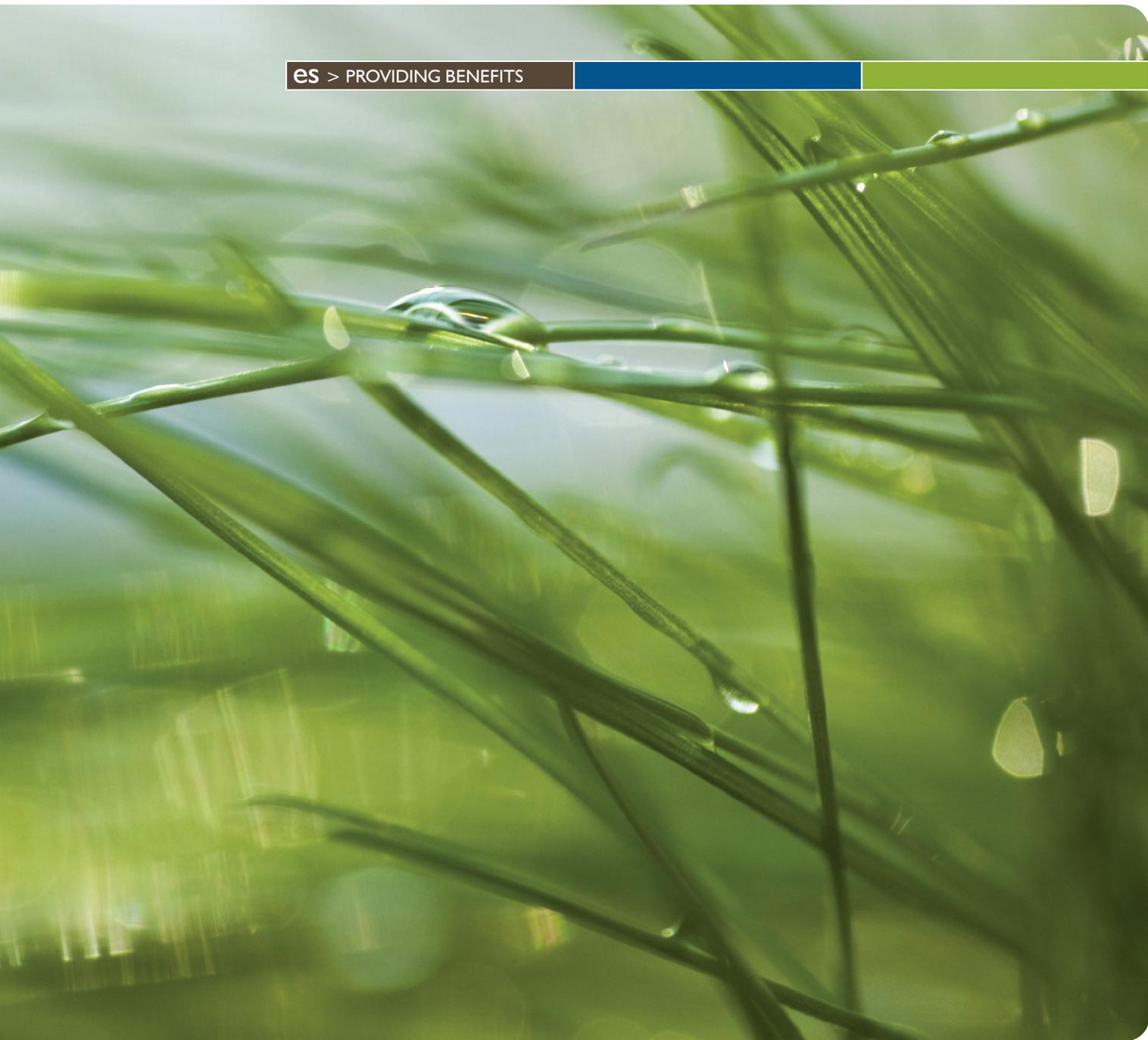




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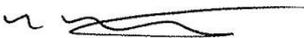
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Written By: Colin Biggs Environmental Scientist	
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Executive Summary

Woolworths Limited engaged Environmental Strategies Pty Ltd (ES) to complete a Phase 1 Preliminary Site Investigation (PSI) of the property located at 140-142 Parraweena Road, Miranda NSW (the Site).

A site location map and site layout plan have been provided in **Figure 1** and **Figure 2, Appendix A** respectively.

The primary objectives of this investigation were to identify issues, concerns, environmental risks and liabilities associated with the present and historical uses of the Site, with particular focus on potential for soil and groundwater contamination.

The subject site encompasses the following lots:

- Lot B DP 385650
- Lot 1 DP 715461

The subject site is irregular in shape, and occupies a combined area of approximately 4,978m². The site is bounded by Parraweena Road to the north, commercial properties to the south; Kareena Road to the west and commercial properties to the east.

It is understood that Woolworths Limited intend to purchase the subject site for a supermarket development.

The subject site has historically been used for residential purposes until commercial activities began. Lot B DP 385650 was used as residential premises until at least August 1984, after which the residential dwellings were demolished sometime before January 1994 and redeveloped as a commercial/industrial facility as part of a commercial/industrial cluster which was gradually developed on this portion of Parraweena Road from circa 1970.

The site walkover revealed that there was a low potential for environmental impact from previous site operations.

Given the known historical uses of the subject site, there was a low likelihood for significant groundwater impacts from existing or historical use.

Based on the historical review and field observations, the following areas of potential environmental concern (APEC) were identified.

- Unconsolidated fill material on the property prior to the current building being constructed; and
- Potential loss or spill of material stored within the warehouse area.

ES notes that an additional site walkover was completed on the 9th June 2016 at the request of Woolworths. A Freedom Foods operation, known as Pactum, was observed to occupy the warehouse portion of the site during this additional site walkover. The warehouse was observed to contain food products and ingredients for distribution to major supermarkets. The warehouse was observed to contain the following items:

- Milk;
- Honey;
- Skim milk powder;
- coconut powder;
- Macadamia paste;
- almond paste;
- multi dextrose;



- soy;
- sugar; and
- cleaning chemicals.

All items were stored on pallets, either on pallet racking or on the ground awaiting storage or distribution. All items were observed to be stored in packaging that appeared to be in good condition, with no obvious signs of leaks or loss.

A Pactum representative, Willie Uila, informed ES that they only occupy the southern warehouse area, and the northern office space area remains vacant. Willie also reported that the warehouse section of the site had flooded with up to 10cm of water during recent heavy storm activities. No water, nor obvious damage was observed at the time of ES' site walkover.

ES notes that there have been no changes to the conclusions of this report as a result of the additional site walkover. The potential risk of contamination caused by the storage and distribution of items by Pactum is considered by ES to be low. The recommendations outlined in this report should be sufficient to identify and potential contamination within the warehouse area currently occupied by Pactum.

Recommendations

The following recommendations are made for the subject site.

Hazardous Materials Audit

As far as ES is aware, a hazardous materials audit has not been undertaken, and given the age of the building and the observation of original elements, the presence of hazardous materials is unlikely. However, it is recommended that an Occupational Hygienist be engaged to inspect the building and subject site, review and sample (if required) potentially hazardous materials, and provide further advice on appropriate management, removal and disposal procedures prior to any demolition works.

Soil

It is understood the subject site has been used for the warehousing of building materials, industrial, automotive and food products. The likelihood that contamination from the storage of chemicals and other dangerous goods is low. Fill of unknown origin and quality may have been used on the subject site.

A Phase 2 intrusive investigation, which includes soil sampling and analysis, should be considered to determine the suitability of the underlying material for the current and proposed land use.



1 Introduction

Woolworths Limited engaged Environmental Strategies Pty Ltd (ES) to complete a Phase 1 Preliminary Site Investigation (PSI) of the property located at 140-142 Parraweena Road, Miranda NSW (the Site).

A site location map and site layout plan have been provided in **Figure 1** and **Figure 2, Appendix A** respectively.

1.1 Background

The subject site encompasses the following lots:

- Lot B DP 385650: A multi-level commercial property with basement warehouse (connected to Lot 1 DP 715461), surface level Office block and elevated car parking spaces (unoccupied);
- Lot 1 DP 715461: A commercial warehouse property (unoccupied)

It is understood that Woolworths Limited intend to purchase the subject site for a supermarket development. As the Site is located in an industrial area, a review of historical and current land uses is required to evaluate the likelihood of subsurface contamination being present.

1.2 Objectives of the Investigation

The primary objectives of this investigation were to identify issues, concerns, environmental risks and liabilities associated with the present and historical uses of the Site, with particular focus on the potential for soil and groundwater contamination.

1.3 Scope of Works

The scope of works for the Phase 1 PSI was as follows:

- Preparation of an OHS plan and job hazard analysis (JHA) to cover the site walkover;
- Site visit and walkover to characterise the property setting, including inspection of the site surface for obvious signs of potential contamination and / or contaminant sources (i.e. underground tanks);
- A visual evaluation of surrounding land uses to identify any neighbouring activities which may have affected or present a potential risk to the environmental quality of the site;
- A review of available zoning plans, council records, and documents to determine potentially contaminating activities that may have occurred on the site;
- An evaluation of aerial photographs to assist in assessing historical land uses and conditions on and adjacent to the site;
- Review of Local Council Dangerous Goods license database to determine the presence of any licensed dangerous goods formerly stored on the site;
- Review of historical title deed information and NSW EPA Contaminated Site Register;
- A review of the environmental setting with regards to geology, topography, hydrology and hydrogeology; and
- Preparation of a report in general accordance with the NEPM and NSW EPA reporting guidelines.



2 Limitations

This report is based on the Scope of Work outlined in Section 1.3. Environmental Strategies has performed services in a manner consistent with the normal level of care and expertise exercised by members of the environmental assessment profession. No warranties express or implied, are made.

Subject to the Scope of Work, Environmental Strategies' assessment is limited strictly to identifying typical environmental conditions associated with the subject site and does not include evaluation of any other issues.

The absence of any identified hazardous or toxic materials on the subject site should not be interpreted as a guarantee that such materials do not exist on the site. Environmental Strategies will not investigate any waste materials from the subject site that may have been disposed of off the site, nor related waste management practices.

The results of this assessment are based upon the site inspection at the time of writing conducted by Environmental Strategies personnel and information from the Client, regulatory agencies, Council and other third parties. No sampling and analysis was undertaken. All conclusions and recommendations regarding the subject site are the professional opinions of the Environmental Strategies personnel involved with the project, subject to the qualifications made above.

While normal assessments of data reliability are made, Environmental Strategies will not assume responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of Environmental Strategies, or developments resulting from situations outside the scope of this project.



3 Site Identification

The location of the site is shown in **Figure 1, Appendix A**. The site details are provided in **Table 3.0** below and described in detail in the following sections.

Table 3.0: Summary Site Details

Site Characteristic	Detail
Street Address	138-140 Parraweena Road, Miranda NSW 2228
Lots / DPs	Lot B DP 385650 Lot 1 DP 715461
Local Government Area	Sutherland Shire Council
Land Zoning	Lot B DP 385650 and Lot 1 DP 715461: Zone IN1 General Industrial (<i>Sutherland Shire Local Environmental Plan 2013</i>)
Site Area	Lot B DP 385650: Approximately 1,271m ² Lot 1 DP 715461: Approximately 3,707m ² Total site area = 4,978m ²
Geographic Coordinates (to approximate centre of site)	Lot B DP 385650: 967965E, 4406357N Lot 1 DP 715461: 9679654E, 4406385N
Projection:	(GDA94) NSW Lambert

3.1 Site Description

The current site layout is presented in **Figure 2, Appendix A**.

The subject site is irregular in shape, and occupies a combined area of approximately 4,978m². The site is bounded by Parraweena Road to the north, commercial properties to the south; Kareena Road to the west and commercial properties to the east.

The buildings on the subject site currently occupy a footprint of approximately 3,670m². The balance of the subject site is occupied by hardstand driveway (approx. 725m²) and garden landscaping. Landscaping is predominantly along the boundary on the north western corner and northern sides of the site.

A site walkover was completed by Ryan Wells and Dean Stafford (Environmental Strategies) on Thursday 13th March 2014. Full access to the buildings on the subject property was granted at the time of the site walkover.

ES notes that an additional site walkover was completed on the 9th June 2016 at the request of Woolworths. A Freedom Foods operation, known as Pactum, was observed to occupy the warehouse portion of the site during this additional site walkover. The warehouse was observed to contain food products and ingredients for distribution to major supermarkets. The warehouse was observed to contain the following items:

- Milk;
- Honey;
- Skim milk powder;
- coconut powder;



- Macadamia paste;
- almond paste;
- multi dextrose;
- soy;
- sugar; and
- cleaning chemicals.

All items were stored on pallets, either on pallet racking or on the ground awaiting storage or distribution. All items were observed to be stored in packaging that appeared to be in good condition, with no obvious signs of leaks or loss.

A Pactum representative, Willie Uila, informed ES that they only occupy the southern warehouse area, and the northern office space area remains vacant. Willie also reported that the warehouse section of the site had flooded with up to 10cm of water during recent heavy storm activities. No water, nor obvious damage was observed at the time of ES' site walkover.

ES notes that there have been no changes to the conclusions of this report as a result of the additional site walkover. The potential risk of contamination caused by the storage and distribution of items by Pactum is considered by ES to be low. The recommendations outlined in this report should be sufficient to identify and potential contamination within the warehouse area currently occupied by Pactum.

Photographs of the site are provided in **Appendix B**. Further details relating to the site walkover are included in **Section 4**.

The main activities and features on site including each level of the building are provided in **Table 3.1**.



Table 3.1: Summary of Buildings and Site Uses

Level	Use
Lot B DP 385650:	<p>Building:</p> <p>Two storey commercial/industrial building. Basement comprises of a warehouse that connects to the main warehouse on Lot 1 DP 715461. The ground level portions of the building comprises of an office and elevated car park. It is understood that the commercial building is currently unoccupied.</p> <p>External:</p> <p>The above ground portion of the building appears in good general appearance. A concrete drive is present along the southern boundary of the lot running onto the roof of the basement warehouse.</p> <p>The remainder of the property has landscaping present.</p>
Lot 1 DP 715461	<p>Building:</p> <p>Two storey high commercial/industrial brick building that has access to the basement portion of Lot B DP 385650. It is understood that the commercial building is currently occupied.</p> <p>External:</p> <p>A 725m² concrete driveway and loading area is located on the western side of the building with a 180m² annex suspended from the building. The general appearance of the building is in good condition.</p>



4 Site History

4.1 Zoning

4.1.1 Current Zoning

The two properties which encompass the subject property are currently zoned:

Lot B DP 385650 and Lot 1 DP 715461:

Zone IN1 General Industrial (*Sutherland Shire Local Environmental Plan 2013*)

The description of *Zone IN1 General Industrial* zoning from the *Sutherland Shire Local Environment Plan 2013* (LEP 2013) is provided below. ES notes that this section was updated in June 2016 to reflect the change in the LEP from Draft to final.

Zone IN1 General Industrial

Objectives of zone

- To provide a wide range of industrial and warehouse land uses.
- To encourage employment opportunities.
- To minimise any adverse effect of industry on other land uses.
- To support and protect industrial land for industrial uses.
- To enhance the visual appearance of the employment area by ensuring new development achieves a high architectural and landscape standard.
- To minimise the impact of development within the zone on areas of environmental significance.

Permitted without consent

Nil

Permitted with consent

Animal boarding or training establishments; Boat building and repair facilities; Building identification signs; Business identification signs; Car parks; Crematoria; Depots; Environmental protection works; Flood mitigation works; Freight transport facilities; Funeral homes; Garden centres; General industries; Hardware and building supplies; Industrial retail outlets; Industrial training facilities; Industries; Kiosks; Landscaping material supplies; Light Industries; Mortuaries; Neighbourhood shops; Passenger transport facilities; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Research stations; Roads; Service stations; Sex services premises; Storage premises; Take away food and drink premises; Timber yards; Transport depots; Truck depots; Vehicle body repair workshops;

Vehicle repair stations; Vehicle sales or hire premises; Veterinary hospitals; Warehouse or distribution centres.

*Any other development not specified in item 2 or 4 refer to **Appendix B** for council S149 certificates.*

Prohibited

Advertising signage; Agriculture; Air transport facilities; Airstrip; Amusement centres; Boat building and repair facilities; Boat launching ramps; Boat sheds; Business premises; Camping grounds; Caravan parks; Cemeteries; Charter & tourism boating facilities; Child care centres; Community facilities; Eco-tourist facilities; Educational establishments; Entertainment facilities; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Function centres; Health services facilities; Heavy industrial storage



establishments; Heavy industries; Helipads; Highway service centres; Home-based child care; Home businesses; Home occupations; Home occupations (sex services); Jetties; Marinas; Office premises; Open cut mining; Recreation facilities (major); Registered clubs; Residential accommodation; Respite day care centres; Restricted premises; Retail premises; Rural industries; Sewerage systems; Sex services premises; Tourist and visitor accommodation; Water supply systems; Wharf or boating facilities; Wholesale supplies.

4.1.2 Proposed Development Zoning

It is understood that the site is to be developed as a commercial supermarket. Development consent will be required.

4.2 Current Land Use

Based on a review of the available historical data, the subject site has historically been used for commercial purposes. The site is currently unoccupied.

A review of the Lot boundaries for site shows that;

- A number of small workshops technical and transport services along with a water tank wholesaler adjoin the southern boundary.
- A technology company with warehouse and distributions adjoins the site to the east.

It is understood that Woolworths Limited intend to purchase the subject site for a supermarket development.

4.3 Council Development Approvals

ES is not aware of any development plans submitted by Woolworths Limited to Sutherland Shire Council in respect of the Site. ES understands that the project is currently in a planning and feasibility phase, with assessments, including this PSI, being completed for the purposes of a planning proposal.

4.4 Title Deeds

A complete listing of historic title deeds is provided in **Appendix C** and the information has been summarised in the following sections.

Table 4.4a: Summary of Proprietor(s) Lot B DP 385650

Summary of proprietor(s) Lot B DP 385650	
Year	Proprietor
	(Lot B DP 385650)
2008 – todate	Trust Company Limited
2006 – 2008	Trust Company of Australia Limited
2006 – 2006	Schaeffler Australia Pty Limited
1990 – 2006	INA Bearings Australia Pty Limited
1989 – 1990	Mercantile Credits Limited
	(Lot B DP 385650 – Area 1 Rood 8 Perches – CTVol 6788 Fol 26)
1985 – 1989	Mercantile Credits Limited
(1986 – 1989)	(lease to Midfield Pty Limited)
1985 – 1985	Leda Holdings Pty Limited
1973 – 1985	T.R.W. Australia Limited
1964 – 1973	The Colonial Mutual Life Assurance Society Limited
1954 – 1964	Mabel Laura Charlotte Mills, widow
1954 – 1954	Arthur Mills, dairyman
	(Lots 11 & 12 DP 6359 – Area 9 Acres – CTVol 6432 Fol 136)
1951 – 1954	Arthur Mills, dairyman



(Lots 11 & 12 DP 6359 – CT Vol 4934 Fol 215)	
1938 – 1951	The Holt Sutherland Company (1933) Limited
1938 – 1938	The Honourable Thomas Holt, Member of the Legislative Council
(part Portion 6 Parish of Sutherland County of Cumberland – CT Vol 2314 Fol 22)	
1912 – 1938	The Honourable Thomas Holt, Member of the Legislative Council

**Table 4.4b:** Summary of Proprietor(s) Lot 1 DP 715461

Summary of proprietor(s) Lot B1 DP 715461	
Year	Proprietor
	(Lot 1 DP 715461)
2008 – todate	Trust Company Limited
2006 – 2008	Trust Company of Australia Limited
2006 – 2006	Schaeffler Australia Pty Limited
1990 – 2006	INA Bearings Australia Pty Limited
1985 – 1990	Mercantile Credits Limited
1985 – 1985	Leda Holdings Pty Limited
(1985 – todate)	(various current commercial leases shown on Folio Identifier 1/715461)
(1985 – todate)	(various commercial leases shown on Historical Folio 1/715461)
	(Lot 1 DP 512558 – CTVol 10077 Fol 97)
1985 – 1985	Leda Holdings Pty Limited
1973 – 1985	T.R.W. Australia Limited
1965 – 1973	The Colonial Mutual Life Assurance Society Limited
1965 – 1965	Eastern Motors Pty Limited The Colonial Mutual Life Assurance Society Limited
(1965 – 1985)	(various commercial leases shown on CTVol 10077 Fol 97)
Note (a)	
	(Lot 57 DP 6359 – CTVol 6414 Fol 215)
1962 – 1965	Eastern Motors Pty Limited
1961 – 1962	The Council of The Shire of Sutherland
1951 – 1961	Mabel Laura Charlotte Mills, married woman
	(Lot 57 DP 6359 and other lands – CTVol 4934 Fol 215)
1938 – 1951	The Holt Sutherland Company (1933) Limited
1938 – 1938	The Honourable Thomas Holt, Member of the Legislative Council
	(Part Portion 6 Parish of Sutherland and other lands – CTVol 2314 Fol 22)
1912 – 1938	The Honourable Thomas Holt, Member of the Legislative Council
Note (b)	
	(Lot 11 DP 6359 – CTVol 8368 Fol 109)
1964 – 1965	The Colonial Mutual Life Assurance Society Limited
1962 – 1964	The Council of The Shire of Sutherland
	(Lots 11 & 12 DP 6359 – CTVol 6432 Fol 136)
1961 – 1962	The Council of The Shire of Sutherland
1954 – 1961	Mabel Laura Charlotte Mills, widow
1951 – 1954	Arthur Mills, dairyman
	(Lots 11 & 12 DP 6359 and other lands – CTVol 4934 Fol 215)
1938 – 1951	The Holt Sutherland Company (1933) Limited
1938 – 1938	The Honourable Thomas Holt, Member of the Legislative Council
	(Part Portion 6 Parish of Sutherland and other lands – CT Vol 2314 Fol 22)
1912 – 1938	The Honourable Thomas Holt, Member of the Legislative Council

4.4.1 Plan of Lot B DP 385650

The Parish Map of Lot B DP 385650 dated 5 November 1953 (map reference; 193/53) does not indicate the presence of any potentially contaminating activities.

4.4.2 Plan of Lot 1 DP 715461

The Plan of Subdivision for Lot 1 DP 715461 dated 11 July 1985 (map reference; U0930-44) indicates the Lot is an area of 3,445m² and was at that time partially occupied by a brick and fibro constructed factory which occupies lots 1 and 2 of DP 715461 and part of Lot 3 of DP



715461. The portion of the factory occupying Lot 3 DP715461 was indicated for demolition on the Plan. The plan indicates another brick and fibro constructed factory building on Lot 3 of DP 385650 further to the east.

4.4.3 Additional information regarding adjacent properties

A Plan of Subdivision for Lot DP237017 adjacent to Lot 1 DP 715461 dated 5 October 1967 (map reference: Sutherland Sheet 26) indicates the Lot was at that time occupied by a brick and asbestos cement constructed building.

4.4.4 Items of Note from the Title Deeds Information

The following items, from the available title deed information, were noted as important in regards to the PSI:

- The lots which form the subject site have changed identifiers multiple times according to the available records;
- Brick and fibro buildings were constructed at Lot 1 DP 715461 and at least one adjacent property.
- At least one adjacent property included a brick and asbestos/fibro cement building.

4.5 Aerial Photographs

ES reviewed aerial photographs from 1961, 1970, 1984, 1994 and 2005 supplied by NSW Government Land & Property Information. 2010 and 2014 satellite imagery were reviewed and sourced online at www.nearmap.com.

Copies of the aerial photographs are included in **Appendix D**. The relevant information from the aerial photographs review is summarised in **Table 4.5** below.

