

17 December 2012

General Manager
Pittwater Council
PO Box 882
MONA VALE NSW 1660

Dear Sir/Madam,

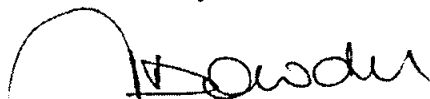
Development Application No. N0683/10
2 Suncrest Avenue, Newport

For Council's information, please find enclosed Construction Certificate No. 2012/4629 issued for alterations & additions to an existing dwelling at the above address, accompanied by:

- Copy of Construction Certificate application form
- Notice of Commencement of Work and Appointment of Principal Certifying Authority
- Home Warranty Insurance Certificate
- Cheque for \$36.00 being the prescribed fee to receive the above certificate.

NB: Please forward receipt for the above fee to Insight Building Certifiers Pty Ltd, PO Box 326, Mona Vale 1660.

Yours faithfully



Tom Bowden
Insight Building Certifiers Pty Ltd

2 - 334404

Construction Certificate Determination

issued under the Environmental
Planning and Assessment Act 1979
Section 109C (1) (b), 81A (2) and 81A (4)

Certificate No. 2012/4629

Council	Pittwater
Determination Date of issue	Approved 17 December 2012
Subject land Address Lot No, DP No.	2 Suncrest Avenue, Newport Lot 18 DP 31375
Applicant Name Address Contact No.	Mr Nathan & Mrs Katinka Hook 2 Suncrest Avenue, Newport NSW 2106 9999 1526 / 0437 226 200
Owner Name Address Contact No.	Mr Nathan & Mrs Katinka Hook 2 Suncrest Avenue, Newport NSW 2106 9999 1526 / 0437 226 200
Description of Development Type of Work	Alterations & Additions to an Existing Dwelling
Builder or Owner/Builder Name Contractor Licence No/Permit	Nathan Hook Owner Builder Permit no. 392376P
Value of Work Building	\$153,139.00

Attachments

- Copy of completed Construction Certificate Application Form
- Pittwater Council receipt no. 316797 for payment for Long Service Levy
- BASIX Certificate no. A100725 dated 26 November 2010
- Driveway Profiles issued by Pittwater Council dated 31 January 2012
- Section 139 Consent issued by Pittwater Council dated 31 January 2012

Plans & Specifications certified

The development is to be carried out in compliance with the following plans and documentation listed below and endorsed with *Insight Building Certifiers* stamp.

- Architectural Plans & Construction Specification, including Sediment & Erosion Control Plan & Landscaping Plan, reference no. 1323, drawing nos. 1, 2, 3, 4, 5, 6, 8 & 10, prepared by J.D Evans & Co Pty Ltd dated 12 October 2010
- Structural Details reference no. 27270, drawing no's. S1/A & S2/A, prepared & endorsed by Jack Hodgson Consultants Pty Ltd dated 12 October 2012
- Completed Form 2 (Parts A & B) of Pittwater Council's Geotechnical Risk Management Policy endorsed by Jack Hodgson Consultants Pty Ltd dated 26 April 2012
- Stormwater Management Plan reference no. 27270, drawing no's. H1 & H2, prepared & endorsed by Jack Hodgson Consultants Pty Ltd dated 31 August 2012
- Driveway & Parking Facility Long Section reference no. 1323, drawing no. 11, dated 12 October 2010 accompanied by a Design Compliance Statement dated 5 December 2012, all prepared & endorsed by J.D Evans & Company Pty Ltd
- Schedule of External Finishes reference no. SEF-01 prepared by J D Evans & Company, undated
- Sydney Water Approval dated 15 November 2012

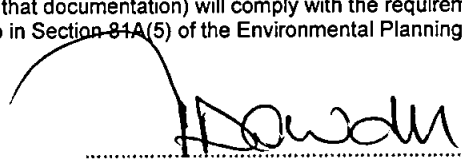
Certificate

I hereby certify that the above Plans, documents or Certificates, satisfy:

- The relevant provisions of the Building Code of Australia
- The relevant conditions of this Development Consent

and that work completed in accordance with the documentation accompanying the application for this Certificate (and any modifications as verified by me and shown on that documentation) will comply with the requirements of the Environmental Planning & Assessment Regulation referred to in Section 81A(5) of the Environmental Planning & Assessment Act, 1979.

Signed



Date of endorsement
Certificate No.

17 DEC 2012
2012/4629

Certifying Authority

Name of Accredited Certifier
Accreditation No.
Accreditation Authority
Contact No.
Address

Tom Bowden
BPB0042
Building Professionals Board
(02) 9999 0003
13/90 Mona Vale Road, Mona Vale NSW 2103

Development Consent

Development Application No.
Date of Determination

N0683/10
3 March 2011

BCA Classification

1a & 10a

30 JAN 2012

APPLICATION FOR A CONSTRUCTION CERTIFICATE

Environmental Planning and Assessment Act 1979 & Environmental Planning and Assessment Regulation 2000

Description of Building Work

Additions & Alterations to existing dwelling.

Estimated cost of work

\$153,139.00

BCA Classification(s)

1a

Development Consent Reference no.

N0683/10

Date of Issue

3.3.2011

Modified Consent Reference no. (If applicable)

-

Date of Issue (If applicable)

-

Property Address

Unit/Street no.

2

Street name

Suncrest Avenue

Suburb

Newport

Post code

2106

Lot no.

18

DP no.

31375

Accompanying Documents

- Appropriate Architectural Plans and Specifications
- All information required by Part 3 of Schedule 1 Forms of the Regulation (see over)

I, the owner of the abovementioned property, hereby make application to Tom Bowden/Stephen Pinn of Insight Building Certifiers Pty Ltd ('Insight') for a Construction Certificate for the building work described above and, in doing so, I also declare that the documents provided and asserted by me as a copy of a development consent and incorporated plans are a true copy of same as issued by the relevant consent authority or the Land and Environment Court.

Owner's Name:

Nathan Leslie Hook & Katinka Hook

Owner's Address:

2 Suncrest
Avenue
Newport
NSW 2106

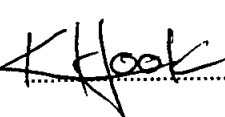
Daytime Telephone:

02 9999 1526

Mobile:

0437 226 200

Owner's Signature:

 N.A. Hook

Date:

[Office Use Only]: Date received by Accredited Certifier:

All documents received as part of this Construction Certificate application have been stamped to that effect

Schedule 1 – Part 3(6) – Documents to accompany application for Construction Certificates

- (1) An application for a construction certificate must be accompanied by the following documents:
 - (a) if the development involves building work (including work in relation to a dwelling-house or a building or structure that is ancillary to a dwelling-house):
 - (i) a detailed description of the development, and
 - (ii) appropriate building work plans and specifications,
 - (b) if the development involves building work (other than work in relation to a dwelling-house or a building or structure that is ancillary to a dwelling-house or work that relates only to fire link conversion):
 - (i) a list of any existing fire safety measures provided in relation to the land or any existing building on the land, and
 - (ii) a list of the proposed fire safety measures to be provided in relation to the land and any building on the land as a consequence of the building work,
 - (c) if the development involves subdivision work, appropriate subdivision work plans and specifications,
 - (d) in the case of development to which clause 6A applies, such other documents as any BASIX certificate for the development requires to accompany the application.
 - (2) A detailed description of the development referred to in subclause (1) (a) (i) must indicate the following matters:
 - (a) for each proposed new building:
 - (i) the number of storeys (including underground storeys) in the building,
 - (ii) the gross floor area of the building (in square metres),
 - (iii) the gross site area of the land on which the building is to be erected (in square metres),
 - (b) for each proposed new residential building:
 - (i) the number of existing dwellings on the land on which the new building is to be erected,
 - (ii) the number of those existing dwellings that are to be demolished in connection with the erection of the new building,
 - (iii) the number of dwellings to be included in the new building,
 - (iv) whether the new building is to be attached to any existing building,
 - (v) whether the new building is to be attached to any other new building,
 - (vi) whether the land contains a dual occupancy,
 - (vii) the materials to be used in the construction of the new building (using the abbreviations set out in clause 7 of this Schedule).
 - (3) Appropriate building work plans and specifications referred to in subclause (1) (a) (ii) include the following:
 - (a) detailed plans, drawn to a suitable scale and consisting of a block plan and a general plan, that show:
 - (i) a plan of each floor section, and
 - (ii) a plan of each elevation of the building, and
 - (iii) the levels of the lowest floor and of any yard or unbuilt on area belonging to that floor and the levels of the adjacent ground, and
 - (iv) the height, design, construction and provision for fire safety and fire resistance (if any),
 - (b) Specifications for the development:
 - (i) that describe the construction and materials of which the building is to be built and the method of drainage, sewerage and water supply, and
 - (ii) that state whether the materials to be used are new or second-hand and (in the case of second-hand materials) give particulars of the materials to be used,
 - (c) a statement as to how the performance requirements of the *Building Code of Australia* are to be complied with (if an alternative solution, to meet the performance requirements, is to be used),
 - (d) a description of any accredited building product or system sought to be relied on for the purposes of section 79C (4) of the Act,
 - (e) copies of any compliance certificate to be relied on,
 - (f) if the development involves building work to alter, expand or rebuild an existing building, a scaled plan of the existing building,
 - (g) in the case of development to which clause 6A applies, such other matters as any BASIX certificate for the development requires to be included in the plans and specifications.
 - (3A) An application for a construction certificate that relates only to fire link conversion need only be accompanied by a document that describes the design and construction, and mode of operation, of the new fire alarm communication link.
 - (4) Appropriate subdivision work plans and specifications referred to in subclause (1) (c) include the following:
 - (a) details of the existing and proposed subdivision pattern (including the number of lots and the location of roads),
 - (b) details as to which public authorities have been consulted with as to the provision of utility services to the land concerned,
 - (c) details engineering plans as to the following matters:
 - (i) earthworks,
 - (ii) roadworks,
 - (iii) road pavement,
 - (iv) road furnishings,
 - (v) stormwater drainage,
 - (vi) water supply works,
 - (vii) sewerage works,
 - (viii) landscaping works,
 - (ix) erosion control works,
 - (d) copies of any compliance certificates to be relied on.
- 6A BASIX certificate required for certain development**
- (1) This clause applies to:
 - (a) BASIX affected development, and
 - (b) BASIX optional development in relation to which a person made a development application that has been accompanied by a BASIX certificate or BASIX certificates (despite there being no obligation under clause 2A for it to be so accompanied).
 - (2) In addition to the documents required by clause 6, an application for a construction certificate for any development to which this clause applies must also be accompanied by a BASIX certificate or BASIX certificates for the development, being either the BASIX certificate applicable to the development when the relevant development consent was granted or some other BASIX certificate or BASIX certificates that has or have been issued no earlier than 3 months before the date on which the application is made.
 - (3) If the proposed development involves the alteration, enlargement or extension of a BASIX affected building that contains more than one

LONG SERVICE
BUILDING & CONSTRUCTION

See reverse of form for instructions

RECEIVED MONA VALL

30 JAN 2012

CUSTOMER SERVICE

LEVY PAYMENT FORM

FORM NO.

OFFICE USE ONLY

PART A - DETAILS OF PERSON OR COMPANY

Surname (if person)
or Company/Organisation name

H O O K

Given names (if person)

K A T I N K A

POSTAL ADDRESS

No. and street or PO Box

2 S U N C R E S T A V E N U E

N E W P O R T

N S W

Postcode

2 1 0 6

Bus. hours phone

0 4 3 7 2 2 6 2 0 0

PLEASE PRINT ALL DETAILS USING CAPITALS

Number and street

2 S U N C R E S T A V E N U E

N E W P O R T

N S W

Postcode

2 1 0 6

Estimated start date

D 0 1 M 0 2 Y 2 0 1 2

Estimated finish date

D 0 1 M 0 2 Y 2 0 1 4

Local Council Area

P I T T W A T E R C O U N C I L

¹ DA/CC/CDC No.

N O 6 8 / 1 0

Estimated value

of work (see note on back)

\$ 1,531,390.00

Levy

payable \$

¹ If you have provided a CC above, please provide DA number here

Name of Officer/Private Certifier

Insight Building certifiers

Business hours phone

0 2 9 9 9 9 0 0 0 3

Department/Authority

Contract/DA No (circle which)

Contract

amount \$

Levy payable

\$ 535.00

KPTO for details

Contact person (Print)

Phone number

Contact person (Signature)

Date D

Any false or misleading information provided on this form may result in prosecution under Section 58A.

I hereby declare that the information provided on this form is true and correct to the best of my knowledge

Name

Katinka Hook

Signature

hook

Date D

30 M 01 Y 2012

Exemption Approval Certificate No.

Ref 316797 30/01/2012

Building and Construction Industry Long Service Payments Corporation, Locked Bag 3000, Central Coast MC NSW 2252

Tel: 13 14 41 Fax: (02) 9287 5685 Email: levy@lspc.nsw.gov.au www.lspc.nsw.gov.au

ABN 93 646 090 808

May 07/180

BASIX Certificate

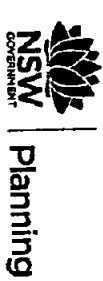
Building Sustainability Index www.basix.nsw.gov.au

Alterations and Additions

Certificate number: A100725

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Alterations and Additions Definitions" dated 29/9/2006 published by Department of Planning. This document is available at www.basix.nsw.gov.au

Director-General
Date of issue: Friday, 26, November 2010



Project details	
Project name	Nathan & Katinka Hook
Street address	2 Suncrest Avenue Newport 2106
Local Government Area	Pittwater Council
Plan type and number	Deposited Plan 31375
Lot number	18
Section number	0
Renovation details	
Dwelling type	Separate dwelling house
Type of alteration and addition	My renovation work is valued at \$50,000 or more, and does not include a pool (and/or spa).

This plan / document
forms part of
Construction Certificate
no. 2 0 1 2 / 4 6 2 9

COUNCIL

Measures	Water	Energy	Greenhouse Gas	Other
Hot water				
The applicant must install the following hot water system in the development: gas instantaneous.				
Lighting				
The applicant must ensure a minimum of 40% of new or altered light fixtures are fitted with fluorescent, compact fluorescent, or light-emitting-diode (LED) lamps.				
Fixtures				
The applicant must ensure new or altered showerheads have a flow rate no greater than 9 litres per minute or a 3 star water rating.				
The applicant must ensure new or altered toilets have a flow rate no greater than 4 litres per average flush or a minimum 3 star water rating.				
The applicant must ensure new or altered taps have a flow rate no greater than 9 litres per minute or minimum 3 star water rating.				

Insulation requirements		
<p>The applicant must construct the new or altered construction (floor(s), walls, and ceilings/roofs) in accordance with the specifications listed in the table below, except that a) additional insulation is not required where the area of new construction is less than 2m², b) insulation specified is not required for parts of altered construction where insulation already exists.</p>		
Construction	Minimum thermal insulation (R-value)	Minimum solar absorptance
suspended floor with enclosed subfloor: framed (R0.7).	R0.60 (down) (or R1.30 including construction)	
suspended floor above garage: framed (R0.7).	nil	
external wall: brick veneer	R1.16 (or R1.70 including construction)	
external wall: framed (weatherboard, fibro, metal clad)	R1.30 (or R1.70 including construction)	
external wall: cavity brick	nil	
internal wall shared with garage: single skin masonry (R0.18)	nil	
flat ceiling, pitched roof	ceiling: R1.95 (up), roof: foil backed blanket (55 mm)	dark (solar absorptance > 0.70)

Case No.	Case Name	Case Type	Case Status	Case Date	Case Location	Case Description	Case Notes	Case Action	Case Result	Case Comment
1	John Doe	Case 1	Open	2023-01-01	New York	Case 1 Description	Case 1 Notes	Case 1 Action	Case 1 Result	Case 1 Comment
2	Jane Smith	Case 2	Open	2023-01-02	California	Case 2 Description	Case 2 Notes	Case 2 Action	Case 2 Result	Case 2 Comment
3	Bob Johnson	Case 3	Open	2023-01-03	Texas	Case 3 Description	Case 3 Notes	Case 3 Action	Case 3 Result	Case 3 Comment
4	Alice Brown	Case 4	Open	2023-01-04	Florida	Case 4 Description	Case 4 Notes	Case 4 Action	Case 4 Result	Case 4 Comment
5	Charlie Davis	Case 5	Open	2023-01-05	Illinois	Case 5 Description	Case 5 Notes	Case 5 Action	Case 5 Result	Case 5 Comment
6	Diana Evans	Case 6	Open	2023-01-06	Ohio	Case 6 Description	Case 6 Notes	Case 6 Action	Case 6 Result	Case 6 Comment
7	Frank Green	Case 7	Open	2023-01-07	Pennsylvania	Case 7 Description	Case 7 Notes	Case 7 Action	Case 7 Result	Case 7 Comment
8	Grace Hall	Case 8	Open	2023-01-08	Rhode Island	Case 8 Description	Case 8 Notes	Case 8 Action	Case 8 Result	Case 8 Comment
9	Henry King	Case 9	Open	2023-01-09	South Carolina	Case 9 Description	Case 9 Notes	Case 9 Action	Case 9 Result	Case 9 Comment
10	Ivy Lee	Case 10	Open	2023-01-10	Tennessee	Case 10 Description	Case 10 Notes	Case 10 Action	Case 10 Result	Case 10 Comment
11	Jack Miller	Case 11	Open	2023-01-11	Virginia	Case 11 Description	Case 11 Notes	Case 11 Action	Case 11 Result	Case 11 Comment
12	Karen Wilson	Case 12	Open	2023-01-12	Washington	Case 12 Description	Case 12 Notes	Case 12 Action	Case 12 Result	Case 12 Comment
13	Leo White	Case 13	Open	2023-01-13	West Virginia	Case 13 Description	Case 13 Notes	Case 13 Action	Case 13 Result	Case 13 Comment
14	Mia Young	Case 14	Open	2023-01-14	Wisconsin	Case 14 Description	Case 14 Notes	Case 14 Action	Case 14 Result	Case 14 Comment
15	Noah Adams	Case 15	Open	2023-01-15	Wyoming	Case 15 Description	Case 15 Notes	Case 15 Action	Case 15 Result	Case 15 Comment

The applicant must install the windows, glazed doors and sliding screens, in accordance with the relevant overshadowing specifications must be satisfied for each window and glazed door.

Each window or glazed door with improved frames, or pyrolytic low-e glass, or clear/air gap/clear glazing, or toned/air gap/clear glazing must have a U-value and a Solar Heat Gain Coefficient (SHGC) no greater than that listed in the table below. Total system U-values and SHGCs must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. The description is provided for information only. Alternative systems with complying U-value and SHGC may be substituted.

Roofs with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35.

Overshadowing buildings or vegetation must be of the height and distance from the centre and the base of the window and glazed door, as specified in the 'overshadowing' column in the table below.

Windows and glazed doors glazing requirements					
Window type	Glazing type	Glazing material	Glazing thickness	Glazing requirements	
W1	N	3.12	0	0	Improved aluminium, single toned, (U-value: 6.39, SHGC: 0.56)
W2	S	5.76	0	0	Improved aluminium, single clear, (U-value: 6.44, SHGC: 0.75)
W3	S	4.32	0	0	Improved aluminium, single clear, (U-value: 6.44, SHGC: 0.75)
W4	S	5.76	0	0	Improved aluminium, single clear, (U-value: 6.44, SHGC: 0.75)

Energy efficiency					Shading device	Shading device type	Shading device type	Shading device type
Window	Window	Window	Window	Window	Shading device	Shading device type	Shading device type	Shading device type
W5	W	10.8	10	10	>=900 mm	6.44, SHGC: 0.75		
W6	S	2.16	0	0	eave/verandah/pergola/balcony	Improved aluminium, single clear, (U-value: 6.44, SHGC: 0.75)		
W7	S	2.52	0	0	eave/verandah/pergola/balcony	Improved aluminium, single clear, (U-value: 6.44, SHGC: 0.75)		
W8	N	1.08	10	10	eave/verandah/pergola/balcony	Improved aluminium, single clear, (U-value: 6.44, SHGC: 0.75)		
W9	N	2.34	10	10	eave/verandah/pergola/balcony	Improved aluminium, single clear, (U-value: 6.44, SHGC: 0.75)		
W10	E	1.95	0	0	eave/verandah/pergola/balcony	Improved aluminium, single clear, (U-value: 6.44, SHGC: 0.75)		
W11	N	0.54	0	0	eave/verandah/pergola/balcony	Improved aluminium, single clear, (U-value: 6.44, SHGC: 0.75)		
W12	N	0.54	10	10	eave/verandah/pergola/balcony	Improved aluminium, single clear, (U-value: 6.44, SHGC: 0.75)		
W13	N	3.12	10	10	eave/verandah/pergola/balcony	Improved aluminium, single clear, (U-value: 6.44, SHGC: 0.75)		
W14	S	5.04	0	0	eave/verandah/pergola/balcony	Improved aluminium, single clear, (U-value: 6.44, SHGC: 0.75)		
W15	S	3.78	0	0	eave/verandah/pergola/balcony	Improved aluminium, single clear, (U-value: 6.44, SHGC: 0.75)		
W16	S	4.41	0	0	eave/verandah/pergola/balcony	Improved aluminium, single clear, (U-value: 6.44, SHGC: 0.75)		
W17	E	3.36	0	0	eave/verandah/pergola/balcony	Improved aluminium, single clear, (U-value: 6.44, SHGC: 0.75)		

BASIX Certificate number: A100725

Performance Summary					Star Rating	Greenhouse Gas Emissions	Water Efficiency
Overall Performance							
Energy Efficiency	1.35	10	10				
Water Efficiency							
Greenhouse Gas Emissions							
Indoor Environmental Quality							
Material & Resource Efficiency							
W18	N	1.35	10	10	>=900 mm eave/verandah/pergola/balcony		
					6.44, SHGC: 0.75		
					improved aluminium, single clear, (U-value: 6.44, SHGC: 0.75)		



PITTWATER COUNCIL

Information for Access Driveway Profiles 1 July 2011 – 30 June 2102

To: Katinka and Nathan Leslie Hook
Postal Address: 2 Suncrest Avenue
NEWPORT 2106

Date: 31 January 2012

Receipt No: 316797
Amount: \$200

ACCESS DRIVEWAY PROFILE AT: 2 Suncrest Avenue, Newport

- The proposed vehicular access driveway profile shall be as per the enclosed plan **Low Level Skew**.
- **Type of Construction:** Domestic
 - **For Residential single & dual occupancy** - 25MPa Concrete, 150mm thick with SL82 mesh
- **Slab Construction:** Vehicular access slab 4 metres long, 3.8 metres wide at gutter crossing to 4.4 metres wide at the boundary. Construct gutter and layback. Construct new kerb to connect from vehicle crossing to kerb inlet.
- Council will only permit an absolute maximum gradient of 25% (1 in 4) measured at any point on the driveway and that an ease may be required for access into the car stand area, carport or garage. Refer to relevant attached profile.
- All work within the road reserve (including excavation) in connection with the above, is to be carried out by authorised Contractors only;
- Quotations for the work specified above should be obtained from any of the contractors on Council's list and should be for the whole of the work stated;
- Construction of vehicular access will be strictly in accordance with the profile supplied; and
- A formwork and reinforcement inspection by Council is required prior to construction.
(Provide minimum 24 hours notice)

1. **NOTE THAT THIS INFORMATION SHEET DOES NOT CONSTITUTE AN APPROVAL TO COMMENCE OR PROCEED WITH ANY WORK ON SITE.**
2. **A SECTION 139 CONSENT UNDER THE ROADS ACT – 1993 IS REQUIRED (FORM UI 311).**
3. **FAILURE TO OBTAIN SUCH CONSENT PRIOR TO COMMENCING WORK WILL INCUR A PENALTY.**

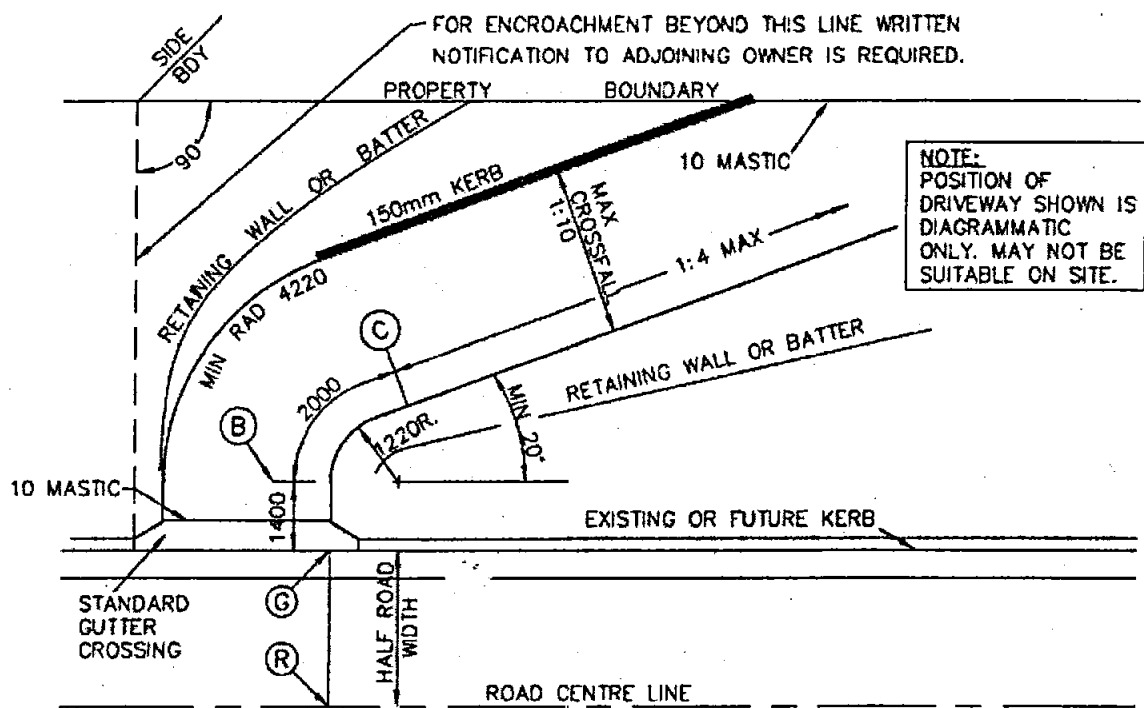
R. McWhirter

Ross McWhirter
PROJECT LEADER – URBAN INFRASTRUCTURE
Telephone: 9970 1207

This plan / document
forms part of
Construction Certificate
no. 2012 / 4629

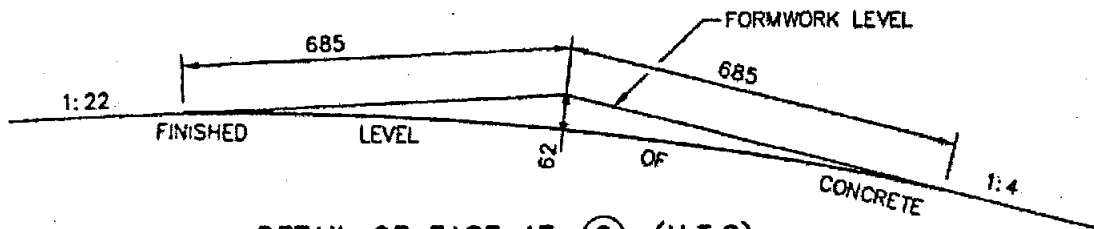
PLAN MAY BE MIRROR REVERSED FOR ACCESS FROM OPPOSITE SIDE OF LOT.

FOR USE ONLY FOR SINGLE DWELLING OR DUAL OCCUPANCIES



SET OUT

POINT	REMARKS	LEVELS
R	ROAD CENTRELINE	
G	INVERT OF GUTTER	
B	1400 FROM KERB FACE	130 ABOVE "G"
C	3400 FROM KERB FACE	100 ABOVE "G" (FORMWORK LEVEL)



DETAIL OF EASE AT (C) (N.T.S)

NOTES

- To be read in conjunction with Pittwater 21 Development Controls.
- Retaining walls & batter slopes to comply with Geotechnical Risk Management Policy for Pittwater.
- Design levels are calculated along inside edge NOT centreline.



PITTWATER COUNCIL

DRIVEWAY PROFILE
LOW LEVEL SKEW

PLAN No.

DP-05

Date:

9/11/2011



PITTWATER

ABN61340837871
Telephone 02 9970 1111
Facsimile 02 9970 7150
Postal Address
PO Box 882
Mona Vale NSW 1660
DX 9018, Mona Vale

Ross McWhirter, Project Leader – Road Reserve Management
8am to 4:30pm Mon - Fri
Phone 9970 1207 Mobile 0419 629 007

31 January 2012

Katinka Hook
2 Suncrest Avenue
NEWPORT NSW 2106

Dear Madam,

Re: SECTION 139 CONSENT (Roads Act 1993) - Suncrest Avenue, Newport

Council grants the applicant(s), Katinka Hook, consent to construct a driveway crossing at 2 Suncrest Avenue, Newport.

This Section 139 Consent is granted, subject to the following conditions: -

1. The Applicant(s) shall, at all times, keep indemnified Council from and against all actions, suits, proceedings, losses, costs, damages, changes, claims and demands in any way arising out of or by reason of anything done or omitted to be done by the Applicant(s) in respect of the work in question.
2. The Applicant(s), at all times for the duration of this Consent, will not interrupt or otherwise disturb traffic or pedestrian flow in the public road without first obtaining the consent of Council. Lighting, fencing, traffic control and advanced warning signs shall be provided for the protection of the works and for the safety and convenience of the public and others during the currency of the works.
3. In the event that the driveway construction requires the use of a mobile concrete pump in the road reserve, separate approval must be obtained from Council for that activity. Form No. UI313 (*Application to Stand Construction Plant on a Public Road Reserve*) must be lodged with the applicable fees.
4. The Applicant(s) shall be responsible for the cost of all service and utility adjustments associated with the construction of the driveway. Contact "Dial Before You Dig" (1100) at least two working days before the works are due to start for information on the location of underground pipes and cables.
5. A formwork and steel reinforcement inspection by Council is required prior to construction (provide minimum 24 hours notice).
6. The Applicant(s) shall make good any damage caused to the property of any person or any property of Council by reason of the carrying out of any work by the Applicant(s) under the Conditions of this Consent.

This plan / document
forms part of
Construction Certificate
no. 2012 / 4629

7. Should the Applicant(s) fail to comply with any of these conditions or any requirement of Council as provided, then this Consent shall permanently lapse and any part of the work remaining within the road at that time shall be deemed to be an obstruction or encroachment under *Section 107 of the Roads Act 1993*.
8. This Consent receipt must be held on the job and produced to any Officer of Council when called upon.
9. The Applicant(s) shall accept all responsibility for public safety during the construction of the works.
10. Compliance with the conditions of Development Consent No. N0683/10 that relate to the road reserve.
11. COUNCIL IS TO BE ADVISED WHEN THE WORKS HAVE BEEN COMPLETED. Upon receipt of this advice, Council will inspect the works to determine if they are satisfactory. Any works deemed by Council to be unsatisfactory are to be rectified to Council's reasonable satisfaction.

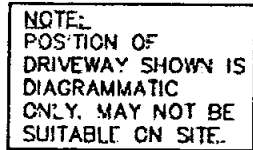
Yours faithfully



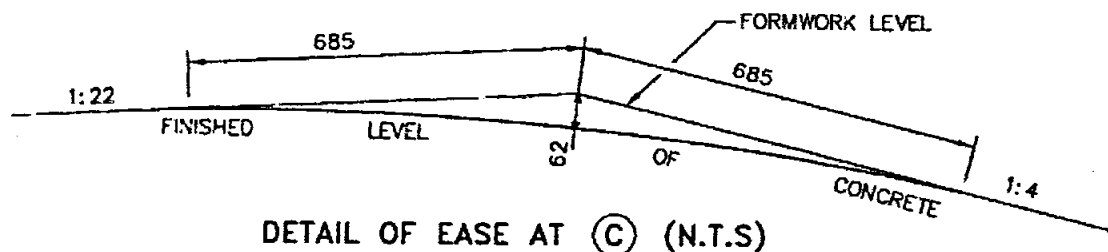
Ross McWhirter
PROJECT LEADER – ROAD RESERVE MANAGEMENT

Enclosures: - *Information for Access Driveway Profiles*
- *Driveway profile (Low Level Skew)*
- *List of Council Authorised Concrete Contractors for Vehicle Footpath Crossings and Associated Works.*

FOR USE ONLY FOR SINGLE
DWELLING OR DUAL
OCCUPANCES



POINT	REMARKS	LEVELS
R	ROAD CENTRELINE	
G	INVERT OF GUTTER	
B	1400 FROM KERB FACE	130 ABOVE "G"
C	3400 FROM KERB FACE	100 ABOVE "G" (= GRWWORK LEVEL)



- To be read in conjunction with Pittwater 21 Development Controls.
- Retaining walls & batter slopes to comply with Geotechnical Risk Management Policy for Pittwater.
- Design levels are calculated along inside edge NOT centreline.



