

DRAWING LIST				
DRAWING №	DRAWING TITLE			
S0000	COVER SHEET			
S0001	STRUCTURAL NOTES - SHEET 1			
S0002	STRUCTURAL NOTES - SHEET 2			
S0003	STRUCTURAL NOTES - SHEET 3			
S0011	FOOTING PLAN - ZONE 1			
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S0021	GROUND FLOOR PLAN - ZONE 1			
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S0040	ROOF FRAMING PLAN			
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S0081	BUILDING SECTIONS - SHEET 1			
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S0100	TYPICAL FOUNDATION AND SLAB DETAILS			
S0101	TYPICAL LIFT CORE DETAILS			
S0102	TYPICAL CONCRETE COLUMN DETAILS			
S0103	TYPICAL SUSPENDED SLAB DETAILS			
S0104	TYPICAL CONCRETE WALL DETAILS			
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S0106	TYPICAL STEELWORK DETAILS - SHEET 1			
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S0109	TYPICAL SHORING DETAILS			
S0110	TYPICAL RETAINING WALL DETAILS			
S0111	TYPICAL MASONRY DETAILS			

# COWRA HOSPITAL REDEVELOPMENT 64 LIVERPOOL STREET, COWRA, NSW, 2794 STRUCTURAL SERVICES

AXONOMETRIC VIEW

This drawing should be read in conjunction with all relevant contracts, specifications and drawings. Dimensions are in millimetres. Levels are metres. Do not scale off drawings. Use figured dimensions only. Check dimensions on Site. Report discrepancies immediately.

ISSUE	DATE	SUBJECT	
5	19.12.22	SCHEMATIC DESIGN	AJ
4	18.11.22	SCHEMATIC DESIGN - PRELIMINARY	RM
3	07.09.22	ISSUE FOR REVIEW	RM
2	19.07.22	ISSUE FOR REVIEW	RM
1	23.06.22	ISSUE FOR REVIEW	RM
CLIEN	т		



PROJECT No DRAWING No

REVISION

DATE PRINTED:

### <u>GENERAL NOTES</u>

THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS DRAWINGS. SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE STRUCTURAL

- ENGINEER BEFORE PROCEEDING WITH THE WORK. DO NOT COMMENCE CONSTRUCTION USING THESE STRUCTURAL DRAWINGS UNTIL A CONSTRUCTION CERTIFICATE IS ISSUED BY THE PRINCIPLE AUTHORITY.
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT CURRENT STANDARDS AUSTRALIA CODES AND WITH THE BUILDING CODE OF AUSTRALIA.
- ALL DIMENSIONS RELEVANT TO SETTING OUT AND OFF-SITE WORK SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION AND FABRICATION IS
- COMMENCED DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE STRUCTURAL DRAWINGS.
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE. ALL LEVELS ARE EXPRESSED IN METRES. THE RL'S SHOWN ON THESE DRAWINGS ARE FOR THE SOLE PURPOSE OF ASSISTING THE STRUCTURAL DOCUMENTATION. THEY MUST NOT BE USED FOR CONSTRUCTION. REFER TO THE ARCHITECT'S DRAWINGS FOR ALL CONSTRUCTION RL'S.
- DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STRUCTURE IN A STABLE CONDITION AND ENSURING NO PART SHALL BE OVER STRESSED UNDER CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING, SHORING AND PROPPING IN ORDER TO KEEP THE BUILDING WORKS AND EXCAVATIONS STABLE AT ALL
- THE BUILDER IS RESPONSIBLE FOR THE ADEQUACY OF ALL TEMPORARY WORKS INCLUDING SHORING, PROPPING AND BRACING, WHERE NECESSARY THE CONTRACTOR IS TO ENGAGE A STRUCTURAL ENGINEER TO DESIGN AND CERTIFY THE TEMPORARY WORKS
- THE METHOD OF CONSTRUCTION AND THE MAINTENANCE OF SAFETY DURING CONSTRUCTION ARE THE RESPONSIBILITY OF THE BUILDER. IF ANY STRUCTURAL ELEMENT PRESENTS DIFFICULTY IN RESPECT OF CONSTRUCTABILITY OR SAFETY, THE MATTER SHALL BE REFERRED TO THE STRUCTURAL ENGINEER FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.
- G10. IF THERE IS A DISCREPANCY IN MEMBER SIZES FOR ANY COMPONENT, ASSUME FOR PRICING PURPOSE ONLY THAT THE LARGER OR MORE EXPENSIVE SIZE IS CORRECT. REFER TO STRUCTURAL ENGINEER FOR DECISION BEFORE DETAILING OR CONSTRUCTION.
- G11. THE APPROVAL OF A SUBSTITUTION SHALL BE SOUGHT FROM THE ENGINEER BUT IS NOT AN AUTHORISATION FOR A VARIATION. ANY VARIATIONS INVOLVED MUST BE TAKEN UP WITH THE ARCHITECT OR PROJECT MANAGER BEFORE THE WORK COMMENCES.
- G12. ANY DISCREPANCIES OR OMISSIONS SHALL BE REFERRED TO THE ENGINEER FOR A DECISION BEFORE PROCEEDING WITH THE WORK G13. THE WRITTEN CONSENT OF ADJOINING PROPERTY OWNERS SHALL BE
- OBTAINED BEFORE INSTALLATION OF UNDERPINNING, ANCHORING WORKS, DRAINAGE LINES OR ANY OTHER WORKS BEYOND THE PROPERTY BOUNDARY. G14. UNLESS AGREED OR SPECIFIED OTHERWISE, THE BUILDER IS REQUIRED TO NOTIFY AND ALLOW TIME FOR THE STRUCTURAL ENGINEER TO INSPECT THE WORKS AT THE FOLLOWING POINTS, COMPLETED EXCAVATION, FORMWORK, REINFORCEMENT, MEMBRANES AND EMBEDMENT'S PRIOR TO PLACEMENT OF CONCRETE, COMPLETED ERECTED STRUCTURAL ELEMENTS PRIOR TO COVERING
- G15. THE BUILDER SHALL GIVE 48 HOURS NOTICE FOR ALL ENGINEERING
- INSPECTIONS. G16. SITE INSPECTIONS DO NOT RELIEVE THE BUILDER OF RESPONSIBILITY FOR THE
- COMPLETENESS AND CORRECTNESS OF THEIR WORK. G17. WHERE STRUCTURAL ELEMENTS ARE DESIGNED AND CERTIFIED BY OTHER PARTIES. THE CONTRACTOR SHALL OBTAIN WRITTEN CERTIFICATION PRIOR T PROCEEDING WITH ANY CONSTRUCTION WORK WHICH WOULD PREVENT INSPECTION OR REMEDIAL WORKS TO BE UNDERTAKEN. ALL CERTIFICATIONS ARE TO BE ISSUED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO
- WORK PROCEEDING. G18. THE WORD 'ENGINEER' USED IN THESE NOTES REFERS TO AN EMPLOYEE OR NOMINATED REPRESENTATIVE OF ACOR CONSULTANTS PTY.LTD.

### FOUNDATIONS

FOOTINGS HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING INTENSITY OF 1000 kPA ON EXTREMELY WEATHERED ROCK (CLAYEY SAND/SAND - VERY DENSE) IN ACCORDANCE WITH:

GEOTECHNICAL REPORT No. : B21501 (02) PREPARED BY : MACQUARIE GEOTECH

FOUNDATION MATERIAL SHALL BE APPROVED FOR THIS BEARING PRESSURE BEFORE PLACING MEMBRANE, REINFORCEMENT OR CONCRETE.

- BEARING MATERIAL AT BASES OF PIERS TO BE CONFIRMED BY AN F2. EXPERIENCED GEOTECHNICAL ENGINEER OR ENGINEERING GEOLOGIST.
- F3. EXCAVATION NEAR FOOTINGS SHALL NOT EXTEND BELOW FOUNDATION LEVEL WITHOUT THE ENGINEERS APPROVAL.
- F4. ALL FOOTINGS SHALL BE LOCATED CENTRALLY UNDER WALLS AND COLUMNS UNLESS NOTED OTHERWISE
- DO NOT BACKFILL RETAINING WALLS (OTHER THAN CANTILEVER WALLS) UNTIL FLOOR CONSTRUCTION AT TOP AND BOTTOM IS COMPLETED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ANY F6.
- EXCAVATION IN A STABLE CONDITION WITHOUT ADVERSELY AFFECTING SURROUNDING PROPERTY INCLUDING SERVICES. THIS INCLUDES OBTAINING ALL NECESSARY APPROVALS FOR SHORING AND ANCHOR SYSTEMS.
- F7. ANY OVER EXCAVATION SHALL BE BACKFILLED WITH CONCRETE GRADE N15. FOUNDATIONS ADJACENT TO SERVICES ETC. SHALL BE EXTENDED DOWN SUCH THAT THE INFLUENCE LINE OF THE FOUNDATION IS BELOW THE ADJACENT
- SLABS ON GROUND

SERVICE

- SG1. THESE SLABS HAVE BEEN DESIGNED IN ACCORDANCE WITH AS 2870-1996" RESIDENTIAL SLABS & FOOTINGS'. PARTICULAR ATTENTION IS DRAWN TO CLAUSE 1.3 & APPENDIX C WHICH REFER TO THE PROBABILITIES OF THE VARIOUS CATEGORIES OF DAMAGE OCCURRING. SG2. THE BUILDER SHALL ENSURE THAT ALL CONSTRUCTION IS CARRIED OUT STRICTLY IN ACCORDANCE WITH THE PROVISIONS OF THIS CODE. PARTICULAR
- ATTENTION IS DRAWN TO SECTION 6 OF THE CODE. SG3. TERMITE PROTECTION SHALL BE INSTALLED IN ACCORDANCE WITH AS 3660.1-1995. & OTHER RELEVANT AUSTRALIAN STANDARDS & LOCAL AUTHORITY
- REQUIREMENTS. SG4. THE BUILDER SHALL COMPLETELY SEAL, BY GROUTING, ANY CRACKS THAT MAY DEVELOP IN THE SLAB, GREATER THAN OR EQUAL TO 1mm IN WIDTH, BEFORE APPLYING ANY FINISHES.

### CONSTRUCTION LOADING ON SLABS

- CL1. U.N.O. ON PLANS, SLABS ON GRADE AND SUSPENDED SLABS HAVE BEEN DESIGNED TO SUIT THE END USE AS SHOWN ON THE LOADING NOTES AND HAVE NOT BEEN DESIGNED TO CARRY EXCESS LOADS (EITHER DISTRIBUTED OR POINT LOADS) FROM BUILDERS EQUIPMENT, MATERIALS OR TEMPORARY WORKS
- CL2. IF THE BUILDER WISHES TO STORE MATERIALS OR RUN EQUIPMENT / VEHICLES ON SLABS WHICH ARE IN EXCESS OF THE END USERS REQUIREMENTS THE BUILDER MAY, AT HIS OWN EXPENSE, EITHER: HAVE THE SLAB DESIGN REVISED TO SUIT HIS REQUIREMENT BRIDGE OVER THE SLAB
- DELAY INSTALLATION OF THE SLAB UNTIL LATER IN THE CONSTRUCTION PROGRAMME WITH APPROPRIATE JOINTING BACK PROP THE SLAB DESIGN AND DOCUMENTATION COSTS AND DELAY COSTS ASSOCIATED WITH SUCH WORK WILL BE BORNE BY THE BUILDER.

### SUBGRADE PREPARATION

SP1. REMOVE ALL TOP SOIL, VEGETABLE MATTER AND RUBBLE, IDENTIFY AND REMOVE ANY SOFT AREAS AND PLACE AND COMPACT APPROVED NON-ORGANIC FILL IN ACCORDANCE WITH AS2870.

### CONCRETE PAVEMENT NOTES

- CP1. ALL WORK TO BE BROOM FINISHED.
- CP2. JOINTS AS DETAILED. CP3. A) IN CASE OF DOUBT - ASK.
- B) BOND BREAKER TO BE TWO (2) UNIFORM COATS OF BITUMEN EMULSION ALL OVER THE EXPOSED SURFACE AND ON ENDS.
- C) DOWELS AND TIE BARS TO MEET STRENGTH REQUIREMENTS OF STRUCTURAL GRADE STEEL IN ACCORDANCE WITH AS 1302. DOWELS AND TIE BARS SHALL

### STRAIGHT TO LENGTH SPECIFIED

- CLEAN AND FREE FROM MILL SCALE, RUST AND OIL SAWN TO LENGTH NOT CROPPED
- CP4. JOINT TO BE SAWN AS SOON AS CONCRETE HAS HARDENED SUFFICIENTLY THAT IT WILL NOT BE DAMAGED BY SAWING. IF AN UNPLANNED CRACK OCCURS THE CONTRACTOR SHALL REPLACE THE WHOLE SLABS EITHER SIDE OF THE CRACK, UNLESS DIRECTED OTHERWISE.
- CP5. DIMENSIONS OF SEALANT RESERVOIR DEPENDENT ON THE SEALANT TYPE ADOPTED, ENGINEER'S APPROVAL TO BE OBTAINED FOR SEALANT, RESERVOIR DIMENSIONS AND DETAIL PROPOSED BY THE CONTRACTOR. REFER TO DETAILS 'A AND 'B' FOR TYPICAL ARRANGEMENT AND SEALANT.
- CP6. REFER TO COMPACTING NOTES FOR PREPARATION OF SUB-BASE AND SUB-GRADE.

### CONCRETE NOTES

ALL WORKMANSHIP AND MATERIALS SHALL COMPLY WITH AS 3600 CURRENT EDITIONS WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS

C2. ALL CONCRETE SUPPLY SHALL COMPLY WITH AS1379. CONCRETE PROPERTIES

ELEMENT		COVER (mm)			m)	f'c (MPa)	MAX 56 DAY	
					(28 DAYS)	SHRINKAGE		
BORED PILES		70				40	800	
SLAB ON GROUND EXTERNAL		Т	40	В	50	32	800	
	INTERNAL	Т	20	В	50	32	000	
STRIP FOOTINGS			5	0		40	800	
PAD FOOTINGS			5	0		40	800	
SUSPENDED SLABS	EXTERNAL	Т	40	В	40	40	650	
	INTERNAL	Т	20	В	20	40	650	
BEAMS	EXTERNAL	Т		В				
	INTERNAL	Т		В				
COLUMNS	EXTERNAL		4	0		40	800	
	INTERNAL		4	0		40	000	
CONCRETE WALLS	EXTERNAL		4	0		40	800	
	INTERNAL	20				40	000	
PRECAST WALLS	EXTERNAL		N	/A		N/A	N/A	
	INTERNAL		N	/A		N/A	N/A	
PILE CAPS		Т	50	В	75	40	800	
AXIMUM AGGREGATI LUMP DURING PLACE KPOSURE CLASSIFIC	EMENT =		A1 II		RNAL			

- NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY THE ENGINEER.
- PROJECT ASSESSMENT OF CONCRETE SHALL BE CARRIED OUT IN ACCORDANCE WITH AS1379.
- PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS1379 BY A NATA REGISTERED TESTING LABORATORY. SAMPLES SHALL BE TAKEN FOR TESTING OF SLUMP, COMPRESSIVE STRENGTH AND ANY OTHER TEST SPECIFIED.

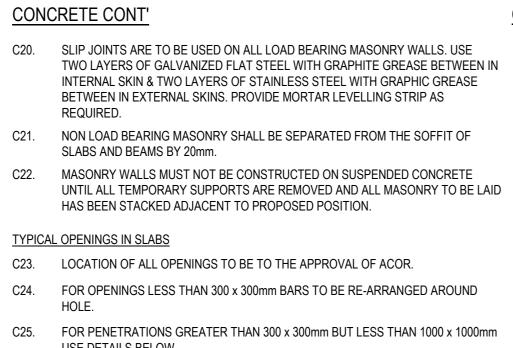
### SLUMP SHALL BE SAMPLED FOR EACH TRUCK AT THE TIME OF POURING. THE MINIMUM FREQUENCY OF SAMPLING FOR COMPRESSIVE TESTING OF EACH TYPE AND GRADE SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE:

NUMBER OF BATCHES PER DAY	NUMBER OF SAMPLES 1 SAMPLE = 3 CYLINDERS (4 CYLINDERS FOR POST TENSIONED CONCRETE
1	1 SAMPLE
1 TO 5	2 SAMPLES
6 TO 10	3 SAMPLES
11 TO 20	4 SAMPLES
FOR EACH ADDITIONAL 10	1 ADDITIONAL SAMPLE

JNE CYLINDER AT 3 DAYS (POST TENSIONED CONCRETE ONLY) ONE CYLINDER AT 7 DAYS TWO CYLINDERS AT 28 DAYS

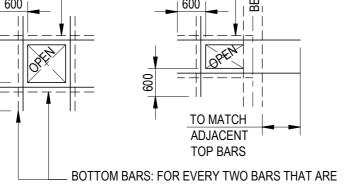
- C8. BEAM DEPTHS ARE WRITTEN FIRST AND INCLUDE SLAB THICKNESS. C9. SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
- C10. NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT PRIOR APPROVAL OF THE ENGINEER.
- CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED AND USE ONLY WHERE C11 SHOWN OR SPECIFICALLY APPROVED BY THE ENGINEER.
- ALL CONCRETE COLUMNS ARE TO BE POURED A MINIMUM OF 4 HOURS PRIOR TO SLAB OR BEAM OVER.
- C13. DRIP GROOVES ARE TO BE PROVIDED AT ALL EXPOSED EDGES. COVER TO
- REINFORCEMENT IS TO BE MAINTAINED. C14. CONDUITS, PIPES AND THE LIKE SHALL NOT BE PLACED WITHIN THE CONCRETE COVER
- C15. ALL CONCRETE (INCLUDING FOOTINGS AND SLABS ON GROUND) SHALL BE MECHANICALLY VIBRATED TO ACHIEVE FULL COMPACTION.
- C16. SAWN CUT JOINTS ARE TO BE CUT AFTER THE CONCRETE HAS SUFFICIENTLY HARDENED THAT WILL NOT BE DAMAGED BY THE SAWING BUT BEFORE
- SHRINKAGE CRACKING CAN OCCUR. CURING OF ALL CONCRETE SHALL BE IN ACCORDANCE WITH AS3600 AND SHALL COMMENCE WITHIN 2 HOURS OF FINISHING OPERATIONS. CURING SHALL BE BY CONTINUAL SATURATION WITH POTABLE WATER FOR 3 DAYS FOLLOWED BY PREVENTION OF MOISTURE LOSS FOR THE NEXT 4 DAYS USING POLYTHENE SHEETING OR WET HESSIAN PROTECTED FROM WIND OR TRAFFIC AND THEN ALLOWING GRADUAL DRYING OUT. CURING COMPOUNDS MAY BE USED PROVIDED THAT THEY COMPLY WITH AS3799 AND DO NOT AFFECT FLOOR FINISHES. THE COMPATIBILITY OF CURING COMPOUNDS WITH PROPOSED APPLIED FINISHES SHALL BE VERIFIED PRIOR TO APPLICATION. CURING COMPOUNDS ARE TO BE APPLIED UNIFORMLY IN ACCORDANCE WITH THE
- MANUFACTURER'S SPECIFICATION. PVA BASED CURING COMPOUNDS ARE NOT ACCEPTABLE. ALIPHATIC ALCOHOL:-C18. WHEN SHADE TEMPERATURE EXCEEDS 35° C SPRAY THE EXPOSED SURFACE OF
- CONCRETE SLAB DURING THE PLACING AND FINISHING OPERATION WITH A FINE FILM OF APPROVED ALIPHATIC ALCOHOL. REPEAT THE SPRAY IF THE SPRAYED SURFACE HAS BEEN RE-WORKED.
- C19. ENSURE ADEQUATE SUPPLY OF ALIPHATIC ALCOHOL ON SITE BEFORE COMMENCING CONCRETE WORK.

C32.



USE DETAILS BELOW. C26. FOR PENETRATIONS GREATER THAN 1000 x 1000mm REFER TO ENGINEER'S PLANS. WHERE OPENINGS ARE NOT DETAILED, CONTACT ENGINEER IMMEDIATELY.

C27. TOP BARS: FOR EVERY TWO BARS THAT ARE TERMINATED BY OPENINGS, ADD ONE BAR EACH SIDE USING SAME GRADE AND SIZE OF REINFORCEMENT. WHERE NO TOP BARS ARE SHOWN, ADD 1-N16 TOP EACH SIDE OF OPENING.

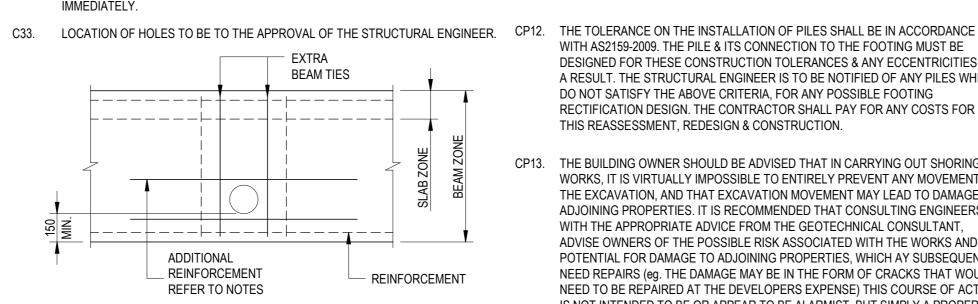


TERMINATED BY PENETRATION, ADD ONE BAR EACH SIDE USING SAME GRADE AND SIZE OF REINFORCEMENT. PIPE PENETRATION THROUGH BEAM

C28. LOCATION OF ALL OPENINGS TO BE TO THE APPROVAL OF THE STRUCTURAL FNGINFFR C29. MINIMUM DISTANCE FROM BEAM SOFFIT TO PIPE SOFFIT TO BE 150mm.

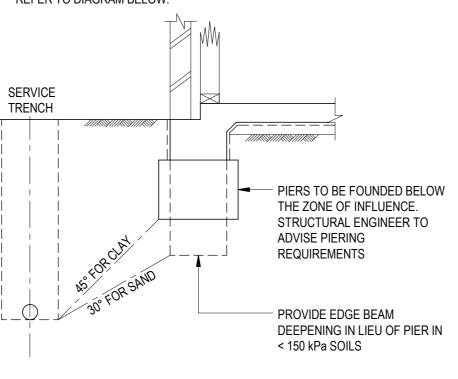
C30. FOR PIPES UP TO Ø90, ADD ONE ROW OF TIES EACH SIDE OF PIPE. C31. FOR PIPES Ø91 TO Ø150, ADD TWO ROWS OF TIES EACH SIDE OF PIPE AND 1-N16 HORIZONTAL BAR 1200 LONG TOP AND BOTTOM OF PIPE AT EVERY VERTICAL TIE

### FOR HOLES GREATER THAN Ø150 REFER TO ENGINEER'S DETAILS. WHERE PENETRATIONS ARE NOT DETAILED, CONTACT STRUCTURAL ENGINEER



### PIERING REQUIREMENT

C34. WHERE A SERVICE TRENCH IS PARALLEL TO A SIDE OF THE SLAB, WHETHER THE SLAB BE IN AN EXCAVATED OR FILLED AREA, THEN PIERING TO SUPPORT THE SLAB BESIDE THE SERVICE TRENCH IS ONLY REQUIRED IF THE SERVICE LINE IS BELOW A LINE OF INFLUENCE DRAWN FROM THE BOTTOM OF THE EDGE BEAM. REFER TO DIAGRAM BELOW.



C35. THESE NOTES ARE INTENDED AS A GUIDE. THERE IS ALWAYS A POSSIBILITY OF SITE CONDITIONS REQUIRING VARIATION TO THESE PROCEDURES. IN SUCH CASES, THE STRUCTURAL ENGINEER MUST BE CONSULTED.

THIS REVIEW.

CP3.

CP1. PILES SHALL COMPLY WITH AS2159 - PILING DESIGN AND INSTALLATION AND ALL OTHER RELEVANT STANDARDS AND CODES OF PRACTICE.

CP2. REFER TO LATEST GEOTECHNICAL REPORT FOR DETAIL OF SOIL CONDITIONS. THE PILES ARE TO BE / HAVE BEEN DESIGNED FOR BOTH THE LOADS AS SHOWN ON THE DRAWINGS, AND ANY LOADS DUE TO INSTALLATION. THE DESIGN LOADS PROVIDED HAVE BEEN DETERMINED IN ACCORDANCE WITH AS1170. PILES ARE TO BE DESIGNED FOR ALL RELEVANT LOAD COMBINATIONS IDENTIFIED IN AS1170 AND AS2159-2009. THE PILES SHALL BE DESIGN TO LIMIT DIFFERENTIAL SETTLEMENT. THE ABSOLUTE DIFFERENTIAL PILE SETTLEMENT AT ANY TIME BETWEEN ANY TWO ADJACENT PILES IS NOT TO EXCEED PILE SPACING (mm)

1000. E.G. WHERE TWO PILE ARE LOCATED 8.4m APART THE MAXIMUM ABSOLUTE DIFFERENTIAL SETTLEMENT AT ANY TIME IS 8.4mm. THE MEASURE OF PILE SETTLEMENT IS TO INCLUDE ELASTIC SHORTENING OF THE PILE. CP4. PILE DESIGN CALCULATIONS ARE TO BE PROVIDED THAT INDICATE THE DESIGN LOADS AND ALL ASSUMED PARAMETERS. THE PILE DESIGN CALCULATIONS ARE TO BE CERTIFIED BY AN NPER STRUCTURAL OR GEOTECHNICAL ENGINEER COMPETENT IN PILE DESIGN. THESE CALCULATIONS ARE TO BE SUBMITTED TO THE STRUCTURAL AND GEOTECHNICAL ENGINEER FOR REVIEW. THIS REVIEW SHALL NOT RELIEVE THE PILING CONTRACTOR FROM ANY OBLIGATIONS AND THE PILING CONTRACTOR SHALL REMAIN COMPLETELY LIABLE FOR THE PILE WORKS.

PILES SHALL BE CUT OFF AT THE LEVELS REQUIRED TO ACHIEVE CONSTRUCTION CP5. OF THE PILE CAPS AS INDICATED ON THE DRAWINGS. ALLOW REINFORCEMENT TO PROTRUDE INTO PILE CAPS.

THE CONTRACTOR IS TO ALLOW FOR ANY COST AND TIME IMPLICATIONS FOR

- CP6. SETS, PLAN LOCATION, BEARING CAPACITY REACHED AND ANY PROBLEMS ENCOUNTERED.
- CP7. AT THE COMPLETION OF PILE WORKS, THE PILING CONTRACTOR IS TO ISSUE CERTIFICATION BY A REGISTERED NPER STRUCTURAL ENGINEER THAT THE INSTALLED PILES ARE SATISFACTORY TO CARRY THE DESIGN LOADS AS SHOWN ON THE DRAWINGS FOR THE SPECIFIED DESIGN LIFE OF 50 YEARS.
- CP8. ALL FOUND MATERIAL SHALL BE INSPECTED, APPROVED AND CERTIFIED AT THE PILING CONTRACTORS EXPENSE BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF CONCRETE AND REINFORCEMENT CAGES. THE PILE CONTRACTOR SHALL CONDUCT ALL NECESSARY TESTING AS REQUIRED BY AS2159-2009 TO DEMONSTRATE THAT THE PILES ARE ABLE TO RESIST ALL LOADS NOMINATED ON THE STRUCTURAL DRAWINGS.
- CP9. PILES ARE TO BE FOUNDED AT A DEPTH WHERE SUITABLE TO SATISFY STRUCTURAL DESIGN INTENT. ALL PILES TO BEAR ON SIMILAR FOUNDATION STRATA
- CP10. PLACING OF CONCRETE IN PILES SHALL BE IN ACCORDANCE WITH THE SPECIFICATION AND ANY REQUIREMENTS OF AS2159-2009.
- CP11. CONCRETE STRENGTH AND COVER TO REINFORCING IS TO BE IN ACCORDANCE WITH AS2159-2009 AND AS3600. THE PILE DESIGNER IS TO DETERMINE ALL DURABILITY REQUIREMENTS AND DESIGN ALL PILES TO SATISFY THE REQUIREMENTS OF AS2159-2009 AND AS3600 AND THE DESIGN LIFE NOMINATED.
- WITH AS2159-2009. THE PILE & ITS CONNECTION TO THE FOOTING MUST BE DESIGNED FOR THESE CONSTRUCTION TOLERANCES & ANY ECCENTRICITIES AS A RESULT. THE STRUCTURAL ENGINEER IS TO BE NOTIFIED OF ANY PILES WHICH DO NOT SATISFY THE ABOVE CRITERIA, FOR ANY POSSIBLE FOOTING RECTIFICATION DESIGN. THE CONTRACTOR SHALL PAY FOR ANY COSTS FOR THIS REASSESSMENT, REDESIGN & CONSTRUCTION.
- CP13. THE BUILDING OWNER SHOULD BE ADVISED THAT IN CARRYING OUT SHORING WORKS IT IS VIRTUALLY IMPOSSIBLE TO ENTIRELY PREVENT ANY MOVEMENT O THE EXCAVATION. AND THAT EXCAVATION MOVEMENT MAY LEAD TO DAMAGE TO ADJOINING PROPERTIES. IT IS RECOMMENDED THAT CONSULTING ENGINEERS, WITH THE APPROPRIATE ADVICE FROM THE GEOTECHNICAL CONSULTANT, ADVISE OWNERS OF THE POSSIBLE RISK ASSOCIATED WITH THE WORKS AND THE POTENTIAL FOR DAMAGE TO ADJOINING PROPERTIES, WHICH AY SUBSEQUENTLY NEED REPAIRS (eg. THE DAMAGE MAY BE IN THE FORM OF CRACKS THAT WOULD NEED TO BE REPAIRED AT THE DEVELOPERS EXPENSE) THIS COURSE OF ACTION IS NOT INTENDED TO BE OR APPEAR TO BE ALARMIST, BUT SIMPLY A PROPER DISCHARGE OF THE ENGINEERS RESPONSIBILITIES. THE BUILDING OWNER SHOULD BE ADVISED TO ALLOW A SUM OF MONEY AS A CONTINGENCY FOR ANY SH1. REPAIRS TO ADJOINING BUILDINGS.
- CP14. CENTRE-LINE OF ALL PILES / PILE GROUPS TO COINCIDE WITH CENTRE-LINE OF COLUMN U.N.O. WHERE PILES CAN NOT BE LOCATED ON THE CENTRE-LINE OF COLUMNS DUE TO AN EXISTING IN-GROUND SERVICE ETC. THE CONTRACTOR MUST NOTIFY THE ENGINEER PRIOR TO COMMENCING PILING. STRUCTURAL INSPECTIONS DURING CONSTRUCTION
- SIN1. UNLESS AGREED OR SPECIFIED OTHERWISE, THE BUILDER IS REQUIRED TO HOLD CONSTRUCTION AND NOTIFY THE STRUCTURAL ENGINEER FOR INSPECTION AT THE FOLLOWING POINTS:
- COMPLETED EXCAVATION, FORMWORK, REINFORCEMENT, MEMBRANES AND EMBEDMENTS PRIOR TO PLACING CONCRETE. COMPLETED ERECTED STRUCTURAL, TIMBER FRAMING PRIOR TO COVERING
- (UNLESS COVERED BY AS1684 NATIONAL TIMBER FRAMING CODE). COMPLETED ERECTED STRUCTURAL STEELWORK PRIOR TO COVERING.
- SIN2. 48 HOURS NOTICE IS REQUIRED FOR INSPECTION. ALL WORK TO BE INSPECTED MUST BE COMPLETED PRIOR TO THE TIME OF INSPECTION. SIN3. SITE INSPECTIONS DO NOT RELIEVE THE BUILDER OF RESPONSIBILITY FOR THE COMPLETENESS AND CORRECTNESS OF HIS WORK.
- SIN4. INSPECTIONS WILL BE PERIODIC AND REPRESENTATIVE AND WILL NOT NECESSARILY BE MADE OF ALL WORKS. ELECTION TO INSPECT OR OTHERWISE WILL BE AT THE ENGINEER'S DISCRETION. THE BUILDER IS TO ALLOW TIME AND PROVIDE SITE ACCESS FOR THE INSPECTION TO TAKE PLACE AND IS TO HAVE A RESPONSIBLE SITE FOREMAN AVAILABLE TO RECEIVE ANY COMMENT OR DIRECTION FROM THE ENGINEER. SIN5. WHERE STRUCTURAL ELEMENTS ARE DESIGNED AND CERTIFIED BY OTHER
- PARTIES, THE BUILDER SHALL OBTAIN WRITTEN CERTIFICATION, PRIOR TO PROCEEDING WITH ANY CONSTRUCTION WHICH MAY PREVENT INSPECTION OR REMEDIAL WORKS BEING UNDERTAKEN TO THESE ITEMS.

SUBGRADE PREPARATION - CLAY

- STRIP ALL VEGETATION, TOPSOIL OR OTHER DELETERIOUS MATERIAL TO SPOIL OR STOCKPILE IF SUITABLE FOR REUSE AS LANDSCAPE. THIS SITE SHOULD THEN BE INSPECTED BY A GEOTECHNICAL ENGINEER OR EXPERIENCED TECHNICIAN AT THE CONTRACTORS EXPENSE TO ENSURE THAT THE STRIPPING IS SATISFACTORY
- COMPACT THE STRIPPED SURFACE OVER THE PROPOSED FILL AREAS TO AT S2 LEAST 98% STANDARD MAXIMUM DRY DENSITY (SMDD) AT A MOISTURE CONTENT WITHIN 2% OF OPTIMUM MOISTURE CONTENT (OMC)
- THE EXPOSED SURFACE OF THE SITE SHOULD THEN BE PROOF ROLLED AND INSPECTED TO DETECT ANY SOFT AREAS. IF THE PROOF ROLLING IS SATISFACTORY, THEN IN-SITU DENSITY TESTS SHOULD BE CARRIED OUT.
- FILLING SHOULD COMPRISE EXCAVATED CLAY SOILS FROM THE SITE OR IMPORTED FILL AND SHOULD BE PLACED IN LAYERS NOT EXCEEDING 200mm COMPACTED THICKNESS TO AT LEAST 98% SMDD WITH A MOISTURE CONTENT WITHIN 2% OF OMC.
- DENSITY TESTING AT THIS SITE (AREA GREATER THAN 1500m ) SHOULD BE CARRIED OUT IN ACCORDANCE WITH AT LEAST THE MINIMUM FREQUENCY RECOMMENDED IN AS3798 "GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS", TABLE 8.1 (P.28), IE; A) ONE TEST PER LAYER OR 200MM THICKNESS PER MATERIAL TYPE PER 2500m<sup>2</sup>:

OR B) ONE TEST PER 500m<sup>3</sup> DISTRIBUTE REASONABLY EVENLY THROUGHOUT

DEPTH AND AREA; OR C) THREE TESTS PER VISIT, WHICHEVER REQUIRES THE MOST TESTS.

S6. THE LEVEL OF ENGAGEMENT FOR A GEOTECHNICAL TESTING AUTHORITY SHOULD BE LEVEL 1 AS THE FILLING OF THE SITE WILL BE CRITICAL TO THE PERFORMANCE OF THE RAFT SLAB FOOTING SYSTEM. THE TESTING OF THE SUBGRADE SHALL BE CARRIED OUT BY AN APPROVED NATA REGISTERED LABORATORY.

	INGTALLATION.
SP2.	THE SCREW PILES ARE TO BE DESIGNED FOR BOTH THE LOADS AS SHOWN THE DRAWINGS, AND ANY LOADS DUE TO INSTALLATION. LOADS SHOWN ON DRAWINGS ARE WORKING LOADS UNO.
SP3.	THE GEOTECHNICAL REPORT FOR THE SITE IS TO BE REFERRED TO FOR GUIDANCE ON PILE DESIGN / FOUNDING DEPTH.
SP4.	CALCULATIONS AND PILE LOAD TEST RESULTS TO BE SUBMITTED TO THE GEOTECHNICAL ENGINEERS FOR APPROVAL PRIOR TO INSTALLING PILES. T SHALL NOT RELIEVE THE PILING CONTRACTOR FOR ANY OBLIGATIONS. THE PILING CONTRACTOR SHALL REMAIN COMPLETELY LIABLE FOR THE PILE W
SP5.	FOR LIMIT STATE GEOTECHNICAL STRENGTH REDUCTION FACTOR VALUE S NOT EXCEED 0.40 UNLESS OTHERWISE STATED IN THE GEOTECHNICAL REF WITHOUT LOAD TESTING AND PRIOR APPROVAL OF THE GEOTECHNICAL ENGINEERS.
SP6.	TORQUE TO LOAD CORRELATIONS ARE NOT DEEMED SUITABLE FOR PILE CAPACITY CALCULATIONS AND THE PILING CONTRACTOR MUST SUBMIT ST/ ANALYSIS OF THE PILE DESIGN TO PROVE CAPACITY. FOR ALL RELEVANT LO CASES STATIC LOAD TESTS SHALL BE UNDERTAKEN. THE GEOTECHNICAL REDUCTION FACTOR IN LIMIT STATE DESIGN BEING APPLIED TO THE MAXIM TEST LOAD, IF THE TEST IS NOT TAKEN TO FAILURE - AS SPECIFIED BY THE CODE. THE GEOTECHNICAL REDUCTION FACTOR WILL BE INCREASED DEPENDING ON THE PERCENTAGE OF THE STATIC LOAD TESTS CONDUCTE SUGGESTED IN AS2159-2009
SP7.	CORROSION ALLOWANCE FOR STEEL PILES TO APPLY TO ALL EXPOSED ST SURFACES FOR A DESIGN LIFE OF 50 YEARS UNLESS STATED OTHERWISE. SURFACE COATING APPLIED TO THE PILE SHALL BE IGNORED WHEN CALCULATING CORROSION ALLOWANCE AS THE INTEGRITY OF THE COATIN CANNOT BE GUARANTEED DURING THE INSTALLATION PROCESS.
SP8.	INSTALLATION TORQUES TO BE MONITORED TO RECONCILE EXPECTED GEOTECHNICAL CONDITIONS AND THOSE ACTUALLY ENCOUNTERED DURIN INSTALLATION.
SP9.	PERMISSIBLE POSITION DEVIATION FOR A PILE AT CUTOFF LEVEL SHALL BE ±75mm IN PLAN POSITION FROM THAT SHOWN ON THE DRAWINGS AND WIT 4% OF THE SPECIFIED INCLINATION FOR PILES RAKED UP TO 1 IN 5, AND 7% PILES RAKED MORE THAN 1 IN 5. THE PILE AND ITS CONNECTION TO THE FOOTING MUST BE DESIGNED FOR THESE CONSTRUCTION TOLERANCES A ANY ECCENTRICITIES AS A RESULT. THE STRUCTURAL ENGINEER IS TO BE NOTIFIED OF ANY SCREW PILES WHICH DO NOT SATISFY THE ABOVE CRITE FOR ANY POSSIBLE FOOTING RECTIFICATION DESIGN. THE CONTRACTOR S PAY FOR ANY COSTS FOR THIS REASSESSMENT, REDESIGN AND CONSTRUCTION.
SP10.	PILES SHALL BE TRIMMED TO A LEVEL $\pm 25 \text{mm}$ FROM THAT SHOWN ON THE DRAWINGS.
SP11.	PILE SHAFTS ARE TO BE COMPLETELY FILLED WITH 40 MPa BLOCK CORE FIL GROUT AS PER REINFORCED BLOCKWORK NOTES, AS SOON AS PRACTICAE AFTER INSTALLATION, IF FILLING IS DELAYED. THE TOP OF THE PILE IS TO B TEMPORARILY CAPPED UNTIL THE PILE IS FILLED.
SP12.	AT THE COMPLETION FOR THE PILE WORKS THE PILING CONTRACTOR IS TO ISSUE A CERTIFICATION THAT THE PILES HAVE BEEN DESIGNED AND INSTAL TO CARRY THE LOADS AS DETAILED ON THE STRUCTURAL DRAWINGS AND THE NOMINATED DESIGN LIFE. CERTIFICATION IS TO BE ISSUED BY A CERTI PRACTICING ENGINEER COMPETENT IN PILE DESIGN, APPROVED BY ACOR PRIOR TO INSTALLATION OF THE PILES.
	SCREW PILES AS AN ALTERNATIVE FOOTING SYSTEM
SP13.	THE USE OF STEEL SCREW PILES AS AN ALTERNATIVE FOOTING SYSTEM M REQUIRE ALTERATIONS TO THE CONCRETE FOOTINGS SHOWN ON THE DRAWINGS, TO RECTIFY ECCENTRICITIES IN THE PILES.
	CONSULT ACOR CONSULTANTS REGARDING THE USE OF SCREW PILES BEF SUBMITTING ALTERNATIVE TENDERS.
	ALTERNATIVE TENDERS SHALL ALLOW FOR :THE COST OF ADDITIONAL CONCRETE FOOTINGS THAT MAY BE REQUIRED, AND THE COSTS OF CHANC THE FOOTING DESIGN AND DRAWINGS.
SHORI	NG GENERAL
SH1.	THE ACOR DRAWINGS, OTHER CONSULTANTS DRAWINGS, THESE NOTES AND REFERENCED REPORTS FORM THE TECHNICAL SPECIFICATION FOR THE CONSTRUCTION OF THE BASEMENT EXCAVATION.
SH2.	ALL WORK ON SITE IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE RELEVANT CONDITIONS OF DEVELOPMENT CONSENT.
SH3.	ALL WORK ON SITE TO BE UNDERTAKEN IN ACCORDANCE WITH THE NSW OH& ACT & REGULATION, AND NSW WORKCOVER SAFE WORK CODES AND GUIDELINES. THE DETERMINATION OF A SAFE WORK METHOD IS THE RESPONSIBILITY OF THE CONTRACTOR.
SH4.	THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL IN GROUND SERVICES BOTH WITHIN THE SITE, ADJACENT PROPERTIES AND ADJOINING RTA ASSETS.
SH5.	PROVIDE EROSION AND SEDIMENTATION CONTROL IN ACCORDANCE WITH THE APPROVED DRAWINGS AND COUNCIL'S REQUIREMENTS.
SH6.	THE SITE RETENTION DETAILS HAVE BEEN DEVELOPED WITH REFERENCE TO THE SITE GEOTECHNICAL REPORT. INFERRED LEVELS OF SUB-SURFACE MATERIALS HAVE BEEN BASED ON THE BOLE HOLE LOGS CONTAINED IN THES REPORTS. HOWEVER, THE DETAILS WILL BE DEPENDENT ON THE ACTUAL LEVELS OF THE VARIOUS MATERIALS ACROSS THE EXTENT OF THE SITE. THE ACTUAL LEVEL, STRENGTH OF THE ROCK AND THE EXTENT OF EXCAVATION THROUGH MATERIALS OF OF VARIOUS TYPES AND STRENGTHS IS A RISK THAT SHALL BE BORNE BY THE CONTRACTOR. IT IS THE CONSTRUCTOR'S RESPONSIBILITY TO REVIEW THE AVAILABLE SUB SUBFACE INFORMATION

SH6.

