

G. GENERAL NOTES

G1. These notes shall be read in conjunction with all engineering drawings, the contract specification and other written instruction as may be issued. In case of discrepancy, precedence is given to drawings, notes, then specification.

G2. These drawings shall not be used for committing to material orders, or construction until authorized and issued for construction.

G3. Definitions:
UNO = Unless noted otherwise
Engineer = Nominated representative of Grounded Engineering
Principal = RAN Ski Lodge

G4. Unless noted otherwise:
All dimensions are given in millimetres
All co-ordinates are to map grid Australia (MGA)
All levels are given to Australian Height datum (AHD)

G5. All dimensions relevant to setting out and off site work shall be verified by the contractor before construction and fabrication is commenced.

G6. Do not obtain dimensions by scaling from drawings.

G7. Refer all discrepancies to the principal for resolution before proceeding with work.

G8. Workmanship and materials shall be in accordance with the contract specifications, Australian standards (including all amendments), codes of practice and the requirements of any other relevant statutory authorities. All of the above documents are those current (as verified by the contract documents) at the commencement of the contract.

M. STRUCTURAL STEEL NOTES

M1. All workmanship and material shall be in accordance with the contract specification, AS 5100 and AS 1554 except where verified by the contract documents.

M2. Steel components shall conform to the following table UNO

Plate	AS 3678	GRADE 350
Hot rolled sections	AS 3679	GRADE 300 PLUS
CHS >80mm diameter	AS1163	GRADE C350
Iso metric nuts and bolts	AS1111 & AS1112	
High strength steel bolts	AS1252	

M3. Provide steel members made from whole lengths wherever possible. If necessary, make lengths up of sections joined by complete penetration full strength butt welds ground flush. Where proposed, show joints on shop drawings. Ensure members are concentric at connections (gravity or guage lines to intersect)UNO.
Accurately pre form parts to avoid force and /or restraint during joining.

M4. Welds are to be full penetration butt welds where specified
Fillet Welds are to be 6mm continuous using E48XX electrodes or equivalent.

M5. Structural Steel Members must be protected against corrosion in accordance with Table 3.4.4.2 of the BCA.

E. EARTHWORKS NOTES

E1. Any rock intrusions into slabs and/or footings are to be isolated from concrete by a minimum depth of 30mm of granular material.

E2. Areas which are over-excavated are to be filled with 15 MPa concrete, or filled with compacted material prepared in accordance with AS1287 to 95% of optimum dry density under standard compaction, in layers not exceeding 150mm thick.

E3. Where sub-slab styrene insulation is specified, excavation is to be increasedby the thickness of the insulation.

BOLTING NOTES

M6. UNO connections between two structural steel members shall have a minimum of 2/M16 8.8/S Galvanised bolts in 18mm diameter holes

M7. Bolt type and tightening procedure are designated:
Number - size - strength - grade / tightening procedures
eg. 4-M24 8.8/TB = 4 of 24mm diameter metric high strength structural bolts fully tensioned in bearing mode

M8. The bolting procedure is designated as follows:

4.6/S	Commercial bolts of strength grade 4.6 to AS 1111 tightened using a standard wrench to a snug tight condition.
8.8/S	High strength bolts of strength grade 8.8 to AS 1252 tightened using a standard wrench to a snug tight condition.
8.8/TF	High strength bolts of strength grade 8.8 to AS 1252 fully tensioned to AS 4100 designed as a friction type joint.
8.8/TB	High strength bolts of strength grade 8.8 to AS 1252 fully tensioned to AS 4100 designed as a bearing type joint.

M9. Holding down bolts to be grade 4.6. UNO supply holding down bolts with two class 5 hexagonal head nuts and two extra large flat washers. Hot dip galvanize holding down bolts, nuts and washers to AS 1214. Tie holding down bolt groups rigidly together prior to installation to ensure correct bolt location.

C. CONCRETE NOTES

C1. All workmanship and materials shall be in accordance with AS 3600, AS 3610 and the contract specification.

C2. Where the meaning of abbreviations used is uncertain, refer to engineer for clarification prior to proceeding.

C3. Unless noted otherwise all cement shall comply with AS 3972:

GP	General purpose cement
GB	General purpose blended cement
SR	Sulphate resistant cement

C5. Concrete shall be nominal class concrete in accordance with AS 3600 and AS 1379 and the following requirements:

Structural element	Concrete Grade	Exposure Class	Cement Type
New entry Pavement	N40	B1	GP
Insitu slab & footings	N32	B1	GP

C6. Footings and slabs-on-ground shall have the following minimum concrete cover to all reinforcement:
- 40mm to unprotected ground and externally exposed surface
- 30mm to a membrane in contact with the ground
- 25mm to an internal surface

C7. External elements are those exposed to weather, rain and water penetration and classified B1 UNO.



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Certification & Site Parameters

Design Loads in accordance with
AS1170.1 - Live loads
AS1170.2 - Wind loads
AS1170.3 - Snow loads
AS1170.4 - Earthquake Loads
Earthquake Design Category (EDC): 2

Wind Class: Vu = 50m/s - N3 (W41N)

Site Soil Class: Refer to Geotech Report

Altitude: 1375m (AHD)
Ground Snow Load: 6.5 kPa
Roof Snow Load: 3.46 kPa (17.5° pitch)

Designed: Paul Larkin
Design Checked By:
ANSARY CONSULTING ENGINEERS
Tarek El-Ansary
BE(Civil) MEngSc(Civil) MIEAust CPEng.
Signed:
Date:

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Project / Client:
RAN SKI LODGE EXTENSION
THREDBO VILLAGE NSW
R.A.N SKI CLUB

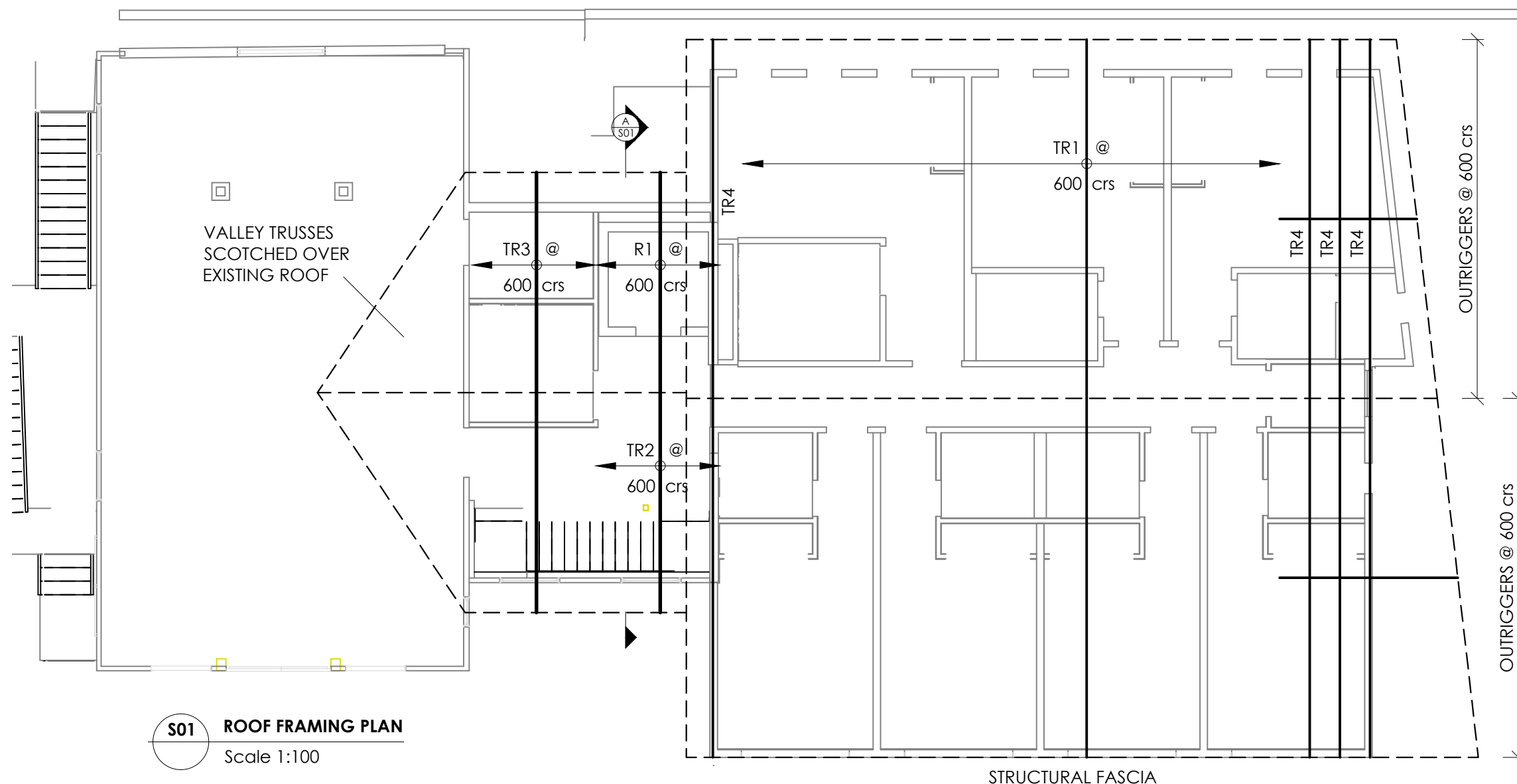
Drawing Title:
General Notes

Drawn By:
Stephen Nelson
0414953216

Checked : Sheet 1 of 10

DATE: 22/09/25 SCALE: N/A

DWG # :S00		SIZE:
Revision: A		A3



PRELIMINARY INDICATIVE ROOF FRAMING MEMBERS:

R1 - 150 x 45 LVL13 @ 600 crs
Tie to 45 x 190 F7 H2 TP pitching plate with 2 / triplegrips, 4 / 30 x 2.8 gal. FH nails each member.

