

14 July 2025

Principal Certifying Authority  
Emailed to: team@actionapprovals.com.au

Certificate Title: **Certificate of Structural Design**

Address of the Project: **16 Lincoln Avenue, Collaroy**

Description of Project: **Alterations and Additions**

Pursuant to the provisions of **A2G1 & A2G2 of the Building Code of Australia**, I hereby certify that the building details for the proposed structure are in accordance with normal engineering practice and meet the requirements of the Building Code of Australia and relevant Australian Standards. In particular the design is in accordance with the following:

**AS1170.0.2002, AS1170.1.2002, AS1170.2.2021, AS1684.2021,  
AS1720.2010, AS2870.2011, AS3600.2018, AS3700.2018, AS4100.2020**

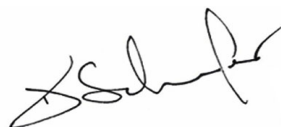
I am an appropriately qualified and competent person in this area being registered NER in both civil and structural colleges and as such can certify that the design and performance of the design systems comply with the above and which are detailed on the following drawing:

**Plans by Taylor Consulting Engineers STRUCT-1/A, STRUCT-2/A & STRUCT-3/A.**

I possess Indemnity Insurance to the satisfaction of the building owner or my principal.

This certification shall not be construed as relieving any other party of their responsibilities or contractual obligations.

Yours faithfully  
TAYLORCONSULTING.NET.AU



**D.M.Schaefer - Director**  
B.E Civil (Hons) M.I.E. Aust. N.E.R.



14 July 2025

Principal Certifying Authority  
Emailed to: team@actionapprovals.com.au

Certificate Title: **Certificate Of Structural Adequacy**

Address of the Project: **16 Lincoln Avenue, Collaroy**

Description of Project: **Alterations and Additions**

This is to certify that the above property has been inspected in relation to the proposed alteration and additions as shown on the **Action Plans** building plans dated **17 June 2025** and advise that nothing was observed during the course of the inspection to suggest that the existing building is not generally adequate to support the additional live and dead loads imposed by the addition.

Strengthening beams have been designed in accordance with relevant SAA codes and these members are shown on the attached plan **STRUCT-1/A, STRUCT-2/A & STRUCT-3/A**.

Following construction some settlement may be experienced under the additional loads and this may result in the formation of minor cracks in the building but, providing foundation material is consistent under the existing footings, it is anticipated that this movement would be minimal and not affect the structural integrity of the building.

This certification shall not be construed as relieving any other party of their responsibilities or contractual obligations.

Yours faithfully  
TAYLORCONSULTING.NET.AU



**D.M.Schaefer - Director**  
B.E Civil (Hons) M.I.E. Aust. N.E.R.





# TAYLOR



## 16 LINCOLN AVENUE, COLLARROY

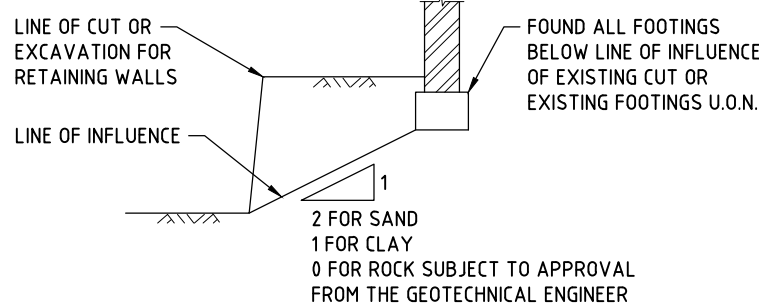
### CONSTRUCTION NOTES

#### GENERAL

- READ THESE DRAWINGS IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER WORKING DRAWINGS, SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT.
- PROVIDE ALL WORKMANSHIP AND MATERIALS IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT EDITIONS OF THE NCC, THE AUSTRALIAN STANDARDS AND THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY.
- THE BUILDER MUST COMPLY WITH REQUIREMENTS OF THE OCCUPATIONAL HEALTH & SAFETY ACT.
- REFER ANY CONFLICT BETWEEN THESE NOTES, THE SPECIFICATIONS, THE DRAWINGS OR ANY OTHER RELEVANT DOCUMENTS TO THE ENGINEER (TAYLOR CONSULTING ENGINEERS) FOR DECISION PRIOR TO PROCEEDING WITH THE WORK.
- DO NOT OBTAIN DIMENSIONS BY SCALING THE DRAWINGS. FOR SETTING OUT DIMENSIONS AND LEVELS REFER TO ARCHITECTURAL DRAWINGS.
- THE BUILDER IS RESPONSIBLE FOR THE PROVISION OF ALL SHORING TO MAINTAIN THE STABILITY AND INTEGRITY OF EXCAVATIONS AND ADJACENT STRUCTURES. PROVIDE DETAILS, FOR REVIEW BY THE ENGINEER, OF ANY NECESSARY TEMPORARY WORKS, INCLUDING SHORING, PRIOR TO COMMENCING CONSTRUCTION.
- DURING CONSTRUCTION IT IS THE BUILDER'S RESPONSIBILITY TO MAINTAIN THE STRUCTURE IN A STABLE CONDITION AND TO ENSURE NO PART IS OVERSTRESSED.
- THE DESIGN AND DRAWINGS ARE COPYRIGHT AND MAY NOT BE USED OR REPRODUCED IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF TAYLOR CONSULTING ENGINEERS.
- FIRE-RESTRAINT LEVELS (FRL'S) REQUIRED FOR THE VARIOUS STRUCTURAL ELEMENTS MUST BE CONFIRMED BY THE NCC CONSULTANT OR ARCHITECT.

#### FOUNDATIONS

- THE MINIMUM SAFE BEARING CAPACITY OF FOUNDATION MATERIAL SHALL BE:  
PAD FOOTINGS: 150 KPA IN FIRM NATURAL GROUND  
STRIP FOOTINGS: 150 KPA IN FIRM NATURAL GROUND  
PIERS 150 KPA IN FIRM NATURAL GROUND  
KPA IN
- SITE CLASSIFICATION AS PER AS2870.2011: 'XXX'.**
- STRUCTURAL DESIGN HAS BEEN CONDUCTED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER REPORT XXX, DATED XXX.
- FOUNDATION MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.
- THE BASE OF FOOTING EXCAVATIONS SHALL BE FINISHED CLEAN AND HORIZONTAL.
- ALL WALLS AND COLUMNS SHALL BE CONCENTRIC WITH THE SUPPORTING FOOTINGS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- FOUNDING LEVELS WHERE SHOWN ARE FOR TENDER PURPOSES ONLY.
- ANY PROPOSED FOOTING EXCAVATION NEAR BOUNDARIES, OTHER STRUCTURES OR SERVICES SHALL BE APPROVED BY THE ENGINEER.
- SUBGRADE SHALL BE APPROVED MATERIAL COMPACTED TO 98% STANDARD DRY DENSITY DETERMINED BY TESTING TO AS1289.5.1.1 U.O.N.
- LOCATE ALL NEW FOOTINGS RELATIVE TO LINE OF CUT/EXCAVATION INCLUDING EXCAVATIONS FOR RETAINING WALLS AS FOLLOWS:



#### LOADINGS

- IMPORTANCE LEVELS OF BUILDING: 2
- SUPERIMPOSED FLOOR LIVE LOADS ARE GENERALLY IN ACCORDANCE WITH AS/NZS1170.1 AND SPECIFICALLY:  
15 KPA GENERALLY  
2.0 KPA BALCONIES  
2.0 KPA STAIRS
- WIND LOADS HAVE BEEN DETERMINED IN ACCORDANCE WITH AS4055  
WIND REGION: A TERRAIN CATEGORY: 2  
TOPOGRAPHIC CLASS: T1 SHIELDING: PS  
WIND CLASSIFICATION: N2
- THE RELEVANT PROVISIONS OF AS1170.4 HAVE BEEN APPLIED FOR THE FOLLOWING EARTHQUAKE DESIGN:  
PROBABILITY FACTOR KP: 1 HAZARD FACTOR Z: 0.08  
SITE SUB-SOIL CLASS: CE EARTHQUAKE DESIGN CATEGORY: N/A
- GROUND SNOW LOAD Sg = XXX KPA

#### EXISTING STRUCTURES (ALTERATIONS & ADDITIONS)

- AFTER EXPOSING THE STRUCTURE OF THE EXISTING BUILDING, THE BUILDER MUST ADVISE THE ENGINEER TO ALLOW FOR INSPECTION TO CONFIRM SUITABILITY OF DOCUMENTED STRENGTHENING REQUIREMENTS PRIOR TO COMMENCING STRUCTURAL ALTERATIONS AND ADDITIONS.

