

16 August 2011

The General Manager
Manly Council
P O Box 82
Manly, NSW 1655

Attention: Planning Department

Dear Sir/Madam,

RE: DA NO: 170/09
111 NORTH STEYNE, MANLY NSW



Please find attached a copy of the first Construction Certificate for the proposed development that has been granted by the Accredited Certifier, Lyall Dix:

The certificate relates to the erection of a new four storey residential flat building with Basement carparking at the above address, and has been issued for CC1: Excavation and shoring only.

Together with the certificate, we have enclosed the following for Council's record:

1. Notice of Commencement of Building Work & Appointment of PCA
2. Application Form
3. Other Documentation relied upon
4. Approved Plans

18/8/11 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 please do not hesitate to contact the undersigned on 9279 3657 during business hours.

Yours faithfully,


Ivan Boule
Dix Gardner Pty Ltd.

CC:- Alastair Brodie

AUTH CC ✓
PMT ✓
NAME ✓
IF ✓
SCAN

CERTIFIER

\$36

R 798949

18-8-11

Construction Certificate

Issued under the Environmental Planning and Assessment Act 1979

Certificate No.:	227/11
Subject Land: Lot and DP:	111 North Steyne, Manly NSW Lot 0, SP 592 & Lots 8 & 9, SP 14455
Applicant: Address: Ph:	Alastair Brodie P O Box 384, Mosman NSW 2088 0400-494-021
Owner:	McKenzie Maria Enterprises
Description of Building Works:	Erection of a four-storey residential flat building with Basement carparking; CC1: Excavation & shoring only
BCA Classification:	Class 2 & 7b
Cost of Building Works:	\$3,100,000 (Total project cost)
Builder:	Palladian Developments (Aust.) Pty Ltd.
DA No.: Determination Date: Consent Authority:	170/09 19/08/2010 Manly Council
Date of Receipt of CC application: Determination: Date of Determination:	11/08/2011 Approved 16/08/2011
Approved Plans:	ACOR Consultants Pty Ltd; Project SY110285 Drawing No: SK1 dated 29/07/2011. Farwest Consulting Engineers; Project 10-2360 Drawing No: H-13 dated 0/02/2011 Multilink Engineering & Management Services; Project 111 North Steyne, Manly Drawing No's: SW-01, SW-02 & WM-01 dated May 2009.
Attachments:	• Other Documentation relied upon • Approved Plans
Accreditation Level: Registration No.: Accreditation Body:	A1 - Accredited Certifier - Building Surveyor Grade 1 BPB0092 Building Professionals Board

I certify that:

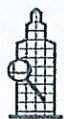
- the work, if completed in accordance with documentation accompanying the application for the certificate (with such modifications verified by the certifying authority as may be shown on that documentation), will comply with the requirements of *Environmental Planning & Assessment (EP&A) Regulation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

Signed:


Lyall Dix
Accredited Certifier

Date: 16/08/2011

COUNCIL COPY



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PTY. LTD.

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Building Certifiers
Strata Plan Certifiers
Building Regulations
Consultants
Fire Safety Consultants

APPLICATION FORM

Environmental Planning & Assessment Act 1979, s.109C
Environmental Planning & Assessment Regulation 2000, cl.126 or 139

- ☒ Construction Certificate (CC) ☐ Strata Certificate (SC) ☐ Crown Certificate
☐ Complying Development Certificate (CDC)

APPLICANT

Name Alastair Brodie
Address P.O. Box 384 Mosman
NSW 2088
Phone/Email/Fax 02 00 499 021
Signature & Date [Signature]

OWNER (PERSON WITH THE BENEFIT OF THE DEVELOPMENT CONSENT)

Name Mckenzie Maria Enterprise
Address _____

As the owner/owner's Agent of the subject property, I/we hereby consent to this Application of this Certificate for the proposed development described below.

Signature & Date [Signature]

SUBJECT LAND

Address 111 North Steyna Road Mosby
Lot & DP _____

PROPOSAL

Description Demolish existing building & construction of 4 level Apartment building
Or No. of Lots (if Strata) _____

DEVELOPMENT CONSENT NOT APPLICABLE FOR APPLICATIONS FOR CDC

DA No. 170/09 Date of Determination 19-08-2010

VALUE OF WORKS

Estimated Cost of Works \$ 3,100,000



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Fire Safety Consultants

Notice of Commencement of Building Work and Appointment of Principal Certifying Authority

Environmental Planning and Assessment Act 1979 Sections 81A (2) (b) (ii) or (c), 86 (1) and (2), 109E

OWNER'S AUTHORISATION (PERSON WITH THE BENEFIT OF THE DEVELOPMENT CONSENT)

I, Alastair Brodie, am the ~~owner~~ owner's Agent of the subject land, and wish to appoint the person nominated below as the Principal Certifying Authority for the subject development.

Owner's Signature: [Signature] Date: 16-08-11

Address: 2/95 Lauderdale Ave
Fairlight

SUBJECT LAND

Address: 111 North Stagers Manly

PROPOSAL

Description: New 4 level apartment building
with basement car park

CONSENT

DA/CDC No: 170/09
Date of Determination: 14-08-2010

COMPLIANCE WITH CONDITIONS & H.O.W. INSURANCE

- Have relevant conditions of Development Consent / CDC been complied with? ☒ Yes ☐ No
- Have the requirements under the Home Building Act 1989 been complied with? ☒ Yes ☐ N/A

DATE WORK IS TO COMMENCE

- After 48 hours from the date of lodgement of this form with the Consent Authority.

PRINCIPAL CERTIFYING AUTHORITY'S STATEMENT

Name:	Lyal Dix	Accreditation Body:	Building Professionals Board
Accreditation No:	BPB 0092	Address:	Level 4, 155 Castlereagh St, Sydney 2000
Accreditation Grade:	A1		

I accept the appointment as Principal Certifying Authority for the above development.

PCA's Signature: _____ Date: _____

ABS Schedule to Construction Certificate Application

particulars of the proposal

What is the area of the land (m²) 557 m²
 Gross floor area of existing building (m²) 835
 What are the current uses of all or parts of the building(s)/land?
 (if vacant state vacant) 7 apartments 2 garage

Location

Use

Does the site contain a dual occupancy? NO
 What is the gross floor area of the proposed addition or new building (m²) 835
 What are the proposed uses of all parts of the building(s)/land?

Location

Use

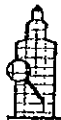
4 Level Apartment building

Number of pre-existing dwellings 7
 Number of dwellings to be demolished 7
 How many dwellings are proposed? 4
 How many storeys will the building consist of? 4

materials to be used

Place a tick adjacent to the material which best describes what the new work will be constructed of:

walls	code	roof	code
brick veneer	12	aluminium	70
full brick	11	concrete	<u>20</u>
single brick	11	concrete tile	10
concrete block	<u>11</u>	fibrous cement	30
concrete/masonry	20	fibreglass	80
concrete	20	masonry/terracotta shingle tiles	10
steel	60	slate	20
fibrous cement	30	steel	60
hardiplank	30	terracotta tile	10
cladding - aluminium	70	other	80
curtain glass	50	unknown	90
other	80		
unknown	90		
floor		frame	
concrete	<u>20</u>	timber	40
timber	10	steel	<u>60</u>
other	80	other	80
unknown	90	unknown	90



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Building Regulations
Consultants
Fire Safety Consultants

Notification of Mandatory Inspections

Environmental Planning and Assessment Act 1979 Sections 81A & 86 and Regulation 2000 Clauses 103A & 135A

Subject Land

Address

111 North Stagna Manly

Description of Works

Demolition of existing dwelling and construction of a 4 story apartment building with basement carpark

Consent

DA/CDC No.

170/09

CC No.

Principal Certifying Authority

Name:

LYALL DIX

Accreditation no.

BPB0092

The Following are Critical Stage Mandatory Inspections

They are required pursuant to Section 109E (3) (d) of the Act & Clause 162A of the Regs

- (4) In the case of a class 1 or 10 building,
 - (b) after excavation for, and prior to the placement of, any footings, and
 - (c) prior to pouring any in-situ reinforced concrete building element, and
 - (d) prior to covering of the framework for any floor, wall, roof or other building element, and
 - (e) prior to covering waterproofing in any wet areas, and
 - (f) prior to covering any stormwater drainage connections, and
 - (g) after the building work has been completed and prior to any occupation certificate
- (5) In the case of a class 2, 3 or 4 building,
 - (a) after excavation for, and prior to the placement of any footings; and
 - (b) waterproofing in any wet areas, for a minimum of 10% of rooms with wet areas
 - (c) prior to covering any stormwater drainage connections, and
 - (d) after the building work has been completed and prior to any occupation certificate
- (6) In the case of a class 5, 6, 7, 8 or 9 building,
 - (a) after excavation for, and prior to the placement of any footings; and
 - (b) prior to covering any stormwater drainage connections, and
 - (c) after the building work has been completed and prior to any occupation certificate
- (7A) Additional inspections of building work must be made
 - (a) in the case of a swimming pool, after completion and the barrier has been erected, and before filling with water

Person with the benefit of the Development Consent/CDC

Name

K. Ward

Signature

[Signature]

Date

16-08-11

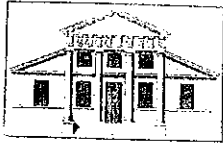
Note 1: If a builder is appointed the legislation requires you to notify them of these inspections. A missed inspection may result in the PCA being prohibited from issuing an Occupation Certificate.

Note 2: All critical stage inspections, excluding the final inspection, may be undertaken by another accredited Certifying Authority other than the Principal Certifying Authority.

Level 4,
155 Chatterbox Street
Sydney NSW 2000
Tel: 02 9278 3657
Fax: 02 9278 3686

ABN 15 080 427 446 | Email: admin@dixgardner.com.au | Web: www.dixgardner.com.au

Level 2, 25 West Street
P.O. Box 1500
Newcastle NSW 2300
Tel: 02 4927 1832
Fax: 02 4927 1844



Palladian Developments (Aust) Pty Ltd ABN 39 150 824 301

Ivan Boulle
Dix Gardener
L4 155 Castlereagh St
Sydney 2000

Dear Ivan

RE: Appointment of Builder to 111 North Steyne Road Manly

Builder	Palladian Developments (Aust) Pty Ltd
License #	238097C
Policy # contract Insurance	CUG :- IGO48335
Policy Number Workers comp	CUG :- WGB 110610188122
Contact	Alastair Brodie (director) 04 0049 4021
Address	PO Box 384, Mosman NSW 2088
Email	IQ200@live.com.au
Fax	02 9954 7979

Sincerely

Alastair Brodie

CEO Palladian Developments Australia Pty Ltd



Greg Houston Plumbing Pty Ltd

ABN 58 001 898 662 – Lic No: L1448

1/9 Hargraves Place

Wetherill Park NSW 2164

Telephone: 02 9756 1623

Facsimile: 02 9725 5439

Email: admin@greghoustonplumbing.com.au

www.greghoustonplumbing.com.au

Sydney Water Lic. Water Service Coordinator

Sydney Water Lic. Quick Check Agent

ISO 9001:2000 Certified Company

Design & Project Management

Sewer & Water Construction

Stormwater, Drainage &

Plumbing Services

Far West Consulting Engineers
140 Good Street
HARRIS PARK NSW 2150

November 11, 2010

Job No: N0100

RE: 111 North Steyne Road, Manly
CASE: 121272

We refer to your recent application for a Section 73 Certificate for the above development and accordingly enclose the following documentation:-

- Sydney Water Notice of Requirements
- Sydney Water Major Works & Minor Works Agreements – 2 Copies of each
- Greg Houston Plumbing Pty Ltd Major Works & Minor Works Management Tenders

To receive your Section 73 Certificate, you must do the following:-

1. **Engage a WSC (Water Servicing Co-Ordinator) to continue the Management of your Major Water & Minor Sewer Works**
Your WSC will ensure the co-ordination of construction and the completion of your Minor Works.
2. **Engage a Major Works and a Minor Works Accredited Constructor to complete the construction of a new watermain to service your development & replacement of the existing watermain, together with a minor works sewer extension to service your development.**

If you wish to continue the management of your development with our company, please sign, complete and return the following documentation to our office:

1. Greg Houston Plumbing Major Works & Minor Works Management Tender.
Please sign & return both our tenders along with payment of \$1,023.25 for **minor works management fees only**
2. Major Works & Minor Works Agreements – **TWO COPIES OF EACH AGREEMENT REQUIRED**
Please sign & return both copies of the Major AND Minor Works Agreements – **originals are required.**
3. Copy of Hydraulics Plan – In order for our Project Manager to review & provide Minor Works Design.

We would like to remind you that all requirements as set out in Sydney Water's Notice of Requirements must be actioned prior to the release of your Section 73 Certificate.

Please also note that your Notice of Requirements is valid for 12 months only.

If you have any queries please do not hesitate to contact our office.

