

STRUCTURAL DRAWINGS AND DETAILS FOR PROPOSED EXTENSION

FOR MARK WALSHAN & REBECCA GUGLIEMINO

AT 22 - ROSEDALE DRIVE - WEST ALBURY - NSW



DRAWINGS		
DWG No.	TITLE	REVISION
TC21-P274-S1	GENERAL & TECHNICAL NOTES	REV 3
TC21-P274-S2	SLAB & FOOTINGS PLAN VIEW	REV 3
TC21-P275-S3	SLAB DETAILS	REV 3
TC21-P274-S4	SLAB DETAILS	REV 3
TC21-P274-S5	WIND BRACING & LINTEL PLAN	REV 3
TC21-P274-S6	WIND BRACING DETAILS	REV 3

ABN: 12 620 585 391
info@technocrete.com.au
PHONE: 02 60 214 406 MOBILE: 0413 027 015
OFFICE 3, SUITE 1B, 508 SWIFT ST, ALBURY, NSW, 2640
https://technocrete.com.au

GENERAL NOTES

- 1. THE STRUCTURAL DRAWINGS & DETAILS HAVE BEEN PREPARED BASED ON THE PROVIDED ARCHITECTURAL DRAWINGS & GEOTECHNICAL INVESTIGATION REPORT.
- 2. THE DRAWINGS SHALL BE READ BEFORE CONSTRUCTION. IF ANY DISCREPANCIES WERE NOTICED, IT MUST BE DISCUSSED WITH THE ENGINEER.
- 3. ALL DIMENSIONS MUST BE CHECKED AND VERIFIED BY THE CONTRACTOR/BUILDER.
- 4. DURING EXCAVATION AND CONSTRUCTION, REQUIRED PRACTICES MUST BE CONDUCTED TO PROVIDE SAFETY AND STABILITY OF THE STRUCTURE. EXCAVATIONS SHALL NOT EXTEND BELOW A LINE OF 30° TO THE HORIZONTAL FOR SAND, OR 45° TO THE HORIZONTAL FOR CLAY, FROM THE BOTTOM EDGE OF THE EDGE BEAM, STRIP FOOTINGS OR PIERS TO BENEATH THE EXPECTED EXCAVATION LEVEL.
- 5. ALL FORMWORK AND PROPPING MUST REMAIN FOR AT LEAST 7 DAYS AFTER PLACING CONCRETE SLAB.
- 6. THE BUILDING AND SITE DRAINAGE SYSTEM DESIGN ARE OUT OF STRUCTURAL DESIGN SCOPE OF WORK.

SITE & STRUCTURE CHARACTERISTICS

- 1. BASED ON THE GEOTECHNICAL TEST RESULTS, THE SOIL TYPE OF THE SITE IS CONSIDERED AS CLASS P AS PER TABLE 2.1 OF AS 2870:2011.
- 2. THE FILL SHALL BE REMOVED BY 400mm AND REPLACED WITH CONTROLLED FILL, TESTED, AND CERTIFIED. IF THIS PROCEDURE IS ADOPTED, THE SITE CLASSIFICATION WILL IMPROVE TO CLASS "M-D" FOOTINGS MAY BE FOUNDED IN THE CONTROLLED FILL, 400mm BELOW EXISTING SURFACE. ALTERNATELY THE FOOTINGS MAY BE DESIGNED FOR CLASS "M-D" WITH EXTERNAL BEAMS FOUNDED MIN 200mm BELOW FILL.
- 3. ALL TREES AND PLANTING CLOSE TO THE PROPOSED DWELLING SHALL BE REMOVED. THE MINIMUM DISTANCE FROM THE FOOTING SHALL BE EQUAL TO THE TREES MATURE HEIGHT.
- 4. IF THE EXISTING TREES SHALL REMAIN, ADDITIONAL MITIGATION MEASURES WILL BE REQUIRED TO PREVENT DAMAGE TO THE STABILITY OF THE FOOTING FOUNDATION.
- 5. DURING EXCAVATION, THE FOOTINGS AND PIERS SHALL BE CAREFULLY INSPECTED AND IF ANY IRREGULARITIES OBSERVED FURTHER ADVICE SHALL BE SOUGHT.
- 6. WIND CLASSIFICATION OF THE SITE IS CONSIDERED "N1" IN ACCORDANCE WITH AS 4055:2012 AND AS/NZS 1170.2:2011.
- 7. THE TYPE OF SLAB HAS BEEN SELECTED AS "BONDEK SLAB" BY THE CLIENT.
- 8. AFTER SITE PREPARATION, IF THE CONDITION OF THE SITE IS CONSIDERABLY VARIED FROM THE SOIL TEST RESULTS, OR ABNORMAL MOISTURE CONDITION WAS OBSERVED , THE STRUCTURAL ENGINEER MUST BE NOTIFIED BEFORE COMMENCING ANY WORK ON SITE.
- 9. ALL FORMWORK AND PROPPINGS MUST REMAIN FOR AT LEAST 7 DAYS AFTER PLACING CONCRETE SLAB.

STEEL REINFORCEMENT

- 1. REINFORCING BARS SHALL COMPLY WITH AS/NZS 4671 GRADE 500N. MINIMUM CONCRETE COVER FOR THE REINFORCEMENT SHALL BE:
 - 40mm TO UN-PROTECTED GROUND
 - 40mm TO EXTERNAL EXPOSURE
 - 30mm TO MEMBRANE PROTECTED GROUND
 - 20mm TO AN INTERNAL SURFACE
- 2. THE SLAB MESH SHALL BE PLACED TOWARDS THE TOP OF THE SLAB.
- 3. TRENCH MESH SHALL HAVE ALL CROSS WIRES CUT FLUSH WITH THE OUTER MAIN WIRES.
- 4. REINFORCING BARS SHALL HAVE A LAP LENGTH AT SLICES NOT LESS THAN:
 - 500mm UP TO A BAR DIAMETER OF 12mm
 - 700mm UP TO A BAR DIAMETER OF 16mm
- 5. ALL REINFORCING BARS SHALL BE FREE FROM DIRT, OIL, CORROSION OR DAMAGE.
- 6. SERVICE PENETRATIONS ARE PERMITTED THROUGH THE MIDDLE THIRD OF THE DEPTH OF EDGE AND STIFFENED BEAMS.

