



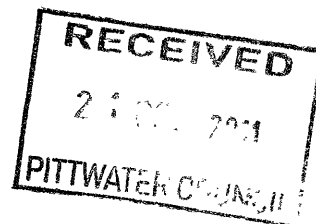
BUILDING CERTIFICATES AUSTRALIA PTY LTD

Building Regulations Certification & Fire Safety Consultants
ABN 45 105 050 897

16 December 2011

- construction, compliance & occupation certificates
- fire safety inspections for building upgrades
- pre-development compliance advice
- principal certifying authority (PCA)
- liaising with local authorities
- BCA compliance reporting
- project management
- building approvals
- strata approval

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



Attention Planning Department

Dear Sir/Madam,

**RE: DA N0372/09 & CC 323/11
12 CRESCENT ROAD, MONA VALE NSW 2103**

Please find attached a copy of the Construction Certificate and Appointment of PCA for the proposed development

A Construction Certificate has been approved by

- Accredited Certifier, Mr Peter Antcliffe
- PCA for this Development Consent is Mr Peter Antcliffe

This Construction Certificate relates to the DA - Construction of attached secondary dwelling and new detached home office and garage This CC is for Stage 1- Works associated to Second Dwelling Only at the above address

We have enclosed the following documents for Council's record

- 1 An Approved Construction Certificate with the supporting documentation,
- 2 Appointment of PCA, and,
- 3 Notice of Commencement, which is two days from Council receipt of this application

We have attached a cheque for the registration of this certificate In forwarding the receipt for this cheque it is requested that reference be made to the address of the premises

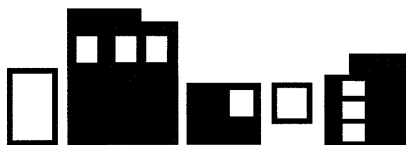
If you have any queries regarding the above or if Council requests additional information in relation to this development, please do not hesitate to contact our office on (02) 8014 7720 during business hours to attend to your concerns

Yours faithfully,

Peter Antcliffe
Building Certificates Australia Pty Ltd

CC - Vaughan Milligan Development Consulting Pty Ltd

\$36 REC:315500 21/12/11.



BUILDING CERTIFICATES AUSTRALIA PTY LTD
Building Regulations, Certification & Fire Safety Consultants
ABN 45 105 050 897

- construction, compliance & occupation certificates
- fire safety inspections for building upgrades
- pre-development compliance advice
- principal certifying authority (PCA)
- liaising with local authorities
- BCA compliance reporting
- project management
- building approvals
- strata approval

CONSTRUCTION CERTIFICATE

Issued under the Environmental Planning and Assessment Act 1979

| | |
|---|--|
| Certificate No | 323/11 |
| Subject Land Lot and DP | 12 Crescent Road, Mona Vale NSW 2103 Lot 1 DP 207839 |
| Applicant Name Address Ph /Fax | A R James Po Box 49 Newport, 2106 NSW 9969 0786 |
| Owner of the Land Name | A R James |
| Description of Building Works | DA - Construction of attached secondary dwelling and new detached home office and garage This CC is for Stage 1- Works associated to Second Dwelling being a new fire rated ceiling |
| BCA Classification | Class 2 |
| Cost of Building Works | \$10,000 |
| Principal Contractor/Builder | Pro Touch Designs – Ibrahim Al-Hanouni |
| Development Consent DA No Determination Date Consent Authority | N0372/09 16/12/2011 Pittwater Council |
| This Construction Certificate Date of CC application Determination Date of Determination | 13/12/2011 Approved 16/12/2011 |
| Approved Plans | Council approved DA plans by Sammy Fedele Drawings DA01-DA03 all Feb 2011 |
| Attachments | – Appendix of Supporting Documents |
| Accredited Certifier Accreditation Level Registration No Accreditation Body | A1 - Accredited Certifier - Building Surveying Grade 1 BPB 0009 Building Professionals Board |

I certify that

- the work, if completed in accordance with documentation accompanying the application for the certificate (with such modifications verified by the certifying authority as may be shown on that documentation), will comply with the requirements of *Environmental Planning & Assessment (EP&A) Regulation 2000* as are referred to in sec 81A (5) of the *EP&A Act 1979*

Signed


Peter Antcliffe
Accredited Certifier

Date 16/12/2011

Address: Suite 505, 64-76 Kippax Street, Surry Hills NSW 2010
Tel: (02) 8014 7720 Fax: (02) 9211 9332
Email: admin@bcaustralia.net.au



BUILDING CERTIFICATES AUSTRALIA PTY LTD
Building Regulations, Certification & Fire Safety Consultants
ABN 45 105 050 897

APPENDIX OF SUPPORTING DOCUMENTS FOR CC 323/11
STAGE 1: SECOND DWELLING WORKS ONLY.

| Attachments | |
|-------------|--|
| 1 | Completed Construction Certificate and Appointment of PCA Application Form <i>(Signed by the all Owner/s of the Building)</i> |
| 2 | Pre Construction Certificate inspection record |
| 3 | The building Fire Safety Schedule, |
| 3 1 | Alternative Solution form Defire for new Fire Rated Ceiling and interconnecting smoke alarms |
| 3 2 | Details of what fire services will be affected/altered due to this development |
| 3 3 | Provided Fire Safety Certificate/Statement/Schedule |
| 4 | Supporting Drawings and Design Statements, |
| 4 1 | Construction Certificate Architectural Plans, *3 Copies |
| 4 1 1 | By <u>Council approved DA plans by Sammy Fedeles Drawings DA01-DA03 all Feb 2011</u> |
| 4 2 | Supporting Fire Rating Detail for the New Fire Rated and Acoustic Ceiling |
| 5 | Builder's details |
| 5 1 | Builders Pro Touch Designs – Ibrahim Al-Hanouni Lic 201399C |



BUILDING CERTIFICATES AUSTRALIA PTY LTD
Building Regulations, Certification & Fire Safety Consultants
ABN 45 105 050 897

- construction, compliance & occupation certificates
- fire safety inspections for building upgrades
- pre-development compliance advice
- principal certifying authority (PCA)
- liaising with local authorities
- BCA compliance reporting
- project management
- building approvals
- strata approval

FIRE SAFETY SCHEDULE

Clause 168 of the Environmental Planning and Assessment Regulation 2000

Premises: 12 Crescent Road, Mona Vale NSW 2103
Development Consent No.: N0372/09
Construction Certificate No.: 323/11

The following essential fire safety measures shall be implemented in the whole of the building premises and each of the fire safety measures must satisfy the standard of performance listed in the schedule which, for the purposes of Clause 168 of the Environmental Planning and Assessment Regulation 2000, is deemed to be the current fire safety schedule for the building

SCHEDULE

| Essential Fire and Other Safety Measures | Standard of Performance | Existing | Proposed |
|---|---|----------|----------|
| Automatic fire detection & alarm * | BCA E2 2a AS3786 – 1993 interconnected to both SOU's | ✓ | ✓ |
| Lightweight construction * - Additional Fire rating of ceiling located between the lower unit and the upper unit | BCA C1 8 and AS1530 4 | | ✓ |
| * Alternative Solution by Defire dated 14/12/2011 R1 0 | Fire Rated Ceiling separating the upper and lower SOU with a ceiling system achieving an FRL -/90/90 and all supporting parts to achieved and FRL of 90/90/90 | | ✓ |



BUILDING CERTIFICATES AUSTRALIA PTY LTD
Building Regulations Certification & Fire Safety Consultants
ABN 45 105 050 897

- construction, compliance & occupation certificates
- fire safety inspections for building upgrades
- pre-development compliance advice
- principal certifying authority (PCA)
- liaising with local authorities
- BCA compliance reporting
- project management
- building approvals
- strata approval

19 December 2011

Vaughan Milligan Development Consulting Pty Ltd
Po Box 49
Newport NSW 2106

Att Vaughan Milligan

RE: 12 CRESCENT ROAD, MONA VALE NSW 2103

You will be pleased to know that all the Pre-Construction Documentation for the above project has now been finalised. Accordingly, please find attached the following documentation:

This Construction Certificate relates to the DA - Construction of attached secondary dwelling and new detached home office and garage. This CC is for Stage 1- Works associated to Second Dwelling Only at the above address.

Your Construction Certificate has been approved by:

- Accredited Certifier, Mr Peter Antcliffe
- PCA for this Development is Mr Peter Antcliffe

Please find attached the following documentation for your records:

- Construction Certificate No CC 323/11
- Approved Construction Plans
- Notice of Critical Stage Inspections (Below)
- Fire Safety Schedule
- Our Tax Invoice

Further, pursuant to section 109E of the Environmental Planning and Assessment Act 1979, Building Certificates Australia formally confirms our appointment as the Principal Certifying Authority (PCA) for development consent (DA N0372/09).

A copy of the Notice of Commencement of Building Works and Appointment of Principal Certifying Authority (PCA) has been forwarded to Council advising that works are due to commence after two days receipt of the notice.



BUILDING CERTIFICATES AUSTRALIA PTY LTD
Building Regulations, Certification & Fire Safety Consultants
ABN 45 105 050 897

Notice of Critical Stage Inspections of Works

Please note the following critical stage inspections are *mandatory* inspections that must be undertaken by us (the PCA) under the provisions of the Environmental Planning and Assessment Act, 1979 ("the Act")

Below are a list of the critical stage inspections and other inspections required to be carried out during construction

Stage 1 Inspections

- Prior to commencement of Building Work, (Undertaken)
- Final Inspection prior to occupation

Under the Act, if a mandatory inspection is not carried out, it may impact on our ability to issue an Occupation Certificate. As such, the person having the benefit of the development consent or principal contractor must give us notice to arrange and carry out each mandatory critical stage inspection. Inspections are to be arranged by contacting us on our office number.

In relation to our inspections

- ✓ Please allow an absolute minimum of 48 hours notice to be provided to us to enable the above inspections to be carried out during the course of construction. We appreciate as much forward notice as possible.
- ✓ Should work not be adequately prepared and/or not all requirements of conditions of consent are met at the appropriate stage, you will be required to pay an additional inspection fee to cover the cost of Building Certificates Australia undertaking a reinspection. This will be based on our hourly rates.

Obtain an Occupation Certificate prior to Use/Occupation

The provisions of section 109M of the EP&A Act state that a person must not commence occupation or use of the whole or any part of a '*new building*' ('*new building*' includes an altered portion of, or an extension to, an existing building) unless the PCA has issued an Occupation Certificate for the relevant part.

