URBAN CITY CONSULTING PTY LTD

Address: PO Box 1201
Windsor NSW 2756
Tel: 02 4587 7000
Fax: 02 4587 9044
Email: info@urbancityconsulting.com.au
Web: www.urbancityconsulting.com.au

COMPLYING DEVELOPMENT CERTIFICATE 120247

Issued under Part 4A of the Environmental Planning and Assessment Act 1979 Sections 109C and 81A(5)

APPLICANT DETAILS

Applicant:	Sydney Anglican Schools Corporation
Address:	Level 1 420 Forest Road Hurstville NSW 2220
Contact Details:	**Phone:** 8567 4048 **Fax:** 9540 9640

OWNER DETAILS

Name of person having benefit of the development consent:	Sydney Anglican Schools Corporation
Address:	Level 1 420 Forest Road Hurstville NSW 2220
Contact Details:	**Phone:** 0411 866 411

COMPLYING DEVELOPMENT CONSENTS

Consent Authority/Local Government Area:	Pittwater Council
Decision Made Under:	SEPP 2007 (Infrastructure)
CDC Number: 120247	**Date issued:** 12/09/2012

Lapse date: 86a of the EPA Act 1979 stipulates that this certificate will lapse within 5 years if not physically commenced on the stated land to which this certificate applies. 81a of the Act is applicable.

PROPOSAL

Address of Development:	1977 Pittwater Road Bayview NSW 2104
Lot/DP/Zoning:	Lot A DP360274 & Lot 20 DP635214 Zone: zone 5(a) special uses
Building Classification:	9b
Type of Construction:	B
Scope of building works covered by this Notice:	New Two Storey Classroom Building
Value of Construction Certificate (Incl GST):	$400,000
Plans and Specifications approved:	Schedule 1
Fire Safety Schedule:	Schedule 2
Conditions:	See Conditions attached to this certificate
Exclusions:	
Critical stage inspections;	See attached Notice

CERTIFYING AUTHORITY

Certifying Authority:	Troy Myers
Accreditation Body:	Building Professionals Board
	Registration No. BPB 0284

I, Troy Myers as the certifying authority, certify that the work if completed in accordance with the plans and specifications identified in Schedule 1 (with such modifications verified by the certifying authority as may be shown on that documentation) will comply with the requirements of the Environmental Planning & Assessment Regulation 2000 as referred to in section 84A of the Environmental Planning and Assessment Act 1979.

Dated: 12/09/2012

Troy Myers
Accredited Certifier

NB: Prior to the commencement of work S81A (2) (b) and (c) of the Environment Planning and Assessment Act 1979 must be satisfied.

RECEIVED
19 SEP 2012
PITTWATER COUNCIL

$36 REC: 329530 19/9/12

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SCHEDULE 1: APPROVED PLANS AND SPECIFICATIONS

1. Endorsed Architectural plans

PREPARED BY	DOCUMENT	DRAWING NO	REV	DATE
Ruth Newman Architect	detail site plan	A03	B	19/07/2012
Ruth Newman Architect	demolition plan	A04	B	19/07/2012
Ruth Newman Architect	proposed floor plans	A05	B	19/07/2012
Ruth Newman Architect	roof plan	A06	B	19/07/2012
Ruth Newman Architect	elevations and section	A08	B	19/07/2012
Ruth Newman Architect	Telc building roof extension	A18	B	19/07/2012
Ruth Newman Architect	site plan	A01	B	19/07/2012
Ruth Newman Architect	site/waste management plan	A02	B	19/07/2012

2. Endorsed Structural plans

PREPARED BY	DOCUMENT	DRAWING NO	REV	DATE
Jones Nicholson	structural design notes sheet	S01	A	17/07/2012
Jones Nicholson	structural design retaining wall details	S02	A	17/07/2012
Jones Nicholson	structural design ground floor plan and details	S03	A	17/07/2012
Jones Nicholson	structural design upper floor plan & sections	S04	A	17/07/2012
Jones Nicholson	structural design roof framing plan & sections	S05	A	17/07/2012

3. Endorsed Engineering plans

PREPARED BY	DOCUMENT	DRAWING NO	REV	DATE
Jones Nicholson	hydraulic design legend and notes	H001	B	16/07/2012
Jones Nicholson	hydraulic design water and sewer services	H002	B	16/07/2012

4. Endorsed Other documents

PREPARED BY	DOCUMENT	DRAWING NO	REV	DATE
	long service levy receipt			7/08/2012
Ruth Newman Architect	architectural specification			1/07/2012
Whelans Insites	detail and levels			1/01/2009
Jones Nicholson	electrical design notes, legend & power & lighting layouts			13/07/2012
Jones Nicholson	electrical design electrical site plan			13/07/2012
Vince Morgan Surveyors	plan showing levels, contours and detail			13/12/2011

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PART 5 GENERAL COMMERCIAL AND INDUSTRIAL CODE CONDITIONS

DIVISION 2 CONDITIONS APPLYING TO COMPLYING DEVELOPMENT CERTIFICATE UNDER THIS CODE

Note 1. Complying development must comply with the requirements of the Act, the *Environmental Planning and Assessment Regulation 2000* and the conditions listed in this Part.
Note 2. A contributions plan setting out the contribution requirements towards the provision or improvement of public amenities or public services may specify that an accredited certifier must, under section 94EC of the Act, impose a condition on a complying development certificate requiring the payment of a monetary contribution in accordance with that plan. Contributions may be imposed in respect of development on certain land under section 61 the *City of Sydney Act 1988.*

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 NO 203 - CONDITIONS

94EC CONTRIBUTIONS PLANS—COMPLYING DEVELOPMENT

The owner / applicant may be required to pay this prior to the commencement f any works on site. Please check with Council. If required, please provide a copy of the receipt of the applicable S94 EC payment to the Accredited Certifying Authorities office as evidence two days prior to the commencement on site. Failure to undertake this step will result in the complying development being *invalid.*

ENVIRONMENTAL PLANNING AND ASSESSMENT REGULATION 2000-CONDITIONS

136A COMPLIANCE WITH BUILDING CODE OF AUSTRALIA AND INSURANCE REQUIREMENTS UNDER THE HOME BUILDING ACT 1989

(cf clauses 78 and 78A of EP&A Regulation 1994)

(1) A complying development certificate for development that involves any building work must be issued subject to the following conditions:
(a) that the work must be carried out in accordance with the requirements of the *Building Code of Australia,*
(b) in the case of residential building work for which the *Home Building Act 1989* requires there to be a contract of insurance in force in accordance with Part 6 of that Act, that such a contract of insurance must be entered into and be in force before any building work authorised to be carried out by the certificate commences.
(1A) A complying development certificate for a temporary structure that is used as an entertainment venue must be issued subject to the condition that the temporary structure must comply with Part B1 and NSW Part H102 of Volume One of the *Building Code of Australia* (as in force on the date the application for the relevant complying development certificate is made).
(2) This clause does not limit any other conditions to which a complying development certificate may be subject, as referred to in section 85A (6) (a) of the Act.
(3) This clause does not apply:
(a) to the extent to which an exemption is in force under clause 187 or 188, subject to the terms of any condition or requirement referred to in clause 187 (6) or 188 (4), or
(b) to the erection of a temporary building, other than a temporary structure that is used as an entertainment venue.
(4) In this clause, a reference to the *Building Code of Australia* is a reference to that Code as in force on the date the application for the relevant complying development certificate is made.
Note. There are no relevant provisions in the *Building Code of Australia* in respect of temporary structures that are not entertainment venues.

136B ERECTION OF SIGNS

(1) A complying development certificate for development that involves any building work, subdivision work or demolition work must be issued subject to a condition that the requirements of subclauses (2) and (3) are complied with.
(2) A sign must be erected in a prominent position on any site on which building work, subdivision work or demolition work is being carried out:
(a) showing the name, address and telephone number of the principal certifying authority for the work, and
(b) showing the name of the principal contractor (if any) for any building work and a telephone number on which that person may be contacted outside working hours, and
(c) stating that unauthorised entry to the site is prohibited.
(3) Any such sign is to be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.
(4) This clause does not apply in relation to building work, subdivision work or demolition work that is carried out inside an existing building, that does not affect the external walls of the building.
(5) This clause does not apply in relation to Crown building work that is certified, in accordance with section 109R of the Act, to comply with the technical provisions of the State's building laws.
(6) This clause applies to a complying development certificate issued before 1 July 2004 only if the building work, subdivision work or demolition work involved

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had not been commenced by that date.
Note. Principal certifying authorities and principal contractors must also ensure that signs required by this clause are erected and maintained (see clause 227A which currently imposes a maximum penalty of $1,100).

136E DEVELOPMENT INVOLVING BONDED ASBESTOS MATERIAL AND FRIABLE ASBESTOS MATERIAL

(1) A complying development certificate for development that involves building work or demolition work must be issued subject to the following conditions:
(a) work involving bonded asbestos removal work (of an area of more than 10 square metres) or friable asbestos removal work must be undertaken by a person who carries on a business of such removal work in accordance with a licence under clause 318 of the *Occupational Health and Safety Regulation 2001*,
(b) the person having the benefit of the complying development certificate must provide the principal certifying authority with a copy of a signed contract with such a person before any development pursuant to the complying development certificate commences,
(c) any such contract must indicate whether any bonded asbestos material or friable asbestos material will be removed, and if so, must specify the landfill site (that may lawfully receive asbestos) to which the bonded asbestos material or friable asbestos material is to be delivered.
(2) This clause applies only to a complying development certificate issued after the commencement of this clause.
(3) In this clause, ***bonded asbestos material, bonded asbestos removal work, friable asbestos material and friable asbestos removal work*** have the same meanings as in clause 317 of the Occupational Health and Safety Regulation 2001.
Note 1. Under clause 317 removal work refers to work in which the bonded asbestos material or friable asbestos material is removed, repaired or disturbed.
Note 2. The effect of subclause (1) (a) is that the development will be a workplace to which the *Occupational Health and Safety Regulation 2001* applies while removal work involving bonded asbestos material or friable asbestos material is being undertaken.
Note 3. Information on the removal and disposal of asbestos to landfill sites licensed to accept this waste is available from the Department of Environment, Climate Change and Water.
Note 4. Demolition undertaken in relation to complying development under the *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008* must be carried out in accordance with Australian Standard AS 2601—2001, Demolition of structures.

136H CONDITION RELATING TO SHORING AND ADEQUACY OF ADJOINING PROPERTY

(1) A complying development certificate for development must be issued subject to a condition that if the development involves an excavation that extends below the level of the base of the footings of a building on adjoining land, the person having the benefit of the certificate must at the person's own expense:
(a) protect and support the adjoining premises from possible damage from the excavation, and
(b) where necessary, underpin the adjoining premises to prevent any such damage.
(2) The condition referred to in subclause (1) does not apply if the person having the benefit of the complying development certificate owns the adjoining land or the

SUBDIVISION 1 CONDITIONS APPLYING BEFORE WORKS COMMENCE

5.13 Protection of adjoining areas

A hoarding or a temporary construction site fence must be erected between the work site and adjoining lands before the works begin and must be kept in place until after the completion of works if the works:
(a) could cause a danger, obstruction or inconvenience to pedestrian or vehicular traffic, or
(b) could cause damage to adjoining lands by falling objects, or
(c) involve the enclosure of a public place or part of a public place.
Note. See the entry in the General Exempt Development Code for scaffolding, hoardings and temporary construction site fences.

5.14 Toilet facilities

(1) Toilet facilities must be available or provided at the work site before works begin and must be maintained until the works are completed at a ratio of one toilet plus one additional toilet for every 20 persons employed at the site.
(2) Each toilet must:
(a) be a standard flushing toilet connected to a public sewer, or
(b) have an on-site effluent disposal system approved under the *Local Government Act 1993*, or
(c) be a temporary chemical closet approved under the *Local Government Act 1993*.

5.15 Garbage receptacle

(1) A garbage receptacle must be provided at the work site before works begin and must be maintained until the works are completed.
(2) The garbage receptacle must have a tight fitting lid and be suitable for the reception of food scraps and papers.

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SUBDIVISION 2 CONDITIONS APPLYING DURING THE WORKS

Note. The *Protection of the Environment Operations Act 1997* and the *Protection of the Environment Operations (Noise Control) Regulation 2008* contain provisions relating to noise.

5.16 Hours for construction or demolition

Construction or demolition that is audible in any dwelling on an adjoining lot may only be carried out between 7.00 am and 8.00 pm on Monday to Saturday.

5.17 Compliance with plans

Works must be carried out in accordance with the plans and specifications to which the complying development certificate relates.

5.18 Maintenance of site

(1) Building materials and equipment must be stored wholly within the work site unless an approval to store them elsewhere is held.
(2) Demolition materials and waste materials must be disposed of at a waste management facility.
(3) The work site must be left clear of waste and debris at the completion of the works.

SUBDIVISION 3 CONSTRUCTION REQUIREMENTS

5.19 Utility services

If the complying development requires alteration to, or the relocation of, utility services on the lot on which the complying development is carried out, the complying development is not complete until all such works are carried out.

5.20 MECHANICAL VENTILATION SYSTEMS

If the complying development is a mechanical ventilation system that is a ***regulated system*** in ***regulated premises*** within the meaning of the *Public Health Act 1991*, the system must be notified as required by the *Public Health (Microbial Control) Regulation 2000*, before an occupation certificate (whether interim or final) for the complying development is issued.

5.21 Food businesses

If the complying development is a ***food business*** within the meaning of the *Food Act 2003*, the food business must be notified as required by that Act or licensed as required by the *Food Regulation 2004*, before an occupation certificate (whether interim or final) for the complying development is issued.

5.22 Premises where skin penetration procedures are carried out

If the complying development involves premises at which a ***skin penetration procedure*** within the meaning of the *Public Health Act 1991* will be carried out, the premises must be notified as required under the *Public Health (Skin Penetration) Regulation 2000* before an occupation certificate (whether interim or final) for the complying development is issued.

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NOTICE OF APPOINTMENT OF PRINCIPAL CERTIFYING AUTHORITY

Made under Part 4 of the Environmental Planning and Assessment Act 1979 Sections 81A(2)(b1)(i) & 86(1)(a1)(i)

OWNER DETAILS

Name of person having benefit of the development consent:	Sydney Anglican Schools Corporation
Address:	Level 1 420 Forest Road Hurstville NSW 2220
Contact Details:	**Phone**: 0411 866 411

COMPLYING DEVELOPMENT CONSENTS

Consent Authority/Local Government Area:	Pittwater Council
Decision Made Under:	SEPP 2007 (Infrastructure)
CDC Number: 120247	**Date issued:** 12/09/2012

PROPOSAL

Address of Development:	1977 Pittwater Road Bayview NSW 2104
Scope of building works covered by this Notice:	New Two Storey Classroom Building

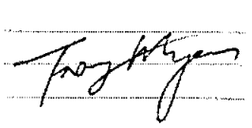
PRINCIPAL CERTIFYING AUTHORITY

Certifying Authority:	Troy Myers
Accreditation Body:	Building Professionals Board
	Registration No. BPB 0284

The owner has appointed Troy Myers as the Principal Certifying Authority as stated in the Complying Development Certificate Application lodged with Urban City Consulting for the building works identified in this Notice.

I, Troy Myers, Accredited Certifier of Urban City Consulting located at PO Box 1201 Windsor NSW 2756 accept the appointment as the Principal Certifying Authority for the building works identified and covered under the relevant Complying Development Certificate as stated in this Notice.

Dated: 12/9/2012



Troy Myers
Principal Certifying Authority

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NOTICE TO APPLICANT OF MANDATORY CRITICAL STAGE INSPECTIONS

Made under Part 4 of the Environmental Planning and Assessment Act 1979 Sections 86(a2)(i) (ii) (iii) b

OWNER DETAILS

Name of person having benefit of the development consent:	Sydney Anglican Schools Corporation
Address:	Level 1 420 Forest Road Hurstville NSW 2220
Contact Details:	**Phone:** 0411 866 411

COMPLYING DEVELOPMENT CONSENTS

Consent Authority/Local Government Area:	Pittwater Council
Decision Made Under:	SEPP 2007 (Infrastructure)
CDC Number: 120247	**Date issued:** 12/09/2012

PROPOSAL

Address of Development:	1977 Pittwater Road Bayview NSW 2104
Scope of building works covered by this Notice:	New Two Storey Classroom Building

CERTIFICATION DETAILS

Principal Certifying Authority:	Troy Myers
Accreditation Body:	Building Professionals Board
	Registration No. BPB 0284

Please telephone **02 4587 7000** to book a critical stage inspection. A minimum period of 48 hours is to be provided.

*I, **Troy Myers, Urban City Consulting** located at PO Box 1201 Windsor NSW 2756 acting as the principal certifying authority hereby give notice in accordance with Section 81A(2)(b1)(ii) of the Environmental Planning and Assessment Act 1979 to the person having the benefit of the development consent that the mandatory critical stage inspections identified in Schedule 1 & Schedule 2 are to be carried out in respect of the building work.*

The applicant, being the person having benefit of the development consent is required under Section 81A(2)(b2)(ii) of the Environmental Planning and Assessment Act 1979 to notify the principal contractor (if not an owner-builder) of the applicable mandatory critical stage inspections specified under this notice.

To allow a principal certifying authority or another certifying authority time to carry out mandatory critical stage inspections, the principal contractor for the building site, or the owner builder, must notify the principal certifying authority at least 48 hours before building work is commenced at the site if a mandatory critical stage inspection is required before the commencement of the work in accordance with Clause 163 of the Environmental Planning & Assessment Regulation 2000.

Failure to request a mandatory critical stage inspections will prohibit the principal certifying authority under with Section 109E(3)(d) of the Environmental Planning and Assessment Act 1979 to issue an occupation certificate.

Dated: 12/09/2012

Troy Myers
Principal Certifying Authority

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SCHEDULE 1:
MANDATORY CRITICAL STAGE INSPECTIONS

NO	CRITICAL STAGE INSPECTION	INSPECTOR
1.	At commencement of building work	Certifying Authority
2.	After Excavation for, and prior to the placement of any footings	Certifying Authority
3.	Prior to pouring any in-situ reinforced concrete building element	Certifying Authority
4.	Prior to covering of the framework for any floor, wall, roof or other building element	Certifying Authority
5.	Prior to covering waterproofing in any wet areas	Certifying Authority
6.	Prior to covering any stormwater drainage connections	Certifying Authority
7.	After the building work has been completed & prior to any occupation certificate being issued in relation to the building	Principal Certifying Authority

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12 September 2012

Our ref.: 120247

Sydney Anglican Schools Corporation
Level 1 420 Forest Road
Hurstville NSW 2220

Attention: Peter Maskiell

Dear Peter,

Re: 1977 Pittwater Road Bayview
Complying Development Certificate No. 120247

Enclosed is a copy of the approved Complying Development Certificate and Stamped Plans for the subject
development. One copy of each has been forwarded directly to Pittwater Council for their records.

It is important that you read and understand all of the documentation attached.
Prior to works commencing on site the following items must be satisfied;
1. All sedimentation controls are to be installed.
2. Sanitary accommodation for all building contractors is to be provided.
3. Install Builders signage in a prominent position.
4. If required by Council, please provide proof of payment of the Section 94 contributions.

On the 1st of July 2004 the State Government amended the Environmental Planning & Assessment Act and Regulation 2000 to require mandatory inspections being carried out by the Principal Certifying Authority at Critical stages of construction.

The critical Stages of construction for this project are;
a. footings
b. slab steel
c. framework
d. waterproofing
e. stormwater connections
f. Final inspection.

A minimum of 48 hours notice is required when requesting that a mandatory inspection to be carried out. When booking an inspection please call our office on (02) 4587 7000 and advise a staff member of the time and type of inspection required. Should you need to discuss any issues, please do not hesitate to contact the undersigned on the above numbers.

Yours faithfully,

URBAN CITY
CONSULTING PTY LTD

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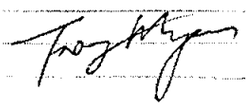

Troy Myers
Accredited Certifier
Urban City Consulting

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SCHEDULE 2
FIRE SAFETY SCHEDULE

FIRE SAFETY MEASURES	EXISTING STANDARD OF PERFORMANCE	PROPOSED STANDARD OF PERFORMANCE
Emergency lighting	BCA E4.2, E4.4 & AS/NZS 2293.1-2005	BCA E4.2, E4.4 & AS/NZS 2293.1-2005
Exit signs	BCA E4.5, E4.6. & E4.8, AS/NZS 2293.1-2005	BCA E4.5, E4.6. & E4.8, AS/NZS 2293.1-2005
Lightweight construction		BCA C1.8 & Spec C1.8
Portable fire extinguishers	BCA E1.6 & AS2444-2001	BCA E1.6 & AS2444-2001

NEW BUILDING WORK

NEW EXTERNAL WORK

PITTWATER ROAD

102.41 TITLE
103.11 SURVEY
44° 42' 40"

51.15 TITLE
50.87 SURVEY
114° 48' 30"

EXISTING RAMP

EXISTING GARDEN BED

EXISTING GARDEN

LIFT A

EXISTING STAFF ROOM

EXISTING CARPARK

EXISTING BREEZEWAY CORRIDOR

EXISTING CLASSROOMS

EXISTING COLA

EXISTING PAVED AREA

EXISTING ASPHALT FOOTPATH

EXISTING TIMBER DECK

CONCRETE

PATH

EXISTING

EXISTING WATER TANKS

EXISTING CONCRETE PATH

REMOVE EX TREE & WIRE FENCE

EXISTING HALL

EXISTING CANTEEN

EXISTING ADMINISTRATION

VERANDAH

LIFT B

EXISTING MUSIC ROOMS

EXISTING PAVED PATH

NEW CLASSROOM & WORKSHOP BUILDING

EXISTING CLASSROOM

BLOCKWORK STORE (under)

SETOUT POINT

DEMOLISH EXISTING WEATHERBOARD STORE BUILDING

EXISTING PLAY EQUIPMENT

EXISTING RAMP

TELC BUILDING

DECK

PLAYGROUND

EXTEND EXISTING ROOF OVER WALKWAY

SYDNEY WATER SEWER

6000 SETBACK - KEEP INFRASTRUCTURE

UNDERGROUND BOX CULVERT APPROX. POSITION. SIZE 2.2 x 0.95m
BUILDER TO LAY STEEL PLATES ACROSS SEWER & CULVERT WHEN CROSSING IN VEHICLE

EXISTING CARPARK

EXISTING TENNIS COURT

EXISTING GRASSED PLAYGROUND

PROPOSED 3M WIDE ACCESS ROUTE

NO.'S (1-10) INDICATE FENCE PANELS
PANELS 6 & 7 TO BE REMOVED
TO ALLOW VEHICLE ACCESS

EXISTING LAYBACK FOR VEHICLE ACCESS

LOQUAT VALLEY ROAD

D.P. 614372

253° 24' 5.60 SURVEY

343° 33' 49.385

244° 38' 15" 30.54

244° 38' 15" 40.0

224° 50' 5.315

264° 26' 5.315

244° 38' 15" 12.33

244° 38' 15" 19.07

254°02'10" 7.0

164° 02' 10" 17.16

344° 02' 10" 16.0

169° 19' 20.42

170° 01' 40" 27.195

1 SITE PLAN
Scale 1:200

19 JULY 2012 - CDC ISSUE

SYDNEY WATER
APPROVED

Position of structure in relation to Sydney Water's assets is satisfactory.

2. Connections to Sydney Water sewer/water services may only be made following the issue of a permit to a licensed plumber/drainer.
3. It is the owner's responsibility to ensure that all proposed fittings will drain to Sydney Water's sewer.
4. Any Plumbing and/or Drainage Work to be carried out in accordance with the Sydney Water Act 1994, AS 3500 and the NSW Code of practice.
5. Gullies, Inspection Shafts and Boundary Traps shall not be placed under any Roof, Balcony, Verandah, Floor or other cover unless otherwise approved by Sydney Water.
6. Property No 3445063

Cooks, Windsor,
Quick Check Agent on behalf of
SYDNEY WATER
Date 16/9/12

NOTES:

Figured dimensions shall be used.
Do not scale drawing.
The contractor shall verify all dimensions on site prior to commencement of work.

Member Australian Institute of Architects

AMT	DATE	DESCRIPTION	DRAWN	AUTH
A	16.07.12	TENDER ISSUE	BP	-
B	19.07.12	CDC ISSUE	BP	-

CLIENT
SYDNEY ANGLICAN SCHOOLS CORPORTATION

CONSULTANT

ruth newman ARCHITECT
P.O Box 736
Sutherland NSW 1499
Suite 1A
1-5 Glynnes Bay Road
Gymea NSW 2227
t. 02 95400959
f. 02 9540 9940
e. ruth@ruthnewman.com.au
w. www.ruthnewman.com.au

PROJECT
NEW CLASSROOM BUILDING AT LOQUAT VALLEY PREPARATORY SCHOOL FOR SASC

DRAWING TITLE
SITE PLAN

☐ TENDER ☐ FOR INFORMATION
☐ CONSTRUCTION ☐ FOR APPROVAL

DRAWING NUMBER	PROJECT NUMBER
A01	11222
SHEET SIZE	AMENDMENT NUMBER
A1	B
DRAWN BY: BP	DATE: 11.07.12
SCALE: 1:200@A1	

LOQUAT VALLEY PREPARATORY SCHOOL

1977 PITTWATER RD BAYVIEW

Job No. **120128**

HYDRAULIC LEGEND

- TAP
- CHECK VALVE
- FLOOR WASTE
- STOP VALVE
- TUNDISH
- METER
- FIRE HOSE REEL
- FLOW DIRECTION
- PUMP
- SERVICE / SIZE — SERVICES FROM OR TO ABOVE
- SERVICE / SIZE — SERVICES FROM OR TO BELOW
- BOUNDARY TRAP
- DUAL PILLAR FIRE HYDRANT
- FIRE HYDRANT
- SEWER MAN HOLE
- DROPPER
- RISER
- THERMOSTATIC MIXING VALVE
- WINDOW DRENCHER
- SOLENOID VALVE
- FIRE EXTINGUISHER
- PRESSURE LIMITING VALVE

ABREVIATIONS

AAV	AIR ADMITTANCE VALVE
AB	ABOVE BENCH
AFFL	ABOVE FINISHED FLOOR LEVEL
A/C	AIR CONDITIONING
B	BASIN
BCWU	BOILING/CHILLED WATER UNIT
BFPD	BACK FLOW PREVENTION DEVICE
BTFW	BUCKET TRAP FLOOR WASTE
BV	BRANCH VENT
CD	CONDENSATE DRAIN
CL	CLEARANCE
CM	COFFEE MACHINE
CO	CLEAR OUT
CS	CEILING SPACE
Cu	COPPER
CW	COLD WATER
DCV	DOUBLE CHECK VALVE
DIA	DIAMETER
DP	DOWNPIPE
DTU	DRAINAGE TURNUP
DW	DISH WASHER
Ex.	EXISTING
FC	FALSE CEILING
FFL	FINISHED FLOOR LEVEL
FW	FLOOR WASTE
GL	GROUND LEVEL
GMS	GALVANISED MILD STEEL
GW	GREASEWASTE
GWV	GREASEWASTE VENT
HL	HIGH LEVEL
HT	HOSE TAP
HTV	HOLDING TANK VENT
HW	HOT WATER
HWR	HOT WATER RETURN
HWU	HOT WATER UNIT
IL	INVERT LEVEL
IM	ICE MACHINE
IO	INSPECTION OPENING
IPMF	INDUCT PIPE MICA FLAP
LL	LOW LEVEL
NRV	NON RETURN VALVE
O/F	OVERFLOW
PLV	PRESSURE LIMITING VALVE
PRV	PRESSURE REDUCTION VALVE
PVC	POLYVINYLCHLORIDE
REF	REFRIGERATOR
RL	REDUCED LEVEL
RDZD	REDUCED PRESSURE ZONE DEVICE
RSV	RECESSED STOP VALVE
RV	RELIEF VENT PIPE
SD	SEWER DRAINAGE
SHR	SHOWER
SK	KITCHEN SINK
SL	SURFACE LEVEL
SP	SANITARY PLUMBING
SPO	SEWER PUMP OUT
SST	SOIL STACK
SS	90ø SUBSOIL LINE CONNECT TO STORMWATER PIT
ST	STOP TAP
STV	STACK VENT PIPE
STW	STORMWATER
SV	STOP VALVE
S/S	STAINLESS STEEL
TD	TUNDISH
TMV	THERMOSTATIC MIXING VALVE
TPR	TEMPERATURE PRESSURE RELIEF VALVE
TTD	TRAPPED TUNDISH
TW	TRADE WASTE
TWV	TRADE WASTE VENT
UB	UNDER BENCH
UR	URINAL
U/S	UNDER SIDE
VCP	VITRIFIED CLAY PIPE
VP	VENT PIPE
WC	WATER CLOSET
WM	WASHING MACHINE
WW	WARM WATER

SEWER & DRAINAGE LINETYPES

- SEWER PIPE WORK
- RAIN WATER PIPE WORK
- STORMWATER PIPE WORK
- VENT PIPE WORK
- TRADE WASTE PIPE WORK

PRESSURISED SERVICES LINETYPES

- GAS PIPE WORK
- COLD WATER PIPE WORK
- HOT WATER PIPE WORK
- HOT WATER RETURN PIPE WORK
- WARM WATER
- HOT WATER SOLAR
- HOT WATER SOLAR RETURN

GENERAL NOTES

1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS DRAWINGS AND SPECIFICATION AND WITH SUCH OTHER WRITTEN INSTRUCTION AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE SUPERINTENDENT BEFORE PROCEEDING WITH THE WORK. REFER TO 19.
2. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT AUSTRALIAN STANDARDS AND THE BUILDING CODE OF AUSTRALIA EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION. REFER TO 16.
3. ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE CONTRACTOR ON SITE. ENGINEERS DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS.
4. THE CONTRACTOR SHOULD REPORT ANY DISCREPANCIES ON THE DRAWINGS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN.
5. UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
6. CONTRACTOR IS NOT TO ENTER UPON NOR DO ANY WORK WITHIN ADJACENT LANDS WITHOUT THE PERMISSION OF THE OWNER. SURPLUS EXCAVATED MATERIAL SHALL BE PLACED WHERE DIRECTED OR REMOVED FROM SITE.
7. ALLOW TO CO-ORDINATE WITH THE EXISTING STRUCTURE AND SERVICES IN THE BUILDING, ALLOWING FOR ANY ADDITIONAL WORKS THAT MAY BE REQUIRED TO CO-ORDINATE WITH THESE SERVICE.
8. ALLOW FOR OUT OF HOURS WORKS,
9. ALL WORK SHALL BE CARRIED OUT UNDER THE DIRECT SUPERVISION OF A LICENSED PLUMBER. WORK IS ALSO TO BE CO-ORDINATED WITH PROJECT MANAGER.
10. EXISTING LOCATION OF SERVICES SHOWN HAS BEEN DETERMINED FROM VISUAL INSPECTION ON SITE AND RECORD DRAWINGS AVAILABLE. NO CONFIRMATION/PROVING OF SERVICES SHOWN HAS BEEN UNDERTAKEN. THE HYDRAULIC CONTRACTOR SHALL CONFIRM ALL SERVICES PRIOR TO STARTING WORKS. ANY DISCREPANCIES FOUND SHALL BE REPORTED TO THE HYDRAULIC DESIGNER.
11. ALLOW TO SITE CHECK THE INVERT LEVELS OF ALL SANITARY PIPEWORK TO WHICH CONNECTIONS ARE SHOWN TO BE MADE PRIOR TO CONSTRUCTION. ANY DISCREPANCIES FOUND SHALL BE REPORTED TO THE PROJECT MANAGER.
12. ALLOW TO DRILL CORE HOLES WHERE NECESSARY AND OBTAIN APPROVAL FROM THE STRUCTURAL ENGINEER/ BUILDER FOR CORES PRIOR TO DRILLING. WHEN DRILLING HOLES, PROVIDE ADEQUATE PROTECTION TO PREVENT DAMAGE OF ANY FINISHED AND EXTERNAL SURFACES ABOVE AND BELOW. ANY DAMAGE CAUSED SHALL BE RECTIFIED AT THE CONTRACTOR'S COST. ALLOW FOR STRUCTURAL ENGINEERING FEES AND APPROVALS
13. HYDRAULIC DRAWINGS ARE APPROXIMATE ONLY AND ARCHITECT'S DETAILS ARE TO BE REFERRED TO FOR ACCURATE SETOUTS OF FIXTURES ETC.
14. FIRE SEAL AROUND ALL PIPE PENETRATIONS THROUGH FIRE RATED CONSTRUCTION MEMBERS WITH FULLY CERTIFIED MATERIALS.
15. THE SUB-CONTRACTOR SHALL BE DEEMED TO HAVE INSPECTED THE SITE PRIOR TO TENDER AND BE SATISFIED THAT THE WORKS, AS DOCUMENTED, ARE COMPLETE AND ALL EXISTING SERVICES SHOWN FOR CONNECTION ARE SUITABLE.
16. ALLOW TO CAP AND REMOVE EXISTING SERVICES NOT IN USE.
17. UPON COMPLETION OF THE PROJECT, SUBMIT FOUR (4) COPIES OF MAINTENANCE MANUALS CONTAINING 'AS INSTALLED' PAPER COPY DRAWINGS. INCLUDE ALL DRAWINGS IN ELECTRONIC FORMAT.
18. IF FOR ANY REASON DOUBT EXISTS ON WHETHER A PARTICULAR PORTION OF WORK IS REQUIRED THE SUB-CONTRACTOR SHALL INCLUDE THIS AS A SEPARATE QUOTATION IN THE TENDER.
19. THE SUB-CONTRACTOR SHALL INCLUDE A FULL SCHEDULE OF RATES TO COVER THE WORKS AND ANY VARIATION WITH THE TENDER.
20. SANITARY PLUMBING SYSTEMS TO BE COMPLETE WITH ACOUSTIC INSULATION TO MEET CURRENT BCA/NCC REQUIREMENTS.
21. ALL WORKS TO BE INSTALLED IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND LOCAL GOVERNING AUTHORITY REQUIREMENTS.
22. ALLOW TO PAY ALL AUTHORITY FEES AND CHARGES AS NECESSARY TO COMPLETE THE WORK.
23. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE HYDRAULIC SPECIFICATION, ARCHITECTURAL, STRUCTURAL AND OTHER SERVICES DOCUMENTATION.
24. ALLOW TO EXTEND ALL VENTS VERTICALLY THROUGH ROOF AND DISCHARGE WITH A WEATHERPROOF FLASHING AND COWL.

HYDRAULIC SPECIFICATION

1.0 GENERALLY

HYDRAULIC SERVICES SHALL BE INSTALLED IN ACCORDANCE WITH :-

- BUILDING CODE OF AUSTRALIA (BCA)
- AUSTRALIAN STANDARD AS:3500 NATIONAL PLUMBING AND DRAINAGE CODE
- NSW CODE OF PRACTICE FOR PLUMBING AND DRAINAGE
- PITTWATER CITY COUNCIL WATER CORPORATION REQUIREMENTS
- PITTWATER CITY COUNCIL REQUIREMENTS

THE CONTRACTORS' OBLIGATIONS SHALL INCLUDE BUT NOT BE LIMITED TO :-

- COMPLIANCE WITH THE GENERAL CONDITIONS OF THE CONTRACT
- PROVISION FOR ALL INSPECTIONS AND APPROVALS AND PAYING ALL ASSOCIATED FEES
- ESTABLISHING THE EXTENT OF THE EXISTING SERVICES AND THEIR SUITABILITY FOR CONNECTION
- OBTAINING APPROVAL FROM THE STRUCTURAL ENGINEER PRIOR TO MAKING PENETRATION THROUGH EXISTING STRUCTURE
- CO-ORDINATION ON SITE OF NEW HYDRAULIC SERVICES WITH ALL EXISTING SERVICES
- PROVISION OF AS INSTALLED DRAWINGS, OPERATING AND MAINTENANCE MANUALS
- PROVISION OF ACOUSTIC INSULATION TO ACHIEVE BCA STC NOISE CRITERIA AS NECESSARY. GENERALLY PROVIDE INSTALLATION TO ALL PIPEWORK WITHIN THE OCCUPIED SPACE OR AS MAY BE FURTHER SPECIFIED BY ACOUSTIC CONSULTANT
- UPDATED SYDNEY WATER SEWER DRAWING

2.0 MATERIALS

THE FOLLOWING MATERIALS ARE TO BE USED FOR EACH SERVICE :-

- SANITARY PLUMBING: UPVC DWV WITH PRIMED SOLVENT CEMENT JOINTS
- VENT PIPES: UPVC DWV WITH PRIMED SOLVENT CEMENT JOINTS
- COLD WATER PIPEWORK: COPPER TUBE TYPE B TO AS 1432, BRAZED JOINTS WITH 15% SILVER CONTENT
- STORMWATER INGROUND UPVC WITH PRIMED SOLVENT CEMENT JOINT
- DOWNPIPES TO ARCHITECTS SPECIFICATION

NOTE: CONTRACTOR SHALL ENSURE ALL MATERIALS SHALL BE INSTALLED TO MATCH THAT OF EXISTING BASE BUILDING PROVISIONAL RISERS.