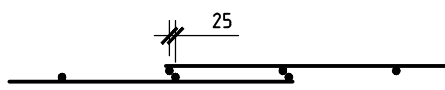
#### REINFORCED CONCRETE

- PROVIDE ALL WORKMANSHIP AND MATERIALS IN ACCORDANCE WITH AS3600, THE SAA STANDARDS CITED IN AS3600, THE DRAWINGS AND THE SPECIFICATIONS.
- PROVIDE CONCRETE COMPOSITION AND MINIMUM CLEAR CONCRETE COVER TO REINFORCEMENT AS FOLLOWS:

Element	Exposure Classification			f'c U.O.N.
	A1 Sheltered locations	B1 External locations over 1m from saltwater shoreline	B2 External locations within 1m of saltwater shoreline	
Piers	-	40	50	25
Strip and pad footings	-	50	50	25
Slab on ground (to int)	20	40	45	32
Suspended slabs	20	40	45	40
Beams	20	40	45	40
Columns	20	40	50	40
Off form walls	20	40	45	40
- SUPPORT ALL REINFORCEMENT AT 1m MAXIMUM CENTRES BOTH WAYS ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS. USE ONLY PLASTIC CHAIR FOR EXTERNALLY EXPOSED SOFFITS.
- PROVIDE ALL CONCRETE WITH 80mm MAXIMUM SLUMP, 20mm AGGREGATE WITH NO ADMIXTURES, UNLESS APPROVED BY THE ENGINEER.
- SIZES OF CONCRETE ARE NET, EXCLUSIVE OF APPLIED FINISHES. BEAM DEPTHS ARE WRITTEN FIRST AND INCLUDE SLAB THICKNESS.
- PROPERLY FORM CONSTRUCTION JOINTS AND USE ONLY WHERE SHOWN OR APPROVED BY ENGINEER.
- MAKE NO HOLES OR CHASES IN CONCRETE MEMBERS WITHOUT THE APPROVAL OF THE ENGINEER.
- REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
- WELD OR SPLICE REINFORCEMENT ONLY IN POSITIONS APPROVED BY THE ENGINEER.
- PROVIDE THE MINIMUM CLEAR SPACING BETWEEN CONDUITS, CABLES, PIPES AND BARS AS REQUIRED BY AS3600 BUT NOT LESS THAN THREE BAR DIAMETERS. DO NOT PLACE CONDUITS IN SLABS ABOVE TOP REINFORCEMENT OR BELOW BOTTOM REINFORCEMENT.
- S - DENOTES HOT ROLLED DEFORMED BARS GRADE 230S.  
N - DENOTED HOT ROLLED DEFORMED BARS GRADE 500N.  
R - DENOTES HOT ROLLED PLAIN ROUND BARS GRADE 230R.  
SL, RL, L(SIZE)TM - DENOTES HARD DRAWN WIRE FABRIC GRADE 500.
- NOTIFY THE ENGINEER A MINIMUM OF 24 HOURS BEFORE REINFORCEMENT HAS BEEN COMPLETED. ALLOW 2 HOURS AFTER THE COMPLETION OF THE REINFORCEMENT FOR THE ENGINEER'S INSPECTION. DO NOT ORDER CONCRETE UNTIL REINFORCEMENT HAS BEEN APPROVED BY THE ENGINEER.
- CURE CONCRETE IN ACCORDANCE WITH AS3600. COMMENCE CURING WITHIN TWO HOURS OF FINISHING OPERATIONS AND CONTINUE FOR A MINIMUM OF SEVEN DAYS BY USING AN APPROVED PROPRIETARY COMPOUND OR BY KEEPING CONTINUOUSLY WET.
- TIE ALL UNSUPPORTED BARS IN TRANSVERSE DIRECTION TO N12-300, LAPPED 500 U.O.N.
- LAP FABRIC IN ACCORDANCE WITH DETAILS FIG.13.2.4 OF AS3600.
- PROVIDE HOOKS, LAPS AND BENDS IN ACCORDANCE WITH AS3600 U.O.N.

ELEMENT / BAR SIZE	MIN LAP LENGTH
N10	350mm
N12	450mm
N16	650mm
N20	900mm
N24	1150mm

- PROVIDE CHAMFERS, DRIP GROOVES ETC. IN ACCORDANCE WITH THE ARCHITECT'S DETAILS.
- DESIGN, CONSTRUCT AND STRIP FORMWORK IN ACCORDANCE WITH AS3610 & AS3600.
- PRE CAMBER FORMWORK UPWARDS BY 1/500 OF THE CLEAR SPAN U.O.N. WHERE SUPPORTED BEAMS AND SLABS SPAN GREATER THAN 5M.
- THESE SLABS HAVE NOT BEEN DESIGNED OR DETAILED FOR AN IN-SLAB HYDRAULIC HEATING SYSTEM OR FOR A POLISHED CONCRETE FINISH. CONTACT THE ENGINEER FOR REDESIGN AND INSTRUCTION OF EITHER IS TO BE FEATURED IN THESE SLABS.



FABRIC LAP DIAGRAM

#### SPECIFICATION & CONSTRUCTION NOTES FOR REINFORCED CONCRETE SLAB-ON-GROUND

##### GENERAL

- THE DRAWINGS AND SPECIFICATION ARE TO BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATION AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE WORK.
- DIMENSIONS ARE NOT TO BE OBTAINED BY SCALING FROM THE STRUCTURAL DRAWINGS.
- SETTING OUT DIMENSIONS SHOWN ARE TO BE VERIFIED BY THE BUILDER.
- ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE SAA CODES AND BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY.
- ANY CONFLICT BETWEEN THESE NOTES AND SPECIFICATIONS OR DRAWINGS SHALL BE RESOLVED BY THE SUPERVISING ENGINEER.

##### GROUND PREPARATION & DRAINAGE

- THE SLAB AREA IS TO BE CLEARED OF ALL GRASS, VEGETATION, STUMPS AND ANY SOIL CONTAINING SIGNIFICANT VOLUME OF ORGANIC MATTER.
- THE SITE IS TO BE TRIMMED TO SUIT FINISHED SURFACE LEVELS. IN AREAS OF CUT AND FILL THE FILL IS TO BE A MAXIMUM DEPTH OF 500MM AND COMPACTED IN HORIZONTAL LAYERS OF 150MM MAXIMUM DEPTH TO 95% OF THE MODIFIED DRY DENSITY IN ACCORDANCE WITH AS 1289 "METHOD OF TESTING SOILS FOR ENGINEERING PURPOSES" AND AS 3798 "GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS".
- THE BATTER OF ANY FILL IS TO BE AT LEAST 1000MM CLEAR OF THE EDGE OF THE SLAB AND AT A MAXIMUM SLOPE OF 1.5 TO 1.
- ANY IMPORTED FILL IS TO BE AN APPROVED SELECT MATERIAL.
- THE FINISHED GROUND SURFACE ADJACENT TO THE SLAB IS TO BE AT LEAST 100mm BELOW THE SLAB LEVEL.
- IN CUT AND FILL AREAS ADEQUATE SURFACE DRAINAGE IS TO BE PROVIDED AT THE BASE OF EMBANKMENTS AND AT LEAST 1000MM FROM THE SLAB TO DIVERT SURFACE RUNOFF WATER AROUND THE SLAB.
- IN AREAS WHERE GROUND WATER IS ENCOUNTERED, SUB-SOIL DRAINS ARE TO BE PROVIDED TO INTERCEPT AND DIVERT THE WATER FROM THE SLAB.

##### FOUNDATIONS

- THIS SLAB IS DESIGNED FOR A UNIFORM AND STABLE FOUNDATION OF SAFE BEARING PRESSURE OF 100 KPA. FURTHER ADVICE IS TO BE OBTAINED FROM THE SUPERVISING ENGINEER IF ORGANIC MATTER, HIGHLY PLASTIC SOIL OR GROUND WATER IS ENCOUNTERED.
- A LEVEL BED OF CLEAN SAND, 50MM THICK IS TO BE SPREAD OVER THE FOUNDATION AND THOROUGHLY COMPACTED.
- IN AREAS OF TERMITE ACTIVITY OR AS REQUIRED BY LOCAL BUILDING AUTHORITIES PROTECTION IS TO BE PROVIDED TO THE BUILDING IN ACCORDANCE WITH AS 3660.1 "TERMITE MANAGEMENT PART 1: NEW BUILDING WORKS".
- PROTECTION SHOULD BE PROVIDED IN THE FORM OF A CONTINUOUS PHYSICAL BARRIER OF STAINLESS STEEL MESH OR GRADED STONES, OR A CHEMICAL SOIL BARRIER AS APPROVED BY LOCAL AUTHORITIES.

##### WATERPROOFING

- AN UNPUNCTURED POLYTHENE VAPOUR BARRIER, 0.2mm THICK IS TO BE PROVIDED UNDER THE TOTAL AREA OF THE FLOOR AND BEAMS INCLUDING INTERNAL BEAMS AND TERMINATED AT GROUND LEVEL.
- JOINTS IN MEMBRANE TO BE LAPPED A MINIMUM OF 200mm AND SEALED WITH PRESSURE SENSITIVE TAPE. SERVICE PIPES THROUGH SLAB TO BE WRAPPED WITH POLYTHENE MEMBRANE THAT IS IN TURN LAPPED AND SEALED WITH MAIN LAYER.

