BLUEPRINT
CONSULTING ENGINEERS

NO. 6 BANKS PLACE, KEILOR

STRUCTURAL DRAWINGS

CIVIL ● STRUCTURAL ● GEOTECHNICAL ● SURVEYING ● RESIDENTIAL ● COMMERCIAL ● INDUSTRIAL

BLUEPRINT CONSULTING ENGINEERS

CONSULTING
CIVIL & STRUCTURAL
ENGINEERS

T: (03) 8535 3030
E: info@bpce.com.au
W: www.bpce.com.au

REGISTERED
Building Practitioner

ABN 34 613 268 376

Rev.	Description	Approved	Date
C	RB2 TO BRICK UPDATED	L.Y.	15.08.2023
B	UPDATED TO STEEL FRAMING	L.Y.	14.08.2023
A	CONSTRUCTION ISSUE	L.Y.	08.08.2023

Client: JOSEPH LAURICELLA

Address: NO. 6 BANKS PLACE
KEILOR

Drawn: P.A.

Designed: P.A.

Drawing size: A3

Scale: AS NOTED

Job Number 235278-S

Sheet No: 1 of 6

Revision C

GENERAL

1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANT'S DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT.
2. THESE ENGINEERING DRAWINGS HAVE BEEN PREPARED FROM INFORMATION AVAILABLE AT THE TIME OF ISSUE. ANY DISCREPANCY IN THE DOCUMENTATION SHALL BE REFERRED TO THE ENGINEER FOR WRITTEN INSTRUCTION PRIOR TO COMMENCING WORKS.
3. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT AUSTRALIAN STANDARDS AND OF ALL RELEVANT AUTHORITIES, EXCEPT WHERE VARIED BY THE PROJECT DOCUMENTATION.
4 ALL DIMENSIONS ARE TO BE OBTAINED FROM THE ARCHITECT'S DRAWINGS OR FROM SITE. ENGINEER'S DRAWINGS MUST NOT BE SCALED & THESE DRAWINGS SHALL NOT BE USED FOR FINAL SETOUT OF THE PROJECT UNLESS SPECIFICALLY STATED.
5. DURING CONSTRUCTION THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING THE STABILITY OF WORKS AND ENSURE NO PART IS OVERSTRESSED UNDER CONSTRUCTION ACTIVITIES. AS4801 AND THE REQUIREMENTS OF ALL RELEVANT AUTHORITIES ARE TO BE COMPLIED WITH. THE DESIGN AND CERTIFICATION OF ALL FORMWORK AND BACKPROPPING IS TO BE THE RESPONSIBILITY OF THE CONTRACTOR
6. PRIOR TO THE COMMENCEMENT OF WORKS THE CONTRACTOR IS TO IDENTIFY DIMENSIONS, LOCATION, AND LEVEL OF ALL EXISTING SERVICES AND ALLOW FOR ANY PROTECTION TO EXISTING SERVICES AS REQUIRED BY AUTHORITIES. ANY SERVICES DAMAGED BY THE CONTRACTOR SHALL BE REINSTATED AT THE CONTRACTORS EXPENSE. ANY SERVICES SHOWN ON THESE STRUCTURAL DRAWINGS ARE INDICATIVE ONLY
7. THE DESIGN/DRAWINGS ARE PART OF THE BUILDING CONTRACT ENTERED INTO BY THE CLIENT. ANY SUBSTITUTION WILL VOID THE CERTIFIED DESIGN. WRITTEN AUTHORITY FOR SUBSTITUTIONS CAN ONLY BE GIVEN BY THE SUPERINTENDENT AND ONLY THEN SUBJECT TO RE-CERTIFICATION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT SUFFICIENT TOLERANCES ARE PROVIDED AND INTEGRATED THROUGHOUT ALL ELEMENTS OF THE WORKS.
9. ANY DEFECT OR DEVIATION FROM THE CONTRACT DOCUMENTS THAT REQUIRES ASSESSMENT AND DETERMINATION OF CORRECTIVE MEASURES BY THE ENGINEER SHALL BE UNDERTAKEN AT THE CONTRACTOR'S EXPENSE.
10. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
11. WATERPROOFING TO ARCHITECTS DETAILS.
12. ALL BEAMS, BRICKWORK/BLOCKWORK LINTELS TO HAVE 150 MIN. END BEARING U.N.O.
13. THE APPLIED LIVE LOADS FOR WHICH VARIOUS STRUCTURAL ELEMENTS HAVE BEEN DESIGNED ARE AS FOLLOWS:

AREA	LIVE LOAD
FLOOR	1.5 KPA
ROOF	0.25 kPa 'OR' (1.8/A + 0.12) WHICHEVER IS GREATER
BALCONY (IF APPLICABLE)	2.0 KPA
GARAGE	2.5 KPA

MASONRY

1. ALL MASONRY AND ITS TESTING SHALL COMPLY WITH THE CURRENT A.S. 3700 SAA MASONRY CODES AND PROJECT SPECIFICATION.
2. THE CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH SHALL BE 40MPa FOR BRICKS AND 15MPa FOR BLOCKS, UNLESS NOTED OTHERWISE.
3. MORTAR SHALL BE FRESHLY PREPARED AND THE PROPORTIONS OF CEMENT: LIME: SAND IN THE MORTAR SHALL BE 1:1/4:3 FOR LOAD BEARING WALLS AND 1:1:6 FOR INFILL WALLS.
4. SLOTS SHALL BE PROVIDED TO THE BASE OF ALL VOIDED AREAS TO BE CONCRETE FILLED TO ENABLE COMPLETE THOROUGH REMOVAL AND CLEANING OUT OF MORTAR FINS AND DROPPINGS.
5. BEDDING OF MASONRY SHALL BE FULL FACE WITH CROSS JOINTS COMPLETELY FILLED. JOINT THICKNESS SHALL NOT EXCEED 12mm.
6. GALVANIZED WALL TIES SHALL BE PROVIDED AT 600mm MAX HORIZONTALLY AND 400mm MAXIMUM VERTICALLY UNLESS OTHERWISE NOTED.
7. ALL MASONRY IS TO BE FIXED TO SUPPORTING STRUCTURAL FRAMING WITH MFA3/3 ANCHORS AT 600mm CENTERS VERTICALLY AND 600mm MAXIMUM CENTERS HORIZONTALLY U.N.O.
8. ALL LINTELS TO EXTERNAL WALLS SHALL BE HOT DIP GALVANIZED
9. WHERE R.C. BEAMS OR STEEL BEAMS BEAR ON BRICKWORK, 230mm MIN BEARING IS REQUIRED.
10. WHERE SLAB BEARS ON MASONRY, USE TWO LAYERS OF MALTHOID OR EQUIVALENT, MINIMUM 120mm BEARING.
11. BOND BEAMS SHALL BE PROVIDED OVER ALL OPENINGS AND TO THE TOPS OF ALL BLOCKWORK WALLS.
12. ALL CONCRETE BLOCK WALLS SHALL BE BUILT TO A GAUGE CONCRETE BLOCK SUCH THAT BLOCK JOINT DIMENSIONS (IN PLAN) ARE MULTIPLES OF 100mm USING STRETCHER BOND, UNLESS SPECIFIED OTHERWISE.
13. GROUT TO BOND BEAMS, CORES AND CAVITIES SHALL BE 20MPa MINIMUM AT 28 DAYS WITH A SLUMP OF 125mm IN A 150mm SLUMP CONE, 7mm COARSE AGGREGATE PLACED AND THOROUGHLY COMPACTED IN 1.0m MAXIMUM LIFTS.
14. PROVIDE ARTICULATION (OR EXPANSION) JOINTS AS PER ARCHITECTURAL DETAILS (IF ARTICULATION JOINT PLAN NOT SHOWN ON THESE DRAWINGS) OR PROVIDE ARTICULATION (OR EXPANSION) JOINTS AT 6.0M MAX. CENTRES AND 3.0m MAX. FROM ANY CORNER TYPICAL.
15. PROVIDE ARTICULATION OF BRICKWORK AT INTERSECTIONS OF DIFFERENT FOOTING SYSTEMS / AT CONSTRUCTION JOINTS / AT THE INTERSECTION OF FOOTINGS FOUNDED AT SIGNIFICANTLY DIFFERENT DEPTHS.
16. ALL NEW OPENINGS IN EXISTING BRICKWORK TO BE CARRIED OUT BY CUTTING THE OPENING COMPLETELY. NO IMPACT DEMOLITION TO BE APPLIED TO THE EXISTING BRICKWORK
17. RAKING OF JOINTS IS NOT PERMITTED WITHOUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER.
18. ALL WALLS TO BE KEPT STABLE AT ALL STAGES OF CONSTRUCTION AND NOT BE OVER STRESSED AT ANY TIME.
19. UNLESS NOTED OR SHOWN OTHERWISE ON DRAWINGS THERE ARE TO BE NO CHASES OR RECESSES PERMITTED IN MASONRY WALLS WITHOUT THE PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.

