

R/63583



CONSTRUCTION CERTIFICATE APPLICATION

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

Pittwater Council

Unit 9/5 Vuko Place, Warriewood NSW 2102

PO Box 882, Mona Vale NSW 1660

Tel: (612) 9970 1111

Fax: (612) 9970 7150

Internet: www.pittwater.nsw.gov.au

Email: pittwater_council@pittwater.nsw.gov.au

SITE DETAILS

Unit/Suite:	Street No:	Street:	
	14	BONA CRESCENT	
Suburb:	Lot No:	Deposit /Strata Plan:	
TOWLERS BAY	4	21880	

DEVELOPMENT CONSENT

Development Application No:	Determination Date:
N0669/04	30/12/2004

APPLICANT DETAILS

Name/Company:	Contact Person:
RODNEY BOWRY DESIGN STUDIO	RODNEY BOWRY
Postal Address:	Contact Numbers:
1 DAISY ST DEE WHY	Phone (H/B): 02 99712447 Mobile: 0400803970 Fax: rodneymbowry@mac.com
Signature of Applicant:	Date:
[Signature]	28/02/2005

OWNERS DETAILS

Name:	If Company, contact person:
ROB + SHERIDAN BELLOWS	
Postal Address:	Contact Numbers:
20 MANDOLINA RD MOSMAN	Phone (H/B): 99691007 Mobile: 0417301371 Fax: 99691220
As the owner of the land to which this application relates, I consent to this application. I also give consent for the authorised Council Officer to enter the land to carry out inspections.	

Signature of Owners:

Date:

If more than one owner, every owner must sign. If the owner is a company, the form must be signed by an authorised director and the common seal must be stamped on this application.

If the property has been recently purchased, written confirmation from the purchaser's Solicitor must be provided.
If the contracts have been exchanged for the purchase of the land, the current owner is to sign the application.

DEVELOPMENT DETAILS

Type of Work: ☒ Building Work OR ☐ Subdivision Work
Description of proposal – (Provide brief, concise details): ALTERATIONS + ADDITIONS / PROPOSED DECK + BEDROOM ADDITION.

WHO WILL BE DOING THE BUILDING WORKS?

☐ Owner Builder Owner Builders Permit No:	
Copy of Owner Builders permit attached:	☐ Yes ☒ No – to be provided with Notice of Commencement Form
<i>If you are an Owner-Builder for the residential building work exceeding \$5000 you must apply for a permit at NSW Office of Fair Trading, 1 Fitzwilliam Street, Paramatta NSW 2150 Australia. Tel: 61 2 98950111 Fax: 61 2 9895 0222.</i>	

OR

☒ Licensed Builder Builder's License Number	
Name of Builder: THE CONSTRUCTION TEAM	Phone:
Contact person: NEIL HARDWICK	Mobile:
Address:	Fax:
Insurance Company:	Insurance Certificate attached: ☐ Yes ☒ No – to be provided with Notification of Commencement form
<i>If you are using a licensed builder for residential building work exceeding \$12,000 you must obtain Home Building Act Insurance. A certificate of insurance must be provided with this application or submitted with the Notification of Commencement form.</i>	

VALUE OF PROPOSED DEVELOPMENT

Value of Works: \$ 126,000.00 (including full cost of labour and materials)

DO YOU NEED TO PAY THE BUILDING INDUSTRY LONG SERVICE LEVY?☒ Yes☐ No

Only required if the development involves building works exceeding \$25,000.00.

OFFICE USE ONLY

Fee Type	Cashier's Code	Fee Amount
Construction Certificate Application Fee	TCER	<u>623.70</u>
Long Service Levy Fee	QLSL	<u>252.00</u>
Driveway/Street Levels	ESTR	
Sec 94 Contributions		
Bonds/Guarantees		
Other Fees		
TOTAL		<u>875.70</u>
Date of Receipt: <u>4.3.05</u>	Receipt No: <u>163583</u>	Accepted By: <u>[Signature]</u>

PRIVACY AND PERSONAL INFORMATION PROTECTION NOTICE

Purpose of collection:	To enable Council as the consent authority to assess your proposal.
Intended recipients	Council Staff and any other relevant government agency that may be required to assess the proposal.
Supply:	The information is required by legislation.
Consequence of Non-provision:	Your application may not be accepted, not processed or rejected for lack of information
Storage:	The Pittwater Council will store details of the application and any subsequent decision in a register that can be viewed by the public.
Retention period:	Hard copies of the application will be destroyed after 7 years and electronic records will be kept indefinitely.
Please contact Council if this information you have provided is incorrect or changes.	

STATISTICAL RETURN FOR AUSTRALIAN BUREAU OF STATISTICS

What is the area of the land?	Area in square metres	909.40m ²
Gross floor area of existing building?	Area in square metres	60.8m ²
If no existing building, write "NIL"		
What is the existing building or site used for at present?	Main uses:	RESIDENCE
	Other uses:	
Does the site contain a dual occupancy?	☐ Yes	☒ No
Gross floor area of proposed building?	Proposed floor area in square metres	92m ²
What will the proposed building to be used for?	Main uses:	RESIDENCE
	Other uses:	
How many dwellings:		
Are pre-existing at this property?	Dwellings:	1
Are proposed to be demolished?	Dwellings:	
Are proposed to be constructed?	Dwellings:	
How many storeys will building consist of?	Storeys:	1
What are the main building materials?		
Walls		Roof
Full Brick	☐	Aluminium
Brick veneer	☐	Concrete or slate
Concrete, masonry	☐	Tile
Steel	☐	Fibrous cement
Fibrous cement	☐	Steel
Timber/weatherboard	☒	Other
Cladding-aluminium	☐	Unknown
Curtain glass	☐	
Other	☐	
Unknown	☐	
Floor		Frame
Concrete	☐	Timber
Timber	☒	Steel
Other	☐	Other
Unknown	☐	Unknown

APPLICANTS CHECK LIST

Note: This list is intended as a guide to the type of information to be submitted. Some items may not be required and Section B of the Conditions of Development Consent for the building works may specify further additional information required with submission of your Construction Certificate Application.

Application Form –

Supporting
Documentation -
(3 copies of each)

- ☒ Owners Consent
- ☒ Applicant's Signature
- ☒ Long Service Levy
- ☐ Driveway/Street levels Application
- ☒ Architectural Plans
- ☒ Quick Check Plans endorsed by Sydney Water
- ☒ Construction Specifications for Building Works
- ☒ Structural Engineer's Plans
- ☒ Structural/Geotechnical Certificates
- ☒ Landscape Plans
- ☐ Driveway Level Plans
- ☐ On-site Stormwater Detention Plans
- ☒ Drainage Plans on Site Storm Management
- ☒ Erosion and Sediment Management Plan
- ☒ Sydney Water Quick Check Plans
- ☐ Subdivision Work Plans
- ☒ Schedule of External Finishes/Colours
- ☒ Fire Safety Measures Schedule
- ☒ Form No. 2 – "Geotechnical Risk Management Policy for Pittwater"
- ☐ Details and location of fencing for Swimming Pool to comply with AS 1926-1986 "Fences and Gates for Private Swimming Pools"
- ☒ Specifications for construction of buildings in Bushfire-prone areas
- ☒ Security Deposit / Section 94 contributions

Fire Base Consulting Fire Base Consulting

Building Construction in Bush Fire Prone Areas

ABN – 14 640 865 430

Reference No 23

Ron Coffey
20 Lake Park Road
North Narrabeen
Sydney NSW 2101

(02) 99137907 – 0408220443
roncoffey@optusnet.com.au

Bush Fire Hazard Assessment – No Lot 4 No 14 Bona Crescent Towlers

For Rodney Bowry Design Studio

The site was inspected on 14th August 2004

Ron Coffey Grad I Fire E [For Fire Base Consulting]
Graduate Institute Fire Engineers
Graduate Certificate Fire Safety Engineering [UWS]
Hazard Mitigation Engineer [Bush Fire Prone areas]
Member of the Institute of Fire Engineers

14th August 2004

Subject: Bushfire Hazard Assessment 14 Bona Crescent Towlers Bay

Reference: Planning for Bushfire Protection 2001, Australian Standard 3959, 1999
Site Inspection 14th August

Appendix 1 – Inner Protection Area Requirements

Appendix 2 – Bush Fire Prone Land Map

Appendix 3 – Site Plan

Appendix 4 – Level 3 Construction Specifications

Description of the property subject to development application

The development proposal is for extensions to an existing Class 1A dwelling.
14 Bona Crescent is a Class 2[a] residential site facing north-east onto the foreshores of Pittwater and south-west onto Ku-ring-gai Chase National Park.

Classification of vegetation on and surrounding the development site

The site has several large trees, some shrubs and the site has been maintained over the years.

The bushland reserve adjoining the rear boundary of the site is a danger to the development from bushfire attack and with reference to Planning for Bushfire Protection 2001 the classification of vegetation for this area is 'Dry Sclerophyll Forest Veg. Group 1'

An assessment of the slope

The Dwelling envelope is relatively level across and slopes at <5 degrees from north-east to south-west.

The site slopes at an average of 10-15 degrees upslope from the waterfront to the rear boundary, then level across a 5m fire trail then upslope at 5-10 degrees into the bushland reserve.

Adequacy of water supplies

There is no reticulated water and the owners must rely on tank supply. There are two water tanks installed above the existing dwelling. The owners have been advised that in addition to council requirements for domestic supply, 10,000 litres of water is to be permanently available and for fire fighting purposes.

Access and egress

Access and egress to the suburb of Towlers Bay is by regular commuter ferry, or private water craft. The site is deepwater frontage to Pittwater and there is a private jetty for mooring of the owners personal boats.

The site can also be accessed by Towlers Track which links with West Head Road.

Bushfire assessment including details of asset protection zones and construction standards with reference to Planning for Bushfire Protection Table A3.3

Direction	Distance of Asset Protection Zone	Vegetation Classification	Assessment of Slope away from the development	Category of Bushfire Attack for the Site	Construction Standard Required
North-east	Deep Waterfront	n/a	15 degrees downslope	n/a	n/a
North-west	100m +	n/a	level	Low	None
South-east	100m +	n/a	Level	Low	None
South-west	21m	Veg Group 1	15 degrees upslope	Extreme	Level 3
Summary: The category of bushfire attack for the site is 'Extreme' and the subsequent required construction standard is Level 3 AS3959 1999					

Recommendation

Considering the findings of the site inspection and with reference to Planning for Bushfire Protection 2001 and AS 3959, 1999 the development could be considered for approval provided the applicant meets the following minimum requirements.

- 1) Level 3 construction standard AS3959 [Appendix 4]
- 2) In addition to council requirements for domestic supply, 10,000 litres of water should be available for, and dedicated to fire fighting. Fittings and outlet sizes shall be compatible with RFS equipment.
- 3) A portable fire pump with suitable delivery hose and couplings shall be provided for protection against bushfire attack.
- 4) The site is part of the required asset protection zone and the entire site, where not built on shall be established and maintained as an Inner Protection Area. [Appendix 1]
- 5) Asset protection zone requirements are that for an Inner Protection Area trees shall not touch or overhang the building. There are several trees that overhang a section of the building and as they are of significant scenic and environmental value the owner has requested that some thinning will take place and some remain and to compensate for the anticipated accumulation of debris on the roof, gutter guards are proposed.
- 6) All gutters shall be fitted with non-flammable leaf guards to prevent the accumulation of debris.

Quote from Planning for Bushfire Protection 2001, 'notwithstanding the precautions adopted, it should always be remembered that bushfire burn under a wide range of conditions and an element of risk, no matter how small always remains.'

Quote from Standards Australia, 'Although the standard is designed to improve the performance of such buildings, there can be no guarantee, because of the variable nature of bushfires, that any one building will withstand bushfire attack on every occasion.'

This Report is a Bush Fire Hazard Assessment that provides the required information to assist Local Council and the Rural Fire Service in determining compliance in accordance with Planning for Bushfire Protection and AS 3959, 1999. The Local Council is the Final Consenting Authority.



Ron Coffey Grad I Fire E [for Fire Base Consulting Pty Ltd]
Graduate Certificate Fire Safety Engineering [UWS]
Graduate of the Institute of Fire Engineers
Hazard Mitigation Engineer [Bushfire Prone Areas]
Member of the Institute of Fire Engineers

Appendix 1

Inner Protection Area [IPA]

Asset Protection Zone [APZ] requirements

4.2.2. Components of an Asset Protection Zone

The Asset Protection Zone [APZ] should incorporate:

An Outer Protection Area [OPA]; and

An Inner Protection Area [IPA], which should include a perimeter road or reserve [which incorporates an access track]

Specifications are set out in Tables 4.1 and 4.2. 'Planning for Bushfire protection 2001'

b) Inner Protection Area:

[i] Location:

The Inner Protection Area extends from the edge of the Outer Protection Area to the development [see Figure 4.1].

[ii] Purpose:

The Inner Protection Area ensures that the presence of fuels, which could become involved in a fire, are minimised close to a development. Therefore the impact of direct flame contact and radiant heat on the development is minimised.

[iii] Depth:

The depth of the IPA is dependent upon the slope of the land. The greater the slope, the greater the intensity of any approaching fire and hence the depth required for the IPA.

[iv] Fuel Loadings:

It is more practical to determine the specifications of the IPA in terms of performance than in terms of a minimum fuel loading.

The performance of the Inner Protection Area must be such that:

- there is minimal fine fuel at the ground level which could be set alight by a bushfire; and
- any vegetation in the Inner Protection Area does not provide a path for transfer of fire to the development – that is, the fuels are discontinuous.

The presence of a few shrubs or trees in the Inner Protection Area is acceptable provided that they:

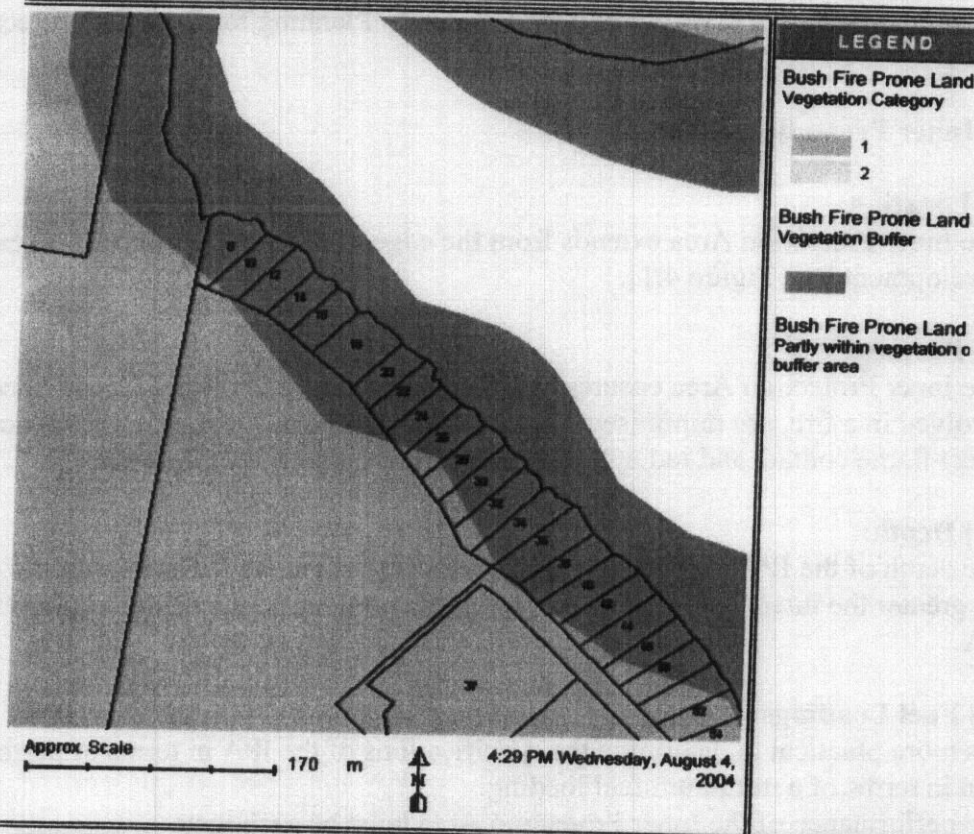
- do not touch or overhang the building;
- are well spread out and do not form a continuous canopy;
- are not species that retain dead material or deposit excessive quantities of ground fuel in a short period or in a danger period; and
- are located far enough away from the house so that they will not ignite the house by direct flame contact or radiant heat emission.

Wood piles, wooden sheds, combustible material storage areas, large areas/quantities of garden mulch, stacked flammable building materials etc should not be permitted in the Inner Protection Area.