3.0 SANITARY PLUMBING

LOCATE EXISTING SANITARY DRAINAGE AND EXTEND TO NEW FIXTURE LOCATTIONS AS SHOWN ON DRAWINGS

4.0 COLD WATER

MAKE CONNECTION TO EXISTING COLD WATER AND EXTEND TO NEW FIXTURE LOCATIONS. ALLOW TO CONNECT TO ALL FAUCETS INCLUDING SINK TAP SET, AND STOP VALVES AS SHOWN ON DRAWINGS

6.0 FIXTURES and TAPWARE

SUPPLY AND INSTALL FIXTURE & TAPWARE AS SPECIFIED BY THE ARCHITECT

NOTE: CONTRACTOR TO CONFIRM ALL FIXTURES AND TAPWARE WITH ARCHITECT SCHEDULE PRIOR TO INSTALLATION

STORMWATER

1. STORMWATER DRAINAGE SHALL BE GENERALLY IN ACCORDANCE WITH CURRENT AUSTRALIAN STANDARDS AND COUNCIL'S SPECIFICATION.
2. PIPES OF 225mm DIA. AND UNDER SHALL BE UPVC
3. PIPES OF 300mm DIA. AND LARGER SHALL BE FRC OR CONCRETE CLASS 2 RUBBER RING JOINTED UNO.
4. ALL FRC OR RCP STORMWATER PIPES WITHIN ROAD RESERVE AREAS TO BE CLASS 3 U.N.O.
5. PIPES SHALL GENERALLY BE LAID AT THE GRADES INDICATED ON THE DRAWINGS.
6. MINIMUM COVER TO PIPES 300mm DIA. AND OVER GENERALLY SHALL BE 600mm IN CARPARK & ROADWAY AREAS UNO.
7. PIPES UP TO 150mm DIA SHALL BE LAID AT 1.0% MIN. GRADE U.N.O
8. PIPES 225mm DIA AND OVER SHALL BE LAID AT 0.5% MIN. GRADE U.N.O.
9. BACKFILL TRENCHES WITH APPROVED FILL COMPACTED IN 200mm LAYERS TO 98% OF STANDARD DENSITY
10. ANY PIPES OVER 16% GRADE SHALL HAVE CONCRETE BULKHEADS AT ALL JOINTS
11. PITS SHALL BE AS DETAILED WITH METAL GRATES AT LEVELS INDICATED. ALL PITS DEEPER THAN 1000mm TO HAVE CLIMB IRONS.
12. BUILD INTO UPSTREAM FACE OF ALL PITS A 3.0m SUBSOIL LINE FALLING TO PITS TO MATCH PIT INVERTS.
13. ALL COURTYARD & LANDSCAPED PITS TO BE 450 SQUARE UNLESS NOTED OTHERWISE.
14. ALL DRIVEWAY & OSD PITS TO BE 600 SQUARE UNLESS NOTED OTHERWISE.
15. INSTALL TEMPORARY SEDIMENT BARRIERS TO INLET PITS, TO COUNCIL'S STANDARDS UNTIL SURROUNDING AREAS ARE PAVED OR GRASSED.
16. PITS & DOWNPIPE LOCATIONS AND LEVELS MAY BE VARIED TO SUIT SITE CONDITIONS AFTER CONSULTING THE ENGINEER.
17. DOWNPIPES SHOWN ARE INDICATIVE ONLY, ALL ROOF GUTTERING AND DOWNPIPES TO THE CURRENT AUSTRALIAN STANDARDS.
18. ALL PLANTER BOXES AND BALCONIES TO BE CONNECTED TO THE PROPOSED STORMWATER DRAINAGE LINE.
19. HAND-EXCAVATE STORMWATER PIPES IN VICINITY OF TREE ROOTS.
20. FOOTPATH CROSSING LEVELS SHOWN ARE TO BE ADJUSTED TO FINAL COUNCIL'S ISSUED LEVELS.
21. SUBSOIL LINE:

PIPES AND FITTINGS SHALL BE PERFORATED PLASTIC TO CURRENT AUSTRALIAN STANDARDS. LAY PIPES ON FLOOR OF TRENCH GRADED AT 1% MIN. AND OVERLAY WITH FILTER MATERIAL EXTENDING TO WITHIN 200mm OF SURFACE. PROVIDE FILTER FABRIC OF PERMEABLE POLYPROPYLENE BETWEEN FILTER MATERIAL AND TOPSOIL.

DRAINAGE INSTALLATION

1. ENDS OF PIPES AND STUB CONNECTIONS TO BE SEALED WITH AN APPROVED SEALED DISC.
2. MILD STEEL 'STAR' PICKET 1200mm LONG WITH 300mm PAINTED GREEN, EXTENDED ABOVE GROUND LEVEL TO BE PLACED AT EACH INTERALLOTMENT DRAINAGE CONNECTION POINT.
3. PROVIDE 100 DIAMETER STUB CONNECTION WHERE SHOWN.
4. GEOTEXTILE FABRIC TO BE PLACED UNDER RIP RAP SCOUR PROTECTION.
5. ALL BASES OF PITS TO BE BENCHED TO HALF PIPE DEPTH AND PROVIDE GALVANISED ANGLE SURROUNDINGS TO GRATE.

URBAN CITY CONSULTING PTY LTD
12 SEP 2012
Accredited Certifier .....
Accreditation No. BPB0284

TENDER ISSUE — NOT TO BE USED FOR CONSTRUCTION

AMDT	DATE	BY	DESCRIPTION	AMDT	DATE	BY	DESCRIPTION
B	16.07.12	JDC	RE- ISSUED FOR TENDER				
A	13.07.12	JDC	TENDER ISSUE				
1	06.07.12	JDC	PRELIMINARY ISSUE				

CIVIL STRUCTURAL BUILDING SERVICES

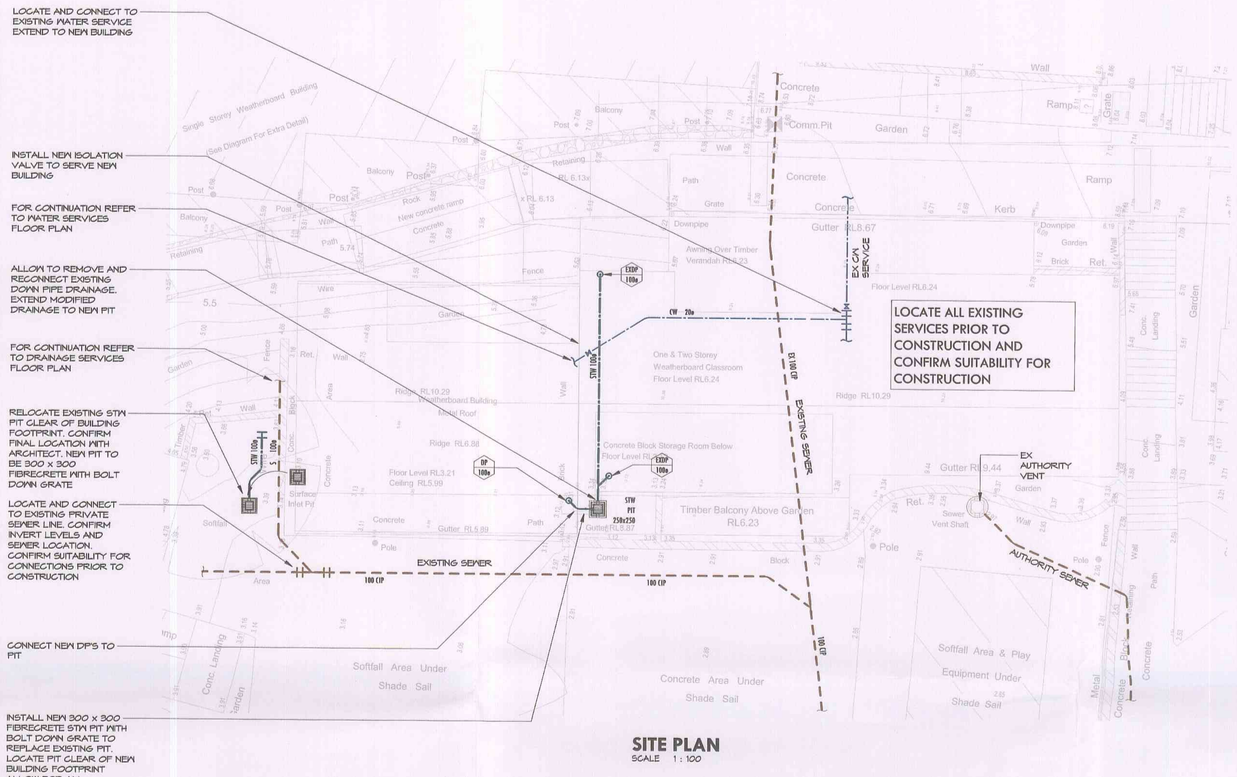
JONES NICHOLSON PTY. LTD.
CONSULTING ENGINEERS
SUTHERLAND - SUITE 45, 40-44 BELMONT STREET, SUTHERLAND NSW 2232
Ph. (02) 9521 3088
Fax. (02) 9521 3066
SUTHERLAND - WOLLONGONG - GOLD COAST - GOULBURN - PICTON

DESIGN :	JDC
DRAWN :	DL
DATE :	JULY '12
DRG SIZE :	A1
SCALE :	1 : 100
PROJECT MGR :	GC

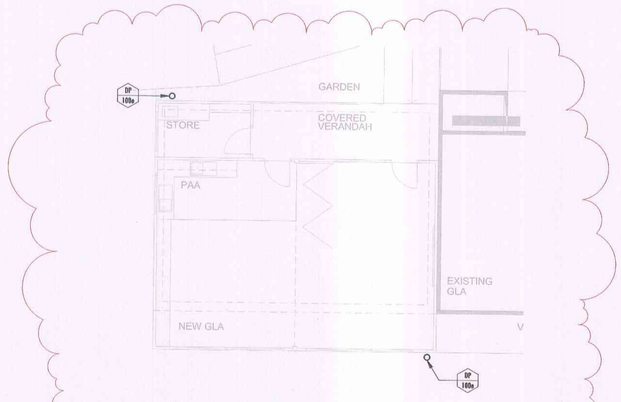
HYDRAULIC DESIGN NOTES & LEGEND

LOQUAT VALLEY PREPARATORY SCHOOL
1977 PITTWATER RD BAYVIEW
SYDNEY ANGLICAN SCHOOL CORP

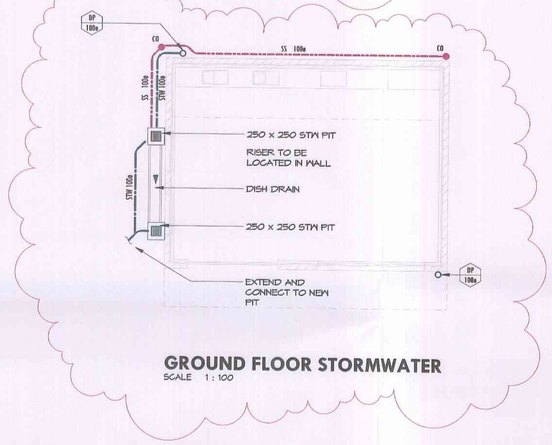
120128
H001 B



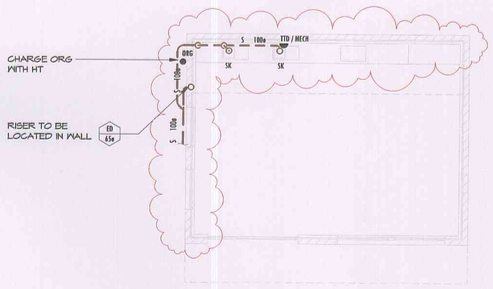
SITE PLAN
SCALE 1 : 100



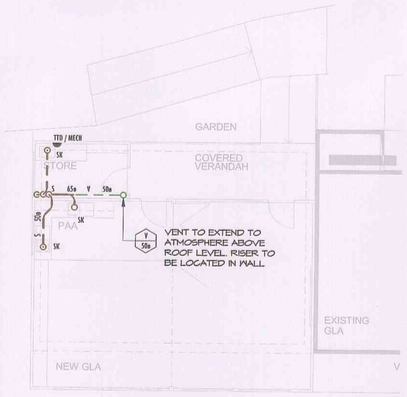
UPPER FLOOR STORMWATER SERVICES
SCALE 1 : 100



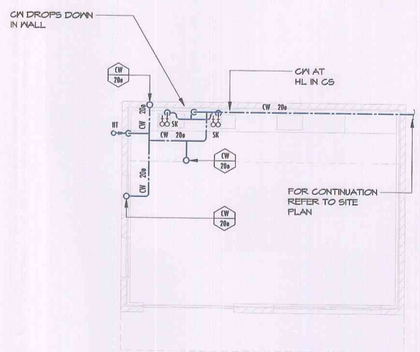
GROUND FLOOR STORMWATER
SCALE 1 : 100



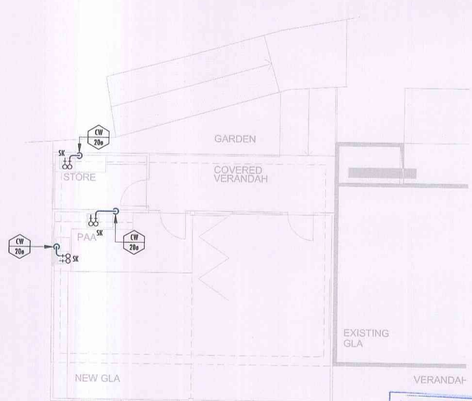
GROUND FLOOR SEWER
SCALE 1 : 100



UPPER FLOOR SEWER SERVICES
SCALE 1 : 100



GROUND FLOOR WATER SERVICES
SCALE 1 : 100



UPPER FLOOR WATER SERVICES
SCALE 1 : 100

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DESIGN :	JDC
DRAWN :	DL
DATE :	JULY '12
DRG SIZE :	A1
SCALE :	1 : 100
PROJECT MGR :	GC

HYDRAULIC DESIGN
WATER AND SEWER SERVICES

LOQUAT VALLEY PREPARATORY SCHOOL
1977 PITTWATER RD BAYVIEW
SYDNEY ANGLICAN SCHOOL CORP

120128
H002 B

Notes:

BEARINGS AND DIMENSIONS ARE FROM TITLE UNLESS STATED OTHERWISE.

SERVICES HAVE BEEN LOCATED FROM VISIBLE SURFACE INDICATORS. FIELD CONFIRMATION OF THE EXACT POSITION SHOULD BE MADE PRIOR TO ANY EXCAVATION WORK. OTHER SERVICES MAY EXIST WHICH ARE NOT SHOWN.

CONTOURS ARE INDICATIVE ONLY AND SPOT LEVELS SHOULD BE TAKEN IN PREFERENCE.

LEVELS ARE BASED ON BM. NAIL IN WALL RL.8.46 ADOPTED FROM PAUL KEEN & COMPANY PLAN (Ref: 19396)

RIDGE, EAVE & GUTTER HEIGHTS HAVE BEEN OBTAINED BY AN INDIRECT METHOD AND ARE ACCURATE TO ± 0.05m.

CONTOUR INTERVAL 1.0m.

PREVIOUS DETAIL SURVEYS DATED 27-3-97 AND 6-7-04 (CADREF: 7073-001.dwg & C189-001a.dwg)

PREVIOUS SURVEY INFORMATION SHOWN IN GREY

No.	DATE	REVISION DETAILS
C	27-5-09	ADDITIONAL SEWER INFORMATION
B	8-01-09	UPDATED DETAIL & LEVELS IN SELECETED AREAS
A	6-7-04	ADDITIONAL DETAIL

WHELANS INSITES

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MIDSON GROUP ON BEHALF OF SYDNEY ANGLICAN SCHOOLS

Plan showing
Detail & Levels over
Loquat Valley School
Bayview

A1

SCALE	1:200	DATUM	SEE NOTE
DATE OF SURVEY	JAN 2009	DATE OF PLAN	12-1-2009
SURVEY	JFV	DRAWN	NEC
JOB REF.	C189	SHEET	1 OF 1 SHEETS

LOQUAT VALLEY PREPARATORY SCHOOL

1977 PITTWATER RD BAYVIEW

Job No. **120128**

LIGHTING FIXTURE LEGEND

- ○ or □ · LIGHT FITTINGS
- · FLUORESCENT BATTEN
- · FLUORESCENT TROFFER
- · SWITCH
- · EXIT SIGN
- · PE CELL
- · MOTION SENSOR
- · EMERGENCY LIGHT
- · LED STRIP
- · FAN

ELECTRICAL FIXTURE LEGEND

- · EXISTING GPO
- · DOUBLE 10A GPO
- · 240V ISOLATOR

DATA LEGEND

- · SINGLE CAT 5e RJ45 OUTLET
- · DOUBLE CAT 5e RJ45 OUTLET
- · TRIPLE CAT 5e RJ45 OUTLET
- · F TYPE MATV OUTLET

AUDIO VISUAL LEGEND

- · SPEAKER
- · VOLUME CONTROL
- · AMPLIFIER
- · AUDIO VISUAL PANEL (QUESTRONIX)

FIRE ALARM LEGEND

- · CEILING MOUNTED SMOKE DETECTOR
- · CEILING MOUNTED SMOKE DETECTOR ALARM

ELECTRICAL LINE STYLE

- ELECTRICAL CONUIT
- COMMUNICATION CONDUIT
- SKIRTING DUCT
- LIGHTING SWITCHING

ABREVIATIONS

A/C	POWER TO AIR CONDITIONING
AB	ABOVE BENCH
BB	BELOW BENCH
BD	BUILDING DISTRIBUTOR
BWU	BOILING WATER UNIT
CL	OUTLET FOR CLEANER
CM	CEILING MOUNTED
CS	OUTLET MOUNTED IN CEILING SPACE
D	DELETED
DW	DISHWASHER
E	EXISTING
FD	FLOOR DISTRIBUTOR
HWU	HOT WATER UNIT
MW	MICROWAVE
N	NEW
R	RELOCATED
RCD	RESIDENTIAL CURRENT DEVICE
RF	REFRIGERATOR
SK	SKIRTING DUCT MOUNTED OUTLET
SUS	SUSPENDED
SM	SURFACE MOUNTED
SS	STAINLESS STEEL FACEPLATE
WP	WEATHER PROOF
WAP	WIRELESS ACCESS POINT
LL	LOW LEVEL
HL	HIGH LEVEL

NOTES

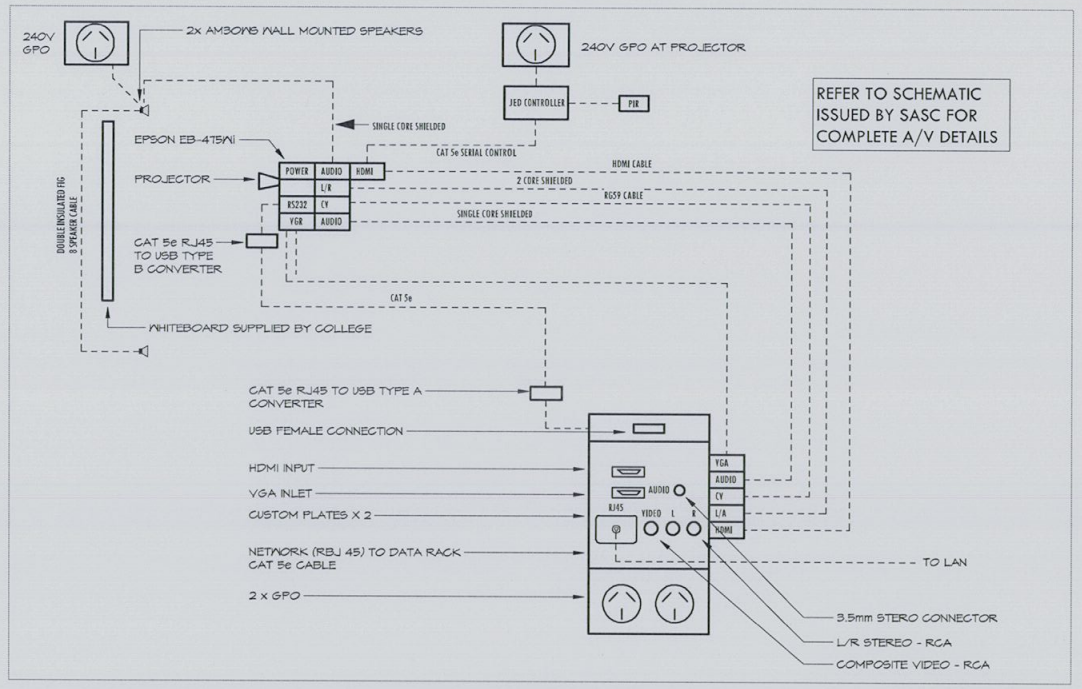
1. ELECTRICAL CONTRACTOR TO REVIEW ARCHITECTURAL DETAILS SECTIONS AND ELEVATIONS FOR EXACT LOCATIONS AND DIMENSIONS.
2. RCD PROTECTED CIRCUIT TO BE SUPPLIED TO ALL LIGHTING AND POWER SOCKETS AS PER AS3000.
3. ALL POWER AND COMMS OUTLETS TO BE MOUNTED 300AFFL UNLESS LABELLED OTHERWISE.
4. ALL SWITCHES TO BE MOUNTED 1000AFFL UNLESS LABELLED OTHERWISE.
5. ELECTRICAL CONTRACTOR TO PROVIDE EARTHING TO ALL BATHROOM/SHOWER FLOOR SLAB REINFORCING AS PER AS3000 5.6.2.5.
6. ELECTRICAL CONTRACTOR TO CLEAN ALL FITTINGS AT PRACTICAL COMPLETION.
7. ALL EXTERNAL LIGHTING TO BE CONTROLLED VIA A PE CELL AND TIMECLOCK AS PER BCA SECTION J6
8. ALL SMOKE AND THERMAL DETECTORS TO BE INSTALLED IN ACCORDANCE WITH AS1670. ELECTRICAL CONTRACTOR TO CO-ORDINATE ON SITE TO ENSURE THAT DETECTORS ARE NOT LOCATES WITHIN 300mm OF WALLS OR 600mm OF CEILING FANS AND A/C SUPPLY REGISTERS.
9. EMERGENCY LIGHTING TEST SWITCH TO BE INSTALLED IN DISTRIBUTION BOARD
10. ALL EXIT SIGNS MOUNTED OVER DOOR OR MAXIMUM OF 2700mm AFFL TO UNDERSIDE OF SIGN.

SWITCH SCHEDULE

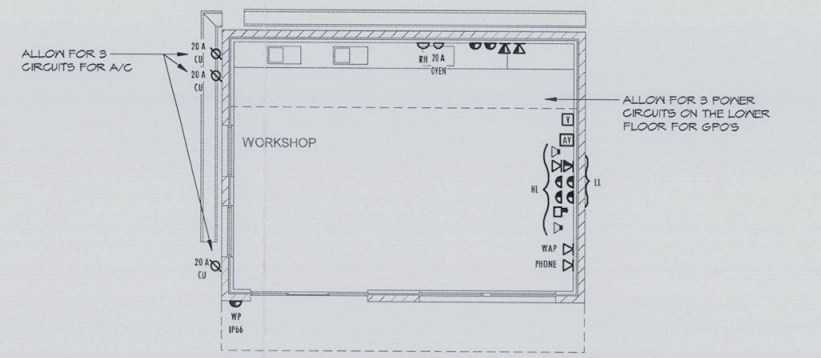
TYPE	DRESCRIPTION
F.1	10AMP SINGLE FAN SWITCH
S.1	10AMP SINGLE LIGHT SWITCH

LIGHTING SCHEDULE

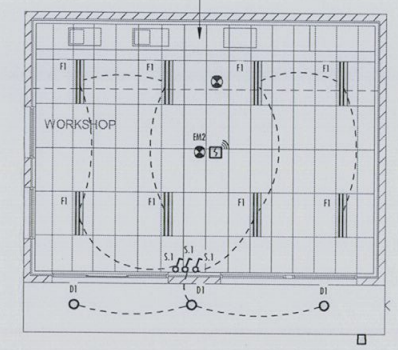
TYPE	DESCRIPTION	LAMP	MODEL	MANUFACTURE
D1	RECESSED ROUND DOWNLIGHT WITH IP44 DIFFUSER	1 x 26W 4000K	APLISO	JADECROSS
EM1	EMERGENCY NON-MAINTAINED 85mmØ RECESSED MOUNTED IN CONTINOUS EXTRUSION	10W	FIREFLY	PIERLITE
EM2	EMERGENCY NON-MAINTAINED 85mmØ SURFACE MOUNTED	10W	FIREFLY	PIERLITE
EX2	EXIT SIGN DIRECTIONAL	10W	DIRECTOR	PIERLITE
F1	RECESSED FLUORESCENT TROFFER	2 x 28W 4000K	FUSION T5	PIERLITE
F2	SURFACE MOUNTED BATTEN	2 x 28W 4000K	HIGH 5	PIERLITE
FA1	3 BLADE FAN		ACES 48	CLIPSAL
FL	SURFACE MOUNTED FLOOD LIGHT	70W 4000K	MUSTANG WALL WASH	LIGMAN
L1	CONTINUOUS EXTRUSION WITH FLUORESCENTS EVENLY SPACED WITH SATIN LOUVERS. INCORPORATING EMERGENCY AND SMOKE DETECTORS	1 x 35W FLUORESCENTS 4000K	B100-140	JADECROSS
WHE	SURFACE MOUNTED IP65 FITTING WHITE FINISH WITH GRILLE. EMERGENCY VERSION	2 x 26W 4000K	LARGE SANDY	LIGMAN



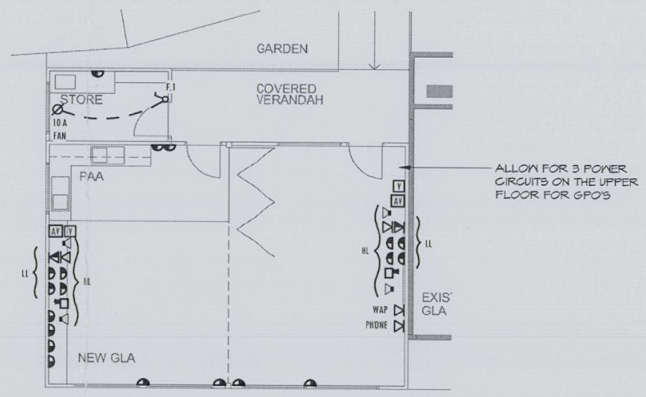
AV SCHEMATIC



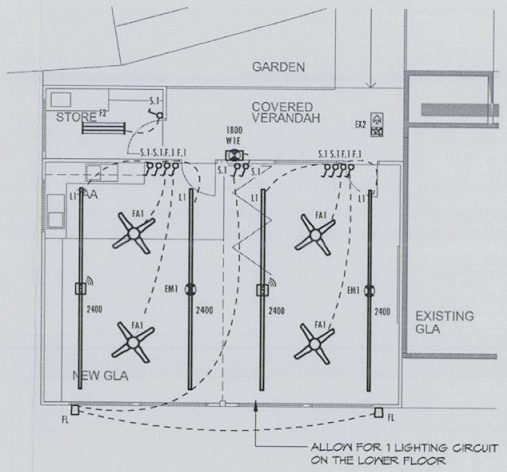
LOWER FLOOR POWER & DATA LAYOUT
SCALE 1 : 100



LOWER FLOOR LIGHTING LAYOUT
SCALE 1 : 100



UPPER FLOOR POWER & DATA LAYOUT
SCALE 1 : 100



UPPER FLOOR LIGHTING LAYOUT
SCALE 1 : 100

TENDER ISSUE NOT TO BE USED FOR CONSTRUCTION

AMDT	DATE	BY	DESCRIPTION	AMDT	DATE	BY	DESCRIPTION
A	13.07.12	SAB	TENDER ISSUE				
1	05.07.12	SAB	PRELIMINARY ISSUE				

CIVIL STRUCTURAL BUILDING SERVICES

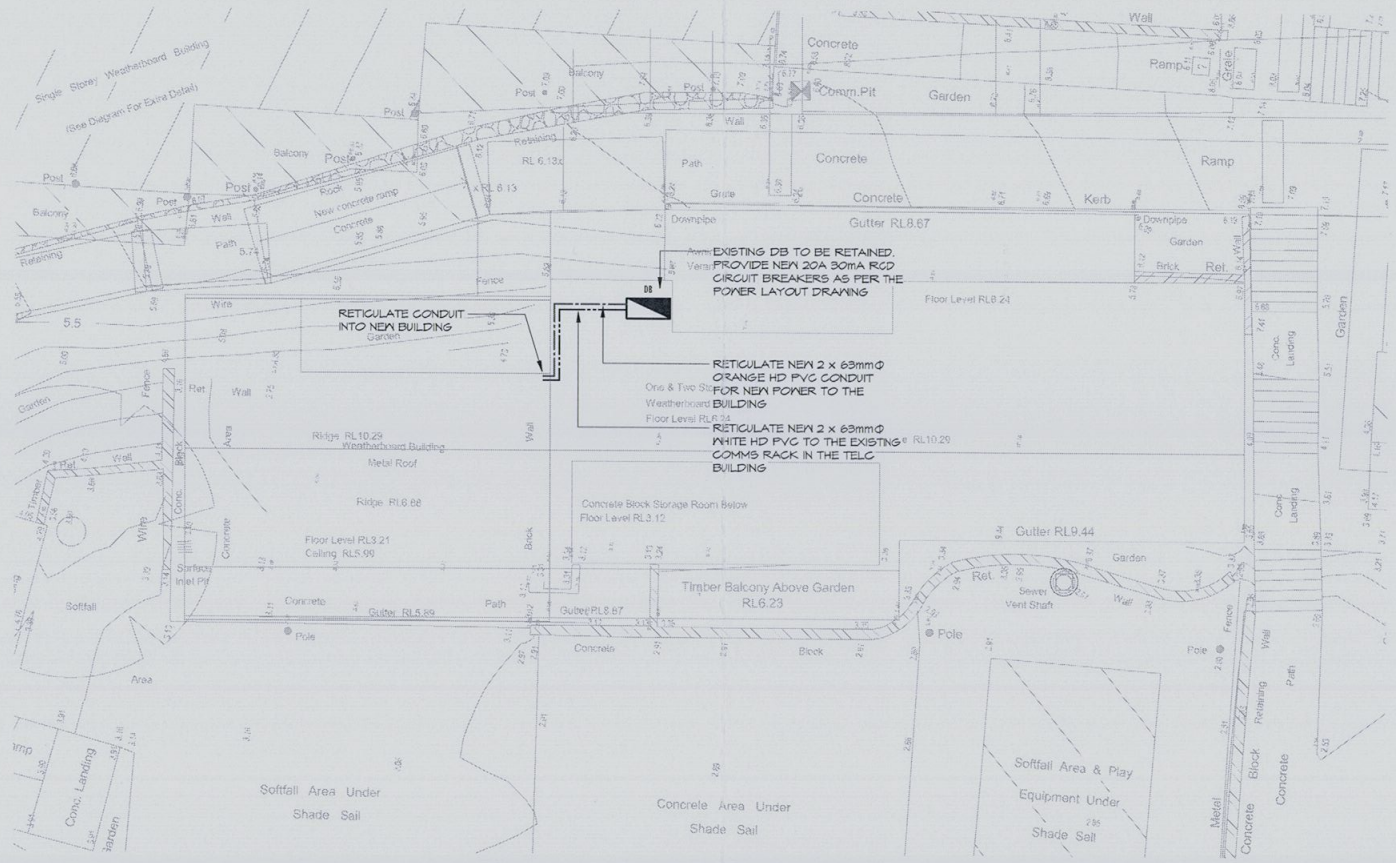
JONES NICHOLSON CONSULTING ENGINEERS PTY. LTD.
SUTHERLAND - SUITE 45, 40-44 BELMONT STREET, SUTHERLAND NSW 2232
Ph. (02) 9521 3088
Fax. (02) 9521 3066
SUTHERLAND - WOLLONGONG - GOLD COAST - GOULBURN - PICTON

DESIGN :	TS
DRAWN :	SAB
DATE :	JULY '12
DRG SIZE :	A1
SCALE :	1 : 100
PROJECT MGR :	GC

ELECTRICAL DESIGN NOTES, LEGEND & POWER & LIGHTING LAYOUTS

LOQUAT VALLEY PREPARATORY SCHOOL
1977 PITTWATER RD BAYVIEW
SYDNEY ANGLICAN SCHOOL CORP

120128
E001 A



NOT TO BE USED FOR CONSTRUCTION

TENDER ISSUE

URBAN CITY CONSULTING PTY LTD
12 SEP 2012
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Accreditation No. BPB0284

AMDT	DATE	BY	DESCRIPTION
A	13.07.12	SAB	TENDER ISSUE

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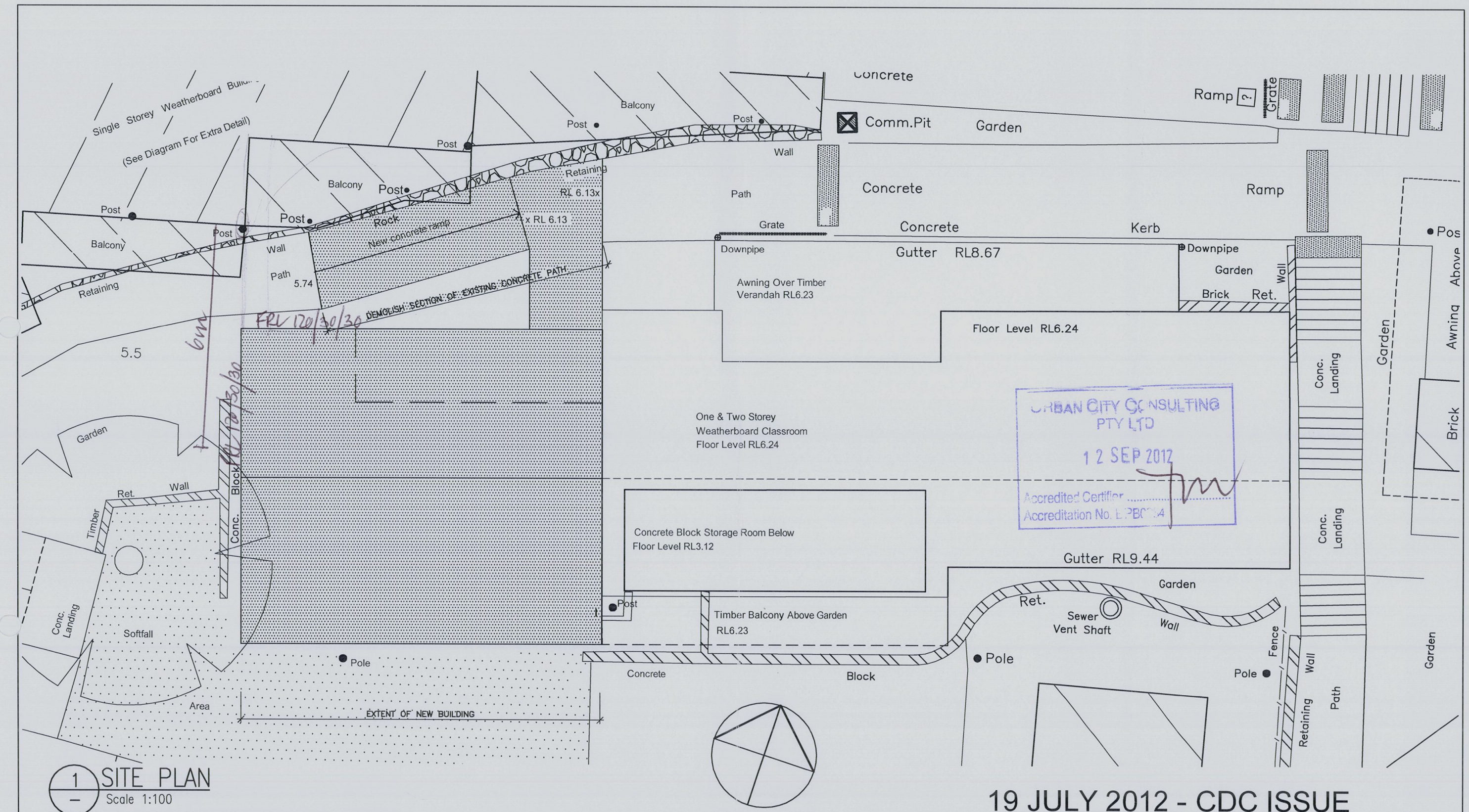
JONES NICHOLSON PTY. LTD.
CONSULTING ENGINEERS
SUTHERLAND - SUITE 45, 40-44 BELMONT STREET, SUTHERLAND NSW 2232
Ph. (02) 9521 3088
Fax. (02) 9521 3066
SUTHERLAND - WOLLONGONG - GOLD COAST - GOULBURN - PICTON

DESIGN :	TS
DRAWN :	SAB
DATE :	JULY '12
DRG SIZE :	A1
SCALE :	1 : 100
PROJECT MGR :	GC

ELECTRICAL DESIGN
ELECTRICAL SITE PLAN

LOQUAT VALLEY PREPARATORY SCHOOL
1977 PITTWATER RD BAYVIEW
SYDNEY ANGLICAN SCHOOL CORP

120128
E002A



1 SITE PLAN
Scale 1:100

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19 JULY 2012 - CDC ISSUE

NOTES:
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Figured dimensions shall be used.
Do not scale drawing.
The contractor shall verify all dimensions on site prior to commencement of work.

