

POST-TENSIONING

GENERAL

- PCD1.** THE POST TENSION SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND DOCUMENTATION OF POST TENSION SLABS AND BEAMS WITHIN THE CONCRETE OUTLINES SHOWN ON THE RELEVANT DRAWINGS, INCLUDING ALL STRUCTURAL HOBS, FOLDS AND SETDOWNS. THIS INCLUDES ALL STRESSED AND NON-STRESSED REINFORCEMENT, ANCHORAGES AND ANTI-BURST REINFORCEMENT.
- PCD2.** THE POST TENSION SUBCONTRACTOR IS RESPONSIBLE FOR THE SUPPLY AND INSTALLATION OF STRESSING DUCTS, STRANDS, ANCHORAGES AND ASSOCIATED FITMENTS IN COORDINATION WITH OTHER SUBCONTRACTORS. AUSTRALIAN STANDARD: AS3600-2009
- PCD3.** ALL CONCRETE U.N.O. TO BE AS PER CONCRETE NOTES INCLUDING MINIMUM COVER. POST TENSION CONTRACTOR IS RESPONSIBLE FOR INCREASING COVERS AS REQUIRED TO MEET FIRE RATING REQUIREMENTS. REFER TO LOADING PLANS FOR SLAB LIVE LOADS AND SDL REQUIREMENTS.
- SERVICEABILITY:**
- TOTAL DEFLECTION OF SLABS AND BEAMS TO BE NOT GREATER THAN SPAN/ 360.
 - INCREMENTAL DEFLECTION OF SLABS AND BEAMS SUPPORTING MASONRY PARTITIONS TO BE NOT GREATER THAN SPAN/1000.
 - REFER TO GENERAL NOTES FOR FIRE RATING LEVELS.

TENDER

- PCD4.** THE POST TENSION TENDERER TO INCLUDE THE FOLLOWING IN THE TENDER:
- THE AMOUNT OF NON-STRESSED REINFORCEMENT REQUIRED IN THE DESIGN.
 - PROPOSED CHANGES TO THE CONCRETE PROFILES SHOWN ON THE DRAWINGS. (DO NOT REDUCE THE DEPTH OF ANY BEAMS UNLESS APPROVED BY NORTHROP CONSULTING ENGINEERS).
 - A DESCRIPTION OF STAGED STRESSING IF REQUIRED.
- PCD5.** IF THE FINAL DESIGN INCLUDES MORE NON-STRESSED REINFORCEMENT THAN NOMINATED IN THE TENDER, THE SUBCONTRACTOR WILL BE RESPONSIBLE FOR COSTS INCURRED FOR ADDITIONAL REINFORCEMENT.

DESIGN

- PCD6.** TENDONS TO BE GALVANISED DUCTS SIZED TO MEET THE CHOSEN STRAND DIAMETER. ALL STRANDS TO BE SUPER GRADE STRESS RELIEVED LOW RELAXATION STEEL IN ACCORDANCE WITH AS/NZS 4672-2007.
- PCD7.** SLABS AND BEAMS ARE TO BE DESIGNED WITH A MINIMUM P/A = 15MPa
EXTERNAL/ ROOF SLABS AND BEAMS ARE TO BE WATERTIGHT AND DESIGNED WITH A MINIMUM P/A = 18MPa AND SL82 MESH IN TOP.
- PCD8.** SLABS AND BEAMS ARE TO BE DESIGNED ASSUMING MAXIMUM COLUMN STIFFNESS EQUAL TO 20% OF THE GROSS SECOND MOMENT OF INERTIA.
- PCD9.** PREPARE DRAWINGS SHOWING:
- CABLE LAYOUT AND PROFILES INCLUDING STRAND No's AND SIZES.
 - CONCRETE PROFILES.
 - ANCHORAGE DETAILS.
 - PROPOSED ORDER AND TIME OF STRESSING.
 - LAYOUT AND DETAILS OF NON-STRESSED REINFORCEMENT.
 - CONCRETE STRENGTH AT INITIAL AND FINAL STRESS.
 - JACKING LOAD PER STRAND.

