storey* height.

9.4.5.1 Laps

a) Vertical shiplap weatherboards shall be fitted with a minimum gap of 2 mm at the overlap between boards.

b) Board and batten weatherboards shall:
i) be fitted with a 5 mm to 8 mm gap between boards, and
ii) have weather grooves to boards and battens aligned.

9.4.5.2 Fixings

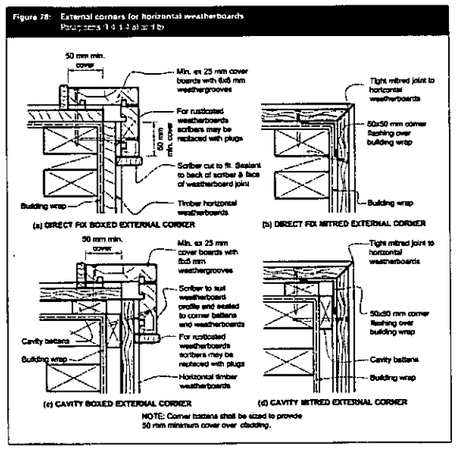
Vertical weatherboards shall be fixed to *dwangs* in accordance with Table 24.

9.4.5.3 Corners

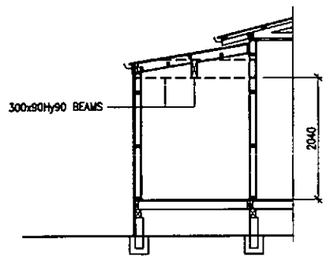
a) External corners
External corners shall be weatherproofed by the use of corner facings as shown in Figure 80.

b) Internal corners
A corrosion-resistant corner *flashing*, as per Table 7, shall be fitted behind the weatherboards at all internal corners.

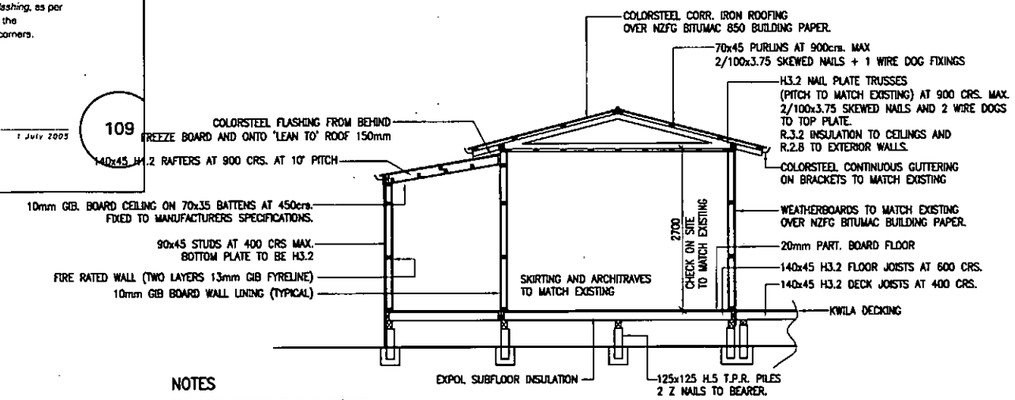
Figure 78 External corners for horizontal weatherboards (Paragraphs 9.4.5.3 and 9.4.6.5)



NOTE: Corner battens shall be sized to provide 50 mm minimum cover over cladding.

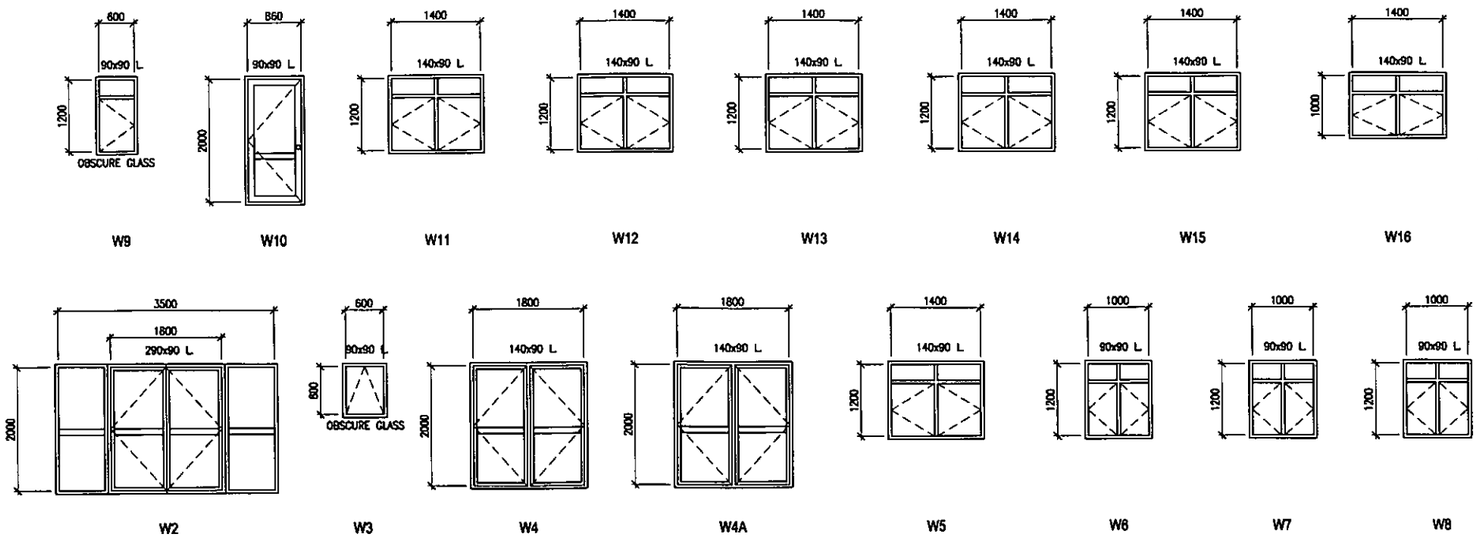


B / S3 LINTEL BEAM SETOUT
SCALE 1:50



NOTES
ALL TIMBER FRAMING TO BE VSG8/MSG8
TREATED TO H1.2 UNLESS NOTED OTHERWISE.

A / S3 TYPICAL SECTION SCALE 1:50



REV	DATE	BY	REASON
1	10.8.11	MF	REVISED LAYOUT
0	22.7.11	MF	FOR BUILDING CONSENT

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Project Details

PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

Sheet Title

TYPICAL SECTION
and
WINDOW SCHEDULE

Drawn	Scale	
MF	1:50	(ON A1)
Approved	Filename	
MF	11032	
Job No	Sheet No	Rev
11032	S05	1

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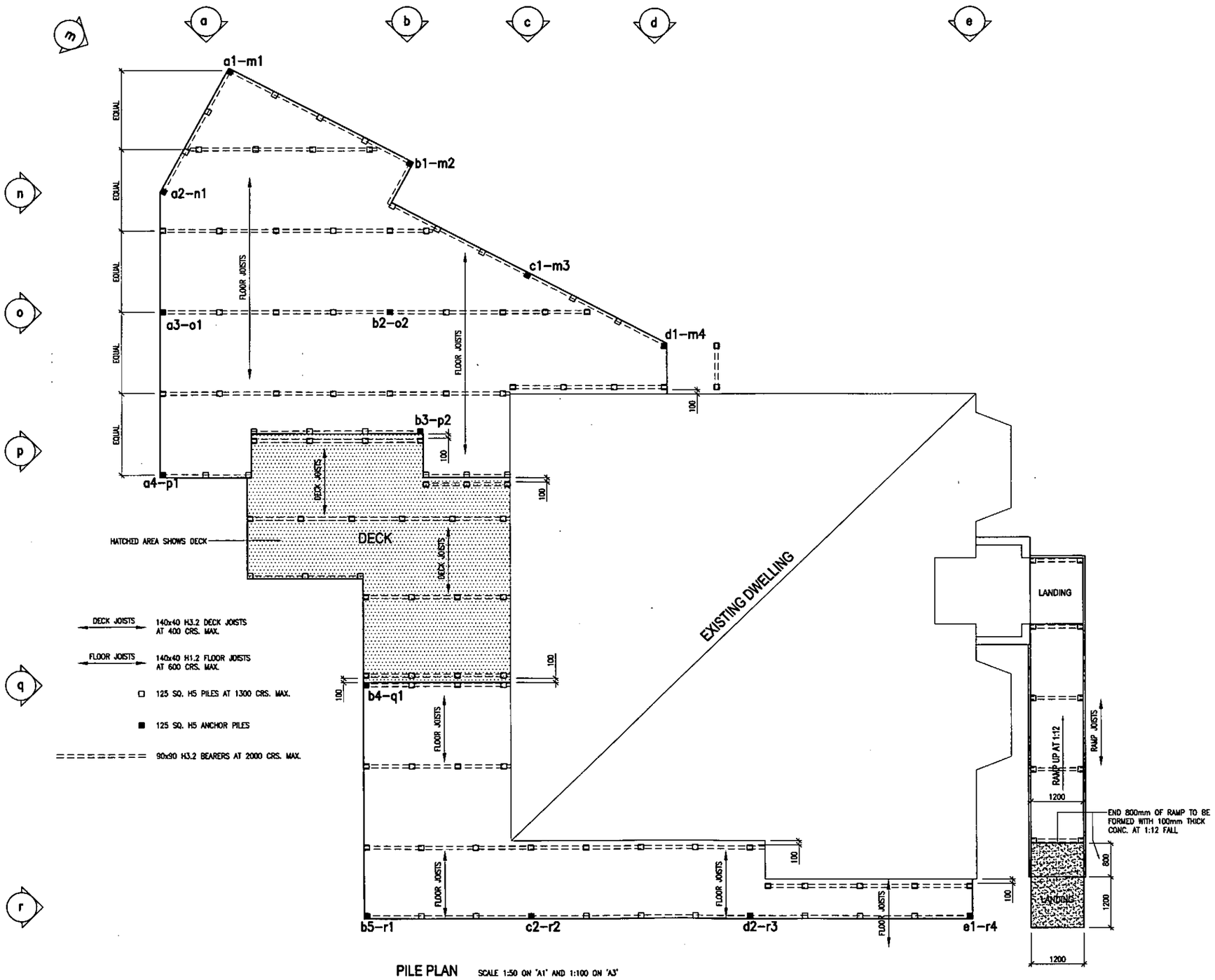

PILE PLAN SCALE 1:50 ON "A1" AND 1:100 ON "A3"

REV	DATE	BY	REASON
1	10.8.11	MF	REVISED LAYOUT
0	22.7.11	MF	FOR BUILDING CONSENT

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Project Details

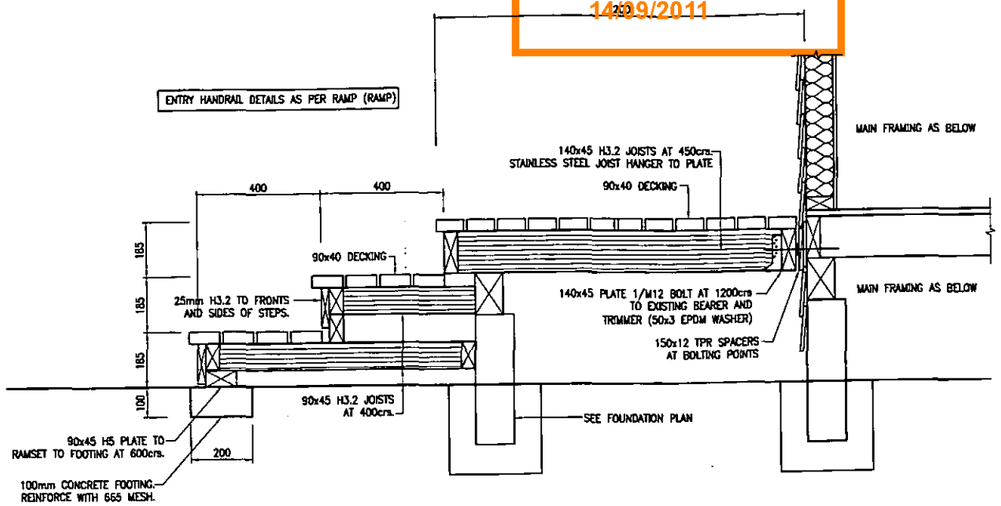
PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

Sheet Title

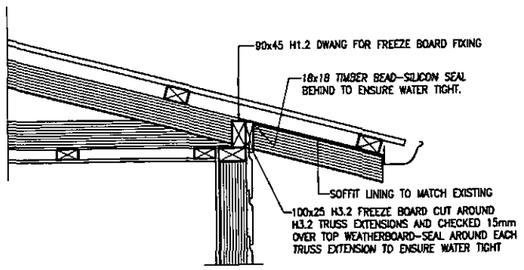
FOUNDATION PLAN /
SUB FLOOR BRACING PLAN

Drawn	Scale	
MF	1:50	(ON A1)
Approved	Filename	
MF	11032	

Job No	Sheet No	Rev
11032	S06	1

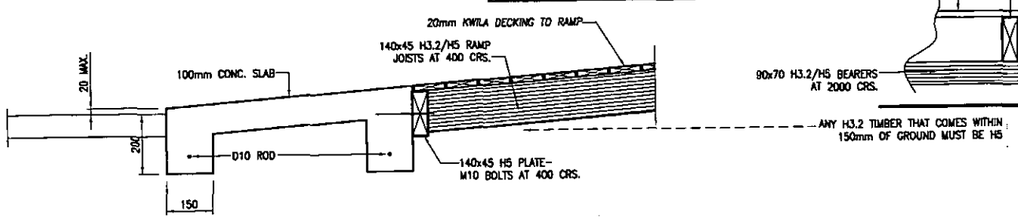


ENTRY STEP DETAILS
SCALE 1:10



TYPICAL EAVE DETAIL
SCALE 1:10

ANY TIMBER CLOSER THAN 150mm TO GROUND TO BE H5



SECTION THRU RAMP LOWER END
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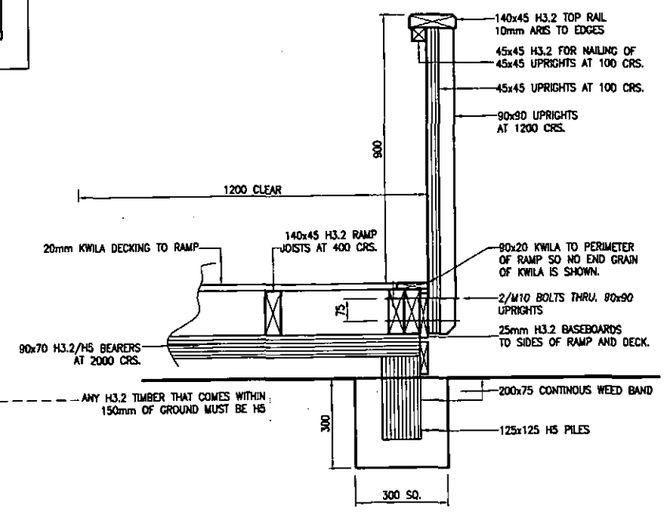
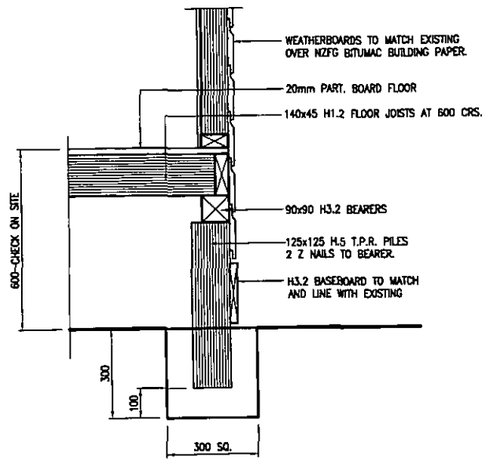


SECTION THRU RAMP SIDE
SCALE 1:10



TYPICAL EXTERIOR FOUNDATION DETAIL
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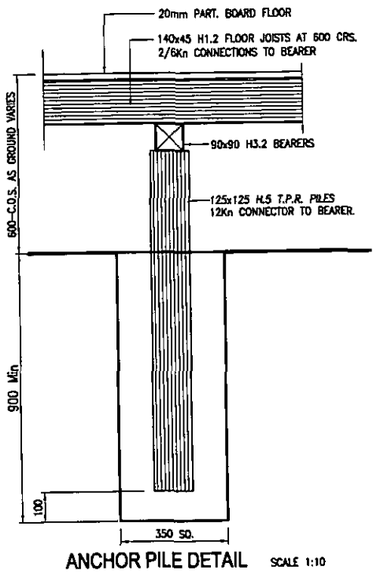
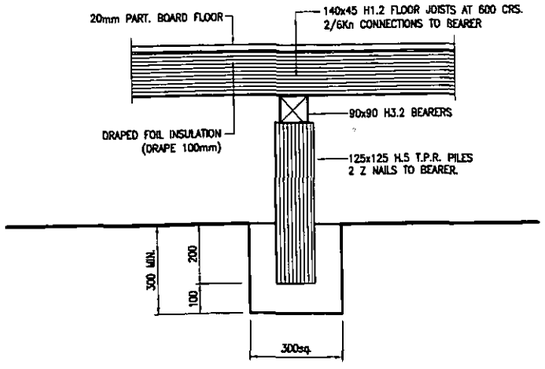


ANCHOR PILE DETAIL
SCALE 1:10



ORDINARY PILE (INTERNAL)
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REV	DATE	BY	REASON
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0	22.7.11	MF	FOR BUILDING CONSENT

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Project Details

PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

Sheet Title

DETAILS

Drawn	Scale	
MF	1:50	(ON A1)
Approved	Filename	
MF	11032	
Job No	Sheet No	Rev
11032	S07	1

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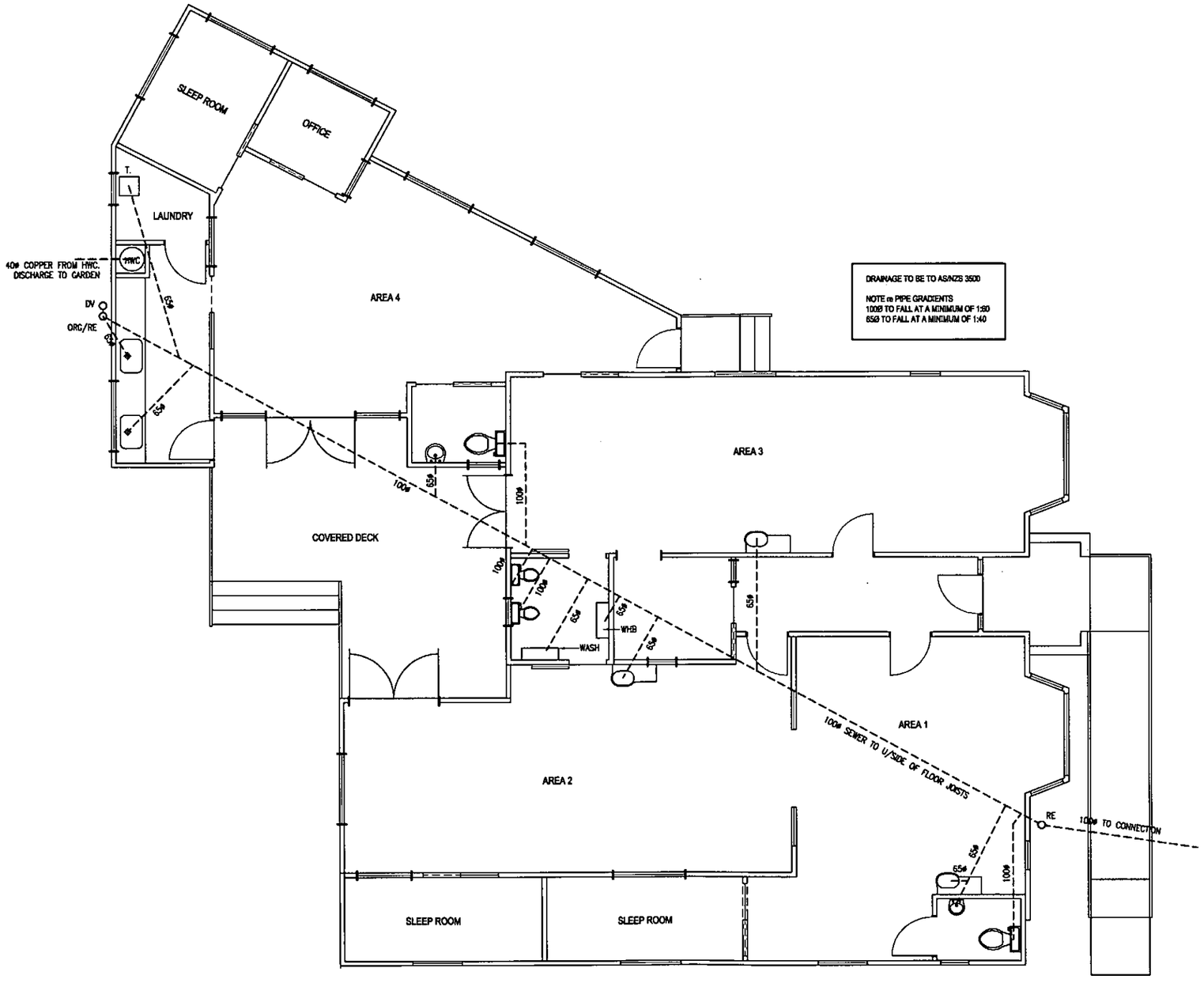

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0	22.7.11	MF	FOR BUILDING CONSENT

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Project Details

PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

Sheet Title

DRAINAGE PLAN

Drawn	Scale	
MF	1:50	(ON A1)
Approved	Filename	
MF	11032	

Job No	Sheet No	Rev
11032	S08	1

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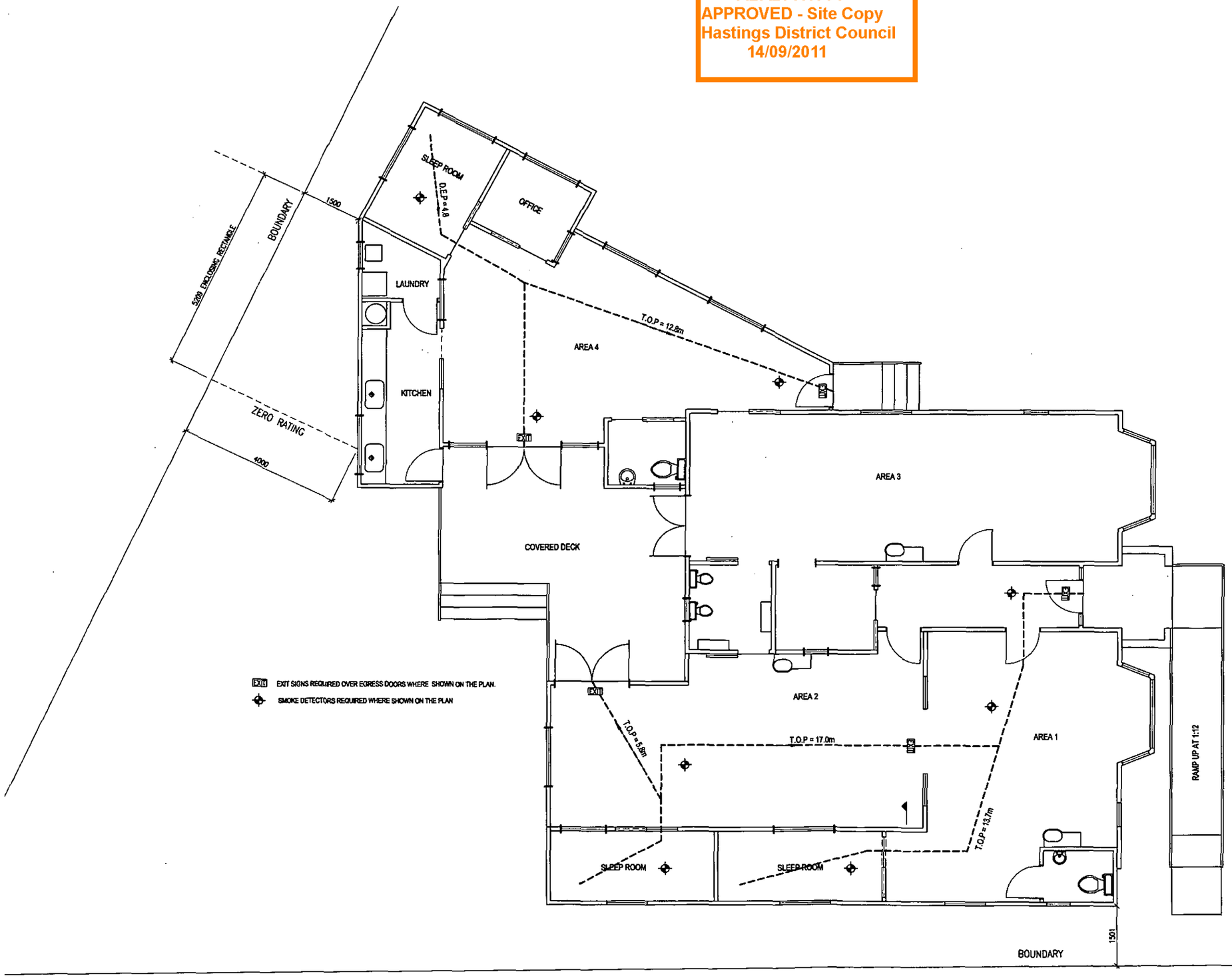

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0	22.7.11	MF	FOR BUILDING CONSENT

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Project Details

PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

Sheet Title

FIRE PLAN

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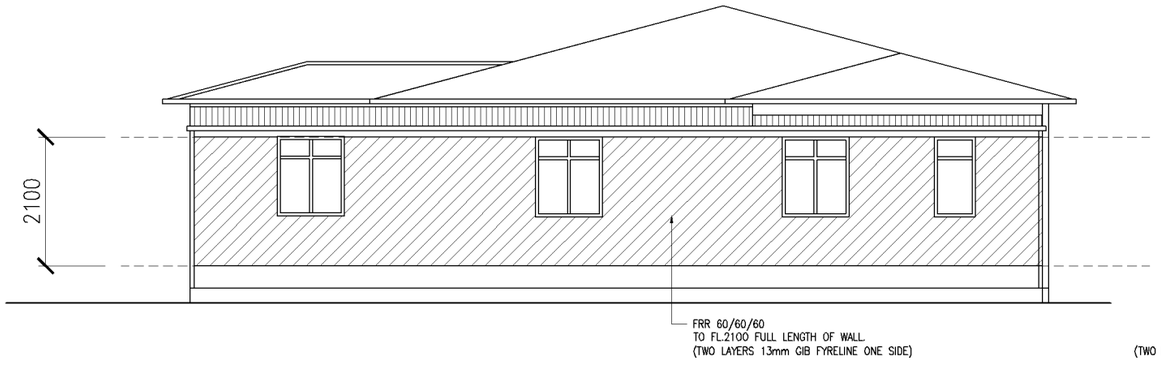
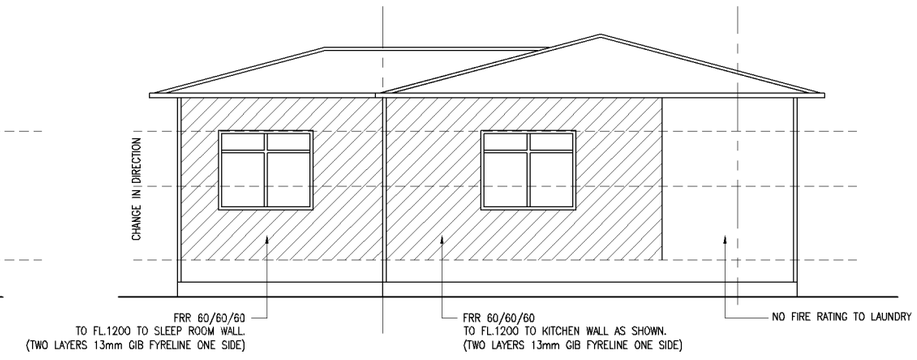
Approved	Filename	
MF	11032	

Job No	Sheet No	Rev
11032	S09	1



1 S03 WEST ELEVATION
SCALE 1:50



4 S03 NORTH ELEVATION
SCALE 1:50

REV	DATE	BY	REASON
2	8.9.11	MF	RATED AREAS INCREASED
1	10.8.11	MF	REVISED LAYOUT
0	22.7.11	MF	FOR BUILDING CONSENT

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PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

Sheet Title

FIRE RATED WALLS

Drawn	Scale	
MF	1:50	(ON A1)
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11032	S10	2

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Napier

SPECIFICATION

of work to be done and materials to be used in carrying out the works shown on the accompanying drawings

Proposed alterations and Additions

For Parent and Child

14 Middle Road

Havelock North

Job number: 11032
Date: 22 June 2011

1012 TABLE OF CONTENTS

2301 FOUNDATIONS

1. GENERAL

1.1 DOCUMENTS
Documents referred to in this section are:

NZS 3109	Concrete construction
NZS 3602	Timber and wood-based products for use in buildings
NZS 3604	Timber framed buildings
NZS 3605	Timber piles and poles for use in buildings
NZS 3631	New Zealand national timber grading rules
NZMP 3640	Minimum requirements of the NZ Timber Preservation Council Inc.

~~1.2 MANUFACTURER'S DOCUMENTS~~
~~Manufacturer's and supplier's documents relating to work in this section are:~~
~~~~

~~Copies of the above literature are available by phoning ~.~

2. PRODUCTS

~~2.1 CONCRETE PILES IN-SITU~~
~~To NZS 3604 for concrete, reinforcement, footing and type.~~

~~2.2 CONCRETE PILES PRE-CAST~~
~~200 mm square parallel-sided to NZS 3604 for footing and type.~~

~~2.3 ROUND TIMBER PILES~~
~~Corsican pine or radiata pine, treated to NZMP 3640, hazard class H5, Group B and complying with NZS 3605 for cross-section, length, straightness, strength and branding. All to NZS 3604 for footing and type.~~

2.4 SQUARE TIMBER PILES
Corsican pine or radiata pine, treated to NZMP 3640, hazard class H5, Group B and complying with NZS 3605 for cross-section, length, straightness, strength and branding. All to NZS 3604 for footing and type.

2.5 TIMBER SUB-FLOOR FRAMING
Species, grade, moisture content in service and level of treatment as set out in NZS 3602. Grading to NZS 3631 and treated to NZMP 3640.

2.6 NAILS
Steel, stainless steel and galvanised steel of pattern to NZS 3604, table 6.8 and section 4 - Durability.

2.7 BOLTS AND SCREWS
Steel, stainless steel and galvanised steel to NZS 3604.

2.8 NAIL PLATES
Stainless steel and galvanised steel toothed or nailed steel plates to the plate manufacturer's design for the particular locations shown on the drawings.

2.9 CONCRETE
For piles and footings ordinary grade 17.5 MPa to NZS 3109, section 6 and NZS 3604, section 6.4.5.

2.10 DAMPPROOF COURSE
2-ply/3-ply kraft felt strip saturated and coated with bitumen.

~~2.11 SHEET DAMPPROOFING~~
~~Rubberised bitumen membrane specifically produced for waterproofing applications, possessing high resistance to water, water vapour and gas permeability and resistant to~~
~~~~

~~the attack of ground bacteria and ageing effects, joined using proprietary techniques and applied by the use of special adhesives. Thickness not less than 1.5 mm.~~

~~2.12 BRUSH ON LIQUID APPLIED MEMBRANE~~
~~Fully stable, water based colloidal bitumen emulsion.~~

3. EXECUTION

3.1 FOUNDATIONS GENERALLY
Comply with NZS 3602 and NZS 3604 except as varied by this specification. Execution to include those methods, practices and processes contained in the unit standards for the National Certificate in Carpentry and the National Certificate in Joinery (cabinetry, exterior joinery, stairs).

3.2 EXCAVATIONS

~~3.3 INSTALL CONCRETE PILES IN SITU~~
~~Box for, reinforce and pour in 17.5 MPa concrete the footings and piles in the various types to NZS 3604.~~

~~3.4 INSTALL CONCRETE PILES PRECAST~~
~~Pour 17.5 MPa concrete footing and set in pre cast concrete piles in the various types to NZS 3604.~~

~~3.5 INSTALL ROUND TIMBER PILES~~
~~Prepare for and drive timber piles to NZS 3604, section 6.6. Protect pile heads with a suitable cushion.~~

3.6 INSTALL SQUARE TIMBER PILES
Prepare for, place and secure as detailed on the drawings.

3.7 SUB-FLOOR FRAMING
Frame up off foundation walls and piles, all fabricated, fastened and braced to NZS 3604, section 6.

~~3.9 CONCRETE MASONRY~~
~~Refer to 3302 CONCRETE MASONRY for concrete block foundation walls.~~

~~3.10 DAMPPROOFING WORK~~
~~Protect horizontal surfaces to be dampproofed with a 50 mm layer of 15 MPa site concrete. Ensure surfaces for dampproofing are free from voids, spalled areas, loose particles and sharp protrusions. Masonry joints struck flush. Apply primer, then install the rubberised bitumen membrane system, strictly in accordance with the dampproofing manufacturer's requirements. All work by applicators licensed by the dampproofing manufacturer. Protect vertical surfaces with polystyrene sheets glued to the membrane and taped over joints.~~

~~3.11 LIQUID APPLIED MEMBRANE WORK~~
~~Three coats of water based bitumen emulsion applied in accordance with the membrane manufacturer's requirements. First coat at the rate of 0.20 litres/m^2, with the second and third coats each at the rate of 0.75 litres/m^2. Protect vertical surfaces with polystyrene sheets before backfilling.~~

3801 CARPENTRY

1. GENERAL

1.1 DOCUMENTS Documents referred to in this section are:

AS/NZS 1748	Mechanically stress-graded timber
AS/NZS 1859	Reconstituted wood based panels
	1859.1: Particleboard
AS/NZS 2269	Plywood - Structural
NZS 3602	Specifying timber and wood-based products for use in building
NZS 3604	Timber framed buildings
NZS 3631	New Zealand national timber grading rules
NZMP 3640	Minimum requirements of the NZ Timber Preservation Council Inc.
NZS 7421	Installation of solid fuel burning domestic appliances

BRANZ Bulletin 328: Selection and use of fasteners
~~BRANZ Bulletin 357: Thermal insulation of houses~~
BRANZ Bulletin 368: Preventing moisture problems in timber framed skillion roofs

1.2 MISCELLANEOUS HARDWARE Allow the PC sum specified in the P&G section for miscellaneous hardware and allow to fir same.

2. PRODUCTS

2.1 BUILDING PAPER Breather type kraft paper laminates. Building paper behind insulating plaster cladding is specified in section 4202.

2.2 CEILING INSULATION R 2.8

2.3 TIMBER FRAMING GENERALLY Species, grade and level of treatment as set out in NZS 3602. Grading to NZS 3631 and treated to NZMP 3640. Mechanical stress grading acceptable as an alternative to visual grading.

~~2.4 WARDROBE RAILS Scott Commercial 7200116 oval tubing CP with 7950009 wardrobe oval support brackets. Fit to cupboards and wardrobes.~~

2.5 TIMBER FRAMING DRY, TREATED Species, grade and moisture content in service as set out in NZS 3602. Treated H1 to NZMP 3640, with an average moisture content at supply of 18% or less. Either mechanically stress graded to AS/NZS 1748, or visual grading to NZS 3631.

2.9 TIMBER TRUSSES refer section 3811.

2.17 DAMPPROOF COURSE 2-ply/3-ply kraft felt strip saturated and coated with bitumen.

2.18 NAILS Steel, stainless steel and galvanised steel of pattern to suit the location and to BRANZ Bulletin 328 "Selection and use of fasteners".

2.19 BOLTS AND SCREWS Steel, stainless steel and galvanised steel of pattern to suit the location and to BRANZ Bulletin 328 "Selection and use of fasteners".

2.20 NAIL PLATES Stainless steel and/or galvanised steel toothed or nailed plates to the plate manufacturer's design for the particular locations as shown on the drawings.

2.21 CONNECTORS Galvanised steel connectors and structural brackets to the connector manufacturer's design for particular locations shown on drawings.

3. EXECUTION

3.1 ATTENDANCE — Provide and fix blocks, nogs, openings and other items as required by other trades.

3.2 MOISTURE CONTENT — Maximum allowable moisture content in accordance with NZS 3602 for framing supporting interior linings:

- ~~Framing at erection — 24%~~
- ~~Framing at enclosure — 20%~~
- Framing at lining — 16%

3.3 EXECUTION GENERALLY — To NZS 3603 and NZS 3604 except as varied in this specification. Execution to include those methods, practices and processes contained in the unit standards for the National Certificate in Carpentry and the National Certificate in Joinery (cabinetry, exterior joinery, stairs).

3.4 DIMENSIONS — All timber sizes are nominal sizes.

3.5 SET OUT — Set out framing in accordance with the requirements of NZS 3604 and as required to support sheet linings and claddings.

3.8 FRAMING WALLS — Frame to required loading and bracing complete with lintels, sills and nogs, all fabricated and fastened to NZS 3604, section 8.

3.9 FRAMING ROOFS — Frame to required loading and bracing complete with valley boards, ridge boards and purlins. Design and fit roof trusses complete with anchorage. All fabricated and fastened to NZS 3604, section 9 and 10.

END OF SECTION

3811 TRUSSES

1. GENERAL

1.2 DOCUMENTS REFERRED TO Documents referred to in this section are:

AS/NZS 1491	Finger jointed structural timber
NZS 3602	Timber and wood based products for use in building
NZS 3603	Timber Structures Standard
NZMP 3640	The minimum requirements of the NZ Timber Preservation Council Inc.

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

1.3 WIND DESIGN ZONE As determined from NZS3604.

1.4 QUALIFICATIONS Fabricators to be experienced competent workers, familiar with the materials and the techniques specified. Fabrication firms to be accredited by the connector plate manufacturers. Laminated timber fabricators to be currently certified by Standards New Zealand to NZS 3606 and AS/NZS 1491.

1.5 TRUSS LAYOUT DRAWINGS Provide a truss layout drawing with each standard truss identified by a proprietary design number.

1.6 TRUSS DESIGNS Supply all the necessary drawings, calculation and other descriptive information to confirm the structural design of each type of timber truss. Submit, together with a producer statement signed by a registered engineer, before commencing truss fabrication.

2. PRODUCTS

2.1 CHORDS AND WEBS, UTILITY GRADE Nominally 50 mm wide, with varying depths as detailed, gauged green/dry dressed. No 1 framing grade radiata pine, or standard building grade Douglas fir. Treated to NZMP 3640 hazard class H1, group A.

2.6 STEEL CONNECTOR PLATES 1.0 mm and 1.6 mm thick galvanised steel sheet punched to form a toothed connector.

3. EXECUTION

3.1 COMPLY Comply with all current standards and code requirements in the design and fabrication of the trusses.

3.2 DELIVER, HANDLE AND STORE TRUSSES Deliver, handle and store trusses so no structural damage occurs, corners and edges are not damaged, or surfaces marked or stained. Store architectural grade under cover.

3.10 DIMENSIONS, UTILITY GRADE Each member calculated length +/- 3 mm. Width and thickness to gauging tolerances. Each overall joint within +/- 3 mm of correct outside profile (including camber allowance). Each internal joint within +/- 50 mm along the chord.

3.13 FABRICATION Build camber into all elements to allow for normal deflection under load. Lay up members accurately with all joints tight fitting. Mechanically press plates to manufacturer's tolerances, fully and flat over their whole area into the members forming the joint.

END OF SECTION

4301 PROFILED METAL ROOFING

1. GENERAL

1.1 DOCUMENTS
Documents referred to in this section are:

~~NZBC E2/AS1 External moisture 1.0 Roofs~~
~~AS 1397 Steel sheet and strip - hot-dipped, zinc-coated, or aluminium/zinc-coated~~
~~NZS 3403 Hot-dipped galvanised corrugated steel sheet for building purposes~~
~~NZS 3602 Timber and wood-base products for use in building~~
~~NZS 3604 Timber framed buildings~~
~~NZMP 3640 Minimum requirements of the NZ Timber Preservation Council Inc.~~
~~NZS 4222 Materials for the thermal insulation of buildings~~
~~New Zealand Metal Roofing and Cladding Manufacturers' Association Inc: Profiled metal roofing design and installation handbook~~

~~1.2 MANUFACTURER'S DOCUMENTS~~
~~Manufacturer's and supplier's documents relating to work in this section are:~~
~~~~

~~Copies of the above literature are available by phoning ~.~~

1.3 QUALIFICATIONS
Carry out roofing work using experienced, competent roofers familiar with the materials and techniques specified.

1.4 WIND AND EARTHQUAKE LOADINGS
Use fixings and methods capable of sustaining the loads appropriate to the area as set out in NZS 3604, section 5.

1.5 COORDINATE
Coordinate to ensure substrate and preparatory work is complete and other work programmed in the order required for access and completion of the roof.

2. PRODUCTS

2.1 PROFILED METAL ROOFING
Steel sheet galvanised to NZS 3403, aluminium/zinc coated to AS 1397. Finish as specified. Accessories, cappings, flashings and fixings to match and to the roofing manufacturer's requirements.

2.2 NAILS, SCREWS AND FASTENINGS
Metal, size and pattern, to roofing manufacturer's requirements and complying with the relevant aspects of NZS 3604, section 4: Durability.

3. EXECUTION

3.1 STORAGE
Stack roofing and accessories on clean, level areas of the site and protect from damage and from weather until ready to fix in place. Avoid overloading roof structure when roofing materials are placed on the roof area prior to installation.

3.2 SET OUT
Set out the planned layout before fixing commences, to ensure true lines and the correct relationship to module, grid and roof features.

3.3 LAY ROOF UNDERLAY
Lay and fix to NZBC acceptable solution E2/AS1, NZS 3604, section 11.2.2 and the roofing manufacturer's requirements.
~~~~

3.4 LAY ROOFING, GENERALLY
Take care to avoid damaging pre-finished roofing both during and after fixing. Wear only soft-soled shoes on the finished surface.

