



# CONSULTING EARTH SCIENTISTS

**STAGE 1 ENVIRONMENTAL SITE ASSESSMENT:  
CITY ONE SITE, GEORGE AND YORK STREETS, SYDNEY NSW  
PREPARED FOR THAKRAL HOLDINGS LIMITED**

REPORT ID: CES100908-THL-01-F

Revision No: 1.0

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**EXECUTIVE SUMMARY**

Consulting Earth Scientists Pty Ltd (CES) have been commissioned by Thakral Holdings Limited (Thakral) to undertake a Stage 1 Environmental Site Assessment (ESA) at the City One site, located between George and York streets, Sydney NSW, 2000.

The Stage 1 ESA was commissioned to assess contamination issues at the site that may have arisen from past and/or present activities undertaken on and/or adjacent to the site as part of a project application Thakral are submitting under Part 3A of the Environmental Planning and Assessment Act 1979 for the re-development of the City One site in the Local Government Area of Sydney.

The scope of the Stage 1 ESA involved a review of available background information, a site visit and preparation of a report detailing the results of the investigation.

From a review of historical information relating to the site and surrounding areas, researching local and regional environmental settings and observations made from the site visit, CES conclude that, with respect to contamination, the City One site presents a low risk to human health and the environment.

The site is currently occupied by both Thakral and RailCorp and will be redeveloped by Thakral. Taking into consideration most surfaces are to remain as hard standing, the lack of extensive excavations proposed as part of the development and if subsurface conditions prove consistent, the City One site is likely to be deemed suitable for the proposed development (with respect to contamination). Due to the minimal expected surface disturbance, it is expected that impacted fill (if identified) would be managed and retained *in situ*. A plan and procedures would also be required to manage the assessment and disposal of any surplus material.

CES concludes, based on the results of the Stage 1 ESA, that no further investigation into contamination at the site is required.

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**TABLE OF CONTENTS**

<b>1</b>	<b>INTRODUCTION</b>	<b>8</b>
<b>2</b>	<b>OBJECTIVES AND SCOPE</b>	<b>10</b>
<b>3</b>	<b>PREVIOUS ENVIRONMENTAL INVESTIGATIONS</b>	<b>11</b>
<b>4</b>	<b>SITE INFORMATION</b>	<b>12</b>
4.1	SITE IDENTIFICATION	12
4.2	SITE ZONING AND LANDUSE	12
4.3	TOPOGRAPHY AND DRAINAGE	12
4.4	GEOLOGY	12
4.5	SOILS	12
4.6	ACID SULFATE SOIL RISK	13
4.7	HYDROGEOLOGY	13
4.8	SITE HISTORY	13
4.9	HISTORICAL TITLE INFORMATION	14
4.10	AERIAL PHOTOGRAPH INTERPRETATION	15
4.11	SYDNEY CITY COUNCIL PLANNING CERTIFICATE	17
4.12	PAST AND CURRENT SITE ENVIRONMENTAL LICENCES	17
4.13	NSW DECCW CONTAMINATED SITES REGISTER	17
4.14	DEPARTMENT OF THE ENVIRONMENT, WATER, HERITAGE AND THE ARTS NATIONAL POLLUTANT INVENTORY	17
4.15	WORKCOVER NSW RECORDS	18
4.16	LAND AND PROPERTY MANAGEMENT AUTHORITY	18
4.17	GROUNDWATER BORE SEARCH	18
4.18	INTEGRITY ASSESSMENT	18
<b>5</b>	<b>SITE CONDITION AND THE SURROUNDING ENVIRONMENT</b>	<b>20</b>
5.1	CURRENT OCCUPIER AND OPERATIONS	20
5.2	SITE DESCRIPTION	21
5.3	TANKS AND ASSOCIATED SERVICES	21
5.4	FILL	21
5.5	ODOURS AND STAINING	22
5.6	CHEMICAL AND WASTES	22

5.7	SURROUNDING LAND-USE	22
<b>6</b>	<b>POTENTIAL SOURCES OF CONTAMINATION</b>	<b>23</b>
6.1	HISTORIC POTENTIAL POLLUTING LAND-USES	23
6.2	CURRENT POTENTIAL POLLUTING POINTS	23
<b>7</b>	<b>CONCLUSIONS AND RECOMMENDATIONS</b>	<b>24</b>
<b>8</b>	<b>LIMITATIONS OF THIS REPORT</b>	<b>25</b>
<b>9</b>	<b>REFERENCES</b>	<b>26</b>

## LIST OF ABBREVIATIONS

AST	Aboveground Storage Tank
BTEX	Benzene, Toluene, Ethylbenzene and Total Xylenes
CES	Consulting Earth Scientists Pty Ltd
CoPC	Contaminants of Potential Concern
DECCW	Department of Environment and Climate Change and Water
DQO	Data Quality Objectives
EPA	Environment Protection Authority
ESA	Environmental Site Assessment
NSW	New South Wales
OCP	Organochlorine Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
TPH	Total Petroleum Hydrocarbons
TVOC	Total Volatile Organic Compounds
UST	Underground Storage Tank

## **LIST OF FIGURES**

Figure 1: Site Location Map

Figure 2: Site Layout Plan

## **LIST OF TABLES**

Table 1: Summary of Proprietors

Table 2: Summary of Recent Lease Holders

Table 3: Aerial Photograph Interpretation

## **LIST OF APPENDICES**

Appendix A: Site History Information

Appendix B: Aerial Photographs

Appendix C: Borehole Information

Appendix D: Site Photographs

Appendix E: Site Maps

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## **1 INTRODUCTION**

Consulting Earth Scientists Pty Ltd (CES) have been commissioned by Thakral Holdings Limited (Thakral) to undertake a Stage 1 Environmental Site Assessment (Stage 1 ESA) at the City One site, located between George and York streets, Sydney NSW, 2000 (herein referred to as the site). The site location map is shown on Figure 1.