Table 4.5: Summary of Aerial Photography at 140-142 Parraweena Road

Date	Description of the Subject Site	Description of Surrounding Land
NSW 1043 5165 Cumberland 1961 Series Run 45	<p>Lot B DP 385650 is occupied by fenced premises which include two buildings, apparently residential, and a small residential garden in the southeast corner of the premises.</p> <p>Lot 1 DP 715461 is vacant land.</p>	<p>Surrounding land to the East and South is cleared vacant land, sparsely vegetated by small trees. A channel enters the vacant land near the southwest of the Site at the southern boundary of Lot 1 DP 715461. About 50m East of the Site is a small structure which may be a services or utilities facility but structurally appears to be of a temporary nature.</p> <p>To the west and north of the Site are residential buildings and further north is a coastal barrier.</p>



Date	Description of the Subject Site	Description of Surrounding Land
NSW 1906 5198 Cumberland 1970 Series Run 24 6 July 1970	<p>Lot B DP 385650 <i>appears unchanged.</i></p> <p>Lot 1 DP 715461 <i>appears to be a laydown area for construction materials.</i></p>	<p><i>To the east of both lots is a new facility which appears to be a laydown area for construction materials (contiguous with the land use of Lot 1 DP 715461), and further east is a new commercial or industrial facility.</i></p> <p><i>To the south, the channel no longer crosses the Site, and a commercial or industrial facility is located in the area now identified as Lot 1 DP 237017 on Cnr Kareena Road and Kumulla Road.</i></p> <p><i>To the west and north of the Site there is no discernible change.</i></p> <p><i>The foreshore at Gwawley Bay north of the Site has been filled and landscape and developed with residential dwellings.</i></p> <p><i>Further to the southeast there appears to be a new educational facility which includes at least 6 buildings (ca. 300m southeast), and there are sporting facilities and playing fields (ca. 200m to the south and southeast).</i></p> <p><i>Further to the south are small commercial or industrial buildings <30m².</i></p>
NSW 3410 83 Wollongong 1984 Run 2, 8 August 1984	<p>Lot B DP 385650 <i>appears unchanged.</i></p> <p>Lot 1 DP 715461 <i>has been redeveloped and appears to be an extension of the industrial building to the east, which was identified on the aerial photograph from 1970. Notably, these buildings are indicated on historical title documents dated 11 July 1985 as being brick and fibro constructed factories.</i></p>	<p><i>The land use to the east appears unchanged.</i></p> <p><i>The land use to the south appears unchanged, however a new buildings are present to the east and south which appear to be part of a new commercial/industrial cluster</i></p> <p><i>To the west and north the land use appears unchanged.</i></p>
NSW 4178 Port Hacking Run 1, 4 January 1994	<p>Lot B DP 385650 – <i>buildings have been demolished and the Site is vacant land with the exception of a small structure approximately 5m² at the north of the Site which appears to be temporary.</i></p> <p><i>Lot 1 DP 715461 has been redeveloped and appears to be a self-contained commercial or industrial facility.</i></p>	<p><i>The building to the east appears to have been separated from the building in Lot 1 DP 715461 and is a separate commercial or industrial facility. Further to the east is new industrial or commercial development, part of the same commercial/industrial cluster.</i></p> <p><i>Part of the brick and asbestos constructed factory to the east has been demolished as indicated in an historical title plan dated 11 July 1985.</i></p> <p><i>The building to the south appears to be unchanged.</i></p> <p><i>To the west and north the land use appears unchanged.</i></p>



Date	Description of the Subject Site	Description of Surrounding Land
NSW4939 Port Hacking Run 1, 18 December 2005	<p>Lot B DP 385650 – <i>has been redeveloped and appears to be in the current building layout.</i></p> <p>Lot 1 DP 715461 – <i>has been redeveloped and appears to be in the current building layout.</i></p>	<p><i>The land use to the east appears to be unchanged</i></p> <p><i>The land use to the south appears to be unchanged.</i></p> <p><i>The building to the southeast has been redeveloped, so that former parking space is now occupied by a building; however use of the land for commercial/industrial purposes appears to be unchanged.</i></p> <p><i>To the west and north the land use appears unchanged.</i></p> <p><i>Further south a vacant area which was formerly partially covered by trees has been cleared and developed as a playing field (ca. 200m south).</i></p>
8 Jan 2010*	<p>Lot B DP 385650 – <i>no discernible change, with the exception of trees now well established</i></p> <p>Lot 1 DP 715461 – <i>same as above</i></p>	<p><i>To the west and north the land use appears unchanged.</i></p> <p><i>The land use to the east appears to be unchanged</i></p> <p><i>The land use to the south appears to be unchanged.</i></p>
5 May 2014*	<p>Lot B DP 385650 – <i>no discernible change</i></p> <p>Lot 1 DP 715461 – <i>same as above</i></p>	<p><i>To the west and north the land use appears unchanged.</i></p> <p><i>The land use to the east appears to be unchanged</i></p> <p><i>The land use to the south appears to be unchanged.</i></p>

Aerials sourced from the NSW Government Land & Property Information department unless denoted with an '*'. Aerials denoted with an '*' were sourced from www.nearmap.com

The review of historical aerial photography indicates that:

- Lot B DP 385650 was used as residential premises until at least August 1984, after which they were demolished sometime before January 1994 and redeveloped as a commercial/industrial facility as part of a commercial/industrial cluster which was gradually developed on this portion of Parraweena Road from at least 1970;
- Lot 1 DP 715461 was vacant land in 1965 and was initially used as a laydown area for construction materials which may be related to construction of, or manufacturing activities occurring in, a neighbouring facility which was indicated as a brick and ACM constructed factory on an historical title plan dated 11 July 1985. On that plan, Lot 1 DP 715461 is indicated as being part of the brick and asbestos constructed factory. From at least 1984 a building was present on the Lot 1 DP 715461 which appears to be consistent with the plan produced in 1985;
- The Site is located in an industrial cluster which may have a history of manufacturing of building materials since at least 1970;
- Neighbouring Lot 1 DP 237017 has been the site of a brick and asbestos cement constructed building identified on an historical title plan dated 1967 since at least 1967 and has remained relatively unchanged until at least 2005;
- Demolition of a portion of an ACM constructed factory neighbouring Lot 1 DP 715461 of the Site occurred during the period from 1984 to 1994;
- Educational and/or sporting facilities may have been present near the site since at least 1970; and
- Industrial and/or commercial land use in the vicinity of the site intensified in the period from 1970 to the present.



4.6 Chemical Inventory

At the time of writing this report no chemical inventory was available for review. There was no significant chemical storage observed on the subject site at the time of the visit. ES assumes that common house hold and office related chemicals have been present on the subject site.

A review of the former site owners and their potential usage of the property revealed no potentially contaminating activities. The occupations on the subject site involved the warehousing of bearings (Schaeffler Australia Pty Limited, INA Bearings Australia Pty Limited) and automotive components (T.R.W. Australia Limited).

ES notes that the additional site walkover was completed on the 9th June 2016 observed the following items to be stored within the warehouse area:

- Milk;
- Honey;
- Skim milk powder;
- coconut powder;
- Macadamia paste;
- almond paste;
- multi dextrose;
- soy;
- sugar; and
- cleaning chemicals.

All items were stored on pallets, either on pallet racking or on the ground awaiting storage or distribution. All items were observed to be stored in packaging that appeared to be in good condition, with no obvious signs of leaks or loss.

4.7 Manufacturing Processes

No information was made available at the time of writing this report involving any manufacturing processes completed on the site. The historical data reviewed indicates that it is unlikely that manufacturing has occurred at the subject site.

4.8 Hazardous Materials

ES did not undertake a formal hazardous materials inspection during the site walkover. It is not known if a hazardous material survey or an environmental site assessment has been undertaken to date.

Given that the building was likely constructed between 2005 and 2010 the presence of asbestos containing materials can be discounted. Furthermore, based on the age of the subject site buildings, the presence of leaded paint also can also be discounted.

A search of the Stored Chemical Information Database (SCID) and the microfiche records held by WorkCover NSW did not locate any records pertaining to the subject site. Please refer to **Appendix E** for details of the searches completed by WorkCover NSW.

It is the opinion of ES that following the review of WorkCover NSW records and the observations made during the site walkover it is unlikely that the bulk storage of dangerous goods occurred at the Site.

4.9 Storage Tanks

Observations indicated that there were no underground storage tanks (USTs) were present at the subject site at the time of the site walkover.



ES identified storage of Liquid Petroleum Gas (LPG) within the warehouse facility occupied by Pactum on the 9th June 2016. This LPG was stored in metal gas bottles, and is used to operate the forklifts observed within the warehouse.

4.10 Product Spill and Loss History

No information regarding product spill and loss history was available for review at the time of writing this report.

Pactum representative Willie Ulia informed ES that no spills or loss of product had occurred.

4.11 Discharges to Land, Water and Air

No information regarding discharges to land, water and air was available for review at the time of writing this report.

4.12 Disposal Locations

No information regarding disposal locations was available for review at the time of writing this report.

4.13 Compliant History

No information regarding complaint history was available for review at the time of writing this report.

4.14 Local Site Knowledge – Residents and Staff (Past and Present)

No residents and staff were available to interview during the site walkover.

Pactum representative Willie Ulia had been on the site for less than 6 months, and could not provide additional information about the history of the site.

4.15 Permits, Licences, approvals and trade waste agreements

No information regarding permits, licences, approvals and trade waste agreements was available for review at the time of writing this report.

4.16 Property Searches Under the NSW Contaminated Land Management Act and NSW Protection of the Environment Operations Act

The following searches have been completed:

- Notices under the Contaminated Land Management Act (CLM) Act; and
- Notices under the Protection of the Environment Operations Act (POEO) Act.

4.16.1 Review of NSW EPA Record of Notices

The NSW EPA Contaminated Land Public Record contains records of written notices issued under the CLM Act, including those prior to the commencement of the CLM Amendment Act 2008. ES searched the record for Notices issued to sites in Miranda NSW between 1 January 1951 and 17 March 2014 (the date of the search). It is noted that the Contaminated Land Public Record is not a listing of all contaminated sites in New South Wales.

The search did not return records of any notices issued to the Site.

4.16.2 Review of List of Contaminated Sites Notified to NSW EPA

At the date of the search conducted 17 March 2014, the Site was not included on the List of Contaminated Sites Notified to EPA, being current at 14 February 2014 (NSW EPA, 5 March 2014, 'List of Contaminated Sites Notified to EPA,



<http://www.epa.nsw.gov.au/clm/publiclist.htm>, accessed online 17 March 2014). The list is a publically available list of contaminated sites that EPA is aware of, with regard to its regulatory role under the CLM Act. Note that an absence of a site from the list does not necessarily imply the site is not contaminated (NSW EPA *op cit*).

4.16.3 Review of POEO Public Register

ES searched the Protection of the Environment Operations (POEO) Act Public Register for licenses, and notices issued under the POEO Act to sites in Miranda NSW. The registered search returned zero results.

4.17 Review of Council Records

Planning Certificates under section 149(2) and 149(5) of the *Environmental Planning & Assessment Act (1979) (as amended)* were requested from Sutherland Shire Council for each Lot/DP on the Site. A copy of the certificates are provided in **Appendix E**. Review of the certificates indicated the following (for both Lots/DPs comprising the Site):

- The controlling instrument for the subject site is currently the *Sutherland Shire Local Environment Plan 2006*. SEPPs which apply to development on the land are detailed in the planning certificates;
- The zoning for the lots is Zone 11 – Employment (Sutherland Shire Local Environmental Plan 2006) and Zone IN1 General Industrial (*Sutherland Shire Local Environmental Plan 2013*);
- The Draft State Environmental Planning Policy (Competition) 2010 and draft Standard Instrument Local Environment Plan for the Sutherland Shire will apply to the land.
- The Lots not include or comprise critical habitat;
- The Lots are not in a conservation area;
- No item of environmental heritage is situated on the Lots;
- The Lots are not affected by the operation of Section 38 or 39 of the Coastal Protection Act 1979;
- No orders or notifications of any temporary coastal protection works for the land or adjacent public land are reported on the planning certificates, and no properties on the land are subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services;
- The Lots have not been proclaimed to be a mine subsidence district;
- The Lots are not affected by road widening or road realignment under Division 2 of Part 3 of the Roads Act 1993;
- The land is not subject to development restriction because of the likelihood of landslip, bushfire, tidal inundation, subsidence, acid sulfate soil or any other risk (other than flooding);
- The Lots are not subject to flood related developmental control;
- The Lots are not reserved for acquisition by public authority under Section 27 of the Environmental Planning and Assessment Act 1979;
- The Contribution Plans which apply to the land include the 2005 Shire Wide Open Space and Recreation Facilities Contribution Plans; the 2003 Community Facilities Contributions Plan; and the Employment Zoned Land Contributions Plan;
- The Lots are not biodiversity certified land under the *Threatened Species Conservation Act 1995*;
- The Lots are not subject to a bio-banking agreement;
- The Lots are not bush-fire prone land;
- The Lots are not subject to a property vegetation plan under the Native Vegetation Act 2003;



- The Lots are not subject to orders to carry out work in relation to a tree on the land under the Trees (Disputes Between Neighbours) Act 2006;
- The Lots are not subject to direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act;
- There are no current site compatibility certificates or development consents for seniors housing, infrastructure or affordable rent housing issued for the land under SEPP (Housing for Seniors or People with a Disability) 2004, SEPP (Infrastructure) 2007 or SEPP (Affordable Rental Housing) 2009;
- The land is not subject to any development plan adopted by a relevant authority or that is proposed to be subject to a consent ballot;
- The council is not aware of any current site verification certificate in respect of the land;
- The land has been classified as Class 5 on the Acid Sulfate Soils Maps in the Sutherland Shire Local Environmental Plan 2006 and is subject to the provision of clause 23 which detail the restrictions to works within this Class; and
- Within the meaning of the Contaminated Land Management Act 1997, the land is not significantly contaminated land, and is not subject to a management order, approved voluntary management order, ongoing maintenance order or site audit statement.

The Planning Certificates for each Lot also state that:

One of more of the activities listed in Table 1 of the Managing Land Contamination Planning Guidelines 1998 may have been undertaken and/or approved on the land. Council's records do not currently contain sufficient information to determine that there is actual contamination of the land. Council may require further investigation of potential contamination, and remediation where contamination is found, particularly if the land is to be redeveloped or the land use is to be changed to a more sensitive use.

4.18 Potential Contaminant Sources

No chemical inventory was available for review by ES at the time of writing this report, ES has assumed that common household and office related chemicals are stored on the subject property.

The title deeds search (Section 4.4) indicates the site may have been used as a warehouse for industrial and automotive parts distribution.

Work/housekeeping practices on warehouse/ distribution sites have allow potential to contaminated soils. During the site walkover a potential sump/pump out point along with a potential cleaning area was observed. It is possible that a wash tank may have existed in this area.

No aerial photography was available prior to 1961 and therefore the use of the site prior to this time could not be confirmed.

The additional site walkover conducted on the 9th June 2016, identified the following items to be stored within the warehouse area:

- Milk;
- Honey;
- Skim milk powder;
- coconut powder;
- Macadamia paste;
- almond paste;



- multi dextrose;
- soy;
- sugar; and
- cleaning chemicals.

All items were stored on pallets, either on pallet racking or on the ground awaiting storage or distribution. All items were observed to be stored in packaging that appeared to be in good condition, with no obvious signs of leaks or loss. ES were advised that no loss of product or spills had occurred whilst Pactum had occupied the warehouse portion of the site.

The potential risk of contamination caused by the storage and distribution of items by Pactum is considered by ES to be low. The recommendations outlined in this report should be sufficient to identify and potential contamination within the warehouse area currently occupied by Pactum.



5 Site Condition and Surrounding Environment

A summary of observations from review of available information and a site inspection is provided in **Table 5.1**.

Table 5.1: Summary of Observations at the Subject Site

Item	Site Walkover Photo (Appendix B)	Location(s)	Condition
Front signage of building	Photos 1 80202	Corner of Parraweena Road and Kareena Road	No comment. Good condition. No significant surface staining or evidence of spillage.
Northern Boundary of Site	Photo 2 80240	Parraweena Road	Approximately 8m buffer zone between boundary line and building.
Western Site Boundary	Photo 3 80327	Western Neighbour (Rittal and Phoenix Contact)	Brick wall of building in good condition. Weeds visible from elevated garden bed,
Drive entrance to building offices and overcroft parking	Photo 4 80829	Centre of Site looking West.	Driveway in good condition. Garden beds appear overgrown and some of the soft sheet (not containing asbestos) soffit has fallen down.
Ground floor basement	Photo 5 81034	Majority of site footprint. Looking south	Internal view of the vacant warehouse. Concrete floor and walls/column in good condition.
Potential wash bay	Photo 6 81220	Eastern wall of warehouse.	In-ground pit/sump with potential float alarm. Pipework cut off at ground level indicate potential sink area.
Ground floor basement	Photo 7 81248	Majority of site footprint. Looking south east.	Internal view of the vacant warehouse. Concrete floor and walls/column in good condition.
Roller door entrance to warehouse	Photo 8 82011	Roller door entrance to warehouse from Kareena Road.	Warehouse entrance appears in good condition. Minor build-up of plant litter around drains.
Warehouse entrance	Photo 9 81521	Entrance driveway looking north. Entrance from Kareena Road.	Sloping curved driveway to roller doors and entrance to the warehouse. Warehouse entrance is undercover.
Electrical Substation	Photo 10 81532	Offsite, outside of site boundary. Looking East.	Substation is present outside of the site boundary and not accessible from the site. Potential fill material in garden bed adjacent to the substation.
Neighbouring property (to be reported separately)	Photo 11 81622	Southern boundary	Southern boundary showing neighbouring property in background. A majority of the area to the southern boundary line is sealed.
Potential sump pump out point	Photos 12	Driveway to warehouse	Pump out point near retaining wall adjacent to the warehouse entrance driveway (north). The pump out point appears to lead to the warehouse in-ground pit/sump.
Top floor office entrance	Photos 13	Entrance to the offices above the warehouse	Entrance to offices from above warehouse carpark. Observed to be in good condition.



5.1 Surrounding Land-uses

The current land-uses of adjacent properties surrounding the site are summarised below:

- North:** Parraweena Road with Residential properties beyond;
- East:** Commercial/ industrial properties adjoining the site;
- South:** Commercial/ industrial buildings adjoining the site; and
- West:** Kareena Road with Residential properties beyond.

5.2 Topography

The subject site gradually slopes east along Parraweena Road and to the south along Kareena Road. The site appears to have been terraced and profiled by cutting and filling to provide basement areas for the warehouse portions of buildings, while the office block remains only slightly elevated from Parraweena Road.

5.3 Conditions of the Site Boundary

A number of boundaries exist between the properties that comprise the subject site. For the purposes of this investigation the conditions of the boundaries on the perimeter of the entire subject site are listed below:

- **Northern Boundary:** Comprised of an aluminium picket fence with several palm trees and 8m wide grassed lawn. Fence is in good general condition.
- **Southern Boundary:** Comprised of an aluminium picket fence atop a low (0.2 to 0.5m in the south east), brick retaining wall. The fence and retaining wall attaches to the brick wall of the building. The fence, retaining wall and building wall appear in good general condition.
- **Western Boundary:** Comprised of an aluminium picket fence with mature trees with concrete entrance and exit driveways. The fence and driveways are in good general condition.
- **Eastern Boundary:** The eastern external brick wall of basement warehouse comprises approximately 90% of the eastern boundary of the subject site. The remainder of the eastern property boundary is fenced landscape lawns. All external walls appear in good condition.

An electrical substation is present outside of the site boundary on the north west corner of the site. The substation is not accessible from the site, however there is potential fill material in the garden bed adjacent to the substation.

5.4 Visible Signs of contamination

There were no visual signs of contamination within the subject site. Generally, housekeeping appeared to have been of a good standard.

5.5 Visible Signs of Plant Stress

There were no visible signs of plant stress in the landscaped areas of the subject site.

5.6 Presence of Drums, Wastes and Fill Material

There were no visible signs of putrescible waste or building rubbish/ waste observed onsite during the site walkover.

5.7 Odours

No significant odours were observed outside or inside of the buildings on the subject site.



5.8 Conditions of Buildings

The commercial buildings appear to be in relatively good condition. The perimeter including grassed areas, gardens and site access driveways, appears to be recently neglected, presumably due to the property being vacant.

ES notes that an additional site walkover completed by Ryan Wells of Environmental Strategies on the 9th June 2016 identified that the warehouse section of the site was occupied by Pactum. The conditions of the buildings remained in relatively good condition, with the vegetated areas along the perimeter showing signs of landscaping.

5.9 Quality of Surface Water

No surface water was observed on the subject site at the time of the site walkover.

ES notes that discussions with Pactum Representative, Willie Uila, identified that the warehouse section of the site had flooded with up to 10cm of water during recent heavy storm activities. No water, nor obvious damage was observed at the time of ES' site walkover.

5.10 Flood Potential

The reviewed Planning Certificates under section 149(2) and 149(5) of the *Environmental Planning & Assessment Act (1979) (as amended)* show that the subject site has not been identified as potentially flood prone based on Council's initial assessment of major flooding. Council has by resolution (PLN01009) adopted a policy to restrict the development of flood prone land in accordance with NSW State Government Flood Prone Land Policy. Further investigation will be required and possibly a flood study, to determine the level of flood risk on this land. Sutherland Shire Development Control Plan 2006 contains flood risk management controls.

ES notes that discussions with Pactum Representative, Willie Uila, identified that the warehouse section of the site had flooded with up to 10cm of water during recent heavy storm activities. No water, nor obvious damage was observed at the time of ES' site walkover.

5.11 Local Sensitive Environments

The nearest receptors include:

- Residential dwellings to the west beyond Kareena Road and north beyond Parraweena Road;
- Endeavour Sports High School including playing fields are approximately 200m south and south east of the subject site; and
- The Port Hacking Rugby Field, Sylvania Waters Tennis Courts and Forshaw Rugby Park are approximately 350m north-west and north of the subject site, with Gwawley Bay located approximately 320m north-east and 600m west-north-west of the Site beyond the playing fields.



6 Geology and Hydrogeology

6.1 Geology

A review of the Wollongong-Port Hacking 1:250,000 Geological Map Sheet 9029-9129 (Department of Mineral Resources, 1985) indicates that the Site and the local area immediately south of Parraweena Road is mapped as Rh - Medium to coarse-grained quartz sandstone, very minor shale and laminite lenses. North of Parraweena Road the geology is mapped as a mixture of mf - Man-made fill (dredged estuarine sand and mud, coal washing, industrial and household waste); and Qht - Organic-rich muddy, mostly "marine" sand.

The Site is mapped as Disturbed Terrain on the 1:25,000 Acid Sulphate Soil Risk Map for Port Hacking (Dept. of Land & Water Conservation (DLWC) Sheet No. 9129N4, Edition 2, Dec 1997): Disturbed terrain may include filled areas, which often occur during reclamation of low lying swamps for urban development. Other disturbed terrain includes areas which have been mined or dredged, or have undergone heavy ground disturbance through general urban development or construction of dams or levees. This information is consistent with information provided by the Client.

6.2 Fill Material

Minor filling was noted around the electrical substation observed at the western boundary of the property. Other than this relatively small area, it is not known whether any other fill material is present on the Site.

6.3 Hydrogeology

The nearest shallow groundwater data available from registered groundwater bores (see Section 6.4) indicated the groundwater table was at 1.2-2.2m bgl at the time of installation. This data is for bores located in the estuarine/marine sands and disturbed terrain unit which occurs immediately north of the Site; these bores may not intersect the sandstone unit which has been mapped at the Site. The nearest bores with standing water level data drilled in the area mapped as Rh Quartz Sandstone are approximately 1km southeast and northeast of the Site and indicate, respectively, a standing water level of 2.2m and 11m. In the bore to the northeast, where additional descriptive data in the bore record confirms the bore is located in Sandstone with small clay bands, water bearing zones are identified at 21-21.1m and deeper, suggesting that the groundwater may be confined or partially confined in the Rh unit. ES note that the geology may be heterogeneous, and groundwater head at the site may be affected by connectivity with the coast indicating that this data may not be representative of local Site conditions.

6.4 Groundwater Bore Search

A search of the NSW National Resources Atlas revealed a total of forty-one (41) registered groundwater bores within a 1km radius of the site. A listing of all registered groundwater bores is available in **Appendix F**. A summary of these groundwater bores is presented in Table 6.4.



Table 6.4: Summary of registered groundwater bores

Works number	GDA94 Easting	GDA94 Northing	Distance from Site (m approx)	Authorised Purposes	Intended Use	SWL	Water bearing zones
GW023683	324374	6233615	1693	domestic	general use	1.2	1.5
GW020543	325925	6234429	1259	waste	waste		
GW024170	326810	6234333	1410	domestic	domestic		
GW024645	326440	6232269	1002	recreation	irrigation		
GW062211	326077	6231736	1439	industrial	industrial		
GW101273	324789	6232021	1677	monitoring	monitoring		
GW101274	324725	6232705	1366	monitoring	monitoring		
GW101275	325397	6232392	992	monitoring	monitoring		
GW102635	325859	6233797	642	monitoring	monitoring	2.1	0
GW102872	326111	6234079	912	domestic	domestic	5	
GW103241	326141	6234336	1171	monitoring	monitoring	7.8	
GW105856	326730	6233897	1022	domestic			
GW106656	326625	6234014	1043	recreation	recreation	11	21-21.1; 32-32.1; 58-58.1; 79-79.1
GW106758	326628	6234052	1076	domestic	domestic		
GW106781	326230	6233970	827	recreation	recreation	1.7	
GW108344	326246	6233978	839	test	test		
GW108607	325954	6234110	939	domestic	domestic	4	
GW109492	325964	6234094	922	domestic	domestic		
GW109594	325465	6232890	612	monitoring	monitoring		
GW109595	325476	6232898	599	monitoring	monitoring		
GW109596	325477	6232871	611	monitoring	monitoring		
GW109597	327044	6233572	1110	monitoring	monitoring		
GW109598	327095	6233573	1158	monitoring	monitoring		
GW109599	327070	6233542	1124	monitoring	monitoring		
GW110207	324759	6233576	1312	monitoring	monitoring	1.5	
GW110208	324718	6233537	1340	monitoring	monitoring	1.6	
GW110736	324814	6233503	1239	domestic	domestic	4	
GW110843	324774	6233518	1281	domestic	domestic		
GW110979	324754	6233515	1300	monitoring	monitoring		
GW110980	324758	6233503	1293	monitoring	monitoring	2.2	
GW110981	326919	6232540	1109	monitoring	monitoring	2.2	
GW112146	326896	6232524	1100	monitoring	monitoring		
GW112147	326899	6232490	1123	monitoring	monitoring		
GW112148	326889	6232477	1123	monitoring	monitoring		
GW112149	326888	6232489	1115	monitoring	monitoring		
GW112150	326882	6232502	1102	monitoring	monitoring		
GW112151	326860	6232522	1072	monitoring	monitoring		
GW112152	326832	6232543	1037	monitoring	monitoring		



Works number	GDA94 Easting	GDA94 Northing	Distance from Site (m approx)	Authorised Purposes	Intended Use	SWL	Water bearing zones
GW112152	326860	6232522	1072	monitoring	monitoring		
GW112153	326816	6232505	1048	monitoring	monitoring		
GW112154	326833	6232490	1071	monitoring	monitoring		

6.5 Hydrology

The nearest surface water receptor is an easement for drainage indicated in an historical title plan dated 5 October 1967 and is present between Lot 1 DP 385650 and Lot 1 DP 237017. Gwawley Bay is located approximately 800m NNW of the Site and back barrier lagoons or channels which discharge to the back barrier lagoons which ultimately connect to Gwawley Bay are located approximately 320m NE and 600m WNW of the Site.