TR1 - STANDARD TRUSSES @ 600 crs
Deep Heel to suit Architecturally set heights.
Tie over wall plates with Concealed Purlin Cleat.
Structural Fascia is required along the North eave.

TR2 - MONO TRUSS @ 600 crs
Provide 90 x 45 MGP12 waling plates with M10 AnkaScrews @ 900crs to lift shaft masonry wall.
Tie to each Waling PLate with 1 / triplegrip.
Tie to 45 x 190 F7 H2 TP pitching plate with 2 / triplegrips, 4 / 30 x 2.8 gal. FH nails each member.

TR3 - COMMON TRUSSES @ 600 crs
Scotch Valley Trusses over existing roof frame.
Tie to 45 x 190 F7 H2 TP pitching plate with 2 / triplegrips, 4 / 30 x 2.8 gal. FH nails each member.

TR4 - GABLE TRUSSES @ 600 crs
Provide three (3) reduced height Gable trusses at the Western End and one (1) at the Eastern end external walls for outriggers eave construction.

NOTE: Given the substantial snow loads, design of the overhanging Western verge will require verification during the detailed design phase.

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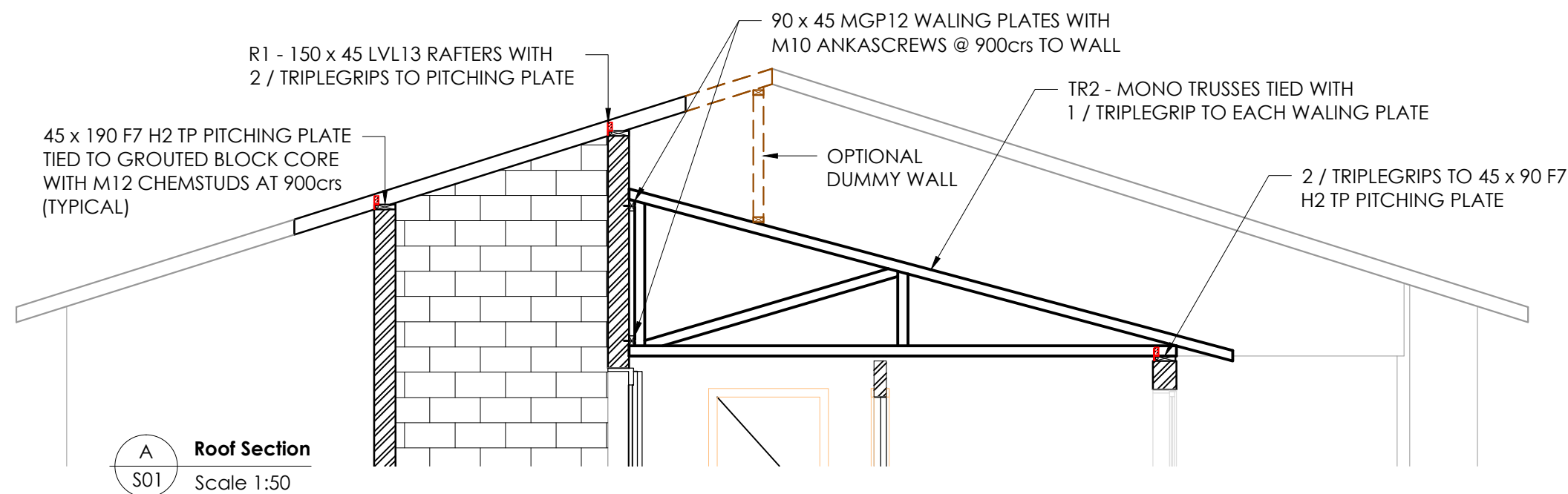
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Signed: _____ Date: _____

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BRACING & TIE-DOWN SCHEDULE

✕ DENOTES M12 THREADED ROD RUN CONTINUOUS THROUGH FRAME TO TOP PLATE. FIX WITH 30MM WASHER AND M12 NUT TOP AND BOTTOM.

IBW-2.1 TENSIONED METAL STRAP WITH STUD TIES - Double leg stud ties top and bottom at stud closest to diagonal strap plate anchorage. Strap fixed to studs with one 30 x 2.8 gal FH nail and to plates with 3/30 x 2.8 gal FH nails.

EBW-2.1 TYPE 'B' PLYWOOD BRACING - Fixed to frame with 30 x 2.8 gal FH nails at 50 crs plates and vertical edges and 100 crs intermediate studs.

EBW-2.2 TYPE 'A' PLYWOOD BRACING - Fixed to frame with 30 x 2.8 gal FH nails at 150 crs plates and vertical edges and 300 crs intermediate studs.

BRACING NOTE: IT IS RECOMMENDED THAT THE ENTIRE FACE OF EXTERNAL WALL FRAME BE CLAD WITH TYPE 'A' PLYWOOD BRACING IN ADDITION TO THOSE AREAS MARKED AS REQUIRING TYPE 'B' FIXING.