The Stage 1 ESA was commissioned to assess contamination issues at the site that may have arisen from past and/or present activities undertaken on and/or adjacent to the site as part of a project application Thakral are submitting under Part 3A of the Environmental Planning and Assessment Act 1979 for the re-development of the City One site in the Local Government Area of Sydney.

The project application will address:

- Demolition of the existing buildings which comprise the development site with the exception of Shell House and Wynyard Station Platforms;
- Major works to Wynyard Station, including upgrades to:
  - the concourse layout, railway station entries and circulation thoroughfares (from George Street to York Street);
  - disabled persons access;
  - the station facilities, ticketing areas, services and lifts; and
  - fire and life safety systems to the upper and lower platforms.
- A new twenty nine storey office building consisting of an eleven storey podium and eighteen storey tower on the land between Carrington Street and George Street;
- Conservation works to the former Shell House and its internal refurbishment for use as office premises;
- Five levels of retail linking George Street and Carrington Street to the Station concourse;
- Retention of the existing basement public car park located partly on the site and partly in disused tram tunnels;
- Construction of associated tenant basement parking;
- The upgrade of the public domain surrounding the site and associated public domain improvements; and
- Upgraded station entry in Wynyard Park.



This report has been prepared in general accordance with the requirements specified for a Stage 1 Preliminary Site Investigation as published by the Department of Environment, Climate Change and Water (DECCW), incorporating the NSW Environment Protection Authority (EPA) in the *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites* (NSW EPA, 1997).

## **2 OBJECTIVES AND SCOPE**

The objectives of the Stage 1 ESA were to:

- Assess whether the site had been contaminated from past and/or present activities undertaken on and/or adjacent to the site; and
- If present, assess whether the contamination represents a risk to site occupants or the environment considering the site's current and proposed land use (i.e. City Centre and Parks and Community Places zoning) and receiving environments (Darling Harbour/Circular Quay).

To achieve these objectives, CES undertook the following scope of works:

- Stage 1 ESA involving a review of available information and a site inspection; and
- Preparation of a report with recommendations, outlining the findings from the Stage 1 ESA.

### **3 PREVIOUS ENVIRONMENTAL INVESTIGATIONS**

CES were not provided any reports pertaining to Environmental Investigations or Assessments conducted on the City One site.

## **4 SITE INFORMATION**

The site information presented below is based on a review of readily available government information sources.

### **4.1 SITE IDENTIFICATION**

The site is located between George and York streets, Sydney NSW, 2000. The site location is shown on Figure 1 and the site layout is presented on Figure 2. The site is legally described as Lot 10 in Deposited Plan 595978, Lot 1 in Deposited Plan 853331, Lot 2 in Deposited Plan 853331, Lot 4 in Deposited Plan 853331, Lot 5 in Deposited Plan 853331, Lot 6 in Deposited Plan 853331 and Rail Plan 1024-41-781 and is part of the Local Government Area (LGA) of Sydney City Council with a size of approximately 11.1 hectares.

### **4.2 SITE ZONING AND LANDUSE**

A review of the Sydney Local Environmental Plan 2005 (SLEP 2005) indicated that two land use zones occur within the City One site. The rail station concourse and associated retail areas are zoned for Parks and Community use and the remainder of the site is City Centre Zoned. The Central Sydney Zoning Map is provided in Appendix A.

### **4.3 TOPOGRAPHY AND DRAINAGE**

The Parramatta River 1:25 000 Topographic Map 9130-3-N (Central Mapping Authority NSW, 1986) indicates that the site has an elevation of approximately 20 metres Above Height Datum (AHD) at George Street level.

The site comprises three buildings (the Menzies Hotel, Shell House and Thakral House), below and above ground strata and a developed section of Wynyard Park (entry to Wynyard Station). Precipitation falling on these areas is redirected into the local stormwater system, ending up in the Port Jackson Catchment to the north of the site.

### **4.4 GEOLOGY**

The Sydney 1:250 000 Geological Series Sheet S1 56-5 (Geological Survey of NSW Department of Minerals and Energy, 1966) indicates that the site is underlain by Triassic Hawkesbury Sandstone which comprises sandstone, quartz and some shale. The bedrock is anticipated to be overlain by alluvial soils and fill material.

### **4.5 SOILS**

The Sydney 1:100 000 Soil Landscape Series Sheet 9130 (Soil Conservation Service of NSW, 1983) indicates that the soils underlying the site (where they have not been removed by excavation) belong to the Erosional soil landscape group. These soils are found on undulating to rolling rises and low hills on Hawkesbury Sandstone. Soils are shallow to moderately deep (30-100 cm) *Yellow Earths* (Gn2.24) and *Earthy Sands* (Uc5.11, Uc5.23) on crests and inside of

benches; shallow (< 20 cm) *Siliceous Sands (Uc1.21)* on leading edges of benches; localised *Gleyed Podzolic Soils (Dg4.21)* and *Yellow Podzolic Soils (Dy4.11, Dy5.11, Dy5.41)* on shale lenses; and shallow to moderately deep (< 100 cm) *Siliceous Sands (Uc1.2)* and *Leached Sands (Uc2.21)* along drainage lines.

There remains a low probability that the site is situated above Disturbed Fill soil. These soils are found on a level plain to hummocky terrain, extensively disturbed by human activity, including complete disturbance, removal or burial of soil and characterised by variable relief slopes. Soils in this group generally include quarries, tips, land reclamation and large cut and fill features. The original vegetation has been cleared and weeds may be abundant.

The limitations of this soil landscape group are dependent on the nature of the fill material. Mass movement hazard, unconsolidated low wall strength materials, impermeable soil, poor drainage, localised very low fertility and toxic materials. Other limitations include sources of sediment and groundwater contamination.

