



ARTIST IMPRESSION ONLY

DRAWING LIST		
SHEET	TITLE	ISSUED
A1.1	SITE & DRAINAGE	☒
A2.1	ROOF PLAN	☒
A2.2	GROUND FLOOR PLAN	☒
A2.3	FIRST FLOOR PLAN	☒
A2.4	FRAMING PLAN	☒
A2.5	FIRST FLOOR FRAMING PLAN	☒
A2.6	DRAINAGE PLAN	☒
A3.1	EXTERIOR ELEVATIONS	☒
A3.2	EXTERIOR ELEVATIONS	☒
A4.1	SECTION 1 & 2	☒
A4.2	SECTION 3	☒
A5.1	CONSTRUCTION DETAILS	☒
A5.2	CONSTRUCTION DETAILS	☒
A5.3	CONSTRUCTION DETAILS	☒
A5.4	CONSTRUCTION DETAILS	☒
A5.5	CONSTRUCTION DETAILS	☒
A5.6	CONSTRUCTION DETAILS	☒
A5.7	CONSTRUCTION DETAILS	☒
A5.8	CONSTRUCTION DETAILS	☒
A5.9	CONSTRUCTION DETAILS	☒
A5.10	CONSTRUCTION DETAILS	☒
A5.11	CONSTRUCTION DETAILS	☒
A5.12	CONSTRUCTION DETAILS	☒

# HOON HAY ROAD DEVELOPMENT RESIDENCE

**LEGAL DESCRIPTION:**  
TERRITORIAL AUTHORITY: CHRISTCHURCH CITY COUNCIL  
LOT: 11 DP: 16769  
ADDRESS: 132 HOON HAY ROAD HOON HAY, CHRISTCHURCH

<b>COUNCIL</b>	
HEIGHT:	COMPLIANT
SETBACKS:	COMPLIANT
RECESSION PLANES:	COMPLIANT
<b>ZONES NZS 3604:2011</b>	
SNOW LOAD ZONE:	1KPA
WIND ZONE:	HIGH
WIND REGION:	A
EARTHQUAKE ZONE:	2
EXPOSURE ZONE:	C
<b>AREAS</b>	
SITE AREA:	819m <sup>2</sup>
FLOOR AREA NEW DWELLING (UNIT 1):	127.99m <sup>2</sup>
FLOOR AREA NEW DWELLING (UNIT 2):	131.70m <sup>2</sup>
ROOF AREA (UNIT 1):	154.64m <sup>2</sup>
ROOF AREA (UNIT 2):	162.57m <sup>2</sup>
<b>SITE COVERAGE :</b>	<b>31% (35% ALLOWABLE)</b>

**GENERAL NOTES**  
LANDSCAPING SHOWN ON THIS CONCEPT IS INDICATIVE ONLY AND PURELY FOR PRESENTATION PURPOSES. LANDSCAPING TO BE CONFIRMED BY THE CLIENT. CONCEPT SUBJECT TO RULES AND REGULATIONS ALL DIMENSIONS TO BE CONFIRMED ON SITE. BOUNDARY DIMENSIONS AND BEARING SUBJECT TO CONFIRMATION SITE LEVELS SUBJECT TO CONFIRMATION

**SITE DRAINAGE**  
DRAINLAYER TO CONFIRM DRAINAGE ON SITE PRIOR TO CONSTRUCTION TO VERIFY ADEQUATE FALLS FROM REAR UNIT TO STREET LATERALS


Page 2 of 43  
**BCN/2016/5889**  
**Approved Building Consent Plan**  
17/10/2016
Phil Judge

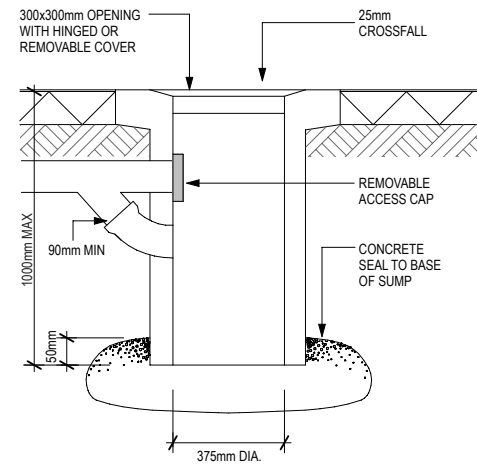


Figure 8: TYPE-ONE SURFACE WATER SUMP. Paragraph 3.6.2

Figure 6: BUBBLE-UP CHAMBER Paragraph 3.4.2

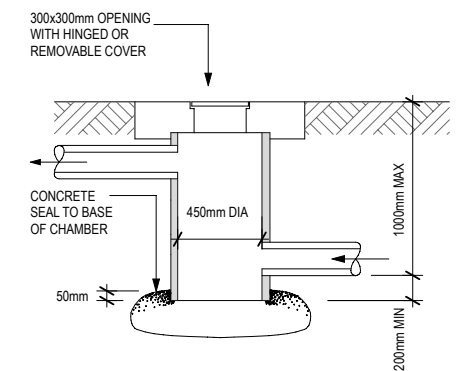
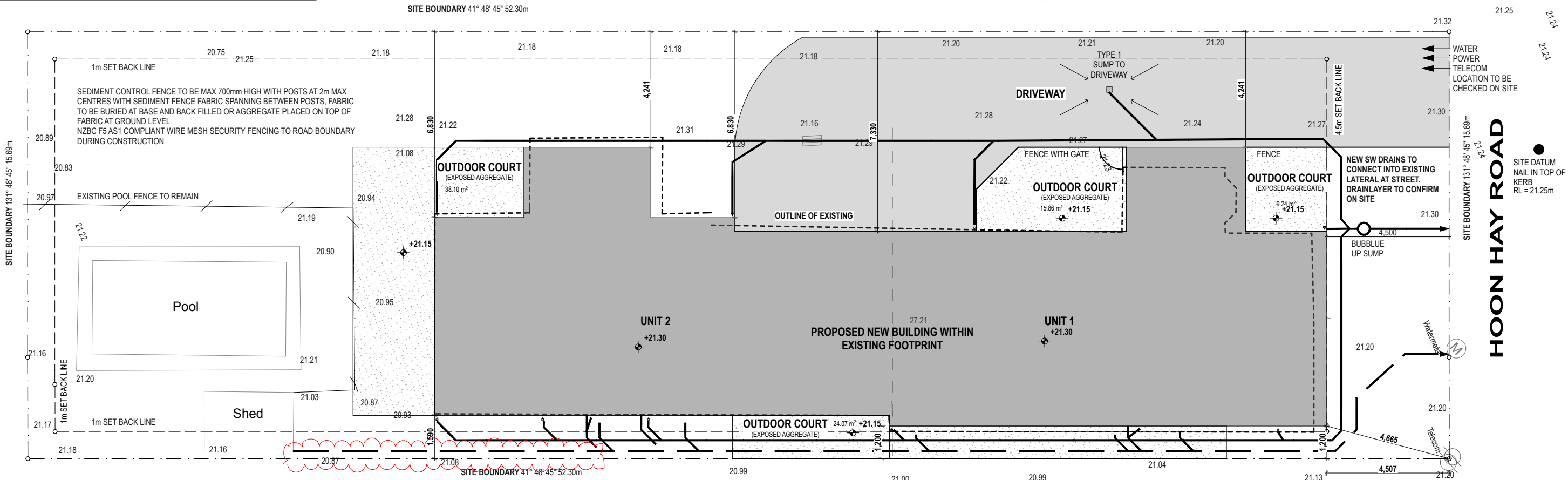


Figure 6: BUBBLE-UP CHAMBER. Paragraph 3.4.2

**SETOUT NOTES**  
CONTRACTOR MUST INDEPENDENTLY VERIFY ALL BOUNDARIES AND DIMENSIONS PRIOR TO SETOUT. ALL SETOUT DIMENSIONS ARE IN HORIZONTAL PLANE AND DO NOT TAKE INTO ACCOUNT VARYING GROUND LEVELS.  
FINISHED FLOOR LEVEL TO BE MAINTAINED AT 225mm CLEARANCE FROM FINISHED GROUND LEVEL.  
ANTI - SLIP: ON ALL ACCESS ROUTES BOTH INTERNAL AND EXTERNAL, PROVIDE ANTI - SLIP SURFACE COMPLYING WITH NZBC D1/AS TABLE 2 (EXCEPT SURFACES IN SIDE ENTRY DOORS OF HOUSING MAYBE CONSIDERED DRY AREAS)

**TOWN PLANNING:**

<b>COUNCIL</b>	
ZONE:	RESIDENTIAL
MAX BUILDING HEIGHT:	8m
INTERNAL SETBACKS:	
- DWELLING:	1m
- STREET FRONT:	4.5m
RECESSION PLANES:	FROM 2.3m
SITE COVERAGE:	MAX 35%



**SITE / DRAINAGE PLAN**  
**1:150**

**SEDIMENT CONTROL**  
THE CONTRACTOR SHALL TAKE ALL THE STEPS NECESSARY TO CONTROL THE EROSION AND SEDIMENT RUNOFF FROM THE SITE FOR THE DURATION OF THE CONSTRUCTION WORKS. NO RUNOFF WATER CONTAINING SEDIMENT OR SILT IS ALLOWED TO FLOW ACROSS ANY BOUNDARY.  
EROSION AND SEDIMENT CONTROL MAY BE ACHIEVED BY CONSTRUCTING A SEDIMENTS/ SILT TRAP ACROSS THE LOWER END OF ANY SLOPE, WITHIN THE SITE BOUNDARY. THE SEDIMENT/SILT TRAP MAY BE FORMED USING ONE OF THE FOLLOWING METHODS:  
1) PLACE HAY BALES INTO A 200mm DEEP TRENCH. THE HAY BALES ARE TO BE TIED TOGETHER TO CLOSE ALL GAPS BETWEEN THEM AND ANCHORED TO THE GROUND BY STAKING AS REQUIRED.  
2) NATURAL SOIL FROM THE SITE MAY BE USED TO CONSTRUCT AN EARTH BUND OF WIDTH 1.5M, AND THE SITE UPSTREAM OF THIS BUND EXCAVATED TO A DEPTH OF AT LEAST 200MM BELOW EXISTING GROUND LEVEL.  
3) PROPRIETARY BIDIM SC04 FILTER ROLL OR SIMILAR APPROVED ALTERNATIVE.  
SEDIMENT CAN BE CONTAINED WITHIN THE SITE BY CONSTRUCTING A SILT FENCE USING BIDIM A24 GEOTEXTILE OR A SIMILAR APPROVED ALTERNATIVE WHERE EXCAVATED MATERIAL IS STOCKPILED, THIS METHOD IS ALSO TO BE USED TO CONTROL SEDIMENT RUNOFF, WHICH FLOWS ALONG NATURAL WATERCOURSES.

REGULAR INSPECTION AND MAINTENANCE MUST BE CARRIED OUT TO ENSURE THESE TEMPORARY SEDIMENT/SILT TRAPS ARE NOT COMPLETELY CLOGGED BY SEDIMENT OR SILT. SEDIMENT AND SILT COLLECTED AT THE TRAPS MUST BE REGULARLY REMOVED TO ENSURE NO SPILLOVER.  
ARRANGEMENTS MUST BE MADE FOR INSPECTIONS AND MAINTENANCE OF THE SEDIMENT/SILT TRAPS OVER WEEKENDS, DURING PUBLIC HOLIDAYS, OVER ANY EXTENDED PERIODS WHEN NO WORK IS BEING CARRIED OUT, AND WHEN HEAVY RAIN OCCURS OUTSIDE NORMAL WORKING HOURS.  
BEFORE COMMENCEMENT OF THE SITE WORKS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FULL DETAILS, INCLUDING SKETCHES, OF THEIR PROPOSED METHOD FOR EROSION AND SEDIMENT CONTROL WITHIN THE SCOPE OF THE WORKS. THE PROPOSED METHOD MUST BE DESIGNED BY A SUITABLY QUALIFIED PERSON, AND CERTIFIED AS SUITABLE FOR THIS SITE.  
ROOF WATER DOWNPIPES TO BE CONNECTED TO THE PERMANENT UNDERGROUND STORM WATER DRAINAGE SYSTEM AS SOON AS PRACTICAL AFTER THE ROOF IS LAID.

ALLOW FOR SITE INSPECTION TO ESTABLISH ACCURATE LOCATIONS OF EXISTING SERVICES  
CONNECT 100mm dia SEWER TO EXISTING FW LATERAL LOCATION TO BE CONFIRMED ON SITE ( REFER TO COUNCIL DRAINAGE PLAN)  
CONNECT NEW 100mm dia STORM WATER SYSTEM TO EXISTING SW LATERAL LOCATION AT KERB TO BE CONFIRMED ON SITE BY DRAINLAYER

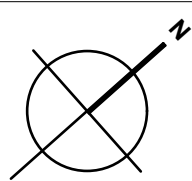
**TEMPORARY USE OF LEGAL ROAD**  
AN APPLICATION IS REQUIRED WHERE ROADWAY, FOOTPATH OR BERM ARE REQUIRED FOR DEVELOPMENT PURPOSES. THIS INCLUDES AREAS USED FOR WASTE SKIPS, PARKING OF CONTRACTORS VEHICLES, ETC. PLEASE NOTE THAT USE OF THIS LAND WITHOUT PERMISSION MAY RESULT IN AN INFRINGEMENT NOTICE BEING ISSUED BY THE PARKING UNIT. CONTACT TRANSPORT AND CITY STREETS UNIT ON TELEPHONE 941 8999.

<b>ISSUE DATE:</b>	<b>VERSION:</b>
30/03/16	02
8/04/16	03
15/06/16	04
12/10/16	05



**JOB TITLE:**  
**HOON HAY ROAD DEVELOPMENT**

**DRAWING TITLE:**  
**SITE & DRAINAGE**



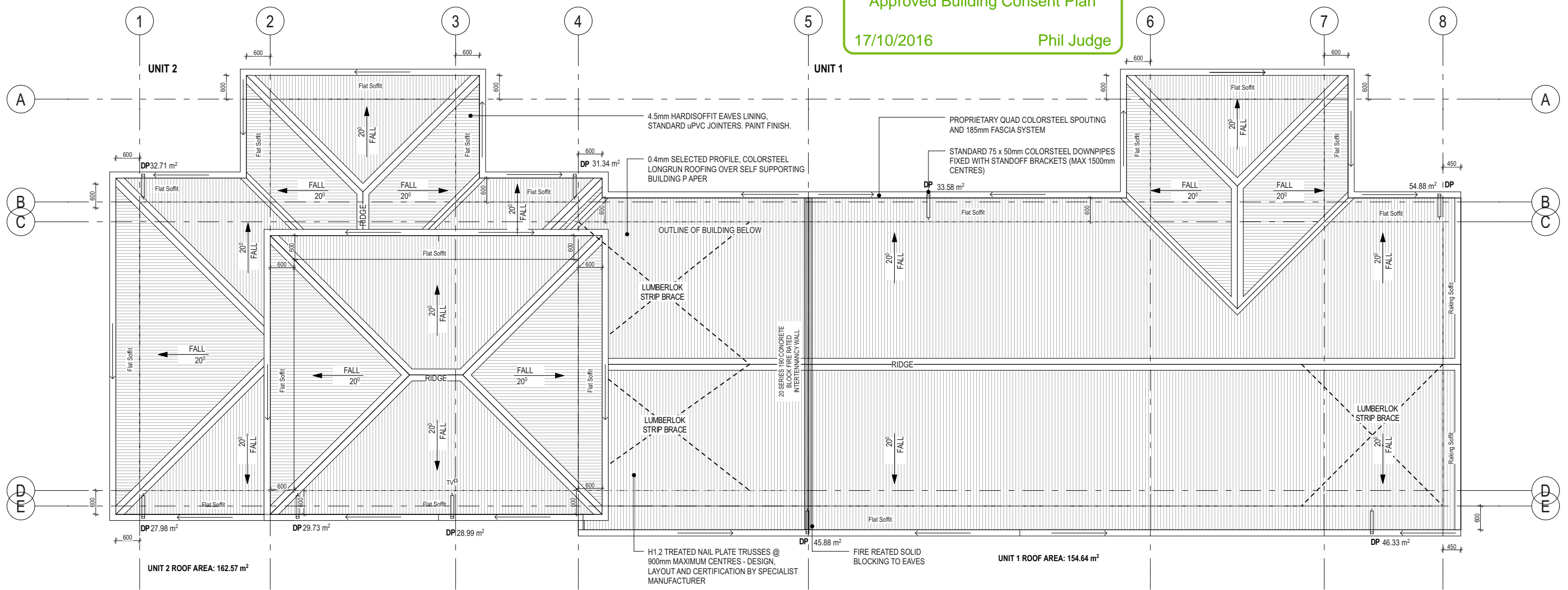
**LEGAL DESCRIPTION:**  
Lot: 11 DP: 16769  
**SITE ADDRESS:**  
132 HOON HAY ROAD  
HOON HAY,  
CHRISTCHURCH

**NOTES:**  
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<b>DRAWN BY:</b>	CT
<b>SCALE:</b>	1:150, 1:10
<b>JOB #</b>	1559



**SHEET:**  
**A1.1 a**



**ROOF PLAN**  
1:100

**GENERAL NOTES:**

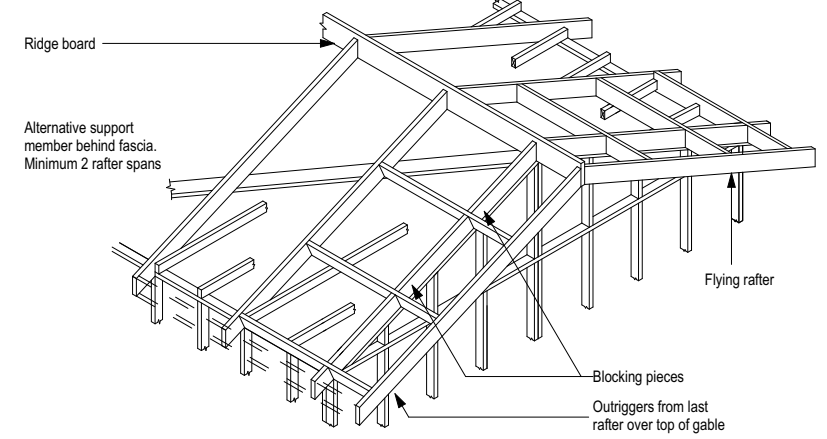
SELECTED 20° PITCH TO LONGRUN COLORSTEEL ROOFING WITH OVERHANG / SOFFIT OVER SELF SUPPORTING BUILDING PAPER ON 70 x 45mm H1.2 PURLINS DEPENDING ON GAUGE @ 900mm CRS MAX ON APPROVED NAIL PLATE TRUSSES @ 900 CRS MIN.

PITCHING HEIGHT TO BE SET AT 2455mm ABOVE FINISHED FLOOR LEVEL.

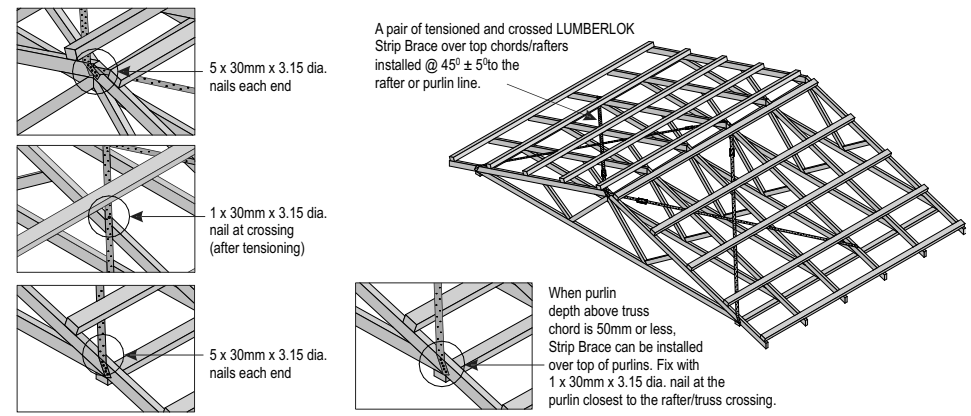
**STORMWATER CAPACITY**

GUTTER TYPE:	QUAD
CAPACITY SPACE:	6850mm <sup>2</sup>
ROOF AREA UNIT 1:	154.64m <sup>2</sup>
ROOF AREA UNIT 2:	162.57m <sup>2</sup>
ROOF PITCH:	20°
DP'S NUMBER:	9
(REFER TO ROOF GUTTER CALCULATION)	
55m <sup>2</sup> ROOF AREA MAX PER DP	

**FIGURE 10.16 - GABLE VERGE FRAMING (SEE 10.2.1.15) (B) WITH OUTRIGGERS**



\* A pair of tensioned and crossed LUMBERLOK Strip Brace running continuously from ridge to top plate installed as detailed below.

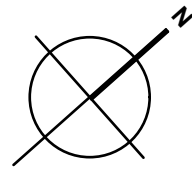


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30/03/16	02
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15/06/16	04



**JOB TITLE:**  
HOON HAY ROAD DEVELOPMENT

**DRAWING TITLE:**  
ROOF PLAN



**LEGAL DESCRIPTION:**  
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**SITE ADDRESS:**  
132 HOON HAY ROAD  
HOON HAY,  
CHRISTCHURCH

**NOTES:**

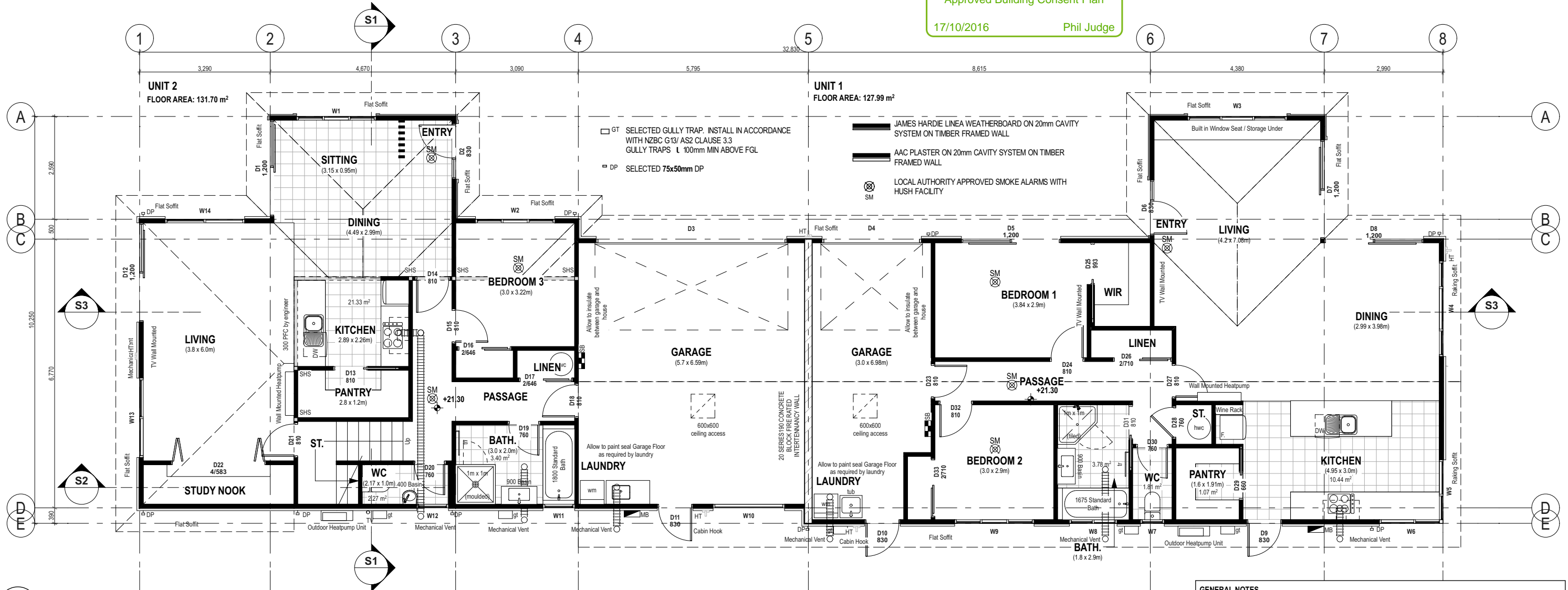
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<b>JOB #</b>	1559



**SHEET:**  
A2.1



**GROUND FLOOR PLAN**  
 1:100

**GENERAL NOTES:**

FLOOR AREA (UNIT 1): 127.99m<sup>2</sup>  
 FLOOR AREA (UNIT 2): 131.70m<sup>2</sup>  
 TYPICAL CEILING HEIGHT: 2.4m  
 RAISED CEILINGS: N/A  
 (REFER CROSS SECTION)  
 INTERNAL DOOR HEIGHT: STANDARD  
 INTERNAL DOOR WIDTH: STANDARD  
 UNDERTILE HEATING TO AREAS: N/A

**WALL CLADDING MATERIALS**

- 50mm AAC PANEL ON 20mm VENTILATED CAVITY  
 - JAMES HARDIE LINEA WEATHERBOARDS ON 20mm VENTILATED CAVITY

**ROOF CLADDING MATERIALS**

SELECTED COLORSTEEL LONGRUN CORRUGATE  
 ROOF PITCH: 20°

TYPE 1 DOMESTIC SMOKE ALARMS IN ACCORDANCE WITH ACCEPTABLE SOLUTION F7/AS1

**GENERAL CONSTRUCTION NOTES**

**ROOF:**  
**PURLINS:** H12 70x45mm @ 900crs CENTRALLY & 600crs.  
**TRUSSES:** H12 TIMBER, AS PER MANUFACTURERS SPECIFICATIONS. REFER TO MANUFACTURERS TRUSS LAYOUT & PRODUCER STATEMENT.  
**ROOF BRACING:** AS PER TRUSS MANUFACTURERS DOCUMENTATION.  
**FASCIA & RAINWATER SYSTEM:** COLORSTEEL  
**DOWNPIPES:** 75x50mm  
**SOFFITS:** JAMES HARDIE 4.5mm SOFFIT LINING.

**CEILING:**  
**CEILING BATTENS:** 70 x 35mm TIMBER @ 600crs. 13mm STANDARD GIB TO CEILINGS.

**WALL FRAMING:**  
**EXTERIOR WALL FRAMING:** H12 90 x 45mm STUDS @ 600crs (2455mm stud) & DWANGS @ 800crs, H12 90 x 45mm STUDS @ 400crs (2455mm stud) & DWANGS @ 800crs  
**INTERNAL FRAMING:** 90 x 45mm H12 STUDS @ 600crs, DWANGS @ 800crs.  
 DWANGS AS LATERAL SUPPORT AS PER NZS 3604: 8.8.1 THERMAKRAFT WATERGATE BUILDING PAPER  
 10mm STANDARD GIB TO WALLS, EXCEPT WET AREAS  
 10mm AQUALINE GIB TO WET AREAS

**INSULATION:**  
**CEILINGS:** FIBREGLASS INSULATION R3.6  
**EXTERIOR WALLS:** FIBREGLASS INSULATION R2.6  
 TYVEK STRAPS STAPLED TO FRAMING, TO PREVENT INSULATION BULGING INTO CAVITY.

WHERE DOWNLIGHTS ARE TO BE INSTALLED, CARATED DOWNLIGHTS WILL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH NEW ELECTRICAL SAFETY REGULATIONS MAY 2012

LIGHTING AND ELECTRICAL BY OTHERS, ALL POSITIONS AND TYPES TO BE SELECTED AND CONFIRMED BY CLIENT WITH CONTRACTOR

ALL INTERIOR DOORS TO BE PAINT FINISHED MDF HOLLOW CORE DOORS WITH SELECTED HARDWARE BY CLIENT

ALL WINDOW AND DOOR DIMENSIONS SHOWN ARE ROUGH OPENING. SITE VERIFY PRIOR TO FABRICATION

GIB AQUALINE TO ALL WET AREAS WITH 2 COATS OF ENAMEL PAINT FINISH TO UNTILED WALLS

ALL LINTELS MSG 8 UNLESS OTHERWISE STATED

ALL GLAZING TO COMPLY WITH NZS 4223

MECHANICAL EXTRACTION REQUIRED TO TERMINATE TO EXTERNAL AIR SPACE

HOT WATER PIPES TO BE SIZED ACCORDING TO NZBC G12 & NZS 4305:1996  
 MAINS PRESSURE. 15mm DIA ALLOWS 12m MAX PIPE LENGTH. PIPE LENGTH BEYOND THIS MUST BE LAGGED

SHOWER LINER OVER GIB AQUALINE IN THE SHOWER/WET AREA TO BE 300mm ABOVE THE SHOWER ROSE AND MINIMUM HEIGHT OF 1800mm

ALL MAIN ELECTRICAL APPLIANCES ARE SHOWN TO INDICATE WHERE POWER MUST BE PROVIDED. (REFRIGERATOR, OVEN, COOKTOP, RANGEHOOD, DISHWASHER, INTERNAL HEATPUMP, EXTERNAL HEATPUMP, DRYER, WASHING MACHINE, WET AREA EXTRACT VENTS, METER BOX, SWITCH BOARD).  
 ALL ELECTRICAL INSTALLATIONS TO BE IN ACCORDANCE WITH NZECP 51:2001  
 ALL KITCHEN POWER POINTS, INCLUDING HOB, OVEN, WASTE DISPOSAL, RANGEHOOD, REFRIGERATOR AND MICROWAVE ARE TO HAVE ONE DOUBLE POWER POINT EACH. REFER TO KITCHEN DESIGN FOR LAYOUT AND POSITIONS OF KITCHEN AREA SOCKETS ETC. ALL POWER POINTS ARE INDICATIVE ONLY AND MUST BE POSITIONED AND CONFIRMED ON SITE BY ARCHITECT AND/OR OWNER.  
 WHERE DOWNLIGHTS ARE TO BE INSTALLED, ONLY CA 80, CA 135, IC OR IC-F DOWNLIGHTS ARE PERMITTED IN PRIVATE OR RENTAL DWELLINGS. (NOTE THAT IC DOWNLIGHTS CAN ONLY BE USED WITH INSULATION THAT PASSES THE NEEDLE FLAME TEST OF AS/NZS 60598 2.2 CLAUSE 11.5). RECESSED DOWNLIGHTS THAT ARE NOT LABELLED AS ABOVE ARE NOT PERMITTED TO BE INSTALLED INTO RESIDENTIAL BUILDINGS.  
 TOTAL OF 20 LUX OF ILLUMINANCE FOR THE TOTAL WATTAGE REQUIRED PER M2 OF FLOOR AREAS SHOWN IN NZBC G8 / AS1 TABLE 1. - LIGHTING AND ELECTRICAL BY OTHERS, ALL POSITIONS AND TYPES TO BE SELECTED AND CONFIRMED BY CLIENT WITH CONTRACTOR.

THE SIZE OF THE WATER SERVICE PIPE TO A SINGLE DWELLING SHALL NOT BE LESS THAN DN20

TABLE 4: NOMINAL PIPE DIAMETERS G12/AS1  
**MAINS PRESSURE**  
 MINIMUM TEMPERING VALVE SIZE 15mm  
 PIPES TO TEMPERING VALVE 20mm  
 PIPES TO SHOWER 20mm  
 PIPES TO SINK/LAUNDRY 15mm  
 PIPES TO BATH 15mm  
 PIPES TO BASINS 10mm

TABLE BASED ON MAXIMUM PIPE LENGTHS OF 20 METRES

5.4.1 THE WATER SUPPLY SYSTEM SHALL BE PROVIDED WITH AN ISOLATING VALVE WHERE A SUPPLY PIPE ENTERS THE BUILDING .  
 5.4.2 WHERE THE WATER SUPPLY PIPE SERVES A DETACHED DWELLING, THE ISOLATING VALVE REQUIRED BY PARAGRAPH 5.4.1 MAY BE LOCATED AT THE PROPERTY BOUNDARY.

**SLIP RESISTANCE**  
 LEVEL ACCESS ROUTES INCLUDING WALKING SURFACES SUCH AS DECKS, PATIOS AND STEPS ON THE APPROACH TO THE MAIN ENTRANCE OF HOUSING AND LEVEL ACCESSIBLE ROUTES SHALL HAVE A MEAN COEFFICIENT OF FRICTION (U), OF NOT LESS THAN 0.4 WHEN TESTED IN ACCORDANCE WITH AS/NZS 3661.1. FOR OTHER ACCESS ROUTES A COEFFICIENT OF FRICTION OF LESS THAN 0.4 MAY BE ACCEPTABLE, BUT ACCOUNT SHOULD BE TAKEN OF THE EFFECTIVENESS OF THE SURFACE WHEN WET. FOOT PATHS TO COMPLY WITH ANTISLIP REQUIREMENTS OF NZBCD/AS1 TABLE 2. EXTERNAL STEPS AND PORCHES TO BE BROOMED FINISH CONCRETE.

**GENERAL NOTES**

THE PLANS ARE ISSUED SUBJECT TO THE FOLLOWING NOTES:

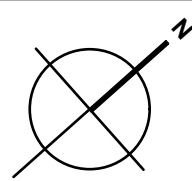
- 1) ALL BEAM SIZES SHOWN ARE TO BE CONFIRMED BY PRE-CUTTER MANUFACTURER AND SHALL COMPLY WITH NZS3604:2011
- 2) ALL CARPENTRY SHALL COMPLY WITH NZS 3604:2011
- 3) AND CURRENT AMENDMENTS.
- 4) ALL PLUMBING AND DRAINAGE TO COMPLY WITH CURRENT APPROVED DOCUMENTS G1, G12, G13, AND G14. DOWNPIPES TO BE CONNECTED TO WATER TANK OR STORMWATER DRAINAGE SYSTEM AS SOON AS PRACTICAL AFTER ROOF IS LAID.
- 5) SMOKE DETECTOR TO BE INSTALLED THROUGHOUT THE DWELLING TO COMPLY WITH NZBC F7/AS1SECT 3.1 TO 3.3. FITTED WITH HUSH FACILITY AS REQUIRED. ENSURE 300mm MIN FROM WALLS.
- 6) G3/AS1 1.1.3 FOOD PREPARATION SURFACES SHALL BE EASILY MAINTAINED IN A HYGIENIC CONDITION. STAINLESS STEEL, DECORATIVE HIGH PRESSURE LAMINATE, AND TILES ARE EXAMPLES OF SUITABLE MATERIALS FOR THESE SURFACES.
- 7) 300 LTR HIGH PRESSURE HWC TO BE FITTED WITH TEMPORING VALVE AND SEISMIC RESTRAINTS: 3-25x1mm GALV STEEL STRAPS, TENSIONED WHEN FIXED IN PLACE. FIX WITH 8mm COACH SCREWS WITH 30x2mm WASHERS. INSTALL 50x50 VERTICAL BLOCKING FULL HEIGHT BOTH SIDES OF HWC, NAIL TO FRAMING @ 600 CRS MAX WITH 100x3.75 NAILS. REFER TO NZBC G12/AS1 FIGURE 14. HWC RELIEF VALVE DRAIN - COPPER PIPE IN ACCORDANCE WITH NZBC G12/AS1 6.7.2
- 8) PROVIDE MECHANICAL VENTILATION TO BATHROOM AND ENSUITE WEISS FAN UNIT TO VENT OUT THROUGH SOFFIT. VENT DRYER TO OUTSIDE OF BUILDING (IF INSTALLED).
- 9) ENSURE ALL WET AREAS, WALL AND FLOOR LININGS COMPLY WITH NZBC E3/AS1 '3.0: WATERSPLASH' (SEMI GLOSS OR GLOSS PAINT FINISH OVER LININGS TO WALLS & CEILINGS, 150mm MIN. IMPERVIOUS LINING UPSTAND AROUND BATH AS PER E3/AS1 FIGURE 3.
- 10) CORROSION ZONE 'C': STEEL FIXINGS AND FASTENINGS TO COMPLY WITH NZS 3604:2011 TABLE 4.1. NAILS TO COMPLY WITH NZS 3604:2011 TABLE 4.3.
- 11) ALL EXPOSED STRUCTURAL STEELWORK (IF APPLICABLE) TO BE HOT DIP GALVANISED.
- 12) ALL DOWNLIGHTS TO BE CARATED (CA 80 ORCA135)
- 13) ALL INTERNAL DOORS TO BE STANDARD HEIGHT.

ISSUE DATE:	VERSION:
30/03/16	02
8/04/16	03
15/06/16	04



**JOB TITLE:**  
 HOON HAY ROAD DEVELOPMENT

**DRAWING TITLE:**  
 GROUND FLOOR PLAN



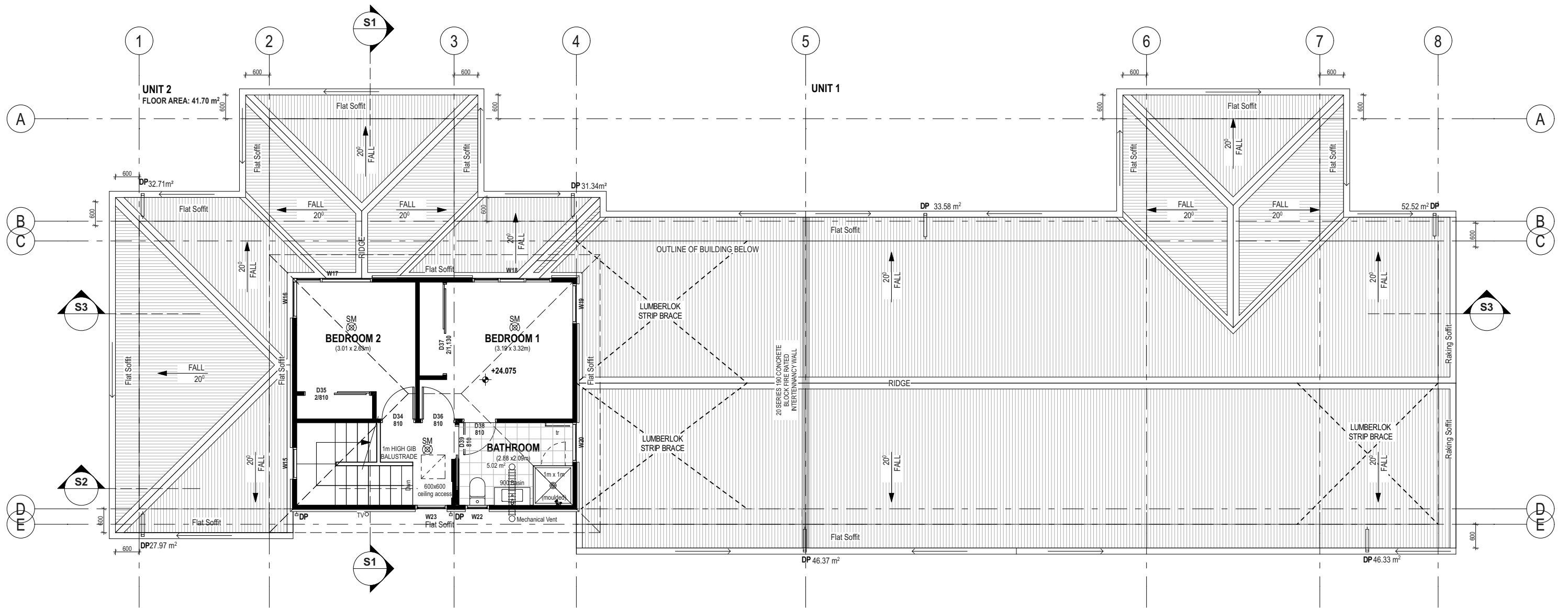
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**SITE ADDRESS:**  
 132 HOON HAY ROAD  
 HOON HAY,  
 CHRISTCHURCH

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**SCALE:** 1:100  
**JOB #** 1559



**SHEET:**  
 A2.2



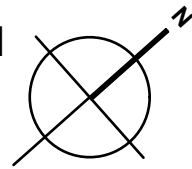
**FIRST FLOOR PLAN**  
1:100

**Christchurch City Council**  Page 5 of 43  
**BCN/2016/5889**  
 Approved Building Consent Plan  
 17/10/2016 Phil Judge



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HOON HAY ROAD DEVELOPMENT

**DRAWING TITLE:**  
FIRST FLOOR PLAN




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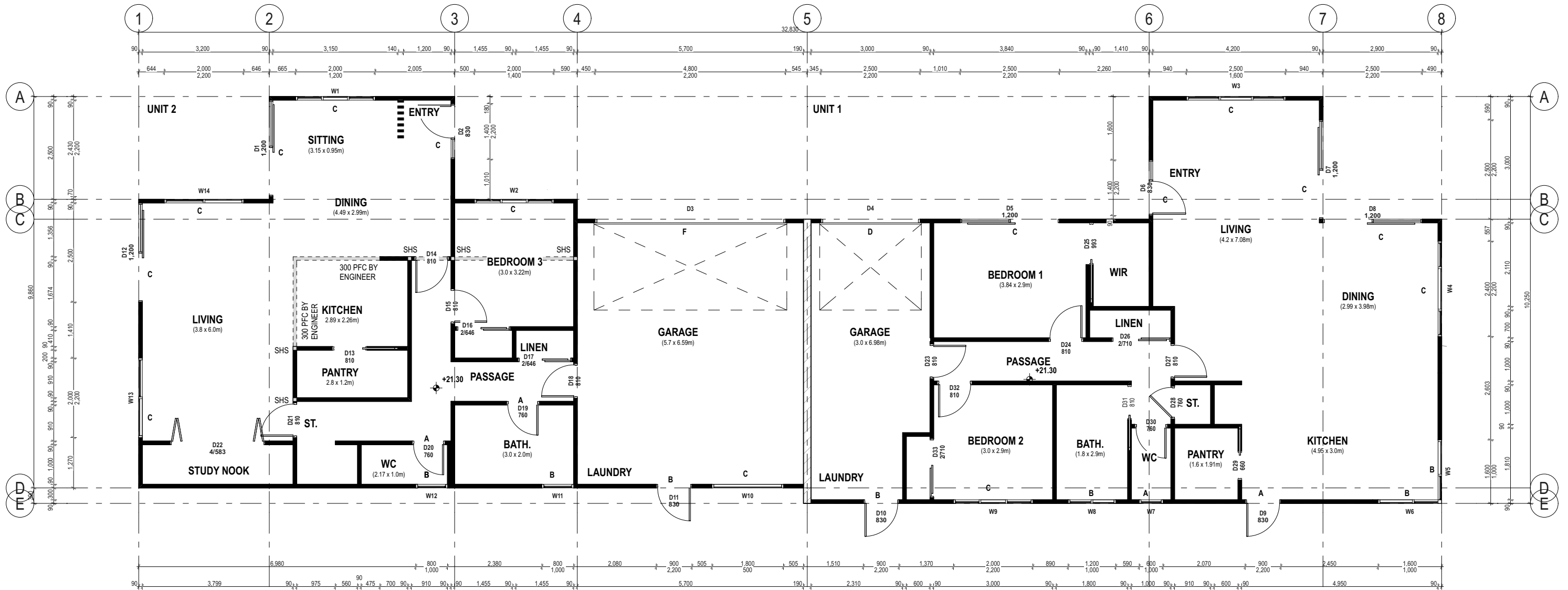
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**SHEET:**  
**A2.3**





**FRAMING PLAN**  
**1:100**

LINTEL	SIZE	
A	2/90x45	PL8H1
B	2/140x45	PL8H1
C	2/190x45	PL8H1
D	2/240x45	PL8H1
E	2/290x45	PL8H1
F	PI 12 300 PROLAM	

SPECIFIC SCHEDULE OF TIMBER TREATMENT			
ELEMENT	SPECIES	TREATMENT	ELEMENT
• EXTERIOR WALL FRAMING (REFER TO NZS3602:2003 FOR CLARIFICATION)	RADIATA PINE	H1.2	• ALL TIMBER IS TO BE TREATED AS REQUIRED BY NZS3602:2003, THIS TABLE IS INTENDED AS A SUMMARY OF THESE REQUIREMENTS ONLY.
• INTERIOR WALL FRAMING	RADIATA PINE / DOUGLAS FIR	H1.2	
• WALL CAVITY BATTENS	RADIATA PINE	H3.1	• TREATMENT LEVELS SHOWN ARE THE MINIMUM LEVEL REQUIRED. HIGHER TREATMENT LEVELS MAY BE USED IF APPROPRIATE.
• ALUMINIUM WINDOW REVEALS	RADIATA PINE	H3.1	
• EXPOSED POSTS & BEAMS	RADIATA PINE	H3.2	• TIMBER TYPE: EXTERIOR & LOAD BEARING FRAMING = SG8 INTERIOR NON LOAD BEARING FRAMING = SG8
• PURLINS ON TRUSSES	RADIATA PINE	H1.2	
• BALCONY, PARAPET, INTERNAL GUTTER FRAMING	RADIATA PINE	H3.1	LINTELS = SG8 TRUSSES = SG8
• FRAMING SUPPORTING SHELF ANGLES	RADIATA PINE	H3.1	
• ROOF FRAMING, TRUSSES (ABOVE 10.5°)	RADIATA PINE / DOUGLAS FIR	H1.2	
• ROOF FRAMING, TRUSSES (BELOW 10.5°, SKILLION ROOFS, COVERED ROOF)	RADIATA PINE / DOUGLAS FIR	H1.2	
• ROOF FRAMING, TRUSSES EXPOSED EXTERNAL RAFTERS	RADIATA PINE / DOUGLAS FIR	H3.2	

DOOR SCHEDULE	
No.	W x H Size
D1	2,430x2,200
D2	1,400x2,200
D3	4,800x2,200
D4	2,500x2,200
D5	2,500x2,200
D6	1,400x2,200
D7	2,500x2,200
D8	2,500x2,200
D9	900x2,200
D10	900x2,200
D11	900x2,200
D12	2,500x2,200

WINDOW SCHEDULE	
No.	W x H Size
W1	2,000x1,200
W2	2,000x1,400
W3	2,500x1,600
W4	2,400x2,200
W5	1,600x1,000
W6	1,600x1,000
W7	600x1,000
W8	1,200x1,000
W9	2,000x2,200
W10	1,800x500
W11	800x1,000
W12	800x1,000
W13	2,000x2,200
W14	2,000x2,200

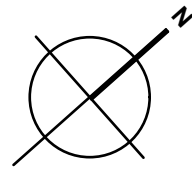
**Christchurch City Council** Page 6 of 43  
**BCN/2016/5889**  
 Approved Building Consent Plan  
 17/10/2016 Phil Judge

ISSUE DATE:	VERSION:
30/03/16	02
8/04/16	03
15/06/16	04



**JOB TITLE:**  
**HOON HAY ROAD DEVELOPMENT**

**DRAWING TITLE:**  
**FRAMING PLAN**



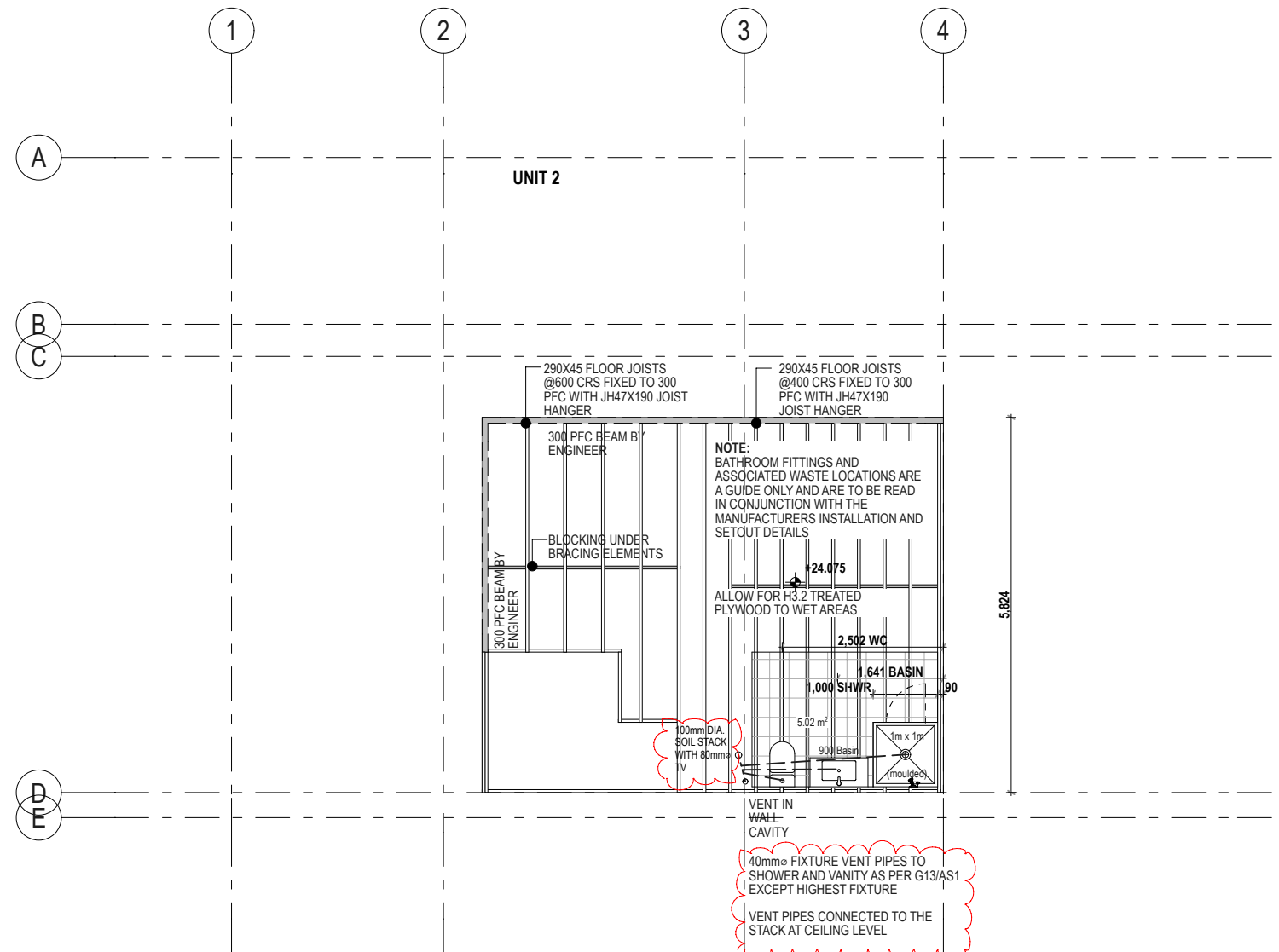
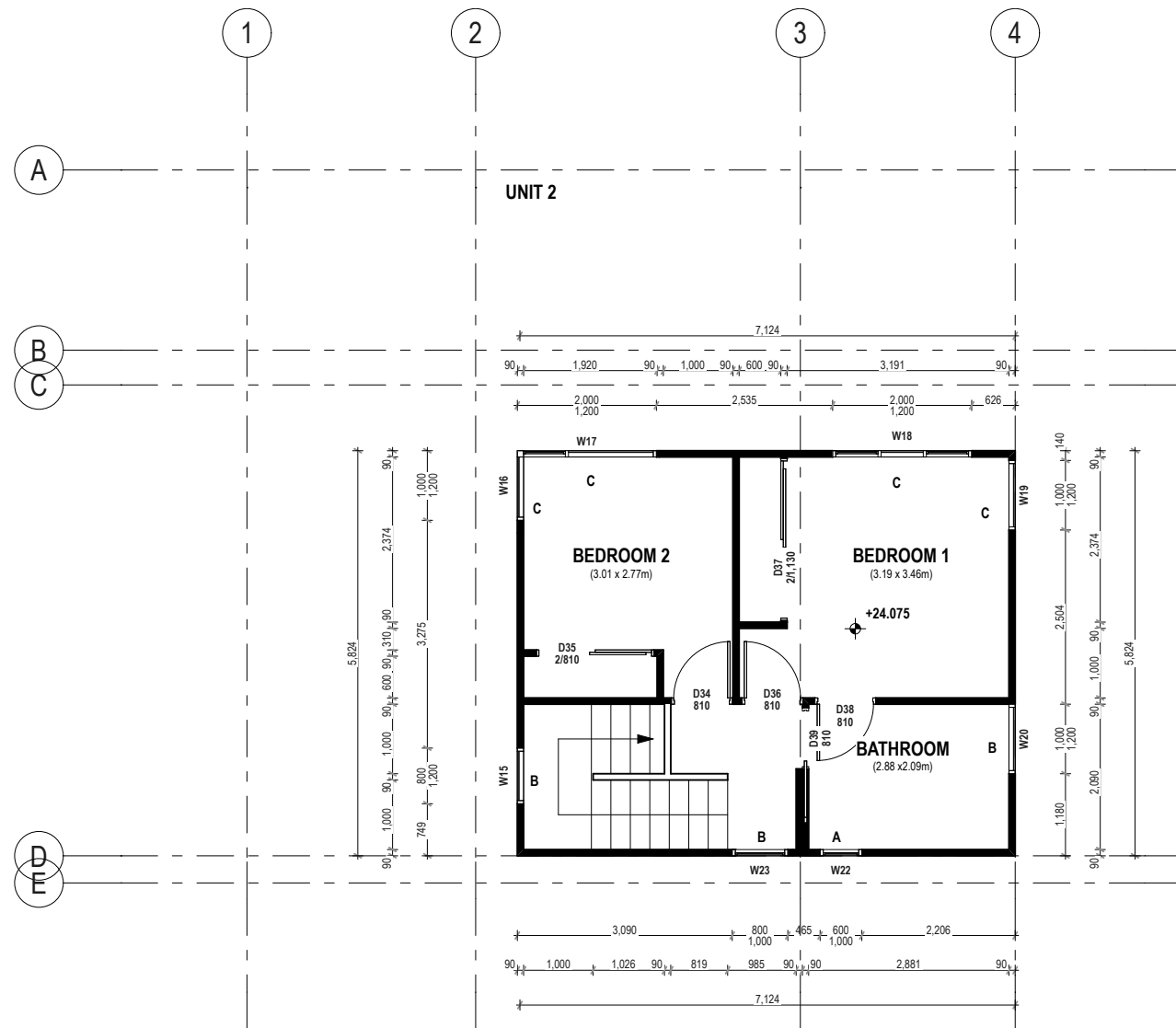
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Lot: 11 DP: 16769  
**SITE ADDRESS:**  
132 HOON HAY ROAD  
HOON HAY,  
CHRISTCHURCH

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**DRAWN BY:** CT  
**SCALE:** 1:100, 1:1  
**JOB #** 1559



**SHEET:**  
**A2.4**



**FIRST FLOOR FRAMING PLAN**  
1:100

**FLOOR FRAMING PLAN**  
1:100

No.	W x H Size
W15	800x1,200
W16	1,000x1,200
W17	2,000x1,200
W18	2,000x1,200
W19	1,000x1,200
W20	1,000x1,200
W22	600x1,000
W23	800x1,000

LINTEL	SIZE	
A	2/90x45	PL8H1
B	2/140x45	PL8H1
C	2/190x45	PL8H1
D	2/240x45	PL8H1
E	2/290x45	PL8H1
F	PI 12 300 PROLAM	

Christchurch City Council Page 7 of 43  
**BCN/2016/5889**  
 Approved Building Consent Plan  
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ENSURE FLOOR JOISTS ARE 40mm MIN CLEAR OF ALL WASTES

TIMBER FLOORING: 20mm PARTICLE BOARD - H3.2 (NON CCA) TREATED PLYWOOD TO ALL WET AREAS.  
 FLOOR FRAMING: AS PER ENGINEER'S SPECIFICATIONS. REFER TO FLOOR FRAMING PLAN & PRODUCER STATEMENT.  
 - ALL DIMENSIONS OVER FRAMING.  
 - WC RISER LOCATIONS HAVE AN ASSUMED OFFSET OF 160mm FROM INTERNAL FRAMING (MANUFACTURER'S TECHNICAL SPECS SHOULD BE CONSULTED, TO CONFIRM OFFSET)  
 - FINAL FLOOR JOIST LAYOUT TO BE CONFIRMED BY ENGINEER.