##### REINFORCEMENT

- SLAB FABRIC TO BE LAPPED A MINIMUM OF 225MM AT THE ENDS AND SIDE AND SUPPORTED ON CHAIRS AT 1000mm CENTRES.
- EDGE BEAMS AND INTERNAL BEAM TRENCH MESH TO BE FULLY LAPPED AT CORNERS WITH A MINIMUM 350mm SPLICE LAP AND SUPPORTED ON CHAIRS AT APPROXIMATELY 1200mm CENTRES.
- ALL REINFORCEMENT CHAIRS TO SIT ON APPROVED BASE SUPPORTS TO PREVENT PUNCTURE OF POLYTHENE MEMBRANE.

##### CONCRETE

- ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH AS 3600 "CONCRETE STRUCTURES" AND THE CONCRETE SHALL BE THE APPROPRIATE GRADE AS NOTED ON THE STRUCTURAL DRAWINGS. SLUMP SHALL BE 80mm. SITE ADDITIVES ARE NOT PERMITTED.
- TO ENABLE AN INSPECTION TO BE CARRIED OUT ON THE WATERPROOFING MEMBRANE AND REINFORCEMENT THE SUPERVISING ENGINEER IS TO BE ADVISED 24 HOURS BEFORE POURING OF CONCRETE.
- CONCRETE IS TO BE COMPACTED WITH APPROVED VIBRATORS AND MOIST CURED FOR A MINIMUM OF SEVEN (7) DAYS AFTER POURING.

##### FINISH

- CONCRETE IS TO BE SCREEDED LEVEL AND FINISHED TO A SMOOTH SURFACE WITH A WOODEN FLOAT, STEEL TROWEL OR MECHANICAL TROWELLING DEVICE DEPENDING ON TYPE OF SURFACE FINISH REQUIRED.

#### MASONRY

- ENSURE ALL WORKMANSHIP AND MATERIALS ARE IN ACCORDANCE WITH AS3700, THE STANDARDS CITED IN AS3700, THE DRAWINGS AND THE APPL STANDARD TECHNICAL SPECIFICATION STD-D905.
- WHERE MASONRY SUPPORTS CONCRETE SLABS OR BEAMS, LAY THE TOP COURSE WITH FROGS DOWN AND COVERED IN 2 LAYERS OF APPROVED SLIP JOINT MATERIAL.
- WALLS SHOWN SHADED ON PLAN ARE LOAD BEARING. SEPARATE NON-LOAD BEARING WALLS UNDER SLABS FROM THE SLAB BY 15mm OF APPROVED COMPRESSIBLE MATERIAL. WHERE MASONRY ABUTS SLAB DOWNTURNS, PROVIDE 15MM GAP BETWEEN BRICKWORK AND SIDE OF DOWNTURN.
- DO NOT ERECT MASONRY SUPPORTED BY CONCRETE SLABS OR BEAMS UNTIL ALL FORMWORK AND PROPS UNDER HAVE BEEN REMOVED.
- PROVIDE ALL BRICKS OF STRENGTH F'UC = 20 MPA U.O.N.
- PROVIDE ALL HOLLOW CONCRETE MASONRY OF STRENGTH F'UC = 15 MPA U.O.N.
- PROVIDE CLASSIFICATION M3 MASONRY MORTAR U.O.N. NOTE THAT WITHIN 100M FROM NON-SURF COAST, OR 1KM SURF COAST, PROVIDE CLASSIFICATION M4 MASONRY MORTAR.
- CUT NO CHASES INTO LOAD BEARING MASONRY WITHOUT THE APPROVAL OF THE ENGINEER.
- PROVIDE MOVEMENT CONTROL JOINTS VERTICALLY FOR FULL HEIGHT OF WALL AS FOLLOWS:  
- FOR GENERAL MASONRY = 8M MAXIMUM CENTRES & 4m MAXIMUM FROM CORNERS.  
- FOR ARTICULATED MASONRY = 6M MAXIMUM CENTRES & 4m MAXIMUM FROM CORNERS.  
- PROVIDE 15mm MINIMUM JOINTS WITH AN APPROVED COMPRESSIBLE FILLER, TIED TOGETHER EVERY 4TH COURSE WITH AN MET 3.3 MASONRY SLIDING TIE OR APPROVED EQUAL.
- CONSTRUCT HOLLOW WALLS TO FULL HEIGHT OR MAXIMUM 3m BEFORE FILLING CORES. PROVIDE CLEANOUT OPENINGS AT THE BASE OF ALL CORES TO BE FILLED.
- PROVIDE HOLLOW F'c 20 MPA CORE FILLING CONCRETE WITH 10mm AGGREGATE, 180 SLUMP U.O.N.
- CONSTRUCT HOLLOW MASONRY RETAINING WALLS USING "DOUBLE U BLOCKS."
- UNREINFORCED MASONRY WALLS HAVE NOT BEEN DESIGNED UNLESS NOTED.

#### TIMBER

- ENSURE ALL WORKMANSHIP AND MATERIALS ARE IN ACCORDANCE WITH AS1720 AND AS1684, THE SAA STANDARDS CITED IN AS1720, AS1684 AND THE SPECIFICATION.
- PROVIDE ALL TIMBER AS UNDRESSED MGP10 STRESS GRADE SEASONED PINE U.O.N. PROVIDE ALL EXTERNAL TIMBER AS UNDRESSED HARDWOOD OR APPROPRIATELY TREATED SEASONED PINE U.O.N.
- WHERE THE USE OF TREATED PINE FOR DURABILITY IS NOTED ON THE STRUCTURAL DRAWINGS, ENSURE IT COMPLIES WITH THE FOLLOWING TREATMENTS LEVELS:  
- INTERIOR ABOVE GROUND = H2  
- EXTERIOR ABOVE GROUND = H3  
- EXTERIOR IN GROUND = H4 & H5  
} ALL IN ACCORDANCE WITH AS1684
- INSTALL PROPRIETARY TIMBER CONNECTORS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- RETIGHTEN BOLTED CONNECTIONS IN UNSEASONED TIMBER PRIOR TO THE FIXING OF CLADDING.
- TIMBER ELEMENTS OR TIMBER FRAMING HAVE NOT BEEN DESIGNED U.O.N.
- PROVIDE ALL NEW CONSTRUCTION WITH PROTECTION FROM SUBTERRANEAN TERMITES IN ACCORDANCE WITH AS3660.1-1995, PROVIDE THE PROTECTION SYSTEM OR SYSTEMS AS SPECIFIED BY THE ARCHITECT.
- SUBMIT THREE COPIES OF ALL TRUSS WORKSHOP DRAWINGS TO THE ENGINEER FOR CHECKING PRIOR TO FABRICATION. ALL TRUSSES TO BE PRE-CAMBERED UPWARD 1/240 SPAN U.O.N.
- FOR BUSHFIRE PRONE AREAS, USE TIMBER SPECIES CLASSIFIED AS "FIRE-RETARDANT-TREATED TIMBERS" IN ACCORDANCE WITH AS3959 1999, IE. UNTREATED BLACKBUTT, KWILA (MERBAU), RED IRON BARK, RIVER RED GUM, SILVER TOP ASH, SPOTTED GUM OR TURPENTINE.

ALL TIMBER CONNECTIONS, TIE DOWNS BRACING AND TIMBER SIZES NOT NOMINATED ARE TO BE IN STRICT ACCORDANCE WITH AS1684 RESIDENTIAL TIMBER-FRAMED CONSTRUCTION CODE. ALL TIE DOWNS TO BE DESIGNED FOR ULTIMATE LIMIT STATE GUST WIND SPEED OF 4.0 m/s (CATEGORY N2 AS DETERMINED FROM AS4055 - WIND LOADS FOR HOUSING).

