

CONSTRUCTION CERTIFICATE No. 16/3387-1

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

Owner

Name: Bruce M McConochie
Address: 1B The Serpentine, Bilgola Beach NSW 2107

Property details

Address: 1B The Serpentine, Bilgola Beach NSW 2107
Lot/Portion No: 1
Section: -
DP No: 232164
Municipality: Northern Beaches Council

Description and value of development

Description: Alterations and additions to the existing dwelling.
Value of work: \$300,000

Building Code of Australia Building Classification

Use: Residential
BCA classification: 1a

Determination

Approved/Refused: Approved
Date of Determination: 08 February 2017

Plans and specifications approved

- Architectural Drawings No. S150115.BMC, Sheets A-103, A-104, A-105, B-102, B-103, B-104, B-105, B-201, C-101, C-102, C-103 and C-104 prepared by Matthew Woodward Architecture dated 30.11.2016.
- Structural Drawings No. 16.208, Sheets 01/C, 02/C and 03/C prepared by Ashby Doble dated 29.11.2016.
- Stormwater Drawings No. 161136, Sheets D01/C, D02/B, D03/B, D04/B and D05/B prepared by NB Consulting Engineers dated 21.01.2017.
- Landscape Plans prepared by Eclipse Landscapes dated 04.01.2017.

Attachments

1. Application Form for Construction Certificate.
2. Record of Site Inspection made by Accredited Certifier in accordance with Clause 143B (EP&A Regulations 2000) prior to issue of Construction Certificate.
3. Planning for Bushfire Protection Specifications (971CC) prepared by Ron Coffey dated 10.01.2017.
4. Arborist Report prepared by Alexis Anderson dated 30.05.2016.
5. Geotechnical Risk Management Policy for Pittwater – Form 2 prepared by Peter Fennell dated 30.12.2016.
6. Building Plan Approval (189903) prepared by Sydney Water dated 08.02.2017.
7. Structural Engineers prepared by Ashby Doble dated 29.11.2016.
8. BASIX Certificate (A215744_05) prepared by Efficient Living dated 29.11.2016.
9. Long Service Levy Receipt (A215744_05) prepared by Long Service Corporation dated 17.01.2017.
10. Home Warranty Insurance prepared by Residential Builders Underwriting Agency dated 03.01.2017.

Northern Beaches

Suite 2501, 4 Daydream Street,
Warriewood NSW 2102
Phone: 02 9999 6490
Fax : 02 8079 6184

North Sydney

Suite 301, Level 3, 121 Walker
Street, North Sydney NSW 2060
Phone: 02 9411 2113
Fax : 02 8079 6184

Sydney & Eastern Suburbs

Level 3, 69 Reservoir Street
Surry Hills NSW 2010
Phone: 02 9281 5061
Fax : 02 8079 6184

North Western Sydney

Suite 3.12, 29-31 Lexington
Drive, Bella Vista NSW 2153
Phone: 02 9680 2464
Fax : 02 8079 6184

Western Sydney

Level 1, 331 High Street
Penrith NSW 2750
Phone: 02 9262 2790
Fax : 02 8079 6184

Development Consent

Certificate No.: NO185/15/R

Date of Determination: 18 July 2016

Certificate / Certifying Authority

I certify that work completed in accordance with the documentation accompanying the application for this certificate (with such modifications, if any, verified by me as may be shown on that documentation) will comply with the requirements of the *Environmental Planning & Assessment Regulation 2000* as referred to in s.81A(5) of the *Environmental Planning & Assessment Act 1979*.

Signature

Wayne Treble
Accredited Certifier
BPB Registration No. 0413
Private Building Certifiers (NSW) Pty Ltd
ABN 27 604 800 535

Date of endorsement **08.02.2017**Certificate Number **16/3387-1**

Note: Prior to commencement of work sections 81A(2)(b), 81A(2)(c), 81A(4)(b) and 81A(4)(c) of the Environmental Planning and Assessment Act 1979 must be satisfied.





PRIVATE BUILDING CERTIFIERS

Application for a Construction Certificate

Information for the applicant

- This form may be used to apply for a construction certificate (a "certificate") to carry out building work or subdivision work.
- To minimise delay in receiving a decision about the application, please fill in all sections and ensure all relevant information and documents are provided.
- A construction certificate has no effect if it is issued after the building work or subdivision work to which it relates is physically commenced on the land to which the relevant development consent applies.

SECTION A. Details of the applicant*

*An application for a construction certificate may only be made by a person who has the benefit of the development consent. An application may not be made by person who will carry out the building work or subdivision work unless that person owns the land on which the work is to be carried out.

Mr ☒ Ms ☐ Mrs ☐ Dr ☐ Other:

First name

Bruce

Family name

McConochie

Company (if applicable)

ABN (if applicable)

Unit/Street no.

1b

Street Name

THE SERPENTINE

Suburb or town

BILGOLA BEACH

State

NSW

Postcode

2107

Daytime telephone

Fax

Mobile

0439-474129

Email

B.M. McConochie@TELSTRA.COM

SECTION B. Location and title details of the land where the building work or subdivision work is to be carried out

Unit/Street no.

1B

Street Name

The Serpentine

Suburb or town

Bilgola Beach

State

NSW

Postcode

2107

Lot no.

1

Section

DP / SP no.

232164

Volume/folio

SECTION C. Description of the building work or subdivision work to be carried out

Briefly describe the development. For example, if a dwelling is proposed, include information such as the type of building (house, townhouse, villa etc), the number of floors, the number of bedrooms, the major building material (brick, brick veneer, timber clad etc).

Alterations and additions to the existing dwelling.

Class(s) of building(s) under the Building Code of Australia

Residential 1a

SECTION D. Estimated cost of the development

\$

300,000

The contract price, or if there is no contract a genuine and accurate estimate, for all labour and material costs associated with all demolition and construction required for the development, including the cost of construction of any building and the preparation of a building for the purpose for which it is to be used (such as the costs of installing plant, fittings, fixtures and equipment). GST is also to be included.

SECTION E. Development consent

Date of development consent (if already granted)

18 July 2016

Development consent reference no.:

N0185/15/R

Name of consent authority:

Northern Beaches Council

Name of applicant for development consent:

Mr B McConcohie c/- Vaughan Milligan Development Consultancy Pty Ltd

Provide:

A copy of the development consent, including:

- approved plans endorsed by the consent authority
- conditions of development consent
- other documents referenced by the development consent that are relevant to this application.

SECTION F. Planning agreements

If the development or the land upon which the development is to be carried out is subject to a planning agreement as referred to in section 93F EP&A Act, provide a copy of the planning agreement.

SECTION G. Attachments relating to the proposed development

Applicants must provide the documents listed below that are relevant to the type of development that is proposed. Please place a cross in the appropriate box(s) to indicate the type of development involved. Confirm from the certifying authority how many copies are required prior to lodging this application.

1. Does the application relate ONLY to a FIRE LINK CONVERSION? ☐ Yes ☒ No

If Yes-provide:

A document that describes the design and construction and mode of operation of the new fire alarm communication link.

2. Does the development involve SUBDIVISION WORK? ☐ Yes ☒ No

If Yes-provide:

Appropriate subdivision work plans and specifications, which include copies of:

- (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) detailed 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.

3. BUILDINGS

3.1 Does the development involve building work (including in relation to a dwelling house or building or structure ancillary to a dwelling house)? ☒ Yes ☐ No

If Yes-provide:

(1) A detailed description of the development, indicating:

- (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 by completing the table in **SECTION M**

(2) Appropriate building work plans and specifications, which include copies of:

- (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
 - (ii) a plan of each elevation of the building
 - (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
- (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 *Environmental Planning and Assessment Act 1979* (EP&A 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) if a BASIX certificate has been obtained for the development, such other matters as the BASIX certificate requires to be included in the plans and specifications.

* S.79C(4) EP&A Act provides that a consent authority must not refuse to grant consent to development on the ground that any building product or system relating to the development does not comply with a requirement of the *Building Code of Australia* if the building product or system is accredited in respect of that requirement in accordance with the EP&A regulation 2000.

3.2 Does the development involve 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) ? ☐ Yes ☒ No

If Yes-provide:

- (a) A list of any existing fire safety measures provided in relation to the land or any existing building on the land.
- (b) 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.

3.3 Does the development involve an alternative solution under the *Building Code of Australia* ("BCA") in respect of a fire safety requirement? ☐ Yes ☒ No

If Yes-provide:

Either or both of the following from a **"fire safety engineer"** (a private accredited certifier holding Category C10 accreditation):

- (a) A compliance certificate (as referred to in s.109C(1)(a)(v) EP&A Act) that certifies that the alternative solution complies with the relevant performance requirements of the BCA.
- (b) A written report that includes a statement that the alternative solution complies with the relevant requirements of the BCA.

Note: The above requirement only applies to building work in respect of:

- (a) a class 9a building that is proposed to have a total floor area of 2000 square metres or more
- (b) any building (other than a class 9a building) that is proposed to have:
 - (i) a fire compartment with a total floor area of more than 2000 square metres or
 - (ii) a total floor area of more than 6000 square metres

that involves an alternative solution under the BCA in respect of the requirements set out in EP1.4, EP2.1, EP2.2, DP4 and DP5 in Volume 1 of the BCA.

3.4 Does the application relate to a residential flat development for which the development application was required under Clause 50(1A) of the EP&A Regulation to be accompanied by a design verification from a qualified designer? ☐ Yes ☒ No

If Yes-provide:

A statement from a qualified designer which verifies that the plans and specifications achieve or improve the design quality of the development for which development consent was granted, having regard to the design quality principles set out in Part 2 of *State Environmental Planning Policy No. 65: Design Quality of Residential Flat Development* (SEPP 65)

Note: If the development application was also required to be accompanied by a BASIX certificate with respect to any building, the statement need not verify the design quality principles set out in SEPP 65 to the extent to which they aim to

- reduce consumption of mains-supplied potable water, or reduce emissions of greenhouse gases, in the building or in the use of the land that it is built on, or
- improve the thermal performance of the building.

3.5 Has the Fire Commissioner granted an exemption under clause 188 EP&A Regulation from compliance with any specified Category 3 fire safety provision?

☐ Yes ☒ No

If Yes-provide:

A copy of the exemption together with any conditions imposed.

3.6 Is any long service payment levy payable under s.34 of the Building and Construction Industry Long Service Payments Act 1986? ☒ Yes ☐ No

If Yes-provide:

A copy of a receipt for any long service payment levy that has been made (or, where such a levy is payable by instalments, a receipt for the first instalment of the levy).

Where a council is the certifying authority, the levy may be made to the council when this application is lodged.

3.7 Does the application involve a BASIX affected development, or a BASIX optional development for which a BASIX certificate has been obtained? ☒ Yes ☐ No

If Yes-provide:

The BASIX certificate(s) for the development (being either the BASIX certificate issued when the development consent was granted or some other BASIX certificate(s) that have been issued no earlier than three months before the date of the Application being made), and such other documents as the BASIX certificate(s) for the development requires to accompany the Application.

BASIX (the Building and Sustainability Index) ensures homes are built to be more energy and water efficient. BASIX uses an online program to assess a building's design and compares it against energy and water reduction targets. The design must meet these targets before a BASIX certificate can be printed. Any changes made to a building's design after a BASIX certificate has been issued requires another BASIX assessment and new BASIX certificate. "BASIX affected buildings" contain one or more dwellings (but do not include hotels or motels).

A BASIX certificate **MUST** be obtained for every "BASIX affected development", which are any of the following (other than development that is "BASIX excluded development"):

- (a) development that involves the erection (but not the relocation) of a BASIX affected building
- (b) development that involves a change of building use by which a building becomes a BASIX affected building
- (c) development that involves the alteration, enlargement or extension of a BASIX affected building, where the estimated construction cost of the development is \$50,000 or more
- (d) development for the purpose of a swimming pool or spa, or combination of swimming pools and spas, that services or service only one dwelling and that has a capacity, or combined capacity, of 40,000 litres or more.

"BASIX excluded development" is

- (a) development for the purpose of a garage, storeroom, car port, gazebo, verandah or awning
- (b) alterations, enlargements or extensions to a building listed on the State Heritage Register under the Heritage Act 1977
- (c) alterations, enlargements or extensions that result in a space that cannot be fully enclosed (for example, a veranda that is open or enclosed by screens, mesh or other materials that permit the free and uncontrolled flow of air), other than a space can be fully enclosed but for a vent needed for the safe operation of a gas appliance
- (d) alterations, enlargements or extensions that the Director-General has declared, by order published in the Gazette, to be BASIX excluded development.

A BASIX Certificate **MAY** be obtained for certain developments by an Applicant even though there is no obligation to do so. This is called "BASIX optional development". "BASIX optional development" means any of the following development that is not BASIX excluded development:

- (a) development that involves the alteration, enlargement or extension of a BASIX affected building, where the estimate of the construction cost of the development is less than \$50,000
- (b) development for the purpose of a swimming pool or spa, or combination of swimming pools and spas, that services or service only one dwelling and that has a capacity, or combined capacity, of less than 40,000 litres.

If the proposed development involves the alteration, enlargement or extension of a BASIX affected building that contains more than one dwelling, a separate BASIX certificate is required for each dwelling concerned.

Further information about BASIX and to obtain a BASIX Certificate, go to <http://www.basix.nsw.gov.au>.

SECTION H. List of documents

Prepare and attach a list of all of the documents provided under SECTION E, F and G.

SECTION I. Authority to enter and inspect land

A certifying authority must not issue a construction certificate for development on a site which affects an existing building unless the certifying authority, or an accredited certifier, council or consent authority on behalf of the certifying authority, has carried out an inspection of the site of the development.

If the applicant is the owner of the land, by signing this application authority is given to the certifying authority, or an accredited certifier, council or consent authority, to enter the subject property at any reasonable time for the purpose of carrying out an inspection in connection with the assessment of this Application. The Applicant undertakes to take all necessary steps make access available to the property to enable the inspection to be carried out.

If the applicant is not the owner of the land, the owner(s) must sign the following statement.

As the owner(s) of the above property, I/we consent to the certifying authority, or an accredited certifier, council or consent authority, to enter the subject property at any reasonable time for the purpose of carrying out an inspection in connection with the assessment of this application. I/we undertake to take all necessary steps make access available to the property to enable the inspection to be carried out.

Owners Signature(s)

Bruce McEnochie

Name(s)

Bruce McEnochie

Date

16 JAN 2017

SECTION J. Delivery of the application

Applications for construction certificates must be delivered by hand, by post or transmitted electronically to the principal office of the certifying authority. Applications MAY NOT be sent by fax.

SECTION K. Signature of Applicant(s)

Signature of Applicant(s)

Bruce McEnochie

Name(s)

Bruce McEnochie

Date

16 JAN 2017

SECTION L. Date of Receipt of Application

To be completed by the certifying authority **immediately** after receiving this Application.

This Application was received on 16 January 2017 (insert date).

SECTION M. Development statistics

Place a cross in each appropriate box.

Walls	Code	Roof	Code	Floor	Code	Frame	Code
Brick (double)	11	Tiles	10	Concrete/slate	20	Timber	40
Brick (veneer)	12	Concrete/slate	20	Timber	40	Steel	60
Concrete/stone	20	Fibre cement	30	Other	80	Aluminium	70
Fibre cement	30	Steel	60	Not specified	90	Other	80
Timber	40	Aluminium	70			Not specified	90
Curtain glass	50	Other	80				
Steel	60	Not specified	90				
Aluminium cladding	70						
Timber/ weatherboard	40						
Other	80						
Not specified	90						

Gross site area (m²)

Gross floor area of existing building (m²)

Gross floor area of new building work (m²)

Number of pre-existing dwellings on the site

How many storeys will the building have

What are the current uses of the building

What will be the new building uses (if changed)

Number of dwellings to be demolished

Number of dwellings to be constructed

Will the new building be attached to an existing building

Does the site contain a dual occupancy

RESIDENTIAL

RESIDENTIAL

NOTICE TO (insert council details and address)

Name

The General Manager

Address

Northern Beaches Council

PO Box 882, Mona Vale NSW 1660

SECTION A. Development details

Address

1B The Serpentine

Bilgola Beach NSW 2107

Description of the building work or subdivision work

Alterations and additions to the existing dwelling.

SECTION B. Details of development consent

Council

Northern Beaches Council

Date of development consent

18 July 2016

Development consent number/identifier

N0185/15/R

SECTION C. Details of person appointing the PCA

Name

Bruce McConochie

Address

1B The Serpentine

Bilgola Plateau NSW 2107

Phone

0439 474 129

Fax

Email

b.m.mcconochie@telstra.com

SECTION D. PCA details

Name

Wayne Treble

Accreditation No.

0413

Address

2501/4 Daydream Street

Warriewood NSW 2102

Business phone

9999 6490

Fax

Email

wayne@privatebuildingcertifiers.com.au

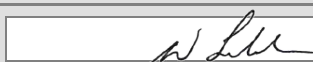
SECTION E. Consent to appointment

I, Wayne Treble

consent to being appointed as the PCA for the development.

Insert name of PCA

Signed by the PCA



Date

08 February 2017



**PRIVATE BUILDING
CERTIFIERS**

**Notice to Council and
PCA of Intention to Commence Work**

NOTICE TO (insert council details and address)

Name

The General Manager

Address

Northern Beaches Council

PO Box 882, Mona Vale NSW 1660

NOTICE TO (insert PCA details and address)

Name

Wayne Treble

Address

Private Building Certifiers

2501/4 Daydream Street, Warriewood NSW 2102

SECTION A. Development details

Address

1B The Serpentine

Bilgola Beach NSW 2107

Description of the building work or subdivision work

Alterations and additions to the existing dwelling.

SECTION B. Development consent (DC)

Name of council

Northern Beaches Council

Date DC issued

18 July 2016

DC number/identifier

N0185/15/R

SECTION C. Construction certificate (CC)

Name of certifying authority

Wayne Treble

Date of CC

08 February 2017

CC number/identifier

16/3387-1

SECTION D. Details of principal contractor/owner builder

☒ Principal contractor

☐ Owner builder - permit number

236752C

Name

DJB CONSTRUCTION & CARPENTRY

Address

14 HALLSTROM PLACE

MONA VALE 2103

Phone

0430-058944

Fax

Email

DAVE@DJBCONSTRUCTION.COM.AU

SECTION E. Compliance with conditions (this statement must be completed by the PCA)

I, Wayne Treble

(Insert name of PCA)

confirm that all conditions of the above development consent that are required to be satisfied prior to the work commencing have been satisfied.

Signed by the PCA

Date

08 February 2017

SECTION F. Notice of commencement

The building/subdivision work described above is intended to commence on* (*Note: Not less than 2 business days from the date of the notice)

03 February 2017

SECTION G. Details of person giving notice

Name (the person having the benefit of the development consent)

BRUCE McLENOCHIE

Address

1 B THE SERPENTINE

BILGOLA BEACH

Phone

0439474129

Fax

Email

B.M.McLENOCHIE@TELSTRA.COM

Signature

Date

16/1/2017

INSPECTION REPORT – 163387 – General
1B The Serpentine, Bilgola Beach NSW 2107**OWNER DETAILS**

Owner: Bruce m McConochie
Address: 1B The Serpentine, Bilgola Beach NSW 2107

RELEVANT CONSENTS

Local Government Area: Northern Beaches Council
Development Applications (if applicable) N0185/15/R
Construction Certificate Number (if applicable) 16/3387-1

PROPOSAL

Address of Development: 1B The Serpentine, Bilgola Beach NSW 2107
Lot / DP: 1 232164
Land Use Zoning: E4 - Environmental Living

INSPECTION DETAILS

Inspector: Wayne Treble
Inspection date: 20/01/2017
Accreditation No.: 0413

INSPECTION RESULTS

We have attended the above property and completed an inspection. The areas inspected and the overall outcome of the inspection are listed below, together with any specific defects noted or documents required.

Inspection Area	Inspection Outcome	Reinspections
1. 143B Pre-Approval Inspection	Satisfactory	No re-inspections required for this inspection.

SIGNED BY:

Wayne Treble – Inspector

Planning For Bushfire Protection



Ron Coffey
20 Lake Park Road
North Narrabeen,
Sydney NSW
(02) 99137907-0408220443
Email: roncoffey@optusnet.com.au
Web: www.bushfireconsultants.com.au
Reference: 971CC
10/01/2017

Subject:

Specification list detailing the required bushfire mitigation measures for the approved development of alterations and additions to an existing Class 1A dwelling at No 1B The Serpentine Bilgola Beach.

Reference:

Bushfire risk assessment reference 971, dated 19/05/2015
Council Consent No 185/15/R, dated 18/07/2016

The following specification list has been provided and certified as in accordance with the DA consent referenced above.

The specification list, in accordance with the recommendations of the bushfire risk assessment and the conditions of consent, has been varied to comply with the requirements of Section A3.7 of the NSW Rural Fire Service Addendum to Appendix 3 of Planning for Bushfire Protection 2006.

BAL—FZ is primarily concerned with protection from flame contact together with ember attack and radiant heat of more than 40 kW/m².

DTS Provisions of AS3959, 2009	Proposal	Conforms to DTS
SARKING Any sarking used for BAL-12.5, BAL-19, BAL-29 or BAL-40, BAL FZ shall be: <ul style="list-style-type: none">a) Non-combustible; orb) Breather-type sarking complying with AS/NZS 4200.1 and with a flammability index of not more than 5 (see AS1530.2) and sarked on the outside of the frame; orc) An insulation material conforming to the appropriate Australian Standard for that material.	The proposal is to comply with this requirement	Conforms

<p>ATTACK LEVEL FZ (BAL FZ) 9.1 GENERAL A building assessed as being BAL—FZ shall comply with Section 3 and Clauses 9.2 to 9.8. NOTE: There are a number of Standards that specify requirements for construction; however, where this Standard does not provide construction requirements for a particular element, the other Standards apply. Any element of construction or system that satisfies the test criteria of AS 1530.8.1 may be used in lieu of the applicable requirements contained in Clauses 7.2 to 7.8 (see Clause 3.8). NOTE: BAL—29 is primarily concerned with protection from ember attack and radiant heat greater than 19 kW/m² up to and including 29 kW/m².</p>		
<p>SUBFLOOR SUPPORTS Enclosed subfloors: No construction requirements for subfloor supports where the subfloor space is enclosed with a wall that complies with External Walls of this section. Unenclosed subfloor supports Where the subfloor space is unenclosed, systems, including support posts, columns, stumps, piers and poles, shall: a) Have an FRL of at least 30/-/-; or b) Be a system complying with AS 1530.8.2; or c) Be a combination of Items (a) and (b) above. NOTE: This requirement applies to the principal building only and not to verandas, decks, steps, ramps and landings</p>	<p>The unenclosed subfloor supports are non-combustible concrete and steel. Refer to structural engineer's drawings.</p>	<p>Conforms</p>
<p>FLOORS Concrete slabs on ground. No requirement. Elevated floors Enclosed subfloor spaces No construction requirements for elevated floors, including bearers, joists and flooring, where the subfloor space is enclosed with a wall that complies with External Walls of this section. Unenclosed subfloor spaces Where the subfloor space is unenclosed, the floor system, including bearers, joist and flooring, shall— a) Have an FRL of at least 30/30/30 and the surface material shall be non-combustible; or b) Have the underside of the combustible elements of the floor system protected with a 30 min resistance to incipient spread of fire system; or c) Comply with AS1530.8.2 when tested from the underside; or d) Be a combination of any of items [a], [b] or [c] above.</p>	<p>The unenclosed subfloor space shall be completely lined by 10mm Fire Crunch board. This achieves a FRL of 60/60/60 on a timber frame. Refer to manufacturer's specification.</p>	<p>Conforms</p>
<p>EXTERNAL WALLS Walls The exposed components of external Walls shall be: a) A non-combustible material. Including but not limited to walls made of non-combustible material (e.g., masonry, brick veneer, mud brick, aerated concrete, concrete) with a minimum of 90 mm in thickness; or b) A system complying with AS 1530.8.2 when tested from the</p>	<p>External walls on the Ground Level shall be Cemintel Barestone fibre cement as part of the Gyprock CSR 900 specification for BAL FZ. This</p>	<p>Conforms</p>

<p>outside; or</p> <p>c) A system with an FRL of 30/30/30 or –/30/30 when tested from the outside; or</p> <p>d) A combination of any of Items (a), (b) or (c) above.</p> <p>Joints All joints in the external surface material of walls shall be covered, sealed, overlapped, backed or butt-jointed to prevent gaps greater than 3 mm.</p> <p>Vents and weepholes Vents and weepholes in external walls shall be screened with a mesh with a maximum aperture of 2 mm, made of corrosion-resistant steel or bronze except where they are less than 3mm.</p>	<p>achieves a FRL rating of 60/60/60.</p> <p>On the Lower Ground Level, the walls are a combination of non-combustible 190mm concrete block and Cemintel Barestone.</p> <p>Joints throughout are to comply; refer to Gyprock CSR 900 specification for BAL FZ.</p> <p>Vents and weepholes in external walls shall be screened in compliant stainless steel mesh.</p>	<p>Conforms</p> <p>Conforms</p> <p>Conforms</p>
<p>EXTERNAL GLAZED ELEMENTS AND ASSEMBLIES AND EXTERNAL DOORS</p> <p>Bushfire shutters Where fitted, bushfire shutters shall comply with—</p> <p>a) Clause 3.7 of AS3959, 2009, except that perforations are not acceptable over the door system; and</p> <p>b) AS 1530.8.2 when tested from the outside.</p> <p>Screens for windows and doors Where fitted, screens for windows and doors shall have a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel or bronze. Gaps between the perimeter of the screen assembly and the building element to which it is fitted shall not exceed 3 mm.</p> <p>The frame supporting the mesh or perforated sheet shall be metal.</p>	<p>Bushfire shutters are proposed to be used in accordance with the RFS variation recommended</p> <p>Where applicable, screens shall be a stainless steel mesh of maximum aperture of 2mm, in a steel frame to fabricator's future detail.</p> <p>This includes glazed elements on both BAL FZ and BAL 40 elevations throughout.</p>	<p>Conforms</p> <p>Conforms</p> <p>Conforms</p>

<p>Windows and doors East Elevation</p> <p>The eastern elevation of the proposed development has been determined as BAL 40.</p> <p>The windows and doors on this elevation shall be supplied and installed in accordance with the following principles:</p> <p>Clause 8.1 General, AS3959, 2009 States element of construction or system that satisfies the test criteria of AS 1530.8.1 may be used in lieu of the applicable requirements of Clauses 8.2 to 8.8: or</p> <p>Windows and doors, including side hung doors and sliding doors shall be constructed to the requirements of AS3959, 2009 Clause 8.5.2, 8.5.3 and or 8.5.4.</p>	<p>In this instance the proposal is to apply both principles as outlined.</p> <p>Where applicable, a certificate of compliance will be obtained from the supplier and will be available for completion.</p>	<p>Conforms</p>
<p>Windows</p> <p>Window assemblies shall comply with one of the following:</p> <ol style="list-style-type: none"> They shall be completely protected by a bushfire shutter that complies with Clause 9.5.1 of AS3959, 2009 unless otherwise recommended in the conditions of consent; or The window system shall have an FRL of at least –/30/–; or The window system shall comply with AS 1530.8.2 when tested from the outside. <p><u>An alternate solution for windows has been accepted by the RFS and council.</u></p> <p><u>This system includes a window as detailed below with a shutter over as detailed below. This combined system of is considered an alternate solution applying measures in combination.</u></p> <p>Windows: Window assemblies shall comply with modified Section 9 AS3959, 2009 or the following:</p> <ol style="list-style-type: none"> The entire of the new glazing and window system of the proposed new development shall be completely protected by a non-combustible and non-perforated bushfire shutter that complies with Section 3.7 of AS3959 excluding parts [e] & [f]; and They shall comply with the following: <ol style="list-style-type: none"> The window frames and hardware shall be metal; Glazing shall be toughened glass, minimum thickness 6mm; Seals to stiles head and sills or thresholds shall be manufactured from material having a flammability index no greater than 5; The openable portion of the window shall be screened internally or external with a mesh with a maximum aperture of 2mm, made from corrosion resistant steel or bronze. The frame supporting the mesh shall be metal. <p>Bushfire Shutters: Note; a bushfire shutter installed as above shall:</p> <ol style="list-style-type: none"> be fixed to the building and be non-removable; when in the closed position, have no gap greater than 3mm between the shutter and the wall, sill or the head; be readily manually operable from either inside or outside; protect the entire window assembly; and be non-combustible and non-perforated. 	<p>BAL FZ windows, window assemblies and covering shutters on the north, south and west elevations shall be provided and installed in accordance with the RFS variation recommended in the council consent.</p>	<p>Conforms</p>

<p>Doors—Side-hung external doors (including French doors, panel fold and bi-fold doors)</p> <p>Side-hung external doors, including French doors, panel fold and bi-fold doors, shall comply with one of the following:</p> <ol style="list-style-type: none"> a) They shall be completely protected by a bushfire shutter that complies with Clause 9.5.1 of AS3959, 2009 unless otherwise recommended in the conditions of consent; or b) Doors and door frames shall comply with the following: <ol style="list-style-type: none"> I. All door systems, including door frames and doors with glazed panels, shall <ol style="list-style-type: none"> a. Have an FRL of at least -/30/-; or b. Comply with AS1530.8.2 when tested from the outside. II. Doors shall be tight-fitting to the door frame and to an abutting door, if applicable III. Weather strips, draught excluders or draught seals shall be installed at the base of side-hung external doors. IV. Seals shall not compromise the FRL or the performance achieved in AS 1530.4. 	<p>BAL FZ doors, door assemblies and covering shutters on the north, south and west elevations shall be provided and installed in accordance with the RFS variation recommended in the council consent</p>	
<p>Doors—Sliding Doors</p> <p>Sliding doors shall comply with one of the following:</p> <ol style="list-style-type: none"> a) They shall be completely protected by a bushfire shutter that complies with Clause 9.5.1 of AS3959, 2009 unless otherwise recommended in the conditions of consent; or b) All sliding door systems, including those with glazed panels, shall— <ul style="list-style-type: none"> • have an FRL of at least -/30/-; or • comply with AS 1530.8.2 when tested from the outside. c) Sliding doors shall be tight-fitting in the frames. <p><u>An alternate solution for doors has been accepted by the RFS and council.</u> <u>This system includes a window as detailed below with a shutter over as detailed below. This combined system [as detailed below] is considered an alternate solution applying measures in combination.</u></p> <p>External Doors: New doors shall comply with modified Section 9 AS3959, 2009 [as above] or the following:</p> <ol style="list-style-type: none"> I. External doors [not including garage doors] on the proposed new development shall be completely protected by a non-combustible and non-perforated bushfire shutter that complies with Section 3.7 of AS3959 excluding parts [e] & [f]; and II. They shall comply with the following: <ol style="list-style-type: none"> a) Doors shall be non-combustible; b) Externally fitted hardware that supports the panel in its function of opening and closing shall be metal; c) Where doors incorporate glazing, the glazing shall be toughened glass minimum thickness 6mm; d) Seals to stiles, head and sills or thresholds shall be manufactured from silicone; e) Doorframes shall be metal; f) Doors shall be tight fitting to the doorframe or an abutting 	<p>BAL FZ sliding door, door assemblies and covering shutters on the north, south and west elevation shall be provides and installed in accordance with the RFS variation recommended in the council consent</p>	

<p>door;</p> <p>g) Weather strips, draught excluders or draught seals shall be installed if applicable.</p> <p>Bushfire Shutters: Note; a bushfire shutter installed as above shall:</p> <p>f) be fixed to the building and be non-removable;</p> <p>g) when in the closed position, have no gap greater than 3mm between the shutter and the wall, sill or the head;</p> <p>h) be readily manually operable from either inside or outside;</p> <p>i) protect the entire window assembly;</p> <p>j) be non-combustible and non-perforated.</p>		
<p>ROOFS (INCLUDING VERANDA AND ATTACHED CARPORT ROOFS, PENETRATIONS, EAVES, FASCIAS, GABLES, GUTTERS AND DOWNPIPES)</p> <p>General</p> <p>The following apply to all types of roofs and roofing systems:</p> <p>a) Roof tiles, roof sheets and roof-covering accessories shall be non-combustible.</p> <p>b) The roof/wall junction shall be sealed, to prevent openings greater than 3 mm, either by the use of fascia and eaves linings or by sealing between the top of the wall and the underside of the roof and between the rafters at the line of the wall.</p> <p>c) Roof ventilation openings, such as gable and roof vents, shall be fitted with ember guards made of non-combustible material or a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel or bronze.</p> <p>d) Pipe or conduit that penetrates the roof covering shall comply with AS1530.8.2.</p> <p>Roof-mounted evaporative coolers are excluded from this level.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Appendix I provides two generic systems for skillion, hipped and gabled roofs which shall be deemed to satisfy Clause 9.6 (BAL—FZ).</p> <p>NOTE: Any element of construction or system that satisfies the test criteria of AS 1530.8.2 may be used in lieu of the applicable requirements contained in Clauses 9.2 to 9.8, see Clause 3.8.</p> </div>	<p>The roof and roof-covering accessories will be non-combustible metal. Refer to Lysaght colourbond manufacturer's specifications for BAL FZ requirements. The roof shall be fully sarked according to the Bradford specification for BAL FZ metal roof construction. Any gaps in the corrugation larger than 3mm will be covered by a non-combustible material.</p>	<p>Conforms</p>
<p>Veranda, carport and awning roofs</p> <p>a) The following apply to veranda, carport and awning roofs:</p> <p>b) A veranda, carport or awning roof forming part of the main roof space shall meet all the requirements for the main roof as specified in section 9 of AS3959, 2009.</p> <p>c) A veranda, carport or awning roof separated from the main roof space by an external wall shall have a non-combustible roof covering and the support structure shall be—</p> <p>I. Of non-combustible material; or</p> <p>II. Timber rafters lined on the underside with fibre-cement sheet a minimum of 6 mm in thickness, or with material complying with AS 1530.8.2; or</p> <p>III. a system complying with AS 1530.8.2; or</p> <p>IV. a combination of any of Items (i), (ii) or (iii) above.</p>	<p>The carport roof is non-combustible metal construction and is freestanding from the main roof. Refer to Lysaght colourbond manufacturer's specifications for BAL FZ requirements.</p>	<p>Conforms</p>

<p>Roof penetrations</p> <p>The following apply to roof penetrations:</p> <ol style="list-style-type: none"> Roof penetrations, including roof lights, roof ventilators, aerials, vent pipes and supports for solar collectors, shall be sealed with mineral fibre at the roof to prevent gaps. Where the gap between the roof covering and the roof penetration is greater than 3 mm, the material used to seal the penetration shall be non-combustible. Roof lights and roof ventilators shall be one of the following: <ul style="list-style-type: none"> A system complying with AS 1530.8.2 when tested from the outside; or A system with an FRL of 30/30/30 or –/30/30 when tested from the outside. <p><i>NOTE: As a general principle, the service penetration should not significantly compromise the performance of the element of construction it penetrates nor should it be a means to allow the passage of burning embers or heat transfer such that fire may spread to the interior of a structure.</i></p>	<p>The roof penetration for the chimney flue shall be sealed with mineral fibre with no gaps greater than 3mm.</p>	<p>Conforms</p>
<p>Eaves linings, fascias and gables</p> <p>The following apply to eaves linings, fascias and gables:</p> <ol style="list-style-type: none"> Joints in eaves linings, fascias and gables may be sealed with plastic joining strips or timber storm molds. Gables shall comply with the requirements of 'External Walls' in this section. Fascias and bargeboards shall comply with AS 1530.8.2. Eaves linings shall be— <ul style="list-style-type: none"> a system with an FRL of –/30/30; or a system complying with AS 1530.8.2; or a combination of Items (i) and (ii) above. Eaves penetrations shall be protected the same as for roof penetrations, as specified 'Roof Penetrations' of this section. Eaves ventilation openings greater than 3 mm shall be fitted with ember guards made of non-combustible material or a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel or bronze. 	<p>Wherever applicable, eave linings, fascias and gables in accordance with the Bradford specification for BAL FZ metal roof construction. Any gaps in the corrugation larger than 3mm will be covered by a non-combustible material. The gables throughout shall be Cemintel Barestone fibre cement as part of the Gyprock CSR 900 specification for BAL FZ. This achieves a FRL rating of 60/60/60.</p>	<p>conforms</p>
<p>Gutters and downpipes</p> <p>This Standard does not provide construction-specific material requirements for downpipes. If installed, gutter and valley leaf guards shall be non-combustible. Gutters shall be non-combustible. Box gutters shall be non-combustible and flashed at the junction with the roof with noncombustible materials.</p>	<p>The RFS recommend that the roofing shall be gutterless or guttering shall be screened with non-combustible materials. The design uses a</p>	<p>Conforms</p>

	combination of gutterless and screened guttering.	
<p>VERANDAS, DECKS, STEPS, RAMPS AND LANDINGS</p> <p>General Decking shall not be spaced. There is no requirement to enclose the subfloor spaces of verandas, decks, steps, ramps or landings.</p> <p>Enclosed subfloor spaces of verandas, decks, steps, ramps and landings Materials to enclose a subfloor space The subfloor spaces of verandas, decks, steps, ramps and landings are deemed to 'enclosed' when—</p> <ol style="list-style-type: none"> the material used to enclose the subfloor space complies 'External Walls' in this section ; and all openings greater than 3 mm are screened with a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel or bronze. <p>Supports [Enclosed subfloor space] No construction requirements for support posts, columns, stumps, stringers, piers and poles.</p> <p>Framing [Enclosed subfloor space] No construction requirements for the framing of verandas, decks, ramps or landings (i.e., bearers and joists).</p> <p>Decking, stair treads and the trafficable surfaces of ramps and landings [Enclosed subfloor space] Decking, stair treads and the trafficable surfaces of ramps and landings shall be—</p> <ol style="list-style-type: none"> of non-combustible material; or of fibre-cement sheet; or a system complying with AS 1530.8.2; or a combination of any of Items (a), (b) or (c) above. 	The proposed decking is unenclosed	Conforms
<p>Unenclosed subfloor spaces of verandas, decks, steps, ramps and landings Supports Support posts, columns, stumps, stringers, piers and poles shall be—</p> <ol style="list-style-type: none"> Of non-combustible material; or A system complying with AS 1530.8.2; or A combination of Items (a) and (b) above. <p>Framing Framing of verandas, decks, ramps or landings (i.e., bearers and joists) shall be—</p> <ol style="list-style-type: none"> of non-combustible material; or a system complying with AS 1530.8.2; or a combination of Items (a) and (b) above. 	<p>New decking shall not be spaced. The entry stairs are constructed from stone steppers on ground. Support posts and piers are noncombustible structural steel. The framing of the new decking is to be constructed from structural steel, and is therefore non-combustible.</p>	Conforms

<p>Decking, stair treads and the trafficable surfaces of ramps and landings Decking, stair treads and the trafficable surfaces of ramps and landings shall be—</p> <ul style="list-style-type: none"> a) of non-combustible material; or b) fibre-cement sheet; or c) a system complying with AS 1530.8.2; or d) a combination of Items (a), (b) or (c) above. 	<p>New decking throughout shall be proprietary INEX Decking. It is an engineered cementitious composite and is deemed non-combustible under AS 1530.1 and is approved for all Bushfire Attack Levels including BAL-FZ in accordance with AS 3959, 2009.</p>	<p>Conforms</p>
<p>Balustrades, handrails or other barriers Handrails and balustrades shall be non-combustible material.</p>	<p>The balustrades throughout shall be constructed from toughened glass, with an anodized aluminium capping. This is to be designed to fabricator's future detail.</p>	<p>Conforms</p>
<p>7.8 WATER AND GAS SUPPLY PIPES Above-ground, exposed water and gas supply pipes shall be metal.</p>	<p>Water and gas supply shall be metal</p>	<p>Conforms</p>

Ron Coffey – Bushfire Safety Engineer
 Grad I Fire E [Institute of Fire Engineers - 1973]
 Grad Cert Fire Safety Eng [UWS - 2003]
 Grad Dip Building in Bushfire Prone Areas [UWS – 2005]
 Ass Prof Cert in Expert Evidence in the Land & Environment Court [UTS – 2005]
 Corporate Member - Institute of Fire Engineers
 Member - Fire Protection Association Australia



Planning for Bushfire Protection
Fire Protection Association of Australia
BPAD-A Certified Practitioner/Certified Business
Certification No BPD-PA09328
0408220443

30 May 2016

Bruce McConochie
1b The Serpentine,
Bilgola Beach, NSW, 2107

RE: Impact of the proposed new carport position on Trees 24 and 25

This report has been prepared following review of the plans provided by Mathew Woodward Architecture for Construction Certificate (Issue A -30/11/2016). Following a review of the plans, Trees 24 and 25 were inspected by Alexis Anderson on the 10th January, 2017.