3.5 CUT PROFILED METAL ROOFING
Cut profiled metal roofing only with tools recommended by the roofing manufacturer. Fold ends and seal cut edges to the roofing manufacturer's requirements.

3.6 INSTALL PROFILED METAL ROOFING
Install profiled metal roofing and fix complete with all matching accessories, flashed to all roof features and penetrations; and in accordance with the requirements in the New Zealand Metal Roofing and Cladding Manufacturers' Association Inc. publication "Profiled metal roofing design and installation handbook."

3.7 FIXINGS
Refer to the roofing manufacturer's literature for fixing details and to NZS 3604 for fixings durability requirements.

3.8 INSTALL COVERS AND FLASHINGS
Install and fix as detailed and to the roofing manufacturer's details and to comply with NZBC acceptable solution E2/AS1, 1.0.

3.9 PENETRATIONS
Flash and overflash all penetrations through the roof.

3.10 USE OF SEALANTS
Select and use sealants only as recommended by the roofing manufacturer.

3.11 COMPLETE
Ensure the work is complete with all flashings, undercloaks, valleys, ridges and hips properly installed so the finished roof is completely weathertight.

3.12 REMOVE FILINGS
Remove metal filings from roofing surfaces at least daily.

3.13 CLEAR
Clear trade rubbish and unused materials from the roof and surrounds regularly during the work and at completion. Sweep down the completed roof and flush out spoutings, gutters and rainwater pipes, ensuring that metal filings, metal scraps and loose fixings are removed.

3.14 REPLACE
Replace damaged or marked elements. Remove unused materials from the site.

4501 TIMBER WINDOWS AND DOORS

1. GENERAL

1.1 DOCUMENTS
Documents referred to in this section are:

NZBC	C3/AS1	Spread of fire 5.0 Closures in fire and smoke separations
AS/NZS 1905		Components for the protection of openings in fire-resistant walls 1905.1: Fire-resistant doorsets
NZS 3602		Timber and wood-based products for use in building
NZS 3610		Profiles of mouldings and joinery
NZS 4211		Performance of windows
NZS 4232		Performance criteria for fire resisting closures Part 2: Fire resisting glazing systems

~~1.2 MANUFACTURER'S DOCUMENTS~~
~~Manufacturer's and supplier's documents relating to work in this section are:~~
~~-~~

~~Copies of the above literature are available by phoning -.~~

2. PRODUCTS

2.1 EXTERIOR TIMBER
To NZS 3602.

2.2 INTERIOR TIMBER
To NZS 3602.

2.3 EXTERNAL WINDOW FACINGS AND SCRIBERS
To NZS 3610 or as detailed.

2.4 ARCHITRAVES
To NZS 3610 or as detailed.

2.5 INTERIOR GLAZED DOORS
Solid timber framed and bead glazed.

2.6 INTERIOR TIMBER LOUVRE DOORS
Solid timber framed with louvres slotted in.

2.7 INTERIOR CAVITY SLIDER
Hollow core door hung within a proprietary cavity slider frame and complete with brand-matched sliding door gear.

~~2.8 FIRE RESISTANT DOORSETS, TIMBER FRAME~~
~~To comply with AS/NZS 1905.1.~~

~~2.9 SASH STAYS~~
~~Aluminium, nylon-bearing friction stays - 2 per sash. Size and gauge to suit sash size and weight.~~

2.10 DOOR AND WINDOW HINGES
Size and gauge to carry door/sash size and weight. 3 hinges per door. Minimum 2 hinges per sash.

	Exterior doors	Interior doors	Sashes
Type:	fixed pin Parliament	loose pin	fixed pin
Size:	100 mm	89 mm	89 mm
Material:	galvanised steel	zinc-plated steel	stainless steel
Pin:	Fixed-pin brass	loose-pin zinc-plated steel	stainless steel

2.11 INTERIOR SLIDING DOOR GEAR
To suit door size and weight and as detailed.

~~2.12 INTERIOR SLIDING-FOLDING DOOR GEAR~~
~~Bi-fold pattern to suit size and weight of doors and as detailed.~~

2.13 FLASHINGS
Galvanised steel, powder coated galvanised steel, copper, powder coated aluminium-zinc coated steel, or aluminium flashings as detailed.

3. EXECUTION

3.1 CONFIRM
Confirm all framing openings on site for dimension, plumb and straightness prior to fabrication or ordering of timber joinery. Confirm head/sill defection for sliding door systems is within the manufacturers specified tolerances.

~~3.2 FIRE DOOR COMPLIANCE~~
~~Submit the specific approval of the SNZ Fire Ratings Committee to confirm the doorsets satisfy all the criteria laid down in AS/NZS 1905.1.~~

3.3 EXECUTION GENERALLY
Execution to include those methods, practices and processes contained in the unit standards for the National Certificate in Carpentry and the National Certificate in Joinery (cabinetry, exterior joinery, stairs).

3.4 EXTERNAL DOOR AND WINDOW FRAMES AND SASHES
Profiles to NZS 3610 and fabrication as detailed; conforming with the performance requirements of NZS 4211: Jamb, head and sill liners as detailed. Wedge and rigidly fix in place without distortion; plumb, and true to line and face, complete with full length sill tray, jamb and cap flashings and with all doors and sashes operating freely. Fit hardware.

3.5 INTERNAL JOINERY FRAMES
Fabricate as detailed. Wedge and rigidly fix in place without distortion, plumb, and true to line and face.

3.6 INTERNAL DOOR FRAMES, SOLID REBATED
Fabricate as detailed. Hang doors to operate freely on hinges, sliding, or bi-fold gear and to the door manufacturer's requirements. Fit hardware.

3.7 INTERNAL DOOR LINERS
Heads and jambs finished minimum 18 mm, with 10 mm planted door stops. Width to match width of lined walls. Hang doors on hinges, sliding, or sliding-folding gear to the door manufacturer's requirements and to operate freely. Fit hardware.

3.8 INTERNAL DOOR LINERS, EXTENDED
Heads and jambs finished 30 mm, rebated for wall linings and extended a minimum of 10 mm. 10 mm planted door stops. Hang doors on hinges, sliding and bi-fold gear to the door manufacturer's requirements and to operate freely. Fit hardware.

3.9 INTERNAL CAVITY SLIDERS
Install in accordance with the door manufacturer's requirements.

4601 GLAZING

1. GENERAL

1.0 SCOPE Work in this section comprises the supply of all materials and labour associated with glazing including glazing for:

- aluminium doors & windows
- mirrors

Refer to the following sections for elements as noted.

- shower enclosures refer section 7402

~~1.1 DOCUMENTS Documents referred to in this section are:~~

~~NZBC~~	~~B1/AS1~~	~~Structure~~
		~~7.0 Glazing~~
	~~F2/AS1~~	~~Hazardous building materials~~
		~~1.0 Glazing~~
	~~F4/AS1~~	~~Safety from falling~~
		~~1.0 Barriers in buildings~~
~~AS/NZS 2208~~		~~Safety glazing materials in building~~
~~NZS 4223~~		~~Glazing in buildings~~
		~~Part 1: The selection and installation of glass in buildings~~
		~~Part 3: Human impact safety requirements~~
		~~Part 4: Dead, wind and snow loadings~~
~~AS/NZS 4666~~		~~Insulating glass units~~
~~AS/NZS 4667~~		~~Quality requirements for cut-to-size and processed glass~~

2. PRODUCTS

2.2	GLASS – PROCESSED	To AS/NZS 4667, thickness to NZS 4223.
	Clear float glass:	Clear annealed transparent float glass
	Laminated glass:	Grade A safety glazing material to AS/NZS 2208 with PVB or CIP resin interlayer.
	Toughened glass:	Grade A safety glazing material to AS/NZS 2208.

2.8 MIRRORS To the ensuite and bathroom. To each supply and fit a mirror (size by owner). The mirror in the bathroom is to incorporate a demister as specified below. Each mirror is to incorporate a clear finished timber frame as shown on the drawings.

2.9 SAFETY MIRROR GLASS Float mirror with silver plating and vinyl backing, safety glazing material to AS/NZS 2208.

~~2.10 MIRROR DE-MISTER Electric mirror demister pad as specified below or equal approved. Liase with electrician to ensure appropriate placement and type of electric supply.~~

~~Product: 'NuKlear' Demister to size of mirror.~~

3. EXECUTION

3.1	GLAZING GENERALLY	To NZS 4223, part 1, and for human impact safety glazing to NZS 4223, part 3.
3.2	GLASS THICKNESS	To NZS 4223, parts 1, 3 and 4 unless specified elsewhere.
3.7	INSTALL SAFETY GLASS	To NZS 4223, part 3, as modified by NZBC acceptable solution F2/AS1.

~~3.11 INSTALL MIRROR DE-MISTER Installed to the de-mister manufacturer's requirements.~~

3.12	PRIME PUTTY	N/A
3.14	SAFETY	Indicate the presence of transparent glasses, with whiting, tape or signs compatible with the glass type.
3.15	MANIFESTATIONS	To comply with NZS 4223, part 3, 303.1.
3.16	TRADE CLEAN	Clean off or remove indicators at completion of the building.

4. SCHEDULES

4.1	WIND ZONE	Building wind zone: (as determined from table 5.1 of NZS 3604)

END OF SECTION

5101 LINING

1. GENERAL

1.0 SCOPE Work in this section comprises the supply of all materials and labour for wall & ceiling linings including:

- Winstones gib linings
- Villaboard linings to receive tiles for shower enclosures
- MDF linings

~~1.1 DOCUMENTS Documents referred to in this section are:~~
~~AS/NZS 1859 Reconstituted wood-based panels~~
~~1859.1 Particleboard~~
~~1859.2 Medium density fibreboard (MDF)~~
~~1859.4 Hardboard~~
~~1859.5 Fibre insulating board (insulation board)~~
~~AS/NZS 2269 Plywood - Structural~~
~~AS/NZS 2589 Gypsum linings in residential and light commercial construction - Application and finishing~~
~~2589.1: Gypsum plasterboard~~
~~AS/NZS 2908 Cellulose cement products~~
~~2908.2 Flat sheets~~
~~NZS 3602 Timber and wood-based products for use in buildings~~
~~NZS 3604 Timber framed buildings~~
~~NZS 3610 Profiles of mouldings and joinery~~
~~NZS 4221 Fibrous plaster sheet~~
~~New Zealand Fibrous Plaster Association: Code of recommended practice for the application and fixing of fibrous plaster~~
~~BRANZ Bulletin 328: Selection and use of fasteners~~

1.3 STORAGE Protect all joinery, fittings and finishes already in place from water staining or damage from lining installation.

1.4 TIMING OF WORK Ensure building is weatherproof before lining work commences.

2. PRODUCTS

Plasterboard

2.1 PLASTERBOARD Winstones gib board to thickness shown on the drawings Gypsum plaster core encased in a durable face and backing paper formed for standard use. Use WR gib in the ensuite, bathroom and laundry.

2.2 EXTERNAL ANGLE Slim type 0.5 mm galvanised steel.

2.3 CASING BEAD Slim type 0.5 mm galvanised steel or PVC.

~~2.4 GALVANISED STEEL CEILING BATTENS As shown on the drawings~~

2.5 NAILS Galvanised steel clouts, length to suit application.

2.6 SCREWS Zinc electro-plated bugle head gypsum drywall screws, length and gauge to suit application.

2.7 JOINTING Compound and paper or fibreglass tape to the board manufacturer's requirements.

2.8 ADHESIVE Multi-purpose water based wallboard adhesive.

4.5 CORNICE 55mm Gib.cove

~~2.22 MEDIUM DENSITY FIBREBOARD Medium density fibreboard resin bonded to AS/NZS 1859.2.~~

~~2.25 FIBRE CEMENT SHEET, VILLABOARD~~
~~Cellulose cement autoclaved sheets to AS/NZS 2908.2.~~

2.32 NAILS Zinc-plated steel, stainless steel and galvanised steel of pattern to suit location and to BRANZ Bulletin 328 "Selection and use of fasteners".

2.33 TIMBER INTERIOR FINISHING TRIM Selection to NZS 3602. Profile as detailed, or if not shown, to NZS 3610.

~~2.35 FIBRE CEMENT SHEET 9mm villaboard for showers and plastering~~

2.37 MEDIUM DENSITY FIBREBOARD suitable approved to thicknesses shown on the drawings.

2.40 ACCESS HATCH Painted mdf sheet to trimmed opening.
Size: 600x600mm

3. EXECUTION

3.1 MOISTURE CONTENT Maximum allowable moisture content in accordance with NZS 3602 for:
Framing at lining: 16%

3.2 SUBSTRATE To NZS 3604, sections 8, 10, 12, 13 and the standard required by the lining manufacturer's requirements. Ensure moisture content of timber framing is at or below specified levels. Starting work implies acceptance the substrate will allow work of the required standard.

3.3 CONFIRM LEVELS OF FINISH Before commencing work, confirm the surface finish assessment procedures necessary to ensure the specified levels of finish will be obtained.

Plasterboard

3.4 LEVELS OF FINISH Provide levels of finish to standards laid down by AS/NZS 2589.1 as follows:
Level 4: surfaces receiving light texture or wall covering finishes

~~3.5 LINE CEILINGS Line ceilings with plasterboard sheets, fastened to the plasterboard manufacturer's requirements.~~

3.6 LINE WALLS Line walls that are up to 2400 mm high by the horizontal method and walls above 2400 mm high by the vertical method, with plasterboard sheets, fastened to the plasterboard manufacturer's requirements.

3.7 LINE WET AREA WALLS Line wet area walls with water resistant plasterboard sheets using adhesive and nail fixing to studs at centres to suit the surface finish and to the plasterboard manufacturer's details.

3.8 FORM BRACING PANELS AND SYSTEMS Form using high density plasterboard sheets fixed with clout-washers and clouts to the plasterboard manufacturer's details and to conform with NZS 3604, sections 5.8 and 13.5.

3.11 FIX EXTERNAL ANGLES Fix full length to all external corners with clouts at 100 mm each side staggered.

3.13 FILL JOINTS Fill joint recess with bedding compound, centre the paper tape, apply second coat of bedding compound followed by a coat of finishing compound; allow to dry and lightly sand off, all to the plasterboard manufacturer's requirements.

3.14 STOPPING Fill nail holes and flush up external angles with two successive coats of bedding compound followed by a coat of finishing compound, allow to dry and lightly sand off, all to the plasterboard manufacturer's requirements.

Sundry items

3.27 PROPRIETARY ACCESS HATCH
Install and fix to the hatch manufacturer's requirements.

3.28 CEILING ACCESS
Trim out ceiling to form 600 mm x 600 mm square clear opening. Fit finished 40 mm x 12 mm timber facings to perimeter, set to support a lift-out panel of the ceiling material.

3.29 TRIM
Scribe and fit reveal linings to exterior timber joinery, architraves to interior joinery, skirtings to walls and timber bead cornices as detailed and shown.

3.30 CLEAN
Clean adjoining surfaces and fittings of spots, marks, dust and droppings.

END OF SECTION

6701 PAINTING

1. GENERAL

1.0 SCOPE — The supply of all materials and labour associated with the painting.

Painting of exterior plaster coatings are specified in section 4202.

1.1 DOCUMENTS — Documents referred to in this section are:
Occupational Safety and Health Service (OSH) publication:
Guidelines for the management and removal of asbestos
Health and Safety in Employment Act 1992
BRANZ Bulletin 314: Removing paint coatings from houses

1.2 GUARANTEE — Guarantee this work under normal environmental and use conditions against failure.
Guarantee period: 3 years

Refer to the PRELIMINARIES AND GENERAL section for the required form of Guarantee agreement and details of when completed Guarantee must be submitted.

1.3 QUALIFICATIONS — Carry out work using competent and experienced painters.

1.4 HEALTH AND SAFETY — Refer to the requirements of the Health and Safety in Employment Act 1992 and if elimination or isolation is not possible, then minimise the hazards in this work.

Refer to BRANZ Bulletin 314 "Removing paint coatings from houses" for the required procedures and precautions when:
- Treating or removing lead based paint.
- Burning off paint.
- Sanding off paint.
- Using solvent based paint removers.

2. PRODUCTS

2.1 PAINT — To the paint manufacturer's standards for exterior and/or interior primers, undercoats, sealers, stains, clear coatings, solvent-borne and water-borne paints.

2.2 GAP FILLERS — Linseed oil, putty, plastic wood, wood filler or plastic filler, to suit and to match the surface being prepared.

3. EXECUTION

3.1 INSPECT — Inspect surfaces for painting and report to the owner any that will not, after the preparatory work laid down by the paint manufacturer, allow work of the required standard. Confirm that all areas have adequate lighting and are sufficiently free of other construction activities to enable painting work to proceed.

3.2 PROTECT — Cover up adjoining surfaces and areas liable to damage or over-painting.

3.3 REMOVE HARDWARE — Remove hardware and door/window furniture and replace on completion. Do not paint over permanently attached hinges, or any hardware items which cannot be removed.

3.4 PRIMING AND SEALING — Ensure that priming and sealing work needed before or during construction is carried out when required.

3.5 ENVIRONMENTAL CONDITIONS Carry out work within acceptable temperature and humidity limits, with timber dry, all to the requirements of the paint manufacturer.

3.6 SELECTIONS Confirm all selections, colours and finishes for paint with the owner, before commencing work.

3.9 SHARP EDGES, CRACKS AND HOLES Repair as required by the paint manufacturer.

3.10 PREPARE SURFACES Prepare surfaces to be coated as required by the paint manufacturer. Make good all damage and defects.

3.11 PAINT APPLICATION Apply paint by brush and/or roller to suit the location of the coating and to the paint manufacturer's requirements. Do not spray on site without express permission.

3.12 MANUFACTURER'S MANUALS Refer to the paint manufacturer's manuals and follow their preparation, sequence and application requirements applying to each system. Ensure all paint coats in any system are supplied by the same manufacturer.

3.13 DEFECTIVE WORK Correct defective work immediately. Recoating to follow the selected paint system's requirements.

3.14 SCUFF BETWEEN COATS Scuff between all coats to remove any dust pick-up, protruding fibres and coarse particles.

3.15 FINISHED PAINT SURFACES Finished paint surfaces to show uniformity of gloss and colour, with the correct thickness for each coat, and freedom from painting defects. Ensure finished work is clean and free of any disfigurement.

3.18 CLEAN Clean adjoining surfaces, glass and fittings of any paint contamination.

3.19 REPLACE Replace hardware without damage to the hardware or the adjoining surfaces.

3.20 TAKE AWAY Take away from the site unused painting materials and equipment.

4. SCHEDULES

4.1 PAINTING SYSTEMS, EXTERIOR The following are generic paint system descriptions – the contractor is to nominate a brand specific system for the approval of the principal prior to proceeding.

To the paint manufacturer's requirements.

Substrate	General System Description	Details	Gloss level
Rough Sawn Timber Posts, rafters and Beams	unpainted		
Exterior plaster cladding system			
Timber Fascia	Enamel Paint	- 1 coat undercoat - 2 coats enamel	semi-gloss
Galvanised steel brackets:	unpainted		
Coloured Concrete	self finished – no painting required.		
uPVC downpipes	unpainted		

4.2 PAINTING SYSTEMS, INTERIOR

To the paint manufacturer's requirements.

Substrate	General System Description	Details	Gloss level
Gib Board walls:	acrylic paint	- 1 coat sealer - 2 coats acrylic paint	satin
MDF walls:	acrylic paint	- 1 coat undercoat - 2 coats acrylic paint	satin
Gib Board ceilings:	acrylic paint	- 1 coat sealer - 2 coats acrylic paint	satin
Timber Doors Generally	Enamel Paint	- 1 coat undercoat - 2 coats enamel	semi-gloss
Front Door – leaf only	Oil finish system to approval of principal		
Painted Timber Trim:	Enamel Paint	- 1 coat undercoat - 2 coats enamel	semi-gloss
Clear Finished Timber Components	Clear Finish	- 1 sealer coat - 2 coats polyurethane clear finish	satin - flat
Cabinetwork:	coordinate responsibility for clear finishing and painting work with joiner		
Clear Finished Timber Shelving	Clear Finish	- 1 sealer coat - 2 coats polyurethane clear finish	satin - flat
Clear Finished Timber Toekicks	Clear Finish	- 1 sealer coat - 2 coats polyurethane clear finish	satin - flat
Floors:	no painting work required		

END OF SECTION

7101 HOT AND COLD WATER SYSTEM

1. GENERAL

1.0 SCOPE Work includes the supply of all labour and materials associated with the hot & cold water distribution system as required and noted herein.

~~1.1 DOCUMENTS Documents referred to in this section are:~~
~~NZBC G12/AS1 Water supplies~~
~~AS 2642 Polybutylene pipe fittings~~
~~2642.2: Polybutylene (PB) pipe for hot and cold water applications~~
~~2642.3: Mechanical jointing fittings for use with polybutylene (PB) pipes for hot and cold water applications~~
~~DIN 8077 Polypropylene (PP) Pipe dimensions~~
~~DIN 8078 Polypropylene (PP) Pipes Types 1, 2 & 3, General Quality Requirements and Testing.~~
~~Plumbers, Gasfitters and Drainlayers Act 1976~~

1.2 GUARANTEES Guarantees this work under normal environmental and use conditions against failure of materials and execution.
Guarantees period: 2 years

1.3 QUALIFICATIONS Plumbers to be experienced competent craftsman plumbers, or registered plumbers working under the direction of a craftsman plumber, familiar with the materials and techniques specified.

2. PRODUCTS

2.1 WATER MAIN POLYETHYLENE High density polyethylene 32 mm OD (minimum 25 mm internal diameter) pipe complete with rubber ring compression type fittings.

2.2 POLYBUTYLENE WATER PIPE Polybutylene tubing to AS 2642.2 and AS 2642.3 complete with fittings and accessories brand-matched.

~~2.3 POLYETHYLENE WATER PIPE Proprietary high density cross-linked polyethylene composite pipe and fittings to BS 7291.3.~~

~~2.4 POLYPROPYLENE WATER PIPE Polypropylene pipes to DIN 8077 and DIN 8078 complete with fusion welded fittings and accessories brand-matched.~~

2.5 EXPOSED PIPES Chrome plated copper pipe with chrome plated brass nuts and fittings. Faucet hoses covered with stainless steel braid and fitted with stainless steel nuts. White polyethylene composite pipe with white nuts and accessories.

Selected pipework finish to include escutcheon plates and bends and elbows protruding from walls or fittings.

2.6 GATE VALVES De-zincified brass with screwed ends.

2.12 HOT WATER HEATER. Rheems mains pressure 180 litre Cylinder

3. EXECUTION

3.1 ELECTROLYTIC ACTION Avoid electrolytic action by eliminating contact or continuity of water between dissimilar metals.

3.2 EXECUTION GENERALLY Generally carry out the whole of this work and tests to NZBC acceptable solution G12/AS1.

3.3 EXCAVATE Excavate for the water main to a firm, even trench base in straight runs. Allow to backfill.

3.4 WATER MAIN Lay a minimum of 500 mm below ground level (600 mm under driveways) from the utility network operator's supply through a gate valve and meter toby box to the building. Lay marker tape above the water main in backfill.

3.5 COPPER WATER SUPPLY Size the piping layout to eliminate loss of pressure at any point by simultaneous draw-off. Run pipes in straight runs, firmly fixed to falls, with long radius bends and jointed by brazing or with crox fittings, all to NZBC acceptable solution G12/AS1. Conceal piping, insulate all hot water pipework and pressure test before the wall linings are fixed.

3.6 POLYBUTYLENE/~~POLYETHYLENE~~ WATER SUPPLY Size the piping layout to eliminate loss of pressure at any point by simultaneous draw-off. Run pipes complete with all fittings, support and fixing, and jointed to the pipe manufacturer's specifications, all to NZBC acceptable solution G12/AS1. Conceal pipework and pressure test before the wall linings are fixed.

~~3.7 POLYPROPYLENE WATER SUPPLY Size the piping layout to eliminate loss of pressure at any point by simultaneous draw-off. Run pipes complete with all fittings, support and fixing, fusion weld joins and install to manufacturers specifications, all to NZBC acceptable solution G12/AS1. Conceal pipework and pressure test before the wall linings are fixed.~~

3.8 OUTLET LOCATIONS Ensure wall outlets for exposed pipes are level and centred on the fixture to ensure the neat installation of exposed pipework.

3.9 INSTALLING HOT WATER PIPE INSULATION Insulate all hot water pipes in accordance with the insulation manufacturer's instructions. Cut insulation sections tight between timber framing and tight between the webs of steel studs. Where hair felt is used, wrap around pipes in two layers in opposite directions and secure with galvanised steel wire ties.

3.14 PENETRATIONS Provide and fit collars and escutcheon plates to match the pipework at all penetrations through constructions.

3.15 INSTALL TAPS AND FAUCETS Install taps and faucets in accordance with the tap manufacturer's requirements. Flush out on completion. Check that washers or ceramic discs are operating correctly.

3.16 LEAVE Leave water services in proper working order. Pressure test to ensure no leakage and leave in proper working order.

3.17 CLEAN Clean tapware and fittings. Remove unused materials from the site.

4. SCHEDULES

4.13 TEMPERING VALVE Suitable approved.

4.14 TAP, FAUCET (& OTHER) FITTINGS Confirm selections with the owner. All fittings supplied, installed and commissioned by contractor unless noted otherwise

END OF SECTION

7401 RAINWATER SYSTEMS

1. GENERAL

1.0 SCOPE: Work under this section includes the supply of all materials and labour associated with the completion of the rain water disposal system running to the water storage tanks (supplied by owner) including:
- spoutings and downpipes

~~1.1 DOCUMENTS Documents referred to in this section are:~~
~~AS 1397 Steel sheet and strip - hot-dipped, zinc-coated or aluminium/zinc coated~~
~~BRANZ Bulletin 304: Flashing design.~~
~~BRANZ Bulletin 305: Domestic flashing installation.~~

1.3 QUALIFICATIONS Workers to be either competent craftsman plumbers, or registered plumbers working under the direction of a craftsman plumber, or roofers, familiar with the materials and techniques specified.

2. PRODUCTS

UPVC

2.2 UPVC DOWNPIPES Tubes, stand-off brackets and fittings brand matched and complete to the manufacturers specifications.

Aluminium/zinc alloy coated steel

~~2.7 ALUMINIUM/ZINC ALLOY COATED STEEL SPOUTING~~
~~Profile, jointing, brackets and fittings brand-matched and complete to the spouting manufacturer's specifications.~~

Aluminium/zinc alloy coated pre-painted steel

~~2.9 ALUMINIUM/ZINC ALLOY PRE-PAINTED SHEET STEEL - Colorsteel G2Z~~
~~0.55 mm sheet steel coated to AS 1397, pre-painted.~~

~~2.10 1/4 ROUND ALUMINIUM/ZINC ALLOY COATED PRE-PAINTED STEEL SPOUTING~~
~~Profile, jointing, brackets and fittings brand-matched and complete to the spouting manufacturer's specifications. To match selected roof material finish.~~
~~- material: colorsteel G2Z~~

General

2.16 FLASHINGS GENERALLY 0.55 mm sheet steel galvanised to AS 1397, aluminium/zinc coated to AS 1397, 1.8 mm (20 kg/m^2) copperised pure lead, 0.5 mm half hard copper sheet, or proprietary rubberised perforated aluminium strip, all to location, compatibility and design requirements of BRANZ Bulletin 304 Flashing design.

2.17 DOMES Wire mesh in round form with legs to clip inside the outlet opening to the downpipe.

3. EXECUTION

3.1 ELECTROLYTIC ACTION Avoid electrolytic action by eliminating contact or continuity of water between dissimilar metals.

Check compatibility of metals used for rainwater goods, against the materials used for roofing and flashings. Notify any incompatibility to the owner and obtain written approval for amendments to selections.

3.2 LIAISON Ensure liaison with associated installations to confirm material selections are compatible and required flashing work is completed.

3.3 INSTALLATION GENERALLY Install and fix spouting and downpipes to the manufacturers requirements. Install system to properly drain water from the roof area and so that water will not enter the building under overflow conditions.

UPVC

3.5 FIT UPVC DOWNPIPES Fit stand-off brackets or clips at maximum 1 metre centres and fix with round head galvanised screws. Set pipes plumb and clear of the wall. Appropriately seal joints. Discharge into stormwater drainage system reticulating to storage tanks. Allow to seal & install dp's to suit the requirements of the pressures associated with the water storage tank system

Aluminium/zinc alloy coated steel pre-painted

~~3.10 FIT ALUMINIUM/ZINC ALLOY COATED STEEL PRE-PAINTED SPOUTING Fit brackets at maximum 800 mm centres and fix with galvanised screws. Set to fall to outlets. Make joints with silicone sealed and pop-riveted to the spouting manufacturer's requirements.~~

General

3.14 FLASHINGS Scribe fit, fold, lap, seam, or run solder as required by the metal, to flash all roof penetrations, roofing and exterior joinery to prevent weather penetration. Except at expansion joints, allow for 2 rows of rivets to overlapping sheet joints. Install and fix flashings and flashing joints to the criteria stated in BRANZ Bulletins 304 Flashing design and 305 Domestic flashing installation.

3.15 INSTALL DOMES Install wire mesh domes at the top of downpipes.

3.18 LEAVE Leave rainwater services in proper working order and all flashing work completed to keep the building weathertight.

3.19 CLEAN UP Wash out gutter daily and on completion to remove swarf. Take away from the site unused materials and elements.

END OF SECTION

7402 SANITARY PLUMBING

1. GENERAL

~~1.1 DOCUMENTS Documents referred to in this section are:~~
~~NZBC G1/AS1 Personal hygiene~~
~~2.0 Fixture construction and installation~~
~~3.0 Location of sanitary fixtures~~
~~NZBC G13/AS1 Foul water - sanitary plumbing~~
~~AS/NZS 1260 PVC pipes and fittings for drain, waste and vent applications~~
~~AS/NZS 3500 National plumbing and drainage code~~
~~3500.2: Sanitary plumbing and drainage~~
~~3500.2.2: Acceptable solutions~~
~~NZS 7641 Unplasticized PVC waste and ventilating pipe, fittings and accessories, 32 mm, 40 mm and 50 mm~~
~~Plumbers, Gasfitters and Drainlayers Act 1976~~

1.3 QUALIFICATIONS Carry out work by or under the direct supervision of a person registered under the Plumbers, Gasfitters and Drainlayers Act 1976.

2. PRODUCTS

2.1 UPVC WASTE, SOIL AND VENT PIPES UPVC pipe to NZS 7641 and AS/NZS 1260 complete with fittings brand-matched to the pipe manufacturer's requirements.

2.2 EXPOSED PIPES AND TRAPS Chrome plate on copper pipes and associated copper and brass fittings.

2.3 SEALANT, SANITARY FIXTURES For between sanitary fixtures and accessories and adjacent floor or wall surfaces. 1-part, silicone, containing mildew resistant agents. Colour to be approved.

3. EXECUTION

3.1 EXECUTION GENERALLY Carry out this work and complete all tests to AS/NZS 3500.2.2. Carry out this work and complete all tests to NZBC acceptable solutions G1/AS1, 2.0, 3.0 and G13/AS1.

3.2 ELECTROLYTIC ACTION Avoid electrolytic action by eliminating actual contact or continuity of water between dissimilar metals.

3.3 INSTALL SANITARY FIXTURES Fit and install sanitary fixtures and associated screens, elements and hardware, plumb, true to line and rigid, to the fixture manufacturer's requirements. Supply standard chrome plated brass wastes and plastic plugs on chrome plated chains with all basins, tubs and baths.

3.4 INSTALL TRAPS, WASTE AND VENT PIPES Connect waste outlets to traps and run waste pipes and back vents concealed, sized and fixed to AS/NZS 3500.2.2/NZBC acceptable solution G13/AS1. Discharge wastes into the drainage system stack, soil pipe, or gully trap as shown. Bird proof mesh to all roof vents and vermin proof mesh to all untrapped waste pipes.

3.5 PENETRATIONS At penetrations through constructions provide and fit collars and escutcheon plates to match pipework.

3.7 TEST Test soil and waste disposal systems to ensure no leakage exists and leave in proper working order.

3.8 CLEAN UP Remove labels and clean fittings. Remove unused materials from the site.

7403 DRAINAGE

1. GENERAL

1.0 SCOPE Work includes the supply of all labour and materials associated with the sanitary & stormwater disposal system as required and noted herein.

~~1.1 DOCUMENTS Documents referred to in this section are:~~
~~NZBC B1/AS1 Structure - general~~
~~6.0 Drains~~
~~NZBC E1/AS1 Surface water~~
~~NZBC G13/AS2 Foul Water - drainage~~
~~AS/NZS 1260 PVC pipes and fittings for drain, waste and vent applications~~
~~NZS 3108 Concrete production - ordinary grade~~
~~NZS 3402 Steel bars for the reinforcement of concrete~~
~~AS/NZS 3500 National plumbing and drainage code~~
~~3500.2: Sanitary plumbing and drainage~~
~~3500.2.2: Acceptable solutions~~
~~3500.3: Stormwater drainage~~
~~3500.3.2: Acceptable solutions~~
~~NZS 7643 Installation of unplasticized PVC pipe systems~~
~~NZS 7649 Unplasticized PVC sewer and drain pipe and fittings~~
~~Plumbers, Gasfitters and Drainlayers Act 1976~~

1.3 AS-BUILT DRAWINGS Supply a 1:100 scale as-built drawing of drains and fittings to the territorial authority and to the owner on completion.

1.4 QUALIFICATIONS Drainlayers to hold a current licence within the terms of the Plumbers Gasfitters & Drainlayers Act 1976 and be experienced, competent and familiar with the materials and techniques specified.

2. PRODUCTS

2.1 CONCRETE 17.5 MPa ordinary grade to NZS 3108.

2.2 REINFORCEMENT To NZS 3402 Grade 300 deformed bars.

2.3 UPVC PIPES UPVC pipes bends, junctions, fittings and joints to NZS 7649 and AS/NZS 1260.

2.5 GULLY TRAPS To NZBC acceptable solution G13/AS2, 3.2, complete with grating.

2.9 DRAINAGE AND FILLING MATERIALS

Granular: Clean gravel or crushed stone or a blend of these. Particle size from minimum 7 mm to maximum 20 mm.

Selected: Fine grain soil or granular material suitable for bedding; excluding topsoil.

Ordinary: Top soil or other excavated materials.

3. EXECUTION

3.1 EXCAVATE Excavate for drains to a firm even base with correct gradients set in straight runs.

3.2 MANUFACTURER'S REQUIREMENTS All drainage installations to the pipe and fitting manufacturer's requirements.

3.3 DRAINAGE GENERALLY Carry out drainage work and tests to AS/NZS 3500.2.2 (foul water) AS/NZS 3500.3.2 (stormwater) as modified by NZBC acceptable solution B1/AS1, 6.0. Lay UPVC pipe systems to relevant sections of NZS 7643.

3.4 LAY FOUL WATER DRAINS Lay drains in straight runs to correct gradients, to discharge into septic tank as shown on plans. Set inspection fittings on a concrete base.

3.5 INSTALL GULLY TRAPS Set on concrete 50 mm above the surrounding ground or paving and brought up to protect the top of the fitting. Trowel off.

3.6 LAY STORMWATER DRAINS Confirm the required location of downpipes and finished ground levels before commencing pipework. Set downpipe bends in concrete brought up to protect the top of the bend from damage. Lay drains in straight runs to correct gradients to discharge into storage tanks as shown on plans.

~~3.13 CONCRETE ENCASEMENT Concrete encase shallow drains and drains under driveways, on a 100 mm deep 17.5 MPa concrete bed reinforced with three 10 mm mild steel bars. Surround pipes with a polythene membrane to allow movement and encase in 100 mm 17.5 MPa concrete.~~

3.14 FIELD TEST Field test drains for watertightness (UPVC to NZS 7643 section 11) to the satisfaction of the territorial authority inspector.

3.15 BACKFILL Backfill drain lines in 150 mm layers, well tamped but without disturbing the drains. Finish off with 150 mm of topsoil, slightly mounded above the finished ground line.

END OF SECTION

7701 ELECTRICAL BASIC

1. GENERAL

This section relates to the wiring for domestic and small scale commercial installations, including:

- power
- lighting

1.1 ABBREVIATIONS AND DEFINITIONS

Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

The following abbreviations apply specifically to this section:

CFL	compact fluorescent lamp
ELV	extra low voltage
GLS	general lighting service
IP	international protection classification
LCD	liquid crystal display
LED	light emitting diode
MCB	miniature circuit breaker
NUO	Network Utility Operator
PCB	printed circuit board
PIR	passive infrared
RCBO	residual current-operated circuit breaker with over current protection
RCCB	residual current-operated circuit breakers
RCD	residual current device
SIA	security integration architecture
TPS	tough plastic sheathed

Documents

1.2 DOCUMENTS REFERRED TO

Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC G9/AS1	Electricity
AS/NZS 1125	Conductors in insulated electric cables and flexible cord
AS/NZS 1768	Lightning protection
AS/NZS 3000	Electrical installations (known as the Australian/New Zealand Wiring Rules)
AS/NZS 3008.1.2	Electrical installations - Selection of cables - Cables for alternating voltages up to and including 0.6/1 kV - Typical New Zealand installation conditions
AS/NZS 3100	Approval and test specification-general requirements for electrical equipment
AS/NZS 3112	Approval and test specification - Plugs and socket-outlets
AS/NZS 3190	Approval and test specification - Residual current devices (current-operated earth-leakage devices)
AS/NZS 3350.1	Safety of household and similar electrical appliances - General requirements
NZECP	NZ Electrical Codes of Practice
NZECP 54	NZ Electrical Codes of Practice for the installation of recessed luminaires and auxiliary equipment (available at www.energysafety.govt.nz)

Electricity (Safety) Regulations 2010

1.3 MANUFACTURER/SUPPLIER DOCUMENTS

Manufacturer's and supplier's documents related to this section are:

~Recessed light specification sheet attached at end of this section.

1.4 WARRANTY

Warrant the complete electrical installation under normal environmental and use conditions against failure of materials and execution.

1 year: Warranty period

Requirements

1.5 COMPLY

Comply with the Electricity (Safety) Regulations 2010, AS/NZS 3000, AS/NZS 3008.1.2 and the New Zealand electrical codes of practice for listed and prescribed work and with the utility network operator's requirements.

1.6 QUALIFICATIONS

Carry out work under the supervision of an electrical licensed supervisor.

1.7 SAFETY OF INSTALLATION - DESIGN BY ELECTRICIAN

Before installation work commences provide a declaration of conformity. The declaration of conformity is to comply with the Electrical (Safety) Regulations (2010), regulations 57 and 58. It must be signed by the designer of the installation.

1.8 CERTIFICATE OF COMPLIANCE

Supply a certificate of compliance to the owner, as required by the Electricity (Safety) Regulations (2010) regulation 67, within 20 days of completion as required by regulation 69.

2. PRODUCTS

2.1 MAINS SUPPLY, SINGLE PHASE

The existing power mains are to be used. Relocate to position of new Meter Board.

2.2 CABLES

Tough plastic sheathed copper conductors to AS/NZS 5000.2, stranded above 1.0mm^2, and to AS/NZS 3008.1.2. Minimum sizes as below. Increase sizes if the method of installation, thermal insulation, cable length or load will reduce the cable rating below that of the MCB rating, or produce an excessive voltage drop.

Lighting circuits:	Domestic: 1.5mm^2 on 10 amp MCBs
Lighting circuits:	Commercial: 1.5mm^2 on 16 amp MCBs
Power circuits:	2.5mm^2 on 16 amp MCBs for domestic and unenclosed or unfilled cavity construction
	2.5mm^2 on 16 amp MCBs for domestic insulated construction, or filled cavity
	2.5mm^2 on 20 amp MCBs for unenclosed or unfilled cavity construction
	2.5mm^2 on 16 amp MCBs for insulated construction, or filled cavity, or lengths over 30 metres
Hot water cylinder circuits:	Single phase: 2.5mm^2 on 20 amp MCBs
Range/oven/hob circuits:	Single phase: 6mm^2 on 32 amp MCBs

Heat resistant cable for final connections to all heated appliances, and high temperature cable in ambient conditions that may be above 35°C.

2.3 METER BOX

Proprietary manufactured, zinc plated powder coated metal case, or ABS plastic, with glazed panel door, weatherproof where mounted outdoors, and complete with meter mounting, main switch and fuse.

2.4 DISTRIBUTION BOARD
Flush surface mount boards manufactured to AS/NZS 3439.3 and installed in accordance with AS/NZS 3000. Manufactured from engineering grade resin with a glow wire rating of 850°C, complete with neutral and earth busbars, and insulated comb phase bar. Distribution boards to have 20% spare capacity for future additions and alterations.