#### STEELWORK

- ENSURE MATERIALS, FABRICATION AND ERECTION ARE IN ACCORDANCE WITH AS4100, THE SAA STANDARDS CITED IN AS4100 AND THE SPECIFICATION.
- SUBMIT THREE COPIES OF ALL WORKSHOP DRAWINGS TO THE ARCHITECT AND THE ENGINEER TO OBTAIN THEIR WRITTEN APPROVAL PRIOR TO FABRICATION.
- PROVIDE ALL WELDS AS 6mm CONTINUOUS FILLET FROM E41XX ELECTRODES, ALL BOLTS AS M20 4.6/S AND ALL CLEATS AND GUSSETS AS 10MM PLATE U.O.N.
- FOR BOLTS, THE FOLLOWING NOTATION IS USED:  
- 4-M16 4.6/S DENOTES 4 x M16 COMMERCIAL GRADE BOLTS SNUG TIGHT.  
- 6-M20 8.8/TF DENOTES 6 x M20 HIGH STRENGTH STRUCTURAL BOLTS FULLY TENSIONED IN A NO SLIP JOINT.  
- 8-M24 8.8/TB DENOTES 8 x M24 HIGH STRENGTH STRUCTURAL BOLTS FULLY TENSIONED IN A BEARING JOINT.
- LEAVE MATING SURFACES OF TF CONNECTIONS UNPAINTED AND FREE OF MILL SCALE AND RUST.
- TIGHTEN BOLTS IN TF AND TB CONNECTIONS USING THE PART TURN METHOD OR LOAD INDICATING WASHERS. DO NOT USE CALIBRATED TORQUE WRENCHES. USE A HARDENED WASHER UNDER THE BOLT HEAD OR NUT, WHICHEVER IS ROTATED. THE RE-USE OF FULLY TENSIONED BOLTS IS PROHIBITED.
- PROVIDE ALL CLEATS AND DRILL ALL HOLES NECESSARY FOR FIXING STEEL TO STEEL OR TIMBER.
- FABRICATE STEEL BEAMS AND TRUSSES SPANNING GREATER THAN 5m WITH AN UPWARD PRE CAMBER OF 1/500 SPAN U.O.N.
- PREPARE STRUCTURAL STEELWORK TO CLASS 2 AND PAINT WITH ZINC PHOSPHATE PRIMER TO A THICKNESS OF 70 MICROMETRES U.O.N.
- HOT DIP GALVANISE ALL EXPOSED EXTERNAL STEELWORK AND ALL STEELWORK BUILT INTO AN EXTERNAL MASONRY SKIN, IN ACCORDANCE WITH GRADE HDG600 TO AS/NZS2312. WITHIN 100m FROM THE NON-SURF COAST OR 1KM FROM THE SURF COAST, HOT DIP GALVANISE ABOVE IN ACCORDANCE WITH GRADE HDG900 TO AS/NZS2312.
- PROVIDE FIRE PROTECTION TO ALL STEELWORK AS REQUIRED.
- ENSURE ALL COLD FORMED SECTIONS CONFORM TO AS1538 AND ARE ROLL-FORMED FROM STEEL STRIP, MINIMUM YIELD STRESS 450 MPA, 300G/M MINIMUM ZINC COATING MASS U.O.N.

ALL CHEMICAL ANCHORS FOR THREADED FIXINGS OR REINFORCEMENT, SHALL BE HILTI HIT-RE 500 ADHESIVE ANCHOR SYSTEM OR APPROVED EQUIVALENT INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

ALL THREADED CHEMICAL ANCHORS SHALL BE HOT DIP GALVANISED UNLESS NOTED OTHERWISE.  
M12 MIN. 100 EMBEDMENT, MIN. 60 EDGE DISTANCE, MIN. 70 SPACING  
M16 MIN. 125 EMBEDMENT, MIN. 70 EDGE DISTANCE, MIN. 100 SPACING

##### SPECIFICATION FOR PAINT SYSTEMS (ALTERNATIVE TO HOT-DIP GALVANISING)

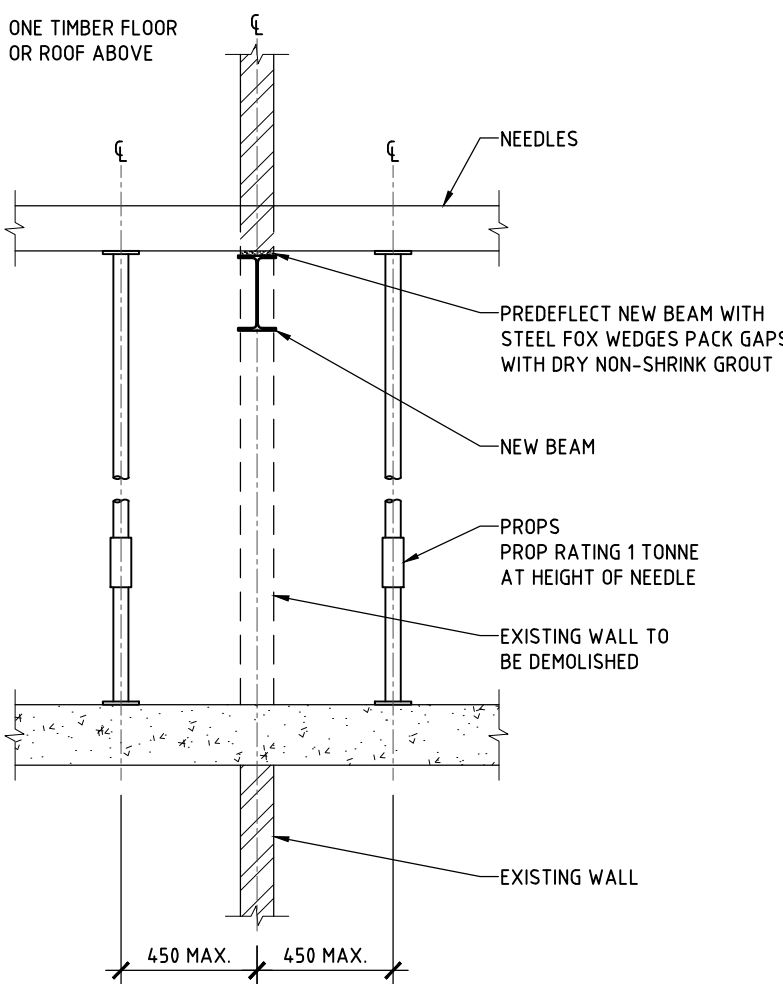
PROVIDE ALL EXTERNAL STEELWORK WITH THE FOLLOWING CORROSION PROTECTION SYSTEM AS MANUFACTURED BY INTERNATIONAL PROTECTIVE COATINGS:  
PREPARATION: ABRASIVE BLAST CLEAN TO CLASS 2  
PRIMER: INTERZINC 52 AT 75 MICRONS DRY FILM THICKNESS (DFT.)  
INTERMEDIATE COAT: INTERCURE 420 AT 125 MICRONS (DFT.)  
FINAL COAT: INTERFINE 629 AT 75 MICRONS (DFT.)  
OR APPROVED EQUIVALENT SYSTEM.  
PROVIDE WRITTEN CERTIFICATION ISSUED BY THE STEELWORK FABRICATOR CONFIRMING THE THICKNESS OF THE APPLIED PAINT SYSTEM WAS MEASURED ON SITE AND COMPLIES WITH THE ABOVE SPECIFICATION.

#### NEEDLING

SUGGESTED WALL NEEDLING PROCEDURE IN CONJUNCTION WITH ENGINEER'S DRAWINGS, PROCEED WITH THE FOLLOWING:

- NEEDLE THROUGH WALL DIRECTLY ABOVE POSITION OF NEW STEEL BEAMS AT 900 MAX. CENTRES WITH 125 PFC OR 100 x 6 SHS OR EQUAL NEEDLES SPANNING 900 MAX ONTO PROP AT EACH END.
- PROPS SHALL BE SUPPORTED DIRECTLY ON THE EXISTING CONCRETE FLOOR SLAB. SCREW UP PROPS TO SUPPORT FULL LOAD OF BRICKWORK ABOVE NEEDLES.
- BREAK OUT OPENING.
- INSERT BEAM WITH SEATING ON GROUT BED AS PER DETAILS. ALLOW 24 HOURS FOR GROUT TO CURE. PREDEFLECT BEAM BY DRIVING 120 STEEL FOX WEDGES BETWEEN UNDERSIDE OF BRICKWORK & TOP OF BEAM TO TRANSFER LOAD TO NEW BEAM.
- RAM PACK BETWEEN NEW STEEL BEAM & UNDERSIDE OF EXISTING BRICKWORK WITH DRY NON-SHRINK GROUT.
- A MINIMUM OF 48 HOURS AFTER GROUTING, REMOVE PROPS & NEEDLES AND MAKE GOOD.

NOTE: THE ABOVE SUGGESTED PROCEDURE IN NO WAY RELIEVES THE BUILDER OF THE USUAL CONSTRUCTION RESPONSIBILITIES.