SH8.

WORK

ARCHITECT'S DRAWINGS.

SCREW PILE NOTES

INSTALLATION.

1. APPROVAL OF ANCHORS ACROSS SITE BOUNDARIES. 2. RTA APPROVAL FOR ANCHORS BELOW STATE ROADS. 3. DILAPIDATION SURVEYS OF ADJACENT STRUCTURES AND PUBLIC DOMAIN INFRASTRUCTURE. 4. A VIBRATION MONITORING PLAN IN PLACE. 5. A DEWATERING LICENCE ISSUED BY THE NSW OFFICE OF WATER 6. MONITORING PLAN OF GROUND MOVEMENTS. 7. EXCAVATION METHOD STATEMENT 8. A SAFE WORK METHOD PLAN 9. TREE PROTECTION PLAN SH10. DEWATERING IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE PROCEDURE AND RECOMMENDATIONS PROVIDED BY GEOTECHNICAL REPORT. SH11. UNLESS NOTED OTHERWISE THE DETAILED DESIGN OF THE FOLLOWING COMPONENTS IS TO BE UNDERTAKEN BY SPECIALIST CONTRACTORS: 1. SHORING WALL. 2. GROUND ANCHORS. 3. DE-WATERING. 4. SUSPENDED POST-TENSIONED SLABS SH12. ENGINEERING DESIGN CALCULATIONS. DRAWINGS AND CONSTRUCTION PROCEDURES ARE TO BE SUBMITTED FOR REVIEW 14 DAYS PRIOR TO THE COMMENCEMENT OF WORK. SH13. THE TESTING AND DISPOSAL OF THE EXCAVATED MATERIAL TO BE IN ACCORDANCE WITH THE RECOMMENDATION OF THE GEOTECHNICAL REPORT. ROOF SAFETY ACCESS SYSTEMS RS1. A ROOF SAFETY ACCESS SYSTEM WHICH COMPLIES WITH THE RELEVANT OH&S REGULATIONS FOR FALL ARREST AND THE RELEVANT AUSTRALIAN STANDARDS IS TO BE INSTALLED AND CERTIFIED BY AN APPROPRIATELY EXPERIENCED

NECESSARY APPROVALS INCLUDING A CONSTRUCTION CERTIFICATE FOR THE

SPECIALIST SUPPLIER. RS2. THE DESIGN BY THE SPECIALIST IS TO INCLUDE SYSTEM SELECTION, LAYOUT, INSTALLATION, FLASHING, STRENGTHENING WORKS AND CERTIFICATION. GROUTING OF BASE PLATES

- MANUFACTURER'S WRITTEN PROCEDURE. GB2. THE THICKNESS OF THE GROUT BED SHALL BE 25mm (MAX.).

### SP1. STEEL SCREW PILES SHALL COMPLY WITH AS2159 - PILING DESIGN AND

DESIGNED FOR BOTH THE LOADS AS SHOWN ON DS DUE TO INSTALLATION. LOADS SHOWN ON DS UNO.

OR APPROVAL PRIOR TO INSTALLING PILES. THIS G CONTRACTOR FOR ANY OBLIGATIONS. THE EMAIN COMPLETELY LIABLE FOR THE PILE WORKS. AL STRENGTH REDUCTION FACTOR VALUE SHALL ERWISE STATED IN THE GEOTECHNICAL REPORT, PRIOR APPROVAL OF THE GEOTECHNICAL

ONS ARE NOT DEEMED SUITABLE FOR PILE THE PILING CONTRACTOR MUST SUBMIT STATIC TO PROVE CAPACITY. FOR ALL RELEVANT LOAD ALL BE UNDERTAKEN. THE GEOTECHNICAL TATE DESIGN BEING APPLIED TO THE MAXIMUM TAKEN TO FAILURE - AS SPECIFIED BY THE DUCTION FACTOR WILL BE INCREASED AGE OF THE STATIC LOAD TESTS CONDUCTED AS

STEEL PILES TO APPLY TO ALL EXPOSED STEEL OF 50 YEARS UNLESS STATED OTHERWISE. ANY D THE PILE SHALL BE IGNORED WHEN OWANCE AS THE INTEGRITY OF THE COATING RING THE INSTALLATION PROCESS.

E MONITORED TO RECONCILE EXPECTED ND THOSE ACTUALLY ENCOUNTERED DURING

FION FOR A PILE AT CUTOFF LEVEL SHALL BE M THAT SHOWN ON THE DRAWINGS AND WITHIN TION FOR PILES RAKED UP TO 1 IN 5, AND 7% FOR THE PILE AND ITS CONNECTION TO THE FOR THESE CONSTRUCTION TOLERANCES AND SULT. THE STRUCTURAL ENGINEER IS TO BE WHICH DO NOT SATISFY THE ABOVE CRITERIA, RECTIFICATION DESIGN. THE CONTRACTOR SHALL REASSESSMENT, REDESIGN AND

LETELY FILLED WITH 40 MPa BLOCK CORE FILLING LOCKWORK NOTES, AS SOON AS PRACTICABLE IG IS DELAYED. THE TOP OF THE PILE IS TO BE THE PILE IS FILLED.

PILE WORKS THE PILING CONTRACTOR IS TO THE PILES HAVE BEEN DESIGNED AND INSTALLED AILED ON THE STRUCTURAL DRAWINGS AND FOR CERTIFICATION IS TO BE ISSUED BY A CERTIFIED ETENT IN PILE DESIGN, APPROVED BY ACOR IE PILES.

TIVE FOOTING SYSTEM ES AS AN ALTERNATIVE FOOTING SYSTEM MAY

CONCRETE FOOTINGS SHOWN ON THE NTRICITIES IN THE PILES.

S REGARDING THE USE OF SCREW PILES BEFORE IDERS.

ALLOW FOR : THE COST OF ADDITIONAL AY BE REQUIRED, AND THE COSTS OF CHANGING AWINGS

### NSULTANTS DRAWINGS, THESE NOTES AND E TECHNICAL SPECIFICATION FOR THE

### CTOR LE FOR LOCATING ALL IN GROUND SERVICES T PROPERTIES AND ADJOINING RTA ASSETS.

TATION CONTROL IN ACCORDANCE WITH THE ICIL'S REQUIREMENTS. VE BEEN DEVELOPED WITH REFERENCE TO T. INFERRED LEVELS OF SUB-SURFACE THE BOLE HOLE LOGS CONTAINED IN THESE LS WILL BE DEPENDENT ON THE ACTUAL ALS ACROSS THE EXTENT OF THE SITE. THE

E ROCK AND THE EXTENT OF EXCAVATION IOUS TYPES AND STRENGTHS IS A RISK THAT SHALL BE BORNE BY THE CONTRACTOR. IT IS THE CONSTRUCTOR'S RESPONSIBILITY TO REVIEW THE AVAILABLE SUB-SURFACE INFORMATION SEEKING ADDITIONAL INFORMATION IF CONSIDERED NECESSARY BY THE

CONTRACTOR AND PRICE THE RISK ACCORDINGLY. THE PLAN LAYOUT OF THE SHORING IS TO BE DETERMINED FROM THE

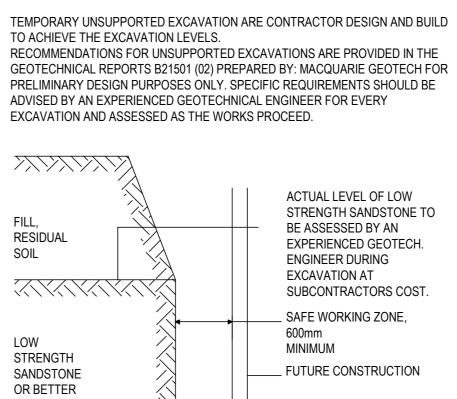
DO NOT COMMENCE CONSTRUCTION OF THE SHORING WALL WITHOUT ALL

SH9. DO NOT COMMENCE SITE WORK WITHOUT THE FOLLOWING IN PLACE:

GB1. ALL GROUT SHALL BE CURED BY THE APPLICATION OF 'MBT AUSTRALIA' 'FLOORSEAL' APPLIED TO THE GROUT STRICTLY IN ACCORDANCE WITH THE

GB3. GROUT ALL STEEL BASES BY DRY PACKING USING GROUT WHICH IS NON-SHRINK AND HAS A MINIMUM COMPRESSIVE STRENGTH AT 7 DAYS OF 50 MPa

TEMPORARY UNSUPPORTED EXCAVATIONS



\_\_\_\_\_\_

TYPICAL TOP TUE1 AN EXPERIENCED GEOTECHNICAL ENGINEER SHOULD CARRY OUT CONTINUOUS

(U+O)

UNDERSIDE UNLESS NOTED OTHERWISE UNDER AND OVER

THAT STABILISATION WORKS HAVE BEEN CONSTRUCTED CORRECTLY. TUE3. TEMPORARY EXCAVATION MAY BE OPEN FOR AN EXTENDED PERIOD OF TIME AND MUST PROVIDE A SAFE WORKING ENVIRONMENT FOR ALL PERSONNEL REQUIRED TO WORK INSIDE THE EXCAVATION. EXCAVATION SHOULD BE DRY.

VERTICAL CUTS BY THE GEOTECHNICAL ENGINEER ARE TO BE CARRIED OUT

IMMEDIATELY. THE GEOTECHNICAL ENGINEER SHOULD REVIEW AND CERTIFY

TUE2. ALL RECOMMENDATION ON BATTERS OR ADDITIONAL STABILISATION OF

TUE4. THE EXCAVATION SHOULD BE CONSTANTLY MONITORED FOR ANY SIGN OF DISTRESS OR LOCALISED COLLAPSE. ANY SUCH SIGNS MUST BE REPORTED IMMEDIATELY AND WORKERS INSTRUCTED TO LEAVE THE EXCAVATION.

TUE5. A SERIES OF LADDERS OR STAIRS SHOULD BE PROVIDED TO ENABLE ACCESS AND EXIT. THESE SHOULD BE PROVIDED AT SUITABLY CLOSE CENTRES.

TUE6. A SAFETY AND RISK ASSESSMENT SHOULD BE UNDERTAKEN BY THE CONTRACTOR AND MEASURES PROPOSED TO ELIMINATE OR CONTROL THE HAZARDS

### STIFFENED RAFT SLAB ON GROUND

LEVEL OF

PLAN

EXCAVATION

VARIES, REFER

UNSUPPORTED TEMPORARY EXCAVATION

INSPECTIONS AS THE EXCAVATION PROCEEDS.

SR1. THE RAFT SLABS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH AS 2870-2011 'RESIDENTIAL SLABS AND FOOTINGS' AND ACCEPTED ENGINEERING PRACTICE. PARTICULAR ATTENTION IS DRAWN TO SECTIONS 5 AND 6 OF THE CODE. SR2. TERMITE PROTECTION, IF REQUIRED BY THE BUILDING SURVEYOR, SHALL BE

INSTALLED IN ACCORDANCE WITH AS 3660.1-1995, AND OTHER RELEVANT AUSTRALIAN STANDARDS AND LOCAL AUTHORITY REQUIREMENTS.

SR3. ALL VEGETATION AND TOPSOIL SHALL BE REMOVED FROM THE SLAB AREA. SR4. THE GROUND BELOW SLAB SHALL BE PROOF ROLLED WITH A HEAVY DUTY ROLLER PRIOR TO ANY COMPACTED FILLING BEING PLACED. ANY SOFT SPOTS ENCOUNTERED SHALL BE DUG OUT AND REPLACED WITH COMPACTED CRUSHED

ROCK OR APPROVED FILL IN ACCORDANCE WITH AS 2870 AND AS 3798. FILLING USED IN THE CONSTRUCTION OF SLAB EXCEPT WHERE THE SLAB IS SUSPENDED SHALL CONSIST OF CONTROLLED FILL OR ROLLED FILL IN ACCORDANCE WITH SECTION 6 OF AS 2870. CONTROLLED FILL DEPTH SHALL BE LESS THAN 0.8m FOR SAND AND 0.4m FOR NON-SAND FILL. ROLLED FILL SHALL NOT EXCEED 0.6m DEPTH FOR SAND AND 0.3m FOR OTHER MATERIAL. THE EXTENT OF CONTROLLED FILL AND ROLLED FILL REQUIRED SHALL BE

DETERMINED ON SITE AND SHALL BE THE RESPONSIBILITY OF THE

CONTRACTOR. SR6. WHERE DEPTH OF CONTROLLED FILL IS THICKER THAN THAT SPECIFIED ABOVE, FILL MATERIAL SHALL BE SPREAD AND COMPACTED IN UNIFORM LAYERS NOT EXCEEDING 0.2 M THICK. TOP SURFACE LAYER SHALL BE COMPACTED TO MINIMUM 98% STANDARD DRY DENSITY DETERMINED BY METHODS IN ACCORDANCE WITH AS 1289. LOWER LAYERS SHALL BE COMPACTED TO 95% STANDARD DRY DENSITY. THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE ADJUSTED TO WITHIN 2 % OF THE OPTIMUM MOISTURE CONTENT DURING COMPACTION TO ENSURE THAT THE SPECIFIED COMPACTION IS OBTAINED. COMPACTION TESTS SHALL BE CARRIED OUT AT A RATE OF ONE TEST PER LAYER PER 100 SQUARE METRES OF FILL. TESTS ARE TO BE CARRIED

OUT BY NATA REGISTERED LABORATORIES. SUBMIT TEST REPORTS TO THE ENGINEER FOR APPROVAL. SR7. A 0.3mm POLYTHENE MEMBRANE SHALL BE PLACED UNDER SLAB AND RIBS IN

ACCORDANCE WITH SECTION 5.3.3 OF AS 2870. LAP SHEETS BY 200mm MINIMUM AT JOINTS AT TAPED AT ALL SERVICE PENETRATIONS, LAPS & PUNCTURES. SR8. EXCAVATIONS NEAR THE BUILDING EDGE SHALL BE BACKFILLED IN SUCH A

MANNER TO PREVENT READY ACCESS OF WATER TO THE FOUNDATIONS.

SR9. SYMBOLS ON THE DRAWING FOR REINFORCEMENT ARE AS OUTLINED IN THE REINFORCEMENT NOTE. SR10. MESH SHALL BE PLACED NEAR THE TOP OF THE SLAB IN ACCORDANCE WITH

SECTION 5.3 OF AS 2870.

SR11. REINFORCEMENT MESH SHALL BE LAPPED SO THAT EACH PAIR OF TRANSVERSE WIRES AT THE EDGE OF ONE SHEET OVERLAPS EACH CORRESPONDING PAIR OF TRANSVERSE WIRES OF SHEET BEING LAPPED. REINFORCEMENT SHALL BE SUPPORTED IN POSITION PRIOR TO CONCRETING COMMENCING ON DENSE PRECAST CONCRETE SPACER BLOCKS OR BAR CHAIRS ON GALVANISED STEEL DISHES (EITHER OF WHICH MUST NOT DAMAGE THE MEMBRANE) AT 900mm MAXIMUM CENTRES EACH WAY. TRAMPING IN MESH IS NOT PERMITTED.

SR12. REFER TO CONCRETE NOTES FOR CONCRETE STRENGTH GRADE AND REINFORCEMENT COVER.

SR13. TRENCH MESH SHALL BE OVERLAPPED BY THE WIDTH OF THE MESH AT CORNERS AND INTERSECTIONS. THE ENDS OF TRENCH MESH SHALL TERMINATE WITH A CROSSBAR.

SR14. PROVIDE 3N12 x 2000 BARS OR ONE STRIP OF L11TM300 TRENCH MESH x 2000 LONG DIAGONALLY ACROSS RE-ENTRANT CORNERS OF SLAB TIED UNDER THE TOP MESH.

SR15. SLAB AND RIBS ARE TO BE CAST IN ONE CONTINUOUS POUR AND THE SLAB IS TO BE STEEL-FLOAT FINISHED U.N.O.

SR16. THE SLAB SHALL BE CURED FOR 7 DAYS IN ACCORDANCE WITH GOOD PRACTICE TO MINIMISE CRACKING AND SLAB EDGE CURLING DUE TO EARLY DRYING OF THE TOP SURFACE.

SR17. THE BUILDER SHALL COMPLETELY SEAL, BY GROUTING, ANY CRACKS THAT MAY DEVELOP IN THE SLAB. GREATER THAN OR EQUAL TO 1mm IN WIDTH. BEFORE APPLYING ANY FINISHES.

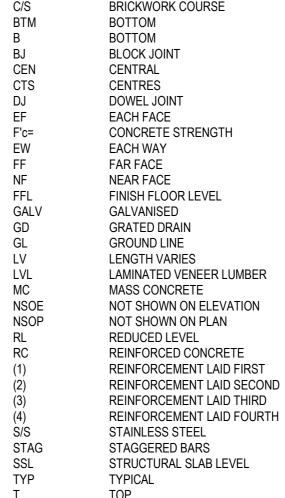
SR18. THE GROUND SURROUNDING SLABS SHALL HAVE THE SURFACE AT LEAST 150mm LOWER THAN THE SLAB AND BE SLOPED AWAY FROM THE SLAB EDGE SC THAT WATER WILL DISCHARGE TO SUITABLE DRAINAGE POINTS AND NOT FLOOD THE SLAB SURFACE.

ABBREVIATIONS ALTERNATIVE BARS

ALT

CEN

CTS



This drawing should be read in	
conjunction with all relevant contract specifications and drawings. Dimen are in millimetres. Levels are metre	sions
not scale off drawings. Use figured dimensions only. Check dimensions Site. Report discrepancies immedia	
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STRUCTURE & CIVIL	
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R1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600, A1 AS4671 AND OTHER RELEVANT AUSTRALIAN CODES

SYMBOL	TYPE	MPa	DUCTILIT CLASS
Ν	HOT ROLLED DEFORMED BARS	500	NORMAL
R	HOT ROLLED PLAIN BARS	250	NORMAL
W	COLD DRAWN PLAIN ROUND WIRE	500	LOW
SL	SQUARE WELDED MESH	500	LOW
RL	RECTANGULAR WELDED MESH	500	LOW
LTM	RECTANGULAR WELDED MESH	500	LOW

R3. ALL REINFORCEMENT TO CONFORM TO AS4671, CURRENT EDITIONS WITH AMENDMENTS. REINFORCEMENT NOTATION GIVES THE FOLLOWING INFORMATION: NO. OF BARS, TYPE, SIZE (MM), SPACING (MM), LAYER. FOR EXAMPLE 17N16 -250 T FABRIC OR MESH NOTATION GIVES THE FOLLOWING INFORMATION: "RL" OR "SL", A3.

- PRODUCT CODE, LAYER. FOR EXAMPLE SL82 T REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY R4 SHOWN IN TRUE PROJECTION.
- COVER TO REINFORCEMENT CLEAR COVER TO TO ALL REINFORCEMENT FOR R5. DURABILITY SHALL BE AS INDICATED IN THE CONCRETE NOTES. COVER SHALL NOT BE LESS THAN THE SIZE OF THE AGGREGATE OR THE MAIN BAR. PIPES OR CONDUITS SHALL NOT BE PLACED WITHIN THE COVER TO REINFORCEMENT. ADDITIONAL COVER MAY BE REQUIRED TO ACHIEVE FIRE RATING - REFER TO DESIGN DRAWINGS.

SUPPORT REINFORCEMENT ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1 METRE CENTRES BOTH WAYS. IN EXPOSED CONDITIONS B2 OR C (TO AS3600)

- USE ONLY PLASTIC OR CONCRETE CHAIRS. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED WITHOUT THE R6
- APPROVAL OF THE ENGINEER.
- PROVIDE DISTRIBUTION REINFORCEMENT OR TIE BARS IF NOT SHOWN. WHERE NECESSARY PROVIDE N12-400 CENTRES (SPLICE 450) R8. SITE BENDING OF N BARS SHALL BE DONE COLD WITH POWER OR MECHANICAL BENDING TOOLS AND A MANDREL OR FORMER WITH A BAR DIAMETER OF 5
- TIMES THE BAR SIZE. NOTE: IF N BARS ARE HEATED ABOVE 450°C (LESS THAN RED HEAT) THEY LOSE STRENGTH. REINFORCEMENT LAPS
- LAP REINFORCEMENT ONLY AT LOCATIONS SHOWN ON THE STRUCTURAL R9. DRAWINGS OR AS OTHERWISE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.

	SLAB REINFORCEMENT - LAP LENGTH (mm)					
BAR	CONCRETE GRADE					
DIA.	25	MPa	32 MPa 40 MPa			
N12	600			500 450		
N16		50		50		50
N20	11	00	10	00	90	00
	BEAM	REINFORC	EMENT - L	AP LENGTH	H (mm)	
bar Dia.		n CONCRE LOW THE E			n CONCRET LOW THE E	
	CON	ICRETE GR	ADE	CON	ICRETE GR	ADE
	25 MPa	32 MPa	40 MPa	25 MPa	32 MPa	40 MPa
N12	600	500	450	750	650	600
N16	850	750	650	1100	950	850
N20	1100	1000	900	1450	1300	1150
N24	1400	1250	1100	1800	1600	1400
N28	1700	1500	1350	2200	1950	1700
N32	2000	1800	1600	2600	2300	2050
N36	2400	2100	1850	3050	2700	2400
BAR		COLUM			CEMENT	
DIA.		COLUMN AND WALL REINFORCEMENT LAP LENGTH (mm)				
N12		500				
N16		650				
N20			80	00		
N24			9	50		
N28			11	50		
N32			13	00		
N36			14	50		
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I	<u>!                                    </u>					
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- R10. LAPS IN MESH (FABRIC) SHALL COMPLY WITH AS3600. THE TWO OUTERMOST TRANSVERSE WIRES OF ONE SHEET SHALL OVERLAP THE TWO OUTERMOST TRANSVERSE WIRES OF THE SHEET BEING LAPPED BY 25MM. A MAXIMUM OF 3 SHEETS OF MESH SHALL BE LAPPED AT ANY POINT. 50 MAX. OVERLAP · · · · · · · ·
- N12 x 1200 LONG AT WIRE CENTRES ALTERNATIVE FABRIC SPLICE DETAIL R11. SLAB REINFORCEMENT SHALL EXTEND 70mm ONTO SUPPORTING WALLS, WITH
- 50% OF BOTTOM BARS COGGED TO ACHIEVE ANCHORAGE AT SIMPLY SUPPORTED ENDS. MESH IN SLABS SHALL EXTEND 70mm ONTO SUPPORTING WALLS WITH A CROSS WIRE.
- R12. ALL BEAM TIES ARE TO HAVE BAR ANCHORAGES LOCATED ON THE TOP FACE OF THE BEAM UNO. R13. REINFORCEMENT BAR JOGGLES SHALL BE 1 BAR DIAMETER OVER A LENGTH OF 12 BAR DIAMETERS.

### <u>BONDEK</u>

- B1. ALL SLABS TO BE TBC THICK UNLESS NOTED OTHERWISE AND POURED ON LYSAGHT 1mm BONDEK OR EQUAL B2. DIRECTION OF SPAN SHOWN THUS
- B3. BONDEK PANELS ARE TO BE SECURELY FIXED OR HELD DOWN TO PREVENT DISPLACEMENT DUE TO CONSTRUCTION LOADING OR WIND UPLIFT PRIOR TO CONCRETING.
- B4. FIX BONDEK PANELS TO STEELWORK BY PUDDLE WELDING, DRIVE PINS OR OTHER SUITABLE METHODS. SLIP JOINTS SHALL BE LOCATED AS SHOWN.
- B5. BONDEK TO HAVE 50 MINIMUM END BEARING ON BRICKWORK. FIXING TO MASONRY IS NOT NECESSARY, PROVIDED CONCRETE IS PLACED IMMEDIATELY AFTER PANELS ARE LAID. TOP COURSE OF BRICKWORK IS TO BE STRAIGHT AND LEVEL. IF REQUIRED PROVIDE LAYER OF SMOOTH HARD MORTAR. SLIP JOINTS C SHALL BE PROVIDED IN MASONRY UNLESS NOTED OTHERWISE
- PROVIDE TBC MESH PLACED WITH MAIN BARS IN TOP AND AT RIGHT ANGLES TO B6. DIRECTION OF BONDEK. WHERE SPAN DIRECTION OF BONDEK CHANGES. LAP MESH 450 MINIMUM IN DIRECTION OF MAIN BARS.
- B7. BEFORE CONCRETE IS PLACED, REMOVE ANY ACCUMULATED DEBRIS, GREASE OR ANY OTHER SUBSTANCE TO ENSURE CLEAN BONDING SURFACE. ANY PONDED RAIN WATER SHALL BE REMOVED.
- FASTENING OF SIDE LAP JOINTS OF BONDEK SHALL BE IN ACCORDANCE WITH B8. IYSAGHT PUBLICATIONS, AND GENERALLY ONE NO, 10-24 x 16mm SELF-DRILLING TAPPING SCREW IS REQUIRED MID-SPAN FOR SUPPORT SPACING OF 2750mm OR GREATER. FOR POINT LOAD RATINGS OR EXPOSED SOFFITS ADDITIONAL FIXINGS MAY BE REQUIRED. B9. UNLESS NOTED OTHERWISE PROPPING OF THE BONDEK SHALL BE IN
- ACCORDANCE WITH IYSAGHT PUBLICATIONS. B10. PROPS SHOULD NOT BE REMOVED UNTIL CONCRETE HAS REACHED SUFFICIENT STRENGTH.
- B11. THE SHEETS SHALL NOT BE SPLICED OR LAPPED.
- B12. NO LOADS FROM STACKED MATERIALS ARE ALLOWED UNTIL THE CONCRETE IS

ASPHALTIC CONCRETE NOTES

ASP	HALTIC CONCRETE NOTES	REIN	FORCED CC	NCRETE BLOCK	WORK		
A1.	GENERAL	RB1.	ALL WORKMAN	ISHIP SHALL COMPLY \	WITH AS 3700, AND THE SPECIFICATION	IS.	
	a) MINERAL AGGREGATES TO COMPLY WITH CLAUSE 3 MATERIALS D.M.R. FORM 952 "SPECIFICATION FOR THE SUPPLY AND DELIVERY OF AGGREGATE FOR USE IN PLANT MIX."	RB2. RB3.	ALL BLOCKS SHALL CONFORM TO AS 2733. THE DESIGN STRENGTH OF CONCRETE MASONRY SHALL BE AS FOLLOWS :-				
	b) MINERAL FILLER TO COMPLY WITH AS.2357-1980 MINERAL FILLERS FOR ASPHALT. c) BITUMEN BINDER SHALL COMPLY WITH D.M.R. FORM 337 "SPECIFICATION FOR		ELEMENT	BLOCK STRENGTH GRADE	MORTAR MIX CEMENT:LIME:SAND		
A2.	RESIDUAL BITUMEN." <u>MIX PROPORTIONS</u>		WALLS	15	M3 MORTAR (NORMAL) 1 : 1 : 6 M4 MORTAR (EXPOSURE GRADE)		
	a) JOB MIX - 10mm NOMINAL SIZE AGGREGATE. MINIMUM BITUMEN CONTENT (%) BY MASS OF TOTAL MASS - 5.1%				1 : 0.5 : 4.5		
	b) MIX STABILITY - BETWEEN 16kN AND 36kN AS DETERMINED BY D.M.R. TEST METHOD T601 AND T603	RB4.			N FULL MORTAR BED. ALL PERPENDS S CEPT WHERE REQUIRED FOR WEEPHOL		
	c) AIR VOIDS IN COMPACTED MIX - BETWEEN 4% AND 7% OF THE VOLUME OF THE MIX.	RB5.		ORCED CORES SHALL	IDED AT THE BASE OF ALL REINFORCE BE CLEANED OF MORTAR PROTRUSION		
	d) VOIDS FILLED IN BINDER - 65-80% OF AIR VOIDS IN THE TOTAL MINERAL AGGREGATE FILLED BY BINDER IN ACCORDANCE WITH D.M.R. TEST METHOD T601, T605 AND T606.	RB6.	ALL REINFORC	ED CORES SHALL BE F	FILLED WITH GROUT. THE GROUT FILLIN D BY MECHANICAL VIBRATOR OR RODD DE FILLED UNLESS OTHERWISE NOTED.	DIN	
A3.	PAVEMENT PREPARATION a) THE EXISTING SURFACE TO BE SEALED SHALL BE DRY AND BROOMED BEFORE	RB7.	RB7. GROUT COVER TO REINFORCEMENT IN BLOCK RETAINING WALLS SHA MAINTAINED BY THE USE OF PLASTIC "BLOCKAID" REINFORCEMENT LC				
	COMMENCEMENT OF WORK TO ENSURE COMPLETE REMOVAL OF ALL SUPERFICIAL FOREIGN MATTER.		BRACKETS (OF		ENT) AT THE INTERSECTION OF ALL	0	
	b) ALL DEPRESSIONS OR UNEVEN AREAS ARE TO BE TACK-COATED AND BROUGHT UP TO GENERAL LEVEL OF PAVEMENT WITH ASPHALTIC CONCRETE BEFORE LAYING OF MAIN COURSE.	RB8.	grout shall Following :-	BE IN ACCORDANCE W	VITH AS 3600 AND COMPLY WITH THE		
A4.	TACK COAT a) THE WHOLE OF THE AREA TO BE SHEETED WITH ASPHALTIC CONCRETE SHALL		MPa AT 28 DAYS.				
	BE LIGHTLY AND EVENLY COATED WITH RAPID SETTING BITUMEN COMPLYING WITH D.M.R. FORM 305.	SLUMP = 230 mm. RB9. MAXIMUM CONTINUOUS POUR HEIGHT SHALL BE 3600 mm, STOP POU BELOW TOP OF BLOCK TO PROVIDE KEY FOR THE FOLLOWING POUR					
	APPLICATION RATE FOR RESIDUAL BITUMEN SHALL BE 0.15 TO 0.30 LITRES/SQUARE METRE. APPLICATION SHALL BE BY MEANS OF A MECHANICAL SPRAYER WITH SPRAY BAR.	RB10.	BUILDER IS TO PROVIDE TEMPORARY PROPPING TO WALLS WHERE REQUINT FOR STABILITY DURING CONSTRUCTION.			٦E	
A5.	SPREADING	RB11.	VERTICAL JOIN				
	a) ALL ASPHALTIC CONCRETE SHALL BE SPREAD WITH A SELF PROPELLED PAVING MACHINE.		PROVIDE VERTICAL CONTROL JOINTS IN ALL WALLS AT A MAXIMUM OF 8000 CENTRES OR AT SLAB JOINTS UNLESS INDICATED OTHERWISE ON THE STRUCTURAL DRAWINGS			) m	
	b) THE ASPHALTIC CONCRETE SHALL BE LAID AT A MIX TEMPERATURE AS SHOWN BELOW;		HORIZONTAL J	IOINTS			
	ROAD SURFACE MIX TEMPERATURES	RB12.		IZONTAL JOINT REINFO RE FILLED BLOCKS	DRCEMENT EVERY THIRD COURSE FOR		
	TEMPERATURE IN SHADE (°C) (°C)	RB13.	3. REFER TO TYPICAL "REINFORCED BLOCK WALL JUNCTION DETAILS" FOR REINFORCEMENT REQUIREMENTS AT CORNERS AND INTERSECTIONS.				
	5 - 10 NOT PERMITTED 10 - 15 150	RB14.		ARCHITECTS SPECIFI ALLS AS REQUIRED.	CATIONS FOR ALL WATERPROOFING		
	15 - 25 145 OVER 25 140	RB15.			FOR ADDITIONAL INFORMATION ON MS BEHIND RETAINING WALLS.		
	c) ASPHALTIC CONCRETE SHALL NOT BE LAID WHEN THE ROAD SURFACE IS WET	RB16. REFER TO TYPICAL DETAILS FOR BOND BEAM LINTELS. RB17. MASONRY WALLS MUST NOT BE CONSTRUCTED ON SUSPENDED CON				_	
	OR WHEN COLD WINDS CHILL THE MIX TO ADVERSELY AFFECT SPREADING AND COMPACTION.	RB17.	UNTIL ALL TEM		RE REMOVED AND ALL MASONRY TO B		
	d) THE MINIMUM COMPACTED THICKNESS IS 30mm OVER EXISTING SEALED PAVEMENTS AND 50mm OVER NEW PAVEMENTS.	UNRE	EINFORCED	CONCRETE BLC	OCKWORK		
A6.	<u>JOINTS</u> a) THE NUMBER OF JOINTS BOTH LONGITUDINAL AND TRANSVERSE SHALL BE	UB1.	ALL WORKMAN	SHIP SHALL COMPLY	WITH AS 3700, AND THE SPECIFICATION	IS.	
	KEPT TO A MINIMUM.	UB2.		HALL CONFORM TO AS			
	b) THE DENSITY AND SURFACE FINISH AT JOINTS SHALL BE SIMILAR TO THOSE OF THE REMAINDER OF THE LAYER COMPACTION	UB3.	ELEMENT	BLOCK STRENGTH	TE MASONRY SHALL BE AS FOLLOWS : MORTAR MIX		
A7.	a) ALL COMPACTION SHALL BE UNDERTAKEN USING SELF PROPELLED ROLLERS.			GRADE	CEMENT:LIME:SAND M3 MORTAR (NORMAL)		
	b) INITIAL ROLLING SHALL BE COMPLETED BEFORE THE MIX TEMPERATURE FALLS BELOW 105°C		WALLS	15	1 : 1 : 6 M4 MORTAR (EXPOSURE GRADE) 1 : 0.5 : 4.5		
	c) SECONDARY ROLLING SHALL BE COMPLETED BEFORE THE MIX TEMPERATURE FALLS BELOW 60°C	UB4. UB5.	PROVIDE HOR		DRCEMENT IN EVERY THIRD COURSE.		
	d) MINIMUM CHARACTERISTICS VALUE OF RELATIVE COMPACTION OF A LOT WHEN TESTED IN ACCORDANCE WITH D.M.R. FORM 612 SHALL BE 95%.		PROVIDE VER	TICAL CONTROL JOINT	S IN ALL WALLS AT A MAXIMUM OF 8000 SS INDICATED OTHERWISE ON THE	) m	
A8.	FINISHED PAVEMENT PROPERTIES			DRAWINGS. (LOCATION	INS TO BE CONFIRMED WITH THE ARCHI	TE	
	a) FINISHED SURFACES SHALL BE SMOOTH, DENSE AND TRUE TO SHAPE AND SHALL NOT VARY MORE THAN 10mm FROM THE SPECIFIED PLAN LEVEL AT ANY POINT AND SHALL NOT DEVIATE FROM THE BOTTOM OF A 3m STRAIGHT EDGE LAID IN ANY DIRECTION BY MORE THAN 5mm.		CONCRETE, O	R PASSES A RETURN V	URAL STEELWORK, REINFORCED VALL ON THE INNER SKIN, PROVIDE ME AT 400mm MAXIMUM CENTRES.	ÐI	
Ŧſ		UB7.		SPOT WELD TIES TO ST	TEELWORK. IF SHOT FIXED ENSURE NA	AL:	
	EMPORARY WORKS (1. ACOR'S DOCUMENTATION DEPICTS THE "PERMANENT" STRUCTURE, DESIGN AND	UB8.		PROVIDE TEMPORAR	Y PROPPING TO WALLS WHERE REQUIF	٩E	
ΤV	1. ACOR'S DOCUMENTATION DEPICTS THE "PERMANENT" STRUCTURE. DESIGN AND INSTALLATION OF ALL TEMPORARY WORKS AND PROCEDURES WILL BE THE SOLE RESPONSIBILITY OF THE BUILDER.	UB9.		RSECTION DETAILS			
τw	2. THE BUILDER MUST ENGAGE NPER QUALIFIED ENGINEER FOR THE DESIGN OF ALL TEMPORARY WORKS NECESSARY TO SAFELY ERECT THIS STRUCTURE, AS A			RPENDS ARE TO BE GENOTE FOR GROUT SPE	ROUT FILLED. (REFER REINFORCED CIFICATION)		
	MINIMUM THE FOLLOWING TEMPORARY WORKS REQUIRE ATTENTION: FORMWORK / TEMPORARY PROPPING / NEEDLE BEAMS / SCAFFOLDING /HOARDING.			ITH FLEXIBLE FOAM SL ) FIBREBOARD TYPICAI	.IGHTLY OVERSIZED. DO NOT USE BITU L.	M	

- TW3. BUILDER MUST CONTACT ACOR IF THEY CONSIDER ANY PART OF THE STRUCTURE IS UNSAFE TO ERECT.
- TW4. THE BUILDER WILL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED TO ADJOINING BUILDINGS AND ROADWAYS DURING THE INSTALLATION OF THE TEMPORARY WORKS AND THE PERMANENT WORKS. TW5. ANY TEMPORARY WORK DETAILS AND PROCEDURES GIVEN IN THESE DRAWINGS
- ARE FOR THE GUIDANCE OF THE BUILDER ONLY.

