

THIS SPACE IS LEFT BLANK
FOR DBP CONTROL

STRUCTURAL ENGINEERING PLAN

PROJECT: PROPOSED ADDITION & ALTERATIONS
ADDRESS: 173 BIRDWOOD RD, GEORGES HALL
LGA: CANTERBURY-BANKSTOWN COUNCIL

LIST OF DRAWING		
SHEET ORDER	SHEET NAME	DRAWING NAME
1	GN0	COVER PAGE
2	GN1	GENERAL NOTES
3	GNC1	STANDARD DETAILS (CONC)
4	GNC2	STANDARD DETAILS (CONC)
5	GNS1	STANDARD DETAILS (STEEL)
6	GNT1	STANDARD DETAILS (TIMBER)
7	GNT2	STANDARD DETAILS (TIMBER)
8	FT1	FOOTING PLAN
9	FT2	FOOTING DETAILS
10	GL1	GROUND FLOOR PLAN
11	GL2	GROUND FLOOR & FOOTING DETAILS
12	1L1	FIRST FLOOR PLAN
13	1L2	FIRST FLOOR DETAILS
14	RL1	ROOF FRAME PLAN
15	3D1	3D VIEW

1. IF ANY DISCREPANCIES OR DOUBTS, CONTACT THE ENGINEER.
2. BOOKINGS FOR INSPECTION, IF REQUIRED, SHALL BE MADE VIA OUR WEBSITE AT www.nitma.com.au/bookings. CONDITIONS APPLY.

For Inspector's Use OnlyInspector:Date/...../20.....

Pier ☐Slab ☐BF ☐GF ☐1F ☐Other ☐

Frame ☐Single ☐Double ☐Other ☐Steel ☐No Steel ☐

Satisfactory?YES ☐NO ☐Comments

THIS SPACE IS LEFT BLANK
FOR DBP CONTROL

GENERAL NOTES

GN1. STRUCTURAL ENGINEERING DRAWINGS ARE ISSUED ON THE UNDERSTANDING THAT THE BUILDER MAINTAINS IN FORCE, PROPER AND ADEQUATE CONTRACT WORKS INSURANCE AND PUBLIC LIABILITY INSURANCE DURING THE FULL COURSE OF THE CONSTRUCTION, AND/OR ANY MAINTENANCE PERIOD. CLAIMS OF DAMAGE TO ANY ADJACENT PROPERTY OF BUILDING IS NOT THE RESPONSIBILITY OF THE ENGINEER.

GN2. THESE DRAWINGS SHALL 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 CONTRACT. ALL DISCREPANCIES SHALL BE REFERRED TO THE ARCHITECT FOR DECISION BEFORE PROCEEDING.

GN3. DURING CONSTRUCTION, THE BUILDING SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED AT ANY TIME. TEMPORARY BRACING SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE WORKS DURING CONSTRUCTION.

GN4. WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT EDITION OF THE BCA AND THERE-BY LAWS AND ORDINANCES OF THE RELEVANT AUTHORITY.

GN5. DIMENSION SHALL NOT BE OBTAINED BY SCALING THE STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR SET OUT PLAN MEASUREMENTS. ANY SET OUT DIMENSIONS SHOWN ON THIS DOCUMENT SHALL BE VERIFIED BY THE BUILDER.

GN6. ANY DISCREPANCIES/ SUBSTITUTION IN THESE DOCUMENTS SHALL BE REFERRED TO THE ENGINEER FOR DECISION BEFORE PROCEEDING.

GN7. THE SECTIONS/ DETAILS ON THESE DRAWINGS ARE INTENDED TO GIVE THE STRUCTURAL SPECIFICATIONS ONLY. ARCHITECTURAL SECTIONS/ DETAILS ON THESE DRAWINGS ARE ILLUSTRATIVE ONLY.

GN8. THESE DOCUMENT ARE SIGNED SUBJECT TO CERTIFICATE OF INSPECTION BEING ISSUED BY NITMA. ALL PIERS, SLAB AND FOOTING REINFORCEMENT SHALL BE INSPECTED BY THE ENGINEER PRIOR TO THE POURING OF CONCRETE. NOTICE SHALL BE GIVEN AT LEAST 24 HOURS BEFORE INSPECTION.

GN9. UNLESS NOTED OTHERWISE, QUALITY OF CONCRETE SHALL BE USED AS FOLLOW:

SITE CLEARANCE & PREPARATION

SP1. STRIP TOPSOIL AND VEGETATION TO A 100mm MINIMUM DEPTH AND STOCKPILE.

SP2. THE SITE IS TO BE BENCHED BY CUT/FILL TO DESIRED LEVELS.

SP3. ANY FILL USED IN THE CONSTRUCTION OF A SLAB EXCEPT WHERE THE SLAB IS SUSPENDED SHALL CONSIST OF "ROLLED OR CONTROLLED FILL":

SP3.1. ROLLED FILL SHALL BE PLACED IN LAYERS OF 150mm MAXIMUM IN ACCORDANCE WITH AS2870 AND THOROUGHLY COMPACTED USING AN EXCAVATOR. UNLESS THIS FILL IS COMPACTED IN ACCORDANCE WITH AS2870, IT IS NOT ADEQUATE FOR THE LONG TERM STRUCTURAL SUPPORT TO THE SLAB, FOOTING SYSTEM AND PIERS MUST BE CONSTRUCTED.

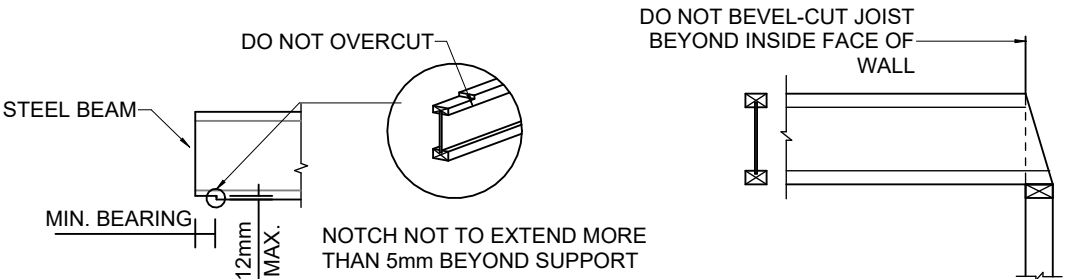
SP3.2. CONTROLLED FILL SHALL BE PLACED, TESTED AND CERTIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER AS DEFINED IN AS3798. THIS IS THEN DEEMED TO BE ADEQUATE TO SUPPORT THE SLAB/ FOOTING SYSTEM.

SP4 THE FILL IS TO EXTEND PAST THE EDGE OF THE SLAB BY AT LEAST ONE METRE AND SHALL BE BATTERED OFF NOT STEEPER THAN TWO (HORIZONTAL) TO ONE (VERTICAL) OR BY A SUITABLE RETAINING STRUCTURE PROVIDED BY THE OWNER OF BUILDER.

SP5. THE FINISHED LEVELS SHALL ALLOW FOR THE MAIN SLAB TO BE AT LEAST 150mm ABOVE THE ADJACENT GROUND.

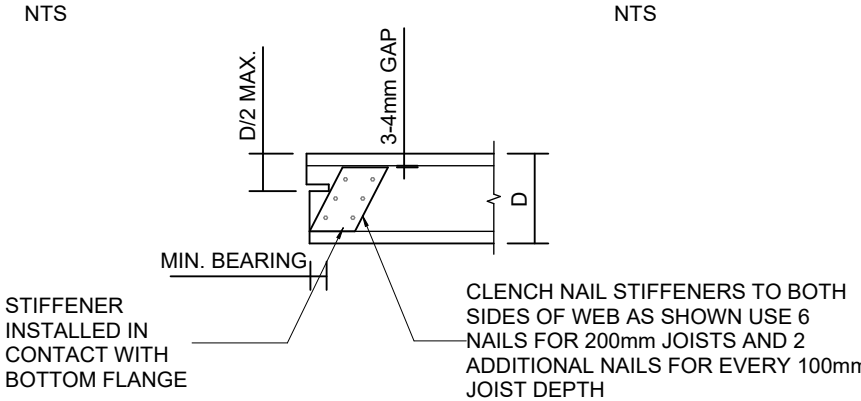
SP6. SURFACE DRAINAGE SHALL BE PROVIDED AS REQUIRED TO AVOID THE POSSIBILITY OF WATER PONDING NEAR THE SLAB. A FALL OF 50mm OVER A DISTANCE OF ONE METRE AWAY FROM THE SLAB IS CONSIDERED ADEQUATE. SUBSOIL DRAINS (AGRICULTURAL DRAINS) ARE CONSIDERED DESIRABLE BUT SHOULD BE AVOIDED BEING LOCATED DIRECTLY ADJACENT TO THE FOOTING.

IMPORTANT DETAILS. PLEASE READ CAREFULLY!

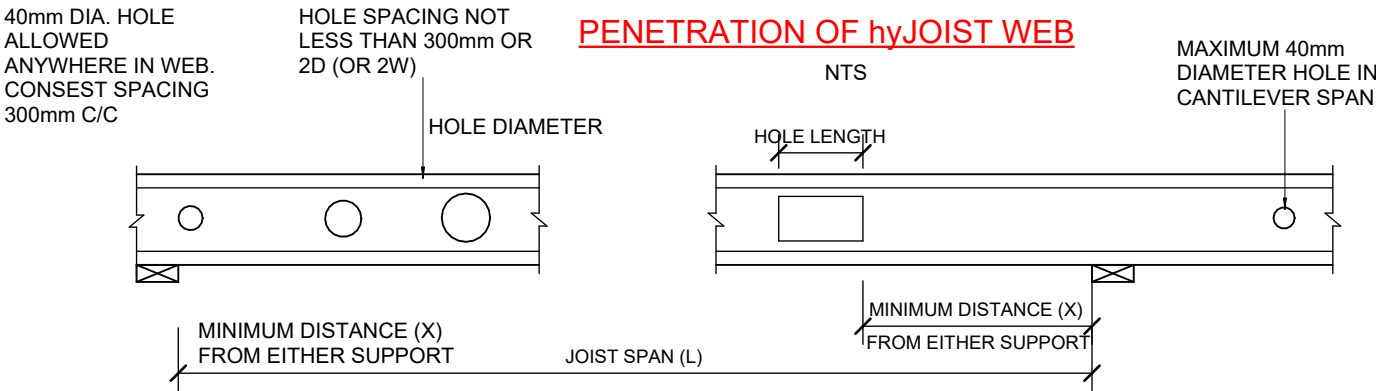


NOTCHING OF hyJOIST FLANGE

BEVEL-CUT DETAIL



NOTCHING OF hyJOIST WEB



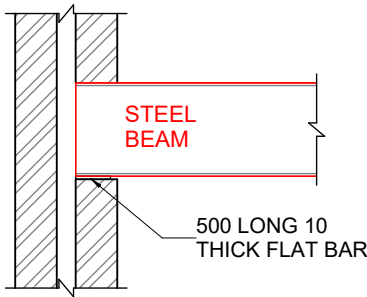
PENETRATION OF hyJOIST WEB

hyJOIST (mm)	MAX. HOLE DIAMETER (mm)	MIN. DISTANCE FROM SUPPORT 'X'	HOLE DIAMETER (mm)	
			Ø80	Ø110
HJ20045	118	0.34L	0.16L	0.28L
HJ24063	158	0.38L	0.12L	0.21L
HJ24090	158	0.38L	0.12L	0.21L
HJ30063	218	0.41L	0.10L	0.15L
HJ30090	218	0.41L	0.10L	0.10L

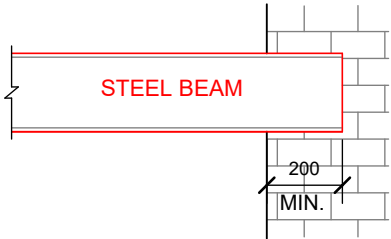
THIS SPACE IS LEFT BLANK
FOR DBP CONTROL

STRUCTURAL STEEL

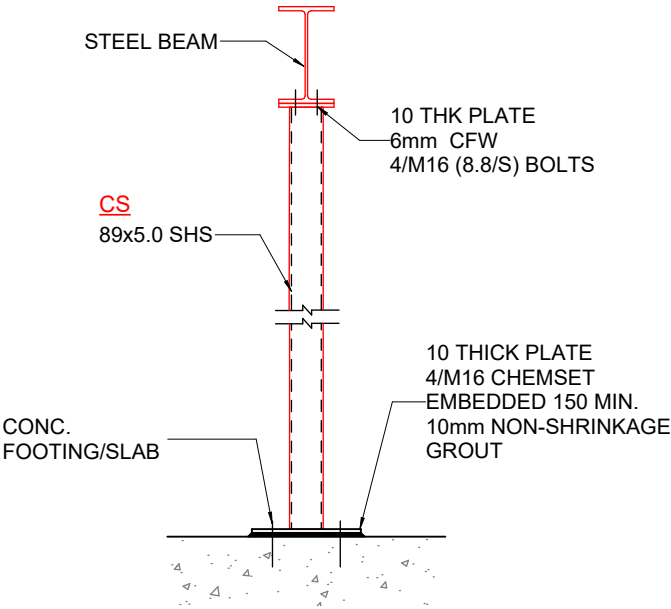
- SS1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS4100.
- SS2. BOLTS NOT DESIGNATED SHALL BE GRADE 8.8/S BOLTS TO AS1252, TIGHTENED TO A SNUG TIGHT FIT. BOLTS DESIGNATED 8.8/TF AND 8.8/TB SHALL BE HIGH STRENGTH STEEL BOLTS TO AS1252, FULLY TENSIONED IN ACCORDANCE WITH AS4100.
- SS3. ALL WELDS SHALL BE GP (GENERAL PURPOSE) IN ACCORDANCE WITH AS1554, USING CLASS E48 ELECTRODES UNLESS NOTED OTHERWISE.
- SS4. STEELWORK CONNECTIONS SHALL BE IN ACCORDANCE WITH THE FOLLOWING MINIMUM REQUIREMENTS UNLESS NOTED OTHERWISE.
- A) ALL WELDS SHALL BE 6mm CONTINUOUS FILLET WELD ALL AROUND.
- B) ALL BOLTS SHALL BE M20-8.8/S BOLTS, WITH A MINIMUM OF 2 BOLTS PER CONNECTION.
- C) ALL GUSSET AND CLEAT PLATES SHALL BE 10mm THICK.
- SS5. UNLESS OTHERWISE SPECIFIED ALL INTERNAL STEELWORK SHALL BE PROVIDED WITH CORROSION PROTECTION OF 75um ZINC SILICATE PRIMER AS PER AS2312, ALL EXTERNAL STEELWORK SHALL BE HOT DIPPED GALVANISED TO AS4680.
- SS6. FIRE PROTECTION FOR STEEL MEMBERS TO NCC/BCA REQUIREMENTS



STEEL BEAM ANGULAR
END-BEARING (TYP.)
SCALE 1:25



STEEL BEAM
STRAIGHT END-BEARING (TYP.)
SCALE 1:25



COLUMN C1
SCALE 1:25

1. IF ANY DISCREPANCIES OR DOUBTS, CONTACT THE ENGINEER.
2. BOOKINGS FOR INSPECTION, IF REQUIRED, SHALL BE MADE VIA OUR WEBSITE AT www.nitma.com.au/bookings. CONDITIONS APPLY.