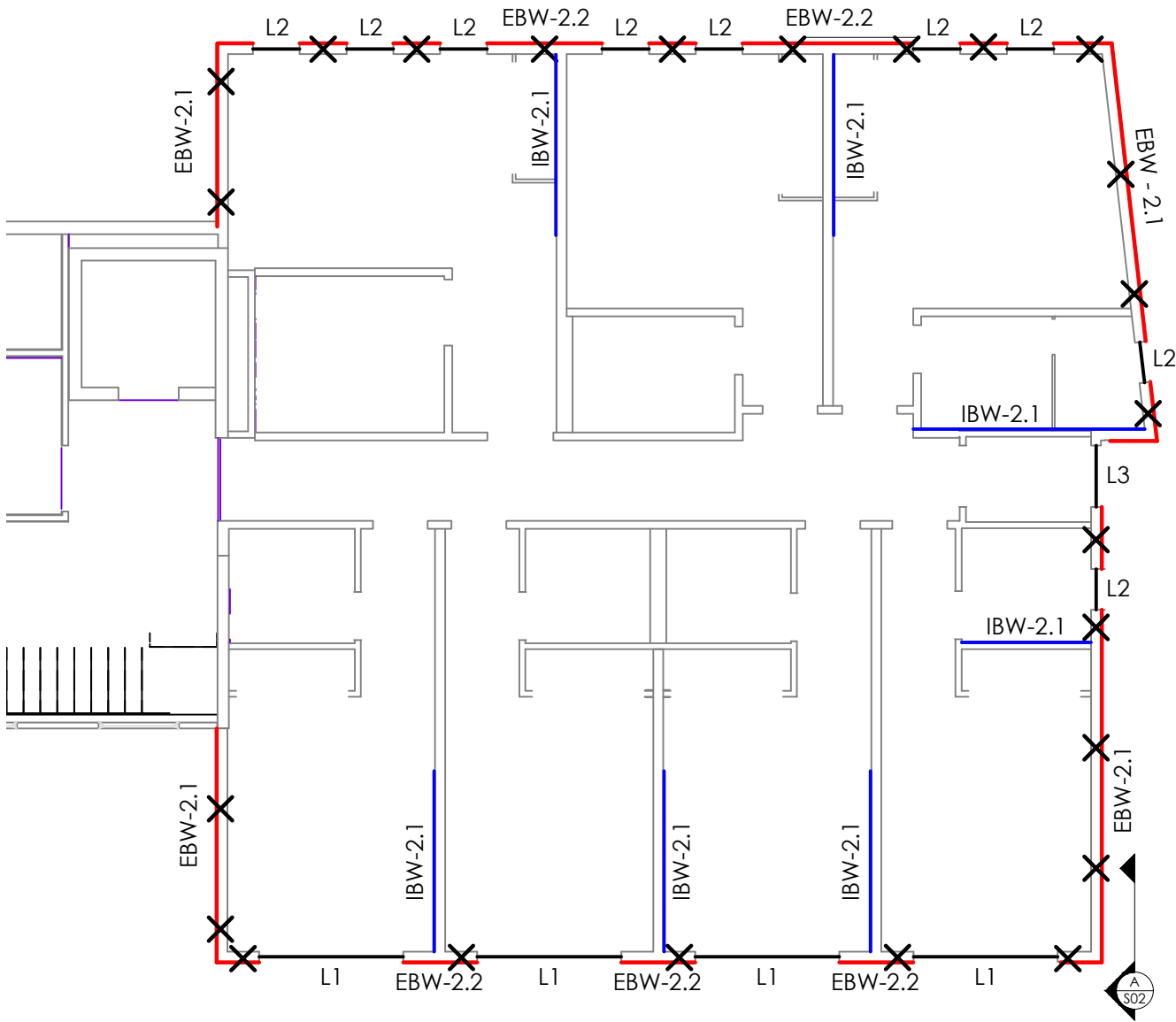
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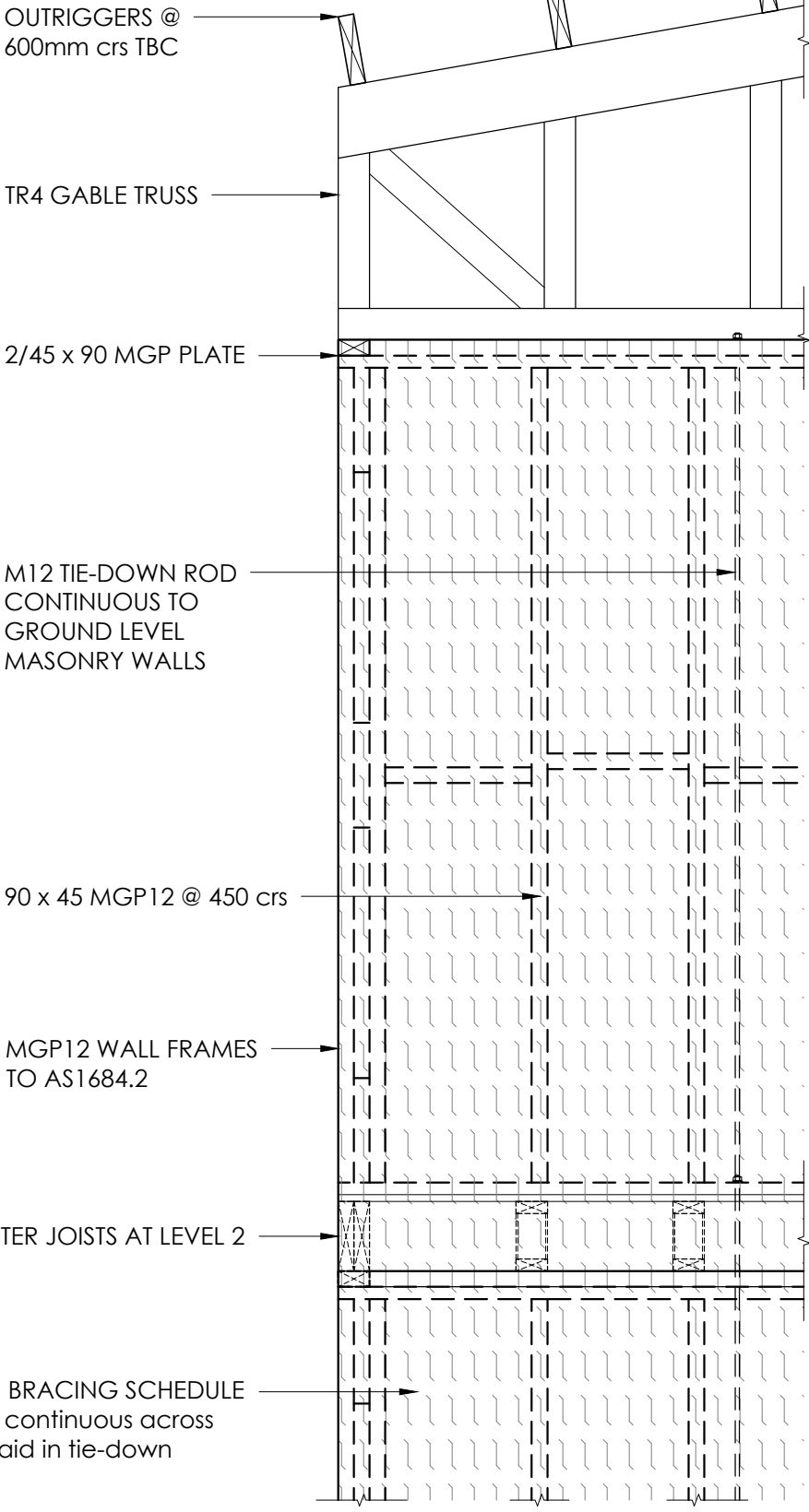


S02 L2 - FRAMING, BRACING & TIE-DOWN PLAN
Scale 1:100

PRELIMINARY INDICATIVE WALL FRAMING MEMBERS:

All timber in framed walls to be 90 x 45 MGP12 UNO

- L1 - 2 / 240 x 45 LVL13 with 2 / 90 x 45 MGP12 JAMB STUDS
- L2 - 90 x 45 LVL13 with 90 x 35 MGP12 JAMB STUD
- L3 - 150 x 45 LVL13 with 90 x 45 MGP12 JAMB STUD



A S02 Typical Framing Construction
Scale 1:20

BRACING & TIE-DOWN SCHEDULE



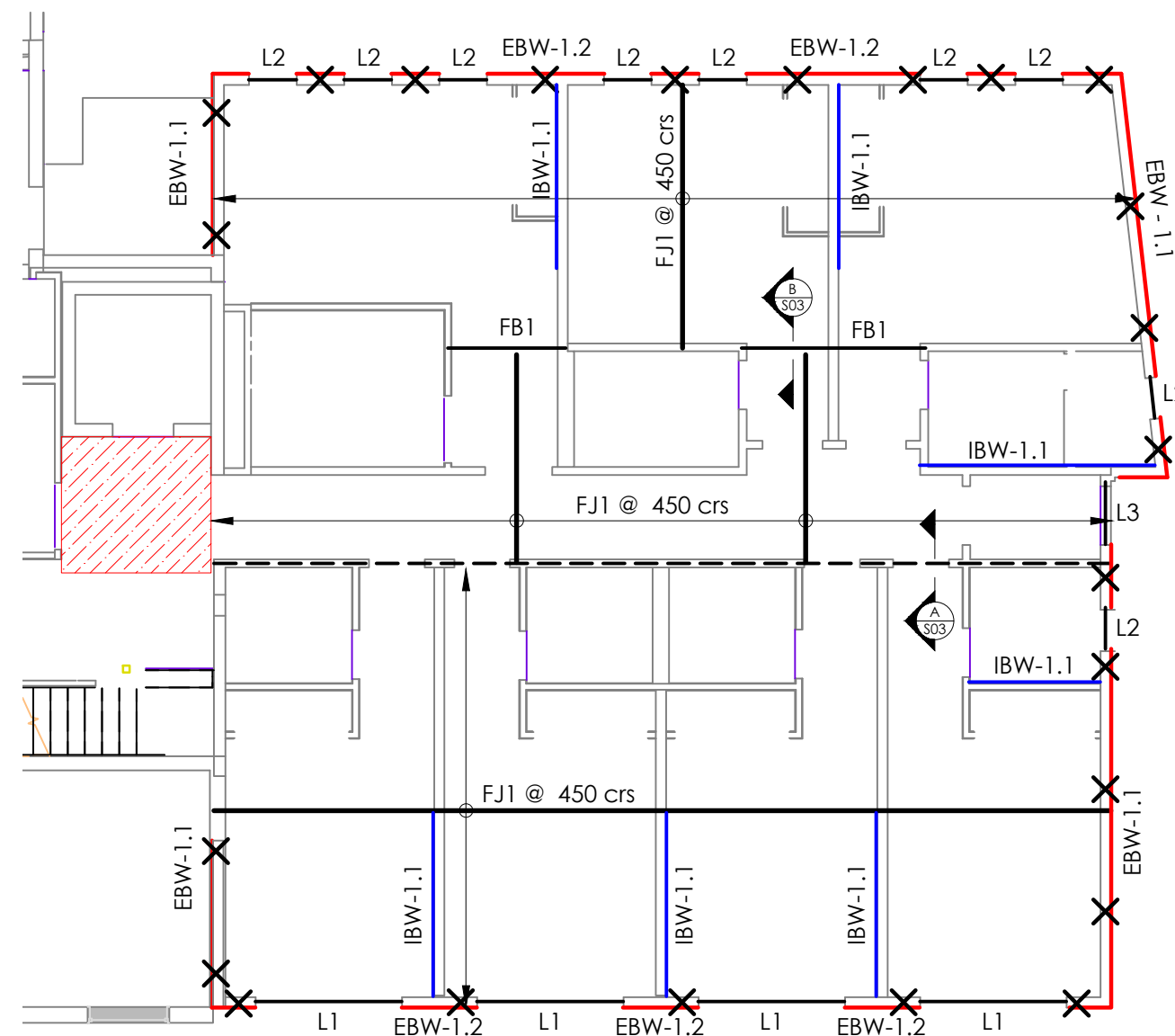
DENOTES M12 THREADED ROD RUN CONTINUOUS THROUGH FRAME TO TOP PLATE. FIX WITH 30MM WASHER AND M12 NUT TOP AND BOTTOM.

