
NEW DWELLING

ADDRESS

76 PERERIKA STREET, ROTORUA

CLIENT

GT HOMES

JOB No.

J001027

ISSUE

FOR CONSENT

DATE OF ORIGINAL ISSUE

JUNE 2021

APPROVED BUILDING CONSENT
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*drawings to be printed in color



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GENERAL



- G0 CONTRACTOR TO PREPARE AND CARRY OUT ALL REQUIRED HEALTH AND SAFETY PLAN REQUIREMENTS PRE CONSTRUCTION AND DURING CONSTRUCTION.
- G1 STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATION, ARCHITECTURAL, CIVIL AND ENGINEERING SERVICES DOCUMENTS. THE SPECIFICATION AND DRAWINGS SHALL TAKE PRECEDENCE OVER THESE NOTES AND DETAILS
- G2 NO DIMENSIONS ARE TO BE OBTAINED FROM SCALING DRAWINGS U.N.O.
- ALL DIMENSIONS RELEVANT TO SETTING OUT AND OFF-SITE WORK SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION AND FABRICATION IS COMMENCED. THE ENGINEERS DRAWINGS SHALL NOT BE SCALED.
- G3 UNLESS OTHERWISE NOTED ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
- G4 THE BUILDER SHALL BE RESPONSIBLE FOR MAINTAINING THE STABILITY OF THE STRUCTURE UNTIL ITS COMPLETION AND SHALL ENSURE THAT NO PART OF THE STRUCTURE IS OVERSTRESSED BY EXCESSIVE LOADING.
- G5 MATERIALS & WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE NEW ZEALAND BUILDING CODE, THE CURRENT EDITION OF THE RELEVANT NEW ZEALAND STANDARDS, INCLUDING ASSOCIATED STANDARDS, AND LOCAL AUTHORITY REGULATIONS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- G6 ALL DISCREPENCIES SHALL BE REFERRED TO THE PROJECT MANAGER FOR DECISIONS BEFORE PROCEEDING WITH THE WORK.
- G7 LEGEND USED FOR GENERAL ABBREVIATIONS
- | | |
|-----|--|
| TYP | TYPICAL |
| NTS | NOT TO SCALE |
| SFL | STRUCTURAL FLOOR LEVEL. |
| FFL | FINISHED FLOOR LEVEL |
| SOP | SET OUT POINT |
| UNO | UNLESS NOTED OTHERWISE |
| FL | FOUNDING LEVEL (IE UNDERSIDE OF FOOTING) |
- G8 WHERE PROPRIETARY PRODUCTS ARE SPECIFIED IN THE DOCUMENTS THE CONTRACTOR MAY NOT SUBMIT AN ALTERNATIVE PRODUCT FOR APPROVAL.
- G9 ALL WORK TO BE CARRIED OUT BY LICENSED BUILDING PRACTITIONERS
- G10 THE DESIGN ADEQUACY INCORPORATED IN THESE DRAWINGS IS SUBJECT TO THE REQUIREMENTS INCLUDED IN THE SPECIFICATION FOR THE WORKS AND THE DESIGN ASSUMPTIONS INCORPORATED INTO THE CALCULATIONS AND REPORTS FOR THE PROJECT.
- G11 THE DRAWINGS SHOW THE DESIGN INTENT. SHOP DETAILING IS THE RESPONSIBILITY OF THE CONTRACTOR.
- G12 THE STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL SETTING OUT, NIBS, REBATES, SETDOWNS AND THE LIKE.
- ALL DISCREPANCIES SHALL BE REFERRED TO THE PRINCIPAL, CONSULTANT OR THE ENGINEER BEFORE PROCEEDING WITH WORK.
- G13 IF DURING CONSTRUCTION ANY PART OF THE WORKS SHOW SIGNS OF DISTRESS, EXCESSIVE DEFLECTION, CONFLICT OF COMPONENTS OR OTHER PROBLEMS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER WHO SHALL INVESTIGATE AND ISSUE SUCH INSTRUCTIONS AS ARE CONSIDERED NECESSARY.

STRUCTURAL STEELWORK

- S1 MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH NZS 3404 WELDING SHALL COMPLY WITH AS 1554.1 IN CONJUNCTION WITH NZS 3404 APPENDIX D.
- S2 ALL CONNECTIONS SPLICES AND BASEPLATES SHALL BE TO HERA REPORT R4-100 AS SHOWN, TYPICALLY ON THE DRAWINGS UNLESS SPECIFICALLY NOTED OR DETAILED.
- S3 BOLTS SHALL GENERALLY NE TIGHTENED SNUGFIT (S) (UNLESS OTHERWISE STATED) TO AS/NZS1252: 1996 FULLY TENSIONED IN ACCORDANCE WITH NZS 3404.
- S4 NO STEELWORK SHALL BE FABRICATED UNTIL ENGINEERS COMMENTS ON THE WORKSHOP DRAWINGS HAVE BEEN RECEIVED.
- S5 CHECK AND VERIFY ALL DIMENSIONS, LEVELS, AND DETAILS ON SITE (INCLUDING H,D BOLTS AS CONSTRUCTED) BEFORE DELIVERING STRUCTURAL STEELWORK TO SITE.
- S6 SURFACE PREPARATION AND CORROSION PROTECTION OF STEELWORK SHALL BE IN ACCORDANCE WITH THE ENGINEERING SPECIFICATIONS.
- S7 WELDED CONNECTIONS BETWEEN STRUCTURAL MEMBERS SHALL HAVE 6mm CONTINUOUS FILLET WELDS ALL SIDES UNLESS NOTED OTHERWISE.
- S8 BOLT TYPES (AND DESIGNATIONS, WHERE USED) SHALL BE AS FOLLOWS:-
- | |
|--|
| 4.6/S - COMMERCIAL BOLTS TO AS 1111, SNUG TIGHTENED. |
| 8.8/S - HIGH STRENGTH STRUCTURAL BOLTS, NUTS AND HARDENED WASHERS TO AS 1252, SNUG TIGHTENED ONLY. |
| 8.8/TB- HIGH STRENGTH STRUCTURAL BOLTS AS ABOVE, FULLY TENSIONED TO AS 1511 IN A BEARING TYPE JOINT. |
| 8.8/TF- HIGH STRENGTH STRUCTURAL BOLTS AS ABOVE, FULLY TENSIONED TO AS 1511 IN FRICTION TYPE JOINT AND UNLESS NOTED OTHERWISE, WITH FACING SURFACES LEFT UNCOATED. |
- S9 M12 AND SMALLER BOLTS TO BE COMMERCIAL GRADE (4.6/S). M16 AND LARGER BOLTS TO BE HIGH STRENGTH SNUG TIGHTENED (8.8/S) UNLESS NOTED OTHERWISE.
- S10 ALL HOLDING DOWN BOLTS AND OTHER FIXING DEVICES SHALL HAVE A MINIMUM YIELD STRESS OF 250 MPa, UNLESS NOTED OTHERWISE, AND ARE TO BE SET TO TEMPLATE AND CHECKED FOR LEVEL AND POSITION BEFORE CONCRETING. HOLDING DOWN BOLTS AND CAST-IN ITEMS SHALL BE SET ACCURATELY BY TEMPLATE FOR POSITION, PLUMB AND LEVEL BEFORE CONCRETING.
- S11 APPROVED WASHERS ARE TO BE PROVIDED UNDER ALL NUTS AND TURNING BOLT HEADS. AFTER TIGHTENING, EXPOSED FACES OF BOLTS, NUTS AND WASHERS SHALL BE PREPARED AND COATED AS SPECIFIED OR AS FOR ADJACENT STEELWORK.
- S12 THE ENDS OF ALL HOLLOW SECTIONS SHALL BE SEALED WITH 3mm (MIN.) STEEL PLATE.
- S13 ALL WELDING TO BE SP WELD UNLESS NOTED OTHERWISE ON DRAWINGS.
- S14 ALL COLD FORMED SECTIONS INCLUDING COLD ROLLED PURLINS TO CONFORM TO AS 1538 AND SHALL BE ROLL-FORMED FROM ZINC COATED HIGH STRENGTH STEEL STRIP, ZINC-HI-TEN, MINIMUM YIELD STRESS 450 MPa, 300 g/m MINIMUM COATING MASS, UNLESS NOTED OTHERWISE ON DRAWINGS.

- S15 ALL STRUCTURAL STEEL FLOOR BEAMS SHALL BE PRECAMBERED TO COMPENSATE FOR DEAD LOAD DEFLECTION - REFER TO LAYOUT DRAWINGS.
- S16 ALL BUTT WELDS SHALL BE SUBJECT TO 100% TESTING BY ULTRASONIC OR OTHER APPROPRIATE METHODS AT THE CONTRACTORS COST.
- S17 ALL CASES OF DAMAGE TO THE PROTECTIVE COATING OF STEELWORK SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER.
- S18 ALL DRY PACK MORTAR/GROUT SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 25MPa.
- BASEPLATES SHALL BEAR DIRECTLY 10 NOMINAL THICKNESS DRYPACK MORTAR UNLESS NOTED.
- S19 ALL ROD BRACING TO BE GRADE 300 PLAIN REINFORCING BAR U.N.O.
- S20 STEEL MEMBERS SHALL BE THE FOLLOWING GRADES UNO.
- | MEMBER | GRADE |
|-------------------------------------|-------|
| UB's, UC's, TFC's, TFB's AND ANGLES | 300 |
| RHS, SHS, CHS | 350 |
| WB, WC | 300 |
| PORTAL FRAME | 300 |
- S21 ALL EXPOSED BOLTS, NUTS, WASHERS, STRAPS AND HOLDING DOWN BOLTS SHALL BE HOT DIP GALVANISED.
- S22 IN ADDITION TO THE FINISH SPECIFIED, STEELWORK IN CONTACT WITH THE GROUND IS TO BE COATED WITH A COAL TAR EPOXY TO A MINIMUM THICKNESS OF 0.4MM.
- S23 FOR GALVANISED COATINGS, PATCH FIELD DAMAGE AND SITE WELDS WITH TWO COATS OF A TWO PACK EPOXY POLYAMIDE ZINC-RICH PAINT CONTAINING A MINIMUM OF 92% ZINC DUST IN THE DRY FILM WHICH SHALL BE BUILT UP TO 75 MICROMETRES MINIMUM.
- S24 ALL SEALED HOLLOW SECTIONS TO BE GALVANISED SHALL HAVE VENT HOLES, (TO BE SHOWN ON THE SHOP DRAWINGS), VENT HOLD SEALED AFTER GALVANISING.
- S25 PURLIN CLEATS ARE TO BE IN ACCORDANCE WITH THE MANUFACTURER'S STANDARD DETAILS EXCEPT WHERE THE TOP FLANGE OF THE PURLIN IS MORE THAN 300MM ABOVE SUPPORTING STEELWORK 75 X 75 X 8 ANGLE CLEATS SHALL BE USED, PURLINS SHALL BE FIXED USING APPROVED FLANGED BOLTS AND WASHERS.
- S26 CEILING SYSTEMS, DUCTWORK ETC, TO BE SUSPENDED FROM PURLINS SHOULD BE FIXED WITH HOOK BOLTS THROUGH PURLIN WEB, THE FLANGES OF THE PURLINS OR GIRTS SHALL NOT BE HOLED. SEISMIC RESTRAINT OF SERVICES IS TO BE CARRIED OUT BY SPECIALIST SEISMIC RESTRAINT ENGINEER
- S27 HOLLOW SECTION MEMBERS SHALL BE CAPPED AND ALL JOINTS SEALED.