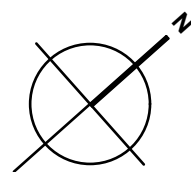
**NON LOAD BEARING WALL SUPPORT:**  
 NON LOAD BEARING WALLS WHICH CONTAIN BRACING ELEMENTS SHALL BE OVER A JOIST OR SUPPORTED BY 90x45 BLOCKING @ 1200CRS.  
 PROVIDE A JOIST UNDER OR SUPPORT WITH NOGS @1200crs (MIN 90x45)  
 NON LOAD BEARING WALL WITHOUT BRACING SHALL BE WITHIN 150mm OF A JOIST.  
**WALL SUPPORT:**  
 LOAD BEARING WALLS WHICH RUN PARALLEL TO FLOOR JOISTS SHALL BE SUPPORTED BY A DOUBLE JOIST.  
 LOAD BEARING WALLS WHICH RUN AT RIGHT ANGLES TO THE FLOOR JOISTS SHALL BE 200mm OF A BEARER.  
**FLOOR:**  
 20mm SELECTED PARTICLE BOARD OVER 290x45 FLOOR JOISTS @ 600CRS & 290x45 FLOOR JOIS @400CRS - DOOR SUPPORTED BY NOGS UNDER OPENINGS AS NECESSARY BLOCKING (LATERAL SUPPORT) PROVIDE SOLID BLOCKING OVER FLOOR LINES OF SUPPORT @ 1.2M CRS MAX.

ISSUE DATE:	VERSION:
30/03/16	02
8/04/16	03
15/06/16	04
12/10/16	05



JOB TITLE:  
**HOON HAY ROAD DEVELOPMENT**

DRAWING TITLE:  
**FIRST FLOOR FRAMING PLAN**



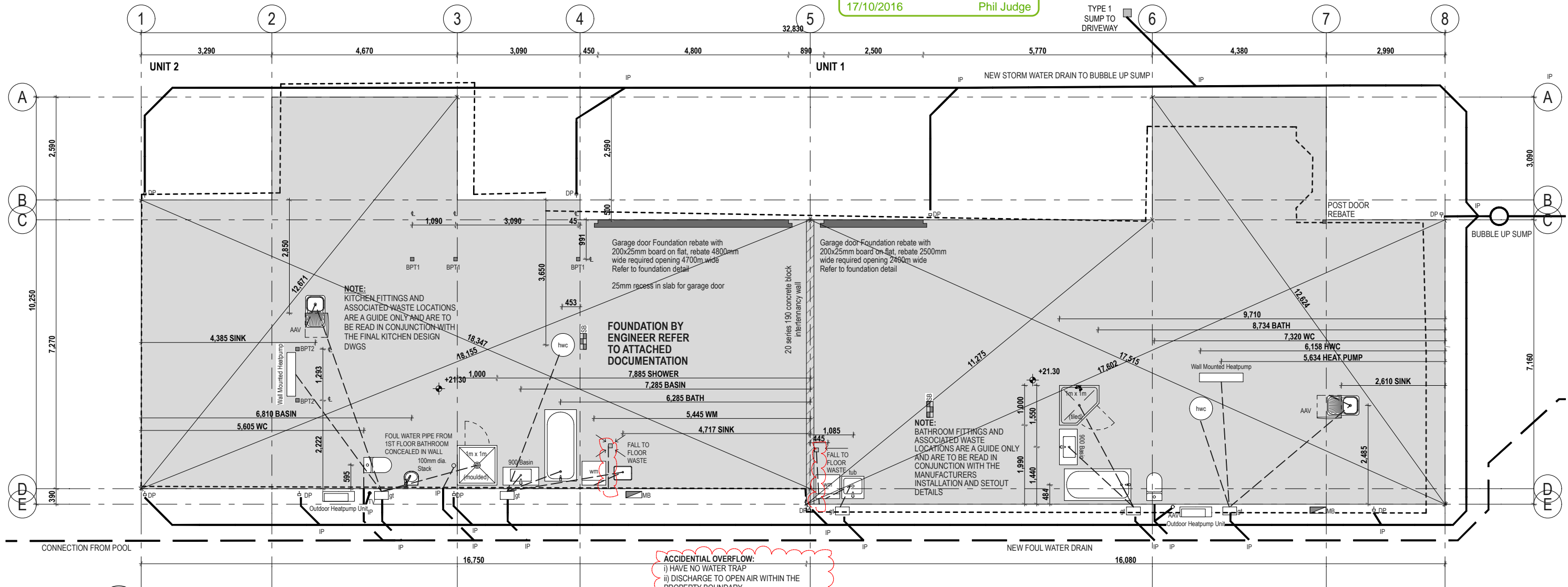
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Lot: 11 DP: 16769  
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SHEET:  
**A2.5 a**



**DRAINAGE PLAN**  
 1:100

**ACCIDENTAL OVERFLOW:**  
 i) HAVE NO WATER TRAP  
 ii) DISCHARGE TO OPEN AIR WITHIN THE PROPERTY BOUNDARY.  
 iii) DISCHARGE TO A SAFE LOCATION  
 iv) BE FITTED WITH A MEANS TO PREVENT THE ENTRY OF BIRDS AND VERMIN

**FOUNDATION NOTES:**  
 CONCRETE SHALL BE SPECIFIED BY ENGINEER.  
 LOAD BEARING WALLS: REFER TO TRUSS DESIGN FOR INTERNAL LOAD BEARING WALLS & ANY SLAB THICKENINGS UNDER THEM.  
**FOUNDATION CONSTRUCTION:**  
 FOUNDATION AND SLAB DESIGN BY ENGINEER, REFER TO ENGINEERS DRAWING AND SPECS FOR FURTHER INFO.  
**PLUMBING NOTES:**  
 PLUMBING AND DRAINAGE PLANS ARE SCHEMATIC ONLY IN LAYOUT. VERIFY ALL DIMENSIONS AND LEVELS ON SITE.  
 ALL PLUMBING AND DRAINAGE TO COMPLY WITH THE NEW ZEALAND BUILDING CODE IN PARTICULAR G12 AS1 AND G13 AS1.  
 MATERIALS; UPVC PIPE TO NZS 7641 AND AS/NZS 1260 COMPLETE WITH FITTINGS BRAND-MATCHED TO THE PIPE MANUFACTURER'S REQUIREMENTS.

**SANITARY PLUMBING:**  
 INSTALL ALL FIXTURES ACCORDING TO THE MANUFACTURERS INSTRUCTIONS.  
 CONNECT WASTE OUTLETS TO TRAPS AND RUN WASTE PIPES AND BACK VENTS CONCEALED, SIZED AND FIXED TO NZBC G13/AS1. DISCHARGE WASTES INTO THE DRAINAGE SYSTEM STACK, SOIL PIPE OR GULLY TRAP AS SHOWN.  
 CONCEAL ALL PLUMBING IN WALLS OR FLOORS. PROVIDE ACCESS PANELS WHERE REQUIRED.  
 ENSURE THAT WASTE AND VENT RUNS AVOID STRUCTURAL MEMBERS AND WHERE OTHER TIMBERS SUCH AS TOP PLACES ARE CUT STRENGTHEN THEM ACCORDINGLY WITH ADDITIONAL BLOCKING AND 40x40x1mm 600mm LONG MS (GALV) ANGLE FIXED TO PLATE AND BLOCKING.  
 TEST SOIL AND WASTE DISPOSAL SYSTEMS TO ENSURE NO LEAKAGE EXISTS AND LEAVE IN PROPER WORKING ORDER.

PIPE DIAMETER	MAXIMUM DISTANCE BETWEEN SUPPORTS	
	VERTICAL PIPE	GRADED PIPE
32Ø TO 50Ø	1000	500
60Ø TO 100Ø	1200	1000
MORE THAN 100Ø	1800	1200

**LEGEND:**  
 PLUMBING LEGEND: NZBC G13/AS1 FOUL WATER  
 SANITARY FIXTURE MIN. PIPE DIA. MIN. GRADE

BASIN (WHB)	32mm	1:20
BATH	40mm	1:40
WASHING MACHINE	40mm	1:40
DISHWASHER	40mm	1:40
KITCHEN SINK-DW	50mm	1:40
LAUNDRY TUB-WM	40mm	1:30
SHOWER (SHW)	40mm	1:40
TOILET (WC)	100mm	1:60

AAV APPROVED AIR ADMITTANCE VALVE (Type Aqualine 32-40mm Haigh AV3240)  
 ALL SINGLE FIXTURES DISCHARGING TO A GULLY TRAP WITH A DEVELOPED LENGTH GREATER THAN 3.5m TO BE VENTED WITH AN AAV IN ACCORDANCE WITH NZBC G13/AS1.

**PLUMBING NOTES:**  
 G12/AS1 - 6.14 SAFE WATER TEMPERATURES  
 6.14.1 MAXIMUM TEMPERATURES:  
 THE DELIVERED HOT WATER TEMPERATURE AT ANY SANITARY FIXTURE USED FOR PERSONAL HYGIENE SHALL NOT EXCEED:  
 a. WATER IS REQUIRED TO BE AT SAFE SKIN CONTACT TEMPERATURE (45°C) OR b. FOR ALL OTHER BUILDINGS (55°C)

**ADDITIONAL REQUIREMENTS FOR DRAINS INSTALLED UNDER BUILDINGS (REFER TO G13/AS2 5.8)**  
 5.8.1 DRAINS INSTALLED UNDER BUILDINGS SHALL BE:  
 A) STRAIGHT AND OF EVEN GRADIENT,  
 B) SEPARATED FROM THE BUILDING FOUNDATION BY AT LEAST 25mm, AND  
 C) WHEN PASSING THROUGH CONCRETE, SLEEVED OR WRAPPED IN A DURABLE AND FLEXIBLE MATERIAL TO ALLOW FOR EXPANSION AND CONTRACTION.  
 5.8.2 DRAINS PASSING BENEATH BUILDINGS WITH A CONCRETE SLAB ON THE GROUND FLOOR SHALL HAVE IN ADDITION TO PARAGRAPH A) 50mm CLEARANCE FROM THE TOP OF THE PIPE TO THE UNDERSIDE OF THE SLAB, AND B) JUNCTIONS BENEATH THE BUILDING JOINING AT AN ANGLE OF NOT MORE THAN 45° (SEE FIGURE 13).  
 DRAINS LOCATED UNDER BUILDINGS MUST MEET THE DURABILITY PERFORMANCE REQUIREMENT OF B2.3.1 (A), THAT IS THE LIFE OF THE BUILDING BEING NOT LESS THAN 50 YEARS.

**PLUMBING NOTES:**  
 OPEN VENTS TO TERMINATE 150mm ABOVE ROOFS AND OR 600mm ABOVE EAVES AND PARAPETS.  
 HWC RELIEF VALVE DRAIN - COPPER PIPE IN ACCORDANCE WITH NZBC G12/AS1 6.7.2  
 GULLY TRAPS SHALL BE POSITIONED SO THAT THE TOP OF THE GULLY TRAP DISH IS NO LESS THAN 150mm BELOW THE OVERFLOW LEVEL OF THE LOWEST SANITARY FIXTURE SERVED BY THE DRAINAGE SYSTEM.  
 NZBC G12/AS1 - PIPES FROM HOT WATER CYLINDER TO FIXTURES ARE TO COMPLY WITH TABLE 4.1.E KITCHEN SINK, MAINS PRESSURE = 15mm  
 INSULATE ALL HOT WATER PIPES TO NZBC H1/AS1 ENERGY EFFICIENCY, AS/ NZS 3500.5.3.11.7 INSULATION OF PIPING AND TO THE INSULATION MANUFACTURERS INSTRUCTIONS CUT INSULATIONS TIGHT BETWEEN TIMBER FRAMING.

ALLOW FOR ELECTRICAL CONDUIT AND COLD AND HOT WATER CONNECTIONS TO THE KITCHEN ISLAND BENCH TO COMPLY WITH B2/AS1 CL.1.2.1 - 50 YEARS DURABILITY. ALL JOINTS ARE TO BE KEPT UP TO A MINIMUM IT IS PREFERABLE TO HAVE NO JOINTS BENEATH CONCRETE SLAB.  
 HOT WATER PIPING TO BE:  
 - PEX PIPING.  
 - FUSION THERM PIPING  
 - COPPER PIPING.  
 - A SERVICE CHANNEL WITH REMOVABLE TOP UNDER THE PROPOSED FLOORING.  
 - A DRAINED CONDUIT - SHOWS LEAKAGE AS A VISIBLE DISCHARGE AT THE FOUNDATION EDGE.  
 - PVC SLEEVE FOR PIPE.

ONE OVERFLOW RELIEF GULLY SHALL BE PROVIDED AND SHALL:  
 A) BE POSITIONED SO THAT THE TOP OF THE GULLY DISH IS NO LESS THAN 150 MM BELOW THE OVERFLOW LEVEL OF THE LOWEST SANITARY FIXTURE SERVED BY THE DRAINAGE SYSTEM,  
 B) HAVE A GRATING THAT WILL ALLOW SURCHARGE,  
 C) BE LOCATED IN A VISIBLE POSITION, AND  
 D) BE INSTALLED SO THAT SURCHARGE CANNOT ENTER INTO OR UNDER BUILDINGS.

**LEGEND**

NEW LEVEL: NOTE: (NEW RL) DETERMINED FROM EXISTING LEVELS PROVIDED BY CLIENT, CONFIRM ON SITE.

NEW 100mm dia UPVC FOUL WATER LINE (MIN 1:100 FALL)

NEW 100mm dia STORM WATER UPVC LINE (MIN 1:120 FALL)

SELECTED GULLY TRAP. INSTALL IN ACCORDANCE WITH NZBC G13/AS2 CLAUSE 3.3  
 GULLY TRAPS 1 100mm MIN ABOVE FGL

INSPECTION JUNCTIONS

INSPECTION BEND

MAIN DRAIN VENT 80Ø

SELECTED 75x50mm DP

SWITCH BOARD

METER BOARD

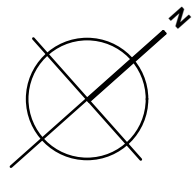
FFL + 225mm

ISSUE DATE:	VERSION:
30/03/16	02
8/04/16	03
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**JOB TITLE:**  
 HOON HAY ROAD  
 DEVELOPMENT

**DRAWING TITLE:**  
 DRAINAGE PLAN



**LEGAL DESCRIPTION:**  
 Lot: 11 DP: 16769

**SITE ADDRESS:**  
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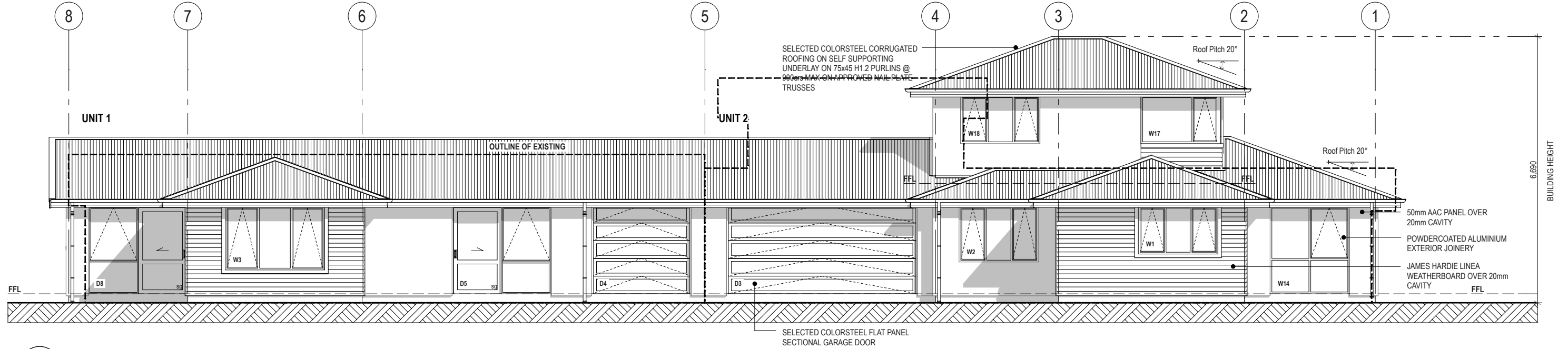
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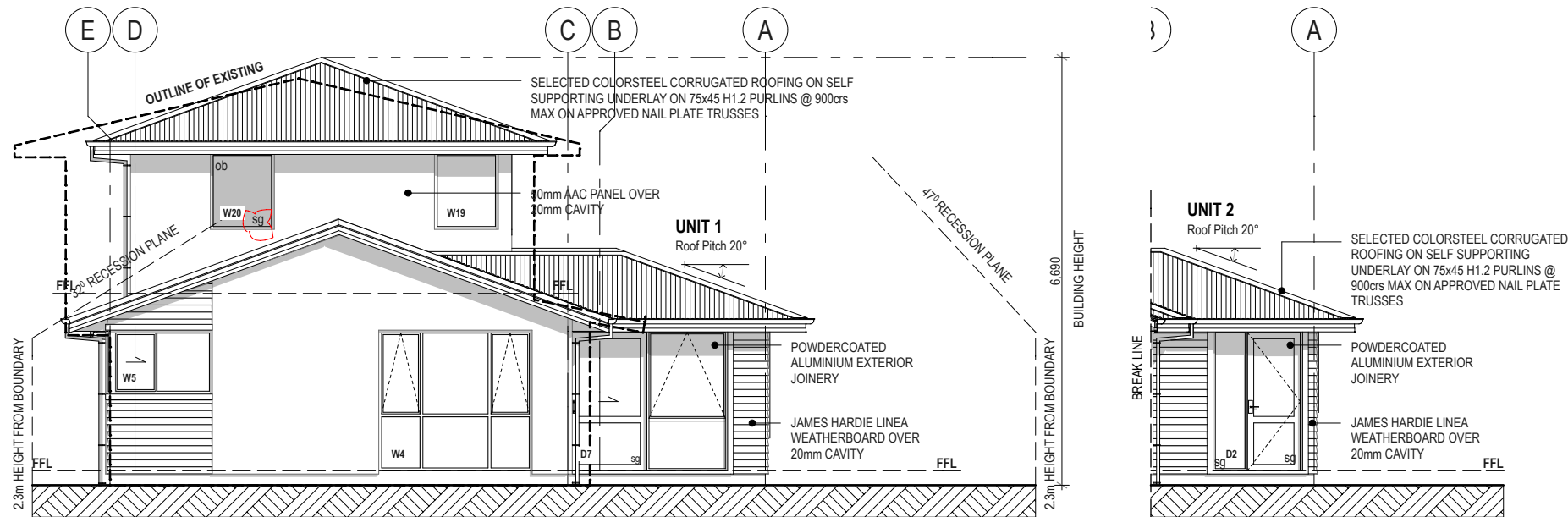
**SHEET:**  
 A2.6 a

BUILDING ENVELOPE RISK MATRIX		
North Elevation		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Medium risk	1
Roof/wall intersection design	Very high risk	5
Eaves width	Medium risk	1
Envelope complexity	Medium risk	1
Deck design	Low risk	0
<b>Total Risk Score:</b>		<b>9</b>



**NORTH ELEVATION**  
 1:100

BUILDING ENVELOPE RISK MATRIX		
East Elevation		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Medium risk	1
Roof/wall intersection design	Very high risk	5
Eaves width	Medium risk	1
Envelope complexity	Medium risk	1
Deck design	Low risk	0
<b>Total Risk Score:</b>		<b>9</b>



**EAST ELEVATION**  
 1:100

**EAST ELEVATION**  
 1:100

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8/04/16	03
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**JOB TITLE:**  
 HOON HAY ROAD  
 DEVELOPMENT

**DRAWING TITLE:**  
 EXTERIOR  
 ELEVATIONS

**LEGAL DESCRIPTION:**  
 Lot: 11 DP: 16769  
**SITE ADDRESS:**  
 132 HOON HAY ROAD  
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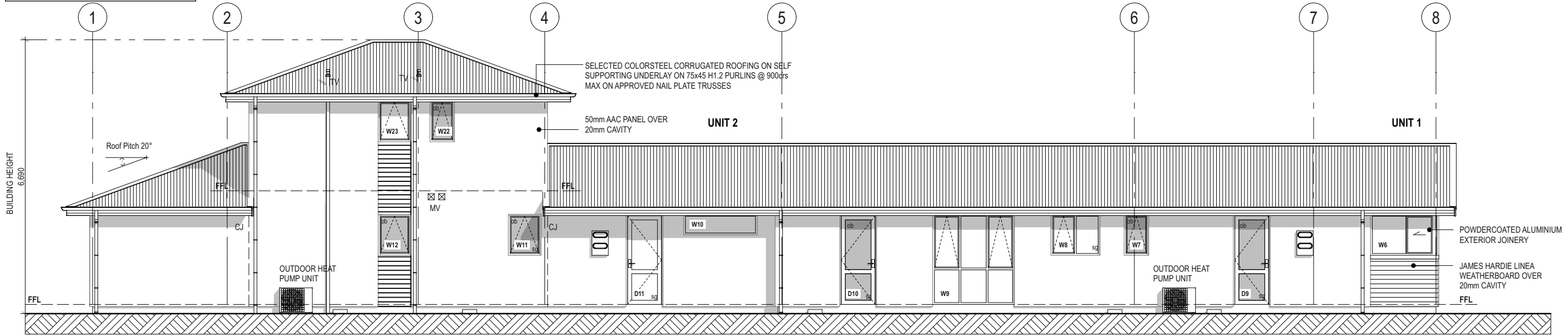
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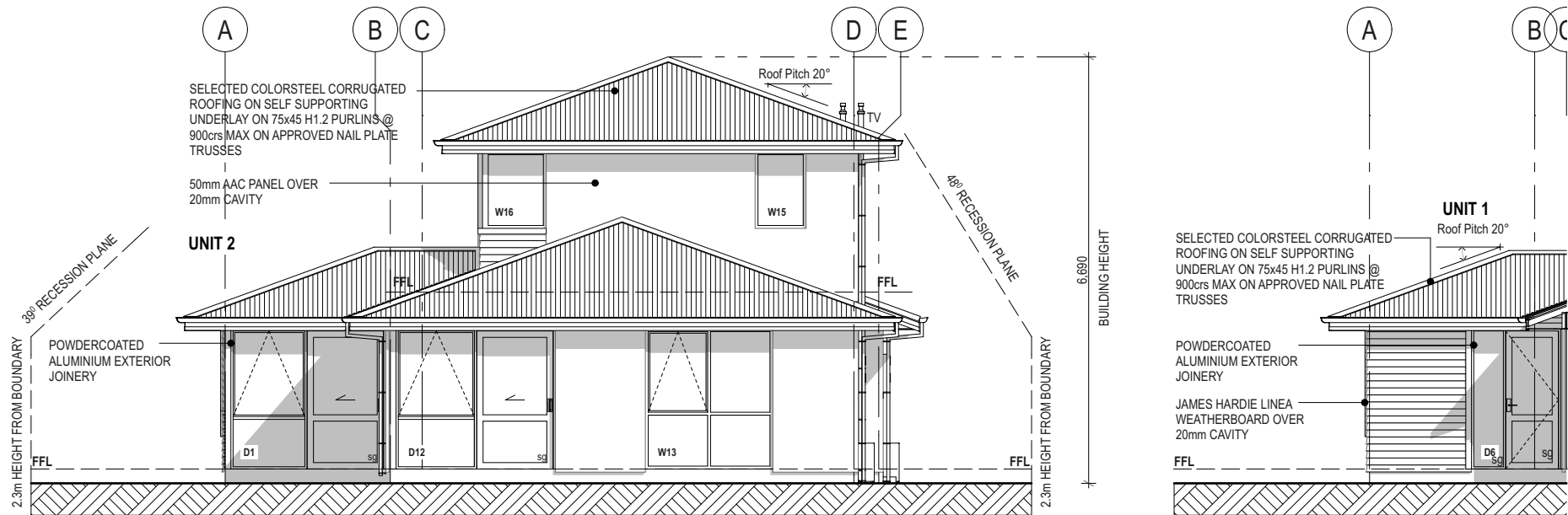
**SHEET:**  
 A3.1 a

BUILDING ENVELOPE RISK MATRIX		
South Elevation		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Medium risk	1
Roof/wall intersection design	Very high risk	5
Eaves width	Medium risk	1
Envelope complexity	Medium risk	1
Deck design	Low risk	0
<b>Total Risk Score:</b>		<b>9</b>



**SOUTH ELEVATION**  
1:100

BUILDING ENVELOPE RISK MATRIX		
West Elevation		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Medium risk	1
Roof/wall intersection design	Very high risk	5
Eaves width	Medium risk	1
Envelope complexity	Medium risk	1
Deck design	Low risk	0
<b>Total Risk Score:</b>		<b>9</b>



**WEST ELEVATION**  
1:100

**a WEST ELEVATION**  
1:100

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15/06/16	04



**JOB TITLE:**  
HOON HAY ROAD  
DEVELOPMENT

**DRAWING TITLE:**  
EXTERIOR  
ELEVATIONS

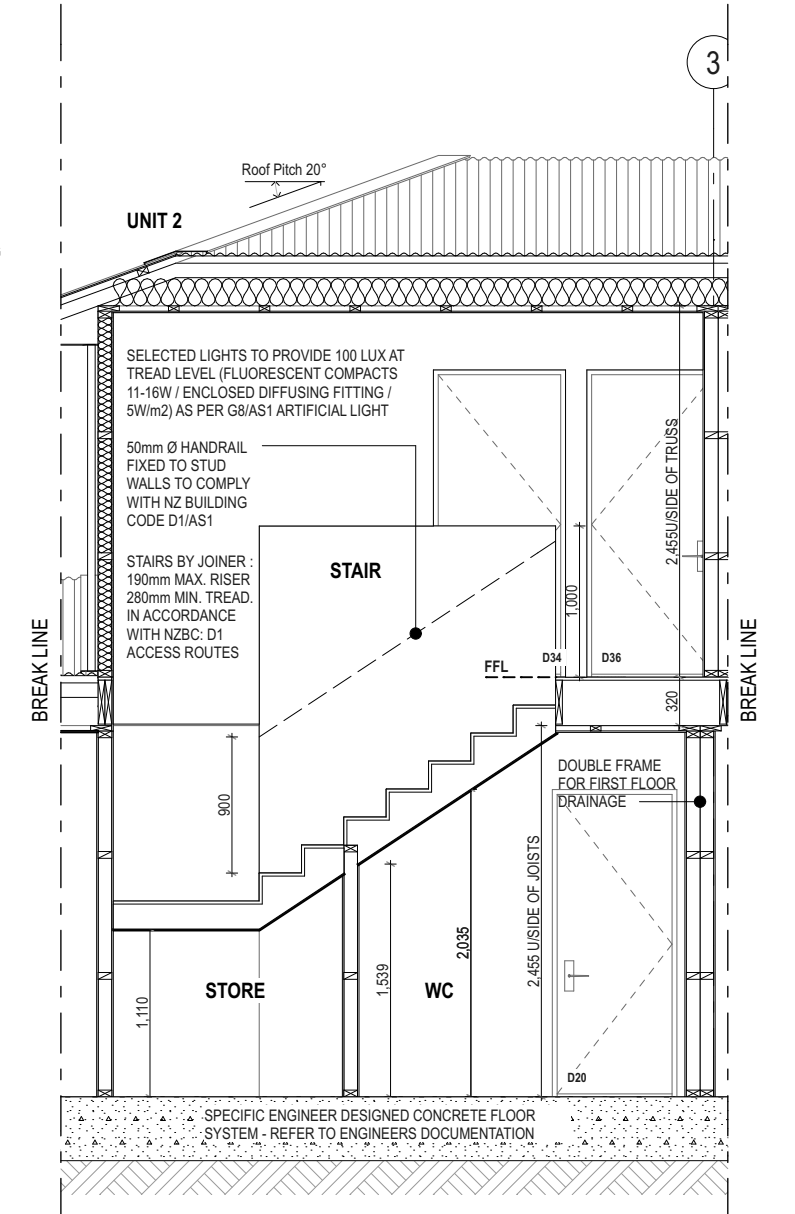
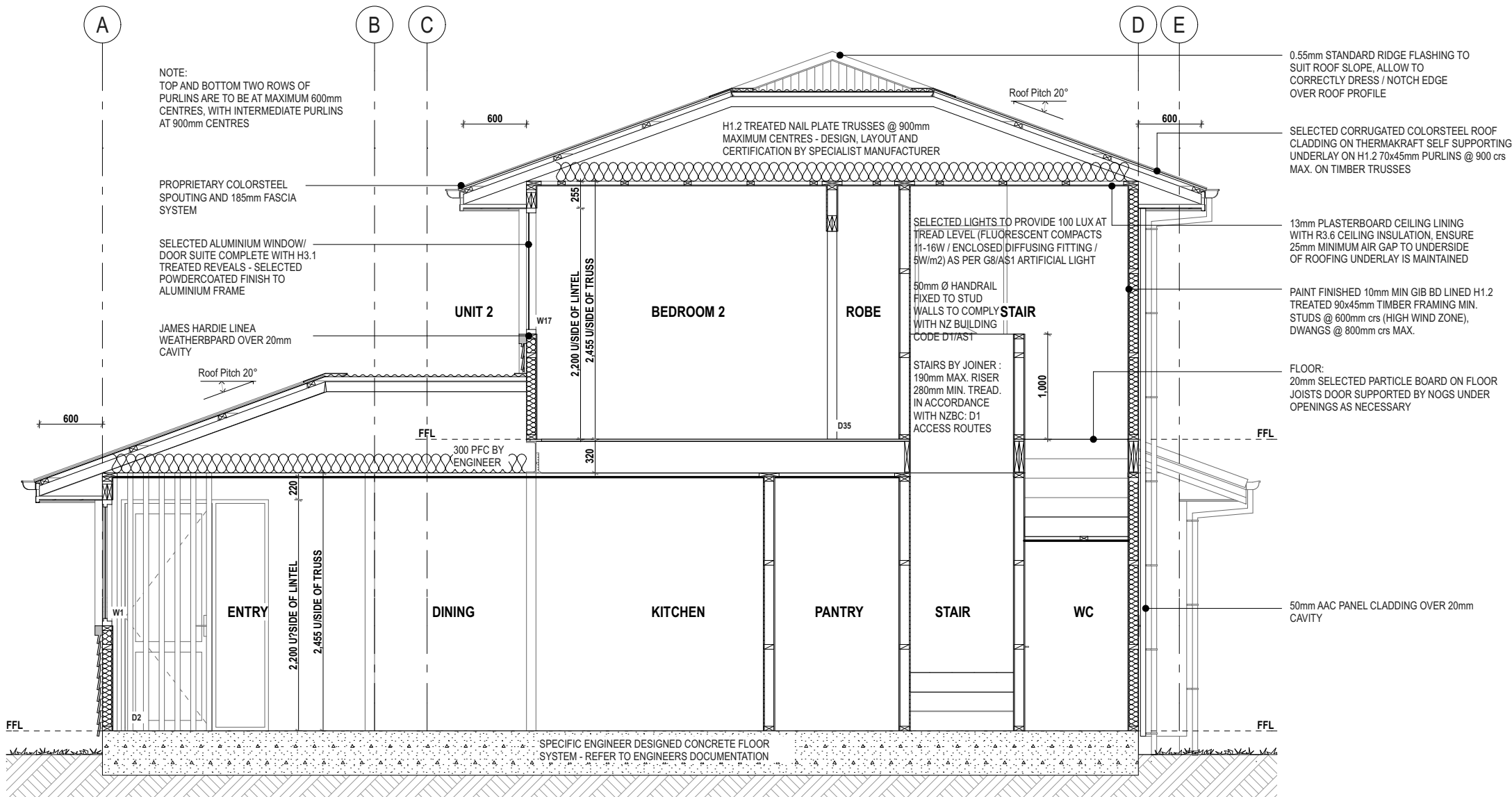
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**SHEET:**  
**A3.2**



**GENERAL NOTES 1**

NOTE: INSTALL ALL PROPRIETARY PRODUCTS IN ACCORDANCE WITH THEIR MANUFACTURERS INSTRUCTIONS, UNLESS SPECIFIED OTHERWISE.

REFER ALSO TO ARCHITECTURAL SPECIFICATION.

**ROOF CLADDING:**  
SELECTED 20° PITCH CORRUGATED COLORSTEEL ROOFING WITH OVERHANG/ SOFFIT OVER THERMAKRAFT 215 SELF-SUPPORTING UNDERLAY ON 70x45mm H1.2 PURLINS @ 900mm crs MAX ON APPROVED NAIL PLATE TRUSSES @ 900mm crs MAX (FIRST PURLIN FROM FASCIA @ 600mm crs). THERMAKRAFT WATERGATE FOR AIR BARRIERS AND TO GABLES.

**INSULATION:**  
R3.6 FIBREGLASS CEILING INSULATION TO ROOF SPACE THROUGH OUT  
R2.6 FIBREGLASS WALL INSULATION TO EXTERIOR WALLS.

**SOFFITS:**  
PAINTED FINISHED PVC JOINTED 4.5mm MIN FIBRE CEMENT SHEET SOFFIT.

**EXTERIOR CLADDING:**  
- 50mm AAC PANEL CLADDING ON 20mm CAVITY SYSTEM ON TIMBER FRAMED WALL  
- JAMES HARDIE LINEA WEATHERBOARD WALL CLADDING ON 20mm CAVITY SYSTEM ON TIMBER FRAMED WALL

**WINDOW JOINERY:**  
SELECTED POWDERCOATED ALUMINIUM FRAMED WINDOWS (SELECTED SERIES)

**DOORS:**  
ENTRY DOOR; SELECTED PAINT FINISHED SOLID CORE DOOR IN ALUMINIUM FRAME.  
ALL OTHERS TO BE POWDER COATED ALUMINIUM FRAMED DOOR JOINERY (SELECTED SERIES).

**CEILING LINING:**  
PAINT FINISHED SELECTED 13mm GIB BD CEILING LINING TO SELECTED BATTEN CEILING SYSTEM. NOTE: MIN REQUIREMENTS 70x35mm TIMBER BATTENS @ 600mm crs MAX.

**WALL STRUCTURE & INTERIOR LINING:**  
PAINT FINISHED 10mm MIN GIB BD LINED H1.2 TREATED 90x45mm TIMBER FRAMING MIN. STUDS @ 600mm crs (HIGH WIND ZONE), DWANGS @ 800mm crs MAX, STUDS @ 400mm crs (HIGH WIND ZONE), DWANGS @ 800mm crs MAX.

NOTE: SELECTED WALL FINISH OVER 10mm GIB BD AQUALINE OVER FRAMED WALLS AND H1.2 TIMBER BOTTOM PLATES TO WET AREAS (BATHROOM, LAUNDRY, KITCHEN) CONTRACTOR TO CONFIRM FINISH WITH CLIENT.

**SLAB CONSTRUCTION:**  
FOUNDATION AND SLAB DESIGN BY ENGINEER, REFER TO ENGINEERS DRAWING AND SPECS FOR FURTHER INFO.

**GLAZING:**  
NOTE: ALL WINDOWS SHALL BE CONSTRUCTED IN ACCORDANCE WITH NZS 4211 TO SUIT LOCATION. ALL GLAZING SHALL BE TO NZS 4223 PT.3, HUMAN IMPACT SAFETY REQUIREMENTS (ie GRADE A SAFETY GLAZING MATERIAL TO BATHROOM WINDOWS AND FULL HEIGHT GLAZING).

-A GRADE SAFETY GLASS TO ALL DOORS WITHOUT TRANSOMS  
-WANZ SUPPORT BAR TO ALL DOORS AND WINDOWS

**Christchurch City Council** Page 11 of 43  
BCN/2016/5889  
Approved Building Consent Plan  
17/10/2016 Phil Judge

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30/03/16	02
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**JOB TITLE:**  
HOON HAY ROAD DEVELOPMENT

**DRAWING TITLE:**  
SECTION 1 & 2

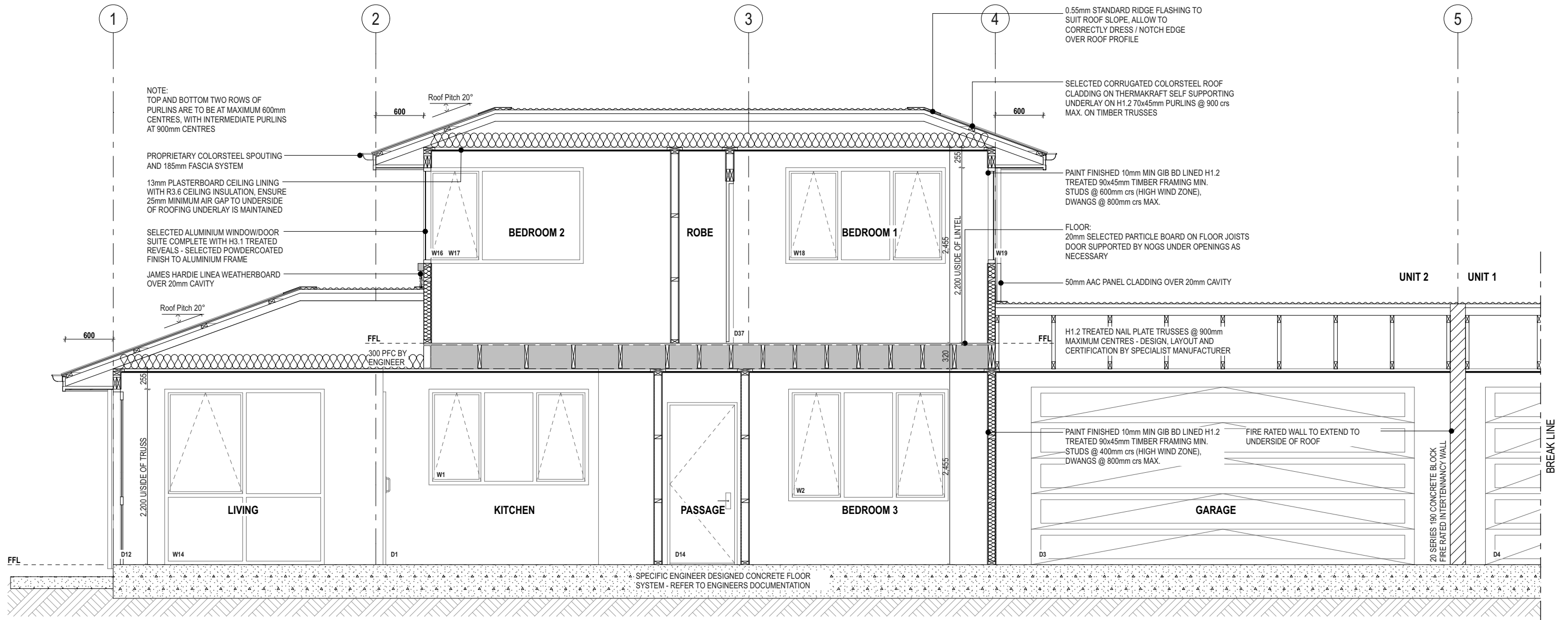
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132 HOON HAY ROAD  
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A4.1



**CROSS SECTION 3**  
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**Christchurch City Council**  Page 12 of 43  
**BCN/2016/5889**  
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**JOB TITLE:**  
HOON HAY ROAD DEVELOPMENT

**DRAWING TITLE:**  
SECTION 3

**LEGAL DESCRIPTION:**  
Lot: 11 DP: 16769  
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30/03/16	02
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15/06/16	04



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15/06/16	04




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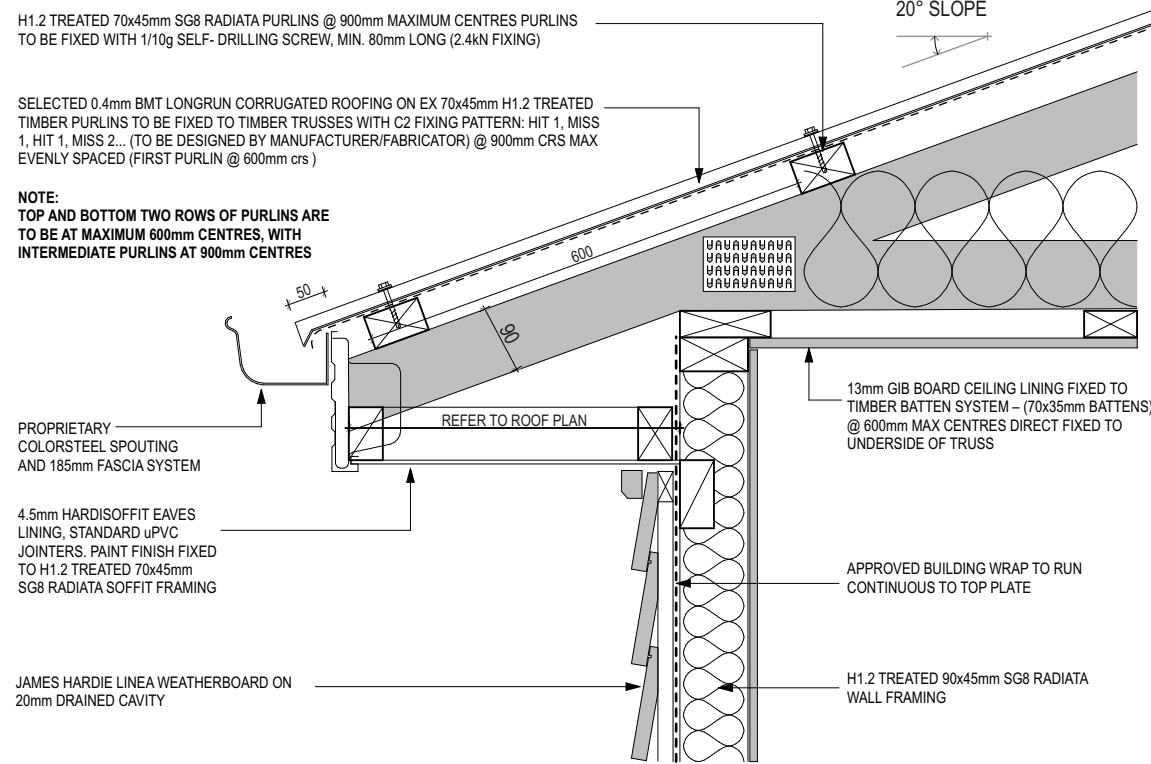
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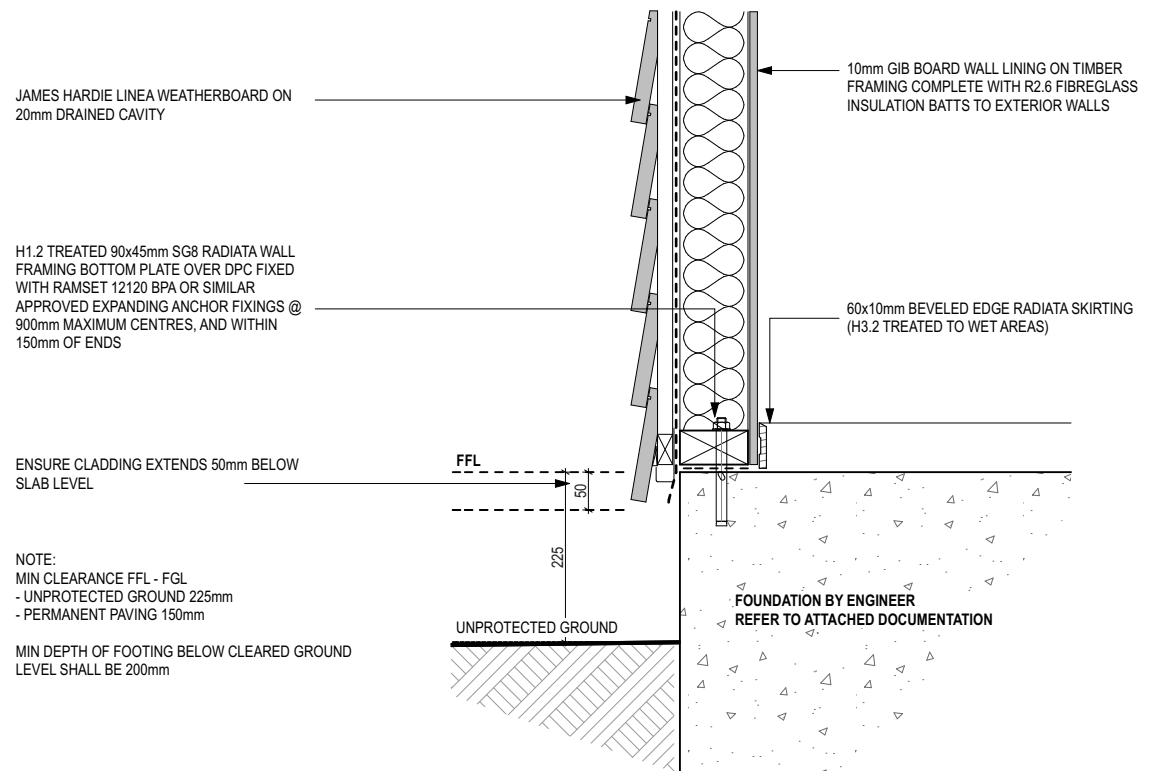
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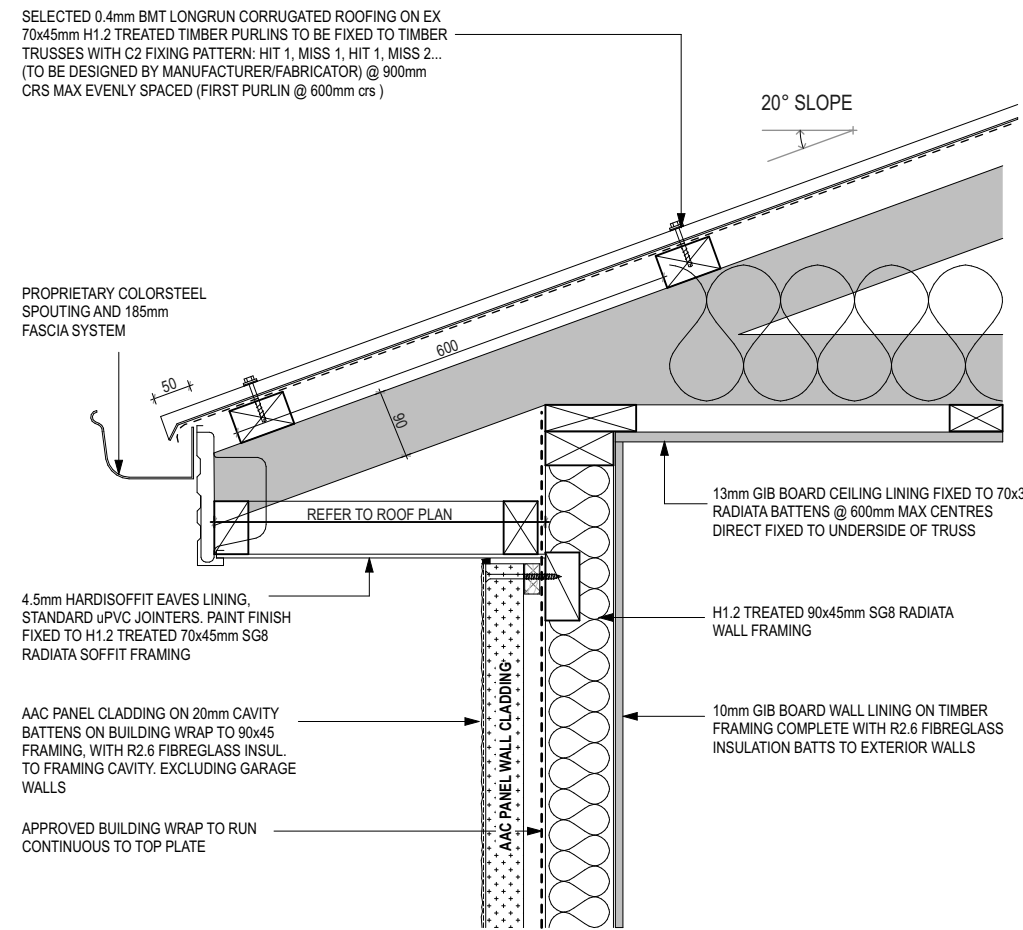
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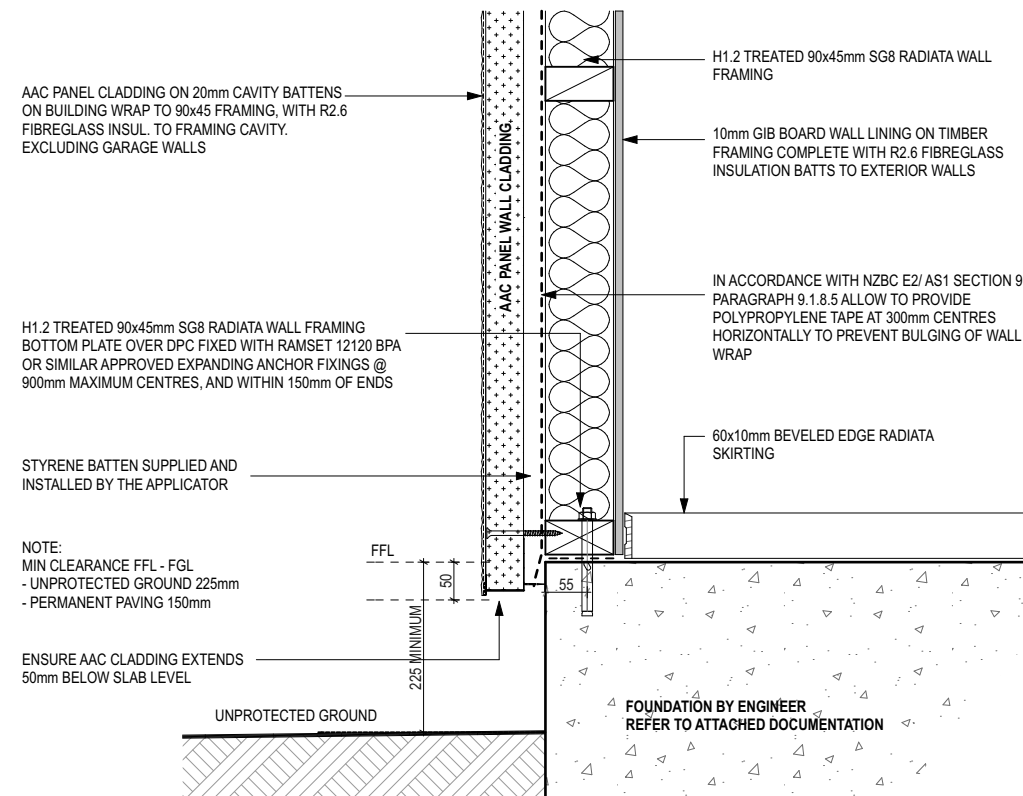
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 LINEA WEATHERBOARD SOFFIT DETAIL  
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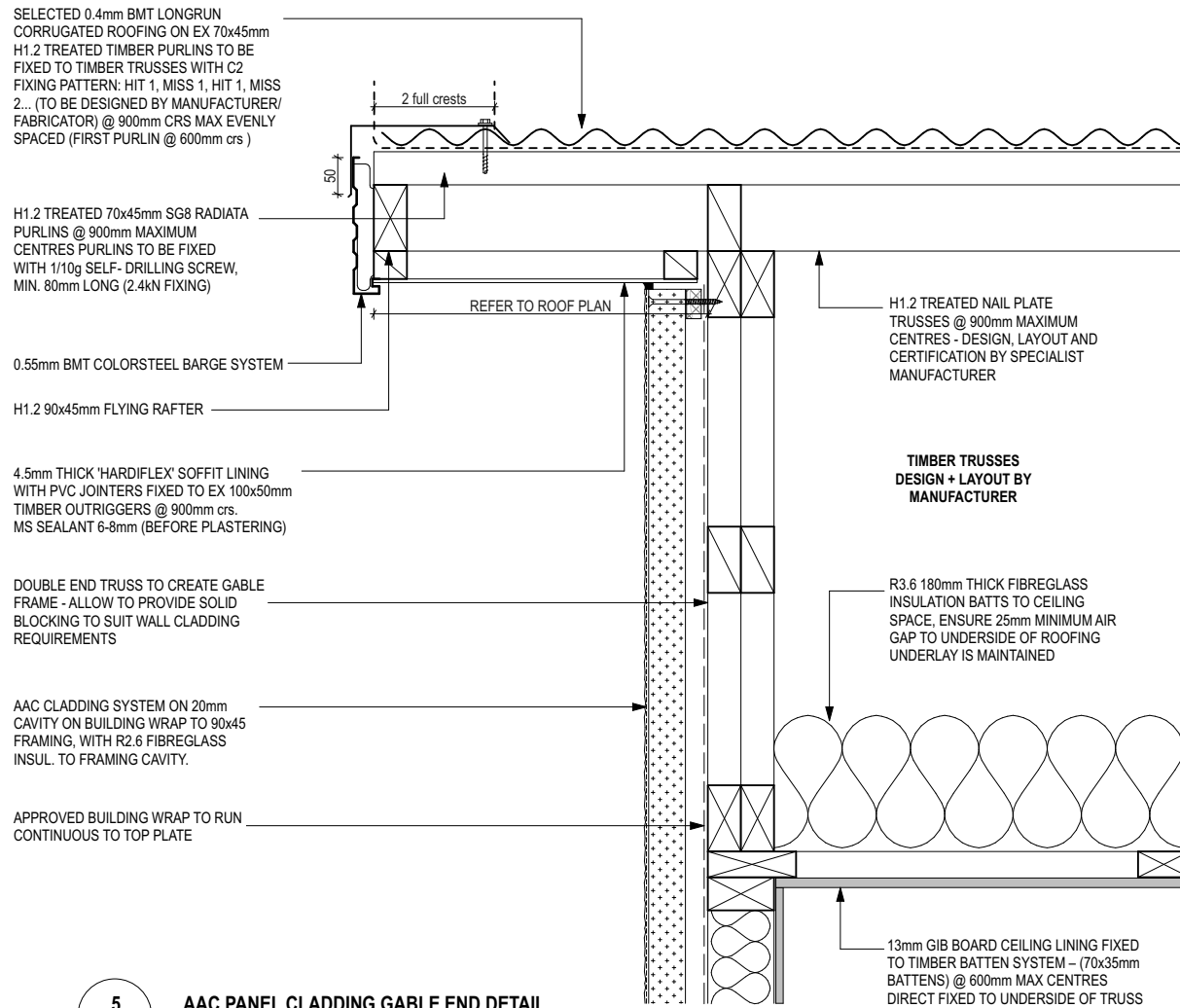
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 LINEA WEATHERBOARD FOUNDATION DETAIL  
 scale 1:10