THIS SPACE IS LEFT BLANK
FOR DBP CONTROL

CONCRETE PIERS

CP1. PIER DIAMETER AND LOCATIONS ARE SHOWN ON PLAN. ONLY WITH THE PRIOR APPROVAL OF THE ENGINEER MAY THE PIER DIAMETER BE VARIED AS PER THE "PIER DIAMETER TABLE"BELOW.
CP2. UNLESS NOTED OTHERWISE, MINIMUM PIER DEPTH IS 600mm BELOW FOOTING TRENCH AND WHEREVER NOMINATED SHOULD BE SOCKETED A MINIMUM 300mm INTO STIFF CLAY.
CP3. ALL PIER HOLES SHALL BE CLEANED AND DE-WATERED PRIOR TO THE POURING OF CONCRETE.
CP4. ALL PIERS SHALL BE POURED SEPARATELY TO SLAB.

CP5. IF ANY OF THE FOOTING BEAMS ENCOUNTER ROCK OR SHALE, THEN ALL BEAMS AND LOAD BEARING SPINE BEAMS SHALL BE PIERED TO ROCK OR SHALE. IF PARTIALLY PIERED TO ROCK THEN BRICK JOINTS ARE TO BE PROVIDED AT THE ROCK/ NON-ROCK INTERFACE.

PIER DIAMETER TABLE

STRATA	MIN. BEARING CAPACITY(kPa)	SINGLE STOREY	DOUBLE STOREY
STIFF CLAY	250	Ø400 @2.0m CTS U.N.O	Ø450 @ 2.0m CTS, OR Ø400 @ 1.5m CTS
ROCK/SHALE	600	Ø400 @2.0m CTS U.N.O	Ø450 @ 2.0m CTS, OR Ø400 @ 1.5m CTS

FOOTINGS AND FLOOR SLAB

FS1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE PIER TOPS ARE CLEAN OF FOREIGN MATTER PRIOR TO THE PLACEMENT OF THE MEMBRANE AND CONCRETE SLAB. ENGINEER'S SPOT CHECK DOES NOT RELEASE THE CONTRACTOR FROM THIS RESPONSIBILITY.
FS2. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600.
FS3. PIPES OR CONDUITS SHALL NOT BE PLACED WITHIN THE CONCRETE COVER TO REINFORCEMENT WITHOUT THE APPROVAL OF THE ENGINEER.
FS4. PIPE PENETRATION IN THE EDGE AND SPINE BEAMS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE DETAILS. WHERE SLAB FABRIC IS CUT TO PERMIT PENETRATIONS OF PIPES, A 600 x 600mm PIECE OF FABRIC IS TO BE SPLICED OVER THE PENETRATION.
FS5. FOR 'H' AND 'E' CLASS SITES, ALL PENETRATIONS THROUGH FOOTINGS AND EDGE BEAMS SHALL BE SLEAVED TO ALLOW MINIMUM 20mm ('H' CLASS) AND 40mm ('E' CLASS) MOVEMENT AS PER AS2870. ALL PLUMBING AND DRAINAGE SERVICES ARE TO BE FITTED WITH FLEXIBLE CONNECTIONS AS PER AS2870.
FS6. SUBTERRANEAN TERMITE PROTECTION IS TO BE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF AS3660.

FS7. A DAMP-PROOF MEMBRANE MUST BE PLACED BENEATH THE SLAB SO THAT THE BOTTOM OF THE SLAB IS ENTIRELY UNDERLAIN. THE DAMP-PROOF MEMBRANE MUST BE 0.2mm NOMINAL THICK POLYTHENE FILM AND OF HIGH IMPACT RESISTANCE. LAPS SHALL BE 200mm MINIMUM AT JOINTS. ALL PLUMBING PENETRATION AND JOINTS ARE TO BE TAPED AND WATERPROOFED. THE SITE IS TO BE PROPERLY DRAINED TO ELIMINATE SURFACE AND SUBSOIL WATER FLOW.

FS8. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON INSULATED STEEL, PLASTIC OR CONCRETE CHAIRS. BAR CHAIRS SHALL BE PLACED SUCH THAT REINFORCEMENT IS ALWAYS POSITIONED WITH SPECIFIED COVER.
FS9. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITIONS SHOWN. THE WRITTEN APPROVAL OF THE ENGINEER SHALL BE OBTAINED FOR ANY OTHER SPLICES, WHERE LAP LENGTHS ARE NOT SHOWN THEY SHALL SATISFY THE REQUIREMENTS OF AS3800.

FS10. IF SLAB FABRIC IS USED, IT IS TO BE SUPPLIED IN FLAT SHEETS AND IS TO BE LAPPED ONE FULL SQUARE PLUS 25mm AT SPLICES AND PLACED ON BAR CHAIRS AT ONE METRE CENTRES BOTH WAYS UNLESS REDUCED SPACING IS SPECIFIED.
FS11. WELDING OF REINFORCEMENT OTHER THAN TACK WELDING FOR PURPOSE OF MAINTAINING BARS IN CORRECT POSITION IS NOT PERMITTED UNLESS SPECIFICALLY NOMINATED ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER.

FS12. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED. VIBRATORS SHALL NOT BE USED TO SPREAD CONCRETE.

FS13. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY ONLY. IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
FS14. BEAM DEPTHS ARE WRITTEN FIRST AND INCLUDE SLAB THICKNESS, IF ANY. THICKNESS OF APPLIED FINISHES ARE NOT INCLUDED.

FS15. UNLESS NOTED OTHERWISE, QUALITY OF CONCRETE SHALL BE USED AS FOLLOW:

ELEMENT	SLUMP	MAX.AGG SIZE (mm)	CEMENT TYPE	CONC. GRADE	SALINITY AFFECTED SITE
PIERS	80	20	A	N20	N32
FOOTING & SLAB ON GROUND	80	20	A	N25	N32
SUSPENDED SLAB WALL & COLUMN	80	20	A	N32	N32

FS16. UNLESS NOTED OTHERWISE, COVER FOR REINFORCEMENT SHALL BE PROVIDED AS FOLLOW:

ELEMENT	CAST AGAINST FORMS		CAST AGAINSTGROUND	
	INTERIOR	EXTERIOR	PROTECTED	UNPROTECTED
PIERS	40	40	40	50
FOOTINGS	50	50	50	50
SLABS	20	40	30	40
WALLS	40	40	50	50
BEAMS	40	40	40	40
COLUMNS	25	40		

MASONRY

SS6. MEMBERS ENCASED IN CONCRETE, FIRE SPRAYED OR HSTF BOLTED CONNECTIONS MUST NOT BE PAINTED. MS1. LOAD BEARING MASONRY SHALL COMPLY WITH AS3700 AND THE PROJECT SPECIFICATIONS.
SS7. FIRE PROTECTION TO BCA'S REQUIREMENTS, IF APPLICABLE.
MS2. THE MINIMUM CHARACTERISTIC COMPRESSIVE STRENGTH OF THE MASONRY UNITS AS DESCRIBED IN AS3700 SHALL BE 20MPa UNLESS NOTED OTHERWISE.
MS3. MASONRY SHALL BE ARTICULATED BY THE CONTRACTOR IN ACCORDANCE WITH THE BCA CLASS 1 AND 10 BUILDINGS, VOLUME 2.
MS4. BRICKWORKS SUPPORTING A CONCRETE SLAB SHALL BE SEPARATED FROM THE SLAB BY TWO LAYERS OF 'ALCOR' OR SIMILAR SLIP JOINT MATERIAL.
MS5. MASONRY WALLS MUST NOT BE BUILT ON CONCRETE SLABS OR BEAMS UNTIL ALL FORMWORK/ PROPS SUPPORTING THESE SLABS AND BEAMS HAVE BEEN REMOVED.
MS6. ALL WALL TIES TO BE BUILT IN AND FIXED TO FRAME PROGRESSIVELY AS CONSTRUCTION PROCEEDS SPACED AT EACH SIDE OF EXPANSION JOINTS AND AT EACH THIRD COURSE. THE SPACING OF ALL OTHER TIES SHALL BE AS DESCRIBED IN THE BCA CLASS 1 AND 10 BUILDINGS, VOLUME 2.

REO BAR LAP & COG LENGTH

(RESPONDING TO 32MPa CONCRETE/ 25MPa CONCRETE OR LOWER RESPECTIVELY)

BAR DIA(mm)	SLAB&WALL	BEAM&COLUMN	OTHERS
12	350/ 410	420/ 530	460/ 580
16	540/ 680	700/ 880	760/ 960
20	790/ 1000	1020/ 1290	1110/ 1400
24	920/ 1040	1190/ 1340	1300/1470
28	1050/ 1190	1360/ 1540	1480/ 1680

BRICK LINTEL SCHEDULE

LINTEL (mm)	MAX. CLEAR SPAN OF LINTEL: UP TO 600 OF MASONRY OVER OPENING	MAX. CLEAR SPAN OF LINTEL: OVER 600 OF MASONRY OVER OPENING	END BEARING
FLAT 75X8	700	700	100mm
FLAT BAR 100X10	900	900	100mm
ANGLE 90X90X6EA	3000	3000	150mm
ANGLE 90X90X8EA	3200	2800	150mm
ANGLE 100X100X6EA	3350	2900	150mm
ANGLE 100X100X8EA	3600	3040	150mm
ANGLE 150X90X8UA	4200	3850	150mm

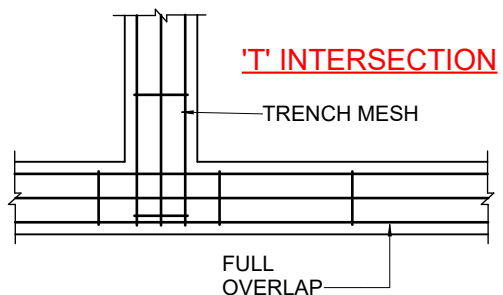
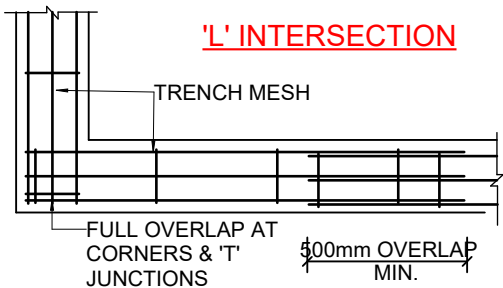
- ALL STEEL LINTELS TO BE HOT DIPPED GALVANISED

REQUIRED COVER WHERE STANDARD FORMWORK AND COMPACTION ARE USED

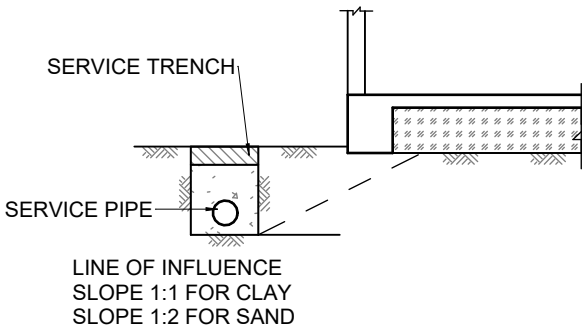
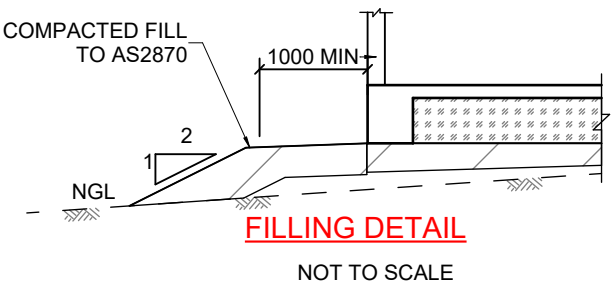
EXPOSURE CLASSIFICATION	REQUIRED COVER, mm				
	CHARACTERISTIC STRENGTH (f' c)				
	20 MPa	25 MPa	32 MPa	40 MPa	≥ 50 MPa
A1	20	20	20	20	20
A2	(50)	30	25	20	20
B1		(60)	40	30	25
B2			(65)	45	35
C1				(70)	50
C2					65

NOTE: BRACKETED FIGURES ARE APPROPRIATE COVERS WHEN THE CONCESSION GIVEN IN CLAUSE 4.3.2 OF AS3600, RELATING TO THE STRENGTH GRADE PERMITTED FOR A PARTICULAR EXPOSURE CLASSIFICATION, IS APPLIED

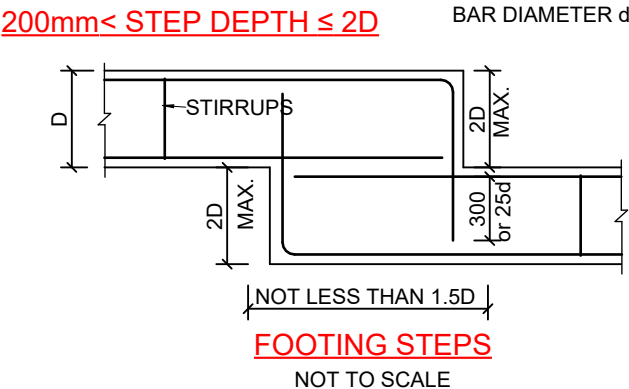
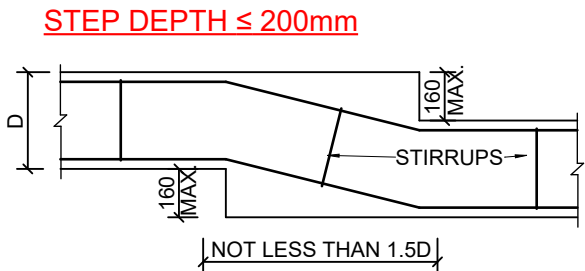
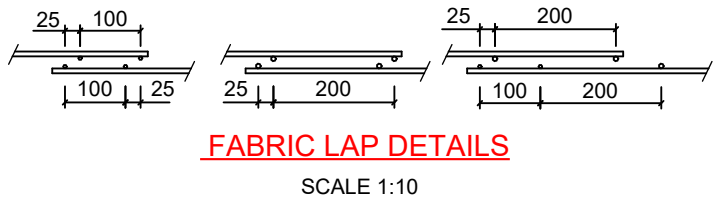
THIS SPACE IS LEFT BLANK
FOR DBP CONTROL