LOADBEARING MASONRY

- B1 IN GENERAL ONLY LOADBEARING MASONRY IS INDICATED ON DRAWINGS. ALL NON-LOADBEARING WALLS ARE TO HAVE A 12mm COMPRESSIBLE JOINT BETWEEN TOP OF WALL AND UNDERSIDE OF SUSPENDED SLABS (OR BEAMS OVER) AND WHERE THEY ABUT OTHER STRUCTURAL ELEMENTS (eg. COLUMNS).
- B2 CONCRETE MASONRY BLOCKS SHALL HAVE A COMPRESSIVE STRENGTH OF 17.5 MPa AND CONFORM TO NZS 3102 UNLESS NOTED OTHERWISE. DENSITY SHALL BE > 1750 kg/m
- B3 MORTAR
- MORTAR SHALL COMPLY WITH THE REQUIREMENTS OF NZS 4210 WITH NOMINAL PROPORTIONS 1 PART CEMENT, 3 PARTS SAND AND 1/4 PART LIME UNLESS NOTED OTHERWISE. COMPRESSIVE STRENGTH OF MORTAR SHALL BE NOT LESS THAN 12 MPa.
- B4 GROUT
- ALL CORES SHALL BE FILLED WITH GROUT AS INDICATED ON THE DRAWINGS. THE GROUT SHALL HAVE A SLUMP OF 230mm AND COMPRESSIVE STRENGTH F_{ig}≥25 MPa AND CAVEY EXPANDING ADDITIVE.
- B5 IN GENERAL, WALLS TO BE FULL HEIGHT BEFORE GROUTING CORES. CLEANOUT OPENINGS TO BE PROVIDED AT BOTTOM COURSE (1.2m CENTRES MAX.), MORTAR JOINTS TO BE 10mm THICK WITH BLOCKS FULLY BEDDED AND PERPENDS FILLED. JOINTS TO BE TOOLED AT EXPOSED OR RENDERED SURFACES. BEFORE PLACING VERTICAL REINFORCEMENT CORES ARE TO BE CLEANED OF ALL MORTAR FINS AND DROPPINGS THROUGH CLEANOUT OPENINGS WHICH ARE NOT TO BE CLOSED UNTIL INSPECTED BY SUPERINTENDANT/ENGINEER.
- GROUT TO BE RODDED TO ENSURE FILLING OF CORES WITH A MAXIMUM CONTINUOUS POUR HEIGHT OF 3600mm.
- B6 ALL MASONRY BELOW GROUND TO HAVE A MORTAR TYPE: 1 : 0 - 1/2 : 4 1/2 CEMENT LIME FINE AGGREGATE
- B7 WHERE MASONRY IS TO BE CONSTRUCTED ON SUSPENDED CONCRETE WORKS WITHOUT A CORRESPONDING WALL UNDER THE CONCRETE MUST BE FULLY DEPRESSED BEFORE COMMENCEMENT OF THIS MASONRY. (REFER NOTE C7 IN CONCRETE SECTION)
- B8 CHASING OF LOADBEARING MASONRY UNITS SHALL ONLY BE PERMITTED WHERE SHOWN ON ENGINEERING SERVICES DRAWINGS.
- B9 FOR TIES REFER TO SPECIFICATIONS.
- B10 ALL PLACEMENT OF MASONRY UNITS SHALL BE BY A REGISTERED MASON OR BY SOMEONE SUPERVISED DIRECTLY BY A REGISTERED MASON.
- B11 A REGISTERED MASON MUST SUPERVISE ALL GROUTING OPERATIONS.
- B12 THE CONTRACTOR SHALL ADVISE THE PROJECT MANAGER AT LEAST 24 HOURS PRIOR TO GROUTING IN BLOCKWORK TO ENABLE HIM TO INSPECT THE WORK.
- B13  LOAD BEARING BLOCKWORK INCLUDING RETAINING WALLS AND PIERS - REINFORCED AS SHOWN. ALL CORES GROUTED U.N.O.
- B14  NON LOAD BEARING BLOCKWORK TYPICALLY NOT SHOWN ON THESE DRAWINGS, WHERE SHOWN INDICATED THUS, REINFORCED EITHER AS SHOWN OR TYPICALLY AS FOLLOWS:
- | |
|--|
| WALLS OVER 1.5m HIGH -HD16 @ 400 VERT, HD12 @ 800 HORIZ. |
| UNDER 1.5m HIGH -HD12 @ 600 VERT, HD16 @ 1000 HORIZ. |
- ALL REINFORCED CORES GROUTED.

CONCRETE

- C1 ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH NZS 3109.
- C2 MINIMUM CONCRETE STRENGTHS SHALL BE AS FOLLOWS UNLESS NOTED ON DRAWINGS:-
- | ELEMENT | GRADE(MPa) |
|-----------------|------------|
| SUSPENDED FLOOR | 25 |
| SLAB ON GRADE | 25 |
| FOUNDATIONS | 20 |
| BLINDING | 10 |
- C3 CEMENT USED IN THE CONCRETE SHALL CONFORM TO THE FOLLOWING:-
- a) ORDINARY PORTLAND CEMENT TO NZS 3122,
- b) HIGH GRADE CEMENT TO NZS 3104 OR NZS 3108.
- C4 SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
- C5 BEAM DEPTHS ARE NOTED FIRST AND INCLUDE FOR THICKNESS OF SLAB IF ANY.
- C6 CONSTRUCTION JOINTS WHERE NOT SHOWN ON DRAWINGS SHALL BE LOCATED TO THE APPROVAL OF THE PROJECT MANAGER. TENDERS SHALL ALLOW FOR ALL SUCH CONSTRUCTION JOINTS.
- C7 NO PENETRATIONS, CHASES OR EMBEDMENTS OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR APPROVAL OF OF THE PROJECT MANAGER.
- x:C8 ALL FORMWORK AND PROPPING UNDER SUSPENDED CONCRETE WORKS SHALL BE REMOVED BEFORE ANY MASONRY WORK IS BUILT ABOVE, REFER NOTE B7 IN MASONRY SECTION.
- C9 CAMBERS UNLESS NOTED OTHERWISE ON THE DRAWINGS AND EXCEPT FOR PRESTRESSED WORK SHALL BE PROVIDED IN BEAMS AND SLABS AS FOLLOWS:-
- i) SPANS GENERALLY - 0.002 x SPAN
- ii) CANTILEVERS - 0.004 x CANTILEVER LENGTH.
- CAMBERS SHALL BE CHECKED BEFORE AND AFTER DEPPOPPING TO DETERMINE THE DEFLECTION OF THE MEMBERS UNDER THEIR SELF WEIGHT. PROVISION SHALL BE MADE IN THE FORMWORK SYSTEM FOR THE STRUCTURAL ENGINEER TO VARY THE SPECIFIED CAMBERS ON THE BASIS OF THIS INFORMATION.
- C10 ALL CONCRETE IS TO HAVE 15 x 15 CHAMFERS TO ALL EXPOSED EDGES U.N.O.
- C11 FINISHES TO CONCRETE TO BE AS FOLLOWS (ALL IN ACCORDANCE WITH NZS 3114)
- TOPS OF SLABS, RAMPS-INTERNAL - U3 POWER FLOAT.
- TOPS OF SLABS, RAMPS-EXTERNAL - U3 LIGHT BROOM (NYLON).
- C12 CONTRACTOR TO SUBMIT ALL SHOP DRAWINGS OF PRECAST UNITS, INCLUDING FORMWORK, REINFORCEMENT, MANUFACTURING, CURING, STORAGE, HANDLING, AND ERECTION PROCEDURES PRIOR TO COMMENCING WORK.
- C13 ANY PROPRIETARY PRECAST COMPONENTS REFERRED TO ON THESE DRAWINGS SHALL BE DESIGNED AND DETAILED BY THE SUPPLIER AND A COPY OF THE DOCUMENTATION SUBMITTED TO THE PROJECT MANAGER.
- C14 PRECAST CONCRETE TOLERANCES : DIMENSIONAL 5mm STRAIGHTNESS 1 IN 100
- C15 WHERE A LIGHTWEIGHT CONCRETE SCREED IS SPECIFIED ITS DENSITY SHALL BE <1000 kg/m x3
- C16 ALL PRECAST HOLLOWCORE UNITS TO HAVE DRAIN HOLES.
- C17 ALLOW FOR ALL CAST-IN CLEAST, HOLDING DOWN BOLTS AND THE LIKE.
- C18 PROVIDE HD12 TRIMMER BARS TO ALL SLAB EDGES.
- C19 SLABS ON GROUND SHALL BE SAWCUT 1/4 SLAB THICKNESS TO THE LAYOUT ON THE DRAWINGS OR 5000x5000 MAXIMUM GRID BETWEEN 24 & 48 HOURS AFTER POURING. NO LAPS SHALL OCCUR AT JOINTS POURS IN SLABS OR STRIPS MAY SUPERSEDE THESE DETAILS WITH THE APPROVAL OF THE ENGINEER.
- C20 MINIMUM CONCRETE STRENGTH SHALL BE IN ACCORDANCE WITH NZS 3101.1995 CHAPTER 5 FOR DURABILITY.