Tree 24: To enable the new carport position, excavation through the existing garden bed and a new retaining wall will be required within 1.0m of Tree 24 (Cabbage Tree Palm, *Livistona australis*) (Photo A). This is likely to result in the loss a large portion of the root system.

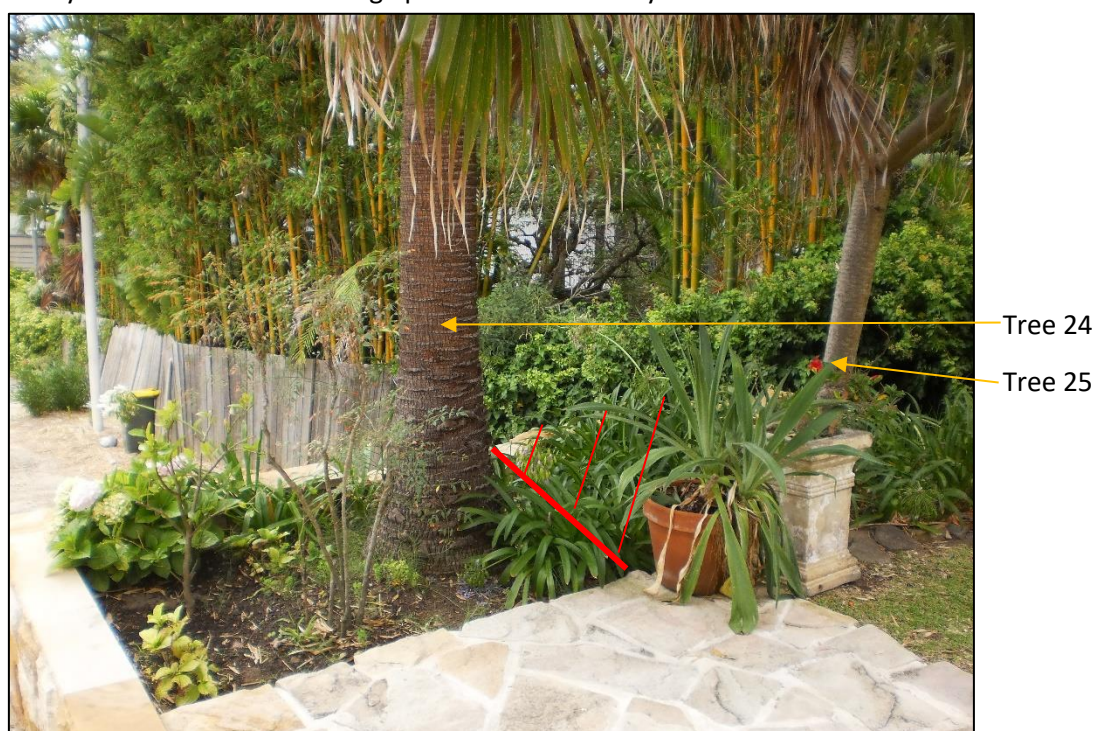


Photo A: Approximate alignment of excavation required near Tree 24 (red line).

The root loss is likely to have an impact on the health and vitality of Tree 24 in the short term, though the tree has a reasonable prospect of remaining viable in the long term. Tree 24 is young and vigorous and is of a species that is generally tolerant of some root disturbance. It is recommended that permanent irrigation be installed within the remaining parts of the garden bed. The purpose of this to compensate for the reduced capacity to take up moisture thereby preventing drought stress. This should be installed and functioning prior to commencement of excavation.

Given the short stature, compact canopy, sheltered position and dense fibrous root system, the stability of Tree 24 is not likely to be compromised. It is recommended that an AQF Level 5 Arborist be present when excavation takes place to assess the stability and cleanly prune the exposed injured roots.

Tree 25: Tree 25 (*Pandanus*, *Pandanus sp.*) is within the area of proposed excavation and is proposed to be transplanted. It is proposed to re-plant Tree 25 in the garden area near the property boundary to the south-west. *Pandanus* is a species that is generally tolerant of transplantation and is commonly transplanted for use in coastal landscapes. Tree 25 is in good health and vitality and is likely to tolerate the transplantation. It is recommended that the tree transplantation works be undertaken by a horticulturalist/landscaper with experience in successful tree transplantation.

Please contact me if there are any questions or if further information is required.

Yours sincerely



Alexis Anderson –Bluegum Tree Care & Consultancy

- AQF Level 5- Diploma of Horticulture (Arboriculture)
- Registered Consulting Arborist -2268 (Arboriculture Australia)
- ABN: 989 613 015 96
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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, Peter Fennell on behalf of 5QS Barker Harle
(insert name) (trading or company name)

on this the 30th day of December 2016
(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 organisation/company to issue this document and to certify that the organisation/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 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: Comments on slope instability risk and site development - Proposed Additions Lot 1 DP 232164, No 1B The Serpentine, Bilgola Beach
Report Date: 10 April 2015
Author: Adam Hawkes

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

Architectural plans prepared by Matthew Woodward Architecture, in 29 sheets, Issue 'A' dated 30.11.2016
Structural Design Statement prepared by Ashby Doble Pty Limited, Ref 16.208 dated 29.11.16
Structural engineering plans prepared by Ashby Doble Pty Limited, Ref 16.208 in 3 sheets, Issue 'C' dated Aug 2016

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 Peter Fennell
Chartered Professional Status.... Not chartered
Membership No. 400557
Company..... 5QS Barker Harle



ISSUE	DATE	FOR	ISSUE	DATE	FOR	ISSUE	DATE	FOR
A	30.11.2016	CONSTRUCTION CERTIFICATE						

NOTES

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GEOTECHNICAL ENGINEER
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LAND SURVEYOR
GEOMAT ENGINEERING PTY LTD
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TOWN PLANNER
VALUHAN MALLUHAN DEVELOPMENT CONSULTING
TEL 9999 4822
PRIVATE CERTIFIER

CLIENT

BRUCE MCCONCHIE & SUSAN MANFORD

PROJECT
BILGOLA BEACH HOUSE
1B THE SERPENTINE - BILGOLA BEACH 2107
PROJECT NUMBER
S150115.BMC

TRUE NORTH
PROJECT NORTH
GRAPHIC SCALE
0 2000 5000
SCALE
1:100 @ A1 1:1000 @ A3
DO NOT SCALE

CONSTRUCTION CERTIFICATE

DRAWING

SITE PLAN
DRAWING NUMBER

A-105

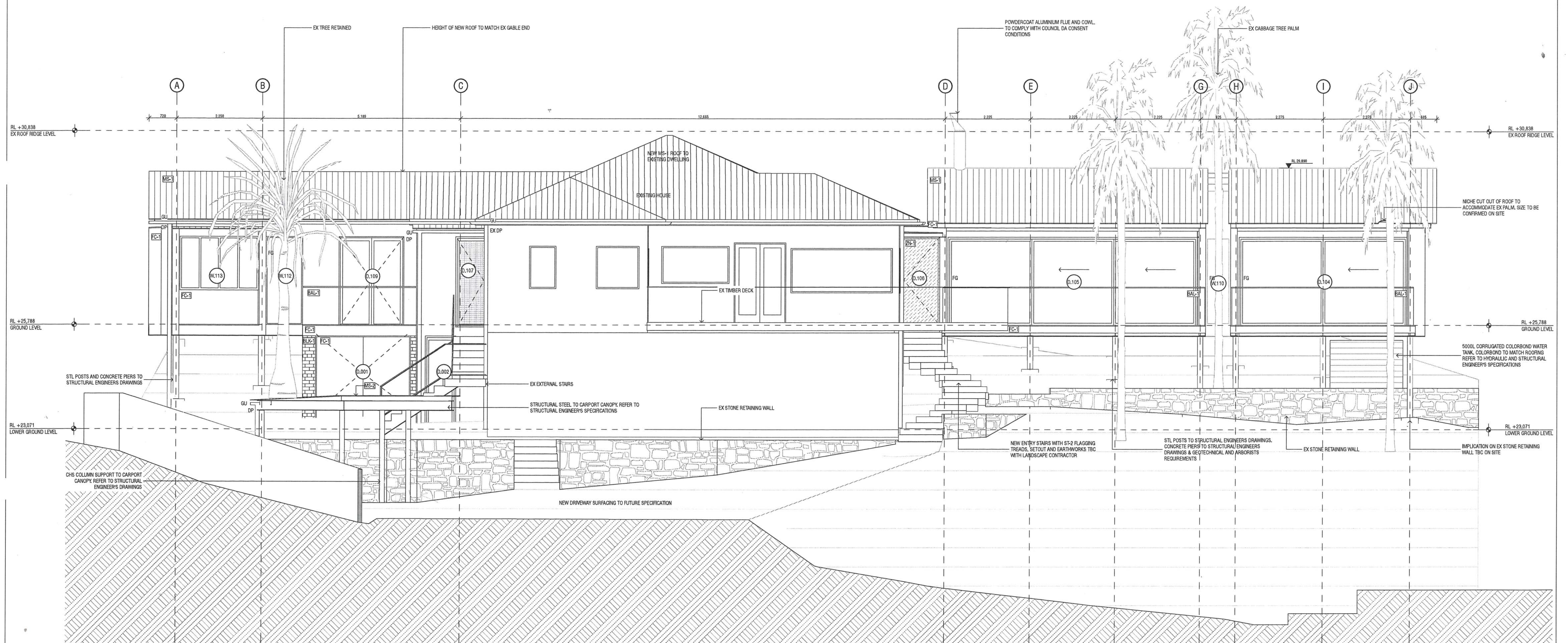
A

SQS Geotechnical Engineer's Review

We have checked the details shown on this drawing and confirm that they comply with the requirements set out in report No. 5702 Date 10.4.2015

We do not accept any responsibility for building construction or structural details shown on this drawing.

For [Signature] Date 2.1.2017



matthewwoodwardarchitecture

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A	26.11.2016	CONSTRUCTION CERTIFICATE

ISSUE	DATE	FOR

ISSUE	DATE	FOR

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LAND SURVEYOR
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VAUGHAN MALLUSIAN DEVELOPMENT CONSULTING
TEL 9999 4922
PRIVATE CERTIFIER

CLIENT

BRUCE McCONOCHE & SUSAN MANFORD

PROJECT
BILGOLA BEACH HOUSE
18 THE SERPENTINE - BILGOLA BEACH 2107
PROJECT NUMBER

S150115.BMC

TRUE NORTH PROJECT NORTH
GRAPHIC SCALE
0 2000 5000
SCALE
1:50 @ A1 / 1:100 @ A3
DO NOT SCALE
CONSTRUCTION CERTIFICATE

DRAWING

EAST ELEVATION
DRAWING NUMBER
C-101

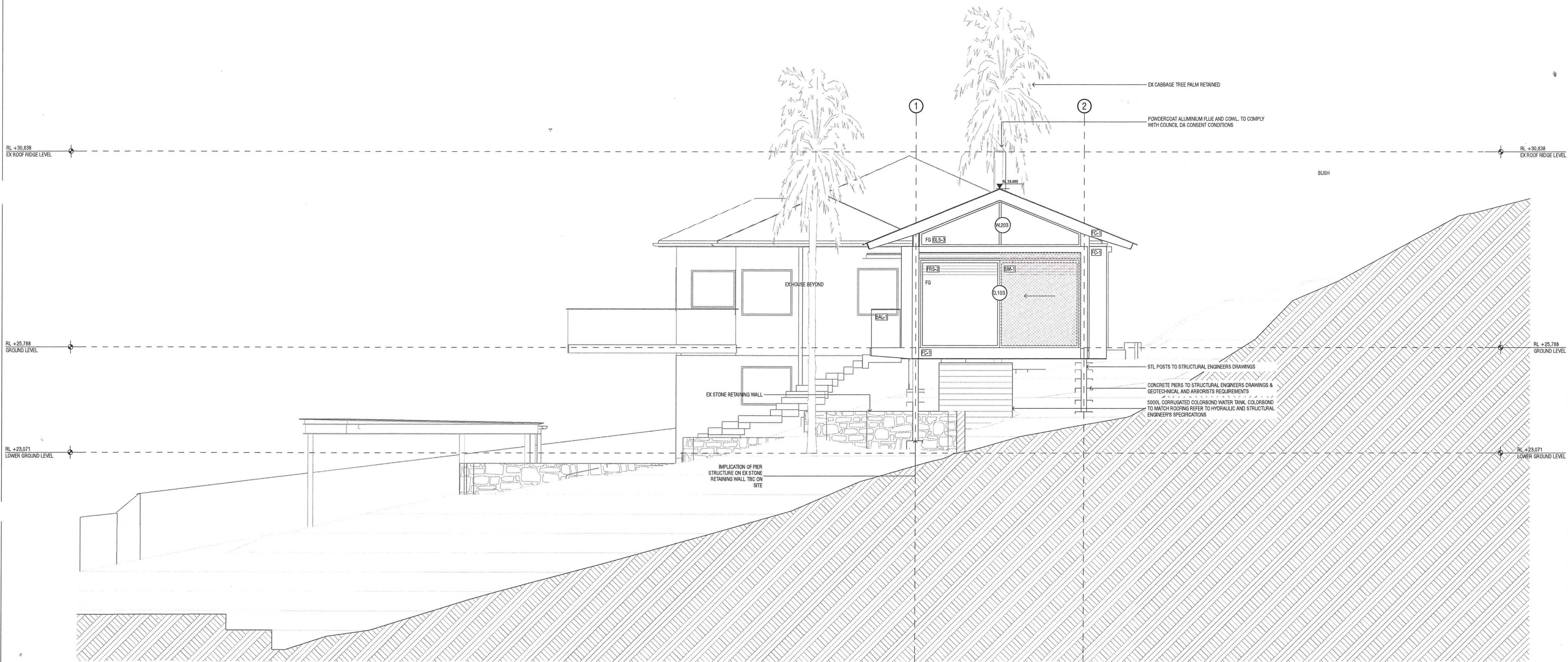
A

SQS Geotechnical Engineer's Review

We have checked the details shown on this drawing and confirm that they comply with the requirements set out in report No. 5702 Date 10.4.2015

We do not accept any responsibility for building construction or structural details shown on this drawing.

Per [Signature] Date 2.1.2017



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ISSUE	DATE	FOR
A	20.11.2016	CONSTRUCTION CERTIFICATE

ISSUE	DATE	FOR

ISSUE	DATE	FOR

NOTES

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ASHBY DOYLE CONSULTING STRUCTURAL ENGINEERS
TEL 9985 2077
HYDRAULIC ENGINEER
NB CONSULTING ENGINEERS
TEL 9984 7000
GEOTECHNICAL ENGINEER
BARBER HADLE CONSULTING ENGINEERS
TEL 9031 4407

LAND SURVEYOR
GEOMAT ENGINEERING PTY LTD
TEL 9463 5160
TOWN PLANNER
VALUOHAN MULLIGAN DEVELOPMENT CONSULTING
TEL 9999 4922
PRIVATE CERTIFIER

CLIENT

BRUCE MCCONOGHIE & SUSAN MANFORD

PROJECT
BILGOLA BEACH HOUSE
1B THE SERPENTINE - BILGOLA BEACH 2107
PROJECT NUMBER
S150115.BMC

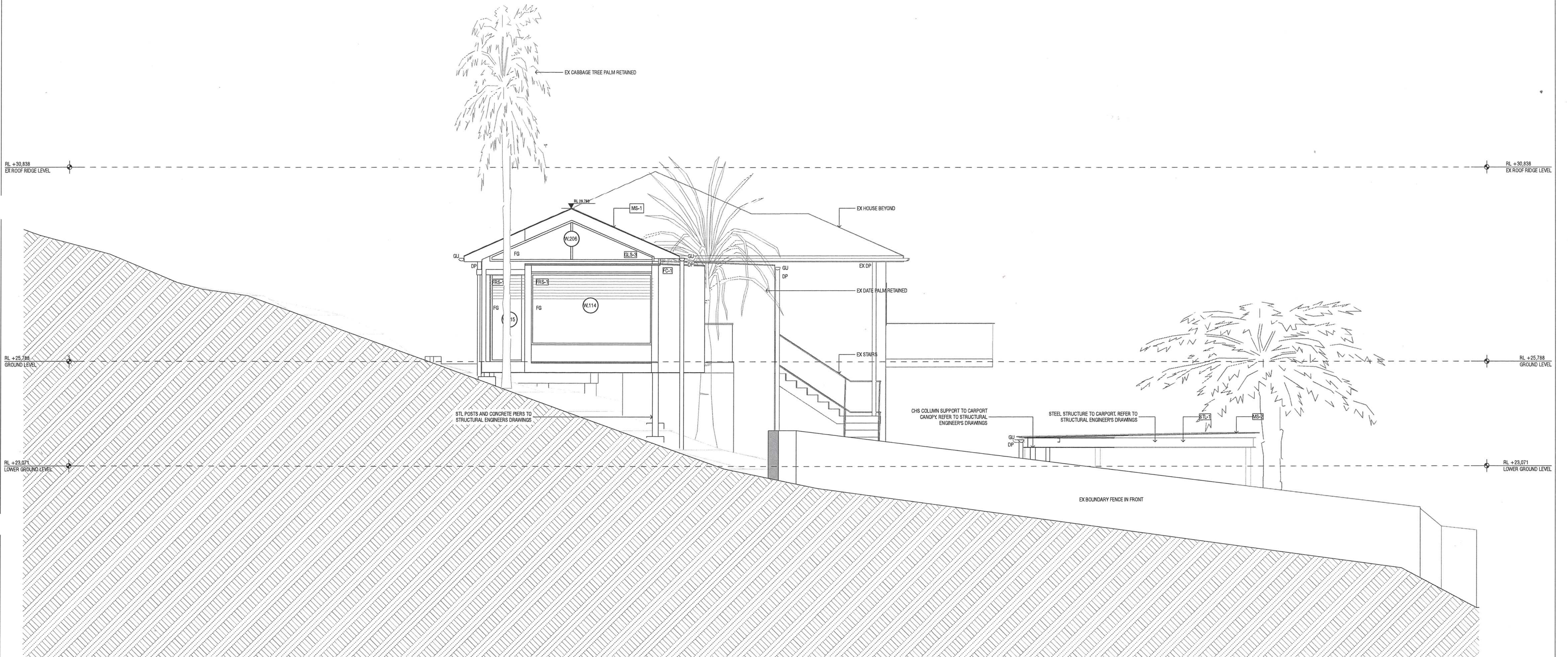
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SCALE
1:50 @ A1, 1:100 @ A3
DO NOT SCALE

CONSTRUCTION CERTIFICATE
C-103

NORTH ELEVATION
DRAWING NUMBER
A

s150115_BilgolaBeach_CD_30112016_8.45.m

SQS Geotechnical Engineer's Review
We have checked the details shown on this drawing and confirm that they comply with the requirements set out in report No 5702 Date 10.4.2015
We do not accept any responsibility for building construction or structural details shown on this drawing.
Per [Signature] Date 2.1.2017



ISSUE	DATE	FOR
A	30.11.2016	CONSTRUCTION CERTIFICATE

ISSUE	DATE	FOR

ISSUE	DATE	FOR

NOTES

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NS CONSULTING ENGINEERS
TEL 9884 7000
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BARBER HALL CONSULTING ENGINEERS
TEL 9031 4467

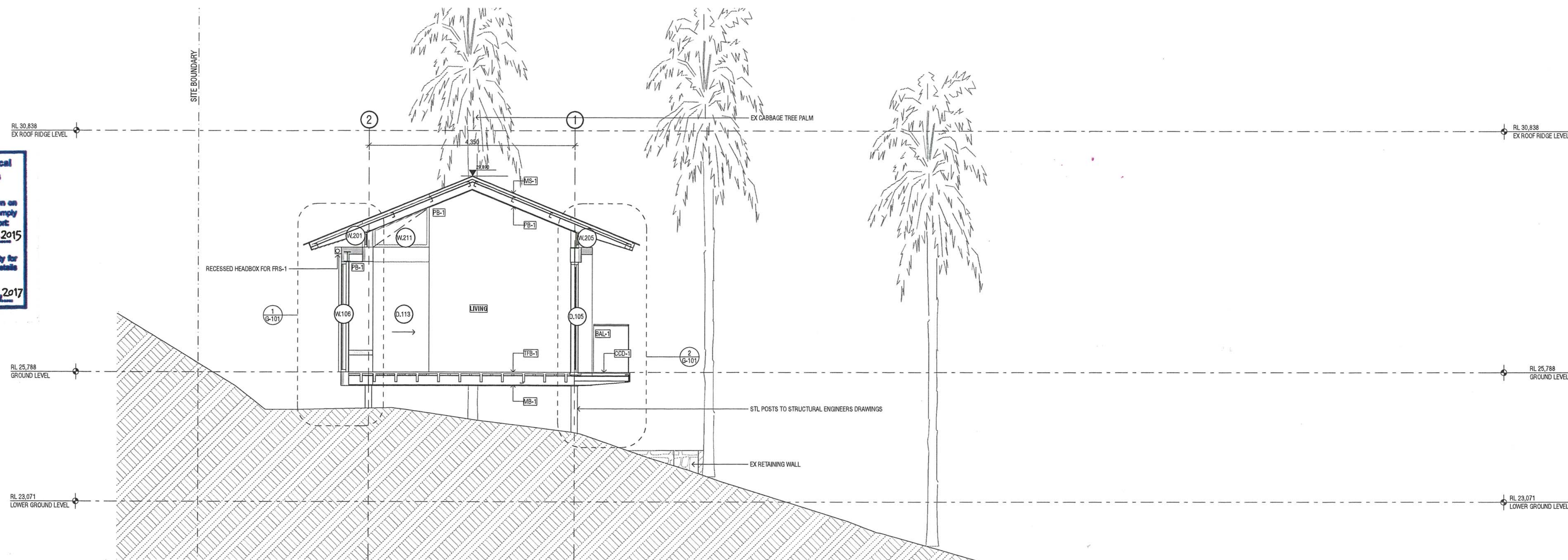
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TOWN PLANNER
VALUHAN MILLOSIAN DEVELOPMENT CONSULTING
TEL 9999 4922
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CLIENT
BRUCE MCCONOCHE & SUSAN MANFORD

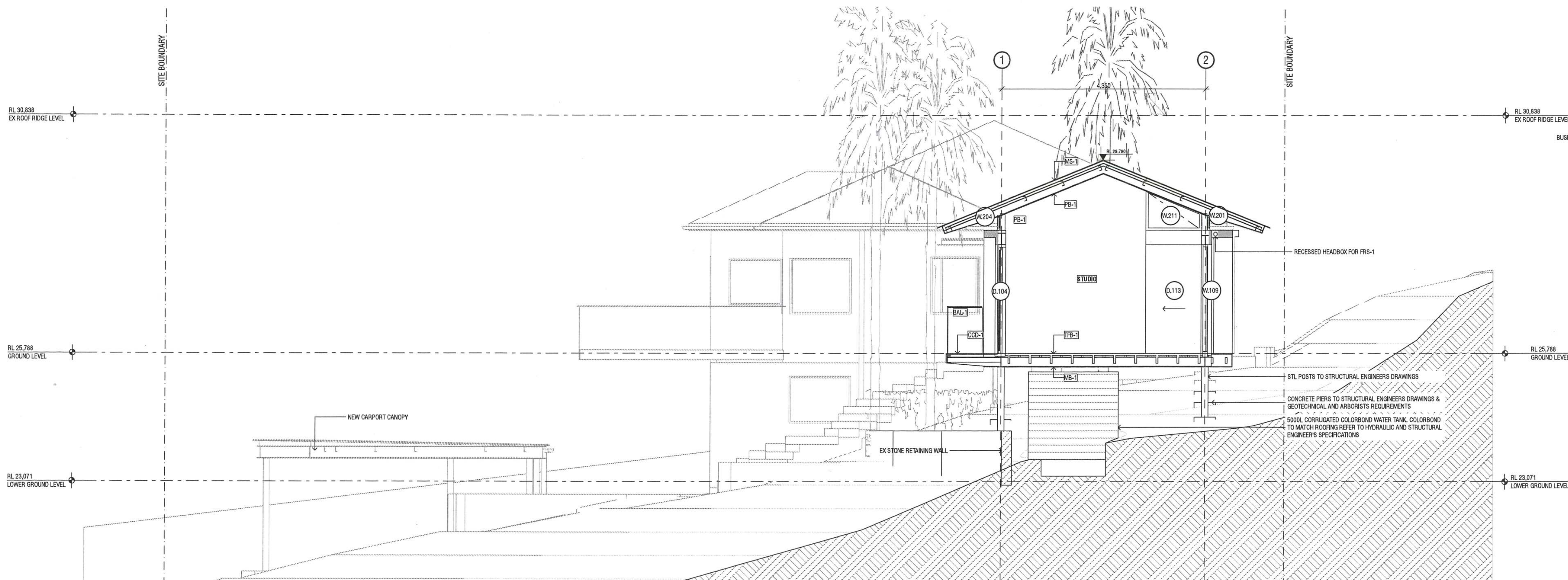
PROJECT
BILGOLA BEACH HOUSE
1B THE SERPENTINE - BILGOLA BEACH 2107
PROJECT NUMBER
S150115.BMC

TRUE NORTH
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DO NOT SCALE
CONSTRUCTION CERTIFICATE

DRAWING
SOUTH ELEVATION
DRAWING NUMBER
C-104
A



1 #LayID SECTION 01 1:50



2 A-XX-04, R-XX-03, A-103, A-104, A-105, B-101, B-102, B-103, B-104, B-105, B-201, B-202, B-203 SECTION 02 1:50

matthewwoodward|architecture

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A	20.11.2016	CONSTRUCTION CERTIFICATE

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ISSUE	DATE	FOR

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TEL: 9901 4407

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TEL: 9999 4022
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CLIENT

PROJECT
BILGOLA BEACH HOUSE
1B THE SERPENTINE - BILGOLA BEACH 2107
PROJECT NUMBER

BRUCE MCCONOCHE & SUSAN MANFORD

S150115.BMC

TRUE NORTH
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DO NOT SCALE
CONSTRUCTION CERTIFICATE

DRAWING

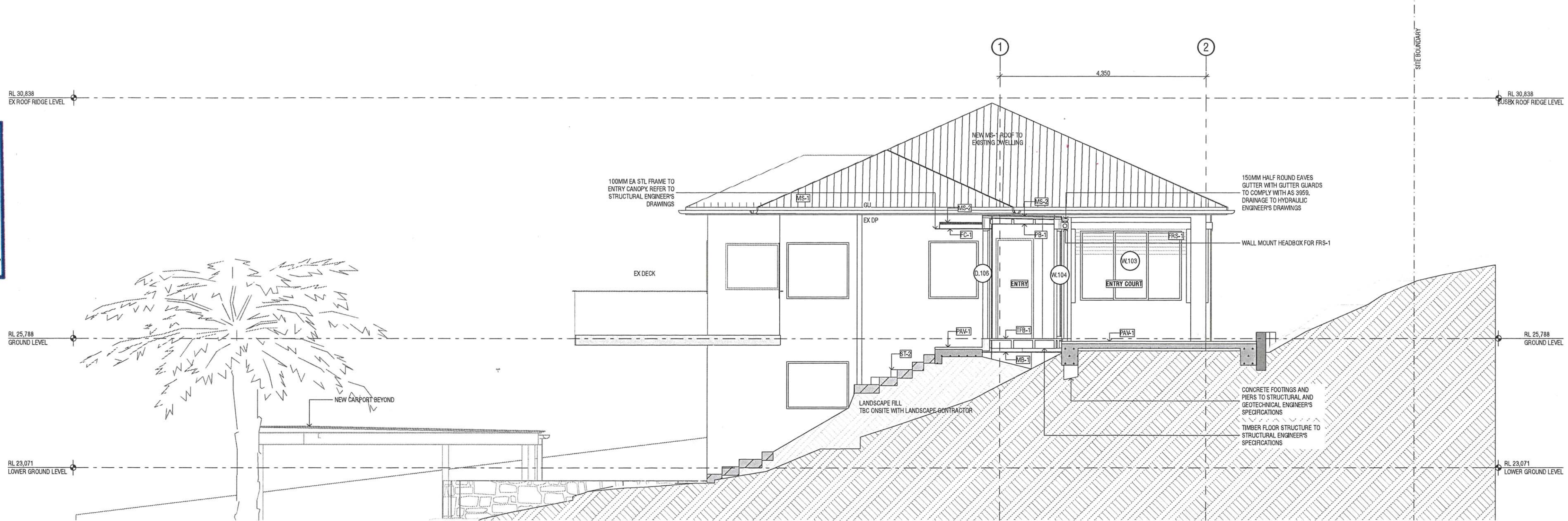
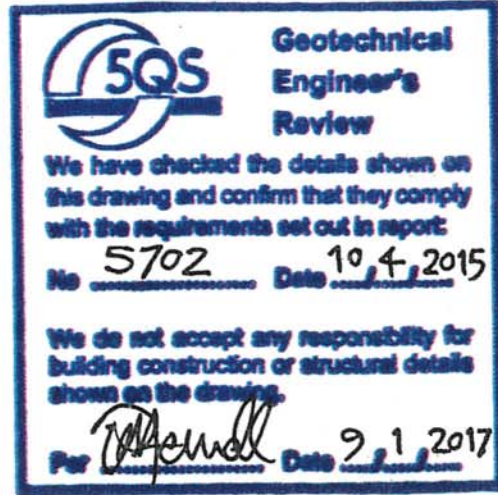
SECTION 01/02

DRAWING NUMBER

D-101

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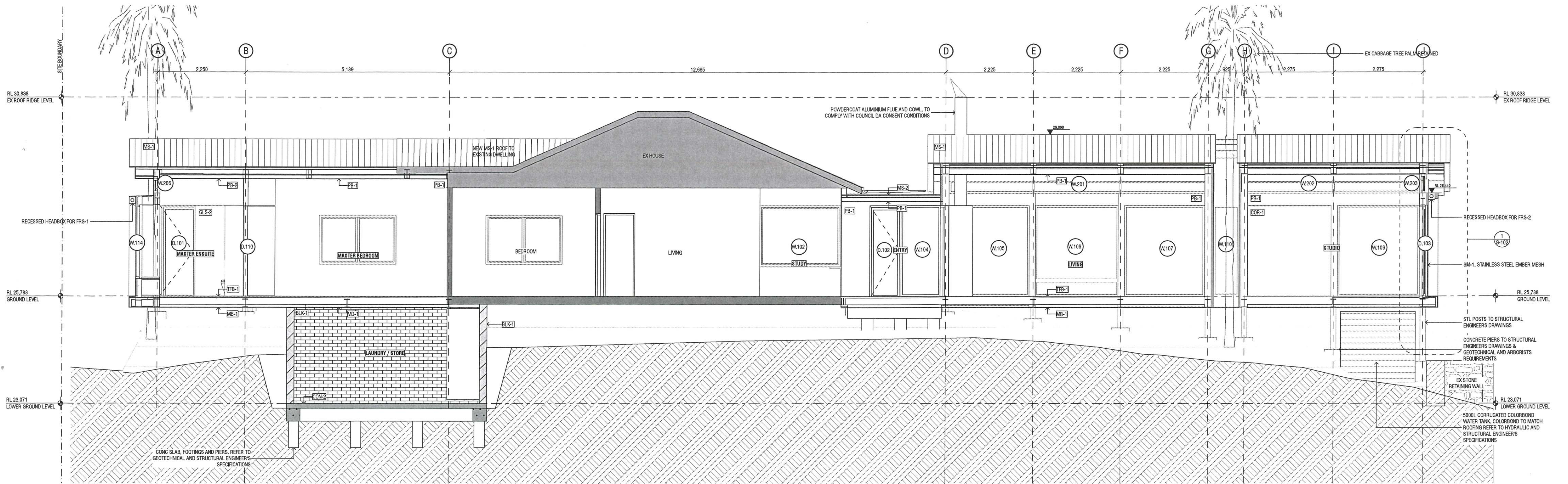
Telephone +61 2 8041 7802
studio@matthewwoodward.com.au
www.matthewwoodward.com.au



1
A-XX-04, R-XX-03, A-103, A-104, A-105, B-101, B-102, B-103, B-104, B-105, B-201, B-202, B-203

SECTION 03

1:50



2
A-XX-04, R-XX-03, A-103, A-104, A-105, B-101, B-102, B-103, B-104, B-105, B-201, B-202, B-203

SECTION 04

1:50

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A 30.11.2016 CONSTRUCTION CERTIFICATE

ISSUE DATE FOR

ISSUE DATE FOR

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HB CONSULTING ENGINEERS
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GEOTECHNICAL ENGINEER
BANKER WALL CONSULTING ENGINEERS
TEL: 9603 4407

LAND SURVEYOR
GEOMAT ENGINEERING PTY LTD
TEL: 9450 9100
TOWN PLANNER
VALUHAN MILLERIAN DEVELOPMENT CONSULTING
TEL: 9999 4922
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PROJECT
BILGOLA BEACH HOUSE
18 THE SERPENTINE - BILGOLA BEACH 2107

PROJECT NUMBER
S150115.BMC

BRUCE MCCONOGHIE & SUSAN MANFORD

TRUE NORTH PROJECT NORTH DRAWINGS

GRAPHIC SCALE
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DO NOT SCALE

SECTIONS 03/04

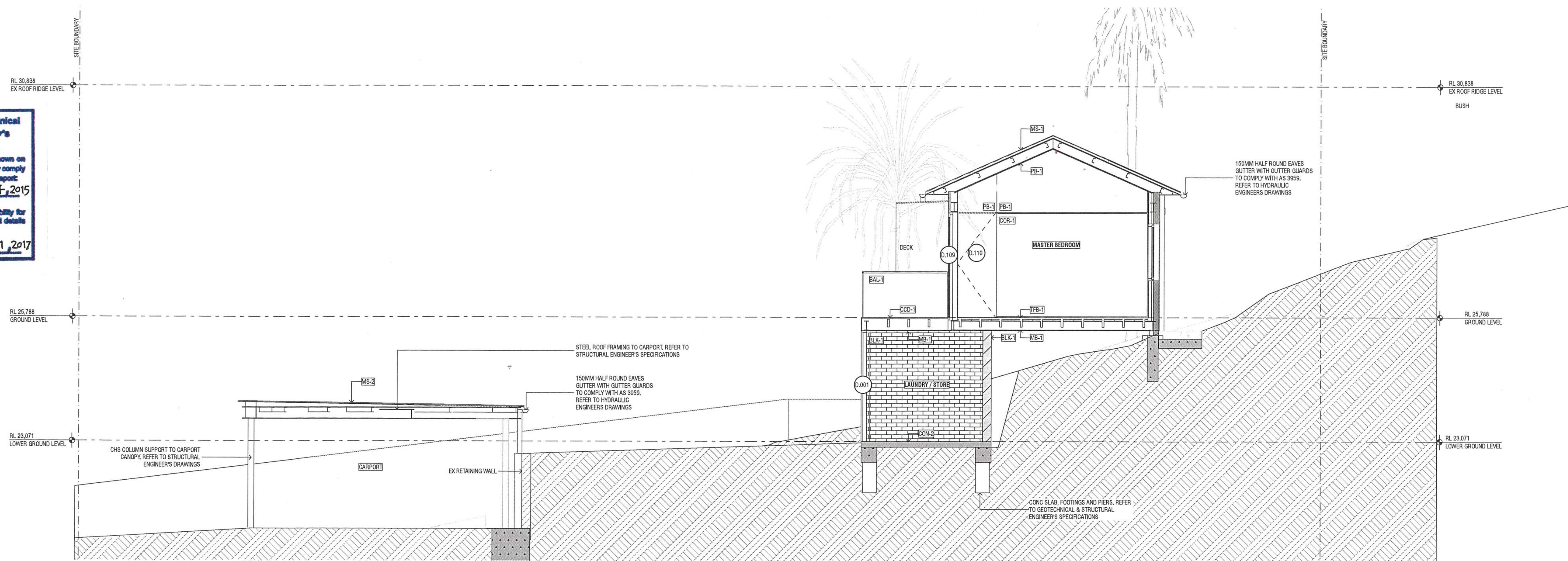
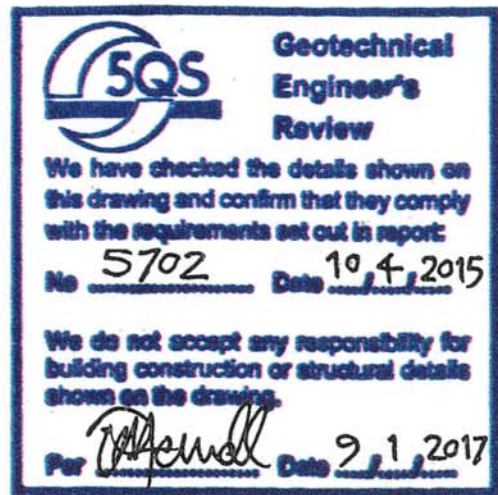
DRAWING NUMBER

CONSTRUCTION CERTIFICATE

D-102

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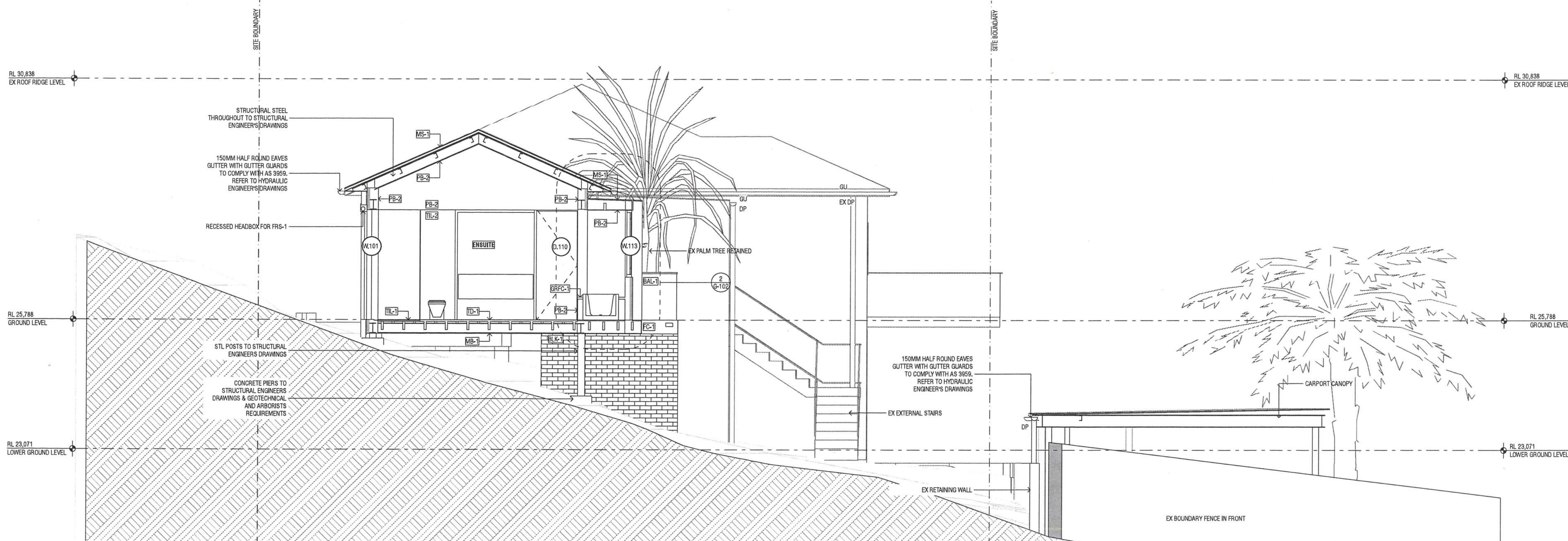
Telephone +61 2 8041 7802
studio@matthewwoodward.com.au
www.matthewwoodward.com.au



1
A-XX-04, R-XX-03, A-103, A-104, A-105, B-101, B-102, B-103, B-104, B-105, B-201, B-202, B-203

SECTION 05

1:50



2
A-XX-04, R-XX-03, A-103, A-104, A-105, B-101, B-102, B-103, B-104, B-105, B-201, B-202, B-203

SECTION 06

1:50

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ISSUE	DATE	FOR
A	30.11.2016	CONSTRUCTION CERTIFICATE

ISSUE	DATE	FOR

ISSUE	DATE	FOR

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TOWN PLANNER
VALUERS MELLISMAN DEVELOPMENT CONSULTING
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CLIENT

PROJECT
BILGOLA BEACH HOUSE
1B THE SERPENTINE - BILGOLA BEACH 2107
PROJECT NUMBER

S150115.BMC

BRUCE MCCONOCHE & SUSAN MANFORD

TRUE NORTH
PROJECT NORTH
GRAPHIC SCALE
SCALE
0 2000 5000
1:50 @ A1 / 1:100 @ A3
DO NOT SCALE

DRAWING

SECTIONS 05/06

D-103

A

Telephone +61 2 8041 7802
studio@matthewwoodward.com.au
www.matthewwoodward.com.au

Building plan assessment application

Application number: 189903

Property address: 1B The Serpentine, Bilgola Beach 2107

Lot details: Lot 1, Deposited Plan 232164

08/02/2017

Dear bruce mcconochie

Your building plan assessment application has been

APPROVED

This Approval is provided subject to the Conditions and Important Information issued to you by Sydney Water, which you are taken to have accepted by using the approval.