NEEDLING DETAIL

### DRAWING SCHEDULE

#### SHEET NUMBER


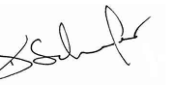
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STRUCT-2/A  
STRUCT-3/A

#### TITLE

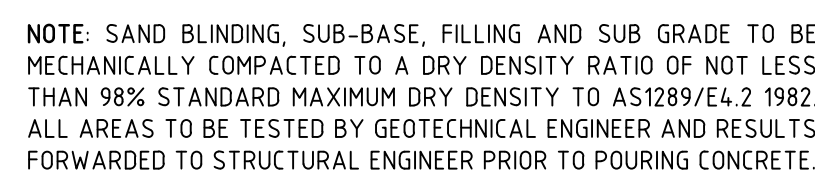
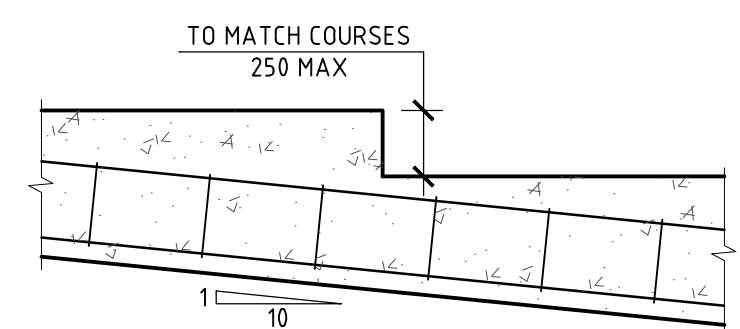
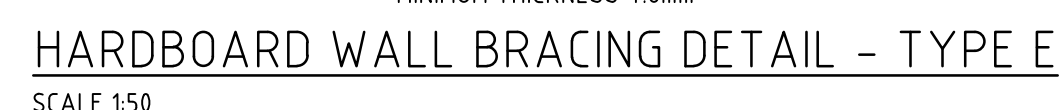
SLAB & FRAMING PLAN  
SLAB & FRAMING DETAILS  
SWIMMING POOL PLAN

#### ABBREVIATIONS

U.O.N.	UNLESS OTHERWISE NOTED
L 1st	LAY FIRST
L 2nd	LAY SECOND
L 3rd	LAY THIRD Etc.
LL	LAY LAST
CP	CENTRALLY PLACED
TYP.	TYPICAL

TITLE <b>STRUCTURAL DETAILS – ALTERATIONS &amp; ADDITIONS</b> <b>16 LINCOLN AVENUE, COLLARROY</b>		 <b>TAYLOR</b>	DRAWING NO <b>COVER SHEET</b>
DRAWN MDB	DATE 11 JULY 2025		
ENGINEER R B	CHECKED  BE Civil (Hons) MIE Aust.		

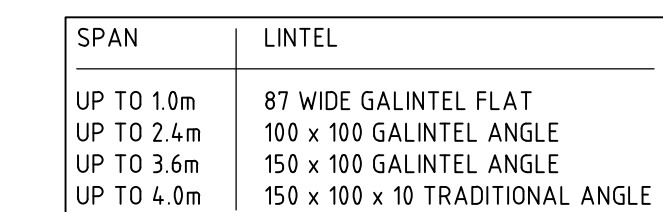




LOCATION	OPTION 1 (H.D. GALV.)	OPTION 2 (PAINT)		
+200m FROM BREAKING SURF	HDG450	1st COAT ZINC RICH PRIMER	2nd COAT HIGH BUILD EPOXY	3rd COAT ACRYLIC (2 PACK) OR POLYURETHAN GLOSS
+200m FROM BREAKING SURF	HDG900	ZINC RICH PRIMER	HIGH BUILD EPOXY	ACRYLIC (2 PACK) OR POLYURETHAN GL OSS.



- BATTENS TO BE FIXED TO RAFTERS WITH 1 - TEK SCREW WITH 38mm PENETRATION INTO TRUSSES.
- TRUSSES TO BE FIXED TO TOP PLATE OR BEAMS WITH 1 FRAMING ANCHOR WITH 4-28mm DIAM NAILS INTO SIDE GRAIN OF EACH MEMBER.
- WALL TOP PLATE TO BE ANCHORED TO STUD AT AN OVERLAP OF 18m c/c AND EACH SIDE OF ALL OPENINGS WITH 30mm x 0.8mm HOOP IRON STRAP TURNED OVER TOP PLATE AND NAILED TO EACH SIDE OF STUD WITH 3-28mm DIAM NAILS. BOTTOM OF STUD TO HAVE SIMILAR FIX TO BOTTOM PLATE.
- DIAM NAILS TO BE NAILED FIX TO FLOOR FRAME WITH 2-3.15mm DIAM SKEW NAILS AT 900mm c/c.
- BRACING AND TIE-DOWNS TO BE IN ACCORDANCE WITH RESIDENTIAL TIMBER FRAMED CONSTRUCTION AS 1684.2 - 2010 U.O.N.





- PROP LINTEL DURING CONSTRUCTION.
- LINTELS INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS & STANDARD BUILDING PRACTICE.

## ABBREVIATIONS

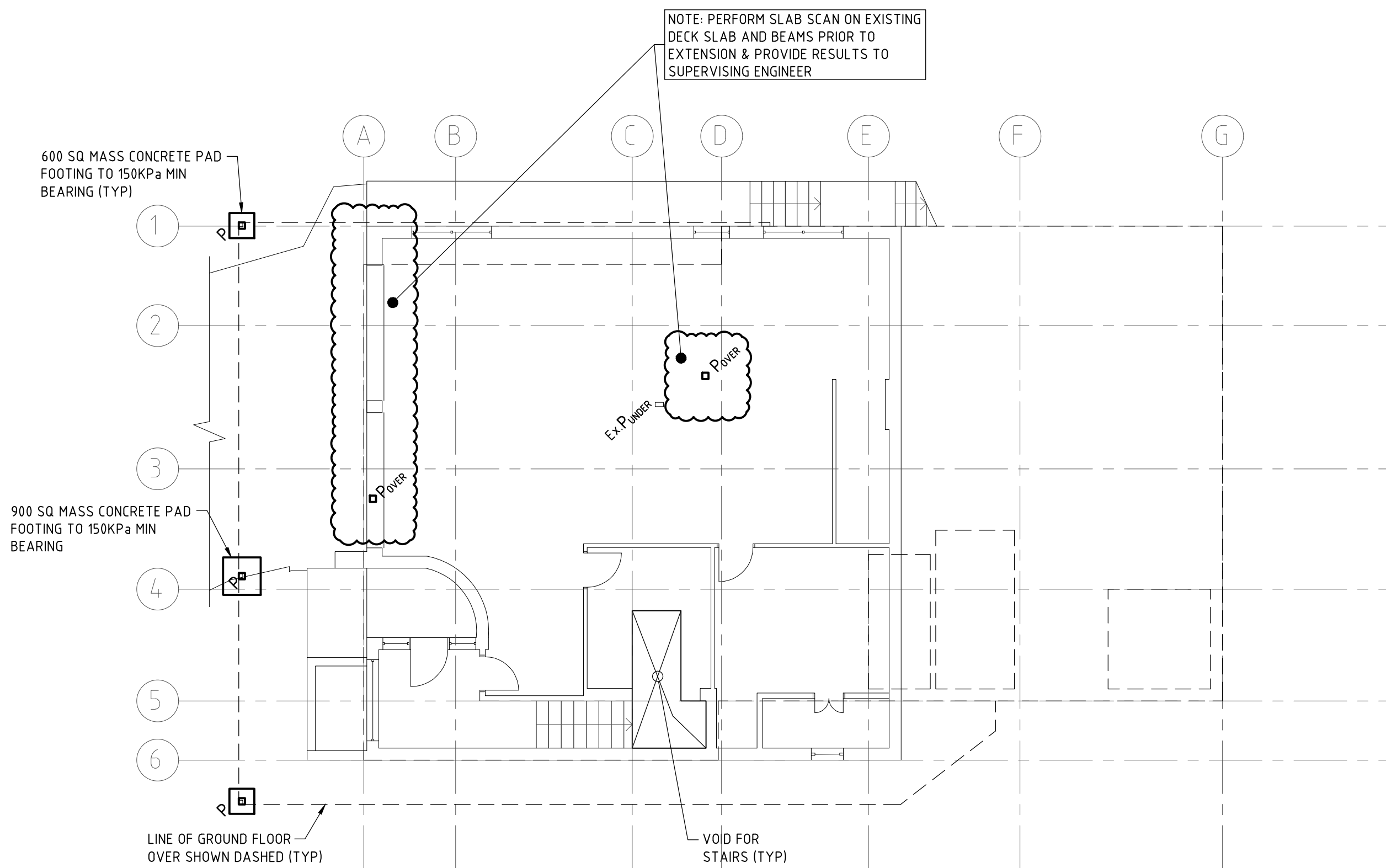
U.O.N.	UNLESS OTHERWISE NOTED
T	TOP
B	BOTTOM
H.D.	HOT DIPPED
GALV.	GALVANISED
MIN.	MINIMUM
c/c	CENTRE TO CENTRE
SQ.	SQUARE
TYP.	TYPICAL

[illegible]