6.6 Summary of Local Meteorology

A review of available climate statistics for the subject site was obtained from the Bureau of Meteorology (BOM). The nearest observation point from which monthly climate statistics were available was Station 066037 Sydney Airport, approximately 10km from the Site at -33.95°S, 151.17°E, 9m ASL. The following information is a summary of the available data between 1939-2013.



Table 6.6: Summary of local meteorological data

Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Temp													
Mean max temp (°C)	26.5	26.4	25.3	22.9	20	17.6	17	18.3	20.5	22.5	24	25.7	22.2
Mean min temp (°C)	18.8	19	17.5	14.2	10.9	8.6	7.2	8.1	10.4	13.2	15.4	17.5	13.4
Rainfall													
Mean rainfall (mm)	93.6	112	116	106	99	122	70	74	60	70	82	73	1083
Decile 5 (median) rainfall (mm)	72	83	83	81	81	97	53	43	46	47	68	59	1045
Mean no. of days of rain ≥ 1 mm	8	8.6	9.2	8.4	8.5	8.8	6.7	6.7	6.8	7.8	8.4	7.7	95.6

6.7 Acid Sulfate Soil Risk

The land has been classified as Class 5 on the Acid Sulfate Soils Maps in the Sutherland Shire Local Environmental Plan 2006 and is subject to the provision of clause 23 which detail the restrictions to works within this Class. Class 5 land encompasses land and where development consent is required for the carrying out works within 500 metres of adjacent Class 1, 2, 3 or 4 land that are likely to lower the water table below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.

The Site is located near (within ca. 100m of) an area mapped as Disturbed Terrain on the 1:25,000 Acid Sulphate Soil Risk Map for Port Hacking (Dept. of Land & Water Conservation (DLWC) Sheet No. 9129N4, Edition 2, Dec 1997): Disturbed terrain may include filled areas, which often occur during reclamation of low lying swamps for urban development. Other disturbed terrain includes areas which have been mined or dredged, or have undergone heavy ground disturbance through general urban development or construction of dams or levees.

ES assumes that the proposed development will not lower the water table by 1m within 500m of the adjacent Class 4 land and therefore consider that an acid sulfate soil investigation will not be required.



7 Integrity Assessment

Information was collected from a number of sources to determine the risk of site contamination. The sources included a combination of government bodies and private organisations that have no knowledge of the proposed development, nor are they project stakeholders.

One exception is Sutherland Shire Council who supplied the Section 149 (2&5) documents for the property (see Section 4.16). The Section 149(2&5) documents were supplied through an automated online service, and therefore ES considers that the information presented from Sutherland Shire Council is accurate and without bias.

Whilst ES uses professional judgement when evaluating information, ES cannot guarantee all information is correct nor complete. ES does not take responsibility for any errors nor incomplete data.

The data obtained from other historical sources reviewed has been found to be in general agreement. It is therefore considered that the information provided in this historical assessment has an acceptable level of accuracy.



8 Potential Contamination Issues

8.1 Potential Areas of Environmental Concern

Based on the historical review and field observations, the following areas of potential environmental concern (APEC) were identified.

- Unconsolidated fill material on the property prior to the current building being constructed; and
- Potential loss or spill of material stored within the warehouse area.

ES notes that there has been limited potential for storage of chemicals other than general cleaning and household/office related products on the subject site based on visual observations and historical uses.

The additional site walkover conducted on the 9th June 2016, identified the following items to be stored within the warehouse area:

- Milk;
- Honey;
- Skim milk powder;
- coconut powder;
- Macadamia paste;
- almond paste;
- multi dextrose;
- soy;
- sugar; and
- cleaning chemicals.

All items were stored on pallets, either on pallet racking or on the ground awaiting storage or distribution. All items were observed to be stored in packaging that appeared to be in good condition, with no obvious signs of leaks or loss. ES were advised that no loss of product or spills had occurred whilst Pactum had occupied the warehouse portion of the site.

The potential risk of contamination caused by the storage and distribution of items by Pactum is considered by ES to be low. The recommendations outlined in this report should be sufficient to identify and potential contamination within the warehouse area currently occupied by Pactum.

Buildings constructed of brick and fibro have been identified on the historical title plans. Demolition of these building were undertaken during the late 1980s to mid-1990s; however, it is uncertain that all this material has been removed from site or that imported fill was free from this material.



9 Conclusions and Recommendations

9.1 Conclusions

The subject site has historically been used for residential purposes until commercial activities began. Lot B DP 385650 was used as residential premises until at least August 1984, after which they were demolished sometime before January 1994 and redeveloped as a commercial or industrial facility as part of a commercial or industrial cluster which was gradually developed on this portion of Parraweena Road from at least 1970.

Lot 1 DP 715461 was vacant land in 1965 and was initially used as a laydown area for construction materials which may be related to construction of, or manufacturing activities occurring in, a neighbouring facility which was indicated as factory on an historical title plan dated 11 July 1985. From at least 1984 a building was present on the Lot 1 DP 715461 which appears to be consistent with the plan produced in 1985. Land surrounding the subject site was subjected to extensive redevelopment from the 1970s.

The observed functional areas of the building exterior were well managed and in a good general condition; this reflected overall good housekeeping. Internal access to the buildings revealed that general good housekeeping practices had been followed.

There was a low potential for environmental impact from previous site operation. From the age of the buildings and construction products and practices of the time, the presence of asbestos containing materials and leaded paint cannot be discounted.

It is not known if the subject site was filled in some areas during construction of the commercial buildings and driveway areas. The source and quality of fill was unknown.

Groundwater depth is unknown for the subject site as no groundwater monitoring wells were observed nor registered on the NSW National Resources Atlas. Forty-one (41) registered groundwater bores were located with 1km of the subject site.

The nearest bores with standing water level data drilled within the same mapped sandstone are approximately 1km southeast and northeast of the Site and indicate, respectively, a standing water level of 2.2m and 11m. Given the known historical uses of the subject site, there was a low likelihood for significant groundwater impacts from existing or historical use.

The nearest environmental receptors, residential dwellings to the west beyond Kareena Road and north beyond Parraweena Road, Endeavour Sports High School including the playing fields (approximately 200m south and south east) and The Port Hacking Rugby Field, Sylvania Waters Tennis Courts and Forshaw Rugby Park (approximately 350m north-west and north) are unlikely to be impacted from existing or historical use of the site.

Gwawley Bay is located approximately 320m NE and 600m WNW of the Site, is unlikely to be impacted from existing or historical use of the site.

Given the known historical uses of the subject site, there was a low likelihood for significant groundwater impacts from existing or historical use.

Based on the historical review and field observations, the following areas of potential environmental concern (APEC) were identified.

- Unconsolidated fill material on the property prior to the current building being constructed; and
- Potential loss or spill of material stored within the warehouse area.



ES notes that an additional site walkover was completed on the 9th June 2016 at the request of Woolworths. A Freedom Foods operation, known as Pactum, was observed to occupy the warehouse portion of the site during this additional site walkover. The warehouse was observed to contain food products and ingredients for distribution to major supermarkets. The warehouse was observed to contain the following items:

- Milk;
- Honey;
- Skim milk powder;
- coconut powder;
- Macadamia paste;
- almond paste;
- multi dextrose;
- soy;
- sugar; and
- cleaning chemicals.

All items were stored on pallets, either on pallet racking or on the ground awaiting storage or distribution. All items were observed to be stored in packaging that appeared to be in good condition, with no obvious signs of leaks or loss.

A Pactum representative, Willie Uila, informed ES that they only occupy the southern warehouse area, and the northern office space area remains vacant. Willie also reported that the warehouse section of the site had flooded with up to 10cm of water during recent heavy storm activities. No water, nor obvious damage was observed at the time of ES' site walkover.

ES notes that there have been no changes to the conclusions of this report as a result of the additional site walkover. The potential risk of contamination caused by the storage and distribution of items by Pactum is considered by ES to be low. The recommendations outlined in this report should be sufficient to identify and potential contamination within the warehouse area currently occupied by Pactum.



9.2 Recommendations

The following recommendations are made for the subject site.

Hazardous Materials Audit

As far as ES is aware, a hazardous materials audit has not been undertaken, and given the age of the building and the observation of original elements, the presence of hazardous materials is unlikely. However, it is recommended that an Occupational Hygienist be engaged to inspect the building and subject site, review and sample (if required) potentially hazardous materials, and provide further advice on appropriate management, removal and disposal procedures prior to any demolition works.

Soil

It is understood the subject site has been used for the warehousing of building materials, industrial, automotive and food products. The likelihood that contamination from the storage of chemicals and other dangerous goods is low. Fill of unknown origin and quality may have been used on the subject site.

A Phase 2 intrusive investigation, which includes soil sampling and analysis, should be considered to determine the suitability of the underlying material for the current and proposed land use.

Appendix A

Figures

Appendix B

Site Photographs

Appendix C

Title Deeds

Appendix D

Aerial Photographs

Appendix E

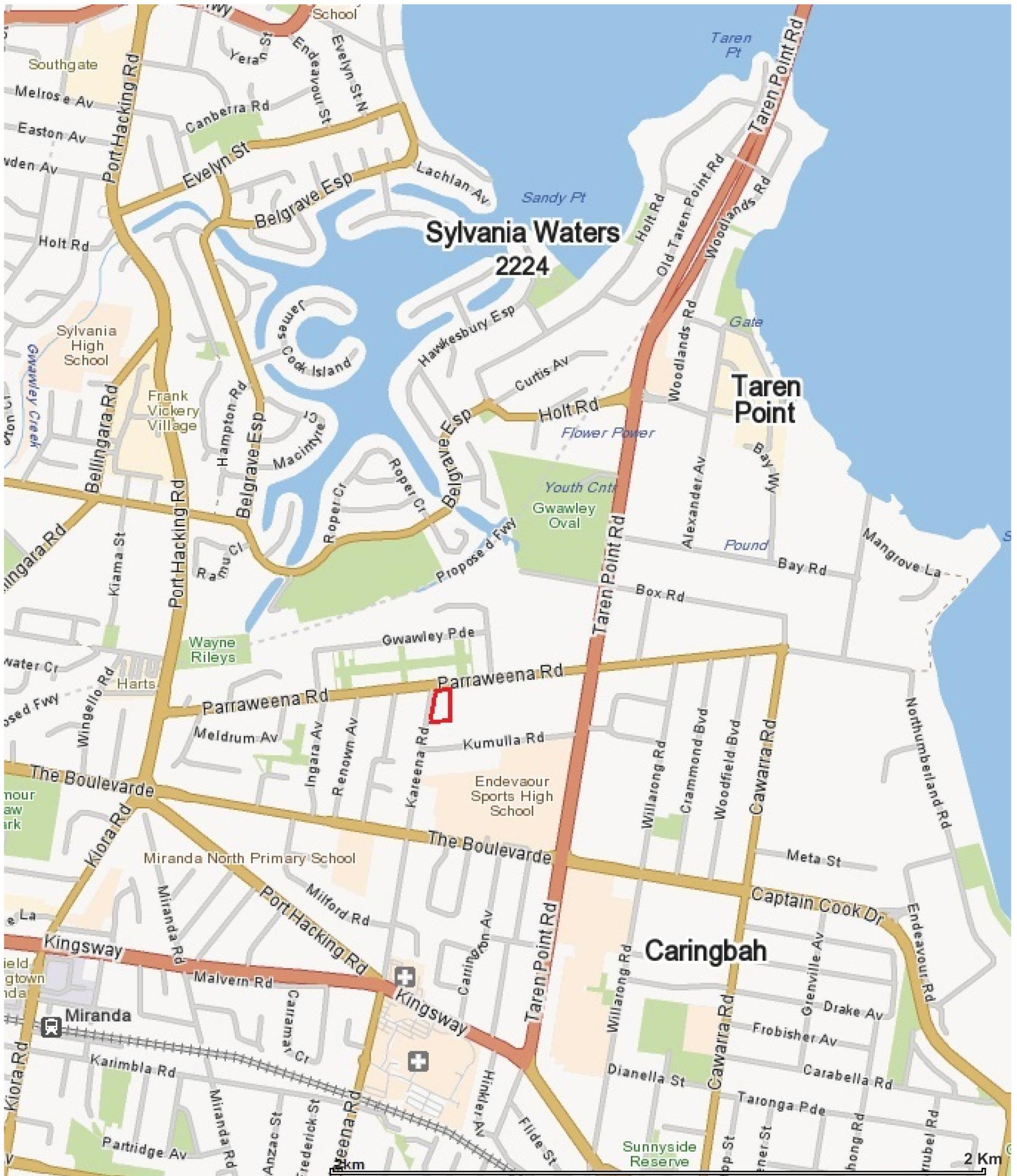
Council and Government Records

Appendix F

Groundwater Bore Search

Appendix A

Figures



	
Site Boundary	
Source: Whereis.com	Sourced: 28/05/2014.



 Site Boundary

0 5 10 15 20 25m

Source:
Nearmap.com Sourced: 12/03/2014.

Appendix B

Site Photographs

Client Name
 Woolworths Limited

Site Location
 142 Parraweena Road Miranda NSW

Project No.
 14022

Photo No.	Date
1	13 th March 2014
Description:	
Front signage of building	



Photo No.	Date
2	13 th March 2012
Description	
Northern Boundary of the Site	



Client Name
 Woolworths Limited

Site Location
 142 Parraweena Road Miranda NSW

Project No.
 14022

Photo No.
 3

Date
 13th March 2014

Description:

Western Site Boundary


Photo No.
 4

Date
 13th March 2014

Description:

Drive entrance to building office and overcroft parking



Client Name
 Woolworths Limited

Site Location
 142 Parraweena Road Miranda NSW

Project No.
 14022

Photo No. 5	Date 13 th March 2014
-----------------------	--

Description:

 Ground floor basement


Photo No. 6	Date 13 th March 2014
-----------------------	--

Description:

 Potential cleaning area


Client Name
 Woolworths Limited

Site Location
 142 Parraweena Road Miranda NSW

Project No.
 14022

Photo No.
 7

Date
 13th March 2014

Description:

Ground floor basement


Photo No.
 8

Date
 13th March 2014

Description:

 Roller door entrance to
 warehouse


Client Name
 Woolworths Limited

Site Location
 142 Parraweena Road Miranda NSW

Project No.
 14022

Photo No.	Date
9	13 th March 2014

Description:

 Warehouse entrance


Photo No.	Date
10	13 th March 2014

Description:

 Electrical Substation


Client Name
Woolworths Limited
Site Location
142 Parraweena Road Miranda NSW
Project No.
14022

Photo No.	Date
11	13 th March 2014

Description:

Neighbouring property (to be reported separately)



Photo No.	Date
12	13 th March 2014

Description:

Potential sump pump out point



Client Name
 Woolworths Limited

Site Location
 142 Parraweena Road Miranda NSW

Project No.
 14022

Photo No.	Date
13	13 th March 2014

Description:

Top floor office entrance



Appendix C

Title Deeds

ADVANCE LEGAL SEARCHERS PTY LTD

(ACN 147 943 842)
ABN 82 147 943 842

PO Box 149
Yagoona NSW 2199

Telephone: +612 9644 1679
Mobile: 0412 169 809
Facsimile: +612 8076 3026
Email: alsearch@optusnet.com.au

20th March, 2014

ENVIRONMENTAL STRATEGIES Pty Limited
Suite 15201, Locomotive Workshop,
2 Locomotive Street,
EVELEIGH NSW 2015

Attention: Claire Hardgraves,

**Re: 142 Parraweena Road,
Miranda**

Note 1: Lot B DP 385650 (page 1)
Note 2: Lot 1 DP 715461 (page 3)

Note 1:

Current Search

Folio Identifier B/385650 (title attached)
DP 385650 (plan attached)
Dated 17th March, 2014
Registered Proprietor:
TRUST COMPANY LIMITED

Title Tree

Lot B DP 385650

Folio Identifier B/385650

Certificate of Title Volume 6788 Folio 26

Certificate of Title Volume 6432 Folio 136

Certificate of Title Volume 4934 Folio 215

Certificate of Title Volume 2314 Folio 22

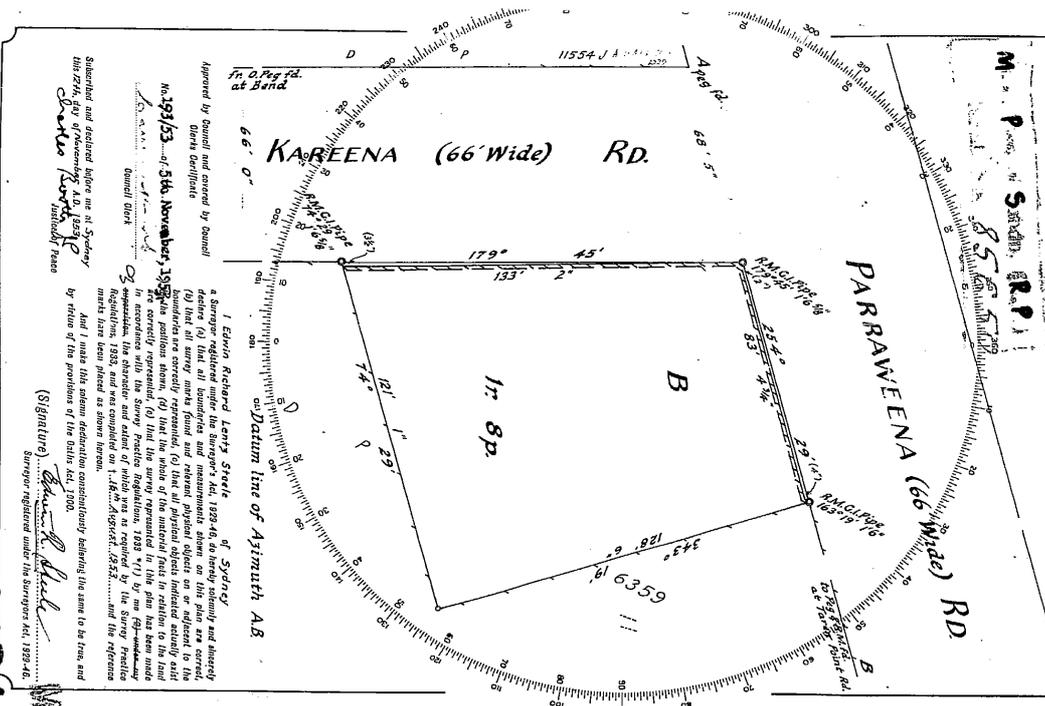
Summary of proprietor(s) Lot B DP 385650

Year	Proprietor
	(Lot B DP 385650)
2008 – todate	Trust Company Limited
2006 – 2008	Trust Company of Australia Limited
2006 – 2006	Schaeffler Australia Pty Limited
1990 – 2006	INA Bearings Australia Pty Limited
1989 – 1990	Mercantile Credits Limited
	(Lot B DP 385650 – Area 1 Rood 8 Perches – CTVol 6788 Fol 26)
1985 – 1989	Mercantile Credits Limited
(1986 – 1989)	(lease to Midfield Pty Limited)
1985 – 1985	Leda Holdings Pty Limited
1973 – 1985	T.R.W. Australia Limited
1964 – 1973	The Colonial Mutual Life Assurance Society Limited
1954 – 1964	Mabel Laura Charlotte Mills, widow
1954 – 1954	Arthur Mills, dairyman
	(Lots 11 & 12 DP 6359 – Area 9 Acres – CTVol 6432 Fol 136)
1951 – 1954	Arthur Mills, dairyman
	(Lots 11 & 12 DP 6359 – CT Vol 4934 Fol 215)
1938 – 1951	The Holt Sutherland Company (1933) Limited
1938 – 1938	The Honourable Thomas Holt, Member of the Legislative Council
	(part Portion 6 Parish of Sutherland County of Cumberland – CT Vol 2314 Fol 22)
1912 – 1938	The Honourable Thomas Holt, Member of the Legislative Council

Note 2:

G6345
 PLAN
F.P. 385650

Part of Lot 11 Deposited Plan 6359
 Parish of Sutherland County of Cumberland
 Scale 30 Feet to an Inch.



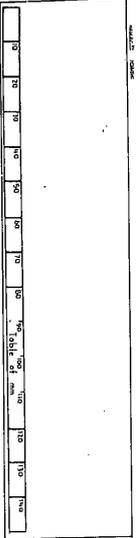
In O.P. Reg. fd. at Band
 KARREENA (66' wide) RD.
 PARAVENENA (66' wide) RD.
 In 8p.
 Datum line of Asymuth AB
 Dated line of Asymuth AB

This is the plan marked "A" referred to in Application for New Certificate
 Dated 19th January 1954

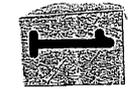
Arthur Mills
 Signatures of parties to be made in this margin.

24748(L)
 M.P.X.