This Approval is based on the information you provided to us through Sydney Water Tap in.

If any of the information you have provided is incorrect or incomplete, Sydney Water may revoke this Approval.

This approval is valid until 08/02/2018 (one year).

ANY QUESTIONS?

Email us

swtapin@sydneywater.com.au

Call us

1300 082 746

STRUCTURES

The structures and information you supplied are displayed below.

Structure(s) that will not impact Sydney Water infrastructure

Structure 1	Ground floor extension	15.0 m x 6.0 m x 1.0 m
-------------	------------------------	------------------------

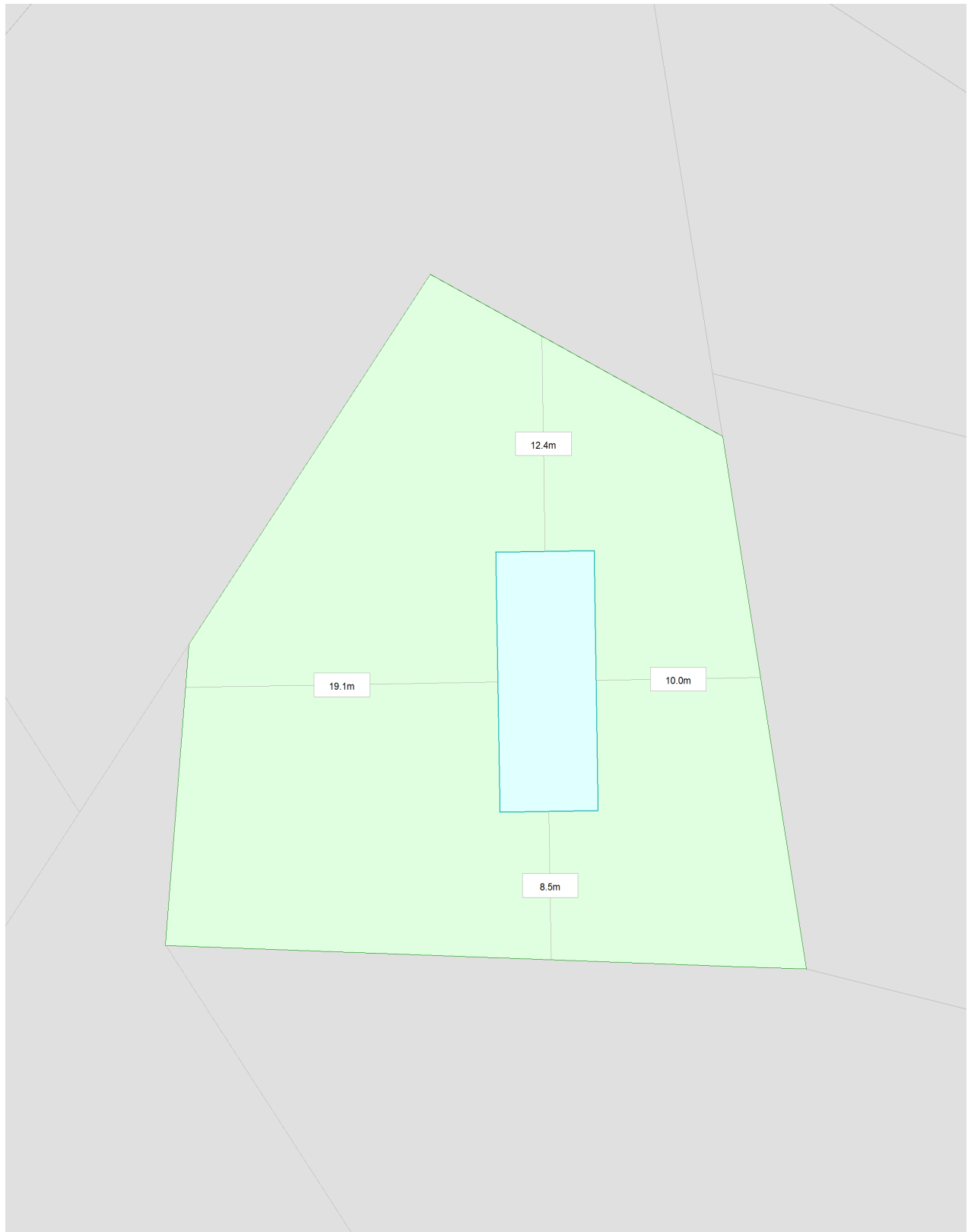
Structure 1 of 1: Ground floor extension

Application number: 189903

Property address: 1B The Serpentine, Bilgola Beach 2107

Lot details: Lot 1, Deposited Plan 232164

This structure will not impact Sydney Water infrastructure.



CONDITIONS AND IMPORTANT INFORMATION

Conditions and Important Information

Attention: You must read the information below.

- 1 The approval of your building plan by Sydney Water (Approval) has been generated by an automated system based on the information you have provided to Sydney Water through the Sydney Water Tap in. Sydney Water does not make any representation or give any guarantee, warranty or undertaking (express or implied) as to the currency, accuracy, completeness, effectiveness or reliability of the Approval.
- 2 It is your responsibility to ensure that the information is correct and complete when submitting your building plan for approval through Sydney Water Tap in and, if any of the information is incorrect or incomplete, to resubmit information that is correct and complete. If any of the information that you have provided is incorrect or incomplete, this may result in the revocation of the Approval.
- 3 The Approval is provided on each of the following conditions which you are taken to have accepted by using the Approval. To the fullest extent permitted by law:
 - (a) all conditions and guarantees concerning the Approval (whether as to quality, outcome, fitness, care, skill or otherwise) expressed or implied by statute, common law, equity, trade, custom or usage or otherwise are expressly excluded and to the extent that those statutory guarantees cannot be excluded, the liability of Sydney Water to you is limited to either of the following as nominated by Sydney Water in its discretion, which you agree is your only remedy:
 - i. the supplying of the Approval again; or
 - ii. payment of the cost of having the Approval supplied again;
 - (b) in no event will Sydney Water be liable for, and you release Sydney Water from all Losses arising out of or in connection with you providing incorrect or incomplete information to Sydney Water in connection with the Approval:
 - i. whether arising under statute or in contract, tort or any other legal doctrine, including any negligent act, omission or default (including wilful default) by Sydney Water; and
 - ii. regardless of whether Sydney Water is or ought to have been aware of, or advised of, the possibility of such loss, costs or damages;
 - (c) you will indemnify, defend and hold harmless Sydney Water from and against all Losses of Sydney Water in respect of, or in connection with loss or damage to any property, personal injury (including death or illness of any person), arising out of or in connection with:
 - i. you providing incorrect or incomplete information to Sydney Water in connection with the Approval; or
 - ii. any third party claim against Sydney Water; and
 - (d) you assume all risks associated with the use of the Sydney Water Tap in and Sydney Water websites, including risk to your computer, software or data being damaged by any virus, and you release and discharge Sydney Water from all Losses which might arise in respect of your use of the websites.

- 4 Subject to condition numbered 3(c) in this document, your liability under condition numbered 3(c) in this document is reduced to the extent that the loss, liability, expense or damage:
- (a) is caused solely and directly by any negligent act or omission of Sydney Water; or
 - (b) could not reasonably be foreseen and was not reasonably within the contemplation of you and Sydney Water at the time of the loss, liability, expense or damage.
- 5 The position of the proposed building/building works in relation to Sydney Water's pipes and structures is satisfactory. You are responsible for, amongst other things:
- (a) protecting underground structures, including Sydney Water's pipelines, from damage and interference;
 - (b) maintaining minimum clearances between Sydney Water's structures and structures belonging to others;
 - (c) preventing loss or damage to any property, personal injury (including death or illness of any person) arising out of or in connection with you providing incorrect or incomplete information to Sydney Water in connection with the Approval;
 - (d) repairing or making good loss or damage to any property or the environment arising out of or in connection with you providing incorrect or incomplete information to Sydney Water in connection with the Approval;
 - (e) ensuring that connections to Sydney Water's sewer, watermain or stormwater are only be made following the issue of a permit to a licensed plumber/drainer;
 - (f) ensuring that all proposed fittings will drain to Sydney Water's sewer;
 - (g) ensuring that all plumbing and/or drainage Work is to be carried out in accordance with the NSW Code of Practice, AS 3500 and the Sydney Water Act 1994;
 - (h) ensuring that gullies, inspection shafts and boundary traps are not placed under any roof, balcony, verandah, floor or other cover unless otherwise approved by Sydney Water; and
 - (i) notifying Sydney Water immediately of any damage caused or threat of damage to Sydney Water's structures.
- 6 **"Sydney Water"** means Sydney Water Corporation and its employees, agents, representatives and contractors. References to "you" include references to your employees, agents, representatives, contractors, executors, administrators, successors, substitutes, assigns and anyone else using the Approval. References to "Losses" means all liabilities, losses, damages, expenses, compensations, fines, penalties, charges and costs (including legal costs on a full indemnity basis and whether incurred or awarded) of any kind or nature however they arise and whether they are present or future, fixed or unascertained, actual or contingent and including any loss of profits, loss of revenue or loss of opportunity. To the extent of any inconsistency, the conditions numbered 1 to 6 in this document will prevail over any other information provided or made available to you by Sydney Water.

In an emergency, or to notify Sydney Water of damage or threats to its structures, call 13 20 92 (24 hours, 7 days).

29.11.16

Our Reference

Computer File 16.208

C:162082911.16

Matthew Woodward
Matthew Woodward Architecture
Suite 5 / 383 Sydney Road
Balgowlah NSW 2093

Dear Matthew

**RE: Alterations & Additions – 1B The Serpentine, Bilgola Beach
Structural Design Statement**

We confirm that Ashby Doble Pty Limited prepared the structural design and details for the abovementioned project.

We hereby certify that the design was prepared in accordance with normal engineering practice and will meet the structural engineering requirements of the BCA Part B1(vol 1) and Part 3.11(vol 2) and the relevant Australian Standards. In particular the design is in accordance with the following Australian Standards:

- AS 1170.1 Loading Code
- AS 1170.2 Wind Load
- AS 1720.1 Timber Structures Code
- AS 2870 Residential Slabs and Footings
- AS 3600 Concrete Code
- AS 4100 Steel Code
- AS 3700 Masonry Code
- AS 1684 Lightweight Timber Framing Code

Ashby Doble Pty Limited is an appropriately qualified and competent company in this area and as such can certify that the design and performance of the design systems will comply with the above and have been detailed on the following drawing:

16.208 – 01C, 02C and 03C

During the construction process, additional drawings or details as required will be prepared and issued.

We possess indemnity Insurance to the satisfaction of the building owner or our principal.

Full Name of Designer: Scott Doble, and other members of staff
Qualifications: B.E.(Civil) (Hons) CV attached
Address of Designer: Suite 5, 35 Spring Street, Bondi Junction NSW 2022
Business Telephone No: 02 9369 2077 **Fax No:** 02 9369 2538
Name of Employer: Ashby Doble Pty Limited

This certificate shall not be construed as relieving any other party of their responsibilities.

Yours sincerely
ASHBY DOBLE PTY LIMITED



Scott Doble

NAME - **Scott Doble**

POSITION - Company Director

QUALIFICATIONS - B.E. Hons University of New South Wales 1990.

EMPLOYMENT - **February 1991 – May 1994**
Irwin Johnson & Partners

Design Engineer

Worked on various projects including commercial, residential and maritime developments.

Undertook post-earthquake works in Newcastle.

September 1994 – September 1997

Leslie E Roberts & Associates, New York, N.Y.

- Windows on the World Trade Center, New York, N.Y.

Project Manager

US\$20m refurbishment of the 106th to 107th floors of Tower One of the World Trade Center Complex

- Post-bombing rectification works World Trade Center, New York, N.Y.

Project Engineer

Remedial works to the World Trade Center Complex after the 1993 terrorist attack. Included significant amount of site supervisory works.

- Sitama Arena, Sitama, Japan

Design Engineer

Structural design for competition submission for a new stadium. The project was completed in association with Fudo Constructions Co. Ltd and Kiyonori Kikutake Architects & Associates of Japan.

- China

Project Manager

Design development for 25 storey commercial building

Scott Doble (continued)

- Manila

Project Manager

Design development of three 45 storey reinforced concrete residential towers constructed over three podium levels.

September 1997 – Present

Ashby Doble Pty Ltd

- Heritage Redevelopment – Sir Joseph Banks Hotel, Botany

Project Director

Restoration of existing 1840's heritage building and construction of new townhouse development.

- An Feng Kingstream Steel Plant – Geraldton, Western Australia

Project Director

Design development of buildings and civil works for multi-billion dollar project in Geraldton, Western Australia. Works completed for pricing by Baulderstone Hornibrook for tender submission.

- Certification works, Ritz-Carlton Hotel, Double Bay

Project Director

Ongoing certification and maintenance works – Ritz-Carlton Hotel, Double Bay for Asahi Developments.

- Olympic Rings/New Years Eve 2001

Project Director

Design of the structural system for the Olympic Rings Display on the Sydney Harbour Bridge and the structural system for the 2001 New Years Eve Display.

- Protech Steel Plant - Kooragang Island, Newcastle

Project Director

Design of preliminary structural system for tender submission for the proposed new \$500m Steel Plant. The works were completed on behalf of Thiess.

- Residential

Project Director

Responsible for the design and documentation of approximately 1000 residential projects ranging in size from small projects through to large scale residential developments.

BASIX[®]Certificate

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

Alterations and Additions

Certificate number: A215744_05

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 18/09/2014 published by Planning & Infrastructure. This document is available at www.basix.nsw.gov.au

This certificate is a revision of certificate number A215744_02 lodged with the consent authority or certifier on 27 May 2015 with application N0185/15.

It is the responsibility of the applicant to verify with the consent authority that the original, or any revised certificate, complies with the requirements of Sch 1 Cl 2A, 4A or 6A of the Environmental Planning and Assessment Regulation 2000

Director-General

Date of issue: Tuesday, 29, November 2016

To be valid, this certificate must be lodged within 3 months of the date of issue.



Planning &
Infrastructure

Description of project

Project address	
Project name	1B The Serpentine_05
Street address	1B The Serpentine The Serpentine Bilgola Beach 2017
Local Government Area	Pittwater Council
Plan type and number	Deposited Plan 232164
Lot number	1
Section number	0
Project type	
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).

Certificate Prepared by (please complete before submitting to Council or PCA)

Name / Company Name: Efficient Living

ABN (if applicable): 82116346082

Fixtures and systems	Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
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.		✓	

Construction			Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
Insulation requirements					
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.			✓	✓	✓
Construction	Additional insulation required (R-value)	Other specifications			
suspended floor with enclosed subfloor: framed (R0.7).	R0.60 (down) (or R1.30 including construction)				
external wall: framed (weatherboard, fibro, metal clad)	R1.30 (or R1.70 including construction)				
flat ceiling, pitched roof	ceiling: R2.25 (up), roof: foil/sarking	light (solar absorptance < 0.475)			
raked ceiling, pitched/skillion roof: framed	ceiling: R2.26 (up), roof: foil/sarking	light (solar absorptance < 0.475)			

Glazing requirements	Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
Windows and glazed doors			
<p>The applicant must install the windows, glazed doors and shading devices, in accordance with the specifications listed in the table below. Relevant overshadowing specifications must be satisfied for each window and glazed door.</p> <p>The following requirements must also be satisfied in relation to each window and glazed door:</p> <p>Each window or glazed door with standard aluminium or timber frames and single clear or toned glass may either match the description, or, 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.</p> <p>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.</p> <p>For projections described in millimetres, the leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 mm above the head of the window or glazed door and no more than 2400 mm above the sill.</p> <p>For projections described as a ratio, the ratio of the projection from the wall to the height above the window or glazed door sill must be at least that shown in the table below.</p> <p>Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35.</p> <p>External louvres and blinds must fully shade the window or glazed door beside which they are situated when fully drawn or closed.</p> <p>Pergolas with fixed battens must have battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm.</p> <p>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.</p>	✓	✓	✓
Windows and glazed doors glazing requirements			

Glazing requirements							Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
Window / door no.	Orientation	Area of glass inc. frame (m2)	Overshadowing		Shading device	Frame and glass type			
D.103	N	10.5	0	0	external louvre/blind (adjustable)	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.109	W	4.79	0	0	projection/height above sill ratio ≥ 0.43	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
D.104	E	11	0	0	projection/height above sill ratio ≥ 0.43	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.110	E	1.57	0	0	projection/height above sill ratio ≥ 0.43	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.105	W	4.69	0	0	projection/height above sill ratio ≥ 0.43	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.106	W	4.88	0	0	external louvre/blind (adjustable)	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.107	W	4.69	0	0	projection/height above sill ratio ≥ 0.43	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
D.105	E	14.98	0	0	projection/height above sill ratio ≥ 0.43	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.104	W	2.42	0	0	external louvre/blind (adjustable)	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.103	N	3.8	1.28	2.15	external louvre/blind (adjustable)	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.112	E	2.4	0	0	external louvre/blind (adjustable)	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.101	W	2.07	0	0	external louvre/blind (adjustable)	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.113	E	3.02	0	0	projection/height above sill ratio ≥ 0.23	standard aluminium, toned/air gap/clear, (U-value: 5.31, SHGC: 0.48)			

Glazing requirements							Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
Window / door no.	Orientation	Area of glass inc. frame (m2)	Overshadowing		Shading device	Frame and glass type			
			Height (m)	Distance (m)					
W.115	S	2.4	0	0	projection/height above sill ratio ≥0.43	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.114	S	5.97	0	0	projection/height above sill ratio ≥0.43	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.203	N	3.24	0	0	projection/height above sill ratio ≥0.43	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.201	W	2.33	0	0	eave/verandah/pergola/balcony ≥900 mm	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.205	E	1.91	0	0	eave/verandah/pergola/balcony ≥900 mm	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.204	E	1.55	0	0	eave/verandah/pergola/balcony ≥900 mm	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
D.102	W	3.19	0	0	external louvre/blind (adjustable)	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
D.109	E	3.91	0	0	projection/height above sill ratio ≥0.43	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.206	S	1.8	0	0	none	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.102	W	0.89	0	0	external louvre/blind (adjustable)	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.108	W	1.57	0	0	external louvre/blind (adjustable)	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
D.101	W	2.07	0	0	external louvre/blind (adjustable)	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			
W.202	W	1.91	0	0	eave/verandah/pergola/balcony ≥900 mm	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			

Glazing requirements							Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
Window / door no.	Orientation	Area of glass inc. frame (m2)	Overshadowing		Shading device	Frame and glass type			
			Height (m)	Distance (m)					
W.111	S	2.64	0	0	none	standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)			

Legend
In these commitments, "applicant" means the person carrying out the development.
Commitments identified with a "✔" in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
Commitments identified with a "✔" in the "Show on CC/CDC plans & specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
Commitments identified with a "✔" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled, before a final occupation certificate for the development may be issued.

Levy Online Payment Receipt

Building and Construction



BRUCE MCCONOCHIE
1B THE SERPENTINE
BILGOLA BEACH NSW 2107

Application Details:

Applicant Name:	BRUCE MCCONOCHIE
Levy Number:	5152865
Application Type:	DA
Application Number:	163387
Approving Authority:	NORTHERN BEACHES COUNCIL-NORTH

Work Details:

Site Address:	1B THE SERPENTINE BILGOLA BEACH NSW 2107
Value of work:	\$350,000
Levy Due:	\$1,225.00

Payment Details:

LSC Receipt Number:	270053
Payment Date:	17/01/2017 12:23:18 PM
Bank Payment Reference:	965712885
Levy Paid:	\$1,225.00
Credit card surcharge:	\$4.90
Total Payment Received:	\$1,229.90

statement of cover	

Note: This document contains an extract of details kept on the HBCF Certificates Register. To confirm the authenticity of this document as proof of a valid contract of insurance, please visit the Certificates Register at www.hbcf.nsw.gov.au. The Register will also list whether any claims have been made on this insurance cover and any other relevant information.

CERTIFICATE IN RESPECT OF INSURANCE RESIDENTIAL BUILDING WORKS BY CONTRACTORS

A contract of insurance complying with sections 92 and 96 of the Home Building Act 1989 (the Act) has been issued by Insurance and Care NSW (icare) which provides services to the NSW Self Insurance Corporation in the management of the Home Building Compensation Fund (HBCF)

In respect of	
At	
Site plan No	
Site plan type	
Homeowner	
Carried out by	
Builder job No	
Licence number	
Contract sum	
Contract date	
Premium paid	

Subject to the Act, the Home Building Regulation 2014 and the conditions of the insurance contract, cover will be provided to a beneficiary described in the contract and successors in title to the beneficiary. This Certificate is to be read in conjunction with the policy wording current as at the policy date and available at the Home Building Compensation Fund website at www.hbcf.nsw.gov.au

Certificate No

Issued on

Issued by

Issued on behalf of NSW Self Insurance Corporation (ABN 97 369 689 650)

Condition B1
If any Aboriginal Engravings or Relics are unearthed all work is to cease immediately and the Aboriginal Heritage Office (AHO) and Office of Environment and Heritage (OEH) are to be notified.

Condition B2
The recommendations of the risk assessment required to manage the hazards as identified in Geotechnical Report referenced in this consent are to be incorporated into the construction plans.

Condition B3
Prior to the completion of works, all declared noxious weeds are to be removed/controlled in accordance with the Noxious Weeds Act 1993. Environmental weeds are to be removed and controlled.

Condition B4
No environmental weeds are to be planted on the site. Refer to Pittwater Council website for environmental weed list.

Condition B5
Any vegetation planted onsite outside approved landscape zones is to be consistent with:
a. Species listed in the Ecological Sustainability Plan or Bushland Management Plan (if applicable)
b. Species listed from the Endangered Ecological Community
c. Locally native species selected from the list pertaining to the vegetation community growing in the locality as per the vegetation mapping and Native Gardening available on Council's website.

Condition B6
Any new fencing (with the exception of swimming pool fencing) is to be made passable to native wildlife. Hole dimensions are to be a minimum of 150mm wide x 100mm high at ground levels paced at 6 metre intervals.

Condition B8
At least six (6) locally native canopy trees which will mature at a height of no less than 8.5 metres are to be planted onsite to replace trees approved for removal. canopy tree species are to be selected from the list pertaining to the vegetation community growing in the locality as per the vegetation mapping and the Native Gardening link on Council's website. All native trees are to be retained for the life of the development, or for their safe natural life. Trees that die or are removed must be replaced with another locally native canopy tree.

Condition B9
To satisfy the off-street parking requirements for development, the minimum number of two vehicle space requirements shall be provided. These spaces are to be provided and retained over the life of the development.

Condition B10
At the commencement of building works and in perpetuity the entire property shall be managed as an inner protection area (PA) as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'.

Condition B11
Water, electricity and gas are to comply with section 4.1.3 of Planning for Bush Fire Protection 2006. Additionally, the following is required:
a. A 5000-litre dedicated water supply shall be provided for firefighting purposes.
b. The water tank, if located above ground, shall be of a non-combustible material with a 65mm Storz fitting and a ball or gate valve made of metal installed on the tank, or
c. Underground tanks shall have an access hole of 200mm to allow access to the tank.
d. An 'sws' marker shall be obtained and positioned for ease of identification by brigade personnel and other users of the SWS. In this regard:
i. Markers must be fixed in a suitable location so as to be highly visible; and
ii. Markers should be positioned adjacent to the most appropriate access for the static water supply.

Condition B12
To aid in fire fighting activities, unobstructed pedestrian access to the rear of the property shall be provided and is to be maintained at all times.

Condition B13
New construction on the western, northern and southern elevations shall comply with section 9 (BAL F2) Australian Standard AS 3959-2009 'Construction of buildings in bushfire-prone areas'. However, where any material, element of construction or system when tested to the method described in Australian Standard AS 1530.8.2 'Methods for fire tests on building materials, components and structures Part 8.2: Tests on elements of construction for buildings exposed to simulated bushfire attack- large flame sources', it shall comply with Clause 13.8 of the Standard except that flaming of the specimen is not permitted and there shall be no exposed timber.

Condition B14
Window assemblies on the western, northern and southern elevations shall comply with one of the following:
a. Clause 9.5.2 of AS 3959-2009 as modified above; or
b. They shall comply with the following:
i. Completely protected by a non-combustible and non perforated bushfire shutter that complies with Section 3.7 of AS 3959-2009 excluding parts (e) & (f).
ii. Window frames and hardware shall be metal.
iii. Glazing shall be toughened glass minimum 6mm.
iv. Seals to sills, head and sills or thresholds shall be manufactured from materials having a flammability index no greater than 5 or from silicone.
v. The openable portion of the window shall be screened internally with screens that comply with Clause 9.5.1A.

Condition B15
New external doors and door frames (not including garage doors) on the western, northern and southern elevations shall comply with one of the following:
a. Clause 9.5.3 or 9.5.4 of AS 3959-2009 as modified above; or
b. They shall comply with the following:
i. Completely protected by a non-combustible and non perforated bushfire shutter that complies with Section 3.7 of AS 3959-2009 excluding parts (e) & (f).
ii. Doors shall be non-combustible.
iii. Externally fitted hardware that supports the panel in its function of opening and closing shall be metal.
iv. Where doors incorporate glazing, the glazing shall be toughened glass minimum 6mm.
v. Seals to sills, head and sills or thresholds shall be manufactured from materials having a flammability index no greater than 5 or from silicone.
vi. Door frames shall be metal.
vii. Doors shall be tight fitting to the door frame and to an abutting door if applicable.
viii. Weather strips, draught excluders or draught seals shall be installed at the base of side-hung external doors.

Condition B16
New construction on the eastern elevation shall comply with Sections 3 and 8 (BAL 40) Australian Standard AS3959-2009 'Construction of buildings in bush fire-prone areas' and section A3.7 Addendum Appendix 3 of 'Planning for Bush Fire Protection'.

Condition B17
Roofing shall be gutterless or guttering and valleys are to be screened to prevent the build-up of flammable material. Any materials used shall be non-combustible.

Condition B18
Landscaping to the site is to comply with the principles of Appendix 5 of 'Planning for Bush Fire Protection 2006'.

Condition B19
In accordance with Pittwater Councils DCP Control 84.22 Protection of Trees and Bushland Vegetation, all existing trees as indicated in the Survey Plan and/or approved Landscape Plan shall be retained except where Council's prior written consent has been obtained, for trees that stand within the envelope of approved development areas and removal is approved through an arborist report for all other tree issues not related to a development applicant on applications must be made to Council's Tree Management Officers.

Condition B20
The installed wood fire heater is to have an attached certificate of compliance AS/NZS 4013. All certified appliances are listed on the AHHA website www.homeheat.com.au

Condition B21
The installation of the wood fire heater is to comply with AS/NZS 2918 - Installation, this is a safety standard that tells you how a heater must be installed.

Condition B22
The minimum discharge height of the chimney is to be one metre above any structure within a 15 metre horizontal radius.

Condition B23
The external flue discharge height is a minimum of 600mm above any structure within a 3m horizontal radius, or according to the distances used in AS2918 Domestic Solid Fuel Burning Appliances - Installation (whichever is the greatest).

Condition B24
The external chimney type is to be either a concentric shroud, venturi cowl or a parallel rain excluder.

Condition D2
Any proposed demolition works shall be carried out in accordance with the requirements of AS2601-2001 The Demolition of Structures. Amongst others, precautions to be taken shall include compliance with the requirements of the WorkCover Authority of New South Wales, including but not limited to:
a. Protection of site workers and the general public.
b. Erection of hoardings where appropriate.
c. Asbestos handling and disposal where applicable.
d. Any disused service connections shall be capped off.

Council is to be given 48 hours written notice of the destination/s of any excavation or demolition material. The disposal of refuse is to be to an approved waste disposal depot.

Condition D6
Where excavations extend below the level of the base of the footings of a building on an adjoining allotment of land, the person causing the excavation must give the owner of the adjoining property at least seven (7) days written notice of their intention to excavate below the level of the base of the footing and furnish the adjoining property owner with particulars of the proposed work.

Condition D7
All excavations and backfilling associated with the erection or demolition of a building must be executed safely and in accordance with appropriate professional standards.

Condition D8
Temporary sedimentation and erosion controls are to be constructed prior to commencement of any work to eliminate the discharge of sediment from the site.

Condition D9
Sedimentation and erosion controls are to be effectively maintained at all times during the course of construction and shall not be removed until the site has been stabilised or landscaped to the Principal Certifying Authority's satisfaction.

Condition D10
Adequate measures shall be undertaken to remove clay from vehicle sleaving the site so as to maintain public roads in a clean condition.

Condition D12
No works are to be carried out in the Road Reserve without the written approval of the Council.

Note: Separate approval is required for access driveways, paths, connections to underground services (stormwater, gas, sewer, electricity, etc.). And landscaping works within Council's Road Reserve.

Condition D13
A Road Opening Permit, issued by Council, must be obtained for any road openings, or excavation on within Council's Road Reserve associated with the development on the site, including stormwater drainage, water, sewer, electricity, gas and communication connections. During the course of the road opening works the Road Opening Permit must be visibly displayed at the site.

Condition D14
No skip bins or materials are to be stored on the Road Reserve.

Condition D16
All construction in the public road reserve must be undertaken by a Council authorised contractor.

Condition D17
Protection fencing measures (including sedimentation fences) are to be installed in accordance with all approved plans including those specified in the Arboriculture Impact Assessment Report referenced in this consent. Protection measures are to be maintained for the duration of the works. Protection fencing that is no longer required is to be removed once all works are completed.

Condition D18
As there are existing trees to be retained within 5 metres of proposed development works, all recommendations as outlined in the supplied arborist report referenced in this consent are required to be complied with before and throughout the development period, particularly with regard to the following:
a. Works, erection/demolition of structures, excavation or changes to soil levels within 5 metres of existing trees are not permitted unless part of the development as approved, and the storage of soil, building materials, soil or the driving and parking of any vehicle or machinery within 5 metres of the trunk of a tree to be retained is not permitted;
b. Where specified, tree guards are to be provided to all trees as indicated in the report, and are to be installed prior to the commencement of any work on the site. Tree guard materials and dimensions are specified in the arborist report.
c. All works within 5 metres of existing trees including demolition, excavation, civil works, fencing and the like must be carried out by hand and under the supervision of an experienced and suitably qualified arborist. In the event that major structural or feeder roots are encountered, the arborist is to advise the builder to carry out appropriate action to ensure the retention of the tree.
d. Signage is to be erected advising all contractors and visitors to the site that no works or storage are to take place within the dripline of existing trees.
e. Any changes or alterations made to the tree management recommendations as outlined by the arborist report due to the discovery of new structural roots or underground services during development works must be reported to the Principal Certifying Authority prior to works recommencing.

Condition D19
No storage of building materials or building waste, excavated fill or topsoil storage is to occur within the dripline of trees shown on the approved landscape working drawing(s) as being retained or within protective fenced areas.

Condition D20
Drainage is to be arranged such that silt, building materials or contaminants are not washed into protective fenced areas.

Condition D21
All works within 5 metres of the existing trees to be retained including pruning, demolition, excavation, civil works, fencing and the like must be carried out by hand under the supervision of an experienced and qualified Arborist. Should roots larger than 50mm be encountered all excavation works are to cease immediately and a qualified Arborist is to advise on the impacts of the roots removal on the tree's survival and report to the Principal Certifying Authority prior to works recommencing. If tree roots are present a pier and beam method of footing construction is to be adopted so as to bridge/span any identified lateral roots.

matthewwoodwardarchitecture

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ISSUE	DATE	FOR
A	30.11.2016	CONSTRUCTION CERTIFICATE

ISSUE	DATE	FOR

ISSUE	DATE	FOR

NOTES

STRUCTURAL ENGINEER
ASHBY DOBLE CONSULTING STRUCTURAL ENGINEERS
TEL: 9899 2077
HYDRAULIC ENGINEER
MB CONSULTING ENGINEERS
TEL: 9899 7000
GEOTECHNICAL ENGINEER
BARKER HABLE CONSULTING ENGINEERS
TEL: 9851 4487

LAND SURVEYOR
GEOMAT ENGINEERING PTY LTD
TEL: 9850 0100
TOWN PLANNER
VAUGHAN MILLIGAN DEVELOPMENT CONSULTING
TEL: 9899 4922
PRIVATE CERTIFIER

CLIENT
BRUCE MCCONOCHE & SUSAN MANFORD
PROJECT
BILGOLA BEACH HOUSE
18 THE SERPENTINE - BILGOLA BEACH 2107
PROJECT NUMBER
S150115.BMC

TRUE NORTH
PROJECT NORTH
DRAWING
GRAPHIC SCALE
0 2000 5000
SCALE
1:100 @ A1 / 1:200 @ A3
DO NOT SCALE

LG - DEMOLITION PLAN
DRAWING NUMBER
A-103

CONSTRUCTION CERTIFICATE

A

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b. The water tank, if located above ground, shall be of a non-combustible material with a 65mm Storz fitting and a ball or gate valve made of metal installed on the tank, or
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Window assemblies on the western, northern and southern elevations shall comply with one of the following:
a. Clause 9.5.2 of AS 3959-2009 as modified above; or
b. They shall comply with the following:
i. Completely protected by a non-combustible and non perforated bushfire shutter that complies with Section 3.7 of AS 3959-2009 excluding parts (e) & (f).
ii. Window frames and hardware shall be metal.
iii. Glazing shall be toughened glass minimum 6mm.
iv. Seals to stiles, head and sills or thresholds shall be manufactured from materials having a flammability index no greater than 5 or from silicone.
v. The operable portion of the window shall be screened internally or externally with screens that comply with Clause 9.5.1A.