Appendix 2



Pittwater Council Mapping



DISCLAIMER

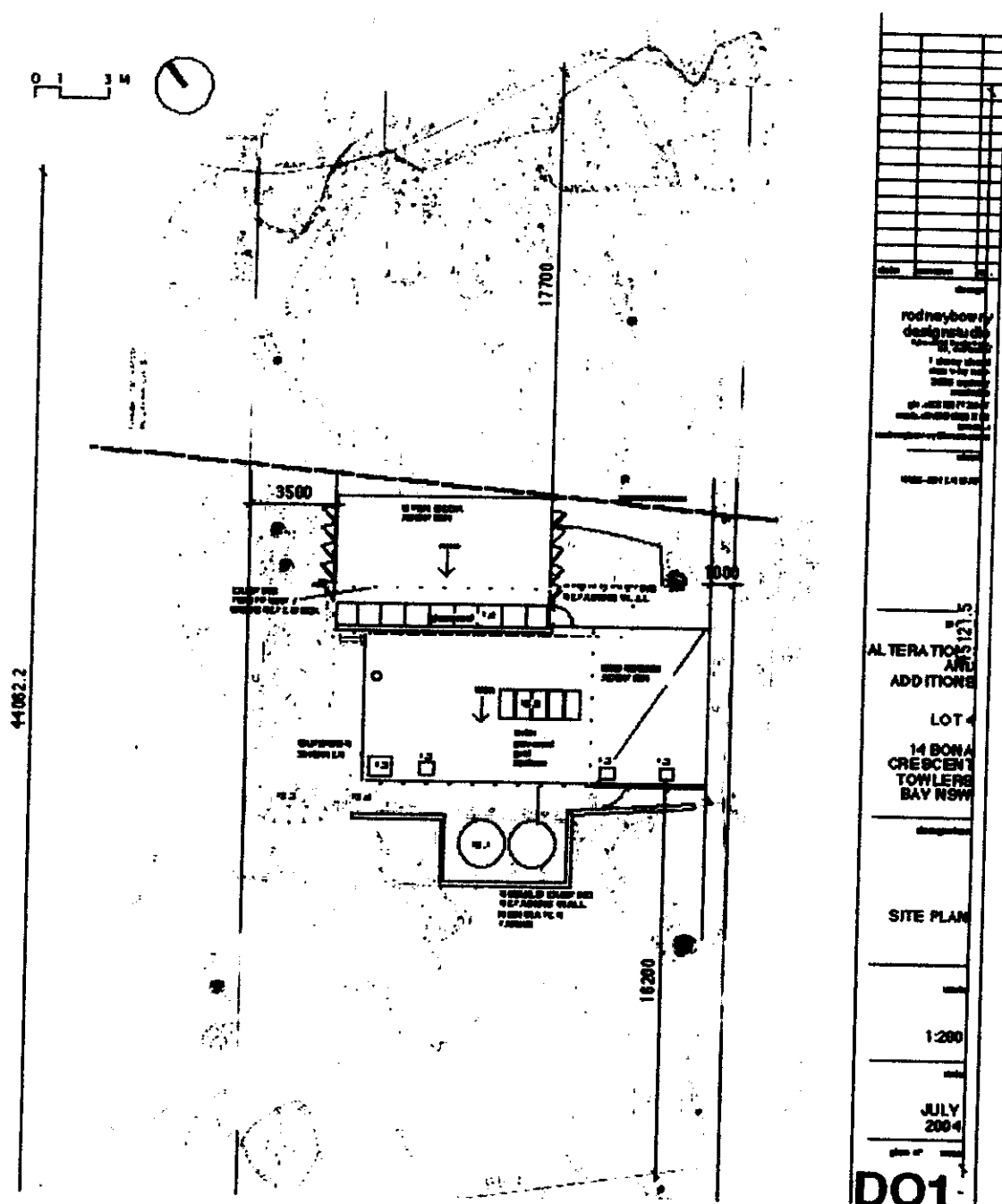
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Appendix 4

Level 3 Construction Requirements – Australian Standard 3959, 1999

Planning for Bushfire Protection 2001 requires that for the category of 'extreme' bushfire attack construction standards must be 'Level 3 AS3959, 1999'.

Australian Standard AS 3959, 1999 prescribes details for levels of construction that will satisfy the categories of bushfire attack for a site.

To comply with the requirement of 'level 3 construction AS3959, 1999' developer must build to the following minimum standard:

Flooring

Concrete slab on the ground

Suspended floor, concrete or-framed floor, underside of bearer to be greater than 600mm above finished ground level and under space where unenclosed, all timber components including flooring and joists to be fire retarded treated timber.

External walls

Masonry, concrete, pise, rammed earth, stabilised earth or; framed walls have no restriction to cladding materials but must incorporate breather-type sarking complying with AS/NZS 4200.1 and with a flammability index of not more than 5 installed immediately behind or an appropriate insulation material.

PVC claddings are not permitted and all external timber cladding shall be fire retardant treated timber

Windows

All openable windows, including louvres, shall be screened with corrosion-resistant steel or bronze mesh with a maximum aperture size of 1.8mm in such a way that the entire opening remains screened when the window is open.

Where timber is used on the construction of the windows it shall be fire-retardant treated timber.

Where windows are not protected by non-combustible shutters they shall be of toughened glass.

External doors

Weather strips or draught excluders to be fitted. Tight fitting door screens to be fitted. Aluminium mesh shall not be used. Mesh shall be of bronze or corrosion resistant steel. Leadlight glassing shall be protected by shutters constructed of non-combustible material or toughened glass.

[a] Timber doors shall be fire-retardant-treated timber or shall have a non-combustible covering on the exterior surface; or

[b] Doors shall be protected by shutters of a non-combustible material; or

[c] Doors shall be solid core having a thickness of not less than 35mm

Vents and weepholes

Vents and weepholes shall be protected with spark guards made from corrosion-resistant-steel or bronze and with a maximum aperture size of 1.8mm.

Roofs

Timber shakes or shingles are not permitted. Tiled roofs shall be fully sarked. Sarking shall have a flammability index of no more than 5.

Sheeted roofs shall be metal and fully sarked. All gaps under corrugations or ribs where it meets the fascia/wall shall be sealed or protected by fully sarking with sarking material having a flammability index of no more than 5.

Roof lights

All roof lights and associated shafts shall be sealed with non-combustible sleeve or lining. A roof light can be constructed from thermoplastic sheet in a metal frame, but diffuser installed at ceiling level shall be wired glass in a metal frame. Vented roof lights shall have corrosion resistant steel or bronze.

Eaves

Eaves shall be enclosed with all fascia or gaps between rafters being sealed. All timber eaves lining and joining strips shall be fire-retardant-treated timber and aluminium shall not be used.

Fascias

All material must be either non-combustible or fire-retardant-treated timber. No fibre-reinforced cement or aluminium shall be used.

Gutters and downpipes

All leaf guards must have a flammability index no greater than 5 [AS1503.2]

Veranda's and decks

Slab-reinforced concrete suspended slab floor, supported by posts and columns

Slab on ground.

Sheeted or tongue and grooved solid flooring having:

Where clearance between the underside of the flooring to the ground level is not greater than 400mm, all joints in the flooring shall be covered or sealed.

Decking timbers shall be fixed with a clearance of not less than 5mm between adjacent timbers.

Posts and columns shall be non-combustible, or fire retardant-treated-timber, mounted on galvanised metal shoes with a clearance of not less than 75mm.

The external perimeter beneath the decking shall not be enclosed nor have access restricted

Decking timbers shall not connect with the remainder of the building unless measures are used to prevent the spread of fire into the building.

Decking timbers shall be fire- retardant-treated

All materials shall be non-combustible; all timber shall be fire-retardant-treated, including balustrades.

Service pipes

All exposed piping for water or gas supplies shall be metal. Pipes of other materials shall be buried to a depth of at least 300mm below finished ground level.

To comply with the standard AS3959 –1999 for the construction standard of 'level 3', for 'extreme' bushfire attack the previous list is explanatory but the standard needs to be referred to in its entirety



CONSENT NO: N0669/04
ENVIRONMENTAL PLANNING & ASSESSMENT ACT, 1979 (AS AMENDED)
NOTICE TO APPLICANT OF DETERMINATION
OF A DEVELOPMENT APPLICATION

Applicant's Name and Address:

RODNEY BOWRY DESIGN STUDIO, 1 DAISY STREET DEE WHY NSW 2099

Being the applicant in respect of Development Application No N0669/04

Pursuant to section 80(1) of the Act, notice is hereby given of the determination by Pittwater Council, as the consent authority, of Development Application No N0669/04 for:

Alterations and Additions to existing dwelling

At:

Lot 4 DP 21880

14 BONA CRESCENT TOWLERS BAY NSW 2105

Decision:

The Development Application has been determined by the granting of consent based on information provided by the applicant in support of the application, including the Statement of Environmental Effects, and in accordance with plans numbered D01, dated July 2004 and D02, D03 and D04, dated August 2004, prepared by Rodney Bowry Design Studio, as amended in red (shown clouded) or as modified by any conditions of this consent.

The reason for the imposition of the attached conditions is to ensure that the development consented to is carried out in such a manner as to achieve the objectives of the Environmental Planning and Assessment Act 1979 (as amended), pursuant to section 5(a) of the Act, having regard to the relevant matters for consideration contained in section 79C of the Act and the Environmental Planning Instruments applying to the land, as well as section 80A of the Act which authorises the imposing of the consent conditions.

Endorsement of date of consent 30/12/2004

Angus Gordon
GENERAL MANAGER

Per: 



CONDITIONS OF DEVELOPMENT CONSENT

This Consent is not an approval to commence building work. The works associated with this consent can only commence following the issue of the Construction Certificate.

A. PRESCRIBED CONDITIONS

- A1. All works are to be carried out in accordance with the requirements of the Building Code of Australia.
- A2. In the case of residential building work for which the Home Building Act 1989 requires there to be a contract of insurance in force in accordance with Part 6 of that Act, there is to be such a contract in force.
- A4. To allow a principal certifying authority or another certifying authority time to carry out critical stage inspections required by the principal certifying authority, the principal contractor for the building site, or the owner-builder must notify the principal certifying authority at least 48 hours before building work is commenced at the site if a critical stage inspection is required before the commencement of the work, in accordance with clause 162 of the Environmental Planning and Assessment Regulation 2000.
- A5. Critical stage inspections are to be carried out in accordance with clause 162A of the Environmental Planning and Assessment Regulation 2000.
- A6. A sign must be erected in a prominent position on any site on which building work, subdivision work or demolition work is being carried out:
 - a. showing the name, address and telephone number of the principal certifying authority for the work, and
 - b. showing the name of the principal contractor (if any) for any building work and a telephone number on which that person may be contacted outside working hours, and
 - c. stating that unauthorised entry to the work site is prohibited.
- A7. Any such sign is to be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.
- A8. Residential building work within the meaning of the Home Building Act 1989 must not be carried out unless the principal certifying authority for the development to which the work relates (not being the council) has given the council written notice of the following information:
 - a. in the case of work for which a principal contractor is required to be appointed:
 - i. the name and licence number of the principal contractor, and
 - ii. the name of the insurer by which the work is insured under Part 6 of that Act.
 - b. in the case of work to be done by an owner-builder:
 - i. the name of the owner-builder, and



- ii. if the owner-builder is required to hold an owner-builder permit under that Act, the number of the owner-builder permit.

- A9. If arrangements for doing the residential building work are changed while the work is in progress so that the information notified under subclause (2) becomes out of date, further work must not be carried out unless the principal certifying authority for the development to which the work relates (not being the council) has given the council written notice of the updated information.
- A10. Conditions A8 and A9 do not apply in relation to Crown building work that is certified, in accordance with section 116G of the Act, to comply with the technical provisions of the State's building laws.

B. MATTERS TO BE SATISFIED PRIOR TO ISSUE OF CONSTRUCTION CERTIFICATE

NOTE: The issue of partial or limited Construction Certificates is not permissible under the terms of this consent unless otherwise specifically stated. All outstanding matters referred to in this section are to be submitted to the accredited certifier together. Incomplete Construction Certificate applications/details can not be accepted.

- B9. An Ecological Sustainability Plan is required, (ESP checklist attached below). The ESP will indicate the planting of a further eight (8) or more native canopy trees and thirty (30) or more native understorey plant species to be planted, these locally endemic (native) species will assist in the preservation and enhancement of Pittwaters natural environment, planting to be undertaken in a clumping fashion so as to provide a small dense plots/zones of bush acting as a wildlife habitat/refuge area. APZ requirements from RFS are to be incorporated into the ESP. RFS APZ Guidelines to be utilised and followed to minimum requirements (should a radiant heat shield be an RFS requirement 30cm x 30cm holes will be cut in at the base to allow wildlife to get through (access holes), one hole every 7 metres (approved by George Sheppard – RFS)).
- B10. Three sets of detailed working drawings that comply in all respects with the Building Code of Australia and the conditions of the Development Consent are to be submitted prior to the release of the Construction Certificate.
- B60. Three sets of Structural Engineering details relating to the slabs, footings, retaining walls, structural framing are to be submitted prior to release of the Construction Certificate. Each plan/sheet is to be signed by a qualified practising Structural Engineer with corporate membership of the Institute of Engineers Australia (M.I.E), or who is eligible to become a corporate member and has appropriate experience and competence in the related field.
- B60a. As the site is located in a slip liable area, the structural details relating to the slabs, footings, retaining walls, structural framing are to be endorsed by a qualified practising Geotechnical Engineer with corporate membership of the Institute of Engineers Australia (M.I.E), or who is eligible to become a corporate member and has appropriate experience and competence in the related field.
- B64. Prior to issue of the Construction Certificate, details are to be submitted to Council or the Accredited Certifier that include, but are not limited to, all of the recommended conditions in the Geotechnical Report prepared by Crozier - Geotechnical Consultants, Project No 2385 dated December, 2003.

Form 2 of the "Geotechnical Risk Management Policy for Pittwater" is to be completed and submitted with the above details before issue of the Construction Certificate.



C. MATTERS TO BE SATISFIED PRIOR TO COMMENCEMENT OF WORK

NOTE: It is an offence to commence works prior to issue of a Construction Certificate.

- C5. Pre-order form/invoice for native plant selection as per ESP is to be verified by Bushland Management Consultant. This is in accordance with Councils policy of 'no net canopy loss within Pittwater,' and to satisfy the relevant environmental controls seeking to restore or regenerate natural areas.
- C6. A certificate prepared by an appropriate qualified person is to be submitted for the following building components, certifying to the principal certifying authority that the nominated works have been carried out in accordance with the Building Code of Australia, relevant Australian Standards and any conditions of Development Consent. Works are not to progress past this point until the principal certifying authority has confirmed that this condition has been satisfied (see copy of form attached).
- C6a. Building setout BS-1
- C7. Prior to commencement of site works, a qualified arborist, horticulturist or landscape architect is to certify that protective fencing has been provided, a minimum distance of 1 metre outside of the dripline of those trees or landscape areas shown on the approved landscape working drawing. No further site works are to take place until this certification has been obtained and a copy forwarded to the accredited certifier or Council. Signage should be placed on the fence to explain exclusion from the TPZ and carry the sites arborists contact name and phone number for access or advice. A qualified arborist/tree surgeon will be engaged to treat cuts to any significant tree roots encountered during construction activities and to manage any removal of tree limbs, this measure is intended to maximise tree health and long-term viability. Excavation should not occur within the PRZ of trees to be retained, if this cannot be avoided, excavation should be carried out by hand, an Arborist should be present to supervise the excavation, to carry out any necessary remedial work or re-design around large roots if necessary.
- C8. Translocation of native plant material from the construction area into the bush regeneration area. All exotic vegetation to be burnt on site (pile burns) or removed from site and dumped legally.
- C9. Bush Regeneration contract to be signed of as per ESP requirements (as per Vegetation and Habitat Assessment – Aug 2004 – Syncarpia Vegetation Management, for 21 Bungan Head Road, Newport) by the bush regeneration company who will undertake the works. If the applicant is to do the works themselves then a contract should be presented that states that a qualified bush regenerator/or flora and fauna consultant return to the site every 3 months for the first 12 months after certification of Occupation Certificate then every 6 months for the next 2 years so as to verify that all works as per the ESP have been appropriately undertaken.
- C10. So as to achieve safe and proper means of disposal of asbestos materials from buildings, only depots and contractors authorised by the Waste Services Authority are to be utilised. Approval must be obtained from the Service before disposal of any asbestos materials.



D. CONDITIONS TO MINIMISE THE IMPACT OF THE DEVELOPMENT ON THE NATURAL AND BUILT ENVIRONMENT

- D2. An Arborist is required to be present during construction to advise on whether retention of the trees is possible. In the event of tree removal being necessary replacement plantings of at least one (1) locally indigenous tree species for each tree removed is required. Council is to be notified.
- D9. The species list is to be revised to comply with Pittwater 21. 100% locally indigenous species are to be used.
- D11. Any proposed demolition works shall be carried out in accordance with the requirements of AS2601-1991 "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:

1. Protection of site workers and the general public.
2. Erection of hoardings where appropriate.
3. Asbestos handling and disposal where applicable.
4. 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.