STRUCTURAL TIMBER

- T1 LEAD HOLES TO BE 0.8 TIMES THE DIAMETER OF THE FASTENER.
- T2 FOR TRUSSES NO DEFECTS TO OCCUR WITHIN 150mm OF ANY CONNECTION.
- T3 ALL BOLTS AND NUTS TO HAVE WASHERS UNDER HEAD AND NUT WHEN IN BOLTS TO BE RETIGHTENED IMMEDIATELY PRIOR TO COVERING. REFER T9 FOR WASHER SIZES.
- T4 WHERE TIMBER CONNECTIONS ARE EXPOSED TO THE WEATHER ALL STEEL CONNECTION ELEMENTS SHALL BE GALVANISED, FACES AND EDGES OF STEEL ELEMENTS WHICH REST AGAINST TANALISED TIMBER SHALL BE PAINTED PRIOR TO POSITIONING UNLESS NOTED OTHERWISE.
- T5 ALL TIMBER SHALL BE S68 UNLESS NOTED OTHERWISE
- T6 USE GRADE H5 WHERE TIMBER IN DIRECT CONTACT WITH GROUND, GRADE H4 WHERE EXPOSED TO WEATHER AND BORIC TREATED WHERE FULLY ENCLOSED. TIMBER TREATMENT SHALL COMPLY WITH THE TIMBER PRESERVATION AUTHORITY PUBLICATION:- TIMBER PRESERVATION IN NEW ZEALAND SPECIFICATION.
- T7 WHERE TIMBER TRUSSES HAVE BEEN SHOWN ON THE DRAWINGS THE CONTRACTOR SHALL ENGAGE A REGISTERED ENGINEER TO DESIGN THE TRUSSES. DETAILED SHOP DRAWINGS FOR THE FABRICATION OF TIMBER TRUSSES SHALL BE SUBMITTED TO THE PROJECT MANAGER FOR COMMENT PRIOR TO FABRICATION.
- T8 MINIMUM TIMBER TO STEEL CONNECTION IS TO BE WITH A 5mm STEEL PLATE AND 2-M12 BOLTS.
- T9. SQUARE WASHER BOLT DIAMETER ROUND WASHER
- | (mm) | | (mm) |
|---------------|------|----------|
| 25 x 25 x 1.6 | M6 | 30 x 1.6 |
| 32 x 32 x 2.0 | M8 | 36 x 2.0 |
| 40 x 40 x 2.5 | M10 | 45 x 2.5 |
| 50 x 50 x 3.0 | M12 | 55 x 3.0 |
| 57 x 57 x 4.0 | M16 | 65 x 4.0 |
| 65 x 65 x 5.0 | M20 | 75 x 5.0 |
| 75 x 75 x 6.0 | >M20 | 85 x 6.0 |

- T10 ALL STRUCTURAL TIMBER MANUFACTURERS SHALL BE LICENSED BY THE STANDARDS ASSOCIATION OF NEW ZEALAND TO USE THE N.Z. CERTIFIED MARK ON THEIR PRODUCTS.
- T11 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH NZS 3602 & NZS 3603.
- T12 LIGHT TIMBER FRAMED CONSTRUCTION THAT IS NOT SPECIFICALLY DESIGNED SHALL BE IN ACCORDANCE WITH NZS 3604.

REINFORCEMENT

- R1 REINFORCEMENT SHALL BE NEW ZEALAND MANUFACTURED TO AS/NZS4671 ALL REINFORCEMENT BE DUCTILE CLASS E. WIRE MESH SHALL BE IN ACCORDANCE WITH NZS 3422, TO A MIN GRADE 500MPa. THE INTERNAL RADIUS OF BENDS SHALL BE AS LIMITED BY AS/NZ3350.2,9
- R2 REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NO NECESSARILY IN TRUE PROJECTION.
- R3 ALL REINFORCEMENT SHALL BE AS FOLLOWS:-
- | SYMBOL | TYPE |
|--------|--|
| R | STRUCTURAL GRADE PLAIN BARS TO NZS 3402 (300 MPa) |
| D | STRUCTURAL GRADE DEFORMED BARS TO NZS 3402 (300 MPa) |
| M | MESH TO NZS 3421 (485 MPa) |
| HD | DEFORMED BARS GRADE 500 TO AS/NZS 3402 (500 MPa) |
| HR | PLAIN BARS GRADE 500TO AS/NZS 3402 (500 MPa) |
- R4 CLEAR COVER TO REINFORCEMENT (EXCLUDING STIRRUPS, TIES ETC.) SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE ON THE DWGS. WHERE NOT SPECIFICALLY DESIGNATED COVER IS TO BE IN ACCORDANCE WITH NZS 3109.

MEMBER	LOCATION	COLUMN 1		COLUMN 2	COLUMN 3	COLUMN 4
		CAST	AGAINST	FORMWORK		
		NOT EXPOSED TO WEATHER OR WATER	EXPOSED TO WEATHER OR WATER	FIRE EXPOSURE CONDITION		CAST AGAINST GROUND (SEE NOTE BELOW)
PAD FOOTINGS		N/A	50	—		75
STRIP FOOTINGS		N/A	50	—		75
SLAB		35	50	—		75
COLUMNS		35	50	—		75

NOTE: WHERE THERE IS A PERMANENT IMPERMEABLE MEMBRANE BETWEEN CONCRETE AND GROUND USE COLUMN 2 COVER.

- R5 WHERE TOP AND BOTTOM REINFORCEMENT ARE SHOWN ON THE SAME PLAN, TOP REINFORCEMENT IS SHOWN THUS AND BOTTOM REINFORCEMENT IS SHOWN THUS
- R6 DISTRIBUTION BARS TO MAIN REINFORCEMENT IN SLABS SHALL BE D12 AT 300mm CENTRES UNLESS NOTED OTHERWISE.
- R7 NO REINFORCEMENT SPLICES SHALL BE MADE, OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS, WITHOUT THE PRIOR APPROVAL OF THE SUPERINTENDANT/ENGINEER. MINIMUM LAP FOR FABRIC SHALL BE ONE MESH PLUS 25mm.
- R8 WELDING OF REINFORCEMENT IS NOT PERMITTED UNLESS SHOWN ON THE DRAWINGS OR APPROVED BY THE PROJECT MANAGER.
- R9 TOP AND BOTTOM REINFORCEMENT IN SLABS SHALL BE SUPPORTED IN BOTH DIRECTIONS AT MAXIMUM CENTRES OF 1000mm IN BOTH DIRECTIONS.
- R10 THE MINIMUM CLEAR SPACING BETWEEN CONDUITS, CABLES, PIPES AND BARS SHALL BE AS REQUIRED BY NZS 3101 BUT NOT LESS THAN THREE DIAMETERS. CONDUITS IN SLABS ARE TO BE PLACED ABOVE BOTTOM REINFORCEMENT AND BELOW TOP REINFORCEMENT.
- R11 HOOK LAPS AND BENDS TO BE IN ACCORDANCE WITH NZS 3109 - UON
- R12 LEGEND USED FOR BOTTOM REINFORCEMENT LOCATION
- | | |
|-----|-------------------------|
| BB | BOTTOM BOTTOM |
| B | BOTTOM |
| TT | TOP TOP |
| T | TOP |
| EW | EACH WAY |
| EF | EACH FACE |
| NF | NEAR FACE |
| FF | FAR FACE |
| ABR | ALTERNATE BARS REVERSED |
- R13 SLAB REINFORCEMENT SHALL BE SUPPORTED ON STOOLS OR OTHER APPROVED METHODS. STARTERS SHALL BE TIED IN PLACE.
- R14 MINIMUM COVER TO BE IN ACCORDANCE WITH NZS 4210.2001 TABLE 2EI FOR DURABILITY

APPROVED BUILDING CONSENT
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Date: 27/10/2021
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Rotorua Lakes Council

NOTES

NO.	DATE	REVISION DETAILS	BY

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JOB TITLE

NEW DWELLING

ADDRESS

76 PERERIKA STREET,
ROTORUA

DRAWING TITLE

GENERAL NOTES

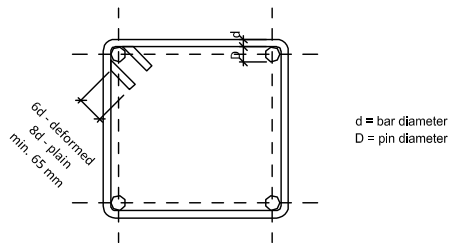
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VC	KW	J001027	
DATE	JUNE 2021	DRAWING NUMBER	REVISION
SCALE	A3	GN 01	0

Unless specified otherwise, mesh overlap measured between outermost cross wires of each mesh sheet is not less than twice the spacing of cross wires, plus 50mm, and not less than 300mm



Technical drawing of a U-bolting system showing two cross-sectional views. The left view shows a '12d - deformed' bar and a '16d - plain' bar. The right view shows a '4d' bar with a 'min. 65 mm' dimension. A 'former pin' is indicated between the two views. Dimensions 'd' and 'D' are shown for the bar and hole respectively.