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AMT	DATE	DESCRIPTION	DRAWN	AUTH.
A	16.7.12	TENDER ISSUE	BP	-
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CLIENT
SYDNEY ANGLICAN SCHOOL CORPORATION

CONSULTANT

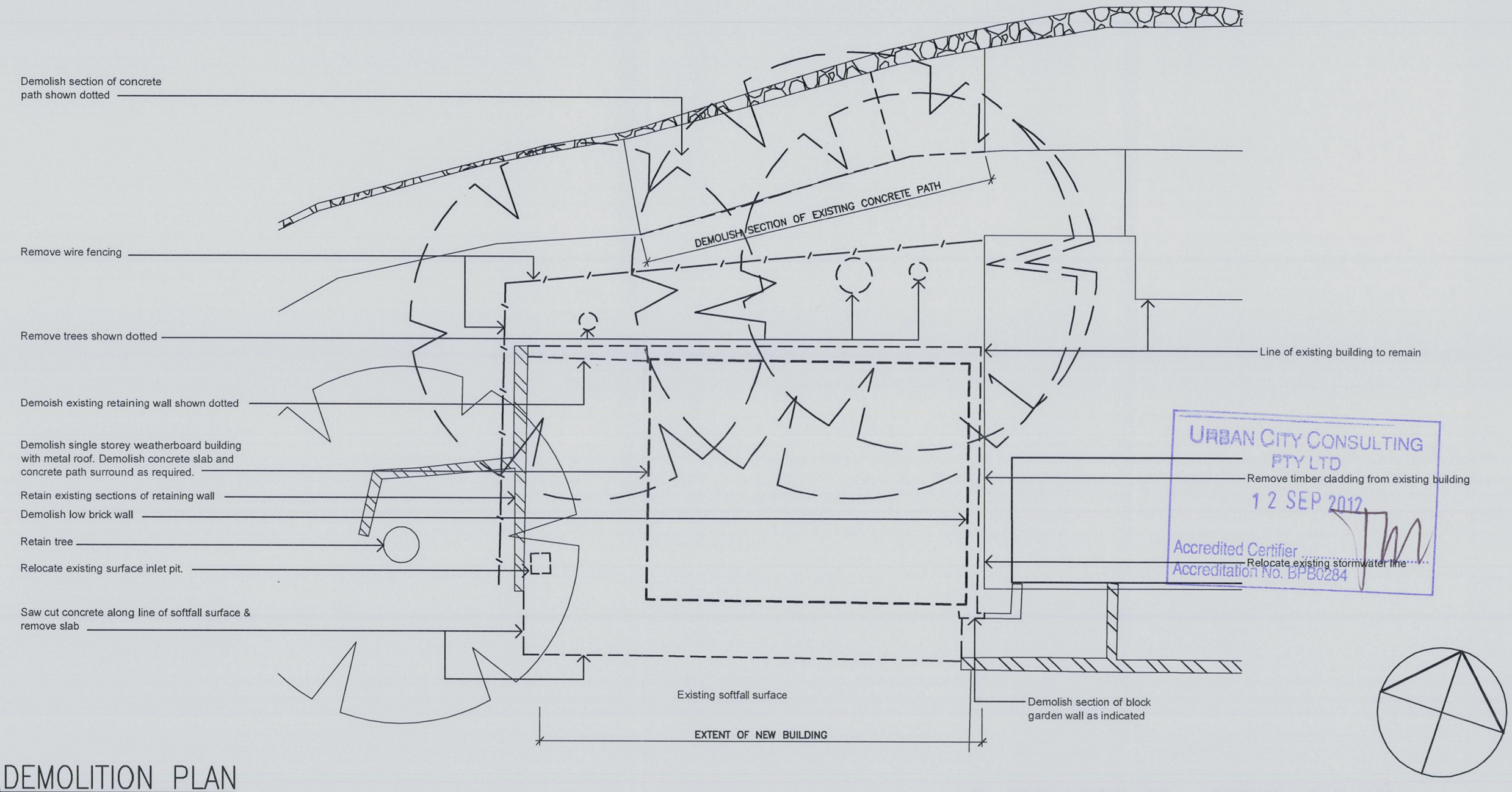
ruth newman Architect
P.O Box 736
Sutherland NSW 1499
Suite 1A
1-5 Gymea Bay Road
Gymea NSW 2227
t. 02 95409959
f. 02 9540 9640
e. ruth@ruthnewman.com.au
w. www.ruthnewman.com.au

PROJECT
PROPOSED NEW BUILDING AT LOQUAT VALLEY PREPARATORY SCHOOL
BAYVIEW

DRAWING TITLE
DETAIL SITE PLAN

☐ TENDER ☐ FOR INFORMATION
☐ CONSTRUCTION ☐ FOR APPROVAL

DRAWING NUMBER	PROJECT NUMBER
A03	11227
SHEET SIZE	AMENDMENT NUMBER
A3	B
DRAWN BY: BP	DATE: 11.07.12
SCALE: 1:100 @ A3	



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12 SEP 2012
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Accreditation No. BPB0284

1 DEMOLITION PLAN
Scale 1:100

19 JULY 2012 - CDC ISSUE

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CLIENT
SYDNEY ANGLICAN SCHOOL CORPORATION

CONSULTANT

ruth newman Architect
P.O Box 736
Sutherland NSW 1499
Suite 1A
1-5 Gymea Bay Road
Gymea NSW 2227
t. 02 95409959
f. 02 9540 9640
e. ruth@ruthnewman.com.au
w. www.ruthnewman.com.au

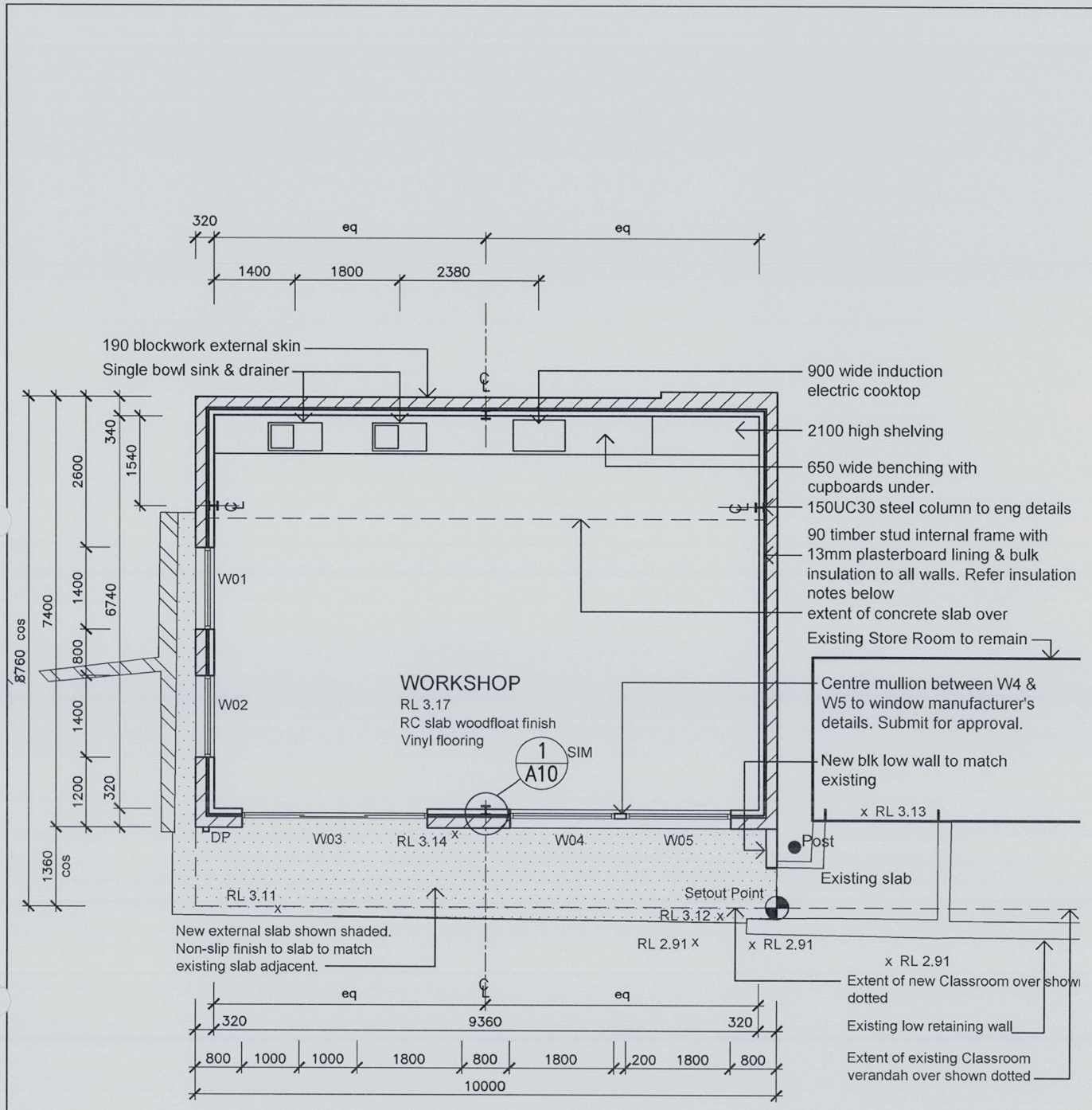
PROJECT
PROPOSED NEW BUILDING AT LOQUAT VALLEY PREPARATORY SCHOOL
BAYVIEW

DRAWING TITLE
DEMOLITION PLAN

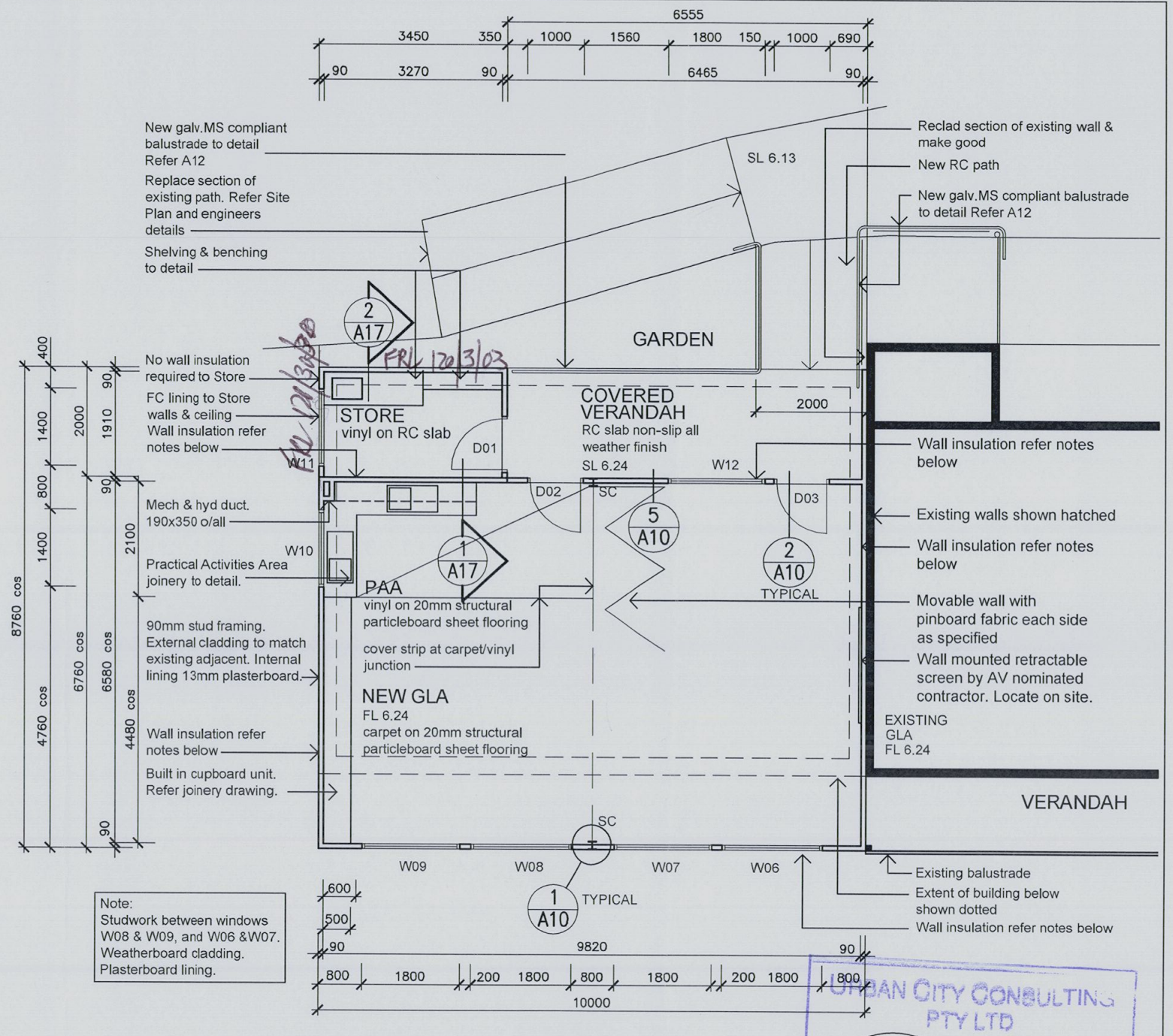
☐ TENDER ☐ FOR INFORMATION
☐ CONSTRUCTION ☐ FOR APPROVAL

DRAWING NUMBER	PROJECT NUMBER
A04	11227
SHEET SIZE	AMENDMENT NUMBER
A3	B

DRAWN BY	DATE	SCALE
BP	2.07.12	1:100 @ A3



1 / – LOWER FLOOR PLAN
Scale 1:100



Note:
Studwork between windows W08 & W09, and W06 &W07.
Weatherboard cladding.
Plasterboard lining.

1 / – UPPER FLOOR PLAN
Scale 1:100

INSULATION SPECIFICATION:

* 90mm Bradford Gold Batts R2.5 - to external walls on lower and upper walls except Store walls.
* 90mm Bradford Gold Batts R2.0 - to internal partition between GLA & Store

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SYDNEY ANGLICAN SCHOOL CORPORATION

CONSULTANT

ruth newman Architect
P.O Box 736
Sutherland NSW 1499
Suite 1A
1-5 Gymea Bay Road
Gymea NSW 2227
t. 02 95409959
f. 02 9540 9640
e. ruth@ruthnewman.com.au
w. www.ruthnewman.com.au

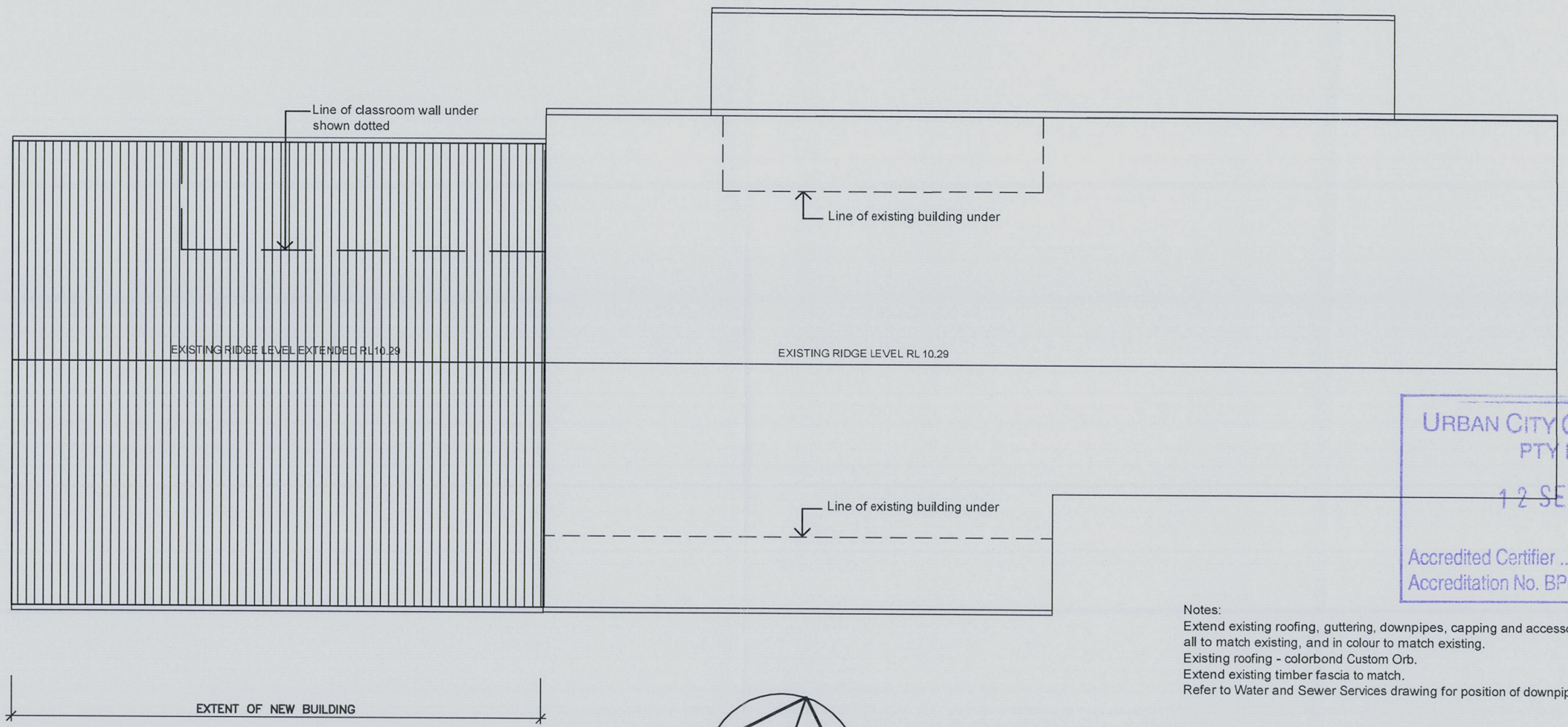
PROJECT
PROPOSED NEW BUILDING AT LOQUAT VALLEY PREPARATORY SCHOOL
BAYVIEW

DRAWING TITLE
PROPOSED FLOOR PLANS

☐ TENDER ☐ FOR INFORMATION
☐ CONSTRUCTION ☐ FOR APPROVAL

DRAWING NUMBER	PROJECT NUMBER
A05	11227
SHEET SIZE	AMENDMENT NUMBER
A3	B

DRAWN BY	DATE	SCALE
BP	2.07.12	1:100 @ A3



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Notes:
Extend existing roofing, guttering, downpipes, capping and accessories all to match existing, and in colour to match existing.
Existing roofing - colorbond Custom Orb.
Extend existing timber fascia to match.
Refer to Water and Sewer Services drawing for position of downpipes.

1 / — SITE PLAN
Scale 1:100

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CLIENT
SYDNEY ANGLICAN SCHOOL CORPORATION

CONSULTANT

ruth newman Architect
P.O Box 736
Sutherland NSW 1499
Suite 1A
1-5 Gymea Bay Road
Gymea NSW 2227
t. 02 95409959
f. 02 9540 9640
e. ruth@ruthnewman.com.au
w. www.ruthnewman.com.au

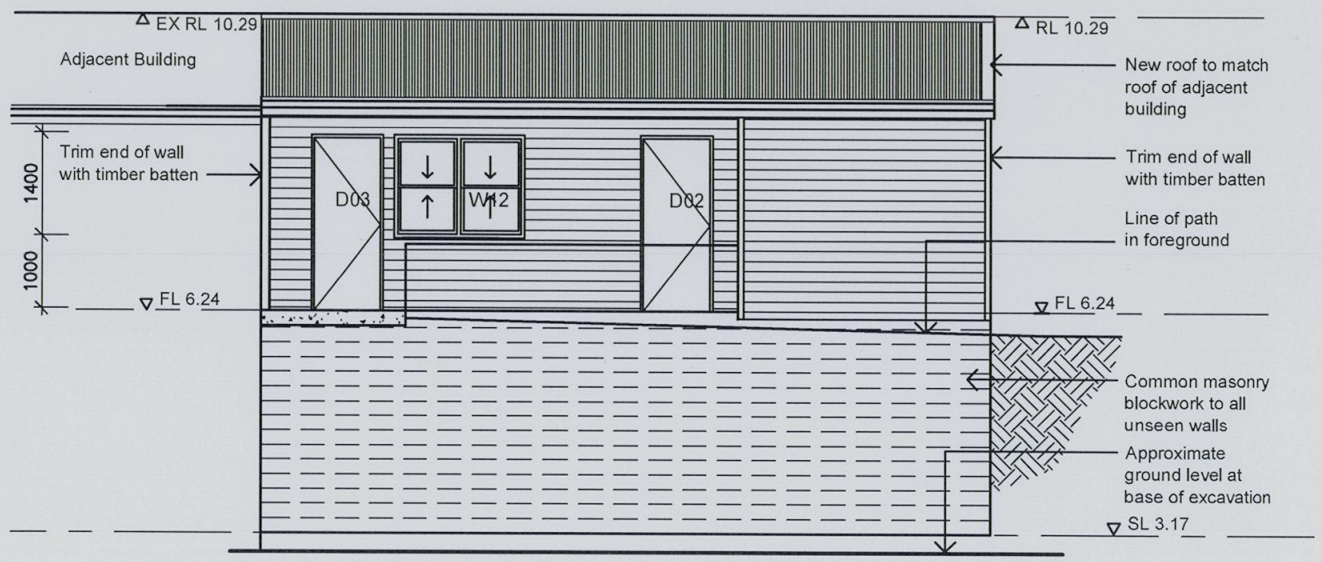
PROJECT
PROPOSED NEW BUILDING AT LOQUAT VALLEY PREPARATORY SCHOOL
BAYVIEW

DRAWING TITLE
ROOF PLAN

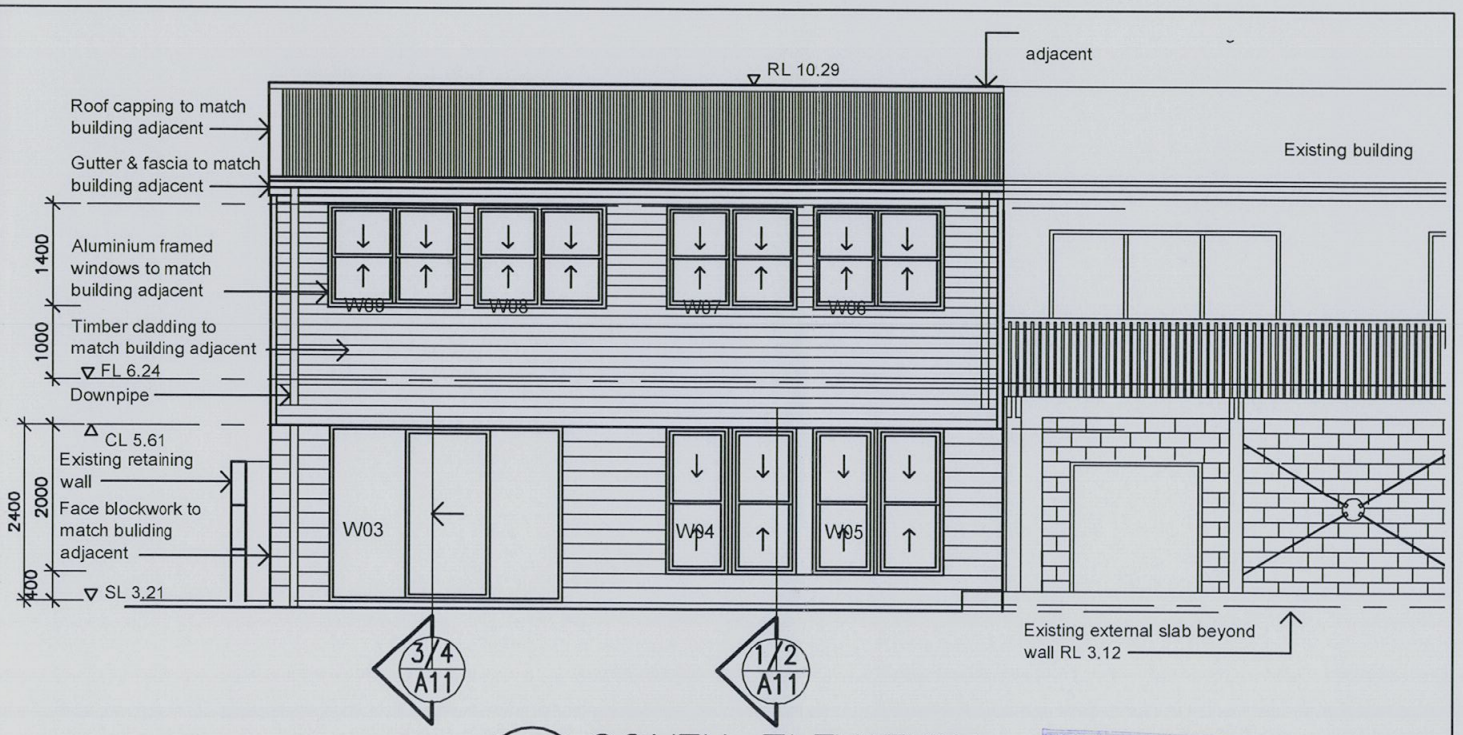
☐ TENDER ☐ FOR INFORMATION
☐ CONSTRUCTION ☐ FOR APPROVAL

DRAWING NUMBER	PROJECT NUMBER
A06	11227
SHEET SIZE	AMENDMENT NUMBER
A3	B

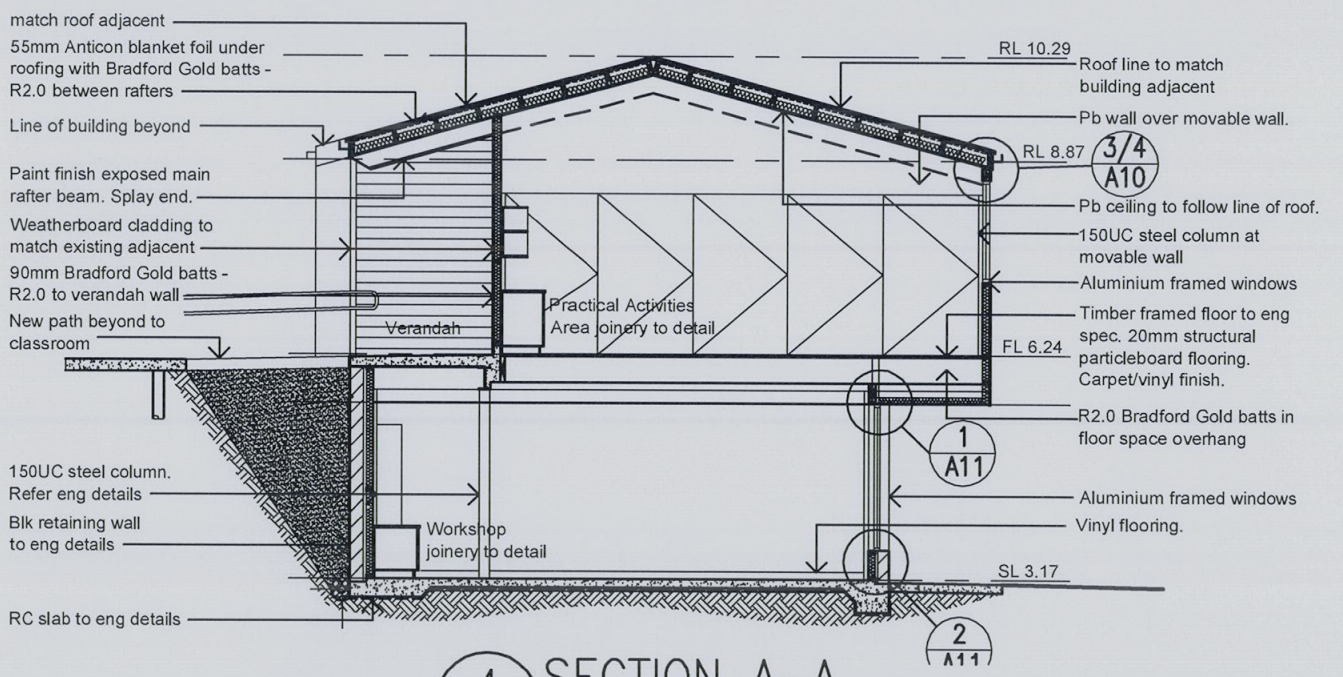
DRAWN BY	DATE	SCALE
BP	11.07.12	1:100 @ A3



1 NORTH ELEVATION
Scale 1:100

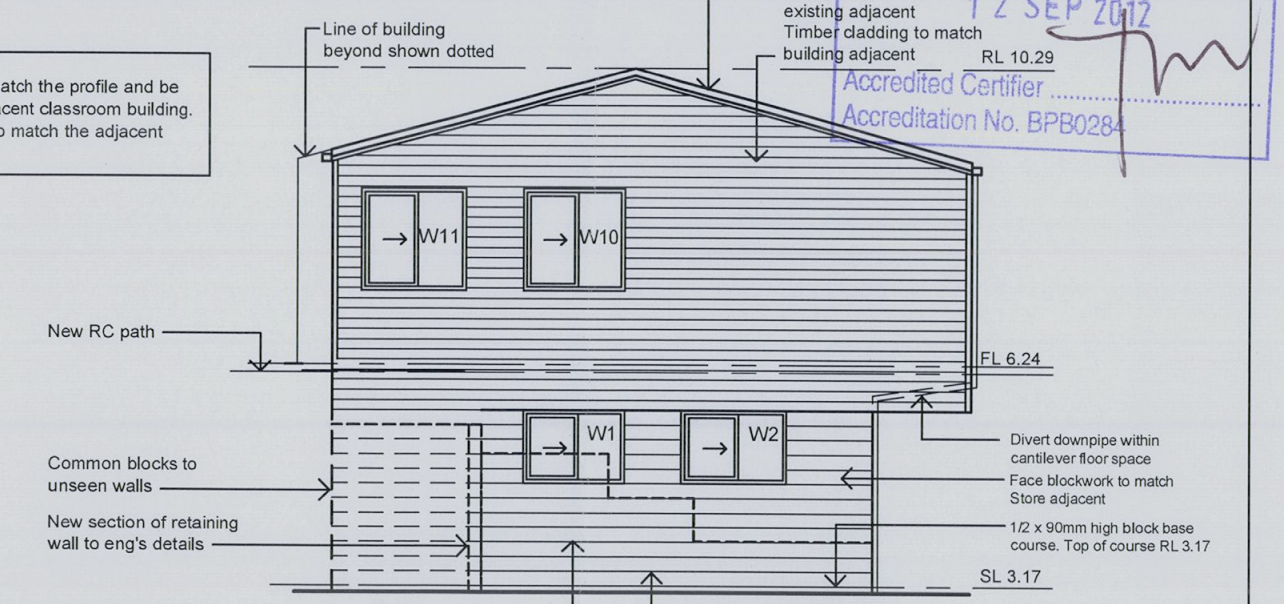


3 SOUTH ELEVATION
Scale 1:100



4 SECTION A–A
Scale 1:100

Notes:
Weatherboard cladding shall match the profile and be paint finished to match the adjacent classroom building. All trim shall be paint finished to match the adjacent classroom building.



2 WEST ELEVATION
Scale 1:100

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CLIENT
SYDNEY ANGLICAN SCHOOL CORPORATION

CONSULTANT

ruth newman Architect
P.O Box 736
Sutherland NSW 1499
Suite 1A
1-5 Gymea Bay Road
Gymea NSW 2227
t. 02 95409959
f. 02 9540 9640
e. ruth@ruthnewman.com.au
w. www.ruthnewman.com.au

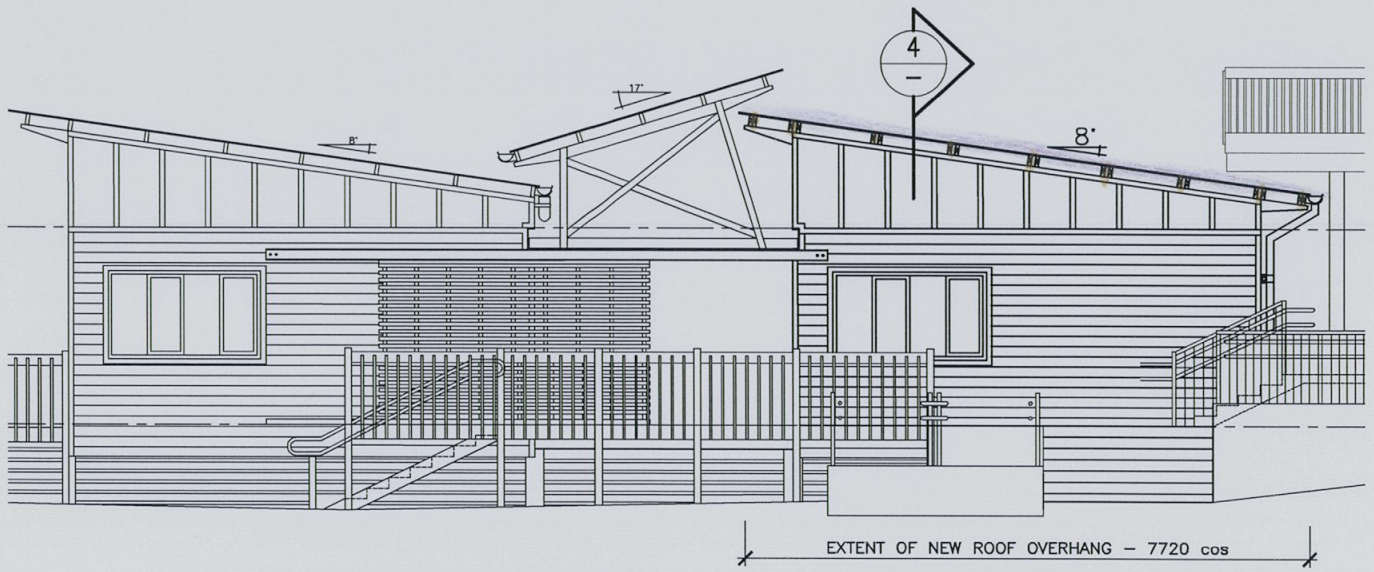
PROJECT
PROPOSED NEW BUILDING AT LOQUAT VALLEY PREPARATORY SCHOOL
BAYVIEW

DRAWING TITLE
ELEVATIONS AND SECTION

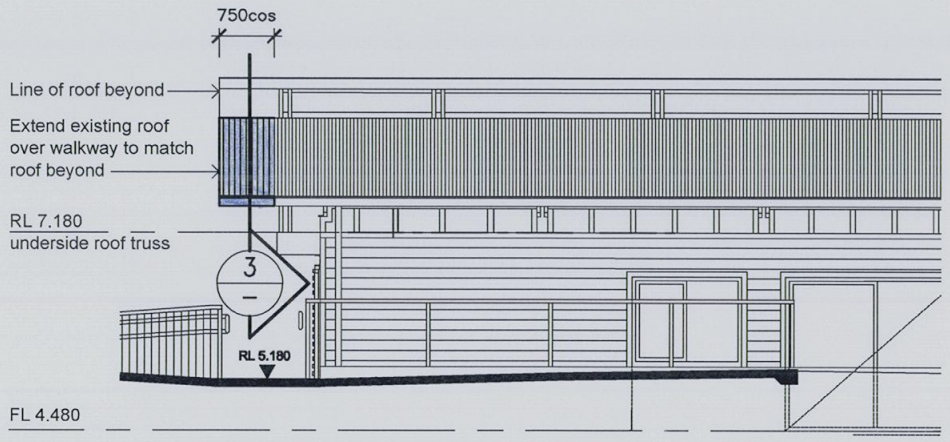
☐ TENDER ☐ FOR INFORMATION
☐ CONSTRUCTION ☐ FOR APPROVAL

DRAWING NUMBER	PROJECT NUMBER
A08	11227
SHEET SIZE	AMENDMENT NUMBER
A3	B

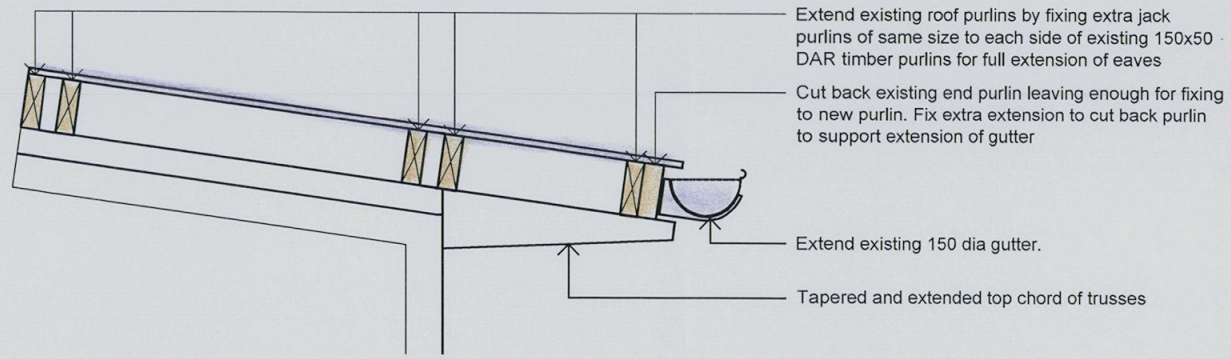
DRAWN BY	DATE	SCALE
BP	2.07.12	1:100 @ A3



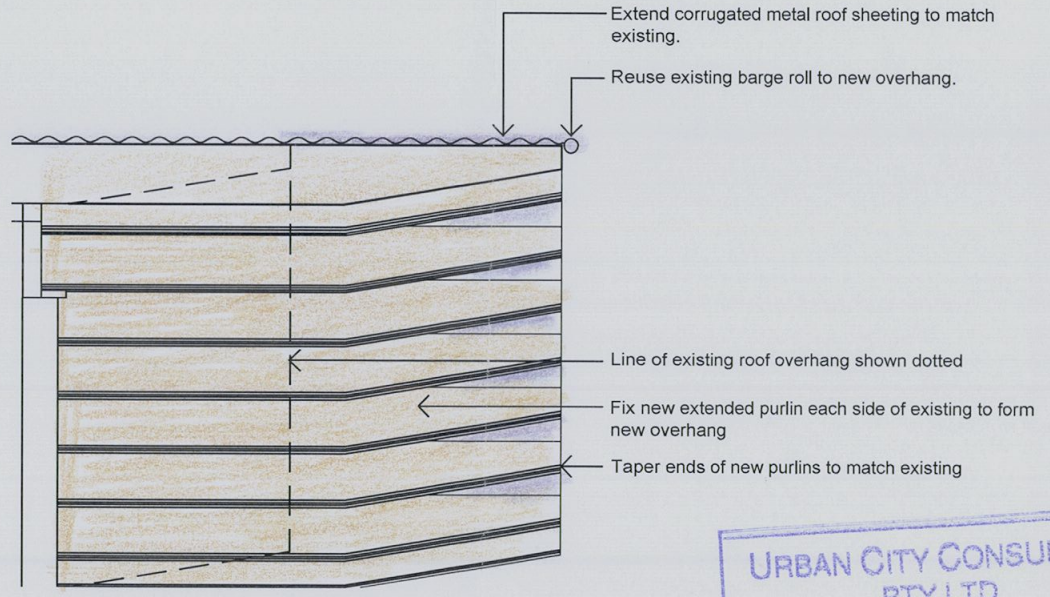
1 — TELC BUILDING EAST ELEVATION
Scale 1:100



2 — TELC BUILDING NORTH ELEVATION
Scale 1:100



3 — SECTION THROUGH ROOF OVERHANG
Scale 1:20



4 — NEW ROOF OVERHANG ELEVATION
Scale 1:20

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A	16.7.12	TENDER ISSUE	BP	-
B	19.07.12	CDC ISSUE	BP	-

CLIENT
SYDNEY ANGLICAN SCHOOL CORPORATION

CONSULTANT

ruth newman Architect
P.O Box 736
Sutherland NSW 1499
Suite 1A
1-5 Gymea Bay Road
Gymea NSW 2227
t. 02 95409959
f. 02 9540 9640
e. ruth@ruthnewman.com.au
w. www.ruthnewman.com.au

PROJECT
PROPOSED NEW BUILDING AT LOQUAT VALLEY PREPARATORY SCHOOL
BAYVIEW

DRAWING TITLE
TELC BUILDING ROOF EXTENSION

☐ TENDER ☐ FOR INFORMATION
☐ CONSTRUCTION ☐ FOR APPROVAL

DRAWING NUMBER	PROJECT NUMBER
A18	11227
SHEET SIZE	AMENDMENT NUMBER
A3	B

DRAWN BY	DATE	SCALE
BP	5.04.12	1:100 @ A3

NEW WORKSHOP & TEACHING SPACE AT LOQUAT VALLEY SCHOOL

1977 PITWATER ROAD, BAYVIEW NSW

Job No. 120128

GENERAL

1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATION AND WITH SUCH OTHER WRITTEN INSTRUCTION AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE SUPERINTENDENT BEFORE PROCEEDING WITH THE WORK.
2. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT AUSTRALIAN STANDARDS AND THE BUILDING CODE OF AUSTRALIA EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.
3. ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE BUILDER ON SITE. ENGINEERS' DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS.
4. DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
5. THE BUILDER SHALL GIVE 48 HOURS NOTICE FOR ALL ENGINEERING INSPECTIONS.
6. THE BUILDER SHALL LOCATE ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION. ENGINEER TO BE NOTIFIED.
7. UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
8. THE STRUCTURAL COMPONENTS DETAILED ON THESE DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS AND LOCAL GOVERNMENT ORDINANCES FOR THE FOLLOWING LOADINGS:

FLOOR USAGE	LIVE LOAD kPa	IMPOSED DEAD kPa
TEACHING SPACE	3.0	-
COVERED VERANDAH	3.0	-
PLANTERS	2.0	10
STORE	5.0	-
SHOP FLOOR	5.0	0.5
FOOTPATHS	4.0	-
ROOF	0.25	-

WIND LOADS ARE IN ACCORDANCE WITH AS 1170 PART 2 AS FOLLOWS:

ULTIMATE REGIONAL WIND SPEED V　R(1000)= 46 m/s
TERRAIN CATEGORY = 3
TOPOGRAPHIC MULTIPLIER (Mt) = 1.0

9. TEMPORARY SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR AND MAY VARY ACCORDING TO CONSTRUCTION METHODS AND SEQUENCES. IF INSUFFICIENT DETAILS ARE SHOWN ON CONTRACT DRAWINGS TO STABILISE DEEP CUTS, ENGINEER TO BE NOTIFIED.