Kind Regards

Jeanette Munez
Water Service Coordinator



Case Number: 121272

27 October 2010

NORTHWEST MANAGEMENT SERVICES PTY LTD
c/- GREG HOUSTON PLUMBING PTY LTD

NOTICE OF REQUIREMENTS
for
SECTION 73 SUBDIVIDER/DEVELOPER COMPLIANCE CERTIFICATE
(Sydney Water Act 1994, Part 6, Division 9)

Developer: NORTHWEST MANAGEMENT SERVICES PTY LTD
Your reference: N0100
Development: Lots 0, 2, 4, 5, 6 & 7 in SP 592 and Lots 8 & 9 in SP 14455
111 North Steyne, Manly
Development Description: Demolition of existing residential flat building and garages
and construction of a four (4) storey residential flat
building containing four (4) units, with basement garage,
swimming pool and roof top terrace and including Strata
Subdivision of the proposed development.
Council Consent No: 170/09 by Manly Council of 19 August 2010
Your application date: 27 September 2010

Dear Applicant

Sydney Water has assessed your application for a Section 73 Compliance Certificate (the Certificate) for the subdivision shown above. Before Sydney Water can issue the Certificate, you must meet all the requirements set out in this notice and summarised in the following document *What You Must Do To Get A Section 73 Certificate*.

You have until 27 October 2011 to meet those requirements and receive the Certificate. If you have not received the Certificate by then you will have to reapply (and pay another application fee) and Sydney Water will issue you with a new notice. We may have extra requirements and charges may change in the new notice.

The Water Servicing Coordinator (Coordinator) will be your point of contact with Sydney Water. They can answer most questions you might have on our developer process and charges.

You can also find out about this process by visiting www.sydneywater.com.au > Building and Developing > Developing Your Land. If you want to find out the status of your application, simply select 'Developer Application Enquiry' and enter your case number (shown above) and email address. A response will be sent automatically to you.

What You Must Do To Get A Section 73 Certificate

Summary

This is a summary of Sydney Water's requirements. The detailed list begins on the next page.

You must do all of the following things:

1. Engage a Water Servicing Coordinator (Coordinator) before you sign the enclosed Agreements.
2. Sign both originals of the enclosed Agreements and give them to the Coordinator. You must do all the things that we ask you to do in those Agreements.
3. After you have signed the Agreements you then need to build the required water and sewer works at your own cost.
4. See Section 4 for Ancillary Matters.

Other things you need to do:

At the end of this Notice are some other things that you may need to do. They are NOT a requirement to be met before the Certificate can issue but may well be a requirement in the future because of the impact of your subdivision on our assets. You must read them before you go any further.

DETAILED REQUIREMENTS

1. Water Servicing Coordinator

You must engage your current or another authorised Coordinator to manage the design and construction of works that you must provide, at your cost, to service your development. If you wish to engage another Coordinator (at any point in this process) you must write and tell Sydney Water.

For a list of authorised Coordinators, either visit www.sydneywater.com.au > Building and Developing > Developing Your Land or call **13 20 92**.

Coordinators will give you a quote or information about costs for services/works, including Sydney Water costs.

2. Major Works and Minor Works Agreements

After you engage a Coordinator, you will need to sign and lodge **both originals** of each of the enclosed Major Works and Minor Works Agreements with your nominated Coordinator.

These agreements set out for this development:

- your responsibilities;
- Sydney Water's responsibilities;
- the Coordinator's responsibilities; and
- the Minor Works (Sewer) constructors responsibilities.

You must do all the things that we ask you to do in these Agreements. This is because your development does not have water and wastewater services and you must construct and pay for the following works extensions under these Agreements to provide these services.

After Sydney Water has signed these documents, one copy of each Agreement will be returned to your Coordinator.

Note: The Coordinator must be fully authorised by us for the whole time of these Agreements.

3. Water and Sewer Works

3.1 Water

Your proposed development must have:

- a frontage to a drinking water main that is the right size and can be used for connection; and
- its own connection to that water main that is available for the fitting of a meter.

Sydney Water has assessed your application and found that:

- **You must construct a new main to serve your development. See Section 3.1.1**

below for details.

3.1.1 Water main replacement works

The existing 100 mm water main in Pine Lane fronting your development does not comply with the 150 mm size required under the Water Supply Code of Australia (Sydney Water Edition) for a four-storey building.

You must construct a new 150 mm main in place of the existing 100 mm main in Pine Lane. The main must be constructed from the 150 mm main in Pine Lane adjacent to No. 118 North Steyne, along Pine Lane to a point 2 metres past the point of connection (see diagram below).

Any existing service connections must be reconnected to the new main.

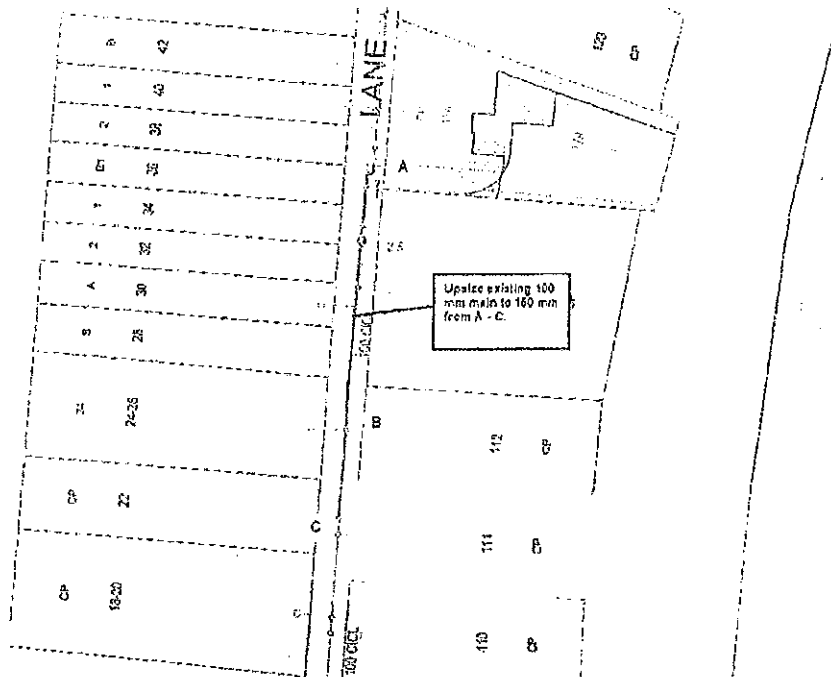
The diagram below provides an indication of these works. The final detail can only be determined after all design aspects are considered. Your Coordinator can provide further information.

You will not be able to connect your development to our system until this work is complete.

At this point, Sydney Water will meet the cost of the works shown on the diagram as Section A-B (from the existing 150 mm main extended to 5 metres past the northern boundary of No. 112 North Steyne).

The Developer will meet the cost of the remaining section of the work shown on the diagram as B-C (from 5 metres past the northern boundary of No. 112 North Steyne to a point 2 metres past the connection point for your current development).

The contribution amounts can only be decided after Sydney Water has approved both the final design and the construction quotes.



Large Water Service Connection

The new 150 mm water main you are to construct will provide your development with a domestic supply. Should you require a connection to this new main that is larger than the standard 20 mm size, then you will need to lodge an application with a Quick Check agent. You, or your hydraulic consultant, may need to supply the following:

- A plan of the hydraulic layout;
- A list of all the fixtures/fittings within the property;
- A copy of the fireflow pressure inquiry issued by Sydney Water;
- A pump application form (if a pump is required);
- All pump details (if a pump is required).

You will have to pay an application fee.

Sydney Water does not consider whether a water main is adequate for fire fighting purposes for your development. We cannot guarantee that this water supply will meet your Council's fire fighting requirements. The Council and your hydraulic consultant can help.

3.2 Sewer

Each lot in your subdivision must have a sewer main that is the right size and can be used for connection. That sewer must also have a connection point within each lot's boundaries.

Sydney Water has assessed your application and found that:

- **You must construct a minor sewer main extension to serve your development. See section 3.2.1 below for details.**

3.2.1 Minor Sewer main extension

Your Coordinator will determine the works scope and location and prepare a documented design servicing solution.

The documented design servicing solution will ensure that the works: meet Sydney Water's requirements; and adequately drain the property.

It will also enable you to select an appropriately accredited Constructor to construct the works. Your Coordinator can assist you.

Note: The Minor Works Agreement also tells you which type of Constructor can be used.

The Constructor MUST tell Sydney Water of the construction starting date at least TWO (2) working days before they start. (Remember that the local Council must be contacted before working in, on or over a public road.)

When the works have been finished, your Coordinator must give Sydney Water all the "Work as Constructed" information that shows what was constructed

4. Ancillary Matters

4.1 Flow Management and Isolation of Sydney Water's Asset.

The above works will be constructed with a connection/cut-in to Sydney Water's (wastewater, water and/or stormwater) assets. To see that it complies with Occupational Health and Safety and Environmental legislation you must talk to your coordinator about the timely submission to Sydney Water of a request for flow management and asset isolation requirements.

4.2 Asset Adjustments

After Sydney Water issues this Notice (and more detailed designs are available), Sydney Water may require that the water main/sewer main/stormwater located in the footway/your property be adjusted/deviated. If this happens, you will need to do this work as well as the extension we have detailed above at your cost. The work must meet the conditions of this Notice and you will need to complete it **before we can issue the Certificate**. Sydney Water will need to see the completed designs for the work and we will require you to lodge a security. The security will be refunded once the work is completed.

4.3 Entry onto neighbouring property

If you need to enter a neighbouring property, you must have the written permission of the relevant property owners and tenants. You must use Sydney Water's **Permission to Enter** form(s) for this. You can get copies of these forms from your Coordinator or the Sydney Water website. Your Coordinator can also negotiate on your behalf. Please make sure that you address all the items on the form(s) including payment of

compensation and whether there are other ways of designing and constructing that could avoid or reduce their impacts. You will be responsible for all costs of mediation involved in resolving any disputes. Please allow enough time for entry issues to be resolved.

4.4 Costs

Construction of these works will require you to pay project management, survey, design and construction costs **directly to your suppliers**. Additional costs payable to Sydney Water may include:

- design and construction audit fees;
- contract administration, Operations Area Charge & Customer Redress prior to project finalisation; and
- creation or alteration of easements etc.

Note: Payment for any Goods and Services (including Customer Redress) provided by Sydney Water will be required prior to the issue of the Section 73 Certificate or release of the Bank Guarantee or Cash Bond.

Your Coordinator can tell you about these costs.

OTHER THINGS YOU NEED TO DO:

Shown below are other things you need to do that are NOT a requirement for the Certificate. They may well be a requirement of Sydney Water in the future because of the impact of your subdivision on our assets. You must read them before you go any further.

Stamping and approval of your building plans

Please note that your building plans must be stamped and approved. This can be done at a Quick Check agency. For an agency list visit www.sydneywater.com.au > Building and Developing > Quick Check or call 13 20 92.

This is not a requirement of the Certificate but the approval is needed because construction/building works may impact on existing Sydney Water assets (e.g. water and sewer mains). In any case, these works **MUST NOT** commence until Sydney Water has granted approval.

Your Coordinator can tell you about the approval process including:

- Possible requirements;
- Costs; and
- Timeframes.

Note: You must obtain our written approval before you do any work on Sydney Water's systems. Sydney Water will take action to have work stopped on the site if you do not have that approval. We will apply Section 44 of the *Sydney Water Act 1994*.

Backflow Prevention Water supply connections

A backflow prevention containment device appropriate to the property's hazard rating must be installed at the property boundary. The device is to be installed on all water supplies entering the property, regardless of the supply type or metering arrangements. It is needed to

reduce the risk of contamination by backflow from these supplies.

A licensed plumber with backflow accreditation can advise you of the correct requirements for your property. To view a copy of Sydney Water's Backflow Prevention Policy and a list of backflow accredited plumbers visit www.sydneywater.com.au > Plumbing > BackflowPrevention.

Fire Fighting

Definition of fire fighting systems is the responsibility of the developer and is not part of the Section 73 process. It is recommended that a consultant should advise the developer regarding the fire fighting flow of the subdivision and the ability of Sydney Water's system to provide that flow in an emergency. Sydney Water's Operating Licence directs that Sydney Water's mains are only required to provide domestic supply at a minimum pressure of 15 m head.

Disused Water Service Sealing

You must pay to disconnect all disused private water services and seal them at the point of connection to a Sydney Water water main. This work must meet Sydney Water's standards in the NSW Code of Practice for Plumbing and Drainage (the Code) and be done by a licensed plumber. The licensed plumber must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

Disused Sewerage Service Sealing

Please do not forget that you must pay to disconnect all disused private sewerage services and seal them at the point of connection to a Sydney Water sewer main. This work must meet Sydney Water's standards in the NSW Code of Practice for Plumbing and Drainage (the Code) and be done by a licensed drainer. The licensed drainer must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

Soffit Requirements

Please be aware that floor levels must be able to meet Sydney Water's soffit requirements for property connection and drainage.

Other fees and requirements

The requirements in this Notice relate to your Certificate application only. Sydney Water may be involved with other aspects of your subdivision and there may be other fees or requirements. These include:

- plumbing and drainage inspection costs;
 - the installation of backflow prevention devices; and
 - council fire fighting requirements. (It will help you to know what the fire fighting requirements are for your development as soon as possible. Your hydraulic consultant can help you here.)
-

END OF NOTICE



Enquiry Confirmation

Job No. 4729093

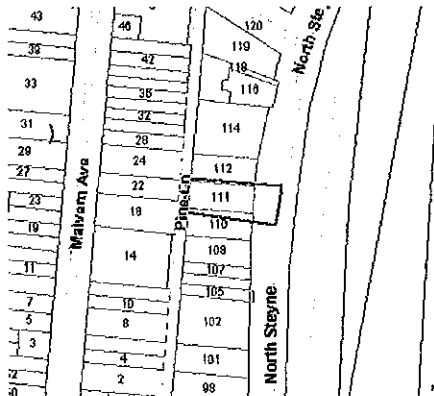
PO Box 378
Abbotsford VIC 3067
Phone: 1100

To: Mr Alastair Brodie
Company: Palladian Constructions
Address: PO BOX 384
Mosman NSW 2088

Caller ID: 1004159
Phone: 0400494021
Mobile: Not Supplied
Fax No: 0299547979
Email: iq200@live.com.au

Dig Site Details

Warning: The map below only displays the location of the proposed dig site and does not display any asset owner's pipes or cables. The area highlighted has been used only to identify the participating asset owners, who will send information to you directly. Asset owners aim to provide you with details of their assets within 2 working days.