PLAN No.	DP-05
Date:	9/11/2011

SITE AREA		764.30 SQUARE METRES
DESCRIPTION	EXISTING SQM	PROPOSED SQM
FLOOR	134.17	198.77
ROOF	85.66	185.59
DECK	16.20	-
DRIVEWAY	57.00	74.00
TOTAL HARD SURFACE	158.86 (21.24%)	268.84 (35.95%)

WARNING

The stamping of this plan by Insight Building Certifiers Pty Ltd does not relieve:

- The applicant's responsibility to obtain approval from Sydney Water or other utilities.
- The Structural Engineer of their responsibility to ensure the structural adequacy of this project.
- The Applicant, Structural Engineer or other Professional of their responsibility to ensure these stamped details are consistent with the issued Construction Certificate Architectural Details.

insight building certifiers pty ltd
CONSTRUCTION CERT. NO. 2012 / 4629
PLANS
CONSTRUCTION CERTIFICATE
I certify that the work completed in accordance with these plans & specifications will comply with the regulations referred to in Section 81A(5) of the Environmental Planning & Assessment Act 1979
17 DEC 2012
T. Bowden Accreditation No. BPB0042

T. Bowden Accreditation No. BPB0042

NOTES:

1. THE BUILDER IS TO CHECK AND CONFIRM ALL NECESSARY

1. THE BUILDER IS TO CHECK AND CONFIRM ALL NECESSARY DIMENSIONS AND LEVELS ON SITE PRIOR TO ORDERING MATERIALS AND COMMENCING CONSTRUCTION. DO NOT SCALE OFF THE DRAWING. SHOULD ANY DEVELOPMENT OR CONSTRUCTION OCCUR ON OR NEAR BOUNDARIES, THE BOUNDARIES SHOULD BE CLEARLY MARKED ON SITE BY THE REGISTERED LAND SURVEYORS.
- 2.

SITE PLAN

LOT 18 14 B.P. 31375

~~APPROVED DEVELOPMENTAL CONSENT PLANS~~

NOTE: THESE PLANS MUST BE READ IN CONJUNCTION WITH THE CONDITIONS OF DEVELOPMENT AND CONSENT

Existing paper bank
to be retained

ADDON-HALL
RESIDENTS

EX-17/100
RESIDENCE


DRIVER


✓ ✓ ✓ ✓ ✓

1. Builder to check or confirm any necessary alterations on site prior to construction. Do not start the drawing.
2. All dimensions that relate to wall boundaries and easements are subject to verification by a local survey.
3. All work to be in accordance with BUILDING CODE of AUSTRALIA and to the satisfaction of local council requirements & other authorities.
4. Builder's contribution to be in accordance with the "TUBERIA Plastic" code.
5. The builder to provide a written approval from the same and the builder to the owner's approval, except for any structural details to be approved by the local council.
6. Roof eave, a sub-soil trenching to be approved of in the approved manner or as directed by local council inspectors.
7. All electrical power & light outlets to be determined by new work, means suitable materials where possible.
8. Good maintenance of existing finishes determined by new work, means suitable materials where possible.

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15, BENTLEY WAY, ALTON MECH. Bldg

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Mobile 088 976 596 WWW: jdeco.com.au

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OF THE AUSTRALIAN BUILDING INDUSTRY

PROJECT
PROPOSED ALTERATIONS/ADDITIONS
No. 2 SUNCREST AVENUE
NEWPORT N.S.W. 2106
CLIENT
NATHAN & KATINKA - HOOK

DATE	12/10/2010	SCALE	1:200
DRAWN	JOE	CHECKED	
DRAWING No.		ISSUE	
B23-1			

WATER COMMITMENTS

FIXTURES:

1. ALLOWED & ALTERED SHOWER HEADS TO HAVE A FLOW RATE NO GREATER THAN 9 LITRES PER MINUTE OR 3 STAR WATER RATING.
2. ALL NEW & ALTERED TOILET FLUSHING SYSTEMS TO HAVE A FLOW RATE NO GREATER THAN 4 LITRES PER AVERAGE FLUSH OR A MINIMUM 3 STAR WATER RATING.
3. ALL NEW & ALTERED TAPS TO HAVE A FLOW RATE NO GREATER THAN 9 LITRES PER MINUTE OR 3 STAR WATER RATING.

Thermal Comfort Commitments

CONSTRUCTION INSULATION REQUIREMENTS

1. THE PROJECT MUST BE CONSTRUCTED IN ACCORDANCE WITH ALL THERMAL PERFORMANCE SPECIFICATIONS SET OUT IN THE CERTIFICATE NUMBER A100725, AND IN ACCORDANCE WITH THOSE ASPECTS OF THE DEVELOPMENT APPLICATION WHICH WERE USED TO CALCULATE THOSE SPECIFICATIONS.

WINDOWS & GLAZED DOORS GLAZING REQUIREMENTS

1. THE APPLICANT MUST INSTALL THE WINDOWS, GLAZED DOORS AND SHADING DEVICES, IN ACCORDANCE WITH THE SPECIFICATIONS LISTED IN THE CERTIFICATE NUMBER A100775. RELEVANT OVERSHADOWING SPECIFICATIONS MUST BE SATISFIED FOR EACH WINDOW AND GLAZED DOOR
2. FOR PROJECTIONS DESCRIBED IN MILLIMETRES, THE LEADING EDGE OF EACH EAVE, PERGOLA, VERANDA/H, BALCONY OR AWNING MUST NOT BE OR MORE THAN 500MM ABOVE THE HEAD OF A WINDOW OR HEAD OF A GLAZED DOOR & NO MORE THAN 2400MM ABOVE THE SILL.

ENERGY COMMITMENTS

- HOT WATER**
1. THE APPLICANT MUST HAVE A HOT WATER SYSTEM WITH A HIGH ENERGY RATING OF GAS INSTANTANEOUS.

LIGHTING

1. THE APPLICANT MUST HAVE A MINIMUM OF 40% OF NEW AND ALTERED LIGHT FIXTURES ARE FITTED WITH FLUORESCENT, COMPACT FLUORESCENT, OR LIGHT-EMITTING-DIODE (LED) LAMPS.:

VENTILATION

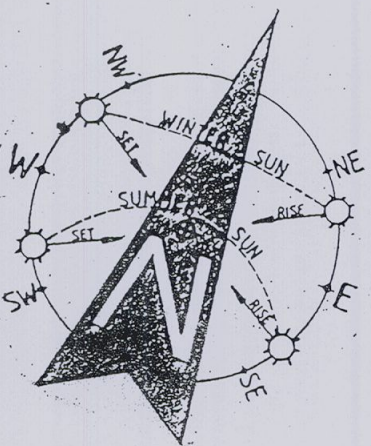
1. THE APPLICANT MUST HAVE INSTALLED THE FOLLOWING EXHAUST SYSTEM:
 - a. AT LEAST 1 BATHROOM: NO MECHANICAL VENTILATION (IE NATURAL)
 - b. KITCHEN: INDIVIDUAL FAN, NOT DUCTED; OPERATION CONTROL: MANUAL SWITCH ON/OFF
 - c. LAUNDRY: NATURAL VENTILATION ONLY.

NATURAL LIGHTING

1. THE DEVELOPMENT MUST HAVE A WINDOW IN THE KITCHEN FOR NATURAL VENTILATION.
2. THE DEVELOPMENT MUST HAVE A WINDOW IN ALL BATHROOMS AND TOILETS FOR NATURAL VENTILATION.

OTHER

1. THE APPLICANT MUST INSTALL A GAS COOKTOP AND ELECTRIC OVEN IN THE KITCHEN
2. THE APPLICANT MUST CONSTRUCT THE REFRIGERATOR SPACE IN THE RESIDENCE SO THAT IT'S WELL VENTILATED, AS DEFINED IN THE **BASIC** DEFINITIONS.
3. THE APPLICANT MUST HAVE INSTALLED A FIXED OUTDOOR CLOTHES DRYING LINE.



NOTES:

1. LIGHTING OF BATHROOM AND WC TO BE IN ACCORDANCE WITH PART 3.8.4 OF THE BUILDING CODE OF AUSTRALIA AND AS / NZS 1680.0.
2. VENTILATION OF BATHROOM AND WC TO BE IN ACCORDANCE WITH PART 3.8.3 OF THE BUILDING CODE OF AUSTRALIA AND AS / NZS 1680.2.
3. THE DOOR TO THE BATHROOM IS REQUIRED TO COMPLY WITH AND IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA AMENDMENT 3 PART 3.8.3.3 (TO EITHER OPEN OUTWARDS, SLIDE OR BE READILY REMOVABLE FROM THE OUTSIDE OF THE COMPARTMENT).

NOTES:

1. THE SULLIDER IS TO CHECK AND CONFIRM ALL NECESSARY DIMENSIONS AND LEVELS ON SITE PRIOR TO ORDERING MATERIALS AND COMMENCING CONSTRUCTION. DO NOT SCALE OFF THE DRAWING. SHOULD ANY DEVELOPMENT OR CONSTRUCTION OCCUR ON OR NEAR BOUNDARIES, THE BOUNDARIES SHOULD BE CLEARLY MARKED ON SITE BY THE REGISTERED LAND SURVEYORS.


- 1 Bulbifier to check and confirm all measurements on all fixtures to be installed. Do not seal the opening.
- 2 All dimensions that relate to wall boundaries and measurements are subject to verification of all work.
- 3 All work to be in accordance with BUILDING CODE of ALABAMA and the satisfaction of local council requirements & other authorities.
- 4 All further construction to be in accordance with the "NATIONAL PLUMBING" code.
- 5 Any plumbing installation to be applied shall be accepted between the owner and the bulbifier to the owner's approval, except for any electrical work.
- 6 All floor work & sub-floor finishes to be applied by a Structural Engineer.
- 7 All electrical power & light outlets to be determined by approved means or as directed by local council inspectors.
- 8 Allow good and regular all existing buildings, destroyed by new work. Remove existing materials where possible.

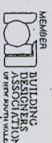
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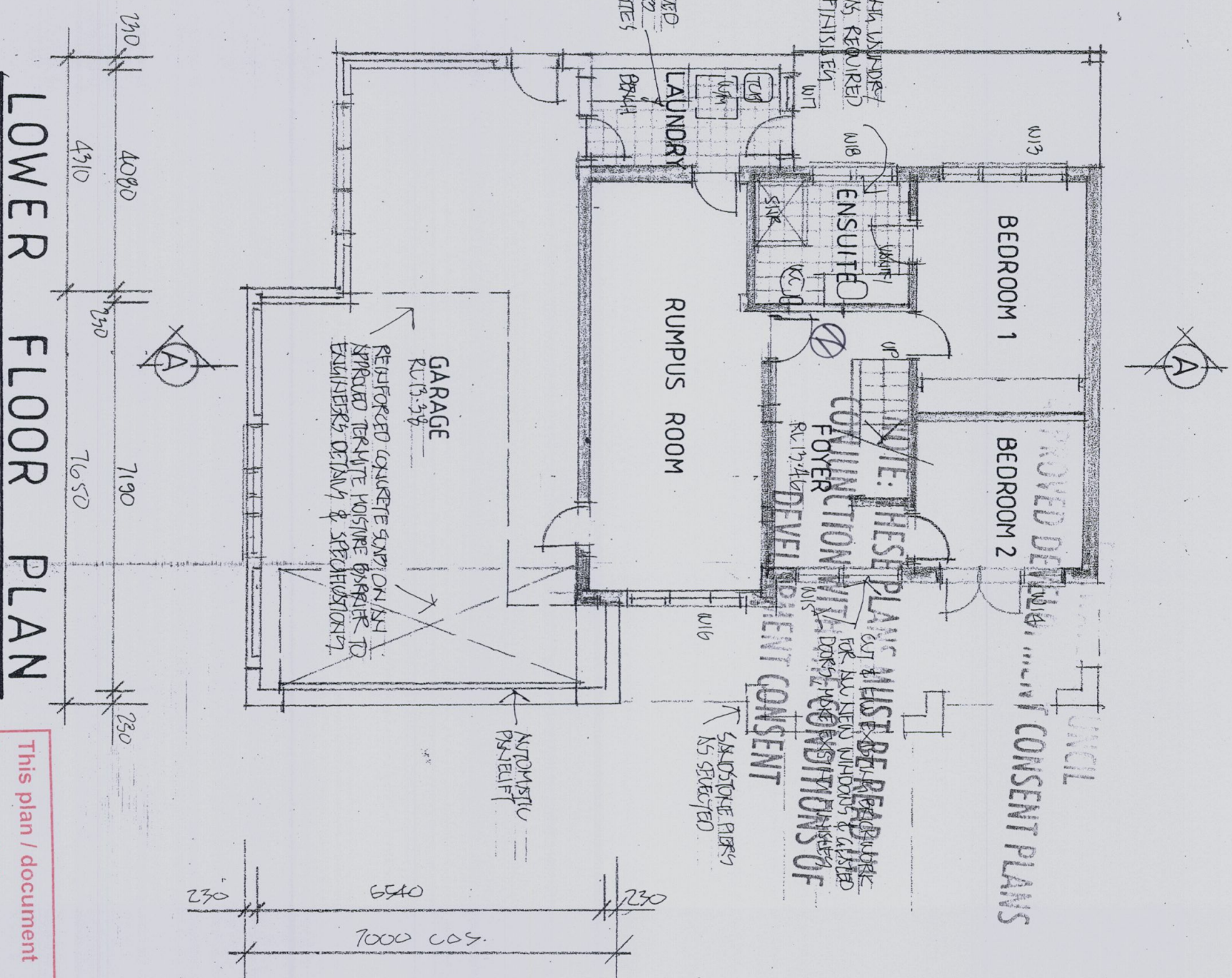
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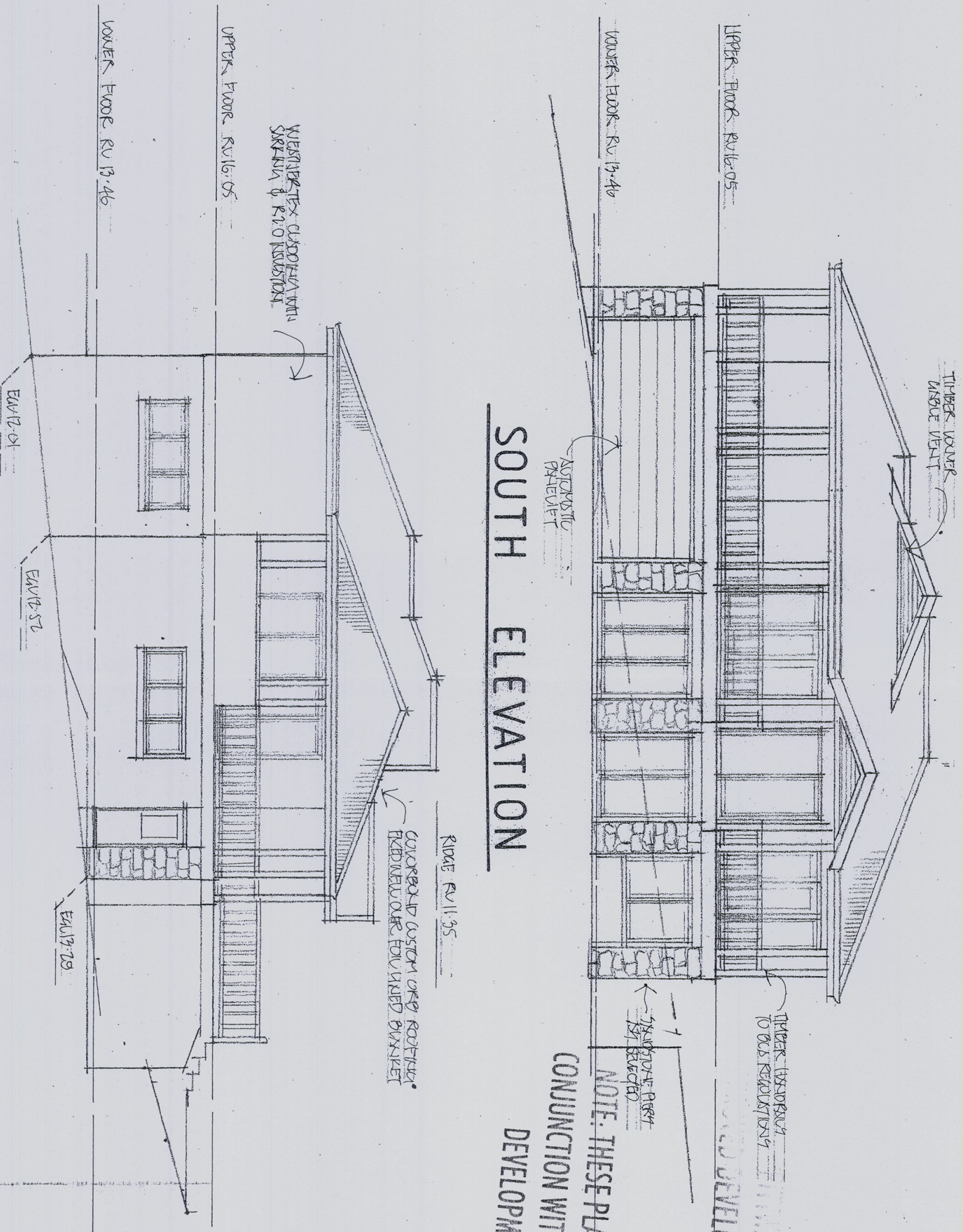


PROJECT
PROPOSED ALTERATIONS/ADDITIONS
No. 2 SUNCREST AVENUE
NEWPORT N. S. W. 2106
CLIENT
NATHAN & KATINKA HOOK

DATE	12/10/2010	SCALE	1:100
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DRAWING NO. 1323-3			
ISSUE			



SOUTH ELEVATION




- NOTES:
1. THE BUILDER IS TO CHECK AND CONFIRM ALL NECESSARY DIMENSIONS AND LEVELS ON SITE PRIOR TO ORDERING MATERIALS AND COMMENCING CONSTRUCTION. DO NOT SCALE OFF THE DRAWING.
 2. SHOULD ANY DEVELOPMENT OR CONSTRUCTION OCCUR ON OR NEAR BOUNDARIES, THE BOUNDARIES SHOULD BE CLEARLY MARKED ON SITE BY THE REGISTERED LAND SURVEYORS.

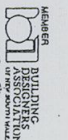
1. Builder to check and confirm all necessary dimensions on site prior to construction. Do not scale the drawing.
2. All dimensions that relate to site boundaries and easements are subject to verification by a site survey.
3. All work to be in accordance with BUILDING CODE of AUSTRALIA & to the satisfaction of local council requirements & other authorities.
4. All timber construction to be in accordance with the TIMBER Plywood code.
5. All structural steelwork to be in accordance with the STEELWORK code.
6. All structural steelwork to be in accordance with the STEELWORK code.
7. All electrical power & light outlets to be determined by owner.
8. Make good and repair all existing finishes damaged by new work. Pass existing materials where possible.

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No.	REVISION	DATE



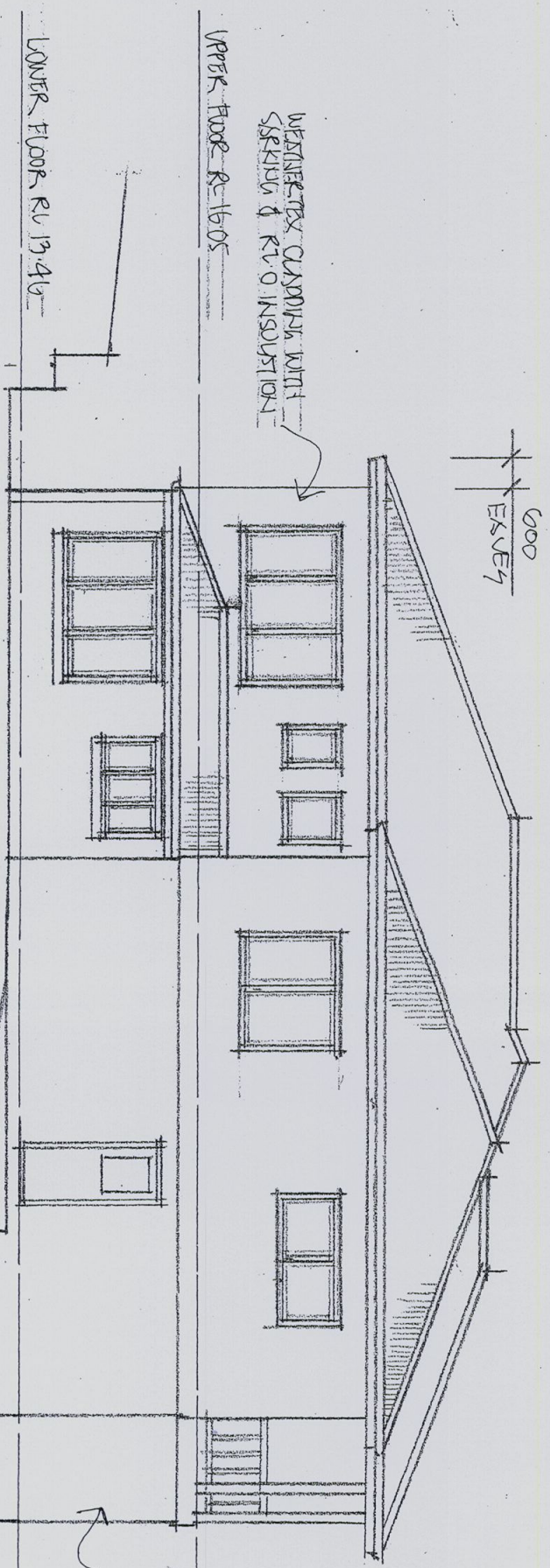
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No. 2 SUNCREST AVENUE
NEWPORT N.S.W. 2106
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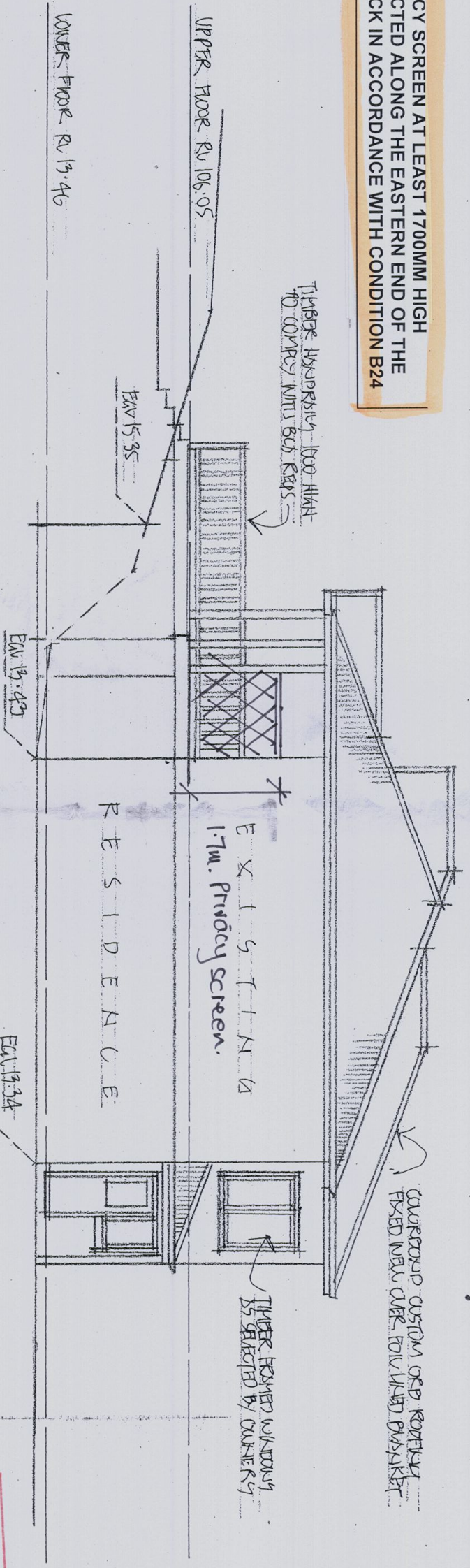
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NORTH ELEVATION

NOTE: THESE PLANS MUST BE READ IN CONJUNCTION WITH THE CONDITIONS OF DEVELOPMENT CONSENT

NOTE: A PRIVACY SCREEN AT LEAST 1700MM HIGH SHALL BE ERRECTED ALONG THE EASTERN END OF THE PROPOSED DECK IN ACCORDANCE WITH CONDITION B24




EAST ELEVATION

- NOTES:
1. THE BUILDER IS TO CHECK AND CONFIRM ALL NECESSARY DIMENSIONS AND LEVELS ON SITE PRIOR TO ORDERING MATERIALS AND COMMENCING CONSTRUCTION. DO NOT SCALE OFF THE DRAWING. SHOULD ANY DEVELOPMENT OR CONSTRUCTION OCCUR ON OR NEAR BOUNDARIES, THE BOUNDARIES SHOULD BE CLEARLY MARKED ON SITE BY THE REGISTERED LAND SURVEYORS.
 - 2.

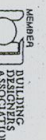
1. Builder to check and confirm all necessary dimensions on site prior to construction. Do not scale the drawing.
2. All dimensions that relate to site boundaries and easements are subject to verification by a site survey.
3. All dimensions to be in accordance with BUILDING CODE of AUSTRALIA & to the satisfaction of local council requirements & other authorities.
4. All work to be in accordance with the BUILDING CODE of AUSTRALIA & to the satisfaction of local council requirements & other authorities.
5. Any detailing in addition to what is shown on the drawing is to be supplied by a Structural Engineer.
6. All structural details or design which is to be supplied by a Structural Engineer.
7. All structural power & light outlets to be determined by owner.
8. All work good and repair all existing facilities damaged by new work. Reuse existing materials where possible.

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No.	AMENDMENT	DATE



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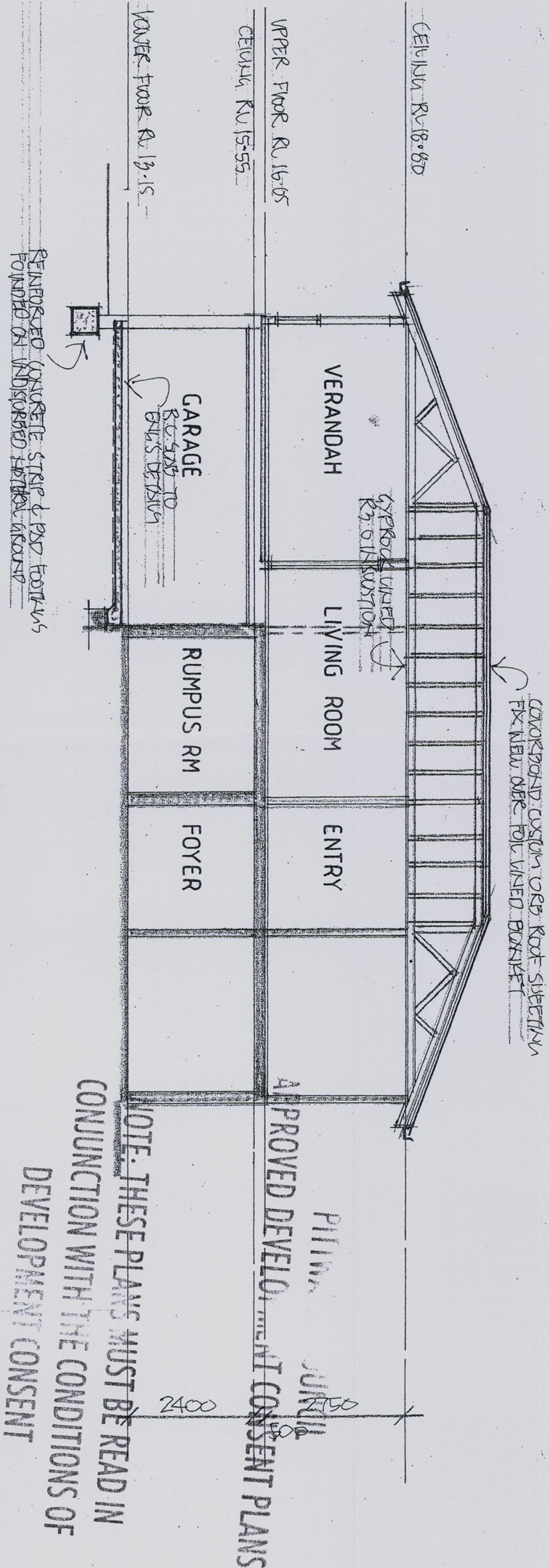


BUILDING DESIGN ASSOCIATION
MEMBER SINCE 1998

PROJECT
PROPOSED ALTERATIONS/ADDITIONS
No. 2 SUNCREST AVENUE
NEWPORT N.S.W. 2106
CLIENT
NATHAN & KATINKA HOOK

DATE 12/10/2010	SCALE 1:100
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SECTION A - A

- NOTES:
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1. Builder to check and confirm all necessary dimensions on site prior to construction. Do not scale the drawing.
2. All dimensions that relate to site boundaries and easements are subject to verification by a site survey.
3. All work to be in accordance with BUILDING CODE of AUSTRALIA & to the satisfaction of local council requirements & other authorities.
4. All timber construction to be in accordance with the TIMBER PRODUCT code.
5. All electrical wiring to be installed in accordance with the ELECTRICAL code.
6. Any structural details or design alterations to be approved by a Structural Engineer.
7. All electrical power & light outlets to be determined by owner.
8. Make good and repair all existing finishes damaged by new work. Repair existing materials where possible.