### CHEMICALLY ANCHORED REINFORCEMENT

CAR1. WHERE SHOWN ON THE DRAWINGS, REINFORCEMENT BARS SHALL BE CHEMICALLY ANCHORED INTO EXISTING CONCRETE AS DESCRIBED BELOW. CAR2. PERCUSSION DRILL (CORING NOT PERMITTED) A HOLE TO THE CORRECT DIAMETER AND DEPTH FOR THE PARTICULAR SIZE REINFORCING BAR AS

	BAR SIZE	HOLE DIA (mm)	HOLE DEPTH (mm)
	N12	16	260
	N16	22	350
	N20	28	420
	N24	32	550
-	INTO THE BASE OF THE HO RESIN APPEARS AT THE FA		THE BAR IS INSTALLED
R5.	IMMEDIATELY INSERT THE F		E HOLE BY ROTATING
	SLOWLY TO FULLY COAT TH	HE BAR WITH RESIN, AND PU	JSH FULLY INTO THE HOLE
R6.	ENSURE BAR IS NOT DISTU HOURS).	RBED WHILST RESIN IS CUR	RING. (APPROXIMATELY 2
R7.	CURING IS NOT PERMITTED	UNLESS APPROVED BY TH	E ENGINEER.

### REINFORCED CONCRETE BLOCKWORK

BE LAID

FILL JOINTS WITH FLEXIBLE FOAM SLIGHTLY OVERSIZED. DO NOT USE BITUMEN IMPREGNATED FIBREBOARD TYPICAL.

SEAL JOINT WITH APPROVED MASTIC SEALANT RECESSED 25mm FROM FACE OF WALL - SEALANT IS TO HAVE SAME FRL REQUIREMENT OF THE WALL.

WALL TIES SHALL	COMPLY WITH AS2699	
STEEL COLUMN		CON

STEEL COLUMN (FIRE RATE AS	CONCRETE COLUMN
REQUIRED)	
MET 5-3 TIES	MET 5-3 TIES

UB10. NON-LOADBEARING WALLS AT SLAB SOFFITS. LEAVE 20mm GAP TO SLAB SOFFIT, PROVIDE M.E.T. 4-4 HEAD RESTRAINT TIES AT MIN 800 CENTRES, FIXED TO SLAB SOFFIT WITH 2 x Ø3.8 RAMSET PINS.

LOAD BEARING WALLS AT SLAB SOFFITS SLIP JOINTS TO BE USED ON ALL LOAD-BEARING MASONRY WALLS. USE TWO

LAYERS OF GALVANISED FLAT STEEL WITH GRAPHITE GREASE BETWEEN. 12. REFER TO ARCHITECTURAL DRAWINGS FOR FRL REQUIREMENTS OF MASONRY WALLS - ADDITIONAL CORE FILLING MAY BE REQUIRED TO ACHIEVE THE REQUIRED FRL.

B13. REFER TO TYPICAL DETAILS FOR BOND BEAM LINTELS.

14. MASONRY WALLS MUST NOT BE CONSTRUCTED ON SUSPENDED CONCRETE UNTIL ALL TEMPORARY SUPPORTS ARE REMOVED AND ALL MASONRY TO BE LAID HAS BEEN STACKED ADJACENT TO PROPOSED POSITION.

### NCHOR BOLTS

ANCHOR BOLT MATERAIL TO BE GRADE 250 TO AS3678 U.N.O.

ALL ANCHOR BOLTS SHALL HAVE MIN ONE FLAT WASHER AND ONE NUT U.N.O. AB3. ALL CHEMICAL ANCHOR BOLTS SHALL BE M20 RAMSET, HILTI OR APPROVED

EQUIVALENT, U.N.O. AB4. ALL ANCHOR BOLTS SHALL BE TIGHTENED TO THE SNUG TIGHT CONDITION.

AB5. RESIN GROUTING OF ANCHOR BOLTS ARE AND/OR DOWEL BARS INTO PREFORMED/DRILLED HOLES SHALL BE CARRIED OUT USING 'FOSROC LOCSET E' EPOXY ADHESIVE INSTALLED STRICTLY IN ACCORDANCE WITH THE

MANUFACTURER'S WRITTEN PROCEDURE. AB6. ALL ANCHOR BOLTS SHALL BE INSTALLED WITH EXPANDED POLYSTYRENE BLOCKOUTS.

WIDTH = 3 x BOLT DIAMETER LENGTH = 7 x BOLT DIAMETER RETAINING WALL - REINFORCED CONCRETE BLOCKWORK

RW1.	ALL WORKMANSHIP SHALL COMPLY WITH AS 4679 AND AS 3700.
RW2.	RETAINING WALL FOOTINGS HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING PRESSURE AS NOTED ON DRAWINGS. THIS FOUNDATION MATERIAL SHALL BE UNIFORM AND BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF ANY FOOTING REINFORCEMENT.
RW3.	REFER TO "REINFORCED CONCRETE BLOCKWORK" NOTES FOR ADDITIONAL SPECIFICATIONS.
RW4.	TEMPORARY BATTERS TO BE AS PER GEOTECHNICAL ENGINEERS REPORTS.
RW5.	PROVIDE CLEAN-OUT BLOCKS AT THE BASE OF EACH POUR LIFT. REINFORCED CORES SHALL BE CLEANED OF MORTAR PROTRUSIONS BEFORE GROUTING
RW6.	HORIZONTAL REINFORCEMENT IN WALLS IS TO BE SPLICED 600 AS REQUIRED.

RW7. REFER TO TYPICAL DETAILS FOR FOOTING STEPS, INTERSECTION / CORNER DETAILS, AND VERTICAL CONTROL JOINT DETAILS. RW8. COVER TO REINFORCEMENT IN BLOCK RETAINING WALLS SHALL BE MAINTAINED BY THE USE OF PLASTIC "BLOCKAID" REINFORCEMENT LOCATION BRACKETS (OR

APPROVED EQUIVALENT) AT THE INTERSECTION OF ALL HORIZONTAL AND VERTICAL REINFORCEMENT. RW9. ALL CORES ARE TO BE FULLY GROUTED. GROUT SHALL BE IN ACCORDANCE WITH AS 3600 AND COMPLY WITH THE FOLLOWING :-CHARACTERISTIC STRENGTH fc = 20 MPa AT 28 DAYS.

MAXIMUM AGGREGATE SIZE = 10 mm. SLUMP = 230 mm. RW10. PROVIDE WATERPROOFING MEMBRANES AS REQUIRED BY ARCHITECTURAL SPECIFICATIONS. DESIGN, EXTENT AND CERTIFICATION OF MEMBRANE IS TO BE SP2

PROVIDED BY WATERPROOFING SPECIALIST. RW11. RETAINING WALLS ARE DESIGNED BASED ON THE ASSUMPTION THAT A FUNCTIONING DRAINAGE SYSTEM IS EFFECTIVE IN REMOVING HYDRAULIC PRESSURE . PROVIDE CONTINUOUS AG DRAINS BEHIND THE ENTIRE EXTENT OF THE RETAINING WALL. THE DRAINAGE SYSTEM IS TO BE DESIGNED FOR LONG TERM PERFORMANCE EQUAL TO THAT OF THE DESIGN LIFE OF THE WALL. THE DESIGN AND DOCUMENTATION OF THIS SYSTEM IS BY OTHERS AND IS TO INCLUDE DETAILS OF EFFLUX POINTS FOR THE DRAINAGE AND ACCESS / MAINTENANCE POINTS.

RW12. BACKFILL BEHIND THE WALL IS TO BE CLASSIFIED AS FREE DRAINING GRANULAR MATERIAL. FREE DRAINING GRANULAR MATERIAL SHALL BE A NON-COHESIVE WELL GRADED GRANULAR MATERIAL COMPRISING SOUND STONE PARTICLES WHICH DO NOT BREAK DOWN UNDER COMPACTION, WETTING OR EXPOSURE TO AIR. THE MATERIAL PROPERTIES SHALL COMPLY WITH THOSE SPECIFIED IN TABLE BELOW.

FREE DRAINING GRANULAR MATERIAL PROPERTIES			
PROPERTY LIMIT VALUE			
STONE SIZE	MAXIMUM	20 mm	
% PASSING 0.15 mm SIEVE	MAXIMUM	5 %	
PLASTICITY INDEX	MAXIMUM	8	

RW13. PROVIDE GEOTEXTILE SEPARATION LAYER BETWEEN FREE DRAINING GRANULAR MATERIAL AND RETAINED FILL MATERIAL. RW14. COMPACTION OF BACKFILL BEHIND WALLS - COMPACTION SHALL BE BY

- MECHANICAL PLATE VIBRATOR TO A MINIMUM OF 100% STANDARD COMPACTION. - BACKFILLING IS NOT TO TAKE PLACE UNTIL APPROVAL HAS BEEN GIVEN BY THE ENGINEER. RW15. PROVIDE VERTICAL CONTROL JOINTS IN ALL WALLS AT A MAXIMUM OF 8000 mm
- CENTRES UNLESS INDICATED OTHERWISE ON THE STRUCTURAL DRAWINGS. RW16. WHERE EVER POSSIBLE, SURFACE WATER SHALL BE DIRECTED AWAY FROM THE TOP OF THE WALL AND NOT BE ALLOWED TO POND BEHIND THE TOP OF THE WALL OR ENTER THE SUBSURFACE DRAINAGE SYSTEM.

IEME	PORARY ANCHORS
TA1.	ALL TEMPORARY ANCHORS TO BE CAPACITY TO ENSURE FORCES IN ANCHOR LEVELS ARE DROVIDED
TA2.	ANCHOR LEVELS ARE PROVIDED. A MINIMUM OF ONE ANCHOR AT T CENTRE OF EACH 2000MM LONG
TA3.	BUILDER TO ENSURE THAT:
	A) NO DAMAGE IS CAUSED TO EX APPROVAL IS OBTAINED PRIOR TO
	B) ANY ANTI-BUST REINFORCEM
	C) NO DAMAGE IS CAUSED TO EX FOOTPATH DUE TO HORIZONTAL
TA4.	DETENSION ANCHORS AFTER TOP POURED AND CURED.
SUBC	GRADE PREPARATION - SA
SP1.	
	OR STOCKPILE IF SUITABLE FOR I THEN BE INSPECTED BY A GEOTE TECHNICIAN AT THE CONTRACTO SATISFACTORY.
SP2.	COMPACT THE STRIPPED SURFAC LEAST 75% DENSITY INDEX.
SP3.	THE EXPOSED SURFACE OVER TH THEN BE PROOF ROLLED AND INS PROOF ROLLING IS SATISFACTOR
SP4.	CARRIED OUT. FILLING SHOULD COMPRISE OF A
	SITE OR IMPORTED FILL AND SHO 200mm COMPACTED THICKNESS
SP5.	DENSITY TESTING AT THIS SITE (A CARRIED OUT IN ACCORDANCE W RECOMMENDED IN AS 3798 "GUID AND RESIDENTIAL DEVELOPMEN"
	A) ONE TEST PER LAYER OR 200m
	B) ONE TEST PER 500m <sup>3</sup> DISTRIBU DEPTH AND AREA;
	OR TH C) WHICHEVER REQUIRES THE MO
SP6.	THE LEVEL OF ENGAGEMENT FOR SHOULD BE LEVEL 1 AS THE FILL PERFORMANCE OF THE RAFT SLA SUBGRADE SHALL BE CARRIED O LABORATORY.
LEAV	E IN PLACE (LIP) VERTICA
LIP1.	ACOR ACCEPTS NO RESPONSIBIL ANY CHOSEN LEAVE IN PLACE (LII CLIENT ARE RESPONSIBLE FOR T
LIP2.	THE BUILDER / CLIENT IS TO REVI PUBLISHED DATA, WARRANTIES A CHOSEN SYSTEM.
LIP3.	THE (LIP) FORMWORK IS NOT TO A BUILDING IN ANY WAY FOR THE N
LIP4.	THE BUILDER IS TO REFER TO AL DATA FOR DETAILS IN RELATION FORMS / WATERPROOFING / FLAS NOT SHOWN ON ACOR DOCUMEN
LIP5.	WHERE A (LIP) SYSTEM IS NOMIN CONFIRMED ITS PERFORMANCE I DESIGN LOADS ONLY.
LIP6.	AS CONCRETE WITHIN THE (LIP) F ACOR IS NOT IN A POSITION TO A HONEYCOMBING / VOIDS ETC. AN ISSUES THAT MAY ARISE AS A RE
LIP7.	ACOR DOES NOT REVIEW SHOP D OUT - SHOP DRAWINGS WILL ONL THICKNESS AS NOMINATED ON TI
LIP8.	SITE INSPECTIONS WILL BE LIMIT ONLY - SIMILAR TO THAT OF A CA
<u>GRO</u>	UND/ROCK ANCHORS
GA1.	ANCHORS ARE PERMANENT OR T ARE TO BE DESIGNED, SUPPLIED GUARANTEED BY A SPECIALIST O
GA2.	TYPE OF WORK. THE ANCHORS ARE TO BE INSTAL TWICE THE SAFE WORKING LOAD ANCHORS AND 1.6 TIMES FOR TE
GA3.	THE DESIGN AND DETAILING ARE ANCHOR, SIZE AND TYPE OF STR STRESSING SEQUENCE, CAP PLA
GA4.	THE INSTALLING CONTRACTOR IS DISCREPANCIES BETWEEN HIS P ARCHITECTURAL DRAWINGS AND
GA5.	FOR APPROVAL. THE CONTRACTOR WILL KEEP RE A) ANCHOR NUMBER
	B) TYPE, NUMBER AND SIZE OF S
	C) DRILLING DEPTHS, STRAND L
	D) WORKING LOAD, LOCK OFF LO

HOLDING THE LOAD CONSTANT FOR FIVE(5) MINUTES AT EACH STEP AND FOR TEN(10) MINUTES AT TEST LOAD.

F) WATER TESTS

B) DESTRESS THE ANCHOR TO LOCK OFF LOAD AND LOCK OFF. ALLOWING THE ANCHORAGE ASSEMBLY TO TRANSFER THE LOAD IN THE ANCHOR DIRECTLY TO THE ANCHOR HEAD. RELEASE THE JACK. C) DETERMINE THE LOAD IN THE ANCHOR USING A JACK SUITABLE

0.2mm) ABOVE THE BEARING PLATE.

D) ON ALL PERMANENT ANCHORS CARRY OUT A LIFT OF TEST AT SEVEN(7) DAYS AFTER THE LAST STEP. THE MAXIMUM LOAD LOSS SHOULD NOT EXCEED 5% OF THE ORIGINAL LOCK OFF LOAD. IF AN ANCHOR FAILS TO MEET THE LOAD LOSS REQUIREMENT, FURTHER TESTING SHALL BE CARRIED OUT AS DIRECTED BY THE ENGINEER USUALLY FOUR(4) DAY INTERVALS (MAXIMUM TWICE). IF THE ANCHOR CANNOT BE SHOWN TO BE ABLE TO MAINTAIN THE DESIGN LOAD WITHOUT LOSS OF PRESTRESS, IT WILL BE REJECTED AND A REPLACEMENT ANCHOR INSTALLED AT THE CONTRACTORS COST.

VSL OR EQUIVALENT WITH MINIMUM WORKING DICATED IN RETAINING WALL SECTIONS AT
P AND BOTTOM TO BE PROVIDED AT THE ALL LENGTH.
STING SERVICES AND THAT COUNCIL INSTALLATION OF ANCHORS.
NT REQUIRED IS INCORPORATED IN THE WALL.
STING BUILDINGS AND/OR ROADWAY AND OVEMENT OF THE RETAINING WALLS.
SLAB AND BASEMENT SLAB HAVE BEEN
ND
OR OTHER DELETERIOUS MATERIAL TO SPOIL EUSE AS LANDSCAPING. THIS SITE SHOULD HNICAL ENGINEER OR EXPERIENCED S EXPENSE TO ENSURE THAT STRIPPING IS
OVER THE PROPOSED FILL AREAS TO AT
E PROPOSED FILL AREAS OF THE SITE SHOULD ECTED TO DETECT ANY SOFT AREAS. IF THE 7, THEN IN-SITU DENSITY TESTS SHOULD BE
PROVED EXCAVATED MATERIAL FROM THE LD BE PLACED IN LAYERS NOT EXCEEDING O AT LEAST 75% DENSITY INDEX.
REA GREATER THAN 1500m ) SHOULD BE TH AT LEAST THE MINIMUM FREQUENCY LINES ON EARTHWORKS FOR COMMERCIAL S", TABLE 8.1 (P.28), IE:
HICKNESS PER MATERIAL TYPE PER 2500m²; OR ED REASONABLY EVENLY THROUGHOUT FILL
EE TESTS PER VISIT ST TESTS.
A GEOTECHNICAL TESTING AUTHORITY IG OF THE SITE WILL BE CRITICAL TO THE IFOOTING SYSTEM. THE TESTING OF THE T BY AN APPROVED `NATA' REGISTERED
FORMWORK SYSTEMS
Y FOR THE PERFORMANCE / DURABILITY OF FORMWORK SYSTEM - THE BUILDER AND IS SELECTION.
W ALL THE LATEST MANUFACTURERS ID BCA COMPLIANCE BEFORE NOMINATING A
FFECT THE STRUCTURAL ADEQUACY OF THE MINATED DESIGN LIFE OF THE STRUCTURE.
THE LATEST MANUFACTURERS PUBLISHED ) CONSTRUCTABILITY OF THE SYSTEM / EDGE

HING. THESE SYSTEM SPECIFIC DETAILS ARE TATION. TED ON THE DESIGN DRAWINGS, ACOR HAS ACCORDANCE WITH THE RELEVANT PROJECT

ORMWORK CANNOT BE INSPECTED POST POUR CESS POOR WORKMANSHIP E.G. D AS SUCH CANNOT BE HELD LIABLE FOR ANY ESULT OF THIS.

RAWINGS OF (LIP) SYSTEMS IN TERMS OF SET Y BE REVIEWED IN REFERENCE TO THE DESIGN E DRAWINGS.

ED TO WALL THICKNESS AND REINFORCEMENT ST INSTITUTE CONCRETE WALL.

EMPORARY AS NOTED ON THE DRAWINGS AND , INSTALLED, TESTED, CERTIFIED AND ONTRACTOR WITH A PROVEN RECORD IN THIS

LLED SUCH THAT THEIR ULTIMATE CAPACITY IS SHOWN ON THE DRAWINGS FOR PERMANENT IPORARY ANCHORS. TO INCLUDE (BUT NOT LIMITED TO) LENGTH OF ND, CORROSION PROTECTION, GROUTING, TE, SHEATH AND ANCHORAGE DETAILS.

TO NOTIFY THE ENGINEER OF ANY OPOSALS AND THE STRUCTURAL OR

PROVIDE ALTERNATIVE DESIGN ACCORDINGLY CORDS OF HIS WORK INCLUDING:

TRANDS

ENGTH, FREE LENGTH, BOND LENGTH OAD, TEST LOAD

E) GROUT TYPE, MIX STRENGTH, ADDITIVES, TEST RESULTS

G) STRESSING SEQUENCE RECORDS AND TEST RESULTS GA6. THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER FOR HIS INFORMATION. THE ENGINEERS RECEIPT OF SUCH RECORDS SHALL IN NO WAY

AFFECT THE RESPONSIBILITIES OR GUARANTEE OF THE CONTRACTOR. GA7. TESTING THE PERMANENT ANCHORS SHALL BE SPECIFIED BY THE CONTRACTOR TO SATISFY HIMSELF OF THE ADEQUACY OF HIS ANCHORS. HOWEVER, AS A MINIMUM REQUIREMENT EACH ANCHOR SHALL BE STRESSED AS FOLLOWS:

A) JACK THE ANCHOR TO 1.5 TIMES THE WORKING LOAD IN FIVE(5) STEPS

ACCESSORIES, BY LIFTING THE ANCHOR HEAD A SMALL DISTANCE (ABOUT

GA8. TESTING OF TEMPORARY ANCHORS SHALL BE SPECIFIED BY THE CONTRACTOR. HOWEVER, A MINIMUM OF 20% OF TEMPORARY ANCHORS SHALL BE TESTED WITH THE SAME PROCEDURE AS FOR PERMANENT ANCHORS.

FORMWORK	

FORMWORK			
FW1.	THE DESIGN, CERTIFICATION, CONSTRUCTION, INSPECTION AND PERFORMANCE OF THE FORMWORK AND FALSE WORK SHALL BE CERTIFIED BY AN NPER STRUCTURAL ENGINEER AND IS THE RESPONSIBILITY OF THE BUILDER, EXCEPT TO THE EXTENT THAT FORMWORK DESIGN IS SHOWN ON THE STRUCTURAL DRAWINGS.		
FW2.	FORMWORK DESIGN, CONSTRUCTION, TOLERANCES AND STRIPPING TIMES SHALL COMPLY WITH AS3610 AND AS3600 UNLESS OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER.		
FW3.	CONCRETE FORMED SURFACE FINISHES SHALL COMPLY WITH AS3610 AS SPECIFIED BY THE PROJECT ARCHITECT.		
FW4.	DIMENSIONAL TOLERANCES SHALL COMPLY WITH AS3610 FOR APPROPRIATE FINISH CLASS.		
FW5.	FORMWORK SHALL BE DESIGNED TO ACCOMMODATE MOVEMENTS AND LOAD REDISTRIBUTION DUE TO POST-TENSIONING.		
FW6.	FORMWORK SHALL NOT BE DESIGNED TO RELY ON RESTRAINT OR SUPPORT FROM THE PERMANENT STRUCTURE WITHOUT PRIOR APPROVAL FROM THE ENGINEER.		
FW7.	WHERE METAL FORMWORK IS SHOWN IE BONDEK, CONDEK, KINGFLOOR ETC IS SHOWN, THE CONTRACTOR SHALL INSTALL AND PROP THE WORKS IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATION UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS		
FW8.	DESIGN INFORMATION CONCERNING THE FOUNDATIONS FOR FORMWORK SHALL BE DETERMINED FROM THE CONDITIONS EXISTING ON SITE AT THE TIME OF CONSTRUCTION. REFER TO THE GEOTECHNICAL REPORT FOR THE SITE.		
FW9.	DURING CONSTRUCTION PROVIDE PROPPING WHERE LOADS FROM STACKED MATERIALS, FORMWORK AND OTHER SUPPORTED SLABS INDUCE LOADS IN THE SLAB OR BEAM WHICH EXCEED THE DESIGN LOAD FOR STRENGTH OR SERVICEABILITY AT THAT AGE. ONCE THE NOMINATED 28 DAY STRENGTH HAS BEEN ATTAINED, THESE LOADS SHALL NOT EXCEED THE DESIGN SUPERIMPOSED LOADS SET-OUT IN THE STRUCTURAL DESIGN LOADS.		
FW10.	IN MULTI-STOREY CONSTRUCTION PROPPING MAY NEED TO EXTEND A NUMBER OF FLOORS LEVELS BELOW THE FLOOR BEING CAST. PROP REMOVAL IS TO BE PROGRAMMED TO AVOID DISTRESS TO PREVIOUSLY CAST FLOORS, RE-SHORING OR BACK-PROPPING IS SUBJECT TO THE STRUCTURAL ENGINEER.		
FW11.	DO NOT PLACE PERMANENT LOADS ON THE CONCRETE STRUCTURE UNTIL AFTER FORMWORK AND PROPPING IS REMOVED.		
FW12.	REFER TO ARCHITECTS DRAWINGS FOR TEST PANEL DETAILS. REINFORCEMENT FOR TEST PANELS SHALL BE SIMILAR TO THAT IN THE PERMANENT STRUCTURE BEING REPRESENTED		
FW13.	BEFORE PLACING REINFORCEMENT IN FORMWORK, APPLY A RELEASE AGENT TO THE FACE OF THE FORMWORK COMPATIBLE WITH THE REQUIRED SURFACE FINISH.		
FW14. FW15.	CHAMFER RE-ENTRANT ANGLES AND FILLETS AT CORNERS BY 25MM UNO.		
	BEFORE PLACING CONCRETE, REMOVE ALL WATER, DUST AND DEBRIS FROM THE FORMWORK.		
FW16.	FILL ALL HOLES LEFT BY FORM TIE BOLTS WITH MORTAR MATCHING THE SURFACE COLOUR OF THE FINISHED SURFACE.		
FW17.	CONCRETE FORMED SURFACES TO HAVE THE FOLLOWING FINISHES IN ACCORDANCE WITH AS 3610.		
FW18.	ELEMENT     SURFACE FINISH     CRITICAL FACE       FOOTING BEAMS     CLASS 3     EXPOSED FACE		
	SLABS AND BEAMS REFER TO ARCHITECTS SPECIFICATIONS		
DRILL	ED IN CHEMICAL AND MECHANICAL ANCHORS		
DA1.	DRILLED ANCHORS SHALL BE USED WHERE SHOWN ON THE DRAWINGS, OR WHERE PERMITTED IN WRITING BY THE ENGINEER. SUBMIT DETAILS OF PROPOSED ANCHORS, BEFORE USE, IN WRITING, TO THE ENGINEER FOR REVIEW. INSTALL ANCHORS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN DIRECTIONS. TEST ANCHORS AS SPECIFIED BELOW.		
DA2.	SPACING AND EDGE DISTANCES SHALL BE AS SHOWN, OR IN ACCORDANCE WITH THE MANUFACTURERS DIRECTIONS, AND SHALL BE APPROPRIATE FOR THE LOAD ON THE ANCHOR. UNLESS SHOWN OTHERWISE OR ALLOWED BY THE MANUFACTURER, THE FOLLOWING MINIMUMS SHALL BE USED FOR M20 CHEMICAL ANCHORS IN CONCRETE: SPACING=150mm, EDGE DISTANCE=150mm.		
DA3.	FOR ATTACHMENT TO HOLLOW MASONRY OR CONCRETE PANELS, USE HILTI HIT HY20 OR EQUIVALENT.		
DA4.	HOLES IN STEELWORK SHALL BE: 2mm OVERSIZE WHEN THE STEEL IS TO BE USED AS A DRILLING TEMPLATE, OR 6mm MAXIMUM OVERSIZE WHERE THE BOLTS ARE INSTALLED BEFOREHAND.		
DA5.	DRILLED-IN ANCHOR TESTING		
	ANCHOR TESTING LOAD TO BE 150% OF SAFE WORKING LOAD OR 100% OF ULTIMATE LOAD, TO MANUFACTURER'S PRODUCT SPECIFICATION. TESTS TO BE CARRIED OUT BY N.A.T.A. REGISTERED LABORATORY AT THE CONTRACTOR'S EXPENSE.		
	CHEMICAL ANCHORS		
	NUMBER OF CHEMICAL ANCHORS TO BE TESTED IS AS FOLLOWS: INSTALLATION FROM ABOVE AND SIDE = 20% OF TOTAL NUMBER IS TO BE TESTED.		
	INSTALLATION FROM BELOW = 100% OF TOTAL NUMBER IS TO BE TESTED		
	MECHANICAL ANCHORS		
	TEST 10% OF MECHANICAL ANCHORS		
	FAILURE IF ONE ANCHOR IN A GROUP FAILS UNDER TESTING THEN ALL ANCHORS SHALL		

IF ONE ANCHOR IN A GROUP FAILS UNDER TESTING THEN ALL ANCHORS SHALL BE TESTED, AS SPECIFIED ABOVE, AT THE CONTRACTOR'S EXPENSE. ALL ANCHORS THAT FAIL ARE TO BE REPLACED AND RETESTED. FORWARD CERTIFICATES OF ALL TEST RESULTS TO ACOR CONSULTANTS.

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				conjur specifi are in	nction with ications an millimetres	all relevan d drawings . Levels a	nt contracts s. Dimensi re metres.	ions		
		TO BE STRUCTURAL STEELWORK. ALL FIXED PLATFORMS, WALKWAYS, STAIRWAYS SHALL COMPLY WITH AS1657		dimen	sions only.	Check dir	mensions			
	N3.	THE TYPE AND EXTENT OF STAIRS SHALL BE AS SHOWN ON THE		NOTE	S					_
	N4.	OF ADJACENT WALKWAYS PLATFORMS AND STAIRS EXCEPT AT SLIDING								
	N5.	HANDRAIL APPROACH TO AND FROM STAIRS SHALL BE SMOOTH AND								
	N6.	ALL WELDS IN THE TOP RAIL SHALL BE VEE BUTT WELDS AND THE WELD METAL SHALL BE FILED OR GROUND SMOOTH AND FLUSH WITH RAIL. NEITHER TOP NOR								
	N7.	ALL EXPOSED CUT EDGES AND CORNERS SHALL BE ROUNDED AND GROUND								
	W8.	ALL AREAS WHERE SPILLAGE OF MATERAIL CAN PASS THROUGH THE FLOOR, ALL GRATING AN WALKWAYS AND LANDINGS SHALL BE 'WEBFORGE' OR AN APPROVED EQUIVALENT AND HOT DIPPED GALVANISED UNLESS OTHERWISE SPECIFIED. ALL EDGES AT JOINT AND OPENINGS SHALL BE BANDED. ALL EDGES AT LADDERS, STAIRS AND POINTS OF ACCESS, SHALL HAVE CHEQUERED								
	٨/٩									
<form></form>	W10.	DIPPED GALVANISED UNLESS OTHERWISE SPECIFIED. FOR AREAS WHERE SPILLAGES MAY INCLUDE MATERIAL GREATER THAN 10mm AND NOT A 'CONSTANTLY' WET AREA, CHEQUERED FLOOR PLATE SHALL BE USED AN ALL WALKWAYS, FLOOR LEVELS, LANDINGS AND STAIR TREADS. THE FLOOR PLATE SHOULD BE ONESTEEL FLOOR PLATE OF 8mm THICKNESS IN ACCORDANCE WITH AS3678-250 AND HOT DIPPED GALVANISED UNLESS								
	W11.	DENOTES DIRECTION OF FLOOR GRATING LOAD BARS								
	W12.									
		STANCHIONS, SPACED AT 2000mm MAXIMUM SHALL BE USED THROUGHOUT. TOP RAILS SHALL BE 42.4mm OD x 4.0mm TUBE, HOT DIPPED GALVANISED AND								
	W17.	BOLTED TO STANCHIONS, UNLESS OTHERWISE SHOWN. BOLTED CONNECTIONS BETWEEN HANDRAIL STANCHIONS AND SUPPORTING MEMBERS SHALL BE MADE USING 16mm GRADE 5.5 GALVANISED FASTENERS, SNUG TIGHTENED.								
		SHALL HAVE KICKPLATE INSTALLED.								
	P2. P3.	BUILDING CODE OF AUSTRALIA (BCA). FIRE RATINGS REFERRED TO ON THE STRUCTURAL DRAWINGS REFER ONLY TO THE REQUIREMENTS FOR STRUCTURAL ADEQUACY OF STRUCTURAL ELEMENTS. FOR FIRE RATINGS OF CEILINGS, WALLS AND OTHER NON-STRUCTURAL ELEMENTS REFER TO THE ARCHITECTS DRAWINGS AND SPECIFICATIONS. U.N.O. ON DRAWINGS FIRE PROTECTION MAY BE ACHIEVED BY APPLIED BOARDS,								
	94.	REQUIREMENTS. FIRE RESISTANCE LEVELS ARE EXPRESSED IN MINUTES AS DEFINED IN THE BCA								
	95.	9A, 6 TYPE OF CONSTRUCTION C WHERE CLASSIFICATION, TYPE OF CONSTRUCTION OR RESISTANCE LEVELS ARE NOT CONSISTENT WITH THE SPECIFICATION OF THE BCA CONSULTANT OR								
	<u>00</u> F	SAFETY ACCESS SYSTEMS				_				-
				1	19.12.22	SCHEMAT	TIC DESIGN		AJ	-
		IS TO BE INSTALLED AND CERTIFIED BY AN APPROPRIATELY EXPERIENCED SPECIALIST SUPPLIER.								-
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	ROU	TING OF BASE PLATES								-
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	B2.									-
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SCHEMATIC DESIGN         DRAWN       SCALE AT A0       ORIGIN DATE         RM       24.11.22         DESCRIPTION         STRUCTURAL NOTES - SHEET 2         PROJECT NO       DRAWING NO         PROJECT NO       DRAWING NO				CC RE 64 L	)WR/ DEV	ELO POOL	PME STRE	ENT		-
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PLATE	ORMS, WALKWAYS, STAIRWAYS AND LADDERS		This drawing should be read in conjunction with all relevant contracts, specifications and drawings. Dimensions
PW1.	ALL STAIRS, WALKWAYS, PLATFORMS LANDINGS AND HANDRAILS ARE DEEMED TO BE STRUCTURAL STEELWORK.		are in millimetres. Levels are metres. Do not scale off drawings. Use figured dimensions only. Check dimensions on
PW2. PW3.	ALL FIXED PLATFORMS, WALKWAYS, STAIRWAYS SHALL COMPLY WITH AS1657 AND STANDARD DRAWINGS. THE TYPE AND EXTENT OF STAIRS SHALL BE AS SHOWN ON THE		Site. Report discrepancies immediately. NOTES
PW4.	ARCHITECTURAL DESIGN DRAWINGS. HANDRAILS, MIDRAILS AND KICK PLATES SHALL BE CONTINUOUS WITH THOSE		
PW5.	OF ADJACENT WALKWAYS PLATFORMS AND STAIRS EXCEPT AT SLIDING CONNECTIONS WHERE STANDARD MONOWILLS END RETURNS AND ADDITIONAL STANCHIONS SHALL BE SUPPLIED AS REQUIRED. HANDRAIL APPROACH TO AND FROM STAIRS SHALL BE SMOOTH AND		
PW6.	CONTINUOUS, GRIND HANDRAIL WELDS FLUSH. ALL WELDS IN THE TOP RAIL SHALL BE VEE BUTT WELDS AND THE WELD METAL SHALL BE FILED OR GROUND SMOOTH AND FLUSH WITH RAIL. NEITHER TOP NOR BOTTOM RAILS SHALL BE WELDED TO THE PERMANENT STRUCTURE.		
PW7. PW8.	ALL EXPOSED CUT EDGES AND CORNERS SHALL BE ROUNDED AND GROUND SMOOTH. ALL AREAS WHERE SPILLAGE OF MATERAIL CAN PASS THROUGH THE FLOOR,		
1 110.	ALL GRATING AN WALKWAYS AND LANDINGS SHALL BE 'WEBFORGE' OR AN APPROVED EQUIVALENT AND HOT DIPPED GALVANISED UNLESS OTHERWISE SPECIFIED. ALL EDGES AT JOINT AND OPENINGS SHALL BE BANDED. ALL EDGES AT LADDERS, STAIRS AND POINTS OF ACCESS, SHALL HAVE CHEQUERED NOSING. THE ENDS OF ALL LOAD BARS SHALL BE ADEQUATELY SUPPORTED IN		
PW9.	ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS. ALL STAIR TREADS SHALL BE 'WEBFORGE' OR APPROVED EQUIVALENT AND HOT		
PW10.	DIPPED GALVANISED UNLESS OTHERWISE SPECIFIED. FOR AREAS WHERE SPILLAGES MAY INCLUDE MATERIAL GREATER THAN 10mm AND NOT A 'CONSTANTLY' WET AREA, CHEQUERED FLOOR PLATE SHALL BE USED AN ALL WALKWAYS, FLOOR LEVELS, LANDINGS AND STAIR TREADS. THE FLOOR PLATE SHOULD BE ONESTEEL FLOOR PLATE OF 8mm THICKNESS IN ACCORDANCE WITH AS3678-250 AND HOT DIPPED GALVANISED UNLESS		
PW11.	OTHERWISE SPECIFIED.		
PW12.	HANDRAIL AND KICKPLATES SHAL BE PROVIDED IN ACCORDANCE WITH AS1657		
PW13.	AND STANDARD DRAWINGS. MONOWILLS, OR APPROVED EQUIVALENT, HOT DIPPED GALVANISED HANDRAIL STANCHIONS, SPACED AT 2000mm MAXIMUM SHALL BE USED THROUGHOUT.		
	TOP RAILS SHALL BE 42.4mm OD x 4.0mm TUBE, HOT DIPPED GALVANISED AND 1017mm ABOVE THE FLOOR LEVEL.		
	MID RAILS SHALL BE 33.7mm OD x 3.2mm TUBE, HOT DIPPED GALVANISED. KICK PLATES SHALL BE 100mm x 6mm FLAT, HOT DIPPED GALVANISED AND		
	BOLTED TO STANCHIONS, UNLESS OTHERWISE SHOWN. BOLTED CONNECTIONS BETWEEN HANDRAIL STANCHIONS AND SUPPORTING MEMBERS SHALL BE MADE USING 16mm GRADE 5.5 GALVANISED FASTENERS, SNUG TIGHTENED.		
	ALL OPENINGS IN GRATED OR PLATED FLOORS, UNGUARDED BY HANDRAIL, SHALL HAVE KICKPLATE INSTALLED.		
FIRE I	PROTECTION FIRE PROTECTION TO STRUCTURAL ELEMENTS IS TO COMPLY WITH THE		
FP2.	BUILDING CODE OF AUSTRALIA (BCA). FIRE RATINGS REFERRED TO ON THE STRUCTURAL DRAWINGS REFER ONLY TO THE REQUIREMENTS FOR STRUCTURAL ADEQUACY OF STRUCTURAL ELEMENTS.		
	THE REQUIREMENTS FOR STRUCTURAL ADEQUACY OF STRUCTURAL ELEMENTS. FOR FIRE RATINGS OF CEILINGS, WALLS AND OTHER NON-STRUCTURAL ELEMENTS REFER TO THE ARCHITECTS DRAWINGS AND SPECIFICATIONS.		
FP3.	U.N.O. ON DRAWINGS FIRE PROTECTION MAY BE ACHIEVED BY APPLIED BOARDS, COATINGS OR ENCASEMENT THAT COMPLY WITH THE ARCHITECTS REQUIREMENTS.		
FP4.	FIRE RESISTANCE LEVELS ARE EXPRESSED IN MINUTES AS DEFINED IN THE BCA I.E. STRUCTURAL ADEQUACY/INTEGRITY/INSULATION. BUILDING CLASSIFICATION 9A, 6 TYPE OF CONSTRUCTION C		
FP5.	WHERE CLASSIFICATION, TYPE OF CONSTRUCTION OR RESISTANCE LEVELS ARE NOT CONSISTENT WITH THE SPECIFICATION OF THE BCA CONSULTANT OR		
	ARCHITECT REFER TO THE ENGINEER FOR DIRECTION.		
ROOF RS1.	A ROOF SAFETY ACCESS SYSTEM WHICH COMPLIES WITH THE RELEVANT OH&S		ISSUE DATE SUBJECT           1         19.12.22         SCHEMATIC DESIGN         AJ
	REGULATIONS FOR FALL ARREST AND THE RELEVANT AUSTRALIAN STANDARDS IS TO BE INSTALLED AND CERTIFIED BY AN APPROPRIATELY EXPERIENCED SPECIALIST SUPPLIER.		
RS2.	THE DESIGN BY THE SPECIALIST IS TO INCLUDE SYSTEM SELECTION, LAYOUT, INSTALLATION, FLASHING, STRENGTHENING WORKS AND CERTIFICATION.		
GROU	TING OF BASE PLATES		
GB1.	ALL GROUT SHALL BE CURED BY THE APPLICATION OF 'MBT AUSTRALIA' 'FLOORSEAL' APPLIED TO THE GROUT STRICTLY IN ACCORDANCE WITH THE		
GB2.	THE THICKNESS OF THE GROUT BED SHALL BE 25mm (MAX.).		
GB3.	GROUT ALL STEEL BASES BY DRY PACKING USING GROUT WHICH IS NON-SHRINK AND HAS A MINIMUM COMPRESSIVE STRENGTH AT 7 DAYS OF 50 MPa		
			SOVERNMENT Health Infrastructure
			PROJECT MANAGER
			PO BOX 61, OBERON, NSW 2787 T +61 438 243 068
			SERVICES LEVEL 5 , BARRACK PLACE, 151 CLARENCE ST,
			ARUP SYDNEY, NSW 2000 T 9320 9320
			STRUCTURE & CIVIL
			AC OR ST LEONARDS, NSW 2065 T 9438 5098
			LANDSCAPE ARCHITECT
			SITE IMAGE Landscape Architects 3 BAPTIST ST, REDFERN, NSW 2016 T 8332 5600
			ARCHITECT
			ABN: 48 942 921 969 Nominated Architects: Andrew Hipwell 6562 Daniel Beekwilder 6192
			architects 63 Myrtle Street Chippendale NSW 2008
			Sydney Australia djrd.com.au PROJECT
			COWRA HOSPITAL
			REDEVELOPMENT
			64 LIVERPOOL STREET
			COWRA, NSW, 2794
			SCHEMATIC DESIGN           DRAWN         SCALE AT A0         ORIGIN DATE
			RM 24.11.22
			STRUCTURAL NOTES - SHEET 2
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STRUCTURAL	STEELWORK

ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH STEEL STRUCTURE - AS 4100 AND WELDING - AS 1554 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENT. STEEL COMPONENTS SHALL CONFORM TO THE FOLLOWING TABLE U.N.O. 