STANDARD HOOK

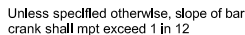


Minimum form pin diameter ϕ (mm)					
Bar diameter	Stirrups & tie (300 or 500 Grade)		All other bars (300 or 500 Grade)		
	Plain	Deformed	Plain	Deformed	
6	12	24	30	30	
8	16	32	40	40	
10	20	40	50	50	
12	24	48	60	60	
16	32	64	80	80	
20	40	80	100	100	
25	75	150	150	150	
32	96	192	192	192	

Where deformed bars are galvanized before or after bending, the minimum bend diameter shall be:

- i) 5d for bar diameters of 16mm or less
- ii) 8d for bar diameter of 20mm or greater

Splice lap length for deformed reinforcing steel (mm)									
Bar diameter	Concrete				Blockwork				
	Grade 300		Grade 500		Grade 300		Grade 500		
	R	D	HR	HD	R	D	HR	HD	
10	900	450	1500	750	1150	575	1900	950	
12	1100	550	1800	900	1350	675	2300	1150	
16	1400	700	2400	1200	1800	900	3000	1500	
20	1800	900	3000	1500	2300	1150	3800	1900	
25	2200	1100	3700	1850	2900	1450	4700	2350	
32	2800	1400	4700	2350	3600	1800	6000	3000	



STANDARD BAR CRANK

The diagram illustrates a cross-section of a footing excavation. A diagonal line, labeled 'CRITICAL LINE', starts from the top left corner of the footing and extends downwards and to the right. The footing itself is shown as a rectangular block with a hatched pattern. To the right of the footing, there is a 'BACKFILLED TRENCH OR OTHER EXCAVATION', also indicated by a hatched pattern. A dimension line shows a horizontal distance of '300' from the left edge of the footing to the start of the backfill. A slope triangle is shown on the far left with a vertical side of '1' and a horizontal side of '1', indicating a 1:1 slope. The labels 'CRITICAL LINE', 'FOOTING EXCAVATION', and 'BACKFILLED TRENCH OR OTHER EXCAVATION' are positioned above their respective features.

- | B.S. SIEVE SIZE | % PASSING |
|-----------------|-----------|
| 53mm | 100 |
| 9.5mm | 45 - 100 |
| 2.36mm | 20 - 75 |
| 600um | 10 - 50 |
| 75um | <15 |

1. ALL ALTERATIONS TO PRIMARY STRUCTURE SHALL BE UNDERTAKEN UNDER GUIDANCE OF A CPENG STRUCTURAL ENGINEER.
2. IF DECONSTRUCTION IS REQUIRED DECONSTRUCTION SEQUENCE SHALL BE PREPARED AND REVIEWED BY A CPENG STRUCTURAL ENGINEER TO ENSURE THE DECONSTRUCTION CAN BE COMPLETED SAFELY WITHOUT THE STRUCTURE BECOMING UNSTABLE

A1. FOR ALL RENOVATION OR RETROFIT PROJECTS OF BUILDING BUILT PRIOR TO YEAR 2000 ARE TO HAVE ASBESTOS MANAGEMENT PLAN CARRIED OUT BY THE CLIENT OR CONTRACTOR PRIOR TO ANY WORK.

08. IF EQUIVALENT PRODUCTS ARE TO BE USED IN PLACE OF THE SPECIFIED PRODUCT ON DRAWINGS, THE ENGINEER MUST BE INFORMED AND AGREE TO THE SUBSTITUTION IN WRITING.

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GENERAL NOTES

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DATE JUNE 2021		DRAWING NUMBER GN 02	REVISION 0
SCALE A3			

For construction of a gravel raft, we recommend the following:

- Excavate to 1.0 m below the existing ground level. The excavation should extend 1m beyond the footprint, where practicable, to allow an even spread of the load and limit the creation of voids beneath the foundation in a ULS earthquake;
- The trimmed subgrade should be proof rolled in the presence of a geotechnical engineer before any filling of the site commences to identify any soft spots and to decide their treatment and any undercutting;
- A layer of Bidim A29 or similarly approved geotextile should be placed in the excavation base;
- The geogrid reinforced raft should be 1.0m thick and constructed in 300mm thick lifts compacted to 98% of maximum dry density (95% for the first lift) at \pm 2% of optimum water content.
- A single layer of StrataGrid High Strength PET Geogrid (SG500 or equivalent) should be placed at 300mm above the excavation base.
- All fill material should be Light weight Pumice or equivalent.

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JOB TITLE

NEW DWELLING

ADDRESS

76 PERERIKA STREET,
ROTORUA

DRAWING TITLE

GROUND PREPARATION

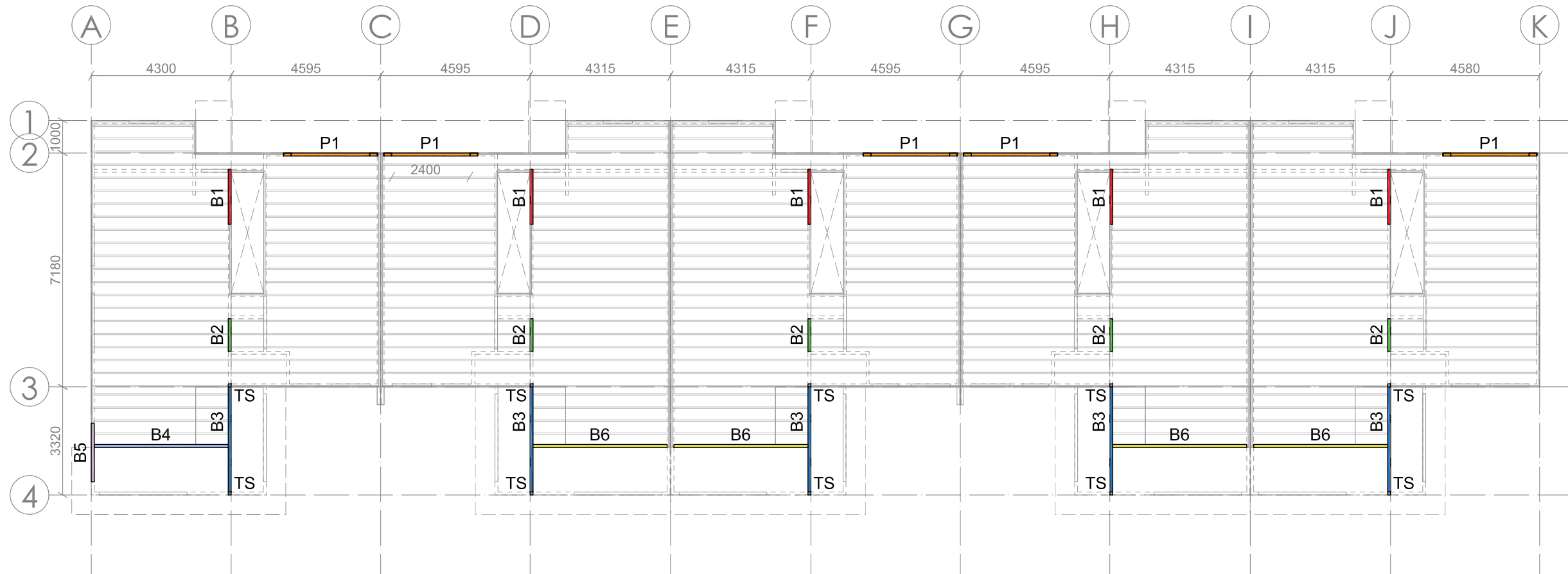
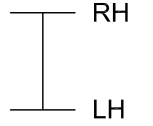
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VC	KW	J001027	
DATE	JUNE 2021	DRAWING NUMBER	REVISION
SCALE	A3	L1 00a	0

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NOTES

- For steelwork paint specification, refer design report documentation

- For members shown in vertical direction, top end would be "RH end" and bottom end would be "LH end" for connections in schedule. EG:

[illegible]