CONCRETE WORKS

- 1. THE STRUCTURAL DESIGN OF THE SLAB HAS BEEN CONDUCTED IN ACCORDANCE WITH AS 2870:2011.
- 2. CONCRETE MIX DESIGN AND PRACTICES SHALL BE IN ACCORDANCE WITH AS 2870:2011 & 3600:2018.
- 3. THE DESIGN OF CONCRETE MIX SHALL BE A FUNCTION OF THE ENVIRONMENTAL EXPOSURE CLASSIFICATION OF THE SITE IN ACCORDANCE WITH AS 3600:2018.
- 4. THE TYPE OF SLAB HAS BEEN SELECTED AS "BONDEK SLAB".
- 5. A PIER-AND-BEAM, PIER-AND-SLAB OR PILED FOOTING SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH ENGINEERING PRINCIPLES.
- 6. THE REBATE DEPTH SHALL BE NOT LESS THAN 20mm.
- 7. THE DEPTH OF CONCRETE BELOW THE EDGE REBATE SHALL BE NOT LESS THAN 150mm.
- 8. THE GRADE OF CONCRETE SHALL BE N20 (20MPa) WITH MAXIMUM SLUMP OF 100mm IN ACCORDANCE WITH AS 1379. THE MAXIMUM NOMINAL SIZE OF AGGREGATE SHALL BE 20mm.
- 9. THE SLAB SHALL BE PROTECTED WITH A VAPOUR BARRIER, OR DAMP-PROOFING MEMBRANE WITH THE FOLLOWING PROPERTIES:
 - 200µm (0.2mm) THICK POLYETHYLENE IN ACCORDANCE WITH AS/NZS 4347.6
 - IMPACT RESISTANCE IN ACCORDANCE WITH AS/NZS 4347.6
 - PENETRATION RESISTANCE IN ACCORDANCE WITH CSIRO "METHOD FOR DETERMINATION OF THE PENETRATION RESISTANCE OF WATER VAPOUR BARRIERS TO FALLING AGGREGATE"
- 10. THE SHEET MEMBRANE SHALL BE PLACED BENEATH THE SLAB SO THAT THE BOTTOM SURFACE OF THE SLAB AND BEAMS, INCLUDING INTERNAL BEAMS, IS ENTIRELY UNDERLAID. LAPPING FOR CONTINUITY AT JOINTS SHALL BE NOT LESS THAN 200mm.
- 11. WHERE THE RAFT DESIGN INCLUDES INTERNAL BEAMS, THE STRUCTURAL CONTINUITY OF INTERNAL AND EXTERNAL BEAMS IN STIFFENED RAFTS, INCLUDING WAFFLE RAFTS, SHALL BE MAINTAINED.
- 12. ALL PLACING CONCRETE SHALL BE COMPACTED BY PROPER MECHANICAL VIBRATOR AND WET CURED FOR AT LEAST THREE (3) DAYS.

NOTE

- 1. THE OWNER, BUILDER, AND SUB-CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, SETBACKS AND SPECIFICATIONS PRIOR TO COMMENCING WORKS OR ORDERING MATERIALS AND SHALL BE RESPONSIBLE FOR ENSURING THAT ALL BUILDING WORKS CONFORM TO THE BUILDING CODE OF AUSTRALIA, CURREN AUSTRALIAN STANDARDS, BUILDING REGULATIONS, AND TOWN PLANNING REQUIREMENTS. REPORT ANY DISCREPANCIES TO THIS OFFICE.