Enquiry Date: 10/06/2011 11:47:42 AM
Start Date: 14/06/2011
Address: 111 North Steyne Rd
Manly NSW 2095
Intersection: Not Specified

- Check that the location of the dig site is correct. If not you **MUST** submit a new enquiry.
- Should the scope of works change, or plan validity dates expire, you must submit a new enquiry.
- Do NOT dig without plans. Safe excavation is your responsibility. If you do not understand the plans or how to proceed safely, please contact the relevant asset owners.

Map Ref: UbdSyd 198C6

Additional work site information:

Dial Before You Dig - it's the law in NSW. See the Workcover Work Near Underground Assets Guide for more details.

Your Responsibilities and Duty of Care

- If plans are not received within 2 working days, contact the asset owners directly & quote their Sequence No.
- ALWAYS perform an onsite inspection for the presence of assets. Should you require an onsite location, contact the asset owners directly. Please remember, plans do not detail the exact location of assets.
- Pothole to establish the exact location of all underground assets using a hand shovel, before using heavy machinery.
- Ensure you adhere to any State legislative requirements regarding Duty of Care and safe digging requirements.
- If you damage an underground asset you **MUST** advise the asset owner immediately.
- By using this service, you agree to the terms and disclaimers set out at www.1100.com.au.
- For more information on safe excavation practices, visit www.1100.com.au

Asset Owner Details

The asset owners listed below have been requested to contact you with information about their asset locations within 2 working days. Additional time should be allowed for information issued by post.

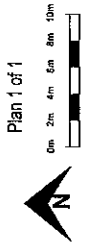
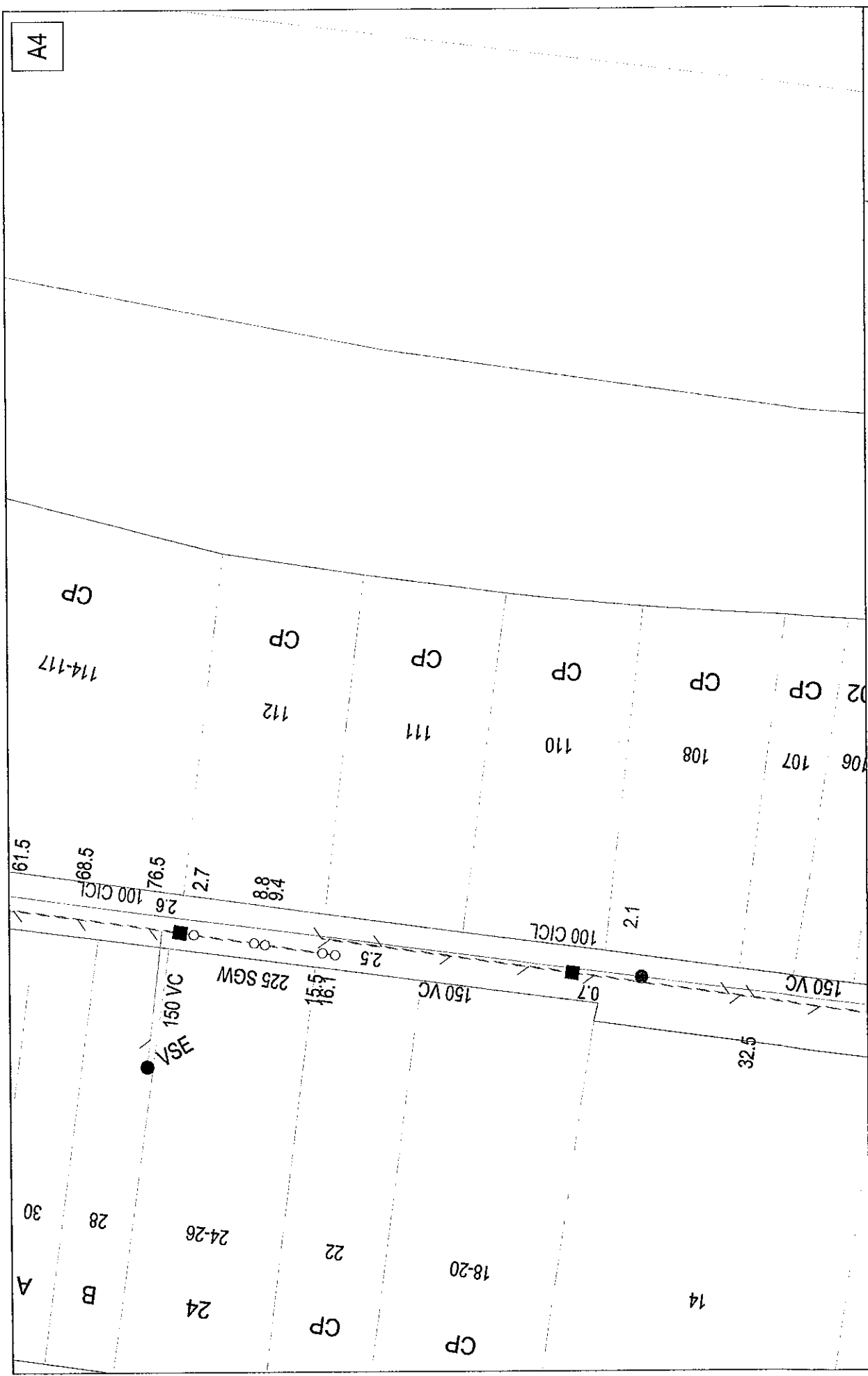
Seq No.	Asset Owner	Contact No	Notification Status
21758083	PIPE Networks, Nsw	1800201100	Notified
21758081	Ausgrid (formerly EnergyAustralia)	0249510899	Notified
21758082	Telstra NSW, Central	1800653935	Notified
21758080	Jemena Gas North	1300880906	Notified
21758079	Sydney Water	0288493800	Notified

** Asset owners highlighted by asterisks ** require that you visit their offices to collect plans.

Asset owners highlighted with a hash require that you call them to discuss your enquiry or to obtain plans.

LODGE YOUR FREE ENQUIRY ONLINE - 24 HOURS A DAY, SEVEN DAYS A WEEK

A4



Plan 1 of 1

Scale: 1:500

Date of Production: 10/06/2011

Copyright Reserved Sydney Water 2011
No warranty is given that the information shown is complete or accurate.

SYDNEY WATER CORPORATION

DBYD Address: 111 North Steyne Rd
Manly NSW 2095
DBYD Job No: 346134
DBYD Sequence No: 21758079



	For all Telstra DBYD plan enquiries - email - Telstra.Plans@team.telstra.com For urgent onsite contact only - ph 1800 653 935 (bus hrs)	Sequence Number: 21758082
TELSTRA CORPORATION LIMITED A.C.N. 051 775 556	Exchange Area: MANL	CAUTION: Fibre Optic cable is present in the requested plot area
Generated On 10/06/2011 12:26:21		

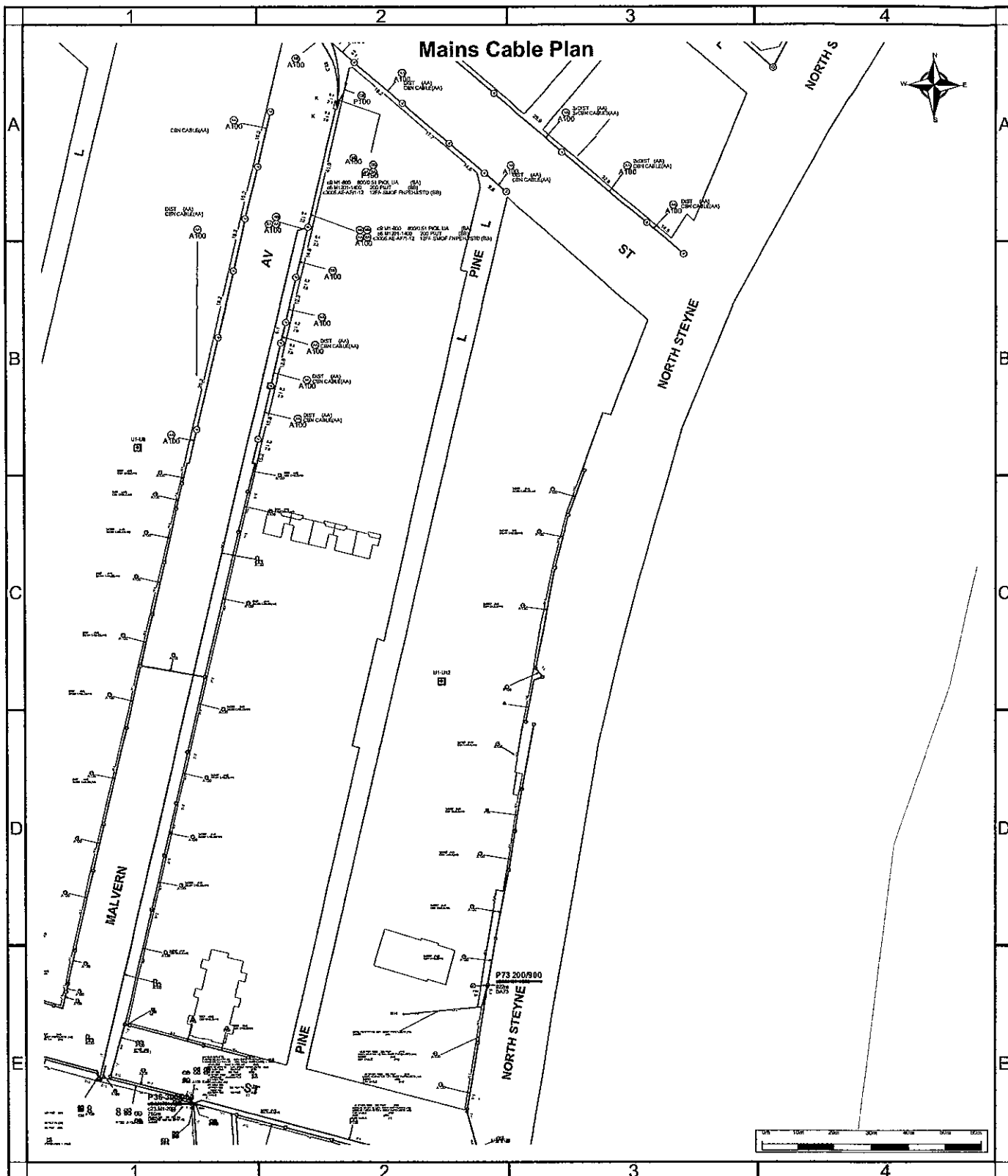
The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.



	For all Telstra DBYD plan enquiries - email - Telstra.Plans@team.telstra.com For urgent onsite contact only - ph 1800 653 935 (bus hrs)	Sequence Number: 21758082
TELSTRA CORPORATION LIMITED A.C.N. 051 775 556	Exchange Area: MANL	CAUTION: Fibre Optic cable is present in the requested plot area
Generated On 10/06/2011 12:26:35		

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

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Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

Print

Close

DBYD JOB: 4729093 SEQ:21758082-111 North Steyne RdManlyNSW 2095

From: **Unrestricted_AgentSigner@domino.in.telstra.com.au**

Sent: Friday, 10 June 2011 12:46:45 PM

To: iq200@live.com.au

3 attachments

Telstra Duty of Care.pdf (189.3 KB), Telstra Duty of Care.pdf (189.3 KB)
21758082-111 (137.2 KB)

Attention: Alastair Brodie

Site Location: 111 North Steyne Rd, Manly, NSW 2095

The attached files contain Telstra information relating to your recent Dial-Before-You-Dig request. Please ensure you read the Telstra Duty of Care document attached as it contains important and useful information. If you are unable to launch any one of the files for viewing and printing, you may need to download and install one or more of the free viewing and printing products such as Adobe Acrobat Reader (PDF) or Autodesk Design Review 2010 (DWF) available off the internet. (further information on viewing and printing PDF and DWF files is included in the Duty of Care document attached)

For all Telstra DBYD map enquiries:

Please note - to make an enquiry the plans must be current i.e. within 60 days of issue. If plans you wish to enquire about have expired you will need to submit a new request via DBYD first.