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No.	DESCRIPTION	DATE

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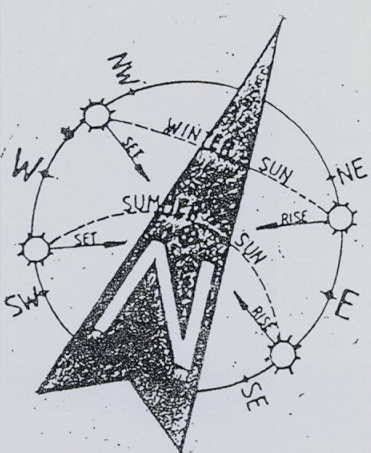
REGISTERED
BUILDING
DESIGNER
NO. 123456789
BY THE NSW GOVERNMENT

PROJECT
PROPOSED ALTERATIONS/ADDITIONS
No. 2 SUNCREST AVENUE
NEWPORT N.S.W. 2106
CLIENT
NATHAN & KATINKA HOOK

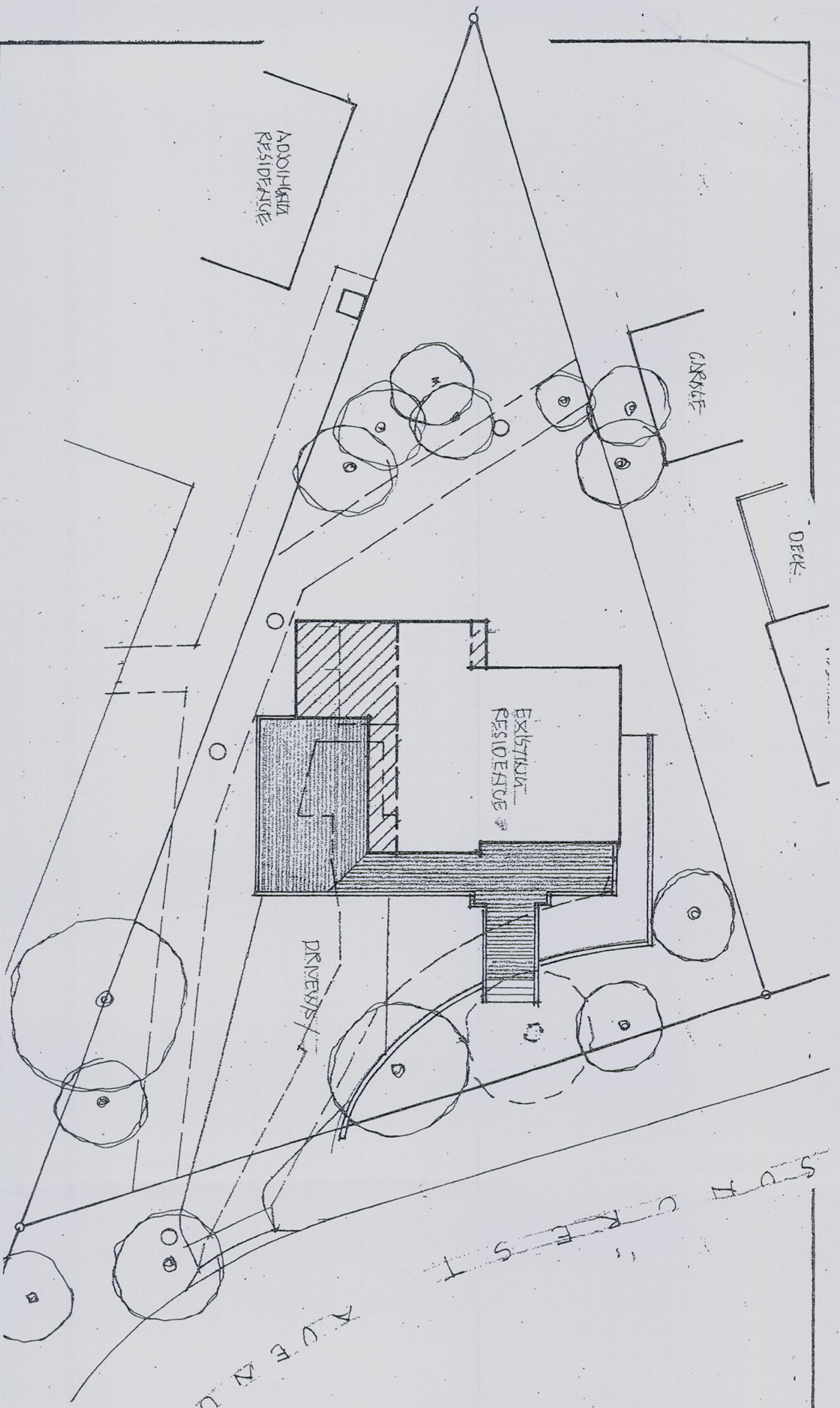
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- Building to incorporate BASIX commitments to comply with the attached BASIX Certificate No. A100725, dated 26 November 2010
- Smoke Alarms to be installed in accordance with AS 3786-1993 'Smoke alarms'
- Termite Management to comply with AS 3660 - 2000 'Termite Management - New Building Work'
- Glazing to comply with AS 1288 - 2006 'Glass in Buildings - Selection & Installation' and AS 2047 - 1999 'Windows in Buildings - Selection & Installation'
- Waterproofing of wet areas to comply with AS 3740 - 2004 'Waterproofing of Wet Areas in Residential Buildings'
- Doors to fully enclosed sanitary compartments to comply with Part 3.8.3 'Facilities' of the Building Code of Australia
- External Glazing & Cladding being of minimal reflectance (maximum of 20%)
- External Finishes being in natural, recessive, non-reflective colours and textures
- Balustrades construction to comply with Part 3.9.2.3 - 'Balustrades' of the Building Code of Australia
- Damp-proof membrane must be 'high impact', 0.2mm thick polyethylene film

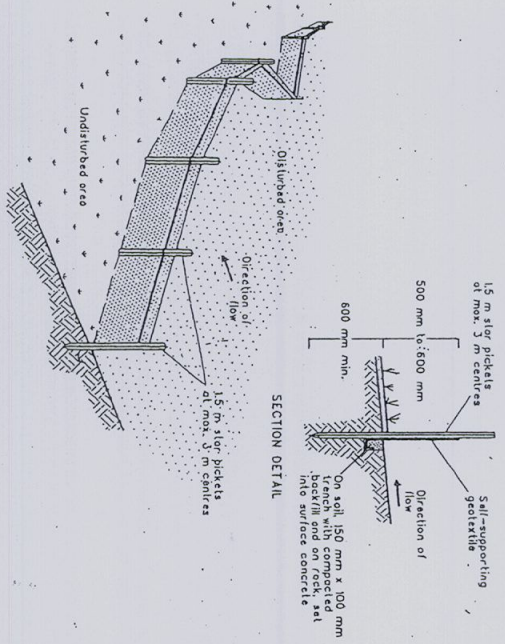


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EROSION AND SEDIMENT MANAGEMENT PLAN

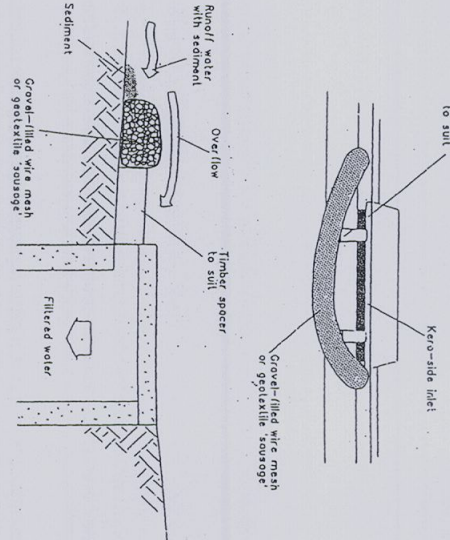
SEDIMENT FENCE



- ### CONSTRUCTION NOTES
1. CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE.
 2. DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND, 30 METRES APART.
 3. DIG A 150MM DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE.
 4. BACKFILL TRENCH OVER BASE OF FABRIC.
 5. FIX SELF-SUPPORTING GEOTEXTILE TO UPSLOPE SIDE OF POSTS WITH WIRE TIES OR AS RECOMMENDED BY GEOTEXTILE MANUFACTURER.
 6. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150MM OVERLAP.

1. Builder to check and confirm all necessary foundations on site prior to construction. Do not scale the drawings.
2. All dimensions that relate to site boundaries and easements are subject to verification by a site survey.
3. All work to be in accordance with BUILDING CODE of AUSTRALIA & to the satisfaction of local council requirements & other authorities.
4. All timber construction to be in accordance with the "TIMBER FRAMING" code.
5. Any detailing in addition to what is supplied shall be resolved between the owner and the owner's approved, except for structural details or design which is to be supplied by a Structural Engineer.
6. Any construction details or design which is to be supplied by a Structural Engineer.
7. All structural details or design which is to be supplied by a Structural Engineer.
8. Make good and repair all existing finishes damaged by new work. Remove existing materials where possible.

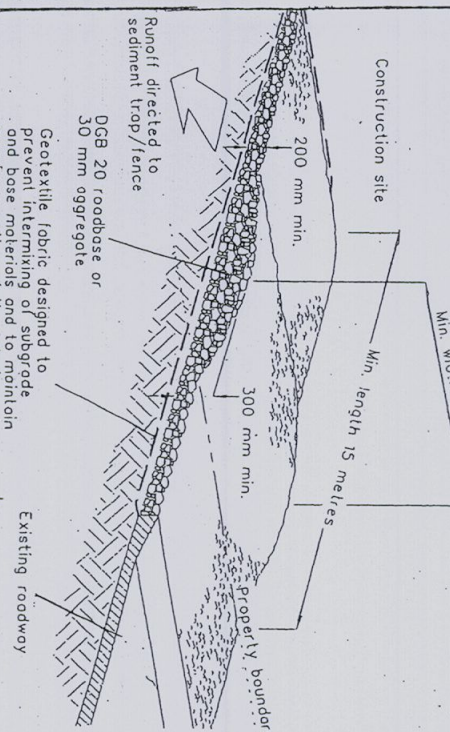
MESH AND GRAVEL INLET FILTER



- ### CONSTRUCTION NOTES
1. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT.
 2. FILL THE SLEEVE WITH 25MM TO 50MM GRAVEL.
 3. FORM AN ELIPTICAL CROSS-SECTION ABOUT 150MM HIGH X 400MM WIDE.
 4. PLACE THE FILTER AT THE OPENING OF THE KERB INLET LEAVING A 100MM GAP AT THE TOP TO ACT AS AN EMERGENCY SPILLWAY.
 5. MAINTAIN THE OPENING WITH SPACER BLOCKS.
 6. FORM A SEAL WITH THE KERBING AND PREVENT SEDIMENT BYPASSING THE FILTER.
 7. FIT TO ALL KERB INLETS AT SAG POINTS

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10. PLYMOUTH COUNTY COUNCIL, PTY. LTD.
11. BIRBA, VZ, ATLAS BEACH, WA

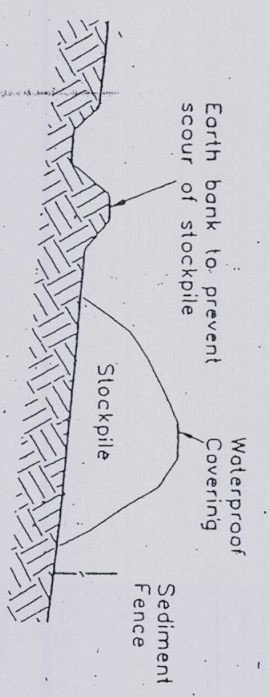
STABILISED SITE ACCESS



- ### CONSTRUCTION NOTES
1. STRIP TOPSOIL AND LEVEL SITE.
 2. COMPACT SUBGRADE.
 3. COVER AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
 4. CONSTRUCT 200MM THICK PAD OVER GEOTEXTILE USING ROADBASE OR 30MM AGGREGATE. MINIMUM LENGTH 15 METRES OR TO BUILDING ALIGNMENT. MINIMUM WIDTH 3 METRES.
 5. CONSTRUCT HUMP IMMEDIATELY WITHIN THE BOUNDARY TO DIVERT WATER TO A SEDIMENT FENCE OR OTHER SEDIMENT TRAP.

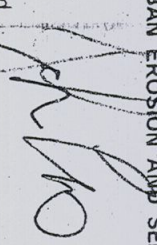
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Phone (02) 9918 9206 Fax (02) 9973 2454
Mobile 0418 976 596
BUILDING ASSOCIATION

BUILDING MATERIAL STOCKPILES DETAIL



CERTIFICATION

I JOHN EVANS MEMBER No. 365-96 OF THE BUILDING DESIGNERS ASSOCIATION OF N.S.W. INC., HEREBY CERTIFY THAT THIS DRAWING HAS BEEN DESIGNED IN WITH THE REQUIREMENTS OF THE N.S.W. DEPARTMENT OF LAND AND WATER CONSERVATION'S "URBAN EROSION AND SEIMENT CONTROL" MANUAL.

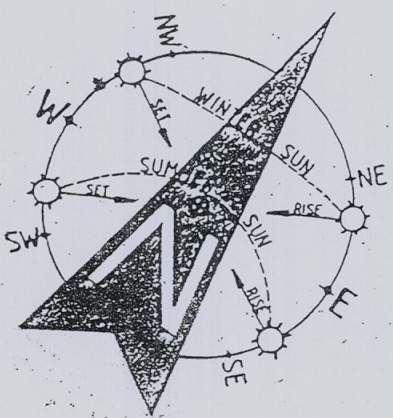
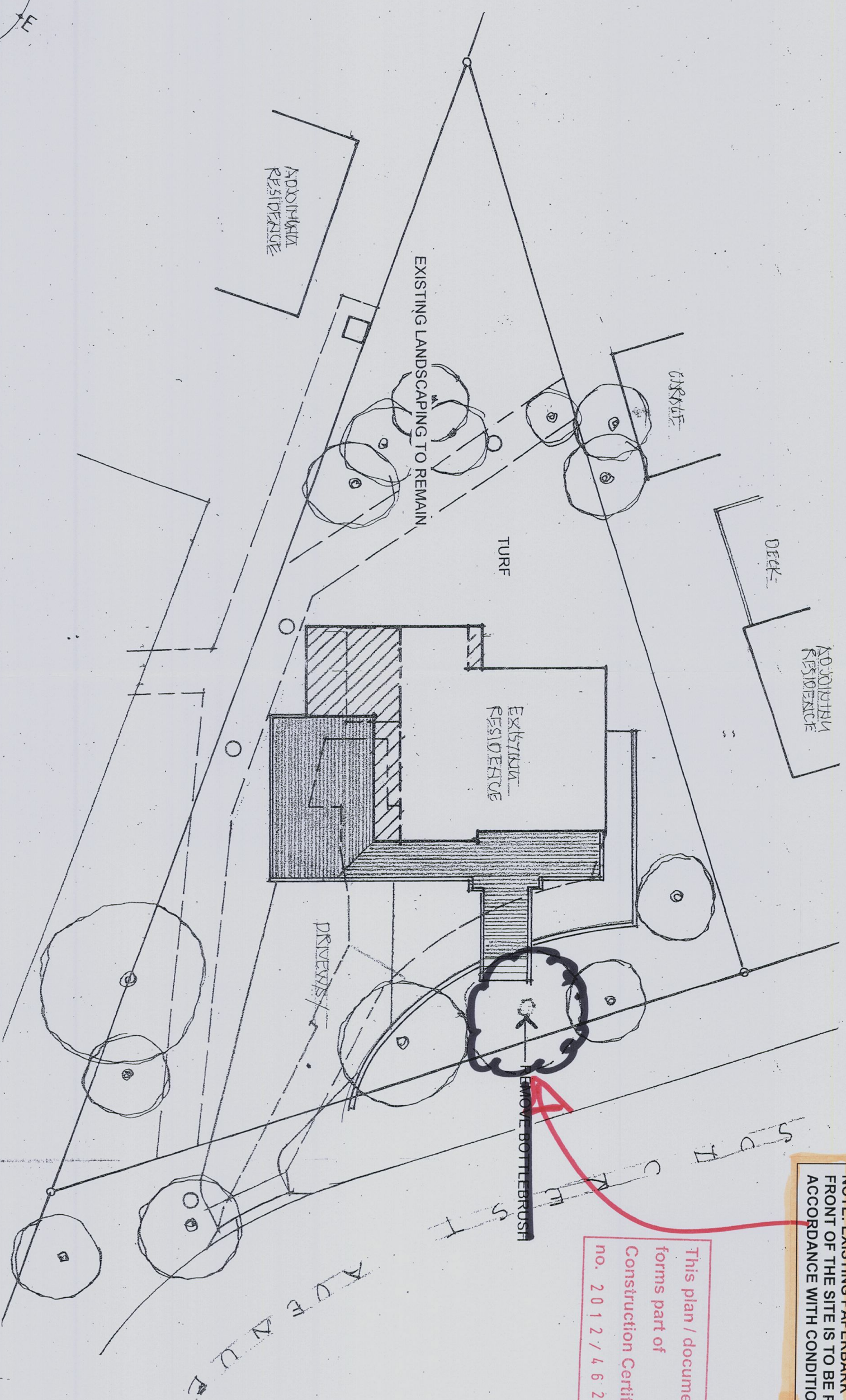
Signed  Date 12/10/10

PROJECT
PROPOSED ALTERATIONS/ADDITIONS
No. 2 SUNCREST AVENUE
NEWPORT N.S.W. 2106
CLIENT
NATHAN & KATINKA HOOK

DATE 12/10/2010
DRAWN JOE CHECKED
ISSUE
1323-8

NOTE: EXISTING PAPERBARK TREE AT THE FRONT OF THE SITE IS TO BE RETAINED IN ACCORDANCE WITH CONDITION B6

This plan / document forms part of Construction Certificate no. 2012 / 4629

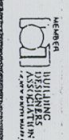


LANDSCAPE PLAN

ALL CIVIL STRUCTURAL AND HYDRAULIC WORKS ASSOCIATED WITH THIS PROJECT SHALL BE TO THE RELEVANT ENGINEERS DETAILS. FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALING. ALL DIMENSIONS & LEVELS TO BE VERIFIED BY THE CONTRACTOR ON SITE.



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BUILDING DESIGN CONSULTANTS
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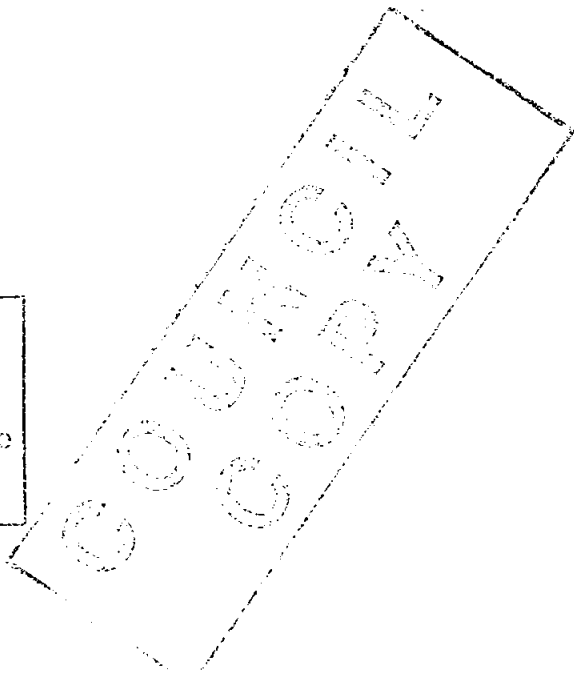
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No. 2 SUNCREST AVENUE
NEWPORT N.S.W. 2106
CLIENT
NATHAN & KATINKA HOOK

DATE 12/10/2010 SCALE 1:200
DRAWN JOE CHECKED
ISSUE
DRAWING No. 1323-10

SPECIFICATION OF BUILDING WORKS

This plan / document
forms part of
Construction Certificate
no. 2012 / 4529

SOUTHspec
revision 20



BUILDING TYPE

SINGLE DWELLING	<input type="checkbox"/>	VILLA OR TOWNHOUSE	<input type="checkbox"/>	INDUSTRIAL BUILDING	<input type="checkbox"/>
DUAL OCCUPANCY	<input type="checkbox"/>	GARAGE	<input type="checkbox"/>	OFFICE BUILDING	<input type="checkbox"/>
MEDIUM DENSITY UNITS	<input type="checkbox"/>	RETAIL BUILDING	<input type="checkbox"/>	ADDITION	<input type="checkbox"/>
FARM SHED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CONSTRUCTION

CAVITY BRICK	<input type="checkbox"/>	TIMBER FRAMED	<input type="checkbox"/>	A.A.C.BLOCK/PANEL	<input type="checkbox"/>
BRICK VENEER	<input type="checkbox"/>	STEEL FRAMED	<input type="checkbox"/>	MASONRY BLOCK	<input type="checkbox"/>
SINGLE BRICK	<input type="checkbox"/>	STEEL CLAD	<input type="checkbox"/>	CONCRETE PANEL	<input type="checkbox"/>

ADDENDUM

If any difference in requirements exists between this specification and the Building Code of Australia or relevant Standard that may apply to the construction of any building nominated in this specification, then requirements of the Building Code of Australia and/or the appropriate Standard shall take precedence over any nomination of construction in this specification.

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SPECIFICATION

FOR THE ERECTION AND COMPLETION OF BUILDING AT: LOT No. 18 DP No. 31375
ADDRESS 2 Suncrest Avenue
TOWN/AREA Newport.
MUNICIPALITY / SHIRE / CITY Pittwater. POST CODE 2106.
FOR M. N. G MRS K Hook Hereinafter called the Proprietor or Owner.

The builder must ensure that relative drawings, plans and construction comply with the prescribed construction, the Local Government Act, the Building Code of Australia and that the work and services performed by the Builder are to the satisfaction of the Proprietor and Lending Authorities.

INSPECTION NOTICE

This is to apply only if inspections are required by the Lending Authority. The building is to be inspected by the Society or Bank Representative at the following stages of construction and the Builder is to give the Lending Authority and Owner at least (2) clear working days notice that inspections are required.

- 1. When trenches for footings have been prepared or rock surfaces scabbled and in the case of reinforced concrete footings, when reinforcement and depth pegs have been placed in position just prior to placing of concrete. Footings must not be commenced until the trenches have been inspected and approved by the Society Representative.
- 2. On completion of floor, wall and roof framing with noggins in position and veneer walling, but before flooring is cut down, roof covering is laid and wall linings and sheetings are secured.
- 3. When the internal wall coverings have been secured and fixing out commenced, apron mouldings must not be fixed until flashings have been inspected and approved.
- 4. ON COMPLETION OF BUILDING. The owner is cautioned that if works have advanced beyond these stages without the requisite notices being given, inspections made and unsatisfactory conditions are discovered later, the offer of a loan or the terms and conditions of a loan may be varied by the lending authority.

REGULATIONS AND NOTICES:

The builder is to comply with the Building Code of Australia as amended and as applicable to the particular State or Territory in which the building is being constructed and the requirements of legally constituted Authorities for local Government and/or Services. The Builder is to give all notices, obtain all permits and pay all fees required by such Authorities. If any difference in requirements exists between this specification and the Building Code of Australia or relevant Standard that may apply to the construction of any building nominated by this specification then the requirements of the Building Code of Australia and/or the appropriate Standard shall take precedence over this specification for any construction. Where materials, components, design factors and construction methods comply with the Performance Requirements of the B.C.A. these may be accepted by approval authorities as an alternative as per the Deemed to Satisfy Provisions.

INSURANCE:

Insurance of the works against fire will be effected as nominated in the Building Contract. The Builder shall at his own expense adequately insure against Public Risk and arrange indemnification in respect of his liability under the Workers' Compensation Act, Work Cover and/or other regulations as applicable.

VISIT THE SITE:

Builders tendering are to visit the site and satisfy themselves to the nature and extent of the work, the facilities available and the difficulties entailed in the execution of the said works. No amount above the accepted price will be allowed because of work arising due to neglect of this precaution, or assumptions made.

LABOUR AND MATERIALS:

The Builder is to provide all materials, labour, fittings and plant required to construct and complete the work. Materials shall be of the standard specified and workmanship in each trade shall be performed by tradesmen of that particular trade and in conformity with current good building practice.

SET OUT:

The Builder shall be responsible for the accuracy and clear delineation of the site boundaries and location of the buildings there on. The Builder is to set out and maintain the works in accordance with the drawings. Figured dimensions to be taken in preference to scale.

PLANS AND SPECIFICATIONS:

Any work indicated on the plans and not in the specification or vice versa, and any item not shown on either plans or specifications but which is obviously necessary as part of proper construction and/or finish, is to be considered as so shown or specified and is to be duly done as part of the contract. Any variations to plans or specifications are to be agreed and recorded by the proprietor and the builder/contractor.

ADDITIONAL BUILDING REQUIREMENTS: All instructions for extra work or additional requirements must be in writing. Dated and signed copies of instructions shall be retained by both the owner and the builder.

PLANS ON JOB:

The builder must at all times maintain on the job a legible copy of the plans and specifications, bearing the approval of the Municipal Authority concerned or Principal Certifying Authority.

STANDARDS

Where an Australian Standard (AS) or Australian New Zealand Standard (AS/NZS) is nominated in this specification then that nomination refers to the latest revision of that Standard unless the Building Code of Australia references a different revision.

EARTHWORKS AND EXCAVATIONS: BCA part 3.1

All earthworks shall be designed and constructed in accordance with the drawings and guidelines of AS3798 . Stormwater and other surface water drainage by underground piping or surface diversions shall be in accordance with AS/NZS3500.

All siteworks shall be in accordance with the Environmental Planning and Assessment Act and Regulations for siteworks for the erection of a building, safeguarding excavations, backfilling, preventing soil movement and supporting neighbouring buildings. Drainage requirements must be determined according to the soil classifications BCA part 3.1.1 and part 3.1.2.

FOOTINGS AND PIERS: BCA part 3.2.2

Excavate for all footings, piers, etc. to dimensions and minimum depth shown on plans or otherwise specified, or to depths necessary to secure solid bottoms and even bearing throughout similar strata. Bottoms of excavations to be level and stepped where necessary. Grade, fill and ram where necessary to receive concrete floors where shown on ground level.

At completion of foundations, all excavations to be filled, well rammed to ground level and surplus soil spread as directed. All seepage and soakage water to be effectively dealt with and diverted clear of the building. Excavate for and lay agricultural drains to back of walls retaining earth and to any other sections of foundations as may be necessary and/or directed.

ROCK EXCAVATIONS:

Should rock of any type be encountered in excavation of the works the cost of its removal is to be considered as an extra to the contract and charged for at a rate per cubic metre as indicated in the schedule of rates. The Proprietor is to be notified when rock is encountered in excavations.

CONCRETE - BCA part 3.2.3

All structural concrete shall be ready mixed and in compliance with AS3600, and unless otherwise specified on Engineers drawings, shall be of N20 grade.

The concrete shall be supplied by an approved firm and delivery dockets shall be kept on the job for inspection by the proprietor if he so desires. The concrete for minor works, where strength of concrete is not critical, such as paving on solid ground, may have a minimum compressive strength of 15MPa if unreinforced and 20 MPA if reinforced. Alternatively, such concrete may be mixed on site where the aggregate proportions and water/cement ratio can be controlled so that the required compressive strengths can be obtained.

All concrete work shall comply with the AS3600. Maximum slump shall be 80mm unless otherwise specified by Engineer.

Concrete shall be carefully handled and placed to avoid segregation and shall be adequately compacted. Reinforcing mesh fabric to AS/NZS4671 and all reinforcing bars mild steel grade unless otherwise specified.

FOOTINGS: BCA parts 3.2.3, 3.2.4 and 3.2.5

Where sites have soils or foundations of reactive nature or problem sites footings shall be approved by a practising structural engineer and in the case of known highly swelling soils or other unstable soils special precautions may have to be taken in the design and construction of concrete footings. In the case of concrete suspended floors to first floor it will be necessary for size of footings to be specified by a practising structural engineer. Footing sizes to be as per AS2870 part 1.

TERMITE PROTECTION: BCA part 3.1.3

Where the building is being erected in a prescribed termite area and protection is required by regulation of local government or state authority then protection against subterranean termites shall be installed in accordance with AS 3660. Details of method of protection to be used shall be submitted where required, prior to commencement of building works. Written certification, signed by the installer, that the method used and the manufacturers specification complies with the Australian Standard shall be provided to the relevant authority and owner where required. A durable notice must be permanently fixed in a prominent location in the building prior to its occupation indicating: 1. The method and date of installation of the system and the need to inspect and maintain the system on a regular basis. 2. Where a chemical barrier is used, the life expectancy as listed on the National Registration Authority label and recommended date of renewal. Note that AS3660 and BCA lists the minimum acceptable level of protection only. Owners and/or builders may specify and install additional protection if desired

PATHS: (see AS 3727 for guide to residential pavement construction)

Provide paths as indicated on plans. Concrete to be as previously specified and surfaced with wooden float. Excavate for and lay paths to even grades, true lines and curves. Car tracks to be a minimum of 100mm thick and paths a minimum of 75mm. Provide expansion joints in paths at a maximum spacing of 1200mm with bitumen impregnated felt joining strips the full thickness of concrete with tooled V-joints above same.

CROSS SECTION DIMENSIONS OF REINFORCED CONCRETE FOOTINGS: for buildings with timber framed floors. for sites classified a or s according to AS2870.

CONSTRUCTION OF WALL	Normal thickness of wall to be supported (not more than)	Size of Concrete (width x depth)	
		For stable soil foundations Class A	Other foundations not subject to significant movement Class S
Brick, single storey with wall height not exceeding 4200mm excluding any gable.	mm 270	mm 400x300	mm 400x400
Brick, two storey with external wall height not exceeding 7200mm excluding any gable internal wall height not exceeding 7200mm. <u>** use 11TM reinforcement Top and Bottom</u>	110 270	300x300 400x400	400x400** 400x500**
Brick veneer, single storey with wall height not exceeding 4200mm excluding any gable.	110	300x300	300x400
Brick veneer, two storey with external wall height not exceeding 7200mm excluding any gable.	110	300x300	300x400
Timber frame, single storey – foundation walling measured from the top of the strip footing.			
Up to 1500mm height	110	300x300	300x400
Exceeding 1500mm and up to 3000mm height	110	300x400	300x400

REINFORCEMENT FOR STRIP FOOTINGS	Width of Strip Footing	Minimum number of main wires per layer using 8TM or 11TM fabric	Minimum number of 10mm dia. bars per layer	Minimum number of 12mm dia. bars per layer
	300 400	3 4	3 4-	3 4-

Where wall thickness exceeds as specified above, increase footing width to maintain the offset and provide additional bar or bars so that bar centres do not exceed 200mm, or an additional width of trench mesh, maintaining in all cases the required concrete cover.

CONCRETE FLOORS: BCA parts 3.2.5

Provide concrete floors where indicated on plans. Where not specifically detailed, floors are to be a minimum of 100mm thick, reinforced with No. F72 hard drawn reinforcing fabric set 32mm below top of concrete. Floor slabs to be full thickness and free from grooves and ridges. Finish surface in one operation as required for tiling or otherwise to fine finish with float or steel trowel and sponge. Thickness of floors shall be maintained under tiling recesses in all cases.

Note that in Climate Zones 6, 7 and 8 the edges and underneath some concrete slab construction may require thermal insulation.

INTEGRAL FLOOR SLABS AND SLAB ON GROUND: BCA part 3.2.5

Grade whole area occupied by floor to a minimum depth as required to remove top soil and grass roots etc. Determine level of top of floor to habitable rooms, a minimum of 150mm above highest point of adjacent proposed external ground level (adjust for fill or general excavation as required) or as otherwise required by Local Council. The external finished ground surface must be graded to drain water away from the building at a minimum slope away of 50mm over the first 1m as per BCA Part3.1.2.3

Excavate for perimeter and other main footings to minimum depths as shown on Engineers drawings or to depths necessary to obtain solid bottoms and even bearing throughout a similar strata. Allow for sufficient recess for brickwork if carried under main floorings so as to reduce the amount of concrete necessary, provided that the fill is retained from displacement under the footings (by a temporary earth bank or similar) and provided also that a minimum of 100mm depth of the same hardcore is provided under all footings in such case, roadbase or ungraded bluemetall is recommended as hardcore, coalwash is NOT to be used. Reinforce to Engineers detail and pour in one continuous operation in concrete Grade 20 unless otherwise nominated. Residential slabs and footings must be constructed in accordance with AS2870 as amended.

SUSPENDED REINFORCED CONCRETE SLABS:

All concrete slabs to separate areas within or adjoining a building generally of timber floor construction shall be suspended. Temporary formwork must be removed prior to final inspection. Permanent metal formwork approved by the lending authority may be used with slab sizes and reinforcement according to manufacturers recommendation.

Suspended floor slabs to have minimum of 100mm bearing on at least two opposite sides and spans are not to exceed 2100mm except where specifically detailed. Solid fill forming may be used under concrete floors (eg. laundry, garage) adjoining the building providing that the level of the top of the slab is not less than 50mm below antcap and/or dampcourse level of the main building. For spans exceeding 2100mm, slabs supporting walls, cantilever slab floors or where beams and columns are used to support the slab, a practising structural engineers details shall be submitted with the drawings and specifications.

PRE-STRESSED BEAM FLOORING:

Pre-stressed beams for areas to be constructed by this method shall be delivered to site and stacked for storage on timber packers to avoid damage and where stacked one above the other the timber packers shall be positioned in vertical lines.

Beams shall be purpose made by the manufacturer for this particular project, designed in accordance with AS3600. Beams shall be individually marked for their respective location on the job and positioned in the work to comply with manufacturers key drawing. Cutting or drilling into beams or modification in any way shall be done only with the express authority of the manufacturer or their site representative.