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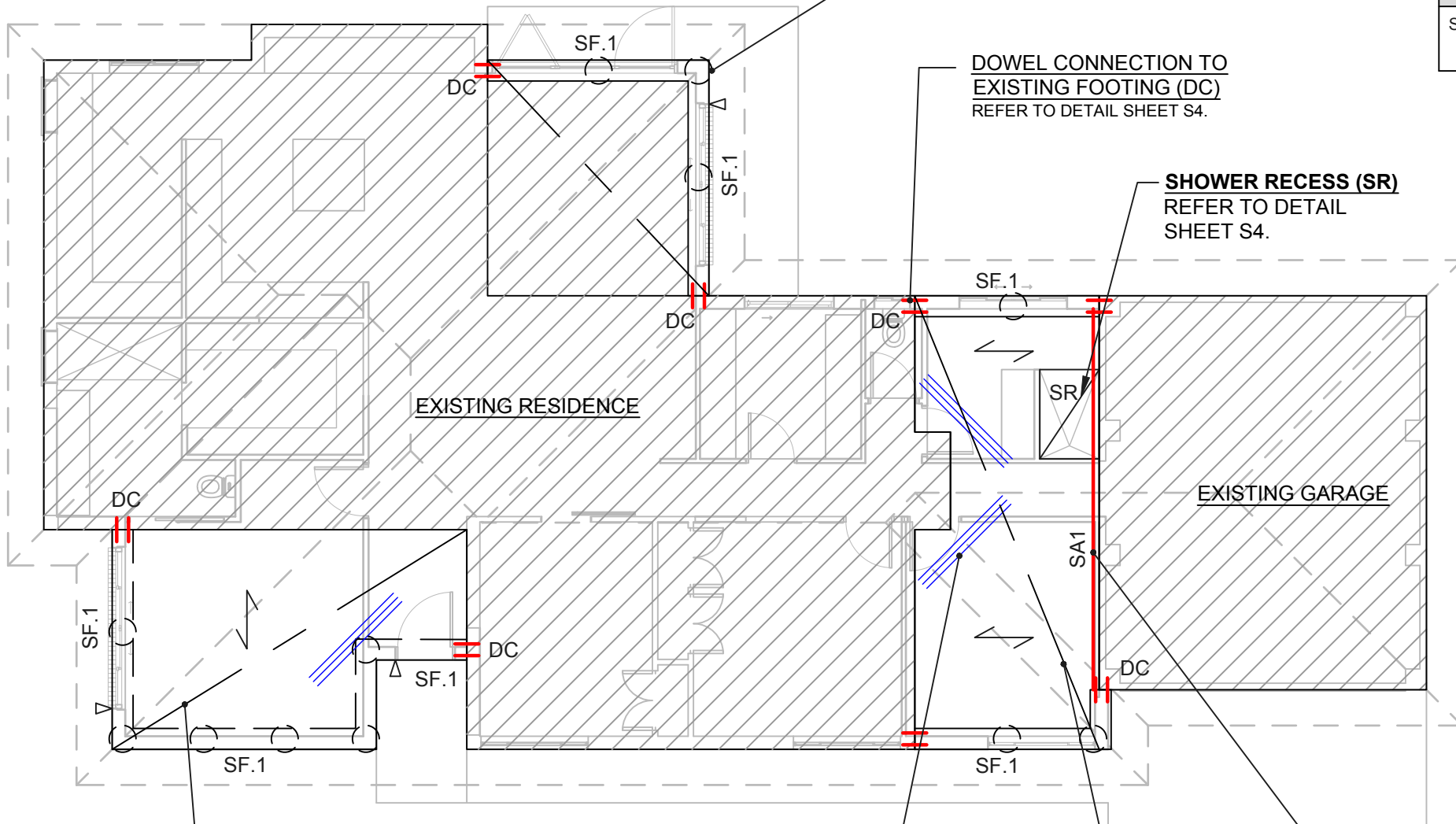
			APPROVAL		DATE	PROJECT NO: TC21-P274			
			DESIGNED BY:	DR. F.NABAVI	12.11.2021	PROJECT TITLE: PROPOSED EXTENSION 22 ROSEDALE DRIVE - WEST ALBURY			
			DRAWN BY:	N. HEDAYATI	12.11.2021				
3	08.12.2021	BONDEK SLAB	CHECKED BY:	DR. F.NABAVI	12.11.2021	DRAWING TITLE: GENERAL & TECHNICAL NOTES			
2	22.11.2021	SOIL REPORT INFO ADDED	APPROVED BY:	DR. F.NABAVI	12.11.2021				
1	12.11.2021	FIRST ISSUE	CLIENT: MARK WALSHAN & REBECCA GUGLIEMINO			DRAWING NO: TC21-P274-S1		UNIT: mm	A3
REV	DATE	REVISION							

Δ **DENOTES ARTICULATION JOINTS**
JOINTS AS NOTED OR AT MAX 5m CTRS.

SITE ASSUMED FLAT

450Ø PIERS (DUE TO EXISTING FILL)
@ MAX 1800 CTRS OR DEEPEN SF.1 AS REQUIRED &
ADD ADDITIONAL BARS BOTTOM, AS PER
CONSTRUCTION & COMPACTED FILL NOTES.

FOOTINGS CHARACTERISTICS (REF. TO THE DETAIL DRAWINGS [S3 & S4])			
COMPONENT	DIMENSIONS [WIDTH x DEPTH]	CHARACTERISTICS	
STRIP FOOTING (SF.1)	350mm x 550 mm 3-L12TM TOP & BOTTOM	300mm BELOW DEPTH OF FILL	TO REACH SOIL LOAD BEARING CAPACITY OF 125kPa



CONSTRUCTION & COMPACTED FILL NOTES:

- ALL DRAWINGS AND DIMENSIONS SHALL BE CONTROLLED BY BUILDER BEFORE COMMENCING ANY CONSTRUCTION WORK.
- THE LOCATION OF ARTICULATION JOINTS SHALL BE IDENTIFIED BY BUILDER IN ACCORDANCE WITH AS47.33.2 AND TECHNICAL NOTE (CCAA) TN61.
- THE STABILIZING SAND SHALL CONTAIN 3% GP CEMENT.
- ALL BOTTOM STEEL REINFORCEMENT SHALL HAVE 50mm FREE CONCRETE COVER.
- IF FOOTINGS ARE DEEPENED MORE THAN NOTED ON PLAN, 1-N12 SHALL BE ADDED FOR EVERY 200mm INCREASE IN DEPTH.
- AT A RE-ENTRANT CORNER WHERE AN EXTERNAL BEAM CONTINUES AS AN INTERNAL BEAM, THE EXTRENAL BEAM DETAILS SHALL BE CONTINUED FOR A LENGTH OF 1m INTO THE INTERNAL BEAM.
- CONTROLLED FILLED CHARACTERISTICS:
 - ALL FILL LAYERS SHALL BE COMPACTED TO 95% MODIFIED DRY DENSITY.
 - SAND FILL UP TO 800mm DEEP SHALL BE COMPACTED BY VIBRATING PLATE OR VIBRATING ROLLER IN LAYERS NOT MORE THAN 300mm.
 - CLAY FILL UP TO 400mm DEEP SHALL BE COMPACTED BY A MECHANICAL ROLLER IN LAYERS NOT MORE THAN 150mm THICK (CLAY FILL SHALL BE MOIST DURING COMPACTION)

BONDEK SLAB

125mm THICK
SL82 MESH TOP 30mm COVER.
ON 0.6 BMT, MAX SPAN 3.7m.
1 ROW OF PROPPING MID-SPAN.
PLACE ABLE FLEX AGAINST MASONRY WALLS

RE-ENTRANT BARS
3-L11TM 2000 LONG TYPICAL.