Excavation into the underlying soil should proceed in a way that accommodates both these soil groups.

#### **4.6 ACID SULFATE SOIL RISK**

The Department of Land and Water Conservation (DLWC 1997) 1:25 000 Prospect/Parramatta River Acid Sulphate Soil (ASS) Risk Map was reviewed to ascertain the presence of acid sulphate soils on the site. The Risk Map indicated that there were no known occurrences of Acid Sulphate Soils in or around the site area.

#### **4.7 HYDROGEOLOGY**

Based on the site's extensive development, it can be concluded that the terrain has been highly disturbed. This implies that the hydrogeology of the site area has also been highly disturbed. The groundwater has thus been interrupted by the development of Wynyard Station. It cannot be concluded at this point as to whether groundwater travels through underlying superficial fill and/or the Hawkesbury Sandstone. The ground water generally travels north into the Port Jackson Catchment area, which is the primary receptor for groundwater migrating through the CBD.

#### **4.8 SITE HISTORY**

Several sources were investigated to determine the history of land use at the site. The following list details the sources of historical information and a summary of information provided by each source:

- NSW Department of Lands, Land and Property Information Division (LPI): Title Search - Historical title information;

- NSW Department of Lands, Land and Property Information Division (LPI): Historical aerial photographs (1930 to 2004);
- Liverpool Council: Planning Certificate;
- NSW Department of Climate Change and Water: Contaminated Site Register;
- Department of the Environment, Water, Heritage and the Arts: National Pollutant Inventory;
- WorkCover NSW: Searches of Dangerous Goods licensing records;
- Land and Property Management Authority: Unexploded Ordnance Search – Department of Defence;
- Department of Industry and Investment: Records of Cathodic Protection Systems; and
- Department of Natural Resources: Licensed Groundwater Bore Database.

#### **4.9 HISTORICAL TITLE INFORMATION**

A title deeds search was conducted through Land and Property Information NSW. A summary of the results is provided in Table 1. Where available, the original title and lease documents are provided in Appendix A.

<b>Table 1: Summary of Proprietors</b>			
<b>Lot</b>	<b>Year</b>	<b>Proprietor</b>	<b>Source</b>
Lot 10 DP595978	2001-to Date	THL Wynyard Centre Pty. Ltd.	Current certificate of Title Document 7925478
	1995-2001	Sovereign Property Fund Pty. Ltd.	Document 7925478 Document O543766
	1989-1995	Perpetual Trustees Australia Ltd.	Document O543766 Document Y71464
	1978-1989	Menzies (Sydney) Hotels Pty. Limited.	Vol. 13757 Fol. 62 Document Y71464 Vol. 1266 Fol. 8
	1928-1978	The Shell Company of Australia Ltd.	Vol. 1266 Fol. 8
	1926-1928	Walder Realty Ltd.	Vol. 1266 Fol. 8
	1926	Winifred Coleman (wife of Henry Ernest Coleman, gentleman)	Vol. 1266 Fol. 8
	1924-1926	Florence Mourd Smith (spinster)	Vol. 1266 Fol. 8
	1924	Public Trustee for the Dominion of New Zealand	Vol. 1266 Fol. 8
	1911-1924	Hamilton Gilmer (Esquire)	Vol. 1266 Fol. 8
	1898-1911	The Australian Mutual Provident Society	Vol. 1266 Fol. 8 Vol. 1112 Fol. 30
	1898	John Dawson, George Alexander Chapman, Charles Chapman	Vol. 1112 Fol. 30
	1893-1898	Charles Chapman (esquire)	Vol. 1112 Fol. 30

Lot 1 DP853331	2005-to Date	Rail Corporation New South Wales	Current certificate of title CA58760, Document AB377479 Vol. 3108 Fol. 191
	1995-2005	State Rail Authority of New South Wales	Document AB377479
	1941-1995	The Commissioner for Railway	Vol. 3108 Fol. 191
	1920-1941	The Railway Commissioners for New South Wales	Vol. 3108 Fol. 191
	1920	The Minister for Public Works of the State of New South Wales	Vol. 3108 Fol. 191 Vol. 1270 Fol. 210
	1908-1920	Louis Phillips (merchant)	Vol. 1270 Fol. 210
	1902-1908	The Perpetual Trustee Company Ltd.	Vol. 1270 Fol. 210
	1898-1902	John Dawson, George Alexander Chapman, Charles Chapman	Vol. 1270 Fol. 210 Vol. 1112 Fol. 30
Lots 2, 4 and 6 DP853331	1893-1898	Charles Chapman (esquire)	Vol. 1112 Fol. 30
	2005-to Date	Rail Corporation New South Wales	Current certificate of title CA58760 Document AB377479 Document AB378953 Document AB210280
	1995-2005	State Rail Authority of New South Wales	Document AB377479 Document AB378953 Document AB210280
	1941-1995	The Commissioner for Railway	Vol. 3108 Fol. 191
Lot 5 DP853331	1920-1941	The Railway Commissioners for New South Wales	Vol. 3108 Fol. 191
	2004-to Date	Rail Corporation New South Wales	Current certificate of title CA58760 Document AA910183
	1995-2004	State Rail Authority of New South Wales	Document AA910183
	1941-1995	The Commissioner for Railway	Vol. 3108 Fol. 191
	1920-1941	The Railway Commissioners for New South Wales	Vol. 3108 Fol. 191

Source: Environmental Legal Searches, 2010.

#### **4.10 AERIAL PHOTOGRAPH INTERPRETATION**

Historical aerial photographs from the NSW Department of Lands, Land and Property Information Division (LPI) were examined for the years: 1942, 1951, 1961, 1972, 1983, 1994, 1999 and 2004. Copies of the aerial photographs are provided in Appendix B. The findings of aerial photo investigations are presented in Table 3. It must be noted that all Wynyard Station concourses and stratum lots underneath Wynyard Park pertaining to the site are not examined in this section. Construction of these underground levels began in 1927 and ended in 1932.