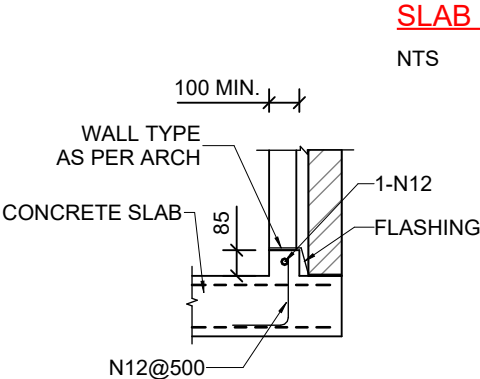
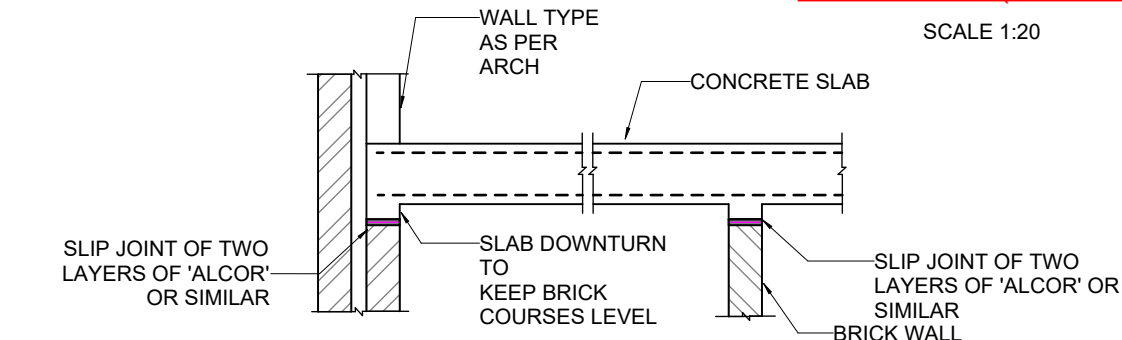
FOOTING CONNECTION
NOT TO SCALE



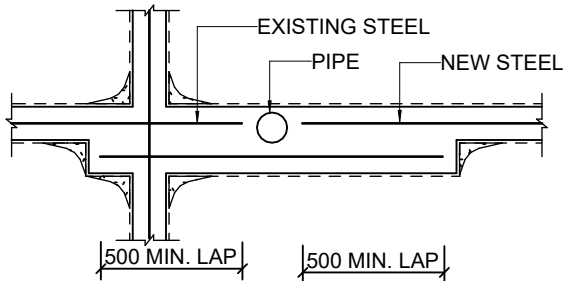
SERVICE TRENCH DETAIL
(WHEN EDGE OF SLAB IS WITHIN THE ZONE OF INFLUENCE OF THE TRENCH)
NTS



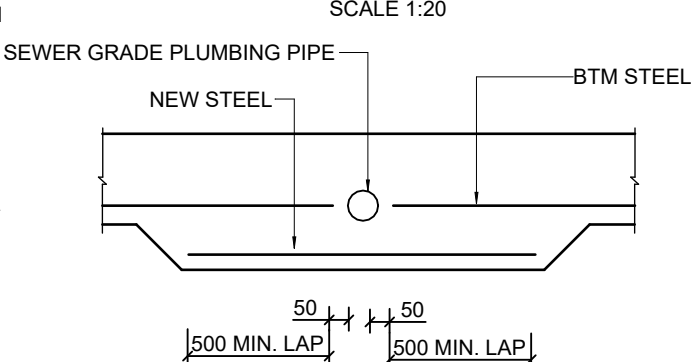
FOOTING STEPS
NOT TO SCALE



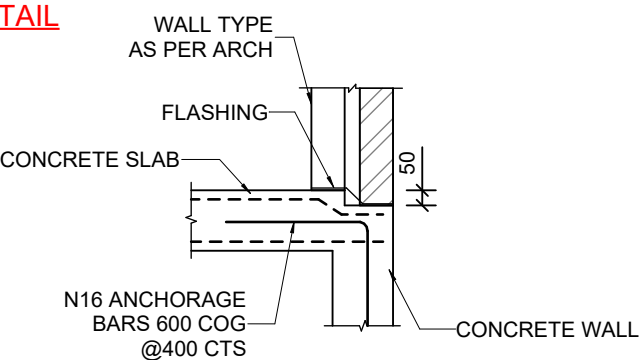
CONCRETE HOB DETAIL
SCALE 1:25



PIPE PENETRATION THROUGH RIB DETAIL (PLAN VIEW)
SCALE 1:20



PIPE PENETRATION THROUGH BEAM DETAIL (ELEVATION)
SCALE 1:20



SLAB REBATE DETAIL
SCALE 1:25

REO BAR LAP & COG LENGTH

(RESPONDING TO 32MPa CONCRETE/ 25MPa CONCRETE OR LOWER RESPECTIVELY)

BAR DIA(mm)	SLAB&WALL	BEAM&COLUMN	OTHERS
12	350/ 410	420/ 530	460/ 580
16	540/ 680	700/ 880	760/ 960
20	790/ 1000	1020/ 1290	1110/ 1400
24	920/ 1040	1190/ 1340	1300/1470
28	1050/ 1190	1360/ 1540	1480/ 1680

Notes: Some details may not be applicable to current project.

THIS SPACE IS LEFT BLANK
FOR DBP CONTROL

TIMBER

TB1. SOFTWOOD TIMBER TO BE GRADE F7 OR MGP 10 MINIMUM.
HARDWOOD TIMBER TO BE GRADE F14 MINIMUM.

TB2. TIMBER EXPOSED TO WEATHER TO BE EXTERIOR GRADE.
TIMBER IN CONTACT WITH GROUND TO HAVE TERMITE
TREATMENT GRADE IN ACCORDANCE WITH BCA AND AS3660.1.

TB3. ALL WORKMANSHIP AND MATERIALS SHALL BE IN
ACCORDANCE WITH AS1684, AS1720 AND AS3959.

TB4. SOFTWOOD TIMBER TO BE GRADE F7 OR MGP 10 MINIMUM.
HARDWOOD TIMBER TO BE GRADE F14 MINIMUM.

TB5. TIMBER EXPOSED TO WEATHER TO BE EXTERIOR GRADE.
TIMBER IN CONTACT WITH GROUND TO HAVE TERMITE AND
PRESERVATIVE TREATMENT GRADE IN ACCORDANCE WITH
AS3660 AND AS1604.

TB6. TIMBER TO BE

- DURABILITY CLASS 1
- PRESERVATIVE TREATED H4 LEVEL FOR NON-CRITICAL
LANDSCAPING RETAINING WALLS
- PRESERVATIVE TREATED H5 LEVEL FOR CRITICAL
STRUCTURAL MEMBERS

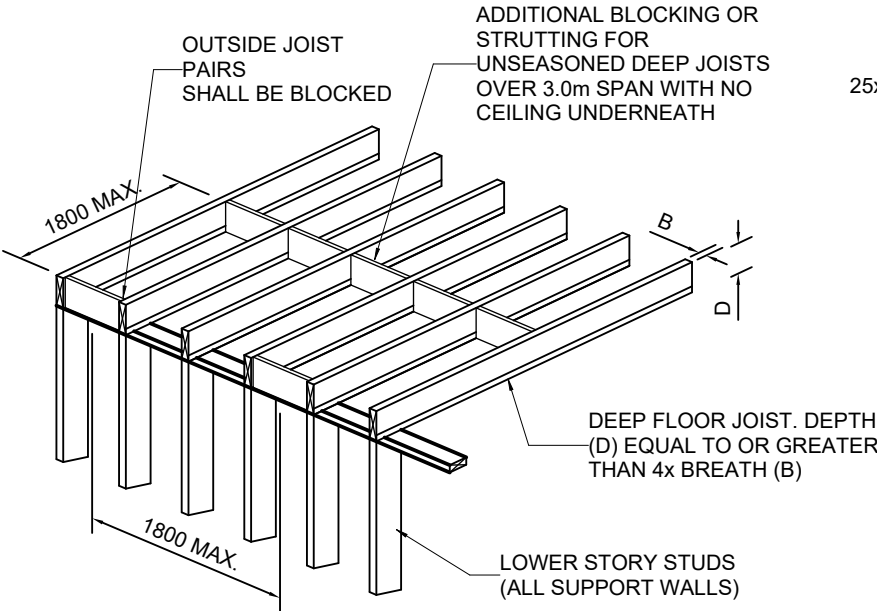
TB7. FIRE PROTECTION FOR TIMBER MEMBERS TO NCC/BCA
REQUIREMENTS

LINTELS - SHEET ROOF - SINGLE OR
UPPER STOREY LOAD BEARING WALLS

SIZE DxB (mm)	ROOF LOAD WIDTH (MM)				
	1500	3000	4500	6000	7500
2/90x45	2300	1800	1600	1400	1400
2/120x45	3000	2400	2100	1900	1700
2/140x45	3300	2800	2400	2200	2000
2/170x45	3800	3200	2900	2700	2500
2/190x45	4100	3500	3200	3000	2800
2/240x45	4800	4200	3800	3500	3400
2/290x45	5500	4800	4400	4100	3900

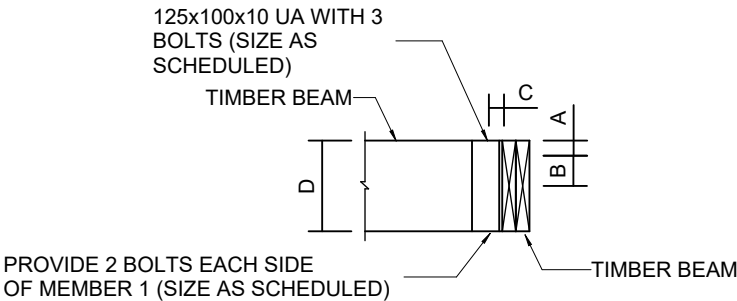
LINTELS - TILED ROOF - SINGLE OR UPPER
STOREY LOAD BEARING WALLS

SIZE DxB (mm)	ROOF LOAD WIDTH (MM)				
	1500	3000	4500	6000	7500
2/90x45	1700	1400	1200	1100	1000
2/120x45	2300	1800	1600	1400	1400
2/140x45	2700	2100	1800	1700	1500
2/170x45	3100	2600	2200	2000	1900
2/190x45	3400	2900	2500	2300	2100
2/240x45	4100	3400	3100	2900	2700
2/290x45	4700	4000	3600	3400	3100



DEEP FLOOR JOIST BLOCKING

NTS

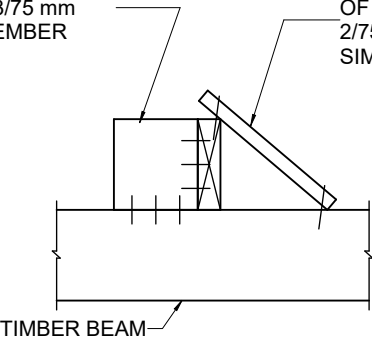


TIMBER BEAM CONNECTION (ELEV.)

NTS

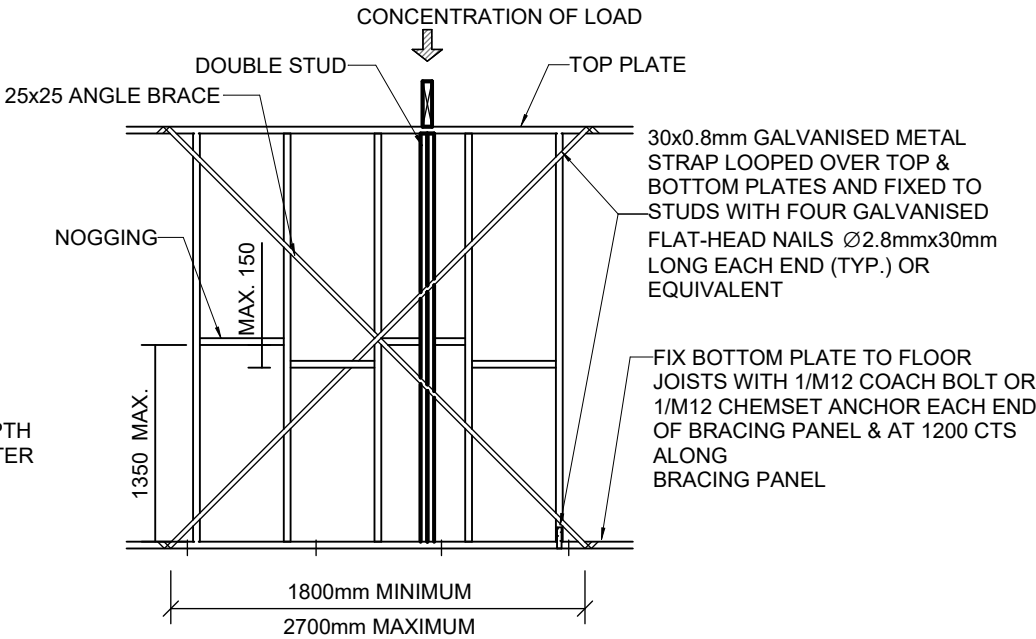
OR BLOCK SKEW-NAILED TO BEAM AND TO SUPPORT WITH 3/75 mm SKEW NAILS TO EACH MEMBER

MIN. 35x32 mm TIE NAILED TO TOP OF BEAM AND TO SUPPORT WITH 2/75 mm NAILS EACH END OR SIMILAR METHOD



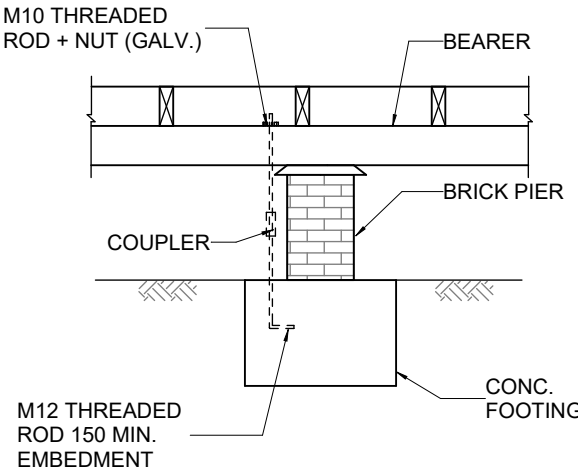
LATERAL RESTRAINT

NTS



WALL ELEMENTS

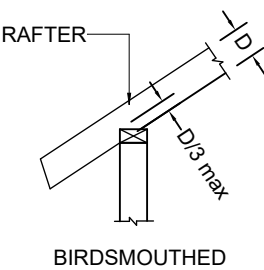
NTS



FLOOR FRAME TIE-DOWN DETAIL (TYP.)