- D13. Asbestos material must be collected & stored, transported and disposed of in accordance with NSW WorkCover requirements and in compliance with Clause 29 "Special requirements relating to asbestos waste" under the Protection of the Environment Operations (Waste) Regulation 1996.
- D20. Temporary sedimentation and erosion controls are to be constructed prior to commencement of any work to eliminate the discharge of sediment from the site.
- D21. 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.
- D24. Disturbed areas shall be rehabilitated with indigenous plant species landscaped and treated by approved methods of erosion mitigation such as mulching, and revegetation with native grasses or other suitable stabilising processes within fifteen days of the completion of works.
- D32. No fill is to be introduced within the drip line of canopy trees on the site.
- D33. No fill is to be introduced in the area of native vegetation or habitat remaining on the site.
- D41. Materials and colour schemes are to be in accordance with the samples submitted to Council with the application. No white or light coloured roofs are permitted.
- D74. A sign is to be erected in a prominent position on the site stating that unauthorised entry to the work site is prohibited and showing the name of the person in charge of the work site and a telephone number at which that person may be contacted outside working hours. No sign is



required where works are internal only or where the premises are occupied continuously during and outside working hours.

- D75. Toilet facilities are to be provided at or in the vicinity of the work site during the duration of the development.
- D76. A stamped copy of the approved plans is to be kept on the site at all times, during construction.
- D80. This approval/consent relates only to the new work nominated on the approved consent plans and does not approve or regularise any existing buildings or structures within the property boundaries or within Council's road reserve.
- D89. The hours of construction are restricted to between the hours of 7.00am and 5.00pm Monday - Friday and 7.00am to 1.00pm on Saturdays. No works are to be carried out on Sundays or Public Holidays. Internal building work may be carried out at any time outside these hours, subject to noise emissions from the building or works not being audible at any adjoining boundary.
- D106. 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.

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

Further, the project manager is to erect signs advising all contractors and visitors to the site that no works or storage are to take place within the dripline of existing trees.

- D122. All declared noxious weeds under the Noxious Weeds Act 1993 together with other environmental weeds are to be removed and/or controlled using an appropriate technique.
- D190. The removal or destruction of bush rock has been listed as a Key Threatening Process under the NSW Threatened Species Conservation Act, 1995. No bush rock is to be removed or destroyed without prior consultation and approval by NSW National Parks and Wildlife Service and Council.
- D192. Erecting two nest boxes (one large and one small) in the garden to increase the level of suitable wildlife habitat within the property boundary, thus helping to ensure the well being of future wildlife populations (to be placed at least 5 metres above ground). Information can be obtained from the Coastal Environment Centre (CEC) ph: 9970 6905.
- D194. Removal of dead wood and dead trees prohibited (listed as a 'Key Threatening Process' in Schedule 3 of the Threatened Species Conservation Act). Due to the proximity of the site to the nearby bushland it is seen as appropriate to implement this condition. Within NSW about 120 vertebrate species use tree hollows and most of these can utilise dead trees, relevant threatened species in the Pittwater include the Glossy Black-Cockatoo, Squirrel Glider and Barking Owl. Fallen trees (dead wood) provides habitat for a suite of invertebrate species dependent on decaying wood for their survival, these species play a crucial role in recycling nutrients within an ecosystem.
- D206. The Threatened Species Conservation Act 1995 protects threatened species, endangered ecological communities or endangered populations and their habitat. No site disturbance, development, clearing of native vegetation, planting of exotic vegetation, removal or destruction



of bush rock, or other activities not approved as part of this consent shall be carried out that adversely impacts on threatened species, endangered ecological communities or endangered populations or their habitats.

D207. Electrical insect killing light devices should not be outside and not installed anywhere as they can attract and kill micro-bats and killing insects reduces bat food and insects.

D208. Only mulch certified to be from native trees should be used, otherwise there may be large infestations of willows, camphor laurel, privet and other noxious weed species introduced onto the site.

D209. The trees that are felled for construction are (where possible/practical) to be retained on site if not then to be mulched and mulch used on site to prevent bringing weed propagules onto the site. The logs can be used as habitat, slope stabilisation and/or as steps. These logs must be cut lengthwise so that they remain stable and do not roll down the site.

D209. There is to be no importing of soil to the site.

D210. Gravel used onsite must be inert material such as quartz or sandstone. No blue metal or granite or other igneous material should be used.

D211. Any future caretakers of domestic animals are to prevent them from entering bushland at all times; and cats are to be restricted from entering wildlife habitat areas at all times. Cats are not permitted to leave the property between dusk and day unless restricted.

E. MATTERS TO BE SATISFIED PRIOR TO ISSUE OF OCCUPATION CERTIFICATE

NOTE: The issue of interim or partial Occupation Certificates is not permissible within the terms of this consent unless otherwise specifically stated. Prior to the issue of an Occupation Certificate the principal certifying authority is to ensure that Council's assets, including road, kerb and gutter and drainage facilities adjacent or near to the site have not been damaged as a result of the works. Where such damage has occurred, it is to be repaired to Council's written satisfaction prior to the issue of an Occupation Certificate or suitable arrangements put in place to effect those repairs at a future date to Council's written satisfaction. Should this process not be followed, Council will pursue action against the principal accredited certifier in relation to the recovery of costs to effect such works.

NOTE: It is an offence to occupy the building or part thereof to which this consent relates prior to issue of an Occupation Certificate.

E10. A certificate prepared by an appropriate qualified person is to be submitted for the following building components, certifying to the principal certifying authority that the nominated works have been carried out in accordance with the Building Code of Australia, relevant Australian Standards and any conditions of Development Consent. Works are not to progress past this point until the principal certifying authority has confirmed that this condition has been satisfied (see copy of form attached).

E10c. External Finishes EF-1

E10d. Roof ridge levels RL-1

E31. Prior to the issue of the Occupation Certificate, an Accredited Certifier/Licensed Builder is to certify to the satisfaction of Council or the Accredited Certifier that the attached requirements of Department of Infrastructure, Planning and Natural Resources/ New South Wales Rural Fire



Service/ New South Wales Fisheries, dated have been satisfied.

- E45. Bushland Management Consultant to verify that nest boxes appropriately installed.
- E46. Bushland Management Consultant to verify that native plant selection and appropriate planting as per ESP has been implemented. The consultant company hired to undertake the ESP for the site is to certify that all actions prescribed in the approved Ecological Sustainability Plan have been undertaken fully and completed and that an appropriate program of regeneration and maintenance has been entered into and that prescribed conditions have been undertaken on the site and that bushland, vegetation, fauna and habitats has been adequately protected during construction.
- E47. Weed removal is to be certified prior to final sign-off of works
- E86. The **building** work that is the subject of this consent is not to be occupied or used until an Occupation Certificate has been issued, confirming that the project complies with the relevant standards and the conditions of development consent. The request for an Occupation Certificate is to be accompanied by a copy of all of the Compliance Certificates required by the conditions of development consent (see copy of form attached).
- E87. Prior to issue of the Occupation Certificate, Form 3 of the "Geotechnical Risk Management Policy" is to be completed and submitted to Council or the Accredited Certifier. Certificates are to be submitted where the recommendations of the approved Geotechnical Report prepared by Crozier - Geotechnical Consultants, Project No 2385 dated December, 2003 require sign-offs during the construction phase to achieve the "acceptable level of risk" criteria specified in the Geotechnical Risk Management Policy.
- E88. A positive covenant/ restriction on the use of land is to be created prior to the issue of the Occupation Certificate where the recommendations of the approved Geotechnical Report prepared by Crozier - Geotechnical Consultants, Project No 2385 dated December, 2003 requires on-going maintenance/inspections to ensure that the development achieves the "acceptable level of risk" criteria over the life of the development.

F. MATTERS TO BE SATISFIED PRIOR TO ISSUE OF SUBDIVISION CERTIFICATE

Nil

G. ADVICE

- G23. Failure to comply with the relevant provisions of the Environmental Planning and Assessment Act, 1979 (as amended) and/or the conditions of this Development Consent may result in the serving of penalty notices (on-the-spot fines) under the summary offences provisions of the above legislation or legal action through the Land and Environment Court, again pursuant to the above legislation.
- G24. The applicant is also advised to contact the various supply and utility authorities, ie Sydney Water, Sydney Electricity, Telstra etc. to enquire whether there are any underground utility services within the proposed excavation area.
- G25. It is the Project Manager's responsibility to ensure that all of the Component Certificates/certification issued during the course of the project are lodged with Council. Failure



to comply with the conditions of approval or lodge the Component Certificates/certification will prevent Council from issuing the Occupation Certificate or the Building Certificate.

- G26. In accordance with Section 80A(1)(d) and (e) of the Act, any consent given shall be void if the development to which it refers is not commenced within two (2) years after the date of approval, provided that Council may, if good cause be shown, grant an extension of renewal of such consent beyond such period.

NOTE: Council may be prepared to consider an extension of this Consent period for a further 12 months, however, the request for extension would have to be received during the initial 2 year period.

- G27. To ascertain the date upon which the determination becomes effective, refer to Section 83 of the Environmental Planning and Assessment Act, 1979 (as amended).
- G28. Should any of the determination not be acceptable, you are entitled to request reconsideration under Section 82A of the Environmental Planning and Assessment Act, 1979. Such request to Council must be made in writing together with a \$500 fee, within 1 year from the date of determination.
- G29. If you are dissatisfied with this decision, Section 97 of the Environmental Planning and Assessment Act, 1979, gives you a right of appeal to the Land and Environment Court within 12 months of the date of endorsement of this Consent.
-

Proposed Alterations and Additions

14 Bona Crescent, Towlers Bay

Wastewater Management Study

Prepared for Development Application Submission

Revision 01

ACOR CONSULTANTS PTY LTD

ENGINEERS

MANAGERS

INFRASTRUCTURE PLANNERS

SYDNEY-MELBOURNE-BRISBANE

ACN 079 306 246

ABN 26 522 454 721

Level 1, 24 Falcon Street

PO Box 822

Crows Nest NSW 2065

1. Introduction

This report assesses the current wastewater treatment system at 14 Bona Crescent, Towlers Bay and makes recommendations for any upgrade required as a result of the proposed alterations to the existing development. The existing system will also be assessed in accordance with EPA and NSW Health Department guidelines.

The development currently consists of a two bedroom cottage. The proposed alterations and additions include a storage/bunk room and a new covered deck. The layout of the existing building and the proposed alteration is detailed in Architectural Drawing DO2, prepared by Rodney Bowry Design Studio (previously submitted to Council for Development Approval).

This Wastewater Management Study has been undertaken in accordance with Clause B5.1 of Pittwater Council's 'Pittwater 21 Development Control Plan' and correspondence with Pittwater Council's development team.

2. Site Description

The existing development is located on the Southern side of Towlers Bay, Pittwater, in an area of residential dwellings. It is located in a natural bushland setting with views over Towlers Bay and Pittwater. The site slopes gently North towards the waters edge.

Refer to the Statement of Environmental Effects and Site Landscape Plan prepared by Rodney Bowry Design Studio for a detailed landscape and vegetation description.

The existing dwelling has no mains services connection; all water is supplied from on-site tanks (to be relocated in the proposed alteration) and all wastewater is discharged to an on-site wastewater system.

3. Wastewater Generation Rates

The existing residence has capacity for 4 persons living in the residence. It consists of two bedrooms, a kitchen/dining area, bathroom, laundry and living room.

The estimated maximum daily effluent discharge is $4 \times 145\text{L/person/day} = 580$ litres.

As the proposed alterations are for a storage/bunk area and do not include any additional plumbing features, it is not expected that there will be a significant change in wastewater generation rates compared to the existing dwelling.

The estimated maximum daily effluent discharge if 6 persons are to use the property is $6 \times 145\text{L/person/day} = 870$ litres.

4. Existing Wastewater Treatment Plant

At present, all wastewater from the dwelling is discharged to the septic tank located to the front of the building, as shown on the Site Analysis Plan SK3, prepared by Rodney Bowry Design Studio.

After primary treatment in the septic tank this water is discharged to the environment via an absorption trench.

5. Pittwater Council & NSW Health Guidelines

Pittwater Council's DCP (Clause B45) requires effective management of wastewater systems to a centralised reticulation system, in accordance with environmental standards. Where a centralised reticulation system is not available, on-site wastewater treatment systems should have a current accreditation with NSW Health Department.

Whilst NSW Health Department have ideal buffer zones to be adopted between septic tanks and permanent water bodies, the constraints of this site (bounded by Pittwater and steep cliffs) make the ideal separation distances impossible for this property. The existing septic tank is located 25m from the high water mark.

6. Recommendations for Upgrade

As the wastewater load will not increase and there are no new plumbing fixtures or fittings to be installed, it is proposed that the existing septic tank may be retained on site for treatment of the wastewater stream. The existing system will provide a minimum of 1-day effluent storage for management of system maintenance, in accordance with NSW Health guidelines.

It is proposed that the current buffer zone will allow adequate dilution, absorption, evaporation, transpiration and nutrient uptake by vegetation.

To ensure no polluted waters enter Pittwater from systems failure or poor maintenance, the septic tank should be managed and maintained in accordance with NSW Department of Local Government's 'The Easy Septic Guide'.

DEPARTMENT OF INFRASTRUCTURE, PLANNING AND NATURAL RESOURCES

**PERMIT UNDER PART 3A OF
THE RIVERS AND FORESHORES
IMPROVEMENT ACT 1948**



Name and Address of Permit Holder

RS Belgiovane

NSW

0

Permit Number

ERM2004/005394

Date Permit Issued

as per date of issue of
Council Consent

Date Permit Expires

as per expiration date of
Council Consent

By granting this Permit, the Department does not in any way release the owner/s from their obligation/s to fully comply with any covenants, regulations and restrictions imposed by other Authorities.

This permit is ONLY VALID for period of Council consent.

DIPNR File Number 9012322

Name of Stream:

Catchment:

Purpose/Proposal: Being for works on, in or under protected lands and/or waters as defined by the Rivers and Foreshores Improvement Act (1948).

Location of Works: 14 Bona Crescent, Towlers Bay

Lot/DP

Portion:

Parish:

County:

LGA: Pittwater

DA Number

DA669/04

Map Name:

Eastings: 0

Northings: 0

Description of Works: additions to dwelling

SEE REVERSE FOR STANDARD PERMIT CONDITIONS

Special Conditions:

APPROVED BY REGIONAL DIRECTOR PER:

FOR FURTHER INFORMATION PLEASE CONTACT:

[Signature]

Signature of Authorised Officer

Date: 19/10/2004

Sent To: Nikki Allwood

Phone: 9895 6250

Fax: 9895 7222

Department of Infrastructure, Planning and Natural Resources, Sydney Metro Region
Macquarie Tower, 10 Valentine Avenue, Parramatta, NSW, 2150.
PO Box 3720, Parramatta, NSW, 2124.

Our Ref: ERM2004/005394

Your Ref: DA669/04 File No: 9012322



Attention Sarah Winnacott

The General Manager
Pittwater Council
PO Box 882
MONA VALE NSW 1660



Contact Officer

19/10/2004

Nikki Allwood
9895 6250

Dear Sir/Madam

Re: Integrated Development - 14 Bona Crescent, Towlers Bay

The Department of Infrastructure, Planning and Natural Resources has reviewed the subject development application for works within 40 metres of a watercourse/foreshore for the purposes of the Rivers Foreshores Improvement Act (1948). The department proposes to issue General Terms of Approval for the development as presented.

Enclosed are the department's General Terms of Approval (GTA's) and the Part 3A Permit. The GTA's are to be included as part of any consent granted.

1. The department requires notification if the documents are amended, only if these amendments change or result in additional 'works' in or within 40 metres of a watercourse/foreshore. Once notified, the department will ascertain if the amended plans require review and variation/s to the GTAs. This requirement applies even if the proposed 'works' are part of the consent authority's proposed consent conditions and the 'works' do not appear in the original documents. Failure to notify amendments within the 40 metre zone may make the consent invalid.
2. The department requests notification if there is any legal challenge to the consent as the department may wish to participate in the matter if appropriate.
3. Please note under Section 91A (6) of the Environmental Planning and Assessment Regulations (1994), the consent authority must provide the department with a copy of any determination/s including refusals.

Attached please find a Permit issued under Part 3A of the Rivers and Foreshores Improvement Act (1948). PLEASE ISSUE THIS PERMIT to the applicant together with consent but ONLY IF CONSENT IS GRANTED.

Please direct any questions or correspondence to the Environmental Review Coordinator (02) 9895 7978.