COMPONENT	AUS. STAND.	GRADE
PLATE	3678	250
HOT ROLLED SECTIONS	3679	300
CHS > 80 mm DIA.	1163	C350
CHS < 80 mm DIA.	1163	C250
RHS & SHS	1163	C350
PURLINS & GIRTS	1397	450
WELDED BEAMS & COLUMNS	3679	300
FLAT BARS & RODS.	3679	250

BOLT DESIGNATION

ALL BOLTS TO BE 8.8/S UNLESS NOTED OTHERWISE

4.6/S COMMERCIAL BOLTS OF GRADE 4.6 TO AS 1111 SNUG TIGHTENED. 8.8/S HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252 SNUG TIGHTENED.

- 8.8/TB HIGH STRENGTH BOLTS OF GRADE 8.8 TO AS 1252 FULLY TENSIONED TO AS 4100 AS A BEARING JOINT. 8.8/TF HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252 FULLY TENSIONED TO AS 4100 AS A FRICTION JOINT WITH CONTACT SURFACES LEFT UNCOATED.
- ALL BOLTS SHALL BE M20 GRADE 8.8/S U.N.O. S4 ALL STUDS SHALL BE M20 GRADE 4.6/S U.N.O.
- NO STEEL TO STEEL CONNECTION TO HAVE LESS THAN 2 BOLTS.

### S5. ALL PLATES TO BE 10 mm THICK U.N.O. UNLESS NOTED OTHERWISE, ALL FILLET WELDS SHALL BE 6mm CONTINUOUS FOR PLATES LESS THAN OR EQUAL TO 12 PL 8mm CONTINUOUS FOR 16 PL

Imm CONTINUOUS FOR 20 PL AND ABOVE.				
ELEMENT	WELD CATEGORY			
ALL SP				

ALL BUTT WELDS TO BE COMPLETE PENETRATION BUTT WELDS. ELECTRODES TO BE E48XX U.N.O. WELD CATEGORY AS TABULATED ABOVE. THE CONTRACTOR SHALL MAKE THE NECESSARY ALLOWANCES FOR COORDINATING ALL ARCHITECTURAL & STRUCTURAL ELEMENTS IN THE PREPARATION OF STRUCTURAL STEELWORK SHOP DRAWINGS & SUBSEQUENT FABRICATION & ERECTION. CONNECTION DETAILS SHOWN ON STRUCTURAL DRAWINGS ARE TYPICAL ONLY. WHERE A DETAIL IS NOT SHOWN THE FABRICATOR / SHOP DETAILER SHALL PREPARE DETAILS IN ACCORDANCE WITH AS4100 & THE AISC PUBLICATIONS `DESIGN OF STRUCTURAL CONNECTIONS' & STANDARDISED STRUCTURAL CONNECTIONS'. THESE DETAILS SHALL TAKE DUE

ACCOUNT OF ARCHITECTURAL & SERVICE REQUIREMENTS & SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. THE ENGINEER WILL SUPPLY LOADS AS REQUIRED. ALL COSTS & TIME IMPLICATIONS ASSOCIATED WITH THESE WORKS ARE TO BE ALLOWED FOR BY THE CONTRACTOR. 

S	STRUCTURAL STEELWORK SHALL HAVE THE FOLLOWING TREATMENT:-							
	ELEMENT	SURFACE PREPARATION	PROTECTIVE COATING					
	INTERIOR MEMBERS	BLAST CLEAN TO CLASS 2 (AS 1627)	ZINC PHOSPHATE PRIMER FILM THICKNESS 0.075mm					
	EXPOSED TO WEATHER INCLUDING	PICKLE (AS 1627 PART 5)	HOT DIP GALVANISED REFER TO					

SPECIFICATIONS.

ALL STRUCTURAL STEELWORK WHICH IS EXPOSED, STEELWORK IN CONTACT S9. WITH EXTERNAL CAVITY BRICKWORK & ALL LINTELS SHALL BE HOT DIP GALVANISED OR STAINLESS STEEL - REFER TO DRAWINGS. GALVANISING OF STRUCTURAL SECTIONS SHALL BE IN ACCORDANCE WITH AS 4680 AND THE GALVANISING OF THREADED FASTENERS SHALL BE IN ACCORDANCE WITH AS 1214

ALL STIFFENERS

- S10. AFTER FABRICATION ALL EXPOSED STEELWORK AND STEELWORK BUILT IN EXTERNAL WALLS INCLUDING FITMENTS, NUTS, BOLTS, WASHERS AND HOLDING DOWN BOLTS TO BE HOT DIP GALVANISED.
- S11. ANY FURTHER WELDED JOINTS ARE TO BE PAINTED WITH 2 COATS OF APPROVED GALVANISED PAINT.
- S12. THE ENDS OF ALL TUBULAR MEMBERS ARE TO BE SEALED WITH NOMINAL THICKNESS PLATES AND CONTINUOUS FILLET WELD UNLESS OTHERWISE SHOWN ON THE DRAWINGS. S13. THE SUB-CONTRACTOR SHALL PROVIDE ALL CLEATS AND DRILL ALL HOLES
- NECESSARY FOR ALL ATTACHMENTS WHETHER OR NOT DETAILED ON THE DRAWINGS.
- S14. PROVIDE HOOK BOLTS AT EVERY THIRD PURLIN TO CONTROL BRACE SAG. S15. ALL STEELWORK IS TO BE TEMPORARILY BUT SECURELY BRACED UNTIL ALL FINAL BRACING, CLADDING & STABILISING BRICK OR BLOCKWORK HAVE BEEN COMPLETED.
- S16. GRAVITY &/OR GAUGE LINES TO INTERSECT U.N.O. S17. CONCRETE ENCASED STEELWORK TO BE WRAPPED WITH F41 MESH & TO HAVE 50mm MIN. COVER OF CONCRETE GRADE 25 TO AS3600
- S18. ALL BASEPLATES ARE TO BE FULLY GROUTED WITH CONBEXTRA GP CEMENTITIOUS NON-SHRINK GROUT, OR SIMILAR, WITH A MINIMUM COMPRESSIVE STRENGTH OF 50 MPa
- S19. SHOP DRAWINGS SHALL BE PREPARED BY THE FABRICATOR FOR ALL STRUCTURAL STEELWORK. SUBMIT COPIES OF ALL WORKSHOP DRAWINGS TO ACOR CONSULTANTS FOR STRUCTURAL APPROVAL AT LEAST 14 DAYS PRIOR TO FABRICATION. DO NOT FABRICATE STEELWORK UNTIL WORKSHOP DRAWINGS ARE APPROVED.

STRUCTURAL STEELWORK CONT

- PURLINS AND GIRTS S20. ALL PURLINS AND GIRTS TO BE COLD FORMED LIGHT-GAUGE STEEL SECTIONS CONFORMING TO ANZ4600 FOR DESIGN AND TO AS1397 FOR MATERIAL PROPERTIES S21. THE OVERALL DIMENSIONS OF PURLINS AND GIRTS SHALL NOT BE LESS THAN PW3. THE TYPE AND EXTENT OF STAIRS SHALL BE AS SHOWN ON THE THE NOMINAL SIZE GIVEN, BOTH FLANGES SHALL BE LIPPED S22. SETOUT OF PURLINS & GIRTS TO BE OBTAINED FROM ARCHITECT'S DRAWINGS OR ROOFING CONTRACTOR S23. PROVIDE TRIMMER PURLINS BETWEEN MAIN PURLINS TO SUIT ROOF PROFILE(HIPS, VALLEYS, RIDGE LINES ETC.) AND CONNECT WITH PROPRIETARY CLEATS AS RECOMMENDED BY MANUFACTURER WHERE NECESSARY TO HANG CEILING, SERVICE PIPES, DUCTWORK ETC. FROM S24. PURLINS, THE BUILDER SHALL ONLY USE THE FOLLOWING APPROVED METHODS. APPROVED METHODS OF SUSPENDING FROM PURLINS NON-APPROVED METHODS OF SUSPENDING FROM PURLINS I OAD IF IN DOUBT OBTAIN APPROVAL FROM ENGINEER PRIOR TO PROCEEDING WITH INSTALLATION. WEB PENETRATIONS S25. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE ALL STRUCTURAL ELEMENTS WITH ANY RELEVANT SERVICES DOCUMENTATION AND / OR ARCHITECTURAL REQUIREMENTS.
- S26. ANY PROPOSED PENETRATIONS THROUGH STRUCTURAL STEEL MEMBERS ARE TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR INSTALLATION.
- THE ENGINEER WILL SUPPLY LOADS OR ADDITIONAL DESIGN AS REQUIRED. ALL PW15. MID RAILS SHALL BE 33.7mm OD x 3.2mm TUBE, HOT DIPPED GALVANISED. COSTS & TIME IMPLICATIONS ASSOCIATED WITH THESE WORKS ARE TO BE ALLOWED FOR BY THE CONTRACTOR. S28. HAND FLAME CUTTING WILL NOT BE PERMITTED FOR ANY PENETRATION.

### FIRE PROTECTION

S29. FIRE PROTECTION REQUIREMENTS TO STEELWORK ARE TO BE AS PER FIRE ENGINEERS DETAILS OR ARCHITECTURAL SPECIFICATIONS. LIGHT WEIGHT STEEL FRAMING

- S30. UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS, ALL STEEL STUD WALL FRAMING AND FIXINGS SHALL BE AS MANUFACTURED BY 'RONDO BUILDING SERVICES PTY. LTD.' OR EQUIVALENT, ALL TO BE IN ACCORDANCE WITH THEIR DESIGN MANUAL AND INSTALLATION MANUALS FOR STEEL STUD WALL SYSTEMS.
- S31. THE DESIGN SHALL COMPLY WITH AS4600, TO SUIT THE LOADS SPECIFIED IN THE GENERAL NOTES AND THE SPECIFICATION. AN NPER STRUCTURAL ENGINEER SHALL CERTIFY THE DESIGN. PROVIDE ALL TRIMMERS, HEADS, NOGGINGS ETC.

### PLATFORMS, WALKWAYS, STAIRWAYS AND LADDERS

PW1. ALL STAIRS, WALKWAYS, PLATFORMS LANDINGS AND HANDRAILS ARE DEEMED L1. TO BE STRUCTURAL STEELWORK.

- PW2. ALL FIXED PLATFORMS, WALKWAYS, STAIRWAYS SHALL COMPLY WITH AS1657 AND STANDARD DRAWINGS. L2. ARCHITECTURAL DESIGN DRAWINGS.
- PW4. HANDRAILS, MIDRAILS AND KICK PLATES SHALL BE CONTINUOUS WITH THOSE OF ADJACENT WALKWAYS PLATFORMS AND STAIRS EXCEPT AT SLIDING CONNECTIONS WHERE STANDARD MONOWILLS END RETURNS AND ADDITIONAL
- STANCHIONS SHALL BE SUPPLIED AS REQUIRED. PW5. HANDRAIL APPROACH TO AND FROM STAIRS SHALL BE SMOOTH AND
- CONTINUOUS, GRIND HANDRAIL WELDS FLUSH. PW6. ALL WELDS IN THE TOP RAIL SHALL BE VEE BUTT WELDS AND THE WELD METAL SHALL BE FILED OR GROUND SMOOTH AND FLUSH WITH RAIL. NEITHER TOP NOR
- BOTTOM RAILS SHALL BE WELDED TO THE PERMANENT STRUCTURE. PW7. ALL EXPOSED CUT EDGES AND CORNERS SHALL BE ROUNDED AND GROUND SMOOTH.
- PW8. ALL AREAS WHERE SPILLAGE OF MATERAIL CAN PASS THROUGH THE FLOOR, ALL GRATING AN WALKWAYS AND LANDINGS SHALL BE 'WEBFORGE' OR AN APPROVED EQUIVALENT AND HOT DIPPED GALVANISED UNLESS OTHERWISE SPECIFIED. ALL EDGES AT JOINT AND OPENINGS SHALL BE BANDED. ALL EDGES AT LADDERS, STAIRS AND POINTS OF ACCESS, SHALL HAVE CHEQUERED NOSING. THE ENDS OF ALL LOAD BARS SHALL BE ADEQUATELY SUPPORTED IN
- ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS. PW9. ALL STAIR TREADS SHALL BE 'WEBFORGE' OR APPROVED EQUIVALENT AND HOT DIPPED GALVANISED UNLESS OTHERWISE SPECIFIED. PW10. FOR AREAS WHERE SPILLAGES MAY INCLUDE MATERIAL GREATER THAN 10mm AND NOT A 'CONSTANTLY' WET AREA, CHEQUERED FLOOR PLATE SHALL BE USED AN ALL WALKWAYS, FLOOR LEVELS, LANDINGS AND STAIR TREADS. THE
- FLOOR PLATE SHOULD BE ONESTEEL FLOOR PLATE OF 8mm THICKNESS IN ACCORDANCE WITH AS3678-250 AND HOT DIPPED GALVANISED UNLESS OTHERWISE SPECIFIED. PW11. DENOTES DIRECTION OF FLOOR GRATING LOAD BARS
- PW12. HANDRAIL AND KICKPLATES SHAL BE PROVIDED IN ACCORDANCE WITH AS1657
- AND STANDARD DRAWINGS. PW13. MONOWILLS, OR APPROVED EQUIVALENT, HOT DIPPED GALVANISED HANDRAIL L4. EARTHQUAKE DESIGN PARAMETERS TO AS1170.4 STANCHIONS, SPACED AT 2000mm MAXIMUM SHALL BE USED THROUGHOUT. PW14. TOP RAILS SHALL BE 42.4mm OD x 4.0mm TUBE, HOT DIPPED GALVANISED AND 1017mm ABOVE THE FLOOR LEVEL.
- PW16. KICK PLATES SHALL BE 100mm x 6mm FLAT, HOT DIPPED GALVANISED AND
- BOLTED TO STANCHIONS, UNLESS OTHERWISE SHOWN. PW17. BOLTED CONNECTIONS BETWEEN HANDRAIL STANCHIONS AND SUPPORTING MEMBERS SHALL BE MADE USING 16mm GRADE 5.5 GALVANISED FASTENERS, SNUG TIGHTENED.
- PW18. ALL OPENINGS IN GRATED OR PLATED FLOORS, UNGUARDED BY HANDRAIL, SHALL HAVE KICKPLATE INSTALLED.

### FIRE PROTECTION

FP1. FIRE PROTECTION TO STRUCTURAL ELEMENTS IS TO COMPLY WITH THE BUILDING CODE OF AUSTRALIA (BCA).

- FP2. FIRE RATINGS REFERRED TO ON THE STRUCTURAL DRAWINGS REFER ONLY TO THE REQUIREMENTS FOR STRUCTURAL ADEQUACY OF STRUCTURAL ELEMENTS. FOR FIRE RATINGS OF CEILINGS, WALLS AND OTHER NON-STRUCTURAL ELEMENTS REFER TO THE ARCHITECTS DRAWINGS AND SPECIFICATIONS.
- FP3. U.N.O. ON DRAWINGS FIRE PROTECTION MAY BE ACHIEVED BY APPLIED BOARDS, COATINGS OR ENCASEMENT THAT COMPLY WITH THE ARCHITECTS REQUIREMENTS.
- FP4. FIRE RESISTANCE LEVELS ARE EXPRESSED IN MINUTES AS DEFINED IN THE BCA I.E. STRUCTURAL ADEQUACY/INTEGRITY/INSULATION. BUILDING CLASSIFICATION 9A, 6 TYPE OF CONSTRUCTION C
- FP5. WHERE CLASSIFICATION, TYPE OF CONSTRUCTION OR RESISTANCE LEVELS ARE NOT CONSISTENT WITH THE SPECIFICATION OF THE BCA CONSULTANT OR ARCHITECT REFER TO THE ENGINEER FOR DIRECTION.

### ROOF SAFETY ACCESS SYSTEMS

RS1. A ROOF SAFETY ACCESS SYSTEM WHICH COMPLIES WITH THE RELEVANT OH&S REGULATIONS FOR FALL ARREST AND THE RELEVANT AUSTRALIAN STANDARDS IS TO BE INSTALLED AND CERTIFIED BY AN APPROPRIATELY EXPERIENCED SPECIALIST SUPPLIER.

RS2. THE DESIGN BY THE SPECIALIST IS TO INCLUDE SYSTEM SELECTION, LAYOUT, INSTALLATION, FLASHING, STRENGTHENING WORKS AND CERTIFICATION.

### **GROUTING OF BASE PLATES**

GB1. ALL GROUT SHALL BE CURED BY THE APPLICATION OF 'MBT AUSTRALIA' 'FLOORSEAL' APPLIED TO THE GROUT STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN PROCEDURE.

GB2. THE THICKNESS OF THE GROUT BED SHALL BE 25mm (MAX.).

GB3. GROUT ALL STEEL BASES BY DRY PACKING USING GROUT WHICH IS NON-SHRINK AND HAS A MINIMUM COMPRESSIVE STRENGTH AT 7 DAYS OF 50 MPa

### STRUCTURAL DESIGN LOADS

THE STRUCTURAL COMPONENTS DETAILED ON THESE DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RELEVANT STANDARDS AUSTRALIA CODE AND THE BUILDING CODE OF AUSTRALIA FOR THE FOLLOWING LOADINGS. REFER TO ARCHITECTURAL DRAWINGS FOR PROPOSED FLOOR USAGE.

SUPERIMPOSED LOADS IN ACCORDAN	CE WITH AS1170.1	
FLOOR USAGE	SUPERIMPOSED DEAD LOAD (kPa)	LIVE LOAD (kPa)
HOSPITAL (GENERAL)	1.80	3.00
PLANT ROOM	3.00	7.50
LOBBY, CORRIDORS, CIRCULATION SPACES AND FOYER SPACES	1.80	5.00
LIGHTWELL	3.50	5.00
STORE	1.80	7.50
RAMP AND STAIRS	1.00	3.00
ROOF GENERAL (NON- ACCESSIBLE EXCEPT FOR MAINTENANCE) - NO FINISHES	0.50	0.25
FACADE - GLAZING SYSTEMS	1.50	0.00
FACADE - BRICK (SINGLE LEAF)	3.00	0.00

WIND LOADS IN ACCORDANCE WITH AS1170.2

13

REGION		A	0	
STRUCTURAL IMPORTANC	4	ļ		
REGIONAL WIND SPEED	Vr (ULTIMATE)	4	8 m/s	
	Vr (SERVICEABILITY)	3	7 m/s	
TERRAIN CATEGORY		2	)	
TERRAIN / HEIGHT MULTIF	TERRAIN / HEIGHT MULTIPLIER			
SHIELDING MULTIPLIER	1.0	00		
TOPOGRAPHIC MULTIPLIE	1.0	)7		
HILL-SHAPE MULTIPLIER	1.1	13		

STRUCTURAL IMPORTANC	4	
PROBABILITY FACTOR	kp	1.50
HAZARD FACTOR	Z	0.09
SITE SUB SOIL CLASS		Ce
EARTHQUAKE DESIGN CA	TEGORY	I

### L5. RETAINING WALLS

RETAINING	STRUCTURE	STRUCTURE DESIGN SURCHARGE LASSIFICATION BACKFILL SLOPE		
WALL TAG	CLASSIFICATION			
		STEEPER THAN 4:1	4:1 OR FLATTER	
RW1	В	N/A	5.00	
RW2	В	N/A	5.00	
RW3	С	N/A	5.00	
RW4	С	N/A	5.00	

RETAINING WALL STRUCTURE CLASSIFICATION TO AS4678

### TIM

BE	<u>R</u>
	ALL TIMBER DESIGN, MATERIAL AND CONSTRUCTION SHALL COMPLY WITH AS1720, AS1684, AS2082 AND AS2858 AS APPROPRIATE.
	SOFTWOOD TO BE A MINIMUM STRESS GRADE F7 (OREGON) OR MGP10/F5 (PINE), STRENGTH GROUP SD5. HARDWOOD TO BE A MINIMUM OF F17 (SEASONED) OR F8 (UNSEASONED). SUBMIT SUPPLIERS CERTIFICATES AS TO STRESS GRADE OF TIMBER MEMBERS IF REQUESTED. ALL TIMBER SHALL BE BRANDED.
	PRESERVATIVE TREATMENT: ALL TIMBERS TO HAVE THE NECESSARY PRESERVATIVE TREATMENT APPROPRIATE TO THE SPECIES AND USAGE AS SPECIFIED IN AS1604-1997. ALL TREATED TIMBERS TO HAVE VISIBLE MARKS THAT ARE ABLE TO BE SEEN DURING THE FRAMING INSPECTION.
	TERMITE PROTECTION: ALL CONSTRUCTION WORK SHOULD BE IN ACCORDANCE WITH AS3660.1-2000 PROTECTION OF BUILDINGS FROM SUBTERRANEAN TERMITES PART 1: NEW BUILDING WORK
	TIMBER TREATED IN ACCORDANCE WITH AS1604 SHALL HAVE THE FOLLOWING HAZARD LEVEL: ENVIRONMENT CLASS INTERIOR ABOVE GROUND HAZARD LEVEL H2 EXTERIOR ABOVE GROUND HAZARD LEVEL H3 EXTERIOR IN GROUND HAZARD LEVEL H5
	EXTERNAL TIMBER SHALL BE EITHER DURABILITY CLASS 1 OR 2 HARDWOOD TO AS1720.2 OR IMPREGNATED PINE PRESSURE TREATED TO AS1604 AND RE-DRIED PRIOR TO USE. SUPPLEMENTARY TREATMENT SHALL BE APPLIED TO ALL CUT SURFACES. SUPPLY SUPPORTING DOCUMENTATION REGARDING PRESERVATIVE TREATMENT IF REQUESTED.
	ALL BOLTS IN TIMBER CONSTRUCTION SHALL BE MINIMUM M12. ALL BOLTED CONNECTIONS SHALL USE WASHERS UNDER HEADS AND NUTS WHICH ARE TO BE AT LEAST 3 TIMES THE BOLT DIAMETER. ALL EXTERNAL BOLTS AND WASHERS SHALL BE HOT DIP GALVANISED.
	UNLESS NOTED OTHERWISE USE: M12 4.6/S GALVANISED BOLTS WITH 55 DIA x 3.0 GALVANISED WASHERS UNDER HEAD AND NUT.
	M12 4.6/S GALVANISED COACH SCREWS WITH 55 DIA x 3.0 GALVANISED WASHERS. MINIMUM EMBEDMENT 75mm EMBEDMENT INTO SECOND MEMBER.
	3.15mm GALVANISED NAILS WITH MINIMUM 35mm EMBEDMENT INTO SECOND MEMBER.
	14 GAUGE (6.4mm THREAD DIAMETER) GALVANISED, BUGLE HEADED SCREWS WITH MINIMUM 50mm EMBEDMENT IN TO SECOND MEMBER. 12 GAUGE (5.6mm THREAD DIAMETER) TYPE 17 POINT GALVANISED TIMBER TEK SCREWS, MINIMUM 50mm EMBEDMENT INTO SECOND MEMBER. GALVANISED CONNECTOR PLATES COMPLYING WITH AS1649. MAINTAIN TIMBER EDGE DISTANCES AS PER AS1720.
	TIMBER TOLERANCES ON THE FINISHED WIDTH AND THICKNESS TO BE IN ACCORDANCE WITH AS2082, AS1748, AS APPROPRIATE. MINIMUM ACTUAL DIMENSIONS FOR TIMBER MEMBERS ARE AS FOLLOWS: NOMINAL DIMENSION 50 100 150 200 250 >250 MINIMUM ACTUAL 45 90 140 187 235 MINUS 6% HYSPAN AND MGP MEMBERS ARE ACTUAL SIZES.
	ALL TIMBER JOINTS AND NOTCHES ARE TO BE A 100mm MINIMUM AWAY FROM LOOSE KNOTS, SEVERE SLOPING GRAIN, GUM VEINS OR OTHER DEFECTS.
	GLUE LAMINATED TIMBER SHALL BE MANUFACTURED IN ACCORDANCE WITH AS1328. MEMBERS FOR EXTERNAL USE SHALL BE FABRICATED USING RESORCINOL OR PHENOLIC ADHESIVE.
	CAMBER IN BEAMS OR RAFTERS SHALL BE AS NOTED ON THESE STRUCTURAL DRAWINGS OR BEAMS/RAFTERS SHALL BE INSTALLED WITH NATURAL HOG UP.
	ALL PROPRIETARY FIXINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS WRITTEN INSTRUCTIONS. ALL METAL FIXINGS SHALL BE COMPATIBLE WITH TIMBER GLUES AND PRESERVATIVE TREATMENTS.
	NO PENETRATIONS OR NOTCHES OTHER THAN THOSE SHOWN ON THESE STRUCTURAL DRAWINGS SHALL BE MADE IN ANY TIMBER MEMBERS WITHOUT APPROVAL OF ACOR.
	ALL TIMBER SHALL BE PROTECTED FROM THE ELEMENTS DURING FABRICATION AND CONSTRUCTION BY THE APPLICATION OF AN APPROVED WATERPROOF TIMBER PRESERVATIVE, PROPOSALS SHALL BE SUBMITTED TO THE ENGINEER.
	ALL EXPOSED LINES OF BOLTS SHALL BE EVENLY AND EQUALLY SPACED U.N.O. AND SHALL ALIGN WITH ADJACENT EXPOSED BOLT GROUPS.
	ALL ACCESSIBLE BOLTS ARE TO BE RETIGHTENED AND ALL NAILS REDRIVEN AS CLOSE TO COMPLETION OF CONTRACT AS POSSIBLE AND AGAIN AT THE END OF THE DEFECTS LIABILITY PERIOD. ALL OTHER BOLTS SHALL BE RE-TIGHTENED IMMEDIATELY PRIOR TO BEING BUILT-IN.
	WE SUPPORT THE ENVIRONMENT AND RECOMMEND THE USE OF SUSTAINABLE FOREST TIMBER OR RECYCLED TIMBER.
	NON-LOADBEARING TIMBER FRAMED WALLS SHALL FINISH 10mm SHORT OF THE ROOF FRAMING AND SHALL BE LATERALLY RESTRAINED USING 'PRYDA PHL' BRACKETS WITH SLOTTED HOLES AT 1800 CTS IN ACCORDANCE WITH AS1684.
	TIMBER TRUSSES ARE TO BE PRE-CAMBERED AN AMOUNT EQUAL TO THE CALCULATED INITIAL DEAD LOAD DEFLECTION. SUBMIT THREE COPIES OF SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW. SHOP DRAWINGS
	SHALL CLEARLY SHOW: THE DESIGN LOADS ON THE ROOF AND CEILING AND TRUSS NODE POINT LOADS AND THE PRECAMBER, MEMBER SIZES AND LOCATIONS, TIMBER SPECIES, STRESS GRADE, STRENGTH GROUP AND JOINT DETAILS. MEMBER RESTRAINT LOCATIONS.
	PROPRIETARY TIMBER TRUSSES ARE TO BE DESIGNED, INSPECTED AFTER ERECTION, AND CERTIFIED BY AN NPER STRUCTURAL ENGINEER ENGAGED BY THE FABRICATOR OR THE BUILDER. CERTIFICATION SHALL INCLUDE ROOF BRACING AND TIE DOWN TO THE SUPPORTS. THE DESIGN SHALL COMPLY WITH AS1720. THE FABRICATOR SHALL PROVIDE LAYOUT DRAWINGS TO ACOR FOR CONFIRMATION OF THEIR DESIGN ASSUMPTIONS FOR THE SUPPORTING

T12.

T14

T15.

T16.

T17.

T18.

T19.

T20

T21

STRUCTURE.

### 3 AS APPROPRIATE. ESS GRADE F7 (OREGON) OR MGP10/F5 (PINE), DD TO BE A MINIMUM OF F17 (SEASONED) OR ERS CERTIFICATES AS TO STRESS GRADE OF

ALL TIMBER SHALL BE BRANDED. SARY PRESERVATIVE TREATMENT

D LEVEL H3 /EL H5

ER DURABILITY CLASS 1 OR 2 HARDWOOD TO

RESSURE TREATED TO AS1604 AND RE-DRIED



This drawing should be read in

conjunction with all relevant contracts, specifications and drawings. Dimensions are in millimetres. Levels are metres. Do

not scale off drawings. Use figured

dimensions only. Check dimensions on

Site. Report discrepancies immediately.

1	19.12.22	SUBJECT SCHEMATIC DESIGN	AJ
CLIEN	т		



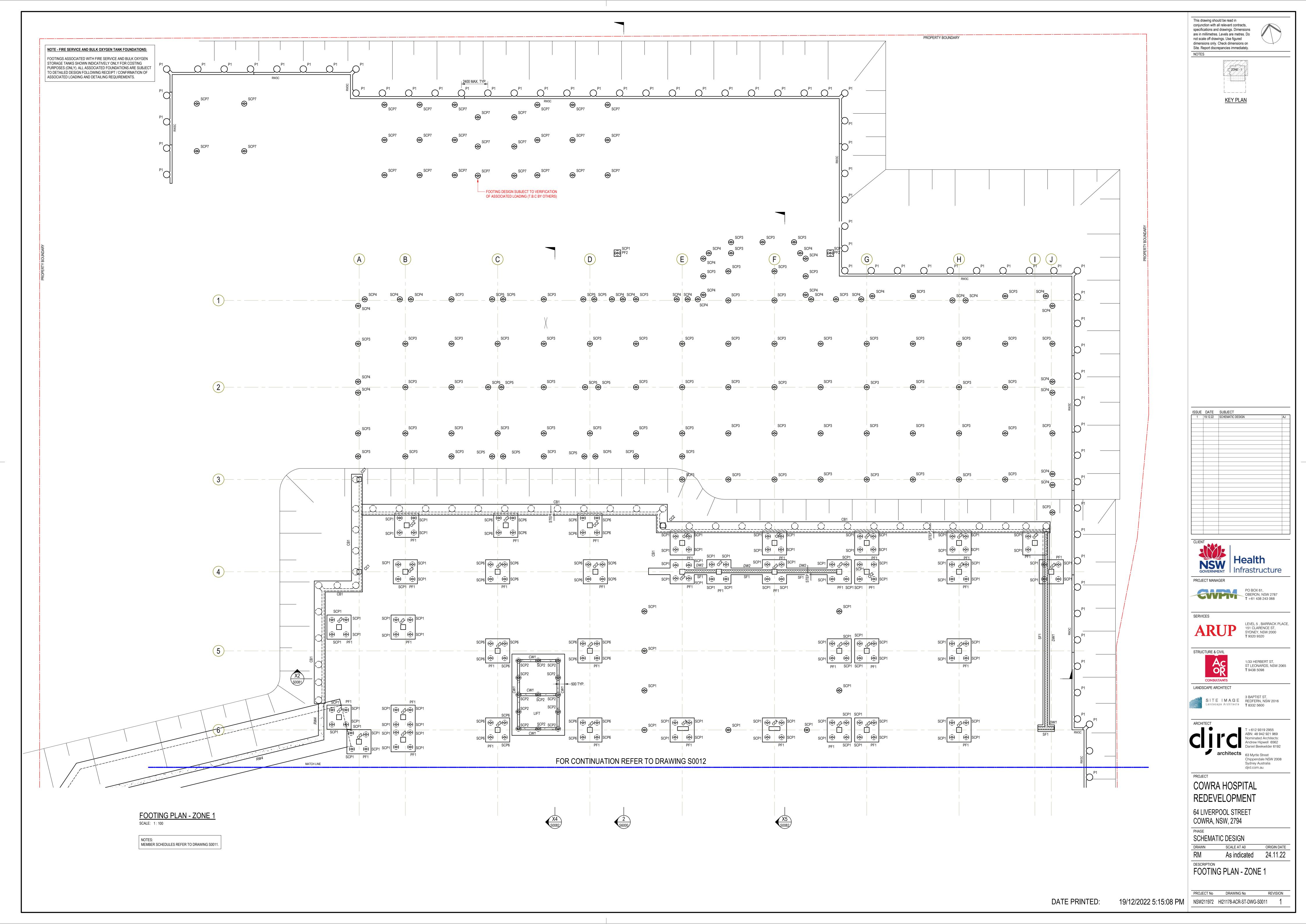
# PROJECT **COWRA HOSPITAL** REDEVELOPMENT 64 LIVERPOOL STREET COWRA, NSW, 2794

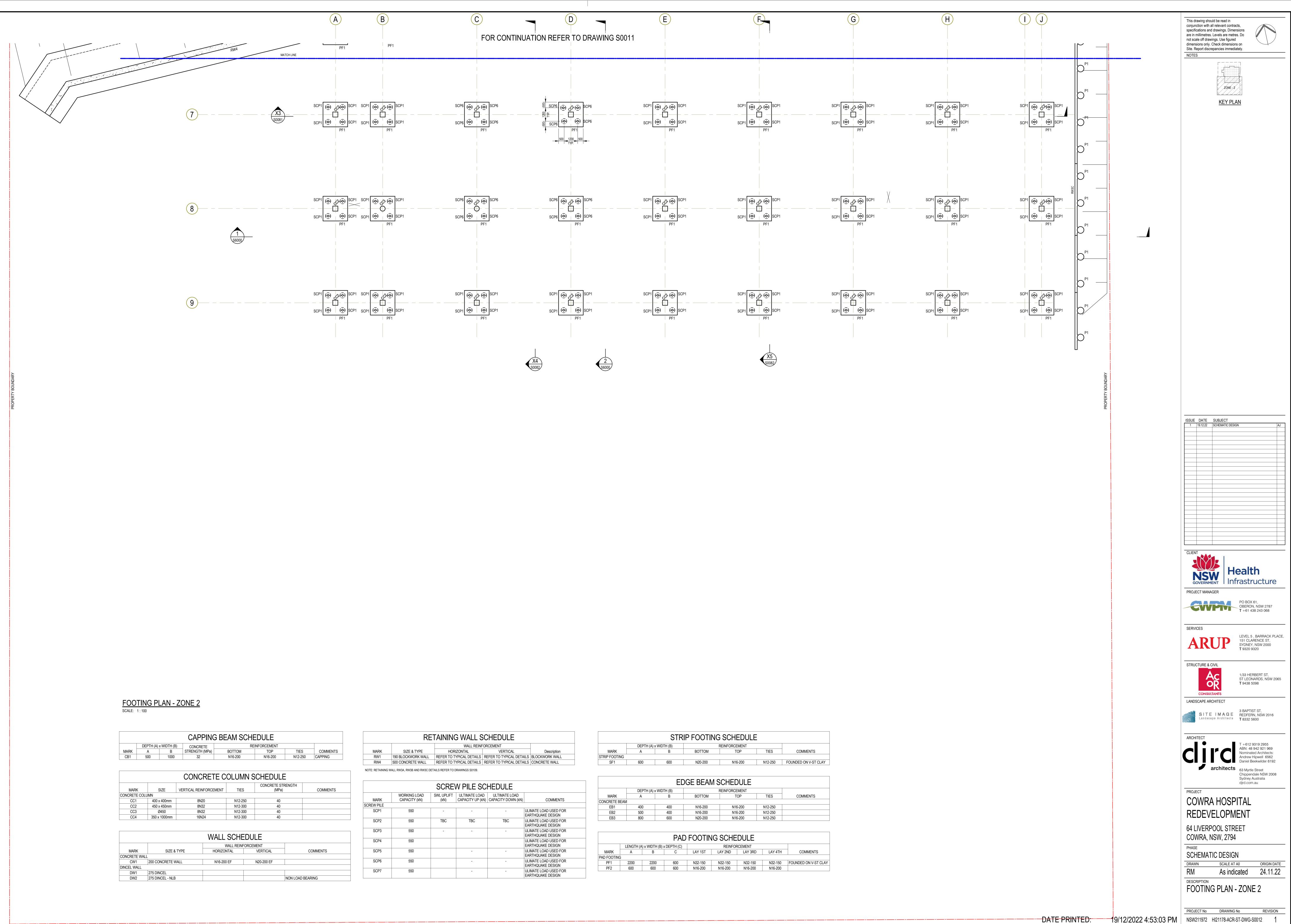
PHASE SCHEMATIC DESIGN DRAWN SCALE AT A0