Spacing of beams and fibre cement infill panel placement shall be strictly to manufacturers detail. Topping slab concrete shall have a 28 day strength of not less than 20 MPA and thickness shall not exceed 50mm unless shown on the drawings. Reinforce with nominal F52 Mesh U.N.O.

Topping slabs shall be continuously cured for 7 days to prevent non structural cracking.

BRICK AND BLOCKWORK - (construction of masonry building shall be as per AS3700) BCA part 3.3

CLAY BRICKS:

To be sound, hard, of well burnt clay and shale and comply with specifications AS1225 'Burnt Clay and Shale Building Bricks'.

SAND LIME BRICKS: To Comply with AS1654 'Calcium Silicate Bricks' and have a transverse strength no less than as per Specification AS1640 'Clay Bricks'.

CONCRETE BLOCKS OR BRICKS: To comply with AS4455 Masonry Building Blocks/Pavers

SAND: To be clean, sharp and free from all impurities.

CEMENT MORTAR: To be one part fresh cement to 3 parts sand.

LIME MORTAR: BCA part 3.3.1.6

To be one part lime to 3 parts sand. Lime to be well slaked before use.

COMPO MORTAR: To be one part cement, one part lime and 6 parts sand. All bricks to be well wetted before use. This not to apply to textured bricks. Footing courses to be grouted solid with cement mortar. All brickwork to be properly bonded. laid on full bed and all perpends filled. All piers are to be built solid and each course grouted as work proceeds. Carry up all work true and plumb to even gauge and in level courses the full height and thickness required. The brickwork faces above damp course level to be finished with neatly ironed or raked joints. Beds and joints to be kept to a reasonable thickness. Finish all other exposed brickwork faces with neat struck joints.

BUILD THE FOLLOWING IN CEMENT MORTAR; BCA part 3.3.1 (see AS3700)

All brickwork to underside of floor bearers level. All 110mm thick brickwork. All copings, steps, brick balustrade walls, sills, piers, wing walls, retaining walls, Brick Fences on alignment and/or brickwork under timber fencing also concrete blocks or bricks. **Build compo mortar:** All other Brickwork, including concrete masonry. Mortar may be mixed by proportions as per BCA table 3.3.1.2

SLEEPER PIERS: BCA table 3.2.5.

To be minimum of 230 x 350 (including wall thickness) spaced at not more than 1.8m centres up to 2700 high to support floor bearers and at similar centres to stiffen walls supporting concrete slabs. All stack bonded piers to be anchored to walls with specified wall ties every fourth course. Areas with design wind speeds greater than N2 must be vertically reinforced with at least 1 off Y12 bar, tied to the footing.

ENGAGED PIERS: BCA figure 3.3.1.2

To be minimum of 230 x 350 (including wall thickness) spaced at not more than 1.8m centres up to 2700 high to support floor bearers and at similar centres to stiffen walls supporting concrete slabs. All stack bonded piers to be anchored to walls with specified wall ties every fourth course. Areas with design wind speeds greater than N2 must be vertically reinforced with at least 1 off Y12 bar, tied to the footing.

VENEER WALLS: BCA 3.3

To be 110mm Brickwork built in Compo Mortar on foundation walls as previously specified. Internal faces to be 38mm from timber frames. Build in 3mm galvanised wall ties opposite each alternate stud, four courses above level of bottom plate, then every fourth course and spaced not more than 460mm horizontally and 610mm vertically or 610mm horizontally and 460mm vertically. Ties to be left open for attachment to studs. A cavity space of between 25mm and 50mm must be maintained throughout. Where thermal insulation is required to comply with Energy Efficiency requirements, clear cavity spaces must be maintained. Cavities and weep holes to be clean and clear at damp course level. All mortar droppings to be caught on paper or other material and removed before internal linings are fixed. Mortar joints on inside face walls to be flush with brickwork.

SPECIAL WALLS: (if shown on plans)

Walling not of timber. Veneer on-timber or masonry to be constructed as per Structural Engineers Detail and Certificate.

SINGLE LEAF MASONRY: (Garage Walls etc.)

Footings as per BCA part 3.2.5, engaged piers and reinforcing to be as per part 3.3.1.

ACCESS:

Adequate access in the external foundation wall must be provided with a weatherproof lockable door and crawl access is to be provided to all under floor areas.

VENTILATION: BCA part 3.4.1

Sub-floor areas shall be ventilated by means of evenly distributed openings with an unobstructed area of 7300mm² per lineal metre of external wall. Where particle board flooring is used the unobstructed area shall be increased to 7500mm² per lineal metre and evenly spaced. Ventilation of internal walls shall be a minimum of 22000mm²/m run of wall. Vents to be immediately below bearers and similarly provide vents under verandah floors and suspended floor slabs. Sufficient cross ventilation to be provided through all walls below floors. No section of the under-floor area should be so constructed that it will hold pockets of still air. Appropriate special provision to be made where a gas bath heater is installed. Ventilation may be varied by Local Council

BRICK REINFORCEMENT:

In full brick cavity walls at two courses above level of the highest opening built into each 110mm thickness one continuous strand of 64 wide galvanised metal reinforcement lapped 100mm at joints and full width of layer at intersections.

ANT CAPS:

To all brickwork and piers, at the level of underside of floorbearers, ant capping of 0.5mm gauge galvanised steel or other approved metal is to be set, projecting 38mm beyond the internal faces of all brickwork and turned down at a 45 degree angle, lapped 13mm and soldered or crimped at all joints and corners so as to provide a continuous and effective barrier against termites throughout the length of the material. Whole of house protection against subterranean termite attack shall be installed in accordance with AS 3660.

TIES: BCA PART 3.3.3

Wall ties complying with AS/NZS2699 shall be used for all tie requirements. Corrosion protection and installation of wall ties is to comply with AS3700.

STEPS:

If shown on plan in bricks to match other exposed brickwork. To be built in solid work or where side walls are provided in consolidated filling. Treads are to be brick on edge, or pre cast concrete units with a maximum of 355mm going and a maximum of 190mm and minimum of 115mm rises.

LINTELS: BCA PART 3.3.3.4

Galvanised lintels (of steel not less than grade 300MPa as per AS/NZS 4100) to comply with spans as shown in BCA figure 3.3.3.5 are to have :-

- (i) long legs vertical (ii) each angle or flat to carry a maximum 110mm wall thickness (iii) minimum bearing lengths shall be :- (a) clear spans up to 1 metre – 100mm min. (b) clear spans over 1 metre- 150mm min. (iv) there must be not less than 3 courses of brickwork over openings and (v) all loads must be uniformly distributed.

Note that corrosion protection for lintels and built in structural members must comply with BCA table 3.3.3.2

FIREPLACE CHIMNEY and FLUES: BCA part 3.2.5.5. and 3.7.3

Reinforced concrete footings 300mm wider all round than brick construction to be provided. Build 110mm brick wall and/or corbel courses to support hearth. Non combustible material to be used for upper surface of hearth with a minimum thickness of 155mm and shall extend not less than 300mm beyond the front of the fireplace opening and not less than 150mm beyond each side of the opening. Local council may vary this requirement. Provide fireplace and chimney in position as shown and to the dimensions on plan. Mild steel bars or angles of suitable sizes and with a 110mm bearing at each end to support work over openings. Up to the level of 300mm above the underside of the arch or lintel, the back and sides of the fireplace to be constructed in two separate sections of solid masonry minimum 190mm thick not including cavity. Concrete masonry not permitted in construction of inner section, balance of walling to be minimum of 90mm thick. Flue to be rendered minimum 12mm thick. Mix; 1 cement, 2 lime, 10 sand or L.C. approved material. Chimney stack is to be not less than the height of the main roof ridge and is to be built in compo mortar. The flue is to be 250 x 250mm or one tenth of the area of the fireplace opening, whichever is the greater, gathered over to break daylight and pargetted to the full height. An 0.6mm galvanised steel tray, in one piece, holed for flue is to be set at level of one course above roof covering on the high side of the roof. The internal edges are to be shaped to form a quadrant gutter 25mm wide, sweated at corners. The tray is to project a minimum of 25mm beyond the external faces of brickwork turned up and/or down as required. Where the tray is turned up, a clearance of at least 6mm is to be maintained between the brickwork and the tray. Provide weep holes by leaving open vertical joints in brickwork above tray. Rake joints in brickwork ready to receive flashing to be provided by Plumber. A loose brick must be left on the back of the chimney stack. This brick must not be set until after the tray has been cleared of all mortar droppings.

HEATING APPLIANCES: BCA part 3.3.4

Heating appliances installed in brick or blockwork surrounds shall be in conformance with AS 2918 as applicable

DAMPCOURSE AND WEATHERPROOFING OF MASONRY : BCA part 3.3.4

Provide a continuous run of L.C. Approved dampcourse material to full width of wall thickness on all brickwork at level not higher than bottom of floor bearers and engaged piers. Dampcourse material is to be run in long lengths, lapped minimum 100mm at joints and full width at all intersections. To wall surrounding concrete and/or solid floors an additional run of dampcourse is to be laid, one full course above floor level and stepped down to meet lower dampcourse where other walls about walls of bathroom, shower recess or laundry. Damp proof courses and flashings shall be installed to give performance as specified in AS/NZS 2904.

VERMIN PROOFING:

13mm mesh galvanised bird wire to be built into brickwork and taken across cavity and secured to bottom plate.

FLASHING: BCA part 3.3.4

L.C. approved dampcourse material to be built in under all window sills 25mm at back of wood sill and 50mm at each end of same. Flashing to be bent down across cavity and built 25mm into veneer wall. L.C. approved dampcourse material to be built in over all exposed window and external door openings.

WEEP HOLES:

Perpend joints are to be left open in exterior brick walls spaced approx. 600mm in course immediately over flashings of all exposed openings and to brick retaining walls, fender walls etc. as required. See requirements of AS3959-2009 for protection of weep holes in bush fire areas.

RETAINING WALLS:

Retaining walls not specifically detailed, and foundation walling required to retain earth, are to be a minimum of 230mm thick, up to a height of 750mm of retained earth. Cavity walls used to retain earth are to have the leaf adjacent to the retained earth a minimum of 230mm thick, to a maximum of 900mm of retained earth height. All to be properly bonded (see 'Bonded Walls') and provide with a properly constructed agricultural drain to the earth side of retaining wall. For walls in excess of the above heights of retained earth, an Engineers detail will be required.

BONDED WALL:

Solid brick walls more than one brick width which are used to retain earth or are otherwise noted as 'Bonded Walls', shall be bonded throughout the thickness of the wall by either header bricks or equivalent tying. Where header bricks are used, every sixth course shall be a header course or there shall be at least one header or equivalent tie to every 0.13sq metres (every third course at 480mm centres). Walls 350mm or more in thickness shall have overlapping headers or ties to provide a continuous tie through the wall.

CAVITY WALLS:

Walls indicated as cavity walls to be constructed with two leaves 110mm thick spaced nominally at 60mm apart. Where thermal insulation is required to comply with Energy Efficiency requirements clear cavity spaces must be maintained. Connect the two leaves with wall ties as per AS2699 set nominally 600mm apart in every fifth course.. Keep ties clean of mortar droppings and cavity clear as work proceeds.

STRAPS: BCA part 3.3.3 b

To full brick cavity walls, secure door and window frames with 1.6mm galvanised iron straps set in brickwork. Straps to be 25mm wide and at least 300mm long, where practicable and spaced at a maximum of five courses apart. Set 25mm x 1.6mm galvanised iron straps 1800 apart and 1200mm down cavity with ends turned 75mm into brickwork to secure wall top plates.

COMPLETION:

Clean all cavities. Wait upon and make good after other trades. Replace all damaged and defective bricks. Clean all exposed brickwork with diluted spirits of salts, or as otherwise recommended by brick manufacturers, wash down with clean water and leave free from cement and mortar stains.

CONCRETE BRICK BCA part 3.3. Mortar For normal conditions to consist of:

Above Dampcourse:	1 part cement 2 parts lime or lime putty 9 parts clean sand	Below Dampcourse:	1 part cement 1 part lime or lime putty 6 parts clean sand
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Mortar mixes must comply with A.S. 3700 and BCA part 3.3.1.6

The substitution of other plasticisers for lime is not recommended. Under no circumstances should the proportion of cement be increased.

JOINTS: BCA part 3.3.1.7 Finish all external brickwork and internal feature walls with raked joints. Finish all other brickwork with neat struck joints.

JOINT REINFORCEMENT AND ARTICULATION JOINTS: BCA part 3.3.1.8 in addition to reinforcement over openings as later specified provide joint reinforcement in bed joints at vertical spacings not exceeding 600mm. Control joints, providing a continuous vertical separation through the entire thickness of the wall, are to be provided where indicated on plans or where walls exceed 9m in length, as close as practical building will permit. Reinforcement not to extend across control joints.

AUTOCLAVED AERATED CONCRETE BLOCKS:

Lightweight blockwork shall be Autoclaved Aerated Concrete blocks consisting of sand, cement and lime and shall be installed to areas as indicated on drawings. Site provisions for storage of materials and for the mixing of adhesive shall be as recommended by the manufacturer.

WORKMANSHIP:

Fixings, fastenings, anchors, lugs and the like shall be of a type approved by the manufacturer and shall transmit the loads and stresses imposed and ensure the rigidity of the assembly. Block laying shall be in accordance with the manufacturers current published specifications.

TOLERANCES:

Maximum planar misalignment shall be 2mm along butt joints. The thickness and width of walls shall not vary by more than 5mm from design sizes. Deviation from plumb, level or dimensional angle must not exceed 5mm per 3.5m of length of member or 6mm in total run in any line.

INSTALLATIONS:

All lightweight blockwork shall be installed using thin bed adhesive mortar to all horizontals and perpend. The first course must be made true and level using a normal thick bed mortar with thin bed adhesive to fully seal the perpend. All thin bed adhesive shall be applied using a recommended notched trowel to obtain an even distribution of adhesive to achieve joint thickness of 2-3mm. All lightweight blockwork shall be laid in a format that the vertical joint of the lower course must be staggered at least 100mm relative to the vertical joint of the overlying course. A slip/joint bond breaker must be installed between the first course and the foundations or slab on all internal and external walls to allow for differential movement between the blocks and the supporting structure. Build in as necessary all flashings, reinforcements, arch bars, lintels, frames, straps, bolts, lugs, wall ties, metalwork, precast units, sills, partitions, joists and the like. Carefully set out and leave openings for other trades to eliminate cutting.

COMPLETION:

On completion clean out all blocks, mortar, droppings, debris etc. and remove all scaffolding, make good all put-log holes and other blemishes and leave all work in perfect condition and protect until handover.

CONCRETE BLOCK and REINFORCED MASONRY: AS 3700 - BCA part 3.3.2

All masonry units shall comply with AS1500 'Hollow Load Bearing Concrete Units'. Masonry shall be stacked on planks off the ground and in wet weather shall be covered with tarpaulins or otherwise kept dry. At the end of each days work the top of the wall shall be covered with tar paper, polyethylene sheets or by other means protected from becoming excessively wet. Masonry units shall not be dampened prior to laying, and shall be laid in dry state.

MORTAR: BCA PARTS 3.3.1.6

Mortar shall comply with AS 3700 except that mortar may be mixed in proportions as set out in BCA table 3.3.1.2. Plasticisers may be used when approved and where tests show the mortar with plasticisers meets the requirements of these specifications.

CONSTRUCTION BEDDING:

All face and end joints shall be fully filled with mortar and joints shall be squeezed tight. Slushing of mortar into joints shall not be permitted. The first course of blocks shall be laid in a full bed of mortar.

JOINTS BCA part 3.3.1.7:

Joints on all exposed surfaces shall be as specified. The joint shall be formed by striking the mortar flush and after it has partially set, tooling with the proper shaped tool to adequately compact the surface. The tool shall be of sufficient length to form a straight line free from waves. Internal joints shall be ironed. Where flush joints are left exposed, they shall be first compacted, then repointed and excess mortar removed. Joints shall be 10mm thick unless otherwise specified or directed.

ARTICULATION JOINTS:

Shall be located where shown and shall form a continuous vertical break from top to bottom of wall or from bond beam. Provision shall be made for adequate lateral stability. Joint shall be filled with mortar, raked back 16mm and pointed with a non-hardening plastic filler. No reinforcing shall be carried across control joint. Articulated joints over garage doors are prohibited unless brickwork is reinforced or lateral support is provided.

JOINT REINFORCEMENT:

Reinforce every 600mm in height and in the two courses immediately above and below window openings. Lap mesh at least 150mm at all joints and intersections except at articulation and expansion joints where a slip joint may be required.

BRACING DURING CONSTRUCTION:

Masonry walls constructed in locations where they may be exposed to high winds during erection shall not be built higher than ten times their thickness unless adequately braced, or unless provision is made for prompt installation of permanent bracing such as intermediate floor or roof structure. Back filling shall not be placed against foundation walls or retaining walls before mortar or grouting has sufficiently hardened, or before wall has been permanently braced to withstand horizontal pressure.

WEATHERPROOFING: BCA part 3.3.4

All concrete masonry walls exposed to the weather or below ground level shall be adequately water proofed, using an approved paint or other coating and applied in accordance with the directions of the manufacturer.

CLEANING:

During the progress of the work every effort shall be made to keep walls that are exposed clean. Mortar smears shall be allowed to dry for a short period and then be removed by trowel or suitable brush or both. Care shall be taken to avoid damage to the mortar joint when brushing. Mortar burrs shall be promptly removed. At the conclusion of the work, walls shall be cleaned, all scaffolding and debris removed and the wall left in a good clean condition.

BUSHFIRE PRONE AREAS-BCA 3.7.4

Site assessment and preparation, construction of and maintenance of Class 1 buildings and decks and Class 10a buildings in a Bushfire Prone Area are required to comply with the provisions of AS3959-2009 as applicable and BCA 3.7.4.

NSW VARIATIONS:

for Bushfire Prone Areas exclude Section 2 of that standard which is replaced by 'Planning for Bushfire Protection, appendix 3-Site Assessment for Bushfire Attack'.

OR Consultation with NSW Rural Fire Service under Section 79BA of the Environmental Planning and Assessment Act 1979

OR as modified by Development Consent Issued under Section 100B of the Rural Fire Act 1997.

Building applications in NSW require 'Statement of Environmental Effects (SEE)' and a 'Bushfire Assessment Report' to be submitted with any DA (Development Application) where Class 1 or 10 building construction is proposed in Bush Fire Prone Areas. Details of areas are available from Council 'Bushfire Prone Land Maps' ('Single dwelling Application Kits' to aid in submitting a Bushfire Assessment Report are available at www.rfs.nsw.gov.au) The current 'Planning for Bushfire Protection. Appendix 3 -Site Assessment for Bushfire Attack' is April 2010 edition.

VICTORIAN VARIATIONS:
under Victorian Planning Provisions, applicants requiring to construct a Class 1a building on Bushfire prone land are required to implement standard conditions as per the Country Fire Authority (CFA) publication 'Building in a Wildfire Management Overlay Applicants Kit 2007'. Other standard conditions may also apply where building work is to be constructed on a site in the same location on land where a Class 1a building was damaged or destroyed by bushfire that occurred after 1 January 2009
OR the allotment is in a WMD under the local planning scheme.

Standard conditions are:

- a static water tank is to be installed (not required if an alternative water supply either swimming pool, lake or a dam containing 10,000 litres is located within 60 metres of the proposed Class 1a building, and a fire brigade vehicle can get within 4 metres of the water supply).
- Access for emergency vehicles is to be supplied.
- The Bushfire Attack level (BAL) shall be maintained to that nominated in the application for the building permit.

The standard condition details are to be confirmed with schedules 1, 2 or 3 as nominated by the Relevant Building Surveyor (RBS).

TASMANIAN VARIATIONS:
BCA clauses 3.7.4.0 is amended by the addition of clauses BCA Tas 3.7.4.1.
Vehicle access to a class 1 building and the fire fighting water supply point must be provided by an access road that complies with requirements for a Modified 4C Access Road as listed in those clauses.
BCA Tas 3.7.4.2. A water supply to all the exterior elements of a Class 1 building in a designated bushfire prone area must be within 120m of a fire hydrant with a minimum flow rate of 600L per minute at a minimum pressure of 250 kPa
OR a water supply available at all times of a least 10,000L for each separate building. This supply can be a tank, swimming pool, lake or dam.

NOTE: Normal Australian Standards specify requirements for construction and if AS3959-2009 does not specify construction of a particular element for bushfire protection then the normal AS (Australian Standard) will apply for construction of those elements.
Where a building is to be constructed more than 100 metres away from a bushfire hazard the bushfire construction requirements of AS3959-2009 do not normally apply. Clarification of the site requirements should be obtained from the local authority.

BUSHFIRE ATTACK LEVEL (BAL): Where a building is to be constructed in a Bushfire Prone Area, the BAL index (eg BAL-19, BAL-29 etc) shall be determined for the site. If the building has different BAL hazard requirements for different facades, then the highest BAL construction requirements will be used to determine the appropriate construction. Other facade requirements may be reduced by one level of construction unless subject to the same bushfire attack level.

ENERGY EFFICIENCY – BCA part 3.12
Performance provisions of the BCA Part 2.6 requires that a building must have a level of thermal performance so that greenhouse gas emissions are reduced using energy efficiently This level of thermal performance must facilitate the efficient use of energy for cooling and heating. This will be achieved by selection of materials and methods of construction of Building Fabric, External Glazing, Building sealing. Air movement and service as best suited to the particular Climatic Zone in which the building is sited. A building must have an energy rating of not less than 5 stars complying with the ABCB protocol for House Energy Rating (Note: in NSW, for Class 1 and 10 buildings subject to BASIX the Energy Efficiency Provisions of BCA 2009 as varied by the NSW Appendix apply). Map of Australian Climate Zones for Thermal Design can be viewed on the Australian Building Code Board website at: www.abcb.gov.au

R-Value is the Thermal Resistance of a component to heat and cold movement. Thermal movement is upwards or downwards through a roof or a combination of both.

THERMAL RESISTANCE: minimum TOTAL R-Value required for various climatic zones									
BUILDING COMPONENT	CLIMATE ZONE								
	1	2 - Altitude less than 300	2 - Altitude 300m or more	3	4	5	6	7	8
ROOFS & CEILINGS									
Direction of heat flow	Downwards			Downwards and upwards			Upwards		
Minimum Total R-Value required	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	6.3

Added insulation to achieve minimum R-Values for various climate zones can be: (a) Reflective Insulation or (b) Bulk insulation or a combination of both. Reflective Insulation must be installed with not less than 20mm air space between the more reflective side and a building lining or cladding (note: cavity clearances are not to be reduced) and closely fitted against any penetration and or door/window frame, be adequately supported and overlapped to adjoining sheet not less than 150mm. Bulk insulation must be installed so that it maintains its position by not slumping and forming voids and must abut other installation or building members. Care should be taken that insulation does not interfere with the safety or performance of services or fittings. Insulation as manufactured must comply with AS/NZS4859.1.

R-VALUE OF INSULATION TO BE ADDED TO BUILDING COMPONENT TO MEET TOTAL R-VALUE REQUIRED									
ROOF TYPE	ROOFS	CLIMATE ZONE							
		1,2 Below 300m AHD altitude	1,2 at or over 300m AHD	3	4	5	6	7	8
Minimum required Total R-Value for roofs		5.1	5.1	5.1	5.1	5.1	5.1	5.1	6.3
FLAT ROOF, SKILLION ROOF AND CATHEDRAL CEILING – CEILING LINING UNDER RAFTERS - UNVENTILATED									
METAL	Total R-Value of roof materials	0.48 down 0.36 up	0.48 down 0.36 up	0.36 upwards					
	Minimum R-Value of insulation to add	4.62 down 4.72 up	4.62 down 4.72 up	4.72	4.72	4.72	4.72	4.72	5.94
FLAT ROOF, SKILLION ROOF AND CATHEDRAL CEILING – CEILING ON TOP OF EXPOSED RAFTERS-- UNVENTILATED									
TILED	Total R-Value of roof materials	0.44 down 0.38 up	0.44 down 0.38 up	0.38upwards					
	Minimum R-Value of insulation to add	4.66 down 4.72 up	4.72	4.72	4.72	4.72	4.72	4.72	5.92
FLAT CEILING WITH PITCHED ROOF – CAVITY ROOF SPACE --VENTILATED									
TILED	Total R-Value of roof materials	0.74 down 0.23 up	0.74 down 0.23 up	0.23 upwards					
	Minimum R-Value of insulation to add	4.36 down 4.87 up	4.36 down 4.87 up	4.87	4.87	4.87	4.87	4.87	6.07
FLAT CEILING WITH PITCHED ROOF– CAVITY ROOF SPACE --UNVENTILATED									
TILED	Total R-Value of roof materials	0.56 down 0.41	0.56 down 0.41up	0.41 upwards					
	Minimum R-Value of insulation to add	4.54 down 4.69 up	4.54 down 4.69 up	4.69	4.69	4.69	4.69	4.69	5.89
FLAT CEILING WITH PITCHED ROOF–CAVITY ROOF SPACE – VENTILATED									
METAL	Total R-Value of roof materials	0.72 down 0.21 up	0.72 down 0.21 up	0.21 upwards					
	Minimum R-Value of insulation to add	4.38 down 4.89 up	4.38 down 4.89 up	4.89	4.89	4.89	4.89	4.89	6.09
FLAT CEILING WITH PITCHED ROOF – CAVITY ROOF SPACE – UNVENTILATED									
METAL	Total R-Value of roof materials	0.54 down 0.39up	0.54 down 0.39up	0.39upwards					
	Minimum R-Value of insulation to add	4.56 down 4.71 up	4.56 down 4.71 up	4.71	4.71	4.71	4.71	4.71	5.91

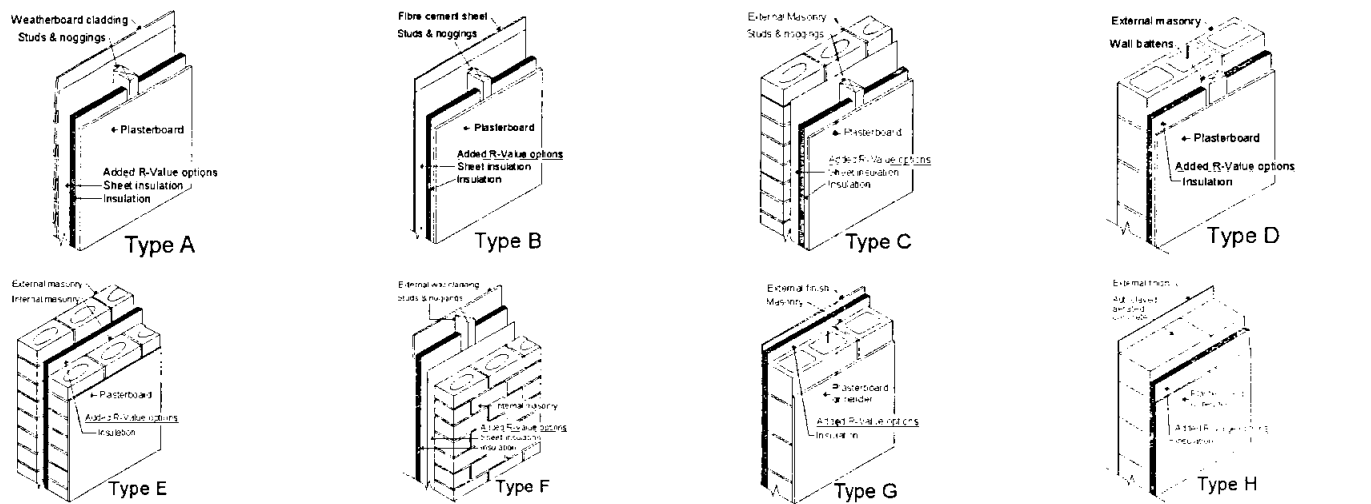
A roof must achieve the minimum Total R-Value specified. In Climate Zones 1,2,3 ,4 and 5 a pitched roof with a flat ceiling must have a Solar Absorbance value less than 0.55, RBM installed below the roof and the roof space ventilated by roof, gable, eaves or ridge vents that allow an unobstructed air flow with no dead air spaces, Vents must have a total fixed open area of not less than 1% of the ceiling area. **OR** not less than 2 wind driven ventilators in association with fixed vents subject to approval.

TYPICAL SOLAR ABSORPTANCE VALUES OF COLOURED ROOFS			
Slate (dark grey)	0.9	Light Grey	0.45
Red, Green	0.75	Zinc Aluminium (dull)	0.55
Yellow, Buff	0.6	Galvanised steel (dull)	0.55
		off white	0.35
		Light Cream	0.3

R-VALUE OF INSULATION TO BE ADDED TO BUILDING COMPONENT TO MEET TOTAL R-VALUE REQUIRED					
TYPICAL WALL CONSTRUCTION	R - VALUES	CLIMATE ZONE			
		1,2,3,4,5	6	7	8
	Minimum required Total R – Value for Walls	2.8	2.8	2.8	3.8
(A) Weatherboard: minimum 70mm Timber Frame	Total R-Value of Wall Materials	0.48			
	Minimum R-Value of insulation to add	2.36	2.36	2.36	3.32
(B) Cement or Metal Sheet 70mm timber frame	Total R-Value of Wall Materials	0.42			
	Minimum R-Value of insulation to add	2.38	2.38	2.38	3.38
(C) Clay Masonry Veneer minimum 110mm Veneer	Total R-Value of Wall Materials	0.56			
	Minimum R-Value of insulation to add	2.24	2.24	2.24	3.24
(D) Concrete Block Masonry minimum 140mm Masonry	Total R-Value of Wall Materials	0.53			
	Minimum R-Value of insulation to add	2.27	2.27	2.27	3.27
(E) Cavity Clay Masonry 110 ext. veneer, 90mm internal (min)	Total R-Value of Wall Materials	0.69			
	Minimum R-Value of insulation to add	2.11	2.11	2.11	3.11
(F) External insulated Clay Masonry Minimum 110 mm masonry	Total R-Value of Wall Materials	0.53			
	Minimum R-Value of insulation to add	2.27	2.27	2.27	2.3
(G) External insulated Concrete Masonry minimum 140mm thick	Total R-Value of Wall Materials	0.46			
	Minimum R-Value of insulation to add	2.34	2.34	2.34	3.34
(H) Autoclaved Aerated Masonry minimum 200mm thick	Total R-Value of Wall Materials	2.42			
	Minimum R-Value of insulation to add	0.38	0.38	0.38	1.38

EXTERNAL WALLS

An external wall must achieve the minimum Total R-Value for the relevant Climate Zone or in Climate Zones 1,2 and 3 can be shaded by a verandah, balcony, carport eaves and gutter or the like with a reduction of 0.4 to the minimum Total R Value required. The horizontal projection from the external face of the building must be not less than one quarter of the overall height of the wall measured from the internal floor vertically to the underside of the projection. This applies to all stories. **NOTE:** In Climate Zones 4,,5,6,7 and 8 all walls must achieve a surface density of not less than 220 Kg/m2 and in Climate Zone 6 be constructed on a flooring system that is in direct contact of ground i.e. concrete slab or in Climate Zones 6,7, and 8 incorporate insulation with an R-Value not less than 1.0 to the edges and underneath the slab. These requirements to not apply to South facing walls in Climate Zones 1,2 and 3 south of latitude 20° south



ENERGY EFFICIENT EXTERNAL GLAZING – BCA part 3.12.2

This part of the BCA applies to Class 1 buildings and class 10a buildings with a conditioned space. Acceptable Construction Practice: The effective glazing area of a building must not exceed the percentages of the building area as per BCA Table 3.12.2.1. This table defines the maximum effective glazing area (Total glazed area of all windows in a storey) as a percentage of the total floor area of a storey. The glazing area limits listed provide only the minimal protection against overheating (heat flow into the building via the glazing) and heat loss (through the glazing) in cold conditions. The heat loss or gain can be controlled by siting of windows, shading, use of protective films, double glazing with air or gas fill in a sealed unit, and size of windows. Window manufacturers can supply windows to suit the requirements for the site Climate Zone and the window construction depends on shading of the glazed area by verandahs, balcony, fixed canopies etc. or a shading device. A shading device must restrict at least 80% of the solar radiation when in use and can be a shutter, blind, vertical or horizontal screen with blades, battens, slats etc. and be adjustable by the building occupants. Where necessary the nomination of glazing types, window locations, shading etc. should be carried out by an approved specialist.