FOUNDATIONS

1. FOOTINGS HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING CAPACITY OF 800kPa ON SANDSTONE THIS FOUNDATION MATERIAL SHALL BE UNIFORM AND BE APPROVED BY THE ENGINEER FOR THIS PRESSURE BEFORE PLACING REINFORCEMENT OR CONCRETE. PIERS OR BLOCKDOWNS SHALL BE USED TO ACHIEVE UNIFORM BEARING WHERE NECESSARY.
2. THIS SITE HAS BEEN DESIGNED AS CLASS P SITE IN ACCORDANCE WITH AS 2870. CONFIRMATION OF SITE CLASSIFICATION IS REQUIRED BY GEOTECHICAL ENGINEER PRIOR TO CONSTRUCTION COMMENCING ON SITE.
3. FOOTINGS SHALL BE CONCRETED ON THE DAY OF APPROVAL UNLESS PERMISSION IS GIVEN OTHERWISE.
4. FOOTINGS SHALL BE LOCATED CENTRALLY UNDER WALLS AND COLUMNS UNLESS NOTED OTHERWISE.
5. DO NOT BACKFILL RETAINING WALLS (OTHER THAN CANTILEVER WALLS) UNTIL FLOOR CONSTRUCTION AT TOP AND BOTTOM IS COMPLETED. BACKFILL SHALL BE COMPACTED TO 96% STANDARD MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT ±2% (ENSURE FREE DRAINING BACKFILL AND DRAINAGE IS IN PLACE).
6. FOOTING LEVELS WHERE SHOWN ARE ESTIMATES ONLY AND WILL BE ESTABLISHED DURING SITE INSPECTION OF WORK IN PROGRESS.
7. UNLESS OTHERWISE APPROVED BY THE ENGINEER/SUPERINTENDENT, THE LIMITS OF EXCAVATION NEAR FOOTINGS SHALL BE AS SET OUT IN THE DETAIL SHOWING SUCH LIMITATIONS.
8. REFER ALSO GEOTECHNICAL REPORT PREPARED BY JEFFERY & KATAUSKUS OF MARCH 2012.
9. ANY EXCAVATION (i.e. SERVICES) ADJACENT TO FOOTINGS SHALL NOT EXTEND INTO A 2 : 1 INFLUENCE LINE FROM THE BEARING SURFACE OF THE FOOTING. REFER TO DETAILS ON THIS DRAWING.
10. FOR EARTHWORKS REFER TO CIVIL NOTES

REINFORCEMENT

1. REINFORCEMENT SYMBOLS:
   - R DENOTES GRADE 250 R HOT ROLLED PLAIN BARS TO AS 1302
   - F DENOTES GRADE 450 F HARD-DRAWN WIRE REINFORCING FABRIC TO AS 1304
   - W DENOTES GRADE 450 W HARD-DRAWN PLAIN WIRE TO AS 1303
   - N DEFORMED BAR NORMAL DUCTILITY TO AS/NZS 4671 GRADE D500N
   - L DEFORMED BAR LOW DUCTILITY TO AS/NZS 4671 GRADE D500L
   - RN RECTANGULAR WIRE MESH NORMAL DUCTILITY TO AS/NZS 4671
   - RL RECTANGULAR WIRE MESH LOW DUCTILITY
   - SN SQUARE WIRE MESH NORMAL DUCTILITY
   - SL SQUARE WIRE MESH LOW DUCTILITY TO AS/NZS 4671

   17N20 OR N20-250
   - NUMBER OF BARS IN GROUP
   - BAR GRADE AND TYPE
   - SPACING IN mm
   - NOMINAL BAR SIZE IN mm

   THE FIGURE FOLLOWING THE FABRIC SYMBOL SL IS THE REFERENCE NUMBER FOR FABRIC TO AS 1304.
2. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.
3. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITIONS SHOWN OR OTHERWISE APPROVED IN WRITING BY THE ENGINEER. LAPS SHALL BE IN ACCORDANCE WITH AS 3600 AND NOT LESS THAN THE DEVELOPMENT LENGTH FOR EACH BAR.
4. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER.
5. FABRIC SHALL BE LAPPED 2 TRANSVERSE WIRES PLUS 50mm. WHERE FABRIC LAPS, SHEETS TO HAVE MAXIMUM 2 LAYERS AT ANY POINT, CUT BACK FABRIC AT CORNERS AS REQUIRED.
6. ALL REINFORCEMENT BAR LAPS SHALL BE AS FOLLOWS

LAP LENGTH FOR DEFORMED BARS IN SLABS & WALLS						
N12	N16	N20	N24	N28	N32	N36
500	650	900	1200	-	-	-
LAP LENGTH FOR DEFORMED BARS IN BEAMS & COLUMNS						
N12	N16	N20	N24	N28	N32	N36
500	700	1050	1450	1850	2300	2800

   BUNDLED BARS SHALL BE TIED TOGETHER AT 30 BAR DIAMETER CENTRES WITH 3 WRAPS OF THE WIRE.
7. FIRE RATING MESH F41 SHALL BE GALVANISED, HAVE 20mm COVER AND BE TIED USING GALVANISED TIE WIRE.
8. WHERE TRANSVERSE TIE BARS ARE NOT SHOWN PROVIDE N12-400 SPLICED WHERE NECESSARY AND LAP WITH MAIN BARS 400mm UNLESS NOTED.
9. JOGGLES TO BARS SHALL COMPRISE A LENGTH OF 12 BAR DIAMETERS BETWEEN BEGINNING AND END OF AN OFFSET OF 1 BAR DIAMETER.
10. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1 METRE CENTRES BOTH WAYS, AND 800 EACH WAY FOR FABRIC. WHEN POURED ON GROUND AS FORMWORK PROVIDE PLATES UNDER ALL BAR CHAIRS. PLASTIC TIPPED STEEL CHAIRS SHALL NOT BE USED ON EXPOSED FACES IN EXPOSURE CLASSIFICATION B1 AND B2.
11. REINFORCEMENT WITHIN FLOOR OR WALL ELEMENT OF A WET AREA SHALL BE BONDED TO THE EARTHING SYSTEM IF CONDUCTIVE PIPING EXISTS WITHIN THE ELEMENT. IT SHALL BE BONDED IN ACCORDANCE WITH AS 3000.

CONCRETE

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 AND AS 3610 CURRENT EDITIONS WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS

ELEMENT	STRENGTH GRADE (MPa)	SLUMP GRADE (mm)	MAXIMUM AGGREG. SIZE (mm)	MINIMUM CEMENT CONTENT (kg/cu.m)	COVER (mm) INT		EXT
PIERS	25	80	20	-	-		50
FOOTINGS	25	80	20	-	-		50
SLAB ON GROUND	25	80	20	-	30		40
SUSPENDED SLAB: internal	32	80	20	-	25		-
external footpaths	32	80	20	-	-		40
BLOCKWORK CORES	15	230	10	-	As noted on details		

2. (i) ALL CONCRETE IN SLABS AND BEAMS TO BE PROPORTIONED TO LIMIT DRYING SHRINKAGE TO 850 MICROSTRAIN AT 56 DAYS.
   (ii) DETAILS OF THE PROPOSED MIX TO BE SUBMITTED & APPROVAL OBTAINED PRIOR TO POURING ANY CONCRETE.
   (iii) SHRINKAGE TEST SHALL BE CARRIED OUT BY AN APPROVED NATA REGISTERED LABORATORY IN ACCORDANCE WITH AS 1012 PART 13. TESTS SHALL BE CONDUCTED ON THE FIRST BATCH OF CONCRETE USED IN SUSPENDED SLABS AND SUBSEQUENTLY AT THE RATE OF ONE TEST EVERY ADDITIONAL 100 CUBIC METRES OF CONCRETE SUPPLIED. THREE SPECIMENS SHALL BE TAKEN FOR EACH TEST AND THE SHRINKAGE SHALL BE THE AVERAGE OF THE THREE RESULTS. THE COST OF TESTING SHALL BE BORNE BY THE CONTRACTOR AS SHALL ANY ADDITIONAL TESTS REQUIRED IF THE CONCRETE FAILS TO MEET THE SPECIFIED SHRINKAGE LIMITS.
3. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING.
4. CLEAR CONCRETE COVER TO ALL REINFORCEMENT SHALL BE AS NOTED ABOVE UNLESS SHOWN OTHERWISE.
   NOTE: WHERE CONCRETE IS POURED ON A VAPOUR PROOF MEMBRANE 0.2mm MINIMUM THICKNESS, THE COVER TO CONCRETE CAST AGAINST GROUND MAY BE REDUCED BY 10mm.
5. CONCRETE SIZES SHOWN DO NOT INCLUDE THICKNESS OF APPLIED FINISHES. NO FINISH WHICH DECREASES COVER IS ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
6. DEPTHS OF BEAMS ARE GIVEN FIRST AND INCLUDE SLAB THICKNESS.
7. FOR CHAMFERS DRIP GROOVES, REGLETS, ETC. REFER TO ARCHITECT'S DETAILS. MAINTAIN COVER TO REINFORCEMENT AT THESE DETAILS.
8. NO HOLES, CHASES, BLOCKOUTS, DUCTS OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.
9. CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEER.
10. ALL CONCRETE COLUMNS GREATER THAN 1.2 METRES IN HEIGHT SHALL BE POURED A MINIMUM OF 4 HOURS PRIOR TO SLAB OR BEAM OVER.
11. THE FINISH CONCRETE SHALL BE MECHANICALLY VIBRATED TO ACHIEVE A DENSE HOMOGENEOUS MASS COMPLETELY FILLING THE FORMWORK THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED WITH MECHANICAL VIBRATORS.
12. CURING OF ALL CONCRETE IS TO BE ACHIEVED BY KEEPING SURFACES CONTINUOUSLY WET FOR A PERIOD OF THREE DAYS, AND THE PREVENTION OF LOSS OF MOISTURE FOR A TOTAL OF 7 DAYS FOLLOWED BY A GRADUAL DRYING OUT. APPROVED SPRAYED ON CURING COMPOUNDS MAY BE USED WHERE NO FLOOR FINISHES ARE PROPOSED. POLYTHENE SHEETING OR WET HESSIAN MAY BE USED IF PROTECTED FROM WIND AND TRAFFIC.
13. CONSTRUCTION SUPPORT PROPPING IS TO BE LEFT IN PLACE WHERE NEEDED TO AVOID OVERSTRESSING THE STRUCTURE DUE TO CONSTRUCTION LOADING. NO BRICKWORK OR PARTITION WALLS ARE TO BE CONSTRUCTED ON SUSPENDED LEVELS UNTIL SEVEN DAYS AFTER PROPPING HAS BEEN REMOVED AND THE SLAB PRE-LOADED WITH THE BRICKS OR UNITS TO BE USED IN THE WALL.
14. REPAIRS TO CONCRETE SHALL NOT BE ATTEMPTED WITHOUT THE PERMISSION OF THE ENGINEER.
15. CAST-IN FIXINGS, BOLTS ETC. SHALL NOT BE ALTERED WITHOUT THE PERMISSION OF THE ENGINEER.
16. THE CONCRETE SHALL BE PLACED IN SUCH A MANNER AS TO AVOID SEGREGATION OR LOSS OF MATERIALS. MAXIMUM FALL OF CONCRETE = 1500mm OR USE ENCLOSED CHUTES OR SIMILAR.

BONDEK/CONDEK (OR EQUIVALENT)

1. UNLESS NOTED OTHERWISE BONDEK PANELS SHALL BE 1.00MM BMT.
2. BONDEK PANELS ARE TO BE SECURELY FIXED OR HELD DOWN TO PREVENT DISPLACEMENT DUE TO CONSTRUCTION LOADING OR WIND UPLIFT PRIOR TO CONCRETING.
3. FIX BONDEK PANELS TO STEELWORK BY PUDDLE WELDING, DRIVE PINS, OR OTHER SUITABLE METHODS. SLIP JOINTS SHALL BE LOCATED AS SHOWN.
4. 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 SHALL BE PROVIDED AT ALL MASONRY SUPPORTS UNLESS NOTED OTHERWISE.
5. BEFORE CONCRETE IS PLACED, ANY ACCUMULATED DEBRIS, GREASE OR ANY OTHER SUBSTANCE WILL NEED TO BE REMOVED TO ENSURE CLEAN BONDING SURFACE. ANY PONDED RAINWATER SHOULD BE REMOVED BY BLOWING OR SWEEPING.
6. FASTENING OF SIDE LAP JOINTS OF BONDEK SHALL BE IN ACCORDANCE WITH LYSAGHT PUBLICATIONS, AND GENERALLY ONE NO. 10-24X16MM SELF-DRILLING TAPPING SCREW IS REQUIRED MID-SPAN FOR SUPPORT SPACING OF 1750mm OR GREATER. FOR POINT LOAD RATINGS .... OR EXPOSED SOFFITS ADDITIONAL FIXINGS MAY BE REQUIRED.
7. UNLESS NOTED OTHERWISE PROPPING OF THE BONDEK SHALL BE IN ACCORDANCE WITH LYSAGHT PUBLICATIONS.
8. PROPS SHOULD NOT BE REMOVED UNTIL CONCRETE HAS REACHED SUFFICIENT STRENGTH.

EXCAVATION IN ROCK

1. A LARGE VOLUME OF THE BULK AND DETAILED EXCAVATION IS EXPECTED TO BE IN MEDIUM AND HIGH STRENGTH ROCK.
2. THE CONTRACTOR SHALL SUBMIT HIS PROPOSAL FOR EXCAVATION TO THE SUPERINTENDENT PRIOR TO COMMENCEMENT OF WORK.
3. THE METHOD SHALL COMPLY WITH ALL THE REQUIREMENTS OF THE DA CONDITIONS, PARTICULARLY IN RELATION TO NOISE LEVELS, VIBRATION AND WORK HOURS.
4. VIBRATIONS SHALL NOT EXCEED 6mm/sec AND ALARMS SHALL BE INSTALLED TO MONITOR THESE VIBRATIONS.
5. ALL THE REQUIREMENTS OF THE GEOTECHNICAL REPORT FOR THE SITE SHALL BE OBSERVED AND MEET.

BRICKWORK AND BLOCKWORK

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3700.
2. STRENGTHS OF MASONRY UNITS AND TYPE OF MORTAR SHALL BE AS FOLLOWS:

ELEMENT	MATERIAL	CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH (f'uc)	MORTAR (CEMENT: LIME: SAND)	CLASSIFICATION
BRICK	CLAY	20 MPa	1 : 1 : 6	M3
BLOCKS	CONCRETE	15 MPa	1 : 1 : 6	M3

3. ONLY LOAD BEARING MASONRY WALLS ARE SHOWN UNDER CONCRETE SLABS.
4. MASONRY SUPPORTING SLABS AND BEAMS SHALL BE TROWELLED SMOOTH WITH MORTAR FILLING ALL VOIDS. TWO LAYERS OF MALTHOID SHALL BE PLACED FULL WIDTH ACROSS SUCH LOAD BEARING SURFACES EXCEPT WHERE PROPRIETARY BEARING STRIPS IS NOTED OR ALTERNATIVE DETAIL IS DOCUMENTED. THE HEADS OF LOAD BEARING WALLS SHALL NOT EXTEND ABOVE THE SOFFIT OF THE CONCRETE SLAB ABOVE.
5. ALL DOUBLE SKIN SOLID WALLS SUCH AS 230mm THICK BRICKWORK SHALL BE BONDED BY A HEADER COURSE EVERY 4th COURSE.
6. ALL BRICKWORK SUPPORTING OR SUPPORTED BY CONCRETE FLOORS SHALL BE PROVIDED WITH VERTICAL JOINTS TO MATCH ANY CONTROL JOINTS IN THE CONCRETE.
7. NON LOAD BEARING WALLS SHALL BE SEPARATED FROM CONCRETE ABOVE BY 12mm THICK CLOSED CELL POLYSTYRENE STRIP.
8. NO CHASES OR RECESSED ARE PERMITTED IN LOAD BEARING MASONRY WITHOUT THE APPROVAL OF THE ENGINEER.
9. PROVIDE VERTICAL CONTROL JOINTS AT 10m MAX. CENTRES GENERALLY, AND 5m MAX. FROM CORNERS FOR BRICKWORK AND BLOCKWORK OR AS SPECIFIED IN AS 3700 AND THE BUILDING CODE OF AUSTRALIA
10. REFER TO CONCRETE NOTES FOR DE-PROPPING PRIOR TO CONSTRUCTION OF MASONRY WALLS ON SUSPENDED SLABS.
11. REINFORCED CONCRETE BLOCKWORK SHALL COMPLY WITH THE FOLLOWING, UNLESS NOTED OTHERWISE
    - BLOCKS SHALL BE STRENGTH GRADE 15 CONFORMING TO AS 4455.
    - MORTAR SHALL COMPRISE 1 CEMENT: 1 LIME: 6 SAND.
    - PROVIDE CLEANOUT HOLES 100mm SQUARE MINIMUM AT BASE OF ALL WALLS AND ROD CORE HOLES TO REMOVE PROTRUDING MORTAR FINS PRIOR TO GROUTING.
    - CORE FILLING GROUT SHALL BE : F'c = 15 MPa
      MINIMUM CEMENT CONTENT = 300kg/m
      SLUMP = 230mm, AGGREGATE = 10mm
    - REINFORCEMENT PROJECTING FROM FOUNDATION OR SLABS INTO CORES, SHALL BE SET ACCURATELY IN PLACE USING TEMPLATES TO ALIGN WITH THE CENTRE OF THE LENGTH OF CORES AND WITH COVER AS NOTED. WHERE HORIZONTAL BARS ARE INDICATED, THE WEBS OF THE BLOCKS BELOW THE BARS SHALL BE CUT DOWN TO ACCOMMODATE THE BARS.
    - GROUT ALL CORES IN REINFORCED BLOCKWORK UNLESS OTHERWISE NOTED. HEIGHT OF BLOCKWORK TO BE GROUTED ON ONE DAY SHALL BE 2400mm. GROUT SHALL BE PLACED IN LIFTS OF 1200mm MAXIMUM AND COMPACTED BY POKER VIBRATOR. A SHORT TIME SHOULD ELAPSE BETWEEN SUCCESSIVE LIFTS TO ALLOW PLASTIC SETTLEMENT TO OCCUR.
    - PROVIDE 50mm COVER FROM THE OUTSIDE OF THE BLOCKWORK UNLESS NOTED.
12. BACKFILL TO RETAINING WALLS SHALL BE FREE DRAINING GRANULAR MATERIAL. PROVIDE SUBSOIL DRAIN AT BASE OF WALL. DO NOT BACKFILL UNTIL 14 DAYS AFTER GROUTING, OR IF APPLICABLE, AFTER RESTRAINING SLAB OVER HAS BEEN POURED AND CURED FOR 7 DAYS. BACKFILL SHALL BE COMPACTED TO 98% STANDARD MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT ±2%
13. BRICK TIES SHALL BE STAINLESS STEEL (GRADE TYPE 316) OR COUNCIL APPROVED NON-METALLIC TIES PLACED AT THE RATE OF 5 TIES PER SQUARE METRE OF WALL SURFACE AREA PLUS ADDITIONAL TIES AT 300mm CENTRES ADJACENT TO OPENINGS AND CONTROL JOINTS. WHERE NON-METALLIC TIES ARE USED THE BUILDER SHALL ENSURE THAT MORTAR IS PROVIDED TOP TO BOTTOM BEFORE PLACING BRICKS. BRICK TIES SHALL COMPLY WITH AS 2699
14. AT CONCRETE / STEEL COLUMN JUNCTIONS MET 5-3 EXPANSION TIES TO BE USED (INTERNAL SKIN OF CAVITY WALL OR INTERNAL WALL)
15. ALL STRUCTURAL STEELWORK BUILT INTO INTERNAL SKIN OF CAVITY BRICKWORK TO BE HOT DIPPED GALVANISED (HEAVY) TO AS 4680
16. ALL STRUCTURAL STEELWORK BUILT INTO EXTERNALLY EXPOSED BRICKWORK TO BE DURABILITY GRADE R4 (OR APPROVED EQUIVALENT SYSTEM) UNLESS NOTED OTHERWISE
17. ALL BLOCK RETAINING WALLS TO BE WATERPROOFED TO ARCHITECTS DETAILS PROVIDED (2 COATS OF BITUMEN PAINT AS A MINIMUM). WATERPROOFING TO BE CARRIED OUT AS SPECIFIED BY THE MANUFACTURER

STRUCTURAL STEEL

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 4100 AND AS 1554 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2. ALL STEEL SHALL BE IN ACCORDANCE WITH AS 3678 AND AS 3679 TO GRADE 250 UNLESS NOTED.
3. THREE(3) COPIES OF WORKSHOP FABRICATION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AT LEAST 14 DAYS PRIOR TO COMMENCEMENT OF FABRICATION AND PERMISSION TO USE OBTAINED PRIOR TO FABRICATION. PERMISSION TO USE DOES NOT RELIEVE THE BUILDER OF THE FULL RESPONSIBILITY FOR DIMENSIONS, FIT AND COMPLIANCE WITH ARCHITECTURAL AND ENGINEERING DRAWINGS.
4. BOLTS:-
   - 4.6/S: COMMERCIAL BOLTS OF GRADE 4.6 TO AS 111, SNUG TIGHTENED.
   - 8.8/S: HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252,SNUG TIGHTENED.
   - 8.8/TB: HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS1252 FULLY TENSIONED TO AS 41000 AS A BEARING JOINT.
   - 8.8/TF: HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS1252 FULLY TENSIONED AS A FRICTION JOINT WITH FACING SURFACES LEFT UNCOATED.
   - ALL BOLTS SHALL BE M20 GRADE 8.8/S UNLESS NOTED.
   - NO CONNECTION SHALL HAVE LESS THAN 2 BOLTS.
   - ALL BOLTS, NUTS AND WASHERS TO BE GALVANISED (HEAVY) TO AS 4680 TABLES 1 & 2
   - TB AND TF BOLTS TO BE INSTALLED USING APPROVED LOAD INDICATING WASHERS, OR BY TURN OF NUT CONTROL OF TENSIONING.
5. ALL WELDS SHALL BE 6mm CONTINUOUS FILLET TYPE GP (GENERAL PURPOSE) UNLESS NOTED OTHERWISE. BUTT WELDS SHALL BE COMPLETE PENETRATION WELDS TO AS 1554.
6. ALL PLATES SHALL BE 10mm THICK UNLESS NOTED OTHERWISE.
7. STEELWORK TO BE CONCRETE ENCASED SHALL BE WRAPPED WITH F41 STEELWIRE FABRIC AND SHALL BE 50mm MINIMUM CONCRETE COVER TO THE STRUCTURAL STEEL.
8. PROVIDE SEAL PLATES TO ALL HOLLOW SECTIONS. PROVIDE VENT HOLES TO HOLLOW MEMBERS AND DRAIN HOLES TO ALL MEMBERS TO BE HOT DIP GALVANISED.
9. IT IS THE BUILDER'S RESPONSIBILITY TO ENSURE THAT STEELWORK IS SECURELY TEMPORARILY BRACED AS NECESSARY TO STABILISE THE STRUCTURE DURING ERECTION.
10. STRUCTURAL STEELWORK SHALL HAVE THE FOLLOWING SURFACE TREATMENT IN ACCORDANCE WITH THE SPECIFICATION AND AS 2312 : 2002

ELEMENT	SURFACE CLEANING	PROTECTIVE COATING
INTERNAL	WIRE BRUSH CLEAN	2 COATS ZINC PHOSPHATE (ALK2)
EXTERNAL	HOT DIP GALVANISED (HEAVY) TO AS4680 TABLES 1 & 2 AND AS 2312 : 2002 TABLE 5.2 HDG 600 (HDG 900 IF SEVERE)	

11. THE BUILDER SHALL PROVIDE ALL CLEATS AND DRILL ALL HOLES NECESSARY FOR FIXING STEEL TO STEEL AND TIMBER TO STEEL WHETHER OR NOT DETAILED ON THE DRAWINGS.
12. ALL STRUCTURAL STEELWORK BUILT INTO INTERNAL BRICKWORK TO BE HOT DIPPED GALVANISED (HEAVY) TO AS 4680 TABLES 1 & 2
13. ALL STRUCTURAL STEELWORK BUILT INTO EXTERNALLY EXPOSED BRICKWORK TO BE DURABILITY GRADE R4 (OR APPROVED EQUIVALENT SYSTEM) UNLESS NOTED OTHERWISE
14. ALL STRUCTURAL STEEL MEMBERS TO BE PROVIDED WITH THE FIRE RATING TO BCA REQUIREMENTS. PCA (or ARCHITECT) TO CONFIRM

TIMBER

1. ALL TIMBER DESIGN AND CONSTRUCTION SHALL BE TO AS 1720 OR AS 1684 WHERE APPROPRIATE. ALL SOFTWOOD SHALL BE GRADE F7 UNLESS NOTED OTHERWISE. ALL HARDWOOD SHALL BE MINIMUM GRADE F14.
2. EXTERNAL TIMBER SHALL BE EITHER HARDWOOD DURABILITY GRADE I OR II OR IMPREGNATED PINE GRADE F7, PRESSURE TREATED TO AS 1608 AND RE-DRIED PRIOR TO USE H4 MINIMUM. HAZARD CLASS H3
3. ALL BOLTS IN TIMBER CONSTRUCTION SHALL BE MINIMUM M16 UNLESS NOTED AND SHALL BE GALVANISED. BOLTS SHALL BE RETIGHTENED AT THE END OF THE MAINTENANCE PERIOD.
4. UNSEASONED TIMBER DIMENSIONS SHALL BE NOT LESS THAN.

NORMAL DIMENSIONS (mm)	MINIMUM ACTUAL (mm)
50	45
100	92
150	140
200	187
250	235
+250	-6%

5. ALL TRUSSES AND RAFTERS SHALL BE FIXED TO TOP PLATE WITH METAL PLATE CONNECTORS.
6. TIMBER TRUSSES SHALL COMPLY WITH THE FOLLOWING:
   - SUBMIT TO THE ENGINEER ONE COPY OF SHOP DRAWINGS. CONCEPT TO BE APPROVED BY ENGINEER.
   - TRUSSES SHALL BE DESIGNED AND FABRICATED IN ACCORDANCE WITH AS 1720.
   - ANY BRACING SHOWN ON THE PLAN IS TO ENSURE OVERALL STABILITY OF THE COMPLETED STRUCTURE. TRUSS FABRICATOR SHALL ALLOW FOR THE SUPPLY AND INSTALLATION OF ALL ADDITIONAL WEB BRACING NECESSARY FOR HIS DESIGN.
   - ALL TRUSSES SHALL BE ERECTED BRACED AND FIXED IN ACCORDANCE WITH MANUFACTURERS PRINTED INSTRUCTIONS. WHERE NO CEILING BATTENS, PROVIDE TIMBER BOTTOM CHORD BRACES AT 4 METRE MAXIMUM CENTRES FIXED TO TRUSS BOTTOM CHORDS WITH 2 / 3.75mm X 75mm LONG NAILS.
7. PERMISSION TO USE DOES NOT RELIEVE THE BUILDER OF THE FULL RESPONSIBILITY FOR DIMENSIONS, FIT AND COMPLIANCE WITH ARCHITECTURAL AND ENGINEERING DRAWINGS.

FRAMING AND BRACING

1. ROOFS AND HORIZONTAL BRACING:
   DIAGONAL SPEED BRACING THROUGHOUT ROOF. SCREW FIX TO EACH PURLIN AND SECURELY FASTEN TO TOP PLATE/BEAM AT ENDS.
2. STUD WALLS:
   STRAP TOP & BOTTOM PLATE TO A MINIMUM OF EVERY SECOND STUD SECURE FLOOR PLATE TO SLAB BELOW WITH M16 CHEMICAL ANCHORS OR SECURE EVERY SECOND STUD TO FLOOR BEARERS BELOW
3. MASONRY WALLS:
   FASTEN TOP PLATE TO BRICKWORK USING ROOF STRAPS (SIMILAR TO BRUNSWICK MFA22) AT A MINIMUM OF 1200mm SPACING ANCHORED 15 C/S DOWN PROVIDE STRAPS EACH SIDE OF ALL OPENINGS PROVIDE ADDITIONAL HOLD DOWNS AS DETAILED
4. VERTICAL BRACING:
   PROVIDE VERTICAL BRACING IN ACCORDANCE WITH AS 1684. PROVIDE ADDITIONAL VERTICAL BRACING WHERE SHOWN AND AS DETAILED ON THESE DRAWINGS.

DEMOLITION

1. CARRY OUT ALL DEMOLITION WORK IN ACCORDANCE WITH AS 2601.
2. GIVE SUFFICIENT NOTICE SO THAT INSPECTION MAY BE MADE OF THE FOLLOWING:
   - STRUCTURE AFTER STRIPPING AND REMOVAL OF ROOF COVERINGS AND OTHER EXTERNAL CLADDING.
   - PRIOR TO REMOVAL OF ANY LOAD BEARING WALLS.
3. UNTIL PERMANENT SUPPORT IS PROVIDED, PROVIDE TEMPORARY SUPPORT FOR SECTIONS OF EXISTING BUILDINGS WHICH ARE TO BE ALTERED AND WHICH NORMALLY RELY FOR SUPPORT ON WORK TO BE DEMOLISHED.
4. SUPPORT EXCAVATIONS FOR DEMOLITION OF UNDERGROUND STRUCTURES.
5. PROVIDE SUPPORT TO ADJACENT STRUCTURES WHERE NECESSARY, SUFFICIENT TO PREVENT DAMAGE RESULTING FROM THE WORKS.
   - LATERAL SUPPORTS: PROVIDE LATERAL SUPPORT AT LEAST THAT GIVEN BY THE STRUCTURE TO BE DEMOLISHED, USING SHORING.
   - VERTICAL SUPPORTS: PROVIDE SUPPORT WHERE NECESSARY USING PILING OR, UNDERPINNING OR BOTH.
6. IF WALLS OR ROOFS ARE OPENED FOR ALTERATIONS AND ADDITIONS OR THE SURFACES OF ADJOINING BUILDINGS ARE EXPOSED, PROVIDE TEMPORARY COVERS TO PREVENT WATER PENETRATION. PROVIDE COVERS TO PROTECT EXISTING PLANT AND EQUIPMENT AND MATERIALS INTENDED FOR RE-USE.
7. PROVIDE DUST-PROOF SCREENS, BULKHEADS AND COVERS TO PROTECT EXISTING FINISHES AND THE IMMEDIATE ENVIRONMENT FROM DUST AND DEBRIS.
8. IF A WALL OR ROOF IS OPENED FOR ALTERATIONS AND ADDITIONS, PROVIDE SECURITY AGAINST UNAUTHORISED ENTRY TO THE BUILDING.
9. DO NOT USE EXPLOSIVES.
10. HAZARDOUS MATERIALS. GIVE NOTICE IMMEDIATELY HAZARDOUS MATERIALS OR CONDITIONS ARE FOUND, INCLUDING THE FOLLOWING:
    - ASBESTOS OR MATERIAL CONTAINING ASBESTOS.
    - FLAMMABLE OR EXPLOSIVE LIQUIDS OR GASES.
    - TOXIC, INFECTIVE OR CONTAMINATED MATERIALS.
    - RADIATION OR RADIOACTIVE MATERIALS.
    - NOXIOUS OR EXPLOSIVE CHEMICALS.
    - TANKS OR OTHER CONTAINERS WHICH HAVE BEEN USED FOR STORAGE OF EXPLOSIVE, TOXIC, INFECTIVE OR CONTAMINATED SUBSTANCES.

FIRE RATING

1. CLASS AND TYPE OF BUILDING AND REQUIRED FRL'S ARE TO BE CONFIRMED BY PCA (or ARCHITECT) PRIOR TO COMMENCEMENT OF WORK
2. THE VARIOUS STRUCTURAL ELEMENTS OF THIS PROJECT HAVE BEEN DESIGNED TO PROVIDE STRUCTURAL ADEQUACY TO ACHIEVE THE REQUIRED F.R.L'S IN ACCORDANCE WITH AS3600 FOR CONCRETE STRUCTURES AND AS3700 FOR MASONRY STRUCTURES. FIRE INTEGRITY & INSULATION ARE THE RESPONSIBILITY OF OTHERS.

FORMWORK

1. THE DESIGN, CONSTRUCTION AND PERFORMANCE OF THE FORMWORK AND FALSEWORK IS THE RESPONSIBILITY OF THE BUILDER.
2. DESIGN AND CONSTRUCTION AND STRIPPING TIMES SHALL COMPLY WITH AS 3610 AND AS 3600 UNLESS OTHERWISE APPROVED BY THE ENGINEER.
3. DURING CONSTRUCTION, SUPPORT PROPPING SHALL BE PROVIDED WHERE LOADS FROM STACKED MATERIALS, FORMWORK AND OTHER SUPPORTED SLABS INDUCE LOADS IN A SLAB OR BEAM WHICH EXCEED THE DESIGN LOAD FOR STRENGTH OR SERVICEABILITY AT THAT AGE ONCE THE NOMINATED 28 DAYS STRENGTH HAS BEEN ATTAINED, THESE LOADS SHALL NOT EXCEED THE DESIGN SUPERIMPOSED LOADS SET OUT IN THE GENERAL NOTES.
4. IN MULTI-STOREY CONSTRUCTION PROPPING SHALL BE PROVIDED AT LEAST 3 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 APPROVAL OF THE PROJECT DESIGN ENGINEER.
5. AREAS THAT ARE SUBJECT TO HIGH LOAD, HIGH STRESS OR THAT ARE DEFLECTION SENSITIVE (ie CANTILEVERS) SHOULD BE BACKPROPPED FOR THE DURATION OF CONSTRUCTION AND THEN DE-PROPPED FROM THE TOP TO THE BOTTOM WHEN FULL CHARACTERISTIC STRENGTH HAS BEEN ACHIEVED.
6. THE FORMWORK SHALL BE DESIGNED TO RELY ON NO RESTRAINT OR SUPPORT FROM THE PERMANENT STRUCTURE WITHOUT PRIOR APPROVAL FROM THE PROJECT DESIGN ENGINEER.
7. FORMWORK SHALL BE DESIGNED TO ACCOMMODATE MOVEMENTS DUE TO POST-TENSIONING.
8. SPECIAL REQUIREMENTS FOR SEQUENCE OF CONCRETE PLACEMENT AND STRIPPING ARE AS SET OUT ON DRAWINGS.
9. DESIGN INFORMATION CONCERNING THE FOUNDATION FORMWORK SHALL BE DETERMINED FROM THE CONDITIONS EXISTING ON SITE AT THE TIME OF CONSTRUCTION. REFER ALSO TO THE GEOTECHNICAL REPORT WHERE AVAILABLE.
10. UNLESS NOTED OTHERWISE PROVIDE UPWARD CAMBER TO FORMWORK OF CANTILEVERS OF L/120, WHERE L IS THE SHORTEST PROJECTION BEYOND COLUMN OR WALL FACE, AND TO FORMWORK OF SLABS WHERE NOTED ON PLAN. MAINTAIN THE SLAB AND BEAM DEPTHS SHOWN.

DRAWING LIST

URBAN CITY CONSULTING PTY LTD
12 SEP 2012
Accredited Certifier ....
Accreditation No. BPB0284

AMDT	DATE	BY	DESCRIPTION	AMDT	DATE	BY	DESCRIPTION
A	17.07.12	EM	ISSUED FOR CONSTRUCTION				
P1	06.07.12	EM	PRELIMINARY ISSUE				

CIVIL • STRUCTURAL • BUILDING SERVICES

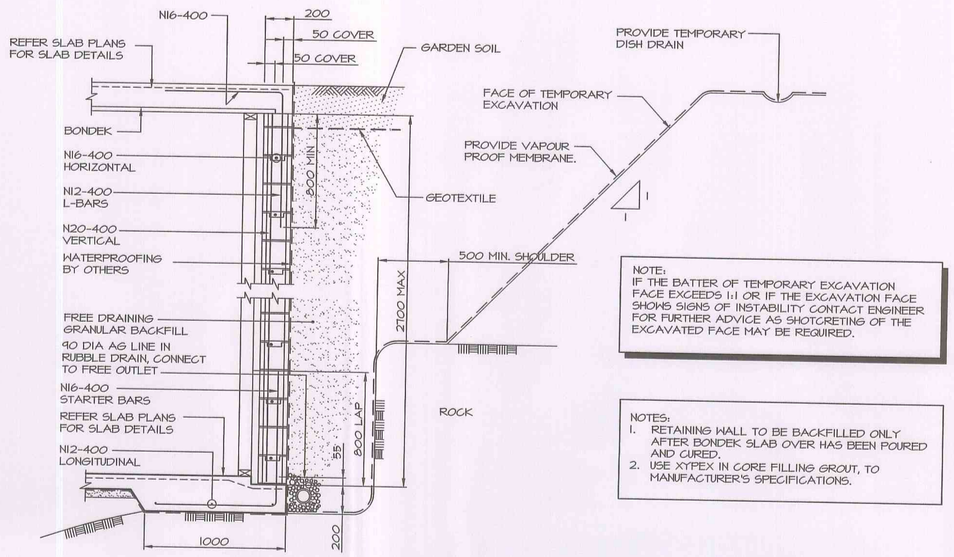
JONES NICHOLSON PTY. LTD.
CONSULTING ENGINEERS
SUTHERLAND - SUITE 45, 40-44 BELMONT STREET, SUTHERLAND NSW 2232
Ph. (02) 9521 3088
Fax. (02) 9521 3066
SUTHERLAND - WOLLONGONG - GOLD COAST - GOULBURN - PICTON

DESIGN : G.S.
DRAWN : E.M.
DATE : JULY 2012
DRG SIZE : A1
SCALE : N/A
PROJECT MGR : G.S.