**Table 3: Aerial Photograph Interpretation**

Year	Description
1942	<p><b><u>Site:</u></b> The site can be examined in two L shaped sections (east and west) separated by Carrington Street. The eastern section, bounded by Carrington, Margaret and George Streets, contains a large high rise building to the north (Shell House) and two level buildings to the south separated by Wynyard Lane. The western section, bounded by Carrington and York Streets, is Wynyard Park. The park is covered in grass with some scattered trees. A pedestrian lane dividing the park (running east to west) contains a man made structure (due to image resolution this cannot be made out).</p> <p><b><u>Surrounding Area:</u></b> The site is immediately surrounded in all directions by commercial offices, retail outlets and community facilities. These buildings front onto Walsh Bay and Sydney Cove to the north and Darling Harbour to the west, where shipping ports have been established. The Royal Botanical Gardens is located to the east, fronting onto Woolloomooloo Bay. Commercial offices, retail outlets and community facilities continue south, with high-rise residential housing increasing in density with distance from the site.</p>
1951	<p><b><u>Site:</u></b> The site has changed little since the 1942 aerial photograph except for the trees located on the western section of the site, which have increased in size.</p> <p><b><u>Surrounding Area:</u></b> The surrounding land use has changed little since the 1942 aerial photograph.</p>
1961	<p><b><u>Site:</u></b> The site has changed little since the 1951 aerial photograph except for the trees located on the western section of the site, which have increased in size.</p> <p><b><u>Surrounding Area:</u></b> The surrounding land use has changed little since the 1951 aerial photograph.</p>
1972	<p><b><u>Site:</u></b> The two level buildings located on the eastern section have been developed to a comparable height to the Shell House (this coincides with the Menzies Hotel development). The trees on the western section of the site have increased in size and little of the grass is now visible.</p> <p><b><u>Surrounding Area:</u></b> The surrounding land use has changed little since the 1961 aerial photograph except land has been reclaimed to the west extending into Darling Harbour.</p>
1983	<p><b><u>Site:</u></b> The site has changed little since the 1972 aerial photograph except for a pedestrian lane which has been constructed in Wynyard park, running along the York Street.</p> <p><b><u>Surrounding Area:</u></b> The surrounding land use has changed little since the 1972 aerial photograph.</p>
1994	<p><b><u>Site:</u></b> The site has changed little since the 1832 aerial photograph.</p> <p><b><u>Surrounding Area:</u></b> The surrounding land use has changed little since the 1983 aerial photograph except further land has been reclaimed to the west extending into Darling Harbour. This boundary is no longer being used as actively used as a shipping port.</p>
1999	<p><b><u>Site:</u></b> The site has changed little since the 1994 aerial photograph.</p> <p><b><u>Surrounding Area:</u></b> The surrounding land use has changed little since the 1994 aerial photograph.</p>
2004	<p><b><u>Site:</u></b> The site has changed little since the 1999 aerial photograph.</p> <p><b><u>Surrounding Area:</u></b> The surrounding land use has changed little since the 1999 aerial photograph.</p>
Source: Environmental Legal Searches, 2010.	



#### ***4.11 SYDNEY CITY COUNCIL PLANNING CERTIFICATE***

A review of the Sydney City Council Planning Certificates (pursuant to Section 149(2) of the Environmental Planning and Assessment Act, 1979) indicated that no notices apply to the site under the Contaminated Land Management Act, 1997. The Sydney City Council Planning Certificates are provided in Appendix A.

#### ***4.12 PAST AND CURRENT SITE ENVIRONMENTAL LICENCES***

There are no Environmental Licences associated with the site.

#### ***4.13 NSW DECCW CONTAMINATED SITES REGISTER***

A search of the NSW DECCW Contaminated Sites Register (under Section 308 of the Protection of the Environment Operations Act, 1997) indicated that there were 29 notices relating to 16 lands within Sydney City Council. None of these lands are in close enough proximity to the site to be considered in this assessment.

#### ***4.14 DEPARTMENT OF THE ENVIRONMENT, WATER, HERITAGE AND THE ARTS NATIONAL POLLUTANT INVENTORY***

A search of the Commonwealth Department of the Environment, Water, Heritage and the Arts National Pollutant Inventory (under the National Environment Protection Measure (NPI NEPM) enforced by NSW DECCW) indicated that there were four facilities listed in the Sydney Local Government Area in the City One area. A description of these facilities is provided below:

- Wynyard Park (Margaret, Carrington, Wynyard and York Streets) – Wynyard Park is an area of 0.7 hectares, and presently a small section of 11 square metres has been excised for use by the State Rail Authority. Wynyard Park includes mature border plantings of Moreton Bay Figs and Plane trees, a statue of Dunmore Lang by Giovanni Fontana (1890), an Art Nouveau toilet block including fences, signs, lights and sandstone walls. Category: Urban Park.
- The Menzies Hotel (2-12 Carrington Street) – The Menzies Hotel, formerly corporate offices for Shell Oil Co, is a corner building, dominated by a clock tower. The building is of the Inter-War Commercial Palazzo style. In general, the Menzies Hotel retains original facade and concrete structure but has substantially altered interiors. The interior was completely refurbished in 1978-79 when it was converted from offices to a hotel. The facade retains the original finishes, although it is in need of repair in various sections. Most original steel framed windows have been replaced with aluminium framed windows. Category: Individual Building.
- Lisgar (aka Shell) House (30-32 Carrington Street) – Lisgar House is an eight storey office building with a restrained brick facade overlooking Wynyard Park. It was designed in the Inter-war Georgian Revival style as offices for an investment company, with commercial tenancies on the ground floor. With the exception of the ground floor, the external facade and floor structure generally remain unaltered. The building has been

extended to the rear and internally refurbished. All original visible internal services, finishes and fixtures have been removed or altered. There are indications that the original plaster ceilings may be intact. Category: Individual Building.