Email:

Telstra.Plans@team.telstra.com

Fax: 02 4961 3714

Phone (for urgent, onsite or other enquiries) - 1800 653 935 (7.30 am to 5 pm, 5 days per week)

Optic Fibre Enquiries 1800 653 935 (7.30 am to 5 pm, 5 days per week)

For all Telstra asset relocation enquiries:

Phone: 1800 810 443

Please DO NOT SEND A REPLY to this email as it has been automatically generated and replies are not monitored.

| WARNING - MAJOR CABLES and/or OPTIC FIBRE IN THE AREA. |
| Due to the nature of Telstra underground plant and the age of some cables and
|
| records, it is impossible to ascertain the precise location of all Telstra
plant |
| from Telstra's plans. The preciseness and/or completeness of the information
|
| supplied can not be guaranteed as property boundaries, depths and other
natural|
| landscape features may change over time, and accordingly the plans are |
| indicative only. Telstra does not warrant or hold out that its plans are
accurate|
| and accepts no responsibility for any inaccuracy shown on the plans. It is |
| your responsibility to locate Telstra's underground plant by careful hand |
| pot-holing prior to any excavation in the vicinity and to exercise due care |
| during that excavation. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY
DAMAGE |
| TO ITS PLANT. Please read and understand the information supplied in the duty
|
| of care statement attached with the Telstra Plans. |
| |
| Phone 1800 653 935 for further assistance. |
| |
| Caution: Some Telstra fibre routes may be marked as "Amcom", as Telstra has |
| purchased much of this infrastructure. If in doubt please contact Telstra
Plan |
| services on the number above. Telstra plans and information are valid for 60
|
| days from the date of issue. If this timeframe has elapsed, please reapply
for |
plans.
----|

(See attached file: Telstra Duty of Care.pdf)

(See attached file: NSW CENT_AccreditedPlantLocators.pdf)

(See attached file: 21758082.pdf)

Hotmail

New | Reply Reply all Forward | Delete Junk Sweep ▾ Mark as ▾ Move to ▾ |

Options ▾ ▾

M Mazzone

maria Hunt

Martin Pooly

mary lyn

mission beach

Mitchell McLennan

mo

Nathan

Nelsco

north steyne

north styene

NZ

owen

Palladian matters

parriwi road

parriwi road contrac

pask

Phillip Fowler

Phillip Meisner

PL

Queen Contractors

Stephen Critchley

styene spam

tom bishop

TTW

venus

Warwick

watershed

New folder

Underground Cable Location Search Advice

EnergyAustralia ASSETS AFFECTED

To: Mr Alastair Brodie

Palladian Constructions

PO BOX 384

Mosman NSW 2088

Fax No: 0299547979

Phone No: 0400494021

Issue Date: 10/06/2011

In response to your enquiry, Sequence No: 21758081
the records of EnergyAustralia disclose that there are
underground cables of EnergyAustralia in the search location
based on the graphical position of the digsite as denoted
in the Dial Before You Dig caller confirmation sheet.

Address . . . : 111 North Steyne Rd Manly NSW

Intersecting

Streets: Not Supplied

Side of Street: Not Supplied

Map Ref . . . : UbdSyd 198C6

Quick views

Flagged

Photos

Office docs

Messenger

Home

Contacts

Calendar

Part 1 of 1 of EnergyAustralia's plans
are attached to this email.

* Please note you will ONLY receive portions of your search area
contain

Energy Australia Underground Assets

ALL INFORMATION PROVIDED TO YOU IS ONLY VALID
FOR 30 DAYS FROM THE DATE OF ISSUE.

Refer to EnergyAustralia's Network Standard NS156 for further in



FAR WEST CONSULTING ENGINEERS

ABN 28 002 890 333

* INVESTIGATION * FEASIBILITY STUDIES * DESIGN DOCUMENTATION * CERTIFICATION
MAINTENANCE MANAGEMENT * ENERGY MANAGEMENT * PROJECT MANAGEMENT * CONSTRUCTION SUPERVISION
* COMMERCIAL * INDUSTRIAL * RESIDENTIAL

BUILDING SERVICES
ENGINEERS & MANAGERS

AIR CONDITIONING ENGINEERS

ACOUSTIC ENGINEERS

COMMUNICATION ENGINEERS

CIVIL ENGINEERS

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FIRE ENGINEERS

HYDRAULIC ENGINEERS

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LIFT ENGINEERS

MECHANICAL ENGINEERS

MAINTENANCE ENGINEERS

POWER ENGINEERS

SECURITY ENGINEERS

CONSTRUCTION MANAGEMENT

INVESTMENT CONSULTANTS

BUSINESS MANAGEMENT

INTERNATIONAL BUSINESS

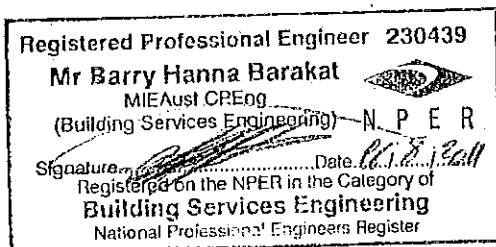
PROJECT MANAGERS

Project No. 10-2360
Date 16 August 2011

DESIGN STATEMENT

BUILDING NAME: Residential Building
ADDRESS: 111 Northsteyne Road Manly

This is to certify that the stormwater drainage 'as designed' for the above building comply with the requirement expressed in Clause F1.1 of the Building Code of Australia and AS/ NZS 3500.3 as amended,



140 Good Street, Harris Park NSW 2150 PO Box 6063 Parramatta NSW 2150
PHONE: (02) 8843 0100 FACSIMILE: (02) 9897 0152
Email: admin@farwestconsulting.com
Web: www.farwestconsulting.com

11 August 2011



Ivan Boule
Dix Gardner Pty Ltd
Level 4, 155 Castlereach Street
SYDNEY NSW 2000

t 61 7 5539 9788
f 61 7 5539 9789
e info@dbidesign.com.au

Level 1, 9 Trickett Street PO Box 888 Surfers Paradise Queensland 4217 Australia

DBI Design Pty Ltd
ACN 097 951 007

Subject 111 North Steyne, Manly

Dear Ivan

DBI verify that the issued CC drawings for the project at 111 North Steyne, Manly, are in accordance with the Development Consent application drawings.

Regards
DBI DESIGN

A handwritten signature in black ink, appearing to be 'Raith Anderson', followed by a horizontal line.

Raith Anderson
Director / Architect

copy Alastair Brodie



Our Reference: SY110285

11 August 2011

Dix Gardner
C/IQ200 Pty Ltd
PO Box 494
Mosman NSW

Attn: Ian Boule

Dear Ian

Re: proposed development 111 North Styne Manly NSW

This is to certify that ACOR has carried out the design of shoring piles for the above project. The design is based on the design forces supplied by Geotechnical consultants Jeffery and Katauskas Pty Ltd in their reports dated 21 July 2011, 25 July 2011 and 8 August 2011 (enclosed). We certify that the structural design of shoring piles conform to AS 3600 and other relevant Australian codes and general industry practices.

Yours sincerely,
ACOR Consultants Pty Ltd

Alok Shrivastava
Senior Structural Associate

ACOR CONSULTANTS PTY LTD

ENGINEERS

MANAGERS

INFRASTRUCTURE PLANNERS

SYDNEY – BRISBANE – NEWCASTLE
GOSFORD – ADELAIDE

ACOR 100/101/102

ACOR 100/101/102

Unit 101/102/103

100/101/102

100/101/102/103

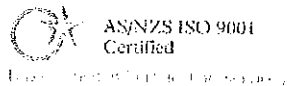
TEL: 02 9437 8000

FAX: 02 9437 8001

WWW.ACOR.COM.AU

Jeffery and Katauskas Pty Ltd

CONSULTING GEOTECHNICAL AND ENVIRONMENTAL ENGINEERS
ABN 17 003 550 801



PO BOX 976, NORTH RYDE BC NSW 1670
Tel: 02 9888 5000 • Fax: 02 9888 5001
Email: engineers@jkggroup.net.au

8 August 2011
Ref: 22678VLLet2

Palladian Constructions
PO Box 384
MOSMAN NSW 2088

ATTENTION: Mr Alastair Brodie

Dear Sirs

ADDITIONAL RETAINING WALL ANALYSIS 111 THE STEYNE, MANLY

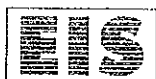
1.0 Introduction

This letter presents the results of our additional retaining wall analysis for the proposed western contiguous piled shoring system (Referred to as Section 1 in our previous report Ref 22678VLLet, dated 21 July 2011) at the above site. The analysis was carried out at the request of Acor and Palladian Constructions. The purpose of this additional analysis was to revise the western shoring wall design to account for a 30 tonne excavator positioned not closer than 1m from the shoring wall.

2.0 Information Provided and Assumptions

As part of this additional analysis we have been provided with the following information from Mr Alok Shrivastava of Acor Consultants and Alastair Brodie of Palladian Constructions.

- The piles within the contiguous pile wall will be 450mm diameter. We have assumed 2 piles per metre run of wall.



Principals: L J Speechley BE(Hons) MEngSc; P Stubbs BSc(Eng) MICE FGS; D Trewaek DipTech;
B F Walker BE DIC MSc. Senior Associates: D J Bliss BE(Hons) MEngSc; A L Jackaman BE MEngSc;
A J Kingswell BSc(Hons) MSc; P D Roberts BSc MSc; F A Vega BSc(Eng) GDE; P C Wright BE(Hons) MEngSc;
A Zenon BSc(Eng) GDE. Associates: A J Hulskamp BE(Hons) MEngSc; W Theunissen BE MEngSc;
A B Walker BE(Hons) MEngSc. Principal Consultant: R P Jeffery BE DIC MSc.





- The piles in the contiguous pile wall will have a Modulus (E) of 27000MPa and each pile will have a gross Moment of Inertia (I) of $2011\text{E}6\text{mm}^4$.
- A 30 tonne excavator will be located adjacent to the western shoring wall. The excavator will be positioned not closer than 1m from the wall at any time and has 600mm wide by 4.5m long excavator tracks. We have calculated that the excavator would place a pressure of 110kPa on the ground surface. This effectively allows for all the excavator load to be placed on one single track closest to the shoring wall.
- All other assumptions including the subsurface model, are as provided in our previous shoring wall design letter (Reference 22678L, dated 21 July 2011).

4.0 Analysis Sections

The retaining wall analysis was carried out at one typical section using the Computer Program WALLAP. Two options (both anchored) have been analysed;

- Option 1 is when the excavator load is placed prior to installing the top anchor.
- Option 2 is when the excavator load is installed after installing and stressing the top anchor. The following summarises the model analysed at each section. For further details reference should be made to the attached Figures 2, 3 and 4.

Section 1

Section 1 comprises a typical section, which allows for;

- A ground surface level (and top of contiguous pile level) at RL5.9m.
- An anchor installed at RL5.4m
- A bulk excavation level at RL2.8m and some additional over-excavation down to RL2.2m to account for localised footing excavations and surface loosening has also been assumed.
- A nominal uniformly distributed surcharge load of 5kPa and an additional 0.6m wide and 110kPa surcharge load which is placed at not closer than 1.0m from the rear of the shoring wall.



A typical sketch of the Section 1 model is shown in our previous report referenced above. The only difference to that original Section 1 sketch is the inclusion of the additional excavator surcharge load.

The construction sequence assumed for Option 1 of the revised analysis is as follows;

1. Install 450mm diameter contiguous piles with a toe level no higher than RL0.0m.
2. Excavate to not lower than RL4.90m (i.e. 0.5m below the anchor level).
3. Place 110kPa surcharge load from the excavator at a distance no closer than 1.0m from the rear of the shoring wall.
4. Install anchor at RL5.4m (i.e. 0.5m below the top of the contiguous pile wall).
The anchors have been assumed to be installed at 3m horizontal spacing and down at 30° to the horizontal. Each anchor has been given a pre-stress of 100kN and has been assumed to comprise 2No. 15mm strands with a free length of 4m.
5. Excavate to bulk excavation level at RL2.8m.
6. Install basement floor slab at RL2.9m and ground floor slab at RL5.9m.
7. De-stress anchor.

5.0 Analysis Results

The following table summarises the results of the analysis.

	Section 1 (Excavator Load Prior to Anchor)	Section 1 (Excavator Load After Anchor)
Elevation of Toe of Wall	RL0.0	RL0
Anchor Prestress (per anchor)	100kN	100kN
Bending Moment (kN.m/m run)	50kN.m/m run	55kN.m/m run
Shear Force (kN.m/m run)	40kN/m run	45kN/m run
HORIZONTAL Working Anchor Load (kN)	140kN per anchor at 3m anchor spacing. Or 46.7kN/m run	145kN per anchor at 3m anchor spacing. Or 48.3kN/m run
Maximum Deflection (mm)	6mm at top of wall	5mm at RL3.3m
Deflection at top of Wall (mm)	6mm	4mm



As expected, the analysis results generally show that bending moments, shear forces anchor loads and deflections are all slightly greater than for the original Section 1 without the excavator surcharge load. However an acceptable factor of safety can still be achieved for the toe of the piles at RL0.0m. Allowing the excavator surcharge load to occur after the anchor has been installed and stressed will slightly reduce deflections, however it will lead to an increase in bending moment, shear force and anchor load compared to applying the excavator load prior to installing and stressing the anchor. Consideration could be given to increasing the prestress load to reduce deflections further, however there is only likely to be a relatively small reduction to the deflection at the top of the pile. While we have not analysed this case we expect that the deflection toward the toe of the pile would probably remain unchanged.

It is also important to note that the analysis has been carried out for the excavator surcharge load not closer than 1m from the shoring wall. If the excavator surcharge load is placed closer than 1m then particularly deflections and anchor loads will be significantly higher (possibly double). Therefore it will be critical that the excavator load is kept at least 1m from the shoring wall at all times. If there is concern about site controls in regard to the 1m distance then we recommend that a further analysis be carried out to check the effect of the excavator surcharge load being within 1m of the shoring wall.