- PCD10.** ANCHORAGES ARE NOT TO BE EXPOSED ON ANY EXTERIOR FACE UNLESS CO-ORDINATED WITH ARCHITECTURAL FINISHES.
- PCD11.** PROVIDE A SCHEDULE OF CALCULATED EXTENSIONS. DO NOT SHOW EXTENSIONS ON DRAWINGS TO BE USED FOR CONSTRUCTION.
- PCD12.** SUBMIT DRAWINGS FOR REVIEW. ALLOW 2 WEEKS FOR REVIEW BEFORE COMMENCING CONSTRUCTION. PROVIDE CERTIFICATION OF THE DESIGN BY A REGISTERED ENGINEER (NER - STRUCTURAL). CERTIFICATION IS TO STATE COMPLIANCE WITH BCA AND RELEVANT STANDARDS. CERTIFYING ENGINEER MUST MAINTAIN CURRENT PROFESSIONAL INDEMNITY INSURANCE OF AT LEAST \$5.0 MILLION.

CONSTRUCTION

- PCD13.** SUPPLY THE FOLLOWING CERTIFICATES BEFORE COMMENCING CONSTRUCTION:
- STRAND CAPACITY.
 - JACK CALIBRATION.
- PCD14.** PAINT ENDS OF STRANDS TO ALLOW EXTENSIONS TO BE CHECKED.
- PCD15.** APPLY 25% OF STRESSING FORCE (OR AN APPROPRIATE FORCE TO BE NOMINATED FOR MEMBERS WHERE STRESSING IS STAGED) BETWEEN 24 AND 48 HOURS AFTER CONCRETE IS PLACED. FINAL STRESS TO BE CARRIED OUT AS PER POST TENSION CONTRACTORS SPECIFICATION. ALL CONCRETE STRENGTHS TO BE CONFIRMED BY TESTS ON SITE CURED CYLINDERS PRIOR TO STRESSING.
- PCD16.** RECORD EXTENSIONS AND FORWARD TO NORTHROP CONSULTING ENGINEERS FOR APPROVAL.
- PCD17.** GROUT FILL DUCTS AFTER EXTENSIONS ARE APPROVED. FILL RECESSES WITH APPROVED SAND EPOXY MORTAR. GROUT FILL TO COMPLY WITH AS3600-2009. MINIMUM SHRINKAGE OF GROUT SHALL NOT EXCEED 1% BY VOLUME AFTER 24 HOURS.
- PCD18.** ON COMPLETION, PROVIDE CERTIFICATION BY A REGISTERED (NER) STRUCTURAL ENGINEER TO NORTHROP CONSULTING ENGINEERS CONFIRMING THAT THE POST TENSIONED SLABS AND BEAMS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE DOCUMENTATION.

CONCRETE (ELAPSED DELIVERY TIMES)

- CE1.** ELAPSED TIME BETWEEN THE WETTING OF THE MIX AND THE DISCHARGE OF THE MIX AT THE SITE MUST NOT EXCEED THE CRITERIA IN THE ELAPSED DELIVERY TIME TABLE BELOW:

ELAPSED DELIVERY TIME TABLE	
CONCRETE TEMPERATURE AT TIME OF DISCHARGE (°C)	MAXIMUM ELAPSED TIME (HOURS)
< 24	2.00
24 to 27	1.50
27 to 30	1.00
30 to 32	0.75
32 to 35	0.50

IF THE ELAPSED TIME IS LONGER THAN THE CORRESPONDING TIME IN THE TABLE ABOVE, OR THE TEMPERATURE IS GREATER THAN 35°C, EITHER NORTHROP CONSULTING ENGINEERS OR THE CONCRETE MIX DESIGN ENGINEER ARE TO BE CONTACTED TO CONFIRM WHETHER PLACEMENT IS TO PROCEED OR IF THE POUR IS TO BE STOPPED. IF THE POUR IS STOPPED, PRIOR TO ANY FURTHER CONCRETE PLACEMENT NORTHROP CONSULTING ENGINEERS ARE TO BE CONTACTED TO INSPECT THE WORKS AND DETERMINE WHAT, IF ANY, RECTIFICATION WORKS ARE REQUIRED.