24.11.22 RM DESCRIPTION STRUCTURAL NOTES - SHEET 3

Sydney Australia djrd.com.au

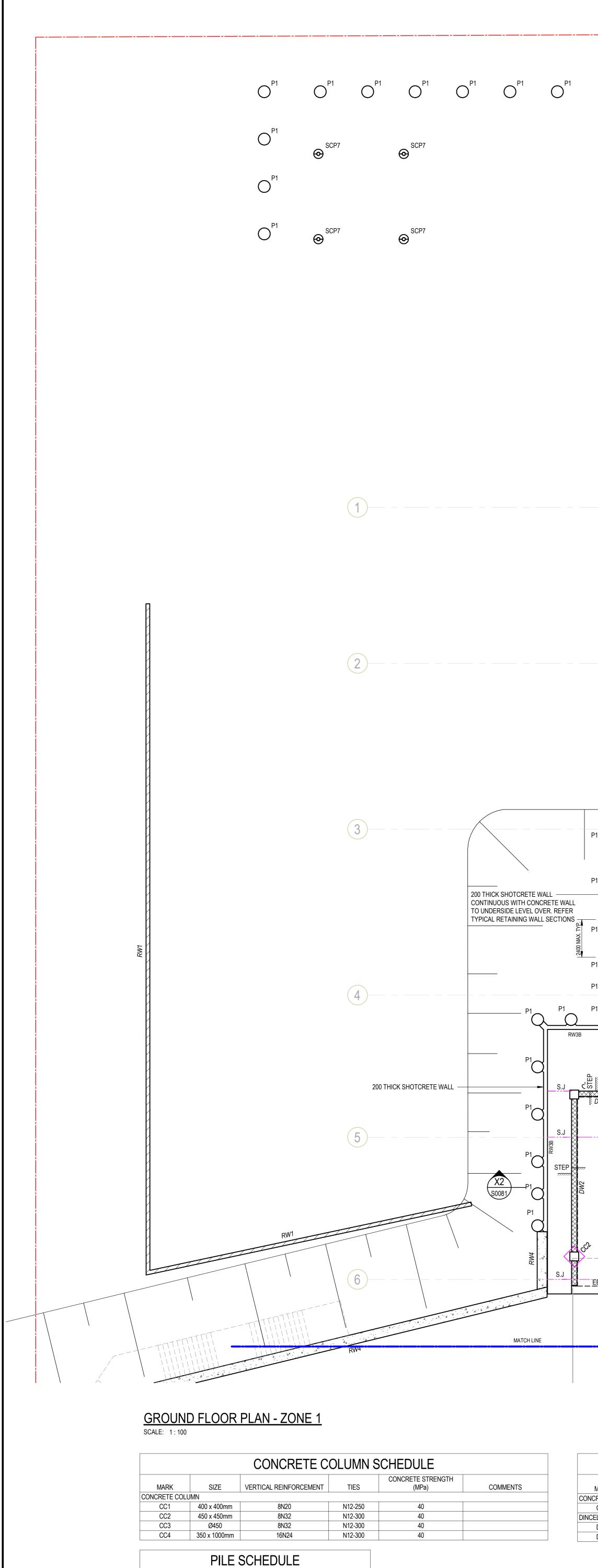
ORIGIN DATE





		RETAINING WALL SCHEDULE					STRIP FOOTING SCHEDULE						
		WALL RE	INFORCEMENT			DE	PTH (A) x WID	TH (B)		REINFORCEM	ENT		
MARK	SIZE & TYPE	HORIZONTAL	VERTICAL	Description	MARK	A		B	BOTTOM	TO	C	TIES	COMMENTS
RW1	190 BLOCKWORK WALL	REFER TO TYPICAL DETAI	LS REFER TO TYPICAL DET	AILS BLOCKWORK WALL	STRIP FOOTIN	G				I			
RW4	500 CONCRETE WALL	REFER TO TYPICAL DETAI	LS REFER TO TYPICAL DET	AILS CONCRETE WALL	SF1	60	0	600	N20-200	N16-2	200	N12-250	FOUNDED ON V-ST CLAY
IOTE: RETAINING V	VALL RW3A, RW3B AND RW3C DE	ETAILS REFER TO DRAWINGS S0109											
								EDO	GE BEAN	<b>/ SCHED</b>	JLE		
JUREW FILE JUILE					DE	DEPTH (A) x WIDTH (B)		REINFORCEMENT		ENT			
	WORKING LOAD				MARK			B	BOTTOM	TO	C	TIES	COMMENTS
	CAPACITY (kN)	(kN) CAPACITY U	P (kN)   CAPACITY DOWN (kN	) COMMENTS	CONCRETE BE	AM	1	1		1	I	1	
					EB1	40	0	400	N16-200	N16-2	200	N12-250	
SCP1	550		-	ULIMATE LOAD USED FOR EARTHQUAKE DESIGN	EB2			400	N16-200			N12-250	
SCP2	550	TBC TBC	TBC	ULIMATE LOAD USED FOR EARTHQUAKE DESIGN	EB3	80	0	600	N20-200	N16-2	200	N12-250	
SCP3	550		-	ULIMATE LOAD USED FOR EARTHQUAKE DESIGN									
SCP4	550			ULIMATE LOAD USED FOR				FAD	FUUTIN	IG SUNEL	JULE		
				EARTHQUAKE DESIGN		LENGTH (A	A) x WIDTH (B)	x DEPTH (C)		REINFORC	EMENT		
SCP5	550	-	-	ULIMATE LOAD USED FOR FARTHQUAKE DESIGN	MARK	Α	B	C	LAY 1ST	LAY 2ND	LAY 3RD	LAY 4TH	COMMENTS
SCP6	550	-	-	ULIMATE LOAD USED FOR	PAD FOOTING	2200	2200	600	N32-150	N32-150	N32-150	N32-150	FOUNDED ON V-ST CLA
SCP7	550			ULIMATE LOAD USED FOR	PF2	600	600	600	N16-200	N16-200	N16-200	N16-200	
	MARK CREW PILE SCP1 SCP2 SCP3 SCP4 SCP5 SCP6	WARKWORKING LOAD CAPACITY (kN)CREW PILE550SCP1550SCP2550SCP3550SCP4550SCP5550SCP6550	SCREW PILEMARKWORKING LOAD CAPACITY (kN)SWL UPLIFT (kN)ULTIMATE L CAPACITY UI CAPACITY UI SCP1SCP1550SCP2550TBCTBCSCP3550SCP4550SCP5550SCP6550	MARK         CAPACITY (kN)         (kN)         CAPACITY UP (kN)         CAPACITY DOWN (kN)           CREW PILE         SCP1         550         -         -         -           SCP2         550         TBC         TBC         TBC         SCP2           SCP3         550         -         -         -         -           SCP4         550         -         -         -         -           SCP5         550         -         -         -         -           SCP6         550         -         -         -         -	SCREW PILE SCHEDULEMARKWORKING LOAD CAPACITY (kN)SWL UPLIFT (kN)ULTIMATE LOAD CAPACITY UP (kN)ULTIMATE LOAD CAPACITY DOWN (kN)COMMENTSSREW PILEULIMATE LOAD USED FOR EARTHQUAKE DESIGNSCP1550ULIMATE LOAD USED FOR EARTHQUAKE DESIGNSCP2550TBCTBCTBCULIMATE LOAD USED FOR EARTHQUAKE DESIGNSCP3550ULIMATE LOAD USED FOR EARTHQUAKE DESIGNSCP4550ULIMATE LOAD USED FOR EARTHQUAKE DESIGNSCP5550ULIMATE LOAD USED FOR EARTHQUAKE DESIGNSCP6550ULIMATE LOAD USED FOR EARTHQUAKE DESIGN	SCREW PILE SCHEDULE         MARK       CAPACITY (kN)       SWL UPLIFT       ULTIMATE LOAD       CAPACITY DOWN (kN)       COMMENTS         CREW PILE       SCP1       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN       EB1         SCP2       550       TBC       TBC       TBC       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN       EB2         SCP3       550       -       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP4       550       -       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP5       550       -       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP6       550       -       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP6       550       -       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP6       550       -       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP7       550       -       -       -       ULIMATE LOAD USED FOR	SCREW PILE SCHEDULE         MARK       WORKING LOAD CAPACITY (KN)       SWL UPLIFT (KN)       ULTIMATE LOAD CAPACITY UP (KN)       ULTIMATE LOAD CAPACITY DOWN (KN)       COMMENTS         SCP1       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN       EB1       400         SCP2       550       TBC       TBC       TBC       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN       EB1       400         SCP3       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN       EB3       800         SCP4       550       -       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN       EB3       800         SCP5       550       -       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN       EB3       800         SCP6       550       -       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN       -       -         SCP6       550       -       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN       -       -       PAD FOOTING         SCP7       550       -       -       -       ULIMATE LOAD USED FOR       -       -         SCP7       550       -       -       -       ULIMATE LOAD USED FOR       -	SCREW PILE SCHEDULE         MARK       WORKING LOAD CAPACITY (kN)       SWL UPLIFT (kN)       ULTIMATE LOAD CAPACITY UP (kN)       ULTIMATE LOAD CAPACITY DOWN (kN)       COMMENTS         SCP1       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN       EARTHQUAKE DESIGN         SCP2       550       TBC       TBC       TBC       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP3       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP4       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP5       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP6       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP6       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP6       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP7       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN	SCREW PILE SCHEDULE         Mark       WORKING LOAD       SWL UPLIFT       ULTIMATE LOAD       ULTIMATE LOAD       COMMENTS         SREW PILE       SCP1       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP2       550       TBC       TBC       TBC       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP3       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP4       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP5       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP6       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP6       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP6       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP6       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP7       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN	SCREW PILE SCHEDULE         Mark       WORKING LOAD       SWIL UPLIFT       ULTIMATE LOAD       ULTIMATE LOAD       COMMENTS         SREW PILE       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN       -       -       B       BOTTOM         SCP1       550       -       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN       -       -       B       BOTTOM         SCP2       550       TBC       TBC       TBC       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN       -	SCREW PILE SCHEDULE         Mark       WORKING LOAD (RN)       SWI UPLIFT (RN)       ULTIMATE LOAD (RN)       COMMENTS         SCP1       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP2       550       TBC       TBC       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP3       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP4       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP5       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP6       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP6       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP6       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP6       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP7       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN         SCP7       550       -       -       ULIMATE LOAD USED FOR EARTHQUAKE DESIGN	SCREW PILE SCHEDULE           Mark         WORKING LOAD (KN)         SVL UPLIFT (KN)         ULTIMATE LOAD CAPACITY UP (KN)         ULTIMATE LOAD CAPACITY UP (KN)         COMMENTS           SCP1         550         -         -         ULMATE LOAD USED FOR EARTHQUAKE DESIGN           SCP2         550         TBC         TBC         ULMATE LOAD USED FOR EARTHQUAKE DESIGN           SCP3         560         -         -         ULIMATE LOAD USED FOR EARTHQUAKE DESIGN           SCP4         550         -         -         ULIMATE LOAD USED FOR EARTHQUAKE DESIGN           SCP4         550         -         -         ULIMATE LOAD USED FOR EARTHQUAKE DESIGN           SCP5         550         -         -         ULIMATE LOAD USED FOR EARTHQUAKE DESIGN           SCP6         550         -         -         ULIMATE LOAD USED FOR EARTHQUAKE DESIGN           SCP6         550         -         -         ULIMATE LOAD USED FOR EARTHQUAKE DESIGN           SCP6         550         -         -         ULIMATE LOAD USED FOR EARTHQUAKE DESIGN           SCP7         550         -         -         ULIMATE LOAD USED FOR EARTHQUAKE DESIGN           SCP7         550         -         -         -           SCP7         550	SCREW PILE SCHEDULE         MARK       WORKING LOAD       SWL UPLIFT       ULTIMATE LOAD       ULTIMATE LOAD       COMMENTS         SCP1       550       CAPACITY UP (M)       COMMENTS         SCP2       550       TBC       TBC       ULIMATE LOAD USED FOR EARTHOUAKE DESIGN       EARTHOUAKE DESIGN         SCP3       550       -       -       ULIMATE LOAD USED FOR EARTHOUAKE DESIGN       EARTHOUAKE DESIGN         SCP4       550       -       -       ULIMATE LOAD USED FOR EARTHOUAKE DESIGN       EARTHOUAKE DESIGN         SCP5       550       -       -       ULIMATE LOAD USED FOR EARTHOUAKE DESIGN       EARTHOUAKE DESIGN         SCP6       550       -       -       ULIMATE LOAD USED FOR EARTHOUAKE DESIGN       EARTHOUAKE DESIGN         SCP5       550       -       -       ULIMATE LOAD USED FOR EARTHOUAKE DESIGN       EARTHOUAKE DESIGN         SCP6       550       -       -       ULIMATE LOAD USED FOR EARTHOUAKE DESIGN       EARTHOUAKE DESIGN         SCP7       550       -       -       ULIMATE LOAD USED FOR EARTHOUAKE DESIGN       EARTHOUAKE DESIGN         SCP7       550       -       -       ULIMATE LOAD USED FO

		SCRE	W PILE SC				
	1			_			
	WORKING LOAD	SWL UPLIFT		ULTIMATE LOAD		MARK	
MARK	CAPACITY (kN)	(kN)	CAPACITY UP (KN)	CAPACITY DOWN (kN)	COMMENTS	CONCRETE B	3EAM
SCREW PILE	1	1	1	T	1	EB1	
SCP1	550	-	-	-	ULIMATE LOAD USED FOR	EB2	
					EARTHQUAKE DESIGN	EB3	
SCP2	550	TBC	TBC	TBC	ULIMATE LOAD USED FOR EARTHQUAKE DESIGN		
SCP3	550	-	-	-	ULIMATE LOAD USED FOR EARTHQUAKE DESIGN		
SCP4	550				ULIMATE LOAD USED FOR		
					EARTHQUAKE DESIGN		LEN
SCP5	550		-	-	ULIMATE LOAD USED FOR EARTHQUAKE DESIGN	MARK	
SCP6	EE0					PAD FOOTING	Ģ
30P0	550		-	-	ULIMATE LOAD USED FOR EARTHQUAKE DESIGN	PF1	22
SCP7	550				ULIMATE LOAD USED FOR	PF2	60
3071	550		-	-	EARTHQUAKE DESIGN		



PILE

600

DIAMETER

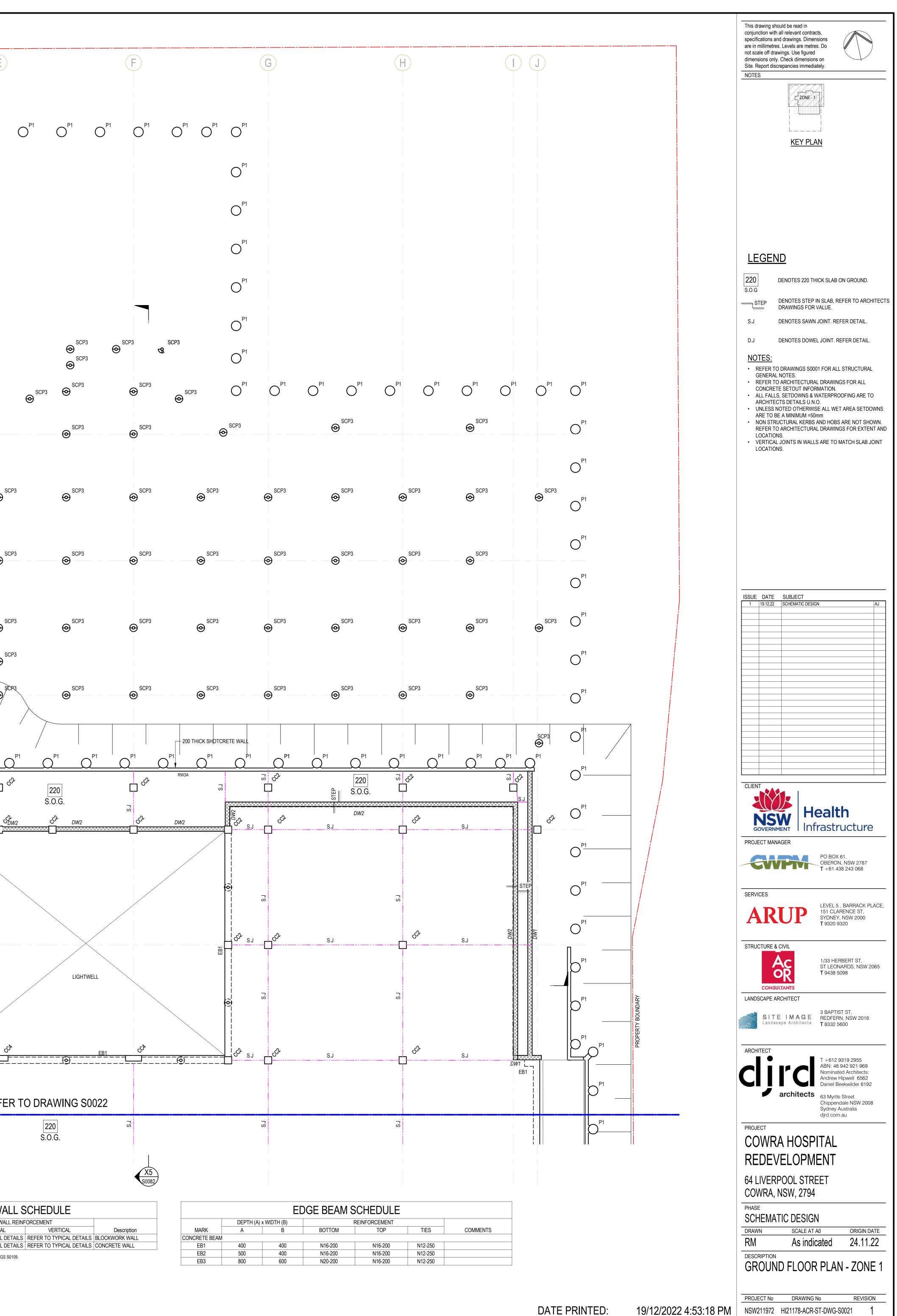
REINFORCEMENT

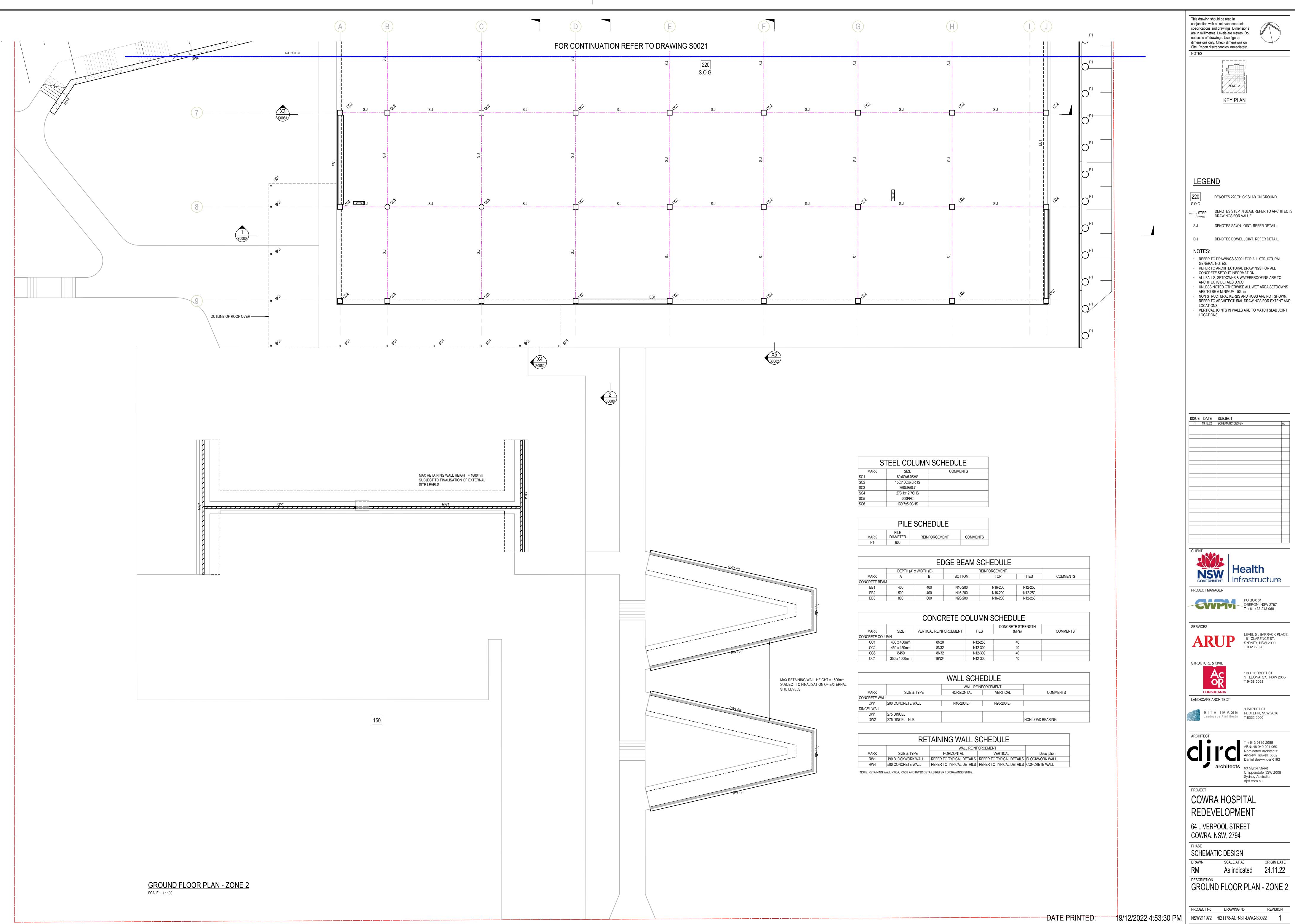
COMMENTS

MARK

P1

A	E	3		С	)							
O <sup>P1</sup>	O <sup>P1</sup> ⊕ SCP7 SCP7	O <sup>P1</sup> O <sup>P1</sup> ⊗ <sub>SCP7</sub>	SCP7	<ul> <li>P1</li> <li>SCP7</li> <li>SCP7</li> <li>SCP7</li> </ul>	O <sup>P1</sup> ⊗ <sup>SCP7</sup>	O SCP7	O <sup>P1</sup> ⊗ SCP7 SCP7	⊕	SCP7	O <sup>P1</sup>	O <sup>P1</sup>	C
	⊖ SCP7	⊖ SCP7			SCP7	SCP7		Ð	SCP7			
			€ SCP3			SCP3			⊗	SCP3		
⊚ <sup>sc</sup>	CP3	SCP3	⊖ <sup>SCP3</sup>	Ø	SCP3	SCP3	¢	SCP3	0	SCP3	e	SCP3
	@	SCP3	SCP3			SCP3				SCP3		SCP3
	CP3	SCP3	⊖ <sup>SCP3</sup>	0	SCP3	SCP3	e	SCP3	⊚	SCP3	e	SCP3
⊚	6	SCP3	€ SCP3			SCP3			0	SCP3	e	SCP3
P1	P1   		P1 RW3A	P1 0			E WALL (PART HEIG INING WALL SECTION P1 F B B B C C C C C C C C C C C C C C C C	21 	) <sup>P1</sup>	P1	P1 P1	SCR3
	ි S.J		220 S.O.G.	-300 FOLD TYP.	₩2 <sup>W</sup> 2	S.J	2 <sup>  </sup> <sup> </sup> <sup> </sup> <sup> </sup>		DW2 S.J		 آن 	S <sup>DW2</sup>
		SW2		G								
E DW2	S.J		S.J		S. S.	S.J CW1	ຼິ L ເ		S.J	EB1		
L	ی S.J	CCF	S.J	S. S.	CC L.S	CW1	S.J		S.J			ccA
	چې چې	S.		, S		CW1		F	OR CONT	<b>_</b>		FER T
	ω			0)		X4	)		I		L.S.	
		\\\\\\				50082			2 56000			
MARK NCRETE WA CW1 CEL WALL	200 CONCRETE WALL				CO	MMENTS		MARK RW1 RW4 TE: RETAINING W	SIZE & TYP 190 BLOCKWORK 500 CONCRETE W ALL RW3A, RW3B AND	e Wall Rei All Rei	HORIZONT FER TO TYPICA FER TO TYPICA	WALL REINF TAL AL DETAILS AL DETAILS
DW1 DW2	275 DINCEL 275 DINCEL - NLB				NON LOAD BEARI	NG						





STEEL COLUMN SCHEDULE							
MARK	SIZE	COMMENTS					
SC1	89x89x6.0SHS						
SC2	150x100x6.0RHS						
SC3	360UB50.7						
SC4	273.1x12.7CHS						
SC5	200PFC						
SC6	139.7x5.0CHS						

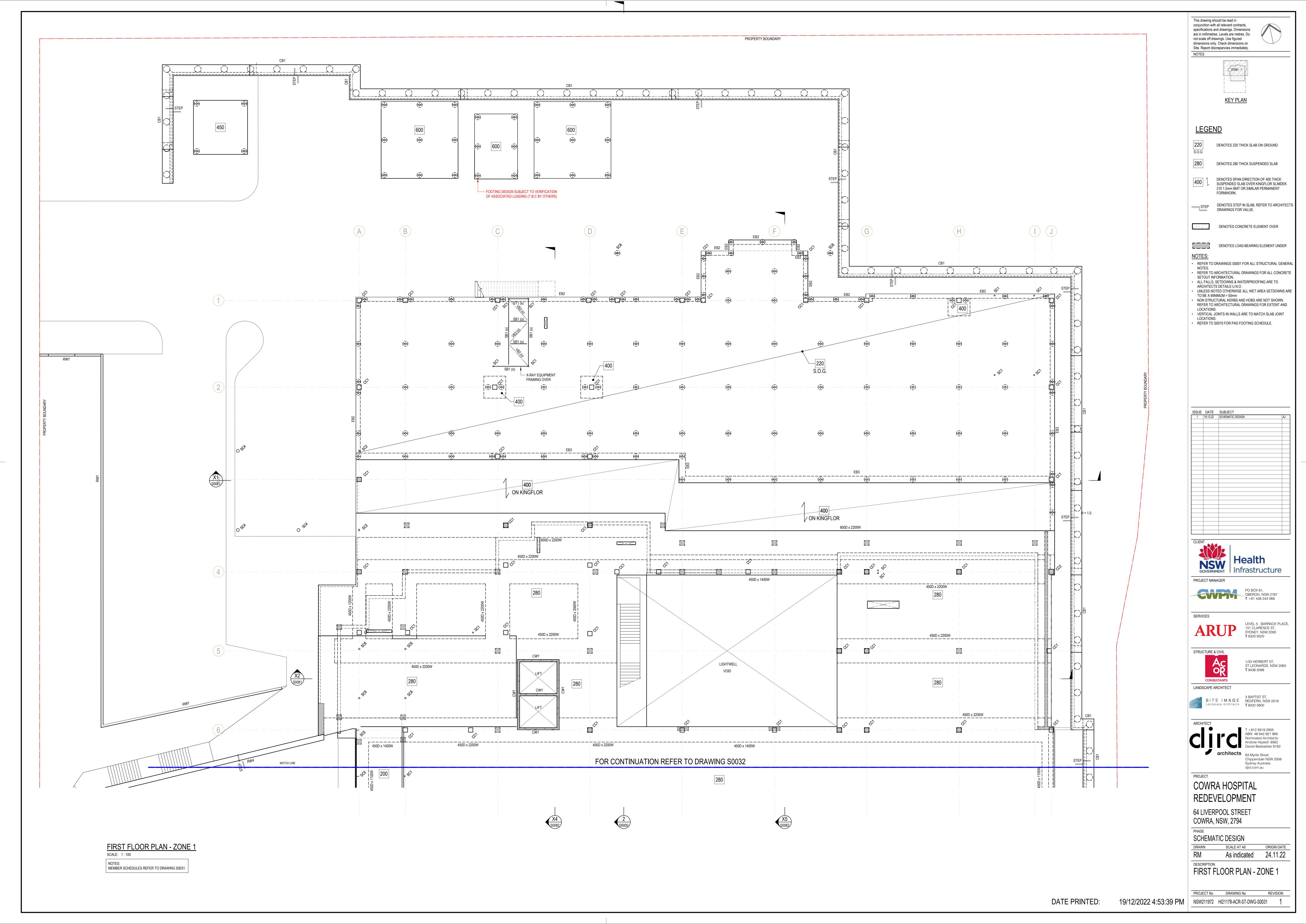
PILE SCHEDULE								
MARK	PILE DIAMETER	REINFORCEMENT	COMMENTS					
P1	600							

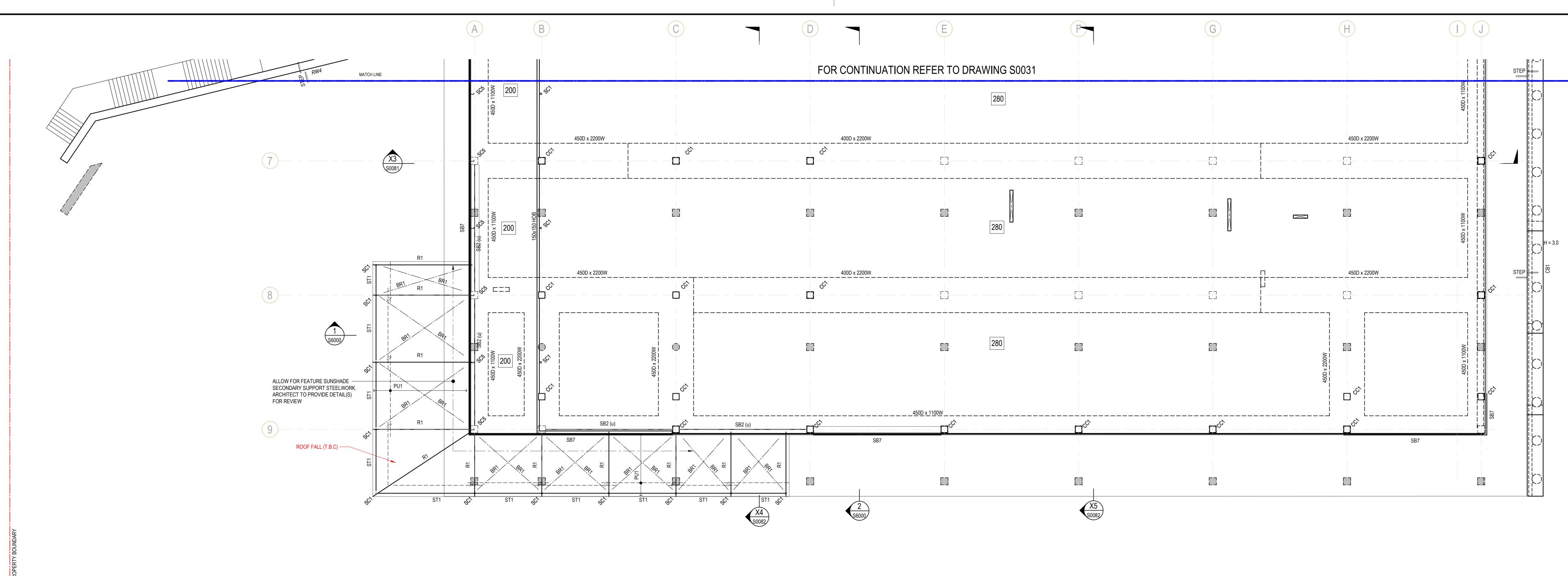
		ED	OGE BEAM S	CHEDULE	
	DEPTH (A) x	WIDTH (B)	F	REINFORCEMENT	
MARK	A	В	BOTTOM	TOP	TIES
CONCRETE BEAM	·				1
EB1	400	400	N16-200	N16-200	N12-250
EB2	500	400	N16-200	N16-200	N12-250
EB3	800	600	N20-200	N16-200	N12-250

		CONCRETE C	OLUMN S	SCHEDULE
MARK	SIZE	VERTICAL REINFORCEMENT	TIES	CONCRETE STRENGTH (MPa)
CONCRETE COL	ÚMN			
CC1	400 x 400mm	8N20	N12-250	40
CC2	450 x 450mm	8N32	N12-300	40
CC3	Ø450	8N32	N12-300	40
CC4	350 x 1000mm	16N24	N12-300	40

		WALL SCHE	DULE	
		WALL REINF	ORCEMENT	
MARK	SIZE & TYPE	HORIZONTAL	VERTICAL	
CONCRETE W/	ALL			
CW1	200 CONCRETE WALL	N16-200 EF	N20-200 EF	
DINCEL WALL	•			
DW1	275 DINCEL			
DW2	275 DINCEL - NLB			NON LOAD

ł					
			WALL REINF	FORCEMENT	
	MARK	SIZE & TYPE	HORIZONTAL	VERTICAL	C
	RW1	190 BLOCKWORK WALL	REFER TO TYPICAL DETAILS	REFER TO TYPICAL DETAILS	BLOCKW
	RW4	500 CONCRETE WALL	REFER TO TYPICAL DETAILS	REFER TO TYPICAL DETAILS	CONCRE
	NOTE: RETAINING V	VALL RW3A, RW3B AND RW3C DET/	AILS REFER TO DRAWINGS S0109.		





### FIRST FLOOR PLAN - ZONE 2 SCALE: 1:100

S	TEEL COLUMN	SCHEDULE
MARK	SIZE	COMMENTS
SC1	89x89x6.0SHS	
SC2	150x100x6.0RHS	
SC3	360UB50.7	
SC4	273.1x12.7CHS	
SC5	200PFC	
SC6	139.7x5.0CHS	



	STEEL FRAM	MING SCHEDULE
ARK	SIZE	COMMENTS
BEAM		
	360UB56.7	
	310UB40.4	
	200UB22.3	
	380PFC	
	200PFC	
	200x200x10.0SHS	
BRACING		
	Ø24mm BAR	TURNBUCKLE
	Ø24mm BAR	TURNBUCKLE
	101.6x5.0CHS	
PURLIN		
	Z15019	1200 CTS. MAX. SPACING WITH 2 ROWS OF BRIDGING
RAFTER	- -	
	310UB40.4	
	250PFC	
	360UB56.7	
STRUT	·	
	150x150x6.0SHS	
	100x100x6.0SHS	

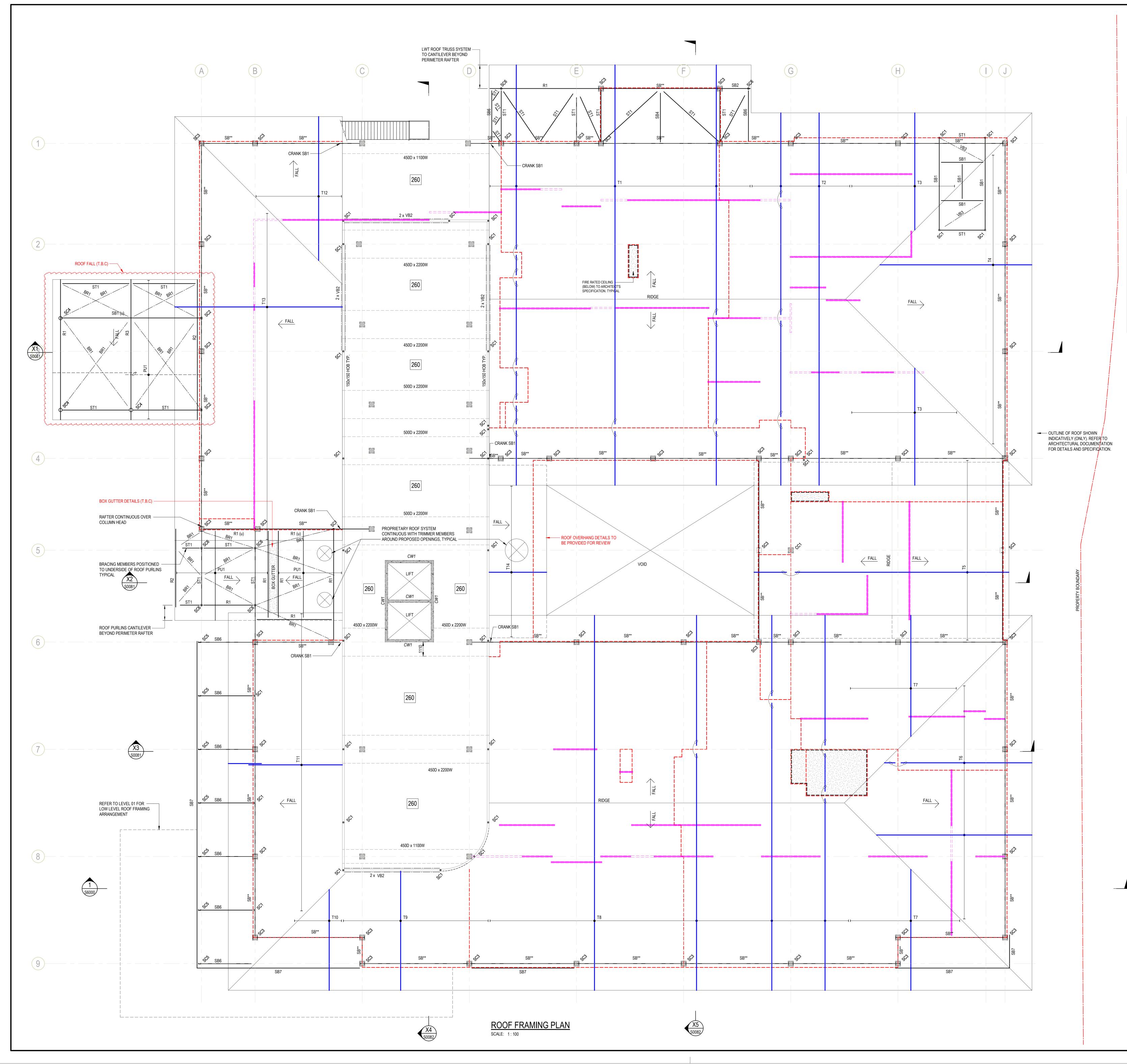
		ED	GE BE	AM S	CHEI	DULE	
	DEPTH (A)	x WIDTH (B)		R	EINFORC	EMENT	
MARK	A	B	BOTTO	M		TOP	
CONCRETE BEA	M	1 1					
EB1	400	400	N16-20	0	N	16-200	
EB2	500	400	N16-20	0	N	16-200	
EB3	800	600	N20-20	0	N	16-200	
EBJ		11					
EBJ		CONCF			IN S		
		CONCF	RETE C	OLUN			ETE S
MARK	SIZE	11	RETE C				ETE S
MARK	SIZE	CONCF	RETE C	OLUN	6		ete s (MPa
MARK CONCRETE COL	SIZE	CONCF VERTICAL REINF	RETE CO		50		
MARK CONCRETE COL CC1	SIZE -UMN 400 x 400mm	CONCF VERTICAL REINF 8N20	RETE C	OLUN TIES N12-2	50 00		ETE S (MP) 40

				WALL SCH	HEDULE	
				WALL RE	INFORCEMENT	
TIES	COMMENTS	MARK	SIZE & TYPE	HORIZONTAL	VERTICAL	COMMENTS
		CONCRETE WA	LL			
N12-250		CW1	200 CONCRETE WALL	N16-200 EF	N20-200 EF	
N12-250		DINCEL WALL		· · · ·		
N12-250		DW1	275 DINCEL			
		DW2	275 DINCEL - NLB			NON LOAD BEARING
ULE TE STRENGTH		-	RE	TAINING WALL S	SCHEDULE	
(MPa)	COMMENTS			WALL REINF	ORCEMENT	
		MARK	SIZE & TYPE	HORIZONTAL	VERTICAL	Description
40		RW1	190 BLOCKWORK WALL	REFER TO TYPICAL DETAILS	REFER TO TYPICAL DETAILS	BLOCKWORK WALL
		<b>D</b> 14/4			REFER TO TYPICAL DETAILS	
40		RW4	500 CONCRETE WALL	REFER TO TTFICAL DETAILS	REFER TO TIFICAL DETAILS	
40 40 40				TAILS REFER TO DRAWINGS S0109.	REFER TO TIFICAL DETAILS	