- Wynyard Station (30-32 Carrington Street) – Wynyard Station has local significance as one of a group of underground stations built as part of the city rail network during the 1920s and 1930s and as an essential linking station for both the City Circle and North Shore lines. Wynyard Station is a vital component of the city's working infrastructure. It is associated with the works of JJC Bradfield, chief engineer for the city railway and Sydney Harbour Bridge construction and features prominent elements of both the practical and style designs of his original concept. Remnant tiles, stairway features and layout all reflect the original 1930s station. The York Street escalators are rare surviving elements of an earlier Glen Street (Milsons Point) railway station removed to make way for the Dorman and Long warehouses built for the construction of the Sydney Harbour Bridge.

In general all these facilities should be retained and conserved. A Heritage Assessment and Heritage Impact Statement, or a Conservation Management Plan, should be prepared prior to any major works being undertaken. A full description of each facility is provided in Appendix A.

#### ***4.15 WORKCOVER NSW RECORDS***

A search of the NSW Stored Chemical Information Database (SCID) and microfiche records pertaining to a Licence to Keep Dangerous Goods maintained by WorkCover has been commissioned. However, Workcover NSW was unable to supply a letter in time for the writing of this Stage 1 report. No stored dangerous goods were observed during site inspection.

#### ***4.16 LAND AND PROPERTY MANAGEMENT AUTHORITY***

A search of the unexploded ordnance through the Department of Defence has been conducted. Records maintained by the department indicated that there has been no record of the site being used for military purposes of a nature that may have resulted in ordnance contamination.

#### ***4.17 GROUNDWATER BORE SEARCH***

A search of the groundwater database maintained by the Department of Water and Energy was performed. The search indicated that there were 3 registered bores located within a 2 km radius of the centre of the site. A copy of the borehole map and the bore results are provided in Appendix C. As can be seen, the closest groundwater bores to the site are GW109085, GW109086 and GW109087. No indications of contamination were found in any of these bores.

#### ***4.18 INTEGRITY ASSESSMENT***

Historical and site information was sourced from NSW and Commonwealth Government departments with no known interest in the site. CES have relied on the accuracy of the

documentation provided and our experience in historical document interpretation. Whilst there is a small margin for error in interpretation, CES consider the information presented in this assessment to be accurate.

## 5 SITE CONDITION AND THE SURROUNDING ENVIRONMENT

### 5.1 CURRENT OCCUPIER AND OPERATIONS

At the time of the Stage 1 ESA, the site was occupied as described in Table 3:

<b>Table 3: Site Occupation Details</b>			
<b>Site/Lot Name</b>	<b>Area (m<sup>2</sup>)</b>	<b>Owner</b>	<b>Description</b>
Shell House <i>Lot 10, DP 59578</i>	1038	Wynyard Centre Pty Ltd	An 11 storey commercial office building built in 1938. In 1979 it was converted to hotel rooms as an extension of the Menzies Hotel. Shell House is a listed heritage item in the Sydney LEP.
The Menzies Hotel <i>Lot 1, DP 853331</i>	1462	RailCorp - Occupied by Thakral subject to the Wynyard Centre Lease	A14 storey hotel, completed in 1963. It provides no direct public access to the Station or retail levels that pass beneath it.
Thakral House <i>Lot 2, DP 853331</i>	1257	RailCorp - Occupied by Thakral subject to the Wynyard Centre Lease	A 13 storey commercial office building completed in 1962, with retail space on the ground and first basement levels.
Wynyard Lane (stratum lots above and below road level) <i>Lot 4, DP 853331</i>	275	RailCorp - Occupied by Thakral subject to the Wynyard Centre Lease. Crown Land below RailCorp stratum	Stratum lot that runs above Wynyard Lane between Thakral House and the Menzies Hotel. Also includes stratum lots below Wynyard Lane.
Concourse under Carrington Street <i>Lot 5, DP 853331</i>	1141	RailCorp	Stratum lots at concourse area.
Concourse under Wynyard Park <i>Lot 6, DP 853331</i>	2923	RailCorp - Occupied by Thakral subject to the Wynyard Centre Lease	Stratum lots at concourse area.
Concourse under York Street <i>Rail Plan 1024-41-781</i>	3028	RailCorp	Stratum lots at concourse area.

Wynyard Park/ Wynyard Park Dome	Part of <i>Lot 6, DP 853331</i>	RailCrop / Crown Land	The portion of the lot located above Lot 6, DP 853331 that includes a triangular urban park and access points to Wynyard Station. Wynyard Park is a listed heritage item in the Sydney LEP.
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## 5.2 SITE DESCRIPTION

The site description is based on observations made during a site inspection by Mr Daniel Smith of CES on 1 October 2010. The site location is shown on Figure 1 and the site layout on Figure 2. Photographs of the site are presented in Appendix D.

The site is roughly L-shaped and comprises the Menzies Hotel (including Shell House), Thakral House, Wynyard Station, part of Wynyard Park, the stratum lot above Wynyard Lane, and a number of stratum lots beneath Wynyard Park, Carrington Street, and York Street that together form the Wynyard Station Concourse. A review of the design plans for the City One development has indicated that all existing underground concourses and stratum lots are to be upgraded only, meaning no extensive excavation will be required in these areas. The only sections of the site that will be extensively excavated will be the Menzies Hotel and Shell House (as shown in Figure 2). Soils underneath these sections of the site are thus of main concern.