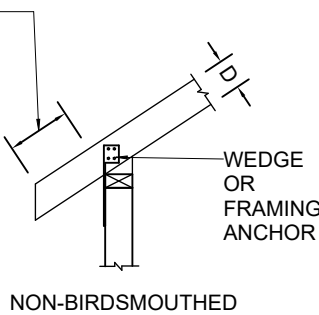
NTS

MAX. OVERHANG IS 30% SINGLE SPAN VALUE OF RAFTER EXCEPT WHERE OVERHANG FOR A BIRDSMOUTHED RAFTER PERMITS A GREATER OVERHANG.



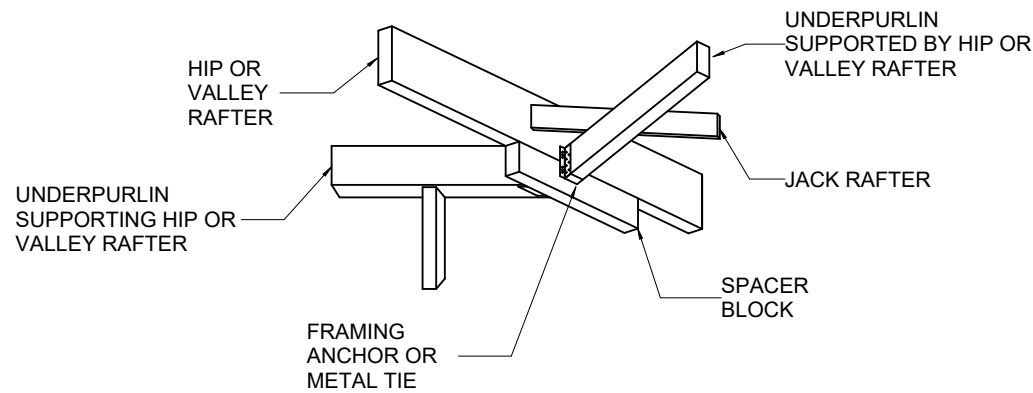
RAFTER OVERHANG AND BIRDSMOUTHING

NTS



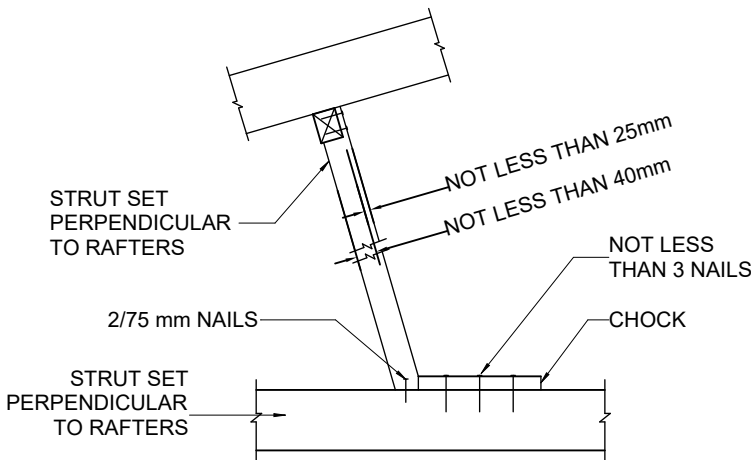
Notes: Some details may not be applicable to current project.

THIS SPACE IS LEFT BLANK
FOR DBP CONTROL



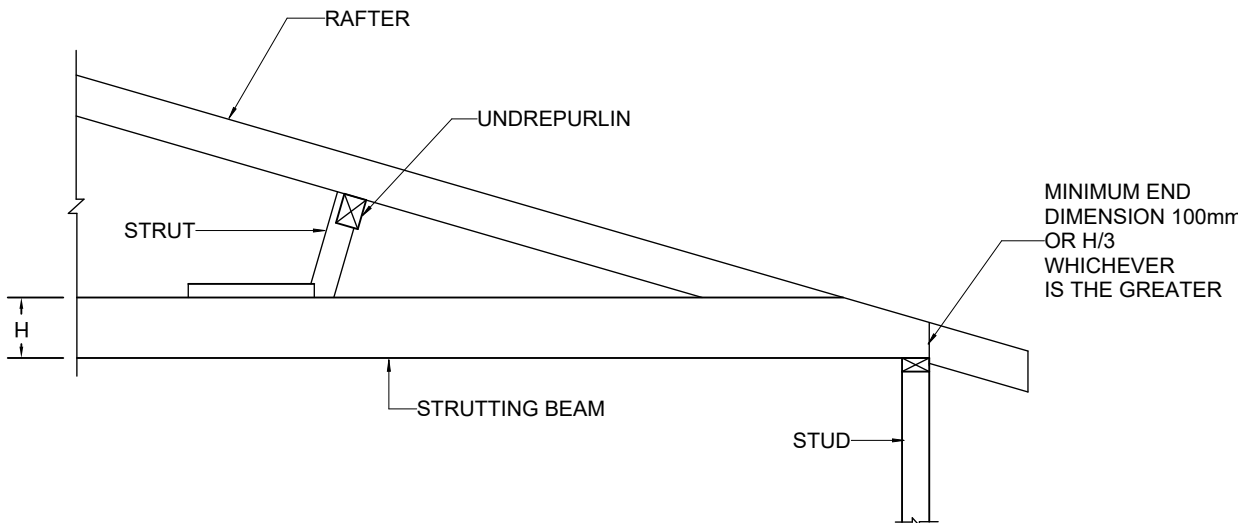
UNDERPURLIN CONNECTIONS TO HIP/VALLEY

NTS



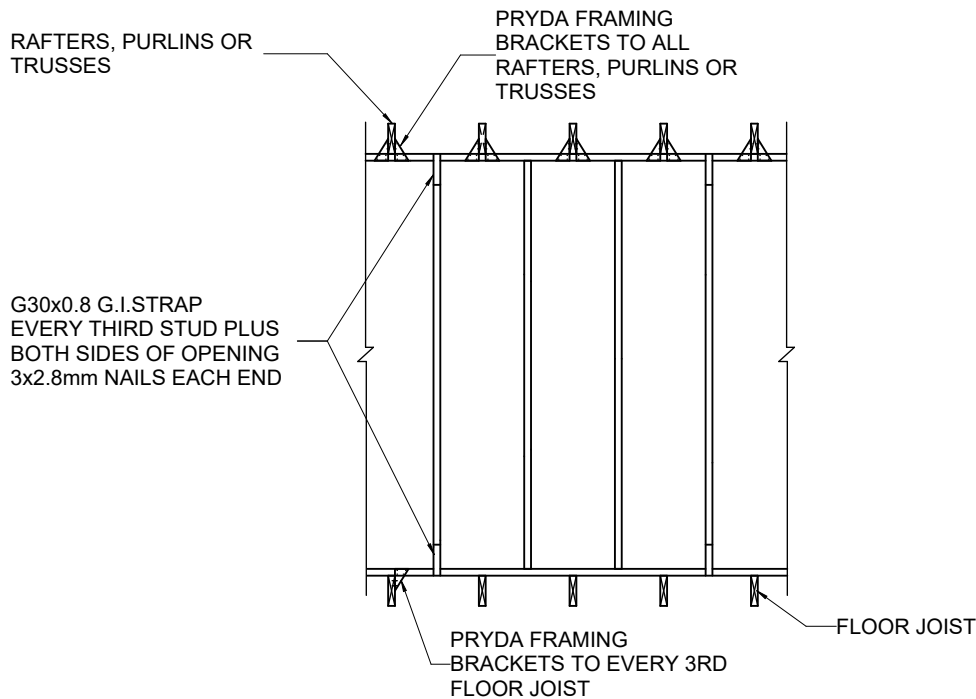
STRUTS PERPENDICULAR TO RAFTERS

NTS



STRUTTING BEAMS

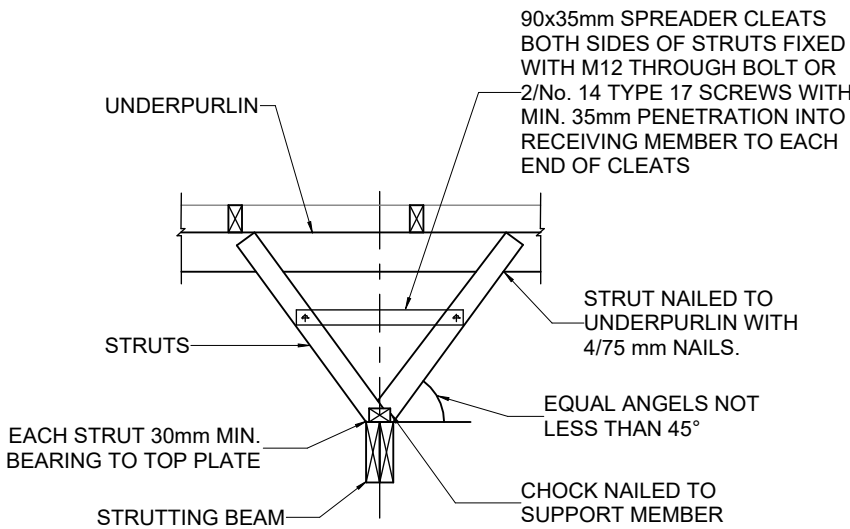
NTS



NOTE: NOGGINGS HAVE BEEN OMITTED FOR CLARITY.

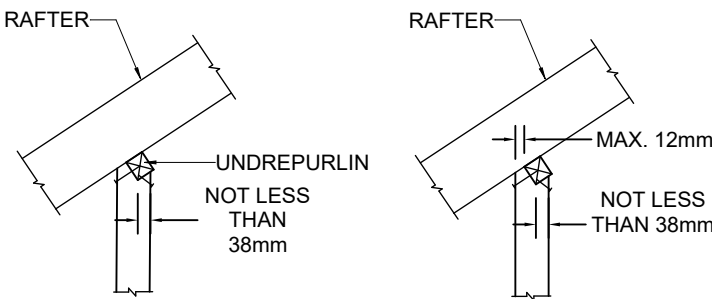
TYPICAL TIE-DOWN DETAILS

NTS



FAN STRUTS

NTS



VERTICAL STRUTS

NTS

Paper size: **A3**

All dimensions are in millimetres. Do not scale the drawing. Use written dimensions. Dimensions must be confirmed prior to commencement. Location of services are approximate only. Dial 1100 before any excavation or demolition.

Revisions	
For Coordination only	
Designed: HD	Checked: KV

Approved:

Quoc Huy Nguyen
PhD (Eng). MIEAust, CPEng,
NER Reg. No. 208 2513

NITMA
CONSULTING

NITMA CONSULTING PTY LTD
PO Box 43, West Ryde NSW 1685
M: 0434 284 585
E: admin@nitma.com.au
W: nitma.com.au
© Copyright. All rights reserved.

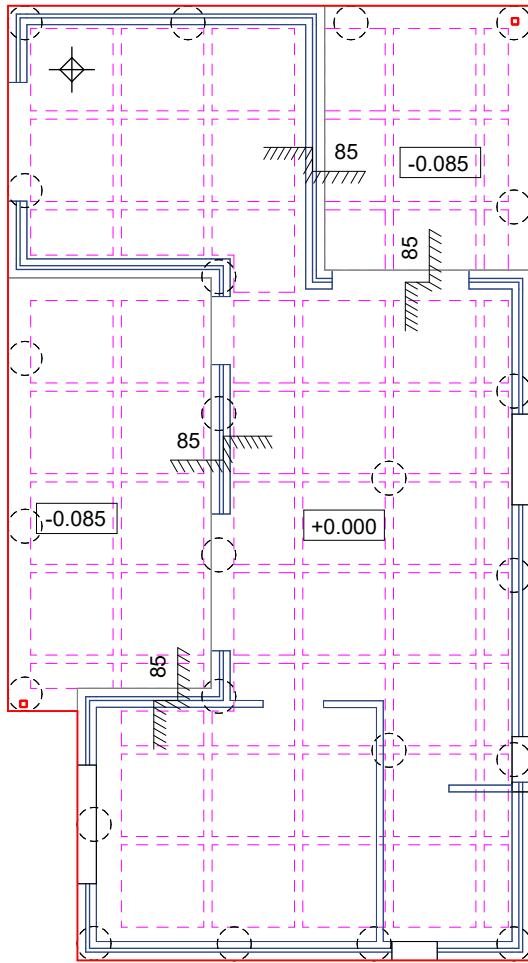
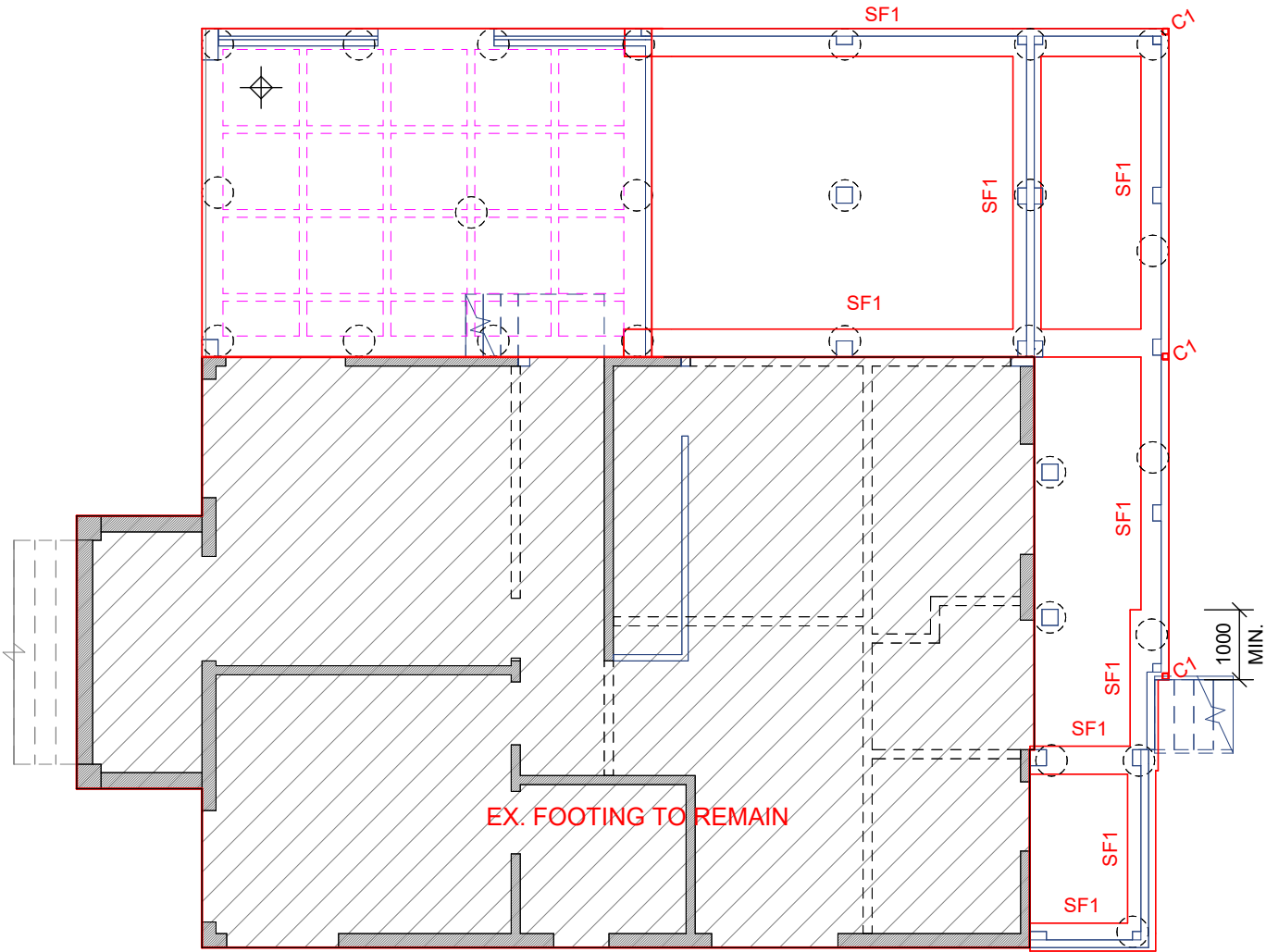
PROJECT : PROPOSED ADDITION & ALTERATIONS
ADDRESS: 173 BIRDWOOD RD, GEORGES HALL
LGA : CANTERBURY-BANKSTOWN COUNCIL