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New external doors and door frames (not including garage doors) on the western, northern and southern elevations shall comply with one of the following:
a. Clause 9.5.3 or 9.5.4 of AS 3959-2009 as modified above; or
b. They shall comply with the following:
i. Completely protected by a non-combustible and non perforated bushfire shutter that complies with Section 3.7 of AS 3959-2009 excluding parts (e) & (f).
ii. Doors shall be non-combustible.
iii. Externally fitted hardware that supports the panel in its function of opening and closing shall be metal.
iv. Where doors incorporate glazing, the glazing shall be toughened glass minimum 6mm.
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vi. Door frames shall be metal.
vii. Doors shall be tight fitting to the door frame and to an abutting door if applicable.
viii. Weather strips, draught excluders or draught seals shall be installed at the base of side-hung external doors.

Condition B16
New construction on the eastern elevation shall comply with Sections 3 and 8 (BAL 40) Australian Standard AS3959-2009 'Construction of buildings in bush fire-prone areas' and section A3.7 Addendum Appendix 3 of 'Planning for Bush Fire Protection'.

Condition B17
Roofing shall be gutterless or guttering and valleys are to be screened to prevent the build-up of flammable material. Any materials used shall be non-combustible.

Condition B18
Landscaping to the site is to comply with the principles of Appendix 5 of 'Planning for Bush Fire Protection 2006'

Condition B19
In accordance with Pittwater Councils DCP Control B4.22 Protection of Trees and Bushland Vegetation, all existing trees as indicated in the Survey Plan and/or approved Landscape Plan shall be retained except where Council's prior written consent has been obtained, for trees that approved development areas and removal is approved through an arborist report. For all other tree issues not related to a development applicant on applications must be made to Council's Tree Management Officers.

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Condition B21
The installation of the wood fire heater is to comply with AS/NZS 2918 - Installation, this is a safety standard that tells you how a heater must be installed.

Condition B22
The minimum discharge height of the chimney is to be one metre above any structure within a 15 metre horizontal radius.

Condition B23
The external flue discharge height is a minimum of 600mm above any structure within a 3m horizontal radius, or according to the distances used in AS2918 Domestic Solid Fuel Burning Appliances - Installation (whichever is the greatest).

Condition B24
The external chimney type is to be either a coneretric shroud, venturi cowl or a parallel rain excluder.

Condition D2
Any proposed demolition works shall be earned out in accordance with the requirements of AS2601-2001 The Demolition of Structures. Amongst other considerations to be taken shall include compliance with the requirements of the WorkCover Authority of New South Wales, including but not limited to:
a. Protection of site workers and the general public.
b. Erection of hoardings where appropriate.
c. Asbestos handling and disposal where applicable.
d. Any disused service connections shall be capped off.

Council is to be given 48 hours written notice of the destination/s of any excavation or demolition material. The disposal of refuse is to be to an approved waste disposal depot.

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Where excavations extend below the level of the base of the footings of a building on an adjoining allotment of land, the person causing the excavation must give the owner of the adjoining property at least seven (7) days written notice of their intention to excavate below the level of the base of the footing and furnish the adjoining property owner with particulars of the proposed work.

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All excavations and backfilling associated with the erection or demolition of a building must be executed safely and in accordance with appropriate professional standards.

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Temporary sedimentation and erosion controls are to be constructed prior to commencement of any work to eliminate the discharge of sediment from the site.

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Sedimentation and erosion controls are to be effectively maintained at all times during the course of construction and shall not be removed until the site has been stabilised or landscaped to the Principal Certifying Authority's satisfaction.

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Note: Separate approval is required for access driveways, paths, connections to underground services (stormwater, gas, sewer, electricity, etc.). And landscaping works within Council's Road Reserve.

Condition D13
A Road Opening Permit, issued by Council, must be obtained for any road openings, or excavation on within Council's Road Reserve associated with the development on the site, including stormwater drainage, water, sewer, electricity, gas and communication connections. During the course of the road opening works the Road Opening Permit must be visibly displayed at the site.

Condition D14
No skip bins or materials are to be stored on the Road Reserve.

Condition D16
All construction in the public road reserve must be undertaken by a Council authorised contractor.

Condition D17
Protection fencing measures (including sedimentation fences) are to be installed in accordance with all approved plans including those specified in the Arboriculture Impact Assessment Report referenced in this consent. Protection measures are to be maintained for the duration of the works. Protection fencing that is no longer required is to be removed once all works are completed.

Condition D18
As there are existing trees to be retained within 5 metres of proposed development works, all recommendations as outlined in the supplied arborist report referenced in this consent are required to be complied with before and throughout the development period, particularly with regard to the following:
a. Works, erection/demolition of structures, excavation or changes to soil levels within 5 metres of existing trees are not permitted unless part of the development as approved, and the storage of soil, building materials, soil or the driving and parking of any vehicle or machinery within 5 metres of the trunk of a tree to be retained is not permitted.
b. Where specified, tree guards are to be provided to all trees as indicated in the report, and are to be installed prior to the commencement of any work on the site. Tree guard materials and dimensions are specified in the arborist report.
c. All works within 5 metres of existing trees including demolition, excavation, civil works, fencing and the like must be carried out by hand and under the supervision of an experienced and suitably qualified arborist. In the event that major structural or feeder roots are encountered, the arborist is to advise the builder to carry out appropriate action to ensure the retention of the tree.
d. Signage is to be erected advising all contractors and visitors to the site that no works or storage are to take place within the dripline of existing trees.
e. Any changes or alterations made to the tree management recommendations as outlined by the arborist report due to the discovery of new structural roots or underground services during development works must be reported to the Principal Certifying Authority prior to works recommencing.

Condition D19
No storage of building materials or building waste, excavated fill or topsoil storage is to occur within the dripline of trees shown on the approved landscape working drawing(s) as being retained or within protective fenced areas.

Condition D20
Drainage is to be arranged such that silt, building materials or contaminants are not washed into protective fenced areas.

Condition D21
All works within 5 metres of the existing trees to be retained including pruning, demolition, excavation, civil works, fencing and the like must be carried out by hand under the supervision of an experienced and qualified Arborist. Should roots larger than 50mm be encountered all excavation works are to cease immediately and a qualified Arborist is to advise on the impacts of the roots removal on the tree's survival and report to the Principal Certifying Authority prior to works recommencing. If tree roots are present a pier and beam method of footing construction is to be adopted so as to bridge/span any identified lateral roots.

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ISSUE	DATE	FOR
A	30.11.2016	CONSTRUCTION CERTIFICATE

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MB CONSULTING ENGINEERS
TEL: 9899 7000
GEOTECHNICAL ENGINEER
BARKER HABLE CONSULTING ENGINEERS
TEL: 9851 4487

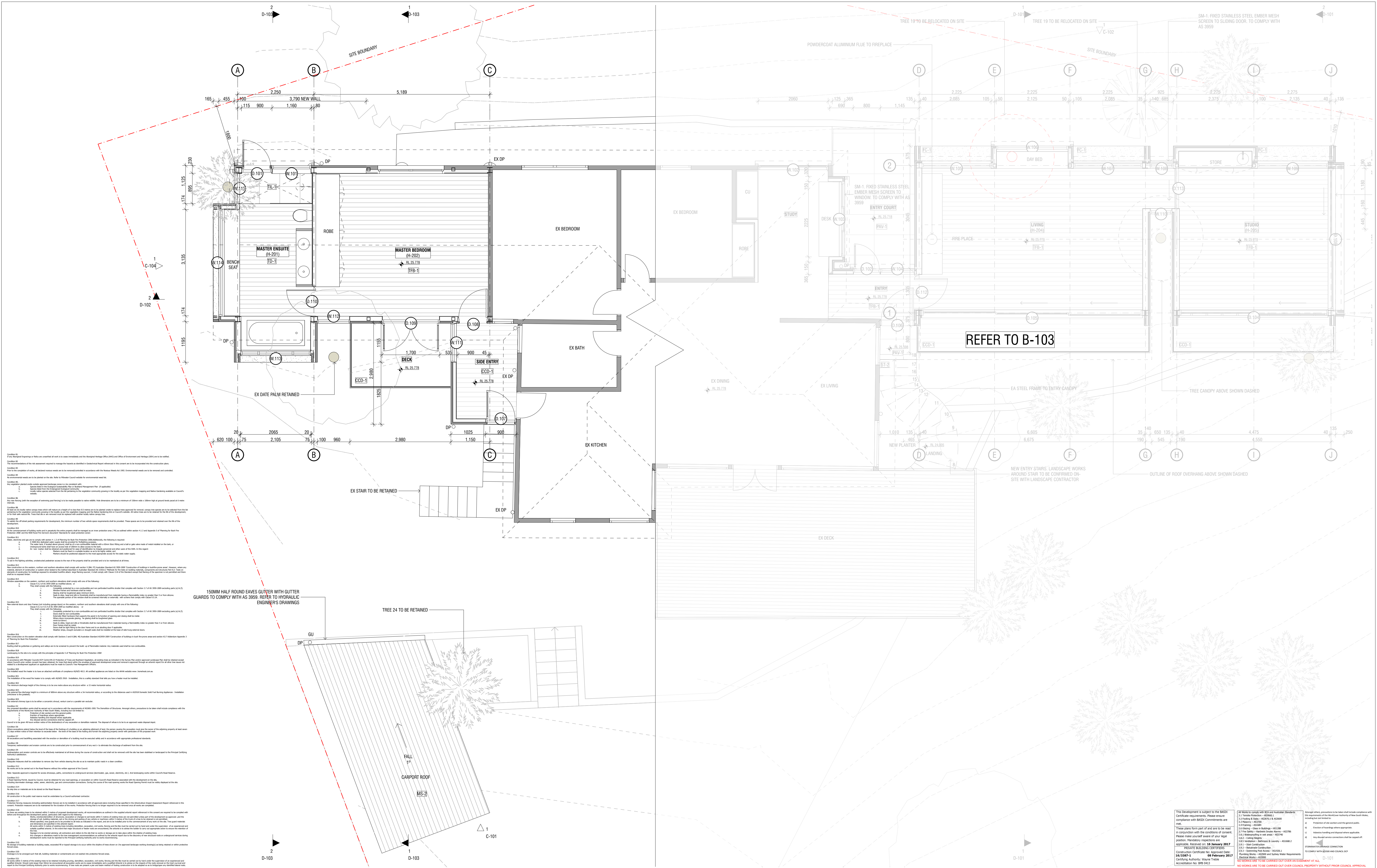
LAND SURVEYOR
GEOAMT ENGINEERING PTY LTD
TEL: 9850 0100
VAUGHAN MILLIGAN DEVELOPMENT CONSULTING
TEL: 9899 4922
PRIVATE CERTIFIER

CLIENT
BRUCE MCCONOCHEE & SUSAN MANFORD
PROJECT
BILGOLA BEACH HOUSE
1B THE SERPENTINE - BILGOLA BEACH 2107
PROJECT NUMBER
S150115.BMC

This Development is subject to the BASIX Certificate requirements. Please ensure compliance with BASIX Commitments are met.
These plans form part of an application for a Development Consent Order (DCO) and are to be read in conjunction with the conditions of consent. Please make yourself aware of your legal position. Mandatory inspection dates applicable. Received on: 18 January 2017
PRIVATE BUILDING CERTIFICATE
Construction Certificate No. Approved Date: 18/01/2017
Certifying Authority: Wayne Trebble
Accreditation No: BMB 0413

All Works to comply with BCA and Australian Standards
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Any other person, organisation or body that is involved in the development of the project must ensure compliance with the requirements of the Development Act 1993 and the Building Act 1993.
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BARKER HABLE CONSULTING ENGINEERS
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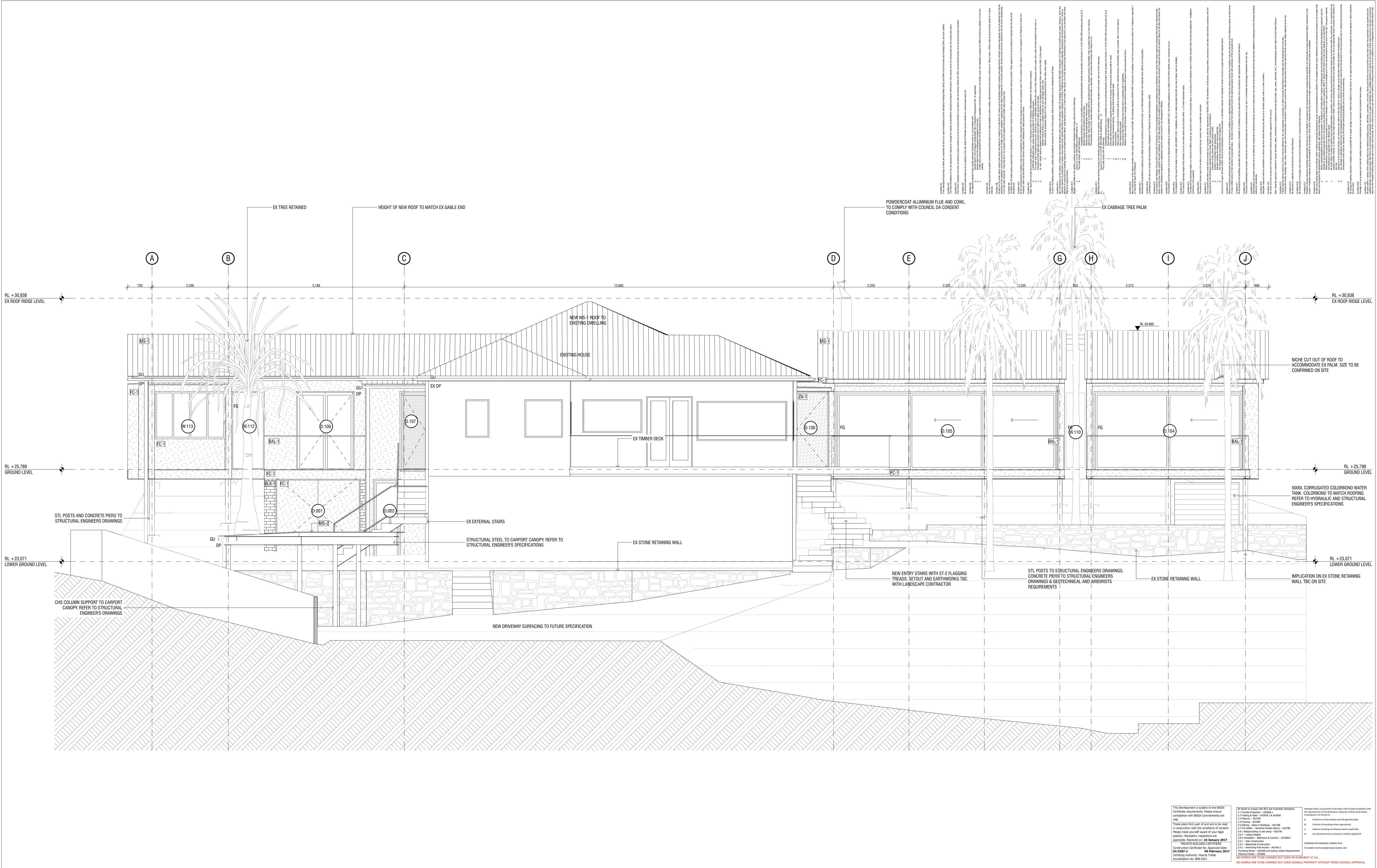
LAND SURVEYOR
GEOMAT ENGINEERING PTY LTD
TEL: 9851 0100
TOWN PLANNER
WAUGHAN MILLIGAN DEVELOPMENT CONSULTING
TEL: 9899 4922
PRIVATE CERTIFIER

CLIENT
BRUCE MC CONOCHIE & SUSAN MANFORD
PROJECT
BILGOLA BEACH HOUSE
18 THE SERPENTINE - BILGOLA BEACH 2107
PROJECT NUMBER
S150115.BMC

TRUE NORTH
PROJECT NORTH
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GRAPHIC SCALE
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SCALE
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PROJECT NORTH
DO NOT SCALE
GROUND PLAN - SHT 01/02
DRAWING NUMBER
B-102

CONSTRUCTION CERTIFICATE
B-102

DO NOT SCALE
GROUND PLAN - SHT 01/02
DRAWING NUMBER
B-102
A



matthewwoodwardarchitecture

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ISSUE	DATE	FOR
A	30.11.2016	CONSTRUCTION CERTIFICATE

ISSUE	DATE	FOR

ISSUE	DATE	FOR

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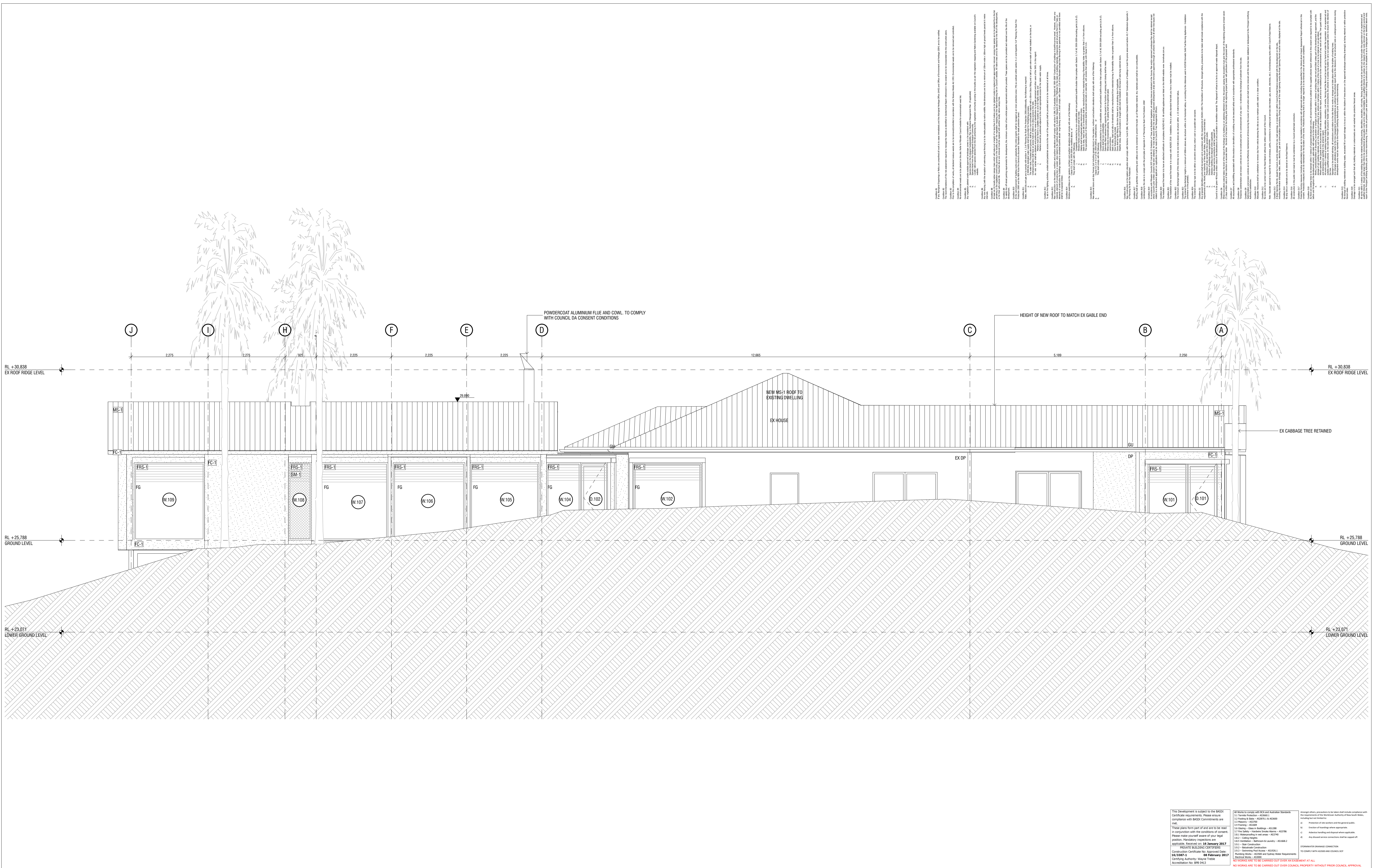
STRUCTURAL ENGINEER ASHBY DOBLE CONSULTING STRUCTURAL ENGINEERS TEL: 9899 2077 HYDRAULIC ENGINEER MB CONSULTING ENGINEERS TEL: 9894 7000 GEOTECHNICAL ENGINEER BARKER HABLE CONSULTING ENGINEERS TEL: 9851 4487	LAND SURVEYOR GEOMAT ENGINEERING PTY LTD TEL: 9851 0100 TOWN PLANNER VAUGHAN MULLIGAN DEVELOPMENT CONSULTING TEL: 9899 4922 PRIVATE CERTIFIER
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CLIENT BRUCE MC CONOCHIE & SUSAN MANFORD

PROJECT
BILGOLA BEACH HOUSE
1B THE SERPENTINE - BILGOLA BEACH 2107
PROJECT NUMBER
S150115.BMC

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1:50 @ A1 / 1:100 @ A3
DO NOT SCALE
CONSTRUCTION CERTIFICATE

EAST ELEVATION
DRAWING NUMBER
C-101
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ISSUE	DATE	FOR
A	30.11.2016	CONSTRUCTION CERTIFICATE

ISSUE	DATE	FOR

ISSUE	DATE	FOR

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PRIVATE CERTIFIER

CLIENT
BRUCE MCCONOCHE & SUSAN MANFORD
PROJECT
BILGOLA BEACH HOUSE
18 THE SERPENTINE - BILGOLA BEACH 2107
PROJECT NUMBER
S150115.BMC

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DO NOT SCALE
CONSTRUCTION CERTIFICATE
C-102

WEST ELEVATION
DRAWING NUMBER

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Condition B1
If any Aboriginal Engravings or Relics are unearthed all work is to cease immediately and the Aboriginal Heritage Office (AHO) and Office of Environment and Heritage (OEH) are to be notified.

Condition B2
The recommendations of the risk assessment required to manage the hazards as identified in Geotechnical Report referenced in this consent are to be incorporated into the construction plans.

Condition B3
Prior to the completion of works, all declared noxious weeds are to be removed/controlled in accordance with the Noxious Weeds Act 1993. Environmental weeds are to be removed and controlled.

Condition B4
No environmental weeds are to be planted on the site. Refer to Pittwater Council website for environmental weed list.

Condition B5
Any vegetation planted onsite outside approved landscape zones is to be consistent with:
a. Species listed in the Ecological Sustainability Plan or Bushland Management Plan (if applicable)
b. Species listed from the Endangered Ecological Community
c. Locally native species selected from the list pertaining to the vegetation community growing in the locality as per the vegetation mapping and Native Gardening available on Council's website.

Condition B6
Any new fencing (with the exception of swimming pool fencing) is to be made passable to native wildlife. Hole dimensions are to be a minimum of 150mm wide x 100mm high at ground levels paced at 6 metre intervals.

Condition B8
At least six (6) locally native canopy trees which will mature at a height of no less than 8.5 metres are to be planted onsite to replace trees approved for removal. canopy tree species are to be selected from the list pertaining to the vegetation community growing in the locality as per the vegetation mapping and the Native Gardening link on Council's website. All native trees are to be retained for the life of the development, or for their safe natural life. Trees that die or are removed must be replaced with another locally native canopy tree.

Condition B9
To satisfy the off-street parking requirements for development, the minimum number of two vehicle space requirements shall be provided. These spaces are to be provided and retained over the life of the development.

Condition B10
At the commencement of building works and in perpetuity the entire property shall be managed as an inner protection area (PA) as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'.

Condition B11
Water, electricity and gas are to comply with section 4.1.3 of Planning for Bush Fire Protection 2006. Additionally, the following is required:
a. A 5000-litre dedicated water supply shall be provided for firefighting purposes.
b. The water tank, if located above ground, shall be of a non-combustible material with a 65mm Storz fitting and a ball or gate valve made of metal installed on the tank, or
c. Underground tanks shall have an access hole of 200mm to allow access to the tank.
d. An 'sws' marker shall be obtained and positioned for ease of identification by brigade personnel and other users of the SWS. In this regard:
i. Markers must be fixed in a suitable location so as to be highly visible; and
ii. Markers should be positioned adjacent to the most appropriate access for the static water supply.

Condition B12
To aid in fire fighting activities, unobstructed pedestrian access to the rear of the property shall be provided and is to be maintained at all times.

Condition B13
New construction on the western, northern and southern elevations shall comply with section 9 (BAL FZ) Australian Standard AS 3959-2009 'Construction of buildings in bushfire-prone areas'. However, where any material, element of construction or system when tested to the method described in Australian Standard AS 1530.8.2 'Methods for fire tests on building materials, components and structures Part 8.2: Tests on elements of construction for buildings exposed to simulated bushfire attack- large flame sources', it shall comply with Clause 13.8 of the Standard except that flaming of the specimen is not permitted and there shall be no exposed timber.

Condition B14
Window assemblies on the western, northern and southern elevations shall comply with one of the following:
a. Clause 9.5.2 of AS 3959-2009 as modified above; or
b. They shall comply with the following:
i. Completely protected by a non-combustible and non perforated bushfire shutter that complies with Section 3.7 of AS 3959-2009 excluding parts (e) & (f).
ii. Window frames and hardware shall be metal.
iii. Glazing shall be toughened glass minimum 6mm.
iv. Seals to sills, head and sills or thresholds shall be manufactured from materials having a flammability index no greater than 5 or from silicone.
v. The openable portion of the window shall be screened internally or externally with screens that comply with Clause 9.5.1A.

Condition B15
New external doors and door frames (not including garage doors) on the western, northern and southern elevations shall comply with one of the following:
a. Clause 9.5.3 or 9.5.4 of AS 3959-2009 as modified above; or
b. They shall comply with the following:
i. Completely protected by a non-combustible and non perforated bushfire shutter that complies with Section 3.7 of AS 3959-2009 excluding parts (e) & (f).
ii. Doors shall be non-combustible.
iii. Externally fitted hardware that supports the panel in its function of opening and closing shall be metal.
iv. Where doors incorporate glazing, the glazing shall be toughened glass minimum 6mm.
v. Seals to sills, head and sills or thresholds shall be manufactured from materials having a flammability index no greater than 5 or from silicone.
vi. Door frames shall be metal.
vii. Doors shall be tight fitting to the door frame and to an abutting door if applicable.
viii. Weather strips, draught excluders or draught seals shall be installed at the base of side-hung external doors.

Condition B16
New construction on the eastern elevation shall comply with Sections 3 and 8 (BAL 40) Australian Standard AS3959-2009 'Construction of buildings in bush fire-prone areas' and section A3.7 Addendum Appendix 3 of 'Planning for Bush Fire Protection'.

Condition B17
Roofing shall be gutterless or guttering and valleys are to be screened to prevent the build-up of flammable material. Any materials used shall be non-combustible.

Condition B18
Landscaping to the site is to comply with the principles of Appendix 5 of 'Planning for Bush Fire Protection 2006'.

Condition B19
In accordance with Pittwater Councils DCP Control 84.22 Protection of Trees and Bushland Vegetation, all existing trees as indicated in the Survey Plan and/or approved Landscape Plan shall be retained except where Council's prior written consent has been obtained, for trees that stand within the envelope of approved development areas and removal is approved through an arborist report for all other tree issues not related to a development applicant on applications must be made to Council's Tree Management Officers.

Condition B20
The installed wood fire heater is to have an attached certificate of compliance AS/NZS 4013. All certified appliances are listed on the AHHA website www.homeheat.com.au

Condition B21
The installation of the wood fire heater is to comply with AS/NZS 2918 - Installation, this is a safety standard that tells you how a heater must be installed.

Condition B22
The minimum discharge height of the chimney is to be one metre above any structure within a 15 metre horizontal radius.

Condition B23
The external flue discharge height is a minimum of 600mm above any structure within a 3m horizontal radius, or according to the distances used in AS2918 Domestic Solid Fuel Burning Appliances - Installation (whichever is the greatest).

Condition B24
The external chimney type is to be either a concentric shroud, venturi cowl or a parallel rain excluder.

Condition D2
Any proposed demolition works shall be earned out in accordance with the requirements of AS2601-2001 The Demolition of Structures. Amongst others, precautions to be taken shall include compliance with the requirements of the WorkCover Authority of New South Wales, including but not limited to:
a. Protection of site workers and the general public.
b. Erection of hoardings where appropriate.
c. Asbestos handling and disposal where applicable.
d. Any disused service connections shall be capped off.

Council is to be given 48 hours written notice of the destination/s of any excavation or demolition material. The disposal of refuse is to be to an approved waste disposal depot.

Condition D6
Where excavations extend below the level of the base of the footings of a building on an adjoining allotment of land, the person causing the excavation must give the owner of the adjoining property at least seven (7) days written notice of their intention to excavate below the level of the base of the footing and furnish the adjoining property owner with particulars of the proposed work.

Condition D7
All excavations and backfilling associated with the erection or demolition of a building must be executed safely and in accordance with appropriate professional standards.

Condition D8
Temporary sedimentation and erosion controls are to be constructed prior to commencement of any work to eliminate the discharge of sediment from the site.

Condition D9
Sedimentation and erosion controls are to be effectively maintained at all times during the course of construction and shall not be removed until the site has been stabilised or landscaped to the Principal Certifying Authority's satisfaction.

Condition D10
Adequate measures shall be undertaken to remove clay from vehicle sleaving the site so as to maintain public roads in a clean condition.

Condition D12
No works are to be carried out in the Road Reserve without the written approval of the Council.

Note: Separate approval is required for access driveways, paths, connections to underground services (stormwater, gas, sewer, electricity, etc.). And landscaping works within Council's Road Reserve.

Condition D13
A Road Opening Permit, issued by Council, must be obtained for any road openings, or excavation on within Council's Road Reserve associated with the development on the site, including stormwater drainage, water, sewer, electricity, gas and communication connections. During the course of the road opening works the Road Opening Permit must be visibly displayed at the site.

Condition D14
No skip bins or materials are to be stored on the Road Reserve.

Condition D16
All construction in the public road reserve must be undertaken by a Council authorised contractor.

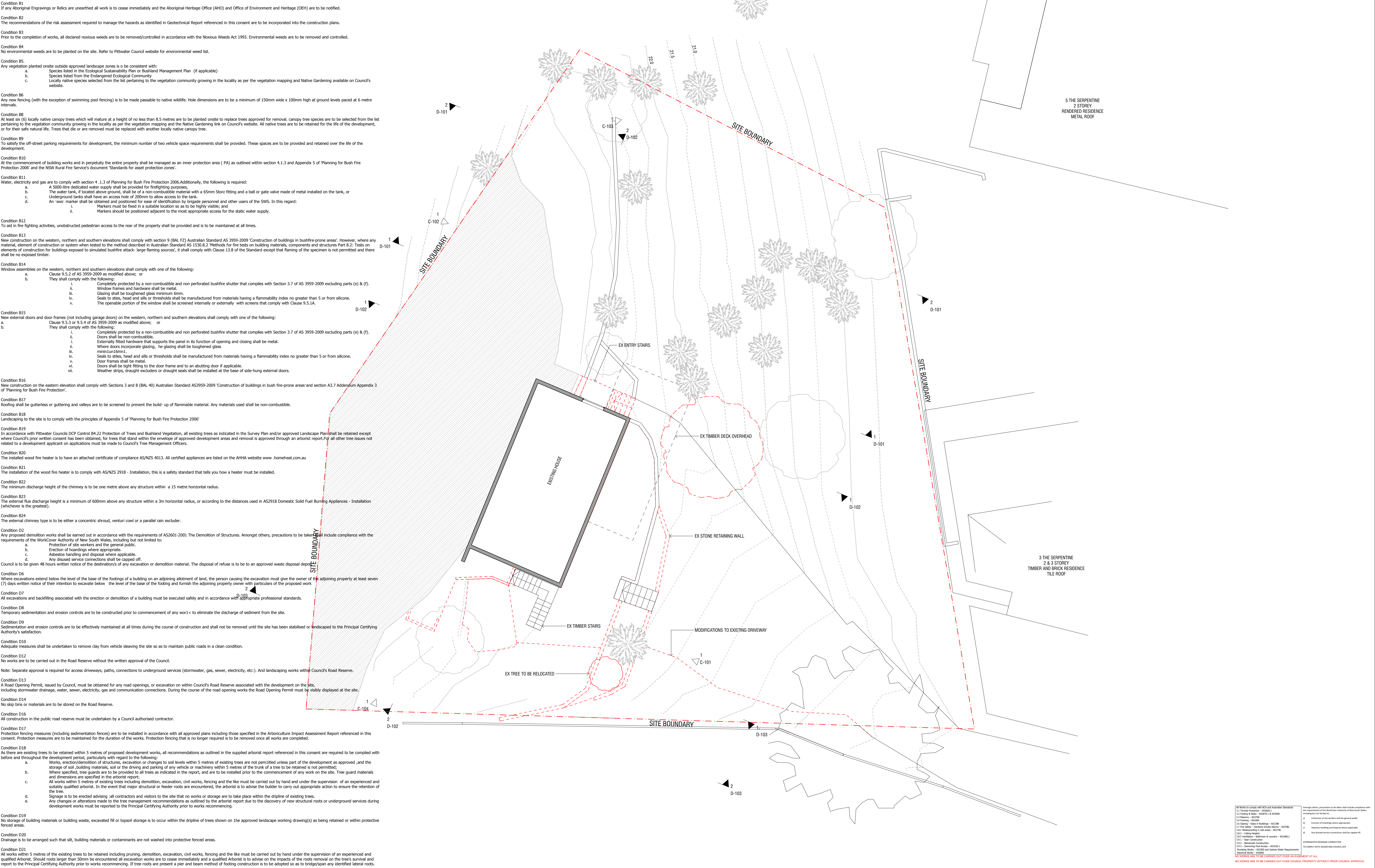
Condition D17
Protection fencing measures (including sedimentation fences) are to be installed in accordance with all approved plans including those specified in the Arboriculture Impact Assessment Report referenced in this consent. Protection measures are to be maintained for the duration of the works. Protection fencing that is no longer required is to be removed once all works are completed.

Condition D18
As there are existing trees to be retained within 5 metres of proposed development works, all recommendations as outlined in the supplied arborist report referenced in this consent are required to be complied with before and throughout the development period, particularly with regard to the following:
a. Works, erection/demolition of structures, excavation or changes to soil levels within 5 metres of existing trees are not permitted unless part of the development as approved, and the storage of soil, building materials, soil or the driving and parking of any vehicle or machinery within 5 metres of the trunk of a tree to be retained is not permitted;
b. Where specified, tree guards are to be provided to all trees as indicated in the report, and are to be installed prior to the commencement of any work on the site. Tree guard materials and dimensions are specified in the arborist report.
c. All works within 5 metres of existing trees including demolition, excavation, civil works, fencing and the like must be carried out by hand and under the supervision of an experienced and suitably qualified arborist. In the event that major structural or feeder roots are encountered, the arborist is to advise the builder to carry out appropriate action to ensure the retention of the tree.
d. Signage is to be erected advising all contractors and visitors to the site that no works or storage are to take place within the dripline of existing trees.
e. Any changes or alterations made to the tree management recommendations as outlined by the arborist report due to the discovery of new structural roots or underground services during development works must be reported to the Principal Certifying Authority prior to works recommencing.

Condition D19
No storage of building materials or building waste, excavated fill or topsoil storage is to occur within the dripline of trees shown on the approved landscape working drawing(s) as being retained or within protective fenced areas.

Condition D20
Drainage is to be arranged such that silt, building materials or contaminants are not washed into protective fenced areas.

Condition D21
All works within 5 metres of the existing trees to be retained including pruning, demolition, excavation, civil works, fencing and the like must be carried out by hand under the supervision of an experienced and qualified Arborist. Should roots larger than 50mm be encountered all excavation works are to cease immediately and a qualified Arborist is to advise on the impacts of the roots removal on the tree's survival and report to the Principal Certifying Authority prior to works recommencing. If tree roots are present a pier and beam method of footing construction is to be adopted so as to bridge/span any identified lateral roots.



THE BUILDING COMPLIES WITH ALL APPLICABLE STANDARDS:
1.1 Termite Protection - AS3666
1.2 Fencing & Gates - AS1926 & AS1926.1
1.3 Hoarding - AS1939
1.4 Fencing - AS1926
1.5 Safety - AS1926
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Condition B1
If any Aboriginal Engravings or Relics are unearthed all work is to cease immediately and the Aboriginal Heritage Office (AHO) and Office of Environment and Heritage (OEH) are to be notified.

Condition B2
The recommendations of the risk assessment required to manage the hazards as identified in Geotechnical Report referenced in this consent are to be incorporated into the construction plans.

Condition B3
Prior to the completion of works, all declared noxious weeds are to be removed/controlled in accordance with the Noxious Weeds Act 1993. Environmental weeds are to be removed and controlled.

Condition B4
No environmental weeds are to be planted on the site. Refer to Pittwater Council website for environmental weed list.

Condition B5
Any vegetation planted onsite outside approved landscape zones is o be consistent with:
a. Species listed in the Ecological Sustainability Plan or Bushland Management Plan (if applicable)
b. Species listed from the Endangered Ecological Community
c. Locally native species selected from the list pertaining to the vegetation community growing in the locality as per the vegetation mapping and Native Gardening available on Council's website.

Condition B6
Any new fencing (with the exception of swimming pool fencing) is to be made passable to native wildlife. Hole dimensions are to be a minimum of 150mm wide x 100mm high at ground levels paced at 6 metre intervals.