NSW requirements to comply with BASIX Specifications are selectable in Natthers 2.32A

CARPENTRY

All timber shall comply with the appropriate standard as listed below. Timber sizes shall be selected so that the building as constructed complies with AS1170.2 or AS4055 for serviceability and Design Wind Gust Velocities (permissible stress) of 33 M/s minimum. Substitution of some members may be required for higher Gust Wind Velocities and advice of local authorities Building Department or Structural Engineer should be sought as whether design to N3 or higher is required.

STRESS GRADES:

Visually Stress Graded Timber: Timbers whose species or place of growth is known may be visually graded for quality in accordance AS 2082.

Mechanically Stress Graded Timber of required stress grade according to AS/NZS 1748 may be used regardless of species.

Seasoned Timbers: All timber shall be regarded as seasoned only if its moisture content does not exceed 18 per cent.

FRAMING : BCA part 3.4.3.

Timber sizes in this specification are based on AS1684.4 Simplified Non-cyclonic areas with restrictions as follows: Maximum wind classification N2 (33m/s) - maximum roof pitch 30°- maximum building width 12.0m - maximum rafter overhang 750mm - maximum wall height at ext. walls, floor to ceiling 2400mm. The sizes are for information only and should not be used for construction. All design for a structure within these limits should be carried out to AS1684.4

NOTE: for wind classification N3 (W41N) and N4 (W50N) Non-cyclonic areas with building widths 12.0m and up to 16.0m and with roof slopes exceeding 30° and up to 35°, design according to AS1684.2 is required. For construction in Cyclonic Areas, wind classification C1 to C3 refer to AS 1684.3

CUTTING, ASSEMBLY AND ERECTION OF FRAMING ABOVE GROUND FLOOR LEVEL:

Where framing is cut, assembled and erected on site, particular care should be taken that member sizes and fixings are designed to comply with stress grades for the particular number of stories and roof loads according to AS1684.

FLOOR FRAMING:

Ground floor timbers shall be only of hardwood, cypress pine or pressure treated Radiata or Canada Pine below a height of 300mm above finished ground level and must not be built into brickwork. Subfloor ventilation shall conform to BCA part 3.4.1. In Bushfire Prone Areas special conditions apply. Where termite barriers need to be inspected, 400mm clearance is required between the underside of bearer and ground surface. BCA FIGURE 3.4.1

ANT CAPS:

To all brickwork and piers, at the level of underside of floorbearers, a capping of 0.5mm gauge galvanised steel or other approved metal is to be set, projecting 38mm beyond the internal faces of all brickwork and turned down at a 45 degree angle, lapped 13mm and soldered or crimped at all joints and corners so as to provide a continuous and effective barrier against termites throughout the length of the material. Whole of house protection against subterranean termite attack shall be installed in accordance with AS 3660.1

BEARERS:

Bearers should be laid in straight and normally parallel lines with top surfaces arranged to give level bedding for joists. Unless specifically noted as otherwise, bearers shall be located directly under all load-bearing walls, except where walls are located at right angles to line of bearers, in which case piers or other approved supports shall be provided for bearers at points where they cross under such walls. Bearers having minor excesses in depth shall be brought to required level by checking out underside over supports. Packing is to be avoided but where there is no alternative, corrosion resistant and incompressible sheet material over full area of contact may be permitted. Bearers having not more than permitted spring shall be placed so that they tend to straighten under loading. Joints in bearers, unless specifically detailed otherwise, shall be made only at points of support on which adequate bearing for both members can be provided and the joint shall be secured by means of bolting or spiking against displacement or separation.

JOISTS:

Joists shall be laid over bearers in straight and normally parallel lines with top surfaces set accurately to a common level to receive flooring. Underside of joists having minor excesses in depth are to be notched out over bearers to obtain required common level. Packing may be employed if unavoidable similar to that for bearers, such packing to be securely fixed. Joists having not more than the permitted amount of spring shall be laid so that they tend to straighten under loading. Joints, unless specifically detailed, shall be made only over bearers or other supports. Joints occurring in joists which are parallel and support wallplates shall be made at points of support which provide adequate bearing for both ends which shall be butted or scarfed to maintain a straight line. Posts shall be securely skew nailed; from both sides to bearers at all points of support. Where floor joists abut solid masonry or concrete walls, they shall be supported on timber wall plates or bearers carried on walling, off-sets or attached piers; where such method is not practicable and height of floor is more than 1800mm above ground the ends of joists or bearers may bear in pockets formed in the wall which allow at least 12mm clear air space at sides and ends of members and provide solid bearing at least 100mm in depth. Where the unsupported span of deep joists exceed 2700mm, 50mm x 50mm herringbone strutting or solid blocking of 25mm min thickness shall be provided in continuous rows between joists at not more than 1800mm centres..

EAVES BEAMS AND VERANDAH PLATES:

Eaves beams and verandah plates shall be provided to support rafters or trusses over full height openings or recesses in walls or over verandahs or porches covered by main roof structure. Any reduction in nominal size through mill dressing or scalloping shall be allowed for so that the minimum size listed is not reduced. The ends of eaves beams and verandah plates that are supported on stud wall shall be carried by studs or stud groups as for heads for equivalent spans. End fixing shall provide resistance to uplift or displacement. Verandah Posts to be not less than 100mm x 100mm in timber F11. If supporting roof loads they shall be as per AS1684.2.

EAVES:

Project rafters to give a soffit at eaves of directed width and fix 200 x 25mm timber fascia or colourbond steel as directed. Where eaves are boxed in, soffit bearers (sprockets) of 50 x 38mm shall be provided, spaced to suit eaves lining and attached directly to outer ends of rafters. In brick veneer buildings the inner ends of soffit bearers shall be fixed to the frame so as to be 20mm or more clear above top of brickwork at time of construction. In solid masonry buildings the inner ends of soffit bearers shall be located by means of 50 x 25mm hangers from rafters or wall plates. In Bushfire Prone Areas fascias and eaves linings have special requirements.

ROOFING BATTENS: Supporting roofing only. (Note: roofing battens are not suitable for the safe support of workers prior to fixing roof cladding). Battens should be continuous over a minimum of two spans and their design to suit rafter/truss spacing and batten spacing must be in accordance with AS1684 for the allowable roof mass.

MANHOLE:

Trim as required between ceiling joists or trusses for manhole 600 x 400mm minimum size. Line the opening and provide a suitable cover.

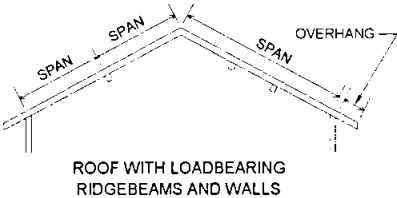
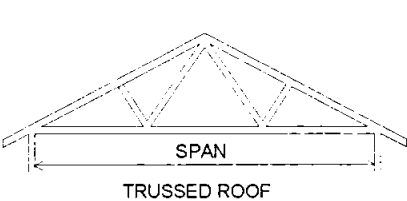
PREFABRICATED TIMBER WALL FRAMES AND TRUSSES – BCA part 3.4.3

Where prefabricated frames and/or trusses are used for construction of the building, the manufacturers certification of construction according to AS1684.2 or AS1684.4 for the building on the particular site must be obtained. Where certification is attached to truss or framing members the certification labels shall be left in place after erection for approval by the appropriate Building Surveyor, P.C.A, or Council Authority. Timber trusses purpose manufactured for this project and engineer designed according to AS1720.1 are to be spaced at centres as directed, erected and fixed in accordance with the manufacturers instructions as approved. Support only on ends or designed bearing points. Where spacing of trusses exceeds 600mm centres provide intermediate ceiling joists in 100mm x 38mm hardwood (in F7) or 100mm x 50mm (in F8) supported from hangers at maximum of 2100 centres. Hanging beams shall be supported not more than 600mm from bottom chord panel points unless hangers are provided to nearest top chord panel points.

MASSSES OF TYPICAL ROOF CONSTRUCTION

MASS OF ROOF	MATERIAL
10 kg/m2	Steel sheet roofing 0.50mm thick and battens
20 kg/m2	Metal sheet tiles or medium gauge steel sheet roofing , battens, 12mm softwood ceiling lining, sarking and lightweight insulation
30 kg/m2	Steel sheet roofing 0.775mm thick, 13mm plaster ceiling, roof and ceiling battens, sarking and lightweight insulation
40 kg/m2	Steel sheet roofing 0.75 thick, battens, graded purlins and high density fibreboard ceiling lining
60 kg/m2	Terracotta or concrete tiles and battens
75 kg/m2	Terracotta or concrete tiles, roofing and ceiling battens, 10mm plasterboard, sarking and insulation
90 kg/m2	Terracotta or concrete tiles, purlins, roofing and ceiling battens, 19mm hardwood ceiling lining, sarking and insulation

DEFINITIONS: Spacing - Where this term is used the measurement shall be the centre-to-centre distance between members.
Span - Where this term is used the measurement shall be the face-to-face distance between members.
Reference is made to effective roof spans in the tables - the span is an indicator of the mass of roof being carried by the outer wall members.



TABLES OF TIMBER SIZES

		SINGLE STOREY TILED ROOF				SINGLE STOREY SHEET ROOF			
Framing Member Stud Height 2400	Span	Unseasoned	Seasoned		MGP12	Unseasoned	Seasoned		MGP12
		F8	F5	MGP10		F8	F5	MGP10	
BEARERS- Strutted roof – max. rafter span 3000 @ 1800 spacing continuous over two or more spans-load bearing. Trussed Roof 9.0 Span. External Wall 1800 spacing continuous over two or more spans-load bearing. JOISTS- 450 spacing-continuous over two or more spans LINTELS*- Trussed Roof 9000 Span	1500	100 x 75	2/120 x 35	2/120 x 35	2/90 x 35	100 x 75	2/90 x 35	2/90 x 35	2/90 x 35
	1800	125 x 75	2/140 x 35	2/120 x 35	2/90 x 35	125 x 75	2/120 x 35	2/120 x 35	2/90 x 35
	1500	175 x 75	2/170 x 35	2/140 x 35	2/140 x 35	125 x 75	2/120 x 35	2/120 x 35	2/90 x 35
	1800	150 x 75	2/190 x 35	2/190 x 35	2/140 x 35	200 x 75	2/190 x 35	2/190 x 35	2/170 x 35
	1800	125 x 38	120 x 45	120 x 35	120 x 35	125 x 38	120 x 45	120 x 35	120 x 35
	900	100 x 75	2/90 x 35	90 x 45	90 x 35	100 x 50	2/90 x 35	90 x 45	90 x 35
	1200	125 x 75	2/120 x 35	120 x 45	2/90 x 45	125 x 50	140 x 45	2/90 x 45	2/90 x 35
	1500	175 x 75	2/140 x 45	2/120 x 45	2/120 x 45	150 x 50	2/120 x 35	2/140 x 35	2/90 x 45
	1800	200 x 75	2/170 x 45	2/170 x 35	2/140 x 35	150 x 75	2/140 x 35	2/120 x 35	2/120 x 35
	2100	225 x 75	2/240 x 35	2/170 x 45	2/170 x 35	175 x 75	2/170 x 35	170 x 45	2/120 x 45
	2400	275 x 75	2/240 x 35	2/240 x 35	2/190 x 45	200 x 75	2/170 x 45	2/170 x 35	2/140 x 45
	3000	-----	2/290 x 45	2/290 x 35	2/240 x 45	250 x 75	2/240 x 35	2/190 x 45	2/190 x 35
	3600	-----	-----	-----	2/290 x 45	-----	2/290 x 45	2/290 x 35	2/240 x 45

UNCOUPLED ROOF WITH LOADBEARING RIDGEBEAMS AND/OR WALLS

Rafters supporting roof and ceiling loads – non coupled cathedral roof single span

Rafter Span	Rafter Spacing	Unseasoned				Seasoned			
		F5	F7	F8	F11	F5	MGP10	MGP12	F17
Tiled Roof Ceiled	3000	200 x 38	200 x 50	175 x 50	175 x 50	175 x 45	140 x 45	140 x 45	140 x 35
	Overhang	750	750	750	750	750	750	750	750
3600	Overhang	250 x 50	225 x 50	225 x 50	200 x 50	240 x 35	170 x 45	170 x 45	170 x 35
	Overhang	750	750	750	750	750	750	750	750
4200	Overhang	275 x 50	275 x 50	250 x 50	250 x 50	240 x 45	240 x 35	190 x 45	190 x 45
	Overhang	750	750	750	750	750	750	750	750
4800	Overhang	275 x 75	275 x 75	300 x 50	275 x 50	290 x 35	240 x 45	240 x 35	240 x 35
	Overhang	750	750	750	750	750	750	750	750
5400	Overhang	-----	300 x 75	300 x 75	275 x 75	-----	290 x 35	290 x 35	240 x 45
	Overhang	750	750	750	750	750	750	750	750
Sheet Roof Ceiled	3000	175 x 50	175 x 50	175 x 50	150 x 50	140 x 45	140 x 35	120 x 45	120 x 45
	Overhang	750	750	750	750	750	750	750	750
3600	Overhang	225 x 50	200 x 50	200 x 50	200 x 50	170 x 45	170 x 35	140 x 45	140 x 45
	Overhang	750	750	750	750	750	750	750	750
4200	Overhang	250 x 50	250 x 50	225 x 50	225 x 50	240 x 35	190 x 45	170 x 45	170 x 45
	Overhang	750	750	750	750	750	750	750	750
4800	Overhang	300 x 50	275 x 50	275 x 50	250 x 50	240 x 45	240 x 35	190 x 45	190 x 45
	Overhang	750	750	750	750	750	750	750	750
5400	Overhang	300 x 75	275 x 75	300 x 50	275 x 50	290 x 35	240 x 45	240 x 35	240 x 35
	Overhang	750	750	750	750	750	750	750	750

- NOTE:
1. Allowable overhangs are based on a maximum birdsmouth depth of D/3. Where rafters are not birdsmouthed, the allowable overhang may be increased to 30% of the single span for that member, provided that the overhang does not exceed 50% of the actual backspan.
 2. Overhang limits are only applicable where rafter ends are supported by a structural fascia.

NOTE: Sizes shown in tables in this specification are intended only as a guide to the size and stress grade for a particular member of a building frame. All timber framing should be designed and constructed in accordance with AS1684.2 and/or AS1684.4

Sizes in this specification are based on AS1684.4 Simplified Non-cyclonic areas, with restrictions as follows:-

- Maximum wind classification N2 (33m/s)
 - Maximum Roof pitch 30°
 - Maximum building width 12.0m
- Where a building exceeds the restrictions as listed above, design to comply with AS1684.2 will allow wind speeds up to N4 (50 m/s), roof slopes up to 35°and building widths up to 16.0m.

PERMANENT BRACING OF WALLS AS PER AS1684.2 Section 8 - BCA parts 3.4.3

This section 'Permanent Bracing of walls as per AS1684 shows typical bracing applicable to timber frame construction as explanatory information only.

TYPE 'A' UNITS (Design racking resistance of 2kN). The following bracing units are deemed satisfactory type 'A' braces.

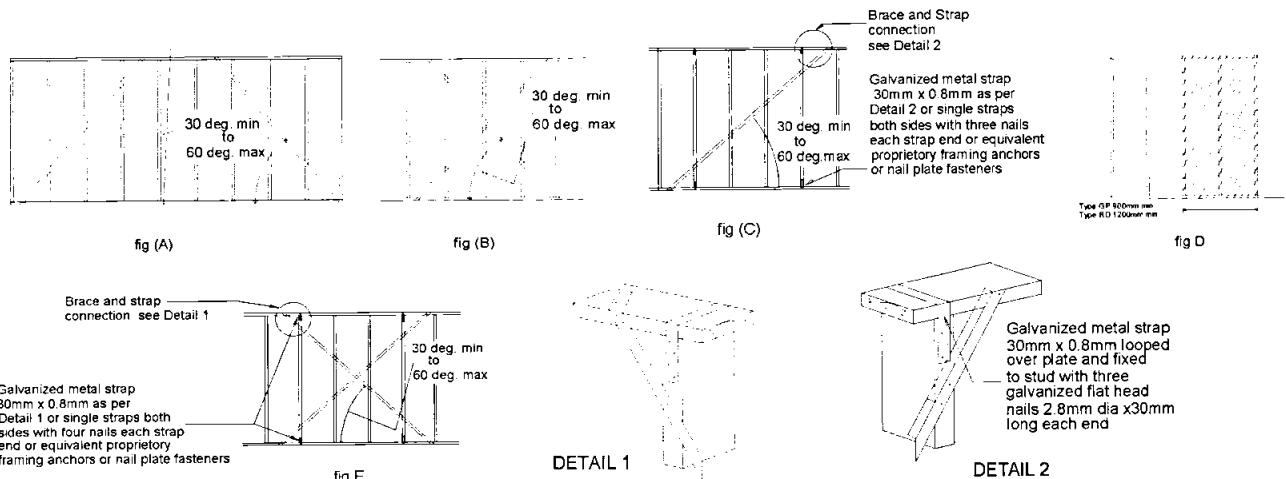
1. A pair of diagonal timber or metal section braces in opposite directions from each end of the wall as per fig (A) OR galvanised metal tensioned strap bracing as per fig. (B).
2. Single diagonal timber or metal section brace as per figure (C).
3. A 900mm minimum wide panel of structural plywood as per figure (D).

Type 'A' Bracing – Pair of diagonals from each end of wall		
Timber	Metal Section	Tensioned Straps
50mm x 19mm for studs up to 2.7m long 75mm x 19mm for studs over 2.7m long Fixing: galvanised flat head nail 2.8mm dia. x 50mm long to each plate and stud.	18mm x 16mm x 1.2mm min. galvanised angle brace fixed with one 2.8mm dia. x 30 long galvanised flat head nail to each plate and stud edge.	Flat galvanised straps 0.8mm thick x 20 wide. Fixings: one galvanised flat head nail 2.8mm dia. x 30mm long to each plate and stud edge. Tension straps.

Type 'A' Bracing – Single diagonal at end of wall.	
Timber	Metal Section
75mm x 19mm min. fixed with two 2.8mm dia x 50mm long flat head galvanised nails to each stud and plate.	Galvanised angle brace fixed with two 2.8mm dia x 30 long galvanised flat head nails to each plate and stud

Type 'B' Units (design racking resistance of 4kN. The following bracing units are deemed to be satisfactory type 'B' braces

1. A pair of diagonal galvanised metal tension straps of minimum nominal dimension 30mm x 0.8mm in opposing directions on one side of timber frame. Ends of straps shall be bent over top and bottom faces of plates and fixed with four 3.15mm dia. x 30mm long galvanised flat head nails. Braces shall be fixed to stud edges with two similar nails to each crossing. End studs of braces section shall be strapped to top and bottom plates with 30mm x 0.8mm galvanised strap looped over plate and fixed to studs with four galvanised flat head nails 3.15mm dia x 30mm long each end of loop.
2. A 900mm minimum wide panel of structural plywood as shown in figure (D). Fixed as follows:
Plywood stress grade F8 Stud spacing 450mm to be 7mm thick ply. Stud spacing 600mm to be 9mm thick ply.
Plywood stress grade F11 Stud spacing 450mm to be 6mm thick ply. Stud spacing 600mm to be 7mm thick ply.
Plywood stress grade F14 Stud spacing 450mm to be 4mm thick ply. Stud spacing 600mm to be 6mm thick ply.
Fixing: 2.8mm dia x 30mm long galvanised flat head nails at 50mm centres along top and bottom plates, 150mm centres along vertical edges and 300mm centres along intermediate studs.



Diagrams as shown and explanation of the various types of bracings are not intended to specify bracing requirements for any timber frame construction. All bracing requirements for a particular design in timber framing must be determined in accordance with Section 8 of AS1684.2 or AS1684.4 as applicable.

TIEDOWN REQUIREMENTS: BCA tables 3.4.3

Tie down requirements for timber frame construction can be determined from AS1684.4 Section 9 for maximum design gust wind speeds of 33m/sec. For wind speeds in excess of 33m/sec, design as per AS1684.2 is required.

Tie down fixings should be determined for the following connections:

- | | | |
|--|-----------------------------------|---|
| a) bearers to piers | d) studs to bottom and top plates | g) battens and/or purlins to rafters |
| b) floor joists to bearers | e) rafters to top plates | h) collar ties to rafters |
| c) Bottom plates to floor joists or concrete slabs | f) rafters to ceiling joists | i) verandah plates and eaves beams to posts |

NOTE: Special fastening requirements are required for type 'A' and 'B' wall bracing for connections (c) and (d) above.

CYCLONIC AND OTHER HIGH WIND AREAS: BCA part 3.10.1

Where buildings are to be constructed in regions B, C, and D as per AS/NZS1170.2 and AS1170.2 compliance with the AS1170.2 Minimum Design Loads on Structures or AS4055 Australian Wind Loads for Housing.

NOTE: High wind areas exist outside of cyclone regions B,C and D. Clarification of the category at the site should be sought from local authorities. Cyclonic Regions of Australia and Tasmania are shown on Map BCA fig. 3.10.1.4

STEEL FRAMING AND OR TRUSSES: BCA part 3.4.2

MATERIALS: All framing sections shall be manufactured from galvanised steel conforming to AS1397. Galvanised materials up to 3.2mm thick shall have minimum coating mass of 200 g/m². Design, fabrication and fixing shall be as per recommendations of the component manufacturers design manual. Design for Residential and Low Rise Steel Framing may conform to NASH standard as alternative to AS3623.

FABRICATION AND ERECTION:

All structural components fabricated into frames and/or trusses and shall be cut accurately to length to fit firmly against abutting members and held so until fastened. Studs shall be seated squarely in bottom plates with webs at 90deg. to the face of the wall and accurately located, plumbed and securely fixed to top and bottom plates. Multiple studs shall be used as specified at concentrated load points. Plates shall be securely spliced to maintain continuity. Splices in studs are not permitted. Structurally adequate heads shall be fitted over openings in walls. All frames shall be adequately braced for transport and resist wind loads in service. Preferred fastening is by MIG welding. All welds shall be cleaned and painted with zinc rich paint. The bottom plate shall be securely fastened to sub floor at centres as recommended and all site connections shall be as specified in design manual. Holes for electrical wiring, other cables and plumbing services shall be max. 33mm dia. flanged holes. Service pipes shall be effectively separated from framing by lagging and be securely fixed in cavities. Permanent electrical earthing of a steel frame building shall be carried out in accordance with the requirements of the local electrical authority. Where power tools are used on site, temporary earthing to the frame shall be made during construction. On completion of framing all debris shall be removed from cavities and bottom plates. Domestic metal framing shall be designed to comply with the load combinations as per AS3623.

STRUCTURAL STEEL - BCA part 3.4.4

All steel work is to be fabricated to details as shown on engineers drawings all work to be in accordance with AS4100 Steel Structures.

Corrosion protection of built in structural members such as lintels, shelf angles, connectors etc., (other than wall ties) are to be in accordance with BCA Part 3.3.3.2

PURLINS AND GIRTS:

To roof and walls of building provide purlins and girts according to engineers details. Cover roof and walls of building in full length sheets complete with all necessary flashings cappings etc. Secure as recommended by manufacturer and provide panels of selected translucent sheeting as indicated or directed.

ROOFING - BCA part 3.5.1

TILE ROOFING: BCA part 3.5.1.2.

Provide all roofs with first quality roofing tiles. Where pitch of rafters is less than 1:2.75 terra cotta Marseilles pattern, 1:3.7 Swiss pattern, 1:3.3 concrete tiles are used the roof shall be sarked with either 2 ply bituminous felt or double faced aluminium foil covered reinforced fabric as per AS/NZS 4200. Between 1:3.7 and 1:4.5 slope, perimeter of roof shall be provided with an anti ponding board or device to ensure that all water will be discharged into eaves gutter, a clear space must be provided between edge of the device and the lowest side of the first batten so as to allow a free flow of water into the gutter. Where one section of the roof discharges into a lower section, the discharge is to be widely distributed, and the roof is to be fully sarked. Elsewhere, where a spreader is used the roof shall be sarked from the point of discharge to Eaves with a minimum width of 1800mm approved sarking. Cover all ridges and hips with capping, starters and apex caps necessary and bed all capping and verge tiles on lime mortar and point with coloured cement mortar.

TERRA COTTA TILES: To be glazed and manufactured in accordance with AS 2049. To be fixed to timber battens with copper wire ties every alternate tile, all fixed in accordance with AS2050.

CONCRETE TILES:

To conform to AS2049, AS4046 and AS2050 and to be produced by manufacturers who provide a comprehensive guarantee. Tiles are to have an end lap of not less than 75mm. Where wiring holes are provided, every alternate tile in each course is to be tied to battens with approved wire. Where holes are provided for nailing every tile in each third course is to be fixed with galvanised flat head nails at least 19mm into tile batten. Fixing to be as per AS2050.

CORRUGATED FIBRE CEMENT ROOFING:

To conform to and fixed in accordance with AS1562 Pt.2. Minimum pitch of roof is to be 1:8 for large corrugations and 1:11 where the rafter length can be covered with a single sheet. Where pitch of roof is less than 1:6 in the case of large corrugations and 1:4.5 in the case of small corrugation end laps shall be at least 225mm and sealed. Sheets to be fixed with galvanised round head screws and felt washers set in mastic to each run of battens with side and end laps or other approved method in accordance with manufacturers instructions. All necessary accessories are to be provided and the roof is to be adequately birdproofed.

PROFILED STEEL ROOF: BCA part 3.5.1.3:

To be material as nominated on drawings. All necessary accessories to be provided and fixed according to manufactures recommendations. Roof is to be bird proofed. Sheet fixings and spacings are to be strictly as per manufacturers recommendations for the design wind speed for the area. Design and installation shall be in accordance with AS/NZS 1562. Cover roof and walls of building in full length sheets complete with all necessary flashings and cappings etc. Secure as recommended by manufacturer and provide panels of selected translucent sheeting as indicated or directed.

SARKING:

Where sarking is specified or required by any authority the selection of and fixing shall be in accordance with the code of practice as specified in AS/NZS 4200 for pliable roof sarking or reflective foil laminates. All installations must comply with the requirements of BCA part 3.7.4. and AS3959-2009 in Bushfire prone areas.

FLOORING - BCA part 3.4.3

T & G STRIP FLOORING: BCA table 3.4.3.1:

Flooring shall be seasoned and stored in a way to preserve its delivery condition. Flooring boards shall be laid in straight and parallel lines with tongues fitted into grooves and cramped together with pressures suited to moisture content and seasonal conditions. End joints shall be made on a joist and joints in adjoining boards shall be staggered. Flooring shall be kept 12mm clear of walls or wall plates parallel with the direction of laying. Boards of normal width of 75mm and less shall be fixed with one nail at each joist and boards over 75mm shall be fixed with two nails at each joist. Nails in faces of boards are to be well punched to allow for subsequent sanding and stopping. Boards profiled for secret nailing are to be skew nailed through tongues at each joist with nail punched to permit the full entry of the tongue into the groove. Flooring is not to be cut in and fixed before roofing is complete, external walls sheeted or lined and all external openings covered.

SHEET FLOORING:

The minimum height of sheet flooring above ground level and under-floor ventilation shall be in accordance with manufacturers instructions or as required by Council or Lending Authority.

Where sheet flooring is used in platform construction and a decorative finish is required it shall be sealed with a water repellent at time of fixing.

a) Structural Plywood: shall be manufactured in accordance with AS2269 and sheets stamped on the face side with manufacturers name or trade mark. Sheets shall be fixed in accordance with manufacturers instructions as approved.

b) Particle Board: Approved board bonded with phenolic resin to achieve a type 'A' bond as defined in AS/NZS4785 for plywood may be used in platform construction or as fitted flooring. Boards shall be fixed in accordance with manufacturers instructions as approved. The perimeter of flooring should be fully supported by joists or noggin. Other approved particle board may be used providing it is a minimum of 2100mm above the ground.

c) Compressed Fibre Cement: Sheet flooring not less than 18mm thick with density of not less than 1.8g/cm³ may be used in lieu of suspended concrete floors. Sheets shall be fixed in accordance with manufacturers instructions adequately flashed and suitably finished.

ELECTRICAL INSTALLATIONS

Provide all labour and materials necessary for the proper installation of electrical services in accordance with the appropriate AS Rules and requirements of the Local Supply Authority. Arrange with the supply Authority for connection from supply main to meter board. Provide for the proper installation and connect electricity stove/s and hot water unit/s. Provide light and power points as indicated on drawings or as directed and in accordance with AS/NZS1680. Provide box to enclose meters in accordance with the requirements of the Authority concerned. Arrange for inbuilt wiring for telephone, television, computer and security installation as required. AS/NZS 3000 specifies the minimum requirements including safety provisions.

LIGHTING; BCA 3.8.4 Natural lighting must be provided to all habitable rooms of a class 1 building by windows or roof lights or a proportional combination of both, or by light 'borrowed' from an adjoining room. Windows must have a clear aggregate light transmitting area of not less than 10% of the room floor area, and face a court or open verandah/carport. If facing the boundary of an adjoining allotment, must be 900mm min. from that boundary. Roof lights must have a clear aggregate area of not less than 3% of the floor area of the room and face the sky. 'Borrowed' light can be supplied by a clear glazed panel or opening that is not less than 10% of the floor area of a room supplying the light if that room complies with the natural light requirements. Artificial lighting of one light fitting per 16 sq. metres of floor area must be provided to sanitary compartments, bathrooms, airlocks, showers etc. if natural lighting cannot be supplied.

SMOKE DETECTORS / ALARMS : BCA part 3.7.2

Fire/smoke detectors selected by the owner and complying with the requirements of the Local Government Act and/or state or territory regulations must be fitted in the locations required and approved by the regulatory authority and shall be installed in accordance with AS3786.

LIGHTNING PROTECTION:

Where lightning protection is specified by the proprietor or required under regulatory provisions it shall be installed in accordance with AS1768.

EXTERNAL WALL CLADDING - BCA part 3.5.3

WEATHERBOARDS OR PROFILE SHEETING:

as approved by the leading authority shall be fixed and flashed in accordance with manufacturers instructions and to the satisfaction of the lending authority. Weatherboards with laps as specified by the relevant AS shall be hardwood, pressure treated radiata pine or slash pine, cypress pine, baltic pine or western red cedar. The boards shall have a maximum moisture content of 15% be in long lengths with staggered end joints, securely nailed and fitted with angle stops. Western red cedar used externally shall be fixed with galvanised or cadmium plated fasteners. Boards exceeding 100mm in width shall be double fastened at all bearings. All boards shall be primed or sealed all around including rebates and ends before fixing. Where vertical boarding is used it shall be fixed to battens at not more than 600mm centres and sarking acceptable to the lending authority placed behind the battens to provide air space and fixed to the frame work with adequate provision for discharge of moisture. External boarding shall be in one length or have joints specially designed for external use.

FIBRE CEMENT:

a) Flat Sheeting: Fibre cement sheeting shall be not less than 4.5mm thick and close jointed to full height of walling or above sill level where weatherboard dados are specified. Horizontal joints shall be flashed with 0.42mm galvanised steel turned up 13mm against stud faces and down 12mm over sheet faces, lapped 25mm at joints. Internal angles of walls shall be flashed with 38mm x 38mm x 0.42mm minimum base thickness galvanised steel angles or bitumen coated metal flashing to full height of studs and lapped 50mm at joints. All vertical and horizontal joints and angles shall be covered with timber, fibre cement mouldings as approved by the lending authority. Trimmers of not less than 75mm x 38mm timber shall be provided between ends of floor bearers to support lower edge of sheeting.

b) Profiled sheeting and Weatherboard: As approved by the lending authority shall be fixed and flashed in accordance with the manufacturers instructions and to the satisfaction of the lending authority.