STANDARD DETAILS (TIMBER)

Project No: 6370S Issue: A Date: 28.05.2024 Drawing No: GNT2

Total no. of sheets: **15**

THIS SPACE IS LEFT BLANK
FOR DBP CONTROL



- SLAB THICKNESS: 85mm U.N.O.
- SLAB REINFORCEMENT:
SL82, 20 COVER U.N.O
- RIB REINFORCEMENT BAR: N12.

IMPORTANT NOTES

1. GEOTECHNICAL INVESTIGATION HAS NOT BEEN CARRIED OUT, THE BUILDER MUST CONTACT THE ENGINEER FOR INSPECTION OF FOUNDATION BEFORE LAYING REINFORCEMENT FOR FOOTING.

IF FOUNDATION OF ADEQUATE BEARING (REFER TO SHEET 1) IS ENCOUNTERED DURING EXCAVATION, PIERS CAN BE DELETED.
2. WAFFLE PODS OF LESS THAN 200mm WIDTH CAN BE DELETED.

KEY:

- EX. STRUCTURES TO REMAIN
- NEW STRUCTURES
- STARTING POD
- PIER/PAD TO FIRM STIFF CLAY OR ROCK U.N.O.
- SLAB RIBS
- 3-N12 TRIMMER 2000 LONG

FOOTING PLAN

SCALE: 1 : 100

Paper size: **A3**

All dimensions are in millimetres. Do not scale the drawing. Use written dimensions. Dimensions must be confirmed prior to commencement. Location of services are approximate only. Dial 1100 before any excavation or demolition.

Revisions	
For Coordination only	
Designed: HD	Checked: KV

Approved:

Quoc Huy Nguyen
PhD (Eng). MIEAust, CPEng,
NER Reg. No. 208 2513

NITMA
CONSULTING

NITMA CONSULTING PTY LTD
PO Box 43, West Ryde NSW 1685
M: 0434 284 585
E: admin@nitma.com.au
W: nitma.com.au
© Copyright. All rights reserved.

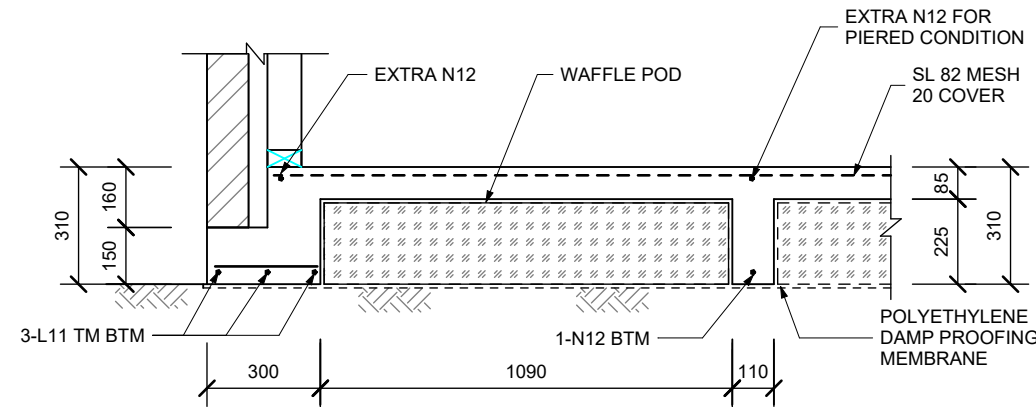
PROJECT : PROPOSED ADDITION & ALTERATIONS
ADDRESS: 173 BIRDWOOD RD, GEORGES HALL
LGA : CANTERBURY-BANKSTOWN COUNCIL

FOOTING PLAN

Project No: 6370S Issue: A Date: 28.05.2024 Drawing No: FT1

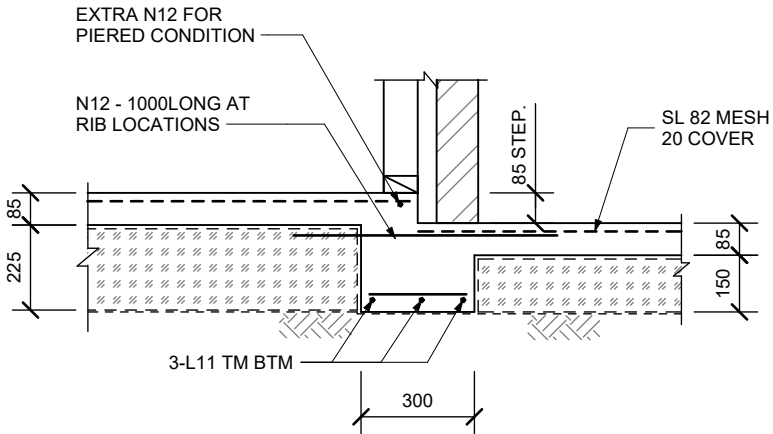
Total no. of sheets
15

THIS SPACE IS LEFT BLANK
FOR DBP CONTROL



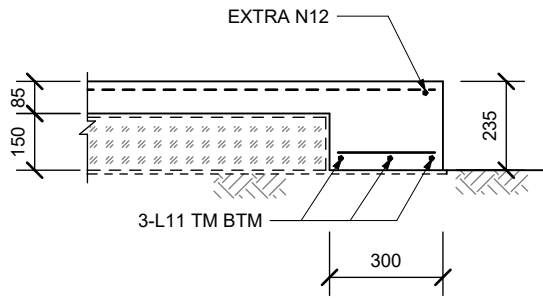
TYPICAL EDGE & RIB BEAM DETAILS

SCALE 1:20



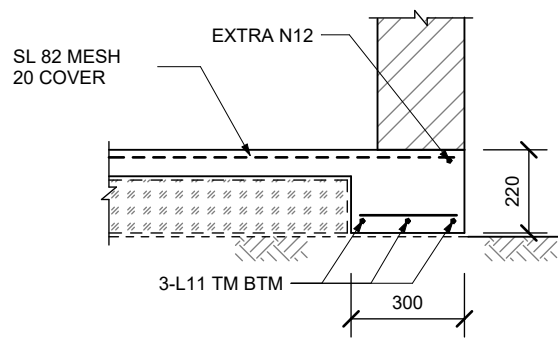
PATIO STEP DETAILS

SCALE 1:20



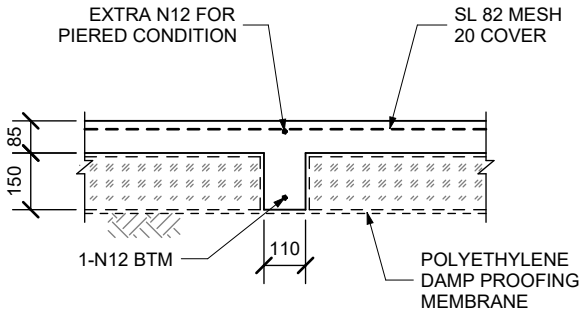
PATIO EDGE BEAM DETAILS

SCALE 1:20



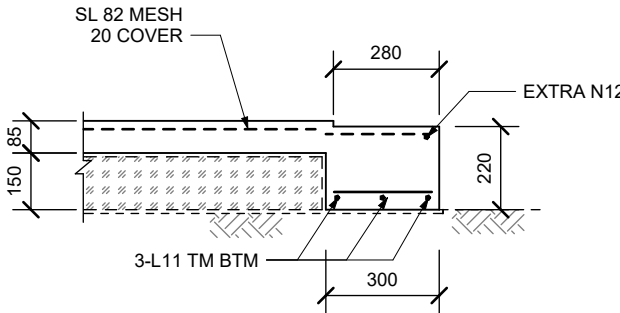
GARAGE FRONT EDGE BEAM

SCALE 1:20



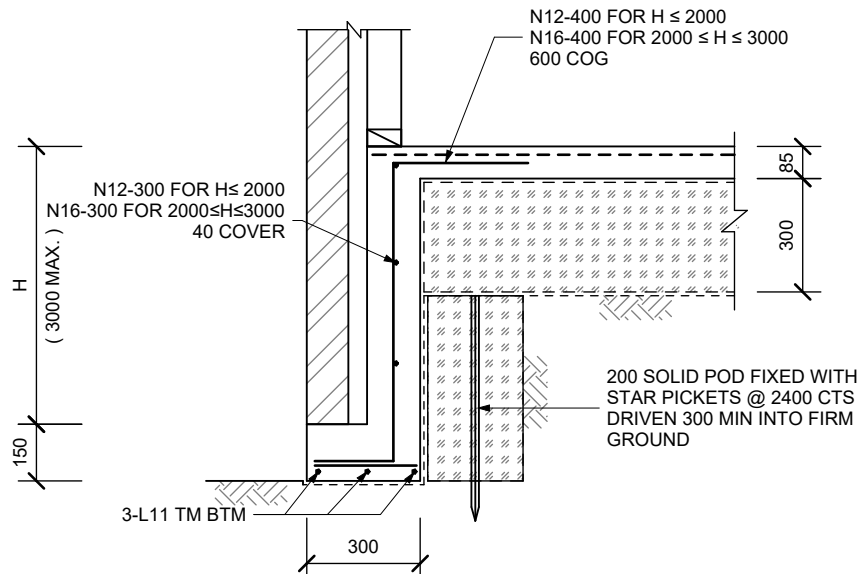
GARAGE RIB BEAM

SCALE 1:20



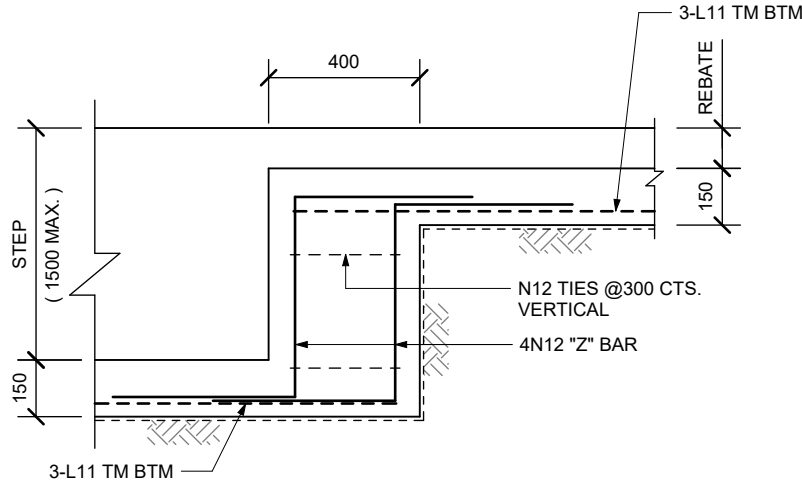
GARAGE DOOR REBATE

SCALE 1:20



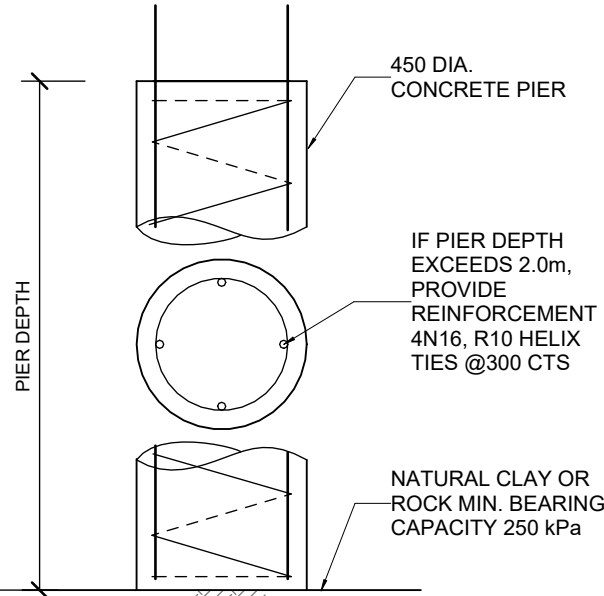
TYP. DEEP EDGE BEAM DETAILS

SCALE 1:20



DEEP EDGE BEAM TRANSITION

SCALE 1:20



TYP. PIER DETAILS

SCALE 1:20

Paper size: A3

All dimensions are in millimetres. Do not scale the drawing. Use written dimensions. Dimensions must be confirmed prior to commencement. Location of services are approximate only. Dial 1100 before any excavation or demolition.

Revisions	
For Coordination only	
Designed: HD	Checked: KV

Approved:

Quoc Huy Nguyen
PhD (Eng). MIEAust, CPEng,
NER Reg. No. 208 2513

NITMA
CONSULTING

NITMA CONSULTING PTY LTD
PO Box 43, West Ryde NSW 1685
M: 0434 284 585
E: admin@nitma.com.au
W: nitma.com.au
© Copyright. All rights reserved.