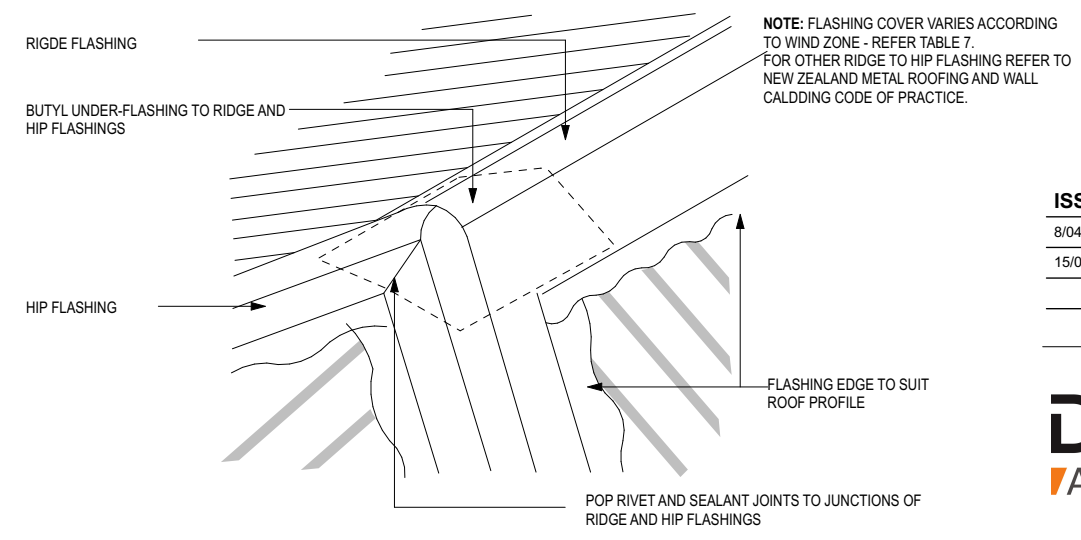
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 AAC PANEL CLADDING SOFFIT DETAIL  
 scale 1:10



**4**  
 AAC PANEL CLADDING FOUNDATION DETAIL  
 scale 1:10



**5 AAC PANEL CLADDING GABLE END DETAIL**  
scale 1:10



**7 RIDGE TO HIP FLASHINGS - PARAGRAPHS 8.4.11 AND 8.4.12**  
scale N.T.S



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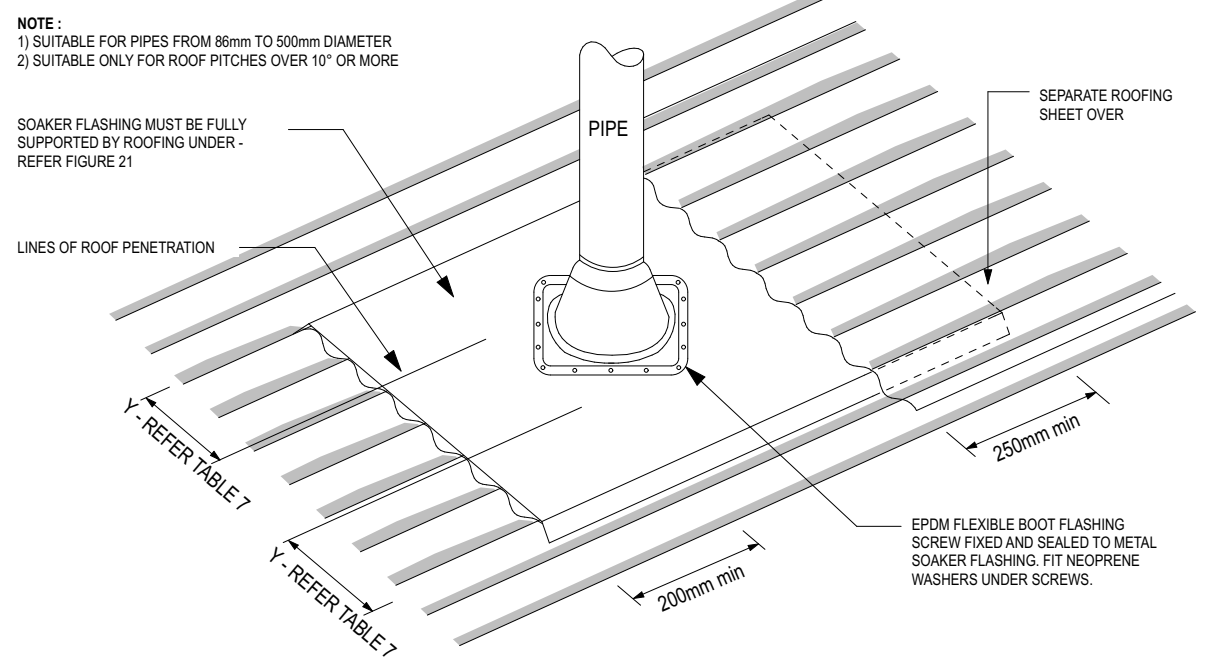
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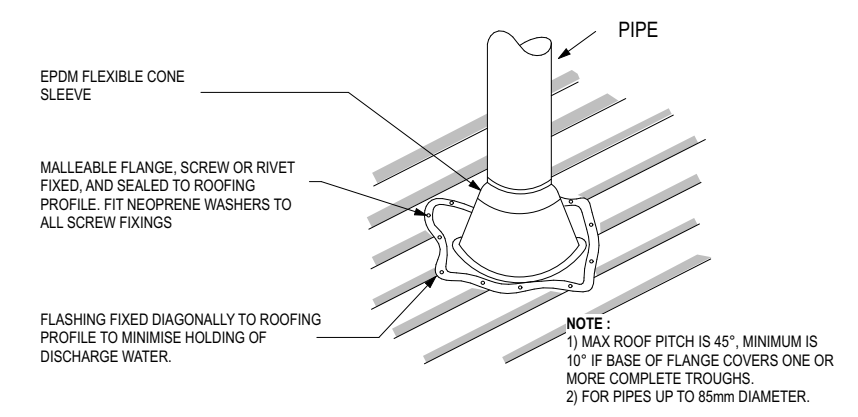
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**6 SOAKER FLASHING FOR PIPE PENETRATION**  
scale N.T.S



**8 SMALL PIPE PENETRATION ROOF DETAIL - PARAGRAPHS 8.3.10, 8.4.17, 9.6.8.5 AND 9.6.9.6**  
scale N.T.S



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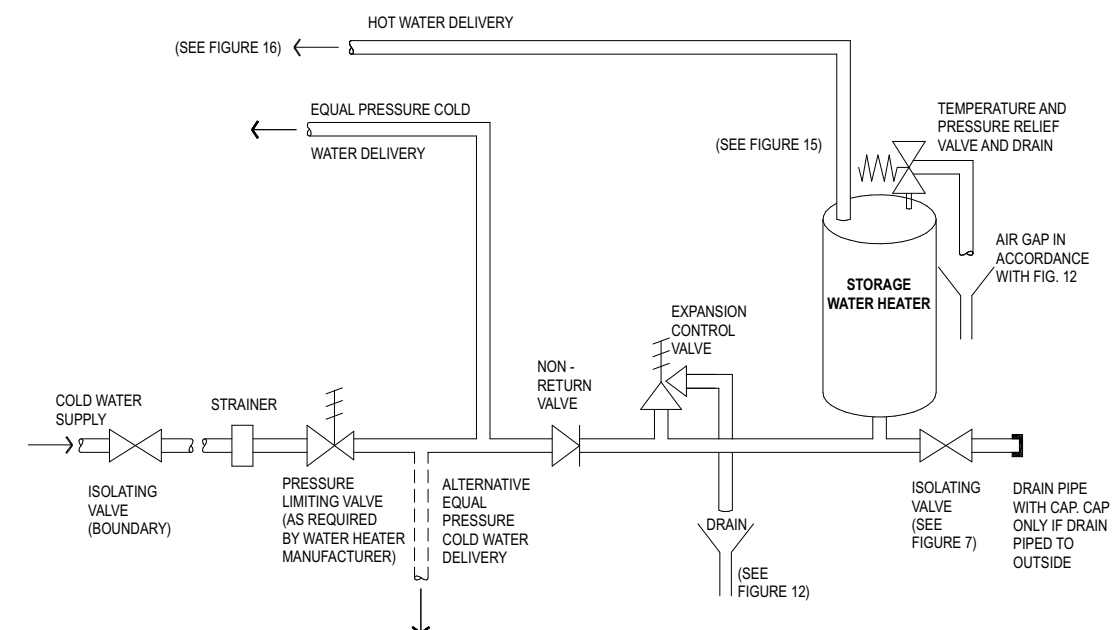
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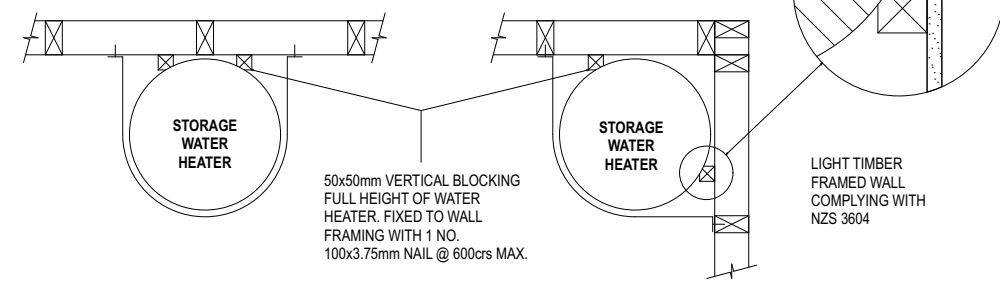
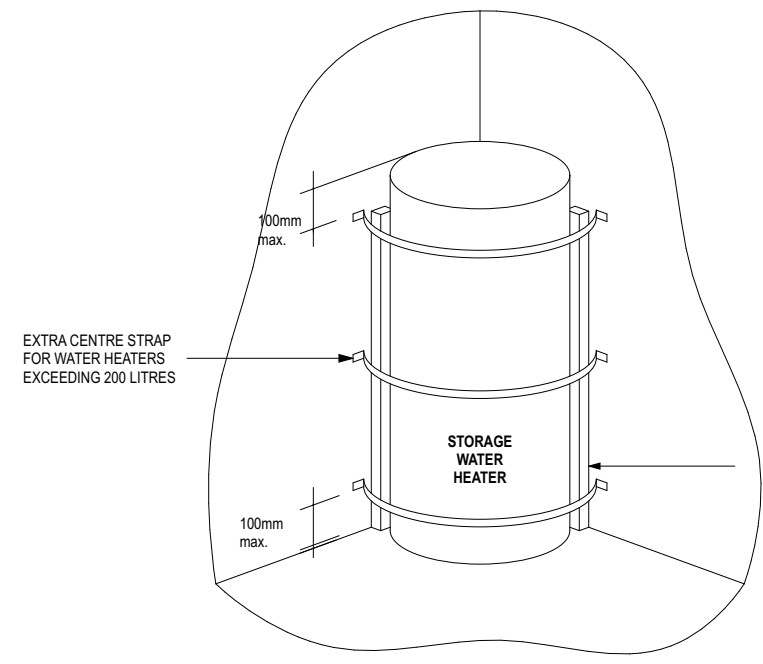
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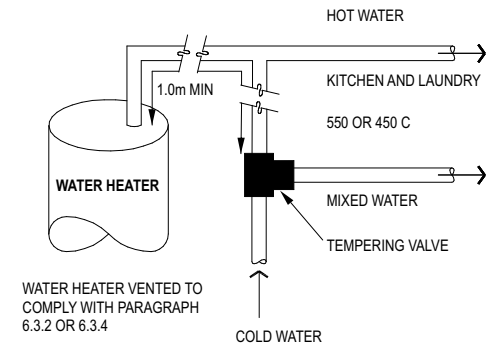


**9**  
**FIGURE 9: VENTED WATER WATER HEATER SYSTEM (TEMPERATURE AND PRESSURE RELIEF VALVE) - PARAGRAPH 6.1.2 & 6.2.1 (B)**  
 scale N.T.S

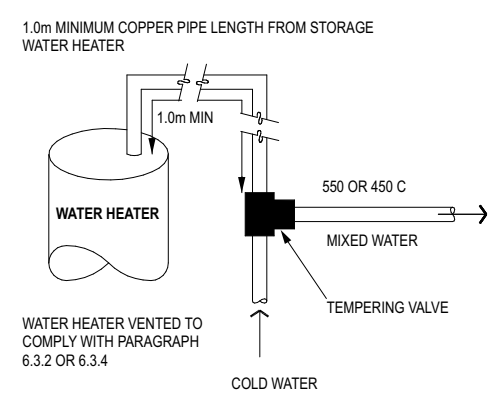


**10**  
**FIGURE 14: SEISMIC RESTRAINT OF STORAGE WATER HEATERS 90 - 360 LITRES - PARAGRAPH 6.11.4**  
 scale 1:10

**FIGURE 16: TEMPERING VALVE INSTALLATION. PARAGRAPH 6.14.2a**



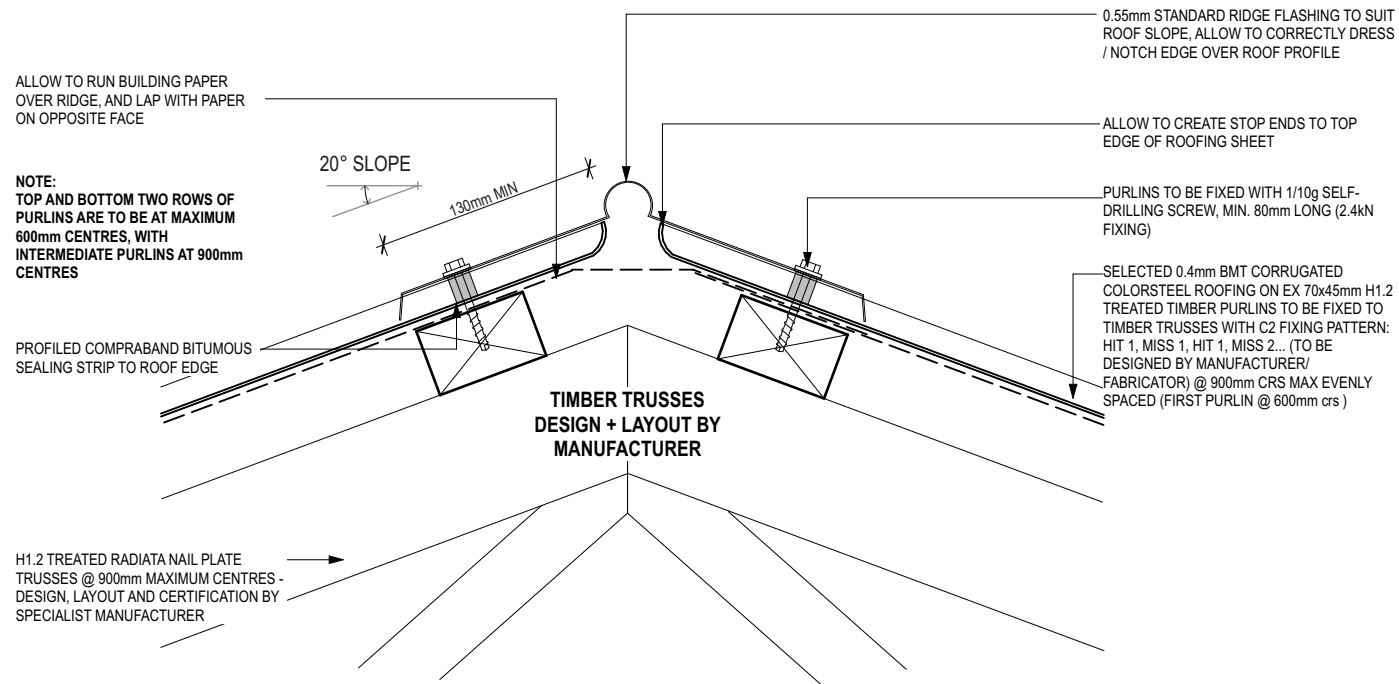
**A) WITH UNTEMPERED WATER TO LAUNDRY AND KITCHEN FIXTURES AND APPLIANCES**



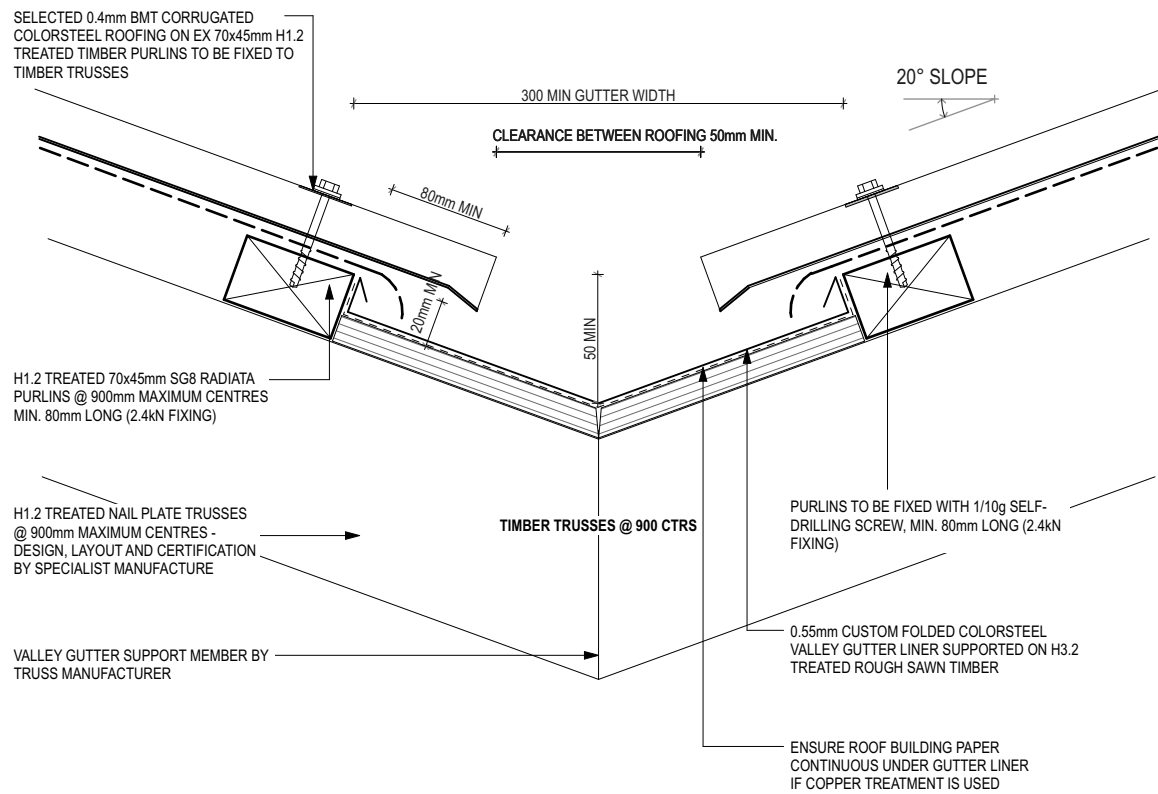
**B) WHERE ALL HOT WATER IS TEMPERED**

**NOTE:**  
 1. FOR OPTIMUM SYSTEM EFFICIENCY THE TEMPERING VALVE, FOR OTHER THAN A MAINS PRESSURE SYSTEM, MAY BE LOCATED AS LOW AS PRACTICABLE TO ACHIEVE THE MANUFACTURER'S RECOMMENDED HEAD, AT THE TEMPERING VALVE.  
 2. 1.0m MINIMUM COPPER PIPE LENGTH FROM STORAGE WATER HEATER.

STORAGE WATER HEATER TO BE RESTRAINED WITH 25x1mm GALV. STEEL STRAPS TENSIONED WHEN FIXED IN PLACE. STRAPS TO BE FIXED TO WALL FRAMING WITH:  
 - 1 NO. 8mm COACH SCREW WITH 30x2mm THICK WASHER. OR  
 - 2 NO. 20x2.5mm THICK WASHERS. SCREWS TO PENETRATE TIMBER FRAMING A MAXIMUM OF 50mm.

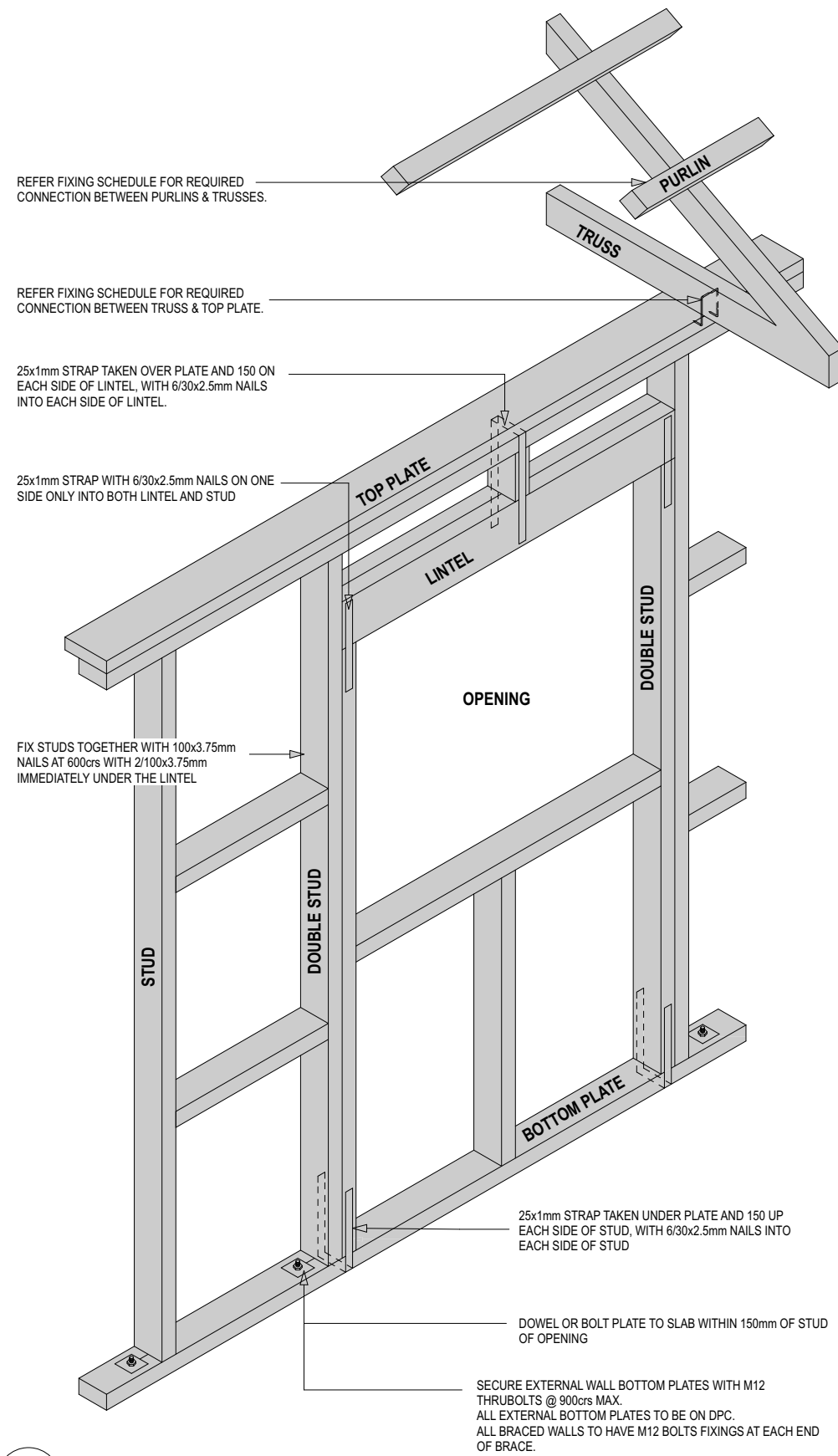


11 TYPICAL RIDGE DETAIL  
scale 1:5



12 TYPICAL VALLEY DETAIL  
scale 1:5

Christchurch City Council Page 16 of 43  
 BCN/2016/5889  
 Approved Building Consent Plan  
 17/10/2016 Phil Judge



13 TYPICAL FIXING DETAIL  
scale 1:5

**FIXINGS SCHEDULE**  
**WIND ZONE HIGH**  
**PURLINS TO TRUSSES**  
 70x45 PURLINS @ 900mm crs. MAX SPANNING 900mm IN A HIGH WIND ZONE; - 1/10g SELF DRILLING SCREW, 80mm LONG  
**TRUSSES TO TOP PLATES**  
 LIGHT ROOF, TRUSSES @ 900mm crs. IN A HIGH WIND ZONE; TRUSS LOAD SPAN UP TO 5m; - 2/90x3.75 SKEWED NAILS + 2 WIRE DOGS  
**TOP PLATE TO STUD FIXING**  
 LIGHT ROOF, TRUSSES @ 900mm crs. IN A HIGH WIND ZONE; TRUSS LOAD SPAN UP TO 5m; - 2/90x3.75 END NAILS + 2 WIRE DOGS  
**BOTTOM PLATE TO SLAB**  
 WALL FRAMING BOTTOM PLATES SHALL BE FIXED TO THE SLAB OR FOUNDATION WALL WITH M12 THRU-BOLT ANCHORS @ 900mm crs. MAX. (AND 150mm FROM CORNERS)  
**BRACING**  
 PLEASE NOTE ADDITIONAL BOLT/STRAPS FIXINGS MAY BE REQUIRED BY THE SPECIFIED BRACING, CONFIRM ALL BRACED PANEL FIXINGS WITH THE MANUFACTURERS INSTRUCTIONS.



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**HOON HAY ROAD DEVELOPMENT**

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 LOT: 11 DP: 16769  
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**SHEET:**  
**A5.4**



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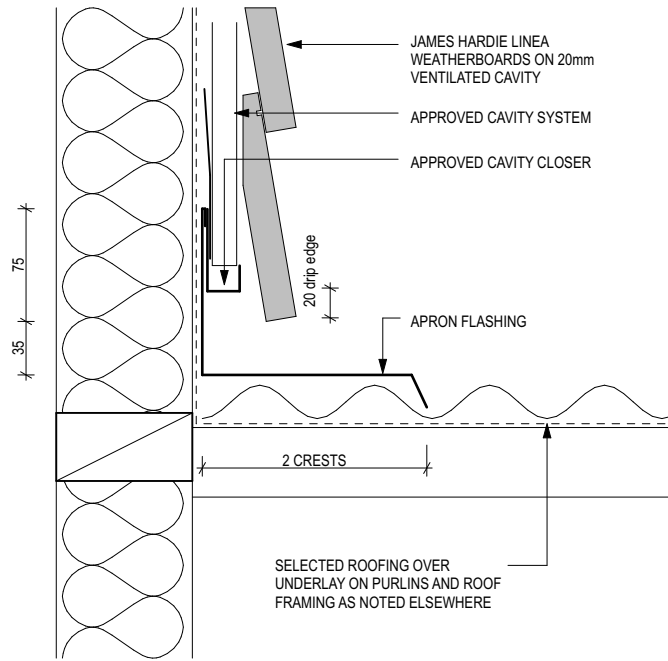
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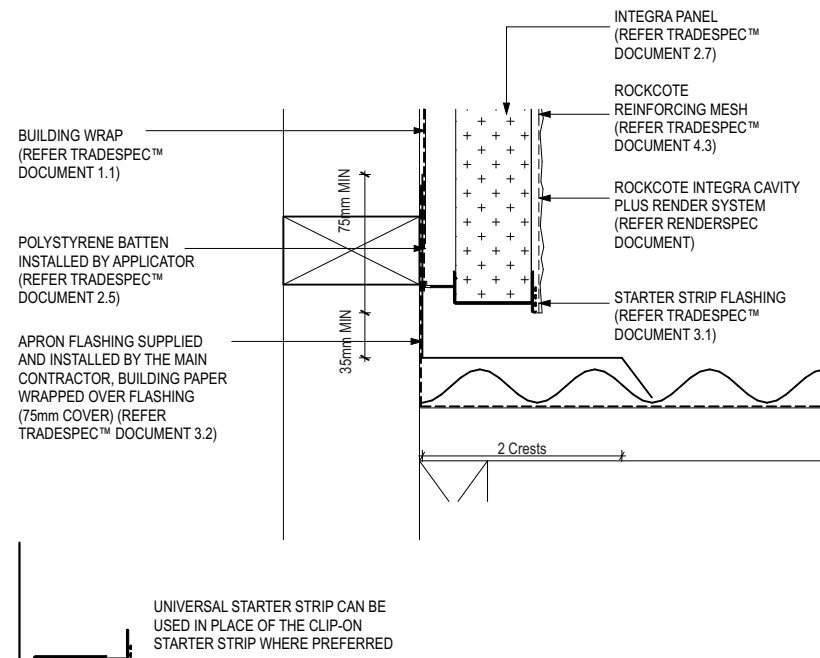
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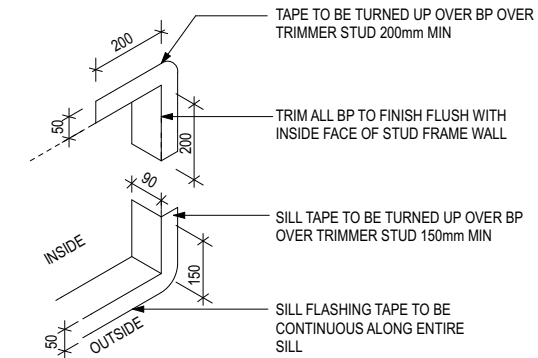
**14** TYPICAL ROOF APRON LINEA DETAIL  
 scale 1:5



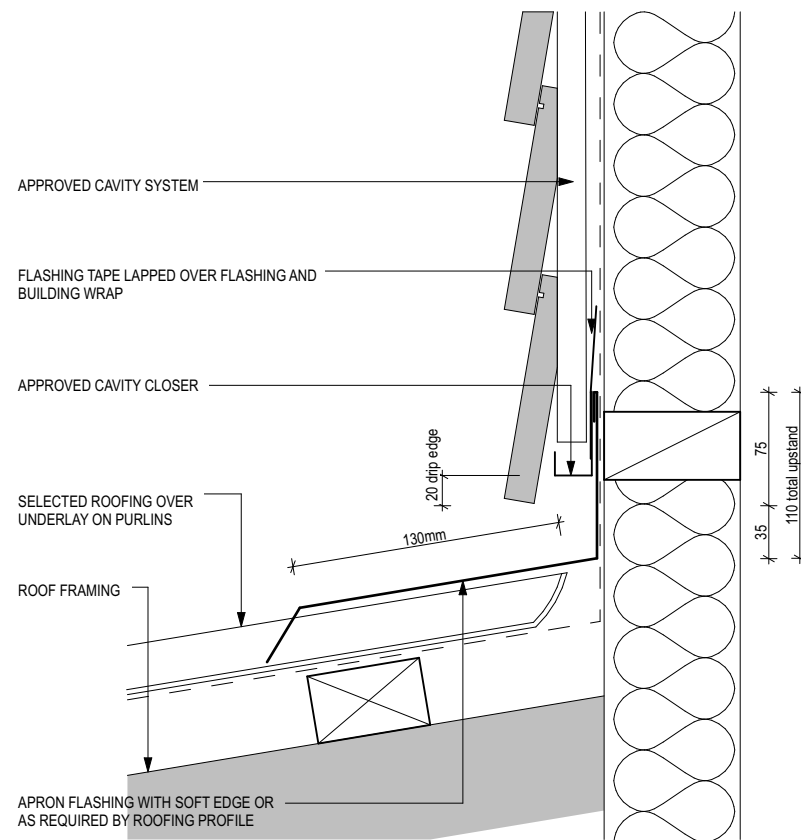
UNIVERSAL STARTER STRIP CAN BE USED IN PLACE OF THE CLIP-ON STARTER STRIP WHERE PREFERRED  
 REFER ROCKCOTE TRADESPEC™ DOCUMENT 1.2 FOR INFORMATION ON ROOF CLEARANCES

METAL FLASHING MUST BE TAPED TO THE BUILDING WRAP BY THE MAIN CONTRACTOR/WINDOW INSTALLER

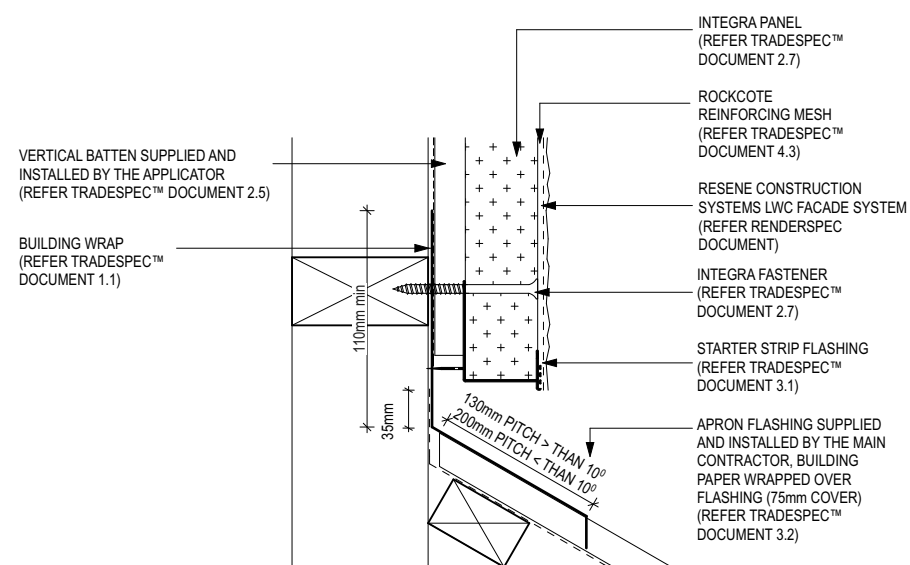
**16** TYPICAL ROCKCOTE INTEGRA / PARALLEL APRON FLASHING DETAIL  
 scale 1:5



**18** TYPICAL SILL TAPE FLASHING DETAIL  
 scale 1:5



**15** TYPICAL ROOF ABUTMENT LINEA DETAIL  
 scale 1:5

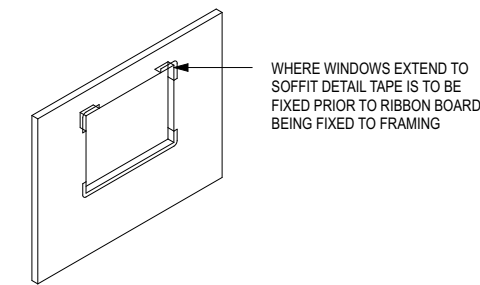


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**17** TYPICAL ROOF APRON DETAIL  
 scale 1:5



**19** TYPICAL DETAIL TAPE LOCATION TO WINDOW OPENING  
 scale 1:5



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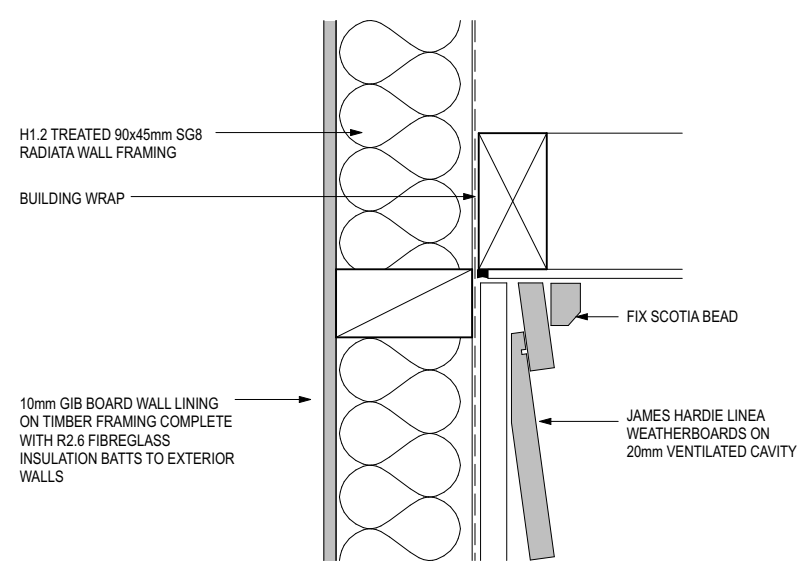
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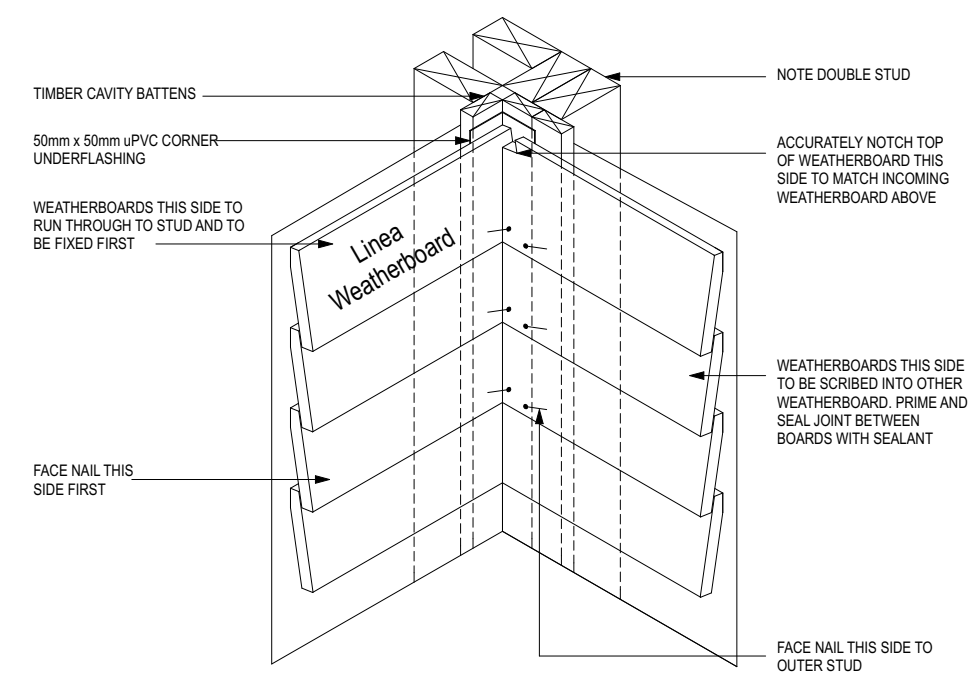
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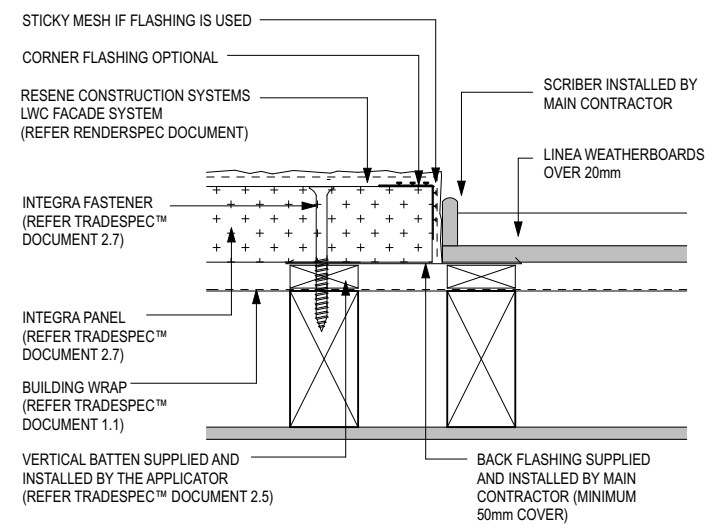
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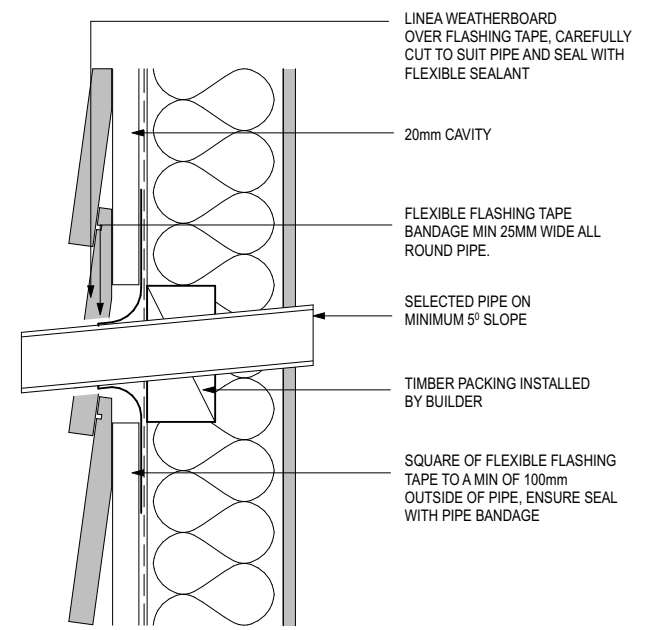
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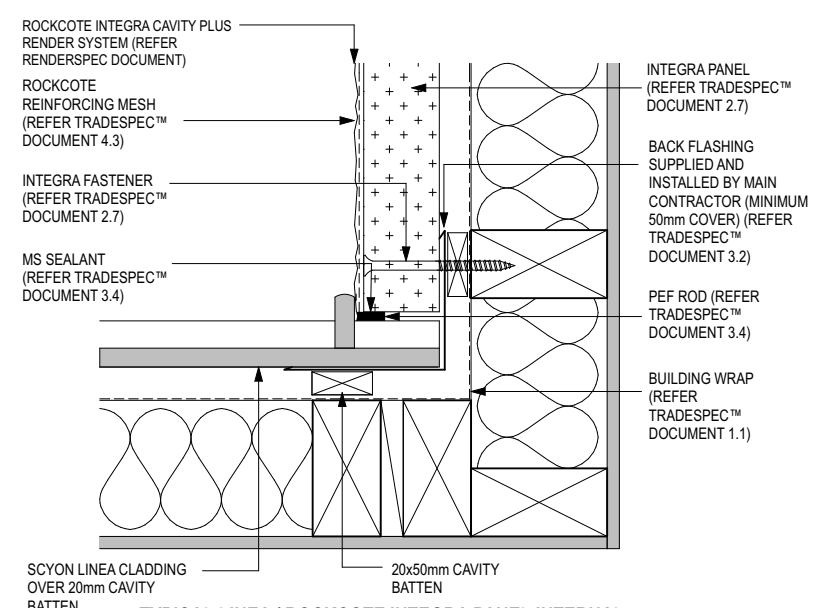
**22**  
**LINEA WEATHERBOARD INTERNAL CORNER DETAIL**  
 scale 1:5



**23**  
**TYPICAL AAC VERTICAL JOINT - WEATHERBOARDS DETAIL**  
 scale 1:5



**21**  
**LINEA WEATHERBOARD PIPE PENETRATION DETAIL**  
 scale 1:5



**24**  
**TYPICAL LINEA / ROCKCOTE INTEGRA PANEL INTERNAL CORNER DETAIL**  
 scale 1:5



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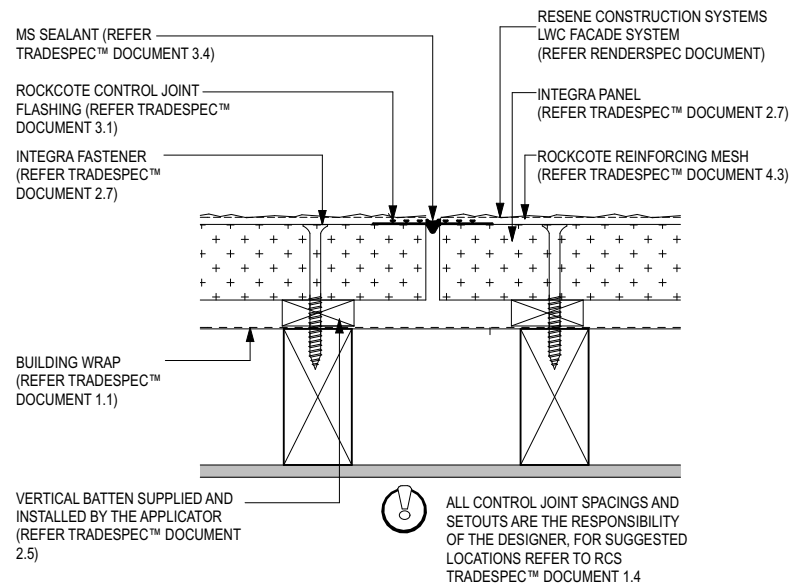
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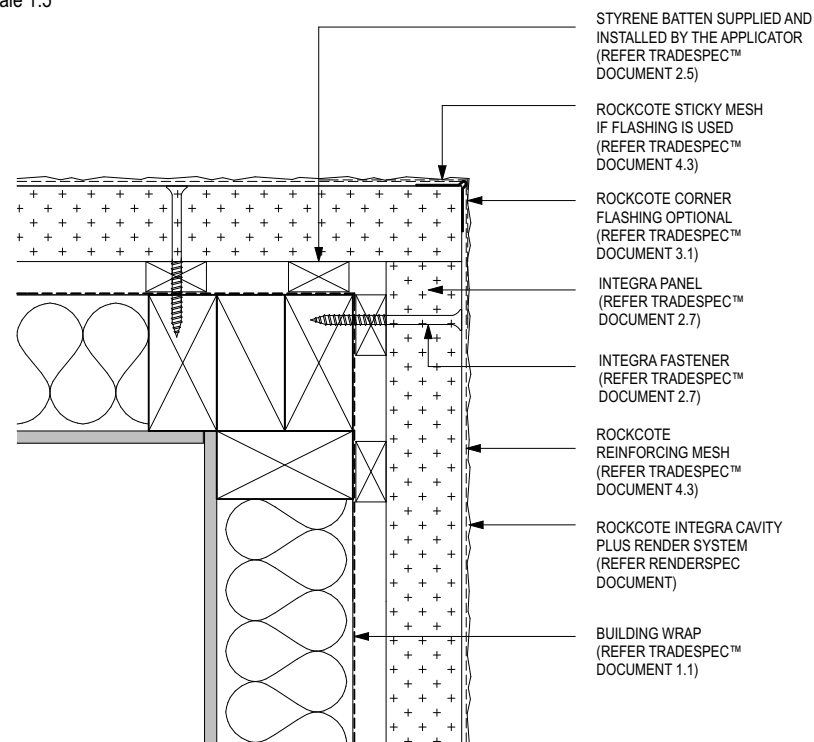
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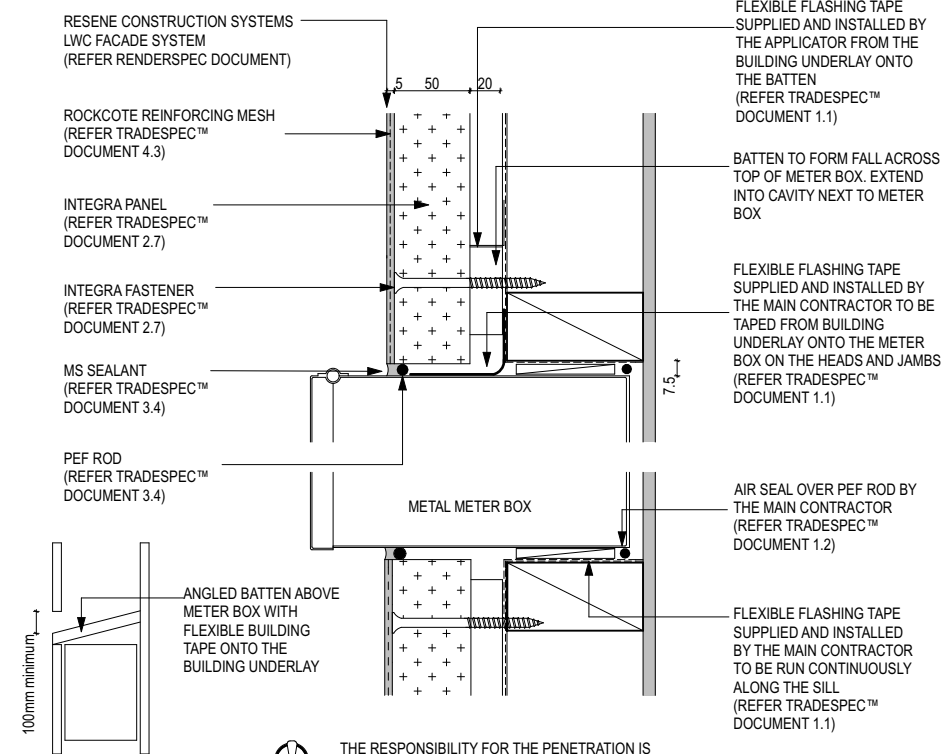
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**TYPICAL VERTICAL CONTROL JOINT DETAIL**  
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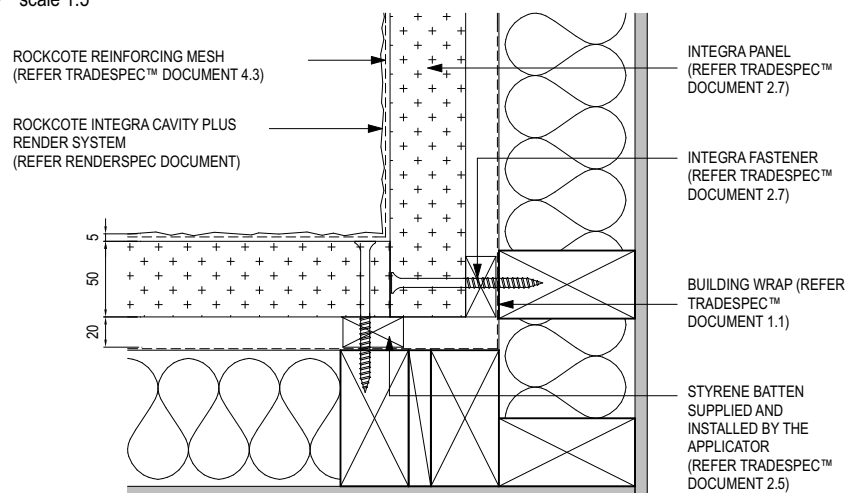