STRUCTURAL STEELWORK

1. ALL MATERIALS, WORKMANSHIP, FABRICATION AND ERECTION SHALL COMPLY WITH AS1538, AS15354, AS3828, AS4100, THE PROJECTSPECIFICATION AND THE REQUIREMENTS OF THE RELEVANT AUTHORITIES.
2. WELDING SHALL BE PERFORMED BY AN EXPERIENCED OPERATOR IN ACCORDANCE WITH AS 1554.
3. HIGH STRENGTH BOLTING SHALL BE IN ACCORDANCE WITH AS 1511.
4. THE ENDS OF ALL HOLLOW SECTION MEMBERS ARE TO BE SEALED WITH 6mm PLATE CONTINUOUSLY FILLET WELDED.
5. THE CONTRACTOR SHALL PROVIDE AND LEAVE IN PLACE UNTIL PERMANENT BRACING ELEMENTS ARE CONSTRUCTED SUCH TEMPORARY BRACING AS IS NECESSARY TO STABILIZE THE STRUCTURE DURING ERECTION.
6. CAMBER TO STRUCTURAL STEEL ROOF BEAMS, TRUSSES, PORTALS, ETC.,TO BE 2.5mm FOR EVERY 1m OR SPAN UNLESS OTHERWISE NOTED.
7. ALL CLEAT AND DRILLING FOR FIXING OF TIMBER MEMBERS, ETC., TO BE PROVIDED BY FABRICATOR.
8. EXCEPT WHERE OTHERWISE SHOWN CONNECTIONS SHALL HAVE 6mm CONTINUOUS FILLET WELDS, 2-M16 BLACK BOLTS IN 1.5mm CLEARANCE HOLES AND 10mm THICK CLEAT PLATE.
9. STEELWORK TO BE CONCRETE ENCASED SHALL BE COMPLETELY WRAPPED WITH FGW41 GIRDER MESH CENTRALLY PLACED. CONCRETE ENCASING TO BE 50mm MINIMUM.
10. STEELWORK SHALL BE THOROUGHLY WIRE BRUSHED AND GIVEN ONE SHOP COAT OF APPROVED PRIMER EXCEPT THAT NONE SHALL BE APPLIED AT CONTACT SURFACES WHERE H.S. BOLTS USED.
11. ALL STEEL LINTELS ARE TO HAVE 110mm MIN. END BEARING; BEAMS TO HAVE 230mm, UNLESS OTHERWISE NOTED.
12. HOT ROLLED SECTIONS AND PLATE SHALL BE GRADE 300 IN ACCORDANCE WITH AS3679. HOLLOW SECTIONS SHALL BE GRADE 350 IN ACCORDANCE WITH AS1163.PURLINS AND GIRTS SHALL BE ZINCLALUME AND GRADE 450 IN ACCORDANCE WITH AS1538 UNLESS NOTED OTHERWISE ON THE
13. ALL STEELWORK BELOW GROUND OR FINISHED SURFACE LEVEL SHALL BE COATED WITH 2 COATS OF AN APPROVED EPOXY PAINT PROTECTED BY A 75mm COVER OF CONCRETE.
14. ALL EXTERNAL OR EXPOSED STEELWORK AND ALL BOLTS, NUTS, WASHERS, CAST IN FERRULES AND HOLDING DOWNBOLTS ARE TO BE HOT DIP GALVANIZED TO AS1214 AND AS1650 UNLESS NOTED OTHERWISE. ALL MASONRY ANCHORS TO BE HOT DIPPED GALVANISED.
15. ALL GALVANISED STRUCTURAL STEELWORK IN CONTACT WITH THE GROUND IS TO BE COATED WITH DULUX DURABUILD STE TO 100mm ABOVE FINISHED SURFACE LEVEL. REFER MANUFACTURERS SPECIFICATION FOR APPLICATION.
16. THE DISTANCE BETWEEN THE STEEL SUPPORTING BEAM AND ANY PLASTERBOARD/FLOORING TO BE ADEQUATE TO ALLOW FOR SHRINKAGE OF ANY TIMBER.