IF THE CONCRETE TEMPERATURE AT THE TIME OF DISCHARGE IS NOT ± 5°C, CONCRETE SHALL BE REJECTED. IF AIR TEMPERATURE IS ± 10°C, (FOR ± A 12 HOUR PERIOD) SUBMIT "COLD WEATHER CONCRETING PROCEDURES" FOR APPROVAL.

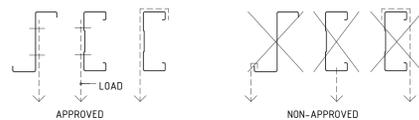
STEELWORK

- S1.** FABRICATE AND ERECT STRUCTURAL STEELWORK IN ACCORDANCE WITH AS4100-1998.
- S2.** PROVIDE HOLES, CLEATS AND FIXINGS FOR LIGHT STEEL/TIMBER FRAMING, FINISHES, ETC. SHOWN ON ARCHITECTURAL DRAWINGS.
- S3.** THESE DRAWINGS HAVE BEEN PREPARED TO INDICATE THE STRUCTURAL INTENT. THE SHOP DETAILER IS TO USE THESE DRAWINGS AS A BASIS FOR DIMENSIONAL COORDINATION WITH OTHER CONSULTANT'S DRAWINGS AND IS TO PREPARE DETAILED SHOP DRAWINGS. WHERE NECESSARY, THE SHOP DETAILER IS TO MAKE ASSUMPTIONS AND SUBMIT TO NORTHROP CONSULTING ENGINEERS FOR RESOLUTION. SHOP DETAILER IS TO ALLOW TO RE-WORK SHOP DRAWINGS AS NECESSARY. FABRICATOR SHALL PREPARE SHOP DRAWINGS AND SUBMIT THEM TO THE BUILDER FOR THEIR APPROVAL. BUILDER SHALL LODGE TWO HARD COPIES OF APPROVED DRAWINGS TO NORTHROP CONSULTING ENGINEERS FOR REVIEW PRIOR TO FABRICATION, (ALLOW 5 WORKING DAYS FOR REVIEW).
- S4.** TYPICAL STEELWORK CONNECTIONS UNLESS NOTED OTHERWISE:
- COLUMN BASE PLATES: 10 BASE PLATE, 4/16M HILTI HIT-HY200-R CHEMICAL INJECTION ANCHORS.
 - BEAM TO TOP OF COLUMN: CAP PLATE, 2 BOLTS TO CHANNELS, 4 BOLTS TO RHS/CHS/SHS/UB/UC.
 - BEAM TO SIDE OF COLUMN: FIN PLATE, 2 BOLTS.
 - BEAM TO SIDE OF BEAM: END OR FIN PLATE, 2 BOLTS.
 - COLUMNS TO TOP OF BEAM: BASE PLATE, 2 BOLTS TO CHANNELS, 4 BOLTS TO UB/UC SECTIONS.
 - ALL ROOF & WALL BRACING: CLEAT PLATES, 2 BOLTS.
 - PURLINS/WALL GIRTS: 8 CLEAT PLATES, 2 PURLIN BOLTS.
- UNLESS NOTED OTHERWISE, USE:
- 10mm BASE, CAP, GUSSET, FIN AND END PLATES.
 - M20 8.8/S BOLTS: (4.6/S GRADE TO BE USED FOR HOLD DOWN BOLTS).
 - 6mm CONTINUOUS FILLET WELDS MADE WITH E498 MLD STEEL ELECTRODES.
 - ALL WELDS SP CATEGORY.
- S5.** NO PAINT ON MATING SURFACES WITH TF OR TB BOLTING UNLESS APPROVED BY NORTHROP CONSULTING ENGINEERS.
- S6.** TF or TB BOLTS TO BE INSTALLED WITH ONE HARDENED WASHER UNDER THE TURNED PART.
- S7.** USE LOAD INDICATING WASHERS FOR ALL TB AND TF CONNECTIONS.
- S8.** ALL BOLTS, SCREWS, HOLD DOWN BOLTS, MASONRY ANCHORS SHALL BE HOT DIP GALVANISED TO AS1214-1993, AS/NZS 4534-2006, AS/NZS 4680-2006 & AS/NZS 4792-2006. NO CONNECTION SHALL HAVE LESS THAN 2 BOLTS. ALL BOLTS AND WASHERS SHALL BE GALVANISED. ALL HOLES SHALL BE 2mm LARGER THAN THE BOLT DIAMETER UNLESS NOTED OTHERWISE.
- S9.** MINIMUM YIELD STRESSES:
- HOT ROLLED SECTIONS = 300MPa
 - SQUARE HOLLOW SECTIONS = 350MPa
 - RECTANGULAR HOLLOW SECTIONS = 350MPa
 - CIRCULAR HOLLOW SECTION = 250MPa
 - HOT ROLLED PLATE = 250MPa
- S10.** COLD FORMED SECTIONS TO CONFORM WITH:
- AS/NZS 1594-2002, AS/NZS 1595-1998, AS/NZS 1600-2005 AND AS 1397-2001, AS1397, AS/NZS1594 AND AS/NZS1595.
 - MINIMUM YIELD STRESSES SECTIONS 450MPa
- S11.** SURFACE TREATMENT UNLESS NOTED OTHERWISE:
- PROTECTED FROM WEATHER = AS/NZS 2312-IZS2.
 - EXPOSED TO WEATHER = AS/NZS 2312-HDG600
 - BUILT INTO THE INTERNAL SKIN OF EXTERNAL WALLS = AS/NZS 2312-HDG600.
- **REFER TO PURLIN & GIRTS NOTES FOR SURFACE TREATMENT OF THESE ITEMS**