210 1.5mm BMT OR SIMILAR PERMANENT FORMWORK. DENOTES STEP IN SLAB, REFER TO ARCHITI DRAWINGS FOR VALUE. DENOTES CONCRETE ELEMENT OVER DENOTES LOAD-BEARING ELEMENT UNDER NOTES: REFER TO DRAWINGS S0001 FOR ALL STRUCTURAL GEN NOTES. REFER TO ARCHITECTURAL DRAWINGS FOR ALL CONCR SETOUT INFORMATION. ALL FALLS, SETDOWNS & WATERPROOFING ARE TO ARCHITECTS DETAILS U.N.O. UNLESS NOTED OTHERWISE ALL WET AREA SETDOWNS TO BE A MINIMUM = 50mm NON STRUCTURAL KERBS AND HOBS ARE NOT SHOWN. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT AN LOCATIONS. VERTICAL JOINTS IN WALLS ARE TO MATCH SLAB JOINT LOCATIONS. REFER TO S0010 FOR PAD FOOTING SCHEDULE.	KEY PLAN           LEGEND           220         DENOTES 220 THICK SLAB ON GROUND.           5.0.3         DENOTES 220 THICK SLAB ON GROUND.           280         DENOTES 280 THICK SUSPENDED SLAB           400         1         DENOTES SPAN DIRECTION OF 400 THICK SUSPENDED SLAB OVER KINGFLOR SLIMDED 210 1.5mm BMT OR SIMILAR PERMANENT FORMWORK.           STEP           DENOTES STEP IN SLAB, REFER TO ARCHITI           DENOTES STEP IN SLAB, REFER TO ARCHITI           DENOTES CONCRETE ELEMENT OVER           DENOTES CONCRETE ELEMENT OVER           ODENOTES CONCRETE ELEMENT OVER           NOTES           DENOTES CONCRETE ELEMENT OVER           ODENOTES CONCRETE ELEMENT OVER           NOTES           ODENOTES CONCRETE ELEMENT OVER           NOTES           ODENOTES STEP IN SLAB, REFER TO ARCHITE           NOTES CONCRETE ELEMENT OVER           NOTES           ODENOTES STEP IN SLAB, REFER TO ARCHITE           NOTES CONCRETE ELEMENT OVER           NOTES CONCRETE ELEMENT OVER           NOTED ORAWINGS S0001 FOR ALL STRUCTURAL GEN NOTES.	specific are in r not sca dimens	ction with cations an millimetres ale off drav sions only eport disc	build be read in all relevant contracts, nd drawings. Dimensions s. Levels are metres. Do wings. Use figured c. Check dimensions on prepancies immediately.
220       DENOTES 220 THICK SLAB ON GROUND.         280       DENOTES 280 THICK SUSPENDED SLAB         400       1       DENOTES SPAN DIRECTION OF 400 THICK SUSPENDED SLAB OVER KINGFLOR SLIMDED 210 1.5mm BMT OR SIMILAR PERMANENT FORMWORK.         STEP       DENOTES STEP IN SLAB, REFER TO ARCHITE DRAWINGS FOR VALUE.         DENOTES CONCRETE ELEMENT OVER         MOTES:         DENOTES LOAD-BEARING ELEMENT UNDER         NOTES:         REFER TO DRAWINGS S0001 FOR ALL STRUCTURAL GEN NOTES.         REFER TO ARCHITECTURAL DRAWINGS FOR ALL CONCR SETOUT INFORMATION.         ALL FALLS, SETDOWNS & WATERPROOFING ARE TO ARCHITECTS DETAILS U.N.O.         UNLESS NOTED OTHERWISE ALL WET AREA SETDOWNS TO BE A MINIMUM = 50mm         NON STRUCTURAL KERSS AND HOBS ARE NOT SHOWN. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT AN LOCATIONS.         VERTICAL JOINTS IN WALLS ARE TO MATCH SLAB JOINT LOCATIONS.         VERTICAL JOINTS IN WALLS ARE TO MATCH SLAB JOINT LOCATIONS.         REFER TO S0010 FOR PAD FOOTING SCHEDULE.	220       DENOTES 220 THICK SLAB ON GROUND.         280       DENOTES 280 THICK SUSPENDED SLAB         400       1       DENOTES SPAN DIRECTION OF 400 THICK SUSPENDED SLAB OVER KINGFLOR SLIMDED 210 1.5mm BMT OR SIMILAR PERMANENT FORMWORK.         STEP       DENOTES STEP IN SLAB, REFER TO ARCHITE DRAWINGS FOR VALUE.         DENOTES CONCRETE ELEMENT OVER         MOTES:         DENOTES LOAD-BEARING ELEMENT UNDER         NOTES:         REFER TO DRAWINGS S0001 FOR ALL STRUCTURAL GEN NOTES.         REFER TO ARCHITECTURAL DRAWINGS FOR ALL CONCR SETOUT INFORMATION.         ALL FALLS, SETDOWNS & WATERPROOFING ARE TO ARCHITECTS DETAILS U.N.O.         UNLESS NOTED OTHERWISE ALL WET AREA SETDOWNS TO BE A MINIMUM = 50mm         NON STRUCTURAL KERSS AND HOBS ARE NOT SHOWN. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT AN LOCATIONS.         VERTICAL JOINTS IN WALLS ARE TO MATCH SLAB JOINT LOCATIONS.         VERTICAL JOINTS IN WALLS ARE TO MATCH SLAB JOINT LOCATIONS.         REFER TO S0010 FOR PAD FOOTING SCHEDULE.			
S.O.G         280       DENOTES 280 THICK SUSPENDED SLAB         400       1       DENOTES SPAN DIRECTION OF 400 THICK SUSPENDED SLAB OVER KINGFLOR SLIMDED 210 1.5mm BMT OR SIMILAR PERMANENT FORMWORK.         STEP       DENOTES STEP IN SLAB, REFER TO ARCHITE DRAWINGS FOR VALUE.         DENOTES CONCRETE ELEMENT OVER         DENOTES LOAD-BEARING ELEMENT UNDER         NOTES:         REFER TO DRAWINGS S0001 FOR ALL STRUCTURAL GEN NOTES.         REFER TO ARCHITECTURAL DRAWINGS FOR ALL CONCR SETOUT INFORMATION.         ALL FALLS, SETDOWNS & WATERPROOFING ARE TO ARCHITECTS DETAILS U.N.O.         UNLESS NOTED OTHERWISE ALL WET AREA SETDOWNS TO BE A MINIMUM = 50mm         NON STRUCTURAL KERSS AND HOBS ARE NOT SHOWN. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT AN LOCATIONS.         VERTICAL JOINTS IN WALLS ARE TO MATCH SLAB JOINT LOCATIONS.         VERTICAL JOINTS IN WALLS ARE TO MATCH SLAB JOINT LOCATIONS.         VERFER TO S0010 FOR PAD FOOTING SCHEDULE.	S.O.G         280       DENOTES 280 THICK SUSPENDED SLAB         400       1       DENOTES SPAN DIRECTION OF 400 THICK SUSPENDED SLAB OVER KINGFLOR SLIMDED 210 1.5mm BMT OR SIMILAR PERMANENT FORMWORK.         STEP       DENOTES STEP IN SLAB, REFER TO ARCHITE DRAWINGS FOR VALUE.         DENOTES CONCRETE ELEMENT OVER         DENOTES LOAD-BEARING ELEMENT UNDER         NOTES:         REFER TO DRAWINGS S0001 FOR ALL STRUCTURAL GEN NOTES.         REFER TO ARCHITECTURAL DRAWINGS FOR ALL CONCR SETOUT INFORMATION.         NULLESS NOTED OTHERWISE ALL WET AREA SETDOWNS TO BE A MINIMUM = 50mm         NON STRUCTURAL KERBS AND HOBS ARE NOT SHOWN. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT AN LOCATIONS.         VERTICAL JOINTS IN WALLS ARE TO MATCH SLAB JOINT LOCATIONS.         VERTICAL JOINTS IN WALLS ARE TO MATCH SLAB JOINT LOCATIONS.         VERTICAL JOINTS IN WALLS ARE TO MATCH SLAB JOINT LOCATIONS.         VERFER TO S0010 FOR PAD FOOTING SCHEDULE.	LE	GEN	ID
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400       SUSPENDED SLAB OVER KINGFLOR SLIMDEH 210 1.5mm BMT OR SIMILAR PERMANENT FORMWORK.         STEP       DENOTES STEP IN SLAB, REFER TO ARCHITI DRAWINGS FOR VALUE.         DENOTES CONCRETE ELEMENT OVER         DENOTES LOAD-BEARING ELEMENT UNDEF         NOTES:         • REFER TO DRAWINGS S0001 FOR ALL STRUCTURAL GEN NOTES.         • REFER TO ARCHITECTURAL DRAWINGS FOR ALL CONCRISETOUT INFORMATION.         • ALL FALLS, SETDOWNS & WATERPROOFING ARE TO ARCHITECTS DETAILS U.N.O.         • UNLESS NOTED OTHERWISE ALL WET AREA SETDOWNS TO BE A MINIMUM = 50mm         • NON STRUCTURAL KERBS AND HOBS ARE NOT SHOWN. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT ANI LOCATIONS.         • VERTICAL JOINTS IN WALLS ARE TO MATCH SLAB JOINT LOCATIONS.         • VERTICAL JOINTS IN WALLS ARE TO MATCH SLAB JOINT LOCATIONS.         • REFER TO S0010 FOR PAD FOOTING SCHEDULE.	400       SUSPENDED SLAB OVER KINGFLOR SLIMDEH 210 1.5mm BMT OR SIMILAR PERMANENT FORMWORK.         STEP       DENOTES STEP IN SLAB, REFER TO ARCHITI DRAWINGS FOR VALUE.         DENOTES CONCRETE ELEMENT OVER         DENOTES LOAD-BEARING ELEMENT UNDEF         NOTES:         • REFER TO DRAWINGS S0001 FOR ALL STRUCTURAL GEN NOTES.         • REFER TO ARCHITECTURAL DRAWINGS FOR ALL CONCRISETOUT INFORMATION.         • ALL FALLS, SETDOWNS & WATERPROOFING ARE TO ARCHITECTS DETAILS U.N.O.         • UNLESS NOTED OTHERWISE ALL WET AREA SETDOWNS TO BE A MINIMUM = 50mm         • NON STRUCTURAL KERBS AND HOBS ARE NOT SHOWN. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT ANI LOCATIONS.         • VERTICAL JOINTS IN WALLS ARE TO MATCH SLAB JOINT LOCATIONS.         • VERTICAL JOINTS IN WALLS ARE TO MATCH SLAB JOINT LOCATIONS.         • REFER TO S0010 FOR PAD FOOTING SCHEDULE.	280		DENOTES 280 THICK SUSPENDED SLAB
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SC3	360UB50.7
SC4	273.1x12.7CHS
SC5	200PFC
SC6	139.7x5.0CHS
	STE
MARK	SIZE
STEEL BEAM	SIZE
B1	360UB56.7
B1 B2	310UB40.4
382 384	200UB22.3
B5	380PFC
SB6	200PFC
B7	200FFC 200x200x10.0SHS
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BR1	Ø24mm BAR
/B2	Ø24mm BAR
/B3	101.6x5.0CHS
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STEEL RAFTER	
R1	310UB40.4
R2	250PFC
3	360UB56.7
STEEL STRUT	
ST1	150x150x6.0SHS
ST2	100x100x6.0SHS

MARK

NOTE: NOTE:<br/>EXTERNAL WALL STUDS- ALLOW 150mm LIGHT GAUGEWINDOW HEADS- ALLOW 150x100x6 RHSADDITIONAL STEELWORK NOT SHOWN- ALLOW 7 kg/m²

NOTES:	
T1 - T14	DENOTES LIGHT WEIGHT STE
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This drawing should be read in conjunction with all relevant contracts, specifications and drawings. Dimensions are in millimetres. Levels are metres. Do not scale off drawings. Use figured dimensions only. Check dimensions on Site. Report discrepancies immediately.

NOTES



### STEEL COLUMN SCHEDULE

SIZE	COMMENTS
89x89x6.0SHS	
150x100x6.0RHS	
360UB50.7	
273.1x12.7CHS	
200PFC	
139.7x5.0CHS	

### TEEL FRAMING SCHEDULE COMMENTS

TURNBUCKLE
TURNBUCKLE
1200 CTS. MAX. SPACING WITH 2 ROWS OF BRIDGING

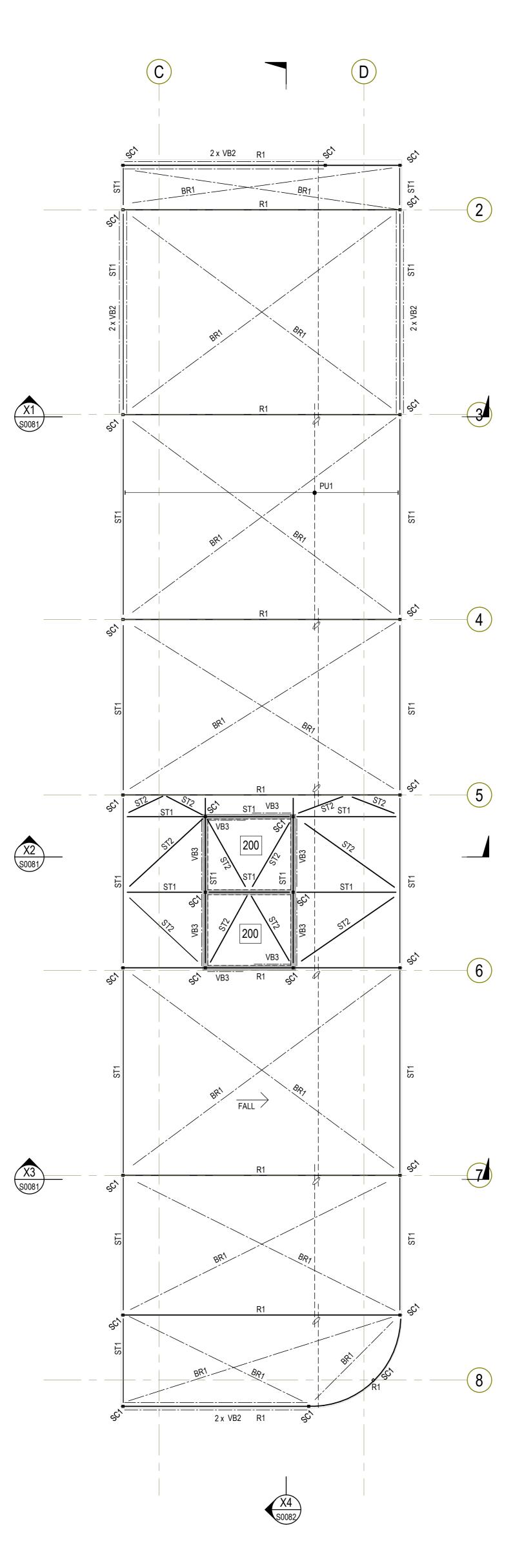
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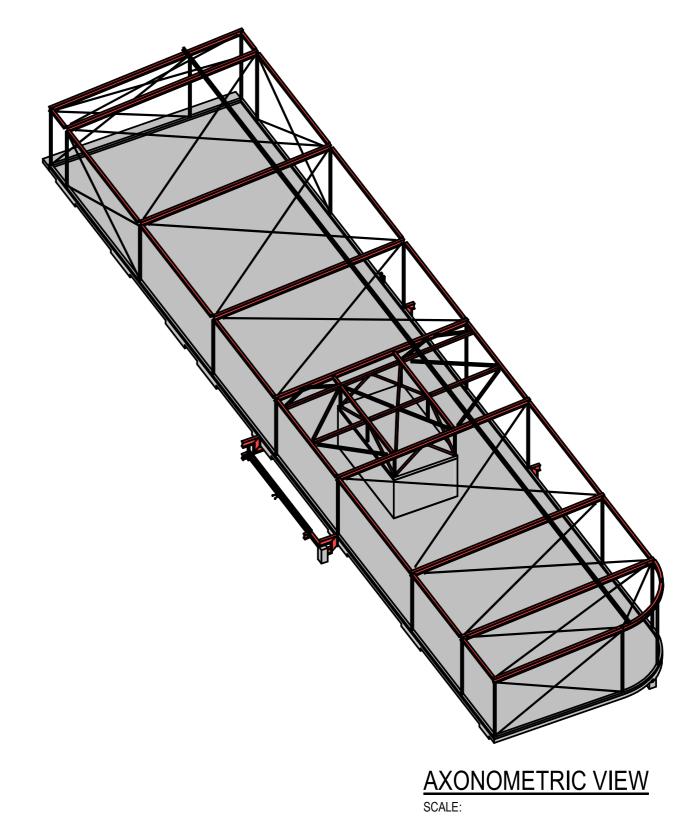
3       07.09.22       ISSUE FOR REVIEW       R         2       1927.22       ISSUE FOR REVIEW       R         1       22.05.22       ISSUE FOR REVIEW       R         1       23.05.02       ISSUE FOR REVIEW       R         1       23.05.02       ISSUE FOR REVIEW       ISSUE FOR REVIEW         1       ISSUE FOR REVIEW       ISSUE FOR REVIEW       ISSUE FOR REVIEW         1       ISSUE FOR REVIEW       ISSUE FOR REVIEW       ISSUE FOR REVIEW         1       ISSUE FOR REVIEW       ISSUE FOR REVIEW       ISSUE FOR REVIEW         1       ISSUE FOR REVIEW       ISSUE FOR REVIEW <t< th=""><th>5</th><th>19.12.22</th><th>SCHEMATIC DESI</th><th>-</th><th>A. RY RI</th></t<>	5	19.12.22	SCHEMATIC DESI	-	A. RY RI	
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PLANT ROOM ROOF FRAMING PLAN SCALE: 1:100

STEEL COLUMN SCHEDULE			
MARK	SIZE	COMMENTS	
SC1	89x89x6.0SHS		
SC2	150x100x6.0RHS		
SC3	360UB50.7		
SC4	273.1x12.7CHS		
SC5	200PFC		
SC6	139.7x5.0CHS		

MARK	SIZE	
STEEL BEAN	Λ	1
SB1	360UB56.7	
SB2	310UB40.4	
SB4	200UB22.3	
SB5	380PFC	
SB6	200PFC	
SB7	200x200x10.0SHS	
STEEL BRAC	CING	
BR1	Ø24mm BAR	TURNBUCKLE
VB2	Ø24mm BAR	TURNBUCKLE
VB3	101.6x5.0CHS	
STEEL PURL	IN	
PU1	Z15019	1200 CTS. MAX. SPACING
STEEL RAFT	ER	
R1	310UB40.4	
R2	250PFC	
R3	360UB56.7	
STEEL STRU	JT	
ST1	150x150x6.0SHS	
ST2	100x100x6.0SHS	
NOTE:		
	WALL STUDS	- ALLOW 150mm LIGHT GAUGE - ALLOW 150x100x6 RHS



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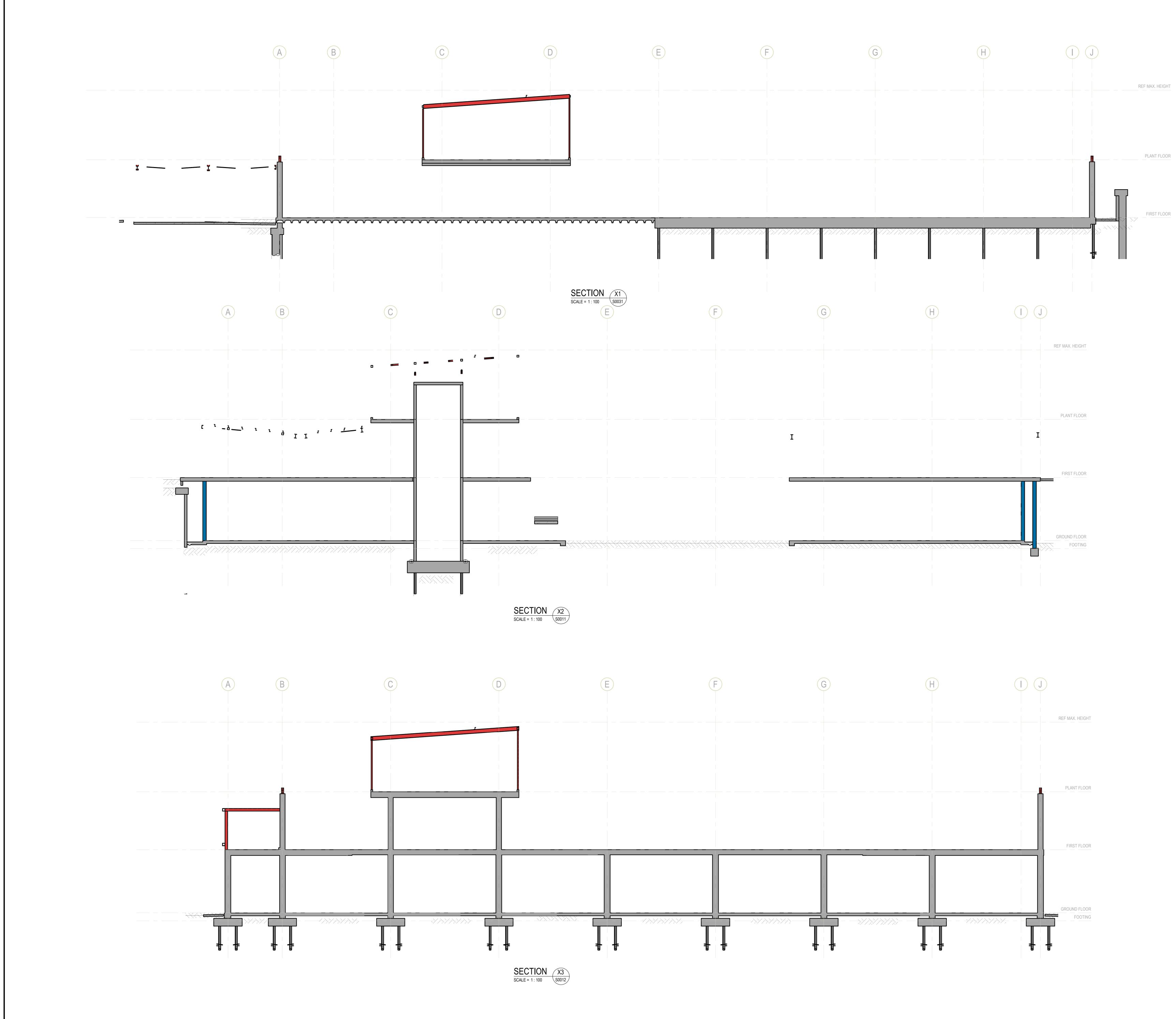


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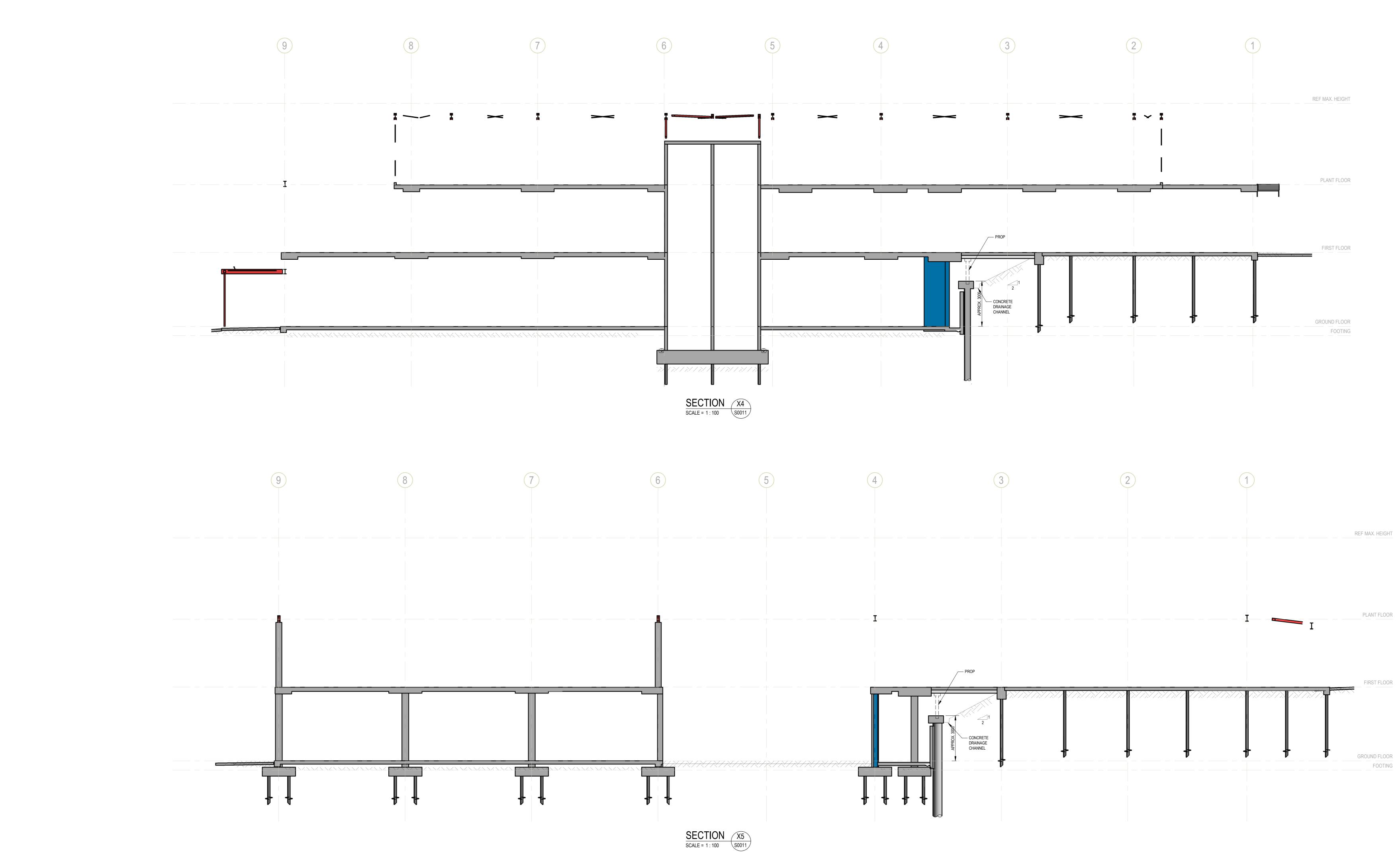
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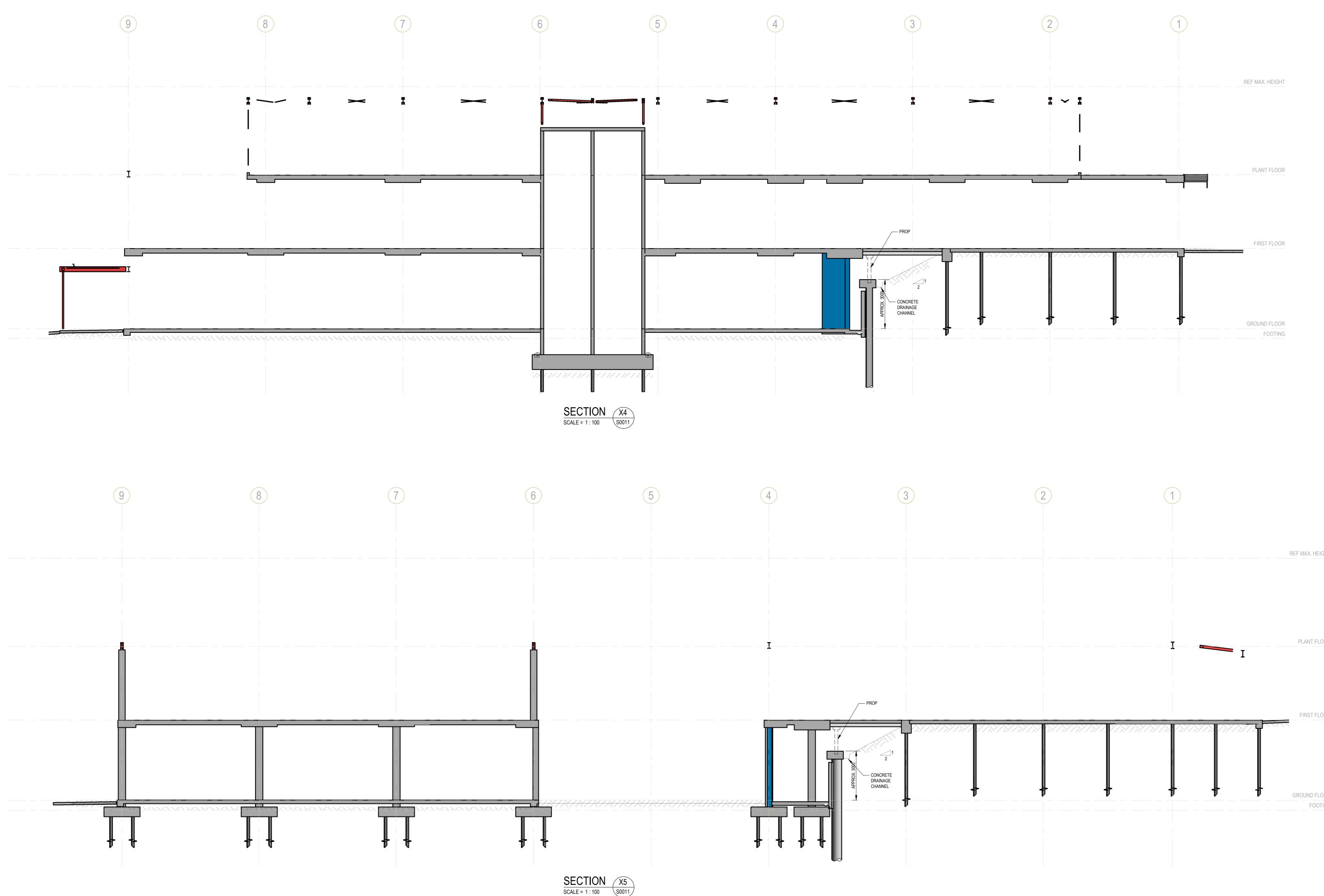
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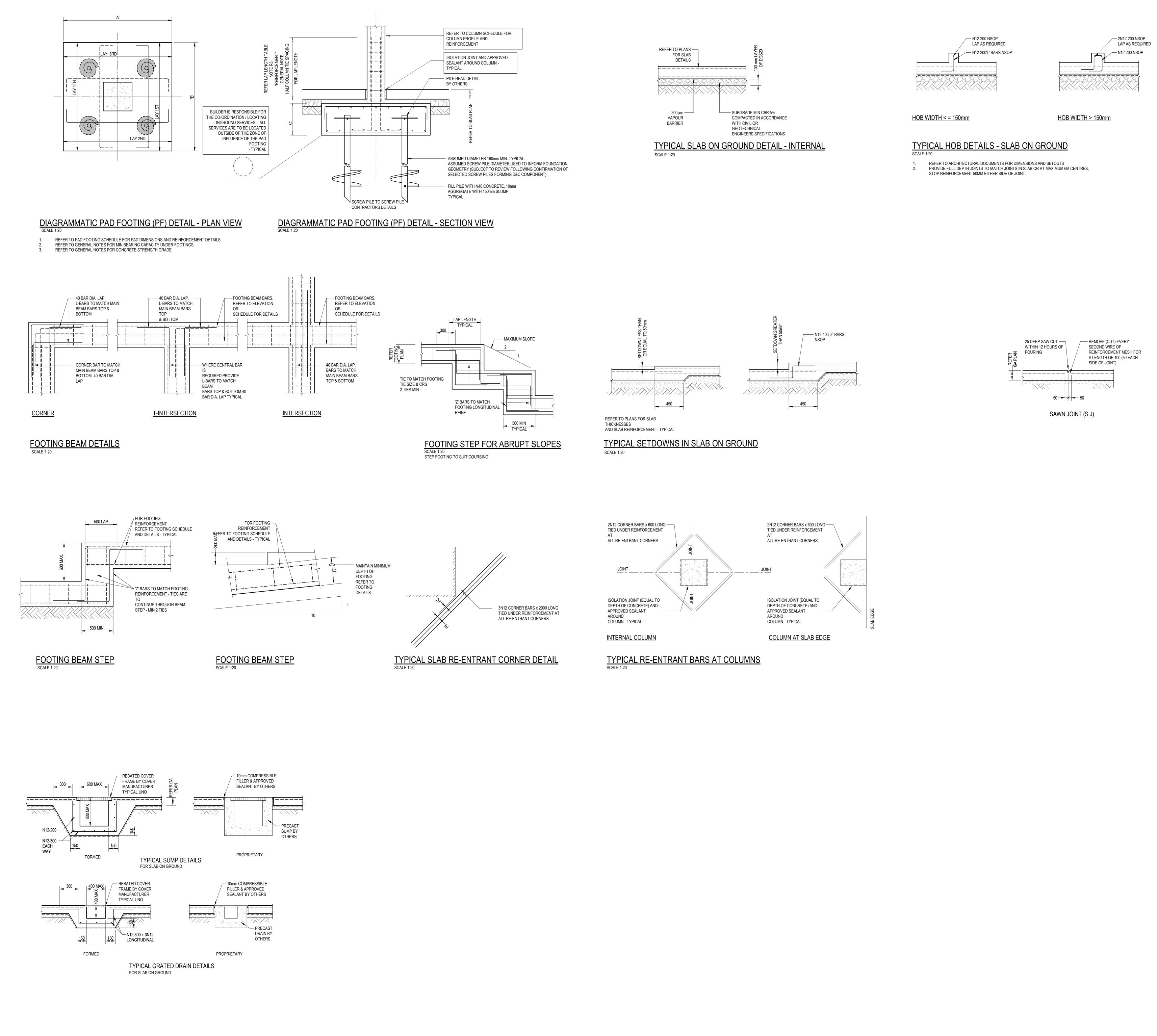
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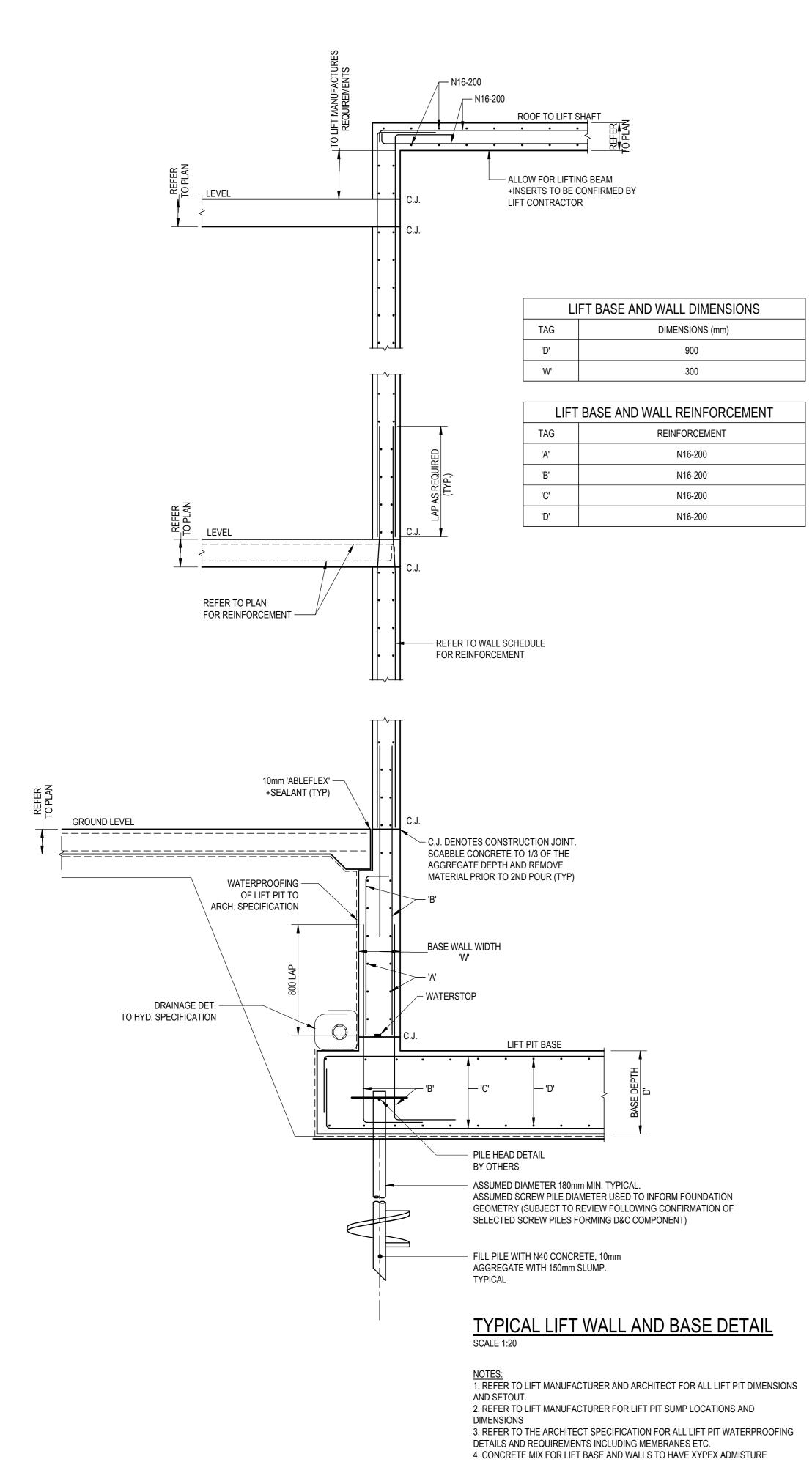


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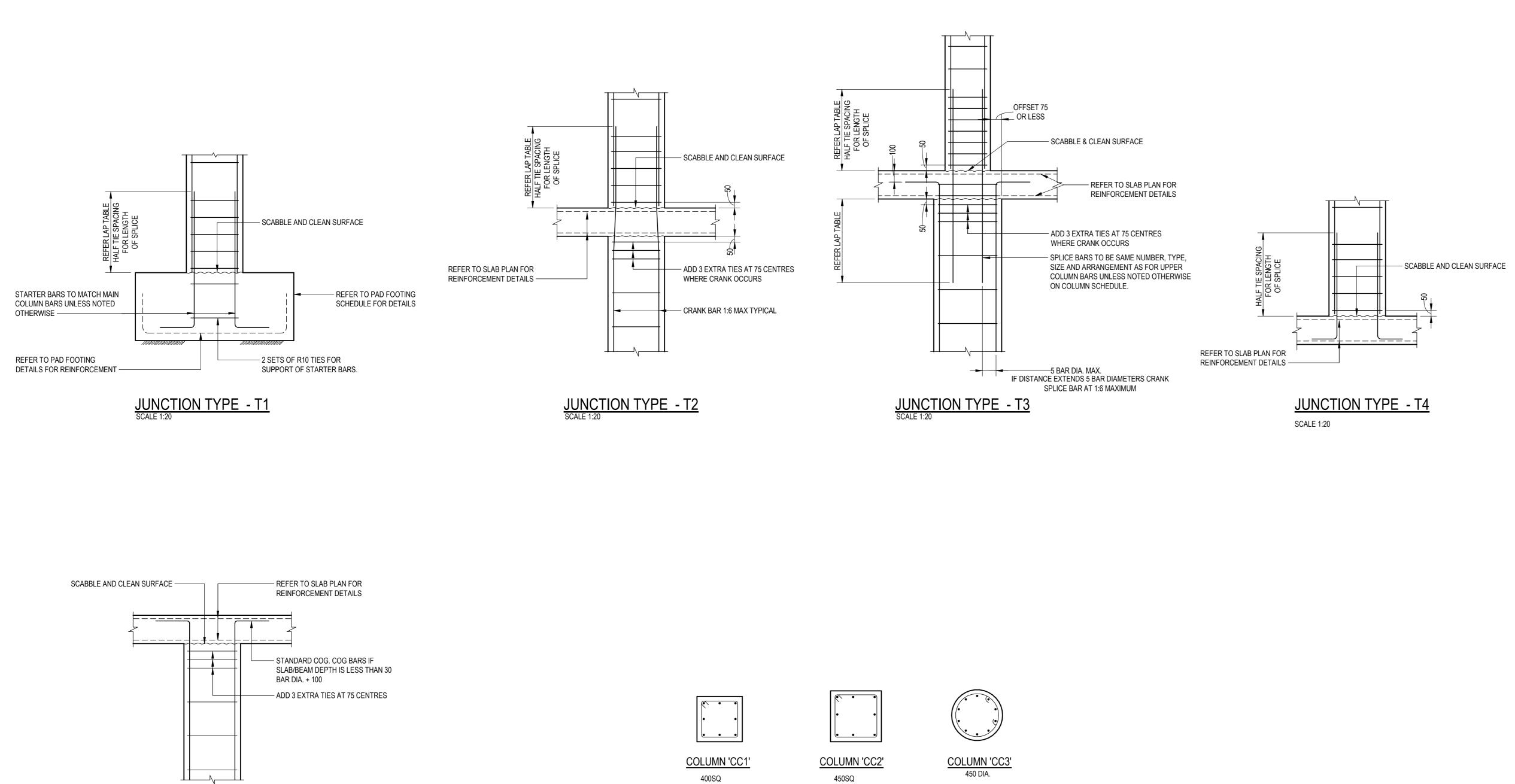


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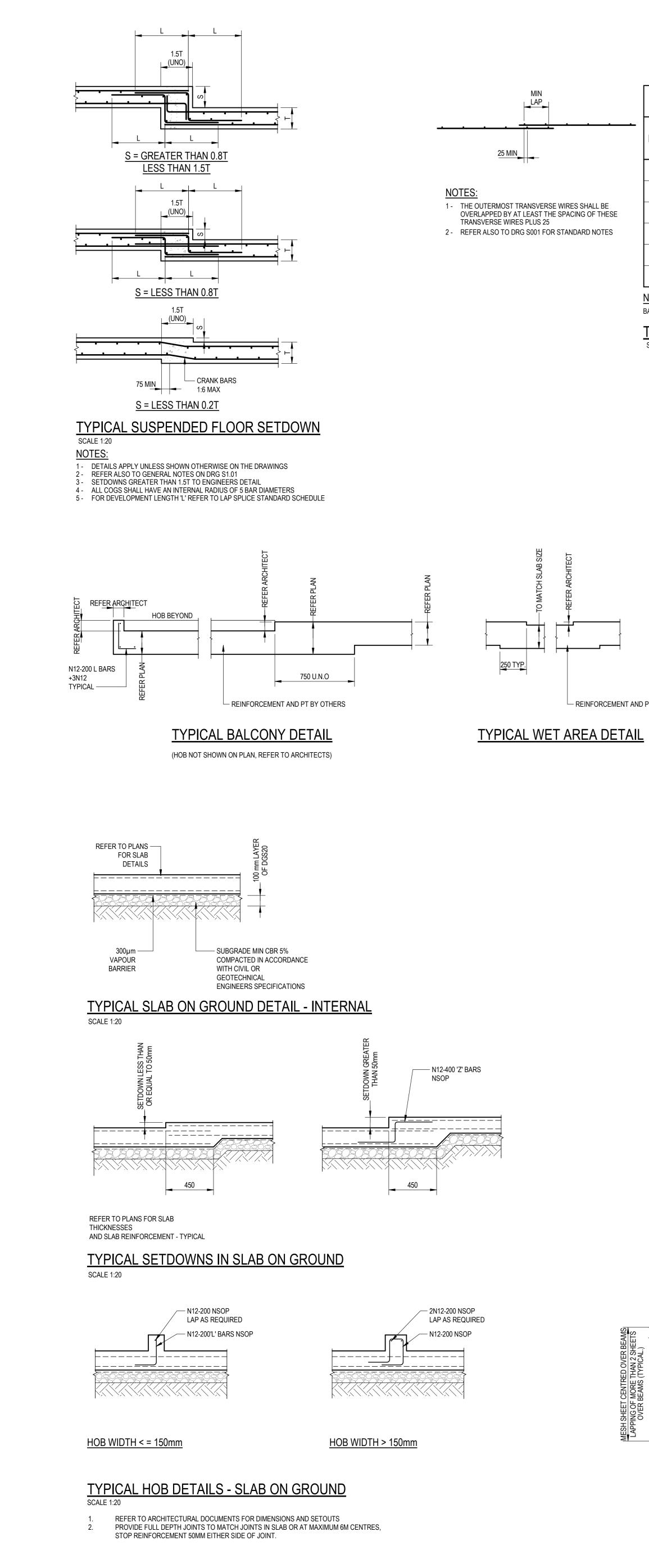


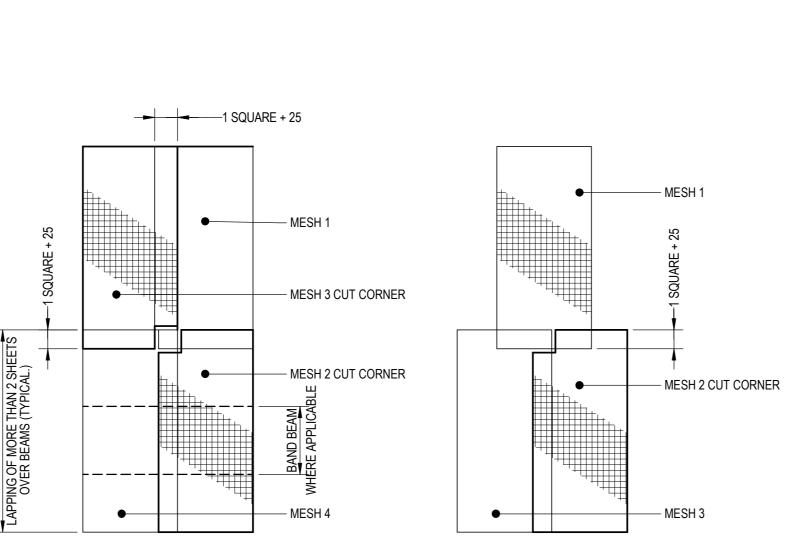
JUNCTION TYPE - T5 SCALE 1:20

COLUMN REINFORCEMENT AND TIE ARRANGEMENT DETAILS

REFER TO ASSOCIATED STRUCTURAL FLOOR PLANS FOR COLUMN GRADE, REINFORCEMENT SIZE AND TIE SPACING.