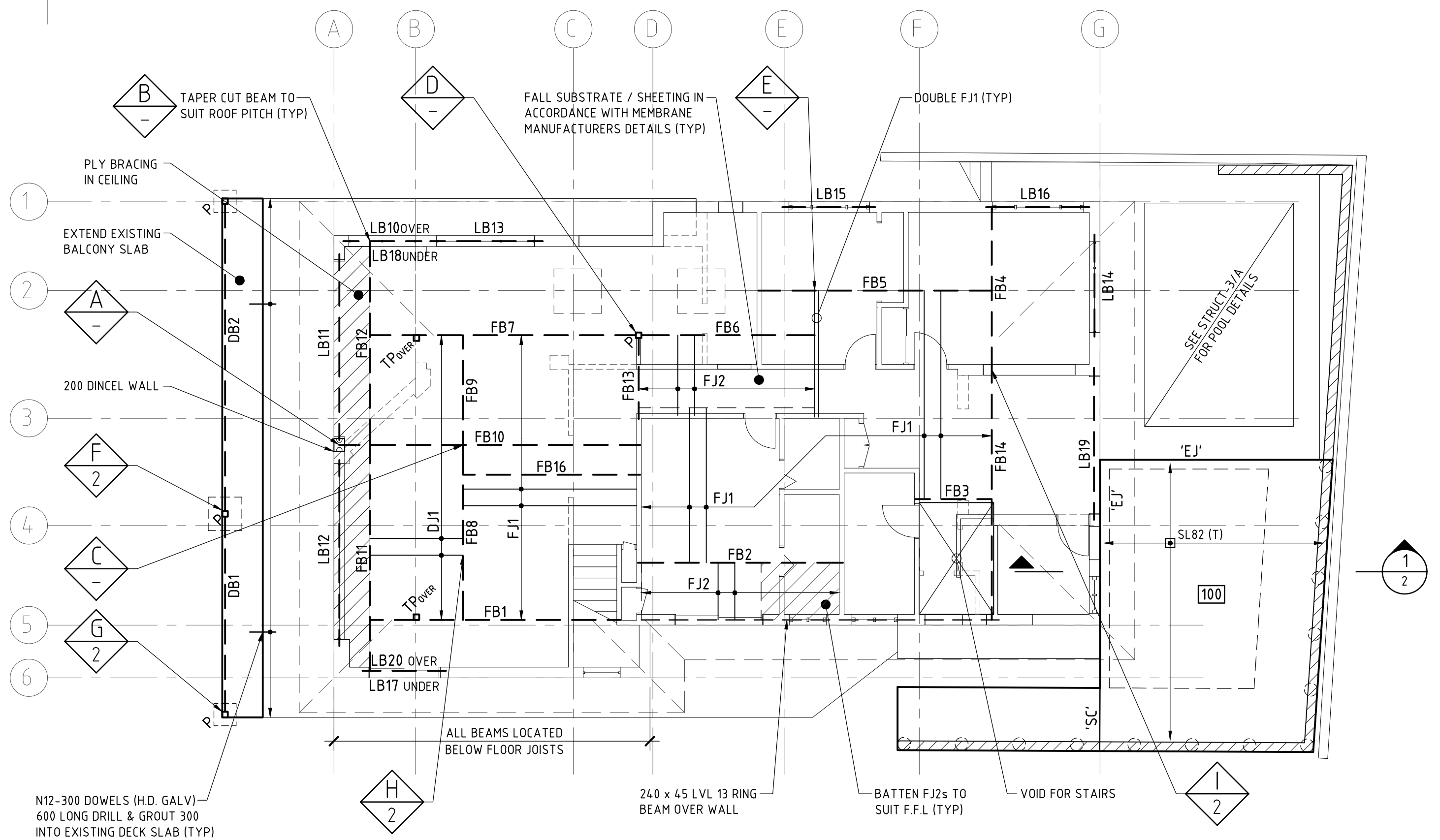
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STRUCTURAL DETAILS – STANDARD DETAILS						
16 LINCOLN AVENUE, COLLAROY						
DRAWN	MDB	DATE	CHECKED	SCALE: @ A1		
ENGINEER	R B	11 JULY 2025		1:50 1:20 1:10		
(BE Civil (Hons) MIE Aust.)						

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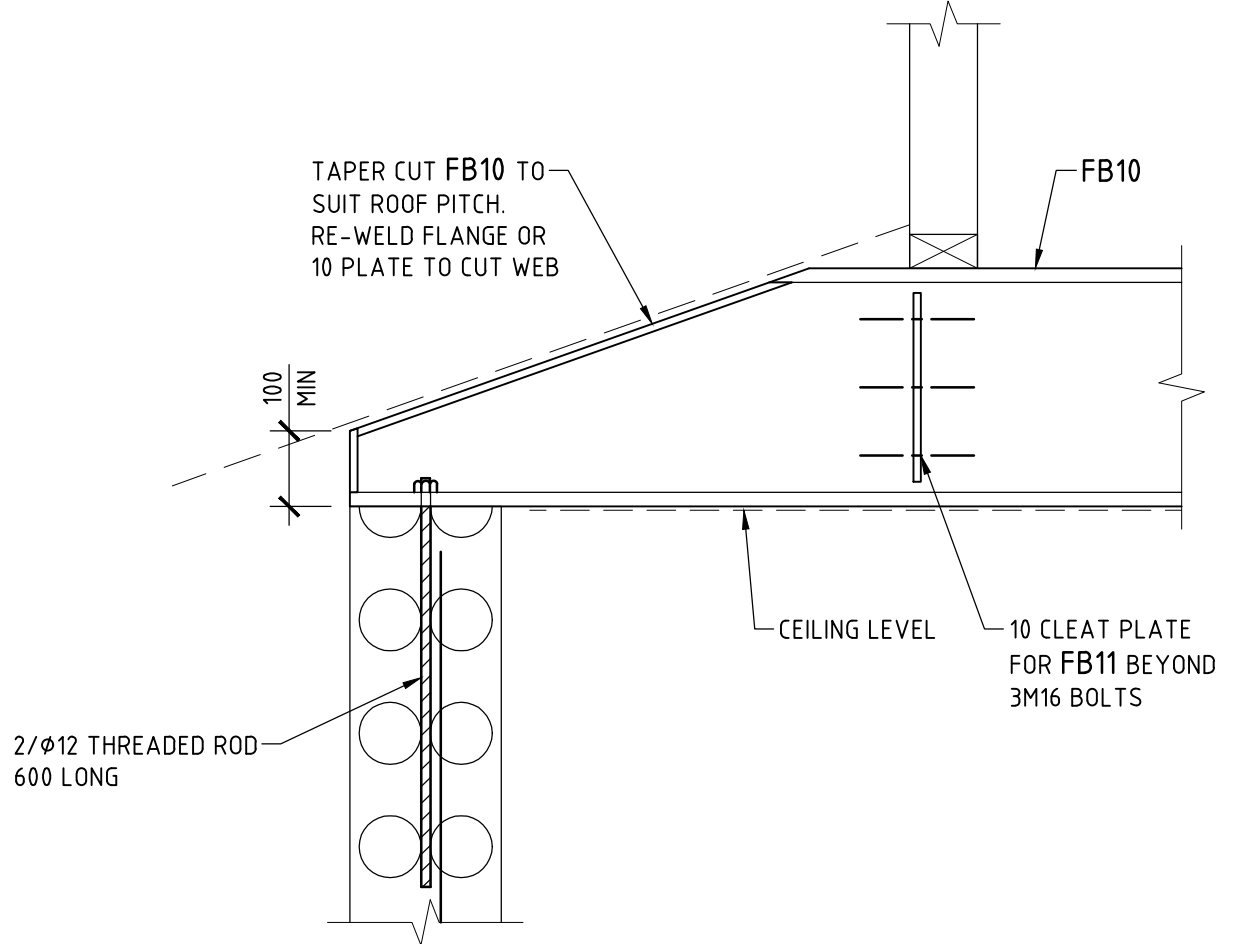