INTERNAL LININGS

Line all internal walls not specified as otherwise with Gypsum plaster board fixed horizontally in full length sheets, or with staggered end joints to ceiling height. Sheets to have recessed edges and of thickness as recommended by the manufacturer for the stud, batten or support spacing. Fixing is to be with galvanised clouts, manufacturer approved screws and/or approved adhesive and be strictly in accordance with manufacturers instructions. Set all internal angles. Note: Where below 1200mm in laundry, bathroom and W.C. and at back of kitchen sink unit and below 1800mm in shower recess, only approved water repellent sheet shall be used. Note: Adhesives must not be used to fix sheets in tiled areas.

FIBREBOARD:

Sheets shall not be less than 4.5mm thick except where tiled. Sheets to be tiled shall not be less than 6mm thick. Where flush jointing is required fibreboard sheets shall be used, fixed and jointed in accordance with manufacturers instructions.

CEILING LININGS

Provide Gypsum plaster board to all internal ceilings unless otherwise specified. Sheets to have recessed edges and to be 10mm thick when fixed to ceiling battens/joists spaced at not more than 450mm and 13mm thick for 600mm spacings. Fixing is to be with galvanised clouts and/or approved adhesive and is to be in accordance with manufacturers recommendations as approved. Provide selected cornices, neatly mitred, properly fixed and scrimmed and set at all joints in full wall lengths where practicable. Gypsum plaster board for ceilings and walls shall be as per AS2589. Sheets of different thickness may be used at other spacings where their manufacture and installation complies with the Deemed to Satisfy Provisions.

PLASTER AND RENDER

To all brick walls not specified as feature brickwork or otherwise (with exception of garage) apply render to minimum thickness of 12mm. Render to consist of one part fresh cement to 3 parts clean sand with 10 per cent hydrated lime added. Use only whilst fresh. All brickwork to be well wetted before plastering is commenced. Point up all flashings externally with cement mortar and make good as required after other trades.

JOINERY

Joinery timber is to be of species seasoned and free from those defects that might effect its appearance and/or durability. All to be D A R accurately cut and fitted, properly mitred and scribed as required and securely fixed. All surfaces to be left free of mill marks or other defects, filled where necessary and ready for painting or staining. Where wood plugging is required it shall be a suitable species properly seasoned.

DOOR FRAMES – BRICK BUILDINGS:

Shall be at least 100mm x 50mm solid rebated properly dowelled to thresholds. Mullions shall be 75mm thick and double rebated.

JAMB LININGS – INTERIOR DOORS ALL BUILDINGS, EXTERIOR DOORS TIMBER FRAMED AND BRICK VENEER:

Linings shall be a minimum of 38mm thick solid rebated to all door openings. Where return plaster reveals occur linings shall be 75mm x 50mm rebated. Alternatively for internal doorways 25mm linings may be used with 12mm planted stops. In brick veneer and timber framed construction 12mm clearance shall be provided over jamb linings to external openings. Linings to openings not having doors or to have swing doors are to be 25mm thick timber securely fixed. Other proprietary linings may be approved by the owner.

DOORS: Fit accurately to door frame. Hang external doors with three 88mm steel butts and internal doors unless otherwise specified with two 88mm steel butts. External doors shall not be less than 2040mm x 820mm x 40mm thick. Where sheeted with plywood, waterproof plywood only shall be used. All framed glazed doors (external or internal) shall be minimum of 40mm thick. Internal doors shall be minimum of 35mm thick and free of warping.

WINDOWS AND FRAMES: In brick veneer construction 10mm clear space shall be left between underside of sill and brickwork. In two storey construction with hardwood timber framing the clearance shall be increased to 20mm.

INSTALLATION:

All windows shall be installed in accordance with the requirements of AS2047-48 for Aluminium windows and AS2047 for timber windows.

STAIRS, HANDRAILS AND BALUSTRADES: BCA 3.9.1 and 3.9.2

Stairways shall be constructed to the layout as shown on plans with treads of equal dimensions except where shown or where winders are required. All risers in any flight shall be of equal height. All flights shall have a minimum of 2 and not more than 18 risers. Relationship of riser to going shall be between 1:2 and 1:1.35 unless otherwise directed or as permitted in AS1657. Balustrades shall be provided to all landings, decks roofs other elevated platforms where the vertical distance from that level is more than 1 metre above the adjoining floor or finished ground level. Height of the balustrade must be a minimum of 1 metre above landings etc. and not less than 865mm above the nosings of any stair treads or floor of a ramp. Openings in balustrades (decorative or otherwise) and space between treads, eg. riser opening must not allow a 125 mm dia sphere to pass through. Resistance to loading forces of a balustrade must be in accordance with A.S. 1170. Materials and finish of handrails, newel posts and balustrading shall be as directed or agreed by owner. Where balustrades are constructed of tensioned wires provision shall be made to maintain tension applied.

ACCESS AND MOBILITY

Where access and mobility requirements are to be addressed in the construction of a new building, AS1428. General Requirements for Access – New Building Work contains the minimum design requirements to enable access for people with disabilities. Revision of the BCA in order to address requirements of the Disability Discrimination Act (DDA) as applies to the construction of buildings with public areas will require that the latest revision of AS1428 should be used.

PLUMBING AND DRAINING: BCA part 3.5.2**EAVES GUTTERS VALLEY GUTTERS AND DOWNPIPES:**

Eaves gutters and downpipes of material and finish as nominated on drawings shall be installed as per manufacturers specification to all eaves as required with falls to downpipes in positions shown and to comply with AS/NZS 2179. Valley gutters of material compatible roof covering to comply with BCA 3.5.2.4

FLASHINGS:

Flash around chimney stacks, exhaust flues and wherever else required with approved flashings dressed well down onto roof slopes and taken vertically at least 75mm. Wedge step flashing into brickwork joints and point up with cement mortar. Eaves gutters, valleys and roof flashings shall be selected from materials compatible with each other and the roof covering to prevent bi-metallic corrosion. (See BHP publications TB8, TB15). Use of lead for flashings, gutters, downpipes and roofing is prohibited if the roof will collect potable water.

WATER SERVICES:

Where a reticulated water supply is available all work shall be carried out by a licensed water plumber. All water supply installations shall be carried out in accordance with AS3500 'National Plumbing and Drainage Code'.

RETICULATED RECYCLED WATER:

Where a utility supplied reticulated recycled water supply is connected as a dual reticulation it is important that no cross connection between the potable and recycled water can occur. There must be at least one external tap for each system and the recycled water system must have lilac coloured components. Identification markings and signage shall be installed as per AS1319 and AS1345. Recycled water cannot be used for human consumption or contact, household cleaning, personal washing or irrigation where fruit and crops are eaten raw or unprocessed.

WET ROOM FLASHINGS: BCA 3.8.1

Waterproofing of wet areas shall be designed and installed in accordance with requirements and construction techniques as per AS3740 and appendix for wall/floor combinations. All waterproofing installations are to be inspected and approved prior to covering. Where waterproof membranes are used in the construction of wet area membranes shall comply with AS/NZS4858

HOT WATER SERVICE:

All installations must comply with AS3500.4 Provide from H/water unit with selected tubing to points necessary. Terminate with taps selected. Provide inlet stop cock to hot water unit. Storage water heaters selection and installation to be as per AS1056.

GAS SERVICE:

The whole of the work is to be carried out as per requirements of the Local Supply Authority. The plumber is to be responsible for the gas service from boundary alignment, including fixing of the meter and cover for same. Installations for bottled gas supply shall comply with the relevant standard.

HEATING APPLIANCES BCA 3.7.3: Domestic type Oil, Gas and Solid Fuel heater installations shall comply with AS/NZS2918'Domestic solid fuel burning appliances – Installation'. Installation of gas fired appliances shall be carried out by a licensed gas plumber

SEWERED AREAS:

Provide a drainage system from pedestal pan and from wastes of all fittings unless a grey water system is to be installed and connect to the sewer main, where shown on site plan all to be in accordance with the rules and requirements of the Authority for Water Supply and Sewerage. Provide at least one gully outside the building. The Authority Certificate to be produced at Completion of the Work.

UNSEWERED AREAS:

Provide a drainage system from all fittings and from grease trap in accordance with the requirements of the Local Authority concerned. Excavate for drains to provide even falls throughout and a minimum cover of 300mm. Lay 100mm socketed vitrified clay, P V C or HDPA pipes to take discharge from wastes of washtubs, bath, shower, washbasin and grease trap. All pipes to be completely jointed with rubber rings or solvent cement as approved. All drain lines to be laid so that water is discharged into an absorption trench provided in position shown on plan. Provide an approved grease trap with lid in position shown to take the water from kitchen sink. Top of trap to be 75mm above finished ground or nearby concrete paving level. All drainage work from fittings to the drainage line outside the building to be in accordance with the rules and requirements of the Water Supply and Sewerage Authority for sewer areas. That Authority 'Special Inspection' Certificate of the work to be produced by the builder. All plumbing and drainage shall be in accordance with the Code of Practice for state or territory and regulating local government area.

GREYWATER REUSE SYSTEMS:

Where a greywater reuse system is proposed the installation shall comply with the following Australian Standards and Codes: AS1546 parts 1 and 3: AS1547: NSW Health 1998 AWTs guideline: NSW Health 2000 Domestic greywater treatment guidelines and sewerage single domestic premises. An on site greywater reuse system is not permitted in Reticulated Recycled water areas. Domestic Greywater Treatment Systems (DGTS) and Aerated Wastewater Treatment Systems (AWTS) require a certificate of accreditation from NSW Health

SEPTIC SYSTEM:

In position shown on site plan provide and install septic system as nominated by the proprietor together with a holding tank and length of absorption trench installed in accordance with the manufacturers instructions and the requirements of the Local Authority. Installations shall comply with AS1546 part 1

STORM WATER TREATMENT METHODS::

Provide roof water drains from downpipes and from grates in paving where shown on site plan. Drains to be 100mm socketed vitrified clay pipes or PVC laid to an even and regular fall so as to have a minimum cover of 150mm. Drains to discharge into street gutter where possible. Where outlets are shown within the site they are to discharge at least 3000mm clear of the building into rubble packing 600mm diameter and 600mm deep. Acceptable solutions for stormwater drainage to be as per AS/NZS3500 part 3. Stormwater treatment systems should satisfy the following performance requirements:-

1. Conserve Water
2. Prevent Increases In Flooding/Erosion
3. Maintain water balance
4. Control Stormwater Pollution.

Systems suitable for detached dwellings are:- Roof/rainwater tanks; Detention devices; Infiltration devices and Filter strips. These are also suitable for multi-dwelling developments in addition to Stormwater tanks and Bio retention devices.

RAIN WATER TANKS:

Install rainwater tanks of selected material on slab or support as nominated by tank manufacturer. Rainwater tanks may be trickle topped up (max. 2litres/minute) from a potable water supply main and internally reticulated. A dual supply system should have no direct or indirect connection between the mains potable supply and the rainwater tank supply. Inground concrete tanks may be installed as an option with a suitable pressure pump and a testable backflow prevention device as per AS/NZS2845.1 Where an above ground tank is connected to internal reticulation, a meter with a dual check valve is to be installed and a visible air gap between the mains supply and the rainwater tank as per AS3500 and AS2845.2.1. (See NSW Health circular: Use of rainwater tanks where a reticulated mains water supply is available).

NOTE: Drain pipes must not be taken through the footings of the building. All seepage and soakage water is to be effectively dealt with and diverted clear of the buildings as shown on site plan. Trenches for drains, where running parallel to the building must not be within 600mm of the footings of the building.

WALL AND FLOOR TILES

For guidance on installation of ceramic tiles see recommendations as set out in AS3958 parts 1 and 2.

WALLS:

Cover the following wall faces with selected glazed tiles:

To bathroom generally to a height of 135mm.

To bath recess: to a height of 1350mm.

To shower recess to a height of 1800mm.

To enclosing of bath and hobs

To WC to height of one row of tiles or as directed

Above kitchen sink/s and cooking area/s allow for four rows tiles. Finish at top and salient angles with round edge tiles. Provide vent tiles and selected recess fittings. Tiles to be fixed to a backing of Fibre Cement with approved adhesive. Areas for tiles can be increased by proprietors direction or as noted on plans.

FLOORS: Cover floors of bathroom, shower recess, WC and ES with selected ceramic tiles, set in cement mortar or approved adhesive and graded to give an even and adequate fall to floor waste.

PAINTING

All paints, stains, varnishes and water colours are to be of approved brands as selected. Materials used for priming and undercoating are to be the same brand as the finishing paints or as recommended by the manufacturers of the finishes used. All finishing colours are to be selected by the proprietor. Do all necessary stopping after the priming has been applied. Rub down all surfaces to a smooth finish prior the application of each successive coat of paint. External joinery or other exposed woodwork to have a clear plastic finish is to be treated with a priming oil containing wood preservative and a water repellent.

EXTERNALLY: All external woodwork to be given one coat of primer, one coat of oil based undercoat and one coat of gloss finish enamel or to be given one coat of clear primer, one coat of flat clear plastic and one coat of clear plastic.

PRIMING WEATHERBOARDS: Any pine is to be primed all round as well as on the ends. Before fixing; hardwood, cypress pine, radiata pine and oregon are to be primed on external faces including rebates. Pressure treated Canada pine is to be primed at ends before fixing.

IRONWORK:

Eaves, gutters, downpipes, exposed service pipes and wrought iron etc. to be cleaned and primed and give one coat of gloss paint all round.

FIBRE CEMENT: Clean and prepare all external fibre cement surfaces and finish with two coats of water based paint.

INTERNALLY: All exposed woodwork in kitchen, bathroom, laundry WC EC to be prepared primed and then given one undercoat and finished with one coat of full gloss paint or to be stained and finished with two coats of clear liquid plastic as selected.

CEILINGS: To be given one coat of sealer and two coats of paint. The finishing coat of bathroom, laundry, and kitchen ceilings to be semi gloss (unless directed otherwise).

WALLS: All rooms except bathroom, laundry and kitchen to be given one coat of sealer and two coats of water based paint. To bathroom, kitchen, WC EC and laundry where no tiled or pre surfaced material is required, walls are to be given one coat of sealer, one coat of undercoat and one coat of gloss oil paint system.

GLAZING: BCA part 3.6

All sashes, doors, fixed lights and other glass in building shall be selected and installed by procedures as set out in AS1288 and/or AS2047 for type, thickness and area of glass according to wind loading, human impact and other considerations for glazing in frames of timber, steel, stainless steel, aluminium and bronze according to type of frame, height of building and glazing compound and for design and glazing of unframed toughened glass assemblies. Specific attention should be made to the selection of frame materials, glazing, location in walls and orientation to the path of the sun for various climate zone. Where windows are not shaded by roof, eaves or other building projections, advice by an approved specialist or manufacturer should be sought to ensure that all installations comply with the Energy Efficiency requirements of the BCA..

FENCING

Provide paling fence 1500mm height to side and rear boundaries. Posts to be 125 x 50mm in sawn approved durable hardwood, morticed for two rails and sunk into ground 600mm at maximum of 2700 mm. Posts at angles in fencing to be 125mm square. Well ram around posts. Where rock is encountered posts are to be set in concrete. Fit two rows of 75 x 50mm hardwood rails into mortises. Cover framing with hardwood palings. Double nail to rails at top and bottom. Cut line at top and lop corners. All timber in ground or concrete to be well tarred or treated with an approved preservative. Allow for repairing any existing recommendations of the manufacturer.

FRONT FENCING: Provide front fencing as directed.

ALPINE AREAS:

For buildings to be constructed in an alpine area, compliance with the requirements of BCA part 3.7.5. is required. Alpine areas are areas above Australian Height Datum (AHD) as follows:- NSW, VIC, ACT above 1,200 metres AHD. TASMANIA, above 900 metres AHD. For sub alpine areas where significant snow loads may occur see BCA fig. 3.7.5.2. Where snow loads may be applied to a building design according to AS1170.3 is required. (see BCA 3.11.3)

CLIMATE ZONES; Climate Zones classification for various localities are shown in BCA2010 Table1.1.2. Thermal design requirements for climate zones should be as per BCA 2010 Fig. 1.1.4.

EARTHQUAKE:

Earthquake probability shall be determined to BCA3.11.3 and loading requirements designed to comply with AS1170.4

LANDSCAPING:

The area to be landscaped shall comply with the landscape plan and requirements of the Local Council Authorities. Appropriate landscape design will reduce water usage in lawns and gardens by up to 50%. Selection of native (indigenous plants suited to the local micro climate along with exotic species from California, South Africa and the Mediterranean will normally require minimal maintenance and water use. (BASIX website: see table D.2.1 for indigenous plants in various local government areas).

CAR PARKING: All car parking and loading bays to be kerbed, guttered, sealed, drained, line marked and landscaped. Drainage of surface water into neighbouring properties is NOT permitted except where an easement is obtained. All car parks shall comply with the provision of Local Council Authorities.

COMPLETION:

The building shall be completed in every trade. Sashes, doors, locks and all other equipment shall be checked and left in a satisfactory operating condition. Timber floors shall be at least rough sanded. Where fine sanding is specified see CA39: Code of practice for sanding interior wooden floors. All plant, surplus materials and rubbish is to be removed from site. Gutters and drains shall be cleared and the building generally to be left clean and fit for occupation.

The Builder is to furnish the Owner with:

- | | |
|---|---|
| 1 Notification of Completion | 4 Certificate from Sewerage Authority re-sanitary drainage. |
| 2 All Keys for all doors. | 5 Invoices for all PC items required. |
| 3 Certificate of termite protection treatment | |

It is the responsibility of the builder to arrange any inspections necessary by Local Council, Waterboard or Lending Authorities and/or Principal Certifying Authority.

It is the responsibility of the Owner to apply to Local Supply Authorities for connection of Electricity from mains to meter box.

APPROVAL TO OCCUPY MUST BE OBTAINED

BASIX: The Building Sustainability Index. – NSW (only)

For Class1 and 10 buildings subject to BASIX the BCA energy provisions of Part 2.6 and Part 3.12 of BCA 2009 as varied by the NSW Appendix are applicable.

Sustainability indicies are assessed for Energy, Water Usage and Thermal Comfort. The policy also factors in Stormwater reuse and Landscaping but does not score these.

NSW Government targets of a reduction in mains potable water consumption and reduction in Greenhouse Gas emissions can be achieved by dwelling design and sustainability features. These features may include design elements such as recycled water, rainwater tanks, 3 star min. rated shower heads, taps and toilets, heat pump or solar water heaters, gas space heaters, eaves, awnings and insulation of walls, ceilings and roofs.

A BASIX Certificate must be submitted with a Development Application, Complying Development Certificate and Construction Certificate Application for all of NSW for new homes and for some alterations and additions.

Data required to Complete a BASIX Assessment is described in the BASIX Data Input checklist and this should be used in conjunction with the BASIX Assessment Tool.

Extracts from BASIX are reproduced by courtesy of DIPNR.

SUGGESTED ENERGY SAVING METHODS CAN BE:

Use of gas for heating hot water and cooking. Both indoor and outdoor clothes drying lines. Installing energy saving Light bulbs.

To improve the efficiency of the refrigerator by ensuring there is adequate air passing over the refrigerant coils.

- The refrigerator should be completely freestanding; or at least one side or the top of the refrigeration space is completely open.

GREYWATER

- Ensure that public health and the environment are not adversely affected.
- Minimise the adverse impact on the amenity of the premises and provide for the reuse of resources.

GREYWATER DIVERSION DEVICES (GDD)

A greywater diversion device must be in accordance with the NSW Health's Greywater requirements.

DOMESTIC GREYWATER TREATMENT SYSTEMS (DGTS) must be:

- Greywater treatment system device that is accredited by NSW Health in accordance with the DTGS Accreditation Guideline,; or
- An aerated wastewater treatment system (AWTS) accredited by NSW Health or
- A facility that is purpose designed for a particular premises and has Local Government (Approvals) as per Regulation 1999,

THERMAL COMFORT

PERFORMANCE REQUIREMENTS : CAN BE ASSESSED BY THREE DIFFERENT METHODS:

Option 1: **RAPID:** Meet conditions listed in 10 questions within the BASIX Data Input checklist.

NOTE: only for simple, single storey homes (usually) brick veneer dwellings

Option 2 : **DO IT YOURSELF (D.I.Y):** tick box questions on:- Construction type, details of floors, walls, ceilings, roof, windows and skylights cross ventilation.

Option 3 : **SIMULATION METHOD:** Assessments of the thermal performance of the dwelling undertaken through the 'Simulation' method. Assessments are to be conducted by an accredited assessor using approved software.

PRECONDITIONS: The total area of all skylights must not occupy more than 2% of the gross floor area

CONSTRUCTION

(a) Walls Wall types: See wall type diagrams in Specification section insulation R-Value

CROSS VENTILATION

(a) Living area cross ventilation

1. The total area of ventilation openings in all living areas must be greater than 12.5% of the floor area of all living areas.
2. Openings must be provided on opposite or adjacent walls of every living area.

(b) Bedroom cross ventilation

1. The bedroom must contain at least two windows or a window and a skylight, which can be opened

GLAZING AND SKYLIGHTS

(a) Orientation Windows facing different directions have varying requirements to comply with BASIX Thermal Comfort requirements.

(b) Glazing and skylight types

1. Must have the characteristics nominated in Appendix1 Glazing and skylight characteristics. (Available on BASIX website)

SHADING

- (a) Eaves and projections
 - 1. May be an eave, horizontal opaque projection, awning or pergola and shall be made of a durable material suitable for external use.
 - 2. The projection is measured horizontally from the face of the wall/building.
 - 3. The eave/projection must be located no greater than 2400mm vertically above the sill of the glazing system.
- (b) Vertical adjustable external shading
 - 1. An adjustable shading device may comprise of shutters, louvers or panels.
- (c) Vertical fixed external shading
 - 1. A fixed shading device may comprise of shutters, louvers or panels. An adjacent building over 5 m in height and less than 3.1 m from glazing sill is equivalent to fixed vertical shading.
- (d) Controlling solar gain
 - 1. BLOCKING SOLAR GAIN: A shading device must restrict at least 80% of solar radiation at the summer solstice
 - 2. PERMITTING SOLAR GAIN: An adjustable shading device may be allowed.
- (e) Concessions to shading requirements may be allowed.

REQUIRED INSULATION AND ROOF COLOURS: Lighter coloured roofing has more resistance to Solar gain (see table C2.8 in BASIX website)
(a) Insulation: Technical and installation requirements for thermal insulation are to be in accordance with the B C A NSW Appendix
ROOF VENTILATION Can be increased by Wind driven Ventilators and Gable End vents.

INDIGENOUS PLANT SPECIES

Promote the planting of indigenous plant species to preserve the character of the local environment and promote a balanced ecosystem.
Ensure that the species selected are adapted to the natural rainfall patterns of the locality.

PERFORMANCE REQUIREMENTS

- (a) The indigenous plants for each local government area are set out in Table D.2.1. of the full BASIX Specification on www.basix.nsw.gov.au
- (b) In addition, a plant species is considered to be indigenous to a local government area for the purposes of BASIX commitment, if the local council for that area states in writing that the species is indigenous to that local government area.

Generation of a BASIX Certificate can only be made in the NSW Department of Infrastructure, Planning and Natural Resources BASIX Website: www.basix.nsw.gov.au

ADDITIONAL BUILDING REQUIREMENTS:All instructions for extra work to that shown on the plans or any additional requirements must be in writing. Verbal instructions must be confirmed in writing and dated and signed copies of all instructions are to be retained by both the owner and the builder.

This is the specification referred to in the contract between(OWNERS)

and(BUILDERS)

Dated// 20

Signed(owner) Signed.....(builder)

BUILDER'S LICENCE No.....

MASONRY CONSTRUCTION	Clay Bricks	<input type="checkbox"/>	Face	<input type="checkbox"/>	Commons	<input type="checkbox"/>	Stone	<input type="checkbox"/>
	Concrete Bricks	<input type="checkbox"/>	Concrete Blocks	<input type="checkbox"/>	AAC Blocks	<input type="checkbox"/>	AAC Panels	<input type="checkbox"/>
	Rendered	<input type="checkbox"/>	Bagged	<input type="checkbox"/>	Painted	<input type="checkbox"/>		
MORTAR JOINTS	Colour.....		Ironed	<input type="checkbox"/>	Flush	<input type="checkbox"/>	Raked	<input type="checkbox"/>
SILLS	Brick	<input type="checkbox"/>	Quarry Tiles	<input type="checkbox"/>				
EXTERNAL WALL SHEETING	Timber Cladding	<input type="checkbox"/>	Fibre Cement Cladding	<input type="checkbox"/>	Metal Cladding	<input type="checkbox"/>	PVC/Vinyl	<input type="checkbox"/>
	Type.....		Type.....		Type.....		Type.....	
FLOOR CONSTRUCTION	Timber	<input type="checkbox"/>	Concrete	<input type="checkbox"/>	Pre.Str. Beam Floor	<input type="checkbox"/>	Steel	<input type="checkbox"/>
FLOORING	T & G	<input type="checkbox"/>	Species.....		Compressed FC Sheet	<input type="checkbox"/>	Structural Plywood	<input type="checkbox"/>
	Particle Board	<input type="checkbox"/>	Tiles: Ceramic	<input type="checkbox"/>	Terra Cotta	<input type="checkbox"/>	Quarry	<input type="checkbox"/>
DECKING	Treated Pine	<input type="checkbox"/>	Other.....					
WALL FRAMES	Timber	<input type="checkbox"/>	Hardwood	<input type="checkbox"/>	Pine	<input type="checkbox"/>	H.S.Galv. Steel	<input type="checkbox"/>
	Structural Steel	<input type="checkbox"/>	Off site prefabricated	<input type="checkbox"/>	Onsite cut/assembled	<input type="checkbox"/>		
ROOF CONSTRUCTION	Pitched Roof	<input type="checkbox"/>	Exposed Rafters	<input type="checkbox"/>	Oregon	<input type="checkbox"/>	Hardwood	<input type="checkbox"/>
	Roof Trusses	<input type="checkbox"/>	Raked Ceiling	<input type="checkbox"/>	Pine	<input type="checkbox"/>	Steel Framing	<input type="checkbox"/>
	Flat/Skillion	<input type="checkbox"/>						
ROOF COVER	Concrete Tiles	<input type="checkbox"/>	Terra Cotta Tiles	<input type="checkbox"/>	Shingles/Slate	<input type="checkbox"/>	Corrugated FC	<input type="checkbox"/>
	Zincalume	<input type="checkbox"/>	Colorbond	<input type="checkbox"/>	Polycarbonate	<input type="checkbox"/>	Profile.....	
THERMAL INSULATION	Roof/ceiling	<input type="checkbox"/>	Reflective Insulation Rating R.....		Bulk Insulation Rating R.....			
	Walls	<input type="checkbox"/>	Reflective Insulation Rating R.....		Bulk Insulation Rating R.....			
	Floors	<input type="checkbox"/>	Reflective Insulation Rating R.....		Bulk Insulation Rating R.....			
INTERNAL WALL LININGS	Gypsum Plasterboard	<input type="checkbox"/>	FC Sheeting	<input type="checkbox"/>	Timber Panelling	<input type="checkbox"/>	Cement Render	<input type="checkbox"/>
	Face Brick	<input type="checkbox"/>	Other.....					
WET AREA LININGS	WR Gyp. Plasterboard	<input type="checkbox"/>	Villaboard	<input type="checkbox"/>	Timber Panelling	<input type="checkbox"/>	Laminated Panel	<input type="checkbox"/>
CEILINGS	Gypsum Plasterboard	<input type="checkbox"/>	Timber Panelling	<input type="checkbox"/>	FC Sheeting	<input type="checkbox"/>		
CORNICE	Type.....		Size.....mm					
DOOR JAMBS	Timber	<input type="checkbox"/>	Galvanised Steel	<input type="checkbox"/>		<input type="checkbox"/>		
WINDOWS	Timber	<input type="checkbox"/>	Aluminium	<input type="checkbox"/>	Type/Manufacturer.....			
FLYSCREENS	Timber	<input type="checkbox"/>	Aluminium	<input type="checkbox"/>	Other	<input type="checkbox"/>		
JOINERY	Timber	<input type="checkbox"/>	Species.....		Stained/Polished	<input type="checkbox"/>	Other.....	
	Architrave Size.....mm		Skirting Size.....mm		Material.....			
	Kitchen Cupboards.....				Stained	<input type="checkbox"/>	Painted	<input type="checkbox"/>
	Front Door Type.....				Stained	<input type="checkbox"/>	Painted	<input type="checkbox"/>
	Other External Doors Type.....				Stained	<input type="checkbox"/>	Painted	<input type="checkbox"/>
	Internal Doors Type.....				Stained	<input type="checkbox"/>	Painted	<input type="checkbox"/>
	Garage Door Type.....				Size.....mm		Colour.....	
EXTERNAL STAIRS	Timber	<input type="checkbox"/>	Steel	<input type="checkbox"/>	Concrete	<input type="checkbox"/>	Brick	<input type="checkbox"/>
INTERNAL STAIRS	Timber	<input type="checkbox"/>	Steel	<input type="checkbox"/>	Concrete	<input type="checkbox"/>	Brick	<input type="checkbox"/>
	as manufactured by.....				Balustrade type			
ELECTRICIAN	Provide:		Light Points.....		Single Switches.....		Two way switches.....	
			Power Outlets.....		Single.....		Double.....	
			Light fittings.....		Smoke Detectors.....		Exhaust Fans.....	
ROOF PLUMBER	Quad Gutters (size....)	<input type="checkbox"/>	Box Gutters	<input type="checkbox"/>	Sheerline Gutters	<input type="checkbox"/>		<input type="checkbox"/>
GUTTERS/DOWNPINES	Downpipes 100 x 50	<input type="checkbox"/>	100 x 75	<input type="checkbox"/>	100 x 100	<input type="checkbox"/>	Round.....dia	
	Colorbond	<input type="checkbox"/>	PVC	<input type="checkbox"/>	Copper	<input type="checkbox"/>	Zincalume	<input type="checkbox"/>
	Aluminium	<input type="checkbox"/>	Galvanised	<input type="checkbox"/>				
WATER SERVICE	Copper pipe	<input type="checkbox"/>	PVC Pipe	<input type="checkbox"/>	Flex. pipe system	<input type="checkbox"/>		
RETICULATED RECYCLED WATER	All Reticulation Systems for Recycled Water must have Lilac Coloured components and markings.							
RAINWATER STORAGE TANKS	Type.....		Size.....(kl)		Nos.		Pressure Pump	<input type="checkbox"/>
STORMWATER STORAGE TANKS	Type.....		Size.....(kl)					
HOT WATER SERVICE	Electric	<input type="checkbox"/>	Gas	<input type="checkbox"/>	Solar	<input type="checkbox"/>		
	Mains Pressure	<input type="checkbox"/>	Gravity Fed	<input type="checkbox"/>	Cylinder capacity.....litres			
INTERNAL SEWER SERVICE	Copper	<input type="checkbox"/>	PVC	<input type="checkbox"/>				
DRAINER	Sewer connection	<input type="checkbox"/>	Septic System	<input type="checkbox"/>	Aerated System	<input type="checkbox"/>	Greywater diversion	<input type="checkbox"/>
	PVC pipes	<input type="checkbox"/>	Vitrified clay pipes	<input type="checkbox"/>	Copper pipes	<input type="checkbox"/>		
FENCING	Brick	<input type="checkbox"/>	Paling	<input type="checkbox"/>	Rail	<input type="checkbox"/>	Brushwood	<input type="checkbox"/>
	Front Boundary	<input type="checkbox"/>	Side Boundary	<input type="checkbox"/>	Rear Boundary	<input type="checkbox"/>	Colorbond	<input type="checkbox"/>
	As manufactured by				Type			
POOL	Type.....		Inground	<input type="checkbox"/>	Above Ground	<input type="checkbox"/>	Pool Cover	<input type="checkbox"/>

This Schedule is to be fully completed. Items applicable should be marked - items with blank spaces will NOT be included in the works

PROPRIETOR..... BUILDER..... DATE/...../.....