6.0 General Comments

The above analysis has been carried out using a number of assumptions which must be confirmed prior to construction. We recommend that a meeting be held between the developer, builder, structural engineers and geotechnical engineers to discuss the analysis and the assumptions made. The analysis is sensitive to the construction sequence and particularly to surcharge loads and excavation depths. Over-excavation should be avoided. Therefore any variation from that assumed in this analysis will



affect the results (possible adversely). Therefore any variations should be reviewed by the geotechnical engineers to confirm that the design is appropriate.

This report does not address pile lengths and diameters to carry the vertical column loads. These will need to be assessed further for each specific case. Consideration will need to be given to differential movements between the various structural elements such as walls and footings.

This report provides advice on geotechnical aspects of proposed civil and structural design. As part of the documentation stage of this project, Contract Documents and Specifications may be prepared based on our report. However, there may be design features we are not aware of or have not commented on for a variety of reasons. The designers should satisfy themselves that all the necessary advice has been obtained. If required, we could be commissioned to review the geotechnical aspects of contract documents to confirm the intent of our recommendations has been correctly implemented.

If there is any change in the proposed development described in this report then all recommendations should be reviewed.

This report has been prepared for the particular project described and no responsibility is accepted for the use of any part of this report in any other context or for any other purpose. Copyright in this report is the property of Jeffery and Katauskas Pty Ltd. We have used a degree of care, skill and diligence normally exercised by consulting engineers in similar circumstances and locality. No other warranty expressed or implied is made or intended. Subject to payment of all fees due for the investigation, the client alone shall have a licence to use this report. The report shall not be reproduced except in full.



Should you require any further information regarding the above please do not hesitate to contact the undersigned.

Yours faithfully
For and on behalf of
JEFFERY AND KATAUSKAS PTY LTD

A handwritten signature in black ink, appearing to read 'LJ Speechley'. The signature is written in a cursive, flowing style and is located below the typed name.

LJ Speechley
Principal.

Shrivastava, Alok - ACOR

From: Linton Speechley [lspeechley@jkggroup.net.au]
Sent: Monday, 25 July 2011 5:26 PM
To: Shrivastava, Alok - ACOR
Subject: 111 North Steyne, Manly

Jeffery and Katauskas Pty Ltd

CONSULTING GEOTECHNICAL AND ENVIRONMENTAL ENGINEERS
A.B.N. 17 003 550 801

Alok,

I have carried out some further detailed pile calculations as requested during our meeting on Friday. This analysis supersedes the preliminary advice on pile bearing pressures provided in our geotechnical report of March 2009 and earlier emails. I have summarised the analysis results below.

1. A single 450mm diameter pile founded at a depth of not less than 3.6m below bulk excavation level within medium dense sands may be designed on the basis of a maximum allowable end bearing pressure of 1050kPa. This equates to an allowable load in end bearing for a single pile of about 167kN. The allowable skin friction for a single 450mm diameter pile is typically triangular (although not uniform due to the groundwater level) and will range from zero at the top of the pile to about 13kPa at 3.6m depth. On this basis we have calculated that the allowable load carried in skin friction would be about 39kN per pile. Therefore the total load for a single 450mm diameter pile founded in medium dense sands at a minimum depth of 3.6m below bulk excavation level would be about 206kN.
2. When a 450mm diameter pile is located close to other 450mm diameter piles (such as occurs in the contiguous piled wall) then the allowable end bearing pressure needs to be reduced to account for the interaction and loss of efficiency of the piles. For 450mm diameter piles located next to each other in a contiguous piled wall, the maximum allowable bearing pressure of 600kPa may be adopted. This will equate to a load in end bearing of about 95kN/pile. For piles in a contiguous piled wall, only about half the circumference is available to offer skin friction. The allowable skin friction load for contiguous 450mm diameter piles founded at a depth of 3.6m below bulk excavation level would be about 20kN/pile. Therefore the total pile load for a 450mm diameter pile within a contiguous pile wall would be 115kN/pile.
3. A single 600mm diameter pile founded at a depth of not less than 4.8m below bulk excavation level within medium dense sands may be designed on the basis of a maximum allowable end bearing pressure of 1250kPa. This equates to an allowable load in end bearing for a single pile of about 353kN. The allowable skin friction for a single 600mm diameter pile is typically triangular (although not uniform due to the groundwater level) and will range from zero at the top of the pile to about 32kPa at 4.8m depth. On this basis we have calculated that the allowable load carried in skin friction would be about 85kN. Therefore the total load for a single 600mm diameter pile founded in medium dense sands at a minimum depth of 4.8m below bulk excavation level would be about 438kN.
4. A single 750mm diameter pile founded at a depth of not less than 6m below bulk excavation level within medium dense sands may be designed on the basis of a maximum allowable end bearing pressure of 1500kPa. This equates to an allowable load in end bearing for a single pile of about 660kN. The allowable skin friction for a single 750mm diameter pile is typically triangular (although not uniform due to the groundwater level) and will range from zero at the top of the pile to about 37kPa at 6m depth. On this basis we have calculated that the allowable load carried in skin friction would be about 154kN. Therefore the total load for a single 750mm diameter pile founded in medium dense sands at a minimum depth of 6m below

bulk excavation level would be about 814kN. We note that in order to adopt 750mm diameter piles at depths of 6m below bulk excavation level, further geotechnical investigations would be required to confirm the subsurface soil conditions at depth. The most suitable method would be to complete EFCP testing once demolition is complete.

5. The bearing pressures and pile loads nominated above are based on the limited geotechnical testing to date. As recommended in our geotechnical report in March 2009, further geotechnical investigations (including additional EFCP tests) is recommended to provide better coverage of the site. As pile loads appear to be critical to the design, further EFCP testing may enable higher loads to be adopted.

I trust the above is adequate at this stage. Please feel free to call to discuss.

Regards,
For and on behalf of
JEFFERY & KATAUSKAS PTY LTD

Linton Speechley
Principal

115 Wicks Road, Macquarie Park, NSW, 2113
PO Box 976, North Ryde BC, NSW, 1670
Tel: 02 9888 5000
Fax: 02 9888 5001
email: lspeechley@jkggroup.net.au
Web: www.jkggroup.net.au

*** IMPORTANT ***

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21 July 2011
Ref: 22678VLLet

Palladian Constructions
PO Box 384
MOSMAN NSW 2088

ATTENTION: Mr Alastair Brodie

Dear Sirs

PRELIMINARY RETAINING WALL ANALYSIS
111 THE STEYNE, MANLY

1.0 Introduction

This letter presents the results of our retaining wall analysis for the proposed contiguous piled shoring system at the above site. The analysis was carried out at the request of Palladian Constructions and in accordance with our proposal Reference No. P34165V, dated 4 July 2011.

2.0 Information Provided and Assumptions

As part of our analysis we have been provided with the following information from Mr Alok Shrivastava of Acor Consultants.

- The piles within the contiguous pile wall will be 450mm diameter. We have assumed 2 piles per metre run of wall.
- The piles in the contiguous pile wall will have a Modulus (E) of 27000MPa and each pile will have a gross Moment of Inertia (I) of 2011E6mm⁴.
- Along the northern boundary there is an elevated walkway adjacent to the boundary. A typical plan and section through the walkway was provided via email to us on 14 July 2011.



Principals: L J Speechley BE(Hons) MEngSc; P Stubbs BSc(Eng) MICE FGS; D Troweck DipTech;
B F Walker BE DIC MSc. Senior Associates: D J Bliss BE(Hons) MEngSc; A L Jackman BE MEngSc;
A J Kingswell BSc(Hons) MSc; P D Roberts BSc MSc; F A Vega BSc(Eng) GDE; P C Wright BE(Hons) MEngSc;
A Zanon BSc(Eng) GDE. Associates: A J Huiskamp BE(Hons) MEngSc; W Theunissen BE MEngSc;
A B Walker BE(Hons) MEngSc. Principal Consultant: R P Jeffery BE DIC MSc.





Medium Dense Sands

- Unit Weight (γ) of 20kN/m³
- Drained Friction Angle (ϕ') of 32°
- Drained Cohesion (c') of 0kPa
- Young Modulus (E) of 40MPa

4.0 Analysis Sections

We have carried out retaining wall analysis at three typical sections using the Computer Program WALLAP. Both cantilever and anchored options have been analysed for each section. However the cantilever options have shown large deflections in the walls which are very unlikely to be acceptable. Therefore the cantilever results have not been presented. The section locations analysed are shown on the attached Figure 1. The following summarises the models analysed at each section. For further details reference should be made to the attached Figures 2, 3 and 4.

Section 1

Section 1 comprises a typical section, which allows for;

- A ground surface level (and top of contiguous pile level) at RL5.9m.
- A bulk excavation level at RL2.8m and some additional over-excavation down to RL2.2m to account for localised footing excavations and surface loosening has also been assumed.
- A nominal uniformly distributed surcharge load of 5kPa has been assumed. If additional surcharge loads are anticipated (such as crane or other loads) then further advice should be obtained prior to contiguous pile wall installation, as the piles may need to extend deeper.

A typical sketch of the Section 1 model analysed is shown on Figure 2. The construction sequence assumed for the anchored option is as follows;

1. Install 450mm diameter contiguous piles to no higher than RLO.0m
2. Excavate to not lower than RL4.90m (i.e. 0.5m below the anchor level).



4. Excavate to bulk excavation level at RL2.8m.
5. Install basement floor slab at RL2.9m and ground floor slab at RL5.9m.
6. De-stress anchor.

Section 3

Section 3 is essentially the same as Section 2, however the contiguous pile wall has been moved 2.5m away from the boundary. As such the toe of the contiguous pile wall has been taken to RL0.0m and the anchor prestress has been put at 100kN per anchor. A typical section is included as Figure 4. For this section we have assumed that the proposed swimming pool will be constructed after the contiguous pile wall has been installed and propped by the floor slabs. The temporary anchors will need to be distressed and will require removal as part of the pool excavation. We note that a properly designed insitu shoring system will also need to be installed along the boundary prior to excavation of the pool to support the adjoining walkway. This report has not addressed that retaining wall.

5.0 Analysis Results

The following table summarises the results of the analysis.

	Section 1	Section 2	Section 3
Elevation of Toe of Wall	RL0.0	RL-1.0	RL0.0
Anchor Prestress (per anchor)	100kN	150kN	100kN
Bending Moment (kN.m/m run)	45kN.m/m run	65kN.m/m run	50kN.m/m run
Shear Force (kN.m/m run)	40kN/m run	65kN/m run	40kN/m run
HORIZONTAL Working Anchor Load (kN)	130kN per anchor at 3m anchor spacing. Or 43.3kN/m run	215kN per anchor at 3m anchor spacing. Or 71.6kN/m run	130kN per anchor at 3m anchor spacing Or 43.3kN/m run
Maximum Deflection (mm)	3mm at top of wall	5mm at RL4.9m	2mm at RL3.1m
Deflection at top of Wall (mm)	3mm	5mm	2mm



This report has been prepared for the particular project described and no responsibility is accepted for the use of any part of this report in any other context or for any other purpose. Copyright in this report is the property of Jeffery and Katauskas Pty Ltd. We have used a degree of care, skill and diligence normally exercised by consulting engineers in similar circumstances and locality. No other warranty expressed or implied is made or intended. Subject to payment of all fees due for the investigation, the client alone shall have a licence to use this report. The report shall not be reproduced except in full.

Should you require any further information regarding the above please do not hesitate to contact the undersigned.

Yours faithfully
For and on behalf of
JEFFERY AND KATAUSKAS PTY LTD

A handwritten signature in dark ink, appearing to read 'LJ Speechley'. The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

LJ Speechley
Principal.

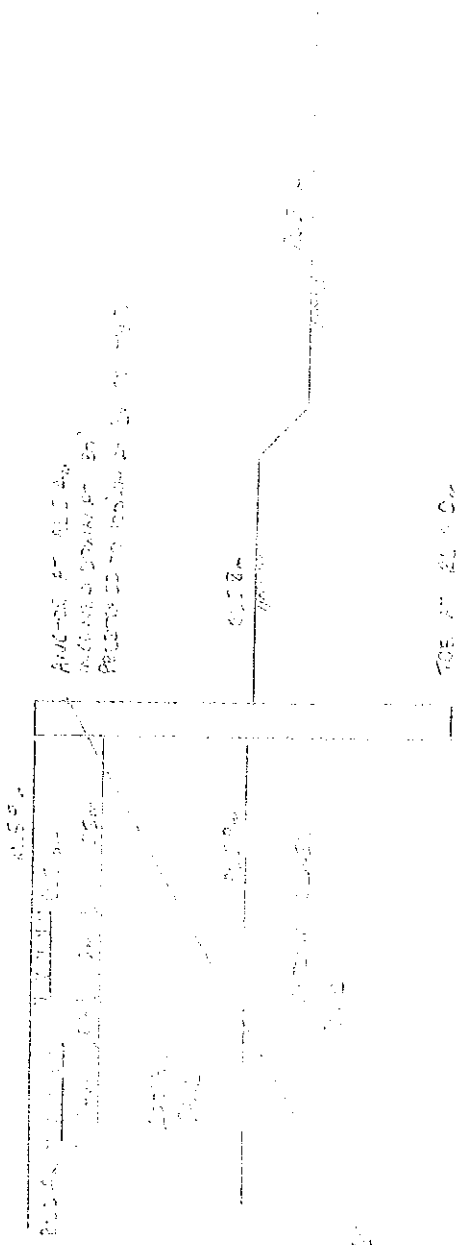
Encl: Figures 1 to 4

NOTE: Ref to Text of Report

22678vuet dated 2/7/71

SECTION ②

2012



TYPICAL

SECTION ③ - ③

NOTE: Refer to Text of Report

Ref. 22678VUlet, dated 2/17/11

ABN #:43662868065

Manly Council

PO Box 82

MANLY NSW 1655

Ph 9976 1500

Fax 9976 1400

Email: records@manly.nsw.gov.au

Website: www.manly.nsw.gov.au

CIL 2010/2011
Development Fees Calculator

D/A No.:/.....