CONVERSION TABLE ADDED IN DEPARTMENT OF LANDS	
DP 385650	
FEET INCHES	METRES
- 3 1/2	0.089
4	0.102
6	0.457
1 6 5/8	0.473
1 6 5/8	1.387
4	20.117
56	20.853
68 5 3/4	25.419
83 4 3/4	36.906
121 1	39.167
128 6	40.589
133 2	
AC RD P	SQ M
- 1 8	1214



11. Bruce Richard Davies, Registrar General for New South Wales, certify that this map is a true and correct copy of the original deposited on the 19th day of March, 1979



Current Search

Folio Identifier 1/715461 (title attached)
DP 715461 (plan attached)
Dated 17th March, 2014
Registered Proprietor:
TRUST COMPANY LIMITED

Title Tree Lot 1 DP 715461

Folio Identifier 1/715461

Certificate of Title Volume 10077 Folio 97

(a)

(b)

CTVol 6414 Folio 215

CTVol 8368 Folio 109

\

CTVol 6432 Folio 136

Certificate of Title Volume 4934 Folio 215

Certificate of Title Volume 2314 Folio 22

Summary of proprietor(s)

Lot 1 DP 715461

Year	Proprietor
	(Lot 1 DP 715461)
2008 – todate	Trust Company Limited
2006 – 2008	Trust Company of Australia Limited
2006 – 2006	Schaeffler Australia Pty Limited
1990 – 2006	INA Bearings Australia Pty Limited
1985 – 1990	Mercantile Credits Limited
1985 – 1985	Leda Holdings Pty Limited
<i>(1985 – todate)</i>	<i>(various current commercial leases shown on Folio Identifier 1/715461)</i>
<i>(1985 – todate)</i>	<i>(various commercial leases shown on Historical Folio 1/715461)</i>
	(Lot 1 DP 512558 – CTVol 10077 Fol 97)
1985 – 1985	Leda Holdings Pty Limited
1973 – 1985	T.R.W. Australia Limited
1965 – 1973	The Colonial Mutual Life Assurance Society Limited
1965 – 1965	Eastern Motors Pty Limited The Colonial Mutual Life Assurance Society Limited
<i>(1965 – 1985)</i>	<i>(various commercial leases shown on CTVol 10077 Fol 97)</i>

See Notes (a) & (b)

Note (a)

	(Lot 57 DP 6359 – CTVol 6414 Fol 215)
1962 – 1965	Eastern Motors Pty Limited
1961 – 1962	The Council of The Shire of Sutherland
1951 – 1961	Mabel Laura Charlotte Mills, married woman
	(Lot 57 DP 6359 and other lands – CTVol 4934 Fol 215)
1938 – 1951	The Holt Sutherland Company (1933) Limited
1938 – 1938	The Honourable Thomas Holt, Member of the Legislative Council
	(Part Portion 6 Parish of Sutherland and other lands – CTVol 2314 Fol 22)
1912 – 1938	The Honourable Thomas Holt, Member of the Legislative Council

Note (b)

	(Lot 11 DP 6359 – CTVol 8368 Fol 109)
1964 – 1965	The Colonial Mutual Life Assurance Society Limited
1962 – 1964	The Council of The Shire of Sutherland
	(Lots 11 & 12 DP 6359 – CTVol 6432 Fol 136)
1961 – 1962	The Council of The Shire of Sutherland
1954 – 1961	Mabel Laura Charlotte Mills, widow
1951 – 1954	Arthur Mills, dairyman
	(Lots 11 & 12 DP 6359 and other lands – CTVol 4934 Fol 215)
1938 – 1951	The Holt Sutherland Company (1933) Limited
1938 – 1938	The Honourable Thomas Holt, Member of the Legislative Council
	(Part Portion 6 Parish of Sutherland and other lands – CT Vol 2314 Fol 22)
1912 – 1938	The Honourable Thomas Holt, Member of the Legislative Council

PLAN FORM 2

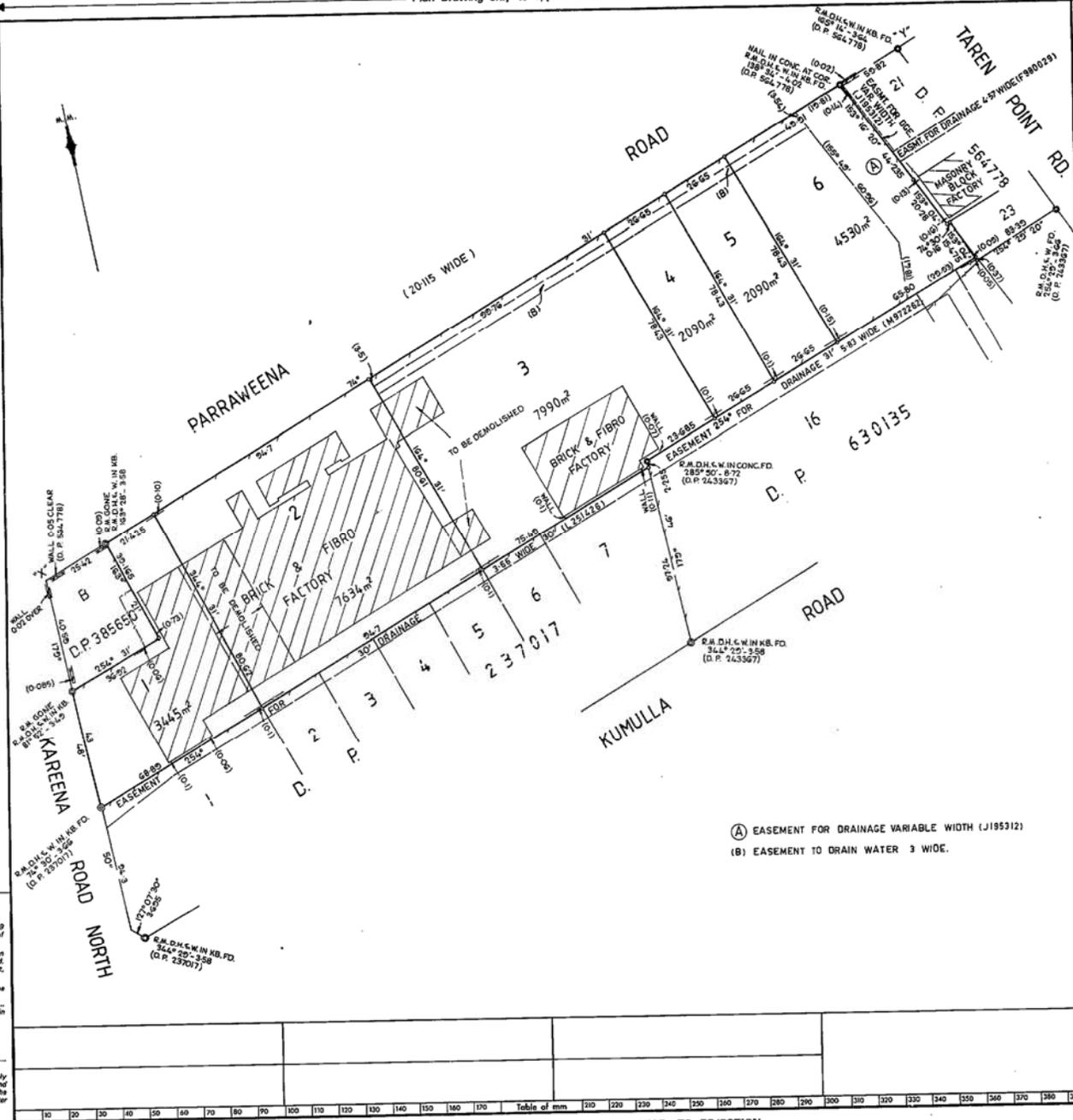
Signatures and seals only.

THE COMMON DEED OF
LEDA HOLDINGS (WHY)
HEREBY TO BE APPLIED
BY OR UNDER THE
DIRECTION OF THE
BOARD OF DISTRICTS
IN THE PRESENCE
OF:

Johnston
Secretary

Neilson
Secretary

LEDA HOLDINGS PTY LIMITED
Seal



D. P. 715461

Registered: **CBU** 6:8:1985

C.A.: NO 63/85 OF 11-7-1985

Title System: TORRENS

Purpose: SUBDIVISION

Ref. Map: UO930-44

Last Plan:

PLAN OF SUBDIVISION OF
LOT 1 D.P. 512558 & LOT 22
D.P. 564778

Reduction Ratio: 1:1000
Lengths are in metres.

Mens/Shire: SUTHERLAND
City:

Locality: CARINGBAH

Parish: SUTHERLAND

County: CUMBERLAND

This is sheet 1 of my plan in _____ sheets.
(Delete if inapplicable)

ROBERT DOUGLAS DUNLOP
of 56 CLARENCE ST. SYDNEY
a surveyor registered under the Surveyors Act, 1926, as amended,
assented, hereby certify that the survey represented in this plan
is accurate and has been made in accordance with the Survey
Practice Regulations, 1923, and was completed on 14.5.85

Signature: *Robert Dunlop*
Surveyor registered under Surveyors Act, 1926, as amended.
(Delete Line of Alignment "X" - "Y")
*Strike out either (1) or (2). Insert date of survey.

Panel for use only for statements of intention
to dedicate public roads or to create public res-
erves, drainage reserves, easements or restrictions
as to user:

PURSUANT TO SEC. 88B OF THE
CONVEYANCING ACT 1919 - 1964, IT IS
INTENDED TO CREATE:

1. RESTRICTION AS TO USER.
2. RESTRICTION AS TO USER.
3. EASEMENT TO DRAIN WATER 3 WIDE

Council Clerk's Certificate

I hereby certify that -

(a) the requirements of the Local Government Act, 1919
other than the requirements for the registration of
plans, and

(b) the requirements of section 34B of the Metropolitan
Water, Sewerage and Drainage Act, 1924, as amended,
relating to sewer, sewerage, and drainage Act,
1924, as amended

have been complied with by the applicant in relation to the
proposed **SUBDIVISION**
(Insert "new road", "subdivision" or "consolidated lot") set out herein

Subdivision No. **63/85**

Date **11/7/85**

(Signature) *[Signature]*

*This part of certificate to be deleted when the application is only
for a consolidated lot or the opening of a new road or where the land
to be subdivided is wholly outside the area of operations of the
Metropolitan Water Sewerage and Drainage Board and the Hunter
District Water Board.
*Delete if inapplicable.

10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390
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WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

SURVEYORS REFERENCE 5320

This negative is a photograph made as a permanent record of a document in the custody of the Registrar General this day: 7th August, 1985

SURVEYORS REFERENCE

Req:R907372 /Doc:DP 0715461 P /Rev:24-Oct-1992 /Sts:OK.OK /Prt:22-Sep-2008 16:27 /Pgs:ALL /Seq:1 of 1

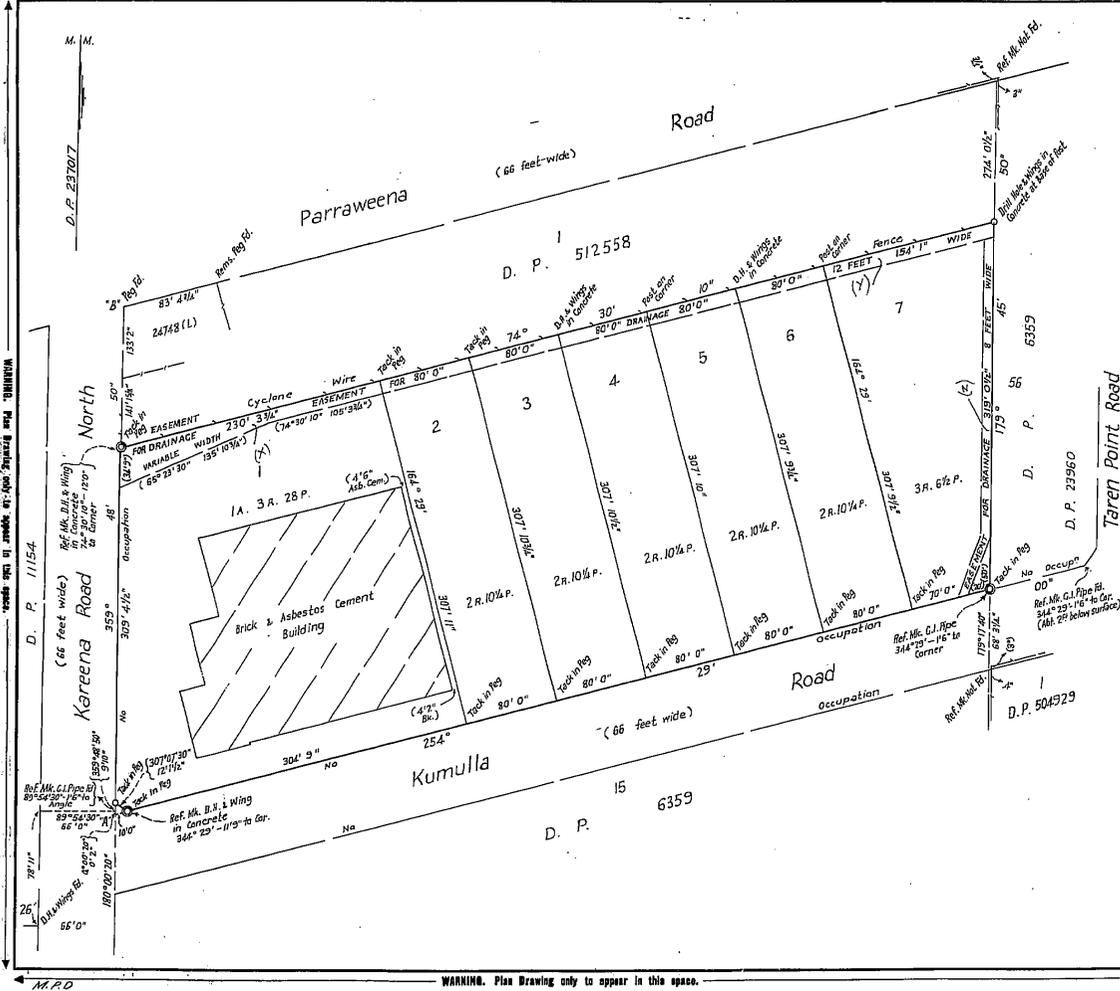
D.P. 715461

Y 0016 A I A

D.P. 715461

MPD

Plan Form 3—TO BE USED WHERE IT IS INTENDED TO DEDICATE PUBLIC ROADS OR PUBLIC RESERVES OR CREATE DRAINAGE RESERVES, EASEMENTS, OR RESTRICTIONS AS TO USER.



D.P. 237017

Registered *June 22-11-1967*
C.A. 151/67 of 5-10-1967

Title System: **Torrens**

Purpose: **Subdivision**

Ref. Maps: **Sutherland Sh. 26**

Last Plan: **D.P. 512558 (D.P. 6359)**

PLAN OF SUBDIVISION OF LOT 2 IN D.P. 512558

Scale: 80 feet to an inch

Min./Shire: **Sutherland**

Locality: **Caringbah**

Parish: **Sutherland**

County: **Cumberland**

1. Alan Wood
of **Man Wood & Co. 77 King St. Sydney**
a survey registered under the Survey Act, 1929, as amended, hereby certify that the survey represented in this plan is accurate and has been made in accordance with the Survey Practice Regulations, 1923, and was completed on **15th October, 1967**.

Signatures: *Alan Wood*

Statements of intention to dedicate public roads or public reserves or create drainage reserves, easements, or restrictions as to user:
(Signatures and Seals to appear in panel provided.)

Pursuant to Section 88B of the Conveyancing Act, 1919-1964 it is intended to create -

- Easement for Drainage 8 Feet Wide
- Easement for Drainage 12 Feet Wide and Variable Width

and as set out in the accompanying instrument signed by the Council Clerk. Instrument filed as **L251426**. It is intended to dedicate the splayed corner at the intersection of Kareena and Kumulla Roads to the public for road purposes.

David Clark
Council Clerk

WARNING: Plan Drawing only to appear in this space.

SURVEYOR'S REFERENCE: 3631

OFFICE USE ONLY

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION.

SIGNATURES AND SEALS ONLY.

The Common Seal of A.V. Wohl Industries Limited was lawfully affixed by the authorized person in the presence of a Justice of the Peace and in the presence of the Registrar General's Department.

Andrew J. Wohl
Director

Wohl
Secretary

Wohl
Secretary

Wohl
Secretary

Council Clerk's Certificate.

I hereby certify that—

(a) the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and

(b) the requirements of section 34B of the Metropolitan Water, Sewerage, and Drainage Act, 1958, as amended, (Water District Water, Sewerage, and Drainage Act, 1958, as amended), have been complied with by the applicant in relation to the proposed **Subdivision** (insert "new road" or "subdivision" set out herein).

Subdivision No. **151/67**

Date: **5/10/67**

Alan Wood
(Signature)
Council Clerk.

*This part of certificate to be deleted where the application is only for the opening of a new road or where the land to be subdivided is wholly outside the area of operation of the Metropolitan Water, Sewerage and Drainage Board, and the Water District Water Board, where it is applicable.

CONVERSION TABLE ADDED IN REGISTRAR GENERAL'S DEPARTMENT

DP 237017

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- 2	0.076
- 3	0.091
- 4	0.102
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2 6	0.510
4 2	1.270
4 6	1.372
4 9	1.448
5	2.928
9 10	2.997
10	3.048
11 9	3.561
12	3.658
12 1 1/2	3.656
20	6.096
33 2	10.109
34 9	10.592
34 9 3/8	10.601
50	15.240
66	20.117
68 3 1/4	20.009
70	21.336
78 11	24.054
80	24.384
83 4 3/4	25.419
86	26.213
105 3 3/4	32.059
133 1 5/8	40.580
135 10 3/4	41.421
141 1 5/8	53.016
154 1	66.763
220 3 3/4	70.199
274 0 1/2	83.528
304 9	92.668
307 9 1/2	93.855
307 9 3/4	93.821
307 10	93.828
307 10 1/2	93.840
307 10 3/4	93.847
307 11	93.853
309 4 1/2	94.298
319 0 1/2	97.244
AC RD P	SQ M
- 2 10 1/4	2283
- 3 6 1/2	3200
1 3 28	7790

Y O O T A I A

Req:R178308 /Doc:DP 0237017 P /Rev:11-Jun-1992 /Sts:OK.OK /Prt:17-Mar-2014 17:00 /Pgs:ALL /Seq:1 of 1 Ref:als /Src:T

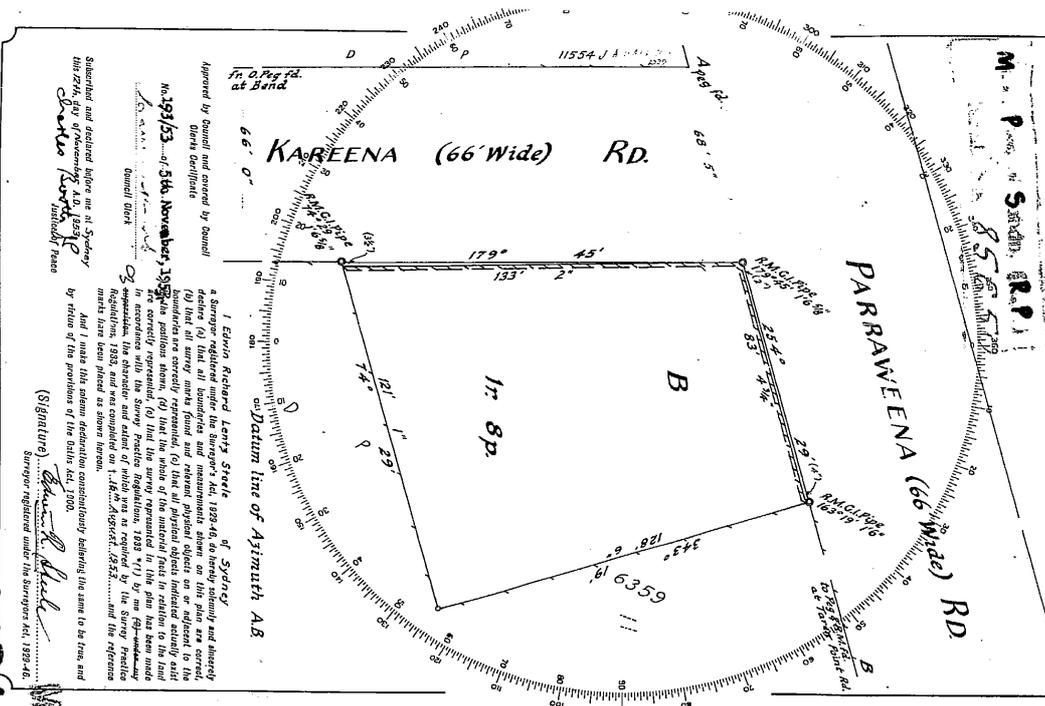
I, Bruce Richard Davies, Registrar General for New South Wales, certify that this negative is a photograph made as a permanent record of a document in my custody this 18th day of July, 1977.

Bruce Richard Davies

1

G6345
 PLAN
F.P. 385650

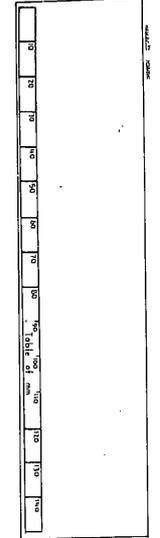
Part of Lot 11 Deposited Plan 6359
 Parish of Sutherland County of Cumberland
 Scale 30 Feet to an Inch.



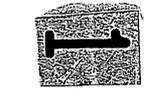
Approved by Council and sealed by Council
 Date 19/13/54
 5th November 1954
 Surveyor General for New South Wales
 Bruce Richard Davies
 Registrar General for New South Wales
 247481

This is the plan marked "A" referred to in Application for New Certificate
 Dated 19th January 1954

Arthur Mills
 Signatures of parties to be made in this margin.



1. Bruce Richard Davies, Registrar General for New South Wales, certify that this map is a true and correct copy of the original deposited in my custody this 27th day of March, 1979



CONVERSION TABLE ADDED IN DEPARTMENT OF LANDS

FEET INCHES	METRES
0	0.089
1	0.102
2	0.457
3	0.473
4	1.387
5	20.117
6	20.853
7	25.419
8	36.906
9	39.167
10	40.589
AC RD P	SQ M
1 8	1214

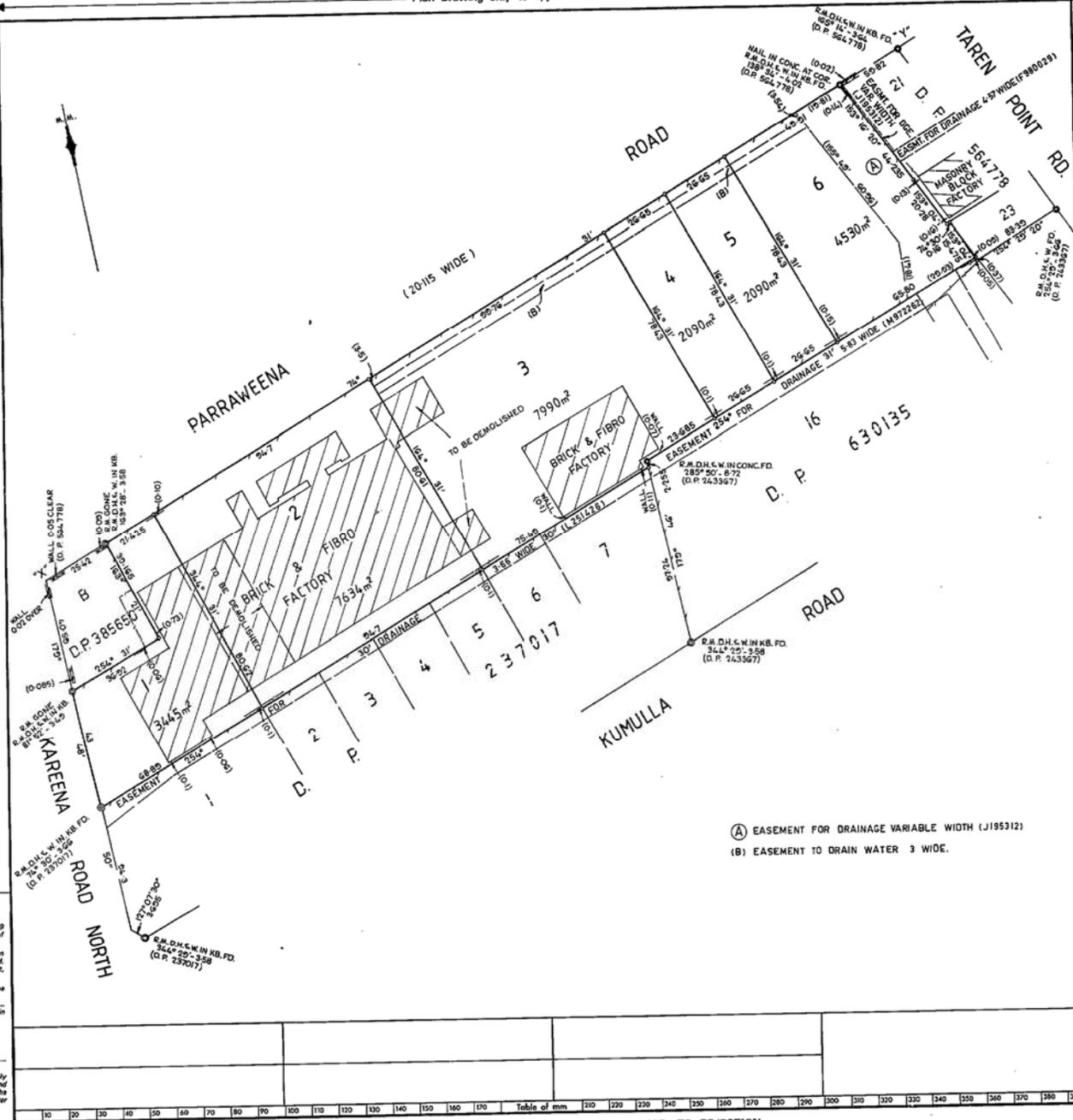
PLAN FORM 2

Signatures and seals only.

THE COMMON DEAL OF
LEDA HOLDINGS PTY LIMITED
HEREBY TO APPEARED
BY ORDER OF THE
BOARD OF DIRECTORS
IN THE PRESENCE
OF:

Johnston
Secretary

Neilson
Director

D.P. 512558

Council Clerk's Certificate

I hereby certify that -

(a) the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and

(b) the requirements of section 34B of the Metropolitan Water, Sewerage and Drainage Act, 1924, as amended, in relation to the proposed subdivision, have been complied with by the applicant in relation to the proposed SUBDIVISION.

Subdivision No. 63/85

Date 11/7/85

(Signed) *[Signature]*

[Signature] Council Clerk

*This part of certificate to be deleted when the application is only for a consolidated lot or the opening of a new road or where the land to be subdivided is wholly outside the area of operations of the Metropolitan Water Sewerage and Drainage Board and the Hunter District Water Board.

†Delete if inapplicable.

10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390
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WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

D. P. 715461

Registered: CBU 6:8:1985

C.A.: NO 63/85 OF 11-7-1985

Title System: TORRENS

Purpose: SUBDIVISION

Ref. Map: UO930-44

Last Plan:

PLAN OF SUBDIVISION OF
LOT 1 D.P. 512558 & LOT 22
D.P. 564778

Reduction Ratio: 1:1000
Lengths are in metres.

Mens/Shire: SUTHERLAND

Locality: CARINGBAH

Parish: SUTHERLAND

County: CUMBERLAND

This is sheet 1 of my plan in _____ sheets.
(Delete if inapplicable)

ROBERT DOUGLAS DUNLOP
of 56 CLARENCE ST. SYDNEY
a surveyor registered under the Surveyors Act, 1926, as amended, in accordance with the Survey Practice Regulations, 1923, and was completed on 14.5.85

Signature: *Robert Dunlop*

Surveyor registered under Surveyors Act, 1926, as amended.
*Strike out either (1) or (2). Insert date of survey.