- S12.** UNLESS OTHERWISE DETAILED, FABRICATOR SHALL PROVIDE C100 IS TRIMMER PURLINS ALONG WITH GENERAL PURPOSE BRACKETS TO SUPPORT EDGE OF ROOF SHEETING AT ALL HIPS, VALLEYS AND PENETRATIONS.
- S13.** FIX CROSS BRACING TO PURLINS AT 3000 MAX CENTRES WITH M10 BOLTS OR M6 HOOKS. BOLTS ARE TO BE MECHANICALLY FIXED TO PURLINS, WITH HOOKS TO BE LOOPED THROUGH THE WEB OF THE PURLINS AND SECURED USING A NUT TO ENSURE THEY WILL NOT BECOME LOOSE DURING MOVEMENT OF THE ROOF. ALTERNATIVELY, GALVANISED STRAP MAY BE USED TO SECURE THE BRACING. THE STRAP IS TO BE INSTALLED TO LIFT THE BRACE SUCH THAT IT IS PLUMB, WITH THE BRACE SCREW FIXED TO THE WEB OF THE PURLIN AT BOTH ENDS USING 2/12-14 TENS SCREWS.
- S14.** ALL BURIED STEELWORK TO BE TREATED BY:
- THE APPLICATION OF A SINGLE COAT OF INTERNATIONAL PROTECTIVE COATINGS INTERZONE 954 APPLIED TO BARE CLEAN STEEL (THICKNESS 300-400 MICRONS). APPLY TO WHOLE OF RELEVANT MEMBER, TOP COAT IF REQUIRED BY ARCHITECT FOR VISUAL APPEARANCE.
 - OR
 - THE APPLICATION OF HDG AS SPECIFIED IN S11 ABOVE FOLLOWED BY AN APPLICATION OF TWO COATS OF INTERNATIONAL PROTECTIVE COATINGS INTERPLUS 1180 (EACH COAT 150-250 MICRONS) WHERE BURIED IN THE GROUND.
 - THEN
 - CONCRETE ENCASE STEELWORK WITH MASS CONCRETE (MINIMUM 75mm COVER TO STEELWORK).
- S15.** STEELWORK TO BE CONCRETE ENCASED FOR FIRE RATING PURPOSES SHALL BE FREE FROM ALL LOOSE RUST, LOOSE MILL SCALE, DIRT, OIL, GREASE, ETC. AND REINFORCED WITH SL41 FABRIC OR EQUIVALENT BLACK IRON WIRE, 3mm DIA.
- S16.** BOLT SYMBOLS:
- 4.6/S = GRADE 4.6 BOLT / SNUG TIGHTENED.
 - 8.8/S = GRADE 8.8 BOLT / SNUG TIGHTENED.
 - 8.8/TF = GRADE 8.8 BOLT / FULLY TENSIONED FRICTION TYPE (USE LOAD INDICATOR WASHERS).
 - 8.8/TB = GRADE 8.8 BOLT / FULLY TENSIONED BEARING TYPE (USE LOAD INDICATOR WASHERS).
- S17.** THE CONTRACTOR SHALL SUPPLY WRITTEN CERTIFICATION TO THE STRUCTURAL ENGINEER PRIOR TO THE ERECTION OF ANY STRUCTURAL STEEL STATING THAT THE BOLTS PROPOSED TO BE USED COMPLY WITH AS/NZS 1252-1996. HIGH STRENGTH BOLTS (8.8) ARE NOT TO BE WELDED.
- S18.** THE FABRICATION AND ERECTION OF THE STRUCTURAL STEEL WORK SHALL BE SUPERVISED BY A QUALIFIED PERSON EXPERIENCED IN SUCH SUPERVISION, IN ORDER TO ENSURE THAT ALL REQUIREMENTS OF THE DESIGN ARE MET.
- S19.** ALL MEMBERS SHALL BE SUPPLIED IN SINGLE LENGTHS. SPLICES SHALL ONLY BE PERMITTED IN LOCATIONS SHOWN ON THE STRUCTURAL DRAWINGS.
- S20.** ALL BUTT WELDS SHALL BE COMPLETE PENETRATION BUTT WELDS CATEGORY SP TO AS1554.1-2004 UNO THE EXTENT ON NON-DESTRUCTIVE WELD EXAMINATION SHALL BE AS NOTED BELOW:
- RADIOGRAPHIC OR ULTRASONIC EXAMINATION SHALL BE TO AS/NZS 1554.1-2004, AS 2177-2006 AND AS2207-2007 AS APPROPRIATE.
- S21.** GROUT ALL STEEL BASES BY DRY PACKING USING GROUT WHICH IS NON-SHRINK AND HAS A MINIMUM COMPRESSIVE STRENGTH AT 7 DAYS OF 40MPa.
- S22.** PROVIDE SEAL PLATES TO THE ENDS OF ALL HOLLOW SECTIONS, WITH 'BREATHER' HOLES IF MEMBERS ARE TO BE HOT DIP GALVANISED.
- S23.** THESE DRAWINGS MAY NOT IDENTIFY ALL SECONDARY STEELWORK ELEMENTS THAT ARE REQUIRED FOR SUPPORT, FIXING AND FINISHING OF GLAZING, CLADDING AND LINING. THE TENDERER IS RESPONSIBLE FOR THE INCLUSION OF SUCH STEELWORK ELEMENTS TO THE EXTENT REQUIRED ON THE ARCHITECT'S DRAWINGS.
- S24.** IMPORTED STRUCTURAL STEEL MATERIAL