Condition B8
At least six (6) locally native canopy trees which will mature at a height of no less than 8.5 metres are to be planted onsite to replace trees approved for removal. canopy tree species are to be selected from the list pertaining to the vegetation community growing in the locality as per the vegetation mapping and the Native Gardening link on Council's website. All native trees are to be retained for the life of the development, or for their safe natural life. Trees that die or are removed must be replaced with another locally native canopy tree.

Condition B9
To satisfy the off-street parking requirements for development, the minimum number of two vehicle space requirements shall be provided. These spaces are to be provided and retained over the life of the development.

Condition B10
At the commencement of building works and in perpetuity the entire property shall be managed as an inner protection area (PA) as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'.

Condition B11
Water, electricity and gas are to comply with section 4.1.3 of Planning for Bush Fire Protection 2006. Additionally, the following is required:
a. A 5000-litre dedicated water supply shall be provided for firefighting purposes.
b. The water tank, if located above ground, shall be of a non-combustible material with a 65mm Storz fitting and a ball or gate valve made of metal installed on the tank, or
c. Underground tanks shall have an access hole of 200mm to allow access to the tank.
d. An 'sws' marker shall be obtained and positioned for ease of identification by brigade personnel and other users of the SWS. In this regard:
i. Markers must be fixed in a suitable location so as to be highly visible; and
ii. Markers should be positioned adjacent to the most appropriate access for the static water supply.

Condition B12
To aid in fire fighting activities, unobstructed pedestrian access to the rear of the property shall be provided and is to be maintained at all times.

Condition B13
New construction on the western, northern and southern elevations shall comply with section 9 (BAL FZ) Australian Standard AS 3959-2009 'Construction of buildings in bushfire-prone areas'. However, where any material, element of construction or system when tested to the method described in Australian Standard AS 1530.8.2 'Methods for fire tests on building materials, components and structures Part 8.2: Tests on elements of construction for buildings exposed to simulated bushfire attack-large flaming sources', it shall comply with Clause 13.8 of the Standard except that flaming of the specimen is not permitted and there shall be no exposed timber.

Condition B14
Window assemblies on the western, northern and southern elevations shall comply with one of the following:
a. Clause 9.5.2 of AS 3959-2009 as modified above; or
b. They shall comply with the following:
i. Completely protected by a non-combustible and non perforated bushfire shutter that complies with Section 3.7 of AS 3959-2009 excluding parts (e) & (f).
ii. Window frames and hardware shall be metal.
iii. Glazing shall be toughened glass minimum 6mm.
iv. Seals to stiles, head and sills or thresholds shall be manufactured from materials having a flammability index no greater than 5 or from silicone.
v. The operable portion of the window shall be screened internally or externally with screens that comply with Clause 9.5.1A.

Condition B15
New external doors and door frames (not including garage doors) on the western, northern and southern elevations shall comply with one of the following:
a. Clause 9.5.3 or 9.5.4 of AS 3959-2009 as modified above; or
b. They shall comply with the following:
i. Completely protected by a non-combustible and non perforated bushfire shutter that complies with Section 3.7 of AS 3959-2009 excluding parts (e) & (f).
ii. Doors shall be non-combustible.
iii. Externally fitted hardware that supports the panel in its function of opening and closing shall be metal.
iv. Where doors incorporate glazing, the glazing shall be toughened glass minimum 16mm.
v. Seals to stiles, head and sills or thresholds shall be manufactured from materials having a flammability index no greater than 5 or from silicone.
vi. Door frames shall be metal.
vii. Doors shall be tight fitting to the door frame and to an abutting door if applicable.
viii. Weather strips, draught excluders or draught seals shall be installed at the base of side-hung external doors.

Condition B16
New construction on the eastern elevation shall comply with Sections 3 and 8 (BAL 40) Australian Standard AS3959-2009 'Construction of buildings in bush fire-prone areas' and section A3.7 Addendum Appendix 3 of 'Planning for Bush Fire Protection'.

Condition B17
Roofing shall be gutterless or guttering and valleys are to be screened to prevent the build-up of flammable material. Any materials used shall be non-combustible.

Condition B18
Landscaping to the site is to comply with the principles of Appendix 5 of 'Planning for Bush Fire Protection 2006'

Condition B19
In accordance with Pittwater Councils DCP Control B4.22 Protection of Trees and Bushland Vegetation, all existing trees as indicated in the Survey Plan and/or approved Landscape Plan shall be retained except where Council's prior written consent has been obtained, for trees that stand within the envelope of approved development areas and removal is approved through an arborist report. For all other tree issues not related to a development applicant on applications must be made to Council's Tree Management Officers.

Condition B20
The installed wood fire heater is to have an attached certificate of compliance AS/NZS 4013. All certified appliances are listed on the AHHA website www.homeheat.com.au

Condition B21
The installation of the wood fire heater is to comply with AS/NZS 2918 - Installation, this is a safety standard that tells you how a heater must be installed.

Condition B22
The minimum discharge height of the chimney is to be one metre above any structure within a 15 metre horizontal radius.

Condition B23
The external flue discharge height is a minimum of 600mm above any structure within a 3m horizontal radius, or according to the distances used in AS2918 Domestic Solid Fuel Burning Appliances - Installation (whichever is the greatest).

Condition B24
The external chimney type is to be either a coneretric shroud, venturi cowl or a parallel rain excluder.

Condition D2
Any proposed demolition works shall be earned out in accordance with the requirements of AS2601-2001 The Demolition of Structures. Amongst other considerations to be taken shall include compliance with the requirements of the WorkCover Authority of New South Wales, including but not limited to:
a. Protection of site workers and the general public.
b. Erection of hoardings where appropriate.
c. Asbestos handling and disposal where applicable.
d. Any disused service connections shall be capped off.

Council is to be given 48 hours written notice of the destination/s of any excavation or demolition material. The disposal of refuse is to be to an approved waste disposal depot.

Condition D6
Where excavations extend below the level of the base of the footings of a building on an adjoining allotment of land, the person causing the excavation must give the owner of the adjoining property at least seven (7) days written notice of their intention to excavate below the level of the base of the footing and furnish the adjoining property owner with particulars of the proposed work.

Condition D7
All excavations and backfilling associated with the erection or demolition of a building must be executed safely and in accordance with appropriate professional standards.

Condition D8
Temporary sedimentation and erosion controls are to be constructed prior to commencement of any work to eliminate the discharge of sediment from the site.

Condition D9
Sedimentation and erosion controls are to be effectively maintained at all times during the course of construction and shall not be removed until the site has been stabilised or landscaped to the Principal Certifying Authority's satisfaction.

Condition D10
Adequate measures shall be undertaken to remove clay from vehicle sleaving the site so as to maintain public roads in a clean condition.

Condition D12
No works are to be carried out in the Road Reserve without the written approval of the Council.

Note: Separate approval is required for access driveways, paths, connections to underground services (stormwater, gas, sewer, electricity, etc.). And landscaping works within Council's Road Reserve.

Condition D13
A Road Opening Permit, issued by Council, must be obtained for any road openings, or excavation on within Council's Road Reserve associated with the development on the site, including stormwater drainage, water, sewer, electricity, gas and communication connections. During the course of the road opening works the Road Opening Permit must be visibly displayed at the site.

Condition D14
No skip bins or materials are to be stored on the Road Reserve.

Condition D16
All construction in the public road reserve must be undertaken by a Council authorised contractor.

Condition D17
Protection fencing measures (including sedimentation fences) are to be installed in accordance with all approved plans including those specified in the Arboriculture Impact Assessment Report referenced in this consent. Protection measures are to be maintained for the duration of the works. Protection fencing that is no longer required is to be removed once all works are completed.

Condition D18
As there are existing trees to be retained within 5 metres of proposed development works, all recommendations as outlined in the supplied arborist report referenced in this consent are required to be complied with before and throughout the development period, particularly with regard to the following:
a. Works, erection/demolition of structures, excavation or changes to soil levels within 5 metres of existing trees are not permitted unless part of the development as approved, and the storage of soil, building materials, soil or the driving and parking of any vehicle or machinery within 5 metres of the trunk of a tree to be retained is not permitted.
b. Where specified, tree guards are to be provided to all trees as indicated in the report, and are to be installed prior to the commencement of any work on the site. Tree guard materials and dimensions are specified in the arborist report.
c. All works within 5 metres of existing trees including demolition, excavation, civil works, fencing and the like must be carried out by hand and under the supervision of an experienced and suitably qualified arborist. In the event that major structural or feeder roots are encountered, the arborist is to advise the builder to carry out appropriate action to ensure the retention of the tree.
d. Signage is to be erected advising all contractors and visitors to the site that no works or storage are to take place within the dripline of existing trees.
e. Any changes or alterations made to the tree management recommendations as outlined by the arborist report due to the discovery of new structural roots or underground services during development works must be reported to the Principal Certifying Authority prior to works recommencing.

Condition D19
No storage of building materials or building waste, excavated fill or topsoil storage is to occur within the dripline of trees shown on the approved landscape working drawing(s) as being retained or within protective fenced areas.

Condition D20
Drainage is to be arranged such that silt, building materials or contaminants are not washed into protective fenced areas.

Condition D21
All works within 5 metres of the existing trees to be retained including pruning, demolition, excavation, civil works, fencing and the like must be carried out by hand under the supervision of an experienced and qualified Arborist. Should roots larger than 50mm be encountered all excavation works are to cease immediately and a qualified Arborist is to advise on the impacts of the roots removal on the tree's survival and report to the Principal Certifying Authority prior to works recommencing. If tree roots are present a pier and beam method of footing construction is to be adopted so as to bridge/span any identified lateral roots.

matthewwoodwardarchitecture

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ISSUE	DATE	FOR
A	30.11.2016	CONSTRUCTION CERTIFICATE

ISSUE	DATE	FOR

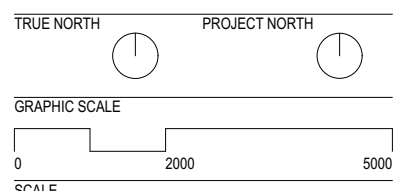
ISSUE	DATE	FOR

NOTES

STRUCTURAL ENGINEER ASHBY DOBLE CONSULTING STRUCTURAL ENGINEERS TEL: 9899 2077 HYDRAULIC ENGINEER MB CONSULTING ENGINEERS TEL: 9899 4000 GEOTECHNICAL ENGINEER BARKER HABLE CONSULTING ENGINEERS TEL: 9851 4487	LAND SURVEYOR GEOMAT ENGINEERING PTY LTD TEL: 9850 0100 TOWN PLANNER VAUGHAN MILLIGAN DEVELOPMENT CONSULTING TEL: 9899 4002 PRIVATE CERTIFIER
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CLIENT BRUCE MCCONOCHE & SUSAN MANFORD

PROJECT
BILGOLA BEACH HOUSE
18 THE SERPENTINE - BILGOLA BEACH 2107
PROJECT NUMBER
S150115.BMC



DRAWING
GL - DEMOLITION PLAN
DRAWING NUMBER
A-104

CONSTRUCTION CERTIFICATE

A-104

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b. They shall comply with the following:
i. Completely protected by a non-combustible and non perforated bushfire shutter that complies with Section 3.7 of AS 3959-2009 excluding parts (e) & (f).
ii. Window frames and hardware shall be metal.
iii. Glazing shall be toughened glass minimum 6mm.
iv. Seals to siles, head and sills or thresholds shall be manufactured from materials having a flammability index no greater than 5 or from silicone.
v. The operable portion of the window shall be screened internally or externally with screens that comply with Clause 9.5.1A.

Condition B15
New external doors and door frames (not including garage doors) on the western, northern and southern elevations shall comply with one of the following:
a. Clause 9.5.3 or 9.5.4 of AS 3959-2009 as modified above; or
b. They shall comply with the following:
i. Completely protected by a non-combustible and non perforated bushfire shutter that complies with Section 3.7 of AS 3959-2009 excluding parts (e) & (f).
ii. Doors shall be non-combustible.
iii. Externally fitted hardware that supports the panel in its function of opening and closing shall be metal.
iv. Where doors incorporate glazing, the glazing shall be toughened glass minimum 16mm.
v. Seals to siles, head and sills or thresholds shall be manufactured from materials having a flammability index no greater than 5 or from silicone.
vi. Door frames shall be metal.
vii. Doors shall be tight fitting to the door frame and to an abutting door if applicable.
viii. Weather strips, draught excluders or draught seals shall be installed at the base of side-hung external doors.

Condition B16
New construction on the eastern elevation shall comply with Sections 3 and 8 (BAL 40) Australian Standard AS3959-2009 'Construction of buildings in bush fire-prone areas and section A3.7 Addendum Appendix 3 of 'Planning for Bush Fire Protection'.

Condition B17
Roofing shall be gutterless or guttering and valleys are to be screened to prevent the build-up of flammable material. Any materials used shall be non-combustible.

Condition B18
Landscaping to the site is to comply with the principles of Appendix 5 of 'Planning for Bush Fire Protection 2006'.

Condition B19
In accordance with Pittwater Councils DCP Control B4.22 Protection of Trees and Bushland Vegetation, all existing trees as indicated in the Survey Plan and/or approved Landscape Plan shall be retained except where Council's prior written consent has been obtained, for trees that stand within the envelope of approved development areas and removal is approved through an arborist report. For all other tree issues not related to a development applicant on applications must be made to Council's Tree Management Officers.

Condition B20
The installed wood fire heater is to have an attached certificate of compliance AS/NZS 4013. All certified appliances are listed on the AHHA website www. homeheat.com.au

Condition B21
The installation of the wood fire heater is to comply with AS/NZS 2918 - Installation, this is a safety standard that tells you how a heater must be installed.

Condition B22
The minimum discharge height of the chimney is to be one metre above any structure within a 15 metre horizontal radius.

Condition B23
The external flue discharge height is a minimum of 600mm above any structure within a 3m horizontal radius, or according to the distances used in AS2918 Domestic Solid Fuel Burning Appliances - Installation (whichever is the greatest).

Condition B24
The external chimney type is to be either a concentric shroud, venturi cowl or a parallel rain excluder.

Condition D2
Any proposed demolition works shall be carried out in accordance with the requirements of AS2601-2001 The Demolition of Structures. Amongst other conditions to be taken into account include compliance with the requirements of the WorkCover Authority of New South Wales, including but not limited to:
a. Protection of site workers and the general public.
b. Erection of hoardings where appropriate.
c. Asbestos handling and disposal where applicable.
d. Any disused service connections shall be capped off.
Council is to be given 48 hours written notice of the destination/s of any excavation or demolition material. The disposal of refuse is to be to an approved waste disposal depot.

Condition D6
Where excavations extend below the level of the base of the footings of a building on an adjoining allotment of land, the person causing the excavation must give the owner of the adjoining property at least seven (7) days written notice of their intention to excavate below the level of the base of the footing and furnish the adjoining property owner with particulars of the proposed work.

Condition D7
All excavations and backfilling associated with the erection or demolition of a building must be executed safely and in accordance with appropriate professional standards.

Condition D8
Temporary sedimentation and erosion controls are to be constructed prior to commencement of any work to eliminate the discharge of sediment from the site.

Condition D9
Sedimentation and erosion controls are to be effectively maintained at all times during the course of construction and shall not be removed until the site has been stabilized or landscaped to the Principal Certifying Authority's satisfaction.

Condition D10
Adequate measures shall be undertaken to remove clay from vehicle sleaving the site so as to maintain public roads in a clean condition.

Condition D12
No works are to be carried out in the Road Reserve without the written approval of the Council.

Note: Separate approval is required for access driveways, paths, connections to underground services (stormwater, gas, sewer, electricity, etc.). And landscaping works within Council's Road Reserve.

Condition D13
A Road Opening Permit, issued by Council, must be obtained for any road openings, or excavation on within Council's Road Reserve associated with the development on the site, including stormwater drainage, water, sewer, electricity, gas and communication connections. During the course of the road opening works the Road Opening Permit must be visibly displayed at the site.

Condition D14
No skip bins or materials are to be stored on the Road Reserve.

Condition D16
All construction in the public road reserve must be undertaken by a Council authorised contractor.

Condition D17
Protection fencing measures (including sedimentation fences) are to be installed in accordance with all approved plans including those specified in the Arboriculture Impact Assessment Report referenced in this consent. Protection measures are to be maintained for the duration of the works. Protection fencing that is no longer required is to be removed once all works are completed.

Condition D18
As there are existing trees to be retained within 5 metres of proposed development works, all recommendations as outlined in the supplied arborist report referenced in this consent are required to be complied with before and throughout the development period, particularly with regard to the following:
a. Works, erection/demolition of structures, excavation or changes to soil levels within 5 metres of existing trees are not permitted unless part of the development as approved, and the storage of soil, building materials, soil or the driving and parking of any vehicle or machinery within 5 metres of the trunk of a tree to be retained is not permitted.
b. Where specified, tree guards are to be provided to all trees as indicated in the report, and are to be installed prior to the commencement of any work on the site. Tree guard materials and dimensions are specified in the arborist report.
c. All works within 5 metres of existing trees including demolition, excavation, civil works, fencing and the like must be carried out by hand and under the supervision of an experienced and suitably qualified arborist. In the event that major structural or feeder roots are encountered, the arborist is to advise the builder to carry out appropriate action to ensure the retention of the tree.
d. Signage is to be erected advising all contractors and visitors to the site that no works or storage are to take place within the dieline of existing trees.
e. Any changes or alterations made to the tree management recommendations as outlined by the arborist report due to the discovery of new structural roots or underground services during development works must be reported to the Principal Certifying Authority prior to works recommencing.

Condition D19
No storage of building materials or building waste, excavated fill or topsoil storage is to occur within the dieline of trees shown on the approved landscape working drawing(s) as being retained or within protective fenced areas.

Condition D20
Drainage is to be arranged such that silt, building materials or contaminants are not washed into protective fenced areas.

Condition D21
All works within 5 metres of the existing trees to be retained including pruning, demolition, excavation, civil works, fencing and the like must be carried out by hand under the supervision of an experienced and qualified Arborist. Should roots larger than 50mm be encountered all excavation works are to cease immediately and a qualified Arborist is to advise on the impacts of the roots removal on the tree's survival and report to the Principal Certifying Authority prior to works recommencing. If tree roots are present a pier and beam method of footing construction is to be adopted so as to bridge/span any identified lateral roots.

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ISSUE DATE FOR CONSTRUCTION CERTIFICATE

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CLIENT
BRUCE MCCONOCHE & SUSAN MANFORD

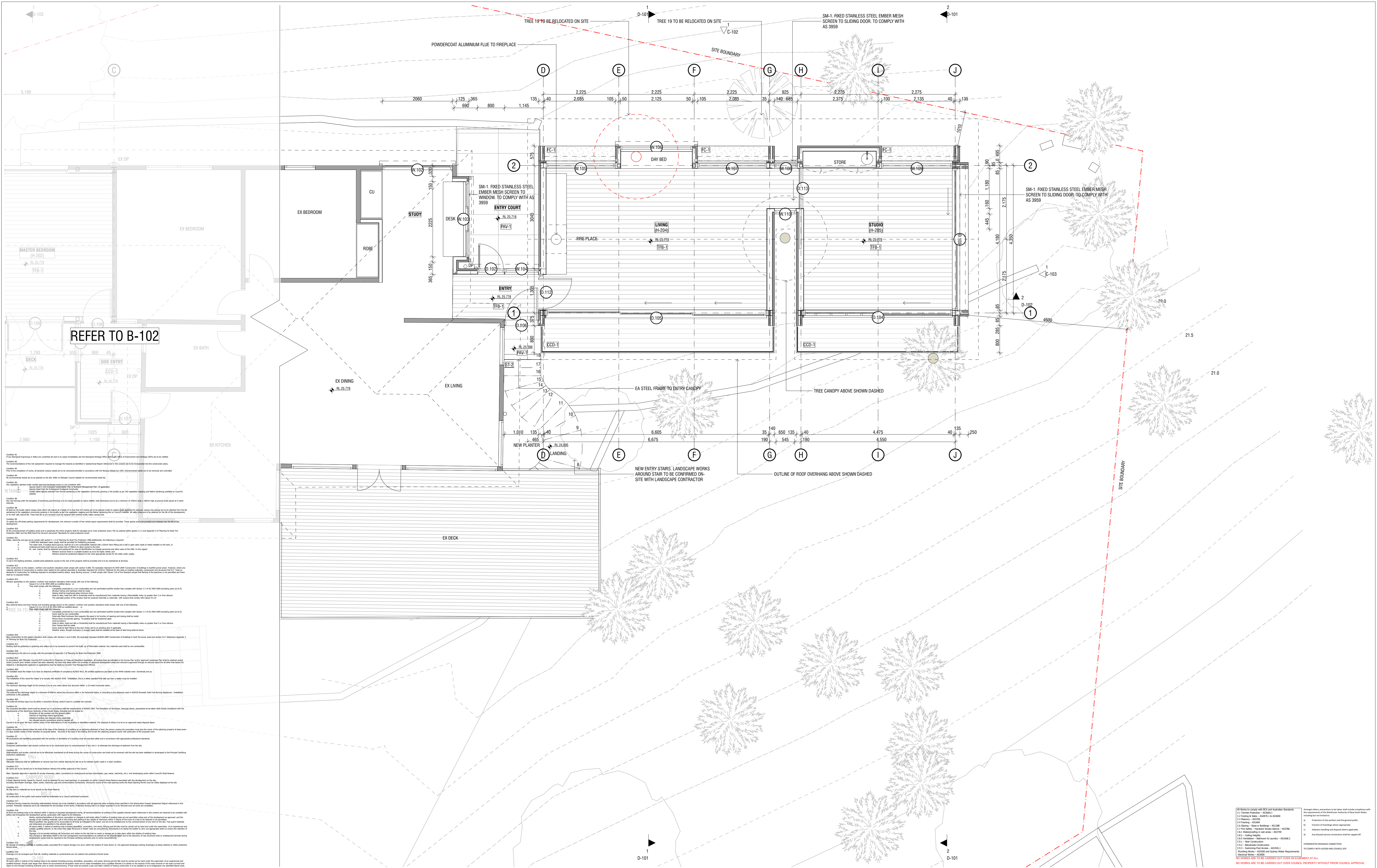
PROJECT
BILGOLA BEACH HOUSE
18 THE SERPENTINE - BILGOLA BEACH 2107
PROJECT NUMBER
S150115.BMC

TRUE NORTH
PROJECT NORTH
DRAWING
GRAPHIC SCALE
0 2000 5000
SCALE
1:100 @ A1 / 1:200 @ A3
DO NOT SCALE

SITE PLAN
DRAWING NUMBER
A-105

CONSTRUCTION CERTIFICATE

A



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ISSUE	DATE	FOR

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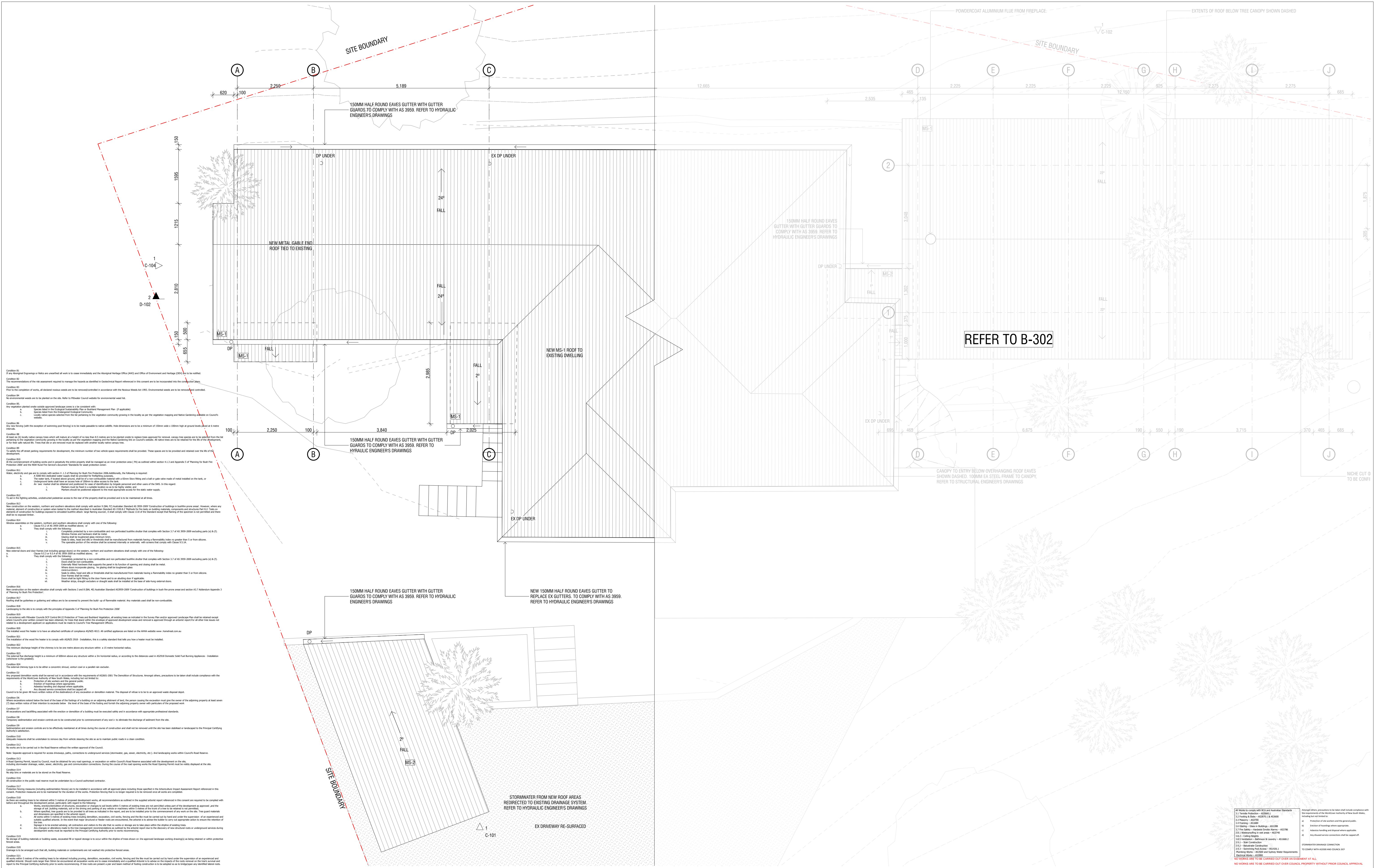
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CLIENT
BRUCE MC CONOCHIE & SUSAN MANFORD
S150115.BMC

PROJECT
BILGOLA BEACH HOUSE
18 THE SERPENTINE - BILGOLA BEACH 2107
PROJECT NUMBER
S150115.BMC

TRUE NORTH
PROJECT NORTH
GRAPHIC SCALE
0 2000 5000
SCALE
1:500 @ A1 / 1:100 @ A3
DO NOT SCALE

DRAWING
GROUND PLAN - SHT 02/02
DRAWING NUMBER
B-103
CONSTRUCTION CERTIFICATE
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PROJECT NORTH
GRAPHIC SCALE
0 2000 5000
SCALE
1:500 @ A1 / 1:100 @ A3
PROJECT
BILGOLA BEACH HOUSE
18 THE SERPENTINE - BILGOLA BEACH 2107
PROJECT NUMBER
S150115.BMC

DRAWING
DO NOT SCALE
CONSTRUCTION CERTIFICATE
B-104

ROOF PLAN - SHT 01/02
DRAWING NUMBER
A



ISSUE	DATE	FOR
A	30.11.2016	CONSTRUCTION CERTIFICATE

ISSUE	DATE	FOR
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PROJECT
BILGOLA BEACH HOUSE
1B THE SERPENTINE - BILGOLA BEACH 2107
PROJECT NUMBER
S150115.BMC

DRAWING

ROOF PLAN - SHT 02/02

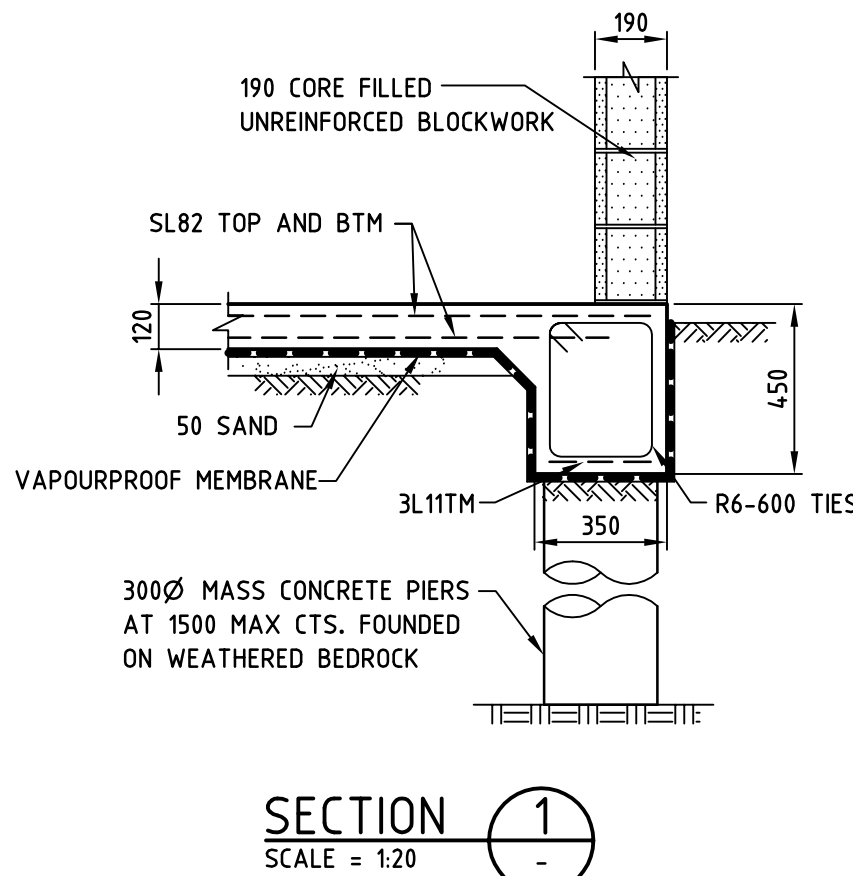
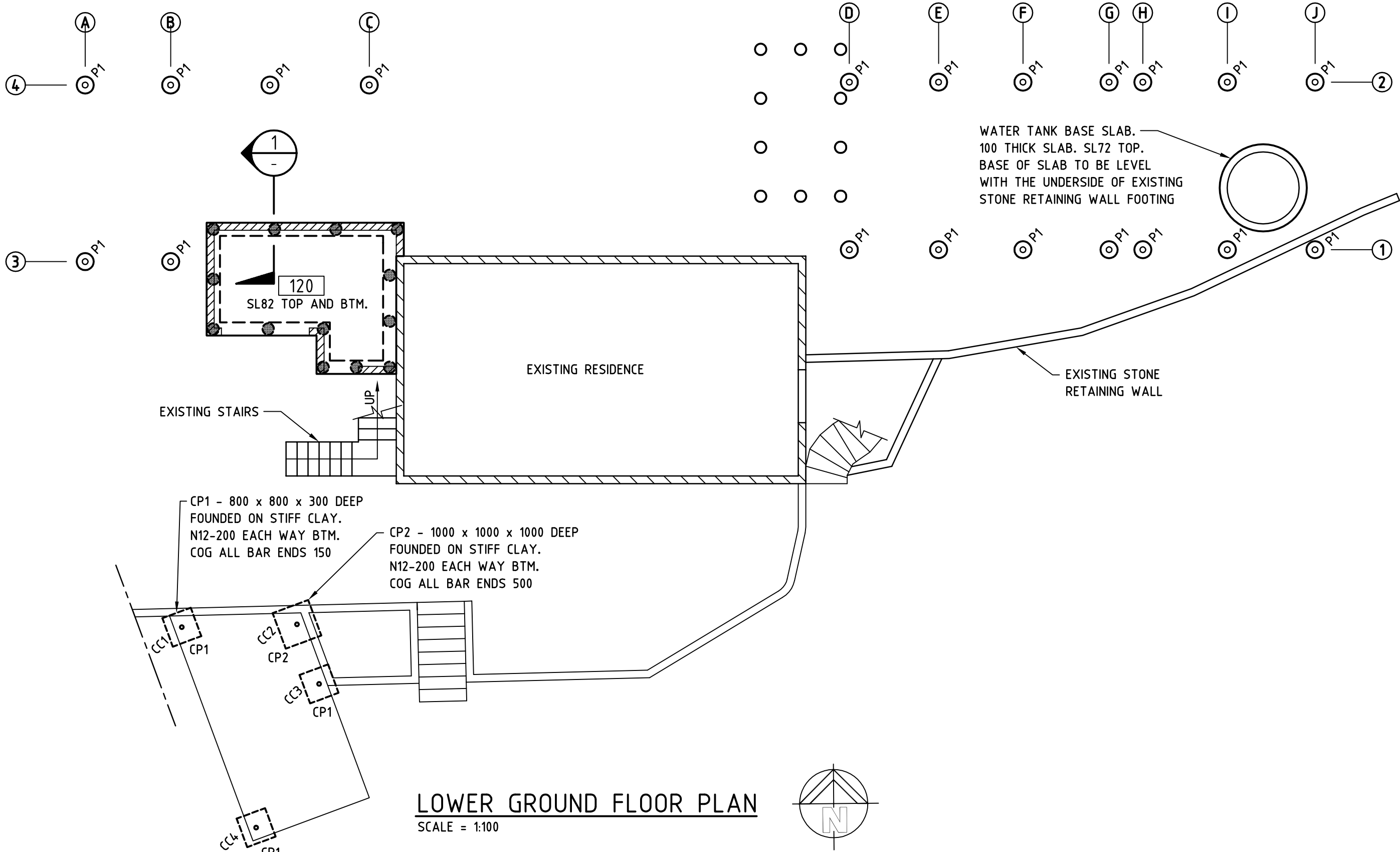
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B-105

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STEELWORK NOTES:

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE FOLLOWING AUSTRALIAN STANDARDS:
 - AS 4100 - STEEL STRUCTURES
 - AS 1163 - STRUCTURAL STEEL HOLLOW SECTIONS
 - AS 1111 - COMMERCIAL BOLTS
 - AS 1252 - HIGH STRENGTH BOLTING
 - AS 1554 - STRUCTURAL STEEL WELDING
 - AS 3678 - HOT ROLLED PLATES AND SLABS
 - AS 3679 - HOT ROLLED BARS AND SECTIONS
- ALL WELDS TO BE 6 mm CONTINUOUS FILLET USING E41XX ELECTRODES BUTT WELDS SHALL BE FULL PENETRATION WELDS U.N.O.
- ALL STRUCTURAL STEEL SHALL BE GRADE 300 MINIMUM U.N.O.
- ALL BOLTS TO BE GALVANISED METRIC WITH HEXAGONAL HEAD, M20 HIGH STRENGTH GRADE 8.8/5 U.N.O. NO CONNECTION SHALL HAVE LESS THAN 2 BOLTS.
- ALL GUSSET PLATES TO BE 10 mm U.N.O.
- PROTECTIVE SURFACE TREATMENT (U.N.O.):
 - INTERNAL -- POWER WIRE BRUSH AND 2 COATS ALKID PRIMER @ 40 DFT 40 MICRONS PER COAT OF 802P.
 - HOT DIP GALVANISED (300g/sq.m. MINIMUM, PROVIDE BREATHING HOLES TO ALL SEALED HOLLOW SECTIONS.
 - EXTERNAL -- HOT DIP GALVANISED (1600g/sq.m. MINIMUM).
- UNITS -- HOT DIP GALVANISED (1600g/sq.m. MINIMUM).
- NOTE: ALL WELDS TO HAVE SLAG REMOVED THEN POWER WIRE BRUSHED AND A PROTECTIVE COVER APPLIED AS ABOVE.
- THE CONTRACTOR SHALL PROVIDE ALL CLEATS AND DRILL HOLES NECESSARY FOR FIXING STEEL TO STEEL AND TIMBER TO STEEL WHETHER DETAILED ON THE DRAWING OR NOT.
- TWO COPIES OF SHOP DRAWINGS TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. APPROVAL COVERS STRUCTURAL ADEQUACY OF JOINTS AND MEMBERS BUT NOT DIMENSIONAL ACCURACY.
- CONCRETE ENCASED STEELWORK TO HAVE A 50 mm MINIMUM OF CONCRETE ENCASEMENT, REINFORCED WITH F6@41 FABRIC U.N.O.
- ALL STEELWORK SHALL BE SECURELY TEMPORARILY BRACED AS NECESSARY TO STABILISE THE STRUCTURE DURING ERECTION.
- FABRICATION & ERECTION OF THE STRUCTURAL STEEL SHALL BE SUPERVISED BY SUITABLY QUALIFIED AND EXPERIENCED PERSONNEL. BUILDER TO ENSURE DOCUMENTATION OF PERSONNEL UNDERTAKING ANY SITE WELDING HAVE APPROPRIATE QUALIFICATIONS AND CERTIFICATES FOR THE WELDS REQUIRED.
- WHERE NEW STEEL BEAMS ARE SUPPORTING EXISTING BRICKWORK OVER PROP EXISTING BRICKWORK & PRE-DEFLECT BEAMS BY DRIVING STEEL WEDGES BETWEEN UNDERSIDE OF BRICKWORK OVER & TOP FLANGE OF BEAM AND FILL WITH DRY-PACK GROUT PRIOR TO SUBJECTING BEAM TO EXISTING BRICKWORK LOAD.
- ALL PURLINS & GIRTS SHALL BE STRAMIT/8HP LYSAGHT SECTIONS OR APPROVED EQUIVALENT. INSTALLATION TO BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS WITH PARTICULAR REGARD TO BOLT LOCATIONS AND BRIDGING PIECES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SYSTEM.
- ALL SECTIONS SHALL BE PRODUCED FROM GALVANISED STEEL TO AS 1397 WITH A COATING MASS OF AT LEAST 350g/m² DESIGNED IN ACCORDANCE WITH AS 4680.