IBW-1.1 TENSIONED METAL STRAP WITH STUD TIES - Double leg stud ties top and bottom at stud closest to diagonal strap plate anchorage. Strap fixed to studs with one 30 x 2.8 gal FH nail and to plates with 3/30 x 2.8 gal FH nails.

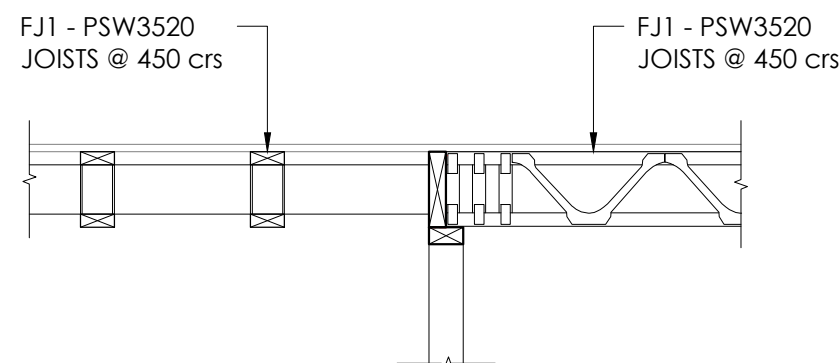
EBW-1.1 TYPE 'B' PLYWOOD BRACING - Fixed to frame with 30 x 2.8 gal FH nails at 50 crs plates and vertical edges and 100 crs intermediate studs.

EBW-1.2 TYPE 'A' PLYWOOD BRACING - Fixed to frame with 30 x 2.8 gal FH nails at 150 crs plates and vertical edges and 300 crs intermediate studs.

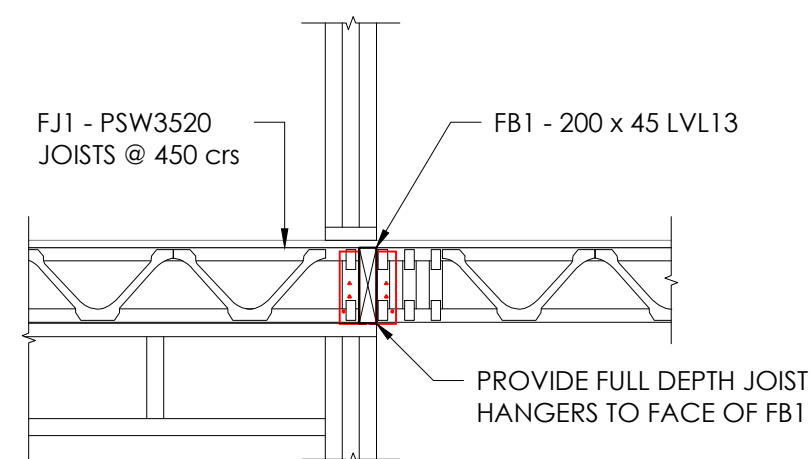
BRACING NOTE: IT IS RECOMMENDED THAT THE ENTIRE FACE OF EXTERNAL WALL FRAME BE CLAD WITH TYPE 'A' PLYWOOD BRACING IN ADDITION TO THOSE AREAS MARKED AS REQUIRING TYPE 'B' FIXING.



S03 L2 FLOOR FRAME & L1 WALL FRAMING PLAN
Scale 1:100



A FJ1 Direction Change (Typical)
S03 Scale 1:20



B FJ1 - Connection Detail
S03 Scale 1:20

PRELIMINARY INDICATIVE FLOOR FRAMING MEMBERS:

- FJ1 - Use MJ240 45 meyoJOIST
- Install in accordance with Manufacturers details
or 200 x 45 LVL13 - Provide Intermittent Blocking along lines of supports
or PSW3520 PosiStrut (35 x 90 MGP12)
- Install in accordance with Manufacturers details

FULL DEPTH JOIST HANGERS TO FACE OF FB1

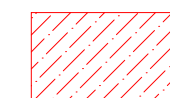
FJ2 - 200 x 45 LVL13 (or 240 deep)

FJ3 - IF FLOOR SET DOWN REQUIRED AND CEILING HEIGHTS PERMIT, USE 240 DEEP FJ1'S WITH 200 DEEP FJ3 (eg MJ200 45 meyoJOIST **or** PSW3520 PosiStrut with 35 x 70 MGP12 chords)
- OTHERWISE DISREGARD FJ3 AND CONTINUE FJ1 OVER WET AREAS

FB1 - 200 x 45 LVL13 (or 240 deep)

NOTE: RUN ADDITIONAL FLOOR JOISTS DIRECTLY UNDER PARALLEL INTERNAL WALLS LONGER THAN 2.4m

- L1 - 2 / 240 x 45 LVL13 with 2 / 90 x 45 MGP12 JAMB STUDS
L2 - 90 x 45 LVL13 with 90 x 35 MGP12 JAMB STUD
L3 - 150 x 45 LVL13 with 90 x 45 MGP12 JAMB STUD
L5 - 2 / 130 x 45 LVL13 with 90 x 35 MGP12 JAMB STUD
L6 - 2 / 150 x 45 LVL13 with 2 / 90 x 35 MGP12 JAMB STUDS



LOBBY TIMBER FLOOR FRAME TO BE CONFIRMED ON SITE PENDING POST-DEMOLITION INSPECTION

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ANSARY CONSULTING ENGINEERS

Tarek El-Ansary
BE(Civil) MEngSc(Civil) MIEAust CPEng.

Signed: Date:

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BRACING SCHEDULE

IBW-0.1 TENSIONED METAL STRAP WITH STUD TIES - Double leg stud ties top and bottom at stud closest to diagonal strap plate anchorage. Strap fixed to studs with one 30 x 2.8 gal FH nail and to plates with 3/30 x 2.8 gal FH nails.

MASONRY WALL SCHEDULE

Ground Floor Masonry walls to be reinforced 200 series blockwork to AS3700. Provide N12 vertical bars @ 400 crs and N12 horizontal bars @ 400 crs **UNO**. Corefill to be 20 MPa grout with 10mm aggregate and 180mm slump.

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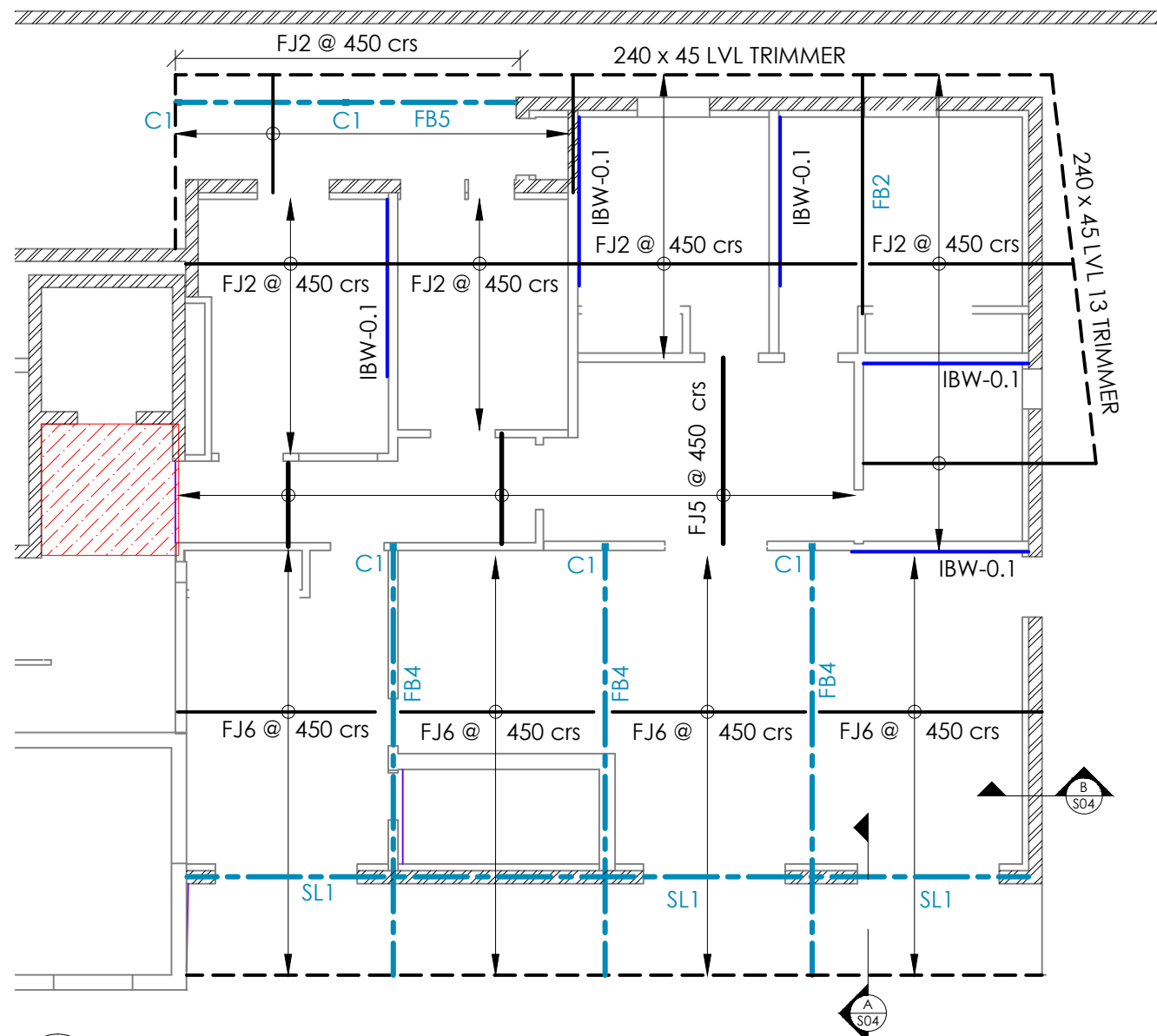
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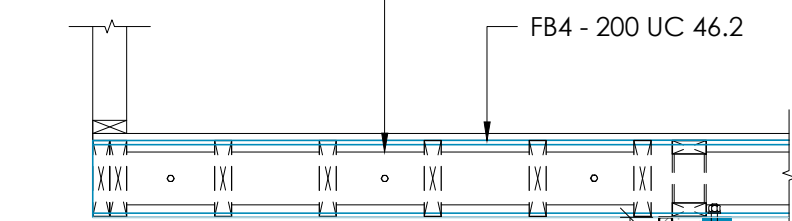
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S04 L1 FLOOR FRAME & GROUND WALL FRAMING PLAN