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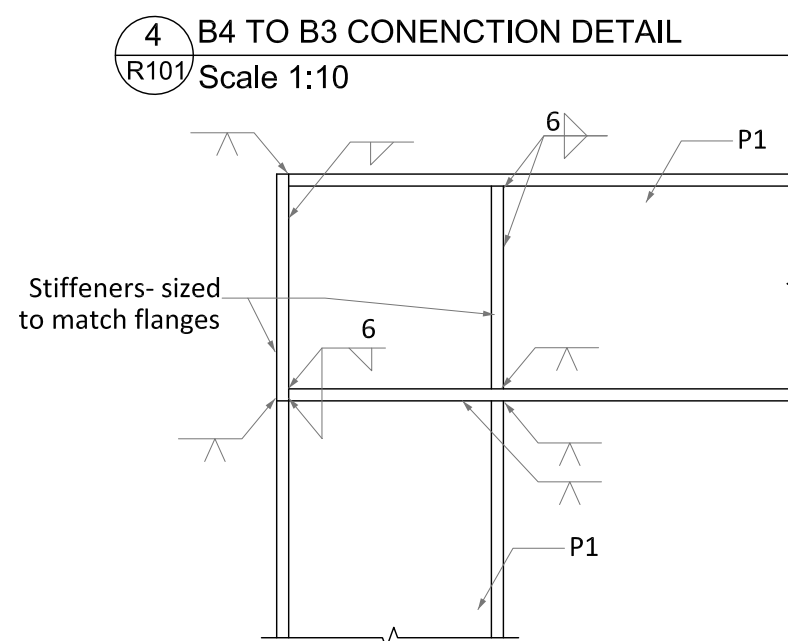
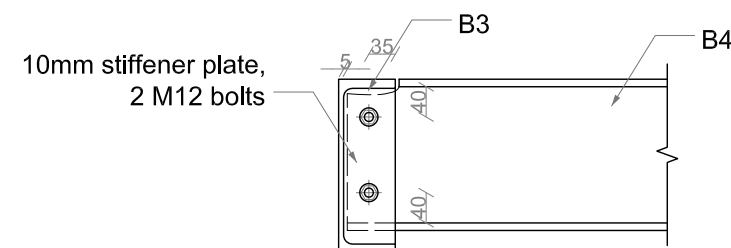
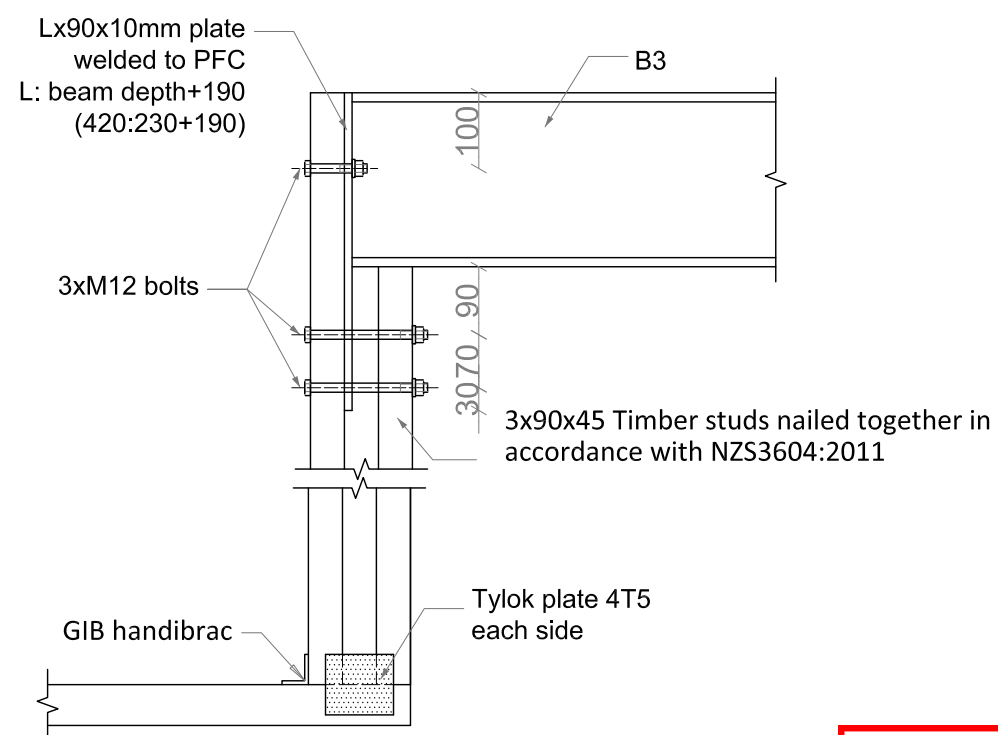
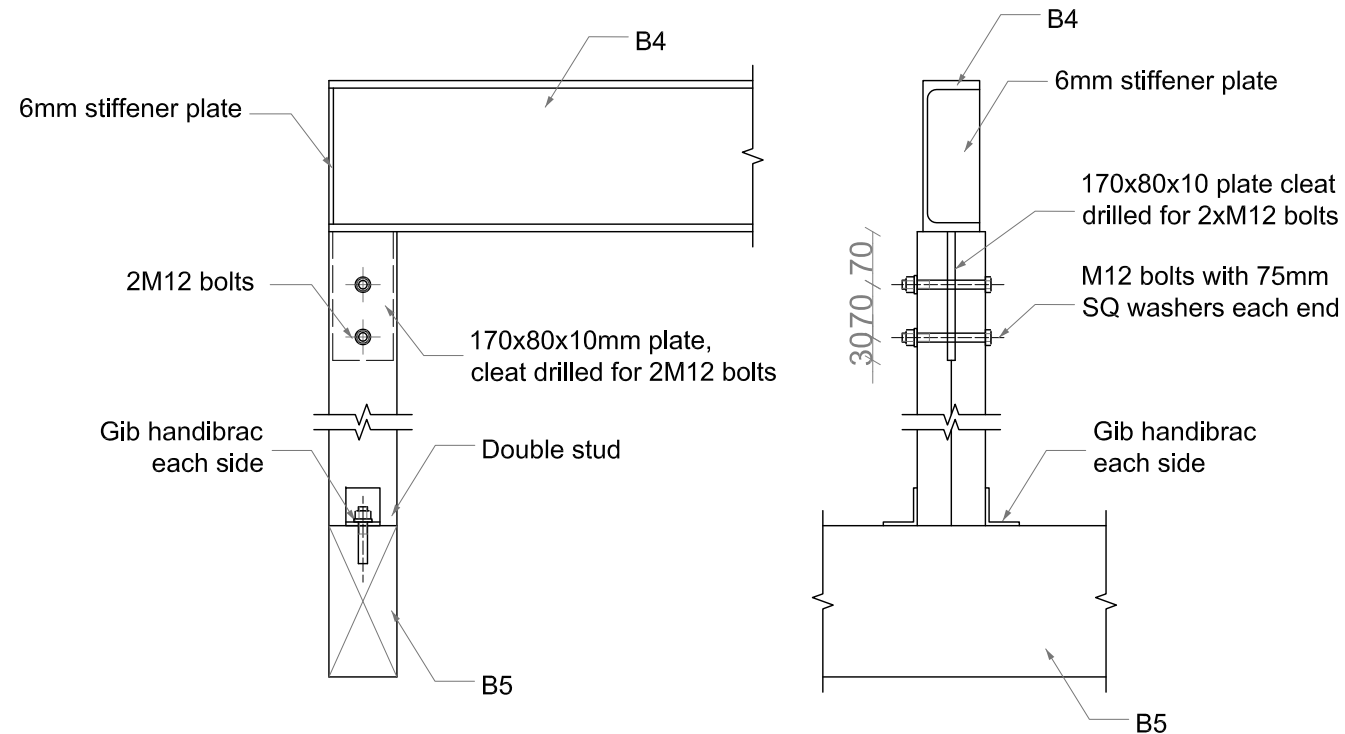
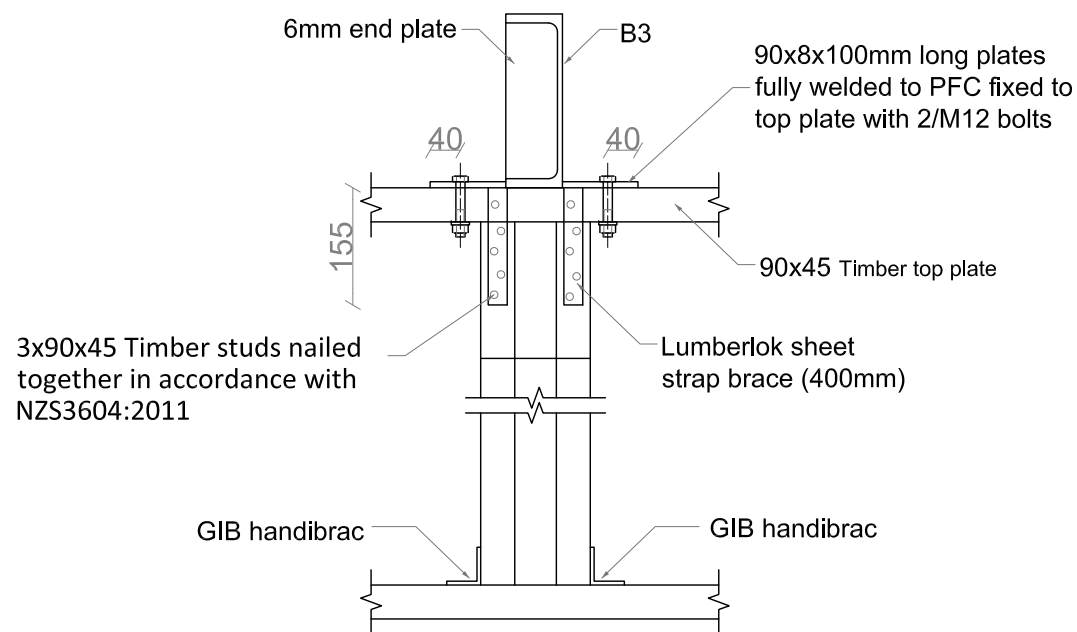
MIDFLOOR BEAMS LAYOUT PLAN

DRAWN VC	CHECKED KW	JOB NUMBER J001027	
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SCALE A3			

		BEAM SCHEDULE			
	BEAM	TYPE	LH END	RH END	NOTES
	B1	By others			
	B2	By others			
	B3	230 PFC	Detail 1 / R101	Detail 2 / R101	Timber packer 2xM12 bolts @ 600 crs
	B4	200 PFC	Detail 3 / R101	Detail 4 / R101	
	B5	200x90 hySpan	Mitek type H	Mitek type H	
	B6	200 PFC	Detail 4 / R101	Detail 4 / R101	
	P1	250 PFC	Refer elevation 1 / sheet L102		
	TS = Triple stud				