Panel for use only for statements of intention to dedicate public roads or to create public reserves, drainage reserves, easements or restrictions as to user:

PURSUANT TO SEC. 88B OF THE CONVEYANCING ACT 1919 - 1964, IT IS INTENDED TO CREATE:

1. RESTRICTION AS TO USER.
2. RESTRICTION AS TO USER.
3. EASEMENT TO DRAIN WATER 3 WIDE

D.P. 715461

SURVEYORS REFERENCE 5320

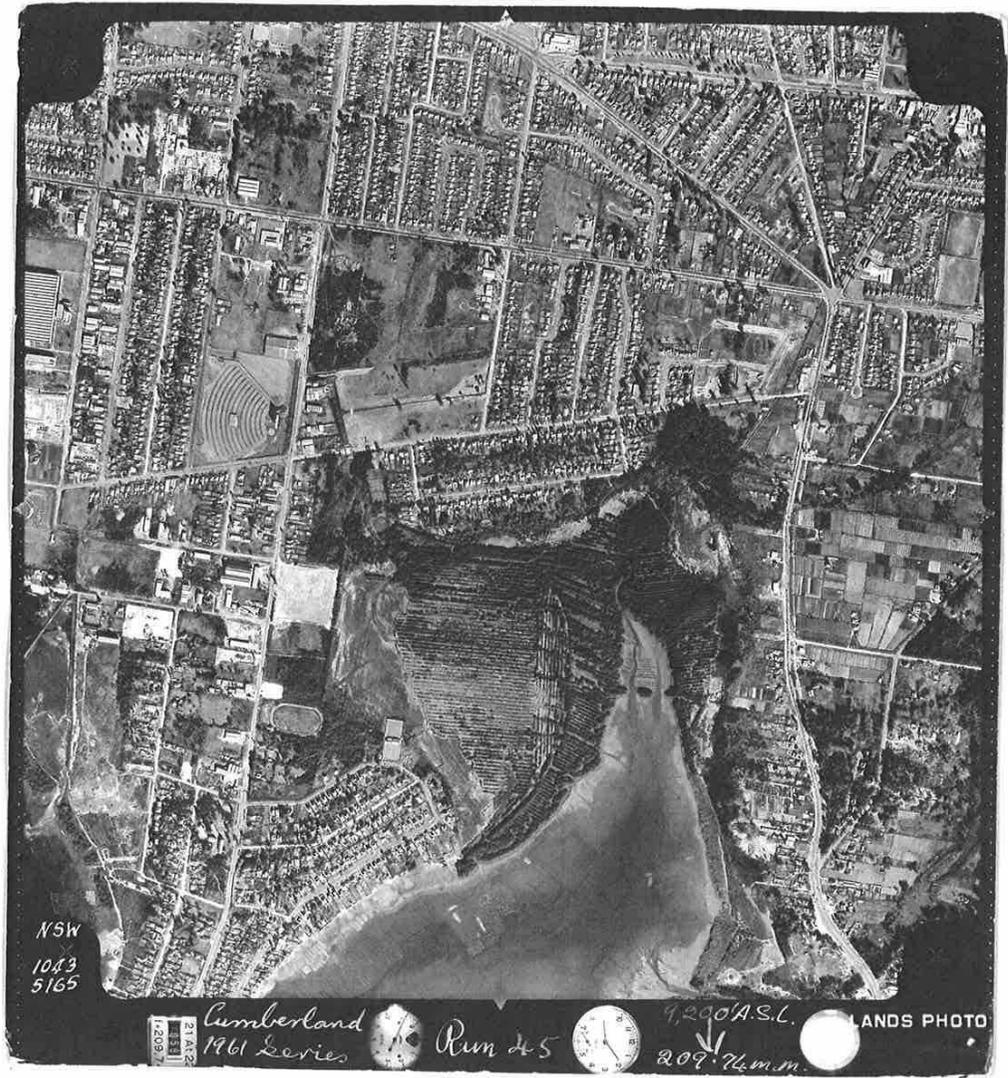
This negative is a photograph made as a permanent record of a document in the custody of the Registrar General this day: 7th August, 1985



MPD

Appendix D

Aerial Photographs



NSW
1043
5165

21A32
1-2097

Cumberland
1961 Series

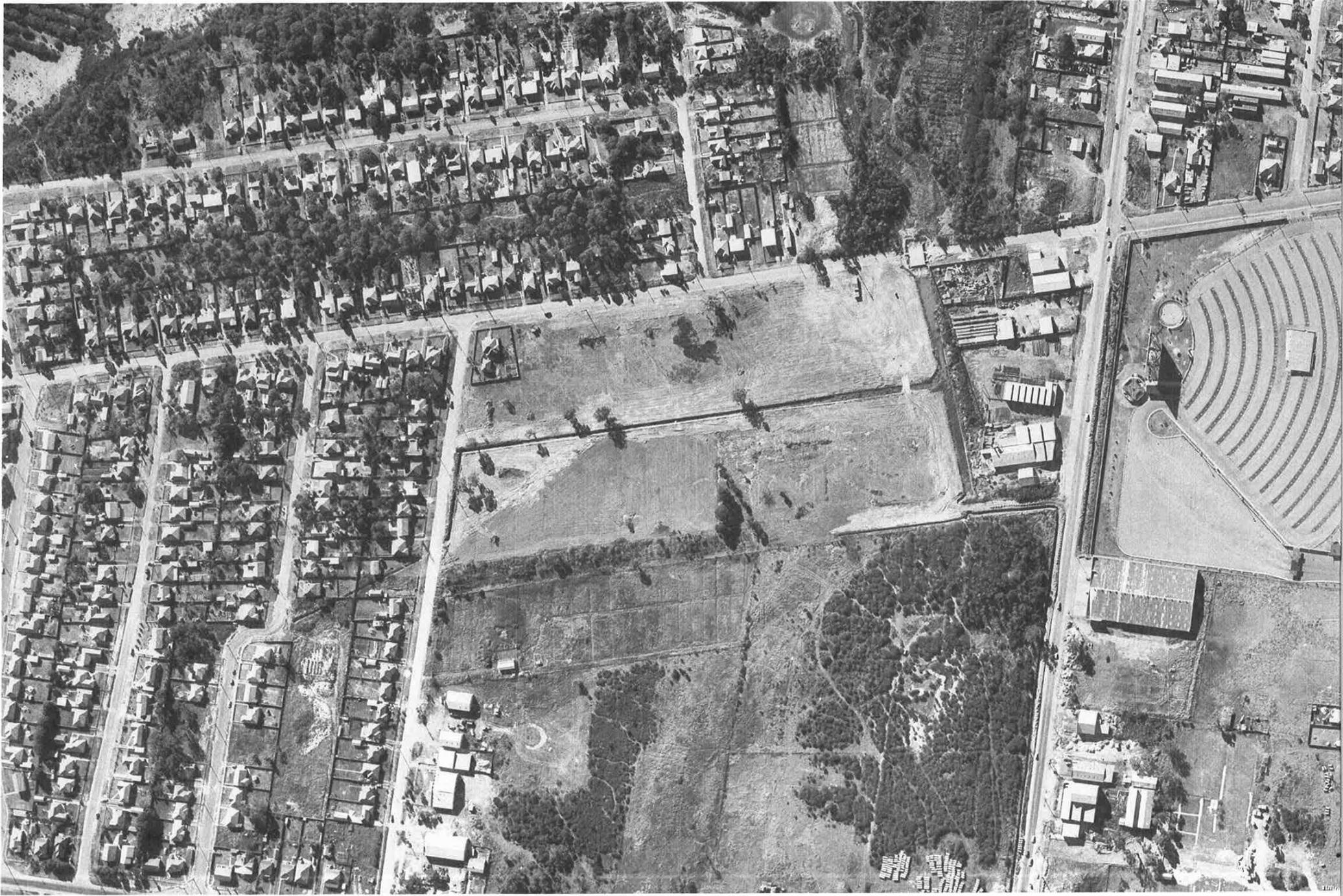


Run 265



4,200 A.S.L.
209' 76 m. m.

LANDS PHOTO







UAg 1001 152.37

NSW
1906
5198

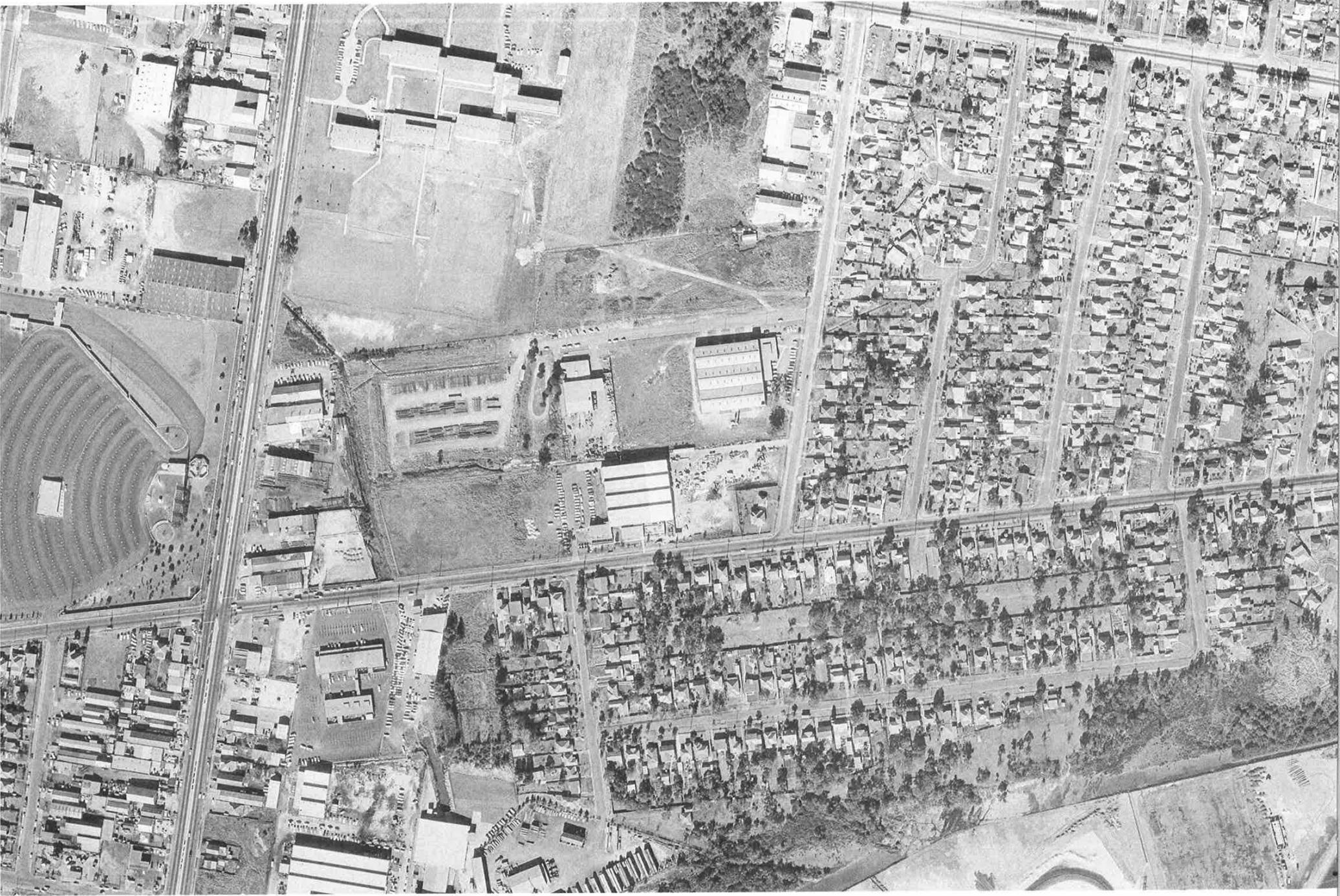
CUMBERLAND
1970 SERIES

NSW 1806

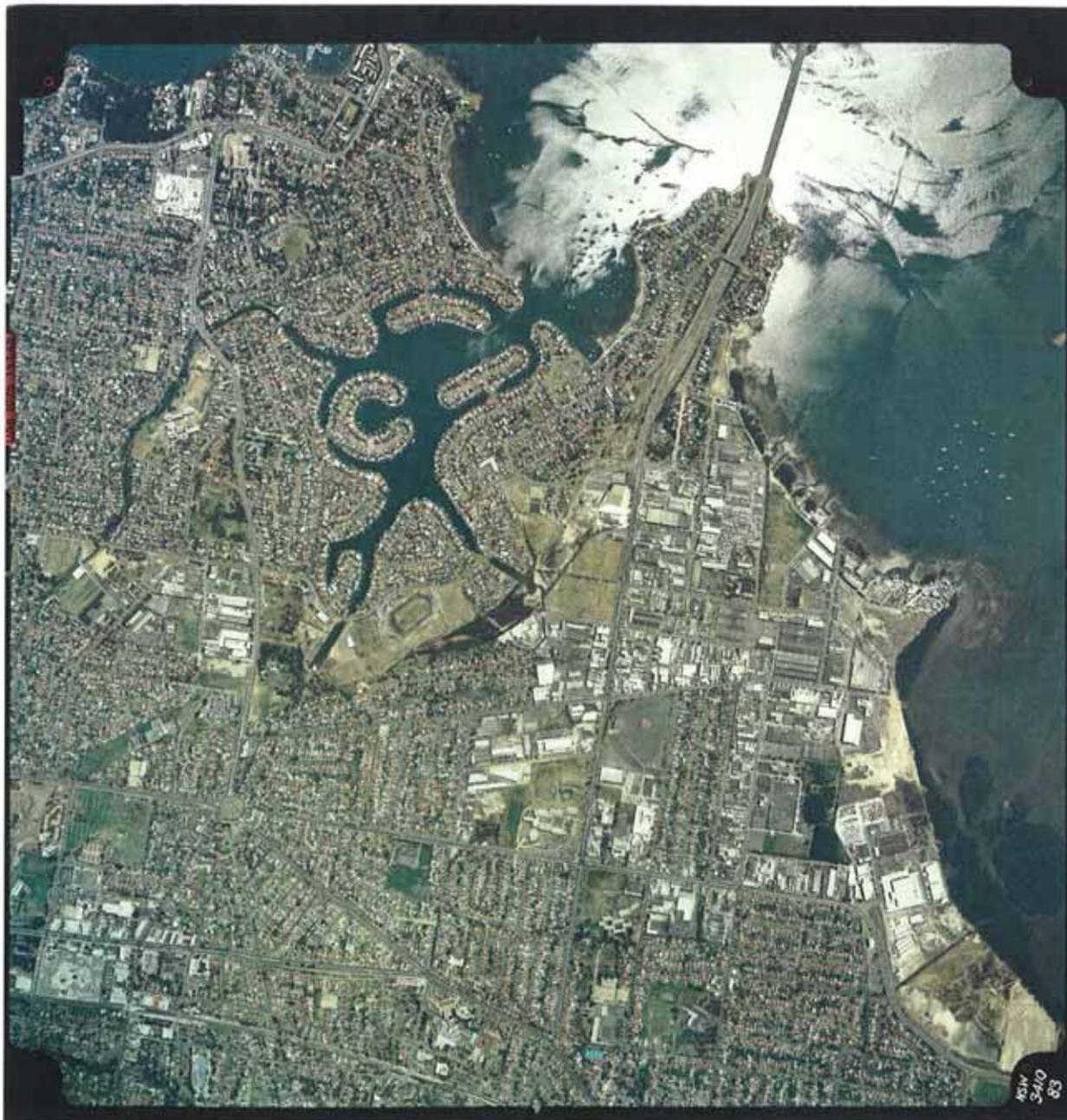
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7.500 AS/L
152.37M-M

CROWN
COPY N.S.W.
LANDS PHOTO
JOB F
1ST COPY





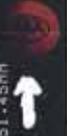


AGW
3410
83

HONGKONG 1984
1:16000 COLOUR
NSM3410 1M16231

RUN 3
8-10-84

2530 M ASL
151-45MM



Photography by
A. G. Brown & Co.







PORT HACKING
1:25000 Approx. Scale
NSW4178

RUN 1
04-01-94
23-33

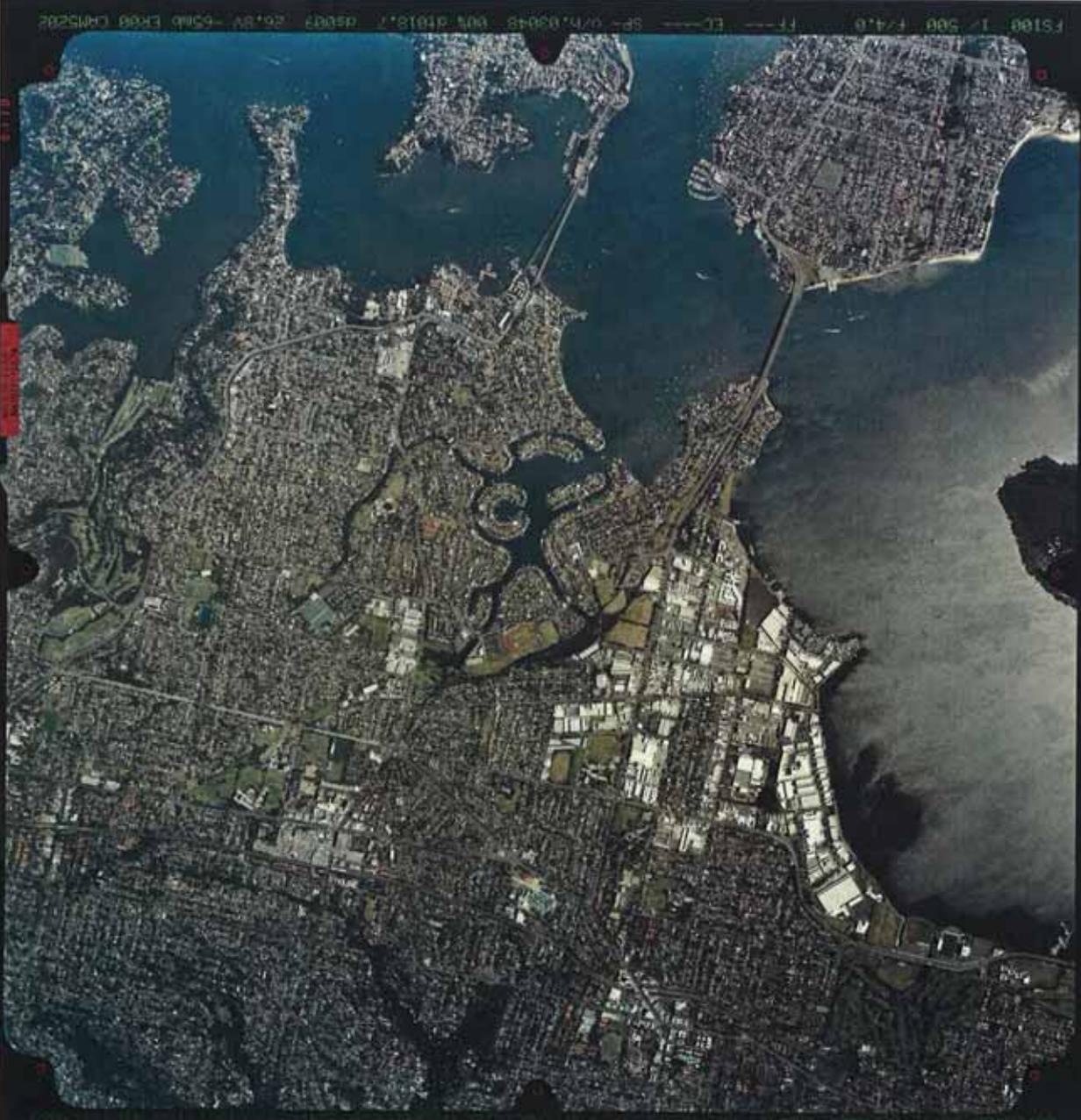
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152.76 mm











FS100 17 500 17470 FT — EC — SF 07N 03048 005 01018.7 05007 261BA — 65MB ER00 CHMS20E

PORT HACKING
1:25000 Approx. Scale
NSW4939 (M2512)

RUN 1
18-12-05
103-116

152.76 mm



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and Water Resources







Appendix E

Council and Government Records



Applicant:

Claire Hardgrove
Suite 15201, 2 Locomotive Street
EVELEIGH NSW 2015

Planning Certificate – Section 149(2)(5) Certificate Environmental Planning and Assessment Act, 1979

Certificate no:	e149:14/1212	Delivery option:	
Certificate date:	17/03/2014	Your reference:	14022

Property:

Lot B DP 385650
140-142 Parraweena Road MIRANDA NSW 2228

Zone:

Sutherland Shire Local Environmental Plan 2006
Zone 11 - Employment
Draft Sutherland Shire Local Environmental Plan 2013
Zone IN1 General Industrial

Notes:

- (a) *The information in this certificate only relates to the real property Identifier associated with the property and not to any licence or permissive occupancy that may be attached to and included in the property details contained in the description of the land.*
- (b) *The Environmental Planning and Assessment Act 1979 will be referred to in this Certificate as 'the Act'.*

Disclaimer:

- (a) *This certificate contains information provided to Council by third parties and is as current as the latest information available to Council at the time of production of this document. Council does not warrant the accuracy of the information contained within the information provided by third parties and has not independently verified the information. It is strongly recommended that you contact the relevant third parties to confirm the accuracy of the information.*

INFORMATION PURSUANT TO SECTION 149(2), ENVIRONMENTAL PLANNING & ASSESSMENT ACT, 1979

1. Names of relevant instruments and DCPs

1. The name of each environmental planning instrument that applies to the carrying out of development on the land:

Sutherland Shire Local Environmental Plan 2006

Greater Metropolitan Regional Environmental Plan No. 2 - Georges River Catchment (5/2/1999) (deemed SEPP).

* Regional Environmental Plan No.09 (Extractive Industry (No.2) 1995) (deemed SEPP).

* SEPP (Building Sustainability Index: Basix) 2004.

* SEPP (Exempt and Complying Development Codes) 2008

* SEPP (Affordable Rental Housing) 2009

* SEPP No. 1 - Development Standards

* SEPP No. 19 – Bushland in Urban Areas.

* SEPP No. 21 – Caravan Parks.

* SEPP No. 32 – Urban Consolidation (Redevelopment of Urban Land).

* SEPP No. 33 – Hazardous and Offensive Development.

* SEPP No. 39 – Spit Island Bird Habitat.

* SEPP No. 50 – Canal Estates.

* SEPP No. 55 – Remediation of Land.

* SEPP No. 62 – Sustainable Aquaculture.

* SEPP No. 64 – Advertising and Signage.

* SEPP No. 65 – Design Quality of Residential Flat Development.

* SEPP (Housing for Seniors or People with a Disability) 2004: (Does not apply to land to which State Environmental Planning Policy (Kurnell Peninsula) 1989 applies).

* SEPP (Major Development) 2005.

* SEPP (Mining, Petroleum Production and Extractive Industries) 2007.

* SEPP (Temporary Structures) 2007.

* SEPP (Infrastructure) 2007.

2. The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved):

Draft State Environmental Planning Policy (Competition) 2010
applies and aims to promote economic growth and competition and
remove anti competitive barriers in planning and assessment.

Council has prepared a draft Standard Instrument Local Environmental Plan (draft SSLEP2013) for the Sutherland Shire and a subsequent amendment to the Waterways zones. The draft plan affects all land within the Sutherland Shire. Council has resolved to extend the re-exhibition of the draft plan (MOT004-14) to 1st November 2013. The Waterways zones have been deferred from the amended plan. The draft plan proposes changes to zoning and land use and development standards that may change development potential of individual properties. For further information please see Council's website www.sutherlandshire.nsw.gov.au.

3. The name of each development control plan that applies to the carrying out of development on the land:

* Sutherland Shire Development Control Plan 2006

Note: In this clause, proposed environmental planning instrument includes a planning proposal for a LEP or a draft environmental planning instrument.

2. Zoning and land use under relevant LEPs

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP) in any zone (however described).

- (a) The name and number of the zone:

Sutherland Shire Local Environmental Plan 2006

Zone 11 - Employment

Draft Sutherland Shire Local Environmental Plan 2013

Zone IN1 General Industrial

Sutherland Shire Local Environmental Plan 2006 Zone 11 - Employment

- (b) Development allowed without development consent:

Development for the purpose of:
bush fire hazard reduction work, drainage.

Exempt development.

- (c) Development that requires development consent:

Development (other than development included in item (b)) for the purpose of:
advertisements, animal boarding or training establishment (not including a riding school), arts and craft centres, awnings, brothels, bulky goods premises (but only on land identified on the map for such a

purpose), bus depots, business identification signs, car parks, childcare centres, community facilities, convenience stores, dwelling houses ancillary to other permissible uses, food shops, generating works, high technology industries, industries, junk yards, liquid fuel depots, maritime activities, motor showrooms, nightclubs, passenger transport facilities, places of public worship, recreation areas, recreation facilities, registered clubs, repair centres, road transport terminals, roads, service stations, service support industries, sex shops, subdivision, utility installations, vehicle and mechanical repair premises, vehicle rental centres, veterinary hospitals, vehicle rental centre, warehouse, warehouses, waste recycling and management centres.

Demolition not included in item (b).