**28**  
**TYPICAL ROCKCOTE INTEGRA METER BOX DETAIL**  
 scale 1:5



**29**  
**TYPICAL ROCKCOTE INTEGRA CLADDING PIPE PENETRATION DETAIL**  
 scale 1:5

**26**  
**TYPICAL ROCKCOTE INTEGRA CAVITY EXTERNAL CORNER DETAIL**  
 scale 1:5



**27**  
**TYPICAL ROCKCOTE INTEGRA CAVITY INTERNAL CORNER DETAIL**  
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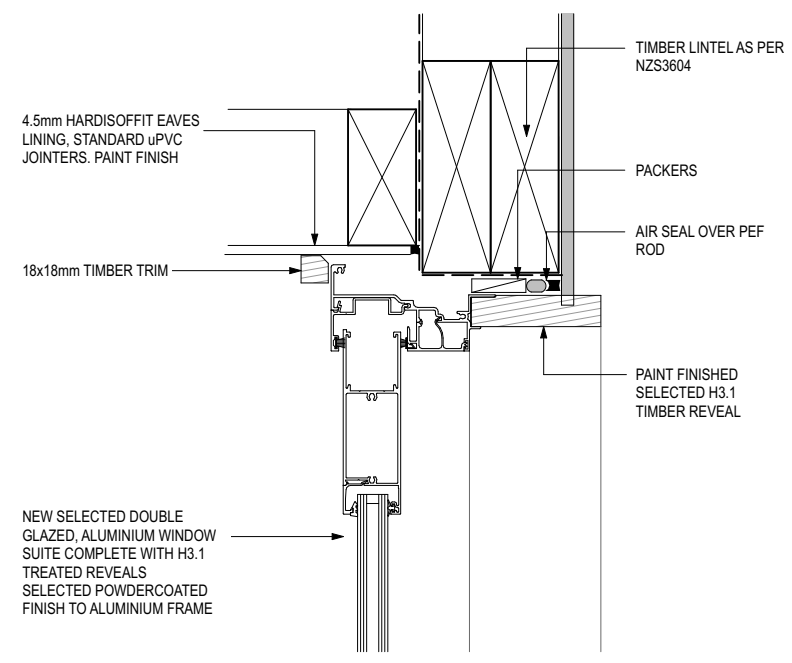
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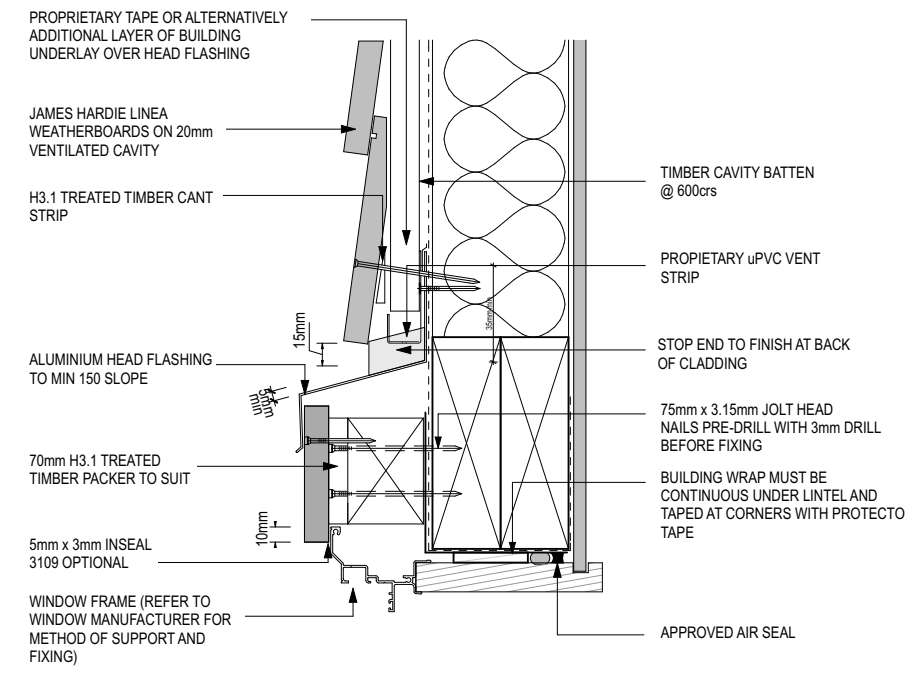
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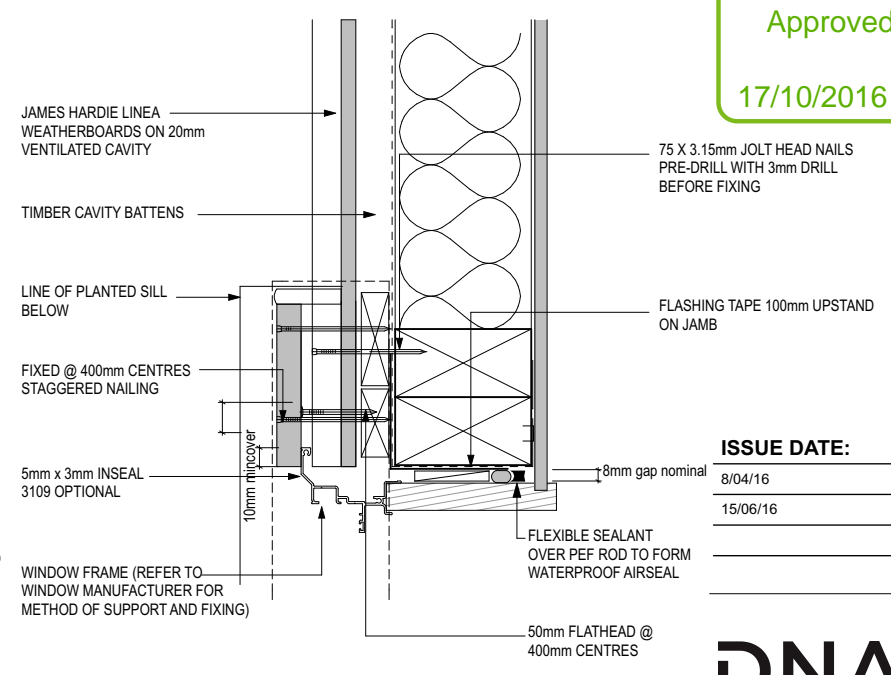
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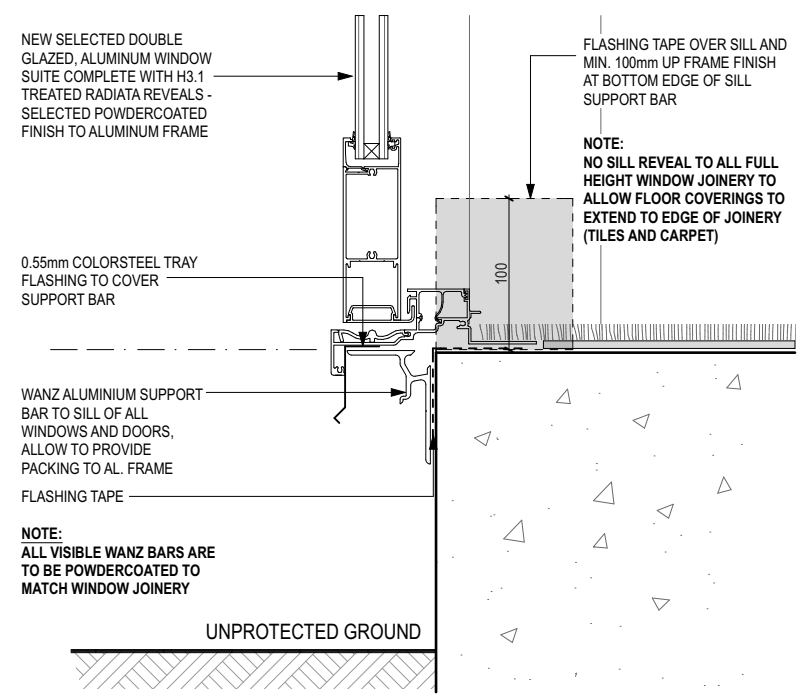
**30** TYPICAL DOOR HEAD DETAIL  
 scale 1:5



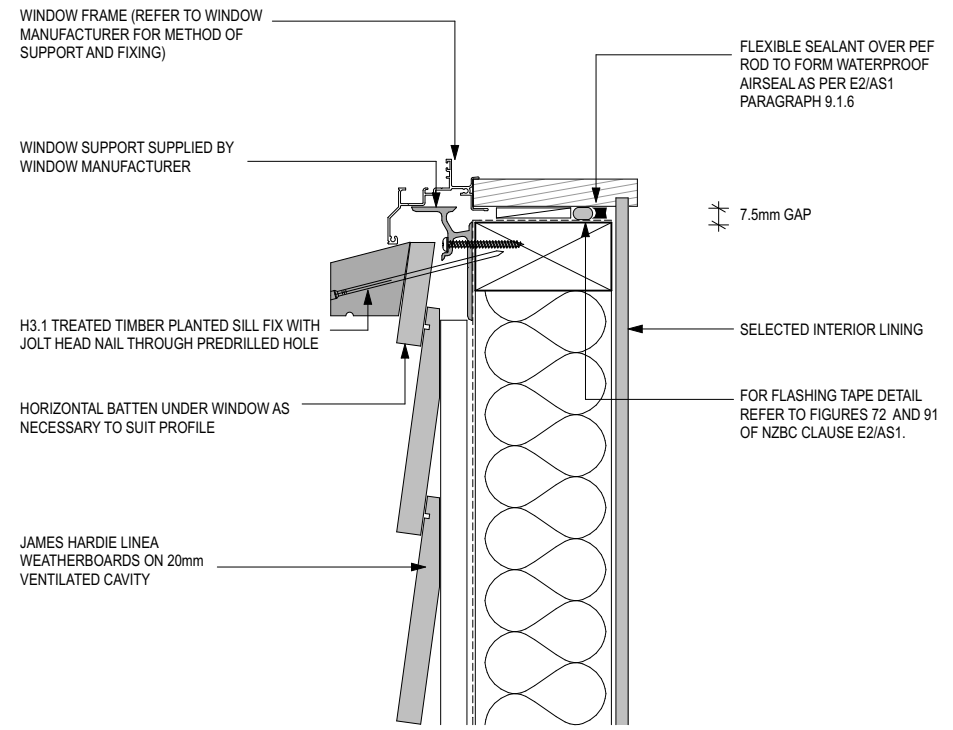
**32** TYPICAL WINDOW HEAD DETAIL WITH FACINGS  
 scale 1:5



**34** TYPICAL WINDOW JAMB DETAIL  
 scale 1:5



**31** TYPICAL DOOR SILL DETAIL  
 scale 1:5



**33** TYPICAL WINDOW SILL DETAIL  
 scale 1:5



ISSUE DATE:	VERSION:
8/04/16	03
15/06/16	04



**JOB TITLE:**  
**HOON HAY ROAD DEVELOPMENT**

**DRAWING TITLE:**  
**CONSTRUCTION DETAILS**

**LEGAL DESCRIPTION:**

LOT: 11 DP: 16769

**SITE ADDRESS:**

132 HOON HAY ROAD  
 HOON HAY,  
 CHRISTCHURCH

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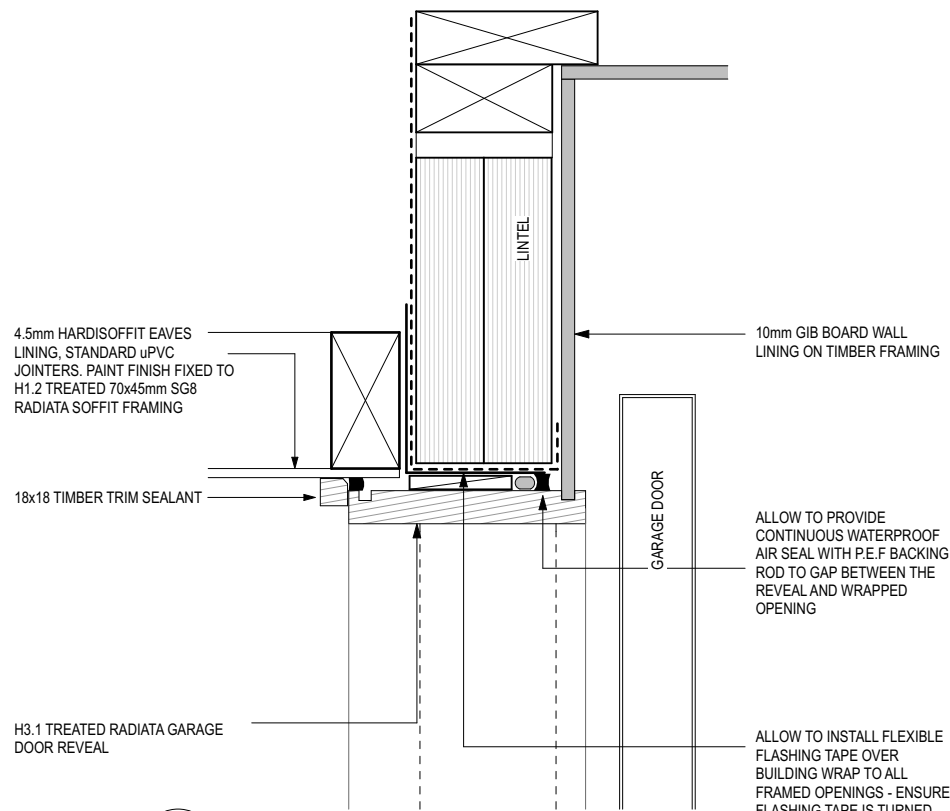
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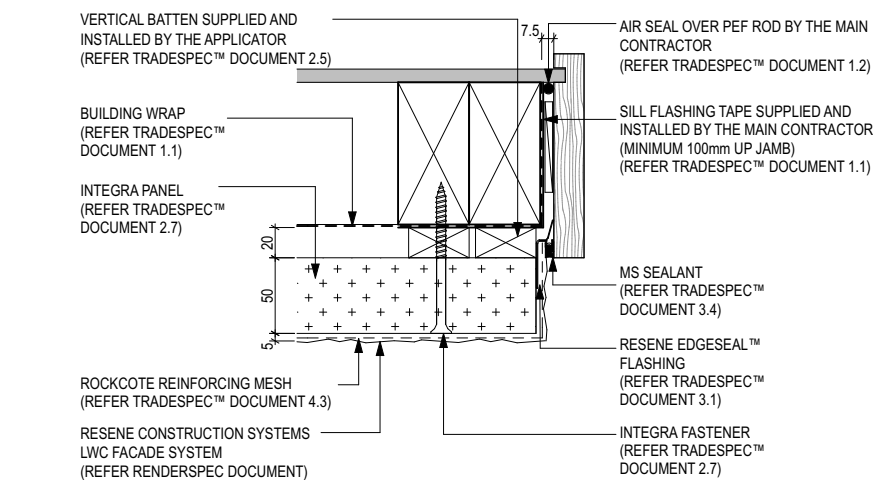
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**JOB #** 1559

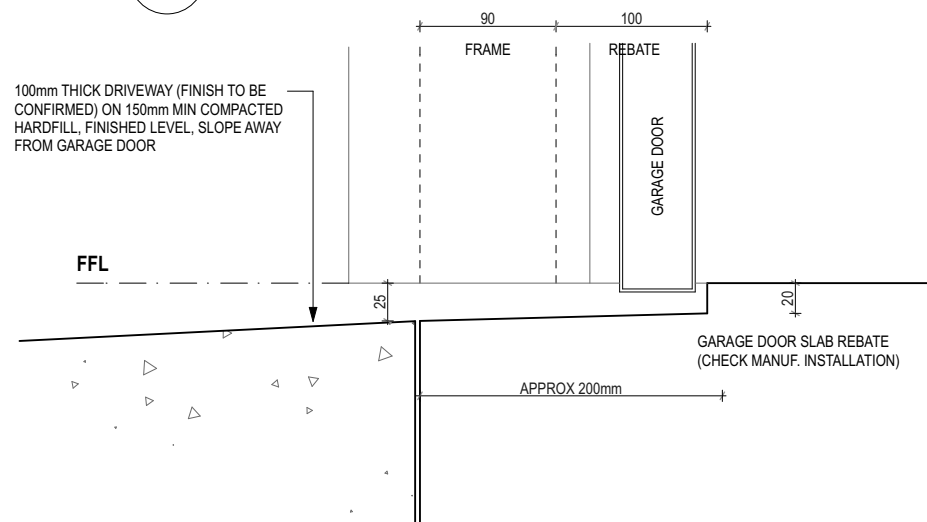
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**A5.9**



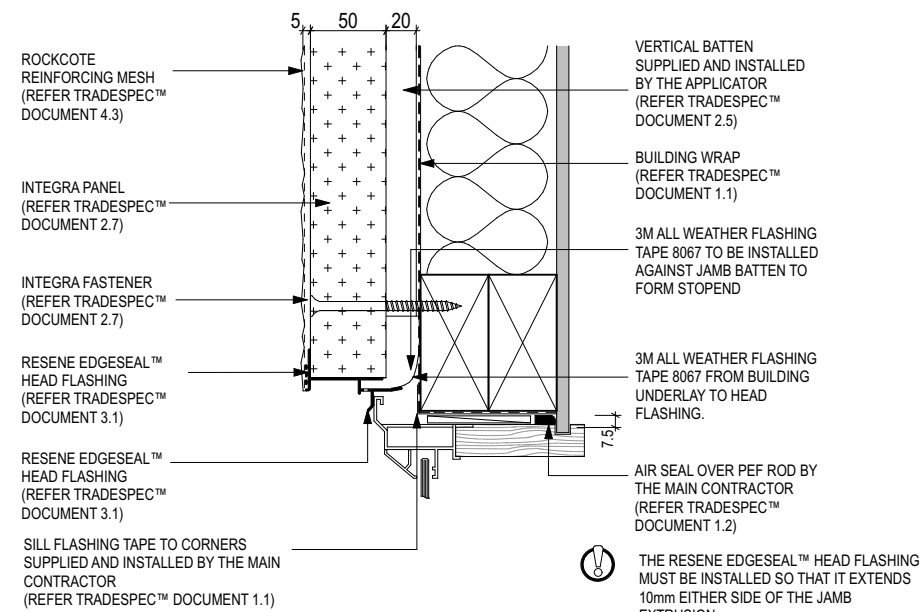
**35 TYPICAL GARAGE DOOR HEAD DETAIL**  
 scale 1:5



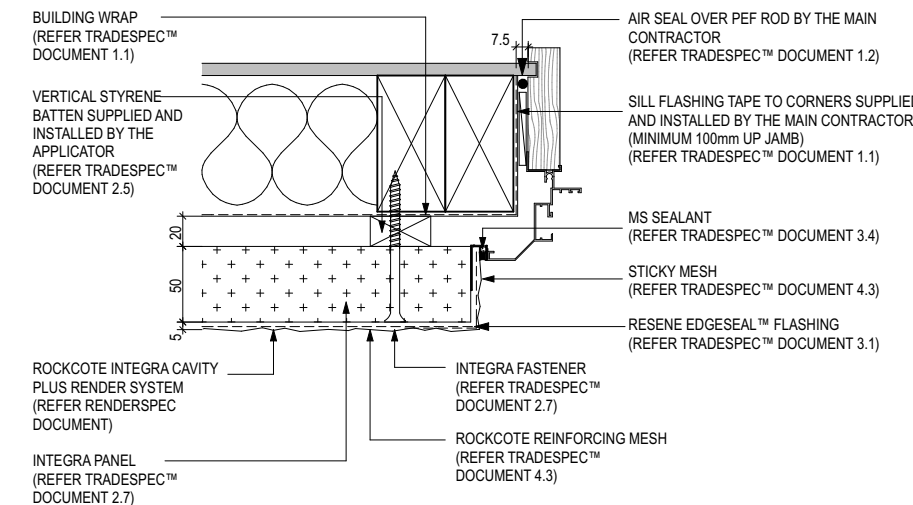
**36 TYPICAL ROCKCOTE INTEGRA GARAGE JAMB DETAIL**  
 scale 1:5



**37 TYPICAL GARAGE REBATE DETAIL**  
 scale 1:5

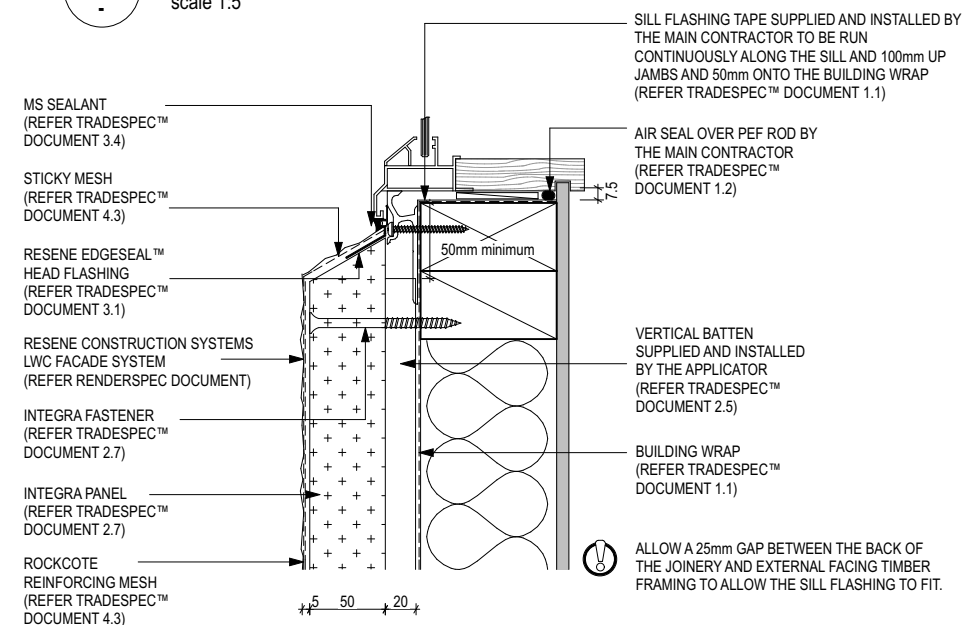


**38 TYPICAL ROCKCOTE INTEGRA WINDOW HEAD DETAIL**  
 scale 1:5



ALLOW A 25mm GAP BETWEEN THE BACK OF THE JOINERY AND EXTERNAL FACING TIMBER FRAMING TO ALLOW THE JAMB FLASHING TO FIT.

**39 TYPICAL ROCKCOTE INTEGRA WINDOW JAMB DETAIL**  
 scale 1:5



**40 TYPICAL ROCKCOTE INTEGRA CAVITY SILL DETAIL**  
 scale 1:5



ISSUE DATE:	VERSION:
8/04/16	03
15/06/16	04




**JOB TITLE:**  
**HOON HAY ROAD DEVELOPMENT**

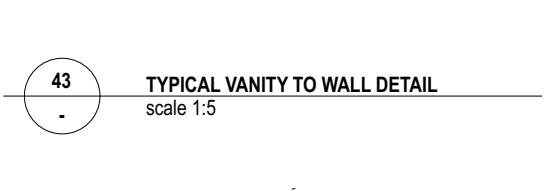
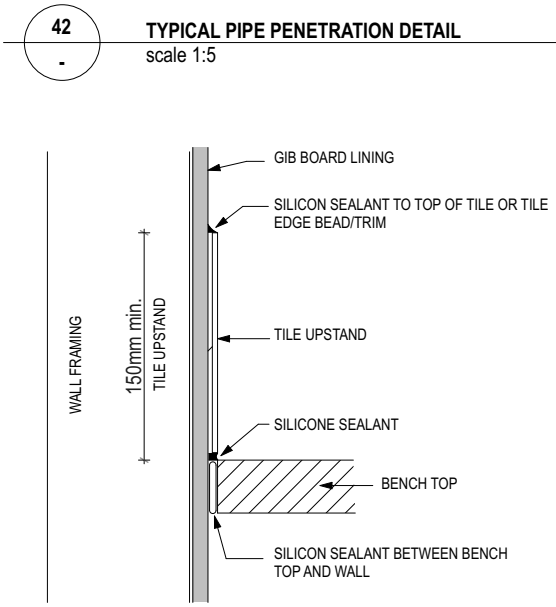
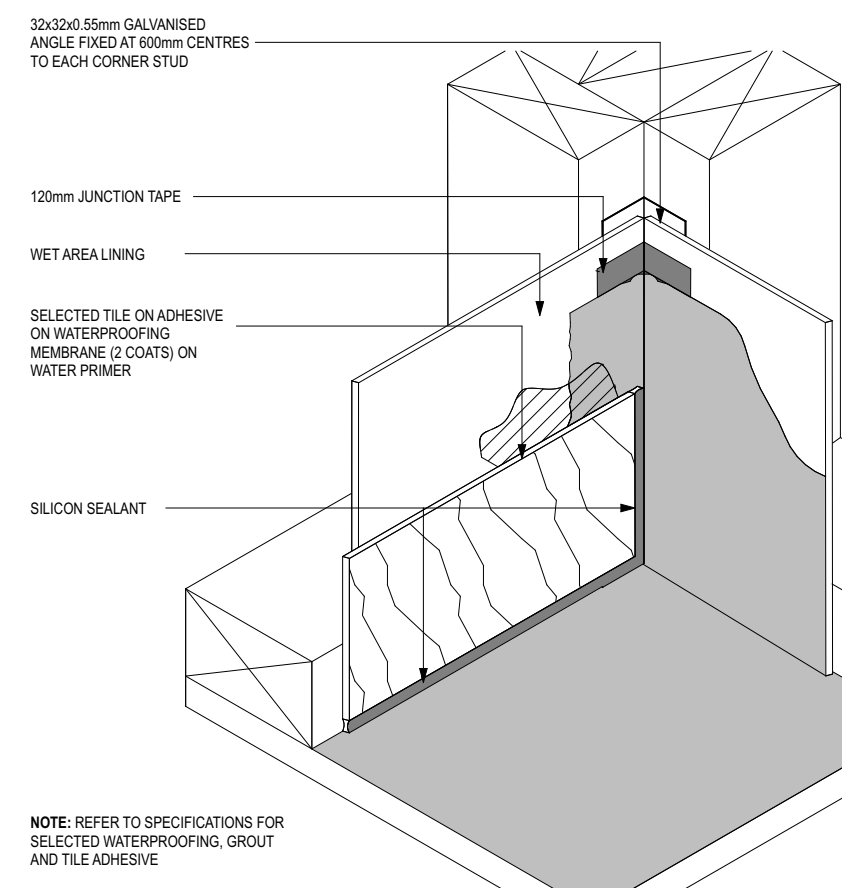
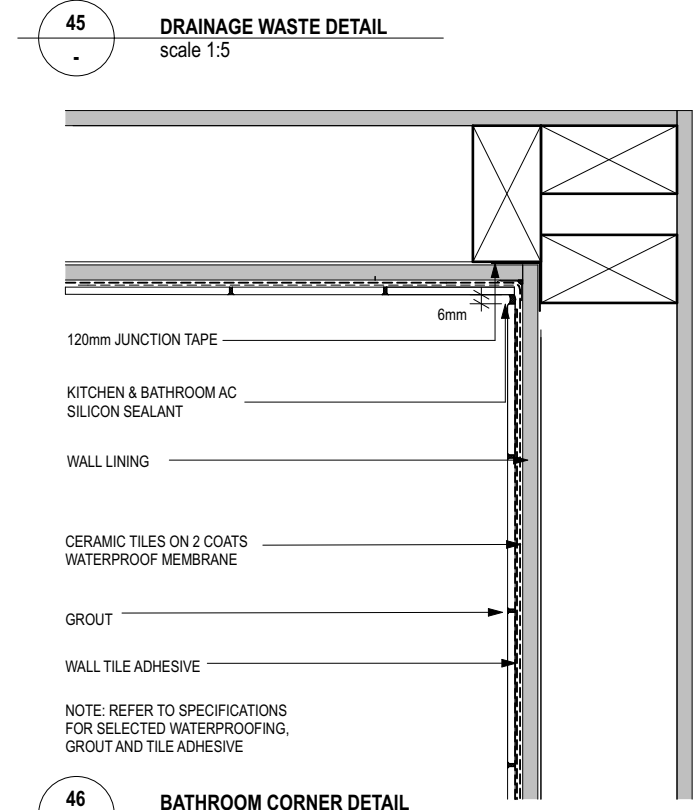
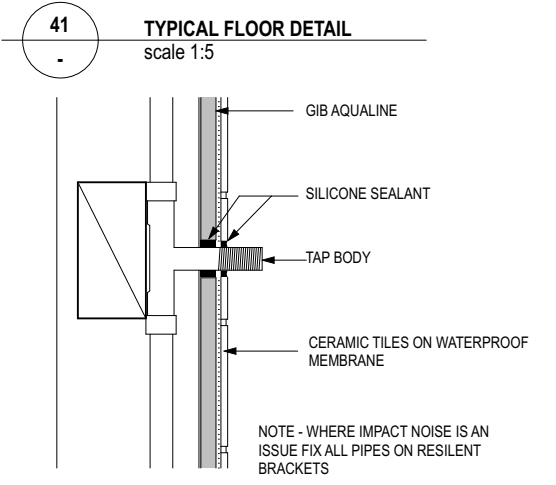
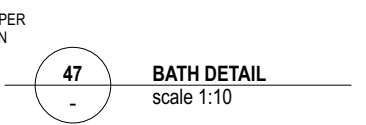
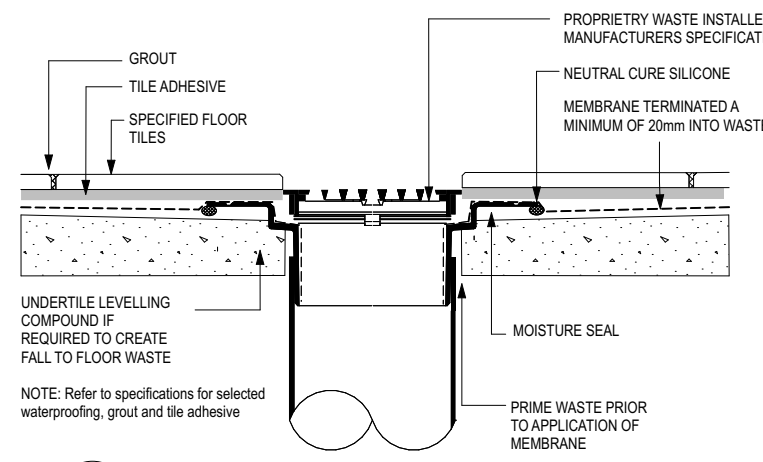
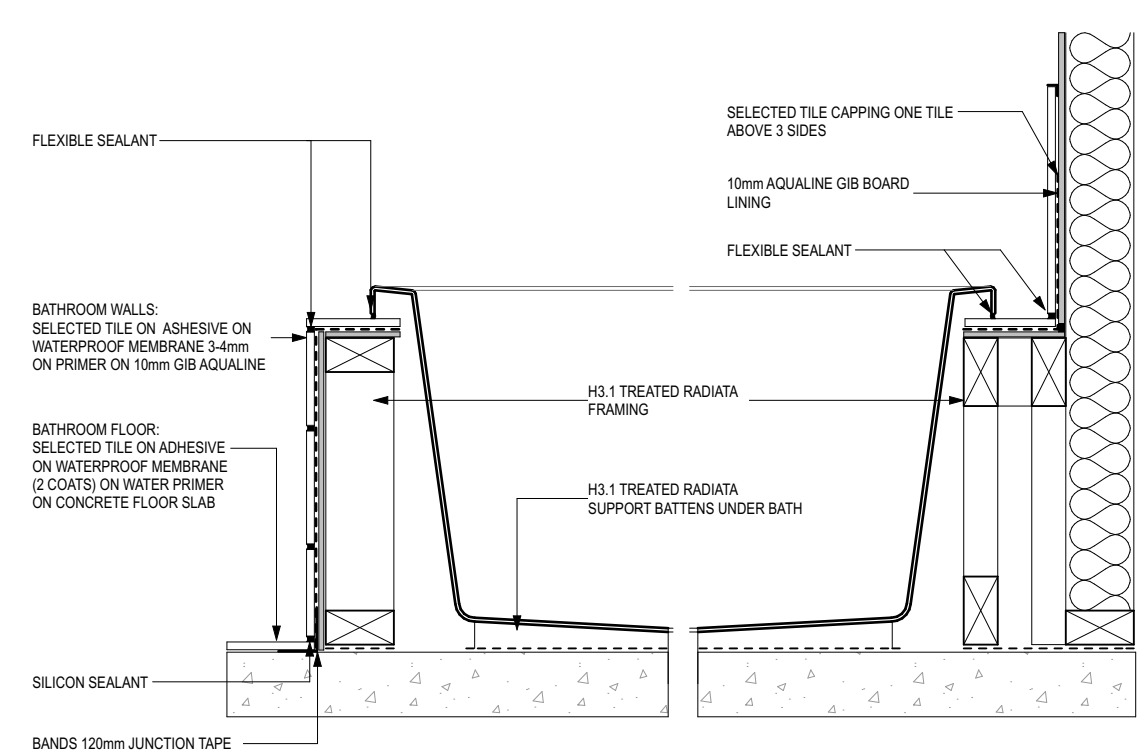
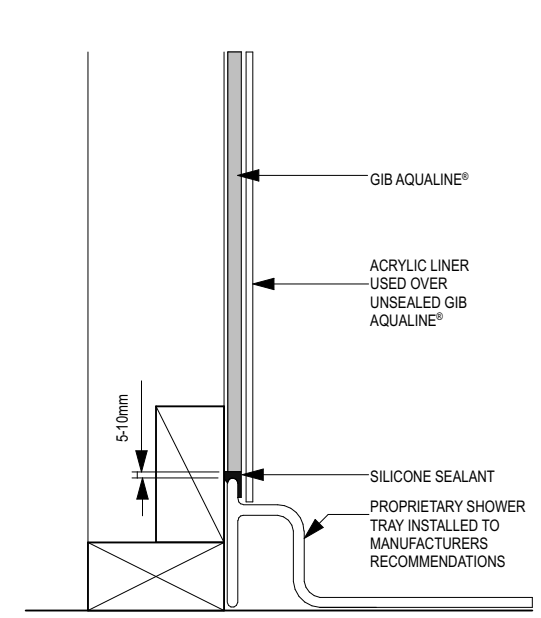
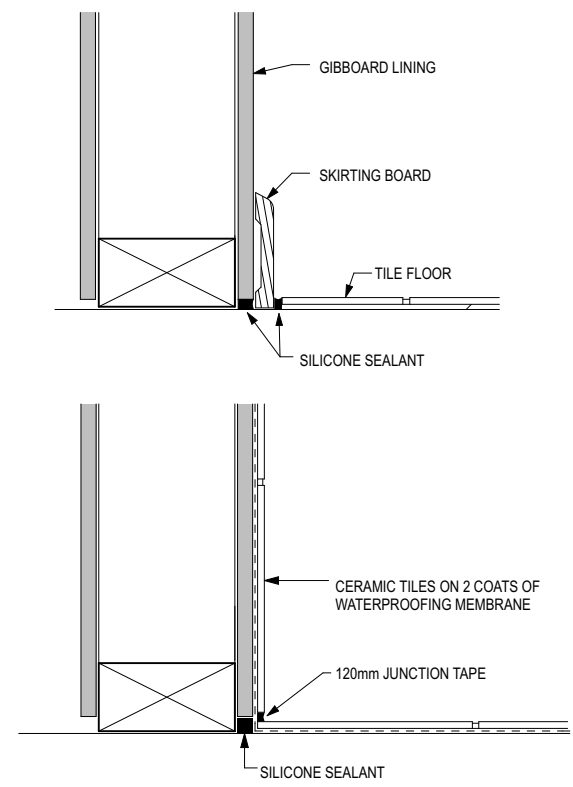
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**CONSTRUCTION DETAILS**

**LEGAL DESCRIPTION:**  
 LOT: 11 DP: 16769  
**SITE ADDRESS:**  
 132 HOON HAY ROAD  
 HOON HAY,  
 CHRISTCHURCH

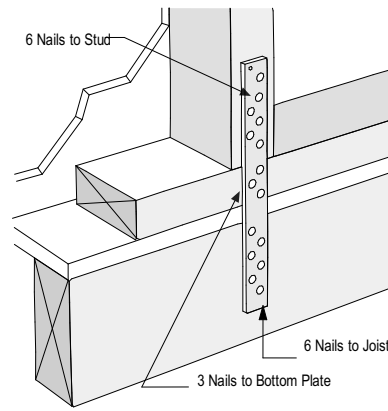
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<b>SCALE:</b>	1:5, 1:10
<b>JOB #</b>	1559

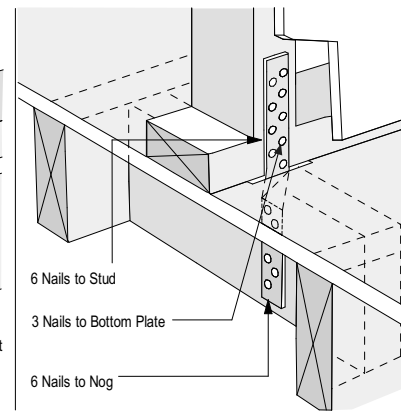
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**A5.10**



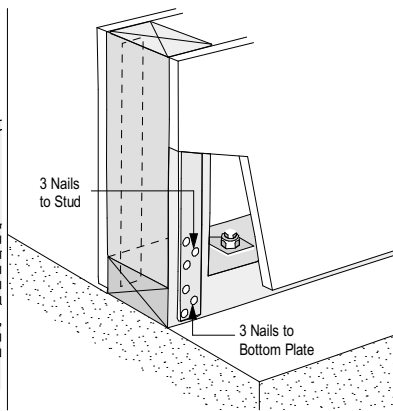
**6kN**  
TIMBER FLOOR  
EXTERNAL WALL  
300mm Sheet Brace Strap



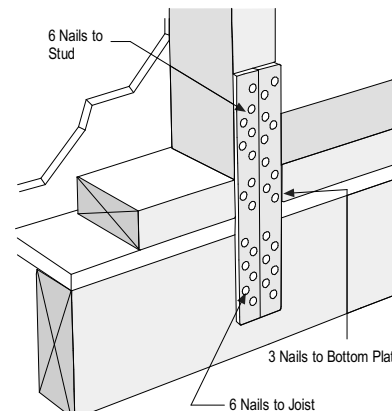
TIMBER FLOOR  
INTERNAL WALL  
300mm Sheet Brace Strap Twisted (on-site)



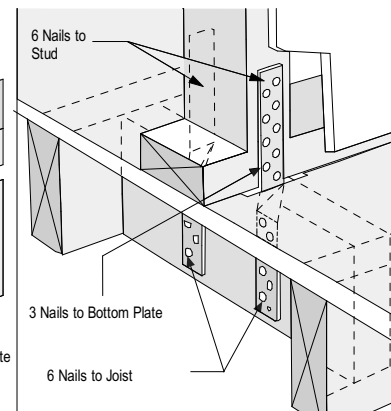
CONCRETE FLOOR  
2/300mm Sheet Brace Straps - 1  
each side, not under bottom plate



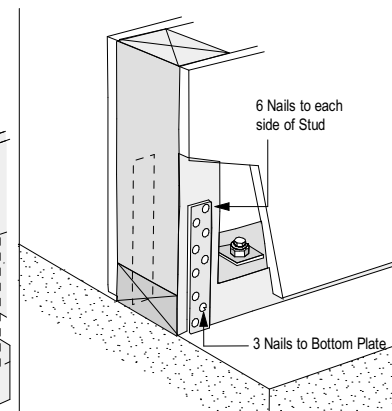
**12kN**



2/300mm Sheet Brace Straps



2/300mm Sheet Brace Straps Twisted (on-site)



400mm Sheet Brace Strap - under bottom plate

LUMBERLOK Sheet Brace Straps are available in 200, 300, 400 and 600mm lengths. In addition to a bracing wall hold down, this product can be used for a multitude of 6 kN fixing situations, as detailed in NZS 3604:2011.  
0.9mm x 25mm G300 Z275 Galvanised Steel.  
Nail using LUMBERLOK Product Nails 30mm x 3.15 diameter.  
Also available in 0.9mm x 25mm Stainless Steel 304-2B.

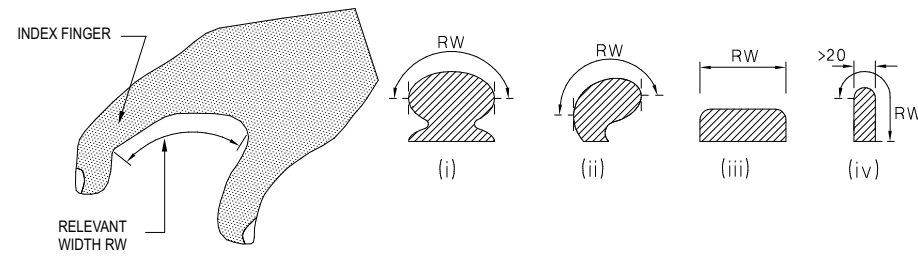
**Christchurch City Council** Page 23 of 43  
BCN/2016/5889  
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17/10/2016 Phil Judge



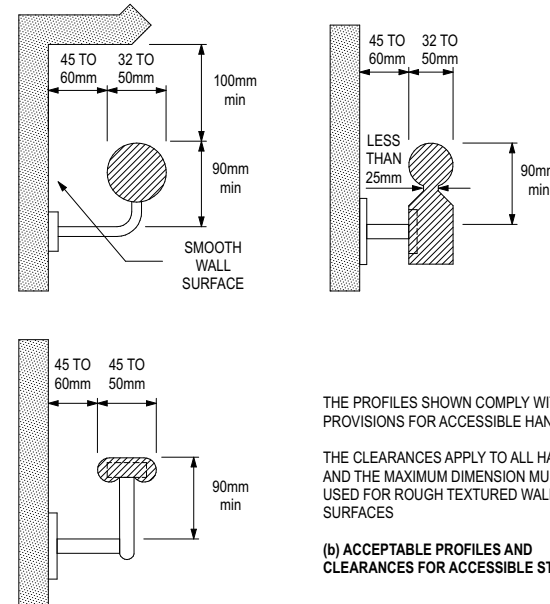
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Figure 26: Handrail Profiles and Clearances  
Paragraphs 6.0.8 and 6.0.9

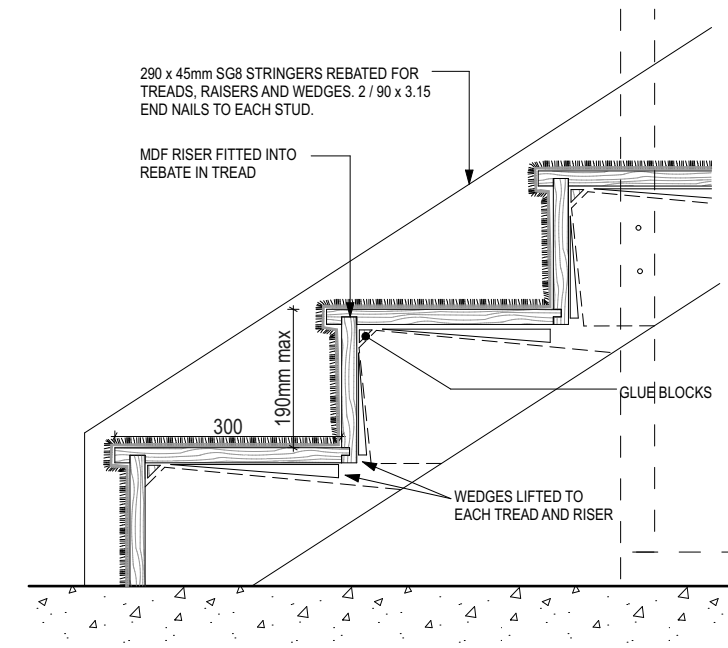
- RW SHALL NOT EXCEED 80mm
- RW (RELEVANT WIDTH) IS MEASURED AROUND THE UPPER SURFACE PERIMETER OF THE HANDRAIL SECTION BETWEEN THE VERTICAL TANGENTS ON EITHER SIDE
- VARIATIONS IN SHAPE ARE ACCEPTABLE PROVIDED THE EFFECTIVE GRIP IS NOT REDUCED. FOR EXAMPLE, THE SIDE FACES SHOWN AS VERTICAL IN DETAILS (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



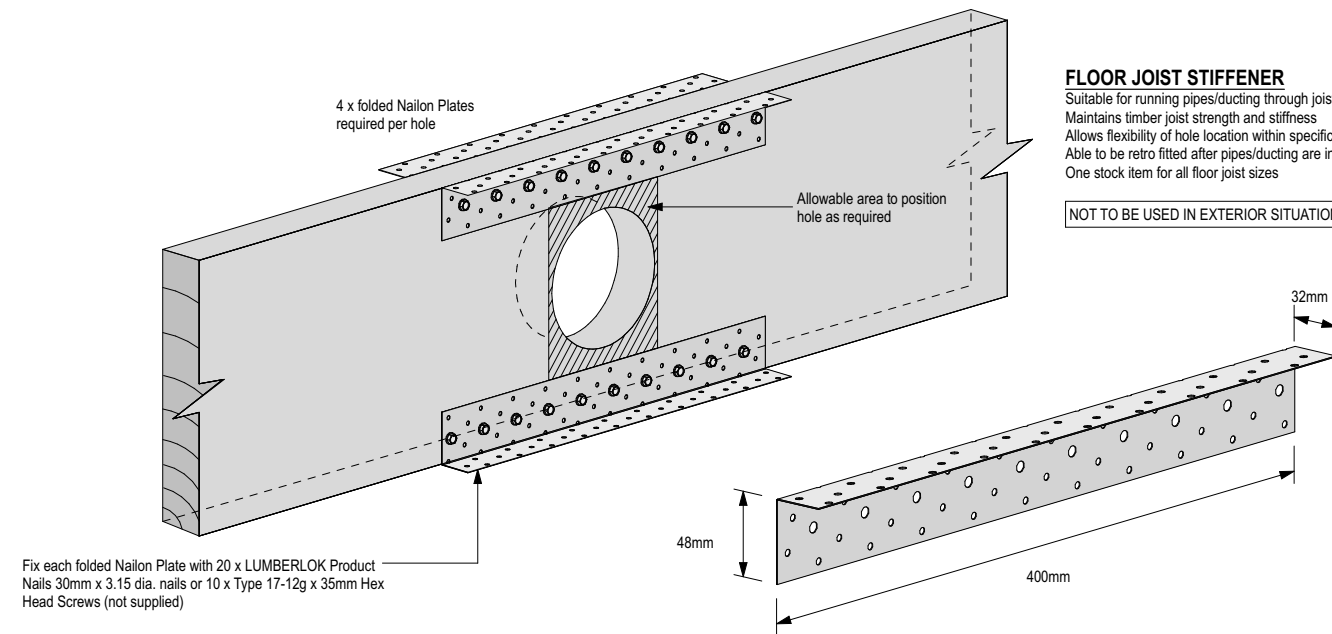
THE PROFILES SHOWN COMPLY WITH THE PROVISIONS FOR ACCESSIBLE HANDRAILS  
THE CLEARANCES APPLY TO ALL HANDRAILS AND THE MAXIMUM DIMENSION MUST BE USED FOR ROUGH TEXTURED WALL SURFACES  
(b) ACCEPTABLE PROFILES AND CLEARANCES FOR ACCESSIBLE STAIRWAYS



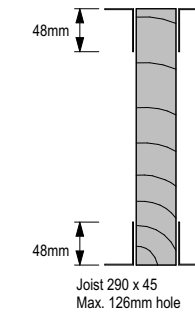
**FLOOR JOIST STIFFENER**

Suitable for running pipes/ducting through joists  
Maintains timber joist strength and stiffness  
Allows flexibility of hole location within specific areas  
Able to be retro fitted after pipes/ducting are installed  
One stock item for all floor joist sizes

NOT TO BE USED IN EXTERIOR SITUATIONS



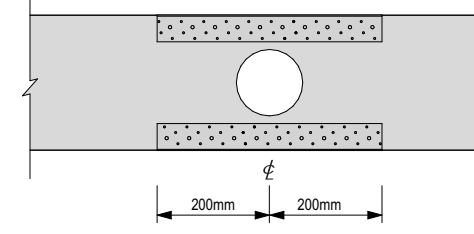
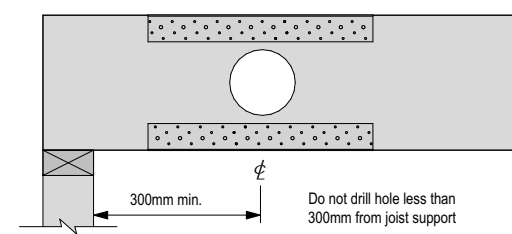
Fix each folded Nailon Plate with 20 x LUMBERLOK Product Nails 30mm x 3.15 dia. nails or 10 x Type 17-12g x 35mm Hex Head Screws (not supplied)



Code: FJS

Material: 1.55mm G300 Z275 Galvanised Steel

Packed: 8 x Folded Nailon Plate per Carton



JOB TITLE:

**HOON HAY ROAD DEVELOPMENT**

DRAWING TITLE:

**CONSTRUCTION DETAILS**

LEGAL DESCRIPTION:

LOT: 11 DP: 16769

SITE ADDRESS:

132 HOON HAY ROAD  
HOON HAY,  
CHRISTCHURCH

NOTES:

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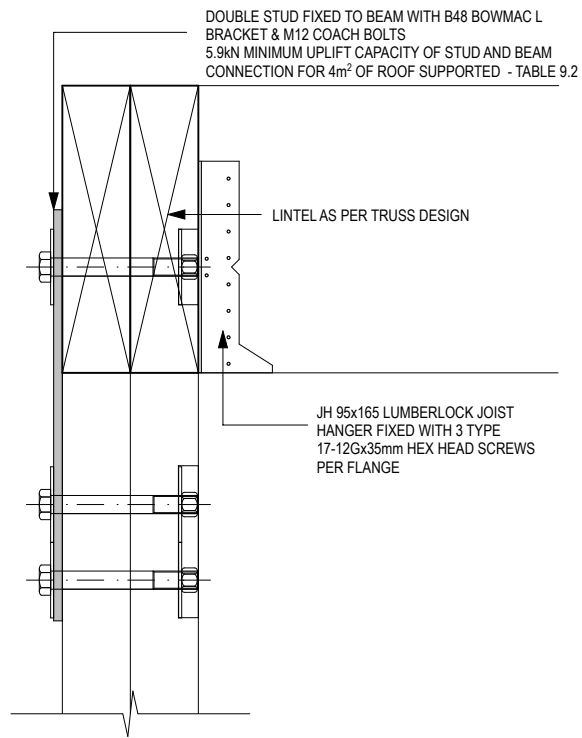
DRAWN BY: CT

SCALE: 1:10

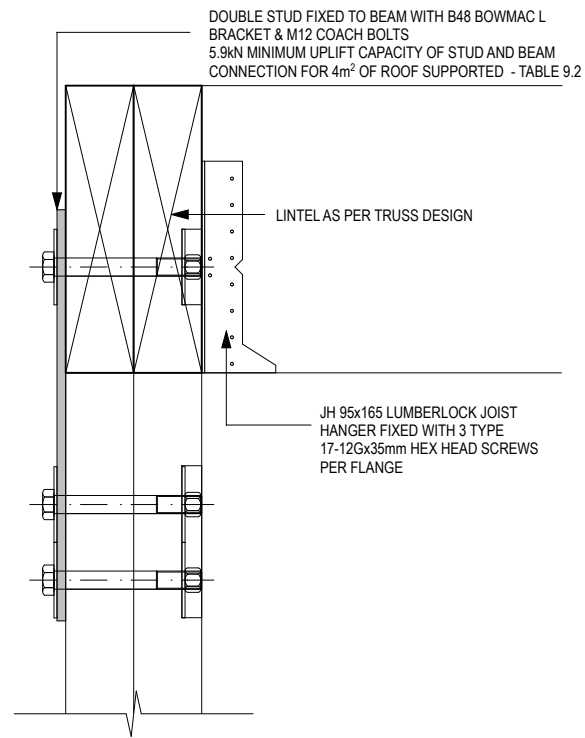
JOB # 1559



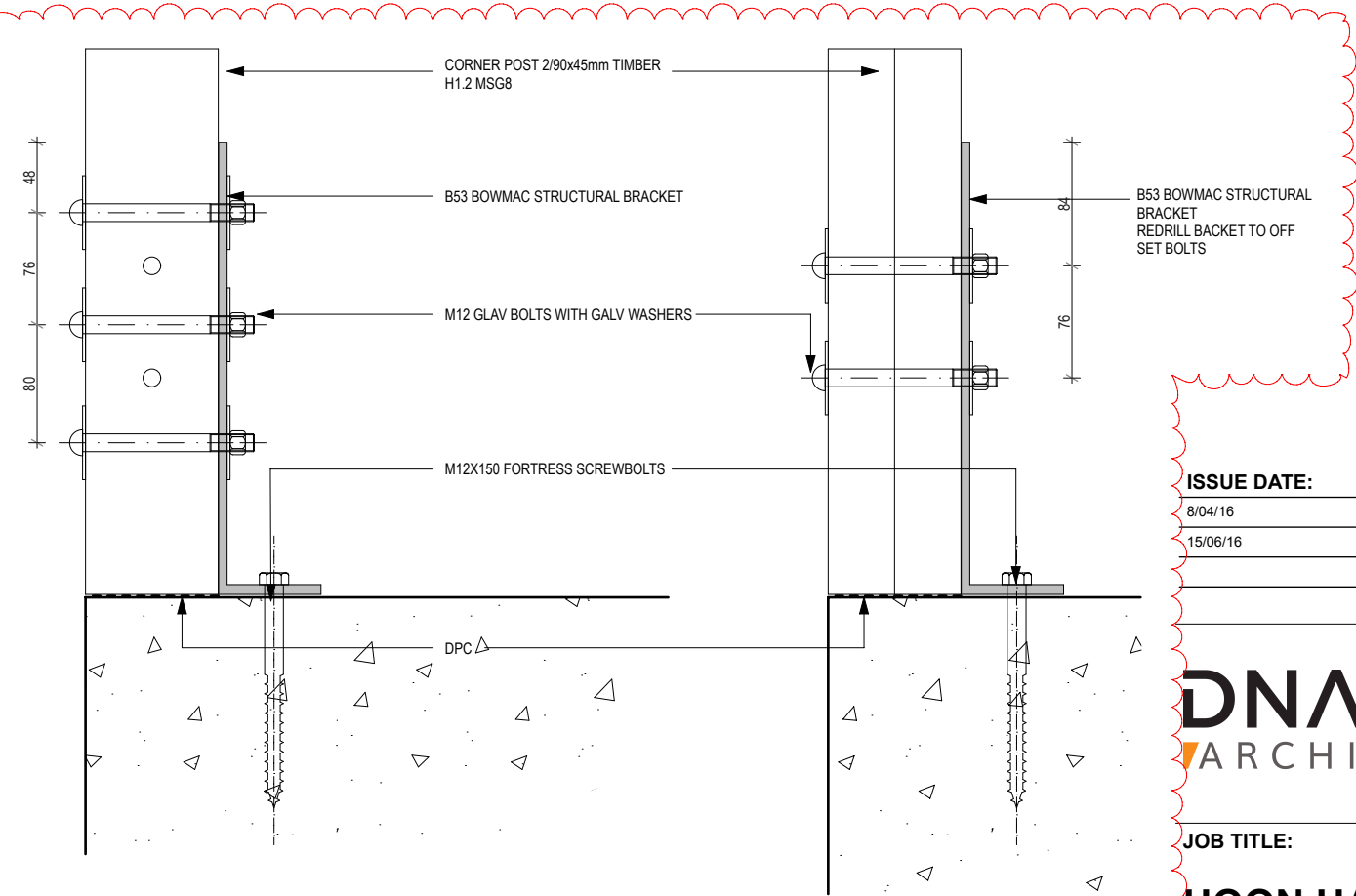
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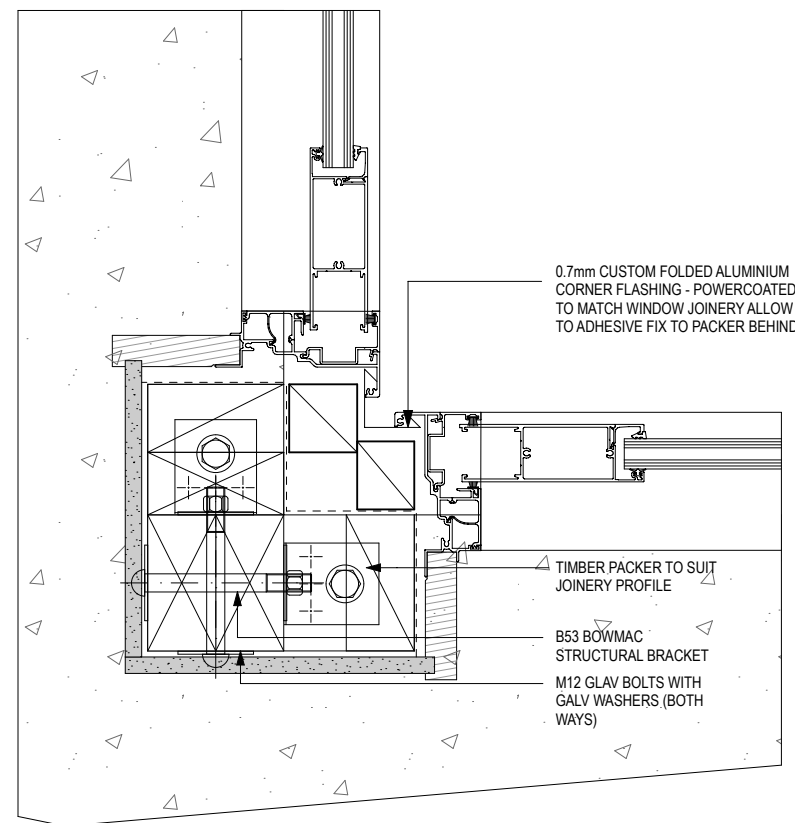
49 POST TO LINTEL DETAIL  
scale 1:5