Date Paid:/...../.....

Rec. No.:

Development entered into any of the boxes below is the same for each fee type

Place X
in
box if
fee to
be paid

for a dwelling-house with an estimated construction cost

Yes

False

Fee

on Fee

Development] -

\$ 3,100,000.00

\$ 0.00

g NSW]

ue > \$50,000.

\$ 3,100,000.00

\$ FALSE

lication Fee

\$ 0.00

at Requires Advertising

\$

Development

\$

te
Development] -

\$ -

\$ 0.00

[Enter No & Type of Inspections] -

First Inspection -

@

270 00

\$ 0.00

ant Inspections -

@

130 00

ing Service Payments Corporation]

Construction work costing

\$25,000 or more (0.35% from 1/01/2006).

\$ -

\$ 0.00

50

Builders Damage deposit[Enter Total Value of Development] (Additional Fee
may apply for Development > \$1,000,000)-

\$ 3,100,000.00

\$ By Assessment

x

49

S96 Modification of Consent

Fee for application under S96(1), (1A) (2)(i) or (ii) -

\$

Fee for application under S96(2)(iii) as per Scale:

[Enter Total Value of Development] -

\$ -

\$ 0.00

47

Complying Development Application

[Enter Total Value of Development Above] -

\$ -

\$ 0.00

118

S82 Review

Fee for application under S82(1) or (2) -

\$

Fee for application under S82(3) as per Scale:

[Enter Total Value of Development Above] -

\$ -

\$ 0.00

41

Additional Administration Fee for Integrated Development

\$

Other Fees

Fee Code

[Description:]

50

Trust fund

\$ 25,000.00

TOTAL FEES

\$ 25,000.00

ABN #: 43662868065
Manly Council
PO Box 82
MANLY NSW 1555 Fax 9976 1400
Ph: 9976 1500
Email: records@manly.nsw.gov.au
Website: www.manly.nsw.gov.au

Date 08/07/2011 11:47
Receipt 00791052:0001 Terminal 3:350
Palladian Constructions Pty Ltd

Details

Long Service Levy
008000.9200.8079
111NorthSteyne17

Total Value:
Tendered
Cheque
Change

Amount
10850.00

10850.00
10850.00
0.00

Thank you for Prompt Payment

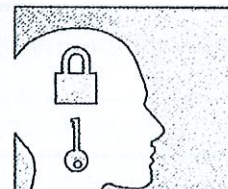
Dilapidation Report for the Neighbours of the 111 North Steyne Road, Manly Development

Prepared For

McKenzie Maria Enterprises Pty Ltd

Prepared By

IQ200 Pty Ltd



IQ200 PTY LTD

ACN 126 786 123

PO Box 494 Mosman
NSW 2088

Mobile: 0400 494 021

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2: 110 North Steyne Road	1—5
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4: Public Land North Steyne Rd	8—10
5: Public Land Pine Lane	10—13

Reviewed and Approved

Alastair Brodie

Director IQ200 Pty Ltd June 3 2011

1: INTRODUCTION

IQ200 Pty Ltd have been engaged by McKenzie Maria Enterprises Pty Ltd to undertake a dilapidation report on the neighbours for the approved Development at 111 North Steyne Road Manly. This report is to be inclusive of public land on both street frontages to the Development.

The development at 111 North Steyne Road comprises the demolition of an existing 3 level apartment block and the construction of a 4 level apartment block with underground car parking. It is noted that the development is hand demolishing and providing a continuous shoring wall to the basement. These building techniques are designed to minimize any possible affect to the neighbours .

The neighbours of the development are both 4 level strata apartment buildings. Letters were delivered to each unit resident and the relevant body corporates to gain access to the building for IQ200 Pty Ltd to undertake the visual and photographic record of any apparent defect.

Exterior inspection of both buildings was accessible but restricted access prevented a full inspection of all the apartments. Lack of defects in inspected apartments and limited identified defects in the exterior and underground car parks allow the writer of this report to conclude that all and any defects have been identified that would be potentially affected by the works at 111 North Steyne Road.

2: 110 North Steyne Road

This building is a 5 level apartment building with an underground basement car parking. It has 10 apartments in total. Construction is of masonry walls with reinforced concrete slab floors and columns and with a metal roof. Construction presents as a modern design being built within the last 10 years. It is set back from the boundary with a reinforced boundary wall deeper than the proposed basement of 111 North Steyne Road.

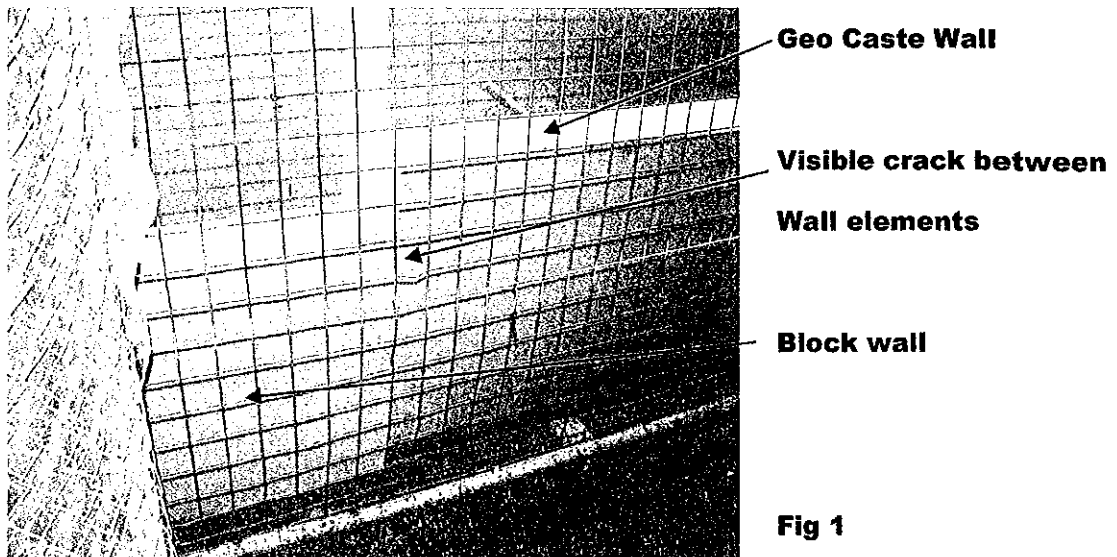


#110 North Steyne

#111 North Steyne

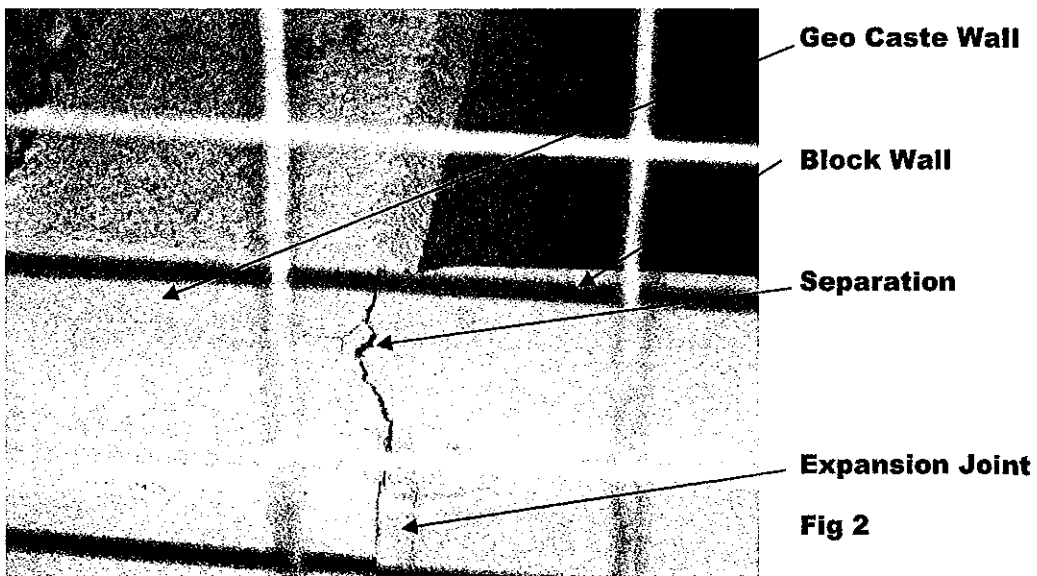
110 North Steyne Roads boundary with the subject site is of a reinforced concrete block wall and in part a Geo Caste reinforced concrete wall to 1.1m in height above ground level that acts as a boundary fence between the properties but also a shoring wall to the basement car park of 110 going over 3.5m below ground level. The building of 110 lies 2m from the boundary and this main building wall is predominantly reinforced block.

Some visible defects were noted in this boundary wall and Northern wall of the building:-

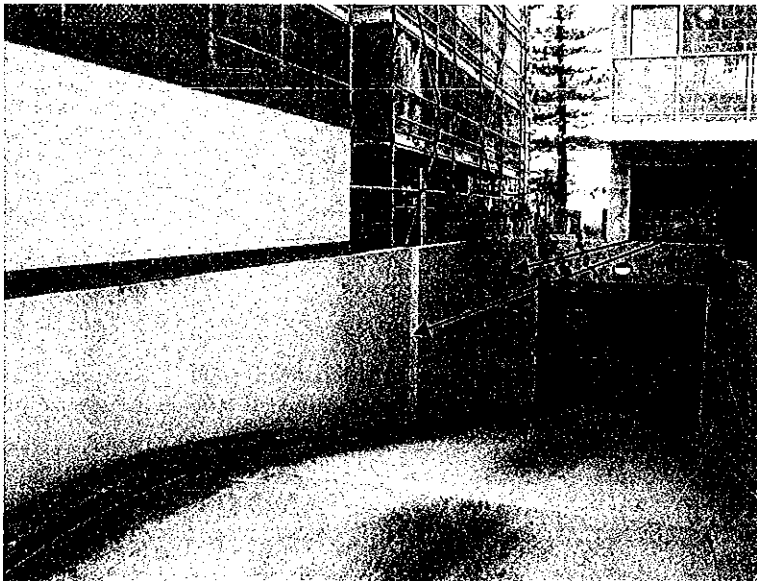


From North Steyne Road to the driveway wall numerous shrinkage cracks are evident. These cracks by the detritus in them and staining have been present for a long time. No construction joints have been installed in this wall.

The junction of the Geo Caste wall and the driveway block wall has an expansion joint but this has separated in places from the Geo caste wall

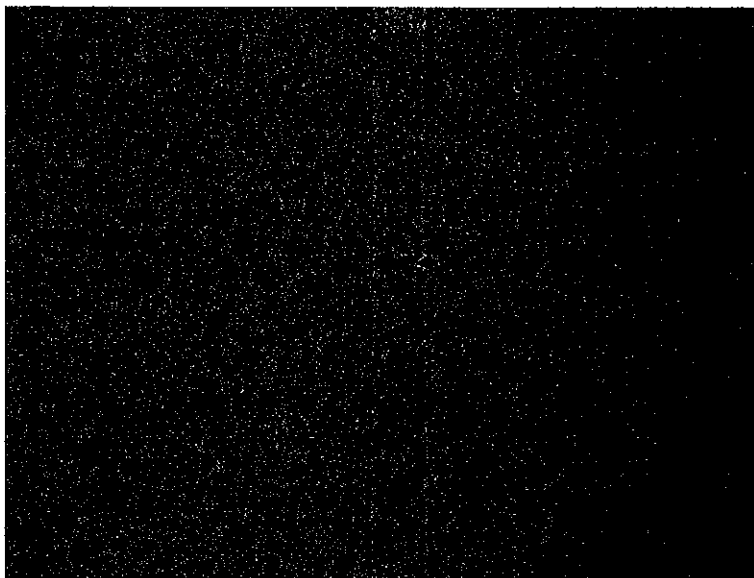


The driveway block wall has both horizontal and vertical cracks



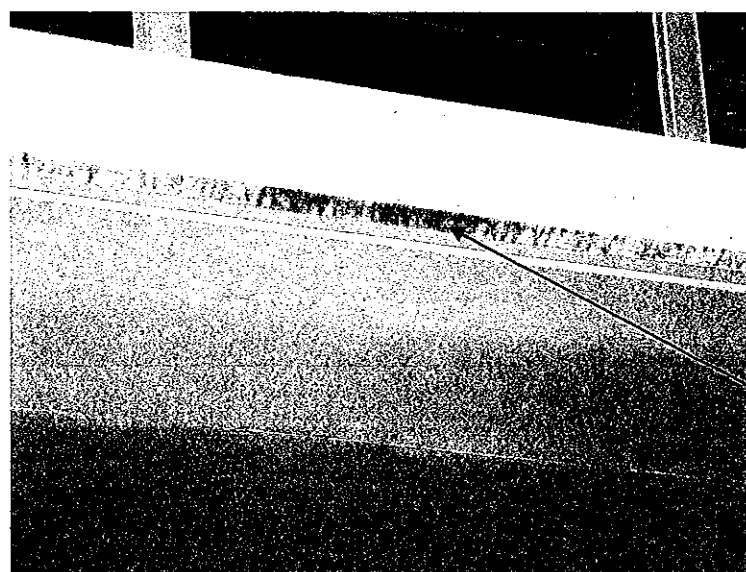
Driveway block wall
Has numerous shrinkage
Cracks