2.5 CIRCUIT PROTECTION
General requirements including main switch 63A or 100A. Residual current protection 30mA, ensure RCCBs' meet Type A and comply with AS/NZS 3190. MCBs to 4.5kA or 6kA rated.

2.6 WALL BOXES
Standard grid size or equivalent to be manufactured from plastic or metal, with 2 or more gang size to be metal with steel inserts for accessory securing screws. Screw fixed.

2.7 SWITCH UNITS
Single pole switches to be 16 amp minimum rated, double pole or intermediate to be 16 amp minimum rated. All switches to be 230 volt a.c. polycarbonate flushplate units. Refer to drawings/schedules for number of switches per unit, dimmer units, neon (indicator or toggle) units and 2 way units.

2.8 HOT WATER SYSTEM SWITCH
One way 20 amp switch complete with cable clamp for flexible PVC conduit to element enclosure.

2.9 SWITCHED SOCKET UNITS
10 amp, 230 volt flat 3 pin socket outlets fitted with safety shutters and manufactured to AS/NZS 3100, AS/NZS 3112 and AS/NZS 3113, single or multi gang as detailed.

2.10 SMOKE ALARMS
Refer to Fire report for description of requirements.

2.11 SURGE PROTECTION
Protection for the homes appliances with IEC 61643 Class II surge protection devices fitted to the switchboard. For variable electronic equipment fit IEC 61643 Class III surge protection to switched socket outlets.

2.12 LIGHT FITTINGS
All light fittings supplied by the owner – refer to specification sheet at the rear of this section.

2.13 OUTDOOR SWITCHES & SOCKETS
Using materials with superior UV protection, impact strength, and addition chemical resistance when compared with interior polycarbonate fittings. Weather protected, switches to IP56 minimum, and sockets to IP53 minimum. Sockets fitted with safety shutters behind socket pins, and all products able to be padlocked off or on.

3. EXECUTION

3.1 MAIN SUPPLY
Power Mains are existing but re-routed within the building to position of new meter box.

3.2 METER BOX
Fit to meter box manufacturer's and Electricity Retailer's requirements. Recess into external wall in sheltered area and flash to weatherproof to NZBC E2/AS1 fig 69. Arrange for meter installation and connection.

3.3 DISTRIBUTION BOARD
Fit to AS/NZS 3000 and board manufacturer's requirements. Recess into wall.

3.4 CIRCUIT PROTECTION
Install MCBs at distribution board to AS/NZS3000 to protect each final sub circuit.

3.5 EARTH BONDS
Bond together and to earth all plumbing fittings not adequately isolated, to AS/NZS 3000, the Electricity (Safety) Regulations 2010 and the fitting manufacturer's requirements.

3.6 MAIN EARTH
Confirm by site inspection that the existing main earth is in good condition and in suitable location. Should it be necessary to provide a new main earth then provide a plastic toby box to contain and protect the earth electrode. Fix the connecting earth wiring closely and securely against wall surfaces.

3.7 EARTH LEAKAGE PROTECTION
Install RCD protection to AS/NZS 3000.

3.8 DOMESTIC INSTALLATIONS
Install 30mA RCD protection at the distribution board for all final sub circuits to control socket outlets and lighting except for fixed or stationary cooking equipment, to AS/NZS 3000.

3.9 SET-OUT
The position of outlets and equipment shown on drawings is indicative of requirements. Confirm documents and site conditions are not in conflict with other services or features. Resolve conflicts and discrepancies before proceeding with work affected. Confirm on site the exact location, disposition and mounting heights of all outlets, fittings, equipment, penetrations, and use of exposed wiring. Fix outlet items level, plumb and in line.

3.10 CABLING
Install wiring systems to AS/NZS 3000. All cabling run concealed. No TPS cable laid directly in concrete. Locate holes in timber framing for the passage of cables at the centre line of the timber member. Install cable in conduits where required to pass through concrete or underground. In walls run cabling horizontally and vertically in straight lines. In ceilings either run cabling along ceiling framing or attached to catenary wires. Clip cabling to ceiling framing/catenary wires.

3.11 CABLING CIRCUITS
Install all circuits with the appropriately rated cable and circuit protection. Install with a maximum of 8 light switch units or 4 double or single switched socket units on any circuit. Minimum 2 lighting circuits per floor. Separate circuits for all electric heating appliances. Kitchen sockets to be on at least two different circuits.

3.12 WALL BOXES
Mount flush in cavity construction size to fit products selected. Fix vertically mounted wall boxes to studs. Screw fix horizontally mounted switched socket outlet wall boxes to solid blocking or nogs. Fix switch panel wall boxes to solid blocking.

3.13 SWITCH AND SOCKET UNITS
Fit all single and double switch units, all sockets to the following heights (to the centre of the unit) unless shown otherwise on the drawings.

Switch Units:	Confirm with Owner
Socket Units:	150mm above work benches
	Elsewhere confirm with owner

Mount light switches and switch socket outlets vertically and socket units horizontally. Label all switch units that control electrical equipment or special lighting circuits by colour filled engraving on the switch. Use proprietary engraved switch mechanisms where applicable.

3.14 ISOLATING SWITCHES
Locate isolating switches in positions as confirmed by the owner, when not specifically shown on the drawings.

3.15 LIGHT FITTINGS
All internal and external light fittings are supplied by the owner. Install light fittings in locations specified and confirmed by the owner, in accordance with the fitting manufacturer's requirements. Refer to the fitting specification sheets at the back of this section. Note that the fitting type allows ceiling insulation to extend up to and/or over the fittings.

3.16 ELECTRIC HOT WATER SYSTEM
Wire as a separate circuit through a wall-mounted isolating switch, with the cable from switch to element encased in flexible PVC conduit, clamp fixed at each end. Hot water cylinders, thermostats and 3000 watt element supplied and fitted under the hot and cold water system section.

3.17 SMOKE ALARMS
Refer to Fire Report for requirements.

3.18 SURGE PROTECTION
Install surge protection devices to manufacturer's requirements and in accordance with AS/NZS 3000 and AS/NZS 1768. When fitting IEC 61643 Class II protection at the switchboard, protect the device by a dedicated MCB.

3.19 ELECTRIC POWERED FITTINGS AND EQUIPMENT
Install and wire fittings and equipment to individual fittings and equipment manufacturer's requirements. Refer to the drawings for required layouts and locations for equipment. Refer to SELECTIONS for schedules of fittings.

3.20 OUTDOOR/EXTERIOR SERVICES
Install all wiring systems in accordance with AS/NZS 3000 and in accordance with the manufacturer's recommendations.

Use the appropriate rated fittings for power control and power supply. Weather protected switches to IP56, and sockets to IP53 as a minimum. Install to manufacturer's specifications using recommended fittings and sealants to maintain the products integrity.

4. SELECTIONS
Substitutions are not permitted to the following, unless stated otherwise.

Materials

4.1 SELECTIONS - FITTINGS AND HARDWARE
Confirm selections of all outlet fittings and hardware with the owner in writing before ordering.

4.2 METER BOX

Location:	~Determined on site
Brand / type:	~Any suitable proprietary model/brand

4.3 DISTRIBUTION BOARD

Location:	~Replace existing distribution board with new in same location as existing
Brand / type:	~Any suitably sized proprietary model/brand, flush mounted

4.4 INTERIOR OUTLETS

Item	Brand / type
Switch / socket outlets:	~PDL or Clipsal

Coverplate colour:	~White
Switch module colour:	~White

Item	Brand / type
Light dimmers:	~ PDL or Clipsal
PIR sensor switch:	~ PDL or Clipsal
Waterproof switches:	~ PDL or Clipsal

4.5 INTERNAL LIGHT FITTINGS

Refer to 4.17 Owner Supply Items

4.6 SMOKE ALARMS

Location:	~Refer to Fire Report for information
Brand / type:	~

4.7 EXTERIOR SWITCHES AND SOCKETS

Item	Brand / type
Weatherproof socket outlets:	~ PDL or Clipsal

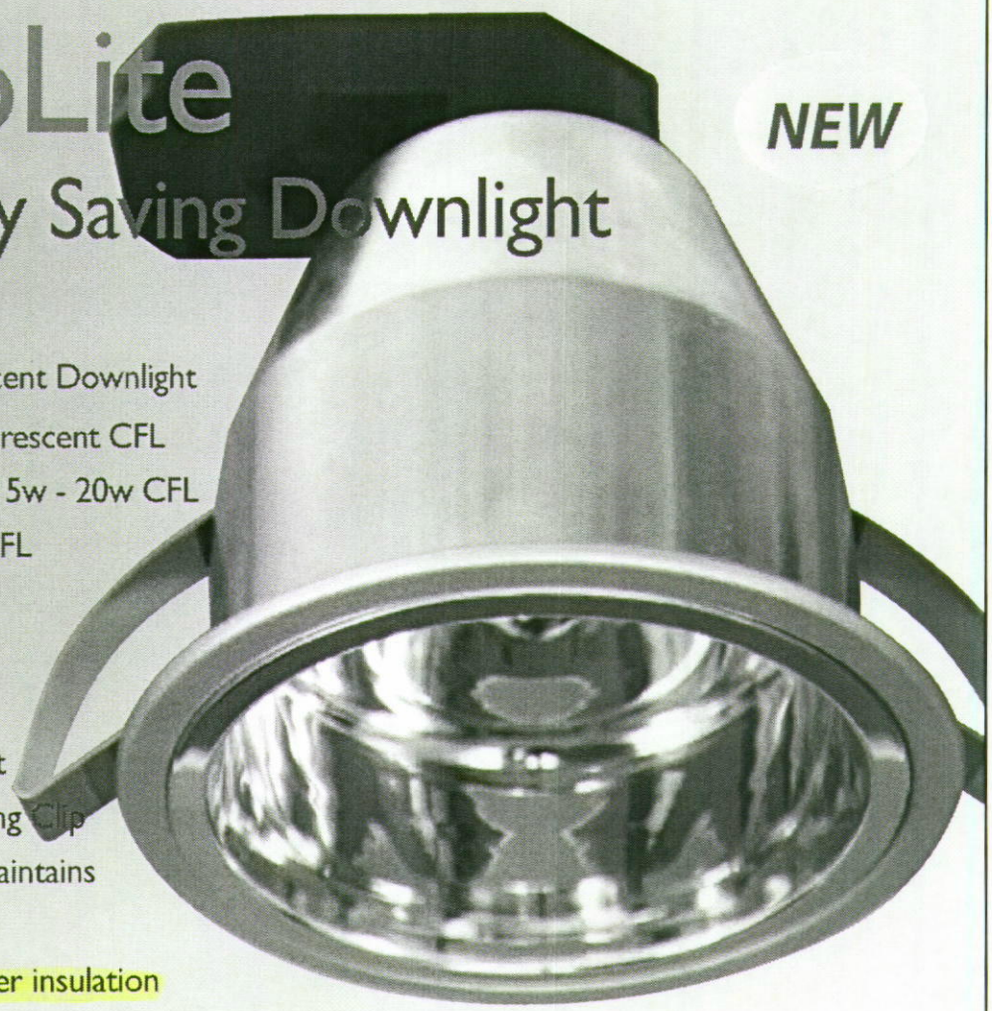
4.8 OWNER SUPPLY ITEMS

Item	Brand / type
Stove	To be confirmed – assume standard freestanding range.
Dishwasher	To be confirmed – assume standard underbench type.
All interior and exterior lights	Nominated supplier Bay Lighthouse.

EcoLite

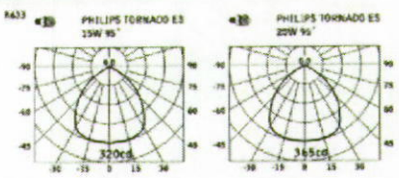
Energy Saving Downlight

NEW



- R633 Fixed Fluorescent Downlight
- Lamp Type: E27 Fluorescent CFL
- Rec. Lamp Wattage: 15w - 20w CFL
- Max Wattage: 24w CFL
- Voltage: 240V 50 Hz
- Cut-out: 125mm dia
- Safety: Thermal Cut-out / Auto Reset
- Easy Release Retaining Clip
- Thermal transfer: Maintains R Value
- Can be installed under insulation
- IP44 Covers for wet zones in Clear or Opal
- Photometric Data: IES Files available
- NZECP54 Classification: CA or IC

Colours: White, Silver & Brushed Chrome



Halcyon's new EcoLite Compact Fluorescent Fixed Downlight is suitable for Interior or Exterior general purpose lighting. Incorporates thermal cut out /auto reset safety feature, closed cannister that eliminates draughts through the ceiling and is easy to install with detachable lamp holder assembly for pre wire.

Available from Leading Lighting Outlets

HALCYON LIGHTING

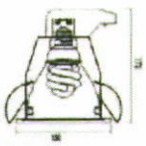
10 Basalt Place, East Tamaki, Auckland, New Zealand
PO Box 58-501, Botany, Manukau 2163, Auckland, New Zealand
Ph: 0064 9 273-9177 or Fax 0064 9 273-9155 Free Fax: 0800 101 027
Email: sales@halcyonlights.co.nz Web: www.halcyonlights.co.nz

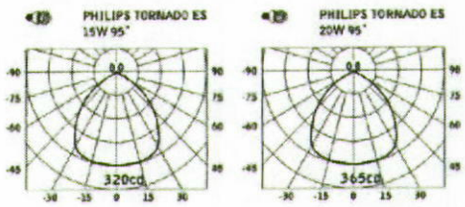
HALCYON LIGHTING

For Energy Saving Lamp

R633

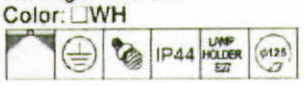
Material: Steel/Aluminum
Wattage: 15/20W
Color: □WH ■SY

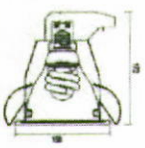


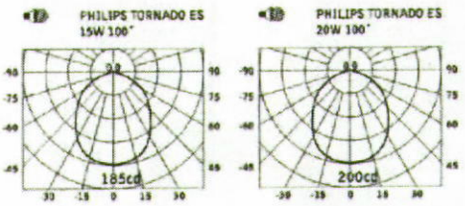


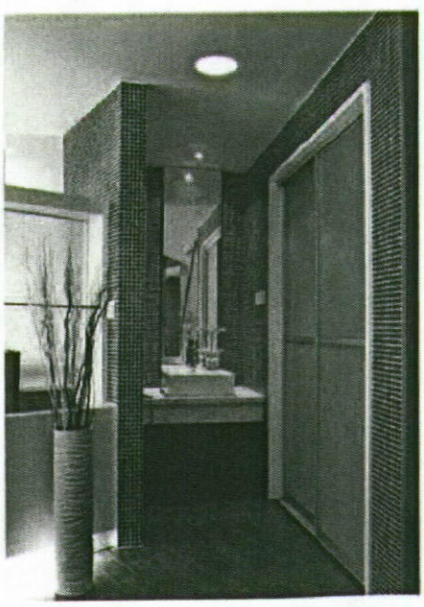
R633 FRC

Material: Steel/PC/Aluminum
Wattage: 15/20W
Color: □WH









Supplier Declaration of Conformity (SDoC)

In accordance with ISO/IEC 17050-1:2004

SDoC identification Number[1] - TRLF2 – Recessed Luminaire Fluorescent

Issuer details

Name[2] (of New Zealand manufacturer or importer)	Contact Address
Halcyon Lighting Ltd	10 Basalt Place East Tamaki Manukau City
New Zealand Company Number (if applicable) AK-114999	
Telephone (09) 273-9177 **Fax** (09) 273-9155	**Email address** sales@halcyonlights.co.nz

Medium Risk Article – Details[3] (Product name, type, rating, brand, model, batch numbers, and serial numbers, as applicable)

R633, R740, R741, R742, R743

Recessed Luminaire Fluorescent Domestic - Rating: CA

The medium risk article listed above, fully complies with the standard(s), as listed:-

Standard number & issue year:-
AS/NZS 3820:2009

Standard Title:-
Essential Safety Requirements for Electrical Equipment

Edition / Amendment status:-
Second Edition AS/NZS 3820:2009

Or complies with the Conformity Cooperation Agreement - No (Delete as applicable)

Names and addresses of any testing organisation or body

Name(s)	Address(es)
Independent Testing House	Confidential

Reference to relevant test reports/certification, and issue date of the reports/certification, that show how compliance is achieved:-

Report/Certification N°(s)	Issue date(s)
Test Report on Request.	

Reference to any management systems involved:-

Additional[4] information

Declaration

I hereby declare that the above specified fittings or electrical appliances comply with the requirements of Regulation 83 of the Electricity (Safety) Regulations 2010

Issuer Identification:
(as affixed to the article)

HALCYON LIGHTING

Signed for and on behalf of:
HALCYON LIGHTING LTD

Name[5] & position, as authorized by the issuer
ROYCE EVERETT - DIRECTOR

Signature **Date**
01/06/2010

---

[1] Every declaration of conformity should be uniquely identified.

[2] The responsible issuer must be unequivocally specified.

[3] The "Article" must be unequivocally described so that the declaration of conformity may be related to the article in question. For mass-produced products, it is not necessary to give individual serial numbers. Where variants of an article are to be covered, these must be detailed.

[4] Text should appear here only if any limitation on the validity of the declaration of conformity and/or any additional information are given.

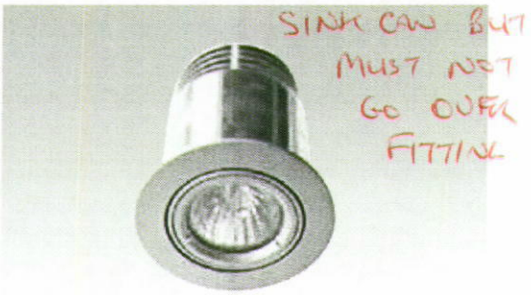
[5] Full name and function of the signing person(s) authorised by the issuer's management to sign on its behalf should be given. The number of signatures, or equivalent, included will be the minimum determined by the legal form of the issuer's organization.

HALOGEN RANGE

HALCYON LIGHTING

RECESSED HALOGEN

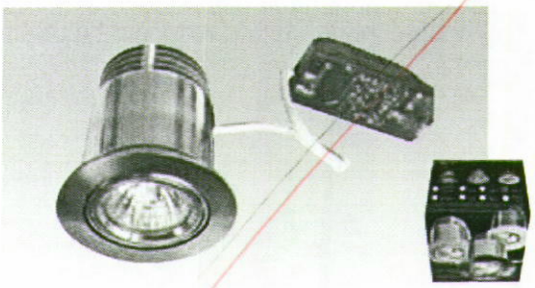
INSULATION CAN TOUCH THE HEAT SINK CAN BUT MUST NOT GO OVER FITTING



R692 S with R692 HS
R692 Heat Sink Can
Lamp Type: Halogen MR16 12V
Finish: W, S, BC, CH, BL, CR, CC
Material: Spun Aluminium & Die Cast Aluminium

Cut Out	Height	Dia	NZECP54	Wattage
82	95	92	CA	50W

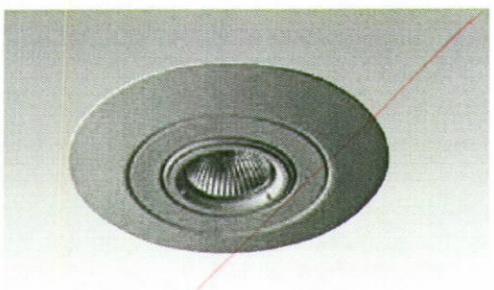
RECESSED HALOGEN



R692 KBCHT (Pre Wired Kit Box)
c/w 25° Fitting, Lamp T60D Transf. & Heat Can
Lamp Type: Halogen MR16 12V
Finish: W, S, BC, CH, BL, CR, CC
Material: Die Cast Aluminium

Cut Out	Height	Dia	NZECP54	Wattage
82	95	92	CA	50W

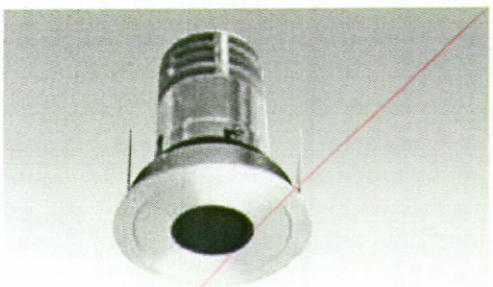
RECESSED HALOGEN



R692 SUPW
Stuff Up Plate c/w R692
Lamp Type: Halogen MR16 12V
Finish: White, Silver, Brushed Aluminium
Material: Die Cast Aluminium

Cut Out	Height	Dia	NZECP54	Wattage
82-150	40	150	CA	50W

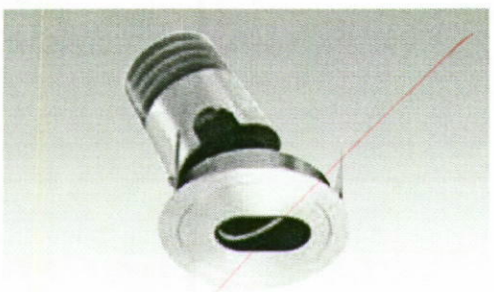
RECESSED HALOGEN



R328 BA
Round Fixed - Mini Pin Hole
Lamp Type: Halogen MR16 12V
Finish: White, Brushed Aluminium
Material: Die Cast Aluminium

Cut Out	Height	Dia	NZECP54	Wattage
80	100	90	CA	50W

RECESSED HALOGEN



R329 BA
Round 30° Tilt - Slot
Lamp Type: Halogen MR16 12V
Finish: White, Brushed Aluminium
Material: Die Cast Aluminium

Cut Out	Height	Dia	NZECP54	Wattage
80	100	90	CA	50W

ABA20110794
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Hastings District Council
14/09/2011

Supplier Declaration of Conformity (SDoC)

In accordance with ISO/IEC 17050-1:2004

SDoC identification Number[1] - TRLHHC2 – Recessed Luminaire Halogen with Heat Can	
Issuer details	
Name[2] (of New Zealand manufacturer or importer) **Halcyon Lighting Ltd**	**Contact Address** **10 Basalt Place** **East Tamaki** **Manukau City**
New Zealand Company Number (if applicable) **AK-114999**	
Telephone **Fax** **(09) 273-9177** **(09) 273-9155**	**Email address** sales@halcyonlights.co.nz
Medium Risk Article – Details[3] (Product name, type, rating, brand, model, batch numbers, and serial numbers, as applicable)	
R692 HS, R677 HS, R682 HS, R689 HS, R690	
R328, R329	
R621, R622	
R675 , **RT300, RT301**	
Recessed Luminaire Halogen with Heat Can – Low Voltage Halogen 12V Max:50W - Rating: CA	
The medium risk article listed above, fully complies with the standard(s), as listed:-	
Standard number & issue year:- **AS/NZS 3820:2009**	
Standard Title:- **Essential Safety Requirements for Electrical Equipment**	
Edition / Amendment status:- **Second Edition AS/NZS 3820:2009**	
Or complies with the Conformity Cooperation Agreement - No (Delete as applicable)	
Names and addresses of any testing organisation or body	
Name(s)	**Address(es)**
Independent Testing House	**Confidential**
Reference to relevant test reports/certification, and issue date of the reports/certification, that show how compliance is achieved:-	
Report/Certification N°(s)	**Issue date(s)**
Test Report on Request.	
Reference to any management systems involved:-	
Additional[4] information	
Declaration	
I hereby declare that the above specified fittings or electrical appliances comply with the requirements of Regulation 83 of the Electricity (Safety) Regulations 2010 **Issuer Identification:** (as affixed to the article) HALCYON LIGHTING	**Signed for and on behalf of:** HALCYON LIGHTING LTD **Name[5] & position, as authorized by the issuer** ROYCE EVERETT - DIRECTOR **Signature** **Date** 01/06/2010

[1] Every declaration of conformity should be uniquely identified.

[2] The responsible issuer must be unequivocally specified.

[3] The "Article" must be unequivocally described so that the declaration of conformity may be related to the article in question. For mass-produced products, it is not necessary to give individual serial numbers. Where variants of an article are to be covered, these must be detailed.

[4] Text should appear here only if any limitation on the validity of the declaration of conformity and/or any additional information are given.

[5] Full name and function of the signing person(s) authorised by the issuer's management to sign on its behalf should be given. The number of signatures, or equivalent, included will be the minimum determined by the legal form of the issuer's organization.

PARENT & CHILD – No 11032

Table 2: Building envelope risk matrix
Paragraph 3.1.2, Figure 1

Risk factor	LOW	score	MEDIUM	score	HIGH	score	VERY HIGH	score	Subtotals for each risk factor
			Risk severity						
Wind zone (per NZS 3604)	0		0	0	1		2		0
Number of storeys	0	0	1		2		4		0
Roof/wall intersection design	0	0	1		3		5		0
Eaves width	0		1	1	2		5		1
Envelope complexity	0	0	1		3		6		0
Deck design	0	0	2		4		6		0
							Total risk score:		1

(Enter the appropriate risk severity score for each risk factor in the score columns. Transfer these figures across to the right-hand column. Finally, add up the figures in the right-hand column to get the total risk score.)

Table 3: Suitable wall claddings
Paragraphs 3.1.2, 3.4.1.1, 3.4.2.1, 3.4.2.2, 3.4.3.2, 9.1.1, 9.4.1.2, 9.4.1.3, 9.6, Figure 1

Risk Score	Suitable wall claddings[1] Direct fixed to framing	Over nominal 20 mm drained cavity
0 – 6	a) Timber weatherboards – all types b) Fibre cement weatherboards c) Vertical profiled metal [3] – corrugated and symmetrical d) Fibre cement sheet [4] e) Plywood sheet f) *EIFS*	a) *Masonry veneer* [2] b) *Stucco* c) Horizontal profiled metal [3] – corrugated and *trapezoidal* only
7 – 12	a) Bevel-back timber weatherboards b) Vertical timber board and batten c) Vertical profiled metal [3] – corrugated only	a) *Masonry veneer* [2] b) *Stucco* c) Horizontal profiled metal – corrugated and *trapezoidal* only d) Rusticated weatherboards e) Fibre cement weatherboards f) Fibre cement sheet g) Plywood sheet h) *EIFS*
13 – 20	a) Vertical profiled metal [3] – corrugated only	a) *Masonry veneer* [2] b) *Stucco* c) Horizontal profiled metal – corrugated and *trapezoidal* only d) Rusticated weatherboards e) Fibre cement weatherboards f) Fibre cement sheet g) Plywood sheet h) *EIFS* i) Bevel-back weatherboards
Over 20	a) Redesign the *building* to achieve a lower score, or b) Specific design – The design may need changing to reduce the risk – The *building consent authority* may require more comprehensive details and documentation providing evidence of *weathertightness* – The *building consent authority*, designer or *owner* may require more inspections – A third party audit of the design may be required.	

Amend 2 Jul 2005

Amend 2 Jul 2005

Amend 2 Jul 2005

Amend 2 Jul 2005

Amend 2 Jul 2005

Amend 2 Jul 2005

NOTES: (1) **The wall claddings in this table are limited to those covered in this Acceptable Solution.**
(2) Traditional *masonry veneer* as per SNZ HB 4236, with minimum 40 mm cavity.
(3) Refer Figure 38 for profiles.
(4) Except *stucco* over a fibre cement backing.

stratagroup
CONSULTING ENGINEERS
212 Queen St East
PO Box 758
P: 06 8767646 F: 06 8767645
E: duncan@stratagroup.net.nz
W: www.stratagroup.net.nz

LETTER
BC No. 2435/1
RFR - Parent & Child Structural Report

Company:	RFR Building Design & Project Management	BC Date:	8/08/11
Attention:	Marty Fitch	BC Author:	Duncan Bruce
Postal:	PO Box 3410, , Napier 4142	Response Required:	13/08/11
Fax No:	(06)8421015 Phone No: (06)8421014	No of Pages:	10
Subject:	**Structural Report**		

Dear Marty

Review of the original drawings suggests that this building was built in the 1940's (no date shown on the drawings). The building is single storey and construction is timber framed with light-weight weatherboard cladding. The roof consists of light weight steel cladding on timber purlins and rafters. Lateral stability is achieved via the plasterboard linings of the internal timber framed walls in both directions.

The building appears to be in good condition considering its age with little or no sign of any major cracking or movement. The proposed alteration requires some major opening up of the existing structure to create a new interior spaces to suit the new use. The influence this work has on the specific areas has been addressed in the calculations attached. It is expected that this report and atatched calculations will be submitted to HDC by the owner as part of the Building Consent application.

It is Strata Group's opinion that this building is acceptable in its current state with the proposed building works detailed in the drawings by RFR Design to undergo the proposed alteration.

Regards,
Duncan Bruce

ASSOCIATED DOCUMENTS	COPIES TO
Bracing calculations	

stratagroup
CONSULTING ENGINEERS
Ph 06 878 7646 Fax 06 876 7645
212 Queen Street East, PO Box 758, Hastings 4156 www.stratagroup.net.nz

Morris Child		PROJECT No.	HK 2435
Middle Road, HN		BY DB	PAGE No. 1.01
		CHKD	DATE 08/9

Brief

Assess existing property to undergo proposed alterations as shown on drawings of Ark Design.

→ Site Inspection undertaken (see report).
All timber framing, concrete piles appear to be in good condition considering age of the building.

→ Assess bracing resistance of both sub floor and walls.

Sub-floor — Existing floor consists of timber floor on concrete piles.
Using GIB spreadsheet for 116m² footprint of existing house
→ BU's reqd = 1148 BU (EQ Govn).

⇒ Concrete piles must resist this already.

— Using GIB spreadsheet, calculate demand for new 257m² footprint
→ BU's reqd. 2718 BU's (EQ Govn).

∴ New addition needs to include resistance to difference
= 2718 - 1148 = 1570 BU's.

See attached calcs → 1680 BU's provided by new Anchor Piles — OK

Walls — Due to extensive opening up works internally use GIB spreadsheet to determine bracing demand for whole building.

Provide adequate GIB linings throughout to achieve reqd Bracing capacity in each direction.

ABA20110794
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Hastings District Council
14/09/2011

1/02

Check Entry Haire

GIB EzyBrace® 2011 Software

GIB

Demand Calculation Sheet

single storey V06/11

Job Details

Name	Parent and Child
Street and Number	14 Middle Road
Lot and DP Number	Lot 2 DP 6350
City/Town/District	Havelock North
Designer	Duncan Bruce
Company Name	Strata Group Consulting Engineers Ltd
Date	10/08/2011

BRANZ Appraised
Appraisal No.294 [2011]

Select Lining Option 10 or 13 mm GIB® Plasterboard

Building Specification

Number of storeys	single
Floor Loading	2kPa ← domestic.
Foundation Type	subfloor
Cladding Weight (subfloor)	light

	Single Floor	Complete Single Floor Column only
Cladding Weight	light	
Roof Weight	light	
Room in Roof Space	no	
Roof Pitch (degrees)	15	
Roof height above eaves (m)	1.5	
Building height to apex (m)	4.9	
Ground to lower floor level (m)	0.6	
Stud Height (m)	2.7	
Building Length (m)	10.8	
Building Width (m)	10.8	
Building Plan Area (m2)	116 ← Existing Dwelling Floor Area.	

Building Location

Wind Zone	*High*
Select by Building Consent Authority Map	
or Preference	High
Wind Region	Preference selected
Lee Zone	Preference selected
Ground Roughness	Preference selected
Site Exposure	Preference selected
Topographic Class	Preference selected

Earthquake Zone	Soil Type
3	C (shallow)

Annual exceedance probability: 1/500 (NZS3604:2011 default)

Bracing Units required for Wind

Demand W (BU)

	subfloor	Walls single
along	928	518
across	856	446

Bracing Units required for Earthquake

Demand along / across E (BU)

subfloor	Walls single
1148	907

↑ Capacity of Existing subfloor. Concrete Piles

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Hastings District Council
14/09/2011

1.03

Check demands New Floor Area

GIB EzyBrace® 2011 Software

Demand Calculation Sheet — single storey — V08/11

Job Details

Name	Parent and Child
Street and Number	14 Middle Road
Lot and DP Number	Lot 2 DP 6350
City/Town/District	Havelock North
Designer	Duncan Bruce
Company Name	Strata Group Consulting Engineers Ltd
Date	10/08/2011

BRANZ Appraised
Appraisal No.294 [2011]

Select Lining Option: 10 or 13 mm GIB® Plasterboard

Building Specification

		Single Floor	Complete Single Floor Column only
Number of storeys	single		
Floor Loading	3kPa		
Foundation Type	subfloor		
Cladding Weight (subfloor)	light		
Cladding Weight		light	
Roof Weight		light	
Room in Roof Space		no	
Roof Pitch (degrees)		15	
Roof height above eaves (m)		1.5	
Building height to apex (m)		4.9	
Ground to lower floor level (m)		0.6	
Stud Height (m)		2.7	
Building Length (m)		15.7	
Building Width (m)		13.8	
Building Plan Area (m2)		257	

→ Total New + Old Area

Building Location

Wind Zone	*High*	Earthquake Zone	Soil Type
Select by Building Consent Authority Map		3	C (shallow)
or Preference	High	Annual exceedance probability	
Wind Region	Preference selected	1/500 (NZS3604:2011 default)	
Lee Zone	Preference selected		
Ground Roughness	Preference selected		
Site Exposure	Preference selected		
Topographic Class	Preference selected		

Bracing Units required for Wind

Demand W (BU)	subfloor	Walls single
along	1186	662
across	1244	648

Bracing Units required for Earthquake

Demand along / across E (BU)	Walls
subfloor	single
2718	2102

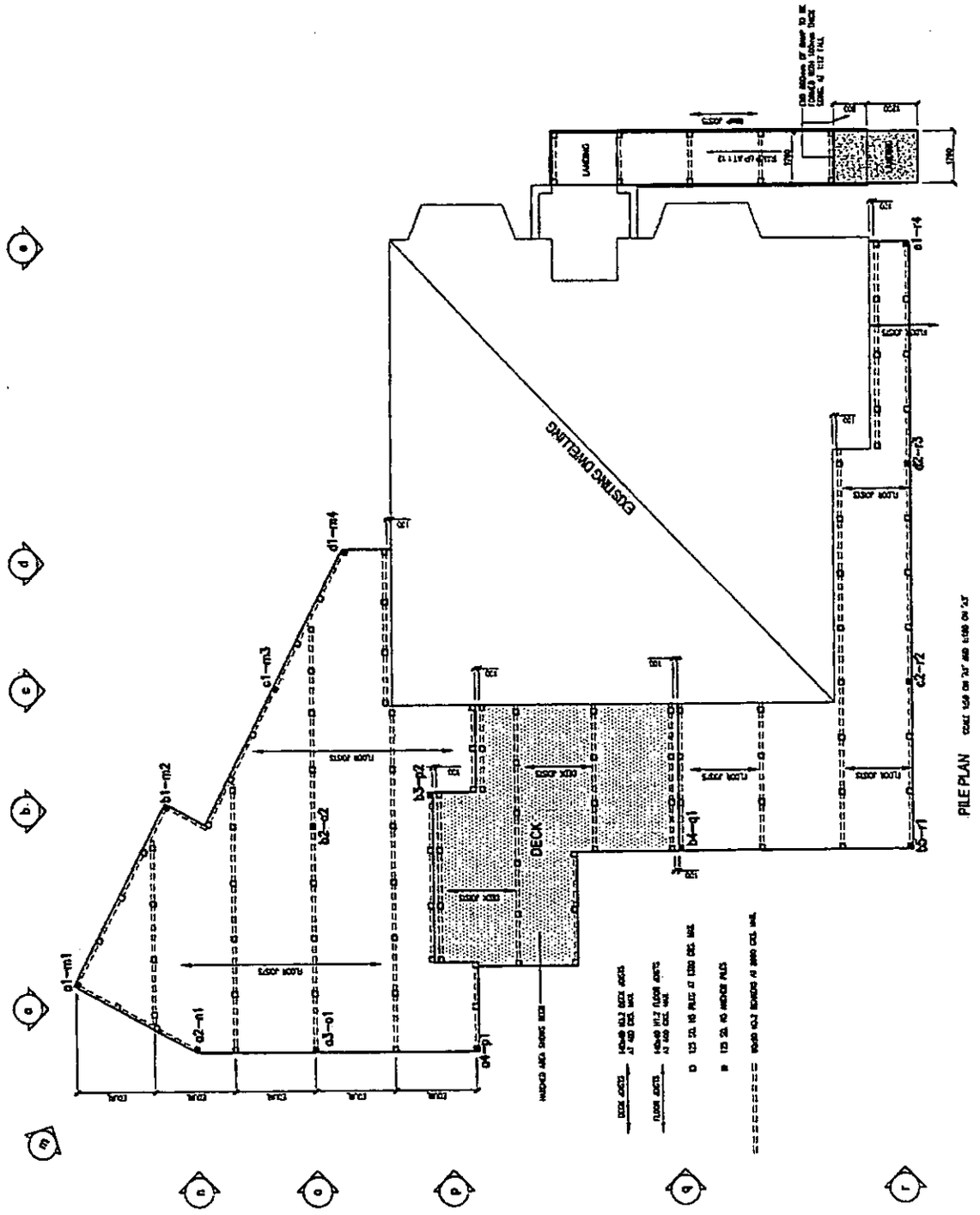
Across · Along ·

1.04

PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

FOUNDATION PLAN /
SUB FLOOR BRACING PLAN

11032 S06 0



1.05

Parent and Child — Keith Redman

GIB EzyBrace® 2011 Software

Subfloor Bracing Calculation Sheet — Subfloor Along — V06/11

Along							
Bracing Line		*Bracing Elements provided*				*Wind*	*Earthq.*
1	2	3	4	5	6	8W	9EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Supplier	Bracing Type	Number or Length L (m)	BUs Achieved	BUs Achieved
a	*line totals*	1	NZS3604	anchor pile	4	640	480
W	640	2					
EQ	480	3					
b	*line totals*	1	NZS3604	anchor pile	5	800	600
W	800	2					
EQ	600	3					
c	*line totals*	1	NZS3604	anchor pile	2	320	240
W	320	2					
EQ	240	3					
d	*line totals*	1	NZS3604	anchor pile	2	320	240
W	320	2					
EQ	240	3					
e	*line totals*	1	NZS3604	anchor pile	1	160	120
W	160	2					
EQ	120	3					
f	*line totals*	1					
W		2					
EQ		3					
g	*line totals*	1					
W		2					
EQ		3					
h	*line totals*	1					
W		2					
EQ		3					
I	*line totals*	1					
W		2					
EQ		3					
j	*line totals*	1					
W		2					
EQ		3					
						Wind	Earthq.
Totals Achieved						2240	1680
						OK	OK
Totals Required (from Sheet A)						~~1186~~ 1244	~~1496~~ 2718

But Existing Dwelling has Capacity of 1148 BU's (min)
⇒ 2718 − 1148 = 1570 < 1680 ✓

1.06

Parent and Child — Keith Redman

GIB EzyBrace® 2011 Software

Subfloor Bracing Calculation Sheet — Subfloor Across — V06/11

Along							
Bracing Line		*Bracing Elements provided*				*Wind*	*Earthq.*
1	2	3	4	5	6	8W	9EQ
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Supplier	Bracing Type	Number or Length L (m)	BUs Achieved	BUs Achieved
m	*line totals*	1	NZS3604	anchor pile	4	640	480
W	640	2					
EQ	480	3					
n	*line totals*	1	NZS3604	anchor pile	1	160	120
W	160	2					
EQ	120	3					
o	*line totals*	1	NZS3604	anchor pile	2	320	240
W	320	2					
EQ	240	3					
p	*line totals*	1	NZS3604	anchor pile	2	320	240
W	320	2					
EQ	240	3					
q	*line totals*	1	NZS3604	anchor pile	1	160	120
W	160	2					
EQ	120	3					
r	*line totals*	1	NZS3604	anchor pile	4	640	480
W	640	2					
EQ	480	3					
s	*line totals*	1					
W		2					
EQ		3					
t	*line totals*	1					
W		2					
EQ		3					
u	*line totals*	1					
W		2					
EQ		3					
v	*line totals*	1					
W		2					
EQ		3					

						Wind	Earthq.
Totals Achieved						2240	1680
						OK	OK
Totals Required (from Sheet A)						~~1268~~ 1244	~~1498~~ 1570 (see previous pg).