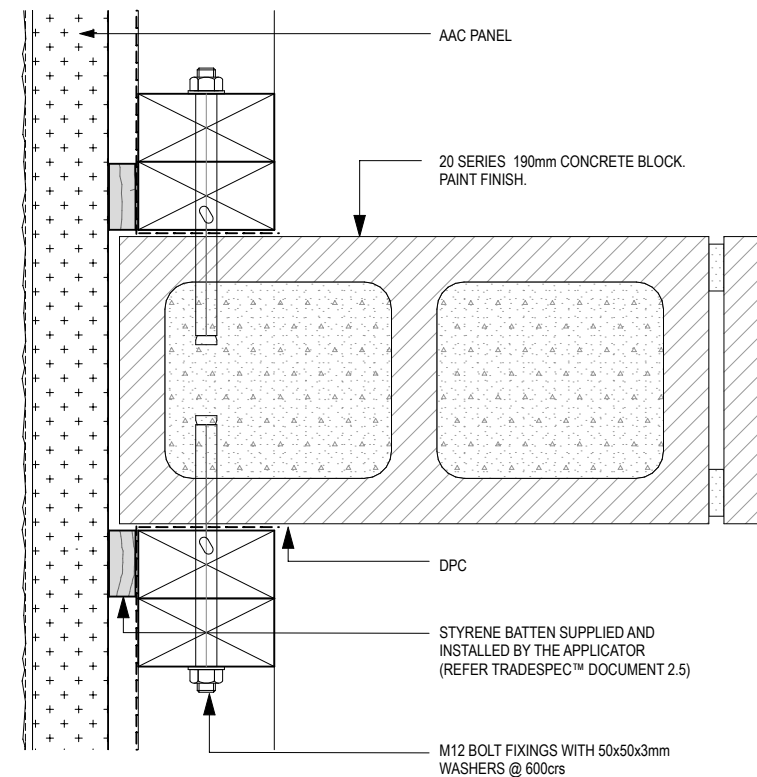
51 POST TO LINTEL DETAIL  
scale 1:5



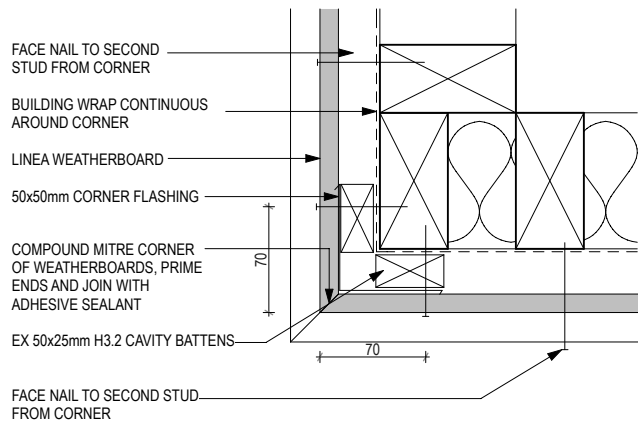
53 BRACKETS DETAIL  
scale 1:5



52 POST SLAB CONNECTION DETAIL  
scale 1:5



54 TYPICAL CONCRETE BLOCK / AAC DETAIL  
scale 1:5



50 TYPICAL LINEA WEATHERBOARD CORNER DETAIL  
scale 1:5



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15/06/16	04

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JOB TITLE:  
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**CONSTRUCTION DETAILS**

LEGAL DESCRIPTION:

LOT: 11 DP: 16769

SITE ADDRESS:

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HOON HAY,  
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JOB # 1559



SHEET:  
**A5.12 a**

**Christchurch City Council** Page 24 of 43  
**BCN/2016/5889**  
Approved Building Consent Plan  
17/10/2016 Phil Judge

SCREW FIX (TO SOLID FRAMING) CHANNEL TO WALL WITH SILICONE ALONG BACK OF CHANNEL FOR FULL LENGTH, PLUS INJECT SILICONE INTO AND AROUND SCREW HOLES

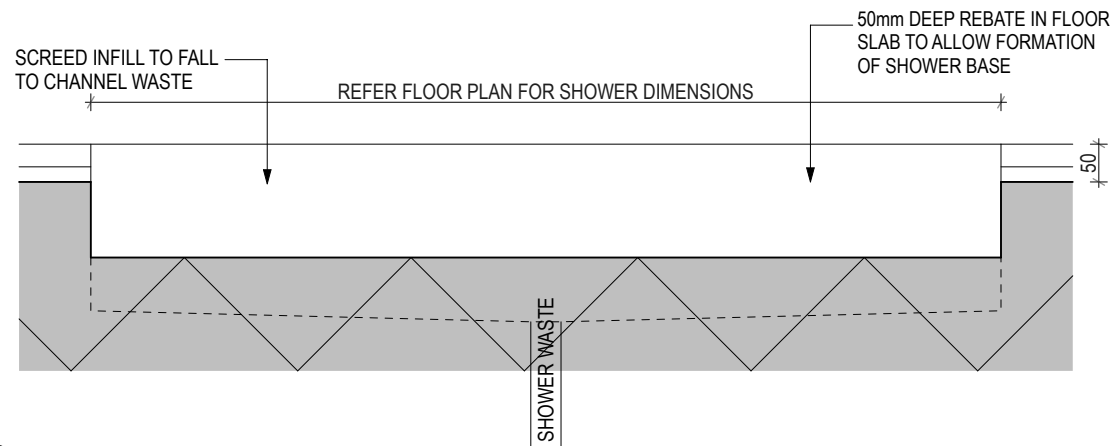
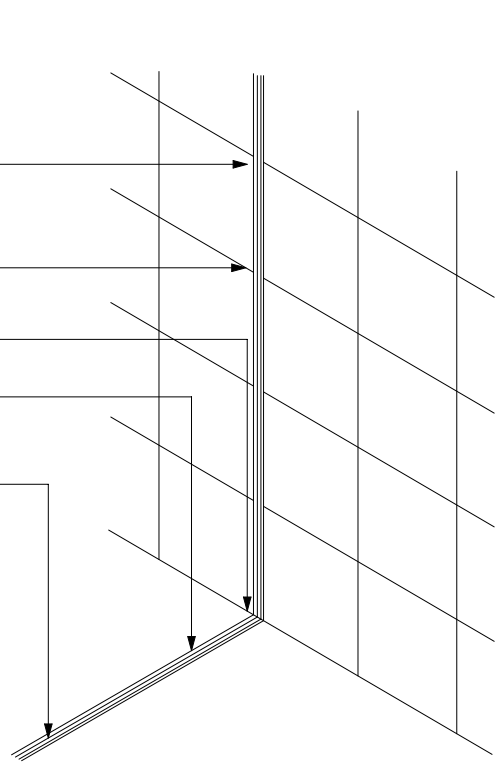
WHERE POSSIBLE FIX 10mm SHOWER CHANNEL ON MORTAR JOINT

SILICONE INSIDE WALL TO FLOOR JOINT

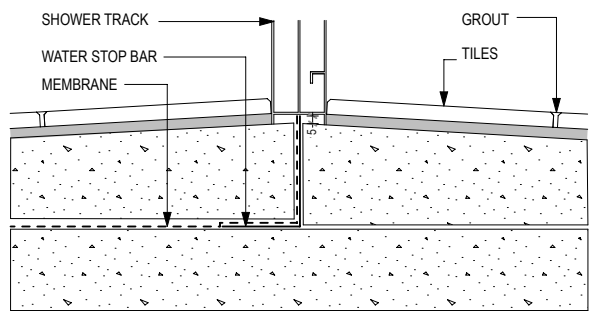
RUN THICK BEAD OF SILICONE ALONG UNDERSIDE OF FLOOR CHANNEL. DOES NOT REQUIRE SCREW FIXING

RUN THICK LINE OF SILICONE INSIDE WALL AND FLOOR CHANNELS BEFORE FINAL FITTING OF GLASS PANELS

55 GLASS SHOWER DETAIL  
scale : 1:10

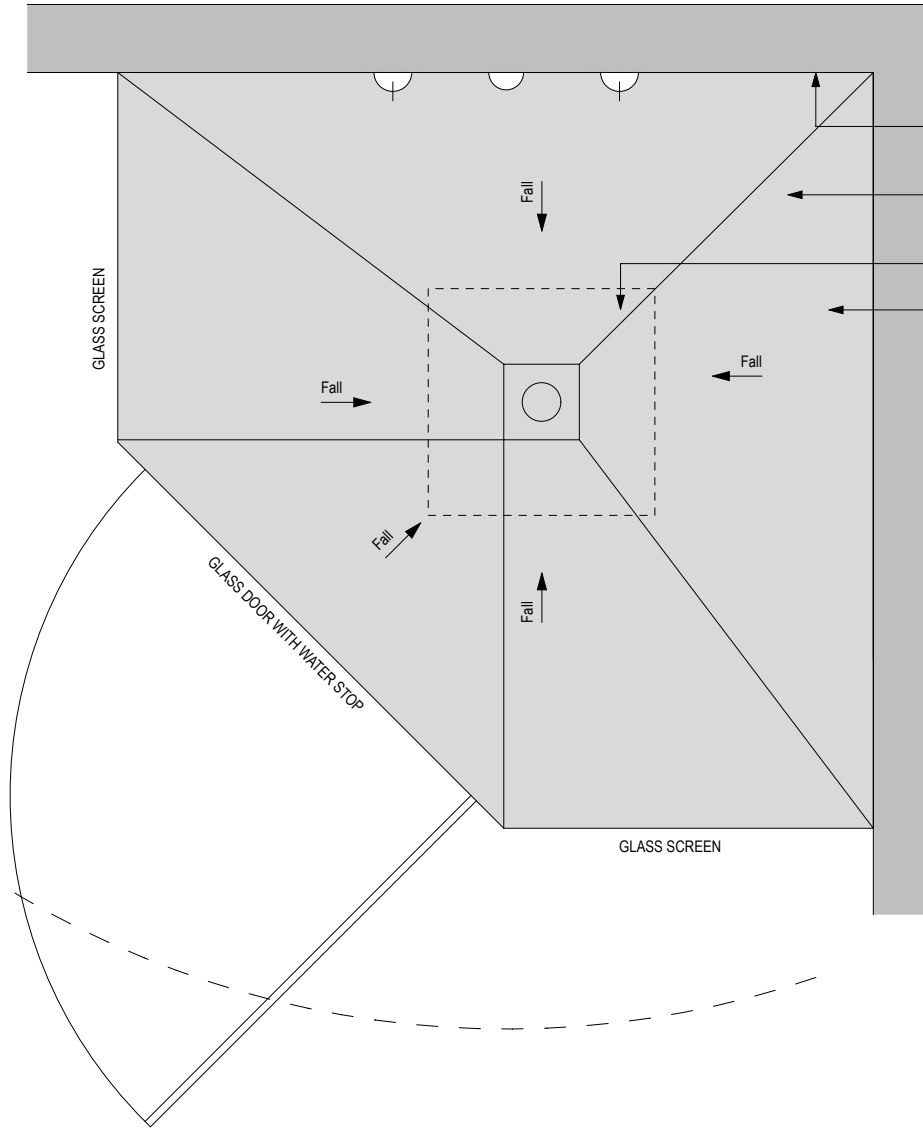


56 SHOWER REBATE DETAIL  
scale : 1:10

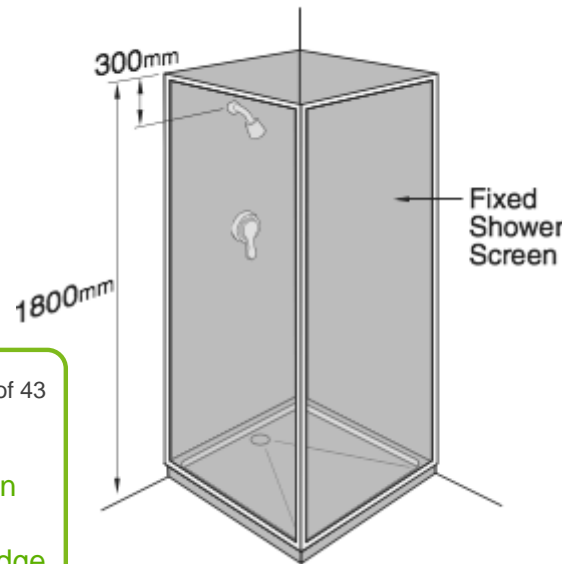


57 WATER STOP DETAIL  
scale 1:5

IMPERVIOUS FLOORING



58 TILED SHOWER WATERPROOF SEALING DETAIL  
scale : 1:10



ENCLOSED SHOWER



ISSUE DATE:	VERSION:
12/10/16	05



JOB TITLE:

## HOON HAY ROAD DEVELOPMENT

DRAWING TITLE:

## CONSTRUCTION DETAILS

LEGAL DESCRIPTION:

LOT: 11 DP: 16769

SITE ADDRESS:

132 HOON HAY ROAD  
HOON HAY,  
CHRISTCHURCH

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SCALE: 1:10, 1:5

JOB # 1559



SHEET:  
**A5.13 a**

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BCN/2016/5889  
Approved Building Consent Plan  
17/10/2016 Phil Judge



ISSUE DATE:	VERSION:



JOB TITLE:

**HOON HAY ROAD DEVELOPMENT**

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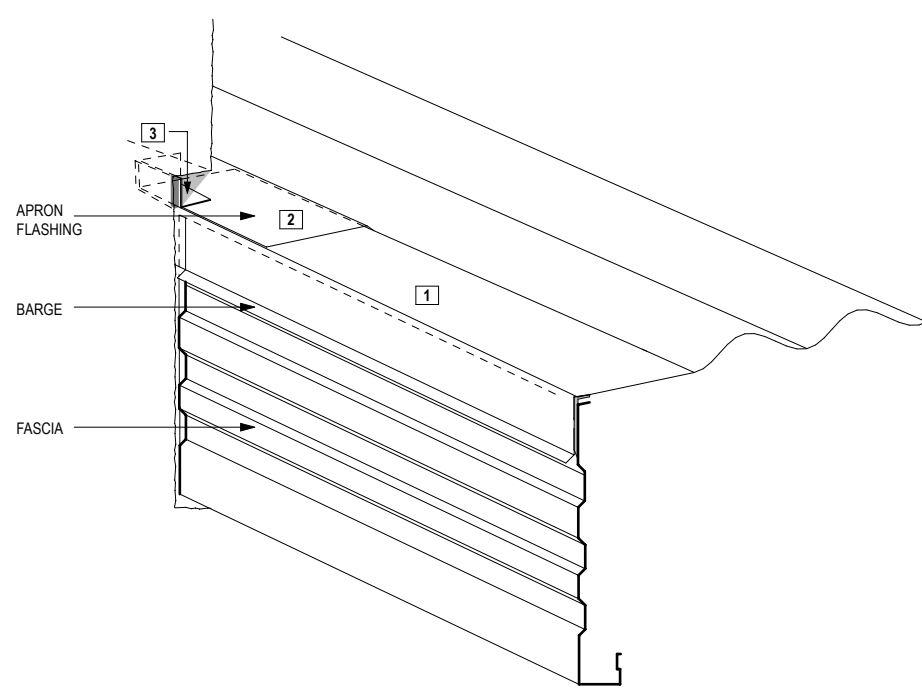
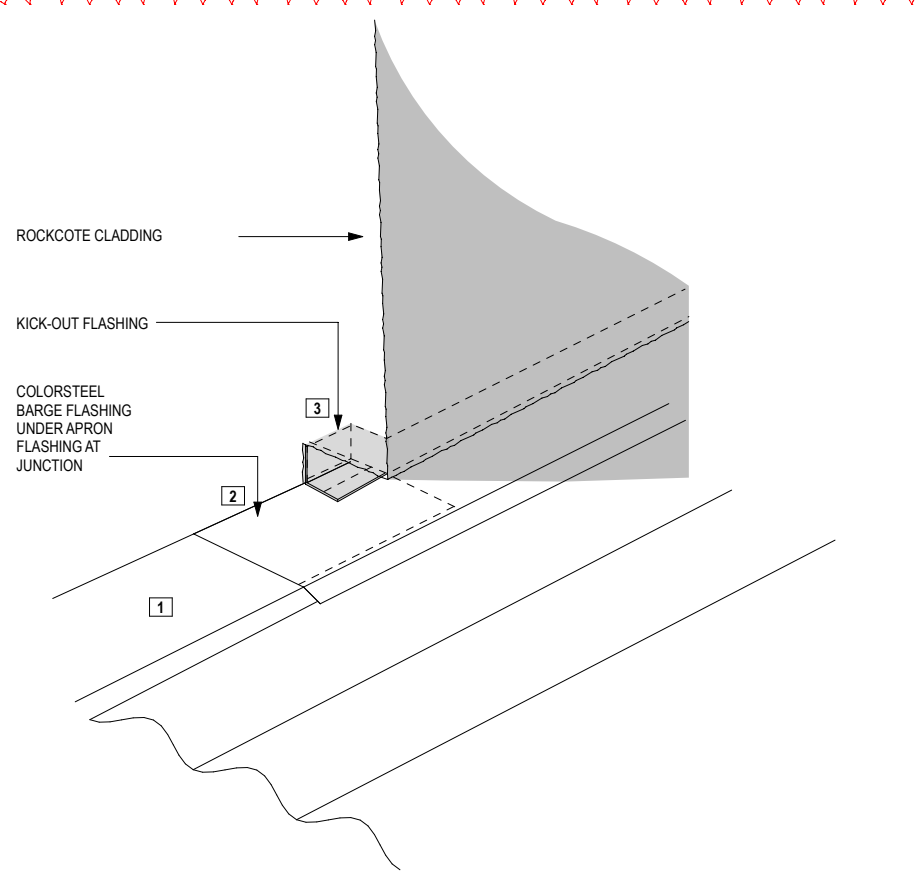
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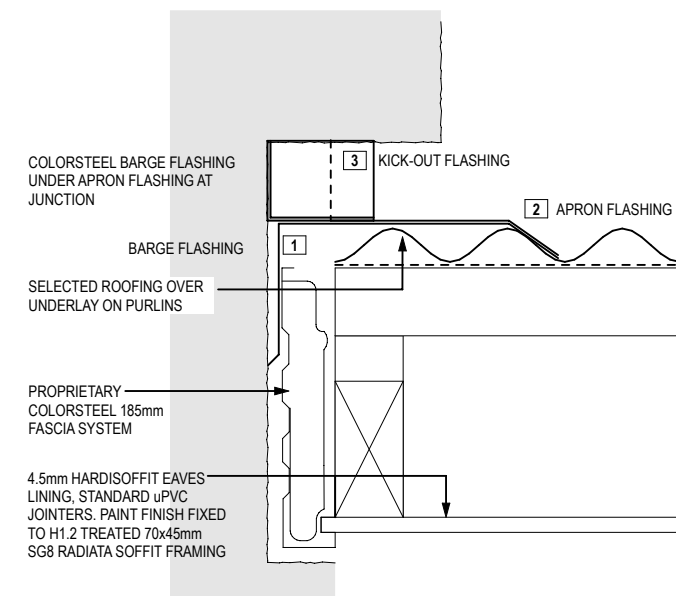
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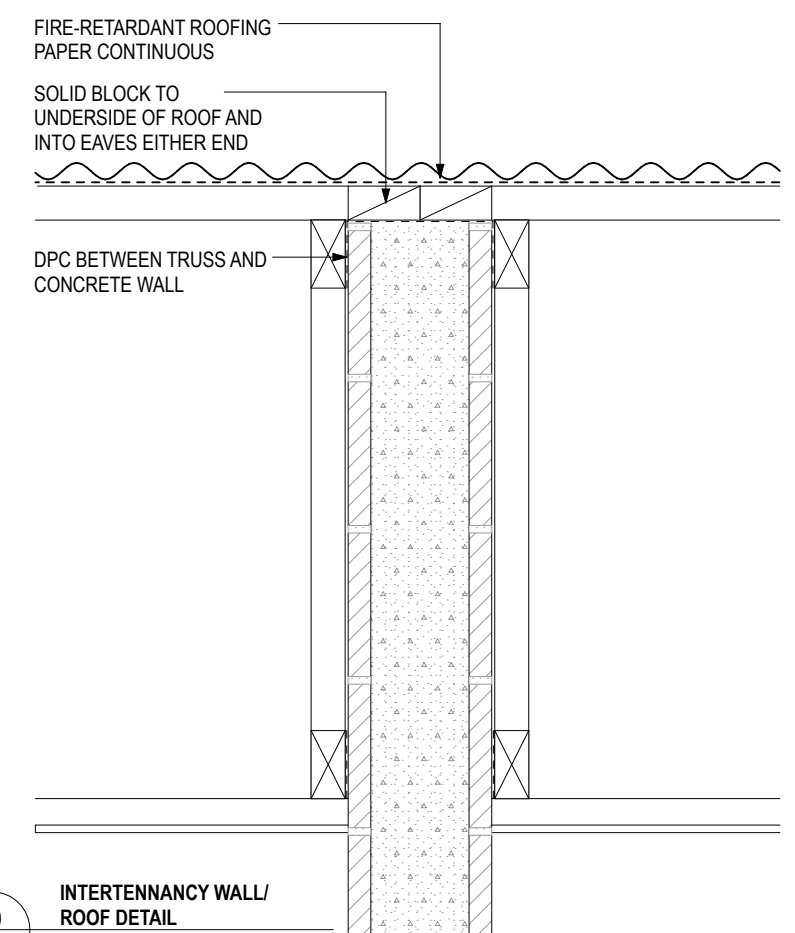
SHEET:  
**A5.14 a**



**58** BARGE WALL INTERSECTION DETAIL  
 scale 1:5



**59** BARGE WALL INTERSECTION DETAIL  
 scale 1:5



**60** INTERTENNANCY WALL/  
 ROOF DETAIL  
 scale 1:10



ISSUE DATE:	VERSION:
12/10/16	05



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**LEGAL DESCRIPTION:**

LOT: 11 DP: 16769

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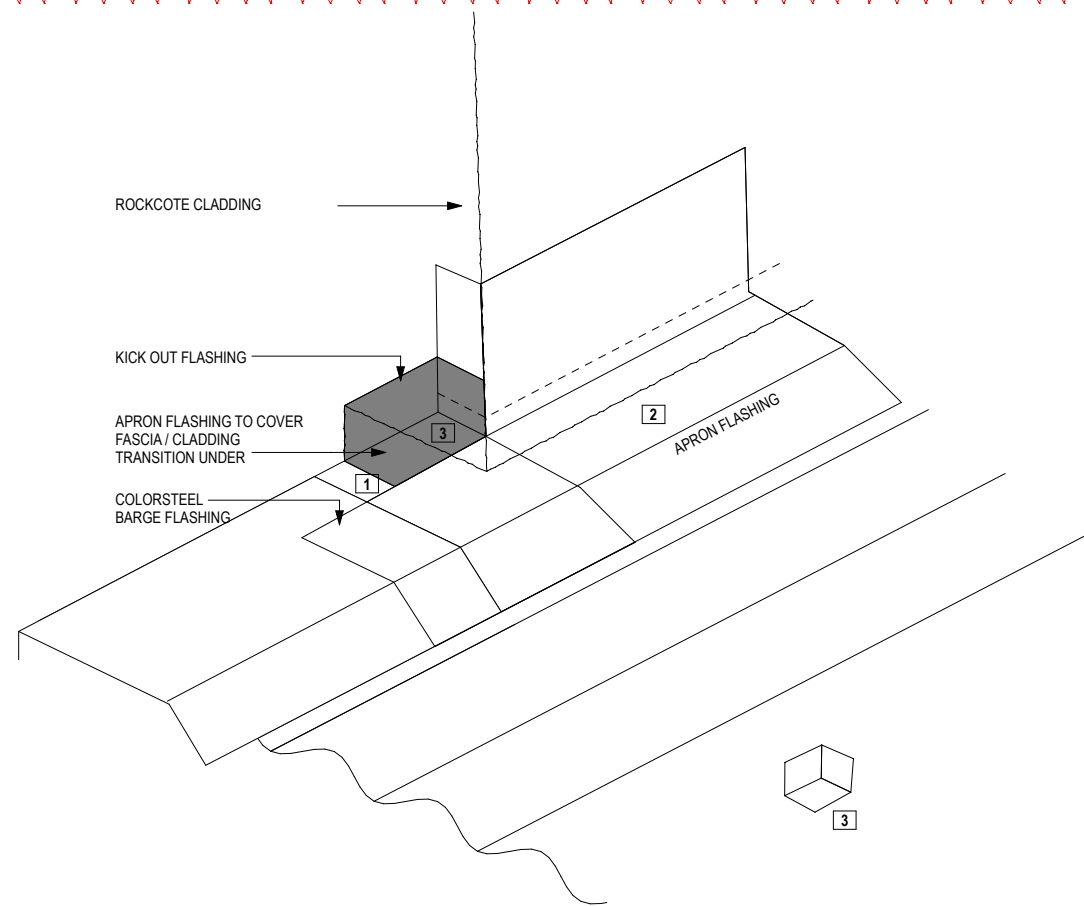
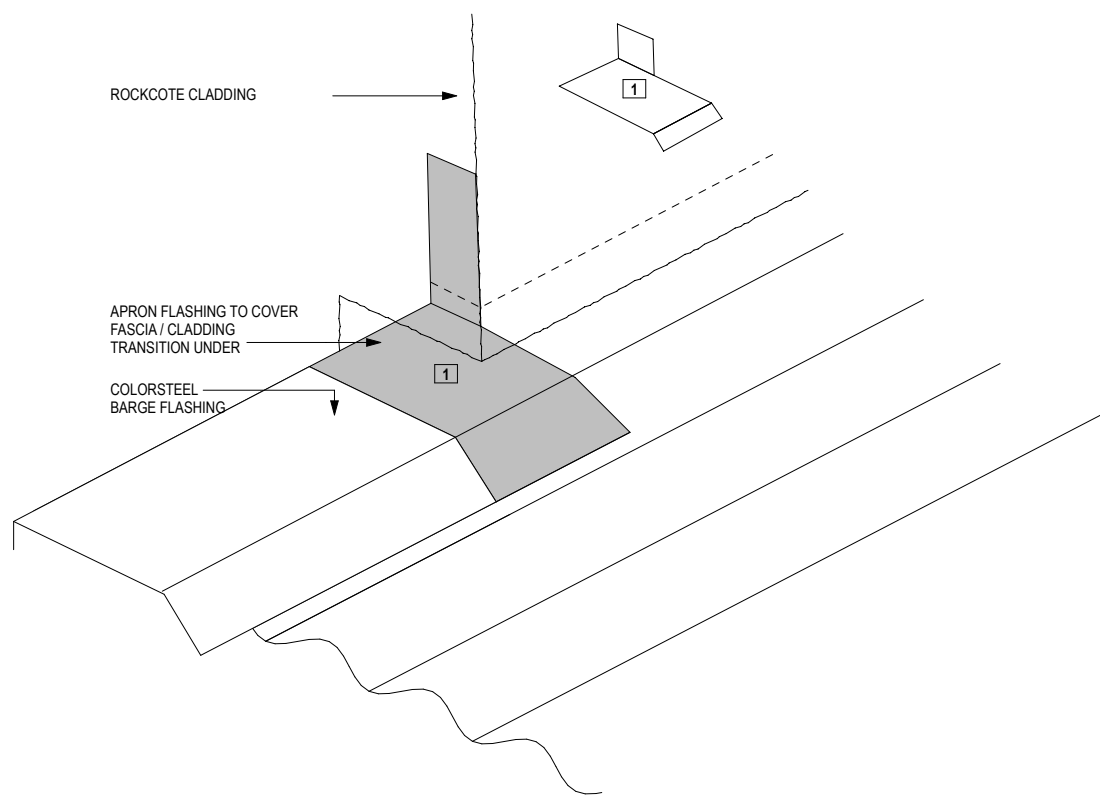
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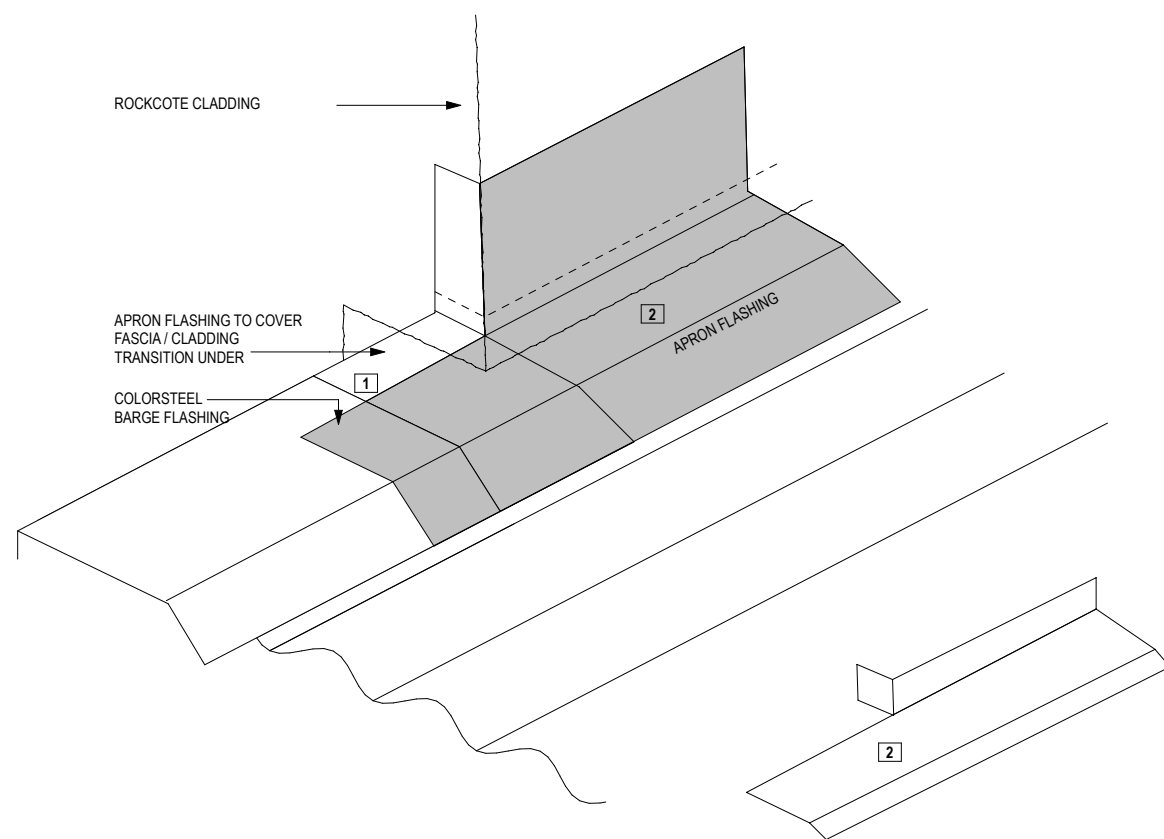
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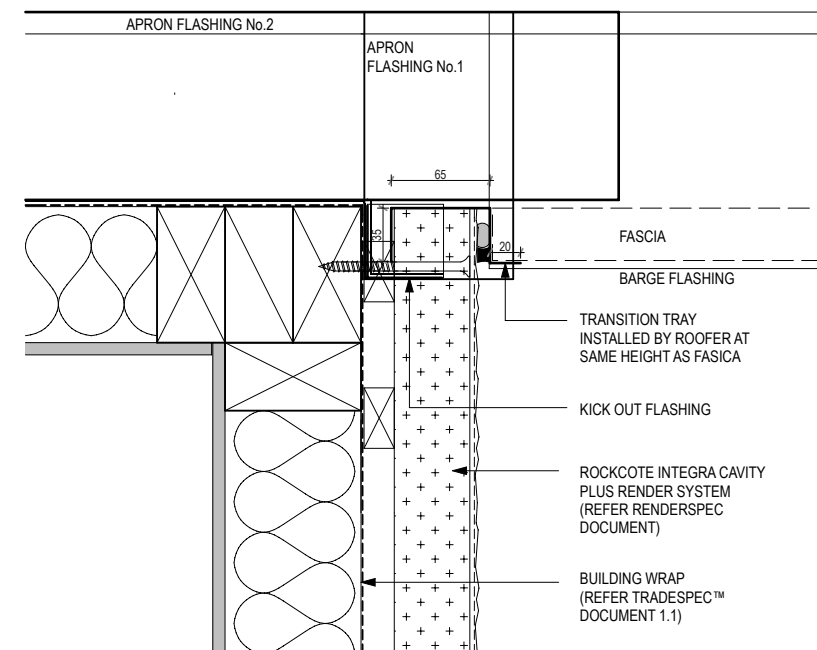
**SHEET:**  
**A5.15 a**

**58** BARGE / APRON JUNCTION DETAIL  
 scale 1:5



**59** TYPICAL ROCKCOTE INTEGRA FASCIA TRANSITION TRAY DETAIL  
 scale 1:5



All dimensions must be checked on site and before any prefabrication work is to be carried out. Refer to Architectural Drawings for all dimensions and set-out information.

Important: Refer to Project Structure Ltd's Standard Notes on Sheet N-01

**WEATHERTIGHTNESS:**

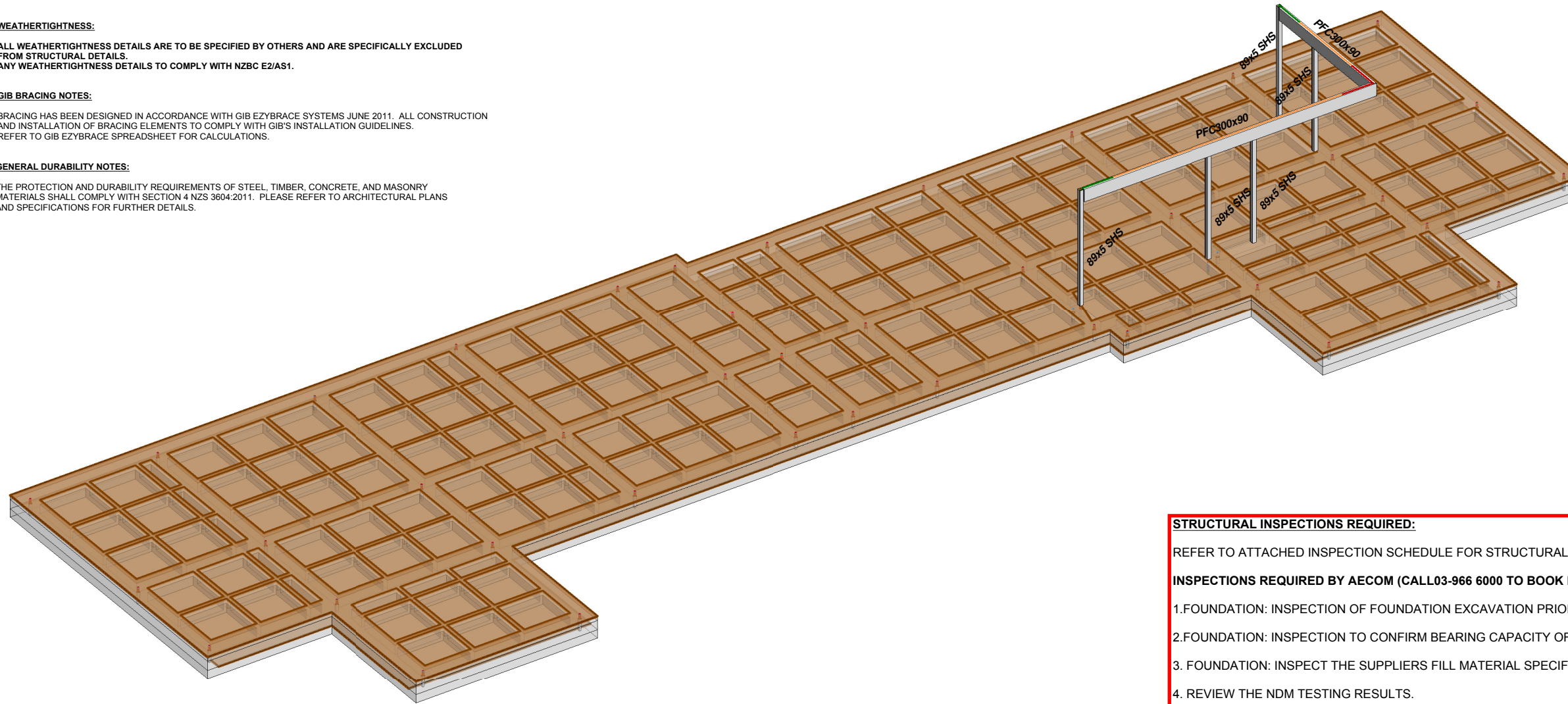
ALL WEATHERTIGHTNESS DETAILS ARE TO BE SPECIFIED BY OTHERS AND ARE SPECIFICALLY EXCLUDED FROM STRUCTURAL DETAILS. ANY WEATHERTIGHTNESS DETAILS TO COMPLY WITH NZBC E2/AS1.

**GIB BRACING NOTES:**

BRACING HAS BEEN DESIGNED IN ACCORDANCE WITH GIB EZYBRACE SYSTEMS JUNE 2011. ALL CONSTRUCTION AND INSTALLATION OF BRACING ELEMENTS TO COMPLY WITH GIB'S INSTALLATION GUIDELINES. REFER TO GIB EZYBRACE SPREADSHEET FOR CALCULATIONS.

**GENERAL DURABILITY NOTES:**

THE PROTECTION AND DURABILITY REQUIREMENTS OF STEEL, TIMBER, CONCRETE, AND MASONRY MATERIALS SHALL COMPLY WITH SECTION 4 NZS 3804:2011. PLEASE REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR FURTHER DETAILS.



Christchurch City Council  Page 28 of 43  
**BCN/2016/5889**  
 Approved Building Consent Plan  
 17/10/2016 Phil Judge

**COMPACTED HARDFILL NOTES:**

THE FOUNDATION DESIGN IS BASED ON THE FOLLOWING SOIL REPORT AND SUBJECT TO TC3 SITE CONDITIONS SUITABLE FOR A RELEVABLE RIBRAFT

BY: AECOM  
 REF: 60506000-2016  
 DATED: 25 MAY 2016  
 DESIGN ASSUMPTIONS: FOUNDATION DESIGN IS BASED ON TC3 SITE CONDITIONS

**DESIGN ASSUMPTIONS:**

FOUNDATIONS HAVE BEEN DESIGNED (INCLUDING ENGINEERING FILL DEPTH) BASED ON ULTIMATE GEOTECHNICAL BEARING CAPACITY OF 200kPa AT 0.6 TO 0.9m BGL AND THE SITE HAVE SOIL PERFORMANCE LIKE A TC3 SITE SUITABLE FOR A RELEVABLE RIBRAFT.

PS1 AND PS4 FROM THE GEOTECHNICAL ENGINEER IS REQUIRED.  
 ALL SUB-GRADE (INCLUDING HARDFILL) INSPECTIONS TO BE CARRIED OUT BY GEOTECHNICAL ENGINEER.

THE BASE OF THE EXCAVATION MUST BE INSPECTED BY THE GEOTECHNICAL ENGINEER BEFORE PLACEMENT OF ANY FILL MATERIAL. IF UNCONTROLLED FILL OR YIELDING SOILS ARE EXPOSED, FURTHER UNDERCUTTING MAY BE RECOMMENDED.

SHOULD ANY SOFT OR ORGANIC MATERIAL BE ENCOUNTERED THE ENGINEER SHOULD BE CONTACTED IMMEDIATELY.

THE GRAVEL RAFT SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THE MINISTRY OF BUSINESS, INNOVATION AND EMPLOYMENT (MBIE) GUIDANCE PAGE FIGURE 5.5. ONE LAYER OF GEOGRID REINFORCEMENT IS REQUIRED AT THE BASE OF THE EXCAVATION.

GRANULAR FILL SHALL BE COMPACTED IN ACCORDANCE WITH NZS 4431:1989 AND NOTES BELOW.

- 1) WHERE COMPACTED HARD FILL IS TO BE PLACED BELOW THE BUILDING USE A SUITABLE AP40 OR AP65 WITH A MAXIMUM DRY DENSITY OF AT LEAST 2150 KG/M3 (FOR SLAB ON GRADE A 10 TO 25mm SAND BLINDING WILL BE REQUIRED BEFORE THE DPM).
- 2) PLACE AND COMPACT THE FILL MATERIAL IN 200mm THICK UN-COMPACTED LIFTS USING A LARGE SELF-DRIVEN PLATE COMPACTOR (DO NOT TRACK ROLL WITH AN EXCAVATOR).
- 3) COMPACTED TO 95% MDD WITHIN ±2% OF THE OPTIMUM WATER CONTENT. IN ACCORDANCE WITH THE SUPPLIER'S MATERIAL SPECIFICATION. TO BE CONFIRMED WITH NDM TESTING IN THREE LOCATIONS ACROSS RAFT AT HALF VERTICAL HEIGHT OF RAFT AND AGAIN AT COMPLETION.
- 4) THE CONTRACTOR IS TO OBTAIN THE MAXIMUM DRY DENSITY CERTIFICATE FOR THE FILL MATERIAL AND SUPPLY IT TO THE ENGINEER WITH THE NDM TEST RESULTS.
- 5) FAILURE TO UNDERTAKE THESE STEPS MAY RESULT IN FILL MATERIAL REQUIRING TO BE LIFTED AND PLACED AGAIN AT THE CONTRACTOR'S EXPENSE.

**STEELWORK NOTES:**

1. ALL STRUCTURAL STEELWORK, FABRICATION, AND ERECTION SHALL COMPLY WITH NZS 3404 STEEL STRUCTURES STANDARD.
2. STRUCTURAL STEELWORK SHALL BE THE FOLLOW GRADES/STRENGTHS, UNLESS NOTED OTHERWISE (UNO): FLATS, PLATES & ANGLES: 250 MPa, - OPEN SECTIONS (UB, PFC, ETC): 300 MPa, - HOLLOW SECTIONS (RHS, SHS, CHS): 350/450 MPa (DUAL GRADE)
3. ALL BOLTS SHALL BE GRADE 4.6, UNO. THREADS ARE PERMITTED IN THE SHEAR PLANES, UNO.
4. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANISED BY THE MANUFACTURER, TO AS1650.
5. BOLTS DESIGNATED AS GRADE 8.8 SHALL BE 8.8/TB, WITH FULL TENSIONING TO AS/NZS 1252. THREADS ARE NOT PERMITTED IN THE GR 8.8 BOLT SHEAR PLANES.
6. ALL END-PLATES, BASE-PLATES, AND STIFFENERS SHALL BE A MIN. OF 6mm, UNO.
7. ALL STIFFENERS SHALL BE AT LEAST AS WIDE AS THE MEMBER, UNO.
8. WELDS SHALL BE AS FOLLOWS, UNO:  
 FILLET WELDS - GENERAL PURPOSE (GP), CONTINUOUS  
 - BUTT WELDS - SPECIAL PURPOSE (SP), FULL PENETRATION  
 9. ANY WELD NOT DETAILED OTHERWISE IN THE DRAWINGS SHALL BE A 5mm FILLET WELD ALL ROUND (5mmFWAR).
10. ALL WELDS SHALL BE USING E41XX ELECTRODES, UNO
11. ALL WELDS SHALL BE SHOP WELDS, UNO. SITE WELDS ARE INDICATED ON THE DRAWINGS AND SHALL BE TO THE SAME STANDARD AS SHOP WELDS.
12. ALL BOLTED CONNECTIONS DETAILED ON THE DRAWINGS (EXCEPT THE MAIN PORTAL SPLICES) MAY BE REPLACED WITH FULLY WELDED CONNECTIONS (INCLUDING SITE WELDING). WELDS SHALL BE 6mm FWAR.
13. A 3mm SEALING PLATE AND SEALING WELD SHALL BE PROVIDED TO ALL HOLLOW SECTIONS TO PREVENT THE INGRESS OF MOISTURE.
14. WHEN STEEL THICKNESS EXCEEDS 16 MM, BOLT HOLES SHALL BE DRILLED OR PUNCHED AND REAMED. REMOVE ALL BURRS.
15. ALLOW FOR 10mm OF DRY-PACK OR SLIMS AND GROUT BENEATH ALL BASE-PLATES, UNO. DRY-PACKING/GROUTING SHALL BE CARRIED OUT AFTER THE HOLD-DOWN ANCHORS AND STEELWORK HAVE BEEN ALIGNED. DRY-PACKING SHALL BE AN APPROVED GROUT, AND HAVE A MIN. COMPRESSIVE STRENGTH OF 50 MPa AT 28 DAYS.
16. REFER TO THE ARCHITECTURAL SPECIFICATION FOR PAINT FINISHES. IN GENERAL FOR INTERIOR LOCATIONS, THE FACTORY PAINT FINISH SHALL BE RETAINED.
17. COAT ANY WELDS, CUTS, EXPOSED ENDS, AND DRILLED BOLT HOLES WITH A ZINC-RICH PAINT.
18. ALL PAINTING SHALL BE TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
19. ANY ITEM DETAILED AS HOT-DIPPED GALVANISED, SHALL BE HOT-DIPPED GALVANISED TO AS1650 AFTER FABRICATION. ANY SUBSEQUENT WELDING, DRILLING, OR CUTTING SHALL RESULT IN THE ENTIRE ITEM BEING RE-HOT-DIPPED GALVANISED.
20. ALL PROPRIETARY HOLD-DOWN ANCHORS SHALL BE INSTALLED AS PER THE MANUFACTURER'S WRITTEN INSTRUCTIONS, WITH MIN. EDGE DISTANCE AND SPACING AS PER THE DRAWINGS. THE TYPE OF HOLD-DOWN ANCHOR SHALL NOT BE SUBSTITUTED FOR OTHER THAN THAT ON THE DRAWINGS, WITHOUT THE ENGINEER'S WRITTEN APPROVAL. THE MINIMUM EDGE DISTANCES MUST BE MAINTAINED.
21. THE HST PURLINS SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS/SPECIFICATION.
22. STEEL WORK TO BE COATED IN ZINC RICH PRIMER TO MEET 25+ YEAR DURABILITY IN ACCORDANCE WITH AS/NZS 2312:2002 FOR CATEGORY B (LOW) CORROSIVITY ENVIRONMENT

**STRUCTURAL INSPECTIONS REQUIRED:**

REFER TO ATTACHED INSPECTION SCHEDULE FOR STRUCTURAL INSPECTIONS REQUIRED.

**INSPECTIONS REQUIRED BY AECOM (CALL 03-966 6000 TO BOOK INSPECTIONS).**

1. FOUNDATION: INSPECTION OF FOUNDATION EXCAVATION PRIOR TO PLACING FILL MATERIAL.
2. FOUNDATION: INSPECTION TO CONFIRM BEARING CAPACITY OF EXISTING GROUND
3. FOUNDATION: INSPECT THE SUPPLIER'S FILL MATERIAL SPECIFICATION PRIOR TO PLACEMENT.
4. REVIEW THE NDM TESTING RESULTS.

**INSPECTIONS REQUIRED BY PROJECT STRUCTURE (CALL 0800 002 921 TO BOOK INSPECTIONS).**

5. FOUNDATION: INSPECTION OF JACKING SLAB
6. FOUNDATION: INSPECTION OF FOUNDATION REINFORCING, JACK LAYOUT, DPM AROUND JACKS BEFORE POURING
7. FOUNDATION: INSPECTION OF POST HOLES AND REINFORCING BEFORE POURING CONCRETE.
8. PRELINE: INSPECTION OF BEAMS AND BRACING ELEMENT HOLD-DOWNS
9. PRE-STOP: INSPECTION OF BRACING ELEMENTS
10. FINAL INSPECTION.

FAILURE TO HAVE THE STRUCTURAL WORK INSPECTED MAY RESULT IN PROJECT STRUCTURE LTD NOT ABLE TO ISSUE A PS4 OR DESTRUCTIVE TESTING TO EXPOSE HIDDEN STRUCTURAL ELEMENTS.

**DRAWING LIST**

Sheet Number	Sheet Name	Issue 1-BC	Current Revision	Current Revision Date
S100	PLAN - JACKING SLAB	07/06/2016		
S101	PLAN - RIBRAFT	07/06/2016	B	02/08/2016
S102	DETAILS - RAFT/JACK	07/06/2016		
S103	BRACING PLAN & DETAILS	07/06/2016	A	10/06/2016
S104	PLAN - FLOOR BEAM	07/06/2016		
S200	DETAILS - RIBRAFT	07/06/2016		
S200A	DETAILS - RIBRAFT		B	02/08/2016
S201	DETAILS - RIBRAFT PENETRATIONS, FIRE WALL	07/06/2016		
S202	DETAILS - BEAMS	07/06/2016		



Rev.	Date.	Description.

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Project Location  
 132 HOON HAY RD  
 HOON HAY,  
 CHRISTCHURCH 8025

Project Description  
 HOON HAY ROAD DEVELOPMENT  
 STRUCTURAL  
 Drawing Description  
 STANDARD NOTES

Sheet Issue Date 07/06/2016	Engineer RM	Job No. J000644	Scale
	QA DL	Sheet Size A3	Revision
	Draughtsman KM	Date 07/06/2016	Drawing No. <b>N-01</b>

All dimensions must be checked on site and before any prefabrication work is to be carried out. Refer to Architectural Drawings for all dimensions and set-out information.

Important: Refer to Project Structure Ltd's Standard Notes on Sheet N-01

Development Length for Deformed Bars in Concrete							
Grade 300							
Concrete Mpa (fc)							
Bar Size	17.5	20	25	30	35	40	
Straight Bar	10	470	440	390	360	330	310
	12	560	530	470	430	400	370
	16	750	700	630	570	530	500
	20	940	880	780	720	660	620
	25	1170	1100	980	900	830	780
	28	1310	1230	1100	1000	930	870
	32	1500	1400	1250	1140	1060	990
Hooked Bar	10	180	170	150	140	130	120
	12	210	200	180	160	150	140
	16	280	260	240	220	200	190
	20	350	330	290	270	250	230
	25	440	410	360	330	310	290
	28	490	460	410	370	350	320
	32	560	520	470	430	390	370
Straight Bar	10	780	730	650	600	550	520
	12	940	880	780	720	660	620
	16	1250	1170	1040	950	880	830
	20	1560	1460	1300	1190	1100	1030
	25	1950	1820	1630	1490	1380	1290
	28	2180	2040	1820	1670	1540	1440
	32	2490	2330	2080	1900	1760	1650
Hooked Bar	10	290	270	240	220	210	190
	12	350	330	290	270	250	230
	16	460	430	390	360	330	310
	20	580	540	480	440	410	380
	25	720	680	600	550	510	480
	28	810	760	680	620	570	540
	32	920	860	770	710	650	610
40	1150	1080	960	880	820	760	

Masonry Steel Lap Lengths				
Bar Size	Straight Bar		Hooked Bar	
	Grade 300	Grade 500	Grade 300	Grade 500
10	400	700	250	450
12	500	850	250	450
16	650	1250	320	600
20	800	1400	400	700
25	1000	1750	500	900
28	1150	2000	560	100
32	1300	2240	640	1150
40	1600	2800	800	1400

**REINFORCED CONCRETE NOTES:**

IN ADDITION TO THE DRAWINGS AND SPECIFICATION REQUIREMENTS, ALL CONCRETE WORK DESCRIBED ON THE STRUCTURAL DRAWINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF NZS 3101 AND NZS 3109 (INCLUDING ANY REFERENCED STANDARDS). NOTE THAT IN SOME CASES THE REQUIREMENTS OF THE SPECIFICATION AND STRUCTURAL DRAWINGS MAY EXCEED THE REQUIREMENTS OF NZS 3101 AND NZS 3109. IN THESE CASES THE SPECIFICATION AND STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER THE PROVISION OF THE STANDARDS.