■ TS = Triple stud

1 MIDFLOOR BEAMS LAYOUT PLAN



NOTES

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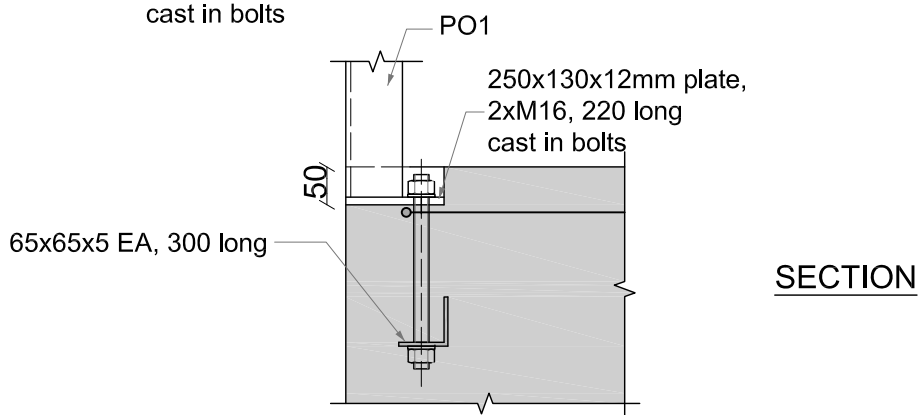
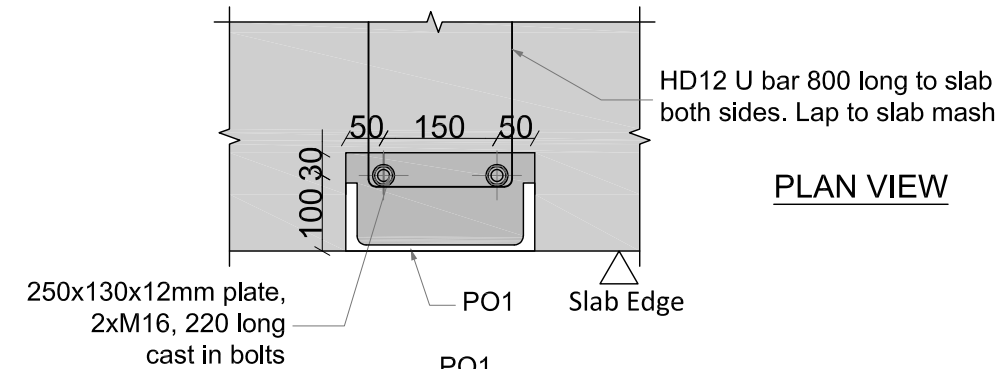
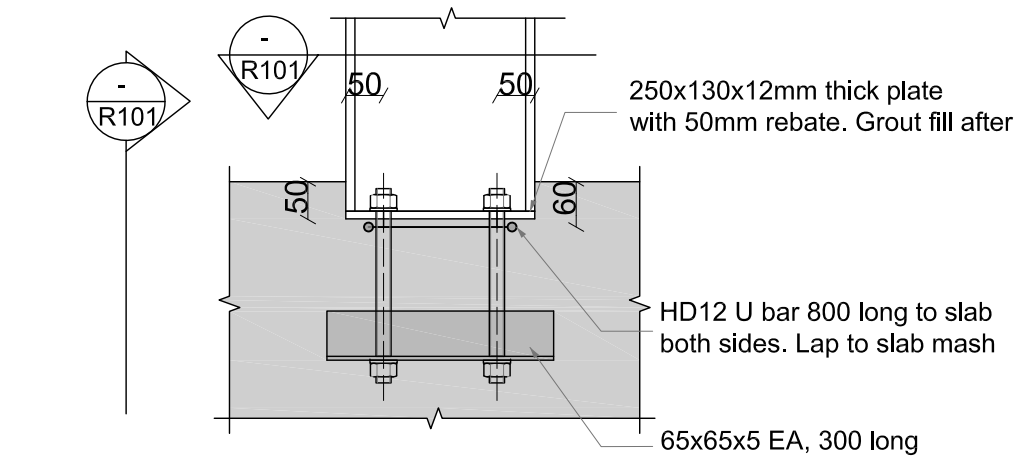
76 PERERIKA STREET,
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DRAWING TITLE

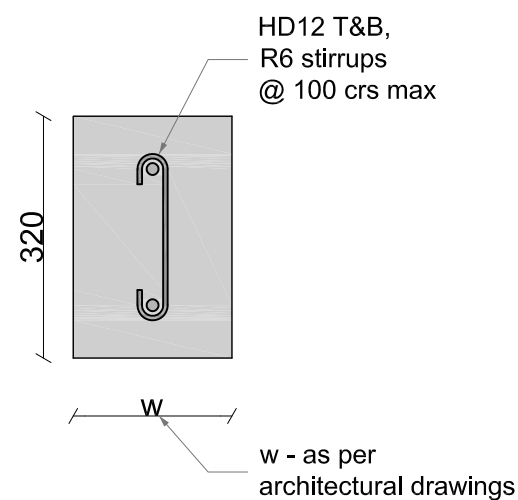
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VC	KW	J001027	
DATE	JUNE 2021	DRAWING NUMBER	REVISION
SCALE	A3	R1 01	0

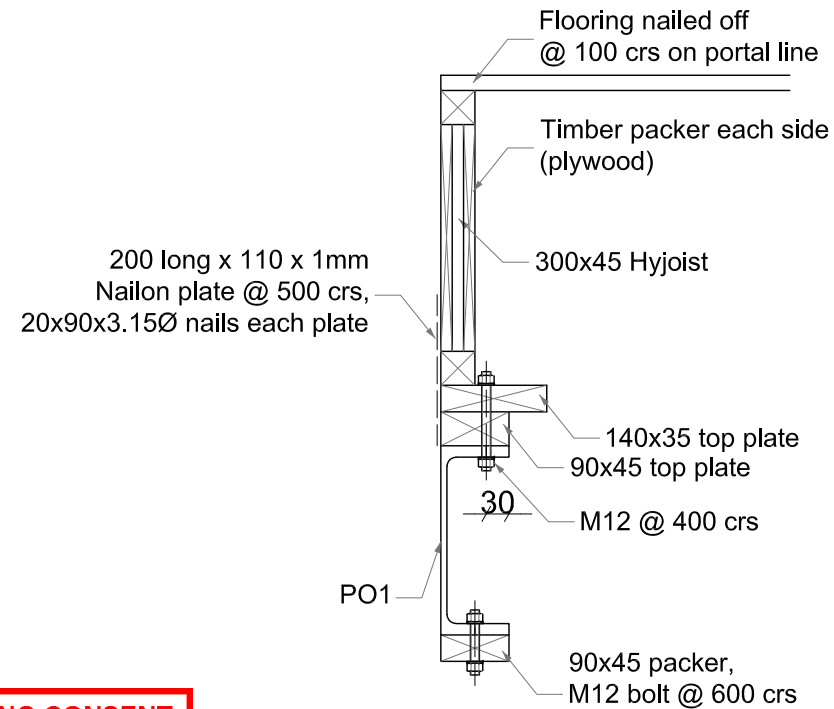
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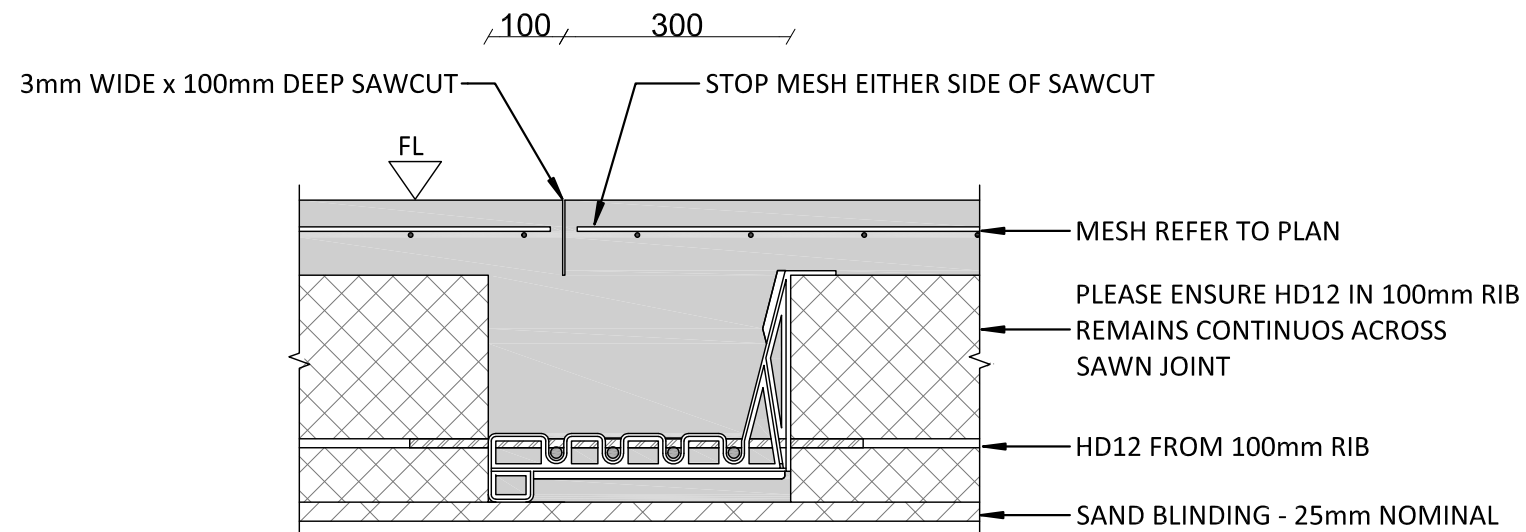
1 TYPICAL BASE PLATE DETAIL
R102 Scale 1:10



3 WINGWALL DETAIL
R102 Scale 1 : 10



2 PORTAL TO FLOOR CONNECTION
R102 Scale 1:10



4 CONTROL JOINT DETAIL
R102 Scale 1:10

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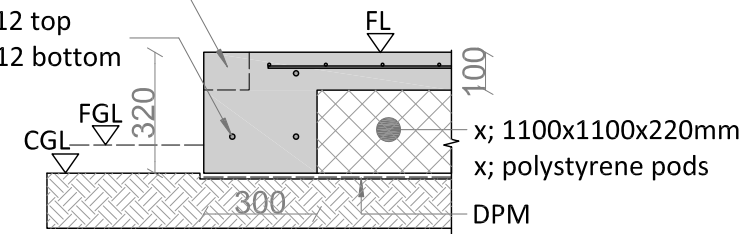
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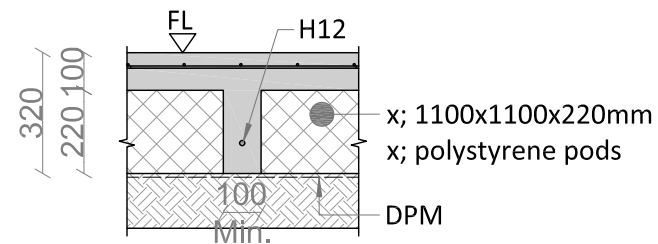
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SCALE	A3	R1 02	0