1.07

Parent and Child

Duncan Bruce

GIB EzyBrace® 2011 Software

SINGLE OR UPPER STOREY WALLS ALONG

V08/11

Lines		Bracing Elements							
1	2	3	4	5	6	7	8	9	10
Line Total Check	Line Label	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	Bracing Units Achieved	
								W	E
338	a	1	0.8	45	2.7	BL1-H	GIB®	55	51
		2	1	45	2.7	BL1-H	GIB®	74	65
		3	1.2		2.7	BL1-H	GIB®	128	111
		4	1.2		2.7	BL1-H	GIB®	128	111
406	b	1	1.1	45	2.7	BL1-H	GIB®	83	72
		2	1.7		2.7	BL1-H	GIB®	181	157
		3	1.6		2.7	GS1-N	GIB®	98	85
		4	1		2.7	BL1-H	GIB®	105	92
848	c	1	1.9		2.7	GS1-N	GIB®	117	101
		2	1.7		2.7	BLG-H	GIB®	181	181
		3	3		2.7	BLG-H	GIB®	320	320
		4	2.3		2.7	BLG-H	GIB®	245	245
251	d	1	0.9		2.7	CS	Bracewall	92	80
		2	1		2.7	BLG-H	GIB®	107	107
		3	0.6		2.7	BLG-H	GIB®	64	64
383	e	1	0.4		2.7	BL1-H	GIB®	32	36
		2	0.8		2.7	BL1-H	GIB®	77	73
		3	0.8		2.7	BL1-H	GIB®	77	73
		4	0.9		2.7	BL1-H	GIB®	91	82
		5	1.3		2.7	BL1-H	GIB®	139	120

						Wind	Earthq.
Totals Achieved	W	361%	EQ	106%		2394	2225
Timber Floor, design limit of 120 BU/m			*accepted*			OK	OK
Totals Required (from Demand)						662	2102

1.08

Parent and Child

Duncan Bruce

GIB EzyBrace® 2011 Software

SINGLE OR UPPER STOREY WALLS ACROSS

V08/11

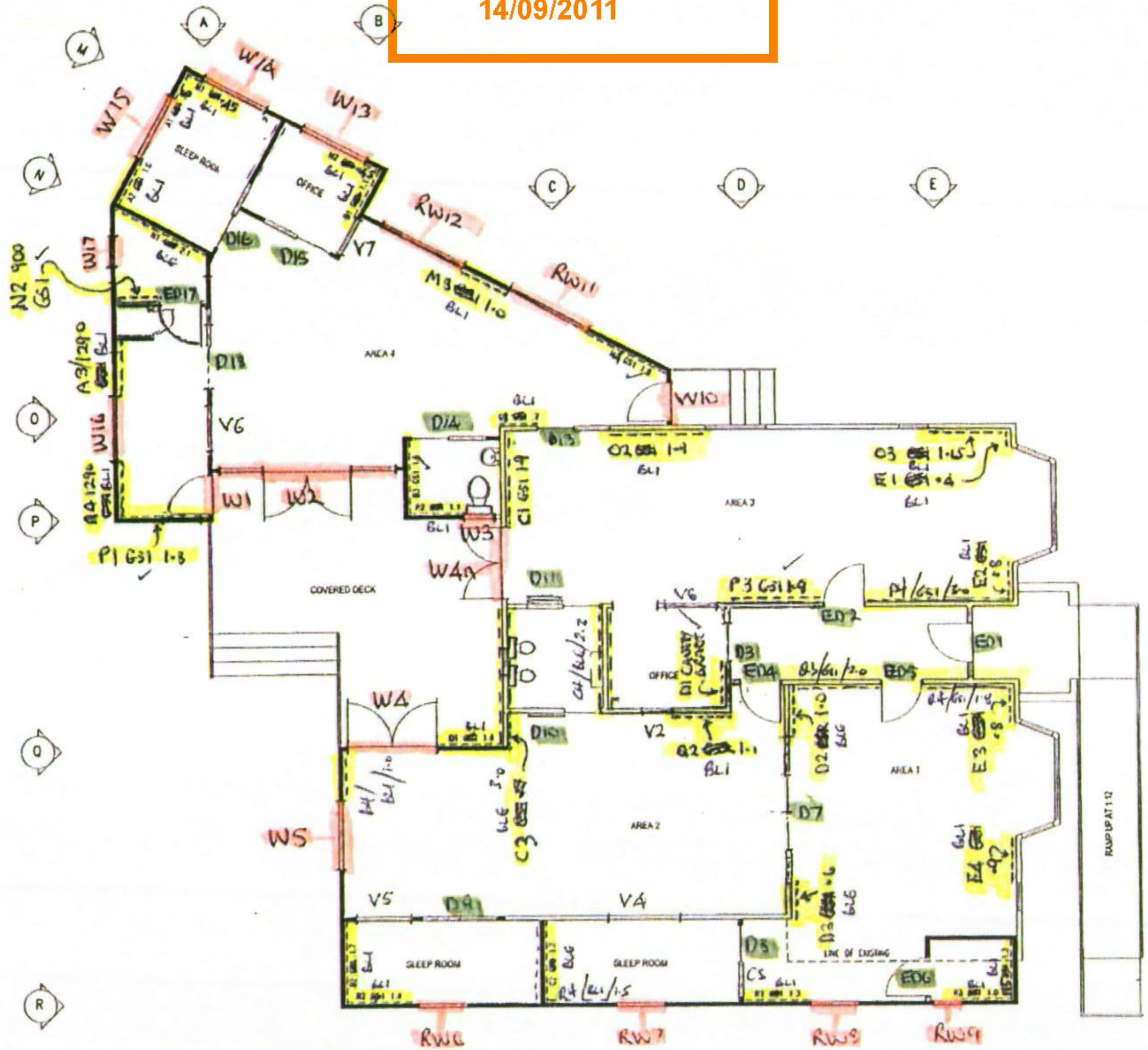
Lines		Bracing Elements							
1	2	3	4	5	6	7	8	9	10
Line Total Check	Line Label	Bracing Element No.	Available Wall Length L (m)	Angle to Bracing line (degrees)	Element Height H (m)	Bracing Type	Supplier	Bracing Units Achieved	
								W	E
189	m	1	0.45	45	2.7	BL1-H	GIB®	26	28
		2	0.45	45	2.7	BL1-H	GIB®	26	28
		3	1	45	2.7	BL1-H	GIB®	74	65
		4	1.8	45	2.7	GS1-N	GIB®	78	68
206	n	1	2.1	45	2.7	BLG-H	GIB®	158	158
		2	0.9		2.7	GS1-N	GIB®	50	47
373	o	1	0.7		2.7	BL1-H	GIB®	64	63
		2	1.7		2.7	BL1-H	GIB®	181	157
		3	1.65		2.7	BL1-H	GIB®	176	153
459	p	1	1.8		2.7	GS1-N	GIB®	110	96
		2	1.1		2.7	BL1-H	GIB®	117	101
		3	1.9		2.7	GS1-N	GIB®	117	101
		4	3		2.7	GS1-N	GIB®	184	160
433	q	1	1.4		2.7	BL1-H	GIB®	149	129
		2	1.1		2.7	BL1-H	GIB®	117	101
		3	2		2.7	GS1-N	GIB®	123	107
		4	1.8		2.7	GS1-N	GIB®	110	96
480	r	1	1.3		2.7	BL1-H	GIB®	139	120
		2	1.4		2.7	BL1-H	GIB®	149	129
		3	1		2.7	BL1-H	GIB®	105	92
		4	1.5		2.7	BL1-H	GIB®	160	139

					Wind	Earthq.
Totals Achieved	W	373%	EQ	102%	2416	2140
Timber Floor, design limit of 120 BU/m			*accepted*		OK	OK
Totals Required (from Demand)					648	2102

CAVITY SLIDERS LTD
BRACEWALL CAVITY SLIDERS

PROPRIETOR			Primary Bracing Element	Secondary Bracing Element	Bracing Units achieved per metre of door		Basis for listing
NAME	PRODUCT	SPECIFICATION			Earthquake	Wind	
Cavity Sliders Ltd	Bracewall	910 Wide Door	17.5mm Ply Board on one side of cavity unit	N/A	115	100	BRANZ Appraisal Certificate No.264A (1993)
Cavity Sliders Ltd	Bracewall	1000 Wide Door	17.5mm Ply Board on one side of cavity unit	N/A	127	110	BRANZ Appraisal Certificate No.264A (1993)
Cavity Sliders Ltd	Bracewall	1100 Wide Door	17.5mm Ply Board on one side of cavity unit	N/A	140	121	BRANZ Appraisal Certificate No.264A (1993)
Cavity Sliders Ltd	Bracewall	1200 Wide Door	17.5mm Ply Board on one side of cavity unit	N/A	152	132	BRANZ Appraisal Certificate No.264A (1993)
Cavity Sliders Ltd	Bracewall	1400 Wide Door	17.5mm Ply Board on one side of cavity unit	N/A	178	154	BRANZ Appraisal Certificate No.264A (1993)
Cavity Sliders Ltd	Bracewall	1600 Wide Door	17.5mm Ply Board on one side of cavity unit	N/A	203	176	BRANZ Appraisal Certificate No.264A (1993)
Cavity Sliders Ltd	Bracewall	1800 Wide Door	17.5mm Ply Board on one side of cavity unit	N/A	229	198	BRANZ Appraisal Certificate No.264A (1993)
Cavity Sliders Ltd	Bracewall	2000 Wide Door	17.5mm Ply Board on one side of cavity unit	N/A	254	220	BRANZ Appraisal Certificate No.264A (1993)
Cavity Sliders Ltd	Bracewall	2200 Wide Door	17.5mm Ply Board on one side of cavity unit	N/A	279	242	BRANZ Appraisal Certificate No.264A (1993)

ABA20110794
APPROVED - Site Copy
Hastings District Council
14/09/2011



Bracing Plan - SK01/RFR 2435

All dimensions to be verified on site before making any shop drawings or commencing any work. The copyright of this drawing remains with RFR Building Design and Project Management Ltd

REV	DATE	BY	REASON
0	22.7.11		FOR BUILDING CONSENT

RFR

RFR Building Design & Project Management
PO Box 3418 Napier
Phone 06 842 1014 Fax 06 842 1015

Project Details

PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

Sheet Title

DOORS
BRACING PLAN
WINDOWS

Scale 1:50 (On A1)
11032

11032 S08 0

Timber or Steel Frame
(60)/60/60
LB/NLB

Universal Walls – One Way FRR – Timber or Steel Frame

JANUARY 2006

SPECIFICATION NUMBER	LOADBEARING CAPACITY	FIRE RESISTANCE RATING	LINING REQUIREMENTS	
GBUW 60a	LB/NLB	(60)/60/60	2 x 13mm GIB Fyreline® one side	Cladding systems not incorporating foamed polymerics
GBUW 60b			1 x 16mm + 1 x 13mm GIB Fyreline® one side	Any cladding system

FRAMING AND WALL HEIGHT

Timber or steel frame designed to meet durability and structural criteria for strength and serviceability under dead and live loads.
The stud width shall be 35mm minimum with a depth of 90mm minimum.
Stud spacing at 600mm centres maximum.
Frame height and dimensions as determined by NZS 3604 stud tables or specific design.

LINING (FIRE SIDE)

GBUW 60a – 2 layers of 13mm GIB Fyreline® to one side of the frame.
GBUW 60b – 1 layer of 16mm plus 1 layer of 13mm GIB Fyreline® to one side of the frame.
Full height sheets shall be used where possible.
Sheets shall be touch fitted.
Offset joints in double layered systems by 600mm.
When sheet end butt joints are unavoidable, they shall be formed over nogs.
All sheet joints must be formed over framing.
In steel framed options, linings are fixed hard to floor.

JOINTING

INNER LAYER: Unstopped
OUTER LAYER: All screw heads stopped and all sheet joints tape reinforced and stopped in accordance with the publication entitled "GIB® Site Guide".

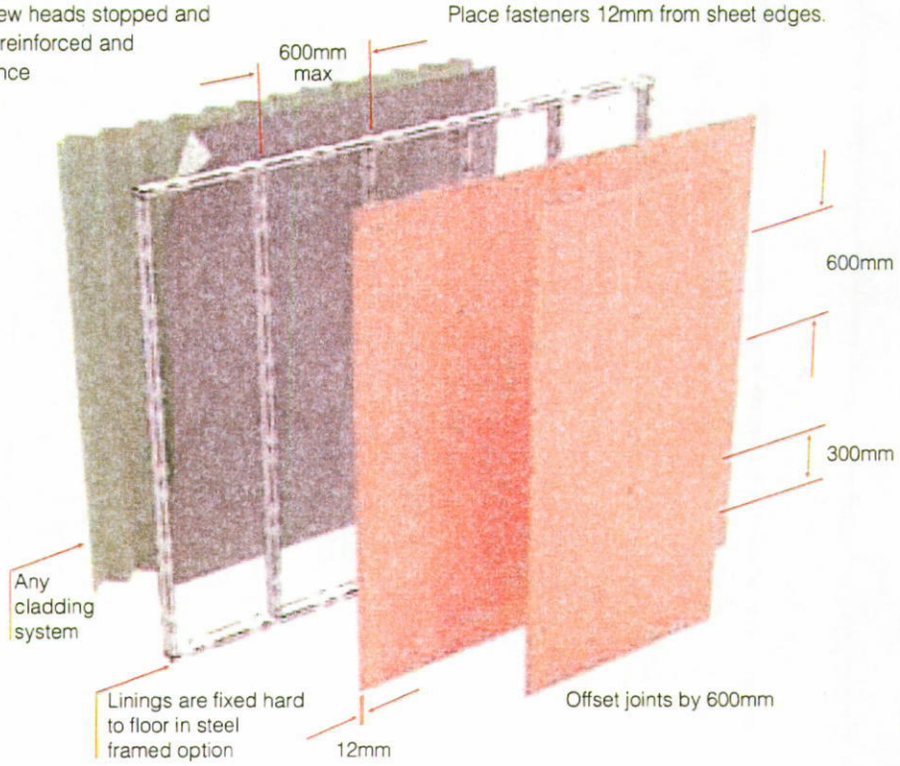
FASTENING THE LINING

Fasteners

SYSTEM	TIMBER FRAME	STEEL FRAME
GBUW 60a		
Inner layer	32mm x 6g GIB® Grabber® High Thread Drywall Screws, or 30mm x 2.8mm GIB® Nails	25mm x 6g GIB® Grabber® Drywall Self Tapping Screws
Outer layer	41mm x 6g screws as above or 40mm x 2.8mm GIB® Nails	41mm x 6g screws as above
GBUW 60b		
Inner layer (16mm GIB Fyreline®)	32mm x 6g screws as above or 40mm x 2.8mm GIB® Nails	32mm x 6g screws as above
Outer layer (13mm GIB Fyreline®)	51mm x 7g screws as above	41mm x 6g screws as above

Fastener Centres

INNER LAYER: 600mm centres up each stud.
OUTER LAYER: 300mm centres up each stud.
Place fasteners 12mm from sheet edges.



In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components produces an entirely different system and may seriously compromise performance. Follow system specifications.

GIB® Plasterboard Linings

When fixing part sheets of GIB® Plasterboard, a minimum width of 300mm applies for bracing elements. Horizontal fixing is recommended. If fixing vertically, full height sheets shall be used where possible. Where sheet end butt joints are unavoidable they must be formed over nogs or over the studs and fastened at 200mm centres. Alternatively, and preferably, the sheet end butt joints may be back-blocked.

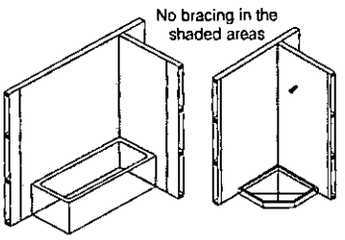
Plasterboard bracing element sheets must be fixed directly to the wall framing, eg bracing must be provided by the inner layer of a multilayer system. When a GIB® bracing element has been designated for a section of wall, BU ratings can not be increased by incorporating additional proprietary bracing elements within that same section of wall.

Limitations

GIB® Plasterboard must be stacked flat and protected from the weather. GIB® Plasterboard must be handled as a finishing material. GIB® Plasterboard in use must not be exposed to liquid water or be installed in situations where extended exposure to humidities above 90% RH can reasonably be expected. GIB EzyBrace® Systems must not be used in showers or behind baths. It is highly recommended not to install GIB® Plasterboard in any situation where external claddings are not in place or the property is not adequately protected from the elements. If GIB® Plasterboard is installed under these conditions, the risk of surface defects such as joint peaking or cracking is greatly increased.

GIB EzyBrace® Systems in Water-Splash Areas

When GIB® Plasterboard is installed in locations likely to be frequently exposed to liquid water it must have an impervious finish. Examples are adhesive fixed acrylic shower linings or ceramic tiles over an approved waterproof membrane over GIB Aqualine®. The NZBC requires 15 years durability in these situations. Bracing elements are required to have a durability of 50 years. Bracing elements are not to be located in shower cubicles or behind baths because of durability requirements, the likelihood of renovation, and practical issues associated with fixing bracing elements to perimeter framing members. Otherwise GIB EzyBrace® Systems can be used in water-splash areas as defined by NZBC Clause E3, provided these are maintained impervious for the life of the building.

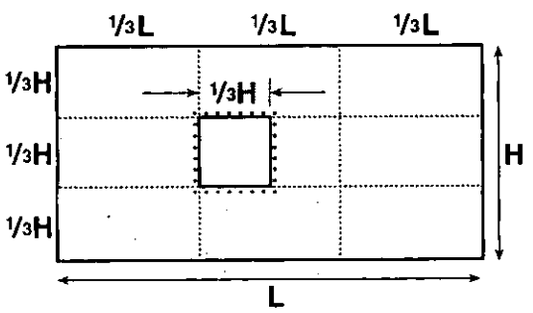


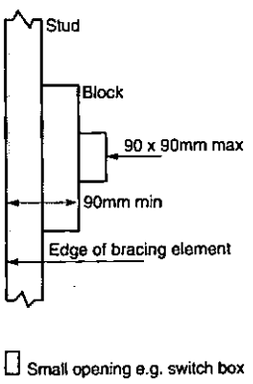
Renovation

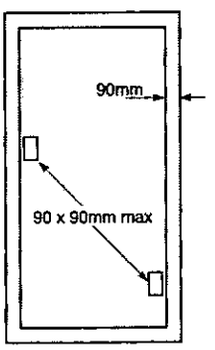
When relining walls during the process of renovation, ensure that bracing elements are reinstated (check the building plans).

Openings in Bracing Elements

Openings are allowed within the middle third of a wall bracing element's length and height. Neither opening dimension shall be more than one third of the element height. Wall linings are fixed to opening trimmers at 150mm centres. Small openings (e.g., power outlets) of 90 x 90mm or less may be placed no closer than 90mm to the edge of the braced element. A block may need to be provided alongside the perimeter stud as shown below.







Framing

General framing requirements such as grade, spacings and installation shall comply with the New Zealand Building Code and the provisions of NZS 3604:2011. To achieve the published bracing performance the minimum actual framing dimensions are 90 x 35mm for external walls and 70 x 45mm for internal walls. Wall bracing tests on GIB EzyBrace® Systems were undertaken without nogs. Nogs are not considered to add to the bracing performance of the wall.

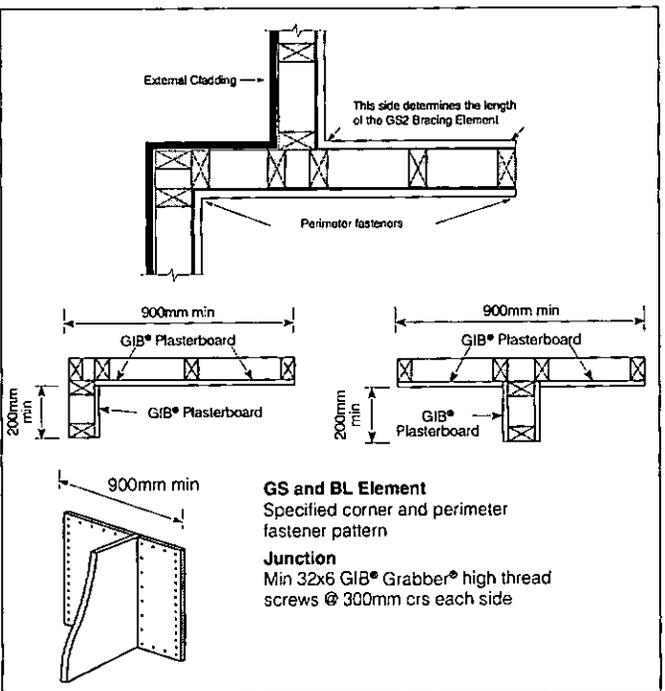
Guidelines for intersection walls

Where the lining on a double lined internal GS2 Bracing Element is shorter on one side, the length of the element is taken as the shorter wall length but bracing fasteners can still follow the wall perimeter on both sides.

GIB® Bracing Elements may have intersecting walls with a minimum length of 200mm. Fasteners are required around the perimeter of the bracing element. Vertical joints at T-junctions shall be fixed and jointed as specified for intermediate sheet joints. **The bracing element length must be no less than 900mm.**

Where a Wall Bracing Element is interrupted by a T or L junction the element is deemed to be continuous for the whole length (900mm in the example illustrated).

When fixing part sheets of GIB® Plasterboard, a minimum width of 300mm applies for bracing elements.



GS and BL Element
Specified corner and perimeter fastener pattern

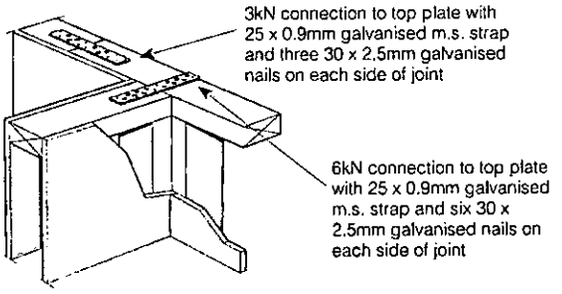
Junction
Min 32x6 GIB® Grabber® high thread screws @ 300mm crs each side

Top Plate Connections

The top plate of a wall that contains one or more wall bracing elements shall be jointed according to the rating of the highest-rated individual wall bracing element as follows:

(a) Rating not exceeding 100 bracing units: A 3kN connection as shown or by an alternative fixing of 3kN capacity in tension or compression along the plate;

(b) Rating exceeding 100 bracing units: A 6kN connection as shown or by an alternative fixing of 6kN capacity tension or compression along the plate.



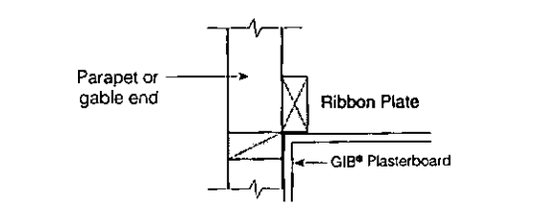
Parapets and Gable End Walls

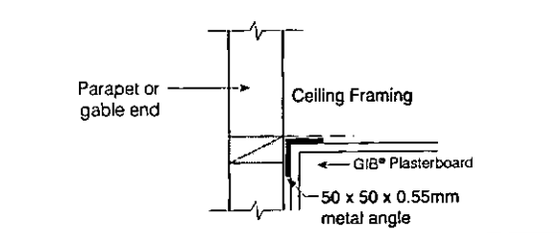
Bracing elements must be fixed from top plate to bottom plate. Fixing to a row of nogs is not acceptable unless either:

A continuous member such as an ex 90x45mm ribbon plate is fixed across the studs just above a row of nogs at the ceiling line.

OR

A minimum 50x50x0.55mm metal angle is installed as shown. The angle is fixed to a row of nogs with 30x2.5mm galv FH nails at 300mm centres.





Bottom Plate Fixing

JUNE 2011

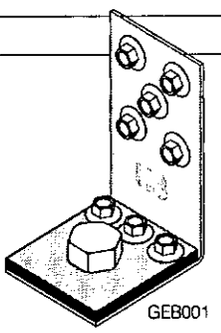
Bottom plate fixings for GIB® Bracing Elements			
Brace type	**Concrete slabs**		**Timber floors**
	External wall	**Internal wall**	**External and Internal walls**
GS1-N	As per NZS 3604:2011. No specific additional fastening required	As per NZS 3604:2011. Alternatively use 75 x 3.8mm shot-fired fasteners with 16mm washers, 150mm and 300mm from each end of the bracing element and at 600mm thereafter.	Pairs of 100 x 3.75mm flat head hand driven nails or 3 / 90 x 3.15mm power driven nails at 600mm centres in accordance with NZS 3604:2011
GS2-N	Not applicable		
GSP-H BL1-H BLP-H	Intermediate fastenings to comply with NZS 3604:2011. In addition: GIB Handibrac® fixings or metal wrap-around strap fixings and bolt as illustrated on pages 19 and 20.		Pairs of 100 x 3.75mm flat head hand driven nails or 3 / 90 x 3.15mm power driven nails at 600mm centres in accordance with NZS 3604:2011. In addition: GIB Handibrac® fixings or metal wrap-around strap fixings and bolt as illustrated below.
BLG-H	Not applicable	As for GSP-N, BL1-H, BLP-H on concrete slab above	

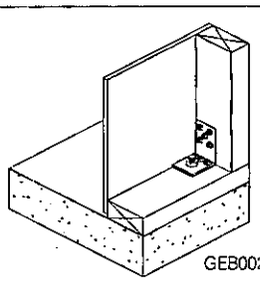
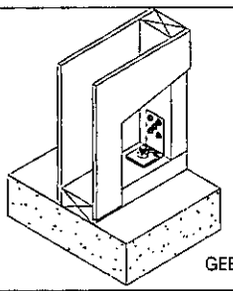
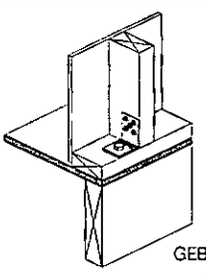
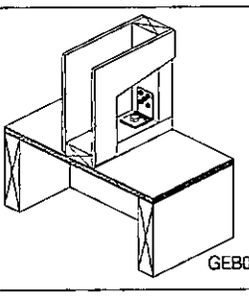
Panel Hold-down Details

GIB HandiBrac® – RECOMMENDED METHOD

Developed in conjunction with MiTek™ NZ, the GIB HandiBrac® has been designed and tested for use as a hold-down in GIB® BL and GSP bracing elements.

- The GIB HandiBrac® registered design provides for quick and easy installation
- The GIB HandiBrac® provides a flush surface for the wall linings because it is fitted inside the framing. There is no need to check in the framing as recommended with conventional straps
- The GIB HandiBrac® is suitable for both new and retrofit construction
- The design also allows for installation and inspection at any stage prior to fitting internal linings


GEB001

Concrete Floor		Timber Floor	
External walls	**Internal walls**	**External walls**	**Internal walls**
 GEB002	 GEB003	 GEB004	 GEB005
Position GIB HandiBrac® as close as practicable to the internal edge of the bottom plate	Position GIB HandiBrac® at the stud / plate junction	Position GIB HandiBrac® in the centre of the perimeter joist or bearer	Position GIB HandiBrac® in the centre of floor joist or full depth solid block
Hold-down fastener requirements			
A mechanical fastening with a minimum characteristic uplift capacity of 15kN.		12x150mm galvanised coach screw	

Refer to gib.co.nz/cad for CAD details.

Panel Hold-down Details

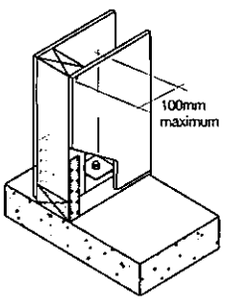
JUNE 2011

Bracing strap Installation

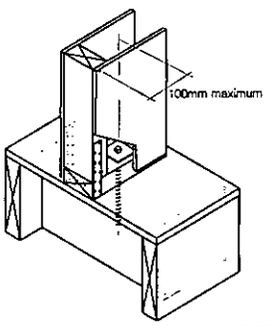
Care needs to be taken with the installation of the bracing strap. It should be checked in to be flush with the face of the stud providing a flat substrate for the plasterboard. It should be positioned in such a way that the important corner fastenings of the bracing element are not affected by it. Keeping the strap to the edge of the end stud as shown will allow the important corner fastenings to be installed without having to penetrate the bracing strap.

Concrete Floor	Timber Floor
400 x 25 x 0.9mm galvanised strap to pass under the plate and up the other side of the stud. Six 30x2.5mm flat head galvanised nails to each side of the stud. Three 30x2.5mm flat head galvanised nails to each side of the plate. Hold down bolt to be fitted within 100mm of the end of the element.	

Internal wall

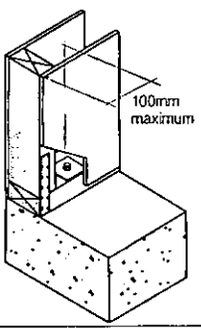


GEB006

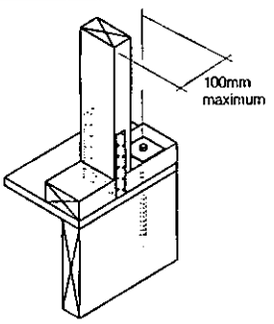


GEB007

External wall



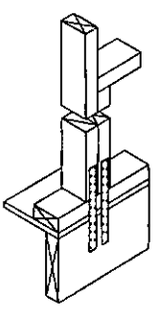
GEB008



GEB009

NB: where applicable drawings have been produced for CAD design. These are identified by a unique number in the bottom corner of each detail box that can be found at the web address gib.co.nz/cad

2/300 x 25 x 0.9mm galvanised straps with six 30 x 2.5mm flat head galvanised nails to each stud and into the floor joist and three nails to the plate. Block to nog fixed with 3/100 x 3.75mm nails to stud.



GEB010

Hold-down fastener requirements

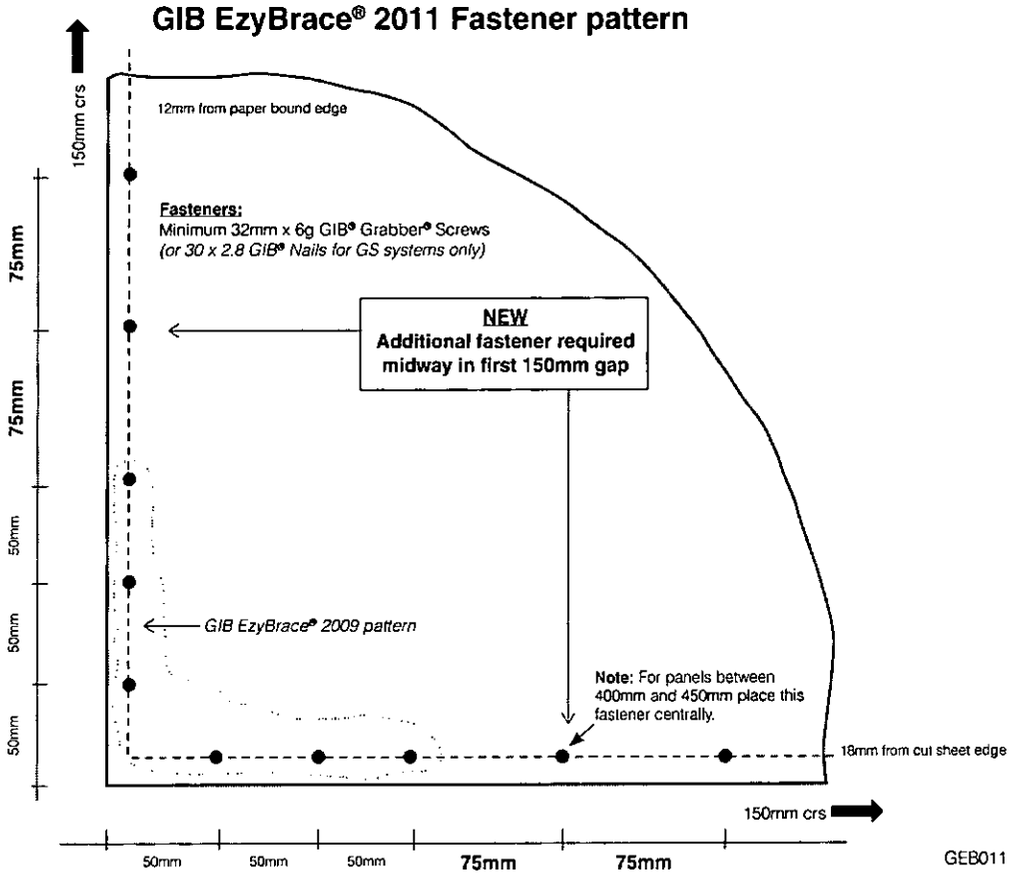
Concrete floor	Timber floor
A mechanical fastening with a minimum characteristic uplift capacity of 15kN fitted with a 50x50x3mm square washer within 100mm of the ends of the bracing element.	12x150mm galvanised coach screw fitted with a 50x50x3mm square washer within 100mm of the ends of the bracing element

Refer to gib.co.nz/cad for CAD details.

Revised Fastener Pattern for *all four corners* of GIB EzyBrace® Elements

As GIB Braceline® screws are no longer required for BL bracing elements, two additional fasteners must be installed in ***all four corners*** of GIB EzyBrace® GS and BL elements, as shown.
Fasteners must be placed no closer than 12mm from the paper bound sheet edge and no closer than 18mm from sheet ends or cut edges.

GIB EzyBrace® 2011 Fastener pattern



Refer to gib.co.nz/cad for CAD details.

PERMITTED GIB® PLASTERBOARD SUBSTITUTIONS IN GIB EZYBRACE® SYSTEMS

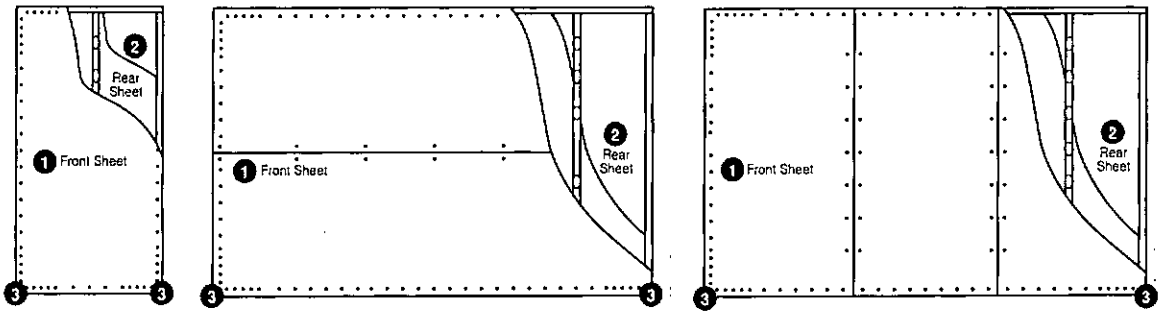
GIB Ezybrace® Systems have been designed and tested using only the products specified. Occasionally additional properties may be required to be provided by a different GIB® Plasterboard product. The following table provides acceptable substitution options.

Specified	Permitted alternative GIB® Plasterboard products								
	GIB® Standard	GIB Ultraline®	GIB Braceline/ Noiseline®	GIB Aqualine®	GIB Toughline®	GIB Fyreline®			
						10mm	13mm	16mm	19mm
GIB® Standard		OK	OK	OK	OK	OK	NOTE 2		
GIB Braceline®	X	X		NOTE 1	OK	X	NOTES 1 and 2		

NOTE 1 The element must be 900mm or longer. Use 32mm x 6g GIB® Grabber® drywall screws at ***100mm*** centres to the perimeter of the bracing element. The bracing corner fastening pattern, as illustrated above, applies to all four corners of the element. Panel hold-down fixings are required.

NOTE 2 The fastener type and length must be as required for the relevant FRR system but the fixing pattern must be as shown above.

Construction Details



System	Lining one side ❶		Lining opposite side ❷		Panel Hold-Down Fixings ❸	Fastener spacing
	Lining	Fasteners	Lining	Fasteners		
GS1-N	Any 10mm or 13mm GIB® Plasterboard	30mm GIB® nails, or minimum 32mm x 6g GIB® Grabber® high thread screws	Not required	Not required	Not required	*GIB® Plasterboard* Corner fastening pattern as illustrated above Fasteners at 150mm to bracing element perimeter, and: • at 300mm centres to intermediate sheet joints for vertical fixing, or • at stud / sheet junction for horizontally fixed elements, and • GIBFix adhesive daubs at 300mm crs to intermediate framing *Plywood* Fasteners at 150mm around the perimeter of every sheet and at 300mm centres to intermediate studs. Place fasteners no closer than 7mm from sheet edges. Plasterboard corner fastener pattern does not apply to plywood.
GS2-N			Any 10mm or 13mm GIB® Plasterboard	30mm GIB® nails, or minimum 32mm x 6g GIB® Grabber® high thread screws		
GSP-H			Minimum 7mm Ecoply manufactured to AS/NZS 2269	50mm x 2.8mm Flat head galvanised or stainless steel nails	Yes, see Pages 19 and 20	
BL1-H	10mm or 13mm GIB Braceline®	minimum 32mm x 6g GIB® Grabber® high thread screws	Not required	Not required		
BLG-H			Any 10mm or 13mm GIB® Plasterboard	30mm GIB® nails, or minimum 32mm x 6g GIB® Grabber® high thread screws		
BLP-H		GIB Braceline® Nails may be used for 10mm GIB Braceline® ONLY	Minimum 7mm Ecoply manufactured to AS/NZS 2269	50mm x 2.8mm flat head galvanised or stainless steel nails		

GIB EzyBrace® System Specification – GS1-N

JUNE 2011

Specification Code	Minimum Length (m)	Lining requirement
GS1-N	0.4	Any 10mm or 13mm GIB® Standard Plasterboard to one side only

WALL FRAMING

Wall framing to comply with;

- NZBC B1 - Structure; AS1 Clause 3 Timber (NZS 3604:2011)
- NZBC B2 - Durability AS1 Clause 3.2 Timber (NZS 3602)

Framing dimensions and height as determined by NZS 3604 stud and top plate tables for load bearing and non-bearing walls. The use of kiln dried stress graded timber is recommended.

BOTTOM PLATE FIXING

Timber Floor

Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or
Three power driven 90 x 3.15 nails at 600mm centres.

Concrete floor

INTERNAL WALL BRACING LINES

In accordance with the requirements of NZS 3604:2011 for internal wall plate fixing or 75 x 3.8mm shot fired fasteners with 16mm discs spaced at 150mm and 300mm from end studs and 600mm centres thereafter.

EXTERNAL WALL BRACING LINES

In accordance with the requirements of NZS 3604 for external plate fixing.

WALL LINING

Any 10mm or 13mm GIB® Plasterboard lining.
Sheets can be fixed vertically or horizontally.
Sheet joints shall be touch fitted.
Use full length sheets where possible.

PERMITTED SUBSTITUTION

For permitted GIB® Plasterboard substitutions refer to Page 21 in GIB Ezybrace® Systems 2011.

FASTENING THE LINING

Fasteners

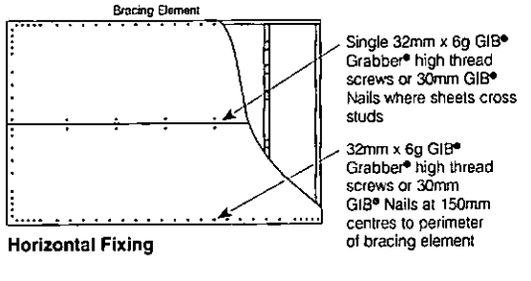
32mm x 6g GIB® Grabber® high thread screws; or
30mm GIB® Nails.

Fastener centres

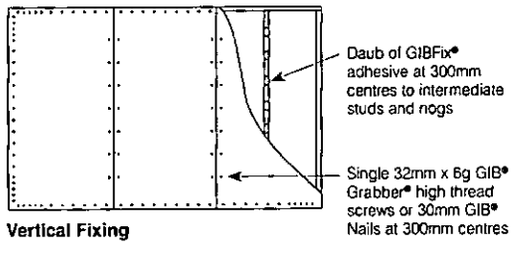
50,100,150, 225, 300mm from each corner and 150mm thereafter around the perimeter of the bracing element.
For vertically fixed sheets place fasteners at 300mm centres to intermediate sheet joints.
For horizontally fixed sheets place single fasteners to the sheet edge where it crosses the stud.
Use daubs of GIB Fix® adhesive at 300mm centres to intermediate studs.
Place fasteners no closer than 12mm from paper bound sheet edges and 18mm from any sheet end or cut edge.

JOINTING

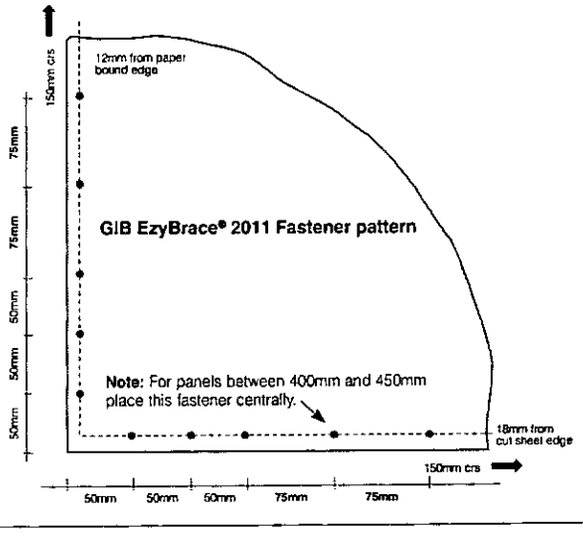
All fastener heads stopped and all sheet joints paper tape reinforced and stopped in accordance with the GIB® Site Guide.



Horizontal Fixing



Vertical Fixing



In order for GIB® systems to perform as tested, all components must be installed exactly as prescribed. Substituting components produces an entirely different system and may seriously compromise performance. Follow the specifications. This Specification sheet is issued in conjunction with the publication GIB EzyBrace® Systems 2011 and has been appraised in accordance with the BRANZ Appraisal No. 294 (2011).

BRANZ Appraised
Appraisal No.294 [2011]

GIB EzyBrace® System Specification – GS2-N

JUNE 2011

Specification Code	Minimum Length (m)	Lining requirement
GS2-N	0.4	Any 10mm or 13mm GIB® Standard Plasterboard fixed to each side of the wall framing.