SEATING ANGLE (SA1)
90 x 10 EA, 1-M12 CHEMSET
@ ENGAGED PIER
LOCATIONS & MAX 500 CTRS

**110mm THICK (NO SHOWER RECESS)
150mm THICK (WITH SHOWER RECESS) BONDEK SLAB**

110mm THICK
SL82 MESH TOP 30mm COVER
ON 0.6 BMT, MAX SPAN 3.3m.
1 ROW OF PROPPING MID-SPAN.
PLACE ABLE FLEX AGAINST MASONRY WALLS

SLAB & FOOTING PLAN
SCALE 1:100

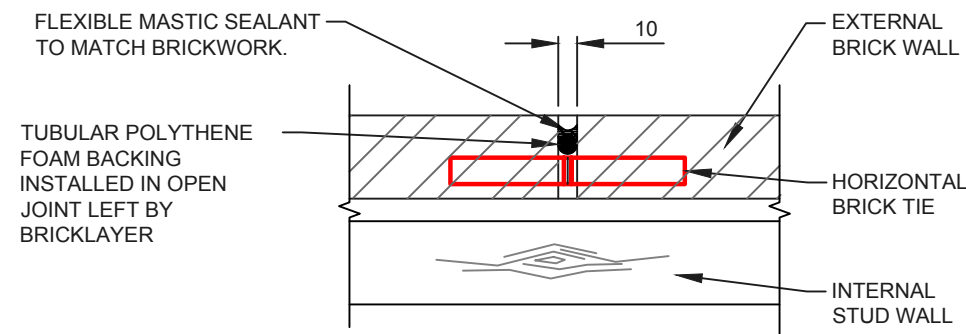


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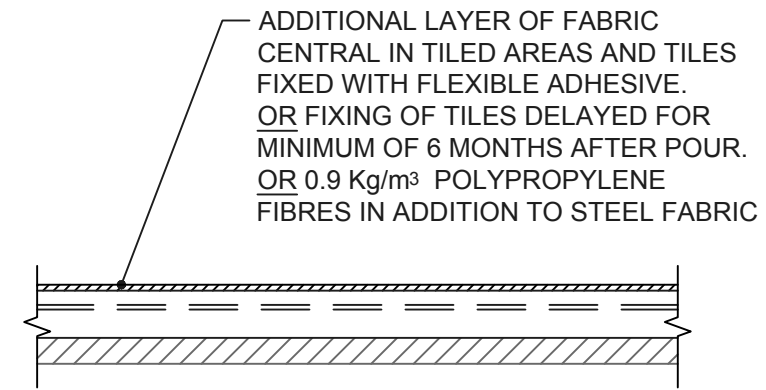
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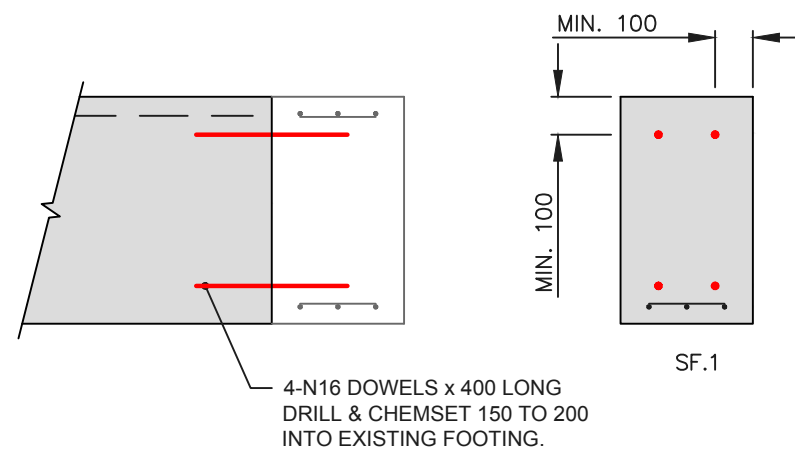
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PROJECT TITLE:	PROPOSED EXTENSION 22 ROSEDALE DRIVE - WEST ALBURY
DRAWING TITLE:	SLAB & FOOTINGS PLAN VIEW
DRAWING NO:	TC21-P274-S2
UNIT:	mm
	A3