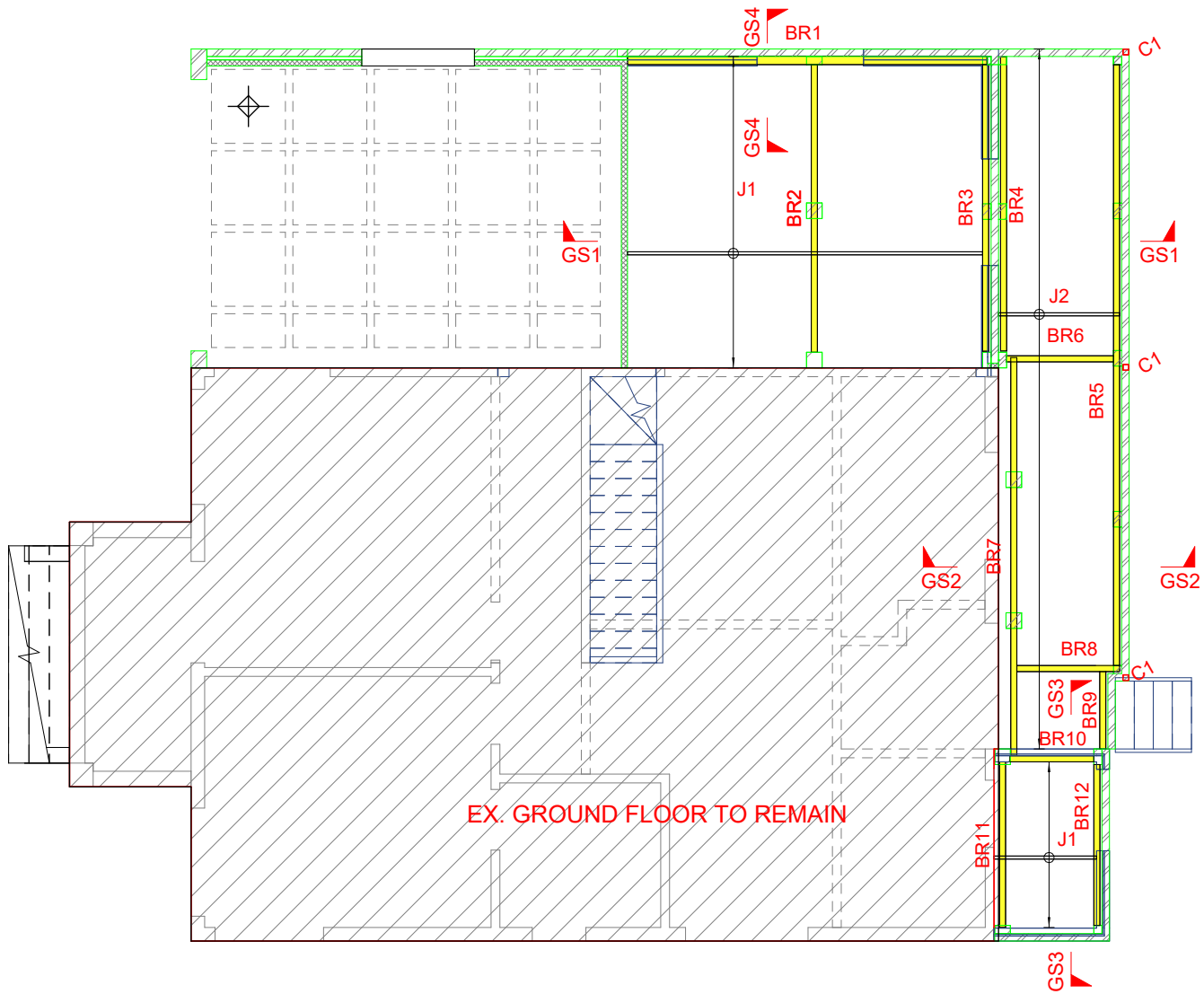
PROJECT : PROPOSED ADDITION & ALTERATIONS
ADDRESS: 173 BIRDWOOD RD, GEORGES HALL
LGA : CANTERBURY-BANKSTOWN COUNCIL

FOOTING DETAILS

Project No: 6370S Issue: A Date: 28.05.2024 Drawing No: FT2

Total no. of sheets 15

THIS SPACE IS LEFT BLANK
FOR DBP CONTROL



GROUND FLOOR PLAN
SCALE: 1 : 100

KEY:

- EX. STRUCTURES UNDERNEATH TO REMAIN
- EX. WALLS UNDERNEATH TO BE REMOVED
- EX. STRUCTURES ON FLOOR TO REMAIN
- NEW LOAD BEARING WALLS UNDERNEATH
- NEW STRUCTURES ON FLOOR
- BRICK PIER
- TIMBER BEAM
- STEEL BEAM

DESIGN LOADS

- PERMANENT ACTION: 0.5kPa.
- IMPOSED ACTION :
 - GENERAL AREA 1.5kPa
 - BALCONY AREA 2.0kPa

GROUND FLOOR

MEMBER	SIZES	COMMENT	MAX. CLEAR SPAN
BR1	2/130x63 hySPAN	H3	2600
BR2	2/130x45 hySPAN	H3	2000
BR3	2/130x45 hySPAN	H3	2000
BR4	2/130x45 hySPAN	H3	2100
BR5	2/130x45 hySPAN	H3	2100
BR6	2/130x45 hySPAN	H3	1700
BR7	2/130x45 hySPAN	H3	1900
BR8	2/130x45 hySPAN	H3	1700
BR9	2/130x45 hySPAN	H3	800
BR10	2/130x45 hySPAN	H3	1300
BR11	2/130x45 hySPAN	H3	2500
BR12	2/130x45 hySPAN	H3	2500
J1	130x45 hySPAN @450 CTS.	H3	2600
J2	120x45 F7, TREATED PINE @450 CTS.	H3	1700

SCHEDULE COLUMNS

MEMBER	SIZE
C1	89x89x5.0SHS

NOTES:

MEMBER SIZES ARE MINIMUM ONLY AND CAN BE UPGRADED TO SUIT CONSTRUCTION CONDITIONS. SPANS TO BE CONFIRMED ON SITE BY THE BUILDER. CONSULT ENGINEER IF IN DOUBT.

Paper size: A3

All dimensions are in millimetres. Do not scale the drawing. Use written dimensions. Dimensions must be confirmed prior to commencement. Location of services are approximate only. Dial 1100 before any excavation or demolition.

Revisions	
For Coordination only	
Designed: HD	Checked: KV

Approved:

Quoc Huy Nguyen
PhD (Eng). MIEAust, CPEng,
NER Reg. No. 208 2513



NITMA CONSULTING PTY LTD
PO Box 43, West Ryde NSW 1685
M: 0434 284 585
E: admin@nitma.com.au
W: nitma.com.au
© Copyright. All rights reserved.

PROJECT : PROPOSED ADDITION & ALTERATIONS
ADDRESS: 173 BIRDWOOD RD, GEORGES HALL
LGA : CANTERBURY-BANKSTOWN COUNCIL

GROUND FLOOR PLAN

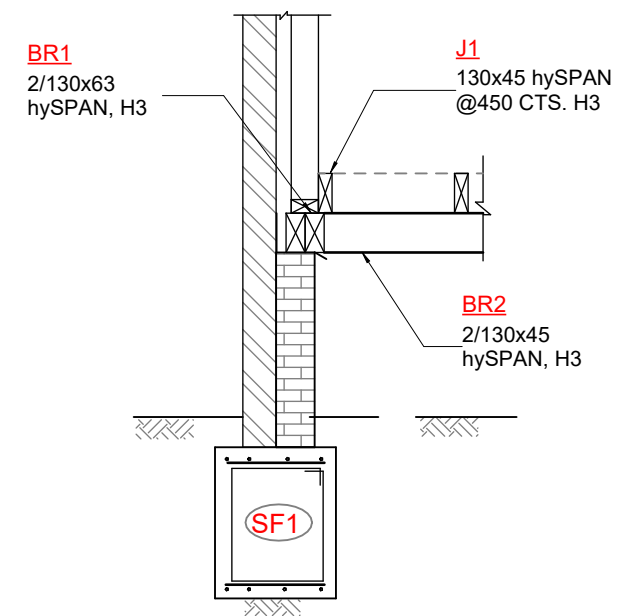
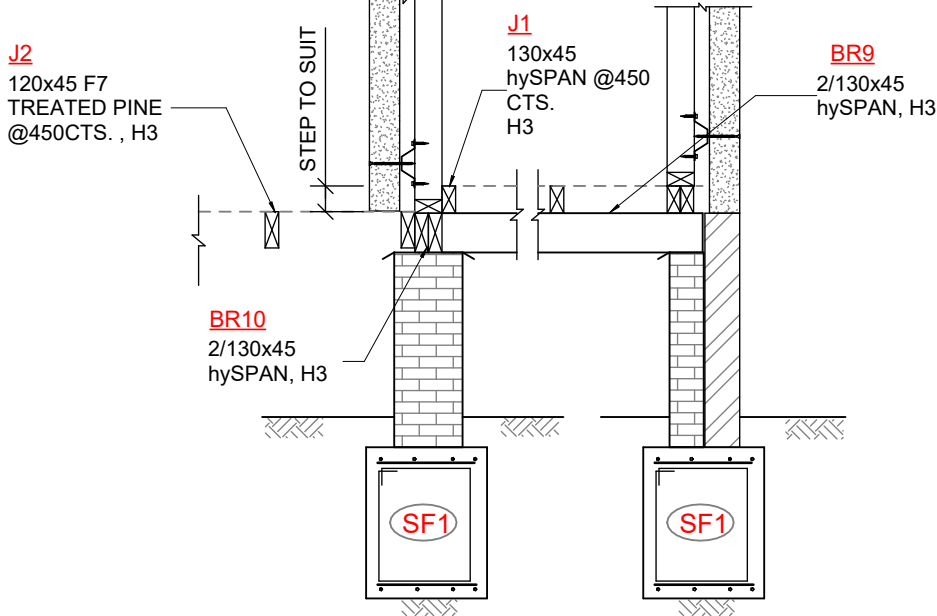
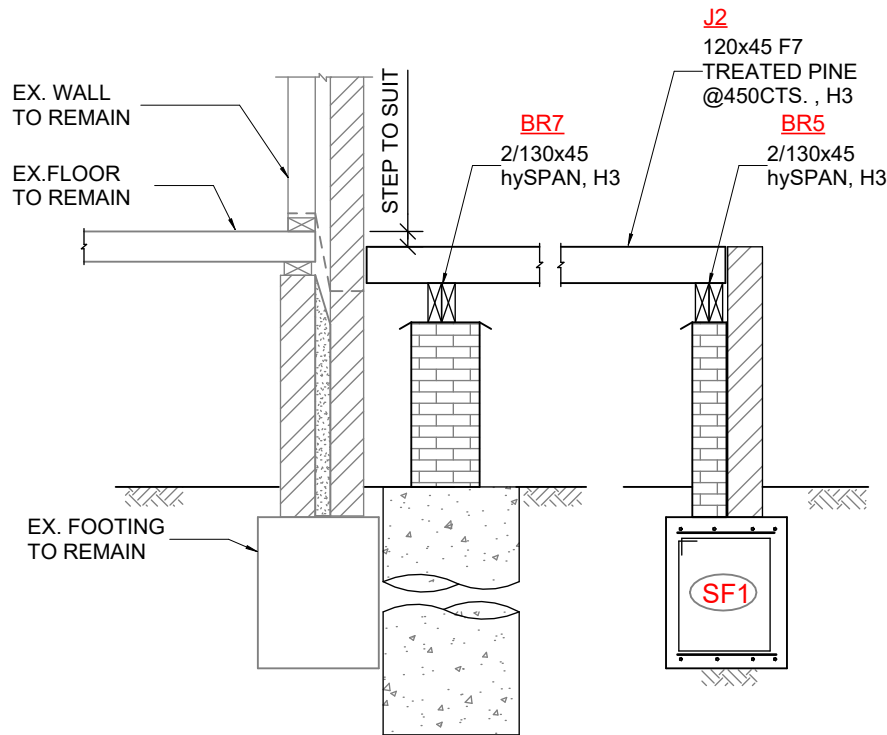
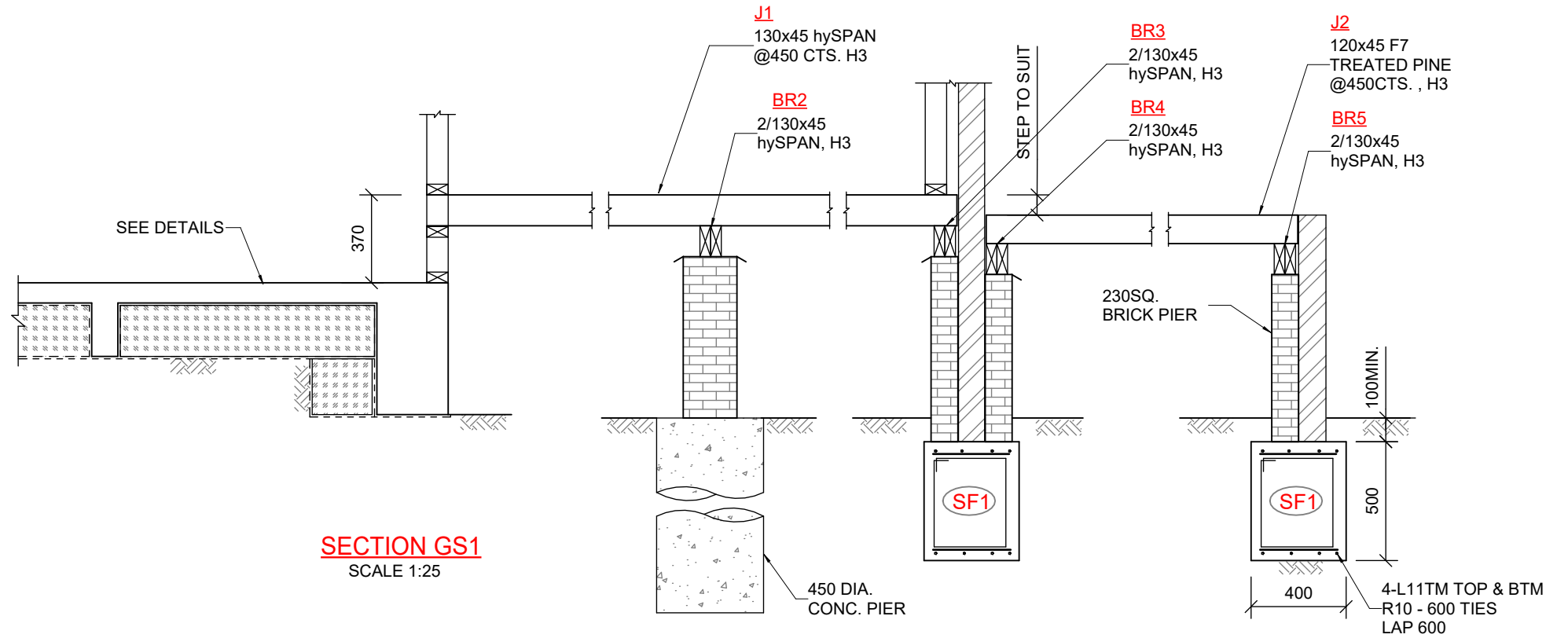
Project No: 6370S Issue: A Date: 28.05.2024 Drawing No: GL1