- ALL STRUCTURAL STEELWORK USED ON THIS PROJECT SHALL BE COMPLIANT WITH AS4100, AND IN PARTICULAR:
- CERTIFIED MILL TEST REPORTS, OR TEST CERTIFICATES SHALL BE PROVIDED AS EVIDENCE OF COMPLIANCE WITH THE STANDARDS REFERRED TO IN AS4100. THESE CERTIFICATES SHALL BE SUBMITTED TO NORTHROP CONSULTING ENGINEERS FOR APPROVAL PRIOR TO COMMENCEMENT OF FABRICATION.
 - PROVIDE TEST CERTIFICATED FOR COMPLIANCE FOR ALL FASTENERS. THESE CERTIFICATES SHALL BE SUBMITTED TO NORTHROP CONSULTING ENGINEERS FOR APPROVAL PRIOR TO FABRICATION.
 - FOR COLD FORMED SECTIONS A "CERTIFICATE OF CONFORMITY TO AS1163-1991" SHALL BE SUBMITTED TO NORTHROP CONSULTING ENGINEERS FOR APPROVAL PRIOR TO FABRICATION.
 - CERTIFICATES SHALL ONLY BE ACCEPTED FROM TESTING COMPANIES ACCREDITED BY A TESTING AUTHORITY RECOGNISED IN AUSTRALIA, EG NATA OR JAS-ANZ CERTIFIED.
 - UNIDENTIFIED STEEL ie. ANY STEEL THAT IS NOT ACCOMPANIED WITH EVIDENCE STATING COMPLIANCE WITH THE REQUIREMENT OF AS4100 SHALL ONLY BE USED STRICTLY IN ACCORDANCE WITH CLAUSE 2.2.3 OF AS4100.
- IF MATERIALS SUPPLIED AND INSTALLED ARE SUBSEQUENTLY PROVEN TO BE NON COMPLIANT WITH THE SPECIFIED AUSTRALIAN STANDARDS IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND COST TO UNDERTAKE NATA OR EQUIVALENT CERTIFIED TESTING TO PROVE CONFORMANCE TO THE AUSTRALIAN STANDARDS AND DESIGN SPECIFICATIONS. SIMILARLY ANY RECTIFICATION WORKS THAT MAY SUBSEQUENTLY BE REQUIRED TO SATISFY AUSTRALIAN CODE REQUIREMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