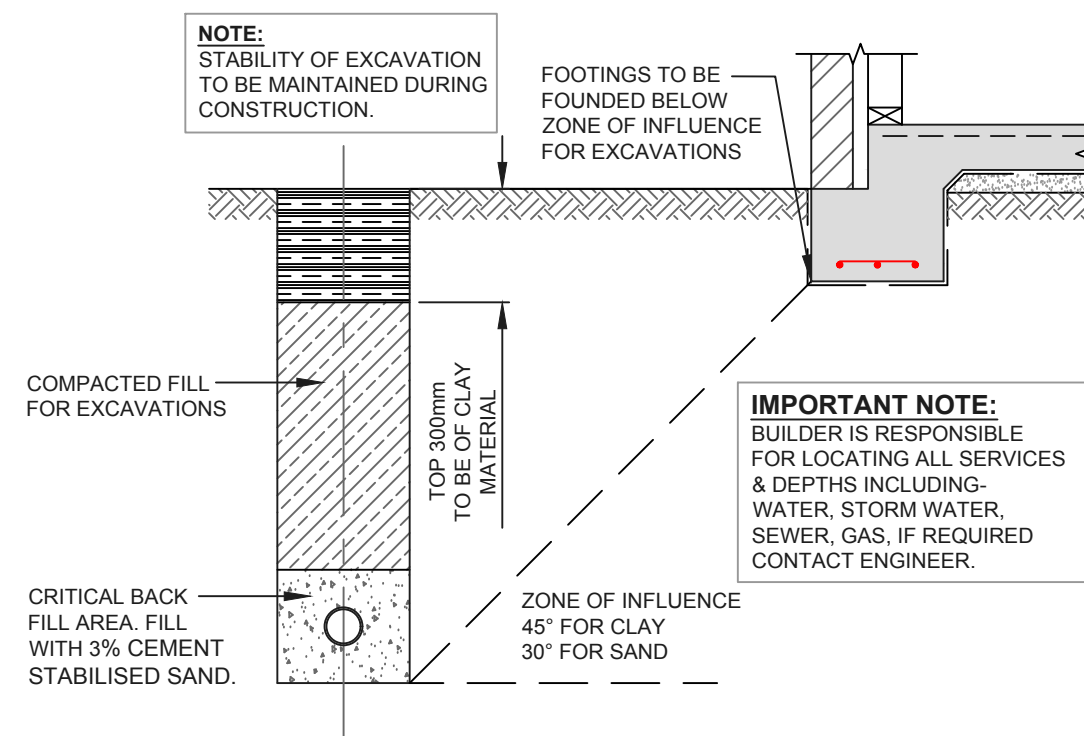
ARTICULATION JOINT DETAIL
SCALE 1:10




BONDEK TILED AREA DETAIL
SCALE 1:16

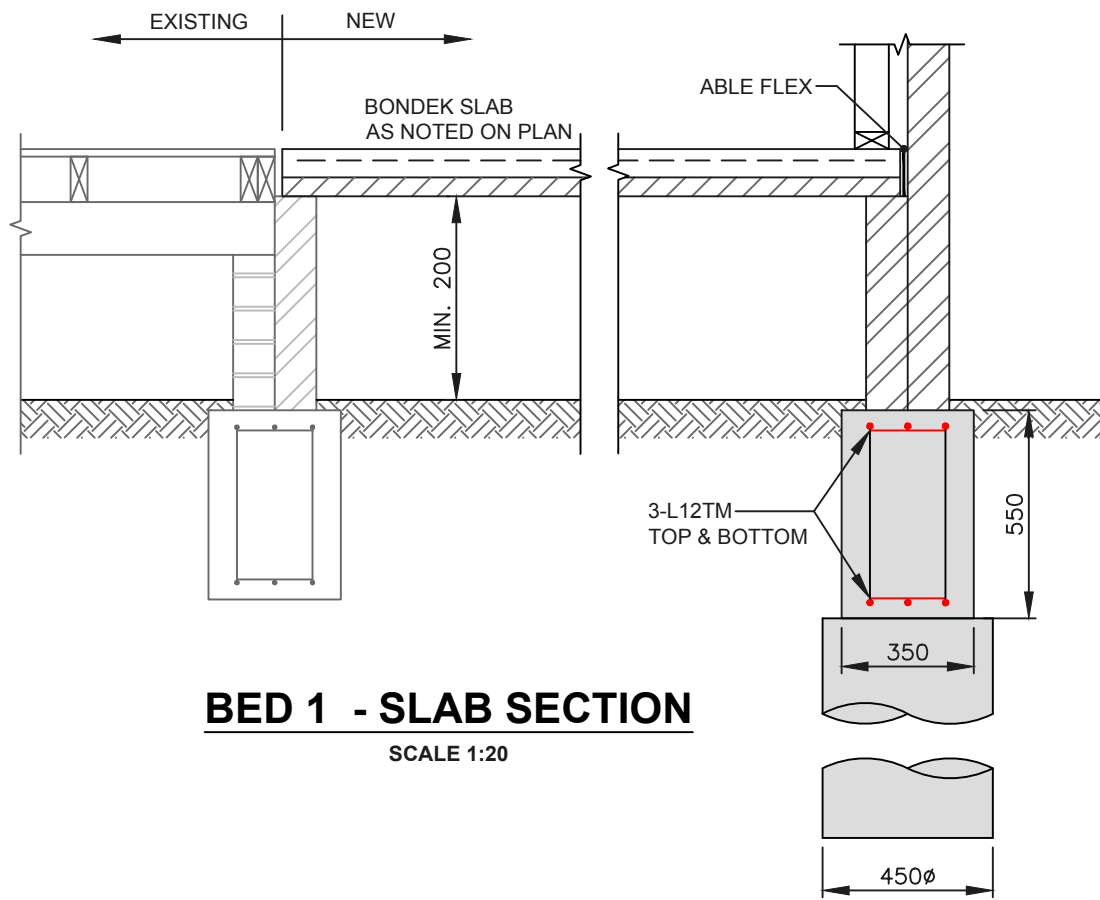


STRIP FOOTING (DC) DOWELLED DETAIL
SCALE 1:20

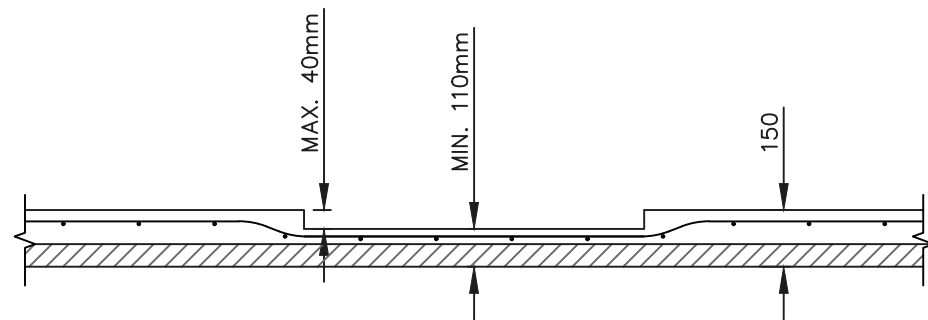


TYPICAL SERVICES TRENCH DETAIL
SCALE N.T.S.