- (d) Development that is prohibited within the zone:

Any development other than development included in (b) or (c).

**Sutherland Shire Local Environmental Plan 2006
Clauses 28, 29, and 31**

Clause 28 Subdivision - consent requirements,
Clause 29 Crown development and public utilities, and/or
Clause 31 Development for group homes,
of Sutherland Shire Local Environmental Plan 2006 apply to this property.

**Draft Sutherland Shire Local Environmental Plan 2013
Zone IN1 General Industrial**

- (b) Development allowed without development consent:

Nil

- (c) Development that requires development consent:

Animal boarding or training establishments; Boat building and repair facilities; Building identification signs; Business identification signs; Car parks; Crematoria; Depots; Environmental protection works; Flood mitigation works; Freight transport facilities; Funeral homes; Garden centres; General industries; Hardware and building supplies; Industrial retail outlets; Industrial training facilities; Industries; Kiosks; Landscaping material supplies; Light Industries; Mortuaries; Neighbourhood shops; Passenger transport facilities; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Research stations; Roads; Service stations; Sex services premises; Storage premises; Take away food and drink premises; Timber yards; Transport depots; Truck depots; Vehicle body repair workshops;

Vehicle repair stations; Vehicle sales or hire premises; Veterinary hospitals; Warehouse or distribution centres.

Any other development not specified in item 2 or 4

(d) Development that is prohibited within the zone:

Advertising signage; Agriculture; Air transport facilities; Airstrip; Amusement centres; Boat building and repair facilities; Boat launching ramps; Boat sheds; Business premises; Camping grounds; Caravan parks; Cemeteries; Charter & tourism boating facilities; Child care centres; Community facilities; Eco-tourist facilities; Educational establishments; Entertainment facilities; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Function centres; Health services facilities; Heavy industrial storage establishments; Heavy industries; Helipads; Highway service centres; Home-based child care; Home businesses; Home occupations; Home occupations (sex services); Jetties; Marinas; Office premises; Open cut mining; Recreation facilities (major); Registered clubs; Residential accommodation; Respite day care centres; Restricted premises; Retail premises; Rural industries; Sewerage systems; Sex services premises; Tourist and visitor accommodation; Water supply systems; Wharf or boating facilities; Wholesale supplies.

(e) Minimum land dimensions fixed for the erection of a dwelling-house on the land:

Under SSLEP2006 there are no relevant development standards for the erection of a dwelling house due to site dimensions.

Under Draft Sutherland Shire Local Environmental Plan 2013 there are no relevant development standards for the erection of a dwelling house due to site dimensions.

(f) Does the land include or comprise critical habitat?

No

(g) Is the land in a conservation area?

No

(h) Is an item of environmental heritage situated on the land?

There is no item of environmental heritage situated on the

property.

2A. Zoning and land use under State Environmental Planning Policy (Sydney Region Growth Centres) 2006

To the extent that the land is within any zone (however described) under:

- (a) Part 3 of the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (the 2006 SEPP)*, or
- (b) a Precinct Plan (within the meaning of the 2006 SEPP), or
- (c) a proposed Precinct Plan that is or has been the subject of community consultation or on public exhibition under the Act,

the particulars referred to in clause 2 (a)-(h) in relation to that land (with a reference to “the instrument” in any of those paragraphs being read as a reference to Part 3 of the 2006 SEPP, or the Precinct Plan or proposed Precinct Plan, as the case requires).

Note: Sutherland Shire Council does not currently have any land in the Growth Centres that has been zoned by a Precinct Plan in the Appendices to this SEPP, proposed to be zoned in a draft Precinct Plan (that has been publicly exhibited or formally consulted on) or has been zoned under Part 3 of the Growth Centres SEPP.

3. Complying Development

- (1) The extent to which the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4) and 1.19 of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*.
- (2) The extent to which complying development may not be carried out on that land because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4) and 1.19 of that Policy and the reasons why it may not be carried out under those clauses.
- (3) If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that a restriction applies to the land, but it may not apply to all of the land, and that council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land.

General Housing Code

Complying development may be carried out on the land under the General Housing Code.

(Note: this code applies only to land within, or proposed to be within, the following zones R1, R2, R3, R4 or RU5)

Housing Alterations Code

Complying development may be carried out on the land under the Housing Internal Alterations Code.

Commercial and Industrial Alterations Code

Complying development may be carried out on the land under the General Commercial and Industrial Code.

Commercial and Industrial (New Buildings and Additions) Code

Complying development may be carried out on the land under the General Commercial and Industrial Code.

(Note: this code applies only to land within, or proposed to be within, the following zones B1, B2, B3, B4, B5, B6, B7, B8, IN1, IN2, IN3, IN4 or SP3)

Subdivisions Code

Complying development may be carried out on the land under the Subdivisions Code.

Rural Housing Code

Complying development may be carried out on the land under the Rural Housing Code.

(Note: this code applies only to land within, or proposed to be within, the following zones RU1, RU2, RU3, RU4, RU6 or R5)

General Development Code

Complying development may be carried out on the land under the General Development Code.

Demolition Code

Complying development may be carried out on the land under the Demolition Code.

Fire Safety Code

Complying development may be carried out on the land under the Fire Safety Code.

4. Coastal Protection

Is the land affected by section 38 or 39 of the *Coastal Protection Act 1979* (so far as Council has been notified by the Department of Services, Technology and Administration)?

No

4A. Information relating to beaches and coasts

- (1) In relation to a coastal council - whether an order has been made under Part 4D of the *Coastal Protection Act 1979* in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the Council is satisfied that such an order has been fully complied with.
- (2) In relation to a coastal council:
 - (a) whether the Council has been notified under section 55X of the *Coastal Protection Act 1979* that temporary coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land), and
 - (b) if works have been so placed – whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

Note: Sutherland Shire Council has not issued any orders or been notified of any temporary coastal protection works to date.

4B. Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

In relation to a coastal council—whether the owner (or any previous owner) of the land has consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

There are no properties subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services.

Note. “Existing coastal protection works” are works to reduce the impact of coastal hazards on land (such as seawalls, revetments, groynes and beach nourishment) that existed before the commencement of section 553B of the Local Government Act 1993.

5. Mine Subsidence

Is the land proclaimed to be mine subsidence district within the meaning of section 15 of the *Mine Subsidence Compensation Act, 1961*?

No

6. Road Widening and Road Realignment

(a) Is the land affected by a road widening or road realignment under Division 2 of Part 3 of the *Roads Act 1993*?

No

(b) Is the land affected by any road widening or road realignment under any environmental planning instrument?

No

(c) Is the land affected by any road widening or road realignment under any resolution of the Council?

No

7. Council and other public authority policies on hazard risk restrictions

(a) Is the land affected by a policy adopted by the council that restricts the development of the land because of the likelihood of landslip, bushfire, tidal inundation, subsidence, acid sulfate or any other risk?

The land has been classified as Class 5 on the Acid Sulfate Soils Maps in the Sutherland Shire Local Environmental Plan 2006. Accordingly the land is subject to the provisions of clause 23 which detail the restrictions to works within this Class.

- (b) Is the land affected by a policy adopted by any other public authority that restricts the development of the land because of the likelihood of landslip, bushfire, tidal inundation, subsidence, acid sulphate or any other risk?

No

7A. Flood related development controls information

- (1) Whether or not development on that land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) is subject to flood related development controls.

No

- (2) Whether or not development on that land or part of the land for any other purpose is subject to flood related development controls.

No

- (3) Words and expressions in this clause have the same meanings as in the Instrument set out in the Schedule to the Standard Instrument (Local Environmental Plans) Order 2006.

8. Land reserved for acquisition

Whether or not any environmental planning instrument or proposed environmental planning instrument referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 27 of the Act?

No

9. Contribution Plans

Council has adopted the following Contribution Plans that apply to the land:

- * The 2005 Shire Wide Open Space and Recreation Facilities Contribution Plans applies to this property (Effective 1/1/05).
- * The 2003 Community Facilities Contributions Plan applies to this property (Effective 14/12/04).
- * The Employment Zoned Land Contributions Plan applies to this property (Effective 13/03/07).

9A. Biodiversity certified land

If the land is biodiversity certified land (within the meaning of Part 7AA of the *Threatened Species Conservation Act 1995*), a statement to that effect.

No

10. Biobanking agreements

If the land is land to which a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995* relates, a statement to that effect (but only if the council has been notified of the existence of the agreement by the Director-General of the Department of Environment, Climate Change and Water).

No

11. Bush fire prone land

Is the land bush fire prone?

No

12. Property Vegetation Plans

Has Council been notified that a property vegetation plan under the *Native Vegetation Act 2003* applies to the land?

No

13. Orders Under Trees (Disputes Between Neighbours) Act 2006

Whether an order has been made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land (but only if Council has been notified of the order).

No.

14. Directions under Part 3A

Is there a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act that does not have effect?

No

15. Site compatibility certificates and conditions for seniors housing

Is there a current site compatibility certificate (seniors housing) under State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004, of which the council is aware, in respect of proposed development on the land? If there is a certificate, the period for which the certificate is current. Are there any terms of a kind referred to in clause 18 (2) of that Policy that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land?

No

16. Site compatibility certificates for infrastructure

Is there a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land?

No

17. Site compatibility certificates and conditions for affordable rental housing

Is there a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land? If so this statement sets out the period for which the certificate is current and any conditions pursuant to cl17(1) of SEPP (Affordable Rental Housing) 2009.

No

18. Paper subdivision information

Is the land subject to any development plan adopted by a relevant authority or that is proposed to be subject to a consent ballot? If so, this statement sets out the date of any subdivision order that applies to the land.

Note: Words and expressions used in this clause have the same meaning as they have in Part 16C of this Regulation.

No

19. Site verification certificates

Is there a current site verification certificate, of which the council is aware, in respect of the land?

If so, this statement includes:

- (a) the matter certified by the certificate, and
- (b) the date on which the certificate ceases to be current (if any), and
- (c) that a copy may be obtained from the head office of the Department of Planning and Infrastructure.

Note. A site verification certificate sets out the Director-General's opinion as to whether the land concerned is or is not biophysical strategic agricultural land or critical industry cluster land—see Division 3 of Part 4AA of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.

No

Note: The following matters are prescribed by section 59 (2) of the Contaminated Land Management Act 1997 as additional matters to be specified in a planning certificate:

- (a) Is the land significantly contaminated land within the meaning of that Act?

No

- (b) Is the land subject to a management order within the meaning of that Act?

No

- (c) Is the land the subject of an approved voluntary management proposal within the meaning of that Act?

No

- (d) Is the land subject to an ongoing maintenance order within the meaning of that Act?

No

(e) Is the land subject of a site audit statement within the meaning of that Act?
No

Any Other Prescribed Matter

Note: Section 26 of the Nation Building and Jobs Plan (State Infrastructure Delivery) Act 2009 provides that a planning certificate must include advice about any exemption under section 23 or authorisation under section 24 of that Act if the Council is provided with a copy of the exemption or authorisation by the Co-ordinator General under the Act.

No

Additional Information

Council holds additional information relating to this property for provision in accordance with Section 149(5) of the Environmental Planning and Assessment Act, 1979.

**ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5),
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979**

The following additional information relating to the land is provided in good faith. The information is not exhaustive of matters likely to affect the land. Section 149(6) states that a council shall not incur any liability in respect of any advice provided in good faith pursuant to subsection (5).

Council's records indicate that one or more of the activities listed in Table 1 of the Managing Land Contamination Planning Guidelines 1998 may have been undertaken and/or approved on the land. Council's records do not currently contain sufficient information to determine that there is actual contamination of the land. Council may require further investigation of potential contamination, and remediation action where contamination is found, particularly if the land is to be redeveloped or the land use is to be changed to a more sensitive use. Please contact Council for further information.

For further information please telephone [02] 9710 0333.

Yours faithfully



J W Rayner
General Manager



Applicant:

Claire Hardgrove
Suite 15201, 2 Locomotive Street
EVELEIGH NSW 2015

Planning Certificate – Section 149(2)(5) Certificate Environmental Planning and Assessment Act, 1979

Certificate no:	e149:14/1213	Delivery option:	
Certificate date:	17/03/2014	Your reference:	14022

Property:

Lot 1 DP 715461
140-142 Parraweena Road MIRANDA NSW 2228

Zone:

Sutherland Shire Local Environmental Plan 2006
Zone 11 - Employment
Draft Sutherland Shire Local Environmental Plan 2013
Zone IN1 General Industrial

Notes:

- (a) *The information in this certificate only relates to the real property Identifier associated with the property and not to any licence or permissive occupancy that may be attached to and included in the property details contained in the description of the land.*
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Disclaimer:

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INFORMATION PURSUANT TO SECTION 149(2), ENVIRONMENTAL PLANNING & ASSESSMENT ACT, 1979

1. Names of relevant instruments and DCPs

1. The name of each environmental planning instrument that applies to the carrying out of development on the land:

Sutherland Shire Local Environmental Plan 2006

Greater Metropolitan Regional Environmental Plan No. 2 - Georges River Catchment (5/2/1999) (deemed SEPP).

* Regional Environmental Plan No.09 (Extractive Industry (No.2) 1995) (deemed SEPP).

* SEPP (Building Sustainability Index: Basix) 2004.

* SEPP (Exempt and Complying Development Codes) 2008

* SEPP (Affordable Rental Housing) 2009

* SEPP No. 1 - Development Standards

* SEPP No. 19 – Bushland in Urban Areas.

* SEPP No. 21 – Caravan Parks.

* SEPP No. 32 – Urban Consolidation (Redevelopment of Urban Land).

* SEPP No. 33 – Hazardous and Offensive Development.

* SEPP No. 39 – Spit Island Bird Habitat.

* SEPP No. 50 – Canal Estates.

* SEPP No. 55 – Remediation of Land.

* SEPP No. 62 – Sustainable Aquaculture.

* SEPP No. 64 – Advertising and Signage.

* SEPP No. 65 – Design Quality of Residential Flat Development.

* SEPP (Housing for Seniors or People with a Disability) 2004: (Does not apply to land to which State Environmental Planning Policy (Kurnell Peninsula) 1989 applies).

* SEPP (Major Development) 2005.

* SEPP (Mining, Petroleum Production and Extractive Industries) 2007.

* SEPP (Temporary Structures) 2007.

* SEPP (Infrastructure) 2007.

2. The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved):

Draft State Environmental Planning Policy (Competition) 2010
applies and aims to promote economic growth and competition and
remove anti competitive barriers in planning and assessment.

Council has prepared a draft Standard Instrument Local Environmental Plan (draft SSLEP2013) for the Sutherland Shire and a subsequent amendment to the Waterways zones. The draft plan affects all land within the Sutherland Shire. Council has resolved to extend the re-exhibition of the draft plan (MOT004-14) to 1st November 2013. The Waterways zones have been deferred from the amended plan. The draft plan proposes changes to zoning and land use and development standards that may change development potential of individual properties. For further information please see Council's website www.sutherlandshire.nsw.gov.au.

3. The name of each development control plan that applies to the carrying out of development on the land:

* Sutherland Shire Development Control Plan 2006

Note: In this clause, proposed environmental planning instrument includes a planning proposal for a LEP or a draft environmental planning instrument.

2. Zoning and land use under relevant LEPs

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP) in any zone (however described).

- (a) The name and number of the zone:

Sutherland Shire Local Environmental Plan 2006

Zone 11 - Employment

Draft Sutherland Shire Local Environmental Plan 2013

Zone IN1 General Industrial

Sutherland Shire Local Environmental Plan 2006 Zone 11 - Employment

- (b) Development allowed without development consent:

Development for the purpose of:
bush fire hazard reduction work, drainage.

Exempt development.

- (c) Development that requires development consent:

Development (other than development included in item (b)) for the purpose of:
advertisements, animal boarding or training establishment (not including a riding school), arts and craft centres, awnings, brothels, bulky goods premises (but only on land identified on the map for such a

purpose), bus depots, business identification signs, car parks, childcare centres, community facilities, convenience stores, dwelling houses ancillary to other permissible uses, food shops, generating works, high technology industries, industries, junk yards, liquid fuel depots, maritime activities, motor showrooms, nightclubs, passenger transport facilities, places of public worship, recreation areas, recreation facilities, registered clubs, repair centres, road transport terminals, roads, service stations, service support industries, sex shops, subdivision, utility installations, vehicle and mechanical repair premises, vehicle rental centres, veterinary hospitals, vehicle rental centre, warehouse, warehouses, waste recycling and management centres.

Demolition not included in item (b).

- (d) Development that is prohibited within the zone:

Any development other than development included in (b) or (c).

**Sutherland Shire Local Environmental Plan 2006
Clauses 28, 29, and 31**

Clause 28 Subdivision - consent requirements,
Clause 29 Crown development and public utilities, and/or
Clause 31 Development for group homes,
of Sutherland Shire Local Environmental Plan 2006 apply to this property.

**Draft Sutherland Shire Local Environmental Plan 2013
Zone IN1 General Industrial**

- (b) Development allowed without development consent:

Nil

- (c) Development that requires development consent:

Animal boarding or training establishments; Boat building and repair facilities; Building identification signs; Business identification signs; Car parks; Crematoria; Depots; Environmental protection works; Flood mitigation works; Freight transport facilities; Funeral homes; Garden centres; General industries; Hardware and building supplies; Industrial retail outlets; Industrial training facilities; Industries; Kiosks; Landscaping material supplies; Light Industries; Mortuaries; Neighbourhood shops; Passenger transport facilities; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Research stations; Roads; Service stations; Sex services premises; Storage premises; Take away food and drink premises; Timber yards; Transport depots; Truck depots; Vehicle body repair workshops;

Vehicle repair stations; Vehicle sales or hire premises; Veterinary hospitals; Warehouse or distribution centres.

Any other development not specified in item 2 or 4

(d) Development that is prohibited within the zone:

Advertising signage; Agriculture; Air transport facilities; Airstrip; Amusement centres; Boat building and repair facilities; Boat launching ramps; Boat sheds; Business premises; Camping grounds; Caravan parks; Cemeteries; Charter & tourism boating facilities; Child care centres; Community facilities; Eco-tourist facilities; Educational establishments; Entertainment facilities; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Function centres; Health services facilities; Heavy industrial storage establishments; Heavy industries; Helipads; Highway service centres; Home-based child care; Home businesses; Home occupations; Home occupations (sex services); Jetties; Marinas; Office premises; Open cut mining; Recreation facilities (major); Registered clubs; Residential accommodation; Respite day care centres; Restricted premises; Retail premises; Rural industries; Sewerage systems; Sex services premises; Tourist and visitor accommodation; Water supply systems; Wharf or boating facilities; Wholesale supplies.

(e) Minimum land dimensions fixed for the erection of a dwelling-house on the land:

Under SSLEP2006 there are no relevant development standards for the erection of a dwelling house due to site dimensions.

Under Draft Sutherland Shire Local Environmental Plan 2013 there are no relevant development standards for the erection of a dwelling house due to site dimensions.

(f) Does the land include or comprise critical habitat?

No

(g) Is the land in a conservation area?

No

(h) Is an item of environmental heritage situated on the land?

There is no item of environmental heritage situated on the

property.

2A. Zoning and land use under State Environmental Planning Policy (Sydney Region Growth Centres) 2006

To the extent that the land is within any zone (however described) under:

- (a) Part 3 of the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* (**the 2006 SEPP**), or
- (b) a Precinct Plan (within the meaning of the 2006 SEPP), or
- (c) a proposed Precinct Plan that is or has been the subject of community consultation or on public exhibition under the Act,

the particulars referred to in clause 2 (a)-(h) in relation to that land (with a reference to “the instrument” in any of those paragraphs being read as a reference to Part 3 of the 2006 SEPP, or the Precinct Plan or proposed Precinct Plan, as the case requires).

Note: Sutherland Shire Council does not currently have any land in the Growth Centres that has been zoned by a Precinct Plan in the Appendices to this SEPP, proposed to be zoned in a draft Precinct Plan (that has been publicly exhibited or formally consulted on) or has been zoned under Part 3 of the Growth Centres SEPP.

3. Complying Development

- (1) The extent to which the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4) and 1.19 of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*.
- (2) The extent to which complying development may not be carried out on that land because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4) and 1.19 of that Policy and the reasons why it may not be carried out under those clauses.
- (3) If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that a restriction applies to the land, but it may not apply to all of the land, and that council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land.

General Housing Code

Complying development may be carried out on the land under the General Housing Code.

(Note: this code applies only to land within, or proposed to be within, the following zones R1, R2, R3, R4 or RU5)

Housing Alterations Code

Complying development may be carried out on the land under the Housing Internal Alterations Code.

Commercial and Industrial Alterations Code

Complying development may be carried out on the land under the General Commercial and Industrial Code.

Commercial and Industrial (New Buildings and Additions) Code

Complying development may be carried out on the land under the General Commercial and Industrial Code.

(Note: this code applies only to land within, or proposed to be within, the following zones B1, B2, B3, B4, B5, B6, B7, B8, IN1, IN2, IN3, IN4 or SP3)

Subdivisions Code

Complying development may be carried out on the land under the Subdivisions Code.

Rural Housing Code

Complying development may be carried out on the land under the Rural Housing Code.

(Note: this code applies only to land within, or proposed to be within, the following zones RU1, RU2, RU3, RU4, RU6 or R5)

General Development Code

Complying development may be carried out on the land under the General Development Code.

Demolition Code

Complying development may be carried out on the land under the Demolition Code.

Fire Safety Code

Complying development may be carried out on the land under the Fire Safety Code.

4. Coastal Protection

Is the land affected by section 38 or 39 of the *Coastal Protection Act 1979* (so far as Council has been notified by the Department of Services, Technology and Administration)?

No

4A. Information relating to beaches and coasts

- (1) In relation to a coastal council - whether an order has been made under Part 4D of the *Coastal Protection Act 1979* in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the Council is satisfied that such an order has been fully complied with.
- (2) In relation to a coastal council:
 - (a) whether the Council has been notified under section 55X of the *Coastal Protection Act 1979* that temporary coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land), and
 - (b) if works have been so placed – whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

Note: Sutherland Shire Council has not issued any orders or been notified of any temporary coastal protection works to date.

4B. Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

In relation to a coastal council—whether the owner (or any previous owner) of the land has consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

There are no properties subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services.

Note. “Existing coastal protection works” are works to reduce the impact of coastal hazards on land (such as seawalls, revetments, groynes and beach nourishment) that existed before the commencement of section 553B of the Local Government Act 1993.

5. Mine Subsidence

Is the land proclaimed to be mine subsidence district within the meaning of section 15 of the *Mine Subsidence Compensation Act, 1961*?

No

6. Road Widening and Road Realignment

(a) Is the land affected by a road widening or road realignment under Division 2 of Part 3 of the *Roads Act 1993*?

No

(b) Is the land affected by any road widening or road realignment under any environmental planning instrument?

No

(c) Is the land affected by any road widening or road realignment under any resolution of the Council?

No

7. Council and other public authority policies on hazard risk restrictions

(a) Is the land affected by a policy adopted by the council that restricts the development of the land because of the likelihood of landslip, bushfire, tidal inundation, subsidence, acid sulfate or any other risk?

The land has been classified as Class 5 on the Acid Sulfate Soils Maps in the Sutherland Shire Local Environmental Plan 2006. Accordingly the land is subject to the provisions of clause 23 which detail the restrictions to works within this Class.

- (b) Is the land affected by a policy adopted by any other public authority that restricts the development of the land because of the likelihood of landslip, bushfire, tidal inundation, subsidence, acid sulphate or any other risk?

No

7A. Flood related development controls information

- (1) Whether or not development on that land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) is subject to flood related development controls.

No

- (2) Whether or not development on that land or part of the land for any other purpose is subject to flood related development controls.

No

- (3) Words and expressions in this clause have the same meanings as in the Instrument set out in the Schedule to the Standard Instrument (Local Environmental Plans) Order 2006.

8. Land reserved for acquisition

Whether or not any environmental planning instrument or proposed environmental planning instrument referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 27 of the Act?

No

9. Contribution Plans

Council has adopted the following Contribution Plans that apply to the land:

- * The 2005 Shire Wide Open Space and Recreation Facilities Contribution Plans applies to this property (Effective 1/1/05).
- * The 2003 Community Facilities Contributions Plan applies to this property (Effective 14/12/04).
- * The Employment Zoned Land Contributions Plan applies to this property (Effective 13/03/07).

9A. Biodiversity certified land

If the land is biodiversity certified land (within the meaning of Part 7AA of the *Threatened Species Conservation Act 1995*), a statement to that effect.

No

10. Biobanking agreements

If the land is land to which a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995* relates, a statement to that effect (but only if the council has been notified of the existence of the agreement by the Director-General of the Department of Environment, Climate Change and Water).

No

11. Bush fire prone land

Is the land bush fire prone?

No

12. Property Vegetation Plans

Has Council been notified that a property vegetation plan under the *Native Vegetation Act 2003* applies to the land?

No

13. Orders Under Trees (Disputes Between Neighbours) Act 2006

Whether an order has been made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land (but only if Council has been notified of the order).

No.

14. Directions under Part 3A

Is there a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act that does not have effect?