NO CONCRETE SHALL BE PLACED UNTIL PROJECT STRUCTURE LTD (PSL) HAS INSPECTED THE REINFORCING STEEL. THE INSPECTION DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO ENSURE THAT ALL WORK IS IN ACCORDANCE WITH THE RELEVANT NEW ZEALAND STANDARDS AND THE CONTRACT DOCUMENTS.

CONCRETE GRADES ARE SPECIFIED AS 28 DAY SPECIFIED COMPRESSIVE STRENGTHS AS DEFINED IN NZS 3109. ALL SUPPLY AND PRODUCTION SHALL BE IN ACCORDANCE WITH NZS 3104. CONCRETE BATCH STRENGTH CERTIFICATES MAY BE REQUESTED BY PSL AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE THEM. IF NO STRENGTH CERTIFICATES CAN BE PROVIDED THEN THE CONTRACTOR SHALL TAKE CORE SAMPLES OF THE CONCRETE AND HAVE THEM TESTED AT A CERTIFIED TEST FACILITY AT THEIR OWN COST.

MINIMUM CONCRETE STRENGTH SHALL BE 25 MPa, AND UNLESS OTHERWISE NOTED ALL CONCRETE SHALL BE 25 MPa FIRTH RAFT RP2519TC2 STEEL FIBRE MIX.

ALL REINFORCEMENT SHALL BE GRADE 300E OR GRADE 500E TO AS/NZS 4671.

THE REPLACEMENT OF REINFORCEMENT, WHICH HAS BEEN DETAILED ON THE STRUCTURAL DRAWINGS, WITH AN EQUIVALENT STRENGTH REINFORCING OF A DIFFERENT GRADE IS NOT BE PERMITTED UNDER ANY CIRCUMSTANCES.

CONCRETE SLAB SURFACE FINISHES (REFER TO NZS 3114) SHALL BE A MINIMUM OF U3. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION. THE SURFACE FINISH MUST BE CONFIRMED WITH THE ARCHITECT PRIOR TO POURING.

MINIMUM CONCRETE COVER TO REINFORCEMENT SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED ON THE DRAWINGS:  
 A) THE MINIMUM CONCRETE COVER FOR CONCRETE CAST DIRECTLY ON OR AGAINST THE GROUND SHALL BE 75mm.  
 B) THE MINIMUM CONCRETE COVER WHEN A DAMP PROOF MEMBRANE IS USED BETWEEN THE GROUND AND THE CAST CONCRETE SHALL BE 50mm.  
 C) THE MINIMUM CONCRETE COVER TO AN EXPOSED WALL OR FLOOR SLAB SHALL BE 50mm.  
 D) THE MINIMUM CONCRETE COVER TO TOP OF INTERNAL FLOOR SLAB IS 30mm.

NO REINFORCEMENT OR WIRE TIES SHALL PROJECT INTO THE MINIMUM CONCRETE COVER THICKNESS.

ALL REINFORCEMENT MUST BE CLEAN AND FREE FROM MUD, LOOSE RUST, MILL SCALE, CONCRETE LAITANCE, OIL, ETC. AT THE TIME CONCRETE IS PLACED.

ALL REINFORCEMENT SHALL BE ADEQUATELY SECURED AGAINST DISPLACEMENT AT INTERSECTIONS BY THE USE OF IRON WIRE TIES WITH A DIAMETER GREATER THAN 1.25mm OR BY APPROVED CLIPS. ALL REINFORCING SUPPORTS SHALL MAINTAIN THE CORRECT POSITION OF THE REINFORCEMENT DURING PLACEMENT AND COMPACTION OF THE CONCRETE.

MESH SHALL BE LAPPED THE MAXIMUM OF:  
 1. ONE FULL GRID.  
 2. AS PER MANUFACTURER'S SPECIFICATION.  
 UNLESS OTHERWISE NOTED.

ALL CONSTRUCTION JOINTS SHALL BE TYPE B CONSTRUCTION JOINTS PREPARED IN ACCORDANCE WITH NZS 3109. METHODS WHICH AVOID SCABBING ARE PREFERRED FOR INTENTIONALLY ROUGHENING THE CONCRETE SURFACE AT CONSTRUCTION JOINTS.

**STRUCTURAL STEEL COATINGS:**

ALL STRUCTURAL STEEL SHALL BE SURFACE TREATED IN ACCORDANCE WITH AS/NZS 2312 OR AS/NZS 4680 TO ACHIEVE A 25+ YEAR DURABILITY RATING

STEEL LOCATION	ATMO. CORROSION CATEGORY	PROTECTION SYSTEM	EXPECTED TIME TO FIRST MAINTENANCE
DRY INTERNAL ENVIRONMENT	A (VERY LOW)	PAINT PRIMER	25+ YEARS
COVERED STEEL WORK WITHIN THE EXTERNAL WALL AND ROOF CAVITY OF DRY ENVIRONMENT	A (VERY LOW)	IZS2SB	25+ YEARS
EXTERNAL SURFACES OF OTHER STRUCTURE	C (HIGH)	HDG900	25+ YEARS

A PS3 IS REQUIRED FROM THE CONTRACTOR FOR THE COATING SYSTEM

IF THE INCORRECT PRODUCT IS USED DESTRUCTIVE TESTING / FURTHER DESIGN AND CHECKING MAY BE REQUIRED AT THE CONTRACTORS EXPENSE.

**CONCRETE MASONRY NOTES:**

ALL MASONRY MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT NEW ZEALAND STANDARDS.

CONSTRUCTION OF THE CONCRETE MASONRY ITEMS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF NZS 4210 BY SKILLED TRADESMEN EMPLOYED BY A CONTRACTOR SPECIALISING IN THE LAYING OF CONCRETE MASONRY. A FOREMAN BLOCKLAYER SHALL BE ON SITE AT ALL TIMES THAT BLOCKS ARE BEING LAID. ONLY FIRST CLASS WORKMANSHIP WILL BE ACCEPTED.

THE OBSERVATION LEVEL SHALL BE TYPE B IN ACCORDANCE WITH NZS 4230.

THE BLOCKLAYER SHALL GIVE 24 HOURS' NOTICE TO THE ENGINEER OF THE COMMENCEMENT OF CRITICAL STAGES AND THOSE STAGES NOMINATED BY THE ENGINEER PRIOR TO COMMENCEMENT OF THE CONTRACT (INCLUDING GROUTING).

NO GROUT SHALL BE PLACED UNTIL THE ENGINEER HAS INSPECTED AND APPROVED THE BLOCKWORK, REINFORCING, ANY CONSTRUCTION JOINTS, CAST-IN ITEMS AND CONCRETE SURFACES THAT MAY BE INVOLVED IN THE GROUTING OPERATION. THE INSPECTION DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO ENSURE THAT ALL WORK IS IN ACCORDANCE WITH THE RELEVANT NEW ZEALAND STANDARDS AND THE CONTRACT DOCUMENTS.

ALL CONCRETE BLOCKS SHALL BE 20 SERIES AND 15 SERIES COMPLYING WITH AS/NZS 4455.1. FROM AN APPROVED MANUFACTURER. BLOCKS SHALL BE OF A STANDARD GREY COLOUR, DENSE, HARD, SOUND WITH TRUE AND UNBLEMISHED SURFACES AND ARISES. LIGHTWEIGHT AGGREGATE BLOCKS SHALL NOT BE USED.

MORTAR SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 12.5MPa AND A 7 DAY MASONRY-TO-MORTAR BOND STRENGTH OF 200kPa UNLESS OTHERWISE SPECIFIED.

CONTROL JOINTS LOCATION IS TYPICALLY SHOWN ON THE PROJECT DRAWINGS. JOINTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH NZS 4229:2013 FIGURE 12.2. NOTE. HORIZONTAL REINFORCEMENT OF BOND BEAM AND LINTELS TO RUN CONTINUOUS THROUGH CONTROL JOINT. WHERE NOT SHOWN ON PLANS PROVIDE JOINTS AT:

- MAXIMUM OF 5.0m CENTRES
- AT CHANGE IN WALL HEIGHTS
- AT CHANGE IN WALL THICKNESS
- AT (ABOVE) MOVEMENT JOINTS IN FOUNDATIONS AND FLOORS
- AT (BELOW) MOVEMENT JOINTS IN ROOFS AND FLOORS
- AT ONE SIDE OF DOOR OR WINDOW OPENING FOR OPENING FOR OPENING LESS THAN 1.5m.

REINFORCING STEEL SHALL BE GRADE 300E OR 500E COMPLYING WITH AS/NZS 4671. REFER TO SECTION 6 OF THIS SPECIFICATION FOR SPECIFIC DETAILS OF REINFORCING STEEL.

BLOCKFILL GROUT SHALL BE COARSE GROUT COMPLYING WITH THE REQUIREMENTS OF NZS 4210 AND SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 17.5MPa. THE COARSE AGGREGATE SHALL HAVE A NOMINAL SIZE RANGE OF 4.75mm TO 13.2mm. AN APPROVED EXPANSIVE ADDITIVE SHALL BE INCLUDED IN THE GROUT.

THE GROUT SHALL BE SUPPLIED READY MIXED FROM A PLANT HAVING A CURRENT 'CERTIFICATE OF AUDIT' ISSUED BY THE NZ READY-MIX CONCRETE ASSOCIATION.

REINFORCEMENT DETAILS SHALL BE AS REQUIRED BY NZS 4210, UNLESS SHOWN OTHERWISE ON THE DRAWINGS.

ALL REINFORCING, INCLUDING STARTER BARS, SHALL BE CAREFULLY SET OUT TO SUIT MASONRY MODULES AND REQUIRED LOCATIONS WITHIN CELLS AND CAVITIES, IN ACCORDANCE WITH NZS 4210 OR AS SHOWN ON THE DRAWINGS.

REINFORCING, INCLUDING STARTER BARS, SHALL BE SET OUT TO THE TOLERANCES SPECIFIED IN NZS 4210, UNLESS OTHERWISE SPECIFIED.

ALL BLOCKS SHALL BE SOLID FILLED. GROUTING SHALL BE BY THE HIGH LIFT METHOD WITH EXPANSIVE ADDITIVE DESCRIBED IN NZS 4210.

TOP PLATE SUPPORTING THE ROOF: 140x45 SG8 TIMBER PLATE ON DPC. WITH M12 BOLTS @ 1.2m MAX. CRS. CAST IN 100mm MIN, 300mm MAX. FROM CORNERS. 50x50x3mm WASHERS TO TIMBER.  
 NOTE: BOLTS REQUIRED @ 300 CRS FOR HIGH, VERY HIGH AND SPECIFIC DESIGN WIND ZONES.

TIMBER PLATES SUPPORTING SUBFLOOR: 140x45 SG8 TIMBER PLATE ON DPC. WITH M16 BOLTS @ 1.2m MAX. CRS. CAST IN 100mm MIN, 300mm MAX. FROM CORNERS AND @ 1.2m MAX CRS. 50x50x3mm WASHERS TO TIMBER.

**EPOXY FIXED ANCHORS AND BOLTS:**

ALL EPOXY FIXED ANCHORS AND BOLTS MUST BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS USING THE PRODUCT SPECIFIED IN THE PLANS.

NO SUBSTITUTION OF OTHER EPOXY IS ALLOWED WITHOUT WRITTEN INSTRUCTION FROM PROJECT STRUCTURE.

A PS3 IS REQUIRED FROM CONTRACTOR FOR THE INSTALLATION OF EPOXY FIXED ANCHORS AND BOLTS.

IF THE INCORRECT PRODUCT IS USED DESTRUCTIVE TESTING / LOAD TESTING / FURTHER DESIGN AND CHECKING MAY BE REQUIRED AT THE CONTRACTORS EXPENSE.

**GIB BRACING NOTES:**

BRACING HAS BEEN DESIGNED IN ACCORDANCE WITH GIB EYBRACE SYSTEMS JUNE 2011. ALL CONSTRUCTION AND INSTALLATION OF BRACING ELEMENTS TO COMPLY WITH GIB'S INSTALLATION GUIDELINES. REFER TO GIB EYBRACE SPREADSHEET FOR CALCULATIONS.

**TIMBER NOTES:**

1. ALL WORK SHALL COMPLY WITH THE RELEVANT CHAPTERS OF NZS 3604:2011, NEW ZEALAND BUILDING CODE & APPROVED DOCUMENTS AND ALL OTHER RELEVANT REGULATIONS, STANDARD & ORDINANCES; THE BUILDER SHALL CONTACT THE ENGINEER WHERE A STANDARD DETAIL IS NOT APPLICABLE.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL EXISTING SERVICES AND CONFIRM ALL DIMENSIONS AND SITE CONDITIONS BEFORE COMMENCEMENT OF ANY WORK.
3. ALL TIMBER TO BE TREATED TO IN ACCORDANCE WITH SECTION 4 OF NZS 3604:2011 UNLESS OTHERWISE NOTED. ALL CUTS AND NOTCHES SHALL BE TREATED WITH "ENSEAL" TIMBER PRESERVATIVE.
- 4A. ALL TIMBER IN CONTACT WITH THE GROUND SHALL HAVE H5 LEVEL OF TREATMENT. AS PER NZS3640 OR AS/NZS 1604.
- 4B. ALL TIMBER MEMBERS EXPOSED TO EXTERIOR WEATHER CONDITIONS AND DAMPNESS BUT NOT IN GROUND CONTACT SHALL BE H3.2 LEVEL OF TREATMENT AS PER AS PER NZS3640 OR AS/NZS 1604.
- 4C. ALL TIMBER MEMBERS PROTECTED FROM WEATHER BY EXPOSED TO GROUND ATMOSPHERE SHALL BE H1.2 LEVEL OF TREATMENT AS PER NZS3640 OR AS/NZS 1604 UNLESS OTHERWISE STATED BY NZS3602:2003 TABLE 4D. FOR THE LEVEL OF TREATMENT FOR ALL OTHER CASES REFER TO TABLE 1 NZS3602:2003.
5. EDGE DISTANCES FOR BOLTS SHALL BE AS PER THE FIGURES TO THE RIGHT (SHOWN ON PAGE N-02) UNLESS OTHERWISE STATED ON EACH DRAWING. D IS THE DIAMETER OF THE BOLT AND A IS THE BOLT SPACING CALCULATED AS PER NZS3604:1993.

**TIMBER GRADE AND QUALITY**  
 UNLESS OTHERWISE NOTED OR SPECIFIED ON THE DRAWINGS OR SPECIFICATION, ALL FRAMING TIMBER SHALL BE MINIMUM STRUCTURAL GRADE SG 8 RADIATA PINE IN ACCORDANCE WITH NZS 3622. FRAMING TIMBER SHALL BE SEASONED OR KILN DRIED, AND BE STRAIGHT AND TRUE AND FREE FROM WIND, WARP AND DISTORTION, AND IN LENGTHS SUITABLE FOR THE MEMBERS REQUIRED, AND SHALL HAVE A MOISTURE CONTENT OF BETWEEN 12% AND 18% BEFORE INSTALLATION.

DO NOT USED DAMAGED, FAULTY OR DEFECTIVE MATERIALS.

**TIMBER TREATMENT**  
 TIMBER FRAMING SHALL BE APPROPRIATELY TREATED AGAINST MOISTURE AND/OR INSECT DECAY BY A MEMBER OF THE NZ TIMBER INDUSTRY FEDERATION INC. PRESERVATIVE TREATMENT SHALL BE TO THE REQUIREMENTS OF NZS 3602 AS AN ABSOLUTE MINIMUM, AND TREATED FRAMING SHALL BE IDENTIFIED AND MARKED ACCORDINGLY. CAREFULLY MANAGE TREATED FRAMING DURING INSTALLATION TO AVOID ACCIDENTAL USE OF TIMBER WITH A LOWER PERFORMANCE OR DURABILITY TREATMENT THAN THAT REQUIRED OR SPECIFIED.

**STORAGE & HANDLING**  
 CHECK TIMBER FRAMING UPON DELIVERY AND REJECT SUB-STANDARD OR DAMAGED MATERIAL. STORE TIMBER FRAMING DRY UNDER COVER, FILLET STACKED AND WELL CLEAR OF THE GROUND, AND PROTECT FROM DAMAGE, MOISTURE, AND CONTAMINATION.

ENSURE ALL APPROPRIATE PERSONAL PROTECTION EQUIPMENT IS WORN AT ALL TIMES WHEN HANDLING AND CUTTING TREATED FRAMING.

**FRAMING INSTALLATION**  
 ALL TIMBER FRAMING MEMBERS, INCLUDING ALL DWANGING, STRUTTING, BLOCKING, BRACING ETC. SHALL BE SIZED, SETOUT, FITTED AND FIXED TO THE REQUIREMENTS OF NZS 3604 AND AS SHOWN ON THE DRAWINGS TO ACCOMMODATE STRUCTURAL LOADINGS, CLADDING AND LINING SETOUT AND SUPPORT, AND THE INSTALLATION OF OTHER BUILDING COMPONENTS, FIXTURES AND FITTINGS.

ALL FRAMING SHALL BE ERECTED WITHOUT DEVIATION, TRUE TO LINE, LEVEL, ANGLE AND PLUMB, AND EVENLY ALIGNED AND SQUARE, AND WITHIN THE TOLERANCES ALLOWED IN NZS 3604 TABLE 2.1. FRAMING MEMBERS ACCURATELY CUT, LAPPED, HOUSED, JOINED, AND SEATED SO AS TO PROVIDE FULL CONTACT OVER THE BEARING SURFACES.

TEMPORARILY PROP, BRACE, TIE, AND SECURE FRAMING MEMBERS AND ELEMENTS AS REQUIRED UNTIL THE FRAMING IS COMPLETE AND SELF SUPPORTING. LEAVE IN PLACE FOR SAFETY PURPOSES AS LONG AS REQUIRED. PROTECT TIMBER FRAMING AS REQUIRED DURING INSTALLATION AGAINST DAMAGE AND MOISTURE, AND AGAINST SIGNIFICANT VARIATION OF MOISTURE CONTENT UNTIL READY FOR LINING. AVOID PONDING OF WATER AROUND FLOOR PLATES.

**CONCRETE SEPARATION**  
 SEPARATE TIMBER FRAMING WITH AN APPROVED CONTINUOUS DAMP PROOF COURSE WHEN IN DIRECT CONTACT WITH CONCRETE OR MASONRY. ENSURE THAT THE DPC MATERIAL IS COMPATIBLE WITH THE TIMBER TREATMENT.

FREE DRAINING SEPARATIONS TO EXTERNAL VERTICAL FACES SHALL BE 12mm MINIMUM AND AS NOTED ON THE DRAWINGS.

**TIMBER RE-TREATMENT**  
 ALL CUT OR DRILLED SURFACES OF H4 AND H5 TREATED TIMBER FRAMING SHALL BE FLOOD COAT RE-TREATED, WITH A SUITABLE PRODUCT RECOMMENDED BY THE ORIGINAL TREATMENT PLANT, BEFORE INSTALLATION.

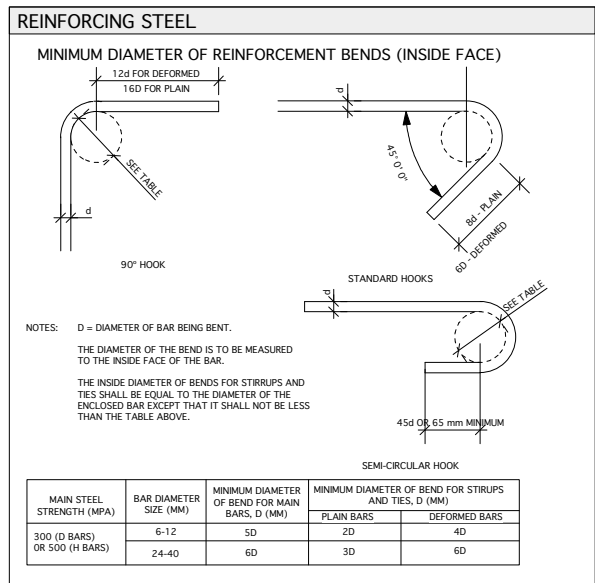
**EDGE NOTCHING AND CENTRE HOLES**  
 THE NOTCHING, CHECKING, AND BORING OF FRAMING MEMBERS SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF NZS 3604.

AVOIDED CHECKING AND CUTTING WHERE POSSIBLE AND KEEP TO SUCH DIMENSIONS SO AS NOT TO PREJUDICE THE PURPOSE FOR WHICH THE MEMBER IS USED. KEEP EDGE NOTCHING TO A MINIMUM AND WHERE POSSIBLE USE CENTRALLY BORED HOLES INSTEAD.

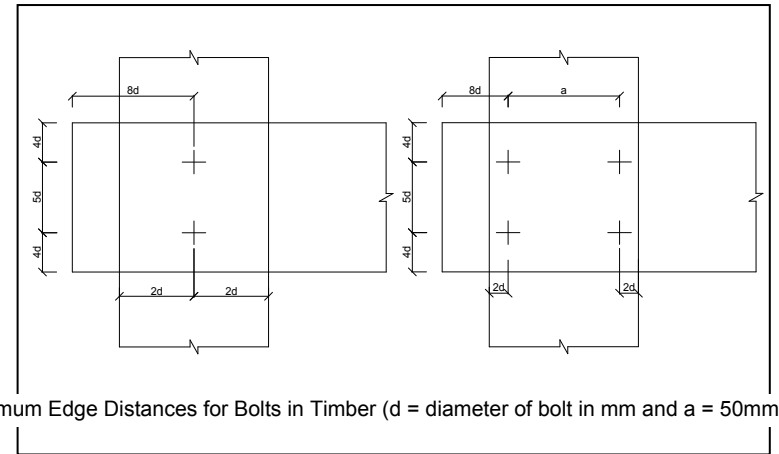
CONCEALED SERVICES PIPES AND WIRING SHALL NOT PROJECT BEYOND THE FRAMING FACE AND WHERE POSSIBLE SHALL BE BEYOND THE LINING'S FIXING REACH.

**FRAMING PROTECTION**  
 PROTECT TIMBER FRAMING AS REQUIRED DURING INSTALLATION AGAINST DAMAGE AND MOISTURE, AND AGAINST SIGNIFICANT VARIATION OF MOISTURE CONTENT UNTIL READY FOR LINING. AVOID PONDING OF WATER AROUND FLOOR PLATES.

**BUILT-UP FRAMING MEMBERS**  
 EXCEPT FOR JACK STUDS, BOTTOM PLATES AND TOP PLATES, FRAMING MEMBERS MAY BE SUBSTITUTED WITH BUILTUP MEMBERS IN ACCORDANCE WITH THE LIMITATIONS OF NZS 3604 2.4.4.7 WITH THE PRIOR APPROVAL OF THE ARCHITECT/DESIGNER ONLY.



Christchurch City Council Page 29 of 43  
 BCN/2016/5889  
 Approved Building Consent Plan  
 17/10/2016 Phil Judge



Rev.	Date.	Description.

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Project Location	Project Description	Sheet Issue Date	Engineer	Job No.	Scale
132 HOON HAY RD HOON HAY, CHRISTCHURCH 8025	HOON HAY ROAD DEVELOPMENT STRUCTURAL	07/06/2016	RM	J000644	Scale
	Drawing Description STANDARD NOTES		QA DL	Sheet Size A3	Revision
			Draughtsman KM		Drawing No. N-02
			Date 07/06/2016		

### 3.9 Reinforcing Steel

Reinforcing bars shall conform to NZS 4671:2001 "Steel Reinforcing Materials". All bars shall be of deformed type (Grade 500E). All bends shall be made cold without fracture and in accordance with the bend diameters given in NZS 3109 "Concrete Construction". Welded lap joints are not permitted.

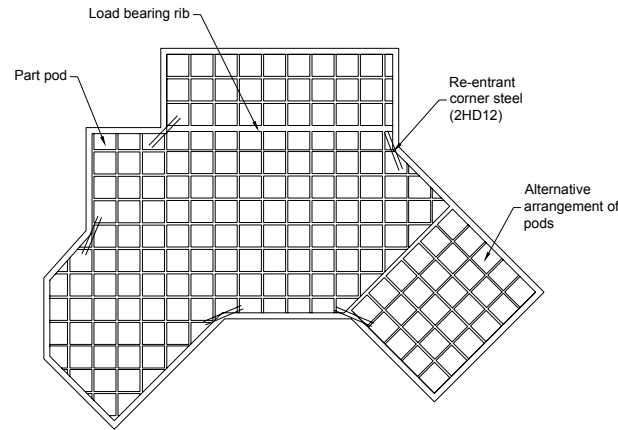


Figure 7 Typical Pod and Rib Layout

Reinforcing steel in the slab shall consist of Welded Reinforcing Mesh complying with AS/NZS 4671:2001 with a minimum weight of 2.27kg/m<sup>2</sup>, a lower characteristic stress of 500MPa, square configuration of orthogonal bars between 150 to 300mm centres, and ductility class L or E, hereafter referred to as "665 mesh, or mesh".

Figure 10 shows the detailed layout of the spacers and the steel in the edge beam and the standard ribs.

#### 3.9.1 Edge Beam Steel

Two edge beam reinforcing bars shall be placed in the bottom of the edge beam and supported in the correct position by the Firth spacers, as shown in Figure 10. One edge beam bar shall be tied below the mesh at the perimeter of the area covered by the polystyrene pods as shown in Figure 10.

All steel shall be lapped a minimum of 60 bar diameters (720mm for 12mm steel). Tying of the edge beam steel is only required at corners. Figure 8 shows the layout for the edge beam bottom steel bars at the corner. The inner bottom bars and the top bars shall cross each other and extend to 75mm from the outside face of the edge beam as shown. These bars shall be tied together where they cross.

#### 3.9.2 Rib Steel

Rib reinforcing steel shall be placed in the bottom of the internal ribs and supported in the correct position by the Firth or Wilton Joubert spacers (WJ). Figure 9 shows the detail of the Firth and WJ spacers, and Figure 10 shows a detailed section identifying how the steel is located in the spacers. The 300mm spacer shall be used for the 300mm wide internal ribs. These spacers ensure that cover to DPM below the base is greater than 45mm and cover to the exterior perimeter is 75mm.

All steel shall be lapped a minimum of 60 bar diameters (720mm for 12mm steel). At the junction with the edge beam, each rib steel bar shall sit on top of the edge beam bars, and extend to the outermost bar. The 75mm cover to the edge of the beam shall still be allowed for. One HD12 bar (Grade 500E) shall be placed in each 100mm wide rib and two HD12 bars (Grade 500E) shall be placed in the bottom of each 300mm wide rib. For perimeter 300mm Ribs a HD12 bar is also required in the top at the beam.

#### 3.9.3 Mesh Reinforcing

665 Mesh reinforcing shall be placed over the pods and supported on 40mm mesh chairs spaced at a minimum of 1200mm centres, with at least two mesh chairs placed per pod and at least one per part pod. The mesh shall be lapped 225mm minimum and tied at all laps.

#### 3.9.4 Re-entrant Corner Steel

Two HD12 bars (Grade 500E), 1200mm long shall be placed across the corner, tied to the top of the mesh at re-entrant corners at 200mm centres, with 50mm cover from the internal corner as detailed in Figure 7 (this steel is to control cracking at this potential weak point).

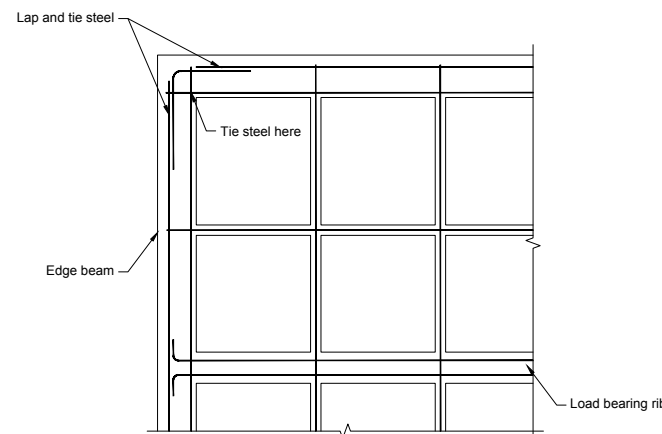


Figure 8 Corner Steel Layout

#### RIBRAFT NOTES:

- 1) DESIGN BASED ON THE FOLLOWING SOIL REPORT AND SUBJECT TO ACHIEVING TC3 SITE CONDITIONS:  
BY: AECOM  
REF: 60506000-2016  
DATED: 25 MAY 2016  
DESIGN ASSUMPTIONS: FOUNDATION DESIGN IS BASED ON TC3 SITE CONDITIONS
- 2) PS1 AND PS4 IS REQUIRED FOR SITE GROUND IMPROVEMENTS. ALL SUB-GRADE (INCLUDING HARDFILL) INSPECTIONS TO BE CARRIED OUT BY GEOTECHNICAL ENGINEER.
- 3) CHECK ALL BUILDING CONSENT DOCUMENTATION FOR ANY INSPECTIONS THAT ARE REQUIRED BY  
A) GEOTECHNICAL ENGINEER  
B) BUILDING CONSENT AUTHORITY  
C) STRUCTURAL ENGINEER
- IF NO INSPECTIONS ARE UNDERTAKEN THEN NO PS4 CAN BE ISSUED.
- 4) INSPECTION OF SITE EXCAVATION / HARDFILL / GROUND IMPROVEMENT TO BE CARRIED OUT BY THE GEOTECHNICAL ENGINEER.
- 5) DO NOT SCALE FROM DRAWINGS. REFER TO ARCHITECTURAL PLANS FOR ALL SET-OUT AND DIMENSIONS.
- 6) ALL WORK SHALL COMPLY WITH FIRTH RIBRAFT TECHNICAL MANUAL JAN 2012, EXCEPT WHERE ALTERED BY THESE DRAWINGS. THE BUILDER SHALL CONTACT THE ENGINEER WHERE A STANDARD DETAIL IS NOT APPLICABLE.
- 7) IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL EXISTING SERVICES AND CONFIRM ALL DIMENSIONS AND SITE CONDITIONS BEFORE COMMENCEMENT OF ANY WORK;
- 8) UNLESS OTHERWISE NOTED ALL CONCRETE SHALL BE 25 MPa FIRTH RAFT RP2519TC2 STEEL FIBRE MIX. FOR AREAS WITH POLISHED CONCRETE FLOORS CONTACT ENGINEER FOR FURTHER DETAILS. WHERE UNDERFLOOR/IN-SLAB HEATING IS INSTALLED THE TOPPING SLAB IS TO BE INCREASED TO 110mm.
- 9) POLYSTYRENE PODS SHALL BE A MAXIMUM 1100mm X 1100mm X 300mm/ 220mm. NOTE, POLYSTYRENE SPACERS MUST NOT BE USED AS BAR CHAIRS.
- 10) ALL REINFORCING STEEL IS TO BE DUCTILITY CLASS 'E', IN ACCORDANCE WITH NZS 4671.
- 11) ALL PIPES SHALL BE LAID WITHIN THE PODS AND NOT IN THE "IMPROVED GROUND" OR "HARDFILL". ALL PENETRATIONS SHALL BE CARRIED OUT IN ACCORDANCE WITH FIRTH RIBRAFT TECHNICAL MANUAL JAN 2012.
- 12) NO SAW CUTS ARE PERMITTED DUE TO THE POSSIBILITY OF CUTTING THE TOP REINFORCING IN THE SLAB AND REDUCING THE STRENGTH OF THE FOUNDATION SYSTEM. SOME CRACKING OF THE FLOOR SLAB IS POSSIBLE, HOWEVER STEEL FIBRE REINFORCING SHALL MINIMISE THE POTENTIAL CRACKS RATHER THAN ELIMINATING THEM. 2/D12 REINFORCING STEEL SHALL BE INSTALLED AT ALL RE-ENTRANT CORNERS.

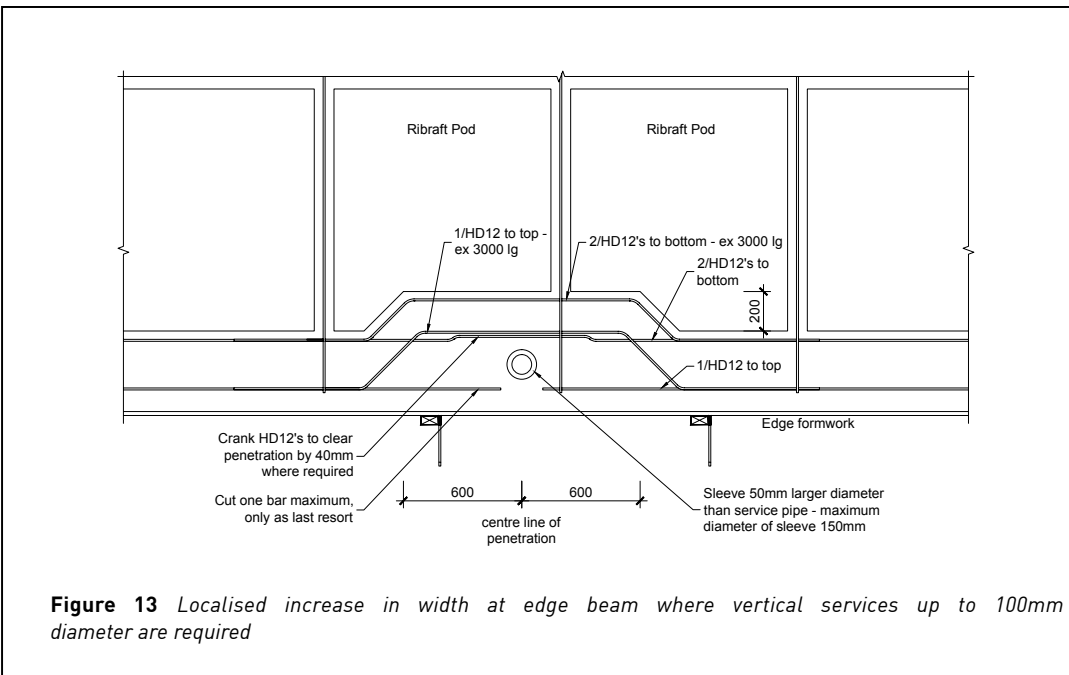


Figure 13 Localised increase in width at edge beam where vertical services up to 100mm diameter are required

Information taken from Firth RIBRAFT Technical Manual Jan 2012 - all construction to be in accordance with manual except where modified by Project Structure specific detailing. Contractor must have a copy of the entire document on site at all times.



Rev.	Date.	Description.

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Project Location  
132 HOON HAY RD  
HOON HAY,  
CHRISTCHURCH 8025

Project Description  
HOON HAY ROAD DEVELOPMENT  
STRUCTURAL  
Drawing Description  
STANDARD NOTES

Sheet Issue Date  
07/06/2016

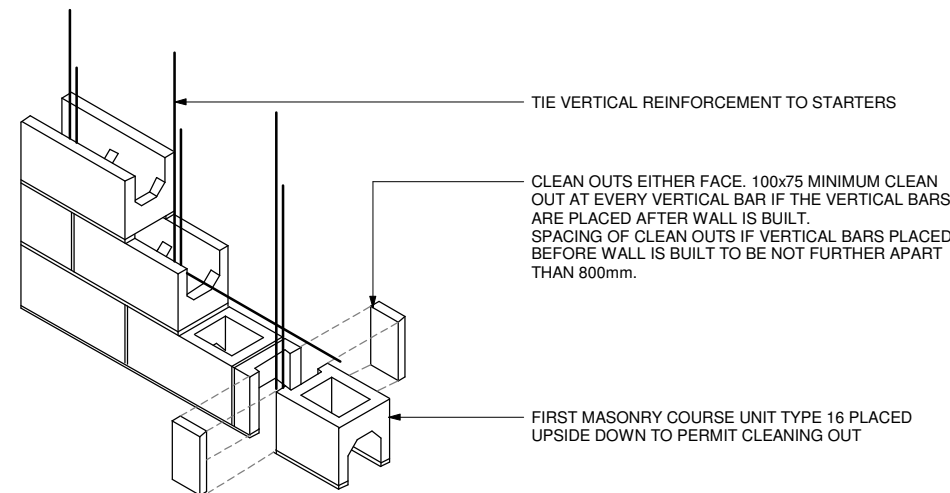
Engineer RM	Job No. J000644	Scale
QA DL	Sheet Size A3	Revision
Draughtsman KM	Date 07/06/2016	Drawing No. <b>N-03</b>

Christchurch City Council Page 30 of 43  
BCN/2016/5889  
Approved Building Consent Plan  
17/10/2016 Phil Judge

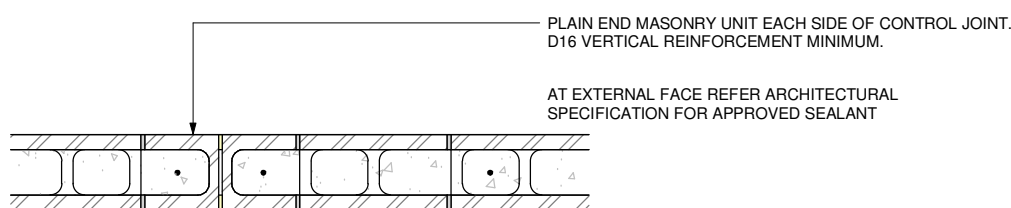
All dimensions must be checked on site and before any prefabrication work is to be carried out. Refer to Architectural Drawings for all dimensions and set-out information.

Important: Refer to Project Structure Ltd's Standard Notes on Sheet N-01

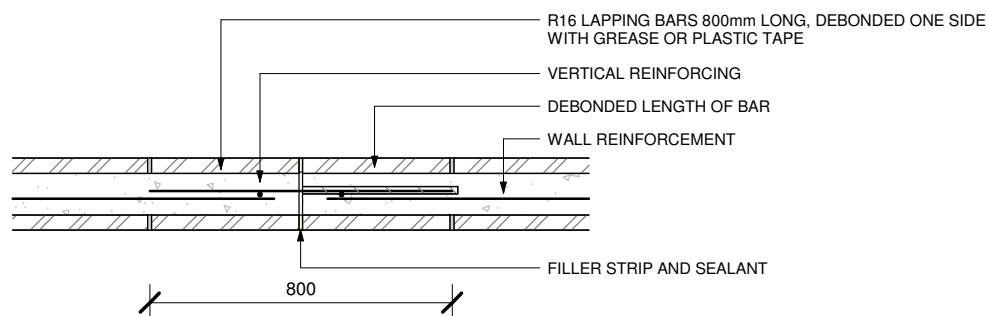
**Christchurch City Council** Page 31 of 43  
**BCN/2016/5889**  
 Approved Building Consent Plan  
 17/10/2016 Phil Judge



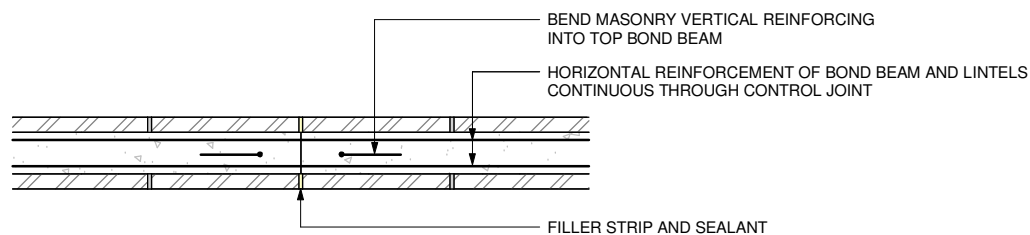
**MASONRY WALL BASE DETAIL**



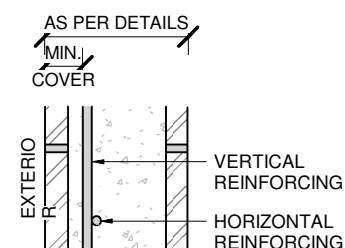
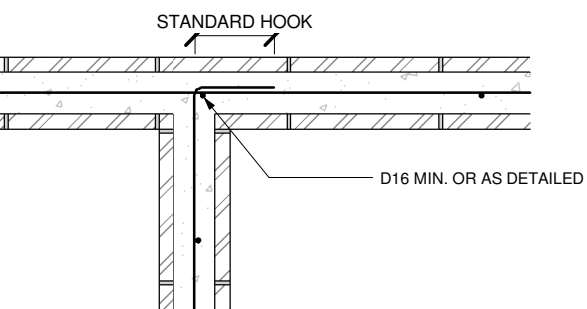
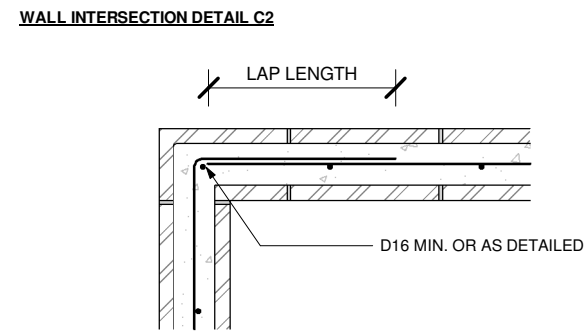
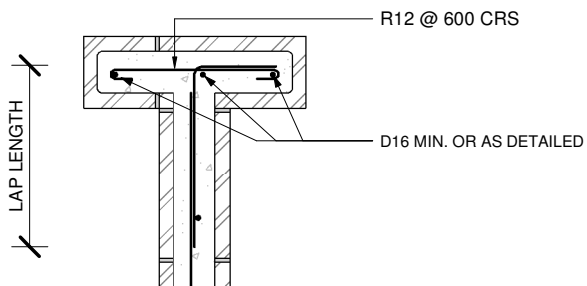
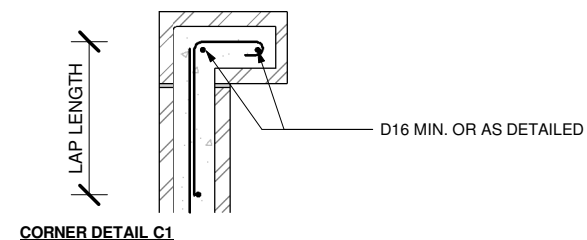
**STANDARD COURSE CONTROL JOINT**  
15 & 20 SERIES MASONRY



**HORIZONTAL COURSE CONTROL JOINT**  
15 & 20 SERIES MASONRY  
SEALER TREATMENT TO CONTROL JOINT AS PER STANDARD COURSE.



**TOP BOND BEAM COURSE CONTROL JOINT**  
15 & 20 SERIES MASONRY  
SEALER TREATMENT TO CONTROL JOINT AS PER STANDARD COURSE.

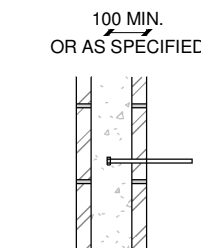


**NZS 4229:2013 8.1.7**  
 CONCRETE MASONRY SHALL HAVE A MIN COVER TO STEEL REINFORCING FROM AN UNCOATED MASONRY EXTERNAL FACE AND MINIMUM GROUT STRENGTH OF: 45mm AND 17.5MPa FOR INTERIOR CONDITIONS AND EXPOSURE ZONE B, 50mm AND 20 MPa FOR EXPOSURE ZONE C, 60mm AND 25MPa FOR EXPOSURE ZONE D. REFER TO NZS 3604:2011 FOR FIGURE 4.2 EXPOSURE ZONE.

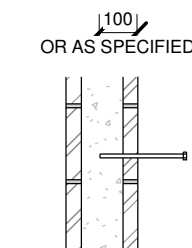
**COVER TO STEEL REINFORCING DETAIL**

**ANCHOR BOLT DETAILS:**

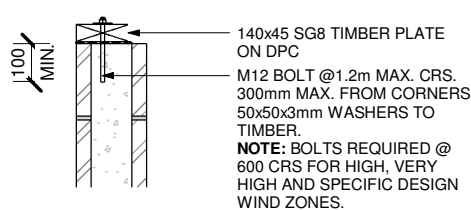
**HORIZONTAL BOLTS**  
 a. FOR ANCHOR BOLT SIZE AND SPACING REFER TO PROJECT DRAWINGS.  
 b. FOR CONSTRUCTION COVERED BY NZS 3604 THE MINIMUM FASTENING SIZE SHALL BE 12mm DIAMETER IF SUPPORTING FLOOR OR ROOF STRINGER AT SPACING SPECIFIED IN NZS 3604.



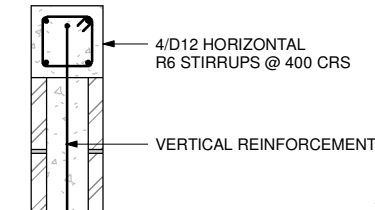
**STANDARD BOLT**



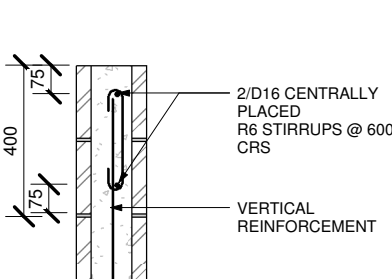
**MECHANICAL OR CHEMICAL ANCHOR**



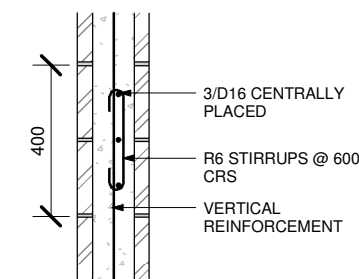
**TIMBER PLATE FASTENING**



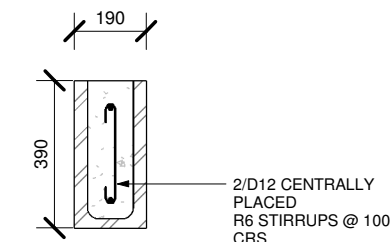
**INSITU BOND BEAM**



**MASONRY BOND BEAM TYPE B2. NZS 4229:2013**

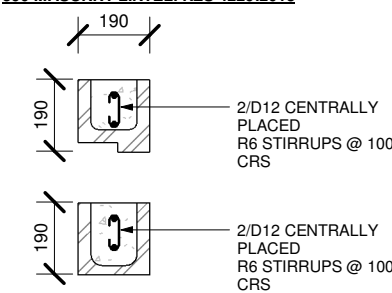


**MASONRY BOND BEAM TYPE B3. NZS 4229:2013**



REFER TO MASONRY STEEL LAP LENGTHS TABLE (STD NOTES SHEET) FOR REQUIRED LAP PAST OPENING.

**390 MASONRY LINTEL. NZS 4229:2013**



REFER TO MASONRY STEEL LAP LENGTHS TABLE (STD NOTES SHEET) FOR REQUIRED LAP PAST OPENING.

**190 MASONRY LINTEL. NZS 4229:2013**

**CONCRETE MASONRY**

- A. TIE VERTICAL REINFORCEMENT TO STARTERS.
- B. TIE HORIZONTAL REINFORCEMENT TO VERTICAL REINFORCEMENT.
- C. GROUT MUST NOT PROTRUDE INTO CELL CAVITY BY MORE THAN 5mm.
- D. INSTALL CLEANOUTS.
- E. ALL REINFORCEMENT STARTERS TO BE ACCURATELY LOCATED AND SPACED TO SUIT MASONRY MODULES.
- F. BENDING REINFORCEMENT AT SLAB LEVEL TO ALIGN WITH MASONRY UNIT CORES WILL NOT BE PERMITTED.
- G.
- H. ALL MASONRY UNITS SHALL BE MANUFACTURED IN ACCORDANCE WITH AS/NZS 4455. ALL MASONRY WALLS SHALL BE CONSTRUCTED TO THE REQUIREMENTS OF NZS 4210: FOR GRADE 'B' MASONRY.
- I. ALL MASONRY SHALL BE LAID STRETCHER (RUNNING) BOND THROUGHOUT UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- J. ALL MASONRY GROUT TO BE 20 MPa MIN STRENGTH AT 28 DAYS.
- K. ALL GROUTING SHALL BE CARRIED OUT USING THE HIGH LIFT GROUTING METHOD.
- L. ALL MASONRY CELLS SHALL BE FILLED WITH GROUT UNLESS NOTED ON THE DRAWINGS. (ALL CELLS FILLED CONSTRUCTION). USE OPEN END BOND BEAM BLOCKS THROUGHOUT.
- M. MINIMUM REINFORCEMENT IN MASONRY WALLS IS AS FOLLOWS : 15 & 20 SERIES MASONRY WALLS UNLESS NOTED ON PROJECT DRAWINGS: D12-400 CENTRES VERTICAL (CENTRAL). D12-400 CENTRES HORIZONTAL. PROVIDE A BOND BEAM AT THE TOP OF ALL MASONRY WALLS.
- N. 25 SERIES MASONRY WALLS UNLESS NOTED ON PROJECT DRAWINGS: D16-600 CENTRES VERTICAL (CENTRAL). D16-600 CENTRES HORIZONTAL. PROVIDE A BOND BEAM AT THE TOP OF ALL MASONRY WALLS.
- O. TRIM ALL OPENINGS AND WALL ENDS WITH D16 BARS UNLESS NOTED.
- P. REINFORCEMENT LAP LENGTH GRADE 300 REINFORCEMENT = 40 BAR DIAMETER LAP LENGTH GRADE 500 REINFORCEMENT = 70 BAR DIAMETER LAP LENGTH
- Q. ALL REINFORCEMENT STARTERS TO BE ACCURATELY LOCATED AND SPACED TO SUIT MASONRY MODULES. BENDING REINFORCEMENT AT SLAB LEVEL TO ALIGN WITH MASONRY UNIT CORES WILL NOT BE PERMITTED.FOR REQUIRED TOLERANCES ON PLACEMENT OF REINFORCEMENT REFER TO THE SPECIFICATION .
- R. PROVIDE A 15mm CLEARANCE BETWEEN THE ENDS OF ALL MASONRY WALLS TO OTHER STRUCTURAL MEMBERS. PROVIDE A 30mm CLEARANCE BETWEEN THE SOFFIT OF BEAMS/FLOOR UNITS AND THE TOP OF THE MASONRY WALLS. SEAL GAP IN ACCORDANCE WITH THE ARCHITECTURAL DETAILS.

**MASONRY WALL CONTROL JOINTS**

- THE LOCATION OF CONTROL JOINTS IS TYPICALLY SHOWN ON THE PROJECT DRAWINGS. WHERE NOT SHOWN, PROVIDE JOINTS AT :
- MAXIMUM OF 5.0 METER CENTRES
  - AT CHANGE IN WALL HEIGHTS
  - AT CHANGE IN WALL THICKNESS
  - AT (ABOVE) MOVEMENT JOINTS IN FOUNDATIONS AND FLOORS
  - AT (BELOW) MOVEMENT JOINTS IN ROOFS AND FLOORS
  - AT ONE SIDE OF DOOR OR WINDOW OPENING FOR OPENING LESS THAN 1.5 METERS.

**PENETRATIONS INTERSECTING BEAM PLAN CORNER BEAM PLAN**

- a. ALLOW FOR MAKING ALL NECESSARY PENETRATIONS AND EMBEDMENT OF ALL NECESSARY CONDUITS AND FIXINGS IN MASONRY WALLS.
- b. PENETRATIONS SHALL GENERALLY BE FORMED IN WALLS RATHER THAN CUT AFTER.
- c. PENETRATIONS WIDER THAN 800mm SHALL BE CONSTRUCTED AS PER WINDOW OPENING DETAIL.

**MASONRY WALL RESTRAINT BRACKETS**

ALL EXPOSED MASONRY WALL RESTRAINT BRACKETS TO BE FIRE RATED TO THE MINIMUM EQUIVALENT FIRE RATING REQUIRED FOR THE FLOOR/WALL.



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Rev.	Date.	Description.

Project Location  
 132 HOON HAY RD  
 HOON HAY,  
 CHRISTCHURCH 8025

Project Description  
 HOON HAY ROAD DEVELOPMENT  
 STRUCTURAL  
 Drawing Description  
 STANDARD DETAILS

Sheet Issue Date  
 07/06/2016

Engineer	Job No.	Scale
RM	J000644	
QA	Sheet Size	Revision
DL	A3	
Draughtsman	Date	Drawing No.
KM	07/06/2016	<b>N-04</b>

All dimensions must be checked on site and before any prefabrication work is to be carried out. Refer to Architectural Drawings for all dimensions and set-out information.

Important: Refer to Project Structure Ltd's Standard Notes on Sheet N-01

**LEGEND**

FIRTH TC3 RELEVELLABLE RIBRAFT - 100mm SLAB, 25MPa  
 FIRTH RP2519 TC3 FIBRE MIX CONCRETE - SE72 MESH.  
 400mm WIDE EDGE BEAM - 3/HD12 TOP AND BOTTOM.  
 400mm WIDE INTERNAL BEAMS - 3/HD12 TOP AND BOTTOM.  
 100mm WIDE RIBS - HD12 BOTTOM (UNDER SINGLE STOREY PORTION).  
 100mm WIDE RIBS - HD12 TOP AND BOTTOM (UNDER TWO STOREY PORTION).  
 TYP. 1100X1100X220 POLY PODS.  
 NO SUBSTITUTES ALLOWED. NO SAW CUTS ALLOWED.  
 ON JACKING SLAB - 200mm THICK 25MPa FIRTH RP2519 TC3 FIBRE MIX CONCRETE.

APPROXIMATE OUTLINE OF EXTENT OF GRAVEL RAFT.  
 EXCAVATION TO BE INSPECTED BY ENGINEER BEFORE PLACEMENT BIDIM. A29 LAYER TO ENSURE THAT THE REQUIRED 200KPa BEARING CAPACITY IS ACHIEVED.  
 PLACE 1 LAYER OF BIDIM A29  
 PLACE 1 LAYER OF TENSAR GEOGRID TriAx160 OR GG4040 BIAXIAL  
 PLACE AP40 OR AP65 ENGINEERED FILL COMPACTED IN LAYERS NO GREATER THAN 150mm. TO LEVEL REQUIRED FOR JACKING SLAB.  
 REFER TO SHEET N01 FOR DETAILS ON PLACEMENT OF FILL.