## 5.3 TANKS AND ASSOCIATED SERVICES

A total of 6 above ground (two pressure, two boiler and one cooler) tanks and associated services were observed on the basement levels of the Menzies Hotel. Examples of these are provided in Photographs 1 through 6 in Appendix D. During the time of the inspection no visible leaks or evidence of staining was observed. CES was informed by Anura Yapa JP (Chief Engineer of The Menzies Sydney), that all tanks and motors were serviced regularly with maintenance conducted monthly. CES believe that these tanks have not contributed to contamination at the site and thus present a low risk to human health and the environment. It is anticipated that during the demolition of the Menzies hotel, these tanks and associated motors will be decommissioned. CES recommend great care be taken in dismantling all unit as to avoid any spills of water/oil mix and all contaminated equipment be disposed of by an appropriate waste disposal/recycling facility. No underground tanks were identified during the Stage 1 investigation.

## 5.4 FILL

As mentioned in section 4.5, the site is located above Hawkesbury Sandstone. According to the Sydney 1:100 000 Soil Landscape Series Sheet 9130 and reference text the Australasian Historical Archaeology, Volume 17, 1999, *Soil Chemical Properties at Historical*

*Archaeological Sites of Inner Sydney, New South Wales* (AHA 1999), this soil does not present any historical risk of contamination. As mentioned further in section 4.5, there exists a low probability of fill material present on the site. According to AHA 1999, fill in the area has comparable pH levels to the natural soil (4-5.5 pH units), low salinity, low organic carbon levels and low exchangeable cation levels. It is the opinion of CES that fill, if present on site, presents a low environmental risk. However, CES recommend that if fill is encountered at the time of excavation, it be assessed for potential contamination.

### **5.5 ODOURS AND STAINING**

Minimal localised staining was observed on streets/lanes in and around the site. Due to the minor nature of the stains CES believe they pose little environmental risk on the site. No unusual odours that could be potentially associated with contamination were noted during the site inspection. As only the Menzies Hotel area will be subject to high excavation activities, particular attention was paid to the basement and floor levels during the inspection. No staining or odours were observed around service tanks and motors in the basement of the Menzies Hotel (see photographs).

### **5.6 CHEMICAL AND WASTES**

A paint storage room was observed on the basement level of the Menzies Hotel. At the time of the inspection the room contained various paints, oils and cleaning chemicals (see photograph 7). The floor had evidence of minor paint staining (see photograph 8). CES believe that due to the small amount of chemicals stored in this room and the minor nature of the staining, the storage of paints, oils and cleaning chemicals has not contributed to contamination and thus present a low risk to human health and the environment.

The only waste that was observed to be generated at this facility was general waste. An example of the storage conditions can be seen in Photograph 9. All waste receptacles were stored in an acceptable manner and were not contributing to site contamination.

### **5.7 SURROUNDING LAND-USE**

At the time of Stage 1 assessment the site was surrounded in all directions by commercial offices, retail outlets and community facilities. These establishments were not considered to have any adverse effect on the local environment surrounding the site.

## **6 POTENTIAL SOURCES OF CONTAMINATION**

Potential sources of contamination of the site, both current and historical, are discussed below.

### ***6.1 HISTORIC POTENTIAL POLLUTING LAND-USES***

From a review of historical information relating to the site and surrounding areas, CES believes there is a low potential for historic land uses to have contributed to contamination at the site. It is noted that there exists a possibility of introduced fill to be present on site, but this possibility is low and the fill previously identified in the CBD was not contaminated (AHA 1999).

### ***6.2 CURRENT POTENTIAL POLLUTING POINTS***

From a review of local and regional environmental settings and from observations made from the site visit, CES believes there is a low potential for current land uses to be contributing to contamination at the site.

## 7 CONCLUSIONS AND RECOMMENDATIONS

CES have undertaken and completed the Stage 1 ESA at the site in line with the scope of works proposed in the Proposal for Stage 1 Environmental Site Assessment (CES report ID: CES100908-THL P290910).

From a review of historical information relating to the site and surrounding areas, researching local and regional environmental settings and observations made from the site visit, CES conclude that, with respect to contamination, the City One site presents a low risk to human health and the environment.

Taking into consideration most surfaces are to remain as hard standing, the lack of extensive excavations proposed as part of the development and if subsurface conditions are consistent, the City One site is likely to be deemed suitable for the proposed development (with respect to contamination). Due to the minimal expected surface disturbance, it is expected that impacted fill (if identified) would be managed and retained *in situ*. A plan and procedures would also be required to manage the assessment and disposal of any surplus material.

A search of the NSW Stored Chemical Information Database (SCID) and microfiche records pertaining to a Licence to Keep Dangerous Goods maintained by WorkCover has been commissioned. However, Workcover NSW was unable to supply a letter in time for the writing of this Stage 1 report. No stored dangerous goods were observed during site inspection. Upon receipt of the Workcover NSW records CES will review the information and if there are any issues relating to contamination or the storage of Dangerous Goods at the site, CES will inform the client accordingly.

CES concludes, based on the results of the Stage 1 ESA, that no further investigation into contamination at the site is required.



## **8 LIMITATIONS OF THIS REPORT**

This report has been prepared for use by the client who commissioned the works in accordance with the project brief and based on information provided by the client. The advice contained in this report relates only to the current project and all results, conclusions and recommendations should be reviewed by a competent person with experience in environmental investigations before being used for any other purpose. Consulting Earth Scientists Pty Ltd (CES) accepts no liability for use or interpretation by any person or body other than the client. This report must not be reproduced except in full and must not be amended in any way without prior approval by the client and CES.

This report does not provide a complete assessment of the environmental status of the site and is limited to the scope defined therein. Should information become available regarding conditions at the site including previously unknown sources of contamination, CES reserves the right to review the report in the context of the additional information.

## 9 REFERENCES

AHA 1999, Australasian Historical Archaeology, Volume 17, 1999, *Soil Chemical Properties at Historical Archaeological Sites of Inner Sydney, New South Wales*.