No

15. Site compatibility certificates and conditions for seniors housing

Is there a current site compatibility certificate (seniors housing) under State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004, of which the council is aware, in respect of proposed development on the land? If there is a certificate, the period for which the certificate is current. Are there any terms of a kind referred to in clause 18 (2) of that Policy that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land?

No

16. Site compatibility certificates for infrastructure

Is there a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land?

No

17. Site compatibility certificates and conditions for affordable rental housing

Is there a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land? If so this statement sets out the period for which the certificate is current and any conditions pursuant to cl17(1) of SEPP (Affordable Rental Housing) 2009.

No

18. Paper subdivision information

Is the land subject to any development plan adopted by a relevant authority or that is proposed to be subject to a consent ballot? If so, this statement sets out the date of any subdivision order that applies to the land.

Note: Words and expressions used in this clause have the same meaning as they have in Part 16C of this Regulation.

No

19. Site verification certificates

Is there a current site verification certificate, of which the council is aware, in respect of the land?

If so, this statement includes:

- (a) the matter certified by the certificate, and
- (b) the date on which the certificate ceases to be current (if any), and
- (c) that a copy may be obtained from the head office of the Department of Planning and Infrastructure.

Note. A site verification certificate sets out the Director-General's opinion as to whether the land concerned is or is not biophysical strategic agricultural land or critical industry cluster land—see Division 3 of Part 4AA of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.

No

Note: The following matters are prescribed by section 59 (2) of the Contaminated Land Management Act 1997 as additional matters to be specified in a planning certificate:

- (a) Is the land significantly contaminated land within the meaning of that Act?

No

- (b) Is the land subject to a management order within the meaning of that Act?

No

- (c) Is the land the subject of an approved voluntary management proposal within the meaning of that Act?

No

- (d) Is the land subject to an ongoing maintenance order within the meaning of that Act?

No

(e) Is the land subject of a site audit statement within the meaning of that Act?
No

Any Other Prescribed Matter

Note: Section 26 of the Nation Building and Jobs Plan (State Infrastructure Delivery) Act 2009 provides that a planning certificate must include advice about any exemption under section 23 or authorisation under section 24 of that Act if the Council is provided with a copy of the exemption or authorisation by the Co-ordinator General under the Act.

No

Additional Information

Council holds additional information relating to this property for provision in accordance with Section 149(5) of the Environmental Planning and Assessment Act, 1979.

**ADDITIONAL INFORMATION PURSUANT TO SECTION 149(5),
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979**

The following additional information relating to the land is provided in good faith. The information is not exhaustive of matters likely to affect the land. Section 149(6) states that a council shall not incur any liability in respect of any advice provided in good faith pursuant to subsection (5).

Council's records indicate that one or more of the activities listed in Table 1 of the Managing Land Contamination Planning Guidelines 1998 may have been undertaken and/or approved on the land. Council's records do not currently contain sufficient information to determine that there is actual contamination of the land. Council may require further investigation of potential contamination, and remediation action where contamination is found, particularly if the land is to be redeveloped or the land use is to be changed to a more sensitive use. Please contact Council for further information.

For further information please telephone [02] 9710 0333.

Yours faithfully



J W Rayner
General Manager



WorkCover

WorkCover NSW
92-100 Donnison Street, Gosford, NSW 2250
Locked Bag 2906, Lisarow, NSW 2252
T 02 4321 5000 F 02 4325 4145
Customer Service Centre 13 10 50
DX 731 Sydney workcover.nsw.gov.au

Our Ref: D14/065740
Your Ref: Gabby Nicol

26 May 2014

Attention: Gabby Nicol
Environmental Strategies Pty Ltd
Suite 15201,
2 Locomotive St
Eveleigh NSW 2015

Dear Ms Nicol,

RE SITE: 140-142 Parraweena Rd Miranda NSW

I refer to your site search request received by WorkCover NSW on 21 May 2014 requesting information on licences to keep dangerous goods for the above site.

A search of the Stored Chemical Information Database (SCID) and the microfiche records held by WorkCover NSW has not located any records pertaining to the above mentioned premises.

If you have any further queries please contact the Dangerous Goods Licensing Team on (02) 4321 5500.

Yours Sincerely

A handwritten signature in blue ink, appearing to be 'Brent Jones', written over a circular stamp or mark.

Brent Jones
Senior Licensing Officer
Dangerous Goods Team

Appendix F

Groundwater Bore Search

Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
Document Generated on Thursday, April 3, 2014

Print Report

[Works Details](#) [Site Details](#) [Form A](#) [Licensed](#) [Construction](#) [Water Bearing Zones](#) [Drillers Log](#)

Work Requested -- GW023683

Works Details [\(top\)](#)

GROUNDWATER NUMBER	GW023683
LIC-NUM	10WA108130
AUTHORISED-PURPOSES	DOMESTIC
INTENDED-PURPOSES	GENERAL USE
WORK-TYPE	Well
WORK-STATUS	(Unknown)
CONSTRUCTION-METHOD	Hand Dug
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	1966-03-01
FINAL-DEPTH (metres)	4.26
DRILLED-DEPTH (metres)	4.26
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	N/A
GWMA	603 - SYDNEY BASIN
GW-ZONE	-
STANDING-WATER-LEVEL	
SALINITY	
YIELD	

Site Details [\(top\)](#)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	213 - SYDNEY COAST - GEORGES RIVER
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	(Unknown)
NORTHING	6233615.00
EASTING	324374.00
LATITUDE	34 1' 24"

LONGITUDE 151 5' 52"
GS-MAP 0094A1
AMG-ZONE 56
COORD-SOURCE GD.,PR. MAP
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 99999

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP N/A

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter; ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	Concrete Cylinder	0.00	4.80	1219			Seated on Bottom

Water Bearing Zones [\(top\)](#)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
1.50	1.50	0.00	Unconsolidated	1.20		0.51			(Unknown)

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.60	0.60	Loam Sandy		
0.60	4.26	3.66	Clay Sandy	Water Supply	

use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)

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Print Report

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Work Requested -- GW110736

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 110736
LIC-NUM 10WA109172
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Spear
WORK-STATUS
CONSTRUCTION-METHOD
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 2007-04-01
FINAL-DEPTH (metres) 16.00
DRILLED-DEPTH (metres)
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY GEORGE
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL 4.00
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6234429.00

EASTING 325925.00
LATITUDE 34 0' 59"
LONGITUDE 151 6' 53"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 2//539045

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 2 539045

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

no details

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW102872

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 102872
LIC-NUM 10WA113178

AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD
OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE 1995-01-01
FINAL-DEPTH (metres) 10.00
DRILLED-DEPTH (metres)
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY MURRAY
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL 5.00
SALINITY
YIELD 0.10

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6234333.00
EASTING 326810.00
LATITUDE 34 1' 3"
LONGITUDE 151 7' 28"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 64//9352

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 64 9352

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	10.00				
1	1	Casing	Steel	0.00	0.00	50			

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

no details

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW106656

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 106656
LIC-NUM 10WA109431
AUTHORISED-PURPOSES RECREATION (GROUNDWATER)
INTENDED-PURPOSES RECREATION (GROUNDWATER)
WORK-TYPE Bore
WORK-STATUS
CONSTRUCTION-METHOD Rotary Air

OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE 2004-09-24
FINAL-DEPTH (metres) 103.00
DRILLED-DEPTH (metres) 103.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY CARINGBAH BOWLING & REC CLUB
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL 11.00
SALINITY
YIELD 0.30

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN 213 - SYDNEY COAST - GEORGES RIVER
AREA-DISTRICT
CMA-MAP 9129-4N
GRID-ZONE 56/1
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE (Unknown)
NORTHING 6232269.00
EASTING 326440.00
LATITUDE 34 2' 9"
LONGITUDE 151 7' 12"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 5 31460

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter; ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	18.00	200			Rotary Air
1		Hole	Hole	18.00	103.00	162			Rotary Air
1	1	Casing	PVC Class 6	0.30	18.00	158			Glued; Driven into Hole

Water Bearing Zones [\(top\)](#)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
21.00	21.10	0.10		11.00		0.20	24.00	0.50	Fresh
32.00	32.10	0.10		11.00		0.30	35.00	0.50	Fresh
58.00	58.10	0.10		11.00		0.30	61.00	0.50	Fresh
79.00	79.10	0.10		11.00		0.30	82.00	0.50	Fresh

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL COMMENT
0.00	1.00	1.00	TOPSOIL/CLAY	
1.00	4.00	3.00	COLOURED CLAY	
4.00	5.50	1.50	WEATHERED SANDSTONE	
5.50	103.00	97.50	SANDSTONE WITH SMALL SHALE BANDS	

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW024170

Works Details [\(top\)](#)

GROUNDWATER NUMBER	GW024170
LIC-NUM	10WA108138
AUTHORISED-PURPOSES	DOMESTIC
INTENDED-PURPOSES	DOMESTIC
WORK-TYPE	Spear
WORK-STATUS	Supply Obtained
CONSTRUCTION-METHOD	Driven
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	1966-09-01
FINAL-DEPTH (metres)	4.50
DRILLED-DEPTH (metres)	4.60
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	N/A
GWMA	603 - SYDNEY BASIN
GW-ZONE	-
STANDING-WATER-LEVEL	
SALINITY	
YIELD	

Site Details [\(top\)](#)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	213 - SYDNEY COAST - GEORGES RIVER
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	(Unknown)
NORTHING	6231736.00
EASTING	326077.00
LATITUDE	34 2' 26"
LONGITUDE	151 6' 57"
GS-MAP	0094A 1
AMG-ZONE	56
COORD-SOURCE	GD.,PR. MAP
REMARK	

Form-A [\(top\)](#)

COUNTY CUMBERLAND
 PARISH SUTHERLAND
 PORTION-LOT-DP 99999

Licensed [\(top\)](#)

COUNTY CUMBERLAND
 PARISH SUTHERLAND
 PORTION-LOT-DP N/A

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	Corrugated Galvanised Iron	-0.30	4.50	31			Seated on Bottom
1	1	Opening	Perforations		0.70	31	1		SL: 0mm; A: 6.35mm

Water Bearing Zones [\(top\)](#)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
1.80	1.80	0.00	(Unknown)	1.20					(Unknown)

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	4.57	4.57	Loam Sandy	Water Supply	

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW020543

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW020543
LIC-NUM 10WA108104
AUTHORISED-PURPOSES WASTE DISPOSAL
INTENDED-PURPOSES WASTE DISPOSAL
WORK-TYPE Bore open thru rock
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Cable Tool
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1960-06-01
FINAL-DEPTH (metres) 40.80
DRILLED-DEPTH (metres) 40.80
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA 603 - SYDNEY BASIN
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN 214 - WOLLONGONG COAST
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE (Unknown)
NORTHING 6232021.00
EASTING 324789.00
LATITUDE 34 2' 16"
LONGITUDE 151 6' 7"
GS-MAP 0094A 1
AMG-ZONE 56
COORD-SOURCE GD.,PR. MAP

REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 99999

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 12 29707

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	Threaded Steel	-0.30	5.70	152			Cemented

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT- DESC	S- W- L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
7.30	7.30	0.00	Consolidated	1.80		0.63			Good

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	6.09	6.09	Clay		
6.09	40.84	34.75	Sandstone	Grey Water Supply	

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Print Report

Work Requested -- GW108344

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 108344
LIC-NUM 10BL163856
AUTHORISED-PURPOSES TEST BORE
INTENDED-PURPOSES TEST BORE
WORK-TYPE Bore
WORK-STATUS
CONSTRUCTION-METHOD Rotary Air
OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE 2004-09-16
FINAL-DEPTH (metres) 120.00
DRILLED-DEPTH (metres) 120.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY SEYMORE SHAW PARK
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY 2047.00
YIELD 0.05

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6232705.00
EASTING 324725.00
LATITUDE 34 1' 54"
LONGITUDE 151 6' 5"
GS-MAP
AMG-ZONE 56
COORD-SOURCE

REMARK**Form-A** [\(top\)](#)

COUNTY CUMBERLAND
 PARISH SUTHERLAND
 PORTION-LOT-DP 533 866360

Licensed [\(top\)](#)

COUNTY CUMBERLAND
 PARISH SUTHERLAND
 PORTION-LOT-DP 533 866360

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	18.00	240			Down Hole Hammer
1		Hole	Hole	18.00	120.00	150			Down Hole Hammer
1	1	Casing	PVC Class 9	-0.40	18.00	161			C: -.1-18m; Seated on Bottom

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT-DESC	S- W- L	D-D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
92.10	93.00	0.90			120.00	0.05	120.00	1.00	2047.00

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	6.80	6.80	CLAY BROWN		
6.80	11.10	4.30	SANDSTONE CG YELLOW DARK		
11.10	33.40	22.30	SANDSTONE MG GREY LT		
33.40	80.50	47.10	SANDTONE CG GREY LT		
80.50	85.90	5.40	SANDSTONE MG GREY DARK		
85.90	92.10	6.20	SANDSTONE MG GREY LT		
92.10	93.00	0.90	SANDSTONE MG GREY LT WB		

93.00 98.90 5.90 SANDSTONE FG GREY DARK

98.90 120.00 21.10 SANDSTONE MG GREY LT

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)

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Work Requested -- GW103241

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 103241
LIC-NUM 10BL157411
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Auger
OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE 1995-11-06
FINAL-DEPTH (metres) 8.70
DRILLED-DEPTH (metres) 8.70
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL 7.80
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT

CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6232392.00
EASTING 325397.00
LATITUDE 34 2' 5"
LONGITUDE 151 6' 31"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 23//5802

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP LOTX DP393907

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	8.70	125			Auger
1	1	Casing	PVC Class 18	0.00	0.00	50			
1	1	Opening	Screen	0.00	0.00	50			

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.20	0.20	CONCRETE		

0.20	0.50	0.30	CLAY
0.50	1.20	0.70	CLAY ORANGE
1.20	6.00	4.80	SHALE WEATHERED BROWN
6.00	8.50	2.50	CLAY GREY BROWN
8.50	8.70	0.20	CLAY BROWN STIFF

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW105856

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 105856
LIC-NUM 10WA108710
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES
WORK-TYPE Bore
WORK-STATUS
CONSTRUCTION-METHOD
OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE 2005-05-04
FINAL-DEPTH (metres)
DRILLED-DEPTH (metres)
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY HARRIS
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST

RIVER-BASIN 213 - SYDNEY COAST - GEORGES RIVER
AREA-DISTRICT
CMA-MAP 9129-4N
GRID-ZONE 56/1
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE (Unknown)
NORTHING 6233797.00
EASTING 325859.00
LATITUDE 34 1' 19"
LONGITUDE 151 6' 50"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 405 230440

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 405 230440

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

no details

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Groundwater Works Summary

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Work Requested -- GW024645

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW024645
LIC-NUM 10BL018681
AUTHORISED-PURPOSES RECREATION (GROUNDWATER)
INTENDED-PURPOSES IRRIGATION
WORK-TYPE Battery Spears
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD Pre-drilled
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1966-02-01
FINAL-DEPTH (metres) 5.40
DRILLED-DEPTH (metres) 5.50
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA 603 - SYDNEY BASIN
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN 213 - SYDNEY COAST - GEORGES RIVER
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE (Unknown)
NORTHING 6234079.00
EASTING 326111.00
LATITUDE 34 1' 10"
LONGITUDE 151 7' 0"
GS-MAP 0094A1
AMG-ZONE 56
COORD-SOURCE GD.,PR. MAP
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 99999

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP N/A

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	Corrugated Galvanised Iron	0.00	4.50	31			Seated on Bottom
1	1	Opening	Screen - Gauze/Mesh	4.50	5.10	50	2		Copper Alloy; SL: 0mm; A: .25mm
1	1	Opening	Perforations	4.50	5.10	50	1		Mechanically Slotted; SL: 0mm; A: 15.87mm

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT- DESC	S- W- L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
0.60	4.80	4.20	Unconsolidated	0.60		0.51			(Unknown)

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.60	0.60	Sand Black		
0.60	1.21	0.61	Clay Grey	Water Supply	
1.21	5.48	4.27	Sand White	White Clay	Water Supply
1.21	5.48	4.27	Sandstone		

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)

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Work Requested -- GW108607

Works Details [\(top\)](#)

GROUNDWATER NUMBER	GW 108607
LIC-NUM	10WA108719
AUTHORISED-PURPOSES	DOMESTIC
INTENDED-PURPOSES	DOMESTIC
WORK-TYPE	Spear
WORK-STATUS	Supply Obtained
CONSTRUCTION-METHOD	Auger - Solid Flight
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2004-09-20
FINAL-DEPTH (metres)	7.00
DRILLED-DEPTH (metres)	7.00
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	LARSEN
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	4.00
SALINITY	
YIELD	0.50

Site Details [\(top\)](#)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	

NORTHING 6234336.00
EASTING 326141.00
LATITUDE 34 1' 2"
LONGITUDE 151 7' 2"
GS-MAP
AMG-ZONE 56
COORD-SOURCE GIS - Geographic Information System
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 669//238579

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 669 238579

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter; ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	7.00	125			Auger - Solid Flight
1	1	Casing	PVC Class 12	0.00	5.00	114	106		Riveted and Glued; Driven into Hole; Open End
1	1	Opening	Screen - Gauze/Mesh	0.00	5.00	114			PVC Class 12; A: .2mm; Riveted and Glued

Water Bearing Zones [\(top\)](#)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
4.00	7.00	3.00		3.00	5.00	0.50			4.50

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	4.00	4.00		sand	
4.00	5.00	1.00		clay	
5.00	7.00	2.00		sand	

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW062211

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW062211
LIC-NUM 10BL136181
AUTHORISED-PURPOSES INDUSTRIAL
INTENDED-PURPOSES INDUSTRIAL
WORK-TYPE Bore open thru rock
WORK-STATUS Supply Obtained
CONSTRUCTION-METHOD Cable Tool
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1988-03-01
FINAL-DEPTH (metres) 130.00
DRILLED-DEPTH (metres) 130.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY BERT SHELL
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN 213 - SYDNEY COAST - GEORGES RIVER

AREA-DISTRICT
CMA-MAP 9129-4N
GRID-ZONE 56/1
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE (Unknown)
NORTHING 6233897.00
EASTING 326730.00
LATITUDE 34 1' 17"
LONGITUDE 151 7' 24"
GS-MAP 0094A 1
AMG-ZONE 56
COORD-SOURCE GD.,ACC.MAP
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP L7 DP228854 (29)

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 7 228854

Water Bearing Zones [\(top\)](#)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
110.00	130.00	20.00	(Unknown)	10.00		1.00			S.Salty

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL COMMENT
0.00	110.00	110.00	Driller	
110.00	120.00	10.00	Shale Grey Water Supply	
110.00	120.00	10.00	Clay Soft Lens Or Lenses	
120.00	130.00	10.00	Sandstone White Medium Water Supply	

(DIPNR) by drillers, licensees and other sources. The DIPNR does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW110208

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 110208
LIC-NUM 10BL603059
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS
CONSTRUCTION-METHOD Auger - Solid Flight
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 2009-05-07
FINAL-DEPTH (metres) 4.00
DRILLED-DEPTH (metres) 4.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY SHELL COMPANY OF AUST LTD
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL 1.60
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE

NORTHING 6234014.00
EASTING 326625.00
LATITUDE 34 1' 13"
LONGITUDE 151 7' 20"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 11//829777

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 11 829777

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter; ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	4.00	125			Auger - Solid Flight
1	1	Casing	PVC Class 18	0.00	1.00	65	53		Screwed; Seated on Bottom; End cap
1	1	Opening	Slots - Horizontal	1.00	4.00	65			(Unknown); Casing - Machine Slotted; SL: 30mm; A: .4mm
1		Annulus	Waterworm/Rounded	0.80	4.00				Graded; GS: 1-2mm

Water Bearing Zones [\(top\)](#)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
1.60	4.00	2.40		1.60					

Drillers Log ([top](#))

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.10	0.10	SURFACE CONCRETE		
0.10	0.50	0.40	FILL,ROADBASE		
0.50	2.00	1.50	SAND BROWN,M,FINE GRAINED,STRONG ODOUR		
2.00	2.50	0.50	BECOMING MOIST		
2.50	4.00	1.50	SATURATED,SLIGHT HYDROCARBON ODOUR		

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW110207

Works Details ([top](#))

GROUNDWATER NUMBER GW 110207
LIC-NUM 10BL603059
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS
CONSTRUCTION-METHOD Auger - Solid Flight
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 2009-05-06
FINAL-DEPTH (metres) 4.00
DRILLED-DEPTH (metres) 4.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY SHELL COMPANY OF AUST LTD
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL 1.50
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6234052.00
EASTING 326628.00
LATITUDE 34 1' 11"
LONGITUDE 151 7' 20"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 11//829777

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 11 829777

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	4.00	125			Auger - Solid Flight
1	1	Casing	Steel	1.00	4.00	65	53		Screwed; Seated on Bottom; End cap

1	1	Opening	Slots - Horizontal	1.00	4.00	65	Steel; Casing - Machine Slotted; SL: 30mm; A: .4mm
1		Annulus	Waterworm/Rounded	0.80	4.00		Graded; GS: 1-2mm

Water Bearing Zones [\(top\)](#)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
1.50	4.00	2.50		1.50					

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.10	0.10	SURFACE CONCRETE		
0.10	0.50	0.40	FILL ROADBASE		
0.50	1.80	1.30	SAND,FINE GRAINED,BROWN.NO ODOUR		
1.80	2.60	0.80	SAND,FINE GRAINED LIGHT BROWN		
2.60	3.40	0.80	BECOMING DARK BROWN,NO ODOUR		
3.40	4.00	0.60	SAND,FINE GRAINED,DARK BROWN,GRAVELS		

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW106781

Works Details [\(top\)](#)

GROUNDWATER NUMBER	GW 106781
LIC-NUM	10WA 114721
AUTHORISED-PURPOSES	RECREATION (GROUNDWATER)
INTENDED-PURPOSES	RECREATION (GROUNDWATER)
WORK-TYPE	Bore
WORK-STATUS	
CONSTRUCTION-METHOD	

OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 2004-06-01
FINAL-DEPTH (metres) 11.00
DRILLED-DEPTH (metres) 11.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY TAREN POINT BOWLING & REC CLUB
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL 1.70
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6233970.00
EASTING 326230.00
LATITUDE 34 1' 14"
LONGITUDE 151 7' 5"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 1 236198

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter; ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	11.00	400			Rotary Mud
1	1	Casing	PVC Class 12	-0.40	3.70	225	203		Screwed and Glued
1	1	Casing	PVC Class 12	5.20	8.50	225	203		Screwed and Glued
1	1	Casing	PVC Class 12	9.50	11.00	225	203		Screwed and Glued
1	1	Opening	Screen	3.70	5.20	225			PVC Class 18; A: .8mm
1	1	Opening	Screen	8.50	9.50	225			PVC Class 18; A: .8mm
1		Annulus	Waterworm/Rounded	1.00	1.20				Graded; GS: 0-11mm

Water Bearing Zones [\(top\)](#)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
3.50	5.50	2.00		1.70					
8.50	9.00	0.50		1.70					

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.60	0.60	SOIL, LOAM		
0.60	6.50	5.90	SAND		
6.50	9.00	2.50	CLAYEY SAND		
9.00	11.00	2.00	SILTY SAND AND CLAY		

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Groundwater Works Summary

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Work Requested -- GW110843

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW110843
LIC-NUM 10WA113951
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Spear
WORK-STATUS
CONSTRUCTION-METHOD Jetted - Water
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 2008-06-26
FINAL-DEPTH (metres) 5.00
DRILLED-DEPTH (metres) 5.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY GREEN
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6233978.00

EASTING 326246.00
 LATITUDE 34 1' 14"
 LONGITUDE 151 7' 5"
 GS-MAP
 AMG-ZONE 56
 COORD-SOURCE
 REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
 PARISH SUTHERLAND
 PORTION-LOT-DP 10//239150

Licensed [\(top\)](#)

COUNTY CUMBERLAND
 PARISH SUTHERLAND
 PORTION-LOT-DP 10 239150

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	5.00	100			Jetted - Water

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	5.00	5.00		SAND	

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Groundwater Works Summary

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Work Requested -- GW109492

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 109492
LIC-NUM 10WA 108935
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Spear
WORK-STATUS
CONSTRUCTION-METHOD
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 2005-03-01
FINAL-DEPTH (metres) 6.00
DRILLED-DEPTH (metres)
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY JOHNSTONE
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6234110.00
EASTING 325954.00
LATITUDE 34 1' 9"
LONGITUDE 151 6' 54"
GS-MAP

AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 561//236289

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 561 236289

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

no details

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW106758

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 106758
LIC-NUM 10WA108863
AUTHORISED-PURPOSES DOMESTIC
INTENDED-PURPOSES DOMESTIC
WORK-TYPE Spear
WORK-STATUS Supply Obtained