SCHEDULE OF RATES / P.C. ALLOWANCES AND MATERIALS

ITEMS	MODEL OR TYPE	PRIME COST
1. CONCRETE PIERS TO FOOTINGS	\$
2. ROCK EXCAVATION: per cubic metre	\$
3. AGRICULTURAL DRAINS: per lin. metre	\$
4. STORMWATER.....	\$
5. SEWER CONNECTIONS.....	\$
6. CERAMIC TILES WALL \$.....PER M2 S/O	\$
S/O=SUPPLY ONLY FLOOR \$.....PER M2 S/O	\$
QUARRY \$.....PER M2 S/O	\$
7. SEPTIC INSTALLATIONS	\$
8. GREYWATER TREATMENT INSTALLATION	\$
9. BATHROOM VANITY & CABINET	\$
10. EN-SUITE VANITY & CABINET.....	\$
11. BASIN.....	\$
12. BATH	\$
13. TOWEL RAILS.....	\$
14. SOAP HOLDERS.....	\$
15. MIRRORS	\$
16. TOILET SUITES.....	\$
17. SHOWER SCREENS.....	\$
18. LAUNDRY TUB.....	\$
19. STAINLESS STEEL SINK.....	\$
20. KITCHEN CUPBOARDS.....	\$
21. OVEN.....	\$
22. HOT PLATES.....	\$
23. STOVE.....	\$
24. DISHWASHER.....	\$
25. EXHAUST FANS.....	\$
26. RANGE HOOD.....	\$
27. HOT WATER UNIT	\$
28. SMOKE/FIRE DETECTORS	\$
29. PHONE WIRING/FAX WIRING	\$
30. T.V. WIRING/COMPUTER WIRING	\$
31. INTERCOM WIRING.....	\$
32. SECURITY INSTALLATION.....	\$
33. AIR CONDITIONING, SINGLE UNIT.....	\$
34. INTERNAL VACUUM SYSTEM	\$
35. FRONT GATE	\$
36. FRONT FENCE.....	\$
37. CLOTHES HOIST	\$
38. CONCRETE PATHS per lin. metre	\$
39. GARAGE DOORS (remote controlled)	\$
40. LANDSCAPING (As per Design Supplied).....	\$
41. UNIT PAVING.....	\$
42. RAINWATER TANKS	\$
43. RETICULATED RECYCLED WATER SYSTEM...	\$
44.	\$
45.	\$
46.	\$

Where there are additional items or different types of the same item a duplicate list should be added and agreed on by the proprietor and builder.

NOTE: The builder is to allow Prime Costs amounts of items set out in this Schedule above. All items to be selected by Owner. The Builders tender is to include the provision of all items, including the cost of cartage, freight, fixing and fitting as part of his contract. Adjustment for substituted fittings will be made on the basis of the prevailing retail price.

PROPRIETOR..... DATE/...../.....

BUILDER..... DATE...../...../.....

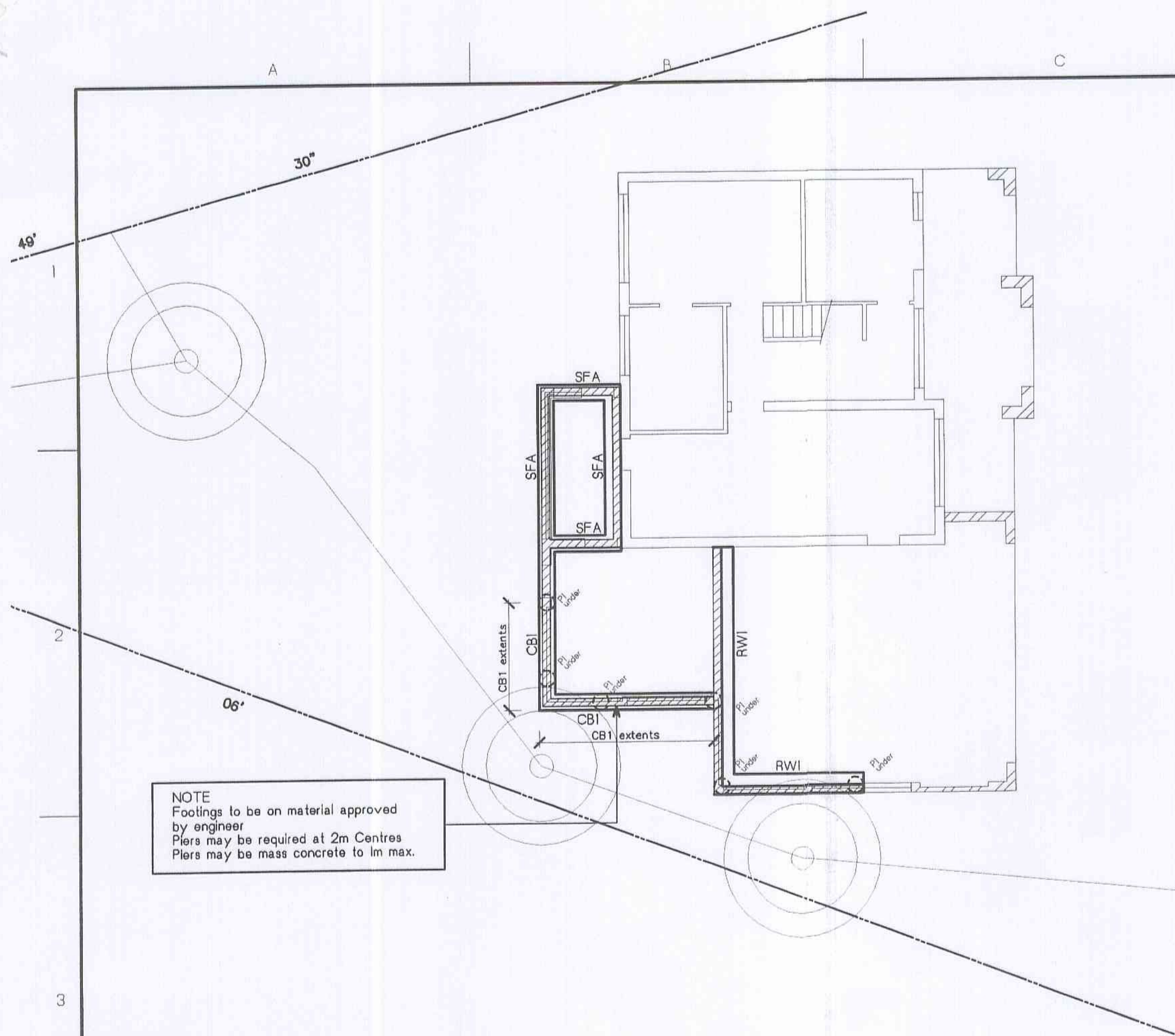
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roofing.....	10		Purlins and girts.....	9	ties
Flashings					veneer.....
brickwork.....	3		R		Wall and floor tile.....
chimneys.....	3		Rainwater tanks	12	Water services.....
roof.....	11		Recycled water	11	Weather board
wet rooms	11		Regulations and notices	1	Weather proofing
			Reinforced		concrete block
			concrete footings.....	1	masonry.....
			slabs.....	2	Weepholes
			masonry	4	Wetroom flashings.....
			Reinforcement		Wind classification.....
			brick	3	windows & frames

ISSN 1838-1359



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SUSPENDED SLAB TRIMMER NOTE: If the first reinforcement bar is NOT placed towards the outside edge with the appropriate cover, IN2 x 1000 long Trimmer Bar is to be placed at ALL internal corners with appropriate cover. TYPICAL. If in doubt, contact the Engineer.

LOWER GROUND FLOOR PLAN Scale 1:100

STEEL REINFORCEMENT - BOTTOM REINFORCEMENT

Location	Member	Length (m)	Units	Weight Kg.
LBR (A)	10 Bondok II			

A = LAY FIRST
B = LAY SECOND

STEEL REINFORCEMENT - TOP REINFORCEMENT

Location	Member	Length (m)	Units	Weight Kg.
LITR (D)	SL92 Mesh			

C = LAY THIRD
D = LAY FOURTH

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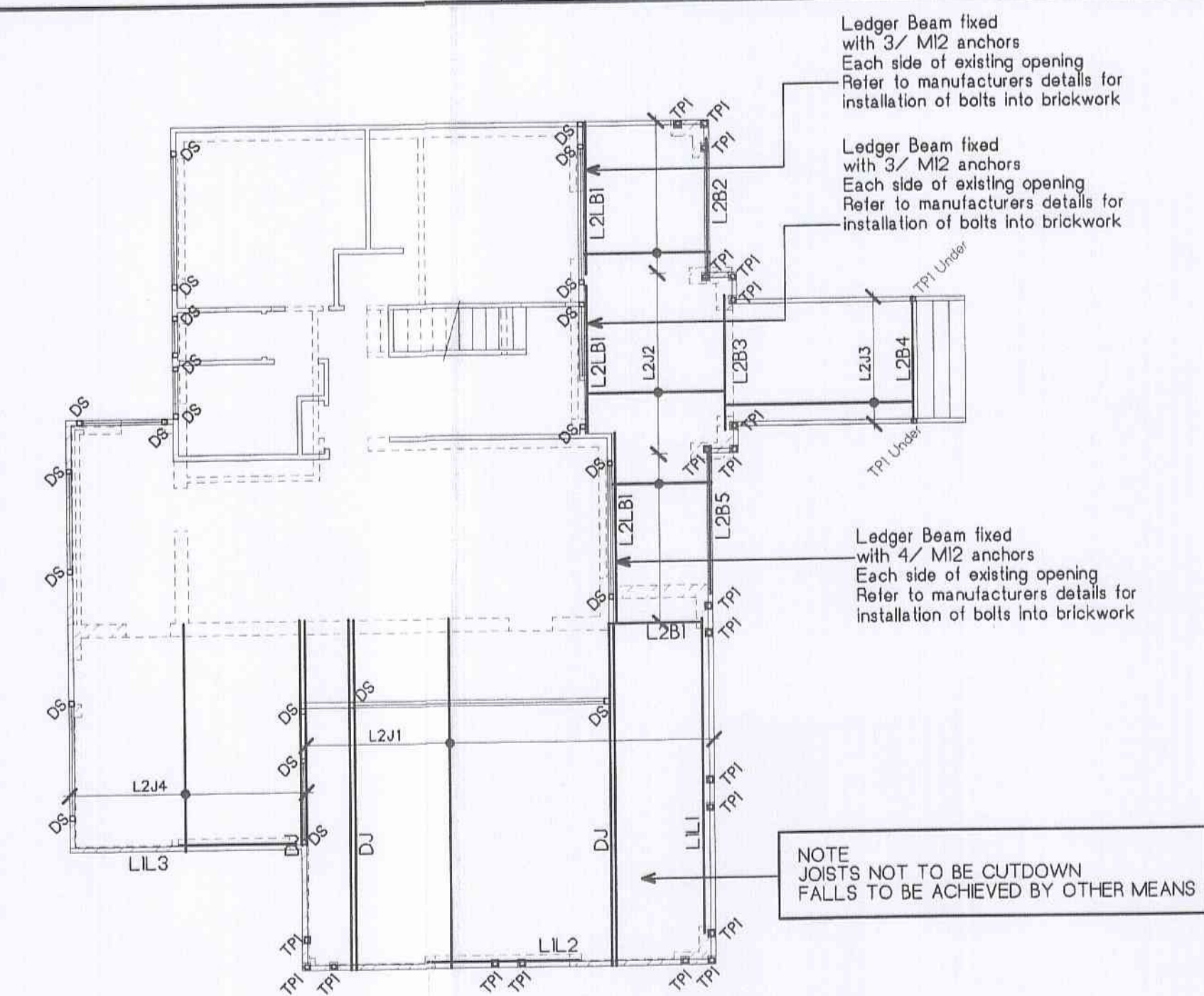
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UPPER GROUND FLOOR (L2) MARKING PLAN Scale 1:100
L1 - MEMBER SIZES

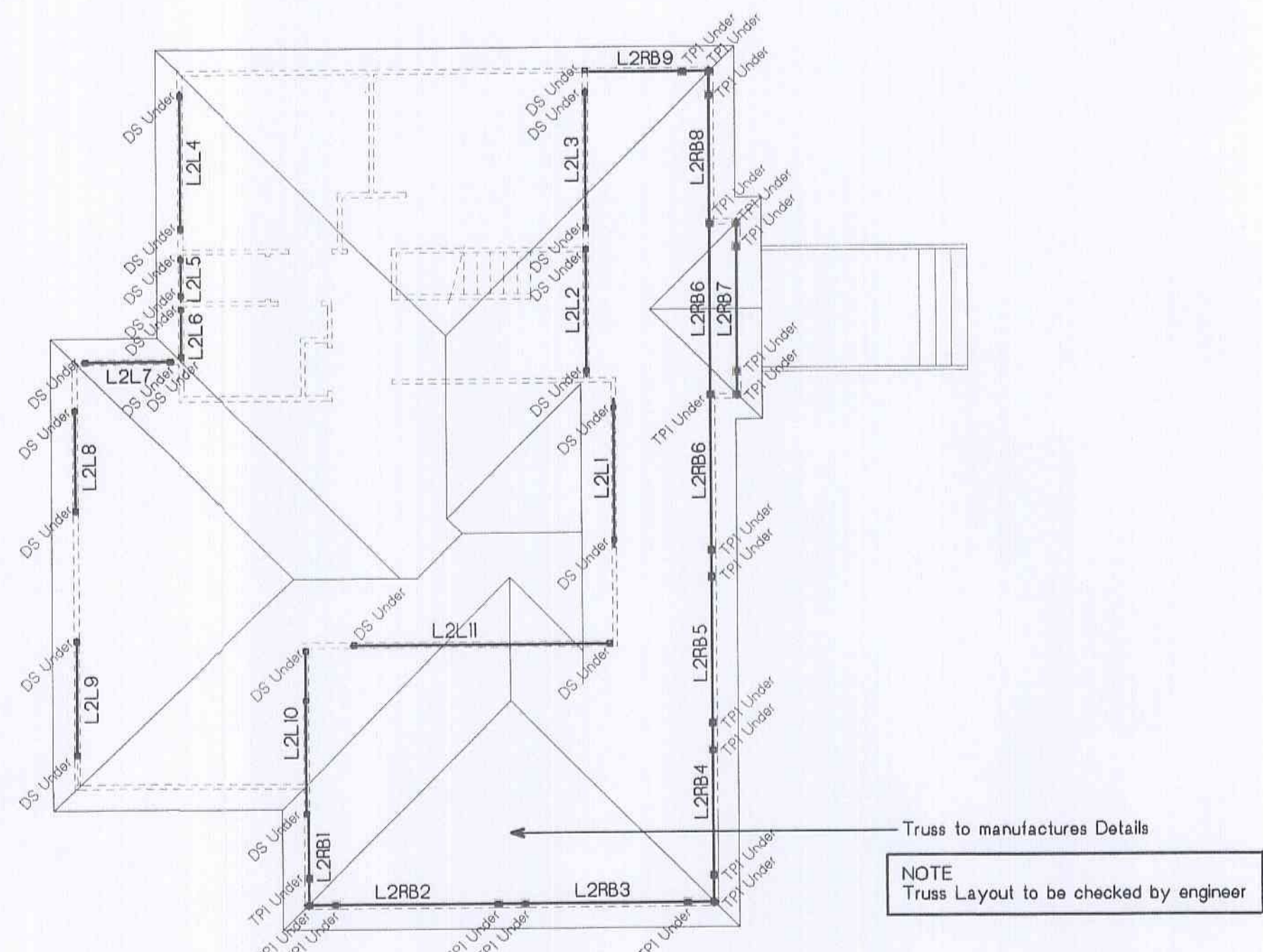
Location Code	Member	Length (m)	Units	Weight Kg.
L1L1	2/ 290 x 45 F27 OR 180UB 22			
L1L2	150 x 90 x 16mm UA			
L1L3	150 x 90 x 16mm UA			

TOTAL WEIGHT

L2 - MEMBER SIZES

Location Code	Member	Length (m)	Units	Weight Kg.
L2B1	290 x 70 F7 H3 Treated			
L2B2	190 x 70 F7 H3 Treated			
L2B3	190 x 45 F27			
L2B4	190 x 45 F27			
L2B5	190 x 45 F7 H3 Treated			
L2J1	360 x 45 LVL Joists at 400 cts			
L2J2	140 x 45 F7 H3 Treated Joists at 450 cts			
L2J3	240 x 45 F7 H3 Treated Joists at 450 cts OR 190 x 45 F27 Joists at 450 cts			
L2J4	240 x 45 LVL Joists at 450 cts			
DJ	Double Joists			
L2L1	240 x 45 F7 H3 Treated			
TPI	90 x 90 F7 Post			
DS	Double Studs			

TOTAL WEIGHT



ROOF (L2) MARKING PLAN Scale 1:100
L2 - MEMBER SIZES

Location Code	Member	Length (m)	Units	Weight Kg.
L2L1	90 x 45 LVL			
L2L2	90 x 45 LVL			
L2L3	90 x 45 LVL			
L2L4	170 x 45 LVL			
L2L5	170 x 45 LVL			
L2L6	170 x 45 LVL			
L2L7	130 x 45 LVL			
L2L8	200 x 45 LVL			
L2L9	200 x 45 LVL			
L2L10	130 x 45 LVL			
L2L11	2/ 290 x 45 LVL			
L2R1	240 x 45 F7 OR 190 x 45 F27			
L2R2	240 x 45 F7 OR 190 x 45 F27			
L2R3	240 x 45 F7 OR 190 x 45 F27			
L2R4	240 x 45 F7 OR 190 x 45 F27			
L2R5	240 x 45 F7 OR 190 x 45 F27			
L2R6	2/ 240 x 45 F7 OR 2/ 190 x 45 F27			
L2R7	240 x 45 F7 OR 190 x 45 F27			
L2R8	240 x 45 F7 OR 190 x 45 F27			
L2R9	240 x 45 F7 OR 190 x 45 F27			
DS	Double Studs			
TPI	90 x 90 F7 Post			

TOTAL WEIGHT

- STEELWORK NOTES**
1. Fabricate and erect all structural steelwork in accordance with AS 3660.1, AS 4100, AS 1554 and the Specification.
 2. Do not obtain dimensions by scaling the structural elements.
 3. Chip all welds free of slag.
 4. All steelwork to be Hot Dipped Galvanised. Unless Otherwise Noted.
 5. Unless otherwise noted use:
 - a) 6mm continuous fillet weld
 - b) 10mm thick gusset, fin and end plates, weld all round.
 - c) 16mm dia. 4.6/s bolts
 6. Minimum end bearing 150mm.

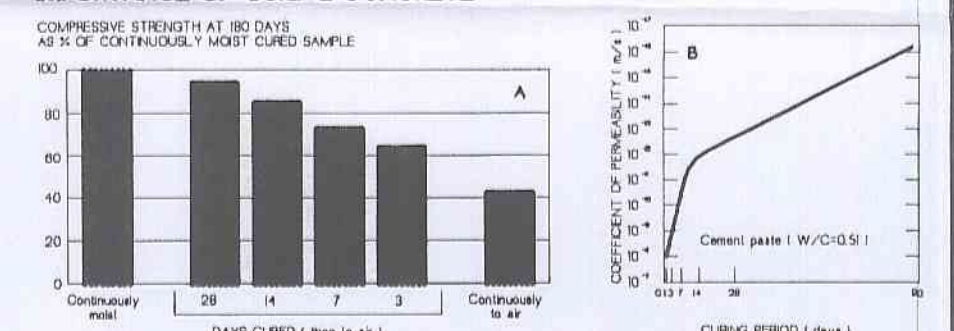
- TIMBER NOTES**
1. All work (including bracing, wind bracing & tie downs) shall be carried out in accordance with AS 3660.1, AS 1684.2, AS 1720.1 and the specification.
 2. Refer to the Architects Drawings and the specification for all timber sizes not shown on these drawings.
 3. All timber shall be free of Gum veins, pockets, knots holes or splits within 255mm of any connection.
 4. Refer to specification for preservatives and finishes to timbers.
 5. All bolts, nuts, washers and timber connectors shall be hot dip galvanised unless noted otherwise.
 6. All F5 timber shown are nominal sizes only.

- CONCRETE & BLOCK NOTES**
1. All concrete work to be in accordance with AS 3600.
 2. Fc Refer to table.
 3. Maximum aggregate size = 20 for footings, slabs & beams.
= 10 for block filling.
 4. Slump = 80.
 5. All concrete, including block filling, to be vibrated.
 6. Slabs to be kept damp for at least 14 days after placing.
 7. All blockwork to be in accordance with SAA Masonry Code AS 3700.
 8. All cavities of block work to be thoroughly cleaned out, using knock out blocks or other suitable means, before filling with grout or concrete.
 9. 200 & 300 blocks to be hollow retaining wall blocks with a characteristic strength of 15 MPa.
 10. Reinforcing Steel to comply with AS/NZS 4671:2001, and to be D500N unless noted otherwise. (where 500 = strength grade in megapascals & N = Normal ductility class).
 11. Steel Reinforcement to be cut & bent in accordance with AS 3600.
 12. Bar Chairs to be no more than 800mm centre to centre spacings.
 13. Reinforcement to be tied at every other intersection minimum. Metal roofing being used as formwork not Bordock or similar. Depth of Slab must be taken from the Top of the Roof Rib. Specified bottom cover must be taken from the Top of the Roofing Rib or be protected by an approved curing membrane.
 14. Moisture Vapour Membrane to be 200 Microns thick, U.V. Resistant and to be in accordance with AS 2870-1996. Acceptable manufacturers and processors of steel reinforcement must hold a valid certificate of approval, issued by the Australian Certification Authority for Reinforcing Steel Ltd (ACRS), or to an equivalent certification system as may be approved in writing by the specifier. Evidence of compliance with this clause must be obtained when the contract bids are received.

Element	Cover (mm)	Fc at 28 days
	Protected / Exposed	Protected / Exposed
Slabs	65 / 50	25 MPa / 25 MPa
Footings	50	25 MPa
Block Filling	refer to detail	25 MPa
Slab on Ground	30 / 45	32 MPa / 32 MPa
Top		
Bottom		
Beams	50 / 50	40 MPa / 40 MPa
Columns	30 / 45	40 MPa / 40 MPa
Slabs	30 / 45	40 MPa / 40 MPa
Walls	45 / 30	40 MPa / 40 MPa

The minimum clear cover is to reinforcement ties and stirrups.

IMPORTANCE OF CURING CONCRETE



Effect of curing duration on: (A) compressive strength and (B) concrete permeability. Acknowledgement: Diagram is based on fig 12 of Guide to Concrete Repair & Protection (SAA/HB4196).

A	Design revisions to comply with Sydney Water requirements	LS	12/10/12
No.	Amendment	Drawn	Date

PLAN OR DOCUMENT CERTIFICATION

I am a qualified.....CIVIL, GEOTECHNICAL & STRUCTURAL ENGINEER.....
I hold the following qualifications or licence No.....M.Eng.Sc.....
.....F.I.E.Aust.....Nper3.....Struct.Civil.No.149788.
Further I am appropriately qualified to certify this component of the project.
I hereby state that these plans or details comply with the conditions of development consent, the provisions of the Building Code of Australia, A.S.1170, A.S.1170.1, A.S.1170.2, A.S.1684, A.S.2870.1, A.S.3500, A.S.3600, A.S. 3700, A.S.4100 & A.S.1163.
Jack-D. Hodgson
Name Date Signature

UPPER GROUND FLOOR (L2), ROOF (L2) MARKING PLANS AND DETAILS
PROPOSED ALTERATIONS AND ADDITIONS
2 SUNCREST AVENUE
NEWPORT
NATHAN AND KATINKA HOOK

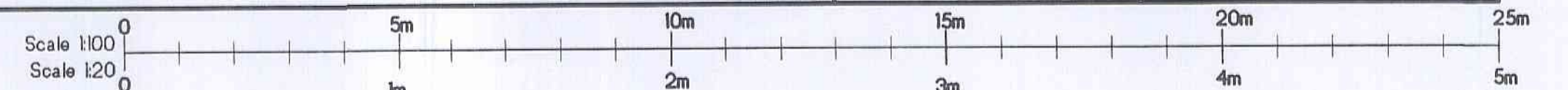
Our design and drawings are based upon and derived from information (including levels, surveys, etc) provided by the owner/architect/designer/ builder, (J.D.Evans and Company PTY LTD Date: 12/10/2010 Dwg NO. 1323). Should the information provided to us be found to be deficient, unreliable, incorrect or inaccurate then our design/drawings may require modification. We take no responsibility for verifying the accuracy of the information that forms the basis of our brief and it is your obligation to verify it prior to the commencement of building operations.

The Structural Details shown on this Drawing are NOT to change under any circumstance.
NO Certificate will be issued for work NOT in accordance with the Drawing.

JACK HODGSON CONSULTANTS PTY. LIMITED.
Consulting Civil, Geotechnical, and Structural Engineers.
67 Darley Street, MCKAY VALLEY 2023 P.O. Box 388 Post Code 1600.
Telephone (02) 9979 6733 Facsimile (02) 9979 6926.
Email: info@jackhodgson.com.au web: www.jackhodgson.com.au ACN 053 405 011

Designed	LB	Drawn	MJC	Job No.	27270-S2
Design Check	LB	Drawing Check	GH	Date	02 APRIL 2012
					SHEET 2 OF 2 /A

This plan / document forms part of Construction Certificate no. 2012 / 4629



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NOTE: ADD APPROX. 930' TO ALL BEARINGS
TO OBTAIN TRUE NORTH ORIENTATION

TWO STOREY
BRICK DWELLING

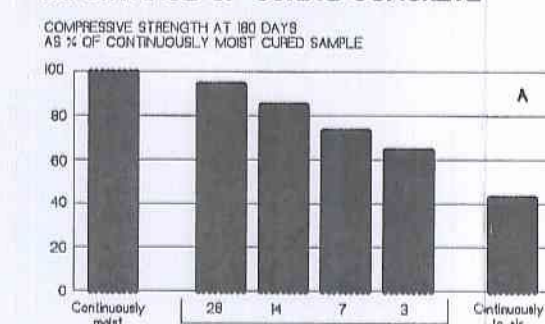
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DECK
TWO STOREY
BRICK DWELLING
No.1

This plan / document
forms part of
Construction Certificate
no. 2012/4529

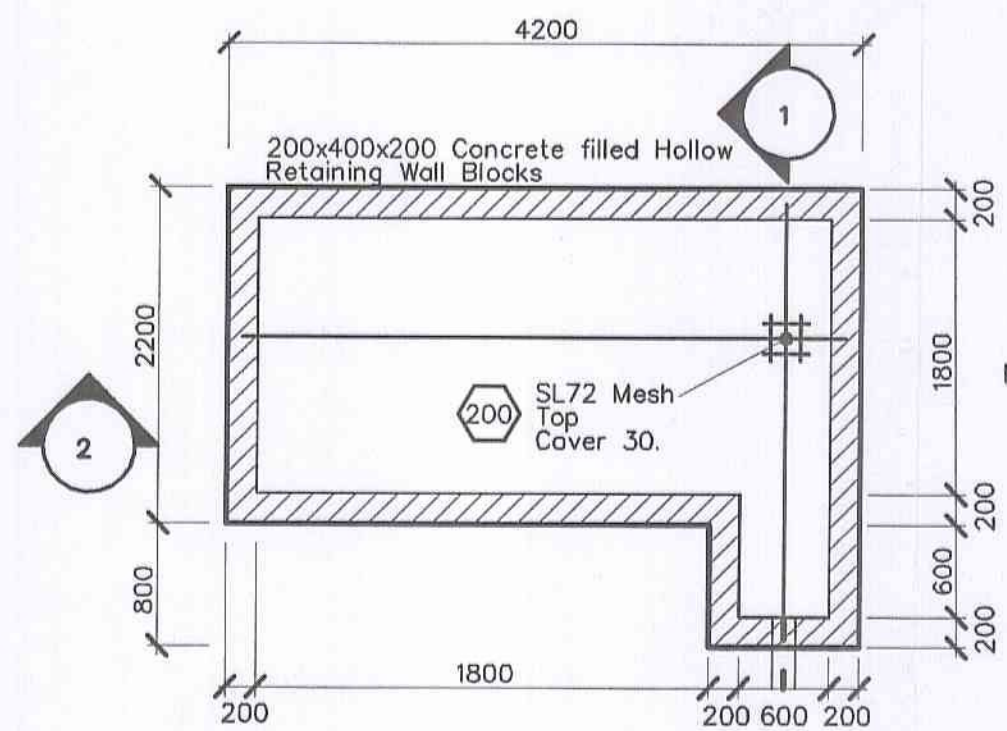
IMPORTANCE OF CURING CONCRETE



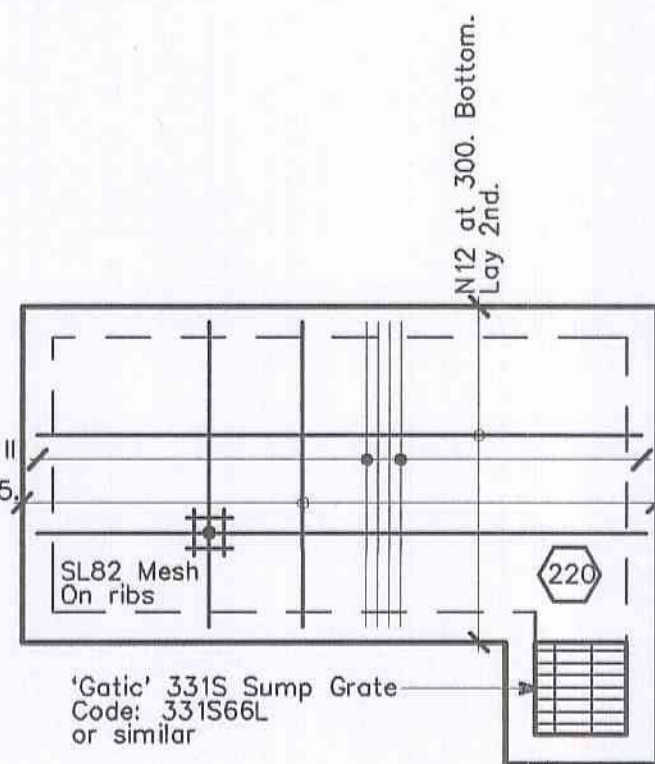
On Site Detention Details

Total Area of block = 0.07478 Hectares (21.4% Imp., 78.6% Perv.)
 Total Post Developed Impervious = 0.03087 Hectares
 Total to Tank = 0.01505 Hectares (100% Impervious)
 Total Uncontrolled Area = 0.05973 Hectares (26.5% Imp., 73.5% Perv.)
 Orifice Diameter = 68mm
 Volume of On Site Detention System = 4.104m³
 100yr PRE = 39 l/s >= POST UNCON. 32 l/s + POST 6 l/s
 5yr PRE = 21 l/s >= POST UNCON. 17 l/s + POST 4 l/s