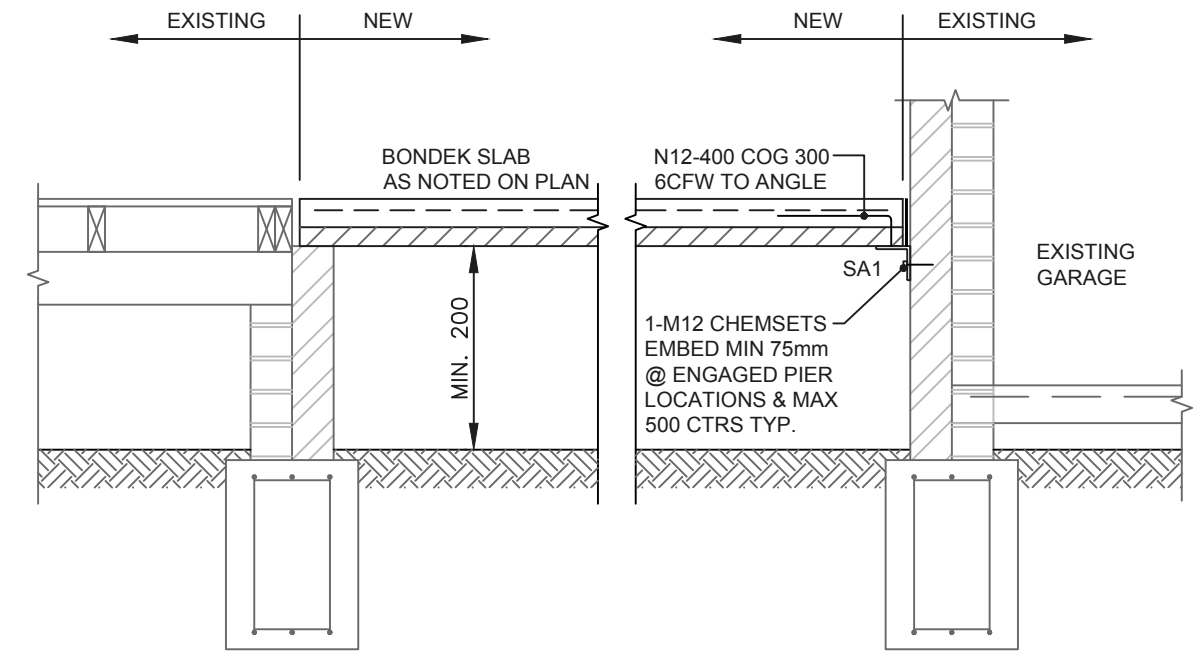
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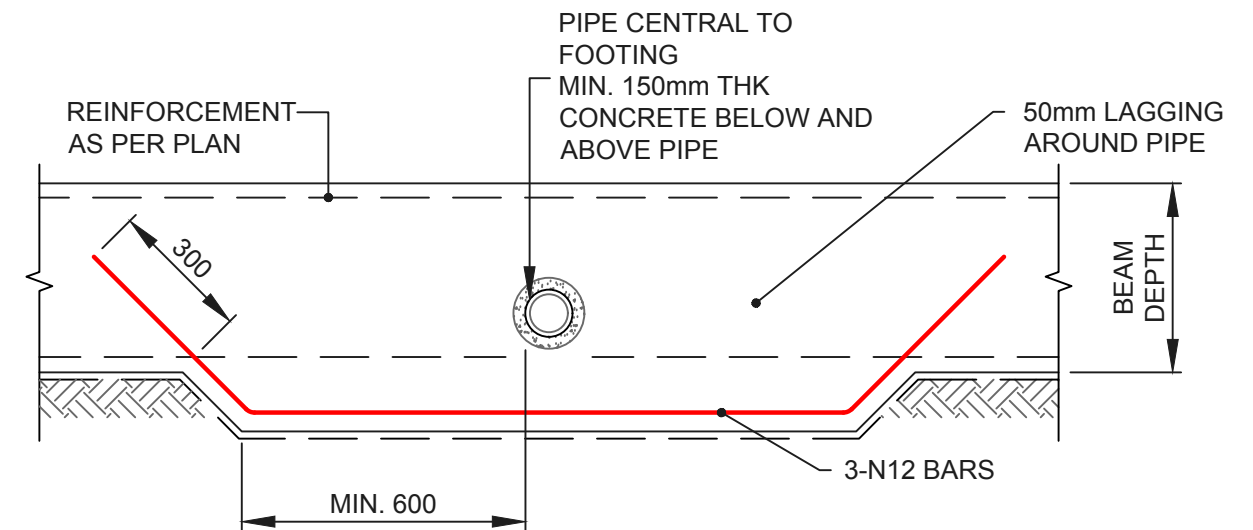
BED 1 - SLAB SECTION
SCALE 1:20