Compliance with your DA and approved Construction Documentation

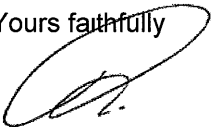
You're reminded that the proposed works must be carried out in strict accordance with your Approved Plans. Any proposed changes and/or alterations to the approved design must be approved by Council through a Sec 96 and an Amended Construction Certificate issued for those changes before works commence on those changes.

Failure to observe these requirements may result in a stop work order and possible demolition of the unauthorized works including possible issue of fines & prosecution by the Council as required under the Act.



BUILDING CERTIFICATES AUSTRALIA PTY LTD
Building Regulations, Certification & Fire Safety Consultants
ABN 45 105 050 897

If you have any enquires regarding the details contained within the above please do not hesitate to contact the undersigned

Yours faithfully


Peter Antcliffe
Building Certificates Australia Pty Ltd



BUILDING CERTIFICATES AUSTRALIA PTY LTD
Building Regulations, Certification & Fire Safety Consultants
ABN 45 105 050 897

APPENDIX 1: OCCUPATION CERTIFICATE FOR SATGE 1

This is a **DRAFT ONLY**, is not exhaustive and pending our inspections we may require additional documentation in order to be in a position to issue an Occupation Certificate

At this stage of the project, it is intended to give the applicant an indication of what is likely be requested at the completion of the project, and help ensure necessary certificates are obtained from the relevant contractors throughout the project

| Please submit all the required completed information as one (1) structured package to ensure a faster assessment time. | | Received By BC Australia |
|--|--|--------------------------------|
| 1 | Application for a Occupation Certificate, | |
| ACOUSTIC REQUIREMENTS | | |
| 2 | Certification from an acoustic engineer confirming that the proposed materials and forms of construction comply with the sound insulation requirements of BCA Part F5 | |
| 2 1 | Acoustic Engineering letter provided by _____ | |
| FIRE SAFETY REQUIREMENTS | | |
| 3 | Provide Certification for the Buildings Fire Safety Measures as listed in the Fire Safety Schedule | |
| 3 1 | The Final Fire Safety Certificate signed by _____ dated _____ | |
| 4 | Certification of installation of a Smoke Alarm system in accordance with AS3786 and Smoke alarms must be connected to the consumer mains power and interconnected | |
| 4 1 | Certification letter provided by _____ | |
| GENERAL | | |
| 5 | Provide a letter from the builder confirming that <ul style="list-style-type: none">– All works undertaken on the development been carried out in a good and workmanlike manner by appropriately licensed contractors,– All work undertaken comply and satisfy the relevant Australian Standards, Building Code of Australia and all Development Consent Conditions have been satisfied,– Any variations to the building design, as approved under the Construction Certificate, which may be contrary to the requirements of the DA consent and or Building Code of Australia, have been appropriately disclosed to the PCA | |
| 5 1 | Certification letter provided by _____ | |




BUILDING CERTIFICATES AUSTRALIA PTY LTD
Building Regulations Certification & Fire Safety Consultants
ABN 45 105 050 897

- construction, compliance & occupation certificates
- fire safety inspections for building upgrades
- pre-development compliance advice
- principal certifying authority (PCA)
- liaising with local authorities
- BCA compliance reporting
- project management
- building approvals
- strata approval

RECORD OF SITE INSPECTION

*Issued under the Environmental Planning and Assessment Regulation 2000
Record of inspections conducted under section 129C, 143C*

| | |
|--|--|
| Subject Land | 12 Crescent Road, Mona Vale NSW 2103 |
| Type of Inspection | Pre CC Inspection |
| DA No | DA N0372/09 |
| Construction Certificate No CC Application date | 323/11 13/12/2011 |
| The above listed Critical Stage Inspection/s are | <input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory |
| Comments | <ul style="list-style-type: none">- Pre CC Inspection<ul style="list-style-type: none">▪ Works have not started which are subject to this Construction Certificate▪ Attached is a list of the buildings current fire safety measures and measures affected by the new works listed▪ I confirm that the proposed Construction Drawings and Specifications provided adequately and accurately depict the existing site/building conditions |
| Accredited Certifier Accreditation Level Registration No Accreditation Body | A1 - Accredited Certifier - Building Surveying Grade 1 BPB 0009 Building Professionals Board |
| Signed | <div> Peter Antcliffe Accredited Certifier</div> <div>Date of Inspection 16 December 2011</div> |



BUILDING CERTIFICATES AUSTRALIA PTY LTD
Building Regulations, Certification & Fire Safety Consultants
ABN 45 105 050 897

(ONLY FOR NEW BUILDINGS AND RESIDENTIAL WORKS)

SCHEDULE TO APPLICATION FOR A CONSTRUCTION CERTIFICATE (ABS)

Please complete this schedule (The information will be sent to the Australian Bureau of Statistics)

All New Buildings

- Number of storeys (including underground floors)
- Gross floor area of new building (m²)
- Gross site area (m²)

3
under 60m²
2,000 m²

Residential Building Only

- Number of dwellings to be constructed
- Number of re-existing dwellings on site
- Number of dwellings to be demolished
- Will the new dwelling(s) be attached to other new buildings?
- Will the new building(s) be attached to existing buildings?
- Does the site contain a dual occupancy?

1
1
Nil
Yes / No
Yes / No
Yes / No

Materials – Residential Buildings*

(Please circle the appropriate code number next to each material that best describes the materials for the new work)

| WALLS | CODE | ROOF | CODE |
|----------------------|------|----------------------------------|------|
| brick veneer | 12 | aluminium | 70 |
| full brick | 11 | concrete | 20 |
| single brick | 11 | concrete tile | 10 |
| concrete block | 11 | fibrous cement | 30 |
| concrete/masonry | 20 | fiberglass | 80 |
| concrete | 20 | masonry/terracotta shingle tiles | 10 |
| steel | 60 | slate | 20 |
| fibrous cement | 30 | steel | 60 |
| hardiplank | 30 | terracotta tile | 10 |
| cladding - aluminium | 70 | other | 80 |
| curtain glass | 50 | unknown | 90 |
| other | 80 | | |
| unknown | 90 | | |
| FLOOR | | FRAME | |
| concrete | 20 | timber | 40 |
| timber | 10 | steel | 60 |
| other | 80 | other | 80 |
| unknown | 90 | unknown | 90 |

N/A.

12 Crescent Rd
Mona Vale

November 2, 2011

Peter Antcliffe
Building Certificates Australia Pty Ltd
Suite 505,
64-76 Kippax Street,
SURRY HILLS NSW 2010
Mobile 0423 024 960

Dear Peter

I cancelled the application for Construction Certificate with Pittwater Council and retrieved the attached Documents which supported that application.

Vaughan Milligan feels that these documents will be what you will need for our new application with you.

Please let me know if you need anything more.

Re your suggestion to get underway the Caveat on title. I ran that by Vaughan and he says that it would be required if we were to proceed with the additional stand alone studio building.

However, I'm not going ahead with that. So this application applies only for the granny flat under the existing house

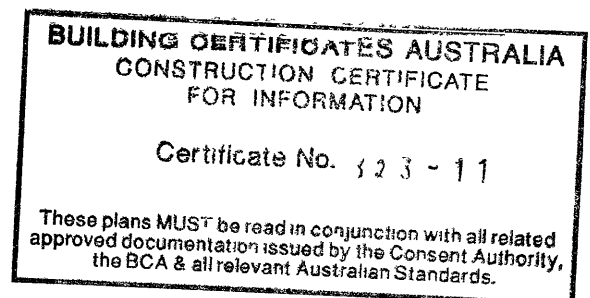
If you need to discuss this my mobile is 04148.4344

Many thanks

Regards



Tony James



Peter Antcliffe

From: Tony James [tony@scootersales.com.au]
Sent: Tuesday, 6 December 2011 8:05 AM
To: Peter Antcliffe
Cc: Vaughan Milligan
Subject: Missing details
Attachments: sikabond.doc

Hi Peter

thanks for the impromptu meeting this afternoon

Attached are the details for the acoustic material

The builder is
Protouch Designs
Builder is Ibrahim Al-Hanouni
Licence# 201399C
21 Stoddart Street, Roselands NSW 2196
Phone 0405204208

regards

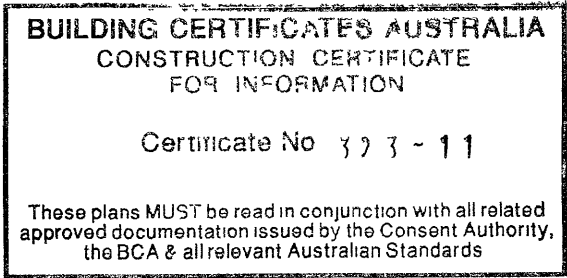
Tony

Tony James
Scootersales.com.au
Australia's Leading Scooter Website

Ph 0414 874 344
Ph 02 9997 4846

Ph + 61 414 874 344
Ph +61 2 9997 4846

No virus found in this message
Checked by AVG - www.avg.com
Version: 2012.0.1873 / Virus Database: 2102/4658 - Release Date 12/05/11