WALL FRAMING

Wall framing to comply with;

- NZBC B1 - Structure; AS1 Clause 3 Timber (NZS 3604:2011)
- NZBC B2 - Durability AS1 Clause 3.2 Timber (NZS 3602)

Framing dimensions and height as determined by NZS 3604 stud and top plate tables for load bearing and non-bearing walls. The use of kiln dried stress graded timber is recommended.

BOTTOM PLATE FIXING

Timber Floor

Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or

Three power driven 90 x 3.15 nails at 600mm centres.

Concrete floor

INTERNAL WALL BRACING LINES

In accordance with the requirements of NZS 3604:2011 for internal wall plate fixing or 75 x 3.8mm shot fired fasteners with 16mm discs spaced at 150mm and 300mm from end studs and then 600mm centres thereafter.

WALL LINING

One layer 10mm or 13mm GIB® Plasterboard to each side of the wall.

Sheets can be fixed vertically or horizontally.

Sheet joints shall be touch fitted.

Use full length sheets where possible.

PERMITTED SUBSTITUTION

For permitted GIB® Plasterboard substitutions refer to Page 21 in GIB® Ezybrace Systems 2011.

FASTENING THE LINING

Fasteners

32mm x 6g GIB® Grabber® high thread screws; or

30mm GIB® Nails.

Fastener centres

50,100,150, 225, 300mm from each corner and 150mm thereafter around the perimeter of the bracing element.

For vertically fixed sheets place fasteners at 300mm centres to intermediate sheet joints.

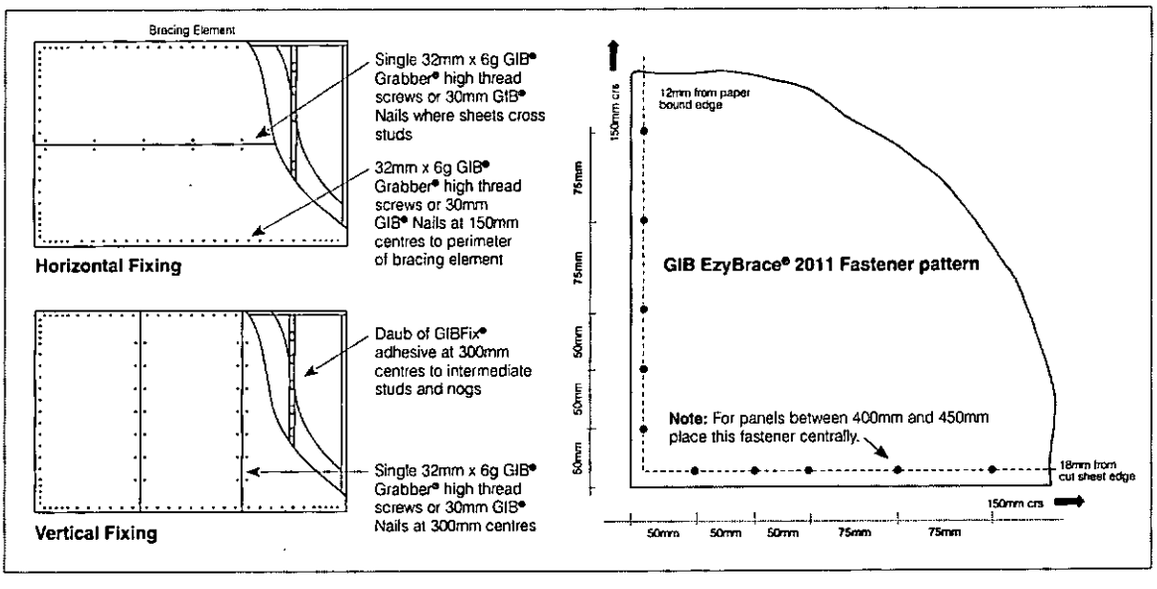
For horizontally fixed sheets place single fasteners to the sheet edge where it crosses the stud.

Use daubs of GIB Fix® adhesive at 300mm centres to intermediate studs.

Place fasteners no closer than 12mm from paper bound sheet edges and 18mm from any sheet end or cut edge.

JOINTING

All fastener heads stopped and all sheet joints paper tape reinforced and stopped in accordance with the GIB® Site Guide.



Construction

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BRANZ Appraised
Appraisal No.294 (2011)

GIB EzyBrace® System Specification – GSP-H

JUNE 2011

Specification Code	Minimum Length (m)	Lining requirement	Other Requirements
GSP-H	0.4	Any 10mm or 13mm GIB® Plasterboard lining to one side of framing and minimum 7mm Ecoply to the other side	Hold downs

WALL FRAMING

Wall framing to comply with;

- NZBC B1 - Structure; AS1 Clause 3 Timber (NZS 3604:2011)
- NZBC B2 - Durability AS1 Clause 3.2 Timber (NZS 3602)

Framing dimensions and height as determined by NZS 3604 stud and top plate tables for load bearing and non-bearing walls. The use of kiln dried stress graded timber is recommended.

BOTTOM PLATE FIXING

Timber Floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in GIB EzyBrace® Systems 2011 or GIB® Site Guide.
Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or
Three power driven 90 x 3.15 nails at 600mm centres.

Concrete floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in GIB Ezybrace® Systems 2011 or GIB® Site Guide. Within the length of the bracing element bottom plates are to be fixed in accordance with the requirements of NZS 3604.

WALL LINING

One layer any 10mm or 13mm GIB® Plasterboard to one side of the wall plus minimum 7mm Ecoply construction plywood manufactured to AS/NZS 2269:2004 to the other side. Plasterboard sheets can be fixed vertically or horizontally. Plywood sheets to be fixed vertically, with edges supported. Sheet joints shall be touch fitted.
Use full length sheets where possible.

PERMITTED SUBSTITUTION

For permitted GIB® Plasterboard substitutions refer to Page 21 in GIB Ezybrace® Systems 2011.

FASTENING THE LINING

Fasteners

Plasterboard
32mm x 6g GIB® Grabber® high thread screws; or
30mm GIB® Nails.

Plywood
50 x 2.8mm Galv or Stainless steel FH nails.

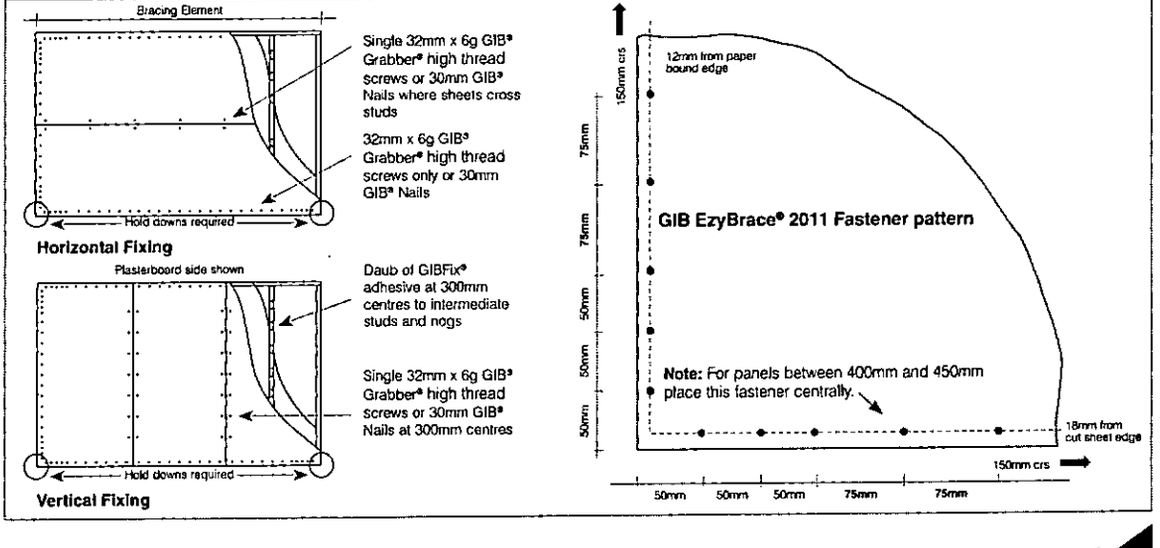
Fastener centres

GIB® Plasterboard side
50,100,150, 225, 300mm from each corner and 150mm thereafter around the perimeter of the bracing element.
For vertically fixed sheets place fasteners at 300mm centres to the intermediate sheet joints.
For horizontally fixed sheets place single fasteners to the sheet edge where it crosses the stud.
Use daubs of GIB Fix® adhesive at 300mm centres to intermediate studs.
Place fasteners no closer than 12mm from paper bound sheet edges and 18mm from any sheet end or cut edge.

Plywood side
150mm centres to the perimeter of each sheet. GIB® corner fastener pattern does not apply to the plywood side. 300mm centres to intermediate studs.

JOINTING

All fastener heads stopped and all sheet joints paper tape reinforced and stopped in accordance with the GIB® Site Guide.



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BRANZ Appraised
Appraisal No.294 [2011]

GIB EzyBrace® System Specification – BL1-H

JUNE 2011

Specification Code	Minimum Length (m)	Lining requirement	Other requirements
BL1-H	0.4	10mm or 13mm GIB Braceline® to one side only	Hold downs

WALL FRAMING

Wall framing to comply with;

- NZBC B1 - Structure; AS1 Clause 3 Timber (NZS 3604:2011)
- NZBC B2 - Durability AS1 Clause 3.2 Timber (NZS 3602)

Framing dimensions and height as determined by NZS 3604 stud and top plate tables for load bearing and non-bearing walls. The use of kiln dried stress graded timber is recommended.

BOTTOM PLATE FIXING

Timber Floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in GIB Ezybrace® Systems 2011 or GIB® Site Guide.
Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or
Three power driven 90 x 3.15 nails at 600mm centres.

Concrete floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in GIB Ezybrace® Systems 2011 or GIB® Site Guide. Within the length of the bracing element bottom plates are to be fixed in accordance with the requirements of NZS 3604.

WALL LINING

One layer 10mm or 13mm GIB® Braceline.
Sheets can be fixed vertically or horizontally.
Sheet joints shall be touch fitted.
Use full length sheets where possible.

PERMITTED SUBSTITUTION

For permitted GIB® Plasterboard substitutions refer to Page 21 in GIB Ezybrace® Systems 2011.

FASTENING THE LINING

Fasteners

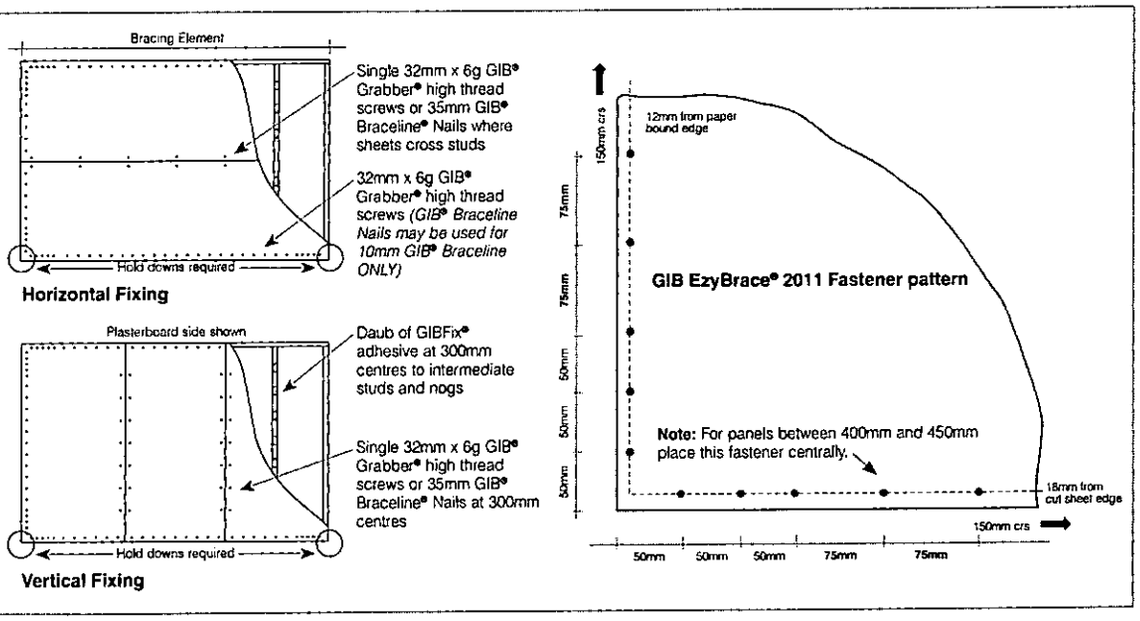
32mm x 6g GIB® Grabber® high thread screws.
(GIB Braceline® Nails may be used with 10mm GIB Braceline® only.)

Fastener centres

50,100,150, 225, 300mm from each corner and 150mm thereafter around the perimeter of the bracing element.
For vertically fixed sheets place fasteners at 300mm centres to the sheet joint.
For horizontally fixed sheets place single fasteners to the sheet edge where it crosses the stud.
Use daubs of GIB Fix® adhesive at 300mm centres to intermediate studs.
Place fasteners no closer than 12mm from paper bound sheet edges and 18mm from any sheet end or cut edge.

JOINTING

All fastener heads stopped and all sheet joints paper tape reinforced and stopped in accordance with the GIB® Site Guide.



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BRANZ Appraised
Appraisal No.294 [2011]

GIB EzyBrace® System Specification – BLG-H

JUNE 2011

Specification Code	Minimum Length (m)	Lining requirement	Other requirements
BLG-H	0.4	10mm or 13mm GIB Braceline® to one side of the frame plus any 10mm or 13mm GIB Plasterboard to the other side	Hold downs

WALL FRAMING

Wall framing to comply with;

- NZBC B1 - Structure; AS1 Clause 3 Timber (NZS 3604:2011)
- NZBC B2 - Durability AS1 Clause 3.2 Timber (NZS 3602)

Framing dimensions and height as determined by NZS 3604 stud and top plate tables for load bearing and non-bearing walls. The use of kiln dried stress graded timber is recommended.

BOTTOM PLATE FIXING

Timber Floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in GIB Ezybrace® Systems 2011 or GIB® Site Guide.
Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or
Three power driven 90 x 3.15 nails at 600mm centres.

Concrete floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in GIB Ezybrace® Systems 2011 or GIB® Site Guide. Within the length of the bracing element bottom plates are to be fixed in accordance with the requirements of NZS 3604.

WALL LINING

One layer 10mm or 13mm GIB® Braceline to one side of the wall plus any 10mm or 13mm GIB® Plasterboard lining to the other side. Sheets can be fixed vertically or horizontally. Sheet joints shall be touch fitted. Use full length sheets where possible.

PERMITTED SUBSTITUTION

For permitted GIB® Plasterboard substitutions refer to Page 21 in GIB Ezybrace® Systems 2011.

FASTENING THE LINING

Fasteners

GIB Braceline® side
32mm x 6g GIB® Grabber® high thread screws.
(GIB Braceline® Nails may be used with 10mm GIB Braceline® only)

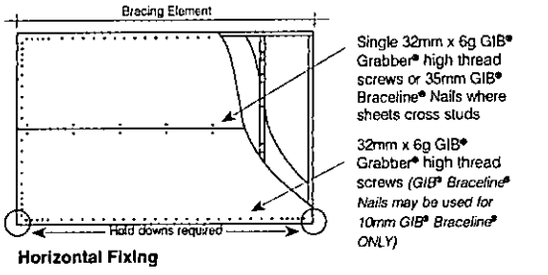
Other side
32mm x 6g GIB® Grabber® high thread screws; or
30mm GIB Nails.

Fastener centres

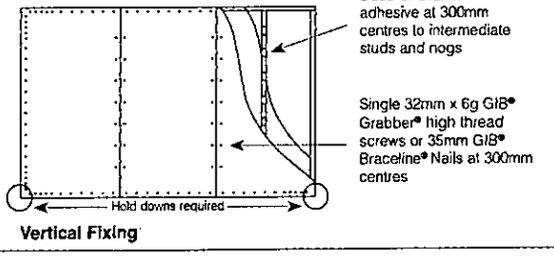
50,100,150, 225, 300mm from each corner and then 150mm thereafter around the perimeter of the bracing element.
For vertically fixed sheets place fasteners at 300mm centres to the intermediate sheet joints.
For horizontally fixed sheets place single fasteners to the sheet edge where it crosses the stud.
Use daubs of GIB Fix® adhesive at 300mm centres to intermediate studs.
Place fasteners no closer than 12mm from paper bound sheet edges and 18mm from any sheet end or cut edge.

JOINTING

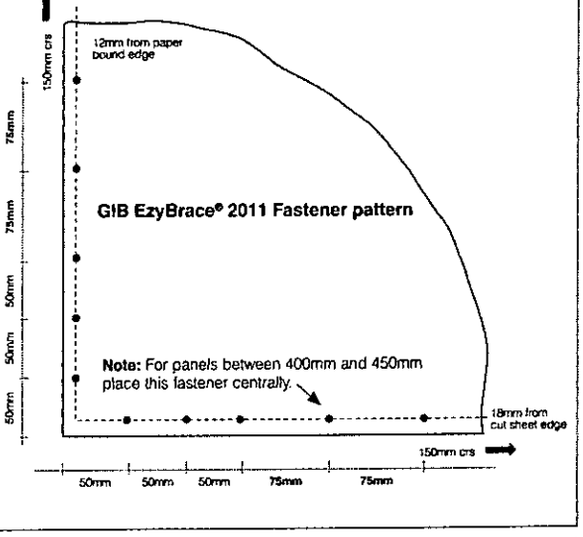
All fastener heads stopped and all sheet joints paper tape reinforced and stopped in accordance with the GIB® Site Guide.



Horizontal Fixing



Vertical Fixing



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BRANZ Appraised
Appraisal No 294 [2011]

GIB EzyBrace® System Specification – BLP-H

JUNE 2011

Specification Code	Minimum Length (m)	Lining requirement	Other requirements
BLP-H	0.4	10mm or 13mm GIB Braceline® to one side of the frame plus minimum 7mm Ecoply to the other side	Hold downs

WALL FRAMING

Wall framing to comply with;

- NZBC B1 - Structure; AS1 Clause 3 Timber (NZS 3604:2011)
- NZBC B2 - Durability AS1 Clause 3.2 Timber (NZS 3602)

Framing dimensions and height as determined by NZS 3604 stud and top plate tables for load bearing and non-bearing walls. The use of kiln dried stress graded timber is recommended.

BOTTOM PLATE FIXING

Timber Floor

Use panel hold downs at each end of the bracing element. The GIB® HandiBrac is recommended. See details in GIB Ezybrace® Systems 2011 or GIB® Site Guide.
Pairs of hand driven 100 x 3.75mm nails at 600mm centres; or
Three power driven 90 x 3.15 nails at 600mm centres.

Concrete floor

Use panel hold downs at each end of the bracing element. The GIB HandiBrac® is recommended. See details in GIB Ezybrace® Systems 2011 or GIB® Site Guide. Within the length of the bracing element bottom plates are to be fixed in accordance with the requirements of NZS 3604.

WALL LINING

One layer 10mm or 13mm GIB Braceline® to one side of the wall plus minimum 7mm Ecoply construction plywood manufactured to AS/NZS 2269:2004 to the other side. Plasterboard sheets can be fixed vertically or horizontally. Plywood is to be fixed vertically with edges supported. Sheet joints shall be touch fitted. Use full length sheets where possible.

PERMITTED SUBSTITUTION

For permitted GIB® Plasterboard substitutions refer to Page 21 in GIB Ezybrace® Systems 2011.

FASTENING THE LINING

Fasteners

GIB Braceline® side

32mm x 6g GIB® Grabber® high thread screws.
(GIB Braceline® Nails may be used with 10mm GIB Braceline® only)

Plywood

50 x 2.8mm Galv or Stainless steel FH nails.

Fastener centres

GIB® Plasterboard side

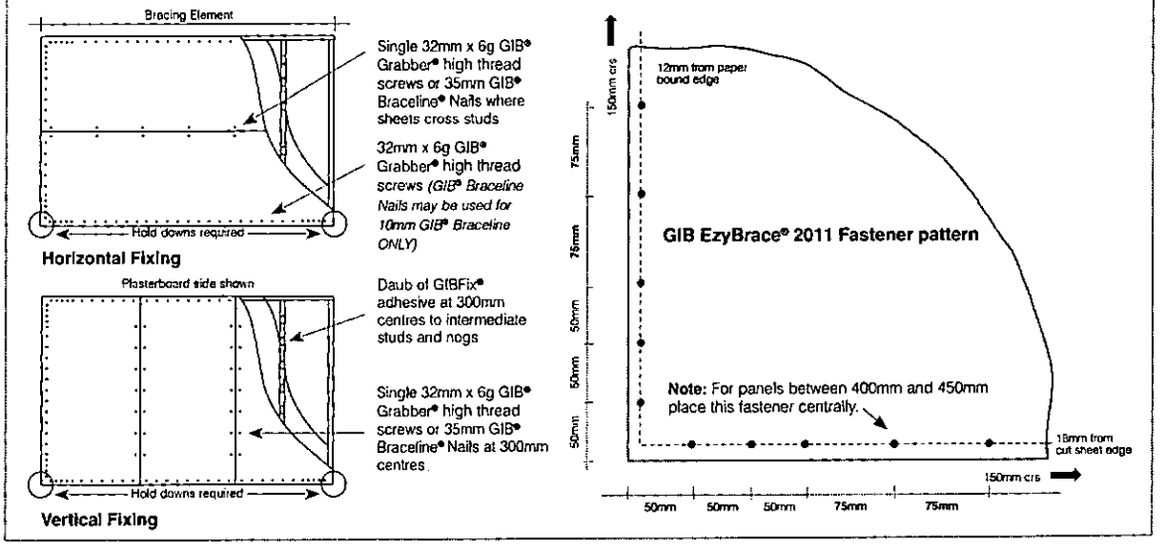
50,100,150, 225, 300mm from each corner and then 150mm thereafter around the perimeter of the bracing element.
For vertically fixed sheets place fasteners at 300mm centres to the intermediate sheet joints.
For horizontally fixed sheets place single fasteners to the sheet edge where it crosses the stud.
Use daubs of GIB®Fix adhesive at 300mm centres to intermediate studs.
Place fasteners no closer than 12mm from paper bound sheet edges and 18mm from any sheet end or cut edge.

Plywood side

150mm centres to the perimeter of each sheet. GIB® corner fastener pattern does not apply to the plywood side. 300mm centres to intermediate studs.

JOINTING

All fastener heads stopped and all sheet joints paper tape reinforced and stopped in accordance with the GIB® Site Guide.



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BRANZ Appraised
Appraisal No.294 (2011)

RFR
BUILDING DESIGN & PROJECT MANAGEMENT LTD
Phone 06 842 1014
Fax 06 842 1015
PO BOX 3410 Onekawa
Napier

21 June 2011

Re: Fire Safety Systems Assessment Report
Parent and Child Daycare Centre
Proposed Alterations and Additions.
14 Middle Road
Havelock North

Introduction

The existing building and proposed additions is a single level timber frame building. The premises are currently used as a day care centre and the additions are an extension of this use. This report is based on drawings provided by RFR Design Ltd, Project No. 11032 Rev 0.

Statutory Requirements

The New Zealand Building Act 2004 and associated Building Regulation documents provide the statutory requirements with respect to building construction. The objectives require that a building be constructed so as to:

a) Safeguard people from injury or illness from a fire while escaping to a safe place,
b) Safeguard people from injury or illness when evacuating a building during a fire,
c) Safeguard people from injury due to loss of structural stability during fire,
d) Facilitate fire rescue operations
e) Provide protection to fire service personnel during fire fighting operations
f) Protect adjacent household units, other residential units, and other property from the effects of fire.
g) Safeguard the environment from adverse effects of fire,
h) Protect household units and other property from damage due to structural instability caused by fire.

One means of compliance with the regulations is achieved by complying with the Approved Document for the New Zealand Building Code Clauses for Fire Safety Cl - C4, Access Routes D1, Mechanical Installations D2, Emergency Lighting F6, Fire Safety Systems F7 & Signs F8.

Continued....

Any alternative solutions provided are submitted under section 49 (1) of the Building Act for consideration by the Territorial Authority as being equivalent to the Acceptable Solution requirements for new buildings.

Confirmation of the requirements can only be approved by the Territorial Authority by issuing a Building Consent, and it should be noted that these recommendations are subject to their approval.

Fire Safety Precautions

The purpose group for the building is CS, spaces used day care centres, with a low fire load, fire hazard category (FHC) = 2, in accordance with Table 2.1 of C/AS 1. The total occupancy of the building is as follows.

	Area m2	Purpose Group	Occupant Density /m2	Occupant Load users
General Floor Area	198	CS	0.25	49.5
Toilets and Laundry (Intermittent)	12	IA	0	0
			Total	49.5

Fire safety precautions for the entire building are given from Table 4.1/1 of C/AS 1 for a single storey building of maximum occupant load of 100 people in each fire cell.

Requirements as per Table 4.1/1 C/AS1	Actual Requirements due to Occupancy
• F Rating FO	
• Type 2af Manual fire alarm with call points	Type 2 Manual fire alarm with call points is required
• Type 18c Fire hydrant systems	No Fire hydrant system due to special condition (c).

Early Childhood Centres

When a Type 2 alarm system is used, Section 4.5.19 requires smoke detectors in all sleeping areas and escape routes serving these areas. The smoke detection and alarm system shall comply with NZS 4512

Escape Routes

The provision of at least two escape routes from each space (or allowance to satisfy a single means of egress as per Section 3.15), meets the minimum number of escape routes necessary for the occupant loads and building height by Table 3.1, C/AS1. Escape route widths shall be no less than minimum 850mm through doors and 1000 mm in open areas according to Table 3.2, C/AS 1.

Travel distances are generally within 18m for the dead end path and 45m for the total open path as defined for Purpose Group WL in Table 3.3, C/AS 1, thus satisfying the travel distance requirements.

Doors on main escape routes shall open in the direction of travel in accordance with paragraph 3.17.3, C/AS 1 and this is provided at the main exits.

All exit doors need to have free egress type locks. Exit signage shall be provided in all escape routes in accordance with Approved Document F8/AS 1.

Lighting

Lighting for emergency is not required.

Signs

Exit signs to cover the escape routes and over the final exits complying with N28C F8 are to be fitted in accordance with AS/NZS 2293:1995. The locations of exit signs are shown on the plans at the rear of this report.

This will satisfy the provisions of F8 Signs.

Spread of Fire

The whole building is considered one firecell and each of the exterior walls are to be located at a distance greater than the 4.0m required for 100% of the walls to be unprotected, as per Table 7.2 of C/AS1. All walls located closer than this must have a fire rating ,or percentage of wall fire rated in accordance with the F or S rating as per Table 5.1 C/AS 1.

The S rating of the building is based on the vertical ventilation to floor area ratio (A_A/A_f) of 0.32 and the horizontal ventilation to floor area ratio (A_h/A_f) of 0.00 for a single level steel clad building with FHC = 1 is 60 minutes. Therefore a 60/60/60 FRR for the primary elements is required where any of the building is located within 4.0m of the boundary.

The northern and western walls require fire rating FRR60/60/60 as per the attached sketch plans and on the construction plans.

All new interior surface finishes on walls and ceilings are required to meet the following spread of flame (SFI) and smoke developed (SDI) indices when tested to AS 1530.3 in accordance with Table 6.2, C/AS1;

- Passageways, corridors etc SFI not > 7 and SDI not > 5
- All other spaces SFI not > 5 or SFI not > 9 and SDI not > 8

Conclusion

This report has discussed the fire protection requirements for the construction of the new building in accordance with the NZBC Fire Safety Clauses C2, C3, and C4.

To show compliance, this report makes use of the New Zealand Building Code Acceptable Solutions C/AS 1.

Given that the above is included into the building design, the proposed building is considered to satisfy the requirements of the NZ Building Act for new buildings.

Continued.....

Summary

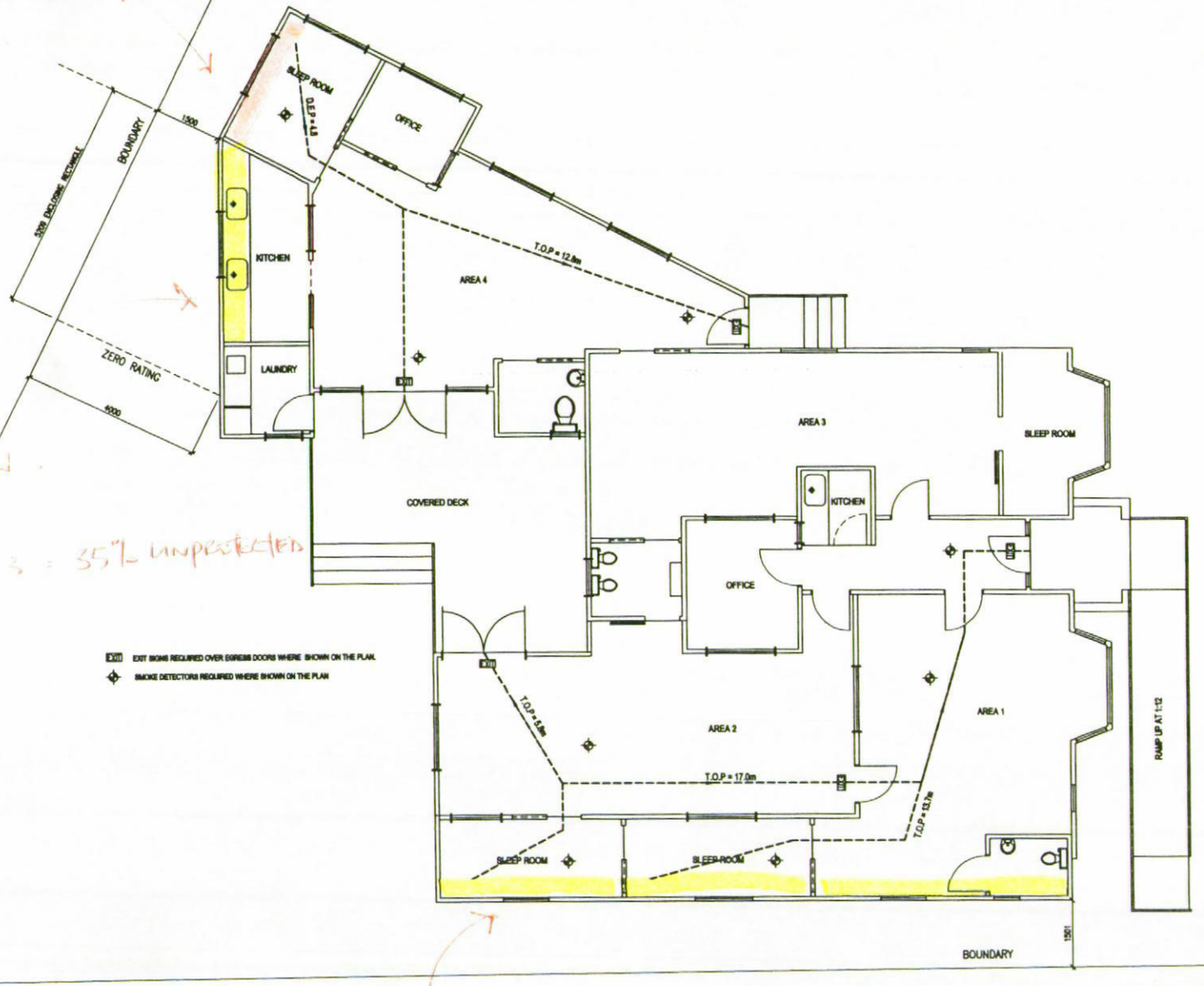
Elements of compliance as noted above are to be installed as stated below and this forms the basis of compliance with the New Zealand Building Act 2004, in respect to the fire safety systems and features.

1. A Type 2 alarm system with smoke detectors shall be installed in all sleeping areas and escape routes serving these areas. The smoke detection and alarm system shall comply with NZS 4512
2. Exit and directional signage shall be provided to comply with Approved Document F8/AS1. Note that Emergency lighting is not required.
3. All new exit doors shall be egress type locks easily operable from the inside in an emergency without a key.
4. Gib Fyreline required to the northern and western walls.
5. Interior surface finishes must comply with the requirements noted in this report.

Report prepared by

Martyn Fitch
N.Z.C.E. (Civil)
Project Engineer

NORTH ELEVATION
PDT 1.5
RECTANGLE 3.35
FROM TABLE 7.2.3 = 67% UNPROTECTED
(SEE ELEVATION)



NORTH ELEVATION
PDT 1.5
RECTANGLE 5.2
FROM TABLE 7.2.3 = 35% UNPROTECTED
(SEE ELEVATION)

WEST ELEVATION
PDT = 1.5
RECTANGLE = 14m
FROM TABLE 7.2.3 = 35% UNPROTECTED
(SEE ELEVATION).

REV	DATE	BY	REASON
A	11.5.11	MF	FOR CLIENT APPROVAL

RFR Building Design & Project Management
PO Box 3416 Napier
Phone 06 842 1014 Fax 06 842 1015

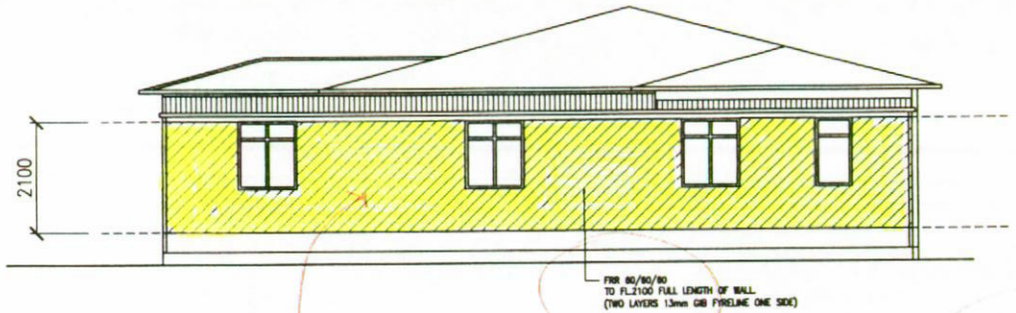
Project Details

PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

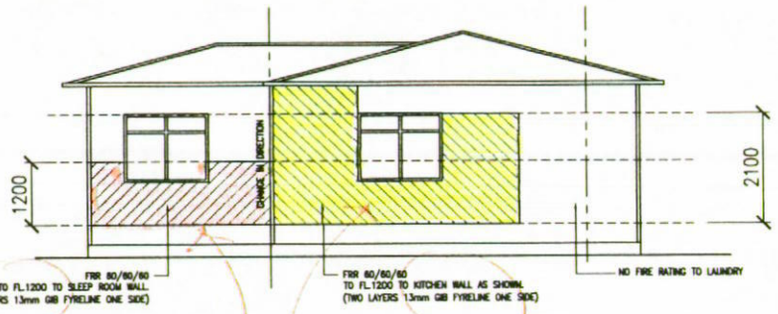
Sheet Title

FIRE SAFETY PLAN

Drawn	Scale	
MF	1:50	(ON A1)
Approved	Filename	
MF	11032	
Job No	Sheet No	Rev
11032	S04	0



1 / S03 WEST ELEVATION
SCALE 1:50



4 / S03 NORTH ELEVATION
SCALE 1:50

65% PROTECTED.

33% PROTECTED

65% PROTECTED

ABA20110794
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Hastings District Council
14/09/2011

REV	DATE	BY	REASON
A	11.5.11	MF	FOR CLIENT APPROVAL

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PO Box 3410 Napier
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Project Details

PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

Sheet Title

FIRE RATED WALLS

Drawn	Scale	
MF	1:50	(ON A1)
Approved	Filename	
MF	11032	

Job No	Sheet No	Rev
11032	S04	0

RFR
BUILDING DESIGN & PROJECT MANAGEMENT LTD

Inspection and Maintenance Regime

Project No. 11032	**Project name:** Parent and Child	**Address:** 14 Middle Road – Havelock North
	Feature Description	**Inspection and Maintenance Frequency**
SS 1	Automatic systems - for fire suppression	n/a
SS 2	Automatic or manual emergency warning systems for fire or other dangers	NZBC C1 – C4 Monthly and Annual by I.Q.P. (To NZS4512:2003)
SS 3	Electromagnetic or automatic doors or Windows	n/a
SS 4	Emergency lighting systems	n/a
SS 5	Escape route pressurization systems	n/a
SS 6	Riser mains for use by fire services	n/a
SS 7	Any automatic back-flow preventer connected to a potable water supply	n/a
SS 8	Lifts, Escalators, travelators or other similar systems for moving people or goods within buildings	n/a
SS 9	Mechanical ventilation or air conditioning	n/a
SS 10	Building maintenance units for providing access to the exterior and interior walls of buildings	n/a
SS 11	Laboratory fume cupboards	n/a
SS 12	Audio loops or other assistive listening systems	n/a
SS 13	Smoke control systems	n/a
SS 14	Emergency power systems for, or signs relating to a system or feature specified in any of SS 1 to SS 13 above	n/a
SS 15	Other fire safety systems of features	
SS 15/1	Systems for communicating spoken information intended to facilitate evacuation	n/a
SS 15/2	Final Exits (as defined by clause A2 of the building code	NZBC D1 and F8 Monthly by owner and Annual by I.Q.P.
SS 15/3	Final separations (as so defined)	NZBC D1 and F8 Monthly by owner and Annual by I.Q.P.
SS 15/4	Signs for communicating information intended to facilitate evacuation.	NZBC F8 AS/1 Monthly by owner and Annual by I.Q.P.
SS 15/5	Smoke separations (as so defined)	n/a

RFR
BUILDING DESIGN & PROJECT MANAGEMENT LTD
Phone 06 842 1014
Fax 06 842 1015
PO BOX 3410 Onekawa
Napier

Page 1 | 2
By MF
Date 20/7/11
Job Ref 11032

Project PARENT + CHILD
Description DRAINAGE CALCULATIONS

REFERENCE NZBC E1/AS1

RAINFALL INTENSITY = 0.85

ROOF AREA (MAIN ROOF) = 235m² x .85
= 200m²

CHECK DPS (74ϕ) FROM TABLE 5.
¼ ROUND GUTTER FROM FIG. 15 → MAX 40m²
∴ 5 Nº DPS @ 40m² (85max) ∴ OK

LEAN-TO ROOF = 23m² x .85
= 20m²

HARDSTAND YARD = 216m² x .85
= 183m²

∴ USE 4 YARD SUMPS @ 52m²
ACTUAL CATCHMENT = 45m²

DRAIN SIZES (FROM FIG. 3)

① = 60m²
② = ① + 45² = 105m² 100ϕ @ 1:120
③ = ② + 45² = 150m² " "
④ = ③ + 40² = 190m² " "
⑤ = ④ + 45² = 235m² 100ϕ @ 1:80
⑥ = ⑤ + 45² = 280m² 100ϕ @ 1:40

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Napier

By

Date

Job Ref 11032

Project

Description

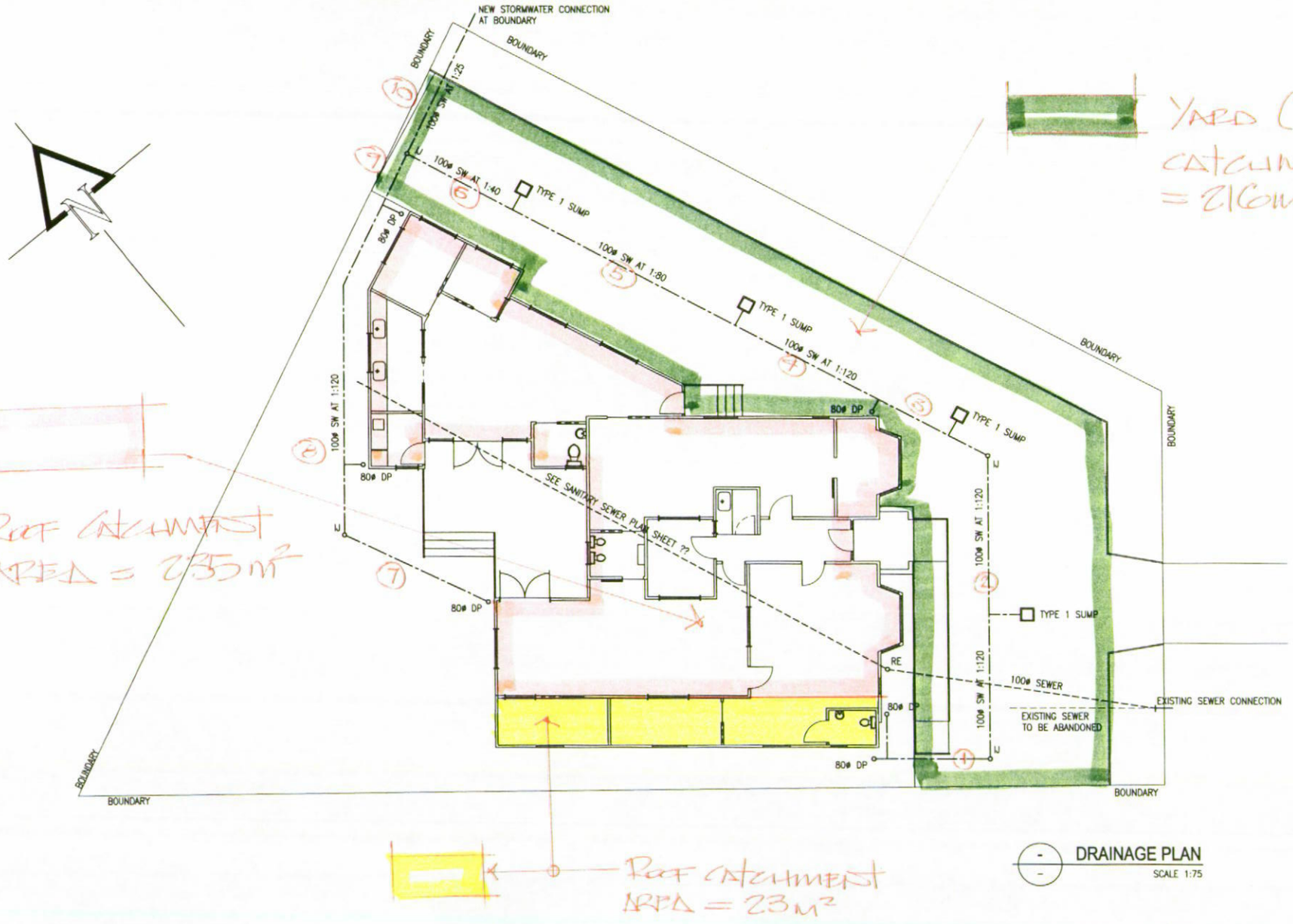
DRAIN SIZES (cont'd)

(7) = 40m²

(8) = 80m²

(9) = 120m² 100ϕ @ 1:120

(10) = (9) + (6) = 400m² 100ϕ @ 1:25.
(to connection.)