Scale 1:100

140 x 45 MGP12 LEDGER
WITH 1/M10 BOLT TO WEB
AT 900mm max. crs



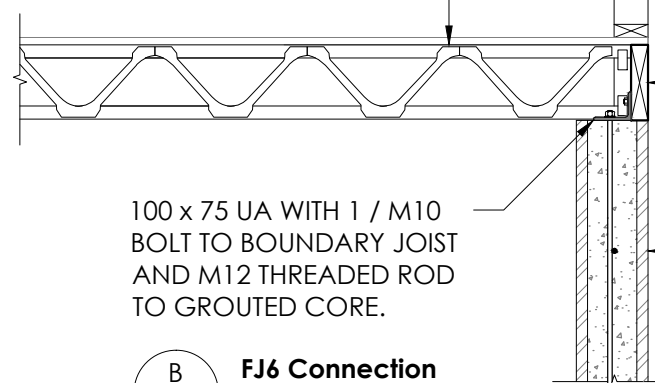
20.18 DEEP LINTEL N20 GROUT
REINFORCED WITH 2/N12 BARS
WITH L8 FITMENTS @ 200 crs

**A
S04 SL1 / Masonry Lintel**
Scale 1:20

SL1 - 200 PFC LINTEL
WITH M16 STUDS FOR
BOLTED CONNECTION TO
BOTTOM FLANGE OF FB4

200 SERIES MASONRY WALL

FJ6 FLOOR JOISTS
@ 450mm crs



100 x 75 UA WITH 1 / M10
BOLT TO BOUNDARY JOIST
AND M12 THREADED ROD
TO GROUTED CORE.

**B
S04 FJ6 Connection**
Scale 1:20

FJ1/FJ5 - Use MJ240 45 meyoIST @ 450 crs

- Install in accordance with Manufacturers details
- or** 200 x 45 LVL13 - Provide Intermittent Blocking along lines of supports
- or** PSW3520 PosiStrut (35 x 90 MGP12)
- Install in accordance with Manufacturers details.

FJ2 - 240 x 45 LVL13

FJ6 - MJ240 90 meyoIST @ 450 crs

- Install in accordance with Manufacturers details
- or** 240 x 45 LVL13 @ **400** crs
- Provide Intermittent Blocking along lines of supports
- or** PSW3520 PosiStrut (35 x 90 MGP12) @ 450 crs
- Install in accordance with Manufacturers details

FB1 - 200 x 45 LVL13 (or 240 deep)

FB2 - 2 / 240 x 45 LVL13

FB3 - 200 UC 46.2

- Fix over C1 column caps with 2 / M16 8.8/s bolts
- provide 140 x 45 MGP12 Ledger with M10 bolts @ 900 crs to web for FJ5 connection.
- 100 x 10 MS Fin Plate 8 CFW both sides to web for FB4 connection.

FB4 - 200 UC 46.2

- 2 / M20 8.8/s bolts through web to FB3 fin plates
- 18mm holes in bottom flange for fixing to M16 studs over SL1
- Provide 140 x 45 MGP12 Ledger with M10 bolts @ 900 crs each side of web for FJ6 connection.

FB5 - 200 PFC

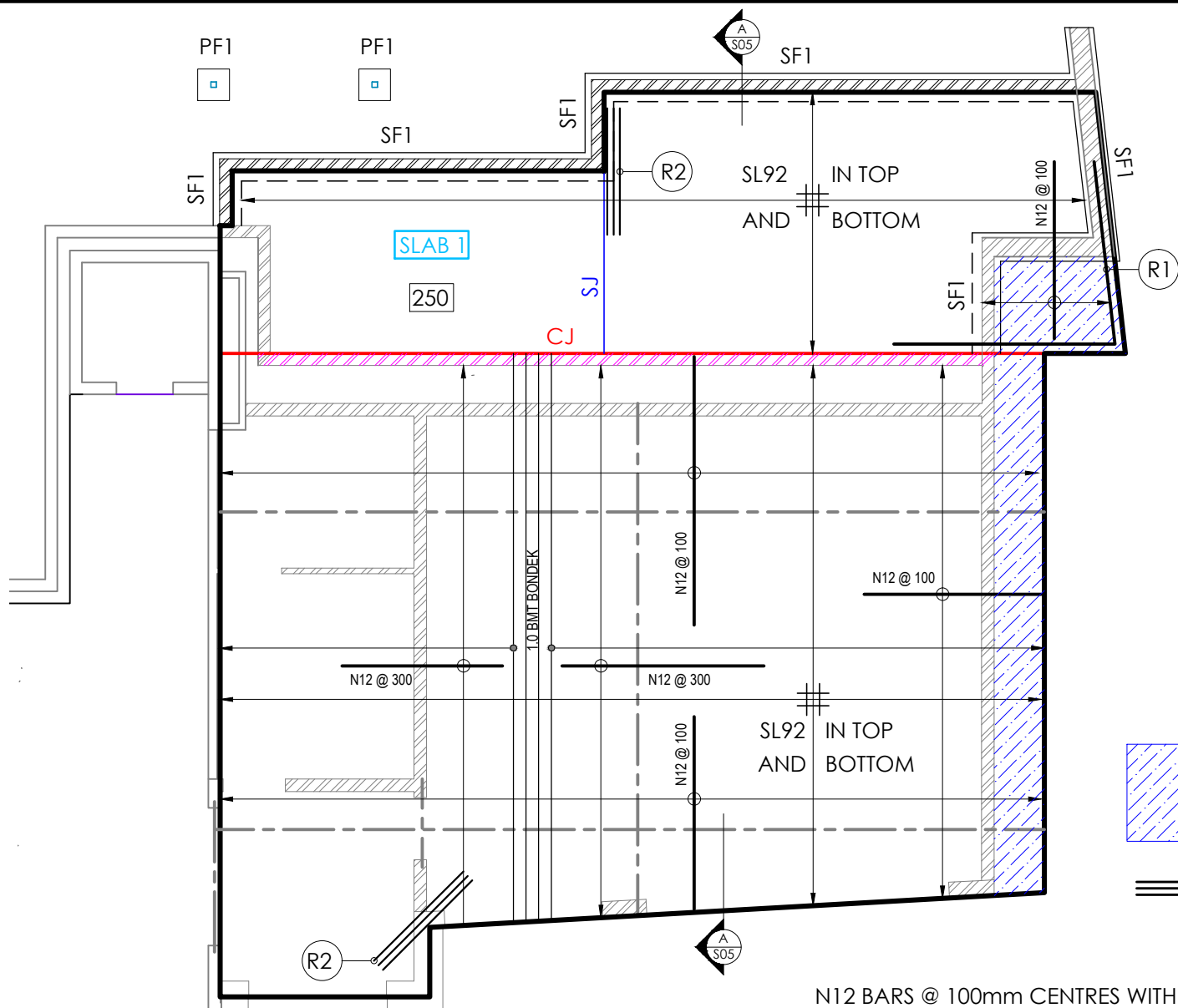
- 2 / M16 8.8 bolts through bottom flange to column caps
- 8 MS End Plates and full depth stiffener over centre column
- provide 140 x 45 MGP12 Ledger with M10 bolts @ 900 crs to web for FJ5 connection.