TIMBER NOTES

- ALL TIMBER DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH AS 1728, U.N.O.
- AS 1684.2 MAY BE USED FOR THE DESIGN AND CONSTRUCTION OF DOMESTIC, RESIDENTIAL HOUSES IN SHELTERED LOCATIONS. NOTIFY ENGINEER IF WIND CLASSIFICATION FOR SITE IS GREATER THAN N2.
- SOFTWOOD MINIMUM GRADE F7 U.N.O. HARDWOOD MINIMUM GRADE F14 U.N.O.
- RADIATA PINE SHALL BE MINIMUM MGP10 (MACHINE GRADED PINE, SEASONED). WHERE MGP10 IS SPECIFIED ON PLAN, ALTERNATIVE TIMBERS (eg. F7 OR F8 UREDOON) MAY NOT BE USED WITHOUT THE ENGINEER'S PERMISSION.
- ALL TIMBER TO BE PROTECTED FROM INSECT HAZARD BE TERMITE-RESISTANT TIMBER OR PRESERVATIVE TREATED TO H2 LEVEL OR APPROVED ALTERNATIVE TERMITE BARRIER PROVIDED.
- EXTERNAL TIMBER TO BE EITHER HARDWOOD DURABILITY CLASS 1 OR 2 OR IMPREGNATED PINE GRADE F7, PRESSURE TREATED TO AS 1604 AND RE-DRIED PRIOR TO USE. SUPPLEMENTARY TREATMENT SHALL BE APPLIED TO ALL CUT SURFACES.
- ALL BOLTS IN TIMBER CONSTRUCTION TO BE M16 MIN. U.N.O. BOLT HOLES TO BE PREDRILLED APPROX. 10% GREATER DIA. WASHERS UNDER HEADS AND NUTS TO BE AT LEAST 4 TIMES BOLT DIAMETER.
- FINISHED TIMBER SIZES:
 - SEASONED SOFTWOOD +5, -0 mm
 - UNSEASONED SOFTWOOD F8 +3, -3 mm
 - F7 +2, -4 mm
 - SEASONED HARDWOOD +2, -0 mm
 - UNSEASONED HARDWOOD +3, -3 mm(SEE ALSO CLAUSE 1.6.2 IN AS 2082)
- ALL TIMBER JOINTS AND NOTCHES TO BE 100mm MINIMUM FROM LOOSE KNOTS, SEVERE SLOPING GRAIN, GUM VEINS OR OTHER MINOR DEFECTS.
- TIMBER TRUSSES TO BE PRE-CAMBERED AN AMOUNT EQUAL TO DEAD LOAD DEFLECTION. TWO (2) COPIES OF SHOP DRAWINGS ARE TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL, CLEARLY SHOWING THE DESIGN LOADS ON THE ROOF AND CEILING WITH TRUSS NODE POINT LOADS AND PRE-CAMBER.
- FOR DEEP JOISTED FLOORS WHERE A CONTINUOUS TRIMMING JOIST IS NOT PROVIDED AT END OF JOISTS, SOLID BLOCKING IS REQUIRED AT 1800 MAXIMUM CENTRES. (REFER AS 1684) FOR UNSEASONED TIMBER WHERE SPAN EXCEEDS 3.0m AND NO CEILING PROVIDE SOLID BLOCKING BETWEEN JOISTS AT 1800 CTS.

GENERAL NOTES

- THIS DRAWING TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL PLANS AND SPECIFICATIONS AND ANY DISCREPANCY TO BE REPORTED IMMEDIATELY.
- THE BUILDER IS TO CHECK AND BE RESPONSIBLE FOR THE CORRECTNESS OF ALL DIMENSIONS AND ANY DISCREPANCY TO BE REPORTED IMMEDIATELY.
- STABILITY OF THE BUILDING DURING CONSTRUCTION AND EXCAVATION IN THE VICINITY OF NEIGHBOURING BUILDINGS IS THE RESPONSIBILITY OF THE BUILDER. APPROVAL OF ALL PROPOSED WORKS MUST BE GRANTED BY THE CONSULTING ENGINEER PRIOR TO COMMENCEMENT OF WORK.
- DO NOT SCALE DRAWINGS.
- ALL WORKMANSHIP AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE CURRENT AUSTRALIAN STANDARDS AND LOCAL GOVERNMENT ORDINANCES.
- FIRE RESISTANCE RATINGS OF THE STRUCTURAL ELEMENTS ARE TO COMPLY WITH THE BCA. REFER SPECIALIST CONSULTANT.
- DESIGN LIVE LOAD FOR MAIN FLOOR - 1.5 kPa
- STAIRS, LANDINGS AND BALCONIES - 2.0 kPa
- FOOTINGS HAVE BEEN DESIGNED TO BEAR ON WEATHERED ROCK WITH AN ALLOWABLE SAFE BEARING CAPACITY OF 400 kPa

CONCRETE NOTES

- ALL CONCRETE SHALL BE HANDLED, PLACED, COMPACTED, FINISHED, & CURED IN ACCORDANCE WITH AS3600, SO THAT THE HARDENED CONCRETE WILL SATISFY THE DESIGN REQUIREMENTS FOR STRENGTH, SERVICEABILITY & DURABILITY.
 - UNLESS SPECIFIED OTHERWISE, ALL CONCRETE SHALL BE NORMAL-CLASS, & MANUFACTURED & SUPPLIED IN ACCORDANCE WITH AS1379.
- | ELEMENT | MAX. AGG. SIZE | SLUMP | STRENGTH GRADE |
|-----------------|----------------|--------|----------------|
| FOOTINGS | 20 mm | 80 mm | N20 |
| PIERS | 20 mm | 80 mm | N25 |
| SLABS ON GRADE | 20 mm | 80 mm | N25 |
| SUSPENDED SLABS | 20 mm | 80 mm | N32 |
| WALL GROUT | 10 mm | 230 mm | N20 |

ELEMENT	SURFACES FORMED & FULLY ENCLOSED IN INTERIOR ENVIRONMENTS	SURFACES FORMED & EXPOSED IN EXTERIOR ENVIRONMENTS	SURFACES CAST ON OR AGAINST GROUND
FOOTINGS	20 mm	20 mm	75 mm
SLABS	20 mm	45 mm	45 mm

- CONCRETE COVER TO ALL REINFORCEMENT U.N.O.
- SPICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITION SHOWN AND SHALL BE SUFFICIENT TO DEVELOP THE FULL STRENGTH OF THE REINFORCEMENT.
- FABRIC SHALL BE LAPPED 2 TRANSVERSE WIRES PLUS 50 mm.
- ALL REINFORCEMENT SHALL COMPLY WITH AS4671. SL & RL DENOTES DEFORMED WELDED REINFORCING FABRIC - GRADE D500L R DENOTES PLAIN BARS - GRADE R250N S DENOTES DEFORMED BARS - GRADE D350N N DENOTES DEFORMED BARS - GRADE D500N
- THE DESIGN, CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF THE FORMWORK AND FALSE WORK IS THE RESPONSIBILITY OF THE BUILDER. DESIGN CONSTRUCTION AND STRIPPING TIMES TO COMPLY WITH AS 3610 AND AS 3600 UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- DEPTH OF BEAM IS GIVEN FIRST AND INCLUDES SLAB THICKNESS.
- CONCRETE SIZES SHOWN DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
- ALL REINFORCEMENT SHALL BE ACCURATELY PLACED IN THE POSITION SHOWN, TIED AND SUITABLY SUPPORTED TO MAINTAIN THE SPECIFIED COVER.
- MEMBERS SHALL BE INITIALLY CURED CONTINUOUSLY FOR AT LEAST 3 OR 7 DAYS UNDER AMBIENT CONDITIONS, AS SPECIFIED BY AS3600
- CONDUITS PIPES, ETC. MUST NOT BE PLACED IN CONCRETE COVER. NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE ALLOWED.
- ALL CONCRETE TO BE MECHANICALLY VIBRATED AND THE VIBRATOR SHALL NOT BE USED TO SPREAD CONCRETE.
- ALL TIE RODS, WHERE NOT SHOWN ON PLANS, SHALL BE N12 AT 300 CENTRES.

BRICKWORK & BLOCKWORK NOTES

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3700.
- MORTAR ADMIXTURES SHALL NOT BE USED WITHOUT THE WRITTEN APPROVAL OF THE SUPERINTENDENT.
- ALL LOAD BEARING BRICKWORK SHALL HAVE A MINIMUM CRUSHING STRENGTH OF 20 MPa. U.N.O.
- CONCRETE MASONRY UNITS SHALL BE MINIMUM GRADE 12 UNITS CONFORMING TO AS 4455 U.N.O.
- UNLESS OTHERWISE NOTED OR APPROVED, ALL BRICKWORK AND BLOCKWORK SHALL BE CONSTRUCTED IN CEMENT MORTAR COMPRISING 1 PART PORTLAND CEMENT, 1/2 PART HYDRATED LIME OR LIME PUTTY AND 4 1/2 PARTS CLEAN SAND.
- ALL BRICKWORK AND BLOCKWORK SUPPORTING OR SUPPORTED BY CONCRETE FLOORS SHALL BE PROVIDED WITH VERTICAL JOINTS TO MATCH ANY CONTROL JOINTS IN THE CONCRETE.
- WHERE WALLS ARE NON LOAD BEARING AT EITHER HORIZONTAL OR VERTICAL FACES THEY SHALL BE SEPARATED FROM THE CONCRETE BY 12 mm THICK CANEITE OR APPROVED SIMILAR.
- PROVIDE VERTICAL CONTROL JOINTS AT 10m MAX. CENTRES AND 5m MAX. FROM CORNERS IN BRICKWORK; AND AT 6m MAX. CENTRES AND 4m MAX. FROM CORNERS IN BLOCKWORK, U.N.O.
- NO CHASES SHALL BE CUT INTO LOAD BEARING BRICKWORK AND BLOCKWORK WITHOUT APPROVAL OF THE CONSULTING ENGINEER.
- THE TOP COURSE OF ALL LOAD BEARING BRICKWORK AND BLOCKWORK SHALL BE LEVEL AND SMOOTH AND COVERED WITH AN APPROVED SLIDING MATERIAL UNLESS NOTED OTHERWISE.
- BACKFILL TO RETAINING WALLS TO BE FREE DRAINING GRANULAR MATERIAL U.N.O. PROVIDE SUBSOIL DRAIN TO WEAP HOLES.
- NO MASONRY TO BE CONSTRUCTED ON PROPPED SLABS OR BEAMS.
- MAXIMUM HEIGHT OF BRICKWORK AND BLOCKWORK WALLS BETWEEN POINTS OF LATERAL SUPPORT AS DEFINED IN AS 3700 SHALL BE 2.7 METRES U.N.O.

C	CONSTRUCTION CERTIFICATE	WJA	29.11.16
B	PRELIMINARY ISSUE	WJA	25.11.16
A	PRELIMINARY ISSUE	WJA	04.11.16

No.	Amendment	By	Date
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ashbyDOBLE Pty. Ltd.

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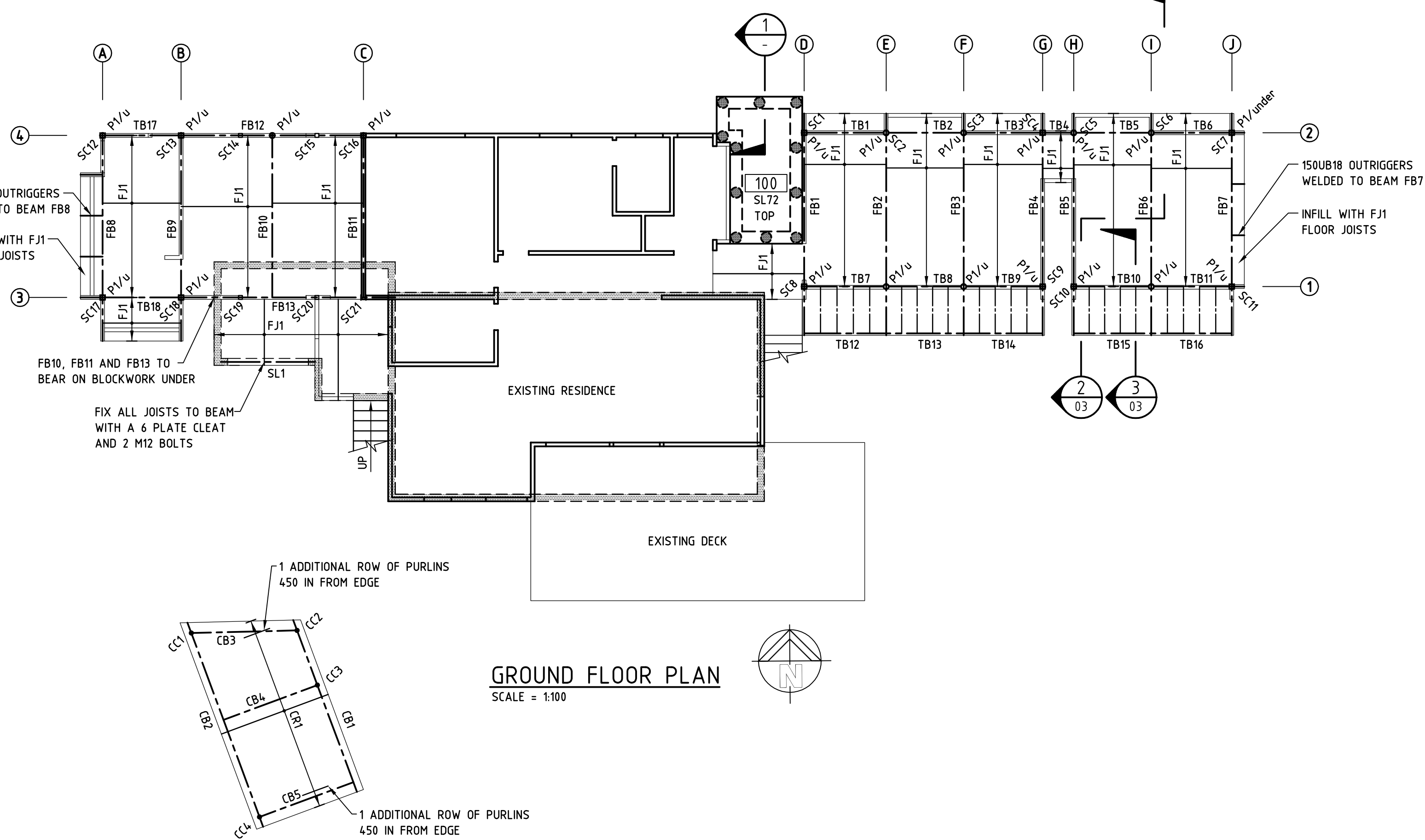
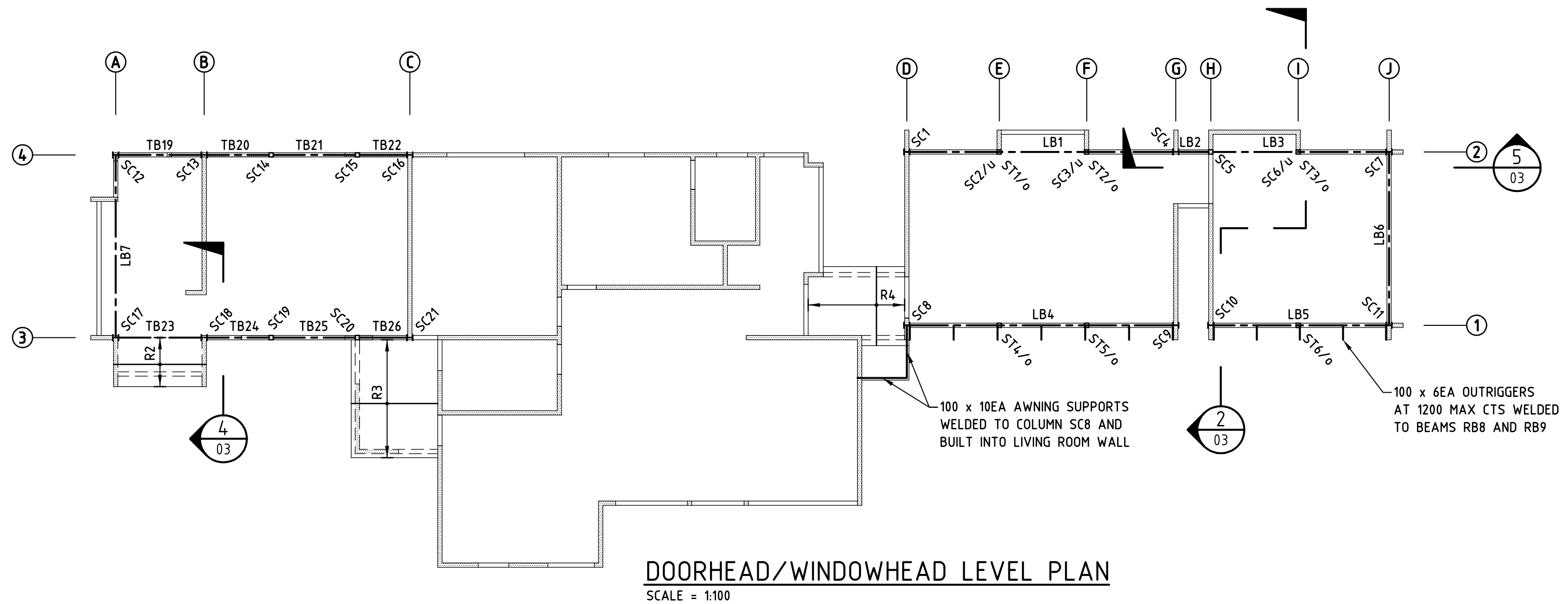
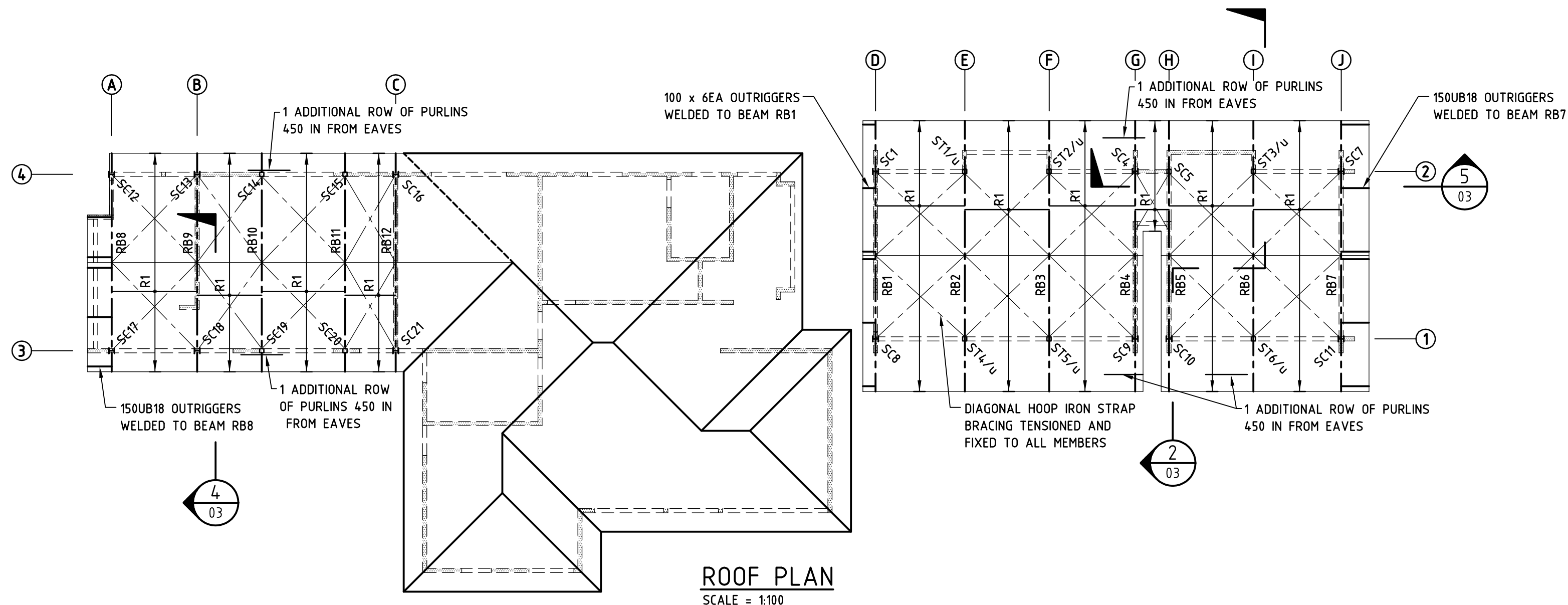
Architect
MATTHEW WOODWARD ARCHITECTURE

Project
ALTERATIONS AND ADDITIONS
1B THE SERPENTINE
BILGOLA BEACH NSW

Sheet Title
LOWER GROUND FLOOR PLAN AND DETAILS

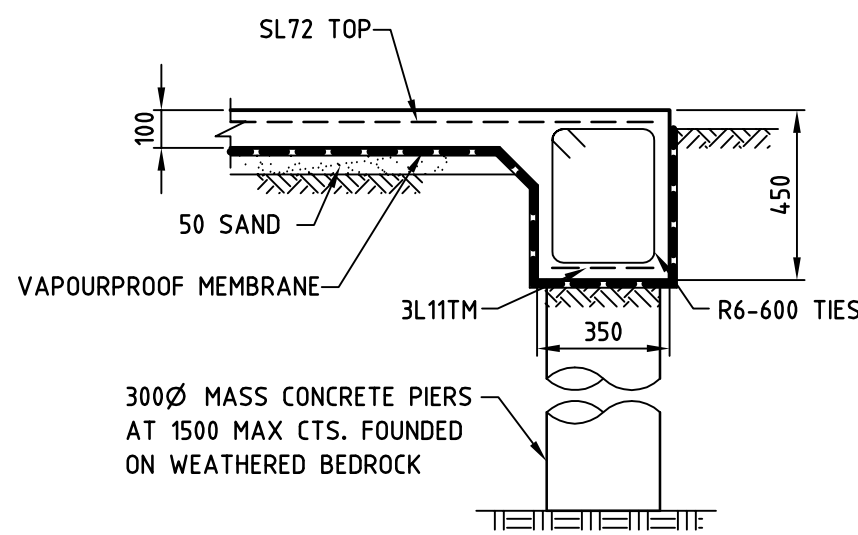
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WJA			A1

Scale	Date	Job No.	Sheet No.
AS SHOWN	AUG 2016	16.208	01 C



MEMBER SCHEDULE		
MARK	SIZE	REMARKS
P1	139 x 5.0 CHS	STEEL POST
SC1, SC4, SC7 TO SC13, SC16 TO SC18, SC21	150UC30	STEEL COLUMN
SC2, SC3, SC5, SC6 SC14, SC15, SC19, SC20	100 x 6.0 SHS	STEEL COLUMN
FB1, FB4, FB5, FB12	200UB25	STEEL BEAM
FB2, FB3, FB6, FB7 TO FB11, FB13	200UB30	STEEL BEAM
SL1	200UB22	STEEL LINTEL BEAM
TB1 TO TB11, TB17, TB18	200UB18	STEEL TIE BEAM
TB12 TO TB16	150PFC	STEEL TIE BEAM
FJ1	170 x 45 MGP10 AT 450 CTS	TIMBER FLOOR JOISTS
ST1 TO ST6	100 x 50 x 3.0 RHS	STEEL STUB COLUMN
RB1 TO RB12	200UB25	STEEL BEAM
LB1 TO LB3	200UB25	STEEL LINTEL BEAM
LB4	310UB46	STEEL LINTEL BEAM
LB5	250UB37	STEEL LINTEL BEAM
LB6, LB7	180UB22	STEEL LINTEL BEAM
TB19 TO TB26	200UB25	STEEL TIE BEAM
R1#	C10012 AT 900 CTS	ROOF PURLINS
R2	140 x 45 MGP10 AT 450 CTS	TIMBER ROOF RAFTERS
R3	90 x 45 MGP10 AT 400 CTS	TIMBER ROOF RAFTERS
R4	90 x 45 MGP10 AT 450 CTS	TIMBER ROOF RAFTERS
CC1 TO CC4	139 x 5.0 CHS	STEEL CARPORT COLUMN
CB1, CB2, CB3, CB5	250UB37	STEEL CARPORT BEAM
CB4	200UB22	STEEL CARPORT BEAM
CR1#	C10012 AT 900 CTS	CARPORT ROOF PURLINS

PROVIDE 1 ADDITIONAL ROW OF PURLINS AT 450 CTS AT EACH EAVE
* PROVIDE 1 ROW OF BRIDGING



SECTION 1
SCALE = 1:20

STEELWORK NOTES:

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE FOLLOWING AUSTRALIAN STANDARDS:
 - AS 4100 - STEEL STRUCTURES
 - AS 1163 - STRUCTURAL STEEL HOLLOW SECTIONS
 - AS 1111 - COMMERCIAL BOLTS
 - AS 1252 - HIGH STRENGTH BOLTING
 - AS 1554 - STRUCTURAL STEEL WELDING
 - AS 3678 - HOT ROLLED PLATES AND SLABS
 - AS 3679 - HOT ROLLED BARS AND SECTIONS
- ALL WELDS TO BE 6 mm CONTINUOUS FILLET USING E43XX ELECTRODES BUTT WELDS SHALL BE FULL PENETRATION WELDS U.N.O.
- ALL STRUCTURAL STEEL SHALL BE GRADE 300 MINIMUM U.N.O.
- ALL BOLTS TO BE GALVANISED METRIC WITH HEXAGONAL HEAD, M20 HIGH STRENGTH GRADE 8.8/5 U.N.O.
- NO CORREL SHALL HAVE LESS THAN 2 BOLTS.
- ALL GUSSET PLATES TO BE 10 mm U.N.O.
- PROTECTIVE SURFACE TREATMENT (U.N.O.):
 - INTERNAL -- POWER WIRE BRUSH AND 2 COATS ALKID PRIMER (e.g. DFT 40 MICRONS FOR COAT OF ROOF).
 - HOT DIP GALVANISED (300g/sq.m. MINIMUM, PROVIDE BREATHING HOLES TO ALL SEALED HOLLOW SECTIONS).
 - EXTERNAL -- HOT DIP GALVANISED (600g/sq.m. MINIMUM).
- NOTE: ALL WELDS TO HAVE SLAG REMOVED THEN POWER WIRE BRUSHED AND A PROTECTIVE COVER APPLIED AS ABOVE.
- THE CONTRACTOR SHALL PROVIDE ALL CLEATS AND DRILL HOLES NECESSARY FOR FIXING STEEL TO STEEL AND TIMBER TO STEEL WHETHER DETAILED ON THE DRAWING OR NOT.
- TWO COPIES OF SHOP DRAWINGS TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. APPROVAL COVERS STRUCTURAL ADEQUACY OF JOINTS AND MEMBERS BUT NOT DIMENSIONAL ACCURACY.
- CONCRETE ENCASED STEELWORK TO HAVE A 50 mm MINIMUM OF CONCRETE ENCASEMENT, REINFORCED WITH F6@41 FABRIC U.N.O.
- ALL STEELWORK SHALL BE SECURELY TEMPORARILY BRACED AS NECESSARY TO STABILISE THE STRUCTURE DURING ERECTION.
- FABRICATION & ERECTION OF THE STRUCTURAL STEEL SHALL BE SUPERVISED BY SUITABLY QUALIFIED AND EXPERIENCED PERSONNEL. BUILDER TO ENSURE DOCUMENTATION OF PERSONNEL UNDERTAKING ANY SITE WELDING HAVE APPROPRIATE QUALIFICATIONS AND CERTIFICATES FOR THE WELDS REQUIRED.
- WHERE NEW STEEL BEAMS ARE SUPPORTING EXISTING BRICKWORK OVER PROP EXISTING BRICKWORK & PRE-DEFLECT BEAMS BY DRIVING STEEL WEDGES BETWEEN UNDERSIDE OF BRICKWORK OVER & TOP FLANGE OF BEAM AND FILL WITH DRY-PACK GROUT PRIOR TO SUBJECTING BEAM TO EXISTING BRICKWORK LOAD.
- ALL PURLINS & GIRTS SHALL BE STRAMIT/BNP LYSAGHT SECTIONS OR APPROVED EQUIVALENT.
- INSTALLATION TO BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS WITH PARTICULAR REGARD TO BOLT LOCATIONS AND BRIDGING PIECES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SYSTEM.
- ALL SECTIONS SHALL BE PRODUCED FROM GALVANISED STEEL TO AS 1397 WITH A COATING MASS OF AT LEAST 350g/m² DESIGNED IN ACCORDANCE WITH AS 4680.

TIMBER NOTES

- ALL TIMBER DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH AS 1728 U.N.O.
- AS 1684.2 MAY BE USED FOR THE DESIGN AND CONSTRUCTION OF DOMESTIC, RESIDENTIAL HOUSES IN SHELTERED LOCATIONS. NOTIFY ENGINEER IF WIND CLASSIFICATION FOR SITE IS GREATER THAN N12.
- SOFTWOOD MINIMUM GRADE F14 U.N.O.
- HARDWOOD MINIMUM GRADE F14 U.N.O.
- RADIATA PINE SHALL BE MINIMUM MGP10 (MACHINE GRADED PINE, SEASONED). WHERE MGP10 IS SPECIFIED ON PLAN, ALTERNATIVE TIMBERS (e.g. F7 OR F8 OREGON) MAY NOT BE USED WITHOUT THE ENGINEER'S PERMISSION.
- ALL TIMBER TO BE PROTECTED FROM INSECT HAZARD BE TERMITE-RESISTANT TIMBER OR PRESERVATIVE TREATED TO H2 LEVEL OR APPROVED ALTERNATIVE TERMITE BARRIER PROVIDED.
- EXTERNAL TIMBER TO BE EITHER HARDWOOD DURABILITY CLASS I OR II OR IMPREGNATED PINE GRADE F7, PRESSURE TREATED TO AS 1604 AND RE-DRIED PRIOR TO USE.
- SUPPLEMENTARY TREATMENT SHALL BE APPLIED TO ALL CUT SURFACES.
- PROVIDE DOCUMENTATION.
- ALL BOLTS IN TIMBER CONSTRUCTION TO BE M16 MIN. U.N.O. BOLT HOLES TO BE PREDRILLED APPROX. 10% GREATER DIA. WASHERS UNDER HEADS AND NUTS TO BE AT LEAST 4 TIMES BOLT DIAMETER.
- FINISHED TIMBER SIZES:
 - SEASONED SOFTWOOD +5, -0 mm
 - UNSEASONED SOFTWOOD F8 +3, -3 mm
 - F7 +2, -4 mm
 - SEASONED HARDWOOD +2, -0 mm
 - UNSEASONED HARDWOOD +3, -3 mm(SEE ALSO CLAUSE 1.6.2 IN AS 2082)
- ALL TIMBER JOINTS AND NOTCHES TO BE 100mm MINIMUM FROM LOOSE KNOTS, SEVERE SLOPING GRAIN, GUM VENEYS OR OTHER MINOR DEFECTS.
- TIMBER TRUSSES TO BE PRE-CAMBERED AN AMOUNT EQUAL TO DEAD LOAD DEFLECTION.
- TWO (2) COPIES OF SHOP DRAWINGS ARE TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL, CLEARLY SHOWING THE DESIGN LOADS ON THE ROOF AND CEILING WITH TRUSS NODE POINT LOADS AND PRE-CAMBER.
- FOR DEEP JOIST FLOORS WHERE A CONTINUOUS TRIMMING JOIST IS NOT PROVIDED AT END OF JOISTS, SOLID BLOCKING IS REQUIRED AT 1800 MAXIMUM CENTRES (REFER AS 1684).
- FOR UNSEASONED TIMBER WHERE SPAN EXCEEDS 3.0m AND NO CEILING PROVIDE SOLID BLOCKING BETWEEN JOISTS AT 1800 MAX.CTS.

GENERAL NOTES

- THIS DRAWING TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL PLANS AND SPECIFICATIONS AND ANY DISCREPANCY TO BE REPORTED IMMEDIATELY.
- THE BUILDER IS TO CHECK AND BE RESPONSIBLE FOR THE CORRECTNESS OF ALL DIMENSIONS AND ANY DISCREPANCY TO BE REPORTED IMMEDIATELY.
- STABILITY OF THE BUILDING DURING CONSTRUCTION AND EXCAVATION IN THE VICINITY OF NEIGHBOURING BUILDINGS IS THE RESPONSIBILITY OF THE BUILDER. APPROVAL OF ALL PROPOSED WORKS MUST BE GRANTED BY THE CONSULTING ENGINEER PRIOR TO COMMENCEMENT OF WORK.
- DO NOT SCALE DRAWINGS.
- ALL WORKMANSHIP AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE CURRENT AUSTRALIAN STANDARDS AND LOCAL GOVERNMENT ORDINANCES.
- FIRE RESISTANCE RATINGS OF THE STRUCTURAL ELEMENTS ARE TO COMPLY WITH THE BCA. REFER SPECIALIST CONSULTANT.
- DESIGN LIVE LOAD FOR MAIN FLOOR - 1.5 kPa
STAIRS, LANDINGS AND BALCONIES - 2.0 kPa

CONCRETE NOTES

- ALL CONCRETE SHALL BE HANDLED, PLACED, COMPACTED, FINISHED, & CURED IN ACCORDANCE WITH AS3600, SO THAT THE HARDENED CONCRETE WILL SATISFY THE DESIGN REQUIREMENTS FOR STRENGTH, SERVICEABILITY & DURABILITY.
- UNLESS SPECIFIED OTHERWISE, ALL CONCRETE SHALL BE NORMAL-CLASS, & MANUFACTURED & SUPPLIED IN ACCORDANCE WITH AS1379.

ELEMENT	MAX. AGG. SIZE	SLUMP	STRENGTH GRADE
FOOTINGS	20 mm	80 mm	N20
PIERS	20 mm	80 mm	N25
SLABS ON GRADE	20 mm	80 mm	N25
SUSPENDED SLABS	20 mm	80 mm	N20
WALL GROUT	10 mm	230 mm	N20

- CONCRETE COVER TO ALL REINFORCEMENT U.N.O.
- | ELEMENT | SURFACES FORMED & FULLY ENCLOSED IN INTERIOR ENVIRONMENTS | SURFACES FORMED & EXPOSED IN EXTERIOR ENVIRONMENTS | SURFACES CAST ON OR AGAINST GROUND |
|----------|---|--|------------------------------------|
| FOOTINGS | 20 mm | 20 mm | 75 mm |
| SLABS | 20 mm | 20 mm | 45 mm |

- HIGH FIRE RESISTANCE RATINGS OR SEVERE EXPOSURE CONDITIONS MAY REQUIRE GREATER COVERS. REFER AS3600.
- ADDITIONAL THICKNESS PROVIDED BY TOPPING & COATINGS SUCH AS TILES OR MEMBRANES SHALL NOT BE INCLUDED OR DEEMED TO CONTRIBUTE TO THE REQUIRED COVER.
- WHERE SURFACES CAST ON OR AGAINST GROUND ARE PROTECTED BY A DAMP-PROOF MEMBRANE, THE COVER MAY BE REDUCED BY 10mm.
- SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITION SHOWN AND SHALL BE SUFFICIENT TO DEVELOP THE FULL STRENGTH OF THE REINFORCEMENT.
- FABRIC SHALL BE LAPPED 2 TRANSVERSE WIRES PLUS 50 mm.
- ALL REINFORCEMENT SHALL COMPLY WITH AS4671.
 - SL & RL DENOTES DEFORMED WELDED REINFORCING FABRIC
 - R DENOTES PLAIN BARS
 - S DENOTES DEFORMED BARS
 - N DENOTES DEFORMED BARS
- THE DESIGN, CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF THE FORMWORK AND FALSE WORK IS THE RESPONSIBILITY OF THE BUILDER. DESIGN, CONSTRUCTION AND STRIPPING TIMES TO COMPLY WITH AS 3610 AND AS 3600 UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- DEPTH OF BEAM IS GIVEN FIRST AND INCLUDES SLAB THICKNESS.
- CONCRETE SIZES SHOWN DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
- ALL REINFORCEMENT SHALL BE ACCURATELY PLACED IN THE POSITION SHOWN, TIED AND SUITABLY SUPPORTED TO MAINTAIN THE SPECIFIED COVER.
- MEMBERS SHALL BE INITIALLY CURED CONTINUOUSLY FOR AT LEAST 3 OR 7 DAYS UNDER AMBIENT CONDITIONS, AS SPECIFIED BY AS3600.
- CONDUITS PIPES, ETC. MUST NOT BE PLACED IN CONCRETE COVER. NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE ALLOWED.
- ALL CONCRETE TO BE MECHANICALLY VIBRATED AND THE VIBRATOR SHALL NOT BE USED TO SPREAD CONCRETE.
- ALL TIE RODS, WHERE NOT SHOWN ON PLANS, SHALL BE N12 AT 300 CENTRES.

BRICKWORK & BLOCKWORK NOTES

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3700.
- MORTAR ADMIXTURES SHALL NOT BE USED WITHOUT THE WRITTEN APPROVAL OF THE SUPERINTENDENT.
- ALL LOAD BEARING BRICKWORK SHALL HAVE A MINIMUM CRUSHING STRENGTH OF 20 MPa U.N.O.
- CONCRETE MASONRY UNITS SHALL BE MINIMUM GRADE 12 UNITS CONFORMING TO AS 4455 U.N.O.
- UNLESS OTHERWISE NOTED OR APPROVED, ALL BRICKWORK AND BLOCKWORK SHALL BE CONSTRUCTED IN CEMENT MORTAR COMPRISING 1 PART PORTLAND CEMENT, 1/2 PART HYDRATED LIME OR LIME PUTTY AND 4 1/2 PARTS CLEAN SAND.
- ALL BRICKWORK AND BLOCKWORK SUPPORTING OR SUPPORTED BY CONCRETE FLOORS SHALL BE PROVIDED WITH VERTICAL JOINTS TO MATCH ANY CONTROL JOINTS IN THE CONCRETE.
- WHERE WALLS ARE NON LOAD BEARING AT EITHER HORIZONTAL OR VERTICAL FACES THEY SHALL BE SEPARATED FROM THE CONCRETE BY 12 mm THICK CANEITE OR APPROVED SIMILAR.
- PROVIDE VERTICAL CONTROL JOINTS AT 10m MAX. CENTRES AND 5m MAX. FROM CORNERS IN BRICKWORK AND AT 6m MAX. CENTRES AND 4m MAX. FROM CORNERS IN BLOCKWORK, U.N.O.
- NO CHASES SHALL BE CUT INTO LOAD BEARING BRICKWORK AND BLOCKWORK WITHOUT APPROVAL OF THE CONSULTING ENGINEER.
- THE TOP COURSE OF ALL LOAD BEARING BRICKWORK AND BLOCKWORK SHALL BE LEVEL AND SMOOTH AND COVERED WITH AN APPROVED SLIDING MATERIAL UNLESS NOTED OTHERWISE.
- BACKFILL TO RETAINING WALLS TO BE FREE DRAINING GRANULAR MATERIAL U.N.O. PROVIDE SUBSOIL DRAIN TO WEEP HOLES.
- NO MASONRY TO BE CONSTRUCTED ON PROPPED SLABS OR BEAMS.
- MAXIMUM HEIGHT OF BRICKWORK AND BLOCKWORK WALLS BETWEEN POINTS OF LATERAL SUPPORT AS DEFINED IN AS 3700 SHALL BE 2.7 METRES U.N.O.