Fig 3



Close up of crack of
Fig 3

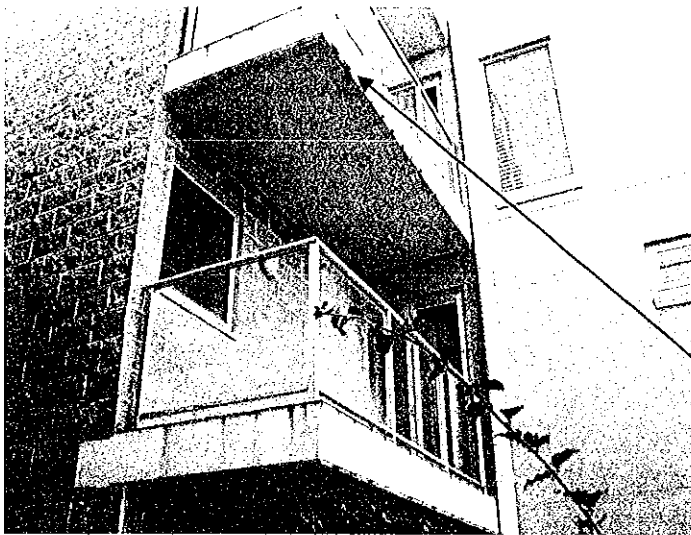
Fig 4



The exterior of the building
Is free of visible cracks but
has some salt and fungal
staining. Rust stains from
construction tie wires are
evident in some spots.

Fungal stain

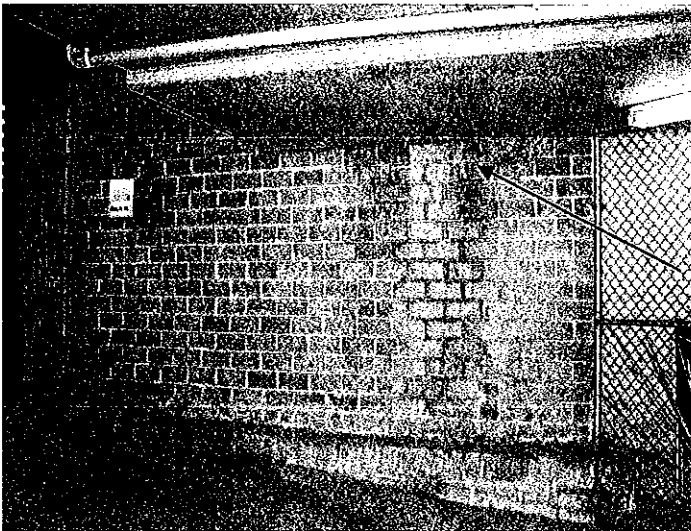
Fig 5



The exterior of the building is free of visible cracks but has some salt and fungal staining. Rust stains from construction tie wires are evident in some spots.

Stains to decks

Fig 6



Basement car park showing Boundary wall. The skin masonry wall hides the actual boundary wall. No obvious defects are evident apart from some water seepage from the balcony above.

Fig 7

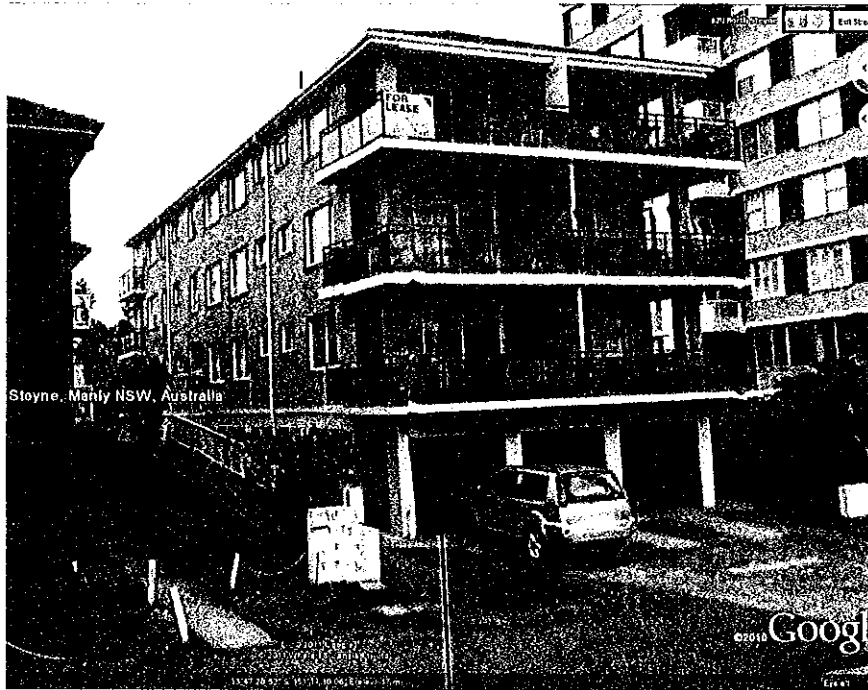


Mid section of basement boundary wall. No obvious defects showing on the masonry skin wall apart from minor seepage

Fig 8

Inspection of the units visited and lobbies reveal no noteworthy defects. Defects seen were wear and tear of paint and not building cracks

2 : 112 North Steyne Road



112 North Steyne Road

112 North Steyne Road is a four level masonry apartment building inclusive of ground floor under cover car parking. The roof is tiled with reinforced concrete slabs on masonry supporting walls.

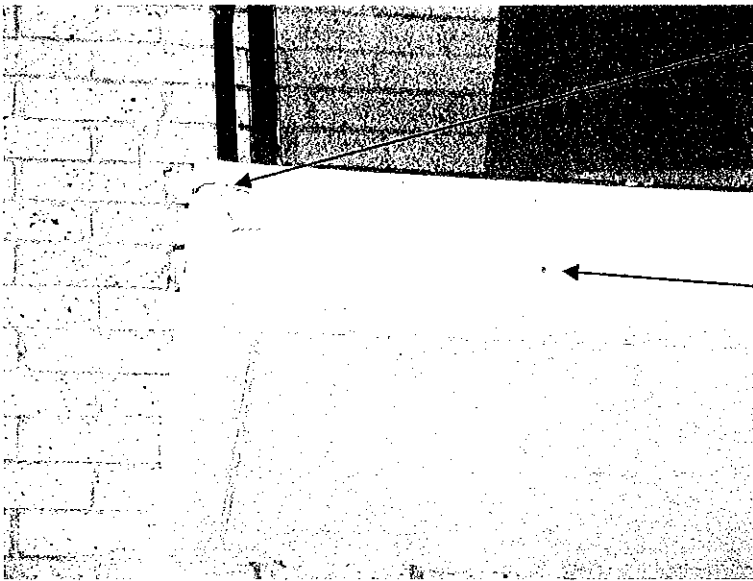
The building is in generally good condition with no visible cracks in the masonry walls. The balconies do exhibit areas of concrete cancer and rust marks from construction tie wire. Numerous arch bars over the windows exhibit mild corrosion,

The building has a raised path on the boundary with the subject site to enable entry to the lobby over the ground floor car park. This pathway has a masonry retaining wall on the boundary which has a 100mm lean on it caused by the lateral pressure of the fill it is retaining. No cracks are yet visible in this wall.



Balconies exhibit areas of concrete cancer and tie wire rust marks

Fig 9



Concrete cancer

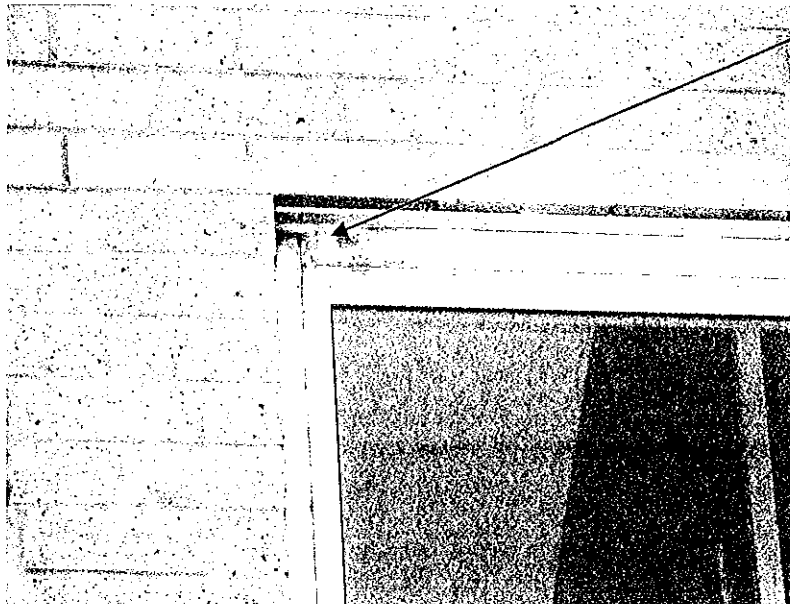
Tie wire rust mark

Fig 10



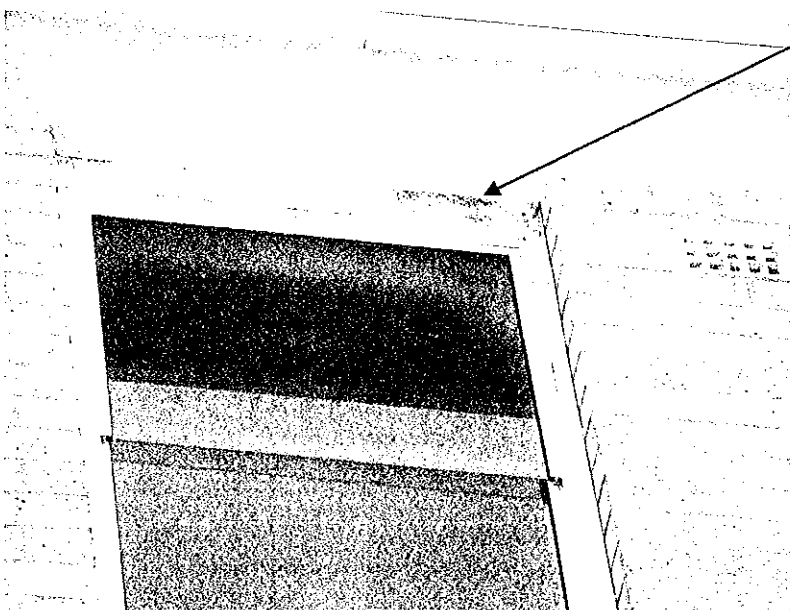
Concrete Cancer

Fig 11



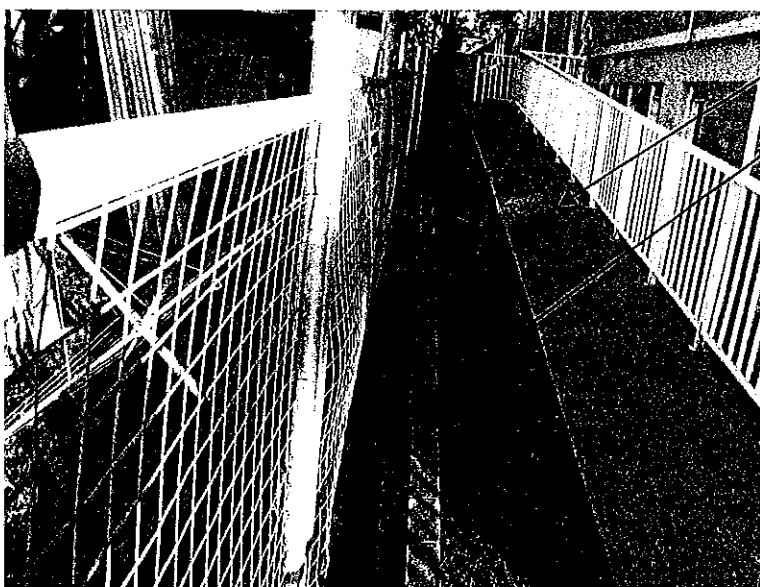
Corrosion on arch bars

Fig 12



Corrosion on arch bars

Fig 13



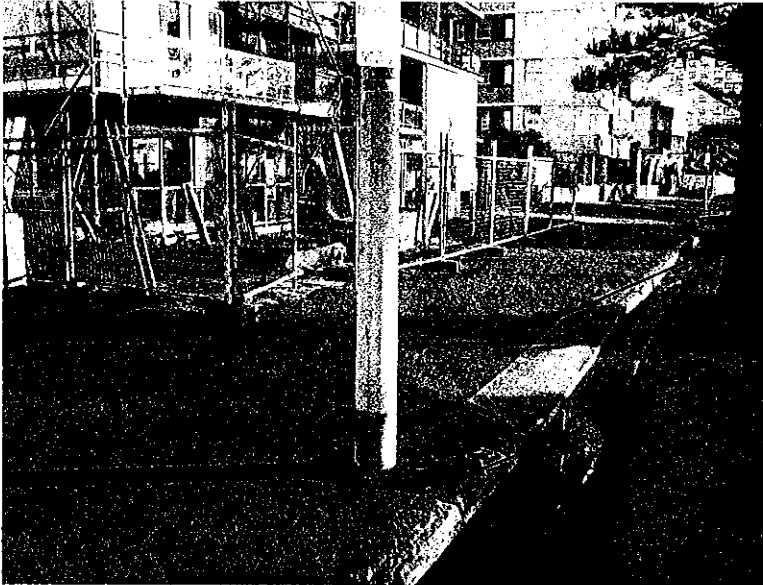
Raised entry pathway with boundary masonry retaining wall leaning in 100mm into the subject site.