PURLINS AND GIRTS

- PG1.** THE SUSPENSION OF CEILINGS, SERVICES ETC FROM PURLINS AND GIRTS SHALL BE IN ACCORDANCE WITH THE APPROVED METHODS DETAILED BELOW:



- PG2.** MINIMUM YIELD STRESSES OF PURLINS AND GIRTS TO BE 450MPa.
SURFACE TREATMENT OF ALL PURLINS AND GIRTS TO BE 350g/m² IN ACCORDANCE WITH AS1397-2001 U.N.O. LAPS, BRIDGING, BRACKETS AND PURLIN BOLTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- PG3.** UNLESS OTHERWISE DETAILED FABRICATOR SHALL PROVIDE C100IS TRIMMER PURLINS ALONG WITH GENERAL PURPOSE BRACKETS TO SUPPORT EDGE OF ROOF SHEETING AT ALL HIPS, VALLEYS AND PENETRATIONS.
- PG4.** UNLESS OTHERWISE DETAILED, FABRICATOR SHALL ALLOW TO PROVIDE ONE ROW OF BRIDGING FOR PURLINS SPANNING UP TO 4.0m, TWO ROWS FOR PURLINS SPANNING BETWEEN 4.0m AND 8.0m AND THREE ROWS FOR SPANS GREATER THAN 8.0m INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- PG5.** PURLIN CLEATS SHALL GENERALLY BE MINIMUM 75 wide x 8 PLATE U.N.O. WHERE THE DISTANCE BETWEEN THE UNDERSIDE OF PURLIN AND THE TOP OF THE BEAM EXCEEDS 150mm THE CLEATS SHALL BE MINIMUM 75 x 6 EA. UP TO A MAXIMUM HEIGHT OF 800mm.
- PG6.** PURLINS SHALL BE LAPPED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SHOWN ON THE DRAWINGS.