C	CONSTRUCTION CERTIFICATE	WJA	29.11.16
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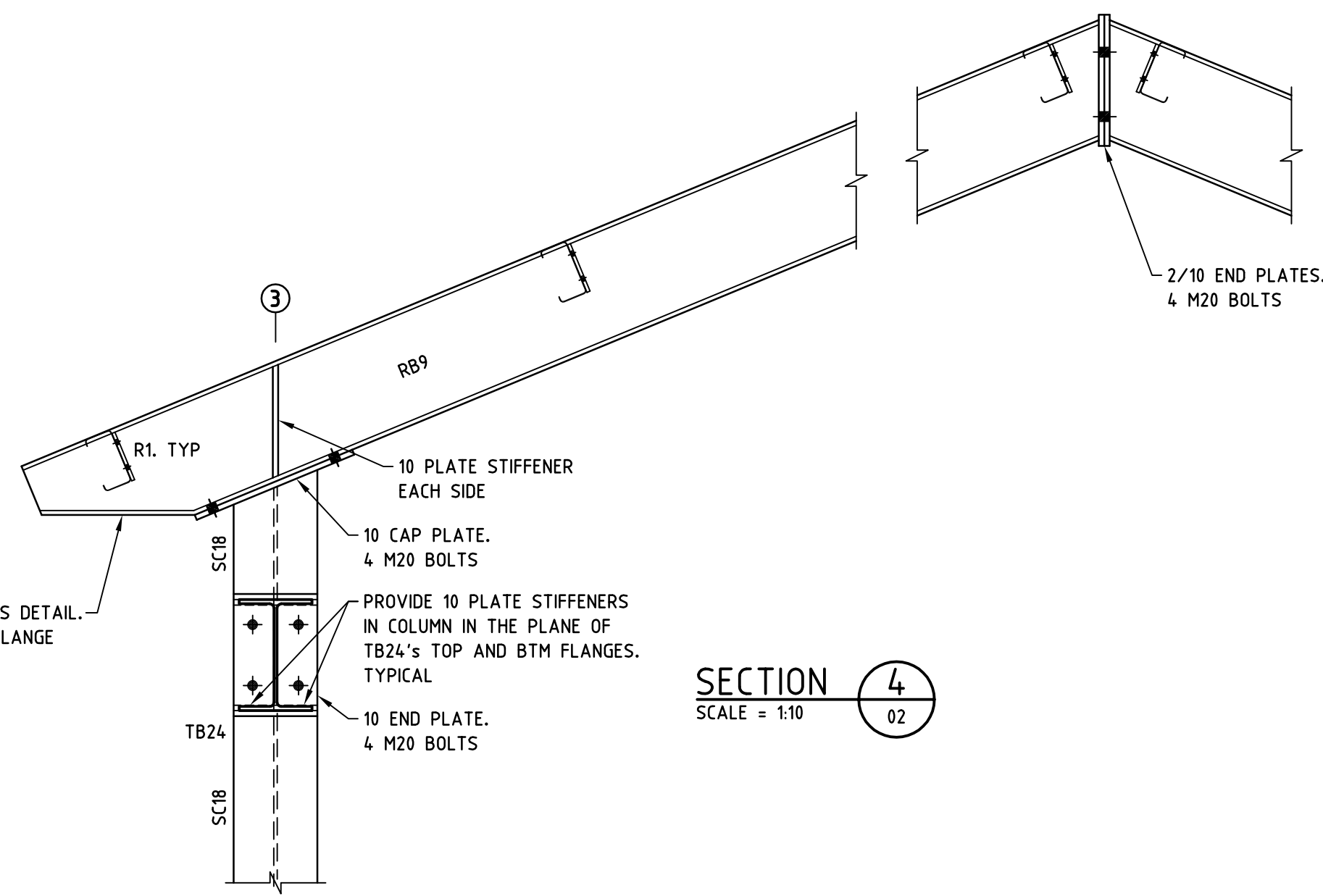
Architect
MATTHEW WOODWARD ARCHITECTURE

Project
ALTERATIONS AND ADDITIONS
1B THE SERPENTINE
BILGOLA BEACH NSW

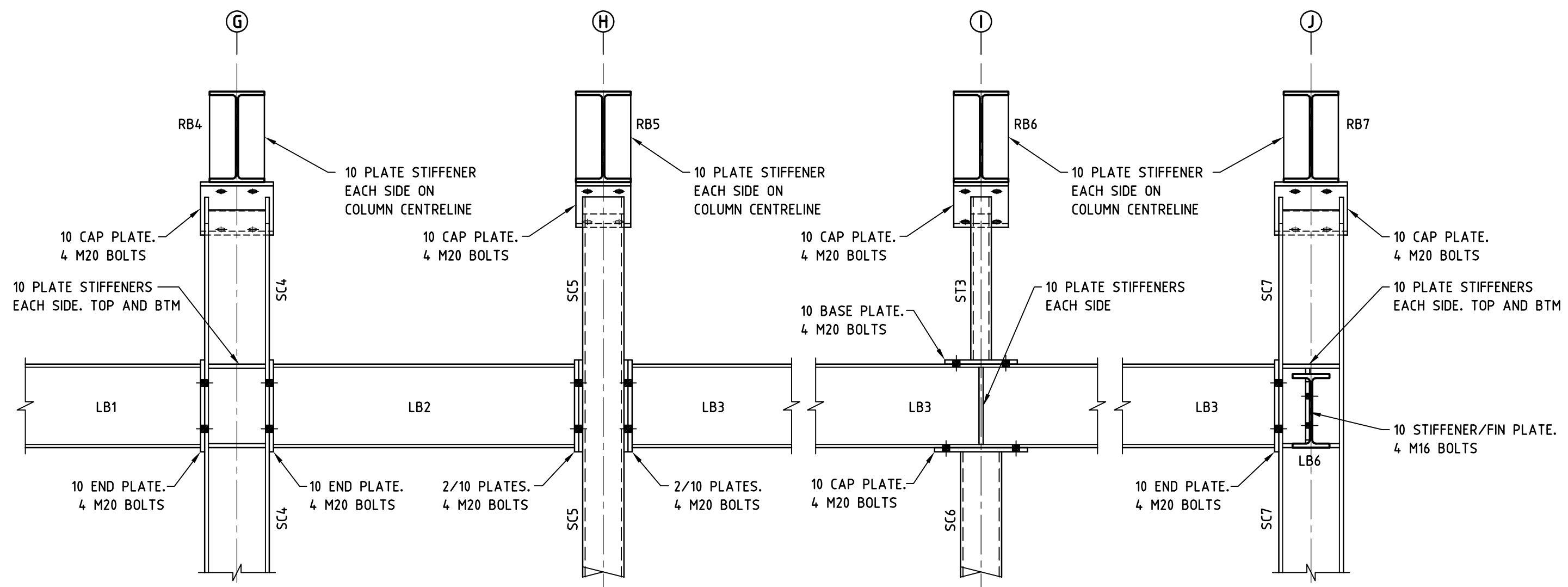
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Drawn	Checked	Approved	Size
WJA			A1
Scale	Date	Job No.	Sheet No.
AS SHOWN	AUG 2016	16.208	02c

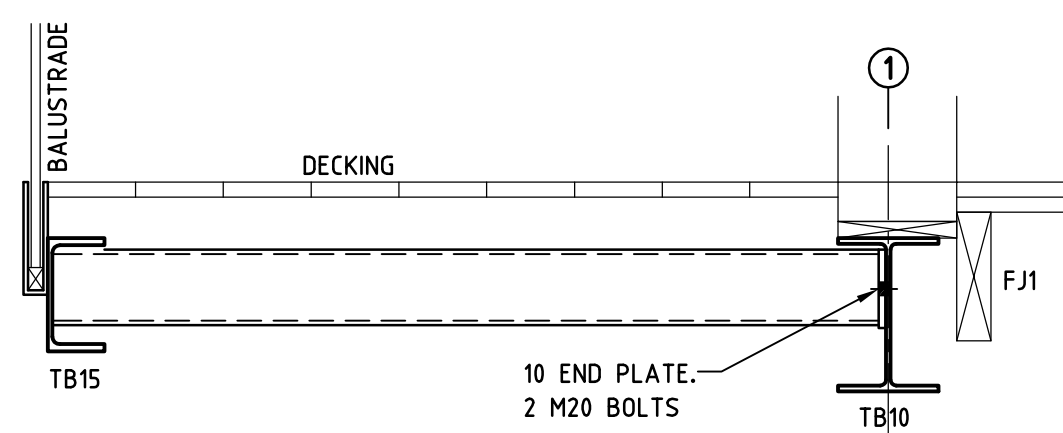
BEAM PROFILES TO ARCHITECT'S DETAIL.
REMOVE WEB, BEND UP BTM. FLANGE
AND REWELD. TYPICAL



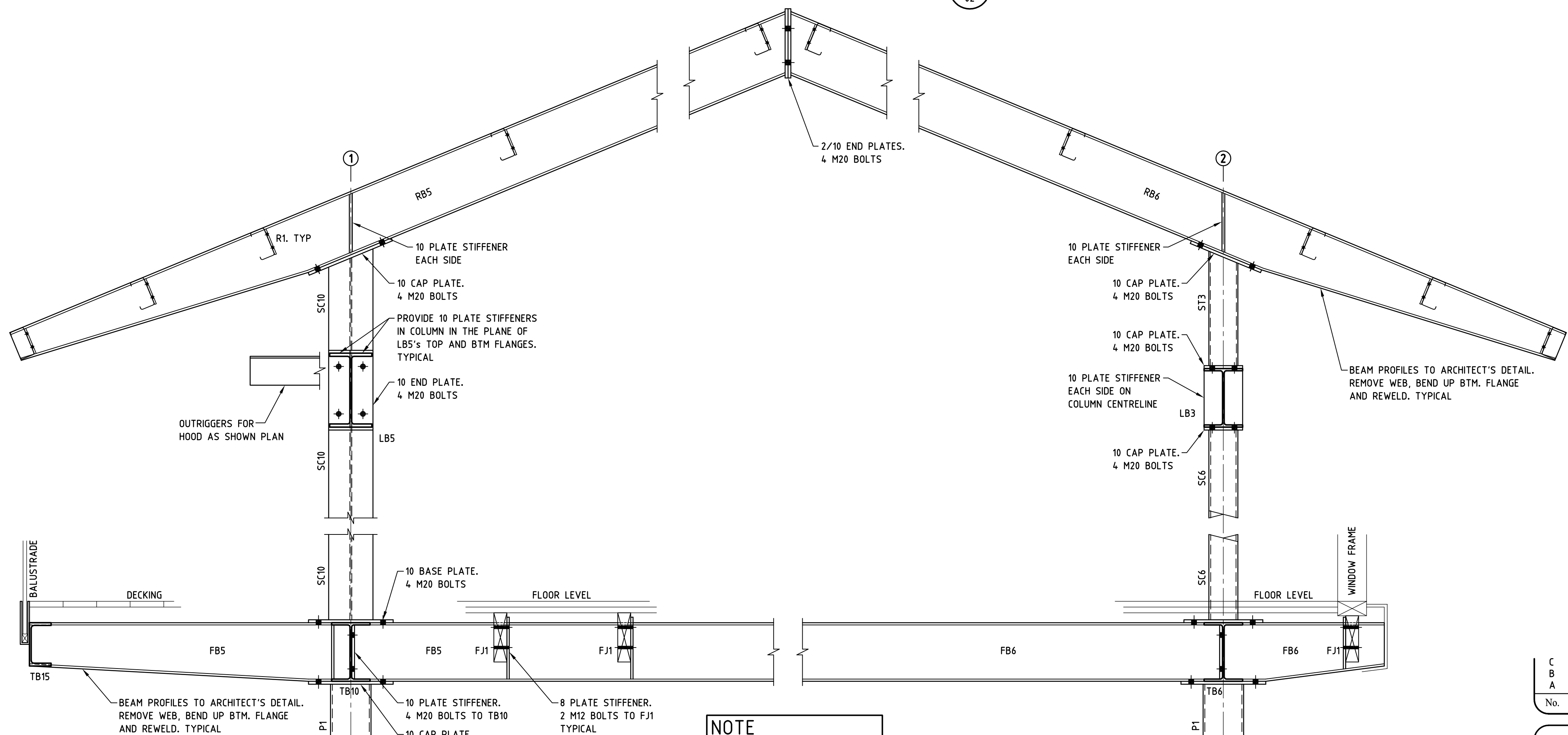
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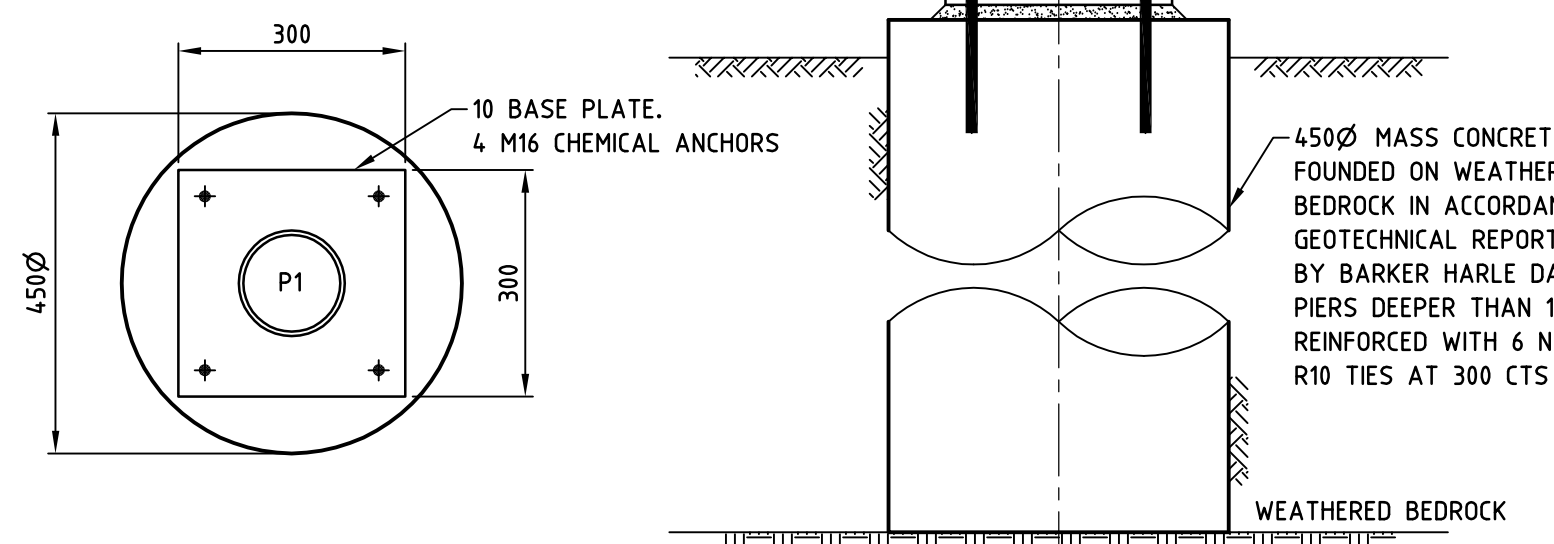
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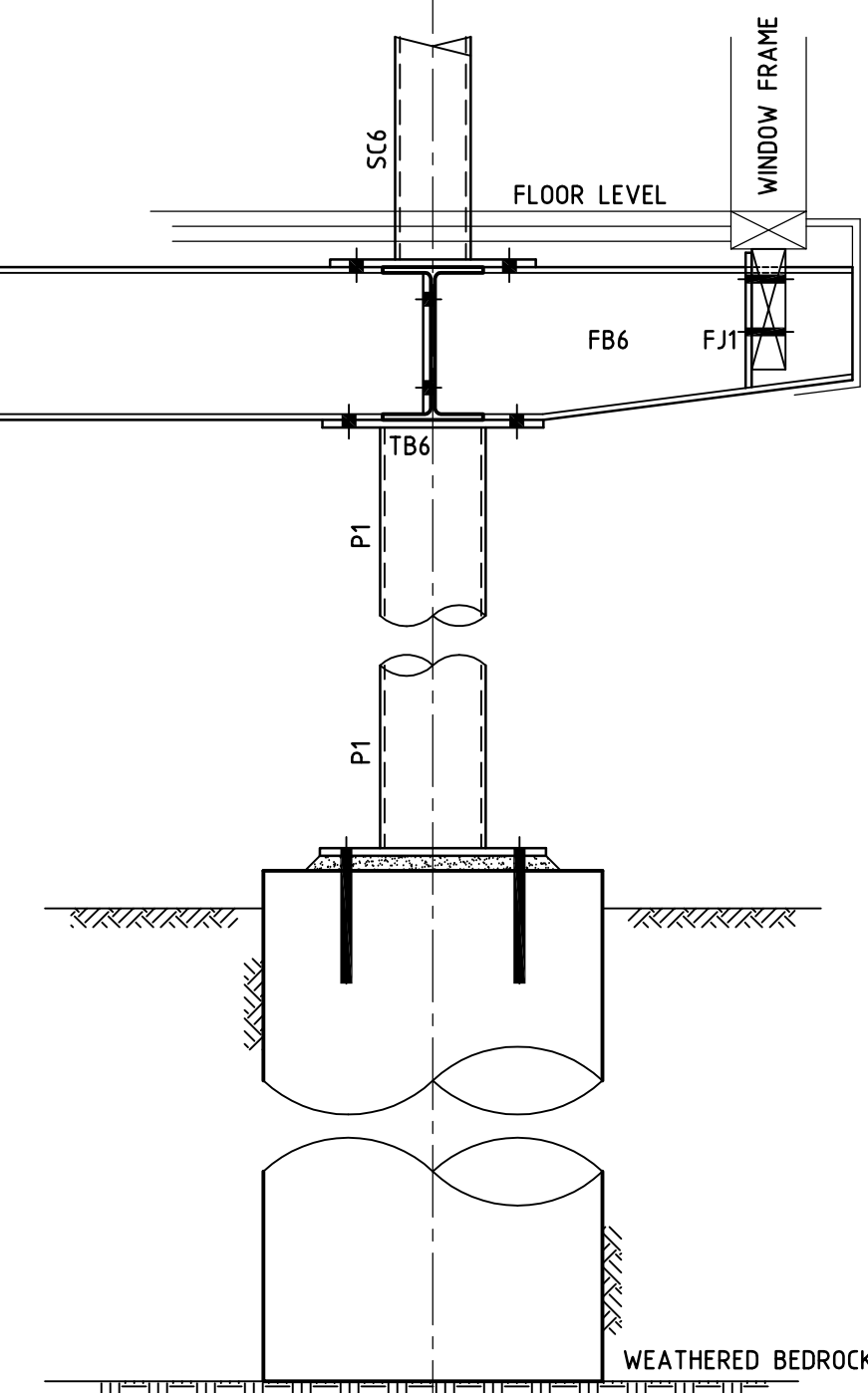


NOTE
NOT ALL TIMBER FRAMING IS SHOWN



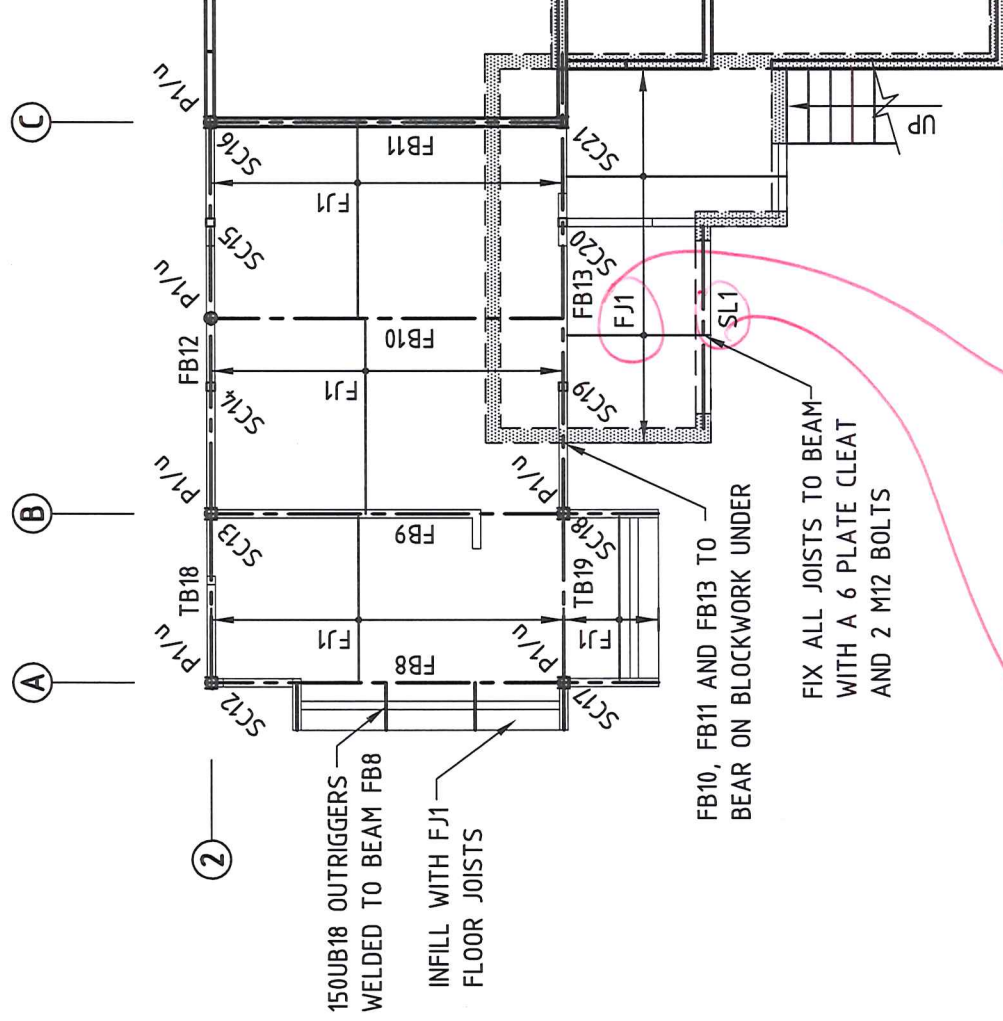
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NOTE: STEPPED SECTION
REFER TO PLAN



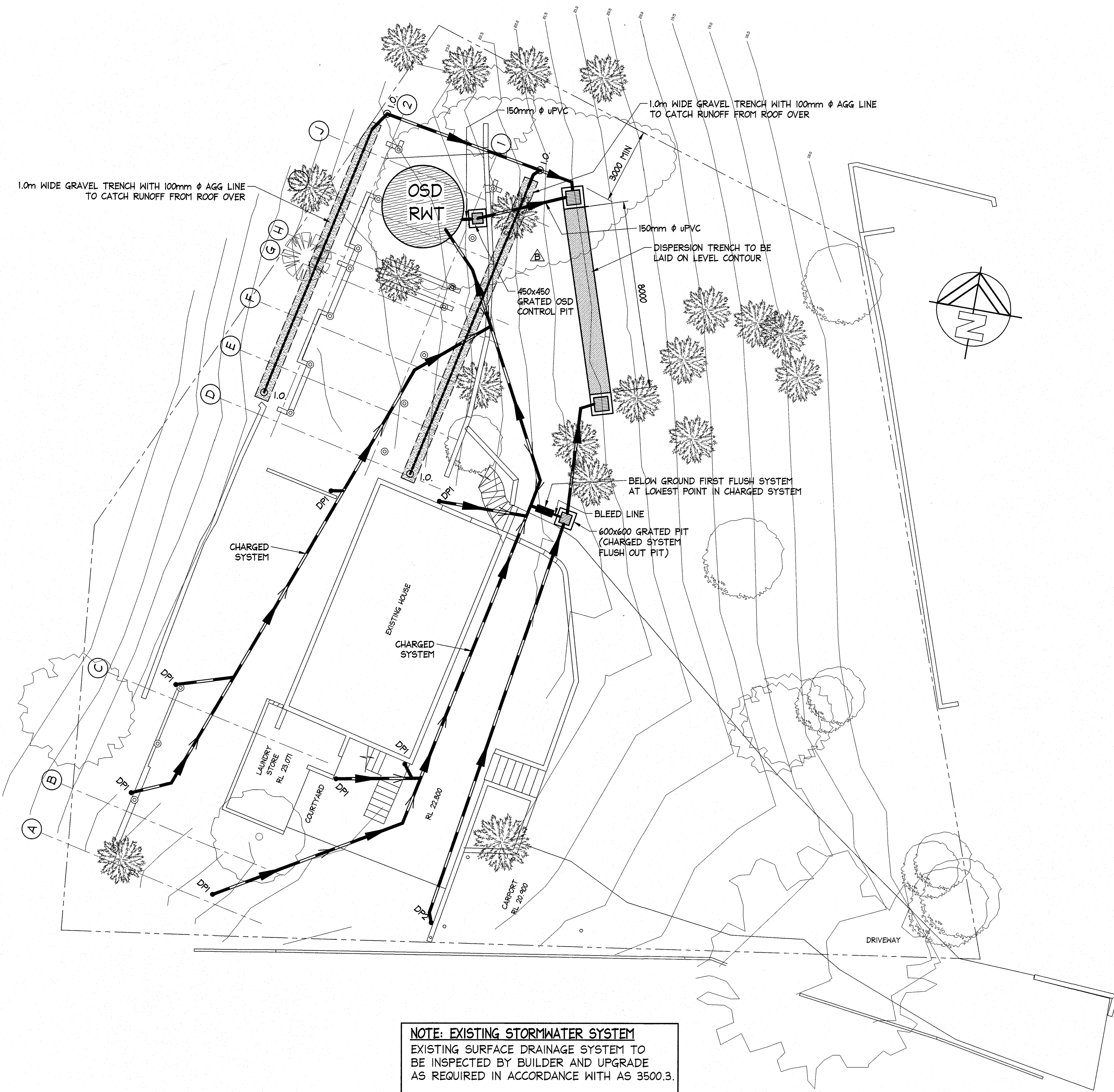
C	CONSTRUCTION CERTIFICATE	WJA	29.11.16
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Architect MATTHEW WOODWARD ARCHITECTURE			
Project ALTERATIONS AND ADDITIONS 1B THE SERPENTINE BILGOLA BEACH NSW			
Sheet Title STRUCTURAL DETAILS			
Drawn WJA	Checked	Approved	Size A1
Scale AS SHOWN	Date AUG 2016	Job No. 16.208	Sheet No. 03c



170x45 M4P10 @ 450 cb.
Can be notched 30mm
@ end to accomodate
drain

200UB30
Can be a
200 PFC.



NOTE: EXISTING STORMWATER SYSTEM
EXISTING SURFACE DRAINAGE SYSTEM TO BE INSPECTED BY BUILDER AND UPGRADE AS REQUIRED IN ACCORDANCE WITH AS 3500.3.

ALL PIPES TO BE 100mm Ø uPVC UNLESS NOTED OTHERWISE
LOWER GROUND FLOOR STORMWATER DRAINAGE PLAN
SCALE = 1 : 100

NOTE: EXISTING STORMWATER SYSTEM
EXISTING STORMWATER SYSTEM TO BE CHECKED AND UPGRADED AS REQUIRED. BUILDER TO INSPECT PRIOR TO CONSTRUCTION AND UPGRADE IF REQUIRED IN ACCORDANCE WITH AS 3500.3. EXISTING AND NEW DOWN PIPES TO DISCHARGE INTO NEW RAINWATER RE-USE TANK.

NOTE: EXISTING SERVICES
CONTRACTOR TO LOCATE ALL EXISTING SERVICES PRIOR TO EXCAVATION AND NOTIFY ENGINEER OF ANY POTENTIAL CLASHES WITH THE PROPOSED DRAINAGE EASEMENT PIPE LINE.

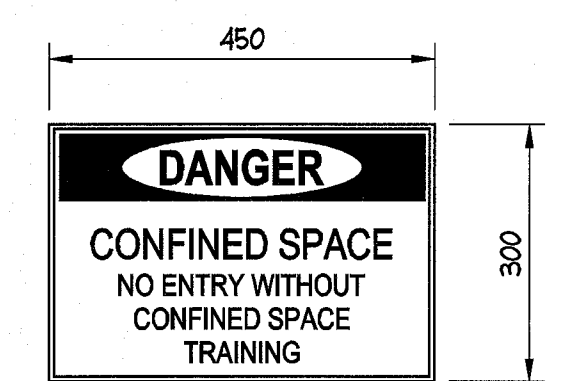
NOTE: EXCAVATION AROUND TREES
CARE SHOULD BE TAKEN WHEN UNDERTAKING WORKS IN THE VICINITY OF SELECTED TREES NOT TO DISTURB THE TREE ROOT SYSTEM. HAND DIGGING OF TRENCHES ETC MAY BE NECESSARY.

NOTE: EXCAVATION WORKS
STRUCTURAL ENGINEER TO INSPECT AND APPROVE EXCAVATION WORKS ADJACENT TO EXISTING FOOTINGS AND PROVIDE UNDERPINNING INSTRUCTIONS IF REQUIRED.

NOTE:
SUBSOIL DRAINAGE TO BE INSTALLED WHERE REQUIRED AS PER AS 3500.3

NOTE: CHARGED SYSTEM
ALL PIPE WORK IN CHARGED SYSTEM TO BE 100mm Ø uPVC PRESSURE OR SEWER GRADE PIPES WITH ALL JOINTS PRESSURE SEALED TO 500mm ABOVE TOP WATER LEVEL OF OSD TANK.

NOTES:
1. ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.

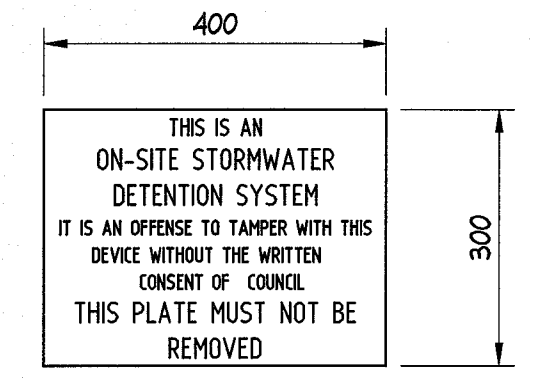


TANK ENTRY SIGN
SCALE = N.T.S.



LEGEND:
BLACK ON YELLOW BACKGROUND

SIGN FOR RWT AND OUTLETS
SCALE = N.T.S.

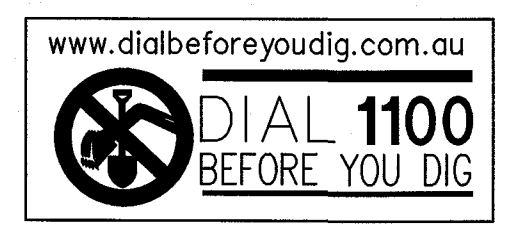


OSD TANK SIGN
SCALE = N.T.S.

LEGEND

- DPI • 100mm Ø DOWNPIPE DISCHARGE TO RWT
- DP2 • 100mm Ø DOWNPIPE DISCHARGE TO DISPERSION TRENCH
- I.O. INSPECTION OPENING
- STORMWATER PIPE FALL DIRECTION IN CHARGED SYSTEMS
- STORMWATER PIPE FLOW DIRECTION
- PIT STORMWATER PIT
- RWT RAINWATER TANK TO COLLECT ALL DOWNPIPES. TO BE RE-USED AS PER BASIX REQUIREMENTS LOCAL COUNCIL & SYDNEY WATER REQUIREMENTS RWT = 5,000 L
- OSD OSD TANK (REFER TO DETAILS) OSD = 10,780 L

NOTE: ALL DRAINAGE LINES ARE INDICATIVE ONLY. LOCATION MAY VARY DUE TO CONSTRAINTS.

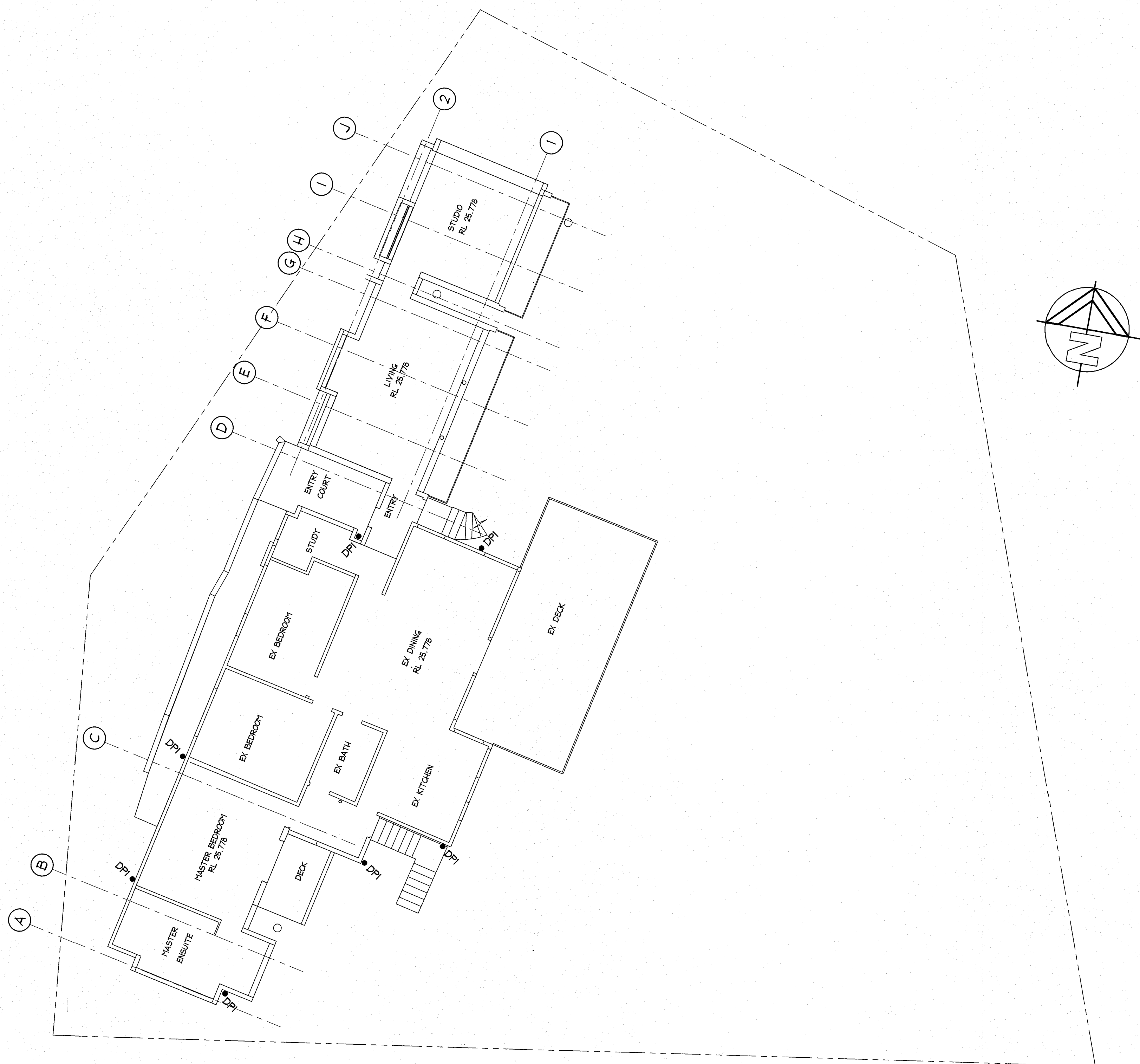


ISSUED FOR CONSTRUCTION
IF IN DOUBT ASK

					DOCUMENT CERTIFICATION		 Consulting Engineers STRUCTURAL - CIVIL - STORMWATER - REMEDIAL A.C.N. 076 121 616 A.B.N. 24 076 121 616 Sydney: Ph: (02) 9984 7000 Fax: (02) 9984 7444 Suite 207, 30 Fisher Road Dee Why N.S.W. 2099 Gold Coast: Ph: (07) 5631 4744 Unit 8, 1726 Gold Coast Highway Burleigh Heads QLD 4220 E: nb@nbconsulting.com.au W: www.nbconsulting.com.au		Architect: Matthew Woodward Architecture		Project: ALTERATIONS AND ADDITIONS IB The Serpentine Bilgola Beach N.S.W. 2107		Date: Jan 2017	Design: S.S.	Drawn: Paul R Bruce A1MIEAust.	Review:
27.01.2017	C	ISSUED FOR CONSTRUCTION - ENSUITE DPI DELETED	S.S.	Date: 26/1/17  Rick G Wray												
23.01.2017	B	ISSUED FOR CONSTRUCTION - TANKS ALTERED	P.R.B.	BE(Civil), CPEng, MIEAust., NER., RPEQ 08249. (Director NB Consulting Engineers)												
19.01.2017	A	ISSUED FOR CONSTRUCTION	P.R.B.													
Date:	Rev:	Amendment:	By:	The copyright of this drawing remains with Northern Beaches Consulting Engineers Pty Ltd. Trading as NB Consulting Engineers												
								Bruce McConochie		Drawing Title: LOWER GROUND FLOOR STORMWATER DRAINAGE PLAN		Job No: 161136		Drawing No: D01		Rev: C

NB Consulting Engineers

NOTES:
1. ALL DIMENSIONS TO BE VERIFIED
ON SITE BY BUILDER BEFORE
COMMENCING WITH WORK.