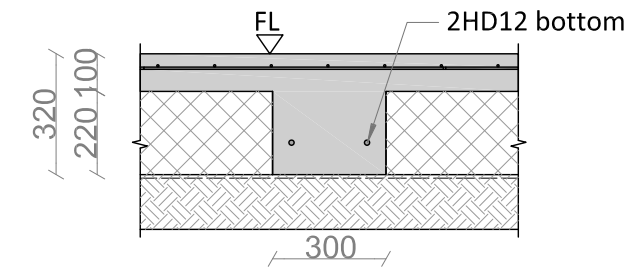
Refer arch. dwgs
for rebates required



1 TYPICAL EDGE BEAM
R111 Scale 1 : 20



2 TYPICAL RIB DETAIL
R111 Scale 1 : 20

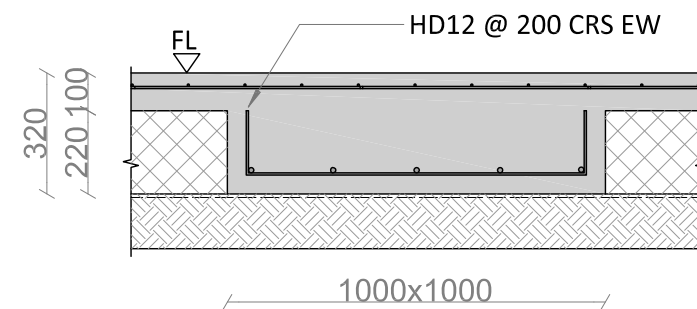


3 TYPICAL INTERNAL THICKENING
R111 Scale 1 : 20

NOTES

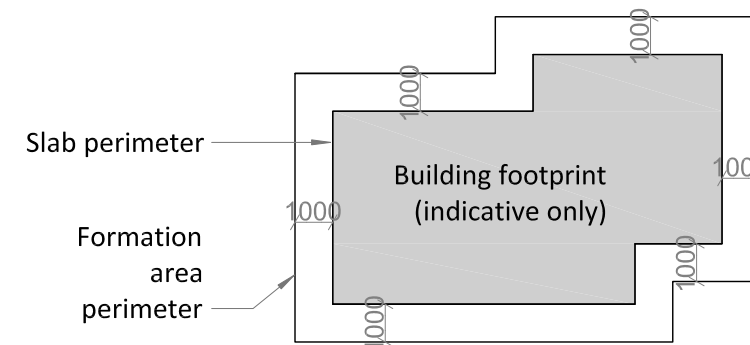
Mesh SE62 centrally placed.

Mesh lap SE62 1 square +50mm or 250mm.



4 TYPICAL INTERNAL PAD
R111 Scale 1 : 20

Key:
FL - Floor Level
CGL - Cleared Ground Level
FGL - Finished Ground Level
DPM - Damp Proof Membrane



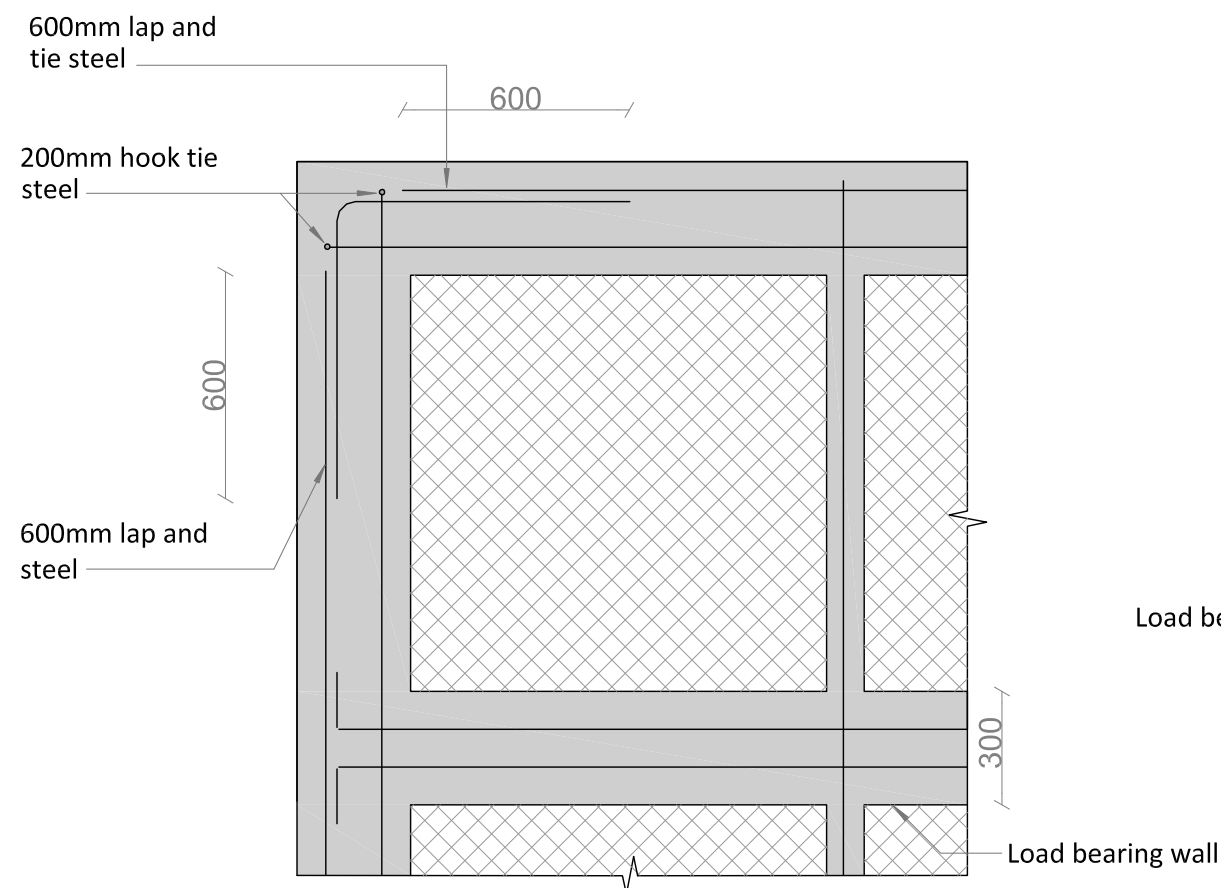
5 TYPICAL FORMATION AREA - INDICATIVE ONLY
R111 Scale 1 : 200

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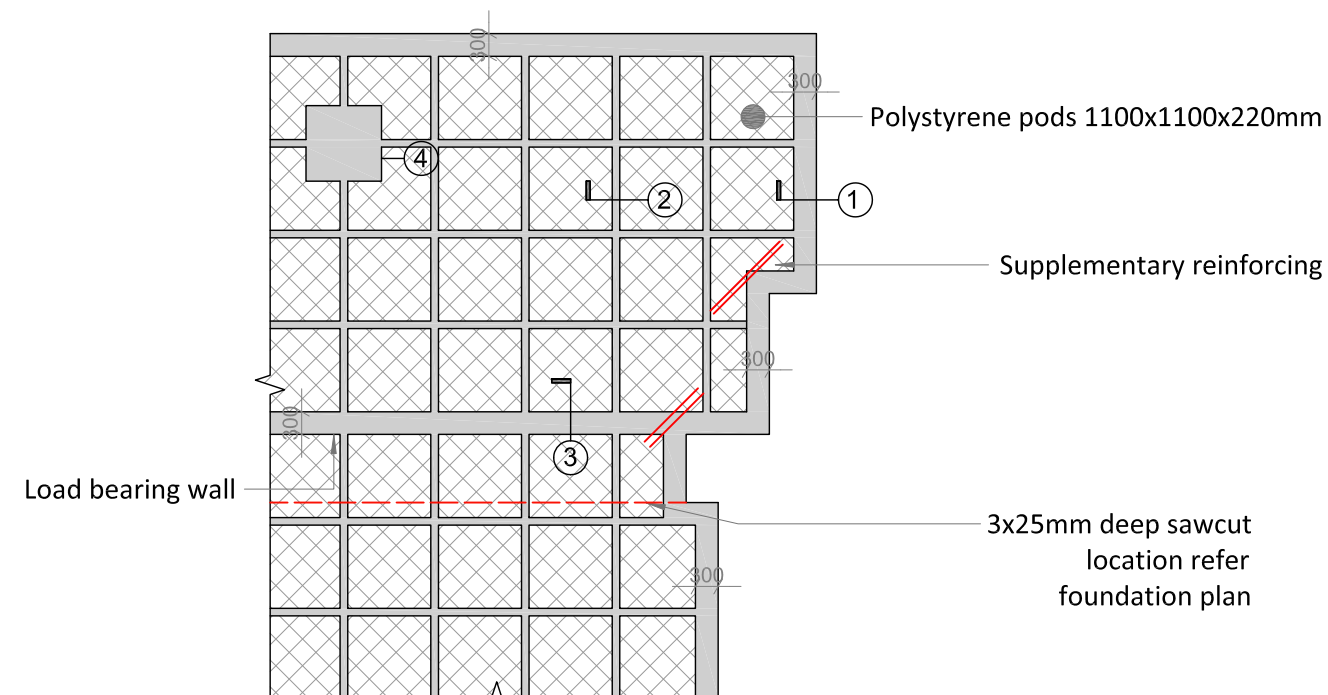
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6 TYPICAL CORNER STEEL
R111 Scale 1 : 20