STRUCTURAL DESIGN NOTES SHEET

NEW WORKSHOP & TEACHING SPACE AT LOQUAT VALLEY SCHOOL
1977 PITWATER ROAD
BAYVIEW NSW

120128
S01 A

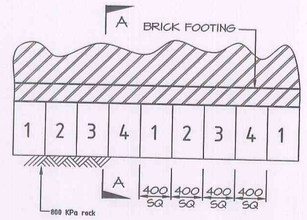


RETAINING WALL RW1 DETAIL

NOTE:
ENSURE THAT FOOTING OF RW1 IS SUPPORTED ON ROCK THROUGHOUT. IF ROCK IS FOUND TO BE DEEP DURING EXCAVATIONS PLEASE CONTACT ENGINEER FOR FURTHER ADVICE.

NOTE:
IF THE BATTER OF TEMPORARY EXCAVATION FACE EXCEEDS 1:1 OR IF THE EXCAVATION FACE SHOWS SIGNS OF INSTABILITY CONTACT ENGINEER FOR FURTHER ADVICE AS SHOTCRETING OF THE EXCAVATED FACE MAY BE REQUIRED.

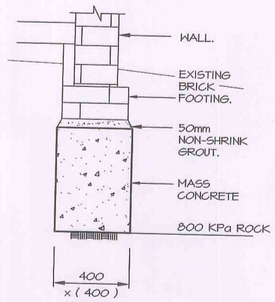
NOTES:
1. RETAINING WALL TO BE BACKFILLED ONLY AFTER BONDEK SLAB OVER HAS BEEN POURED AND CURED.
2. USE XYPEX IN CORE FILLING GROUT, TO MANUFACTURER'S SPECIFICATIONS.



TYPICAL MASS CONCRETE UNDERPINNING DETAIL

PROCEDURE:

1. RE-POINT AND/ OR RENDER BRICK WALLS, IF REQUIRED PRIOR TO ANY EXCAVATION WORKS.
2. UNDERPINNING TO BE UNDERTAKEN IN SECTIONS, WITH ONLY SAME NUMBERED SECTIONS WORKED ON AT ANY ONE TIME.
3. LOCALLY EXCAVATE ADJACENT AND UNDER EXISTING FOOTINGS FOR SAME SEQUENCED NUMBERED SECTIONS.
4. PROVIDE FRONT FORMWORK AND POUR MINIMUM 20Mpa. MASS CONCRETE UNDER FOOTING TO WITHIN 50mm OF SAME
5. ALLOW CONCRETE TO HARDEN FOR 24hrs. AND PLACE 50mm. OF NON-SHRINK GROUT TO UNDERSIDE OF FOOTING AND BACKFILL THE REMAINDER.
6. BACKFILL AND COMPACT SOIL IN FRONT OF SECTION 1 EXCAVATIONS ONLY.
7. REPEAT STEPS 3 TO 5 FOR SECTIONS 2 TO 4, UNTIL COMPLETE.



SECTION A-A

SCALE = 1:20

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AMDT	DATE	BY	DESCRIPTION	AMDT	DATE	BY	DESCRIPTION
A	11.07.12	EM	ISSUED FOR CONSTRUCTION				
P1	06.07.12	EM	PRELIMINARY ISSUE				

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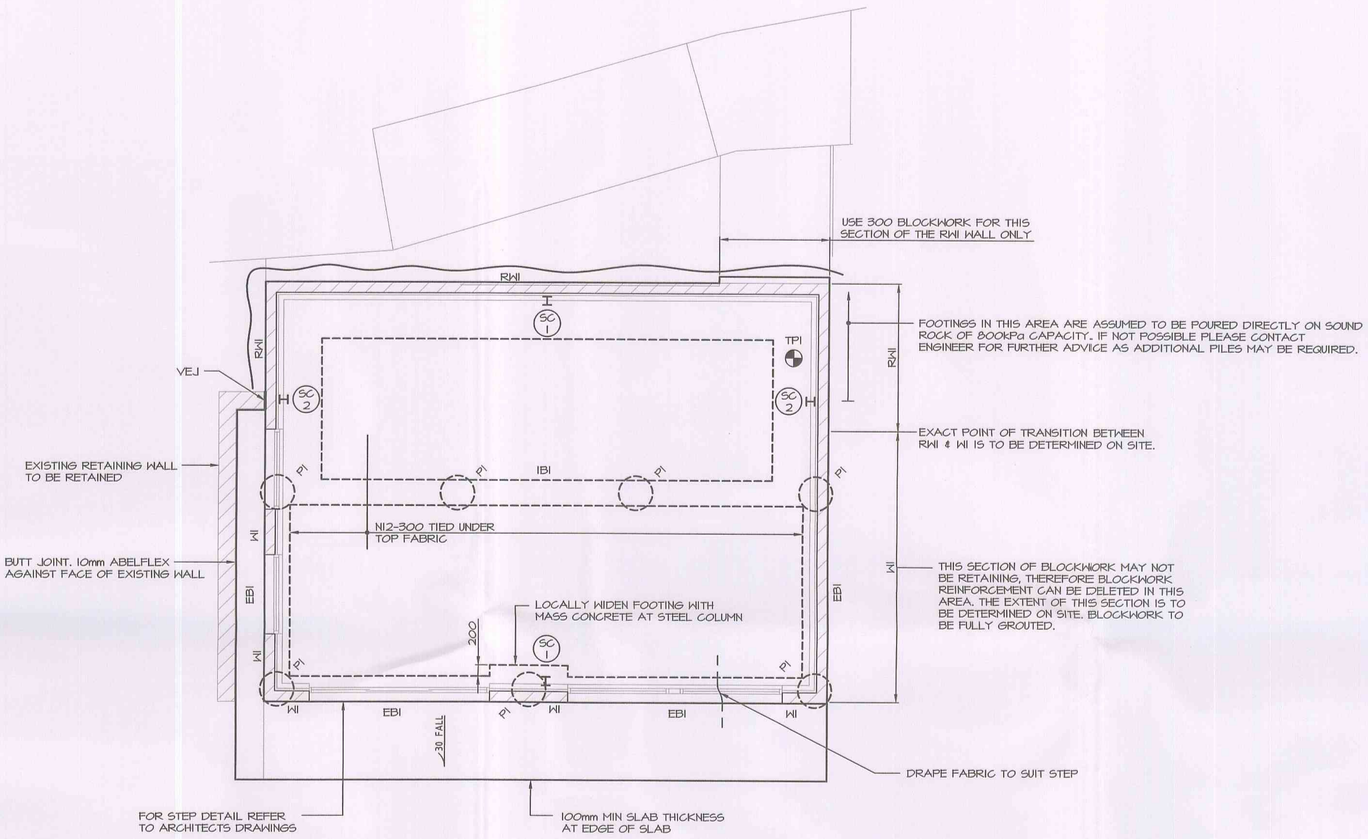
SUTHERLAND - SUITE 45, 40-44 BELMONT STREET, SUTHERLAND NSW 2232
Ph. (02) 9521 3088
Fax. (02) 9521 3066
SUTHERLAND - WOLLONGONG - GOLD COAST - GOULBURN - PICTON

DESIGN : G.S.
DRAWN : E.M.
DATE : JULY 2012
DRG SIZE : A1
SCALE : 1:20
PROJECT MGR : G.S.

STRUCTURAL DESIGN RETAINING WALL DETAILS

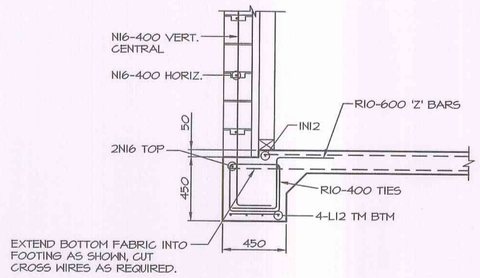
NEW WORKSHOP & TEACHING SPACE AT LOQUAT VALLEY SCHOOL
1977 PITWATER ROAD
BAYVIEW NSW

120128
S02 A

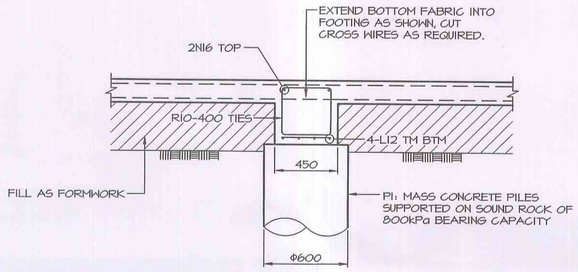


GROUND FLOOR PLAN
SCALE 1:50

1. ALL LEVELS & FALLS TO ARCHITECTS DETAILS.
2. ALL SLABS TO BE 160mm THICK POURED ON A VAPOUR BARRIER & 50mm SAND BLINDING ON WELL COMPACTED FILL U.N.O.
3. ALL SLABS TO BE REINFORCED WITH SL82 FABRIC TOP & BOTTOM THROUGHOUT U.N.O.
4. WI TO BE 190 BLOCKWORK WALL, UNREINFORCED, FULLY GROUTED.
5. VEJ = VERTICAL EXPANSION JOINT BETWEEN OLD AND NEW BLOCKWORK.



TYPICAL EDGE BEAM (EB1)
SCALE 1:20



TYPICAL INTERNAL BEAM (IB1)
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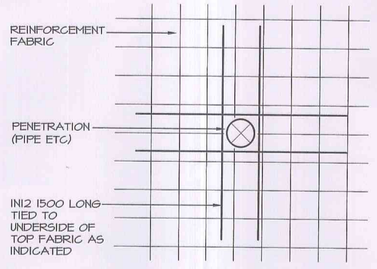

TYPICAL TRIMMER DETAIL AT PENETRATION IN SLAB ON GROUND

FOR ALL SLAB ON GROUND PENETRATION WHERE REINFORCEMENT FABRIC IS CUT U.N.O.

URBAN CITY CONSULTING PTY LTD
12 SEP 2012
Accredited Certifier
Accreditation No. BPB0284

AMDT	DATE	BY	DESCRIPTION
A	17.07.12	EM	ISSUED FOR CONSTRUCTION
P1	06.07.12	EM	PRELIMINARY ISSUE

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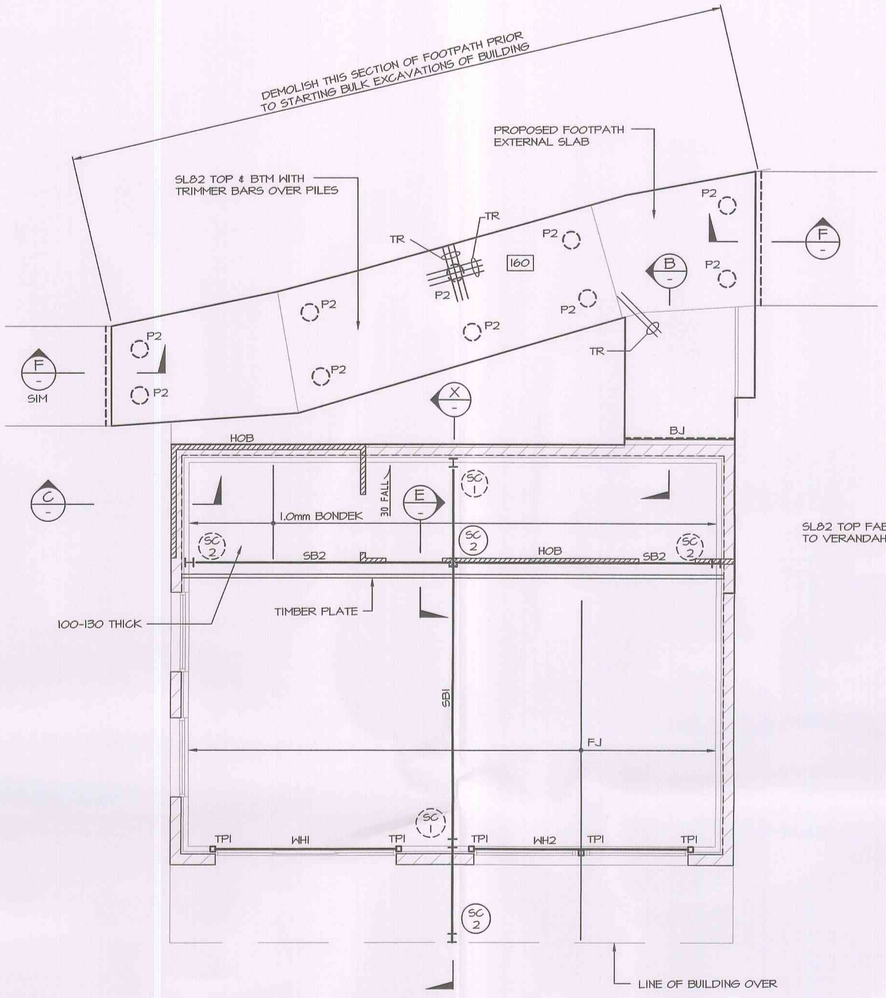
PROJECT MGR: G.S.

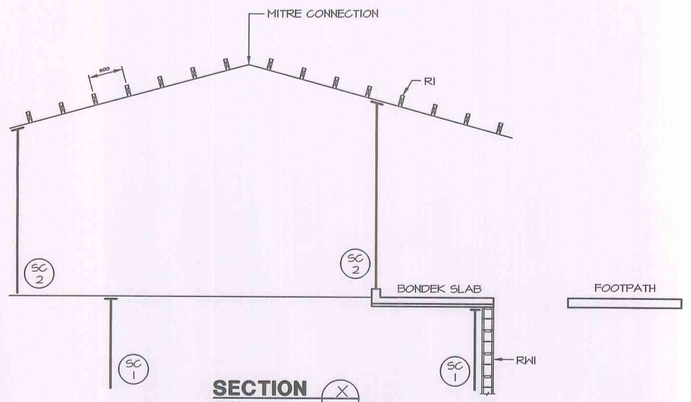
STRUCTURAL DESIGN
GROUND FLOOR PLAN & DETAILS

NEW WORKSHOP & TEACHING SPACE AT LOQUAT VALLEY SCHOOL
1977 PITWATER ROAD
BAYVIEW NSW

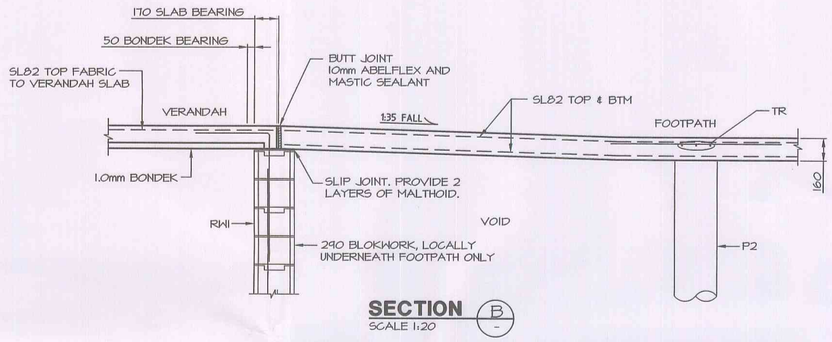
120128
S03 A



UPPER FLOOR PLAN
SCALE 1:50

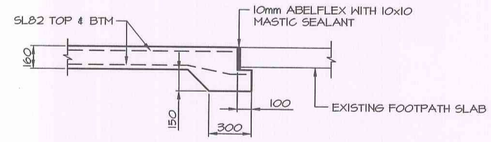


SECTION X
SCALE 1:50



SECTION B
SCALE 1:20

NOTE: FOR BLOCKWORK REINFORCEMENT REFER TO DWG S02



SECTION F
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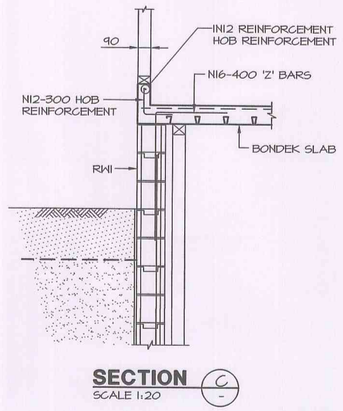


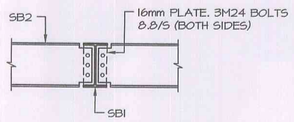
SECTION C
SCALE 1:20

MEMBER SCHEDULE		
TAG	MEMBER	SIZE
SC1	COLUMN	150UC30
SC2	COLUMN	150UC23
SB1	BEAM	460UB67 PLUS 310UB46 (REFER DETAILS)
SB2	BEAM	310UB32
FJ	FLOOR JOIST	360x63 HYSPAN FLOOR JOISTS @ 450 CTS
TP1	TIMBER	90x90 HARDWOOD F11 OR GREATER
WH1	WINDOW HEADER	2/300d x 45w HYSPAN LVL BOLTED TOGETHER WITH 2M12 @ 600 CTS
WH2	WINDOW HEADER	300d x 63w HYSPAN LVL
R1	RAFTER	200d x 63w HYSPAN LVL ROOF RAFTERS @ 600 CTS
RB1	BEAM	250UB37
P1	PILE	Φ600 MASS CONCRETE PILE TO ROCK
P2	PILE	Φ300 MASS CONCRETE PILE TO ROCK
TR	TRIMMER BARS	1200 LONG TRIMMER BARS TIED UNDER TOP FABRIC OVER PILES. TYPICAL. (EACH WAY).

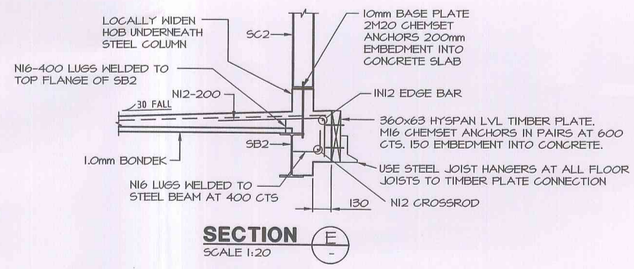
ALL EXTERNAL STEELWORK TO BE HOT DIP GALVANISED U.N.O.

ALL BOLTS TO BE GRADE 8.8/S U.N.O.

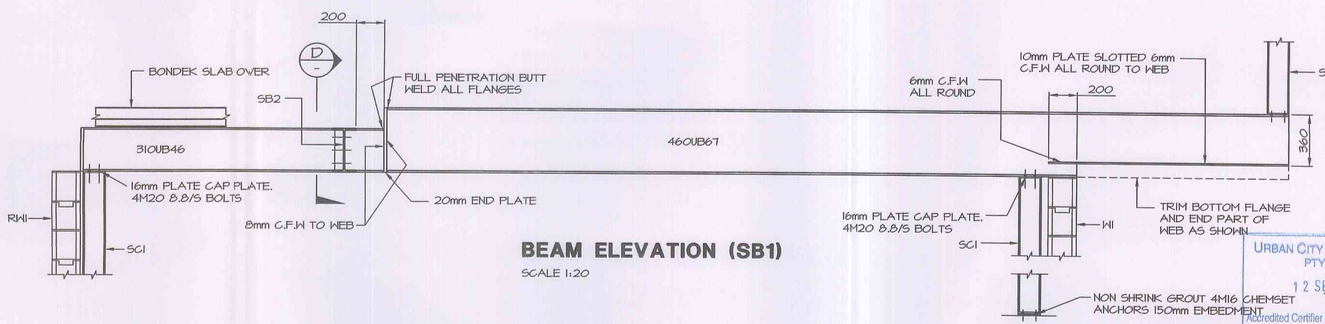
NOTE
GUTTER CONSTRUCTION, CLADDING, FLASHINGS ETC. ALL TO ARCHITECT'S DETAILS. BUILDER TO PROVIDE ADDITIONAL TRIMMING PURLINS/BATTENS AS REQUIRED TO SUPPORT THESE ITEMS.



SECTION D
SCALE 1:20



SECTION E
SCALE 1:20



BEAM ELEVATION (SB1)
SCALE 1:20

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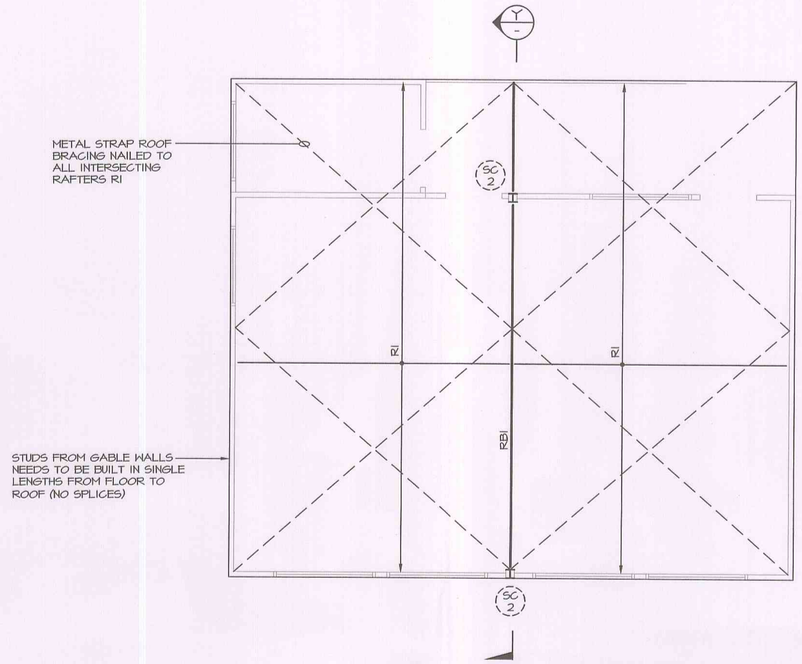
PROJECT MGR : G.S.

STRUCTURAL DESIGN
UPPER FLOOR PLAN & SECTIONS

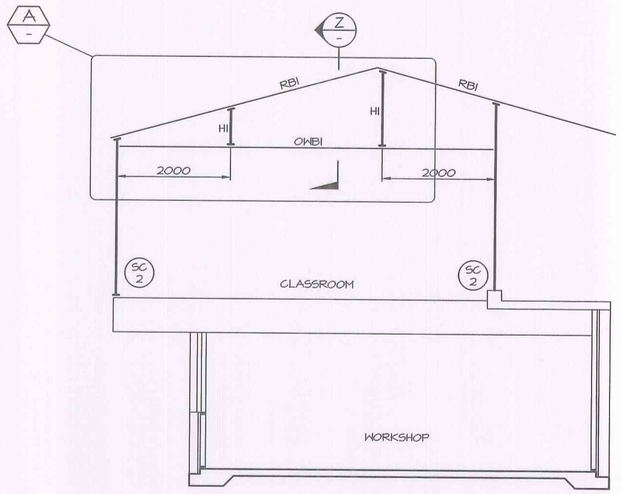
NEW WORKSHOP & TEACHING SPACE AT LOQUAT VALLEY SCHOOL
1977 PITWATER ROAD
BAYVIEW NSW

120128
S04 A



ROOF FRAMING PLAN
SCALE 1:50

MEMBER SCHEDULE		
TAG	MEMBER	SIZE
SCI	COLUMN	150UC23
RBI	RAFTER BEAM	250UB37
RI	RAFTER	200d x 63w HYSPAN LVL ROOF RAFTERS @ 600 CTS
HI	HANGERS	125x75x3.0 RHS
OWBI	BEAM	150 PFC OPERABLE WALL BEAM



SECTION Y
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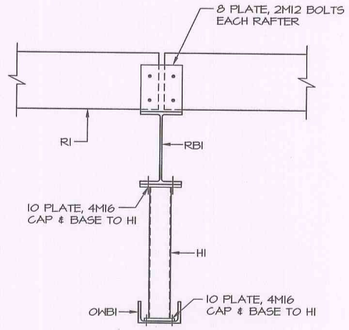
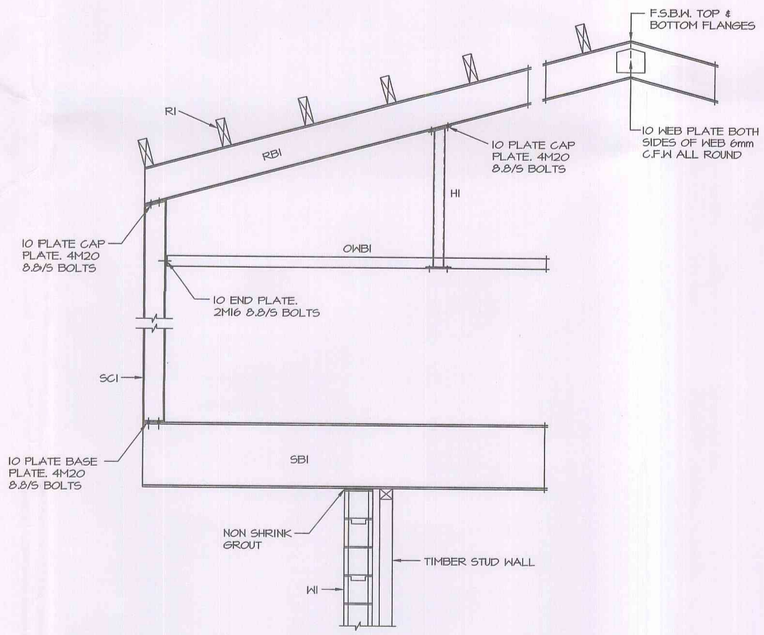


SECTION Z
SCALE 1:10



DETAIL A
SCALE 1:20

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STRUCTURAL DESIGN
ROOF FRAMING PLAN & SECTIONS

NEW WORKSHOP & TEACHING SPACE AT LOQUAT VALLEY SCHOOL
1977 PITWATER ROAD
BAYVIEW NSW

120128
S05 A

#120247

Levy Online Payment Receipt

Thank you for using our Levy Online payment system. Your payment for this building applic processed.

Applicant Name:	SYDNEY ANGLICAN SCHOOLS CORPORATION
Levy Application Reference:	5031151
Application Type:	CDC
Application No.:	120247
Local Government Area/Government Authority:	PITTWATER COUNCIL
Site Address:	1977
	PITTWATER ROAD
	BAYVIEW
	NSW
	2104
Value Of Work:	$400,000
Levy Due:	$1,400
Levy Payment:	$1,400
Online Payment Ref.:	661392299
Payment Date:	7/08/2012 8:46:41 AM

URBAN CITY CONSULTING PTY LTD

12 SEP 2012

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Accreditation No. BPB0284

SYDNEY ANGLICAN SCHOOLS CORPORATION

ARCHITECTURAL SPECIFICATION

Loquat Valley Anglican School
1977 Pittwater Road Bayview

New Classroom & Workshop Building

Revision	Date	Approved by

Ruth Newman Architect
128 285 165
Suite 1A, 1-5 Gymea Bay Road, GYMEA 2227
Tel: 9540 9959 Fax: 9540 9640
NATSPEC Subscriber Number: 10084233

URBAN CITY CONSULTING PTY LTD
12 SEP 2013
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TABLE OF CONTENTS

0131 PRELIMINARIES

1 GENERAL

1.1 THE SITE

Site restrictions

Site limitations: Comply with the following restrictions on the use of the site:

Access: Refer drawing A01 - Site Plan, & A02 – Site Management Plan, for location for access onto the site, storage of materials, etc. Builder shall be responsible for the Sydney Water easement and shall install steel plates for vehicular access.

Access across existing grassed playground shall be limited to the following hours:

7:00 – 8:00am, lunchtime (to be confirmed), and after 3:00pm

Builder shall install hoardings as shown on drawing A01 – Site Plan and work within the fenced off area.

Parking is on street

Occupied premises

General: For the parts of the site designated as occupied premises in the **Occupied premises schedule**:

- Allow occupants to continue in secure possession and occupancy of the premises for the required period.
- Make available safe access for occupants.
- Arrange work to minimise nuisance to occupants and ensure their safety.
- Protect occupants against weather, dust, dirt, water or other nuisance, by such means as temporary screens.

Proposals: Submit details of proposed methods.

- Purpose of submission: Information only.

Occupied premises schedule

Occupants	Occupied premises	Period of occupancy
School children and teacher	All classrooms	8:00am – 3:00pm

Protection of persons and property

Temporary works: Provide and maintain required barricades, guards, fencing, shoring, temporary roadways, footpaths, signs, lighting, watching and traffic flagging.

Accessways and services: Do not obstruct or damage roadways and footpaths, drains and watercourses and other existing services in use on or adjacent to the site. Determine the location of such services.

Property: Do not interfere with or damage property which is to remain on or adjacent to the site, including adjoining property encroaching onto the site, and trees.

Rectification

Accessways and services: Rectify immediately any obstruction or damage to roadways and footpaths, drains and watercourses and other existing services in use on or adjacent to the site. Provide temporary services whilst repairs are carried out.

Property: Rectify immediately any interference or damage to property which is to remain on or adjacent to the site, including adjoining property encroaching onto the site, and trees.

Existing services

General: Attend to existing services as follows:

- If the service is to be continued, repair, divert or relocate. Submit proposals.
- If the service crosses the line of a required trench, or will lose support when the trench is excavated, provide permanent support for the existing service. Submit proposals.
- If the service is to be abandoned, remove redundant parts and make safe.

Proposals: Submit proposals for action to be taken with respect to existing services before starting this work. Minimise the number and duration of interruptions.

- Purpose of submission: For review.

1.2 CONSTRUCTION PLANT

Access

Access route: Via Loquat Valley Road. Access to be obtained by removing fence panels shown on drawing A01 – Site Plan

Parking

- There will be no designated parking unless upon prior arrangement with the School Principal.

Use of existing services

General: Existing services may be used as temporary services for the performance of the contract.

Project signboards

General: Provide project-specific signboards and the following:

- Locate where directed.
- Maintain in good condition for duration of the work.
- Obtain permission for removal.
- Remove on completion.

1.3 BUILDING THE WORKS

Surveys

Setting out: Setout point for the proposed building is at the south west corner of the existing balcony of the existing building adjacent. Also refer drawing A01 - Site Plan for boundary setouts.

Safety

Accidents: Promptly notify the contract administrator of the occurrence of the following:

- Accidents involving death or personal injury.
- Accidents involving loss of time.
- Incidents with accident potential such as equipment failure, slides and cave-ins.

Accident reports: Submit reports of accidents.

- Purpose of submission: Information only.

Contractor's representative

General: Must be accessible, and fluent in English and technical terminology.

Subcontracting

General: Submit a complete list of proposed subcontractors and suppliers.

1.4 COMPLETION OF THE WORKS

Reinstatement

General: Before the date for practical completion, clean and repair damage caused by installation or use of temporary work and restore existing facilities used during construction to original condition.

Adjoining areas

Evaluation: At practical completion, for areas described in the **Adjoining properties to be recorded schedule** inspect the school areas with the architect, SASC project manager and school principal, recording any damage that has occurred since the pre-commencement inspection.

Pest eradication

General: Employ suitably qualified pest exterminators. At practical completion submit a certificate stating that completed works are free of pest types identified in the **Pest eradication treatments schedule**.

Removal of plant

General: Within 10 working days after practical completion, remove temporary works and construction plant no longer required. Remove the balance before the end of the defects liability period.

1.5 MISCELLANEOUS

Contractor and owner to observe confidentiality

Publicity: Do not issue information concerning the project for publication in the media without prior written approval of the owner. Refer to the owner enquiries from the media concerning the project.

Compliance with the law

Requirements of authorities: The owner, before entering into the contract, has given the notices, paid the fees, and obtained the permits, approvals and other authorisations stated in the **Prior applications and approvals schedule**.

Prior applications and approvals schedule

Prior notices given and applications made	Fees paid	Permits, approvals and authorisations received
Complying Development Application	Yes	YEs

Authority conditions schedule

Authority	Document	Condition
Private Certifier	Refer to CDC conditions	

0171 GENERAL REQUIREMENTS

1 GENERAL

1.1 APPLICABILITY

General
Requirement: Conform to *General requirements,* as appropriate, in all worksections.

1.2 GENERAL

Energy efficiency
Energy efficiency approval commitments: as listed on Section J final report and as detailed on drawings.

Substitution
Identified proprietary items: Identification of a proprietary item does not necessarily imply exclusive preference for the item so identified, but indicates the necessary properties of the item.

Alternatives: If alternatives to the documented products, methods or systems are proposed, submit sufficient information to permit evaluation of the proposed alternatives.

1.3 STANDARDS

Current editions
General: Use referenced Australian or other standards (including amendments), and the BCA including state and territory variations which are current three months before the date of the contract except where other editions or amendments are required by statutory authorities. Any local authority requirements take precedence.

1.4 INTERPRETATION

Definitions:
General: For the purposes of this document the definitions given below apply:

- Owner: Owner has the same meaning as client, principal or proprietor and is the party to whom the contractor is legally bound to construct the works.
- Contractor: Means the same as builder.
- Metallic-coated: Steel coated with zinc or aluminium-zinc alloy via a continuous hot-dip process.
- Hot-dip galvanized: Zinc coated to AS/NZS 4680 after fabrication.
- Professional engineer: As defined by the BCA.
- Proprietary: Proprietary means identifiable by naming manufacturer, supplier, installer, trade name, brand name, catalogue or reference number.
- Provide: Provide and similar expressions mean supply and install and include development of the design beyond that documented.
- Required: Means required by the contract documents, the local council or statutory authorities.
- Supply: Supply, furnish and similar expressions mean supply only.

1.5 SUBSTITUTION

Identified proprietary items
Identification of a proprietary item does not necessarily imply exclusive preference for the item so identified, but indicates the necessary properties of the item.

Alternatives
If alternatives to the documented products, methods or systems are proposed, submit sufficient information to permit evaluation of the proposed alternatives

2 PRODUCTS

2.1 MANUFACTURERS' OR SUPPLIERS' RECOMMENDATIONS

General

General: Provide and select, if no selection is given, transport, deliver, store, handle, protect, finish, adjust and prepare for use the manufactured items in accordance with the current written recommendations and instructions of the manufacturer or supplier.

Proprietary items/systems/assemblies: Assemble, install or fix to substrate in accordance with the current written recommendations and instructions of the manufacturer or supplier.

Sealed containers

General: If materials or products are supplied by the manufacturer in closed or sealed containers or packages, bring the material or products to point of use in the original containers or packages.

2.2 TIMBER

Moisture content

General: Make milled products from timbers seasoned:

- To within 3% of the equilibrium moisture content appropriate to the timber and its intended conditions of use.
- With no more than 3% difference between any 2 pieces in any one group.

Acclimatisation

General: Acclimatise timber fitouts by stacking them for two weeks in the in-service conditions with air circulation to all surfaces after the following construction operations are complete:

- Air conditioning operational.
- Lighting operational.
- Site drainage and stormwater works are complete.
- Space fully enclosed and secure.
- Wet work complete and dry.

Unseasoned timber

General: If unseasoned timber is provided, or variation in moisture content is likely, make allowance for shrinkage, swelling and differential movement.

Durability

General: Provide timbers with natural durability appropriate to the conditions of use or preservative-treated timbers of equivalent durability.

Natural durability class of heartwood: To AS 5604.

Preservative treatment: To the AS 1604 series.

Minimum requirement: To the **Natural and treated timber durability table**.

Natural and treated timber durability table

Exposure	Natural timber	Treated timber	Remarks
	Required durability class to AS 5604	Required hazard class to AS 1604 series	
Inside, above ground. Completely protected from the weather. Well ventilated	Class 4	H1	Treated timber resistant to lyctids. Untreated timber must be protected from termites
Inside, above ground. Protected from wetting with nil leaching. Well ventilated	Class 3	H2	Treated timber resistant to borers and termites. Untreated timber must be protected with a finish
Above ground, exposed to weather. Periodic moderate wetting and leaching	Class 2	H3	Treated timber resistant to borers, termites and moderate decay. Applicable to weatherboards, fascias, pergolas (above ground), window joinery, framing and

Exposure	Natural timber	Treated timber	Remarks
	Required durability class to AS 5604	**Required hazard class to AS 1604 series**	
			decking
In-ground	Class 1	H4 (Severe wetting and leaching)	Treated timber resistant to borers, termites and severe decay. Applicable to fence posts, greenhouses, pergolas (in-ground) and landscaping timbers
		H5 (Extreme wetting and leaching and/or critical uses.)	Applicable to retaining walls, piling, house stumps, building poles, cooling tower fill

2.3 STEEL

Durability

General: Provide steel products protected from corrosion to suit the conditions of use.

Internal engineer designed steel members: Remove mill scale, rust, moisture and oil. Coat with a zinc phosphate primer to the manufacturer's instructions.

Corrosion resistance

General: Conform to the following atmospheric corrosivity category as defined in AS/NZS 2312.

Compliance: Conform to the **Corrosion resistance table** or provide proprietary products with metallic and/or organic coatings of equivalent corrosion resistance and as follows:

Built-in products below damp proof course: Stainless steel 316 or engineered polymer.

Corrosion resistance table

Atmospheric corrosivity category to AS/NZS 2312	Heavy steel members including lintels more than 3.2 mm thick	Wall ties, connectors and accessories less than 3.2 mm thick and above damp proof course	Steel cladding, lining, trims and flashings
A and B	Galvanize after fabrication 600g/m^2	Galvanize after fabrication 300g/m^2 Metallic-coated sheet Z600/AZ200 Galvanized wire 470g/m^2	Metallic-coated sheet AZ150
C	Galvanize after fabrication 600g/m^2	Galvanize after fabrication 600g/m^2 Galvanized wire 470g/m^2	Metallic-coated sheet AZ200
D and F	Stainless steel 316 or 316L or galvanize after fabrication 600g/m^2 plus organic coating	Stainless steel 316 or engineered polymer	Metallic-coated sheet AZ200 plus organic coating

Galvanizing

General: Galvanize mild steel components (including fasteners) to AS 1214 or AS/NZS 4680, as appropriate, if:

- Exposed to weather.
- Embedded in masonry.
- Exposed to or in air spaces behind external leaves of masonry walls.

- In contact with chemically treated timber.

2.4 PROTECTIVE COATINGS

General
Environment: To AS/NZS 2312 clause 2.3.
Coating designation: To AS/NZS 2312 Table 6.3.

CCA (copper chrome arsenic) treated timber
Greasing: Before placing bolts or other metal components in contact with CCA-treated timber, paint contact surfaces or coat in grease or a bituminous coating.

Unseasoned timber
General: Do not fix in contact with steel framing without fully painting the contact surfaces of timber and steel.

2.5 FASTENERS

Self drilling screws
Corrosion resistance: To AS 3566.2 Table 1 and the **Fastener corrosion resistance table**.

Fastener corrosion resistance table

Atmospheric corrosivity category to AS/NZS 2312	Corrosion resistance class	
	Internal	External
A and B	1	3
C	2	4
D and F	3	Stainless steel 316

2.6 VAPOUR BARRIER

General
Vapour barrier to slabs: To AS 2870 clause 5.3.3.
Minimum thickness: 0.2 mm.