BONDEK SLAB SHOWER RECESS DETAIL
SCALE 1:20



BED 4/BATH SLAB SECTION AGAINST EXISTING GARAGE
SCALE 1:20



SERVICE PIPE PENETRATION DETAIL
SCALE 1:16

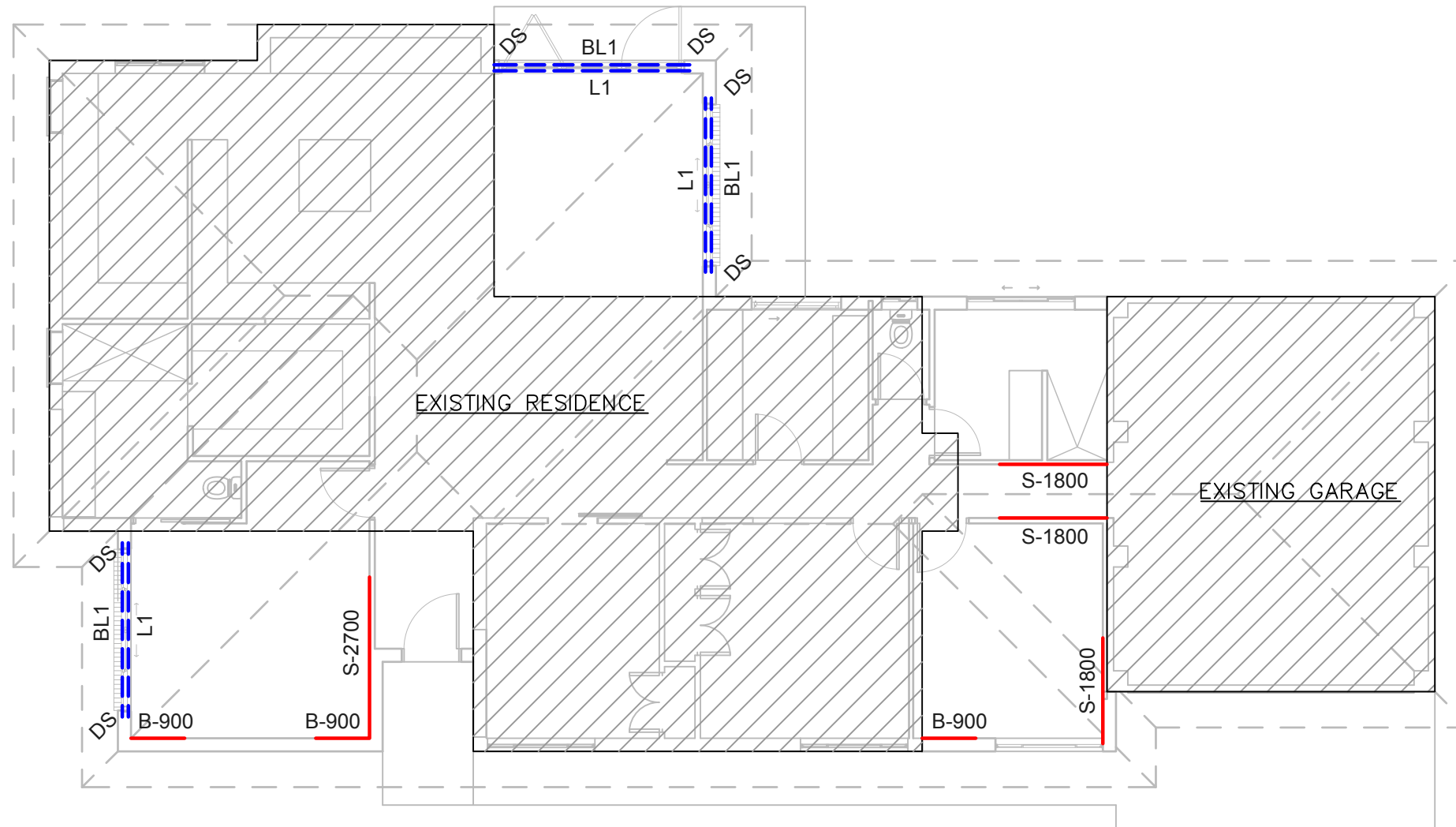
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MEMBER SCHEDULE

COMPONENT	SIZE	DESCRIPTION
L1	200 x 45 LVL14	LINTEL, MAX SPAN 3100
BL1	100 x 100 x 6 EA	BRICK LINTEL, MAX SPAN 3100
DS	2/90x45 MGP10	DOUBLE STUD


TECHNICAL & CONSTRUCTION NOTES:

1. THE WIND BRACING DESIGN HAS BEEN CONDUCTED IN ACCORDANCE WITH AS1684.
2. BASED ON THE LOCATION OF THE PROPERTY, WIND CLASSIFICATION OF **N1** HAS BEEN CONSIDERED IN ACCORDANCE WITH AS4055 & AS1170
3. FOR ULTIMATE LIMIT STATE DESIGN, THE MAX WIND SPEED FOR **N1** WIND CLASSIFICATION HAS BEEN CONSIDERED AS **34m/s** (TABLE B1 - AS1684.1) AND FREE STREAM DYNAMIC PRESSURE HAS BEEN CONSIDERED AS **0.69 kPa** (TABLE B2 - AS1684.1)
4. IF THE INTERNAL WALL, BRACED FOR WIND ACTION, IS NOT CONNECTED TO ANY EXTERNAL WALL, THE TRUSS SHALL BE BLOCKED.



WIND BRACING & LINTELPLAN

SCALE 1:100

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*DOUBLE DIAGONAL TENSION OR METAL STRAP BRACE

30 x 0.8mm (OR EQUIVALENT) TENSIONED GALV. METAL STRAP NAILED TO PLATES WITH 4/30 x 2.8mmØ GALV. FLAT HEAD NAILS TO EACH END.

NO END SPLITS ALLOWED. DRILL IF NECESSARY.

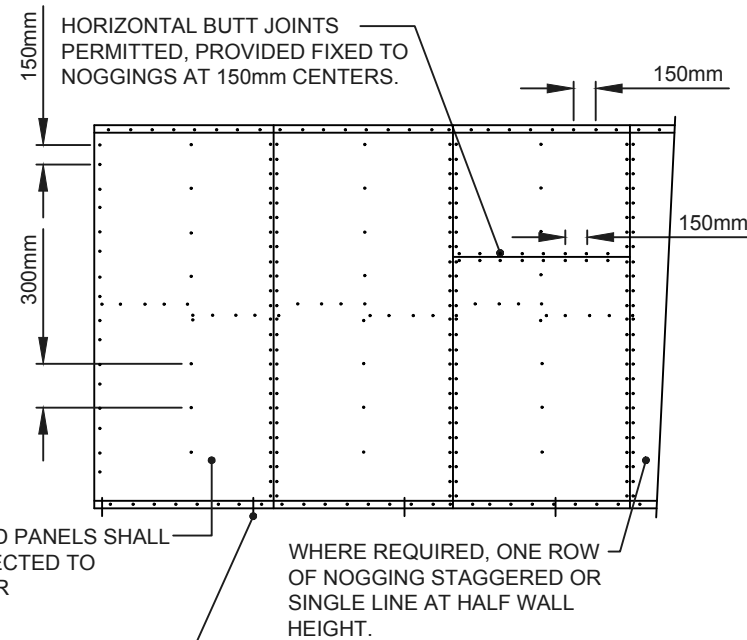
30 x 0.8mm METAL STRAP (OR EQUIVALENT) LOOPED OVER PLATE AND FIXED TO STUD WITH 4/30 x 2.8mmØ GALV. FLAT HEAD NAILS TO EACH END. ALTERNATIVELY PROVIDE SINGLE STRAPS TO BOTH SIDES WITH 4 NAIL PER STRAP END, OR EQUIVALENT ANCHORS OR OTHER FASTNERS.