Yours sincerely



Andrew Watson
Regional Planning Coordinator
Sydney Region West
Metropolitan Land and Resource Planning

**DEPARTMENT OF INFRASTRUCTURE,
PLANNING AND NATURAL RESOURCES**
Rivers and Foreshores Improvement Act (1948)



General Terms of Approval

FOR INTEGRATED DEVELOPMENT

14 Bona Crescent, Towlers Bay

ERM2004/005394

File No

9012322

Lot, DP:

DA Number DA669/04

LGA: Pittwater

1. All works proposed must be designed, constructed and operated to minimise sedimentation, erosion and scour of the banks or bed of the watercourse/foreshore and to minimise adverse impacts on aquatic and riparian environments.
2. Erosion and sediment control measures are to be implemented prior to any works commencing at the site and must be maintained, for as long as necessary after the completion of works, to prevent sediment and dirty water entering the watercourse/foreshore environment. These control measures are to be in accordance with the requirements of Council or the consent authority and best management practices as outlined in the NSW Department of Housing's "Managing Urban Stormwater: Soils and Construction" Manual (1998) - the 'Blue Book'.
3. The Part 3A Permit from the Department is issued for works on FREEHOLD land only. This Permit is null and void for any works on Crown Land.
4. Rehabilitation of the area in accordance with the 3A Permit Conditions or any direction from the Department is the responsibility of the Permit holder and owner or occupier of the land.
5. Work as executed survey plans of a professional standard and including information required by the Department shall be provided to the Department on request.
6. If, in the opinion of a Departmental Officer, works are carried out in such a manner that they may damage or adversely affect the watercourse or foreshore environment, the Departmental Officer may issue an oral or written direction to immediately stop all work/s.
7. If any of the Department's Part 3A Permit Conditions are breached, the Permit holder shall restore the site in accordance with these Conditions and any other necessary remedial actions as directed by the Department. If any breach of the Part 3A Permit Conditions requires a site inspection by the Department, then the permit holder shall pay a fee prescribed by the Department for this inspection and all subsequent breach inspections.

Special Conditions:

END OF CONDITIONS

All communications to be addressed to:

WARRINGAH / PITTWATER FCC
NSW Rural Fire Service
PO BOX 111
TERREY HILLS NSW 2084

Telephone: (02) 9450 3000
e-mail: george.sheppard@rfs.nsw.gov.au

WARRINGAH / PITTWATER FCC
NSW Rural Fire Service
THOMPSON DR OFF KAMBER RD
TERREY HILLS NSW 2084

Facsimile: (02) 9450 1028



The General Manager
Pittwater Council
PO Box 882
Mona Vale NSW 1660

Your Ref: N0669/04

Our Ref: DA04092214171 GS

Attention: Sarah Winnacott

Date: 27-Sep-2004

Dear Sarah,

RE: Land Use Application for 4 / 21880, 14 Bona Crescent, Towlers Bay NSW 2105

I refer to your letter dated 13-Sep-2004 seeking our advice in accordance with section S.79BA of the Environmental Planning & Assessment Act 1979 for the above property.

Based upon an assessment of the plans and documentation received for the proposal, the NSW Rural Fire Service, in respect to bush fire matters, provides the advice that the development should have the following conditions:

1. Construction shall comply with AS3959 - 1999 level 3 'Construction of Buildings in bushfire prone areas'.
2. Roofing shall be gutterless or have leafless guttering and valleys are to be screened to prevent the build up of flammable material.
3. Roller doors, tilt-a-doors and the like shall be sealed to prevent the entry of embers into the structure.
4. The entire property shall be managed as an 'Inner Protection Area' as outlined within section 4.2.2 in Planning for Bushfire Protection 2001.
5. In recognition that no reticulated water supply exists, a 10,000 litre dedicated water supply tank shall be provided and a minimum of 3kW (5hp) petrol or diesel powered pump. A 65mm storz fitting and ball or gate valve shall be installed in the tank.
6. Access to the rear of the property shall be provided for fire fighting purposes.
7. All fencing shall be constructed from non-combustible materials.

The NSW Rural Fire Service is satisfied that this development proposal conforms to the specifications and requirements of Planning for Bushfire Protection 2001 as required under section 79BA of the Environmental Planning and Assessment Act 1979 No 203.

For any enquiries regarding this correspondence please contact George Sheppard.

Yours faithfully,

Craig Geddes
Fire Control Officer

[illegible]

design

**rodneymbowry
designstudio**

B Industrial Design Inc.
BA, Architecture
1 daisy street
dee why nsw
2069 sydney
australia

ph.: 02 99712447
mob.: 0400 803 970
email: rodneymbowry@mac.com

client

MIR ROB MR SSHERIDAN
BELGIOVANE

project ALTERATIONS AND ADDITIONS

LOT 4
14 BONA
CRESCENT
TOWLERS
BAY NSW

designation	plan
SITE PLAN	
EROSION CONTROL	
WASTE MANAGEMENT	
WASTE WATER MANAGEMENT	

scale

1:200

date _____

JULY
2004

plan n°	issue
	D

COOL

0320



site plan

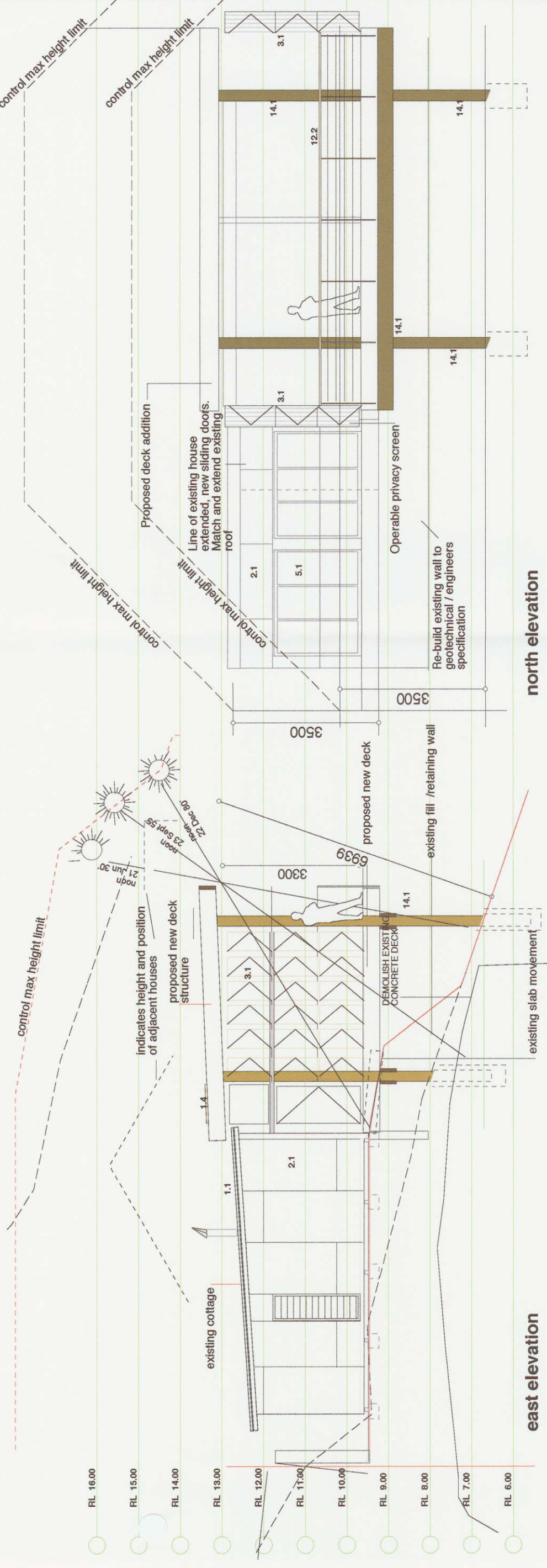
0 1 3M

SYDNEY WATER
APPROVED

1. Position of structure in relation to Sydney Water's assets is satisfactory.
2. Connections to Sydney Water sewer/water services may only be made following the issue of a permit to a licenced plumber/drainier.
3. It is the owner's responsibility to ensure that all proposed fittings will drain to Sydney Water's sewer.
4. Any Plumbing and/or Drainage Work to be carried out in accordance with the Sydney Water Act 1994, AS 3500 and the NSW Code of practice.
5. Gullies, Inspection Shafts and Boundary Traps shall not be placed under any Roof, Balcony, Verandah, Floor or other cover unless otherwise approved by Sydney Water.
6. Property No. 3467268

Reece, Brookvale,
Quick Check Agent on behalf of
SYDNEY WATER

per: WCB 2,305



design
rodneymbowry
designstudio
B Industrial Design house,
BA, Architecture
1 daisy street
dee why nsw
2069 sydney
australia
ph.: 02 89712447
mob.: 0400 803 9700
email.:
rodneymbowry@mac.com
client
MR ROB MR SHERIDAN
BEEGWYVANE

ALTERATIONS AND ADDITIONS

designation

scale

date _____

plan n°	issue
	B

CC04

section a

Planting Schedule:

Code	Botanical Name	Common Name	Quantity	Pot size	Mature Ht.
Climbers & Ground Covers					
Aa	Adiantum aethiopicum	Maidenhair Fern	24	5 litre	30cm
Bs	Billardiera scandens	Apple Berry Dimpplings	6	5 litre	climber
Dc	Dianella caerulea	Blue Flax Lilly	12	5 litre	to 1m
Dca	Doodia caudate	Small Rasp Fern	12	5 litre	30cm
LI	Lomandra longifolia	Mat Rush	33	5 litre	70cm
Trees & Shrubs					
Ac	Angophora costata	Sydney Red Gum	2	25litreto	25m
Bo	Breynia oblongifolia	Breynia	6	5 litre	2-3m
Er	Elaeocarpus reticulatus	Blueberry Ash	48	25 litre	4-10m
Gf	Glochidion ferdinandii	Cheese Tree	6	25 litre	8-16m
Hs	Hakea sericea	Bushy Needlebush	3	100 litre	2-3m
NI	Notelaea longifolia	Mock Orange	6	5 litre	2-3m
Pu	Pittosporum undulatum	Native Daphne	5	100 litre	4-8m
Palms & Associates					
La	Livistona australis	Cabbage Palm	20	100 litre	10-15m
Mc	Macrozamia communis	Cycad Palm	32	25 litre	1.5m
Xm	Xanthorrhoea macronema	Grass Tree	4	25 litre	to 2m

Pittwater spotted gum forest - endangered ecological community plant list

- Acacia floribunda - Acrotriche divaricata - Adiantum aethiopicum - Allocasuarina littoralis - Allocasuarina torulosa - Angophora costata - Angophora floribunda - Billardiera scandens - Breynia oblongifolia - Cassytha paniculata - Cayratia clematidea - Cissus hypoglauca - Corymbia gummifera - Corymbia maculata - Dianella caerulea - Dodonaea triquetra - Doodia caudata - Eleocarpus reticulatis - Entolasia stricta - Eucalyptus botryoides - Eucalyptus paniculata - Eucalyptus punctata - Eucalyptus umbra	- Eustrephus latifolius - Geitonoplesium cymosum - Glochidion ferdinandii - Gymnostachys anceps - Hakea sericea - Hydrocotyle peduncularis - Livistona australis - Lomandra longifolia - Macrozamia communis - Notelaea longifolia - Oxylobium ilicifolium - Pandorea pandorana - Pittosporum undulatum - Platylobium formosum - Pseuderanthemum variabile - Pteridium esculentum - Pultenaea flexilis - Syncarpia glomulifera - Synoum glandulosum - Themeda australis - Xanthorrhoea macronema
--	--

Protection of existing trees.

Retain all existing trees on site as surveyed. Maintain existing soil levels for on site trees. Remove weed growth, dead wood and dangerous branches to make safe. Protect throughout works as per Council conditions.



PRODUCTIVE PLANTS PTY LTD

Landscape Design + Installation

A.C.N. 003 718 714
A.B.N. 58 003 718 714
PO BOX 988 • NEUTRAL BAY NSW • 2089
Phone mobile: 0418 256 770
Drawn: Feb. '05 by Mark Fitzgerald - Certificate of Horticulture

Scale 1:200

architectural design
rodneybowry
designstudio
1 daisy street
dee why nsw
2089 sydney
australia
ph: 02 98712447
mob: 0400 803 970
email:
rodneybowry@mac.com

client
MR ROB MR SHERIDAN
BELGIOVANE

project

ALTERATIONS
AND
ADDITIONS

LOT 4
14 BONA
CRESCENT
TOWLERS
BAY NSW

designation
LANDSCAPE
PLAN
ECOLOGICAL
SUSTAINABILITY
PLAN

scale
1:200

date
FEB
2005

plan n°
A

issue
A

ESP1

0320

SPECIFICATION

LANDSCAPE PLAN / ECOLOGICAL SUSTAINABILITY PLAN

1. PREPARATION

a) Weed eradication

b) Surplus spoil

2. SUBSOIL

General: If pra

Ripping depths: Rip the subsoil to the following typical depths:

- ### b) Cultivation

c) Additives

Gypsum: Incorporate at the rate of 0.25 kg/m².

a) General

b) Source

b) Placing topsoil

- grassed areas may be finished flush with adjacent hard surfaces such as kerbs, paths and mowing strips.

Compact lightly and uniformly in 150 mm layers. Avoid differential

- finished to design levels.

- ### e) Topsoil depths

- Planting areas: 225 mm.

- #### 4. TURFING

Obtain turf from

Alaans (q

Preventing the Resulting

Mix fertiliser thoroughly into the topsoil before placing the turf

of Layn

- d) Tamping**

roller.

Water immediately after laying until the topsoil is moistened to its full

a) Excavation

b) Plants

Trees: Provide trees which, unless required to be multi-stemmed,

c) Labelling

d) Planting conditions

e) Watering

7 Fertilising

6. MULCHING

Depth: 75 mm.

a) Stakes

Stake sizes:

b) Ties

height of the main stem others as necessary to stabilise the plant

[illegible]

client
ROB MR SSHERIDAN

designation

date

plan n°	issue
1	1
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ESP2
0320 A

COLOURS

COLORBOND® steel Standard Range		COLORBOND® steel Premium Range	COLORBOND® steel For Fencing
Old	New	Ultra steel & stainless steel	
Tuscan Red	Headland®	Headland®	
Heritage® Red	Manor Red™		Red Oak®
Pale Terracotta*			
	Jasper™		
	Sandbank™		
Smooth Cream	Classic Cream™		
Off White	Surfmist®	Surfmist®	
Wheat®			Harvest®
Merino	Paperbark™		Terrace®
Birch	Dune®	Dune®	
Stone*			Riversand®
Gull Grey	Shale Grey™		
Armour Grey	Windspray®	Windspray®	
Slate Grey	Woodland Grey™		Grey Ridge®
	Bushland™		Teatree®
Mist Green	Pale Eucalypt™		Meadow®
Rivergum	Wilderness®	Wilderness®	Willow®
Caulfield Green	Cottage Green™		Evergreen®
	Plantation™		Hedge®
Torres Blue*			
	Blue Ridge™		
Mountain Blue	Deep Ocean®	Deep Ocean®	Bluestone®
	Ironstone™		
Ebony	Night Sky™		
			Domain®
			Summershade®
			Estate®

KEY

Legend Numbers 1.1,1.2 :

Roofing

Colorbond Windspray

Legend Numbers 2.1 :
External Walls

"Eco Ply" cladding existing cottage stained "Wattyl Charcoal" minor details / window frames painted "White" weather shield "White"



rodney bowry designstudio 2004

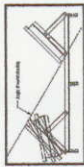


rodney bowry designstudio 2004



Legend Numbers 12.1,3.1 :
Decking / Floorboards/ Shutters

rodney bowry designstudio 2004



Legend Numbers 16.0
Solar Power



STRUCTURAL PRECEDENCE .
SHIGERU BAN 1996

Legend Numbers 14.1
Structure

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

Development Application for <u>RODNEY BOWEN DESIGN STUDIO</u>	Name of Applicant # <u>N0669/04</u>
Address of site <u>LOT 4, BONA CRES., TOWLERS BAY</u> <u># 14</u>	

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

I, BRUCE LEWIS on behalf of NORTHERN BEACHES CONSULTING ENGINEERS
 (insert name) (trading or company name) P/L

on this the 28/01/05
 (date)

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

Geotechnical Report Details:

Report Title:	<u>4 BONA CRES. TOWLERS BAY</u>
Report Date:	<u>23 DEC 2003</u>
Author:	<u>PETER CROZIER</u>

Structural Documents list:

<u>031119</u> <u>S01, S02, S03, S04, S05, S06, S07,</u> <u>S08, S09, S10, S11 & S12.</u>

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.