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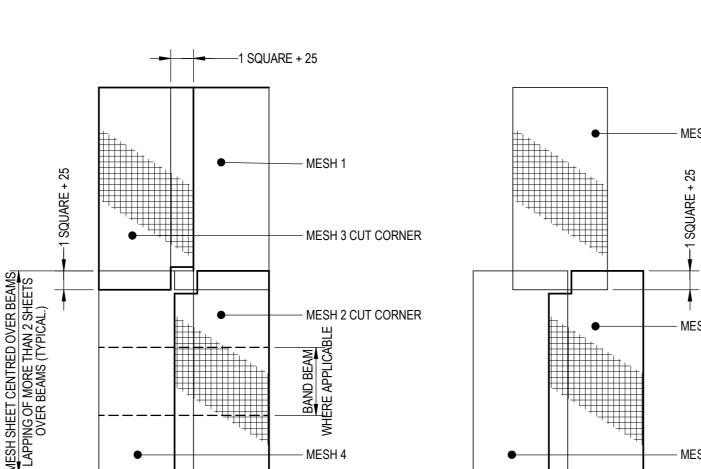


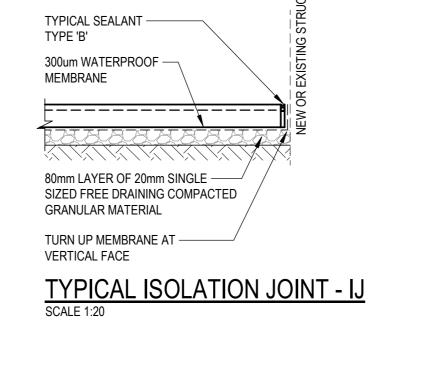


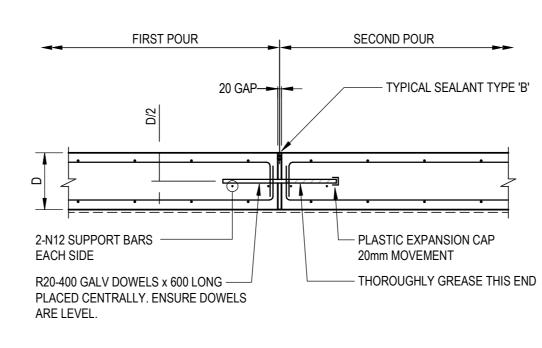
# TYPICAL MESH LAPPING DETAILS

NOTES: 1. ALL MESH IS TO BE SUPPORTED INDEPENDENTLY OF POST TENSIONING DUCTS

- 2. MESH LAPPING DETAILS DO NOT APPLY TO CONSTRUCTION SAFETY MESH. (MESH USED AS A CONSTRUCTION PLATFORM FOR CONCRETORS WHERE CONCRETE
- DEPTH IS GRATER THAN 400 DOES NOT NEED TO BE LAPPED U.N.O) 3 LAPS TO BE LOCATED MIN. 500 FROM COLUMNS.
- 4. MESH LAPPING DETAILS TYPICALLY APPLY TO MESH DETAILED IN EXTERNAL SLAB AREAS ETC. 5. MESH TO BE LAID WITH UPPERMOST WIRE PARALLEL TO 3rd LAYER REINFORCEMENT.

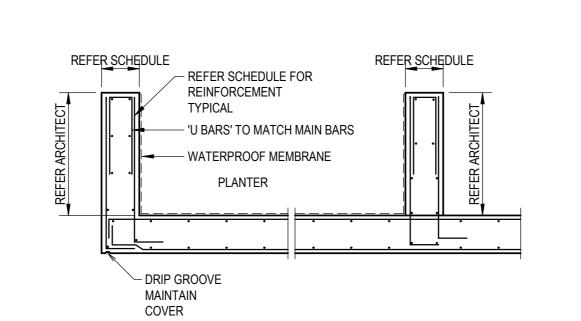






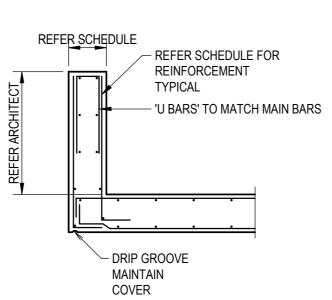
TYPICAL WALL EXPANSION JOINT - W.E.J SCALE 1:20

REINFORCEMENT AND PT BY OTHERS



TYPICAL PLANTER DETAIL

SCALE 1:20



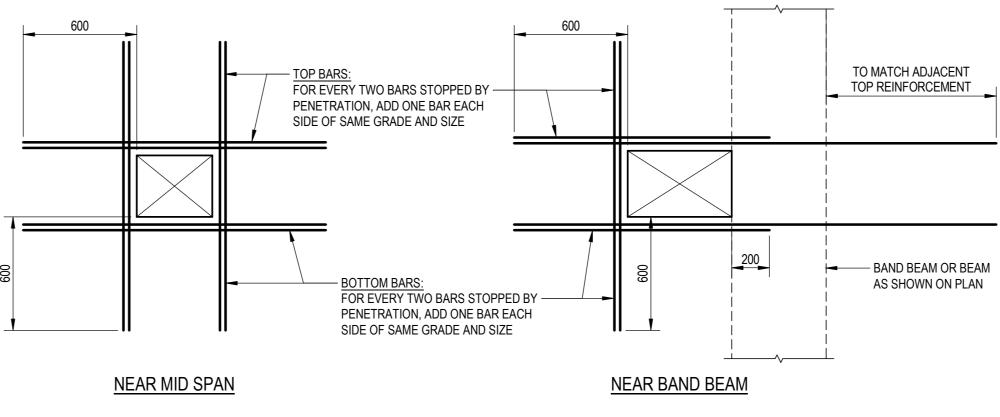
TYPICAL UPSTAND DETAIL SCALE 1:20

### BARS GREATER THAN 32mm IN DIAMETER ARE TO BE MECHANICAL SPLICED TYPICAL LAP SPLICE IN FABRIC & BARS (RC SLABS) UNLESS NOTED OTHERWISE ON PLAN SCALE 1:20

NOTE

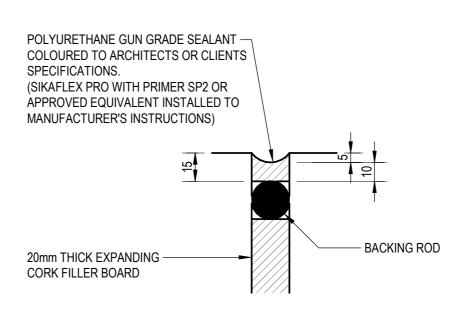
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BARS SCHEDULE							
(MIN LAP SPLICES)							
MIN F'C MIN COVER BAR SIZE SPLICE LENGTH (L-mm) L-<300mm CONCRETE L->300mm CONCRETE BELOW HORIZONTAL BARBELOW HORIZONTAL							
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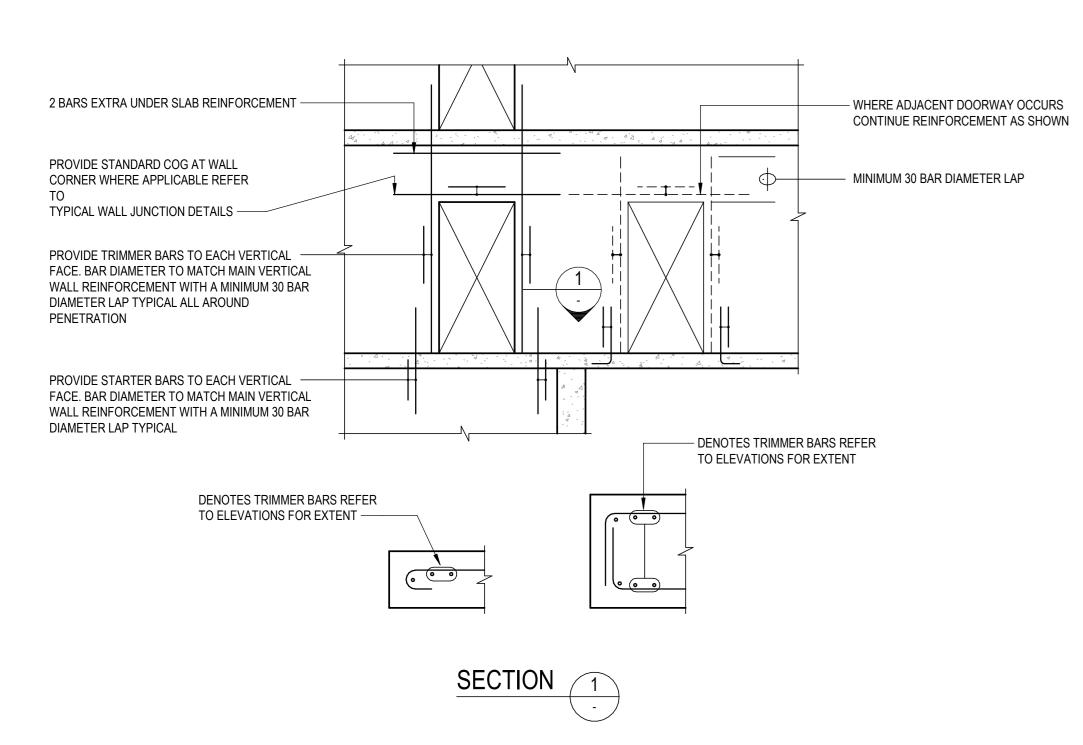
TYPICAL SLAB PENETRATION DETAILS SCALE 1:20 NOTES: 1 - FOR HOLES LESS THAN OR EQUAL TO 250x250, BARS TO BE RE-ARRANGED AROUND HOLE

FOR HOLE
 FOR HOLES GREATER THAN 250x250, BUT LESS THAN 500x500 USE ABOVE DETAILS
 FOR HOLES GREATER THAN 500x500 USE ABOVE DETAILS UNLESS SHOWN OTHERWISE ON ENGINEERS PLANS
 LOCATION OF HOLES TO BE TO THE APPROVAL OF THE STRUCTURAL ENGINEER
 REFER ALSO TO SPECIFICATION NOTES ON DRG S1.01



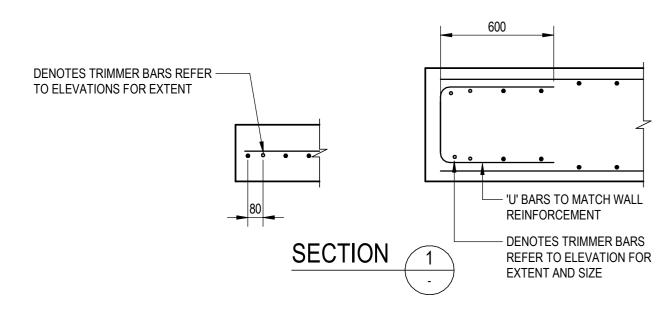
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C	ļ	<b>I'C</b>	Nominated Architects Andrew Hipwell 6562 Daniel Beekwilder 61	s: 2
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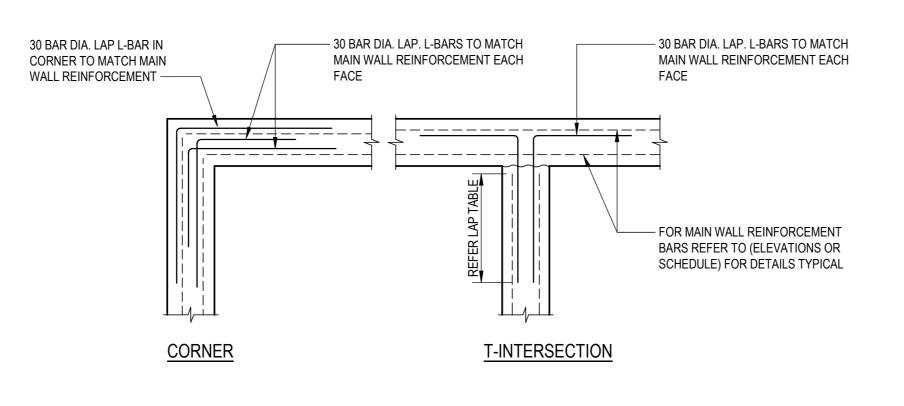


TYPICAL DOOR OPENING REINFORCEMENT SCALE 1:20

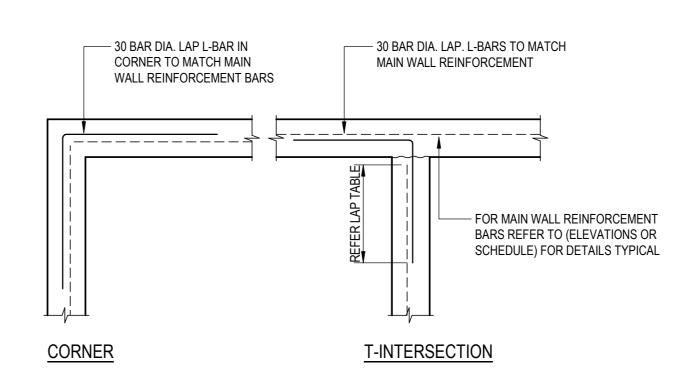
OR CHOOSE ONE AND DELETE OTHER



TYPICAL DOOR OPENING REINFORCEMENT SCALE 1:20

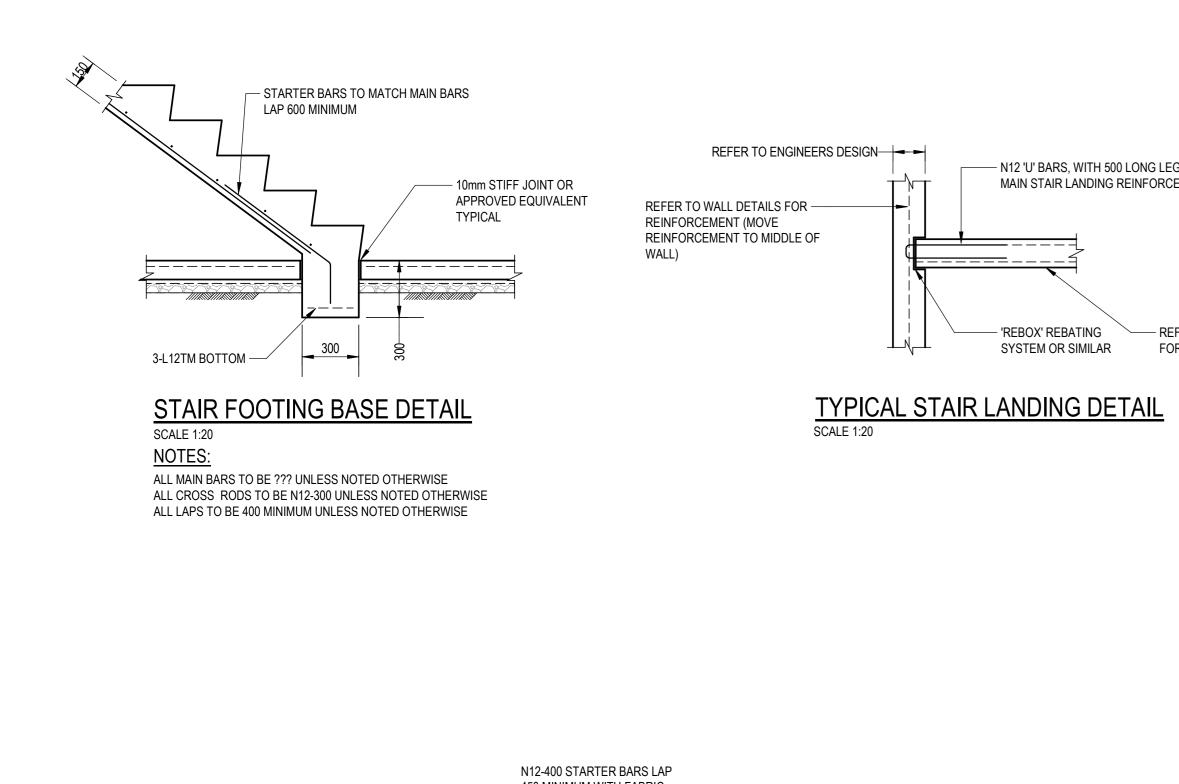


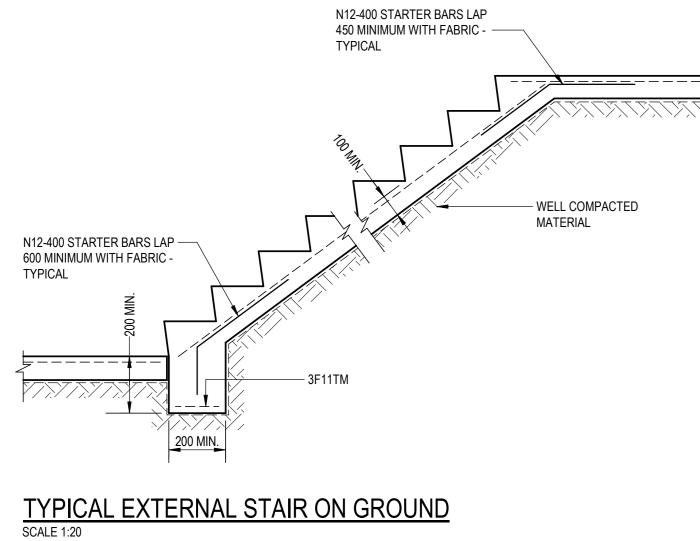
PLAN-DOUBLE REINFORCEMENT SCALE 1:20



PLAN-SINGLE REINFORCEMENT SCALE 1:20

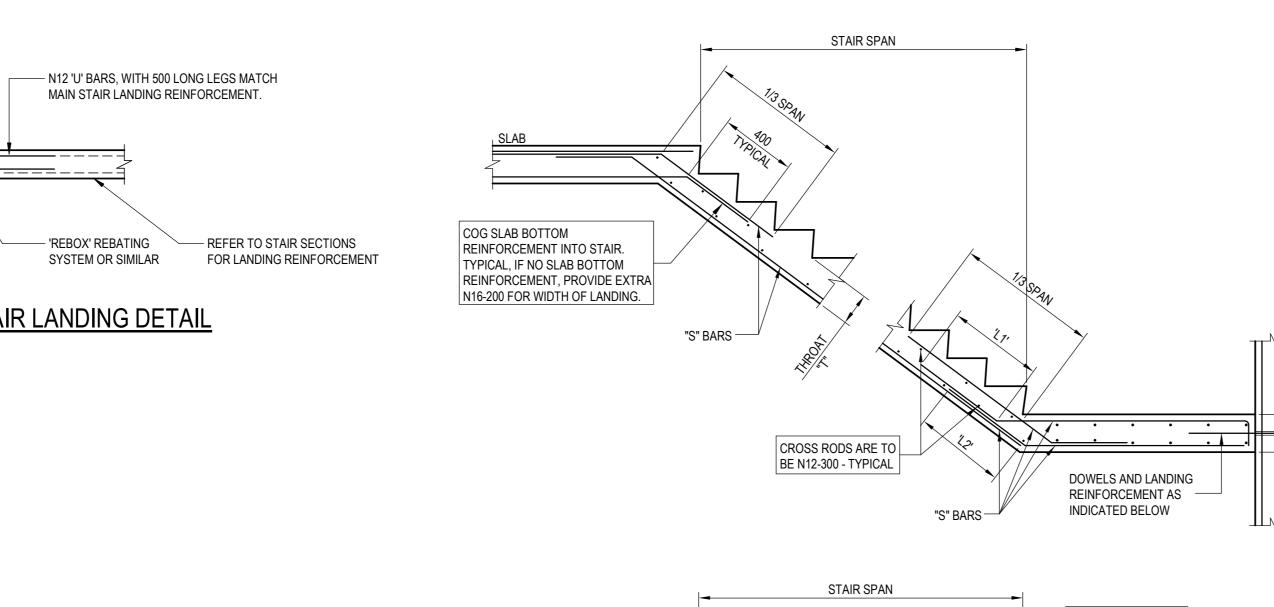
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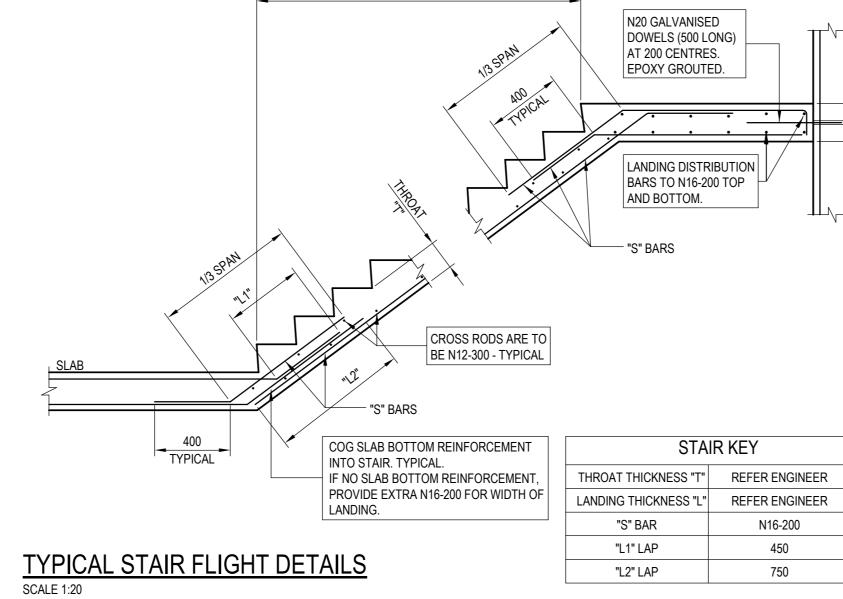


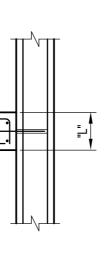


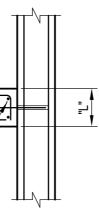
NOTES: STAIR TO BE 100 mm THICK UNLESS NOTED OTHERWISE REINFORCED WITH SL82 MESH TOP. 30 mm TOP COVER STAIR TO BE POURED ON A 300um WATERPROOF MEMBRANE

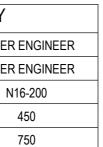
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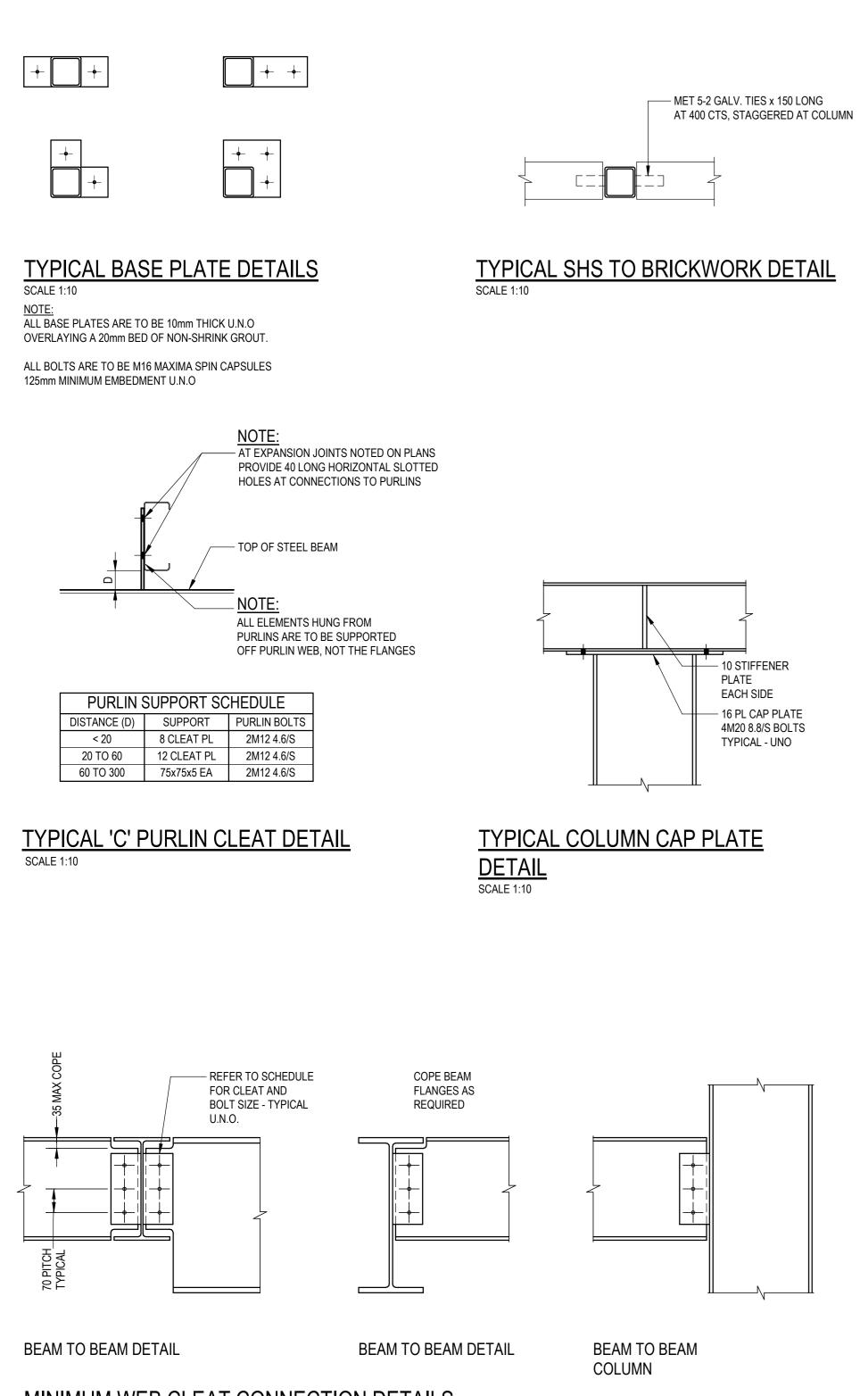




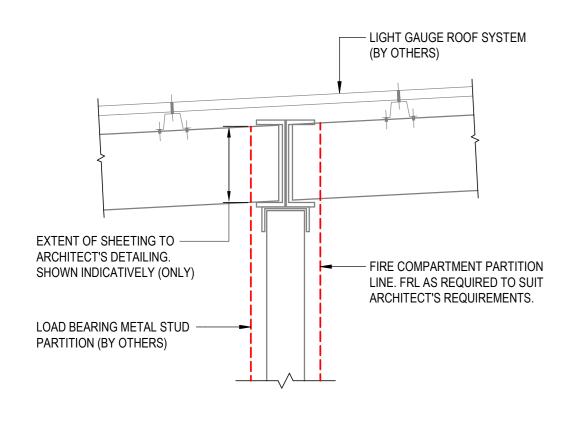




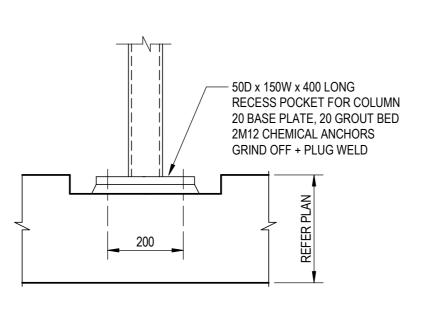
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		architects	63 Myrtle Street Chippendale NSW 2 Sydney Australia djrd.com.au	2008
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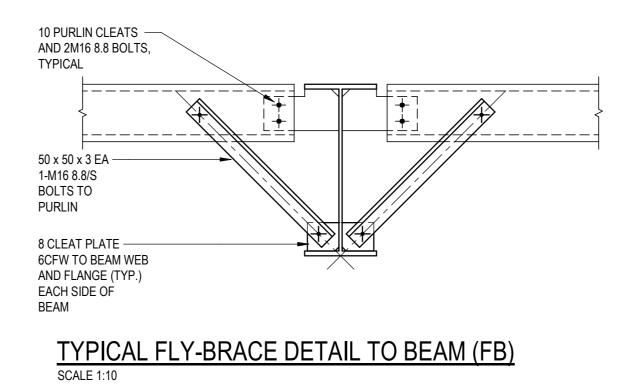


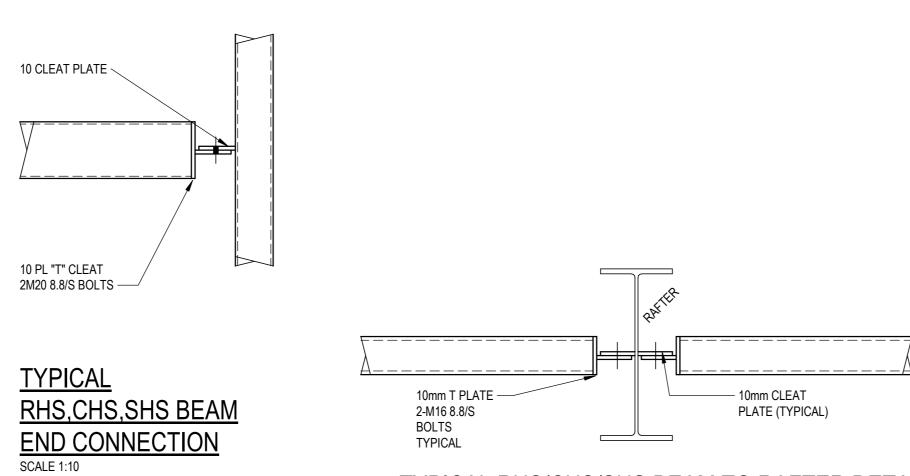


TYPICAL LOAD BEARING STUD PARTITION TO ROOF DETAIL SCALE 1:10

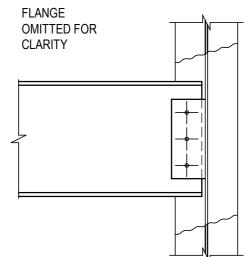


TYPICAL COLUMN RECESS DETAIL SCALE 1:10





TYPICAL RHS/CHS/SHS BEAM TO RAFTER DETAIL SCALE 1:10

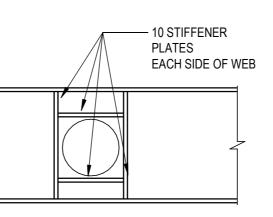


# BEAM TO BEAM

# COLUMN

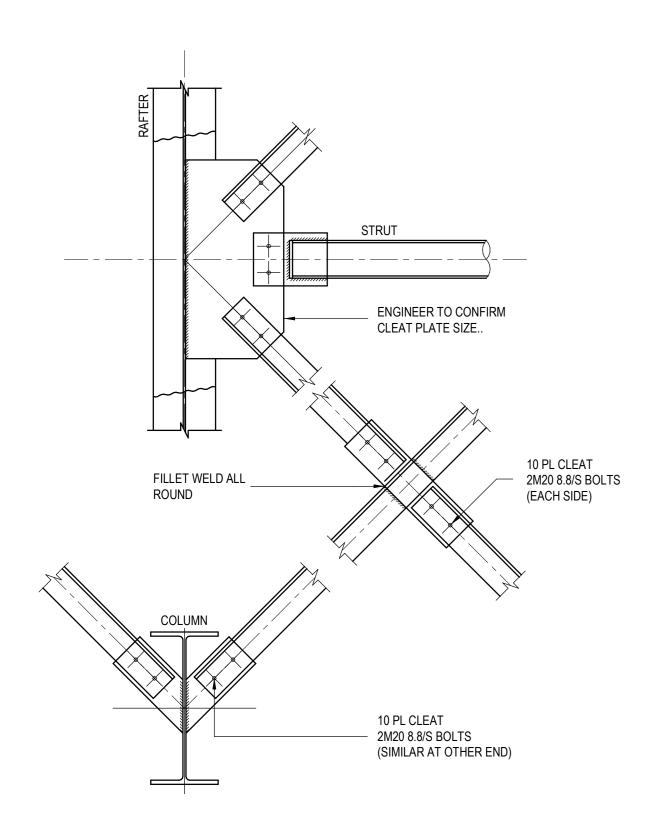
### WEB CLEAT SCHEDULE

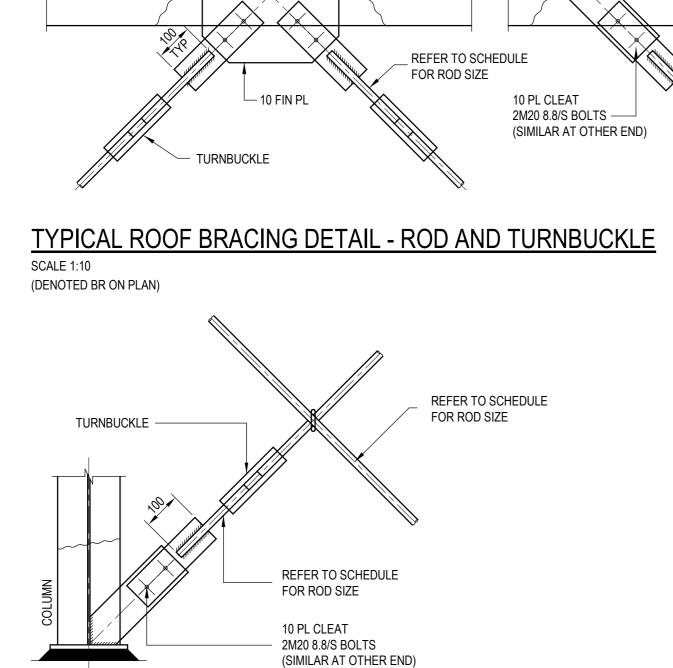
BEAM SIZE	CONNECTION ULTIMATE SHEAR CAP.	WEB CLEAT	BOLTS
180UB OR 180 PFC	50 kN	10 PLATE	2M20 8.8/S
200UB/UC OR 200 PFC / 230 PFC	60 kN	10 PLATE	2M20 8.8/S
250UB/UC OR 250 PFC	85 kN	10 PLATE	2M20 8.8/S
310UB/UC OR 300 PFC	140 kN	10 PLATE	3M20 8.8/S
360UB OR 380 PFC	175 kN	10 PLATE	3M20 8.8/S
410UB	260 kN	10 PLATE	4M20 8.8/S
460UB	260 kN	10 PLATE	4M20 8.8/S
530UB	360 kN	10 PLATE	5M20 8.8/S
610UB	440 kN	12 PLATE	6M20 8.8/S
700WB	700 kN	16 PLATE	6M24 8.8/S



TYPICAL PENETRATION THROUGH BEAM DETAIL SCALE 1:10

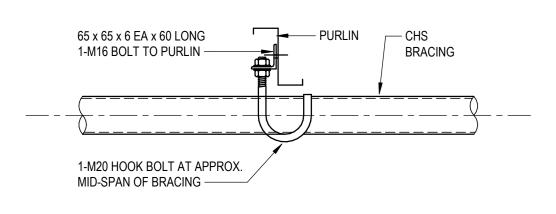
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RAFTER

TYPICAL WALL BRACING DETAIL - ROD AND TURNBUCKLE SCALE 1:10 (DENOTED VB ON PLAN)