Total no. of sheets 15

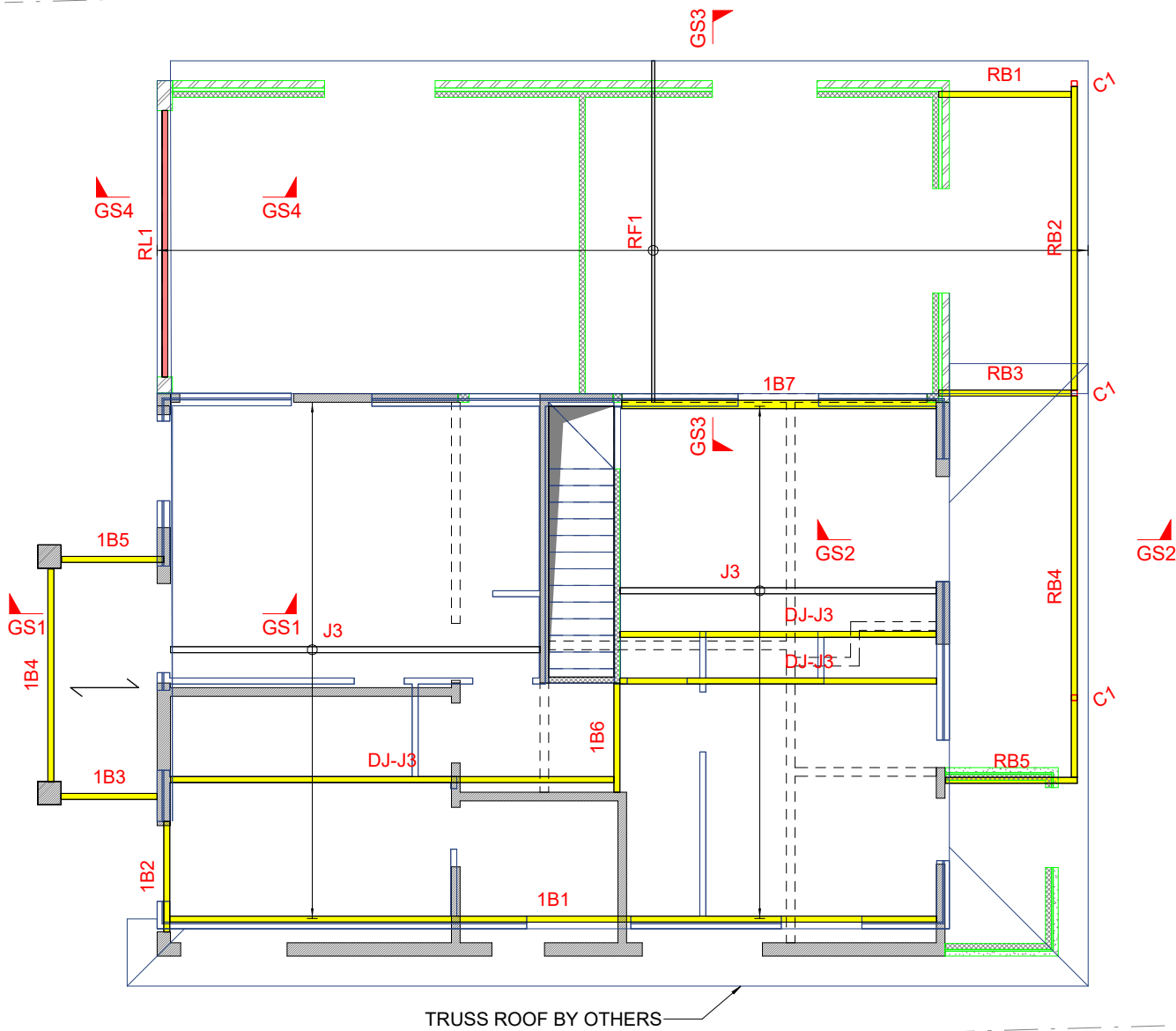
THIS SPACE IS LEFT BLANK
FOR DBP CONTROL

(a) $H \geq 1200$, ADD 230x230
ENGAGED PIERS AT 1800 CTS.

(b) BRICK PIER TO BE 230x230.
IF HEIGHT EXCEED 1200mm,
PIER BASE SHALL BE 350x350.



THIS SPACE IS LEFT BLANK
FOR DBP CONTROL



FIRST FLOOR PLAN
SCALE: 1 : 100

KEY:

- EX. STRUCTURES UNDERNEATH TO REMAIN
- NEW LOAD BEARING WALLS UNDERNEATH
- EX. WALLS UNDERNEATH TO BE REMOVED
- EX. STRUCTURES ON FLOOR TO REMAIN
- NEW STRUCTURES ON FLOOR
- TIMBER BEAM
- STEEL BEAM
- ASSUMED DIRECTION OF JOIST (JOIST SIZE TO COMPLY WITH AS 1684.2 AND/ OR MANUFACTURER'S SPAN TABLE)

DESIGN LOADS

- PERMANENT ACTION: 0.5kPa.
- IMPOSED ACTION :
 - GENERAL AREA 1.5kPa
 - BALCONY AREA 2.0kPa

METAL ROOF:

- PERMANENT ACTION: 0.40kPa
- IMPOSED ACTION 0.25kPa

SCHEDULE - FIRST FLOOR PLAN

MEMBER	SIZES	COMMENT	MAX. CLEAR SPAN
1B1	2/300x45 hySPAN		4800
1B2	2/300x45 hySPAN		1700
1B3	2/200x45 hySPAN		1500
1B4	2/200x45 hySPAN		3200
1B5	2/200x45 hySPAN		1500
1B6	2/300x45 hySPAN		1700
1B7	2/300x63 hySPAN		4800
DJ-J3	DOUBLE JOIST J3		
J3	HJ300x90 hyJOIST @450 CTS.		5800
RB1	2/170x45 hySPAN		2000
RB2	2/170x45 hySPAN		4600
RB3	2/170x45 hySPAN		2000
RB4	2/300x45 hySPAN		5800
RB5	2/300x45 hySPAN		2000
RB6	2/300x45 hySPAN		5800
RB7	300x45 hySPAN		700
RB8	2/170x45 hySPAN		2700
RB9	2/170x45 hySPAN		3400
RF1	190x45 MGP10 @600 CTS.		4800
RL1	300PFC	+ 10THK. PLATE	4000

NOTES:

MEMBER SIZES ARE MINIMUM ONLY AND CAN BE UPGRADED TO SUIT CONSTRUCTION CONDITIONS. SPANS TO BE CONFIRMED ON SITE BY THE BUILDER. CONSULT ENGINEER IF IN DOUBT.

Paper size: **A3**

All dimensions are in millimetres. Do not scale the drawing. Use written dimensions. Dimensions must be confirmed prior to commencement. Location of services are approximate only. Dial 1100 before any excavation or demolition.

Revisions	
For Coordination only	
Designed: HD	Checked: KV

Approved:

Quoc Huy Nguyen
PhD (Eng). MIEAust, CPEng,
NER Reg. No. 208 2513

NITMA
CONSULTING

NITMA CONSULTING PTY LTD
PO Box 43, West Ryde NSW 1685
M: 0434 284 585
E: admin@nitma.com.au
W: nitma.com.au
© Copyright. All rights reserved.

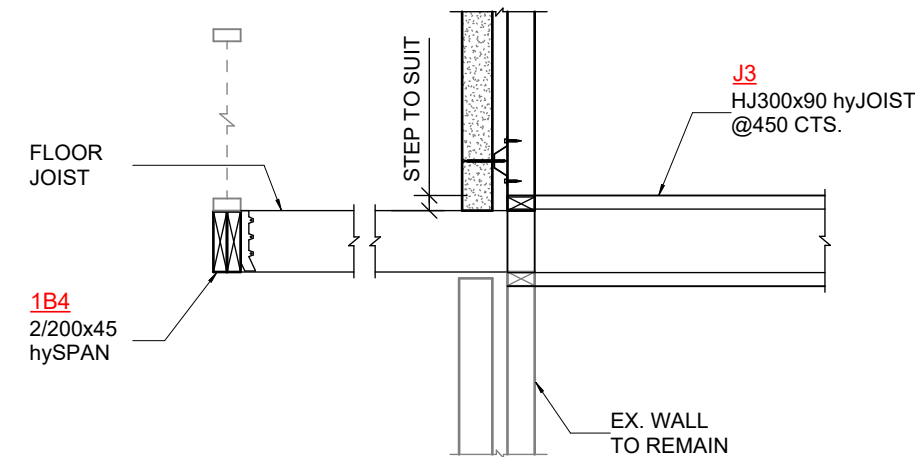
PROJECT : PROPOSED ADDITION & ALTERATIONS
ADDRESS: 173 BIRDWOOD RD, GEORGES HALL
LGA : CANTERBURY-BANKSTOWN COUNCIL

FIRST FLOOR PLAN

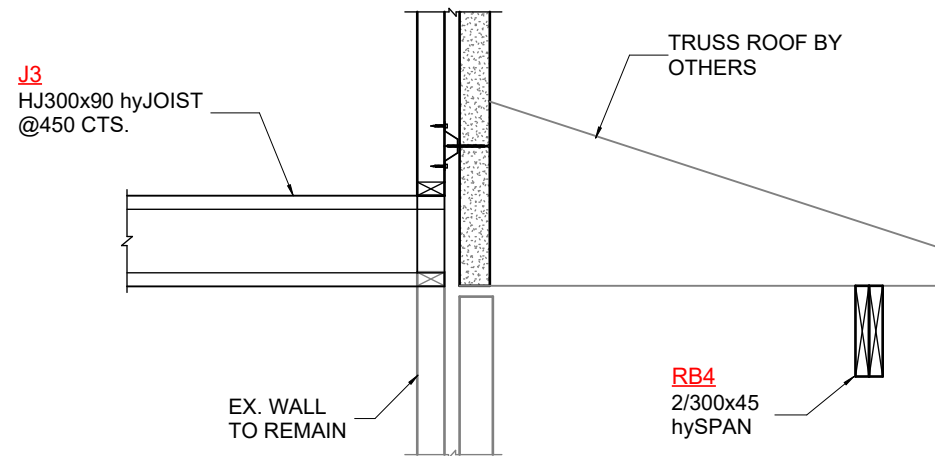
Project No: 6370S Issue: A Date: 28.05.2024 Drawing No: 1L1

Total no. of sheets: **15**

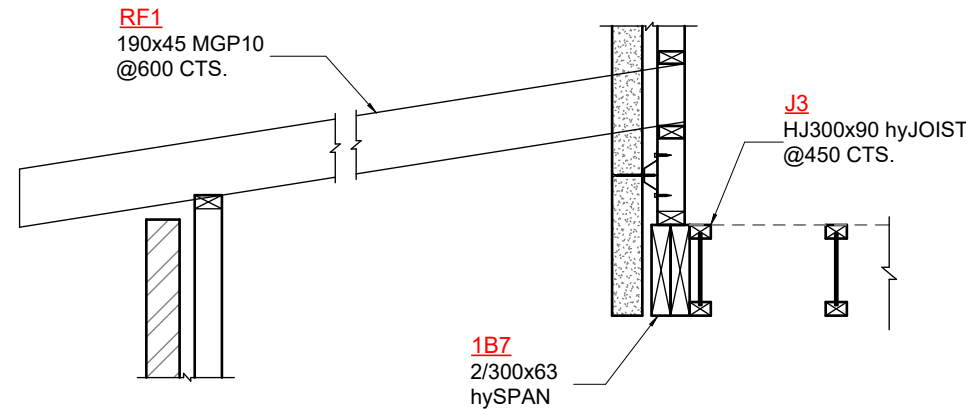
THIS SPACE IS LEFT BLANK
FOR DBP CONTROL



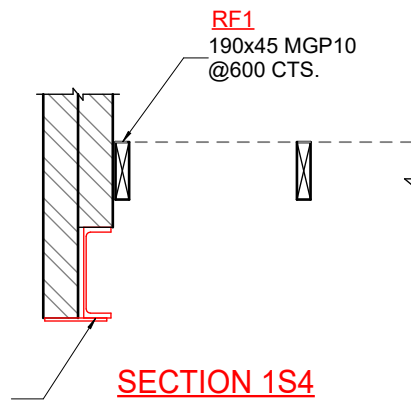
SECTION 1S1
SCALE 1:25



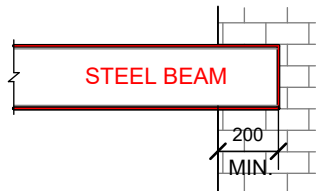
SECTION 1S2
SCALE 1:25



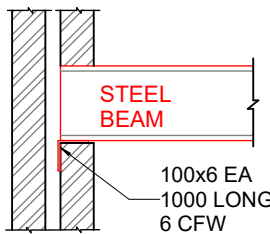
SECTION 1S3
SCALE 1:25



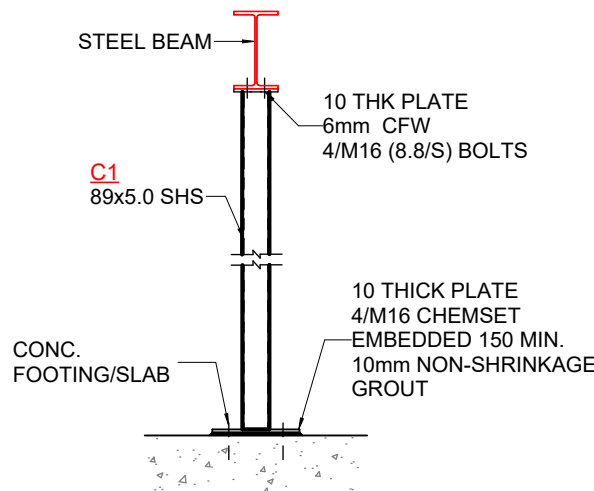
SECTION 1S4
SCALE 1:25



**STEEL BEAM
STRAIGHT END-BEARING (TYP.)**
SCALE 1:25



**STEEL BEAM
ANGULAR END-BEARING (TYP.)**
SCALE 1:25



C1 STEEL POST 89x89x5.0 SHS. DETAIL
SCALE: 1 : 25

Paper size: **A3**

All dimensions are in millimetres. Do not scale the drawing. Use written dimensions. Dimensions must be confirmed prior to commencement. Location of services are approximate only. Dial 1100 before any excavation or demolition.