MIN. 1800mm TO MAX. 2700

TYPE S
BRACING CAPACITY 3KN/m

TIE DOWN TO FLOOR
1-75mm MASONRY NAIL @ MAX. 1200 CTRS FOR 38mm PLATE
1-90mm MASONRY NAIL @ MAX. 1200 CTRS FOR 50mm PLATE

*PLYWOOD - PLYWOOD SHALL BE NAILED TO FRAME USING 30 x 2.8mmØ FLAT HEAD NAILS OR EQUIVALENT.



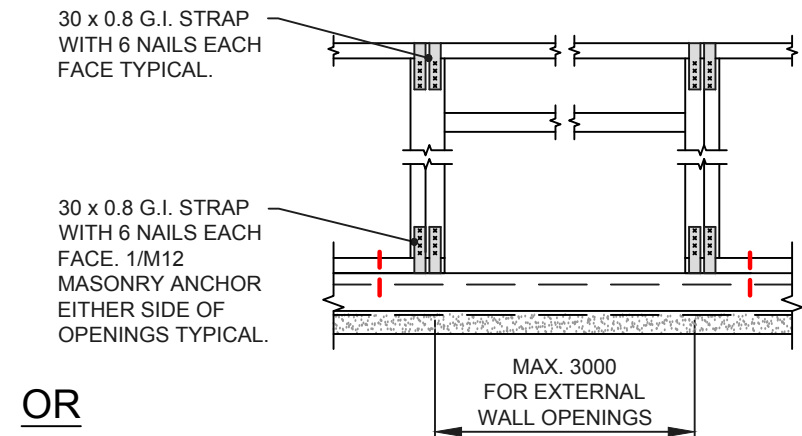
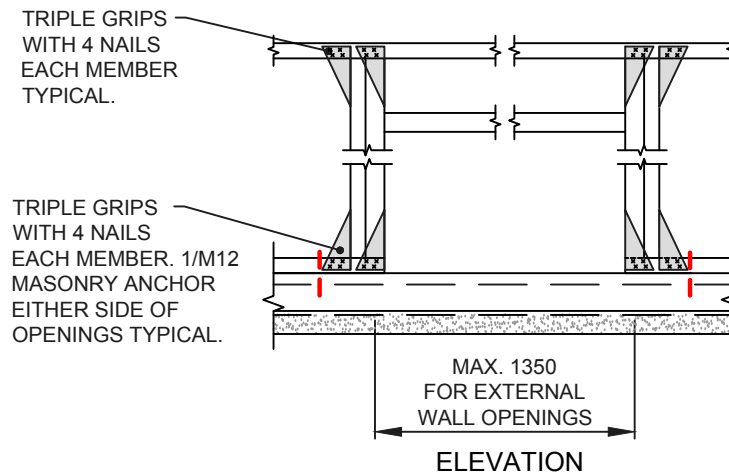
TYPE B
BRACING CAPACITY 3.4KN/m

THICKNESS (mm)		
STRESS GRADE	STUD SPACING (mm)	
	450	600
NO NOGGING (EXCEPT HORIZONTAL BUTT JOINTS)		
F8	7	9
F11	4.5	7
F14	4	6
F27	3	4.5
ONE ROW OF NOGGING		
F8	7	9
F11	4.5	4.5
F14	4	4
F27	3	3

FASTENER SPACING:
150mm TOP & BOTTOM PLATES
150mm VERTICAL EDGES, NOGGING
300mm INTERMEDIATE STUDS

WIND BRACING DETAIL

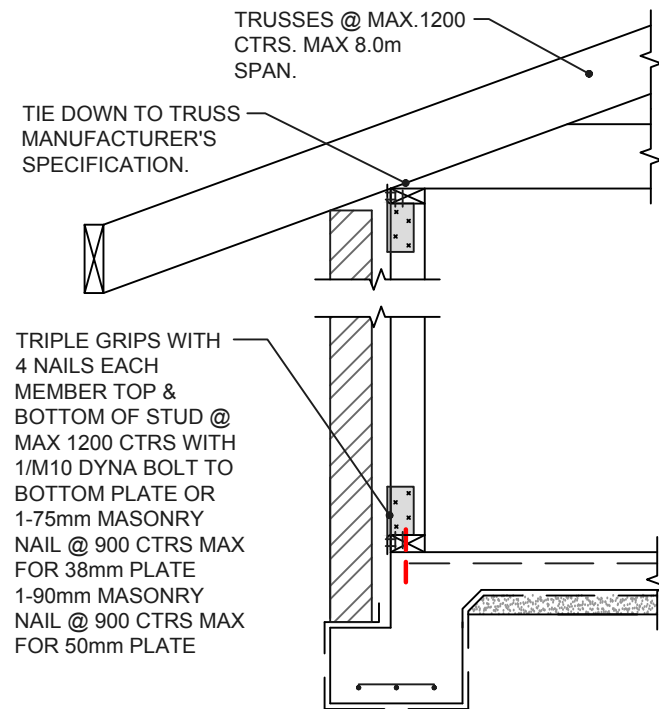
SCALE N.T.S.



OR

TYPICAL (N1) HOLD DOWN BRACKET & STRAP DETAIL

SCALE N.T.S.



SECTION

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