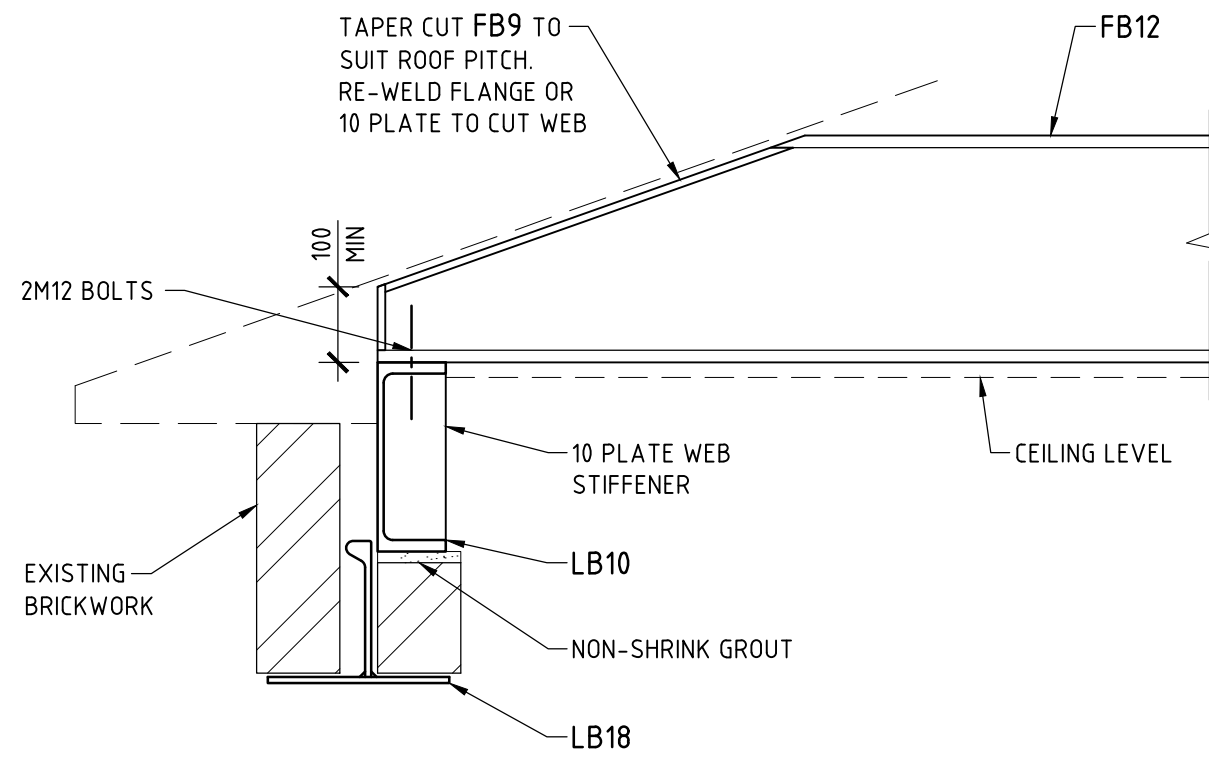
**GARAGE FLOOR PLAN**  
SCALE 1:100



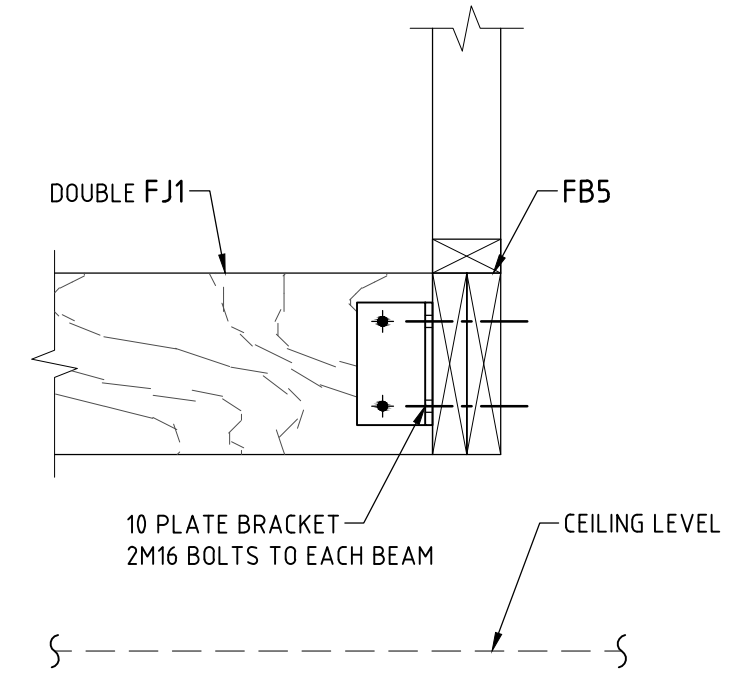
**GROUND FLOOR PLAN**  
SCALE 1:100



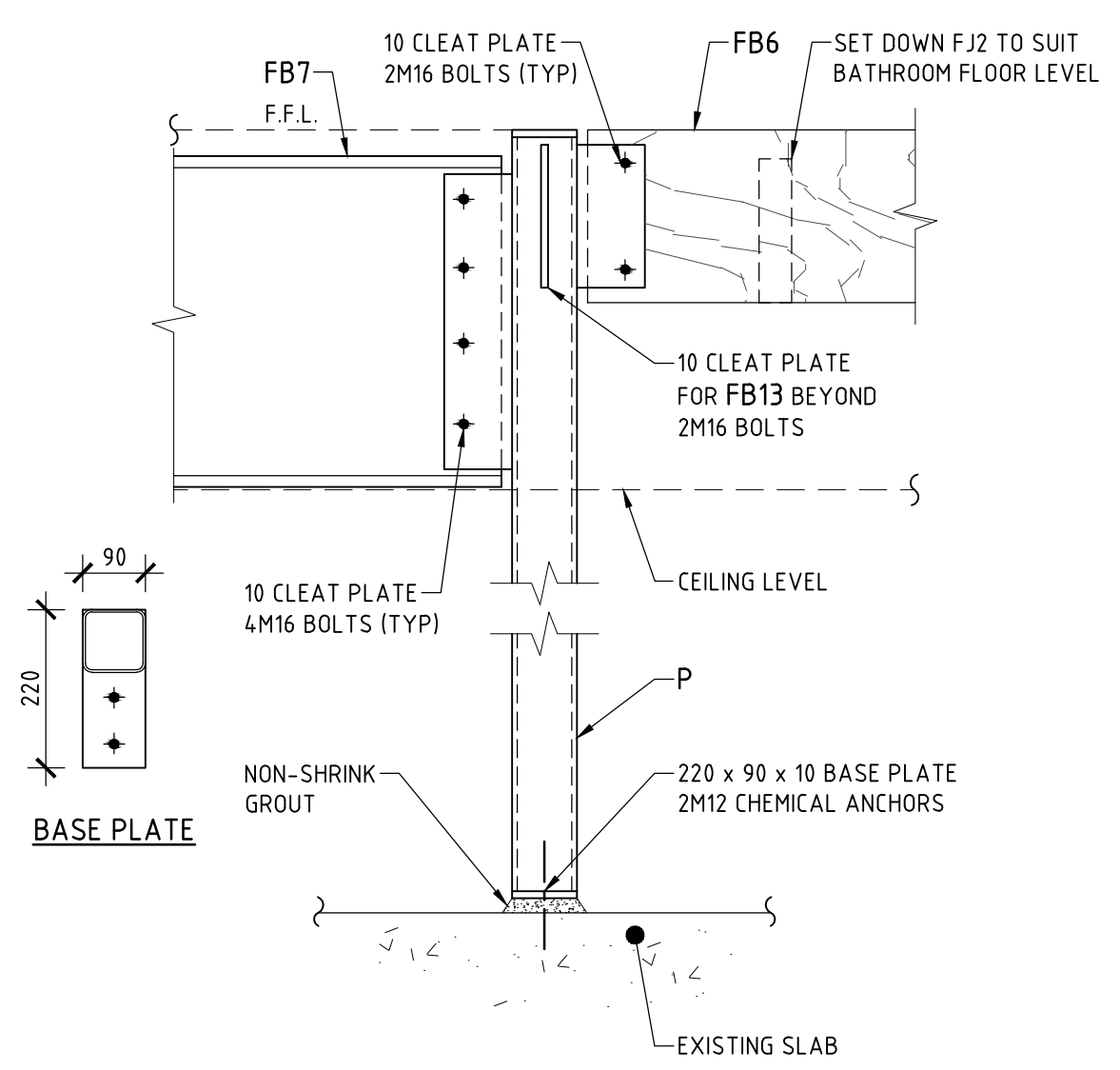
**DETAIL A**  
SCALE 1:10



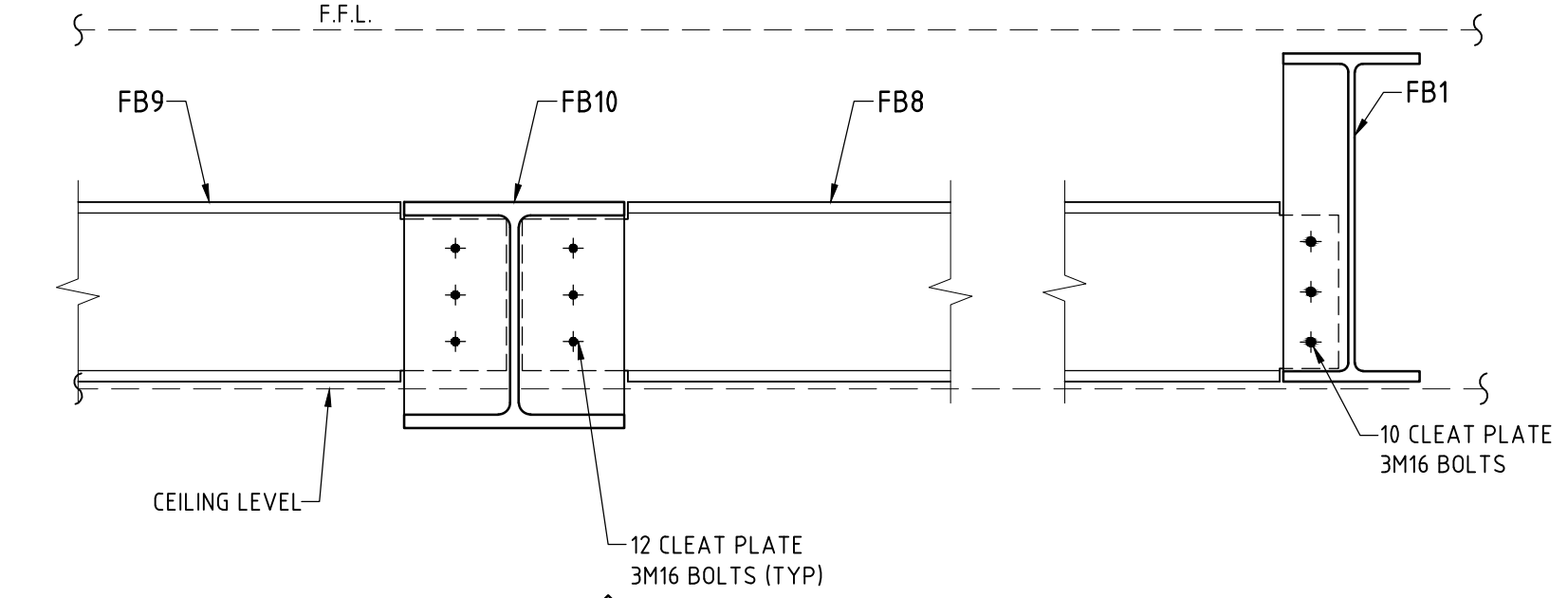
**DETAIL B**  
SCALE 1:10



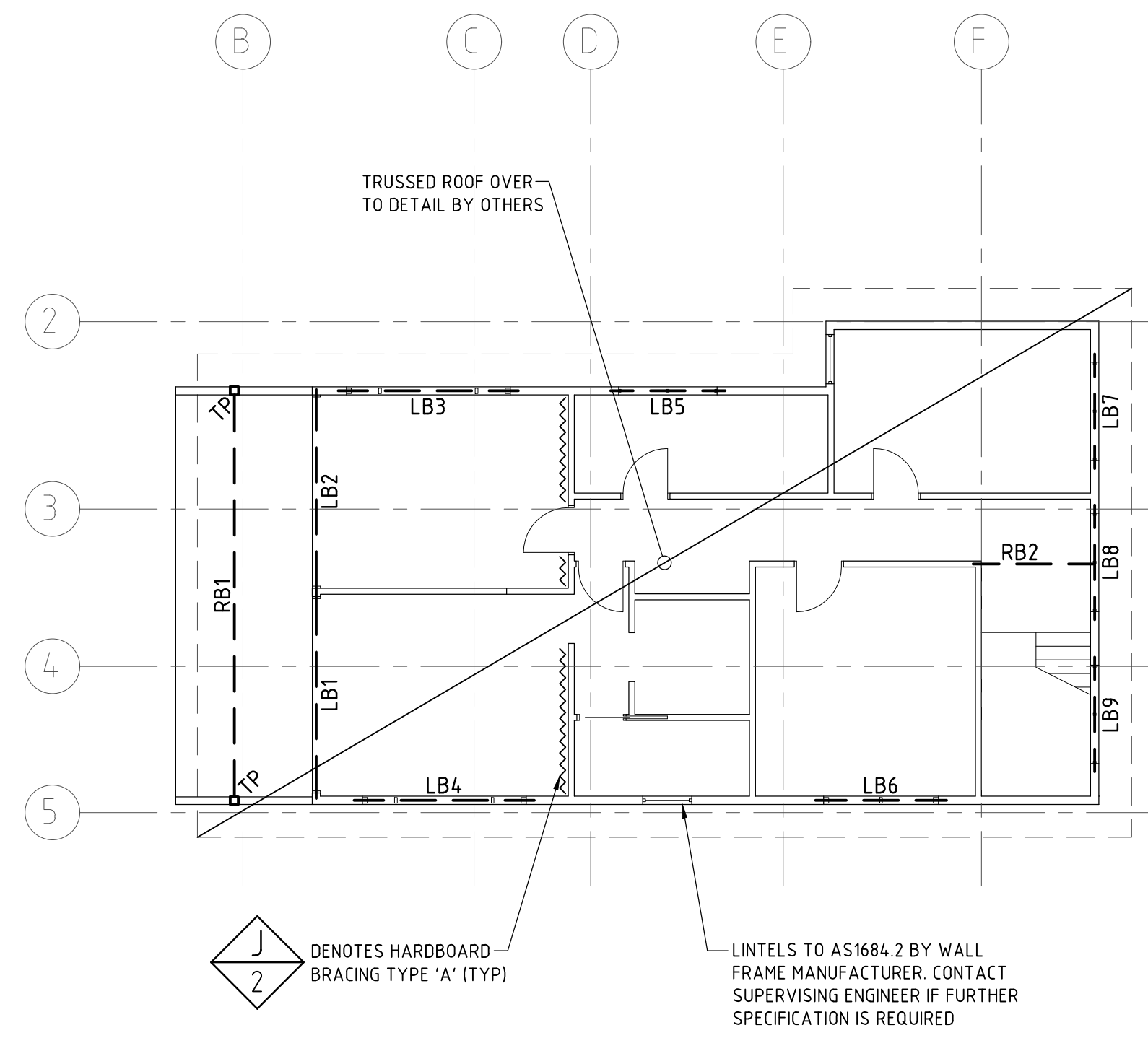
**DETAIL E**  
SCALE 1:10



**DETAIL D**  
SCALE 1:10



**DETAIL C**  
SCALE 1:10



**FIRST FLOOR PLAN**  
SCALE 1:100

MEMBER SCHEDULE	
<b>FLOOR JOISTS</b>	
FJ1.....	240 x 45 LVL 13 @ 450 c/c.
FJ2.....	200 x 45 LVL 13 @ 450 c/c.
DJ1.....	190 x 45 MGP10 @ 450 c/c.
<b>FLOOR BEAMS</b>	
FB1.....	460UB74.
FB2.....	2/240 x 63 LVL 13.
FB3.....	240 x 45 LVL 13.
FB4.....	250 PFC.
FB5.....	2/240 x 45 LVL 13.
FB6.....	2/240 x 45 LVL 13.
FB7.....	460UB74.
FB8, FB9.....	250 PFC.
FB10.....	310UC118.
FB11, FB12.....	380 PFC.
FB13.....	2/240 x 45 LVL 13.
FB14.....	250 PFC.
FB15.....	DELETED.
FB16.....	3/240 x 45 LVL 13 TO SUPPORT LOAD BEARING WALL OVER DB1, DB2.....300 PFC (H.D. GALV).
<b>LINTEL BEAMS</b>	
LB1, LB2.....	2/200 x 45 LVL 13.
LB3 TO LB9.....	2/150 x 45 LVL 13.
LB10.....	250 PFC.
LB11 TO LB19.....	240 CAVI-T-BAR.
LB20.....	250 PFC.
<b>ROOF BEAMS</b>	
RB1.....	250 PFC.
RB2.....	2/170 x 45 LVL 13.
<b>POSTS</b>	
P.....	89 x 89 x 3.5 SHS (H.D. GALV).