SL1 - 200 PFC

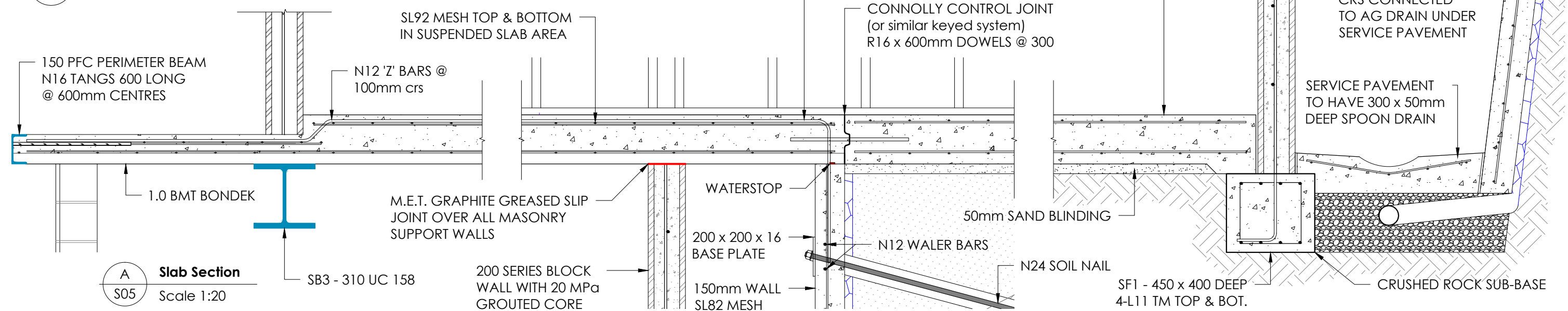
- 2 / M16 8.8 Studs in top flange for FB4 connection.
- Full depth 8 MS stiffener 6 CFW each side under FB4.

LOBBY TIMBER FLOOR FRAME
TO BE CONFIRMED ON SITE
PENDING POST-DEMOLITION
INSPECTION

DENOTES 200 SERIES
CORE FILLED MASONRY
WALLS REINFORCED AS
PER SPECIFICATION



S05 GROUND FLOOR SLAB PLAN
Scale 1:100



A/S05 Slab Section
Scale 1:20

SLAB 1 32 MPa Concrete 250mm thick with 120mm maximum slump

- N12 Bars @ 100mm in top over East/West supports
- N12 Bars @ 300mm in top over North/South internal supports
- N12 Bars @ 100mm in top over cantilever support walls
- SL92 Mesh in Top & Bottom
- Tie suspended slab section to top of retaining wall with N12 bars @ 200 centres copped 500mm into wall.

SJ - 25mm deep sawn control joint cut over internal beams within 24 hours of concrete placement.

- Every second bar in top layer of mesh to be cut prior to pouring concrete.

CJ - Connolly Control Joint (or similar keyed system)

- Provide R16 x 600mm sleeved dowels @ 300 centres

SF1 Strip Footing 25 MPa Concrete with 120mm maximum slump

- 450mm Wide by 400mm Deep
- 500mm Founding Depth
- 4-L11 TM top and bottom
- N12 Starter bars @ 400 crs

PF1 Pad Footings 25 MPa Concrete with 120mm maximum slump

- 500 x 500 x 300mm Deep
- 500mm Founding Depth

'Off-form' Cantilevered section of slab

R1 - 2 / N12 Trimmer Bars with 1500mm extension past support into slab.

R2 Re-entrant Reinforcement

3 / N12 (2000) Bars @ 100 crs

200 SERIES BLOCK WALL WITH 20 MPa GROUTED CORE

SLAB 1 - 250 THICK 32 MPa CONCRETE SL82 MESH IN TOP

CONNOLLY CONTROL JOINT (or similar keyed system)

R16 x 600mm DOWELS @ 300

'SHOTCRETE' RETAINING WALL AS PER GEOTECH SPECIFICATIONS

N12 BARS AT 400 VERTICALLY AND 400 HORIZONTALLY

40mm x 300mm WIDE PREFABRICATED GEOCOMPOSITE STRIP DRAIN @ 1.5m CRS CONNECTED TO AG DRAIN UNDER SERVICE PAVEMENT

SERVICE PAVEMENT TO HAVE 300 x 50mm DEEP SPOON DRAIN

SF1 - 450 x 400 DEEP 4-L11 TM TOP & BOT.

CRUSHED ROCK SUB-BASE

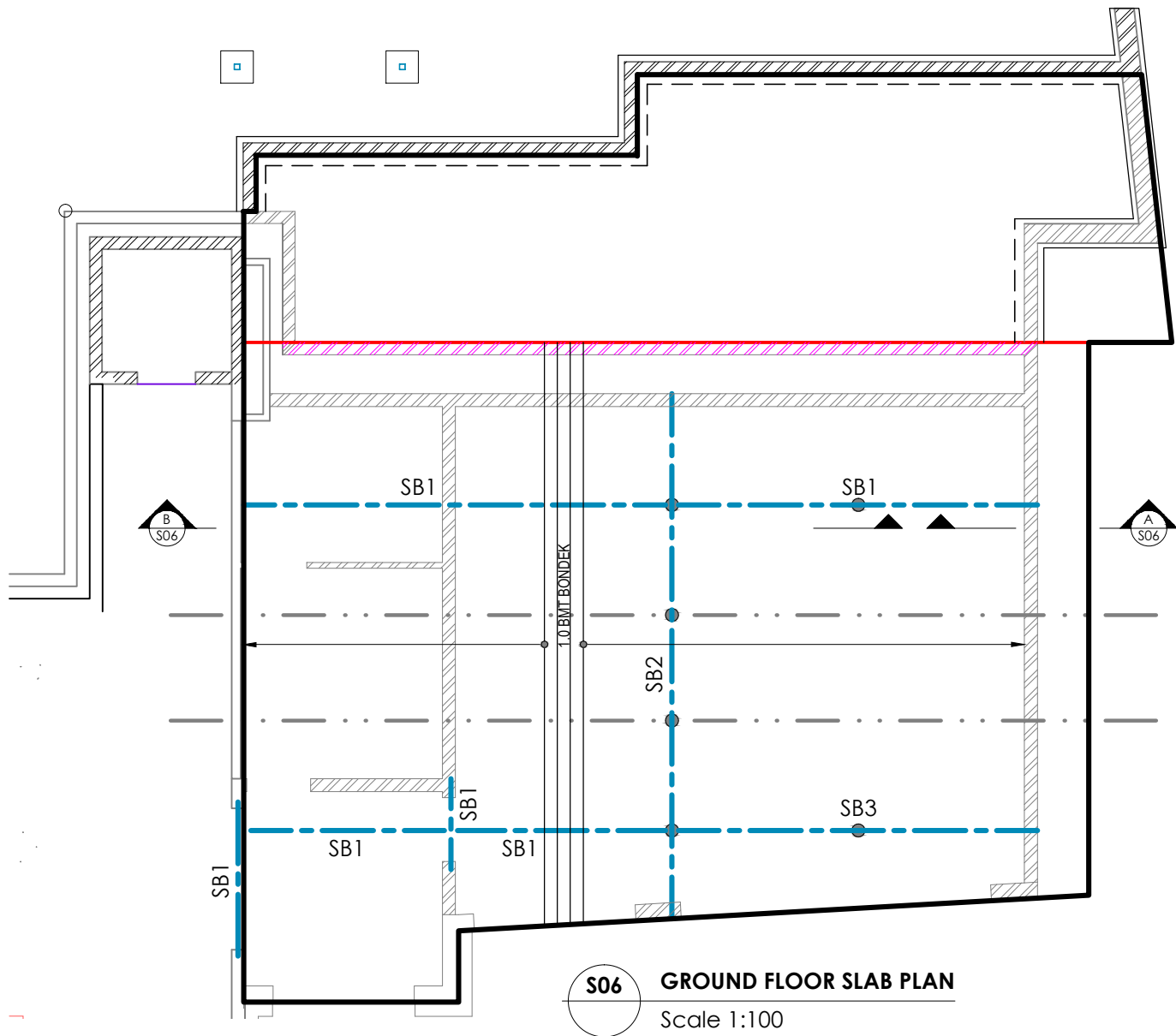
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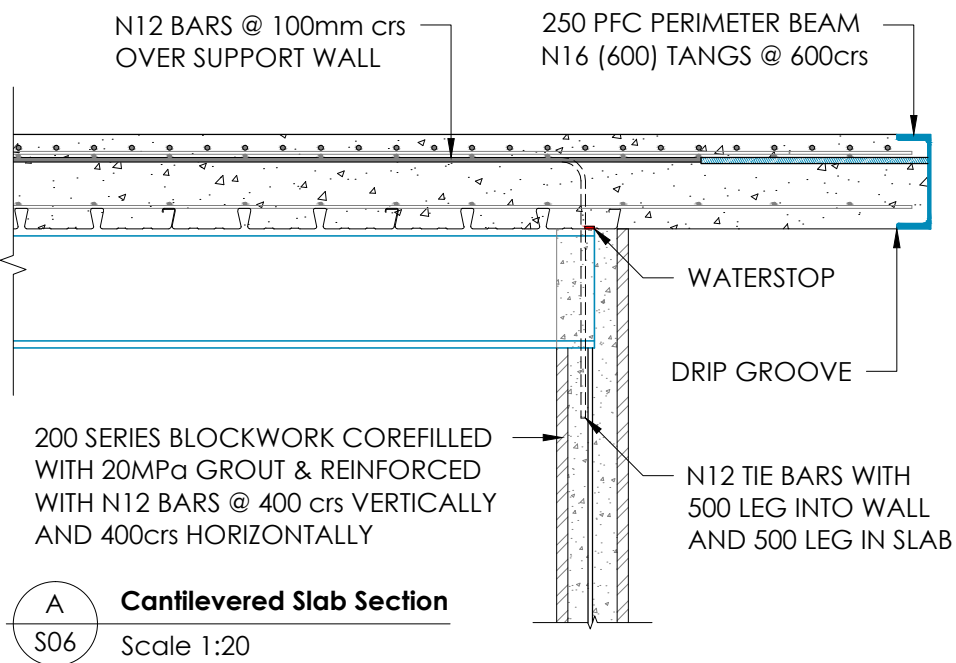