Central Mapping Authority, 1986. *Parramatta River 1:25 000 Topographic Map*. Sheet 9130-3-N.

Consulting Earth Scientists, 2010. *Fee Proposal to Undertake a Stage 1 Preliminary Site Investigation at the City One site, located between George and York Streets, Sydney, NSW*.

Department of Land and Water Conservation, 1997: *Prospect/Parramatta River 1:25 000 Acid Sulphate Soil Risk Map*.

Department of Minerals and Energy, 1966. Geological Survey of NSW. *Sydney 1:100 000 Geological Series*. Sheet S1 56-5.

NSW EPA, 1997. Environment Protection Authority, 1997. *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites*.

NSW DECCW, 1998. *Protection of the Environment Operations (General) Regulations*.

Soil Conservation Service of NSW, 1983. *Sydney 1:100 000 Soil Landscape Series*. Sheet 9130.

## Figures

## **Appendix A**

### **Site History Information**

## **Appendix B**

### **Historical Aerial Photographs**

## **Appendix C**

### **Borehole Information**

## **Appendix D**

### **Site Photographs**

**Photograph 1 – Pressure Tanks**



**Photograph 2 – Motors for Pressure Tanks**





**Photograph 3 – Boiler Tanks**



**Photograph 4 – Cooler Tank**



**Photograph 5 – Motors for Cooler Tank**



**Photograph 6 – Generator**





**Photograph 7 – Paint Storeroom**



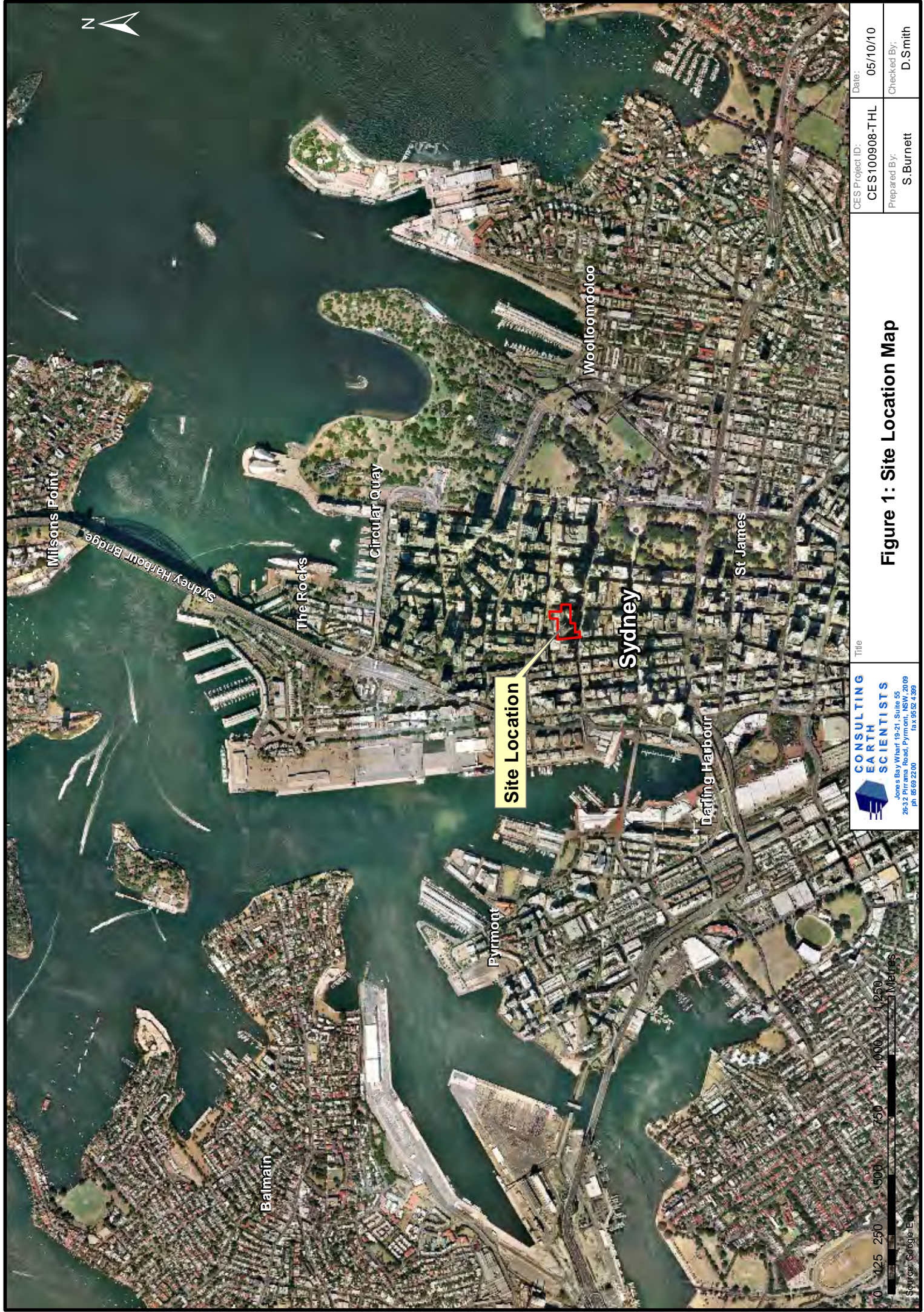
**Photograph 8 – Floor of Paint Store Room**



**Photograph 9 – Waste Storage (Example)**







**Figure 1: Site Location Map**





**Legend**

Site Boundary

Approximate Excavation Area

CES Project ID:	CES100908-THL	Date:	06/10/2010
Prepared By:	S. Burnett	Checked By:	D. Smith

**Figure 2: Site Layout**

**CONSULTING  
EARTH  
SCIENTISTS**

Jones Bay Wharf 19-21, Suite 55  
26-32 Pittman Road, Pyrmont, NSW, 2009  
ph 8569 2200 fax 9552 4399