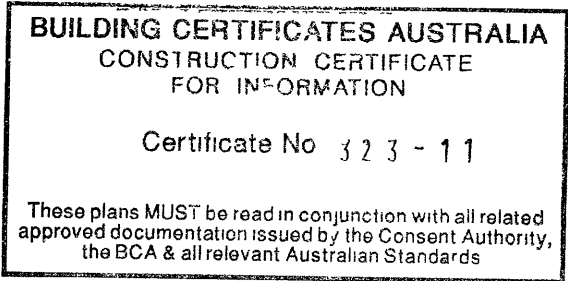




Sika AcouBond® System

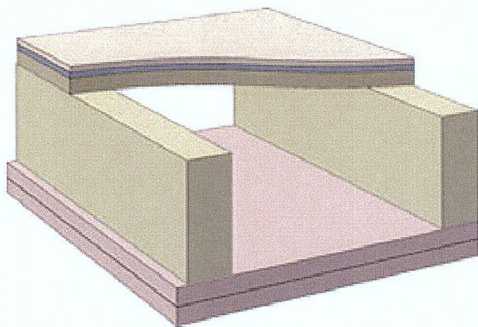
Sound Insulating System for Timber Flooring

| | |
|------------------------|--|
| Description | The Sika AcouBond System consists of the sound dampening, one component adhesive SikaBond-T53 and the SikaLayer-05 foam mat |
| Uses | The Sika AcouBond System is used to bond timber floors in residential, office and industrial buildings. The system provides a sound dampening effect improving the acoustic insulation of a room |
| Advantages | <ul style="list-style-type: none">• Footfall sound can be reduced by up to 18dB• Excellent sound dampening qualities• Can be walked on during installation• Easy and safe to install• Good adhesion to most substrates |
| Approvals/Standards | <ul style="list-style-type: none">• Sound Transmission Class 60 RAL™ – TL01 – 221 (USA)• Impact Insulation Class 57 RAL™ – INOI – II (USA)• Reduction of Impact Sound ΔLW 18dB (NF EN ISO 717/2) Report OIA829e• Reduction of Impact Noise ΔLW – 3dB (NF EN ISO 717/2) Report OIA828e |
| Storage and Shelf Life | Stored in the original sealed container at a temperature range between 0°C and 25°C this material will keep for a minimum of nine (9) months |
| Instructions for Use | |
| Surface Preparation | <p>All surfaces must be clean, dry, sound and free from dust and loose particles. Paint, laitance and other poorly adhering particles must be removed by grinding. Standard construction rules or the timber manufacturers or the timber manufacturers instructions regarding moisture content of concrete, cement screeds or wooden substrates must be observed.</p> <p><i>Concrete/cement screed substrate:</i> No preparation is necessary on a dry, dense, wearable substrate. For other substrate conditions, the floor must be grinded and thoroughly cleaned with an industrial vacuum cleaner (Important: Pre-Trials absolutely necessary).</p> <p><i>Other substrates:</i> In case of flowable screeds and other unknown substrates we recommend that you consult your local Sika Technical Representative.</p> |
| Priming | <p>The moisture content should be measured in accordance with the Floor Coverings Standard, AS1884-1985. A method of testing concrete moisture is given in the appendix of this standard.</p> <p>When the moisture content of the concrete is found to be below 5.5%, the substrate is considered suitable for SikaBond-T53 to be applied without a primer.</p> <p>When the moisture content of the concrete is found to be between 5.5% and 10%, Sika Primer MB must be used as a primer before applying SikaBond-T53.</p> <p>When the moisture content of the concrete is greater than 10%, EpoCem (SikaFloor-81 or Sikagard-720) should be used as a temporary moisture barrier. Sika Primer MB should then be used as a prime coat before applying SikaBond-T53.</p> <p>When priming with Sika Primer MB, a continuous visible film of cured epoxy must be observed on the surface. The application rate will depend on the porosity of the substrate.</p> |



Floor/Ceiling Systems

RISF = Resistance to Incipient Spread of Fire

| SYSTEM SPECIFICATION | | | TYPICAL LAYOUT (CSR 806a shown) | | | ACOUSTIC OPINION |
|--|--------------|---|--|--|--|--|
| <ul style="list-style-type: none">• Floor finished bare or with carpet and underlay, as per system table.• 1 x 19mm or 22mm particleboard, or timber flooring of at least 15kg/m².• Timber or steel joists at 600mm maximum centres.• Minimum 190mm cavity depth.• Cavity infill as per system table.• Ceiling lining as per system table, direct fixed to framing. | | |  | | | PKA-056 |
| FRL Report/Opinion | SYSTEM N° | CEILING LININGS | CAVITY INFILL (Refer to Section A) | R _w / R _w +C _{tr} | Bare Floor L _{n,w} +C _l | Carpet + Underlay L _{n,w} +C _l |
| - / - / - | CSR 801 | • 1 x 13mm GYPROCK Plasterboard CD. | (a) Nil (b) 90 Gold Batts™ 2.0 (c) 75 Soundscreen™ 2.0 batts | 39/32 42/34 42/34 | - - - | 60 – 65 60 – 65 60 – 65 |
| - / - / - | CSR 803 | • 1 x GYPROCK SUPACEIL plasterboard. | (a) Nil (b) 90 Gold Batts™ 2.0 (c) 75 Soundscreen™ 2.0 batts | 37/30 40/32 40/32 | - - - | 60 – 65 60 – 65 60 – 65 |
| - / - / - | CSR 804 | • 2 x 10mm GYPROCK SOUNDCEK. | (a) Nil (b) 90 Gold Batts™ 2.0 (c) 75 Soundscreen™ 2.0 batts | 43/37 46/39 46/39 | - 80 – 85 80 – 85 | 55 – 60 55 – 60 55 – 60 |
| 30/30/30 FCO 1373 | CSR 805 | • 1 x 13mm GYPROCK FYRCHEK Plasterboard. | (a) Nil (b) 90 Gold Batts™ 2.0 (c) 75 Soundscreen™ 2.0 batts | 40/34 43/36 43/36 | - - - | 55 – 60 55 – 60 55 – 60 |
| 60/60/60 +RISF 30 minutes FCO 1373 | CSR 820 | • 1 x 16mm GYPROCK FYRCHEK Plasterboard. | (a) Nil (b) 90 Gold Batts™ 2.0 (c) 75 Soundscreen™ 2.0 batts | 40/34 43/36 43/36 | - - - | 55 – 60 55 – 60 55 – 60 |
| 60/60/60 +RISF 30 minutes FCO 1373 | CSR 806 | • 2 x 13mm GYPROCK FYRCHEK Plasterboard. | (a) Nil (b) 90 Gold Batts™ 2.0 (c) 75 Soundscreen™ 2.0 batts | 43/37 46/39 46/39 | - 80 – 85 80 – 85 | 55 – 60 55 – 60 55 – 60 |
| 60/60/60 +RISF 60 minutes FCO 964 | CSR 809 | • 1 x 13mm GYPROCK FYRCHEK (against frame). • 1 x 16mm GYPROCK FYRCHEK plasterboard. | (a) Nil (b) 90 Gold Batts™ 2.0 (c) 75 Soundscreen™ 2.0 batts | 43/37 46/39 46/39 | - 80 – 85 80 – 85 | 55 – 60 55 – 60 55 – 60 |
| 90/90/90 +RISF 60 minutes FCO 1373 | CSR 807 | • 2 x 16mm GYPROCK FYRCHEK Plasterboard. | (a) Nil (b) 90 Gold Batts™ 2.0 (c) 75 Soundscreen™ 2.0 batts | 42/36 45/38 45/38 | - 80 – 85 80 – 85 | 55 – 60 55 – 60 55 – 60 |
| 120/120/120 +RISF 60 minutes FCO 1373 | CSR 808 | • 3 x 16mm GYPROCK FYRCHEK Plasterboard. | (a) Nil (b) 90 Gold Batts™ 2.0 (c) 75 Soundscreen™ 2.0 batts | 45/39 48/41 48/41 | 80 – 85 80 – 85 80 – 85 | 50 – 55 50 – 55 50 – 55 |

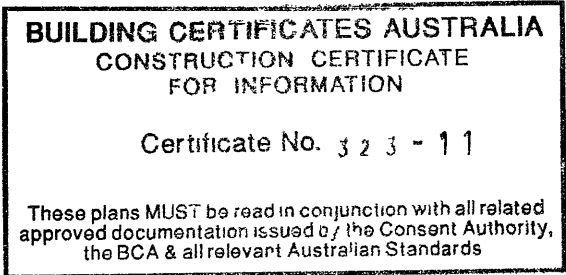
Certificate No. 323 - 11

These plans MUST be read in conjunction with all related approved documentation issued by the Consent Authority, the BCA & all relevant Australian Standards.



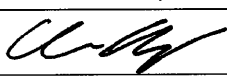
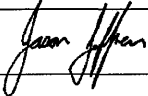
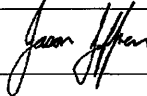
12 Crescent Road, Newport

| | |
|---------------|------------|
| Client | Tony James |
| Report number | SY110152 |
| Revision | R1 0 |
| Report issued | 14/12/2011 |





Amendment schedule

| Version | Date | Information relating to report | | | |
|---------|------------|--------------------------------|---|--|---|
| R1 0 | 14/12/2011 | Reason for issue | Report issued to Tony James, Vaughan Milligan Development and Building Certificates Australia | | |
| | | | Prepared by | Reviewed by | Approved by |
| | | Name | Christian Kenneby | Jason Jeffress | Jason Jeffress |
| | | Signature |  |  |  |
| | | Reason for issue | | | |
| | | | Prepared by | Reviewed by | Approved by |
| | | Name | | | |
| | | Signature | | | |
| | | Reason for issue | | | |
| | | | Prepared by | Reviewed by | Approved by |
| | | Name | | | |
| | | Signature | | | |
| | | Reason for issue | | | |
| | | | Prepared by | Reviewed by | Approved by |
| | | Name | | | |
| | | Signature | | | |



Executive summary

This alternative solution report documents the findings of a fire safety engineering assessment undertaken to determine whether the proposed alterations and additions to the existing class 1a dwelling at 12 Crescent Road, Newport complies with the relevant performance requirements of the Building Code of Australia 2011 (BCA). Defire undertook the assessment in accordance with the International Fire Engineering Guidelines (IFEG) at the request of Tony James.

The project is to construct a second dwelling under an existing two storey dwelling. The existing two storey building is understood to be class 1a and the proposed new works will result in a three storey class 2 building required to be of type A construction. The second dwelling is proposed to be fire separated from the existing two storey dwelling.

The design of the building includes areas which do not comply with the deemed-to-satisfy (DTS) provisions of the BCA. Table 1 describes the BCA requirements associated with the alternative solutions.

| No | Description of alternative solutions | DTS provision | Performance requirements (A0 10) | Method of meeting performance requirements | Assessment method |
|----|--|---------------|----------------------------------|--|---------------------------|
| 1 | The type of construction is proposed to comply with type C in lieu of type A | Clause C1 1 | CP1 and CP2 | Equivalent to DTS A0 5(b)(ii) | Comparison to DTS A0 9(c) |

Table 1 BCA requirements associated with the alternative solutions

The fire safety engineering assessment undertaken found that the design of the building achieves compliance with the relevant performance requirements of the BCA, subject to the following recommendations:

- This report and the fire safety measures listed in section 5 must be implemented into the design and identified on the fire safety schedule for the building. They must be maintained and certified in accordance with the Environmental Planning and Assessment Regulations 2000 and relevant Australian standards.
- If there are building alterations or additions, a change in use or changes to the fire safety system in the future, a reassessment will be needed to verify consistency with the assessment contained in this report.