TIMBER

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE FOLLOWING AUSTRALIAN STANDARDS AS APPLICABLE AS1748, AS2858, AS2082, AS1720, AS1684, AS1604 AND IN ADDITION COMPLY WITH THE 'TIMBER UTILISATION AND MARKETING ACT', THE D.P.I. & F 'CONSTRUCTION TIMBERS IN QUEENSLAND' THE VICTORIAN TIMBER FRAMING MANUAL AND B.C.A.
2. ALL STRUCTURAL TIMBER SHALL BE OF STRESS GRADE AS INDICATED ON THESE DRAWINGS. REFER TO AS1720
3. ALL TIMBER SHALL BE STORED AND HANDLED SO AS NOT TO BE DETRIMENTAL TO THEIR PERFORMANCE OR DAMAGE THEM. REFER TO AS1684 APPENDIX C.
4. ALL VISIBLE STRUCTURAL TIMBER SPECIFIED TO BE COATED WITH CLEAR OR TRANSPARENT STAIN FINISH AND SHALL COMPLY WITH THE APPEARANCE GRADE SPECIFIED IN THE RELEVANT AUSTRALIAN STANDARD.
5. ALL SOFTWOOD SHALL BE SEASONED TIMBER HAVING A MOISTURE CONTENT RANGE 10% < M.C. < 15%
6. ALL TIMBER SHALL BE DRY, I.E. LESS THAN 15% MOISTURE CONTENT AT THE TIME OF CONSTRUCTION AND SHALL BE PROTECTED AND/OR TREATED AS NOTED. BUILDER TO ALLOW FOR SHRINKAGE OF TIMBER IN CONSTRUCTION.
7. ALL TIMBERS EXPOSED/EXTERNAL SHALL BE DRESSED OR BE TREATED IN ACCORDANCE WITH RELEVANT REQUIREMENTS UNLESS SPECIFIED OTHERWISE. ALL EXPOSED CORNERS SHALL BE ARRISSED.
8. TIMBER SHALL BE HANDLED AND STORED SO AS NOT TO OVERSTRESS THE MEMBERS AT ANY TIME. TIMBER DELIVERED TO THE SITE SHALL BE STORED AT A LEVEL NOT LESS THAN 150mm OFF THE GROUND, EVENLY SUPPORTED, WELL VENTILATED AND PROTECTED FROM THE ELEMENTS. REFER APPENDIX I AS 1684-2:2010.
9. ALL JOINT GROUPS IN SOFTWOOD TIMBER TO BE JD4 U.N.O. ALL JOINT GROUPS IN HARDWOOD TIMBER TO BE J2 U.N.O.
10. ALL STRUCTURAL TIMBER USED IN EXPOSED AREAS TO BE MINIMUM DURABILITY CLASS 2 & TREATMENT CLASS H3 U.N.O. ALL STRUCTURAL TIMBER SET IN THE GROUND TO BE DURABILITY CLASS 1 & TREATMENT CLASS H5 U.N.O.
11. ALL BOLTS, NUTS, WASHERS & OTHER FITMENTS IN THE TIMBER TO BE HOT DIP GALVANISED. ALL STEEL STRAPPING, NAIL PLATES & FRAMING ANCHORS TO BE MANUFACTURED FROM GALVANIZED STEEL SHEET.
12. IF TIMBER MEMBERS HAVE A NATURAL CAMBER WITHIN THE STRAIGHTNESS TOLERANCE, ERECT THEM WITH THE CAMBER UP.
13. BEAMS/STUDS HAVING MORE THAN 1 MEMBER TO BE NAIL LAMINATED TOGETHER IN ACCORDANCE WITH AS 1684.
14. LINTELS/BEAMS/GIRDER & HIP TRUSSES TO BE SUPPORTED ON ON DOUBLE STUDS, UNLESS OTHERWISE NOTED.
15. PLATES ON MASONRY WALLS TO BE TIED DOWN WITH HOOP-IRON STRAPS AT 1200mm CENTERS SECURED INTO FOOTINGS OR EMBEDDED 75mm INTO A MASONRY BED JOINT AT LEAST 1200mm BELOW THE TOP OF THE WALL.
16. TIMBER FRAMING ABUTTING STEELWORK, MASONRY OR CONCRETE TO BE FIXED AT 900mm CENTERS WITH M12 DYNABOLTS.
17. HOOP IRON BRACING TO BE 30mm X 1.25mm GALVANIZED STRAP LEVERED TAUT, LOOPED AND TRIPLE NAILED AT ENDS AND SECURED TO EACH INTERMEDIATE MEMBER WITH 30mm X 2.8mm GALVANIZED CLOUTS.
18. PROVIDE SOLID BLOCKING (45 WIDE x D-25 DEEP) SECURELY NAILED TO JOISTS/RAFTERS (D=DEPTH OF JOIST/RAFTER) AT 1800 MAX. CRS.
19. ALL TIMBER FRAMING & BRACING NOT SHOWN TO COMPLY WITH AS1684 TIMBER FRAMING MANUAL.
20. ALL INTERNAL WALLS TO BE NON-LOAD BEARING (TYPICAL) UNLESS HATCHED & DENOTED LBW OTHERWISE ON PLANS.
21. TIMBER ROOF TRUSSES, FIXING DETAILS AND LATERAL STABILITY OF ROOF TO BE DESIGNED BY THE TRUSS MANUFACTURER. TRUSS MANUFACTURER TO SUBMIT TWO (2) COPIES OF SHOP DRAWINGS DETAILING ALL TRUSSES, NAILING PLATES AND FIXINGS, TOGETHER WITH ONE (1) COPY OF ALL SUPPORTING CALCULATIONS TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OF THE TRUSSES. TRUSS MANUFACTURER TO ALSO SUPPLY ALL NECESSARY DESIGN CERTIFICATION PRIOR TO INSTALLATION OF TRUSSES.

FOUNDATION

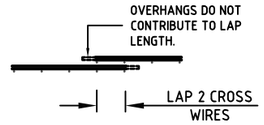
1. FOUNDATION MATERIAL TO BE APPROVED BEFORE POURING CONCRETE FOR A SAFE BEARING CAPACITY OF:

MEMBER	ALLOWABLE BEARING
EDGE/INTERNAL RIB	100/50 KPA
STRIP/PAD FOOTINGS	100 KPA
BORED PIERS	250 KPA END BEARING

2. ALL WATER AND LOOSE OR DELETERIOUS MATERIAL ARE TO BE CLEANED OUT OF FOUNDATION PRIOR TO PLACING CONCRETE. FORM WORK TO BE USED WHERE THE SIDES OF THE FOUNDATION ARE NOT STABLE.
3. STRIP FOOTINGS ARE TO BE FOUNDED 150mm MINIMUM INTO FIRM UNDISTURBED NATURAL MATERIAL AND A MINIMUM OF 800mm BELOW FINISHED SURFACE LEVEL, UNLESS OTHERWISE NOTED.
4. ALL FOOTINGS ON BOUNDARY MUST NOT UNDERMINE EXISTING. ALL SLAB RIBS AND FOOTINGS TO BE TAKEN BELOW ANGLE OF REPOSE OF ANY ADJACENT SERVICE PIPE, FOOTING ETC...
5. IF ANY EXISTING FOOTINGS ARE ENCOUNTERED, BUILDER TO CONFIRM EXISTING FOOTING SIZES, DEPTHS AND FOUNDING MATERIAL, PRIOR TO CONSTRUCTION.
6. ALL WALLS AND COLUMNS SHALL BE CONCENTRIC WITH THE SUPPORTING FOOTINGS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
7. ON CLASS H SITES FOOTINGS DEEPER THAN 700MM SHALL BE PROVIDED WITH SIDE SLIP JOINTS CONSISTING OF A DOUBLE LAYER OF POLYTHENE AT THE SIDES OF THE FOOTING ONLY.
8. CONTRACTOR SHALL NOTIFY THE PROJECT BUILDING SURVEYOR TO INSPECT ALL EXCAVATIONS PRIOR TO POURING.
9. BORED PIERS AND PILES ARE TO BE CONSTRUCTED TO WITHIN 75MM OF THE DESIGNATED PLAN LOCATION AND SHALL BE WITHIN 0.5º OF TRUE VERTICALITY. THE CONTRACTOR SHALL ALLOW FOR AND PROVIDE TEMPORARY LINERS AS NECESSARY TO PRESERVE THE INTEGRITY OF THE BORED HOLE PRIOR TO PLACING CONCRETE.
10. PLACE PIER CONCRETE TO ENSURE A SOUND MONOLITHIC COMPACTED CONCRETE SHAFT FOR FULL DIAMETER REQUIRED TO CUT-OFF LEVEL. TAKE ADEQUATE MEASURES TO AVOID SEGREGATION, BLEEDING AND GROUT DEFICIENCY OF PIER.
11. EACH PIER SHALL BE TRIMMED TO ± 25MM OF THE CUT-OFF LEVEL. ANY DAMAGE CAUSED TO THE BORED PIER DURING TRIMMING AND CAPPING IS TO BE REMOVED AND ADEQUATELY REPAIRED.