STEEL DECK FORMWORK (BONDEK or CONDECK)

- BS1.** STEEL DECKING TO BE INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- BS2.** REFER TO PLAN FOR STEEL DECKING SPECIFICATION. CONTRACTOR MAY SUBMIT FOR APPROVAL EQUIVALENT DECKING PRODUCTS.
- BS3.** PROVIDE 50mm MINIMUM BEARING AT SUPPORTS.
- BS4.** AT ALL RE-ENTRANT CORNERS PROVIDE 3/12 TRIMMERS 2000 LONG TIED TO UNDERSIDE OF MESH.
- BS5.** UNLESS NOTED OTHERWISE, PROVIDE TEMPORARY PROPPING OF DECK IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

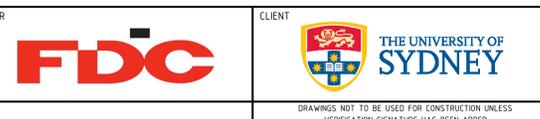


LEGEND

TERM	ABBREVIATION	TERM	ABBREVIATION
BOTH SIDES	B/S	MAXIMUM	MAX
BOTTOM	B	MINIMUM	MIN
BLOCK WALL	BW	MISCELLANEOUS	MISC
BRICK WALL	BRW	NEAR FACE	NF
CENTRALLY PLACED	CENT	NEAR SIDE	N/S
CENTRE LINE	CL	NOMINAL	NOM
CENTRES	CTS	NOT SHOWN ON PLAN	NSOP
CIRCULAR HOLLOW SECTION	CHS	NOT SHOWN ON ELEVATION	NSOE
CONCRETE	CONC	NOT TO SCALE	NTS
CONCRETE WALL	CW	OPPOSITE	OPP
CONSTRUCTION JOINT	CJ	OVERALL	O/A
DEEP/DEPTH	D	PARALLEL	PPC
DIAMETER	DIA	FLANGE CHANNEL	PL
DIAMETER INSIDE	ID	PLATE	PL
DIAMETER NOMINAL	DN	PERMANENT ACTION (DEAD LOAD)	G
DIAMETER OUTSIDE	OD	POST TENSION	PT
DRAWING	DWG	QUANTITY	QTY
EACH FACE	EF	RADIUS	RAD
EACH WAY	EW	RECTANGULAR HOLLOW SECTION	RHS
EQUAL	EQ	REINFORCED CONCRETE REINFORCEMENT	RC
EQUAL ANGLE	EA	REINFORCEMENT REQUIRED	REINFD
EXISTING	EXST	SQUARE	SQ
EXPANSION JOINT	EJ	SQUARED	SHS
FAR SIDE	F/S	HOLLOW SECTION	FLAT
FAR FACE	FF	TOP	T
FINISHED FLOOR LEVEL	FFL	TOP & BOTTOM	T&B
FLAT	FL	TYPICAL	TYP
GALVANISED	GALV	UNDER SIDE	U/S
GENERAL PURPOSE BRACKET	GPB	UNEQUAL ANGLE	UA
HIGH/HEIGHT	H	UNIVERSAL BEAM	UB
HORIZONTAL	HORIZ	UNIVERSAL COLUMN	UC
IMPOSED ACTION (LIVE LOAD)	I	UNLESS NOTED OTHERWISE	UNO
INTERSECTION POINT	IP	VERTICAL	VERT
LONG/LENGTH	L	WIDE/WIDTH	W
LENGTH VARIES	LV		

VERIFIED: AARON HUGHES
JOB MANAGER: AARON HUGHES
DESIGNED: AARON KUK
DRAWN: MARK DORLING

REV	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR CONSTRUCTION CERTIFICATE	A.H.	M.L.D.		22.05.18



CLIENT
JPW
JOHNSON PILTON WALKER

DRAWINGS NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED

ARCHITECT
THE UNIVERSITY OF SYDNEY

ALL SETOUT TO ARCHITECT'S DRAWINGS. DIMENSIONS TO BE VERIFIED WITH ARCHITECT AND BUILDER BEFORE COMMENCING SHOP DRAWINGS OR SITE WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY.



PROJECT
THE UNIVERSITY OF SYDNEY
CHAU CHAK WING MUSEUM

DRAWING TITLE
STRUCTURAL DRAWING
SPECIFICATION NOTES -
SHEET 2

JOB NUMBER
181044

DRAWING NUMBER
TE-ST-NRP-00.12

REVISION
1

DRAWING SHEET SIZE = B1