Contents

| | |
|---|----|
| Amendment schedule | 2 |
| Executive summary | 3 |
| Contents | 4 |
| 1 Introduction | 5 |
| 2 Fire engineering brief | 5 |
| 3 Description of the building and alternative solutions | 5 |
| 3 1 Building description | 5 |
| 3 2 Occupant characteristics | 6 |
| 3 3 Alternative solutions | 7 |
| 4 Scope, objective and assumptions | 8 |
| 4 1 Scope and objective | 8 |
| 4 2 Assumptions | 8 |
| 5 Fire safety measures | 9 |
| 5 1 General | 9 |
| 5 2 Structural fire resistance | 9 |
| 5 3 Access and egress | 10 |
| 5 4 Smoke detection and alarm | 10 |
| 6 Alternative solution 1 – Type C construction | 11 |
| 6 1 Introduction | 11 |
| 6 2 Methodology | 11 |
| 6 3 Intent of the BCA | 11 |
| 6 4 Acceptance criteria | 12 |
| 6 5 Fire hazards | 12 |
| 6 6 Assessment | 12 |
| 6 7 Conclusion | 14 |
| Appendix A Drawings and information | 15 |
| Appendix B FRLs required for the building – Type C construction | 16 |



1. Introduction

This alternative solution report documents the findings of a fire safety engineering assessment undertaken to determine whether the proposed alterations and additions to the existing class 1a dwelling at 12 Crescent Road, Newport complies with the relevant performance requirements of the Building Code of Australia 2011 (BCA)¹ Defire undertook the assessment in accordance with the International Fire Engineering Guidelines (IFEG) ² at the request of Tony James

2. Fire engineering brief

The purpose of the fire engineering brief (FEB) is to consult with the relevant stakeholders to define the scope of the project, to agree upon the objectives, fire safety measures, methods of analysis and acceptance criteria for the alternative solutions. The IFEG states that the scope of the project and the method by which it will receive regulatory approval dictates the extent of the FEB process required.

The proposed alternative solution is considered to be a simple departure from the deemed-to-satisfy (DTS) provisions of the BCA.

On this basis, the FEB was conducted over the phone between Tony James and Christian Kenneby of Defire on 8 June 2011. The following key points were discussed:

- James confirmed that the separation between the lower ground and ground floor will achieve an FRL of not less than 90/90/90 when tested from the underside.
- James also confirmed that the two units are provided with independent egress.

The relevant stakeholders identified for this project are listed in Table 2.

| Name | Role | Organisation | Contact details |
|-------------------|---|---------------------------------|-----------------|
| Tony James | Client | - | 0414 874 344 |
| Vaughan Milligan | Project manager | Vaughan Milligan Development | 02 9999 4922 |
| Peter Antcliffe | Private certifier | Building Certificates Australia | 02 8014 7720 |
| Christian Kenneby | Fire safety engineer | Defire | 02 9211 4333 |
| Jason Jeffress | Accredited fire safety engineer C10 – BPB 197 | Defire | 02 9211 4333 |

Table 2 Stakeholders

3. Description of the building and alternative solutions

3.1 Building description

The project is to construct a second dwelling under an existing two storey dwelling. The existing two storey building is understood to be class 1a and the proposed new works will result in a three storey class 2 building required to be of type A construction. The second dwelling is proposed to be fire separated from the existing two storey dwelling.

¹ Building Code of Australia 2011, Australian Building Codes Board, Australia, 2011

² International Fire Engineering Guidelines – Edition 2005, Australian Building Codes Board, Australia, 2005



A description of the main characteristics of the building for the purpose of determining compliance with the BCA is given in Table 3 The proposed use and classification of the building or part in accordance with clause A3 2 of the BCA is described in Table 4

| Characteristic | BCA clause | Description |
|-------------------------------|------------|--|
| Effective height | A1 1 | Less than 25m |
| Type of construction required | C1 1 | Type A – proposed to be reduced to type C construction |
| Rise in storeys | C1 2 | Three |

Table 3 Main building characteristics

| Part of building | Use | Classification (A3 2) |
|--------------------|-------------|-----------------------|
| Lower ground floor | Residential | Class 2 |
| Ground floor | Residential | Class 2 |
| First floor | Residential | Class 2 |

Table 4 Use and classification

3.2 Occupant characteristics

The characteristics of the occupants expected to be in the building are listed in Table 5

| Characteristic | Description |
|----------------|--|
| Familiarity | Occupants in the residential sole-occupancy units are expected to be long-term residents who are familiar with the building layout and exit locations |
| Awareness | Occupants may be asleep at the time of a fire which could delay their response time for evacuation |
| Mobility | Occupants are assumed to have the same level of mobility as the general population This may include a limited proportion of mobility impaired occupants These occupants may require crutches, a wheelchair or similar to evacuate on their own or need assistance from other occupants |
| Age | Occupants of all ages may be present within the building |
| Language | Although occupants may have English as their second language, they are expected to understand signs and verbal instructions in English to the degree necessary to not adversely impact upon evacuation |
| Occupant load | Population densities used in this assessment are based upon table D1 13 of the BCA Two persons per bedroom are assumed for the residential areas |

Table 5 Occupant characteristics



3.3 Alternative solutions

The design of the building includes areas that do not comply with the DTS provisions of the BCA. We intend to use a performance-based fire safety engineering approach to develop alternative solutions to the DTS provisions of the BCA. Table 6 describes the BCA requirements associated with the alternative solutions.

| No | Description of alternative solutions | DTS provision | Performance requirements (A0.10) | Method of meeting performance requirements | Assessment method |
|----|---|---------------|----------------------------------|--|---------------------------|
| 1 | The type of construction is proposed to comply with type C in lieu of type A. | Clause C1.1 | CP1 and CP2 | Equivalent to DTS A0.5(b)(ii) | Comparison to DTS A0.9(c) |

Table 6 BCA requirements associated with the alternative solutions



4. Scope, objective and assumptions

4.1 Scope and objective

- The scope of this report is limited to the alternative solutions described in section 3 3
- The objective of this report is to demonstrate compliance with the fire safety aspects of the performance requirements of the BCA Matters such as property protection (other than protection of adjoining property), business interruption, public perception, environmental impacts and broader community issues – such as loss of a major employer and impact on tourism – have not been considered as they are outside the scope of the BCA
- This report considers single point arson as a source of ignition Arson involving accelerants or multiple ignition sources is not considered in this assessment as it is outside the scope of the BCA
- The scope of our works is limited to considering evacuation and fire safety issues for people with disabilities to the same degree as the DTS provisions of the BCA Specifically, consideration of evacuation from the building by people with disabilities under the provisions of the Disability Discrimination Act 1992 is excluded
- If there are building alterations or additions, a change in use or changes to the fire safety systems in the future, a reassessment will be needed to verify consistency with the assessment in this report
- The data, methodologies, calculations and conclusions documented within this report specifically relate to the building and must not be used for any other purpose
- The documentation that forms the basis for this report is listed within Appendix A
- This report has been prepared based upon information provided by others Defire has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated into this report as a result

4.2 Assumptions

- The existing building complies with the applicable building standard at the time of construction All new works comply with the current DTS provisions of the BCA except for the specific alternative solutions described within section 3 3
- All of the fire safety systems are assumed to be designed, installed and operate in accordance with the appropriate Australian standards, other design codes, legislation and regulations relevant to the project unless specifically stated otherwise
- For a satisfactory level of fire safety to be achieved, regular testing and maintenance of all fire safety systems and measures, including management-in-use systems, is essential and is assumed in the conclusion of this assessment



5. Fire safety measures

The fire safety measures required as part of the alternative solution are

5.1 General

- 1 The existing building is understood to comply with the applicable building standards at the time of construction. All new works will comply with the current DTS provisions of the BCA unless specifically mentioned. This section does not provide a comprehensive list of fire safety measures. The fire safety measures listed within this section relate only to the alternative solutions. The fire safety measures must be read in conjunction with the applicable building standards at the time of construction and/or the DTS provisions of the BCA.
- 2 This report and the requirements listed in this section must be implemented into the design and identified on the fire safety schedule for the building. They must be maintained and certified in accordance with the Environmental Planning and Assessment Regulations 2000 and relevant Australian standards.

5.2 Structural fire resistance

- 3 The fire resistance levels (FRLs) of the building elements must be designed in accordance with the requirements of specification C1.1 of the BCA for a building of type C construction as specified in Appendix B.
- 4 The lower ground must be separated from the two-storey dwelling above by construction achieving an FRL of not less than -/90/90 as shown in Figure 1 when tested from the underside. All elements supporting the fire rated ceiling must also achieve an FRL of not less than 90/90/90.