WAFFLE CONSTRUCTION NOTES

1. SCRAPE A MINIMUM OF 100mm OF TOP SOIL AND REMOVE VEGETATION AND ROOTS FROM THE BUILDING AREA.
2. CUT SITE FORM A LEVEL BENCH.
3. WHERE THE DEPTH OF EXISTING FILL REMAINING (AFTER THE SITE CUT) IS MORE THAN 150mm, SCRAPE AWAY FILL UNTIL ONLY 150mm OF FILL REMAINS.COMPACT THE 150mm OF FILL IN ACCORDANCE WITH AS2870-1996 SECTION 6.4. THEN COMPACT ANY ADDITIONAL FILL IN ACCORDANCE WITH STEP 5.
4. WHERE THE DEPTH OF EXISITING FILL REMAINING (AFTER THE SITE CUT) IS BETWEEN 0 - 150mm THICK, COMPACT THIS FILL IN ACCORDANCE WITH STEP 5.
5. ANY FILL PLACED AS PART OF CUT/FILL/LEVEL OPERATIONS SHALL BE COMPACTED AT OPTIMUM MOISTURE CONTENT, IN 150mm MAXIMUMLAYERS BY REPEATED ROLLING WITH AN EXCAVATOR IN ORTHOGONAL DIRECTIONS WITHIN THE PROPOSED SITE &1000mm PAST THE WAFFLE EDGE. TOTAL FILL DEPTH MUST NOT TO EXCEED 300mm. (REFER TO AS2870-1996 SECTION 6.4).
6. IF TOTAL FILL EXCEEDS 300mm OR THE FILL IS NOT COMPACTED AS PER THE ABOVE SPECIFICATIONS, CONTACT THIS OFFICE FOR FURTHER ADVICE.
7. IF FURTHER SITE LEVELING IS REQUIRED PLACE A LAYER OF QUARRY PRODUCT OVER THE BUILDING AREA (WHICH SHALL EXTEND AT LEAST 1.0m OUTSIDE THE BUILDING LINE).
8. SET UP STRING LINES, EDGE BOARDS AND FORMWORK.
9. PLUMBER SHALL LAY WASTE PIPES BELOW GROUND SURFACE. RISERS ARE TO BE STAKED FIRMLY.
10. PREPARE WAFFLE RAFT FORMWORK IN ACCORDANCE WITH THE FOOTING PLAN AND DETAILS. PLACE WAFFLE PODS(START WHERE SHOWN ON PLAN). WAFFLE PODS SHALL BE CUT AND TAPED AROUND PLUMBING PIPES.
11. PLACE REINFORCEMENT, POUR CONCRETE.
12. PROVIDE TYPICAL SLAB APRON, REFER GENERAL NOTES.
13. EXTERNAL & INTERNAL RIBS WIDER THAN 300mm SHALL BE REINFORCED WITH AN ADDITIONAL N12 BAR TOP & BOTTOM FOR EVERY 110mm IN ADDITIONAL WIDTH (TYP).



(I) CROSS-WIRE WITH SAME SPACING


(II) CROSS-WIRE WITH DIFFERENT SPACING

INSPECTIONS

ALL STRUCTURAL WORK MUST BE INSPECTED AND APPROVED IN WRITING PRIOR TO ANY WORK PROCEEDING.
48 HOUR MIN. NOTICE IS REQUIRED FOR ALL INSPECTIONS.

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CONCRETE

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600, AS3610 AND THE PROJECT SPECIFICATIONS.
2. CONCRETE COVER TO ALL REINFORCEMENT (FINISHES NOT INCLUDED).

ELEMENT	FORMED AND SHELTERED	FORMED AND EXPOSED	NO FORM WORK
SLABS AND WALLS	20 mm	30 mm	65 mm
BEAMS	25 mm	40 mm	65 mm
COLUMNS	40 mm	50 mm	75 mm
FOOTINGS		65 mm	75 mm

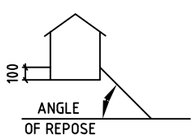
3. CONCRETE SIZES SHOWN DO NOT INCLUDE FINISH AND MUST NOT BE REDUCED OR HOLED IN ANY WAY WITHOUT THE ENGINEER'S APPROVAL.
4. DEPTHS OF BEAMS ARE GIVEN FIRST AND INCLUDE SLAB THICKNESS.
5. CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE PROPERLY FORMED AND LOCATED TO THE APPROVAL OF THE ENGINEER.
6. REINFORCEMENT IS SHOWN DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.
7. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITIONS SHOWN. WELDING OF REINFORCEMENT WILL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.
8. REINFORCEMENT SYMBOLS:- L LOW DUCTILITY BARS TO AS 4671 : 2001; N NORMAL DUCTILITY BARS TO AS 4671 : 2001
THE NUMBER FOLLOWING THE BAR SYMBOL IS THE NOMINAL BAR DIAMETER IN MILLIMETERS.
ALL REINFORCEMENT USED SHALL BE 500 MPa AND DUCTILITY CLASS 'N'.
9. CAMBER TO BEAMS AND SLABS SHALL BE 2.5mm FOR EVERY 1m OF SPAN UNLESS OTHERWISE NOTED.
10. ALL CONCRETE SHALL BE GRADED (f'c) AT 28 DAYS AS FOLLOWS (U.N.O.) :

CONCRETE ELEMENT	CONCRETE STRENGTH
BLINDING CONCRETE	15 MPA
WAFFLE OR RAFT SLABS	25 MPA
STRIP FOOTINGS	25 MPA
SUSPENDED SLABS/BEAMS/PANELS	32 MPA
CONCRETE COLUMNS	32 MPA
ALL OTHER CONCRETE	25 MPA