DRAINAGE PLAN
SCALE 1:75

REV	DATE	BY	REASON
A	11.5.11	MF	FOR CLIENT APPROVAL

RFR Building Design & Project Management
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Phone 06 842 1014 Fax 06 842 1015

Project Details

PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

Sheet Title

DRAINAGE PLAN

Drawn	Scale	
MF	AS SHOWN	(ON A1)
Approved	Filename	
MF	11032	

Job No	Sheet No	Rev
11032	S02	0

Total Building Supplies Ltd
Omahu Rd, PO Box 2311, Hastings, Ph (06) 879-7850

PRODUCER STATEMENT

TRUSS DESIGN CRITERIA

Customer name : Ellis Builders

Site address : 14 Middle Rd
Havelock North

DESIGN CRITERIA

Roofing	Longrun
Ceiling	Gib Board (10mm)
Top chord purlins	900 mm
Bottom chord restraints	600 mm
Standard truss spacing	900 mm
Standard roof pitch	15.00 deg
Design wind speed	37 m/s (ultimate)
Internal pressure coefficient up	0.2

The truss designs for this job have been determined using computer software provided by the Technical Division within Pryda Truss Systems. These designs are in accordance with sound and widely accepted engineering principles and comply with the following New Zealand Standards:-

AS/NZS1170.1:2002	Loading Code Part 1: Dead and live loads and
AS/NZS1170.2:2002	Loading Code Part 2: Wind loads
NZ3603 : 1993	Timber Design
AS1649 : 1974	Determination of Basic Working Loads for Metal Fasteners for Timber

All trusses shall be manufactured in accordance with the fabrication specifications provided by Pryda, and installed, connected and braced in accordance with the recommendations given in - :
AS4440:2004 "Installation of nailplated timber roof trusses"
and any other supplementary details that may be provided.

Name : Andy Vannet

Position: Truss Detailer

Signed :

Date : 25-7-11

TRUSS REACTIONS REPORT

Client Details
Ellis Builders

Site Address
14 Middle Rd
Havelock North

O/N :

Date Reqd:

Truss Mark	Support at Joint	(1.35G) (kN)	Max.Reaction (1.2G+1.5Q2) (kN)	Uplift (0.9G+WuUp1) (kN)	Uplift fixing	Special bearing requirement
S2	2	1.2	3.0	-3.4	2/Z NAILS	
S2	6	0.7	2.2	-1.5	2/Z NAILS	
S7	2	1.2	3.0	-3.4	2/Z NAILS	
S7	6	0.7	2.3	-1.5	2/Z NAILS	
S6	2	1.2	3.0	-3.2	2/Z NAILS	
S6	5	0.7	2.0	-1.4	2/Z NAILS	
S5	1	0.9	2.4	-2.2	2/Z NAILS	
S5	5	1.0	2.4	-2.3	2/Z NAILS	
S4	1	0.9	2.4	-2.1	2/Z NAILS	
S4	5	0.9	2.4	-2.1	2/Z NAILS	
SG1	1	3.6	8.5	-6.4	2/MG	
SG1	5	4.5	10.4	-8.7	2/WS6	
S3	1	0.8	2.3	-1.9	2/Z NAILS	
S3	5	0.8	2.3	-2.0	2/Z NAILS	
S8	1	1.0	2.6	-2.6	2/Z NAILS	
S8	4	1.0	2.5	-2.1	2/Z NAILS	
S9	1	0.9	2.5	-2.2	2/Z NAILS	
S9	3	0.9	2.5	-2.2	2/Z NAILS	
S10	1	0.5	2.1	-1.3	2/Z NAILS	
S10	3	0.5	2.1	-1.3	2/Z NAILS	
SG2	1	4.3	8.0	-4.8	2/MG	
SG2	5	4.1	7.7	-4.3	2/MG	
N1	1	0.6	2.2	-1.6	2/Z NAILS	
N1	3	0.5	2.1	-1.2	2/Z NAILS	
M2	1	0.5	2.1	-1.5	2/Z NAILS	
M2	3	0.4	2.0	-1.1	2/Z NAILS	
M1	1	0.4	2.1	-1.3	2/Z NAILS	
M1	3	0.3	1.9	-0.8	2/Z NAILS	
MTS1	1	0.5	2.2	-1.5	2/Z NAILS	
MTS1	3	0.4	2.0	-0.9	2/Z NAILS	
TG1	2	2.1	5.6	-4.3	2/MG	
TG1	5	1.6	5.8	-2.8	2/Z NAILS	
H2	1	0.0	1.7	0.0	2/Z NAILS	
H2	2	0.0	1.7	0.0	2/Z NAILS	
H3	1	0.6	2.1	-0.8	2/Z NAILS	
H3	3	0.7	2.2	-1.3	2/Z NAILS	
H4	1	0.5	2.1	-0.7	2/Z NAILS	
H4	3	0.5	2.1	-1.2	2/Z NAILS	
H1	1	0.3	1.8	-0.3	2/Z NAILS	
H1	3	0.2	1.8	-0.5	2/Z NAILS	
H5	1	0.4	2.0	-0.5	2/Z NAILS	
H5	3	0.3	1.9	-0.7	2/Z NAILS	

Client Details
Ellis Builders

Site Address
14 Middle Rd
Havelock North

O/N :

Date Reqd:

Note 1 :
All supports for bearing have been checked for 90mm JD4 and are satisfactory unless the bearing width and/or joint group have been changed, or there is a reference to Note 2.

TRUSS REACTIONS REPORT

Job Ref: 5274

Client Details
Ellis Builders

Site Address
14 Middle Rd
Havelock North

O/N :

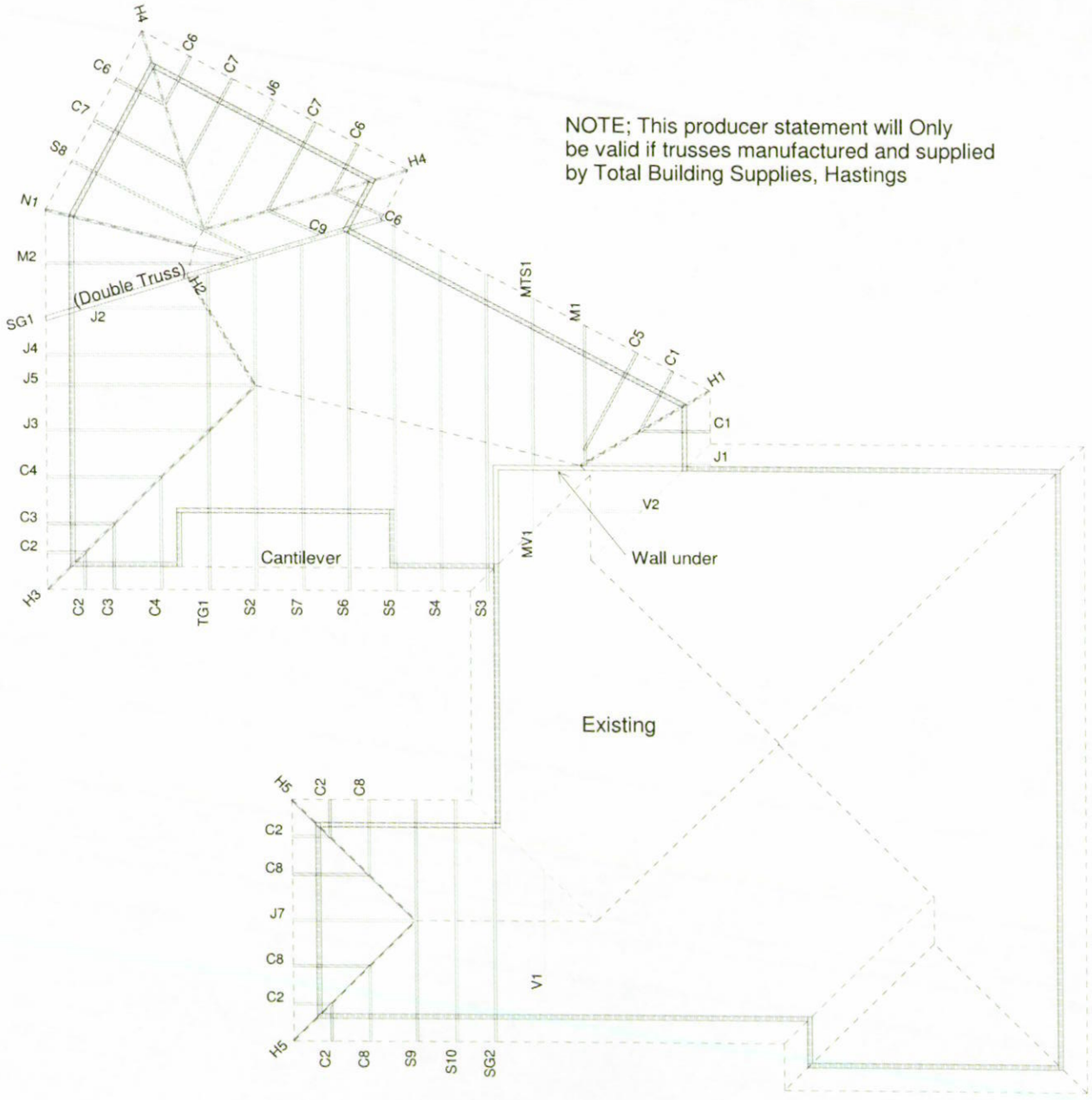
Date Reqd:

Fixing Summary :
All trusses not listed require a minimum of 2 Skew Nails

Z NAILS	/ 41	: Each side of truss
MG	/ 8	: 10 nails per fixing
WS6	/ 2	: 4 nails per leg

Legend :

2/Z NAILS	Double Z-nails
2/MG	Double Multigrip
2/WS6	Double Wind Strap 600mm long



NOTE; This producer statement will Only be valid if trusses manufactured and supplied by Total Building Supplies, Hastings

ABA20110794
APPROVED - Site Copy
Hastings District Council
14/09/2011

Level 1

pryda

Customer : Ellis Builders
Site Address: 14 Middle Rd

Roofing: Longrun
Pitch : 15.00 deg
Spacing: 900 mm
Design Wind Velocity: 37.00 m/s (Ult.)

Job Ref: 5274

Scale 1:125
(on: A4)

2.2 Width

2.2.1 The clear width of an *accessible route* shall be no less than 1200 mm.

COMMENT:
Handrails and other minor obstructions complying with Paragraphs 1.5.1 and 1.5.2 are permitted to intrude into this width.

2.3 Protection from falling

2.3.1 Where the surface of an *accessible route* is more than 25 mm above the adjacent ground, protection is to be provided by either a 75 mm upstand (kerb) or a low barrier rail.

3.0 Ramps

3.1 Slope

3.1.1 The maximum acceptable slopes for ramps are given in Table 3. The choice of slope must take account of the type of use and risk of slipping.

3.1.2 *Service ramps* steeper than 1 in 8 shall have footholds complying with Figure 8 and Table 4.

3.1.3 *Accessible ramps* shall have an upstand no less than 75 mm in height on any drop-off side of a ramp (see Figure 9).

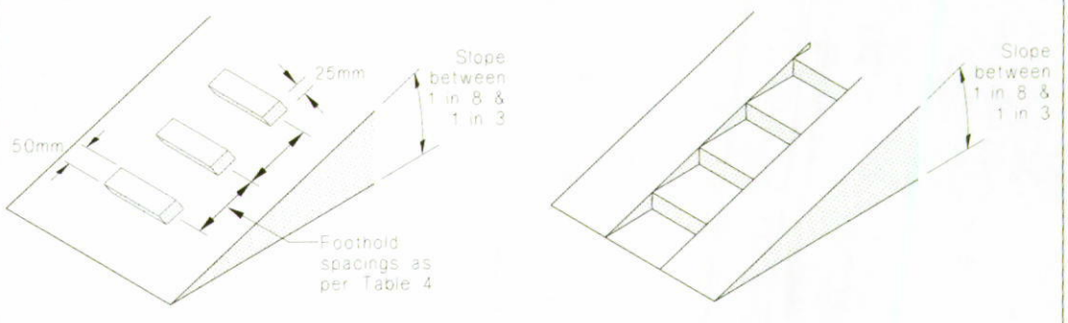
Table 3: Acceptable Ramp Slopes
Paragraph 3.1.1

Type of ramp	Maximum slope
Accessible ramp	1:12
Common ramp subject to wetting	1:10
Common ramp normally dry	1:8
Service ramps	1:3

Table 4: Foothold Spacing for Service Ramps
Paragraph 3.1.2

Ramp slope	Spacing (mm)	
	Goods carried	No goods carried
1:6	360	460
1:5	330	430
1:4	300	400
1:3	280	380

Figure 8: Service Ramps Footholds
Paragraph 3.1.2



(a) Cleats (b) Steps

Amend 4 Jul 2001

3.1.4 Slip resistance – Any slip resistant surface complying with Table 2 is acceptable for the ramp surface.

COMMENT:

1. The slopes to which Table 2 applies are limited. See Notes 1 and 2 to that table. The minimum mean slip resistance permitted by AS/NZS 3661.1 for sloping surfaces increases with the gradient of the surface. (See D1/VM1.)
2. Glazed or polished walking surfaces are normally unsuitable for *common ramps* (see Table 2, Notes).
3. Comments to Paragraphs 2.1.2, 2.1.3 and 2.1.4 for level *access routes* also apply to *common ramps*.

3.2 Width

The clear width of an *accessible* ramp shall be 1200 mm.

3.3 Landings

3.3.1 Landings shall be level, and be provided at the top and bottom of all ramps. For any ramp steeper than 1 in 33, intermediate landings are to be provided at the vertical intervals given in Table 5 and Figure 9.

Figure 9: **Accessible Ramps**
Paragraphs 3.1.3, 3.3.1, 3.3.3, 6.0.3, 6.0.4 and 7.0.2

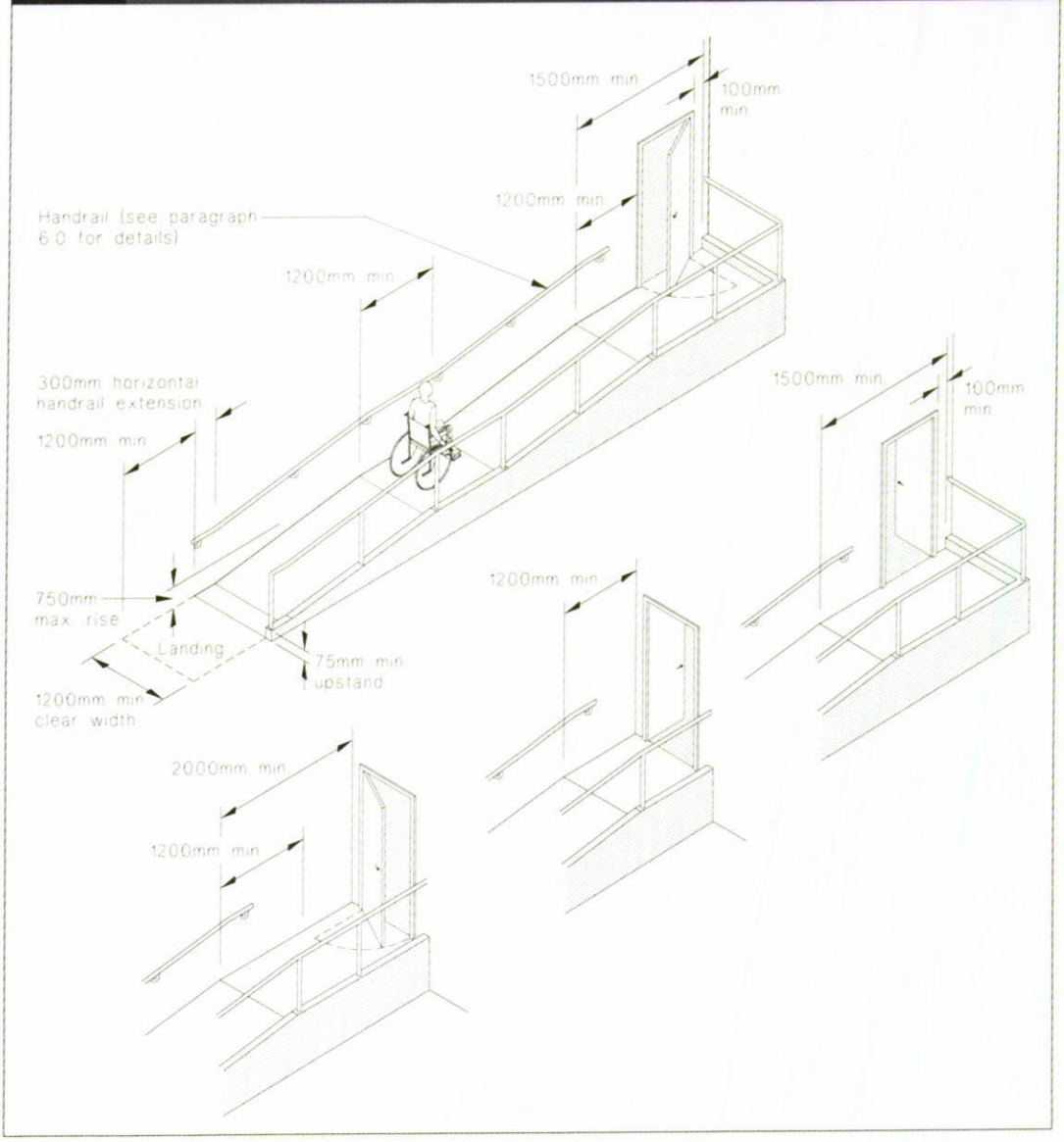


Table 5: Landings
Paragraphs 3.3.1 and 3.3.3

Ramp type	Maximum rise between landings (mm)	Length of landing (mm)
Accessible	750[1]	1200
Other	1500	Ramp width but need not be greater than 900

Note:
1. 750 mm is the reasonable maximum level difference for a person to negotiate in a wheelchair.

3.3.2 Landing width shall be no less than the minimum width of the ramp it serves.

3.3.3 Landing length shall comply with Table 5 and Figure 9.

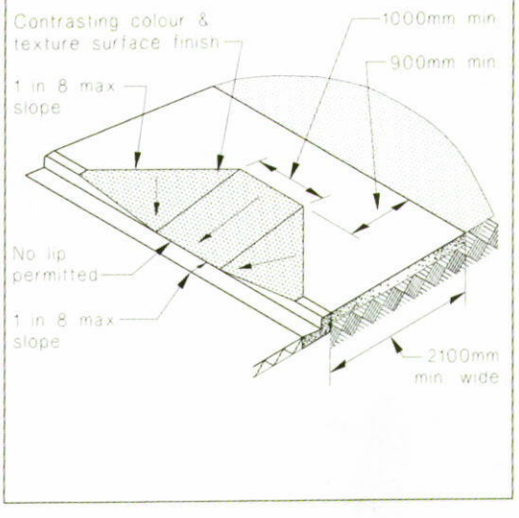
3.4 Kerb ramps

3.4.1 *Kerb ramps* (see Figure 10) shall have:

a) A slope of no greater than 1 in 8, and

b) Colour and texture contrast with the adjacent footpath.

Figure 10: Minimum Dimensions for Kerb Ramps
Paragraph 3.4.1



COMMENT:
Kerb ramps allow the safe and easy movement of wheeled trolleys and prams, as well as wheelchairs.

4.0 Stairways

4.1 Pitch, risers and treads

4.1.1 Acceptable *stairway pitch line* slopes, and step riser heights are given in Table 6 and Figure 11.

COMMENT:
1. The values given in Table 6 are based on recent research in North America. The often used design rule of twice the rise plus the going (2R+G) does not always lead to safe *stairway* geometry and can exclude some safe moderate pitch stairs.
2. Stairs having a *pitch line* slope of less than 23° do not permit a person to use the stair with an acceptable gait. Dangerous falls occur where the rhythm of movement is broken.

4.1.2 The method of measuring risers and treads is shown in Figure 12. If a landing on an outside *stairway* is formed by ground sloping across the width of the flight, the rise is measured at mid-width.

4.1.3 Uniformity – Riser height and tread depth for all steps in one flight, shall be uniform within the tolerance of ± 5 mm measured at the centreline on straight flights and at the *pitch line* on curved and spiral flights.

COMMENT:
The foot is normally only lifted a few mm above the treads during ascent. A minor variation in riser height can cause someone to stumble.

Table 6: Design Limits for Stairs
Paragraphs 4.1.1, 4.1.4 a), 4.4.2, 4.5.1 a) and Figure 17

Stair	Maximum pitch	Maximum riser height (mm)	Minimum tread (mm)
Service, minor private	47°	220	220
Secondary private	41°	200	250
Common and main private	37°	190	280
Accessible	32°	180	310

iv) 200 mm between the rungs and any solid objects behind the ladder.

5.3.2 Access to landings (see Figures 22 and 23).

a) Ladder stiles shall extend to the height of the barrier, but no less than 900 mm above the landing.

b) Toeboards shall not extend across ladder openings.

c) For step-through access, stile spacing above the landing shall be between 500 mm and 700 mm, and the top rung either level with, or one full rise below, the landing.

d) For side access to landings, the spacing from the nearest stile to the landing shall be between 150 mm and 300 mm, and the top rung must be level with the landing.

5.4 Individual rung-type ladders

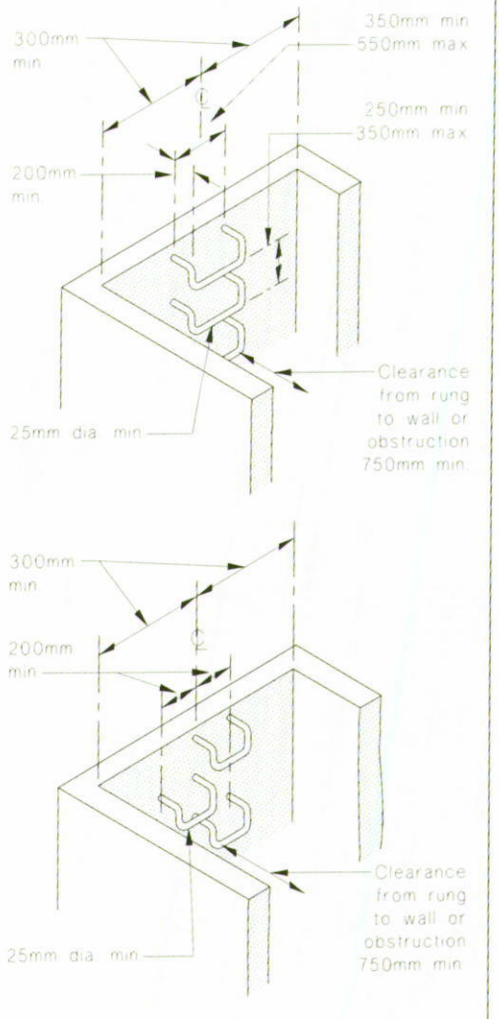
5.4.1 Individual rung-type ladders (see Figure 24) shall have:

a) **Rungs** of no less than 25 mm diameter, shaped to prevent the foot slipping off sideways, and spaced evenly at between 250 mm and 350 mm centres,

b) **A tread width** on each rung of between 300 mm and 550 mm, except that for staggered rungs this may be reduced to 200 mm, and

c) **Height and clearance** limitations as for rung-type ladders (see Paragraphs 5.3.1 d) and e)).

Figure 24: Individual Rung-type Ladders
Paragraphs 5.1.1 c) and 5.4.1



6.0 Handrails

6.0.1 All *accessible stairways* shall have *handrails* on both sides (see Paragraph 6.0.3). All other *stairways* with a width of 2.0 m or less and having two or more risers, shall have *handrails* on at least one side. For a *stairway* of two or three risers within, or giving access to a *household unit*, the *handrail* may be omitted.

COMMENT:

1. Wherever possible, *handrails* should be continuous on all *access routes*. On *private stairways* a *handrail* may be considered continuous if the continuity is interrupted by newel posts.
2. A single riser is an isolated step which by NZBC D1.3.3 i) is permitted only within *Detached dwellings* or within *household units* of *Multi-unit dwellings*, and in *Outbuildings* and *Ancillary buildings*.

6.0.2 Any *stairway* which exceeds 2.0 m in width shall:

a) Have *handrails* on both sides and, where the width exceeds 4.0 m, shall also have an intermediate *handrail* provided at the centre of the *stairway*, or

b) If the *stairway* is essentially an outdoor architectural feature and not required to be an *accessible stairway*, have at least one *handrail*. Examples of such *stairways* are those leading to civic areas, or to decks on *Housing*.

COMMENT:
A central rail gives all users a rail to use for safety purposes. On *stairways* in public *buildings*, such as sports stadia, intermediate rails are also effective for crowd control. The 2.0 m width is a comfortable width for three people, two of whom can grasp a rail if anyone trips.

6.0.3 Accessible stairways and accessible ramps – *Handrails* shall be provided on both sides of *accessible stairways* and on both sides of *accessible* ramps where the ramp slope is steeper than 1 in 20. The *handrails* shall be continuous except where doors are located on landings (see Figures 9 and 25).

6.0.4 Slope of handrails – *Handrails* shall have the same slope as the *pitch line*, begin no further than the second riser from the lower end of the *stairway*, and extend the full length of the *stairway* they serve. Except that, where the *handrail* serves an *accessible stairway* or *accessible* ramp, a 300 mm (minimum) horizontal extension shall be provided at each end of the *handrail*, as shown in Figures 9 and 25.

6.0.5 The first riser shall be located a sufficient distance back from the corner where the two walls meet, to accommodate the extended *handrail*, as shown in Figure 25.

6.0.6 Height of handrails – *Handrails* shall be positioned between 900 mm and 1 m above the *pitchline* (see Figure 25).

6.0.7 Handrail profiles – *Handrails* shall have a profile which can be readily grasped by an adult hand and shall be installed in a way that avoids the likelihood of personal injury. An acceptable *handrail* shall be shaped and located to ensure that, under normal usage, a person's hand will not contact adjacent walls, supporting brackets or fixings, or any other obstruction.

COMMENT:
It is important that in the event of stumbling on a *stairway* or ramp an adult, even with a small hand, can firmly grasp the *handrail* to prevent a fall. Refer to B1/AS2 for *handrail* structural design requirements.

Amend 4 Jul 2001

6.0.8 A graspable *handrail* profile shall have:

a) A flat or convex upper surface,

b) Arrised or radiused edges,

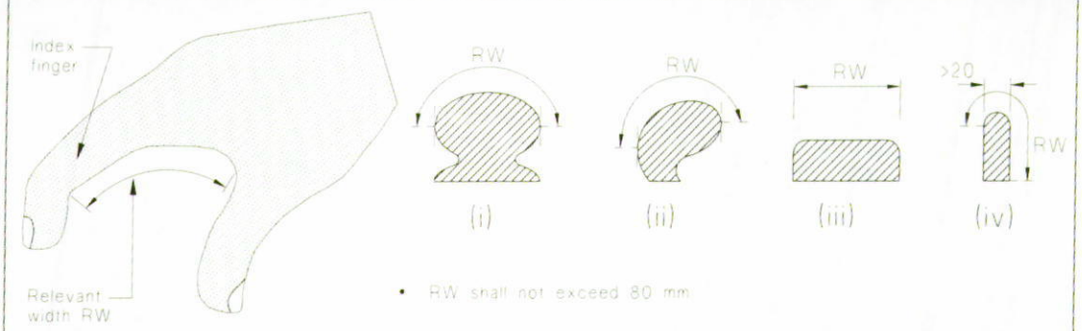
c) A minimum cross section width of 20 mm, and

d) A "relevant width" (as illustrated in Figure 26 (a)) across the top surface of no greater than 80 mm. Figure 26 (a) and (b) indicates some acceptable profiles but others may also be acceptable.

6.0.9 Acceptable *handrail* profiles for *accessible stairways* and *accessible* ramps are shown in Figure 26 (b).

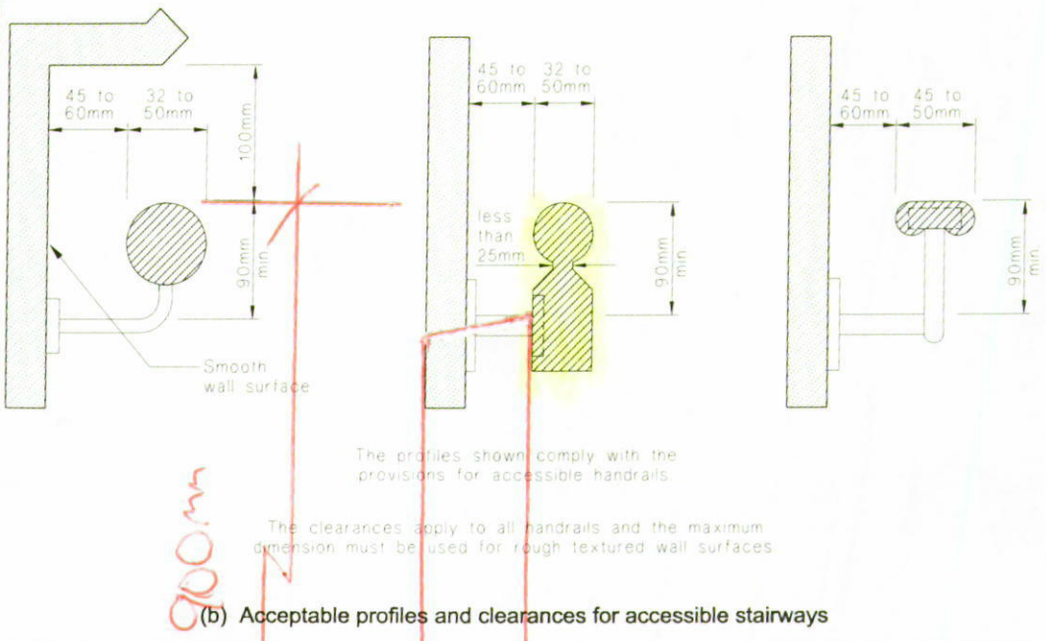
COMMENT:
In most circumstances a *handrail* is used with a light grip to steady the user of a *stairway* or ramp. Ambulant *people with disabilities* use *handrails* for both leverage and support, and wheelchair users often need to firmly grip the rails to pull themselves along, particularly on ramps. In those circumstances a profile offering an adequate grip is important.

Figure 26: Handrail Profiles and Clearances
Paragraphs 6.0.8 and 6.0.9



- RW shall not exceed 80 mm.
- RW (relevant width) is measured around the upper surface perimeter of the handrail section between the vertical tangents on either side.
- Variations in shape are acceptable provided the effective grip is not reduced. For example, the side faces shown as vertical in details (iii) and (iv) are still acceptable even if slightly curved or sloped up to 5° from vertical.
- See fig. 26 (b) for wall clearances.

(a) Determination of relevant width for private and common stairways



(b) Acceptable profiles and clearances for accessible stairways

G1/AS1 Fig 6 Reversed

Figure 6: Accessible Toilet Compartment
Paragraph 4.2.2 and Table 1

Soap dispenser to be positioned in the zone over wash hand basin but not over taps. Bottom of soap and towel dispensers between 1000 and 1200 mm above floor level

CaviLocK™

CL100 LaviLocK™

Handles & locks for sliding doors

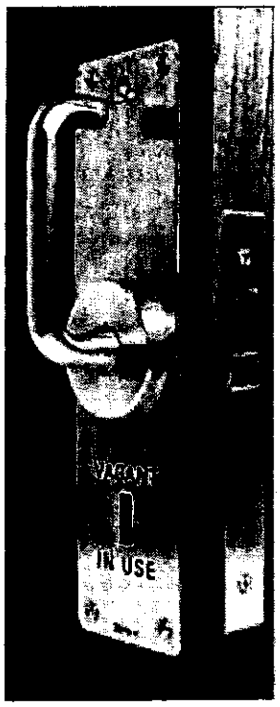
The **CL100 LaviLocK** is a disabled access lockset designed with ease of use and longevity of service in mind. The brass and stainless steel working components ensure reliability as well as resisting the corrosive outdoor environment they are often installed into.

Easy to read **"Vacant / In Use"** lettering and 'fail safe' Exit Free functionality ensure the lock complies with disabled egress requirements when fitted to a 910mm wide cavity sliding door.

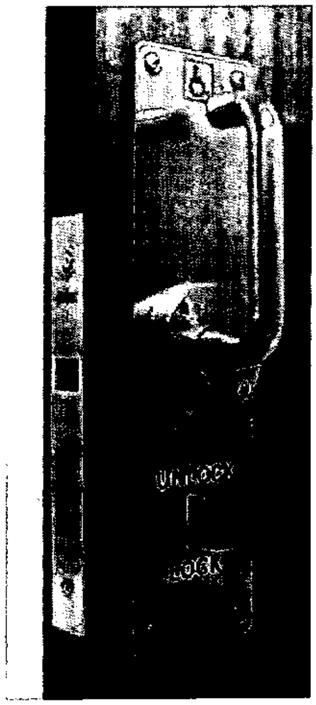
The LaviLocK is supplied as a complete set including:

- Lever Handles
- Stainless Steel Indication Plates
- Slide Locking Buttons including Emergency Release
- CL100 Mortice Lock Case

IMPORTANT; To be Council compliant, the Lever/Lever option must be used for paraplegic toilets and the door needs to be a minimum of 910mm to allow minimum clear walk through of 760mm.

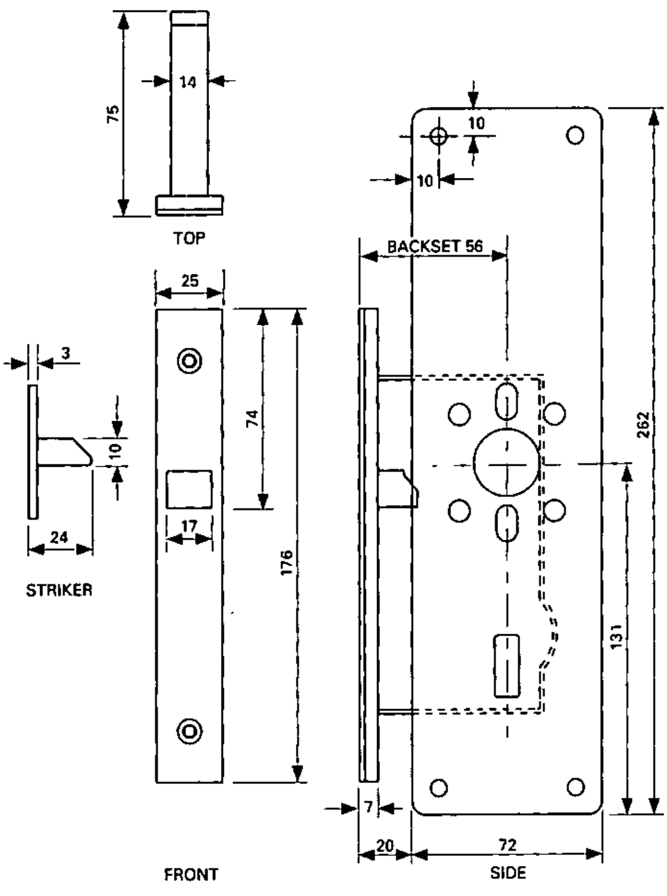


'Vacant/In Use' indicator plate on outside door face with Emergency Release.



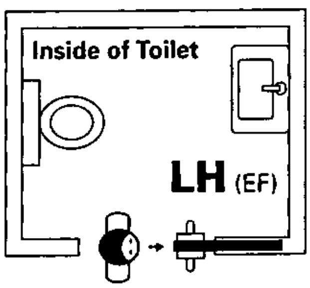
Easy to use 'Unlock/Lock' lever on inside door face.

Dimensions

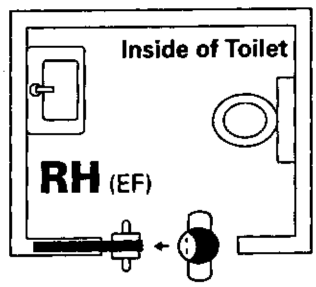


Drawings & pictures are not to scale. All dimensions in millimetres.

Handing



When standing looking into the cavity pocket, if the locking snib is on your ***left hand*** side then the **LaviLocK** is a Left Hand lock.



When standing looking into the cavity pocket, if the locking snib is on your ***right hand*** side then the **LaviLocK** is a Right Hand lock.

EF = Exit Free
Even when in locked position the handle on the **inside** remains unlocked.