0 5 10 20 30 40 50 Metres

Source: Google Earth



## Stage 1 ESA - CES100908-THL

Map created with NSW Natural Resource Atlas - <http://nratlas.nsw.gov.au>

Thursday, September 30, 2010



### Legend

Symbol	Layer	Custodian
	Cities and large towns	renderImage: Cannot build image from features
	Populated places	renderImage: Cannot build image from features
	Towns	
	Groundwater Bores	
	Catchment Management Authority boundaries	
	Major rivers	

Topographic base map



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# Groundwater Works Summary

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

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

## Work Requested -- GW109085

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

GROUNDWATER NUMBER	GW109085
LIC-NUM	10BL602334
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Bore
WORK-STATUS	
CONSTRUCTION-METHOD	
OWNER-TYPE	Other Govt
COMMENCE-DATE	
COMPLETION-DATE	2008-07-22
FINAL-DEPTH (metres)	5.68
DRILLED-DEPTH (metres)	5.68
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	SYDNEY WATER
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	6251263.00
EASTING	333786.00
LATITUDE	33 51' 57"
LONGITUDE	151 12' 11"
GS-MAP	

AMG-ZONE 56  
 COORD-SOURCE  
 REMARK

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

COUNTY CUMBERLAND  
 PARISH ST PHILIP  
 PORTION-LOT-DP 1//87659

### Licensed [\(top\)](#)

COUNTY CUMBERLAND  
 PARISH ST PHILIP  
 PORTION-LOT-DP 1 87659

### 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	5.68	120		
1	1	Casing	P.V.C.	0.00	3.20	40		

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

no details

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

FROM	TO	THICKNESS	DESC	GEO-MATERIAL COMMENT
0.00	1.30	1.30	FILL,SILTY SAND MEDIUM TO COARSE	
1.30	2.10	0.80	FILL,SILT SAND CLAY MIXTURE	
2.10	2.20	0.10	FILL, SHINY GRAVEL ,BLACK SILT	
2.20	3.10	0.90	FILL,SILTY SAND BROWN RED	
3.10	4.00	0.90	FILL CLAY,GREY,BROWN,MOIST	
4.00	5.68	1.68	SAND,FINE TO MEDIUM	

---

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# Groundwater Works Summary

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

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## Work Requested -- GW109086

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

GROUNDWATER NUMBER	GW109086
LIC-NUM	10BL602334
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Bore
WORK-STATUS	
CONSTRUCTION-METHOD	
OWNER-TYPE	Other Govt
COMMENCE-DATE	
COMPLETION-DATE	2008-07-22
FINAL-DEPTH (metres)	5.68
DRILLED-DEPTH (metres)	5.68
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	SYDNEY WATER
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	6251262.00
EASTING	333781.00
LATITUDE	33 51' 57"
LONGITUDE	151 12' 11"
GS-MAP	

AMG-ZONE 56  
 COORD-SOURCE  
 REMARK

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

COUNTY CUMBERLAND  
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### Licensed [\(top\)](#)

COUNTY CUMBERLAND  
 PARISH ST PHILIP  
 PORTION-LOT-DP 1 87659

### 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	5.80	120			
1	1	Casing	P.V.C.	0.00	3.20	40			

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

no details

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

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.50	0.50	FILL,MEDIUM TO COARSE		
0.50	1.00	0.50	FILL,SILTY SAND		
1.00	1.80	0.80	FILL,CLAYEY SAND FINE GRAINED		
1.80	2.00	0.20	FILL,GRAVELLY SAND		
2.00	3.20	1.20	FILL,SAND WITH SOME SILT		
3.20	3.80	0.60	FILL SILTY SAND		
3.80	4.50	0.70	FILL CLAY SILT SAND MIXTURE		
4.50	5.68	1.18	SAND,FINE TO MEDIUM GRAINED		

---

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# Groundwater Works Summary

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

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## Work Requested -- GW109087

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

GROUNDWATER NUMBER	GW109087
LIC-NUM	10BL602334
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Bore
WORK-STATUS	
CONSTRUCTION-METHOD	
OWNER-TYPE	Other Govt
COMMENCE-DATE	
COMPLETION-DATE	2008-07-22
FINAL-DEPTH (metres)	8.50
DRILLED-DEPTH (metres)	8.50
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	SYDNEY WATER
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	6251252.00
EASTING	333783.00
LATITUDE	33 51' 57"
LONGITUDE	151 12' 11"
GS-MAP	

AMG-ZONE 56  
 COORD-SOURCE  
 REMARK

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

COUNTY CUMBERLAND  
 PARISH ST PHILIP  
 PORTION-LOT-DP 1//87659

### Licensed [\(top\)](#)

COUNTY CUMBERLAND  
 PARISH ST PHILIP  
 PORTION-LOT-DP 1 87659

### 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	8.50	120		
1	1	Casing	P.V.C.	0.00	3.20	40		

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

no details

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

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	1.00	1.00	FILL,CLAY MIXED WITH COARSE GRAVEL		
1.00	1.50	0.50	FILL SAND MEDIUM GRAINED		
1.50	2.20	0.70	FILL,SILTY SAND,MOIST,FIRM WITH GRAVEL		
2.20	3.50	1.30	FILL,SAND MEDIUM GRAINED,GREY/BROWN		
3.50	4.00	0.50	FILL,SILTY SAND,MOIST,LOOSE TO FIRM		
4.00	4.50	0.50	FILL,CRUSHED SANDSTONE		
4.50	5.90	1.40	SAND MEDIUM TO FINE ,SILT BROWN,CLAY		
5.90	7.00	1.10	CLAY,HIGH PLASTICITY,WET,SHELLS		
7.00	8.50	1.50	SAND,FINE TO MEDIUM GRAINED,BEIGE		

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