11. ALL REINFORCEMENT SHALL BE TIED INTO POSITION SO IT IS NOT DISPLACED DURING CONCRETING
12. CONCRETE TO BE KEPT FREE OF SUPPORTING BRICKWORK BY TWO LAYERS OF A SUITABLE MEMBRANE (MALTHOID, ETC.).
13. WHERE WALLS ARE NON-LOAD BEARING AT EITHER HORIZONTAL OR VERTICAL FACES THEY SHALL BE SEPARATED FROM CONCRETE OR BRICKWORK BY 10mm THICK CANITE.
14. THE FACE OF ALL CONCRETE AGAINST WHICH NEW CONCRETE IS TO BE CAST IS TO BE THOROUGHLY MECHANICALLY SCABBLED, FULLY EXPOSING THE AGGREGATE MATRIX.
15. ALL EMBEDMENTS SHALL BE HOT DIP GALVANIZED.
16. CONCRETE SHALL BE THOROUGHLY COMPACTED WITH HIGH FREQUENCY VIBRATORS TO ENSURE CONCRETE IS FREE OF AIR VOIDS AND POCKETS. ALL CONCRETE TO BE CURED IN ACCORDANCE WITH THE SPECIFICATION.
17. MINIMUM STRIPPING TIMES FOR CONCRETE ELEMENTS SHALL BE AS FOLLOWS:
WALLS AND COLUMNS : 3 DAYS, PROVIDED THAT CURING IS MAINTAINED FOR A FURTHER 7 DAYS.
BEAMS AND SLABS: 7 DAYS, PROVIDED THAT THE FULL SELF WEIGHT AND ANY SUPERIMPOSED LOADS ARE BACK-PROPPED AND CURING IS MAINTAINED FOR A FURTHER 7 DAYS.
18. ALL THICKNESSES SHOWN ARE MINIMUM STRUCTURAL REQUIREMENTS, NO REDUCTION IN THICKNESS DUE TO FALLS OR TOPPING IS PERMITTED. REFER TO ARCHITECTURAL DRAWINGS FOR ALL SLAB FALLS AND CONFIRMATION OF SLAB STEPS.
19. CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED AND USED ONLY WHERE SHOWN ON STRUCTURAL DRAWINGS OR SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER

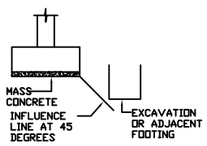
FOOTING: ANGLE OF REPOSE

1. FOOTING MUST NOT UNDERMINE EXISTING FOOTING OR BE UNDERMINED BY PROPOSED EXCAVATION.
2. ENSURE ADEQUATE ANGLE OF REPOSE AT ALL TIMES (REFER DETAILS BELOW)/
3. NOTIFY THIS OFFICE IF FOOTING UNDERMINE OCCURS.
4. PIPE DEPTH & LOCATION MUST BE CONFIRMED PRIOR TO CONSTRUCTION.



ANGLE OF REPOSE

20° MAX IN FILL/CLAYEY FILL
30° MAX IN SAND/LOOSE CLAY
45° MAX IN CLAY
60° MAX IN ROCK



EASEMENT DETAILS REQUIRED

THE INFORMATION REGARDING THE DEPTH & OFFSET OF ANY SEWER OR STORMWATER PIPES WAS NOT SUPPLIED TO THIS OFFICE AT THE TIME OF THIS FOOTING DESIGN. ALL PROPERTY ASSETS ARE TO BE CONFIRMED PRIOR TO ANY CONSTRUCTION WORKS & THIS OFFICE IS TO BE CONTACTED FOR FURTHER ADVICE.

MOISTURE CONDITIONING NOTES

1. IN AREA AFFECTED BY EXISTING STRUCTURES, SLAB/TRESS/RECENTLY REMOVED, STRUCTURES RESULTING IN ABNORMAL MOISTURE CONDITIONING OF EXISTING SUB GRADE:
-EXISTING SUB GRADE TO BE EXCAVATED TO 400mm MAX DEPTH AND MOISTURE CONDITIONED TO THE SATISFACTION OF GEOTECHNICAL ENGINEER.
-SHOULD FURTHER CONDITIONING BE REQUIRED THAN FURTHER SUB GRADE, EXCAVATION IS TO BE CONDUCTED 400mm MAX WITH INTERVALS UP TO A MAXIMUM DEPTH OF 2300mm.

OH&S

1. THE CONTRACTOR SHALL DEVELOP, IMPLEMENT AND ADMINISTER A WORKPLACE HEALTH AND SAFETY PROGRAM THAT WILL ENSURE THAT ALL CONSTRUCTION ACTIVITIES ARE PERFORMED TO THE RELEVANT WORKPLACE HEALTH AND SAFETY REQUIREMENTS AND ANY OTHER RELEVANT STATUTORY REQUIREMENTS.
2. THE WORKPLACE HEALTH AND SAFETY PROGRAM MUST BE CO-ORDINATED WITH ADJOINING PROPERTY OWNERS AND ALL RELEVANT PARTIES AS NECESSARY TO ENSURE A SAFE BUILDING ENVIRONMENT AT ALL TIMES.

TEMPORARY WORKS

1. THE CONTRACTOR SHALL ALLOW FOR IN HIS PRICE ALL COSTS ASSOCIATED WITH THE DESIGN, SUPPLY, INSTALLATION AND REMOVAL OF ALL TEMPORARY BACK PROPPING, SAFETY SCREENS, SCAFFOLDING AND OTHER REQUIREMENTS OF THE CONSTRUCTION PROCESS. THE CONTRACTOR SHALL ENGAGE SUITABLY QUALIFIED ENGINEER REFEREED TO AS "CONTRACTORS ENGINEER". TO DESIGN INSPECT AND CERTIFY ALL TEMPORARY WORKS, AND DEMOLITION WORKS.
2. THE CONTRACTOR IS TO PROVIDE ALL TEMPORARY WORKS CONTRACTOR ENGINEERING DRAWINGS TO THE STRUCTURAL ENGINEER FOR INFORMATION.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE OVERALL STABILITY OF THE STRUCTURE WHILST UNDER CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ADVICE FROM THE CONTRACTORS ENGINEER.
4. ALL VERTICAL DISPLACEMENTS AND MOVEMENTS ARE TO BE LIMITED TO ENSURE THE STRUCTURE IS NOT SUBJECTED TO LOADS OR MOVEMENTS CAUSING STRUCTURAL DISTRESS TO ANY ELEMENT WHILE THE STRUCTURE IS BEING TEMPORARILY SUPPORTED.
6. STRUCTURE TO BE ADEQUATELY BRACED TO PREVENT ANY HORIZONTAL MOVEMENT OR DEFLECTIONS.