3 EXECUTION

3.1 WALL CHASING

Holes and chases
General: Make holes and chases required in masonry walls so that the structural integrity of the wall is maintained. Do not chase walls nominated as fire rated or acoustic.
Parallel chases or recesses on opposite faces of a wall: Not closer than 600 mm to each other.
Chasing of blockwork: Chase only core-filled hollow blocks or solid blocks not designated as structural and to the **Concrete blockwork chasing table**.

Concrete blockwork chasing table

Block thickness (mm)	Maximum depth of chase (mm)
190	35
140	25
90	20

3.2 FIXING

General
Suitability: If equipment and services are not suitable for fixing to non-structural building elements, fix directly to structure and trim around penetrations in non-structural elements.

Fasteners
Sufficiency: Use proprietary fasteners capable or transmitting the loads imposed, and sufficient to ensure the rigidity of the assembly.

3.3 FOOTPATH CROSSING

General

Requirement: Provide a footpath and kerb crossing to local authority requirements.

3.4 COMPLETION

General

Removal of temporary work, services and plant: Remove temporary work services and construction plant within 10 working days after occupation of the works.

Rectification: Clean and repair damage caused by the installation or use of temporary work and services and restore existing facilities used during construction to original condition.

Final cleaning: Remove rubbish and surplus material from the site and clean the works throughout including interior and exterior surfaces exposed to view. Vacuum clean carpeted and soft surfaces. Clean debris from the site, roofs, gutters, downpipes and drainage systems.

Samples: Remove non-incorporated samples, sample panels and prototypes.

Warranties: Register with manufacturers, as necessary, and provide copies of manufacturers' warranties.

Instruction manuals: Provide the manufacturers' instruction manuals.

Operation: Make sure moving parts operate safely and smoothly.

Surveyor's certificate: Provide a certificate which confirms that the work, including boundary fences, has been correctly located.

Services layout: Provide a plan which shows the location of underground services.

Authorities' approvals: Provide evidence of approval of the local authority or principal accredited certifier and statutory authorities whose requirements apply to the work.

Keys: Provide two keys for each set of locks keyed alike and two keys for each lock keyed to differ.

0184 TERMITE MANAGEMENT

1 GENERAL

1.1 STANDARDS

General
Standard: To AS 3660.1.

Chemical soil barriers – reticulation systems
Type testing: To AS 3660.1 Appendix E.

Termite barrier notice
General: Provide a durable notice permanently fixed in a prominent location to BCA B1.4(i)(ii) or BCA 3.1.3.2(b) and AS 3660.1 Appendix A.

0201 DEMOLITION

1 GENERAL

1.1 STANDARDS

Demolition
Standard: To AS 2601.

1.2 SUBMISSIONS

Records
Dilapidation record: Submit a copy of the dilapidation record for inspection. Submit to school principal and architect a copy and obtain written agreement to the contents of the record, before ommencement of demolition.

2 PRODUCTS

2.1 DEMOLISHED MATERIALS

General
Removal: Except for items to be recovered for re-use in the works, or delivery to the owner and materials to be recycled in the works, take possession of demolished materials and remove them from the site. Do not burn or bury demolished materials on the site. Prevent spillage of demolished materials in transit.

Recycling: Where possible, dismantle building components for off site recycling.

3 EXECUTION

3.1 SUPPORT

Temporary support
Existing buildings: Until permanent support is provided, provide temporary support for sections of existing buildings which are to be altered and which rely for support on work to be demolished.

3.2 PROTECTION

Encroachment
General: Prevent the encroachment of demolished materials onto adjoining property, including public places.

Weather protection
General: If walls or roofs are opened for alterations and additions, or the surfaces of adjoining buildings are exposed, provide temporary covers to prevent water penetration. Provide covers to protect existing plant equipment and materials intended for re-use.

Security
General: If walls or roofs are opened for alterations or additions, provide security against unauthorised entry to the building.

Fixed items
Individual protection: Protect the following items in their existing position:

- Shade structure posts
- Grassed playground between site access point and site.
- Sewer culvert and drainage pits in sewer culvert.

3.3 DEMOLITION

Dilapidation record
Purpose: Use the dilapidation record to assess the damage and making good arising out of demolition work.

Hazardous materials removal
Standard: To AS 2601 clause 1.6.2.

Procedure for asbestos removal: TBA

Notice of completion
General: Give at least 2 working days notice of completion of demolition so that adjacent structures may be inspected following completion of demolition.

Making good: Make good any damage arising out of demolition work. Obtain written acceptance from the owner of each adjoining property of completeness and standard of making good.

4 SELECTIONS

4.1 SCHEDULES

Recovered items for re-use in the works schedule

Item	Location for re-use
Shade cloth from shade structure.	Store for reinstatement

1 EXECUTION

1.1 CONTROL AND PROTECTION

Erosion control

General: Plan and carry out the work so as to avoid erosion, contamination, and sedimentation of the site, surrounding areas, and drainage systems.

Water quality

Wash out: Make sure that wash out does not enter waterways or stormwater drains.

Cross connection: Make sure that there are no cross connections between the stormwater and the public sewerage system.

Dewatering

General: Keep earthworks free of water. Provide and maintain slopes, crowns and drains on excavations and embankments to ensure free drainage. Place construction, including fill, masonry, concrete and services, on ground from which free water has been removed. Prevent water flow over freshly laid work.

1.2 TREE PROTECTION

Standard

General: Comply with the recommendations of those parts of AS 4970 which are referenced in this worksection.

Trees to be retained

Extent: All trees NOT marked for removal.

Tree protection

Tree protection zone: To AS 4970 Section 3.

Tree protective measures: To AS 4970 Section 4.

Work near trees

Harmful materials: Keep the area within the dripline free of sheds and paths, construction material and debris.

Work under trees: Do not remove topsoil from, or add topsoil to, the area within the dripline of the trees.

Hand methods: Use hand methods to locate, expose and cleanly remove the roots on the line of excavation.

1.3 SITE CLEARING

Extent

General: Clear only the following site areas:

- Areas to be occupied by works such as structures, paving, excavation, regrading and landscaping.
- Other areas designated to be cleared.

Clearing and grubbing

Clearing: Remove everything on or above the site surface, including rubbish, scrap, grass, vegetable matter and organic debris, scrub, trees, timber, stumps, boulders and rubble.

Grubbing: Grub out stumps and roots over 75 mm diameter to a minimum depth of 500 mm below subgrade under buildings, embankments or paving, and 300 mm below the finished surface in unpaved areas. Backfill holes remaining after grubbing with sand material to prevent ponding of water. Compact the material to the relative density of the existing adjacent ground material.

Disposal

Spoil: Remove cleared and grubbed material from the site and dispose of legally.

0222 EARTHWORK

1 GENERAL

1.1 STANDARDS

General

Earthworks: To AS 3798.

General: Conform to the recommendations of those parts of AS 3798 which are referenced in this worksection.

1.2 INTERPRETATION

Definitions:

General: For the purposes of this worksection the following definitions apply:

- Site classification: To AS 2870 and BCA 3.2.4.
- Bad ground: Ground unsuitable for the purposes of the works, including fill liable to subsidence, ground containing cavities, faults or fissures, ground contaminated by harmful substances and ground which is, or becomes, soft, wet or unstable.
- Rock: Monolithic material with volume greater than 0.5 m^3 which cannot be removed until broken up rippers or percussion tools.
- Subgrade: The trimmed or prepared portion of the formation on which the pavement, footing or slab is constructed. Generally taken to relate to the upper line of the formation.
- Zone of influence: A foundation zone bounded by planes extending downward and outward from the bottom edge of a footing, slab or pavement and defining the extent of foundation material having influence on the stability or support of the footings, slab or pavement.

2 PRODUCTS

2.1 FILL MATERIALS

General

Suitable material: To AS 3798 clause 4.4 including inorganic, non-perishable material suitably graded and capable of compaction to the documented density.

Unsuitable materials: Do not use unsuitable material for fill in conformance with AS 3798 clause 4.3.

3 EXECUTION

3.1 GEOTECHNICAL

As found site conditions

General: If the following are encountered, give notice immediately and obtain instructions before carrying out any further work in the affected area:

- Bad ground.
- Rock.

3.2 REMOVAL OF TOPSOIL

General

Extent: Areas of cut or fill and areas occupied by structures, pavements and embankments.

Maximum depth: 200 mm.

Topsoil stockpiles

General: Stockpile site topsoil intended for re-use and imported topsoil where necessary.

Stockpile heights: Establish stockpiles to maximum height of 1.5 m.

Protection: Protect the topsoil stockpiles from contamination by other excavated material, weeds and building debris.

3.3 EXCAVATION

Extent
Site surface: Excavate over the site to give correct levels and profiles required as the basis for structures, paving and landscaping. Make allowance for compaction or settlement or heaving.

Footings: Excavate for footings to the required sizes and depths. Confirm that the foundation conditions meet the design bearing capacity.

Crawl space: Provide a clear space under timber or steel bearers:

- Minimum clearance: 400 mm.

Rock
General: Do not use explosives.

Existing footings
Requirement: If excavation is required within the zone of influence of an existing footing, use methods including (temporary) shoring and underpinning which maintain the support of the footing and make sure that the structure and finishes supported by the footing are not damaged.

Existing services
Utility services: Contact DIAL BEFORE YOU DIG to identify location of underground utility services pipes and cables.

Bearing surfaces
General: Provide even plane bearing surfaces for loadbearing elements including footings. Step to accommodate level changes. Make the steps to the appropriate courses if supporting masonry.

Reinstatement of excavation
Requirement: If excavation exceeds the required depth, or deteriorates, reinstate with fill to the correct depth, level and bearing value.

Grading
External areas: Grade to give falls away from buildings, minimum 1:100.

Subfloor areas: Grade the ground surface under suspended floors to drain ground or surface water away from buildings without ponding.

3.4 PREPARATION FOR FILLING

Preparation
Stripping: Prepare the ground surface before placing fill (including topsoil fill), ground slabs or load bearing elements to AS 3798 clause 6.1.5. Remove materials which will inhibit or prevent satisfactory placement of fill layers, loose material, debris and organic matter.

3.5 PLACING FILL

Placing fill
Placement: To BCA 3.2.2.

Layers: Place fill in near-horizontal layers of uniform thickness no greater than 150 mm after compaction, deposited systematically across the fill area.

Placing at structures: Place and compact fill in layers simultaneously on both sides of structures, culverts and pipelines to avoid differential loading.

Moisture content: Adjust the moisture content of fill during compaction within the range of 85 – 115% of the optimum moisture content determined by AS 1289.5.1.1 or AS 1289.5.2.1 as appropriate, in order to achieve the required density.

Density: Compact the subgrade and each layer of fill to the required depth and density, as a systematic construction operation and to conform to the **Compaction table**. Shape surfaces to provide drainage and prevent ponding.

Compaction table

Location	**Cohesive soils. Minimum dry density ratio (standard compaction) to AS 1289.5.4.1**	**Cohesionless soils. Minimum density index to AS 1289.5.6.1**

Location	**Cohesive soils. Minimum dry density ratio (standard compaction) to AS 1289.5.4.1**	**Cohesionless soils. Minimum density index to AS 1289.5.6.1**
Residential: Lot fill, house sites.	95	70
Pavements: Fill to support pavements Subgrade to 300 mm deep	 95 98	 70 75

0223 SERVICE TRENCHING

1 PRODUCTS

1.1 FILL MATERIALS

General

Backfill material: To the *Earthwork* worksection **Fill materials**, free from stones larger than 100 mm maximum dimension and as follows:

- Next to services: Do not place any particles greater in size than 25 mm within 150 mm of services.
- Under paved areas and within 4 m of structures: Coarse sand, controlled low strength material or fine crushed rock.
- In reactive clay: In sites classified M, M-D, H1, H1-D, H2, H2-D, E or E-D to AS 2870, re-use excavated site material at a moisture content within ± 1% of that of the adjoining in situ clay.

2 EXECUTION

2.1 EXISTING SURFACES

Concrete and asphalt pavements

Method: Sawcut trench set out lines for the full depths of the bound pavement layers except where the set out line is located along expansion joints.

2.2 EXCAVATING

Excavation

General: Excavate for underground services in conformance with the following:

- To required lines and levels, with uniform grades.
- Straight between access chambers, inspection points and junctions.
- With stable sides.

Trench widths

General: Keep trench widths to the minimum consistent with the laying and bedding of the relevant service and construction of access chambers and pits.

2.3 TRENCH BACKFILL

General

Timing: Backfill service trenches as soon as possible after laying and bedding the service, if possible on the same working day.

Place fill: To **Placing fill** in the *Earthwork* worksection.

Layers: Compact all material in layers not exceeding 150 mm compacted thickness. Compact each layer to the relative compaction specified before the next layer is commenced.

2.4 SURFACE RESTORATION

General

Reinstatement: Reinstate existing surfaces removed or disturbed by trench excavation to match existing and adjacent work.

0241 LANDSCAPE – WALLING AND EDGING

1 PRODUCTS

1.1 GEOTEXTILE

General
Type: Polymeric fabric formed from a plastic yarn composed of at least 85% by weight of propylene, ethylene, amide or vinyledenechloride and containing stabilisers or inhibitors to make the filaments resistant to deterioration due to ultraviolet light.

Identification and marking: To AS 3705.

Protection
General: Provide heavy duty protective covering. Store clear of the ground and out of direct sunlight. During installation do not expose the filter fabric to sunlight for more than 14 days.

1.2 EDGING

Concrete
Standard: To AS 1379 – Grade N20.

2 EXECUTION

2.1 GENERAL

Set out
General: Set out the positions of walls.

Clearing
Extent: Except trees or shrubs to be retained, clear vegetation within 1 m of the landscape walls. Grub out stumps and roots of removed trees or shrubs and trim the grass to ground level, but do not remove the topsoil.

Excavation
Extent: Excavate for foundations and footings.

Concrete
Edging strip: Place in a shallow trench between timber forms. Wood float finish flush with the adjacent finished grass level. Provide control joints, filled with resilient bituminous material, at 3 m maximum centres.

0271 PAVEMENT BASE AND SUBBASE

1 PRODUCTS

1.1 BASE COURSE MATERIAL

General

Material: Provide well-graded crushed rock, natural gravel or recycled concrete aggregate, free of deleterious material.

Grading: A maximum particle size of 26.5mm, uniformly graded and with a maximum clay content of 6% by mass.

2 EXECUTION

2.1 PREPARATION

General

Subgrade: Prepare the subgrade in accordance with the *Earthwork* worksection and to suit the thickness of the base course and paving.

Compaction: If necessary, loosen the ground to a depth of 200 mm and adjust the moisture content before compaction. Compact the ground to a firm, even surface using at least 2 passes of a vibrating plate compactor or roller. Remove and replace soft areas.

2.2 PLACING

General

Base course: Spread and compact the base course to a firm, tight, close textured surface.

Compaction: Use at least 3 passes of a vibrating plate compactor or roller. Adjust the moisture content to facilitate compaction.

2.3 BASE COURSE MINIMUM THICKNESS

Requirement

General: Comply with the **Base course minimum thickness table.**

Base course minimum thickness table

	Site classification to AS 2870 and BCA 3.2.4	
	Unit paving	
	A	**S & M**
Foot and bicycle traffic	0	0
Light domestic traffic occasionally up to 3 tonne gross	0	75 mm

0274 CONCRETE PAVEMENT

1 GENERAL

1.1 STANDARDS

General

Specification and supply: To AS 1379.

Materials and construction: To AS 3600.

Guide to residential pavements: To AS 3727.

2 EXECUTION

2.1 GENERAL

Preparation

General: Trim the ground to suit the required thickness of concrete and compact to a firm, even surface.

Prepared subgrade: Blind with sufficient sand to create a smooth surface free from hard projections. Wet the sand just before laying the underlay.

Paving

General: Place and compact concrete paving over a vapour barrier placed over the prepared ground surface.

Grading

General: Grade paving to even falls to drain away from buildings to drainage outlets without ponding. Minimum fall for drainage: 1:100.

Thickness

Minimum:

- Refer engineer's documentation

Curing

General: Protect fresh concrete from premature drying and from excessively hot or cold temperatures. Maintain the concrete at a reasonably constant temperature with minimum moisture loss for the curing period of 7 days.

2.2 JOINTS

Contraction joints

General: Form tooled joints at maximum 2000 mm spacing.

Expansion joints

General: Cast-in 10 mm thick bitumen impregnated fibreboard at maximum 6 m spacing.

Abutment with building

General: Where concrete paving more than 1500 mm wide abuts the wall of a building, cast-in 10 mm thick bitumen impregnated fibreboard between the paving and the wall. Otherwise, turn up the vapour barrier.

2.3 FINISHING METHODS

Broom finishing: Wood float and broom to an even textured transverse scored surface with steel tooled margins. On gradients steeper than 10%, roughen the surface by scoring using a stiff brush or rake.

Exposed aggregate finish: Steel trowel to a smooth surface. After final set use clean water and brushes to remove the surface film of mortar until the aggregate is uniformly exposed without under cutting of the matrix.

0310 CONCRETE

1 GENERAL

1.1 STANDARDS

General

Formwork design and construction, formed surfaces: To AS 3610 and AS 3610.1.

Plywood formwork: To AS 6669.

Profiled steel sheeting including shear connectors: To AS 2327.1.

Specification and supply of concrete: To AS 1379.

Concrete materials and construction: To AS 3600.

Residential ground slabs and footings: To AS 2870.

1.2 INTERPRETATION

Definitions

General: For the purposes of this worksection the following definitions apply:

- Ambient temperature: The air temperature at the time of mixing and placing of concrete.
- Average ambient temperature: Average value of the daily maximum and minimum ambient temperatures over the relevant period at a site.
- Weather:
  - . Cold: Ambient shade temperature < 10°C.
  - . Hot: Ambient shade temperature > 30°C.

1.3 TOLERANCES

General

Formed surfaces: In conformance with the surface finish requirements of AS 3610.1 Table 3.3.2 and the following:

- Visible: Class 3.
- Not visible: Class 5.

Unformed surfaces: In conformance with the **Flatness tolerance classes table** for the class of finish nominated using a straight edge placed anywhere on the surface in any direction.

Flatness tolerance class table

Class	Measurement	Maximum deviation (mm)
A	3 m straight edge	3
B	3 m straight edge	6
C	600 mm straight edge	6

1.4 SUBMISSIONS

Design

Formwork: The design of the formwork other than profiled steel sheeting composite formwork is the contractor's responsibility.

Design documentation

Certification: For other than profiled steel sheeting composite formwork, submit certification by a qualified structural engineer experienced in formwork design verifying conformance of the design.

Execution – documentation

Certification: Provide certification by a qualified structural engineer experienced in formwork design and construction verifying conformance of the completed formwork, including the suitability of the formwork for the documented surface finish class.

2 PRODUCTS

2.1 MATERIALS

Cement

Standard: To AS 3972.

Age: Less than 6 months old.

Storage: Store cement bags under cover and above ground.

Pre-mixed concrete supply

Standard: To AS 1379 by the batch production process. Maximum slump: 100 mm.

Polymeric film underlay

Vapour barriers and damp-proofing membranes: To AS 2870 clause 5.3.3.

Curing compounds

Curing compounds: To AS 3799.

2.2 FORMWORK

General

Lost formwork: Without chlorides and without impairing the structural performance of the concrete members.

Steel decking

Material: Hot-dipped zinc-coated sheet steel to AS 1397, minimum G500-Z350.

Profiled steel sheeting composite formwork: Minimum steel grade G550.

Accessories: Adopt material and corrosion protection to match the profiled steel sheeting.

Plywood formwork

Material: Plywood sheeting to AS 6669.

Grade: To meet the design dimensions, loading and surface quality specified to AS 3610 and AS 3610.1.

Joints: Seal the joints consistent with the surface finish class.

Tolerances: To AS 3610.1 Table 3.3.2.

3 EXECUTION

3.1 POLYMERIC FILM UNDERLAY

Location

General: Under slabs on ground including integral ground beams and footings, provide a vapour barrier or, in areas prone to rising damp or salt attack, a damp-proofing membrane.

3.2 FORMWORK

Preparation

Cleaning: Before placing concrete, remove free water, dust, debris and stains from the forms and the formed space.

Corners

Work above ground: Chamfer at re-entrant angles, and fillet at corners.

- Face of bevel 25 mm.

Void formers

Use: Cast designated ground floor slabs and beams on void formers.

Protection: Keep void formers dry until time of use. Place them on a firm level surface and place reinforcement and concrete with minimum delay.

3.3 REINFORCEMENT

Supports

General: Provide proprietary concrete, metal or plastic supports to reinforcement in the form of chairs, spacers, stools, hangers and ties, as follows:

- To be adequate to withstand construction and traffic loads.
- With a protective coating if they are ferrous metal extending to the surface of the concrete, or are used with galvanized or zinc-coated reinforcement.

Minimum spacing:

- Bars: ≤ 60 diameters.
- Mesh: ≤ 800 mm.

Supports over membranes: Prevent damage to waterproofing membranes or vapour barriers. If appropriate, place a metal or plastic plate under each support.

Projecting reinforcement

General: If starter or other bars project beyond reinforcement mats or cages, through formwork or from cast concrete, provide a plastic protective cap to each bar until it is incorporated into subsequent work.

Tying

General: Secure the reinforcement against displacement by tying at intersections with either wire ties, or clips. Bend the ends of wire ties away from nearby faces of forms or unformed faces so that the ties do not project into the concrete cover.

Minimum requirements

Splices: Splice as follows:

- Mesh sheets: 225 mm.
- Trench mesh: 500 mm.
- Bars: Greater of either 500 mm or 25 x bar diameter.
- Strip footing intersections and corners: Full width of intersecting reinforcement.

Cover: To the **Minimum cover to reinforcement table**.

Minimum cover to reinforcement table

Concrete element	Location	Minimum concrete strength (MPa)	Minimum cover to reinforcement (mm)
Unreinforced concrete	Generally	20	
Reinforced concrete	Unless noted otherwise below	25	20
	Exterior: temperate, near- coastal (1 km to 50 km) and on ground and protected by membrane (bottom cover)	25	30
	On ground and unprotected by membrane (bottom cover)	25	40
	Footings	25	50
	Exterior: tropical, near- coastal (1 km to 50 km) and in contact with fresh water	32	40
	Exterior: coastal (100 m to 1 km) and permanently submerged in salt water	40	45
	Exterior: in tidal or splash zones	50	50

3.4 CONCRETE

Placing

General: Use placing methods which avoid segregation and loss of concrete, and which minimise plastic settlement. Maintain a generally vertical and plastic concrete edge during placement.

Layers: Place concrete in layers ≤ 300 mm thick, such that each succeeding layer is compacted before previous layer has taken initial set. Compact into previous layer.

Compaction

Methods: Use immersion and screed vibrators accompanied by hand methods as appropriate to remove entrapped air and to fully compact the mix.

Vibrators: Do not allow vibrators to come into contact with set concrete, reinforcement or items including pipes and conduits embedded in concrete. Do not use vibrators to move concrete along the forms. Avoid over-vibration that may cause segregation.

Rain

Protection: During placement and prior to setting, protect the surface from damage to achieve the desired finish.

Placing in cold weather

Placing concrete: Maintain the temperature of the freshly mixed concrete at ≥ 5°C.

Formwork and reinforcement: Before and during placing maintain temperature at ≥ 5°C.

Temperature control: Heat the concrete materials, other than cement, to the minimum temperature necessary to make sure that the temperature of the placed concrete is within the limits specified.

Placing in hot weather

Placing concrete: Maintain the temperature of the freshly mixed concrete at ≤ 35°C.

Formwork and reinforcement: Before and during placing maintain temperature at ≤ 35°C.

Temperature control: Select one or more of the following methods of maintaining the specified temperature of the placed concrete at < 35:

- Cover the container in which the concrete is transported to the forms.
- Spray the coarse aggregate using cold water prior to mixing.
- Use chilled mixing water.

Evaporation control barriers: Erect barriers to protect freshly placed concrete from drying winds.

3.5 CURING

General

Requirements: Taking into account the average ambient temperature at site over the relevant period affecting the curing and adopt procedures to ensure the following:

- Curing: Cure continuously from completion of finishing until the total cumulative number of days or fractions of days, during which the air temperature in contact with the concrete is above 10°C, is at least the following:
  - . Fully enclosed internal surfaces: 3 days.
  - . Other concrete surfaces: 7 days.
- End of curing period: Prevent rapid drying out at the end of the curing period.
- Protection: Maintain at a reasonably constant temperature with minimum moisture loss, during the curing period.

Curing compounds

Application: Provide a uniform continuous flexible coating without visible breaks or pinholes, which remains unbroken at least for the required curing period after application.

Substrates: Do not use wax-based or chlorinated rubber-based curing compounds on surfaces forming substrates to applied finishes, concrete toppings and cement-based render.

Hot weather curing

Protection: Provide protection as follows:

- Immediately after finishing, either cover exposed surfaces using an impervious membrane or hessian kept wet until curing begins, or apply a curing compound.

Water curing

General: If water is used, pond or continuously sprinkle in such a way as to not cause damage to the concrete surface, for the required curing period.

3.6 JOINTS

Construction joints

Location: Do not relocate or eliminate construction joints, or make construction joints not documented. If emergency construction joints are made necessary by unforeseen interruptions to the concrete pour, submit a report on the action taken.

999Preparation: Roughen and clean the hardened concrete joint surface. Remove loose or soft material, free water, foreign matter and laitance. Dampen the surface just before placing the fresh concrete and coat with a neat cement slurry.

Slip joints
Requirement: If concrete slabs are supported on masonry, provide proprietary slip joints.

3.7 FORMED SURFACES

General
Damage: Do not damage concrete works through premature removal of formwork.

Curing
General: If forms are stripped when concrete is at an age less than the minimum curing period, commence curing exposed faces as soon as the stripping is completed.

Surface repairs
Surface repair method: If surface repairs are required, submit proposals.

3.8 UNFORMED SURFACES

Surface finishes
General: Provide surface finishes in conformance with the **Unformed surface finishes schedule.**

Unformed surface finishes schedule

Property	Type		
	A	B	C
Location			
Flatness tolerance class			
Primary finish			
Supplementary finish			
Slip resistance class to AS 4663: -Wet pendulum -Dry floor friction			
Slip resistance treatment			
Slip resistance tests			
Surface modifier			

Surface repairs
Surface repair method: If surface repairs are required, submit proposals.

3.9 COMPLETION

Formwork removal
Extent: Remove formwork, other than steel profiled reinforcement decking, including formwork in concealed locations, but excepting lost formwork.

Timing: Do not disturb forms until concrete is hardened enough to withstand formwork movements and removal without damage.

Stripping times: Leave formwork for suspended structures in place after pouring concrete for the following periods:

- Vertical surfaces: 2 days.
- Bottom surfaces: 7 days with shoring and backprops left in position for 21 days.

Loading
General: Do not erect masonry walls or other brittle elements on beams and slabs while they are still supported by formwork.

Protection
Protection: Protect the concrete from damage due to construction load overstresses, physical and thermal shocks, and excessive vibrations, particularly during the curing period.

Surface protection: Protect finished concrete surfaces and applied finishes from damage.

0331 BLOCK CONSTRUCTION

1 GENERAL

1.1 STANDARDS

General
Materials and construction: To AS 4773.1 and AS 4773.2.

2 PRODUCTS

2.1 MATERIALS

Bricks and blocks
Standard: To AS/NZS 4455.1 and AS/NZS 4455.3.
Minimum age of clay bricks: 7 days.
Masonry durability
Requirement: Conform to AS 4773.1 Table 4.1.
Mortar materials
Sand: Fine aggregate with a low clay content and free from efflorescing salts, selected for colour and grading.
Proportions: Conform to BCA 3.3.1.6, BCA Table 3.3.1.2 and AS 4773.1 Table 3.2

2.2 COMPONENTS

Steel lintels
Angles and flats: Sizes to BCA Figure 3.3.3.5.
Cold-formed lintels: Designed to AS/NZS 4600.
Corrosion protection: To AS/NZS 2699.3, and BCA Table 3.3.3.2.
Galvanizing: Do not cut after galvanizing.
Wall ties
Standard: To AS/NZS 2699.1.
Type: A.
Corrosion protection: To BCA Table 3.3.3.1.
Flashings and damp-proof courses
Standard: To AS/NZS 2904.

3 EXECUTION

3.1 GENERAL

Mortar mixing
General: Measure volumes accurately to achieve the documented proportions. Machine mix for at least six minutes.
Protection from contamination
General: Protect masonry materials and components from ground moisture and contamination.
Bond
Type: Stretcher bond.
Building in
Embedded items: Build in wall ties and accessories as the construction proceeds. If it is not practicable to obtain the required embedment wholly in the mortar joint in hollow unit brickwork or blockwork, fill appropriate cores with grout or mortar.

Clearance for timber frame shrinkage
General: In timber frame brick veneer construction, leave clearances between window frames and brick sill and between roof frames and the brick veneer as follows:

- Additional clearance: Accommodate additional shrinkage of unseasoned floor timbers.
- Single storey frames and ground floor windows (not for slab on ground): 10 mm.
- Two storey frames and upper floor windows: 20 mm.

Joining to existing
General: Provide a control joint where joining to existing structures. Do not tooth new masonry into existing work.

Mortar Joints
Solid and cored units: Lay on a full bed of mortar. Fill perpends solid. Cut mortar flush.

Face-shell bedded hollow units: Fill perpends solid. Cut mortar flush.

Finish: Conform to the following:

- Externally: Tool to give a dense water-shedding finish.
- Internally: If wall is to be plastered, do not rake more than 10 mm to give a key.
- Thickness: 10 mm.

Cutting: Set out masonry with joints of uniform width and the minimum of cutting of masonry units.

Rate of construction
General: Regulate the rate of construction to eliminate joint deformation, slumping or instability.

Rods
Set out: Construct masonry to the following rods:

- 75 mm high units: 7 courses to 600 mm.
- 90 mm high units: 6 courses to 600 mm.
- 190 mm high units: 3 courses to 600 mm.

Chimneys and fireplaces
Guidance: For construction refer to Clay Brick and Paver Institute Technical Notes CBPI Tech 05.

3.2 FACEWORK

Cleaning
General: Clean progressively as the work proceeds to remove mortar smears, stains and discolouration. Do not use an acid solution. Do not erode joints if using pressure spraying.

Colour mixing
Distribution: In facework, distribute the colour range of units evenly to prevent colour concentrations and banding.

Sills and thresholds
General: Solidly bed sills and thresholds and lay them so that the top surfaces drain away from the building.

Set out: Set out so that no unit is cut smaller than three quarters full width.

3.3 CAVITY WORK

Cavity clearance
General: Keep cavities clear at all times.

Cavity fill
General: Fill the cavity with mortar to 1 course above adjacent finished (ground) level. Fall the top surface towards the outer leaf.

Cavity width
General: Provide minimum cavity widths in conformance with the following:

- Masonry walls: 50 mm.
- Masonry veneer walls: 40 mm between the masonry leaf and the loadbearing frame and 25 mm minimum between the masonry leaf and sheet bracing.

Openings
Do not close the cavity at the jambs of external openings.

3.4 DAMP-PROOF COURSES

Location

General: Provide damp-proof courses as follows:

- Timber floors: In the first course below the level of the underside of ground floor timbers in internal walls and inner leaves of cavity walls.
- Cavity walls built off slabs on ground: In the bottom course of the outer leaf, continuous horizontally across the cavity and up the inner face bedded in mortar, turned 30 mm into the inner leaf 1course above.
- Masonry veneer construction: In the bottom course of the outer leaf, continuous horizontally across the cavity. Fastened to the inner frame 75 mm above floor level.
- Walls adjoining infill floor slabs on membranes: In the course above the underside of the slab in internal walls and inner leaves of cavity walls. Project 40 mm and dress down over the membrane turned up against the wall.

Height: Not less than:

- 150 mm above the adjacent finished ground level.
- 75 mm above the finished paved or concrete area.
- 50 mm above the finished paved or concreted area and protected from the direct effect of the weather.

Installation

General: Lay in long lengths. Lap the full width of angles and intersections and 150 mm at joints. Step as necessary, but not more than 2 courses per step for brickwork and 1 course per step for blockwork. Sandwich damp-proof courses between mortar.

Junctions: Preserve continuity of damp-proofing at junctions of damp-proof courses and waterproof membranes.

3.5 FLASHINGS

Location

General: Provide flashings as follows:

- Floors: Full width of outer leaf immediately above slab, continuous across cavity and up the inner face bedded in mortar, turned 30 mm into the inner leaf 2 courses above for brick and 1 course for block. Where the slab supports the outer skin and is not rebated, bed the flashing in a suitable sealant.
- Under sills: 30 mm into the outer leaf bed joint 1 course below the sill, extending up across the cavity and under the sill in the inner leaf or the frame. Extend at least 150 mm beyond the reveals on each side of the opening.
- Over lintels to openings: Full width of outer leaf immediately above the lintel, continuous across cavity, turned 30 mm into the inner leaf 2 courses above for brick and 1 course for block or turned up against the frame and fastened to it. Extend at least 150 mm beyond the ends of the lintels.
- At abutments with structural frames or supports: Vertical flash in the cavity from 150 mm wide material, wedged and grouted into a groove in the frame opposite the cavity.
- At jambs: Full height flashing extending 75 mm beyond the closure into the cavity, interleaved with the sill and head flashing at each end. Fix to jambs.
- At roof abutments with cavity walls: Cavity flash immediately above the roof and over-flash the roof apron flashing.

Installation

General: Sandwich flashings between mortar except where on lintels.

Pointing: Point up joints around flashings to fill voids.

Weepholes

Location: Provide weepholes to external leaves of cavity walls in the course immediately above flashings, and cavity fill, and at the bottoms of unfilled cavities.

Form: Open perpends.

Maximum spacing: 1200 mm.

Weephole guards: Provide access barrier.

- Type: open perpend

3.6 WALL TIES

Location

Spacing: To BCA Figure 3.3.3.1 and AS 4773.2 Tables 9.2 and 10.6.

Installation

Embedment: At least 50 mm into mortar ensuring that mortar cover is 15 mm minimum to the outside face of the mortar.

3.7 CONTROL OF MOVEMENT

Control joints

General: Provide joints to AS 4773.2 Section 7 and as follows:

- Contraction joints for concrete and calcium silicate masonry:
  - . Maximum length of continuous wall: 5 m.
  - . Minimum width of control joint: 10 mm.
- Expansion joints for clay brickwork:
  - . Maximum length of continuous wall: 6 m.
  - . Width of vertical joint: ≥ 10 mm ≤ 20 mm.
  - . Width of horizontal joint: ≥ 15 mm ≤ 20 mm.

Flexible ties and anchors

Requirement: If ties or anchors extend across control joints, provide ties or anchors which maintain the stability of the masonry without impairing the effectiveness of the joint.

Control joint filling

Installation: Clean the joints thoroughly and insert an easily compressible backing material before sealing.

Sealant depth: Fill the joints with a gun-applied flexible sealant for a depth of at least two-thirds the joint width.

Sealant type: External: UV stable.

3.8 REINFORCED AND GROUTED BLOCKWORK

Cleaning core holes

General: Provide purpose-made cleanout blocks or machine cut a cleaning hole at the base of each grouted core.

Location: Locate on the side of the wall which is to be rendered or otherwise concealed.

Cleaning: Rod cores to dislodge mortar fins protruding from the blocks and mortar droppings from reinforcement. Remove through the clean-out blocks.

Grouting

Commencement: Do not commence until grout spaces have been cleaned out and the mortar joints have attained sufficient strength to resist blow-outs.

Height of lift: Limit the height of individual lifts in any pour to make sure that the grout can be thoroughly compacted to fill all voids and make sure bond between grout and masonry.

Compaction: Compact by vibration or by rodding.

Topping up: On the completion of the last lift, top up the grout after 10 min to 30 min, and vibrate or rod to mix with the previous pour.

3.9 LINTELS

Installation

General: Do not cut on site. Keep lintels 10 mm clear of heads of frames.

Steel lintels: Pack mortar between any vertical component and supported masonry units. For angles install with the long leg vertical.

Propping: To prevent deflection or excessive rotation, temporarily prop lintels until the masonry reaches its required strength.

4 GENERAL

4.1 STANDARDS

General
Framing: To AS 1684.2, AS 1684.3 or AS 1684.4, as appropriate.
Design: To AS 1720.1.

4.2 SUBMISSIONS

Subcontractors
Prefabricated items: Submit the name and contact details of the proposed manufacturer.

Design
General: Where the structural drawings define performance criteria, submit independent design, documentation and certification from a professional engineer, including for the erected work.

Reactions: Provide location and magnitude of reactions to be accommodated by the support structure.

Floor and wall frame member sizes: Submit a schedule of proposed member sizes, certified as meeting stated project, AS 1684 and AS 1720.1 requirements for span, spacings, loadings and deflections.

Preservative treatment
CCA treated timber: If proposed to be used, provide details.

5 PRODUCTS

5.1 TIMBER

Fascias and barge boards
Fascia dimensions:
- Width x thickness (mm): to match existing building adjacent
- Profile: to match existing building adjacent

Barge board dimensions:
- Width x thickness (mm): to match existing building adjacent
- Profile: to match existing building adjacent

5.2 SHEET PRODUCTS

Structural plywood
Standard: To AS/NZS 2269.0.

Bond: Type A to AS/NZS 2754.1 (Int).

Wet-processed fibreboard (including hardboard)
Standard: To AS/NZS 1859.4.

5.3 COMPONENTS

Fasteners
Installation: Do not split or otherwise damage the timber.

Coating: Before placing bolts in contact with CCA treated timber, coat the shank of the bolt in a grease or bituminous coating.

Damp-proof course
Material: To AS/NZS 2904.

Flashings
Material: To AS/NZS 2904.

6 EXECUTION

6.1 TRANSPORT AND DELIVERY

General

Handling and protection: Do not distort or damage timber or timber products.

Moisture content: Maintain the equilibrium moisture content of seasoned timber.

Protection from weather

General: Provide temporary protection for members until permanent covering is in place.

6.2 FLOOR FRAMING

Bearers and joists

Levelling: Level bearers and joists by checking or by packing for the full width of the member with dense corrosion resistant material which is secured in place:

- Maximum thickness of packing: 3 mm.

Spring: Lay bearers and joists to allow for straightening under loading.

Joints: Locate joints only over supports:

- Minimum bearing of bearers: 50 mm.
- Minimum bearing of joists: 30 mm.

Fixing: Secure bearers and joists to supports to provide restraint against lateral movement.

Joist restraint:

- Unseasoned timber: If joist timber is unseasoned, the span ≥ 3000 mm, and there is no ceiling lining, provide solid blocking between each joist in rows at 1800 mm centres.
- Deep joists: If the joist depth:width ratio is ≥ 4, restrain joists at the ends of the joists over supports and at ≤ 1800 mm centres using either of following as appropriate:
  - . Continuous trimming joists.
  - . Solid blocking or herringbone strutting.
- Trimmers or blocking dimensions:
  - . Depth: Joist depth less 25 mm.
  - . Width: ≥ 25 mm.
- Herringbone strutting dimensions: ≥ 38 x 38 mm.