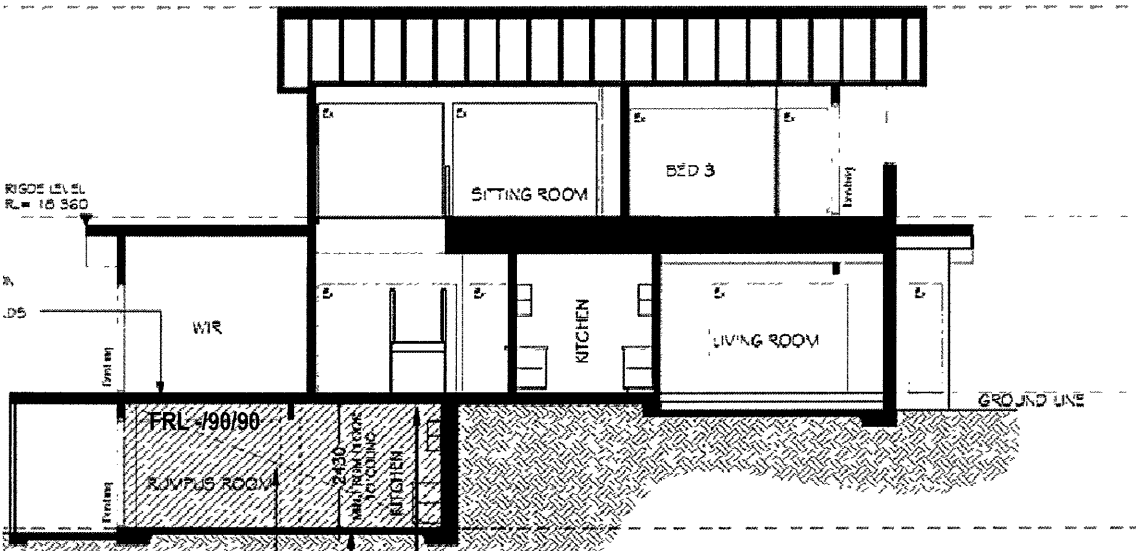


Figure 1 Separation of lower ground



5.3 Access and egress

- 5 The two dwellings must be provided with independent egress to road or open space as shown in Figure 2

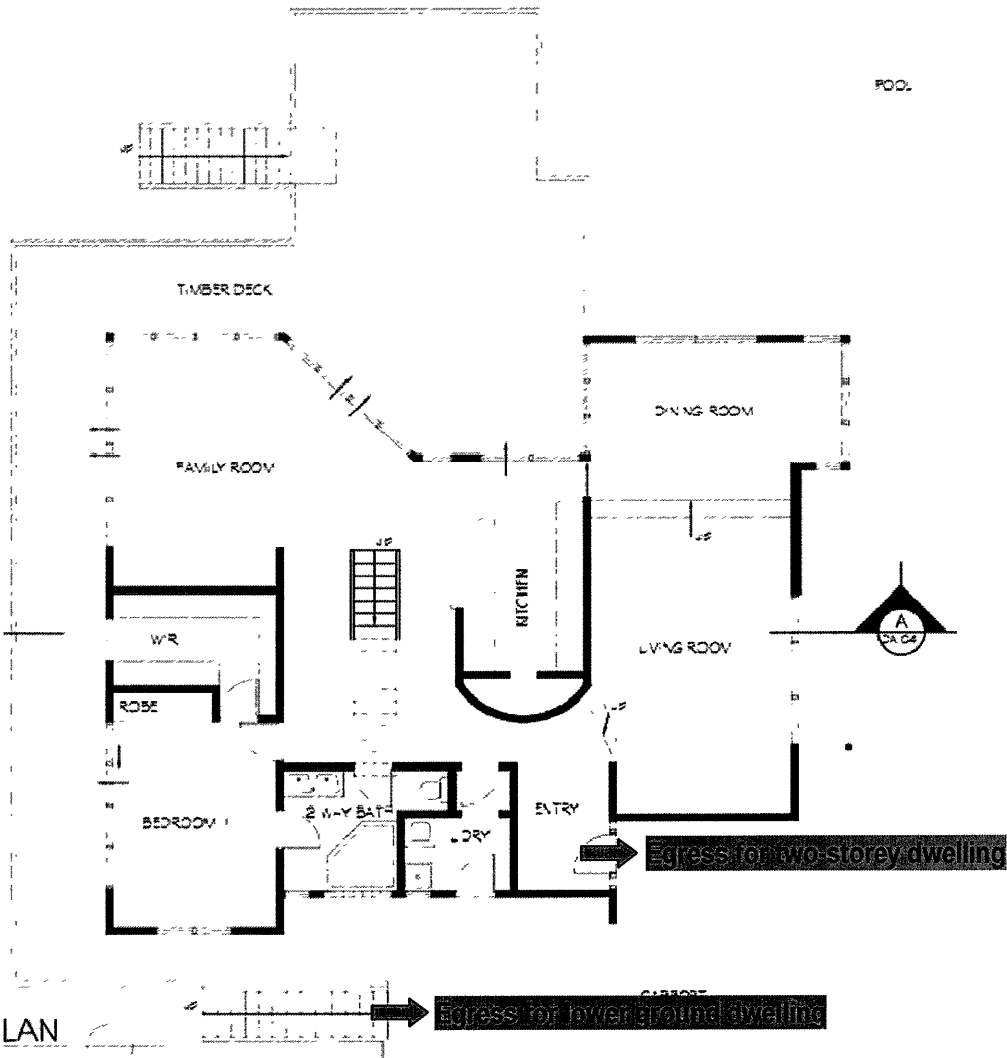


Figure 2 Ground floor – egress

5.4 Smoke detection and alarm

- 6 Interconnected smoke alarms must be provided throughout the building to provide a common alarm for both dwellings



6. Alternative solution 1 – Type C construction

6.1 Introduction

Under table C1 1 of the BCA, a class 2 building with a rise in storeys of three or more is required to be of type A construction and achieve an FRL in accordance with table 3 of specification C1 1

It is proposed to demonstrate that the level of safety associated with the residential development is equivalent to that of a two storey residential building complying with clause C1 5 of the BCA. Clause C1 5 of the BCA allows class 2 buildings having a rise in storeys of two to be of type C construction if each sole-occupancy unit has access to at least two exits or their own direct access to a road or open space.

Even though the dwellings are provided with their own direct egress to open space, they do not qualify for this concession because the building technically has a rise in storeys of three. Although the building fails to qualify for this concession, it is considered to achieve all of the criteria that this concession intended to capture in a building design.

This assessment was undertaken to demonstrate that the design complies with performance requirements CP1 and CP2 of the BCA.

6.2 Methodology

The assessment undertaken for the building was a qualitative comparative assessment involving the following sub-systems:

- Sub-system C – Fire spread and impact and control
- Sub-system E – Occupant evacuation and control
- Sub-system F – Fire services intervention

6.3 Intent of the BCA

6.3.1 Type of construction required – clause C1.1

The Guide to the BCA³ says that the intent of clause C1 1 is 'to establish the minimum fire-resisting construction required for class 2-9 buildings'. The guide expands further that 'table C1 1 explains that the required type of construction of a building depends on risk levels as indicated by the class of building and the building's height as indicated by the rise in storeys'.

The class of building is a measure of the building's likely

- use,
- fire load,
- population, and
- mobility of the occupants, such as whether they are sleeping or alert.'

The height (rise in storeys) of the building is relevant as a measure of likely evacuation times and evacuation difficulty.'

³ Guide to the BCA 2011, Australian Building Codes Board, Australia, 2011



The guide also notes that other factors may need to be considered such as the maximum fire compartment size

6.3.2 Two storey class 2, 3 or 9c buildings – clause C1.5

The Guide to the BCA says that part of the intent of clause C1 5 is 'to grant concessions for low-rise class 2 and 3 buildings provided with a good means of egress'. The guide expands further that 'the concession for class 2 and 3 buildings is made on the basis that the level of risk to occupants does not warrant the full application of the type of construction requirements'.

6.4 Acceptance criteria

The qualitative acceptance criteria for the assessment is that the level of fire safety associated with the residential dwellings are equivalent to that of a building qualifying for the concession granted under clause C1 5 of the BCA.

6.5 Fire hazards

The hazard associated with reducing the fire ratings of the building to type C construction must be assessed in terms of the impact on occupant evacuation, fire brigade intervention and fire spread between buildings and/or other property. The risk associated with the additional rise in storeys which prevent the dwellings from complying with clause C1 5 of the BCA must be considered.

6.6 Assessment

6.6.1 Occupant evacuation

The BCA considers typical three storey residential buildings to represent a greater fire risk to occupants compared to one and two storey buildings as they will generally require evacuation via common exits past other storeys which may be on fire. Consequently, these buildings are required to be of type A construction, which is the most fire-resistant type of construction.

The ground floor of the two storey dwelling is located at road level. The two dwellings are provided with direct egress to open space as shown in Figure 3. Occupants of the dwellings are therefore only required to travel a maximum of one storey – within their sole-occupancy units – to reach a place of safety. The building has a rise in storeys of three which differs from a typical three storey residential building where occupants could be required to descend past several levels before discharging from the building.

The design of the building is therefore considered to meet the intent of clause C1 5 of the BCA in terms of occupant evacuation.

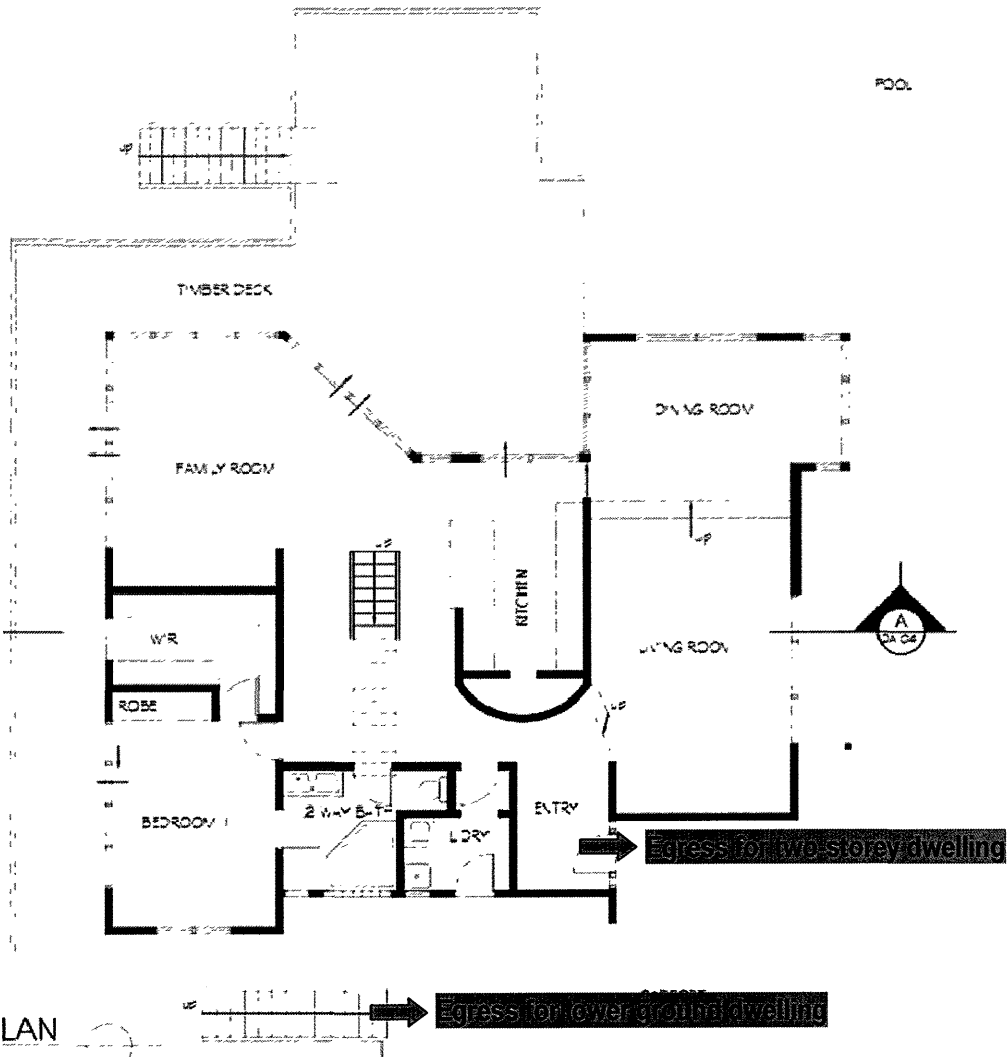


Figure 3 Ground floor – egress

6.6.2 Fire spread

Separation of the lower ground

The separation provided between the lower ground and ground floor is proposed achieve an FRL of not less than -/90/90 when tested from the underside The risk of fire spread from the residential unit on ground floor to the lower ground floor is considered mitigated due to the nature of fire spread is unlikely to spread downwards in the early stages of a fire Any penetrations in the fire separation between the lower ground and ground floor will be protected in accordance with the requirements of clauses C3 12 and C3 15 of the BCA