MAINTENANCE

1. THE MAINTENANCE OF THE SITE AROUND A NEW HOME IS AN IMPORTANT FACTOR IN THE LONG-TERM PERFORMANCE OF THE FOOTING SYSTEM.
THE PRIMARY OBJECTIVE OF THIS MAINTENANCE IS TO MINIMISE THE VARIATION IN SOIL MOISTURE LEVELS AROUND THE FOOTING THAT COULD LEAD TO EXCESSIVE SOIL MOVEMENT AND POSSIBLE DISTRESS OF THE SUPERSTRUCTURE AND/OR FOOTING. WHEN THE SLAB FORMS PART OF THE TERMITE BARRIER SYSTEM FOR THE HOUSE, THEN IT IS ALSO NECESSARY TO MAINTAIN THE EFFECTIVENESS OF THAT BARRIER WITH APPROPRIATE
MAINTENANCE ACTIVITIES.
2. WHEN A CONCRETE SLAB-ON-GROUND IS USED AS PART OF THE TERMITE BARRIER SYSTEM AS OUTLINED IN AS3660.1, THEN IT CANNOT BE TOO HIGHLY STRESSED THAT REGULAR INSPECTION AND MAINTENANCE OF THE SLAB SURROUNDING BY A COMPETENT PROFESSIONAL IS REQUIRED TO ENSURE THAT ANY TERMITE INFESTATION IS DETECTED AND TREATED PROMPTLY.
3. ONGOING MAINTENANCE AND INSPECTION ON A REGULAR BASIS IS A REQUIREMENT OF AS 3660.1 AND OWNER SHOULD BE CLEARLY ADVISED IF THEIR RESPONSIBILITIES TO ENSURE THAT THEIR INVESTMENT IS PROPERLY PROTECTED.
4. LEAKING TAPS, DOWNPIPES, SEWERS, GUTTERS AND DRAINAGE CAN ALSO AFFECT THE MOISTURE CONTENT OF THE SOIL AND THESE MUST BE INSPECTED REGULARLY TO ENSURE AGAINST DAMAGE TO THE FOOTINGS. SIMILARLY, GUTTERS, DOWNPIPE AND COLLECTION PINTS CAN GET BLOCKED WITH LEAVES AND OTHER DEBRIS, PREVENTING THE EFFECTIVE DRAINAGE OF STORMWATER AWAY FROM THE HOUSE. AGAIN, REGULAR INSPECTIONS AND MAINTENANCE SHOULD BE CARRIED OUT TO PREVENT BLOCKAGES.
5. IT IS IMPORTANT FOR BUILDER TO MAKE THE HOMEOWNER AWARE OF THE MAINTENANCE ISSUES ASSOCIATED WITH ENSURING THE LONG-TERM PERFORMANCE OF THE FOOTING SYSTEM.

SITE SPECIFIC NOTES

UNDERMINE NOTE: IF THIS FOOTING IS TO BE CONSTRUCTED 1.0m OR LESS AWAY FROM EXISTING FOOTING/ BUILDING ALL CARE TO BE TAKEN DURING EARTHWORKS ADJACENT TO EXISTING NEIGHBOURING PROPERTIES NOT TO DISTURB/UNDERMINE FOOTINGS. TAKE PARTICULAR CARE NOT TO DAMAGE NEIGHBOURING PROPERTY. IN NO WAY SHALL THE NEW FOOTING UNDERMINE ANY EXISTING FOOTINGS.
IF THIS IS NOT THE CASE, CONTACT THIS OFFICE FOR FURTHER ADVICE.

THIS DESIGN SHOULD BE READ IN CONJUNCTION WITH THE FOLLOWING RECOMMENDATIONS

IT IS ESSENTIAL THAT THE NATURAL SOIL BASE OF THE FOOTING EXCAVATION IS NOT EXCESSIVELY LOOSENED OR SOFTENED (LOOSE AND/OR SOFT SPOTS AT ISOLATED LOCATIONS COULD BE EXPECTED DUE TO RECENT SUBDIVISION AND SITE PREPARATION ACTIVITIES). SHOULD SUCH CONDITIONS BE ENCOUNTERED DURING EXCAVATIONS, THEN ADDITIONAL DEEPENING TO ACHIEVE A FIRM EXCAVATION BASE IS REQUIRED. ALTERNATIVELY, THE LOOSE OR SOFT SPOTS AT THE BASE OF THE FOOTING EXCAVATION CAN BE COMPACTED USING A VIBRATORY ROLLER OR A VIBRATORY PLATE TO A SATISFACTORY DEGREE OF COMPACTION AND FIRMNESS.

IT IS ADVISABLE THAT MAXIMUM ALLOWABLE SHRINKAGE CRACKING OF FLOOR SLABS BE LIMITED ONLY UP TO DAMAGE CATEGORY 1-TABLE C2 OF AS 2870. USE APPROPRIATE FLEXIBLE BEDDING MORTAR FOR BRITTLE COVERINGS WHERE BRITTLE AREA (EG. CERAMIC TILES) IS GREATER THAN 16m2. ALTERNATIVELY THE LAYING OF TILES (WITH FLEXIBLE ADHESIVE) SHOULD BE DELAYED FOR AT LEAST 90 DAYS.

NOTE: AN IMMATURE TREE WAS NOTED IN THE ROAD RESERVE AT THE FRONT OF THE PROPERTY. THIS TREE MAY, IN THE FUTURE, CREATE ABNORMAL MOISTURE CONDITIONS AS DEFINED IN AS 2870-2011 CLAUSE 1.3.3. ABNORMAL MOISTURE CONDITIONS MAY RESULT IN NON ACCEPTABLE PROBABILITIES OF SERVICEABILITY OF THE BUILDING DURING IT'S DESIGN LIFE, AS DEFINED IN AS 2870-2011, CLAUSE 1.3.1. IF THESE DISTRESSES ARE NOT ACCEPTABLE TO THE OWNER OR OTHER RELEVANT PARTIES THEN THE PROVISION OF A ROOT BARRIER SHOULD BE CONSIDERED IN THE FUTURE.

BLUEPRINT CONSULTING ENGINEERS
CONSULTING CIVIL & STRUCTURAL ENGINEERS
T: (03) 8535 3030
E: info@bpce.com.au
W: www.bpce.com.au
REGISTERED Building Practitioner
ABN 34 613 268 376

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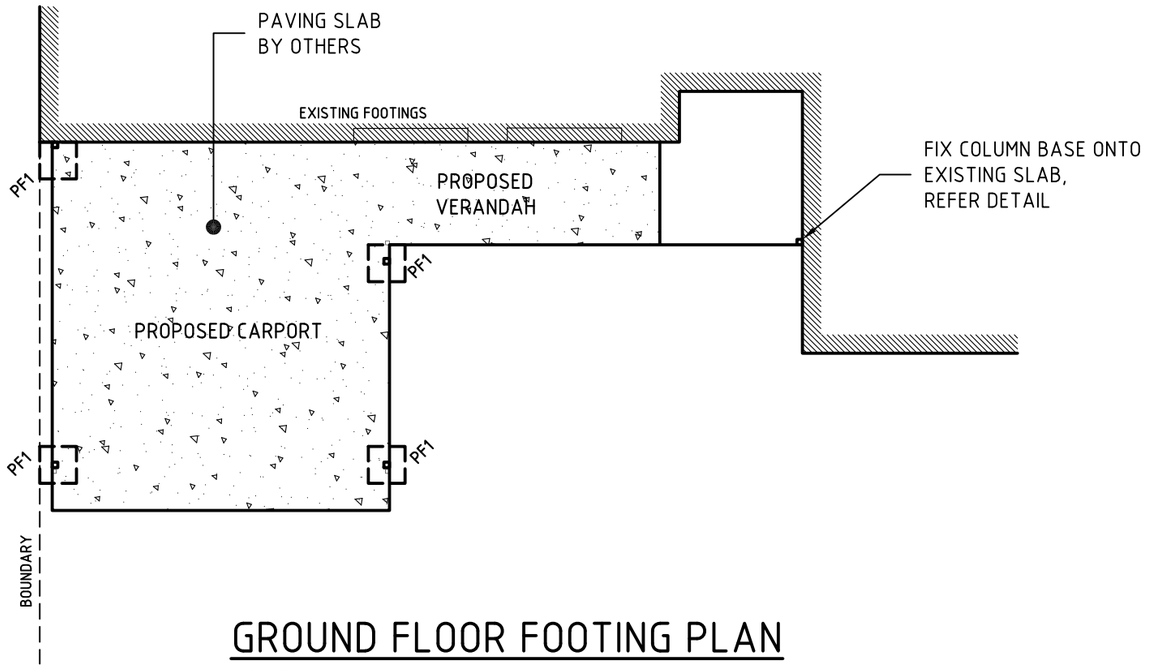
C	RB2 TO BRICK UPDATED	L.Y.	15.08.2023
B	UPDATED TO STEEL FRAMING	L.Y.	14.08.2023
A	CONSTRUCTION ISSUE	L.Y.	08.08.2023