Revisions	
For Coordination only	
Designed: HD	Checked: KV

Approved:

Quoc Huy Nguyen
PhD (Eng). MIEAust, CPEng,
NER Reg. No. 208 2513

NITMA
CONSULTING

NITMA CONSULTING PTY LTD
PO Box 43, West Ryde NSW 1685
M: 0434 284 585
E: admin@nitma.com.au
W: nitma.com.au
© Copyright. All rights reserved.

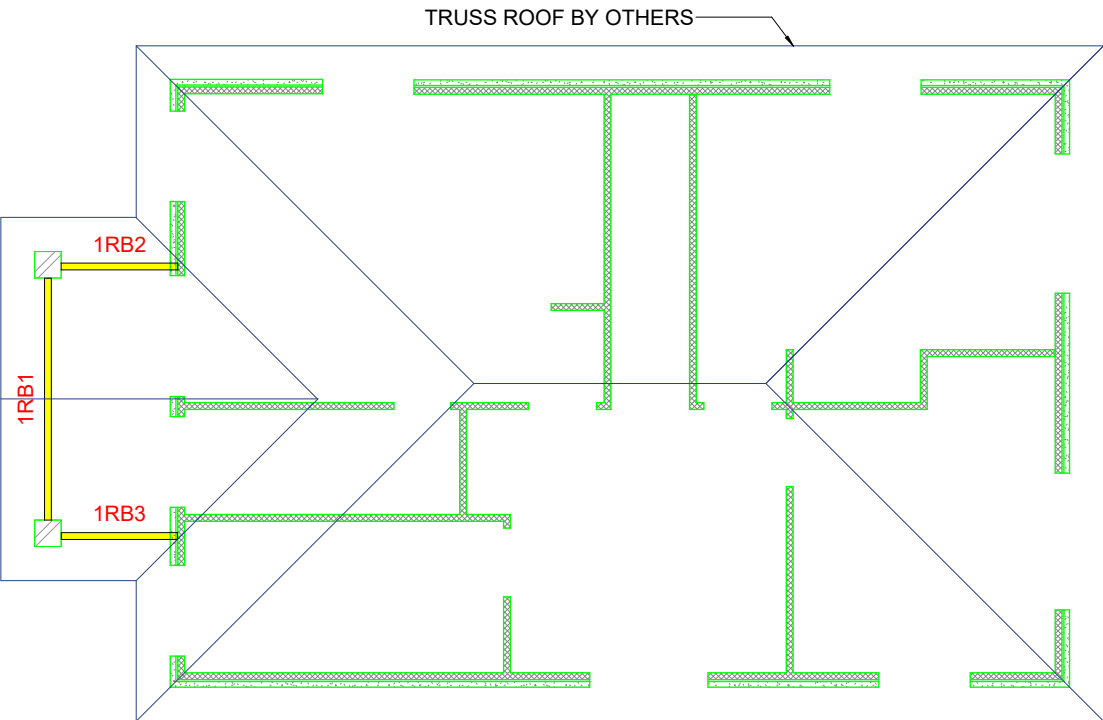
PROJECT : PROPOSED ADDITION & ALTERATIONS
ADDRESS: 173 BIRDWOOD RD, GEORGES HALL
LGA : CANTERBURY-BANKSTOWN COUNCIL

FIRST FLOOR DETAILS

Project No: 6370S Issue: A Date: 28.05.2024 Drawing No: 1L2

Total no. of sheets
15

THIS SPACE IS LEFT BLANK
FOR DBP CONTROL



KEY:

- LOAD BEARING WALLS UNDERNEATH
- WALLS ON FLOOR
- STEEL BEAM
- TIMBER BEAM

SCHEDULE - ROOF FRAME

MEMBER	SIZES	COMMENT	MAX. CLEAR SPAN
1RB1	2/200x45 hySPAN		3200
1RB2	2/170x45 hySPAN		1600
1RB3	2/170x45 hySPAN		1600

NOTES:

MEMBER SIZES ARE MINIMUM ONLY AND CAN BE UPGRADED TO SUIT CONSTRUCTION CONDITIONS. SPANS TO BE CONFIRMED ON SITE BY THE BUILDER. CONSULT ENGINEER IF IN DOUBT.

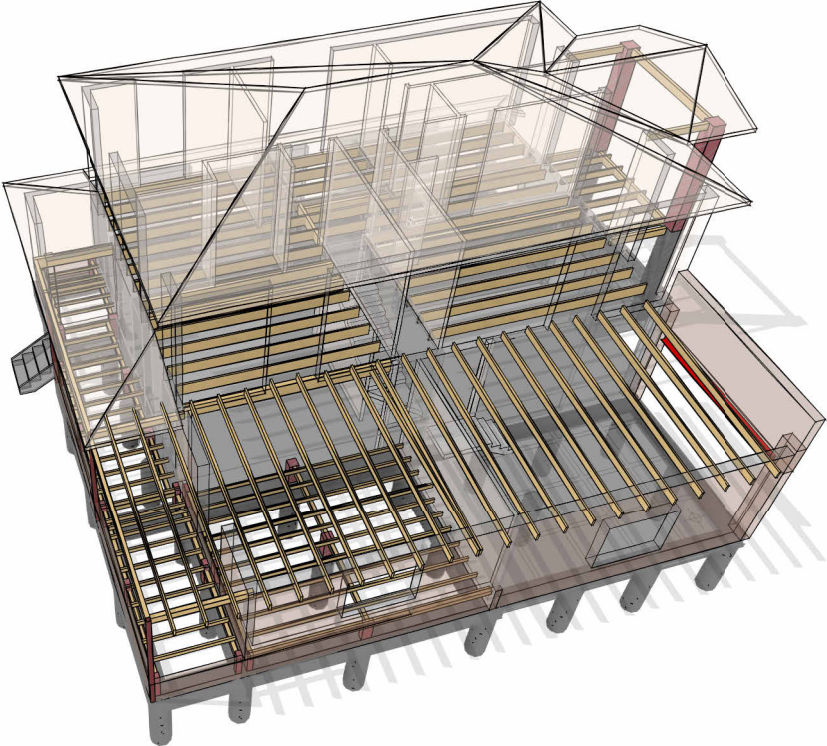
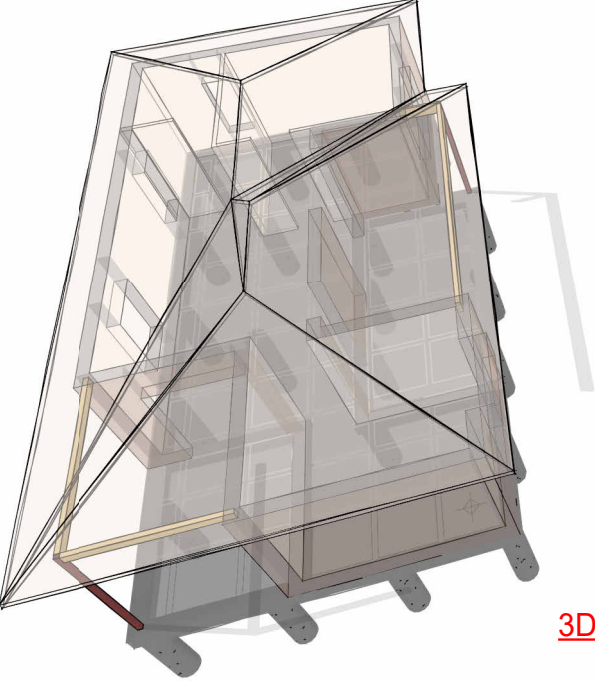
METAL ROOF:

- 1. PERMANENT ACTION: 0.40kPa
- 2. IMPOSED ACTION 0.25kPa

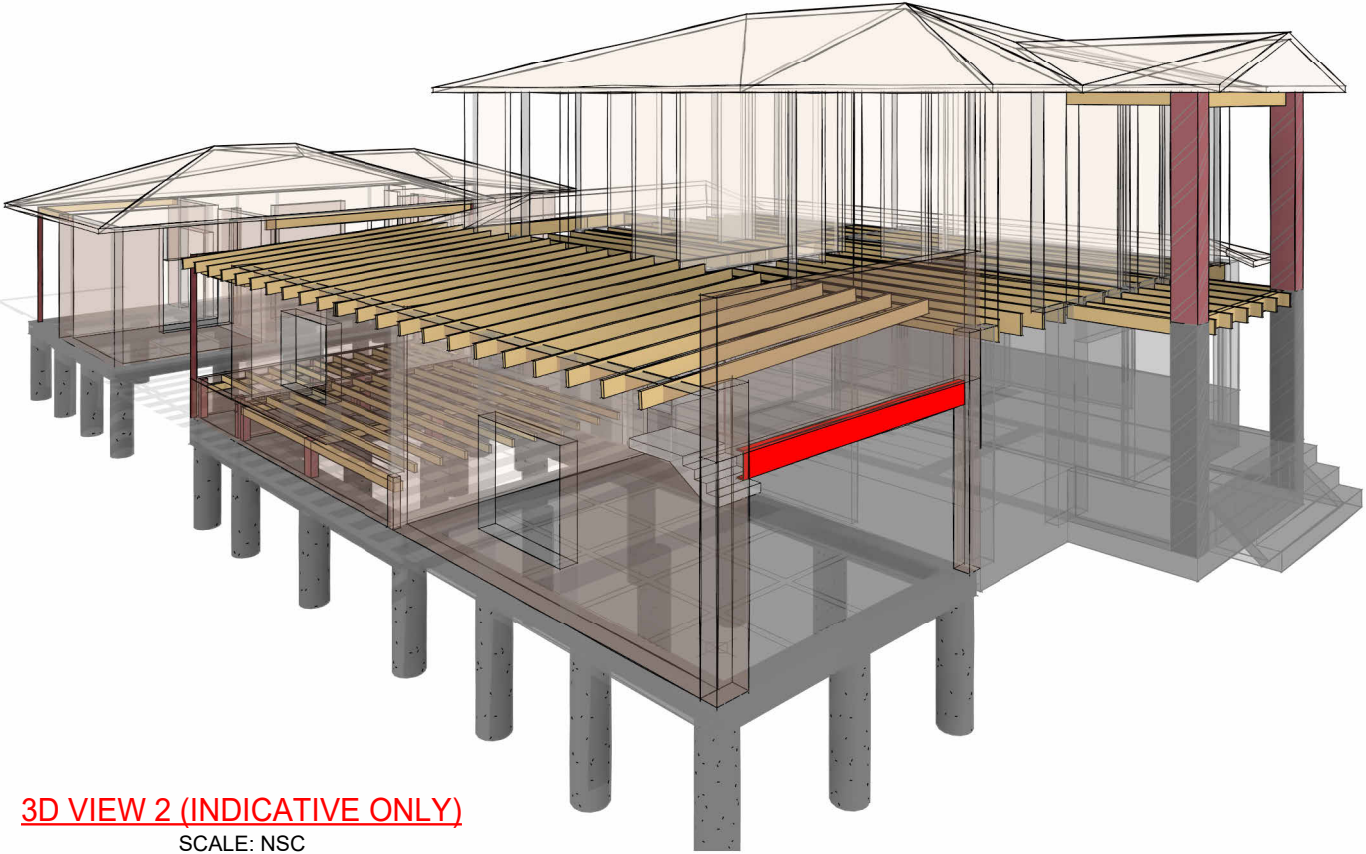
ROOF FRAME PLAN

SCALE: 1 : 100

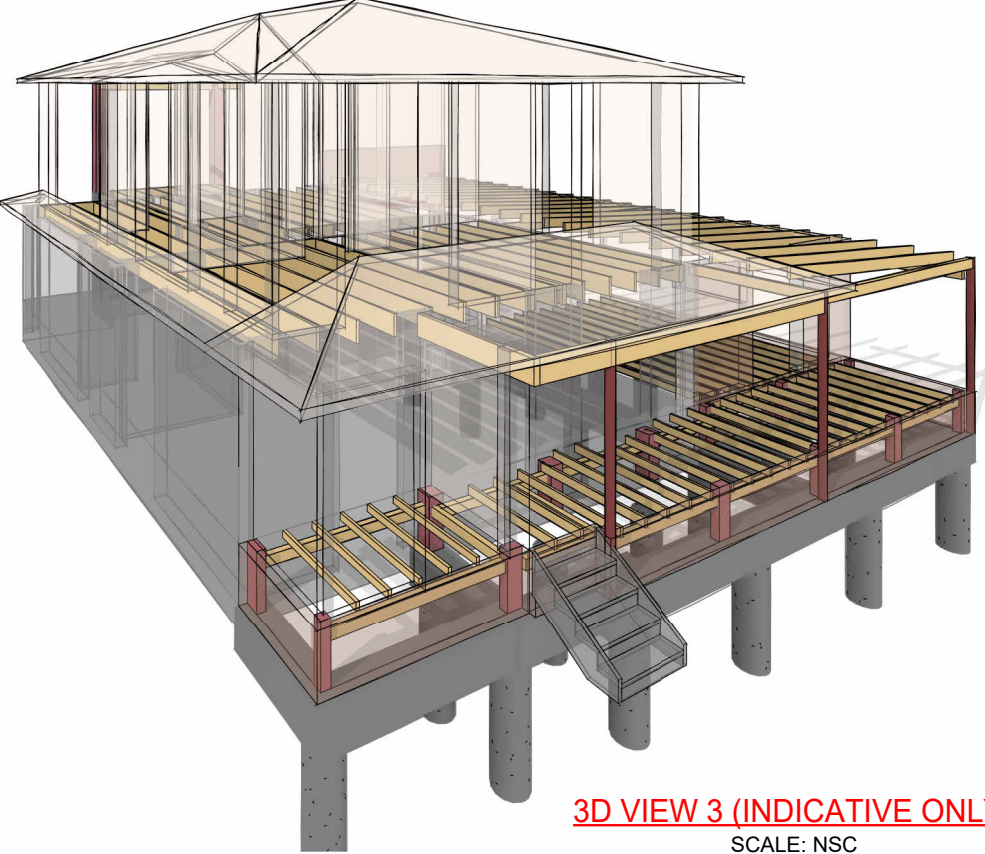
THIS SPACE IS LEFT BLANK
FOR DBP CONTROL



3D VIEW 1 (INDICATIVE ONLY)
SCALE: NSC



3D VIEW 2 (INDICATIVE ONLY)
SCALE: NSC



3D VIEW 3 (INDICATIVE ONLY)
SCALE: NSC