Fig 14

4: Public Land North Steyne Rd

The public land adjoining the subject site is a grass verge , bitumen pathway and threshold. The street frontage has controlled car parking and a large Cook Pine. The development is renting the grass verge off Manly council and will restore it at the end of construction.

The pathway, driveway and gutter have numerous defects of potholes, land movement and settlement.



Bitumen pathway, driveway and kerbing has numerous defects of cracks and settlement

Potholes

Cracks

Fig 15



Pathway at boundary of 110 & 111 North Steyne Road.

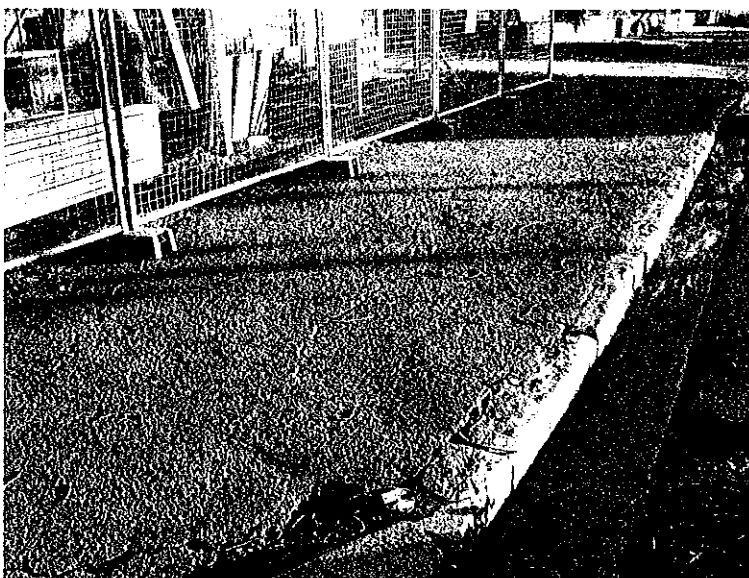
Cracks

Fig 16



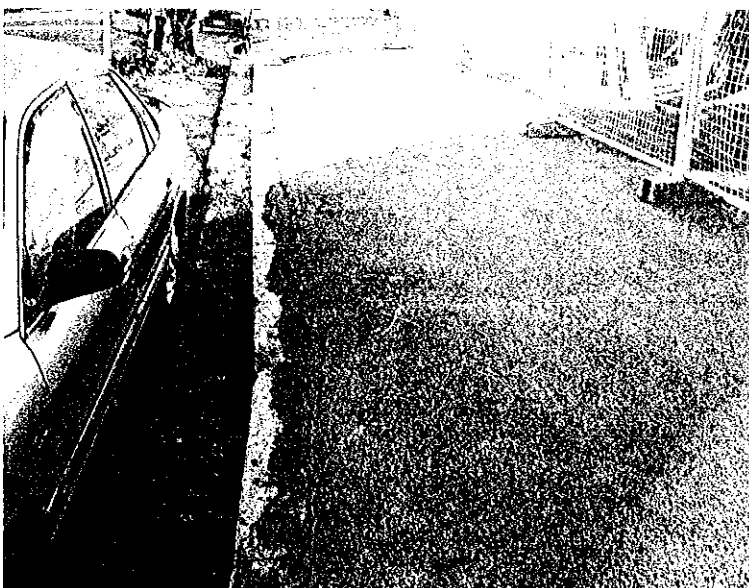
Subject lands driveway showing state of repair of threshold and bitumen pavement

Fig 17



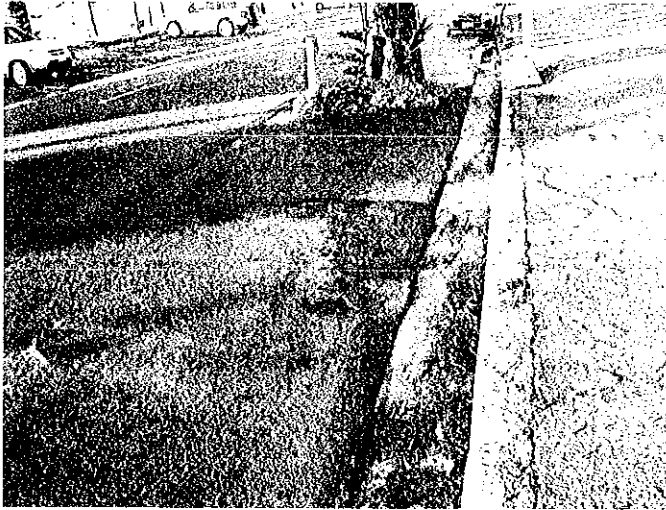
Pavement and Kerb in front of subject land looking North

Fig 18



Pavement and Kerb in front of subject land looking South

Fig 19



Roadside Parking in front of Subject Land

Fig 20



Roadway of driveway threshold and gutter

Fig 21

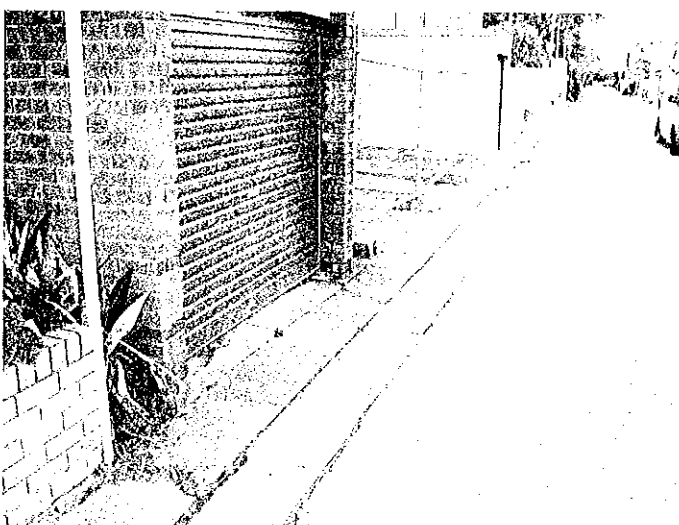
5: Public Land Pine Lane

The rear lane to the subject land is known as Pine lane. It has no pedestrian pavements or kerbing. A storm water dish drain is installed to each edge of the lane and on the subject sites southern boundary a storm water grill and trap is installed. The metal grate supports to this drain have failed and the grate at the moment is supported on bricks.



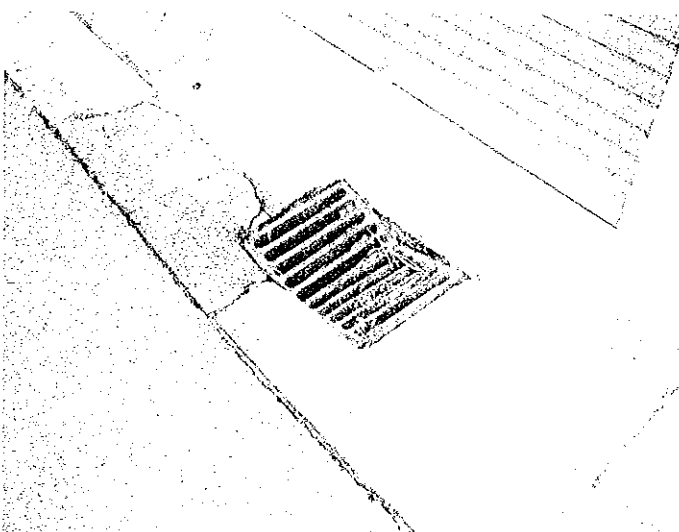
Looking North up Pine Lane from the Southern boundary of the subject site

Fig 22



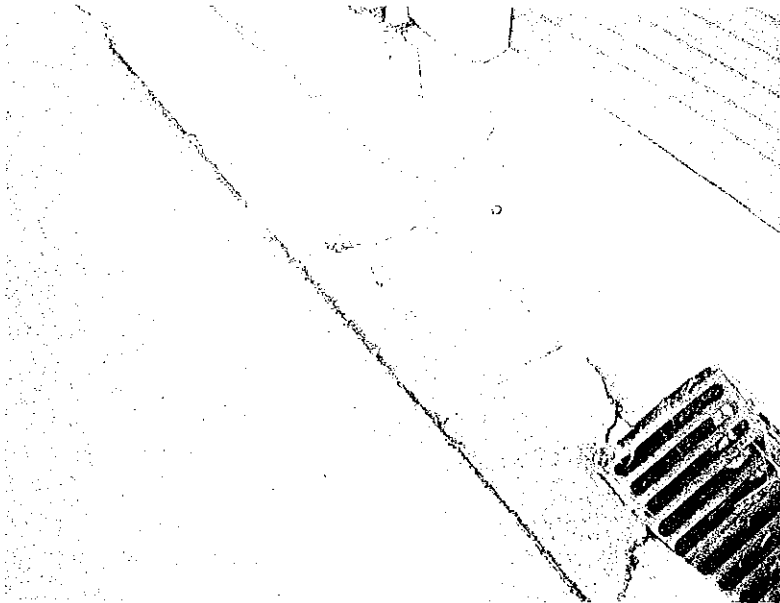
Looking South down Pine Lane from the Northern boundary of the subject site

Fig 23



Failed grate and trap. Dish drain is cracked

Fig 24



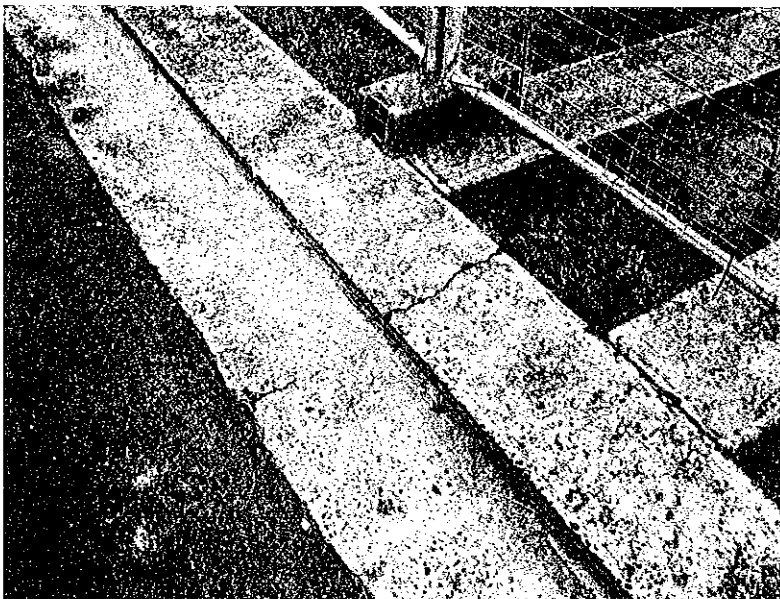
Cracks of Dish Drain and grate

Fig 25



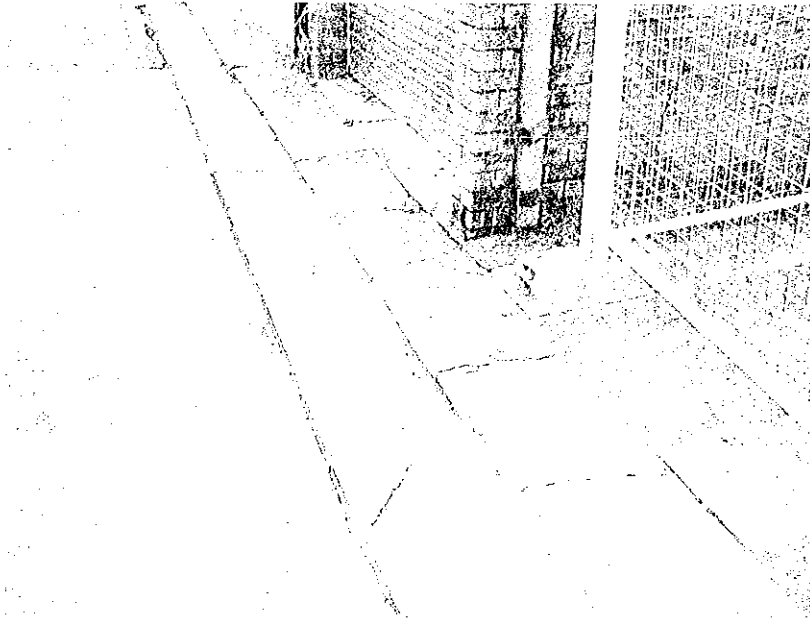
Cracks of Dish Drain and grate in middle of site

Fig 26



Cracks of Dish Drain and grate in middle of site

Fig 27



**State of dish drain at
Northern boundary on
Pine Lane**

Fig 28