BRUCE LEWIS
 (name)

BR
 (signature)

Declaration made by Geotechnical Engineer or Engineering Geologist in relation to Structural Drawings

I prepared and/or technically verified the abovementioned Geotechnical Report as per Form 1 dated _____ and now certify that I have viewed the above listed structural documents prepared for the same development. I am satisfied that the recommendations given in the Geotechnical Report have been appropriately taken into account by the structural engineer in the preparation of these structural documents. I am aware that Pittwater Council relies on the processes covered by the Geotechnical Risk Management Policy, including this certification as the basis for ensuring that the geotechnical risk management aspects of the proposed development have been adequately addressed to achieve an "Acceptable Risk Management" level for the life of the structure taken as at least 100 years unless otherwise stated and justified in the Report and that reasonable and practical measures have been identified to remove foreseeable risk.

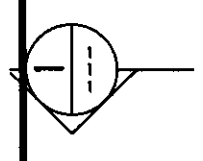
Signature Peter Crozier

Name Peter Crozier

Chartered Professional Status MIE Aust CPEng

Membership No. 691550





PF1

PF1

PF3

PF1

PF1

PF3

PF3

PF3

PF2

PF2

PF2

PF2

PF2

PF2

PF2

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PF2

PF2

PF2

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WIDEN FOOTING LOCALLY TO SUPPORT POSTS

EXISTING FOOTINGS

RW2

RW2

RW2

RW2

RW2

RW2

RW2

RW2

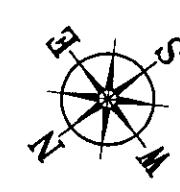
RW2

NOTE:

CONCRETE STRENGTH:

FOOTINGS:

f'c = 25 MPa, COVER = 65 mm

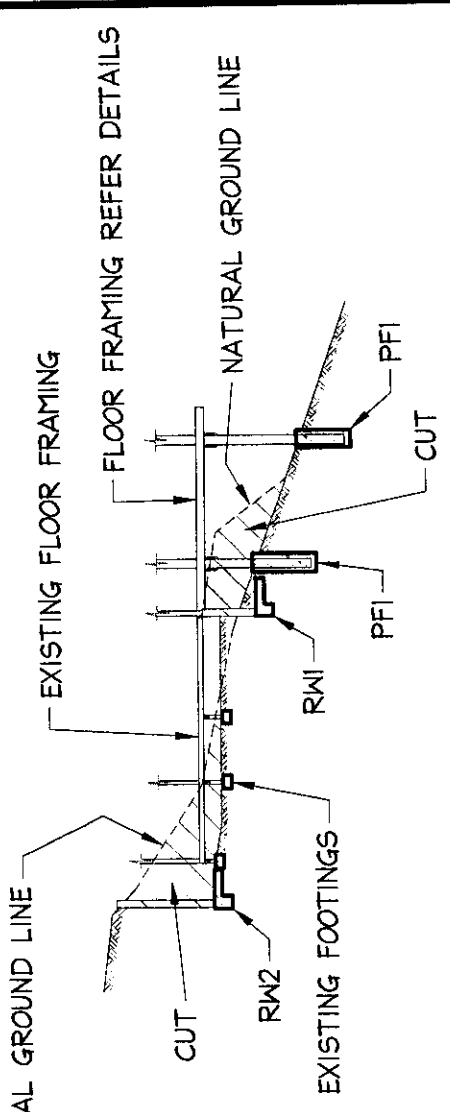


FOOTING PLAN

SCALE = 1 : 100

SECTION 1

SCALE = 1:200



GEOTECH AND STRUCTURAL ENGINEERS TO INSPECT ALL EXISTING FOOTINGS DURING CONSTRUCTION TO CONFIRM ADEQUACY.

- NOTES:**
- ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WITH WORK.
 - FOR GENERAL NOTES AND DRAWING SCHEDULE REFER TO DRAWING NUMBER: S01.

DOCUMENT CERTIFICATION

I am a qualified Structural/Civil Engineer.
I hold the following qualifications:
BE(Civil), CPEng, MIEAust, NPER.
Institute of Engineers Membership No. 879131
I hereby state that this drawing is in compliance with the provisions of the Building Code of Australia and/or relevant Australian/Industry Standards.

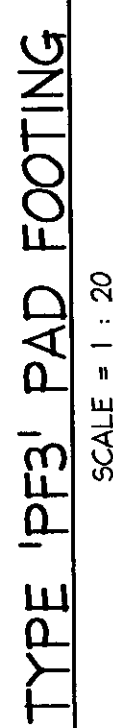
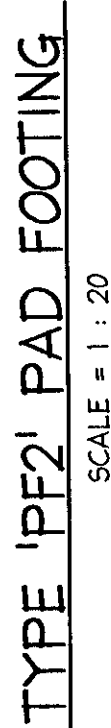
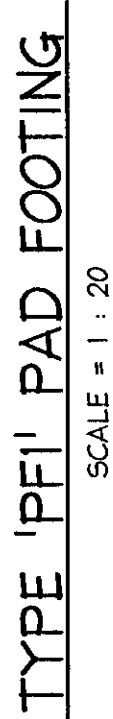
Date: 1 JAN 05
Bruce Lewis
(Director Northern Beaches Consulting Engineers)

NORTHERN BEACHES
Consulting Engineers P/L.
A.C.N. 076 121 616 A.B.N. 24 076 121 616
Suite 207, 30 FISHER ROAD
DEE WHY N.S.W. 2089
Ph: (02) 9984 7000 Fax: (02) 9984 7444
e-mail: nb@nbconsulting.com.au

Project: **PROPOSED ALTERATIONS**
at: **Lot 4 Bona Crescent**
Towlers Bay N.S.W.
for: **Sheridan & Robert Belgiovane**

Drawing Title: **FOOTING PLAN**

Date:	Rev:	Amendment:	Checked:
Jan 2005	B.L.		Paul R Bruce
Job No:	031119	Drawing No:	S02
Rev:			-



1. ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WITH WORK.
2. FOR GENERAL NOTES AND DRAWING SCHEDULE REFER TO DRAWING NUMBER: SOI.

-	-	-	Amendment:		
Date:	Rev:				
Date:		Design:	Drawn:	Checked:	
Jan 2005		B.L.	Paul R Bruce CHIEF Aust.	RW	
Job No:	031119		Drawing No:	Rev:	-

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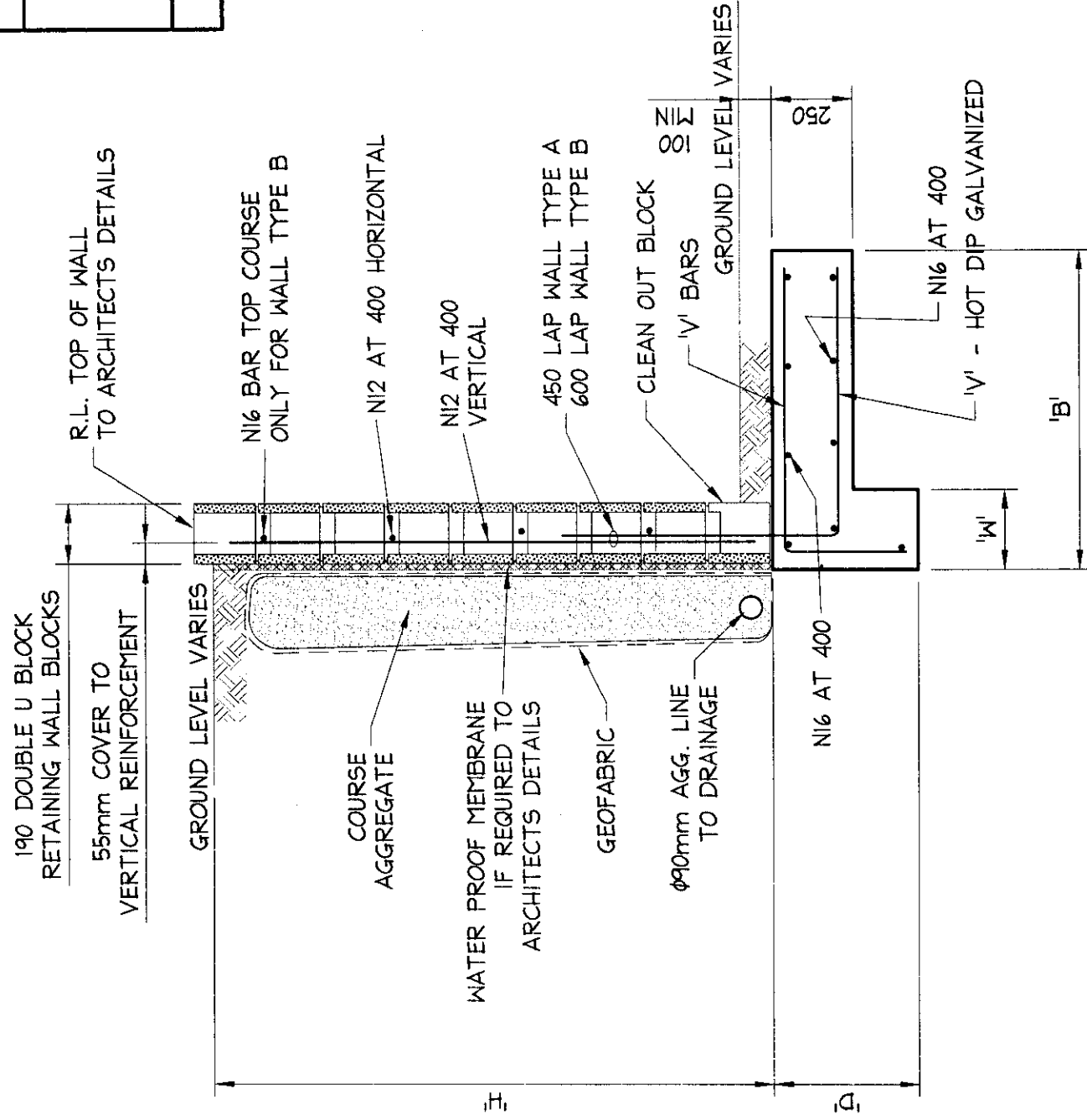
FOOTING DETAILS
SHEET 1

Be a consultant of this dynamic magazine with Northern Beaches Consulting Engineers Pty

RETAINING WALL REINFORCEMENT SCHEDULE

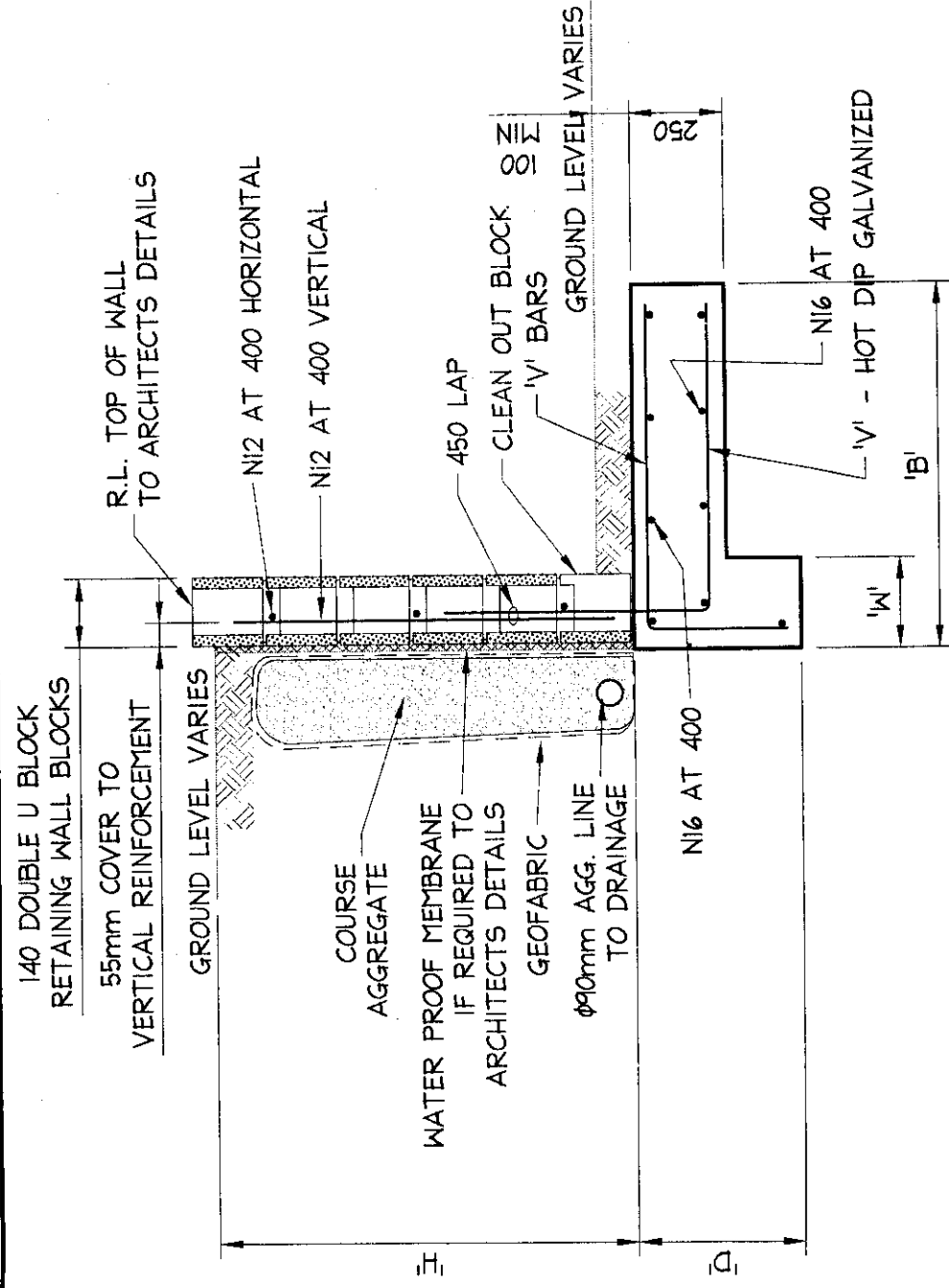
WALL TYPE	TOTAL WALL HEIGHT 'H'	LEVEL BACKFILL			'V' BARS	MAX. 1 in 4 SLOPING BACKFILL	
		'B'	'D'	'W'		'B'	'D'
A	800	600	500	450	N12 AT 400	800	500
	1000	800	500	450	N12 AT 400	1000	500
	1200	1000	500	450	N12 AT 400	1200	600
	1400	1200	500	450	N16 AT 400	1400	600
B	1600	1400	600	450	N16 AT 400	1600	700
	1800	1600	700	450	N16 AT 400	1800	800
	2000	1800	700	600	N16 AT 200	2000	800

NOTE: BASE DIMENSIONS FOR LEVEL BACKFILL. SLOPE UP TO 1 in 4 WITH 5 kPa SURCHARGE



RETAINING WALL RW2 - 0 to 2000

SCALE = 1 : 20



RETAINING WALL - 0 to 1200

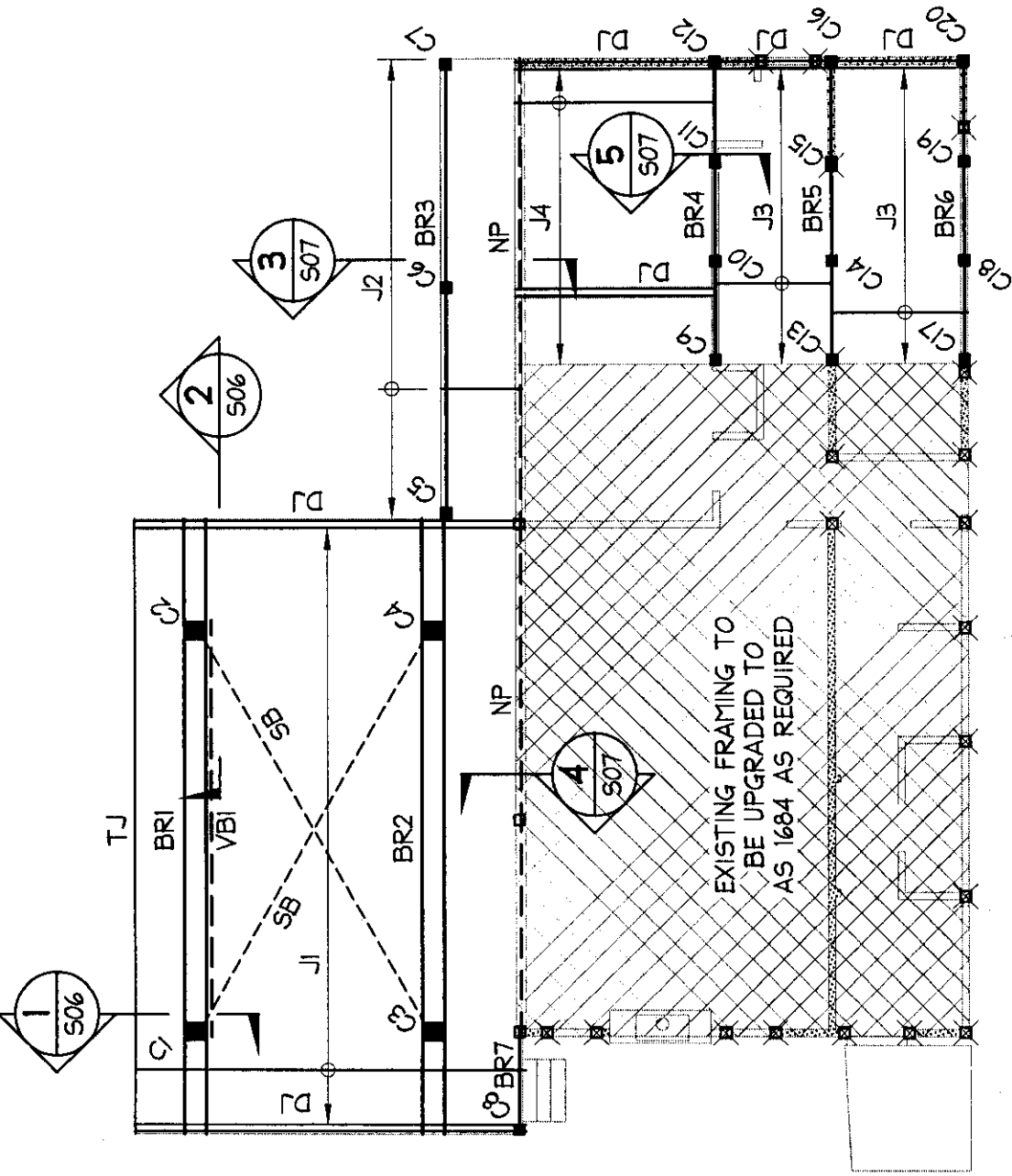
SCALE = 1 : 20

NOTES:

1. ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WITH WORK.
2. FOR GENERAL NOTES AND DRAWING SCHEDULE REFER TO DRAWING NUMBER: SOI.