CONSTRUCTION-METHOD (Unknown)
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 2004-12-28
FINAL-DEPTH (metres) 4.50
DRILLED-DEPTH (metres) 4.50
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY PETROPOULOS
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN 213 - SYDNEY COAST - GEORGES RIVER
AREA-DISTRICT
CMA-MAP 9129-4N
GRID-ZONE 56/1
SCALE 1:25,000
ELEVATION
ELEVATION-SOURCE
NORTHING 6234094.00
EASTING 325964.00
LATITUDE 34 1' 10"
LONGITUDE 151 6' 54"
GS-MAP
AMG-ZONE 56
COORD-SOURCE GIS - Geographic Information System
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 562//236289

Licensed [\(top\)](#)

COUNTY CUMBERLAND

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	4.50	100			(Unknown)
1	1	Casing	P.V.C.	0.00	4.40	100			Glued

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	2.50	2.50	fill		
2.50	4.50	2.00	sand		

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Groundwater Works Summary

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Work Requested -- GW110980

Works Details [\(top\)](#)

GROUNDWATER NUMBER	GW 110980
LIC-NUM	10BL603738
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Bore
WORK-STATUS	Equipped - bore used for obs
CONSTRUCTION-METHOD	Auger
OWNER-TYPE	Private

COMMENCE-DATE
COMPLETION-DATE 2010-02-02
FINAL-DEPTH (metres) 5.00
DRILLED-DEPTH (metres) 5.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY COULITS
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL 2.20
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6232890.00
EASTING 325465.00
LATITUDE 34 1' 49"
LONGITUDE 151 6' 34"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 4/31861

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 4 31861

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	5.00	100			Auger
1	1	Casing	PVC Class 18	0.00	2.00	50			Screwed; Seated on Bottom; Cap
1	1	Opening	Slots - Horizontal	2.00	5.00	55			PVC Class 18; Slotted In Hole; SL: 3mm; A: 1.5mm
1		Annulus	Waterworm/Rounded	0.00	0.00				Graded; GS: 2- 2mm

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT-DESC	S- W-L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
2.20	5.00	2.80		2.20					

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	2.60	2.60	FILL		
2.60	3.00	0.40	SANDY CLAY		
3.00	5.00	2.00	SANDSTONE		

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)

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Work Requested -- GW110981

[Works Details](#) [\(top\)](#)

GROUNDWATER NUMBER GW110981
LIC-NUM 10BL603738
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS Equipped - bore used for obs
CONSTRUCTION-METHOD Auger
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 2010-02-02
FINAL-DEPTH (metres) 5.00
DRILLED-DEPTH (metres) 5.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY COULITS
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL 2.20
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6232898.00
EASTING 325476.00
LATITUDE 34 1' 48"
LONGITUDE 151 6' 35"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND

PARISH SUTHERLAND
 PORTION-LOT-DP 4//31861

Licensed [\(top\)](#)

COUNTY CUMBERLAND
 PARISH SUTHERLAND
 PORTION-LOT-DP 4 31861

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	5.00	100			Auger
1	1	Casing	PVC Class 18	0.00	2.00	50			Screwed; Seated on Bottom; Cap
1	1	Opening	Slots - Horizontal	2.00	5.00	55			PVC Class 18; Slotted In Hole; SL: 3mm; A: 1.5mm
1		Annulus	Waterworm/Rounded	0.00	0.00				Graded; GS: 2- 2mm

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT-DESC	S- W-L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
2.20	5.00	2.80		2.20					

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	1.50	1.50	FILL		
1.50	5.00	3.50	SANDSTONE		

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Groundwater Works Summary

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Work Requested -- GW110979

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 110979
LIC-NUM 10BL603738
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS Equipped - bore used for obs
CONSTRUCTION-METHOD Auger
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 2010-02-02
FINAL-DEPTH (metres) 5.00
DRILLED-DEPTH (metres) 5.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY COULITS
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6232871.00
EASTING 325477.00
LATITUDE 34 1' 49"
LONGITUDE 151 6' 35"
GS-MAP

AMG-ZONE 56

COORD-SOURCE

REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND

PARISH SUTHERLAND

PORTION-LOT-DP 4//31861

Licensed [\(top\)](#)

COUNTY CUMBERLAND

PARISH SUTHERLAND

PORTION-LOT-DP 4 31861

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	5.00	100			Auger
1	1	Casing	PVC Class 18	0.00	2.00	50			Screwed; Seated on Bottom; Cap
1	1	Opening	Slots - Horizontal	2.00	5.00	55			PVC Class 18; Slotted In Hole; SL: 3mm; A: 1.5mm
1		Annulus	Waterworn/Rounded	0.00	0.00				Graded; GS: 2- 2mm

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT-DESC	S- W-L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
2.20	5.00	2.80		2.20					

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	1.00	1.00	FILL		
1.00	5.00	4.00	SANDSTONE		

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW101275

Works Details [\(top\)](#)

GROUNDWATER NUMBER	GW 101275
LIC-NUM	10BL158253
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Bore
WORK-STATUS	Equipped - bore used for obs
CONSTRUCTION-METHOD	Other
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	1997-11-26
FINAL-DEPTH (metres)	4.00
DRILLED-DEPTH (metres)	4.00
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	N/A
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	
SALINITY	
YIELD	

Site Details [\(top\)](#)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	

ELEVATION**ELEVATION-SOURCE**

NORTHING 6233572.00

EASTING 327044.00

LATITUDE 34 1' 27"

LONGITUDE 151 7' 36"

GS-MAP

AMG-ZONE 56

COORD-SOURCE**REMARK****Form-A** [\(top\)](#)

COUNTY CUMBERLAND

PARISH SUTHERLAND

PORTION-LOT-DP LOT20 DP6359

Licensed [\(top\)](#)

COUNTY CUMBERLAND

PARISH SUTHERLAND

PORTION-LOT-DP 20 6359

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	4.00	125			Other
1	1	Casing	PVC Class 18	0.00	2.00	65			C: 0-1.2m; Screwed; Seated on Bottom; Cap; Casing Shoe
1	1	Opening	Slots - Horizontal	2.00	4.00				PVC Class 18; SL: 2mm
1		Annulus	(Unknown)	1.70	4.00				(Unknown)

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT-DESC	S- W- L	D- D-L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
2.60	4.00	1.40							

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	1.40	1.40	gravelly clay		
1.40	2.30	0.90	sandy clay		
2.30	4.00	1.70	clayey sand		

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW101274

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 101274
LIC-NUM 10BL158253
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS Equipped - bore used for obs
CONSTRUCTION-METHOD Other
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1997-11-25
FINAL-DEPTH (metres) 4.00
DRILLED-DEPTH (metres) 4.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6233573.00
EASTING 327095.00
LATITUDE 34 1' 27"
LONGITUDE 151 7' 38"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP LOT20 DP6359

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 20 6359

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter; ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	4.00	125			Backhoe
1	1	Casing	PVC Class 18	0.00	2.00	85			C: 0-1.2m; Screwed; Seated on Bottom; Cap; Casing Shoe
1	1	Opening	Slots - Horizontal	2.00	4.00				PVC Class 18; SL: 2mm

Water Bearing Zones [\(top\)](#)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
1.40	4.00	2.60							

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.40	0.40	Asphalt/crushed rock		
0.40	1.20	0.80	sandy clay		
1.20	3.00	1.80	silty sand		
3.00	4.00	1.00	clayey sand		

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW101273

Works Details [\(top\)](#)

GROUNDWATER NUMBER	GW 101273
LIC-NUM	10BL158253
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Bore
WORK-STATUS	Equipped - bore used for obs
CONSTRUCTION-METHOD	Other
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	1997-11-25
FINAL-DEPTH (metres)	4.20
DRILLED-DEPTH (metres)	4.20

CONTRACTOR-NAME
DRILLER-NAME
PROPERTY N/A
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6233542.00
EASTING 327070.00
LATITUDE 34 1' 28"
LONGITUDE 151 7' 37"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP LOT20 DP6359

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 20 6359

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE-NO	PIPE-NO	COMPONENT-CODE	COMPONENT-TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	4.20	125			Other
1	1	Casing	PVC Class 18	0.00	2.20	65	55		C: 0-1.5m; Screwed; Seated on Bottom; Cap; Casing Shoe
1	1	Opening	Slots	2.20	4.20				PVC Class 18; SL: 2mm
1		Annulus	Waterworm/Rounded	1.60	4.20				Graded

Water Bearing Zones [\(top\)](#)

FROM-DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK-CAT-DESC	S-W-L	D-D-L	YIELD	TEST-HOLE-DEPTH (metres)	DURATION	SALINITY
2.40	4.20	1.80							

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.15	0.15	clayey gravel		
0.15	0.85	0.70	gravelly clay		
0.85	1.80	0.95	sandy clay		
1.80	2.40	0.60	sandy silt/organics		
2.40	2.90	0.50	clayey sand		
2.90	3.80	0.90	sandy clay		
3.80	4.20	0.40	sandstone		

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW109599

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 109599

LIC-NUM 10BL160159
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Well
WORK-STATUS
CONSTRUCTION-METHOD Auger - Solid Flight
OWNER-TYPE Other Govt
COMMENCE-DATE
COMPLETION-DATE 2001-05-11
FINAL-DEPTH (metres) 4.00
DRILLED-DEPTH (metres) 4.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY HAMMONDCARE
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6233576.00
EASTING 324759.00
LATITUDE 34 1' 26"
LONGITUDE 151 6' 7"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 1//1037852

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 1 1097917

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	4.00	125			Auger - Solid Flight

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.20	0.20	CLAY,SANDY,MINOR GRAVELS,RED,YELLOW		
0.20	1.00	0.80	SANDSTONE WEATHERED,YELLOW ,M/GRAINED		
1.00	1.50	0.50	SANDSTONE RED, FINE GRAINED,DRY,MINOIR CLAY		
1.50	4.00	2.50	SANDSTONE RED, FINE GRAINED,DRY,MINOIR CLAY		

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW109594

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 109594
LIC-NUM 10BL160159

AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Well
WORK-STATUS
CONSTRUCTION-METHOD Auger - Solid Flight
OWNER-TYPE Other Govt
COMMENCE-DATE
COMPLETION-DATE 2001-05-10
FINAL-DEPTH (metres) 4.40
DRILLED-DEPTH (metres) 4.40
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY HAMMONDCARE
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6233537.00
EASTING 324718.00
LATITUDE 34 1' 27"
LONGITUDE 151 6' 6"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 2 547751

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 1 1097917

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	4.40	125			Auger - Solid Flight

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.30	0.30	TOPSOIL,SOFT BLACK		
0.30	0.70	0.40	SILTY CLAY,LOOSE,BROWN		
0.70	1.50	0.80	CLAY,SANDY,DRY,YELLOW		
1.50	2.70	1.20	WEATHERED SANDSTONE		
2.70	3.70	1.00	SANDSTONE FINE GRAINED,WHITE		
3.70	4.35	0.65	SANDSTONE,FRESH,RED/ORANGE		

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Groundwater Works Summary

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Work Requested -- GW109598

[Works Details](#) [\(top\)](#)

GROUNDWATER NUMBER GW 109598
LIC-NUM 10BL160159
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Well
WORK-STATUS
CONSTRUCTION-METHOD Auger - Solid Flight
OWNER-TYPE Other Govt
COMMENCE-DATE
COMPLETION-DATE 2001-05-10
FINAL-DEPTH (metres) 6.00
DRILLED-DEPTH (metres) 6.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY HAMMONDCARE
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6233503.00
EASTING 324814.00
LATITUDE 34 1' 28"
LONGITUDE 151 6' 9"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND

PARISH SUTHERLAND
PORTION-LOT-DP 1//1097917

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 1 1097917

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	6.00	125			Auger - Solid Flight

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO- MATERIAL	COMMENT
0.00	0.20	0.20	FILL,SILTY,LOOSE,DAMP,DARK BROWN		
0.20	0.50	0.30	CLAYEY SILT DAMP,YELLOW,BLACK		
0.50	1.50	1.00	CLAY YELLOW,RED,ORANGE MOTTLES,LOW PLASTICITY,STIFF,DAMP		
1.50	5.00	3.50	WEATHERED SANDSTONE,WHITE,DAMP,FINE GRAINED,SOFT		
5.00	6.00	1.00	SANDSTONE MEDIUM,FINE GRAINED,FIRM DAMP		

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW109597

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 109597
LIC-NUM 10BL160159
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Well
WORK-STATUS
CONSTRUCTION-METHOD Auger - Solid Flight
OWNER-TYPE Other Govt
COMMENCE-DATE
COMPLETION-DATE 2001-05-10
FINAL-DEPTH (metres) 6.00
DRILLED-DEPTH (metres) 6.00
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY HAMMONDCARE
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6233518.00
EASTING 324774.00
LATITUDE 34 1' 28"
LONGITUDE 151 6' 8"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 2 547751

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 1 1097917

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	6.00	125			Auger - Solid Flight

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.10	0.10	FILL,SILTY,GRAVELLY,LOOSE,BLACK,DRY		
0.10	0.80	0.70	CLAY,RED/ORANGE,YELLOW MOTTLES,NO ODOUR		
0.80	1.50	0.70	CLAY.SANDY.HIGH PLASTICITY,FINE GRAINED		
1.50	5.50	4.00	WEATHERED SANDSTONE,MOIST RED/ORANGE		
5.50	6.00	0.50	SHALE,WITH MINOR SAND,GREY/RED,NO ODOIUR		

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Groundwater Works Summary

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Work Requested -- GW109595

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 109595
LIC-NUM 10BL160159
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Well
WORK-STATUS
CONSTRUCTION-METHOD Auger - Solid Flight
OWNER-TYPE Other Govt
COMMENCE-DATE
COMPLETION-DATE 2001-05-10
FINAL-DEPTH (metres) 5.60
DRILLED-DEPTH (metres) 5.60
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY HAMMONDCARE
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6233515.00
EASTING 324754.00
LATITUDE 34 1' 28"
LONGITUDE 151 6' 7"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 2 547751

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 1 1097917

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	5.60	125			Auger - Solid Flight

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.20	0.20	ASPHALT		
0.20	0.70	0.50	CLAY,RED,ORANGE,MINOR GRAVEL		
0.70	1.70	1.00	SANDY CLAY		
1.70	3.00	1.30	WEATHERED SANDSTONE		
3.00	4.00	1.00	WEATHERED SANDSTONE,YELLOW,RED MOTTLES		
4.00	5.00	1.00	WEATHERED SANDSTONE,SOME MOISTURE		
5.00	5.30	0.30	WEATHERED SANDSTONE FINE GRAINED		
5.30	5.55	0.25	SANDSTONE,RED,MOIST,FINE GRAINED		

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)

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Work Requested -- GW109596

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 109596
LIC-NUM 10BL160159
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Well
WORK-STATUS
CONSTRUCTION-METHOD Auger - Solid Flight
OWNER-TYPE Other Govt
COMMENCE-DATE
COMPLETION-DATE 2001-05-10
FINAL-DEPTH (metres) 5.40
DRILLED-DEPTH (metres) 5.40
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY HAMMONDCARE
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6233503.00
EASTING 324758.00
LATITUDE 34 1' 28"
LONGITUDE 151 6' 7"
GS-MAP

AMG-ZONE 56

COORD-SOURCE

REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND

PARISH SUTHERLAND

PORTION-LOT-DP 2 547751

Licensed [\(top\)](#)

COUNTY CUMBERLAND

PARISH SUTHERLAND

PORTION-LOT-DP 1 1097917

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH-FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	5.40	125			Auger - Solid Flight

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.20	0.20	ASPHALT, GRAVELLY, SILTY FILL		
0.20	1.00	0.80	CLAY, RED, YELLOW, ORANGE, DAMP		
1.00	1.40	0.40	CLAY SANDY, MOTTLED, STIFF L/PLASTICITY		
1.40	2.00	0.60	WEATHERED SANDSTONE		
2.00	3.00	1.00	WEATHERED SANDSTONE RED, FINE GRAINED		
3.00	4.00	1.00	WEATHERED SANDSTONE, DRY FIRM		
4.00	5.00	1.00	WEATHERED SANDSTONE, SOME MOISTURE, RED		
5.00	5.40	0.40	WEATHERED SANDSTONE, AS ABOVE.		

use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)

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Work Requested -- GW112151

Works Details [\(top\)](#)

GROUNDWATER NUMBER	GW 112151
LIC-NUM	10BL158918
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Bore
WORK-STATUS	
CONSTRUCTION-METHOD	
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	1998-11-15
FINAL-DEPTH (metres)	3.60
DRILLED-DEPTH (metres)	
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	S L A S LIMITED
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	
SALINITY	
YIELD	

Site Details [\(top\)](#)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	

NORTHING 6232540.00
EASTING 326919.00
LATITUDE 34 2' 1"
LONGITUDE 151 7' 31"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 2//866034

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 2 866034

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

no details

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
Document Generated on Thursday, April 3, 2014

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Work Requested -- GW112149

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW112149
LIC-NUM 10BL158918

AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS
CONSTRUCTION-METHOD
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1998-11-15
FINAL-DEPTH (metres) 2.40
DRILLED-DEPTH (metres)
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY S L A S LIMITED
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6232524.00
EASTING 326896.00
LATITUDE 34 2' 1"
LONGITUDE 151 7' 30"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 2//866034

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 2 866034

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

no details

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW112154

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW112154
LIC-NUM 10BL158918
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS
CONSTRUCTION-METHOD
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1998-11-15
FINAL-DEPTH (metres) 1.70
DRILLED-DEPTH (metres)
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY S L A S LIMITED
GWMA -
GW-ZONE -

STANDING-WATER-LEVEL

SALINITY

YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST

RIVER-BASIN

AREA-DISTRICT

CMA-MAP

GRID-ZONE

SCALE

ELEVATION

ELEVATION-SOURCE

NORTHING 6232490.00

EASTING 326899.00

LATITUDE 34 2' 2"

LONGITUDE 151 7' 30"

GS-MAP

AMG-ZONE 56

COORD-SOURCE

REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND

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PORTION-LOT-DP 3//866034

Licensed [\(top\)](#)

COUNTY CUMBERLAND

PARISH SUTHERLAND

PORTION-LOT-DP 2 866034

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

no details

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW112153

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 112153
LIC-NUM 10BL158918
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS
CONSTRUCTION-METHOD
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1998-11-15
FINAL-DEPTH (metres) 1.00
DRILLED-DEPTH (metres)
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY S L A S LIMITED
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE

NORTHING 6232477.00
EASTING 326889.00
LATITUDE 34 2' 3"
LONGITUDE 151 7' 29"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 3//866034

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 2 866034

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

no details

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW112146

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW112146
LIC-NUM 10BL158918

AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS
CONSTRUCTION-METHOD
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1998-11-15
FINAL-DEPTH (metres) 2.10
DRILLED-DEPTH (metres)
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY S L A S LIMITED
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6232489.00
EASTING 326888.00
LATITUDE 34 2' 2"
LONGITUDE 151 7' 29"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 3//866034

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 2 866034

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

no details

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW112147

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 112147
LIC-NUM 10BL158918
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS
CONSTRUCTION-METHOD
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1998-11-15
FINAL-DEPTH (metres) 2.20
DRILLED-DEPTH (metres)
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY S L A S LIMITED
GWMA -
GW-ZONE -

STANDING-WATER-LEVEL

SALINITY

YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST

RIVER-BASIN

AREA-DISTRICT

CMA-MAP

GRID-ZONE

SCALE

ELEVATION

ELEVATION-SOURCE

NORTHING 6232502.00

EASTING 326882.00

LATITUDE 34 2' 2"

LONGITUDE 151 7' 29"

GS-MAP

AMG-ZONE 56

COORD-SOURCE

REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND

PARISH SUTHERLAND

PORTION-LOT-DP 3//866034

Licensed [\(top\)](#)

COUNTY CUMBERLAND

PARISH SUTHERLAND

PORTION-LOT-DP 2 866034

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

no details

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW112152

Works Details [\(top\)](#)

GROUNDWATER NUMBER	GW 112152
LIC-NUM	10BL158918
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Bore
WORK-STATUS	
CONSTRUCTION-METHOD	
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	1998-11-15
FINAL-DEPTH (metres)	1.40
DRILLED-DEPTH (metres)	
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	S L A S LIMITED
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	
SALINITY	
YIELD	

Site Details [\(top\)](#)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	

NORTHING 6232522.00
EASTING 326860.00
LATITUDE 34 2' 1"
LONGITUDE 151 7' 28"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 2//866034

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 2 866034

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

no details

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW112150

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW112150
LIC-NUM 10BL158918

AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS
CONSTRUCTION-METHOD
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1998-11-15
FINAL-DEPTH (metres) 1.20
DRILLED-DEPTH (metres)
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY S L A S LIMITED
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6232543.00
EASTING 326832.00
LATITUDE 34 2' 1"
LONGITUDE 151 7' 27"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 2//866034

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 2 866034

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

no details

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW112152

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW112152
LIC-NUM 10BL158918
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS
CONSTRUCTION-METHOD
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1998-11-15
FINAL-DEPTH (metres) 1.40
DRILLED-DEPTH (metres)
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY S L A S LIMITED
GWMA -
GW-ZONE -

STANDING-WATER-LEVEL

SALINITY

YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST

RIVER-BASIN

AREA-DISTRICT

CMA-MAP

GRID-ZONE

SCALE

ELEVATION

ELEVATION-SOURCE

NORTHING 6232522.00

EASTING 326860.00

LATITUDE 34 2' 1"

LONGITUDE 151 7' 28"

GS-MAP

AMG-ZONE 56

COORD-SOURCE

REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND

PARISH SUTHERLAND

PORTION-LOT-DP 2//866034

Licensed [\(top\)](#)

COUNTY CUMBERLAND

PARISH SUTHERLAND

PORTION-LOT-DP 2 866034

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

no details

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW112148

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 112148
LIC-NUM 10BL158918
AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS
CONSTRUCTION-METHOD
OWNER-TYPE Private
COMMENCE-DATE
COMPLETION-DATE 1998-11-15
FINAL-DEPTH (metres) 1.30
DRILLED-DEPTH (metres)
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY S L A S LIMITED
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE

NORTHING 6232505.00
EASTING 326816.00
LATITUDE 34 2' 2"
LONGITUDE 151 7' 27"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 3//866034

Licensed [\(top\)](#)

COUNTY CUMBERLAND
PARISH SUTHERLAND
PORTION-LOT-DP 2 866034

Water Bearing Zones [\(top\)](#)

no details

Drillers Log [\(top\)](#)

no details

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Groundwater Works Summary

For information on the meaning of fields please see [Glossary](#)
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Work Requested -- GW102635

Works Details [\(top\)](#)

GROUNDWATER NUMBER GW 102635
LIC-NUM 10BL158789

AUTHORISED-PURPOSES MONITORING BORE
INTENDED-PURPOSES MONITORING BORE
WORK-TYPE Bore
WORK-STATUS (Unknown)
CONSTRUCTION-METHOD
OWNER-TYPE
COMMENCE-DATE
COMPLETION-DATE 1998-09-14
FINAL-DEPTH (metres) 4.50
DRILLED-DEPTH (metres) 4.50
CONTRACTOR-NAME
DRILLER-NAME
PROPERTY BONCONE
GWMA -
GW-ZONE -
STANDING-WATER-LEVEL
SALINITY
YIELD

Site Details [\(top\)](#)

REGION 10 - SYDNEY SOUTH COAST
RIVER-BASIN
AREA-DISTRICT
CMA-MAP
GRID-ZONE
SCALE
ELEVATION
ELEVATION-SOURCE
NORTHING 6232490.00
EASTING 326833.00
LATITUDE 34 2' 2"
LONGITUDE 151 7' 27"
GS-MAP
AMG-ZONE 56
COORD-SOURCE
REMARK

Form-A [\(top\)](#)

no details

Licensed [\(top\)](#)

COUNTY CUMBERLAND
 PARISH SUTHERLAND
 PORTION-LOT-DP 9 228921

Construction [\(top\)](#)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter;
 ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH-TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	4.50	100			Auger
1	1	Casing	P.V.C.	0.00	1.50				C: 0-.1m; Screwed
1	1	Opening	Slots - Vertical	1.50	4.50	50			PVC; SL: 3mm
1		Annulus	Waterworn/Rounded	4.00	5.00				Graded; GS: 1.5- 2mm; Q: 2m ³

Water Bearing Zones [\(top\)](#)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT-DESC	S- W-L	D- D- L	YIELD	TEST-HOLE- DEPTH (metres)	DURATION	SALINITY
0.00	0.00	0.00		2.10					

Drillers Log [\(top\)](#)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	3.80	3.80	SILTY CLAY		
3.80	4.50	0.70	SANDSTONE		

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Environmental Strategies
PROVIDING BENEFITS

Sydney

T +61 (0)2 9690 2555
Suite 15201, Locomotive Workshop 2
Locomotive Street, Eveleigh NSW 2015

Melbourne

T +61 (0)3 9029 7300
28A, Blazey Street
Richmond, Victoria 3121

Dunsborough

T +61 (0)8 9755 3698
17/31 Dunn Bay Road / PO Box 731
Dunsborough, Western Australia 6281

Fremantle

T +61 (0)8 9336 4709
Suite 8, 19 Essex Street
Fremantle, Western Australia 6160