PRELIMINARY INDICATIVE SECTIONS

SB1 - 310 UC 118 Secondary Beam

SB2 - 310 UC 158 Primary Beam

SB3 - 310 UC 158 Secondary Beam



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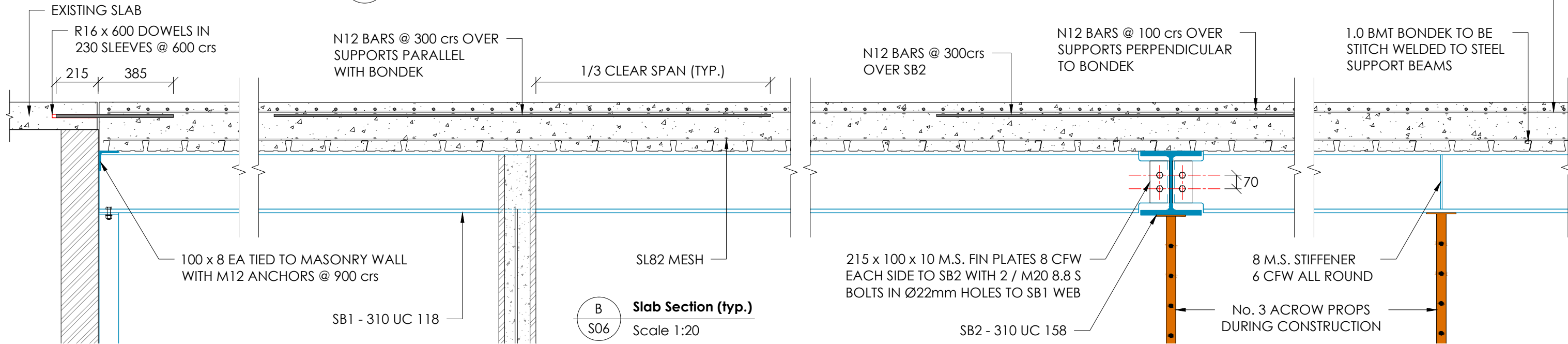
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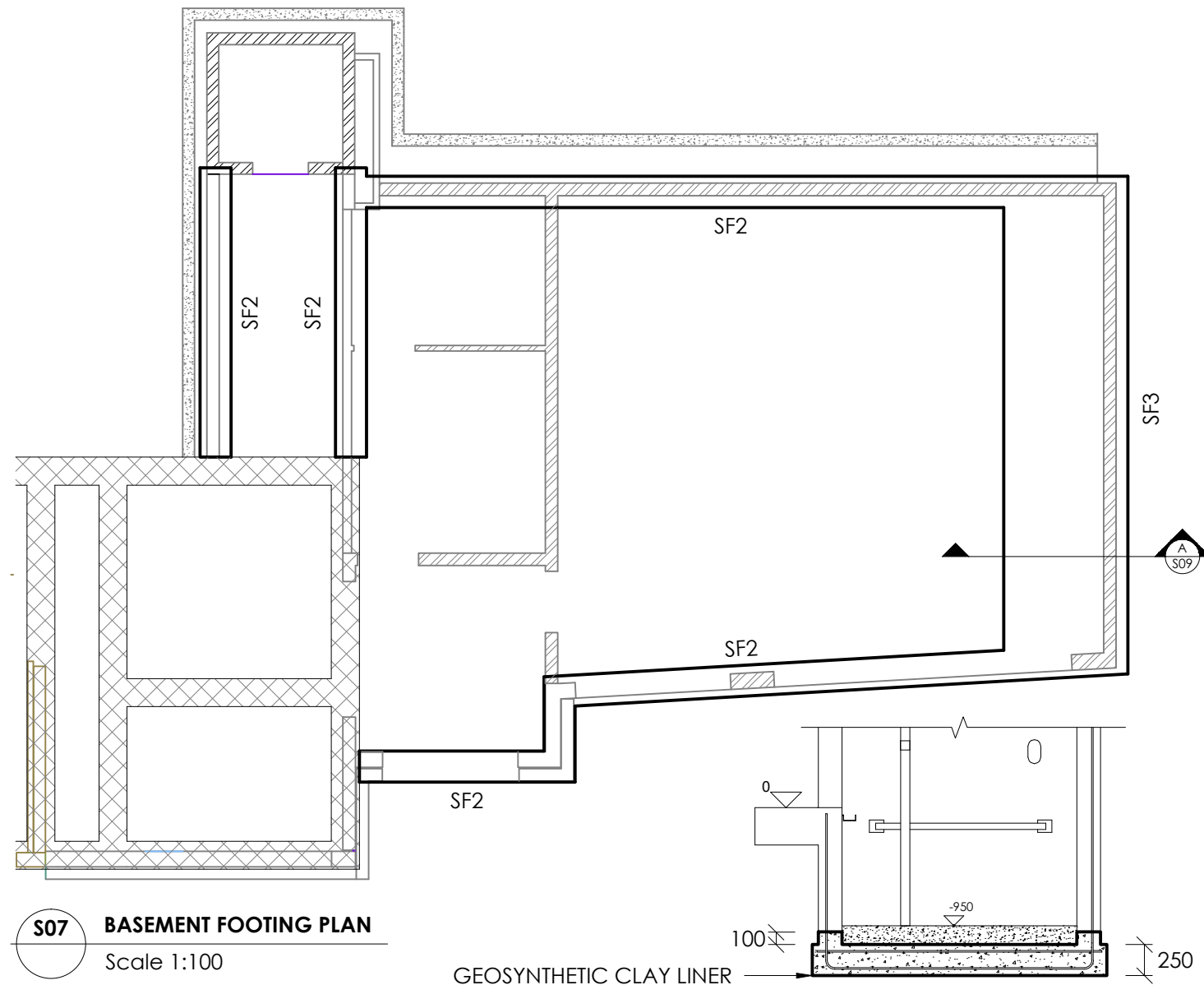
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DENOTES LINE OF TEMPORARY
SUPPORTS DURING CONSTRUCTION.

●
DENOTES LOCATION OF ACROPPROPS
DURING CONSTRUCTION.

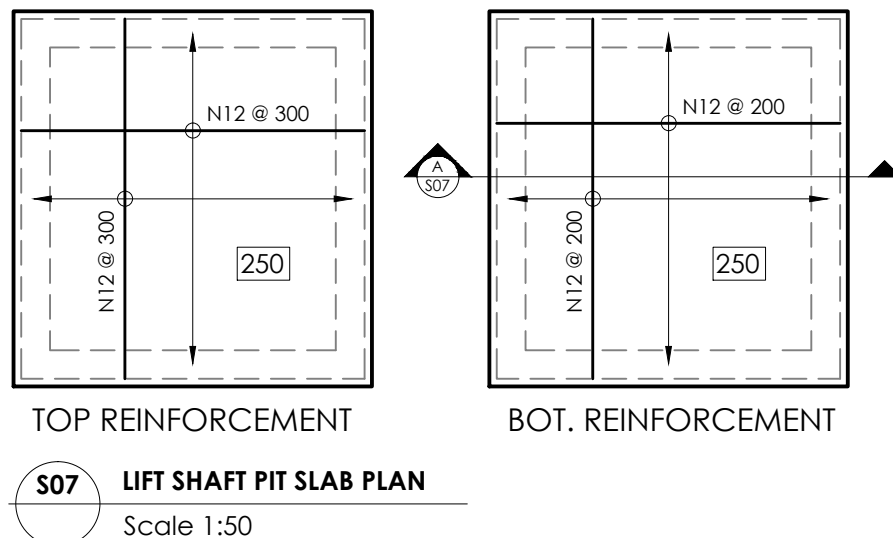
TEMPORARY SUPPORTS TO REMAIN IN
PLACE MINIMUM OF 28 DAYS AFTER
CONCRETE POUR.





LIFT SHAFT PIT SLAB 32 MPa Concrete

- 250mm THICK WITH 100 x 190 PERIMETER HOB SET IN 50mm
- PROVIDE N12 BARS @ 300 crs EACH WAY IN TOP 50mm COVER.
- PROVIDE N12 BARS @ 200 crs EACH WAY IN BOTTOM 50mm COVER.
- EVERY SECOND BOTTOM BAR TO BE TURNED UP WITH STANDARD COG AS STARTER BARS WITH 500mm LEG.