LEGEND

100mm ϕ DOWNPIPE DISCHARGE TO RWT

NOTE: ALL DRAINAGE LINES ARE INDICATIVE ONLY.
LOCATION MAY VARY DUE TO CONSTRAINTS.

ALL PIPES TO BE 100mm ϕ uPVC UNLESS NOTED OTHERWISE
GROUND FLOOR STORMWATER DRAINAGE PLAN
SCALE = 1 : 100



ISSUED FOR
CONSTRUCTION

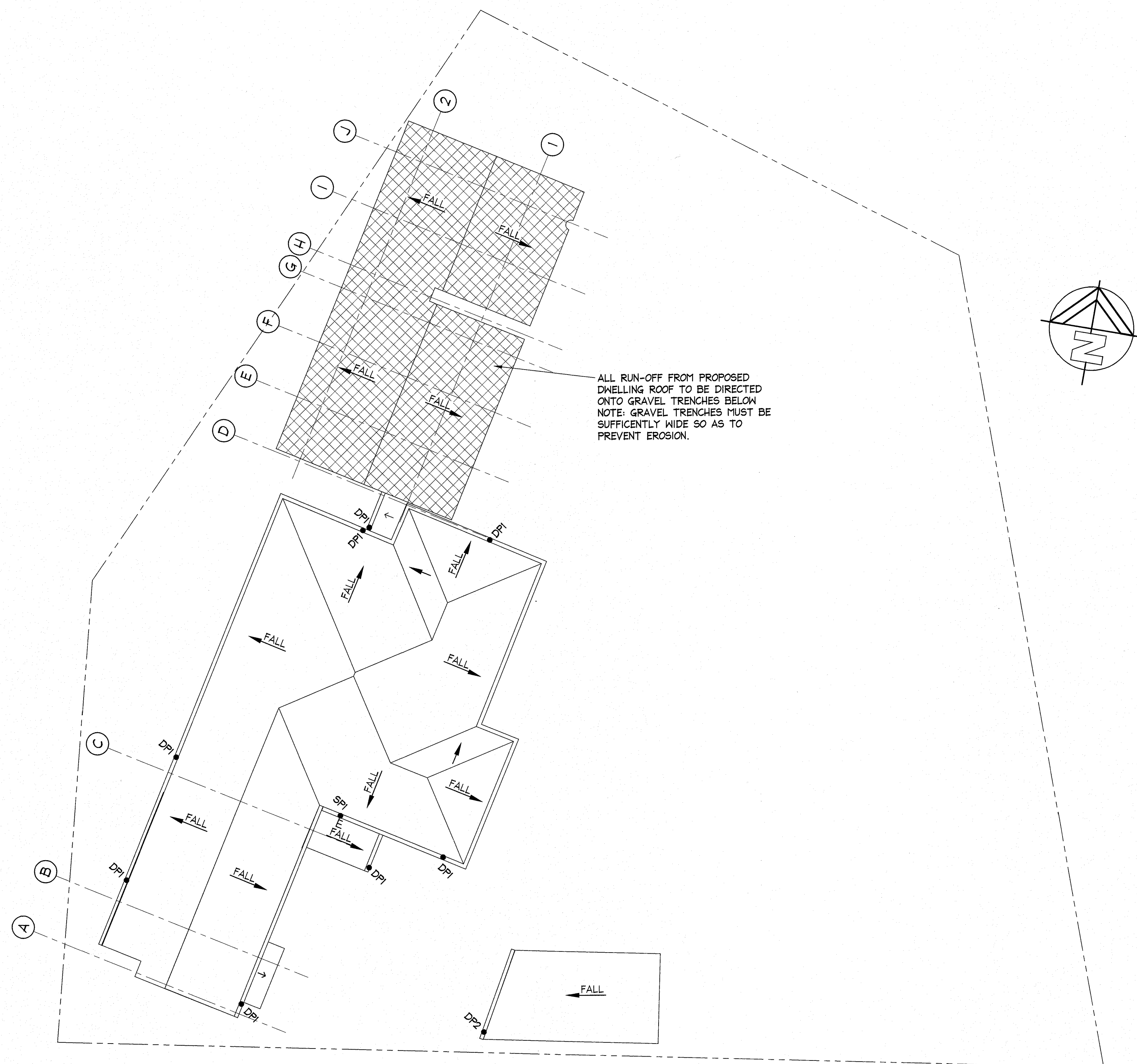
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NB Consulting Engineers

1. ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.



D1	100mm ϕ DOWNPIPE DISCHARGE TO RWT
D2	100mm ϕ DOWNPIPE DISCHARGE TO DISPERSION TRENCH
D3	100mm ϕ DOWNPIPE WITH SPREADER

NOTE: ALL DRAINAGE LINES ARE INDICATIVE ONLY.
LOCATION MAY VARY DUE TO CONSTRAINTS.

ROOF STORMWATER DRAINAGE PLAN

SCALE = 1 : 100

[illegible]

B Consulting Engineers

STORMWATER NOTES:

- ALL PIPES TO BE 100mm Ø UNLESS NOTED OTHERWISE.
- ALL PIPES TO BE uPVC TO AS 1254-2002 UNLESS NOTED OTHERWISE.
- ALL PIPES TO BE LAYED AT 1 % MINIMUM GRADE UNLESS NOTED OTHERWISE.
- ALL PIPES SHALL BE LAID ON A 75mm SAND BED, COMPACTED TO 100% S.M.D.D. BELOW PAVEMENTS.
(NO COMPACTION REQUIRED BELOW LANDSCAPING)
COVER TO SURFACE FROM TOP OF PIPE TO BE 300mm MINIMUM.
BACKFILL TO BE ADEQUATELY CONSOLIDATED AROUND PIPES BY METHOD OF RAMMING AND WATERING IN. TRENCHES TO BE FILLED WITH GRANULAR MATERIAL AS SPECIFIED.
- ALL DOWN PIPES TO BE 100mm Ø UNLESS NOTED OTHERWISE.
- DOWN PIPE LOCATIONS ARE INDICATIVE ONLY. LOCATIONS TO BE CONFIRMED WITH ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
- PROVIDE CLEANING EYES AT ALL DOWNPIPES.
- ALL PITS TO BE CAST INSITU OR, IF PRECAST, APPROVED BY ENGINEER.
CAST INSITU PITS TO HAVE 150mm THICK CONCRETE WALLS AND BASE.
WALLS TO BE REINFORCED WITH 1 N12 TOP TIE UNLESS NOTED OTHERWISE.
CAST INSITU PITS GREATER THAN 1000 DEEP TO BE MINIMUM 900x600 AND TO HAVE 150mm THICK CONCRETE WALLS AND BASE. WALLS TO BE REINFORCED WITH N12 AT 300 EACH WAY UNLESS NOTED OTHERWISE.
- ALL PITS GREATER THAN 1000mm DEEP SHALL HAVE STEP IRONS AS PER COUNCIL STANDARDS.
- THE BOUNDARY OR SILT ARRESTOR PIT SHOULD ALWAYS INCORPORATE A SUMP AND MAXI-MESH SCREEN AS PER LOCAL COUNCIL REQUIREMENTS.
HOWEVER, UNLESS SPECIFICALLY REQUIRED BY COUNCILS POLICY OR IF THE SITE CONSISTS OF A CLAY OR ROCK SUBGRADE, ALL OTHER DRAINAGE PITS WILL NOT REQUIRE A SUMP.
- ALL WORK TO BE IN ACCORDANCE WITH LOCAL COUNCIL STANDARDS AND SPECIFICATIONS.
- PRIOR TO COMMENCING ANY SITE WORKS THE CONTRACTOR SHALL IMPLEMENT EROSION CONTROL MEASURES TO APPROVED SEDIMENT AND EROSION CONTROL PLAN, EPA GUIDELINES AND COUNCIL SPECIFICATIONS.
ALL MEASURES TO REMAIN IN PLACE UNTIL COMPLETION AND STABILIZATION OF THE SITE TO COUNCIL SATISFACTION.
- ALL LEVELS SHOWN ARE TO AHD
- ENSURE THAT ALL PITS AND STORMWATER PIPES ARE LOCATED CLEAR FROM TREE ROOT SYSTEMS.
- ALL EXISTING EARTHENWARE PIPES TO BE UPGRADED TO uPVC.
- ALL WORKS TO BE IN ACCORDANCE WITH AS 3500-2003 NATIONAL PLUMBING DRAINAGE CODE PART 3 - STORMWATER DRAINAGE.
- UNLESS NOTED OTHERWISE, SUB-SOIL DRAINS ARE TO BE INSTALLED IN ACCORDANCE WITH AS3500.3 ALONGSIDE WALLS THAT IMPEDE THE NATURAL FLOW OF GROUNDWATER. THIS MAY ALSO INVOLVE TRENCHING INTO THE CLAY OR ROCK SUBGRADE TO DIRECT GROUNDWATER AWAY FROM STRUCTURES.
- IF NOT INDICATED ON PLANS, PROVIDE LEAF CATCHERS TO ALL DOWNPIPES.
- ORIFICE PLATE MUST BE INSTALLED PRIOR TO INSTALLATION OF THE ROOF DRAINAGE SYSTEM AND CONNECTION OF THE SITE STORMWATER SYSTEM TO THE ONSITE DETENTION TANK.

RAINWATER RE-USE TANKS:

- 1. CONSIDERING THE ROOF CATCHMENT AREA, LOCATION OF PROPERTY, INTENDED USE OF RAINWATER AND GARDEN SIZE WE RECOMMEND PROVIDING A RAINWATER TANK FOR USE AS PER BASIX REQUIREMENTS, SYDNEY WATER AND NSW HEALTH REQUIREMENTS FOR NON DRINKING USE ONLY.
- 2. THE TANKS PROVIDED WILL REDUCE PRESSURE ON COUNCIL'S STORMWATER INFRASTRUCTURE.
- 3. REFERENCES:
COOMBES P.J. & KUCZERA G. (2001), "RAINWATER TANK DESIGN FOR WATER SUPPLY & STORMWATER MANAGEMENT." STORMWATER INDUSTRY ASSOCIATION REGIONAL CONFERENCE.
PATRICK DUPONT & STEVE SHACKEL, "RAINWATER" AUSTRALIAN GOVERNMENT (2004), "GUIDANCE ON USE OF RAINWATER TANKS"
- 4. ALL CONNECTIONS TO PLUMBING AND RAINWATER TANKS TO BE IN ACCORDANCE WITH SYDNEY WATERS' GUIDE 'INSTALLING A RAINWATER TANK' AVAILABLE AT www.sydneywater.com.au
- 5. PROVIDE A DUAL SUPPLY SYSTEM AND BACKFLOW PREVENTION SYSTEM IN ACCORDANCE WITH 'BASIX-DESIGN GUIDE FOR SINGLE DWELLINGS' BY NSW DEPARTMENT OF INFRASTRUCTURE, PLANING AND NATURAL RESOURCES.
- 6. IF NOT SPECIFIED ON PLANS, THE FIRST FLUSH SYSTEM IS TO HAVE A MINIMUM SIZE OF 20L PER 100m2 OF ROOF CATCHMENT AREA PRIOR TO ENTERING THE RAINWATER TANK.
INDIVIDUAL SITE ANALYSIS IS REQUIRED IN HEAVILY POLLUTED AREAS TO DETERMINE IF LARGER VOLUMES OF FIRST FLUSH RAINWATER ARE TO BE DIVERTED. IF IN DOUBT, CHECK WITH LOCAL HEALTH AUTHORITIES.
- 7. SCREENED DOWNPIPE RAINWATER HEAD OR OTHER SUITABLE LEAF AND DEBRIS DEVICE TO BE INSTALLED ON EACH DOWNPIPE. SCREEN MESH TO BE 4-6mm AND DESIGNED TO BE SELF-CLEANING.
- 8. FIRST FLUSH DEVICES, OR APPROVED ALTERNATIVE, TO BE INSTALLED WITH AN AUTOMATED DIVERSION AND DRAINAGE SYSTEM, THAT IS, NO MANUAL DIVERSION AND DRAINAGE VALVES. REFER TYPICAL FLUSH OUT PIT FOR DETAILS.
- 9. BEFORE PURCHASING MATERIALS OR PAINT TO BE USED ON ROOF CATCHMENT AREAS, THE MANUFACTURER'S RECOMMENDATIONS ON LABELS AND BROCHURES FOR RAINWATER TANK SUITABILITY TO BE READ AND ADHERED TO.
- 10. PRE-STORAGE PITS FOR UNDERGROUND RAINWATER STORAGE TANKS AND FLUSH OUT PITS MAY ASSIST IN LIMITING SILT, AND PREVENT VERMIN, INSECTS (INCLUDING MOSQUITOES) AND DEBRIS FROM ENTERING THE RAINWATER STORAGE AREA.
- 11. BUILDER/PLUMBER TO ENSURE THE INSTALLATION OF THE RAINWATER TANK SYSTEM IS IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS AND THE RAINWATER TANK DESIGN AND INSTALLATION HANDBOOK - HB 230-2008. IF IN DOUBT CONTACT ENGINEER.
- 12. RAINWATER TANK TO BE WATER PROOFED IN ACCORDANCE WITH HB 230-200B

NOTE: EXISTING STORMWATER SYSTEM
EXISTING STORMWATER SYSTEM TO BE CHECKED AND UPGRADED AS REQUIRED. BUILDER TO INSPECT PRIOR TO CONSTRUCTION AND UPGRADE IF REQUIRED IN ACCORDANCE WITH AS 3500.3. EXISTING AND NEW DOWN PIPES TO DISCHARGE INTO NEW RAINWATER RE-USE TANK.

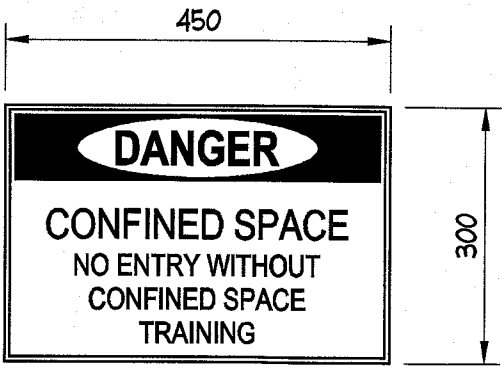
NOTE: EXISTING SERVICES
CONTRACTOR TO LOCATE ALL EXISTING SERVICES PRIOR TO EXCAVATION AND NOTIFY ENGINEER OF ANY POTENTIAL CLASHES WITH THE PROPOSED DRAINAGE EASEMENT PIPE LINE.

NOTE: EXCAVATION AROUND TREES
CARE SHOULD BE TAKEN WHEN UNDERTAKING WORKS IN THE VICINITY OF SELECTED TREES NOT TO DISTURB THE TREE ROOT SYSTEM. HAND DIGGING OF TRENCHES ETC MAY BE NECESSARY.

NOTE: EXCAVATION WORKS
STRUCTURAL ENGINEER TO INSPECT AND APPROVE EXCAVATION WORKS ADJACENT TO EXISTING FOOTINGS AND PROVIDE UNDERPINNING INSTRUCTIONS IF REQUIRED.

NOTE: CHARGED SYSTEM
ALL PIPE WORK IN CHARGED SYSTEM TO BE 100mm Ø uPVC PRESSURE OR SEWER GRADE PIPES WITH ALL JOINTS PRESSURE SEALED TO 500mm ABOVE TOP WATER LEVEL OF OSD TANK.

NOTE:
SUBSOIL DRAINAGE TO BE INSTALLED WHERE REQUIRED AS PER AS 3500.3



TANK ENTRY SIGN

SCALE = N.T.S.



LEGEND:

BLACK ON
YELLOW
BACKGROUND

SIGN FOR RWT AND OUTLETS

SCALE = N.T.S.

NOTES:

- 1. ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.

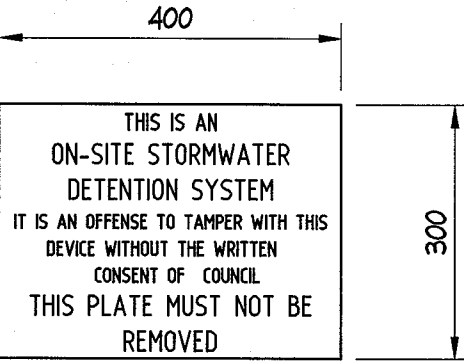


NO INVESTIGATION OF UNDERGROUND SERVICES HAS BEEN MADE. ALL RELEVANT AUTHORITIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION ON OR NEAR THE SITE

DEVELOPERS & EXCAVATORS MAY BE HELD FINANCIALLY RESPONSIBLE BY THE ASSET OWNER SHOULD THEY DAMAGE UNDERGROUND NETWORKS.

CARELESS DIGGING CAN:
- CAUSE DEATH OR SERIOUS INJURY TO WORKERS AND THE GENERAL PUBLIC
- INCONVENIENCE USERS OF ELECTRICITY, GAS, WATER AND COMMUNICATIONS
- LEAD TO CRIMINAL PROSECUTION AND DAMAGES CLAIMS
- CAUSE EXPENSIVE FINANCIAL LOSSES TO BUSINESS
- CUT OFF EMERGENCY SERVICES
- DELAY PROJECT COMPLETION TIMES WHILE THE DAMAGE IS REPAIRED


MINIMISE YOUR RISK AND DIAL BEFORE YOU DIG. - TEL. 1100



OSD TANK SIGN

SCALE = N.T.S.

ONSITE DETENTION SYSTEM SUMMARY NOTES

TOTAL SITE AREA	1132 m ²
PRE DEVELOPMENT IMPERVIOUS AREA	391 m ²
POST DEVELOPMENT IMPERVIOUS AREA	567 m ²
INCREASE	176 m ² (150-200 m ²)
THEREFORE 12,000 L OF OSD IS REQUIRED	
RWT REQUIRED	NIL
RWT SUPPLIED	5,000 L
OSD OFFSET (5,000x0.25)	1,250 L
OSD REQUIRED AFTER 25 % OFFSET	10,750 L
OSD SUPPLIED	10,780 L (ABOVE GROUND TANK)
PORTION OF SITE THROUGH OSD	16 %
ORIFICE SIZE	46 mm Ø 
HEIGHT (H*) FROM TOP WATER LEVEL TO CENTRE LINE OF ORIFICE	
TO BE CONFIRMED BY BUILDER PRIOR TO ORDERING ORIFICE PLATE.	
ORIFICE Ø SUBJECT TO CHANGE DUE TO "H"	
NOTE: THE CLIENT HAS REFUSED TO SEAL A DRAINAGE EASEMENT THROUGH TO THE SERPENTINE FROM DOWN STREAM NEIGHBOURS. A DRAINAGE EASEMENT IS TO BE SOUGHT FROM DOWN STREAM NEIGHBOURS PRIOR TO CONSTRUCTION	



ISSUED FOR
CONSTRUCTION

IF IN DOUBT ASK

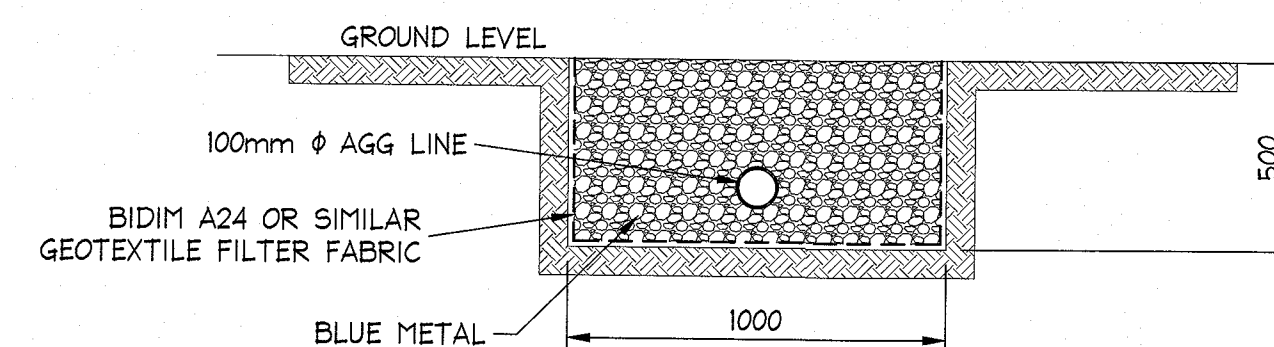
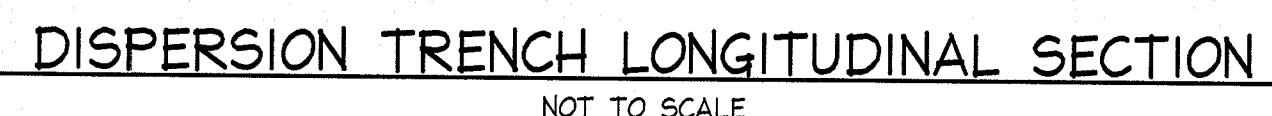
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				DOCUMENT CERTIFICATION Date: 25/1/17 Rick G Wray BE(Civil), CPEng, MIEAust., NER., RPEQ: 08293. (Director NB Consulting Engineers) By: The copyright of this drawing remains with Northern Beaches Consulting Engineers Pty Ltd. Trading as NB Consulting Engineers	NB Consulting Engineers STRUCTURAL - CIVIL - STORMWATER - REMEDIAL A.C.N. 076 121 616 A.B.N. 24 076 121 616 Sydney: Ph: (02) 9984 7000 Fax: (02) 9984 7444 Suite 207, 30 Fisher Road Dee Why N.S.W. 2099 Gold Coast: Ph: (07) 5631 4744 Unit 8, 1726 Gold Coast Highway Burleigh Heads QLD 4220 E: nb@nbconsulting.com.au W: www.nbconsulting.com.au	Architect: Matthew Woodward Architecture Client: Bruce McConochie	Project: ALTERATIONS AND ADDITIONS IB The Serpentine Bilgola Beach N.S.W. 2107 Drawing Title: STORMWATER DRAINAGE NOTES	Date: Jan 2017 Job No: 161136	Design: S.S. Drawing No: D04	Drawn: Paul R Bruce AMIEAust. Rev: B	
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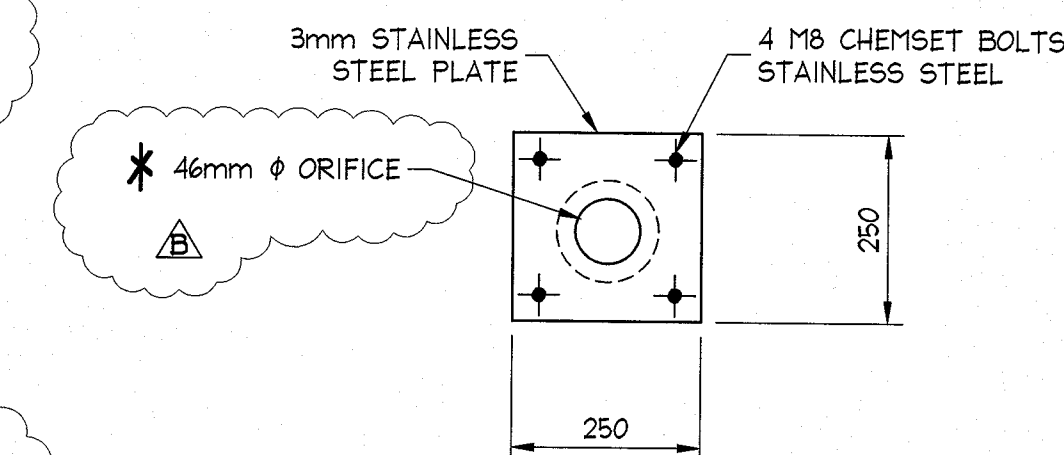
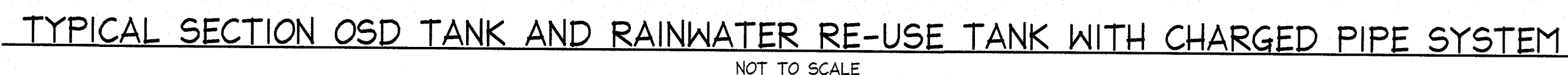
NB Consulting Engineers

1. ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.

1. DISPERSION TRENCH TO BE LAID ON A LEVEL CONTOUR.
2. GROUND LEVEL ABOVE TRENCH MUST BE LEVEL SO AS TO EVENLY DISPERSE WATER DOWN HILL OF THE TRENCH

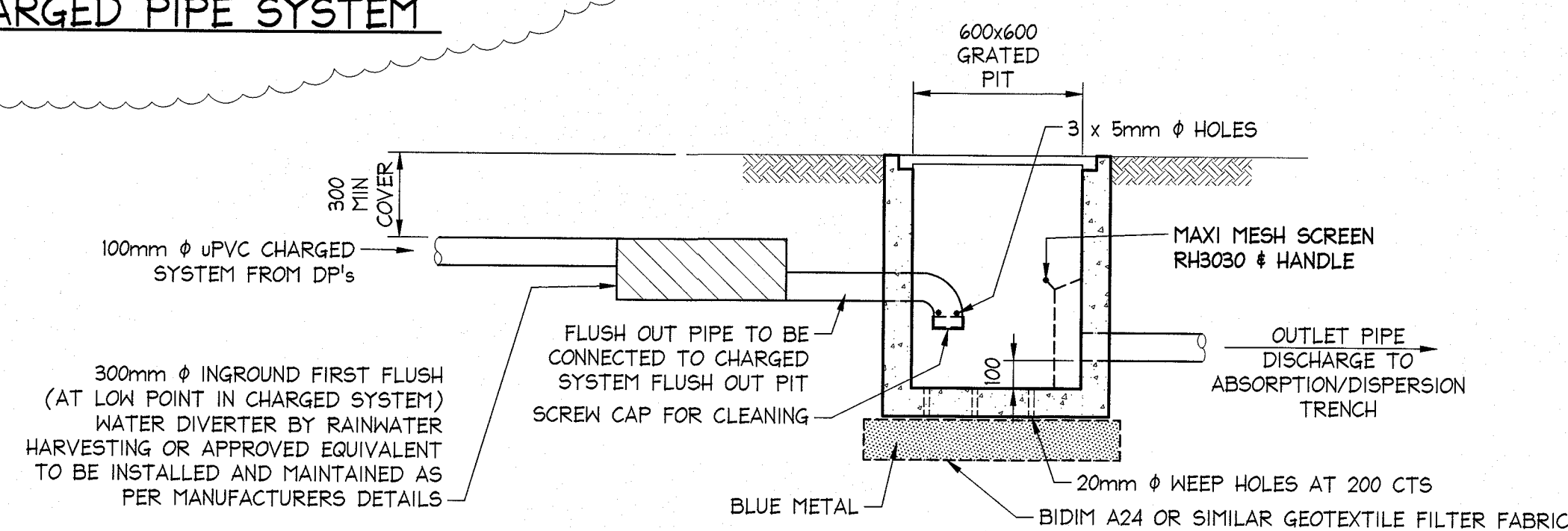


TYPICAL DETAILS OF GRAVEL TRENCH
NOT TO SCALE




ORIFICE PLATE DETAIL
SCALE = 1 : 10

NOTE:
REAR OF ORIFICE PLATE TO BE
HYDROSTATICALLY SEALED AGAINST
PIT WALL USING SIKAFLEX 11 FC
OR APPROVED EQUIVALENT.



PRECAST OR CAST INSITU PIT REFER STORMWATER NOTES
600x600 CHARGED SYSTEM FLUSH OUT PIT DETAIL
 SCALE = 1 : 20

www.dialbeforeyoudig.com.au

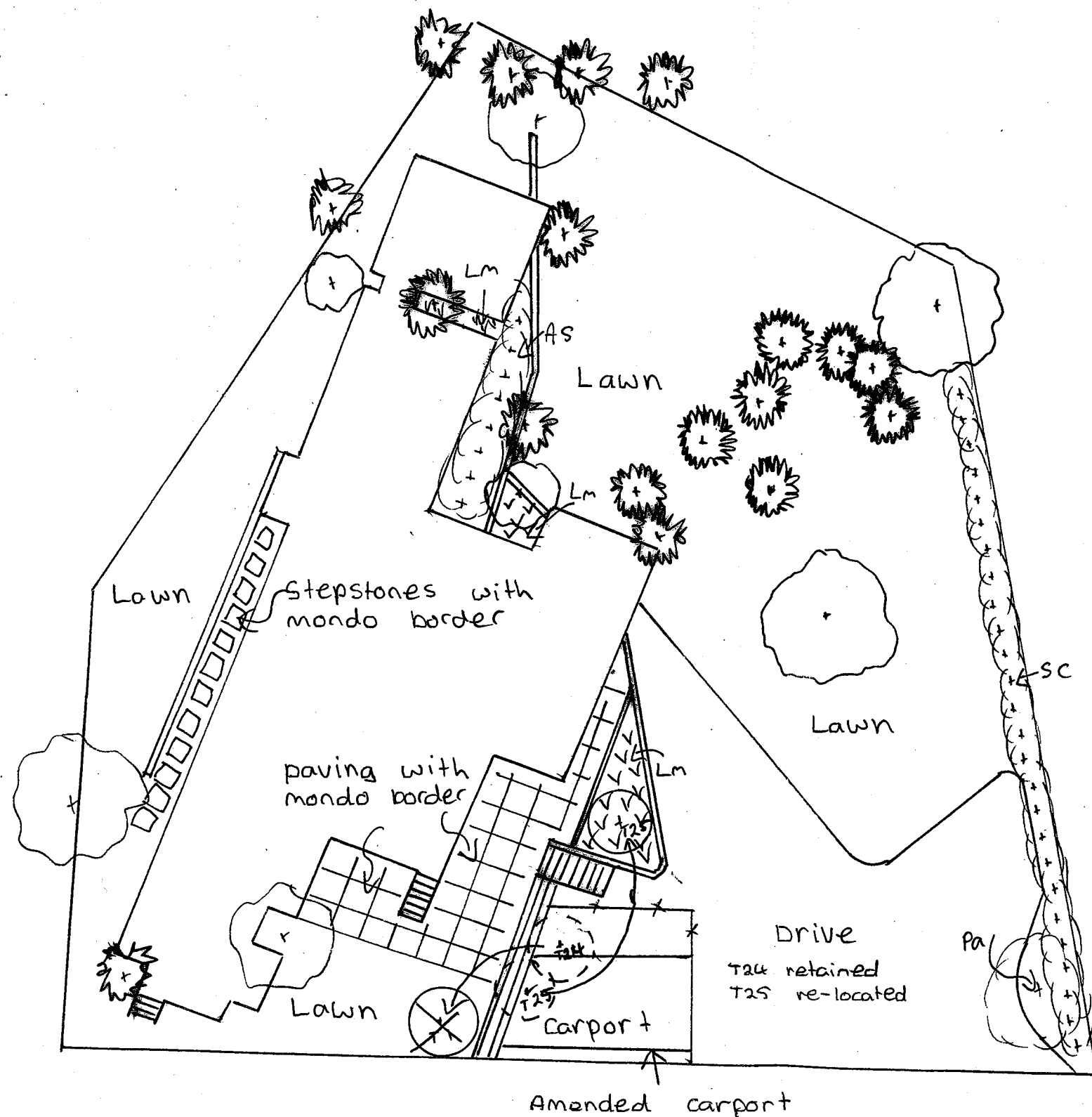
 **DIAL 1100**
BEFORE YOU DIG

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CONSTRUCTION

IF IN DOUBT ASK

[illegible]

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Plant Schedule

Botanical name	Pot size	Qty	Symbol
Acmena smithii minor	200mm	8	AS
Liriope muscari 'Evergreen Giant'	140mm	54	LM
Plumeria acutifolia	45 l/t	1	Pa
Syzygium 'Cascade'	200mm	26	SC
Livistona australis	transplant	1	T1
Pandanus	transplant	1	T2

LANDSCAPE NOTES:

Check boundaries, levels, dimensions and locate services on site prior to starting work.
 Clear site of any builders rubbish and set up erosion and sediment control as per councils requirements.
 Protect any trees to be retained to council requirements.
 Grade site to achieve proposed final grades. Cultivate sub grade to a depth of 300mm.
 Stockpile soil if suitable for reuse or provide landscape soil that meets Australian Standards to replace site top soil.
 Install plant material as per plan. Keep planting areas moist, stake plants as required and 'water in'. Fertilise exotic plants with Osmocote 'Plus' 8-9 month slow release fertiliser and native plants with Osmocote zero Phosphorus 5-6 month slow release. Apply as per manufacturer's instructions.
 Gardens are to be mulched to a 75mm depth using Native Leaf Litter Mulch or wood chip that meets Australian Standards. Keep mulch clear of all plant stems.
 Level turf areas and spread lawn food as per manufacturers instructions. Lay turf, water well and roll with turf roller. Keep moist at all times.
 Fill gaps and depressions with sand and allow 4 weeks before cutting.

Eclipse Landscapes Pty Ltd
 4/14 Polo Ave Mona Vale
 PO Box 903 Avalon Beach NSW
 P:9979 9963 F:9979 1449 M:0411 821 806



Proposed Landscape
 1B The Serpentine
 Bilgola Beach

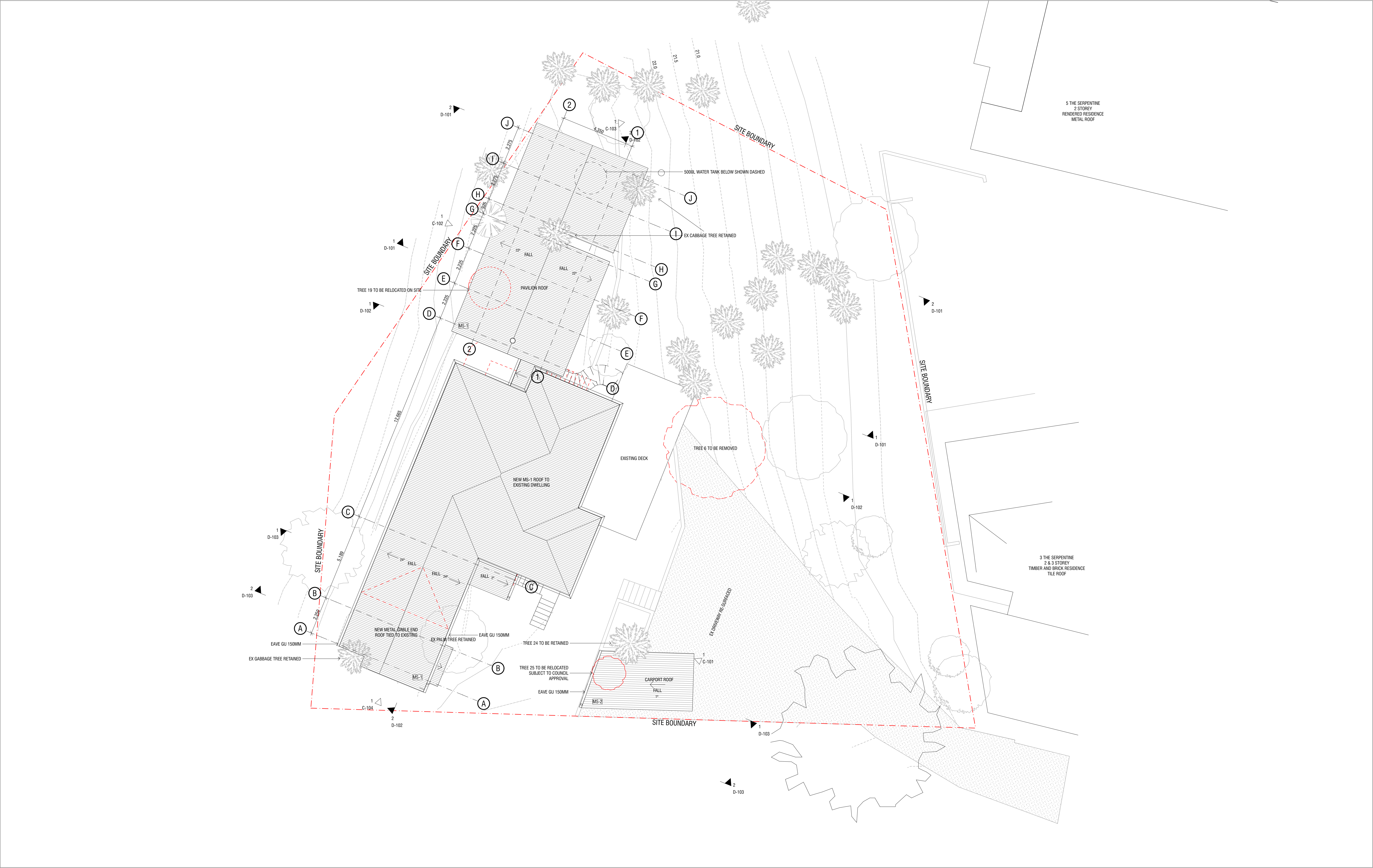
Drawing
 Landscape plan

Date ~~20/04/2015~~ 04/01/2017

Scale 1:200 at A3

Job No 102

Dwg No 2



ISSUE	DATE	FOR
A	30.11.2016	CONSTRUCTION CERTIFICATE

ISSUE	DATE	FOR

ISSUE	DATE	FOR

NOTES

STRUCTURAL ENGINEER
ASHBY DOBLE CONSULTING STRUCTURAL ENGINEERS
TEL: 9889 2077
HYDRAULIC ENGINEER
NB CONSULTING ENGINEERS
TEL: 9884 7000
GEOTECHNICAL ENGINEER
BARKER HABLE CONSULTING ENGINEERS
TEL: 9871 4887

LAND SURVEYOR
GEOMAT ENGINEERING PTY LTD
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TOWN PLANNER
VAUGHAN MILLIGAN DEVELOPMENT CONSULTING
TEL: 9889 4922
PRIVATE CERTIFIER

CLIENT
BRUCE MCCONOCHE & SUSAN MANFORD

PROJECT
BILGOLA BEACH HOUSE
1B THE SERPENTINE - BILGOLA BEACH 2107
PROJECT NUMBER
S150115.BMC

TRUE NORTH
PROJECT NORTH
GRAPHIC SCALE
0 2000 5000
SCALE
1:100 @ A1 / 1:200 @ A3
DO NOT SCALE

DRAWING
SITE PLAN
DRAWING NUMBER
A-105
CONSTRUCTION CERTIFICATE
A