The concession granted by clause C1 5 of the BCA allows two storey class 2 and 3 buildings provided with 'good means of egress' to use type C construction but does not allow for an additional level to be included

As the lower ground is not expected to impact on the ability of occupants to evacuate the residential unit above, the clause C1 5 concession – which is granted based upon 'good means of egress' – should still apply



Fire spread to / from other buildings

The probability of a fire starting in a sole-occupancy unit and the resultant severity of the fire is governed by the use of the occupancy and the nature of the combustibles stored within the occupancy. The fire load and materials associated with the building are equivalent to a two storey residential building of type C construction. Table 5 of specification C1 1 of the BCA does not require the external walls of a residential building of type C construction to achieve an FRL where they are located further than 1.5m from a fire source feature – defined as a side or rear allotment boundary by the BCA. The external walls of the building are located at least 3.2m from the side or rear boundary, as shown in Figure 4. The risk of fire spread to and from the building is therefore considered to be equivalent to that of a two storey residential building which qualifies for the concession granted under clause C1 5 of the BCA allowing the use of type C construction.

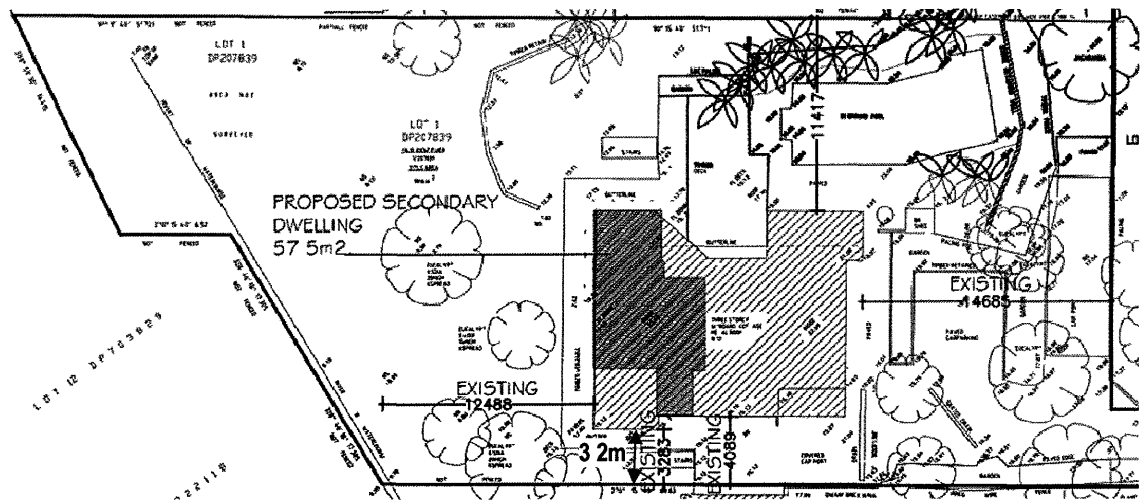


Figure 4 Location of building with respect to fire source features

6.6.3 Fire brigade intervention

The building is provided with direct access and egress from road level. The building is considered to provide equivalent opportunities to undertake fire-fighting and search and rescue operations to that of a two storey residential building which qualifies for the concession granted under clause C1 5 of the BCA allowing the use of type C construction.

6.7 Conclusion

The assessment undertaken for the proposed design demonstrates that the proposed residential units are equivalent to a two storey residential building of type C construction in terms of occupant evacuation, fire spread and fire brigade intervention. The proposed design of the building is therefore considered to achieve compliance with performance requirements CP1 and CP2 of the BCA, subject to compliance with the fire safety measures given in section 5.



Appendix A Drawings and information

| Drawing title | Dwg no | Date | Drawn |
|--|--------|----------|---------------|
| Proposed site plan | DA01 | Feb 2011 | Sammy Fedeles |
| Proposed lower ground floor plan and existing first floor plan | DA02 | Feb 2011 | Sammy Fedeles |
| Existing ground floor plan | DA03 | Feb 2011 | Sammy Fedeles |
| Section AA | DA04 | Feb 2011 | Sammy Fedeles |



Appendix B FRLs required for the building – Type C construction

5. TYPE C FIRE-RESISTING CONSTRUCTION

5.1 Fire-resistance of building elements

In a building required to be of Type C construction—

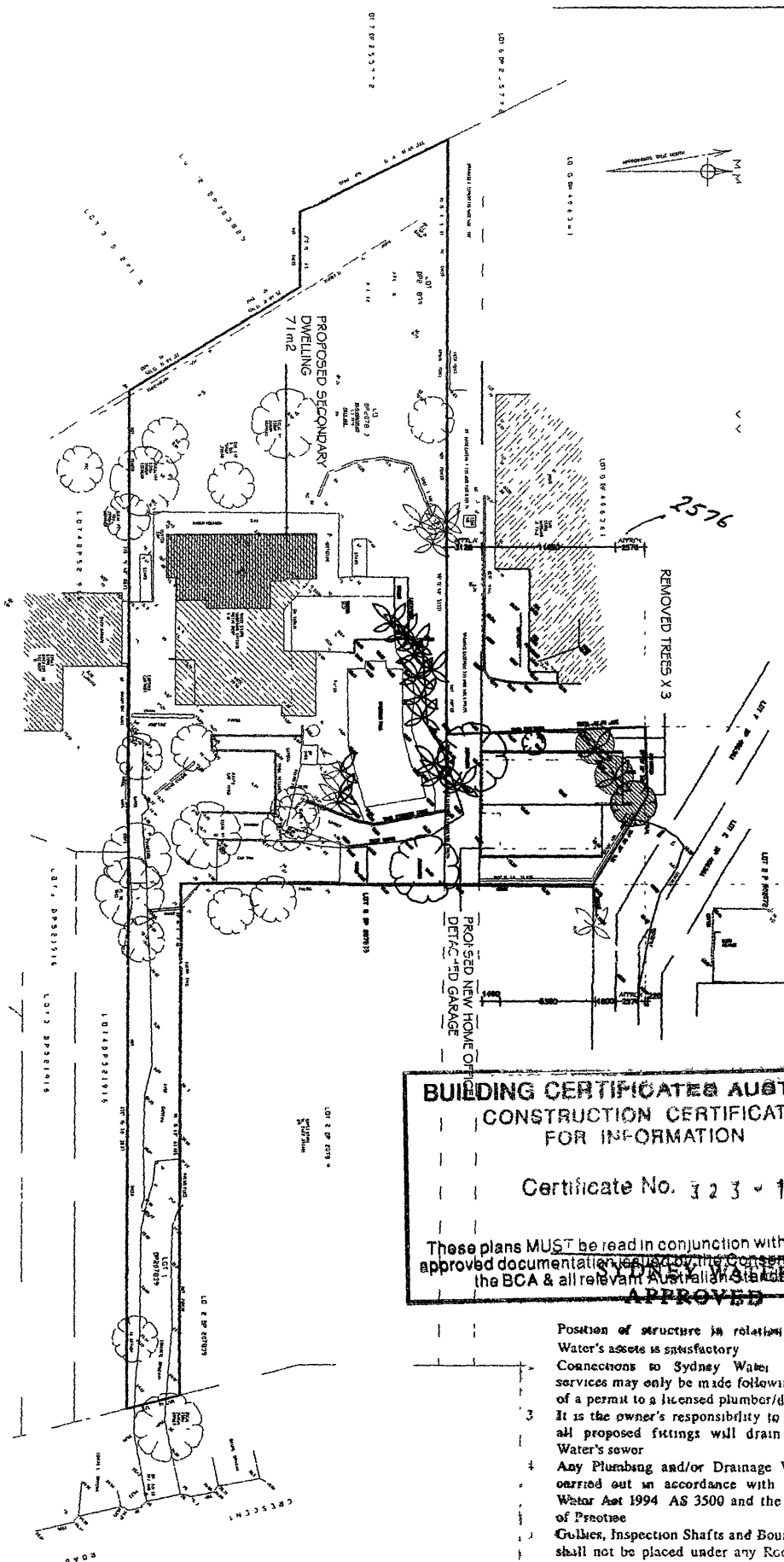
- (a) a building element listed in Table 5 and any beam or column incorporated in it, must have an FRL not less than that listed in the Table for the particular Class of building concerned, and
- (b) an external wall that is required by Table 5 to have an FRL need only be tested from the outside to satisfy the requirement, and
- (c) a fire wall or an internal wall bounding a sole-occupancy unit or separating adjoining units must comply with Specification C1 8 if it is of lightweight construction and is required to have an FRL, and



| Building element | Class 2,3 or 4 Parts/buildings -FRL (structural adequacy/Integrity/Insulation) |
|---|--|
| EXTERNAL WALL (including any column and other building element incorporated therein) or other external building element, where the distance from any fire-source feature to which it is exposed is— | |
| less than 1 5m | 90/ 90/ 90 |
| 1 5 to less than 3 m | - / - / - |
| 3 or more | - / - / - |
| EXTERNAL COLUMN not incorporated in an external wall, where the distance from any fire-source feature to which it is exposed is— | |
| Less than 1 5m | 90/ - / - |
| 1 5 to less than 3m | - / - / - |
| 3m or more | - / - / - |
| COMMON WALLS and FIRE WALLS— | 90/ 90/ 90 |
| INTERNAL WALLS- | |
| Bounding public corridors, public lobbies and the like— | 60 / 60/ 60 |
| Between or bounding sole-occupancy units— | 60/ 60/ 60 |
| Bounding a stair if required to be rated— | 60/ 60/ 60 |
| ROOFS | - / - / - |