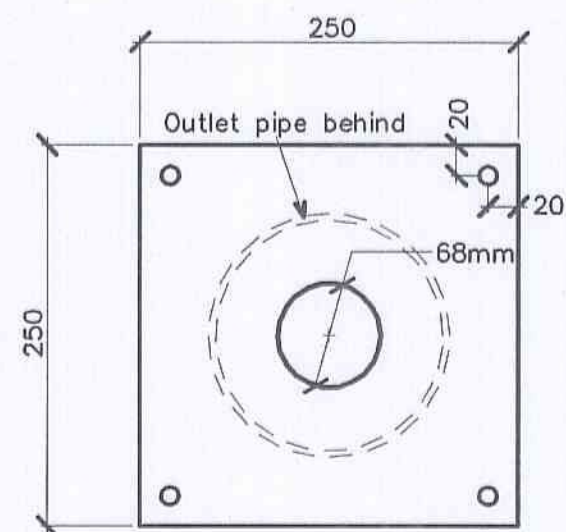
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 Construction Certificate
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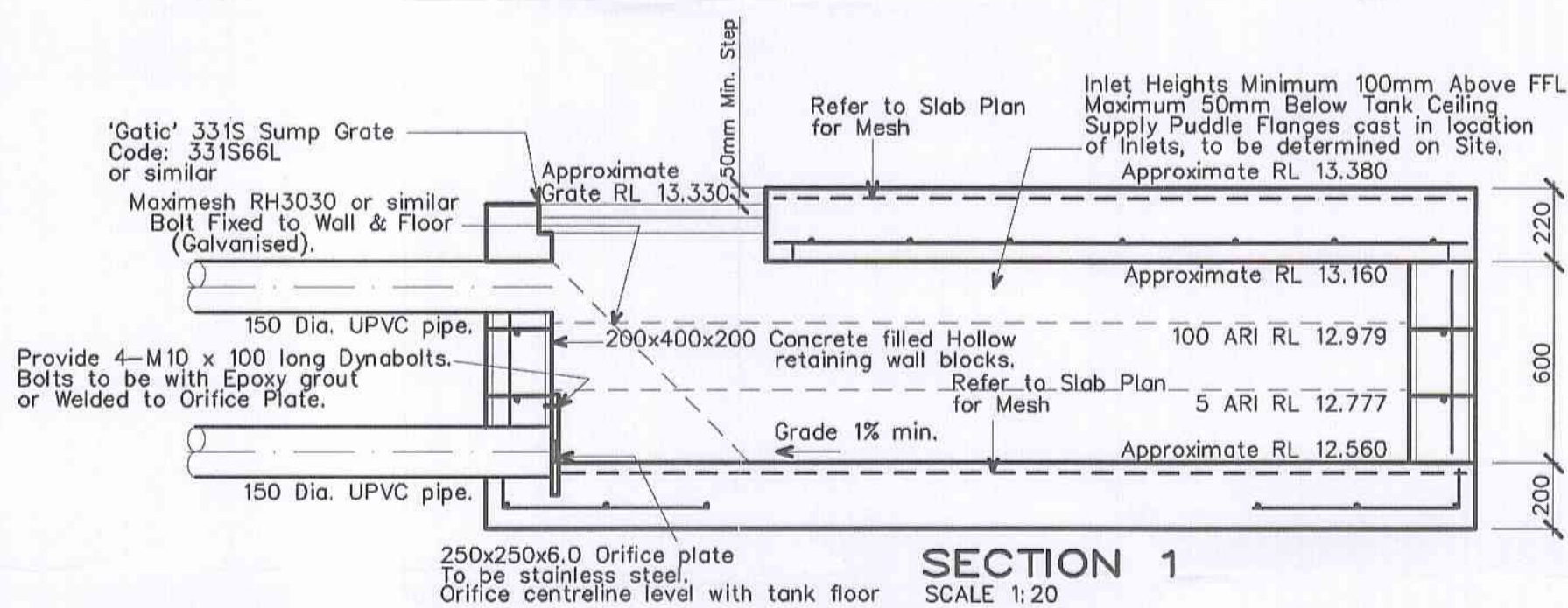
DETENTION PIT BASE PLAN
 Scale 1:50
 (200) Indicates Slab Thickness



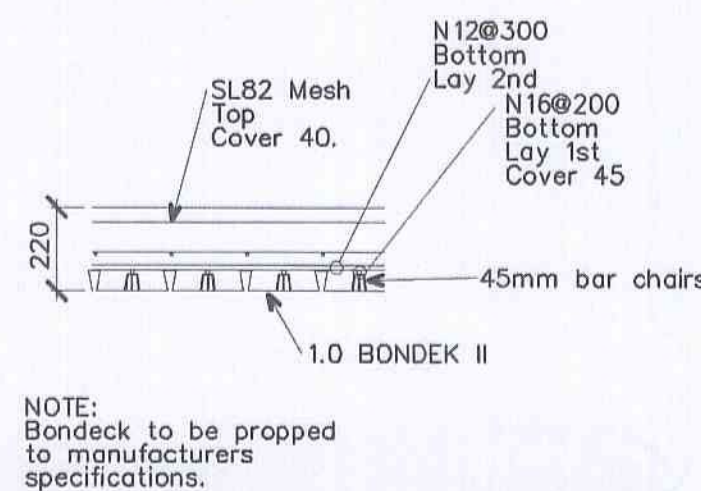
DETENTION PIT LID PLAN
 Scale 1:50
 (220) Indicates Slab Thickness



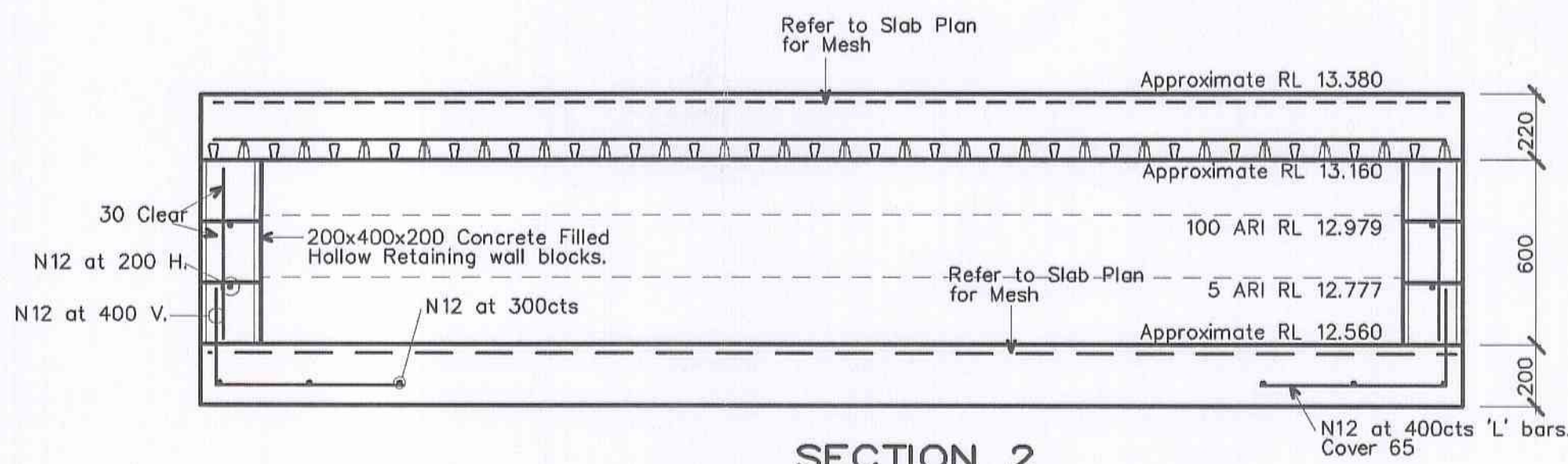
ORIFICE DETAIL
 SCALE 1:5



SECTION 1
 SCALE 1:20

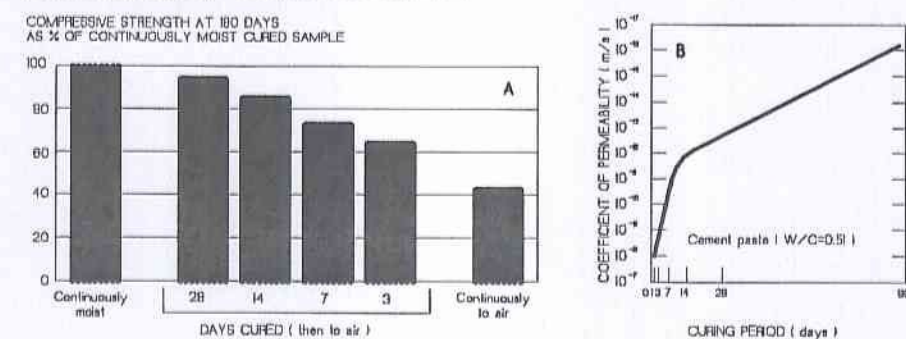


SCREEN SECTION
 Not to Scale



SECTION 2
 Scale 1:20

IMPORTANCE OF CURING CONCRETE



Effect of curing duration on: (A) compressive strength; and (B) concrete permeability
 Acknowledgement: Diagram is based on Fig 12 of Guide to Concrete Repair & Protection (SAA/HBB4399B)

PLAN OR DOCUMENT CERTIFICATION
 I am a qualified... CIVIL, GEOTECHNICAL & STRUCTURAL ENGINEER...
 I hold the following qualifications or licence No... MEngSc...
 F.I.E.Aus... Nper3... Struct.Civil.No.149788...
 Further I am appropriately qualified to certify this component of the project
 I hereby state that these plans or details comply with the conditions of
 development consent, the provisions of the Building Code of Australia.
 A.S.1170, A.S.1170.1, A.S.1170.2, A.S.1684, A.S.2870.1, A.S.3500, A.S.3600,
 A.S.3700, A.S.4100 & A.S.1163. On behalf of **Jack Hodgson Consultants**

ON-SITE DETENTION DETAILS

PROPOSED ALTERATIONS AND ADDITIONS
2 SUNCREST AVENUE
NEWPORT

NATHAN & KATINKA HOOK

Our design and drawings are based upon and derived from information
 (including levels, surveys, etc) provided by the owner/architect/designer/
 J. D. EVANS AND COMPANY PTY. LTD.
 DWG No 1323-1 - 1323-6 Date: 12/10/2010
 DETAILED SURVEYS
 Reference No: 037/10 Date: 12 JULY 2010
 Should the information provided to us be found to be deficient, unreliable,
 incorrect or inaccurate then our design/drawings may require modification.
 We take no responsibility for verifying the accuracy of the information
 that forms the basis of our brief and it is your obligation to verify it prior
 to the commencement of building operations.

The Structural Details shown on this Drawing are NOT to change under
 any circumstance.
 NO Certificate will be issued for work NOT in accordance with the Drawing

JACK HODGSON CONSULTANTS PTY. LIMITED.
 Consulting Civil, Geotechnical, and Structural Engineers.
 67 Darkey Street, MOKA VALE 2203, P.O. Box 398, Post Code 1860.
 Telephone (02) 9979 6733, Facsimile (02) 9979 6926.
 Email info@jackhodgson.com.au web www.jackhodgson.com.au

Designed: CP Drawn: CP Job No: Drawing No:
 Design Check: GH Drawing Check: GH
 Date: 31 AUGUST 2012
27270-H2
 SHEET 2 OF 2



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GEOTECHNICAL RISK MANAGEMENT POLICY FOR PITTWATER
FORM NO. 2 - PART A - To be submitted with detailed design for Construction Certificate

Development Application for _____

Name of Applicant _____

Address of site **2 SUNCREST AVENUE, NEWPORT**

PART - A: Declaration made by Structural or Civil Engineer in relation to the incorporation of the Geotechnical issues into the project design

I, **JACK HODGSON**
(insert name)

on behalf of

JACK HODGSON CONSULTANTS
(trading or company name)

on this the **26TH APRIL, 2012**

(date)

certify that I am a Structural or Civil Engineer as defined by the Geotechnical Risk Management Policy for Pittwater - 2009. I am authorised by the above organization/company to issue this document and to certify that the organization/company has a current professional indemnity policy of at least \$2million. I also certify that I have prepared the below listed structural documents in accordance with the recommendations given in the Geotechnical Report for the above development and that

Please mark appropriate box

- ☒ the structural design meets the recommendations as set out in the Geotechnical Report or any revision thereto
- ☒ the structural design has considered the requirements set out in the Geotechnical Report for Excavation and Landfill for both the Excavation/construction phase and the final installation in accordance with Clause 3.2 (b)(iv) of the Geotechnical Risk Management Policy

Geotechnical Report Details :

Report Title: **RISK ANALYSIS AND MANAGEMENT FOR PROPOSED ADDITIONS & ALTERATIONS AT 2 SUNCREST AVENUE, NEWPORT**

Report Date: **29TH OCTOBER, 2010**

Author : **BEN WHITE**

Author's Company/Organisation: **JACK HODGSON CONSULTANTS PTY LTD**

Structural Documents list:

DRAWING NO.S 27272-S1 & S2

I am also aware that Pittwater Council relies on the processes covered by the Geotechnical Risk Management Policy, including this certification as the basis for ensuring that the geotechnical risk management aspects of the proposed development have been adequately addressed to achieve an "Acceptable Risk Management" level for the life of the structure taken as at least 100 years unless otherwise stated and justified.

Signature _____

Name **JACK HODGSON**

Chartered Professional Status **M.Eng.Sc. F.I.E. Aust**

Membership No. **149788**

Company **JACK HODGSON CONSULTANTS**

This plan / document
forms part of
Construction Certificate
no. **2012 / 4629**

**COUNCIL
COPY**

copy

GEOTECHNICAL RISK MANAGEMENT POLICY FOR PITTWATER
FORM NO. 2 – PART B - To be submitted with detailed design for construction certificate

PART B Declaration made by Geotechnical Engineer or Engineering Geologist and/or Coastal Engineer (where applicable) in relation to the incorporation of the Geotechnical issues into the project design

I, Ben White on behalf of Jack Hodgson Consultants Pty Ltd
(insert name) (trading or company name)

on this the 26TH APRIL, 2012
(date)

certify that I am a Geotechnical Engineer or Engineering Geologist and/or Coastal Engineer as defined by the Geotechnical Risk Management Policy for Pittwater – 2009 and I am authorised by the above organization/company to issue this document and to certify that the organization/company has a current professional indemnity policy of at least \$2million. I also certify that I have reviewed the design plans and structural design plans in accordance for the Construction Certificate Stage and that I am satisfied that:

Please mark appropriate box

- ☒ the structural design meets the recommendations as set out in the Geotechnical Report or any revision thereto
- ☒ the structural design has considered the requirements set out in the Geotechnical Report for Excavation and Landfill both for the excavation/construction phase and the final installation in accordance with Clause 3.2 (b)(iv) of the Geotechnical Risk Management Policy

Geotechnical Report Details :

Report Title: RISK ANALYSIS & MANAGEMENT FOR PROPOSED ADDITIONS & ALTERATIONS AT 2 SUNCREST AVENUE, NEWPORT MV 27270
Report Date: 29TH OCTOBER, 2010
Author: BEN WHITE

Documentation which relates to or is relied upon in report preparation:

ARCHITECTURAL PLANS PREPARED BY J D EVANS & COMPANY PTY LTD NUMBREED 1323-1 TO 5 DATED 12TH OCTOBER, 2010

I am also aware that Pittwater Council relies on the processes covered by the Geotechnical Risk Management Policy, including this certification as the basis for ensuring that the geotechnical risk management aspects of the proposed development have been adequately addressed to achieve an "Acceptable Risk Management" level for the life of the structure taken as at least 100 years unless otherwise stated and justified.

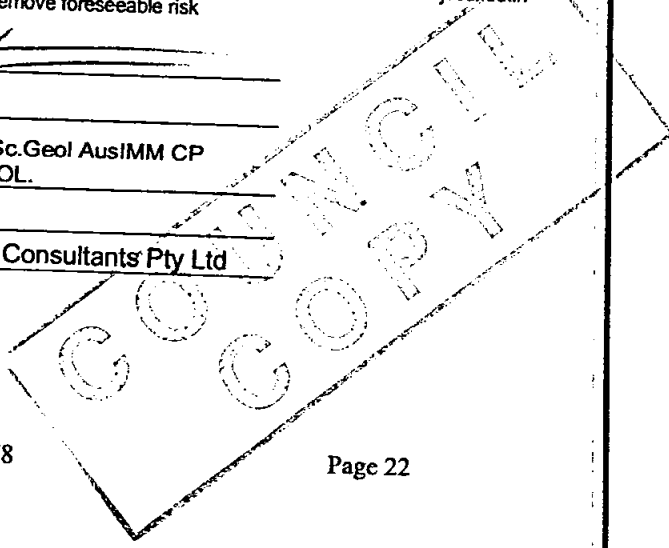
Ben White
(name)

[Signature]
(signature)

I am also aware that Pittwater Council relies on the processes covered by the Geotechnical Risk Management Policy, including this certification as the basis for ensuring that the geotechnical risk management aspects of the proposed development have been adequately addressed to achieve an "Acceptable Risk Management" level for the life of the structure taken as at least 100 years unless otherwise stated and justified in the Report and that reasonable and practical measures have been identified to remove foreseeable risk

Signature	<u>[Signature]</u>
Name	<u>Ben White</u>
Chartered Professional Status	<u>M.Sc.Geol AusIMM CP GEOL.</u>
Membership No.	<u>222757</u>
Company	<u>Jack Hodgson Consultants Pty Ltd</u>

This plan / document
forms part of
Construction Certificate
no. 2012 / 4629



**SYDNEY WATER
BUILDING PLAN APPROVED
SUBJECT TO REQUIREMENTS**

Dolfin No: D11/2-19170

Quick Check Ref No: 8149835

e-Developer Case No: N/A

Property Location

Street No: 2

Lot No: 18

Street Name: Suncrest Avenue

Suburb: Newport

Building/Structure Description: Alterations and Additions

Building Plan No: J.D. Evans & Company Pty Ltd; Dwg No. 1323-1
Engineers Plan No: Jack Hodgson Consultants Pty Ltd; Job No. 27270-S1/A

Proposed building/structure is APPROVED to construct OVER/ADJACENT TO a Sydney Water asset,
subject to the following requirements:
(NB. Delete non applicable requirements)

1. The foundations/piers are to be founded below 1:1 zone of influence, soil strata.
2. No part of the building/structure or its foundations to be less than a minimum 0.6 metre, horizontal distance from the centreline of the asset.
3. No part of the building/structure to be less than 1m horizontal distance from outside edge of any Sydney Water structure.
4. No piercing of building/structure to be less than 2m horizontal distance from centreline of maintenance hole to edge of piers.
5. Foundations/piers are constructed in accordance with Engineers detail plans (stated above) as submitted to Sydney Water.
6. All foundations/piers are to be founded to below the zone of influence or to solid rock.

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COUNCIL
COPY

Warning - Document current at time of printing or downloading.

Computer file name: Building Plan Approval for Water Servicing Coordinators
Policy owner: Manager, Urban Growth

23 April, 2012
Page 1 of 2

SPECIAL REQUIREMENTS

- (a) Pier Inspection required prior to pouring of concrete.
- (b)
- (c)

NOTE:

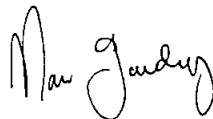
Above requirements must be inspected/supervised by a WSC to enable the issue of a satisfactory compliance letter.

APPROVED BY

WSC Company Name: MGP Building & Infrastructure Services Pty Ltd

Name of Key Personnel: Marc Gaudry

Signature of Key Personnel:



Date: 15/11/2012

Warning - Document current at time of printing or downloading.

DEVELOPMENT CALCULATIONS			
SITE AREA	764.30 SQUARE METRES		
DESCRIPTION	EXISTING SQM	PROPOSED SQM	
FLOOR	134.17	198.77	
ROOF	85.66	185.59	
DECK	16.20	-	
DRIVEWAY	57.00	74.00	
TOTAL HARD SURFACE	150.86 (21.24%)	268.84 (35.95%)	

mgp

building & infrastructure services
ACCREDITED SUPPLIER FOR SYDNEY WATER

BUILDING PLAN
APPROVED

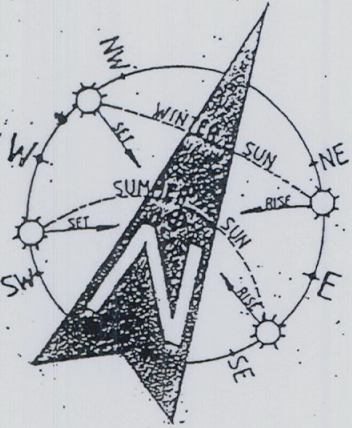
☒ SUBJECT TO REQUIREMENTS

☐ ASSET NOT EFFECTED

☐ INDEMNITY LETTER REQUIRED

☒ PIER INSPECTION REQUIRED

☐ CONCRETE ENCASUREMENT INSPECTION REQUIRED



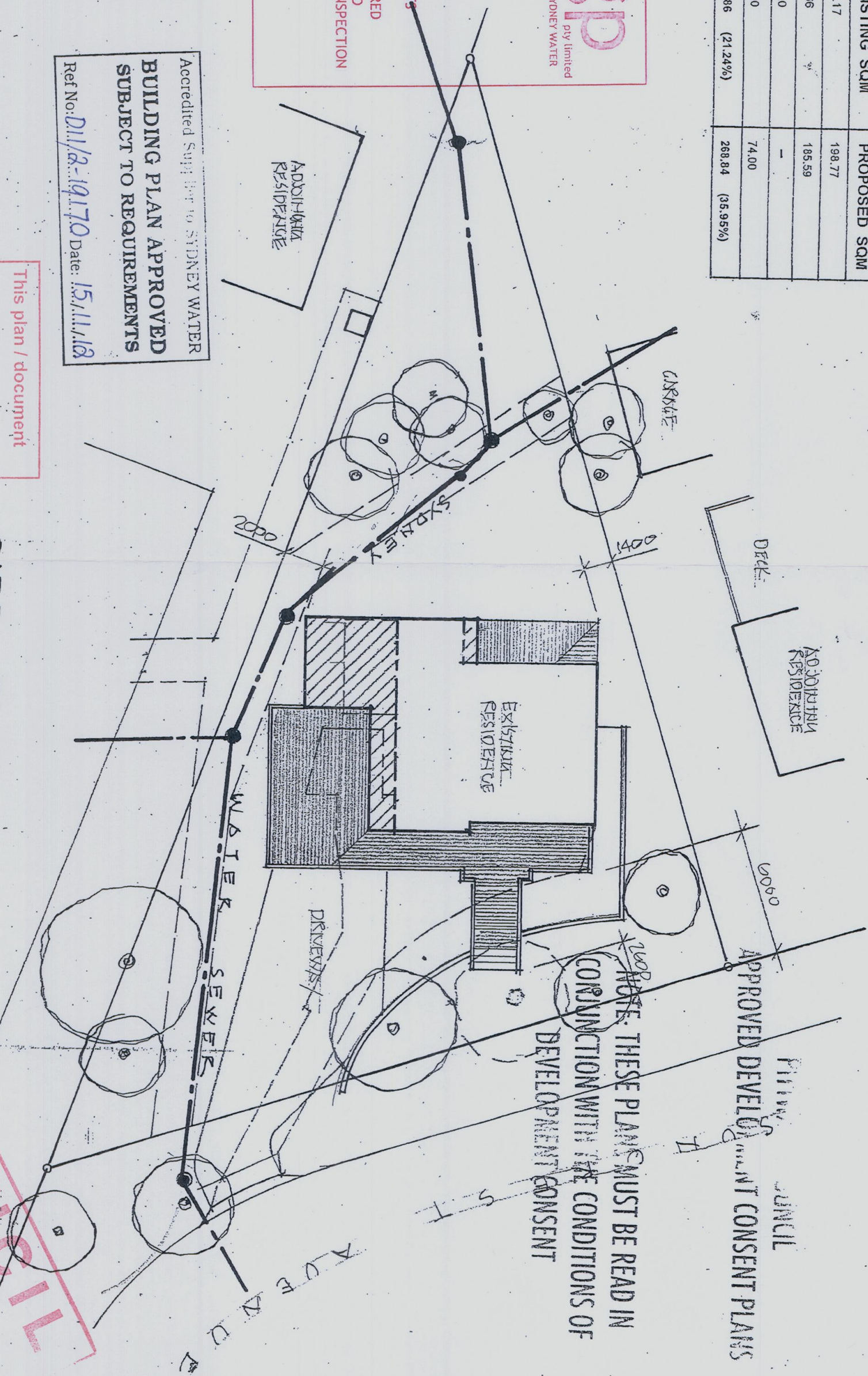
Accredited Supplier to SYDNEY WATER
**BUILDING PLAN APPROVED
SUBJECT TO REQUIREMENTS**
Ref No: D11/2-19170 Date: 15.11.18

- NOTES:
1. THE BUILDER IS TO CHECK AND CONFIRM ALL NECESSARY DIMENSIONS AND LEVELS ON SITE PRIOR TO ORDERING MATERIALS AND COMMENCING CONSTRUCTION. DO NOT SCALE OFF THE DRAWING.
 2. SHOULD ANY DEVELOPMENT OR CONSTRUCTION OCCUR ON OR NEAR BOUNDARIES, THE BOUNDARIES SHOULD BE CLEARLY MARKED ON SITE BY THE REGISTERED LAND SURVEYORS.

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SITE PLAN

LOT 18 IN DP 31735



1. Builder to check and confirm all necessary dimensions on the plan in construction, do not scale the drawing.
2. All dimensions that relate to the building are to be confirmed on site by the builder.
3. All work to be in accordance with BUILDING CODE of NSW.
4. All work to be in accordance with the 'THIRD PARTY'.
5. Any building in addition to what is supplied shall be marked by a Structural Engineer.
6. Any existing structure or design which is to be supplied by a Structural Engineer.
7. All work to be in accordance with the 'THIRD PARTY'.
8. All work to be in accordance with the 'THIRD PARTY'.

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ANY MEDIUM WITHOUT THE WRITTEN
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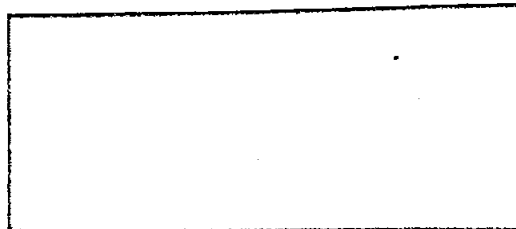
J.D. EVANS and COMPANY PTY. LTD.
BUILDING DESIGN CONSULTANTS
14 RIVERA AVE, AVALON BEACH, 2107
Phone (02) 9918 9206 Fax (02) 9973 2454
Mobile 080 970 596 WWW.JDECO.COM.AU

PROJECT
PROPOSED ALTERATIONS/ADDITIONS
No. 2 SUNCREST AVENUE
NEWPORT IN S.W. 2106
CLIENT

DATE	12/10/2010	SCALE	1:200
DRAWN	JOE	CHECKED	
DRAWING NO.	1272-1	ISSUE	

Reference no.: SEF-01

ROOF &
GUTTERS



WINDSPRAY

WALLS

Colorbond® Dune W
432

DOORS &
WINDOWS
TRIMS

China White ⊙ W

DRIVEWAY



Charcoal Essence SL

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no: 2012 / 4629

PATTERN

SCHEDULE OF EXTERIOR FINISHES



J.D EVANS and COMPANY-PTY. LTD.
BUILDING DESIGN CONSULTANTS
74 RIVIERA AVE. AVALON BEACH 1107
Phone (02) 9916 9206 Fax (02) 9973 2454
Mobile 040 976 596



PROJECT
PROPOSED ALTERATIONS/ADDITIONS
No. 2 SUNCREST AVENUE
NEWPORT N. S. W. 2106
CLIENT
NATHAN & KATINKA HOOK



J.D. EVANS & COMPANY
PTY LIMITED

December 5, 2012

General Manager
Pittwater Council
Village Green
No. 1 Park Street
MONA VALE N.S.W. 2103

Dear Sir

Re: No. 2 Sunrise Avenue, Newport

As the Principal Building Designer J. D. Evans & Company Pty Limited.

I hereby certify that the access driveway and internal driveway within the site complies with Pittwater Council's policy Pittwater 21 DCP "Driveway and Internal Roadways" Plan No. PWC - DW02, Rev B dated 17/8/2007 at Australian Standard AS 2890.1 - 2004: Parking Facilities-Off-Street C Parking.

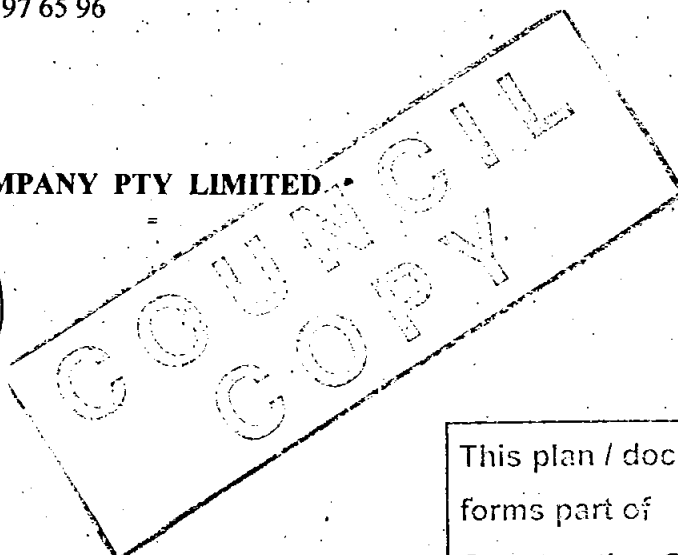
Refer to our drawing No. 1323 - 11, dated: 12/10/2010.

If you require any further information please do not hesitate to contact me on 9918 9206 or 0418 97 65 96

Yours faithfully

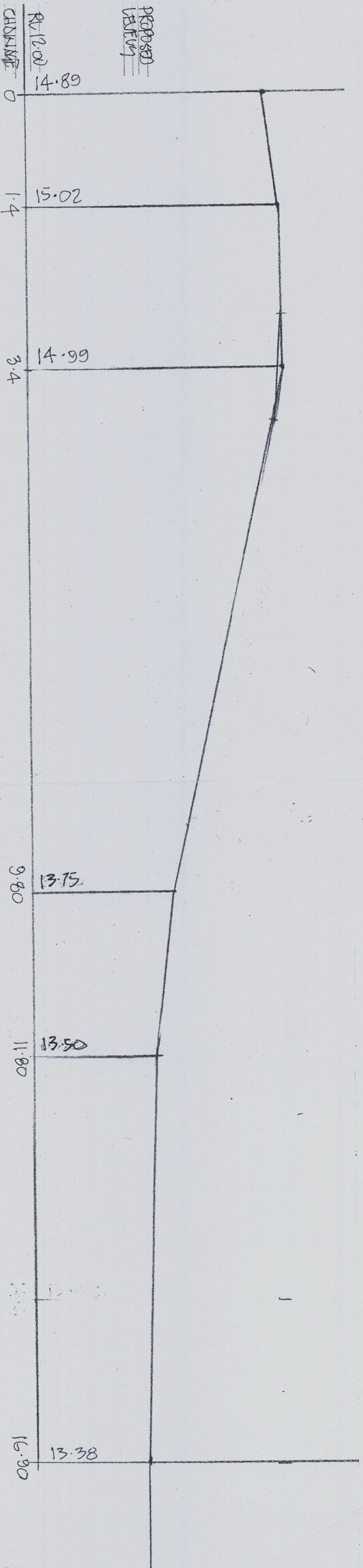
J. D. EVANS & COMPANY PTY LIMITED


JOHN EVANS



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101
BUILDING
DESIGNERS
ASSOCIATION
NSW
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LONGITUDINAL SECTION THROUGH DRIVEWAY


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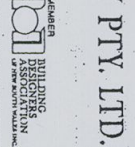
This plan / document
forms part of
Construction Certificate
no. 2012 / 4629

1. Builder to check and confirm all necessary dimensions on site prior to construction. Do not scale the drawing.
2. All dimensions that relate to site boundaries and easements are subject to verification by a site survey.
3. All work to be in accordance with BUILDING CODE of AUSTRALIA & to the satisfaction of local council requirements & other authorities.
4. All timber construction to be in accordance with the "TIMBER PRESERVATION" code.
5. Any detailing in addition to that specified shall be approved by the Structural Engineer, and the builder to the owner's approval, except for minor variations.
6. All electrical power & water reticulation to be approved of in the approved manner or as directed by local council inspectors.
7. All electrical power & light outlets to be determined by owner.
8. Make good and repair of existing finishes damaged by new work. Replace existing materials where possible.

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LEGAL PROCEEDINGS.
J.D. EVANS and COMPANY PTY. LTD.
11 RIVERIA AVE, AVALON BEACH, NSW

No.	ADDITION	DATE

**J.D. EVANS and COMPANY PTY. LTD.**
BUILDING DESIGN CONSULTANTS
74 RIVERIA AVE, AVALON BEACH, 2107
Phone (02) 9918 9200 Fax (02) 9973 2494
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MEMBER
BUILDING DESIGN ASSOCIATION OF AUSTRALIA

PROJECT
PROPOSED ALTERATIONS/ADDITIONS
No. 2 SUNCREST AVENUE
NEWPORT N.S.W. 2106
CLIENT
NATHAN & KATINKA HOOK

DATE	12/10/2010	SCALE	1:50
DRAWN	JOE	CHECKED	
DRAWING NO.	1323-11	ISSUE	