TP.....	135 SQ GL8.
<b>NOTES:</b>	
1. DESIGN WIND CLASSIFICATION = N4.	
2. ALL EXPOSED STEEL MEMBERS, FITTINGS AND FASTENERS TO BE HOT-DIP GALVANISED.	
3. ALL STEEL BEAMS IN CONTACT WITH EXTERNAL BRICKWORK TO BE SEPARATED FROM BRICKWORK WITH ALCORE OR BEAMS TO BE HOT-DIP GALVANISED. SIMILARLY TIMBER BEAMS IN CONTACT WITH EXTERNAL BRICKWORK TO BE SEPARATED WITH ALCORE OR BEAMS TO BE PRESERVATIVE TREATED.	
4. ALL EXPOSED TIMBER MEMBERS TO BE PRESERVATIVE TREATED TO H3 LEVEL OR HARDWOOD, DURABILITY GRADE 2 OR BETTER.	
5. PROVIDE 100 END BEARING TO ALL BEAMS SUPPORTED ON BRICKWORK UNLESS OTHERWISE NOTED.	
6. PROVIDE 3/90 x 4.5 F7 POST UNDER ALL BEAMS U.O.N.	
7. PROVIDE WALL BRACING, ROOF BRACING AND TIE-DOWN IN ACCORDANCE WITH AS1684.2-2010 RESIDENTIAL TIMBER FRAME CONSTRUCTION.	

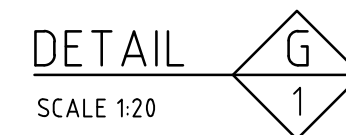
ABBREVIATIONS	
U.O.N.	UNLESS OTHERWISE NOTED
T	TOP
B	BOTTOM
H.D.	HOT DIPPED
GALV.	GALVANISED
MIN.	MINIMUM
c/c	CENTRE TO CENTRE
SQ.	SQUARE
TYP.	TYPICAL

ISSUE	DATE	REVISION
1	29 APR 2025	SLAB ADDED, ROOF FRAME UPDATED
2	11 JULY 2025	UPDATED TO SUIT MOD PLANS

TITLE		DRAWN		DATE	CHECKED	SCALE
STRUCTURAL DETAILS – ALTERATIONS & ADDITIONS		TDR		26 AUGUST 2024	BE Civil (Hons) MIE Aust.	1:100
16 LINCOLN AVENUE, COLLAROY		RB				1:10



STRUC-1/A



- DRAWING NO  
STRICT-2/A