Table 5 TYPE C CONSTRUCTION: FRL OF BUILDING ELEMENTS

SCALE 1 400



2831
3162

Certificate No. 323 - 11

These plans **MUST** be read in conjunction with all related approved documentation issued by the Consent Authority, the BCA & all relevant Australian Standards

Position of structure in relation to Sydney Water's assets is satisfactory
Water's assets is satisfactory
Connections to Sydney Water sewer/water services may only be made following the issue of a permit to a licensed plumber/drainlayer
It is the owner's responsibility to ensure that all proposed fittings will drain to Sydney Water's sewer
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
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


Property No 3410443

Reece, Mona V. is
Quick Check Agent on board of
SYDNEY WATER

REFC MVOS 121,11-

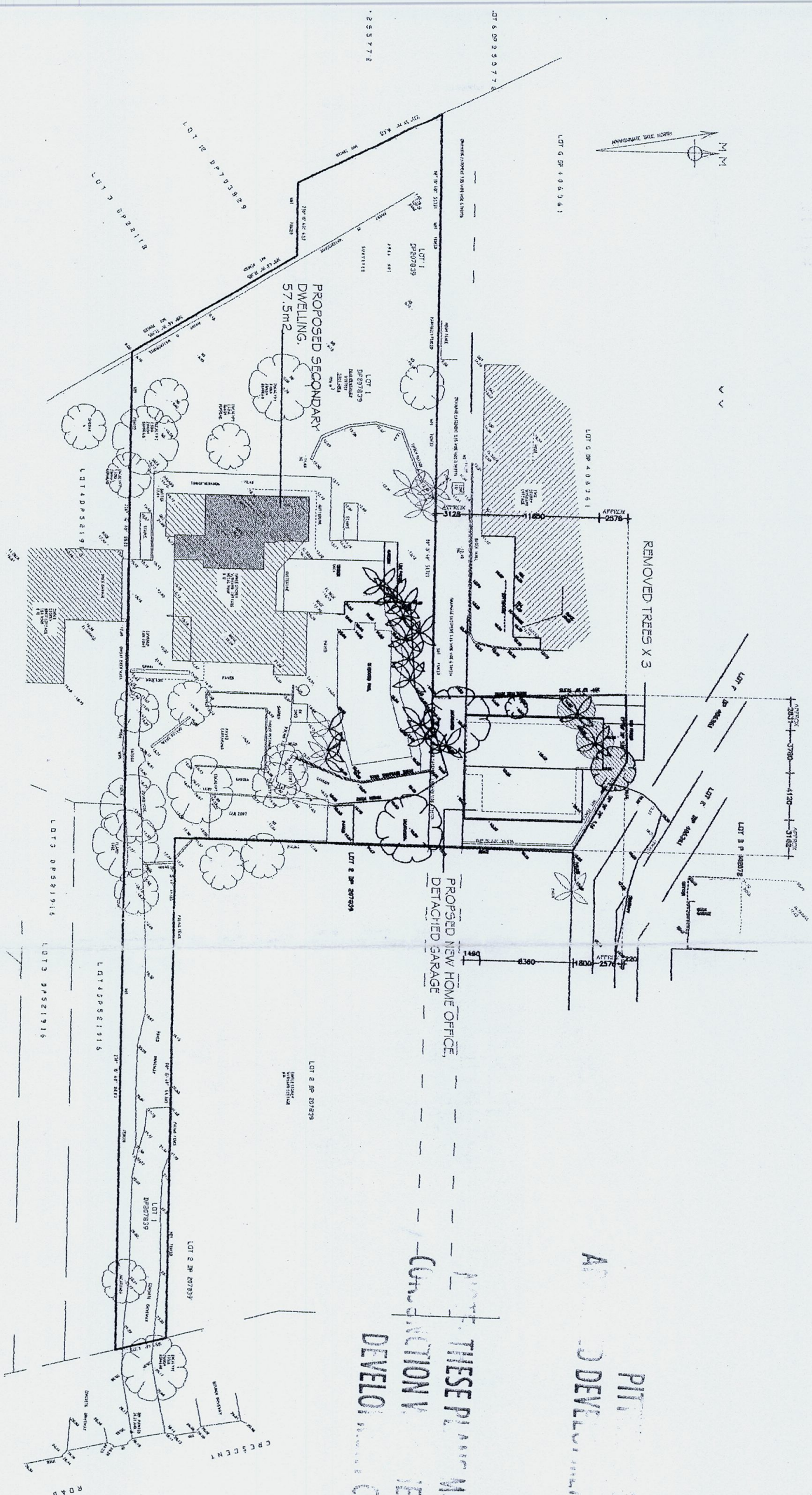
[illegible]

Sammy Fedele
Architectural Drafting
Services
0404.037.606




0404.037.606
tel 9690.21.82, fax 9690.31.82
email sammyfedele@archi.com
san 36 827.884.311

| | |
|---|--|
| CLIENT TONY JAMES | |
| PROPOSED HOME OFFICE DETAILTED GARAGE AND ATTACHED SECONDARY DWELLING TO EXISTING RES | |
| ADDRESS | 12 CRESSENT RD MOW VALE NSW 2103 DP 2076393 |
| DATE | JUNE 2009 PROJECT No. 0109 |
| DRAWING No | ISSUE |
| DAO1 | |
| DESIGN SAMMY FEDELE | |



THESE PLANS MUST BE FEASIBLE
CONSTRUCTION, RECONDITIONING OF
DEVELOPMENT, CONSISTENT

[illegible]

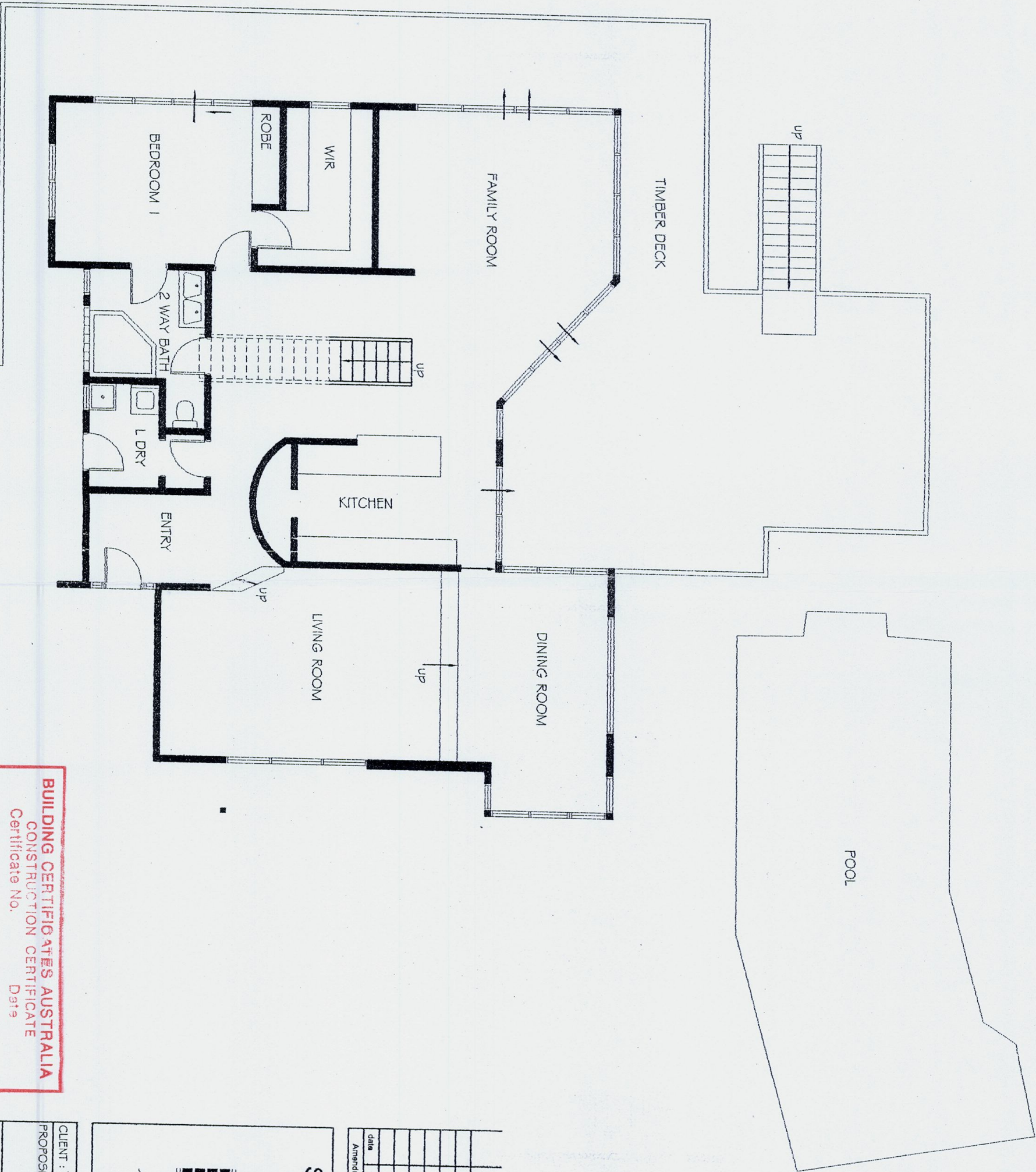
tel: 9680 21 82 fax: 9680 21 82
 email: myfriend@archi@aol.com
 a/n 35 827 684 311

| | | |
|--|---|------------|
| CUSTOMER: TONY JAMES | PROJECTED: SECTION 596 DA3739 SECONDARY DWELLING TO EXISTING RES. | |
| ADDRESS: 12 CRESCENT RD MONKVALE NSW 2103 | LOT: 1 | DP: 207839 |
| DATE: FEB 2011 | PROJECT NO: 0105 | |
| DRAWING NO: DAO1 | ISSUE | |
| DESIGN: SAMMY FEDELE | | |