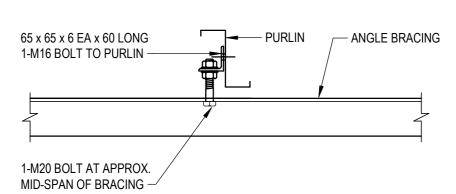
TYPICAL ROOF BRACING DETAIL - ANGLE

(DENOTED BR ON PLAN) BRACING TO BE HUNG FROM PURLINS AS INDICATED IN SCHEDULE

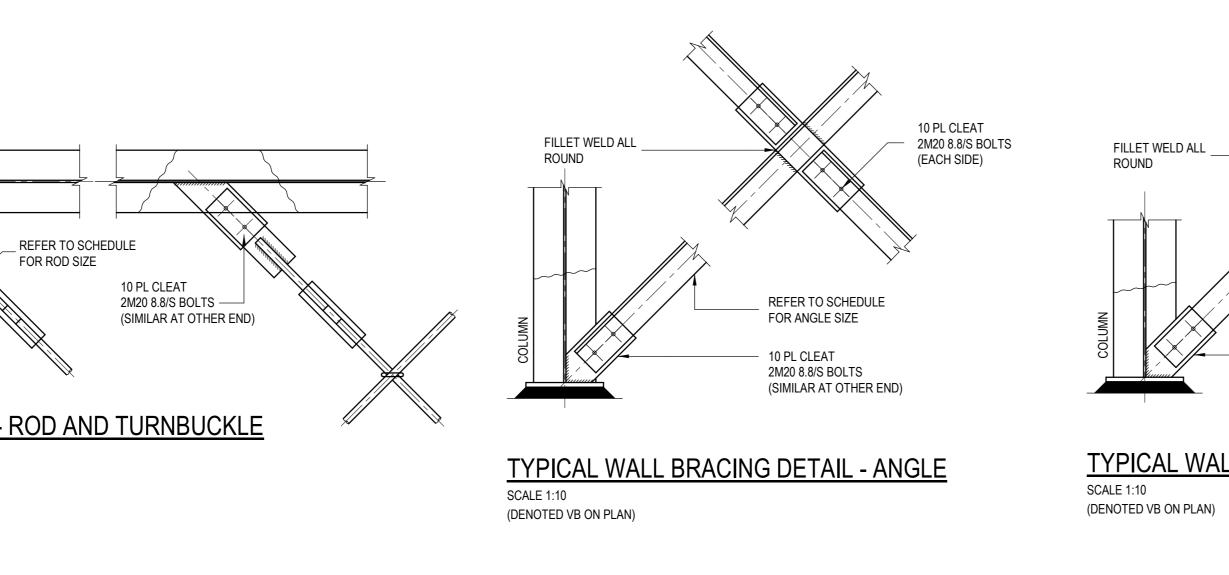
SCALE 1:10

ROOF BRACE SUPPORT DETAIL SCALE 1:10 NOTES: 1. CENTRELINE OF BRACING TO BE 75 MINIMUM BELOW TOP FLANGE OF ROOF BEAMS 2. TYPICAL BRACING CONNECTION 2-M16 8.8/S BOLTS 10mm

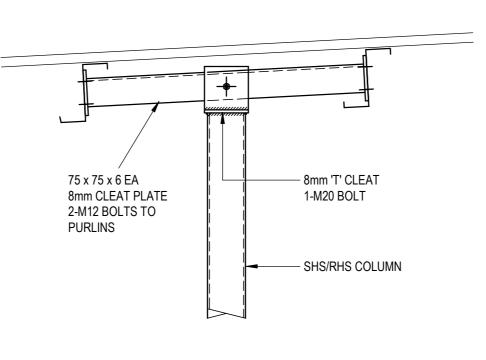
CLEAT PLATE



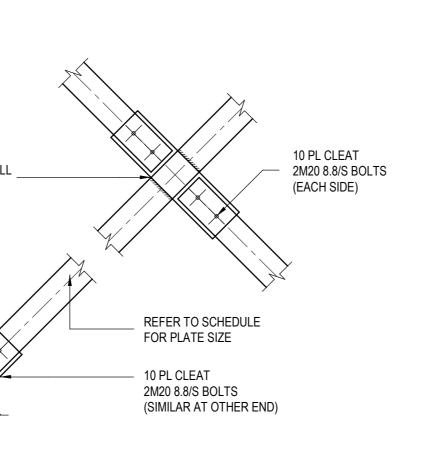
ROOF BRACE SUPPORT DETAIL SCALE 1:10 NOTES: 1. TOP ANGLE TO LINE UP WITH TOP OF ROOF BEAMS 2. TYPICAL BRACING CONNECTION 2-M16 8.8/S BOLTS 10mm CLEAT PLATE



REFER TO SCHEDULE FOR ROD SIZE

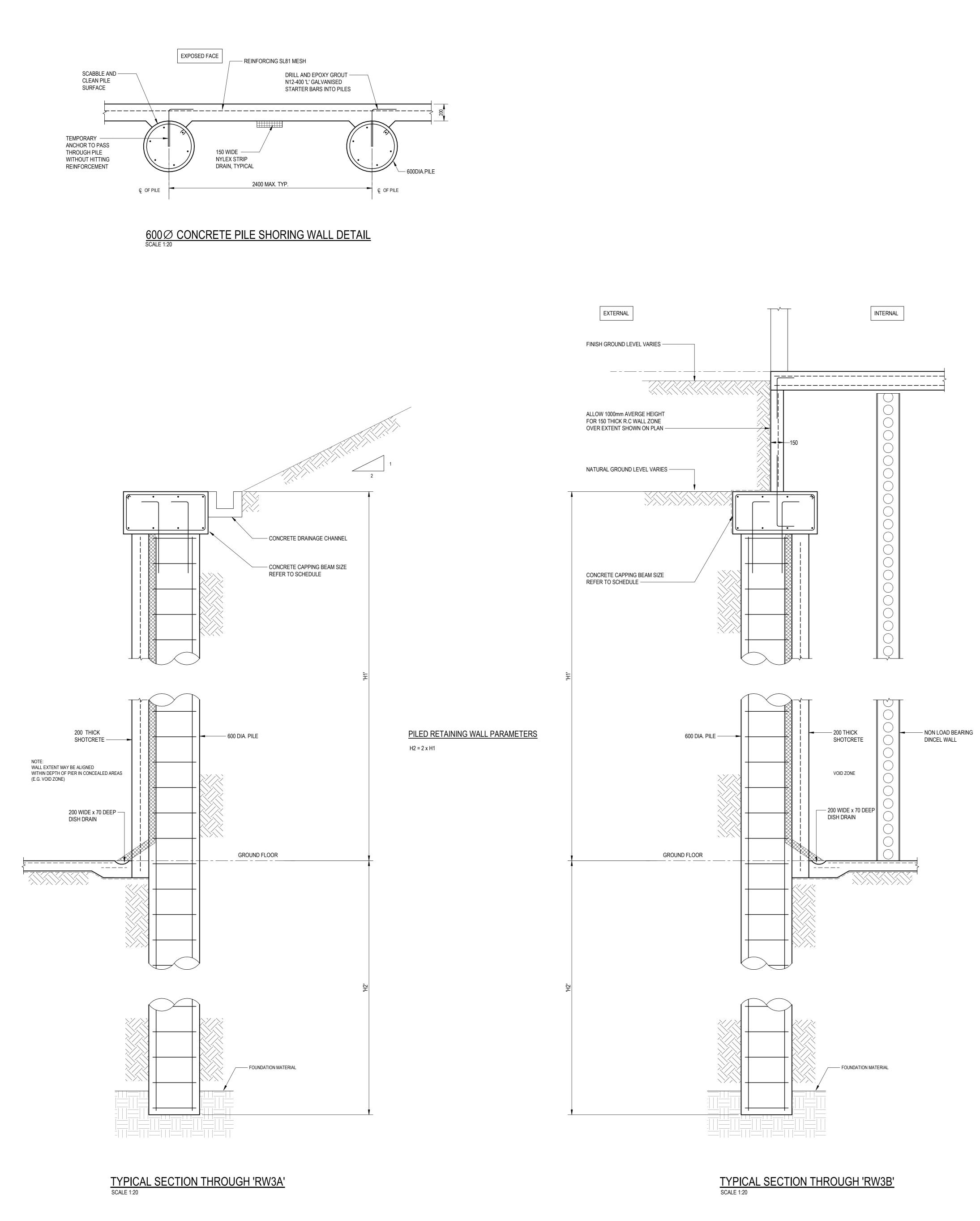


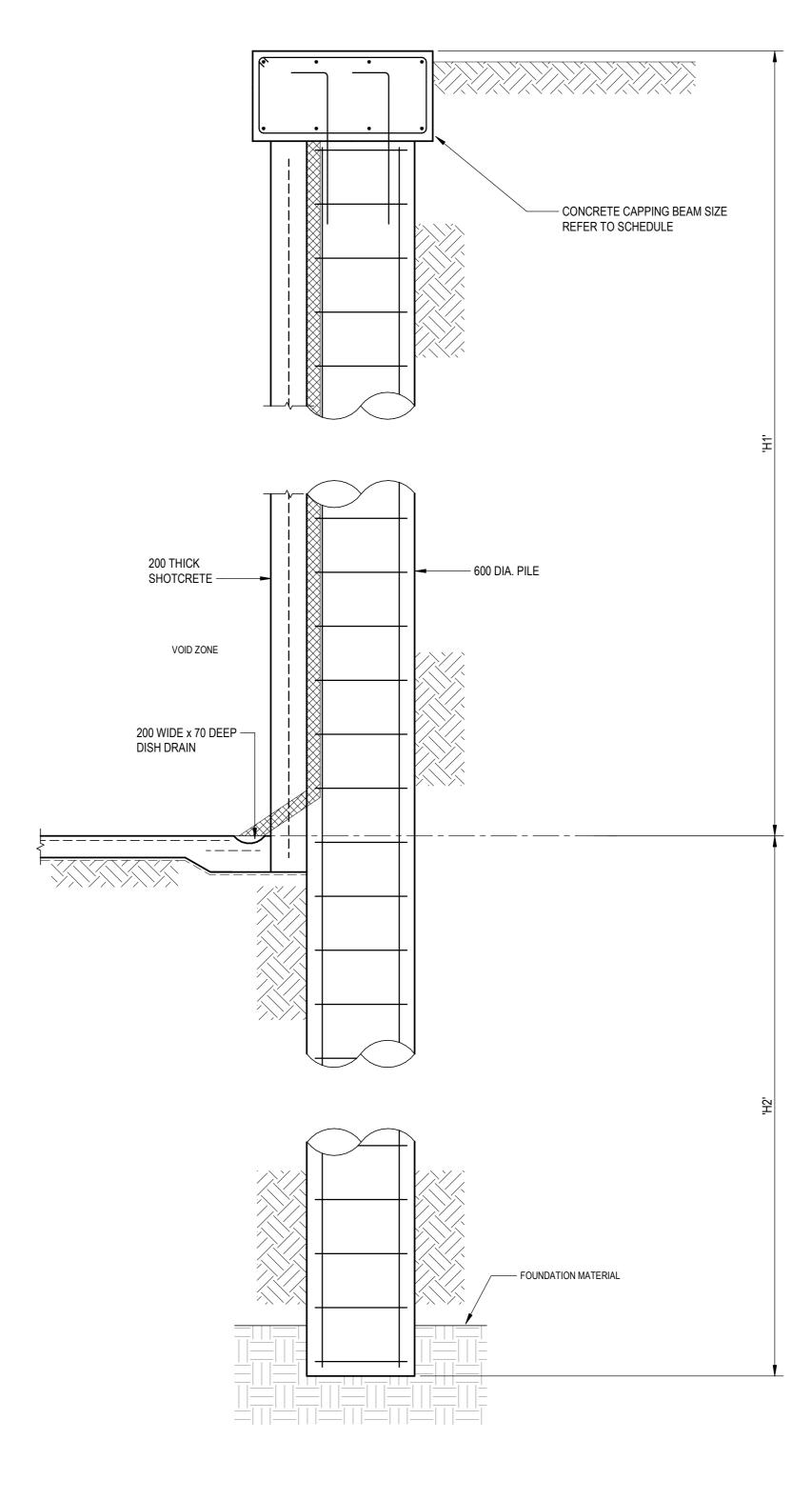
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TYPICAL WALL BRACING DETAIL - PLATE

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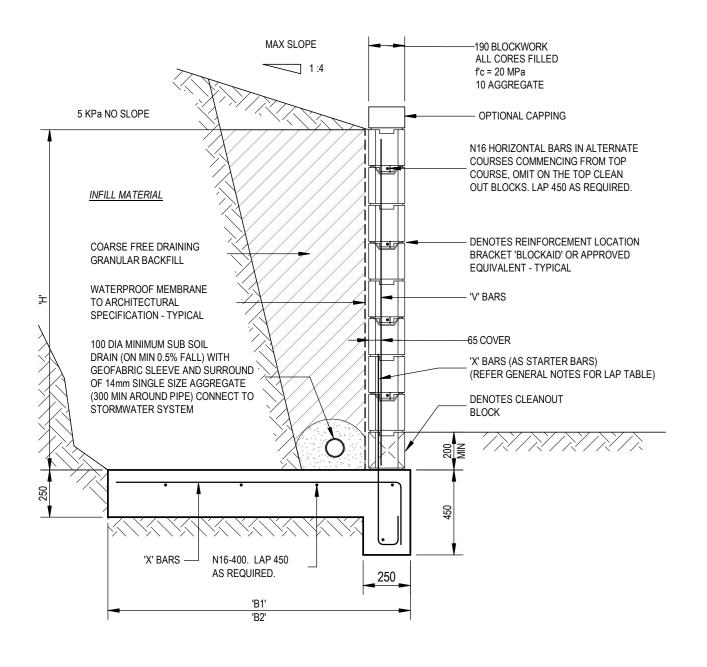
# TYPICAL SECTION THROUGH 'RW3C' SCALE 1:20

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H2 = 2 x H1

### ASSUMED IN-SITU MATERIAL - 150 kPa ALLOWABLE BEARING PRESSURE, INTERNAL FRICTION ANGLE $\Phi$ = 30° ASSUMED RETAINED MATERIAL - INTERNAL FRICTION ANGLE $\phi$ = 30° ASSUMED INFILL MATERIAL - CONTROLLED FILL CLASS 1

PROPERTIES AND COMPOSITION OF THE IN-SITU MATERIAL, RETAINED MATERIAL AND INFILL MATERIAL IS TO BE INSPECTED / CONFIRMED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION OF ANY RETAINING WALLS.



### TYPICAL RETAINING WALL DETAIL - RW1 (800 TO 1800 HIGH) SCALE 1:20

NOTES: FOOTING FOUNDED ON NATURAL GROUND - MIN 150 kPa BEARING

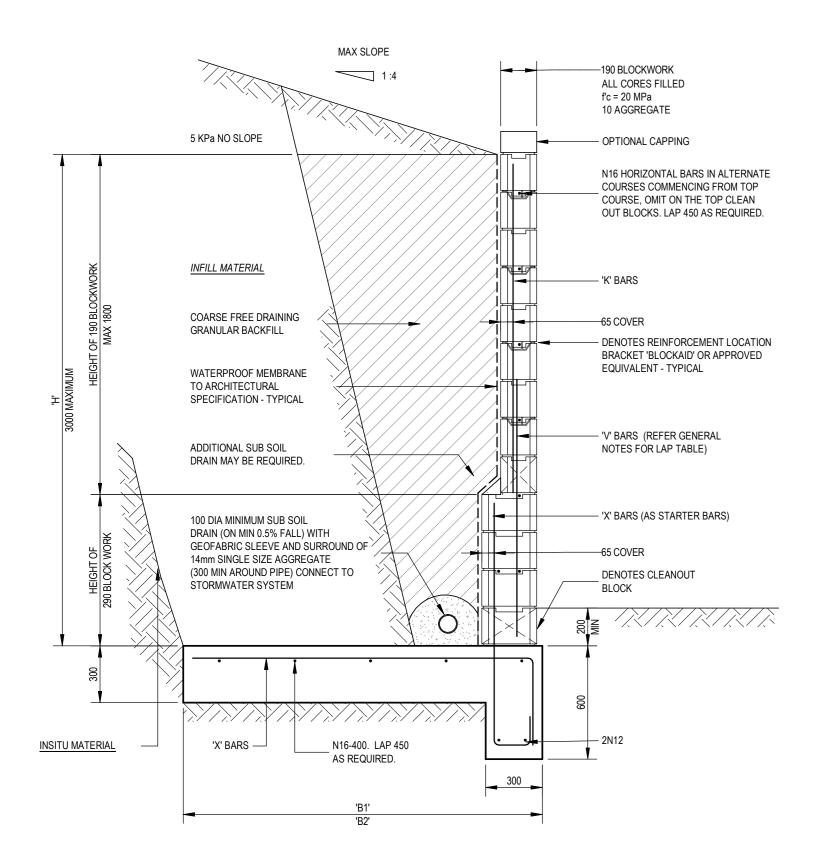
CONTROL JOINTS AT 8000 MAXIMUM CENTRES FOOTING CONCRETE STRENGTH f'c = 25MPa

BLOCKWALLS TO BE ADEQUATELY PROPPED DURING BACKFILL AND COMPACTION REFER TO RETAINING WALL AND REINFORCED BLOCKWORK GENERAL NOTES

## **RETAINING WALL SCHEDULE**

WALLBACKFILL CONDITION AT TOP OF WALLHEIGHT5 KPa NO SLOPEMAX 1:4 SLOPE

	BASE	WIDTH	REINFORCEMENT		
'Η'	'B1'	'B2'	'X' BARS	'V' BARS	
800	800	700	N16-400	N12-400	
1000	900	800	N16-400	N12-400	
1200	1000	1000	N16-400	N16-400	
1400	1100	1200	N16-400	N16-400	
1600	1200	1400	N16-400	N16-400	
1800	1400	1600	N16-200	N16-400	



# TYPICAL RETAINING WALL DETAIL - RW2 (1801 to 3000 MAX) SCALE 1:20

# NOTES: FOOTING FOUNDED ON NATURAL GROUND - MIN 150 kPa BEARING

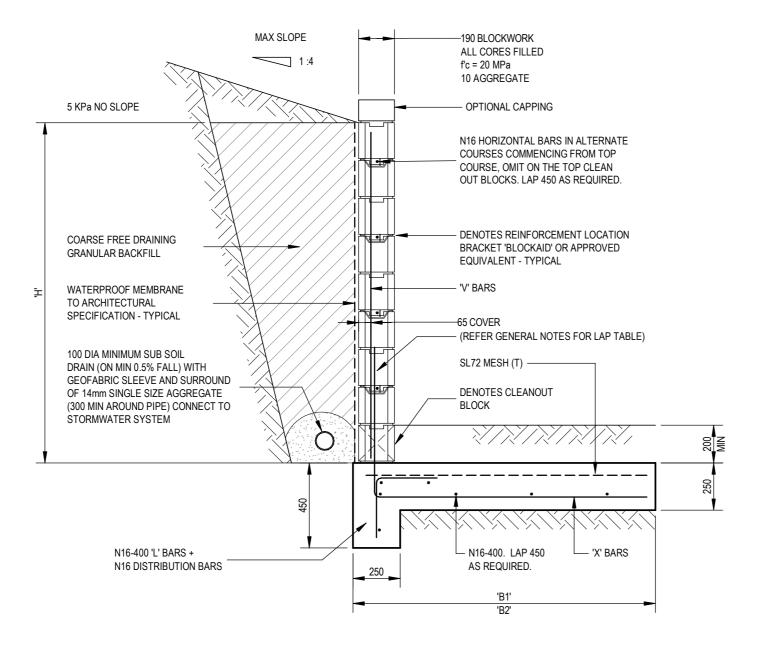
CONTROL JOINTS AT 8000 MAXIMUM CENTRES FOOTING CONCRETE STRENGTH f'c = 25MPa

BLOCKWALLS TO BE ADEQUATELY PROPPED DURING BACKFILL AND COMPACTION REFER TO RETAINING WALL AND REINFORCED BLOCKWORK GENERAL NOTES

### **RETAINING WALL SCHEDULE**

BACKFILL CONDITION AT TOP OF WALL WALL HEIGHT 5 KPa NO SLOPE MAX 1:4 SLOPE

	BASE WIDTH		HEIGHT OF BLOCKWORK REINFORCEME		REINFORCEMENT		
'H'	'B1'	'B2'	290 BLOCK	190 BLOCK	'X' BARS	'V' BARS	'K' BARS
1800	1400	1600	0	1800	N16-20	N16-400	N16-400
2200	1800	2100	800	1400	N16-20	N16-400	N16-400
2600	2100	2500	1000	1600	N16 <sup>0</sup> 200	N16-400	N16-400
3000	2400	3000	1200	1800	N20-200	N16-400	N16-400



# TYPICAL RETAINING WALL DETAIL - RW1 (800 TO 1800 HIGH) SCALE 1:20

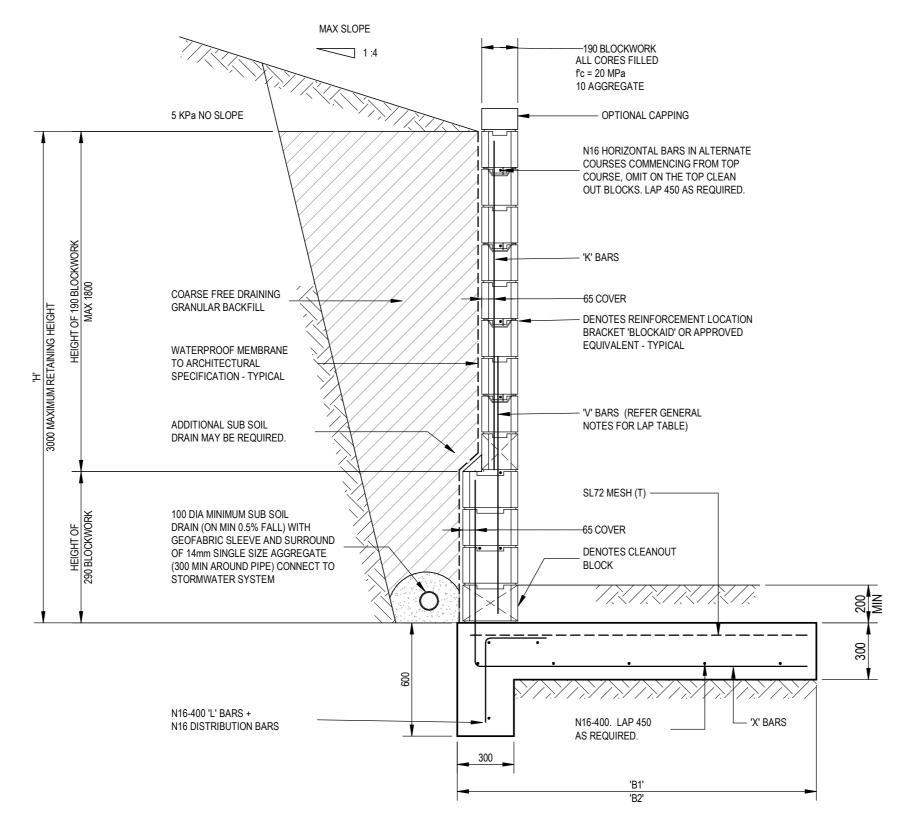
<u>NOTES:</u> FOOTING FOUNDED ON NATURAL GROUND - MIN 150 kPa BEARING CONTROL JOINTS AT 8000 MAXIMUM CENTRES FOOTING CONCRETE STRENGTH fc = 25MPa

BLOCKWALLS TO BE ADEQUATELY PROPPED DURING BACKFILL AND COMPACTION REFER TO RETAINING WALL AND REINFORCED BLOCKWORK GENERAL NOTES

### RETAINING WALL SCHEDULE

BACKFILL CONDITION AT TOP OF WALL WALL 5 KPa NO SLOPE MAX 1:4 SLOPE HEIGHT

	BASE	WIDTH	REINFORCEMENT		
'H'	'B1'	'B2'	'X' BARS	'V' BARS	
800	700	650	N16-400	N12-400	
1000	850	800	N16-400	N12-400	
1200	1050	900	N16-400	N16-400	
1400	1150	1000	N16-400	N16-400	
1600	1350	1200	N16-400	N16-400	



# TYPICAL RETAINING WALL DETAIL - RW2 (1801 to 3000 MAX) SCALE 1:20

NOTES: FOOTING FOUNDED ON NATURAL GROUND - MIN 150 kPa BEARING CONTROL JOINTS AT 8000 MAXIMUM CENTRES

FOOTING CONCRETE STRENGTH fc = 25MPa BLOCKWALLS TO BE ADEQUATELY PROPPED DURING BACKFILL AND COMPACTION

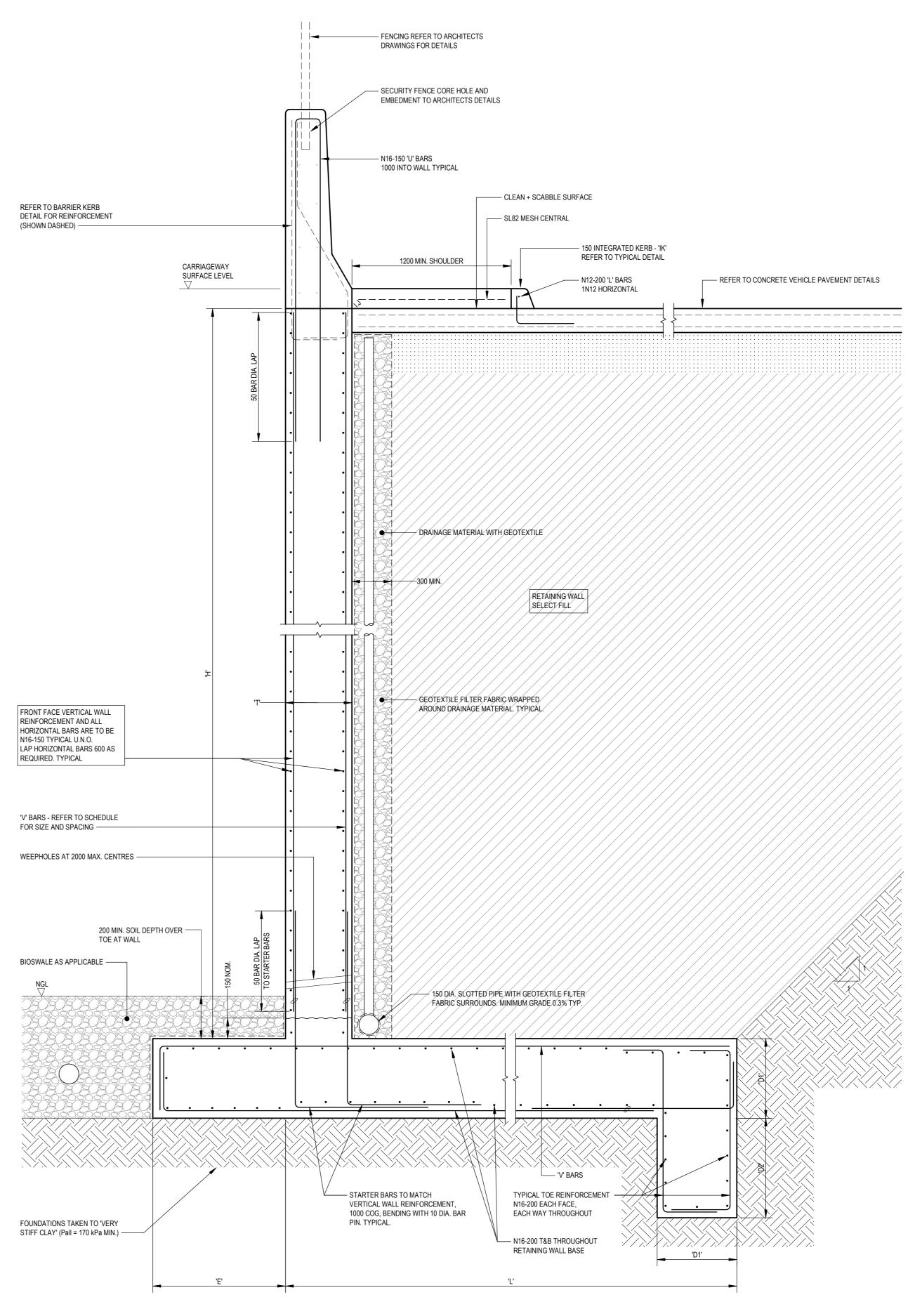
REFER TO RETAINING WALL AND REINFORCED BLOCKWORK GENERAL NOTES

# **RETAINING WALL SCHEDULE**

BACKFILL CONDITION AT TOP OF WALL 
 WALL
 BACKFILL CONDITION AT TOP OF WALL

 HEIGHT
 5 KPa NO SLOPE
 MAX 1:4 SLOPE

	BASE WIDTH		HEIGHT OF BLOCKWORK		REINFORCEMENT		
'H'	'B1'	'B2'	290 BLOCK	190 BLOCK	'X' BARS	'V' BARS	'K' BARS
1800	1550	1300	0	1800	N16-200	N16-400	N16-400
2200	1750	1600	800	1400	N16-200	N16-400	N16-400
2600	2150	2000	1000	1600	N16-200	N16-400	N16-400
3000	3200	3000	1200	1800	N20-200	N16-400	N16-400



### TYPICAL RETAINING WALL DETAIL - RW4 (4001 to 5500 MAX) SCALE 1:20

NOTES RETAINING WALL BASE TO BE FOUNDED ON GROUND WITH ALLOWABLE BEARING CAPACITY OF 200 kPa OR BETTER T.B.C. BY GEOTECHNNICAL ENGINEER. DOWELLED JOINTS TO BE: IN WALL AT LESSER OF 3x HEIGHT AND 16m, OR WHERE FOOTING TRANSITIONS FROM CLAY TO ROCK.

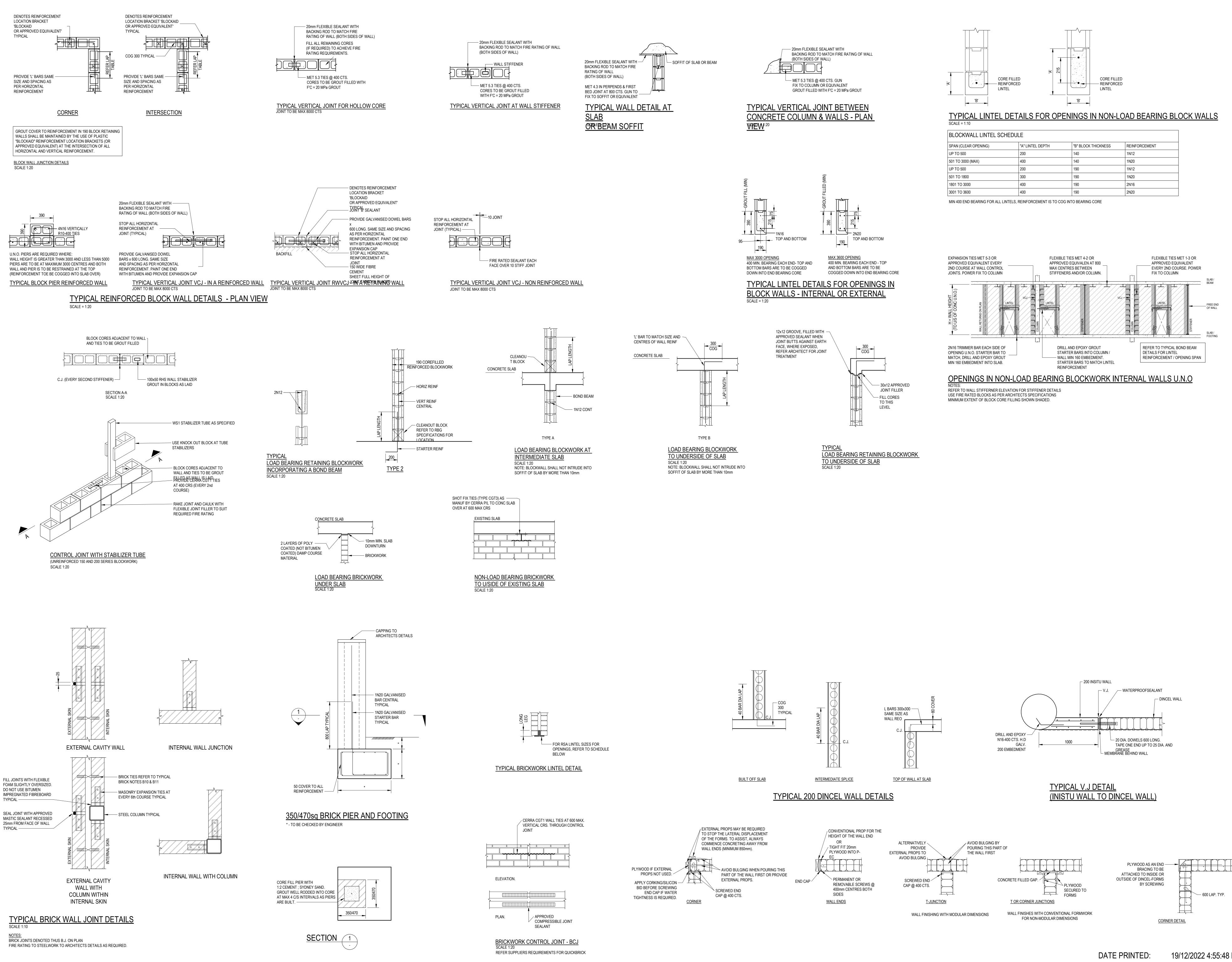
IN FOOTING AT 40m MAX. CENTRES. WHERE ALLOWABLE BEARING IS INSUFFICIENT, FOOTINGS SHALL BE EXCAVATED UNTIL THE REQUIRED FOUNDING MATERIAL IS REACHED AND CONFIRMED BY GEOTECHNICAL ENGINEER. OVER-EXCAVATION SHALL BE BACKFILLED WITH N15 CONCRETE. EXCAVATION OF BACKFILL FOR SERVICES INSTALLATION MUST BE REINSTATED TO REQUIREMENTS OF THE BACKFILL SPECIFICATION. ALL EXPOSED FACES OF CONCRETE RETAINING WALLS TO HAVE CLASS 2 SURFACE FINISH IN ACCORDANCE WITH AS 3610 U.N.O. REFER TO XXX FOR BACKFILL SPECIFICATION.

### RETAINING WALL SCHEDULE

WALL HEIGHT	MIN. WALL THICKNESS	BASE WIDTH	BASE EXTENSION LENGTH	MIN. BASE DEPTH	TOE DEPTH	REINFORCEMENT	COMMENT	
'H'	'T'	'L'	'E'	'D1'	'D2'	'V' BARS		
4001 -5500	500	3400	1000	600	750	N24-100	PERIMETER RETAINING WALL	

This drawing should be read in conjunction with all relevant contracts, specifications and drawings. Dimensions are in millimetres. Levels are metres. Do not scale off drawings. Use figured dimensions only. Check dimensions on Site. Report discrepancies immediately.								
Site. Report discrepancies immedia								
ISSUE DATE SUBJECT           2         19.12.22         SCHEMATIC DESIG           1         18.11.22         SCHEMATIC DESIG	GN GN - PRELIMINARY	AJ RM						
CLIENT CLIENT SOVERNMENT Health Infrastructure								
PROJECT MANAGER	PO BOX 61, OBERON, NSW 2787 T +61 438 243 068							
SERVICES	LEVEL 5 , BARRACK PL	ACE,						
ARUP	151 CLARENCE ST, SYDNEY, NSW 2000 <b>T</b> 9320 9320							
STRUCTURE & CIVIL								
Ac OR CONSULTANTS	1/33 HERBERT ST, ST LEONARDS, NSW 20 <b>T</b> 9438 5098	065						
LANDSCAPE ARCHITECT	ST LEONARDS, NSW 20							
LANDSCAPE ARCHITECT SITE IMAGE Landscape Architects ARCHITECT	ST LEONARDS, NSW 20 T 9438 5098 3 BAPTIST ST, REDFERN, NSW 2016							
LANDSCAPE ARCHITECT	ST LEONARDS, NSW 20 T 9438 5098 3 BAPTIST ST, REDFERN, NSW 2016 T 8332 5600 T +612 9319 2955 ABN: 48 942 921 969 Nominated Architects: Andrew Hipwell 6562 Daniel Beekwilder 6192 63 Myrtle Street Chippendale NSW 2008							
LANDSCAPE ARCHITECT SITE IMAGE Landscape Architects ARCHITECT CIJICI architects PROJECT	ST LEONARDS, NSW 20 T 9438 5098 3 BAPTIST ST, REDFERN, NSW 2016 T 8332 5600 T +612 9319 2955 ABN: 48 942 921 969 Nominated Architects: Andrew Hipwell 6562 Daniel Beekwilder 6192 63 Myrtle Street Chippendale NSW 2008 Sydney Australia djrd.com.au							
LANDSCAPE ARCHITECT SITE IMAGE Landscape Architects ARCHITECT CIJICI architects	ST LEONARDS, NSW 20 T 9438 5098 3 BAPTIST ST, REDFERN, NSW 2016 T 8332 5600 T +612 9319 2955 ABN: 48 942 921 969 Nominated Architects: Andrew Hipwell 6562 Daniel Beekwilder 6192 63 Myrtle Street Chippendale NSW 2008 Sydney Australia djrd.com.au							
LANDSCAPE ARCHITECT SITE IMAGE Landscape Architects ARCHITECT OUI ICI architects PROJECT COWRA HOSP	ST LEONARDS, NSW 20 T 9438 5098 3 BAPTIST ST, REDFERN, NSW 2016 T 8332 5600 T +612 9319 2955 ABN: 48 942 921 969 Nominated Architects: Andrew Hipwell 6562 Daniel Beekwilder 6192 63 Myrtle Street Chippendale NSW 2008 Sydney Australia djrd.com.au							
LANDSCAPE ARCHITECT SITE IMAGE Landscape Architects ARCHITECT OUI CONTRACTION PROJECT COWRA HOSP REDEVELOPM 64 LIVERPOOL STR	ST LEONARDS, NSW 20 T 9438 5098 3 BAPTIST ST, REDFERN, NSW 2016 T 8332 5600 T +612 9319 2955 ABN: 48 942 921 969 Nominated Architects: Andrew Hipwell 6562 Daniel Beekwilder 6192 63 Myrtle Street Chippendale NSW 2008 Sydney Australia djrd.com.au <b>CITAL</b> ENT EET							
LANDSCAPE ARCHITECT SITE IMAGE Landscape Architects ARCHITECT OUI CONTRACTION PROJECT COWRA HOSP REDEVELOPM 64 LIVERPOOL STR COWRA, NSW, 2794 PHASE SCHEMATIC DESIG	ST LEONARDS, NSW 20 T 9438 5098 3 BAPTIST ST, REDFERN, NSW 2016 T 8332 5600 T + 612 9319 2955 ABN: 48 942 921 969 Nominated Architects: Andrew Hipwell 6562 Daniel Beekwilder 6192 63 Myrtle Street Chippendale NSW 2008 Sydney Australia djrd.com.au TTAL ENT EET							

DATE PRINTED:



This drawing should be read in conjunction with all relevant contracts, specifications and drawings. Dimensions are in millimetres. Levels are metres. Do not scale off drawings. Use figured dimensions only. Check dimensions on Site. Report discrepancies immediately.

NOTES



THICKNESS	REINFORCEMENT
	1N12
	1N20
	1N12
	1N20
	2N16
	2NI20

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ISSUE DATE SUBJECT	GN AJ
	ealth frastructure
SERVICES	PO BOX 61, OBERON, NSW 2787 T +61 438 243 068
ARUP	LEVEL 5 , BARRACK PLACE, 151 CLARENCE ST, SYDNEY, NSW 2000 <b>T</b> 9320 9320
STRUCTURE & CIVIL	1/33 HERBERT ST, ST LEONARDS, NSW 2065 <b>T</b> 9438 5098
LANDSCAPE ARCHITECT	3 BAPTIST ST, REDFERN, NSW 2016 <b>T</b> 8332 5600
ARCHITECT CIJICI architects	T +612 9319 2955 ABN: 48 942 921 969 Nominated Architects: Andrew Hipwell 6562 Daniel Beekwilder 6192 63 Myrtle Street Chippendale NSW 2008 Sydney Australia djrd.com.au
PROJECT COWRA HOSP REDEVELOPM	
64 LIVERPOOL STR COWRA, NSW, 2794	
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PROJECT No DRAWING NSW211972 HI21178-ACR-	