6.3 WALL FRAMING

Wall framing

Additional support

General: Provide additional support in the form of noggings, trimmers and studs for fixing lining, cladding, hardware, accessories, fixtures and fittings as required.

Maximum spacing of noggings: 1350 mm centres.

Vermin barriers

General: Provide vermin barriers as follows:

- Brick veneer barrier: Close nail 10 mm galvanized steel wire mesh to the underside of the bottom plate of external stud walls, extending across the cavity for building into brickwork.

Damp-proof course

General: Provide damp-proof courses under the bottom plate of stud walls built off slabs or masonry dwarf walls, as follows to AS/NZS 4200.1:

- External walls (not masonry veneer): Turn up at least 75 mm on the inside and tack. Project 10 mm beyond the external slab edge or dwarf wall and turn down at 45°.
- Walls of bathrooms, shower rooms and laundries: Turn up at least 150 mm on the wet side and tack to studs.

Installation: Lay in long lengths. Lap full width at angles and intersections and at least 150 mm at joints.

Junctions: Preserve continuity of damp-proofing at junctions of damp-proof courses, sarking and waterproof membranes.

Flashings
Location: Provide flashings to external openings sufficient to prevent the entry of moisture. Form trays at the ends of sill flashings.

Masonry veneer construction: Extend across cavities and build into brickwork.

6.4 ROOF AND CEILING FRAMING

Wall plates
Fixing: Fix timber wall plates to masonry, with either straps, bolts or both.

Nailing plates
General: Where timber joists, rafters or purlins bear on or into steel members, provide nailing plates to transfer the design loads, bolted to the steel member at 500 mm maximum centres and 100 mm maximum from the end of the nailing plate.

Beam framing
Ridge straps: Butt ends of rafters together at ridge, and strap each pair together with 900 mm long steel strap passing over the ridge, triple nailed to each rafter.

Additional support
General: Provide a frame member behind every joint in fibre cement sheeting or lining.

Anti-ponding boards
Standard: To AS/NZS 4200.2.

6.5 COMPLETION

Tightening
General: Tighten bolts, screws and other fixings so that joints and anchorages are secure at practical completion.

0383 SHEET FLOORING

1 GENERAL

1.1 STANDARDS

General
Flooring and decking: To AS 1684.2, AS 1684.3 or AS 1684.4, as appropriate.

2 PRODUCTS

2.1 SHEET FLOORING

Plywood
Standard: To AS/NZS 2269.0.

Plywood certified formaldehyde emission level to AS/NZS 2098.11: Class E1.

Grading:

- Veneer: CD.
- Grade: Bond Type A.

Particleboard
Particleboard: To AS 1860.1, Class 1.

Particleboard certified formaldehyde emission level to AS/NZS 2098.11: Class E1.

Compressed fibre cement sheeting
Standard: To AS/NZS 2908.2.

Category: 5.

3 EXECUTION

3.1 GENERAL

3.2 FIXING SHEET FLOORING

Particleboard flooring
Installation: To AS 1860.2.

Compressed fibre cement flooring
Installation: Lay the length of the sheets at right angles to the joists. Stagger the end joints and locate centrally over joists. Apply adhesive to edges of sheets and firmly butt join together.

Minimum number of spans across support: 2.

Fixing: Pre-drill screw holes with 1 mm clearance over screw diameter and countersink. Fix with corrosion resistant countersunk screws.

Spacing of fasteners:

- Sheet edge and intermediate: < 450 mm.
- Corners and sheet edges: At least 12 mm from sheet edges and 50 mm from corners.

Wet area flooring: Stop screw heads with sealant.

4 GENERAL

4.1 STANDARDS

Membrane materials
Standard: To AS 4654.1.

Membrane design and installation
Standard: To AS 4654.2.

4.2 INSPECTION

Notice
Inspection: Give notice so that inspection may be made as follows:

- Substrate preparation completed.
- Secondary layers preparation completed.
- Before membranes are covered up or concealed.
- Underflashings complete prior to installation of overflashings.
- After flood testing.

5 PRODUCTS

5.1 MEMBRANES

Membrane systems
Requirement: Provide a proprietary membrane system certified as suitable for the intended external waterproofing by the following:

6 EXECUTION

6.1 PREPARATION

General
Substrates: Prepare substrates as follows:

- Fill all cracks in substrates wider than 1.5 mm with a filler compatible with the membrane system.
- Fill voids and hollows in concrete substrates with a concrete mix not stronger than the substrate.
- Remove projections.
- Remove deleterious and loose material.
- Remove all traces of a concrete curing compound if used.

Leave the surface free of contaminants, clean and dust free.

Moisture content
Concrete substrates: Cure for > 21 days.

Moisture content: Verify that the moisture content of the substrate is compatible with the water vapour transmission rate of the membrane system by testing to AS/NZS 2455.1 Appendix B.

Test type:

- Hygrometer test: Seal a hygrometer to the substrate for > 16 hours and measure the relative humidity of the air between the instrument and the slab.

Falls
Verify that falls in substrates are > 1.5%.

Joints and fillets
External corners: Round or arris edges.

Control joints: Prepare all substrate joints to suit the membrane system.

Priming

Compatibility: If required, prime the substrates with compatible primers to ensure adhesion of membrane systems.

6.2 APPLICATION

Protection during installation

General: Protect membrane from damage during installation and for the period after installation until the membrane achieves its service characteristics that resist damage.

Drains

General: Prevent moisture from tracking under the membranes at drainage locations.

Drains and cages: Provide removable grates or cages to prevent blockage from debris. If the finished surface is above the level of the membrane provide a slotted extension piece to bring the grate up to the level of the finished surface.

Overflows: Apply a bond breaker to the perimeter of the overflow outlet at its junction with the surface to which the membrane will be fixed. Turn the membranes into the overflow to prevent moisture from tracking behind the membrane.

Sheet joints

Orientation of laps: Lap sheets on the upslope side of the roof fall over sheets on the downslope side.

End laps generally: Stagger end lap joints.

Bituminous sheet membranes:

- Side laps: 75 mm.
- End laps: 100 mm.
- Method: Heat welded.

Synthetic rubber membranes:

- Factory–vulcanized laps > 40 mm.
- Field side laps > 50 mm for side laps.
- Field end-laps > 100 mm for end laps.

Plasticised PVC (Polyvinyl chloride) membranes:

- Factory welded laps > 30 mm.
- Field-welded laps:
  - . If used over insulation boards > 100 mm.
  - . Other instances > 75 mm overlaps.

Curing of liquid applied systems

General: To the manufacturers' instructions.

Control of movement

General: Provide control joints located over control joints in the substructure.

Fillets and bond breakers: Size to allow the membrane to accommodate movement.

Bonded membranes: Carry control joints in the substrate through to and into the surface finish.

Membrane terminations

Membrane upturns: Provide upturns above the maximum water level expected from the exposure conditions of rainfall intensity and wind.

- Height: > 150 mm.
- Anchoring: Secure sheet membranes along the top edge.
- Edge protection: Protect edges of the membrane.
- Waterproofing above terminations: Waterproof the structure above the termination to prevent moisture entry behind the membrane using cavity flashings, capping, waterproof membranes or waterproof coatings.

Horizontal terminations: Do not provide. Use vertical terminations.

Membrane vertical penetrations

Pipes, balustrades, ducts, and vents: Provide separate sleeves for all pipes, ducts, and vents and have them fixed to the substrate.

Membrane horizontal penetrations

Sleeves: Protect rigid PVC conduits and pipes with a sleeve of bitumen in order to seal to the membrane without burning the PVC. Do not use high density polyethlylene (HDPE), polypropylene (PP) pipes or flexible PVC conduit.

Membrane at balcony doors and windows

Requirement: Install membrane prior to the fixing of door or window frames.

Membrane upturn:

- Sheltered areas: 40 mm above the finished external floor surface or overflow level, whichever is the higher.
- Exposed areas: 150 mm upturn from the finished external floor level or overflow level, whichever is the higher.

Hobless and flush thresholds: Install membrane prior to the fixing of door or window frames with a continuous grated drain abutting the external face of the door or window sill.

Overlaying finishes on membranes

Compatibility: If a membrane is to be overlayed with another system such as tiles, pavers, ballast, insulation or soil, provide an overlaying system that is compatible with and not cause damage to the membrane.

Bonded or partially bonded systems: If the topping or bedding mortar requires to be bonded to the membrane, provide sufficient control joints in the topping or bedding mortar to reduce the movement over the membrane.

Double slip sheet: If the topping or bedding mortar is structurally sufficient not to require bonding to the substrate, lay a double slip sheet over the membrane to separate it from the topping or bedding mortar.

Paint coatings: If maintenance pathways are indicated by a paving paint, make sure of compatibility with the membrane.

6.3 COMPLETION

Protection

General: Keep traffic off membrane surfaces until bonding has set or for 24 hours after laying, whichever period is the longer.

Reinstatement: Repair or replace faulty or damaged work. If the work cannot be repaired satisfactorily, replace the whole area affected.

Warranty

Waterproofing: Cover materials and workmanship in the terms of the warranty in the form of interlocking warranties from the supplier and the applicator.

- Form: Against failure of materials and execution under normal environment and use conditions.
- Period: As offered by the supplier.

0421 ROOFING

1 PRODUCTS

1.1 COMPONENTS

Fasteners
Finish: Prefinish exposed fasteners with an oven baked polymer coating to match the roofing material.

1.2 MATERIALS

Sheet metal roofing
Standard: To AS 1562.1.

Prepainted and organic film/metal laminate products: To AS/NZS 2728.

Corrosion protection: To BCA Table 3.5.1.1.a.

1.3 ROOF PLUMBING

General
Standard: To AS/NZS 3500.3.

General: Provide the flashings, cappings, gutters, rainwater heads, outlets and downpipes necessary to complete the roof system.

Materials
Metal rainwater goods: To AS/NZS 2179.1.

Proprietary flashings and cappings
Standard: To AS/NZS 2904.

2 EXECUTION

2.1 INSTALLATION

Protection
General: Keep the roofing and rainwater system free of debris and loose material during construction, and leave them clean and unobstructed on completion. Repair damage to the roofing and rainwater system.

Thermal movement
Requirement: Provide for thermal movement in the roof installation and the structure, including movement in joints and fastenings.

Metal separation
Requirement: Prevent direct contact between incompatible metals, and between green hardwood or chemically treated timber and aluminium or coated steel, by either:

- Applying an anti-corrosion, low moisture transmission coating to contact surfaces.
- Inserting a separation layer.

2.2 SHEET METAL ROOFING

Roof sheet installation
Eaves: Treat ends of sheets as follows:

- Generally: Close off ribs at tops and bottoms of sheets by mechanical means or with purpose-made fillers or end caps.
- At gutters: Project sheets 50 mm into gutters.

Swarf: Remove swarf and other debris as soon as it is deposited.

Accessories: Provide material with the same finish as roofing sheets.

2.3 ROOF PLUMBING

Jointing sheet metal rainwater goods
Sealing: Seal fasteners and mechanically fastened joints. Fill the holes of blind rivets with silicone sealant.

Gutters
Minimum slope of eaves gutters: 1:200.

Minimum width overall of valley gutters: 400 mm.

High-fronted gutters: Provide overflows to prevent back flow into roof or building structure.

Downpipes
General: Prefabricate downpipes to the required section and shape where possible. Connect heads to gutter outlets and, if applicable, connect feet to rainwater drains.

Downpipe support: Provide supports and fixings for downpipes.

3 SELECTIONS

3.1 SCHEDULE

Roofing schedule

Property	
Roof covering	
-Manufacturer	To match existing adjacent
-Type	To match existing adjacent
-Profile	To match existing adjacent
-Fire performance	To match existing adjacent
-Roofing colour	To match existing adjacent
-Ridge capping colour	To match existing adjacent
-Guttering and downpipes prefinish colour	To match existing adjacent

0431 CLADDING

1 PRODUCTS

1.1 MATERIALS

Timber weatherboards
Hardwood: To AS 2796.1.
Softwood: To AS 4785.1.

1.2 COMPONENTS

Flashing material
Standard: To AS/NZS 2904.

2 EXECUTION

2.1 CONSTRUCTION GENERALLY

Substrates or framing
Requirement: Before fixing cladding check and, if necessary, adjust the alignment of substrates or framing.

Fixing
Method: Nail to timber framing.

Accessories and trim
Requirement: Provide accessories and trim necessary to complete the installation.

Fixing eaves and soffit lining
Nailing: 150 mm centres to bearers at maximum 450 mm centres.

Metal separation
Requirement: Prevent direct contact between incompatible metals, and between green hardwood or chemically treated timber and aluminium or coated steel, by either:

- Applying an anti-corrosion, low moisture transmission coating to contact surfaces.
- Inserting a separation layer.

2.2 TIMBER WEATHERBOARD CLADDING

Preparation
Preservative treatment: For cladding with a natural or stained finish, finish the boards on both sides before installation by dipping or brushing with water-repellent preservative. Do not apply preservative if this is incompatible with a specified pigmented stain finish.

Cut surfaces: Treat freshly cut surfaces with water repellent before fixing.

Installation
Single lengths: Provide single lengths when installed vertically. Whenever possible provide single lengths of boards when installed horizontally.

Fixing at crossings:

- Seasoned milled weatherboards: 2 fixings.
- Unseasoned hardwood, sawn weatherboards, or secret nailed profiles: 1 fixing.

Nailheads: Treat visible nailheads as follows:

- In stained or clear finishes: Drive flush.
- In opaque finishes: Punch below the surface and fill flush with putty after the surface has been primed.

Joints
End grain joints: Install boards so that butt joints are in compression.

Internal and external corners: Butt against a stop bead of thickness at least that of the cladding.

3 SELECTIONS

3.1 SCHEDULE

Cladding schedule

Property	**Location**
Cladding	All to match the existing building adjacent
Manufacturer	
Material	
Type	
Roofing colour	
Profile	
Texture	
Thickness	
AAC panel thickness	

0451 WINDOWS AND GLAZED DOORS

1 GENERAL

1.1 STANDARDS

General
Selection and installation: To AS 2047.

Glazing
Glass type and thickness: To AS 1288, if no glass type or thickness is nominated.

2 PRODUCTS

2.1 GENERAL

Standards
Flashings: To AS/NZS 2904.

Aluminium extrusions: To AS/NZS 1866.

Glass
Glass types and quality: To AS/NZS 4667.

Safety glasses: To AS/NZS 2208.

Aluminium frame finishes
Powder coating: To AS 3715:

- Grade: Architectural coating.

2.2 COMPONENTS

Insect screens
Aluminium framed insect screens: Provide aluminium extruded or folded box frame sections with mesh fixing channel, mitred, staked and screwed at corners. Provide an extended frame section where necessary to adapt to window opening gear.

- Mesh: Bead the mesh into the frame channel with a continuous resilient gasket, so that the mesh is taut and without distortion.

Fixed screens: Provide fixed screens to the window frames with a clipping device which permits removal for cleaning.

Sliding screens: Provide a matching aluminium head guide, sill runner, and frame stile sections for screens not part of the window frame.

- Hardware: Nylon slide runners and finger pull handle. Provide pile strip closers against sash where necessary to close gaps.

2.3 HARDWARE

Hardware documented generically
General: Provide hardware of sufficient strength and quality to perform its function, appropriate to the intended conditions of use, compatible with associated hardware, and fabricated with fixed parts firmly joined.

3 EXECUTION

3.1 INSTALLATION

Preglazing
Window assemblies and glazed doors: Supply inclusive of glazing, shop preglazed.

Windows and glazed doors
General: Install windows and glazed doors so that the frames:

- Are plumb, level, straight and true within acceptable building tolerances.
- Are fixed or anchored to the building structure in conformance with the wind action loading requirements.
- Will not carry any building loads, including loads caused by structural deflection or shortening.
- Allow for thermal movement.

Weatherproofing

Flashings and weatherings: Install flashings, weather bars, drips, storm moulds, caulking and pointing so that water is prevented from penetrating the building between frames and the building structure under prevailing service conditions, including normal structural movement of the building.

Fixing

Packing: Pack behind fixing points with durable full width packing.

Prepared masonry openings: If fixing of timber windows to prepared anchorages is by fastening from the frame face, conceal the fasteners by sinking the heads below the surface and filling the sinking flush with a material compatible with the surface finish.

Trim

General: Provide mouldings, architraves, reveal linings, and other internal trim using materials and finishes matching the window frames. Install to make neat and clean junctions between frames and the adjoining building surfaces.

4 SELECTIONS

4.1 SCHEDULE

Window and glazed door performance schedule

Quality	Value/description
U-value (thermal transmittance, W/m^2.°C)	Refer Section J report
Solar heat gain coefficient (SHGC)	
Reflectance %	
WERS Energy rating% – Heating	
WERS Energy rating% – Cooling	
AWA Compliance Certificate	

Windows and glazed doors schedule

Location	Type		Pre-finish/colour
Windows and sliding external doors -Glass	To match windows in the existing adjacent building		To match windows in the existing adjacent building

0453 DOORS AND ACCESS PANELS

1 GENERAL

1.1 INTERPRETATION

Definition

General: For the purposes of this worksection the following definition applies:

- Doorset: An assembly comprising a door or doors and supporting frame, guides and tracks including the hardware and accessories necessary for satisfactory operation.

2 PRODUCTS

2.1 DOOR FRAMES

Timber frames

Hardwood: To AS 2796.1.

Softwood: To AS 4785.1.

Joints:

- Morticed head and through tenons.
- Trenched head:
  - . Bare faced tenons on jambs.
  - . Full let-in jambs.

2.2 DOORS

General

Doors: Proprietary products manufactured for interior or exterior applications and for the finish required.

Flush doors

General: Of balanced construction.

Construction

Door thickness:

- General: 35 mm.
- External doors and doors over 900 mm wide: 40 mm.

Edge strips: Fix to stiles. Minimum thickness 10 mm. Increase overall thickness to > 15 mm to accommodate the full depth of the rebate in rebated doors. Form rebates to suit standard rebated hardware. Bevel square edged doors as necessary to prevent binding between the leaves.

Tolerance

Squareness: The difference between the lengths of diagonals of a door: ≤ 3 mm.

Twist: The difference between perpendicular measurements taken from diagonal corners: ≤ 3 mm.

Nominal size (mm):

- Height: +0, -2.
- Width: +0, -2.

2.3 ANCILLARY MATERIALS

Flashings

Standard: To AS/NZS 2904.

Weather bars

General: Provide a weather bar under hinged external doors, locate under the centres of closed doors.

Type: as detailed

3 EXECUTION

3.1 GENERAL

Priming
General: Prime timber door leaves on top and bottom edges before installation.

3.2 FRAMES

General
Frames: Install so that the frames are as follows:

- Plumb, level, straight and true.
- Fixed or anchored to the building structure.
- Will not carry any building loads, including loads caused by structural deflection or shortening.

Frame fixing
Heads of fasteners: Conceal where possible, otherwise sink the head below the surface and fill the sinking flush with a material compatible with the surface finish.

Timber frames
Building in to masonry: Screw galvanized steel brackets twice to jambs and build in.

Fixing to masonry openings: Build in seasoned timber plugs to masonry joints or use proprietary expansion anchors and screw twice through jambs at each fixing.

Fixing to stud frame openings: Back screw twice to jambs at each fixing.

Weatherproofing
Flashings and weatherings: Install flashings, weather bars, drips, storm moulds, caulking and pointing to prevent water from penetrating the building between the door frame and the building structure under the prevailing service conditions, including normal structural movement of the building.

Finishing
Trim: Provide mouldings, architraves, reveal linings, and other internal trim using materials and finishes matching the door frames. Install to make neat and clean junctions between the frame and the adjoining building surfaces.

0455 DOOR HARDWARE

1 PRODUCTS

1.1 COMPONENTS

Hinges
Requirement: Provide 3 hinges for external doors and door leafs over 2040 mm in height and 600 mm in width. Conform to the **Hinges table**.

Hinges table

Size of door (mm x mm)	Number of hinges (per door leaf)	Size of hinges (steel)
2040 x 920	3	100 x 75 x 2.5 mm
2040/2400 x 1020	4	100 x 100 x 2.5 mm

Locksets
External doors: Push-button key and knob set and a double - cylinder dead bolt to each door.
- Sliding door and windows: Key-lockable surface mounted bolts.

Keying
Requirement: Key doors alike and key windows alike.

2 EXECUTION

2.1 INSTALLATION

Supply
Delivery: Deliver door hardware items, in individual complete sets for each door, as follows:
- Clearly labelled to show the intended location.
- In a separate dust and moisture proof package.
- Including the necessary templates, fixings and fixing instructions.

Mounting height
Door lockset mounting heights: 1000 mm above finished floor to centreline of spindle.

Door stops
Fixing: Fix on the floor, skirting or wall, as appropriate, to prevent the door or door furniture striking the wall or other surface.

Fasteners
Materials: Provide materials compatible with the item being fixed, and of sufficient strength, size and quality to perform their function.
- Concealed fixings: Provide a corrosion resistant finish to concealed fixings.
- Exposed fixings: Match exposed fixings to the material being fixed.

Security: Locate exposed fixings to lock furniture on the inside faces of external doors.

Support: Provide appropriate back support (for example lock stiles, blocking, wall noggings and backing plates) for hardware fixings.

Hinges
Metal frames: Fix hinges using metal thread screws.

Timber doorsets: Install butt hinges in housings equal in depth to the thickness of the hinge leaf (except for hinges designed for mounting without housing), and fix with countersunk screws.

0471 INSULATION AND SARKING MEMBRANES

1 GENERAL

1.1 INTERPRETATION

Definition
General: For the purposes of this worksection the following definition applies:
- Sarking membrane: Flexible membrane material normally used for waterproofing, vapour proofing or thermal reflectance.

1.2 ENERGY EFFICIENCY

Commitment to energy efficiency required by authorities
Requirements: Section J

2 PRODUCTS

2.1 INSULATION MATERIALS

Bulk and reflective insulation
As detailed on drawings

Sarking membrane
Standard: To AS/NZS 4200.1.

3 EXECUTION

3.1 GENERAL

Framed wall thermal break strips
Product type: Proprietary item.

Application: To steel or timber framing with lightweight external cladding.

R-value: ≥ 0.2.

Screw fixing: Button head screws at 1 m centres.

Adhesive fixing: Wallboard adhesive walnuts at 1 m centres.

Bulk insulation
Standard: To AS 3999.

General: Make sure batts or blankets are firmly butted with no gaps except as follows:
- Access openings and vents: Do not obstruct.
- Light fittings: To AS/NZS 3000 clause 4.5.

Sarking membrane
Standard: To AS/NZS 4200.2.

3.2 FLOOR INSULATION

Under suspended framed floors - bulk insulation
Product type: Fibre batts.

Batts: Fit tightly between framing members. If support is not otherwise provided, staple nylon twine to the framing and stretch tight.

3.3 WALL INSULATION

Bulk insulation to framed walls
Product type: Fibre batts.

Batts: Friction fit between framing members. If support is not otherwise provided, staple nylon twine to the framing and stretch tight.

3.4 ROOF INSULATION

Roof sarking

Sarking membrane:

- Installation to AS 2050.
- Location: Provide sarking under tile and shingle roofs.

Vapour barrier

Installation: Lay over the roof support frame with sufficient sag to allow the bulk insulation to achieve its full thickness. Overlap roll edges 150 mm and seal all joints with pressure sensitive adhesive tape.

Bulk insulation – metal roofs

Batts: Fit tightly between framing members.

Blanket for sound insulation: Install over the roof support frame, reflective thermal insulation (if any), and mesh support, so that the blanket is in continuous contact with the underside of the metal roofing sheets.

Bulk insulation to Ceiling insulation

Product type: Fibre batts.

Batts: Friction fit between framing members.

0511 LINING

1 PRODUCTS

1.1 MATERIALS AND COMPONENTS

Plasterboard
Standard: To AS/NZS 2588.

Fibre cement
Standard: To AS/NZS 2908.2.
Wall and ceiling linings: Type B, Category 2.
Minimum thickness: 4.5 mm.

2 EXECUTION

2.1 CONSTRUCTION GENERALLY

Substrates or framing
General: Before fixing linings check and, if necessary, adjust the alignment of substrates or framing.

Ceiling linings
General: Do not install until at least 14 days after the timber roof structure is fully loaded.

Accessories and trim
General: Provide accessories and trim necessary to complete the installation.

2.2 PLASTERBOARD LINING

Supports
General: Install timber battens as follows:
- Where framing member spacing exceeds the recommended spacing.
- Where direct fixing of the plasterboard is not possible due to the arrangement or alignment of the framing or substrate.
- Where the lining is the substrate for tiled finishes.

Installation
Gypsum plasterboard: To AS/NZS 2589.

Joints
Flush joints: Provide recessed edge sheets and finish flush using perforated paper reinforcing tape.
External corner joints: Make joints over metallic-coated steel corner beads.
Control joints: Provide purpose-made metallic-coated control joint beads at not more than 12 m centres in plasterboard linins or 7.2 m centres in fibre cement lining in walls and ceilings and to coincide with structural control joints.
Wet areas: Install additional supports, flashings, trim and sealants as required.
Joints in tiled areas: Do not apply a topping coat after bedding perforated paper tape in bedding compound.

2.3 FIBRE CEMENT LINING

Supports
General: Install timber battens or proprietary cold-formed galvanized steel furring channels as follows:
- Where framing member spacing exceeds the recommended spacing.
- Where direct fixing of the fibre cement is not possible due to the arrangement or alignment of the framing or substrate.
- Where the lining is the substrate for tiled finishes.

Installation

General: Run sheets across the framing members. In flush jointed applications, stagger end joints in a brick pattern and locate them on framing members, away from the corners of large openings. Provide supports at edges and joints.

Timber framed construction: Nail only or combined with adhesive.

Wall framing:

- Do not fix to top and bottom plates or noggings.
- In tiled areas: Provide an extra row of noggings immediately above wall-to-floor flashings. Fix sheet at 150 mm centres to each stud and around the perimeter of the sheet.

Ceilings: Fix using screw or screw and adhesive to ceiling furring members.

Wet areas: Do not use adhesive fixing alone.

Joints

Flush joints: Provide recessed edge sheets and finish flush using perforated paper reinforcing tape.

External corner joints: Make joints over metallic-coated steel corner beads.

Dry joints: Provide square edged sheet and finish with a UPVC joining section.

Control joints: Provide purpose-made metallic-coated control joint beads at ≤ 7.2 m centres in walls and ceilings and to coincide with structural control joints.

Wet areas: Provide additional supports, flashings, trim and sealants as required.

Joints in tiled areas: Bed perforated paper tape in bedding compound. Do not apply a topping coat.

- Control joints: Space to suit joints required in tiling.
- Internal corners: Reinforce with metallic-coated steel angles. In corners subject to continuous moisture, flash over the angle and under the sheeting with continuous bitumen coated aluminium flashing.

2.4 TRIM

General

General: Provide timber or medium density fibreboard trim, such as beads, skirtings, architraves, mouldings and stops to make neat junctions between components, finishes and adjacent surfaces.

Proprietary items: Provide complete with installation accessories.

3 SELECTIONS

3.1 SCHEDULE

Lining schedule

Item	Description
Lining -Type	Plasterboard 13mm
Cornice -Type -Sheet thickness	Square set cornice to Classroom 13mm
Skirtings -Type	Timber – half splayed 67x19mm to classroom Vinyl skirting to Workshop
Architraves -Type	Timber – half splayed 67x19mm to classroom and workshop

0512 HUFCOR MOVABLE DOOR

1 PRODUCTS

`HUFCOR` OPERABLE WALL
LOCATION: Where shown on Drawings and/or scheduled.

PROPRIETARY ITEM: "Hufcor Series 5511-40" operable wall system by Hufcor Pty. Ltd.
- Track Type: "System 1 centre tracking", direct fixing through track as determined by Hufcor.
- Track System Description: Centre tracking extruded aluminium system. Each panel having a single, 4 wheeled carrier, complete with moulded polymer tyres and hardened steel bearings, with the carrier positioned centrally along the width of each panel.
- Aluminium Finish to Tracks: Satin clear anodising.
- Acoustic Rating (Rw) to AS/NZS 1276.1: 40 (-2;-6).
- Horizontal Seal Type: "Hufcor Seal Code 1".
- Seal Description: Non PVC thermoplastic sweep seals in top rail, affixed to both sides of the rails. An extruded, aluminium box section, mechanical, pressure seal in bottom rail exerting 27kgs of force when activated. Manually operated by a handle inserted in trailing vertical panel stile. Turning handle 170 degrees extends or retracts bottom seal through an overthrow cam mechanism holding seal in retracted or extended mode. All retractable seals shall operate simultaneously.
- Vertical Seal Type: Aluminium seal with 2 non-PVC thermoplastic gaskets by Hufcor, nestled into the vertical recess of adjoining panel or terminal jamb.

OPENING DIMENSIONS:
- Opening Height: 2700mm.
- Opening Width: 4800mm.

WALL PANELS:
- Panel Construction: Specified panel frame reinforced with 35 x 35 x 2.5 mm RHS with welded pintles and steel corner brackets 4 times bolted. Replaceable panel faces as specified.
- Number of Panels: Provide the wall in panels of equal width using the minimum number of panels.
- Panel Thickness: 75 mm.
- Approximate Panel Weight: 22 kg per m^2.
- Panel Frame: Standard (10 mm aluminium surround frame).
- Panel Frame Finish: Satin clear anodising.

WALL PANEL FACING - SIDE `A`:
- Fabric: Autex Quietspace acoustic fabric.
- Colour: "Chilli Red".

WALL PANEL FACING - SIDE `B`:
- As specified for Side `A`.

INSET WORKING SURFACES: Where shown on Drawings, provide inserts to finish flush with the adjacent wall panels as follows:
- Pinboard Inserts:
- Proprietary Item: "Composition®" by Autex Pty. Ltd.
- Texture: "Velour".
- Colour: "Chilli Red"
- Applicable side(s) for Working Surfaces: Working surface(s) on both sides of operable wall.
- Working Surfaces Layout Arrangement: To the complete face of the operable wall

MISCELLANEOUS ITEMS:
- Foot Bolts: Provide foot bolts as required for the correct operation and stability of the operable wall.

JOINING STRIPS: Provide joining strips where:
- wall panels are in excess of 3600 mm high;
- wall panels have more than one face finish;
- inset working surfaces are incorporated into wall panels, and/or
- skirtings are specified.
- Joining Strip Type: Standard joining strips.
- Finish: To match the frame finish.
- Joining Strip Location(s): As required by the panel finishes / attachments.

WALL CLOSURE:
- Closing Panel: Expanding jamb.
- Expanding Jamb Finish: To match the panel frame finish.
- Terminal Jamb: Bulb seal.
- Terminal Jamb Description: Ovoid, hollow, extruded, non-PVC thermoplastic seal.
- End Caps: Provide proprietary end caps to operable wall ends as required.

MATERIALS & WORKMANSHIP WARRANTY: 1 year.

INSTALLATION: Install the system in accordance with the manufacturer's recommendations.
- Authorised Subcontractor: Have the operable wall installed by a subcontractor authorised by Hufcor Pty. Ltd.
- Opening Tolerances: Ensure that the tolerances of the surrounding structure conform to the following:
- Overhead Structure: + 0 mm - 6 mm
- Sides Structure: ± 4 mm
- Floor: ± 3 mm in 3000 mm, non-accumulating.

0513 SUSPENDED CEILINGS

1 GENERAL

1.1 AIMS

Responsibilities

General: Provide suspended ceilings to the **Selections** and as follows.

- Consistent in finish treatment.

1.2 CROSS REFERENCES

General

General: Conform to the *General requirements* worksection.

Associated worksections

Associated worksections: Conform to the following:

Lining

1.3 STANDARDS

General

Suspended ceilings: To AS/NZS 2785.

Luminaire and air diffuser interface: To AS 2946.

1.4 INSPECTION

N/A

1.5 SUBMISSIONS

Samples

General: Submit samples as follows:

- Suspension system: Sections proposed for the suspension system, including wall angles and trim.
- Ceiling material: Sheet, panel, tile and strip, with insulation, showing the extremes and mean of variation in colour, pattern, or texture of the proposed finish.
- Methods: Methods of retaining and removing panels.

Installation

Set-out: Submit proposed set-out indicating cut panels if any, before installation.

Type tests

General: Submit type-test reports to verify conformance with the **Suspended ceilings performance schedule** and as follows:

- Fire hazard properties:
  - . Average specific extinction area (non-sprinklered buildings): < 250 m^2/kg to AS/NZS 3837.
  - . Group number: To BCA Spec C1.10a-3.
  - . Smoke-developed index: To AS/NZS 1530.3.
  - . Smoke development rate: < 750 percent-minutes to AS ISO 9239.1.
  - . Smoke growth rate index (non-sprinklered buildings): < 100 to AS ISO 9705 and BCA Spec A2.4.
  - . Spread of flame index: To AS/NZS 1530.3.
- Fire resistance level: To AS 1530.4.
- Weighted suspended ceiling normalized level difference: To AS/NZS 1276.1 or ISO 717-1.
- Weighted sound absorption coefficient: To AS ISO 11654.

2 PRODUCTS

2.1 SUSPENSION SYSTEM

Proprietary system
General: Provide new suspension system to Workshop as shown on Reflected Ceiling Plan.

Suspension system: Rondo 'Duo' two-way exposed ceiling grid.
Colour: white

2.2 CEILING TILES

Tiles
General: 'Solaton ST 725' by Fricker Ceiling Systems.
Colour: white

2.3 LININGS

Plasterboard
Standard: To AS/NZS 2588.

Adhesives
For plasterboard: To AS 2753.

Sealants
Fire rated sealant: Non-hardening sealant compatible with the materials to be sealed and having a fire rating equal to that of the partition it seals.

Acoustic sealant: Non-hardening sealant compatible with the materials to be sealed and rated to R_w 65.

2.4 PROPRIETARY CEILING SYSTEMS

Proprietary systems
Consistency: Provide suspended ceilings as complete proprietary systems, each fabricated by one manufacturer and installed by a specialist installer of demonstrated capacity.

System: Provide panel, strip, tile or open grid ceilings to match existing.

Support: Complete proprietary suspension system fixed to the structural soffit.

3 EXECUTION

3.1 SUSPENSION SYSTEM

Ceiling grid
General: Set out the ceiling grid so that tile or panel joints and centrelines of visible suspension members coincide with grid lines shown on the drawings. If not otherwise shown, set out so that opposite margins are equal.

Suspension system
Failure: Provide a ceiling system such that failure of any one suspension point does not cause a progressive failure of the ceiling.

Height adjustment: Provide height adjustment by means of a length adjustment device at each suspension point, permitting length variation of at least 50 mm.

Grid members: If required, notch grid members at the junction with the perimeter trim to ensure the panels lie flat on the perimeter trim.

Restriction: Do not attach the suspension system to the lip of purlins.

Services
Support: Space the support members as required by the loads on the system and the type of ceiling, and allow for the installation of services and accessories, including ductwork, light fittings and diffusers. Provide additional back support or suspension members for the fixing of such items to ensure that distortion, overloading or excessive vertical deflection is prevented. Do not fix suspension members to services (e.g. ductwork) unless the service has been designed to accept the ceiling load. In locations

where services obstruct the ceiling supports, provide bridging and suspension on each side of the services. Do not support services terminals on ceiling tiles or panels.

Partitions

General: If partitions are attached to the underside of the ceiling systems include the partition mass in the seismic mass of the ceiling.

Protection

General: Protect existing work from damage during the installation.

Stability

General: Install the ceilings level; and fix so that under normal conditions there is no looseness or rattling of ceiling components.

Structure-borne sound

General: Provide a ceiling system which does not amplify structure-borne sound. Provide suitable proprietary products or systems for reducing contact vibrations between structure and ceiling.

Bracing

General: Provide bracing to prevent lateral movement and to resist the imposed horizontal seismic force.

Bulkheads

General: Construct bulkheads and other similar ceiling formations as an integral part of the ceiling structure. Brace bulkheads to prevent lateral movement. If the ceiling is terminated at a bulkhead, provide for seismic requirements.

External suspended soffits

General: Support external suspended soffits on rigid members capable of carrying the imposed loads. Install members to minimise any eccentricity, and ensure that the upward and downward wind loads are carried through to the supporting structure.

Fasteners

General: Install fasteners so that they are not visible in the finished ceiling. Do not use screw fasteners in materials supporting hangers less than 3 mm thick.

Movement joints

Abutments: Install the ceiling to allow for differential movement at abutting surfaces.

Alignment: Install the ceiling with control joints to correspond in location and direction to those in the structural frame. Do not bridge any control joint in the structural frame.

Prefinishes

General: Repair damaged prefinishes by recoating.

3.2 TILES

General

Fitting: Fit tiles accurately and neatly, free from air leakage and staining.

Lock clips: If tiles are exposed to wind loads or if required for security, insert lock clips at the junction of carrier rails and tiles.

Pattern and texture: Set out patterned or heavily textured materials to give consistency in direction of pattern or texture.

Service penetrations

General: Provide openings for, and fit the ceiling up to, all services elements such as light fittings, ventilation outlets, detectors, sprinklers and loudspeakers.

Cut tile edges

General: Conceal, or finish to match prefinished edges.

3.3 PLASTERBOARD LINING

Installation

Gypsum plasterboard: To AS/NZS 2589.1.

Fibre reinforced gypsum plaster: To AS/NZS 2589.2.

Suspended flush ceilings: Fix using screw or screw and adhesive to ceiling members or support frame.

Joints

Flush joints: Provide recessed edge sheets and finish flush using perforated paper reinforcing tape.

Butt joints: Make joints over framing members or otherwise provide back blocking.

External corner joints: Make joints over metallic-coated steel corner beads.

Control joints: Install purpose-made metallic-coated control joint beads at not more than 12 m centres in walls and ceilings and to coincide with structural movement joints.

Wet areas: Install additional supports, flashings, trim and sealants as required.

3.4 TRIM

General

General: Provide trim such as beads, mouldings and stops to make neat junctions between lining components, finishes and adjacent surfaces.

Control joints

Location: Provide for control joints in sheet finishes where required by the *Lining* worksection. Where possible, position joints to intersect lighting fixtures, vents or air diffusers.

Type: Form movement joints with purpose-made control joint beads.

Fire rated walls

Seal to soffit with sealant of matching fire rated level prior to fixing decorative cornices.

3.5 COMPLETION

Maintenance manual

General: On completion, submit a manual of recommendations for the care and maintenance of the ceiling, and operating instructions for demounting if applicable.