EXISTING
GROUND FLOOR PLAN

SCALE 1:100 = 168.2m²

BOUNDARY LINE



BUILDING CERTIFICATES AUSTRALIA
CONSTRUCTION CERTIFICATE
Certificate No. 323-11 Date 16 DEC 2011

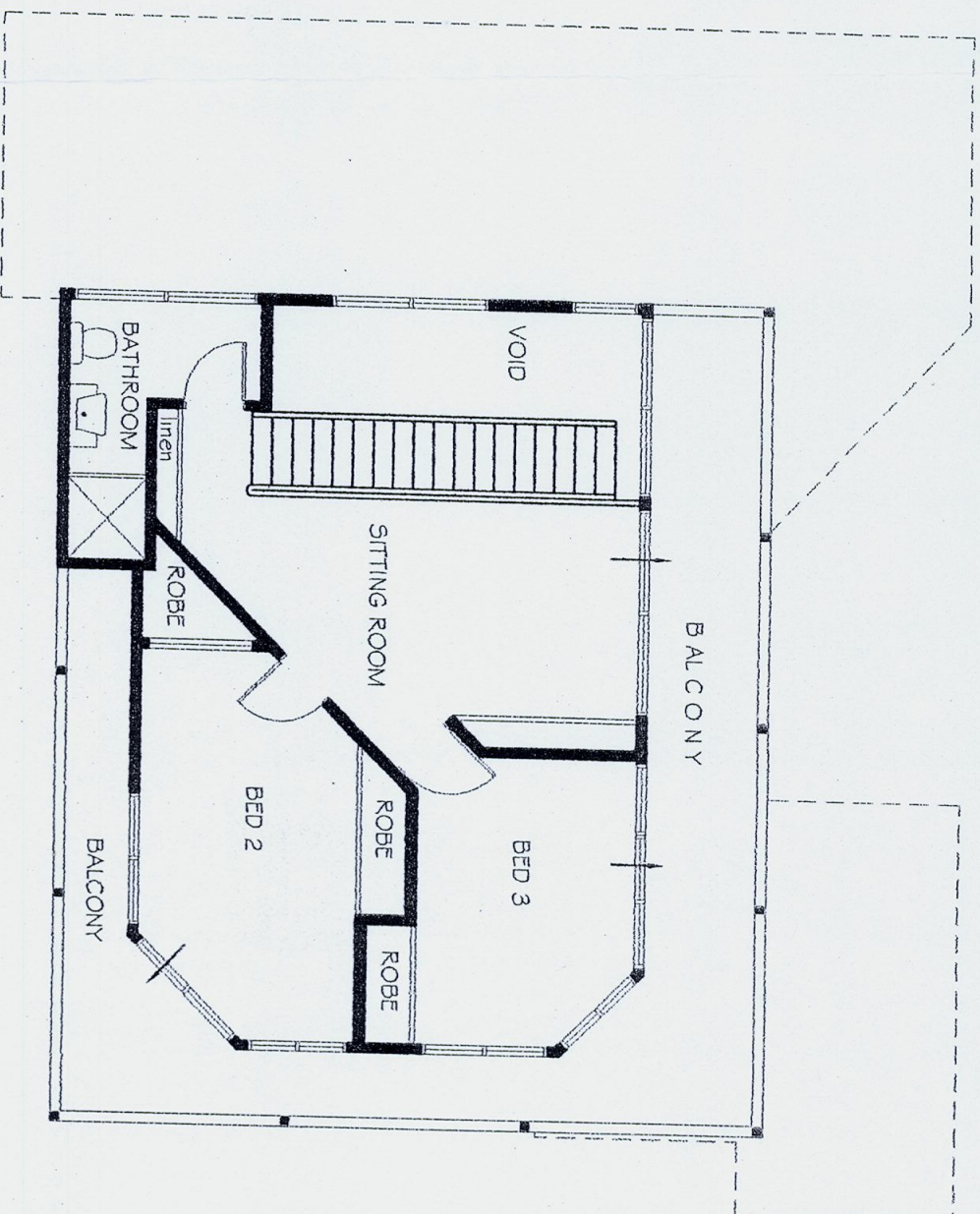
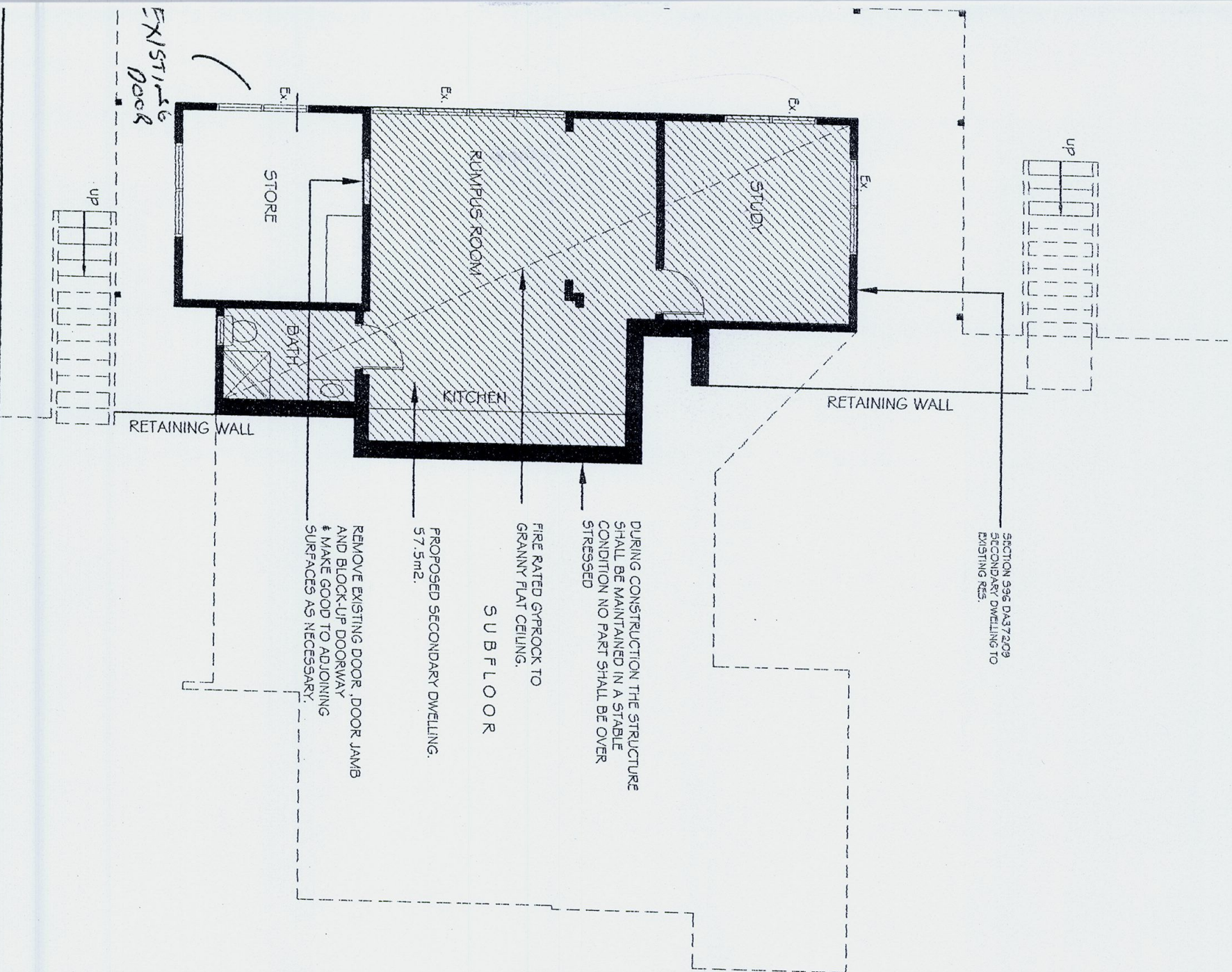
APPROVED PLANS & SPECIFICATIONS
These plans MUST be read in conjunction with all related approved documentation issued by the Consent Authority, the BCA & all relevant Australian Standards.

| Amendments | | |
|------------|-------|----------|
| date | issue | revision |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Sammy Fedele
Architectural Drafting
Services
0404 037 606

tel : 9680 21 82 fax : 9680 21 82
email:sammyfedelearch@aol.com
bhn 36 627 864 311

| | |
|---|-------------------------|
| CLIENT : TONY JAMES | |
| PROPOSED: SECTION 596 DA37209 SECONDARY DWELLING TO EXISTING RES. | |
| ADDRESS : 12 CRESCENT RD MONA VALE NSW 2103 | LOT : 11 DP : 207639 |
| DATE : FEB 2011 | PROJECT No: 0109 |
| DRAWING No : DA03 | ISSUE |
| DESIGN : SAMMY FEDELE | |



EXISTING
FIRST FLOOR PLAN

SCALE 1:100 = 73m2

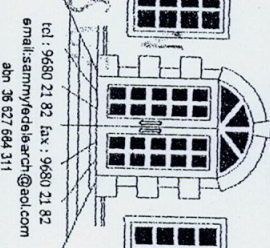
PITWATER COUNCIL

APPROVED DEVELOPMENT CONSENT

SAMMY FEDELE

Architectural Drafting
Services

0404 037 606



tel : 9680 21 82 fax : 9680 21 82
email:sammyfedeleact@aol.com
abn 36 627 664 311

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

BUILDING CERTIFICATE AUSTRALIA
CONSTRUCTION CERTIFICATE
Certificate No. 323-11
Date 16 DEC 2011

APPROVED PLANS & SPECIFICATIONS
These plans MUST be read in conjunction with all related
approved documentation issued by the Consent Authority,
the BCA & all relevant Australian Standards

PROPOSED
GROUND FLOOR PLAN

SCALE 1:100 = 13.5m2

PROPOSED SECONDARY DWELLING.

57.5m2.

TOTAL = 71.0m2

CLIENT : TONY JAMES

PROPOSED: SECTION 596 DA37209
SECONDARY DWELLING TO
EXISTING RES.

ADDRESS : 12 CRESCENT RD LOT 11
MONA VALE NSW 2103 DP : 207839

DATE : FEB 2011 PROJECT No: 0109

DRAWING No: DAO2 ISSUE

DESIGN :

SAMMY FEDELE