RE-ENTRANT CORNER STEEL.  
 2/HD12 - 1200mm LONG. IN RIBRAFT SLAB AND JACKING SLAB.

RaftJack™ FIXED TO JACK SLAB. R6 - 125 DIA. SPIRAL REINFORCING @ 25mm PITCH. DPM TO LAP OVER BASE PLATE.

70mm SLAB SHOWER SETDOWN AS PER ARCHITECTURAL DETAILS.  
 CONFIRM LOCATION WITH ARCHITECTURAL PLANS

**NOTES:**

1. PLANS - THESE PLANS ARE TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL PLANS AND SPECIFICATIONS. DIMENSIONS ARE INDICATIVE. REFER TO ARCHITECTURAL PLANS FOR SET OUT. CONTACT ENGINEER/ DESIGNER/ PROJECT MANAGER IF VARIATION IS FOUND.
2. REFER TO ARCHITECTURAL PLANS FOR SLAB REBATES.
3. F5/AS1 - HAZARD: NEW CONSTRUCTION AREA TO BE FULLY FENCED BEFORE COMMENCING CONSTRUCTION. ALL WORK TO COMPLY WITH NZBC CLAUSE F5/AS1 PART 1.
4. TC3 RE-LEVELABLE RIB-RAFT TO BE INSTALLED BY FIRTH CERTIFIED INSTALLERS.
5. REFER TO DETAIL D1 ON S-03 FOR ALTERNATIVE RaftJack™ LOCATIONS.
6. ENSURE RaftJacks™ ARE LOCATED 150mm FROM WALLS FOR RATTLEGUN ACCESS.
7. DPM IS TO BE DETAILED AS PER DETAIL D2 ON PAGE S-03.

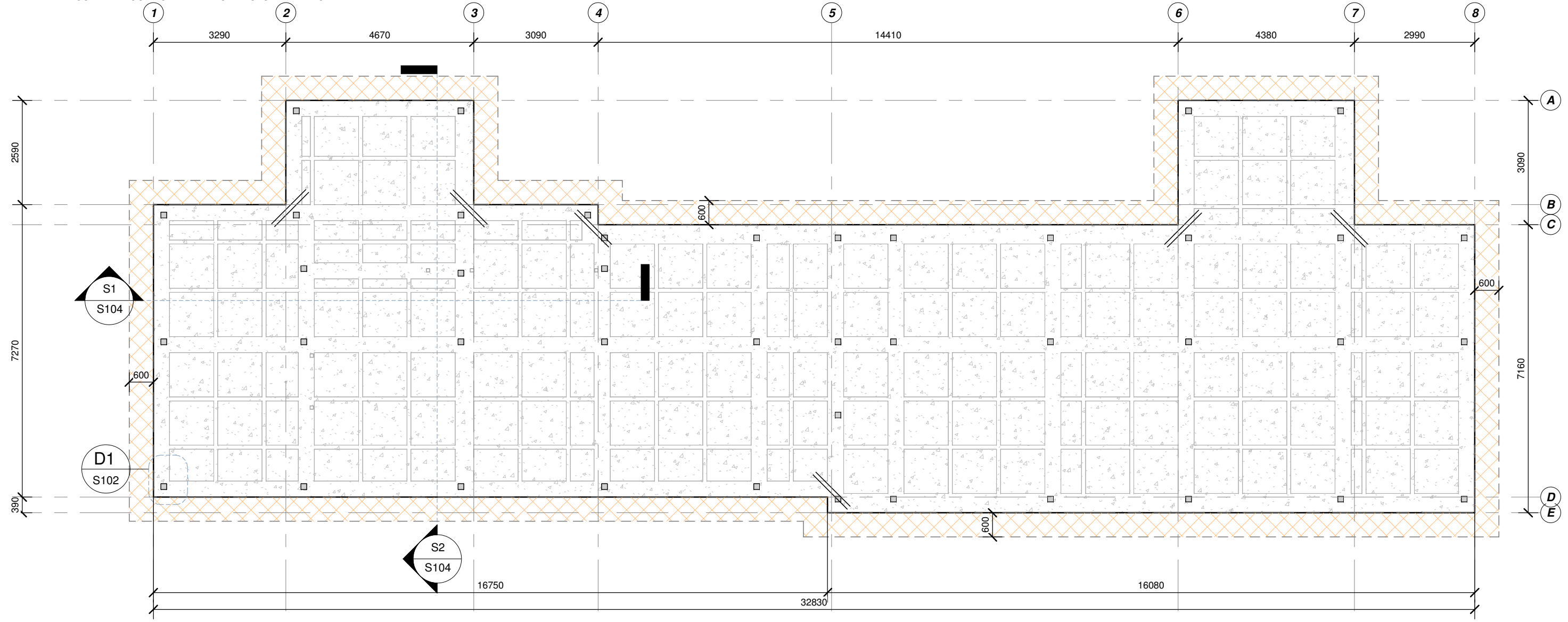
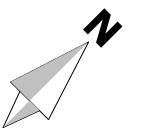
**SUBGRADE AND FILL INSPECTION**

BY: AECOM  
 REF: 60506000 - 2016  
 PHONE: 03-966 6000  
**ALLOW 48 HRS NOTICE FOR INSPECTIONS.**

**FOUNDATION INSPECTIONS**

BY: PROJECT STRUCTURE  
 REF: J000644  
 PHONE: 0800 002 921  
**ALLOW 48 HRS NOTICE FOR INSPECTIONS.**

**Christchurch City Council**  Page 32 of 43  
**BCN/2016/5889**  
 Approved Building Consent Plan  
 17/10/2016 Phil Judge



1 JACKING SLAB PLAN  
 S104 1 : 100



Rev.	Date.	Description.

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Project Location  
 132 HOON HAY RD  
 HOON HAY,  
 CHRISTCHURCH 8025

Project Description  
 HOON HAY ROAD DEVELOPMENT  
 STRUCTURAL  
 Drawing Description  
 PLAN - JACKING SLAB

Sheet Issue Date 07/06/2016	Engineer RM	Job No. J000644	Scale 1 : 100
	QA DL	Sheet Size A3	Revision
	Draughtsman KM	Date 07/06/2016	Drawing No. <b>S100</b>

All dimensions must be checked on site and before any prefabrication work is to be carried out. Refer to Architectural Drawings for all dimensions and set-out information.

Important: Refer to Project Structure Ltd's Standard Notes on Sheet N-01

**LEGEND**

FIRTH TC3 RELEVELLABLE RIBRAFT - 100mm SLAB, 25MPa  
 FIRTH RP2519 TC3 FIBRE MIX CONCRETE - SE72 MESH.  
 400mm WIDE EDGE BEAM - 3/HD12 TOP AND BOTTOM.  
 400mm WIDE INTERNAL BEAMS - 3/HD12 TOP AND BOTTOM.  
 100mm WIDE RIBS - HD12 BOTTOM (UNDER SINGLE STOREY PORTION).  
 100mm WIDE RIBS - HD12 TOP AND BOTTOM (UNDER TWO STOREY PORTION).  
 TYP. 1100X1100X220 POLY PODS.  
 NO SUBSTITUTES ALLOWED. NO SAW CUTS ALLOWED.  
 ON JACKING SLAB - 200mm THICK 25MPa FIRTH RP2519 TC3 FIBRE MIX CONCRETE.

APPROXIMATE OUTLINE OF EXTENT OF GRAVEL RAFT.  
 EXCAVATION TO BE INSPECTED BY ENGINEER BEFORE PLACEMENT BIDIM. A29 LAYER TO ENSURE THAT THE REQUIRED 200KPa BEARING CAPACITY IS ACHIEVED.

PLACE 1 LAYER OF BIDIM A29  
 PLACE 1 LAYER OF TENSAR GEOGRID TriAx160 OR GG4040 BIAxIAL  
 PLACE AP40 OR AP65 ENGINEERED FILL COMPACTED IN LAYERS NO GREATER THAN 150mm. TO LEVEL REQUIRED FOR JACKING SLAB.  
 REFER TO SHEET N01 FOR DETAILS ON PLACEMENT OF FILL.

RE-ENTRANT CORNER STEEL.  
 2/HD12 - 1200mm LONG. IN RIBRAFT SLAB AND JACKING SLAB.

RaftJack™ FIXED TO JACK SLAB. R6 - 125 DIA. SPIRAL REINFORCING @ 25mm PITCH. DPM TO LAP OVER BASE PLATE.

70mm SLAB SHOWER SETDOWN AS PER ARCHITECTURAL DETAILS.  
 CONFIRM LOCATION WITH ARCHITECTURAL PLANS

**NOTES:**

1. PLANS - THESE PLANS ARE TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL PLANS AND SPECIFICATIONS. DIMENSIONS ARE INDICATIVE. REFER TO ARCHITECTURAL PLANS FOR SET OUT. CONTACT ENGINEER/ DESIGNER/ PROJECT MANAGER IF VARIATION IS FOUND.
2. REFER TO ARCHITECTURAL PLANS FOR SLAB REBATES.
3. F5/AS1 - HAZARD: NEW CONSTRUCTION AREA TO BE FULLY FENCED BEFORE COMMENCING CONSTRUCTION. ALL WORK TO COMPLY WITH NZBC CLAUSE F5/AS1 PART 1.
4. TC3 RE-LEVELABLE RIB-RAFT TO BE INSTALLED BY FIRTH CERTIFIED INSTALLERS.
5. REFER TO DETAIL D1 ON S-03 FOR ALTERNATIVE RaftJack™ LOCATIONS.
6. ENSURE RaftJacks™ ARE LOCATED 150mm FROM WALLS FOR RATTLEGUN ACCESS.
7. DPM IS TO BE DETAILED AS PER DETAIL D2 ON PAGE S-03.

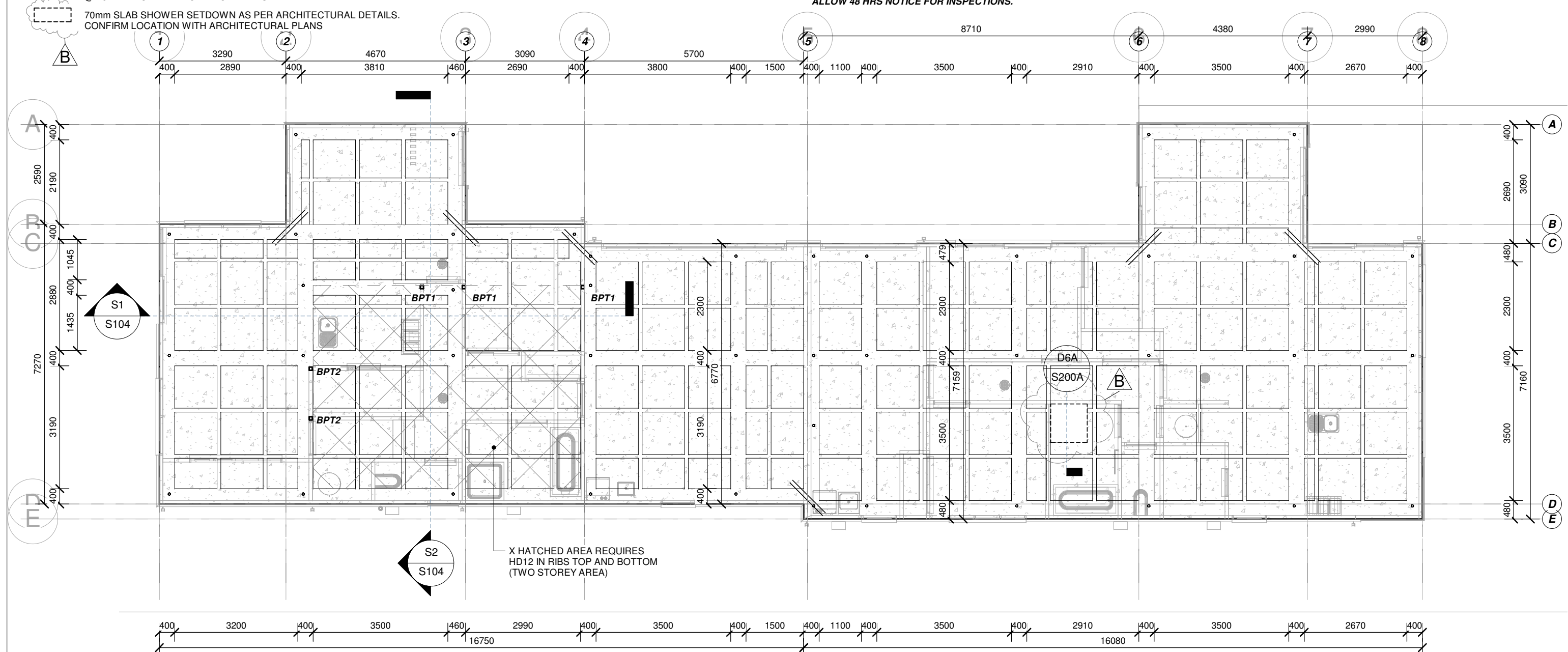
**SUBGRADE AND FILL INSPECTION**

BY: AECOM  
 REF: 60506000 - 2016  
 PHONE: 03-966 6000  
**ALLOW 48 HRS NOTICE FOR INSPECTIONS.**

**FOUNDATION INSPECTIONS**

BY: PROJECT STRUCTURE  
 REF: J000644  
 PHONE: 0800 002 921  
**ALLOW 48 HRS NOTICE FOR INSPECTIONS.**

Christchurch City Council  Page 33 of 43  
**BCN/2016/5889**  
 Approved Building Consent Plan  
 17/10/2016 Phil Judge



1 RIBRAFT PLAN  
 S104 1 : 100



Rev.	Date.	Description.
B	02/08/2016	SHOWER REBATE

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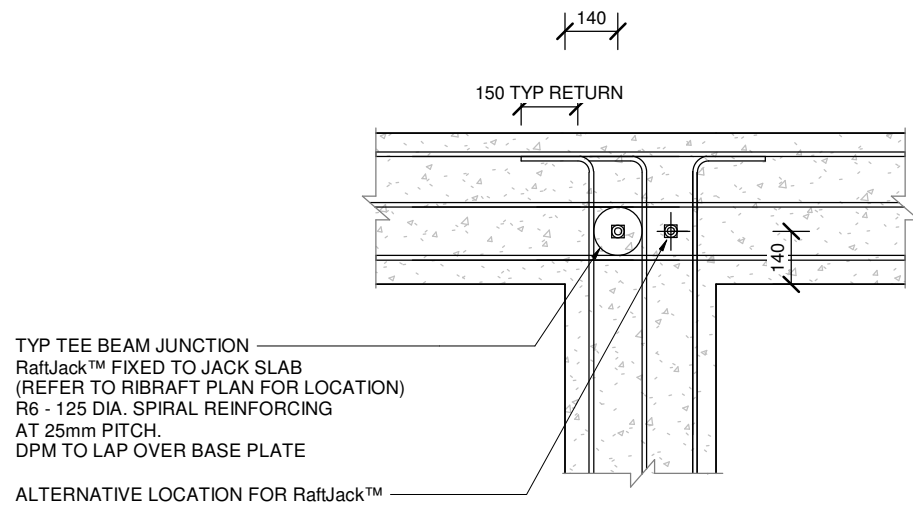
Project Location  
 132 HOON HAY RD  
 HOON HAY,  
 CHRISTCHURCH 8025

Project Description  
 HOON HAY ROAD DEVELOPMENT  
 STRUCTURAL  
 Drawing Description  
 PLAN - RIBRAFT

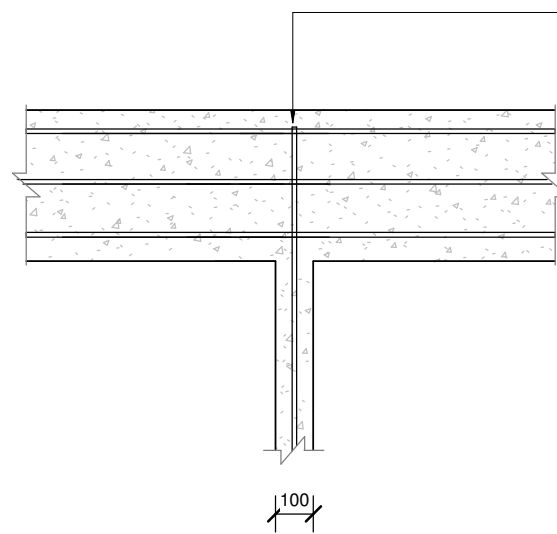
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	QA DL	Sheet Size A3	Revision B
	Draughtsman KM	Date 07/06/2016	Drawing No. <b>S101</b>

All dimensions must be checked on site and before any prefabrication work is to be carried out. Refer to Architectural Drawings for all dimensions and set-out information.

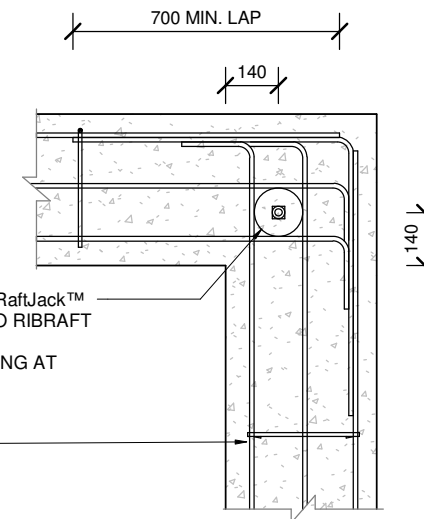
Important: Refer to Project Structure Ltd's Standard Notes on Sheet N-01



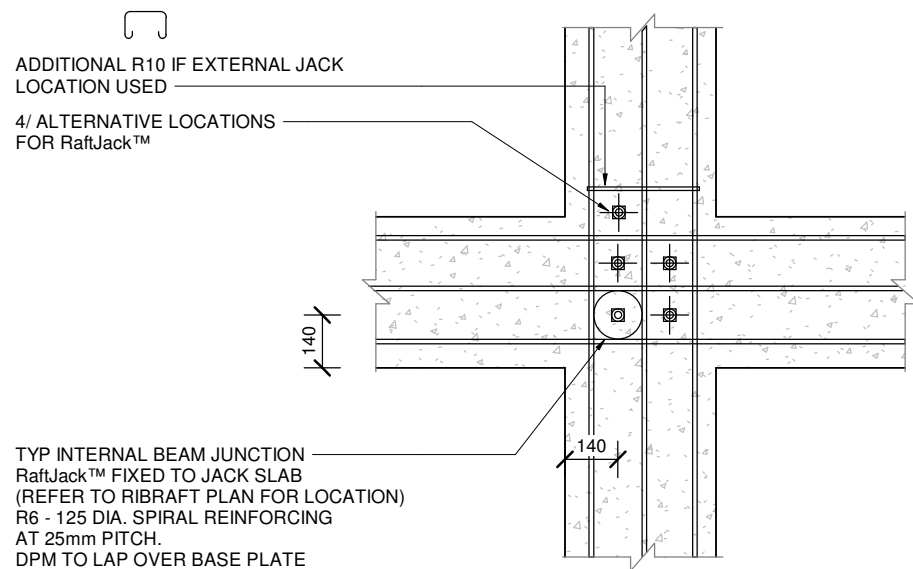
TYP TEE BEAM JUNCTION  
RaftJack™ FIXED TO JACK SLAB  
(REFER TO RIBRAFT PLAN FOR LOCATION)  
R6 - 125 DIA. SPIRAL REINFORCING  
AT 25mm PITCH.  
DPM TO LAP OVER BASE PLATE  
ALTERNATIVE LOCATION FOR RaftJack™



REINFORCE TO EXTEND TO FAR SIDE OF THE BEAM AS SHOWN

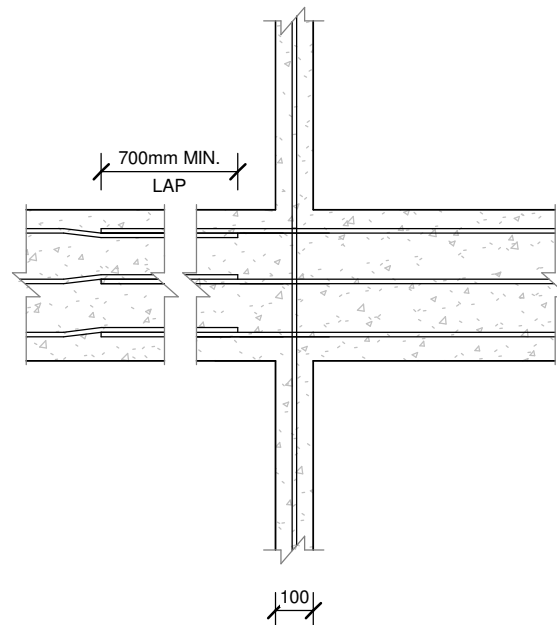


TYP CORNER BEAM JUNCTION RaftJack™  
FIXED TO JACK SLAB (REFER TO RIBRAFT  
PLAN FOR LOCATION)  
R6 - 125 DIA. SPIRAL REINFORCING AT  
25mm PITCH.  
DPM TO LAP OVER BASE PLATE  
D10 CHAIRS TO SUPPORT  
TOP STEEL @ 2400 CRS



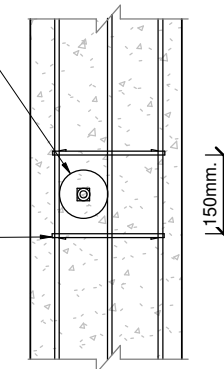
ADDITIONAL R10 IF EXTERNAL JACK  
LOCATION USED  
4/ ALTERNATIVE LOCATIONS  
FOR RaftJack™

TYP INTERNAL BEAM JUNCTION  
RaftJack™ FIXED TO JACK SLAB  
(REFER TO RIBRAFT PLAN FOR LOCATION)  
R6 - 125 DIA. SPIRAL REINFORCING  
AT 25mm PITCH.  
DPM TO LAP OVER BASE PLATE

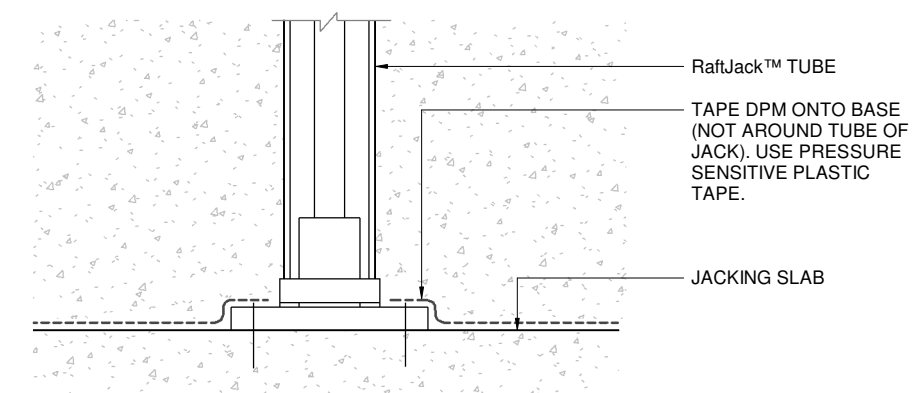


TYP INTERMEDIATE BEAM  
RaftJack™ FIXED TO JACK SLAB  
(REFER TO RIBRAFT PLAN FOR LOCATION)  
R6 - 125 DIA. SPIRAL REINFORCING  
AT 25mm PITCH.  
DPM TO LAP OVER BASE PLATE

ADDITIONAL 2/R10 LINKS  
TOP & BOTTOM EACH SIDE  
OF RaftJack™



D1 TYPICAL RaftJack™ LOCATIONS  
S100 1 : 20



SPIRAL REINFORCING  
OMITTED FOR CLARITY

D2 DPM LAP AT RaftJack™  
1 : 10

**Christchurch City Council** Page 34 of 43  
BCN/2016/5889  
Approved Building Consent Plan  
17/10/2016 Phil Judge



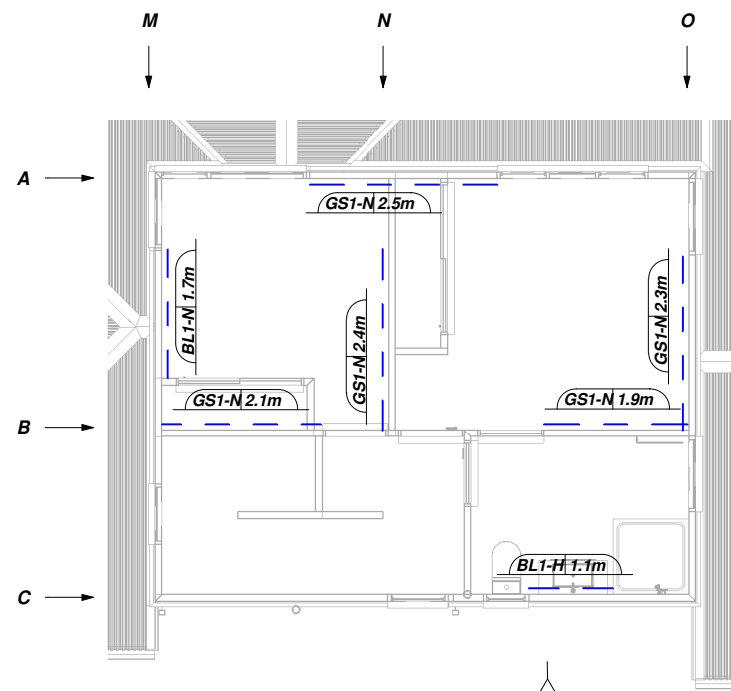
Rev.	Date.	Description.

Project Location  
132 HOON HAY RD  
HOON HAY,  
CHRISTCHURCH 8025

Project Description  
HOON HAY ROAD DEVELOPMENT  
STRUCTURAL  
Drawing Description  
DETAILS - RAFTJACK

Sheet Issue Date  
07/06/2016

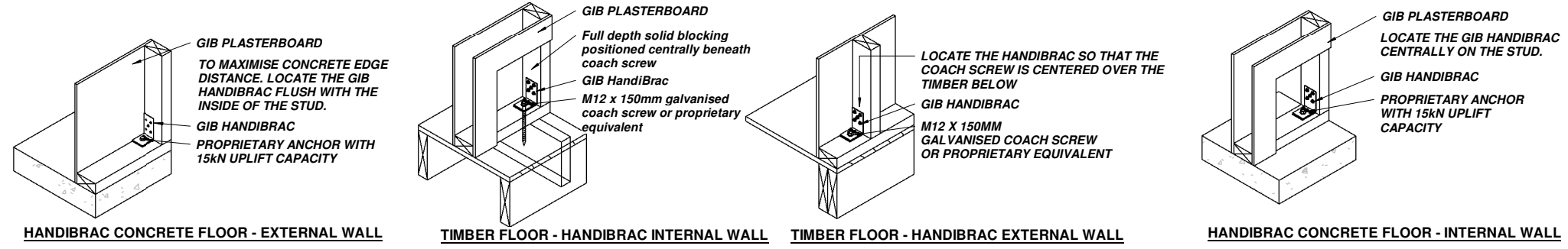
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QA DL	Sheet Size A3	Revision
Draughtsman KM	Date 07/06/2016	Drawing No. <b>S102</b>



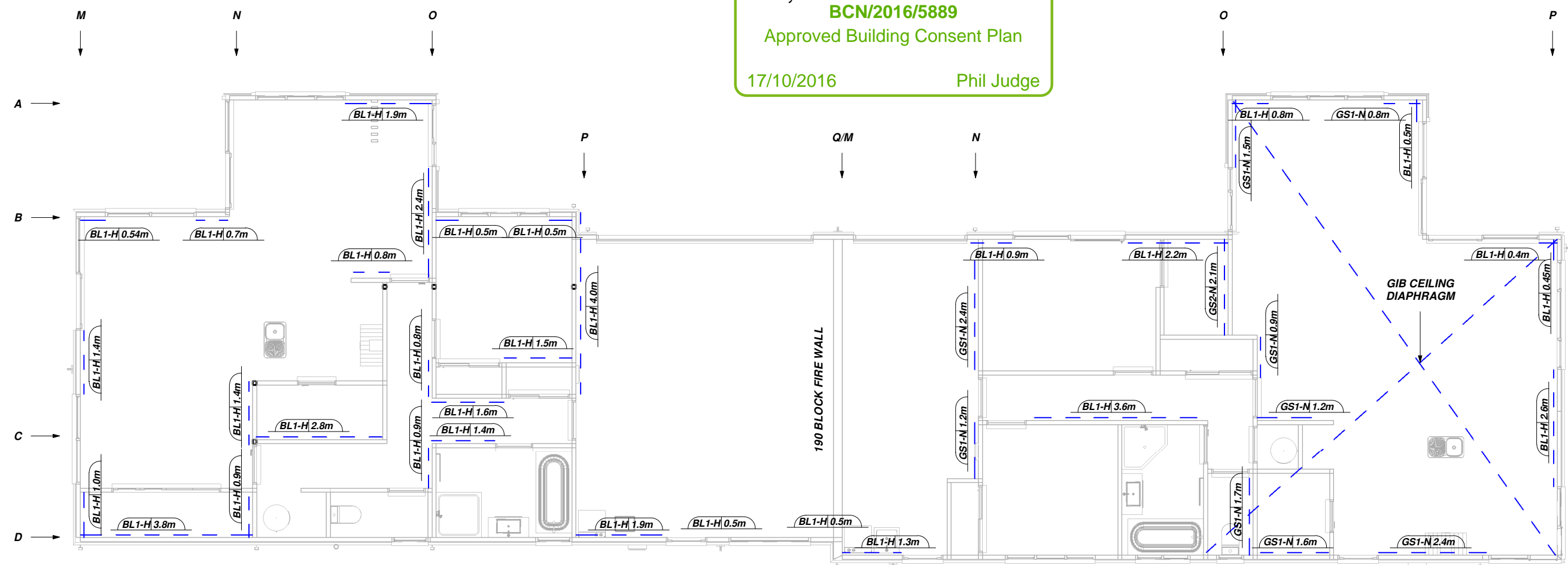
1 FIRST FLOOR BRACING PLAN  
S104 1:100

**BRACING NOTE:**  
ALL BRACING TO COMPLY WITH THE REQUIREMENTS OF:  
 • NZS 3604:2011  
 • WINSTONE WALLBOARDS "GIB BRACING SYSTEMS" MANUAL JUNE 2011.

**GENERAL FIXING REQUIREMENTS FOR GIB® CEILING DIAPHRAGMS.**  
 • LININGS SHALL BE INSTALLED OVER THE ENTIRE AREA OF THE DIAPHRAGM.  
 • FASTENING SHALL BE NO LESS THAN 12mm FROM SHEET EDGES AND NOT LESS THAN 18mm FROM SHEET END.  
 • SHEETS SHALL BE SUPPORTED BY FRAMING MEMBERS (E.G., CEILING BATTENS) SPACED AT NO MORE THAN 500mm CENTRES FOR 10mm GIB® PLASTERBOARD AND AT NO MORE THAN 600mm CENTRES FOR 13mm GIB® PLASTERBOARD.  
 • SHEETS WITHIN THE DIAPHRAGM AREA MAY BE FASTENED AND FINISHED CONVENTIONALLY IN ACCORDANCE WITH THE PUBLICATION ENTITLED, "GIB® SITE GUIDE". ALL JOINTS SHALL BE PAPER TAPE REINFORCED AND STOPPED. IT IS RECOMMENDED THAT SHEET BUTT JOINTS ARE FORMED OFF FRAMING AND BACK-BLOCKED (SEE "GIB® SITE GUIDE").  
 • USE FULL WIDTH SHEETS WHERE POSSIBLE. AT LEAST 900mm WIDE SHEETS WITH A LENGTH NOT LESS THAN 1800mm SHALL BE USED. SHEETS LESS THAN 900mm WIDE BUT NO LESS THAN 600mm MAY BE USED PROVIDED ALL JOINTS WITH ADJACENT SHEETS ARE BACKBLOCKED (SEE "GIB® SITE GUIDE").  
 • OPENINGS ARE ALLOWED WITHIN THE MIDDLE THIRD OF THE DIAPHRAGM'S LENGTH AND WIDTH. FIXING OF SHEET MATERIAL TO OPENING TRIMMERS SHALL BE AT 150mm CENTRES. NEITHER OPENING DIMENSION SHALL EXCEED A THIRD OF THE DIAPHRAGM WIDTH. LARGER OPENINGS, OR OPENINGS IN OTHER LOCATIONS, REQUIRE SPECIFIC ENGINEERING DESIGN. REFER "OPENINGS IN BRACING ELEMENTS" PAGE 17.  
 • FASTENERS ARE PLACED AT 150mm OR 100mm CENTRES AROUND THE CEILING DIAPHRAGM WITH THE CORNERS FASTENED USING THE GIB EZYBRACE® 2011 FASTENER PATTERN.



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 BCN/2016/5889  
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 17/10/2016  
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2 GROUND FLOOR BRACING PLAN  
S104 1:100



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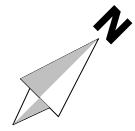
Rev.	Date.	Description.
A	10/06/2016	BRACING ELEMENT REV.

Project Location  
 132 HOON HAY RD  
 HOON HAY,  
 CHRISTCHURCH 8025

Project Description  
 HOON HAY ROAD DEVELOPMENT  
 STRUCTURAL  
 Drawing Description  
 BRACING PLAN & DETAILS

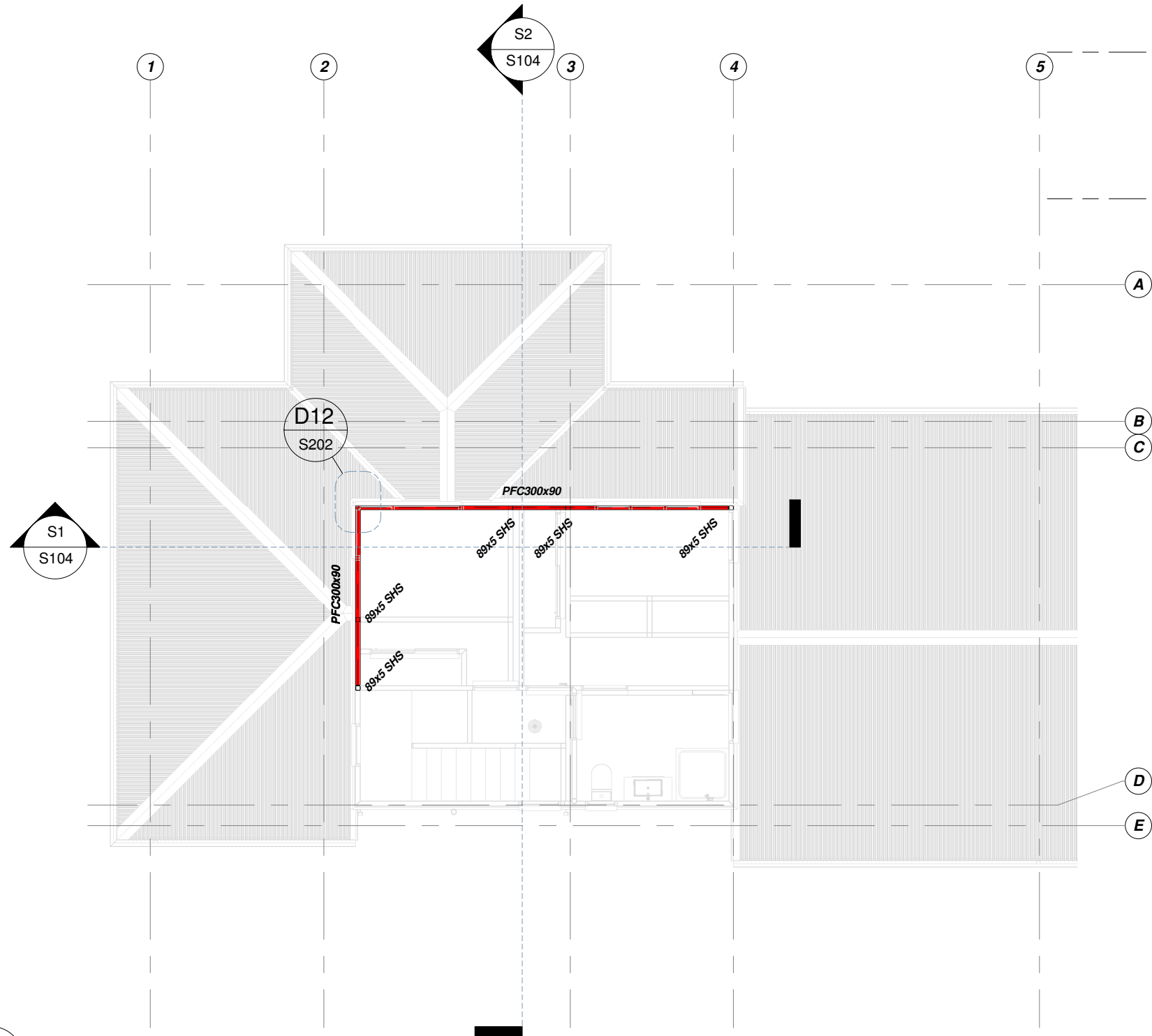
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Draughtsman KM	Date 07/06/2016	Drawing No. <b>S103</b>

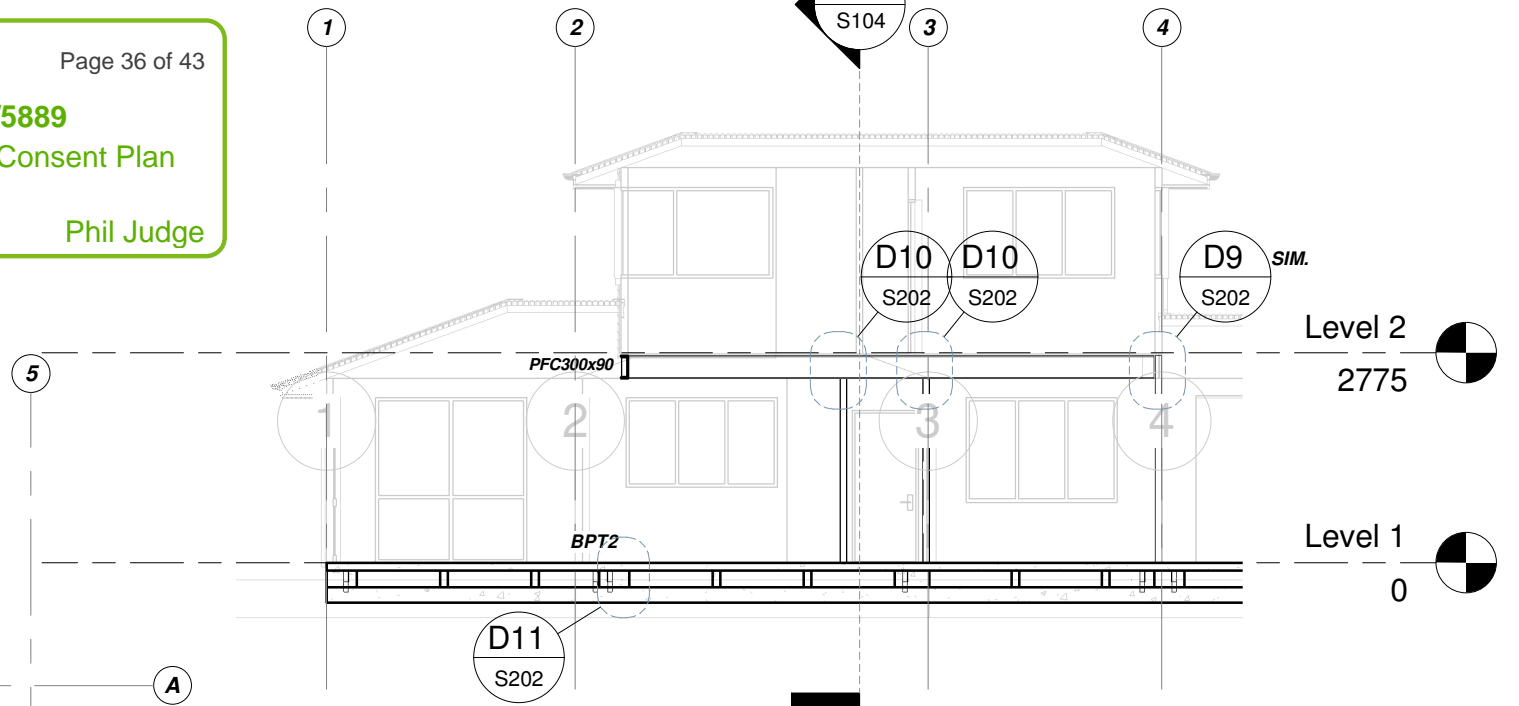


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 BCN/2016/5889  
 Approved Building Consent Plan  
 17/10/2016  
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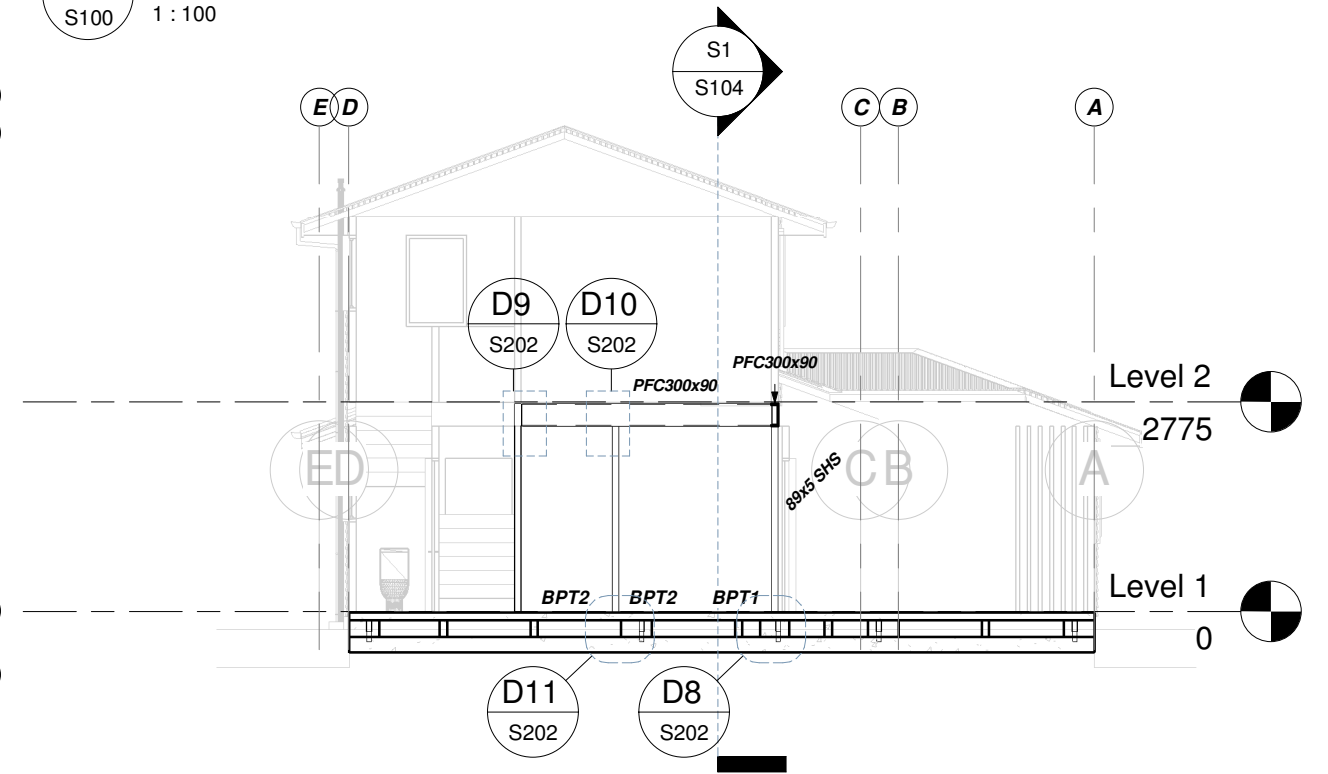
Page 36 of 43



1 PLAN - FLOOR BEAM  
 S104 1 : 100



S1 SECTION 1  
 S100 1 : 100



S2 SECTION 2  
 S100 1 : 100

Rev.	Date.	Description.

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Project Location  
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 HOON HAY,  
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Project Description  
 HOON HAY ROAD DEVELOPMENT  
 STRUCTURAL  
 Drawing Description  
 PLAN - FLOOR BEAM

Sheet Issue Date  
 07/06/2016

Engineer RM	Job No. J000644	Scale 1 : 100
QA DL	Sheet Size A3	Revision
Draughtsman KM	Date 07/06/2016	Drawing No. <b>S104</b>

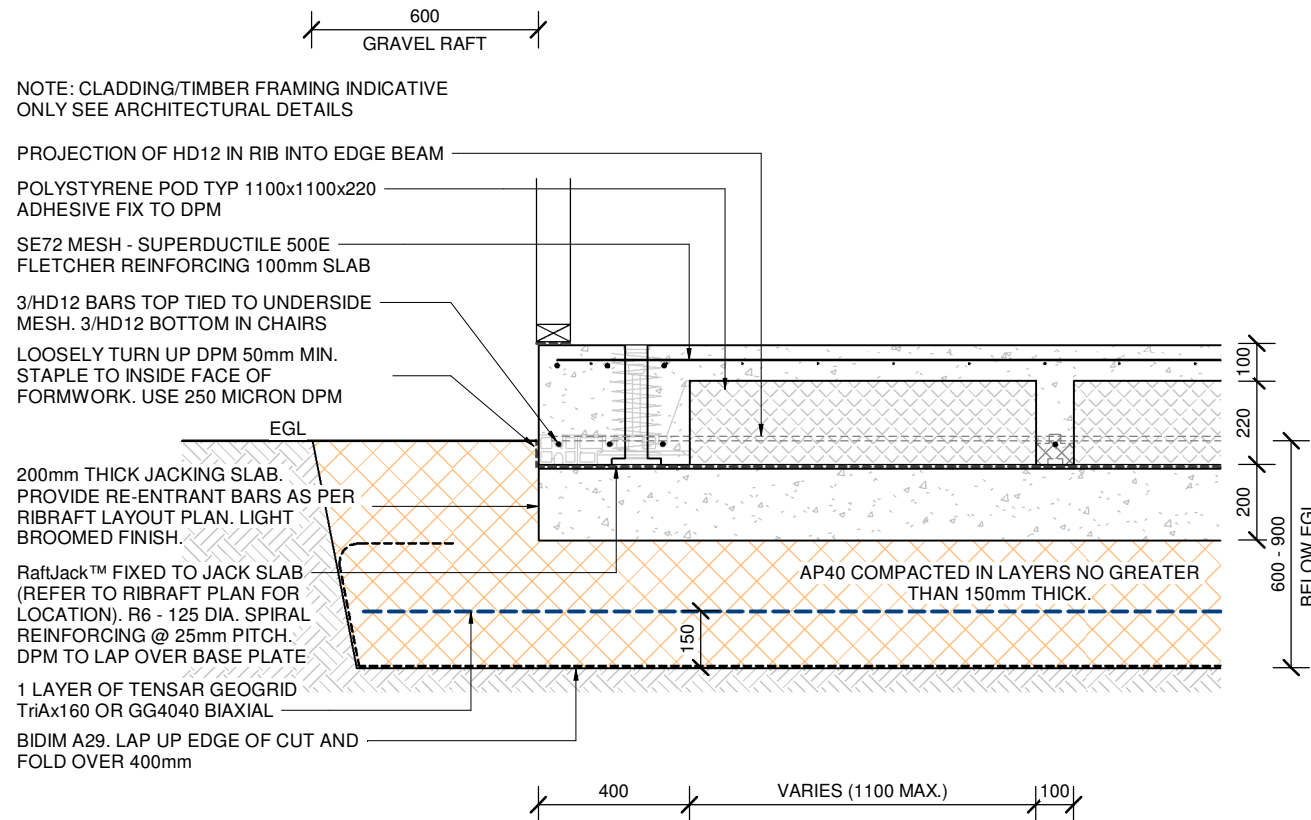
All dimensions must be checked on site and before any prefabrication work is to be carried out. Refer to Architectural Drawings for all dimensions and set-out information.

- NOTE: MINIMUM CONCRETE COVER TO REINFORCEMENT SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED ON THE DRAWINGS.**  
 A) THE MINIMUM CONCRETE COVER FOR CONCRETE CAST DIRECTLY ON OR AGAINST THE GROUND SHALL BE 75mm.  
 B) THE MINIMUM CONCRETE COVER WHEN A DAMP PROOF MEMBRANE IS USED BETWEEN THE GROUND AND THE CAST CONCRETE SHALL BE 50mm.  
 C) THE MINIMUM CONCRETE COVER TO AN EXPOSED WALL OR FLOOR SLAB SHALL BE 50mm.

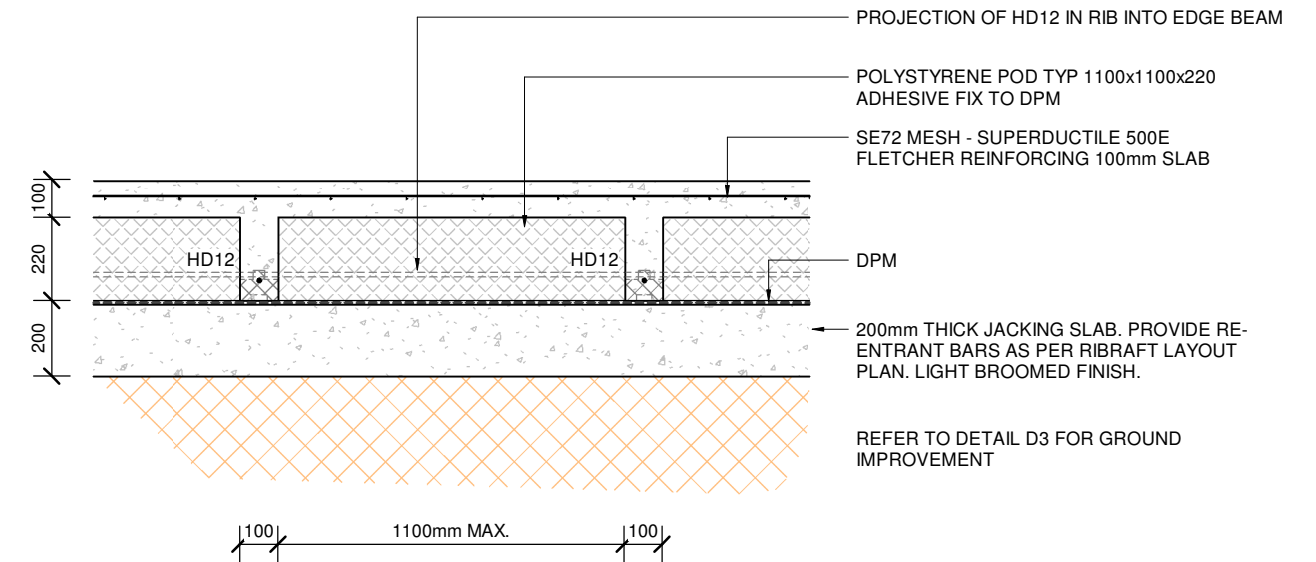
Important: Refer to Project Structure Ltd's Standard Notes on Sheet N-01

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 BCN/2016/5889  
 Approved Building Consent Plan  
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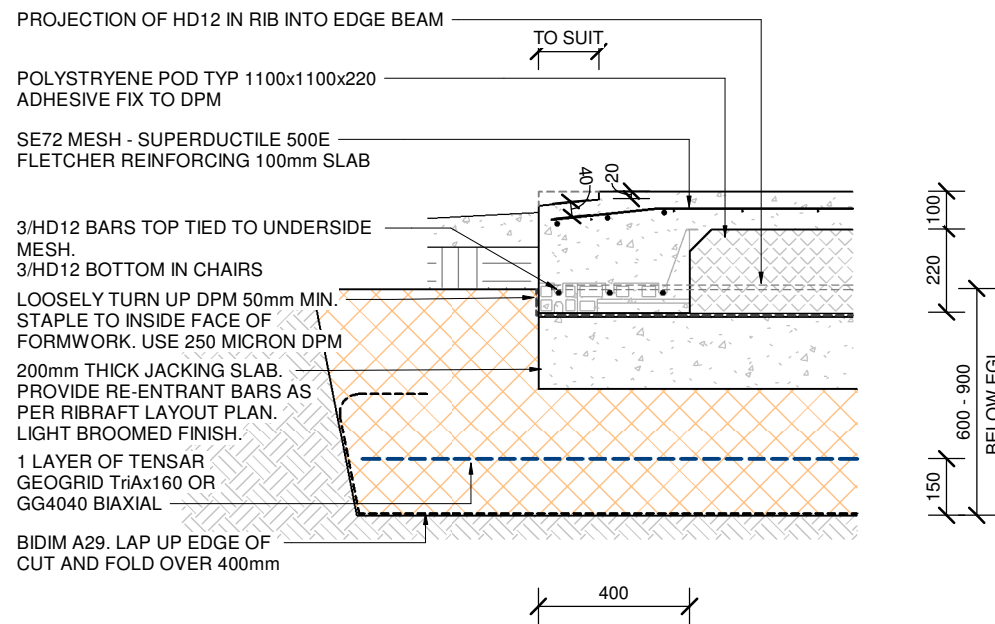
Page 37 of 43



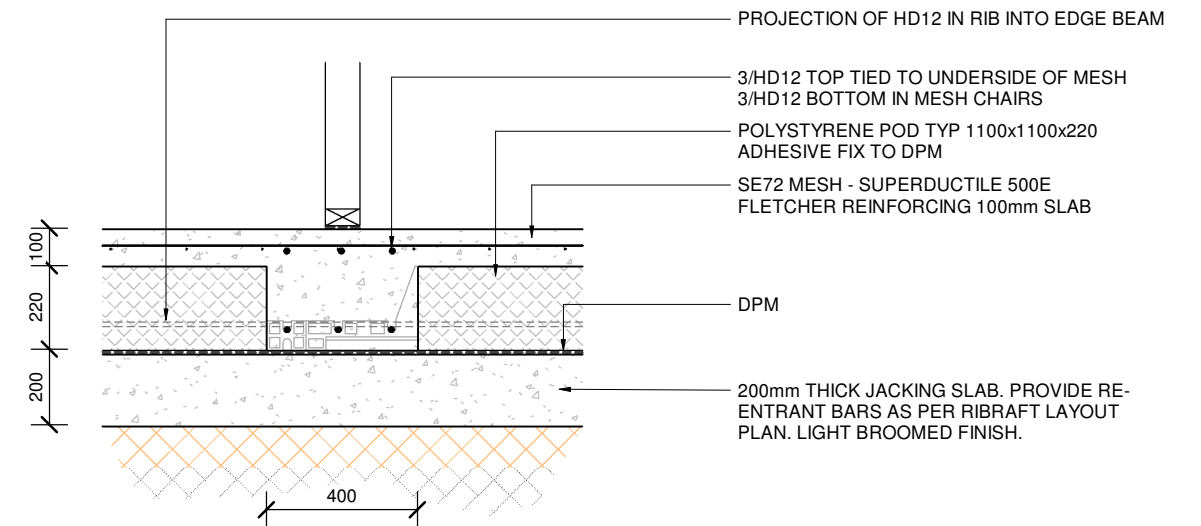
D3 TYPICAL EDGE BEAM DETAIL  
1 : 20



D4 TYPICAL INTERNAL 100mm WIDE RIB DETAIL  
1 : 20



D5 GARAGE DOOR REBATE DETAIL  
1 : 20



D6 TYPICAL INTERNAL BEAM DETAIL  
1 : 20



Rev.	Date.	Description.