REINAINING WALL RW2 - 0 to 2000 SCALE = 1 : 20		DOCUMENT CERTIFICATION <i>Jan 05</i> Date : <i>BR</i> Bruce Lewis (Director Northern Beaches Consulting Engineers)		I am a qualified Structural/Civil Engineer. I hold the following qualifications: BE(Civil), CPENG, MIEAust., NPER. Institute of Engineers Membership No. 879131 I hereby state that this drawing is in compliance with the provisions of the Building Code of Australia and/or relevant Australian/Industry Standards.		NORTHERN BEACHES Consulting Engineers P/L A.C.N. 076 121 616 A.B.N. 24 076 121 616 Suite 207, 30 FISHER ROAD DEE WHY N.S.W. 2089 Ph: (02) 9984 7000 Fax: (02) 9984 7444 e-mail : nb@nbconsulting.com.au		Project: PROPOSED ALTERATIONS at: Lot 4 Bona Crescent Towlers Bay N.S.W. for: Sheridan & Robert Belgiovane		Drawing Title: FOOTING DETAILS SHEET 2		Notes: 1. ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WITH WORK. 2. FOR GENERAL NOTES AND DRAWING SCHEDULE REFER TO DRAWING NUMBER: SOI.		Notes: 1. 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MEMBER SCHEDULE		
MARK	MEMBER	REMARKS
GROUND FLOOR FRAMING		
BR1, BR2	2 x 330x65 HYNE BEAM 17C SERVICE CLASS 3	BEARER
BR3	190x70 F7 H3 TREATED	BEARER
BR4 - BR6 incl	140x70 F7 H3 TREATED	BEARER
BR7	90x45 F17 KILN DRIED HARDWOOD DURABILITY CLASS 2	BEARER
J1	240x45 F17 KILN DRIED HARDWOOD DURABILITY CLASS 2	FLOOR JOISTS AT 450 CTS
J2	90x45 F17 KILN DRIED HARDWOOD DURABILITY CLASS 2	FLOOR JOISTS AT 450 CTS
J3	140x45 F7 H3 TREATED	FLOOR JOISTS AT 450 CTS
J4	190x45 F7 H3 TREATED	FLOOR JOISTS AT 450 CTS
C1, C2, C3, C4	200x200 F17 SEASONED HARDWOOD (RECYCLED)	COLUMN
C5, C6, C7, C8	90x90 F7 H3 TREATED	POST
C9 - C20 incl	HOT DIP GALVANIZED PROPRIETARY STEEL PIER WITH ANT CAP	POST/PIER
VBI	6mm ϕ STAINLESS STEEL CABLE CROSS BRACING WITH TURN BUCKLES	VERTICAL CROSS BRACING
GENERAL FRAMING		
SB	PRYDA STRAP BRACING WITH TENSIONERS TO UNDER SIDE OF FLOOR JOISTS WHERE INDICATED ON PLAN	
DJ	DOUBLE JOISTS GLUE AND NAIL LAMINATED	
TJ	TRIMMER JOIST TO MATCH ADJACENT JOISTS	
NP	140x45mm THICK F7 KILN DRIED H3 TREATED NAILING PLATE FIX TO BLOCK WALL WITH M12 EPOXY SET ANCHORS AT 900 CTS	
	LOAD CONCENTRATION POINT OVER	
	COLUMN OVER	
NOTE: 1. MGP 12 MAY BE SUBSTITUTED FOR F7 SOFTWOOD OR LESS. MGP MUST NOT BE USED AS A SUBSTITUTE WHERE HARDWOOD IS SPECIFIED. 2. ALL TIMBER SHALL BE KILN DRIED; DO NOT USE GREEN TIMBER. 3. ALL SOFTWOOD TIMBER FRAMING TO HAVE A MINIMUM TREATMENT PROTECTION OF H2 or T2 TREATED FOR TERMITE PROTECTION UNLESS NOTED OTHERWISE.		



NOTES:

- ORGANIC TERMITE TREATMENT TO BE CARRIED OUT TO PERIMETER OF ENTIRE BUILDING AND SUB-FLOOR AREAS. ANNUAL INSPECTIONS AND TREATMENT AS REQUIRED SHALL BE THE RESPONSIBILITY OF THE PROPRIETOR.
- WALL FRAMING SHALL BE IN ACCORDANCE WITH AS 1684 TIMBER FRAMING CODE AND NSW TIMBER FRAMING MANUAL. 90x45 F7 KILN DRIED T2 TREATED STUDS AT 450 CTS.
- BRACE WALLS AND ROOF IN ACCORDANCE WITH AS 1684 TIMBER FRAMING CODE AND NSW TIMBER FRAMING MANUAL.
- PROVIDE DOUBLE JOISTS BELOW ALL LOAD BEARING WALLS UNLESS NOTED OTHERWISE.
- TRIM FLOOR OPENINGS WITH EQUIVALENT JOIST SIZES UNLESS NOTED OTHERWISE.
- EXTERNAL/EXPOSED HYPAN LVL OR TASBEAM MEMBERS TO BE SUITABLY PRESERVATIVE TREATED TO H3 LEVEL (AS 1604) THEN STAINED OR PAINTED.
- EXTERNAL/EXPOSED HARDWOOD MEMBERS TO BE DURABILITY CLASS 2 OR BETTER (AS 1604) THEN STAINED OR PAINTED.
- ENGINEER TO INSPECT AND CERTIFY ALL FRAMING AND BRACING PRIOR TO SHEETING.

NOTES:

- ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WITH WORK.
- FOR GENERAL NOTES AND DRAWING SCHEDULE REFER TO DRAWING NUMBER: S01.

GROUND FLOOR FRAMING PLAN

SCALE = 1 : 100

DOCUMENT CERTIFICATION

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Date: 2/10/05
Bruce Lewis
(Director Northern Beaches Consulting Engineers)

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Consulting Engineers P/L
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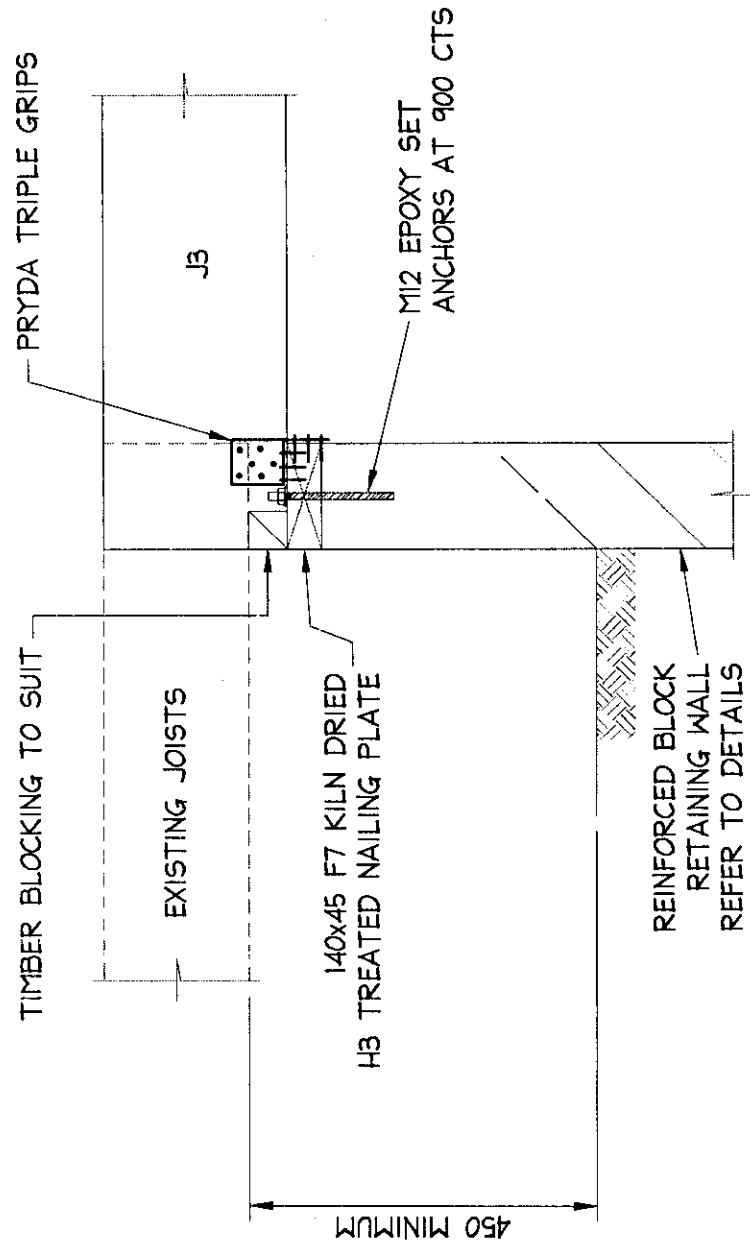
PROPOSED ALTERATIONS
at: Lot 4 Bona Crescent
Towlers Bay N.S.W.
for: Sheridan & Robert Belgiovane

Drawing Title:

**GROUND FLOOR
FRAMING PLAN**

The copyright of this drawing remains with Northern Beaches Consulting Engineers P/L

Date: Jan 2005	Design: B.L.	Drawn: Paul R Bruce 01/10/04	Checked: [Signature]
Date: -	Rev: -	Amendment: -	
Job No: 031119	Drawing No: S05	Rev: -	



SCALE = 1:10

SCALE = 1:10

SCALE = 1:10

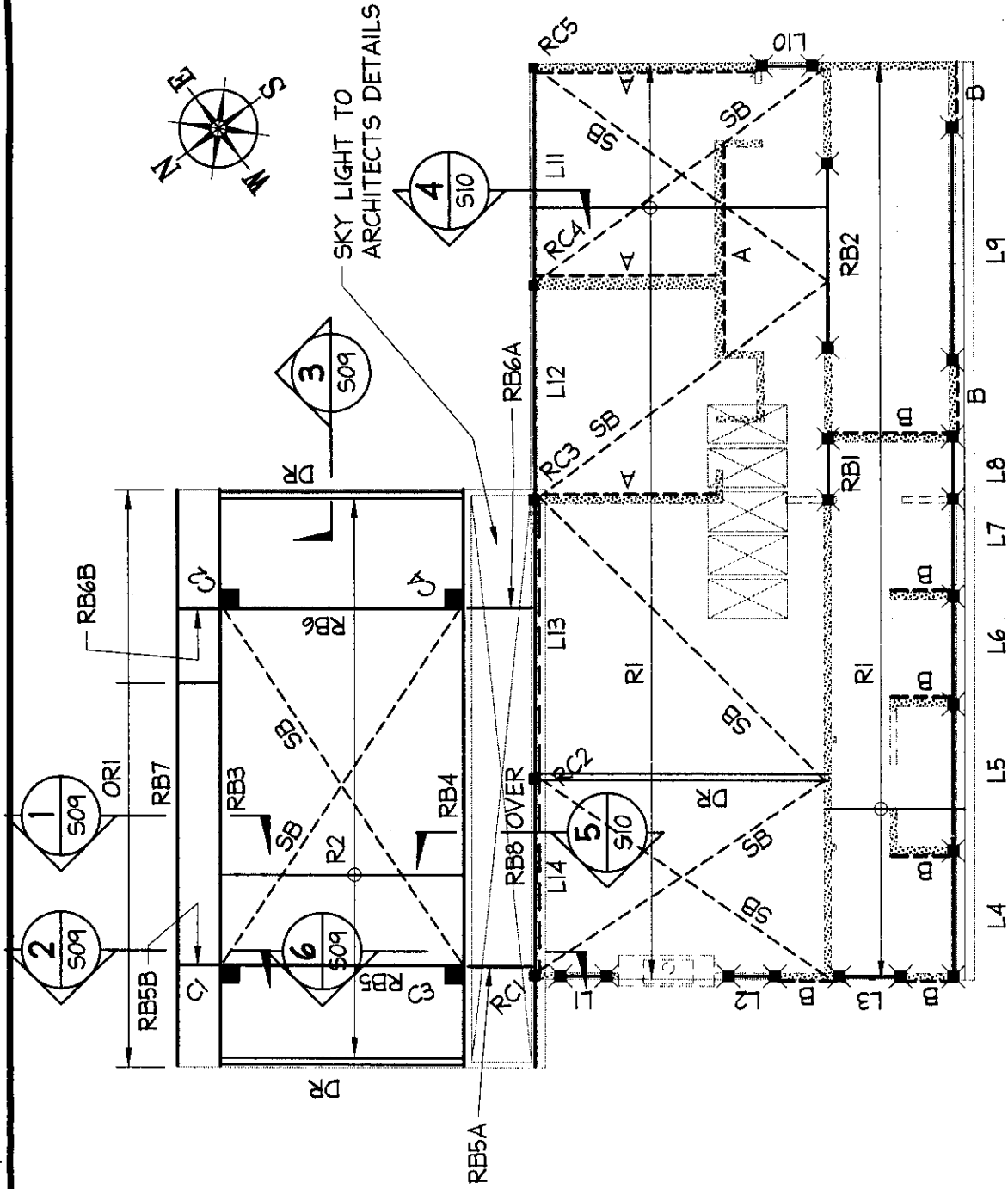
505

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2. FOR GENERAL NOTES AND DRAWING SCHEDULE REFER TO DRAWING NUMBER: SOL.

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NORTHERN BEACHES
Consulting Engineers P/L.
A.C.N. 076 121 616 A.B.N. 24 076 121 616
Suite 207, 30 FISHER ROAD
DEE WHY N.S.W. 2099
Ph: (02) 9984 7000 Fax (02) 9984 7444
e-mail: nb@nbiconsulting.com.au

The concept of this drawing remains with Northern Beaches Consulting Engineers Pty.



ROOF FRAMING PLAN

SCALE = 1 : 100

NOTES:

- 1. ORGANIC TERMITE TREATMENT TO BE CARRIED OUT TO PERIMETER OF ENTIRE BUILDING AND SUB-FLOOR AREAS. ANNUAL INSPECTIONS AND TREATMENT AS REQUIRED SHALL BE THE RESPONSIBILITY OF THE PROPRIETOR.
- 2. WALL FRAMING SHALL BE IN ACCORDANCE WITH AS 1684 TIMBER FRAMING CODE AND NSW TIMBER FRAMING MANUAL. 90x45 F7 KILN DRIED T2 TREATED STUDS AT 450 CTS.
- 3. BRACE WALLS AND ROOF IN ACCORDANCE WITH AS 1684 TIMBER FRAMING CODE AND NSW TIMBER FRAMING MANUAL.
- 4. TIE DOWNS TO ROOF RAFTERS AND BEAMS SHALL BE IN ACCORDANCE WITH AS 1684 TIMBER FRAMING CODE AND AS 1170.2 WIND LOADING CODE.
- 5. TRIM FLOOR/ROOF OPENINGS WITH EQUIVALENT JOIST/RAFTER SIZES UNLESS NOTED OTHERWISE.
- 6. EXTERNAL/EXPOSED HYPAN LVL OR TASBEAM MEMBERS TO BE SUITABLY PRESERVATIVE TREATED TO H3 LEVEL (AS 1604) THEN STAINED OR PAINTED.
- 7. EXTERNAL/EXPOSED HARDWOOD MEMBERS TO BE DURABILITY CLASS 2 OR BETTER (AS 1604) THEN STAINED OR PAINTED.
- 8. ENGINEER TO INSPECT AND CERTIFY ALL FRAMING AND BRACING PRIOR TO SHEETING.