Client: JOSEPH LAURICELLA
Address: NO. 6 BANKS PLACE KEILOR
Drawn: P.A.
Designed: P.A.
Drawing size: A3
Scale: AS NOTED
Job Number: 235278-S
Sheet No: 3 of 6
Revision: C

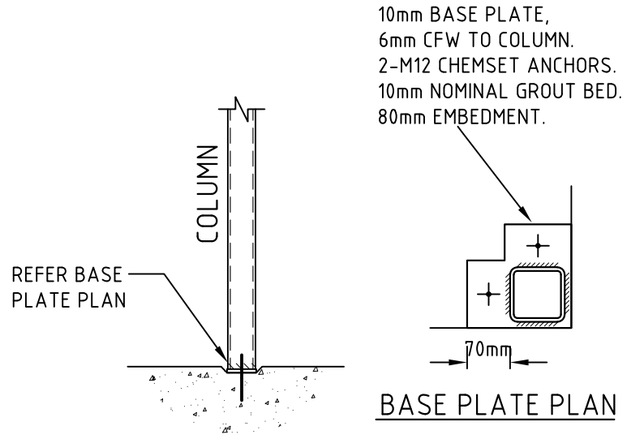


GROUND FLOOR FOOTING PLAN

SCALE: 1:100

LEGEND:

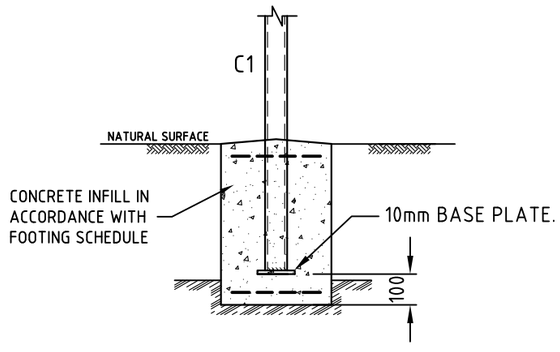
- POST/COLUMN OVER
- PF1 — SQUARE DENOTES 600x600x900 DEEP PAD FOOTING WITH SL82 AT TOP & BOTTOM DEEPENED TO NATURAL SOIL WITH A MINIMUM ALLOWABLE BEARING CAPACITY OF **100kPa** OR TIGHTLY PACKED FLOATERS/BEDROCK.



BASE PLATE PLAN

TYPICAL COLUMN BASE CONNECTION DETAILS

SCALE NTS



TYPICAL C1 TO PAD PF1 DETAIL

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CONSULTING
CIVIL & STRUCTURAL
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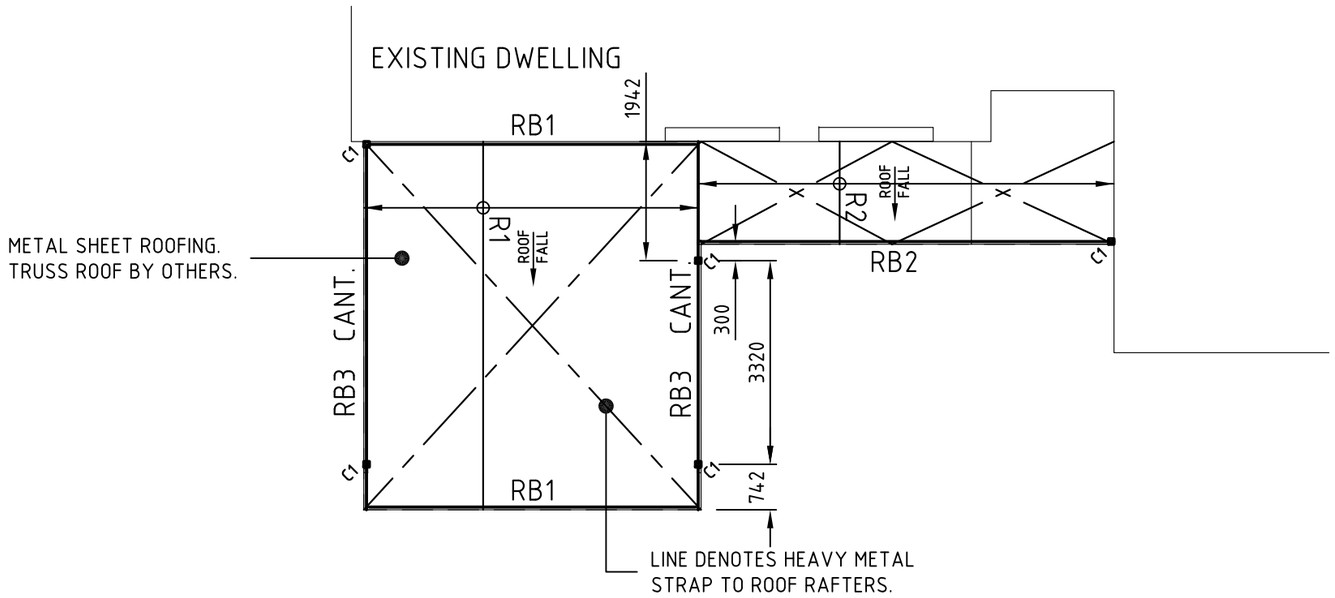
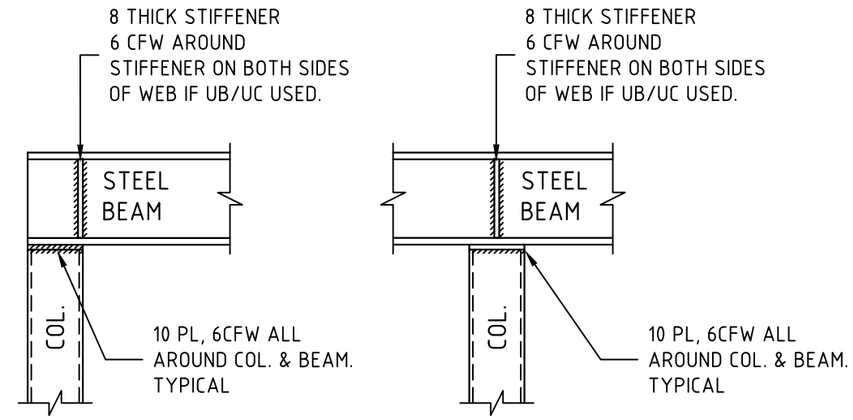