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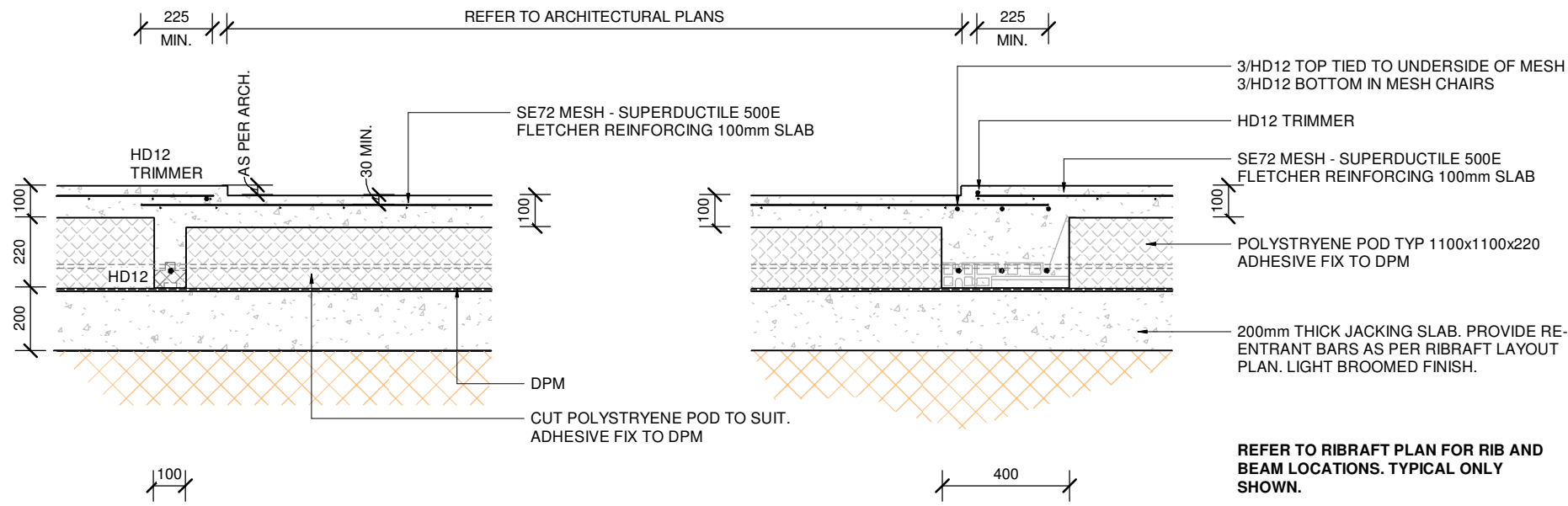
Project Location  
 132 HOON HAY RD  
 HOON HAY,  
 CHRISTCHURCH 8025

Project Description  
 HOON HAY ROAD DEVELOPMENT  
 STRUCTURAL  
 Drawing Description  
 DETAILS - RIBRAFT

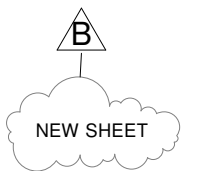
Sheet Issue Date  
 07/06/2016

Engineer RM	Job No. J000644	Scale 1 : 20
QA DL	Sheet Size A3	Revision
Draughtsman KM	Date 07/06/2016	Drawing No. <b>S200</b>

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D6A D7 - TYPICAL SHOWER SETDOWN DETAIL  
 S101 1 : 20



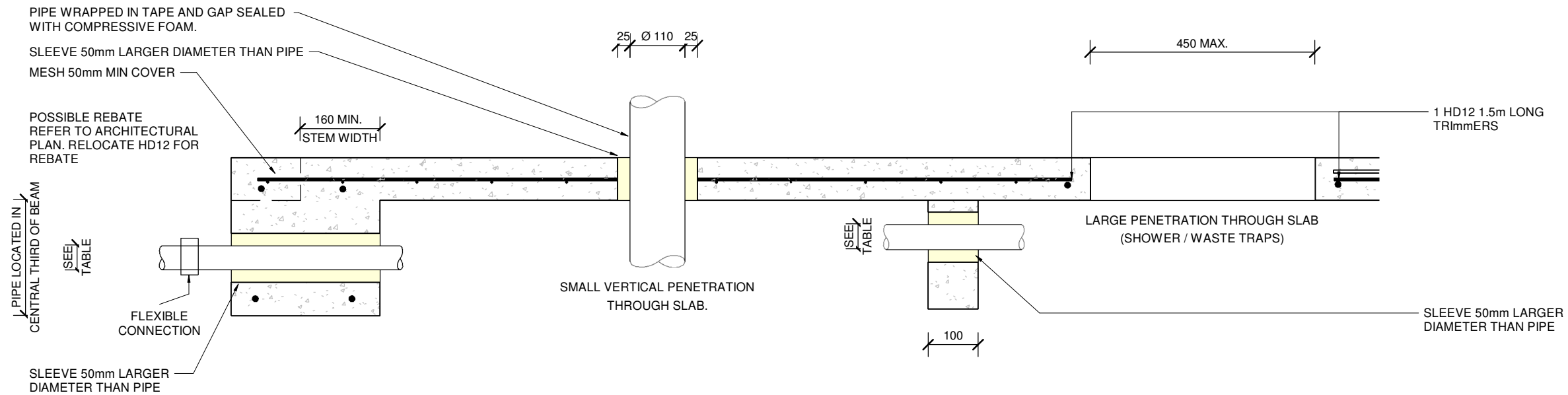
Rev.	Date.	Description.
B	02/08/2016	SHOWER REBATE

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Project Location  
 132 HOON HAY RD  
 HOON HAY,  
 CHRISTCHURCH 8025

Project Description  
 HOON HAY ROAD DEVELOPMENT  
 STRUCTURAL  
 Drawing Description  
 DETAILS - RIBRAFT

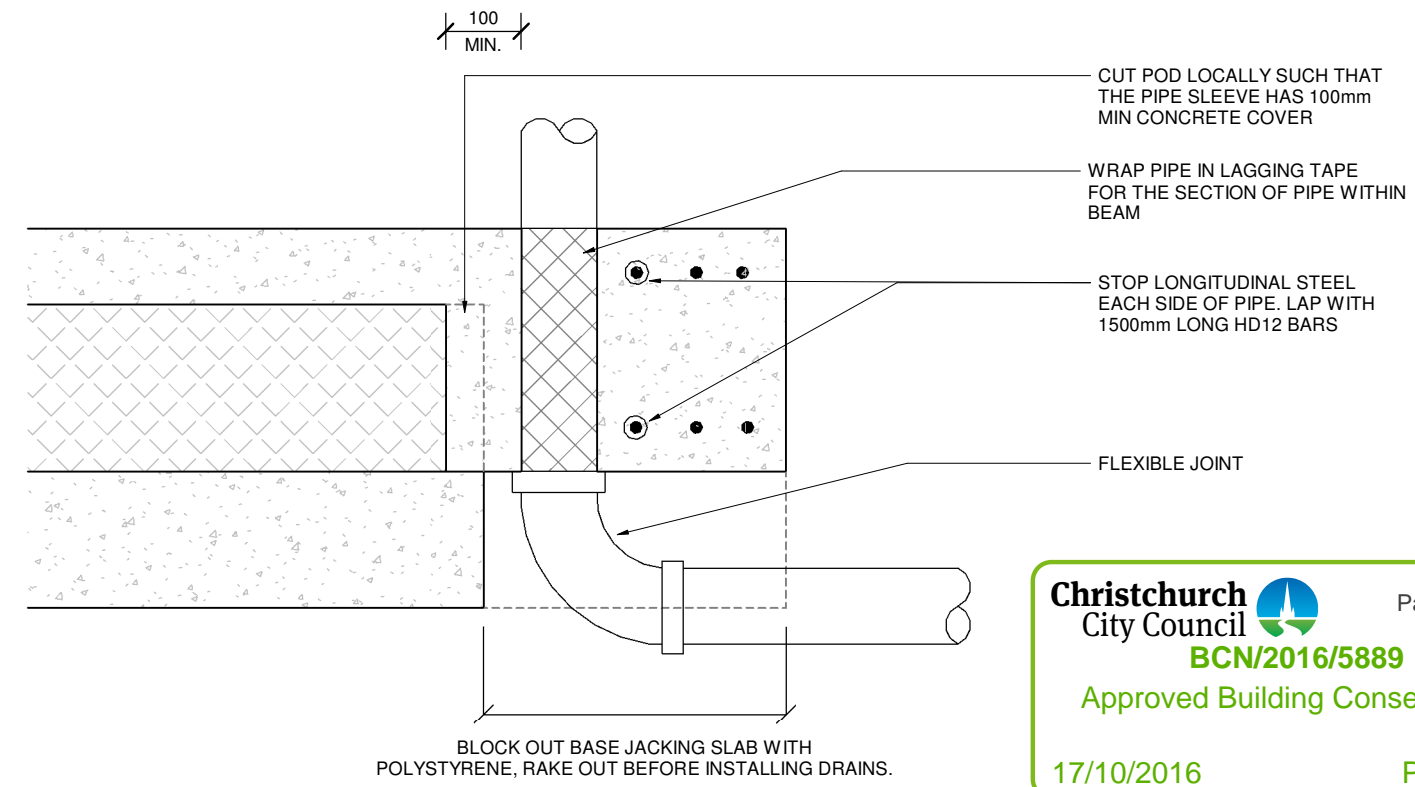
Sheet Issue Date	02/08/2016	Engineer	RM	Job No.	J000644	Scale	1 : 20
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		Draughtsman	KM			Drawing No.	<b>S200A</b>
		Date	07/06/2016				



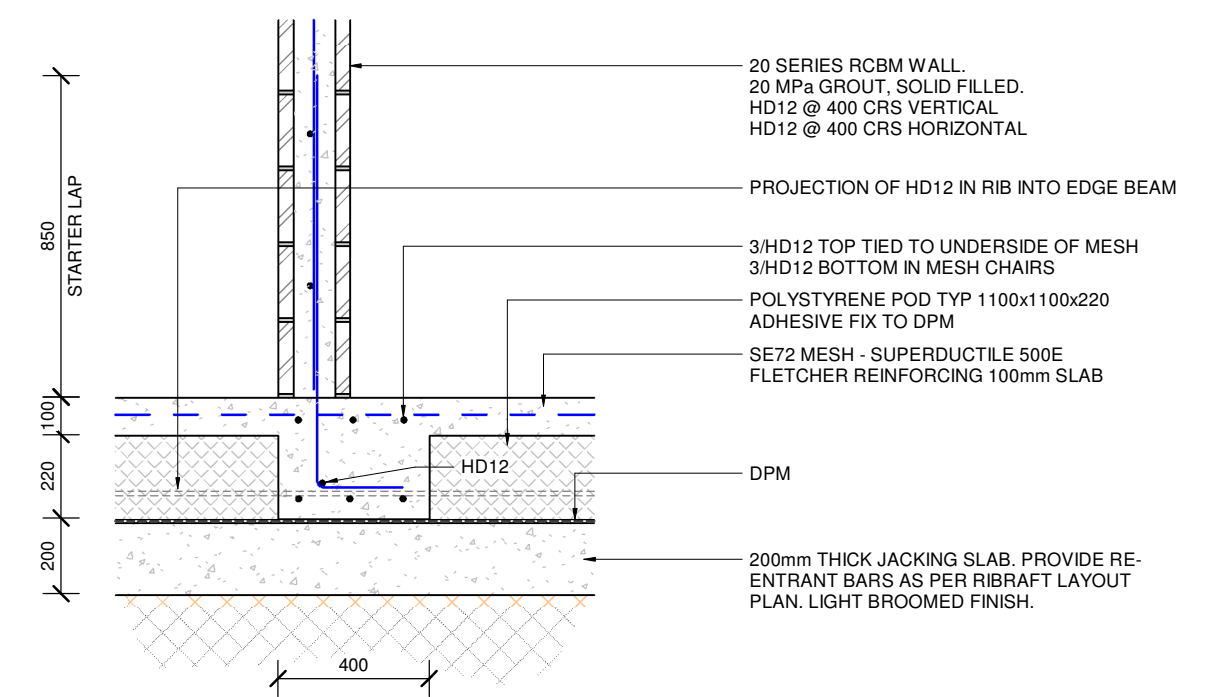
MAXIMUM RUN DISTANCE FOR 220mm THICK PODS			
PIPE DIAMETER mm	GRADIENT	MAX. DISTANCE (100mm COVER)	MAX. DISTANCE (80mm COVER)
40	1 IN 40	3200	4000
50	1 IN 40	2800	3600
65	1 IN 40	2200	3000
80	1 IN 40	1600	2400
100	1 IN 40	800	-

**P1** TYPICAL RIBRAFT SLAB PENETRATION DETAILS  
1 : 10

**ENSURE TO READ AND FOLLOW THE CONCRETE MASONRY STANDARD NOTES PROVIDED.**  
 TIE VERTICAL REINFORCEMENT TO STARTERS  
 TIE HORIZONTAL REINFORCEMENT TO VERTICAL REO.  
 GROUT MUST NOT PROTRUDE INTO CELL CAVITY BY MORE THAN 5mm.  
 INSTALL CLEANOUTS.  
 ALL REINFORCEMENT STARTERS TO BE ACCURATELY LOCATED AND SPACED TO SUIT MASONRY MODULES.  
 BENDING REINFORCEMENT AT SLAB LEVEL TO ALIGN WITH MASONRY UNIT CORES WILL NOT BE PERMITTED.



**P2** TYPICAL RELEVELABLE RIBRAFT EDGE BEAM PENETRATION DETAIL  
1 : 10



**D7** TYPICAL INTERNAL FIRE WALL DETAIL  
1 : 20

Christchurch City Council Page 39 of 43  
**BCN/2016/5889**  
 Approved Building Consent Plan  
 17/10/2016 Phil Judge



Rev.	Date.	Description.

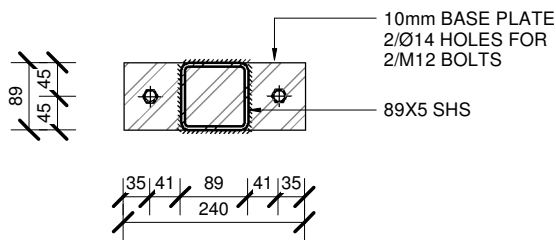
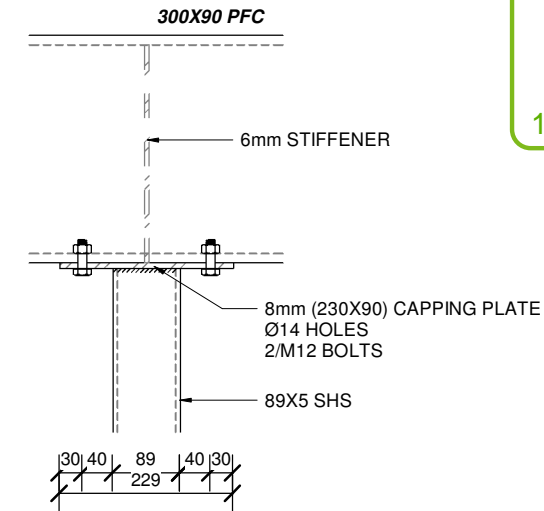
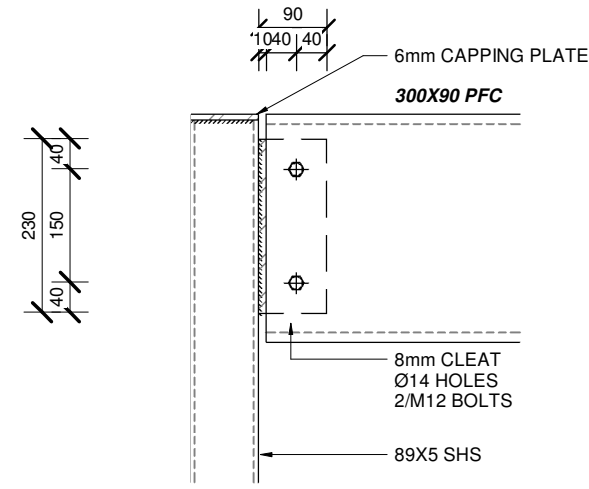
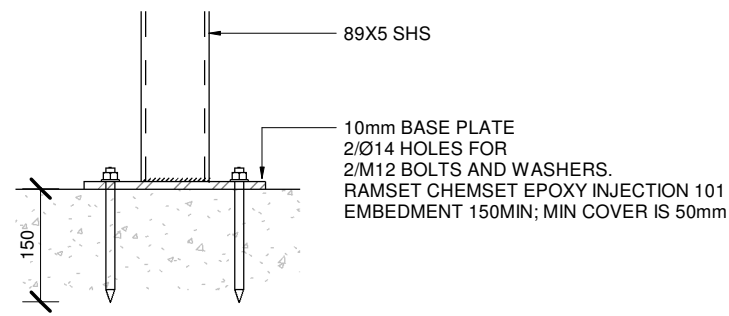
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Project Location  
 132 HOON HAY RD  
 HOON HAY,  
 CHRISTCHURCH 8025

Project Description  
 HOON HAY ROAD DEVELOPMENT  
 STRUCTURAL  
 Drawing Description  
 DETAILS - RIBRAFT  
 PENETRATIONS, FIRE WALL

Sheet Issue Date  
 07/06/2016

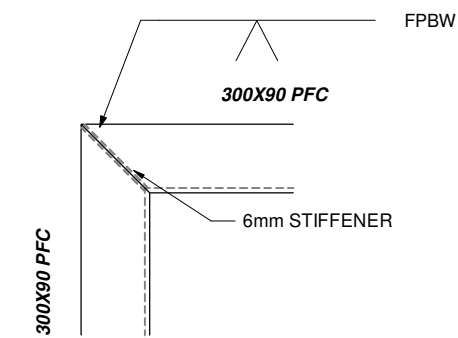
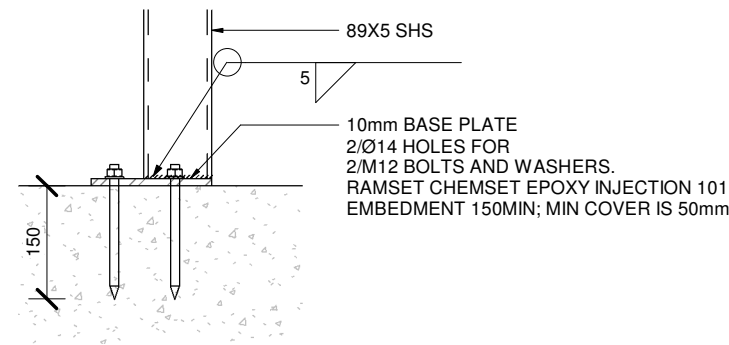
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QA DL	Sheet Size A3	Revision
Draughtsman KM	Date 07/06/2016	Drawing No. <b>S201</b>



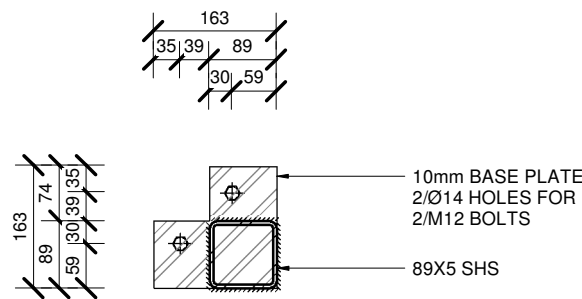
D9 300 PFC TO END POST DETAIL  
 S104 1 : 10

D10 300 PFC TO POST DETAIL  
 S104 1 : 10

D8 BASE PLATE BPT1 DETAIL  
 S104 1 : 10



D12 PFC CORNER DETAIL  
 S104 1 : 10



D11 BASE PLATE BPT2 DETAIL  
 S104 1 : 10

**DETAIL NOTES:**  
**DIMENSIONS:** ALL DIMENSIONS ARE **MINIMUM UNLESS STATED OTHERWISE.**  
**WELDS:** ALL WELDS ARE **5mm FILLET WELD ALL ROUND (FWAR) UNLESS STATED OTHERWISE.**  
**STEEL CLEATS:** TO BE GRADE 250 UNLESS STATED OTHERWISE.  
**BOLTS:** ALL BOLTS **GRADE 8.8 UNLESS STATED OTHERWISE.**  
**WASHERS TO TIMBER:** 50X50X3mm OR Ø50X3mm  
**DOUBLE STUDS:** 2/90x45 SG8 (OR 140, REFER TO ARCHITECTURAL WALL FRAMING) NAIL TOGETHER WITH 90mm x 3.15 DIA. NAILS @ 250mm CRS. BOTH SIDES.  
**PROPRIETARY STRUCTURAL FIXINGS:** WHERE PROPRIETARY STRUCTURAL FIXINGS ARE SPECIFIED, INSTALL AS PER MANUFACTURERS SPECIFICATIONS.  
**TYPICAL TIMBER STUD TO STEEL POST:** M12 BOLTS @ 1.2M CRS OR RAMSET SHOT FIRED NAILS @ 300 CRS.  
**TYPICAL TIMBER BOTTOM PLATE TO STEEL BEAM:** M12 BOLTS @ 0.9M CRS.  
**WATERPROOFING AND CLADDING AS PER ARCHITECTURAL DETAILS**  
**ABBREVIATIONS:**  
 CRS (CENTRES), T&B (TOP AND BOTTOM).  
 BW (BOTH WAYS), BS (BOTH SIDES)  
 F&W (FLANGE AND WEB), SR (STANDARD RETURN)  
 S/S (STAINLESS STEEL), V (VERTICAL), H (HORIZONTAL)



Rev.	Date.	Description.

Project Location  
 132 HOON HAY RD  
 HOON HAY,  
 CHRISTCHURCH 8025

Project Description  
 HOON HAY ROAD DEVELOPMENT  
 STRUCTURAL  
 Drawing Description  
 DETAILS - BEAMS

Sheet Issue Date 07/06/2016	Engineer RM	Job No. J000644	Scale 1 : 10
	QA DL	Sheet Size A3	Revision
	Draughtsman KM		Drawing No. <b>S202</b>
	Date 07/06/2016		

**LEGAL DESCRIPTION:**  
 TERRITORIAL AUTHORITY: CHRISTCHURCH CITY COUNCIL  
 LOT: 11 DP: 16769  
 ADDRESS: 132 HOON HAY ROAD HOON HAY, CHRISTCHURCH

<b>COUNCIL</b>	
HEIGHT:	COMPLIANT
SETBACKS:	COMPLIANT
RECESSION PLANES:	COMPLIANT
<b>ZONES NZS 3604:2011</b>	
SNOW LOAD ZONE:	1KPA
WIND ZONE:	HIGH
WIND REGION:	A
EARTHQUAKE ZONE:	2
EXPOSURE ZONE:	C
<b>AREAS</b>	
SITE AREA:	819m <sup>2</sup>
FLOOR AREA NEW DWELLING (UNIT 1):	127.99m <sup>2</sup>
FLOOR AREA NEW DWELLING (UNIT 2):	131.70m <sup>2</sup>
ROOF AREA (UNIT 1):	154.64m <sup>2</sup>
ROOF AREA (UNIT 2):	162.38m <sup>2</sup>
<b>SITE COVERAGE :</b>	<b>31% (35% ALLOWABLE)</b>

**GENERAL NOTES**  
 LANDSCAPING SHOWN ON THIS CONCEPT IS INDICATIVE ONLY AND PURELY FOR PRESENTATION PURPOSES. LANDSCAPING TO BE CONFIRMED BY THE CLIENT. CONCEPT SUBJECT TO RULES AND REGULATIONS ALL DIMENSIONS TO BE CONFIRMED ON SITE. BOUNDARY DIMENSIONS AND BEARING SUBJECT TO CONFIRMATION SITE LEVELS SUBJECT TO CONFIRMATION



Project name : 132 Hoon Hay Road.  
 Job no. : 160460/F/1  
 Sketch title : Fire Safety Features  
 Sheet no. : F1

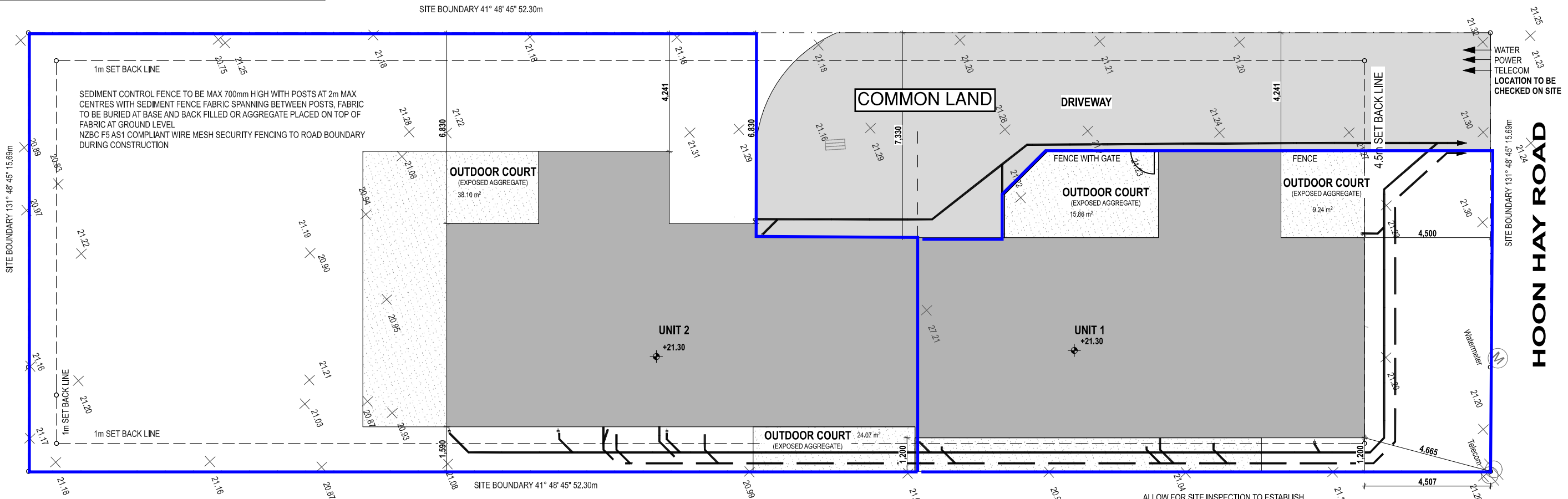
Issue : Consent  
 Sketch Rev : A  
 Date : 31 May 2016  
 Scale : 1:150 @ A3  
 Drawn : SR

**SETOUT NOTES**  
 CONTRACTOR MUST INDEPENDENTLY VERIFY ALL BOUNDARIES AND DIMENSIONS PRIOR TO SETOUT. ALL SETOUT DIMENSIONS ARE IN HORIZONTAL PLANE AND DO NOT TAKE INTO ACCOUNT VARYING GROUND LEVELS.  
 FINISHED FLOOR LEVEL TO BE MAINTAINED AT 225mm CLEARANCE FROM FINISHED GROUND LEVEL.  
 ANTI-SLIP: ON ALL ACCESS ROUTES BOTH INTERNAL AND EXTERNAL. PROVIDE ANTI-SLIP SURFACE COMPLYING WITH NZBC D/AS TABLE 2 (EXCEPT SURFACES IN SIDE ENTRY DOORS OF HOUSING MAYBE CONSIDERED DRY AREAS)

**Christchurch City Council** Page 41 of 43  
**BCN/2016/5889**  
 Approved Building Consent Plan  
 17/10/2016 Phil Judge

**TOWN PLANNING:**

<b>COUNCIL ZONE:</b>	RESIDENTIAL
<b>MAX BUILDING HEIGHT:</b>	8m
<b>INTERNAL SETBACKS:</b>	
- DWELLING:	1m
- STREET FRONT:	4.5m
<b>RECESSION PLANES:</b>	FROM 2.3m
<b>SITE COVERAGE:</b>	MAX 35%



**SITE / DRAINAGE PLAN**  
 1:150

- ASSUMED PROPERTY BOUNDARIES
- EGRESS ROUTES LENGTHS
- SMOKE ALARMS
- 30/30/30 FRR WALLS

**SEDIMENT CONTROL**  
 THE CONTRACTOR SHALL TAKE ALL THE STEPS NECESSARY TO CONTROL THE EROSION AND SEDIMENT RUNOFF FROM THE SITE FOR THE DURATION OF THE CONSTRUCTION WORKS. NO RUNOFF WATER CONTAINING SEDIMENT OR SILT IS ALLOWED TO FLOW ACROSS ANY BOUNDARY.  
 EROSION AND SEDIMENT CONTROL MAY BE ACHIEVED BY CONSTRUCTING A SEDIMENTS/ SILT TRAP ACROSS THE LOWER END OF ANY SLOPE, WITHIN THE SITE BOUNDARY. THE SEDIMENT/SILT TRAP MAY BE FORMED USING ONE OF THE FOLLOWING METHODS:  
 1) PLACE HAY BALES INTO A 200mm DEEP TRENCH. THE HAY BALES ARE TO BE TIED TOGETHER TO CLOSE ALL GAPS BETWEEN THEM AND ANCHORED TO THE GROUND BY STAKING AS REQUIRED.  
 2) NATURAL SOIL FROM THE SITE MAY BE USED TO CONSTRUCT AN EARTH BUND OF WIDTH 1.5M, AND THE SITE UPSTREAM OF THIS BUND EXCAVATED TO A DEPTH OF AT LEAST 200MM BELOW EXISTING GROUND LEVEL.  
 3) PROPRIETARY BIDIM SC04 FILTER ROLL OR SIMILAR APPROVED ALTERNATIVE.  
 SEDIMENT CAN BE CONTAINED WITHIN THE SITE BY CONSTRUCTING A SILT FENCE USING BIDIM A24 GEOTEXTILE OR A SIMILAR APPROVED ALTERNATIVE, WHERE EXCAVATED MATERIAL IS STOCKPILED, THIS METHOD IS ALSO TO BE USED TO CONTROL SEDIMENT RUNOFF, WHICH FLOWS ALONG NATURAL WATERCOURSES.

REGULAR INSPECTION AND MAINTENANCE MUST BE CARRIED OUT TO ENSURE THESE TEMPORARY SEDIMENT/SILT TRAPS ARE NOT COMPLETELY CLOGGED BY SEDIMENT OR SILT. SEDIMENT AND SILT COLLECTED AT THE TRAPS MUST BE REGULARLY REMOVED TO ENSURE NO SPILLOVER.  
 ARRANGEMENTS MUST BE MADE FOR INSPECTIONS AND MAINTENANCE OF THE SEDIMENT/SILT TRAPS OVER WEEKENDS, DURING PUBLIC HOLIDAYS, OVER ANY EXTENDED PERIODS WHEN NO WORK IS BEING CARRIED OUT, AND WHEN HEAVY RAIN OCCURS OUTSIDE NORMAL WORKING HOURS.  
 BEFORE COMMENCEMENT OF THE SITE WORKS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FULL DETAILS, INCLUDING SKETCHES, OF THEIR PROPOSED METHOD FOR EROSION AND SEDIMENT CONTROL WITHIN THE SCOPE OF THE WORKS. THE PROPOSED METHOD MUST BE DESIGNED BY A SUITABLY QUALIFIED PERSON, AND CERTIFIED AS SUITABLE FOR THIS SITE.  
 ROOF WATER DOWNPIPES TO BE CONNECTED TO THE PERMANENT UNDERGROUND STORM WATER DRAINAGE SYSTEM AS SOON AS PRACTICAL AFTER THE ROOF IS LAID.

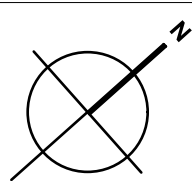
ALLOW FOR SITE INSPECTION TO ESTABLISH ACCURATE LOCATIONS OF EXISTING SERVICES  
 CONNECT 100mm dia SEWER TO EXISTING FW LATERAL LOCATION TO BE CONFIRMED ON SITE ( REFER TO COUNCIL DRAINAGE PLAN)  
 CONNECT 100mm dia STORM WATER TO EXISTING SW LATERAL LOCATION TO BE CONFIRMED ON SITE ( REFER TO COUNCIL DRAINAGE PLAN)



<b>ISSUE DATE:</b>	<b>VERSION:</b>
30/03/16	02
8/04/16	03

**JOB TITLE:**  
 HOON HAY ROAD DEVELOPMENT

**DRAWING TITLE:**  
 SITE & DRAINAGE



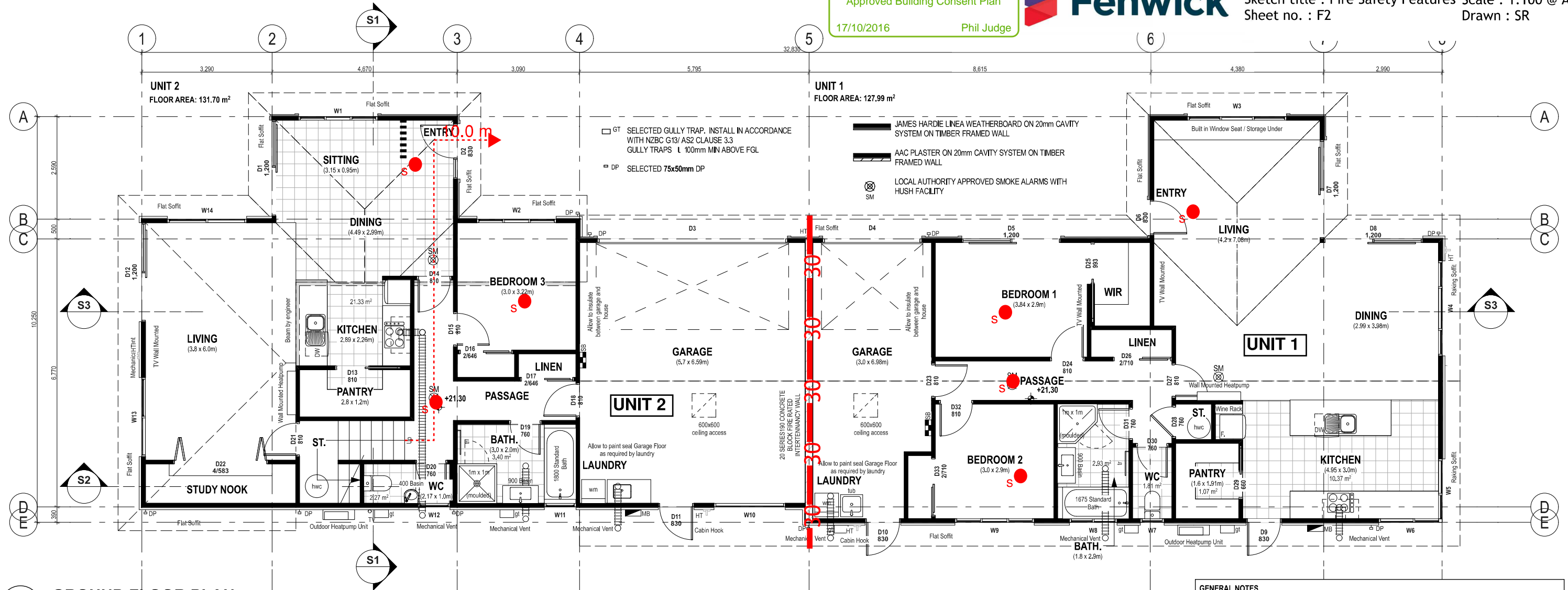
**LEGAL DESCRIPTION:**  
 Lot: 11 DP: 16769  
**SITE ADDRESS:**  
 132 HOON HAY ROAD  
 HOON HAY,  
 CHRISTCHURCH

**NOTES:**  
 - SUBJECT TO COUNCIL APPROVAL  
 - ALL MEASUREMENTS TO BE CONFIRMED ON SITE BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK  
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<b>ORIGINAL SHEET SIZE:</b>	A3
<b>CHECKED BY:</b>	
<b>DRAWN BY:</b>	CT
<b>SCALE:</b>	1:150, 1:10
<b>JOB #</b>	1559



**SHEET:**  
 A1.1



**GROUND FLOOR PLAN**  
 1:100

**GENERAL NOTES:**

FLOOR AREA (UNIT 1):	127.99m <sup>2</sup>
FLOOR AREA (UNIT 2):	131.70m <sup>2</sup>
TYPICAL CEILING HEIGHT:	2.4m
RAISED CEILINGS:	N/A
(REFER CROSS SECTION)	
INTERNAL DOOR HEIGHT:	STANDARD
INTERNAL DOOR WIDTH:	STANDARD
UNDERTILE HEATING TO AREAS:	N/A

**WALL CLADDING MATERIALS**

- 50mm AAC PANEL ON 20mm VENTILATED CAVITY
- JAMES HARDIE LINEA WEATHERBOARDS ON 20mm VENTILATED CAVITY

**ROOF CLADDING MATERIALS**

- SELECTED COLORSTEEL LONGRUN CORRUGATE
- ROOF PITCH: 20°

TYPE 1 DOMESTIC SMOKE ALARMS IN ACCORDANCE WITH ACCEPTABLE SOLUTION F7/AS1.

**GENERAL CONSTRUCTION NOTES**

**ROOF:**  
 PURLINS: H1.2 70x45mm @ 900crs CENTRALLY & 600crs.  
 TRUSSES: H1.2 TIMBER, AS PER MANUFACTURERS SPECIFICATIONS. REFER TO MANUFACTURERS TRUSS LAYOUT & PRODUCER STATEMENT.  
 ROOF BRACING: AS PER TRUSS MANUFACTURERS DOCUMENTATION.  
 FASCIA & RAINWATER SYSTEM: COLORSTEEL  
 DOWNPIPES: 75x50mm  
 SOFFITS: JAMES HARDIE 4.5mm SOFFIT LINING.

**CEILING:**  
 CEILING BATTENS: 70 x 35mm TIMBER @ 600crs, 13mm STANDARD GIB TO CEILINGS.

**WALL FRAMING:**  
 EXTERIOR WALL FRAMING: H1.2 90 x 45mm STUDS @ 600crs (2455mm stud) & DWANGS @ 800crs, H1.2 90 x 45mm STUDS @ 400crs (2455mm stud) & DWANGS @ 800crs  
 INTERNAL FRAMING: 90 x 45mm H1.2 STUDS @ 600crs, DWANGS @ 800crs.  
 DWANGS AS LATERAL SUPPORT AS PER NZS 3604: 8.8.1  
 THERMAKRAFT WATERGATE BUILDING PAPER  
 10mm STANDARD GIB TO WALLS, EXCEPT WET AREAS  
 10mm AQUALINE GIB TO WET AREAS

**INSULATION:**  
 CEILINGS: FIBREGLASS INSULATION R3.6  
 EXTERIOR WALLS: FIBREGLASS INSULATION R2.6  
 TYVEK STRAPS STAPLED TO FRAMING, TO PREVENT INSULATION BULGING INTO CAVITY.

WHERE DOWNLIGHTS ARE TO BE INSTALLED, CA RATED DOWNLIGHTS WILL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH NEW ELECTRICAL SAFETY REGULATIONS MAY 2012

LIGHTING AND ELECTRICAL BY OTHERS, ALL POSITIONS AND TYPES TO BE SELECTED AND CONFIRMED BY CLIENT WITH CONTRACTOR

ALL INTERIOR DOORS TO BE PAINT FINISHED MDF HOLLOW CORE DOORS WITH SELECTED HARDWARE BY CLIENT

ALL WINDOW AND DOOR DIMENSIONS SHOWN ARE ROUGH OPENING. SITE VERIFY PRIOR TO FABRICATION

GIB AQUALINE TO ALL WET AREAS WITH 2 COATS OF ENAMEL PAINT FINISH TO UNTILED WALLS

ALL LINTELS MSG 8 UNLESS OTHERWISE STATED

ALL GLAZING TO COMPLY WITH NZS 4223

MECHANICAL EXTRACTION REQUIRED TO TERMINATE TO EXTERNAL AIR SPACE

HOT WATER PIPES TO BE SIZED ACCORDING TO NZBC G12 & NZS 4305:1996

MAINS PRESSURE: 15mm DIA ALLOWS 12m MAX PIPE LENGTH. PIPE LENGTH BEYOND THIS MUST BE LAGGED

SHOWER LINER OVER GIB AQUALINE IN THE SHOWER/WET AREA TO BE 300mm ABOVE THE SHOWER ROSE AND MINIMUM HEIGHT OF 1800mm

ALL MAIN ELECTRICAL APPLIANCES ARE SHOWN TO INDICATE WHERE POWER MUST BE PROVIDED. (REFRIGERATOR, OVEN, COOKTOP, RANGEHOOD, DISHWASHER, INTERNAL HEATPUMP, EXTERNAL HEATPUMP, DRYER, WASHING MACHINE, WET AREA EXTRACT VENTS, METER BOX, SWITCH BOARD).

ALL ELECTRICAL INSTALLATIONS TO BE IN ACCORDANCE WITH NZECP 512001

ALL KITCHEN POWER POINTS, INCLUDING HOB, OVEN, WASTE DISPOSAL, RANGEHOOD, REFRIGERATOR AND MICROWAVE ARE TO HAVE ONE DOUBLE POWER POINT EACH, REFER TO KITCHEN DESIGN FOR LAYOUT AND POSITIONS OF KITCHEN AREA SOCKETS ETC. ALL POWER POINTS ARE INDICATIVE ONLY AND MUST BE POSITIONED AND CONFIRMED ON SITE BY ARCHITECT AND OR OWNER.

WHERE DOWNLIGHTS ARE TO BE INSTALLED, ONLY CA 80, CA 135, IC OR IC-F DOWNLIGHTS ARE PERMITTED IN PRIVATE OR RENTAL DWELLINGS. (NOTE THAT IC DOWNLIGHTS CAN ONLY BE USED WITH INSULATION THAT PASSES THE NEEDLE FLAME TEST OF AS/NZS 60598 2.2 CLAUSE 11.5). RECESSED DOWNLIGHTS THAT ARE NOT LABELLED AS ABOVE ARE NOT PERMITTED TO BE INSTALLED INTO RESIDENTIAL BUILDINGS.

TOTAL OF 20 LUX OF ILLUMINANCE FOR THE TOTAL WATTAGE REQUIRED PER M2 OF FLOOR AREA AS SHOWN IN NZBC G8 / AS1 TABLE 1. - LIGHTING AND ELECTRICAL BY OTHERS, ALL POSITIONS AND TYPES TO BE SELECTED AND CONFIRMED BY CLIENT WITH CONTRACTOR.

PROTECTION OF A COMBUSTIBLE SURFACE NEAR OF A GAS COOKING APPLIANCE:  
 - THE FIXING OF CERAMIC TILES OF 5mm THICKNESS TO THE SURFACE.  
 - ATTACHING FIRE-RESISTANT MATERIAL TO THE SURFACE AND COVERING WITH SHEET METAL WITH A MINIMUM THICKNESS OF 4mm

THE SIZE OF THE WATER SERVICE PIPE TO A SINGLE DWELLING SHALL NOT BE LESS THAN DN20

TABLE 4: NOMINAL PIPE DIAMETERS G12/AS1

**MAINS PRESSURE**

MINIMUM TEMPERING VALVE SIZE	15mm
PIPES TO TEMPERING VALVE	20mm
PIPES TO SHOWER	20mm
PIPES TO SINK/LAUNDRY	15mm
PIPES TO BATH	15mm
PIPES TO BASINS	10mm

TABLE BASED ON MAXIMUM PIPE LENGTHS OF 20 METRES

5.4.1 THE WATER SUPPLY SYSTEM SHALL BE PROVIDED WITH AN ISOLATING VALVE WHERE A SUPPLY PIPE ENTERS THE BUILDING .

5.4.2 WHERE THE WATER SUPPLY PIPE SERVES A DETACHED DWELLING, THE ISOLATING VALVE REQUIRED BY PARAGRAPH 5.4.1 MAY BE LOCATED AT THE PROPERTY BOUNDARY.

**SLIP RESISTANCE**

LEVEL ACCESS ROUTES INCLUDING WALKING SURFACES SUCH AS DECKS, PATIOS AND STEPS ON THE APPROACH TO THE MAIN ENTRANCE OF HOUSING AND LEVEL ACCESSIBLE ROUTES SHALL HAVE A MEAN COEFFICIENT OF FRICTION (Uj), OF NOT LESS THAN 0.4 WHEN TESTED IN ACCORDANCE WITH AS/NZS 3661.1. FOR OTHER ACCESS ROUTES A COEFFICIENT OF FRICTION OF LESS THAN 0.4 MAY BE ACCEPTABLE, BUT ACCOUNT SHOULD BE TAKEN OF THE EFFECTIVENESS OF THE SURFACE WHEN WET. FOOT PATHS TO COMPLY WITH ANTISLIP REQUIREMENTS OF NZBCD/AS1 TABLE 2. EXTERNAL STEPS AND PORCHES TO BE BROOMED FINISH CONCRETE.

**GENERAL NOTES**

THE PLANS ARE ISSUED SUBJECT TO THE FOLLOWING NOTES:

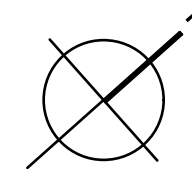
- 1) ALL BEAM SIZES SHOWN ARE TO BE CONFIRMED BY PRE-CUTTER MANUFACTURER AND SHALL COMPLY WITH NZS3604:2011
- 2) ALL CARPENTRY SHALL COMPLY WITH NZS 3604:2011
- 3) AND CURRENT AMENDMENTS.
- 4) ALL PLUMBING AND DRAINAGE TO COMPLY WITH CURRENT APPROVED DOCUMENTS G1, G12, G13, AND G14. DOWNPIPES TO BE CONNECTED TO WATER TANK OR STORMWATER DRAINAGE SYSTEM AS SOON AS PRACTICAL AFTER ROOF IS LAID.
- 5) SMOKE DETECTOR TO BE INSTALLED THROUGHOUT THE DWELLING TO COMPLY WITH NZBC F7/AS1 SECT 3.1 TO 3.3. FITTED WITH HUSH FACILITY AS REQUIRED. ENSURE 300mm MIN FROM WALLS.
- 6) G3/AS1 1.1.3 FOOD PREPARATION SURFACES SHALL BE EASILY MAINTAINED IN A HYGIENIC CONDITION. STAINLESS STEEL, DECORATIVE HIGH PRESSURE LAMINATE, AND TILES ARE EXAMPLES OF SUITABLE MATERIALS FOR THESE SURFACES.
- 7) 250 LTR HIGH PRESSURE HWC TO BE FITTED WITH TEMPERING VALVE AND SEISMIC RESTRAINTS: 3-25x1mm GALV STEEL STRAPS, TENSIONED WHEN FIXED IN PLACE. FIX WITH 8mm COACH SCREWS WITH 30x2mm WASHERS. INSTALL 50x50 VERTICAL BLOCKING FULL HEIGHT BOTH SIDES OF HWC, NAIL TO FRAMING @ 600 CRS MAX WITH 100x3.75 NAILS. REFER TO NZBC G12/AS1 FIGURE 14. HWC RELIEF VALVE DRAIN - COPPER PIPE IN ACCORDANCE WITH NZBC G12/AS1 6.7.2
- 8) PROVIDE MECHANICAL VENTILATION TO BATHROOM AND ENSUITE WEISS FAN UNIT TO VENT OUT THROUGH SOFFIT. VENT DRYER TO OUTSIDE OF BUILDING (IF INSTALLED).
- 9) ENSURE ALL WET AREAS, WALL AND FLOOR LININGS COMPLY WITH NZBC E3/AS1 3.0: IMPERVIOUS LINING UPSTAND AROUND BATH AS PER E3/AS1 FIGURE 3.
- 10) CORROSION ZONE 'C': STEEL FIXINGS AND FASTENINGS TO COMPLY WITH NZS 3604:2011 TABLE 4.1. NAILS TO COMPLY WITH NZS 3604:2011 TABLE 4.3.
- 11) ALL EXPOSED STRUCTURAL STEELWORK (IF APPLICABLE) TO BE HOT DIP GALVANISED.
- 12) ALL DOWNLIGHTS TO BE CA RATED, (CA 80 OR CA135)
- 13) ALL INTERNAL DOORS TO BE STANDARD HEIGHT.

<b>ISSUE DATE:</b>	<b>VERSION:</b>
30/03/16	02
8/04/16	03



**JOB TITLE:**  
 HOON HAY ROAD DEVELOPMENT

**DRAWING TITLE:**  
 GROUND FLOOR PLAN



**LEGAL DESCRIPTION:**  
 Lot: 11 DP: 16769

**SITE ADDRESS:**  
 132 HOON HAY ROAD  
 HOON HAY,  
 CHRISTCHURCH

**NOTES:**  
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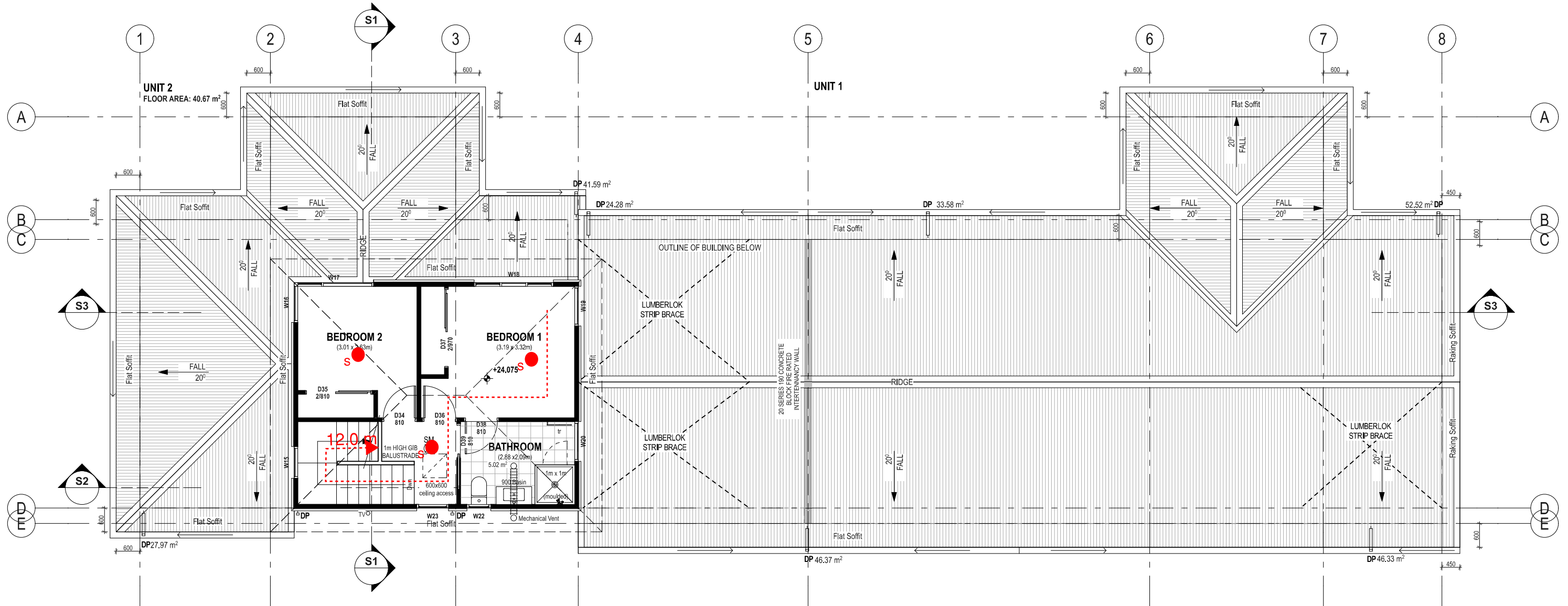
**DRAWN BY:** CT

**SCALE:** 1:100

**JOB #** 1559

**SHEET:** A2.2

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**FIRST FLOOR PLAN**  
1:100

**Christchurch City Council** Page 43 of 43  
**BCN/2016/5889**  
 Approved Building Consent Plan  
 17/10/2016 Phil Judge



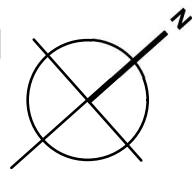
Project name : 132 Hoon Hay Road.  
 Job no. : 160460/F/1  
 Sketch title : Fire Safety Features  
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 Sketch Rev : A  
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**JOB TITLE:**  
HOON HAY ROAD DEVELOPMENT

**DRAWING TITLE:**  
FIRST FLOOR PLAN



**LEGAL DESCRIPTION:**  
Lot: 11 DP: 16769  
**SITE ADDRESS:**  
132 HOON HAY ROAD  
HOON HAY,  
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**SHEET:**  
A2.3