Spares

General: Supply spare matching lining units and accessories of each type for future replacement purposes. Store the spare materials on site where directed.

Supporting system: One spare supporting member (hanger or framework member) for every 100 members (or part thereof) of the same type installed in the ceiling.

Lining units: One spare unit for every 50 units (or part thereof) installed in the ceiling.

0551 JOINERY

1 PRODUCTS

1.1 JOINERY MATERIALS AND COMPONENTS

Joinery timber
Hardwood: To AS 2796.3.

Seasoned cypress pine: To AS 1810.

Softwood: To AS 4785.3.

Finished sizes: For milled timbers actual dimensions which are at least the required dimensions, except for dimensions qualified by a term such as nominal or out of to which industry standards for finished sizes apply.

Plywood
Interior use generally: To AS/NZS 2270.

Interior use, exposed to moisture: To AS/NZS 2271.

Non-structural glued laminated timber
Standard: AS 5067.

Wet processed fibreboard (Including hardboard)
Standard: To AS/NZS 1859.4.

Particleboard
Standard: To AS/NZS 1859.1.

Dry processed fibreboard (Including medium density fibreboard)
Standard: To AS/NZS 1859.2.

Decorative overlaid wood panels
Standard: To AS/NZS 1859.3.

Certification
General: Brand panels under the authority of a recognised certification program applicable to the product. Locate the brand on faces or edges which will be concealed in the works.

High-pressure decorative laminate sheets
Standard: To AS/NZS 2924.1.

High-pressure decorative laminate sheet application table
Classes: Provide classes as follows:

Class to AS/NZS 2924.1	Application
HGS or HGP	Kitchen work-tops
VGS or VGP	Kitchen front panels
VLS	Other vertical locations

Thickness (minimum):
- For horizontal surfaces fixed to a continuous background: 1.2 mm.
- For vertical surfaces fixed to a continuous background: 0.8 mm.
- For post formed laminate fixed to a continuous background: 0.8 mm.
- For vertical surfaces fixed intermittently (e.g. to studs): 3.0 mm.
- For edge strips: 0.4 mm.

1.2 WORKSHOP & PRACTICAL ACTIVITIES AREA ASSEMBLIES

Standard
General: To AS/NZS 4386.1.

1.3 CUPBOARD AND DRAWER UNITS

Plinths, carcasses, drawer fronts, shelves and doors
Material: Select from the following:
- Overlaid high moisture resistant particleboard.
- Overlaid high moisture resistant medium density fibreboard.

Thickness: 18 mm.

Bench and cupboard units: to Workshop and Classroom Practical Activities Area

Adjustable shelves: Support on proprietary pins in holes bored at equal centres vertically.
- Spacing: 32 mm.

Fasteners: Conceal with finish.

Drawer fronts: Rout for drawer bottoms.

Drawer backs and sides:
- Material: Blum Metabox 150mm high

Drawer bottoms:
- Material: as supplied with Metabox drawer systems.

Drawer and door hardware
Hinge types: Concealed metal hinges with the following features:
- Adjustable for height, side and depth location of door.
- Self-closing action.
- Hold-open function.
- Nickel plated.

Slides: See Blum system

Pulls: as shown on drawings

Locks: to all Practical Activities Area cupboards, and to 900mm wide drawers in Workshop.

1.4 WORKING SURFACES

Laminated benchtops
Material: High moisture-resistant particleboard or medium density fibreboard.

Finish: High pressure decorative laminate sheet.

Colour: Refer drawings

Exposed edges: Extend laminate over shaped nosing, finishing > 50 mm back on underside. Splay outside corners at 45°.

Minimum thickness: 32 mm.

Balance underside: Extend laminate to the undersides of benchtops if subject to excessive moisture from equipment such as dishwashers.

Stone benchtops

2 EXECUTION

2.1 JOINERY

General
Joints: Provide materials in single lengths whenever possible. If joints are necessary, make them over supports.

Framing: Frame and trim where necessary for openings, including those required by other trades.

Accessories and trim
General: Provide accessories and trim necessary to complete the installation.

Fasteners and adhesives
Installation: Secure plinths and carcasses to floors, walls, or both at not more than 600 mm centres.

Visibility: Do not provide visible fixings except in the following locations:
- Inside cupboards and drawer units.

- Inside open units, in which case provide proprietary caps to conceal fixings.

Fix joinery units to backgrounds as follows:

- Floor mounted units: 600 mm centres max.
- Wall mounted units: To each nogging and/or stud stiffener.

Fixings: Screws with washers into timber or steel framing, or masonry anchors.

Adhesives

General: Provide adhesives to transmit the loads imposed and to ensure the rigidity of the assembly, without causing discolouration of finished surfaces.

Finishing

Junctions with structure: Scribe plinths, benchtops, splashbacks, ends of cupboards, kickboards and returns to follow the line of structure.

Edge strips: Finish exposed edges of sheets with edge strips which match sheet faces.

Benchtops

Installation: Fix to carcass at least twice per 600 mm length of benchtop.

Joint sealing: Fill joints with sealant matching the finish colour and clamp with proprietary mechanical connectors.

Edge sealing: Seal to walls and carcasses with a sealant, which matches the finish colour.

0631 CERAMIC TILES

1 GENERAL

1.1 STANDARDS

Tiling

General: Comply with the recommendations of those parts of AS 3958.1 which are referenced in this worksection.

Slip resistance

Classification: To AS/NZS 4586.

Slip resistance measurement of existing installations: To AS/NZS 4663.

2 PRODUCTS

2.1 TILES AND ACCESSORIES

Tiles

Exposed edges: Purpose-made border tiles with the exposed edge (whether round, square or cushion) glazed to match the tile face. If such tiles are not available, mitre tiles on external corners.

Accessories

General: If available, provide tile accessories such as round edge ceramic tiles, cove tiles, step treads and nosings to stairs, landings, and thresholds, skirtings, sills, copings and bath vents, which match the surrounding tiles, composition, colour and finish.

2.2 MATERIALS

Adhesives

Standard: To AS 2358 and AS 4992.1.

PVA (polyvinyl acetate)-based adhesives: Do not use in wet areas or externally.

Mortar materials

Cement type to AS 3972: GP.

Sand: Fine aggregate with a low clay content selected for grading, sharp and free from efflorescing salts.

Bedding mortar

Proportioning: Select proportions from the range 1:3 to 1:4 cement:sand by volume to obtain satisfactory adhesion. Provide minimum water.

Water

General: Clean and free from any deleterious matter.

Grout

Cement-based proprietary grout: Mix with water. Fine sand may be added as a filler in wider joints.

Terra cotta tiles: Provide proprietary polymer modified grout.

General purpose cement based grout: Mix with fine sand. Provide minimum water consistent with workability.

Pigments for coloured grout: Colourfast fillers compatible with the grout material. For cement-based grouts, provide lime-proof natural or synthetic metallic oxides compatible with cement.

3 EXECUTION

3.1 SUBSTRATES

Drying and shrinkage

General: Before tiling, allow at least the following times to elapse (for initial drying out and shrinkage) for these substrates:

- Concrete slabs: 42 days.
- Concrete blockwork: 28 days.
- Toppings on slabs and rendering on brick or blockwork: A further 21 days.
- Rendering on swimming pool shell: A further 28 days minimum.

3.2 PREPARATION

Substrates without wet area membranes

General: Make sure substrates are as follows:

- Clean and free of any deposit or finish which may impair adhesion or location of tiles.
- If framed or discontinuous, support members are in full lengths without splicing.
- If solid or continuous:
  - . Excessive projections are removed.
  - . Voids and hollows > 10 mm with abrupt edges are filled with a cement:sand mix not stronger than the substrate or weaker than the bedding.
  - . Depressions < 10 mm are filled with a latex modified cementitious product with feathering eliminated by scabbling the edges.

Absorbent substrates: If suction is excessive, control it by dampening but avoid over-wetting and do not apply mortar bedding to substrates showing surface moisture.

Dense concrete: If not sufficiently rough to provide a mechanical key, roughen by scabbling or the like to remove 3 mm of the surface and expose the aggregate; then apply a bonding treatment.

Substrates with wet area membranes

General: Make sure substrates are as follows:

- Clean and free of any deposit or finish which may impair adhesion or location of tiles.
- Compatible with all components of the floor system.

3.3 TILING GENERALLY

Cutting and laying

Cutting: Cut tiles neatly to fit around fixtures and fitting and at margins where necessary. Drill holes without damaging tile faces. Cut recesses for fittings such as soap holders. Rub edges smooth without chipping.

Laying: Butt up to returns, frames, fittings, and other finishes. Strike and point up beds where exposed. Remove tile spaces before grouting.

Variations

General: Distribute variations in hue, colour, or pattern uniformly, by mixing tiles or tile batches before laying.

3.4 SETTING OUT

Tile joints

Joint widths: Set out tiles to give uniform joint widths within the following limits:

- Walls:
  - . Dry pressed tile: 1.5 mm.
  - . Extruded tile: 6 mm.

Joint alignment: Set out tiling with joints accurately aligned in both directions and wall tiling joints level and plumb.

Joint position: Set out tiles from the centre of the floor or wall to be tiled and, if possible, make sure cut tiles are a half tile or larger.

Fixtures: If possible, position tiles so that holes for fixtures and other penetrations occur at the intersection of horizontal and vertical joints or in the centre of tiles.

3.5 BEDDING

Preparation of tiles

Adhesive bedding: Fix tiles dry; do not soak.

Bedding

General: Use bedding methods and materials which are appropriate to the tile, the substrate, the conditions of service, and which leave the tile firmly and solidly bedded in the bedding material and adhered to the substrate. Form falls integral with the substrate.

3.6 GROUTED AND SEALANT JOINTS

Grouted joints

General: Commence grouting as soon as practicable after bedding has set. Clean out joints as necessary before grouting.

Face grouting: Fill the joints solid and tool flush. Clean off surplus grout. Wash down when the grout has set. When grout is dry, polish the surface with a clean cloth.

Sealant joints

General: Provide sealant joints filled with sealant and finished flush with the tile surface as follows:

- Where tiling is cut around sanitary fixtures.
- At corners of walls in showers.
- Around fixtures interrupting the tile surface, for example pipes, brackets, bolts and nibs.
- At junctions with elements such as window and door frames and built-in cupboards.

Material: Anti-fungal modified silicone.

Width: 5 mm.

Depth: Equal to the tile thickness.

0651 RESILIENT FINISHES

1 PRODUCTS

1.1 MATERIALS

Wet processed fibreboard (hardboard) underlay
Standard: To AS/NZS 1859.4.

Classification: General purpose medium board, manufactured specifically as flooring underlay.

Thickness: 5.5 mm.

2 EXECUTION

2.1 GENERAL

Substrates
Cleaning concrete surfaces: Mechanically remove the following surface treatments:

- Sealers and hardeners.
- Curing compounds.

Cleaning timber surfaces: Remove oil, grease and traces of applied finishes.

Concrete substrate correction: Remove projections and fill voids and hollows with a levelling compound compatible with the adhesive.

Timber substrate correction: Remove projections. If conformance to a flatness tolerance of 3 mm in 3000 mm, determined using a 3000 mm straight edge placed anywhere in any direction can not be achieved, fix an underlay in brick pattern with joints avoiding substrate joints.

Fixtures: Remove door stops and other fixtures, and refix in position undamaged on completion of the installation.

Moisture content
General: Do not commence installation unless:

- Concrete: The moisture content of the concrete has been tested to AS/NZS 2455.1 Appendix B and the values in clause 2.4.2 (c) have been obtained.
- Plywood and timber: the moisture content of battens/joists or plywood background has been tested to AS/NZS 1080.1 and values obtained as follows:
  - . Air conditioned buildings: 8 to 10%.
  - . Intermittently heated buildings: 10 to 12.5%.
  - . Unheated buildings: 12 to 15%.

2.2 SHEET INSTALLATION

Sheet set out
General: Set out sheets to give the minimum number of joints. Run sheet joints parallel with the long sides of floor areas, vertically on non-horizontal surfaces.

Joints
Non-welded: Butt edges together to form tight neat joints showing no visible open seam.

Cold welding: Apply seaming compound 100 mm wide to the substrate centrally under the seam. Roll the seam until the compound is forced up into the joint. Clean off flush using a damp cloth.

Junctions
General: Scribe neatly up to returns, edges, fixtures and fittings. Finish flush with adjoining surfaces.

2.3 COMPLETION

Protection of sheet materials

General: Keep traffic off floors until bonding has set or for 24 hours after laying, whichever period is the longer. Do not allow water in contact with the finish for 7 days.

Reinstatement: Repair or replace faulty or damaged work. If the work cannot be repaired satisfactorily, replace the whole area affected.

Cleaning

General: Clean the finished surface. Buff and polish. Before the date for practical completion, mop and leave the finished surface clean and undamaged on completion.

0652 CARPETS

1 PRODUCTS

1.1 MATERIALS

Carpet

Minimum class: Residential Medium use under the Australian Carpet Classification Scheme.

Total VOC limit:

- Generally: 0.5 mg/m^2.
- Compliance: To the Environmental Classification Scheme operated by the Carpet Institute of Australia.

Wet processed fibreboard (hardboard) underlay

Standard: To AS/NZS 1859.4.

Classification: General purpose medium board, manufactured specifically as flooring underlay.

Thickness: 5.5 mm.

Soft underlay alternatives

Standard: To AS 4288.

Hot-melt adhesive tape

General: Glass fibre and cotton thermoplastic adhesive coated tape 60 mm wide on a 90 mm wide metal foil base and backed with silicon-coated release paper.

Preformed gripper strips

General: Domestic grade plywood carpet gripper strip with 3 rows of rust-resistant angled pins of length appropriate to the carpet type.

Edge strips

Type: cover strip

Material/colour: anodised aluminium

Location: At exposed edges of the carpet and at junctions with different floor finishes or finishes of different thickness. Where edge strips occur at doorways, locate the junctions directly below the closed door.

2 EXECUTION

2.1 GENERAL

Substrates

Cleaning concrete surfaces: Mechanically remove the following surface treatments:

- Sealers and hardeners.
- Curing compounds.

Cleaning timber surfaces: Remove oil, grease and traces of applied finishes.

Concrete substrate correction: Remove projections and fill voids and hollows with a levelling compound compatible with the adhesive.

Timber substrate correction: Remove projections. If conformance to the a flatness tolerance of 6 mm in 3000 mm, determined using a 3000 mm straight edge placed anywhere in any direction can not be achieved, fix an underlay in brick pattern with joints avoiding substrate joints.

Fixtures: Remove door stops and other fixtures, and refix in position undamaged on completion of the installation.

Moisture content

General: Do not commence installation of flooring unless:

- Concrete substrate: The moisture content of the concrete has been tested to AS/NZS 2455.1 Appendix B and values in AS/NZS 2455.1 clause 2.4.2(c) have been obtained.

- Plywood and timber: The moisture content of battens/joists or plywood background has been tested to AS/NZS 1080.1 and values obtained as follows:
  . Air conditioned buildings: 8 to 10%.
  . Intermittently heated buildings: 10 to 12.5%.
  . Unheated buildings: 12 to 15%.

2.2 LAYING CARPET

Standard
General: To AS/NZS 2455.1.

Setting out
General: Lay the carpet in continuous lengths without cross joins in the body of the area. Where unavoidable cross joins at doorways, create the joins directly below the closed doors.

Joints in underlay: Make sure joints in underlay do not coincide with carpet joints. Do not carry underlay over carpet grippers or edge strips.

Seaming methods
Woven carpet: Machine or hand sew.

Tufted carpet: Provide hot-melt adhesive tapes.

Carpet installation
Gripper strip: To AS/NZS 2455.1 clause 3.5.

Direct stick method. To AS/NZS 2455.1 clause 3.6.

0671 PAINTING

1 GENERAL

1.1 STANDARDS

Painting
General: Comply with the recommendations of those parts of AS/NZS 2311 which are referenced in this worksection.

2 PRODUCTS

2.1 PAINTS

Paint brand
Quality: If the product is offered in a number of levels of quality, provide premium quality lines.

Low VOC emitting paints
VOC limits for low odour/low environmental impact paint types:

- Primers and undercoats: < 65 g/litre.
- Low gloss white or light coloured latex paints for wall areas: < 16 g/litre.
- Coloured low gloss latex paints: < 16 g/litre.
- Gloss latex paints for timber doors and trims: < 75 g/litre.

Combinations
General: Do not combine paints from different manufacturers in a paint system.

Clear timber finish systems: Provide only the combinations of putty, stain and sealer recommended by the manufacturer of the top coats.

Delivery
General: Deliver paints to the site in the manufacturer's labelled and unopened containers.

Putty and fillers
Material: To the recommendation of the paint system manufacturer as suitable for the substrate and compatible with the primer.

Tinting
General: Provide only products which are colour tinted by the manufacturer or supplier.

3 EXECUTION

3.1 PREPARATION

Order of work
Other trades: Before painting, complete the work of other trades as far as practicable within the area to be painted, except for installation of fittings, floor sanding and laying flooring materials.

Clear finishes: Complete clear timber finishes before commencing opaque paint finishes in the same area.

Protection
General: Before painting, clean the area and protect it against dust entry. Use drop sheets and masking to protect finished surfaces or other surfaces at risk of damage during painting.

Internal and external fixtures and furniture: Remove door furniture, switch plates, light fittings and other fixtures before starting to paint, and refix in position on completion of painting.

Adjacent surfaces: Protect adjacent finished surfaces liable to damage from painting operations.

Wet paint warning
General: Place notices conspicuously and do not remove them until the paint is dry.

Repair

General: Clean off marks, paint spots and stains progressively and restore damaged surfaces to their original condition. Touch up new damaged decorative paintwork or misses with the paint batch used in the original application.

Substrates

General: Prepare substrates to receive the painting systems.

Cleaning: Clean down the substrate surface. Do not cause undue damage to the substrate or damage to, or contamination of, the surroundings.

Filling: Fill cracks and holes with fillers, sealants, putties or grouting cements as appropriate for the finishing system and substrate, and sand smooth.

Clear finish: Provide filler tinted to match the substrate.

Clear timber finish systems: Prepare the surface so that its attributes will show through the clear finish without blemishes, by methods which may involve the following:

- Removal of bruises.
- Removal of discolourations, including staining by oil, grease and nailheads.
- Bleaching where necessary to match the timber colour sample.
- Puttying.
- Fine sanding (last abrasive no coarser than 220 grit) to show no scratches across the grain.

Unpainted surfaces

Standard: To AS/NZS 2311 Section 3.

Previously painted surfaces

Preparation of a substrate in good condition: To AS/NZS 2311 clause 7.4.

Preparation of a substrate in poor condition: To AS/NZS 2311 clause 7.5.

Preparation of steel substrates with protective coatings: To AS/NZS 2312 Section 10 and AS 1627.1.

3.2 PAINTING

Light levels

General: ≥ 400 lux.

Paint application

Standard: To AS/NZS 2311 Section 6.

Timing: Apply the first coat immediately after substrate preparation and before contamination of the substrate can occur. Apply subsequent coats after the manufacturer's recommended drying period has elapsed.

Priming before fixing

General: Apply one coat of wood primer (2 coats to end grain) to the back of the following before fixing in position:

- External fascia boards.
- Timber door and window frames.
- Bottoms of external doors.
- Associated trims and glazing beads.
- Timber board cladding.

Spraying

General: If the paint application is by spraying, use conventional or airless equipment which does the following:

- Satisfactorily atomises the paint being applied.
- Does not require the paint to be thinned beyond the maximum amount recommended by the manufacturer.
- Does not introduce oil, water or other contaminants into the applied paint.

Paint with known health hazards: Not permitted on site.

Sanding

Clear finishes: Sand the sealer using the finest possible abrasive (no coarser than 320 grit) and avoid cutting through the colour. Take special care with round surfaces and edges.

Repair of galvanizing

General: For galvanized surfaces which have been subsequently welded, or which have been welded, prime the affected area.

Primer: Organic zinc rich coating for the protection of steel to AS/NZS 3750.9 Type 2.

Tinting

General: Tint each coat of an opaque coating system so that each has a noticeably different tint from the preceding coat, except for top coats in systems with more than one top coat.

Services

General: If not embedded, paint new services and equipment, except chromium, anodised aluminium, GRP, UPVC, stainless steel, non-metallic flexible materials and normally lubricated machined surfaces. Repaint proprietary items only if damaged.

3.3 PAINT SYSTEMS

Paint system description

Generally: The paint system is referred to by its final coat.

Primers and undercoats: Provide primers and undercoats recommended by the manufacturer of the selected final coat as suitable for the substrate and the final coat.

Number of coats: Unless specified as one or two coat systems, each paint system consists of at least 3 coats.

0702 WORK ASSOCIATED WITH SERVICES

1 ELECTRCIAL SERVICES

Responsibilities
General: By Head Contractor

Make good brickwork at:

1. Penetrations for:
   a. Conduits and wiring through walls and beams
   b. Conduits and wiring through floors for power and communications outlets.
   c. Riser penetrations through all floors for all risers (electrical, data, telephone).
2. Boxing out plant items or ductwork.
3. Building in where necessary of sleeves, pipes and brackets supplied by the Electrical Sub-Contractor
4. Make good by experienced and trained tradespersons, all chasings, openings in walls, slab soffits, ceilings, floors and the like to approval.
5. Timber struts and additional supports for surface mounted lights as required.

2 MECHANICAL SERVICES

Responsibilities
General: By Head Contractor

The following works associated with this contract shall be performed by other trades at no cost to this Contractor.

1. Provision of power and lighting during construction. (The Contractor shall provide all plug-in leads and additional task lighting in excess of the existing lighting and power available.
2. Provision and making good of all penetrations in the building structure, classroom walls, and for the penetrations of ducts and pipes, all cutting and patching, framing up and making good associated with the building.

3 HYDRAULIC SERVICES

Responsibilities
General: By Head Contractor

1. Provision of power and lighting during construction. (The Contractor shall provide all plug-in leads and additional task lighting in excess of the existing lighting and power available.
2. Provision and making good of all penetrations in the building structure, classroom walls, and for the penetrations of ducts and pipes, all cutting and patching, framing up and making good associated with the building.

URBAN CITY CONSULTING PTY LTD

COMPLYING DEVELOPMENT CERTIFICATE APPLICATION

Made under the *Environmental Planning and Assessment Act 1979*
Sections 85, 85A

IDENTIFICATION OF BUILDING

Address 1977 PITTWATER ROAD

Lot, DP/MPS etc LOT A DP 360274 & LOT 20 DP 635214

Suburb or town BAYVIEW. Post Code 2104

DESCRIPTION OF DEVELOPMENT

Detailed Description: NEW 2 STOREY CLASSROOM BUILDING

APPLICANT

Name PETER MASKIELL Company SYDNEY ANGLICAN SCHOOLS CORP.

Address LEVEL 1, 420 FOREST RD

Suburb or town HURSTVILLE Post Code 2220

Phone B/H 8567 4048 Fax No 9570 2220

Mobile 0400 922 383 Email pmaskiell@sasc.nsw.edu.au

As the applicant, I/we hereby;

1. *Submit this Complying Development Certificate Application under the Environmental Planning & Assessment Act 1979, with Private Certifiers Australia.*
2. *Appoint* ...Uday Myers... *as the Principal Certifying Authority for the building work identified in this application.*

Signature of applicant: Sign [signature] Date 11/7/2012

CONSENT TO ALL OWNER(S)

Name LAURIE SCANDRETT Company SASC

Address LEVEL 1/420 FOREST RD

Suburb or town HURSTVILLE Post Code 2220

Phone B/H 8567-4000 Fax No 9570 2220

Mobile 0411 866 411 Email ceo@sasc.nsw.edu.au

As the owner of the above property, I/we consent to this application

Signature of Owner Sign [signature] Date 11/7/2012

VALUE OF WORK

Estimated Cost of work: $ 400,000

GST: $

For developments over $5 million, a Quantity Surveyors Certificate verifying the cost must be submitted on lodgement of the application.

BUILDING CODE OF AUSTRALIA BUILDING CLASSIFICATION

Nominated on the Development Consent Class 9a & B

RESIDENTIAL BUILDING WORK

Relevant only to residential building work

Owner-builder Permit No.

or

Name of Builder

Address

Telephone Fax

Contractor License No.

REQUIRED ATTACHMENTS

- Note 1 details the information that must be submitted with an application for a complying Development certificate for proposed building works
- Note 2 details the additional information that may be submitted with an application for a complying Development certificate for proposed residential building work.

Schedule 1 information to be
Collected for ABS Particulars of the proposal

DESCRIPTION

What is the area of the land (m^2)

Gross floor area of existing building (m^2)

What are the current uses of all or parts of the building(s)/land?

(If vacant state vacant) SCHOOL

Location	Use

Does the site contain a dual occupancy? NO

What is the gross floor area of the proposed addition or new building (m^2)

What are the proposed uses of all parts of the building(s)/land?

Location	Use
	WORKSHOP & CLASSROOM.

Number of pre-existing dwellings NIL

Number of dwellings to be demolished NIL

How many dwellings are proposed? NIL

How many storeys will the building consist of? TWO

MATERIALS TO BE USED

Walls	Code		Roof	Code	
Brick veneer	12		Aluminium	70	
Full brick	11		Concrete	20	
Single brick	11		Concrete tile	10	
Concrete block	11	✓	Fibrous cement	30	
Concrete/ masonry	20		fibreglass	80	
Concrete	20		Masonry/terracotta shingle tiles	10	
Steel	60		Slate	20	
Fibrous cement	30		Steel	60	✓
Hardiplank	30		Terracotta tile	10	
Timber/weatherboard	40	✓	Other	80	
Cladding aluminium	70		Unknown	90	
Curtain glass	50				
Other					
Unknown	90				

Floor	Code		Frame	Code	
Concrete	20	✓	Timber	40	✓
Timber	10	✓	Steel	60	
Other	80		Other	80	
Unknown	90		Unknown	90	

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DIAL 1100 BEFORE YOU DIG

NOTE: SPREAD OF TREES IS APPROXIMATE ONLY

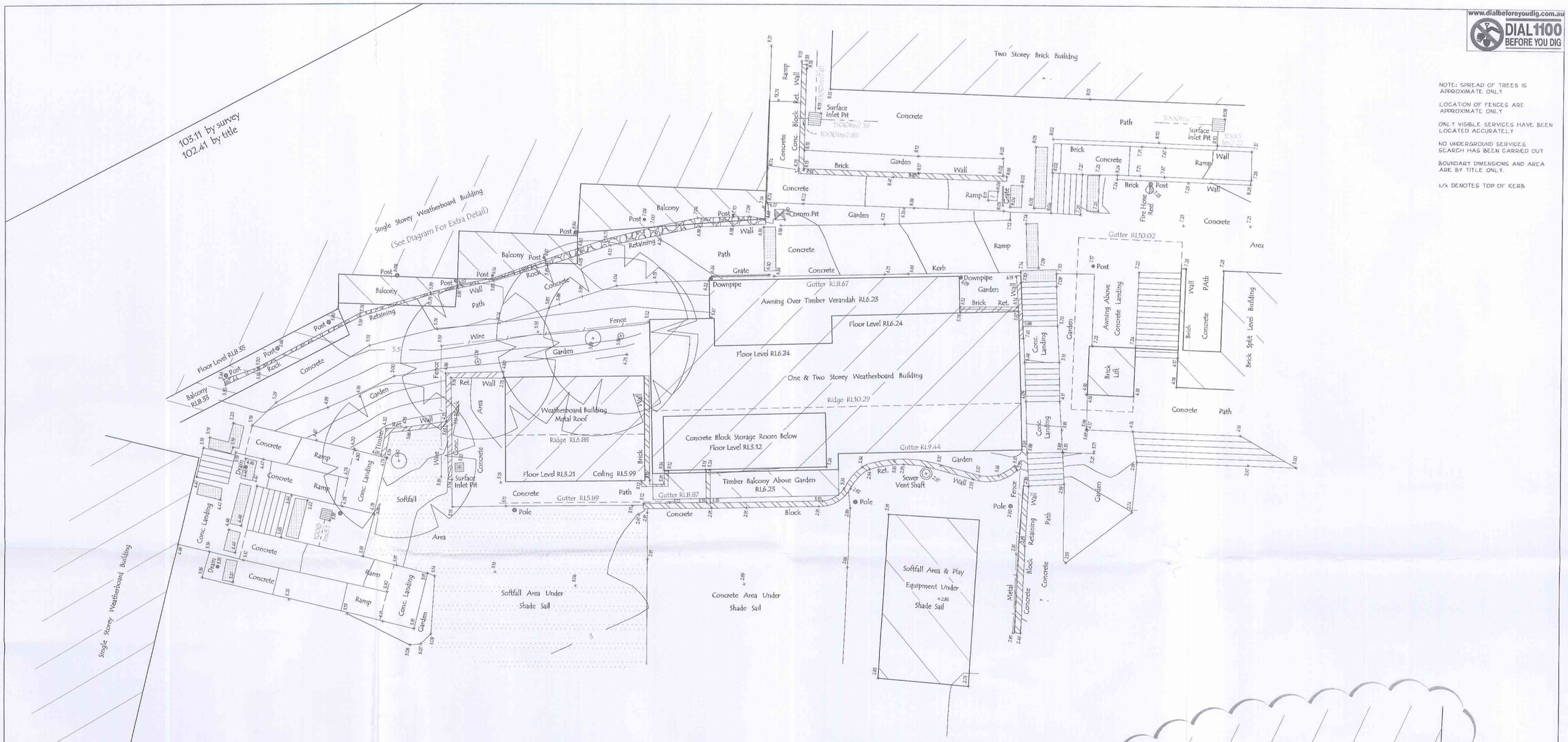
LOCATION OF FENCES ARE APPROXIMATE ONLY

ONLY VISIBLE SERVICES HAVE BEEN LOCATED ACCURATELY

NO UNDERGROUND SERVICES SEARCH HAS BEEN CARRIED OUT

BOUNDARY DIMENSIONS AND AREA ARE BY TITLE ONLY.

t/k DENOTES TOP OF KERB



URBAN CITY CONSULTING PTY LTD
12 SEP 2012
Accredited Certifier .....
Accreditation No. BPB0234

No.	AMENDMENT	DATE

vince morgan SURVEYORS
Vince Morgan (Surveyors) Pty Ltd
77 UNION ROAD PENRITH
PO BOX 4156 PENRITH PLAZA 2750
Ph 47215293 Fax 47312821
email mail@vmsurvey.com.au
www.vincemorgansurveyors.com.au
ABN 52 065 060 808

DATUM: A.H.D.	DATE: 13.12.11	CLIENT: SYDNEY ANGLICAN SCHOOLS CORPORATION	PLAN No. 17687T
ORIGIN:	SCALE 1:100 @A1		
DRAWN: M.Perkins	CHECKED:		SHEET 1 OF 1 SHEETS

PLAN SHOWING LEVELS, CONTOURS & DETAIL OVER PART OF LOTS A D.P.360274 & 20 D.P.635214 AT BAYVIEW

NEW BUILDING WORK

NEW EXTERNAL WORK

PITTWATER ROAD

LOQUAT VALLEY ROAD

EXISTING CLASSROOMS

EXISTING BREEZEWAY CORRIDOR

EXISTING STAFF ROOM

EXISTING CARPARK

LIFT A

EXISTING RAMP

EXISTING COLA

EXISTING PAVED AREA

EXISTING CANTEEN

EXISTING HALL

EXISTING ADMINISTRATION

VERANDAH

LIFT B

EXISTING MUSIC ROOMS

EXISTING GARDEN

EXISTING FOOTPATH

EXISTING GARDEN BED

EXISTING CONCRETE PATH

EXISTING TIMBER DECK

EXISTING WATER TANKS

REMOVE EX TREE & WIRE FENCE

NEW CLASSROOM & WORKSHOP BUILDING

EXISTING CLASSROOM

BLOCKWORK STORE (under)

DEMOLISH EXISTING WEATHERBOARD STORE BUILDING

SETOUT POINT

TELC BUILDING

DECK

EXTEND EXISTING ROOF OVER WALKWAY

SYDNEY WATER SEWER

SETBACK - BEFF INFRASTRUCTURE

PLAYGROUND

EXISTING PLAY EQUIPMENT

EXISTING RAMP

UNDERGROUND BOX CULVERT APPROX. POSITION. SIZE 2.2 x 0.95m BUILDER TO LAY STEEL PLATES ACROSS SEWER & CULVERT WHEN CROSSING IN VEHICLE

PROPOSED 3M WIDE ACCESS ROUTE

EXISTING GRASSED PLAYGROUND

EXISTING CARPARK

EXISTING TENNIS COURT

D.P. 614372

102.41 TITLE
103.11 SURVEY
44° 42' 40"

255° 24'
5.60 SURVEY

51.15 TITLE
50.87 SURVEY
114° 48' 30"

343° 33'
49.385

254°02'10"
7.0

164° 02' 10"
17.16

344° 02' 10"
16.0

170° 01' 40"
27.195

20.42
159° 19'

244° 38' 15"
40.0

244° 38' 15" 30.54

5.315
224° 50'

5.315
264° 26'

12.33
244° 38' 15"

19.07
244° 38' 15"

NO.'S (1-10) INDICATE FENCE PANELS
PANELS 6 & 7 TO BE REMOVED
TO ALLOW VEHICLE ACCESS

EXISTING LAYBACK FOR VEHICLE ACCESS

1 SITE PLAN
Scale 1:200

URBAN CITY CONSULTING PTY LTD
12 SEP 2012
Accredited Certifier .....
Accreditation No. BPB0264

19 JULY 2012 - CDC ISSUE

AMT	DATE	DESCRIPTION	DRAWN	AUTH
A	16.07.12	TENDER ISSUE	BP	-
B	19.07.12	CDC ISSUE	BP	-

CLIENT
SYDNEY ANGLICAN SCHOOLS CORPORTATION

CONSULTANT

ruth newman Architect
P.O Box 736
Sutherland NSW 1499
Suite 1A
1-5 Oyrnes Bay Road
Oyrnes NSW 2227
t. 02 95400959
f. 02 9540 9940
e. ruth@ruthnewman.com.au
w. www.ruthnewman.com.au

PROJECT
NEW CLASSROOM BUILDING AT
LOQUAT VALLEY PREPARATORY
SCHOOL FOR SASC

DRAWING TITLE
SITE PLAN

☐ TENDER	☐ FOR INFORMATION
☐ CONSTRUCTION	☐ FOR APPROVAL
DRAWING NUMBER: A01	PROJECT NUMBER: 11222
SHEET SIZE: A1	AMENDMENT NUMBER: B
DRAWN BY: BP	DATE: 11.07.12
SCALE: 1:200@A1	

NEW BUILDING WORK

NEW EXTERNAL WORK

PITTWATER ROAD

LOQUAT VALLEY ROAD

EXISTING CLASSROOMS

EXISTING STAFF ROOM

EXISTING CARPARK

EXISTING BREEZEWAY CORRIDOR

EXISTING RAMP

LIFT A

EXISTING GARDEN BED

EXISTING PATH

EXISTING CONCRETE PATH

EXISTING TIMBER DECK

EXISTING WATER TANKS

EXISTING PAVED AREA

EXISTING COLA

EXISTING HALL

EXISTING CANTEEN

EXISTING ADMINISTRATION

VERANDAH

LIFT B

EXISTING MUSIC ROOMS

EXISTING GARDEN

EXISTING PAVED PATH

EXISTING TENNIS COURT

EXISTING CLASSROOM

BLOCKWORK STORE (under)

NEW CLASSROOM & WORKSHOP BUILDING

DEMOLISH EXISTING WEATHERBOARD STORE BUILDING

SETOUT POINT

REMOVE EXSTING TREE & WIRE FENCE

HOARDING AS REQUIRED

BUILDING STOCKPILE

WASTE MATERIAL

WASHDOWN AREA

SILT FENCE

EXISTING SHADE STRUCTURE. BUILDER TO STORE & REINSTATE AT END OF PROJECT

EXISTING PLAY EQUIPMENT

EXTEND EXISTING ROOF OVER WALKWAY

PROPOSED HOARDING ALLOW FOR VEHICULAR ACCESS

SYDNEYWATER SEWER

5000 SETBACK REPA-INFRASTRUCTURE

TELC BUILDING

DECK

PLAYGROUND

EXISTING GRASSED PLAYGROUND

EXISTING CARPARK

UNDERGROUND BOX CULVERT APPROX. POSITION. SIZE 2.2 x 0.95m BUILDER TO LAY STEEL PLATES ACROSS SEWER & CULVERT WHEN CROSSING IN VEHICLE

PROPOSED 3M WIDE ACCESS ROUTE

EXISTING LAYBACK FOR VEHICLE ACCESS

NO.'S (1-10) INDICATE FENCE PANELS
PANELS 6 & 7 TO BE REMOVED
TO ALLOW VEHICLE ACCESS

102.41 TITLE
103.11 SURVEY
44° 42' 40"

255° 24'
5.60 SURVEY

51.15 TITLE
50.87 SURVEY
114° 48' 30"

254°02'10"
7.0

164°02'10"
17.16

344°02'10"
16.0

D.P. 614372
1

244° 38' 15"
40.0

244° 38' 15"
30.54

224° 50'
5.315

264° 26'
5.315

244° 38' 15"
12.33

244° 38' 15"
19.07

343° 33'
49.385

169° 19'
20.42

170° 01' 40"
27.195

1 SITE/WASTE MANAGEMENT PLAN
Scale 1:200

URBAN CITY CONSULTING PTY LTD
12 SEP 2012
Accredited Certifier .....
Accreditation No. BPB0264

19 JULY 2012 - CDC ISSUE

NOTES:
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Figured dimensions shall be used.
Do not scale drawing.
The contractor shall verify all dimensions on site prior to commencement of work.

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AMT	DATE	DESCRIPTION	DRAWN	AUTH
A	16.07.12	TENDER ISSUE	BP	-
A	19.07.12	CDC ISSUE	BP	-

CLIENT
SYDNEY ANGLICAN SCHOOLS CORPORTATION

CONSULTANT

ruth newman Architect
P.O Box 736
Sutherland NSW 1499
Suite 1A
1-5 Gymea Bay Road
Gymea NSW 2227
t. 02 95400659
f. 02 9540 9540
e. ruth@ruthnewman.com.au
w. www.ruthnewman.com.au

PROJECT
NEW CLASSROOM BUILDING AT
LOQUAT VALLEY PREPARATORY
SCHOOL FOR SASC

DRAWING TITLE
SITE/WASTE MANAGEMENT PLAN

☐ TENDER ☐ FOR INFORMATION
☐ CONSTRUCTION ☐ FOR APPROVAL

DRAWING NUMBER	PROJECT NUMBER
A02	11222
SHEET SIZE	AMENDMENT NUMBER
A1	B
DRAWN BY: BP	DATE: 11.07.12
SCALE: 1:200@A1	