ROOF FRAMING PLAN

SCALE: 1:100

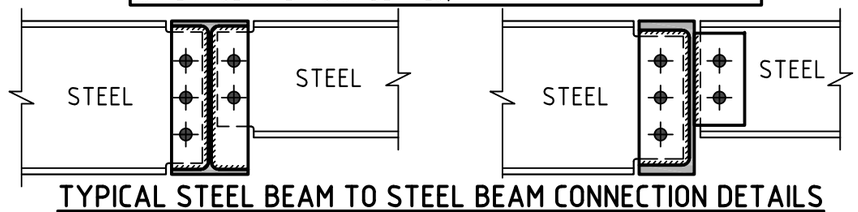
MEMBERS SCHEDULE		
SIGN	SECTION	NOTE
RB1	180PFC [	
RB2	150PFC [	
RB3	180PFC [	MAX. 1950mm CANTILEVER
R1	C250-15 @ 600 crs	BRIDGING AT MID-SPAN
R2	C150-10 @ 600 crs	
C1	89x3.5 SHS	HOT DIP GALVANISED



TYPICAL STEEL BEAM ONTO COLUMN DETAIL

SCALE: N.T.S.

BEAM CONNECTION SPECS		
MEMBERS	BOLTS	CLEAT THICK.(mm)
MAX 230 PFC/UB	2-M20 8.8/S BOLTS	10, 6CFW ALL AROUND
ABOVE 230 PFC/UB	3-M20 8.8/S BOLTS	10, 6CFW ALL AROUND
NOTE: TO BE FOLLOWED FOR ALL CONNECTIONS (UNLESS NOTED OTHERWISE IN PLANS OR DETAILS).		



TYPICAL STEEL BEAM TO STEEL BEAM CONNECTION DETAILS

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CIVIL & STRUCTURAL
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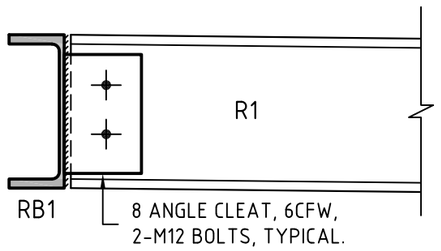

STEEL RAFTER TO PFC CONNECTION

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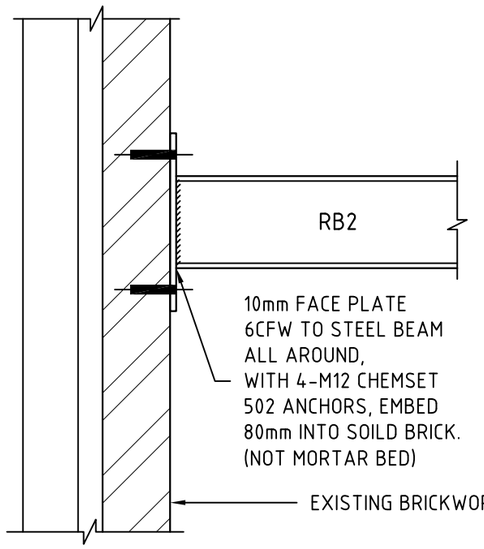
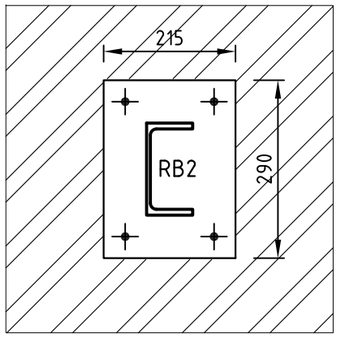
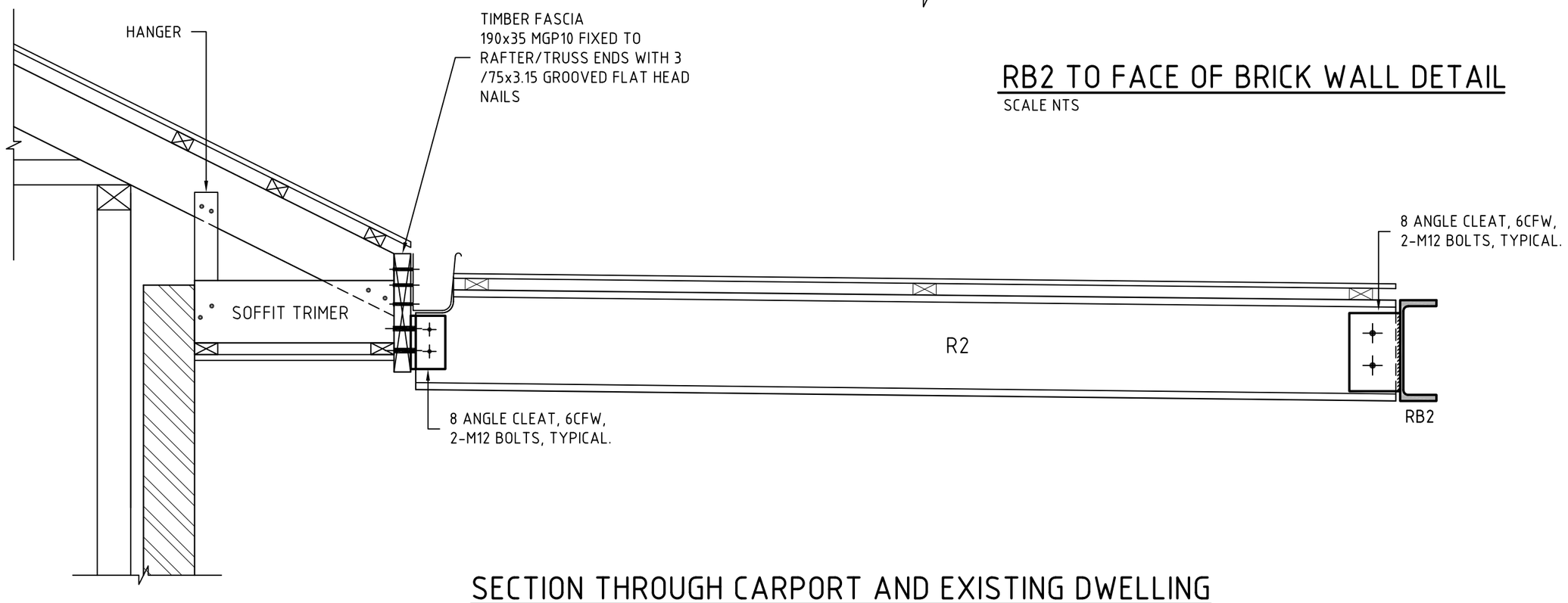




RB2 TO FACE OF BRICK WALL DETAIL

SCALE NTS



SECTION THROUGH CARPORT AND EXISTING DWELLING

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