MEMBER SCHEDULE		
MARK	MEMBER	REMARKS
ROOF FRAMING		
RB1, RB2	190x45 F7 KILN DRIED	BEAM
RB3, RB4	230x85 HYBE BEAM I7C	BEAM
RB5, RB5A, RB5B	230 PFC	BEAM
RB6, RB6A, RB6B	230 PFC	BEAM
RB7, RB8	245x45 HYNE EDGE BEAM LGL	BEAM
RI	190x45 F7 KILN DRIED	RAFTERS AT 600 CTS
R2	190x45 F7 KILN DRIED	RAFTERS AT 900 CTS
ORI	190x45 F7 KILN DRIED	RAFTERS AT 900 CTS
C1, C2, C3, C4	200x200 F7 SEASONED HARDWOOD (RECYCLED)	COLUMN
RC1, RC2	90x90x5 SH5	COLUMN
RC3, RC4, RC5	150x100x5 RH5 (150 E/W DIRECTION)	COLUMN
L1, L2, L3	90x45 F7 KILN DRIED	LINTEL
L4, L5, L6, L7, L8	140x45 F7 KILN DRIED CONTINUOUS OVER MINIMUM 2 SPANS	LINTEL
L9	2 x 190x45 F7 KILN DRIED	LINTEL
L10	90x45 F7 KILN DRIED	LINTEL
L11, L12, L13, L14	200 PFC (PORTAL FRAME FULLY WELDED TO COLUMNS)	LINTEL
GENERAL FRAMING		
SB	PRYDA STRAP BRACING WITH TENSIONERS TO UNDER SIDE OF FLOOR JOISTS AND RAFTERS WHERE INDICATED ON PLAN	LOAD CONCENTRATION POINT BELOW
A	ANGLE BRACING TO WALLS REFER TYPICAL DETAILS	
B	PLY BRACING TO WALLS REFER TYPICAL DETAILS	
DR	DOUBLE RAFTERS GLUE AND NAIL LAMINATED	
✕	2 STUDS NAIL LAMINATED or 90x90 F7 POST	

NOTE:

- 1. MGP 12 MAY BE SUBSTITUTED FOR F7 SOFTWOOD OR LESS. MGP MUST NOT BE USED AS A SUBSTITUTE WHERE HARDWOOD IS SPECIFIED.
- 2. ALL TIMBER SHALL BE KILN DRIED, DO NOT USE GREEN TIMBER.
- 3. ALL SOFTWOOD TIMBER FRAMING TO HAVE A MINIMUM TREATMENT PROTECTION OF H2 or T2 TREATED FOR TERMITE PROTECTION UNLESS NOTED OTHERWISE.

NOTES:

- 1. ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WITH WORK.
- 2. FOR GENERAL NOTES AND DRAWING SCHEDULE REFER TO DRAWING NUMBER: 501.

DOCUMENT CERTIFICATION

I am a qualified Structural/Civil Engineer.
I hold the following qualifications:
BE(Civil), CPENG, MIEAust, NPER.
Institute of Engineers Membership No. 879131
I hereby state that this drawing is in compliance with the provisions of the Building Code of Australia and/or relevant Australian Industry Standards.

Date:
Bruce Lewis (Director Northern Beaches Consulting Engineers)

NORTHERN BEACHES
Consulting Engineers P/L
ACN 076 121 616 A.B.N. 24 076 121 616
Suite 207, 30 FISHER ROAD
DEE WHY N.S.W. 2099
Ph: (02) 9884 7000 Fax: (02) 9884 7444
e-mail: nb@nbconsulting.com.au

Project: PROPOSED ALTERATIONS
at: Lot 4 Bona Crescent
Towlers Bay N.S.W.
for: Sheridan & Robert Belgiovane

ROOF
FRAMING PLAN

Drawing Title:

Date: Jan 2005

Design: B.L.

Drawn: Paul R Bruce

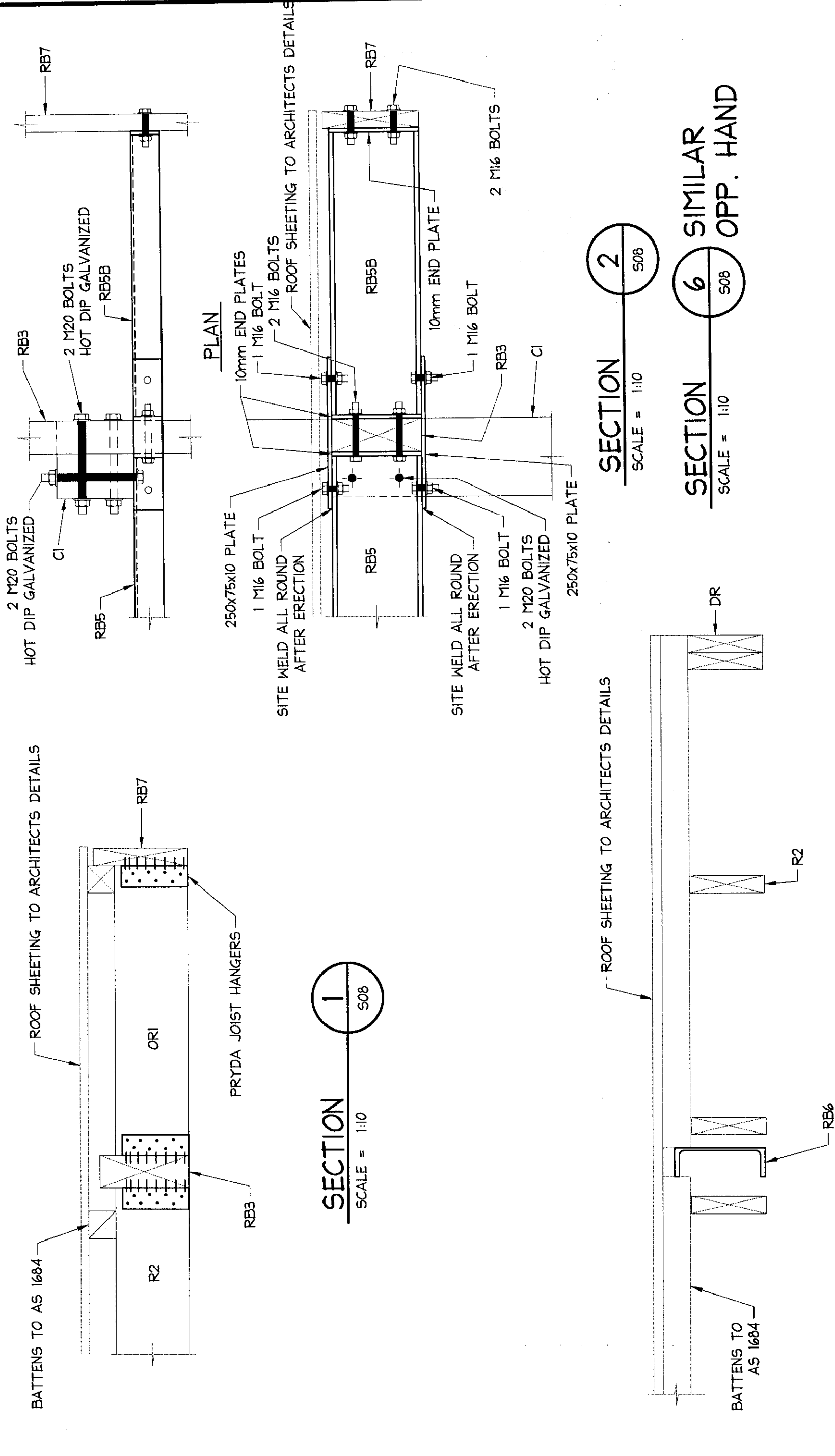
Checked:

Job No: 031119

Drawing No: 508

Rev: -

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NOTES:
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2. FOR GENERAL NOTES AND DRAWING SCHEDULE REFER TO DRAWING NUMBER: S01.

SECTION 3
SCALE = 1:10
S08

SECTION 2
SCALE = 1:10
S08

SECTION 6
SCALE = 1:10
S08
SIMILAR
OPP. HAND

SECTION 1
SCALE = 1:10
S08

DOCUMENT CERTIFICATION

Jas'os

Date: *27*

Bruce Lewis
(Director Northern Beaches Consulting Engineers)

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Consulting Engineers P/L
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PROPOSED ALTERATIONS
at: Lot 4 Bona Crescent
Towlers Bay N.S.W.
for: Sheridan & Robert Belgiovane

ROOF FRAMING
DETAILS SHEET 1

Project: **ROOF FRAMING**
DETAILS SHEET 1

Job No: **031119**
Drawing No: **509**

Design: **B.L.**
Drawn: **Paul R Bruce**
Checked: *[Signature]*

Date: **Jan 2005**
Rev: **-**
Amendment: **-**

NOTES:
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PRYDA TRIPLE GRIPS

RI

M12 BOLT AT 900 CTS

M12 BOLT AT 900 CTS
WITH RECESSED BOLT HEAD

SECTION 4

SCALE = 1:10

STUD FRAMING

90x45 F7 KILN DRIED
NAILING PLATE

90x45 F7 KILN DRIED
NAILING PLATE

90x45 F7 KILN DRIED
NAILING PLATE

L11

ROOF SHEETING TO
ARCHITECTS DETAILS

RB4

PLY BRACE
TYPICAL

RB8

PRYDA JOIST HANGERS

SKY LIGHT TO
ARCHITECTS DETAILS

L14

M12 BOLT AT 900 CTS

GRADE F7 KILN DRIED
NAILING PLATE

PRYDA JOISTG HANGERS

SECTION 5

SCALE = 1:10

A3

DOCUMENT CERTIFICATION

James
Date: *BR*
Bruce Lewis
(Director Northern Beaches Consulting Engineers)
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Consulting Engineers P/L.
A.C.N. 075 121 515 A.B.N. 24 075 121 515
Suite 207, 30 FISHER ROAD
DEE WHY N.S.W. 2099
Ph: (02) 9984 7000 Fax: (02) 9984 7444
e-mail: nb@nbconsulting.com.au

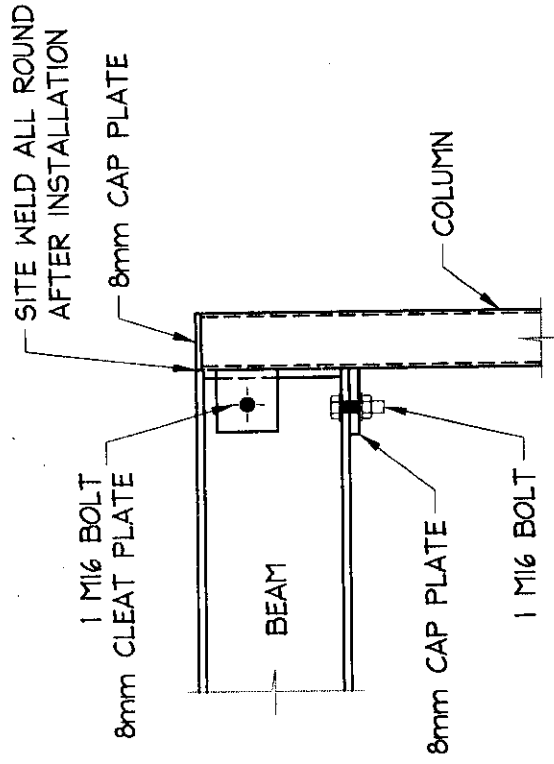
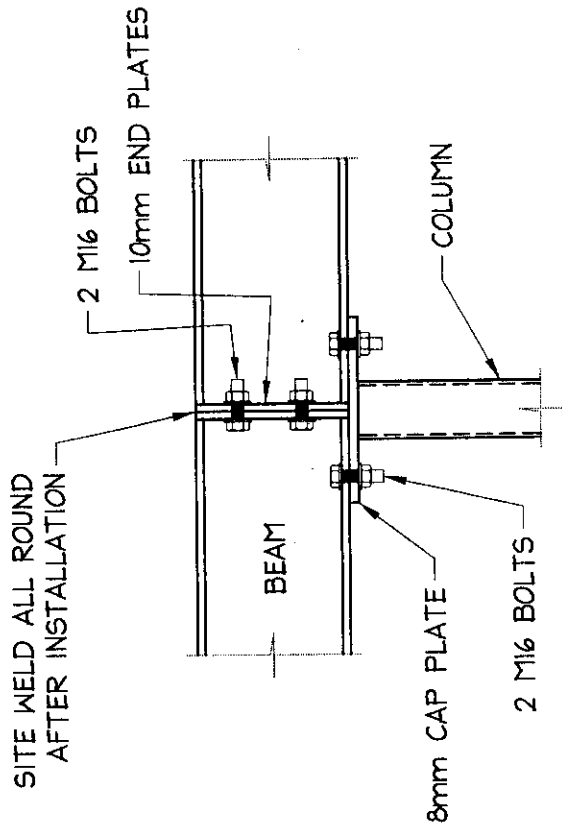
Project:
PROPOSED ALTERATIONS
at: Lot 4 Bona Crescent
Towlers Bay N.S.W.
for: Sheridan & Robert Belgiovane

Drawing Title:

ROOF FRAMING
DETAILS SHEET 2

NOTES:

1. ALL DIMENSIONS TO BE VERIFIED ON SITE
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2. FOR GENERAL NOTES AND DRAWING SCHEDULE
REFER TO DRAWING NUMBER: S01.



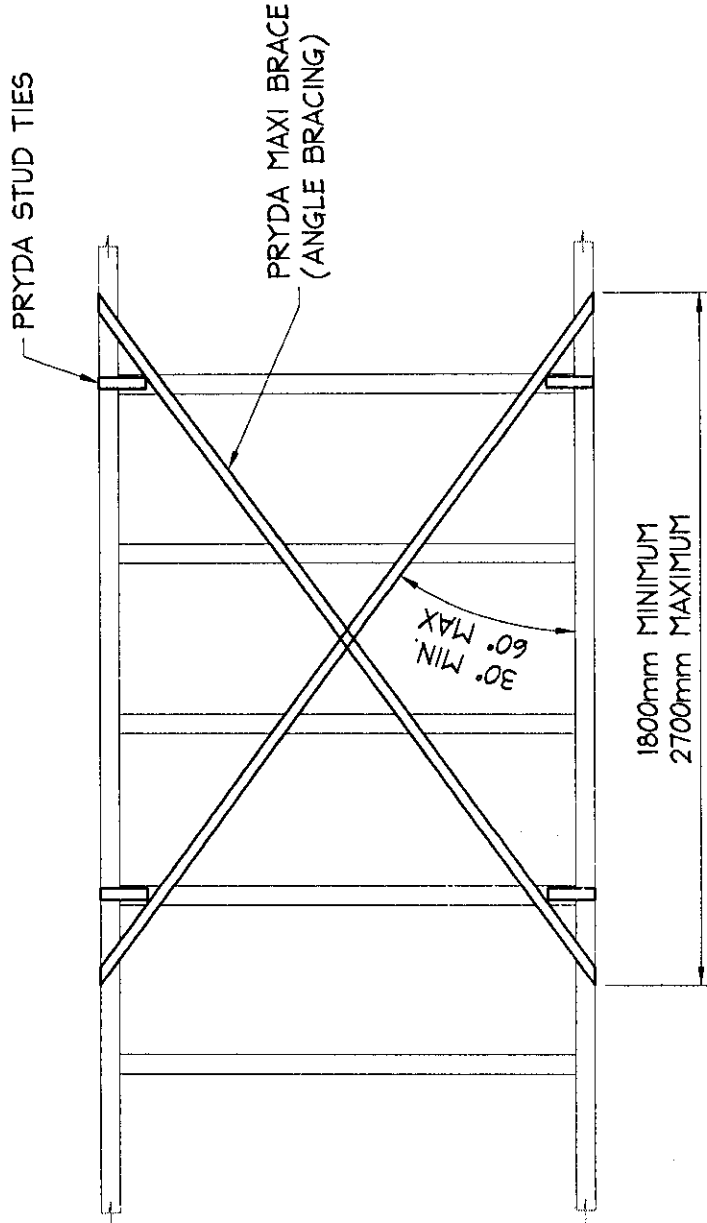
TYPICAL COLUMN TO BEAM
CONNECTION DETAILS

SCALE = 1 : 10

Date:	Jan 2005	Design:	B.L.	Drawn:	Paul R Bruce	Checked:	Paul R Bruce
Rev:	-	Amendment:	-	Job No:	031119	Drawing No:	S10
Rev:	-	Amendment:	-	Job No:	031119	Drawing No:	S10

METAL TENSION STRAP BRACING:

PRYDA MAXI BRACE (ANGLE BRACING)
FIXED WITH TWO GALVANISED FLATHEAD NAILS
Ø3.15mm x 30mm LONG TO EACH STUD, AND THE
FACE OF THE TOP AND BOTTOM PLATE.
AND FOUR GALVANISED FLATHEAD NAILS
Ø3.15mm x 30mm LONG TO THE STRAP RETURN
OVER THE TOP PLATE AND UNDER THE BOTTOM PLATE.