7 TYPICAL FOUNDATION PLAN - INDICATIVE ONLY
R111 Scale 1 : 100

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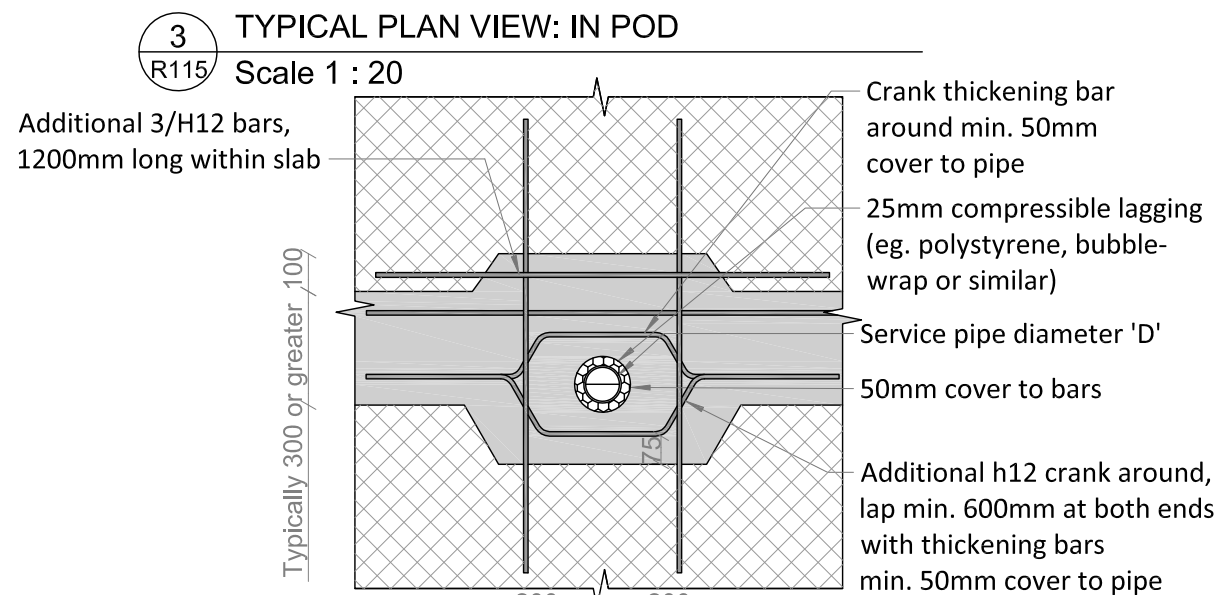
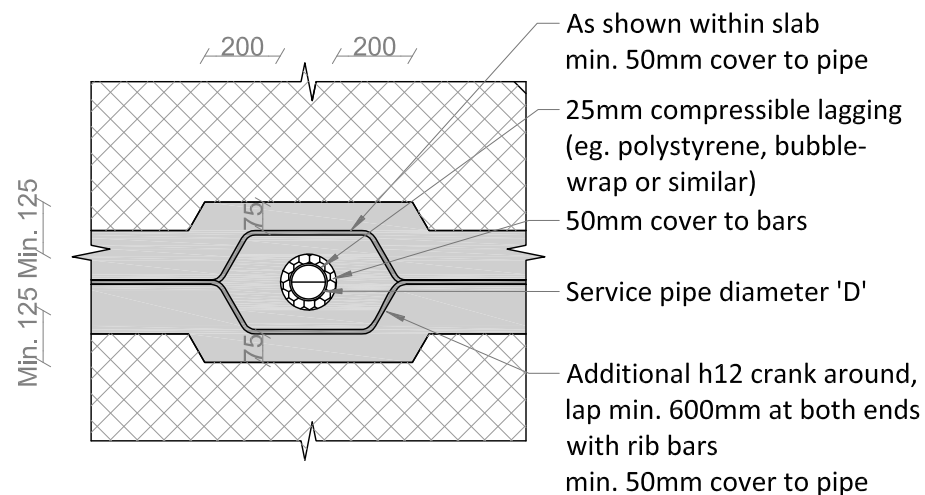
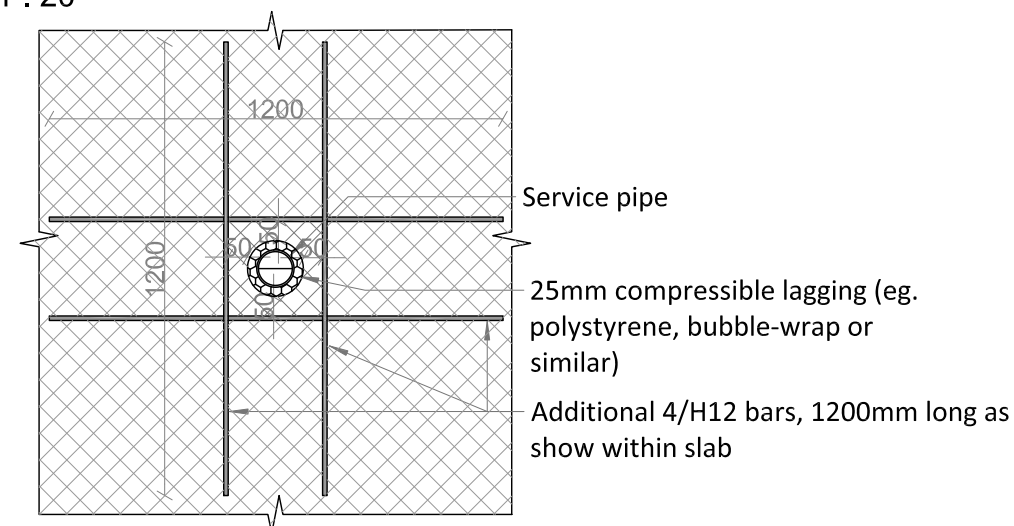
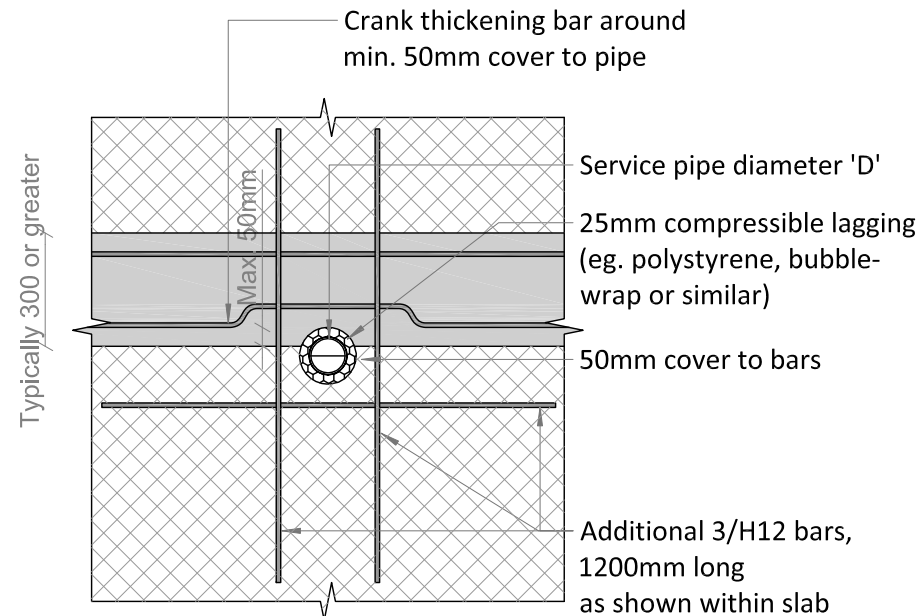
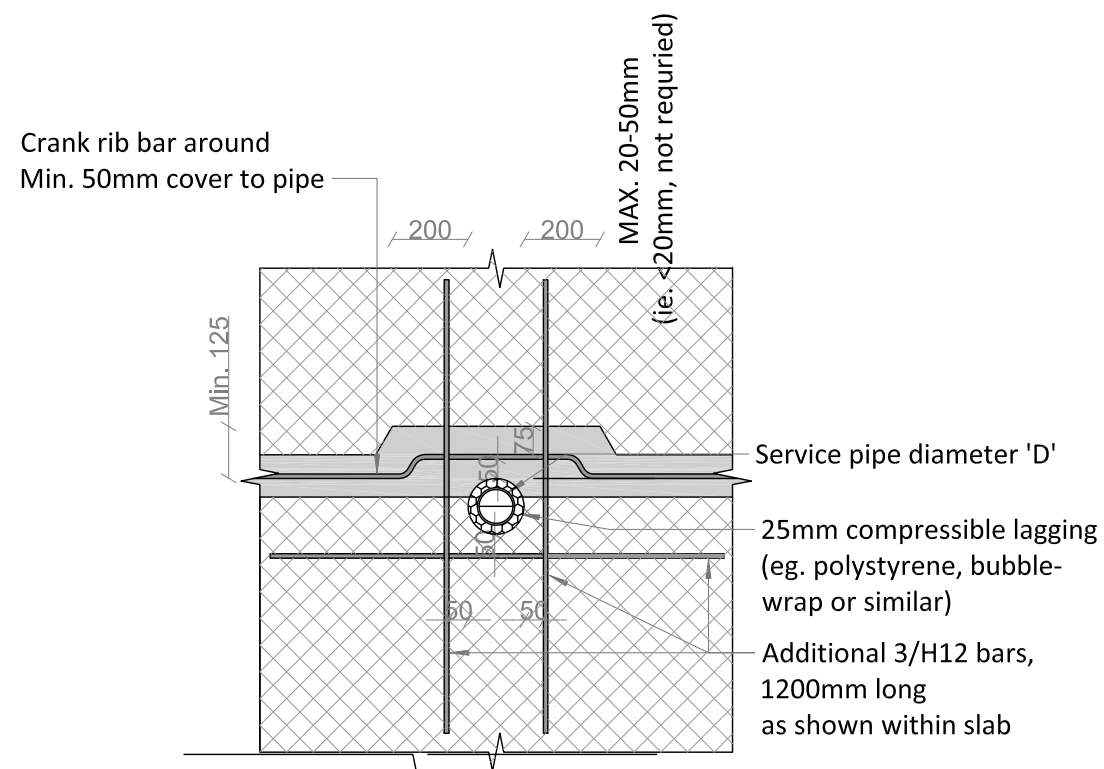
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RIBRAFT TYPICAL DETAILS

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TYPICAL PIPE PENETRATION DETAILS

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SCALE			
A3			

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