Finish Options

- Satin Chrome
  - CL100B3008 (RH)
  - CL100B3010 (LH)
- Polished Brass
  - CL100B3009 (RH)
  - CL100B3011 (LH)

For other configurations, including Exit Free options, please refer to the CL100 brochure (available from the CaviLocK section on our website).

info@csfordoors.co.nz
www.csfordoors.co.nz

Bay of Plenty / Waikato
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F 07 928 2525

Christchurch
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BUILDING DESIGN & PROJECT MANAGEMENT LTD
Phone 06 842 1014
Fax 06 842 1015
PO BOX 3410 Onekawa Napier

Page	1/1
By	MF
Date	
Job Ref	1632

Project: Parent and Child

Description: H1 Calculation

H1 Reference Method

Floor Area 218 m^2

Height 2.7

Wall Area 231 m^2

Perimeter 85.7

Window Area 43.6

Reference

Floor	Walls	Roof	Glazing		HL
218/1.3 +	231x.7/1.9 +	218/2.9 +	69.3/.26		
167 +	85 +	75 +	266	=	594

Actual

Floor	Walls	Roof	Glazing		
218/2.4 +	187/2.1 +	218/2.8 +	43.6/0.19		
90 +	89 +	77 +	229	=	485

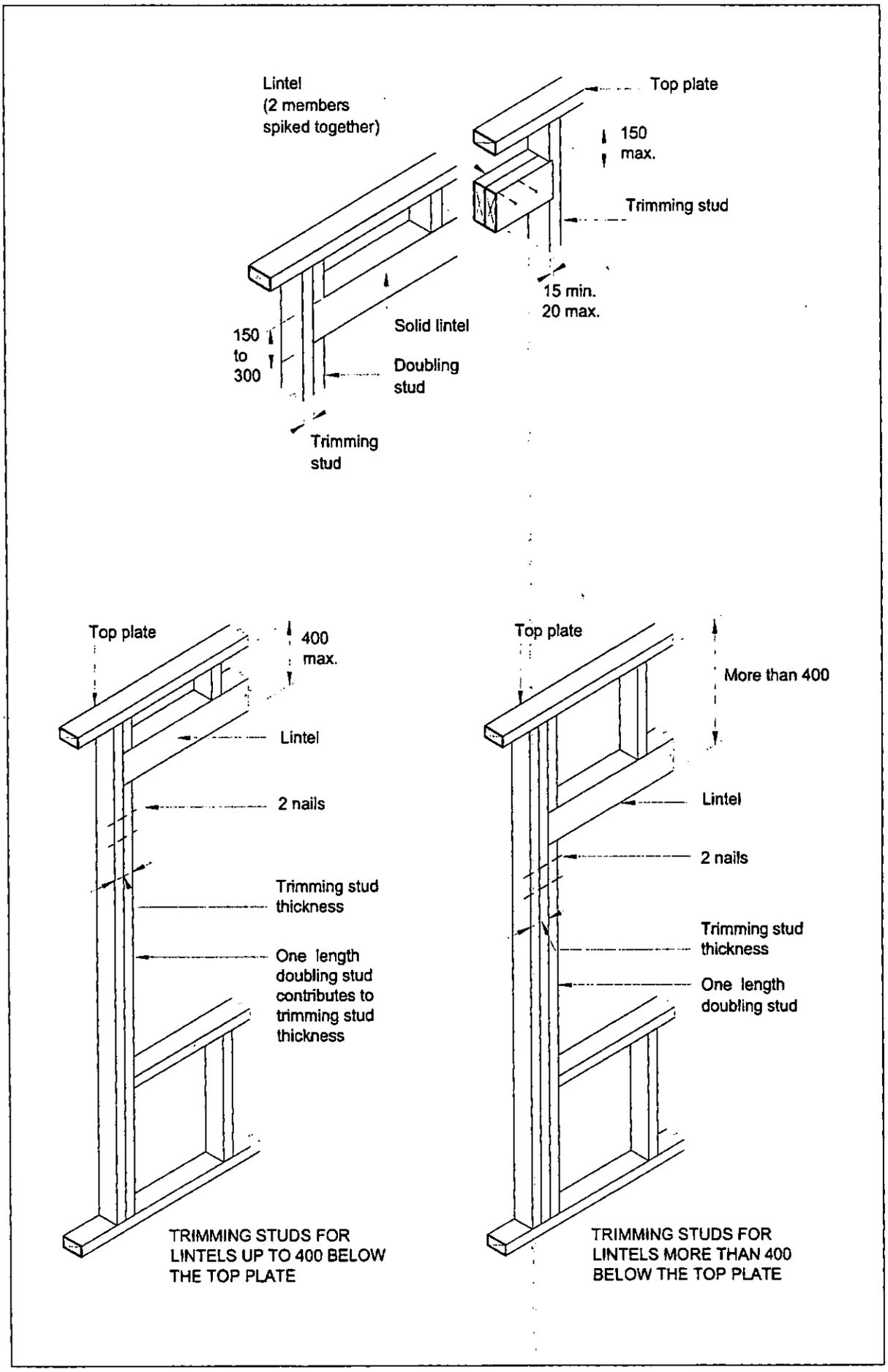
485 < 594 ∴ ok

Subfloor Expol EPS or similar

Walls R2.4 Batts

Ceiling R2.8 Batts

Single glazed timber joinery



Amd 1
Dec '00

Figure 8.5 – Trimming studs and lintels (see 8.5.2.1)

Figure 8: Mains Pressure Storage Water Heater System (unvented)
Paragraphs 6.1.2 and 6.2.1 b)

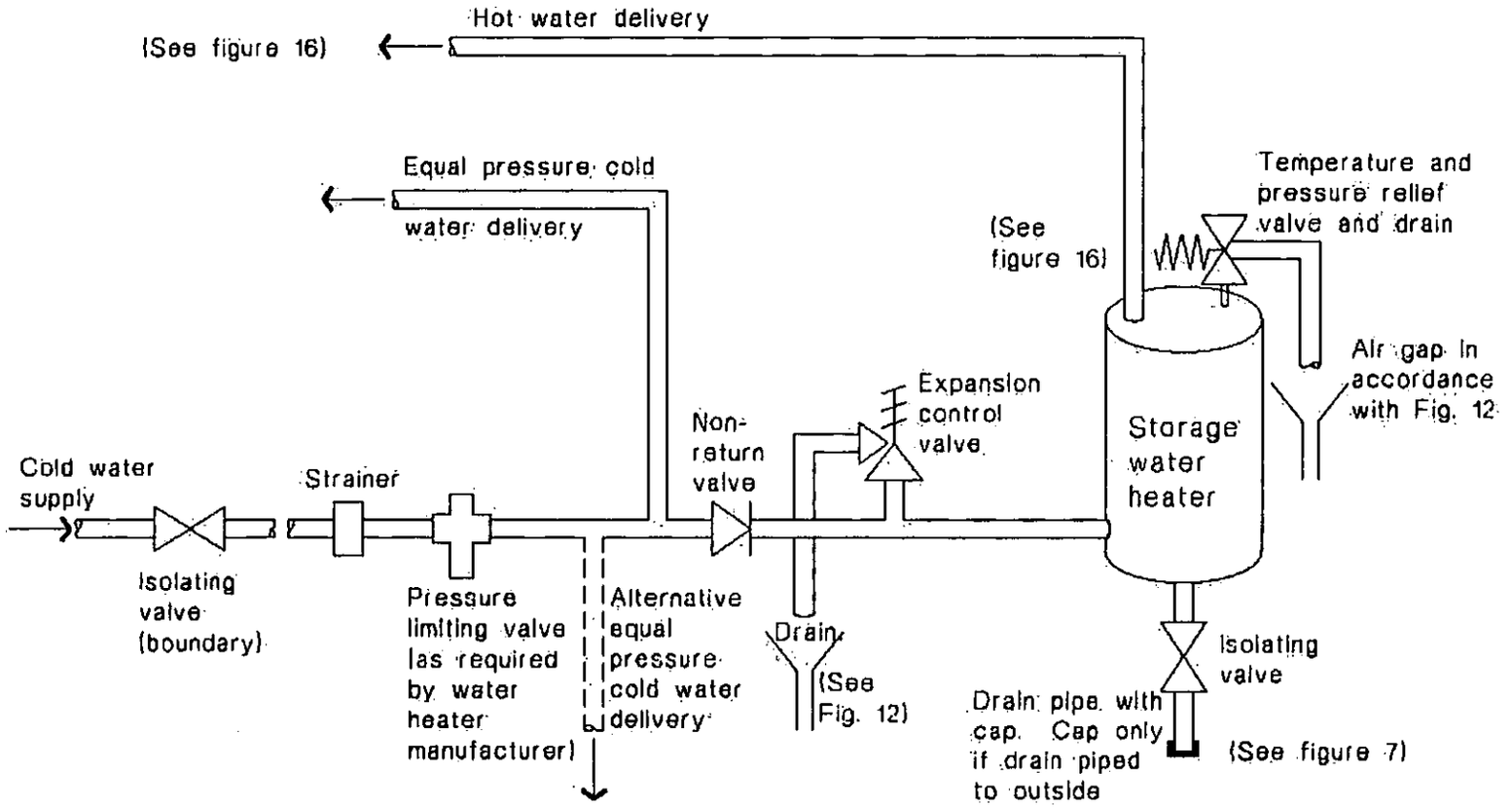


Figure 13 deleted

7.0 Decks and Pergolas

Timber used to construct *decks*, *enclosed balustrades* and other attachments such as pergolas shall comply with B2/AS1.

Amend 5 Aug 2011

7.1 Thresholds for decks

Amend 5 Aug 2011 The vertical separation between the opening threshold level and the upper surface of the *deck* shall be as shown in Figure 14.

Amend 5 Aug 2011 Opening threshold level may be at or above floor level.

7.1.1 Slatted decks

Amend 5 Aug 2011 The level of the upper surface of the slatted *deck*:

Amend 5 Aug 2011 a) Shall be a minimum of 50 mm below the threshold level for *cantilevered decks* as shown in Figures 14(b) and 16, or

Amend 5 Aug 2011 b) May be at the same level as the threshold for non-cantilevered *decks* that are formed as shown in Figure 14(c).

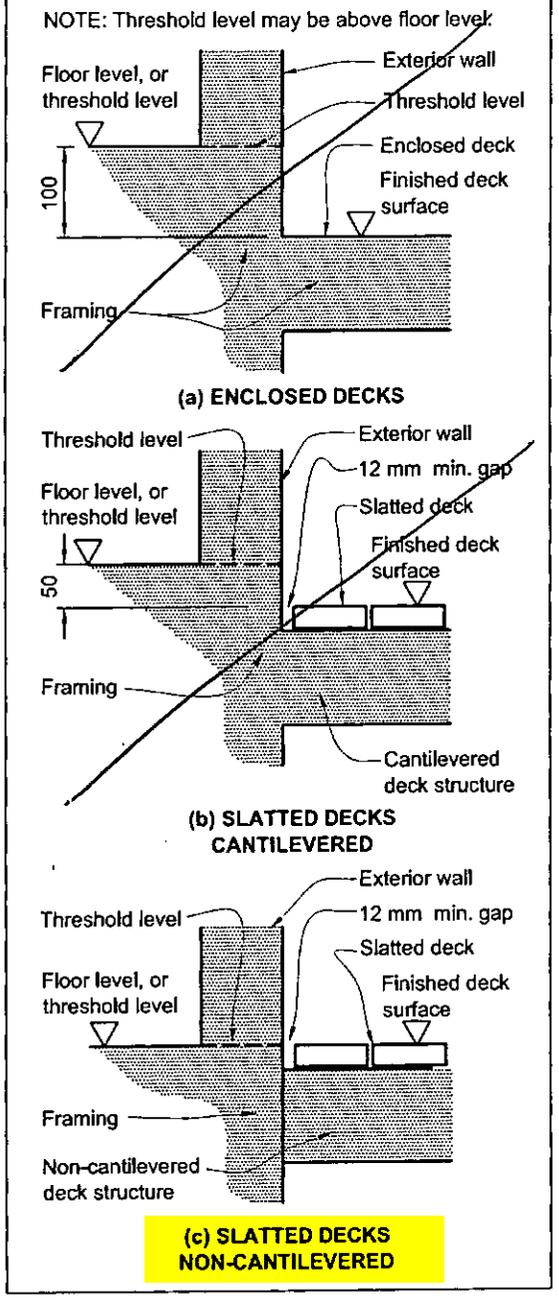
Amend 5 Aug 2011 For slatted *decks*, a minimum gap of 12 mm shall be provided between the exterior *wall* and the adjacent decking slat.

7.1.2 Enclosed decks

This Acceptable Solution is limited to *enclosed decks* with a maximum area of 40 m².

Amend 5 Aug 2011 For *enclosed decks*, the vertical separation between the opening threshold level and the upper surface of the finished *deck* surface shall be a minimum of 100 mm.

Figure 14: Threshold separations
Paragraphs 7.1, 7.3, 8.5.6, Figures 17A, 56, 62 and 64



Amend 5 Aug 2011

7.2 Attachment to building structure

7.2.1 Slatted timber decks to walls

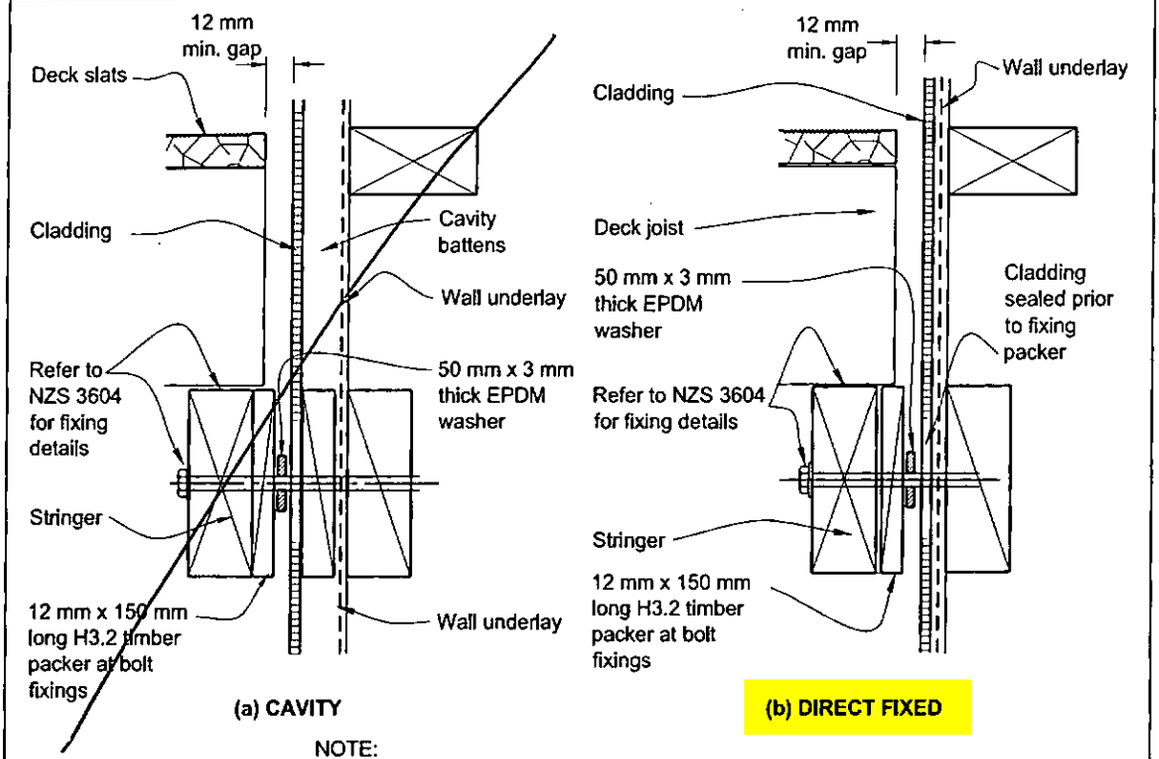
Junctions of slatted timber *decks* with *walls* shall be made *weathertight* as shown in Figures 15 and 16.

Amend 5 Aug 2011

Fixings for stringers shall be in accordance with NZS 3604.

COMMENT:
Separating *decks* from *buildings* reduces the risk of water penetration into the *framing*.

Figure 15: Junction with wall for non-cantilevered timber deck
Paragraphs 7.1.1, 7.2.2 and Figure 14



NOTE:
(1) Not suitable for *stucco*, *EIFS* or profiled metal.
(2) The top of the *deck* slats may be level with the interior threshold.
(3) The same stringer to wall junction applies when joist hangers are used.

Amend 5 Aug 2011

Amend 5 Aug 2011

Wall claddings that rely on surface coatings to reduce water absorption shall be sealed on outer faces and edges prior to fixing the stringers.

7.2.1.1 Cantilevered decks

Cantilevered decks shall have the junction with the exterior *wall* made *weathertight* as shown in Figure 16. *Cladding* shall be sealed to the *saddle flashing*.

7.2.2 Pergolas

Connections of other structures, such as pergolas, shall have the junction with the exterior *wall* made *weathertight* by using the *deck framing* connections shown in Figure 15.

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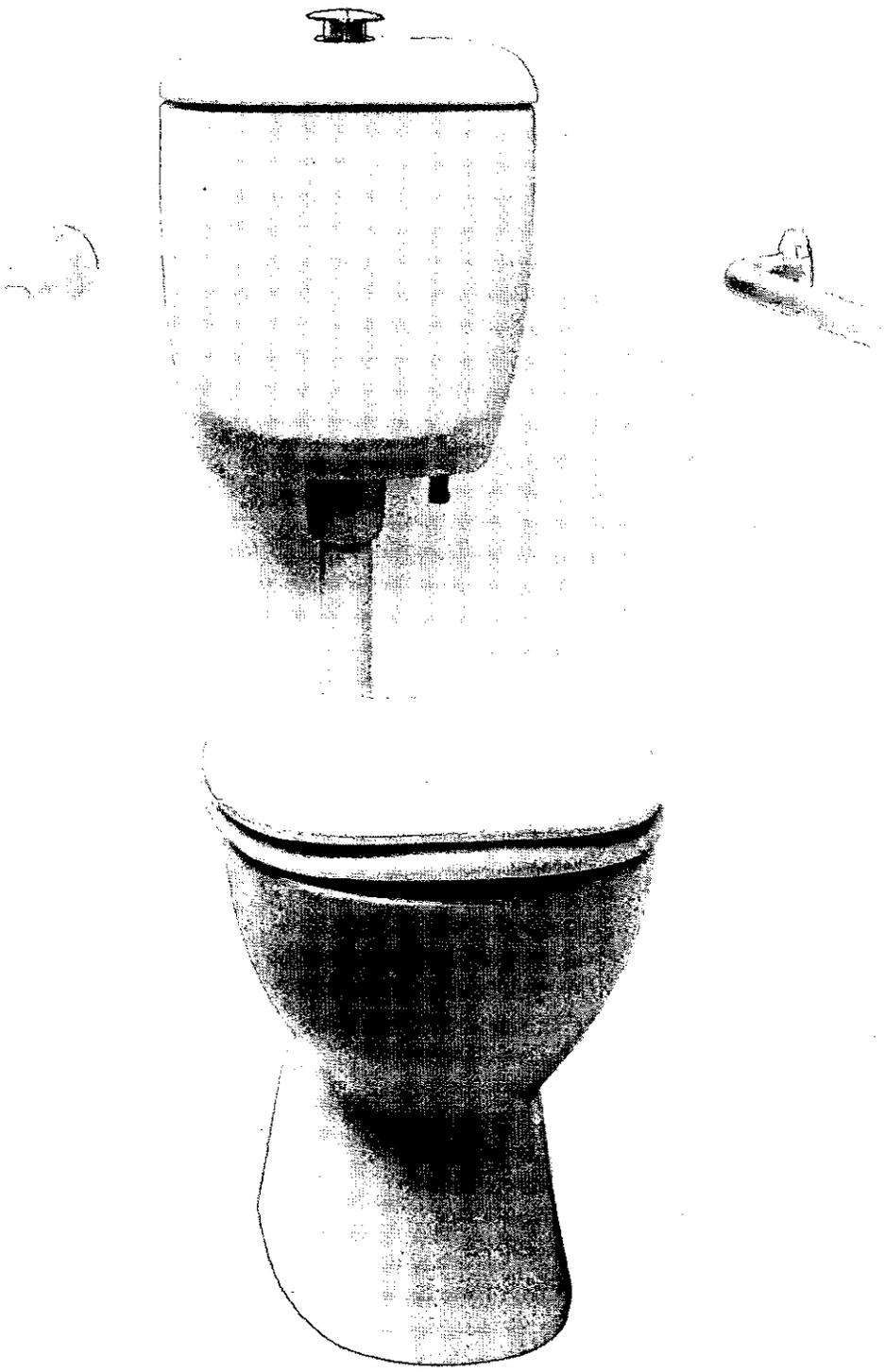
Supersedes all previous issues

Trident Care Pan Concealed Trap

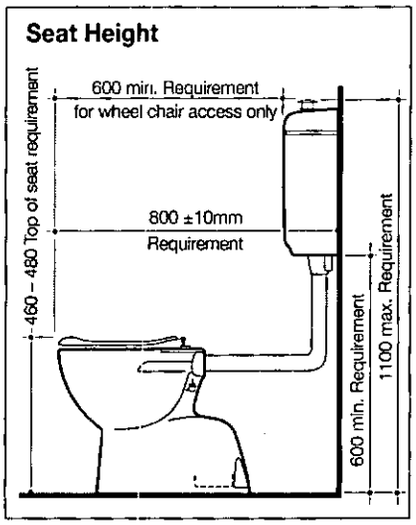
4.06.2

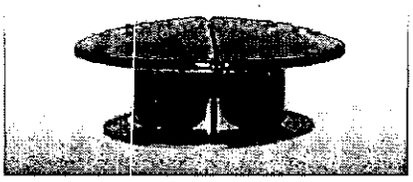
Vitreous China Pan
Installation for People with Disabilities.
Installations Complying to A.S.1428-1



Trident Care Pan Concealed Trap

Vitreous China Pan for People with Disabilities Installations Complying to the WC pan requirements to A.S.1428-1





Caroma Care Push Button Option

A contemporary designed 6 litre full flush **Trident Care Pan Concealed Trap** installation designed to provide a raised seat height of between 460-480mm for disabled people ♿. The pan features a concealed trap which facilitates easy cleaning. The versatility of the **Trident Care Pan Concealed Trap** makes it ideal for use by both the ambulant person with disabilities and wheel-chair users including wheeled commode chairs.

Important: **Further reference must be made to A.S.1428-1 with current amendments to determine circulation space, grabrail and installation requirements. The dimensions in this sheet may change with amendments to the standard.**

Pan: **Trident Care Pan Concealed Trap** pan 6 litre full flush wash down type.

Traps: S-trap unvented only Code No.606310.

Inlet: 50mm back inlet.

Cisterns: The Trident Care Pan Concealed Trap is recommended for use with the **Sovereign 2000 Cistern** (wall fix version) and Caroma Care Push Button option White – Code No.416020W or Chrome – Code No.687073C.

Seats: The following Caroma seats are recommended – **Pedigree II Care, Caravelle Care** or **Colani Disabled** (see Sheet 5.01 SEATS for further details).

Position of the Pan: For wheel chair access the installed pan must be a minimum of 800 ± 10mm from the front of the pan to the finished wall and provide a seat height of 460 to 480mm. The projection requirements for people with ambulant disabilities is 610 to 660mm.

Position of the Cistern: The underside of the cistern must be 600mm minimum from the finished floor. The push button height must be no greater than 1100mm from the finished floor.

Colours: White only.

Installation: The installation of the toilet suite shall be in accordance with the normal minimum drainline grade requirements in AS/NZS 3500.2.

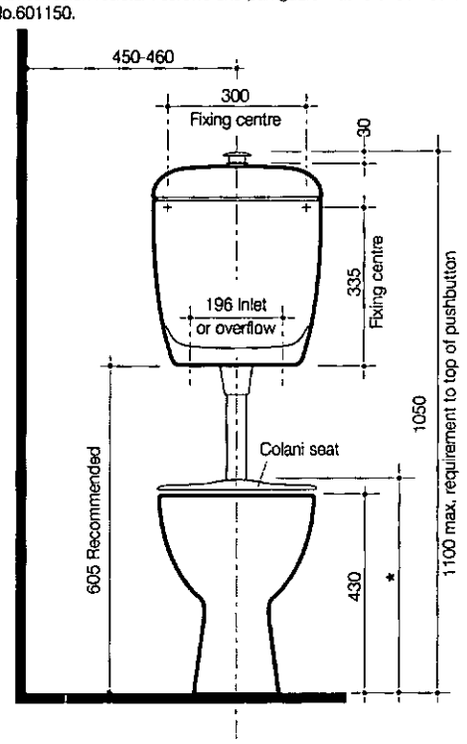
Dimensions: All dimensions are in millimetres and are subject to normal manufacturing variations. Caroma pursues a policy of continuing improvement in design and performance of its products. The right is therefore reserved to vary specifications without notice.

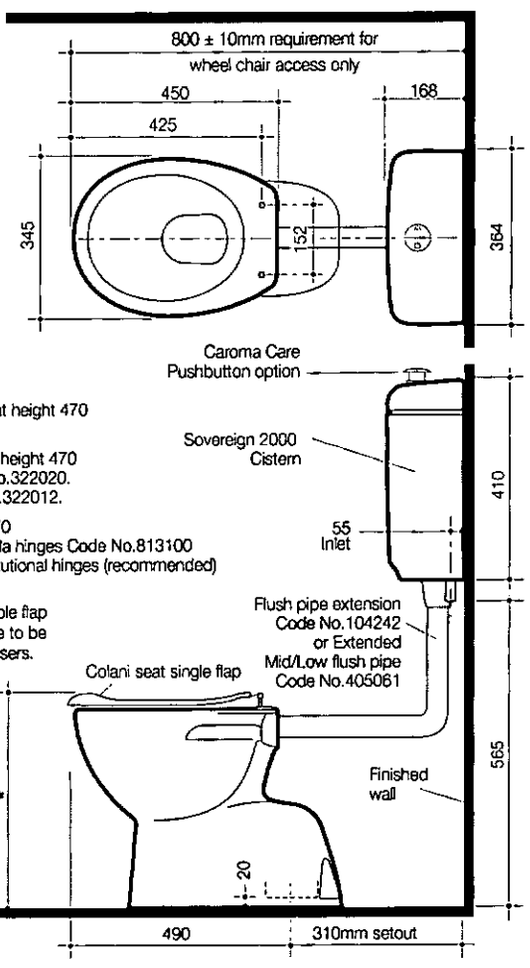
Note: The projection requirements detail on this illustration are for wheel chair access only. The projection requirements for people with ambulant disabilities is 610 to 660mm.

All height dimensions to underside of pan, make allowance for mortar bedding.

Mortar bedding: The pan should be fixed to the floor with a sand cement mixture of 3:1 to a depth of 60mm. When bedded the back of the foot of the pan should be approximately 10mm above the finished floor.

Screw fixing: The pan should be bedded with an acetic cured silicone sealant and fixed with corrosion resistant screws and pan guard washers. Use Caroma pan fixing kit. Code No.601150.





* **Pedigree II Care** seat height 470
Code No.320030.

* **Caravelle Care** seat height 470
– double flap Code No.322020.
– single flap Code No.322012.

* **Colani** seat height 470
– double flap with Leda hinges Code No.813100
– single flap with Institutional hinges (recommended) Code No.813000.

Note: The lid on a double flap toilet seat is not suitable to be used as a support for users.

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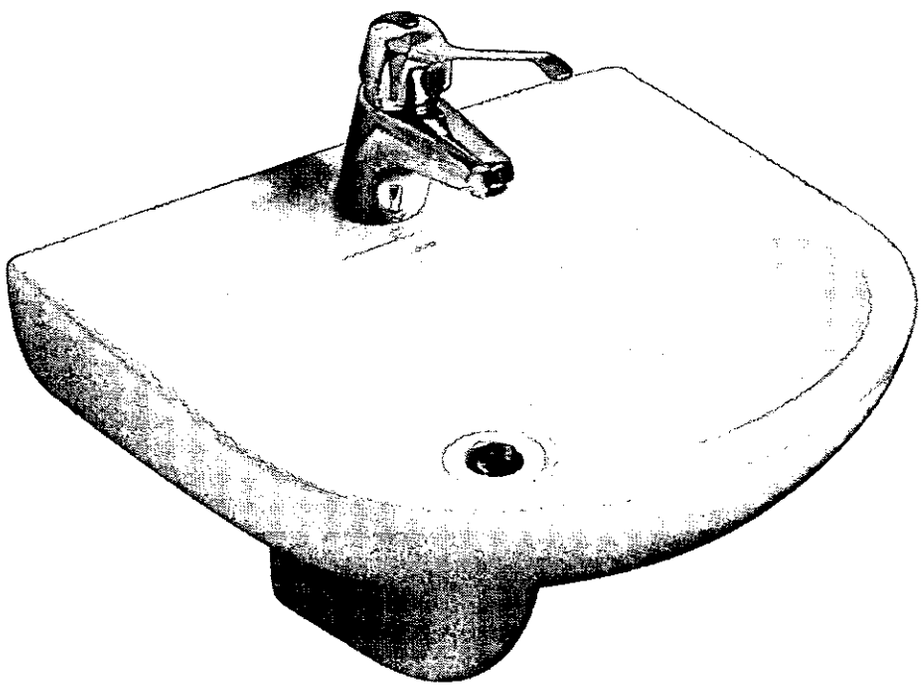
Date	July 2008		

Supersedes all previous issues

8.01.2

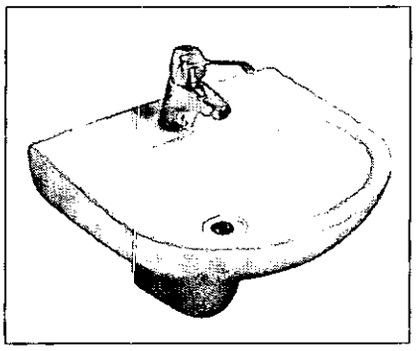
Caroma Care Wall Basin – Integra 500

Installation for People with Disabilities. Installations Complying to A.S.1428-1



Integra 500

Caroma Care Wall Basin Installations Complying to AS 1428-1



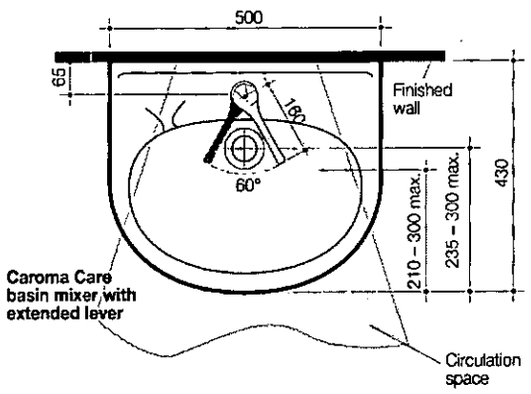
Caroma Care wall basin installations for people with disabilities ♿ complying to A.S.1428-1. The **Integra 500** wall basin is hygienic and easy to clean, has been designed for use in installations for people with disabilities when used with suitably designed tapware. The basin features anti-splash rims and integral shrouded traps which protects the user from possible contact with the waste pipe.

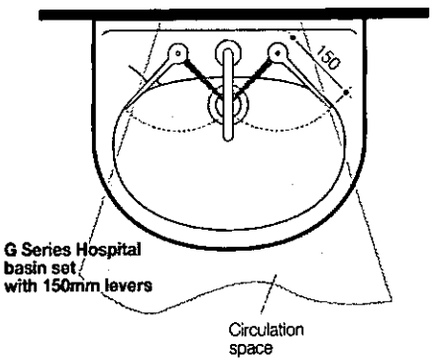
Important: **Further reference must be made to A.S.1428-1 with current amendments to confirm installation requirements. The dimensions in this sheet may change with amendments to the standard.**

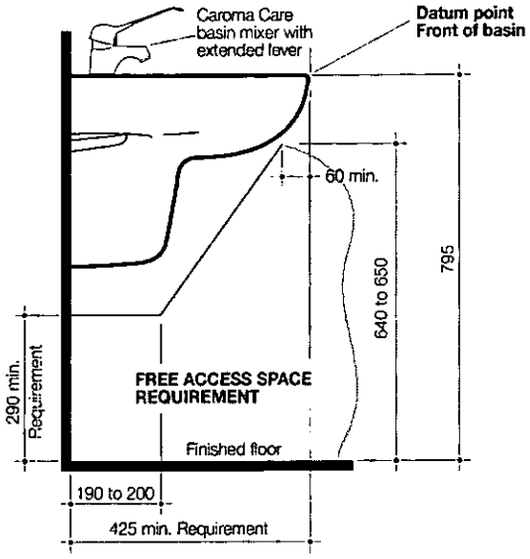
Position of Wall Basin: The basin must be installed to provide a specified unobstructed circulation and free access space beneath it so that water supply pipes and waste trap fittings do not encroach into the required clear space.

Position of Tapware: For compliance to the Standard the basin must be installed with lever or electronic type tapware.
The Caroma Care basin mixers with extended lever or the G Series hospital tap set with 150mm levers are ideal for this application and are recommended (see Caroma Taps).
It is a requirement that the end point of the lever throughout its operational arc of movement be not more 300mm from the front of the basin.

Dimensions: All dimensions are in millimetres and are subject to normal manufacturing variations. Caroma pursues a policy of continuing improvement in design and performance of its products. The right is therefore reserved to vary specification without notice.







Integra 500 Basin	Code No.
1TH	648210

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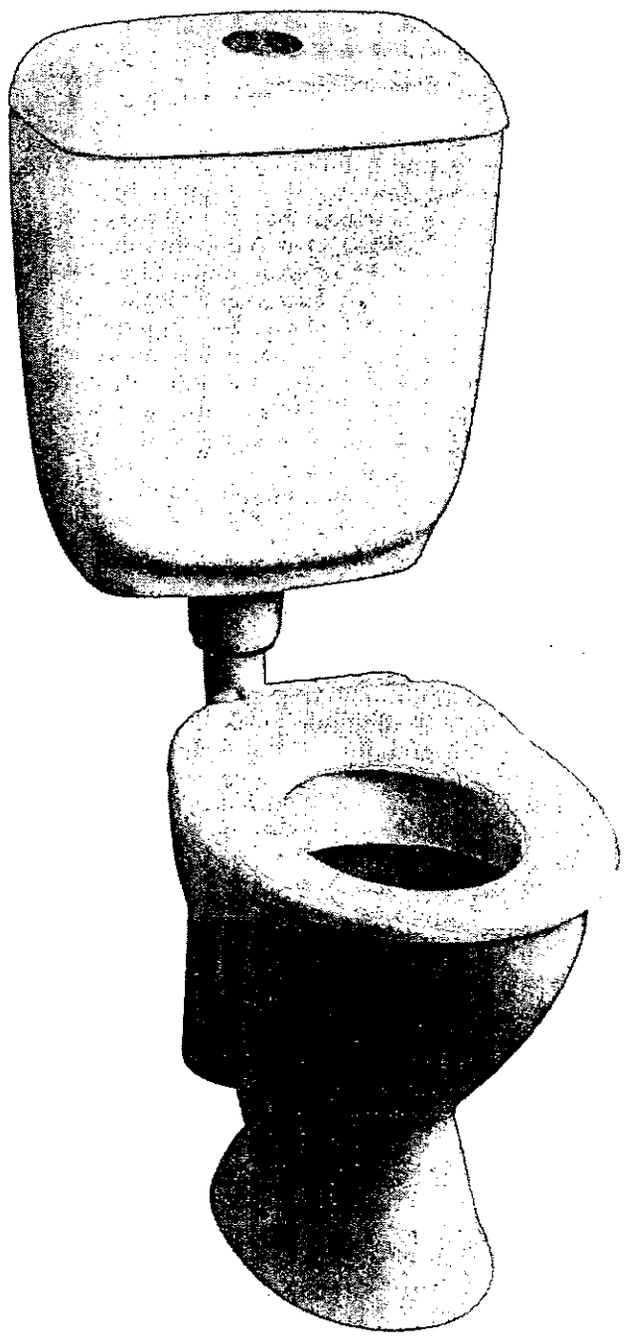
CI/SfB (74.1) g3
Date November 2009
Supersedes all previous issues

Junior

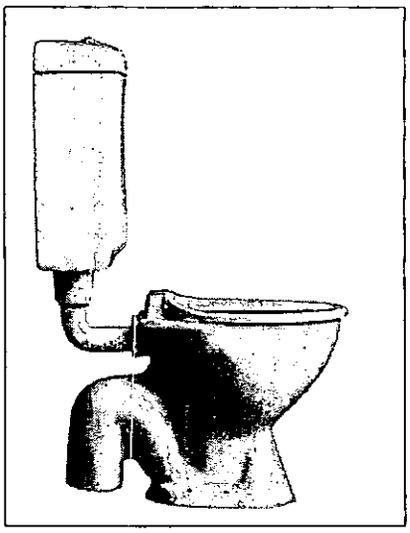
Vitreous China pan for Infants

4.10.1



Junior

Vitreous China Pan for Infants



Shown with Sovereign 2000 Cistern

A reduced height toilet pan specially designed for infants. The **Junior** pan can be coupled with a range of Caroma cisterns for optimum matched suite performance.

Pan: **Junior** 6 litre full flush wash down pan.

Traps: S and P-trap only. Slope of P-trap 95°.

Inlet: Dual purpose for 40mm or 50mm diameter flush pipe. Specify 50mm diameter flush pipe for mid-level and low-level installations.

Cisterns: **Vitreous China Cistern – Sovereign 2000 Cistern** (wall fix version) – has a free fitting lid and is suitable for domestic and light commercial applications.
Plastic Exposed Cisterns – Slimline and **Verona Aire** cisterns.

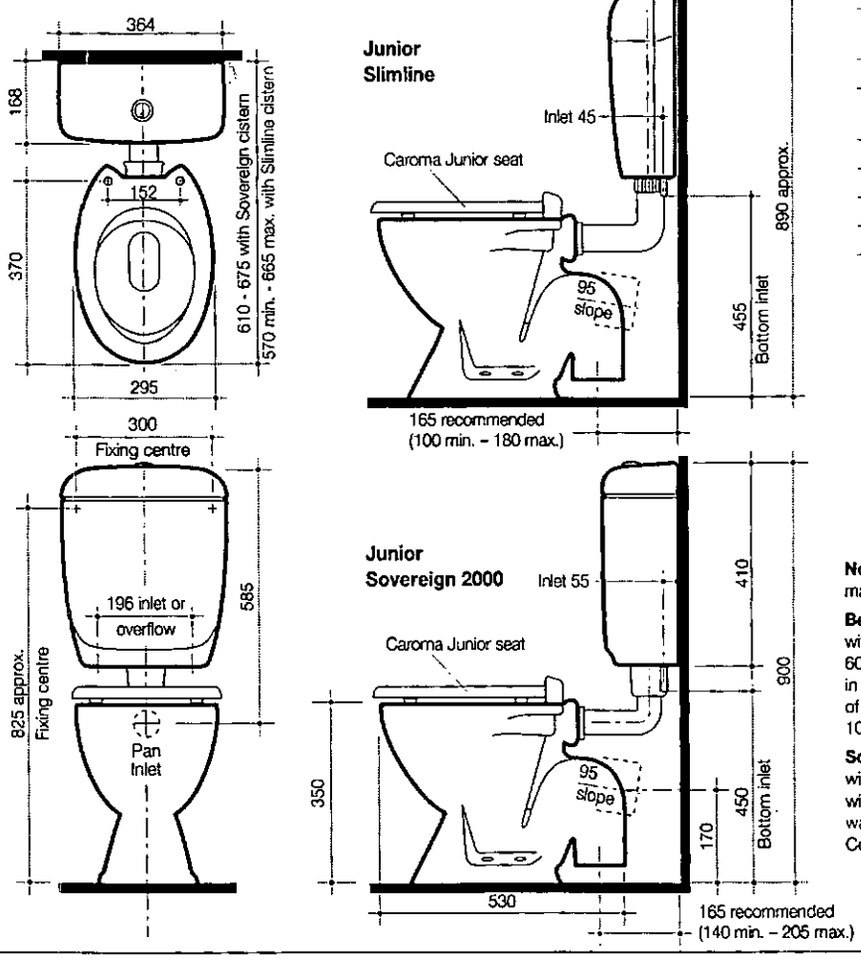
Fixing: The cistern is secured directly to the finished wall with simple alignment adjustment provided.

Seats: The Caroma **Junior** single flap, closed front toilet seat is recommended - see sheet 5.01 SEATS for further details.

Colours: White only.

Installation: The installation of the toilet suite shall be in accordance with the normal minimum drainline grade requirements in AS/NZS 3500.2.

Dimensions: All dimensions are in millimetres and are subject to normal manufacturing variations. Caroma pursues a policy of continuing improvement in design and performance of its products. The right is therefore reserved to vary specifications without notice.



Junior Suites:		Code No.
6/3 litre with Sovereign cistern and seat	S trap	984250
	P trap	984255
6/3 litre with Slimline cistern and seat	S trap	984240
	P trap	984245
Junior Pans:		
	S trap	713300
	P trap	713350

Note: All height dimensions to underside of pan, make allowance for bedding.

Bedding: The pan should be fixed to the floor with a sand cement mixture of 3:1 to a depth of 60mm. Do not use lime or fast drying cement in the bedding mixture. When bedded the back of the foot of the pan should be approximately 10mm above the finished floor.

Screw fixing: The pan should be bedded with an acetic cured silicone sealant and fixed with corrosion resistant screws and pan guard washers. Use Caroma screw fixing kit. Code No.601150.

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Date	July 2008		

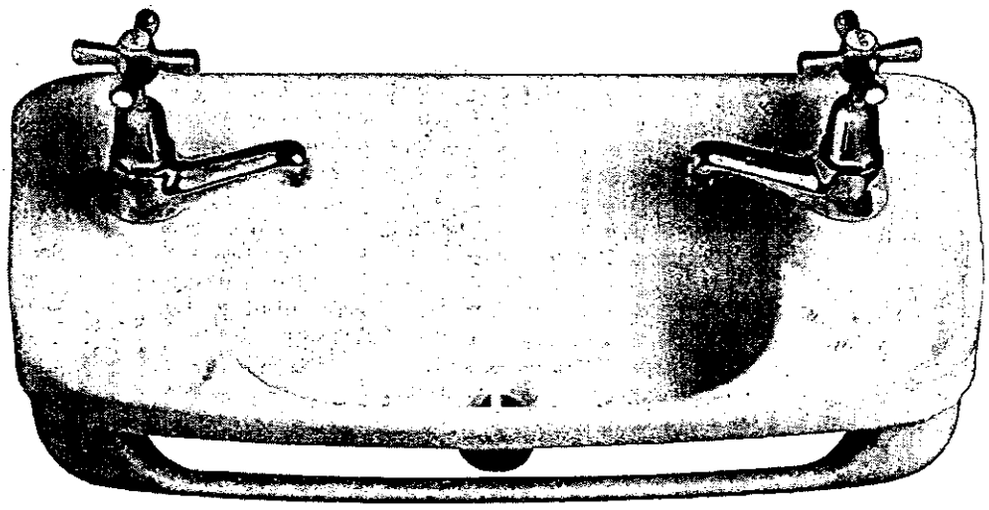
Supersedes all previous issues

Valette

Plastic
Hand Rinse Basin

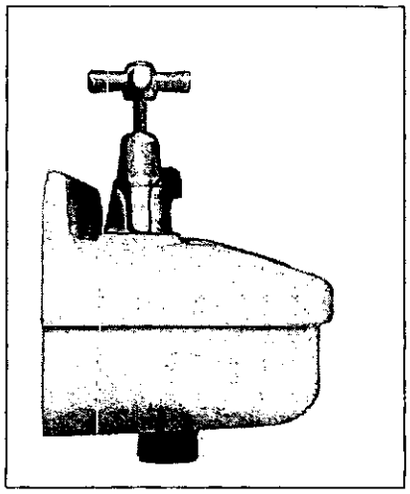
Nominal Size 560mm x 204mm

1.20.1



Valette

Plastic Hand Rinse Basin
Basin Size: 560mm x 204mm nominal



A compact hand rinse basin for general application incorporating a hand-towel rail conveniently located at the front of the basin and featuring a minimum projection-from-wall dimension of 204mm and an integrally moulded waste outlet.

Material: The Valette basin is injection moulded in polypropylene, a strong durable material with a high gloss finish which is easily maintained with a damp cloth or sponge.

Tap Holes: The basin is available standard with two holes only. A matching tap hole plug is included for one tap installation.