NOTES:

1. FOR POWER DRIVEN NAILS AND STAPLES REFER ABOVE.
2. NOGGINGS HAVE BEEN OMITTED FOR CLARITY.

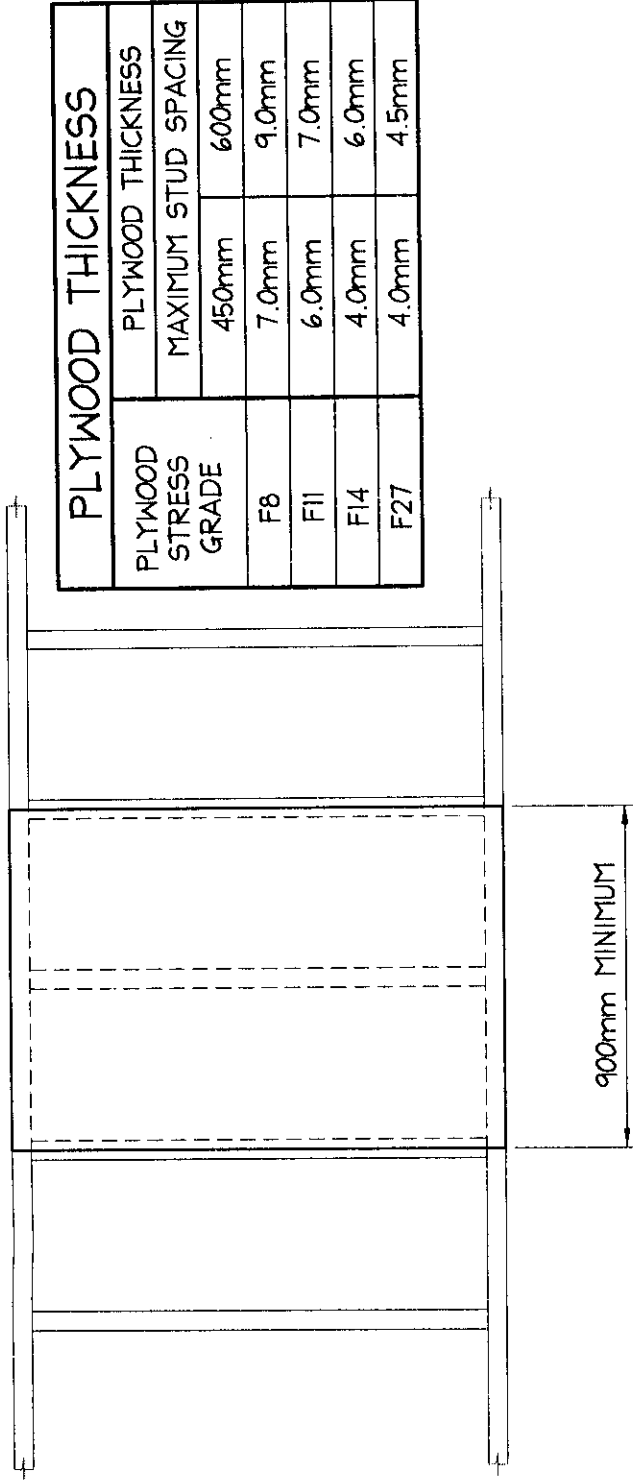
TYPE A - WALL BRACING UNIT

SCALE = 1 : 20

LINTEL/STUD TIE DOWN					
No. OF NAILS REQUIRED EACH END OF STRAP					
30mmx0.8mm G.I. STRAP WITH NAILS AS PER BELOW					
OPENING WIDTH	TIE DOWN DISTANCE				
	2.5m	3.6m	5.2m	6.7m	
1200mm	3	3	3	4	
1800mm	3	3	4	6	
3000mm	3	6	-	-	
4800mm	6	-	-	-	

PLYWOOD BRACING:

FIX PLYWOOD PANELS WITH GALVANISED FLATHEAD NAILS
Ø2.8mm x 30mm LONG MINIMUM OR EQUIVALENT AT 50mm
CENTRES ALONG TOP AND BOTTOM PLATES, 150mm CENTRES
ALONG VERTICAL EDGES AND 300mm CENTRES ALONG
INTERMEDIATE STUDS.
NAILS SHALL BE LOCATED A MINIMUM OF 7mm FROM PANEL EDGES.
POWER DRIVEN GALVANISED NAILS OR COATED STAPLES MAY BE
USED WHERE THEY PROVIDE AT LEAST THE EQUIVALENT STRENGTH
TO HAND DRIVES Ø2.8mm x 30mm LONG GALVANISED CLOUTS
OR FLATHEAD NAILS. IN THE CASE OF POWER DRIVEN STAPLES,
STAPLE SPACING SHALL BE 35mm CENTRES AT TOP AND BOTTOM
PLATES, 100mm CENTRES AT VERTICAL PLYWOOD EDGES AND
200mm CENTRES ALONG INTERMEDIATE STUDS.



PLYWOOD STRESS GRADE	PLYWOOD THICKNESS	
	MAXIMUM STUD SPACING	
F8	450mm	600mm
F11	7.0mm	9.0mm
F14	6.0mm	7.0mm
F27	4.0mm	6.0mm
	4.0mm	4.5mm

NOTES:

1. FOR PLYWOOD THICKNESS REFER TO TABLE.
2. FOR POWER DRIVEN NAILS AND STAPLES REFER ABOVE.
3. PANEL EDGES SHALL BE SUPPORTED BY STUDS.
4. NOGGINGS HAVE BEEN OMITTED FOR CLARITY.

TYPE B - WALL BRACING UNIT

SCALE = 1 : 20

NOTES:

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A3

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Date: 27/05/05
Bruce Lewis
(Director Northern Beaches Consulting Engineers)

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Consulting Engineers P/L
A.C.N. 076 121 616 A.B.N. 24 076 121 616
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Project: PROPOSED ALTERATIONS
at: Lot 4 Bona Crescent
Towlers Bay N.S.W.
for: Sheridan & Robert Belgiovane

Drawing Title:

FRAMING DETAILS
SHEET 1

Checked:

Drawn:

Rev:

Design:

Amendment:

Date:

Jan 2005

B.L.

Paul R Bruce
ORTEAust.

Job No:

031119

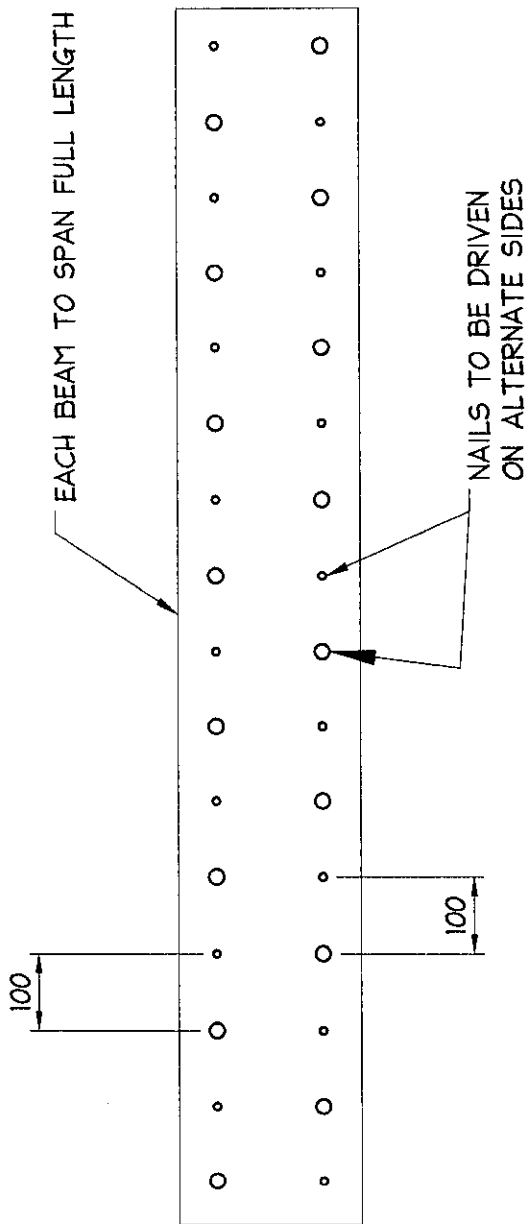
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S11

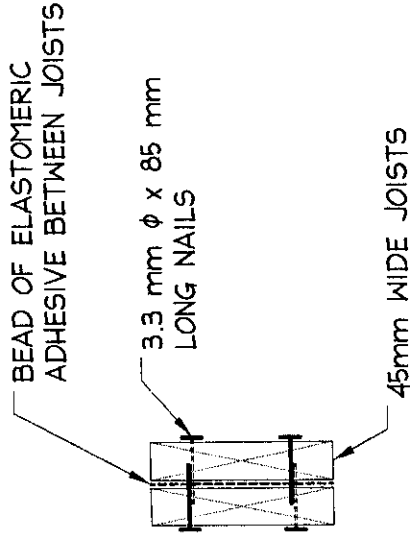
Rev:

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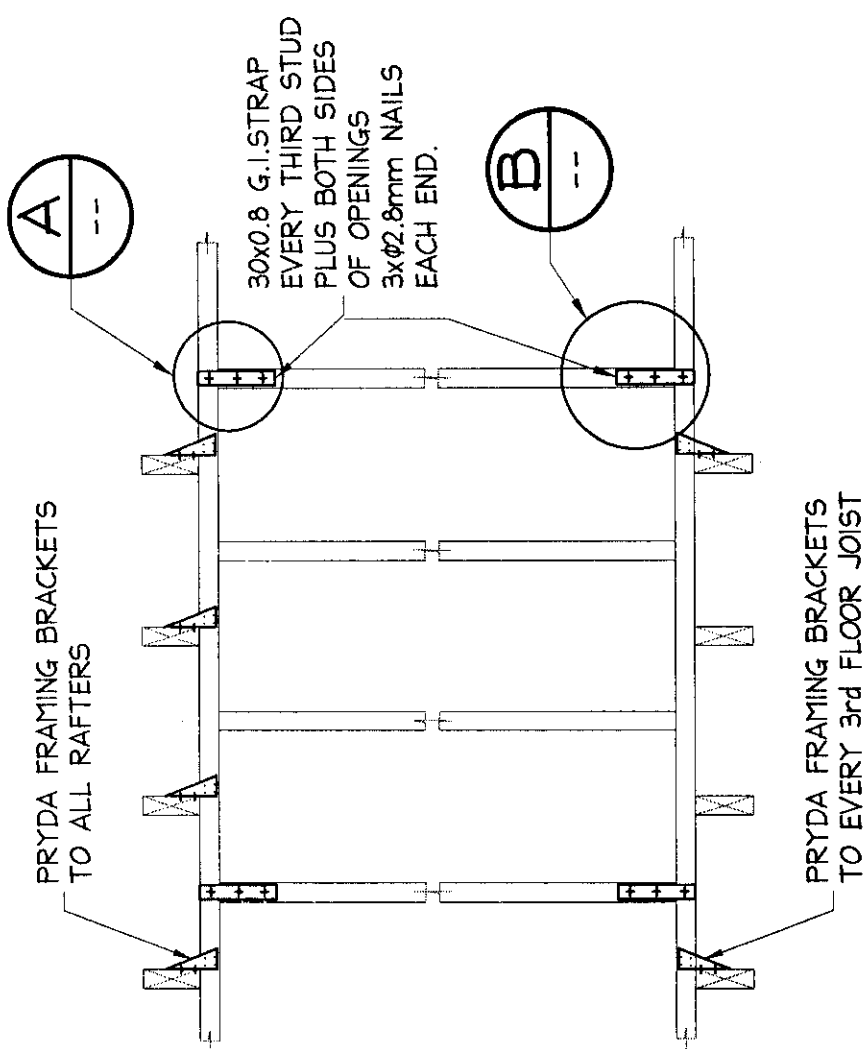
BEAM ELEVATION



BEAM SECTIONS

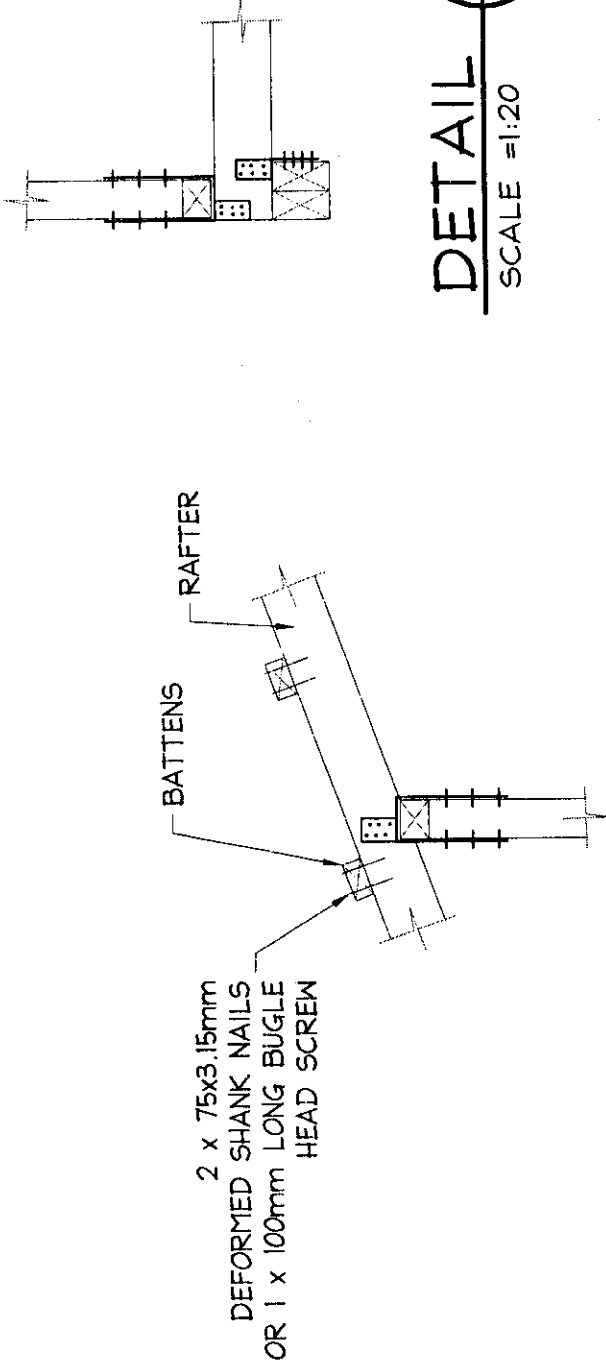
TYPICAL GLUE AND NAIL LAMINATED BEAMS/JOISTS DETAILS

SCALE = 1 : 10



TYPICAL TIE DOWN DETAIL

SCALE = 1 : 20



DETAIL A
SCALE = 1:20

DETAIL B
SCALE = 1:20

- NOTES:**
1. ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WITH WORK.
 2. FOR GENERAL NOTES AND DRAWING SCHEDULE REFER TO DRAWING NUMBER: 501.

DOCUMENT CERTIFICATION Date: <i>Jan 05</i> Bruce Lewis (Director Northern Beaches Consulting Engineers)	NORTHERN BEACHES Consulting Engineers P/L A.C.N. 075 121 616 A.B.N. 24 076 121 616 Suite 207, 30 FISHER ROAD DEE WHY N.S.W. 2099 Ph: (02) 9984 7000 Fax: (02) 9984 7444 e-mail: nb@nbconsulting.com.au	PROPOSED ALTERATIONS at: Lot 4 Bona Crescent Towlers Bay N.S.W. for: Sheridan & Robert Belgiovane		Drawing Title: FRAMING DETAILS SHEET 2	Job No: 031119	Rev: S/2	Drawn: Paul R Bruce CHIEF/ENGR.	Checked: RGW
		Date: Jan 2005	Design: B.L.	Amendment:	Date: Jan 2005	Rev:		