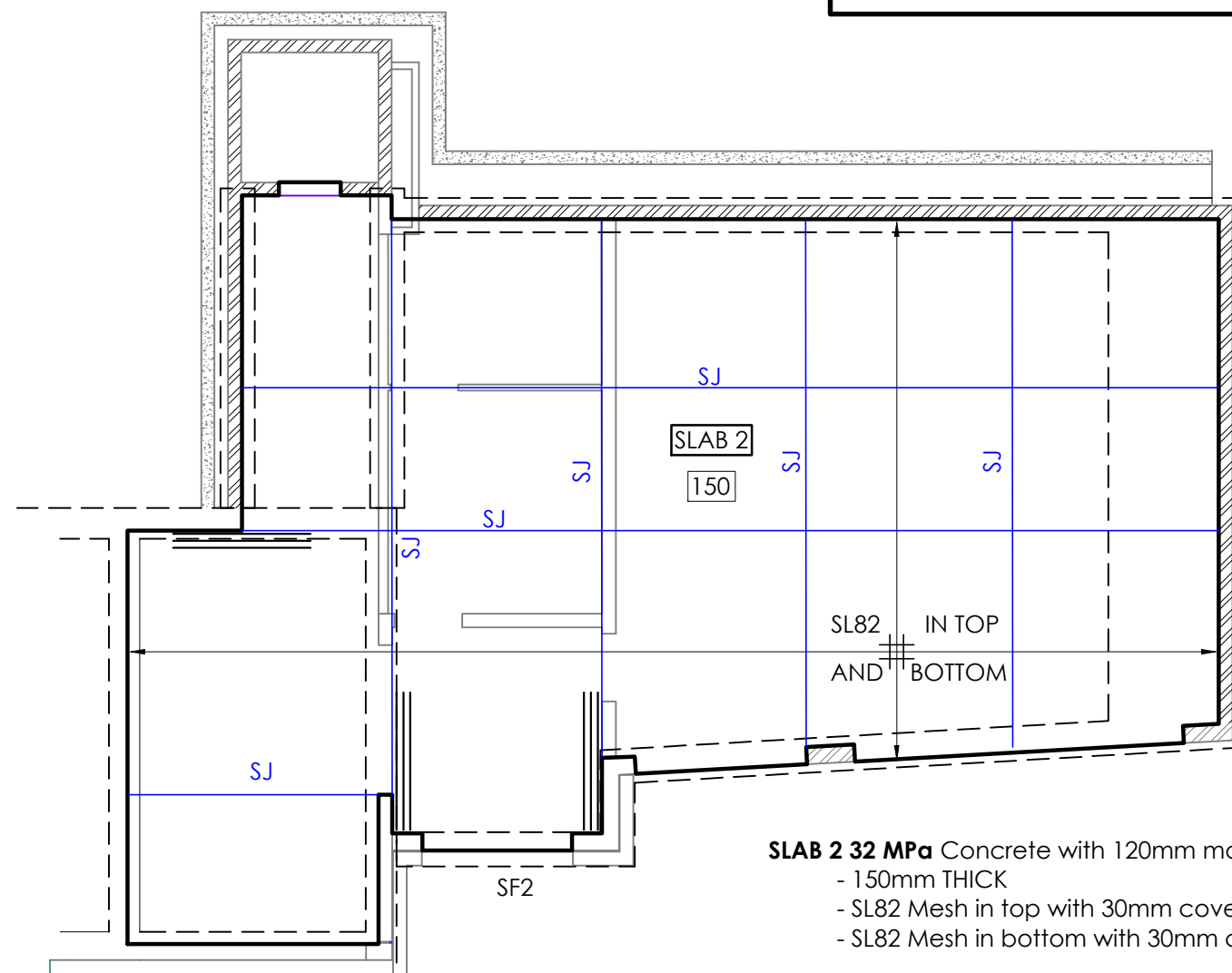
SF2 Strip Footing 25 MPa Concrete

- 500mm Wide by 400mm Deep
- 500mm Founding Depth
- 5-L11 TM top and bottom
- N12 Starter bars @ 400 crs

SF3 Retaining Footing 25 MPa Concrete

- 2000mm Wide by 400mm Deep
- 500mm Founding Depth
- N12 at 400 crs in bottom
- N12 at 200 crs each way in top
- N16 Starter bars @ 200 crs with 1700mm leg in base of footing

ASSUMED SOIL CAPACITY AT FOOTING BEARING DEPTH IS 600 kPa IN ACCORDANCE WITH PART 7 OF GEOTECHNICAL REPORT 31441Rhrpt Rev 2 BY JKGeotechnics



SLAB 2 32 MPa Concrete with 120mm max. slump

- 150mm THICK
- SL82 Mesh in top with 30mm cover
- SL82 Mesh in bottom with 30mm cover

- SJ**
- 25mm deep sawn control joint cut over internal beams within 24 hours of concrete placement.
 - Every second bar in top layer of mesh to be cut prior to pouring concrete.

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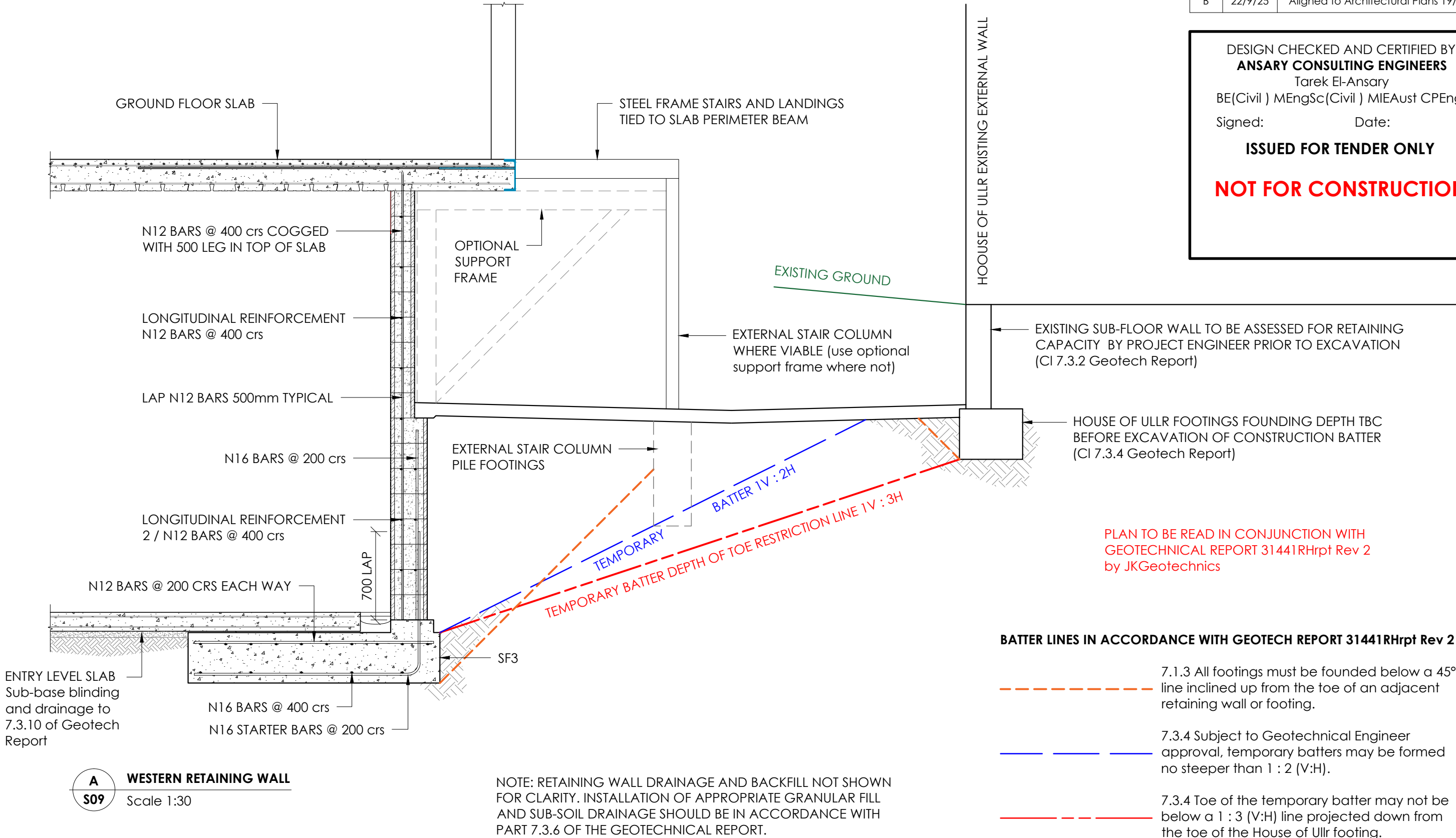
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A
S09

WESTERN RETAINING WALL
Scale 1:30

BATTER LINES IN ACCORDANCE WITH GEOTECH REPORT 31441RHrpt Rev 2

- 7.1.3 All footings must be founded below a 45° line inclined up from the toe of an adjacent retaining wall or footing.

7.3.4 Subject to Geotechnical Engineer approval, temporary batters may be formed no steeper than 1 : 2 (V:H).

7.3.4 Toe of the temporary batter may not be below a 1 : 3 (V:H) line projected down from the toe of the House of Ullr footing.