Waste Outlet: The waste outlet of 40mm Code No.317010 diameter is integral to the basin.

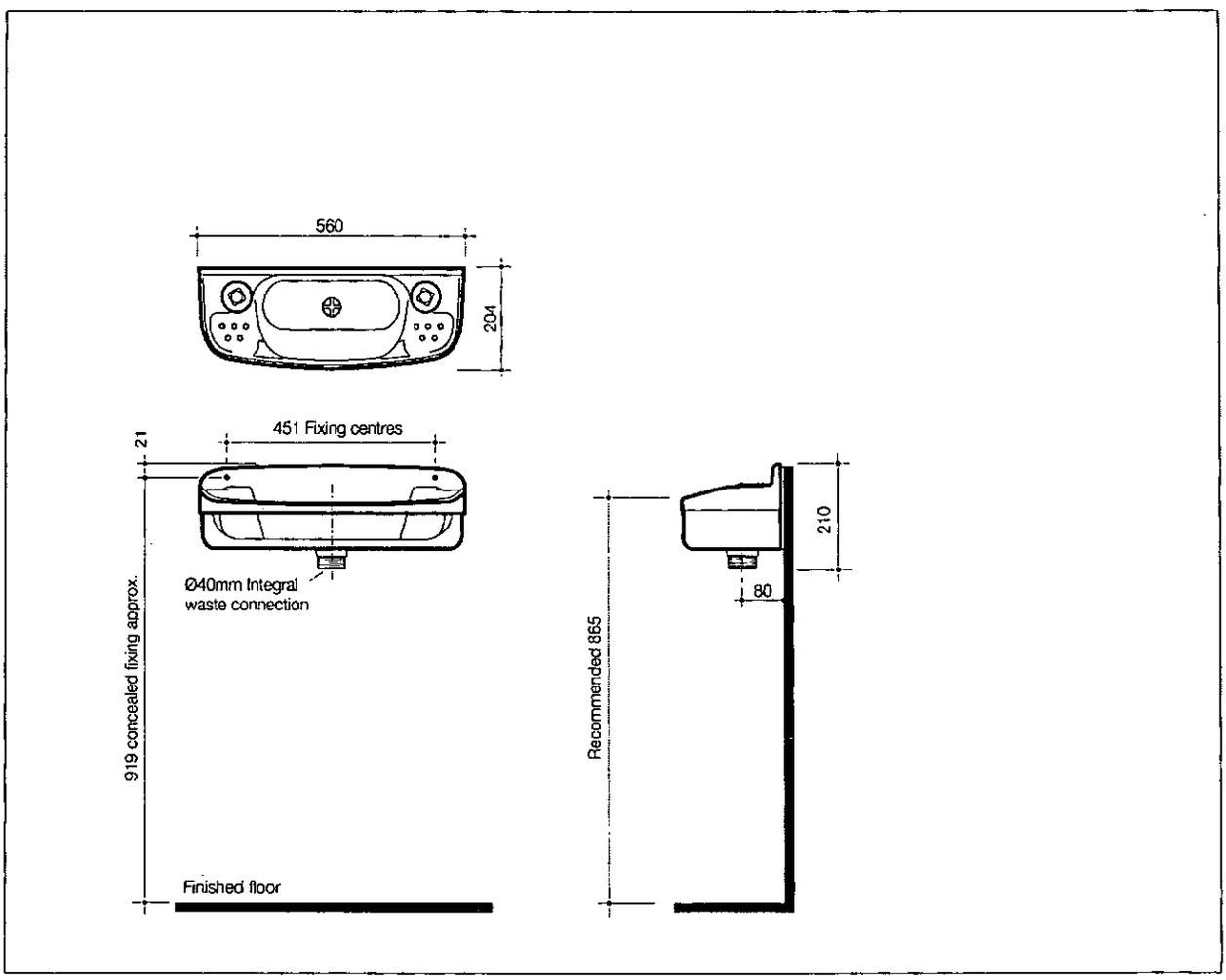
Bowl Capacity: 3.5 litres.

Overflow: Overflow not available.

Fixing: The Valette basin is secured to the wall with a matching wall bracket which incorporates the hand towel rail. Includes a waste-tie bracket. Four fixing screws and wall plugs are supplied with the basin. Code No.317260.

Colours: White only.

Dimensions: All dimensions are in millimetres and are subject to normal manufacturing variations. Caroma pursues a policy of continuing improvement in design and performance of its products. The right is therefore reserved to vary specifications without notice.



TARKETT EMINENT SAFE.T

This section deals with floor preparation (thin sheet underlays and floor levelling compound) and the supply and installation of ***Tarkett Eminent Safe.T*** 2mm Homogenous Vinyl to floors.

1. GENERAL

1.1 DOCUMENTS
Documents referred to in this section are:

AS/NZS 1859	Reconstituted wood-based products, 1859.4: Hardboard
AS/NZS 3661	Slip resistance of pedestrian surfaces, 3661.1 Requirements
NZBC	D1/AS1 Access Routes, 2.1 Slip resistance
NZS/AS 1884	Floor coverings - Resilient sheet and tiles - Laying and maintenance practices

BRANZ Bulletin 330: Thin flooring materials - 2 preparation and laying

1.2 MANUFACTURER'S DOCUMENTS
Manufacturer's and supplier's documents relating to work in this section are:
~

Copies of the above literature are available by phoning Freephone 0800 800 460.

1.3 QUALIFICATIONS
Carry out all work using competent, experienced layers, familiar with the materials and techniques specified; EXCEPT FOR WET AREAS. Work in wet areas to be carried out by Jacobsen Creative Surfaces Limited's "accredited wetroom installation companies".

1.4 SAMPLES
Submit samples of ***Tarkett Eminent Safe.T*** and accessories to the owner, sufficient to show the pattern and the range of colour finish.

1.5 ***Tarkett Eminent Safe.T*** has a slip resistance test result of 0.54
(Insure that this test result meets with this contracts requirements).

2. PRODUCTS

2.1 THINLINE MDF UNDERLAY
Customwood medium density fibreboard.

2.2 MASONITE UNDERLAY
CSR Masonite underlay, 5.5 mm thick, to AS 2458.

2.3 TARKETT EMINENT SAFE.T HOMOGENOUS VINYL
Tarkett Eminent Safe.T, provides excellent slip resistance for foot traffic in areas where there is "waterflow"

2.4 VINYL COVINGS
Pencil cove method, with butterfly mitres for external and internal corners.

2.5 COVE CAPPING
Jacobsen PVC top cap to top of coved vinyl.

2.6 VINYL SKIRTINGS
100mm or 150mm selected colour Cove Based Skirting

2.7 VINYL EDGINGS
Jacobsen black 2.0 mm bevel edge strip.

2.8 TREAD NOSINGS
Tredsafe stair nosing, with Diamondtred safety insert.

2.9 JACOBSEN ADHESIVE
Tarkett Zero VOC, acrylic floor and wall adhesive, *or,* Probond acrylic floor and wall adhesive.

2.10 THERMO-WELDING
Manufacturer supplied, colour matched welding rod, using the Tarkett weld nozzle.

3. EXECUTION

Preparing substrate

3.1 NEW CONCRETE
Clear substrate of debris, clean off surface contamination and carry out surface repairs using Kerakoll levelling compounds. Carefully feather out at perimeters of repaired areas. Grind level, then vacuum to remove all dust. Check for moisture content by hygrometer to BRANZ Bulletin 330 and do not commence laying vinyl until readings for the whole area show 75% relative humidity or less.

3.2 NEW TIMBER OR PARTICLE BOARD
Clear substrate of debris, clean off surface contamination and carry out surface repairs using Kerakoll levelling compounds. Carefully feather out at perimeters of repaired areas. Grind smooth, then vacuum to remove all dust. Check for moisture content and do not commence final sanding or laying until readings for the whole area show a moisture content of: -
- 8-12% for air conditioned buildings
- 10-14% for intermittently heated buildings
- 12-16% for unheated buildings

3.3 EXISTING CONCRETE
Strip off existing floor coverings, adhesive and surface contaminants. Ensure concrete is dry and if in doubt check for moisture content by hygrometer to BRANZ Bulletin 330. Do not commence laying vinyl until readings for the whole area show 75% relative humidity or less. Resurface concrete using Kerakoll Ultraplan to required thickness to provide a sound and level base.

3.4 EXISTING TIMBER OR PARTICLE BOARD
Strip off existing floor coverings, machine sand to remove adhesive and surface contaminants. Then vacuum to remove all dust prior to installing underlay sheets.

3.5 TIMBER OR PARTICLE BOARD, LAYING THINLINE MDF UNDERLAY
Lay underlay sheets with joints staggered, with a 0.5 mm gap between sheets and 2 mm gap at all perimeters. Use 18 mm divergent staples at 100 mm centres throughout the whole sheet and 30 mm apart, 18 mm in from the edges of the sheets. Punch staples below the surface and sand joins level.

3.6 TIMBER OR PARTICLE BOARD, LAYING MASONITE UNDERLAY
Underlay using 5.5 mm Masonite with joints staggered and with a 0.4 mm gap between sheets and 3 mm gap at all perimeters. Use 22 mm narrow crown staples at 150 mm centres throughout the whole sheet and 75 mm apart, 10 mm in from the edges of the sheets. Punch staples 0.4 mm below the surface and sand joins level.

3.7 STORAGE
Accept the rolls of ***Tarkett Eminent Safe.T*** and accessories undamaged and dry. Store rolls upright with other material on level surfaces in non-traffic, non-work areas that are enclosed, clean and dry.

3.8 HANDLING
Avoid distortion, stretching, marking or damage to edges while shifting, unrolling and handling sheet, tiles and accessories. Do not use damaged material.

3.9 PREPARATION
Check that each colour supplied is from the same batch. Follow the vinyl manufacturer's requirements for conditioning of rolls and the working temperatures and conditions before, during and after laying. Protect work from solar heat gain and switch off under-floor heating during and for 48 hours either side, of the work period.

3.10 DO NOT START
Do not start work before the building is enclosed, wet work complete, doors hung and lockable, finishes and trim complete, and good lighting available.

3.11 INSPECT
Inspect the substrate to ensure it is of the standard required for work in this section. Commencement of the work means the substrate is accepted by the floor layer as satisfactory.

3.12 LAYING
Carry out the whole of the work to BRANZ Bulletin 330 "Thin flooring materials - 2 preparation and laying" and to the flooring manufacturer's requirements.

3.13 TECHNIQUE
Before beginning the installation confirm the proposed layout of material, location of seams and other visual considerations of the finished work.

4. Vinyl floor Installation

4.1 ADHESIVE APPLICATION
Apply the adhesive using the correctly notched trowel. Follow requirements for open time, taking note of substrate porosity, ambient temperature and relative humidity. Remove excess adhesive as the work proceeds using required techniques.

4.2 LAYING VINYL SHEET
Roll out, cut, leave to condition and install the ***Tarkett Eminent Safe.T*** to the manufacturer's requirements. Ensure there are no air bubbles or twisting, that the seams are kept clear of adhesive, and immediately the sheet is adhered roll with a 68kg roller.

4.3 THERMO-WELDING VINYL SHEET
Machine groove and thermo-weld all seams in specified areas, using the Tarkett weld nozzle, heating the sheet and weld rod to a sufficient temperature to melt and fuse them together into a

single mass. Trim the weld to leave a smooth, flush surface with the sheet. Thermo-welding to include internal and external mitres.

4.4 CROSS JOINS
Plan and allow cuts to avoid cross joins. Obtain written approval of the owner before proceeding if cross joins are unavoidable. Cross joins are not acceptable in wet areas.

4.5 VINYL TO STAIRCASES
Fit selected nosings to each tread and at the top of each stair flight, in accordance with the nosing manufacturer's requirements. Lay pre-cut vinyl sheets to each tread and riser, pencil coved at the rear of each tread.

4.6 COVING VINYL
Cove flooring to the specified height and finish off as detailed.

4.7 COMPLETE MITRES
Perform butterfly method to internal and external mitres. Thermo-weld all mitres.

4.8 FIT VINYL SKIRTINGS
Fit skirtings in accordance with the vinyl manufacturer's requirements.

4.9 FIT VINYL EDGING
Fit tapered vinyl edging to all borders, except where abutting carpet.

4.10 LEAVE VINYL FLOORING
Leave vinyl flooring surfaces free of adhesive, dirt and debris. Vacuum off, damp mop with a low foam neutral detergent with a pH level of 7 to 8. Allow to dry.

5. Completion

5.1 ACCEPTANCE
Arrange for a final inspection of the completed work by the owner. Protect all surfaces until the completion of the works.

5.2 REMOVE
Remove unused materials from the site.

Installation Instructions
Wetroom Systems

Tarkett

Finishing of Level Access Showers

It is imperative these Specifications are followed to ensure correct finishing of level access showers.

Preparation

Wood Floors

Either immediate shower area (e.g. 1.2m x 1.2m) or total room area needs to have floorboards or particle board removed and joists re-shaped to provide a fall of 25mm over 1.0m.

Re-nog total area and install standard plywood screw fixed and glued to provide a sound base. The shower area must be one piece of plywood with no joins in the area with falls.

Any minor filling or patching should be carried out using a plastic filler (e.g. Mendent, a flexible two part filler).

Sanding of floor area should then be carried out to the same specification as per standard vinyl installations.

Concrete Floors

New Floors

Either

(a) On new concrete floors the falls should be created during the pouring of the concrete slab. Required fall of 25mm over 1.0m.

Or

(b) Box out the shower area and either pour concrete separately or plaster using Kerakoll Keracem or Rekord Pronto and/or Keralevel LR at a later date, after installing floor waste with JCS mount ring (as per diagram 1).

Existing Floors

The immediate shower area (e.g. 1.2m x 1.2m) will need to be either dug out entirely or at least chiselled out to a minimum depth of 40mm and the floor waste with JCS mount ring (as per diagram 1) will need to be installed to a depth of 25mm below floor level.

The shower area can then be plastered using Kerakoll Keracem or Rekord Pronto and/or Keralevel LR to provide a smooth transition from existing floor to floor waste which will produce the fall required for the wet area.

The overall floor finish required is as per standard vinyl installations.

Floor Waste

Very few floor wastes are designed solely for vinyl, but the following are two that are suitable and *recommended*. However, when installing on a concrete floor, they must be used in conjunction with the JCS mount ring (as per diagram 1).

1. Allproof Industries' "Vinyl clamp ring grate" (flowthrough)
2. The Metrix 5700 Valentin Series (in-built trap)

Walls

Aqualine Gib board finished to a paint finish and sealed with one coat of pigmented sealer is acceptable, but for commercial areas and anywhere that may be subjected to bangs and knocks we would recommend that Villaboard be used so as to provide a solid base.

The Villaboard should be installed using glue and screw fixing (do not use clouts) ensuring that the bottom of the sheet finishes hard against the floor, leaving no gaps larger than 5mm.

The stopping of the Villaboard should be carried out using "Villa Stop" available from Plaster Systems Ltd, or any Placemakers store.

Please ensure that the Gib Stopper is aware that a paint finish is required as anything less will provide an unsatisfactory finish.

As with Aqualine Gib board, Villaboard should be finished with one coat of pigmented sealer and sanded to provide a smooth surface.

jacobsen
www.jacobsens.co.nz

Auckland
228 Orakei Rd, Remuera
Ph 09 524 1460 - Fax 09 523 1047

Christchurch
314 Manchester Street, Christchurch
Ph 03 366 4153 - Fax 03 366 6660

Wellington
191 Thorndon Quay, Thorndon
Ph 04 495 4300 - Fax 04 472 8530

Installation Instructions
Wetroom Systems

Tarkett

Installation

Floors

Tarkett Eminent, Tarkett Granit Multisafe and Tarkett Granit

1. Sheets must be planned so as to avoid joins in immediate shower area.
2. Under no circumstances is a cross join acceptable.
3. All joins on the floor are to be thermowelded using matching weld rod.
4. All internal and external mitres must be of the butterfly method. Under no circumstances can the standard mitre be used in wet areas.
5. As we are using the butterfly method of mitre, fillet cove cannot be used, therefore pencil cove must be employed.
6. All mitres are to be thermowelded.

Floor Vinyl Coving Heights

mm	Used on Walls
0.200	Aqua-panel, Seratone, or similar
0.120 to 0.150	Tarkett Eminent, Granit or Optima
0.140 to 0.170	Tarkett Aquarelle Wallgard

Walls

Tarkett Eminent, Granit or Optima

1. All internal and external corners must be wrapped, not joined at these points.
2. Cross joins in wallcoverings are unacceptable.
3. All joins must be thermowelded, including the join between the floor and the wall.

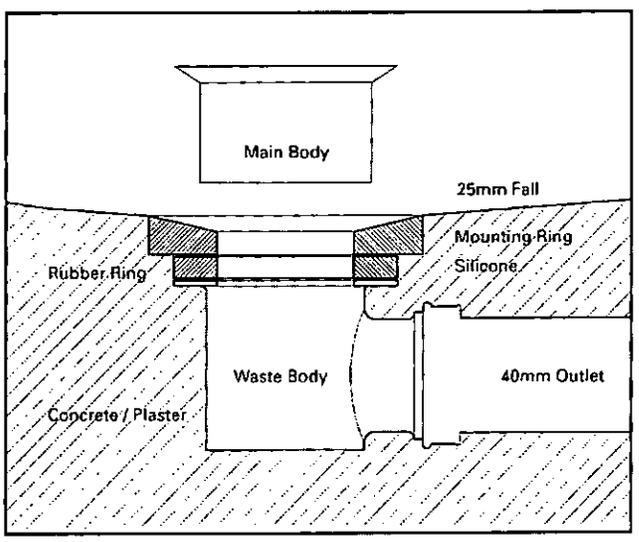
Tarkett Aquarelle Wallgard

1. All internal and external corners must be wrapped, not joined, at these points.
2. Cross joins in wallcoverings are unacceptable.
3. Tarkett Wall/Floor Finishing Strip must be used at junction of wall and floor.
4. All joins must be thermowelded using the Tarkett Speed Welding Nozzle. The join between the Aquarelle Wallgard and the Wall/Floor Finishing Strip must be welded using Werner Mueller (available from Jacobsen Creative Surfaces Ltd).

It is imperative these Specifications are followed to ensure correct finishing of level access showers.

Accessory Products

Code	Description
WRWSMTRING	JCS Floor Waste Mount Ring
PETLWNFFSW	Tarkett Wall/Floor Finishing Strip
DYSSC132	Werner Mueller - PVC Seam Sealer Type C (132g)
TATLSPWDNZ	Tarkett Speed Welding Nozzle with Cleaning Brush



diagam 1 **Waste Mount**

jacobsen
www.jacobsens.co.nz

Auckland
228 Orakei Rd, Remuera
Ph 09 524 1460 - Fax 09 523 1047

Christchurch
314 Manchester Street, Christchurch
Ph 03 366 4153 - Fax 03 366 6660

Wellington
191 Thorndon Quay, Thorndon
Ph 04 495 4300 - Fax 04 472 8530

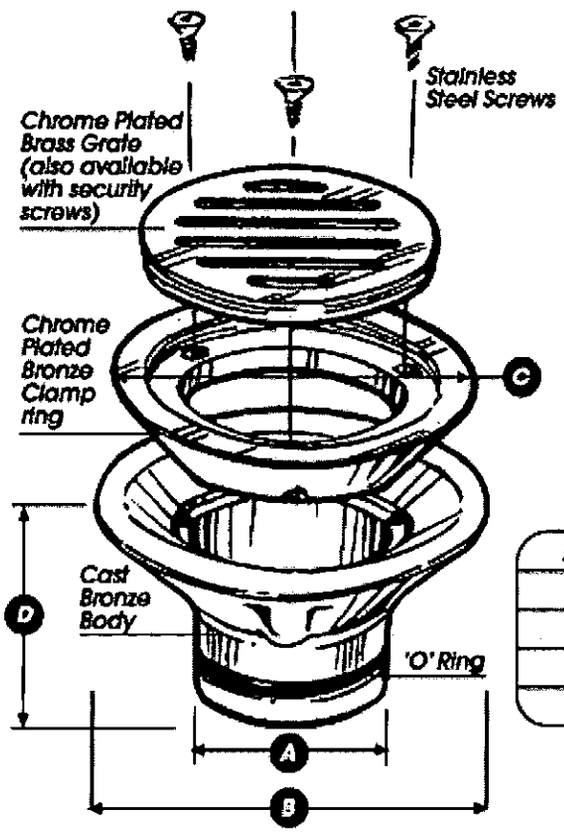
Installation Instructions

Wetroom Systems

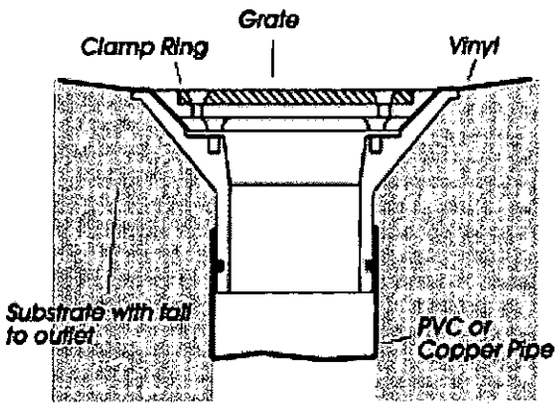
Tarkett

Vinyl Clamp Ring Grate

Exploded View:



Typical Installation :



Data	50mm	80mm	100mm
A	50	75	100
B	115	150	170
C	95	130	145
D	55	60	55

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228 Orakei Rd, Remuera
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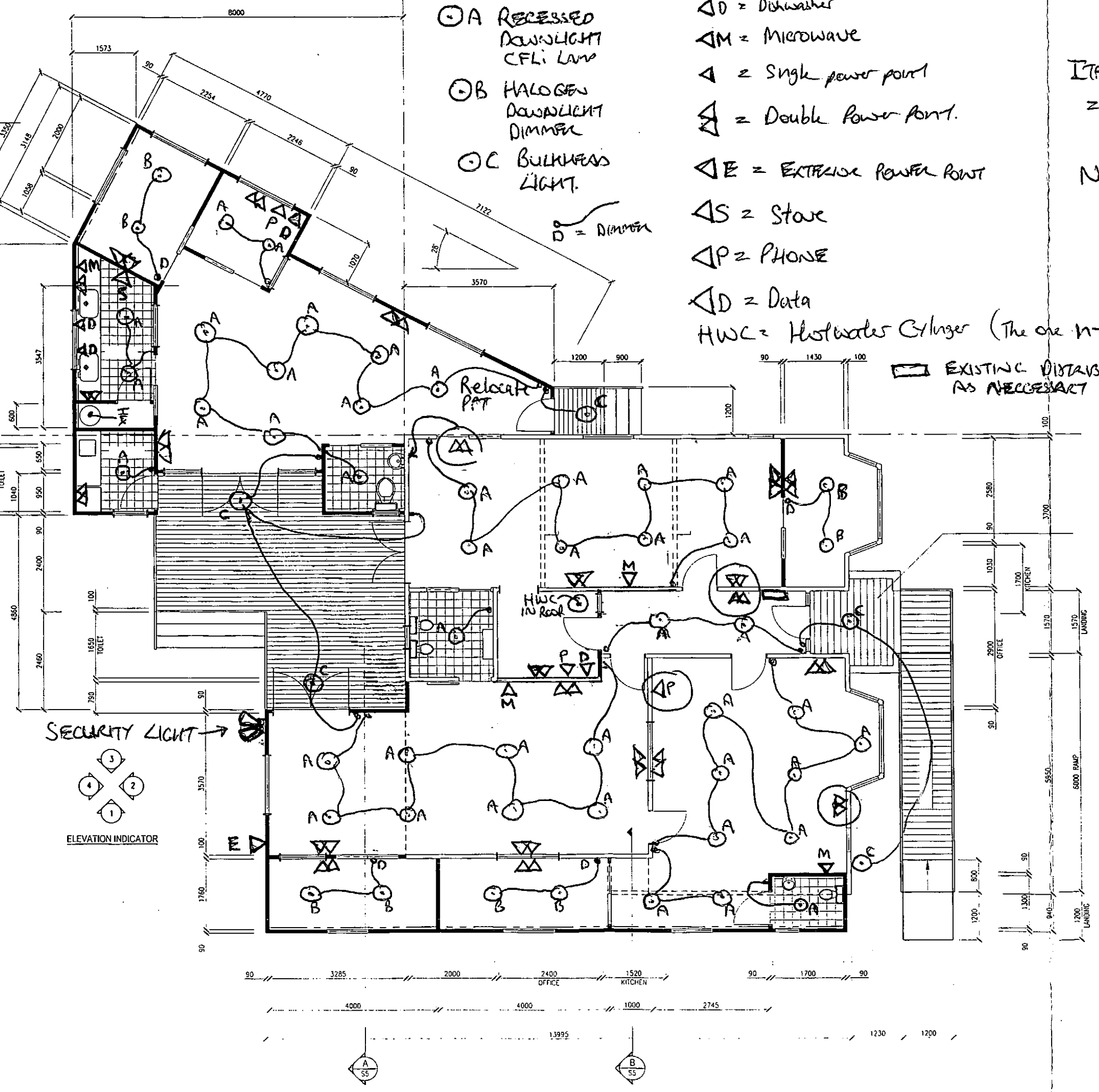


REV	DATE	BY	REASON
D	22.7.11	MF	FOR BUILDING CONSENT

RFR Building Design & Project Management
PO Box 3410 Napier
Phone 06 842 1014 Fax 06 842 1015

Project Details

PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

Sheet Title

PROPOSED FLOOR PLAN

Drawn	Scale	(On A1)
MF	1:50	
Checked	Date	
MF	11032	

11032 S03 0

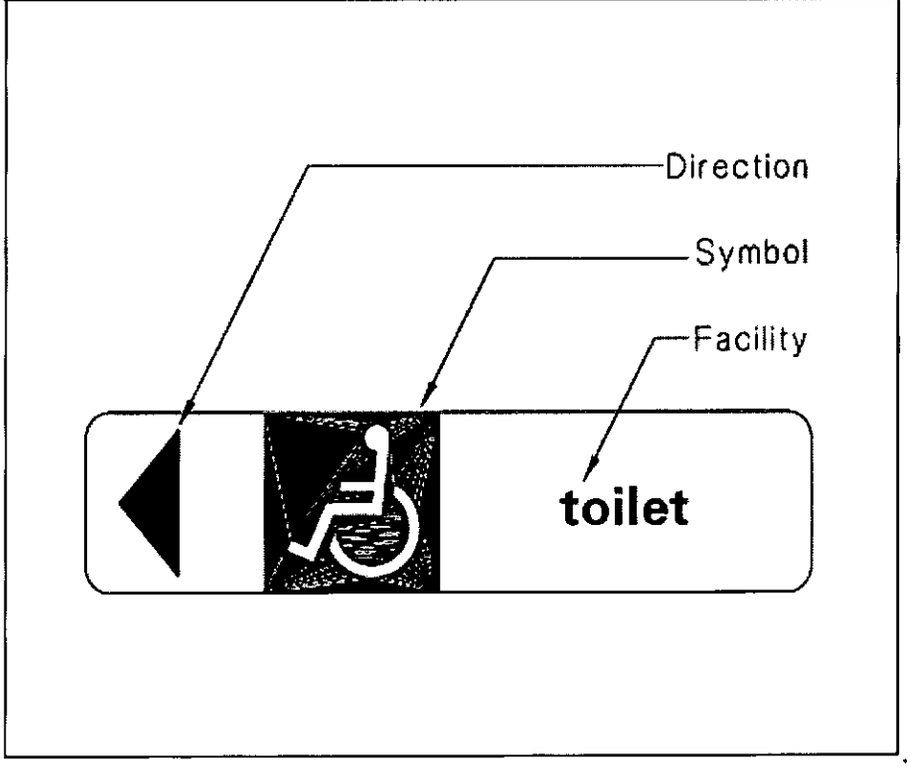
Signage:

Refer to NZS 4121:2001 clause 4.8.2

Provide signage identifying the location of all accessible routes and accessible facilities.

Below is an example of a sign identifying the location of an accessible toilet taken from Acceptable Solution F8/AS1.

Figure 5: Example of Sign Indicating Facilities and its Direction
Paragraph 5.0.2 a)



Refer also to the Fire Report which identifies the type and location of emergency EXIT signs.

PO Box 3181
Onekawa
NAPIER 4142

Phone (06) 835 8699
Fax (06) 835 8697
Mobile (Glen) 021 473 838
(Murray) 021 772 117
E-mail ellis.builders@xtra.co.nz

ELLIS LTD.
BUILDERS
we aim to satisfy your needs...

10 August 2011

Hastings District Council
Private Bag 9002
Hastings 4156

Attention Karen Walker

Dear Karen

Re: ABA20110794, Summer Education Ltd, 14 Middle Road, Havelock North.

Our client has confirmed that all numbers remain as per RMA20110123, it is only the facilities that have increased.

Note that we have included a copy of the car parking plan, agreed on at a meeting between yourself and the proprietors of Summer Education Ltd on 9th August, with the building consent application.

Yours faithfully

Murray Benson
For Ellis Builders Ltd

From: Murray Benson [murray.at.ellisbuildersltd@gmail.com]
Sent: Friday, 9 September 2011 10:21 a.m.
To: BCinfo
Subject: FW: Request More Information for ABA20110794
Attachments: Murray Benson.vcf; Council Queries.pdf; Fire Wall Calcs.pdf; New Fire Wall Plan.pdf; Inspection and Maintenance Regime.pdf; Air Con Producer State.pdf

Good Morning Colin

Please find attached information which we trust we answer your queries.

As stated in our letter "**Assuming we have adequately answered your queries can we respectfully ask you to continue through to approving the building consent just as soon as possible – thank you.**"

Regards - Murray Benson
for Ellis Builders Ltd

Ellis Builders Ltd
Murray Benson

(06) 835 8699 Work
021 772 117 Mobile
(06) 835 8697 Fax
ellis.builders@xtra.co.nz

P.O. Box 3181, Napier 4142
4 Taradale Road, Napier

From: BCinfo [mailto:bcinfo@hdc.govt.nz]
Sent: Thursday, 8 September 2011 3:46 p.m.
To: 'ellis.builders@xtra.co.nz'
Subject: Request More Information for ABA20110794

Please refer to the attached letter for further information required to complete the processing of your building consent application.
This can be returned by email to BCinfo@hdc.govt.nz , posted or delivered to HDC.

Our preferred method for receiving information is via BCinfo@hdc.govt.nz email address.
This ensures the timely and efficient processing of your consent.

Colin Hornett
Building Officer Processing
Phone: 06 871 5000

Hastings District Council
www.hastingsdc.govt.nz
Lyndon Rd East Hastings
Private Bag 9002, Hastings
Hawkes Bay

PO Box 3181
Onekawa
NAPIER 4142

Phone (06) 835 8699
Fax (06) 835 8697
Mobile (Glen) 021 473 838
(Murray) 021 772 117
E-mail ellis.builders@xtra.co.nz

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we aim to satisfy your needs...

9 September 2011

Hastings District Council
Private Bag 9002
HASTINGS 4156

Attention Colin Hornett

Dear Colin

Re ABA20110794 – Parent & Child, 14 Middle Road, Havelock North

We refer to your letter emailed to us yesterday.

C1 – C4 Fire Safety
1. Attached find a revised copy of the "Inspection and Maintenance Regime" now showing SS 2 with the appropriate inspection and maintenance frequency.
2. Attached find a plan showing the revised extent of the FRR 60/60/60 fire rated walls. Also attached is the original plan where the engineer, Marty Fitch of RFR) has shown his calculations.

G4 Ventilation
3. As per our telephone discussion it has been noted that all three toilet areas have opening windows and it is agreed this question is now resolved.

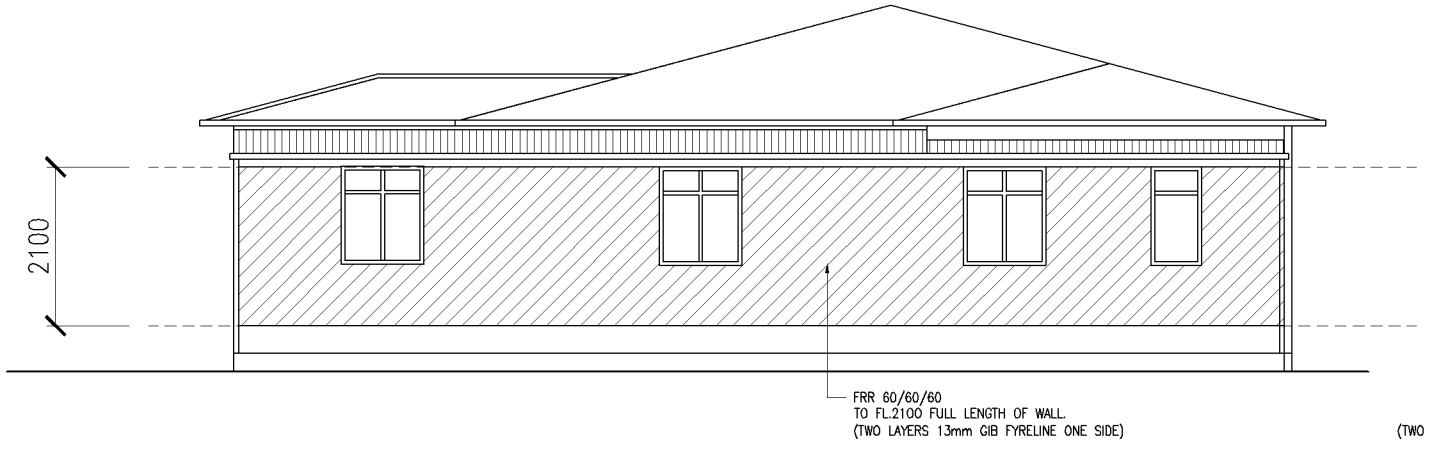
Gm/G6 Interior environment / Airborne and impact sound
4. Attached find information from our Air Conditioning engineer regarding the proposed air conditioning component.

Assuming we have adequately answered your queries can we respectfully ask you to continue through to approving the building consent just as soon as possible – thank you.

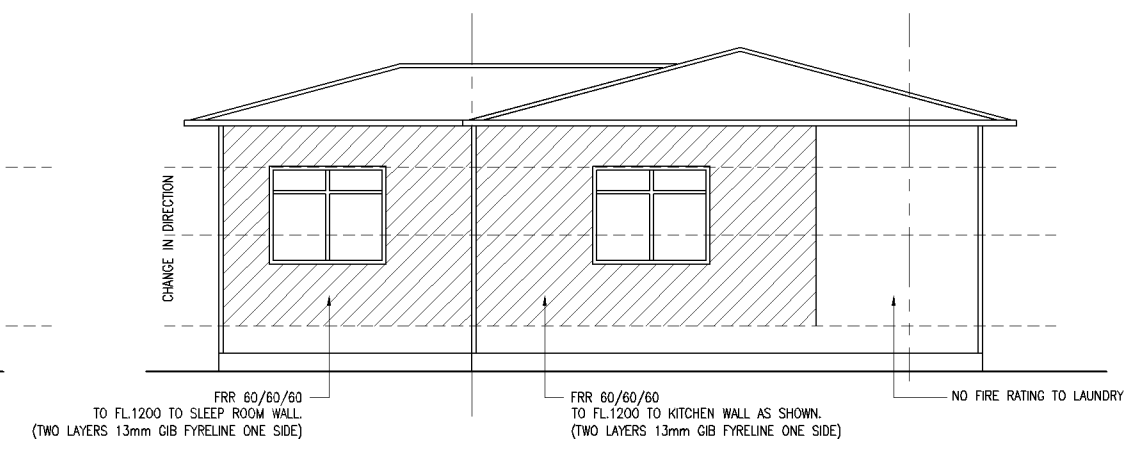
Yours faithfully

Murray Benson
For Ellis Builders Ltd

REV	DATE	BY	REASON
2	8.9.11	MF	RATED AREAS INCREASED
1	10.8.11	MF	REVISED LAYOUT
0	22.7.11	MF	FOR BUILDING CONSENT



1 S03 WEST ELEVATION
SCALE 1:50



4 S03 NORTH ELEVATION
SCALE 1:50

RFR Building Design & Project Management
PO Box 3410 Napier
Phone 06 842 1014 Fax 06 842 1015

Project Details

PROPOSED ALTERATIONS
PARENT AND CHILD
14 MIDDLE ROAD

Sheet Title

FIRE RATED WALLS

Drawn	Scale	
MF	1:50	(ON A1)
Approved	Filename	
MF	11032	

Job No	Sheet No	Rev
11032	S10	2

RFR
BUILDING DESIGN & PROJECT MANAGEMENT LTD

Additional information

Inspection and Maintenance Regime

Project No. 11032	**Project name:** Parent and Child	**Address:** 14 Middle Road – Havelock North
	Feature Description	**Inspection and Maintenance Frequency**
SS 1	Automatic systems - for fire suppression	n/a
SS 2	Automatic or manual emergency warning systems for fire or other dangers	NZBC C1 – C4 Monthly and Annual by I.Q.P. (To NZS4512:2003)
SS 3	Electromagnetic or automatic doors or Windows	n/a
SS 4	Emergency lighting systems	n/a
SS 5	Escape route pressurization systems	n/a
SS 6	Riser mains for use by fire services	n/a
SS 7	Any automatic back-flow preventer connected to a potable water supply	n/a
SS 8	Lifts, Escalators, travelators or other similar systems for moving people or goods within buildings	n/a
SS 9	Mechanical ventilation or air conditioning	n/a
SS 10	Building maintenance units for providing access to the exterior and interior walls of buildings	n/a
SS 11	Laboratory fume cupboards	n/a
SS 12	Audio loops or other assistive listening systems	n/a
SS 13	Smoke control systems	n/a
SS 14	Emergency power systems for, or signs relating to a system or feature specified in any of SS 1 to SS 13 above	n/a
SS 15	Other fire safety systems of features	
SS 15/1	Systems for communicating spoken information intended to facilitate evacuation	n/a
SS 15/2	Final Exits (as defined by clause A2 of the building code	NZBC D1 and F8 Monthly by owner and Annual by I.Q.P.
SS 15/3	Final separations (as so defined)	NZBC D1 and F8 Monthly by owner and Annual by I.Q.P.
SS 15/4	Signs for communicating information intended to facilitate evacuation.	NZBC F8 AS/1 Monthly by owner and Annual by I.Q.P.
SS 15/5	Smoke separations (as so defined)	n/a

ALL SEASONS AIR
HAWKES BAY
HEATPUMPS | AIRCONDITIONING | REFRIGERATION

PRODUCER STATEMENT

To: Ellis Builders Limited

Additional information

Building Name: Summer Education Ltd

Building Address: 14 Middle Road Havelock North

The **Air-conditioning and mechanical ventilation systems** installed in the above building by All Seasons Airconditioning (HB) Limited have been designed and installed in accordance with section **G 4 "Ventilation"** of the current **N.Z. Building Code.**

Remove for renovation work :Pre-existing A/C units

1 x ASTA09LCC serial no: E080042 indoor unit
1 X AOTR09LCC serial no: E127080 outdoor unit
1 X ASTA09LCC serial no: E128372 indoor unit
1 X AOTR09LCC serial no: E067793 outdoor unit

AREA 3

The above units to be reinstated to area 3 once renovation completed with the outdoor units sited at exterior of areas 1 & 2.

1 X ASTA09LCC serial no: E089027 indoor unit
1 x AOTR09LCC serial no: E089027 outdoor unit

AREA 4

The above unit to be reinstated to area 4 once renovation completed with the outdoor unit sited at exterior of areas 1 & 2.

1 X ASTA09LCC serial no: E080038 indoor unit
1 x AOTR09LCC serial no: E067762 outdoor unit

AREA 1

The above unit to be reinstated to area 1 once renovation completed with the outdoor unit sited at exterior of areas 1 & 2.

Designed by: Ian Walker

SIGNATURE: _____

TITLE : Manager

DATE: 12/9/2011

All Seasons Airconditioning (HB) Ltd
PO Box 12174, Ahuriri, Napier | 182 Hyderabad Rd, Ahuriri, Napier
Phone: 06 835 9640 | Fax: 06 835 9876
www.all-seasons.co.nz

ALL SEASONS AIR
HAWKES BAY
HEATPUMPS | AIRCONDITIONING | REFRIGERATION

Additional information

PRODUCER STATEMENT

To: Ellis Builders Limited

Building Name: Summer Education Limited

Building Address: 14 Middle Road Havelock North

The **Air-conditioning and mechanical ventilation systems** installed in the above building by All Seasons Airconditioning (HB) Limited have been designed and installed in accordance with section **G 4 "Ventilation"** of the current **N.Z. Building Code.**

New install for area 2

1 X ASTG18LVCA serial no: EO14703 indoor unit
1 x AOTG18LVCA serial no: E014245 outdoor unit

To be installed once renovation completed with the outdoor unit site at the exterior of areas 1 & 2.

Designed by: Ian Walker

SIGNATURE: _____

TITLE : Manager

DATE: 12 / 9 / 11

All Seasons Airconditioning (HB) Ltd
PO Box 12174, Ahuriri, Napier | 182 Hyderabad Rd, Ahuriri, Napier
Phone: 06 835 9640 | Fax: 06 835 9876
www.all-seasons.co.nz